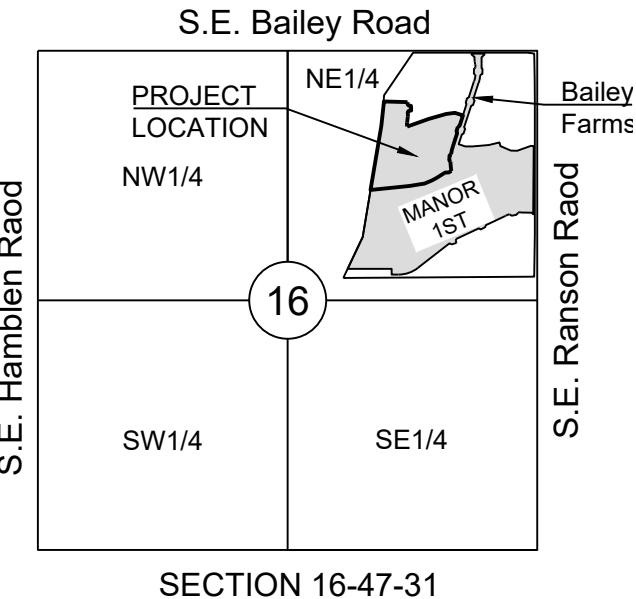


LEGEND:	
A/E	- ACCESS EASEMENT
BC	- BACK OF CURB
B/B	- BACK TO BACK
BM	- BENCHMARK
BL or B.L.	- BUILDING LINE
CO	- CLEANOUT
TJB	- TELEPHONE JUNCTION BOX
C&G	- CURB AND GUTTER
D/E	- DRAINAGE EASEMENT
E/E	- ELECTRICAL EASEMENT
EL	- ELEVATION
FL	- FLOW LINE
G/E	- GAS LINE EASEMENT
HDPE	- HIGH-DENSITY POLYETHYLENE
UE	- LANDSCAPE EASEMENT
MSFE	- MINIMUM SERVICEABLE FLOOR ELEVATION
PVC	- POLYVINYL CHLORIDE
P/L	- PROPERTY LINE
PUB/E	- PUBLIC EASEMENT
RCP	- REINFORCED CONCRETE PIPE
ROW or R/W	- RIGHT-OF-WAY
S/E	- SANITARY SEWER EASEMENT
SL	- SERVICE LINE
S/W	- SIDEWALK
TE	- TOP ELEVATION
U/E	- UTILITY EASEMENT
WSE	- WATER SURFACE ELEVATION
W/E	- WATERLINE EASEMENT
ASPHALT PAVEMENT - EXISTING	
ASPHALT PAVEMENT - PROPOSED	
CONCRETE PAVEMENT - EXISTING	
CONCRETE SIDEWALK - EXISTING	
CONCRETE SIDEWALK - PROPOSED	
CURB & GUTTER	
CURB & GUTTER - EXISTING	
TREELINE	
EXISTING LOT AND R/W LINES	
EXISTING PLAT LINES	
PROPERTY LINES	
RIGHT-OF-WAY	
SANITARY SEWER MAIN	
SANITARY SEWER MAIN - EXIST.	
STORM SEWER	
STORM SEWER - EXISTING	
CABLE TV - EXISTING	
FIBER OPTIC CABLE - EXISTING	
TELEPHONE LINE - EXIST.	
ELECTRIC LINE - EXISTING	
OVERHEAD POWER LINE - EXIST.	
UNDERGROUND ELECTRIC - EX.	
GAS LINE - EXISTING	
WATERLINE - EXISTING	
LIGHT - EXISTING	
EXISTING MANHOLE	
CLEANOUT	
EXISTING SANITARY MANHOLE	
PROPOSED SANITARY MANHOLE	
EXISTING AREA INLET	
EXISTING CURB INLET	
EXISTING GRATE INLET	
EXISTING JUNCTION BOX	
EXISTING STORM MANHOLE	



LOCATION MAP
SCALE 1" = 2000'
BASIS OF BEARINGS:
MISSOURI COORDINATE SYSTEM 1983, WEST ZONE

UTILITY CONTACTS:

MISSOURI DEPARTMENT OF TRANSPORTATION (MODOT)

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

MISSOURI GAS ENERGY (MGE)

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

KANSAS CITY POWER & LIGHT COMPANY (KCP&L)

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

CITY OF LEE'S SUMMIT PUBLIC WORKS

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

AT&T

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

COMCAST CABLE

John Meadows
4700 Little Blue Parkway
Independence, MO 64057
(816) 795-2257

CITY OF LEE'S SUMMIT WATER UTILITIES

Mark Schaufler
1200 SE Hamblen Road
Lee's Summit, MO 64081
(816) 969-1900

GENERAL NOTES:

- ALL CONSTRUCTION TO FOLLOW THE CITY OF LEE'S SUMMIT DESIGN AND CONSTRUCTION MANUAL AS ADOPTED BY ORDINANCE 5813.
- ALL WORKMANSHIP AND MATERIALS SHALL BE SUBJECT TO THE INSPECTION AND APPROVAL OF THE ENGINEERING DEPARTMENT OF THE CITY OF LEE'S SUMMIT, MISSOURI.
- LINEAL FOOT MEASUREMENTS SHOWN ON THE PLANS ARE HORIZONTAL MEASUREMENTS, NOT SLOPE MEASUREMENTS. ALL PAYMENTS SHALL BE MADE ON HORIZONTAL MEASUREMENTS.
- NO GEOLOGICAL INVESTIGATION HAS BEEN PERFORMED ON THE SITE.
- THE UTILITY LOCATIONS SHOWN ON THESE PLANS ARE TAKEN FROM UTILITY COMPANY RECORDS AND APPARENT FIELD LOCATIONS. THE CONTRACTOR SHALL VERIFY THE LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO CONSTRUCTION.
- THE CONTRACTOR SHALL ADHERE TO THE PROVISIONS OF THE SENATE BILL NUMBER 583, 78TH GENERAL ASSEMBLY OF THE STATE OF MISSOURI. THE BILL REQUIRES THAT ANY PERSON OR FIRM DOING EXCAVATION ON PUBLIC RIGHT OF WAY DO SO ONLY AFTER GIVING NOTICE TO, AND OBTAINING INFORMATION FROM, UTILITY COMPANIES. STATE LAW REQUIRES 48 HOURS ADVANCE NOTICE. THE CONTRACTOR MAY ALSO UTILIZE THE FOLLOWING TOLL FREE PHONE NUMBER PROVIDED BY "MISSOURI ONE CALL SYSTEM, INC." 1-800-DIG-RITE. THIS PHONE NUMBER IS APPLICABLE ANYWHERE WITHIN THE STATE OF MISSOURI. PRIOR TO COMMENCEMENT OF WORK, THE CONTRACTOR SHALL NOTIFY ALL THOSE COMPANIES WHICH HAVE FACILITIES IN THE NEAR VICINITY OF THE CONSTRUCTION TO BE PERFORMED.
- PRIOR TO ORDERING PRECAST STRUCTURES, SHOP DRAWING SHALL BE SUBMITTED TO THE DESIGN ENGINEER FOR APPROVAL. AFTER APPROVAL OF THE SHOP DRAWINGS, A COPY OF THE APPROVED AND SIGNED SHOP DRAWINGS SHALL BE PROVIDED TO THE CITY INSPECTOR UPON REQUEST.
- THE CONTRACTOR SHALL PROTECT ALL MAJOR TREES FROM DAMAGE. NO TREE SHALL BE REMOVED WITHOUT PERMISSION OF THE OWNER, UNLESS SHOWN OTHERWISE.
- CLEARING AND GRUBBING OPERATIONS AND DISPOSAL OF ALL DEBRIS THEREFROM SHALL BE PERFORMED BY THE CONTRACTOR IN STRICT ACCORDANCE WITH ALL LOCAL CODES AND ORDINANCES.
- ALL WASTE MATERIAL RESULTING FROM THE PROJECT SHALL BE DISPOSED OF OFF-SITE BY THE CONTRACTOR, OR AS DIRECTED BY THE OWNER.
- ALL EXCAVATIONS SHALL BE UNCLASSIFIED. NO SEPARATE PAYMENT WILL BE MADE FOR ROCK EXCAVATION.
- THE CONTRACTOR SHALL CONTROL THE EROSION AND SILTATION DURING ALL PHASED OF CONSTRUCTION, AND SHALL KEEP THE STREETS CLEAN OF MUD AND DEBRIS.
- ALL MANHOLES, CATCH BASINS, UTILITY VALVES AND METER PITS TO BE ADJUSTED OR REBUILT TO GRADE AS REQUIRED.
- THE CONTRACTOR SHALL CONTACT DEVELOPMENT SERVICES INSPECTIONS AT: 816-969-1200 TO OBTAIN A DEVELOPMENT SERVICES CONSTRUCTION PERMIT. A MINIMUM 48 HOUR NOTICE SHALL BE GIVEN PRIOR TO PERMIT ISSUANCE.
- THE CONTRACTOR SHALL CONTACT THE RIGHT OF WAY INSPECTOR AT 816-969-1800 PRIOR TO ANY LAND DISTURBANCE ACTIVITIES WITHIN THE RIGHT OF WAY. THESE ACTIVITIES MAY REQUIRE A PERMIT.
- THE CONTRACTOR SHALL PROVIDE AND MAINTAIN ALL TRAFFIC HANDLING MEASURES NECESSARY TO ENSURE THAT THE GENERAL PUBLIC IS PROTECTED AT ALL TIMES. TRAFFIC CONTROL SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD-LATEST EDITION).

STREET NOTES:

- ALL STREET CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE CITY OF LEE'S SUMMIT DESIGN AND CONSTRUCTION MANUAL. ALL APPLICABLE AASHTO STANDARDS HAVE BEEN MET.
- ALL INSPECTION OF STREET CONSTRUCTION TO BE PERFORMED BY THE CITY OF LEE'S SUMMIT DEVELOPMENT ENGINEERING.
- CURB RETURN RADII SHALL BE 25' AT BACK OF CURB UNLESS OTHERWISE NOTED.
- SUBGRADE TO BE COMPACTED TO 95% STANDARD PROCTOR DENSITY.
- ASSUMED DESIGN SPEED = 25 MPH (COLLECTOR).
- MINIMUM STOPPING SIGHT DISTANCE = 155 FEET.
- MINIMUM K, SAG CURVE = 26 (14 WITH LIGHTING), CREST CURVE = 12.
- GRADE INTERSECTIONS TO DRAIN AS SHOWN.
- SSD = STOPPING SIGHT DISTANCE.
- ALL ADA SIDEWALK RAMPS SHALL BE CONSTRUCTED BY THE DEVELOPER WITH THE PUBLIC INFRASTRUCTURE.

EARTHWORK:

- It is recommended that a Geotechnical Engineer observe and document all earthwork activities.
- Contours have been shown at 1-foot or 2-foot intervals, as indicated. Grading shall consist of completing the earthwork required to bring the physical ground elevations of the existing site to the finished grade (or sub-grade) elevations provided on the plans as spot grades, contours or others means as indicated on the plans.
- The existing site topography depicted on the plans by contouring has been established by aerial photography and field verified by g.p.s. observation near 2-20-19. The contour elevations provided may not be exact ground elevations, but rather interpretations of such. Accuracy shall be considered to be such that not more than 10 percent of spot elevation checks shall be in error by more than one-half the contour interval provided, as defined by the National Map Accuracy Standards. Any quantities provided for earthwork volumes are established using this topography contour accuracy, and therefore the inherent accuracy of any earthwork quantity is assumed from the topography accuracy.
- Proposed contours are to approximate finished grade.
- Unless otherwise noted, payment for earthwork shall include backfilling of the curb and gutter, sidewalk and further manipulation of utility trench spoils. The site shall be left in a moveable condition and positive drainage maintained throughout.
- Unless otherwise noted, all earthwork is considered Unclassified. No additional compensation will be provided for rock or shale excavation, unless specifically stated otherwise.
- Prior to earthwork activities, pre-disturbance erosion and sediment control devices shall be in place per the Storm Water Pollution Prevention plan and/or the Erosion and Sediment Control Plan prepared for this site.
- All topsoil shall be stripped from all areas to be graded and stockpiled adjacent to the site at an area specified by the project owner or his appointed representative. Vegetation, trash, trees, brush, tree roots and limbs, rock fragments greater than 6-inches and other deleterious materials shall be removed and properly disposed of offsite or as directed by the owner or his appointed representative.
- Unless otherwise specified in the Geotechnical Report, all fills shall be placed in maximum 6-inch lifts and compacted to 95-percent of maximum density as defined using a standard proctor test (AASHTO T99/ASTM 698).
- Fill materials shall be per Geotechnical Report and shall not include organic matter, debris or topsoil. All fills placed on slopes greater than 6:1 shall be benchered.
- The Contractor shall be responsible for redistributing the topsoil over proposed turf and landscaped areas to a minimum depth of 6-inches below final grade.
- All areas shall be graded for positive drainage. Unless noted otherwise the following grades shall apply:
 - Turf Areas - 2.5% Minimum, 4H:1 Maximum
 - Paved Areas - 1.2% Minimum, 5% Maximum
- All disturbed areas shall be fertilized, seeded and mulched immediately after earthwork activities have ceased. Seeding shall be per the Erosion and Sediment Control Plan and/or Landscape Plan. If not specified seeding shall be per APWA Section 2400, latest edition. Unless otherwise noted, seeding shall be subsidiary to the contract price for earthwork and grading activities.
- All disturbed areas in the right-of-way shall be sodded.
- Underdrains are recommended for all paved areas adjacent to irrigated turf and landscaped beds.
- Contractor shall adhere to the reporting requirements outlined in the Storm Water Pollution Prevention Plan (SWPPP) prepared for this project. Erosion and Sediment control devices shall be properly maintained and kept clean of silt and debris and in good working order. Additional erosion and sediment control measures shall be installed as required.

UTILITIES:

- Existing utilities have been shown to the greatest extent possible based upon information provided to the Engineer. The contractor is responsible for contacting the respective utility companies and field locating utilities prior to construction and identifying any potential conflicts. All conflicts shall immediately be brought to the attention of the Engineer.
- The contractor shall be responsible for coordinating any required utility relocations. Utilities damaged through the negligence of the contractor shall be repaired at the contractor's expense.
- Contractor shall verify flow-lines and structure tops prior to construction, and shall notify Engineer of any discrepancies. Provide shop drawings for all precast and manufactured utility structures for review by the Engineer prior to construction of the structures.
- Utility Separation: Waterlines shall have a minimum of 10 feet horizontal and 2 feet vertical separation from all sanitary sewer lines, manholes, and sanitary sewer laterals, as measured from edge to edge. If minimum separations can not be obtained, concrete encasement of the sanitary line shall be required 10 feet in each direction of the conflict.
- Payment for trenching, backfilling, pipe embedment, flowable fill, backfill materials, clean up, seeding, sodding and any other items necessary for the construction of the utility line shall be included in the contract price for the utility installation.
- The Contractor shall be responsible for contacting respective utility companies 48-hours in advance for the inspection of any proposed utility main extension or service line or service connection to any existing main.
- Trench spoils shall be neatly placed onsite adjacent to the trench, and compacted to prevent saturation and excess sediment runoff. Unsuitable materials, excess rock and shale, asphalt, concrete, trees, brush etc. shall be properly disposed of offsite. Materials may be wasted onsite at the direction of the Owner or his appointed representative.
- All excavation is considered unclassified, unless noted otherwise. Unclassified excavation for utility trenching is subsidiary to the unit price provided for the pipe. Any quantity provided for rock excavation is estimated based on the best information provided to the Project Engineer. The Engineer has the authority to identify and define the physical characteristics to determine the classification. Unit price quantities for rock excavation will be paid at a trench width of the nominal pipe diameter of the installed main plus 18 inches. Contractor is required to dispose of excess rock from their trenches by disposing it in areas as specified by the Project Engineer.

