

SECTION 2, TOWNSHIP 47 N, RANGE 32 W  
IN LEE'S SUMMIT, JACKSON COUNTY, MO

Sheet List Table

## PROJECT TEAM & UTILITY CONTACT LIST

OWNER / DEVELOPER  
CLAYTON PROPERTIES GROUP, LLC, DBA  
SUMMIT HOMES  
120 SE 30TH STREET  
LEE'S SUMMIT, MO 64082  
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FAX: 816.246.2662

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NAME: DEVELOPMENT SERVICES  
PHONE: 816-969-1200

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

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

**ENGINEER**  
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1301 BURLINGTON, SUITE 100  
NORTH KANSAS CITY, MO 64116  
CONTACT: JULIE E SELLERS, P.E.  
PHONE: 816.361.1177

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

NAME: EVERGY  
PHONE: 816-471-5275

SURVEYOR  
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NORTH KANSAS CITY, MO 64116  
CONTACT: JASON ROUDEBUSH, PLS  
PHONE: 816.361.1177

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

NAME: GOOGLE FIBER  
PHONE: 877-454-6959

GEOTECHNICAL ENGINEER  
OLSSON  
1700 E. 123RD ST. OLATHE, KS 66061  
CONTACT: JAMES LANDRUM  
PHONE: 816.829.0078



Part of Lot 3B, WEST VILLAGE COMMERCIAL DEVELOPMENT, LOTS 3A AND 3B, a subdivision recorded as Instrument Number 19E0018413 in Book 1182 at Page 62 in Jackson County Recorder of Deeds Office located in the Northeast and Southeast Quarter of Section 2, Township 47 North, Range 32 West of the 5th Principal Meridian in Lee's Summit, Jackson County, Missouri being bounded and described by or under the direct supervision of Jason S Roudsbaugh, P.L.S. 2002014092 as follows: Commencing at the Southeast corner of said Southeast Quarter; thence North 87°47'03" West, on the South line of said Southeast Quarter 2,633.21 feet to the Southwest corner of said Southeast Quarter; thence North 03°05'41" East, on the West line of said Southeast Quarter, 1,326.38 feet to the Southwest corner of said Lot 3B, also being the Southwest corner of the North half said Southeast Quarter, also being a point on the Easterly line of STERLING HILLS 5TH PLAT, a subdivision in said Lee's Summit recorded as Instrument Number 11273788 in Book 154 at Page 88 in said Jackson County Recorder of Deeds Office, also being the Southwest corner of proposed WOODSIDE RIDGE 1st Plat, Lots 1 thru 143 inclusive, and Tracts A, B, C, D, E, F, G and H; thence North 03°05'41" East on said West line and said Easterly line, also being the West line of said Lot 3B, also being the Westerly line of proposed WOODSIDE RIDGE 1ST PLAT, LOTS 1 thru 143 inclusive, and Tracts A, B, C, D, E, F, G and H, 389.26 feet to the Point of Beginning of the tract of land to be herein described; thence leaving said proposed Westerly line, continuing North 03°05'41" East on said West lines and said Easterly lines, 936.61 feet to the Northeast corner of said STERLING HILLS 5TH PLAT, also being a point on the Easterly line of WINTERSET WOODS - 3RD PLAT, a subdivision in said Lee's Summit recorded as Instrument Number 200310002463 in Book 174 at Page 14 in said Jackson County Recorder of Deeds Office, also being the Northwest corner of said Southeast Quarter; thence North 03°26'14" East, on said South line of said Lot 3B, said Easterly line and West line of said Northeast Quarter, 665.72 feet the Northeast corner of the South half of said South Half of said Northeast Quarter, also being the Northeast corner of said Lot 3B, also being the Northeast corner of said WINTERSET WOODS - 3RD PLAT, also being a point on the Southerly line of BROOKRIDGE ESTATES - SECOND PLAT LOTS 39-84, a subdivision in said Lee's Summit recorded as Instrument Number 1802804 in Book 144 at Page 57 in said Jackson County Recorder of Deeds Office; thence South 87°37'42" East, along said Southerly line, also along the North line of said Lot 3B, also being the North line of said South Half of said South Half of said Northeast Quarter, also being the South line of THE FOREST OF BROOKRIDGE ESTATES - THIRD PLAT, LOTS 117 - 133, a distance of 1,210.45 feet to the Southeast corner of said THE FOREST OF BROOKRIDGE ESTATES - THIRD PLAT LOTS 117 - 133 and to a point on said proposed Westerly line; thence South 87°37'42" East on said North line of said South Half of said South Half, said North line of said Lot 3B, and said proposed Westerly line, 574.95 feet; thence leaving said North lines, South 20°32'36" West, along said proposed Westerly line, 229.10 feet; thence Westerly, along said proposed Westerly line, on a curve to the left, having an initial tangent bearing of North 69°27'24" West with a radius of 425.00 feet, a central angle of 00°42'29" and an arc distance of 5.25 feet; thence South 19°50'07" West, along said proposed Westerly line 178.42 feet; thence South 85°52'23" West, along said proposed Westerly line, 130.41 feet; thence South 70°59'24" West, along said proposed Westerly line, 137.47 feet; thence South 61°49'26" West, along said proposed Westerly line, 951.56 feet; thence South 21°24'31" West, along said proposed Westerly line, 135.10 feet; thence Westerly, along said proposed Westerly line, along a curve to the left having an initial tangent bearing of North 68°35'29" West with a radius of 275.00 feet, a central angle of 12°33'32" and an arc distance of 60.28 feet; thence South 08°50'59" West, along said proposed Westerly line, 50.00 feet; thence South 22°12'04" West, along said proposed Westerly line, 173.03 feet; thence North 75°51'31" West, along said proposed Westerly line, 21.43 feet; thence South 41°11'03" West, along said proposed Westerly line, 60.06 feet; thence South 29°55'27" West, along said proposed Westerly line, 306.11 feet; thence South 85°54'26" West, along said proposed Westerly line, 236.75 feet to the Point of Beginning. Containing 1,514,368 square feet or 34.77 acres, more or less.

BMK #5 CHISELED SQUARE ON THE S.E. CORNER OF A CONCRETE PAD FOR A TRAFFIC SIGNAL BOX AT THE S.W. CORNER OF PRYOR ROAD AND O'BRIEN ROAD.

ELEVATION: 979.24

OLSSON HAS BEEN RETAINED TO PROVIDE AS-BUILT DRAWINGS FOR THIS PROJECT.

JULIE E SELLERS, P.E.  
CIVIL ENGINEER  
MO# 2017000367

3/23/21

---

DATE



STATE OF MISSOURI  
JULIE ELAINE  
SELLERS  
NUMBER  
PE-2017000367  
3/23/21  
PROFESSIONAL ENGINEER

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COVER SHEET  
STREET & STORM SEWER PLANS

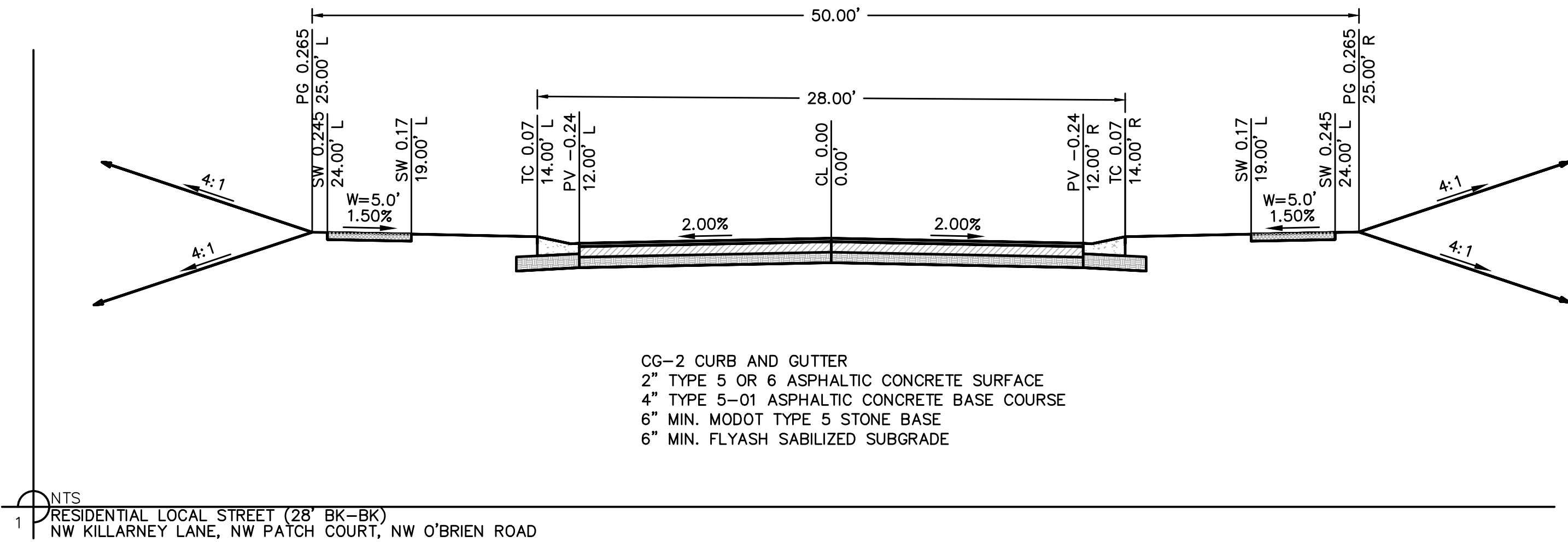
WOODSIDE RIDGE  
SECOND PLAT

LEE'S SUMMIT, MO

drawn by: C.S.M  
checked by: S.M.S  
designed by: C.S.M  
QA/QC by: J.E.S  
project no.: C18-1140  
date: 2020.06.09

