CONSTRUCTION PLANS
FOR
PRIVATE ROAD, WATER, GAS AND ELECTRIC IMPROVEMENTS
STREETS OF WEST PRYOR
LEE'S SUMMIT, MISSOURI

2 NOVEMBER 2019

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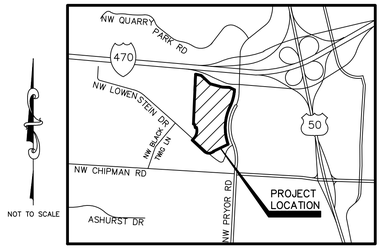
CALL BEFORE YOU
DIG – DRILL – BLAST
1–800–344–7483
(TOLL FREE)

MISSOURI ONE CALL SYSTEM, INC.



LOCATION MAP
CITY OF LEE'S SUMMIT, MISSOURI

INDEX TO SHEETS

UTILITY STATEMENT:
THE UNDERGROUND UTILITIES SHOWN HEREON ARE FROM FIELD SURVEY INFORMATION OF ONE–CALL LOCATED UTILITIES, FIELD SURVEY INFORMATION OF ABOVE GROUND OBSERVABLE EVIDENCE, AND/OR THE SCALING AND PLOTTING OF EXISTING UTILITY MAPS AND DRAWINGS AVAILABLE TO THE SURVEYOR AT THE TIME OF SURVEY. THE SURVEYOR MAKES NO GUARANTEE THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. FURTHERMORE, THE SURVEYOR DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH HE DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM INFORMATION AVAILABLE. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES BY EXCAVATION UNLESS OTHERWISE NOTED ON THIS SURVEY.

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.

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.

	POSTED SPEED	DESIGN SPEED
PRIVATE ROAD "A", "B" & "C"	25	25

APPROVED THIS _____ DAY OF _____, _____

_____
OWNER: MATT PENNINGTON

APPROVED THIS _____ DAY OF _____, _____

_____
CITY APPROVAL

OWNER:
STREETS OF WEST PRYOR, LLC
7200 WEST 132ND STREET
OVERLAND PARK, KS 66213
CONTACT: MATT PENNINGTON
email: matt@drakekc.com

DEVELOPER:
STREETS OF WEST PRYOR, LLC
7200 WEST 132ND STREET
OVERLAND PARK, KS 66213
AGENT: DAVID N. OLSON
email: daveolson@monarchprojectllc.com

PREPARED BY:
KAW VALLEY ENGINEERING, INC.
2319 N. JACKSON
JUNCTION CITY, KS 66441
785–762–5040
CONTACT: LEON D OSBOURN
EMAIL: ldo@kveng.com

DATUM BENCHMARK:
VERTICAL DATUM IS NAVD 88 ESTABLISHED USING OPUS PROJECTS ON PROJECT CONTROL.

BENCHMARKS:
BM #1: CHISELED "SQUARE" ON TOP OF CURB POINT OF INTERSECTION OF WEST PARK PARKING LOT AT EAST DRIVE ENTRANCE. ELEV=984.97

BM #2: CHISELED "SQUARE" ON NORTHWEST CORNER AREA INLET, 25'± EAST OF CURB LINE AND ON–LINE WITH SOUTH CURB OF LOWENSTEIN DRIVE AT 90° BEND IN ROAD. ELEV=970.98

REV	DATE	DESCRIPTION	DSN	DWN	CHK
2	11–15–19	PER IN–HOUSE REVIEW	LDO	JT	LDO
1	07–02–19	REVISED PER CITY COMMENTS	LDO	JT	LDO
0	5–16–19	INITIAL ISSUE	LDO	BKR	LDO

STATE OF MISSOURI
LEON D. OSBOURN
NUMBER E-21726
11-15-19
REGISTERED PROFESSIONAL ENGINEER

LEON D. OSBOURN
ENGINEER
MO # 021726

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KAW VALLEY ENGINEERING, INC.

KAW VALLEY ENGINEERING, INC., IS AUTHORIZED TO OFFER SERVICES BY MISSOURI STATE CERTIFICATE OF AUTHORITY # 000842. EXPIRES 12/31/19

STREETS OF WEST PRYOR
NWQ NW PRYOR RD & NW LOWENSTEIN DR
LEE'S SUMMIT, MISSOURI

PRIVATE ROAD PLANS
TITLE SHEET

PROJ. NO. A14_7067–1
DESIGNER LDO | DRAWN BY JT
CFN 7067–1IR_TS
SHEET C–1 | REV 2

CONSTRUCTION NOTES:

1. EXCESS EXCAVATION SHALL BE DEPOSITED IN AREAS AS DIRECTED BY THE OWNER.

2. THE CONTRACTOR SHALL TAKE CARE NOT TO DAMAGE EXISTING SURFACING ON STREETS NEEDED TO BE TRAVELED UPON BY EQUIPMENT DURING CONSTRUCTION, AND IF DAMAGED, HE SHALL REPLACE THE SURFACING AND REPAIR THE STREET TO THE ORIGINAL CONDITION. NO TYPE OF EARTH MOVING EQUIPMENT WILL BE PERMITTED TO HAUL ON OR OVER ANY EXISTING STREET.

3. THE CONTRACTOR SHALL TAKE CARE IN PROTECTING EXISTING TREES AND SHRUBS OUTSIDE OF THE PROPOSED CONSTRUCTION. CARE SHALL BE TAKEN NOT TO DISTURB LAWNS OR EXISTING STRUCTURES OUTSIDE OF THE CONSTRUCTION LIMITS.

4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CONTROL OF DUST AND DIRT RISING AND SCATTERING IN THE AIR DURING CONSTRUCTION AND SHALL PROVIDE WATER SPRINKLING OR OTHER SUITABLE METHODS OF CONTROL. THE CONTRACTOR SHALL COMPLY WITH ALL GOVERNING REGULATIONS PERTAINING TO ENVIRONMENTAL PROTECTION.

5. CONTRACTOR SHALL SEED ALL DISTURBED AREAS IN ACCORDANCE TO REQUIREMENTS OF TECHNICAL SPECIFICATIONS. BUILDING LOTS WILL NOT REQUIRE SEEDING BUT ALL SLOPES AND BACKFILL BEHIND CURBS SHALL BE SEEDED WITHIN RIGHT-OF-WAY LIMITS, AND ON SLOPES OF EMBANKMENTS. AREAS SHALL BE SEEDED WITHIN 28 DAYS OF FINISH GRADING OR AS DIRECTED BY OWNER.

6. JOINT SPACING FOR CONCRETE PAVEMENT SHALL BE MODIFIED TO MEET THE CONTRACTOR'S CONSTRUCTION EQUIPMENT AND METHODS OF POURING. CONTRACTOR TO DRILL AND INSERT EPOXY-COATED DOWEL BARS INTO CONSTRUCTION JOINTS AND HEADERS. CONTRACTOR TO SAW-CUT CLEAN VERTICAL EDGE AT JOINT LOCATION. SAWED CONTRACTION JOINTS SHALL BE REQUIRED ON MAXIMUM 12'-0" CENTERS.

7. CONTRACTOR SHALL SUBMIT A JOINTING PLAN AND RECEIVE APPROVAL FROM THE ENGINEER AND CITY PRIOR TO CONCRETE PAVING OPERATIONS.

8. ALL SANITARY SEWER, WATER MAINS AND STORM SEWER UNDER PAVEMENTS SHALL BE BACKFILLED WITH MODOT TYPE 5 AGGREGATE IN TRENCHES GREATER THAN 24" AND FLOWABLE IN TRENCHES LESS THAN 24".

9. CONTRACTOR SHALL INSTALL SILT FENCE TO PREVENT SEDIMENT FROM LEAVING CONSTRUCTION LIMITS. SILT FENCE IS REQUIRED AT BOTTOM OF SLOPE ON ALL EMBANKMENTS AND AT DISCHARGE POINTS OF STREETS, STORM SEWER INLETS AND PIPE END SECTIONS.

10. PIPE LENGTHS ARE CENTER TO CENTER OF STRUCTURE OR TO END OF END SECTIONS.

11. THE CONSTRUCTION AREA SHALL BE CLEARED, GRUBBED, AND STRIPPED OF TOPSOIL AND ORGANIC MATTER FROM ALL AREAS TO BE OCCUPIED BY 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.

12. CONTRACTOR SHALL COMPLETE ROUGH SITE AND STREET GRADING PRIOR TO INSTALLATION OF UTILITIES.

13. EROSION CONTROL SEDIMENT FENCE SHALL BE INSTALLED 1'-0" BEHIND CURB & GUTTER UPON COMPLETION OF BACKFILL OF CURB IN ALL AREAS WHERE SLOPES FROM LOT DRAIN TOWARDS CURB. UPON COMPLETION OF FINAL GRADING THE TOES OF ALL EMBANKMENTS IN EXCESS OF TWO FEET IN HEIGHT SHALL HAVE EROSION CONTROL SEDIMENT FENCE INSTALLED.

14. CUT AND FILL SECTIONS ARE TYPICAL ONLY. NEITHER ALTERNATE PAVEMENT TYPE IS SPECIFIED FOR EXCLUSIVE USE WITH CUT OR FILL SECTIONS. REFER TO SPECIFICATIONS FOR INFORMATION ON FLY ASH TREATED SUBGRADE, CRUSHED AGGREGATE BASE COURSE, AND PAVEMENT UNDERDRAINS.

15. WHERE CURB AND GUTTER IS MONOLITHIC WITH THE STREET, THE CURVE SHALL BE POURED AT THE SAME DEPTH AS THE STREET.

16. UNLESS SPECIFIED OTHERWISE, KCMMB 4K IS REQUIRED FOR ALL CONCRETE.

20. THE STANDARD SPECIFICATIONS AND DESIGN CRITERIA OF THE CITY OF LEE'S SUMMIT AND SHALL GOVERN THE CONSTRUCTION OF ALL PUBLIC IMPROVEMENTS FOR THIS PROJECT. (1)

LEGEND

- SECTION CORNER, ORIGIN UNKNOWN UNLESS OTHERWISE NOTED
- MONUMENT FOUND, ORIGIN UNCERTAIN UNLESS OTHERWISE NOTED
- (D) DESCRIBED
- (M) MEASURED
- (C) CALCULATED
- (P) PLATTED
- STREET SIGN
- UTILITY POLE
- LP UTILITY POLE W/ LIGHT
- UTILITY POLE W/TRANSFORMER
- LIGHT POLE
- DEADMAN ANCHOR
- (5) OU OVERHEAD UTILITY – # LINES
- AIR CONDITIONING UNIT
- ELECTRIC PEDESTAL
- ELECTRIC METER
- E UNDERGROUND ELECTRIC LINE
- UTILITY MANHOLE
- CTV CABLE TV SIGN
- CABLE TV PEDESTAL
- GAS SIGN
- GAS METER
- G UNDERGROUND GAS LINE
- GTS GAS CATHODIC PROTECTION STATION
- W WATER LINE
- WATER LINE GATE VALVE
- WS WATER SPIGOT
- WATER METER
- WELL
- FIRE HYDRANT
- SANITARY SEWER MANHOLE
- S SANITARY SEWER LINE
- STORM SEWER MANHOLE
- TELEPHONE SIGN
- TELEPHONE MANHOLE
- TP TELEPHONE PEDESTAL
- T UNDERGROUND TELEPHONE LINE
- SPLICE BOX
- FOC FIBER OPTIC CABLE SIGN
- FOC UNDERGROUND FIBER OPTIC CABLE
- TRAFFIC CONTROL POLE
- PULL BOX
- FP FLAG POLE
- MB MAILBOX
- ADA HANDICAP SIGN
- HANDICAP PAINTED SYMBOL
- LEFT TURN ARROW
- STRAIGHT ARROW
- RIGHT TURN ARROW
- GP GATE POST
- FENCE POST
- WOOD FENCE
- CHAIN LINK FENCE
- BARBED WIRE FENCE
- 18" DECIDUOUS TREE W/SIZE & DRIP LINE
- 22" EVERGREEN TREE W/SIZE & DRIP LINE
- SAP SAPPLING TREE
- SHRUB
- STUMP
- TREE LINE
- SHRUB LINE
- (10) PARKING STALL COUNT
- 970 1' CONTOUR INTERVAL
- RESTRICTED ACCESS
- B/B BACK OF CURB TO BACK OF CURB
- E/E EDGE TO EDGE

REV	DATE	DESCRIPTION	DSN	DWN	CHK
1	07-02-19	REVISED PER CITY COMMENTS	LDO	JT	LDO
0	5-16-19	INITIAL ISSUE	LDO	BKR	LDO

STATE OF MISSOURI
LEON D. OSBOURN
NUMBER
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REGISTERED PROFESSIONAL ENGINEER

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MO # 021726

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KAW VALLEY ENGINEERING

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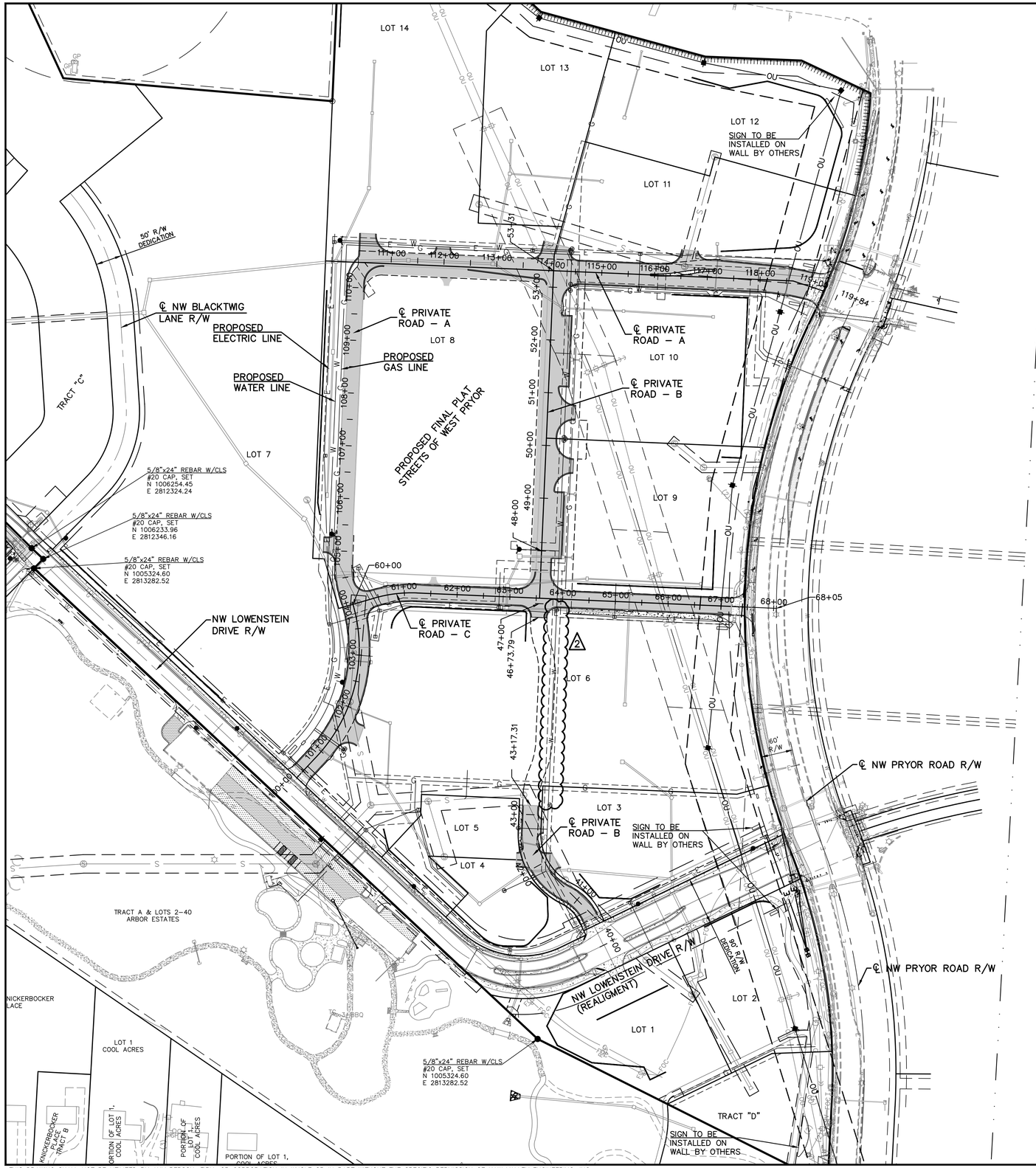
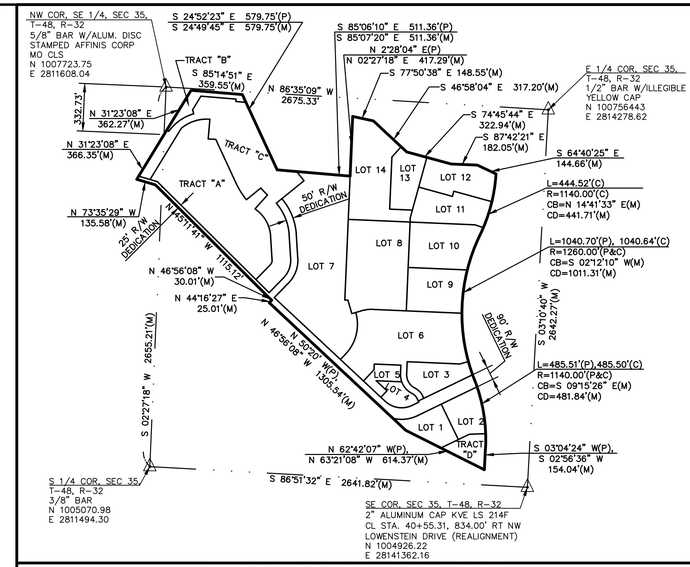
STREETS OF WEST PRYOR
NWQ NW PRYOR RD & NW LOWENSTEIN DR
LEE'S SUMMIT, MISSOURI

PRIVATE ROAD PLANS
GENERAL NOTES

PROJ. NO. A14_7067-1
DESIGNER LDO | DRAWN BY JT
CFN 7067-1IR_GEN
SHEET C-2 | REV 1





BOUNDARY INFORMATION & SURVEY CONTROL

SCALE: 1"=500'

(SEE FINAL PLAT OF STREETS OF WEST PRYOR LOTS 1 THRU 14, TRACTS "A", "B", "C", & "D" FOR ADDITIONAL INFORMATION)

PROPOSED LEGEND

- S — SANITARY SEWER MAIN
- G — UNDERGROUND GAS LINE
- W — WATER MAIN
- WATER VALVE
- FIRE HYDRANT
- OU — UNDERGROUND ELECTRIC LINE
- E — OVERHEAD POWER (BY OTHERS)
- TRANSFORMER
- SECTIONALIZER
- RISER
- NEW POWER POLE

0 50 100 200

SCALE: 1" = 100'

PUBLIC STREET, STORM & SANITARY SEWER ARE BY SEPARATE PLANS

REV.	DATE	DESCRIPTION	DSN	DWN	CHK
2	11-19-19	REVISED PER CLIENT REQUEST	LDO	LDO	LDO
1	07-02-19	REVISED PER CITY COMMENTS	LDO	JT	LDO
0	5-16-19	INITIAL ISSUE	LDO	BKR	LDO

STATE OF MISSOURI
LEON D. OSBOURN
NUMBER E-21726
11-19-19
REGISTERED PROFESSIONAL ENGINEER

LEON D. OSBOURN
ENGINEER
MO # 021726

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STREETS OF WEST PRYOR

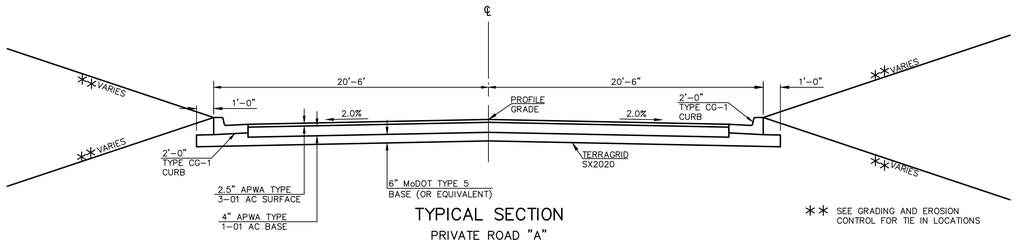
NWQ NW PRYOR RD & NW LOWENSTEIN DR

LEE'S SUMMIT, MISSOURI

PRIVATE ROAD PLANS

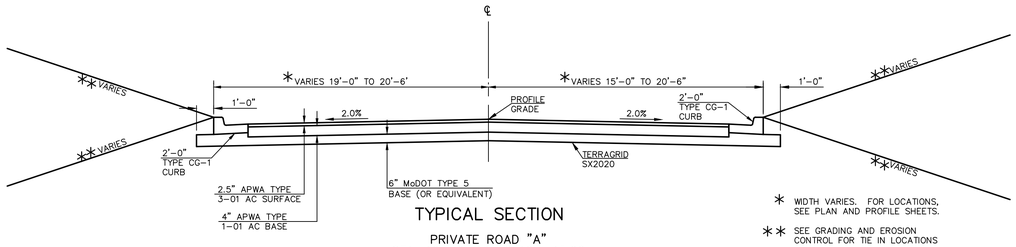
GENERAL LAYOUT SHEET

PROJ. NO.	A14_7067-1
DESIGNER	LDO
DRAWN BY	JT
CFN	7067-1IR_GLS
SHEET	C-3
REV	2



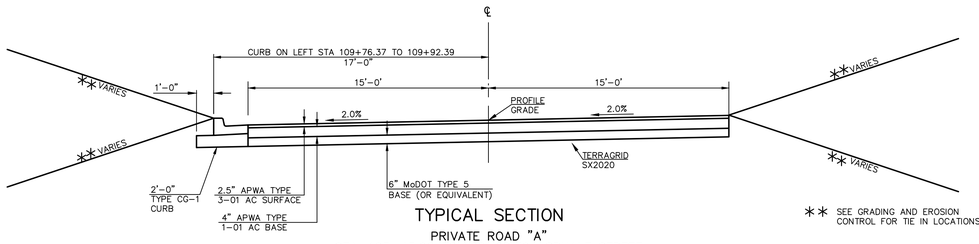
TYPICAL SECTION
PRIVATE ROAD "A"
STA. 100+45.00 TO STA. 103+97.14
ASPHALT STREET

** SEE GRADING AND EROSION CONTROL FOR TIE IN LOCATIONS



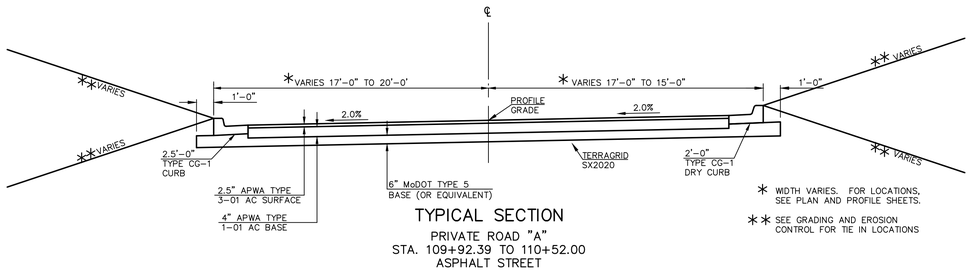
TYPICAL SECTION
PRIVATE ROAD "A"
STA. 103+97.14 TO 105+43.96
(STA 104+72.34 TO 105+39.17 (NO CURB ON RIGHT SIDE)
STA 105+39.17 TO 105+43.96 (NO CURB)
ASPHALT STREET

* WIDTH VARIES. FOR LOCATIONS, SEE PLAN AND PROFILE SHEETS.
** SEE GRADING AND EROSION CONTROL FOR TIE IN LOCATIONS



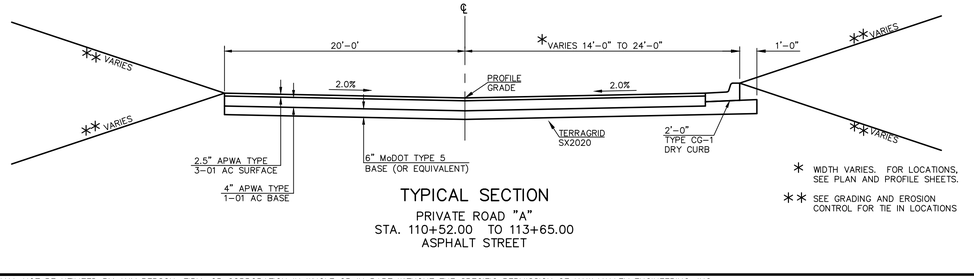
TYPICAL SECTION
PRIVATE ROAD "A"
STA. 105+43.96 TO 109+92.39 ASPHALT STREET

** SEE GRADING AND EROSION CONTROL FOR TIE IN LOCATIONS



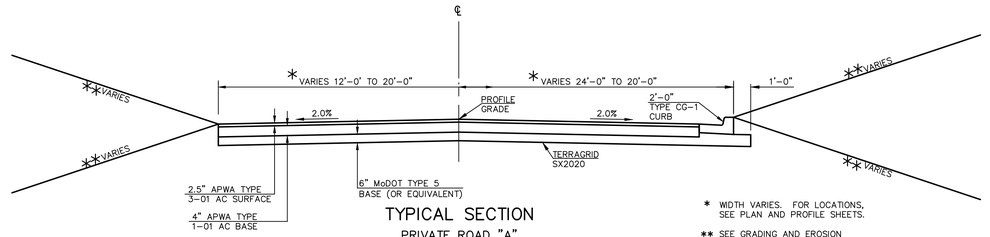
TYPICAL SECTION
PRIVATE ROAD "A"
STA. 109+92.39 TO 110+52.00
ASPHALT STREET

* WIDTH VARIES. FOR LOCATIONS, SEE PLAN AND PROFILE SHEETS.
** SEE GRADING AND EROSION CONTROL FOR TIE IN LOCATIONS



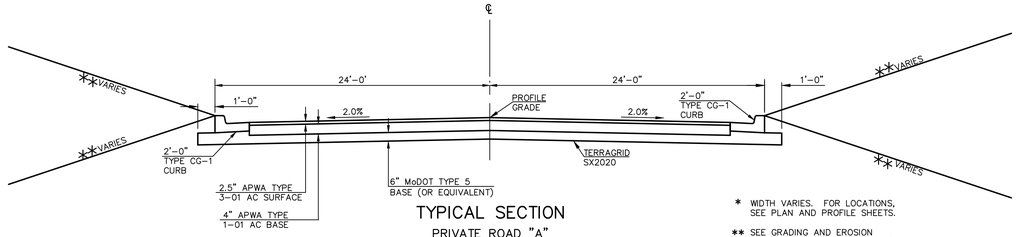
TYPICAL SECTION
PRIVATE ROAD "A"
STA. 110+52.00 TO 113+65.00
ASPHALT STREET

* WIDTH VARIES. FOR LOCATIONS, SEE PLAN AND PROFILE SHEETS.
** SEE GRADING AND EROSION CONTROL FOR TIE IN LOCATIONS



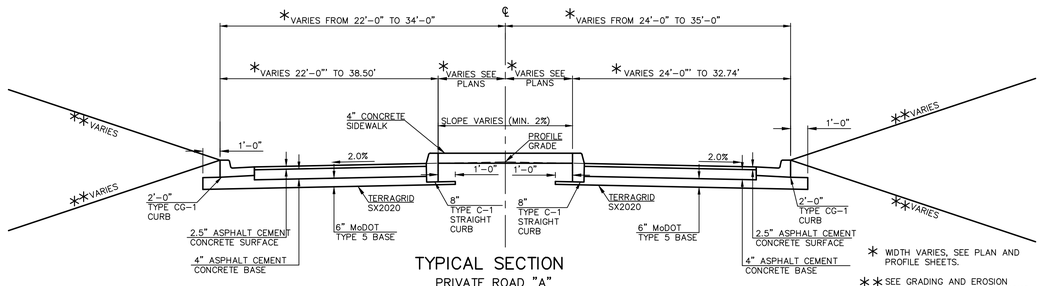
TYPICAL SECTION
PRIVATE ROAD "A"
STA. 113+65.00 TO 14+13.09
ASPHALT STREET

* WIDTH VARIES. FOR LOCATIONS, SEE PLAN AND PROFILE SHEETS.
** SEE GRADING AND EROSION CONTROL FOR TIE IN LOCATIONS



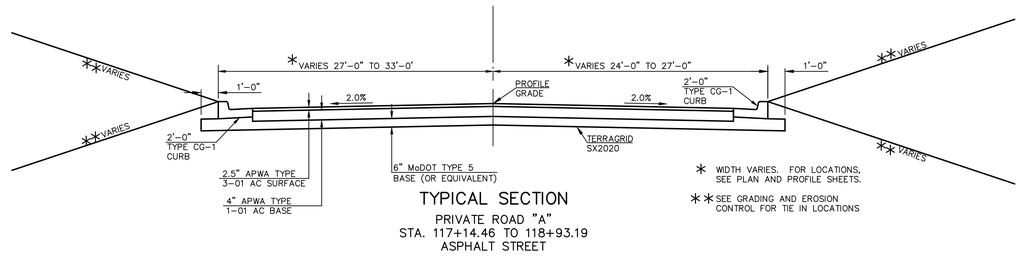
TYPICAL SECTION
PRIVATE ROAD "A"
STA. 14+13.09 TO 115+91.40
(STA 14+13.09 TO 114+55.96 NO CURB ON LEFT SIDE)
ASPHALT STREET

* WIDTH VARIES. FOR LOCATIONS, SEE PLAN AND PROFILE SHEETS.
** SEE GRADING AND EROSION CONTROL FOR TIE IN LOCATIONS



TYPICAL SECTION
PRIVATE ROAD "A"
STA. 115+91.40 TO 117+14.46
ASPHALT STREET

* WIDTH VARIES, SEE PLAN AND PROFILE SHEETS.
** SEE GRADING AND EROSION CONTROL FOR TIE IN LOCATIONS



TYPICAL SECTION
PRIVATE ROAD "A"
STA. 117+14.46 TO 118+93.19
ASPHALT STREET

* WIDTH VARIES. FOR LOCATIONS, SEE PLAN AND PROFILE SHEETS.
** SEE GRADING AND EROSION CONTROL FOR TIE IN LOCATIONS

3 PRIVATE ROAD "A"
SEE SHEET C–8A FOR CORRECTED ELEVATIONS FOR STA. 104+72.34 TO STA. 114+61.59

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3	11–15–19	PER IN–HOUSE REVIEW	LDO	JT	LDO
2	8–20–19	REVISED PER CLIENT COMMENTS	LDO	JT	LDO
1	07–02–19	REVISED PER CITY COMMENTS	LDO	JT	LDO
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STATE OF MISSOURI
LEON D. OSBOURN
NUMBER E-21726
11-15-19
REGISTERED PROFESSIONAL ENGINEER

LEON D. OSBOURN
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MO # 021726

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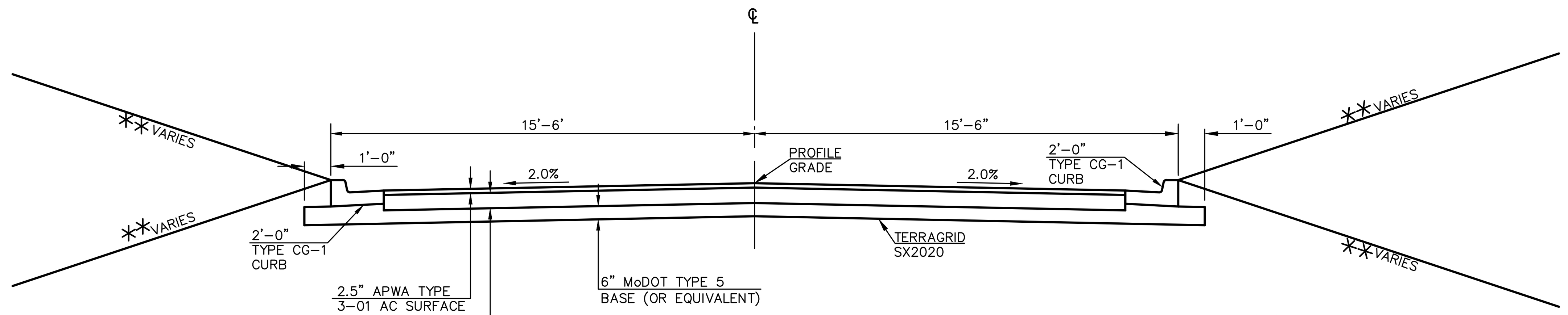
STREETS OF WEST PRYOR
NWQ NW PRYOR RD & NW LOWENSTEIN DR
LEE'S SUMMIT, MISSOURI

PRIVATE ROAD PLANS
TYPICAL SECTIONS FOR PRIVATE ROAD - A

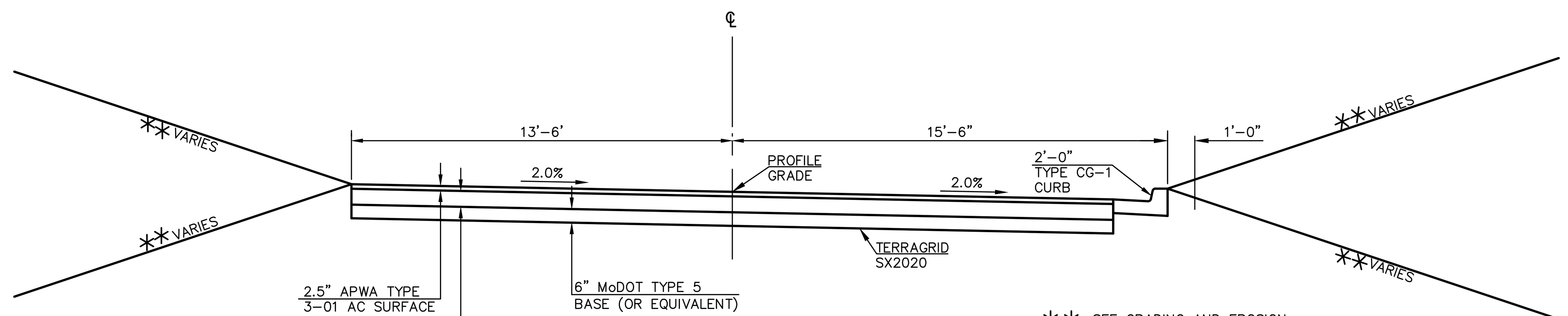
PROJ. NO.	A14_7067–1	
DESIGNER	LDO	DRAWN BY JT
CFN	7067–1IR_TYP	
SHEET	C–4	REV 3



TYPICAL SECTION 2

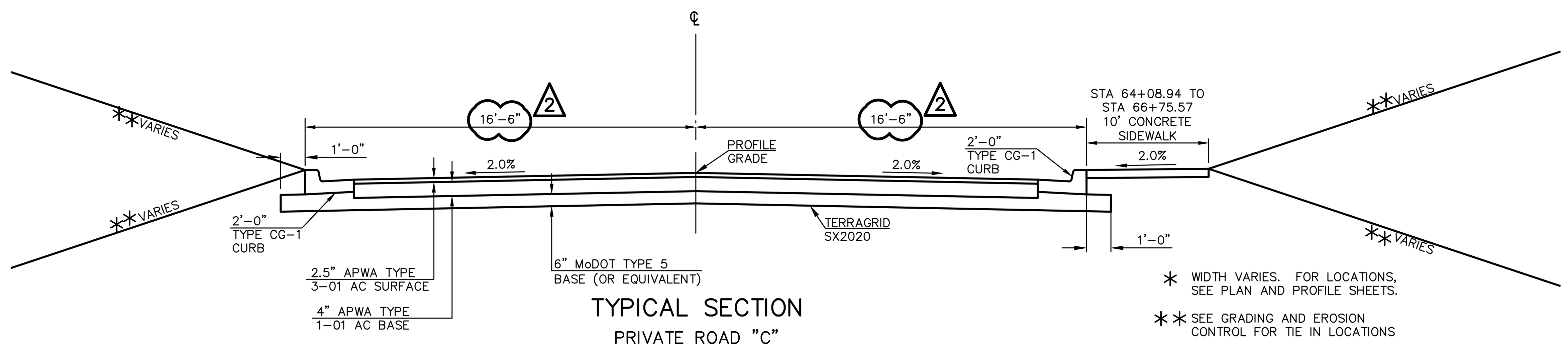
PRIVATE ROAD "B"
STA. 40+57.00 TO STA. 43+17.31
STA. 46+73.79 TO 47+10.29
ASPHALT STREET

2



TYPICAL SECTION

PRIVATE ROAD "B-1"
STA. 47+10.29 TO 47+84.48
STA. 47+84.48 TO 52+52.61 (NO CURB LEFT, VARIES – SEE PLANS)
ASPHALT STREET



TYPICAL SECTION

PRIVATE ROAD "C"
STA. 60+00 TO 67+19.99
ASPHALT STREET

REV	DATE	DESCRIPTION	DSN	DWN	CHK
2	8-20-19	REVISED PER CLIENT COMMENTS	LDO	JT	LDO
1	07-02-19	REVISED PER CITY COMMENTS	LDO	JT	LDO
0	5-16-19	INTIAL ISSUE	LDO	BKR	LDO

STATE OF MISSOURI – LEON D. OSBOURN – NUMBER E-21726 – REGISTERED PROFESSIONAL ENGINEER

LEON D. OSBOURN
ENGINEER
MO # 021726

KAW VALLEY ENGINEERING
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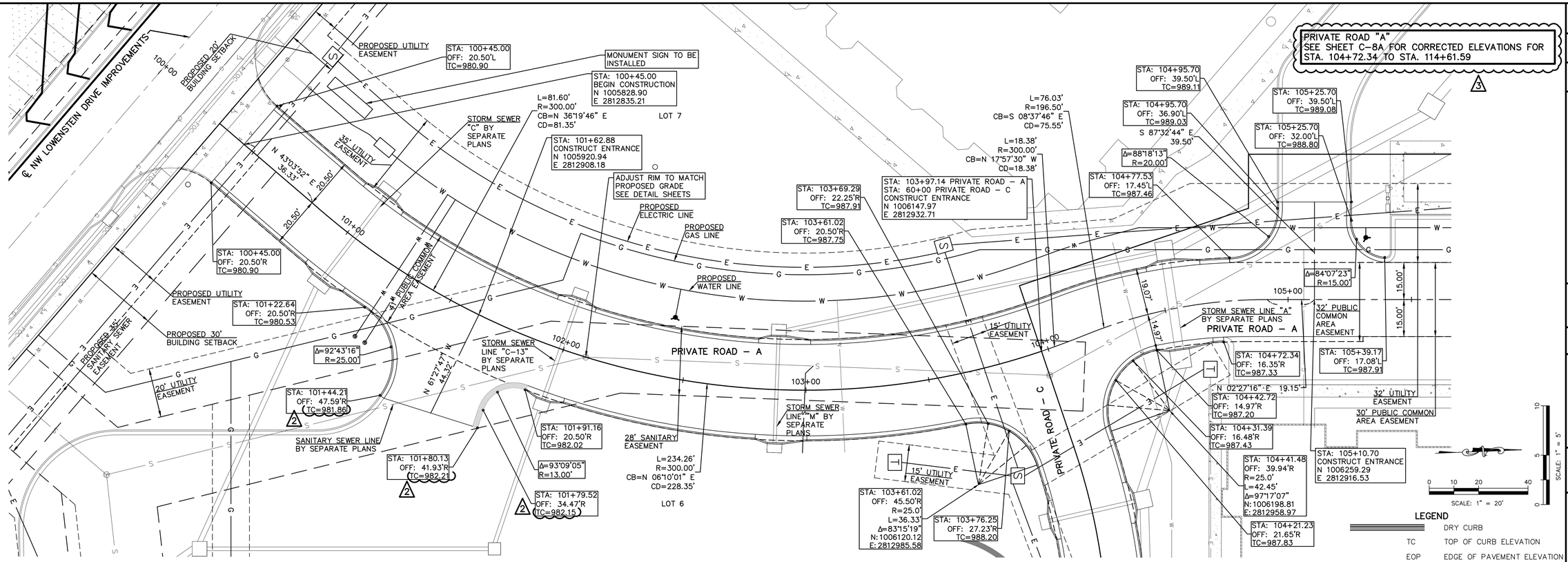
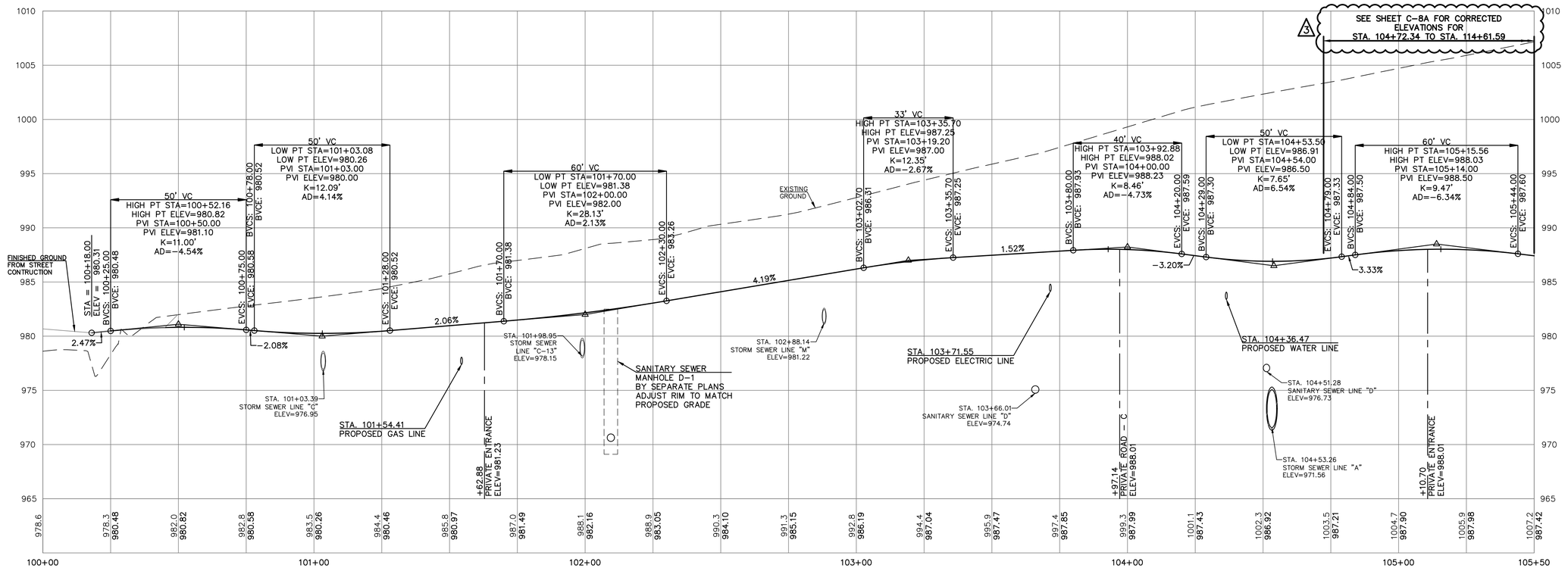
KAW VALLEY ENGINEERING, INC. IS AUTHORIZED TO OFFER ENGINEERING SERVICES BY MISSOURI STATE CERTIFICATE OF AUTHORITY # 000842. EXPIRES 12/31/19

STREETS OF WEST PRYOR
NWQ NW PRYOR RD & NW LOWENSTEIN DR
LEE'S SUMMIT, MISSOURI

PRIVATE ROAD PLANS
TYPICAL SECTIONS FOR PRIVATE ROAD - B & C

PROJ. NO. A14_7067-1
DESIGNER LDO | DRAWN BY JT
CFN 7067-1IR_TYP
SHEET C-5 | REV 2





REV.	DATE	DESCRIPTION	DSN	DWN	CHK
3	11-15-19	PER IN-HOUSE REVIEW	LDO	JT	LDO
2	8-20-19	REVISED PER CLIENT COMMENTS	LDO	JT	LDO
1	07-02-19	REVISED PER CITY COMMENTS	LDO	JT	LDO
0	5-16-19	INITIAL ISSUE	LDO	BKR	LDO

STATE OF MISSOURI
LEON A. OSBOURN
NUMBER
11-15-19
E-21726
REGISTERED PROFESSIONAL ENGINEER

LEON D. OSBOURN
ENGINEER
MO # 021726

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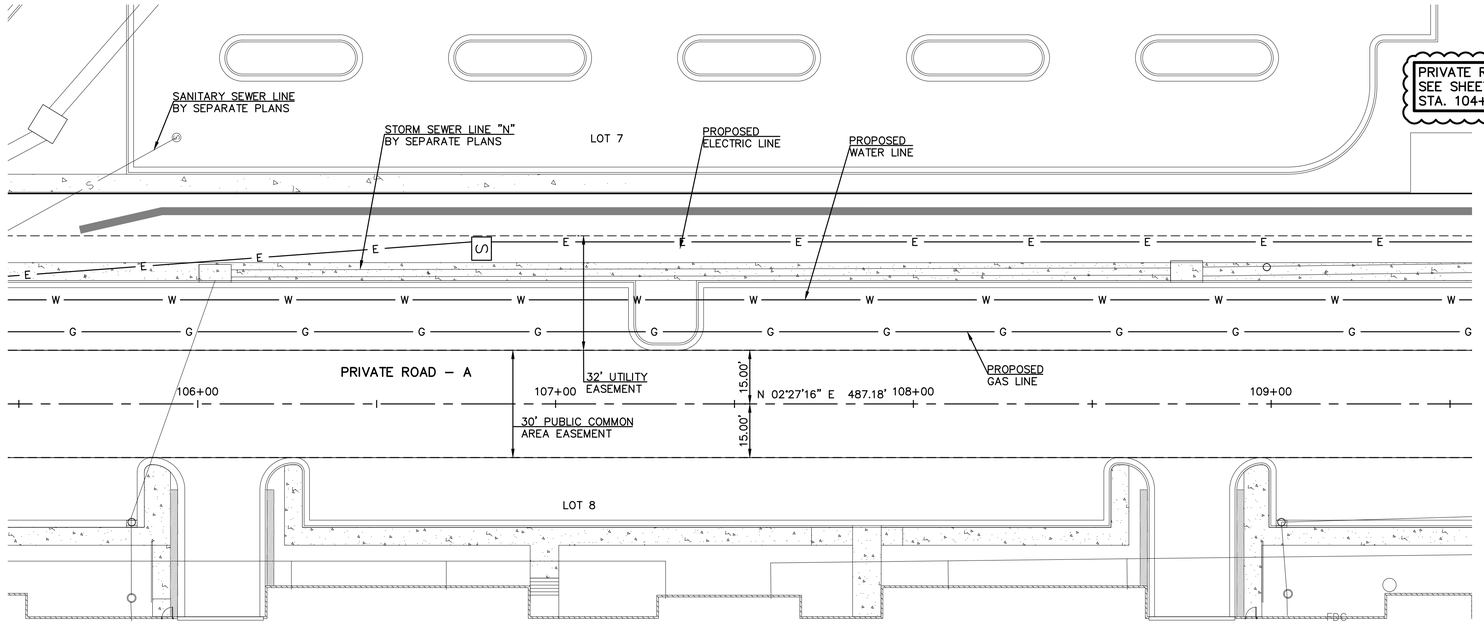
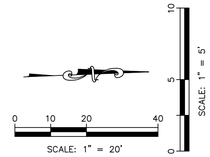
STREETS OF WEST PRYOR
NWQ NW PRYOR RD & NW LOWENSTEIN DR
LEE'S SUMMIT, MISSOURI