Sheet List Table	
Sheet Number	Sheet Title
1	COVER SHEET
2	GENERAL LAYOUT
3	MASTER DRAINAGE PLAN-GRADING PLAN
4	CRONIN ST PLAN & PROFILE
5	SILO ST PLAN & PROFILE
6	WINDBREAK DR (WEST) PLAN & PROFILE
7	INTERSECTION DETAILS
8	MASTER DRAINAGE PLAN-DRAINAGE AREA MAP
9	MASTER DRAINAGE PLAN-DRAINAGE CALCULATIONS
10	STORM PLAN
11	STORM PROFILE
12	STORM PROFILE
13	WATER QUALITY OUTLET STRUCTURE DETAIL
14	STREET DETAIL SHEET
15	STREET DETAIL SHEET
16	STORM DETAIL SHEET
17	STORM DETAIL SHEET

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WWW.SCHLAGELASSOCIATES.COM
#E2020038002 F-BLAC201000237 #S202003859-F

PREPARED BY:
SCHLAGEL & ASSOCIATES, P.A.

CORNERSTONE AT BAILEY FARMS, 1ST PLAT
STREET, STORMWATER, AND MASTER
DRAINAGE PLAN
SE BAILEY ROAD AND SE RANSON ROAD
LEE'S SUMMIT, MISSOURI

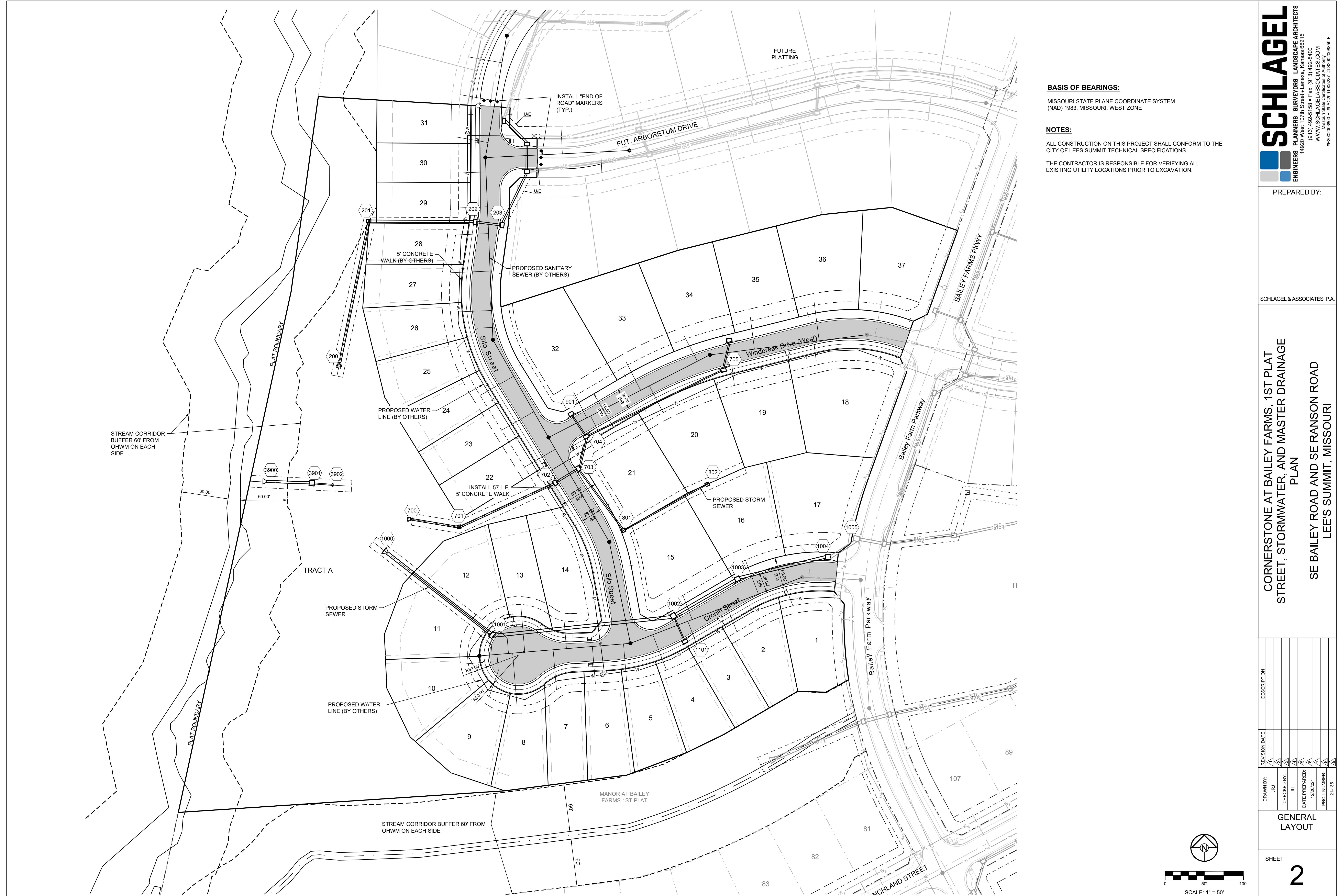
CITY ENGINEER
APPROVED FOR ONE YEAR FROM THIS DATE

MISSOURI
GEOGRAPHIC REFERENCE SYSTEM
BENCHMARK:
BM JA-45, IS A KC METRO ALUMINUM GRS DISK SET IN CONCRETE AND
ABOUT 3 INCHES BELOW THE PAVEMENT ON THE SHOULDER OF SE
RANSON ROAD. IT IS STAMPED JA45, 1987.
ELEV. = 1046.25
COVER SHEET
SHEET



PRELIMINARY

SUMMARY OF QUANTITIES			
ITEM	QUANTITY	UNITS	
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4920 West 107th Street • Lenexa, Kansas 66215
(913) 492-5158 • Fax: (913) 492-8400
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12

REARED BY:

GEL & ASSOCIATES, P.A.

CORNERSONE AT BAILEY FARMS, 1ST PLAT STREET, STORMWATER, AND MASTER DRAINAGE PLAN

SE BAILEY ROAD AND SE RANSON ROAD
LEE'S SUMMIT, MISSOURI

DRAWN BY:	REVISION DATE	DESCRIPTION
JRJ	1	
CHECKED BY:	2	
JLL	3	
DATE PREPARED:	4	
	5	
	6	
	7	
	8	
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GENERAL LAYOUT

SHEET 2



A scale bar consisting of a horizontal line divided into four equal segments. The first three segments are filled with a black and white checkerboard pattern, while the fourth segment is solid black. Below the bar, the text "50'" is centered. At the bottom of the page, the text "SCALE: 1" = 50'" is printed.

SCALE: 1" = 50'

CORNERSTONE AT BAILEY FARMS, 1ST PLAT
STREET, STORMWATER, AND MASTER DRAINAGE
PLAN
SE BAILEY ROAD AND SE RANSON ROAD
LEE'S SUMMIT, MISSOURI

0 50' 100'
SCALE: 1" = 50'

3

BASIS OF BEARINGS:

MISSOURI STATE PLANE COORDINATE SYSTEM
(NAD) 1983, MISSOURI, WEST ZONE

NOTES:

ALL CONSTRUCTION ON THIS PROJECT SHALL CONFORM
TO THE CITY OF LEE'S SUMMIT TECHNICAL
SPECIFICATIONS.

THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL
EXISTING UTILITY LOCATIONS PRIOR TO EXCAVATION.

GRADING LEGEND:

— 1023 — EXISTING CONTOUR
— 1023 — PROPOSED CONTOUR



DETENTION STORAGE:
100 YEAR, 24 HR. RAINFALL - MAXIMUM WSE = 1009.07 (SEE FINAL STORMWATER MGMT. PLAN)

AUXILIARY SPILLWAY SET AT 0.5 FEET ABOVE MAX. WSE, SPILLWAY ELEV. = 1009.60

AUXILIARY SPILLWAY DESIGN:
 $Q(100) = 254.36 \text{ CFS}$, $Q = CLH^{\alpha}(3/2)$, $C=3.33$, $L = 200 \text{ FT.}$, $254.36 \text{ CFS} = 3.33 * 200 \text{ FT.} * (H^{(3/2)})$, $H=0.53 \text{ FT.}$

TOP OF BERM ELEV.= 1011.25
3' 7" — 1010.13 3' 1"

200' OVERFLOW WIDTH
@ ELEV.: 1009.60 — 100 YR. WSE ELEV.= 1009.07

EMERGENCY SPILLWAY DESIGN

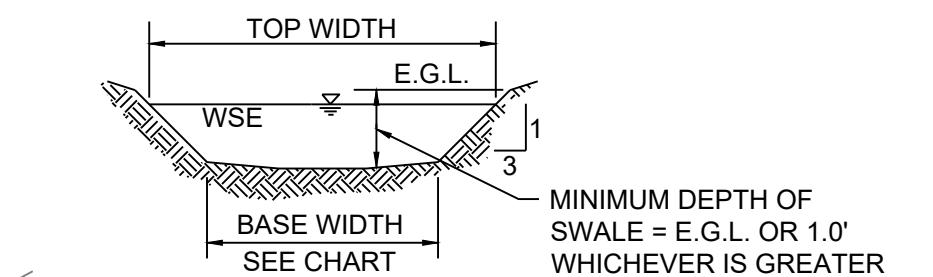
NOTES:

1. MBOE = MINIMUM BUILDING OPENING ELEVATION FOR HOUSES ADJACENT TO ENGINEERED OVERFLOW SWALES SHALL BE MINIMUM 2 FEET ABOVE THE 100 YR WATER SURFACE ELEVATION.
2. EGL = ENERGY GRADE LINE (100 YR)
3. WSE = WATER SURFACE ELEVATION (100 YR)
4. ENGINEERED SWALES TO BE GRADED TO NORMAL DEPTH OF FLOW (WATER SURFACE ELEVATION) OR 1.0 FT. WHICHEVER IS GREATER. MINIMUM SLOPE OF ENGINEERED SWALES SHALL BE AS NOTED.
5. MBOE'S ADJACENT TO SUMPED INLETS SHALL BE A MINIMUM OF 1' ABOVE TOP OF ADJACENT BERM

WEIR CALCULATIONS ($Q = CLH^{\alpha}(3/2)$)									
SECTION	DRAINAGE AREA (AC.)	Q100 (CFS)	Q10 (CFS)	DESIGN OVERFLOW (CFS)	WEIR ELEVATION	WEIR COEFFICIENT	LENGTH	HEAD REQ'D	WSE
1	0.71	6.04	-	6.04	1016.30	3.33	10'-0"	0.32	1016.62

100 YEAR OVERFLOW SWALES											DESCRIPTION
SECTION	DRAINAGE AREA (AC.)	Q100 (CFS)	Q10 (CFS)	DESIGN OVERFLOW (CFS)	BED SLOPE (%)	BASE WIDTH (FT.)	SIDE SLOPE	TOP WIDTH (FT.)	NORMAL DEPTH (FT.)	VELOCITY HEAD (FT.)	EGL (FT.)
A-A	0.76	6.50	-	6.50	2.20	5	3:1	6.96	0.33	3.33	0.17
B-B	3.15	26.82	-	26.82	2.00	5	3:1	9.59	0.77	4.80	0.36
C-C	3.55	30.25	-	30.25	3.00	5	3:1	9.39	0.73	5.73	0.51
D-D	8.80	74.92	-	74.92	3.82	5	3:1	11.65	1.11	8.11	1.02

RUNOFF CALCULATIONS:
 $Q = K * C * I * A$
 $K_{10} = 1.0$ $K_{00} = 1.25$ $C = 0.66$ $I = \text{INTENSITY}$
DESIGN OVERFLOW = $Q_{\text{OVERFLOW}} = Q_{100} - Q_{10}$
MANNINGS "n" = 0.030 FOR SWALES

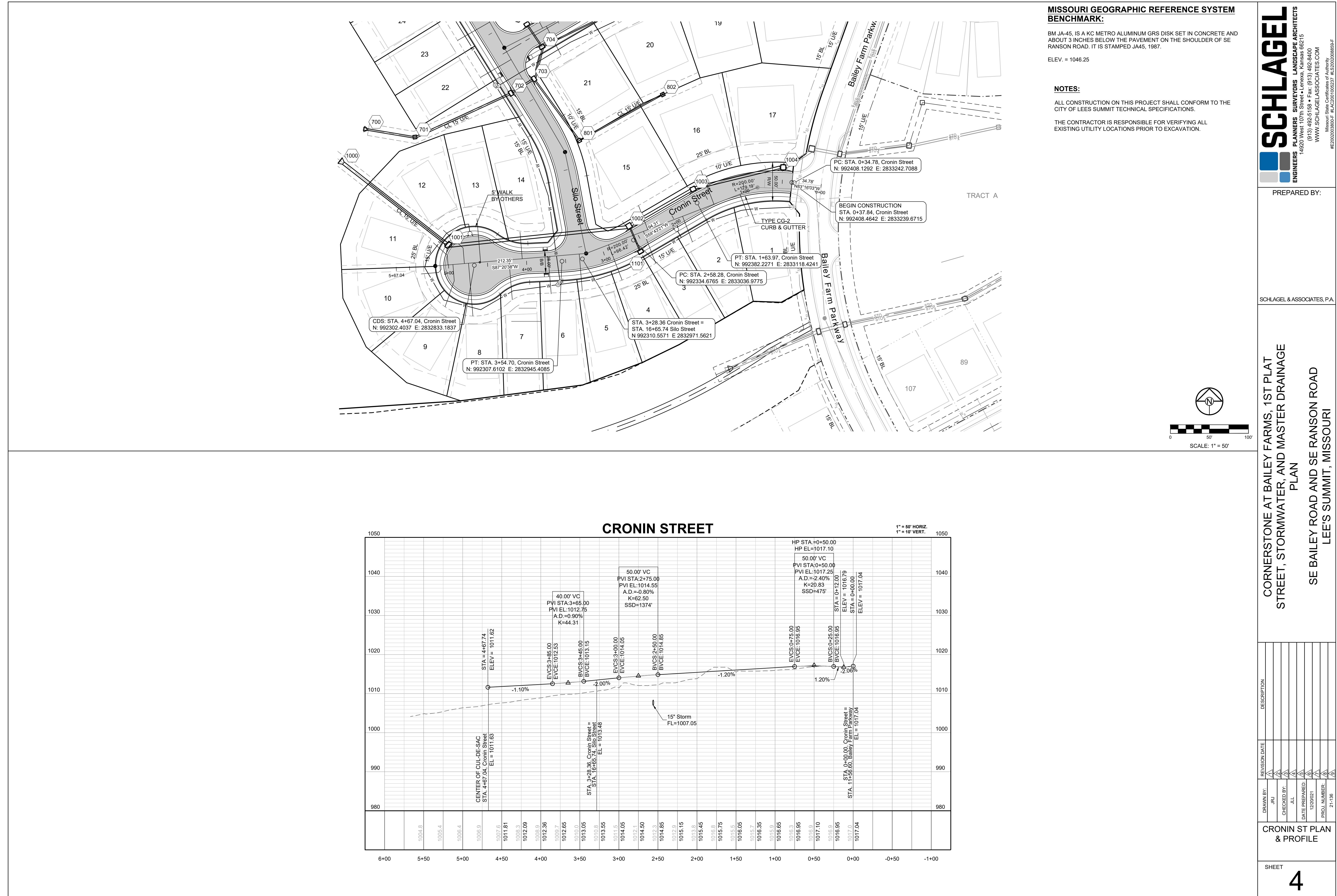


100 YEAR OVERFLOW SWALE SECTIONS
SECTION A-D

DRAWN BY: JRJ	REVISION DATE
CHECKED BY: JLL	
DATE PREPARED: 12/20/2021	
PROJ. NUMBER: 21-136	

MASTER
DRAINAGE
PLAN-GRADING
PLAN

SHEET



MISSOURI GEOGRAPHIC REFERENCE SYSTEM ANCHMARK:

A-45, IS A KC METRO ALUMINUM GRS DISK SET IN CONCRETE AND
SIT 3 INCHES BELOW THE PAVEMENT ON THE SHOULDER OF SE
SON ROAD. IT IS STAMPED JA45, 1987.

$$V = 1046.25$$

OTES:

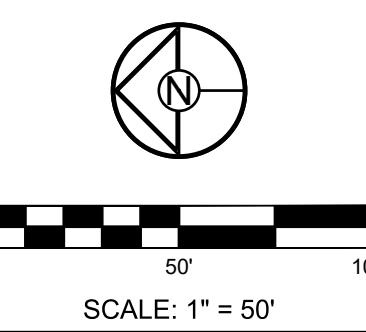
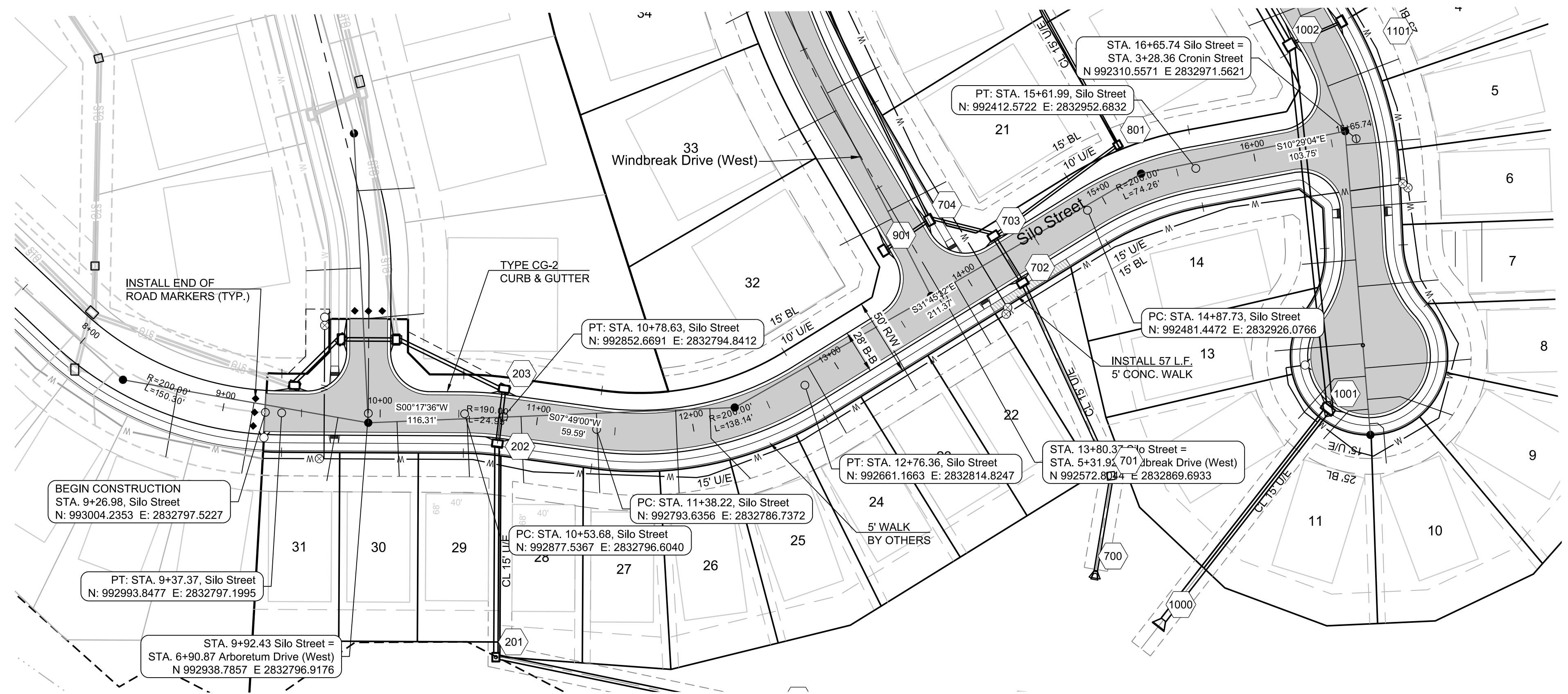
ALL CONSTRUCTION ON THIS PROJECT SHALL CONFORM TO THE
STANDARDS OF LEES SUMMIT TECHNICAL SPECIFICATIONS.

THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL EXISTING UTILITY LOCATIONS PRIOR TO EXCAVATION.



PREPARED BY:

SCHLAGEL & ASSOCIATES, P.A.

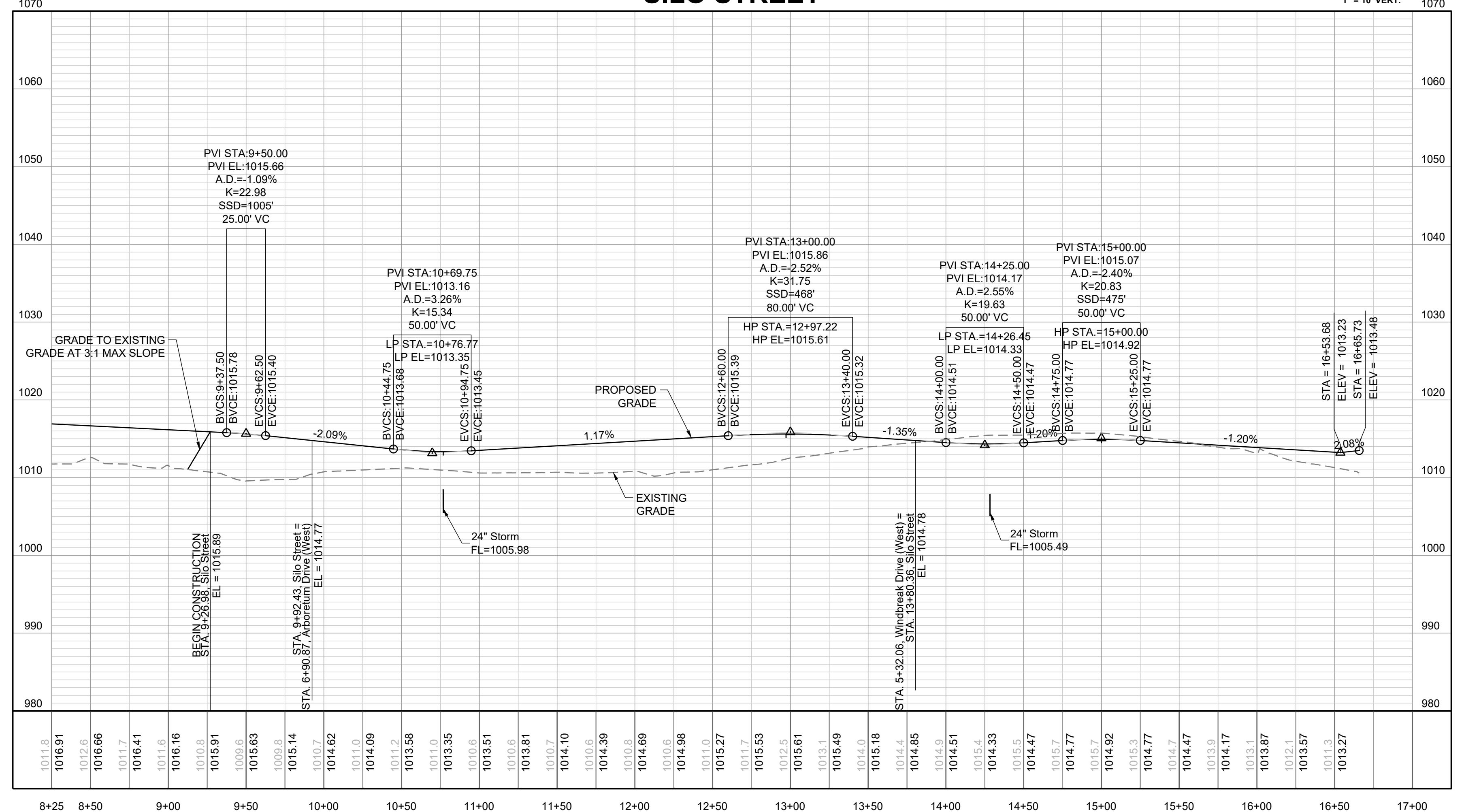


CORNERSTONE AT BAILEY FARMS, 1ST PLAT
STREET, STORMWATER, AND MASTER DRAINAGE
PLAN

SE BAILEY ROAD AND SE RANSON ROAD

SILO STREET

" = 50' HORIZ.
" = 10' VERT. 1070



ST PLAN & PROFILE	3
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DATE PREPARED:	5
12/20/021	6
PROJ. NUMBER:	7
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MISSOURI GEOGRAPHIC REFERENCE SYSTEM
BENCHMARK:

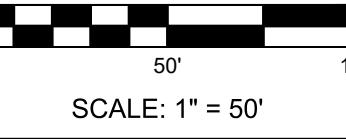
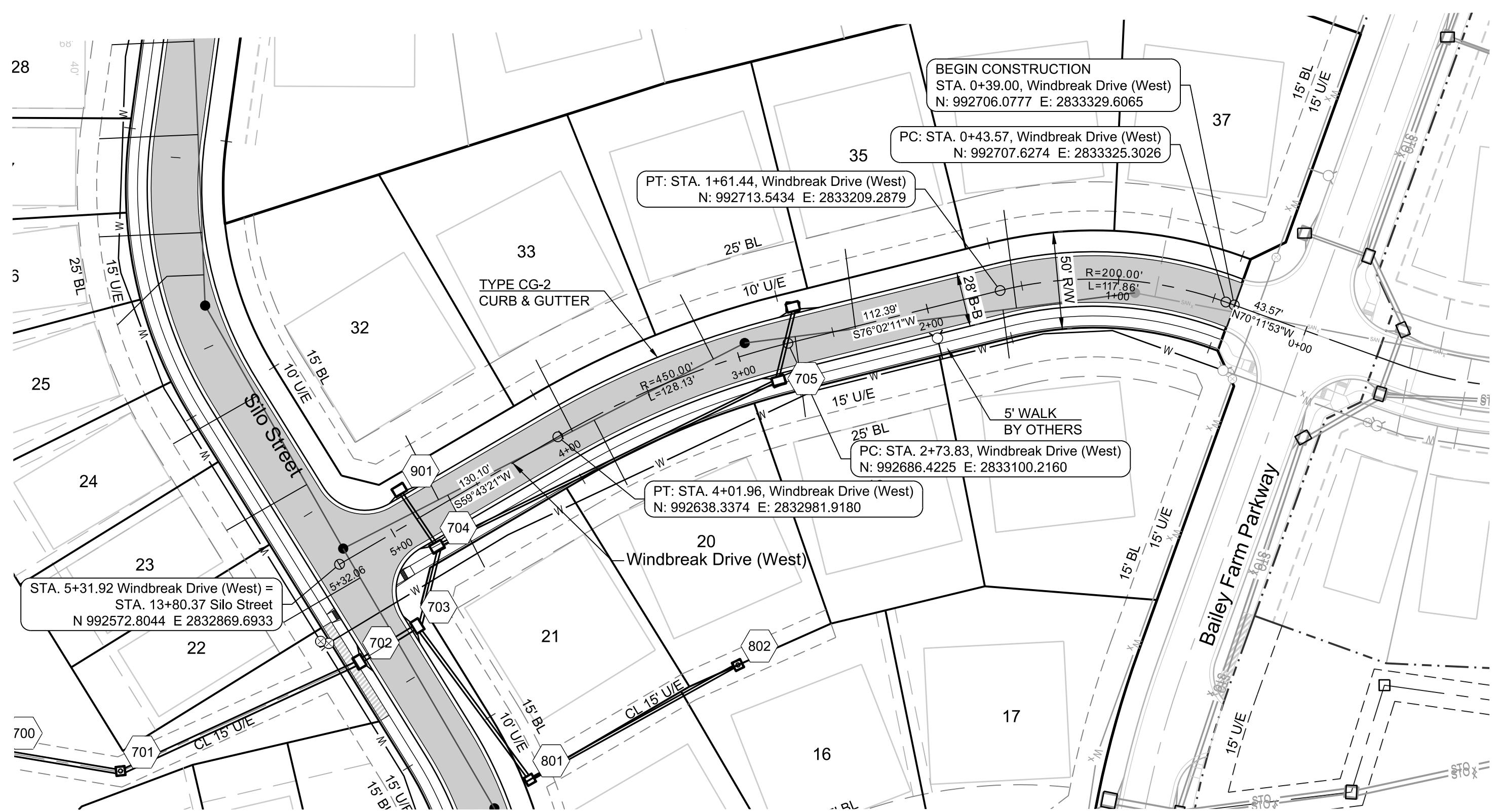
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ELEV. = 1046.25

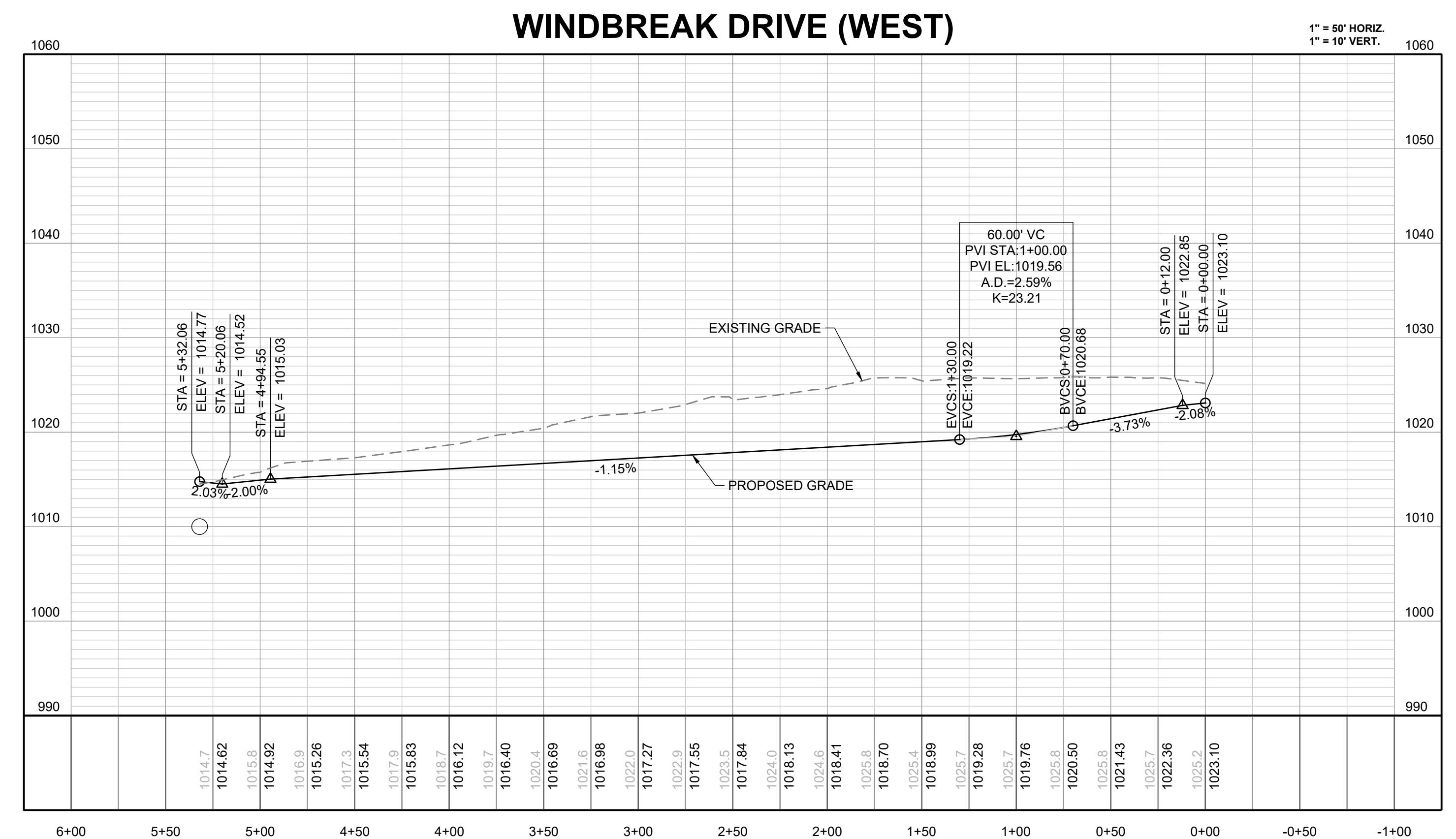
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SCALE: 1" = 50'