SHEET  
C101

11. P.O.S= PROPOSED OPEN SPACE.



| STORM |                                 |      |         |  |
|-------|---------------------------------|------|---------|--|
| 18    | STD. CURB INLET (5'x3' INSIDE)  | EA.  | 12      |  |
| 19    | STD. MANHOLE (4' DIA. INSIDE)   | EA.  | 7       |  |
| 20    | STD. FIELD INLET (4'x4' INSIDE) | EA.  | 2       |  |
| 21    | 15" HPDE                        | L.F. | 1310.46 |  |
| 22    | 18" HDPE                        | L.F. | 582.72  |  |
| 23    | 18" RCP                         | L.F. | 181.03  |  |
| 24    | 24" HDPE                        | L.F. | 283.67  |  |
| 25    | 15" HDPE END SECTION            | EA.  | 2       |  |
| 26    | 18" HDPE END SECTION            | EA.  | 5       |  |
| 27    | 24" HDPE END SECTION            | EA.  | 1       |  |
| 28    | RIP-RAP                         | S.Y. | 162     |  |

|                    |                                           |
|--------------------|-------------------------------------------|
| ECV <del>OH</del>  | EXISTING CABLE TV, OVERHEAD               |
| ECV                | EXISTING CABLE TV, UNDERGROUND            |
| CTV <del>OH</del>  | PROPOSED CABLE TV, OVERHEAD               |
| CTV                | PROPOSED CABLE TV, UNDERGROUND            |
| FCV <del>OH</del>  | FUTURE CABLE TV, OVERHEAD                 |
| FCV                | FUTURE CABLE TV, UNDERGROUND              |
| EF <del>OH</del>   | EXISTING FIBER OPTIC, OVERHEAD            |
| EF                 | EXISTING FIBER OPTIC, UNDERGROUND         |
| F <del>OH</del>    | PROPOSED FIBER OPTIC, OVERHEAD            |
| F                  | PROPOSED FIBER OPTIC, UNDERGROUND         |
| FF <del>OH</del>   | FUTURE FIBER OPTIC, OVERHEAD              |
| FF                 | FUTURE FIBER OPTIC, UNDERGROUND           |
| FP                 | EXISTING FIRE PROTECTION SYSTEM LINE      |
| FP                 | PROPOSED FIRE PROTECTION SYSTEM LINE      |
| FFP                | FUTURE FIRE PROTECTION SYSTEM LINE        |
| EFL                | EXISTING FUEL LINE                        |
| FL                 | PROPOSED FUEL LINE                        |
| FFL                | FUTURE FUEL LINE                          |
| EG                 | EXISTING NATURAL GAS LINE                 |
| G                  | PROPOSED NATURAL GAS LINE                 |
| FG                 | FUTURE NATURAL GAS LINE                   |
| ETEL <del>OH</del> | EXISTING TELEPHONE LINE, OVERHEAD         |
| ETEL               | EXISTING TELEPHONE LINE, UNDERGROUND      |
| TEL <del>OH</del>  | PROPOSED TELEPHONE LINE, OVERHEAD         |
| TEL                | PROPOSED TELEPHONE LINE, UNDERGROUND      |
| FTEL <del>OH</del> | FUTURE TELEPHONE LINE, OVERHEAD           |
| FTEL               | FUTURE TELEPHONE LINE, UNDERGROUND        |
| EE <del>OH</del>   | EXISTING POWER/ELECTRIC LINE, OVERHEAD    |
| EE                 | EXISTING POWER/ELECTRIC LINE, UNDERGROUND |
| EOH                | PROPOSED POWER/ELECTRIC LINE, OVERHEAD    |
| E                  | PROPOSED POWER/ELECTRIC LINE, UNDERGROUND |
| FE <del>OH</del>   | FUTURE POWER/ELECTRIC LINE, OVERHEAD      |
| FE                 | FUTURE POWER/ELECTRIC LINE, UNDERGROUND   |
| ESS                | EXISTING SANITARY SEWER                   |
| SS                 | PROPOSED SANITARY SEWER                   |
| FSS                | FUTURE SANITARY SEWER                     |
| ESL                | EXISTING STEAM LINE                       |
| SL                 | PROPOSED STEAM LINE                       |
| FSL                | FUTURE STEAM LINE                         |
| ES <del>W</del>    | EXISTING STORM SEWER                      |
| ST                 | PROPOSED STORM SEWER                      |
| FST                | FUTURE STORM SEWER                        |
| EW                 | EXISTING WATER LINE                       |
| W                  | PROPOSED WATER LINE                       |
| FW                 | FUTURE WATER LINE                         |

SHEET  
C102

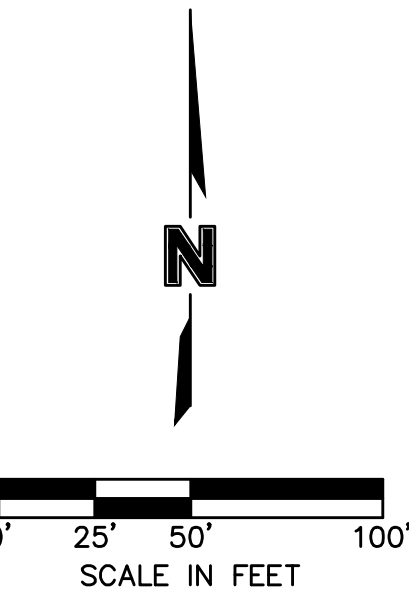
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**olson**

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NO. 00182  
JULIE ELAINE SELLERS  
PE-2017000367  
32321  
PROFESSIONAL

BY: [Signature]  
NO. REV. DATE  
REVISIONS DESCRIPTION  
2020  
GENERAL LAYOUT  
STREET & STORM SEWER PLANS  
WOODSIDE RIDGE  
SECOND PLAT  
LEE'S SUMMIT, MO  
SHEET C105



STATE OF MISSOURI  
JULIE ELAINE  
SELLERS  
NUMBER  
PE-2017000367  
3/23/21  
PROFESSIONAL ENGINEER

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KEY MAP

GENERAL NOTES:

1. CONTRACTOR SHALL ADHERE TO THE "DESIGN AND CONSTRUCTION MANUAL" SECTION 2100 AS ADOPTED BY THE CITY OF LEE'S SUMMIT (LATEST EDITION), FOR EXCAVATION AND EMBANKMENT WORK WITHIN THE PROPOSED RIGHT-OF-WAY.
2. AREAS OF CONSTRUCTION SHALL BE STRIPPED OF ALL VEGETATION, ORGANIC MATTER AND TOPSOIL TO A DEPTH AS RECOMMENDED BY GEOTECHNICAL ENGINEER AND OR TESTING AGENCY. SOILS REMOVED DURING SITE STRIPPING SHOULD BE EVALUATED TO DETERMINE IF PORTIONS OF THE TOPSOIL STRATUM MAY BE UTILIZED AS STRUCTURAL FILL WITHIN PAVEMENT AREAS. ANY MATERIAL NOT DEEMED AS SUITABLE FILL MATERIAL BY THE GEOTECHNICAL ENGINEER AND OR TESTING AGENCY SHALL BE REMOVED FROM THE JOB SITE BY THE CONTRACTOR AT HIS EXPENSE.
3. ALL EMBANKMENT OUTSIDE OF RIGHT-OF-WAY SHOULD BE PLACED IN CONTROLLED LIFTS HAVING A MAXIMUM LOOSE LIFT THICKNESS OF 8". EMBANKMENT SHOULD BE COMPACTED TO A MINIMUM OF 95% OF THE MATERIALS MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D-698 (STANDARD PROCTOR COMPACTION). MOISTURE CONTENT OF THE FILL AT THE TIME OF COMPACTION SHALL BE WITHIN A RANGE OF -0 TO +4 PERCENT OF OPTIMUM MOISTURE CONTENT.

| LEGEND |                                |
|--------|--------------------------------|
| -100-  | EXISTING INDEX CONTOURS        |
| -100   | EXISTING INTERMEDIATE CONTOURS |
| -100   | PROPOSED INDEX CONTOURS        |
| -100   | PROPOSED INTERMEDIATE CONTOURS |