PRIVATE ROAD PLANS
PRIVATE ROAD - A - PLAN & PROFILE

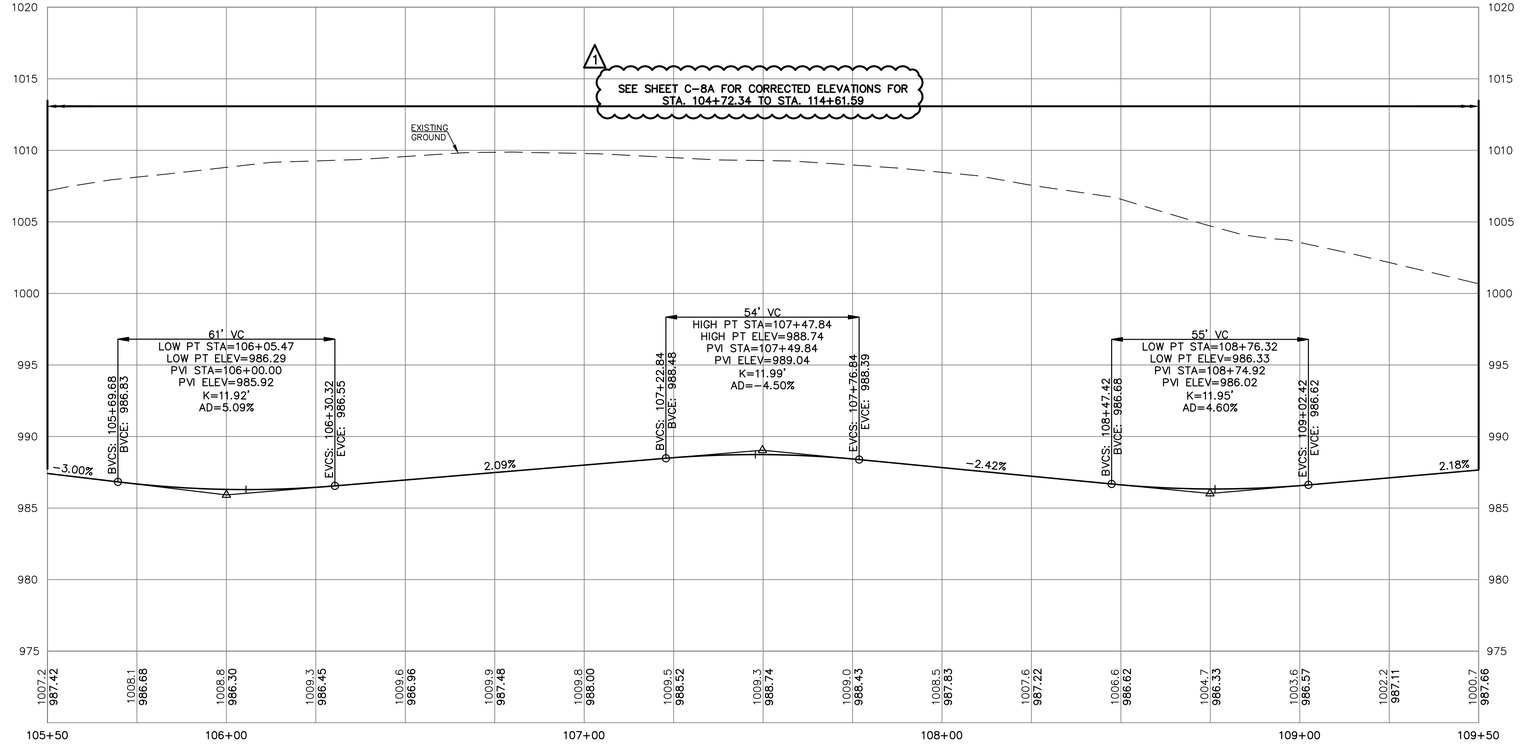
PROJ. NO.	
A14_7067-1	
DESIGNER	DRAWN BY
LDO	JT
CFN	
7067-1IR_STPP	
SHEET	REV.
C-6	3





LEGEND

	DRY CURB
TC	TOP OF CURB ELEVATION
EOP	EDGE OF PAVEMENT ELEVATION



REV	DATE	DESCRIPTION	DSN	DWN	CHK
			LDO	JT	LDO
1	11-15-19	PER IN-HOUSE REVIEW	LDO	BKR	LDO
0	5-16-19	INITIAL ISSUE			

STATE OF MISSOURI
LEON D. OSBOURN
NUMBER
E-21726
11-9-19
REGISTERED PROFESSIONAL ENGINEER

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MO # 021726

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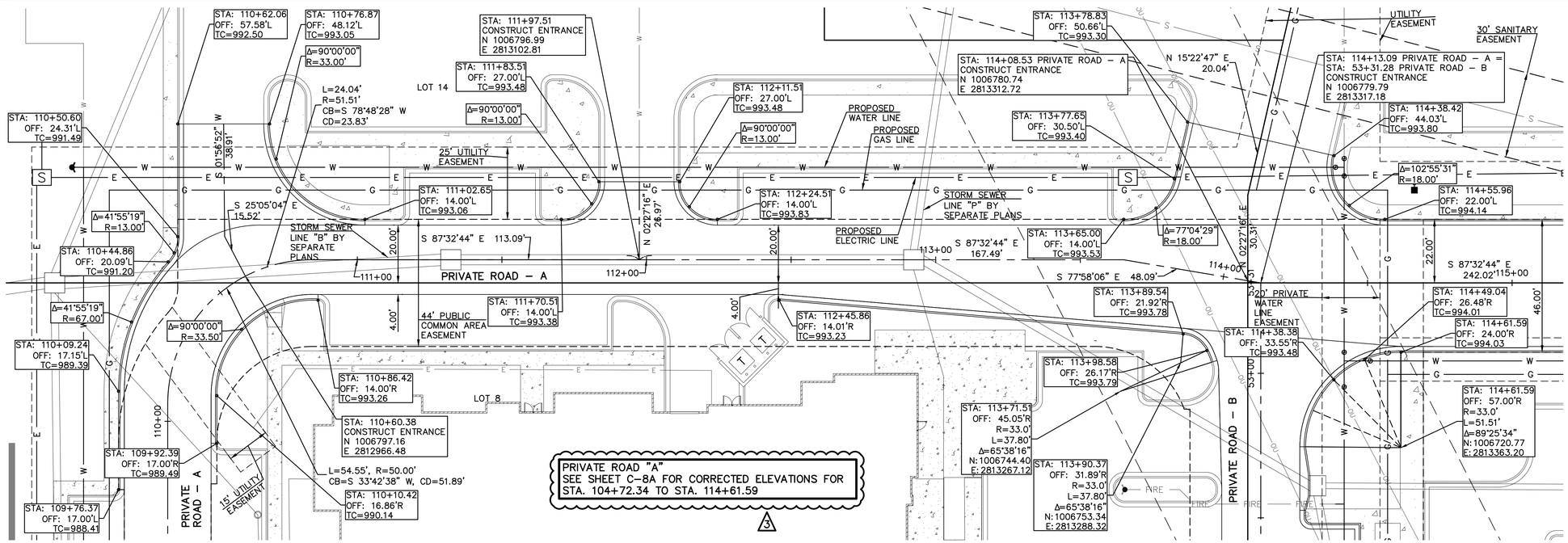
STREETS OF WEST PRYOR
NWQ NW PRYOR RD & NW LOWENSTEIN DR
LEE'S SUMMIT, MISSOURI

PRIVATE ROAD PLANS
PRIVATE ROAD - A - PLAN & PROFILE

PROJ. NO.	
A14_7067-1	
DESIGNER	DRAWN BY
LDO	JT
CFN	
7067-1IR_STPP	
SHEET	REV
C-7	0



LEGEND

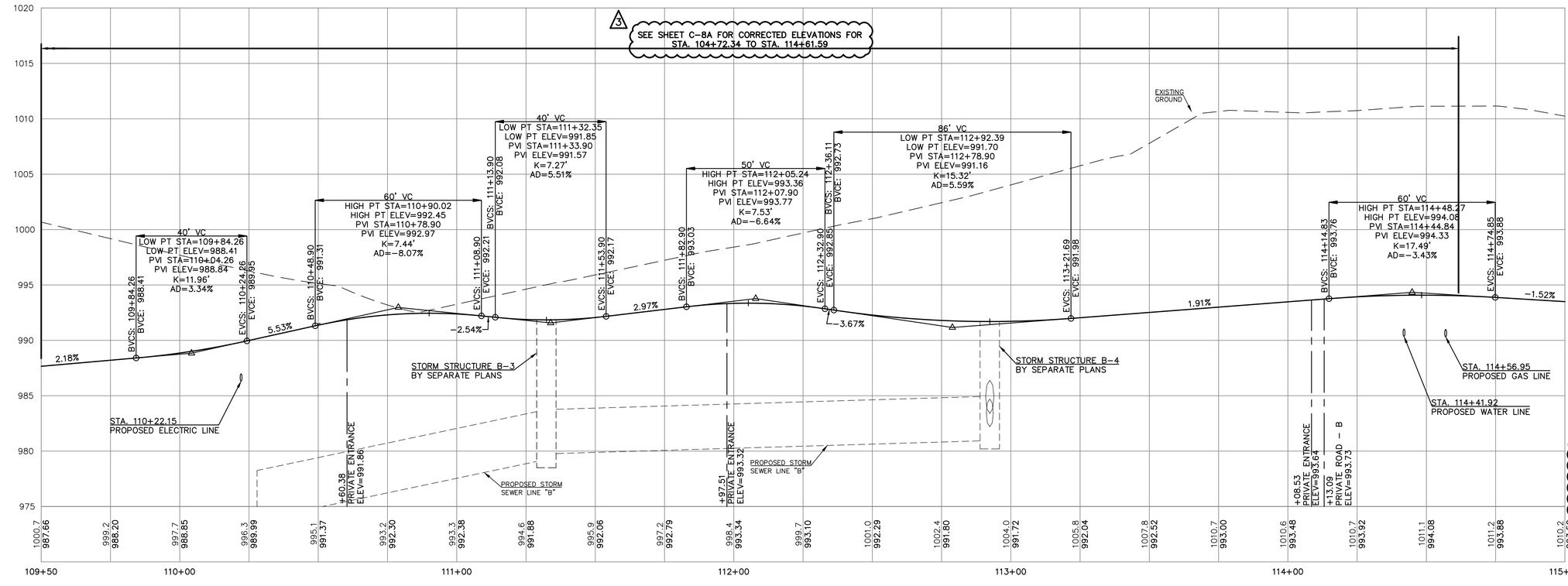
DRY CURB

TC TOP OF CURB ELEVATION

EOP EDGE OF PAVEMENT ELEVATION

SCALE: 1" = 20'

SCALE: 1" = 5'



REV.	DATE	DESCRIPTION	DSN	DWN	CHK
3	11–15–19	PER IN–HOUSE REVIEW	LDO	JT	LDO
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STATE OF MISSOURI
LEON D. OSBOURN
NUMBER
E-21726
11-15-19
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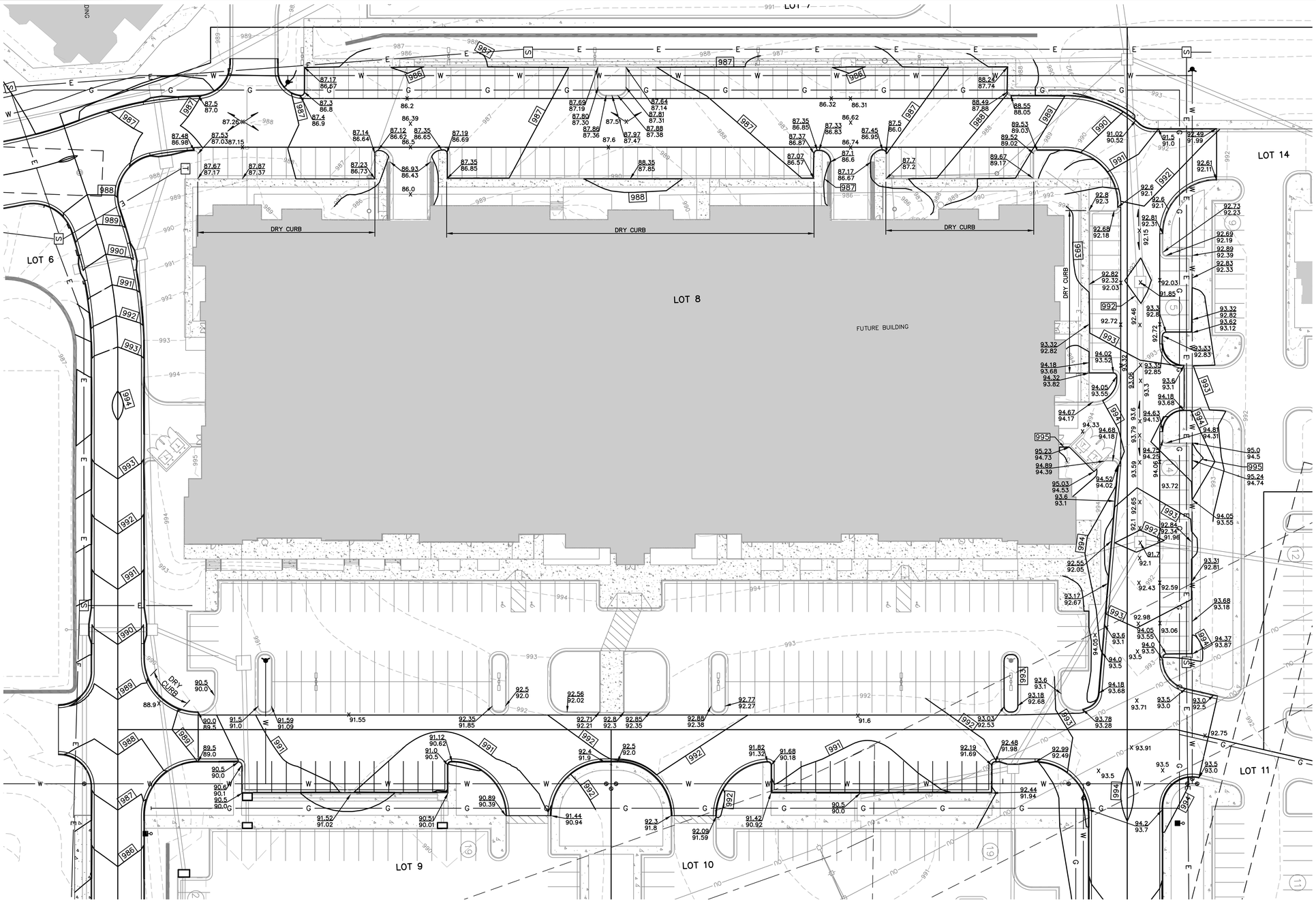
STREETS OF WEST PRYOR
NWQ NW PRYOR RD & NW LOWENSTEIN DR
LEE'S SUMMIT, MISSOURI

PRIVATE ROAD PLANS
PRIVATE ROAD - A - PLAN & PROFILE

PROJ. NO.	A14_7067–1	
DESIGNER	LDO	DRAWN BY JT
CFN	7067–1IR_STPP	
SHEET	C–8	REV 3



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.

2. AREAS TO RECEIVE FILL SHALL BE SCARIFIED AND THE TOP 8-INCH DEPTH COMPACTED TO 95% STANDARD PROCTOR DENSITY. ANY UNSUITABLE AREAS SHALL BE UNDERCUT AND REPLACED WITH SUITABLE MATERIAL BEFORE ANY FILL MATERIAL CAN BE APPLIED.

3. OFF-SITE FILL MATERIAL SHALL HAVE A PLASTICITY INDEX OF 25 OR LESS, A LIQUID LIMIT OF 45 OR LESS AND CONTAIN NO ROCK LARGER THAN FOUR INCHES. OFF-SITE FILL MATERIAL SHALL BE APPROVED BY THE ENGINEER PRIOR TO BRINGING ON SITE.

4. EARTHWORK UNDER THE BUILDING SHALL COMPLY WITH THE PROJECT ARCHITECTURAL PLANS. OTHER FILL MATERIAL SHALL BE MADE IN LIFTS NOT TO EXCEED EIGHT INCHES DEPTH COMPACTED TO 95% STANDARD PROCTOR DENSITY. FILL MATERIAL MAY INCLUDE ROCK FROM ON-SITE EXCAVATION IF CAREFULLY PLACED SO THAT LARGE STONES ARE WELL DISTRIBUTED AND VOIDS ARE COMPLETELY FILLED WITH SMALLER STONES, EARTH, SAND OR GRAVEL TO FURNISH A SOLID EMBANKMENT. NO ROCK LARGER THAN THREE INCHES IN ANY DIMENSION NOR ANY SHALE SHALL BE PLACED IN THE TOP 12 INCHES OF EMBANKMENT.

5. AREAS THAT ARE TO BE CUT TO SUBGRADE LEVELS SHALL BE PROOF ROLLED WITH A MODERATELY HEAVY LOADED DUMP TRUCK OR SIMILAR APPROVED CONSTRUCTION EQUIPMENT TO DETECT UNSUITABLE SOIL CONDITIONS.

6. IN ALL AREAS OF EXCAVATION, IF UNSUITABLE SOIL CONDITIONS ARE ENCOUNTERED, A QUALIFIED GEOTECHNICAL ENGINEER SHALL RECOMMEND TO THE ENGINEER 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.

7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CONTROL OF DUST AND DIRT RISING AND SCATTERING IN THE AIR DURING CONSTRUCTION AND SHALL PROVIDE WATER SPRINKLING OR OTHER SUITABLE METHODS OF CONTROL. THE CONTRACTOR SHALL COMPLY WITH ALL GOVERNING REGULATIONS PERTAINING TO ENVIRONMENTAL PROTECTION.

8. ALL SLOPES ARE TO BE 3:1 OR FLATTER UNLESS OTHERWISE INDICATED.

9. ALL SLOPES EXCEEDING 3:1 SHALL BE PROTECTED BY RIP RAP, CONCRETE PAVING, OR OTHER METHODS INDICATED ON THESE PLANS, THAT WILL PREVENT EROSION AND PLACED SUCH THAT THE SURFACE IS FLUSH WITH SURROUNDING GROUND AND SHAPED TO CHANNEL WATER IN DIRECTIONS INDICATED.

10. ALL SLOPES AND AREAS DISTURBED BY CONSTRUCTION SHALL BE GRADED SMOOTH AND 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 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.

11. CONTRACTOR SHALL USE SILT FENCE OTHER MEANS OF CONTROLLING EROSION ALONG THE EDGE OF THE PROPERTY OR OTHER BOTTOM OF SLOPE LOCATIONS.

12. CONTRACTOR IS TO REMOVE AND DISPOSE OF ALL DEBRIS, RUBBISH AND OTHER MATERIALS RESULTING FROM PREVIOUS AND CURRENT DEMOLITION OPERATIONS.

13. 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.

14. 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.

IF DISCREPANCIES EXIST BETWEEN THE GRADING NOTES HEREON AND THE RECOMMENDATIONS OUTLINED IN THE PROJECT GEOTECHNICAL REPORT, THE RECOMMENDATIONS OUTLINED IN THE GEOTECHNICAL REPORT SHALL GOVERN.

LEGEND:

82.9 X	SPOT ELEVATION (ADD 900) TOP OF PAVEMENT
83.6 83.1	TOP OF CURB (ADD 900) FLOWLINE OF CURB (ADD 900)
‒ ‒ 970 ‒ ‒	EXISTING GROUND CONTOUR (1' INTERVALS)
970	PROPOSED FINISHED GROUND CONTOUR (1' INTERVALS)
═ ▨	IMPROVEMENTS SHOWN FOR REFERENCE ONLY – CONSTRUCTION NOT PART OF THIS CONTRACT (DITHERED LINEWORK)

△0

ADDED SHEET

DATUM BENCHMARK:

VERTICAL DATUM IS NAVD 88 ESTABLISHED USING OPUS PROJECTS ON PROJECT CONTROL.

BENCHMARKS:

BM #1: CHISELED "SQUARE" ON TOP OF CURB POINT OF INTERSECTION OF WEST PARK PARKING LOT AT EAST DRIVE ENTRANCE. ELEV=984.97

BM #2: CHISELED "SQUARE" ON NORTHWEST CORNER AREA INLET, 25'± EAST OF CURB LINE AND ON-LINE WITH SOUTH CURB OF LOWENSTEIN DRIVE AT 90° BEND IN ROAD. ELEV=970.98

CHK	DWN	DSN	DESCRIPTION	DATE	REV
LDO	JT	LDO	INTIAL ISSUE	11-15-19	0

LEON D. OSBOURN
NUMBER
E-21726
11-19-19

LEON D. OSBOURN
ENGINEER
MO # 021726

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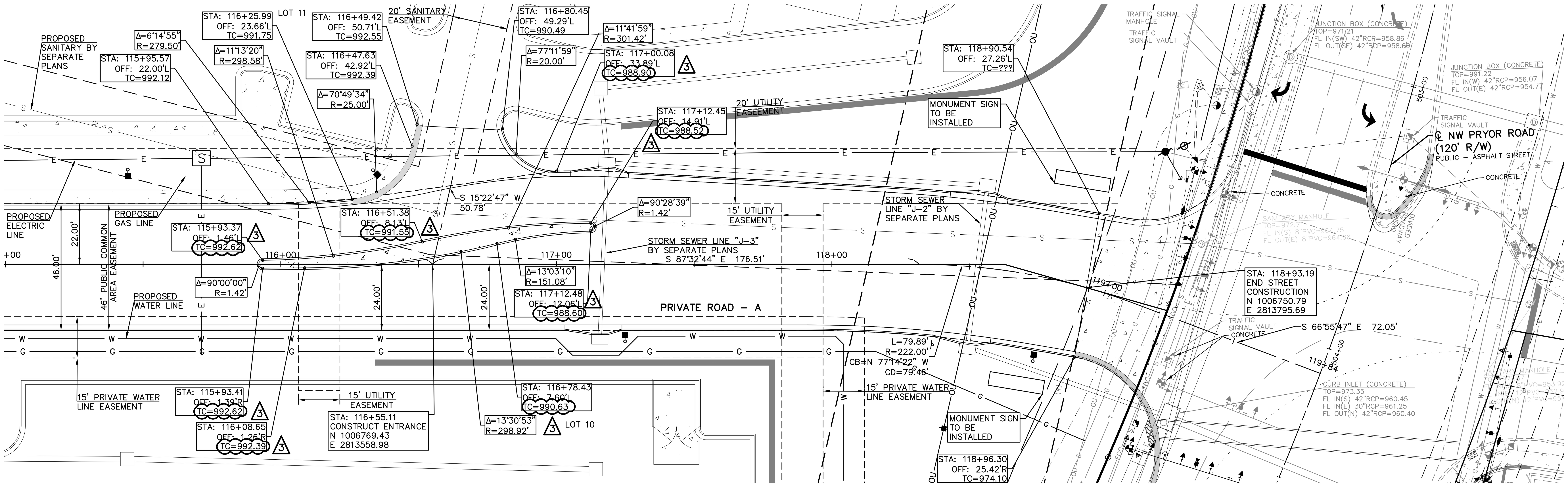
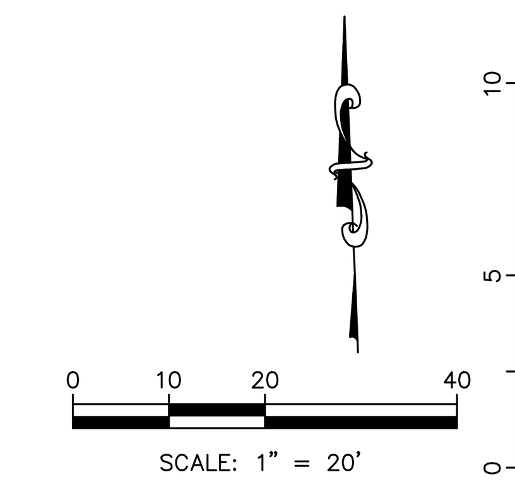
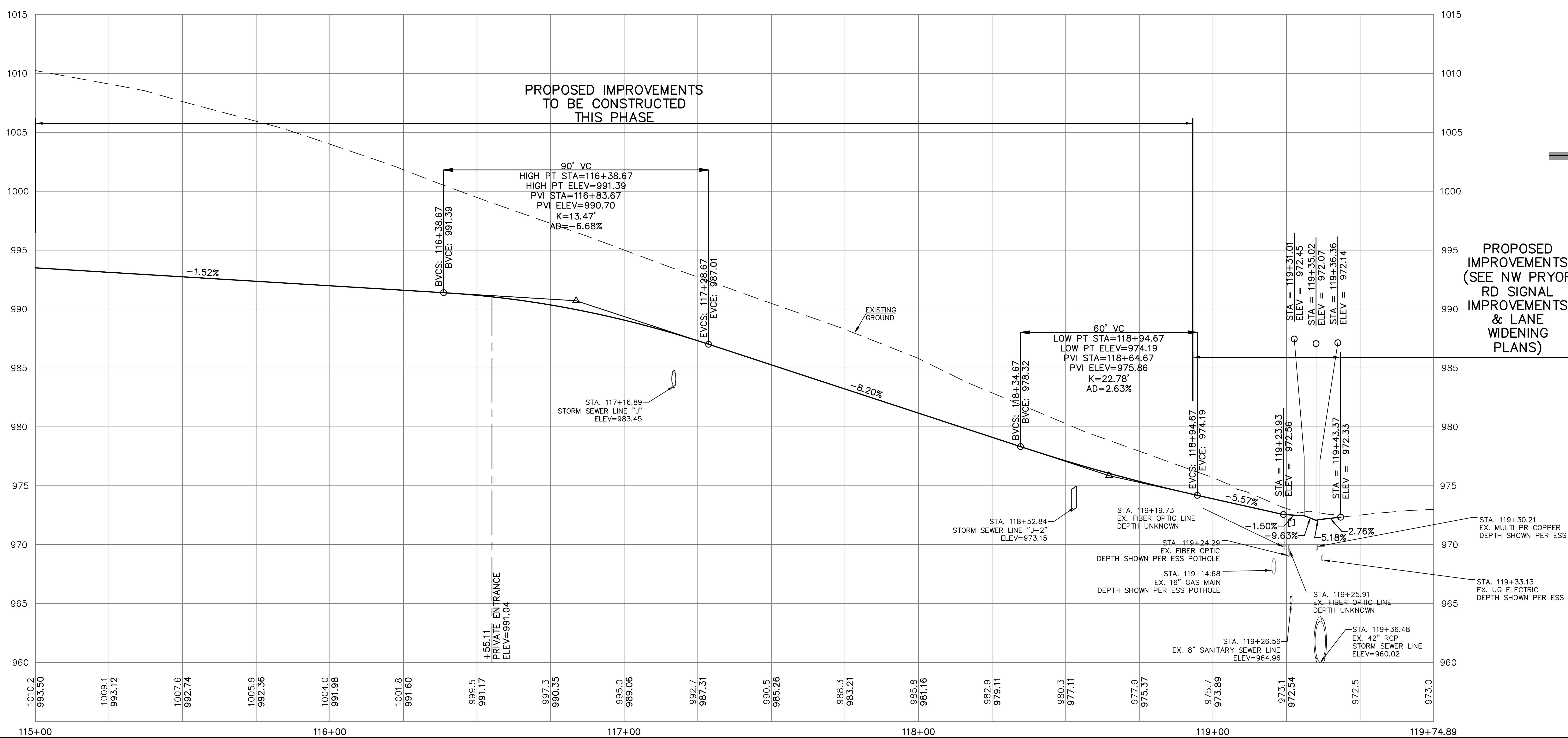
STREETS OF WEST PRYOR
NWQ NW PRYOR RD & NW LOWENSTEIN DR
LEE'S SUMMIT, MISSOURI

PRIVATE ROAD PLANS
GRADING PLAN PRIVATE ROAD A & B

PROJ. NO.
A14_7067-1
DESIGNER LDO
DRAWN BY JT
CFN
7067-1IR_GP
SHEET C-8A
REV 0







LEGEND

(hatched line)	DRY CURB
TC	TOP OF CURB ELEVATION
EOP	EDGE OF PAVEMENT ELEVATION

△2 EXTENSIVE REVISIONS ADJUSTED ROAD GEOMETRY & ELEVATIONS

REV	DATE	DESCRIPTION	DSN	DWN	CHK
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0	5-16-19	INITIAL ISSUE	LDO	BKR	LDO

STATE OF MISSOURI — LEON D. OSBOURN — NUMBER E-21726 — REGISTERED PROFESSIONAL ENGINEER — 11-15-19

LEON D. OSBOURN
ENGINEER
MO # 021726

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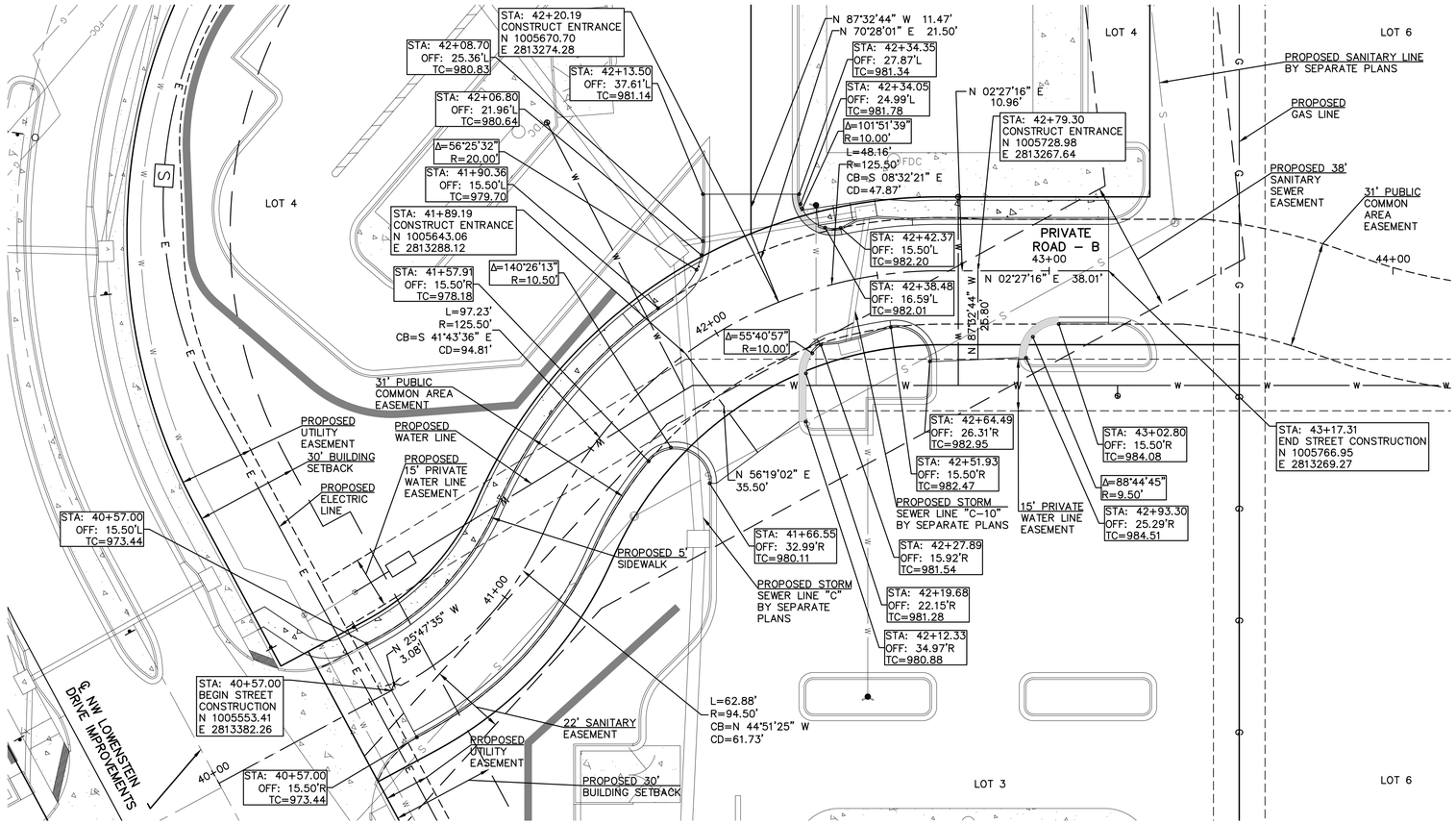
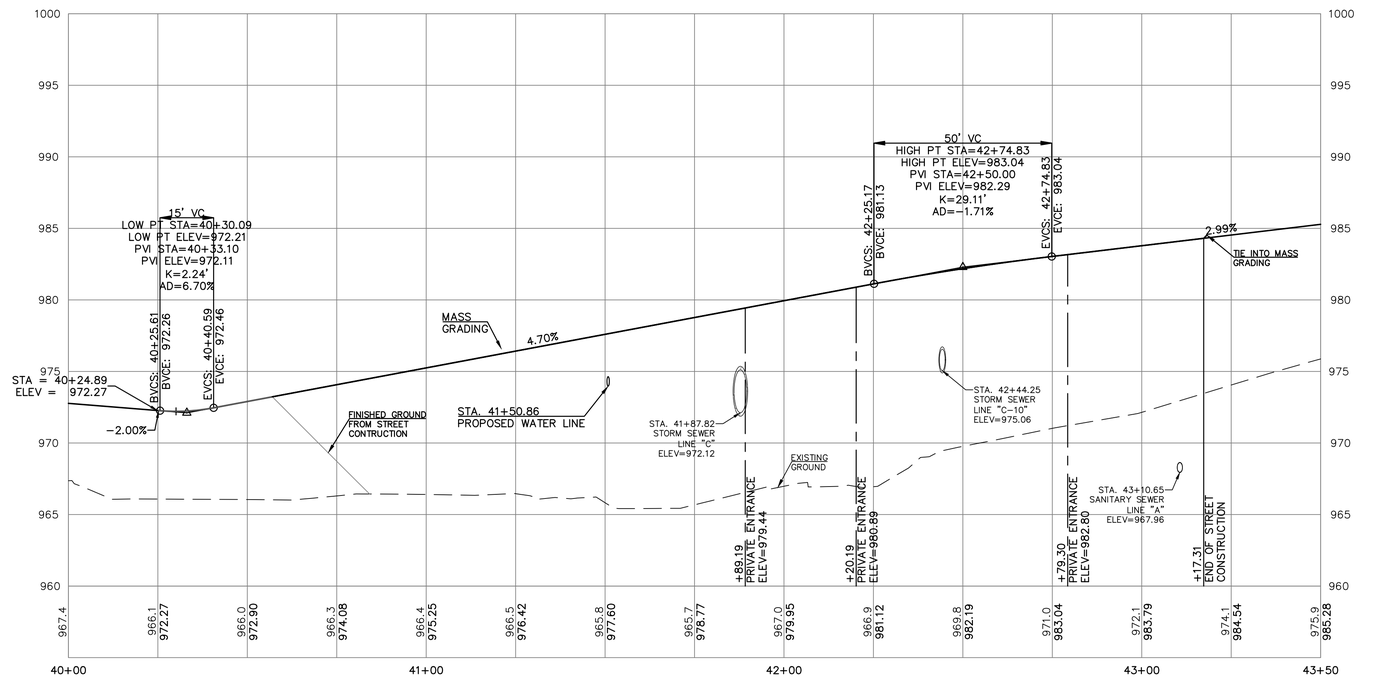
LEE'S SUMMIT, MISSOURI

PRIVATE ROAD PLANS
PRIVATE ROAD - A - PLAN & PROFILE

PROJ. NO.	A14_7067-1
DESIGNER	LDO
DRAWN BY	JT
CFN	7067-1IR_STPP
SHEET	C-9
REV	3





LEGEND

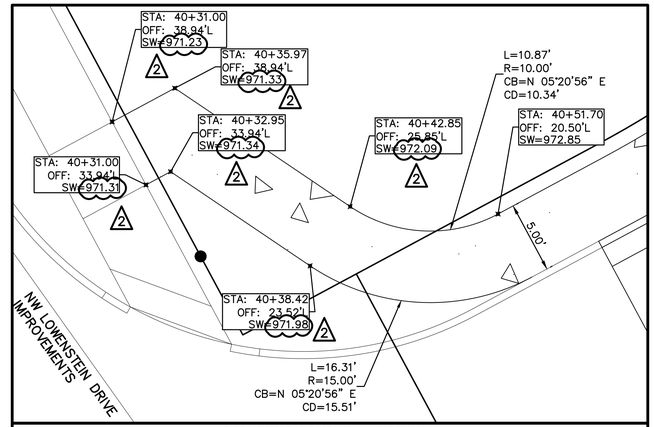
	DRY CURB
TC	TOP OF CURB ELEVATION
G	GUTTER ELEVATION
(R)	RAMP (7.5% RUNNING SLOPE, 1.5% MAXIMUM CROSS SLOPE)
(L)	LANDING (1.5% MAX IN ALL DIRECTIONS)
(T)	TRANSITION

SCALE: 1" = 5'

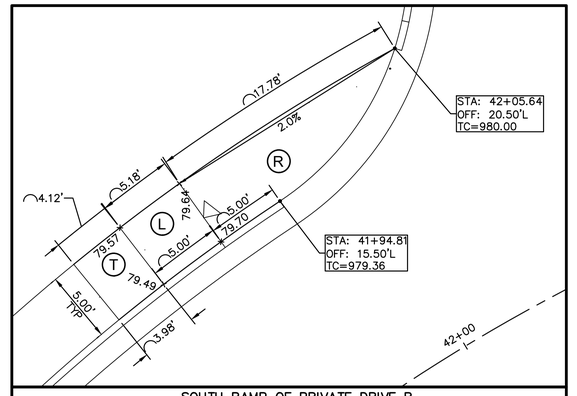
SCALE: 1" = 20'

CONSTRUCTION NOTES:

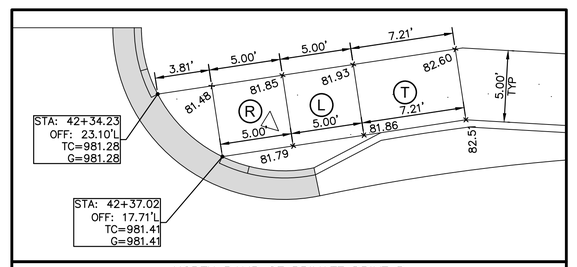
1. SIDEWALK RAMPS SHALL BE CONSTRUCTED IN ACCORDANCE WITH LEE'S SUMMIT STANDARD DETAIL GEN-3A. CONSTRUCTION SHALL COMPLY WITH GENERAL NOTES.



GEOMETRIC LAYOUT – SIDEWALK
SCALE: 1"=5'



SOUTH RAMP OF PRIVATE DRIVE B
SCALE: 1"=5'



NORTH RAMP OF PRIVATE DRIVE B
SCALE: 1"=5'

REV.	DATE	DESCRIPTION	DSN	DWN	CHK
2	8-20-19	REVISED PER CLIENT COMMENTS	LDO	LDO	LDO
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STATE OF MISSOURI
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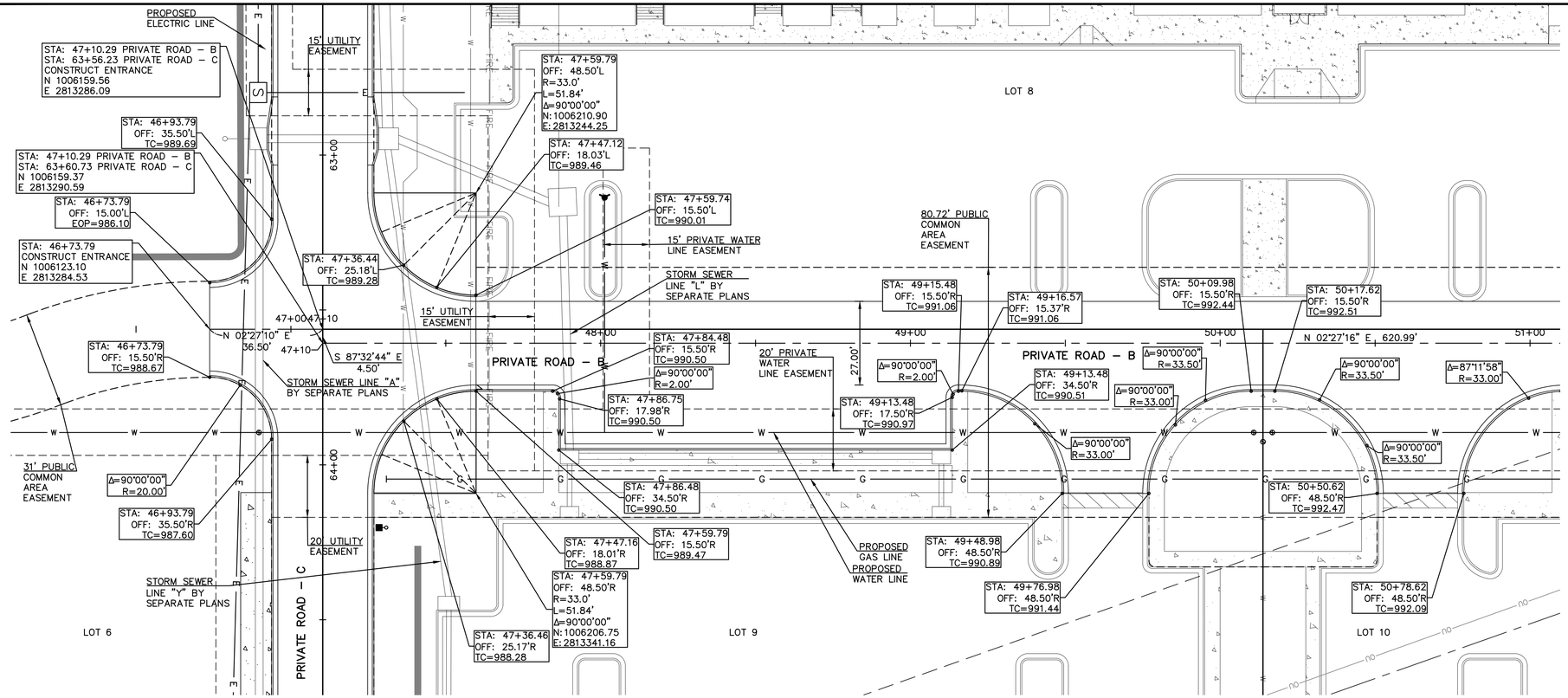
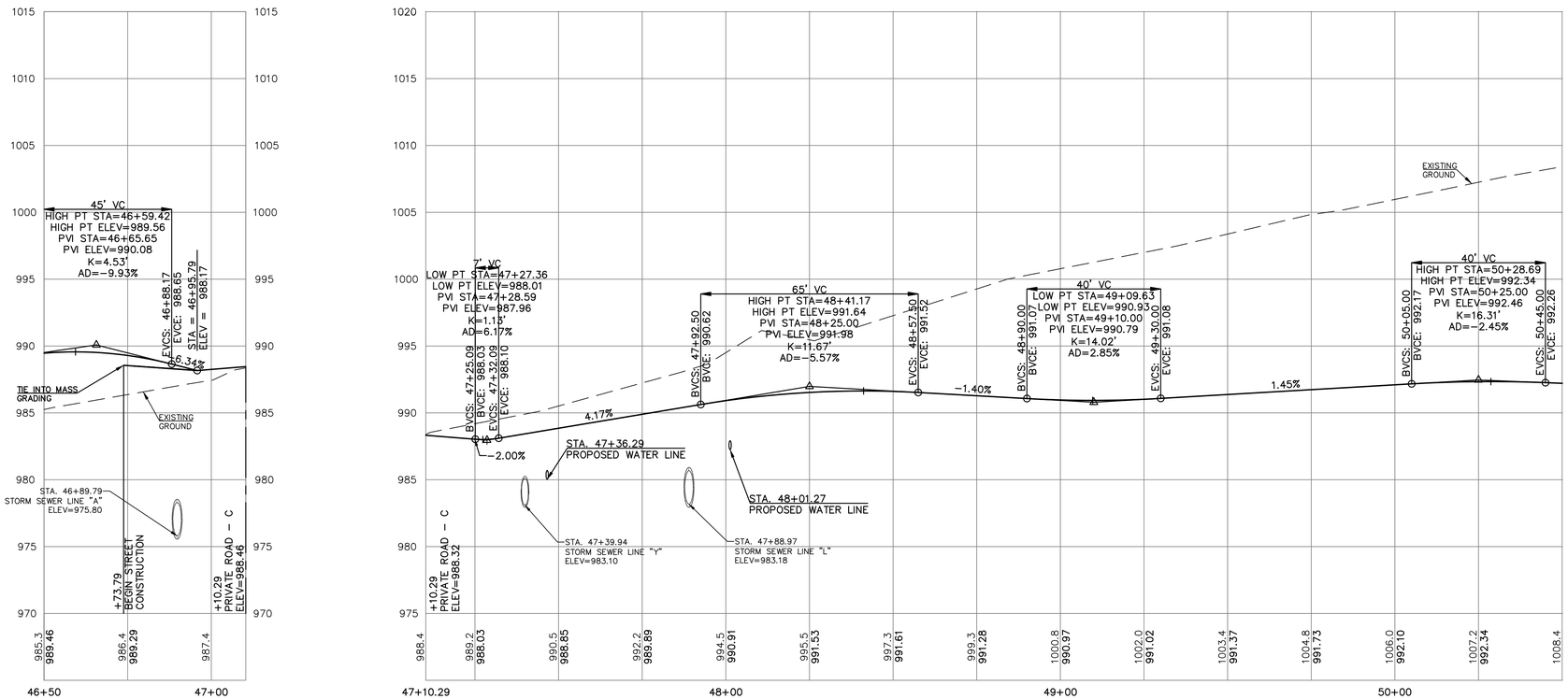
PRIVATE ROAD - B - PLAN & PROFILE

PROJ. NO.	A14_7067-1
DESIGNER	LDO
DRAWN BY	JT
CFN	7067-1IR_STPP
SHEET	C-10
REV	2





LEGEND

	DRY CURB
TC	TOP OF CURB ELEVATION
EOP	EDGE OF PAVEMENT ELEVATION

SCALE: 1" = 20'

SCALE: 1" = 5'

2 EXTENSIVE REVISIONS ADJUSTED ROAD GEOMETRY & ELEVATIONS

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12-6-19
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PRIVATE ROAD - B - PLAN & PROFILE

