

ESTIMATED QUANTITIES			
ITEM	UNITS	PLAN	AS-BUILT
Barthwork (22,552 CUT, 34,755 FILL)	CY	12203	
4" Type 1 Asphaltic Concrete	SY	7549	
2" Type 3 Asphaltic Concrete	SY	7549	
CG-2 Curb	LF	4466	
CG-1 Curb	LF	235	
Curb Inlet (6' X 5.5')	EA	2	
Curb Inlet (5.5' X 5.5')	EA	1	
Curb Inlet (5' X 4.5')	EA	2	
Curb Inlet (5' X 3.5')	EA	1	
Curb Inlet (7' X 3')	EA	1	
Curb Inlet (6' X 3')	EA	1	
Curb Inlet (5' X 3')	EA	5	
Junction Box (5' X 5')	EA	3	
Junction Box (5.5' X 6')	EA	1	
Field Inlet (4' X 4')	EA	2	
Riser Box (5' X 5')	EA	1	
18" RCP	LF	258	
24" RCP	LF	356	
42" RCP	LF	36	
18" HDPE	LF	128	
24" HDPE	LF	432	
30" HDPE	LF	50	
36" HDPE	LF	443	
42" HDPE	LF	89	
48" HDPE	LF	393	
SPECIAL END SECTION	EA	1	
10" FES	EA	1	
30" FES	EA	1	
42" FES	EA	1	
48" FES	EA	1	
8' X 6' Box Culvert	LF	86	
Detention Outlet Structure	EA	1	
ADA Curb Ramps	EA	11	
Inlet Protection	EA	33	
Silt Fence	LF	5349	
Erosion Control Mat	SY	9271	
Temporary Construction Entrance	EA	2	
Bag-Rap	SY	420	
Temporary Cul-de-sac	EA	1	
R1-1 Stop Signs	EA	5	
Street Name Signs	EA	5	
Concrete MH Collar/Adjustment	EA	2	
Forebay Wall	EA	1	

PRIVATE SCHOOL ENTRANCE QUANTITIES		
ITEM	UNITS	PLAN
Install Curb Inlet	EA	1
Remove Curb	LF	76
Remove Curb Inlet	EA	2
Remove Storm Pipe	LF	133
Install Curb	LF	85
Remove Asphalt	SY	670
Asphalt	SY	569

RECORD DRAWING

NOVEMBER 2022

PER CONTRACTOR PROVIDED INFORMATION THIS RECORD DEPICTS THE WORK CONSTRUCTED AS IN GENERAL CONFORMANCE WITH REGARDS TO SIZE, HORIZONTAL AND VERTICAL LOCATION, AND GRADE AS SHOWN ON THE APPROVED CONSTRUCTION DRAWINGS OR THEIR REVISION. THE WORK WAS DONE IN ACCORDANCE WITH THESE RECORDS AND THE CURRENT VERSION OF THE STANDARDS AND SPECIFICATIONS.

NOT AS-BUILT

NOVEMBER 2022

UTILITY CONTACTS

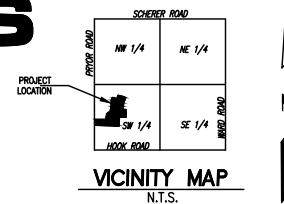
SOUTHWESTERN BELL TELEPHONE	(816) 871-9900
MISSOURI ONE-CALL SYSTEM	(800) 080-8876
KPL GAS SERVICE COMPANY	(816) 221-2200
KANSAS CITY POWER & LIGHT	(816) 471-0060
PUBLIC WORKS	(816) 969-1800
AMERICAN CABLEVISION	(816) 231-1444
WATER POLLUTION CONTROL DEPT	(816) 513-0303
CITY PLANNING & DEVELOPMENT	(816) 969-1800
FIRE DEPARTMENT	(816) 969-1300

WHISPERING WOODS

LOTS 1 THRU 33

A SUBDIVISION IN LEE'S SUMMIT, JACKSON COUNTY, MISSOURI
PUBLIC IMPROVEMENTS & PRIVATE SCHOOL ENTRANCE

STREET, STORM, MASTER DRAINAGE, EROSION & SEDIMENT CONTROL, AND PRIVATE SCHOOL ENTRANCE PLANS



LEGAL DESCRIPTION

WHISPERING WOODS LOTS 1 THRU 33, TRACTS A, B, C & D
PART OF THE SW 1/4 SECTION 24, T 47 N, R 32 W OF THE 5TH P.M.
LEE'S SUMMIT, JACKSON COUNTY, MISSOURI

PROJECT BENCH MARK

ELEV. 1006.89 (NAVD 1988 DATUM)

MISSOURI DEPARTMENT OF NATURAL RESOURCES GRS ALUMINUM
DISK STAMPED "JA-47" LOCATED NEAR THE INTERSECTION OF HWY
150 WITH REGGATA DRIVE AND HWY 291

INDEX OF SHEETS

SHEET NUMBER	SHEET TITLE
1	COVER
2	GENERAL NOTES
3	TYPICAL SECTION
4	SITE LAYOUT
5	GRADING PLAN
6	MASTER DRAINAGE PLAN
7	ESC - PLAN
8	ESC DETAILS
9	ESC DETAILS
10	PRIOR LAYOUT
11	STRIPING PLAN
12	STORAGE PLAN DETAILS
13	TEMPORARY TRAFFIC CONTROL PLAN
14	TEMPORARY TRAFFIC CONTROL DETAILS
15	SCHOOL ENTRANCE DEMO PLAN
16	SCHOOL LAYOUT
17	STREET PLAN & PROFILE
18	STREET PLAN & PROFILE
19	STREET PLAN & PROFILE
20	INTERSECTION DETAILS
21	ADA RAMP DETAILS
22	ADA RAMP DETAILS
23	ADA RAMP DETAILS
24	ADA RAMP DETAILS
25	STORM PLAN & PROFILE
26	STORM PLAN & PROFILE
27	STORM PLAN & PROFILE
28	STORM PLAN & PROFILE
29	STORM PLAN & PROFILE
30	STORM PLAN & PROFILE
31	POND OUTLET DETAIL
32	POND OUTLET DETAIL
33	DRAINAGE AREAS
34	DRAINAGE CALCULATIONS
35	STRUCTURE A-1 DETAILS
36	STREET & STORM DETAILS
37	STREET & STORM DETAILS
38	IN PAVEMENT MANHOLE DETAIL
39	UNDERDRAIN DETAILS
40	STRIPING PLAN DETAILS

DEVELOPER:

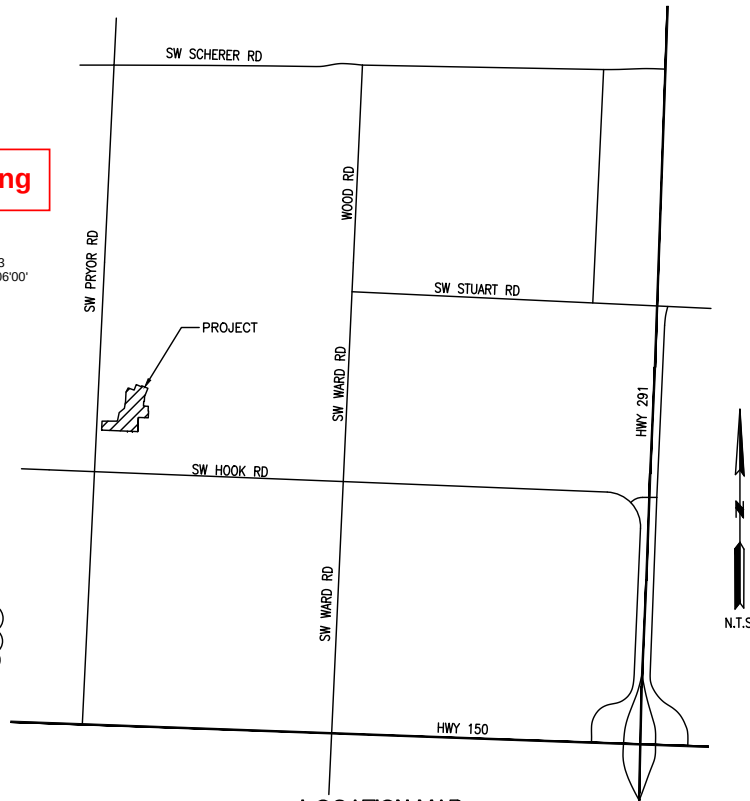
WHISPERING WOODS LAND, L.L.C.
803 P.C.A. ROAD
WARRENSBURG, MO 64083
AGENT: RICK FRYE
PHONE: 816-564-2230
FAX: 660-429-1801

APPROVED

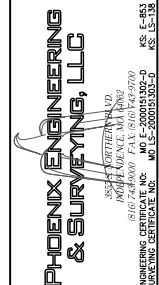
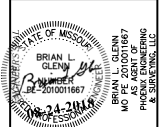
CITY ENGINEER

DATE

LOCATION MAP



REVISION
Δ REMISED ON 08-24-18: SHEETS 3, 13 & 15 UPDATED
DUE TO COMMENTS RECEIVED ON 08-21-18



WHISPERING WOODS
LEE'S SUMMIT, JACKSON COUNTY, MO
STREET & STORM SEWER PLANS
COVER

DESIGNED	BLG
DRAWN	JRT
SCALE	Noted
DATE	09-01-2017
SHEET	04078

1 OF 40

PROJECT NOTES

1. *Grading Contractor shall be responsible for the control of erosion and siltation during all phases of construction.*
2. *Prior to Ordering Precast Structures: Shop drawings shall be submitted to the design engineer for approval. Upon approval these shall be sub-mitted to the City of Lee's Summit for review.*
3. *Manhole top elevations designated as "Field Verify" (F.V.) are located outside the street right-of-way or in areas of undetermined grading. Contractors ordering precast manholes shall be responsible for adjustment required in the field at no additional cost to the owner. The contractor shall field verify the top elevations prior to ordering precast manholes.*
4. *All water lines, sanitary sewer lines, and storm water drainage crossings shall be in place or a casing pipe provided for future installation prior to base and surface asphalt courses.*
5. *Sidewalks are shown for informational purposes only unless otherwise noted. However, the contractor shall be responsible for handicap ramp construction in curbs.*

GENERAL NOTES

1. Refer to the current version of the City of Lee's Summit Design and Construction (D&C) Manual for construction of these plans.
2. All workmanship and materials shall be subject to the inspection and approval of the Engineering Department of the City of Lee's Summit, Missouri.
3. Lineal foot measurements shown on these plans are horizontal measurements, not slope measurements. All payments shall be made on horizontal measurements.
4. No Geological Investigation was performed on this project.
5. The Utility locations shown on these plans are taken from Utility Company records and are approximate only. They do not constitute actual field locations. The Contractor shall verify the location and depth of all utilities prior to construction.
6. Clearing and Grubbing operations and disposal of all debris therefrom shall be performed by the contractor in strict accordance with all state and local codes and ordinances.
7. All waste material shall be disposed of at a location to be selected by the owner or his authorized representative, such location to be on the site.
8. The Contractor shall control the erosion and siltation during all phases of construction, he shall keep the streets clean of mud and debris and follow the erosion control plan prepared by the design engineer.
9. All existing manholes, catch basins, utility valves and meter pits to be adjusted or rebuilt to grade as required.
10. Subgrade soil for all concrete structures, regardless of the type or location, shall be firm, dense and thoroughly compacted and consolidated; shall be free from muck and mud; and shall be sufficiently stable to remain firm and intact under the feet of the workman or machinery engaged in subgrade, laying reinforcing steel, and depositing concrete thereon. In all cases where subsoil is mucky or works into mud or muck during such operation, a seal course of either concrete or rock shall be placed below subgrade to provide a firm base for working and for placing the floor slab.
11. A minimum horizontal distance of ten (10') shall be maintained between a parallel water and sanitary sewer lines. At any point where sanitary sewer lines cross water main, the sanitary sewer shall be constructed of cast iron pipe or pipe encased in concrete for a distance of ten feet (10') in each direction from the crossing unless the water is a minimum of eighteen inches (18") above the top of the sanitary sewer line.
12. Contractor shall provide testing and inspection per SECTION 2200 – PAVING MAINS CITY OF LEE'S SUMMIT, MISSOURI STANDARD SPECIFICATIONS.
13. Development plans are approved initially for one (1) year, after which they automatically become void and must be updated and approved by the City Engineer before any construction will be permitted.
14. All sanitary sewer stubs shall be surveyed and staked on site before the construction of sanitary service stubs.

RECORD DRAWING

NOVEMBER 2022

PER CONTRACTOR PROVIDED INFORMATION THIS RECORD DEPICTS THE WORK CONSTRUCTED AS IN GENERAL CONFORMANCE WITH REGARDS TO SIZE, HORIZONTAL AND VERTICAL LOCATION, AND GRADE AS SHOWN ON THE APPROVED CONSTRUCTION DRAWINGS OR THEIR REVISION. THE WORK WAS DONE IN ACCORDANCE WITH THESE RECORDS AND THE CURRENT VERSION OF THE STANDARDS AND SPECIFICATIONS.

NOT AS-BUILT

NOVEMBER 2022

15. The City of Lee's Summit plan review is only for general conformance with the City of Lee's Summit Design Criteria and the City Code. The City is not responsible for the accuracy and adequacy of the design, or dimensions and elevations which shall be confirmed and correlated at the job site. The City of Lee's Summit through approval of this document assumes no responsibility other than as stated above for the completeness and/or accuracy of this document.

16. The Contractor shall have one (1) signed copy of the plans (approved by the City of Lee's Summit) and one (1) copy of the appropriate Construction Standards and Specifications at the job site at all times.

17. Construction of the improvements shown or implied by this set of drawings shall not be initiated or any part thereof undertaken until the City Engineer is notified of such intent and all required and properly executed bonds and permit fees are received and approved by the City Engineer.

18. All stub lines shall be laid on 2.00% minimum grade unless approved otherwise.

19. Contractor shall not be allowed to work on Saturdays, Sundays, or Holidays without prior approval of the City Engineer.

20. Relocation of any water line, sewer line or service line thereof required for the construction of this project shall be the responsibility of the contractor and shall be at his expense.

21. The Contractor shall install and properly maintain a mechanical plug at all connection points with existing lines until such time that the new line is tested and approved.

22. The Contractor shall construct manholes placing eccentric cone section in such a manner that manhole covers are adjacent to the proposed sidewalks. In locations where manholes are not near proposed sidewalks the manhole covers shall generally be placed on the upstream side of the manholes whenever possible.

23. Stub lines, locations, and minimum basement floor elevations are located in the table labeled "Table of Service Locations".

24. Construction permits will not be issued until the City of Lee's Summit receives a sewer extension permit from MDNR.

25. All areas where utilities are to be installed in fill shall be compacted to 95% to 18 inches above the line then excavated for construction of the line.

26. The Contractor will be responsible for testing of manholes and pipes to the City of Lee's Summit Design & Construction Manual requirements.

27. The Developer will be responsible for performing pressure testing on every section of the sanitary sewer lines, pressure testing on every manhole, and running a mandrel through every section of sanitary sewer line to test for alignment. Testing criteria will be in accordance with City of Lee's Summit Design & Construction Manual specifications.

28. All utility street crossings shall be backfilled with flowable fill, or AB-3. If contractor chooses to use other suitable materials, extensive soil testing requirements will be required.

29. The Special Flow Hazard Area (SFHA) and regulatory floodway depicted in these plans are per FEMA's Natural Flood Hazard Layer (NFHL) obtained from www.fema.gov. NFIP information shown are representative of FEMA's Flood Insurance Rate Map (FIRM) Map Number 22095C0531G; effective date January 20, 2017.

30. No fill material shall be placed within the FEMA identified Floodway. No construction shall be performed within the Floodway unless depicted on these plans or other plans approved by the City of Lee's Summit, MO.

Record Drawing

WHISPERING WOODS

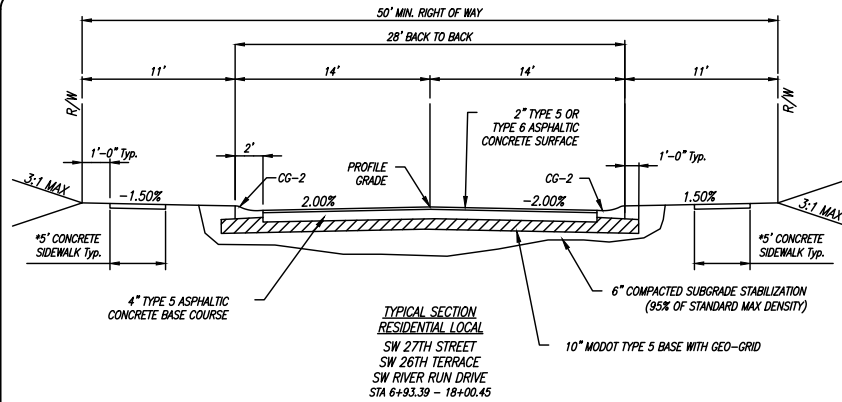
LEE'S SUMMIT, JACKSON COUNTY, MO
STREET & STORM SEWER PLANS
GENERAL NOTES

DESIGNED	BLG
DRAWN	BLG
SCALE	Noted
DATE	09-01-201
JOB NO.	04078
SHEET	

THE SEAL(S) AND SIGNATURE(S) APPLY ONLY TO THE DOCUMENT TO WHICH THEY ARE AFFIXED, AND EXPRESSLY DISCLAIM ANY RESPONSIBILITY FOR ALL OTHER PLANS, SPECIFICATIONS, ESTIMATES, REPORTS, OR OTHER DOCUMENTS OR INSTRUMENTS RELATING TO OR INTENDED TO

3525 NORTHERN BLVD.
INDEPENDENCE, MO 64652
(816) 743-9900 FAX: (816) 743-9700
ENGINEERING CERTIFICATE NO: MO E-2000151502-D KS: E-853

--	--	--	--	--	--



NOTE:
TRANSITION FROM RESIDENTIAL COLLECTOR TO LOCAL STREET
SECTION BEGINS AT STA 4+12.81 AND ENDS AT STA 6+93.39.

TRANSITION FROM CG-1 TO CG-2 SHALL OCCUR AT STA 6+93.39.

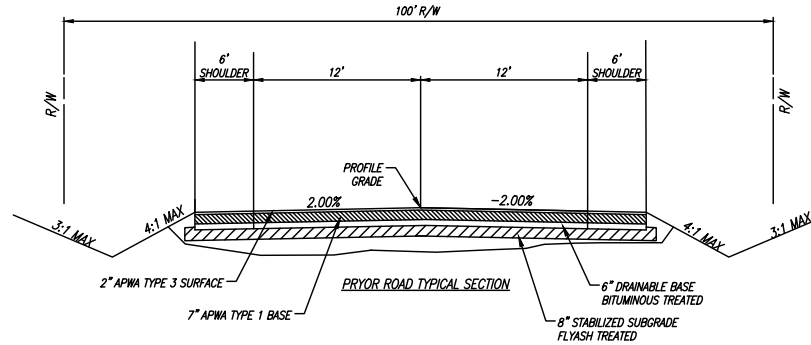
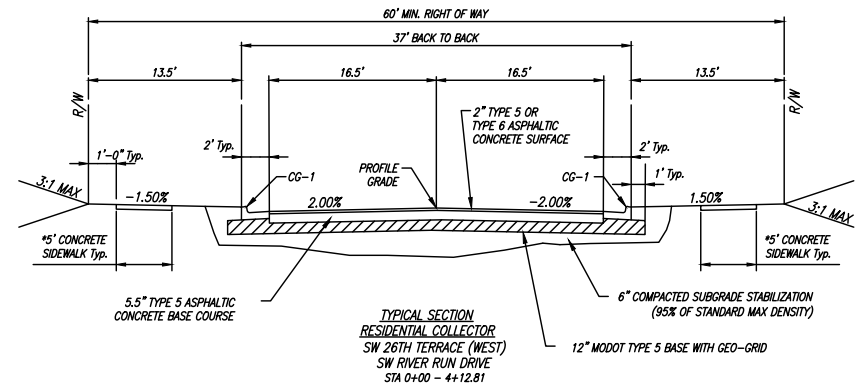
NOTE:
*IN SOME INSTANCES SHOWN IN PLAN VIEW, SIDEWALK MAY NOT BE
NECESSARY ON BOTH SIDES OF STREET

NOTE:
CONTRACTOR SHALL SUBMIT TEST RESULTS TO THE CITY PRIOR TO
INSTALLING CURB AND PAVEMENT. SUBGRADE MATERIAL NOT MEETING
THESE LIMITS SHALL BE STABILIZED AS PER THE RECOMMENDATIONS
OF A QUALIFIED GEOTECHNICAL LABORATORY AND APPROVED BY THE
CITY. TESTING AND STABILIZATION WILL BE PAID FOR BY THE
CONTRACTOR.

NOTE:
PROPOSED PRIOR ROAD IMPROVEMENTS PAVEMENT SHALL MATCH THE
EXISTING PAVEMENT.

TEMPORARY PAVEMENT SECTION

TEMPORARY CUL-DE-SAC PAVEMENT SECTION SHALL
BE 6\"/>



RECORD DRAWING

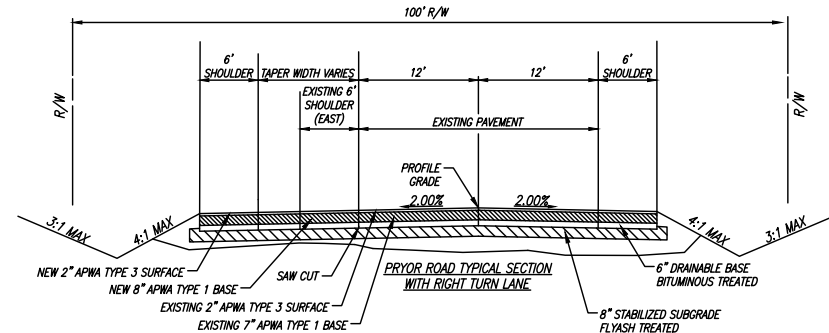
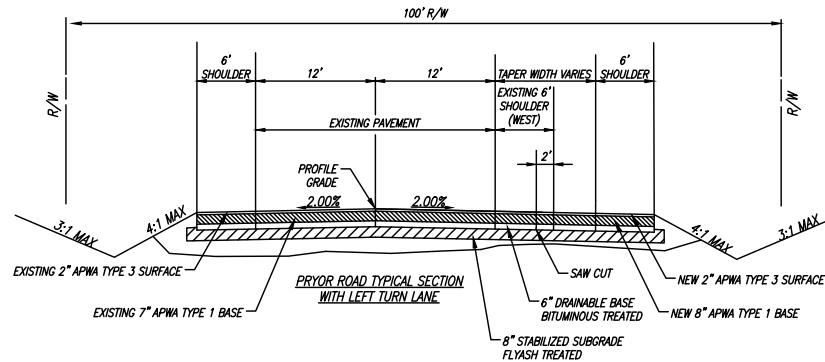
NOVEMBER 2022

PER CONTRACTOR PROVIDED INFORMATION THIS RECORD DEPICTS THE
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SIZE, HORIZONTAL AND VERTICAL LOCATION, AND GRADE AS SHOWN ON
THE APPROVED CONSTRUCTION DRAWINGS OR THEIR REVISION. THE WORK
WAS DONE IN ACCORDANCE WITH THESE RECORDS AND THE CURRENT
VERSION OF THE STANDARDS AND SPECIFICATIONS.