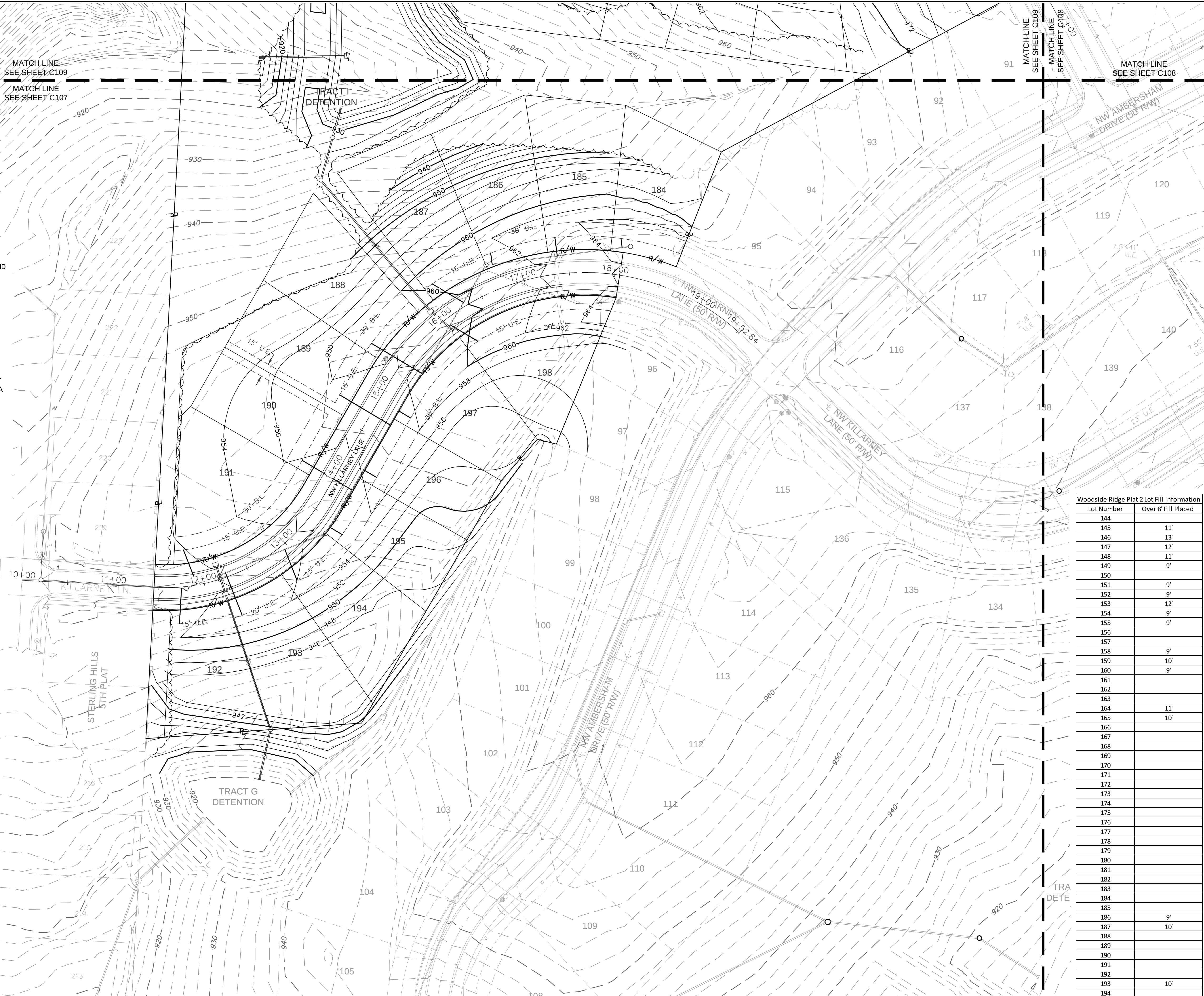
| EARTHWORK QUANTITIES |            |             |
|----------------------|------------|-------------|
| LOCATION             | CUT (C.Y.) | FILL (C.Y.) |
| STREET               | 8049       | 7968        |
| SITE                 | 52613      | 83489       |
| TOTAL                | 60662      | 91457       |

EARTHWORK QUANTITIES NOTES:

1. EARTHWORK QUANTITIES BASED ON FINISHED GRADE SURFACE AND DO NOT INCLUDE ADJUSTMENTS FOR TOPSOIL AND SHRINKAGE.
2. EARTHWORK QUANTITIES DO NOT TAKE INTO CONSIDERATION EXCAVATION, REMOVAL AND DISPOSAL OF MATERIAL DEEMED UNSUITABLE BY A GEOTECHNICAL ENGINEER. THE EARTHWORK CONTRACTOR IS RESPONSIBLE FOR EXCAVATION, REMOVAL AND DISPOSAL OF UNSUITABLE MATERIAL AND FOR REPLACING IT WITH SUITABLE MATERIAL.
- THIRD PARTY TESTING REQUIRED FOR DETENTION BASIN IN TRACT E:
  1. REMOVE TOPSOIL AND ORGANIC DIRT FROM THE AREA
  2. PROOF ROLL TO CHECK THE SUBGRADE
  - 2.1. REMOVE OR REPAIR ANY UNSTABLE AREA IN ACCORDANCE WITH THIRD-PARTY TESTER
3. PLACE 9" LOOSE LIFTS OF 9" MATERIAL WITH LL=50 AND PI=25 OR GREATER. EMBANKMENT SHOULD BE COMPACTED TO A MINIMUM OF 95% OF THE MATERIALS MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D-698 (STANDARD PROCTOR COMPACTION). MOISTURE CONTENT OF THE FILL AT THE TIME OF COMPACTION SHALL BE WITHIN A RANGE OF -0 TO +4 PERCENT OF OPTIMUM MOISTURE CONTENT.



0 25' 50' 100'  
SCALE IN FEET



| Woodside Ridge Plat 2 Lot Fill Information |                     |
|--------------------------------------------|---------------------|
| Lot Number                                 | Over 8' Fill Placed |
| 144                                        |                     |
| 145                                        | 11'                 |
| 146                                        | 13'                 |
| 147                                        | 12'                 |
| 148                                        | 11'                 |
| 149                                        | 9'                  |
| 150                                        |                     |
| 151                                        | 9'                  |
| 152                                        | 9'                  |
| 153                                        | 12'                 |
| 154                                        | 9'                  |
| 155                                        | 9'                  |
| 156                                        |                     |
| 157                                        |                     |
| 158                                        | 9'                  |
| 159                                        | 10'                 |
| 160                                        | 9'                  |
| 161                                        |                     |
| 162                                        |                     |
| 163                                        |                     |
| 164                                        | 11'                 |
| 165                                        | 10'                 |
| 166                                        |                     |
| 167                                        |                     |
| 168                                        |                     |
| 169                                        |                     |
| 170                                        |                     |
| 171                                        |                     |
| 172                                        |                     |
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| 176                                        |                     |
| 177                                        |                     |
| 178                                        |                     |
| 179                                        |                     |
| 180                                        |                     |
| 181                                        |                     |
| 182                                        |                     |
| 183                                        |                     |
| 184                                        |                     |
| 185                                        |                     |
| 186                                        | 9'                  |
| 187                                        | 10'                 |
| 188                                        |                     |
| 189                                        |                     |
| 190                                        |                     |
| 191                                        |                     |
| 192                                        |                     |
| 193                                        | 10'                 |
| 194                                        |                     |
| 195                                        |                     |
| 196                                        |                     |
| 197                                        |                     |
| 198                                        |                     |

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NOT A SEAL OF ANY AGENCY OF MISSOURI  
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WWW.OLSSON.COM

STATE OF MISSOURI  
JULIE ELAINE  
SELLERS  
NUMBER  
FE-2017000367  
3/23/21  
PROFESSIONAL

BY  
NO. REV.  
DATE  
REVISIONS DESCRIPTION

GRADING PLAN  
STREET & STORM SEWER PLANS  
WOODSIDE RIDGE  
SECOND PLAT  
LEE'S SUMMIT, MO

2020

SHEET  
C107

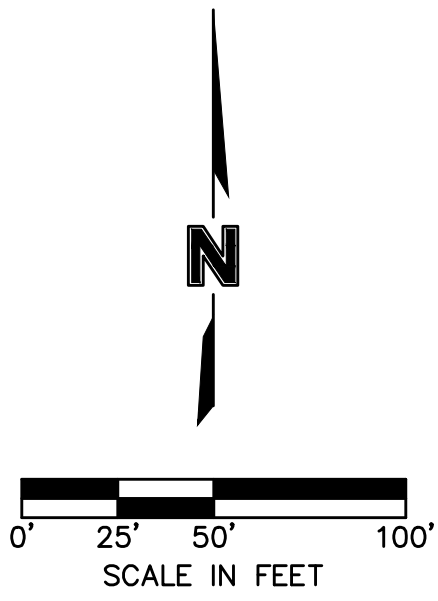
drawn by: C.S.M.  
checked by: S.M.S.  
designed by: C.S.M.  
QA/QC by: J.E.S.  
project no.: C18-1140  
date: 2020.07.10





KEY MAP

| Woodside Ridge Plat 2 Lot Fill Information |                     |
|--------------------------------------------|---------------------|
| Lot Number                                 | Over 8' Fill Placed |
| 144                                        |                     |
| 145                                        | 11'                 |
| 146                                        | 13'                 |
| 147                                        | 12'                 |
| 148                                        | 11'                 |
| 149                                        | 9'                  |
| 150                                        |                     |
| 151                                        | 9'                  |
| 152                                        | 9'                  |
| 153                                        | 12'                 |
| 154                                        | 9'                  |
| 155                                        | 9'                  |
| 156                                        |                     |
| 157                                        |                     |
| 158                                        | 9'                  |
| 159                                        | 10'                 |
| 160                                        | 9'                  |
| 161                                        |                     |
| 162                                        |                     |
| 163                                        |                     |
| 164                                        | 11'                 |
| 165                                        | 10'                 |
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| 182                                        |                     |
| 183                                        |                     |
| 184                                        |                     |
| 185                                        |                     |
| 186                                        | 9'                  |
| 187                                        | 10'                 |
| 188                                        |                     |
| 189                                        |                     |
| 190                                        |                     |
| 191                                        |                     |
| 192                                        |                     |
| 193                                        | 10'                 |
| 194                                        |                     |
| 195                                        |                     |
| 196                                        |                     |
| 197                                        |                     |
| 198                                        |                     |



BY

NO. REV.

