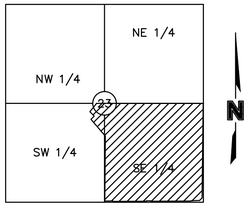
THE RETREAT AT HOOK FARMS
STREET AND STORM SEWER PLANS

SECTION 23, TOWNSHIP 47N, RANGE 23W
IN LEE'S SUMMIT, JACKSON COUNTY, MO



LOCATION MAP
Sec. 23, Twp. 47 N., Rge. 23 W.
(N.T.S.)

Sheet List Table

PROJECT TEAM & UTILITY CONTACT LIST

OWNER / DEVELOPER
HUNT MIDWEST REAL ESTATE DEVELOPMENT, INC.
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KANSAS CITY, MO 64161
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ENGINEER
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NORTH KANSAS CITY, MO 64116
CONTACT: NAME, P.E.
PHONE: 816.299.4341

SURVEYOR
OLSSON
1301 BURLINGTON, SUITE 100
NORTH KANSAS CITY, MO 64116
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UTILITY SERVICE NUMBERS
NAME: DEVELOPMENT SERVICES
PHONE: 816-969-1200

NAME: LEE'S SUMMIT WATER & SERVICES DEPARTMENT
PHONE: 816-969-1940

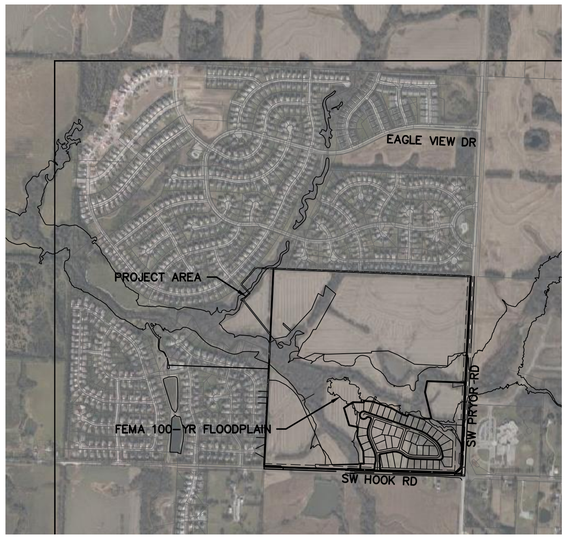
NAME: SPIRE (MGE)
PHONE: 314-342-0500

NAME: AT&T
PHONE: 800-286-8313

NAME: EVERGY
PHONE: 816-471-5275

NAME: SPECTRUM (TWC)
PHONE: 877-772-2253

NAME: GOOGLE FIBER
PHONE: 877-454-6959



LEGEND

CTL SURVEY CONTROL POINT	TS TRAFFIC SIGNAL BOX	SPH SPRINKLER HEAD	
SURVEY BENCHMARK	TSMH TRAFFIC SIGNAL MANHOLE	SCV SPRINKLER CONTROL VALVE	
TBM SURVEY TEMPORARY BEMCHMARK	TSPA TRAFFIC SIGNAL POLE W/ ARM	WM WATER METER PIT	
GM GAS METER	TSP TRAFFIC SIGNAL POLE	FIRE HYDRANT	
GAR GAS RISER	TSCB TRAFFIC SIGNAL CONTROL BOX	WM WATER METER	
GAS MANHOLE	TS TRAFFIC SIGNAL PEDESTAL	WV WATER VALVE	
GR GAS REGULATOR	E ELECTRIC MANHOLE	FP FLAG POLE	
TVP TELEVISION PEDESTAL	EM ELECTRIC METER	SIGN	
F FIBER BOX	ER ELECTRIC RISER	BOLLARD	
FIBER PEDESTAL	E ELECTRIC BOX	WOOD POST	
C CABLE BOX	ELECTRIC CABINET	STEEL POST	
CV CABLE VAULT	J ELECTRIC JUNCTION BOX	COL COLUMN	
TP TELEPHONE PEDESTAL	YL YARD LIGHT	BORE HOLE	
STORM MANHOLE	LTP LIGHT POLE	STUMP	
STORM GRATE	POWER POLE	BU BUSH	
SANITARY MANHOLE	LPPP POWER POLE W/ LIGHT	EVERGREEN TREE	
	GUY WIRE	DECIDUOUS TREE	

SECTION LINE	TEL EXISTING TELEPHONE LINE
PROPERTY LINE	SS EXISTING SANITARY LINE
CENTER LINE	EXISTING STORM LINE
PROPOSED ROW LINE	G EXISTING GAS LINE
EXISTING ROW LINE	W EXISTING WATER LINE
UTILITY EASEMENT	EXISTING CHAIN LINK FENCE
~~1371~~ EXISTING CONTOUR	OHE EXISTING OVERHEAD ELECTRIC
1371 EXISTING CONTOUR	P EXISTING PIPE LINE
1371 PROPOSED MINOR CONTOUR	GRADING LIMITS
1371 PROPOSED MAJOR CONTOUR	TEMP CONSTRUCTION EASEMENT
EXISTING TREELINE	PROPOSED CHAIN LINK FENCE
	PROPOSED WOOD PRIVACY FENCE

M.G.	MATCH GRADE	EXIST.	EXISTING		ASPHALT
P	PAVEMENT	TYP.	TYPICAL		
TC	TOP OF CURB	(R)	REMOVAL		2-INCH MILL & OVERLAY
EP	EDGE OF PAVEMENT	CONST.	CONSTRUCT		
R/W	RIGHT-OF-WAY	TBM	TEMPORARY BENCMARK		CONCRETE
TCE	TEMP CONSTRUCTION EASEMENT	C.P.	CONTROL POINT		
PROP.	PROPOSED	BC	BACK OF CURB		

NOT FOR CONSTRUCTION

REVIEWED FOR CONSTRUCTION

PROPERTY DESCRIPTION:

(AS PROVIDED BY CHICAGO TITLE INSURANCE COMPANY, NOVEMBER 1, 2018)

ALL THAT PART OF THE SOUTHEAST QUARTER OF SECTION 23, TOWNSHIP 47, RANGE 32, IN THE CITY OF LEE'S SUMMIT, JACKSON COUNTY, MISSOURI, BEING BOUNDED AND DESCRIBED AS FOLLOWS: BEGINNING AT THE NORTHWEST CORNER OF SAID SOUTHEAST QUARTER; THENCE SOUTH 89 DEGREES 45 MINUTES 34 SECONDS EAST, ALONG THE NORTH LINE OF SAID SOUTHEAST QUARTER, 2613.19 FEET TO ITS INTERSECTION WITH THE WEST RIGHT-OF-WAY LINE OF PRYOR ROAD AS NOW ESTABLISHED; THENCE SOUTH 02 DEGREES 45 MINUTES 31 SECONDS WEST, ALONG SAID WEST RIGHT-OF-WAY LINE, 2520.50 FEET; THENCE SOUTH 47 DEGREES 23 MINUTES 30 SECONDS WEST, ALONG SAID WEST RIGHT-OF-WAY LINE, 135.21 FEET TO ITS INTERSECTION WITH THE NORTH RIGHT-OF-WAY LINE OF HOOK ROAD, AS NOW ESTABLISHED; THENCE NORTH 87 DEGREES 58 MINUTES 31 SECONDS WEST, ALONG SAID NORTH RIGHT-OF-WAY LINE, 2264.70 FEET; THENCE NORTH 02 DEGREES 43 MINUTES 25 SECONDS EAST, ALONG SAID NORTH RIGHT-OF-WAY LINE, 10.00 FEET; THENCE NORTH 87 DEGREES 58 MINUTES 31 SECONDS WEST, ALONG SAID NORTH RIGHT-OF-WAY LINE, 252.00 FEET TO A POINT ON THE WEST LINE OF SAID SOUTHEAST QUARTER; THENCE NORTH 02 DEGREES 43 MINUTES 25 SECONDS EAST ALONG SAID WEST LINE, 2615.22 FEET TO THE POINT OF BEGINNING.

ALSO,

ALL THAT PART OF THE FOLLOWING DESCRIBED PROPERTY IN THE NORTHEAST ¼ OF THE SOUTHWEST ¼ OF SECTION 23, TOWNSHIP 47, RANGE 32, LYING NORTH OF EAGLE CREEK GREENWAY, A SUBDIVISION, ALL IN LEE'S SUMMIT, JACKSON COUNTY, MISSOURI, TO-WIT:
THE SOUTH ONE HALF OF THE NORTHEAST QUARTER AND THE SOUTH ONE-HALF OF THE NORTHWEST QUARTER AND ALL THAT PART OF THE SOUTHWEST QUARTER OF SECTION 23, TOWNSHIP 47, RANGE 32, IN LEE'S SUMMIT, JACKSON COUNTY MISSOURI, BEING DESCRIBED AS FOLLOWS:
BEGINNING AT THE SOUTHWEST CORNER OF SAID NORTHWEST QUARTER, THENCE NORTH 2 DEGREES 36 MINNUTES 10 SECONDS EAST, ALONG THE WEST LINE OF SAID NORTHWEST QUARTER 1330.50 FEET TO THE NORTHWEST CORNER OF THE SOUTH ONE-HALF OF SAID NORTHWEST QUARTER, THENCE SOUTH 87 DEGREES 40 MINUTES 35 SECONDS EAST, ALONG THE NORTH LINE OF SAID SOUTH ONE-HALF 2657.85 FEET TO THE NORTHEAST CORNER OF SAID SOUTH ONE-HALF, THENCE SOUTH 87 DEGREES 41 MINUTES 31 SECONDS EAST ALONG THE NORTH LINE OF THE SOUTH ONE-HALF OF SAID NORTHEAST QUARTER 2654.44 FEET TO THE NORTHEAST CORNER OF SAID SOUTH ONE-HALF; THENCE SOUTH 2 DEGREES 46 MINUTES 08 SECONDS WEST, ALONG THE EAST LINE OF SAID NORTHEAST QUARTER 1323.83 FEET TO THE SOUTHEAST CORNER OF SAID NORTHEAST QUARTER; THENCE NORTH 87 DEGREES 45 MINUTES 23 SECONDS WEST, ALONG THE SOUTH LINE OF SAID NORTHEAST QUARTER, 2653.42 FEET TO THE SOUTHWEST CORNER OF SAID NORTHEAST QUARTER; THENCE SOUTH 2 DEGREES 43 MINUTES 24 SECONDS WEST, (DEED-SOUTH 2 DEGREES 41 MINUTES 49 SECONDS WEST), ALONG THE EAST LINE OF SAID SOUTHWEST QUARTER, 1138.42 FEET TO THE CENTERLINE OF MOUSE CREEK, AS NOW ESTABLISHED; THENCE NORTH 25 DEGREES 51 MINUTES 18 WEST (DEED-NORTH 25 DEGREES 52 MINUTES 53 WEST), ALONG SAID CENTERLINE, 73.83 FEET; THENCE NORTH 67 DEGREES 53 MINUTES 09 SECONDS WEST (DEED-NORTH 67 DEGREES 54 MINUTES 44 SECONDS WEST), ALONG SAID CENTERLINE, 379.20 FEET; THENCE SOUTH 39 DEGREES 00 MINUTES 27 SECONDS WEST (DEED-SOUTH 38 DEGREES 58 MINUTES 52 SECONDS WEST), ALONG SAID CENTERLINE, 187.72 FEET; THENCE NORTH 48 DEGREES 37 MINUTES 07 SECONDS WEST (DEED-NORTH 48 DEGREES 38 MINUTES 42 SECONDS WEST), ALONG SAID CENTERLINE, 131.31 FEET; THENCE NORTH 73 DEGREES 28 MINUTES 23 SECONDS WEST (DEED-NORTH 73 DEGREES 29 MINUTES 58 SECONDS WEST), ALONG SAID CENTERLINE, 279.90 FEET THENCE NORTH 26 DEGREES 34 MINUTES 47 SECONDS WEST (DEED-NORTH 26 DEGREES 36 MINUTES 22 SECONDS WEST), ALONG SAID CENTERLINE, 312.25 FEET; THENCE NORTH 62 DEGREES 29 MINUTES 46 SECONDS WEST (DEED-NORTH 62 DEGREES 31 MINUTES 21 SECONDS WEST), ALONG SAID CENTERLINE, 134.47 FEET; THENCE SOUTH 52 DEGREES 10 MINUTES 15 SECONDS WEST (DEED-SOUTH 52 DEGREES 08 MINUTES 40 SECONDS WEST), ALONG SAID CENTERLINE, 85.16 FEET; THENCE SOUTH 19 DEGREES 37 MINUTES 09 SECONDS WEST (DEED-SOUTH 19 DEGREES 35 MINUTES 34 SECONDS WEST), ALONG SAID CENTERLINE, 142.83 FEET; THENCE SOUTH 79 DEGREES 21 MINUTES 39 SECONDS WEST (DEED-SOUTH 79 DEGREES 20 MINUTES 04 SECONDS WEST), ALONG SAID CENTERLINE, 68.92 FEET; THENCE NORTH 73 DEGREES 27 MINUTES 48 SECONDS WEST (DEED-NORTH 73 DEGREES 29 MINUTES 23 SECONDS WEST), ALONG SAID CENTERLINE, 114.02 FEET; THENCE NORTH 25 DEGREES 46 MINUTES 28 SECONDS WEST (DEED-NORTH 25 DEGREES 48 MINUTES 03 SECONDS WEST), ALONG SAID CENTERLINE, 73.12 FEET; THENCE NORTH 87 DEGREES 30 MINUTES 19 SECONDS WEST (DEED-NORTH 87 DEGREES 31 MINUTES 54 SECONDS WEST), ALONG SAID CENTERLINE, 473.33 FEET; THENCE NORTH 49 DEGREES 45 MINUTES 48 SECONDS WEST (DEED- NORTH 49 DEGREES 47 MINUTES 23 SECONDS WEST), ALONG SAID CENTERLINE, 343.23 FEET; THENCE NORTH 56 DEGREES 22 MINUTES 25 SECONDS WEST (DEED-NORTH 56 DEGREES 24 MINUTES 00 SECONDS WEST), ALONG SAID CENTERLINE, 277.94 FEET; THENCE NORTH 65 DEGREES 42 MINUTES 49 SECONDS WEST (DEED-NORTH 65 DEGREES 44 MINUTES 24 SECONDS WEST), ALONG SAID CENTERLINE, 182.37 FEET; THENCE NORTH 22 DEGREES 55 MINUTES 55 SECONDS WEST (DEED-NORTH 22 DEGREES 57 MINUTES 30 SECONDS WEST), ALONG SAID CENTERLINE, 65.99 FEET TO ITS INTERSECTION WITH THE WEST LINE OF SAID SOUTHWEST QUARTER; THENCE NORTH 2 DEGREES 36 MINUTES 17 SECONDS EAST (DEED-NORTH 2 DEGREES 34 MINUTES 42 SECONDS EAST), ALONG SAID WEST LINE, 239.42 FEET TO THE POINT OF BEGINNING.
(SHOWN FOR CONVENIENCE IN REPORTING.)

CALL BEFORE YOU DIG 1-800-DIG-RITE MISSOURI ONE CALL SYSTEM

Digitally signed by Kent Monter
Reason: I am approving this document
Date: 2020.09.15 16:53:44-05'00'
Kent Monter

RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
09/15/2020

olsson
1301 Burlington Street
North Kansas City, MO 64116
TEL 816.361.1177
FAX 816.361.1888
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STATE OF MISSOURI
7/17/20
MEGAN J. WALTER
NUMBER PE-2012029697
PROFESSIONAL ENGINEER

REV. NO.	DATE	REVISIONS DESCRIPTION	BY
1	7/17/2020	CITY COMMENTS	

REVISIONS

COVER SHEET
STREET AND STORM SEWER PLANS
THE RETREAT AT HOOK FARMS
CONSTRUCTION DOCUMENTS
LEE'S SUMMIT, MO
2020

drawn by: EM
checked by: EM
designed by: RB
QA/QC by: NH
project no.: 019-4059
drawing no.: C_TTL00_0194059
date: 4/20/2020

SHEET C100

DWG: F:\2019\4001-4500\019-4059\40-DESIGN\AUTOCAD\FINAL PLANS\SHEETS\GNCV\C_TTL00_0194059.dwg USER: emorton
DATE: Jul 16, 2020 9:40am XREFS: C_PTBLK_0194059_34x22 C_PBASE_0194059 C_PBNDY_0194059 C_XBASE_0194059

GENERAL NOTES

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT THE PLANS IN THEIR POSSESSION ARE THE MOST CURRENT VERSION ISSUED, ARE FULLY COORDINATED WITH ALL SUBCONTRACTORS, AND PRESENT ON SITE AT ALL TIMES. CURRENT PLANS PREPARED BY OLSSON MAY BE OBTAINED AT THE DIRECTION OF OLSSON'S CLIENT. DIRECT REQUESTS TO OLSSON MAY REQUIRE ADDITIONAL AUTHORIZATIONS, AGREEMENTS, AND/OR FEES. PLEASE CONTACT THE ENGINEER FOR INFORMATION.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DEVIATIONS FROM THESE PLANS UNLESS WRITTEN APPROVAL FROM ENGINEER, OWNER, AND DEVELOPER.
3. ALL WORK AND MATERIALS SHALL BE SUBJECT TO INSPECTION AND APPROVAL BY THE OWNER OR THE OWNER'S REPRESENTATIVE.
4. ALL ESTIMATES OF QUANTITIES ARE FOR INFORMATIONAL PURPOSES ONLY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING QUANTITIES AND ITEMS OF WORK.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL LABOR, MATERIALS, AND EQUIPMENT REQUIRED TO COMPLETE THE WORK SHOWN IN THE PLANS.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL REQUIRED PERMITS, PAYING ALL FEES, AND FOR OTHERWISE COMPLYING WITH ALL APPLICABLE REGULATIONS GOVERNING THE WORK.
7. THE CONTRACTOR SHALL NOT ENGAGE IN ACTIVITIES THAT MAY ENCROACH ON WATERS OF THE U.S., INCLUDING WETLANDS, UNTIL ANY NECESSARY PERMITS MAY BE OBTAINED. THE CONTRACTOR SHALL REVIEW AND COMPLY WITH ALL CONDITIONS DESCRIBED IN THE PERMIT.
8. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR CONDITIONS OF THE JOB SITE, THE SAFETY OF ALL PERSONS INCLUDING VISITORS AND THE GENERAL PUBLIC, AND PROPERTY DURING PERFORMANCE OF THE WORK. THIS REQUIREMENT WILL APPLY CONTINUOUSLY THROUGHOUT THE PROJECT AND NOT BE LIMITED BY WORKING HOURS. ANY CONSTRUCTION OBSERVATION BY THE ENGINEER OF THE CONTRACTOR'S PERFORMANCE IS NOT INTENDED TO INCLUDE REVIEW OF THE ADEQUACY OF THE CONTRACTOR'S SAFETY MEASURES.
9. PRIOR TO COMMENCEMENT OF WORK THE CONTRACTOR SHALL NOTIFY AND COORDINATE WITH ALL UTILITY COMPANIES AND OBTAIN ANY RELEVANT INFORMATION. NOTIFY ENGINEER OF ANY DISCREPANCIES.
10. THE CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION OF ALL BOUNDARY CORNERS AND SECTION CORNERS. ANY BOUNDARY CORNER AND/OR SECTION CORNER DISTURBED OR DAMAGED BY CONSTRUCTION ACTIVITIES SHALL BE RESET BY A LAND SURVEYOR LICENSED IN THE STATE OF MISSOURI, AT THE CONTRACTOR'S EXPENSE.
11. THE CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION OF ADJACENT PROPERTIES AND SHALL TAKE ALL PRECAUTIONS NECESSARY TO PREVENT DAMAGE DURING CONSTRUCTION. THE CONTRACTOR IS ALSO RESPONSIBLE FOR REPAIRING ANY DAMAGE RESULTING FROM CONSTRUCTION ACTIVITIES.
12. PRIOR TO MOVING OFF THE JOB THE CONTRACTOR SHALL NOTIFY THE OWNER AND ENGINEER TO PERFORM A FINAL WALK-THROUGH OF THE CONSTRUCTION SITE.

REFERENCES

1. ARCHITECTURAL AND STRUCTURAL ELEMENTS SHOWN IN THESE PLANS ARE FOR REFERENCE ONLY. CONTRACTORS AND SURVEYORS SHALL REFERENCE THEIR RESPECTIVE PLANS FOR DESIGN INFORMATION.
2. THE CONTRACTOR SHALL ADHERE TO THE SITE PREPARATION AND STRUCTURAL FILL RECOMMENDATIONS IN THE GEOTECHNICAL REPORT AS PROVIDED BY THE GEOTECHNICAL ENGINEER INCLUDING ALL CURRENT ADDENDUMS. THE STANDARDS AND SPECIFICATIONS OF LEE'S SUMMIT, MISSOURI SHALL ALSO APPLY AND TAKE PRECEDENCE WHEN STRICTER THAN THE GEOTECHNICAL REPORT OR WHEN NO GEOTECHNICAL REPORT IS GIVEN.
3. UNLESS EXPLICITLY DESCRIBED OTHERWISE WITHIN THESE PLANS THE FOLLOWING SHALL APPLY;
   A. ALL CONSTRUCTION, INCLUDING THOSE LISTED BELOW, SHALL CONFORM TO THE LATEST CODES AND ORDINANCES OF LEE'S SUMMIT, MISSOURI.
   B. ALL CONSTRUCTION IN MISSOURI DEPARTMENT OF TRANSPORTATION RIGHT-OF-WAY SHALL CONFORM TO THE LATEST SPECIFICATIONS ADOPTED BY U.S. DEPARTMENT OF TRANSPORTATION AND MISSOURI DEPARTMENT OF TRANSPORTATION.
   C. ALL TRAFFIC CONTROL SIGNAGE SHALL CONFORM WITH THE CURRENT EDITION OF THE MANUAL FOR UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
   D. ALL UTILITY EXTENSIONS AND CONSTRUCTION SHALL CONFORM TO THE STANDARDS AND SPECIFICATIONS OF THE UTILITY COMPANIES..
   E. ALL EXTERIOR PAVEMENT (PCC, ASPHALT, ETC.) SHALL BE IN CONFORMANCE WITH THE SPECIFICATIONS OF LEE'S SUMMIT, MISSOURI AND THE RECOMMENDATIONS OF THE GEOTECHNICAL REPORT.
4. THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING THE DELIVERY MANAGER AND COORDINATING ANY MAILBOXES THAT MAY BE DISTURBED. FAILURE TO DO SO MAY SUBJECT THE CONTRACTOR TO PROSECUTION BY THE FEDERAL GOVERNMENT.

EXISTING CONDITIONS

1. THE CONTRACTOR SHALL VISIT THE SITE AND BECOME FAMILIAR WITH THE EXISTING CONDITIONS OF THE PROJECT AREA.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PERFORMING THEIR OWN INVESTIGATIONS AND MAKING THEIR OWN ASSUMPTIONS REGARDING SITE SURFACE AND SUBSURFACE CONDITIONS. THIS INCLUDES THE LOCATION AND CONSISTENCY OF ANY EXISTING ROCK LAYERS UNDERLYING THE PROJECT SITE. CONTACT THE ENGINEER REGARDING ANY DISCREPANCIES THAT MAY AFFECT THE ABILITY TO CONSTRUCT FROM THESE PLANS AS DESIGNED.
3. EXISTING CONDITIONS WERE DETERMINED THROUGH A VARIETY OF METHODS THAT MAY INCLUDE SURVEY, AERIAL IMAGERY, AVAILABLE RECORDS, GIS DATA, ETC. SUBSURFACE CONDITIONS ARE APPROXIMATE AND MAY NOT INCLUDE ALL UTILITIES AND OTHER SITE IMPROVEMENTS PRESENT ON SITE. THE CONTRACTOR SHALL MAKE EXPLORATION EXCAVATIONS AND LOCATE EXISTING UNDERGROUND UTILITIES SUFFICIENTLY AHEAD OF CONSTRUCTION TO PERMIT REVISIONS TO PLANS WHEN CONFLICTS AND DISCREPANCIES ARE FOUND.