CORNERSTONE AT BAILEY FARMS, 1ST PLAT
STREET, STORMWATER, AND MASTER DRAINAGE
PLAN

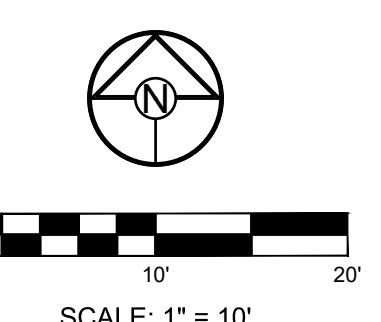
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14920 West 107th Street Lenexa Kansas 66215
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WWW.SCHLAGELASSOCIATES.COM
Missouri State Certificate of Authority #E20200380-F #LAC20105237 #LS202003889-F

PREPARED BY:

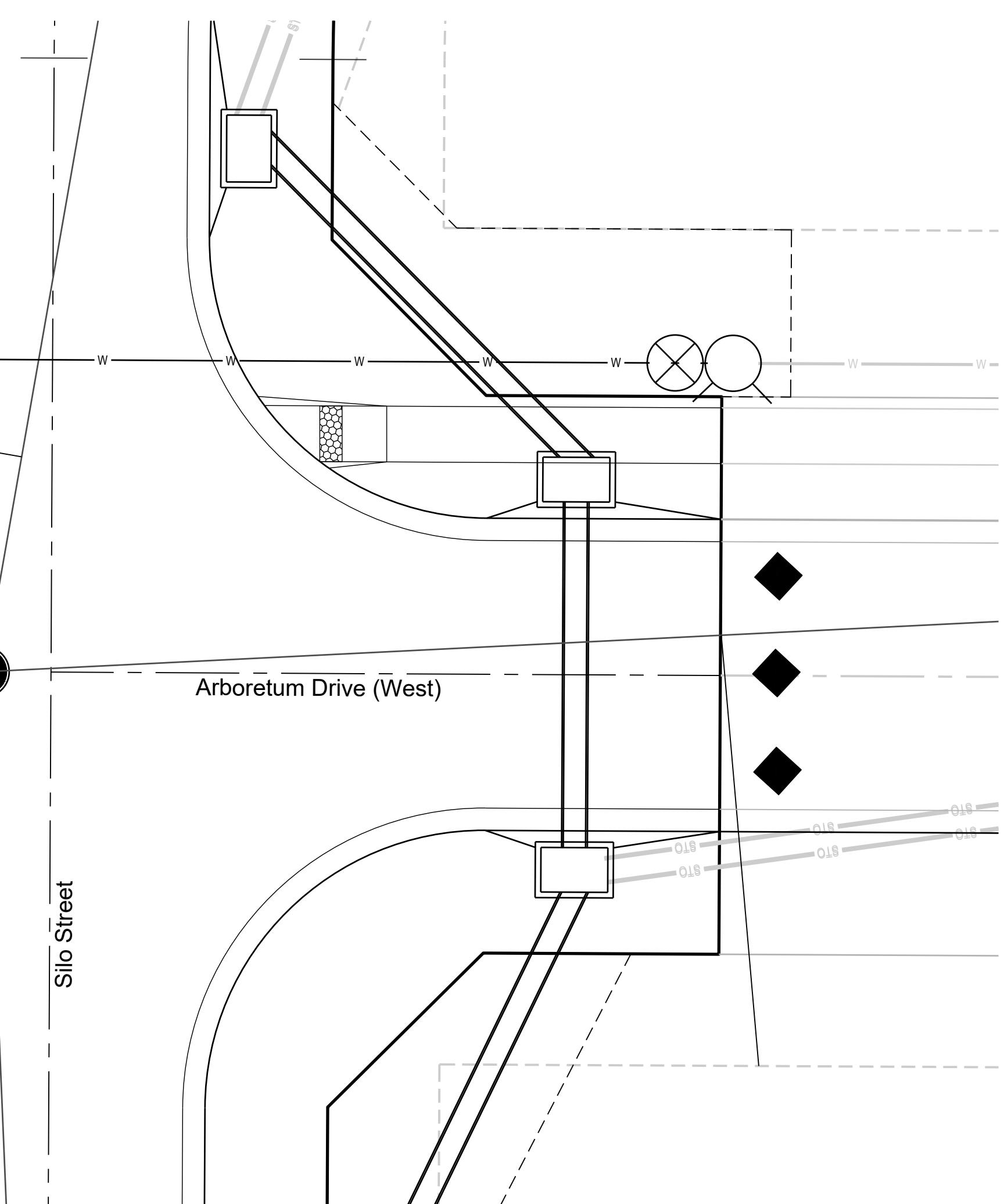
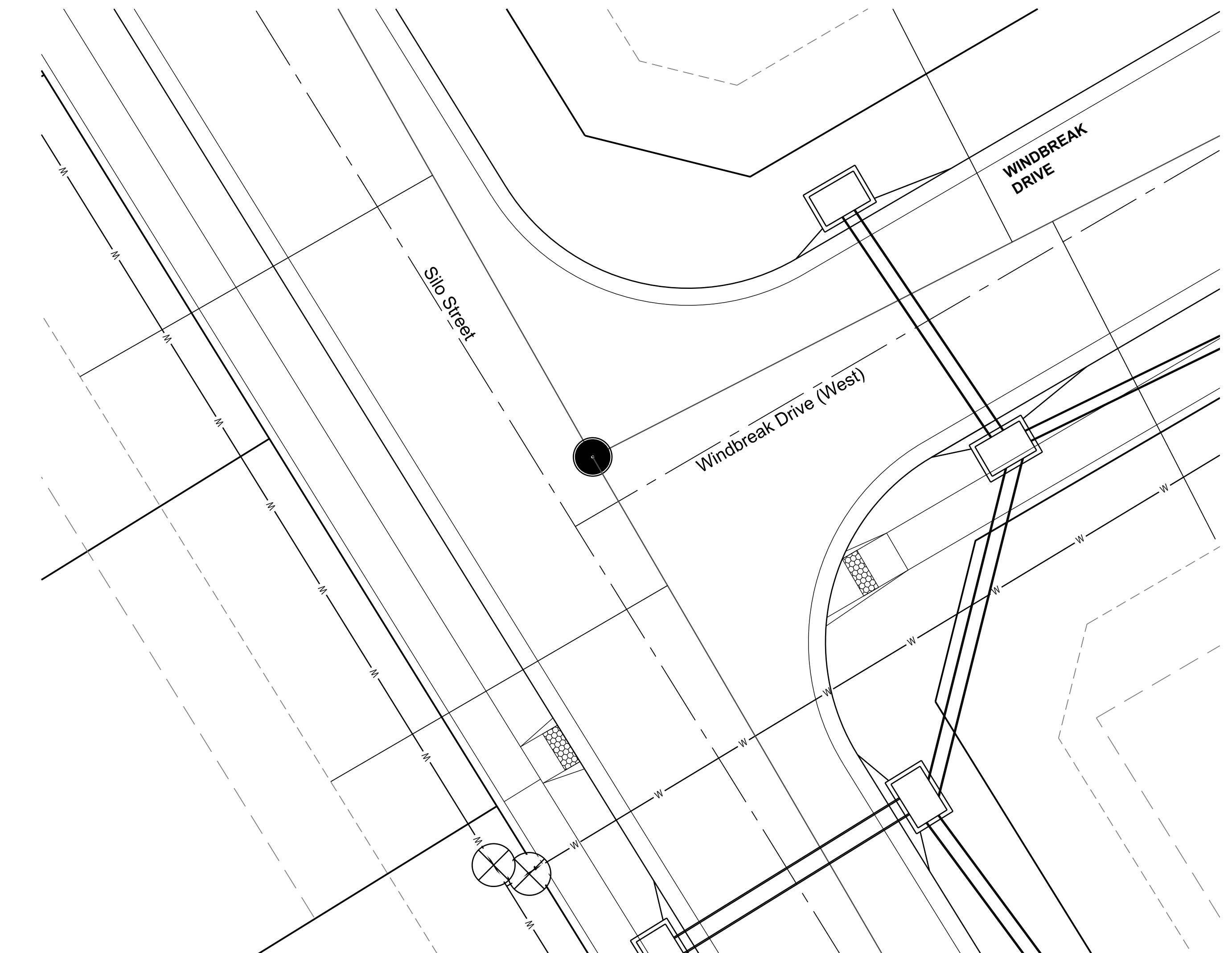
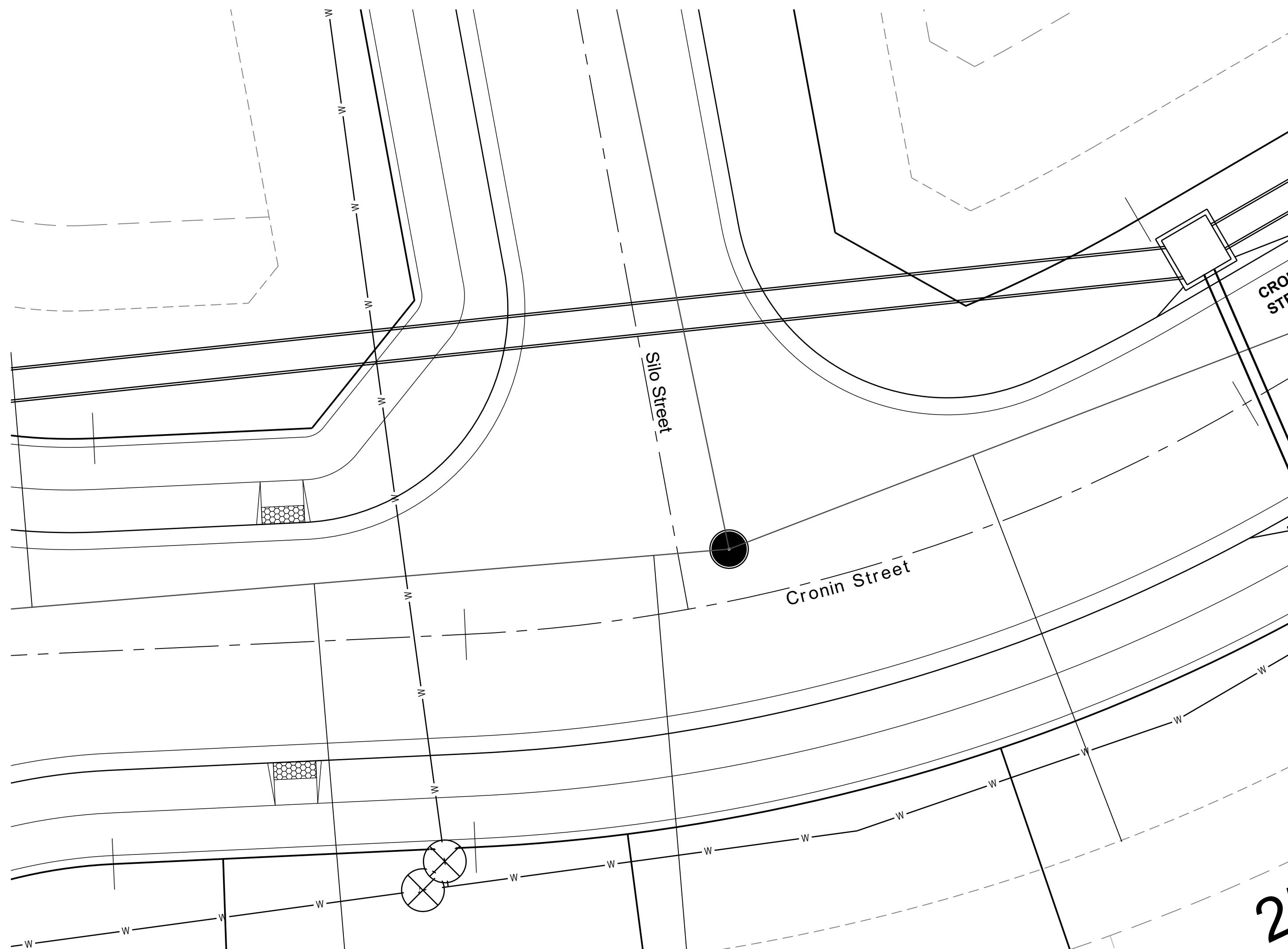
SCHLAGEL & ASSOCIATES, P.A.

WINDBREAK DR (WEST) PLAN & PROFILE		
SHEET	1	2
DRAWN BY:	REVISION DATE	DESCRIPTION
J.R.J	1/1	
CHECKED BY:	2/1	
JILL	3/1	
DATE PREPARED:	4/1	
(2/20/2021)	5/1	
PROJ. NUMBER:	6/1	
2-136	7/1	



SCALE: 1" = 10'

NOTE:
INTERSECTION DETAILS TO BE COMPLETED
WITH SECOND SUBMITTAL.

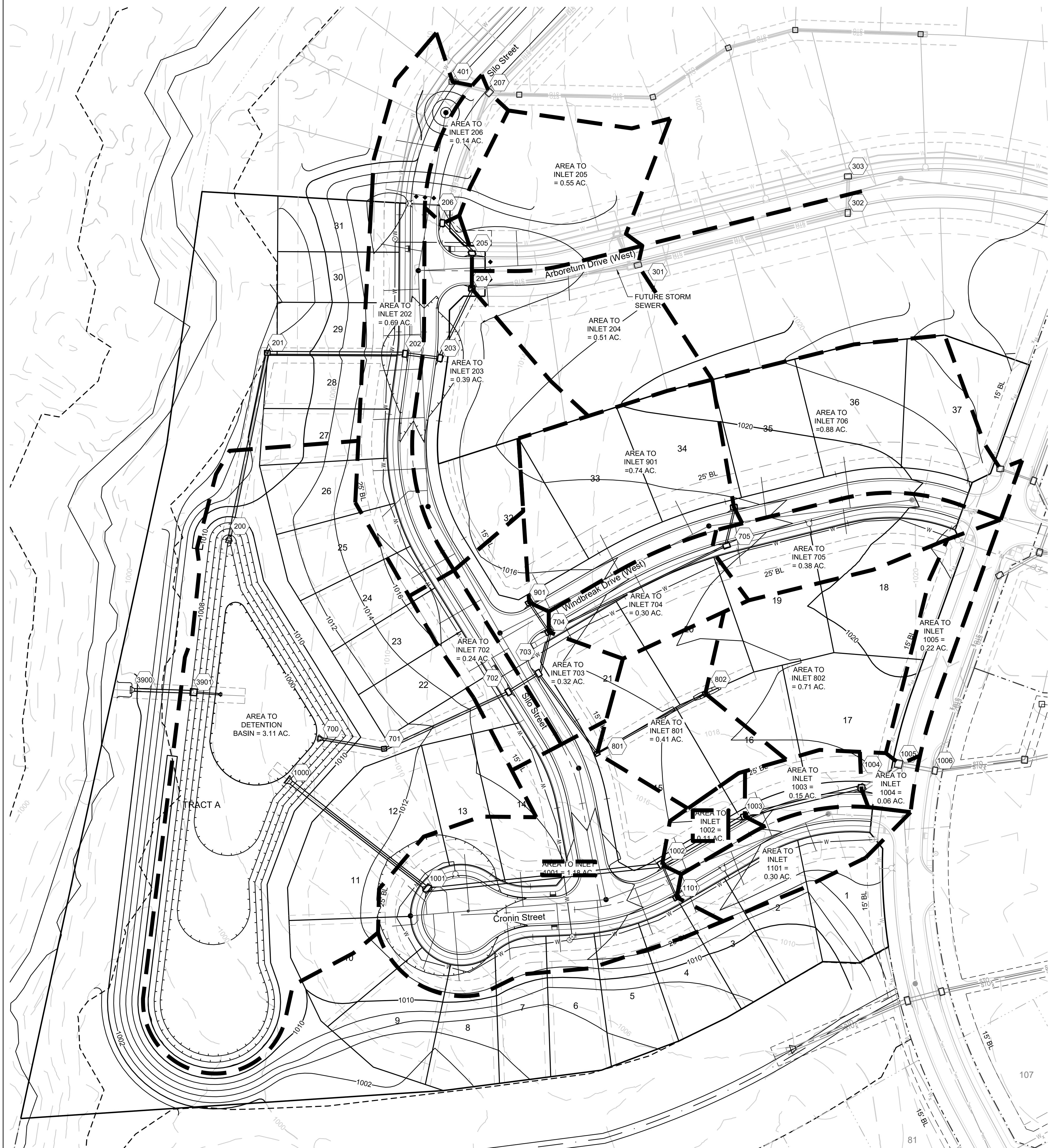


SHEET	INTERSECTION DETAILS		
	DRAWN BY:	REVISION DATE	DESCRIPTION
	JRU	1/1	
	JLL	1/1	CHECKED BY:
		1/1	DATE PREPARED:
		1/20/2021	PROJ. NUMBER:
		21-136	

MISSOURI GEOGRAPHIC REFERENCE SYSTEM
 BENCHMARK:

BM JA-45, IS A KC METRO ALUMINUM GRS DISK SET IN CONCRETE AND
 ABOUT 3 INCHES BELOW THE PAVEMENT ON THE SHOULDER OF SE
 RANSON ROAD. IT IS STAMPED JA45, 1987.