DATE

REVISIONS DESCRIPTION

NO. REV.

DATE

REVISIONS DESCRIPTION

GRADING PLAN  
STREET & STORM SEWER PLANS

WOODSIDE RIDGE  
SECOND PLAT

LEE'S SUMMIT, MO

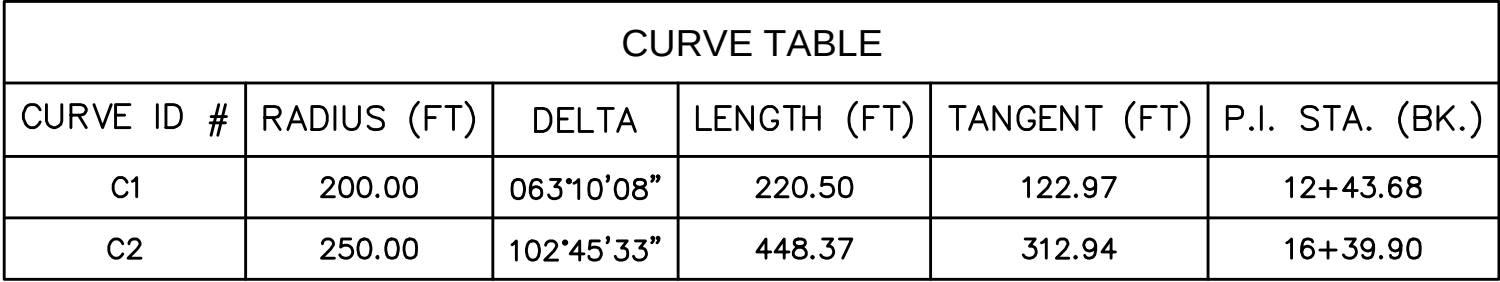
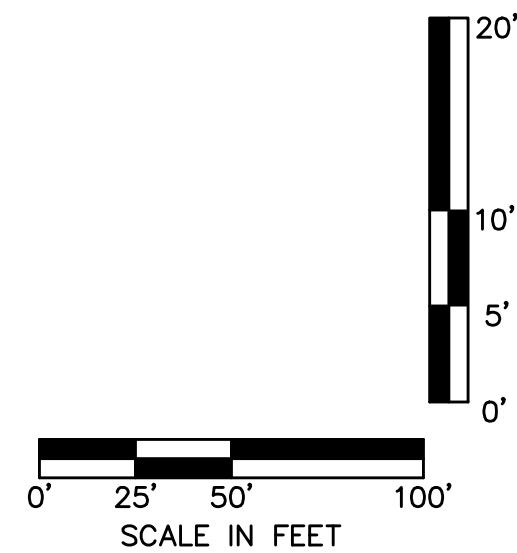
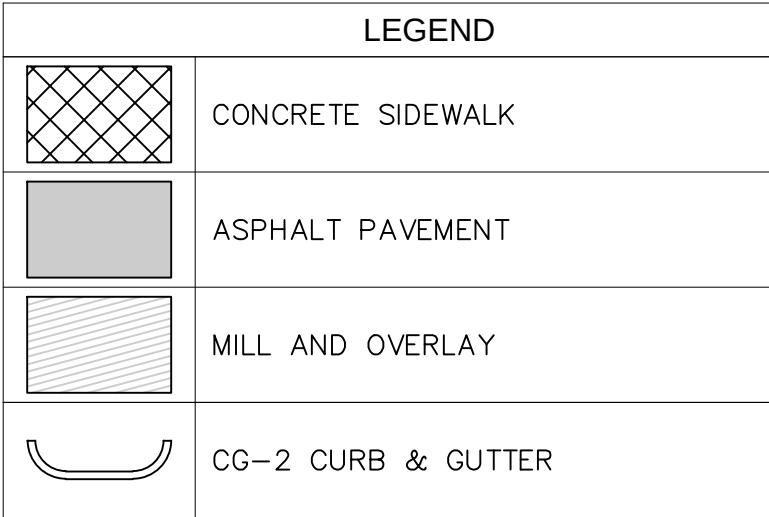
drawn by: C.S.M.  
checked by: S.M.S.  
designed by: C.S.M.  
QA/QC by: J.E.S.  
project no.: C18-1140  
date: 2020.07.10

SHEET  
C109

JULIE ELAINE  
SELLERS  
NUMBER  
PE-2017000367  
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## ROADWAY PLAN & PROFILE STREET & STORM SEWER PLANS

WOODSIDE RIDGE  
SECOND PLAT

LEE'S SUMMIT, MO

drawn by: \_\_\_\_\_ C.S.M  
checked by: \_\_\_\_\_ S.M.S  
designed by: \_\_\_\_\_ C.S.M  
QA/QC by: \_\_\_\_\_ J.E.S  
project no.: \_\_\_\_\_ C18-1140  
date: \_\_\_\_\_ 2020.07.10