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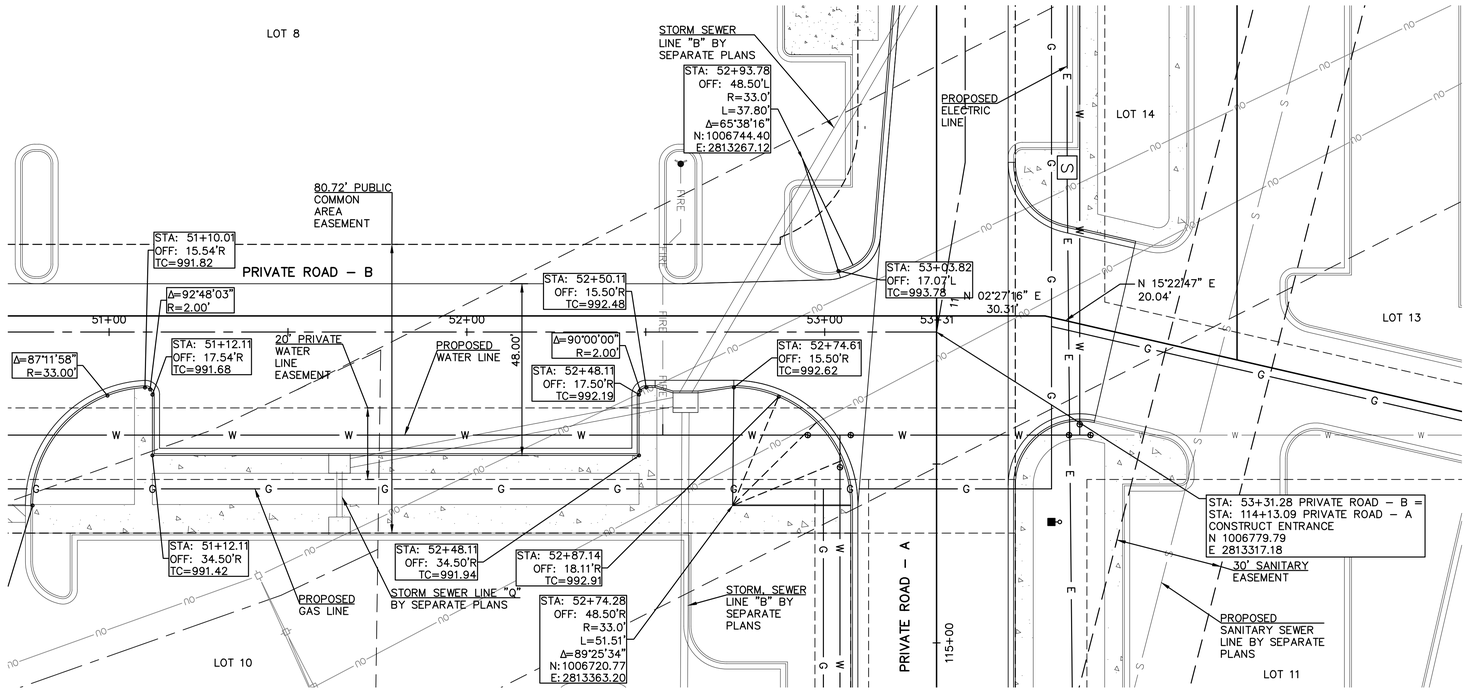
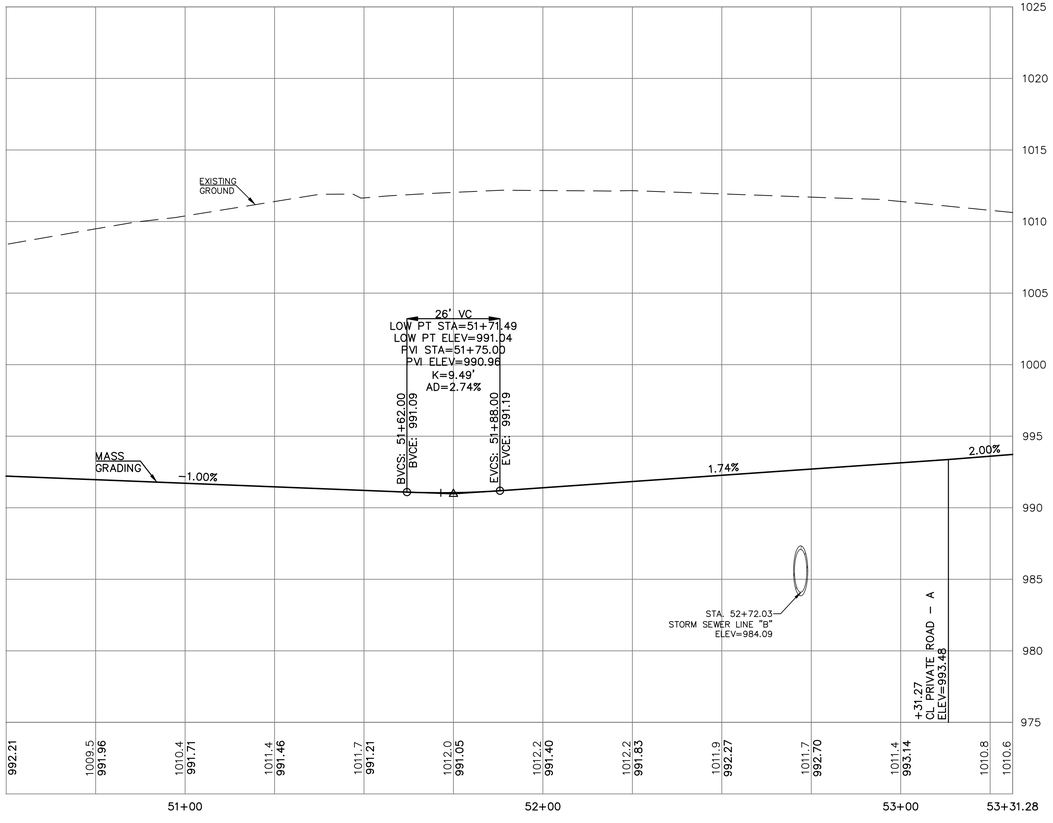
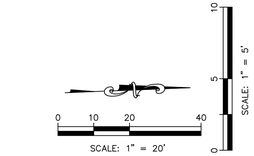
DRAWN BY	JT
CFN	7067-1IR_STPP
SHEET	C-11
REV	2







LEGEND

	DRY CURB
TC	TOP OF CURB ELEVATION
EOP	EDGE OF PAVEMENT ELEVATION

2

EXTENSIVE REVISIONS ADJUSTED ROAD GEOMETRY & ELEVATIONS

REV.	DATE	DESCRIPTION	DSN	DWN	CHK
2	8-20-19	REVISED PER CLIENT COMMENTS	LDO	JT	LDO
1	07-02-19	REVISED PER CITY COMMENTS	LDO	JT	LDO
0	5-16-19	INITIAL ISSUE	LDO	BKR	LDO

STATE OF MISSOURI
LEON D. OSBOURN
NUMBER
E-21726
11-15-19
REGISTERED PROFESSIONAL ENGINEER

LEON D. OSBOURN
ENGINEER
MO # 021726

KAW VALLEY ENGINEERING
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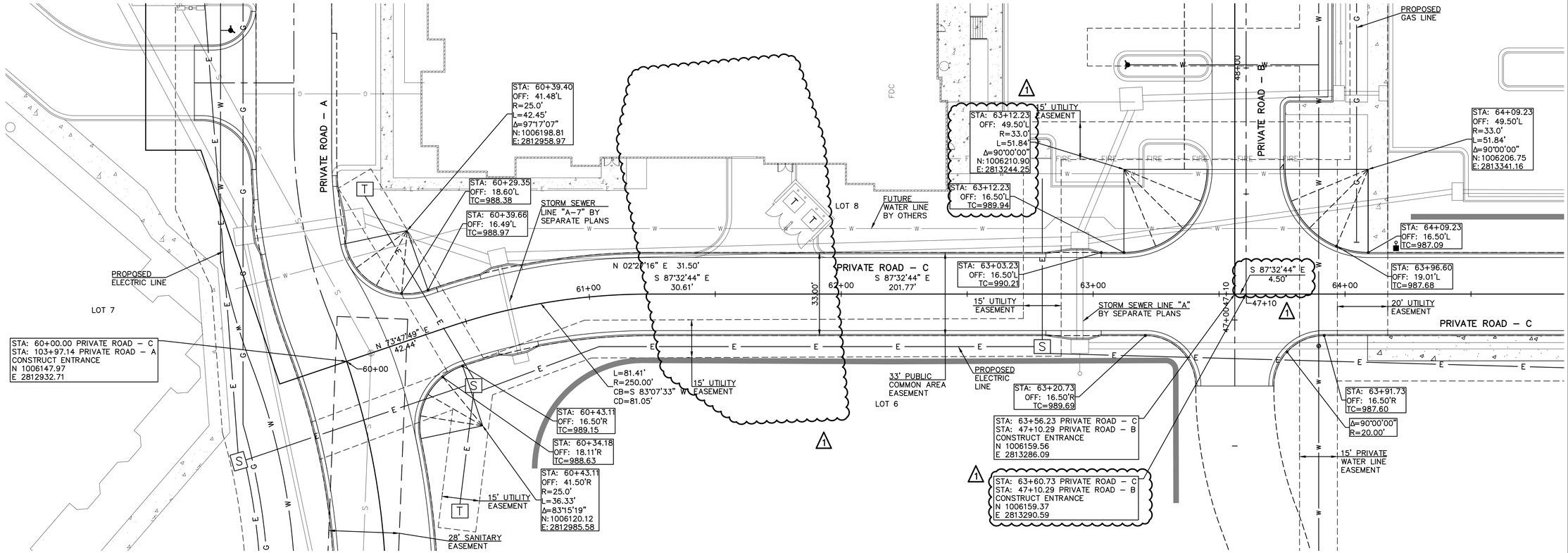
KAW VALLEY ENGINEERING, INC., IS AUTHORIZED TO OFFER ENGINEERING SERVICES BY MISSOURI STATE CERTIFICATE OF AUTHORITY # 000842. EXPIRES 12/31/19

STREETS OF WEST PRYOR
NWQ NW PRYOR RD & NW LOWENSTEIN DR
LEE'S SUMMIT, MISSOURI

PRIVATE ROAD PLANS
PRIVATE ROAD - B - PLAN & PROFILE

PROJ. NO.	A14_7067-1	
DESIGNER	LDO	DRAWN BY JT
CFN	7067-1IR_STPP	
SHEET	C-12	REV 2

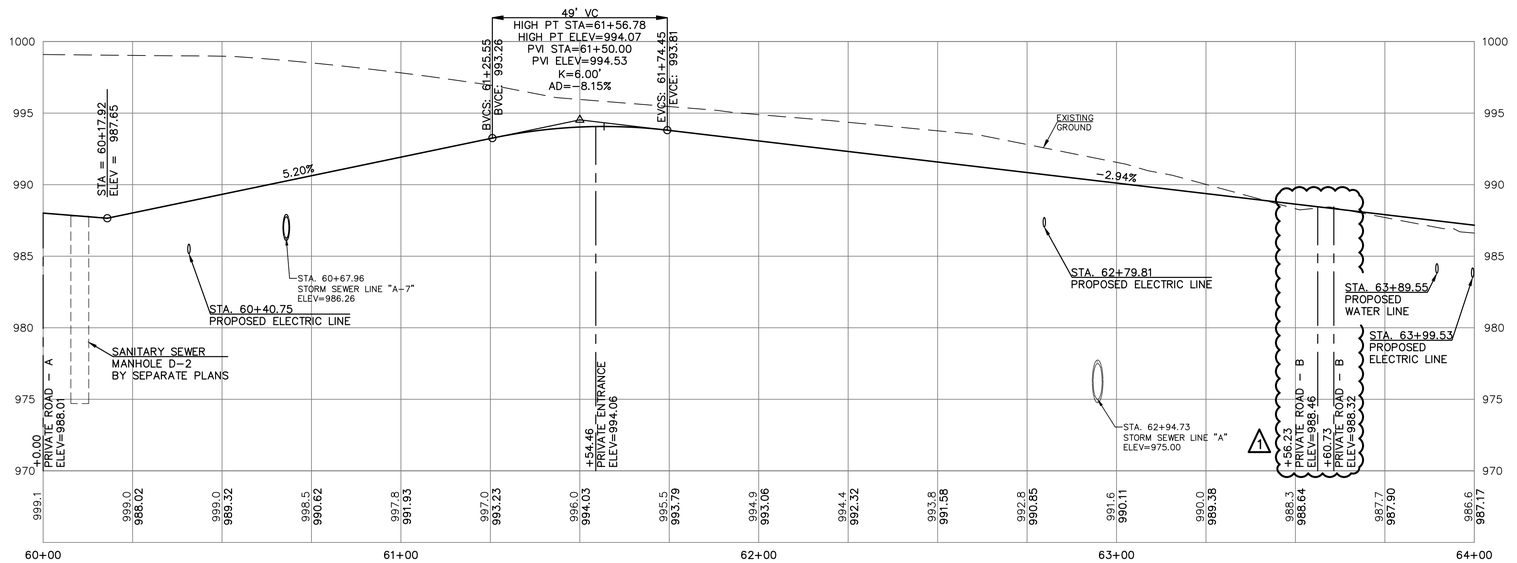


LEGEND

	DRY CURB
TC	TOP OF CURB ELEVATION
EOP	EDGE OF PAVEMENT ELEVATION

SCALE: 1" = 20'

SCALE: 1" = 5'



REV.	DATE	DESCRIPTION	DSN	DWN	CHK
					LDO
				JT	LDO
			LDO	BKR	
1	8-20-19	REVISED PER CLIENT COMMENTS			
0	5-16-19	INITIAL ISSUE			

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11-15-19

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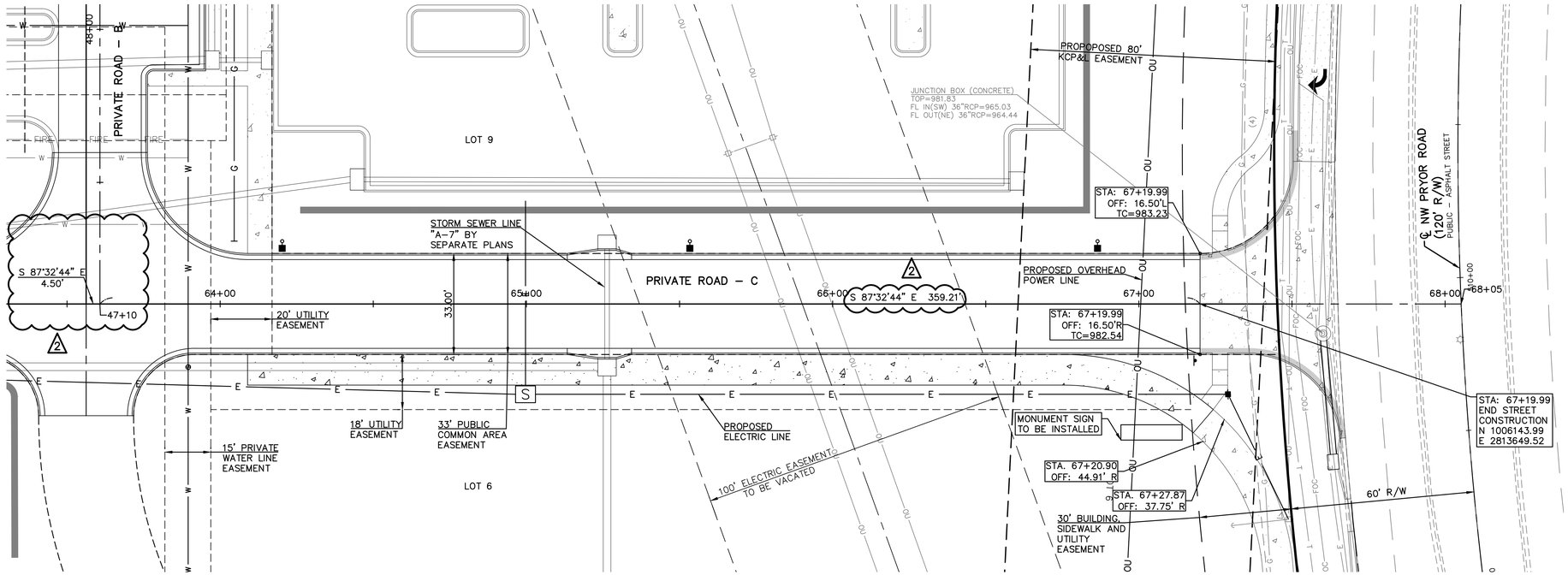
STREETS OF WEST PRYOR
NWQ NW PRYOR RD & NW LOWENSTEIN DR
LEE'S SUMMIT, MISSOURI

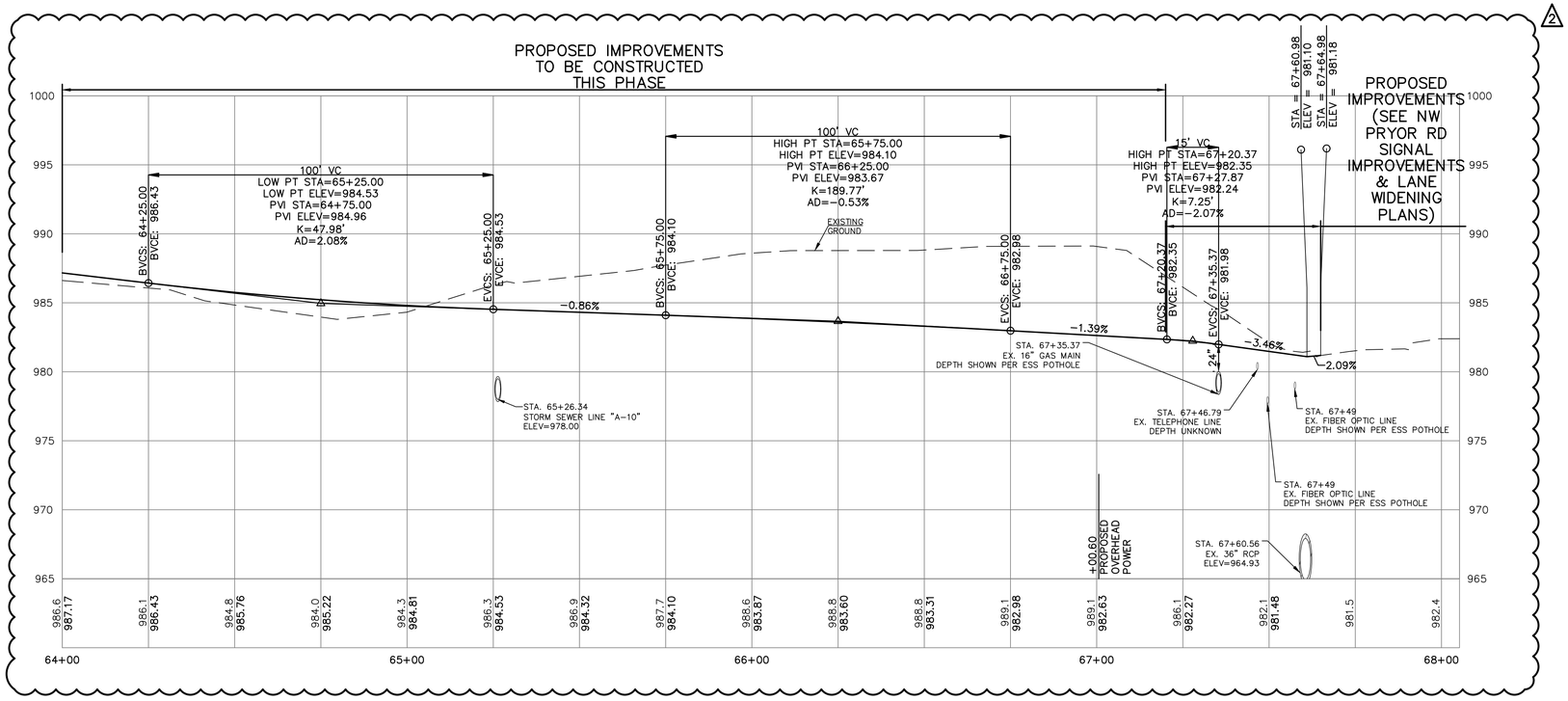
PRIVATE ROAD PLANS
PRIVATE ROAD - C - PLAN & PROFILE

PROJ. NO.	A14_7067-1
DESIGNER	LDO
DRAWN BY	JT
CFN	7067-1IR_STPP
SHEET	C-13
REV	1



LEGEND

	DRY CURB
TC	TOP OF CURB ELEVATION
EOP	EDGE OF PAVEMENT ELEVATION



REV.	DATE	DESCRIPTION	DSN	DWN	CHK
			LDO	BKR	LDO
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1	07-02-19	REVISED PER CITY COMMENTS	LDO	JT	LDO
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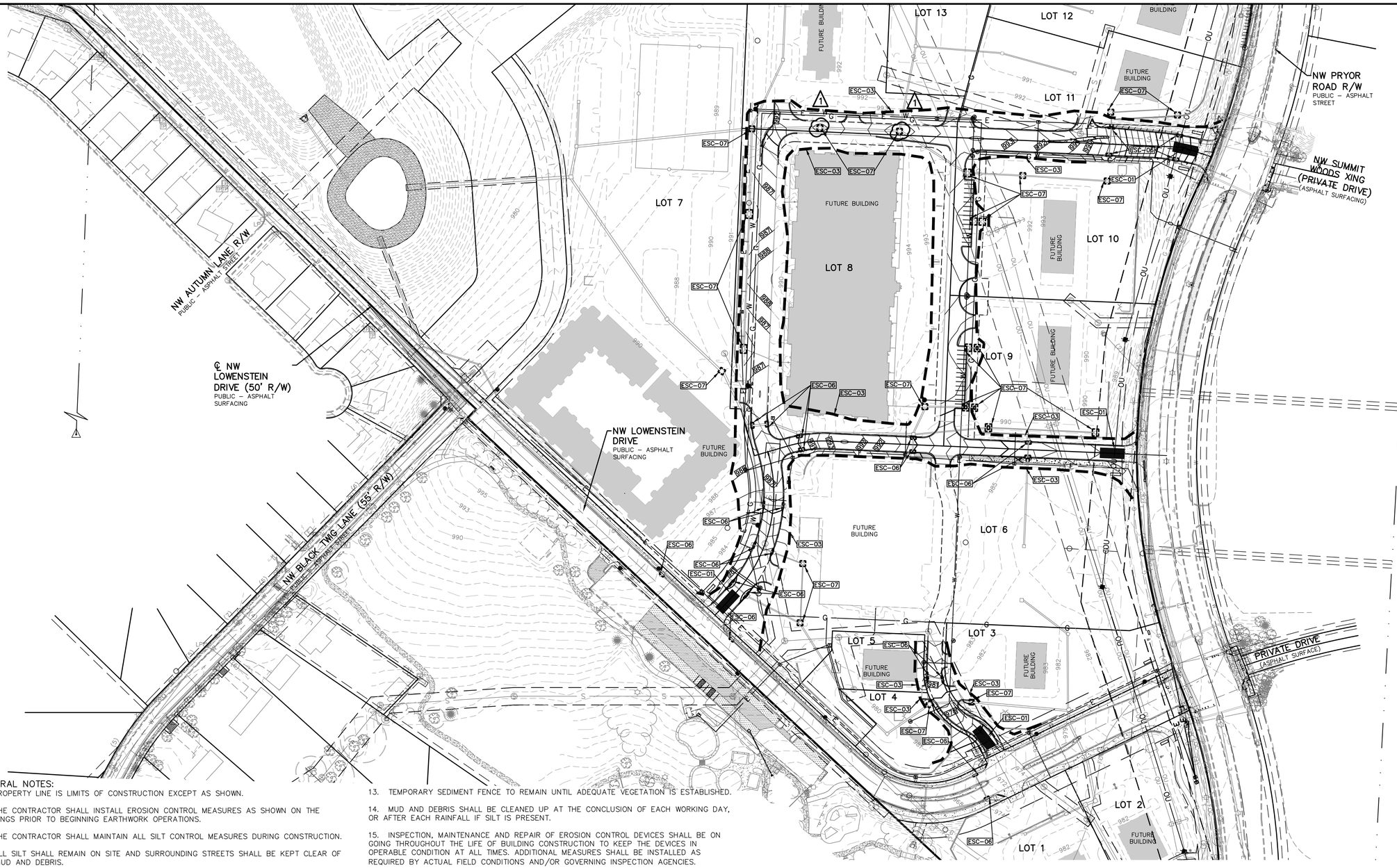
STREETS OF WEST PRYOR
NWQ NW PRYOR RD & NW LOWENSTEIN DR
LEE'S SUMMIT, MISSOURI

PRIVATE ROAD PLANS
PRIVATE ROAD - C - PLAN & PROFILE

PROJ. NO.	A14_7067-1
DESIGNER	LDO
DRAWN BY	JT
CFN	7067-1IR_STPP
SHEET	C-14
REV	2



GENERAL NOTES:

1. PROPERTY LINE IS LIMITS OF CONSTRUCTION EXCEPT AS SHOWN.
2. THE CONTRACTOR SHALL INSTALL EROSION CONTROL MEASURES AS SHOWN ON THE DRAWINGS PRIOR TO BEGINNING EARTHWORK OPERATIONS.
3. THE CONTRACTOR SHALL MAINTAIN ALL SILT CONTROL MEASURES DURING CONSTRUCTION.
4. ALL SILT SHALL REMAIN ON SITE AND SURROUNDING STREETS SHALL BE KEPT CLEAR OF ALL MUD AND DEBRIS.
5. A SEDIMENTATION BARRIER IS TO BE INSTALLED AS SHOWN.
6. ACCUMULATED SEDIMENT SHALL BE REMOVED AND THE SEDIMENTATION BARRIERS MAINTAINED AS NEEDED TO PREVENT SEDIMENTATION BYPASS OF THE BARRIER.
7. SLOPES ARE TO BE LEFT IN A ROUGH CONDITION DURING GRADING.
8. CURB INLET SEDIMENTATION BARRIERS ARE TO BE INSTALLED AROUND INLETS AND WEIRS WHERE SEDIMENTATION IS A CONCERN. INLET BARRIERS SHALL BE EITHER BLOCK AND GRAVEL, OR SECURED STRAW BALES, OR SILT FENCE.
9. SEDIMENT IS TO BE REMOVED FROM STORM WATER DRAINAGE SYSTEMS.
10. RIPRAP IS TO BE INSTALLED AT AREAS OF CONCENTRATED FLOW (I.E. CULVERT OUTLETS).
11. CONTRACTOR IS RESPONSIBLE FOR INSTALLING ANY ADDITIONAL EROSION CONTROL AS HE/SHE DEEMS NECESSARY.
12. THE CONTRACTOR SHALL PROVIDE ALL MATERIALS, TOOLS, EQUIPMENT AND LABOR AS NECESSARY TO INSTALL AND MAINTAIN ADEQUATE EROSION AND SILTATION CONTROLS REQUIRED TO PREVENT SOIL EROSION FROM LEAVING THE PROJECT SITE. IT SHALL BE THE CONTRACTOR'S SOLE RESPONSIBILITY TO ENSURE THAT METHODS UTILIZED ARE ADEQUATE AND COMPLY WITH REQUIREMENTS OF THE SPECIFICATIONS AND GOVERNMENTAL AGENCIES HAVING JURISDICTION OVER THE WORK.
13. TEMPORARY SEDIMENT FENCE TO REMAIN UNTIL ADEQUATE VEGETATION IS ESTABLISHED.
14. MUD AND DEBRIS SHALL BE CLEANED UP AT THE CONCLUSION OF EACH WORKING DAY, OR AFTER EACH RAINFALL IF SILT IS PRESENT.
15. INSPECTION, MAINTENANCE AND REPAIR OF EROSION CONTROL DEVICES SHALL BE ON GOING THROUGHOUT THE LIFE OF BUILDING CONSTRUCTION TO KEEP THE DEVICES IN OPERABLE CONDITION AT ALL TIMES. ADDITIONAL MEASURES SHALL BE INSTALLED AS REQUIRED BY ACTUAL FIELD CONDITIONS AND/OR GOVERNING INSPECTION AGENCIES.
16. INSTALL CONSTRUCTION ENTRANCE AT ANY POINT WHERE TRAFFIC WILL BE ENTERING OR LEAVING THE SITE AND AS SHOWN ON PLANS.
17. AT COMPLETION OF SITE GRADING AND OTHER RELATED CONSTRUCTION ACTIVITIES, ALL DISTURBED AREAS WITHIN THE PROJECT SITE SHALL BE SEEDED, SODDED, OR LANDSCAPED AS SHOWN ON THE LANDSCAPE PLAN WITHIN 14 DAYS.
18. TOPSOIL IS TO BE PLACED IN AREAS UNSUITABLE FOR VEGETATIVE GROWTH.
19. STRIP TOPSOIL PRIOR TO EXCAVATION, STOCKPILE AND SPREAD ONTO DISKED SUBGRADE (4" MIN) A THICKNESS OF 4 INCHES.
20. ROCK LINING (RIPRAP) SHALL BE DURABLE STONE CONTAINING A COMBINED TOTAL OF NOT MORE THAN 10 PERCENT OF EARTH, SAND, SHALE AND NON–DURABLE ROCK. AT LEAST 60 PERCENT OF THE MASS SHALL BE OF PIECES HAVING A MINIMUM WEIGHT OF 150 POUNDS OR MORE PER CUBIC FOOT.
21. THE CONTRACTOR SHALL HAVE THE RESPONSIBILITY FOR RESOLVING COMPLAINTS IN THE EVENT THAT COMPLAINTS OR DAMAGE CLAIMS ARE FILED DUE TO DAMAGES OCCURRING ADJACENT TO OR DOWNSTREAM FROM PROPERTY BY SEDIMENT RESULTING FROM EROSION ON THE PROJECT SITE.
22. GOOD HOUSEKEEPING PRACTICES SHALL BE MAINTAINED ON SITE TO KEEP SOLID WASTE FROM ENTRY INTO WATERS.
23. ALL FUELING FACILITIES PRESENT ON SITE SHALL ADHERE TO APPLICABLE FEDERAL AND STATE REQUIREMENTS CONCERNING UNDERGROUND STORAGE, ABOVE GROUND STORAGE AND DISPENSERS, INCLUDING SPILL PREVENTION, CONTROL AND COUNTER MEASURES.
24. RIGHT OF WAY TO BE STABILIZED AS REQUIRED BY APWA SECTION 2400.
25. EROSION CONTROL IS TO BE PLACED IN PHASING AS CONSTRUCTION PROGRESSES.
26. MINIMAL WASHING OF CONCRETE EQUIPMENT ALLOWED, CHUTE ETC. CONCRETE WASHOUT OF THE DRUM IS NOT ALLOWED. ANY PIT/WASHOUT AREA NEEDS TO BE MAINTAINED IN A NON–DISCHARGING MANNER AND ANY WASTE RESIDUE WILL NEED TO BE CLEANED OUT AND REMOVED AT THE END OF PROJECT.
27. EROSION CONTROL SEDIMENT FENCE TO BE INSTALLED 1'–0" BEHIND CURB & GUTTER UPON COMPLETION OF BACKFILL OF CURB IN ALL AREAS WHERE SLOPES FROM LOT DRAIN TOWARDS CURB. UPON COMPLETION OF FINAL GRADING THE TOES OF ALL EMBANKMENTS IN EXCESS OF TWO FEET IN HEIGHT WILL HAVE EROSION CONTROL SEDIMENT FENCE INSTALLED.

CONTRACTOR TO COORDINATE EROSION CONTROL WITH MASS GRADING CONSTRUCTION PLANS

DETAILS – SEE EROSION CONTROL DETAIL SHEETS FOR THE FOLLOWING DETAILS

- ESC–01 CONSTRUCTION ENTRANCE DETAIL
- ESC–03 SILT FENCE
- ESC–06 CURB INLET PROTECTION
- ESC–07 AREA INLET AND JUNCTION BOX PROTECTION

EROSION & PROPOSED IMPROVEMENTS LEGEND:

- 970 EXISTING GROUND CONTOUR (1' INTERVALS)
- 970 PROPOSED FINISHED GROUND CONTOUR (1' INTERVALS)
- SILT FENCE
- INLET PROTECTION

REV.	DATE	DESCRIPTION	DSN	DWN	CHK
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0	5–16–19	INITIAL ISSUE	LDO	BKR	LDO

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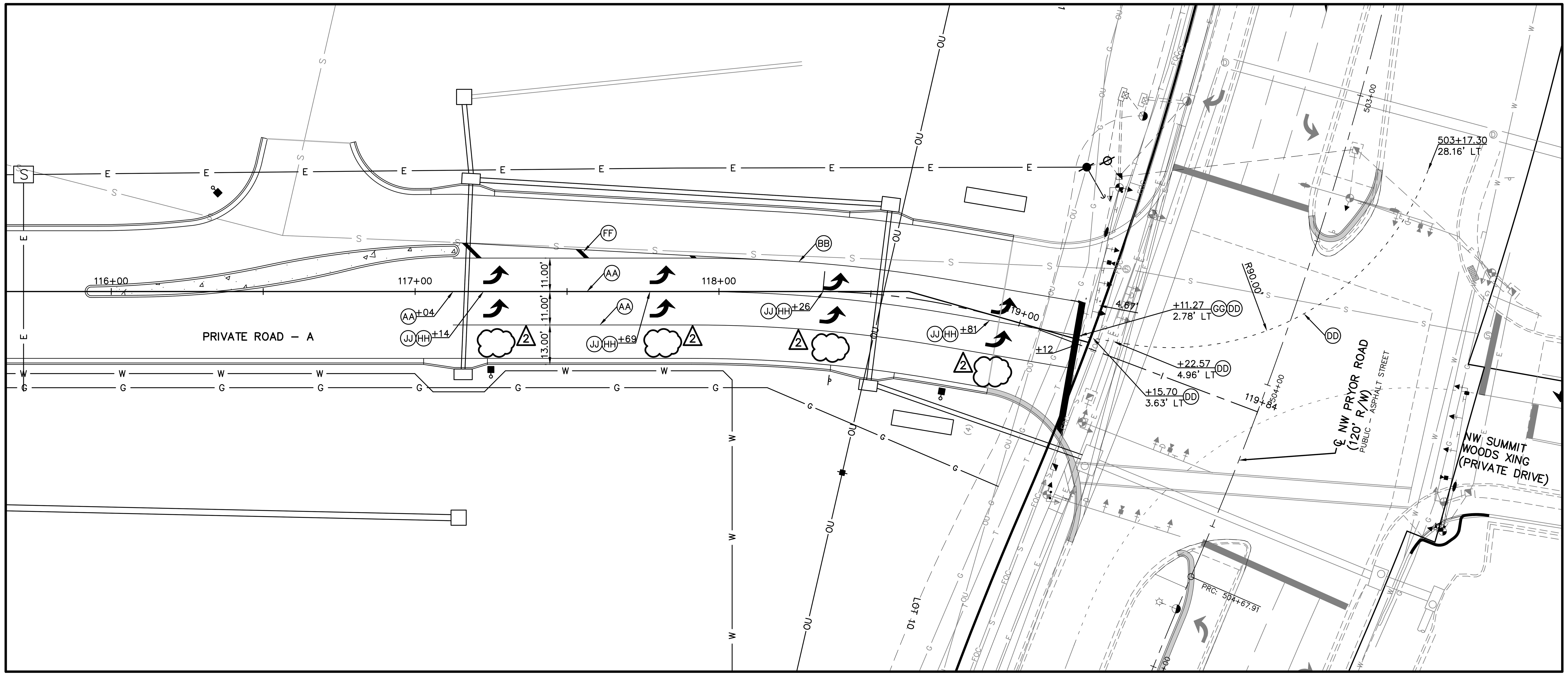
STREETS OF WEST PRYOR
NWQ NW PRYOR RD & NW LOWENSTEIN DR
LEE'S SUMMIT, MISSOURI

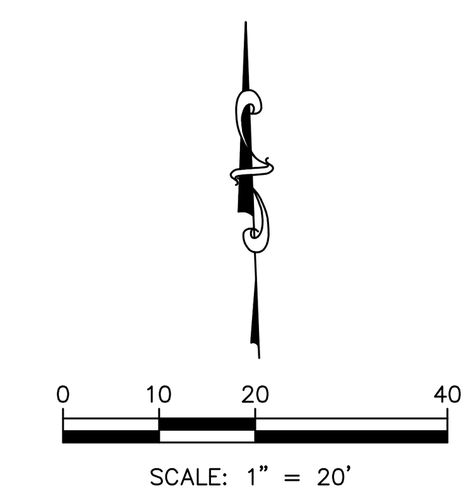
PRIVATE ROAD PLANS
EROSION CONTROL PLAN

PROJ. NO.	A14_7067–1
DESIGNER	LDO
DRAWN BY	JT
CFN	7067–1IR_ECP
SHEET	C–15
REV	1

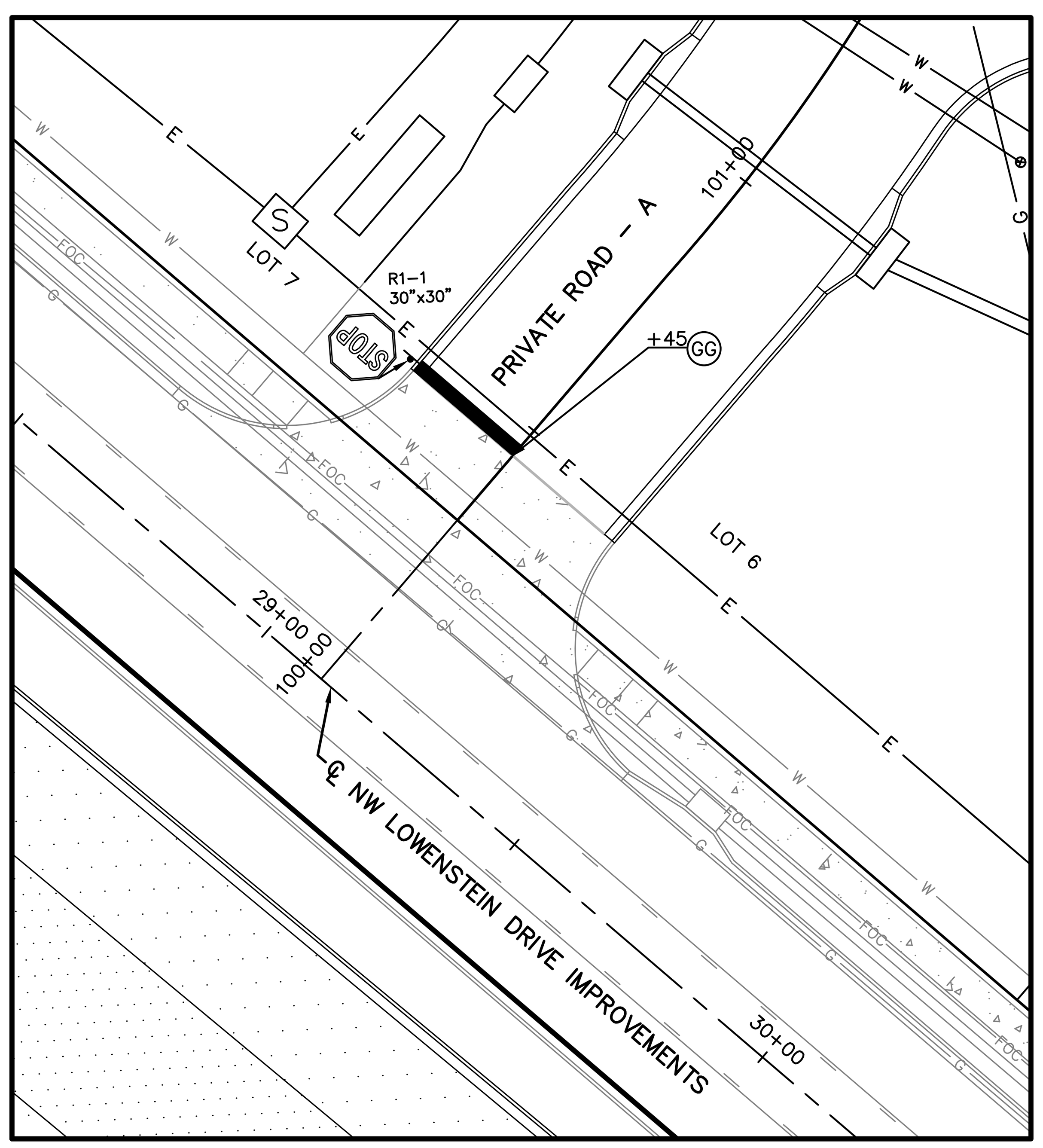


PRIVATE ROAD – A PAVEMENT MARKING

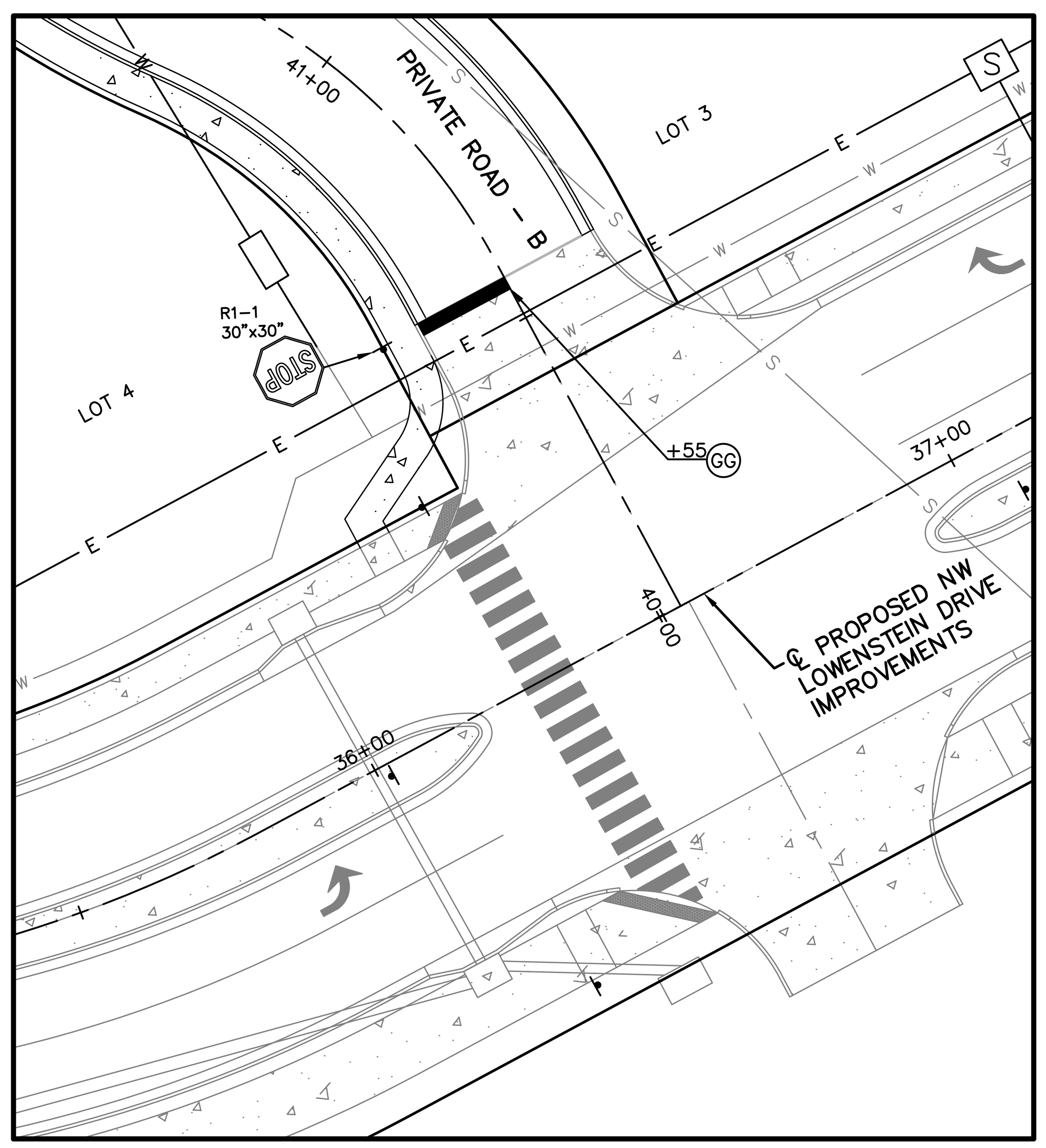
NOTE:
1. PAVEMENT MARKING SHALL BE PROVIDED AND INSTALLED IN ACCORDANCE WITH THE CURRENT CITY OF LEE'S SUMMIT PAVEMENT MARKING STANDARDS.