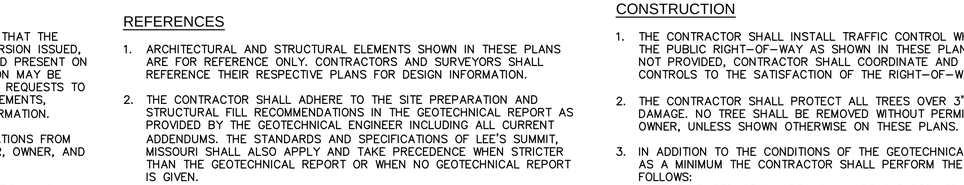
CONSTRUCTION

1. THE CONTRACTOR SHALL INSTALL TRAFFIC CONTROL WHILE WORKING IN THE PUBLIC RIGHT-OF-WAY AS SHOWN IN THESE PLANS. IF PLANS ARE NOT PROVIDED, CONTRACTOR SHALL COORDINATE AND PROVIDE CONTROLS TO THE SATISFACTION OF THE RIGHT-OF-WAY OWNER.
2. THE CONTRACTOR SHALL PROTECT ALL TREES OVER 3" CALIPER FROM DAMAGE. NO TREE SHALL BE REMOVED WITHOUT PERMISSION OF THE OWNER, UNLESS SHOWN OTHERWISE ON THESE PLANS.
3. IN ADDITION TO THE CONDITIONS OF THE GEOTECHNICAL REPORT AND AS A MINIMUM THE CONTRACTOR SHALL PERFORM THE GRADING AS FOLLOWS:
   A. THE CONSTRUCTION AREA SHALL BE CLEARED, GRUBBED, AND STRIPPED OF TOPSOIL AND ORGANIC MATTER FROM ALL AREAS TO BE OCCUPIED BY BUILDING AND PAVING. STRIPPING EXISTING TOPSOIL AND ORGANIC MATTER SHALL BE TO A MINIMUM DEPTH OF 6 INCHES. TOPSOIL FOR REPLACEMENT ON SLOPES MAY BE STOCKPILED ON SITE IN AREAS DESIGNATED BY THE OWNER. CONTRACTOR SHALL REMOVE EXCESS STRIPPINGS AND EXCESS EXCAVATION WITHIN 30 DAYS OF COMPLETION OF GRADING OPERATIONS.
   B. AREAS TO RECEIVE FILL AND AREAS CUT TO SUBGRADE LEVEL SHALL BE SCARIFIED AND THE TOP 8-INCH DEPTH COMPACTED TO 95% STANDARD PROCTOR DENSITY. THE SUBGRADE SHALL BE PROOF ROLLED WITH A MODERATELY HEAVY LOADED DUMP TRUCK OR SIMILAR APPROVED CONSTRUCTION EQUIPMENT TO DETECT UNSUITABLE SOIL CONDITIONS. ANY UNSUITABLE AREAS SHALL BE UNDERCUT AND REPLACED WITH SUITABLE MATERIAL BEFORE ANY FILL MATERIAL CAN BE APPLIED.
   C. FILL SHALL BE PLACED IN MAXIMUM OF 8 INCH LIFTS.
   D. TOPSOIL SHALL BE PLACED TO A MINIMUM DEPTH OF 6 INCHES OVER ALL AREAS DISTURBED BY THE WORK. LARGE STONES, STICKS AND LUMPS SHALL BE REMOVED OR BROKEN UP, AND THE TOPSOIL SHALL BE LEVELED AND RAKED. ALL DISTURBED AREAS SHALL BE LANDSCAPED PER LANDSCAPE PLANS OR SHALL BE SEEDED, FERTILIZED, MULCHED, WATERED AND MAINTAINED UNTIL HARDY GRASS GROWTH IS ESTABLISHED.
   E. CONTRACTOR SHALL PROVIDE COMPACTION TEST RESULTS AS REQUIRED.
4. THE CONTRACTOR SHALL DISPOSE ALL WASTE MATERIAL RESULTING FROM THE PROJECT OFF-SITE AND IN STRICT CONFORMANCE WITH ALL LOCAL CODES AND ORDINANCES.
5. ALL MANHOLES, CATCH BASINS, UTILITY VALVES AND METER PITS ARE TO BE ADJUSTED OR REBUILT TO GRADE AS REQUIRED. NOT ALL ADJUSTMENTS ARE INDICATED IN THE PLANS.
6. THE CONTRACTOR SHALL STREET SWEEP OR OTHERWISE CLEAN ALL ACCESS ROUTES TO THE SITE AT CONCLUSION OF THE PROJECT.

SHOP DRAWINGS

1. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS A MINIMUM OF 7 DAYS PRIOR TO THE REQUESTED DATE OF APPROVAL. ENGINEER SHALL REVIEW SHOP DRAWINGS OR SAMPLES CONFORMANCE WITH THE DESIGN FOR THIS PROJECT AS DESCRIBED IN THE PLANS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ERRORS OR OMISSIONS IN SHOP DRAWINGS. THE ENGINEER'S REVIEW SHALL NOT EXTEND TO MEANS OR METHODS OF CONSTRUCTION. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY VARIATION FROM THE REQUIREMENTS OF THE CONTRACT DOCUMENTS UNLESS CONTRACTOR HAS NOTIFIED ENGINEER OF EACH SUCH VARIATION AT THE TIME OF SUBMISSION, AND OBTAINED ENGINEER'S WRITTEN APPROVAL OF EACH SUCH VARIATION. PRIOR TO SUBMITTING EACH SHOP DRAWING OR SAMPLE, CONTRACTOR SHALL HAVE REVIEWED AND VERIFIED:
   A. ALL FIELD MEASUREMENTS, QUANTITIES, DIMENSIONS, SPECIFIED PERFORMANCE CRITERIA, INSTALLATION REQUIREMENTS, MATERIALS, CATALOG NUMBERS AND SIMILAR INFORMATION WITH RESPECT THERETO;
   B. ALL MATERIALS WITH RESPECT TO INTENDED USE, FABRICATION, SHIPPING, HANDLING, STORAGE, ASSEMBLY AND INSTALLATION PERTAINING TO THE PERFORMANCE OF THE WORK;
   C. ALL INFORMATION RELATIVE TO MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES OF CONSTRUCTION AND SAFETY PRECAUTIONS AND PROGRAMS INCIDENT THERETO;
   D. CONTRACTOR SHALL ALSO HAVE REVIEWED AND COORDINATED EACH SHOP DRAWING OR SAMPLE WITH OTHER SHOP DRAWINGS AND SAMPLES, AND WITH THE REQUIREMENTS OF THE WORK AND THE CONTRACT DOCUMENTS.
   E. ALL SUBMITTED SHOP DRAWINGS SHALL BEAR A STAMP OR SPECIFIC WRITTEN INDICATION AND SIGNATURE THAT CONTRACTOR HAS FULLY COMPLETED THE ABOVE TASKS.

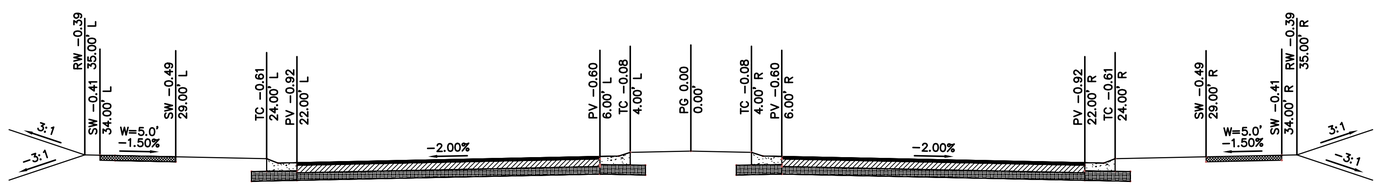
2. SHOP DRAWINGS AS DESCRIBED ABOVE ARE REQUIRED FOR, BUT NOT LIMITED TO, THE FOLLOWING:
   A. ALL STORM SEWER STRUCTURES TO BE INSTALLED WITH THIS PROJECT.
   B. ALL SANITARY SEWER STRUCTURES TO BE INSTALLED WITH THIS PROJECT.
   C. ALL SITE FENCING AND RAILING INCLUDING ANY GATES.
   D. ALL LANDSCAPE AND RETAINING WALLS.
   E. ANY ITEMS IN THESE PLANS THAT ALLOW FOR AN "APPROVED EQUAL" ALTERNATIVE.



SW HEARTHSTONE PLACE, SW RED BARN ROAD, SW HARVEST MOON LANE, SW HARVEST MOON PLACE
RESIDENTIAL LOCAL
N.T.S.

2" TYPE 6 ASPHALTIC CONCRETE SURFACE
4" TYPE 5 ASPHALTIC CONCRETE BASE COURSE
6" MIN. MODOT TYPE 5 STONE BASE
6" FLYASH STABILIZED SUBGRADE
CG-2 CURB & GUTTER

1 Scale: N.T.S.
RESIDENTIAL LOCAL STREET



SW HEARTHSTONE PLACE ENTRY
RESIDENTIAL LOCAL
N.T.S.

2" TYPE 6 ASPHALTIC CONCRETE SURFACE
4" TYPE 5 ASPHALTIC CONCRETE BASE COURSE
6" MIN. MODOT TYPE 5 STONE BASE
6" FLYASH STABILIZED SUBGRADE
CG-2 CURB & GUTTER
CG-2 DRY CURB & GUTTER AT MEDIAN

2 Scale: N.T.S.
RESIDENTIAL LOCAL STREET

ESTIMATE OF QUANTITIES

ITEM NO.	DESCRIPTION	UNIT	QUANTITY	AS-BUILT
	STREET			
1	EXCAVATION	C.Y.	88426	
2	EMBANKMENT	C.Y.	41742	
3	SUBGRADE STABILIZATION (6" FLYASH TREATMENT)	S.Y.	9150	
4	6" ASPHALT PAVEMENT	S.Y.	9150	
5	CONCRETE CURB & GUTTER (CG-2)	L.F.	6340	
6	5' CONCRETE SIDEWALK	L.F.	380	
7	ADA RAMP	EA.	12	
8	STREET NAME SIGNS WITH STOP SIGNS	EA.	5	
9	STREET NAME SIGNS	EA.	1	
	STORM			
10	STD. CURB INLET (5'x3' INSIDE)	EA.	15	
11	STD. FIELD INLET (3'x3' INSIDE)	EA.	5	
12	STD. MANHOLE (4' DIA. INSIDE)	EA.	4	
13	WATER QUALITY BASIN OUTLET STRUCTURE	EA.	1	
14	6" PVC	L.F.	315	
15	12" HDPE	L.F.	18	
16	18" HDPE	L.F.	2002	
17	24" HDPE	L.F.	810	
18	30" HDPE	L.F.	34	
19	36" HDPE	L.F.	221	
20	6" FLARED END SECTION	EA.	1	
21	12" FLARED END SECTION	EA.	2	
22	18" FLARED END SECTION	EA.	1	
23	30" FLARED END SECTION	EA.	1	
24	RIPRAP	S.Y.	62	

SUMMARY OF QUANTITIES AS INDICATED ABOVE AND ANY QUANTITIES AS SHOWN WITHIN THE PLANS HAVE BEEN PROVIDED FOR PERMITTING PURPOSES ONLY AND ARE NOT INTENDED FOR USE IN PREPARATION OF CONTRACT DOCUMENTS. QUANTITIES INTENDED FOR, BUT NOT LIMITED TO, THE PREPARATION OF PROPOSALS AND BID DOCUMENTS SHALL BE INDEPENDENTLY EVALUATED BY THE ESTIMATING PARTY BASED UPON THE CONTENTS OF THESE PLANS.

RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI

09/15/2020

ALL NOTES REFERENCED ON THIS PLAN SHEET MAY HAVE APPLICATIONS TO EVERY FACET OF THE CONSTRUCTION PLANS. THE NOTE HEADINGS OR TITLES ARE TO BE USED AS A GENERAL GUIDE TO APPLICABLE SITUATIONS.

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STATE OF MISSOURI
7/17/20
MEGAN J. WALTER
NUMBER PE-2012029697
PROFESSIONAL ENGINEER

REV. NO.	DATE	REVISIONS DESCRIPTION	BY
1	7/17/2020	CITY COMMENTS	

REVISIONS

GENERAL NOTES
STREET AND STORM SEWER PLANS

THE RETREAT AT HOOK FARMS
CONSTRUCTION DOCUMENTS

LEE'S SUMMIT, MO

2020

drawn by:	EM
checked by:	EM
designed by:	RB
QA/QC by:	NH
project no.:	019-4059
drawing no.:	GEN&TABL_0194059
date:	4/20/2020

SHEET C101

DWG: F:\2019\4001-4500\019-4059\40-DESIGN\AUTOCAD\FINAL PLANS\SHEETS\GNCV\C_GEN&TABL_0194059.dwg USER: emorton
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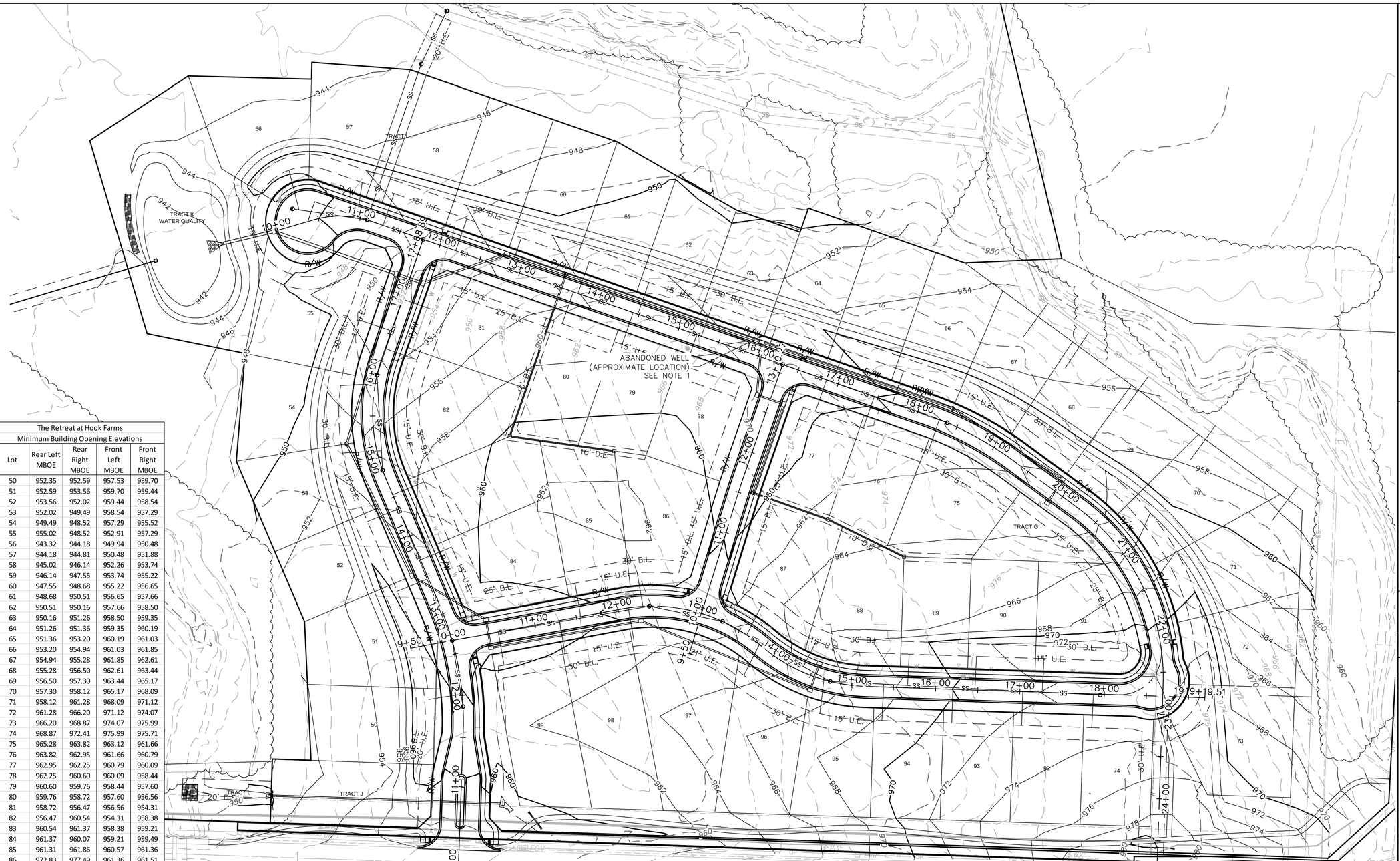

LOT FILL TABLE	
LOT #	FILL > 8'
50	
51	
52	
53	9
54	9
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59	
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83	9
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99	

The Retreat at Hook Farms Minimum Building Opening Elevations					
Lot	Rear Left MBOE	Rear Right MBOE	Front Left MBOE	Front Right MBOE
50	952.35	952.59	957.53	959.70
51	952.59	953.56	959.70	959.44
52	953.56	952.02	959.44	958.54
53	952.02	949.49	958.54	957.29
54	949.49	948.52	957.29	955.52
55	955.02	948.52	952.91	957.29
56	943.32	944.18	949.94	950.48
57	944.18	944.81	950.48	951.88
58	945.02	946.14	952.26	953.74
59	946.14	947.55	953.74	955.22
60	947.55	948.68	955.22	956.65
61	948.68	950.51	956.65	957.66
62	950.51	950.16	957.66	958.50
63	950.16	951.26	958.50	959.35
64	951.26	951.36	959.35	960.19
65	951.36	953.20	960.19	961.03
66	953.20	954.94	961.03	961.85
67	954.94	955.28	961.85	962.61
68	955.28	956.50	962.61	963.44
69	956.50	957.30	963.44	965.17
70	957.30	958.12	965.17	968.09
71	958.12	961.28	968.09	971.12
72	961.28	966.20	971.12	974.07
73	966.20	968.87	974.07	975.99
74	968.87	972.41	975.99	975.71
75	965.28	963.82	963.12	961.66
76	963.82	962.95	961.66	960.79
77	962.95	962.25	960.79	960.09
78	962.25	960.60	960.09	958.44
79	960.60	959.76	958.44	957.60
80	959.76	958.72	957.60	956.56
81	958.72	956.47	956.56	954.31
82	956.47	960.54	954.31	958.38
83	960.54	961.37	958.38	959.21
84	961.37	960.07	959.21	959.49
85	961.31	961.86	960.57	961.36
86	972.83	977.49	961.36	961.51
87	969.41	972.83	961.63	965.25
88	966.47	969.41	965.25	969.05
89	966.47	969.41	969.05	971.40
90	966.47	969.41	971.40	972.84
91	966.47	969.41	972.84	972.36
92	966.47	969.41	974.45	972.54
93	966.47	969.41	972.54	970.65
94	966.47	969.41	970.65	968.16
95	966.47	969.41	968.16	966.00
96	966.47	969.41	966.00	963.42
97	966.47	969.41	963.42	961.19
98	966.47	969.41	961.19	960.38
99	966.47	969.41	960.38	959.63

MBOE's have been provided per lot lines, facing the lot from the street. Interpolation will be allowed between the right and left side MBOE's provided, depending on the location of the lowest opening on the proposed structure.

N

0' 30' 60' 120'
SCALE IN FEET

GENERAL NOTES:

1. CONTRACTOR SHALL ADHERE TO THE "DESIGN AND CONSTRUCTION MANUAL" SECTION 2100 AS ADOPTED BY THE CITY OF LEE'S SUMMIT (LATEST EDITION), FOR EXCAVATION AND EMBANKMENT WORK WITHIN THE PROPOSED RIGHT-OF-WAY.

2. AREAS OF CONSTRUCTION SHALL BE STRIPPED OF ALL VEGETATION, ORGANIC MATTER AND TOPSOIL TO A DEPTH AS RECOMMENDED BY GEOTECHNICAL ENGINEER AND OR TESTING AGENCY. SOILS REMOVED DURING SITE STRIPPING SHOULD BE EVALUATED TO DETERMINE IF PORTIONS OF THE TOPSOIL STRATUM MAY BE UTILIZED AS STRUCTURAL FILL WITHIN PAVEMENT AREAS. ANY MATERIAL NOT DEEMED AS SUITABLE FILL MATERIAL BY THE GEOTECHNICAL ENGINEER AND OR TESTING AGENCY SHALL BE REMOVED FROM THE JOB SITE BY THE CONTRACTOR AT HIS EXPENSE.

3. ALL EMBANKMENT OUTSIDE OF RIGHT-OF-WAY SHOULD BE PLACED IN CONTROLLED LIFTS HAVING A MAXIMUM LOOSE LIFT THICKNESS OF 8". EMBANKMENT SHOULD BE COMPACTED TO A MINIMUM OF 95% OF THE MATERIALS MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D-698 (STANDARD PROCTOR COMPACTION). MOISTURE CONTENT OF THE FILL AT THE TIME OF COMPACTION SHALL BE WITHIN A RANGE OF -0 TO +4 PERCENT OF OPTIMUM MOISTURE CONTENT.

LEGEND	
100	EXISTING INDEX CONTOURS
100	EXISTING INTERMEDIATE CONTOURS
100	PROPOSED INDEX CONTOURS
100	PROPOSED INTERMEDIATE CONTOURS

EARTHWORK QUANTITIES		
LOCATION	CUT (C.Y.)	FILL (C.Y.)
STREET	21637	8047
SITE	66789	33695
TOTAL	88426	41742

NOTES:
1. ONE OIL OR GAS WELL IS LOCATED ON THE PROPERTY (DRY HOLE, ABANDONED AS OF 5/11/1928).
COORDINATES: 38.87019N, -94.41911W
INFORMATION VERIFIED VIA MISSOURI DNR:
https://dnr.mo.gov/geology/geoserv/oilandgas.htm
(UPDATED AUGUST 2018)

EARTHWORK QUANTITIES NOTES:
1. EARTHWORK QUANTITIES BASED ON FINISHED GRADE SURFACE AND DO NOT INCLUDE ADJUSTMENTS FOR TOPSOIL AND SHRINKAGE.

2. EARTHWORK QUANTITIES DO NOT TAKE INTO CONSIDERATION EXCAVATION, REMOVAL AND DISPOSAL OF MATERIAL DEEMED UNSUITABLE BY A GEOTECHNICAL ENGINEER. THE EARTHWORK CONTRACTOR IS RESPONSIBLE FOR EXCAVATION, REMOVAL AND DISPOSAL OF UNSUITABLE MATERIAL AND FOR REPLACING IT WITH SUITABLE MATERIAL.

THIRD PARTY TESTING REQUIRED FOR WATER QUALITY BASIN:
1. REMOVE TOPSOIL AND ORGANIC MATERIAL FROM THE AREA
2. PROOF ROLL TO CHECK THE SUBGRADE
2.1. REMOVE OR REPAIR ANY UNSTABLE AREA IN ACCORDANCE WITH THIRD-PARTY TESTER

3. PLACE 9" LOOSE LIFTS OF 9" MATERIAL WITH LL=50 AND PI=25 OR GREATER. EMBANKMENT SHOULD BE COMPACTED TO A MINIMUM OF 95% OF THE MATERIALS MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D-698 (STANDARD PROCTOR COMPACTION). MOISTURE CONTENT OF THE FILL AT THE TIME OF COMPACTION SHALL BE WITHIN A RANGE OF -0 TO +4 PERCENT OF OPTIMUM MOISTURE CONTENT.

RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
09/15/2020

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STATE OF MISSOURI
MEGAN J. WALTER
NUMBER PE-2012029697
PROFESSIONAL ENGINEER
7/17/20

REV. NO.	DATE	REVISIONS DESCRIPTION	BY
1	7/17/2020	CITY COMMENTS	

REVISIONS

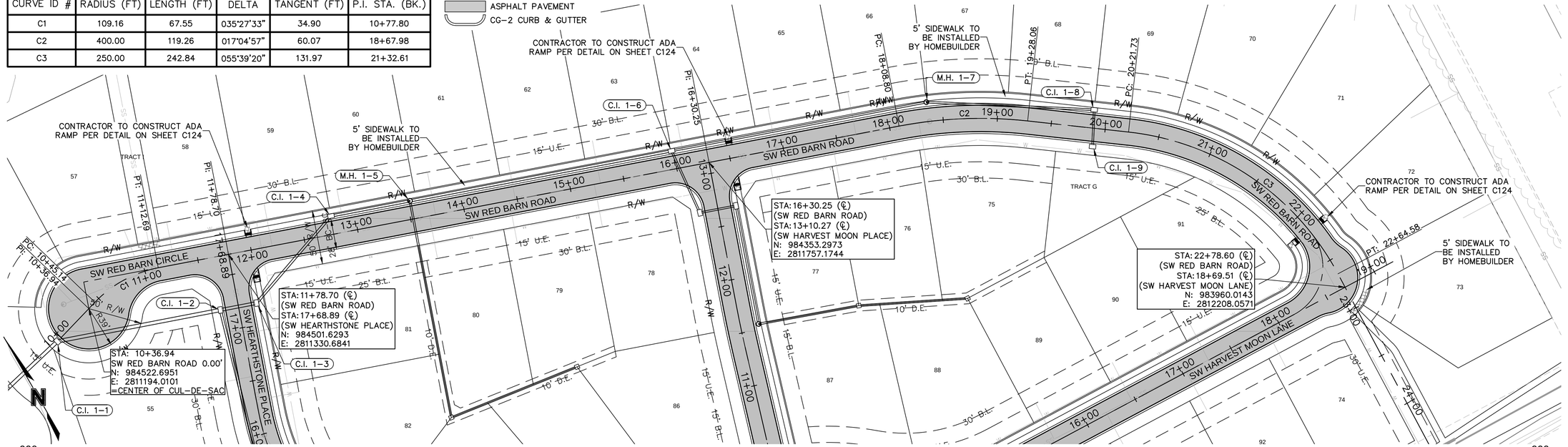
GRADING PLAN
STREET AND STORM SEWER PLANS
THE RETREAT AT HOOK FARMS
CONSTRUCTION DOCUMENTS
LEE'S SUMMIT, MO
2020

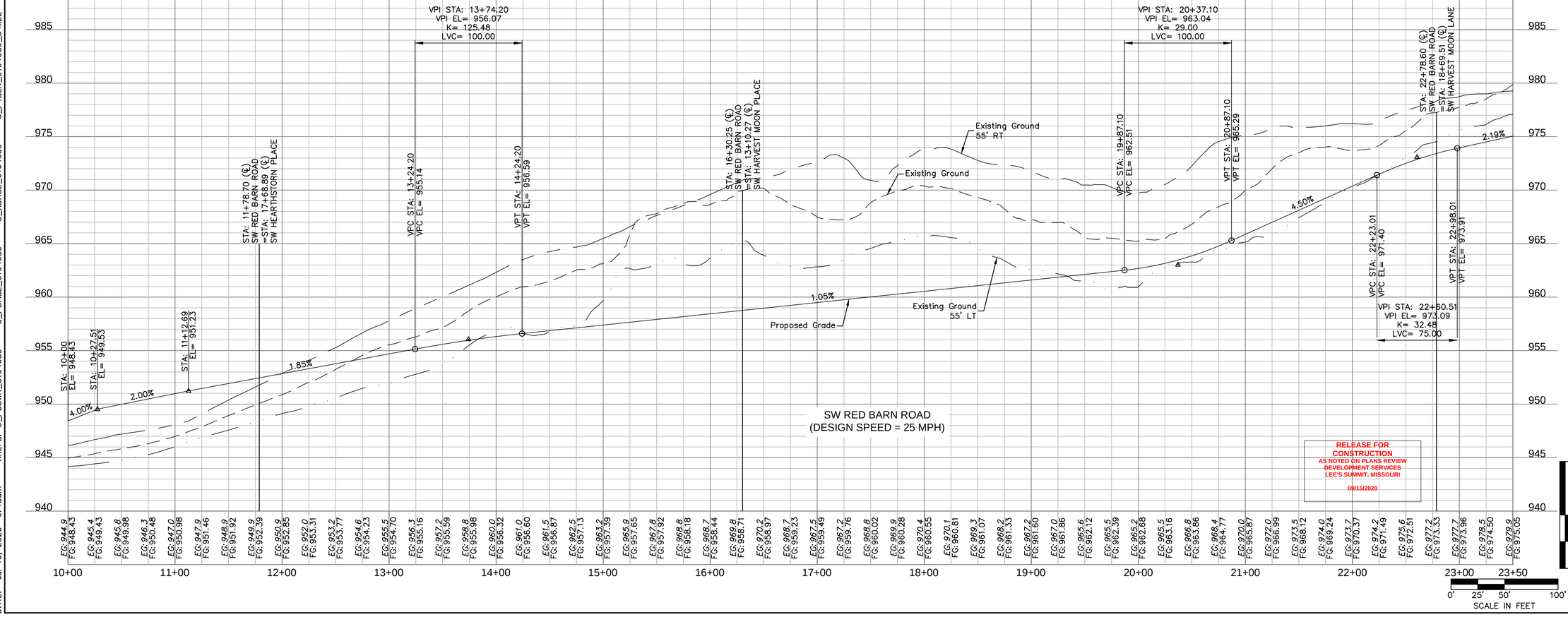
drawn by: EM
checked by: EM
designed by: RB
QA/QC by: NH
project no.: 019-4059
drawing no.: C_GRD01_0194059
date: 4/20/2020

SHEET C103

CURVE TABLE					
CURVE ID #	RADIUS (FT)	LENGTH (FT)	DELTA	TANGENT (FT)	P.I. STA. (BK.)
C1	109.16	67.55	035°27'33"	34.90	10+77.80
C2	400.00	119.26	017°04'57"	60.07	18+67.98
C3	250.00	242.84	055°39'20"	131.97	21+32.61

LEGEND
- CONCRETE SIDEWALK
- ASPHALT PAVEMENT
- CG-2 CURB & GUTTER





RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
09/15/2020

0' 25' 50' 100'
SCALE IN FEET

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STATE OF MISSOURI
7/17/20
MEGAN J. WALTER
NUMBER PE-2012028697
PROFESSIONAL ENGINEER

REV. NO.	DATE	REVISIONS DESCRIPTION	BY
1	7/17/2020	CITY COMMENTS	

REVISIONS

SW RED BARN ROAD PLAN & PROFILE
STREET AND STORM SEWER PLANS

THE RETREAT AT HOOK FARMS
CONSTRUCTION DOCUMENTS

LEE'S SUMMIT, MO

2020

drawn by: EM
checked by: EM
designed by: RB
QA/QC by: NH
project no.: 019-4059
drawing no.: C_RRP02_0194059
date: 4/20/2020

SHEET C104

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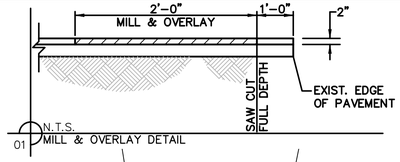
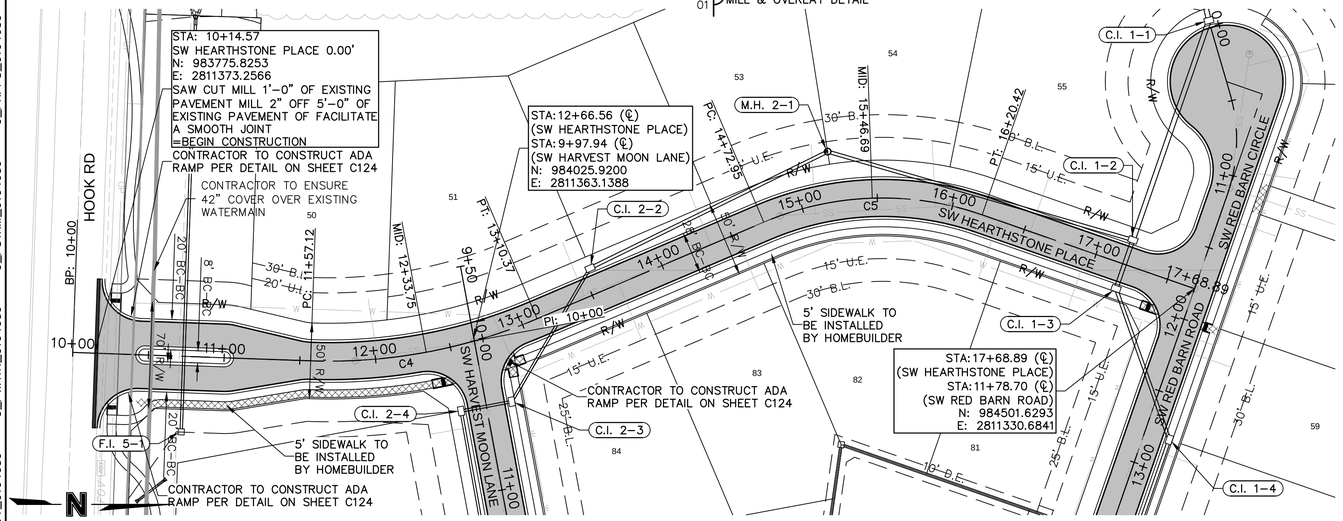
CURVE TABLE					
CURVE ID #	RADIUS (FT)	LENGTH (FT)	DELTA	TANGENT (FT)	P.I. STA. (BK.)
C4	349.99	153.25	025°05'16"	77.87	12+32.50
C5	200.00	147.47	042°14'45"	77.27	15+43.15

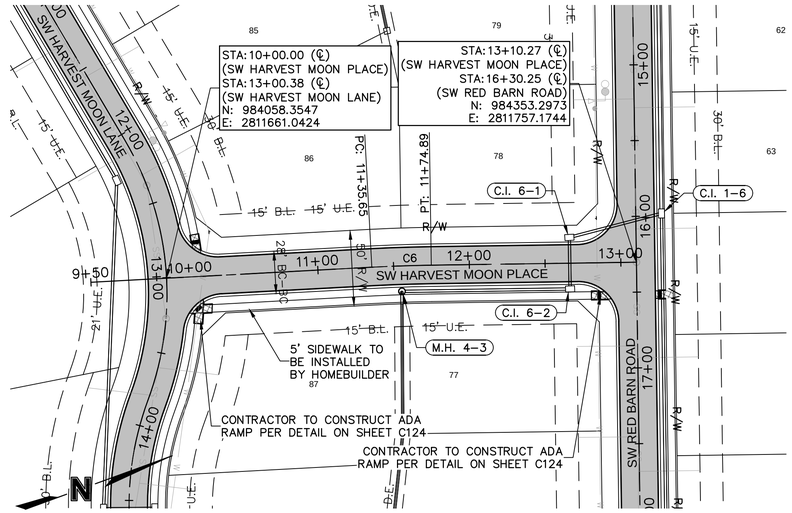


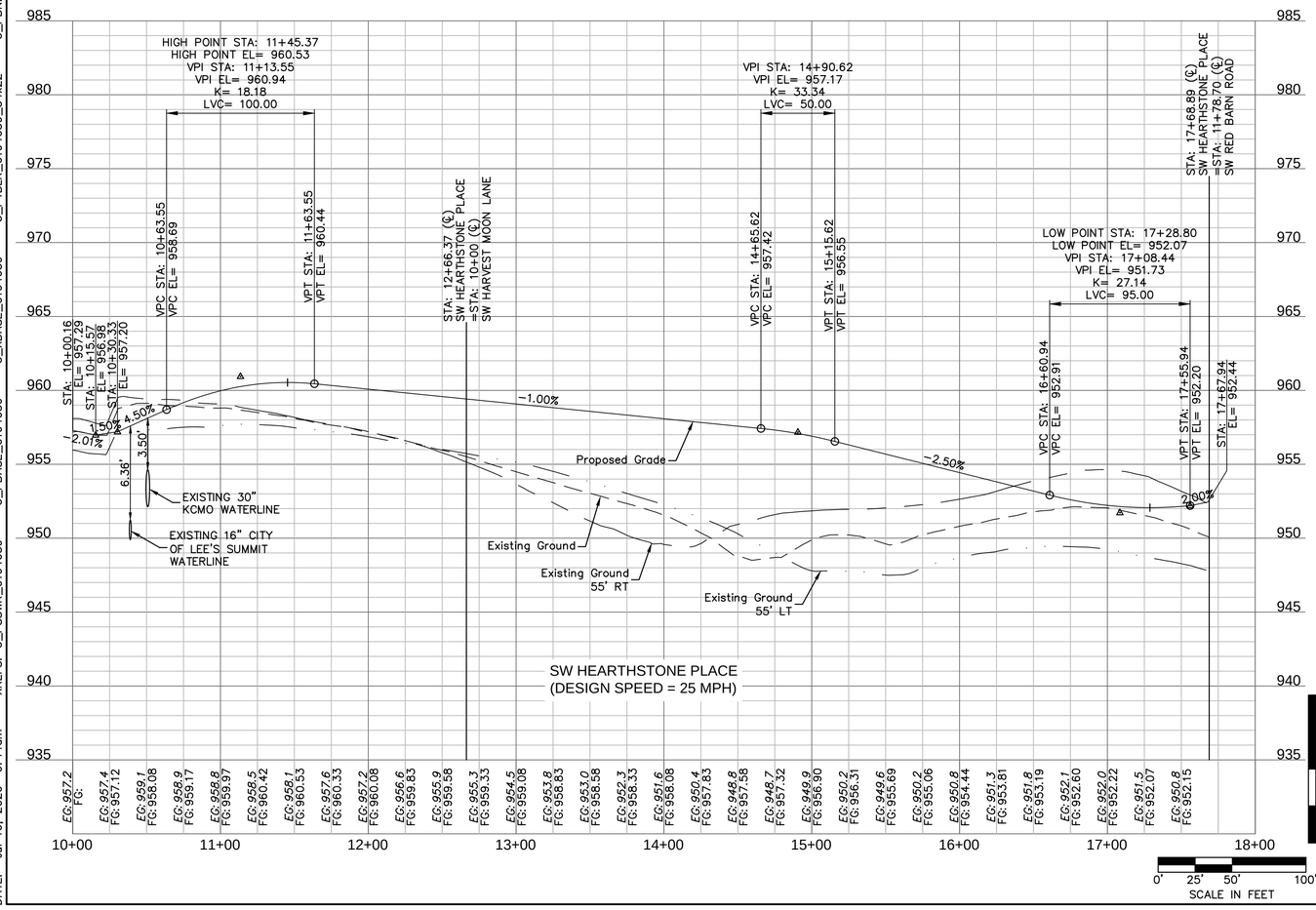
LEGEND
- CONCRETE SIDEWALK
- ASPHALT PAVEMENT
- CG-2 CURB & GUTTER

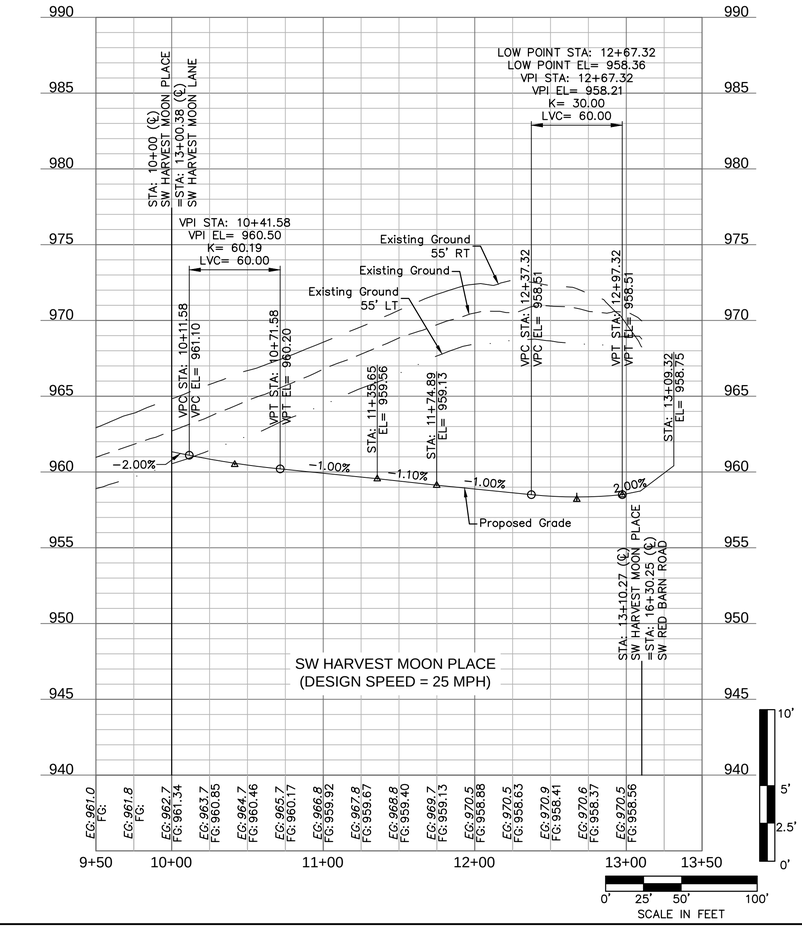
CURVE TABLE					
CURVE ID #	RADIUS (FT)	LENGTH (FT)	DELTA	TANGENT (FT)	P.I. STA. (BK.)
C6	1000.00	39.23	002°14'52"	19.62	11+55.27

RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
09/15/2020









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STATE OF MISSOURI
7/17/20
MEGAN J. WALTER
NUMBER PE-2012029697
PROFESSIONAL ENGINEER

REVISIONS			
REV. NO.	DATE	REVISIONS DESCRIPTION	BY
1	7/17/2020	CITY COMMENTS	

SW HEARTHSTONE PLACE, SW HARVEST MOON LANE PLAN & PROFILE
STREET AND STORM SEWER PLANS

THE RETREAT AT HOOK FARMS
CONSTRUCTION DOCUMENTS

LEE'S SUMMIT, MO

2020

drawn by: EM
checked by: EM
designed by: RB
QA/QC by: NH
project no.: 019-4059
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SHEET C105

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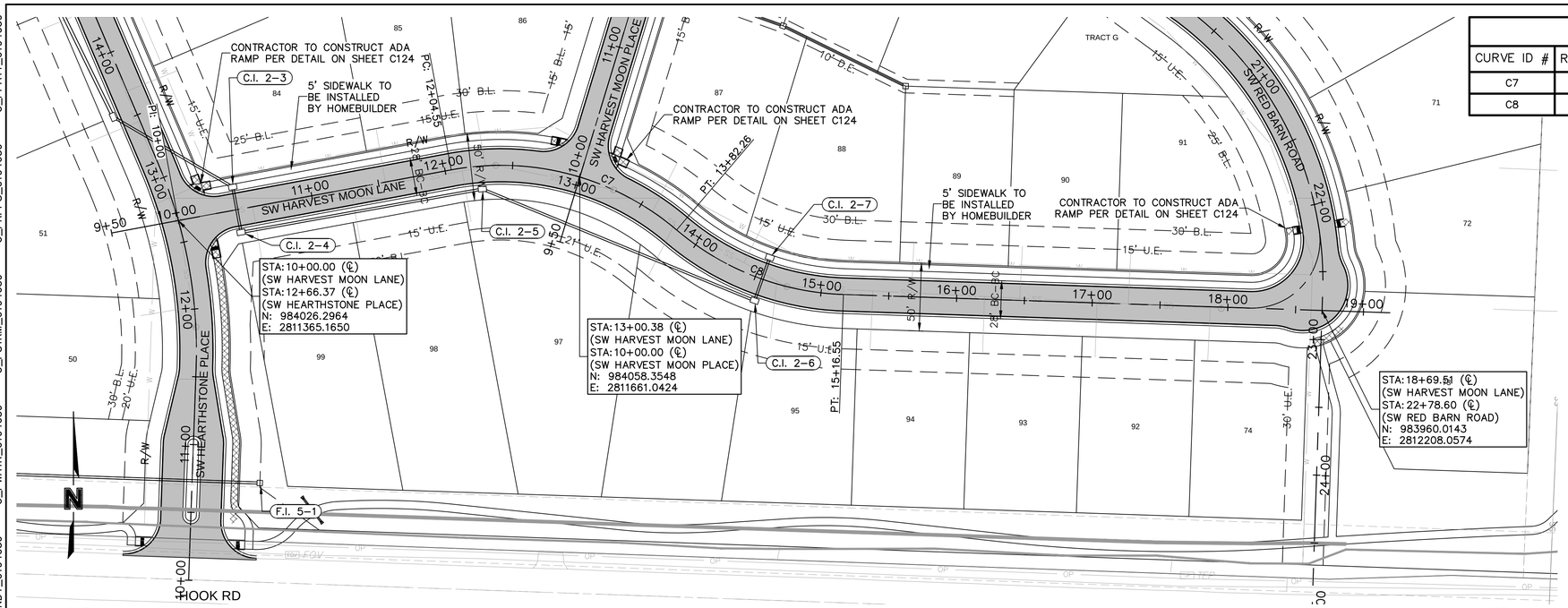
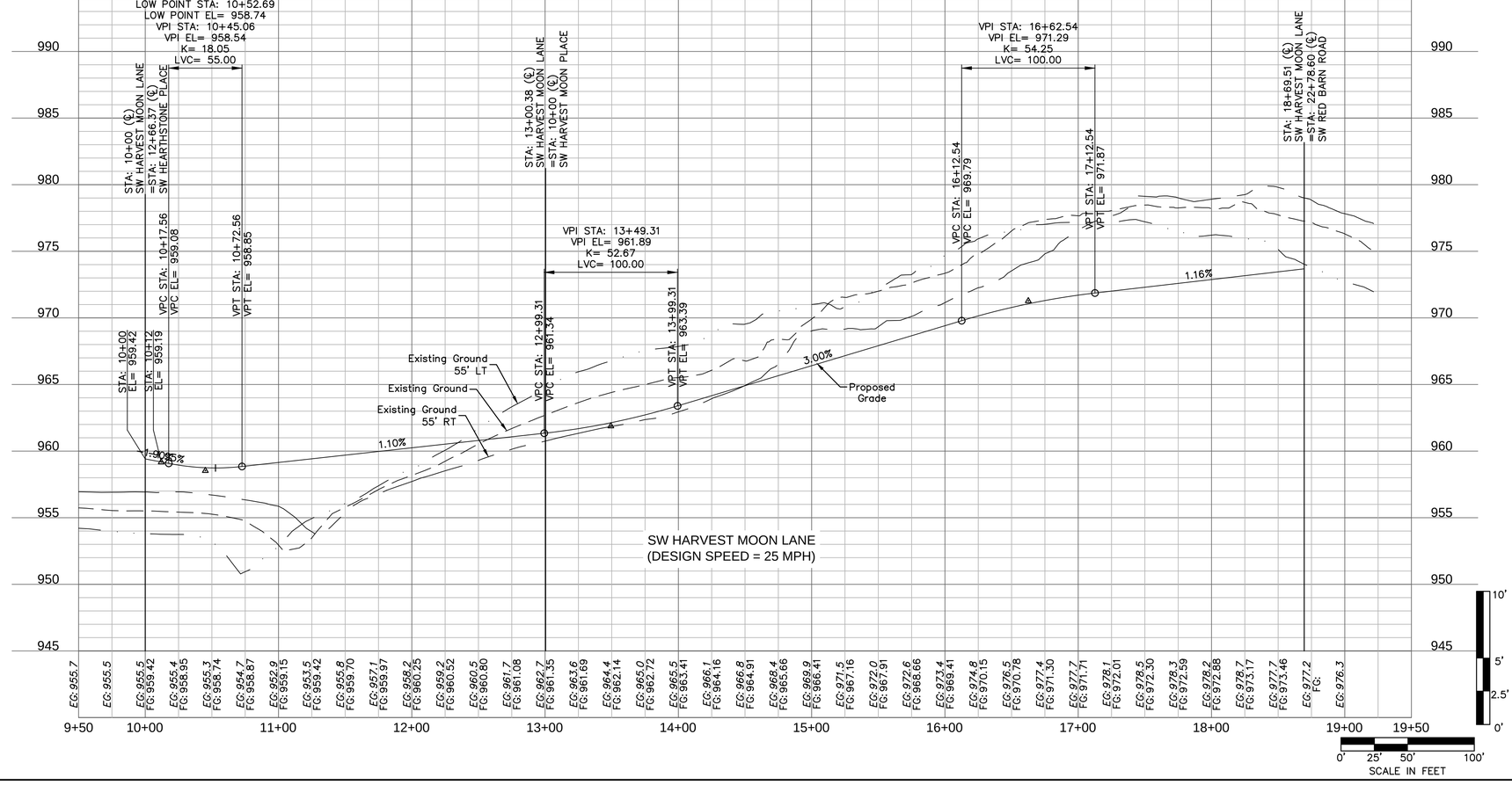


CURVE TABLE					
CURVE ID #	RADIUS (FT)	LENGTH (FT)	DELTA	TANGENT (FT)	P.I. STA. (BK.)
C7	200.00	177.71	050°54'36"	95.20	12+87.06
C8	200.00	134.29	038°28'13"	69.78	14+46.76

LEGEND
- CONCRETE SIDEWALK
- ASPHALT PAVEMENT
- CG-2 CURB & GUTTER



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7/17/20
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REVISIONS

SW HARVEST MOON LANE PLAN & PROFILE
STREET AND STORM SEWER PLANS

THE RETREAT AT HOOK FARMS
CONSTRUCTION DOCUMENTS

LEE'S SUMMIT, MO

2020

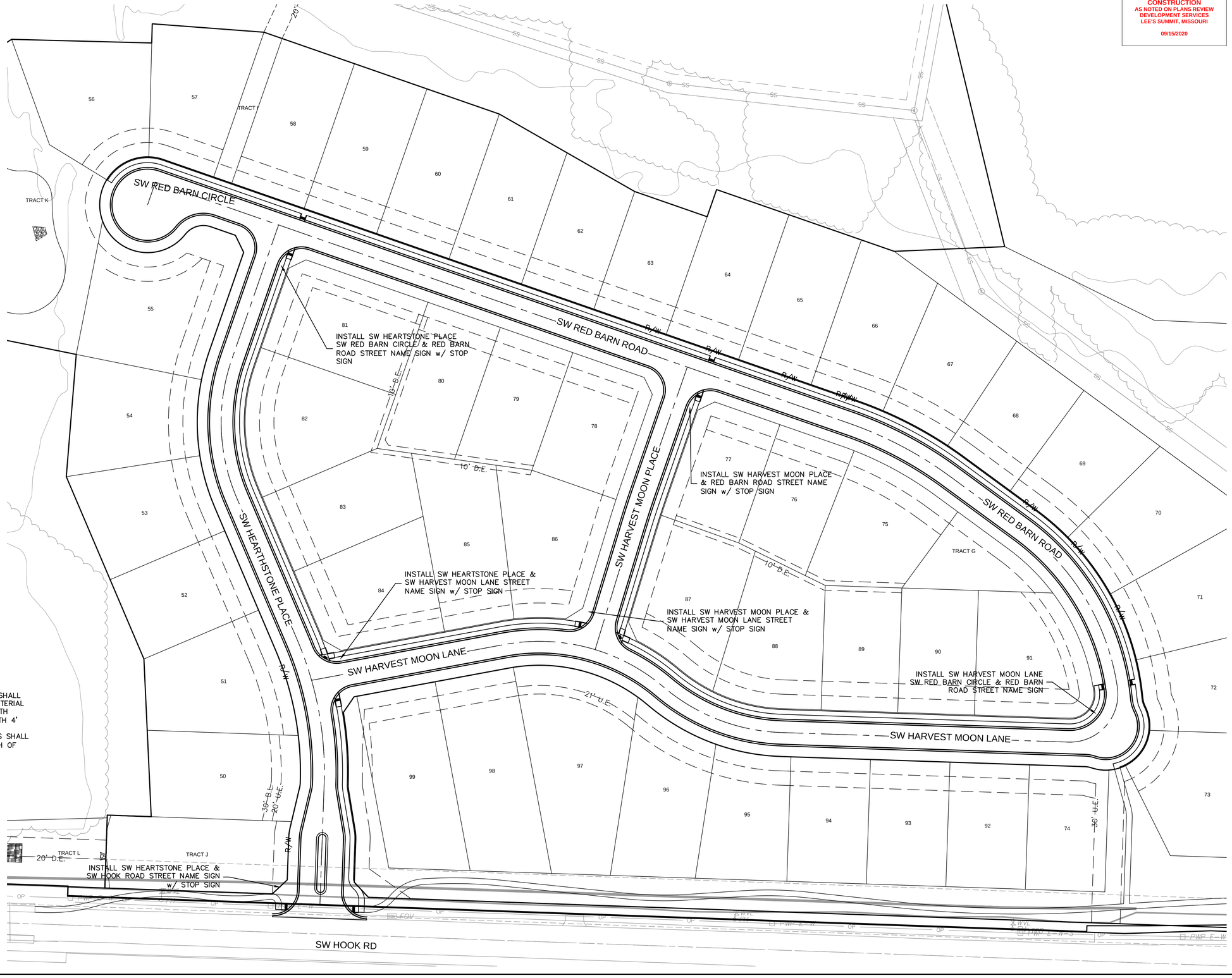
RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
09/15/2020

drawn by:	EM
checked by:	EM
designed by:	RB
QA/QC by:	NH
project no.:	019-4059
drawing no.:	C_RRP02_0194059
date:	4/20/2020

SHEET C106

RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI

09/15/2020



NOTE:
THE CROSSWALK AND STOP LINES SHALL BE PREFORMED THERMOPLASTIC MATERIAL AND LOCATED IN CONFORMANCE WITH STANDARD DETAILS AND MUTCD WITH 4' OF SEPERATION AND CONSISTENT PARALLEL WIDTH. CROSSWALK LINES SHALL BE 10' APART MATCHING THE WIDTH OF THE SHARED-USE PATH.