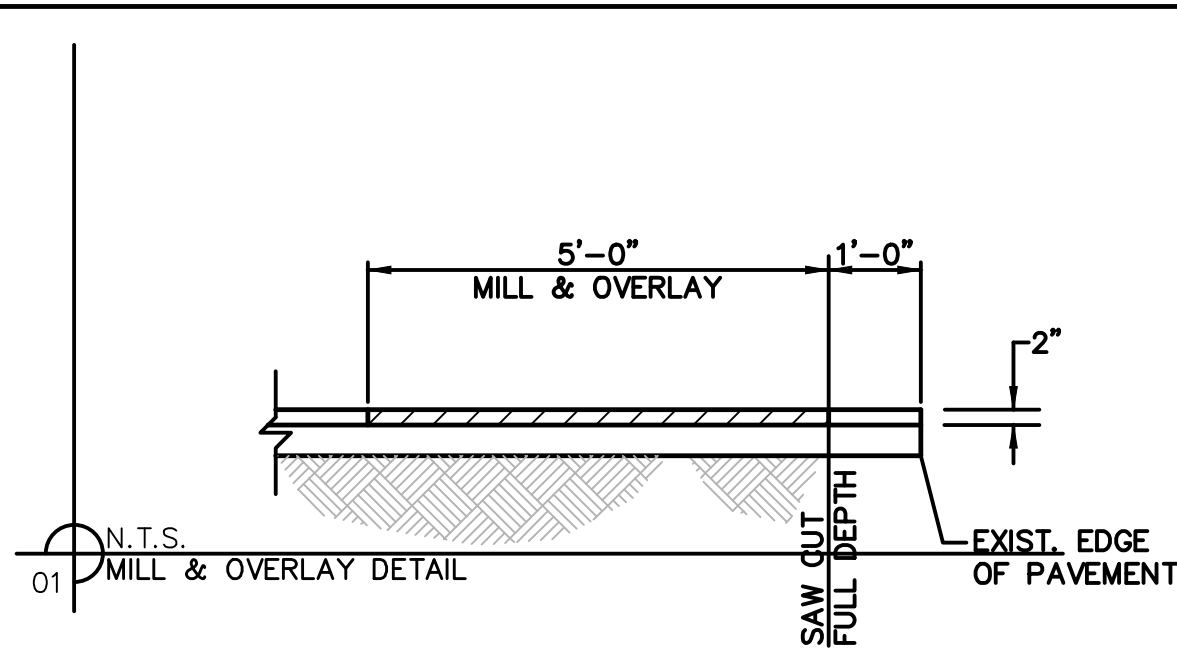
SHEET  
C110

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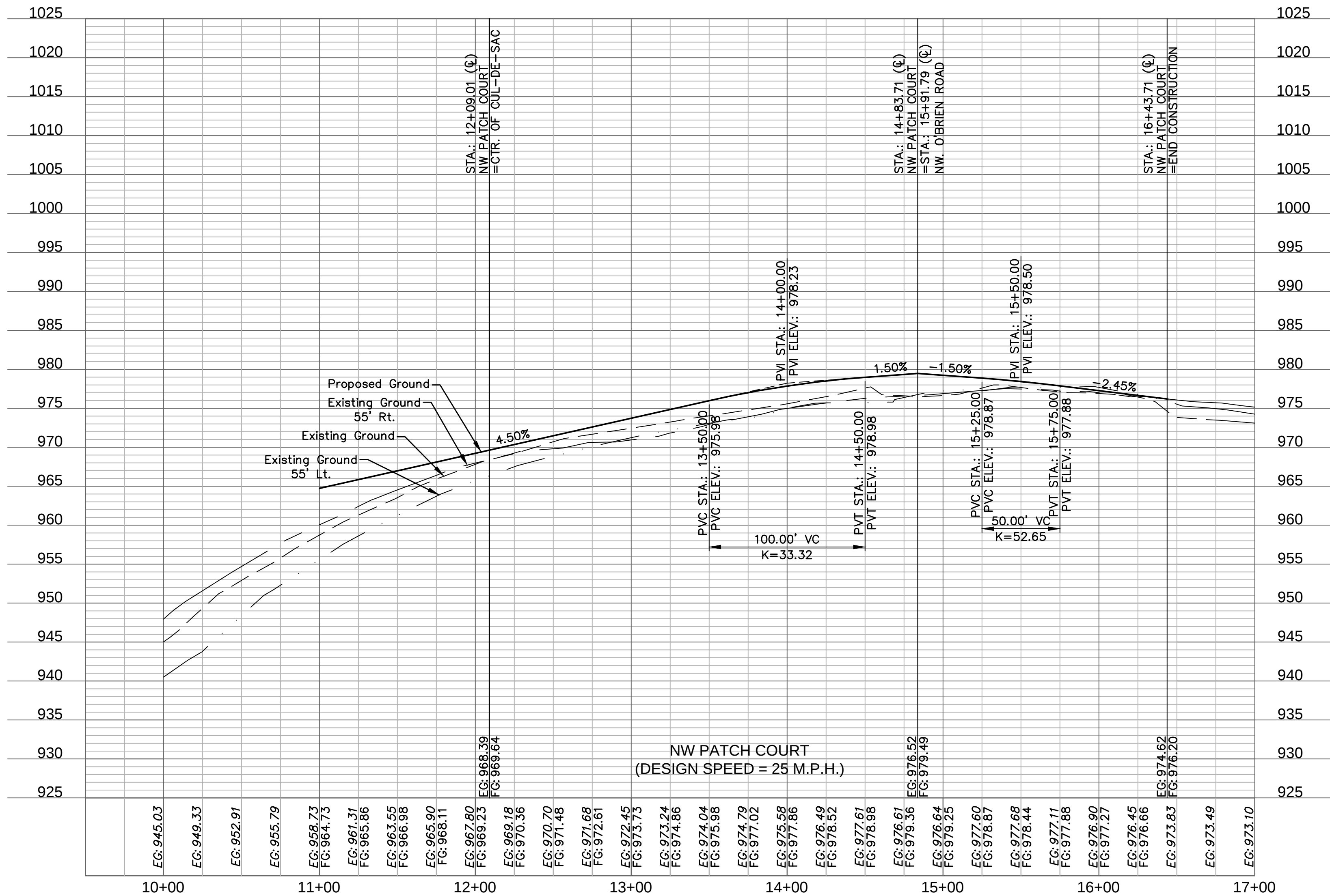
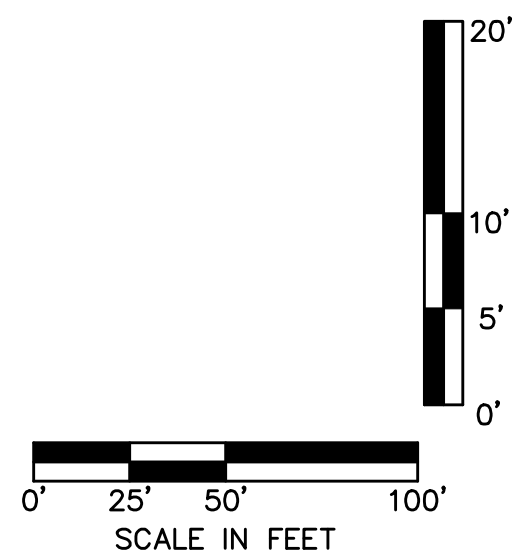
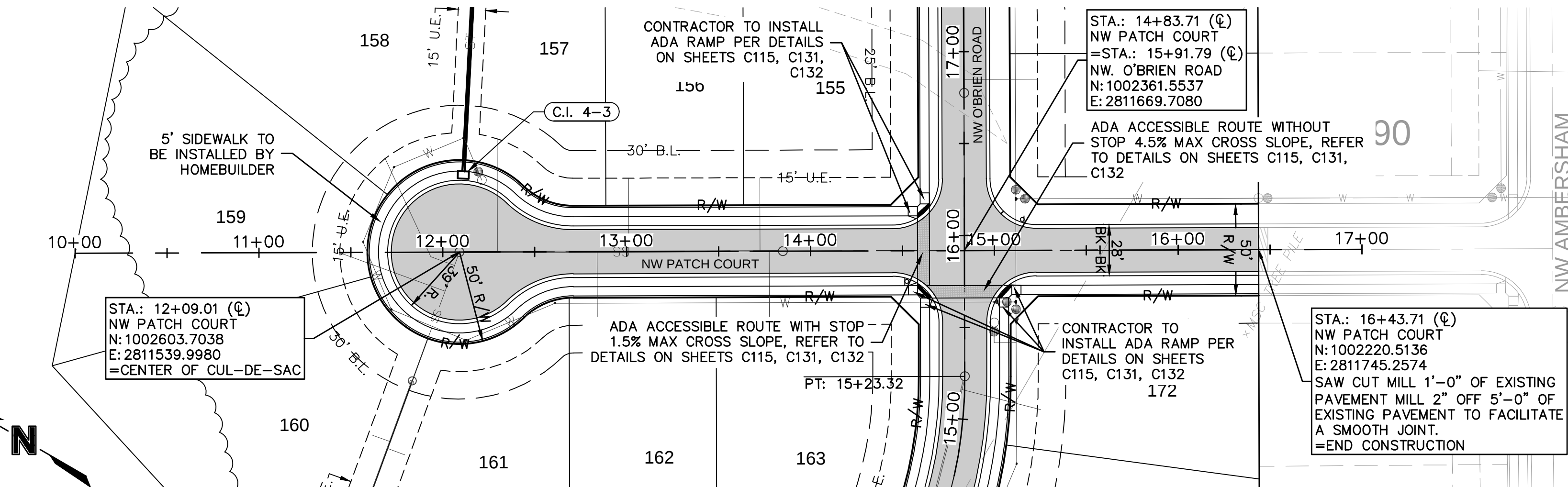
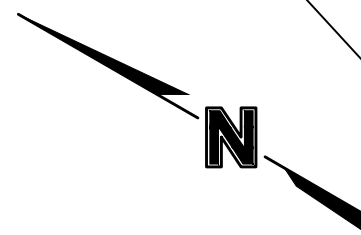
STATE OF MISSOURI  
JULIE ELAINE  
SELLERS  
NUMBER  
PE-2017000367  
3/23/21  
PROFESSIONAL ENGINEER

**Olsson**

MO Certificate of Authority #001592  
1301 BURLINGTON, SUITE 100  
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TEF 816.361.1177  
www.djssson.com



| LEGEND |                    |
|--------|--------------------|
|        | CONCRETE SIDEWALK  |
|        | ASPHALT PAVEMENT   |
|        | MILL AND OVERLAY   |
|        | CG-2 CURB & GUTTER |



olsson

NO Conflicts of Interest at 031892  
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TEL. 816.861.1177  
WWW.OLSSON.COM

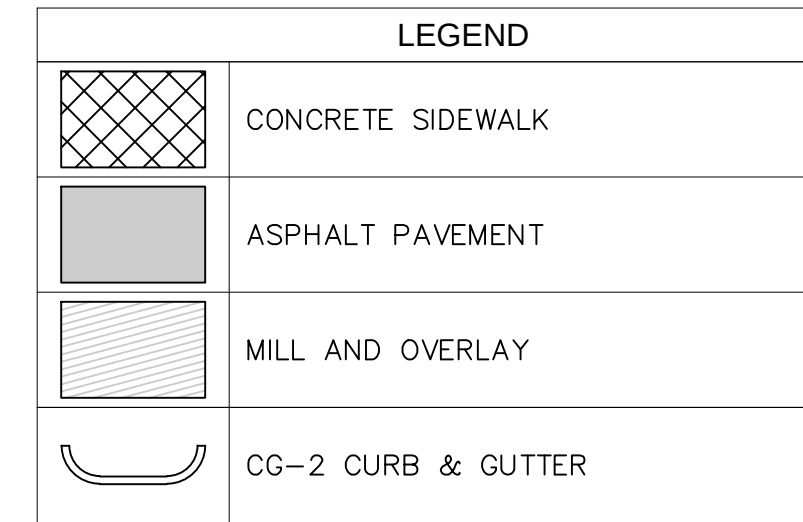
STATE OF MISSOURI  
JULIE ELAINE  
SELLERS  
Professional Engineer  
NUMBER  
PE-2017000367  
3/23/21