ELEV. = 1046.25



10-YEAR RUNOFF CALCULATIONS

Runoff Calculations																		Pipe Properties																	
Inlet #	Area (acres)	"C"	Cumul. Area (acres)	Cumul. Cx A	Intensity	To Inlet	Cumul. Runoff	Pipe Cap.	Pipe Vel.	Up Inlet	Piped Inlet 1	Up Inlet	Piped Inlet 2	Up Area (acres)	Up Cx A	Up Pipe Type	"n"	Pipe Value	Pipe Size	Length	Slope %	Drop In	FL Up	FL Down	Inlet Top										
LINE 200																																			
201	0.00	0.66	3.73	2.46	7.5	6.64	0.00	16.35	44.77	9.12	0.00	0.00	201	200	HDPE	0.012	30	184.94	1.02	0.40	1003.38	1001.50	1008.75	DS TAILWATER @ STR #200											
202	0.69	0.66	3.73	2.46	7.3	6.71	3.05	16.51	44.44	9.05	0.00	0.00	202	201	HDPE	0.012	30	135.90	1.00	0.40	1005.14	1003.78	1013.49												
203	0.39	0.66	3.04	2.01	7.2	6.72	1.73	13.48	38.83	12.36	0.00	0.00	203	202	HDPE	0.012	24	35.04	2.51	0.40	1006.42	1005.54	1013.50												
204	0.51	0.66	2.65	1.75	7.1	6.75	2.27	11.80	37.75	12.02	0.00	0.00	204	203	HDPE	0.012	24	75.49	2.37	0.40	1008.61	1006.82	1015.11												
205	0.55	0.66	2.14	1.41	7.1	6.76	2.46	9.55	24.51	7.80	0.00	0.00	205	204	HDPE	0.012	24	35.00	1.00	0.40	1009.36	1009.01	1015.11												
206	0.14	0.66	1.59	1.05	7.0	6.79	0.63	7.13	21.92	6.98	0.00	0.00	206	205	HDPE	0.012	24	41.74	0.80	0.40	1010.09	1009.76	1015.83												
207	0.30	0.66	1.45	0.96	6.6	6.88	1.36	6.58	21.92	6.98	0.00	0.00	207	206	HDPE	0.012	24	136.91	0.80	0.50	1010.49	1010.37													
208	0.25	0.66	1.15	0.76	6.0	7.04	1.16	5.35	11.38	6.44	0.00	0.00	208	207	HDPE	0.012	18	229.29	1.00	0.50	1014.38	1012.09	1019.71												
209	0.31	0.66	0.90	0.59	5.6	7.17	1.47	4.26	7.00	5.70	0.00	0.00	209	208	HDPE	0.012	15	147.18	1.00	0.50	1016.35	1014.88	1021.32												
210	0.32	0.66	0.59	0.39	5.1	7.32	1.55	2.85	7.00	5.70	0.00	0.00	210	209	HDPE	0.012	15	172.48	1.00	0.50	1018.58	1016.85	1025.06												
211	0.27	0.66	0.27	0.18	5.0	7.35	1.31	1.31	7.00	5.70	0.00	0.00	211	210	HDPE	0.012	15	39.07	1.00	N/A	1019.47	1019.08	1025.96												
LINE 700																																			
701	0.00	0.66	3.10	2.05	5.7	7.14	0.00	14.60	44.18	14.06	0.00	0.00	701	700	HDPE	0.012	24	61.51	3.25	0.50	1001.64	999.64	1010.71	DS TAILWATER @ STR #700											
702	0.24	0.66	3.10	2.05	5.5	7.20	1.14	14.72	34.66	11.03	0.00	0.00	702	701	HDPE	0.012	24	135.04	2.00	0.30	1004.84	1002.14	1014.47												
703	0.32	0.66	2.86	1.89	5.5	7.21	1.52	13.61	34.66	11.03	0.00	0.00	703	702	HDPE	0.012	24	35.00	2.00	0.40	1005.84	1005.14	1014.47												
704	0.30	0.66	1.42	0.94	5.4	7.23	1.43	6.78	19.71	11.15	901	0.74	0.49	704	703	HDPE	0.012	18	41.96	3.00	0.40	1007.50	1006.24	1015.29											
705	0.38	0.66	0.38	0.25	5.0	7.35	1.84	1.84	9.90	8.06	0.00	0.00	705	704	HDPE	0.012	15	195.23	2.00	0.40	1011.80	1007.90	1017.49												
706	0.68	0.66	0.88	0.58	5.0	7.35	4.27	9.90	8.06	0.00	0.00	706	705	HDPE	0.012	15	38.73	2.00	N/A	1012.98	1012.20	1017.78													
LINE 800																																			
801	0.41	0.66	1.12	0.74	5.3	7.28	1.97	5.38	16.09	9.11	0.00	0.00	801	703	HDPE	0.012	18	97.97	2.00	0.50	1008.30	1006.34	1014.92	Drop in Inlet 703 0.50											
802	0.71	0.66	0.71	0.47	5.0	7.35	3.45	3.45	9.90	8.06	0.00	0.00	802	801	HDPE	0.012	15	122.16	2.00	N/A	1011.24	1008.80	1015.80												
LINE 900																																			
901	0.74	0.66	0.74	0.49	5.0	7.35	3.59	3.59	9.90	8.06	0.00	0.00	901	704	HDPE	0.012	15	35.06	2.00	N/A	1008.70	1008.00	1015.06	Drop in Inlet 704 0.50											
LINE 1000																																			
1001	1.18	0.66	5.45	3.60	7.9	6.56	5.11	23.61	102.19	14.46	0.00	0.00	1001	1000	HDPE	0.012	36	170.00	2.00	0.30	1002.58	999.18	1010.00	DS TAILWATER @ STR #1000											
1002	0.11	0.66	4.27	2.82	7.4	6.67	0.48	18.79	6																										



Storm Sewer Construction Notes	
Structure	Notes
200	STA 0+00.00, LINE 200 INSTALL 30" HDPE FLARED END SECTION W/ TOEWALL AND 7 CU. YD (16'X8'X1.5') STONE RIP-RAP USING A MIN. 50# (D50=12") STONE. PLACE FILTER FABRIC PRIOR TO INSTALLATION OF RIP-RAP. N 992676.4508 E 2832604.7511
201	STA 1+84.94, LINE 200 INSTALL 4 X 4 JUNCTION BOX N 992857.6387 E 2832641.8233
202	STA 3+20.84, LINE 200 INSTALL 6 X 4 CURB INLET N 992856.6949 E 2832777.7216
203	STA 3+55.88, LINE 200 INSTALL 6 X 4 CURB INLET N 992852.3684 E 2832812.4917
204	STA 4+31.37, LINE 200 INSTALL 6 X 4 CURB INLET N 992921.0453 E 2832843.8274
205	STA 4+66.37, LINE 200 INSTALL 6 X 4 CURB INLET N 992956.0449 E 2832844.0066
206	STA 5+08.11, LINE 200 INSTALL 6 X 4 CURB INLET N 992985.7268 E 2832814.6582
700	STA -0+00.00, LINE 700 INSTALL 24" HDPE FLARED END SECTION W/ TOEWALL AND 5 CU. YD (14'X6'X1.5') STONE RIP-RAP USING A MIN. 50# (D50=12") STONE. PLACE FILTER FABRIC PRIOR TO INSTALLATION OF RIP-RAP. N 992476.2527 E 2832696.4116
701	STA 0+61.50, LINE 700 INSTALL 4 X 4 JUNCTION BOX N 992466.5519 E 2832757.1471
702	STA 1+96.54, LINE 700 INSTALL 6 X 4 CURB INLET N 992522.6991 E 2832879.9587
703	STA 2+31.54, LINE 700 INSTALL 6 X 4 CURB INLET N 992541.1211 E 2832909.7182
704	STA 2+73.50, LINE 700 INSTALL 6 X 4 CURB INLET N 992581.8404 E 2832919.8570
705	STA 4+68.73, LINE 700 INSTALL 6 X 4 CURB INLET N 992667.1149 E 2833095.4758
706	STA 5+07.46, LINE 700 INSTALL 6 X 4 CURB INLET N 992705.1565 E 2833102.7289
801	STA 0+97.97, LINE 800 INSTALL 4 X 4 AREA INLET OPEN TO EAST N 992462.0478 E 2832967.5530
802	STA 2+20.13, LINE 800 INSTALL 4 X 4 AREA INLET OPEN TO EAST & WEST N 992521.0360 E 2833074.5302
901	STA 0+35.06, LINE 900 INSTALL 6 X 4 CURB INLET N 992611.0492 E 2832900.4685
1000	STA 0+00.00, LINE 1000 INSTALL 36" HDPE FLARED END SECTION W/ TOEWALL AND 12 CU. YD. (18'X9'X2') STONE RIP-RAP USING A MIN. 100# (D50=15") STONE. PLACE FILTER FABRIC PRIOR TO INSTALLATION OF RIP-RAP. N 992433.0590 E 2832665.5966
1001	STA 1+70.00, LINE 1000 INSTALL 8 X 4 CURB INLET N 992328.5259 E 2832799.6593
1002	STA 4+02.81, LINE 1000 INSTALL 6 X 6 CURB INLET N 992352.7296 E 2833031.2069
1003	STA 4+97.47, LINE 1000 INSTALL 6 X 5 CURB INLET N 992399.9823 E 2833113.2254
1004	STA 6+16.30, LINE 1000 INSTALL 6 X 6 CURB INLET N 992427.8021 E 2833228.7610
1101	STA 0+36.19, LINE 1100 INSTALL 6 X 4 CURB INLET N 992319.7811 E 2833046.1733
3900	STA -0+00.00, LINE 3900 INSTALL 30" HDPE FLARED END SECTION W/ TOEWALL AND 7 CU. YD (16'X8'X1.5') STONE RIP-RAP USING A MIN. 150# (D50=15") STONE. PLACE FILTER FABRIC PRIOR TO INSTALLATION OF RIP-RAP.

SCHLAGEL & ASSOCIATES, P.A.