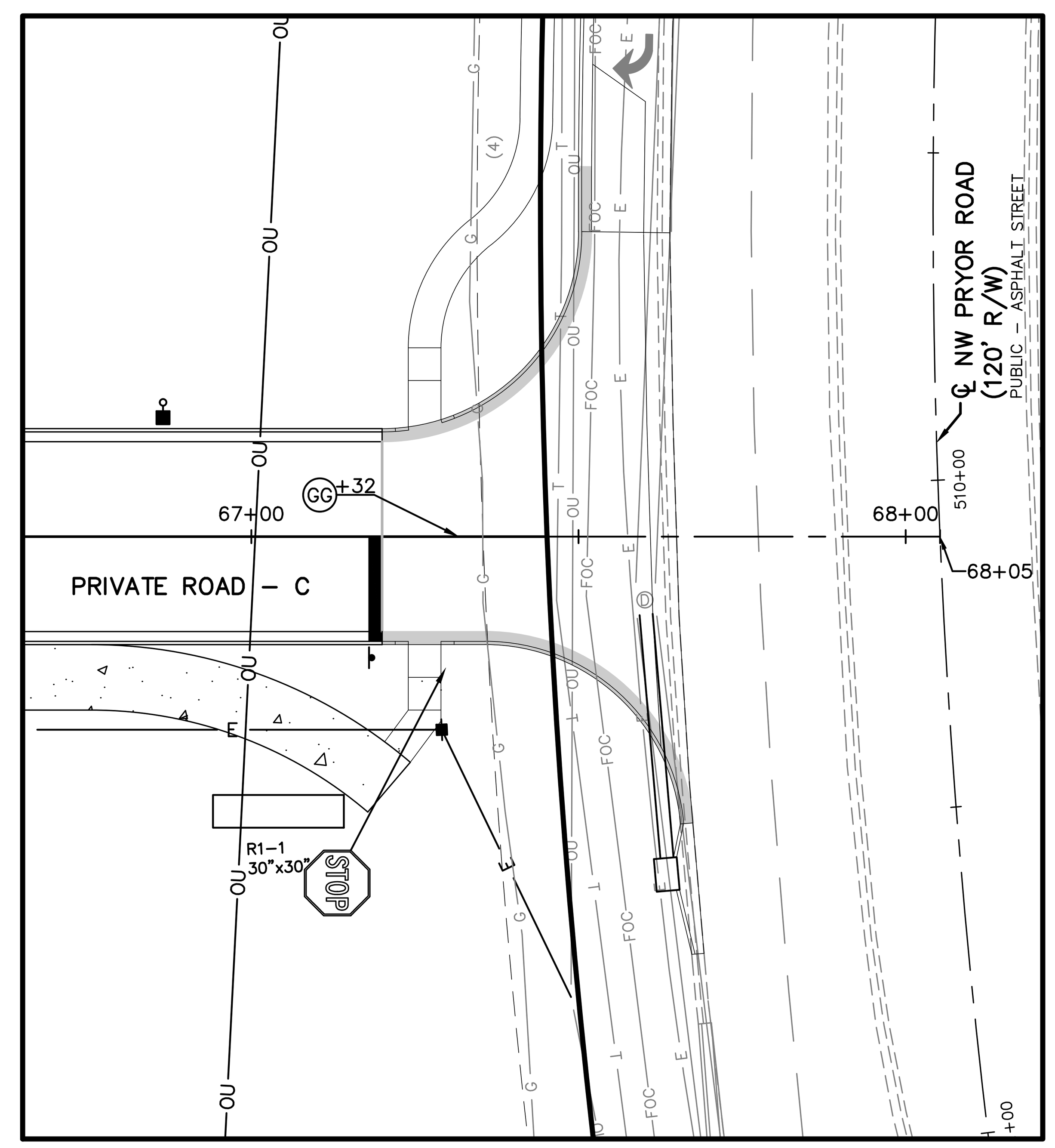
LIST OF PAVEMENT MARKING	
MARK	ITEM
(AA)	4" SOLID WHITE LINE (HIGH BUILD PAINT)
(BB)	4" DOUBLE YELLOW LINE (HIGH BUILD PAINT)
(CC)	NOT USED
(DD)	6" DASHED WHITE EXTENSION LINE (THERMOPLASTIC)
(EE)	NOT USED
(FF)	12" SOLID YELLOW LINE (THERMOPLASTIC)
(GG)	24" STOP BAR (THERMOPLASTIC)
(HH)	TURN ARROW WHITE (LEFT) (THERMOPLASTIC)
(JJ)	TURN ARROW WHITE (RIGHT) (THERMOPLASTIC)
(KK)	NOT USED



PRIVATE ROAD – A & NW LOWENSTEIN DRIVE PAVEMENT MARKING



PRIVATE ROAD – B & NW LOWENSTEIN DRIVE PAVEMENT MARKING



PRIVATE ROAD – C & NW LOWENSTEIN DRIVE PAVEMENT MARKING

REV	DATE	DESCRIPTION	DSN	DWN	CHK
2	7–25–19	REVISED PER CITY COMMENTS	LDO	JT	LDO
1	07–02–19	REVISED PER CITY COMMENTS	LDO	JT	LDO
0	5–16–19	INTIAL ISSUE	LDO	BKR	LDO

STATE OF MISSOURI
LEON D. OSBOURN
NUMBER E-21726
PROFESSIONAL ENGINEER
11-15-19

LEON D. OSBOURN
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MO # 021726

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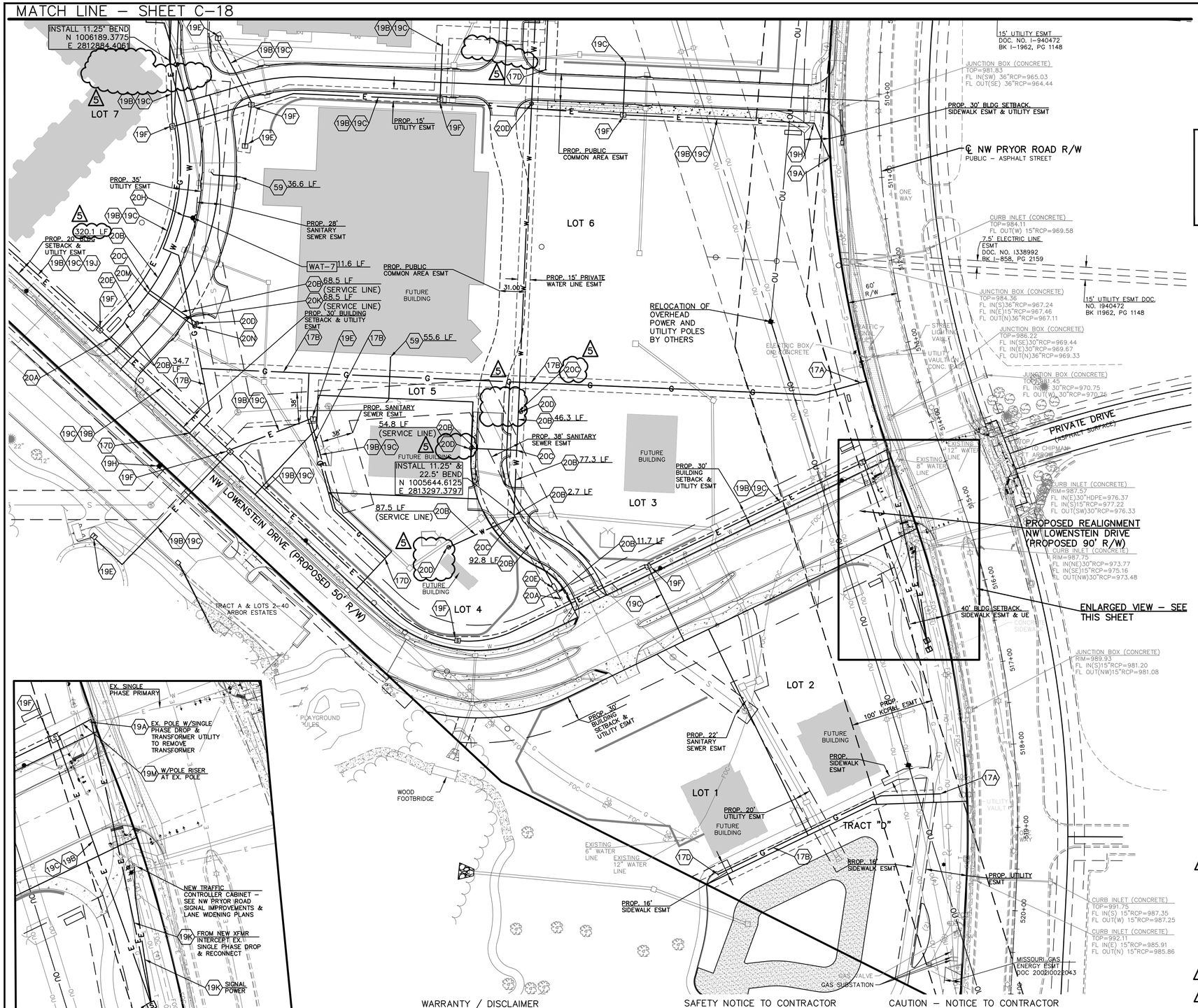
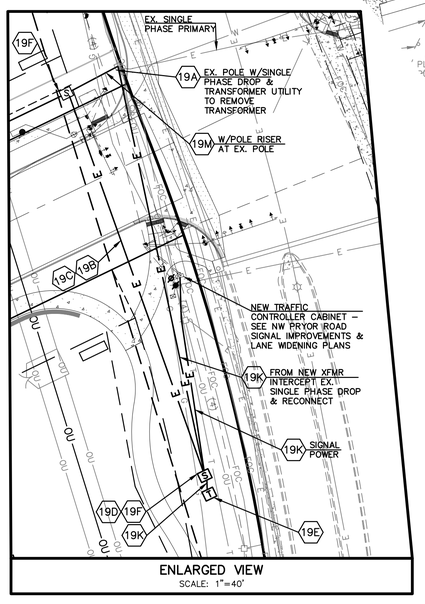
STREETS OF WEST PRYOR
NWQ NW PRYOR RD & NW LOWENSTEIN DR
LEE'S SUMMIT, MISSOURI

PRIVATE ROAD PLANS
PAVEMENT MARKING & SIGNING PLAN

PROJ. NO. A14_7067–1
DESIGNER LDO
DRAWN BY JT
CFN 7067–1IR_PMP
SHEET C–16
REV 2

MATCH LINE – SHEET C-18





ENLARGED VIEW
SCALE: 1"=40'

0 30 60 120
SCALE: 1" = 60'

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.

UTILITY NOTES:

1. CONSTRUCTION SHALL NOT START ON ANY PUBLIC WATER OR SANITARY SEWER SYSTEM UNTIL WRITTEN APPROVAL OR PERMITS HAVE BEEN RECEIVED FROM THE OWNER.

2. ALL UTILITY AND STORM SEWER TRENCHES CONSTRUCTED UNDER AREAS THAT RECEIVE PAVING SHALL BE BACKFILLED TO 18 INCHES ABOVE THE TOP OF THE PIPE WITH SELECT GRANULAR MATERIAL PLACED ON EIGHT-INCH LIFTS, AND COMPACTED TO 95% MODIFIED PROCTOR DENSITY.

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 UNLESS DULY AUTHORIZED TO DO SO BY THE CITY. 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.

4. DISINFECTION AND PRESSURE TESTING OF WATER LINES SHALL BE PERFORMED AND PAID FOR BY THE CONTRACTOR UNDER SUPERVISION OF A REPRESENTATIVE OF THE CITY WATER DEPARTMENT. CONTRACTOR SHALL NOTIFY THE CITY OF LEE'S SUMMIT WATER DEPARTMENT 24 HOURS MINIMUM, PRIOR TO ANY TESTING.

5. ALL WATER AND SANITARY SEWER SYSTEMS THAT ARE TO BE PUBLIC LINES SHALL BE CONSTRUCTED IN ACCORDANCE WITH SPECIFICATIONS PREVIOUSLY APPROVED BY THE CITY OF LEE'S SUMMIT AND SHALL BE INSPECTED BY THE CITY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ASSURE THAT THIS INSPECTION OCCURS.

6. LOCATIONS SHOWN FOR PROPOSED WATER LINES ARE APPROXIMATE. VARIATIONS MAY BE MADE, WITH APPROVAL OF THE ENGINEER, TO AVOID CONFLICTS.

7. CONTRACTOR TO INSTALL TRACING WIRE ALONG ALL NON-METALLIC WATER MAINS AND SERVICE LINES PER SPECIFICATIONS.

8. CONTRACTOR SHALL EXPOSE EXISTING UTILITIES AT LOCATIONS OF POSSIBLE CONFLICT AND POINTS OF CONNECTION PRIOR TO ANY CONSTRUCTION OF NEW UTILITIES.

9. WATER LINES SHALL HAVE A MINIMUM COVER OF 42 INCHES. ALL VALVES ON MAINS AND FIRE HYDRANT LEADS SHALL BE WITH VALVE BOX ASSEMBLIES. THE SIZE OF VALVE BOX ASSEMBLY TO BE INSTALLED IS DETERMINED BY THE TYPE AND SIZE OF VALVE. VALVE BOX CAPS SHALL HAVE THE WORD "WATER".

10. A MINIMUM HORIZONTAL DISTANCE OF 10 FEET SHALL BE MAINTAINED BETWEEN PARALLEL WATER AND SANITARY SEWER LINES. WHEN IT IS NECESSARY FOR ANY WATER LINE TO CROSS A SANITARY SEWER LINE, THE SEWER LINE SHALL BE CONSTRUCTED OF DUCTILE IRON PIPE AT LEAST 10 FEET EITHER SIDE OF THE WATER LINE UNLESS THE WATER LINE IS AT LEAST 2 FEET CLEAR DISTANCE ABOVE THE SANITARY SEWER LINE.

DETAILS – SEE DETAIL SHEETS FOR THE FOLLOWING DETAILS

- WAT-7 HYDRANT INSTALLATION – STRAIGHT SET W/LINEAR FOOT OF 6" PVC C-900 WATER LINE (CITY OF LEE'S SUMMIT)
- WAT-9 VALVE STEM EXTENSION AND VALVE BOX (CITY OF LEE'S SUMMIT)
- WAT-12 VAULT FOR DOUBLE CHECK DETECTOR CHECK (CITY OF LEE'S SUMMIT)
- GEN-5 TRENCHING/PATCHING ROADWAY (CITY OF LEE'S SUMMIT)

NOTES:

- 17A POINT OF CONNECTION – GAS SERVICE
- 17B GAS SERVICE (BY GAS COMPANY)
- 17D INSTALL CAP FOR GAS SERVICE
- 19A POINT OF CONNECTION – ELECTRIC SERVICE
- 19B UNDERGROUND POWER PER LOCAL POWER COMPANY
- 19C 4" CONDUIT INSTALLED BY CONTRACTOR – ELECTRIC SERVICE
- 19D CONDUIT STUB FOR FUTURE EXTENSION – ELECTRIC
- 19E INSTALL TRANSFORMER – PER KCP&L STANDARD SPECIFICATIONS
- 19F INSTALL SECTIONALIZER – PER KCP&L STANDARD SPECIFICATIONS
- 19G CONSTRUCT RISER – PER KCP&L STANDARD SPECIFICATIONS
- 19H NEW UTILITY POLE – INSTALLED BY KCP&L
- 19J POINT OF CONNECTION AT NEW UTILITY POLE, APPROX STA 24+00
- 3 19K 2" CONDUIT INSTALLED BY CONTRACTOR – ELECTRIC SERVICE
- 19M 3" CONDUIT INSTALLED BY CONTRACTOR – ELECTRIC SERVICE
- 20A POINT OF CONNECTION – WATER
- 20B 8" PVC C-900 WATER LINE WITH LINEAR FEET
- 20C 8"X8"X8" TEE
- 20D INSTALL 8" WATER VALVE. SEE DETAIL WAT-9.
- 20E INSTALL 8" BACKFLOW PREVENTION DETECTOR ASSEMBLY IN 8'X6' VAULT (INSIDE DIAMETER) OR AS REQUIRED PER CLEARANCE. SEE DETAIL WAT-12.
- 20F CONNECT TO EXISTING MAIN WITH 12"x12"x8" TEE
- 20G DIRECTIONAL BORE 114.6 LF AND INSTALL 138.9 LF OF 8" PVC C-900 PIPE WITH RESTRAINED JOINTS.
- 20H 8"X8"X6" TEE
- 5 20K 2" PVC C-900 WATER LINE WITH LINEAR FEET
- 20M 8"X8"X8" TEE W/8" TO 2" REDUCER
- 5 20N INSTALL 2" WATER VALVE, SEE DETAIL WAT-9
- 59 6" SANITARY SEWER SERVICE LINE BY CUT-IN WYE (1% MIN)

CONTRACTOR TO VERIFY EXACT LOCATION OF ELECTRICAL COMPONENTS WITH KCP&L

4 EXTENSIVE ELECTRIC COMPONENT REVISIONS

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.

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.

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.

REV.	DATE	DESCRIPTION	DSN	DWN	CHK
5	11-19-19	REVISED PER CLIENT COMMENT	LDO	LDO	LDO
4	9-20-19	REVISED PER CLIENT COMMENTS	LDO	LDO	LDO
3	9-18-19	REVISED PER KCP&L COMMENTS	LDO	JT	LDO
2	7-25-19	REVISED PER CITY COMMENTS	LDO	JT	LDO
1	07-02-19	REVISED PER CITY COMMENTS	LDO	JT	LDO
0	5-16-19	INITIAL ISSUE	LDO	BKR	LDO

STATE OF MISSOURI
LEON D. OSBOURN
NUMBER E-21726
11-19-19
REGISTERED PROFESSIONAL ENGINEER

LEON D. OSBOURN
ENGINEER
MO # 021726

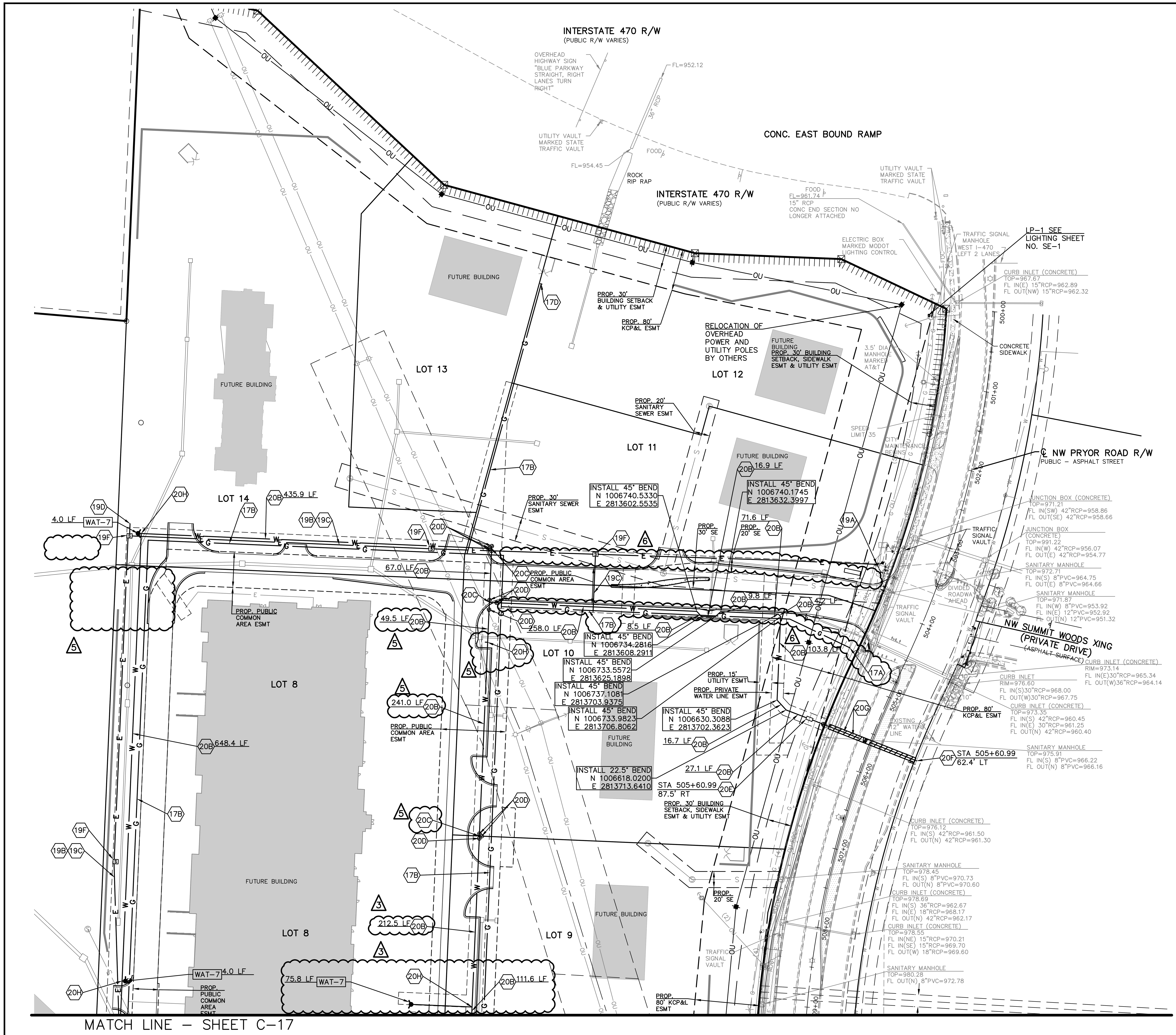
KAW VALLEY ENGINEERING
2319 N. JACKSON | P.O. BOX 1304
JUNCTION CITY, KANSAS 66441-7744
PH. (785) 762-5040 | FAX (785) 762-5063
jc@kveng.com | www.kveng.com

KAW VALLEY ENGINEERING, INC., IS AUTHORIZED TO OFFER ENGINEERING SERVICES BY MISSOURI STATE CERTIFICATE OF AUTHORITY # 000842. EXPIRES 12/31/19

STREETS OF WEST PRYOR
NWQ NW PRYOR RD & NW LOWENSTEIN DR
LEE'S SUMMIT, MISSOURI

PRIVATE ROAD PLANS
UTILITY PLAN

PROJ. NO. A14_7067-1
DESIGNER LDO | DRAWN BY JT
CFN 7067-11R_UP
SHEET C-17 | REV 5



SCALE: 1" = 60'

FOR THE FOLLOWING DETAILS

WAT-7	HYDRANT INSTALLATION – STRAIGHT SET W/LINEAR FOOT OF 6" PVC C-900 WATER LINE (CITY OF LEE'S SUMMIT)
WAT-9	VALVE STEM EXTENSION AND VALVE BOX (CITY OF LEE'S SUMMIT)
WAT-12	VAULT FOR DOUBLE CHECK DETECTOR CHECK (CITY OF LEE'S SUMMIT)
GEN-5	TRENCHING/PATCHING ROADWAY (CITY OF LEE'S SUMMIT)

NOTES:

17A	POINT OF CONNECTION – GAS SERVICE
17B	GAS SERVICE (BY GAS COMPANY)
17D	INSTALL CAP FOR GAS SERVICE
19A	POINT OF CONNECTION – ELECTRIC SERVICE
19B	UNDERGROUND POWER PER LOCAL POWER COMPANY
19C	4" CONDUIT INSTALLED BY CONTRACTOR – ELECTRIC SERVICE
19D	CONDUIT STUB FOR FUTURE EXTENSION – ELECTRIC
19E	INSTALL TRANSFORMER – PER KCP&L STANDARD SPECIFICATIONS
19F	INSTALL SECTIONALIZER – PER KCP&L STANDARD SPECIFICATIONS
19G	CONSTRUCT RISER – PER KCP&L STANDARD SPECIFICATIONS
19H	NEW UTILITY POLE – INSTALLED BY KCP&L
19J	POINT OF CONNECTION AT NEW UTILITY POLE APPROX STA 24+00
19K	2" CONDUIT INSTALLED BY CONTRACTOR – ELECTRIC SERVICE
19M	3" CONDUIT INSTALLED BY CONTRACTOR – ELECTRIC SERVICE
20A	POINT OF CONNECTION – WATER
20B	8" PVC C-900 WATER LINE WITH LINEAR FEET
20C	8"X8"X8" TEE
20D	INSTALL 8" WATER VALVE. SEE DETAIL WAT-9.
20E	INSTALL 8" BACKFLOW PREVENTION DETECTOR ASSEMBLY IN 8'X6' VAULT (INSIDE DIAMETER) OR AS REQUIRED PER CLEARANCE. SEE DETAIL WAT-12.
20F	CONNECT TO EXISTING MAIN WITH 12"x12"x8" TEE
20G	DIRECTIONAL BORE 114.6 LF AND INSTALL 138.9 LF OF 8" PVC C-900 PIPE WITH RESTRAINED JOINTS.
20H	8"X8"X6" TEE
20K	2" PVC C-900 WATER LINE WITH LINEAR FEET
20M	8"X8"X8" TEE W/8" TO 2" REDUCER
20N	INSTALL 2" WATER VALVE. SEE DETAIL WAT-9.
59	6" SANITARY SEWER SERVICE LINE BY CUT-IN WYE (1% MIN)

CONTRACTOR TO VERIFY EXACT LOCATION OF ELECTRICAL COMPONENTS WITH KCP&L

4 EXTENSIVE ELECTRIC COMPONENT REVISIONS

REV	DATE	DESCRIPTION	DSN	DWN	CHK
6	11-19-19	REVISED PER CLIENT COMMENT	LDO	JT	LDO
5	10-23-19	REVISED PER CLIENT COMMENTS	LDO	JT	LDO
4	9-20-19	REVISED PER KCP&L COMMENTS	LDO	JT	LDO
3	8-19-19	REVISED PER CITY COMMENTS	LDO	JT	LDO
2	7-25-19	REVISED PER CITY COMMENTS	LDO	JT	LDO
1	07-02-19	REVISED PER CITY COMMENTS	LDO	JT	LDO
0	5-16-19	INTIAL ISSUE	LDO	BKR	LDO

STATE OF MISSOURI – LEON D. OSBOURN – NUMBER E-21726 – REGISTERED PROFESSIONAL ENGINEER – 11-19-19

LEON D. OSBOURN
ENGINEER
MO # 021726

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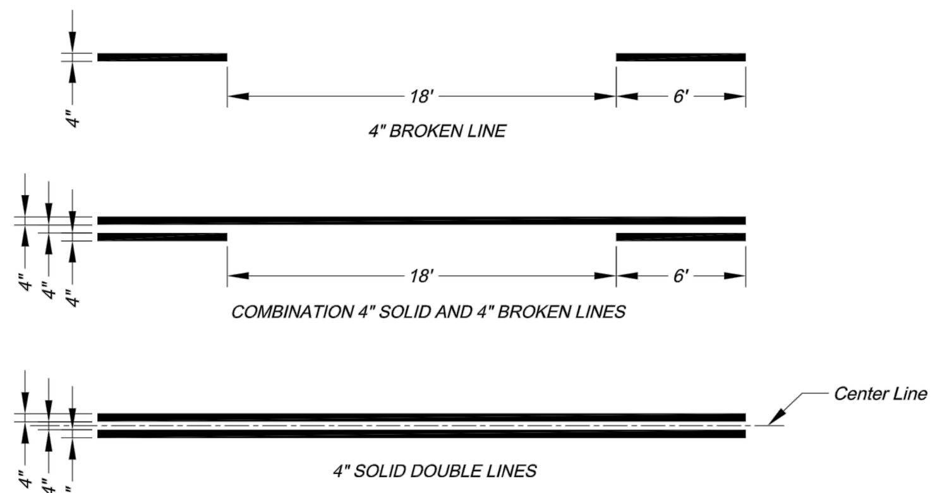
STREETS OF WEST PRYOR
NWQ NW PRYOR RD & NW LOWENSTEIN DR
LEE'S SUMMIT, MISSOURI

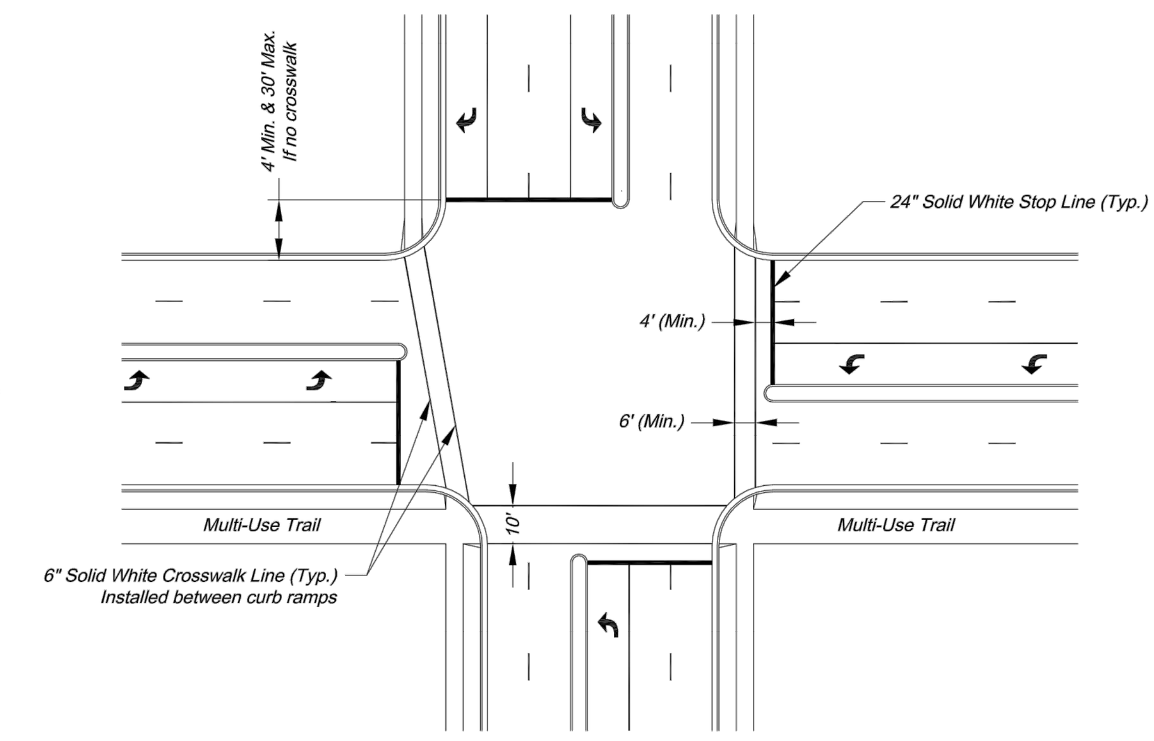
PRIVATE ROAD PLANS
UTILITY PLAN

PROJ. NO. A14_7067-1
DESIGNER LDO | DRAWN BY JT
CFN 7067-1IR_UP
SHEET C-18 | REV 6



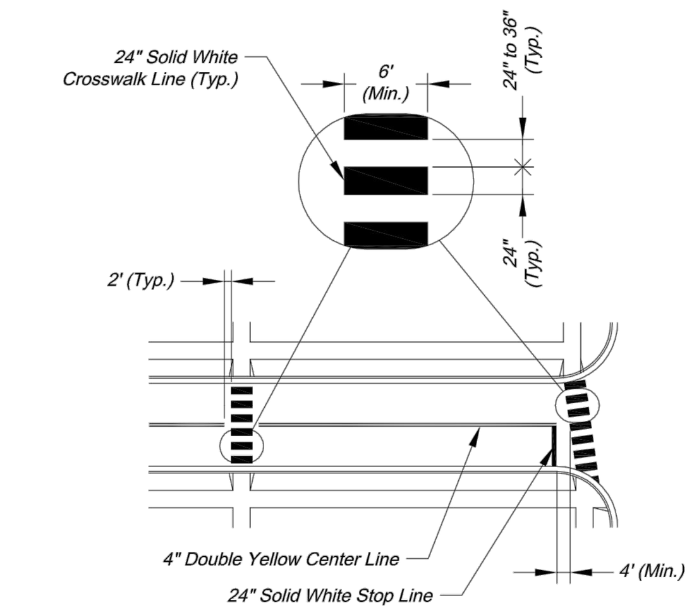
TYPICAL LINE DETAILS

NOTES:
1. All edge line, center line, and lane line pavement markings shall be 4" wide unless otherwise noted.
2. Edge lines shall be continuous solid white or yellow lines. Right side edge lines shall be solid white. Median or left side edge lines on divided roadways are to be solid yellow. Edge lines and center lines shall be continuous across driveways.

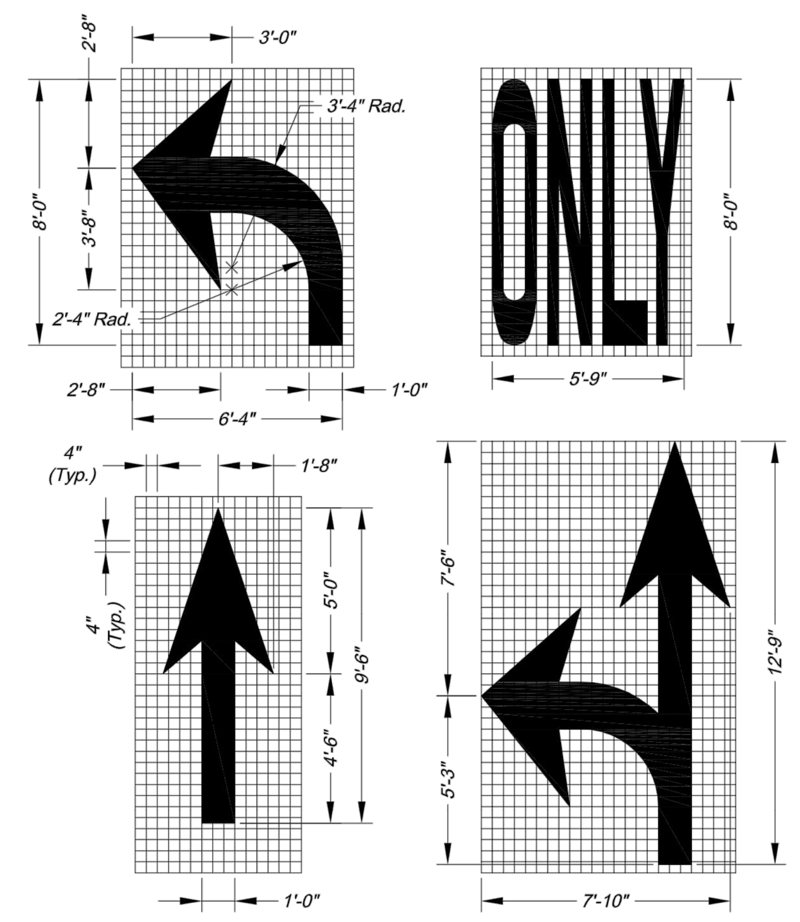


TYPICAL INTERSECTION MARKINGS

NOTES:
1. Transverse crosswalk lines shall be installed such that the distance between lines is at least 6 or 10 feet.
2. Stop lines are required at signalized intersections, on multi-lane stop controlled approaches, or in front of crosswalks at controlled intersections.

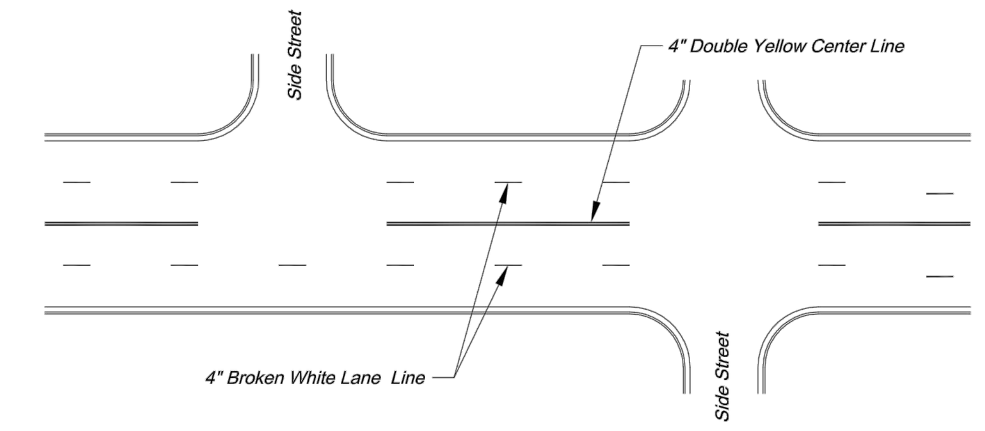


TYPICAL MIDBLOCK OR SCHOOL CROSS WALK

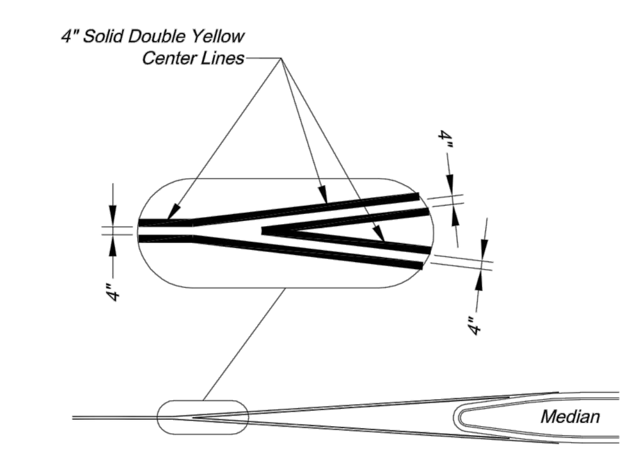


ARROW AND SYMBOL DETAILS

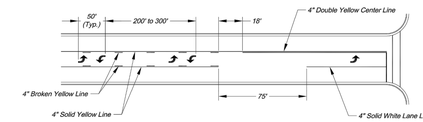
NOTES:
1. All arrow and symbol markings shall be white, and shall be centered in their respective traffic lanes.
2. Right-turn and combination right-turn/straight arrows are reverse of arrows shown.



TYPICAL MARKINGS FOR FOUR-LANE UNDIVIDED ROADWAY

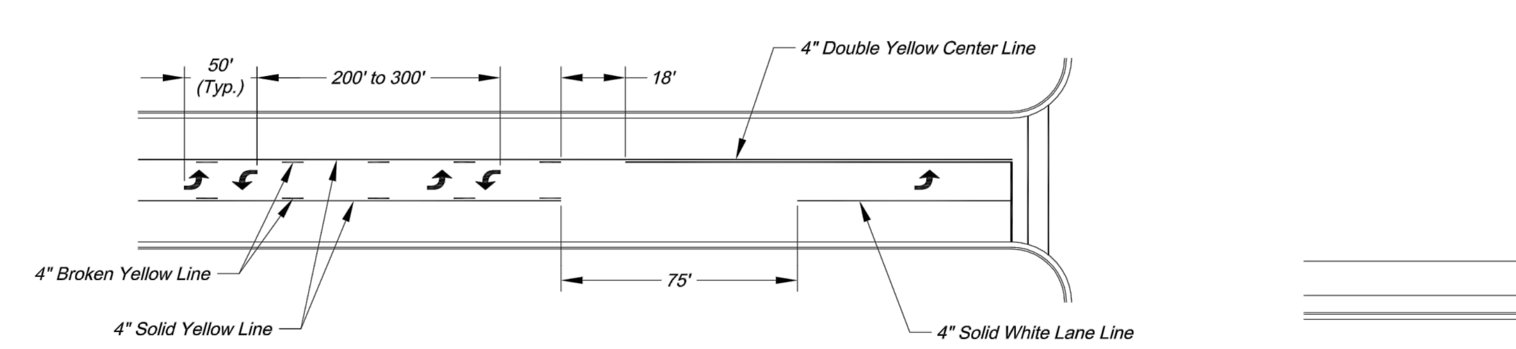


TYPICAL MEDIAN NOSE CENTER LINE DETAIL

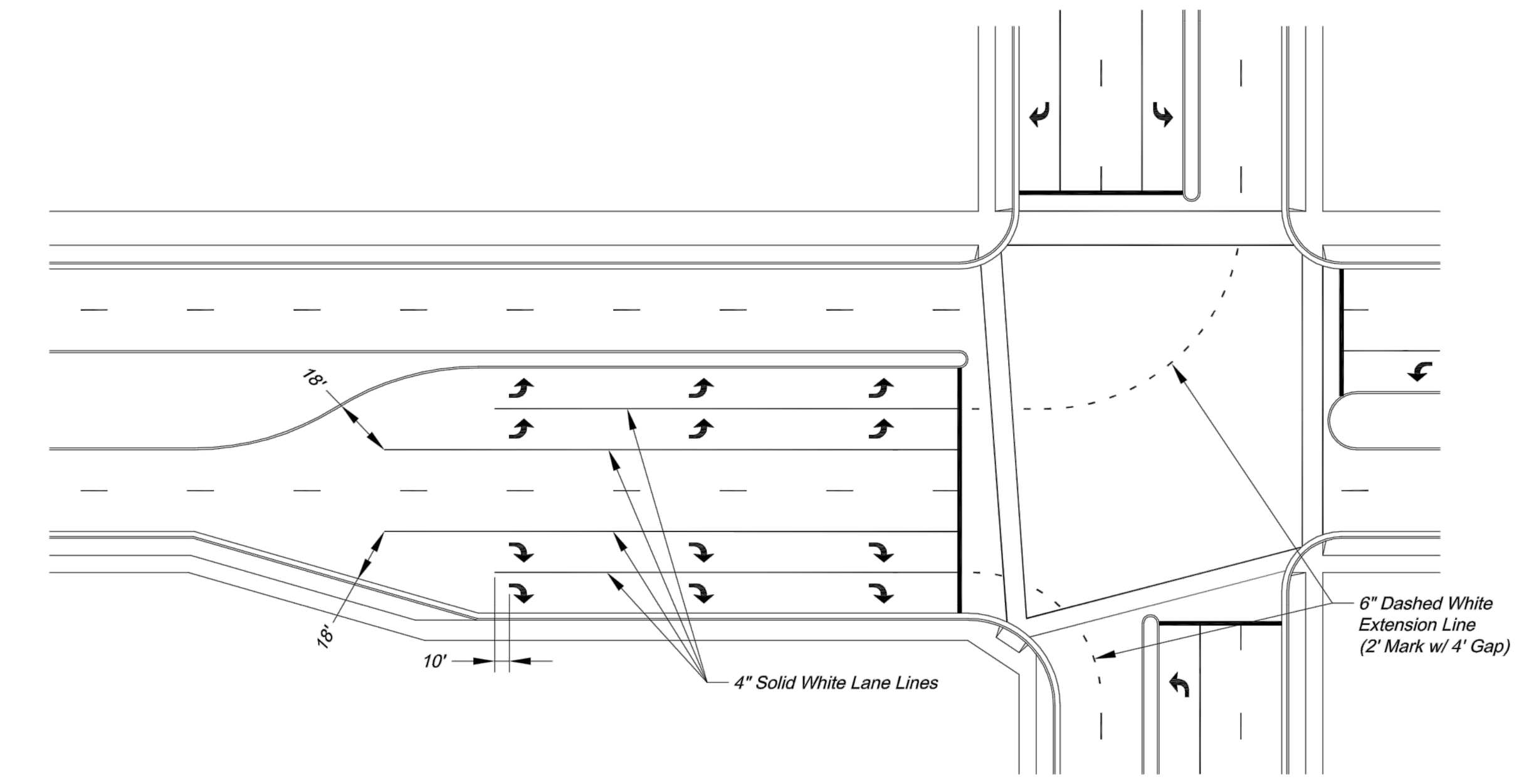
PAVEMENT MARKING GENERAL NOTES:
1. All pavement markings shall be in accordance with the latest edition of the Manual on Uniform Traffic Control Devices (MUTCD).
2. All words and symbols shall conform to the latest edition of Standard Alphabets for Highway Signs and Pavement Markings printed by the U.S. Department of Transportation, Federal Highway Administration.
3. Pavement markings, either temporary or permanent are required at all times if the roadway is open to traffic.
4. All pavement markings that conflict with the desired markings shall be completely removed. Removals shall not leave the road surface scarred with an image that misleads traffic. Any excess damage or scarring of pavement shall be repaired at the Contractor's expense.
5. The proposed permanent markings shall be laid out by the Contractor in advance of the marking installation. Markings shall not be applied until the layout has been approved by the City Traffic Engineer.
6. Center lines shall be marked on all undivided arterial streets, and any other undivided street with more than two lanes and/or a speed limit of 30 mph or more.
7. Edge lines shall be marked on all non-curbed streets.

CITY OF LEE'S SUMMIT
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION
220 SE GREEN STREET
LEE'S SUMMIT, MISSOURI 64063
PHONE: (816) 969-1800 FAX: (816) 969-1809

ROADWAY MARKING DETAILS
STANDARD DRAWING PM-1

Drawn By: AS
Checked By: JW
Date: 09/09/2009
Project#
1 OF 2
1

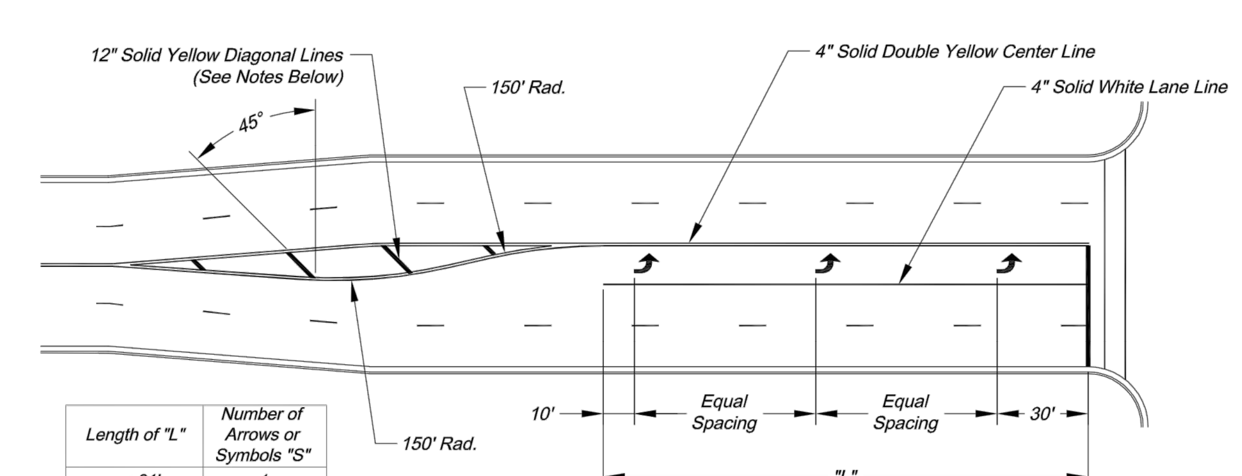


TYPICAL MARKINGS FOR TWO-WAY LEFT-TURN LANE



TYPICAL DUAL TURN LANE MARKINGS

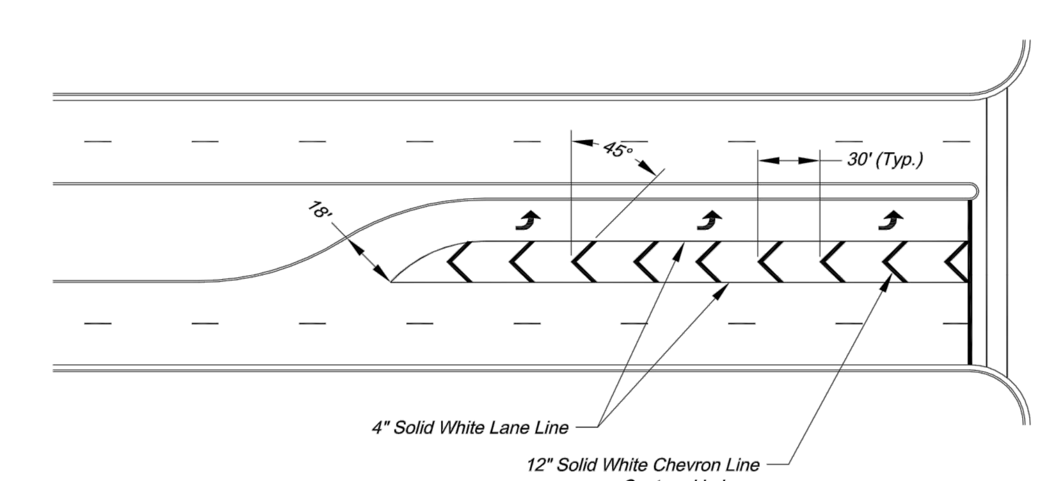
NOTE:
1. Dashed extension lines shall not extend through crosswalks.



Length of "L"	Number of Arrows or Symbols "S"
< 81'	1
81' - 120'	2
121' - 200'	3
201' - 280'	4
281' - 360'	5
361' - 440'	6

TYPICAL TURN LANE MARKINGS

NOTES:
1. Diagonal lines are required between centerlines if the width of the area between the center lines is greater than 12' and/or the length of the area between center lines is greater than 250'.
2. Diagonal lines should be spaced at 5' increments, equal to the posted speed limit.
3. Equal Spacing is calculated as (L - 40) / (S - 1).
4. When a through lane of traffic terminates as a mandatory turn lane, Arrow and "ONLY" symbols should be marked in the turn lane, in alternating order. The first and last symbols should be Arrows.



TYPICAL STRIPED OUT TURN LANE MARKINGS

CITY OF LEE'S SUMMIT
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION
220 SE GREEN STREET
LEE'S SUMMIT, MISSOURI 64063
PHONE: (816) 969-1800 FAX: (816) 969-1809

INTERSECTION MARKING DETAILS
STANDARD DRAWING PM-2

Drawn By: AS
Checked By: JW
Date: 09/09/2009
Project#
2 OF 2
2

REV	DATE	DESCRIPTION	DSN	DWN	CHK
0	5-16-19	INITIAL ISSUE	LDO	BKR	LDO

LEON D. OSBOURN
ENGINEER
MO # 021726

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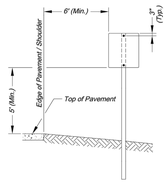
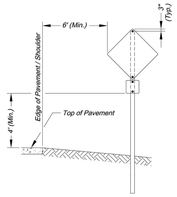
STREETS OF WEST PRYOR
NWQ NW PRYOR RD & NW LOWENSTEIN DR
LEE'S SUMMIT, MISSOURI

PRIVATE ROAD PLANS
PAVEMENT MARKING DETAIL SHEET

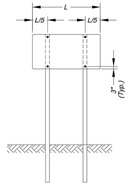
PROJ. NO. A14_7067-1
DESIGNER LDO | DRAWN BY JT
CFN 7067-1IR_DET
SHEET C-19 | REV 0



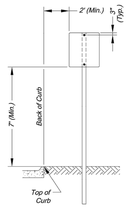
SIGN INSTALLATION FOR NON-CURBED STREET



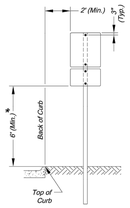
SIGN INSTALLATION WITH AUXILARY SIGN FOR NON-CURBED STREET



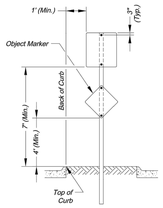
SIGN INSTALLATION WITH TWO SIGN POSTS



SIGN INSTALLATION FOR CURBED STREET



SIGN INSTALLATION WITH AUXILARY SIGN FOR CURBED STREET

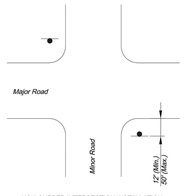


SIGN INSTALLATION FOR RAISED MEDIANS

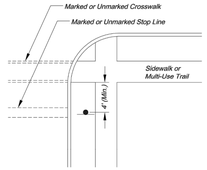
SIGN MOUNTING DETAILS

* The height to the bottom of a sign when it is located in a pedestrian walkway or extends into a walkway shall be a minimum of 80 inches above the walkway.

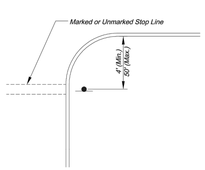
NOTE:
1. Generally, the sign mounting height should not be more than 1' greater than the minimum mounting height.



NON-CURBED INTERSECTION INSTALLATION

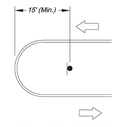


INTERSECTION WITH SIDEWALK / MULTI-USE TRAIL INSTALLATION



CURBED INTERSECTION INSTALLATION

CONTROL SIGN LOCATION

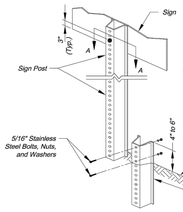


TYPICAL MEDIAN SIGN LOCATION

MEDIAN SIGN LOCATION

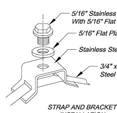
NOTES:
1. A 4" P.V.C. sleeve shall be installed in new concrete medians at each location where a sign is to be installed.
2. For existing concrete medians, a 4" hole shall be cored into the concrete.