N

0' 25' 50' 100'
SCALE IN FEET

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STATE OF MISSOURI
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REVISIONS

TRAFFIC CONTROL PLAN
STREET AND STORM SEWER PLANS

THE RETREAT AT HOOK FARMS
CONSTRUCTION DOCUMENTS

2020

LEE'S SUMMIT, MO

drawn by:	EM
checked by:	EM
designed by:	RB
QA/QC by:	NH
project no.:	019-4059
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SHEET C107

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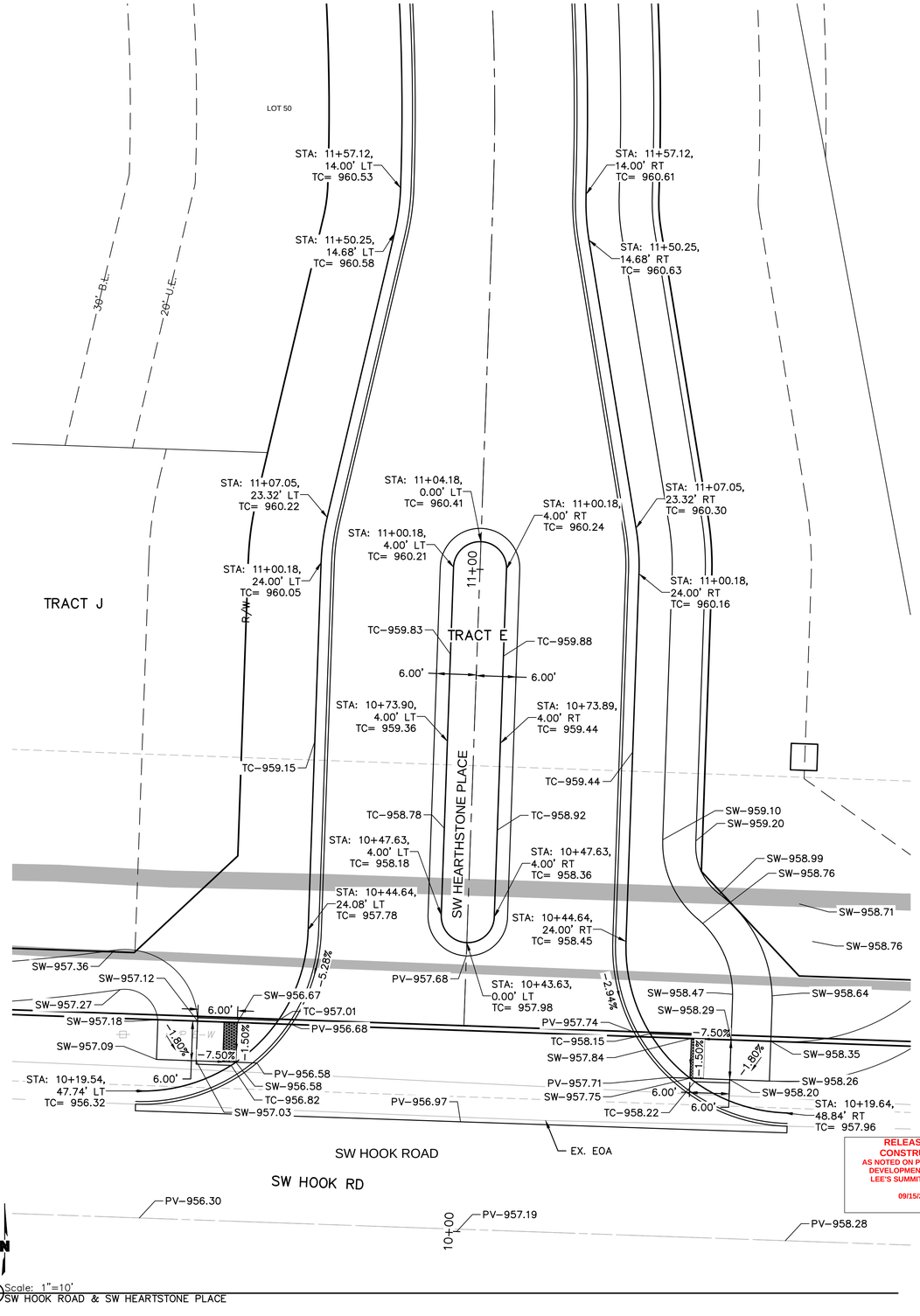

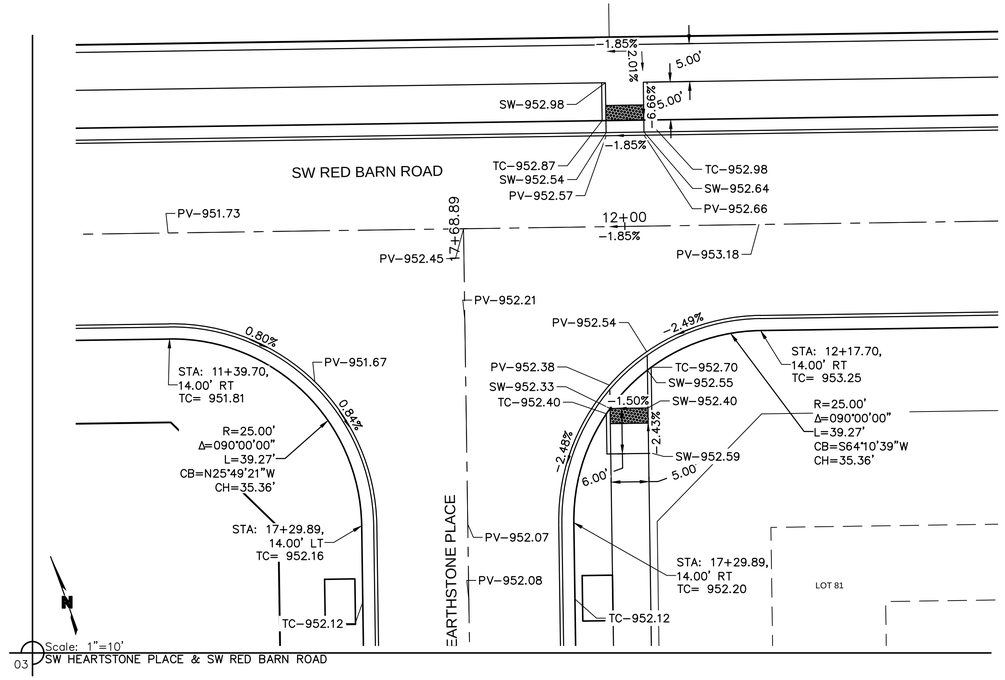

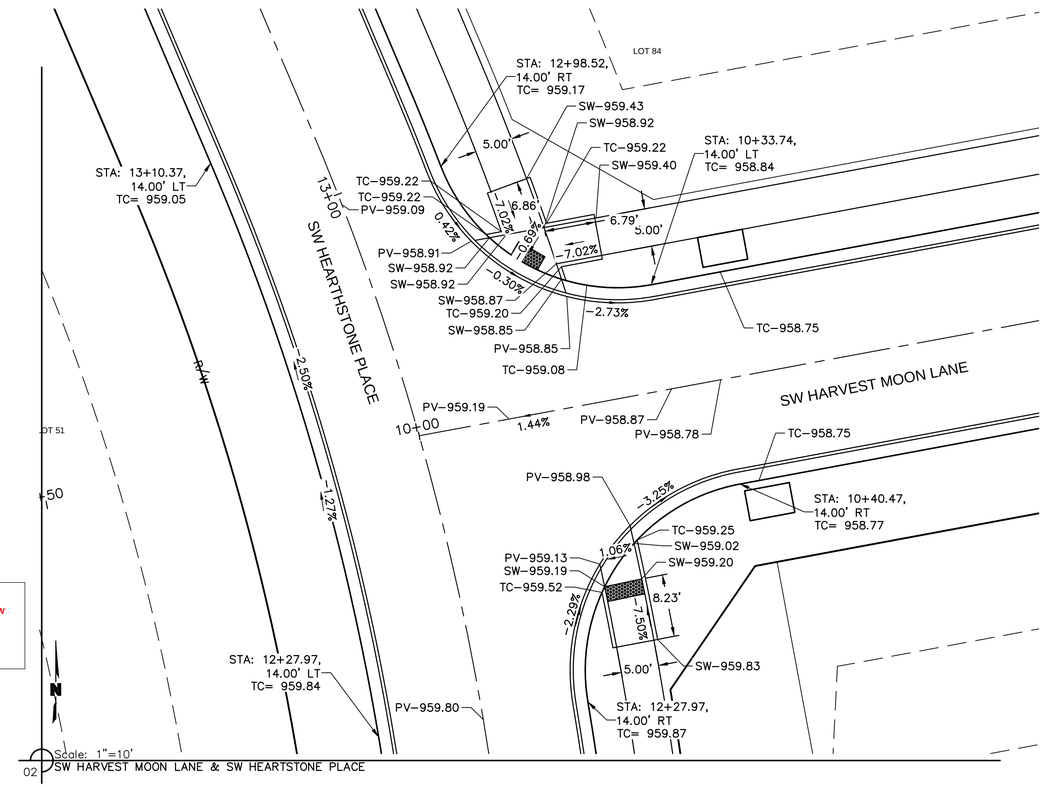

RELEASE FOR CONSTRUCTION
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LEE'S SUMMIT, MISSOURI
09/15/2020

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REV. NO.	DATE	REVISIONS DESCRIPTION	BY
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REVISIONS

INTERSECTION DETAILS
STREET AND STORM SEWER PLANS

THE RETREAT AT HOOK FARMS
CONSTRUCTION DOCUMENTS

LEE'S SUMMIT, MO

2020

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checked by:	EM
designed by:	RB
QA/QC by:	NH
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drawing no.:	C_SPT01_0194059
date:	4/20/2020

SHEET C108

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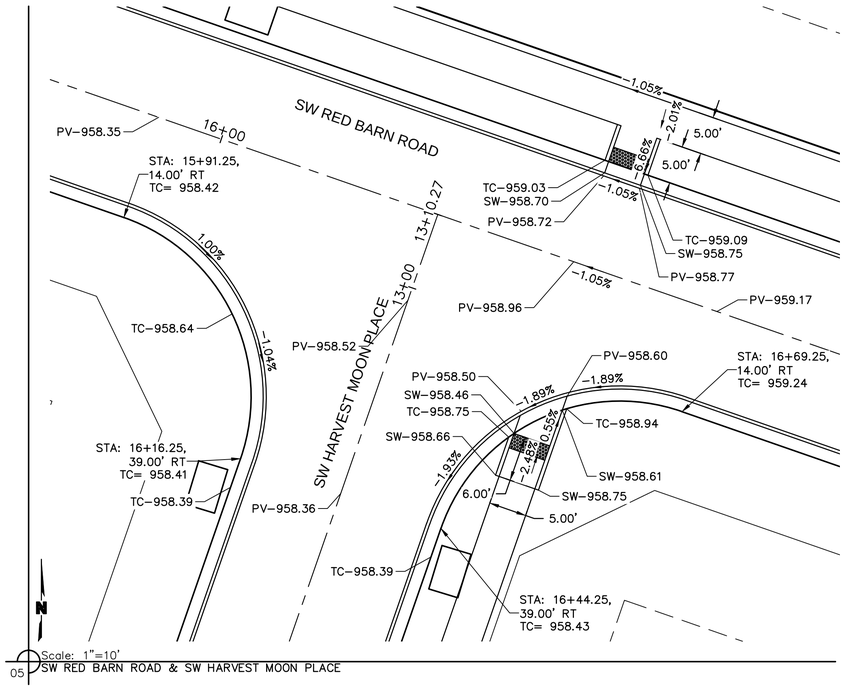

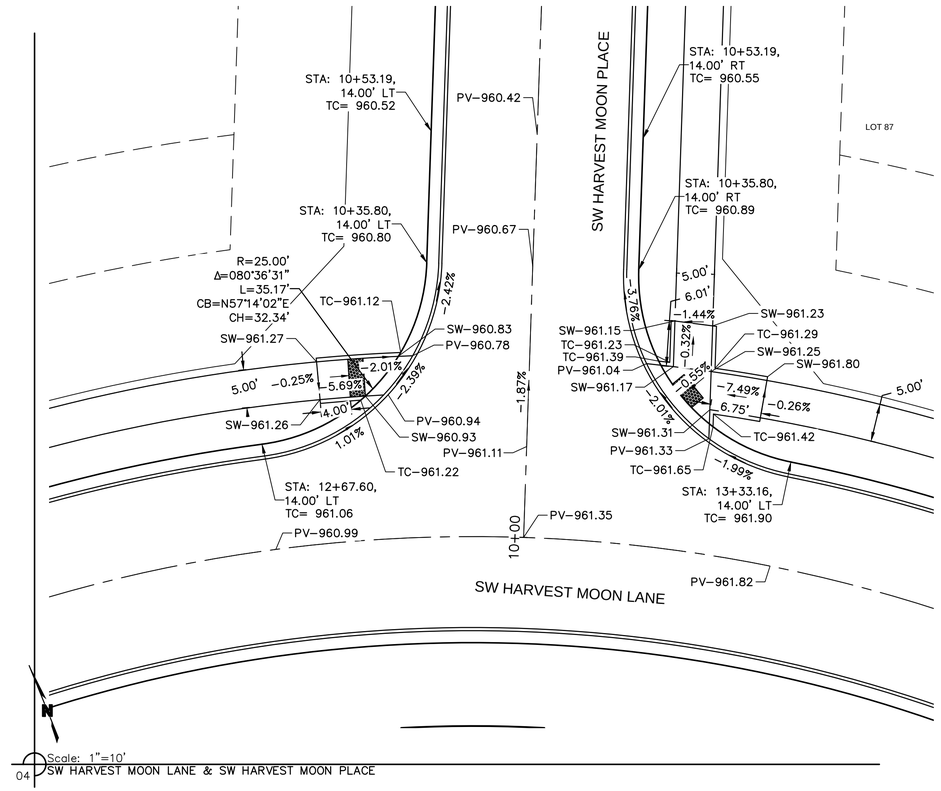

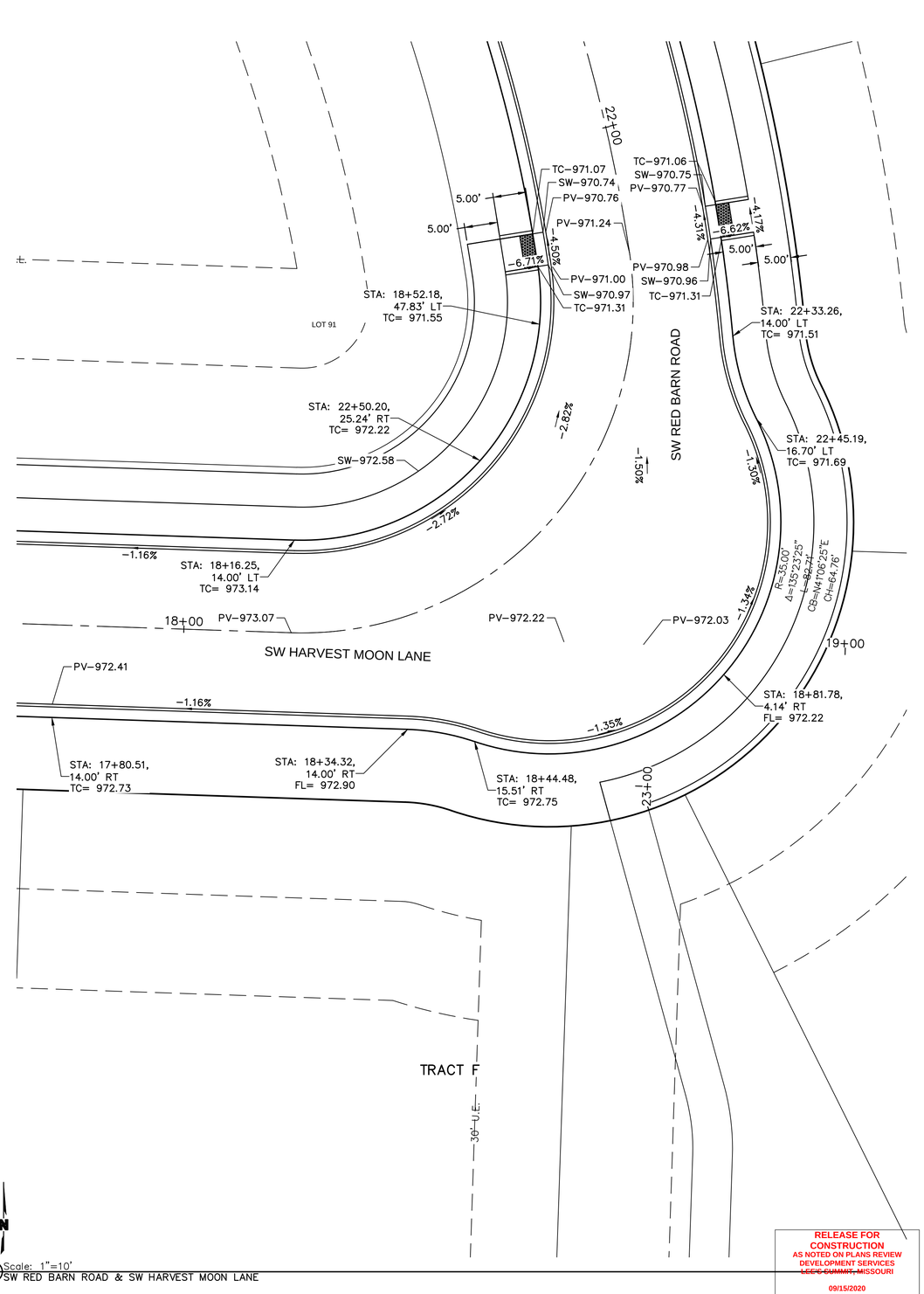

RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
09/15/2020

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STATE OF MISSOURI
MEGAN J. WALTER
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PROFESSIONAL ENGINEER
7/17/20

REV. NO.	DATE	REVISIONS DESCRIPTION	BY
1	7/17/2020	CITY COMMENTS	
		REVISIONS	

INTERSECTION DETAILS
STREET AND STORM SEWER PLANS

THE RETREAT AT HOOK FARMS
CONSTRUCTION DOCUMENTS

LEE'S SUMMIT, MO

2020

drawn by: EM
checked by: EM
designed by: RB
QA/QC by: NH
project no.: 019-4059
drawing no.: C_SPT01_0194059
date: 4/20/2020

SHEET C109

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C_PCORR_0194059 C_PSURF_0194059 C_PSTRM_0194059

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2020

LEE'S SUMMIT, MO

drawn by: EM
checked by: EM
designed by: RB
QA/QC by: NH
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drawing no.: C_SPT01_0194059
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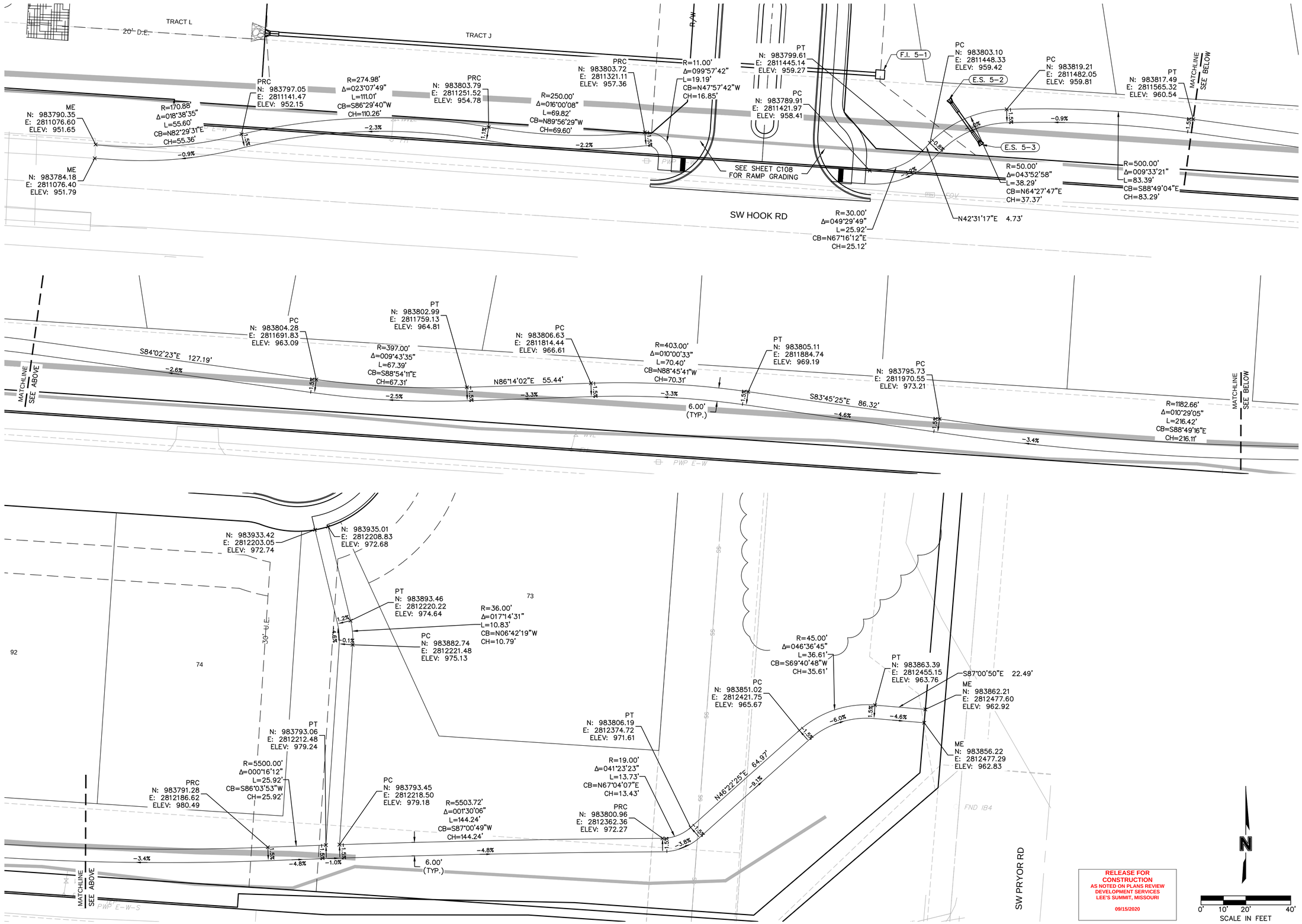
SHEET C110