**CORNERSTONE AT BAILEY FARMS, 1ST PLAT
STREET, STORMWATER, AND MASTER
DRAINAGE PLAN**

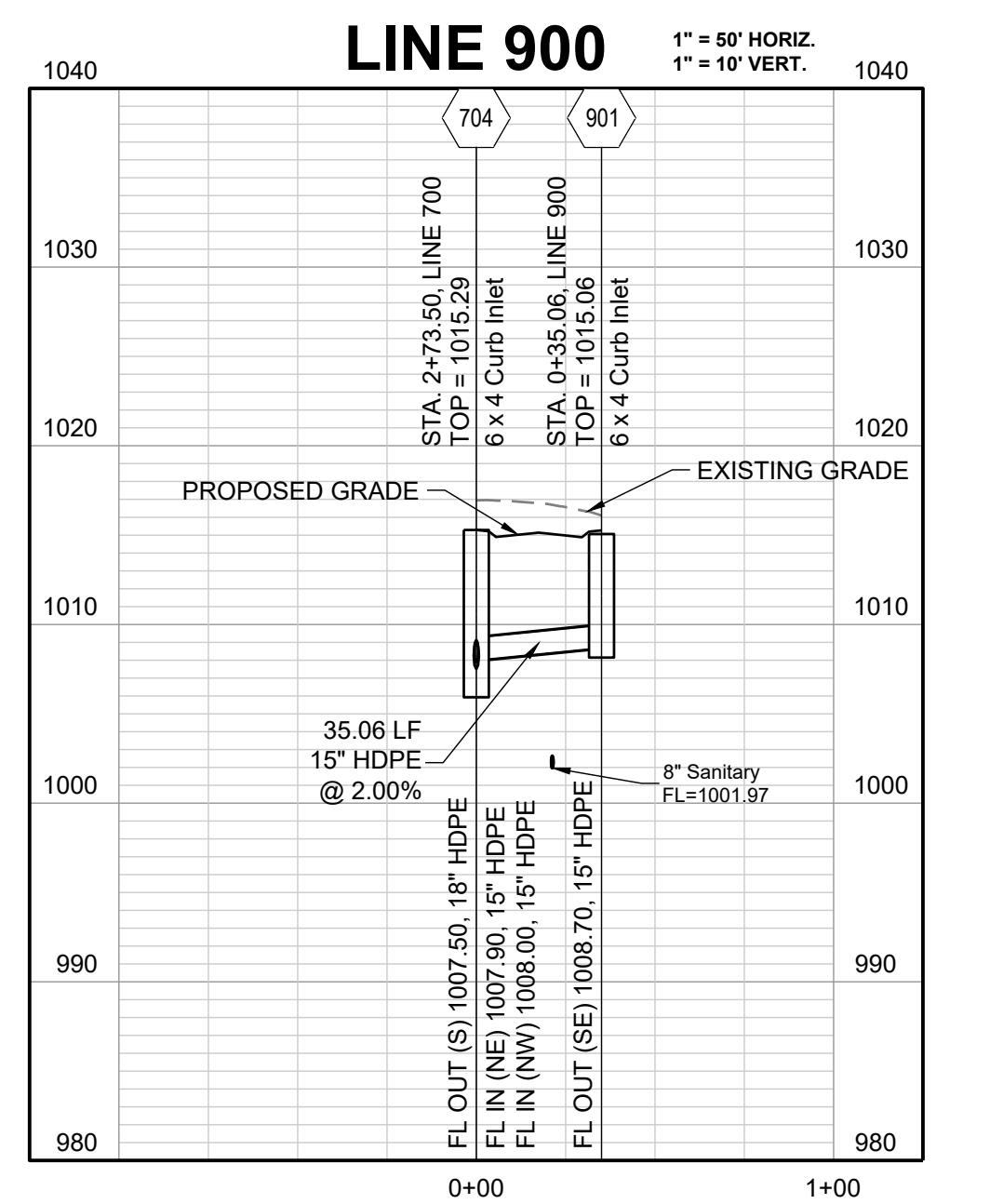
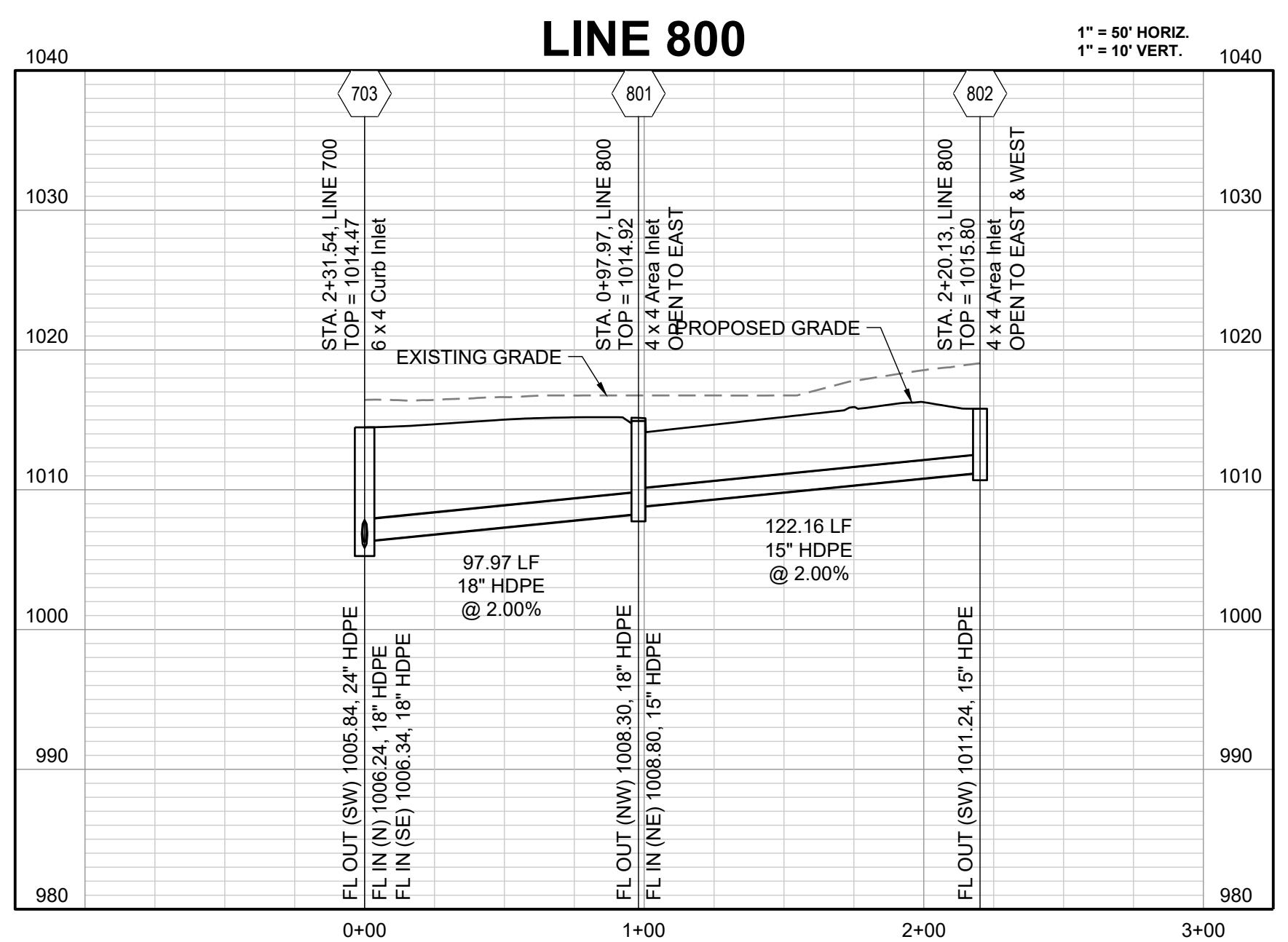
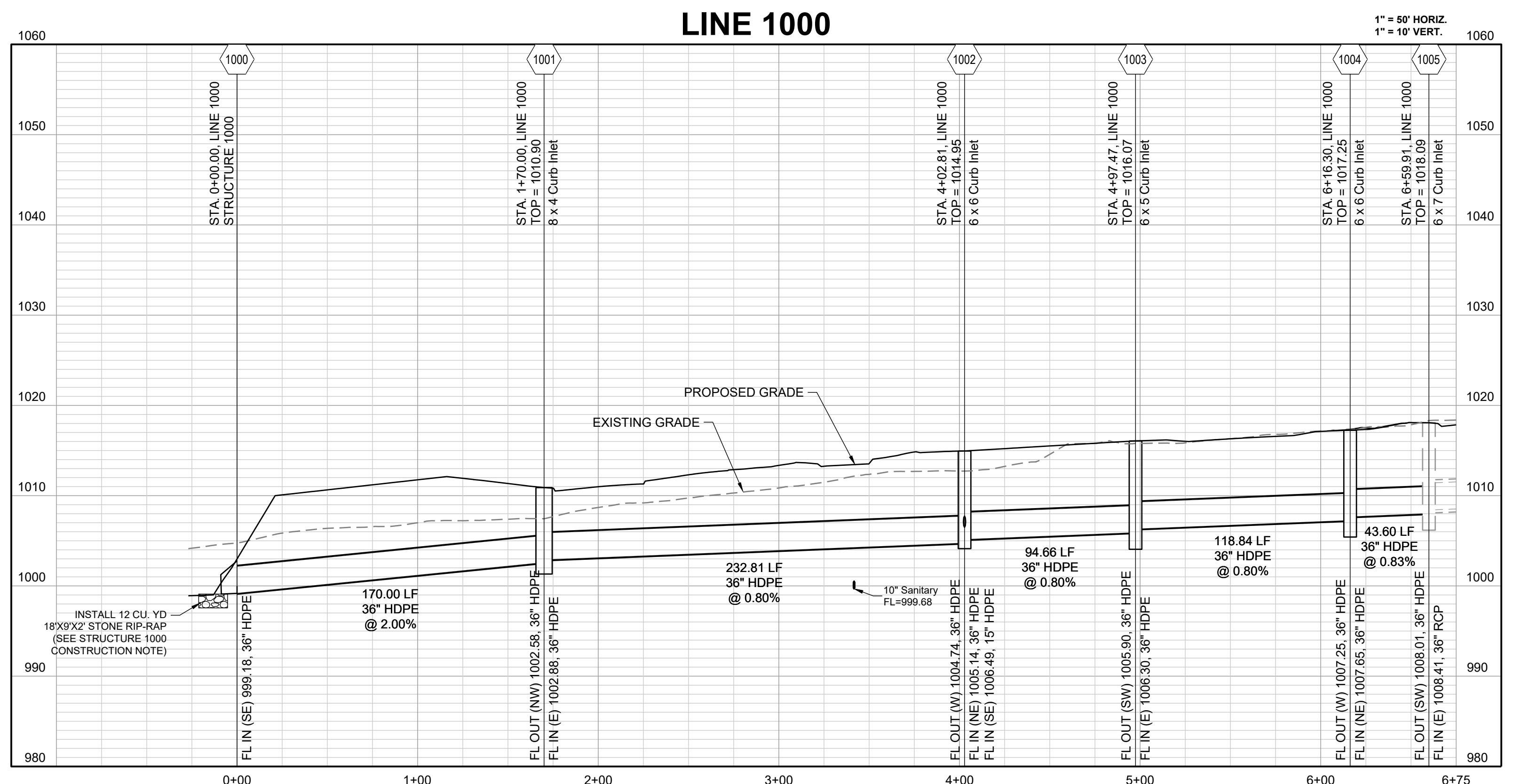
**SE BAILEY ROAD AND SE RANSON ROAD
LEE'S SUMMIT, MISSOURI**

DRAWN BY:	REVISION DATE	DESCRIPTION
JRJ	1	
	2	
	3	CHECKED BY:
JLL	4	
	5	
	6	ITE PREPARED:
	7	
	8	ROJ. NUMBER:
21-136	9	



SHEET

10



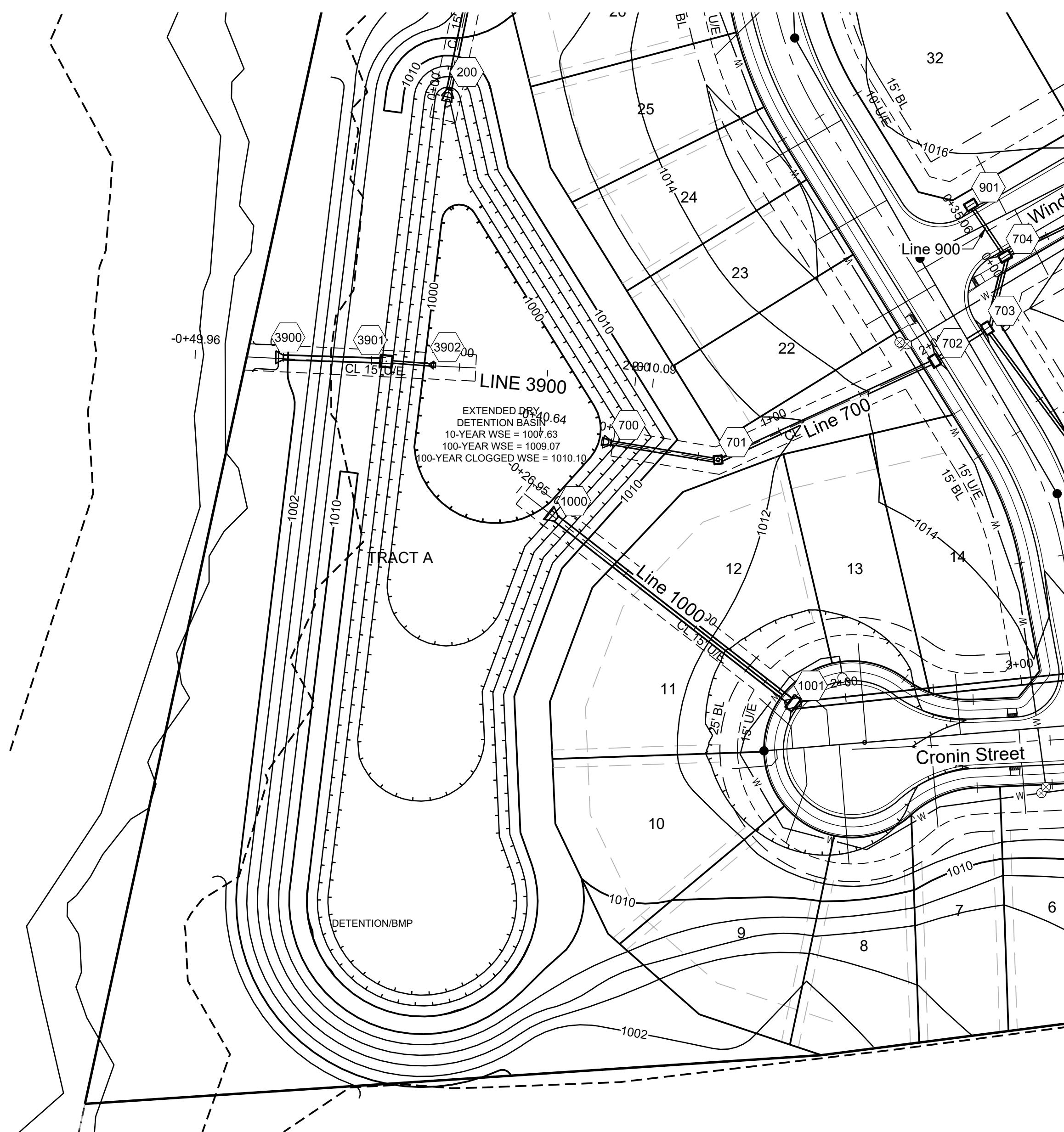
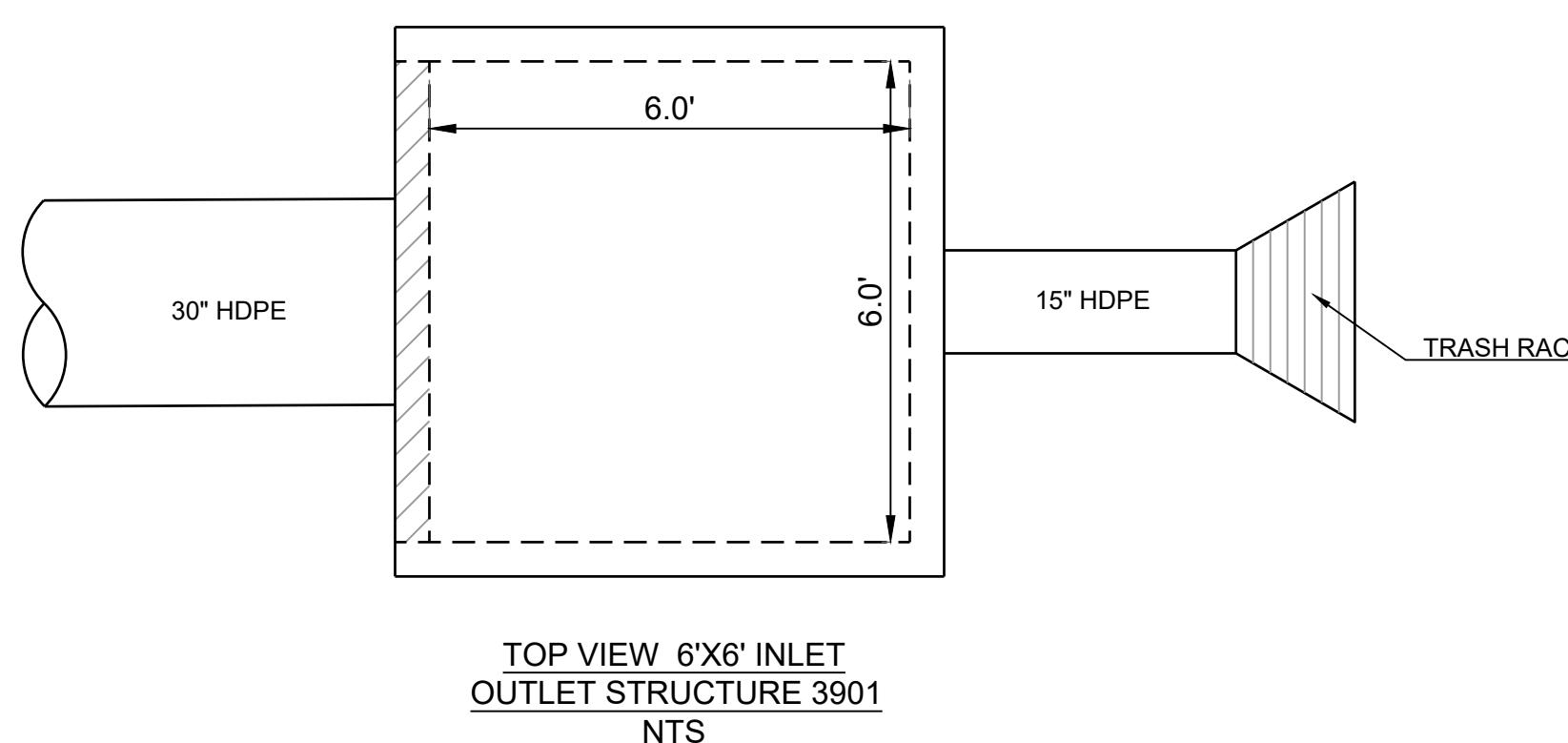
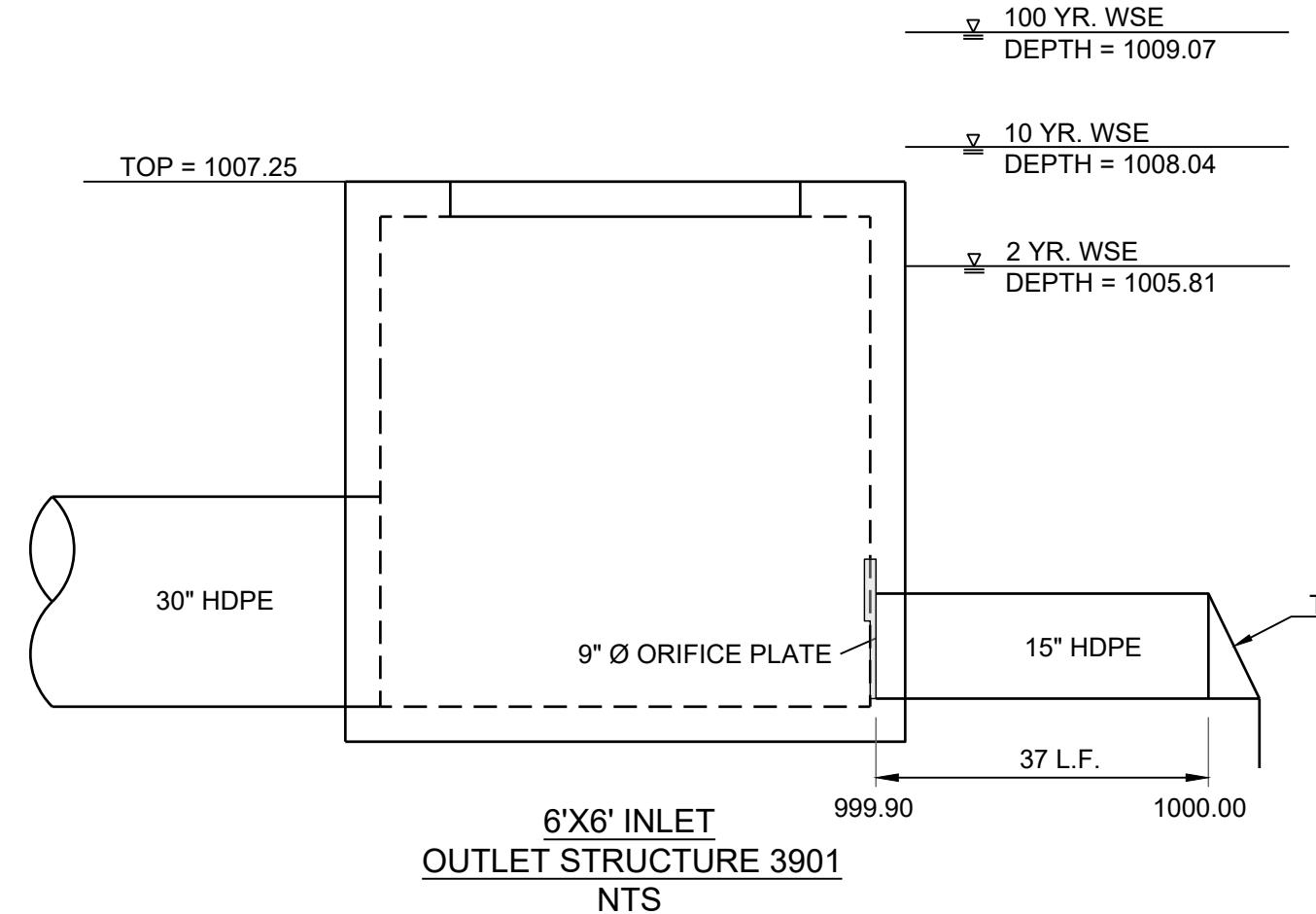
CORNERSTONE AT BAILEY FARMS, 1ST PLAT
STREET, STORMWATER, AND MASTER DRAINAGE
PLAN
SE BAILEY ROAD AND SE RANSON ROAD
LEE'S SUMMIT, MISSOURI