Record Drawing

NOT AS-BUILT

NOVEMBER 2022



REVISION

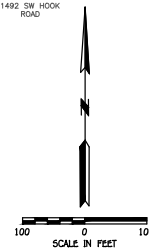


PHOENIX ENGINEERING & SURVEYING, LLC
BRIAN L. GIENY
REGISTERED PROFESSIONAL ENGINEER
STATE OF MISSOURI
LICENSE NO. 2010011667
1810 74th AVE. #100
OVERLAND PARK, MO 66204-2000
TEL: 913-241-2000 FAX: 913-241-2000
SURRENDER CERTIFICATE NO. MO 05-20001300-0

WHISPERING WOODS
LEE'S SUMMIT, JACKSON COUNTY, MO
STREET & STORM SEWER PLANS
TYPICAL SECTION

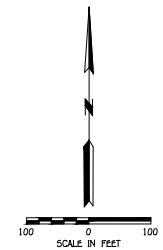
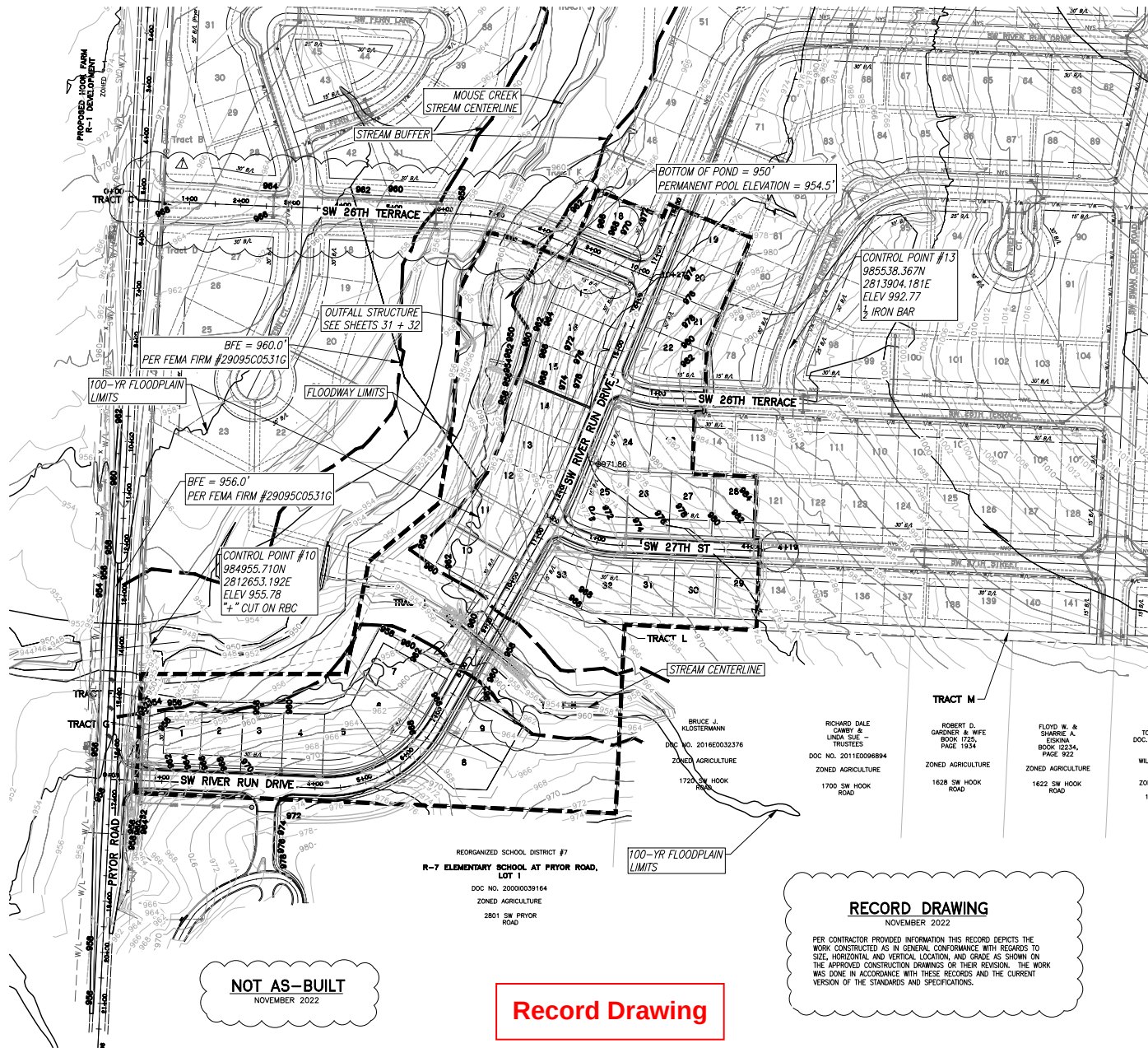
DESIGNED
BLG
DRAWN
BLG
SCALE
NOTED
DATE
09-01-2017
JOB NO.
04078
SHEET

3 OF 40



4 OF 40

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REVISION

Δ REVISED ON 4-19-18: ADDED GRADING CONTOUR LINES

Δ REVISED ON 06-11-18: GRADE CHANGES NEAR LOT 9



PHOENIX ENGINEERING & SURVEYING, LLC
3000 CENTRAL BLVD
PO BOX 10000
JACKSONVILLE, MO 64402
(816) 744-0000 FAX (816) 744-0000
ENGINEERING CERTIFICATE NO. MO E-003
SURVEYING CERTIFICATE NO. MO S-200015002-0

WHISPERING WOODS
LEE'S SUMMIT, JACKSON COUNTY, MO
STREET & STORM SEWER PLANS
GRADING PLAN

DESIGNED
BLG
DRAWN
BLG
SCALE
DATE
08-01-2017
JOB NO.
04078
SHEET

5 OF 40

H:\projects\2004\0407892 - Whispering Woods Phase 1\dwg\2022\dwg\Valuall - Street & Storm Plans - 11-09-19.dwg DATE PLOTTED: 11/14/2022 5:41 PM ; LAST SAVE DATE: 11/14/2022 5:39 PM

RANDY SPALDING EXCAVATING, INC.
AS-BUILT BY:



3855 S. NORTHERN BLVD.
INDEPENDENCE, MO 64052
(816) 743-9000



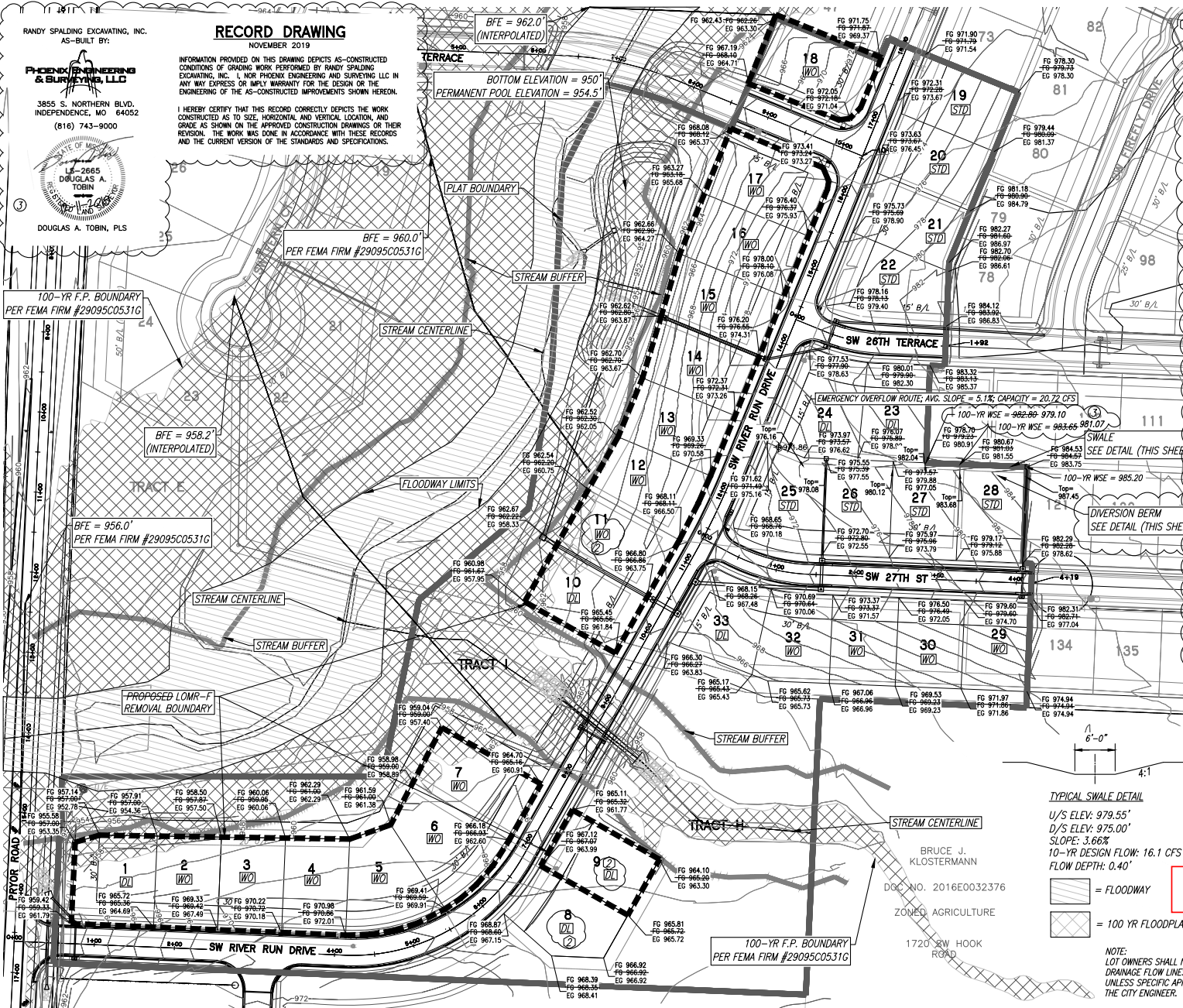
DOUGLAS A. TOBIN, PLS

RECORD DRAWING

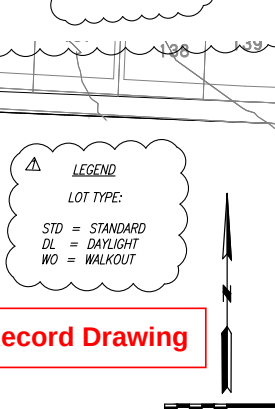
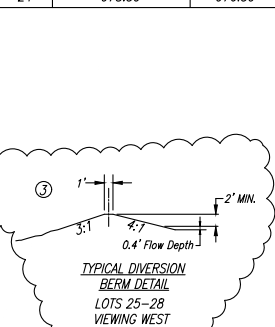
NOVEMBER 2019

INFORMATION PROVIDED ON THIS DRAWING DEPICTS AS-CONSTRUCTED CONDITIONS OF GRADING WORK PERFORMED BY RANDY SPALDING EXCAVATING, INC. I, NOR PHOENIX ENGINEERING AND SURVEYING LLC IN ANY WAY EXPRESS OR IMPLY WARRANTY FOR THE DESIGN OR THE ENGINEERING OF THE AS-CONSTRUCTED IMPROVEMENTS SHOWN HEREON.

I HEREBY CERTIFY THAT THIS RECORD CORRECTLY DEPICTS THE WORK CONSTRUCTED AS TO SIZE, HORIZONTAL AND VERTICAL LOCATION, AND GRADE AS SHOWN ON THE APPROVED CONSTRUCTION DRAWINGS OR THEIR REVISION. THE WORK WAS DONE IN ACCORDANCE WITH THESE RECORDS AND THE CURRENT VERSION OF THE STANDARDS AND SPECIFICATIONS.



MINIMUM BUILDING OPENING ELEVATION		
LOT	MBOE	100 YR WSEL
1	958.70	956.70
2	959.10	957.10
3	959.50	957.30
4	961.50	957.60
5	963.00	957.80
6	960.70	958.00
7	960.50	958.20
9	966.20	964.20
10	963.00	959.50
11	963.50	960.00
12	964.00	960.20
13	964.50	960.40
14	964.50	960.60
15	974.50	960.90
16	974.80	961.20
17	965.00	961.70
18	965.00	962.10
23	982.80	979.83
24	978.50	976.50



REVISIONS:

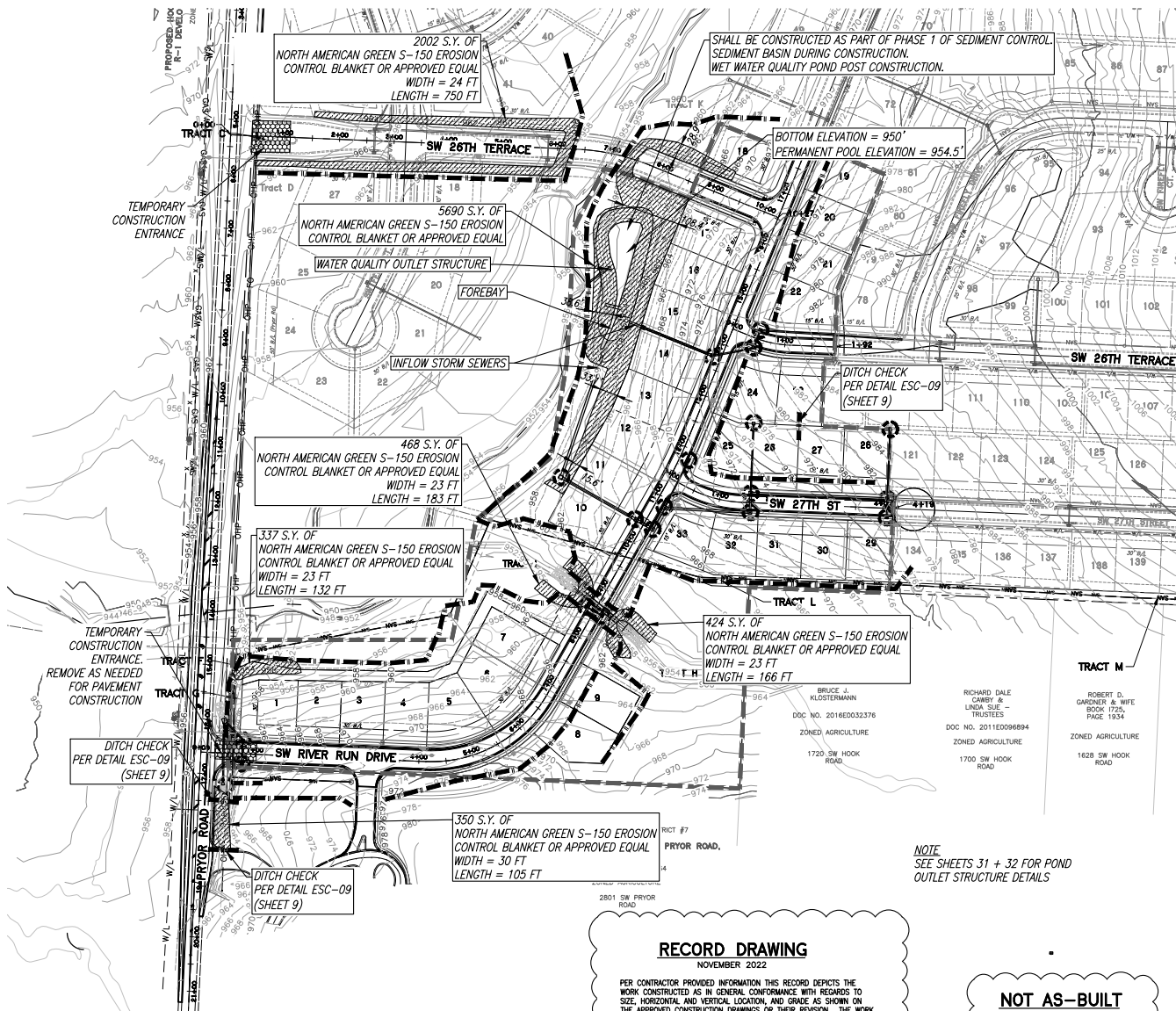
- 1. REVISED: 12-02-2019: MODIFIED MBOE'S TABLE (MULTIPLE LOTS) & BASEMENT TYPES (3.3. & 1.1)
- 2. REVISED: 12-11-2019: ADDED DIVERSION BERM ALONG 25-28; REMOVED MBOE FROM LOTS 25-28; UPDATED AS-BUILT INFO TO INCLUDE DIVERSION BERM.

PHOENIX ENGINEERING & SURVEYING, LLC
BRIAN L. TOBIN, PLS
REGISTERED PROFESSIONAL ENGINEER
STATE OF MISSOURI
NO. 2665
EXPIRATION DATE: 11-30-2024

PHOENIX ENGINEERING & SURVEYING, LLC
BRIAN L. TOBIN, PLS
REGISTERED PROFESSIONAL ENGINEER
STATE OF MISSOURI
NO. 2665
EXPIRATION DATE: 11-30-2024

WHISPERING WOODS
LEE'S SUMMIT, JACKSON COUNTY, MO
STREET & STORM SEWER PLANS
MASTER DRAINAGE PLAN

DESIGNED: B.L.T.
DRAWN: B.L.T.
SCALE: AS SHOWN
DATE: 09-01-2017
SHEET: 04078
6 OF 40



Record Drawing

RECORD DRAWING

NOVEMBER 2022

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NOT AS-BUILT

NOVEMBER 2022

LEGEND

- CONSTRUCTION ENTRANCE
USE 3'-6" ROCK
- SILT FENCE
- INLET PROTECTION
- EROSION CONTROL BLANKET
(SEE DETAIL ESC-02)
- UPON COMPLETION CONTRACTOR SHALL SEED AND MULCH DISTURBED AREAS AND REMOVE ALL TRASH AND DEBRIS.

PHASE 1 WORK SCHEDULE

1. INSTALL PERIMETER SILT FENCE.
2. INSTALL CONSTRUCTION ENTRANCE.
3. INSTALL WATER QUALITY POND AND OUTLET STRUCTURE (SEE SHEET 31 & 32).

PHASE 2 WORK SCHEDULE

1. GRADE ENTIRE SITE AS SHOWN.
2. SEED AND MULCH AREAS THAT ARE COMPLETED WITHIN TWO WEEKS.
3. METHODS AND MATERIALS TO CONTROL SEDIMENTATION AND EROSION ARE TO BE INCORPORATED INTO THE GRADING OPERATIONS AS SHOWN OR AT THE DIRECTION OF THE CITY ENGINEER. UPON COMPLETION OF GRADING OPERATIONS, SUCH FACILITIES TO PROVIDE FOR SAID EROSION AND SEDIMENTATION CONTROL ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED BY THE DEVELOPER UNTIL SUCH TIME AS SEEDING AREAS BECOME ESTABLISHED.
4. ALL AREAS TO BE SEEDING SHALL BE SPREAD WITH A MINIMUM 6-INCH DEPTH OF TOP SOIL. ALL SEEDING SHALL BE DONE IN COMPLIANCE WITH THE REQUIREMENTS SET FORTH IN THE CITY OF LEE'S SUMMIT SPECIFICATION AND DESIGN CRITERIA MANUAL.
5. ALL AREAS SEEDING ARE TO BE SPREAD WITH MULCH AT THE RATE OF 1 1/2 TON PER ACRE AND SHALL BE ANCHORED BY DISCING.
6. ALL AREAS DISTURBED BY GRADING OPERATIONS AUTHORIZED BY THIS PERMIT SHALL BE SEEDING WITHIN TWO WEEKS AFTER COMPLETION AND ACCEPTANCE OF SITE GRADING. THE ENTIRE AREA AFFECTED SHALL BE MAINTAINED BY THE DEVELOPER UNTIL SUCH TIME AS SEEDING AREAS HAVE BECOME ESTABLISHED.
7. ANY INCIDENTAL WORK NOT SPECIFICALLY PERMITTED DURING FINAL CLEANUP WILL BE COMPLETED BY THE CONTRACTOR.

PHASE 3 WORK SCHEDULE

1. STABILIZE SITE.
2. REMOVE TEMPORARY CONSTRUCTION ENTRANCES.
3. REMOVE SEDIMENT CONTROL DEVICES, AFTER VEGETATION IS ESTABLISHED.
4. SEDIMENT BASINS WILL REMAIN FOR WATER QUALITY PURPOSES.

NOTE
UPON FINAL STABILIZATION:
SEDIMENT IN WATER QUALITY BASIN SHALL BE REMOVED AND SIDE SLOPES/BOTTOM RESTORED AS NECESSARY

NOTE
INLET PROTECTION AND SILT FENCE SHALL BE REMOVED BY CONTRACTOR/OWNER AT SUCH ALL UPSTREAM DISTURBED AREAS HAVE BEEN PERMANENTLY STABILIZED.

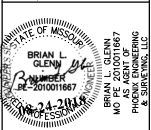
NOTE
ALL SLOPES GREATER THAN 4:1 WILL BE EVALUATED FOR USE OF MATS/BLANKETS

NOTE
EROSION CONTROL FEATURES NED TO BE INSTALLED PRIOR TO LAND DISTURBANCE AND MAINTAINED THROUGHOUT THE DURATION OF OPERATIONS. WE NEED TO CONTAIN THE SILT TO THIS SITE AND KEEP THE ADJACENT STREETS FREE OF MUD AND DEBRIS AT ALL TIMES (WHICH MAY INCLUDE ADDITIONAL EROSION CONTROL FEATURES NOT INCLUDED IN THIS PLAN IF IT IS DETERMINED THAT THE CURRENT PLAN IS INADEQUATE.

EROSION & SEDIMENT CONTROL MEASURES IN PLACE SHALL BE CHECKED & MAINTAINED WEEKLY OR WITHIN 24 HOURS FOLLOWING A RAIN MEASURING GREATER THAN 0.5 INCHES IN 24 HOURS AS RECORDED AT KCI AIRPORT.

SCALE IN FEET

REVISION
A REVISED ON 06-07-2018; ADDED WORK PHASE SCHEDULE

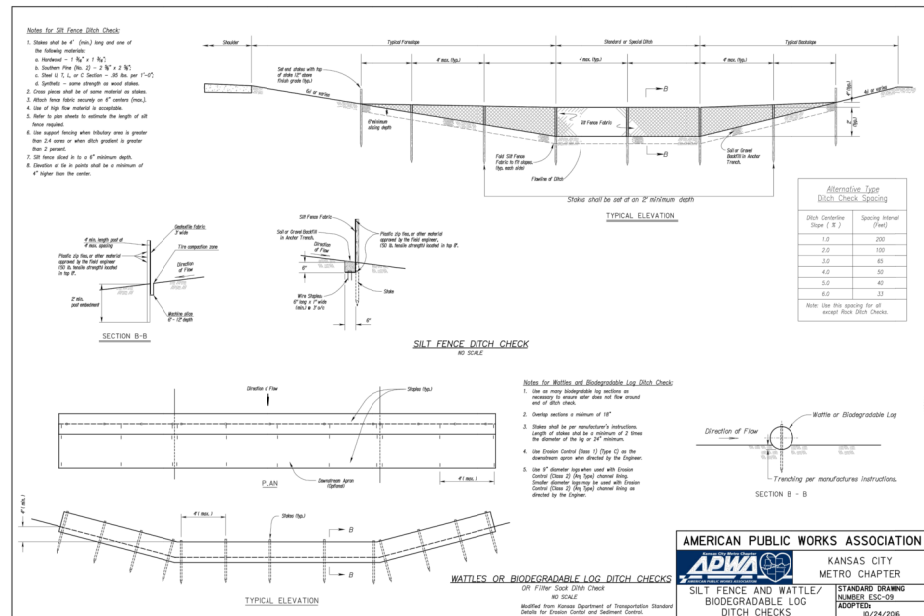
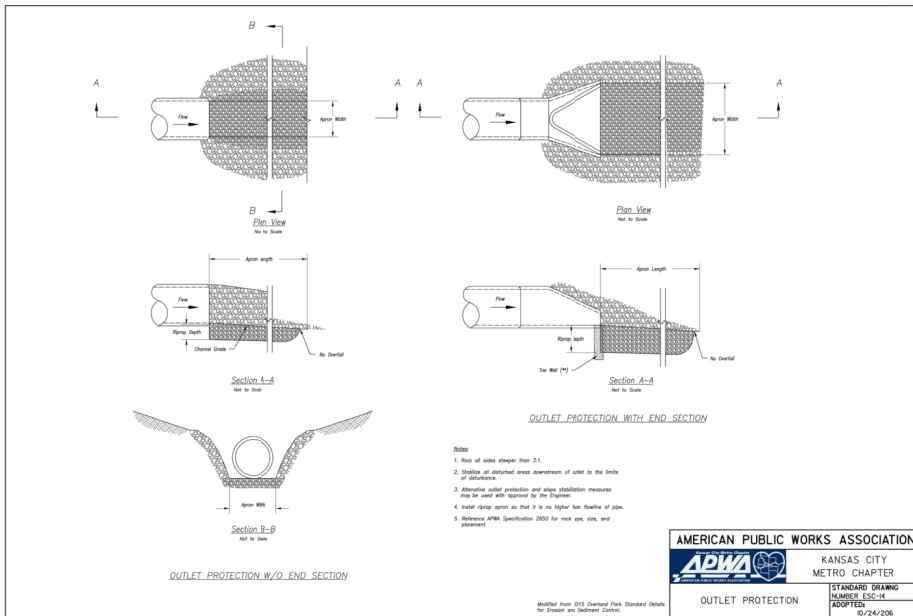
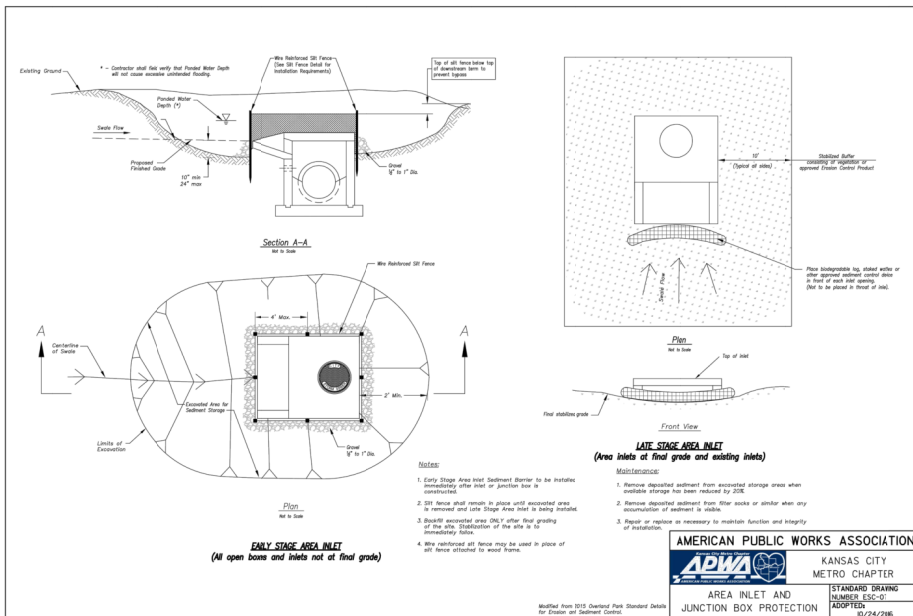


PHOENIX ENGINEERING & SURVEYING, LLC
3008 W. CENTRAL AVE.
SUITE 100
PO BOX 748000
DALLAS, TEXAS 75274
TEL: 214-350-1100
FAX: 214-350-1101
E: BGL@PHOENIXENGINEERING.COM
P: 214-350-1100
S: 214-350-1101
M: 214-350-1102
F: 214-350-1103
WWW.PHOENIXENGINEERING.COM

WHISPERING WOODS
LEE'S SUMMIT, JACKSON COUNTY, MO
STREET & STORM SEWER PLANS
ESC - PLAN

DESIGNED
BGL
DRAWN
BGL
SCALE
Noted
DATE
08-01-2017
BY
04078
SHEET

7 OF 40



RECORD DRAWING

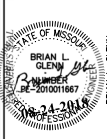
NOVEMBER 2022

PER CONTRACTOR PROVIDED INFORMATION THIS RECORD DEPICTS THE WORK CONSTRUCTED AS IN GENERAL CONFORMANCE WITH REGARDS TO SIZE, HORIZONTAL AND VERTICAL LOCATION, AND GRADE AS SHOWN ON THE APPROVED CONSTRUCTION DRAWINGS OR THEIR REVISION. THE WORK WAS DONE IN ACCORDANCE WITH THESE RECORDS AND THE CURRENT VERSION OF THE STANDARDS AND SPECIFICATIONS.