PERMANENT SIGNING GENERAL NOTES:
1. All signing shall be in accordance with the latest edition of the Manual on Uniform Traffic Control Devices (MUTCD).
2. The Contractor is responsible for contacting all utilities when installing sign posts, whether the utility is indicated on the plans or not.
3. All workmanship and materials shall be subject to the inspection and approval of the Public Works Department of the City of Lee's Summit.
4. The Contractor shall stake the location of all sign posts to be installed. The City Inspector shall inspect the staking prior to installation. Minor relocation to avoid conflicts may be allowed with the approval of the City Traffic Engineer or designee.
5. Signs shown to be installed on the side of metal poles shall be mounted with stainless steel straps or wing brackets as detailed. No signs are to be installed on wood poles. See Traffic Signal Standard Drawings for the installation of signs on mast arms.
6. All post mounted signs shall be installed with breakaway anchors according to the Standard Drawings.
7. All existing signs will be used in place during construction and protected from damage unless otherwise indicated in the plans. If the Contractor damages any existing sign or posts during construction, the Contractor will be required to replace the damaged materials with new signs or posts of the same type and size at the Contractor's expense. The Contractor shall be responsible for removing and storing any signs that are to be reinstalled on the project. All equipment shall be reinstalled in good condition.
8. Existing permanent signs and posts removed by the Contractor for construction purposes which are not to be reinstalled shall be delivered to the City's Public Works Maintenance Facility (1971 SE Hamblen Road). The Contractor shall be responsible for removing and storing equipment in good condition and is fully responsible for the equipment until it is delivered.
9. All Stop, Yield, or street name signs shall be maintained in a conspicuous location for the driving public. All Stop and Yield signs removed for construction purposes can be temporarily erected in reflectorized drums (no less than 7 feet above the pavement surface) until they can be reinstalled. Any temporary Stop or Yield sign installation to be left in place overnight will require prior approval from the City Inspector.

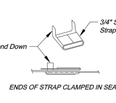


U-STEEL POST DETAILS

U-STEEL POST NOTES:
1. Splice shall be positioned entirely between finished grade line and 18" above finished grade line. Only one splice will be allowed per post.
2. U-Steel post shall be 3 lb./ft., galvanized according to ASTM A123.
3. U-Steel post can be used for installation of signs with an area of less than 2.5 square feet.
4. All posts shall be embedded a minimum of 3 feet.



STRAP AND BRACKET INSTALLATION

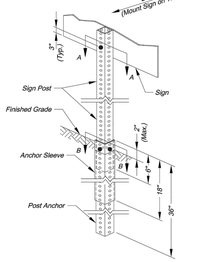


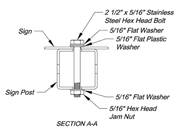
ENDS OF STRAP CLAMPED IN SEAL

STRAP TYPE SIGN SUPPORT DETAILS

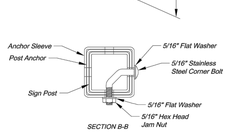
METAL POLE SIGN MOUNTING NOTES:
1. Signs on metal poles shall be attached with two brackets and stainless steel bands.
2. Holes in sign for attachment to the mounting brackets shall be offset a minimum of 2 inches from the edge of the sign.
3. Holes in sign shall be located such that the sign is level.
4. All strap, bracket, and seal materials should be Type 201 stainless steel.

SQUARE STEEL POST INSTALLATION SEQUENCE:
1. Sign post anchor driven partially into the ground using a drive cap with a sledge or power equipment.
2. Anchor sleeve slipped over anchor and drive into the ground together with the sign post anchor.
3. Insert sign post into the post anchor and bolt in place.





CORNER BOLT



SQUARE STEEL POST DETAILS

SQUARE STEEL POST NOTES:
1. Square steel sign posts and break-away anchor shall consist of the following materials:
   Sign Post - 14 Ga. 2" x 2" Square Steel Post
   Post Anchor - 12 Ga. 2 ¼" x 2 ¼" x 36" Square Steel Post
   Anchor Sleeve - 12 Ga. 2 ½" x 2 ½" x 18" Square Steel Post
2. 14 Gauge posts must meet a certified minimum yield strength of 60,000 psi.
3. In all installations the first hole above the finished grade line on the sign post, anchor, and anchor sleeve must be in line for the insertion of the corner bolt.
4. The maximum area for one sign post is 9.0 square feet. A sign or combination of signs with an area greater than 9.0 square feet will require two posts. Also, signs with a width greater than 36" (not including 36" x 36" diamond shaped signs) will require two posts.

CITY OF LEE'S SUMMIT
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION
220 SE GREEN STREET
LEE'S SUMMIT, MISSOURI 64063
PHONE: (816) 969-1800 FAX: (816) 969-1809

Project:
Sheet Name: SIGN MOUNTING DETAILS
STANDARD DRAWING SN-1

Drawn By: AS
Checked By: JW
Date: 08/26/2009
Project#

1 OF 3
1

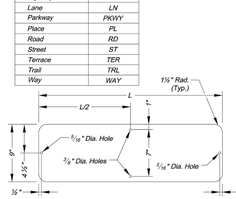
STANDARD ABBREVIATION LISTS

Named Streets	
Avenue	AVE
Boulevard	BLVD
Circle	CIR
Creek	CR
Court	CT
Crossing	XING
Drive	DR
Highway	HWY
Lane	LN
Parkway	PKWY
Place	PL
Road	RD
Street	ST
Terrace	TER
Trail	TRL
Way	WAY

Numbered Streets	
First	ST
Second	ND
Third	RD
Fourth to Tenth	TH

STREET NAME SIGN QUANTITIES

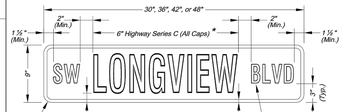
Sign Designation	Sign Size	Sign Area (Sq. Ft.)	Number	Quantity (Sq. Ft.)
D3-1 (SP-1)	9" x	Sq. Ft.	1	1
D3-1 (SP-2)	9" x			
D3-1 (SP-3)	9" x			
D3-1 (SP-4)	9" x			
D3-1 (SP-5)	9" x			
D3-1 (SP-6)	9" x			



PROJECT SIGN DETAILS

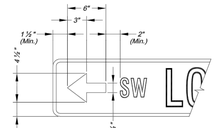
STREET NAME SIGN BLANK DETAILS

For Mounting on Square Steel Posts

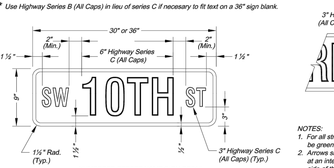


NAMED STREET NAME SIGN DETAIL

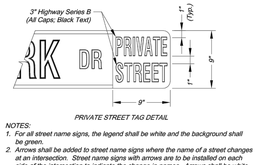
* Use Highway Series B (All Caps) in lieu of series C if necessary to fit text on a 36" sign blank.



ARROW DETAIL



NUMBERED STREET NAME SIGN DETAIL



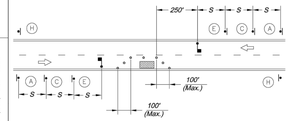
PRIVATE STREET TAG DETAIL

NOTES:
1. For all street name signs, the legend shall be white and the background shall be green.
2. Arrows shall be added to street name signs where the name of a street changes at an intersection. Street name signs with arrows are to be installed on each side of the intersection to indicate the change in names. Arrows shall be white.
3. The "PRIVATE STREET" tag should be added to the end of street name signs to indicate where a street that is outside the right-of-way intersects a public street. The background for the "PRIVATE STREET" tag shall be yellow.

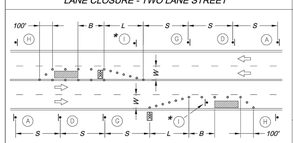
STREET NAME SIGN FACE DETAILS

SYMBOL LEGEND

- Work Area
- Sign
- Barricade
- Direction of Travel
- Channelizer
- Arrow Panel
- Flagger

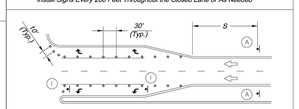


LANE CLOSURE - TWO LANE STREET



LANE CLOSURE - FOUR LANE STREET

* Install Signs Every 200 Feet Throughout the Closed Lane or As Needed



TURN LANE CLOSURE

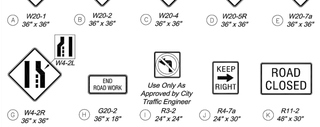
Sign Spacing "S"	
Speed Limit (mph)	Spacing (Feet)
25	100
30 - 35	250
≥ 40	350

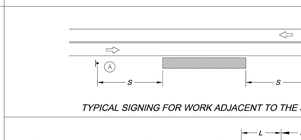
Taper Dimensions (Feet)				
Speed Limit (mph)	Minimum Taper Length "L", per Lane Width "W"			Minimum Number of Channelizers
	10	11	12	
25	105	115	125	6
30	150	165	180	7
35	205	225	245	8
40	270	295	320	9
45	450	495	540	13

Guidelines for Length of Longitudinal Buffer Space "B"	
Speed Limit (mph)	Length (Feet)
25	35
30	55
35	85
40	120
45	170

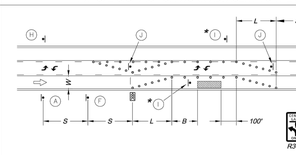
Maximum Channelizer Spacing		
Speed Limit (mph)	Within Taper (Feet)	Outside Taper (Feet)
25	25	50
30	30	60
35	35	70
40	40	80
45	45	90

SIGN LEGEND





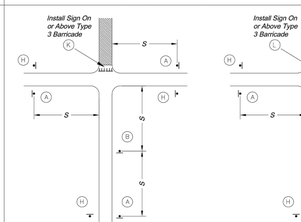
TYPICAL SIGNING FOR WORK ADJACENT TO THE STREET



NOTE: All Center Turn Lane Signs (MUTCD No. R3-9B) Shall Be Covered During Lane Closure

LANE CLOSURE - THREE LANE STREET

* Install Signs Every 200 Feet Throughout the Closed Lane or As Needed



TYPICAL STREET CLOSURE

GENERAL NOTES:

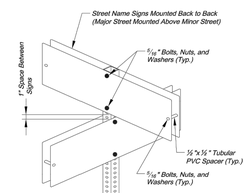
1. All signs, barricades, channelizers, markings and other traffic control devices shall conform to the latest edition of the Manual on Uniform Traffic Control Devices (MUTCD).
2. All traffic control devices shall be standard in size, shape, color, and message, in good condition, and retro-reflectorized. All signs shall be securely mounted with height and lateral location as described in the MUTCD.
3. Warning lights shall be used on barricades in place at night and on warning signs which alert drivers about a change in alignment, traffic control, lane closure, or road closure.
4. Flaggers shall be used where indicated on the plans, where construction vehicles interact with normal traffic, or where construction activities impose a restriction on traffic, as directed by the City Traffic Engineer. Where flaggers are used, advance signing shall be erected as shown in the details or as specified in the MUTCD. Flaggers shall meet the requirements in the MUTCD in regard to character, training, attire, and behavior.
5. Trim-lines are the City's preferred channelizing device. Cones may not be used at nighttime.
6. Traffic control devices not in use or not applicable shall be either covered or removed from the work area.
7. The Contractor shall use barricades, street plates, or fencing as needed to effectively shield pedestrian and vehicular traffic from exposed objects, excavations, and construction activities.
8. Access shall be maintained to all driveways and side streets unless noted otherwise on the plans.
9. No street shall be closed without the approval of the City Traffic Engineer. The Contractor shall notify the City Traffic Engineer at least 7 days in advance of any street closure. If a detour route around the closure is to be provided, all detour signing shall be as shown on a plan approved by the City Traffic Engineer.
10. Construction vehicles parked along streets shall be located within the work area (traffic control) or where otherwise normally permitted. Construction materials, including traffic control and vehicles shall not restrict sight distance for vehicles exiting at streets or drives.
11. Construction materials shall be kept off of sidewalks, consolidated in one location within City right-of-way, and removed daily unless otherwise approved by the Inspector. Dirt, mud, and other construction debris on streets and sidewalks shall be removed immediately.
12. The Contractor shall not perform any work that will restrict vehicular traffic in any way between the hours of 7:00 a.m. and 9:00 a.m. or 4:00 p.m. and 6:00 p.m. Monday through Friday unless otherwise indicated in the specifications.
13. All travel lanes should be at least 11 feet wide unless otherwise authorized by the City Traffic Engineer. A "Narrow Lanes" sign shall be installed in advance of a lane width reduction to less than 11 feet.
14. All edge drop-offs of more than 2 inches and less than 4 inches should be protected by a wedge or barrier and all edge drop-offs greater than 4 inches shall have edge protection (see Traffic Control Specifications for edge treatment requirements).
15. The "Workers" symbolic sign (MUTCD No. W21-1a) may be used instead of the "Road Work Ahead" sign for work with a duration of 12 hours or less. The "End Road Work" sign is not required to be installed after the "Workers" sign.
16. No traffic signal shall be altered or modified in any way without a plan approved by the City Traffic Engineer.
17. The Contractor shall be responsible for maintaining all traffic control devices on an around-the-clock basis, whether or not work is actively being pursued and any deficiencies noted shall be corrected immediately.
18. The traffic control requirements shown on these plans are minimum requirements only and do not attempt to address in depth the variety of situations that may occur once construction has started. In no way do the requirements shown on these plans relieve the Contractor of his responsibility for selecting the proper traffic control devices and implementation procedures that will assure the safety of drivers, pedestrians, and workers at all times.
19. Should the contractor fail to enforce the traffic control plan or fail to clean, replace or otherwise maintain the traffic control devices when directed to do so by the City Traffic Engineer or representative, the City may take one or more of the following actions:
    A) Employ another agency to correct deficiencies in traffic control devices and deduct the cost from the Contractor's pay estimate,
    B) Stop the work until deficiencies are corrected,
    C) Suspend all pay estimates until deficiencies are corrected, or
    D) Place the Contractor in default.

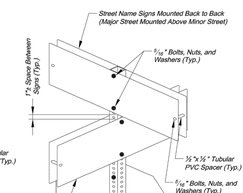
CITY OF LEE'S SUMMIT
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION
220 SE GREEN STREET
LEE'S SUMMIT, MISSOURI 64063
PHONE: (816) 969-1800 FAX: (816) 969-1809

Project:
Sheet Name: SIGN POST DETAILS
STANDARD DRAWING SN-2

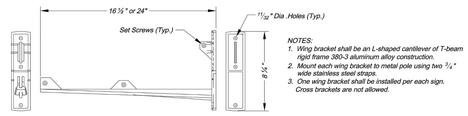
Drawn By: AS
Checked By: JW
Date: 08/26/2009
Project#

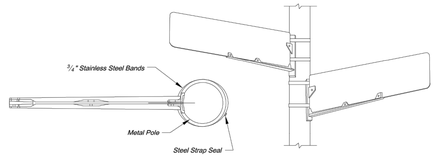
2 OF 3
2





WING BRACKET MOUNTING DETAILS





SQUARE STEEL POST MOUNTING DETAILS

CITY OF LEE'S SUMMIT
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION
220 SE GREEN STREET
LEE'S SUMMIT, MISSOURI 64063
PHONE: (816) 969-1800 FAX: (816) 969-1809

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

Drawn By: AS
Checked By: JW
Date: 08/26/2009
Project#

3 OF 3
3

GENERAL NOTES:

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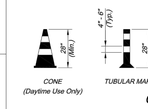
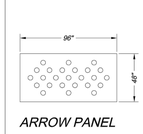
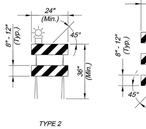


CHANNELIZERS

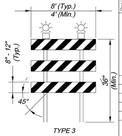
NOTE: White Bands On Barricades and Channelizers Shall Be Made From High Intensity Sheeting Material.



ARROW PANEL



TYPE 2



TYPE 3

BARRICADES

CITY OF LEE'S SUMMIT
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION
220 SE GREEN STREET
LEE'S SUMMIT, MISSOURI 64063
PHONE: (816) 969-1800 FAX: (816) 969-1809

Project:
Sheet Name: TRAFFIC CONTROL DETAILS
STANDARD DRAWING TC-1

Drawn By: JJW
Checked By: MP
Date: 12-10-2008
Project No.: X

x OF x
X

REV.	DATE	DESCRIPTION	DSN	DWN	CHK
			LDO	BKR	LDO
0	5-16-19	INITIAL ISSUE			

STATE OF MISSOURI
LEON D. OSBOURN
NUMBER E-21726
7-3-19
REGISTERED PROFESSIONAL ENGINEER

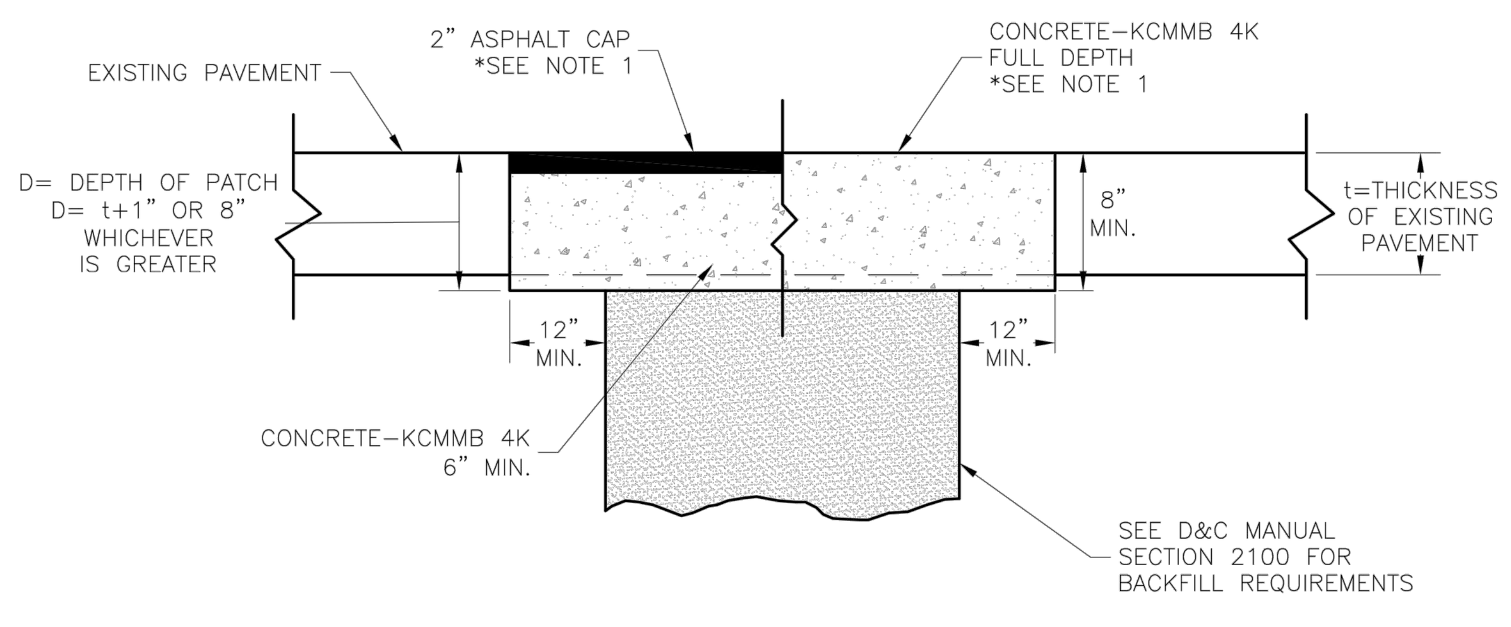
LEON D. OSBOURN
ENGINEER
MO # 021726

2319 N. JACKSON | P.O. BOX 1304
JUNCTION CITY, KANSAS 66441-1304
PH. (785) 762-5040 | FAX (785) 762-7744
jo@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 12/31/19

STREETS OF WEST PRYOR
NWQ NW PRYOR RD & NW LOWENSTEIN DR
LEE'S SUMMIT, MISSOURI

PRIVATE ROAD PLANS
SIGN AND TRAFFIC CONTROL DETAIL SHEET

PROJ. NO. A14_7067-1
DESIGNER LDO
DRAWN BY JT
CFN 7067-1IR_DET
SHEET C-20
REV 0



TRENCHING/PATCHING DETAIL
NOT TO SCALE

NOTE:

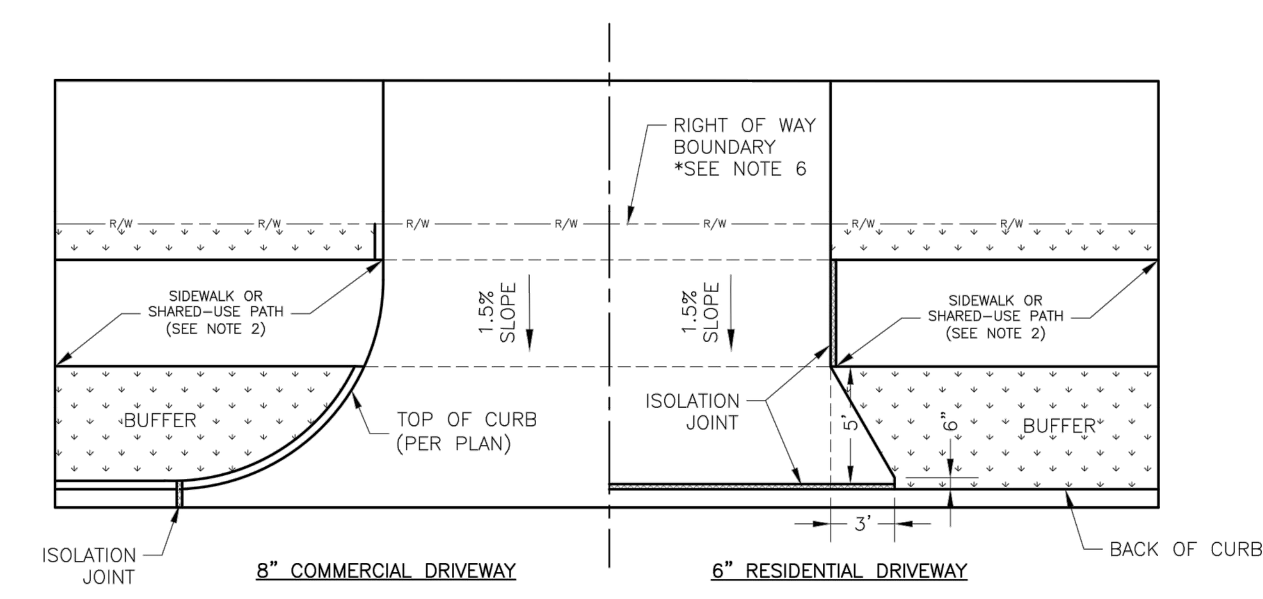
1. ASPHALT CAP OR FULL DEPTH CONCRETE SHALL BE DETERMINED BY CITY INSPECTOR.

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

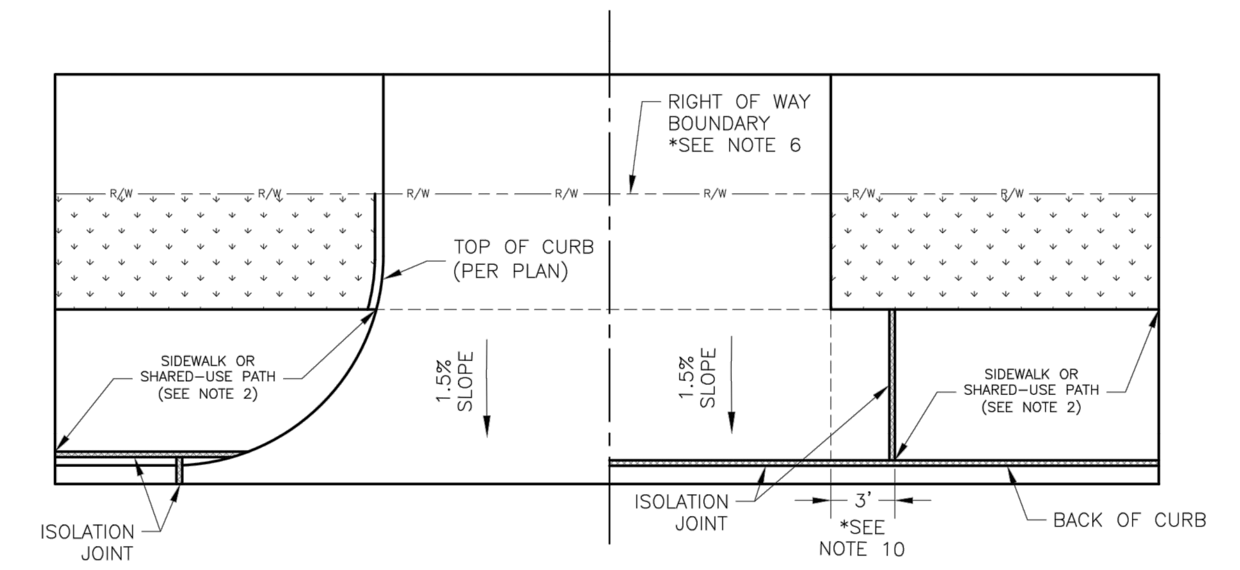
TRENCHING/PATCHING ROADWAYS DETAIL

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

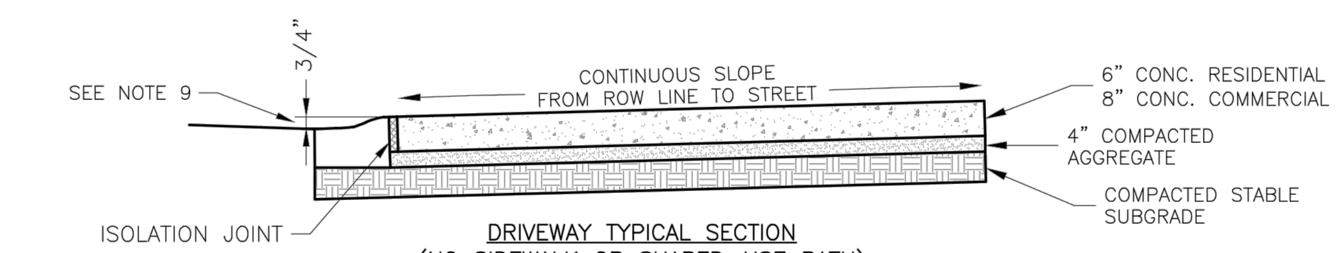
GEN-5



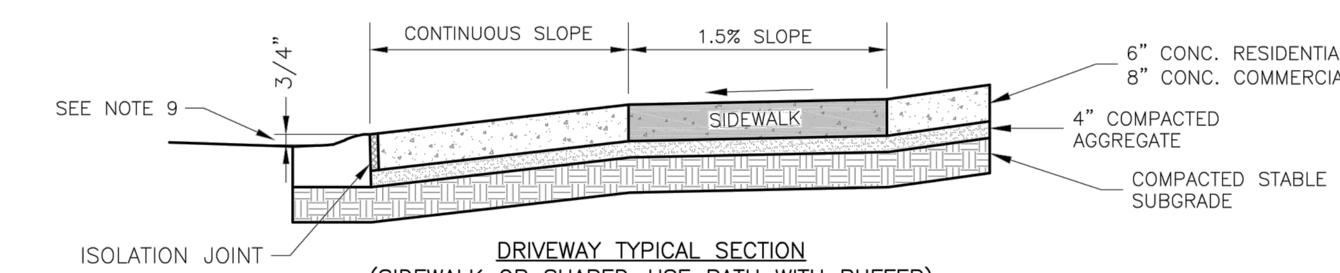
DRIVEWAY WITH BUFFER
NOT TO SCALE



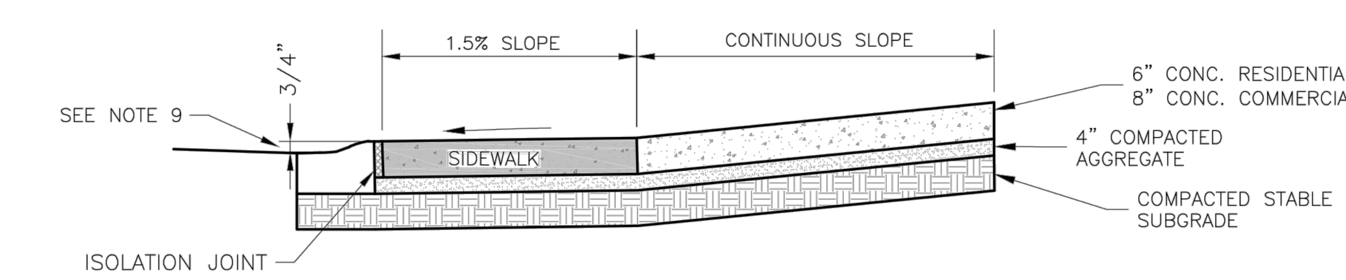
DRIVEWAY WITHOUT BUFFER
NOT TO SCALE



DRIVEWAY TYPICAL SECTION
(NO SIDEWALK OR SHARED–USE PATH)
NOT TO SCALE



DRIVEWAY TYPICAL SECTION
(SIDEWALK OR SHARED–USE PATH WITH BUFFER)
NOT TO SCALE



DRIVEWAY TYPICAL SECTION
(SIDEWALK OR SHARED–USE PATH WITHOUT BUFFER)
NOT TO SCALE

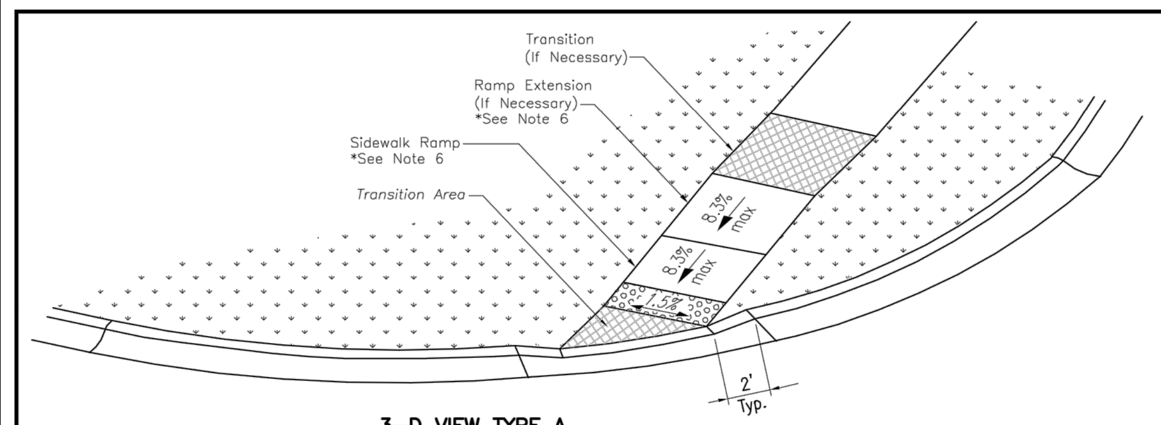
GENERAL NOTES

1. SUBGRADE SHALL BE STABLE, COMPACTED EARTH AND SHALL BE OVERLAYED WITH 4" COMPACTED DENSE GRADED AGGREGATE BASE.
2. ALL DRIVE APPROACHES SHALL MEET CURRENT PUBLIC RIGHT OF WAY ACCESSIBILITY GUIDELINES (PROWAG) FOR SLOPE REQUIREMENTS WHEN SIDEWALK IS REQUIRED (SEE ADA RAMP RETROFIT DETAIL GEN–3B, SIDEWALK/SHARED USE PATH RAMP AT DRIVEWAY DETAIL).
3. JOINT AT BACK OF CURB LINE SHALL BE AN ISOLATION JOINT FOR RESIDENTIAL DRIVEWAYS.
4. KCMMB 4K CONCRETE MIX IS REQUIRED FOR ALL CURBS.
5. COMMERCIAL DRIVEWAYS, IN THE PUBLIC RIGHT OF WAY, SHALL BE KCMMB 4K CONCRETE MIX.
6. RESIDENTIAL DRIVEWAYS, IN THE PUBLIC RIGHT OF WAY, KCMMB 4K CONCRETE MIX IS RECOMMENDED. OTHER CONCRETE MIXES NEEDS TO BE APPROVED BY CITY INSPECTOR.
7. A JOINT MUST BE INSTALLED AT THE RIGHT OF WAY BOUNDARY FOR PROPERTY DELINEATION.
8. WHITE CURING COMPOUND MUST BE APPLIED UNIFORMLY TO THE CONCRETE SURFACE IMMEDIATELY AFTER FINAL FINISHING.
9. ¾" FROM TOP OF CURB TO FLOWLINE AT DRIVEWAY (TYPE CG–1 CURB ONLY). MUST MAINTAIN ORIGINAL FLOWLINE OF CURB.
10. SIDEWALK ADJOINING CURB SHALL BE 6" THICK, EXTENDING 3' FROM THE DRIVEWAY.
11. THE MAXIMUM WIDTH OF A RESIDENTIAL DRIVEWAY IS 36 FEET WITHIN THE RIGHT OF WAY.

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

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

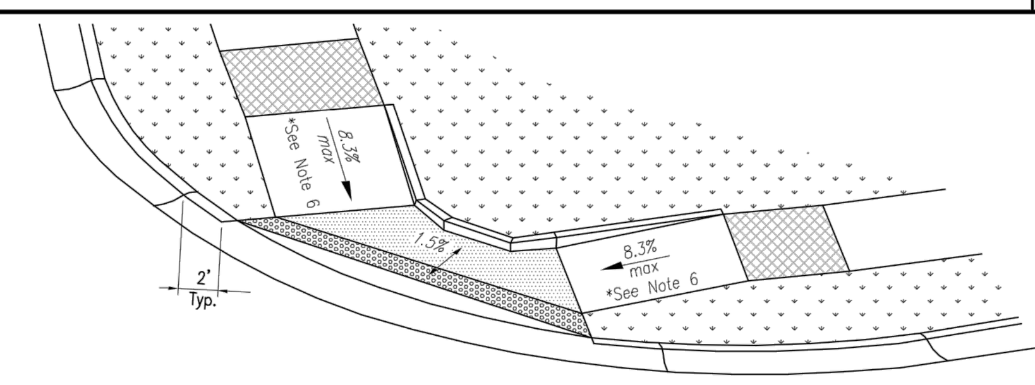
GEN-1



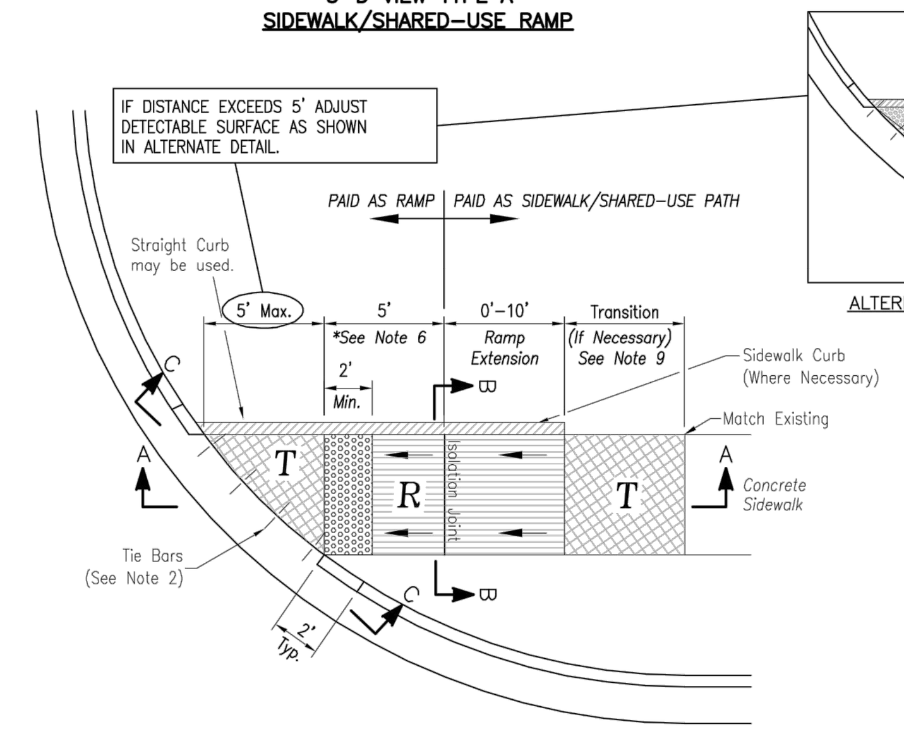
3-D VIEW TYPE A
SIDEWALK/SHARED–USE RAMP

LEGEND

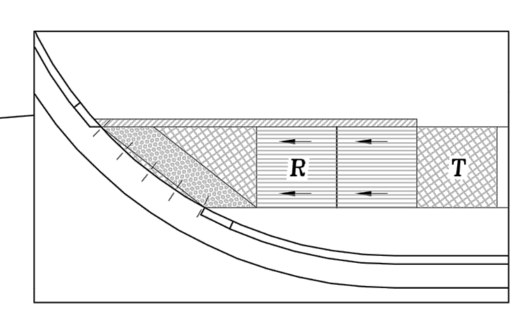
R	SIDEWALK RAMP
TS	TURNING SPACE
	DETECTABLE WARNING SURFACE
T	TRANSITION



3-D VIEW TYPE B
SIDEWALK/SHARED–USE RAMP



TYPE A SIDEWALK/SHARED–USE RAMP
Not to Scale

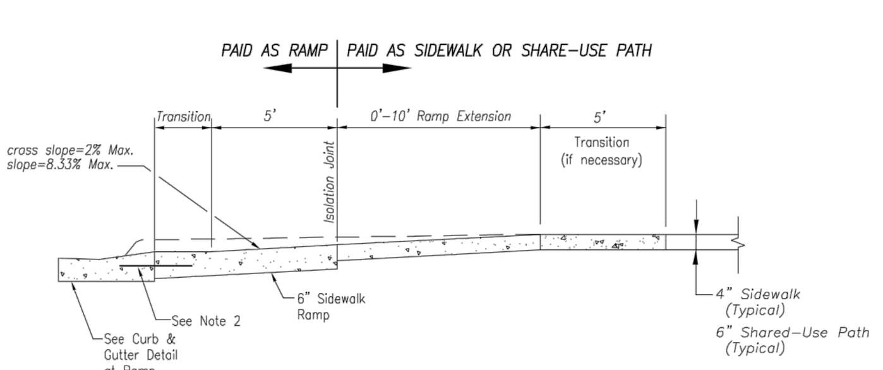


ALTERNATE DETECTABLE SURFACE LAYOUT

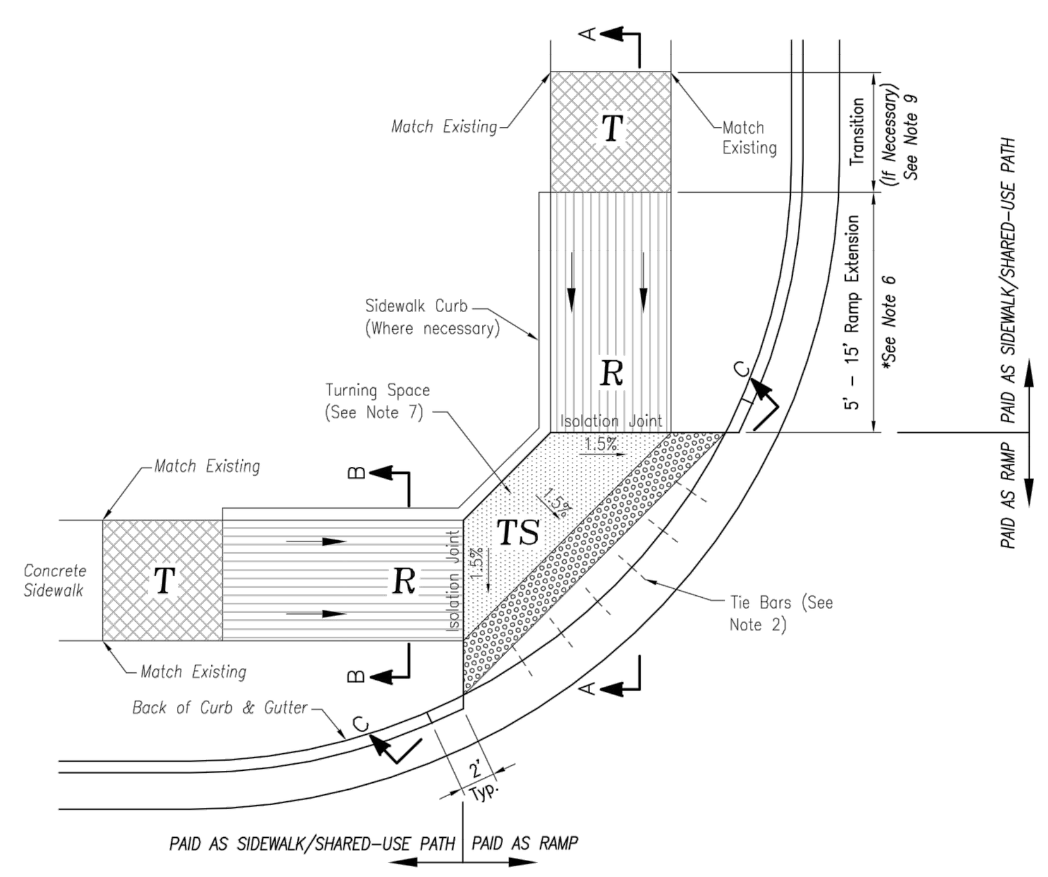
SIDEWALK/SHARED–USE PATH & SIDEWALK/SHARED–USE RAMP NOTES:

1. CURB RAMP OPENING, NOT INCLUDING FLARES, SHALL MATCH EXISTING SIDEWALK WIDTH AND OPENING SHALL BE AT LEAST 48" WIDE.
2. USE 18" LONG #4 EPOXY COATED TIE BARS @ 24" O.C. EMBED TIE BARS 9" IN EACH DIRECTION.
3. ALL RAMPS, SIDEWALKS, SHARED–USE PATHS SUBGRADE MUST BE OF STABLE, COMPACTED EARTH AND SHALL BE OVERLAYED WITH 4" COMPACTED DENSE GRADED AGGREGATE BASE.
4. LONGITUDINAL JOINT SPACING TO MATCH WIDTH OF SIDEWALK.
5. ISOLATION JOINTS SHALL BE PLACED WHERE WALK ABUTS DRIVEWAYS AND SIMILAR STRUCTURES, AND 150' CENTERS MAX.
6. ADA MAXIMUM RAMP SLOPE = 8.33%
   ADA MAXIMUM CROSS SLOPE = 2.0%

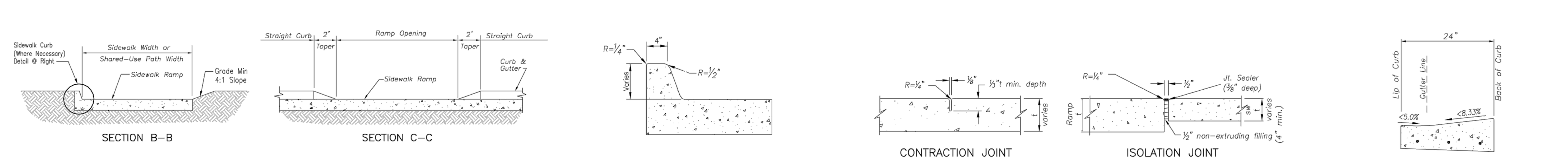
   *ROADWAY EXCEPTION: WHERE EXISTING ROAD PROFILE GRADE DOES NOT ALLOW RAMP TO MEET RAMP SLOPE REQUIREMENT OF 8.33% OR LESS, THE RAMP SHALL BE EXTENDED TO A LENGTH OF 15 FEET TO MATCH EXISTING SIDEWALK. CROSS SLOPE OF RAMP SHALL BE 1.5%, ±0.5%.
7. TURNING SPACES SHALL BE 1.5%, ±0.5%, SLOPE IN ANY DIRECTION. TURNING SPACES SHALL HAVE A MINIMUM 4'x4' TURNING AREA. TURNING SPACES, WITH A SIDEWALK CURB, SHALL HAVE A 5' TURNING AREA PERPENDICULAR TO THE SIDEWALK CURB.
8. FOR RETROFIT WORK, SLOPES TO BE DETERMINED IN FIELD BY CONTRACTOR AND APPROVED BY CITY INSPECTOR
9. RAMP EXTENSION AREA SHALL NOT BE USED AS TRANSITION TO EXISTING SIDEWALK. ANY TRANSITIONS REQUIRED TO MATCH RAMPS TO EXISTING SIDEWALK SHALL REQUIRE REMOVAL AND REPLACEMENT OF ADDITIONAL SIDEWALK BEYOND THE RAMP AREA. SIDEWALK TRANSITION LENGTH SHALL BE EQUAL TO OR GREATER THAN THE WIDTH OF THE EXISTING SIDEWALK. RAMP EXTENSIONS SHALL BE A CONTINUOUS SLOPE.
10. ALL SIDEWALK AND RAMP CONSTRUCTION SHALL MEET CURRENT PUBLIC RIGHT OF WAY ACCESSIBILITY GUIDELINES (PROWAG).