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TRAIL GRADING PLAN
STREET AND STORM SEWER PLANS

THE RETREAT AT HOOK FARMS
CONSTRUCTION DOCUMENTS

LEE'S SUMMIT, MO

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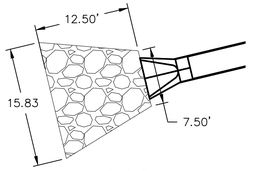
designed by:	RB
QA/QC by:	NH
project no.:	019-4059
drawing no.:	C_SPT02_0194059
date:	4/20/2020

SHEET C111

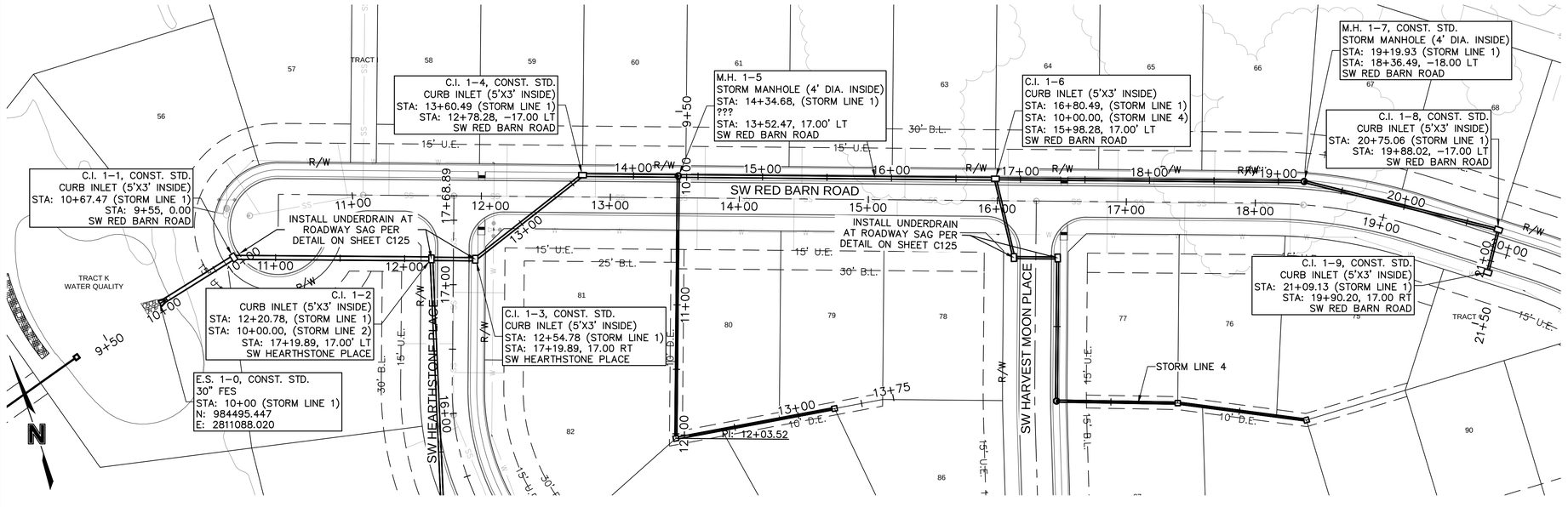


E.S. 1–0
SCALE 1"=10'

Riprap Calculations							
End Section	Q_{100} (cfs)	Pipe Diameter (ft)	Class*	D50* (in)	Apron Length (ft)	Apron Depth (ft)	Area (SY)
E.S. 1-0	37.93	2.5	3	10	12.5	2.00	16.2
E.S. 5-0	9.09	1.5	2	6	6	1.65	4.3
E.S. 7-0	0.61	0.5	1	5	2	1.46	0.5
*Per Table 10.1 HEC 14-FHWA-Energy Dissipators Pg. 10-18							

NOTES:
1. CONTRACTOR TO VERIFY EXISTING CONDITIONS AND COMMUNICATE WITH ENGINEER IF DIFFERENT THAN PLANS.

2. CONTRACTOR SHALL FILL AND COMPACT TO 95% STANDARD DENSITY TO A POINT 4' MINIMUM ABOVE THE TOP OF PIPE PRIOR TO EXCAVATION FOR THE PIPE.



RELEASE FOR CONSTRUCTION
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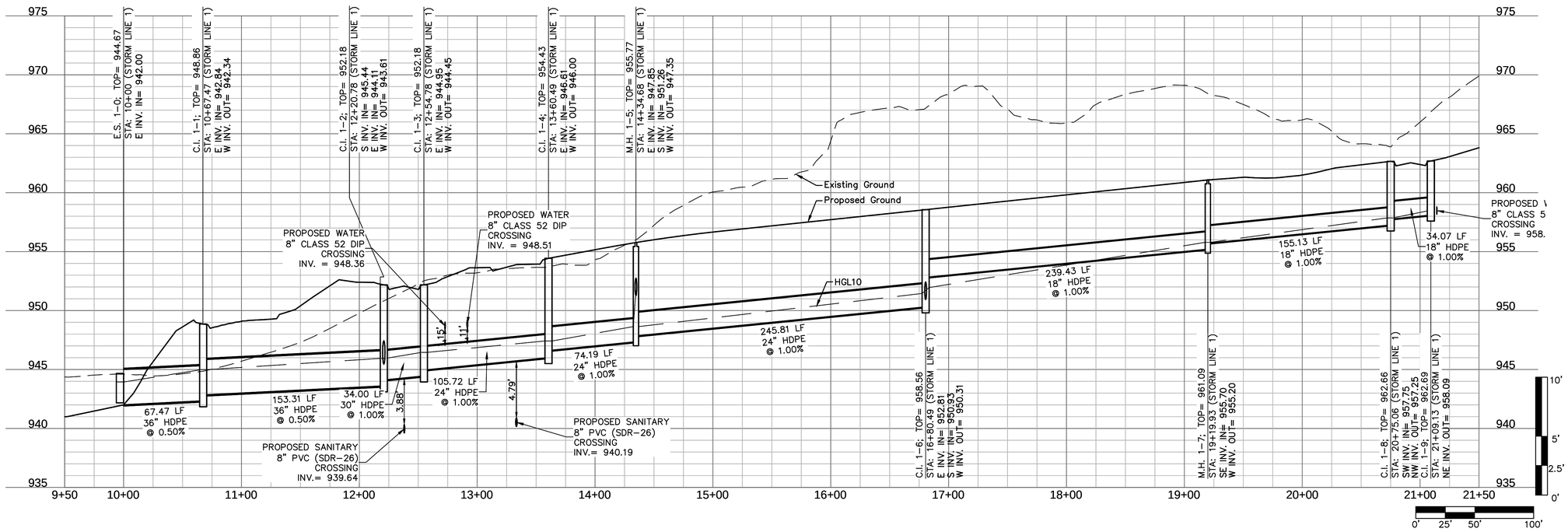
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
09/15/2020

STORM LINE 1 (9+50 - 21+50)



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STATE OF MISSOURI
7/17/20
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PROFESSIONAL ENGINEER

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1	7/17/2020	CITY COMMENTS	

REVISIONS

STORM PLAN & PROFILES
STREET AND STORM SEWER PLANS

THE RETREAT AT HOOK FARMS
CONSTRUCTION DOCUMENTS

LEE'S SUMMIT, MO

2020

drawn by: EM
checked by: EM
designed by: RB
QA/QC by: NH
project no.: 019-4059
drawing no.: C_STM02_0194059
date: 4/20/2020

SHEET C112

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C_PBNDY_0194059 C_PWATR_0194059 C_PSTRM_0194059

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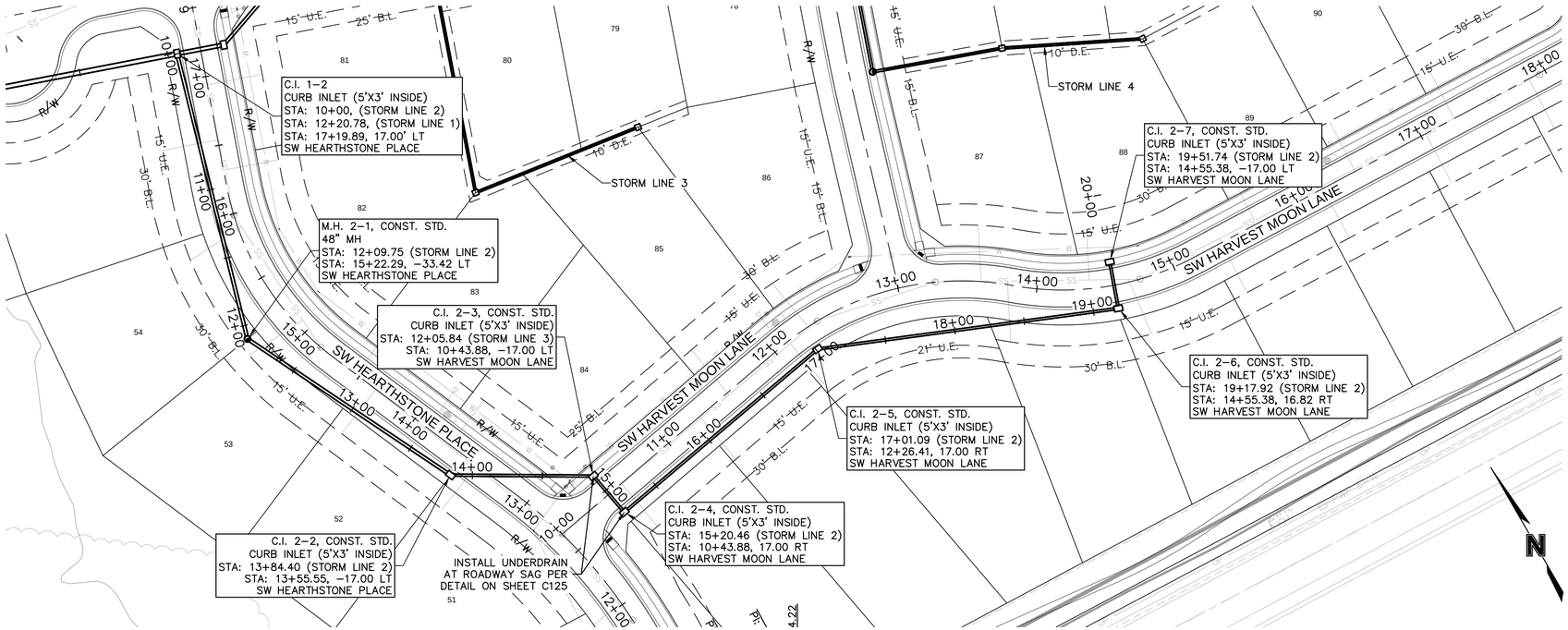
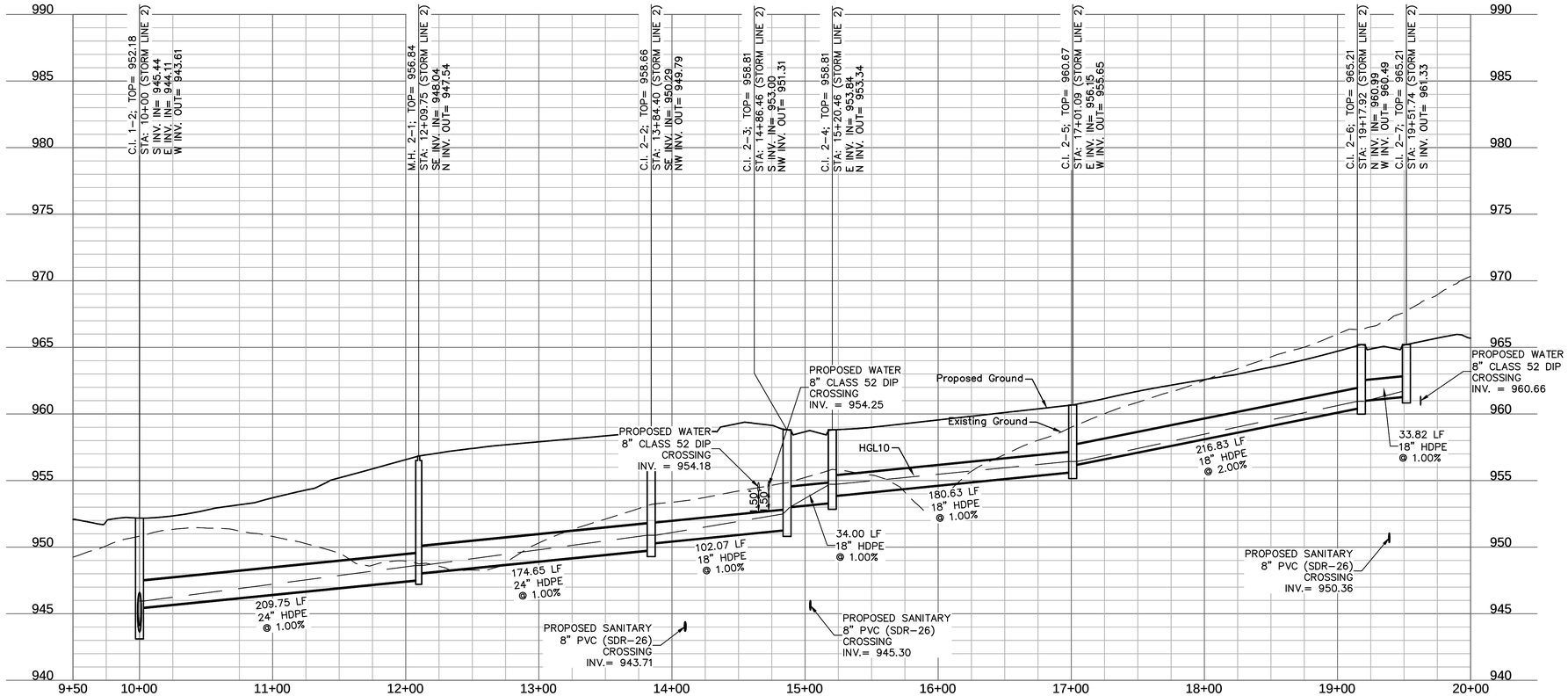


STORM LINE 2 (9+50 - 20+00)



RELEASE FOR CONSTRUCTION
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LEE'S SUMMIT, MISSOURI
09/15/2020

0' 25' 50' 100'
SCALE IN FEET

0' 2.5' 5' 10'

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STATE OF MISSOURI
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QA/QC by: NH
project no.: 019-4059
drawing no.: C_STM02_0194059
date: 4/20/2020

SHEET C113

DWG: F:\2019\4001-4500\019-4059\40-DESIGN\AUTOCAD\FINAL PLANS\SHEETS\GNCV\C_STM02_0194059.dwg USER: emorton
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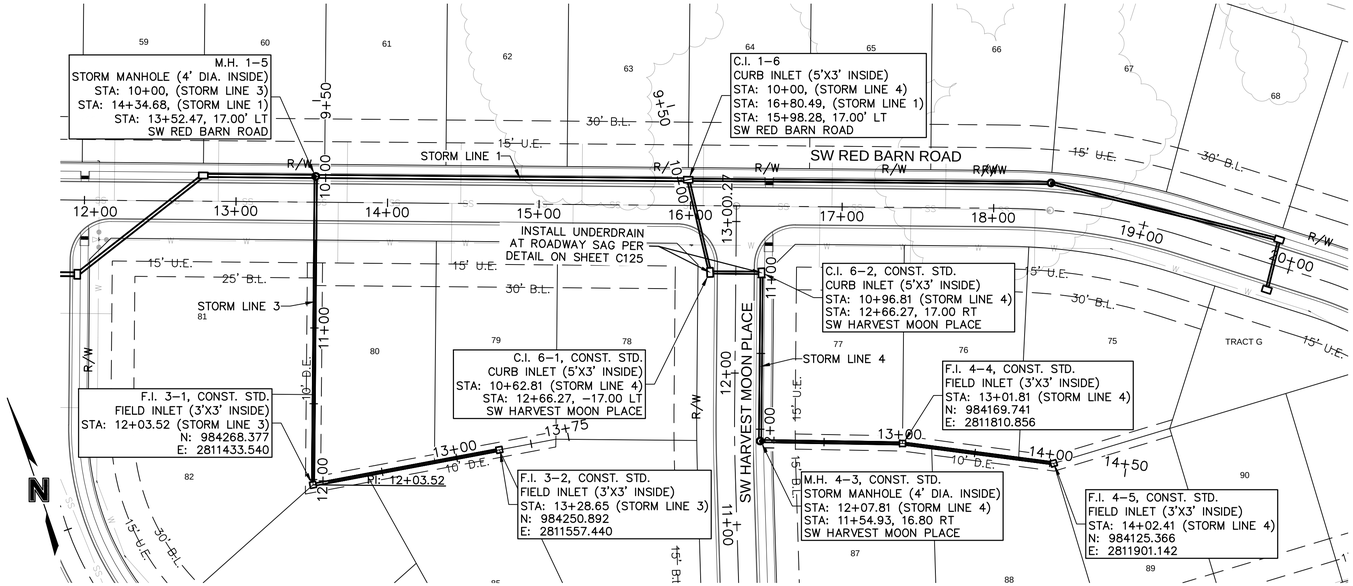
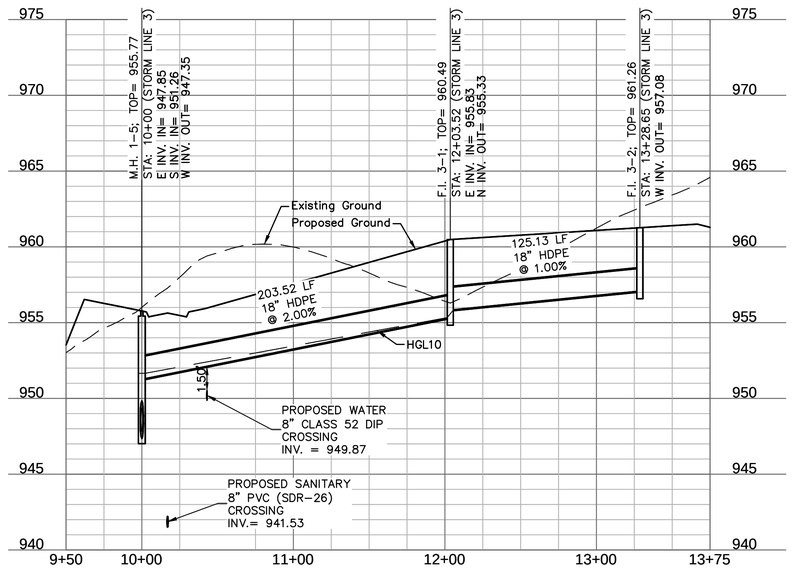
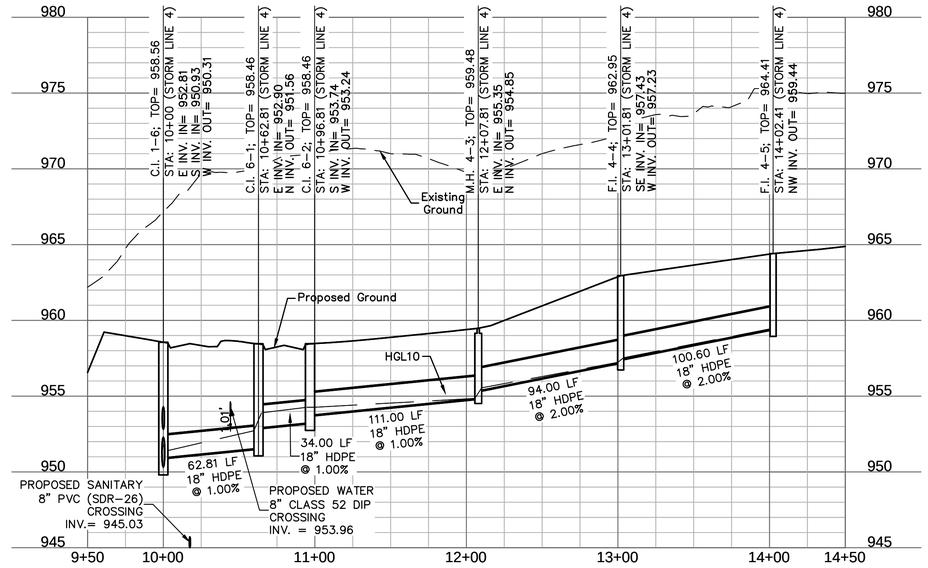


STORM LINE 3 (9+50 - 13+75)



STORM LINE 4 (9+50 - 14+50)



RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
09/15/2020

SCALE IN FEET
0' 25' 50' 100'
0' 2.5' 5' 10'

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STATE OF MISSOURI
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PROFESSIONAL ENGINEER
7/17/20

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STORM PLAN & PROFILES
STREET AND STORM SEWER PLANS

THE RETREAT AT HOOK FARMS
CONSTRUCTION DOCUMENTS

2020

LEE'S SUMMIT, MO

drawn by: EM
checked by: EM
designed by: RB
QA/QC by: NH
project no.: 019-4059
drawing no.: C_STM02_0194059
date: 4/20/2020

SHEET C114

DWG: F:\2019\4001-4500\019-4059\40-DESIGN\AUTOCAD\FINAL PLANS\SHEETS\GNCV\C_STM02_0194059.dwg USER: emorton
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C_PBNDY_0194059 C_PWATR_0194059 C_PSTRM_0194059

NOTES:
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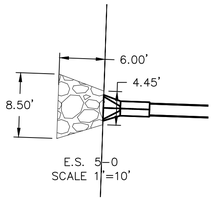
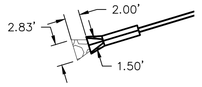
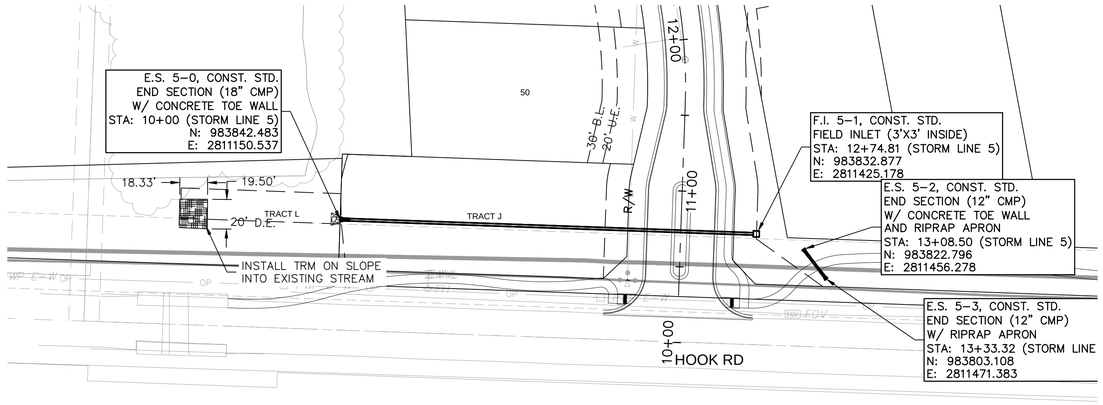


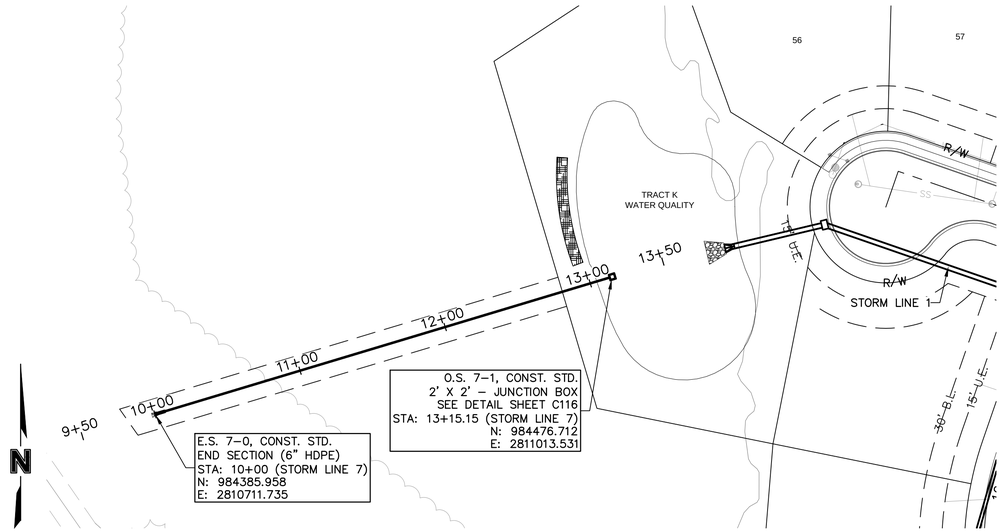
E.S. 5–0
SCALE 1"=10'