NOT AS-BUILT
NOVEMBER 2022

Record Drawing

REVISION

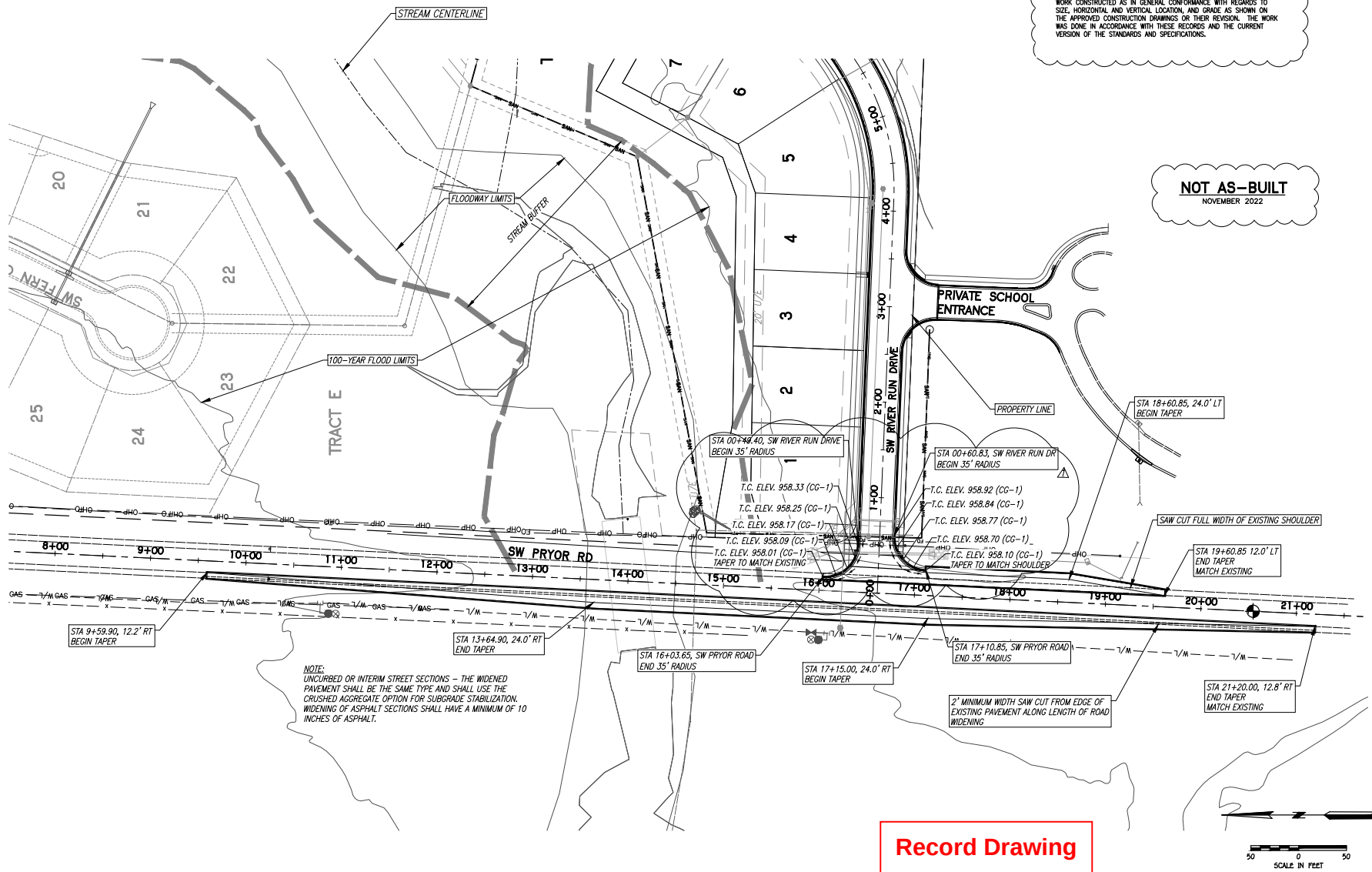


PHOENIX ENGINEERING & SURVEYING, LLC
3500 WESTERN BLVD
SUITE 200
OVERLAND PARK, KS 66207
(816) 748-0000 FAX (816) 748-0700
ENGINEERING CERTIFICATE NO. MO-05-20001500-0
SURVEYING CERTIFICATE NO. MO-05-20001500-0

WHISPERING WOODS
LEE'S SUMMIT, JACKSON COUNTY, MO
STREET & STORM SEWER PLANS
ESC DETAILS

DESIGNED
B.L.G.
DRAWN
B.L.G.
SCALE
Noted
DATE
09-01-2017
JOB NO.
04078
SHEET

9 OF 40



RECORD DRAWING
NOVEMBER 2022

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NOT AS-BUILT
NOVEMBER 2022

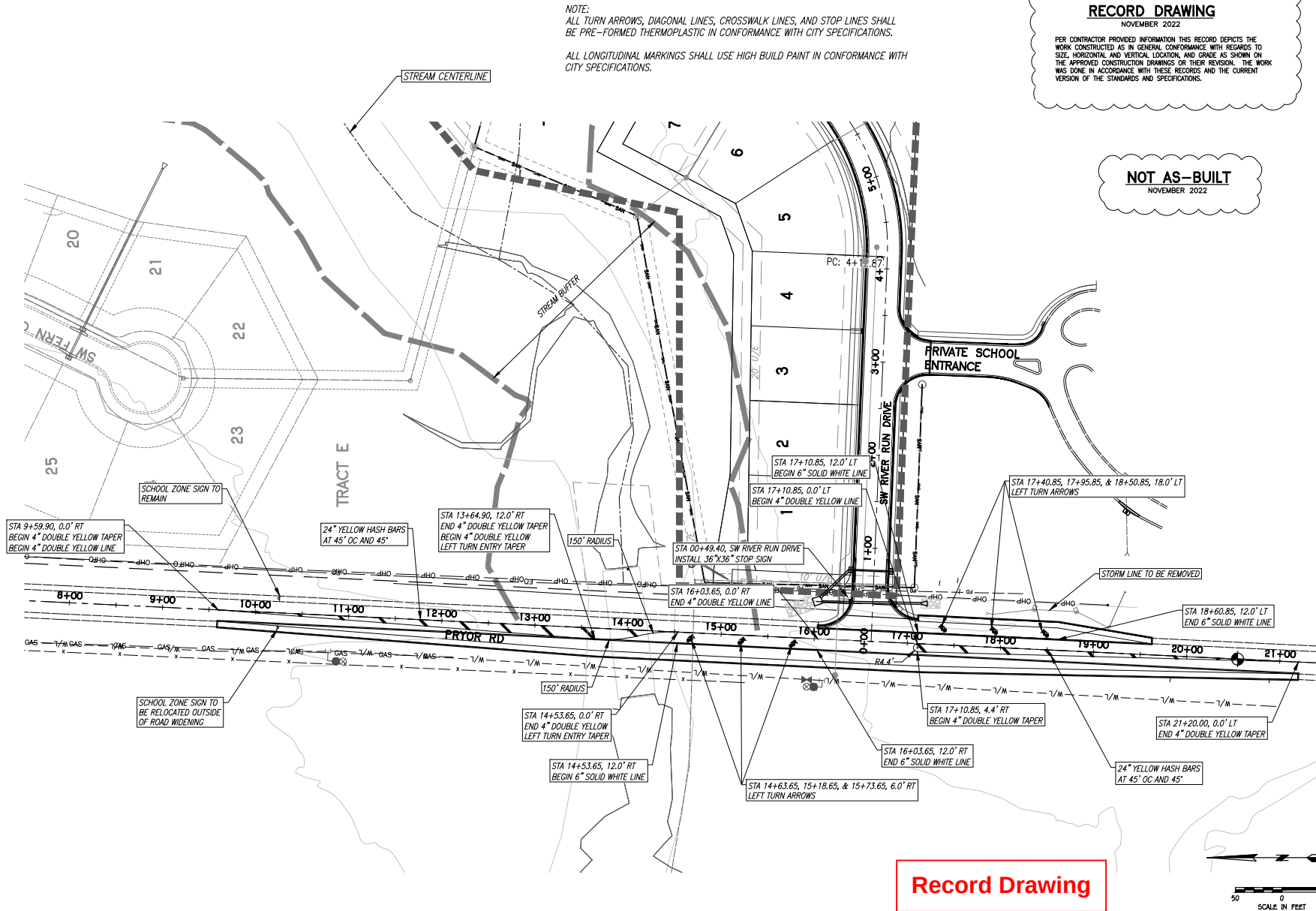
REVISION
△ REVISED ON 06-07-2018: FIXED CURB TYPE LABEL
FROM CC-2 TO CC-1



PHOENIX ENGINEERING & SURVEYING, LLC
BRIAN L. GLEN
REGISTERED PROFESSIONAL ENGINEER
STATE OF MISSOURI
LICENSE NO. 2010011667
PHYSICAL ADDRESS: 1000 N. 10TH AVE., SUITE 200, OMAHA, NE 68102
PHONE: (402) 441-1111
FAX: (402) 441-1112
E-MAIL: brian.glen@phoenixeng.com
WEBSITE: www.phoenixeng.com

PRYOR LAYOUT

DESIGNED
DRAWN
BLG
SCALE
NOTED
DATE
08-01-2017
SHEET
10 OF 40



NOTE:
ALL TURN ARROWS, DIAGONAL LINES, CROSSWALK LINES, AND STOP LINES SHALL BE PRE-FORMED THERMOPLASTIC IN CONFORMANCE WITH CITY SPECIFICATIONS.

ALL LONGITUDINAL MARKINGS SHALL USE HIGH BUILD PAINT IN CONFORMANCE WITH CITY SPECIFICATIONS.

RECORD DRAWING
NOVEMBER 2022

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NOT AS-BUILT
NOVEMBER 2022

Record Drawing

50 0 50
SCALE IN FEET

REVISION

THE SEAL AND SIGNATURE ARE ONLY TO BE APPLIED TO THE ORIGINAL DRAWING. ANY REVISIONS TO THE ORIGINAL DRAWING SHALL BE MADE BY THE ENGINEER OR SURVEYOR. ANY REVISIONS TO THE ORIGINAL DRAWING SHALL BE MADE BY THE ENGINEER OR SURVEYOR. ANY REVISIONS TO THE ORIGINAL DRAWING SHALL BE MADE BY THE ENGINEER OR SURVEYOR.



PHOENIX ENGINEERING & SURVEYING, LLC
BRIAN L. GLENN
REGISTERED PROFESSIONAL ENGINEER
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PHONE: (402) 441-1111
FAX: (402) 441-1112
EMAIL: bglenn@phoenixeng.com
WEBSITE: www.phoenixeng.com

STRIPING PLAN

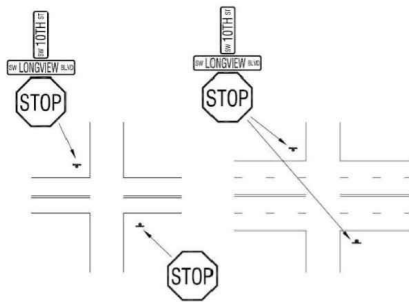
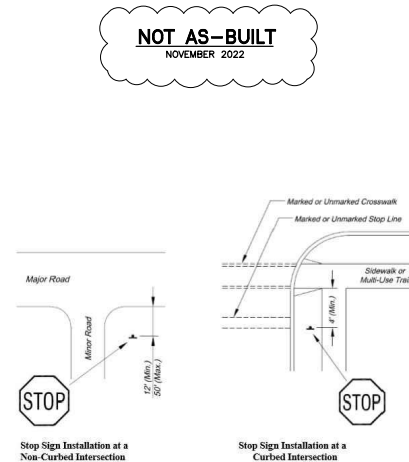
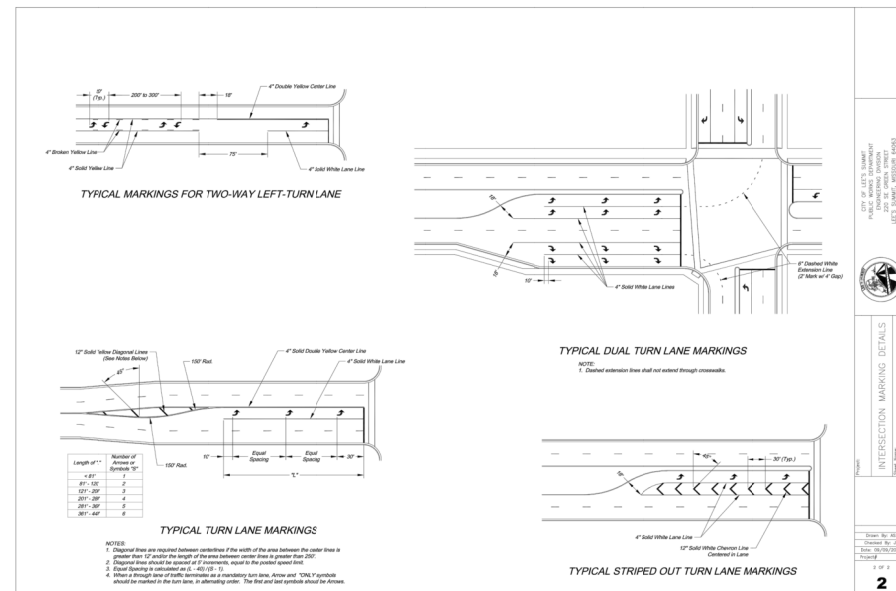
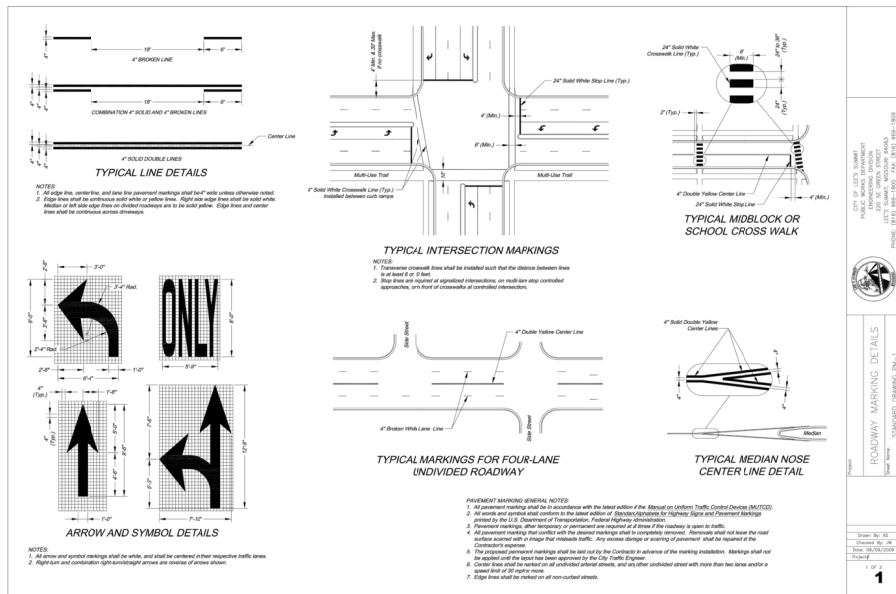
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#

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DESIGNED
DRAWN
BGL
SCALE
Noted
DATE
08-01-2017
SHEET

11 OF 40



RECORD DRAWING
NOVEMBER 2022

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Record Drawing

REVISION



PHOENIX ENGINEERING
& SURVEYING, LLC

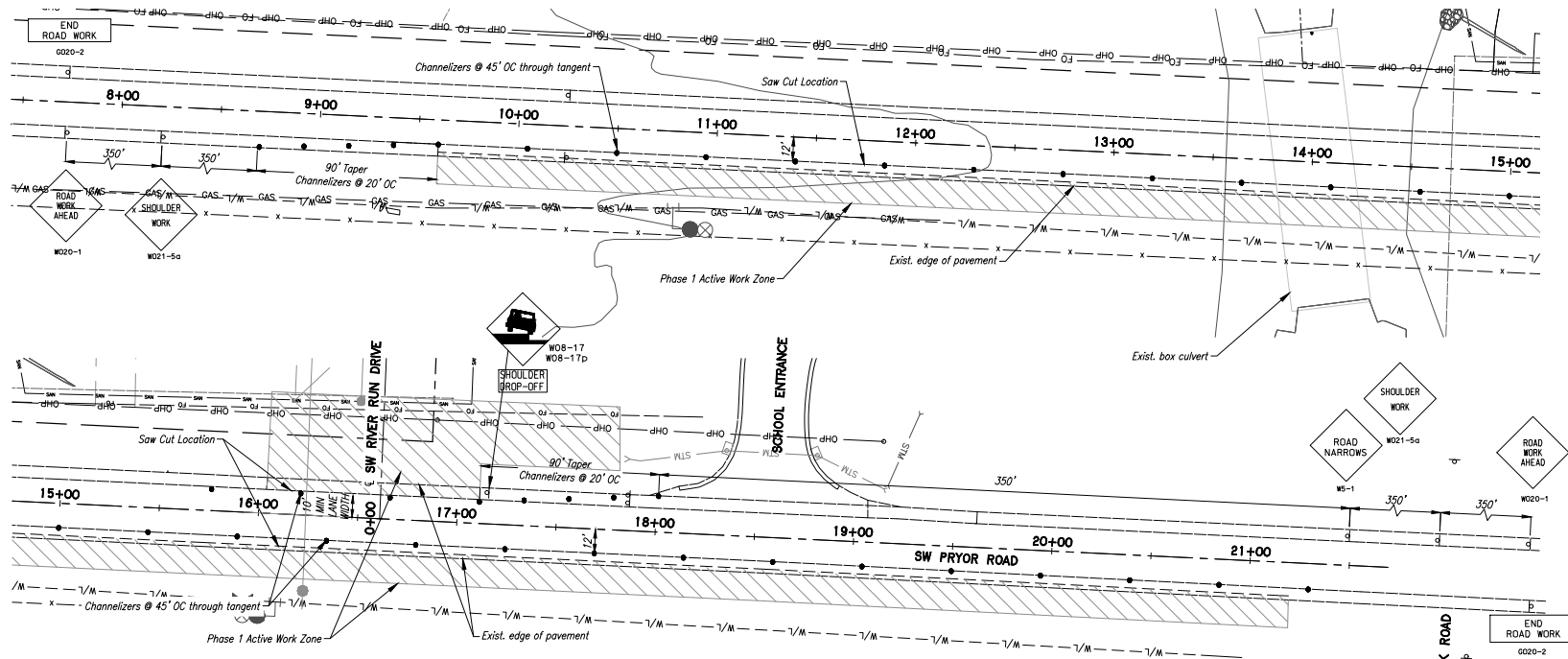
WHISPERING WOODS
†
LEE'S SUMMIT, JACKSON COUNTY, MO
STREET & STORM SEWER PLANS
STRIPING PLAN DETAILS

DESIGNED
BLG
DRAWN
BLG
SCALE
Noted
DATE
9-01-2017
JOB NO.
04078
SHEET

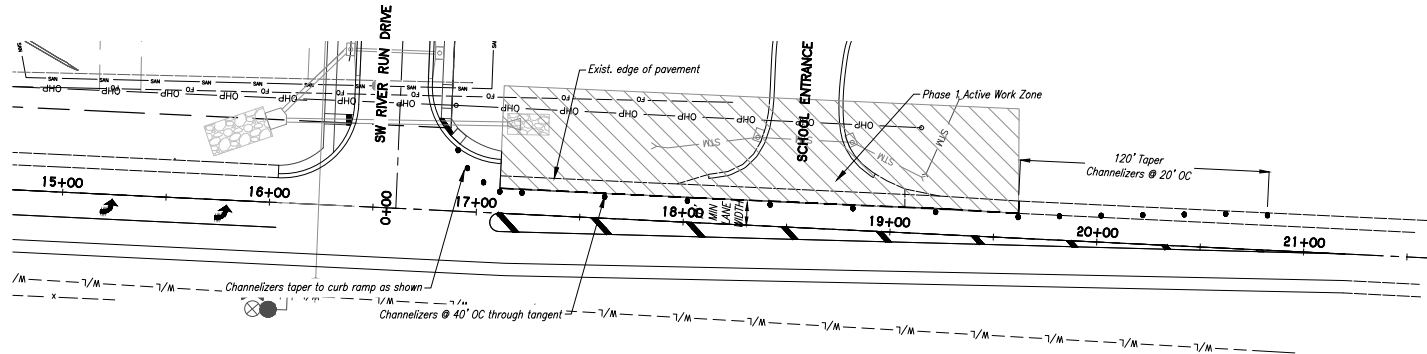
12 ^{SHEET} OF 40

THE SEAL(S) AND SIGNATURE(S) APPLY ONLY TO THE DOCUMENT TO WHICH THEY ARE AFFIXED, AND EXPRESSLY DISCLAIM ANY RESPONSIBILITY FOR ALL OTHER PLANS, SPECIFICATIONS, ESTIMATES, REPORTS, OR OTHER DOCUMENTS OR INSTRUMENTS RELATING TO OR INTENDED TO BE USED FOR ANY PART OR PARTS OF THE ENGINEERING OR SURVEYING PROJECT.

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PHASE 1 TEMPORARY TRAFFIC CONTROL PLAN



PHASE 2 TEMPORARY TRAFFIC CONTROL PLAN

NOTES:
PHASE 1 OF TEMPORARY TRAFFIC CONTROL SHALL INCLUDE PAVEMENT CONSTRUCTION OF SW RIVER RUN DRIVE ENTRANCE TO THE END OF CURB RETURN AND CONSTRUCTION OF THE ROADSIDE DRAINAGE DITCH TO THE END OF THE EXISTING STORM LINE UNDER THE SCHOOL ENTRANCE.
EXISTING SCHOOL ENTRANCE SHALL REMAIN OPEN AND FREE OF CONSTRUCTION ACTIVITIES, MATERIALS, AND EQUIPMENT DURING PHASE 1 OF SW PRYOR ROAD IMPROVEMENTS.

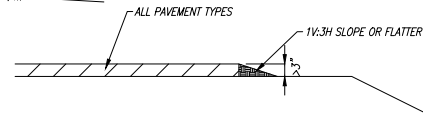
PHASE TWO SHALL COMMENCE ONLY ONCE THE PROPOSED SCHOOL ENTRANCE AND SW RIVER RUN DR ENTRANCE ARE OPERATIONAL AND CONSTRUCTION SCHEDULE APPROVED BY THE SCHOOL.

ALL TEMPORARY TRAFFIC CONTROL DEVICES SHALL COMPLY WITH THE LEE'S SUMMIT DESIGN AND CONSTRUCTION MANUAL AND THE FHWA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

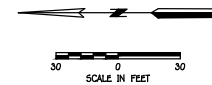
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NOT AS-BUILT
NOVEMBER 2022

RECORD DRAWING
NOVEMBER 2022
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NOTE:
WEDGE SLOPE TO 1V:3H SLOPE OR FLATTER DURING NON-WORKING HOURS.
DELINEATE DIFFERENTIAL WITH CHANNELIZERS DURING WORKING HOURS.