BY  
NO. REV.  
DATE  
REVISIONS DESCRIPTION  
2020  
REVISIONS

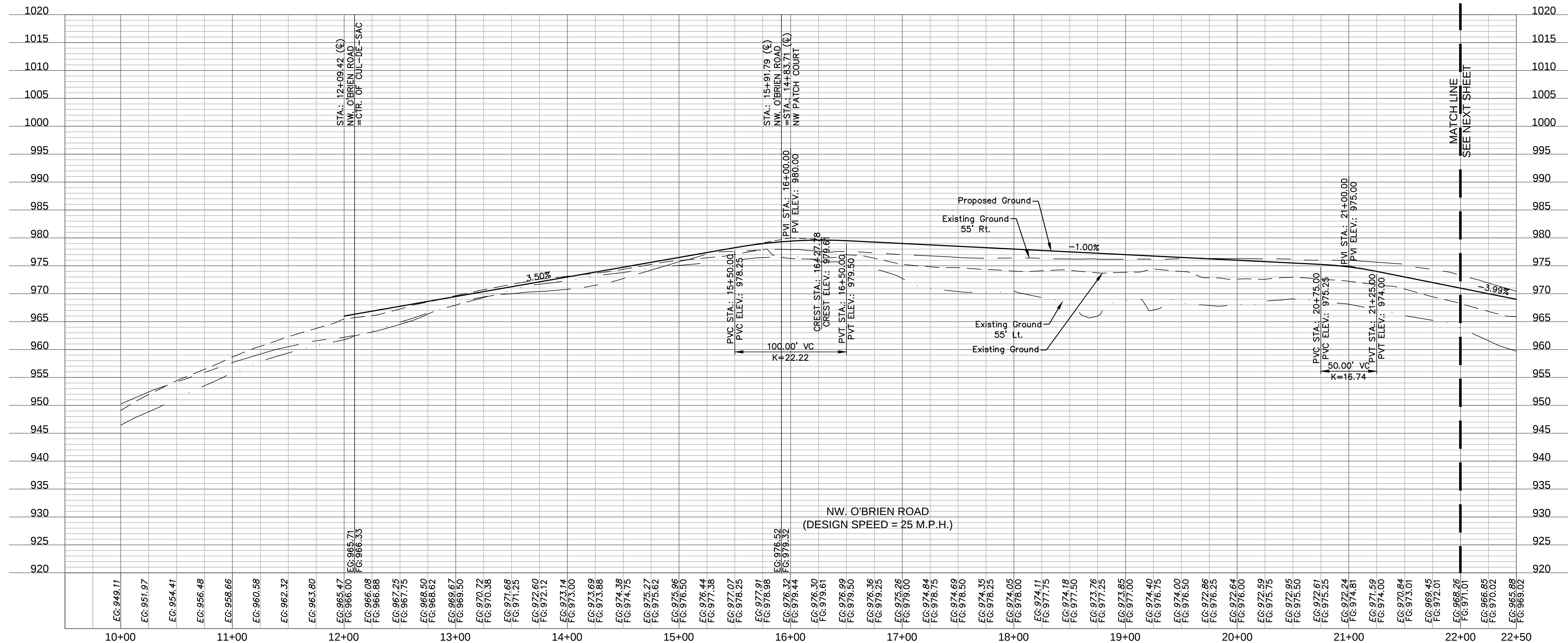
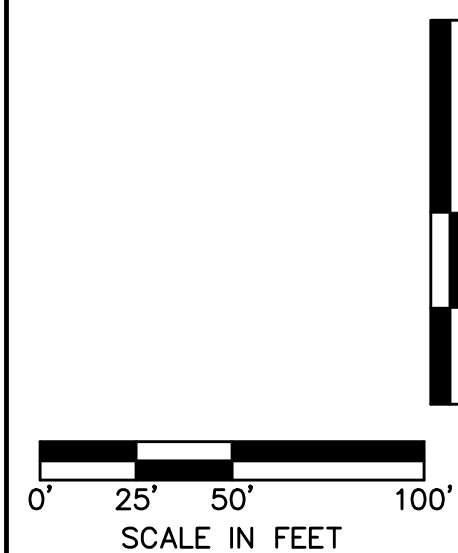
ROADWAY PLAN & PROFILE  
STREET & STORM SEWER PLANS  
WOODSIDE RIDGE  
SECOND PLAT  
LEE'S SUMMIT, MO

drawn by: C.S.M.  
checked by: S.M.S.  
designed by: C.S.M.  
QA/QC by: J.E.S.  
project no.: C18-1140  
date: 2020.07.10

SHEET  
C111

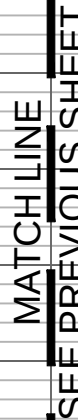
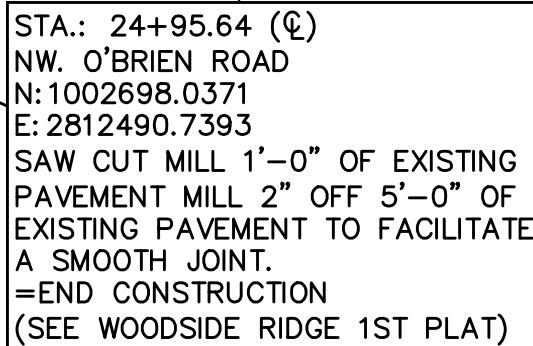
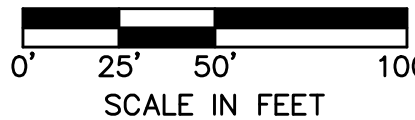


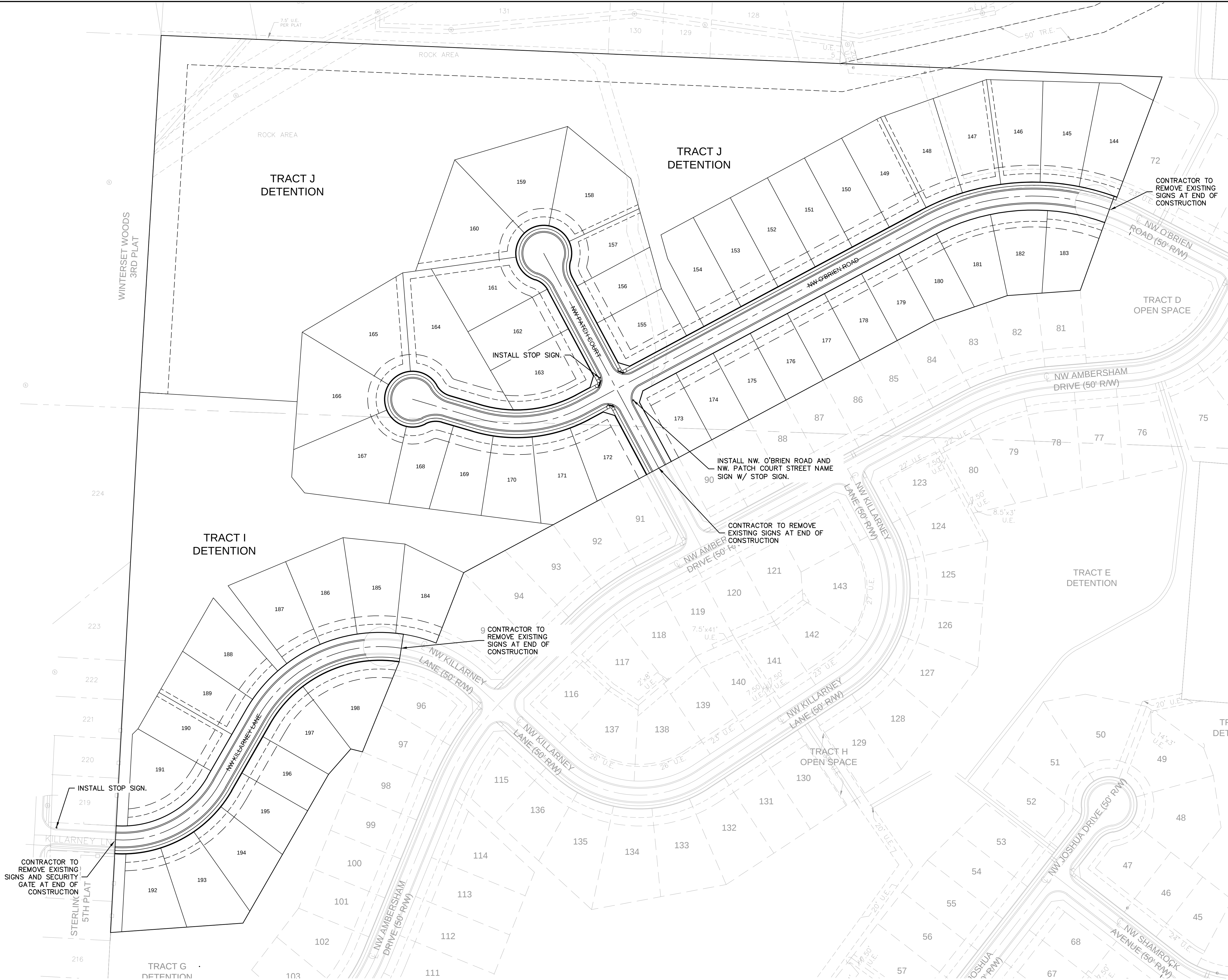
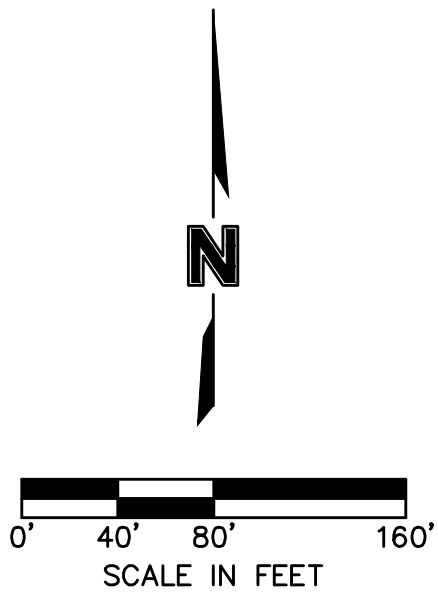
| CURVE TABLE |             |            |             |              |                 |
|-------------|-------------|------------|-------------|--------------|-----------------|
| CURVE ID #  | RADIUS (FT) | DELTA      | LENGTH (FT) | TANGENT (FT) | P.I. STA. (BK.) |
| C3          | 250.00      | 044°33'34" | 194.43      | 102.43       | 14+20.89        |