SECTION A–A



TYPE B SIDEWALK/SHARED–USE RAMP
Not to Scale



SECTION B–B
SECTION C–C
TYPE A & B SIDEWALK RAMP
Not to Scale

SIDEWALK CURB DETAIL
Not to Scale

CONTRACTION JOINT
ISOLATION JOINT
JOINT DETAILS
Not to Scale

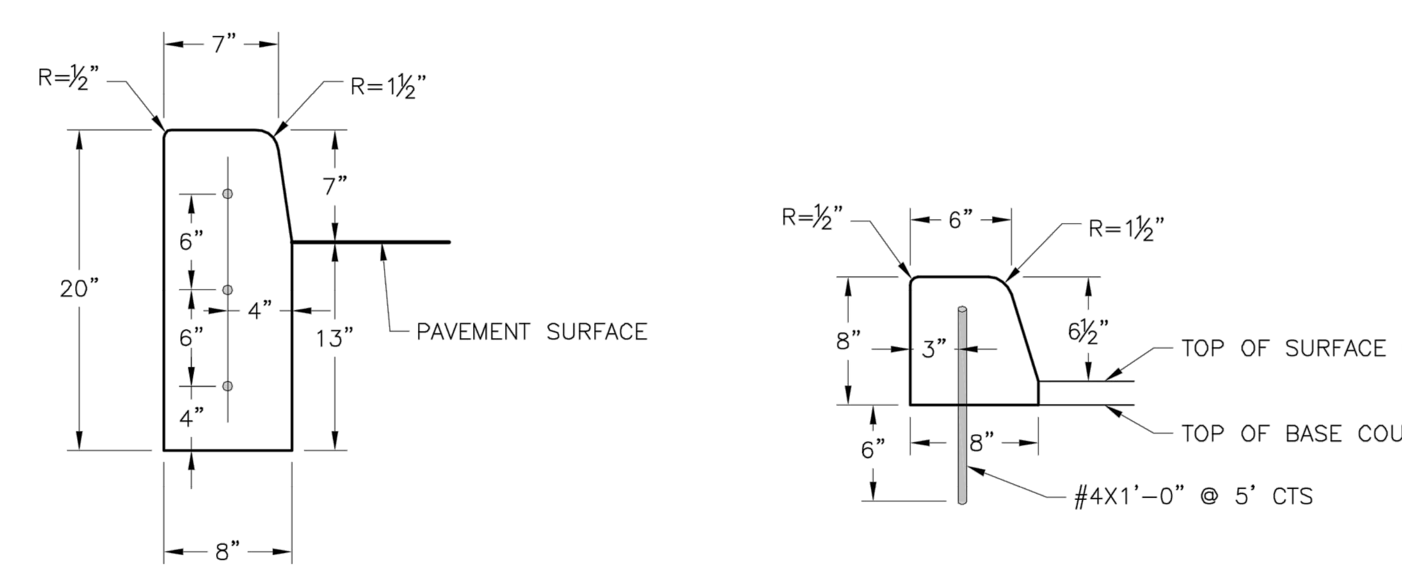
CURB & GUTTER DETAIL AT RAMP
Not to Scale

STANDARD DETAILS
CITY OF LEE'S SUMMIT, MO
LEE'S SUMMIT, JACKSON COUNTY, MO
ADA RAMP RETROFIT DETAIL

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

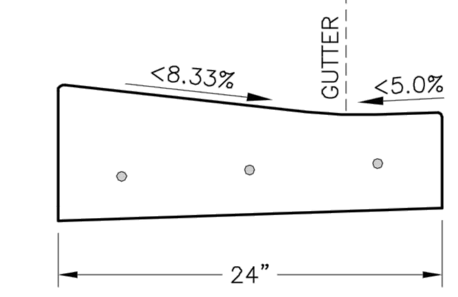
Drawn By: MJF
Checked By: DL
Date: 04/17

GEN-3A

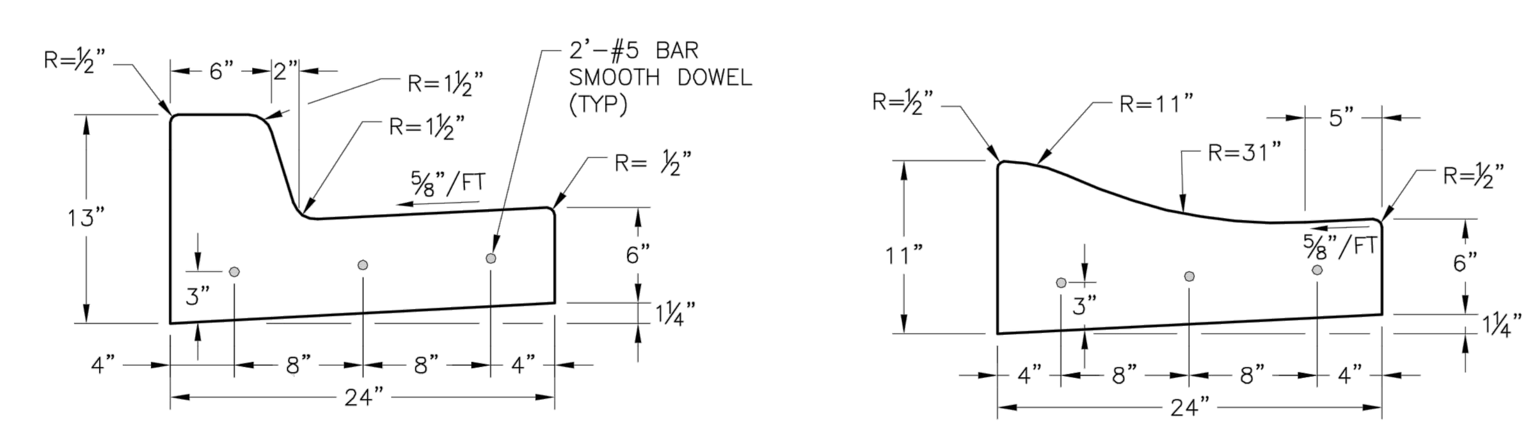


STRAIGHT CURB
(TYPE C–1)

DOWELLED CURB
(TYPE DC)

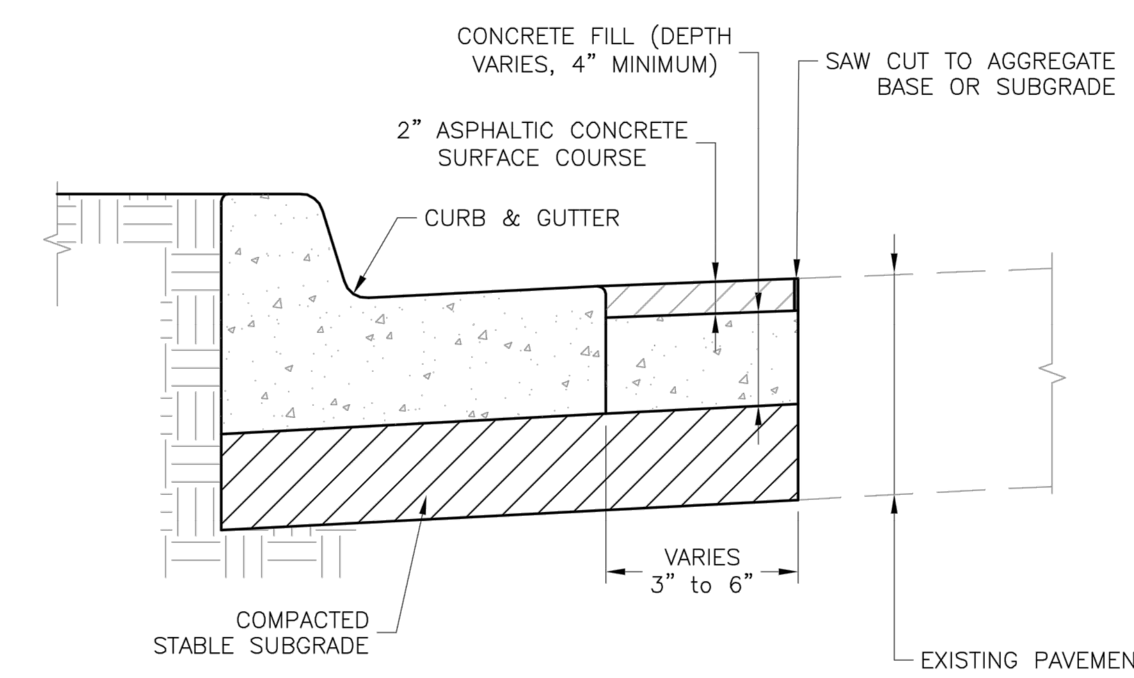


CURB & GUTTER DETAIL AT RAMP
(ADA SLOPE REQUIREMENTS)

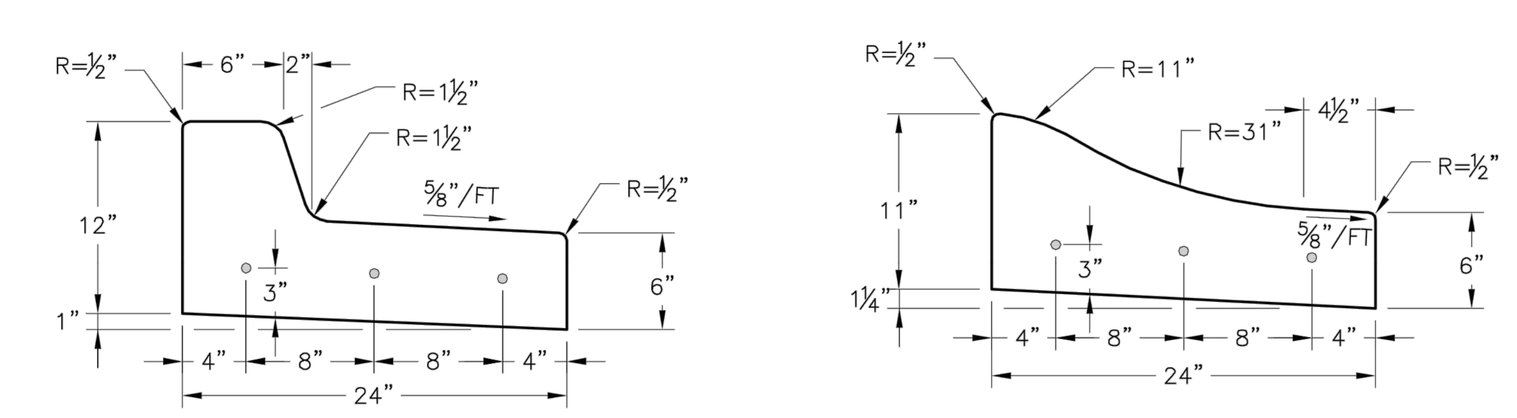


STRAIGHT BACK CURB & GUTTER
(TYPE CG–1)

ROLL BACK CURB & GUTTER
(TYPE CG–2)



CURB REPLACEMENT DETAIL



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

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

GENERAL NOTES

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

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

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

GEN-4

REV	DATE	DESCRIPTION	DSN	DWN	CHK
0	5-16-19	INITIAL ISSUE	LDO	BKR	LDO

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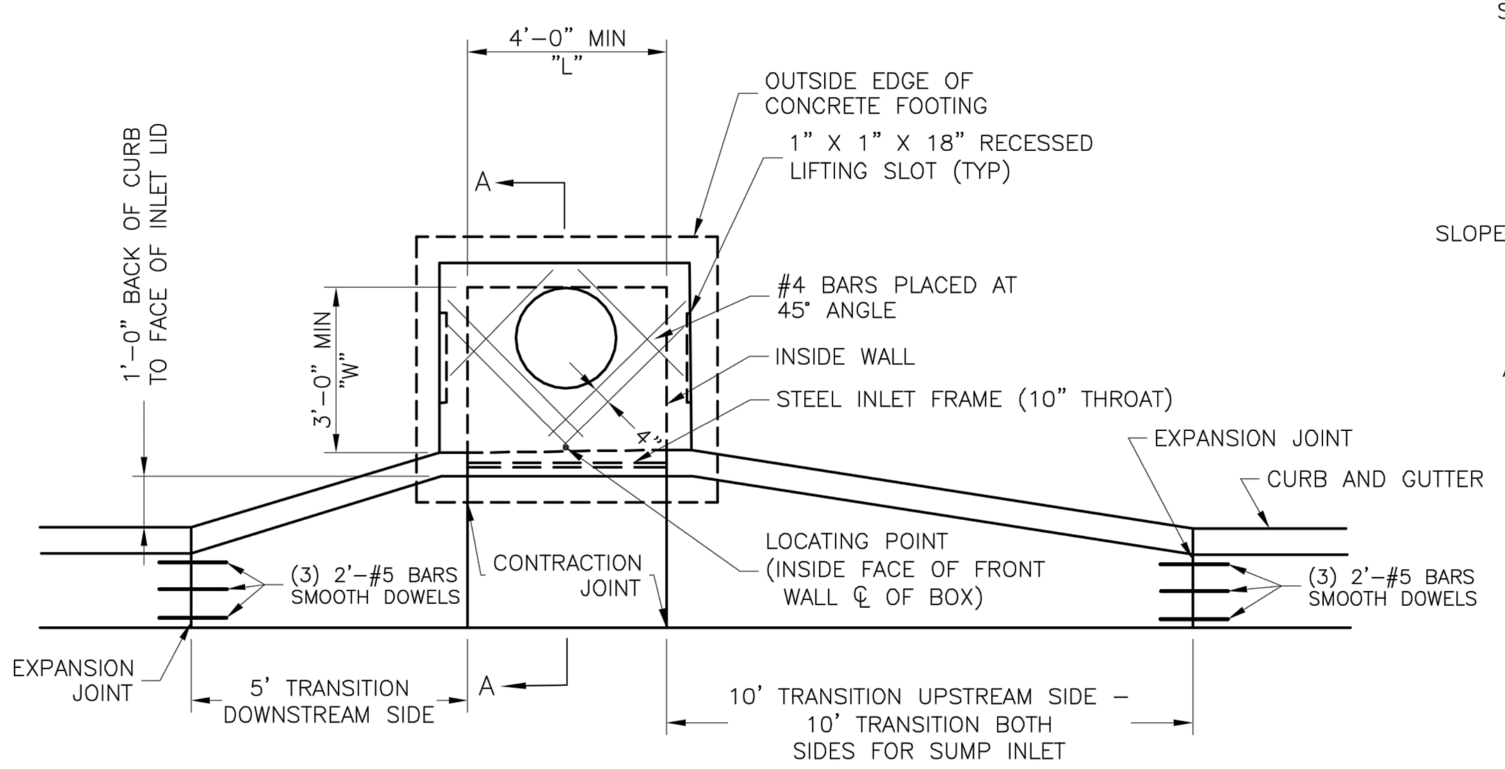
KAW VALLEY ENGINEERING, INC., IS AUTHORIZED TO OFFER ENGINEERING SERVICES BY MISSOURI STATE CERTIFICATE OF AUTHORITY # 000842. EXPIRES 12/31/19

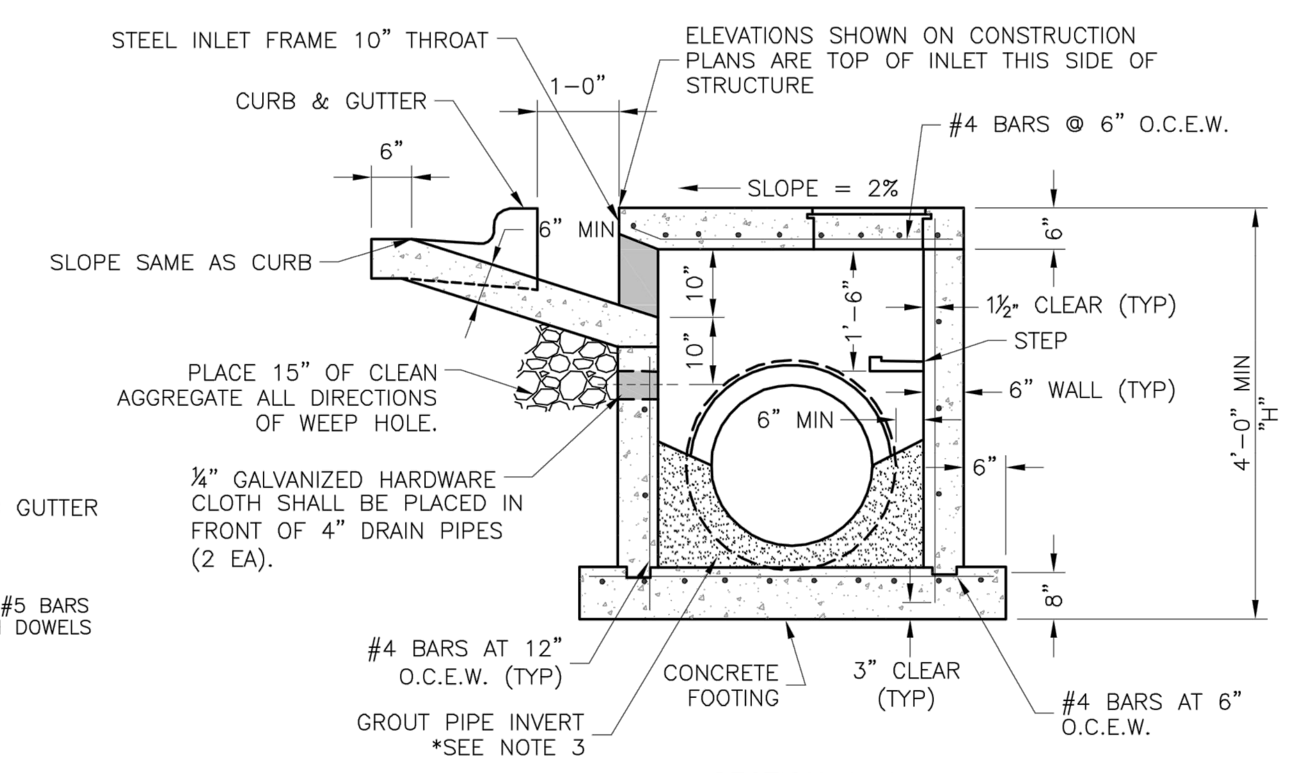
STREETS OF WEST PRYOR
NWQ NW PRYOR RD & NW LOWENSTEIN DR
LEE'S SUMMIT, MISSOURI

PRIVATE ROAD PLANS
STREET DETAIL SHEET

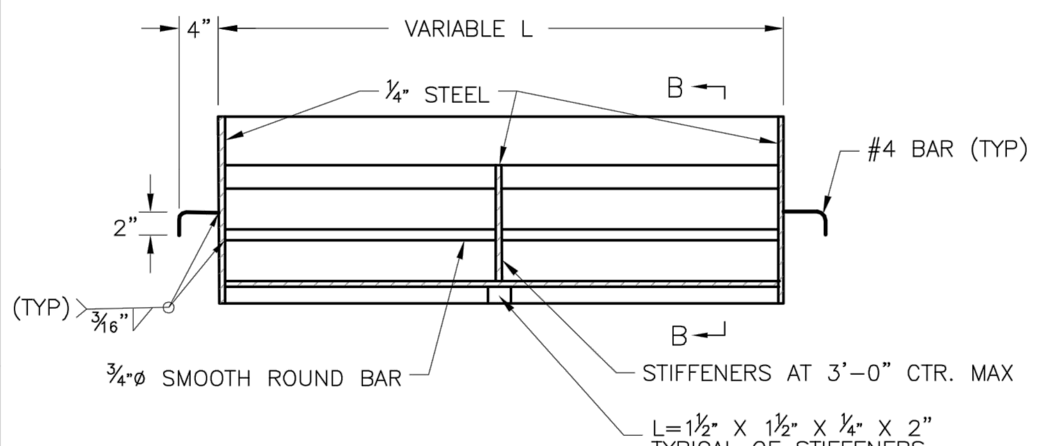
PROJ. NO.	
A14_7067-1	
DESIGNER	DRAWN BY
LDO	JT
CFN	
7067-1IR_DET	
SHEET	REV
C-21	0



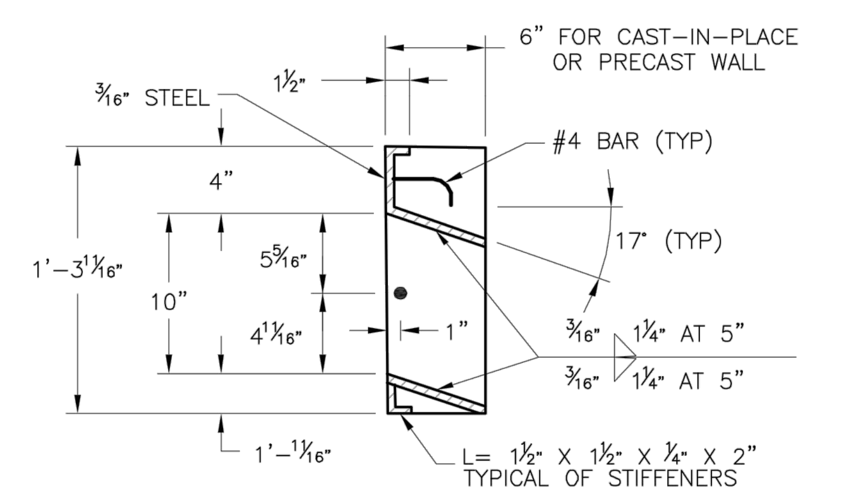
PLAN VIEW



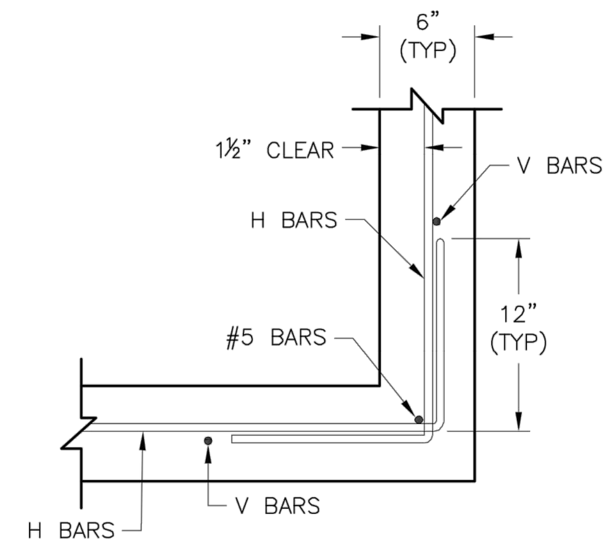
SECTION A–A



FRONT ELEVATION



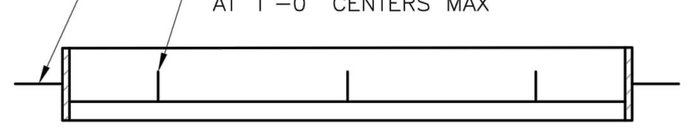
SECTION B–B



WALL CORNER DETAIL

CONCRETE CURB DOWELS (#4 BARS) SHALL BE CENTERED VERTICALLY AND HORIZONTALLY

CONCRETE TOP SLAB (#4 BARS) AT 1'-0" CENTERS MAX



PLAN VIEW

STEEL FRAME NOTES:

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

GENERAL NOTES:

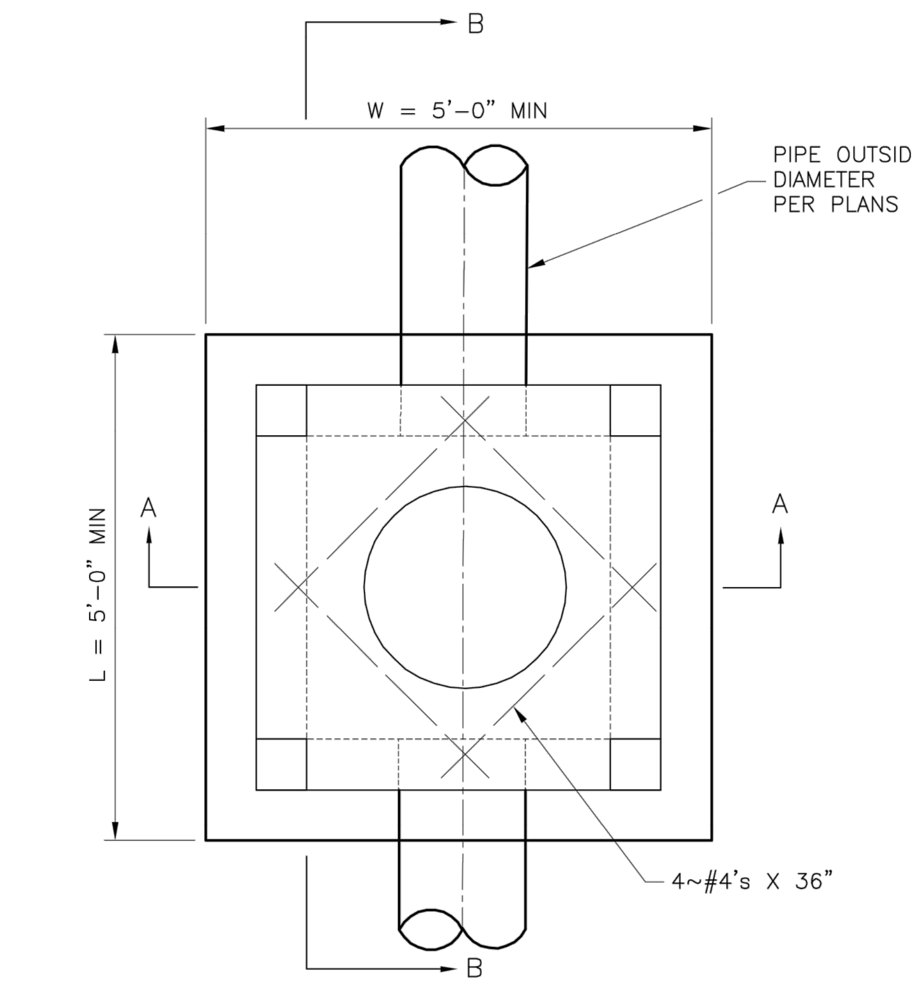
1. THE FIRST DIMENSION LISTED IN THE CONSTRUCTION NOTES IS THE "L" DIMENSION. THE SECOND DIMENSION IS THE "W" DIMENSION.
2. FLOW LINES LISTED ON THE PROJECT PLANS ARE LISTED AT THE INSIDE FACE OF THE WALL.
3. FLOOR OF INLET GROUTED AND SHAPED TO MATCH PIPE INVERT TO PROVIDE SMOOTH FLOW.
4. LOCATE MH RING AND COVER ON BLANK WALL IF POSSIBLE.
5. STEPS SHALL BE SPACED AT 1'-4" O.C. VERTICALLY ON BLANK WALL IF POSSIBLE.
6. BEVEL ALL EXPOSED EDGES WITH ¾"CHAMFER OR ½" TOOLED EDGE.
7. ON-GRADE INLETS SHALL CONFORM TO THE STREET GRADE AND SUMP INLETS SHALL BE LEVEL.
8. PRECAST LIDS SHALL BE PINNED, SEALED WITH NON-SHRINKABLE GROUT AND REMOVABLE FOR FUTURE MAINTENANCE.
9. LIFTING RINGS SHALL BE REMOVED AND SEALED WITH NON-SHRINKABLE GROUT
10. FOR RING AND COVER SEE THE STORMWATER APPROVED PRODUCT LIST.

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

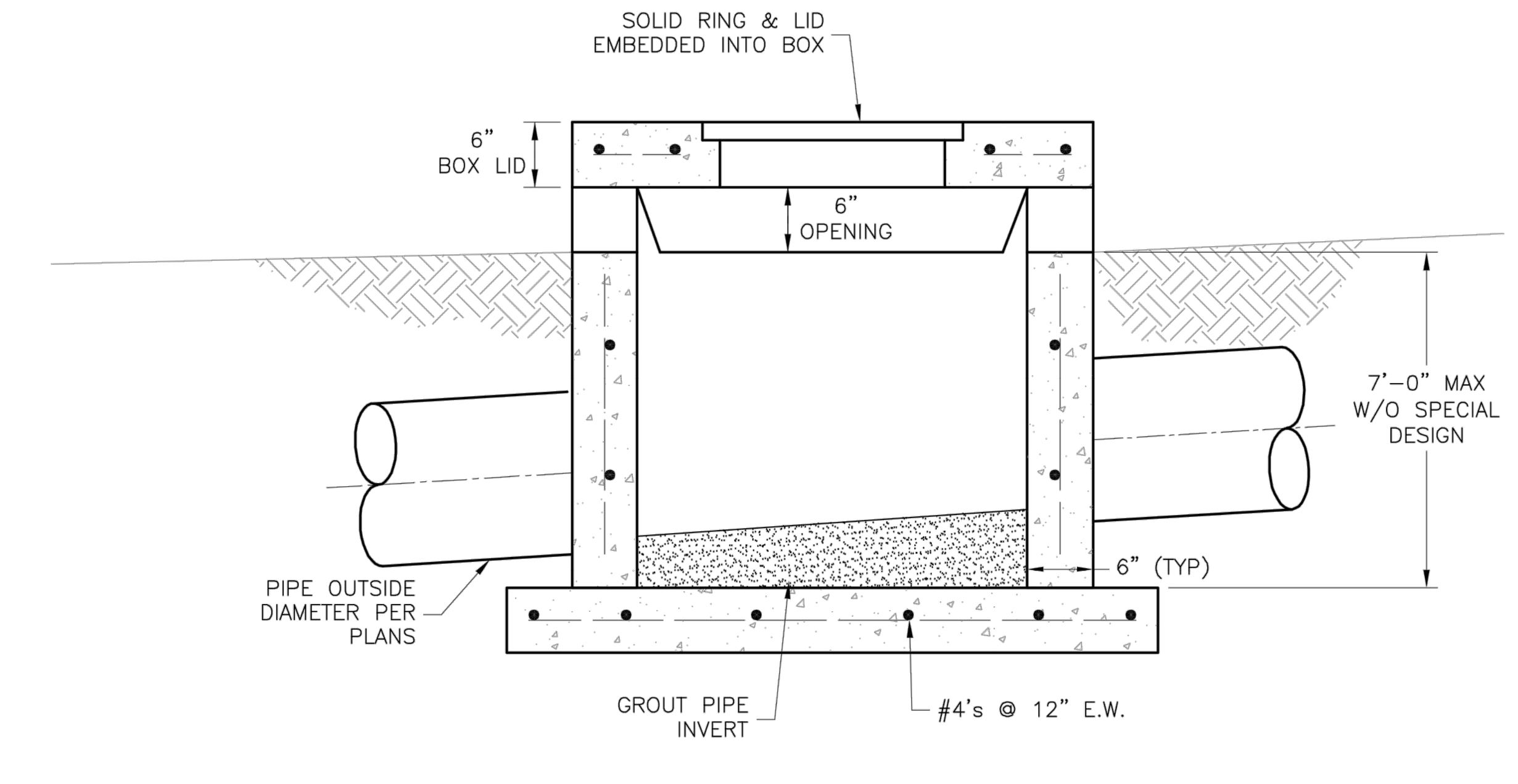
STANDARD DETAILS CITY OF LEE'S SUMMIT, MO — LEE'S SUMMIT, JACKSON COUNTY, MO — CURB INLET DETAIL

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

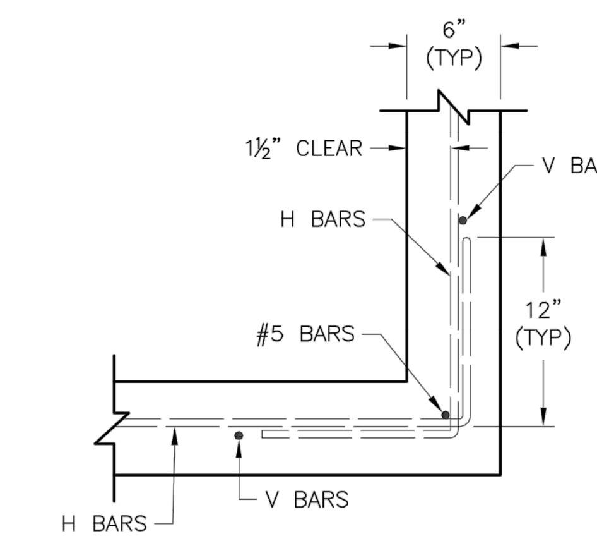
STM-1



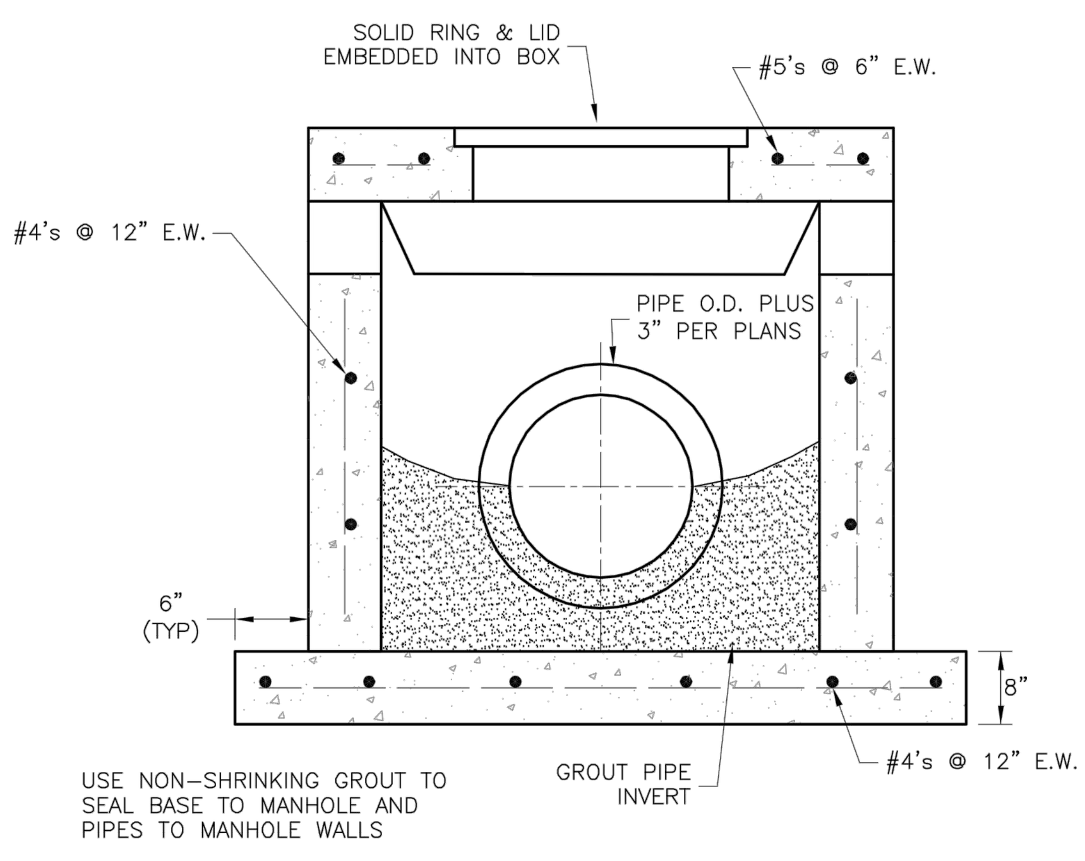
PLAN VIEW



SECTION B–B



WALL CORNER DETAIL



SECTION A–A

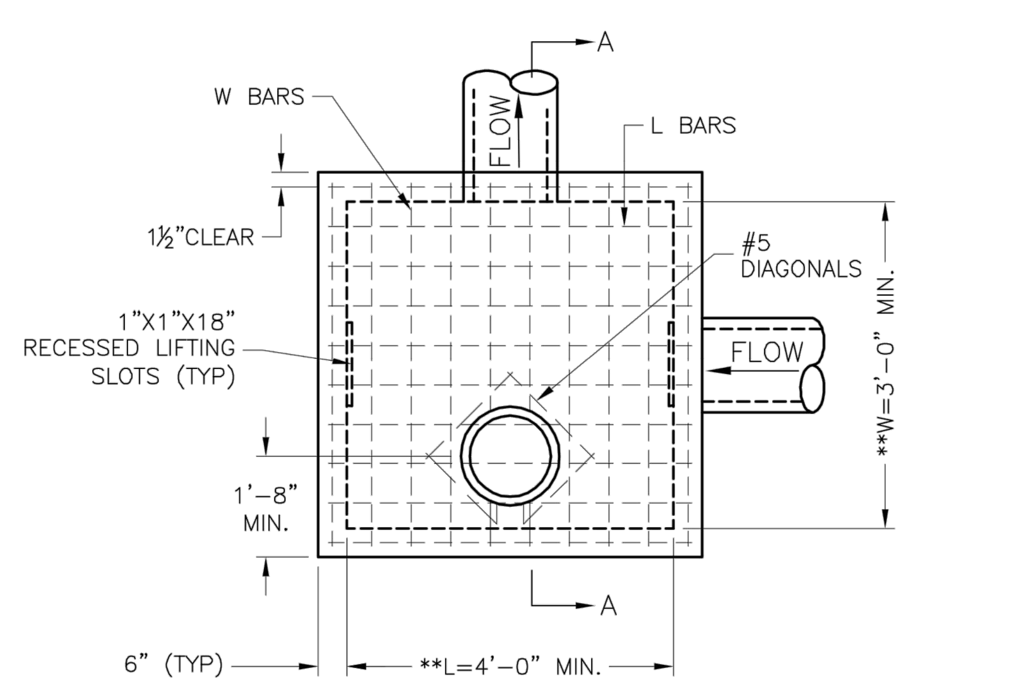
GENERAL NOTES:

1. LOCATE RING AND COVER OVER OUTLET ON BLANK WALL.
2. USE ¾" CHAMFER ON ALL EXPOSED CONCRETE CORNERS.
3. FLOOR OF INLET GROUTED AND SHAPED TO MATCH PIPE INVERT TO PROVIDE SMOOTH FLOW.
4. STEPS REQUIRED AT 16" O.C. WHEN DEPTH FROM TOP OF CASTING TO INVERT EXCEEDS 3' ON BLANK WALL IF POSSIBLE.
5. BOXOUTS WILL NOT BE ALLOWED TO PROJECT THROUGH THE CORNERS OF THE STRUCTURE.
6. THE MINIMUM REINFORCING SHALL BE 1 H-BAR OVER A CAST-IN-PLACE PIPE AND 2 H-BARS OVER A PRECAST BOXOUT.
7. SHOW FIELD INLET ORIENTATION ON PLANS PLUS NUMBER AND SIDE OF OPENINGS.
8. PRECAST LIDS SHALL BE PINNED, SEALED WITH NON-SHRINKABLE GROUT AND REMOVABLE FOR FUTURE MAINTENANCE.
9. FOR RING AND COVER SEE THE STORMWATER APPROVED PRODUCT LIST.

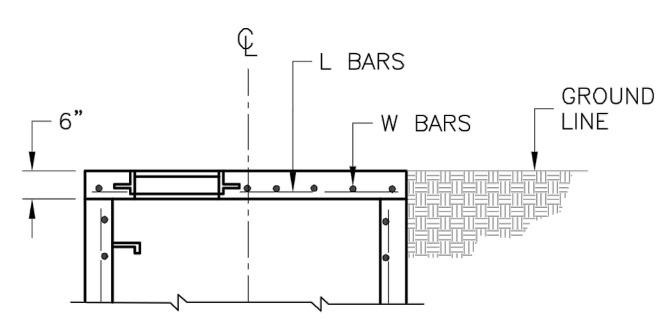
LEE'S SUMMIT MISSOURI — PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063

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

STM-2



PLAN

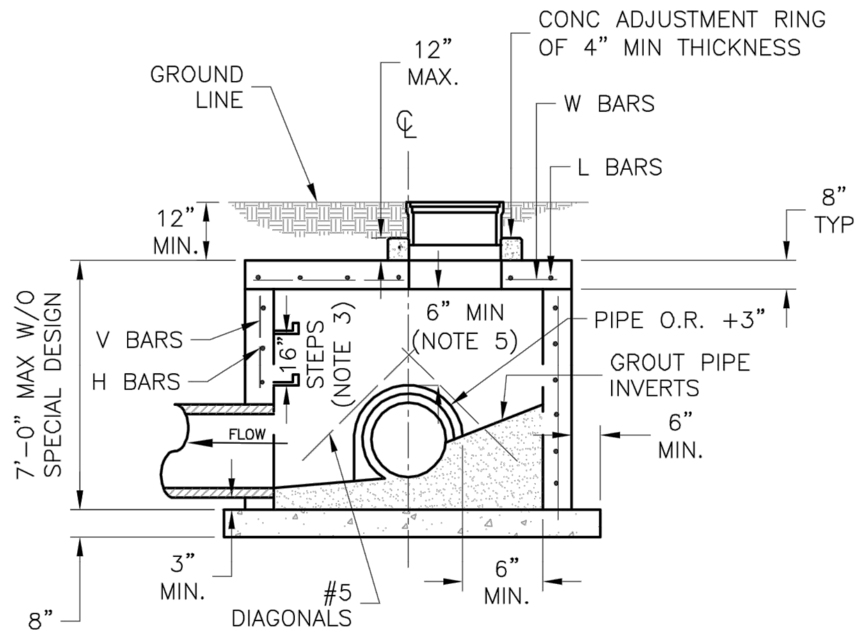


SLAB TOP ALTERNATE FOR JUNCTION BOX (SHALLOW)

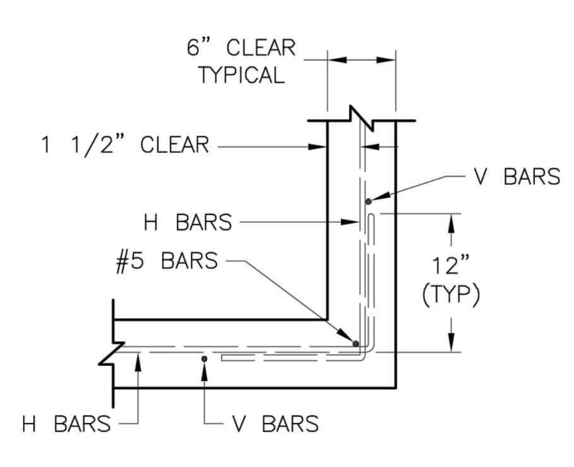
** INCREASE IN MULTIPLES OF 6" (7'-0") MAX WITHOUT SPECIAL DESIGN. (SEE PROJECT PLANS FOR DETAILS)

REINFORCING

BARS	BAR SIZE	SPACING (IN.)
H	4	12
V	4	12
L	5	6
W	5	6



SECTION A–A



WALL CORNER DETAIL

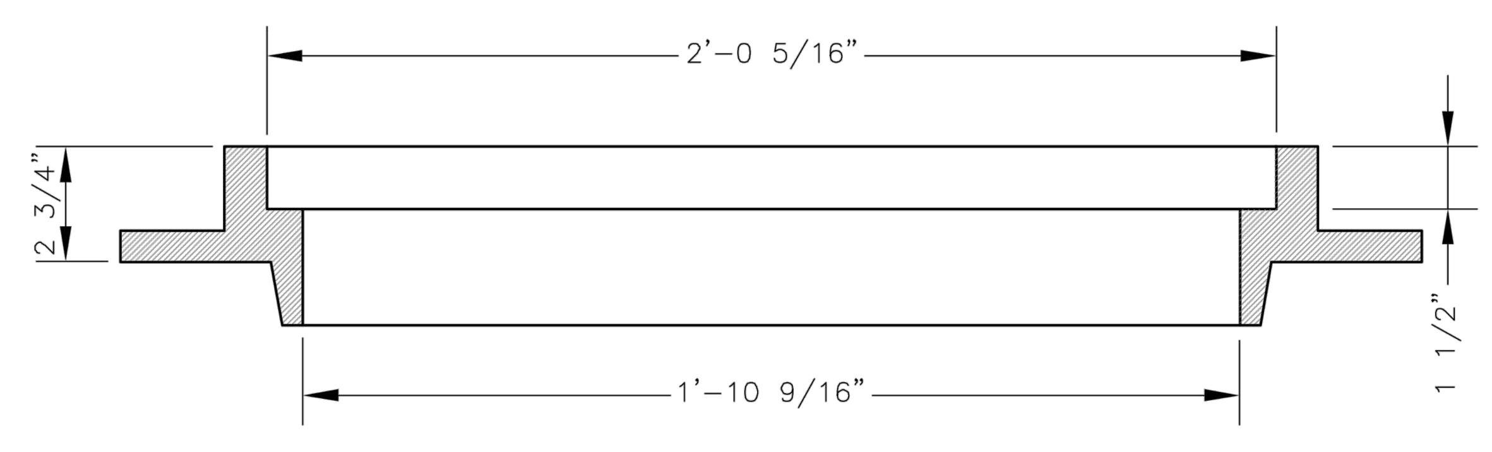
GENERAL NOTES:

1. LOCATE RING AND COVER ON BLANK WALL.
2. USE ¾" CHAMFER STRIP OR ½" R EDGER TOOL ON ALL EXPOSED CONCRETE CORNERS.
3. STEPS REQUIRED AT 16" O.C. WHEN DEPTH FROM TOP OF CASTING TO INVERT EXCEEDS 4' ON BLANK WALL IF POSSIBLE.
4. BOXOUTS WILL NOT BE ALLOWED TO PROJECT THROUGH THE CORNERS OF THE STRUCTURE AND THE MINIMUM DISTANCE BETWEEN BOXOUTS IS 6".
5. THE MINIMUM REINFORCING SHALL BE 1 H-BAR OVER A CAST-IN-PLACE PIPE AND 2 H-BARS OVER A PRECAST BOXOUT.
8. PRECAST LIDS SHALL BE PINNED, SEALED WITH NON-SHRINKABLE GROUT AND REMOVABLE FOR FUTURE MAINTENANCE.
9. REINFORCING OF COVERS IN STREETS REQUIRE SPECIAL DESIGN.
10. FOR RING AND COVER SEE THE STORMWATER APPROVED PRODUCT LIST.

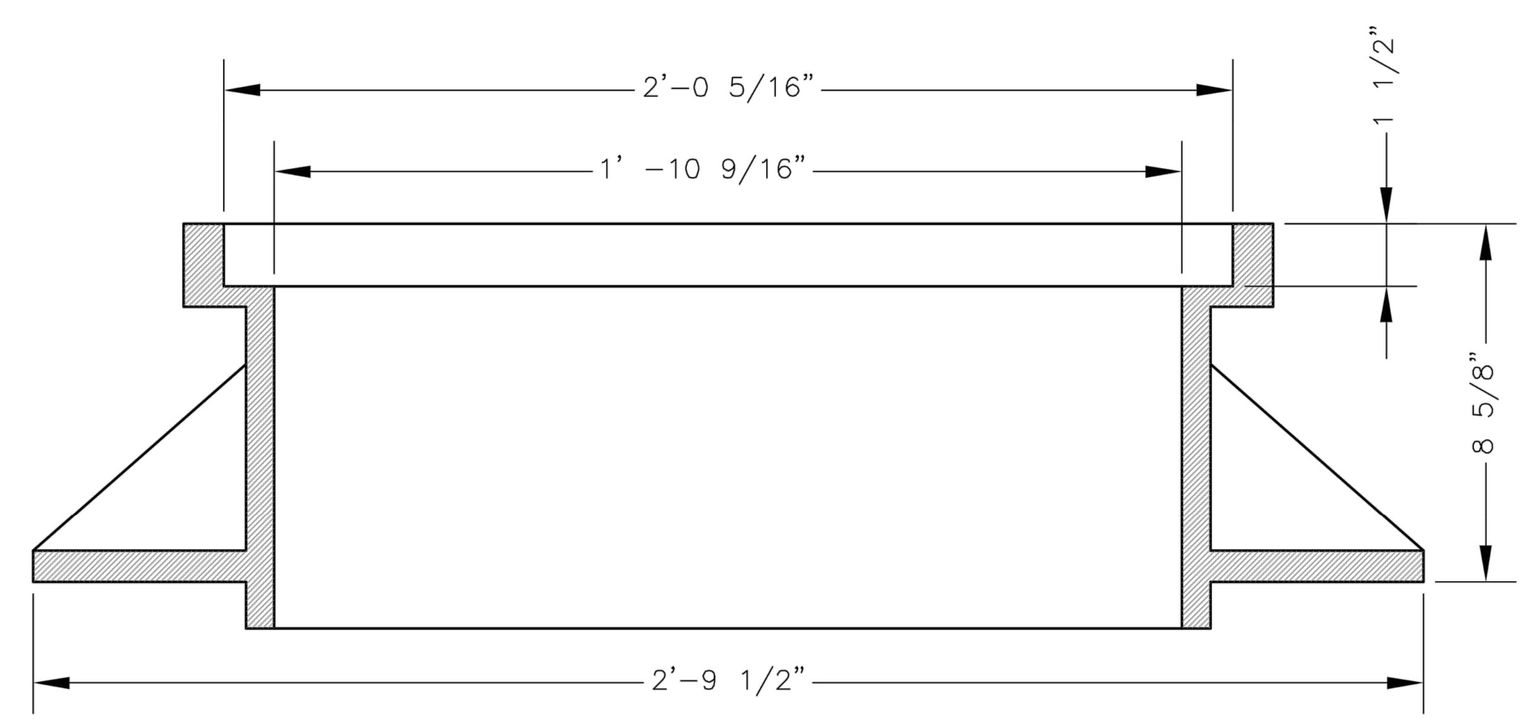
LEE'S SUMMIT MISSOURI — PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063

STANDARD DETAILS CITY OF LEE'S SUMMIT, MO — LEE'S SUMMIT, JACKSON COUNTY, MO — JUNCTION BOX DETAIL

STM-3



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



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

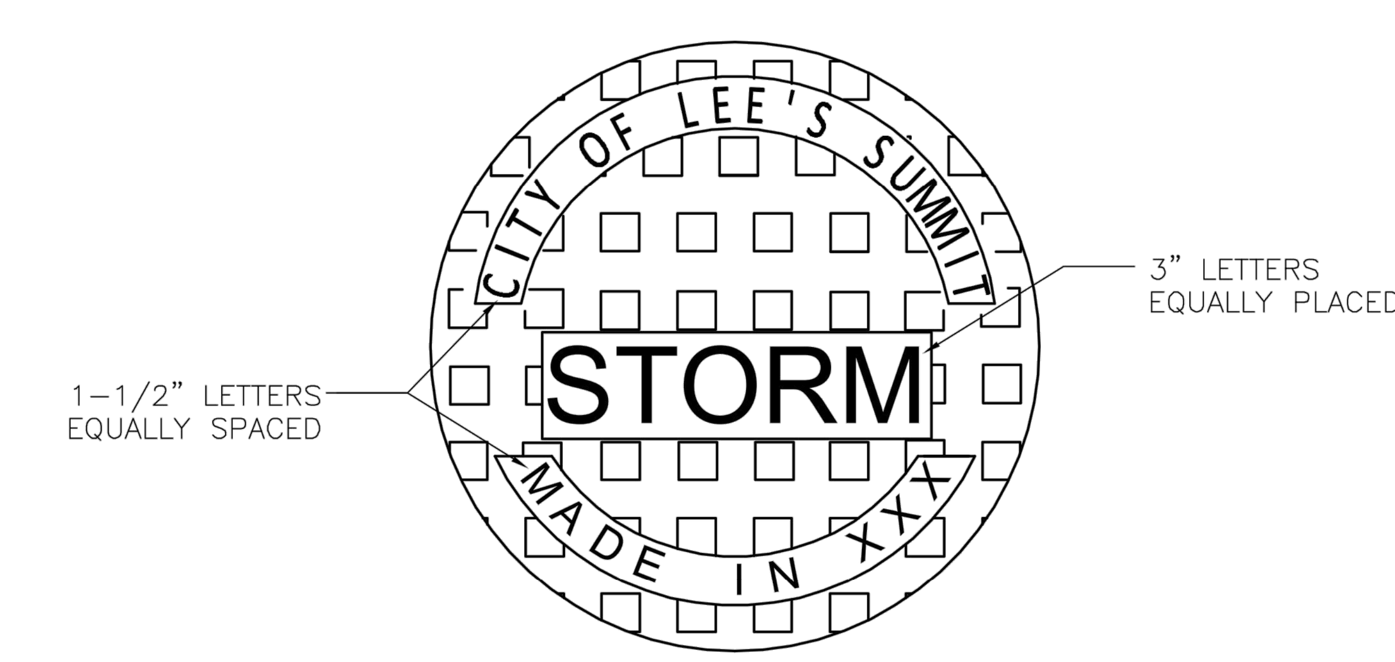
*COVER AND FRAME MODEL INFORMATION REFER TO THE STORMWATER APPROVED PRODUCTS LIST.