REVISION

Δ REVISED ON 08-07-2018: FIXED CURB TYPE LABEL FROM CC-2 TO CC-1

STATE OF MISSOURI
BRIAN L. GLEN
Professional Engineer
No. 2010011667
Exp. 12-31-2024

PHOENIX ENGINEERING & SURVEYING, LLC
1810 ZACHARY ROAD
PO BOX 10000
DALLAS, TEXAS 75210
TEL: 214-636-1000
FAX: 214-636-1001
WWW.PHENIXENGINEERING.COM

TEMPORARY TRAFFIC CONTROL PLAN

DESIGNED BY: [Signature]

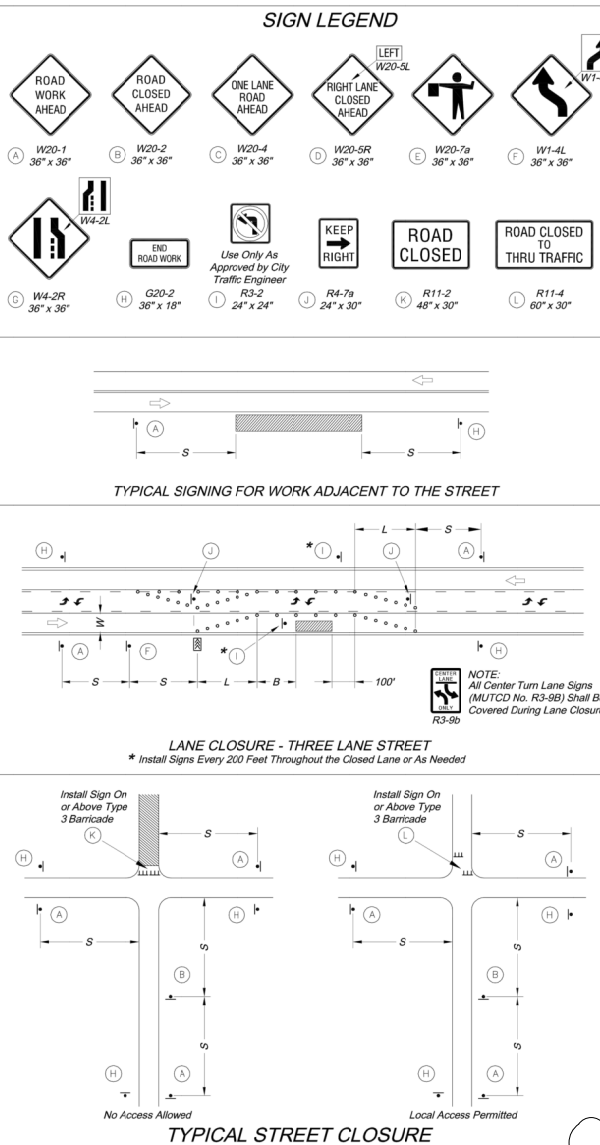
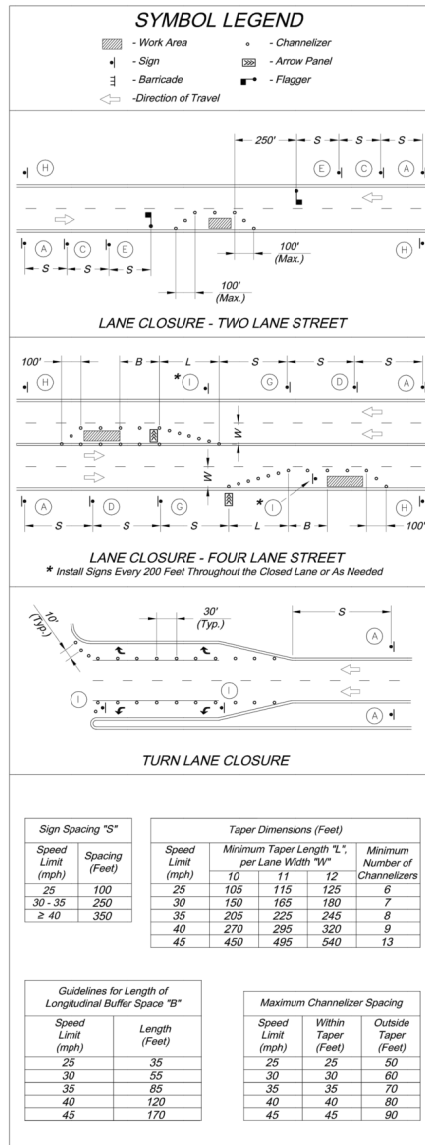
DRAWN BY: [Signature]

SCALE: [Blank]

DATE: 08-01-2017

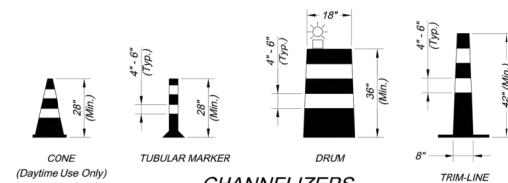
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PHOENIX ENGINEERING & SURVEYING, LLC - 2018



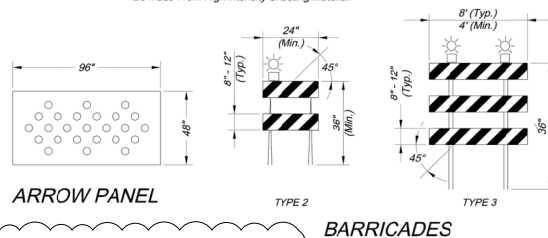
GENERAL NOTES:

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



CHANNELIZERS

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



ARROW PANEL

BARRICADES

RECORD DRAWING
NOVEMBER 2022

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Record Drawing

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

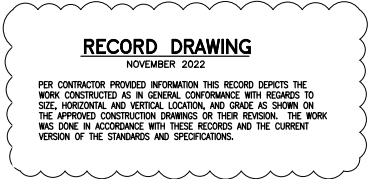
PROJECT: **TEMPORARY TRAFFIC CONTROL DETAILS**
SHEET NAME: STANDARD DRAWING TC-1

Drawn By: JWW
Checked By: MP
Date: 12-10-2008
Project No.: X
X 0' x X

REVISION

PHOENIX ENGINEERING & SURVEYING, LLC

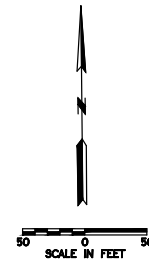
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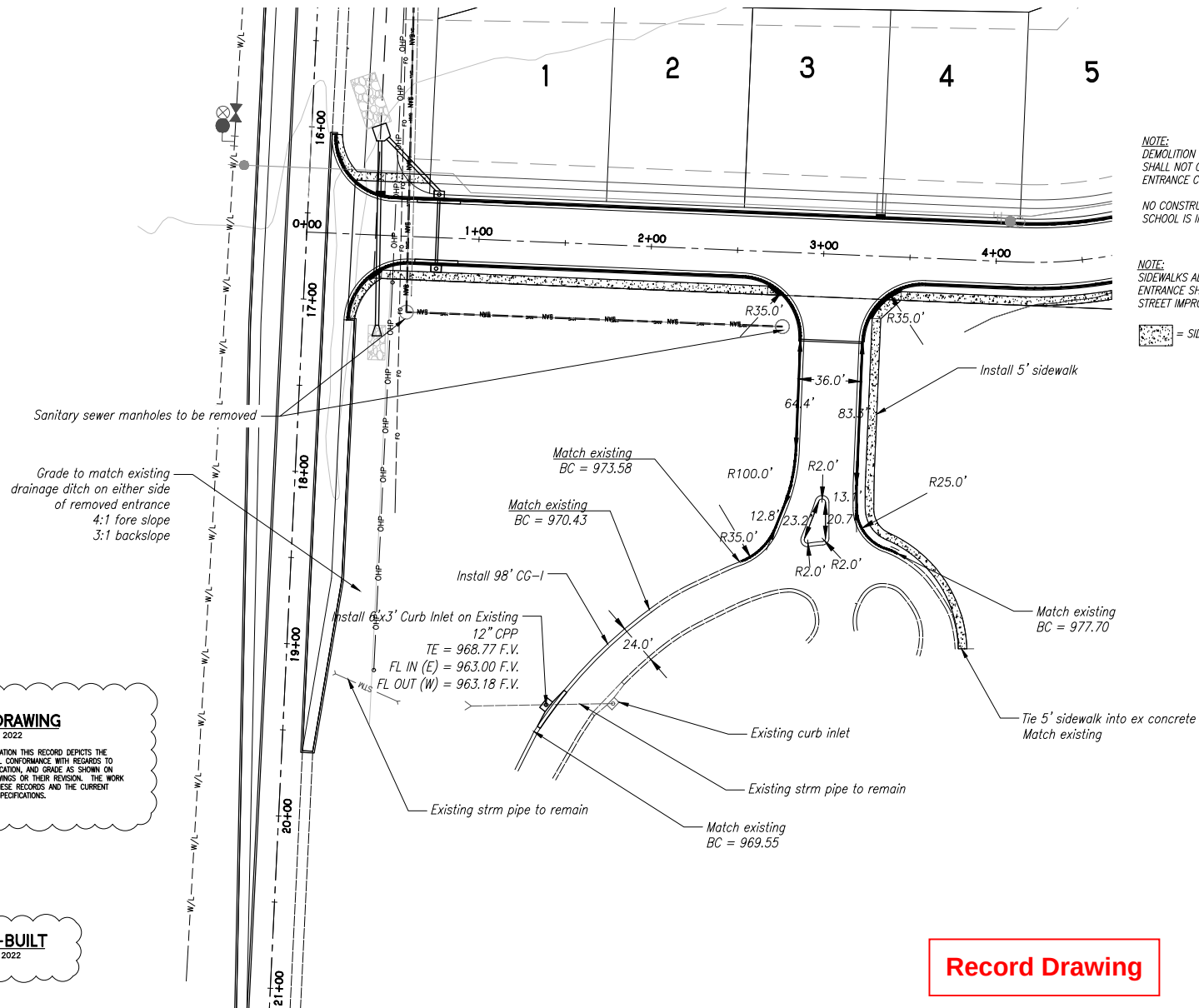


NOT AS-BUILT
NOVEMBER 2022

Record Drawing

NO CONSTRUCTION SHALL TAKE PLACE WHILE SCHOOL IS IN SESSION.





NOTE:
DEMOLITION OF EXISTING SCHOOL ENTRANCE
SHALL NOT COMMENCE UNTIL NEW SCHOOL
ENTRANCE CONSTRUCTION IS COMPLETED.

NO CONSTRUCTION SHALL TAKE PLACE WHILE
SCHOOL IS IN SESSION.

NOTE:
SIDEWALKS ALONG COMMON TRACTS AND SCHOOL
ENTRANCE SHALL BE CONSTRUCTED AT THE TIME OF
STREET IMPROVEMENTS.

 = SIDEWALKS

REVISION



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PHOENIX ENGINEERING
& SURVEYING, LLC

3825 NORTHERN RD.
INDEPENDENCE, MO 64602
(816) 743-9000 FAX: (816) 743-9700
ENGINEERING CERTIFICATE NO: MO E-2000151302-D
SURVEYING CERTIFICATE NO: MO LS-2000151303-D
KS: E-8515
KS: LS-138

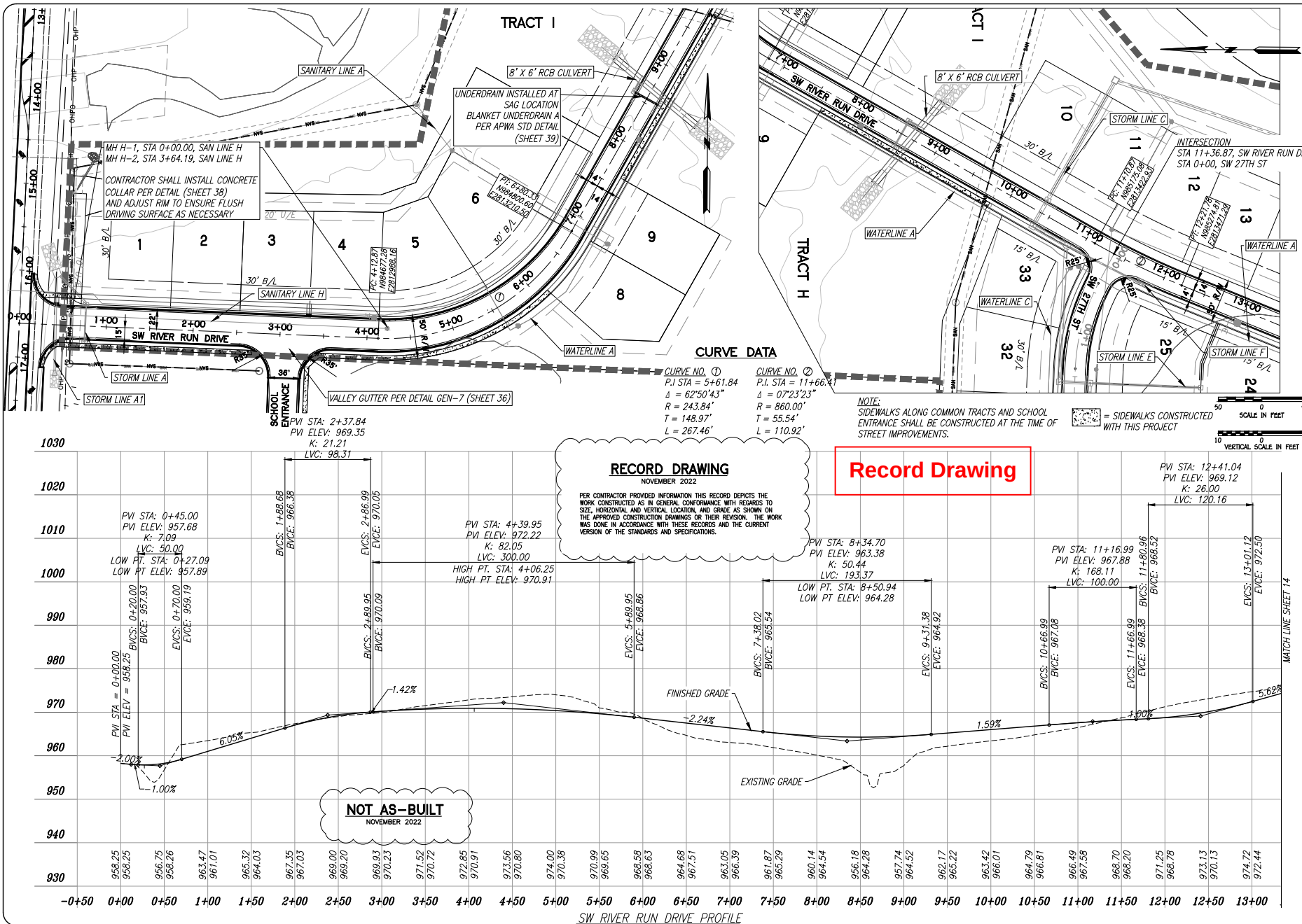
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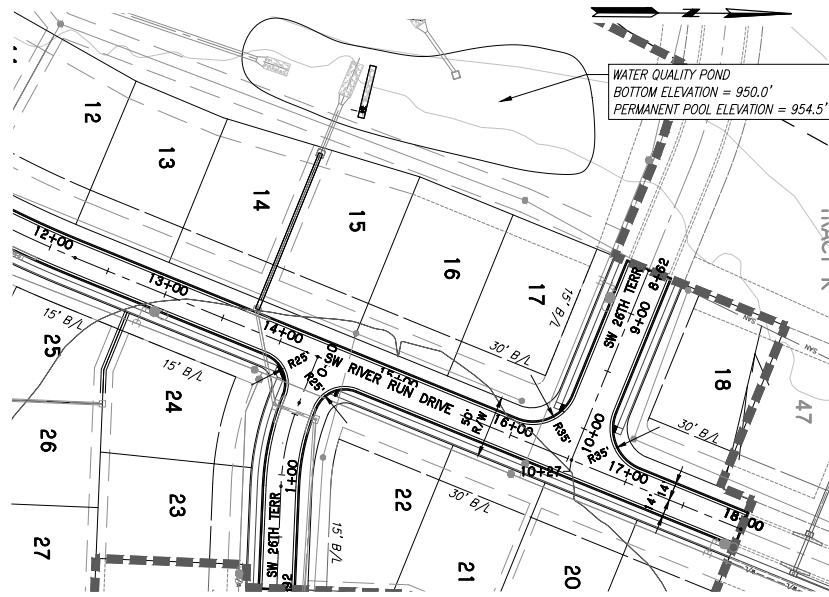
DESIGNED

 DRAWN
 BLG
 SCALE
 Noted
 DATE
 -01-2017
 JOB NO.

 SHEET

16 SHEET OF 40





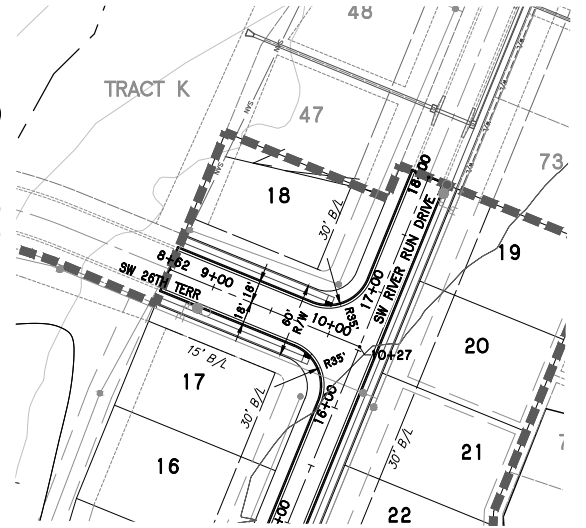
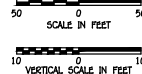
RECORD DRAWING

NOVEMBER 2022

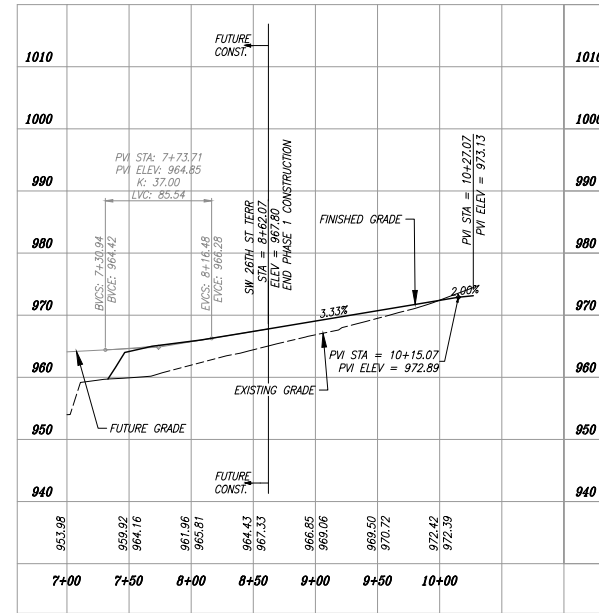
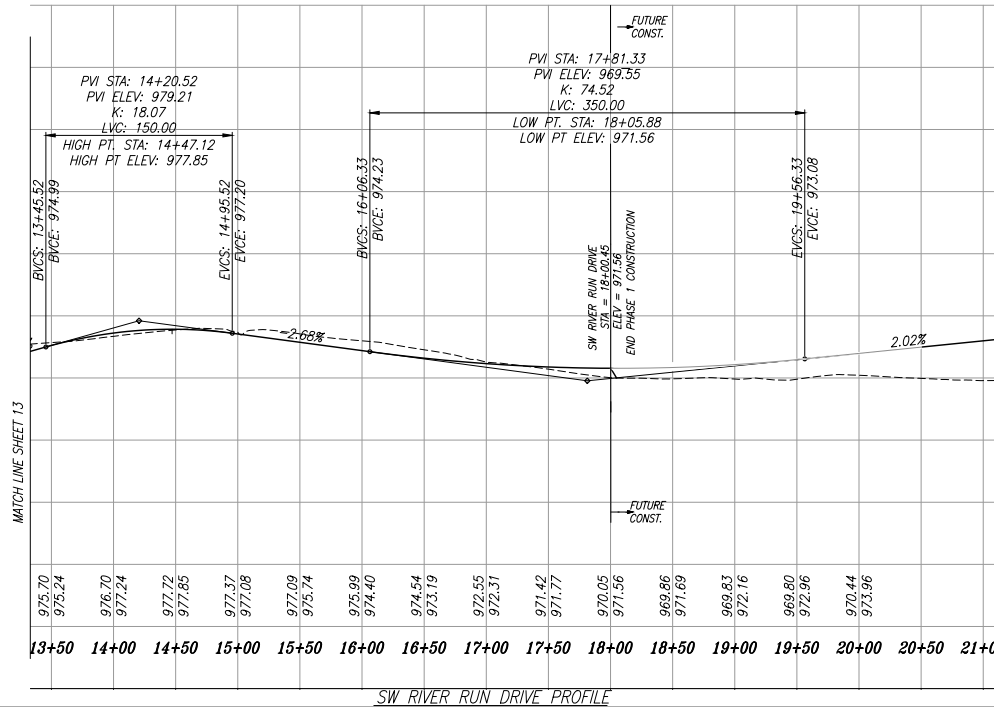
PER CONTRACTOR PROVIDED INFORMATION THIS RECORD DEPICTS THE WORK CONSTRUCTED AS IN GENERAL CONFORMANCE WITH REGARDS TO SIZE, HORIZONTAL AND VERTICAL LOCATION, AND GRADE AS SHOWN ON THE APPROVED CONSTRUCTION DRAWINGS OR THEIR REVISION. THE WORK WAS DONE IN ACCORDANCE WITH THESE RECORDS AND THE CURRENT VERSION OF THE STANDARDS AND SPECIFICATIONS.

NOT AS-BUILT

NOVEMBER 2022



Record Drawing



REVISION

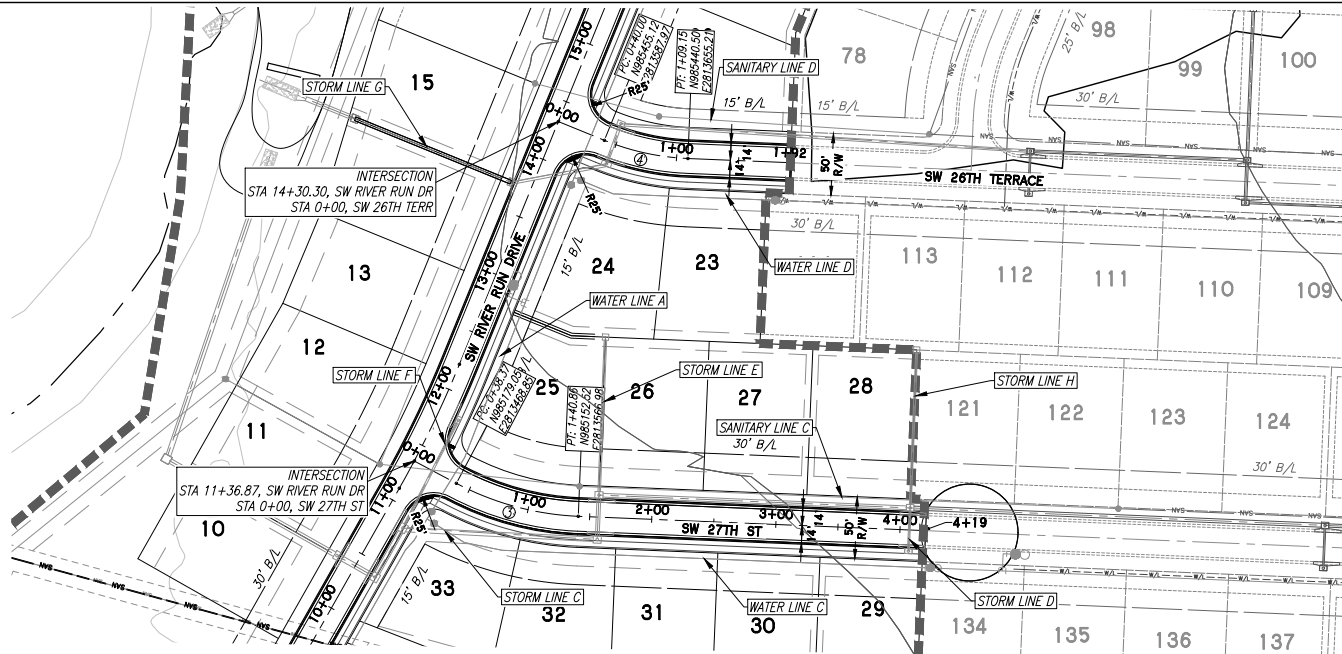
STATE OF MISSOURI
BRIAN L. GLENN
REGISTERED PROFESSIONAL ENGINEER
NO. 2010011667
EXPIRATION DATE 12-31-2024

PHOENIX ENGINEERING & SURVEYING, LLC
10000 W. 110TH AVE., SUITE 100
OVERLAND PARK, MO 66213
(816) 748-0000 FAX (816) 748-0700
ENGINEERING CERTIFICATE NO. MO E-843
SURVEYING CERTIFICATE NO. MO S-200015002-D

WHISPERING WOODS
LEE'S SUMMIT, JACKSON COUNTY, MO
STREET & STORM SEWER PLANS
STREET PLAN & PROFILE

DESIGNED BY: B.L.G.
DRAWN BY: B.L.G.
SCALE: AS SHOWN
DATE: 09-01-2017
SHEET NO: 04078
SHEET

18 OF 40

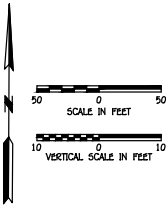


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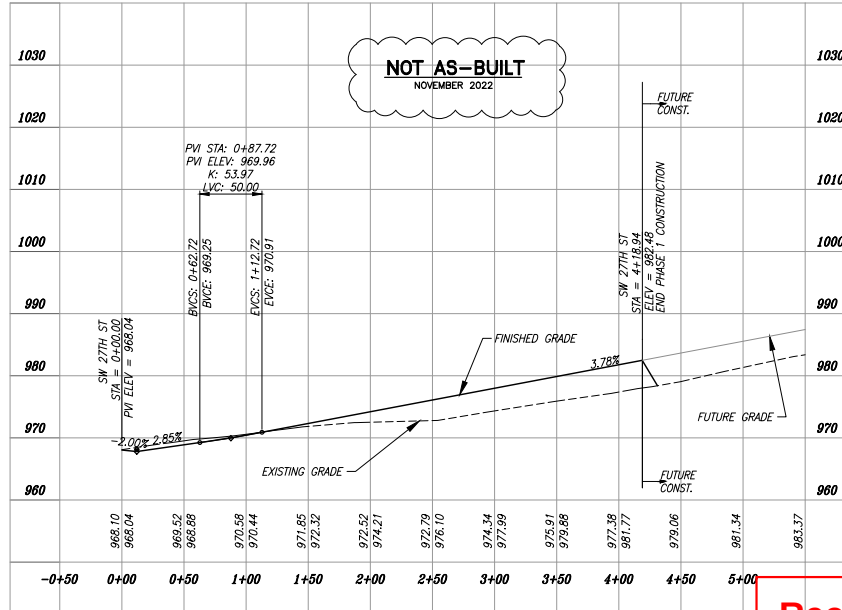
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NOT AS-BUILT
NOVEMBER 2022



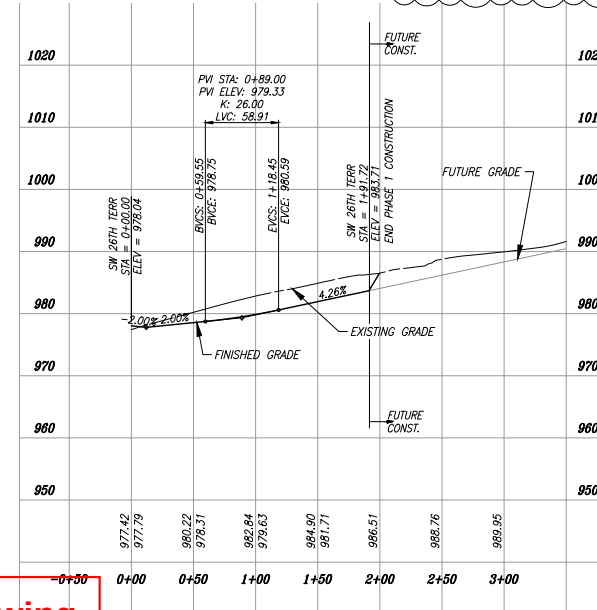
RECORD DRAWING

NOVEMBER 2022
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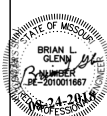
SW 27TH ST PROFILE