Riprap Calculations							
End Section	Q_{100} (cfs)	Pipe Diameter (ft)	Class*	D50* (in)	Apron Length (ft)	Apron Depth (ft)	Area (SY)
E.S. 1-0	37.93	2.5	3	10	12.5	2.00	16.2
E.S. 5-0	9.09	1.5	2	6	6	1.65	4.3
E.S. 7-0	0.61	0.5	1	5	2	1.46	0.5
*Per Table 10.1 HEC 14-FHWA-Energy Dissipators Pg. 10-18							

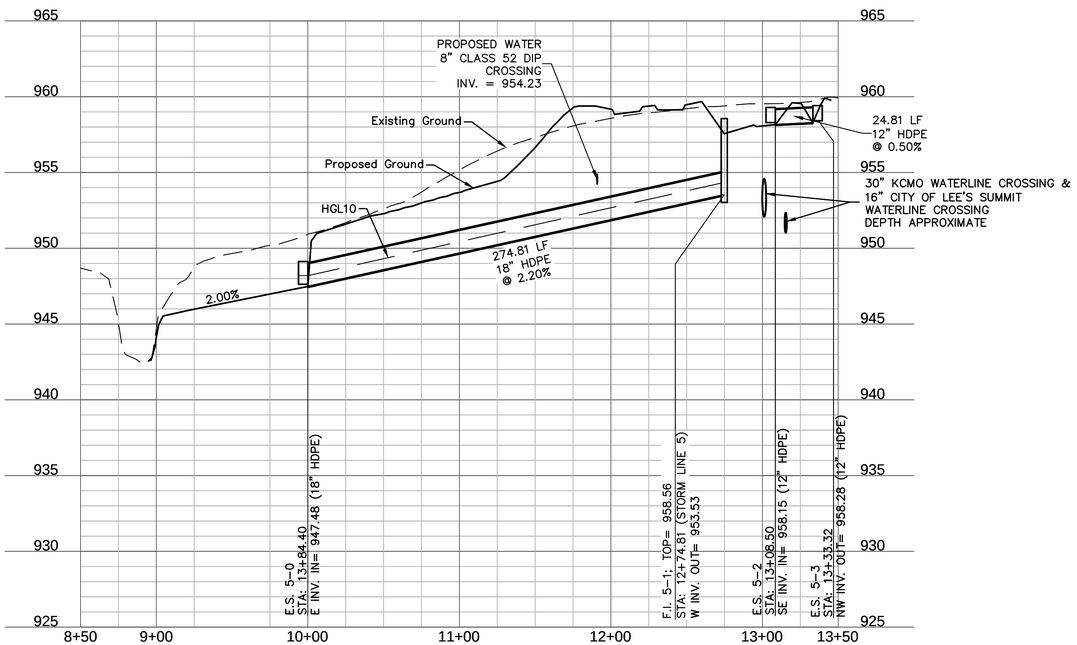


E.S. 7–0
SCALE 1"=10'

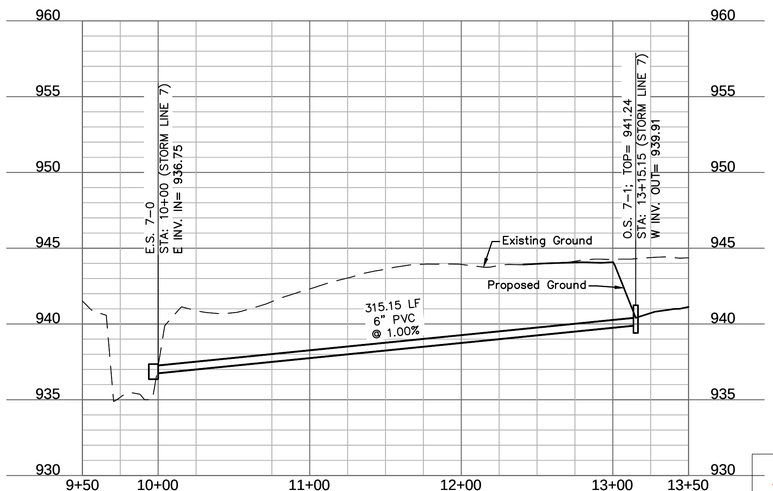




STORM LINE 5 (8+50 - 13+50)



STORM LINE 7 (9+50 - 13+50)



RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI

09/15/2020

10
5'
2.5'
0'

0' 25' 50' 100'
SCALE IN FEET

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STATE OF MISSOURI
7/17/20
MEGAN J. WALTER
NUMBER PE-2012029697
PROFESSIONAL ENGINEER

REV. NO.	DATE	REVISIONS DESCRIPTION	BY
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REVISIONS

STORM PLAN & PROFILES
STREET AND STORM SEWER PLANS

THE RETREAT AT HOOK FARMS
CONSTRUCTION DOCUMENTS

LEE'S SUMMIT, MO

2020

drawn by: EM
checked by: EM
designed by: RB
QA/QC by: NH
project no.: 019-4059
drawing no.: C_STM02_0194059
date: 4/20/2020

SHEET C115

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C_PBNDY_0194059 C_PWATR_0194059 C_PSTRM_0194059
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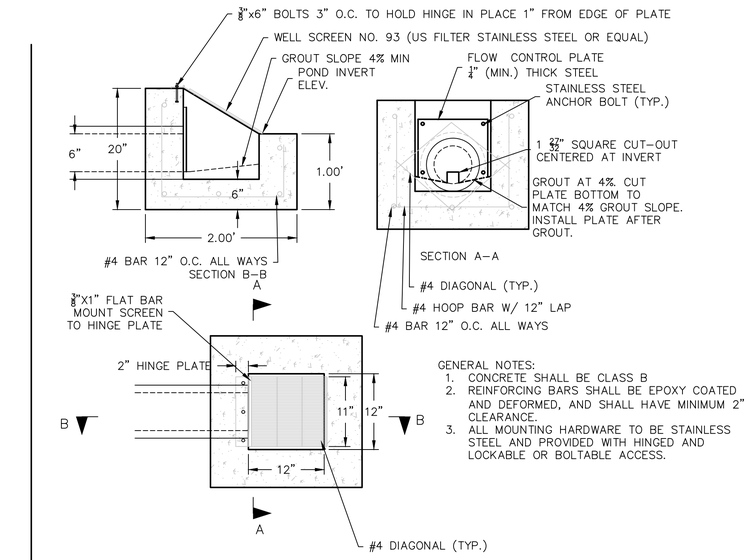
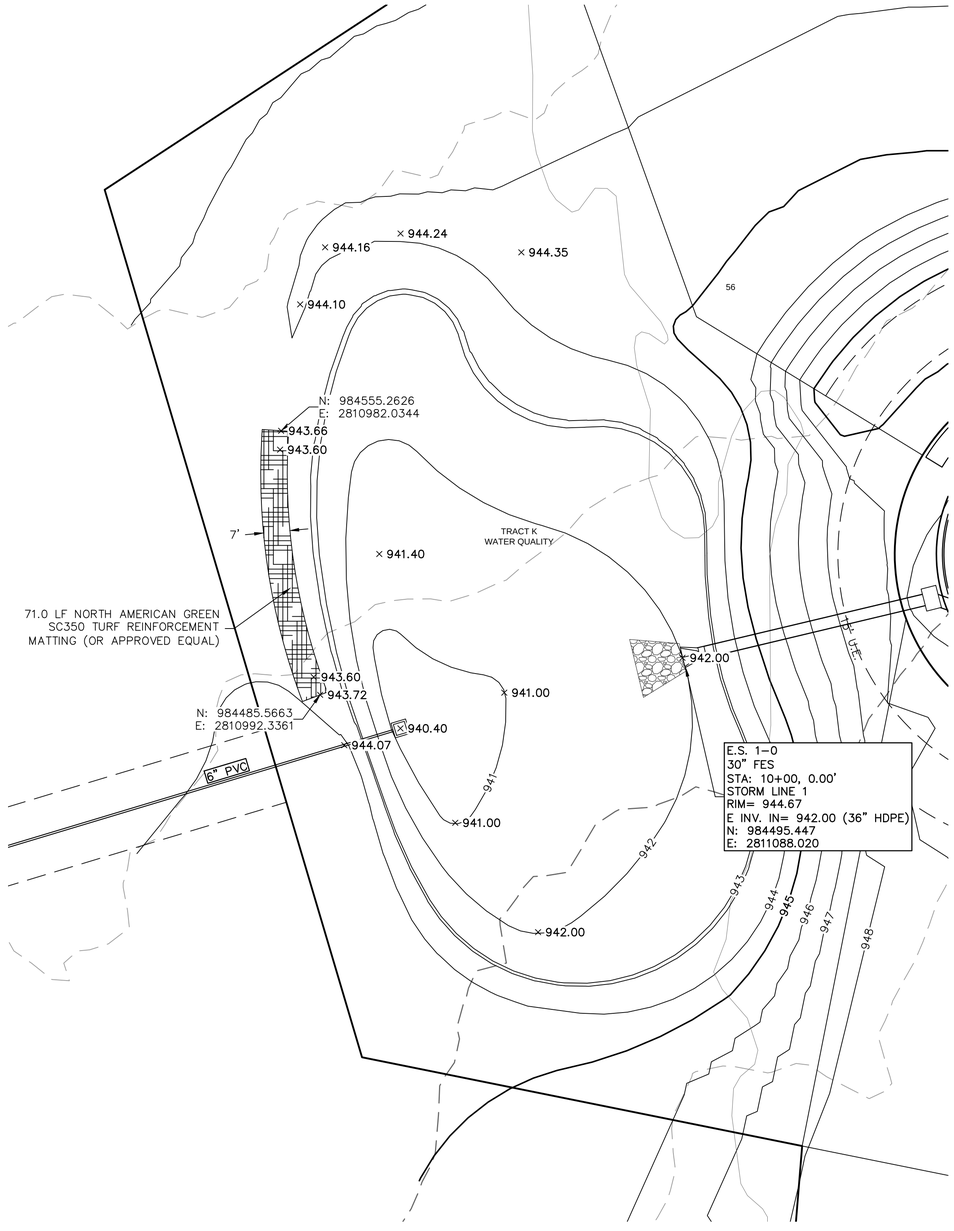
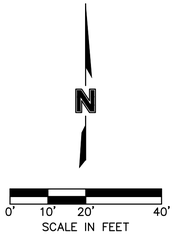


GENERAL NOTES:
1. CONCRETE SHALL BE CLASS B
2. REINFORCING BARS SHALL BE EPOXY COATED AND DEFORMED, AND SHALL HAVE MINIMUM 2" CLEARANCE.
3. ALL MOUNTING HARDWARE TO BE STAINLESS STEEL AND PROVIDED WITH HINGED AND LOCKABLE OR BOLTABLE ACCESS.

01 Scale: 1"=1'
WATER QULITY POND 2 OULET STRUCTURE





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DETENTION BASIN PLAN
STREET AND STORM SEWER PLANS

THE RETREAT AT HOOK FARMS
CONSTRUCTION DOCUMENTS

LEE'S SUMMIT, MO

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SHEET C116

DWG: F:\2019\4001-4500\019-4059\40-DESIGN\AUTOCAD\FINAL PLANS\SHEETS\GNCV\C_GRD02_0194059.dwg USER: emorton
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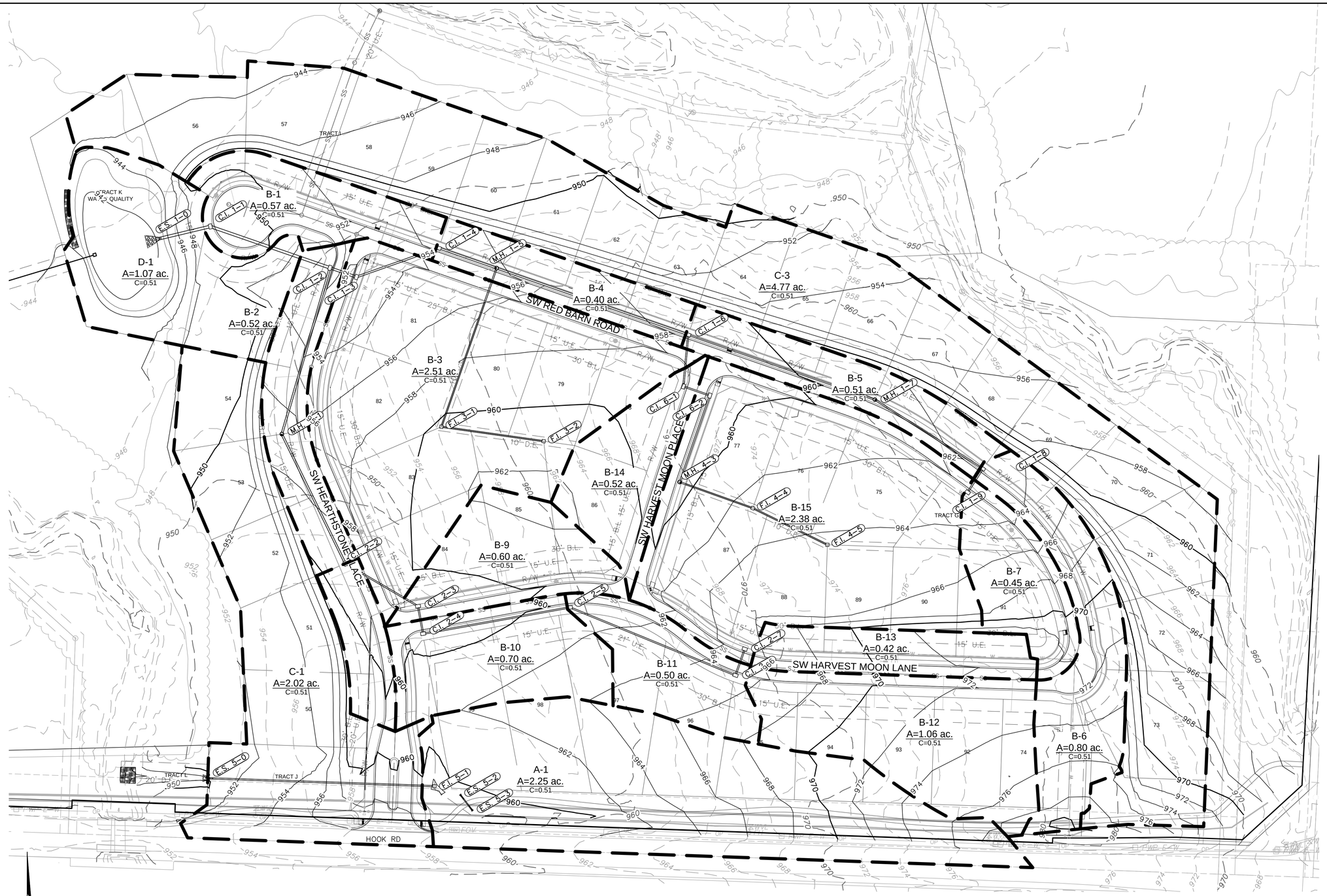

N

0' 30' 60' 120'

SCALE IN FEET

NOTES:

1. INDIVIDUAL LOT OWNERS SHALL NOT CHANGE OR OBSTRUCT THE DRAINAGE FLOW LINES OR PATHS ON THE LOTS, AS SHOWN ON THE MASTER DRAINAGE PLAN, UNLESS SPECIFIC APPLICATION IS MADE AND APPROVED BY THE CITY ENGINEER.

2. PLAT IS LOCATED IN ZONE X, "AREAS OUTSIDE THE 1-PERCENT ANNUAL CHANCE FLOODPLAINS, AREAS OF 1-PERCENT ANNUAL CHANCE SHEET FLOW FLOODING WHERE THE AVERAGE DEPTHS ARE LESS THAN 1 FOOT, AREAS OF 1-PERCENT ANNUAL CHANCE STREAM FLOODING WHERE THE CONTRIBUTING DRAINAGE AREA IS LESS THAN 1 SQUARE MILE, OR AREAS PROTECTED FROM THE 1-PERCENT ANNUAL CHANCE FLOOD BY LEVEES. NO BASE FLOOD ELEVATIONS OR DEPTHS ARE SHOWN WITHIN THIS ZONE"

3. BUFFER ZONE FOR NATURAL STREAMS IS LOCATED WITHIN PLAT.

4. MLO ELEVATIONS HAVE BEEN PROVIDED AT EACH LOT CORNER. INTERPOLATION WILL BE ALLOWED BETWEEN CORNER MBOES SHOWN ON THE MASTER DRAINAGE PLAN, DEPENDING ON THE LOCATION OF THE LOWEST OPENING ON THE PROPOSED STRUCTURE.

5. NO BUILDING PERMITS WILL BE ISSUED UNTIL AN AS-GRADED MASTER DRAINAGE PLAN HAS BEEN SUBMITTED TO THE CITY AND APPROVED BY THE CITY.

LEGEND	
100	FINISHED INDEX CONTOURS
100	FINISHED INTERMEDIATE CONTOURS
— —	RIDGE LINE
A	DRAINAGE AREA
C	RUNOFF COEFFICIENT
C.I. 0-0	STORM STRUCTURE NUMBER

RELEASE FOR CONSTRUCTION
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DEVELOPMENT SERVICES
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DRAINAGE PLAN
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SHEET C117

DWG: F:\2019\4001-4500\019-4059\40-DESIGN\AUTOCAD\FINAL PLANS\SHEETS\GNCV\C_DRN01_0194059.dwg USER: emorton
DATE: Jul 16, 2020 9:51am XREFS: C_PTBLK_0194059_34x22 C_PBASE_0194059 C_PSSWR_0194059 C_PWATR_0194059 C_PBNDY_0194059 C_PSTRM_0194059 C_XBASE_0194059 C_PBASN_0194059

Drainage Area Design Table						
10 Year Return Frequency						
Inlet ID	Drainage Area	C	Tc	i	K	Peak Flow
	(ac)		(min)	(in/hr)		(cfs)
C.I. 1-1	0.57	0.51	8.01	6.53	1.00	1.90
C.I. 1-2	0.52	0.51	7.61	6.63	1.00	1.76
C.I. 1-3	2.50	0.51	19.85	4.60	1.00	5.86
C.I. 1-4	0.40	0.51	7.06	6.77	1.00	1.38
C.I. 1-6	0.51	0.51	7.74	6.59	1.00	1.71
C.I. 1-8	0.80	0.51	7.94	6.54	1.00	2.67
C.I. 1-9	0.45	0.51	13.89	5.35	1.00	1.23
C.I. 2-2	0.25	0.51	5.89	7.09	1.00	0.90
C.I. 2-3	0.60	0.51	10.88	5.90	1.00	1.80
C.I. 2-4	0.70	0.51	13.50	5.42	1.00	1.93
C.I. 2-5	0.50	0.51	12.15	5.65	1.00	1.44
C.I. 2-6	1.06	0.51	19.54	4.63	1.00	2.50
C.I. 2-7	0.42	0.51	7.14	6.75	1.00	1.45
C.I. 4-1	0.52	0.51	11.84	5.71	1.00	1.51
C.I. 4-2	2.38	0.51	18.47	4.74	1.00	5.75

Inlet Design Table															
10 Year Return Frequency															
Inlet ID	Inlet Location	Peak Flow	Upstream Bypass	Total Flow	Clogging Factor	Inlet Capacity	Sag Inlet Capacity (Note 1)	Captured Flow	Bypass Flow	Downstream Bypass Inlet	Inlet Efficiency (Note 2)	Gutter Depth	Gutter Spread	Ponding Depth
		(cfs)	(cfs)	(cfs)		(cfs)	(cfs)	(cfs)	(cfs)		(%)	(ft)	(ft)	(ft)
C.I. 1-1	SAG	1.90	1.09	2.98	0.80	19.40	15.52	2.98	0.00		100.00%	0.21	6.84	...
C.I. 1-2	SAG	1.76	0.09	1.84	0.80	19.40	15.52	1.84	0.00		100.00%	0.21	5.78	...
C.I. 1-3	SAG	5.86	0.00	5.86	0.80	19.40	15.52	5.86	0.00		100.00%	0.32	8.91	...
C.I. 1-4	GRADE	1.38	0.72	2.10	1.00	1.74	1.74	1.74	0.36	C.I. 1-1	82.73%	0.16	7.93	...
C.I. 1-6	GRADE	1.71	0.45	2.17	1.00	1.89	1.89	1.89	0.27	C.I. 1-4	87.42%	0.18	8.83	...
C.I. 1-8	GRADE	2.67	0.00	2.67	1.00	2.22	2.22	2.22	0.45	C.I. 1-6	83.13%	0.19	9.31	...
C.I. 1-9	GRADE	1.23	0.00	1.23	1.00	1.13	1.13	1.13	0.09	C.I. 4-2	92.33%	0.14	6.96	...
C.I. 2-2	GRADE	0.90	0.00	0.90	1.00	0.82	0.82	0.82	0.09	C.I. 1-2	90.43%	0.11	5.41	...
C.I. 2-3	SAG	1.80	0.00	1.80	0.80	19.40	15.52	1.80	0.00		100.00%	0.19	6.62	...
C.I. 2-4	SAG	1.93	0.99	2.93	0.80	19.40	15.52	2.93	0.00		100.00%	0.23	7.94	...
C.I. 2-5	GRADE	1.44	0.67	2.12	1.00	1.80	1.80	1.80	0.32	C.I. 2-4	85.02%	0.17	8.29	...
C.I. 2-6	GRADE	2.50	0.00	2.50	1.00	1.83	1.83	1.83	0.67	C.I. 2-5	73.04%	0.16	7.75	...
C.I. 2-7	GRADE	1.45	0.00	1.45	1.00	1.21	1.21	1.21	0.24	C.I. 4-2	83.46%	0.13	6.31	...
C.I. 4-1	SAG	1.51	0.00	1.51	0.80	19.40	15.52	1.51	0.00		100.00%	0.15	7.42	...
C.I. 4-2	SAG	5.75	0.33	6.08	0.80	19.40	15.52	6.08	0.00		100.00%	0.25	12.49	...
F.I. 5-1	SAG	7.32	0.00	7.32	0.50	18.19	9.09	7.32	0.00		100.00%	...	...	1.02

Notes:
1. Inlet capacity at sag location has been reduced by a clogging factor of 0.80, reducing theoretical capacity to 80% capacity, as required per APWA Section 5600.
Both theoretical capacity and reduced capacity are shown.
2. Inlet efficiency shown in the tables is Captured Flow/Total Flow, denoting the actual percentage of flow captured after the capacity has been reduced to 80% of theoretical capacity.