SCHLAGEL
ENGINEERS PLANNERS SURVEYORS LANDSCAPE ARCHITECTS

PREPARED BY:

14920 West 107th Street Lenexa Kansas 66215
(913) 482-5158 • Fax: (913) 492-3400
WWW.SCHLAGELASSOCIATES.COM
MAILING ADDRESS: PO BOX 200000, Lenexa, KS 66215
#E2020038005 F BLAC201000237 4452020038059-F

STORM PROFILE
SHEET
12
DRAWN BY: JRJ
REVISION DATE
CHECKED BY:
DATE PREPARED: 12/20/2021
PROJ. NUMBER: 21-136
SCALE: 1" = 50'
100' 50' 0'



TRASH RACK DETAIL (NOT TO SCALE)

NOTES:

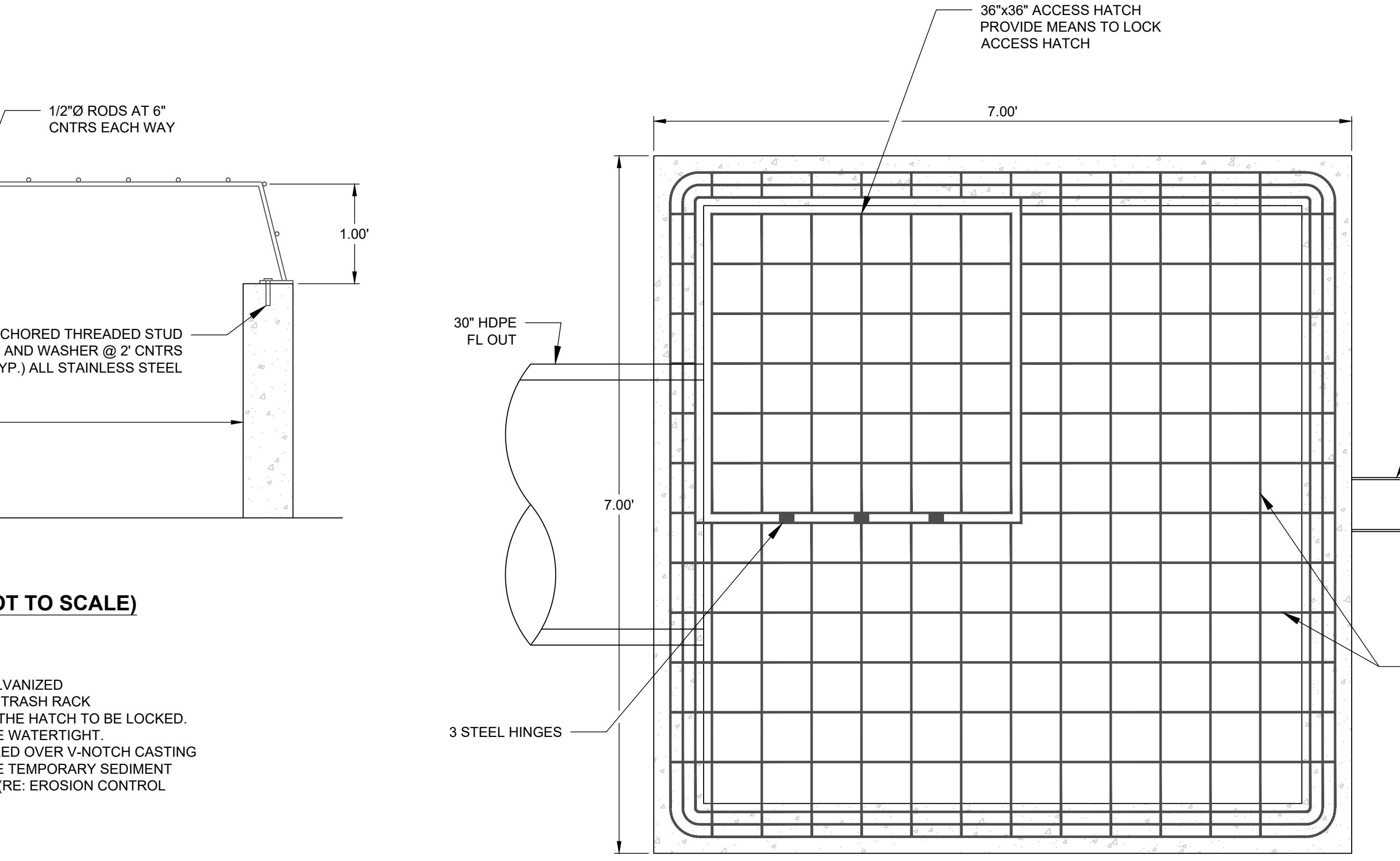
1. ALL METAL PARTS TO BE GALVANIZED
2. PROVIDE ACCESS THROUGH TRASH RACK
3. PROVIDE LATCH TO ENABLE THE HATCH TO BE LOCKED.
4. OUTFLOW STRUCTURE TO BE WATERTIGHT.
5. BAR GRATING TO BE INSTALLED OVER V-NOTCH CASTING AFTER THE REMOVAL OF THE TEMPORARY SEDIMENT PERFORATED STEEL PLATE. (RE: EROSION CONTROL PLAN)

DETENTION STORAGE:
100 YEAR, 24 HR. RAINFALL - MAXIMUM WSE = 1009.07 (SEE FINAL STORMWATER MGMT. PLAN)

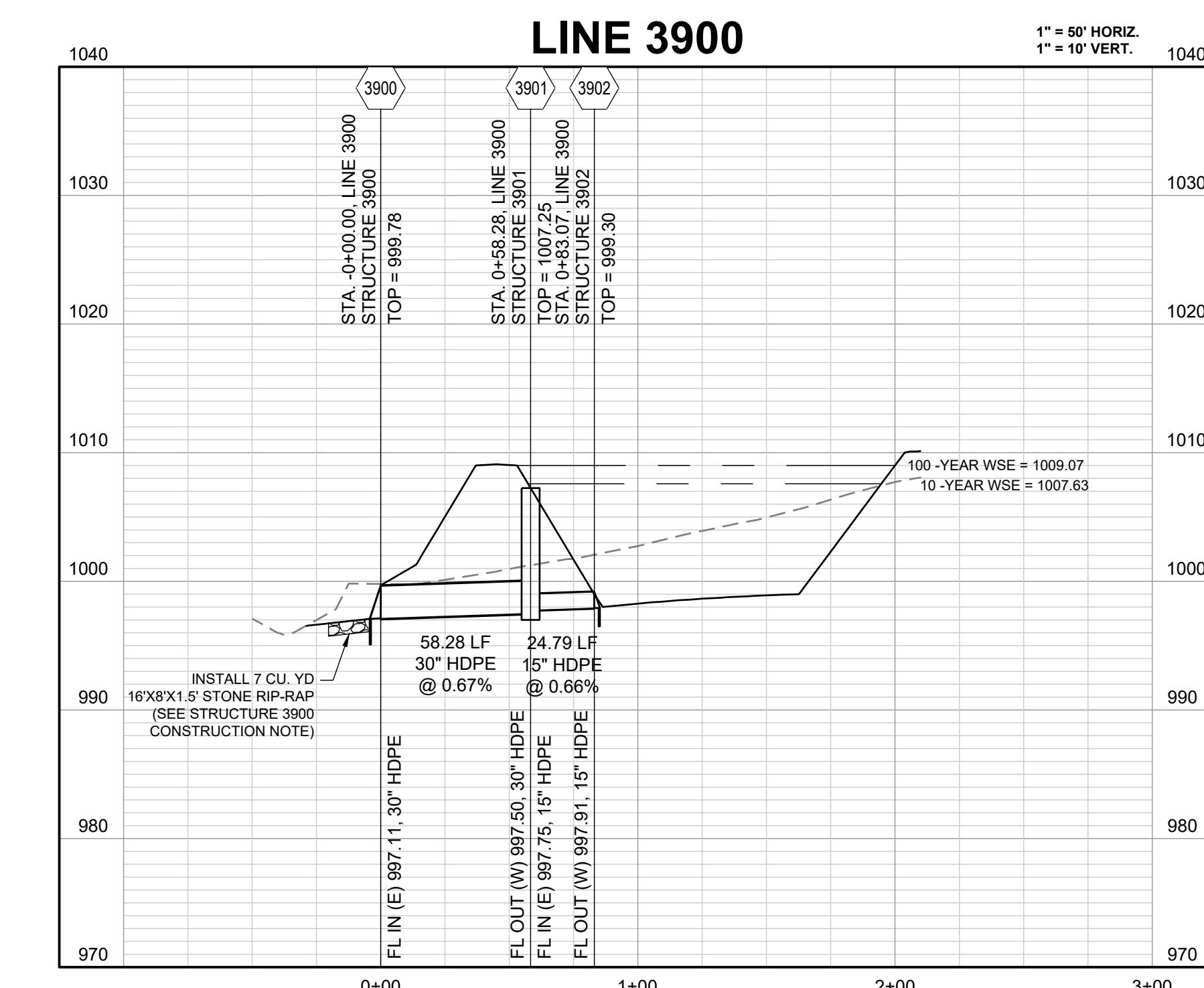
AUXILIARY SPILLWAY SET AT 0.5 FEET ABOVE MAX. WSE, SPILLWAY ELEV. = 1009.60

AUXILIARY SPILLWAY DESIGN:
Q(100)= 254.36 CFS, Q=CLH^(3/2), C=3.33, L= 200 FT., 254.36 CFS = 3.33 * 200 FT. * (H^(3/2)), H=0.53 FT.

The diagram shows a cross-section of an emergency spillway. The top horizontal line is labeled "TOP OF BERM ELEV.= 1011.25". Below it, a dashed line represents the "100 YR. WSE" at elevation 1009.60. The width between these two lines is labeled "200' OVERFLOW WIDTH". A central point on the dashed line is labeled "1010.13". The slope of the spillway is indicated by a 3:1 ratio on both sides. Arrows point from the labels to their respective points on the diagram.



LINE 3900



SCHLAGEL & ASSOCIATES, P.C.

CORNERSTONE AT BAILEY FARMS, 1ST PLAT
STREET, STORMWATER, AND MASTER DRAINAGE
PLAN

SE BAILEY ROAD AND SE RANSON ROAD

I E&I'S SIMMIT MISSOURI

SCHLAGEL

ENGINEERS PLANNERS SURVEYORS LANDSCAPE ARCHITECT

14920 West 107th Street • Lenexa, Kansas 66215
(913) 492-5158 • Fax: (913) 492-8400

PREPARED BY

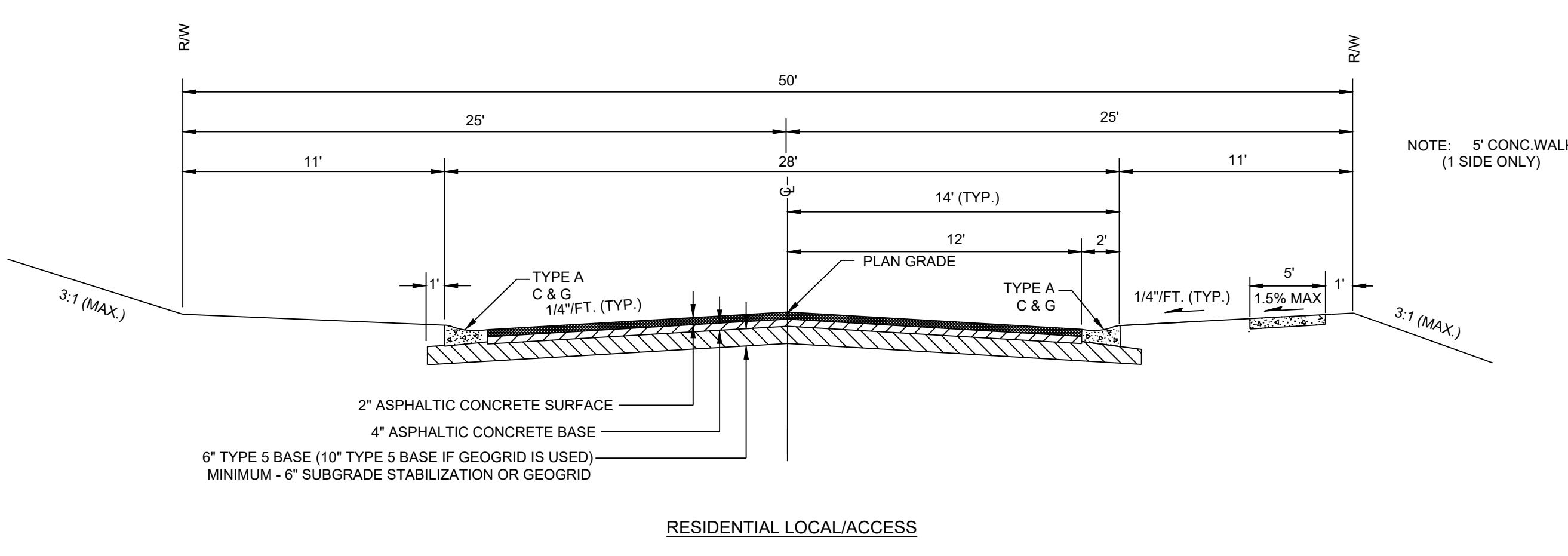
SCHLAGEL & ASSOCIATES

13

PREPARED BY:

SCHLAGEL & ASSOCIATES, P.A.