Record Drawing



SW 26TH TERRACE PROFILE

REVISION

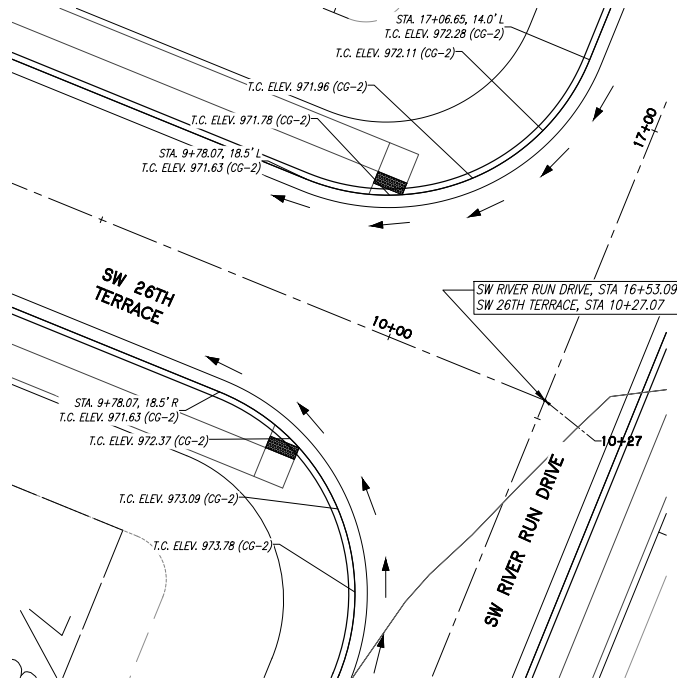


PHOENIX ENGINEERING & SURVEYING, LLC
BRIAN L. GLENN
REGISTERED PROFESSIONAL ENGINEER
STATE OF MISSOURI
LICENSE NO. 2010011687
8107 74th Avenue, Suite 200
Overland Park, MO 66204-3000
TEL: 913-241-2000 FAX: 913-241-2001
WWW.PHOENIXENGINEERINGANDSURVEYING.COM

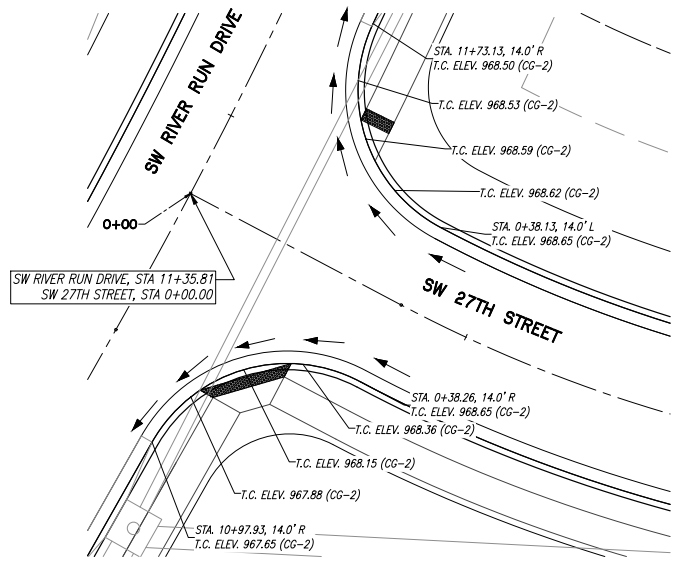
WHISPERING WOODS
LEE'S SUMMIT, JACKSON COUNTY, MO
STREET & STORM SEWER PLANS
STREET PLAN & PROFILE

DESIGNED BY: B.L.G.
DRAWN BY: B.L.G.
SCALE: AS SHOWN
DATE: 08-01-2017
JOB NO: 04078
SHEET: 19 OF 40

© PHOENIX ENGINEERING & SURVEYING, LLC - 2018



SW RIVER RUN DRIVE & SW 26TH ST DETAILS



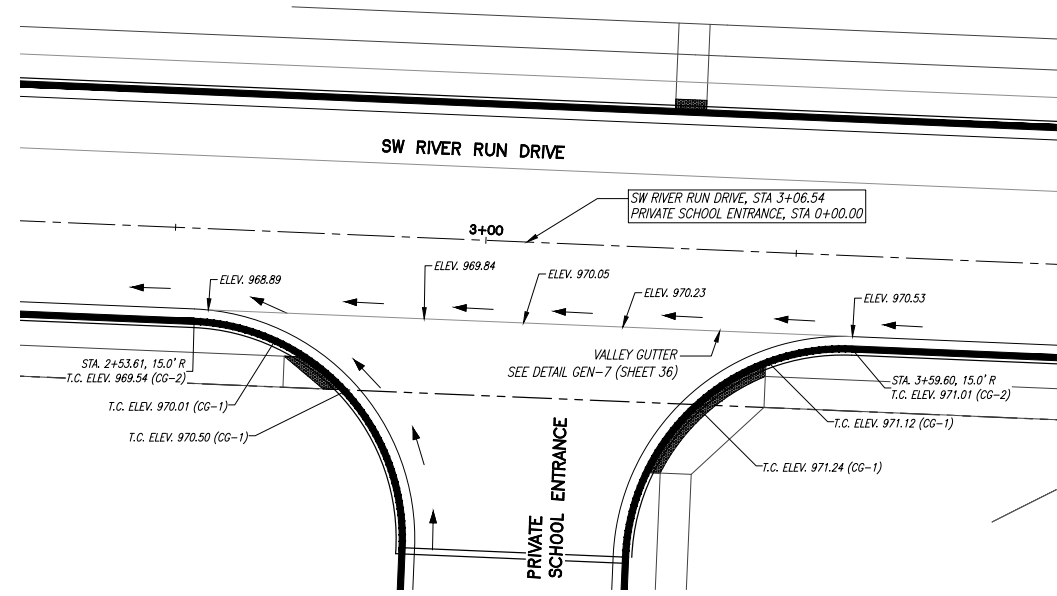
SW RIVER RUN DRIVE & SW 27TH ST DETAILS

RECORD DRAWING
NOVEMBER 2022

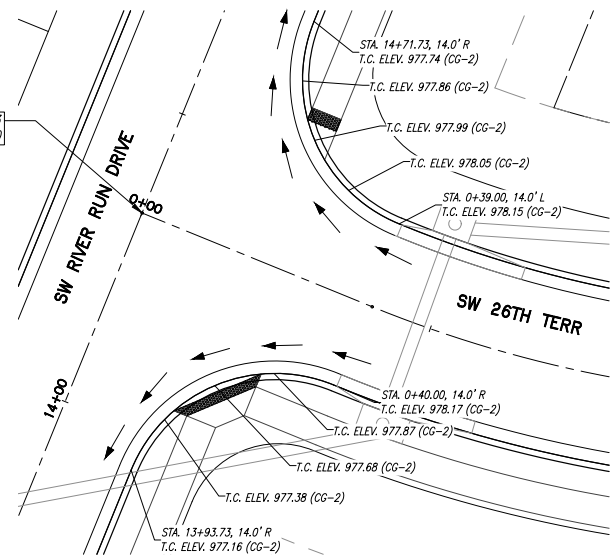
PER CONTRACTOR PROVIDED INFORMATION THIS RECORD DEPICTS THE WORK CONSTRUCTED AS IN GENERAL CONFORMANCE WITH REGARDS TO SIZE, HORIZONTAL AND VERTICAL LOCATION, AND GRADE AS SHOWN ON THE APPROVED CONSTRUCTION DRAWINGS OR THEIR REVISION. THE WORK WAS DONE IN ACCORDANCE WITH THESE RECORDS AND THE CURRENT VERSION OF THE STANDARDS AND SPECIFICATIONS.

NOT AS-BUILT
NOVEMBER 2022

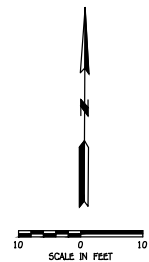
Record Drawing



SW RIVER RUN DRIVE & SCHOOL ENTRANCE DETAILS



SW RIVER RUN DRIVE & SW 26TH TERR DETAILS



REVISION

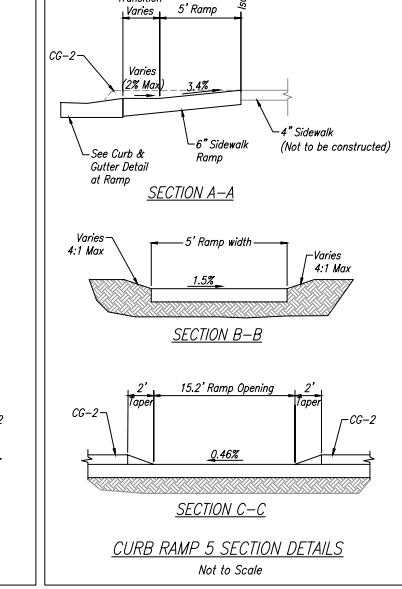
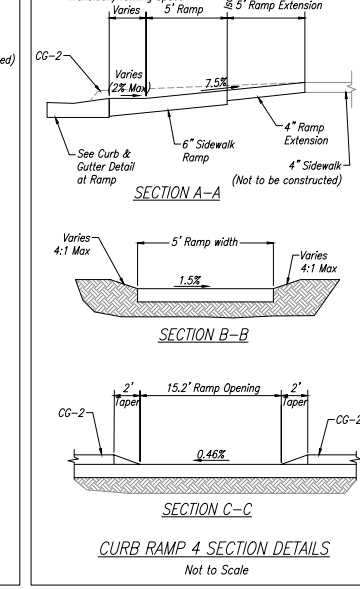
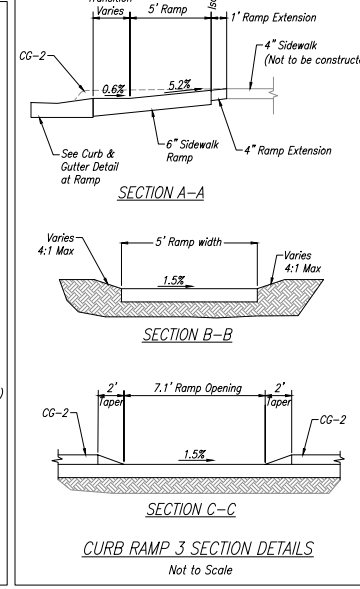
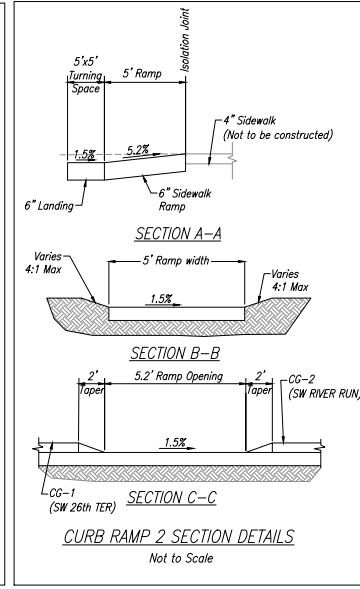
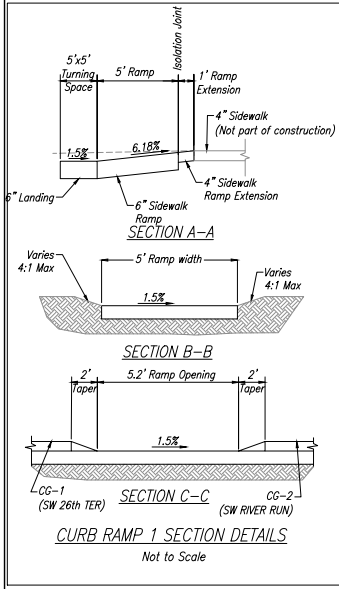
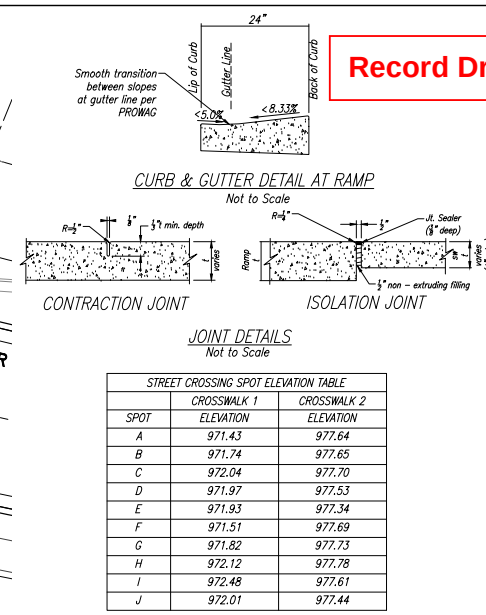
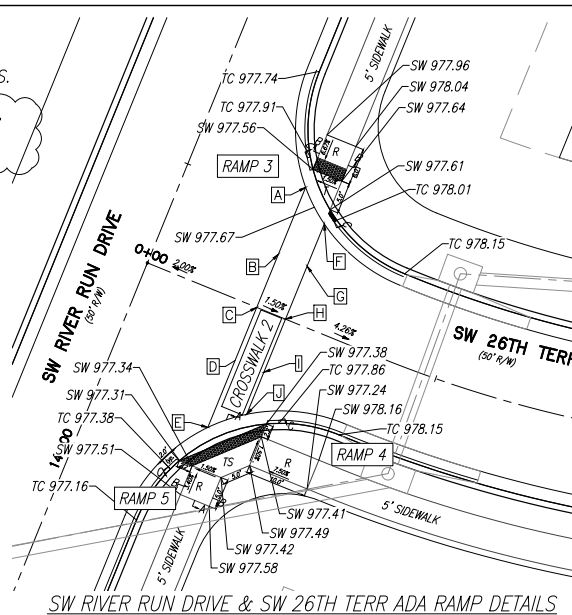
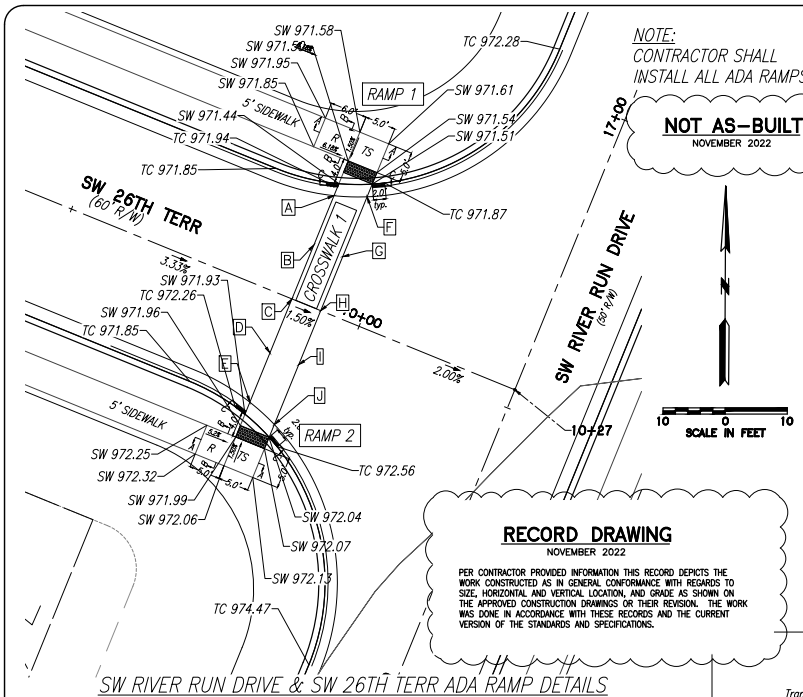
PHOENIX ENGINEERING & SURVEYING, LLC

BRIAN L. GLENN
REGISTERED PROFESSIONAL ENGINEER
NO. 200011867
EXPIRATION DATE 12-31-2024

PHOENIX ENGINEERING & SURVEYING, LLC
10010 W. WILLOW AVE., SUITE 100
PHOENIX, AZ 85044
TEL: 602-998-0000 FAX: 602-998-0000
WWW.PHENGINEERING.COM
SHEET 20 OF 40

INTERSECTION DETAILS

DESIGNED BY: [Signature]
DRAWN BY: [Signature]
SCALE: [Signature]
DATE: 09-01-2017



REVISION

PHOENIX ENGINEERING & SURVEYING, LLC

BRIAN L. GLENN
REGISTERED PROFESSIONAL ENGINEER
NO. 201001867
EXPIRATION DATE 12-31-2024

PHOENIX ENGINEERING & SURVEYING, LLC
1810 74th Avenue, Suite 100
Phoenix, AZ 85024
TEL: 602-998-1111 FAX: 602-998-1112
WWW.PHENGINEERING.COM

DESIGNED
B.L.G.
SCALE
Noted
DATE
09-01-2017
SHEET
21 OF 40

NOTE:
CONTRACTOR SHALL
INSTALL ALL ADA RAMP.

RECORD DRAWING

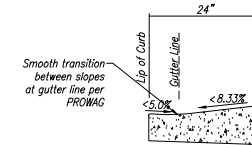
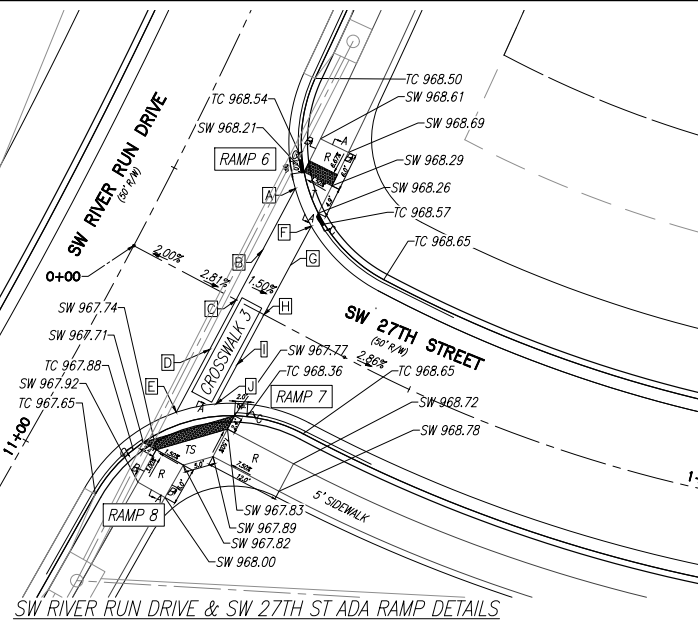
NOVEMBER 2022

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NOT AS-BUILT
NOVEMBER 2022

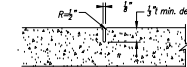
Record Drawing

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SCALE IN FEET

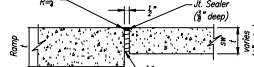


CURB & GUTTER DETAIL AT RAMP

Not to Scale



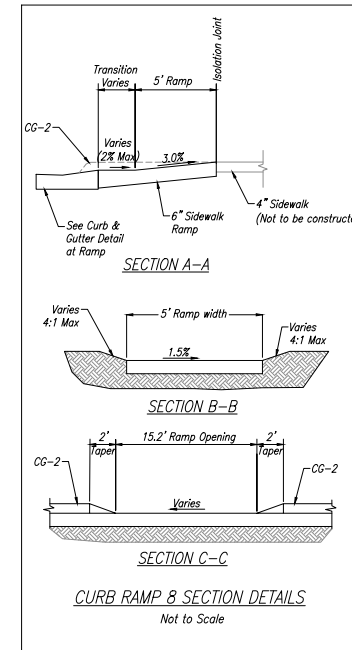
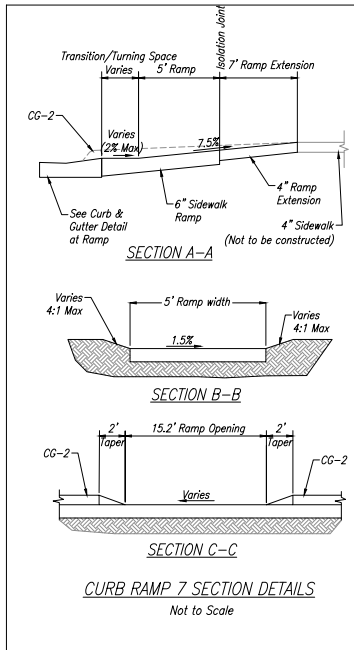
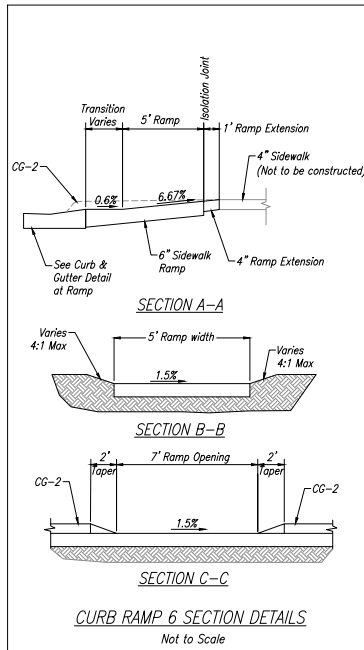
CONTRACTION JOINT



ISOLATION JOINT

JOINT DETAILS
Not to Scale

SPOT	ELEVATION
A	968.22
B	968.08
C	968.02
D	967.91
E	967.76
F	968.29
G	968.16
H	968.10
I	967.99
J	967.80



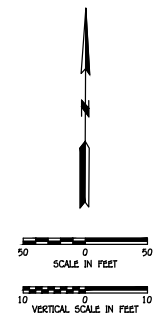
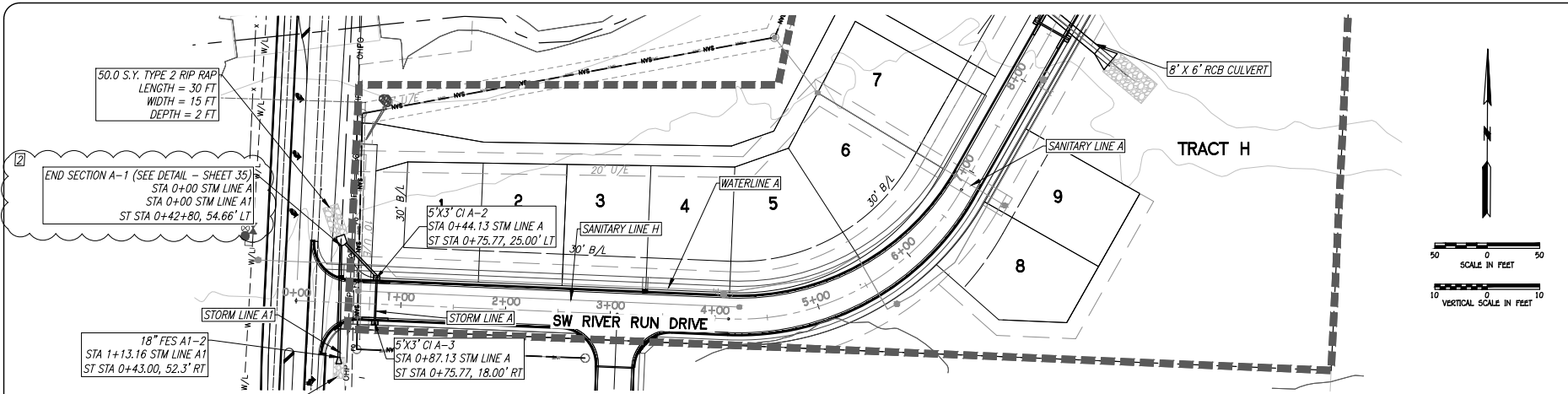
REVISION

STATE OF MISSISSIPPI
BRIAN L. GLENN
Professional Engineer
No. 201001667
Exp. 12-31-2014

PHOENIX ENGINEERING & SURVEYING, LLC
10000 WOODLAND DRIVE
MEMPHIS, TN 38117
(901) 744-0000 FAX (901) 744-0000
ENGINEERING CERTIFICATE NO. MS-E-153
SURVEYING CERTIFICATE NO. MS-S-200015300-D

DESIGNED
DRAWN
JRT
SCALE
Noted
DATE
09-01-2017
SHEET
22 OF 40

I:\projects\2004\0407842 -- Whispering Woods Phase 1\dwg\2022 Asbuilt\04078 - Street & Storm Plans.dwg



RANDY SPALDING EXCAVATING, INC.
AS-BUILT BY:

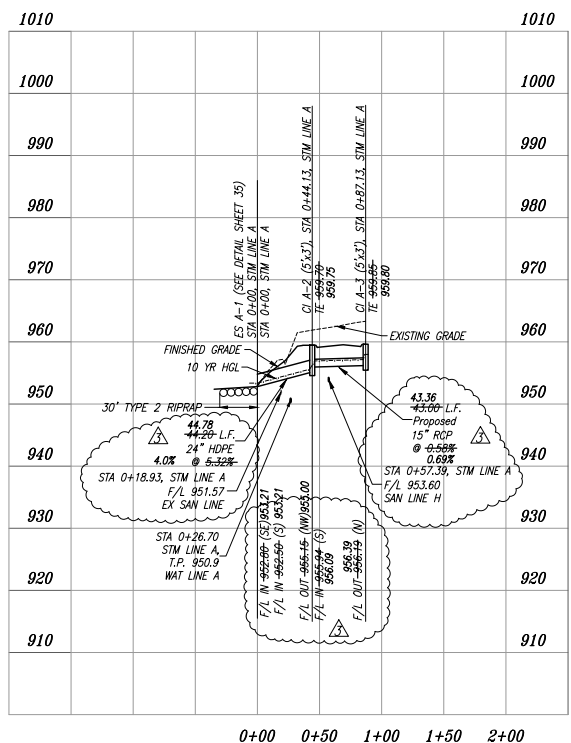
PHOENIX ENGINEERING & SURVEYING, LLC

3855 S. NORTHERN BLVD.
INDEPENDENCE, MO 64052
(816) 743-9000

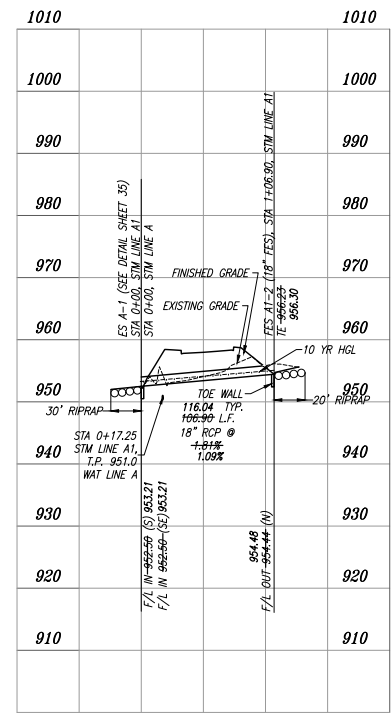
STATE OF MISSOURI
LS-2685
DOUGLAS A. TOBIN
EXPIRATION DATE 12-31-2024

DOUGLAS A. TOBIN, PLS.