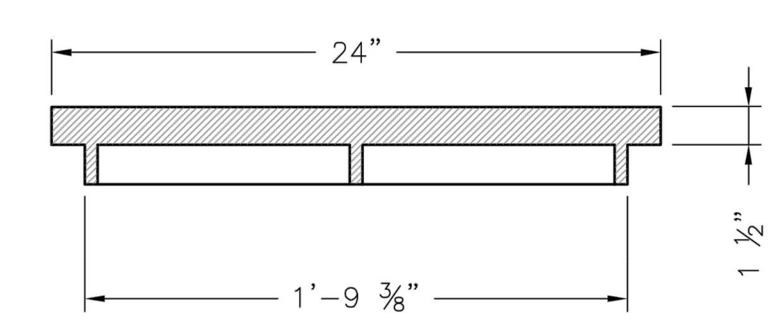
LEE'S SUMMIT MISSOURI — PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063

STORM MANHOLE FRAME DETAIL

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

STM-7





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

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

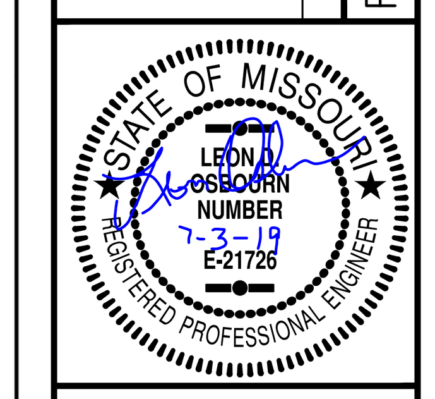
LEE'S SUMMIT MISSOURI — PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063

STORM MANHOLE COVER DETAIL

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

STM-6

REV	DATE	DESCRIPTION	DSN	DWN	CHK
0	5-16-19	INITIAL ISSUE	LDO	BKR	LDO



LEON D. OSBOURN
ENGINEER
MO # 021726

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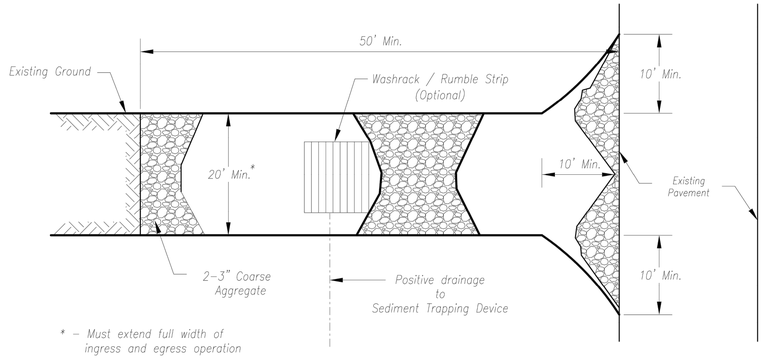
STREETS OF WEST PRYOR
NWQ NW PRYOR RD & NW LOWENSTEIN DR
LEE'S SUMMIT, MISSOURI

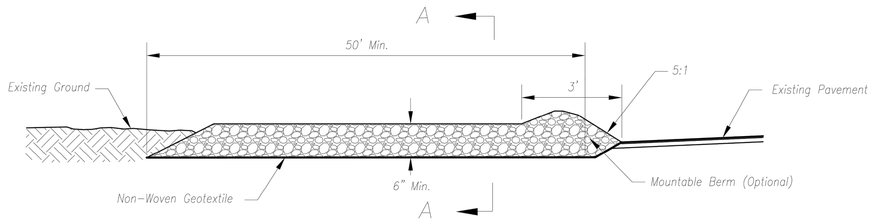
PRIVATE ROAD PLANS
STORM SEWER DETAIL SHEET

PROJ. NO. A14_7067-1
DESIGNER LDO — DRAWN BY JT
CFN 7067-1IR_DET
SHEET C-22 — REV 0



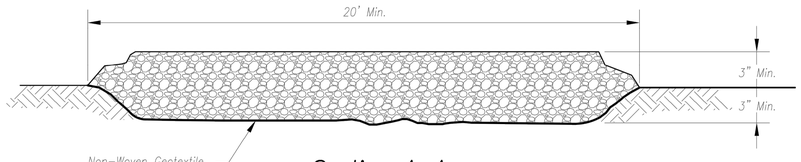
Plan View

Not to Scale



Side Elevation

Not to Scale



Section A–A

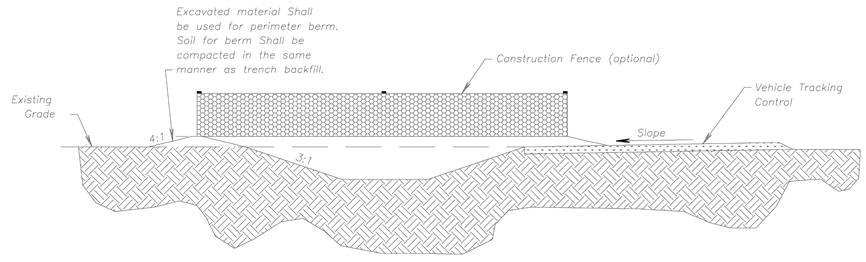
Not to Scale

Notes for Concrete Washout:

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

Maintenance for Concrete Washout:

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



CONCRETE WASHOUT

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

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 APWA AMERICAN PUBLIC WORKS ASSOCIATION

KANSAS CITY METRO CHAPTER

CONSTRUCTION ENTRANCE AND CONCRETE WASHOUT

STANDARD DRAWING NUMBER ESC-01

ADOPTED: 10/24/2016

REV	DATE	DESCRIPTION	DSN	DWN	CHK
0	5-16-19	INITIAL ISSUE	LDO	BKR	LDO

STATE OF MISSOURI
LEON D. OSBOURN
NUMBER E-21726
5-3-19
REGISTERED PROFESSIONAL ENGINEER

LEON D. OSBOURN
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MO # 021726

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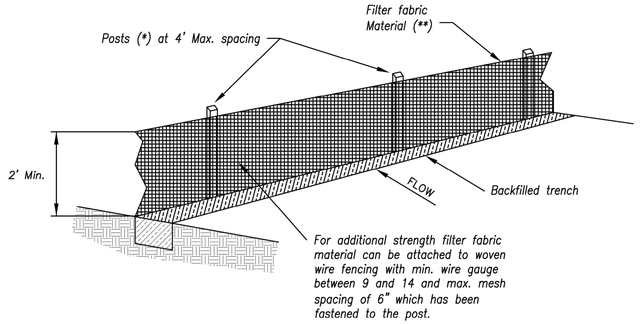
KAW VALLEY ENGINEERING

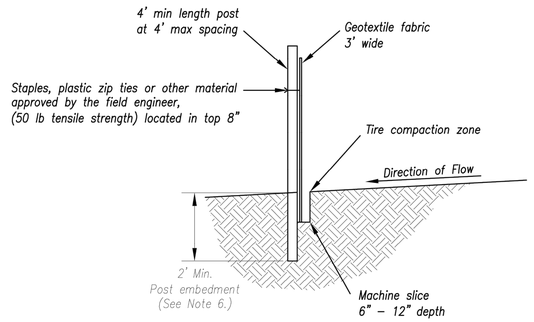
KAW VALLEY ENGINEERING, INC., IS AUTHORIZED TO OFFER ENGINEERING SERVICES BY MISSOURI STATE CERTIFICATE OF AUTHORITY # 000842. EXPIRES 12/31/19

STREETS OF WEST PRYOR
NWQ NW PRYOR RD & NW LOWENSTEIN DR
LEE'S SUMMIT, MISSOURI

PRIVATE ROAD PLANS
EROSION CONTROL DETAIL SHEET

PROJ. NO. A14_7067-1
DESIGNER LDO
DRAWN BY JT
CFN 7067-11R_DET
SHEET C-23
REV 0





(*) POSTS

- MIN. LENGTH 4'
- HARDWOOD 1 3/16" x 1 3/16"
- NO.2 SOUTHERN PINE 2 5/8" x 2 5/8"
- 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 ⅓ the height of silt fence.
2. Repair as necessary to maintain function and structure.

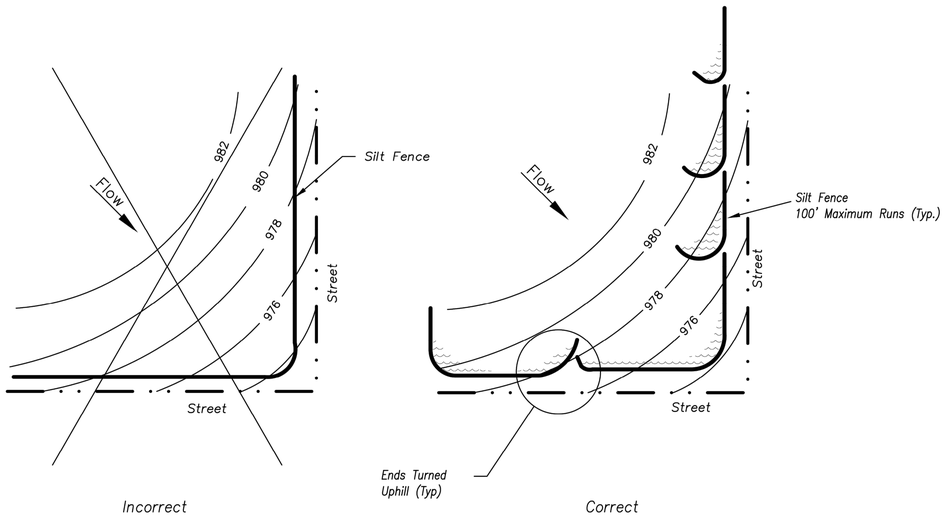
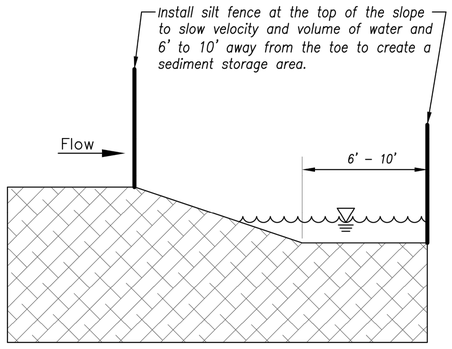
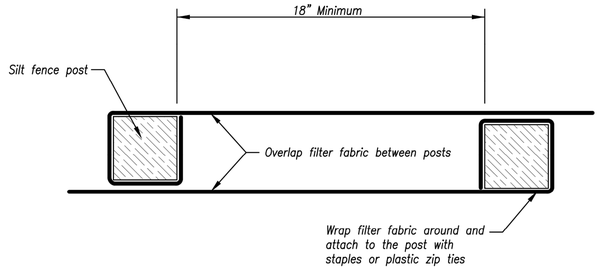


Figure A

SILT FENCE LAYOUT

Not to Scale





JOINING FENCE SECTIONS

Not to Scale

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

REV	DATE	DESCRIPTION	DSN	DWN	CHK
0	5-16-19	INITIAL ISSUE	LDO	BKR	LDO

STATE OF MISSOURI
LEON D. OSBOURN
NUMBER E-21726
7-2-19
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STREETS OF WEST PRYOR
NWQ NW PRYOR RD & NW LOWENSTEIN DR
LEE'S SUMMIT, MISSOURI

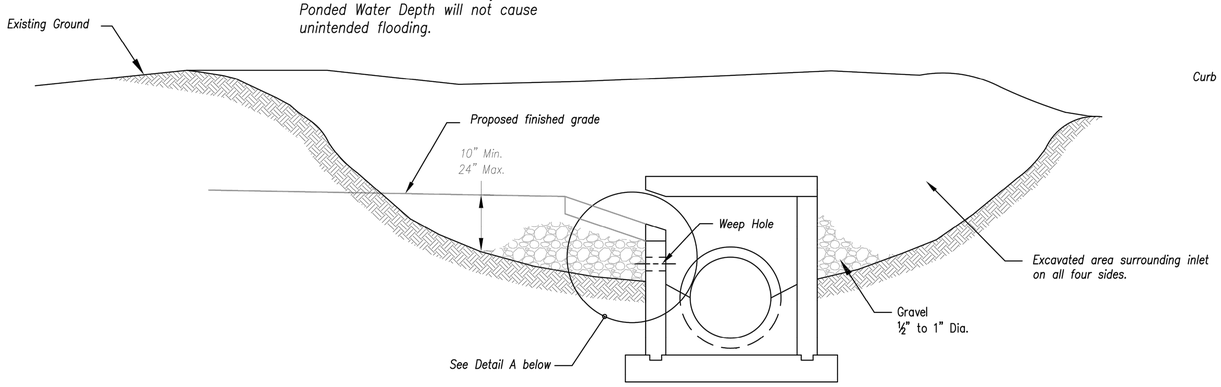
PRIVATE ROAD PLANS
EROSION CONTROL DETAIL SHEET

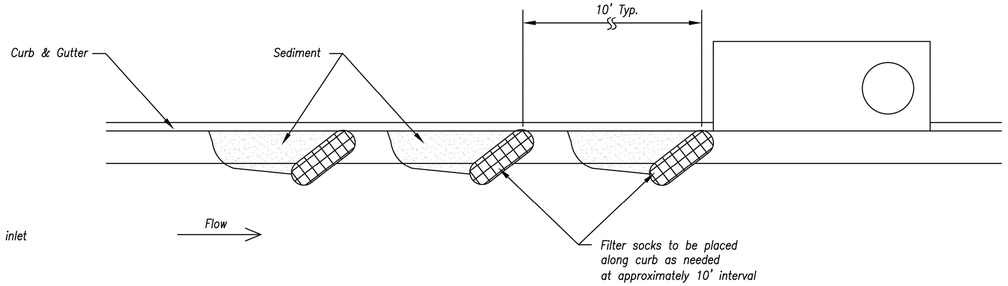
AMERICAN PUBLIC WORKS ASSOCIATION
Kansas City Metro Chapter
KANSAS CITY METRO CHAPTER

SILT FENCE

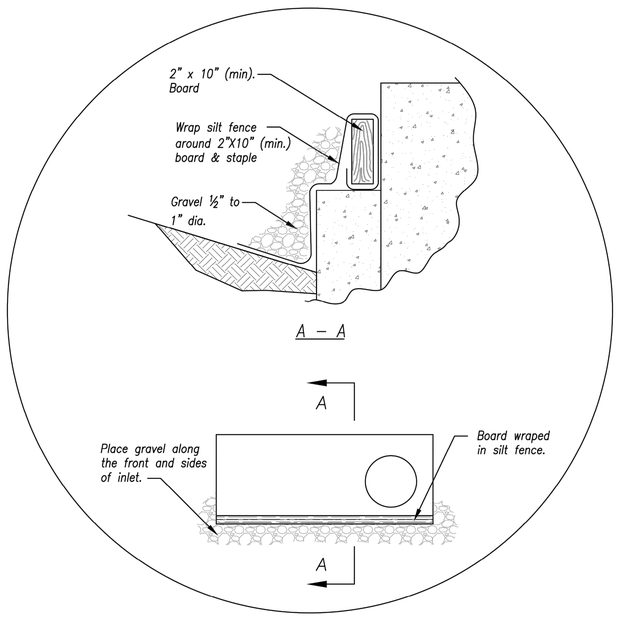
STANDARD DRAWING NUMBER ESC-03
ADOPTED: 10/24/2016

PROJ. NO. A14_7067-1
DESIGNER LDO | DRAWN BY JT
CFN 7067-1IR_DET
SHEET C-24 | REV 0





On Grade Curb Inlet Protection



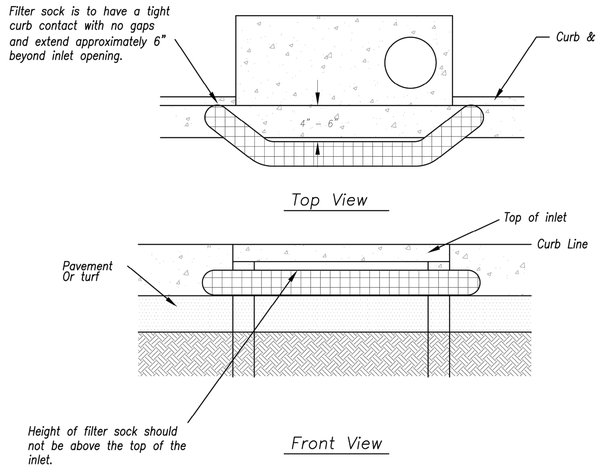
EARLY STAGE CURB INLET
(Open Box and Prior to Pouring Curb and Inlet Throat)

Notes:

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

Maintenance:

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



Sump Inlet Sediment Filter

LATE STAGE CURB INLET
(After Pouring Curb and Inlet Throat)

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

AMERICAN PUBLIC WORKS ASSOCIATION
Kansas City Metro Chapter APWA AMERICAN PUBLIC WORKS ASSOCIATION
KANSAS CITY METRO CHAPTER

CURB INLET PROTECTION

STANDARD DRAWING NUMBER ESC-06
ADOPTED: 10/24/2016

REV	DATE	DESCRIPTION	DSN	DWN	CHK
0	5-16-19	INITIAL ISSUE	LDO	BKR	LDO

STATE OF MISSOURI
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NUMBER E-21726
7-2-19
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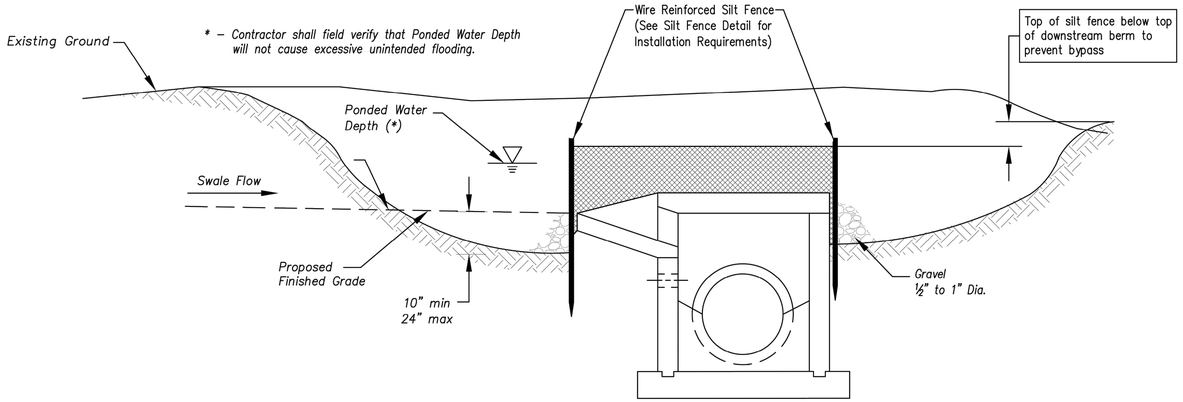
STREETS OF WEST PRYOR
NWQ NW PRYOR RD & NW LOWENSTEIN DR
LEE'S SUMMIT, MISSOURI

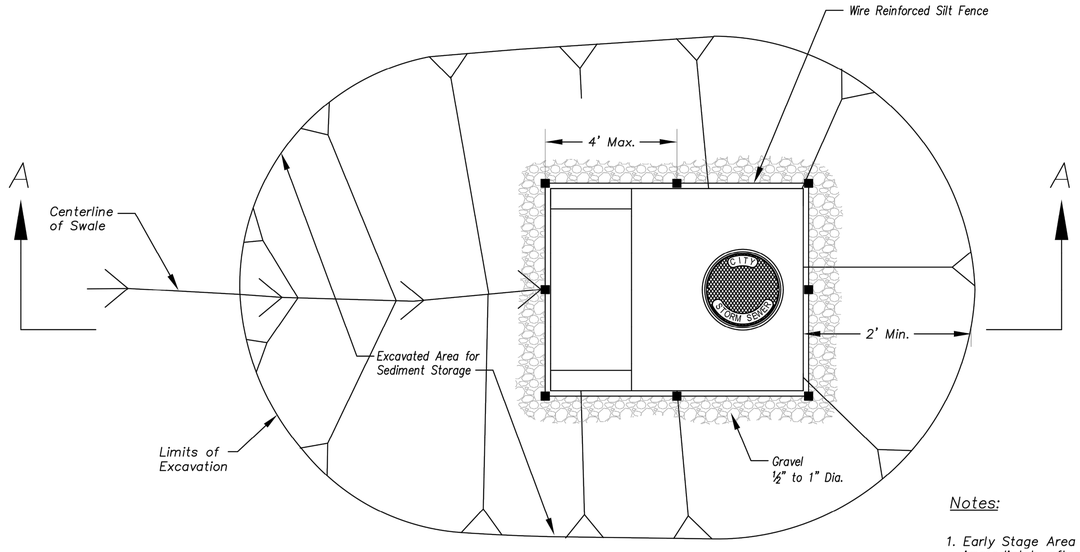
PRIVATE ROAD PLANS
EROSION CONTROL DETAIL SHEET

PROJ. NO. A14_7067-1
DESIGNER LDO | DRAWN BY JT
CFN 7067-1IR_DET
SHEET C-25 | REV 0



Section A–A

Not to Scale

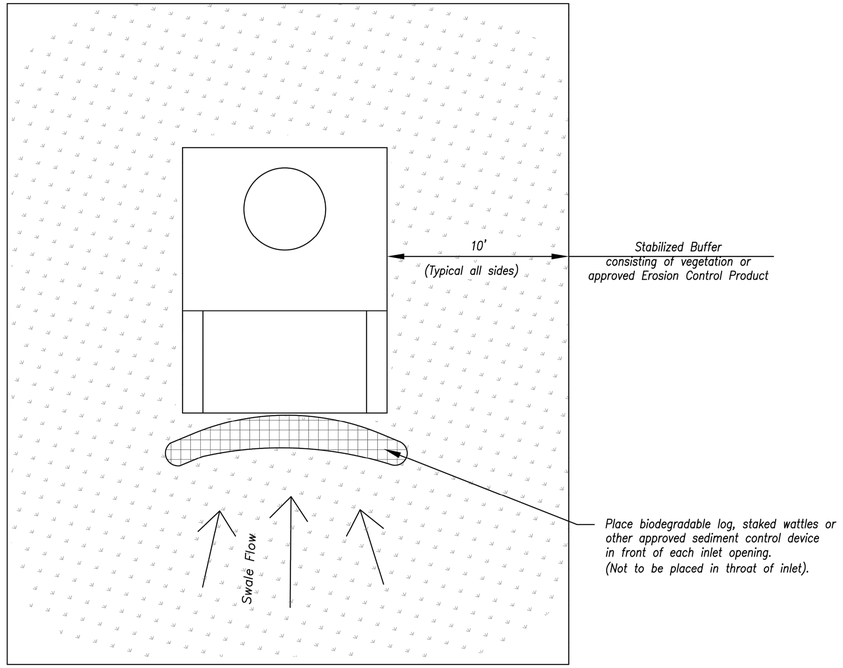


Plan

Not to Scale

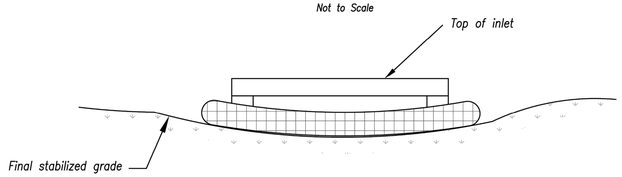
EARLY STAGE AREA INLET

(All open boxes and inlets not at final grade)



Plan

Not to Scale



Front View

LATE STAGE AREA INLET

(Area inlets at final grade and existing inlets)

Notes:

1. Early Stage Area Inlet Sediment Barrier to be installed immediately after inlet or junction box is constructed.
2. Silt fence shall remain in place until excavated area is removed and Late Stage Area Inlet is being installed.
3. Backfill excavated area ONLY after final grading of the site. Stabilization of the site is to immediately follow.
4. Wire reinforced silt fence may be used in place of silt fence attached to wood frame.

Maintenance:

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

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

AMERICAN PUBLIC WORKS ASSOCIATION

Kansas City Metro Chapter APWA AMERICAN PUBLIC WORKS ASSOCIATION

KANSAS CITY METRO CHAPTER

AREA INLET AND JUNCTION BOX PROTECTION

STANDARD DRAWING NUMBER ESC-07

ADOPTED: 10/24/2016

REV	DATE	DESCRIPTION	DSN	DWN	CHK
0	5-16-19	INTIAL ISSUE	LDO	BKR	LDO

STATE OF MISSOURI
LEON D. OSBOURN NUMBER E-21726 7-2-19
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LEON D. OSBOURN
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KAW VALLEY ENGINEERING, INC., IS AUTHORIZED TO OFFER ENGINEERING SERVICES BY MISSOURI STATE CERTIFICATE OF AUTHORITY # 000842. EXPIRES 12/31/19

STREETS OF WEST PRYOR
NWQ NW PRYOR RD & NW LOWENSTEIN DR
LEE'S SUMMIT, MISSOURI

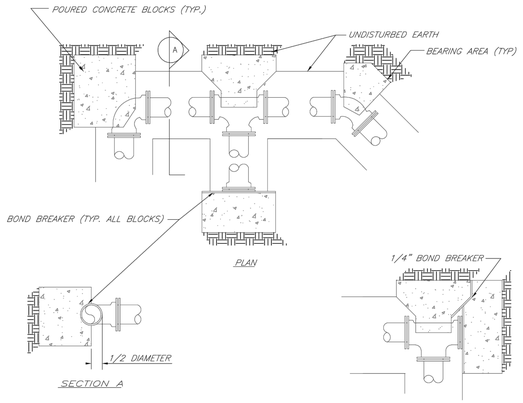
PRIVATE ROAD PLANS
EROSION CONTROL DETAIL SHEET

PROJ. NO. A14_7067-1
DESIGNER LDO | DRAWN BY JT
CFN 7067-1IR_DET
SHEET C-26 | REV 0

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.

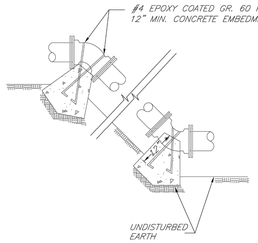


LEE'S SUMMIT MISSOURI — PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063	Date: 02/13
HORIZONTAL THRUST BLOCKS	Drawn By: JN
	Checked By: DL
	FILE: WAT–1
	Rev: 1/14
	Rev:

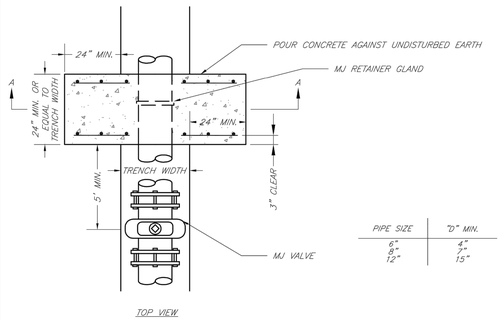
REQUIRED CONCRETE VOLUME (CUBIC FEET – CF)

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.



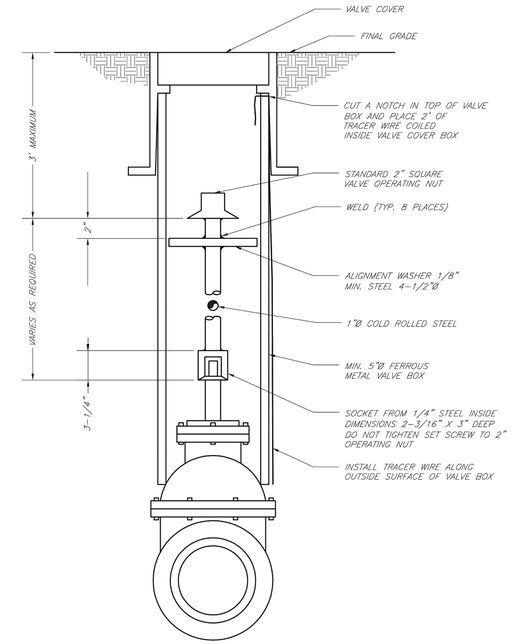
LEE'S SUMMIT MISSOURI — PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063	Date: 02/13
VERTICAL THRUST BLOCKS	Drawn By: JN
	Checked By: DL
	FILE: WAT–2
	Rev: 1/14
	Rev:



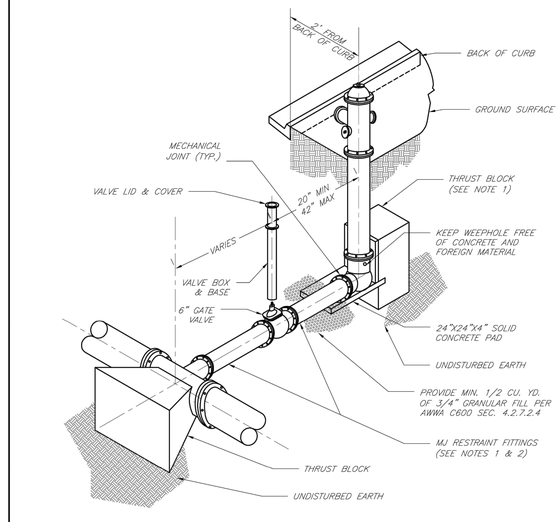
PIPE SIZE	"D" MIN.
6"	4"
8"	7"
12"	15"

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



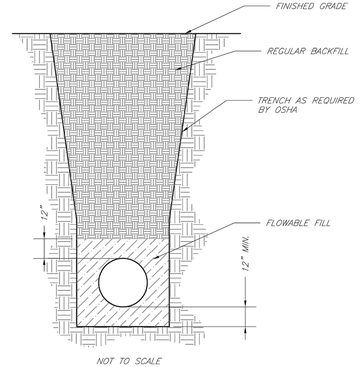
LEE'S SUMMIT MISSOURI — PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063	Date: 02/13
VALVE STEM EXTENSION AND VALVE BOX	Drawn By: JN
	Checked By: DL
	FILE: WAT–9
	Rev: 1/14
	Rev:



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	Date: 02/13
HYDRANT INSTALLATION – STRAIGHT SET	Drawn By: JN
	Checked By: DL
	FILE: WAT–7
	Rev: 1/14
	Rev:

1



NOT TO SCALE

NOTES:
1. FLOWABLE FILL SHALL MEET THE REQUIREMENTS OF THE CITY OF LEE'S SUMMIT DESIGN AND CONSTRUCTION MANUAL.
2. REGULAR BACKFILL ABOVE THE TRENCH CHECK SHALL BE FREE OF DEBRIS, ORGANIC MATTER, AND STONES > 6" IN ANY DIMENSION.
3. TOP OF FLOWABLE BACKFILL SHALL EXTEND 12" ABOVE THE TOP OF THE PIPE.
4. LENGTH OF TRENCH CHECK SHALL BE A MINIMUM OF 12".

LEE'S SUMMIT MISSOURI — PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063	Date: 02/13
TRENCH CHECK	Drawn By: JN
	Checked By: DL
	FILE: WAT–6
	Rev: 1/14
	Rev:

REV	DATE	DESCRIPTION	DSN	DWN	CHK
			LDO	JT	LDO
				BKR	LDO
1	7-25-19	REVISED PER CITY COMMENTS			
0	5-16-19	INITIAL ISSUE			

STATE OF MISSOURI — LEON D. OSBOURN — NUMBER E-21726 — 7-25-19 — REGISTERED PROFESSIONAL ENGINEER

LEON D. OSBOURN
ENGINEER
MO # 021726

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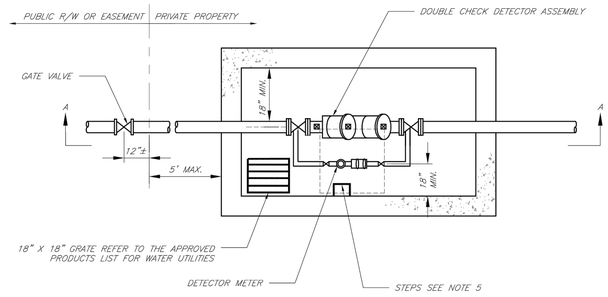
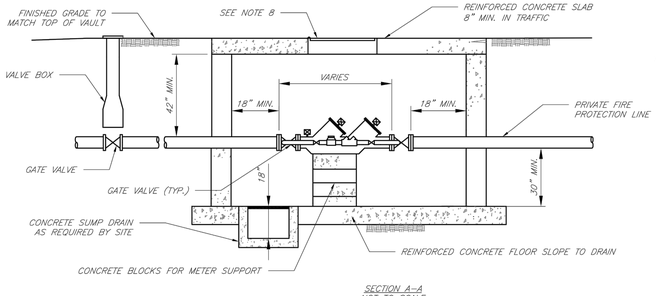
STREETS OF WEST PRYOR
NWQ NW PRYOR RD & NW LOWENSTEIN DR
LEE'S SUMMIT, MISSOURI

PRIVATE ROAD PLANS
WATER DETAILS

PROJ. NO.	
A14_7067–1	
DESIGNER	DRAWN BY
LDO	JT
CFN	
7067–1IR_DET	
SHEET	REV
C–27	1



PLAN VIEW
NOT TO SCALE



SECTION A-A
NOT TO SCALE

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
220 SE GREEN STREET
LEE'S SUMMIT, MO 64063

Project: STANDARD DRAWINGS
Detail Name: VAULT FOR DOUBLE CHECK DETECTOR CHECK

REV.	DATE	DESCRIPTION	DSN	DWN	CHK
0	5-16-19	INITIAL ISSUE	LDO	BKR	LDO

STATE OF MISSOURI
LEON D OSBOURN
NUMBER E-21726
7-2-19
REGISTERED PROFESSIONAL ENGINEER

Drawn By: AS
Checked By: JS
Date: 1/14
Rev: 1/14
or
WAT-12

LEON D. OSBOURN
ENGINEER
MO # 021726

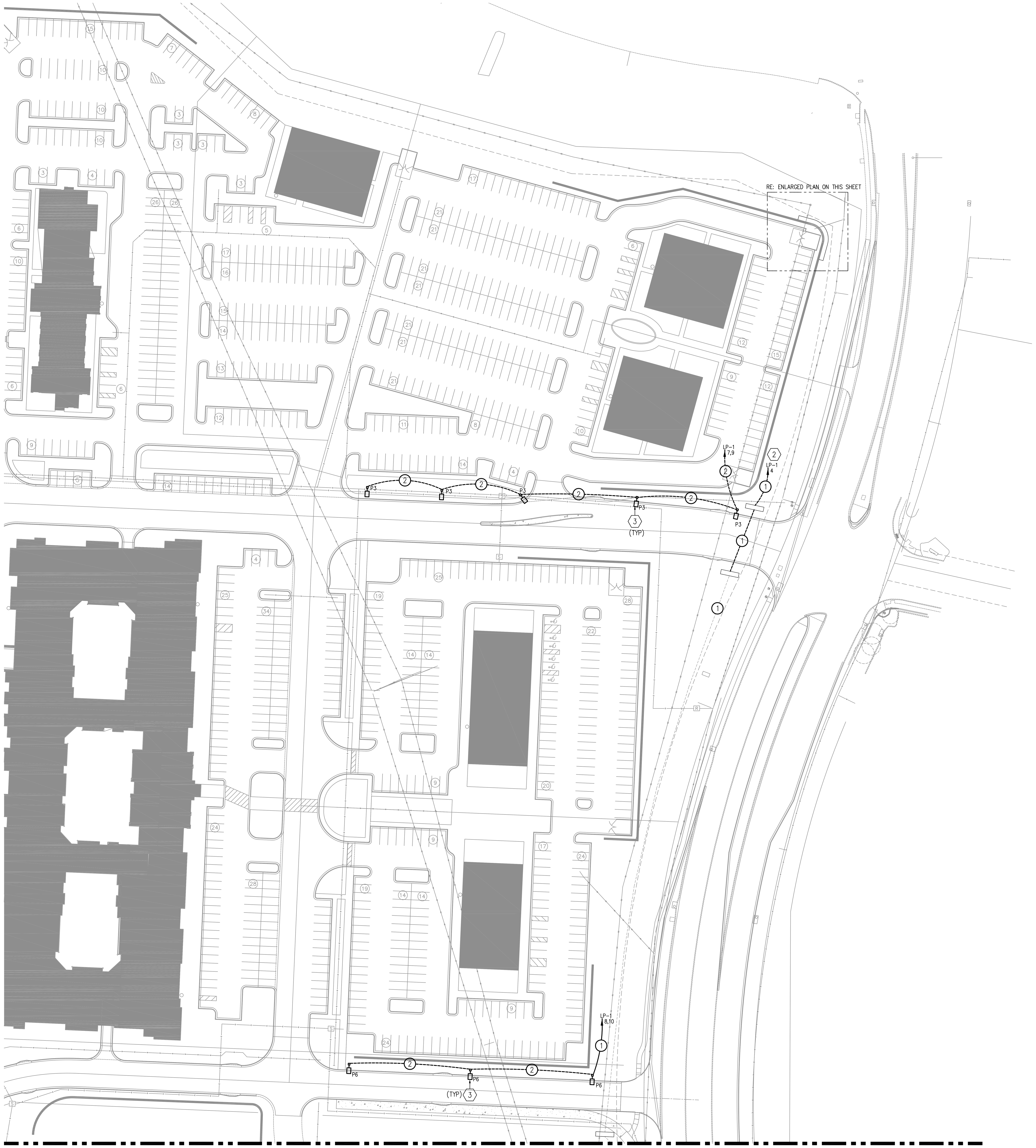
2319 N. JACKSON | P.O. BOX 1304
JUNCTION CITY, KANSAS 66441
PH. (785) 762-5040 | FAX (785) 762-7744
jo@kveng.com | www.kveng.com
KAW VALLEY ENGINEERING

KAW VALLEY ENGINEERING, INC., IS AUTHORIZED TO OFFER ENGINEERING SERVICES BY MISSOURI STATE CERTIFICATE OF AUTHORITY # 000842. EXPIRES 12/31/19

STREETS OF WEST PRYOR
NWQ NW PRYOR RD & NW LOWENSTEIN DR
LEE'S SUMMIT, MISSOURI

PRIVATE ROAD PLANS
WATER DETAILS

PROJ. NO. A14_7067-1
DESIGNER LDO | DRAWN BY JT
CFN 7067-1IR_DET
SHEET C-28 | REV 0



1 **SITE ELECTRICAL PLAN**
SCALE: 1:60
NORTH

RE: SHEET SE-2 FOR CONTINUATION

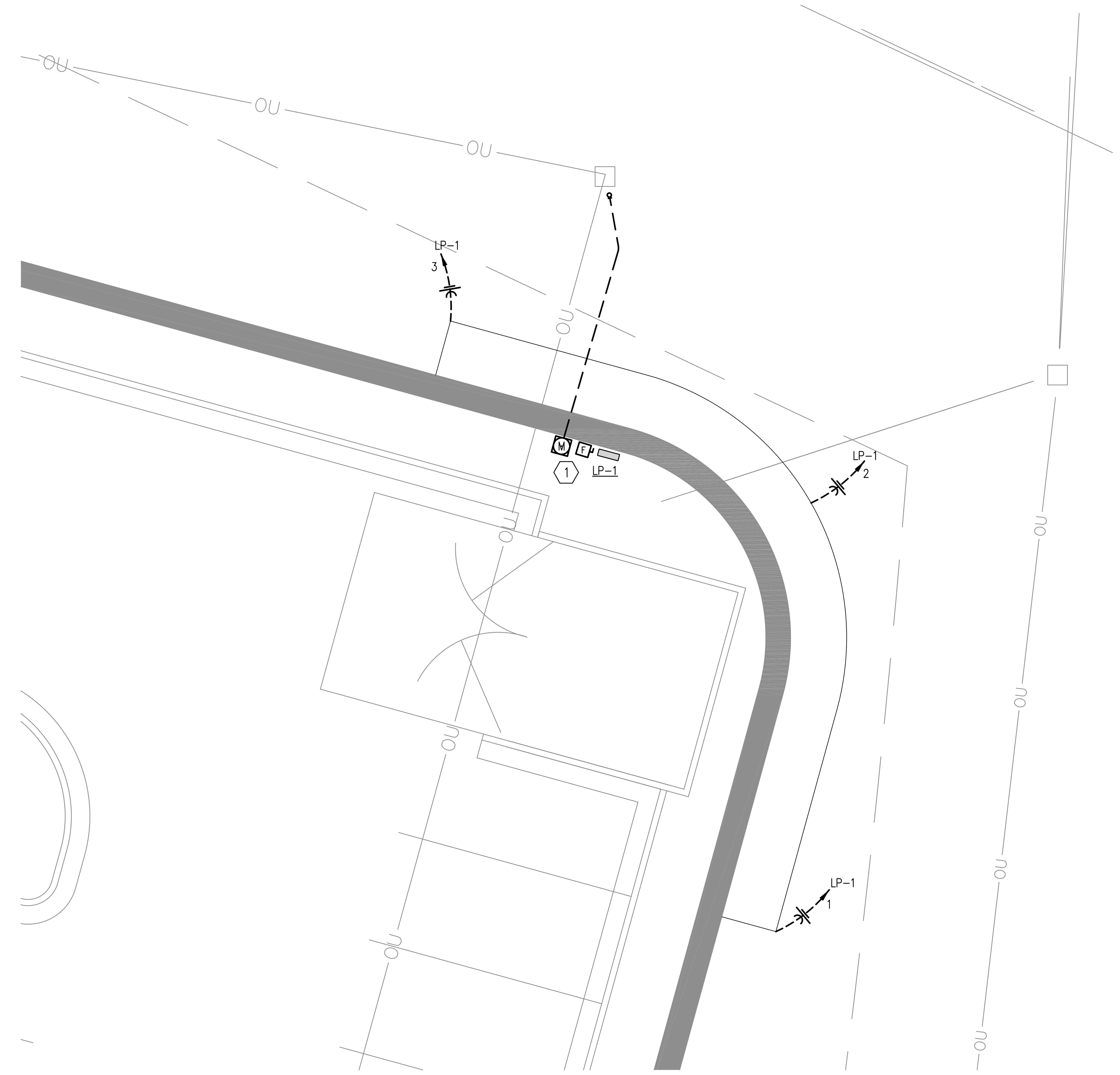
PLAN NOTES:

1. PROVIDE NEW ELECTRICAL SERVICE ENTRANCE PER KCPL STANDARDS. COORDINATE WITH KCPL. RE: SHEET SE-3 FOR ADDITIONAL INFORMATION.
2. CONDUCTORS SHALL BE INCREASED BASED ON VOLTAGE DROP. CONTRACTOR SHALL COORDINATE FINAL ENTRANCE SIGN WATTAGE WITH CONDUCTOR SIZES. PROVIDE NEMA 3R DISCONNECTING MEANS AT EACH ENTRANCE SIGN.
3. CONTRACTOR SHALL PROGRAM LIGHT FIXTURES TO DIM TO 50% PER CITY STANDARDS. COORDINATE WITH LIGHTING MANUFACTURER FOR ADDITIONAL INFORMATION.

FEEDER SCHEDULE:

1. (2) #4 AWG, (1) #4 AWG GROUND IN 1-1/4" PVC CONDUIT
2. (2) #8 AWG, (1) #8 AWG GROUND IN 1" PVC CONDUIT
3. (2) #10 AWG, (1) #10 AWG GROUND IN 1" PVC CONDUIT
4. (1) 3" PVC CONDNUIT WITH TWO HOMERUNS, EACH WITH: (2) #1 AWG, (1) #1 AWG GROUND

GENERAL NOTES:
1) RE: SHEET SE-3 FOR GENERAL NOTES, SYMBOLS AND ANNOTATIONS.
2) RE: SHEET SE-3 FOR PANEL SCHEDULE.
3) UNDERGROUND POWER CIRCUITS AND FEEDERS SHALL BE IN PVC CONDUIT WITH WET RATED THHN/THWN INSULATED WIRING. RE: SHEET SE-3 FOR ADDITIONAL CONDUIT AND WIRING REQUIREMENTS.