CORNERSTONE AT BAILEY FARMS, 1ST PLAT
STREET, STORMWATER AND MASTER
DRAINAGE PLAN
SE BAILEY ROAD AND SE RANSON ROAD
LEE'S SUMMIT, MISSOURI



RESIDENTIAL LOCAL/ACCESS

TABLE LS-2: MINIMUM ASPHALT PAVEMENT THICKNESSES

Street Classification	Pavement Option	AC Surface (in.)	AC Base (in.)	Aggregate Base (in.)	Chemical Subgrade Stabilization (in.)	Geogrid / Geotextile ⁽¹⁾
Residential Local/Access	A	2	4	6	6	--
	B	2	4	10	--	Geogrid / Geotextile
Residential Collector	A	2	5.5	6	9	--
	B	2	5.5	12	--	Geogrid / Geotextile
Commercial Industrial Local/Collector	A	2	7.5	6	9	--
	B	2	7.5	12	--	Geogrid / Geotextile

Notes:

(1) Geogrid shall be polypropylene material and Geotextile shall be woven, polypropylene as shown in the City's Approved Products List

TABLE LS-3: MINIMUM PCC PAVEMENT THICKNESSES

Street Classification	Pavement Option	PCC (in.)	Aggregate Base (in.)	Chemical Subgrade Stabilization (in.)	Geogrid / Geotextile ⁽¹⁾
Residential Local/Access	A	6	4	--	--
Residential Collector	A	6	4	6	--
	B	6	6	--	Geogrid
Commercial Industrial Local/Collector	A	8	4	9	--
	B	8	6	--	Geogrid

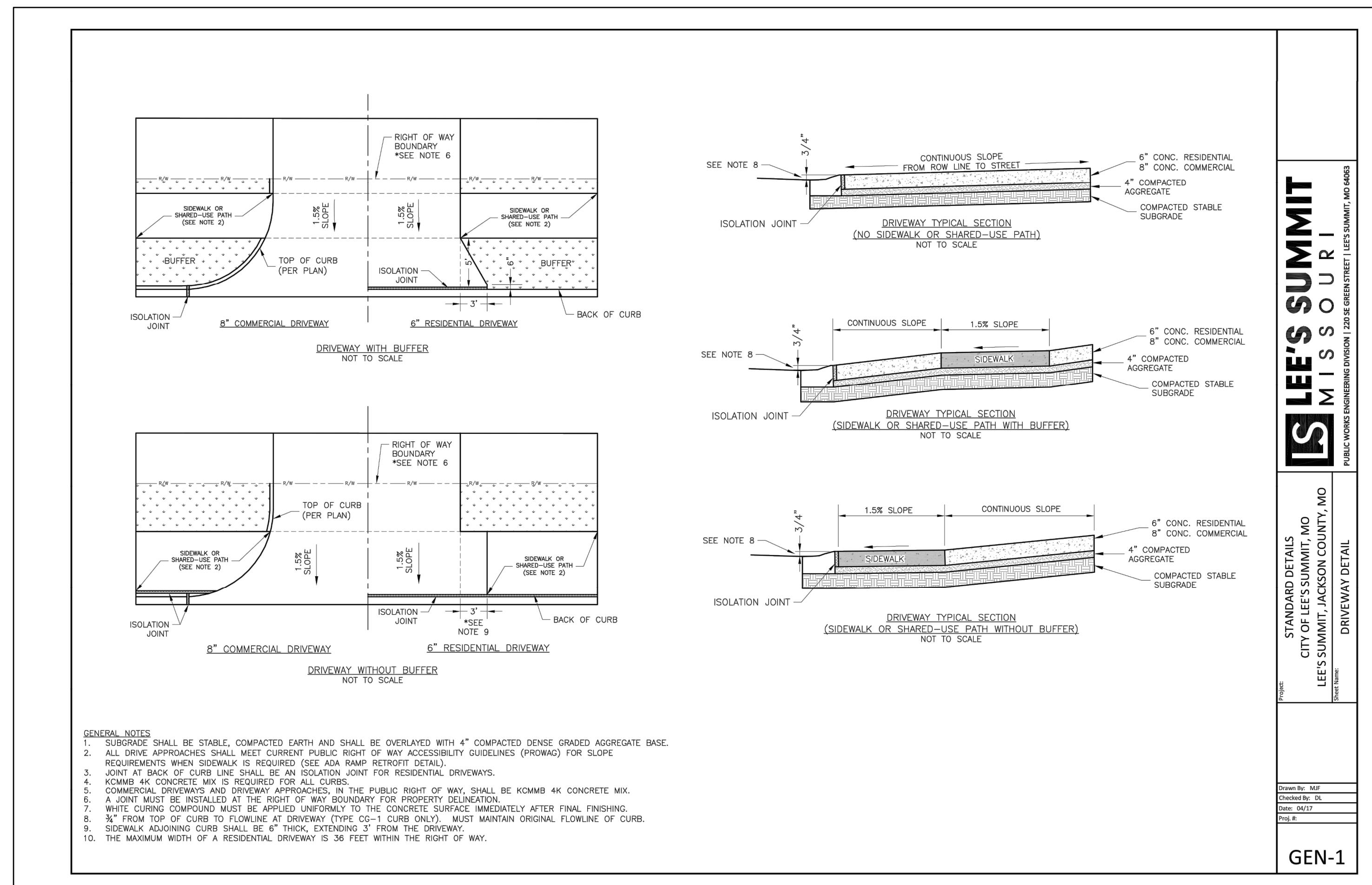
Notes:

(1) Geogrid shall be polypropylene material and Geotextile shall be woven, polypropylene as shown in the City's Approved Products List

DRAWN BY: JRU	REVISION DATE	DESCRIPTION
CHECKED BY: JLL		
DATE PREPARED: 7/20/2021		
PROJ. NUMBER: 21-136		
STREET DETAIL SHEET		
SHEET		

PREPARED BY:

SCHLAGEL & ASSOCIATES, P.A.

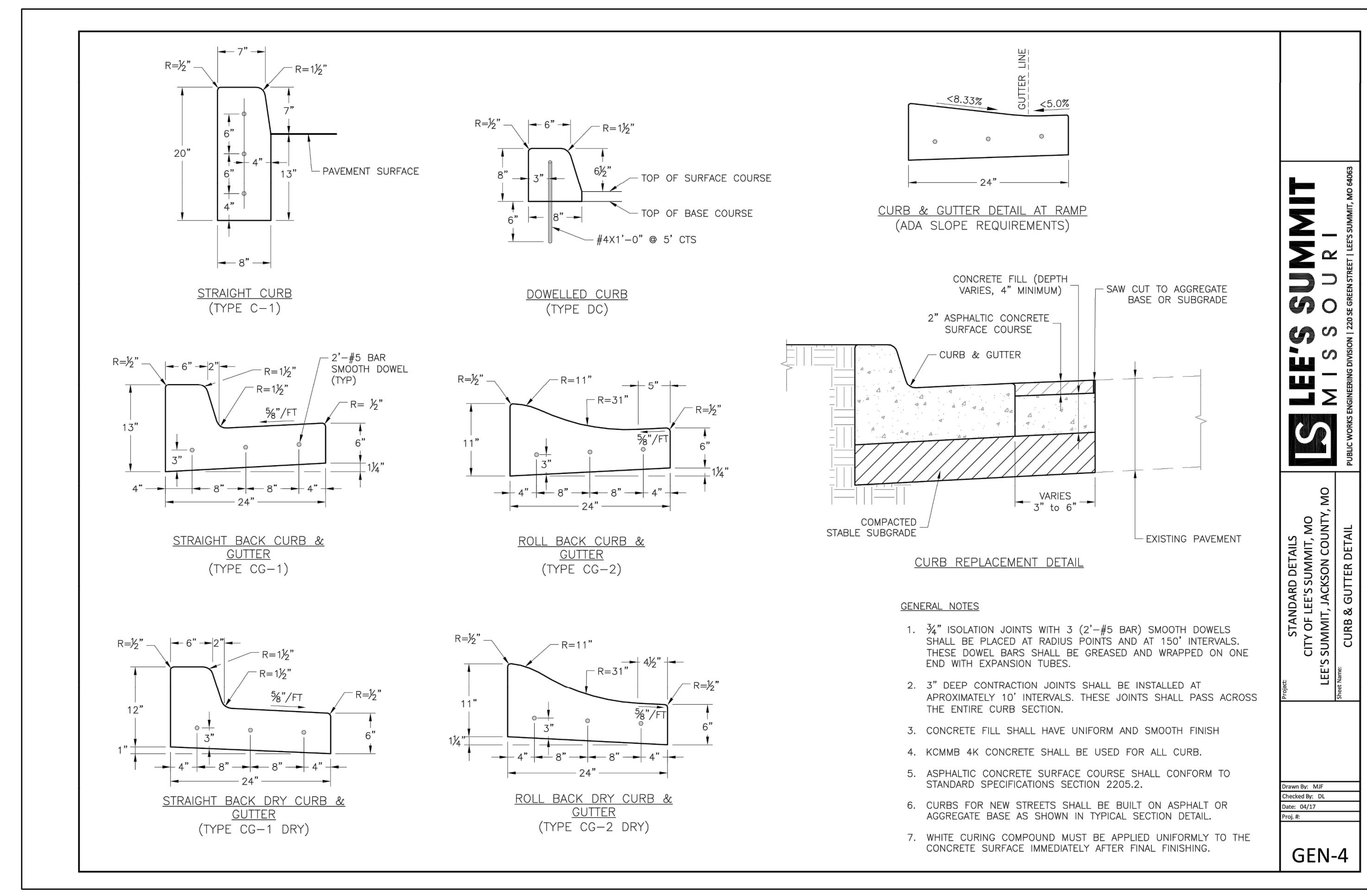
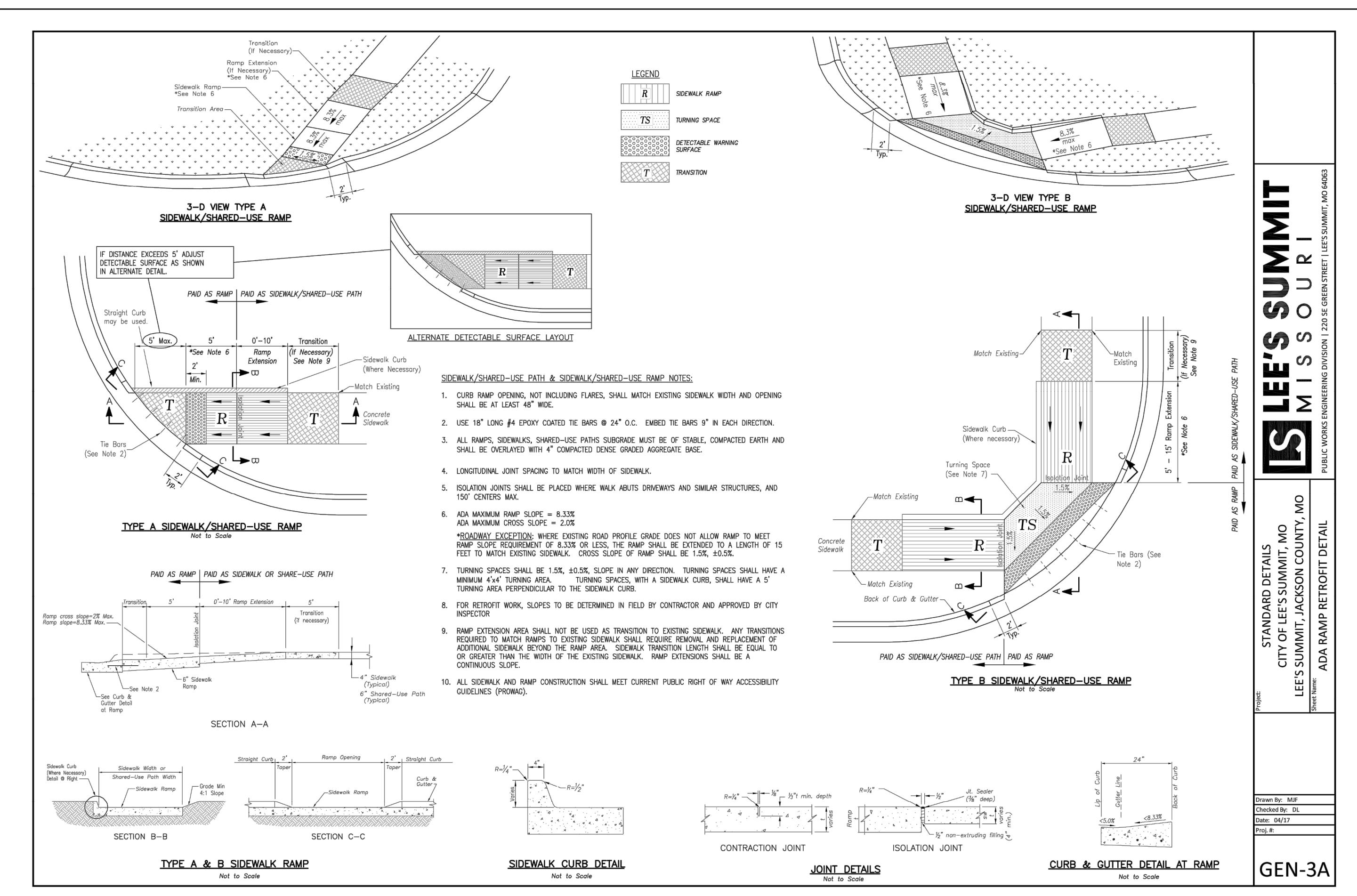


LEE'S SUMMIT MISSOURI

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
Driveway Detail
Sheet Name: GEN-1

Drawn By: MAF
Checked By: DL
Date: 04/17
Proj #: 04217

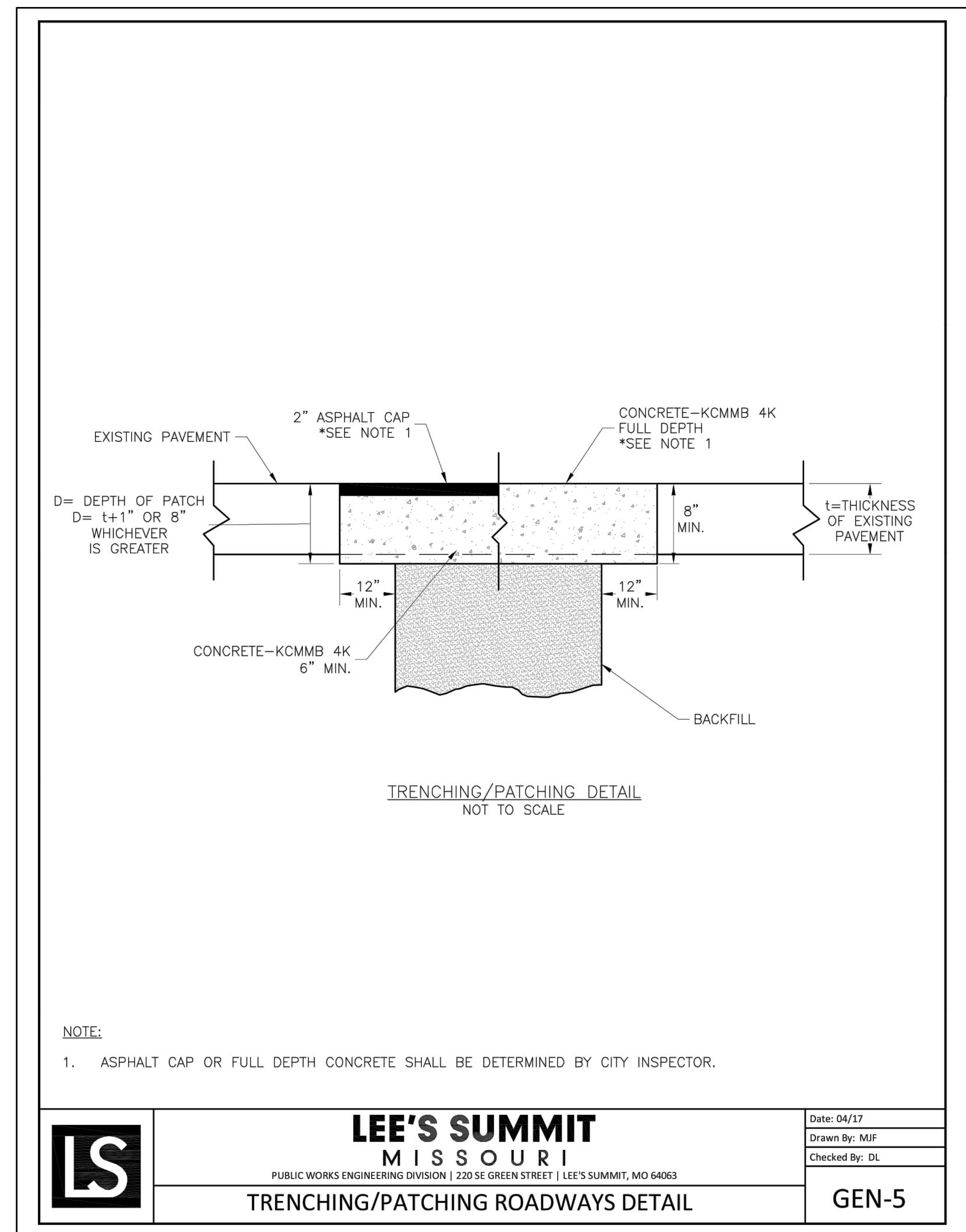


LEE'S SUMMIT MISSOURI

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
Curb & Gutter Detail
Sheet Name: GEN-4

Drawn By: MAF
Checked By: DL
Date: 04/17
Proj #: 04217



LEE'S SUMMIT
MISSOURI
PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063
TRENCHING/PATCHING ROADWAYS DETAIL

GEN-5

DRAINAGE PLAN

STREET DETAIL SHEET

SHEET

15