From (Inlet) Node	To (Outlet) Node	Length	Inlet Invert Elevation	Outlet Invert Elevation	Average Slope	Pipe Diameter	Manning's Roughness	Entrance Losses	Exit/Bend Losses	Additional Losses	Initial Flow	Peak Flow	Max Flow Velocity	Travel Time	Design Flow Capacity	Max Flow / Design Flow Ratio	Max Flow Depth / Total Depth Ratio	Max Flow Depth
		(ft)	(ft)	(ft)	(%)	(inches)					(cfs)	(cfs)	(ft/sec)	(min)	(cfs)			(ft)
C.I. 1-9	C.I. 1-8	34.07	958.09	957.75	1.0000	18.000	0.0120	0.5000	0.5000	0.0000	0.00	1.16	3.70	0.15	11.38	0.10	0.23	0.35
C.I. 1-8	M.H. 1-7	155.13	957.25	955.70	1.0000	18.000	0.0120	0.5000	0.5000	0.0000	0.00	3.37	5.28	0.49	11.38	0.30	0.39	0.58
M.H. 1-7	C.I. 1-6	239.43	955.20	952.81	1.0000	18.000	0.0120	0.5000	0.5000	0.0000	0.00	3.35	5.37	0.74	11.38	0.29	0.38	0.57
C.I. 1-6	M.H. 1-5	245.81	950.31	947.85	1.0000	24.000	0.0120	0.5000	0.5000	0.0000	0.00	12.61	7.29	0.56	24.51	0.51	0.54	1.08
M.H. 1-5	C.I. 1-4	74.19	947.35	946.61	1.0000	24.000	0.0120	0.5000	0.5000	0.0000	0.00	12.61	6.70	0.18	24.51	0.51	0.58	1.16
C.I. 1-4	C.I. 1-3	105.72	946.00	944.95	1.0000	24.000	0.0120	0.5000	0.5000	0.0000	0.00	14.08	6.40	0.28	24.48	0.58	0.73	1.46
C.I. 1-3	C.I. 1-2	34.00	944.45	944.11	1.0000	30.000	0.0120	0.5000	0.5000	0.0000	0.00	19.94	6.24	0.09	44.44	0.45	0.77	1.92
C.I. 1-2	C.I. 1-1	153.31	943.61	942.84	0.5000	36.000	0.0120	0.5000	0.5000	0.0000	0.00	33.09	5.94	0.43	51.21	0.65	0.75	2.24
C.I. 1-1	E.S. 1-0	67.47	942.34	942.00	0.5000	36.000	0.0120	0.5000	0.5000	0.0000	0.00	38.46	6.64	0.17	51.15	0.75	0.76	2.29
C.I. 2-7	C.I. 2-6	33.82	961.33	960.99	1.0000	18.000	0.0120	0.5000	0.5000	0.0000	0.00	1.25	3.76	0.15	11.38	0.11	0.24	0.36
C.I. 2-6	C.I. 2-5	216.83	960.49	956.15	2.0000	18.000	0.0120	0.5000	0.5000	0.0000	0.00	3.04	6.74	0.54	16.09	0.19	0.30	0.45
C.I. 2-5	C.I. 2-4	180.63	955.65	953.84	1.0000	18.000	0.0120	0.5000	0.5000	0.0000	0.00	5.20	5.57	0.54	11.38	0.46	0.55	0.82
C.I. 2-4	C.I. 2-3	34.00	953.34	953.00	1.0000	18.000	0.0120	0.5000	0.5000	0.0000	0.00	8.71	5.84	0.10	11.38	0.77	0.79	1.18
C.I. 2-3	C.I. 2-2	102.07	951.31	950.29	1.0000	18.000	0.0120	0.5000	0.5000	0.0000	0.00	10.49	6.38	0.27	11.38	0.92	0.88	1.32
C.I. 2-2	M.H. 2-1	174.65	949.79	948.04	1.0000	24.000	0.0120	0.5000	0.5000	0.0000	0.00	11.31	6.97	0.42	24.51	0.46	0.51	1.03
M.H. 2-1	C.I. 1-2	209.75	947.54	945.44	1.0000	24.000	0.0120	0.5000	0.5000	0.0000	0.00	11.31	7.06	0.50	24.51	0.46	0.51	1.02
F.I. 3-2	F.I. 3-1	125.13	957.08	955.83	1.0000	18.000	0.0120	0.5000	0.5000	0.0000	0.00	0.00	0.00		11.38	0.00	0.00	0.00
F.I. 3-1	M.H. 1-5	203.52	955.33	951.26	2.0000	18.000	0.0120	0.5000	0.5000	0.0000	0.00	0.00	0.00		16.09	0.00	0.00	0.00
F.I. 4-5	F.I. 4-4	100.60	959.44	957.43	2.0000	18.000	0.0120	0.5000	0.5000	0.0000	0.00	0.00	0.00		16.09	0.00	0.00	0.00
F.I. 4-4	M.H. 4-3	94.00	957.23	955.35	2.0000	18.000	0.0120	0.5000	0.5000	0.0000	0.00	0.00	0.00		16.09	0.00	0.00	0.00
M.H. 4-3	C.I. 4-2	111.00	954.85	953.74	1.0000	18.000	0.0120	0.5000	0.5000	0.0000	0.00	0.00	0.00		11.38	0.00	0.18	0.26
C.I. 4-2	C.I. 4-1	34.00	953.24	952.90	1.0000	18.000	0.0120	0.5000	0.5000	0.0000	0.00	6.10	5.48	0.10	11.38	0.54	0.60	0.90
C.I. 4-1	C.I. 1-6	62.81	951.56	950.93	1.0000	18.000	0.0120	0.5000	0.5000	0.0000	0.00	7.74	5.99	0.17	11.38	0.68	0.69	1.02
E.S. 5-3	E.S. 5-2	18.19	958.07	957.89	1.0000	12.000	0.0120	0.5000	0.5000	0.0000	0.00	0.00	0.00		3.86	0.00	0.00	0.00
F.I. 5-1	E.S. 5-0	274.81	953.53	947.48	2.2000	18.000	0.0120	0.5000	0.5000	0.0000	0.00	7.64	8.91	0.51	16.88	0.45	0.49	0.72
O.S. 7-1	E.S. 7-0	315.15	939.91	936.75	1.0000	6.000	0.0120	0.5000	0.5000	0.0000	0.00	0.00	0.00		0.61	0.00	0.00	0.00

*C.I. 1-1 IS SIZED FOR 10-YR

Drainage Area Design Table						
100 Year Return Frequency						
Inlet ID	Drainage Area	C	Tc	i	K	Peak Flow
	(ac)		(min)	(in/hr)		(cfs)
C.I. 1-1	0.57	0.51	8.01	9.20	1.25	3.34
C.I. 1-2	0.52	0.51	7.61	9.34	1.25	3.10
C.I. 1-3	2.50	0.51	19.85	6.64	1.25	10.58
C.I. 1-4	0.40	0.51	7.06	9.53	1.25	2.43
C.I. 1-6	0.51	0.51	7.74	9.29	1.25	3.02
C.I. 1-8	0.80	0.51	7.94	9.23	1.25	4.71
C.I. 1-9	0.45	0.51	13.89	7.60	1.25	2.18
C.I. 2-2	0.25	0.51	5.89	9.96	1.25	1.59
C.I. 2-3	0.60	0.51	10.88	8.34	1.25	3.19
C.I. 2-4	0.70	0.51	13.50	7.69	1.25	3.43
C.I. 2-5	0.50	0.51	12.15	8.01	1.25	2.55
C.I. 2-6	1.06	0.51	19.54	6.68	1.25	4.51
C.I. 2-7	0.42	0.51	7.14	9.50	1.25	2.54
C.I. 4-1	0.52	0.51	11.84	8.09	1.25	2.68
C.I. 4-2	2.38	0.51	18.47	6.83	1.25	10.36

Inlet Design Table															
100 Year Return Frequency															
Inlet ID	Inlet Location	Peak Flow	Upstream Bypass	Total Flow	Clogging Factor	Inlet Capacity	Sag Inlet Capacity (Note 1)	Captured Flow	Bypass Flow	Downstream Bypass Inlet	Inlet Efficiency (Note 2)	Gutter Depth	Gutter Spread	Ponding Depth
		(cfs)	(cfs)	(cfs)		(cfs)	(cfs)	(cfs)	(cfs)		(%)	(ft)	(ft)	(ft)
C.I. 1-1	SAG	3.34	4.01	7.35	0.80	19.40	15.52	7.35	0.00		100.00%	0.29	9.60	...
C.I. 1-2	SAG	3.10	0.27	3.36	0.80	19.40	15.52	3.36	0.00		100.00%	0.26	7.23	...
C.I. 1-3	SAG	10.58	0.00	10.58	0.80	19.40	15.52	10.58	0.00		100.00%	0.40	11.12	...
C.I. 1-4	GRADE	2.43	2.35	4.78	1.00	3.12	3.12	3.12	1.66	C.I. 1-1	65.27%	0.22	10.79	...
C.I. 1-6	GRADE	3.02	1.31	4.33	1.00	3.29	3.29	3.29	1.04	C.I. 1-4	76.01%	0.23	11.45	...
C.I. 1-8	GRADE	4.71	0.00	4.71	1.00	3.40	3.40	3.40	1.31	C.I. 1-6	72.16%	0.23	11.52	...
C.I. 1-9	GRADE	2.18	0.00	2.18	1.00	1.88	1.88	1.88	0.30	C.I. 4-2	86.11%	0.17	8.63	...
C.I. 2-2	GRADE	1.59	0.00	1.59	1.00	1.32	1.32	1.32	0.27	C.I. 1-2	83.22%	0.13	6.68	...
C.I. 2-3	SAG	3.19	0.00	3.19	0.80	19.40	15.52	3.19	0.00		100.00%	0.24	8.20	...
C.I. 2-4	SAG	3.43	3.21	6.64	0.80	19.40	15.52	6.64	0.00		100.00%	0.31	10.79	...
C.I. 2-5	GRADE	2.55	1.91	4.46	1.00	3.16	3.16	3.16	1.30	C.I. 2-4	70.89%	0.22	10.97	...
C.I. 2-6	GRADE	4.51	0.00	4.51	1.00	2.61	2.61	2.61	1.91	C.I. 2-5	57.75%	0.19	9.67	...
C.I. 2-7	GRADE	2.54	0.00	2.54	1.00	1.85	1.85	1.85	0.70	C.I. 4-2	72.66%	0.16	7.80	...
C.I. 4-1	SAG	2.68	0.00	2.68	0.80	19.40	15.52	2.68	0.00		100.00%	0.18	9.19	...
C.I. 4-2	SAG	10.36	1.00	11.36	0.80	19.40	15.52	11.36	0.00		100.00%	0.32	15.79	...
F.I. 5-1	SAG	12.91	0.00	12.91	0.50	18.19	9.09	9.09	3.82		70.44%	...	...	1.50

Notes:
1. Inlet capacity at sag location has been reduced by a clogging factor of 0.80, reducing theoretical capacity to 80% capacity, as required per APWA Section 5600.
Both theoretical capacity and reduced capacity are shown.
2. Inlet efficiency shown in the tables is Captured Flow/Total Flow, denoting the actual percentage of flow captured after the capacity has been reduced to 80% of theoretical capacity.

RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
09/15/2020

olsson
1301 Burlington Street
North Kansas City, MO 64116
TEL 816.361.1177
FAX 816.361.1888
www.olsson.com

STATE OF MISSOURI
MEGAN J. WALTER
NUMBER PE-2012029697
PROFESSIONAL ENGINEER
7/17/20

REV. NO.	DATE	REVISIONS DESCRIPTION	BY
1	7/17/2020	CITY COMMENTS	

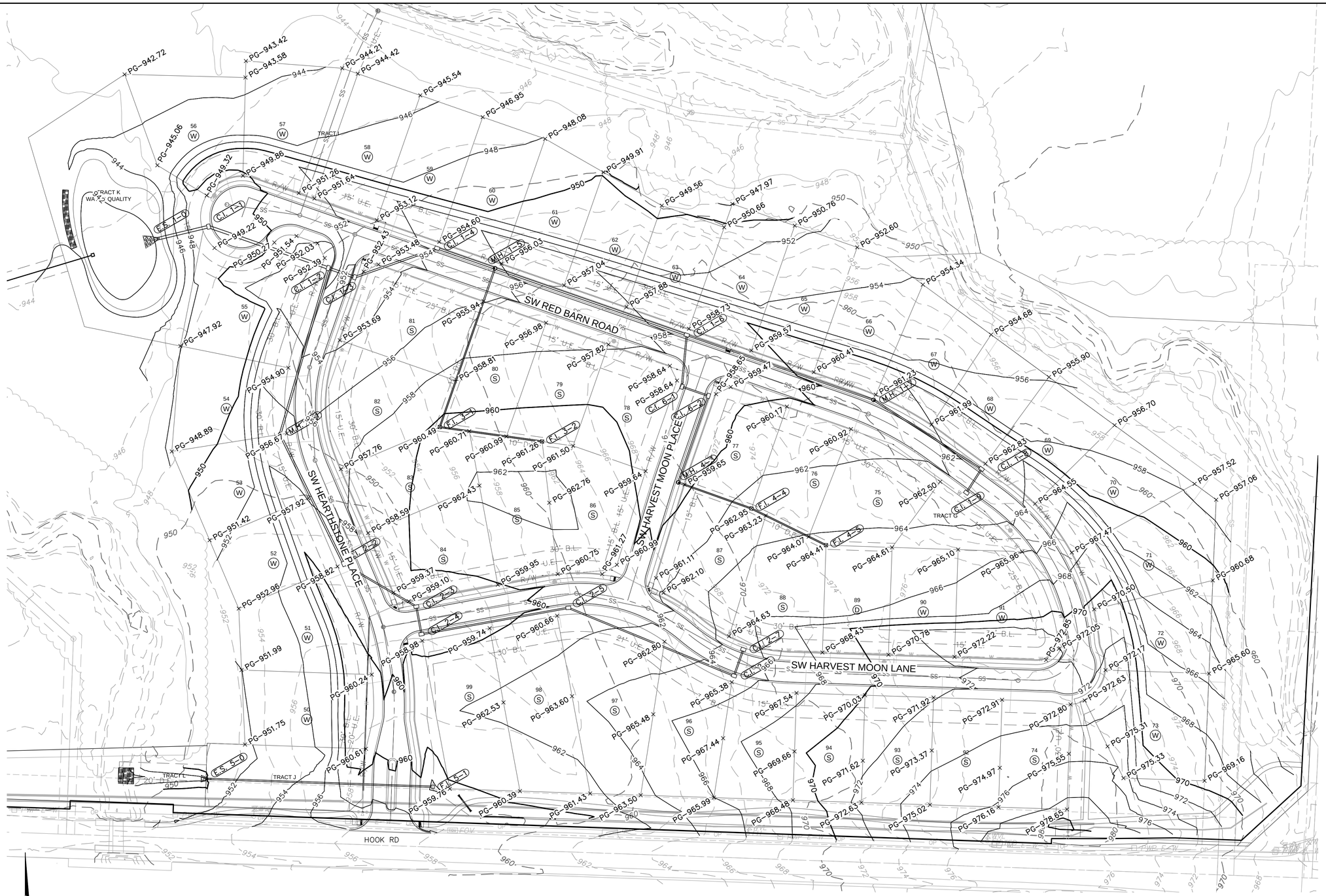
REVISIONS

DRAINAGE TABLES
STREET AND STORM SEWER PLANS
THE RETREAT AT HOOK FARMS
CONSTRUCTION DOCUMENTS
LEE'S SUMMIT, MO
2020

drawn by: EM
checked by: EM
designed by: RB
QA/QC by: NH
project no.: 019-4059
drawing no.: GEN&TABL_0194059
date: 4/20/2020

SHEET C118

DWG: F:\2019\4001-4500\019-4059\40-DESIGN\AUTOCAD\FINAL_PLANS\SHEETS\GNCV\C_GEN&TABL_0194059.dwg USER: emorton
DATE: Jul 16, 2020 9:52am XREFS: C_PTBLK_0194059_34x22 C_PBASE_0194059



N

0' 30' 60' 120'
SCALE IN FEET

NOTES:

1. INDIVIDUAL LOT OWNERS SHALL NOT CHANGE OR OBSTRUCT THE DRAINAGE FLOW LINES OR PATHS ON THE LOTS, AS SHOWN ON THE MATER DRAINAGE PLAN, UNLESS SPECIFIC APPLICATION IS MADE AND APPROVED BY THE CITY ENGINEER.

2. PLAT IS LOCATED IN ZONE X, "AREAS OUTSIDE THE 1–PERCENT ANNUAL CHANCE FLOODPLAINS, AREAS OF 1–PERCENT ANNUAL CHANCE SHEET FLOW FLOODING WHERE THE AVERAGE DEPTHS ARE LESS THAN 1 FOOT, AREAS OF 1–PERCENT ANNUAL CHANCE STREAM FLOODING WHERE THE CONTRIBUTING DRAINAGE AREA IS LESS THAN 1 SQUARE MILE, OR AREAS PROTECTED FROM THE 1–PERCENT ANNUAL CHANCE FLOOD BY LEVEES. NO BASE FLOOD ELEVATIONS OR DEPTHS ARE SHOWN WITHIN THIS ZONE"

3. BUFFER ZONE FOR NATURAL STREAMS IS LOCATED WITHIN PLAT.

4. MLO ELEVATIONS HAVE BEEN PROVIDED PER LOT LINES. INTERPOLATION WILL BE ALLOWED BETWEEN THE RIGHT AND LEFT SIDE MBOES SHOWN ON THE MASTER DRAINAGE PLAN, DEPENDING ON THE LOCATION OF THE LOWEST OPENING ON THE PROPOSED STRUCTURE.

5. SWALES TO BE CONSTRUCTED BETWEEN EACH OF THE LOTS 75–84, 92–94 TO DRAIN TOWARDS THE ROADWAY.

6. NO BUILDING PERMITS WILL BE ISSUED UNTIL AN AS–GRADED MASTER DRAINAGE PLAN HAS BEEN SUBMITTED TO THE CITY AND APPROVED BY THE CITY.

RMLO – REAR MINIMUM LOW OPENING
FMLO – FRONT MINIMUM LOW OPENING

LOT TYPES:
S – STANDARD
D – DAYLIGHT
W – WALKOUT

RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
09/15/2020

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1301 Burlington Street
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STATE OF MISSOURI
MEGAN J. WALTER
NUMBER PE-2012029697
PROFESSIONAL ENGINEER
7/17/20

REV. NO.	DATE	REVISIONS DESCRIPTION	BY
1	7/17/2020	CITY COMMENTS	

REVISIONS

MASTER DRAINAGE PLAN
STREET AND STORM SEWER PLANS

THE RETREAT AT HOOK FARMS
CONSTRUCTION DOCUMENTS

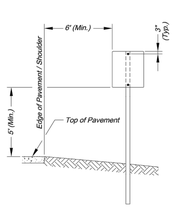
LEE'S SUMMIT, MO

2020

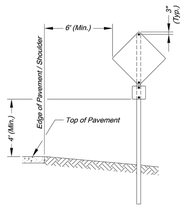
drawn by:	EM
checked by:	EM
designed by:	RB
QA/QC by:	NH
project no.:	019-4059
drawing no.:	C_DRN02_0194059
date:	4/20/2020

SHEET C119

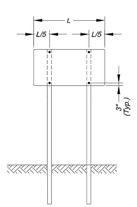
DWG: F:\2019\4001-4500\019-4059\40-DESIGN\AUTOCAD\FINAL PLANS\SHEETS\GNCV\C_DRN02_0194059.dwg USER: emorton
DATE: Jul 16, 2020 9:53am XREFS: C_PTBLK_0194059_34x22 C_PBASE_0194059 C_PSSWR_0194059 C_PWATR_0194059
C_PBNDY_0194059 C_PSTRM_0194059 C_XBASE_0194059



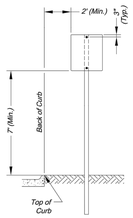
SIGN INSTALLATION FOR NON-CURBED STREET



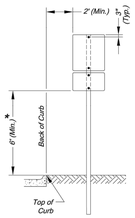
SIGN INSTALLATION WITH AUXILARY SIGN FOR NON-CURBED STREET



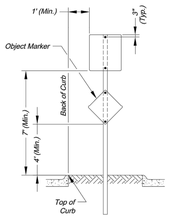
SIGN INSTALLATION WITH TWO SIGN POSTS



SIGN INSTALLATION FOR CURBED STREET



SIGN INSTALLATION WITH AUXILARY SIGN FOR CURBED STREET

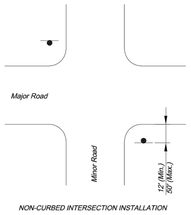


SIGN INSTALLATION FOR RAISED MEDIANS

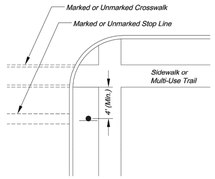
SIGN MOUNTING DETAILS

* 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.

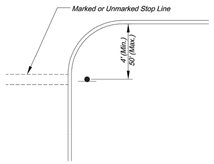
NOTE:
1. Generally, the sign mounting height should not be more than 1' greater than the minimum mounting height.



NON-CURBED INTERSECTION INSTALLATION

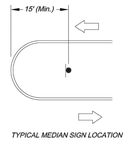


INTERSECTION WITH SIDEWALK / MULTI-USE TRAIL INSTALLATION



CURBED INTERSECTION INSTALLATION

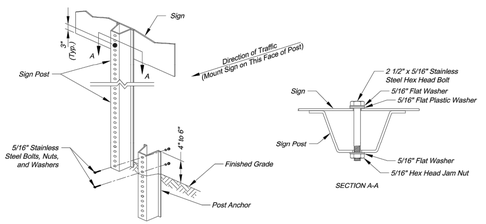
CONTROL SIGN LOCATION



TYPICAL MEDIAN SIGN LOCATION

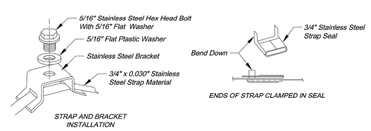
MEDIAN SIGN LOCATION

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.



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.



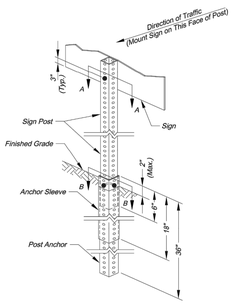
STRAP AND BRACKET INSTALLATION

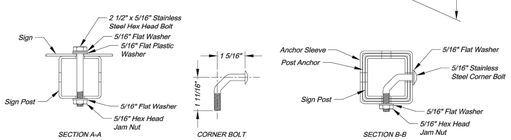
STRAP TYPE SIGN SUPPORT DETAILS

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.

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 avoiding any and 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.

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.





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 1/4" x 2 1/4" x 36" Square Steel Post
   Anchor Sleeve - 12 Ga. 2 1/2" x 2 1/2" 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: SIGN MOUNTING DETAILS
Sheet Name: STANDARD DRAWING SN-1
Drawn By: AS
Checked By: JW
Date: 08/26/2009
Project#
1 OF 3
1

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: SIGN POST DETAILS
Sheet Name: STANDARD DRAWING SN-2
Drawn By: AS
Checked By: JW
Date: 08/26/2009
Project#
2 OF 3
2

olsson
1301 Burlington Street
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www.olsson.com

STATE OF MISSOURI
7/17/20
MEGAN J. WALTER
NUMBER PE-2012029697
PROFESSIONAL ENGINEER

REV. NO.	DATE	REVISIONS DESCRIPTION	BY
1	7/17/2020	CITY COMMENTS	

REVISIONS

SIGNAGE DETAILS
STREET AND STORM SEWER PLANS
THE RETREAT AT HOOK FARMS
CONSTRUCTION DOCUMENTS
LEE'S SUMMIT, MO
2020

RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
09/15/2020

drawn by: EM
checked by: EM
designed by: RB
QA/QC by: NH
project no.: 019-4059
drawing no.: C_DTL00_0194059
date: 4/20/2020

SHEET C120

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DATE: Jul 16, 2020 9:53am XREFS: C_PTBLK_0194059_34x22 C_PBASE_0194059

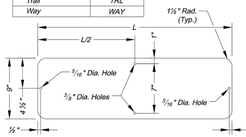
STANDARD ABBREVIATION LISTS

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

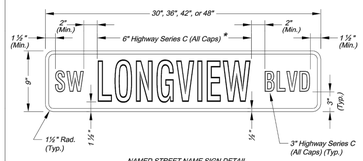
Sign Designation	Sign Size	Sign Area (Sq. Ft.)	Number	Quantity (Sq. Ft.)
D3-1 (SP-1)	9" x	Sq. Ft.	1	1
D3-1 (SP-2)	9" x			
D3-1 (SP-3)	9" x			
D3-1 (SP-4)	9" x			
D3-1 (SP-5)	9" x			
D3-1 (SP-6)	9" x			



STREET NAME SIGN BLANK DETAILS

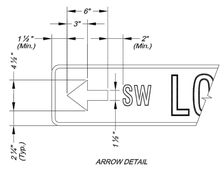
For Mounting on Square Steel Posts

PROJECT SIGN DETAILS

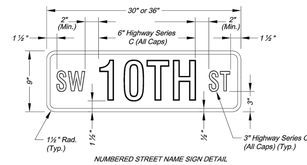


NAMED STREET NAME SIGN DETAIL

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



ARROW DETAIL

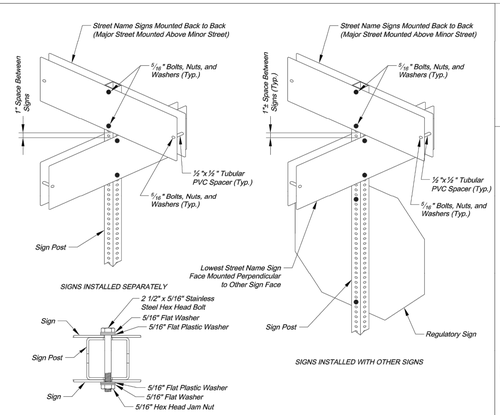


NUMBERED STREET NAME SIGN DETAIL

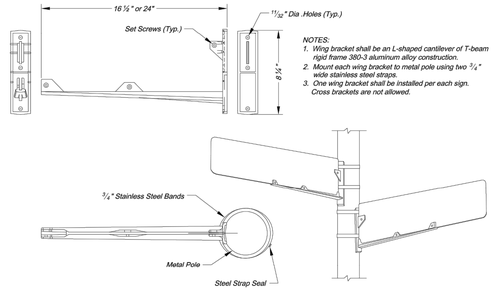
PRIVATE STREET TAG DETAIL

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



SQUARE STEEL POST MOUNTING DETAILS



NOTES:
1. Wing bracket shall be an L-shaped cantilever of T-beam rigid frame 380-3 aluminum alloy construction.
2. Mount each wing bracket to metal pole using two ¾" wide stainless steel straps.
3. One wing bracket shall be installed per each sign. Cross brackets are not allowed.