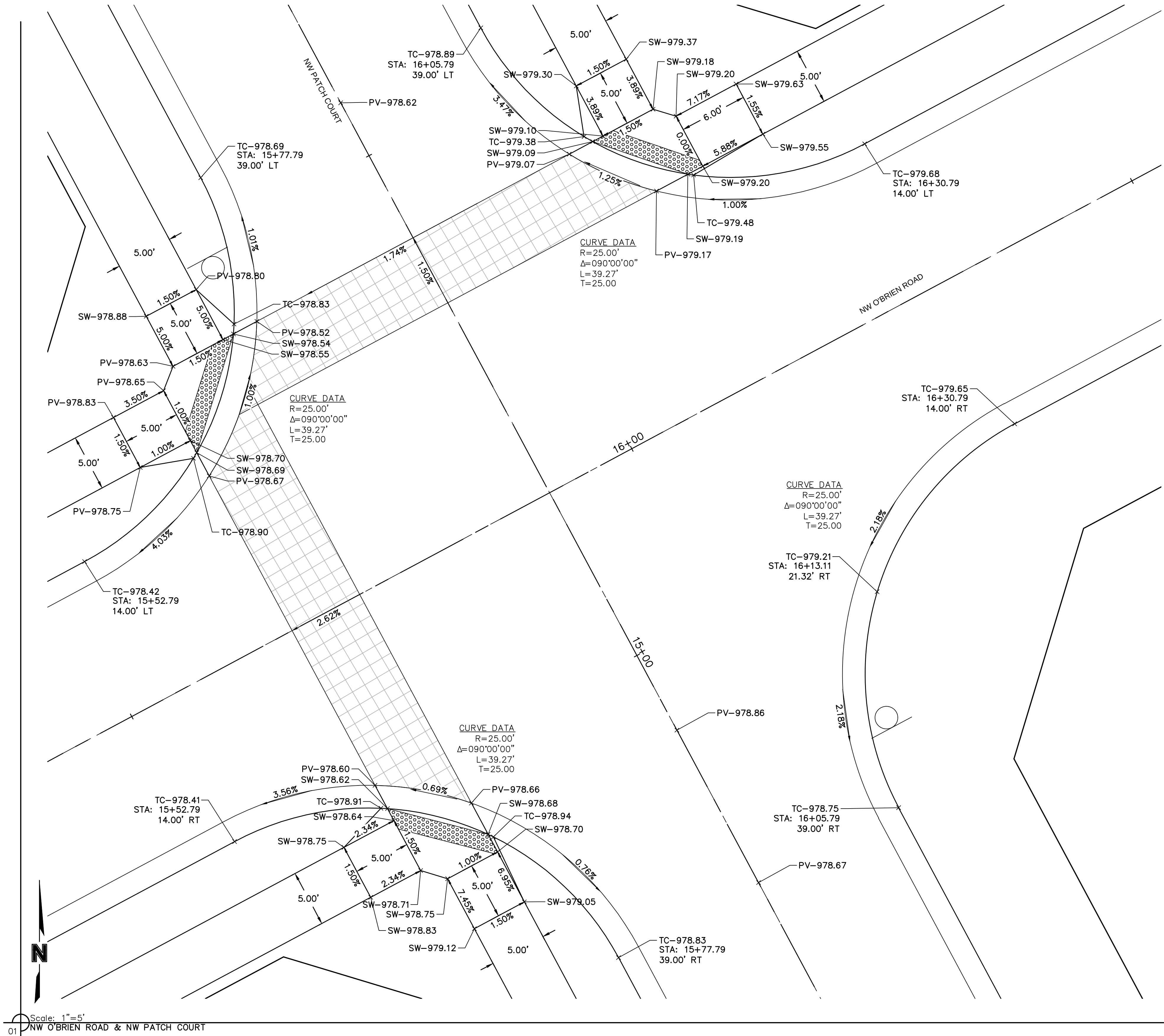


 CG-2 CURB & GUTTER

|    |        |            |        |        |           |
|----|--------|------------|--------|--------|-----------|
| C4 | 100.00 | 055°31'00" | 387.58 | 210.52 | 231.87 37 |
|----|--------|------------|--------|--------|-----------|







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NO Conflicts of Interest at 03/23/2021  
300 E. BIRCH STREET, SUITE 100  
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TEL: 816.861.1177  
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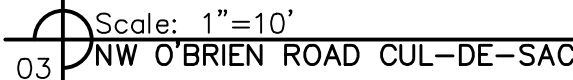
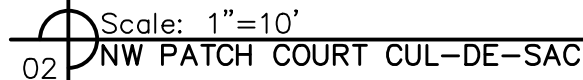
STATE OF MISSOURI  
JULIE ELAINE SELLERS  
Professional Engineer  
NUMBER  
PE-2017000367  
3/23/21  
PROFESSIONAL

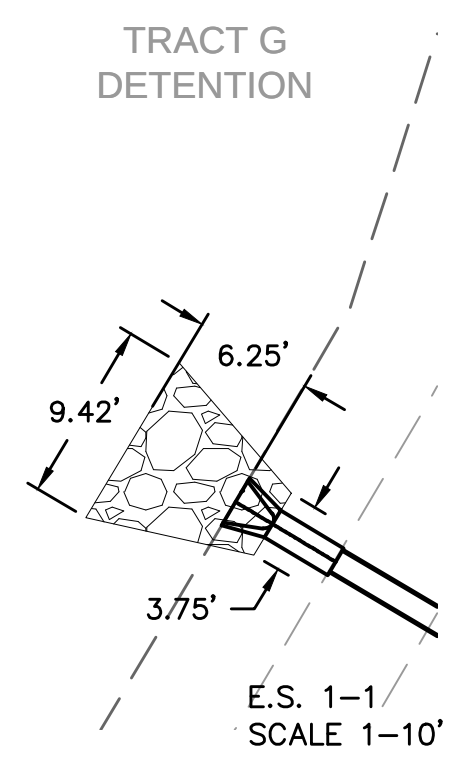
BY  
NO. REV.  
DATE  
REVISIONS DESCRIPTION

INTERSECTION DETAILS  
STREET & STORM SEWER PLANS  
WOODSIDE RIDGE  
SECOND PLAT  
LEE'S SUMMIT, MO  
2020

drawn by: \_\_\_\_\_ C.S.M.  
checked by: \_\_\_\_\_ S.M.S.  
designed by: \_\_\_\_\_ C.S.M.  
QA/QC by: \_\_\_\_\_ J.E.S.  
project no.: C18-1140  
date: 2020.07.10