Record Drawing



PROPOSED STORM LINE A



PROPOSED STORM LINE A1

RECORD DRAWING
NOVEMBER 2022

INFORMATION PROVIDED ON THIS DRAWING DEPICTS AS-CONSTRUCTED CONDITIONS OF GRADING WORK PERFORMED BY RANDY SPALDING EXCAVATING, INC. I, NOR PHOENIX ENGINEERING AND SURVEYING LLC IN ANY WAY EXPRESS OR IMPLY WARRANTY FOR THE DESIGN OR THE ENGINEERING OF THE AS-CONSTRUCTED IMPROVEMENTS SHOWN HEREON.

I HEREBY CERTIFY THAT THIS RECORD CORRECTLY DEPICTS THE WORK CONSTRUCTED AS TO SIZE, HORIZONTAL AND VERTICAL LOCATION, AND GRADE AS SHOWN ON THE APPROVED CONSTRUCTION DRAWINGS OR THEIR REVISION. THE WORK WAS DONE IN ACCORDANCE WITH THESE RECORDS AND THE CURRENT VERSION OF THE STANDARDS AND SPECIFICATIONS.

REVISION
REVISED ON 06-07-2018: ADDED FES LABEL (LINE A & A1)
REVISED ON 08-01-18: CORRECTIONS DUE TO FIELD VERIFIED SEWER ELEVATIONS

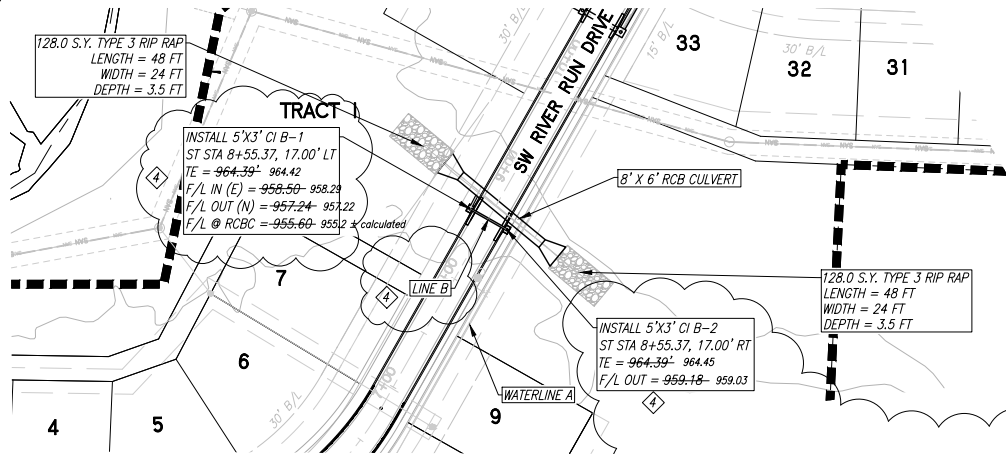
STATE OF MISSOURI
BRIAN L. GILBY
LS-2010011857
EXPIRATION DATE 12-31-2024

PHOENIX ENGINEERING & SURVEYING, LLC

3855 S. NORTHERN BLVD.
INDEPENDENCE, MO 64052
(816) 743-9000
FAX (816) 743-9070
DOUGLAS A. TOBIN, PLS.
EXPIRATION DATE 12-31-2024

WHISPERING WOODS
LEE'S SUMMIT, JACKSON COUNTY, MO
STREET & STORM SEWER PLANS
STORM PLAN & PROFILE

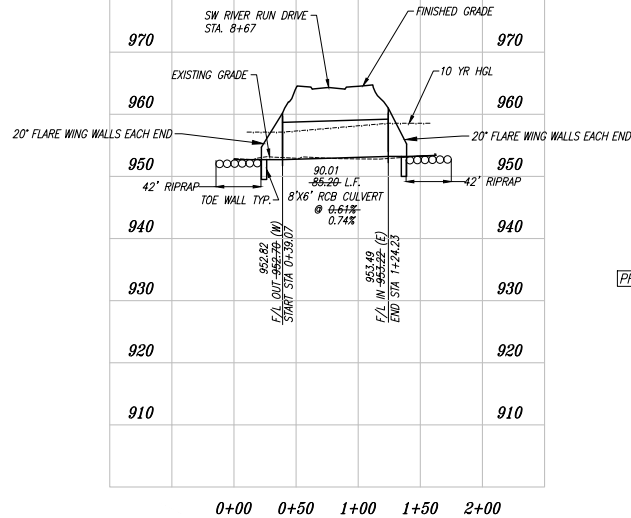
DESIGNED
BLG
DRAWN
BLG
SCALE
NOTED
DATE
08-01-2017
JOB NO.
04078
SHEET
25 OF 40

**RECORD DRAWING**

NOVEMBER 2022

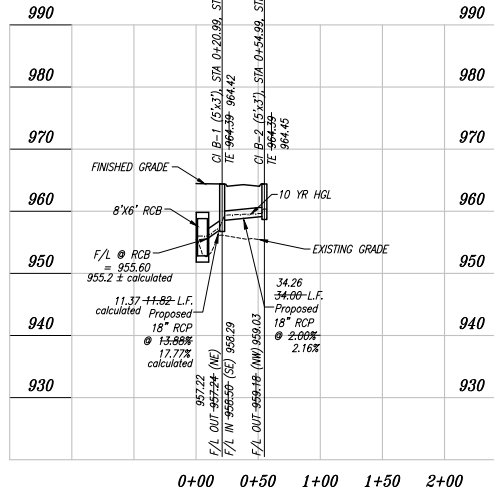
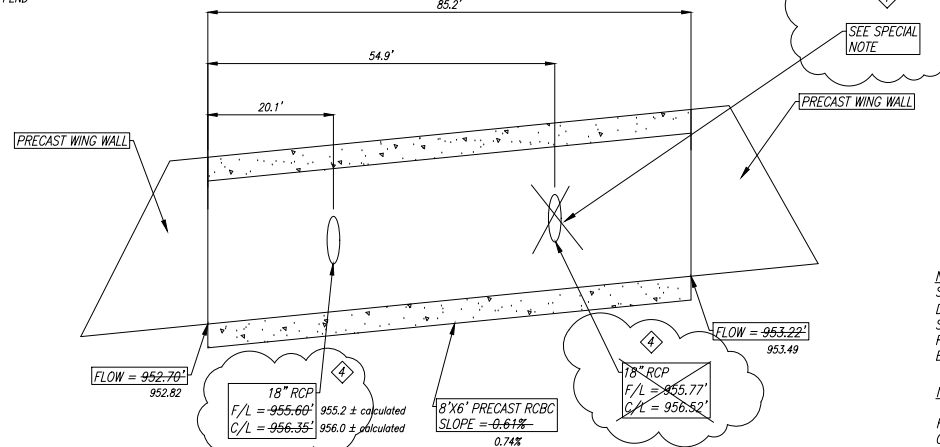
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**PROPOSED 8' X 6' RCB CULVERT****PATCH DETAIL**
N.T.S.**CULVERT DETAILS**

N.T.S.

NOTE: PER COMMENTS DATED - 08/03/2018
RAILINGS ALONG PERIMETER OF RCBC NO LONGER REQUIRED

**STORM LINE B**

SPECIAL NOTE:
CONTRACTOR SHALL PATCH UNUSED
"KNOCK-OUTS" WITH REINFORCED
CONCRETE. SEE PATCH DETAIL THIS SHEET

Record Drawing

RANDY SPALDING EXCAVATING, INC.
AS-BUILT BY:

PHOENIX ENGINEERING & SURVEYING, LLC

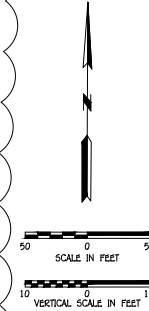
3855 S. NORTHERN BLVD.
INDEPENDENCE, MO 64052
(816) 743-9000

STATE OF MISSOURI
REGISTERED PROFESSIONAL ENGINEER
NO. 12665
DOUGLAS A. TOBIN
PHYSICAL ADDRESS
3855 S. NORTHERN BLVD.
INDEPENDENCE, MO 64052
PHONE (816) 743-9000
FAX (816) 743-9000
CELL (816) 743-9000
E-MAIL DARTON@PHOENIXENGINEERING.COM

NOTE:
SHOP DRAWINGS SHALL BE SUBMITTED TO
DESIGN ENGINEER AND CITY OF LEE'S
SUMMIT FOR APPROVAL.
RCBC LOAD DESIGN SHALL MEET OR
EXCEED HL-93 STANDARDS.

NOTE

RCBC AND WING WALL SHALL BE PRECAST.
CONTRACTOR TO PROVIDE SHOP DRAWINGS.



REVISED 03-25-2019:
RECONFIGURED SHEET TO
ALLOW FOR ADDITION OF
STORM LINE B PROFILE.
PROFILE ADDED DUE TO FIELD
CONDITIONS DEEMING ORIGINAL
CONDUIT ALIGNMENTS
UNOBTAINABLE.

REVISED 03-26-2019:
REVISED DETAIL TO CORRECT
ERRORS IN CONNECTION
ELEVATIONS AT SIDE OF
CULVERT. ADDITIONAL
REVISIONS PER EMAIL
COMMENTS DATED 3-26-19
CONNECTION ELEVATION AT
RCBC VERIFIED BY FIELD
SURVEY 3-26-19

REVISION
1 REVISED ON 06-07-2018: CULVERT DIMENSIONS EDITED
DUE TO WING WALL ADJUSTMENT; ADDED NOTE STATING
RCBC SHALL BE PRECAST
2 REVISED ON 08-10-2018: ADDED NOTE DETAILING RAILING
ALONG PERIMETER OF RCBC
3 THE DESIGN ENGINEER ASSUMES NO LIABILITY IN USING THE AS-BUILT
AND CONSIDERS THE USER RESPONSIBLE FOR ALL OTHER PLANNING, OPERATIONS,
AND MAINTENANCE DECISIONS. THIS DRAWING IS NOT TO BE USED FOR ANY
OTHER PURPOSES WITHOUT THE WRITTEN PERMISSION OF PHOENIX ENGINEERING & SURVEYING, LLC

STATE OF MISSOURI
REGISTERED PROFESSIONAL ENGINEER
NO. 12665
DOUGLAS A. TOBIN
PHYSICAL ADDRESS
3855 S. NORTHERN BLVD.
INDEPENDENCE, MO 64052
PHONE (816) 743-9000
FAX (816) 743-9000
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E-MAIL DARTON@PHOENIXENGINEERING.COM

PHOENIX ENGINEERING & SURVEYING, LLC
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INDEPENDENCE, MO 64052
(816) 743-9000
FAX (816) 743-9000
CELL (816) 743-9000
E-MAIL DARTON@PHOENIXENGINEERING.COM

WHISPERING WOODS
LEE'S SUMMIT, JACKSON COUNTY, MO
STREET & STORM SEWER PLANS
STORM PLAN & PROFILE

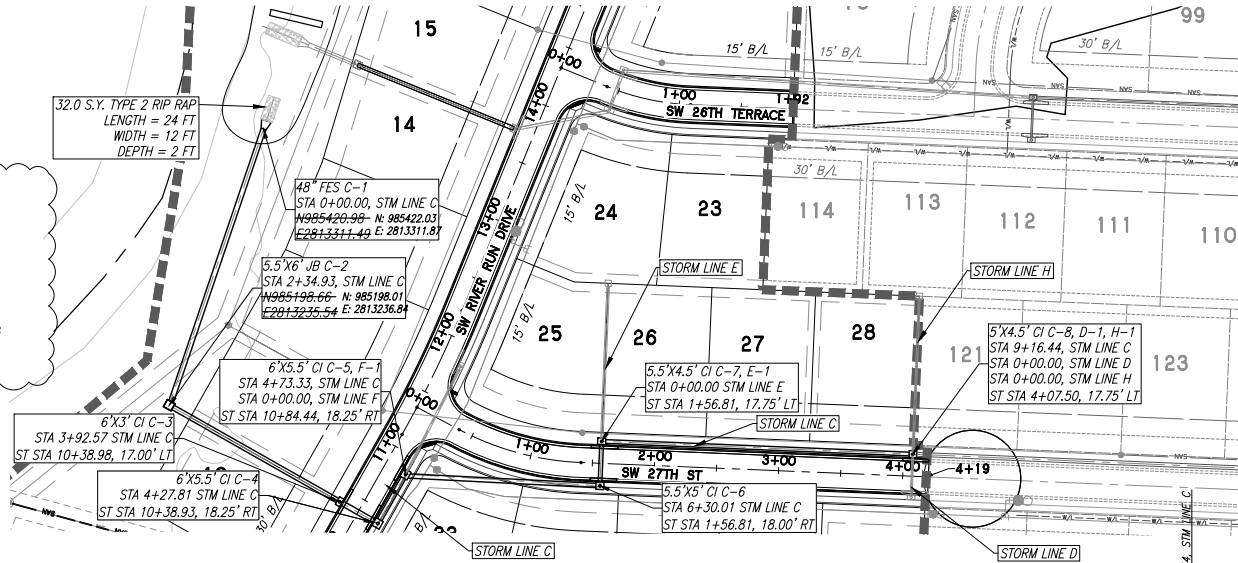
DESIGNED BY: BLO
DRAWN BY: BLO
SCALE: Noted
DATE: 09-01-2017
JOB NO: 04078
SHEET: 26 OF 40

RECORD DRAWING

NOVEMBER 2022

INFORMATION PROVIDED ON THIS DRAWING DEPICTS AS-CONSTRUCTED CONDITIONS OF GRADING WORK PERFORMED BY RANDY SPALDING EXCAVATING, INC., A NOR PHOENIX ENGINEERING AND SURVEYING, LLC IN ANY WAY EXPRESS OR IMPLY WARRANTY FOR THE DESIGN OR THE ENGINEERING OF THE AS-CONSTRUCTED IMPROVEMENTS SHOWN HEREON.

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RANDY SPALDING EXCAVATING, INC.
AS-BUILT BY:

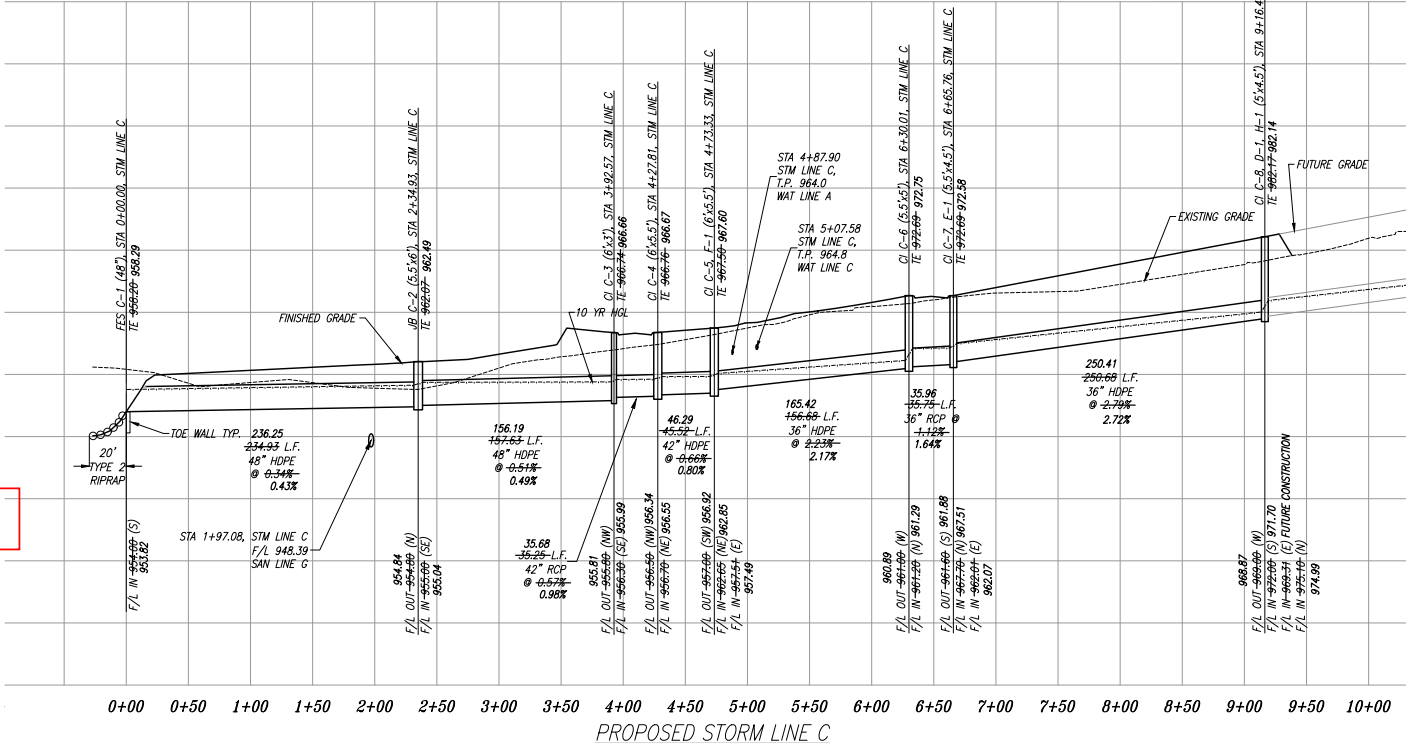
PHOENIX ENGINEERING
& SURVEYING, LLC

3855 S. NORTHERN BLVD.
INDEPENDENCE, MO 64052
(816) 743-9000



DOUGLAS A. TOBIN, PLS

Record Drawing



REVISION



PHOENIX ENGINEERING
& SURVEYING, LLC
3855 S. NORTHERN BLVD.
INDEPENDENCE, MO 64052
(816) 743-9000
BRIAN L. GLEN, PLS

WHISPERING WOODS
LEE'S SUMMIT, JACKSON COUNTY, MO
STREET & STORM SEWER PLANS
STORM PLAN & PROFILE

DESIGNED
BLO
DRAWN
BLO
SCALE
NOTED
DATE
09-01-2017
SHEET
04078

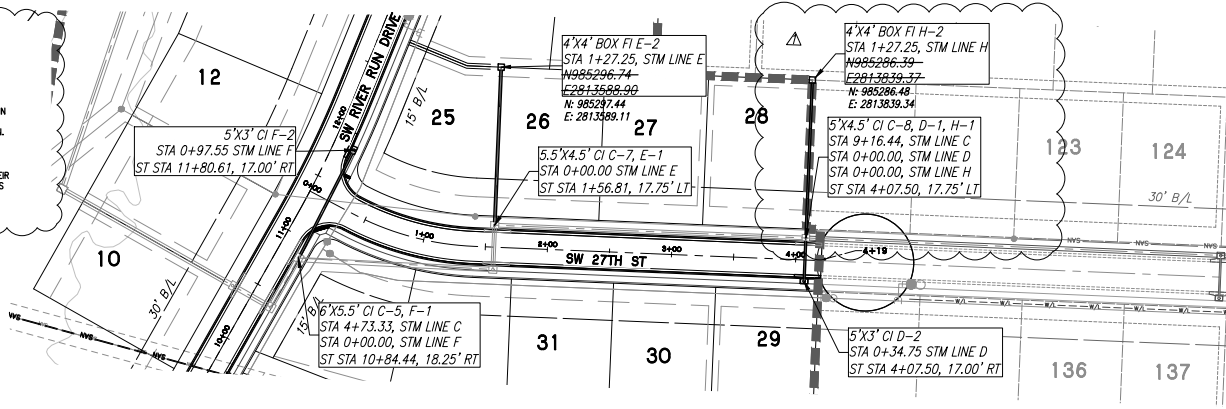
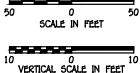
27 OF 40

RECORD DRAWING

NOVEMBER 2022

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RANDY SPALDING EXCAVATING, INC.
AS-BUILT BY:

PHOENIX ENGINEERING & SURVEYING, LLC

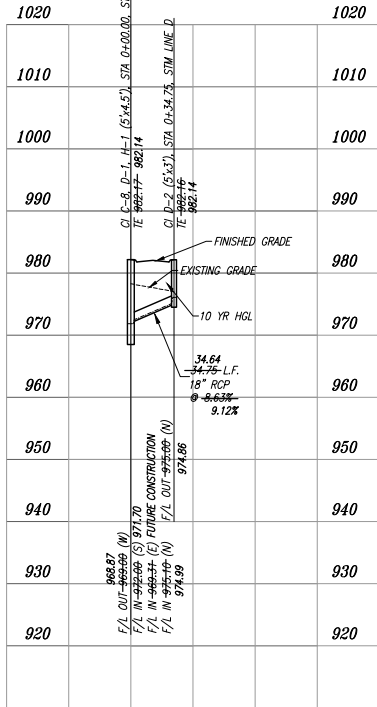
3855 S. NORTHERN BLVD.
INDEPENDENCE, MO 64052

(816) 743-9000

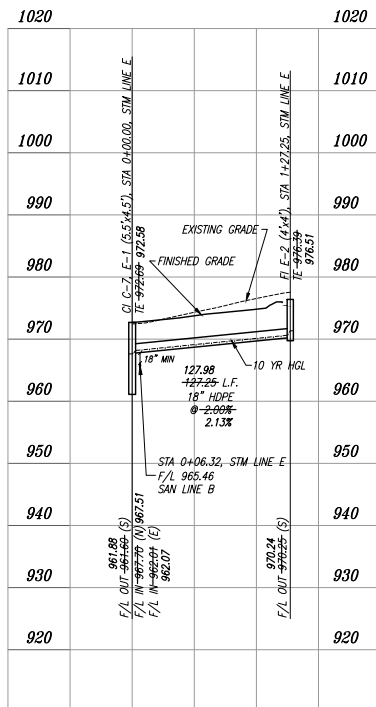


DOUGLAS A. TOBIN, PLS

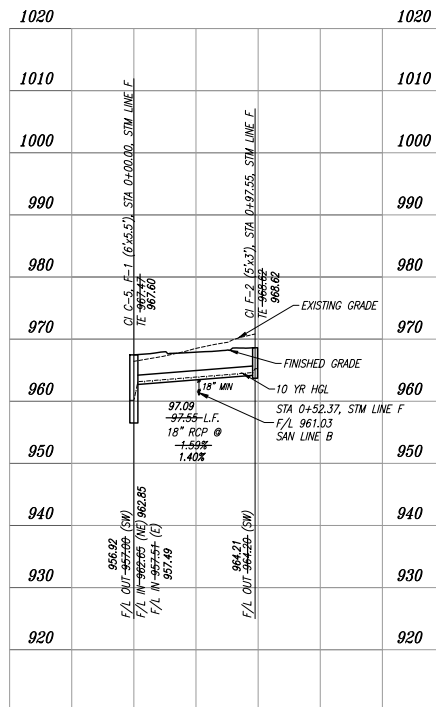
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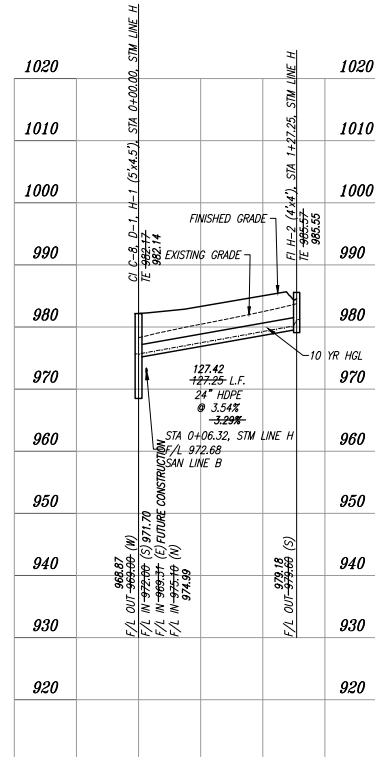
PROPOSED STORM LINE D