WING BRACKET MOUNTING DETAILS

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

Project: STREET NAME SIGN DETAILS

Sheet Name: STANDARD DRAWING SN-3

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

3 OF 3

3

olsson
1301 Burlington Street
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FAX 816.361.1888
www.olsson.com

STATE OF MISSOURI
MEGAN J. WALTER
NUMBER PE-2012029697
PROFESSIONAL ENGINEER
7/17/20

REV. NO.	DATE	REVISIONS DESCRIPTION	BY
1	7/17/2020	CITY COMMENTS	

REVISIONS

RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI

09/15/2020

SIGNAGE DETAILS
STREET AND STORM SEWER PLANS

THE RETREAT AT HOOK FARMS
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2020

drawn by: EM
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project no.: 019-4059
drawing no.: C_DTL00_0194059
date: 4/20/2020

SHEET C121

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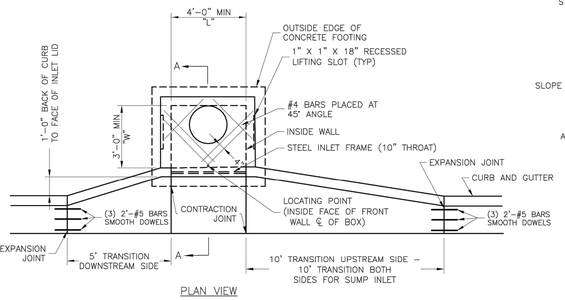
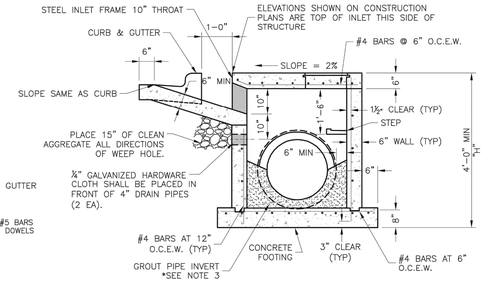
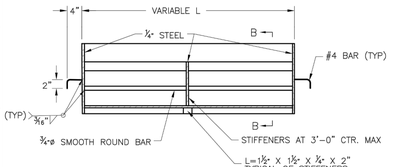


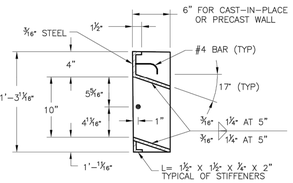
PLAN VIEW



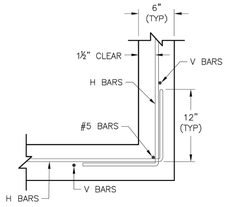
SECTION A–A



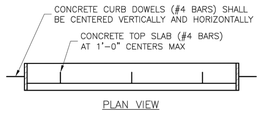
FRONT ELEVATION



SECTION B–B



WALL CORNER DETAIL



PLAN VIEW

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

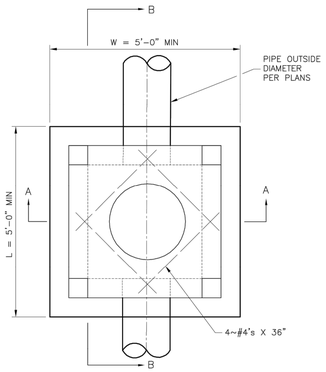
GENERAL NOTES:
1. THE FIRST DIMENSION LISTED IN THE CONSTRUCTION NOTES IS THE "L" DIMENSION. THE SECOND DIMENSION IS THE "W" DIMENSION.
2. FLOW LINES LISTED ON THE PROJECT PLANS ARE LISTED AT THE INSIDE FACE OF THE WALL.
3. FLOOR OF INLET GROUTED AND SHAPED TO MATCH PIPE INVERT TO PROVIDE SMOOTH FLOW.
4. LOCATE MH RING AND COVER ON BLANK WALL IF POSSIBLE.
5. STEPS SHALL BE SPACED AT 1'–4" O.C. VERTICALLY ON BLANK WALL IF POSSIBLE.
6. BEVEL ALL EXPOSED EDGES WITH ¾"CHAMFER OR 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

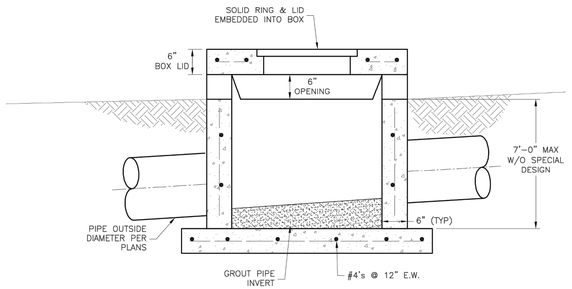
Project: STANDARD DETAILS CITY OF LEE'S SUMMIT, MO LEE'S SUMMIT, JACKSON COUNTY, MO
Sheet name: CURB INLET DETAIL

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

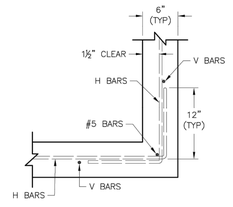
STM-1



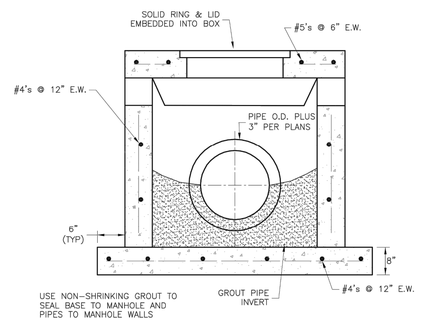
PLAN VIEW



SECTION B–B



WALL CORNER DETAIL



SECTION A–A

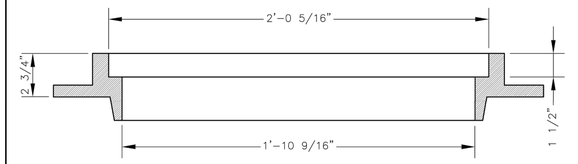
GENERAL NOTES:
1. LOCATE RING AND COVER OVER OUTLET ON BLANK WALL.
2. USE ¾" CHAMFER ON ALL EXPOSED CONCRETE CORNERS.
3. FLOOR OF INLET GROUTED AND SHAPED TO MATCH PIPE INVERT TO PROVIDE SMOOTH FLOW.
4. STEPS REQUIRED AT 16" O.C. WHEN DEPTH FROM TOP OF CASTING TO INVERT EXCEEDS 3' ON BLANK WALL IF POSSIBLE.
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

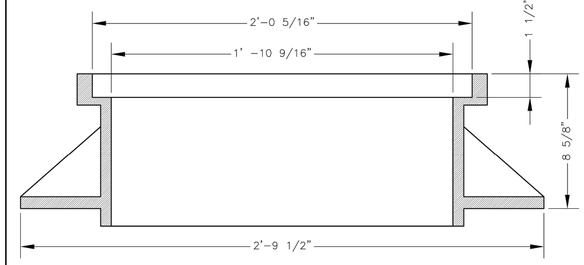
Project: STANDARD DETAILS CITY OF LEE'S SUMMIT, MO LEE'S SUMMIT, JACKSON COUNTY, MO
Sheet name: FIELD INLET DETAIL

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

STM-2



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

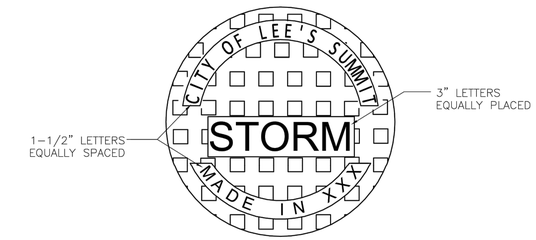


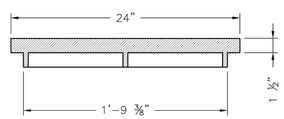
STANDARD 24" MANHOLE FRAME
LEE'S SUMMIT PART NO.: LS101A
MINIMUM WEIGHT = 250 LB

*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

RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
09/15/2020

olsson
1301 Burlington Street
North Kansas City, MO 64116
TEL 816.361.1177
FAX 816.361.1888
www.olsson.com

STATE OF MISSOURI
7/17/20
MEGAN J. WALTER
NUMBER PE-2012029697
PROFESSIONAL ENGINEER

REV. NO.	DATE	REVISIONS DESCRIPTION	BY
1	7/17/2020	CITY COMMENTS	

REVISIONS

STORM DETAILS
STREET AND STORM SEWER PLANS

THE RETREAT AT HOOK FARMS
CONSTRUCTION DOCUMENTS

LEE'S SUMMIT, MO

2020

drawn by: EM
checked by: EM
designed by: RB
QA/QC by: NH
project no.: 019-4059
drawing no.: C_DTL00_0194059
date: 4/20/2020

SHEET C122

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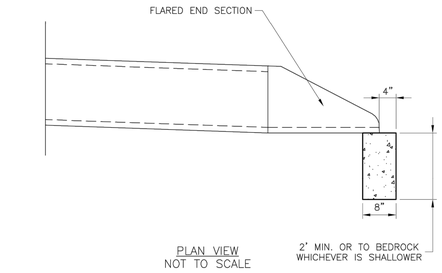
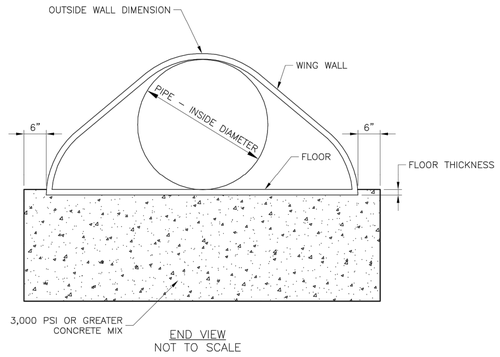


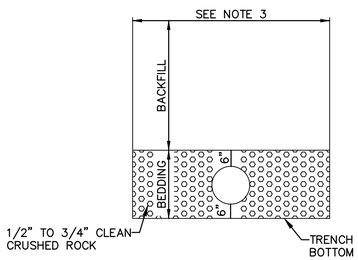


LEE'S SUMMIT
MISSOURI
PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063

FLARED END SECTION SUPPORT DETAIL

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

STM-5



TYPICAL SECTION FOR PLASTIC PIPE
(IN ROCK OR SOIL)

1. BACKFILL SHALL BE JOB EXCAVATED MATERIAL FREE FROM DEBRIS AND STONES COMPACTED TO 90% OF MAXIMUM DENSITY AT OPTIMUM MOISTURE CONTENT AS DETERMINED BY ASTM D698 FOR BACKFILL UNDER PAVEMENT (EXISTING OR PROPOSED).

2. TRENCH BANKS MAY BE CUT BACK ON SLOPES IN ACCORDANCE WITH CURRENT OSHA REGULATIONS, BUT ONLY IN AREAS WHERE THE INCREASED TRENCH WIDTH WILL NOT INTERFERE WITH SURFACE FEATURES. SLOPES MUST NOT EXTEND BELOW TOP OF BEDDING.

3. MINIMUM AND MAXIMUM WIDTHS SHALL BE IN ACCORDANCE WITH PIPE MANUFACTURER'S RECOMMENDATION AS APPROVED ON ENGINEERING PLANS.

01 N.T.S.
UNDERGROUND PIPE INSTALLATION FROM STORM SEWER LINES

RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI

09/15/2020

olsson
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STATE OF MISSOURI
7/17/20
MEGAN J. WALTER
NUMBER PE-2012029697
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REV. NO.	DATE	REVISIONS DESCRIPTION	BY
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THE RETREAT AT HOOK FARMS
CONSTRUCTION DOCUMENTS

LEE'S SUMMIT, MO

2020

drawn by: EM
checked by: EM
designed by: RB
QA/QC by: NH
project no.: 019-4059
drawing no.: C_DTL00_0194059
date: 4/20/2020

SHEET C123

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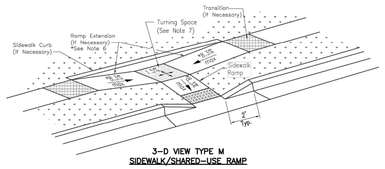
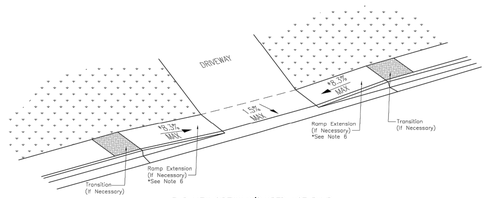
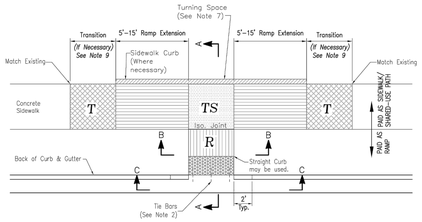


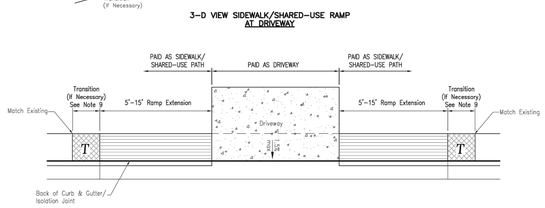
3-D VIEW TYPE M
SIDEWALK/SHARED-USE RAMP



3-D VIEW SIDEWALK/SHARED-USE RAMP
AT DRIVEWAY

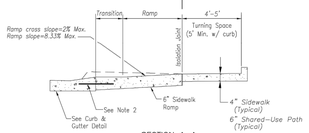


TYPE M SIDEWALK/SHARED-USE RAMP
Not to Scale

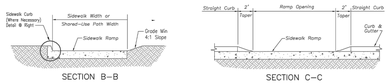


SIDEWALK/SHARED USE RAMP
AT DRIVEWAY WITH ADJOINING CURB

PAID AS RAMP | PAID AS SIDEWALK/SHARED-USE PATH



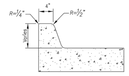
SECTION A-A



SECTION B-B SECTION C-C

TYPE M SIDEWALK RAMP
Not to Scale

CURB & GUTTER DETAIL AT RAMP
Not to Scale



SIDEWALK CURB DETAIL
Not to Scale

LEGEND

- R — SIDEWALK RAMP
- TS — TURNING SPACE
- DETECTABLE WARNING SURFACE
- T — TRANSITION

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

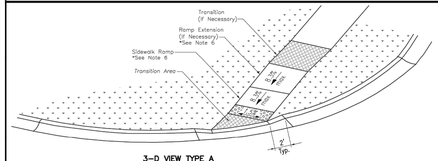
1. CURB RAMP OPENING, NOT INCLUDING FLARES, SHALL MATCH EXISTING SIDEWALK WIDTH AND OPENING SHALL BE AT LEAST 48" WIDE.
2. USE 18" LONG #4 EPOXY COATED TIE BARS @ 24" O.C. EMBED TIE BARS 9" IN EACH DIRECTION.
3. ALL RAMPS, SIDEWALKS, SHARED-USE PATHS SUBGRADE MUST BE OF STABLE, COMPACTED EARTH AND SHALL 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 1.0%, ±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).

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

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

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

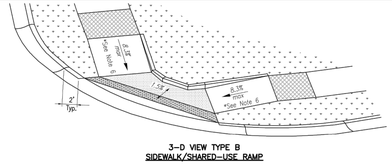
GEN-3B



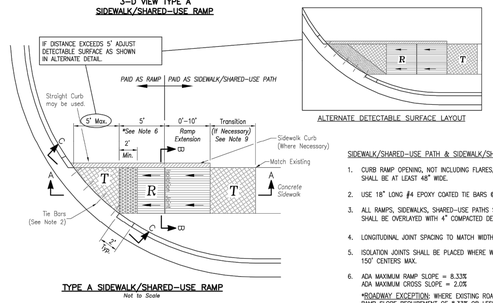
3-D VIEW TYPE A
SIDEWALK/SHARED-USE RAMP

LEGEND

- R — SIDEWALK RAMP
- TS — TURNING SPACE
- DETECTABLE WARNING SURFACE
- T — TRANSITION



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

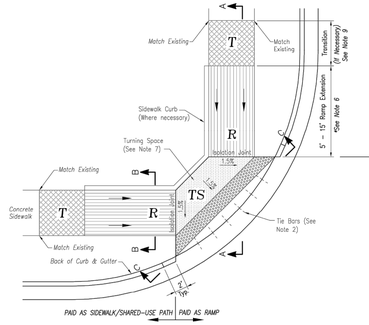


TYPE A SIDEWALK/SHARED-USE RAMP
Not to Scale

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).



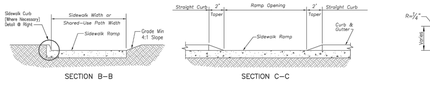
TYPE B SIDEWALK/SHARED-USE RAMP
Not to Scale

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

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

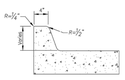
Drawn By: MJF
Checked By: DL
Date: 04/17
Proj. #:

GEN-3A

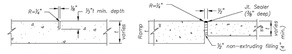


SECTION B-B SECTION C-C

TYPE A & B SIDEWALK RAMP
Not to Scale

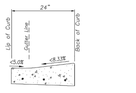


SIDEWALK CURB DETAIL
Not to Scale



CONTRACTION JOINT ISOLATION JOINT

JOINT DETAILS
Not to Scale



CURB & GUTTER DETAIL AT RAMP
Not to Scale

olsson
1301 Burlington Street
North Kansas City, MO 64116
TEL 816.361.1177
FAX 816.361.1888
www.olsson.com

STATE OF MISSOURI
7/17/20
MEGAN J. WALTER
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THE RETREAT AT HOOK FARMS
CONSTRUCTION DOCUMENTS

LEE'S SUMMIT, MO 2020

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AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
09/15/2020

drawn by: EM
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designed by: RB
QA/QC by: NH
project no.: 019-4059
drawing no.: C_DTL00_0194059
date: 4/20/2020

SHEET C124

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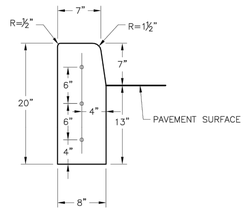
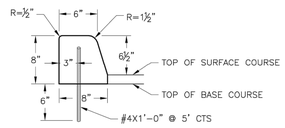
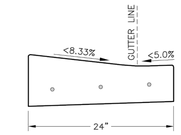


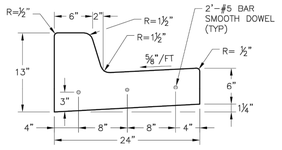
STRAIGHT CURB
(TYPE C-1)



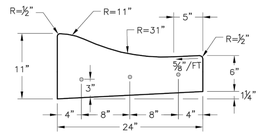
DOWELLED CURB
(TYPE DC)



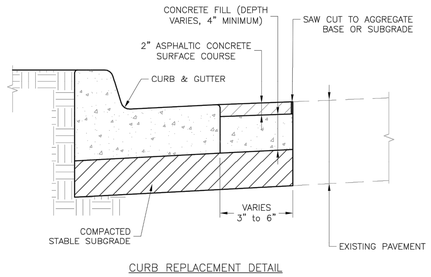
CURB & GUTTER DETAIL AT RAMP
(ADA SLOPE REQUIREMENTS)



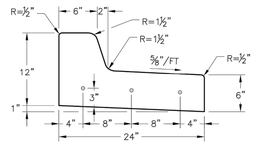
STRAIGHT BACK CURB & GUTTER
(TYPE CG-1)



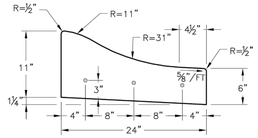
ROLL BACK CURB & GUTTER
(TYPE CG-2)



CURB REPLACEMENT DETAIL



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



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

GENERAL NOTES

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

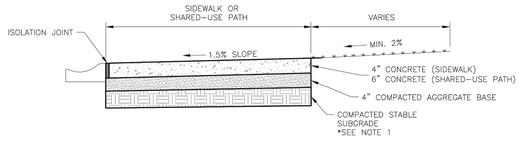
LEE'S SUMMIT MISSOURI
PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063

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

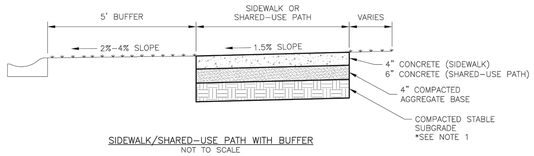
SHEET NAME: CURB & GUTTER DETAIL

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

GEN-4



SIDEWALK/SHARED-USE PATH WITHOUT BUFFER
NOT TO SCALE



SIDEWALK/SHARED-USE PATH WITH BUFFER
NOT TO SCALE

GENERAL NOTES:

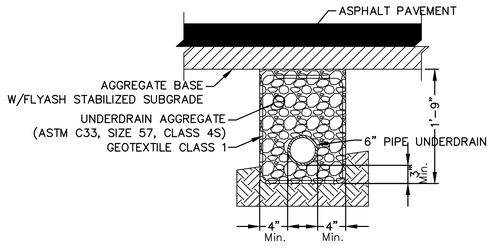
1. SUBGRADE MUST BE OF STABLE, COMPACTED EARTH AND SHALL BE OVERLAYED WITH 4" COMPACTED DENSE GRADED AGGREGATE BASE.
2. 1.5% CROSS SLOPE MUST BE MAINTAINED THROUGH DRIVEWAYS.
3. KCMMB 4K CONCRETE MIX SHALL BE REQUIRED FOR ALL SIDEWALKS/SHARED-USE PATHS OR AS APPROVED BY THE CITY INSPECTOR.
4. ALL SIDEWALK/SHARED-USE PATHS SHALL MEET CURRENT PUBLIC RIGHT OF WAY ACCESSIBILITY GUIDELINES (PROWAG).
5. AN ISOLATION JOINT SHALL BE PLACED AT A MAXIMUM OF 150 FT. CONSTRUCTION JOINTS SHALL BE PLACED THE SAME WIDTH OF SIDEWALK/SHARED-USE PATHS, BUT NO GREATER THAN 10 FT.
6. AN ISOLATION JOINT SHALL BE PLACED WHERE THE SIDEWALK/SHARED-USE PATHS MEETS A RESIDENTIAL DRIVEWAY.
7. SHARED-USE PATHS WIDTH SHALL BE 10 FT. WIDE.
8. SIDEWALK/SHARED-USE PATHS FINISHING SHALL BE FULL BROOM FINISH OR AS DIRECTED BY CITY INSPECTOR.
9. WHITE CURING COMPOUND MUST BE APPLIED UNIFORMLY TO THE CONCRETE SURFACE IMMEDIATELY AFTER FINAL FINISHING.

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

SIDEWALK/SHARED-USE PATH DETAIL

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

GEN-2



PIPE UNDERDRAIN LATERAL
N.T.S.

NOTES:

1. Where Pipe Underdrains are used, all Underdrain Outlet Pipes shall be solid wall with watertight joints. All Outlets Pipes shall be tied into the nearest storm sewer inlets at roadway sag locations as indicated in the street profile.
2. All Underdrain Pipes shall be installed at a minimum slope of 1%.
3. Underdrain Pipe shall be installed with the perforations placed down.
4. Blanket Underdrain Aggregate, Pipe Underdrain Aggregate, Pipe Underdrain, Edge Underdrain and Outlet Pipe shall conform to City of Lee's Summit Specifications.
5. Overlap geotextile at top of trench a minimum of 12".

RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI

09/15/2020

olsson
TEL 816.361.1177
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1301 Burlington Street
North Kansas City, MO 64116

STATE OF MISSOURI
7/17/20
MEGAN J. WALTER
NUMBER PE-2012029697
PROFESSIONAL ENGINEER

REV. NO.	DATE	REVISIONS DESCRIPTION	BY
1	7/17/2020	CITY COMMENTS	

REVISIONS

STREET DETAILS
STREET AND STORM SEWER PLANS
THE RETREAT AT HOOK FARMS
CONSTRUCTION DOCUMENTS
LEE'S SUMMIT, MO
2020

drawn by: EM
checked by: EM
designed by: RB
QA/QC by: NH
project no.: 019-4059
drawing no.: C_DTL00_0194059
date: 4/20/2020

SHEET C125

DWG: F:\2019\4001-4500\019-4059\40-DESIGN\AUTOCAD\FINAL PLANS\SHEETS\GNCV\C_DTL00_0194059.dwg USER: emorton
DATE: Jul 16, 2020 9:53am XREFS: C_PTBLK_0194059_34x22 C_PBASE_0194059