2 **ENLARGED ELECTRICAL PLAN**
SCALE: 1/8" = 1'-0"
NORTH

REV	DATE	DESCRIPTION	DSN	DWN	CHK
0	6-28-19	CONSTRUCTION DOCUMENTS	AWN	AWN	CLB

STATE OF MISSOURI
CURTIS L. BRUNGARDT
6-28-19
NUMBER PE-2003016693
PROFESSIONAL ENGINEER

CURTIS L. BRUNGARDT
ENGINEER
MO # 2003016693

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STREETS OF WEST PRYOR
NWQ NW PRYOR RD & NW LOWENSTEIN DR
LEE'S SUMMIT, MISSOURI

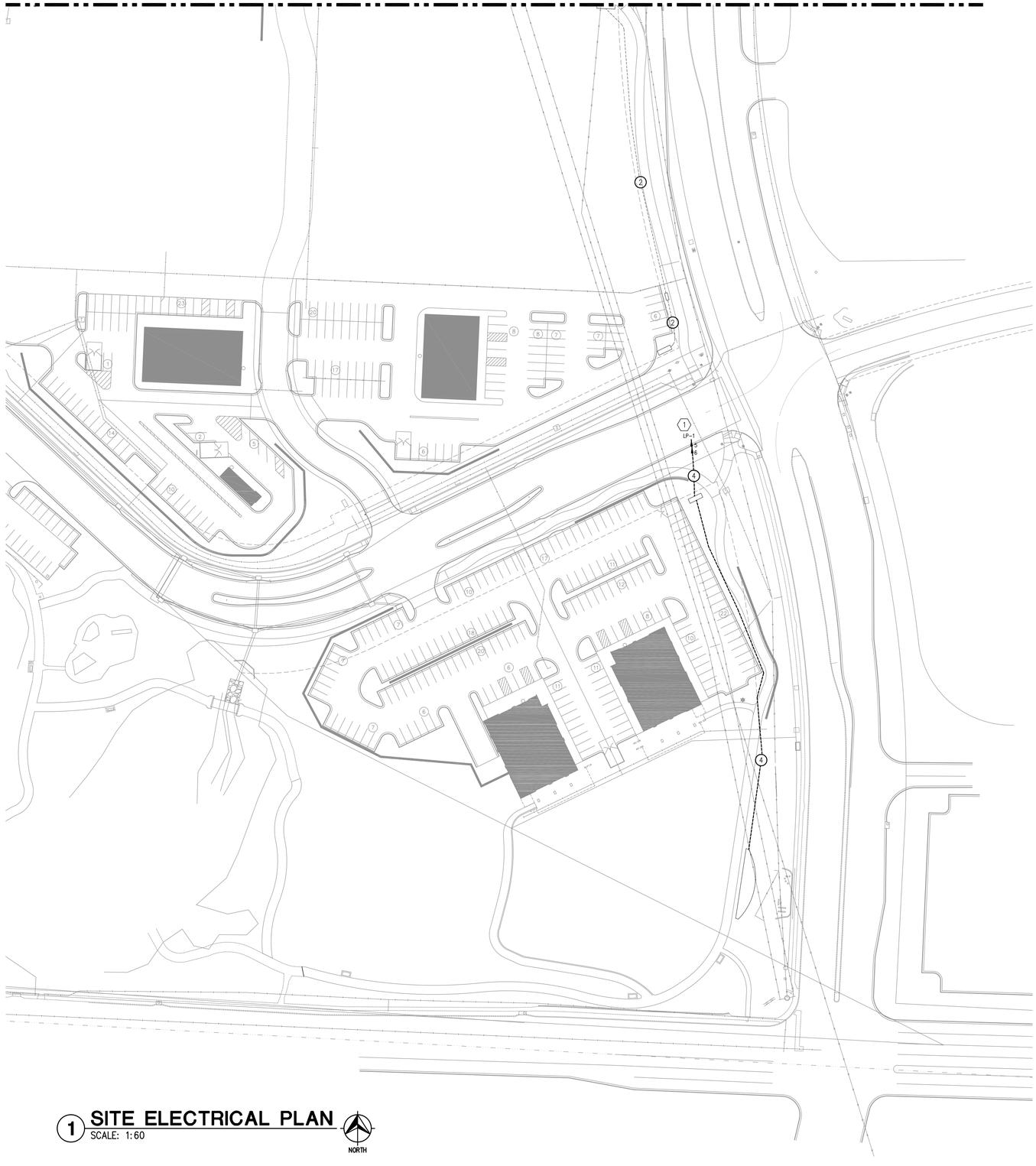
PRIVATE ROAD PLANS
SITE LIGHTING

InSite Group
DEDICATION. DESIRE. INTEGRITY.
3540 NE Ralph Powell Rd., Ste. B, Lee's Summit, MO 64064
(816) 228-3377 | www.InSiteGroup.net

ISG PROJECT NUMBER
16-5419-3

PROJ. NO.	A14_7067-1
DESIGNER: AWN	DRAWN BY: AWN
CFN	
SHEET: SE-1	REV: A

RE: SHEET SE-1 FOR CONTINUATION



1 SITE ELECTRICAL PLAN
SCALE: 1:60

NORTH

PLAN NOTES:

1. CONDUCTORS SHALL BE INCREASED BASED ON VOLTAGE DROP. CONTRACTOR SHALL COORDINATE FINAL ENTRANCE SIGN WATTAGE WITH CONDUCTOR SIZES. PROVIDE NEMA 3R DISCONNECTING MEANS AT EACH ENTRANCE SIGN.

FEEDER SCHEDULE:

1. (2) #4 AWG, (1) #4 AWG GROUND IN 1-1/4" PVC CONDUIT
2. (2) #8 AWG, (1) #8 AWG GROUND IN 1" PVC CONDUIT
3. (2) #10 AWG, (1) #10 AWG GROUND IN 1" PVC CONDUIT
4. (2) 3" PVC CONDNUIT WITH TWO HOMERUNS, EACH WITH: (2) #2/0 AWG, (1) #2/0 AWG GROUND

GENERAL NOTES:

1) RE: SHEET SE-3 FOR GENERAL NOTES, SYMBOLS AND ANNOTATIONS.
2) RE: SHEET SE-3 FOR PANEL SCHEDULE.
3) UNDERGROUND POWER CIRCUITS AND FEEDERS SHALL BE IN PVC CONDUIT WITH WET RATED THHN/THWN INSULATED WIRING. RE: SHEET SE-3 FOR ADDITIONAL CONDUIT AND WIRING REQUIREMENTS.

REV	DATE	DESCRIPTION	DSN	DWN	CHK
0	6-28-19	CONSTRUCTION DOCUMENTS	AWN	AWN	CLB

STATE OF MISSOURI
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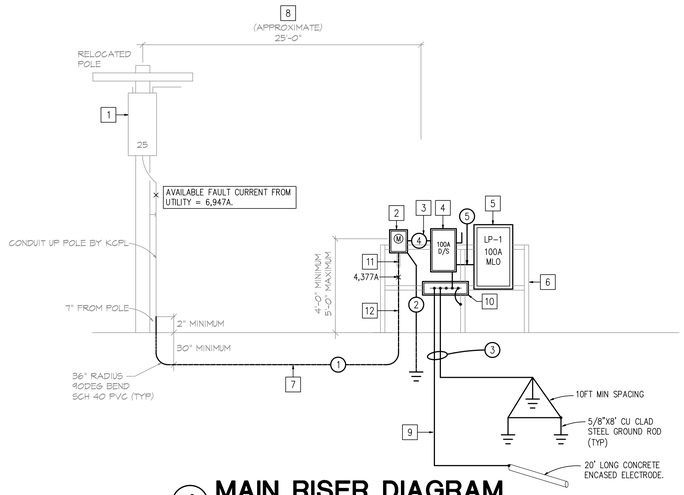
ISG PROJECT NUMBER
16-5419-3

PROJ. NO.	A14_7067-1
DESIGNER	AWN
DRAWN BY	AWN
CFN	
SHEET	SE-2
REV	A



1 MAIN RISER DIAGRAM
NOT TO SCALE

DIAGRAM NOTES:

1. EXISTING RELOCATED UTILITY POLE AND POLE MOUNTED TRANSFORMERS. COORDINATE EXACT LOCATION WITH CIVIL DRAWINGS.
2. PROVIDE AND INSTALL NEW KCPL APPROVED METER SOCKET. NEW METER SHALL BE INSTALLED AT 4'-0" MINIMUM AND A MAXIMUM OF 5'-0" (CENTER OF SOCKET). INSTALL PER UTILITY COMPANY REQUIREMENTS.
3. CONDUIT FROM METER SHALL BE 1-1/4" RIGID METALLIC CONDUIT.
4. PROVIDE AND INSTALL NEW SERVICE RATED, NEMA 3R, 100A FUSED DISCONNECT SWITCH WITH 100A FUSES. DISCONNECT SHALL HAVE LUGS AND BAR FOR SERVICE GROUNDING. DISCONNECT SWITCH FUSES SHALL BE RATED FOR 100,000 AIC. CONTRACTOR SHALL TAG 100A DISCONNECT WITH PERMANENT LABEL.
5. PROVIDE AND INSTALL NEW 100A, 120/240V, 1PH, 3W MAIN LUG ONLY PANEL. PANEL SHALL BE RATED FOR 35,000 AIC.
6. PROVIDE NEW UNISTRUT SUPPORT SYSTEM FOR SERVICE ENTRANCE. CONTRACTOR SHALL INSTALL PER KCPL STANDARDS SEE DETAIL 2 ON THIS SHEET. CONTRACTOR SHALL GROUND UNISTRUT SYSTEM TO MAIN SYSTEM GROUNDING WITH A #6 AWG CONDUCTOR.
7. PROVIDE NEW SERVICE CONDUIT AND CONDUCTORS. CONTRACTOR SHALL SUPPLY PULL STRING IN CONDUIT. CONDUIT SHALL EXTEND CONDUIT UP UTILITY AT A MINIMUM OF 2". PROVIDE SLIP JOINTS AT CONNECTIONS. CONTRACTOR SHALL PROVIDE ADDITIONAL LENGTH OF SERVICE CONDUCTORS TO ALLOW FOR KCPL TO INSTALLATION TO UTILITY TRANSFORMER. COORDINATE WITH KCPL FOR CONNECTION TO MAIN SERVICE DISCONNECT. RE: FEEDER SCHEDULE.
8. APPROXIMATE HORIZONTAL DISTANCE FROM UTILITY POLE TO BUILDING SERVICE ENTRANCE. CONTRACTOR SHALL CONFIRM LENGTH REQUIRED TO GET CONDUIT BELOW RETAINING WALL. FIELD VERIFY EXACT LOCATION OF EXISTING UTILITY POLE AND VERIFY EXACT DISTANCE.
9. CONNECT GROUNDING ELECTRODE CONDUCTOR TO AVAILABLE CONCRETE ENCASED ELECTRODE (I.E. RETAINING WALL AND SIGN). PROVIDE GROUNDING TO AVAILABLE CONNECTIONS PER NEC 250.
10. PROVIDE AND INSTALL NEW COPPER GROUND BAR IN NEMA 3R WIREWAY FOR CONNECTIONS TO GROUNDING ELECTRODE SYSTEM.
11. CONTRACTOR SHALL PROVIDE SLIP AND JOINT AND INSULATED BUSHINGS PER KCPL REQUIREMENTS.
12. CONTRACTOR SHALL TRANSITION TO SCHEDULE 80 PVC AT OR BELOW GRADE. PROVIDE CLAMP AT FINISH GRADE TO UNISTRUT SYSTEM. LEAVE CLAMP LOOSE TO ALLOW SLIP JOINT TO WORK.

FEEDER SCHEDULE:

1. (2) #1 AWG, COPPER CONDUCTORS, IN 3" PVC CONDUIT. CONDUCTORS BY CONTRACTOR. COORDINATE WITH KCPL.
2. #6 SOLID BARE TINNED COPPER GROUND TO 1/2"x8FT COPPER CLAD STEEL GROUND ROD PER UTILITY REQUIREMENTS.
3. #6 AWG SOLID BARE TINNED COPPER GROUND TO GROUND ROD, BUILDING STEEL, ENCASED ELECTRODE, ETC PER NEC 250.
4. (2) #1 AWG, COPPER CONDUCTORS, IN 1-1/4" RIGID METAL CONDUIT.
5. (2) #1 AWG, (1) #8 AWG GROUND, COPPER CONDUCTORS, IN 1-1/4" RIGID CONDUIT.

GENERAL NOTES:

1) THESE DRAWINGS ARE SCHEMATIC IN NATURE AND INTENDED TO DEPICT GENERAL SCOPE OF WORK. ALL WORK SHALL BE PERFORMED PER LOCAL AND STATE REQUIREMENTS.
2) COORDINATE POWER REQUIREMENTS AND FINAL LOCATIONS OF ALL EQUIPMENT, DEVICES, ETC. WITH FINAL EQUIPMENT SELECTION AND INSTALL ALL NECESSARY DEVICES ALLOWING FOR END TERMINATION/CONNECTIONS.
3) ALL WIRING SHALL BE IN PVC CONDUIT BELOW GRADE AND RIGID METAL CONDUIT ABOVE GRADE.
4) UPDATE ALL PANELBOARD SCHEDULES.
5) FURNISH, INSTALL AND CONNECT ALL WIRE, WIREWAY, CONDUIT, CONNECTORS, OUTLETS, ETC. NECESSARY TO ACHIEVE A COMPLETE ELECTRICAL INSTALLATION. ALTHOUGH SUCH WORK IS NOT SPECIFICALLY SHOWN OR SPECIFIED EQUIPMENT SHALL BE INSTALLED PER CODE REQUIREMENTS PROVIDING A SOUND, SECURE AND COMPLETE INSTALLATION.
6) RE: THIS SHEET FOR ELECTRICAL SYMBOLS/NOTATIONS.
7) RE: THIS SHEET FOR PANEL SCHEDULES.
8) PROVIDE COPPER CONDUCTORS FOR LISTED APPLICATIONS AS FOLLOWS:

   UNDERGROUND POWER CIRCUITS AND FEEDERS: TYPE THHN/THWN, 600 VOLT, 75 DEGREE C (167 DEGREES F) WET RATING AND 90 DEGREES C (194 DEGREES F) DRY RATED THERMOSETTING FILLED INSULATING CABLE.
   * MINIMUM BRANCH CIRCUIT WIRE SIZE IS #12AWG UNLESS NOTED OTHERWISE
9) ALL FIRE RATED ASSEMBLIES SHALL BE MAINTAINED. CAULK AROUND ELECTRICAL PENETRATIONS TO MAINTAIN FIRE RESISTANCE RATING OF THE FIRE RATED ASSEMBLY.
10) INSTALL ALL EQUIPMENT WHILE MAINTAINING ALL CLEARANCES PER EQUIPMENT MANUFACTURERS RECOMMENDATIONS AND PER LOCAL CODES.
11) THE OWNER AND ENGINEER ARE NOT RESPONSIBLE FOR THE CONTRACTOR'S SAFETY PRECAUTIONS OR TO MEANS, METHODS, TECHNIQUES, CONSTRUCTION SEQUENCES, OR PROCEDURES REQUIRED TO PERFORM HIS/HER WORK.
12) DRAWINGS ARE DESIGNED FOR THE MANUFACTURER'S MATERIALS, EQUIPMENT OR SERVICES NAMED ON PLANS AND ANY CHANGES AND THEIR ASSOCIATED COSTS, REQUIRED TO ACCOMMODATE OTHER APPROVED EQUIVALENT MATERIAL OR EQUIPMENT AS WELL AS SPACE REQUIREMENTS FOR THE OTHER APPROVED EQUIVALENT MATERIAL OR EQUIPMENT, MUST BE ASSUMED BY THE CONTRACTOR IN HIS/HER BID.
13) CONTRACTOR SHALL CONTACT THE LOCAL ELECTRICAL UTILITY COMPANY AND ARRANGE FOR ELECTRIC SERVICE AS INDICATED ON DRAWINGS. INCLUDE ALL COSTS, CHARGES, FEES, ETC., INCURRED BY LOCAL AUTHORITIES INTO BID. PROVIDE ALL MATERIALS AS REQUIRED BY LOCAL AUTHORITIES FOR ELECTRIC SERVICE INSTALLATION. ALL WORK SHALL BE IN ACCORDANCE WITH REQUIREMENTS OF LOCAL AUTHORITIES.

PANELBOARD SCHEDULE: LP-1 (NORTH ENTRANCE)

NQOD	PANELBOARD TYPE				FEEDER ENTRANCE:		PANEL LOCATION:
120/240	VOLTAGE	1	PHASE		MAIN BREAKER	X TOP	NORTH ENTRANCE
100	AMP MAIN BUS	3	WIRE	X	MAIN LUGS	BOTTOM	FEEDER CABLE:
3R	NEMA ENCLOSURE		200% NEUT.		FEED THRU LUGS	MOUNT:	SEE ONE-LINE DIAGRAM
10,000	RMS SYMMETRICAL AMPS @	240	VOLTS		SUB-FEED BREAKER	X SURFACE	SOURCE:
6/28/19	DATE	X	COPPER BUSS		SOLID NEUTRAL	FLUSH	UTILITY

POLE #	SERVICE	VA LOAD L1	VA LOAD L2	LOAD TYPE	WIRE SIZE	C.B. TRIP	C.B. POLE	C.B TRIP	C.B POLE	WIRE SIZE	LOAD TYPE	VA LOAD L1	VA LOAD L2	SERVICE	POLE #
1	NORTH SIGN #1	500		L	12	20	1	20	1	12	L		500	NORTH SIGN #2	2
3	NORTH SIGN #3		500	L	12	20	1	20	1	–	L	500		MIDDLE AREA SIGNS	4
5	SOUTH SIGN #1	500		L	–	20	1	20	1	–	L		500	SOUTH SIGN #2	6
7	NORTH ENTRANCE		415	L	8	20	2	20	2	8	L	249		SOUTH ENTRANCE	8
9	LIGHTS	415		L	8					8	L		249	LIGHTS	10
11	SPARE					20	2	20	2					SPARE	12
13															14
15	SPARE					20	2	20	2					SPARE	16
17															18
19	SPARE					20	1	20	1					SPARE	20
21	SPARE					20	1	20	1					SPARE	22
23	SPARE					20	1	20	1					SPARE	24
25	SPACE													SPACE	26
27	SPACE													SPACE	28
29	SPACE													SPACE	30
		1415	915									749	1249		

CONNECTED VA/PH (LESS FEED THRU & SUB FEED) L1 – 2164 L2 – 2164
CONNECTED VA/PH FROM FEED THRU AND SUB FEED L1 – L2 –
TOTAL CONNECTED VA/PH L1 – 2164 L2 – 2164

LOAD TYPE	CODE DEMAND REQUIREMENTS	CONNECTED VA THIS PANEL	CONNECTED VA SUB PNLS	CONNECTED VA TOTAL	DEMAND VA	MIN. CODE VA (1.25 x CONT.)
LIGHTING (NEC 220-11)	100%	4328		4328	4328	5410
RECEPTACLES (NEC 220-13)	1st 10,000VA + 1/2 x REMAINING	0		0	0	0
LARGEST MOTOR (NEC 430-24)	1.25 x LARGEST FLA	0		0	0	0
REMAINING MOTORS (NEC 430-24)	100% REMAINING MOTORS	0		0	0	0
HEATING (NEC 220-15)	100%	0		0	0	0
KITCHEN EQUIPMENT (NEC 220-20)	VARIES (SEE CODE SECTION)	0		0	0	0
WATER HEATER	100%	0		0	0	0
MISC.	100%	0		0	0	0
SPARE	0.25 x CODE MIN.VA					1353
TOTAL LOADS		4328		4328	4328	6763
SIZING LOAD		**28 AMPS**				

Notes:
1. IF WIRE SIZE IS NOT SHOWN, REFERNCE ONELINE OR SITE PLANS.

SIZE AS NECESSARY — 7/16" HELVETICA NARROW TEXT

MAIN SERVICE DISCONNECT

FEEDS PANEL LP-1
120/240V, 1-PH, 3-W, 100A FUSED

3/16" HELVETICA NARROW TEXT — 4"

NOTE: PROVIDE ENGRAVED NAMEPLATES ON NEW SERVICE ENTRANCE DISCONNECT SWITCH. REFERENCE ONE-LINE DIAGRAM ON SHEET 1E2 FOR MORE INFORMATION. PROVIDE WHITE FACE WITH BLACK LETTERING.

2 SERVICE ENTRANCE DISCONNECT SWITCH NAMEPLATE
NOT TO SCALE

SIZE AS NECESSARY — 7/16" HELVETICA NARROW TEXT

PANEL LP-1

FED FROM MAIN SERVICE DISCONNECT
120/240, 1-PH, 3-W, 100A

3/16" HELVETICA NARROW TEXT — 4"

NOTE: PROVIDE ENGRAVED NAMEPLATES ON NEW PANELS INDICATING WHERE IT IS FED FROM. REFERENCE ONE-LINE DIAGRAM ON SHEET 1E2 FOR MORE INFORMATION. PROVIDE WHITE FACE WITH BLACK LETTERING. ABOVE DETAIL IS A TYPICAL LABEL FOR PANELS. PROVIDE SIMILAR LABEL FOR ALL PANELS IN BUILDING.

3 MAIN PANEL NAMEPLATE
NOT TO SCALE

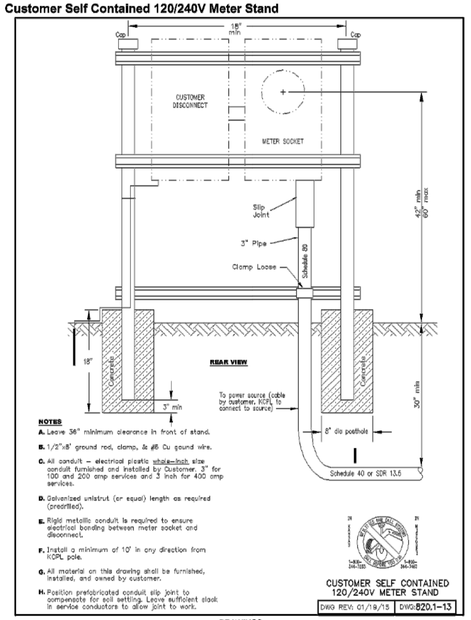
ELECTRICAL SYMBOLS

- (1) — BRANCH CIRCUIT OR FEEDER – SEE WIRING LEGEND FOR CONDUCTOR & CONDUIT QUANTITY & SIZE
- UNDER FLOOR/GRADE CONDUIT
- PANELBOARD
- NON-FUSED DISCONNECT SWITCH.
- FUSED DISCONNECT SWITCH.
- d — JUNCTION BOX.
- ## — PLAN NOTE DESIGNATION.
- ## — DIAGRAM NOTE DESIGNATION.
- $^{X}_{F=XXXA}$ — XXX = CALCULATED 3-PHASE FAULT CURRENT

ELECTRICAL NOTATIONS

A	AMPS
AG	ABOVE COUNTER, GROUND FAULT
G	INDICATES GROUND FAULT
W	INDICATES WEATHERPROOF
UNO	UNLESS NOTED OTHERWISE
TYP	TYPICAL
RE:1E2	REFERENCE DESIGNATION (1E2: SHEET NUMBER, DETAIL/PLAN NUMBER)

Customer Self Contained 120/240V Meter Stand



DRAWINGS 86

2 KCPL METER STAND
NOT TO SCALE

REV	DATE	DESCRIPTION	DSN	DWN	CHK
					CLB
				AWN	
			AWN		
0	6-28-19	CONSTRUCTION DOCUMENTS			

STATE OF MISSOURI — CURTIS L. BRUNGARDT — 6-28-19 — NUMBER PE-2003016693 — PROFESSIONAL ENGINEER

CURTIS L. BRUNGARDT
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MO # 2003016693

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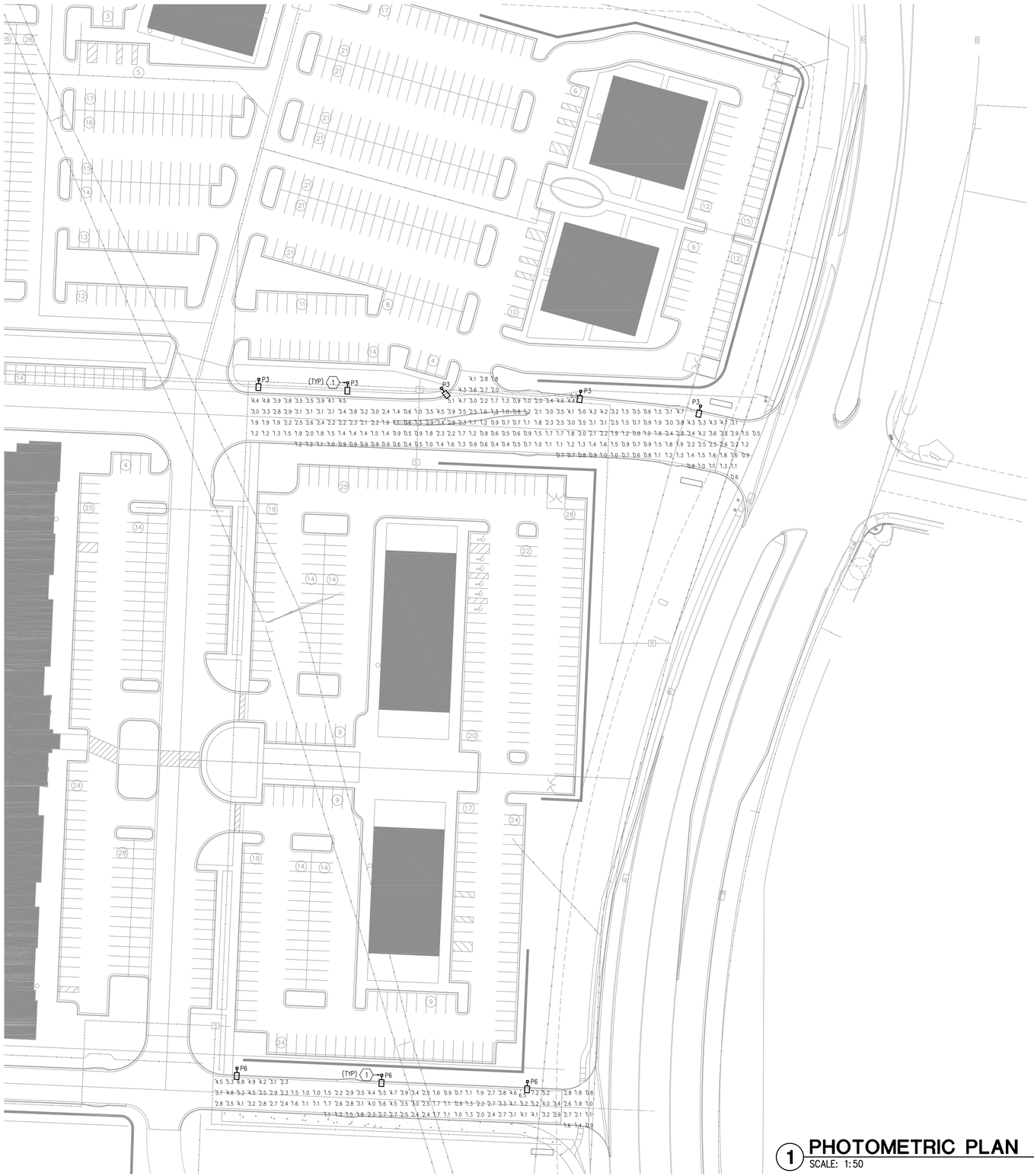
ISG PROJECT NUMBER
16-5419-3

PROJ. NO. A14_7067-1
DESIGNER AWN | DRAWN BY AWN
CFN
SHEET SE-3 | REV A



PLAN NOTES:

1. NEW POLE MOUNTED LIGHT FIXTURE SHALL BE INSTALLED IN APPROXIMATE LOCATION SHOWN. RE: LIGHTING FIXTURE SCHEDULE ON SHEET SL-2.

CALCULATION SUMMARY

AREA	AVE	MAX	MIN	MAX/MIN	AVE/MIN
ENTRANCE - NORTH	2.05	5.7	0.4	14.25	5.13
ENTRANCE - SOUTH	2.85	7.2	0.7	10.29	4.07

NOTES
1) N/A

1 PHOTOMETRIC PLAN
SCALE: 1:50

NORTH

REV	DATE	DESCRIPTION	DSN	DWN	CHK
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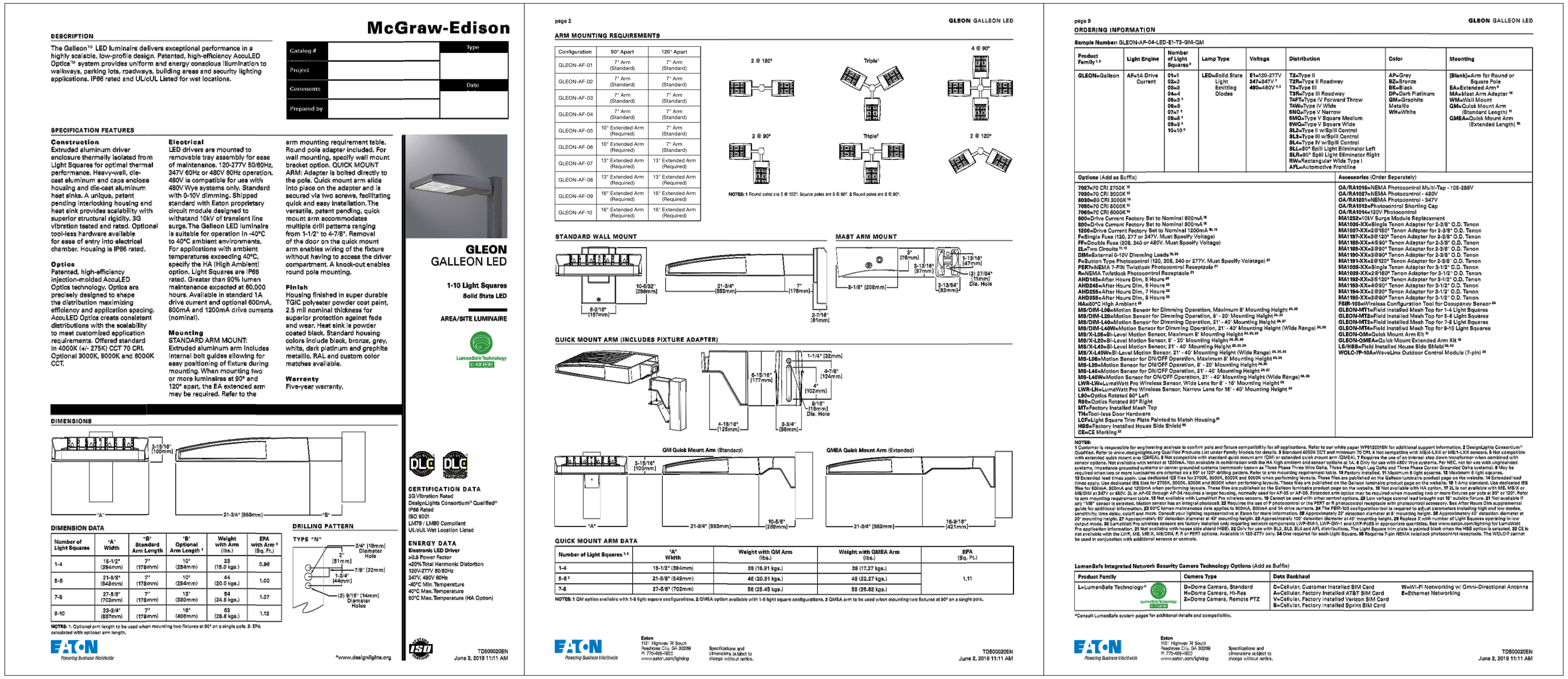
DESIGNER	DRAWN BY
AWN	AWN

CFN

SHEET	REV
SL-1	A

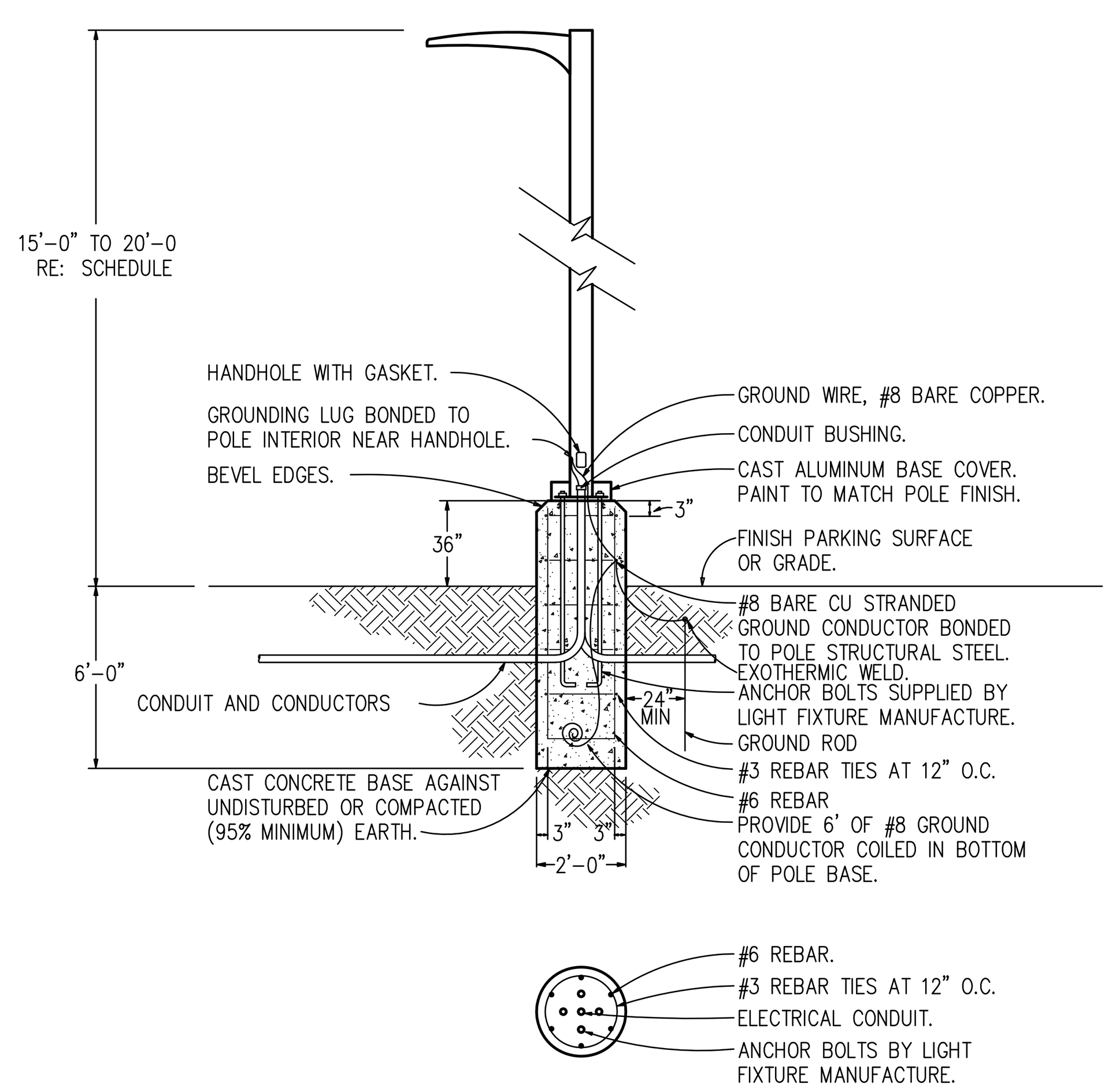


LIGHTING FIXTURE SCHEDULE

MARK	MANUFACTURER *	FIXTURE DESCRIPTION	MODEL NUMBER	MOUNTING	COLOR	LAMP QTY	LAMP TYPE	LAMP CODE	DRIVE CURRENT (QUANTITY/TYPE)	VOLTS	WATTS (PER/POLE)	NOTES
P3	McGRAW-EDISON	DARK SKY COMPLIANT AREA LIGHT FIXTURE WITH DIRECT ARM MOUNT AT 90 DEGREES, 20FT ABOVE FINISHED GRADE, WITH AFTER HOURS DIMMING CONTROL AND INDIVIDUAL PHOTOCELL CONTROL. 17FT ALUMINUM POLE WITH VIBRATION DAMPER	FIXTURE: GLEON-AF-03-LED-E1-SL4-BZ-AHD355-P POLE: SSA4M15WCN1GV	POLE	4000K	1 PER POLE	LED	–	(1) 1000mA	240	166	1–2
P6	McGRAW-EDISON	DARK SKY COMPLIANT AREA LIGHT FIXTURE WITH DIRECT ARM MOUNT AT 90 DEGREES, 20FT ABOVE FINISHED GRADE, WITH AFTER HOURS DIMMING CONTROL AND INDIVIDUAL PHOTOCELL CONTROL. 17FT ALUMINUM POLE WITH VIBRATION DAMPER	FIXTURE: GLEON-AF-03-LED-E1-SL3-BZ-AHD355-P POLE: SSA4M15WCN1GV	POLE	4000K	1 PER POLE	LED	–	(1) 1000mA	240	166	1–2

NOTES
1) CONTRACTOR SHALL COORDINATE FINAL FIXTURE/POLE COLORS WITH OWNER.
2) CONTRACTOR SHALL PROVIDE SQUARE POLE PER INFORMATION PROVIDED IN SCHEDULE.

* OR PRIOR APPROVED EQUAL



1 LIGHT POLE BASE DETAIL
NO SCALE

REV	DATE	DESCRIPTION	DSN	DWN	CHK
0	6–28–19	CONSTRUCTION DOCUMENTS	AWN	AWN	CLB

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MO # 2003016693

KAW VALLEY ENGINEERING
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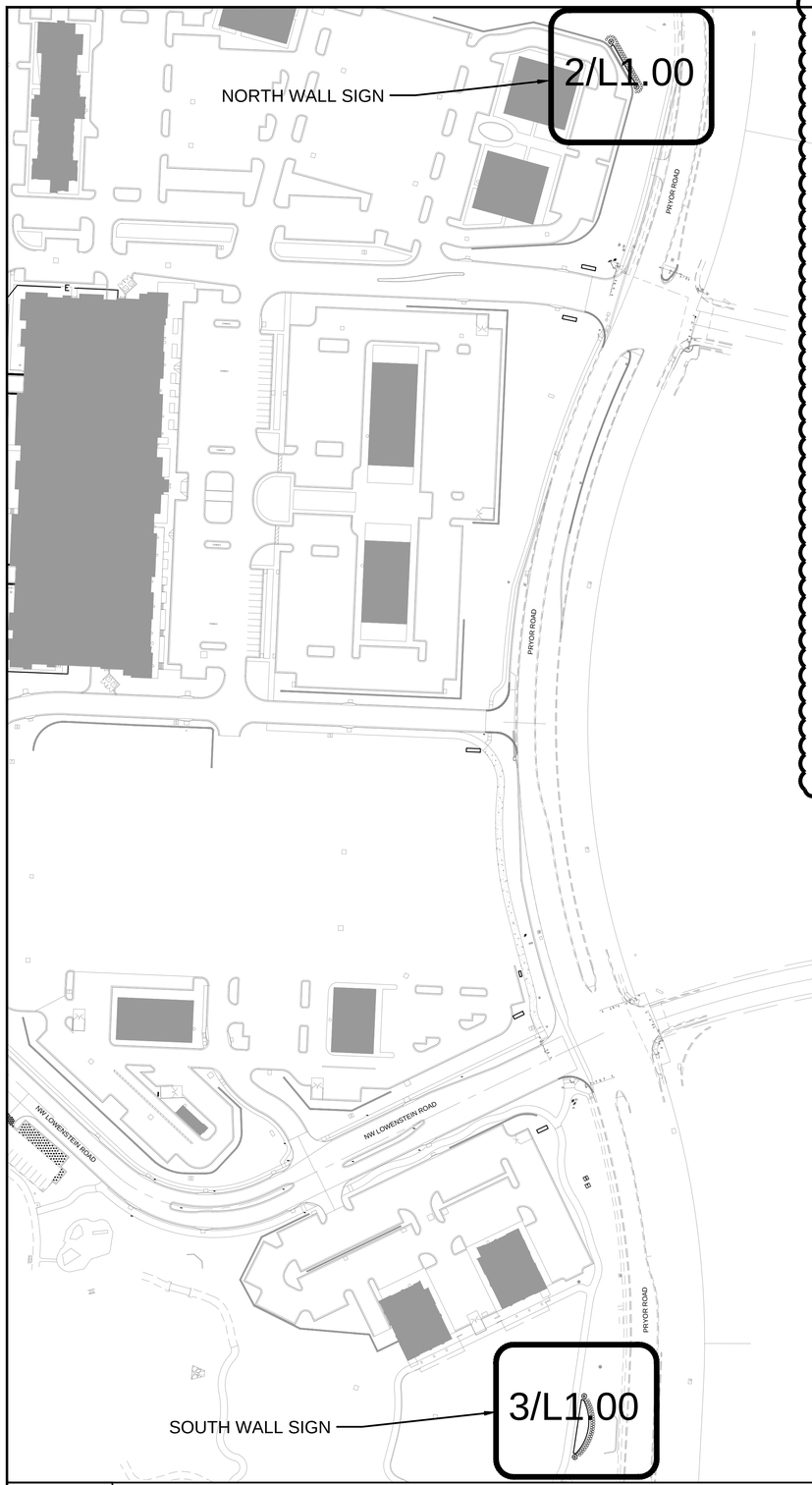
STREETS OF WEST PRYOR
NWQ NW PRYOR RD & NW LOWENSTEIN DR
LEE'S SUMMIT, MISSOURI

PRIVATE ROAD PLANS
SITE LIGHTING

InSite Group
DEDICATION. DESIRE. INTEGRITY.
3540 NE Ralph Powell Rd., Ste. B, Lee's Summit, MO 64064
(816) 228-3377 | www.InSiteGroup.net

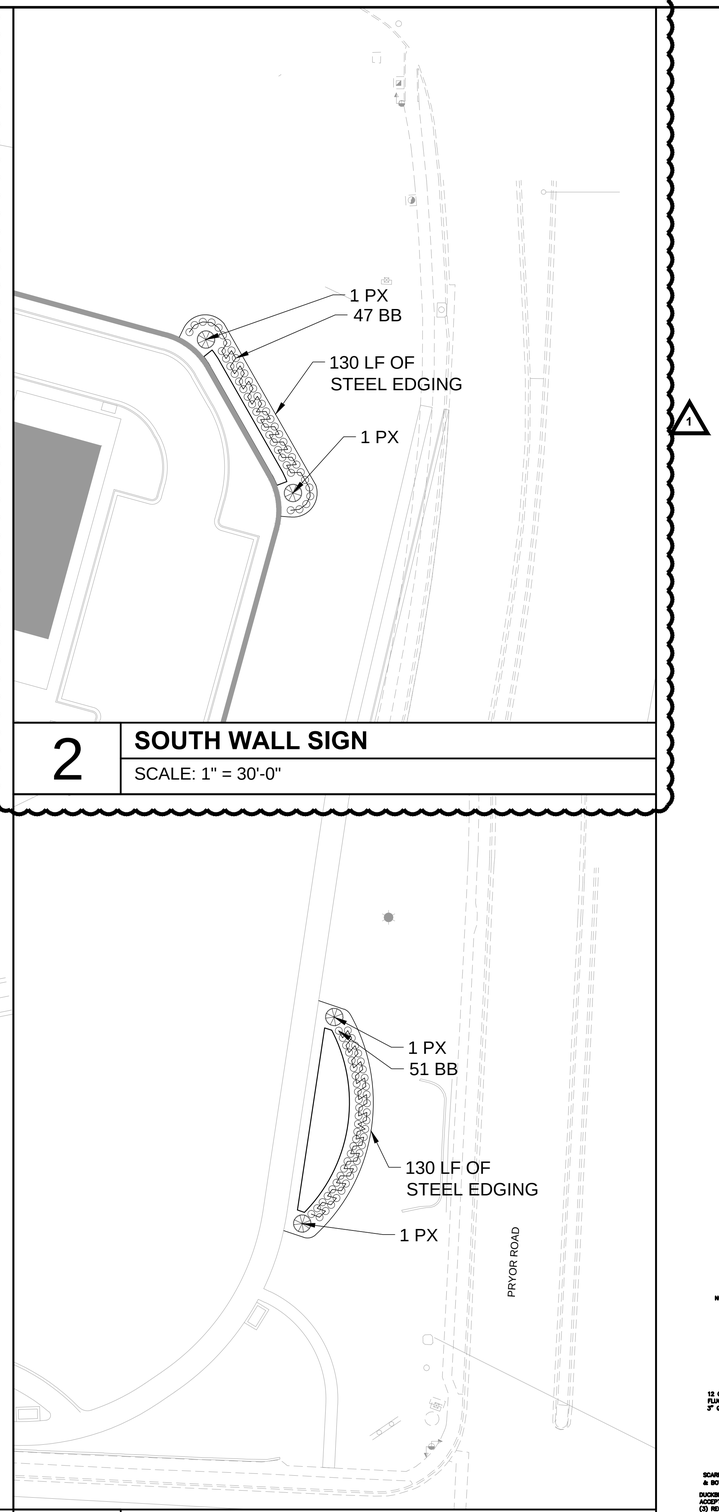
ISG PROJECT NUMBER 16-5419-3

PROJ. NO. A14_7067–1
DESIGNER AWN
DRAWN BY AWN
CFN
SHEET SL–2
REV A



1 **OVERALL SITE PLAN**

SCALE: 1" = 100'-0"



2 **SOUTH WALL SIGN**

SCALE: 1" = 30'-0"

3 **SOUTH WALL SIGN**

SCALE: 1" = 30'-0"

LANDSCAPING NOTES:

1. LOCATE ALL UTILITIES BEFORE LANDSCAPE CONSTRUCTION BEGINS.
2. NOTIFY OWNER REPRESENTATIVE OF ANY LAYOUT DISCREPANCIES.
3. ALL EXTERIOR GROUND WITHIN THE LIMITS OF THE CONTRACT, EXCEPT FOR SURFACES OCCUPIED BY BUILDINGS, STRUCTURES,PAVING, AND AS DIRECTED ON THE DRAWINGS AS UNDISTURBED, SHALL BE FILLED WITH SIX INCHES (6") OF TOPSOIL.
4. ALL DISTURBED AREAS NOT DESIGNATED FOR OTHER PLANTING SHALL BE SODDED. SOD SHALL CONSIST OF 90% TURF TYPE TALL FESCUE 10% BLUEGRASS.
5. QUANTITIES INDICATED IN PLANT LIST ARE FOR CONVENIENCE ONLY. CONTRACTOR IS RESPONSIBLE FOR PLANT QUANTITIES AS ILLUSTRATED ON THE PLAN.
6. SHREDDED HARDWOOD MULCH SHALL BE USED AS THREE INCH (3") TOP DRESSING IN ALL PLANT BEDS AND AROUND ALL TREES. SINGLE TREES OR SHRUBS SHALL BE MULCHED TO THE OUTSIDE EDGE OF SAUCER OR LANDSCAPE ISLAND (SEE PLANTING DETAILS).
7. FERTILIZE ALL PLANTS AT THE TIME OF PLANTING WITH TIME-RELEASE FERTILIZER(3-4 SLOW-RELEASE TABLETS/PELLETS).
8. IF LEANING OCCURS WITHIN ONE YEAR, TREES SHALL BE RE-STAKED (SEE PLANTING DETAILS).
9. CONTRACTOR SHALL STAKE ALL PLANT MATERIALS PRIOR TO INSTALLATION FOR THE PURPOSE OF DETERMINING CONFLICTS WITH ROCK, UTILITIES, ETC. NO PLANTS CAN BE PLANTED DIRECTLY ON ROCK OR UTILITIES. NOTIFY ARCHITECT/ENGINEER/OWNER AT ONCE IF ANY CONFLICTS OCCUR. CONTRACTOR WILL BE REQUIRED TO ADJUST PLANT LOCATIONS AT NO ADDITIONAL COST.
10. CONTRACTOR IS RESPONSIBLE FOR WATERING ALL SOD UNTIL ROOTS HAVE KNITTED INTO SOIL AND OWNER HAS OCCUPIED THE BUILDING.
11. PROVIDE "GATOR" BAGS ON ALL TREES. REFILL AS NECESSARY UNTIL OWNER OCCUPIES THE BUILDING.
12. ALL TREES SHALL BE 3" CALIPER, EVERGREEN TREES SHALL BE 8' TALL AND SHRUBS SHALL BE 18" HEIGHT AT TIME OF PLANTING

PLANT SCHEDULE

KEY	QTY.	BOTANICAL NAME	COMMON NAME	SIZE/REMARKS
TREES				
PX	4	TAXUS X MEDIA 'PERFECTA'	PERFECTA YEW	5 GAL/18" HT. MIN.
SHRUBS/GRASSES/GROUNDCOVER				
BB	98	EUONYMUS ALATUS	DWARF BURNING BUSH	5 GAL/18" HT. MIN.

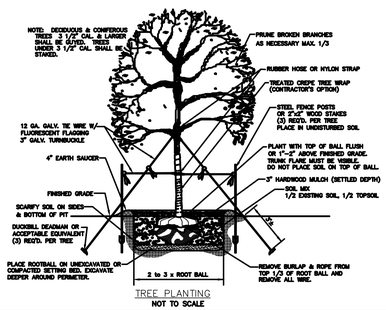
1

GRAPHIC SCALE

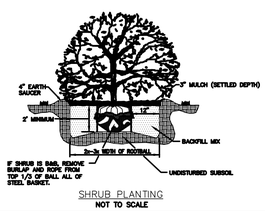
North

100 0 50 100 200 400

(IN FEET)
1 inch = 100 ft.



TREE PLANTING
NOT TO SCALE



SHRUB PLANTING
NOT TO SCALE

REV	DATE	DESCRIPTION	DSN	DWN	CHK
1	12-11-19	REVISED PER CITY COMMENTS	KS	KS	VR

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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 12/31/19

STREETS OF WEST PRYOR
NWQ NW PRYOR ROAD & NW LOWENSTEIN DRIVE
LEE'S SUMMIT, MISSOURI

SIGNAGE LANDSCAPE PLAN

PROJ. NO.

DESIGNER	DRAWN BY
VSR	KLS

CFN

SHEET L 1.00 | REV