PROPOSED STORM LINE E



PROPOSED STORM LINE F



PROPOSED STORM LINE H

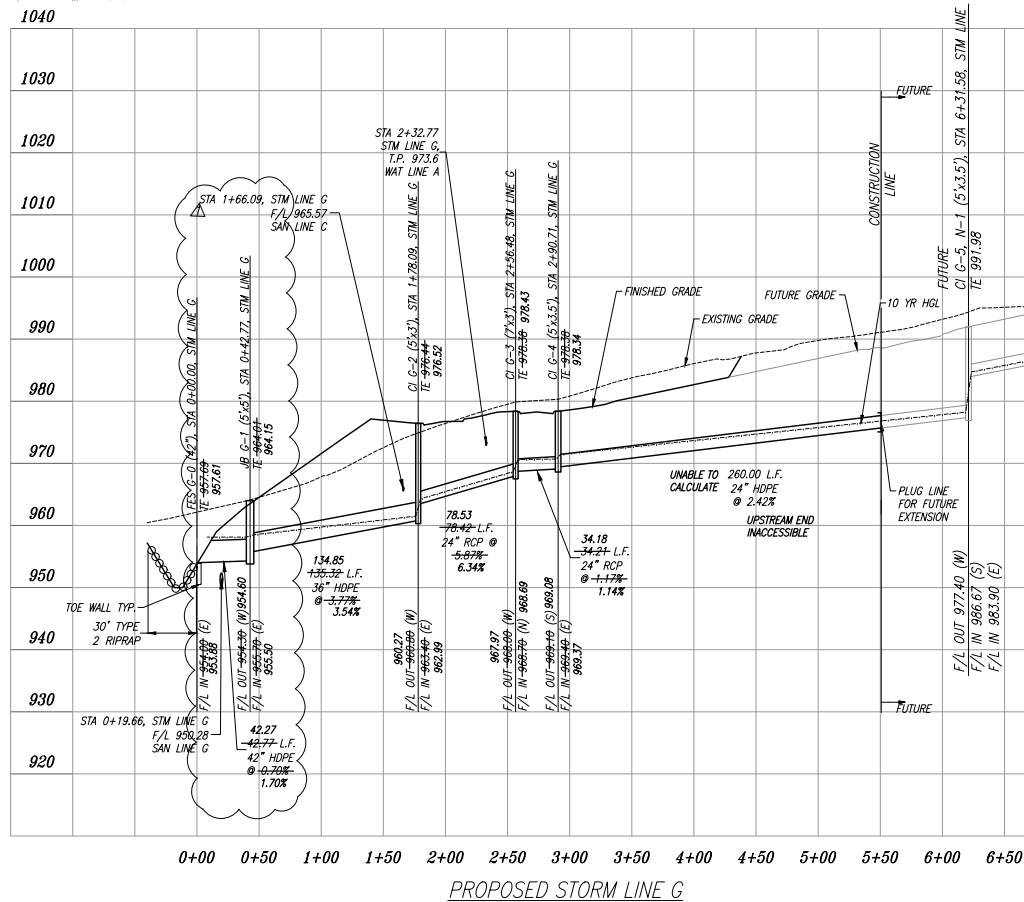
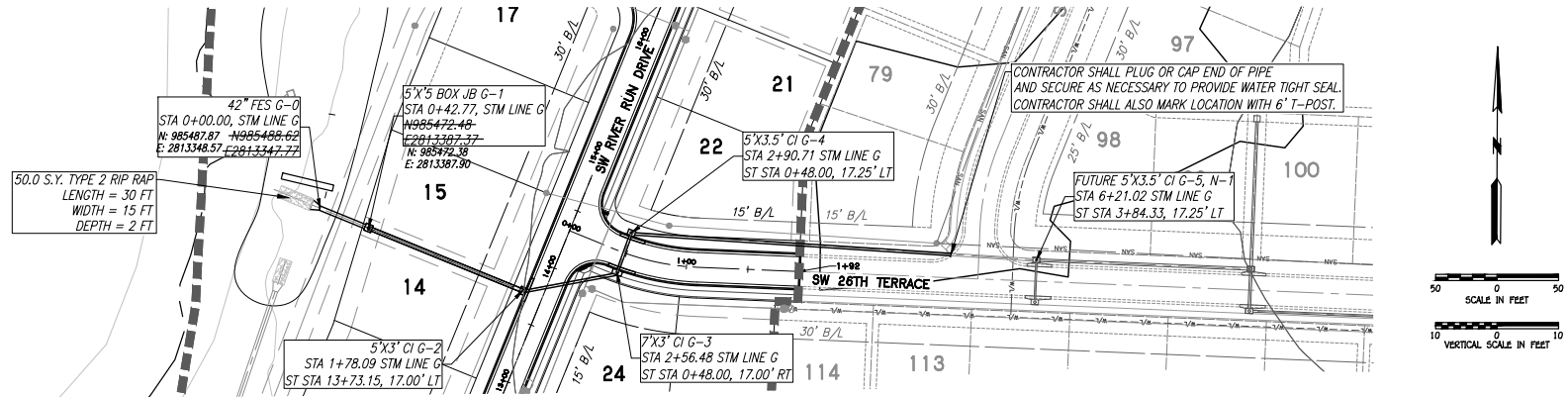
REVISION
Δ REVISED ON 06-07-2018: ADDED FELD INLET/STORM LINE H



PHOENIX ENGINEERING & SURVEYING, LLC

WHISPERING WOODS
LEE'S SUMMIT, JACKSON COUNTY, MO
STREET & STORM SEWER PLANS
STORM PLAN & PROFILE

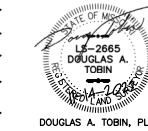
DESIGNED BY: BLO
DRAWN BY: BLO
SCALE: Noted
DATE: 09-01-2017
JOB NO: 04078
SHEET: 28 OF 40



RANDY SPALDING EXCAVATING, INC.
AS-BUILT BY:

PHOENIX ENGINEERING & SURVEYING, LLC

3855 S. NORTHERN BLVD.
INDEPENDENCE, MO 64052
(816) 743-9000



RECORD DRAWING

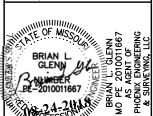
NOVEMBER 2022

INFORMATION PROVIDED ON THIS DRAWING DEPICTS AS-CONSTRUCTED CONDITIONS OF GRADING WORK PERFORMED BY RANDY SPALDING EXCAVATING, INC. I, NOR PHOENIX ENGINEERING AND SURVEYING, LLC IN ANY WAY EXPRESS OR IMPLIED WARRANTY FOR THE DESIGN OR THE ENGINEERING OF THE AS-CONSTRUCTED IMPROVEMENTS SHOWN HEREON.

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Record Drawing

REVISION
Δ REVISED ON 06-07-2018; ADDED JUNCTION BOX;
UPSIZED DOWNSTREAM PIPE FROM 24" TO 42" PIPE



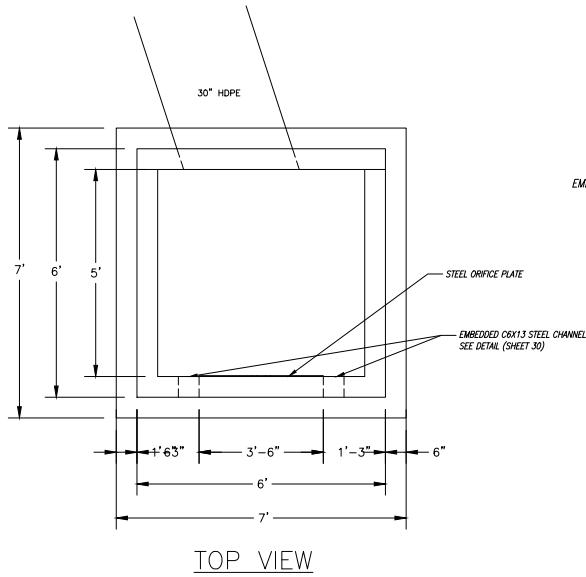
PHOENIX ENGINEERING & SURVEYING, LLC

3855 S. NORTHERN BLVD.
INDEPENDENCE, MO 64052
(816) 743-9000 FAX (816) 743-9000
MOBILE (816) 743-9000
WWW.PHOENIXENGINEERINGANDSURVEYING.COM

WHISPERING WOODS
LEE'S SUMMIT, JACKSON COUNTY, MO
STREET & STORM SEWER PLANS
STORM PLAN & PROFILE

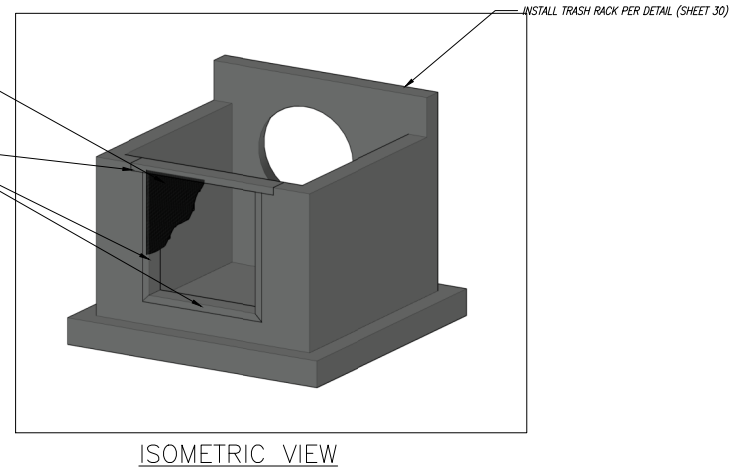
DESIGNED
BLO
DRAWN
BLO
SCALE
NOTED
DATE
09-01-2017
JOB NO.
04078
SHEET
29 OF 40

WATER QUALITY POND OUTFALL STRUCTURE DETAIL



NO. 93 JOHNSON VEE WIRE™ STAINLESS STEEL WELL SCREEN (OR EQUIVALENT)

EMBEDDED C6X13 STEEL CHANNEL SEE DETAIL (SHEET 30)



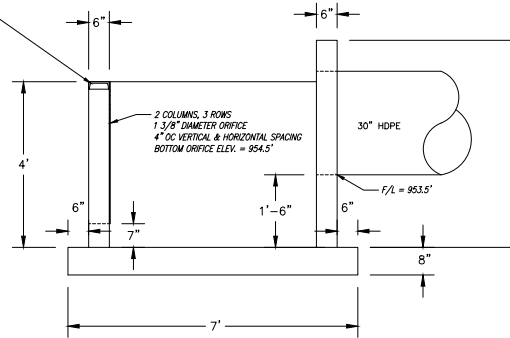
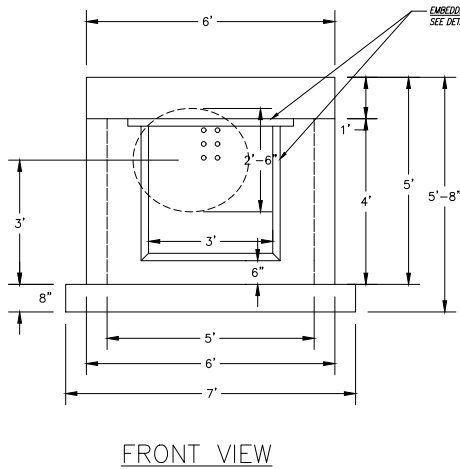
RECORD DRAWING

NOVEMBER 2022

PER CONTRACTOR PROVIDED INFORMATION THIS RECORD DEPICTS THE WORK CONSTRUCTED AS IN GENERAL CONFORMANCE WITH REGARDS TO SIZE, HORIZONTAL AND VERTICAL LOCATION, AND GRADE AS SHOWN ON THE APPROVED CONSTRUCTION DRAWINGS OR THEIR REVISION. THE WORK WAS DONE IN ACCORDANCE WITH THESE RECORDS AND THE CURRENT VERSION OF THE STANDARDS AND SPECIFICATIONS.

NOT AS-BUILT

NOVEMBER 2022



Record Drawing

NOTE

OUTLET STRUCTURE SHALL BE PRECAST IN NATURE. CONTRACTOR TO PROVIDE SHOP DRAWINGS FOR APPROVAL PRIOR TO MANUFACTURING.

REVISION

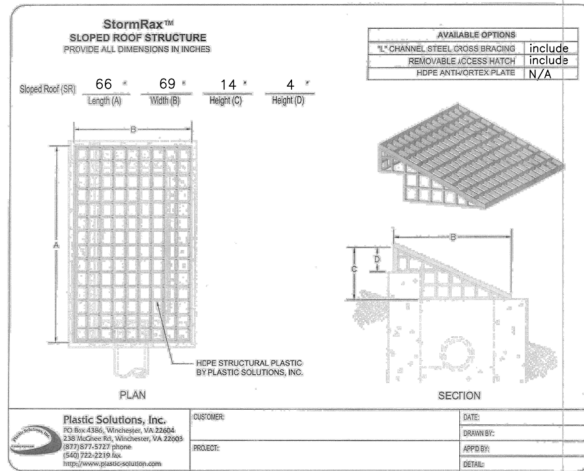


PHOENIX ENGINEERING & SURVEYING, LLC

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PO BOX 10000
JACKSONVILLE, MO 64402
(816) 748-0000 FAX (816) 748-0700
ENGINEERING CERT. NO. 0000000000
SURVEYING CERTIFICATE NO. 0000000000

WHISPERING WOODS
LEE'S SUMMIT, JACKSON COUNTY, MO
STREET & STORM SEWER PLANS
POND OUTLET DETAIL

DESIGNED
BLG
DRAWN
BLG
SCALE
Noted
DATE
09-01-2017
JOB NO.
04078
SHEET



StormRax™ Installation Instructions

All StormRax trash racks are supplied pre-drilled, include concrete anchor bolts and all the necessary mounting hardware.
NOTE: Installer must use the pre-drilled holes. Please call if you have any questions.

Concrete Riser Pipes and Boxes

The following instructions will guide the installer(s) through a quick and successful installation of concrete riser pipes and boxes.

Tools Required:

- Hammer drill
- 3/8" diameter masonry drill bit
- 1/2" wrench or adjustable wrench

STEP 1: Lift trash rack onto concrete structure typically can be done with 1-2 persons. Note: Top of structure must be sound and flat (within 1/8") around top of mounting surface. Mounting a trash rack to a structure that is not sound is not recommended.

STEP 2: Position (center) trash rack on structure and mark all mounting hole locations.

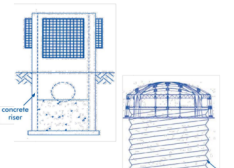
STEP 3: Remove trash rack from concrete structure.

STEP 4: Drill mounting holes using a 3/8" diameter masonry drill bit.

STEP 5: Install 3/8" x 1.3" anchor bolts (supplied).

STEP 6: Lift trash rack over anchor bolts. Ensure trash rack is completely flush against concrete mounting surface and then secure using flat washers and nuts (supplied).

STEP 7: Ensure all anchor bolt nuts are tight and secure. DO NOT OVERTIGHTEN!



Corrugated Pipe

The following instructions will guide the installer(s) through a quick and successful installation on corrugated pipes.

STEP 1: Locate the 4 mounting brackets on the crossbars and slide it to the outside of the rack.

STEP 2: Lift trash rack onto corrugated riser, resting crossbars on top of riser. (Typically can be done with 1 or 2 persons) Top of riser should be sound and flat.

STEP 3: Center rack on top of riser, leaving equal distance between the outside of the riser and the outside of the trash rack.

STEP 4: Slide all 4 mounting brackets to the outside of the riser. With appropriate screw (for metal or plastic), attach the mounting brackets to the corrugated riser.

If you have any questions concerning installation, please contact your local sales engineer.

StormRax
StormRax™ is a trademark of Plastic Solutions, Inc.

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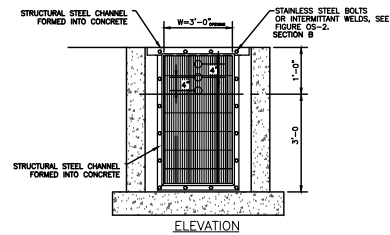
RECORD DRAWING

NOVEMBER 2022

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NOT AS-BUILT
NOVEMBER 2022

Record Drawing



ORIFICE PLATE NOTES:

1. PROVIDE CONTINUOUS NEOPRENE GASKET MATERIAL BETWEEN THE ORIFICE PLATE AND CONCRETE.
2. BOLT PLATE TO CONCRETE 12" MAX. ON CENTER. SEE TABLE OS-2 FOR PLATE THICKNESS.

CURV AND WOVY TRASH RACKS:

1. WELL-SCREEN TRASH RACKS SHALL BE STAINLESS STEEL AND SHALL BE ATTACHED BY INTERMITTENT WELDS ALONG THE EDGE OF THE MOUNTING FRAME.
2. TRASH RACK OPEN AREAS ARE FOR SPECIFIED TRASH RACK MATERIALS. TOTAL TRASH RACK SIZE MAY NEED TO BE ADJUSTED FOR MATERIALS HAVING DIFFERENT OPEN AREA/GROSS AREA RATIO (R VALUE).
3. STRUCTURAL DESIGN OF TRASH RACKS SHALL BE BASED ON FULL HYDROSTATIC HEAD WITH ZERO HEAD DOWNSTREAM OF THE RACK.

OVERFLOW SAFETY GRATES:

1. OVERFLOW SAFETY GRATE SHALL BE STORMRAX SLOPED ROOF STRUCTURE OR APPROVED EQUAL.
2. INSTALLATION OF OVERFLOW SAFETY GRATE SHALL BE PER MANUFACTURER'S INSTALLATION GUIDE PROVIDED ON THIS SHEET

FIGURE OS-1 ORIFICE PLATE AND TRASH RACK DETAILS AND NOTES
NTS

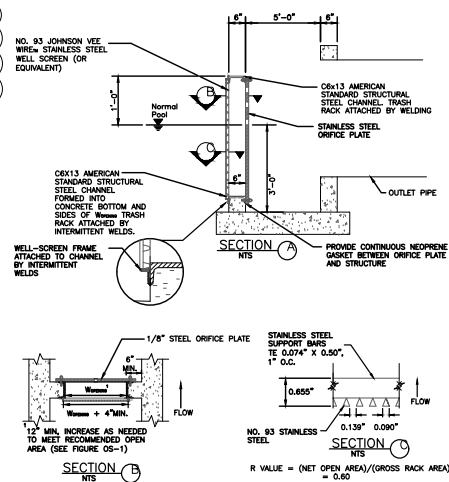


FIGURE OS-2 TYPICAL OUTLET STRUCTURE WITH WELL SCREEN TRASH RACK

REVISION



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DRAINAGE DESIGN NO. 03-200015-001-D
SURVEYING CERTIFICATE NO. MO-LS-200015-001-D

WHISPERING WOODS
LEE'S SUMMIT, JACKSON COUNTY, MO
STREET & STORM SEWER PLANS
POND OUTLET DETAIL

DESIGNED

BLG

DRAWN

JRT

SCALE

Noted

DATE

09-01-2017

ISSUED

04078

SHEET

32 OF 40

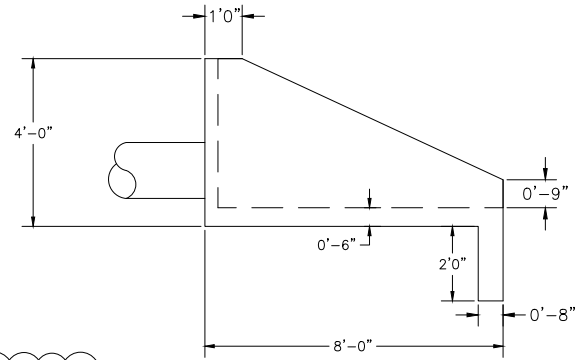
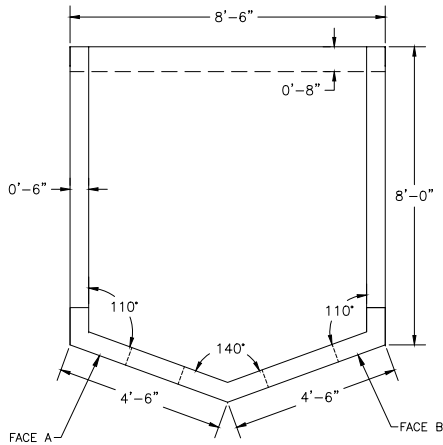
DATE: 08/01/2018
TITLE: WHISPERING WOODS, LEE'S SUMMIT, MO
JOB # 34078
DESIGN CONDITIONS: PUBLIC - 10 YEAR STORM EVENT

DESIGN CONDITIONS: PUBLIC - 10 YEAR STORM EVENT																																
STRUCTURES										RUNOFF CALCULATIONS										PIPE DESIGN												
FROM	TO	DIRECT AREA (ACRES)	TOTAL AREA (ACRES)	C	KC (K=1.18)	Ts (MIN)	FLOW TIME (MIN)	INTENSITY (IN/HR)	DESIGN Q (CFS)	DESCRIPTION	PIPE LENGTH (L.F.)	PIPE SLOPE (%)	PIPE DIA (IN)	Q FULL (CFS)	PIPE AREA (SQ.FT)	V FULL (FPS)	DESIGN V (FPS)	HW TOP ELEVATION	UPSTREAM FLOWLINE	DOWNSTREAM FLOWLINE	DOWNSTREAM WATER ELEVATION	FRICITION HEAD (F.T)	ENTRY LOSS COEFFICIENT (K)	ACTUAL ENTRY LOSS (F.T)	ENTRY LOSS (F.T)	h f + h r (F.T)	HGL TOE US	HW INLET CONTROL	HW OUTLET CONTROL	HYDRAULIC GRADE ELEV.	HYDRAULIC GRADE (MAU)	
H2		1.53	1.53	0.66	0.66	5.00	0.21	7.35	7.43	Flat curb	122.25	3.54	24	35.46	3.14	17.85	10.18	0.80	985.57	976.80	975.10	976.87	0.08	0.40	1.00	1.81	1.69	985.17	981.19	979.89	981.19	984.07
D2	C6-D1, H1	0.42	1.95	0.66	0.66	5.00	0.21	7.35	7.43	Curb inlet	122.25	3.54	24	35.46	3.14	17.85	10.18	0.80	985.57	976.80	975.10	976.87	0.08	0.40	1.00	1.81	1.69	985.17	981.19	979.89	981.19	984.07
E2	C6-D1, H1	0.42	1.95	0.66	0.66	5.00	0.21	7.35	7.43	Curb inlet	122.25	3.54	24	35.46	3.14	17.85	10.18	0.80	985.57	976.80	975.10	976.87	0.08	0.40	1.00	1.81	1.69	985.17	981.19	979.89	981.19	984.07
F2	C6-D1, H1	0.42	1.95	0.66	0.66	5.00	0.21	7.35	7.43	Curb inlet	122.25	3.54	24	35.46	3.14	17.85	10.18	0.80	985.57	976.80	975.10	976.87	0.08	0.40	1.00	1.81	1.69	985.17	981.19	979.89	981.19	984.07
C6-D1, H1	C7-E-1	1.12	7.21	0.66	0.66	5.00	0.31	7.35	7.43	Curb inlet	122.25	3.54	24	35.46	3.14	17.85	10.18	0.80	985.57	976.80	975.10	976.87	0.08	0.40	1.00	1.81	1.69	985.17	981.19	979.89	981.19	984.07
C7-E-1	C6	0.71	7.21	0.66	0.66	5.00	0.31	7.35	7.43	Curb inlet	122.25	3.54	24	35.46	3.14	17.85	10.18	0.80	985.57	976.80	975.10	976.87	0.08	0.40	1.00	1.81	1.69	985.17	981.19	979.89	981.19	984.07
C6	C4	0.30	8.40	0.66	0.66	5.00	0.30	7.35	7.43	Curb inlet	122.25	3.54	24	35.46	3.14	17.85	10.18	0.80	985.57	976.80	975.10	976.87	0.08	0.40	1.00	1.81	1.69	985.17	981.19	979.89	981.19	984.07
C6-F-1	C4	0.21	8.75	0.66	0.66	5.00	0.20	7.35	7.43	Curb inlet	122.25	3.54	24	35.46	3.14	17.85	10.18	0.80	985.57	976.80	975.10	976.87	0.08	0.40	1.00	1.81	1.69	985.17	981.19	979.89	981.19	984.07
C4	C3	0.40	9.31	0.66	0.66	5.00	0.30	7.35	7.43	Curb inlet	122.25	3.54	24	35.46	3.14	17.85	10.18	0.80	985.57	976.80	975.10	976.87	0.08	0.40	1.00	1.81	1.69	985.17	981.19	979.89	981.19	984.07
C3	C2	0.40	10.11	0.66	0.66	5.00	0.30	7.35	7.43	Curb inlet	122.25	3.54	24	35.46	3.14	17.85	10.18	0.80	985.57	976.80	975.10	976.87	0.08	0.40	1.00	1.81	1.69	985.17	981.19	979.89	981.19	984.07
C2	C1	0.00	10.11	0.66	0.66	5.00	0.30	7.35	7.43	Curb inlet	122.25	3.54	24	35.46	3.14	17.85	10.18	0.80	985.57	976.80	975.10	976.87	0.08	0.40	1.00	1.81	1.69	985.17	981.19	979.89	981.19	984.07
G5-E-1	G4	0.38	3.14	0.66	0.66	5.00	0.35	7.35	7.43	Curb inlet	122.25	3.54	24	35.46	3.14	17.85	10.18	0.80	985.57	976.80	975.10	976.87	0.08	0.40	1.00	1.81	1.69	985.17	981.19	979.89	981.19	984.07
G4	G3	0.31	3.45	0.66	0.66	5.00	0.35	7.35	7.43	Curb inlet	122.25	3.54	24	35.46	3.14	17.85	10.18	0.80	985.57	976.80	975.10	976.87	0.08	0.40	1.00	1.81	1.69	985.17	981.19	979.89	981.19	984.07
G3	G2	0.53	3.89	0.66	0.66	5.00	0.35	7.35	7.43	Curb inlet	122.25	3.54	24	35.46	3.14	17.85	10.18	0.80	985.57	976.80	975.10	976.87	0.08	0.40	1.00	1.81	1.69	985.17	981.19	979.89	981.19	984.07
G2	G1	0.00	4.04	0.66	0.66	5.00	0.15	7.35	7.43	Curb inlet	122.25	3.54	24	35.46	3.14	17.85	10.18	0.80	985.57	976.80	975.10	976.87	0.08	0.40	1.00	1.81	1.69	985.17	981.19	979.89	981.19	984.07
G1	A1	0.00	4.04	0.66	0.66	5.00	0.15	7.35	7.43	Curb inlet	122.25	3.54	24	35.46	3.14	17.85	10.18	0.80	985.57	976.80	975.10	976.87	0.08	0.40	1.00	1.81	1.69	985.17	981.19	979.89	981.19	984.07
A1	A2	1.82	1.82	0.66	0.66	5.00	0.11	7.35	7.43	Flat curb	122.25	3.54	24	35.46	3.14	17.85	10.18	0.80	985.57	976.80	975.10	976.87	0.08	0.40	1.00	1.81	1.69	985.17	981.19	979.89	981.19	984.07
A2	A1	0.50	1.82	0.66	0.66	5.00	0.11	7.35	7.43	Flat curb	122.25	3.54	24	35.46	3.14	17.85	10.18	0.80	985.57	976.80	975.10	976.87	0.08	0.40	1.00	1.81	1.69	985.17	981.19	979.89	981.19	984.07
A1-A2	A1-A1	0.50	0.50	0.66	0.66	5.00	0.30	7.35	7.43	FLG	106.80	1.81	18	14.44	1.77	10.44	5.96	0.72	985.93	984.44	982.50	985.36	0.04	0.40	1.00	0.56	0.59	984.86	985.82	984.4	985.52	984.70

DATE: 08/01/2018
TITLE: WHISPERING WOODS, LEE'S SUMMIT, MO
JOB # 34078
DESIGN CONDITIONS: PUBLIC - 10 YEAR STORM EVENT

DESIGN CONDITIONS: PUBLIC - 100 YEAR STORM EVENT										RUNOFF CALCULATIONS										PIPE DESIGN												
STRUCTURES																																
FROM	TO	DIRECT AREA (AC)	TOTAL AREA (AC)	C	KC (K=1.18)	Ts (MIN)	FLOW TIME (MIN)	INTENSITY (IN/HR)	DESIGN Q (CFS)	DESCRIPTION	PIPE LENGTH (L.F.)	PIPE SLOPE (%)	PIPE DIA (IN)	Q FULL (CFS)	PIPE AREA (SQ.FT)	V FULL (FPS)	DESIGN V (FPS)	THD	MT TOP ELEVATION	UPSTREAM FLOWLINE	DOWNSTREAM FLOWLINE	DOWNSTREAM WATER ELEVATION	FRICITION HEAD (F.T)	ENTRY LOSS COEFFICIENT (K)	ACTUAL ENTRY LOSS (F.T)	ENTRY LOSS (F.T)	h f + h r (F.T)	HGL PIPE US	HW INLET CONTROL	HW OUTLET CONTROL	HYDRAULIC GRADE ELEV.	HYDRAULIC GRADE (MAU)
H-1		1.53	1.53	0.66	0.66	5.00	0.18	10.32	13.03	24" HDPE	122.25	3.54	24	35.46	3.14	17.85	11.81	1.03	985.57	975.80	975.10	975.86	0.25	0.40	1.00	2.20	2.45	980.36	981.19	979.89	981.19	985.57
D-1	C6-D1, H-1	0.42	1.95	0.66	0.66	5.00	0.18	10.32	3.58	Corth pipe	247.5	8.63	18	40.23	1.77	22.97	11.86	0.75	982.16	975.00	972.00	975.00	0.82	0.40	1.00	2.14	2.14	975.34	976.15	975.15	976.15	982.16
E-1	C6-D1, H-1	0.43	1.95	0.66	0.66	5.00	0.20	10.32	4.51	Corth pipe	222.5	5.00	18	19.38	1.77	10.87	7.38	0.64	982.16	975.00	972.00	975.00	0.82	0.40	1.00	2.85	2.85	976.02	976.81	975.81	976.81	982.16
F-1	C6-D1, H-1	0.30	1.95	0.66	0.66	5.00	0.30	10.32	2.98	Corth pipe	87.5	1.58	18	12.27	1.77	8.77	4.34	0.75	982.16	975.00	972.00	975.00	0.82	0.40	1.00	2.31	0.35	984.81	985.32	984.29	985.32	982.16
C6-D1, H-1	C7-E-1	1.12	7.21	0.66	0.66	5.00	0.31	10.32	9.54	Corth pipe	250.0	2.79	36	145.2	7.07	20.54	15.86	1.54	982.16	989.00	992.01	987.24	1.06	0.40	1.00	1.56	0.66	970.52	971.63	970.63	971.63	982.16
C7-E-1	C6	0.71	8.40	0.66	0.66	5.00	0.30	10.32	6.05	Corth pipe	36.75	1.23	36	92.03	7.07	13.02	11.35	1.83	972.69	981.90	981.20	981.90	0.21	0.40	0.80	1.01	0.66	984.84	985.73	984.73	985.73	972.69
C6	C4	0.30	8.75	0.66	0.66	5.00	0.20	10.32	2.95	Corth pipe	106.68	2.33	36	126.91	7.07	13.02	11.35	1.91	972.69	981.90	981.20	981.90	0.21	0.40	0.80	1.14	0.21	982.98	986.73	984.4	986.73	972.69
C6-F-1	C4	0.21	8.75	0.66	0.66	5.00	0.10	10.32	1.79	Corth pipe	45.52	0.66	42	106.84	9.62	11.07	9.59	1.31	981.50	957.00	956.70	957.00	0.19	0.40	0.50	0.71	0.14	981.92	981.96	982.00	982.00	981.50
C4	C3	0.40	9.31	0.66	0.66	5.00	0.30	10.32	3.41	Corth pipe	30.75	0.57	42	106.84	9.62	10.29	9.00	1.37	980.74	956.50	956.30	956.50	0.17	0.15	0.40	0.50	0.62	980.60	981.29	981.29	981.29	980.74
C3	C2	0.40	10.11	0.66	0.66	5.00	0.30	10.32	3.41	Corth pipe	176.63	0.51	48	133.72	12.67	10.80	8.99	1.06	980.74	955.80	955.60	955.80	0.28	0.40	0.50	0.78	0.68	980.67	982.02	980.1	982.02	980.74
C2	C1	0.00	10.11	0.66	0.66	5.00	0.25	10.32	0.90	Corth pipe	284.05	0.46	48	128.92	12.67	10.10	8.91	1.06	980.74	955.80	955.60	955.80	0.26	0.50	0.50	0.58	0.78	980.67	982.02	980.1	982.02	980.74
G5-E-1	G4	0.38	3.14	0.66	0.66	5.00	0.35	10.32	3.97	Corth pipe	330.30	2.42	24	45.86	3.14	14.81	12.18	1.95	991.88	977.40	989.40	977.40	2.45	0.40	0.40	0.92	0.37	978.65	981.30	977.4	981.30	991.88
G4	G3	0.31	3.45	0.66	0.66	5.00	0.40	10.32	2.84	Corth pipe	34.71	1.17	24	31.98	3.14	15.15	8.44	1.16	988.38	989.10	993.70	989.10	0.28	0.40	0.40	0.46	0.76	973.65	981.34	977.4	981.34	988.38
G3	G2	0.53	3.89	0.66	0.66	5.00	0.40	10.32	4.51	Corth pipe	78.42	5.87	24	14.44	3.14	22.28	16.02	2.64	978.38	989.00	994.00	989.00	0.48	0.40	0.40	2.02	0.91	988.08	988.78	988.0	988.78	978.38
G2	G1	0.00	4.04	0.66	0.66	5.00	0.15	10.32	0.51	Corth pipe	135.32	3.77	36	71.68	3.74	23.74	18.13	0.54	974.44	980.90	985.70	980.90	0.88	0.40	0.40	1.20	1.60	981.81	983.61	980.0	983.61	974.44
G1	A1	0.00	4.04	0.66	0.66	5.00	0.15	10.32	0.51	Corth pipe	135.32	3.77	36	71.68	3.74	23.74	18.13	0.54	974.44	980.90	985.70	980.90	0.88	0.40	0.40	1.20	1.60	981.81	983.61	980.0	983.61	974.44
A1	A2	0.00	4.04	0.66	0.66	5.00	0.15	10.32	0.51	Corth pipe	42.30	0.47	42	106.84	9.62	11.42	8.13	0.79	980.81	954.20	953.80	954.20	0.40	0.40	0.40	0.41	0.44	958.54	958.56	958.7	958.56	980.81
A2	A3	1.24	1.24	0.66	0.66	5.00	0.08	10.32	10.56	12" HDPE	40.30	0.58	15	64.1	1.23	5.33	6.81	3.03	955.85	954.19	955.84	954.19	0.69	0.40	1.00	1.15	1.84	958.18	958.96	959.3	958.96	955.85
A3	A2	0.62	1.86	0.66	0.66	5.00	0.10	10.32	5.29	Corth pipe	22.20	2.30	34	88.02	5.14	21.05	14.54	1.12	959.70	955.15	955.30	955.15	0.89	0.40	0.50	1.44	0.56	957.69	957.68	957.4	957.68	959.70
A1-2	A1-1	0.80	0.80	0.66	0.66	5.00	0.25	10.32	4.28	PEP	108.90	1.81	18	14.84	1.77	10.44	7.35	0.89	955.23	954.44	952.30	954.20	0.11	0.40	1.00	0.78	0.87	955.00	955.65	954.44	955.65	955.23

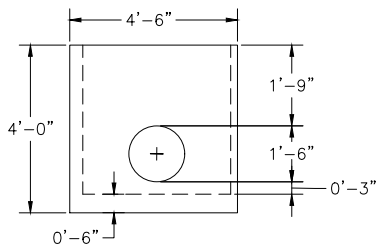
PRE-CAST END SECTION DETAILS – STORM LINE A & STORM LINE A1

**RECORD DRAWING**

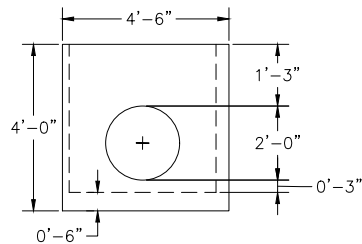
NOVEMBER 2022

PER CONTRACTOR PROVIDED INFORMATION THIS RECORD DEPICTS THE WORK CONSTRUCTED AS IN GENERAL CONFORMANCE WITH REGARDS TO SIZE, HORIZONTAL AND VERTICAL LOCATION, AND GRADE AS SHOWN ON THE APPROVED CONSTRUCTION DRAWINGS OR THEIR REVISION. THE WORK WAS DONE IN ACCORDANCE WITH THESE RECORDS AND THE CURRENT VERSION OF THE STANDARDS AND SPECIFICATIONS.

FACE A – 18" RCP (STM LINE A1)



FACE B – 24" HDPE (STM LINE A)

**NOT AS-BUILT**

NOVEMBER 2022

Record Drawing

NOTE
SHOP DRAWINGS SHALL BE
SUBMITTED TO DESIGN ENGINEER
FOR APPROVAL.

REVISION



PHOENIX ENGINEERING & SURVEYING, LLC
 3801 CENTRAL BLVD
 SUITE 100
 MOBILE, AL 36688
 (810) 748-0000 FAX (810) 748-0700
 ENGINEERING CERTIFICATE NO. MO-05-200015002-D
 SURVEYING CERTIFICATE NO. MO-05-200015002-D
 AS E-043
 AS LS-158

WHISPERING WOODS
 †
 LEE'S SUMMIT, JACKSON COUNTY, MO
 STREET & STORM SEWER PLANS
 STRUCTURE A-1 DETAILS

DESIGNED

BLG

DRAWN

BLG

SCALE

Notes

DATE

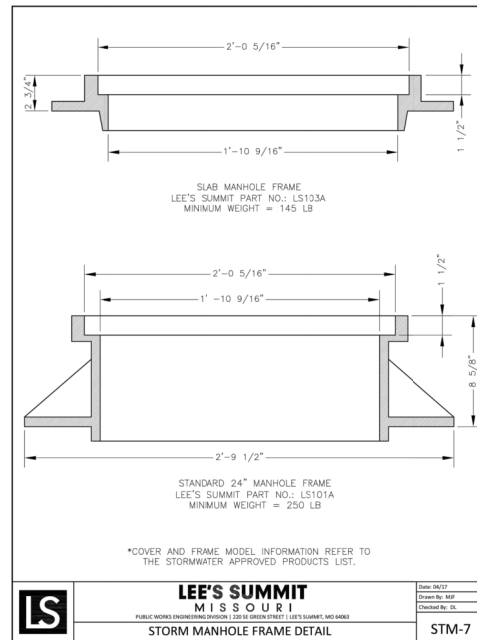
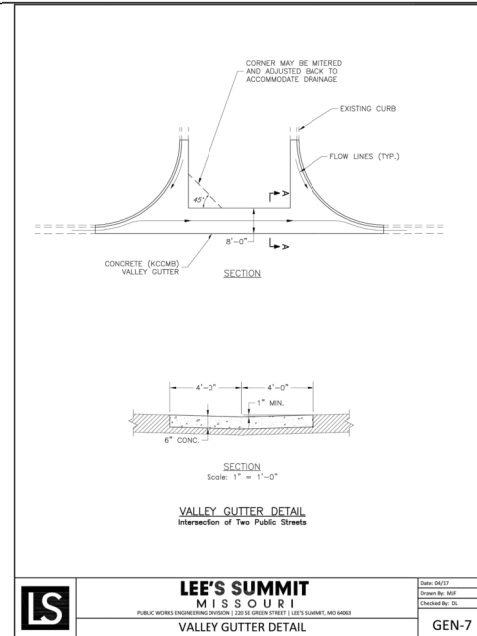
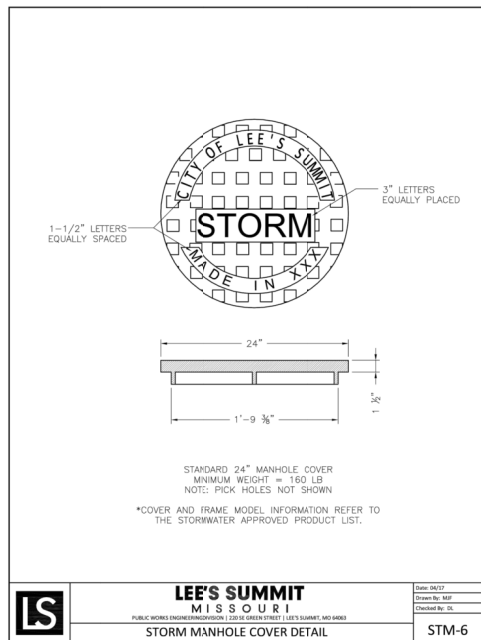
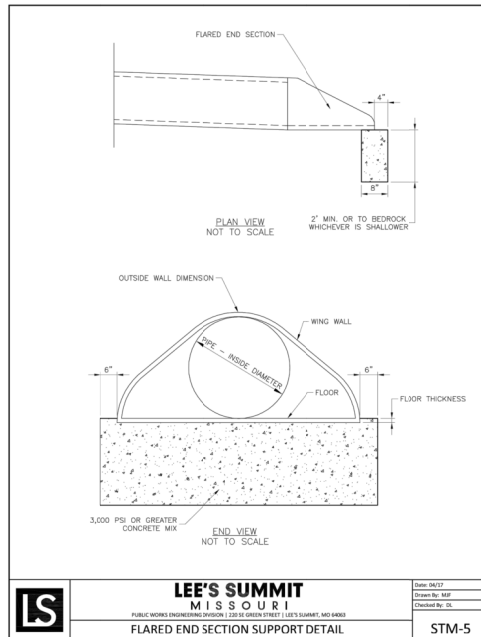
09-01-2017

JOB NO.

04078

SHEET

35 OF 40



RECORD DRAWING

PER CONTRACTOR PROVIDED INFORMATION THIS RECORD DEPICTS THE WORK CONSTRUCTED AS IN GENERAL CONFORMANCE WITH REGARDS TO SIZE, HORIZONTAL AND VERTICAL LOCATION, AND GRADE AS SHOWN ON THE APPROVED CONSTRUCTION DRAWINGS OR THEIR REVISION. THE WORK WAS DONE IN ACCORDANCE WITH THESE RECORDS AND THE CURRENT VERSION OF THE STANDARDS AND SPECIFICATIONS.

NOT AS-BUILT
NOVEMBER 2022

Record Drawing

REVISION



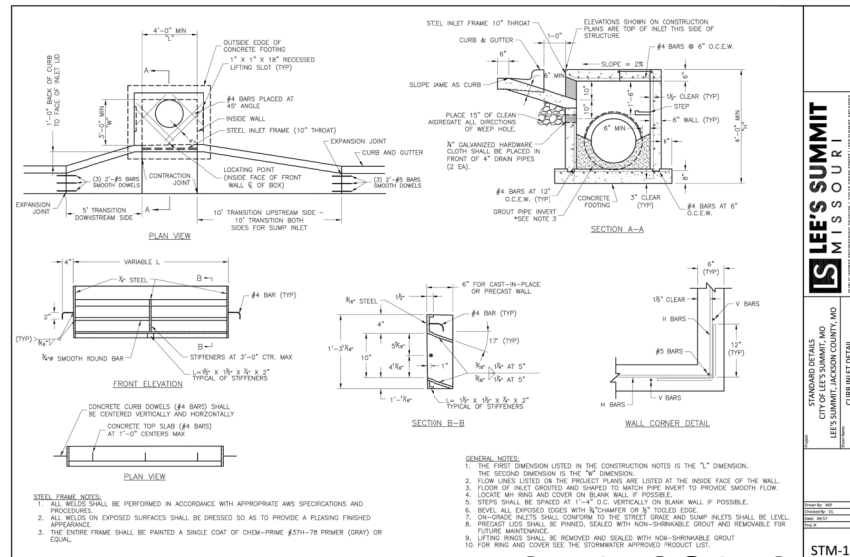
PHOENIX ENGINEERING & SURVEYING, LLC

3838 E. 12TH AVE., SUITE 100
DENVER, CO 80202
(303) 748-0000 FAX (303) 748-0700
ENGINEERING CERTIFICATE NO. MO-LS-200015002-D
SURVEYING CERTIFICATE NO. MO-S-200015002-D

WHISPERING WOODS
LEE'S SUMMIT, JACKSON COUNTY, MO
STREET & STORM SEWER PLANS
STREET & STORM DETAILS

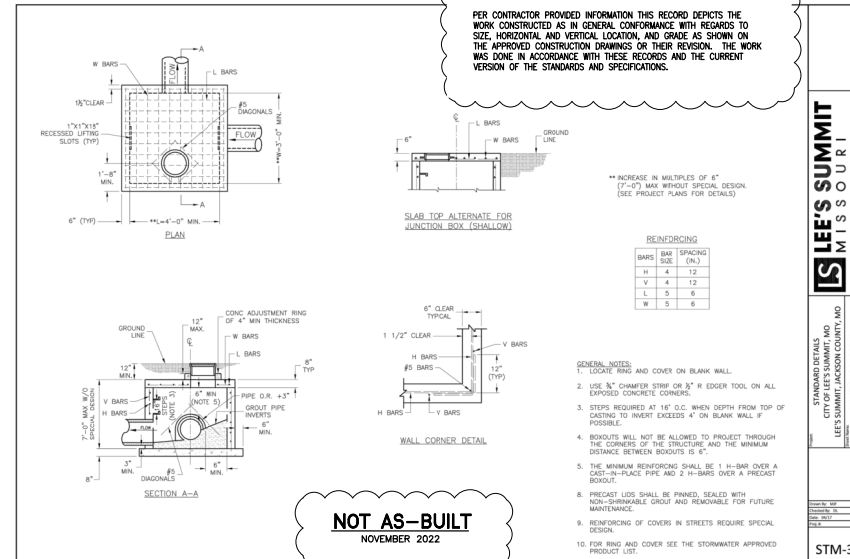
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09-01-2017
JOB NO.
04078
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RECORD DRAWING
NOVEMBER 2022

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NOVEMBER 2022

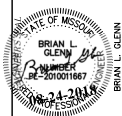
WHISPERING WOODS

LEE'S SUMMIT, JACKSON COUNTY, MO
STREET & STORM SEWER PLANS
STREET & STORM DETAILS

DESIGNED	BLG
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SCALE	Noted
DATE	09-01-2017
JOB NO.	04078
SHEET	

37 ^{SHEET} OF 40

REVISION



PHOENIX ENGINEERING
& SURVEYING, LLC

THE SEAL(S) AND SIGNATURE(S) APPLY ONLY TO THE DOCUMENT TO WHICH THEY ARE AFFIXED, AND EXPRESSLY DISCLAIM ANY RESPONSIBILITY FOR ALL OTHER PLANS, SPECIFICATIONS, ESTIMATES, REPORTS, OR OTHER DOCUMENTS OR INSTRUMENTS RELATING TO OR INTENDED TO BE USED FOR ANY PART OR PARTS OF THE ENGINEERING OR SURVEYING PROJECT.

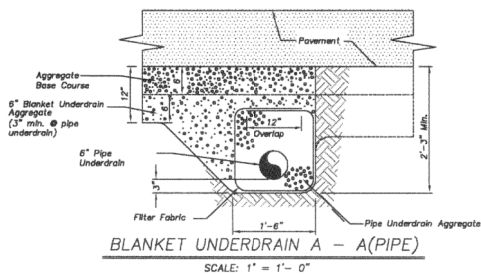
INDEPENDENCE, MD 20632
(816) 743-9000 FAX: (816) 743-9700
ENGINEERING CERTIFICATE NO: MO E-2000151302-D KS: E-853
SURVEYING CERTIFICATE NO: MO LS-2000151303-D KS: LS-138

PHOENIX ENGINEERING & SURVEYING LLC - 2018

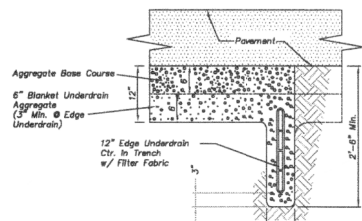
RECORD DRAWING

NOVEMBER 2022

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Record Drawing**BLANKET UNDERDRAIN A - A(PIPE)**

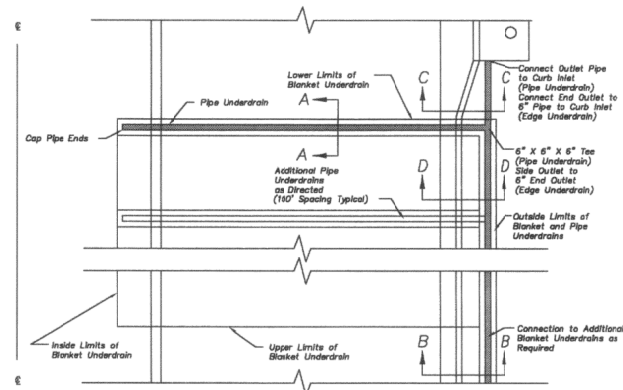
SCALE: 1" = 1'-0"

**BLANKET UNDERDRAIN A - A(EDGE)**

SCALE: 1" = 1'-0"

NOT AS-BUILT

NOVEMBER 2022

**UNDERDRAIN LAYOUT**

Scale 1"=5'

Underdrain Notes:

1. All roadway excavation in rock will be undercut no less than 15" for the full width of the roadway as shown.
2. In areas where underdrains are not required, undercut and overbreakage in limestone and shale shall be brought to within 6" of the subgrade line with properly compacted crushed stone, shot rock, and/or rock rubble. The remaining 6" shall conform to Standard Specifications Section 2202.
3. Layers of earth or shale shall not be permitted for backfill up to the bottom of the crushed stone.
4. A minimum of 12" of select soil (topsoil) shall be placed on exposed rock cut or fill slopes outside the limits of the roadway. All rock and shale slopes shall be benched @ maximum 2" vertical intervals prior to placement of select soil.
5. Proposed underdrain pipe layout, flowline elevations, inlet connection points, and details shall be approved prior to construction by the City Engineer.
6. Where pipe underdrains are used, all underdrain outlet pipes shall be solid wall with watertight joints. All outlet pipes shall be tied into the nearest storm sewer inlet as approved. Where edge underdrains are used, all underdrain outlet pipes shall be solid wall with manufacturer joints approved by the City Engineer. All connections between pipes and edge connectors or curb inlets shall be made with 2' minimum length of pipe.
7. All underdrain pipes shall be installed at a minimum slope of 1%. Underdrain pipe shall be installed with the perforations placed down.
8. Blanket underdrains shall be placed on bedrock unless otherwise directed by the City Engineer. Undercut and overbreakage in limestone and shale shall be brought to within 12" of the subgrade line with properly compacted crushed stone, shot rock and/or rock rubble.
9. All filter fabric used for pipe underdrain construction shall conform to Standard Specifications Section 2203.6
10. The Contractor may, at his option, use either pipe underdrain or edge underdrain, but shall not mix underdrain types within any underdrain system.
11. All edge underdrain shall be held in the center of the trench by mechanical methods while placing granular backfill. See detail this sheet. Alternate methods may be used with prior approval by the City Engineer.
12. Blanket underdrain aggregate, pipe underdrain aggregate, pipe underdrain, edge underdrain and outlet pipe shall conform to Standard Specifications Section 2203.6

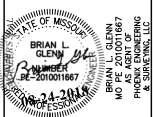
AMERICAN PUBLIC WORKS ASSOCIATION

KANSAS CITY
METROPOLITAN CHAPTER

UNDERDRAIN DETAILS

STANDARD DRAWING
UD-1ADOPTED:
MAY 23, 2001

REVISION


**PHOENIX ENGINEERING
& SURVEYING, LLC**
 3801 S. CENTRAL AVE.
 SUITE 100, MOBILE, AL 36688
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 ENGINEERING CERTIFICATE NO. MO-05-200015002-D
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WHISPERING WOODS

 LEE'S SUMMIT, JACKSON COUNTY, MO
 STREET & STORM SEWER PLANS
 UNDERDRAIN DETAILS

 DESIGNED
 B.L.G.
 DRAWN
 B.L.G.
 SCALE
 NOTED
 DATE
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 JOB NO.
 04078
 SHEET

39 OF 40