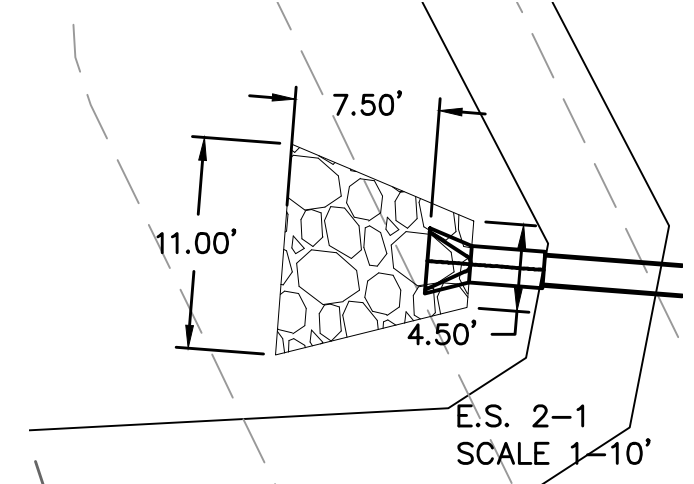
SHEET  
C115





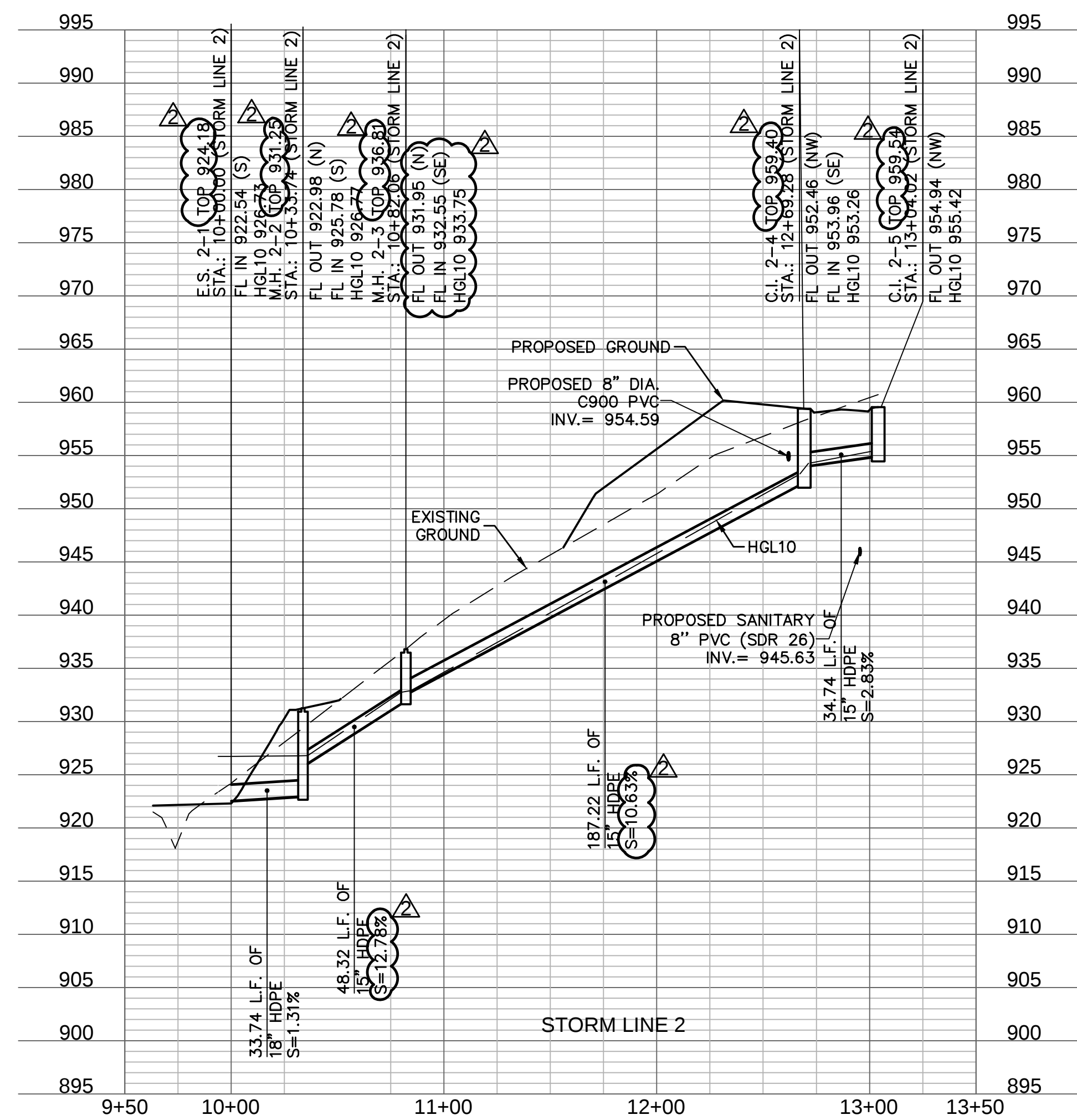
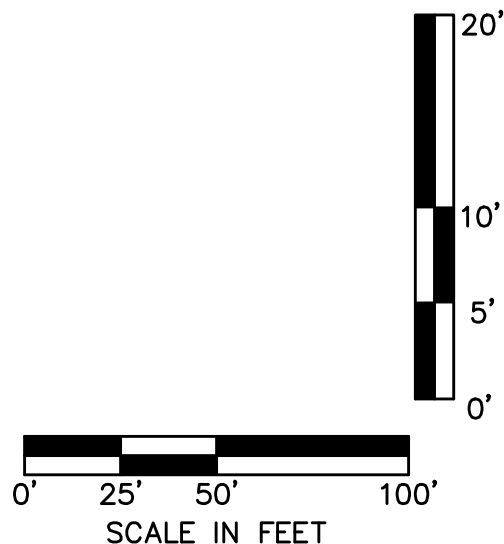
| Riprap Calculations |                           |                          |        |              |                         |                        |              |
|---------------------|---------------------------|--------------------------|--------|--------------|-------------------------|------------------------|--------------|
| End Section         | Q <sub>100</sub><br>(cfs) | Pipe<br>Diameter<br>(ft) | Class* | D50*<br>(in) | Apron<br>Length<br>(ft) | Apron<br>Depth<br>(ft) | Area<br>(SY) |
| E.S. 1-1            | 7.34                      | 1.25                     | 3      | 10           | 6.25                    | 2.00                   | 31.5         |

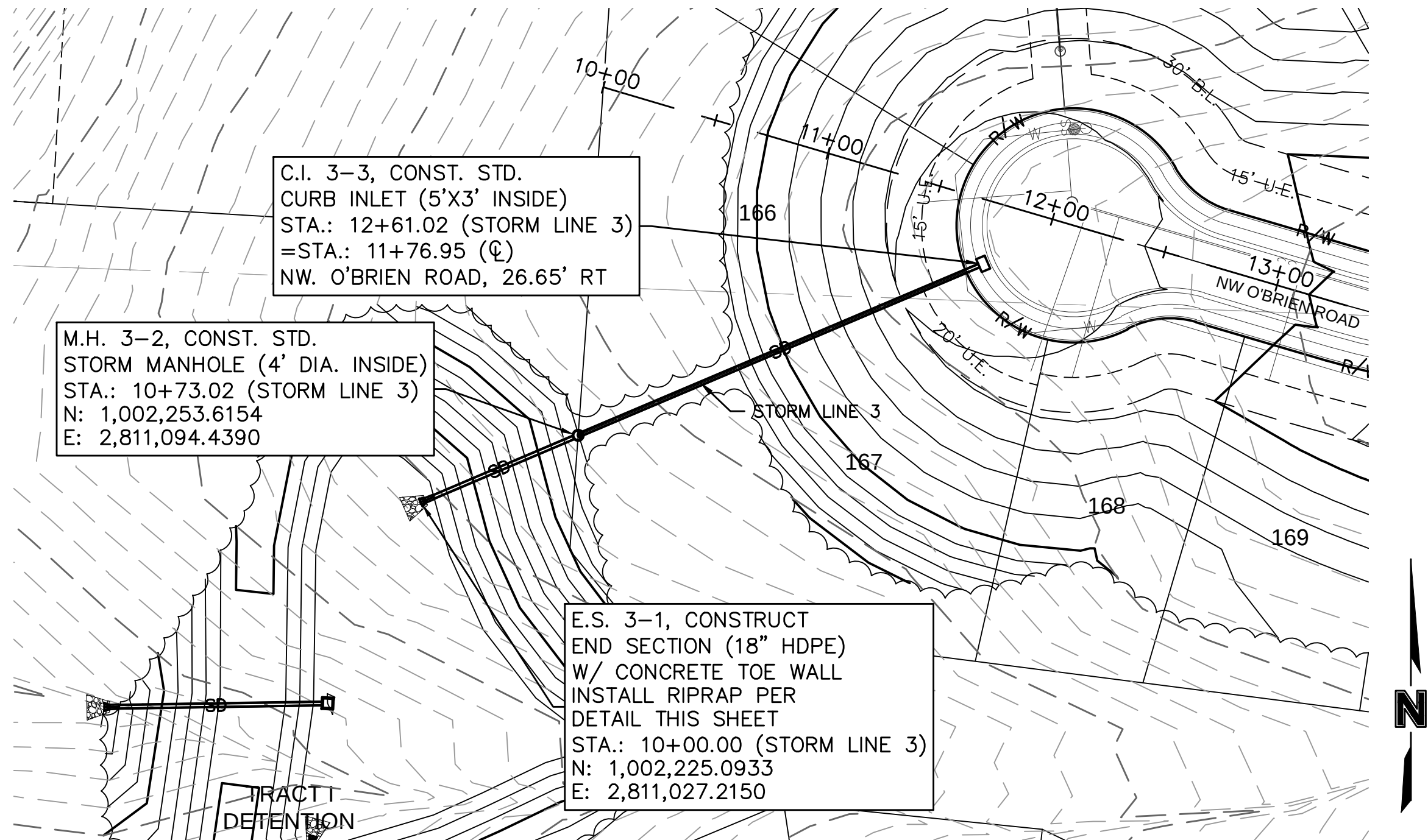
\*Per Table 10.1 HEC 14-FHWA-Energy Dissipators Pg. 10-18



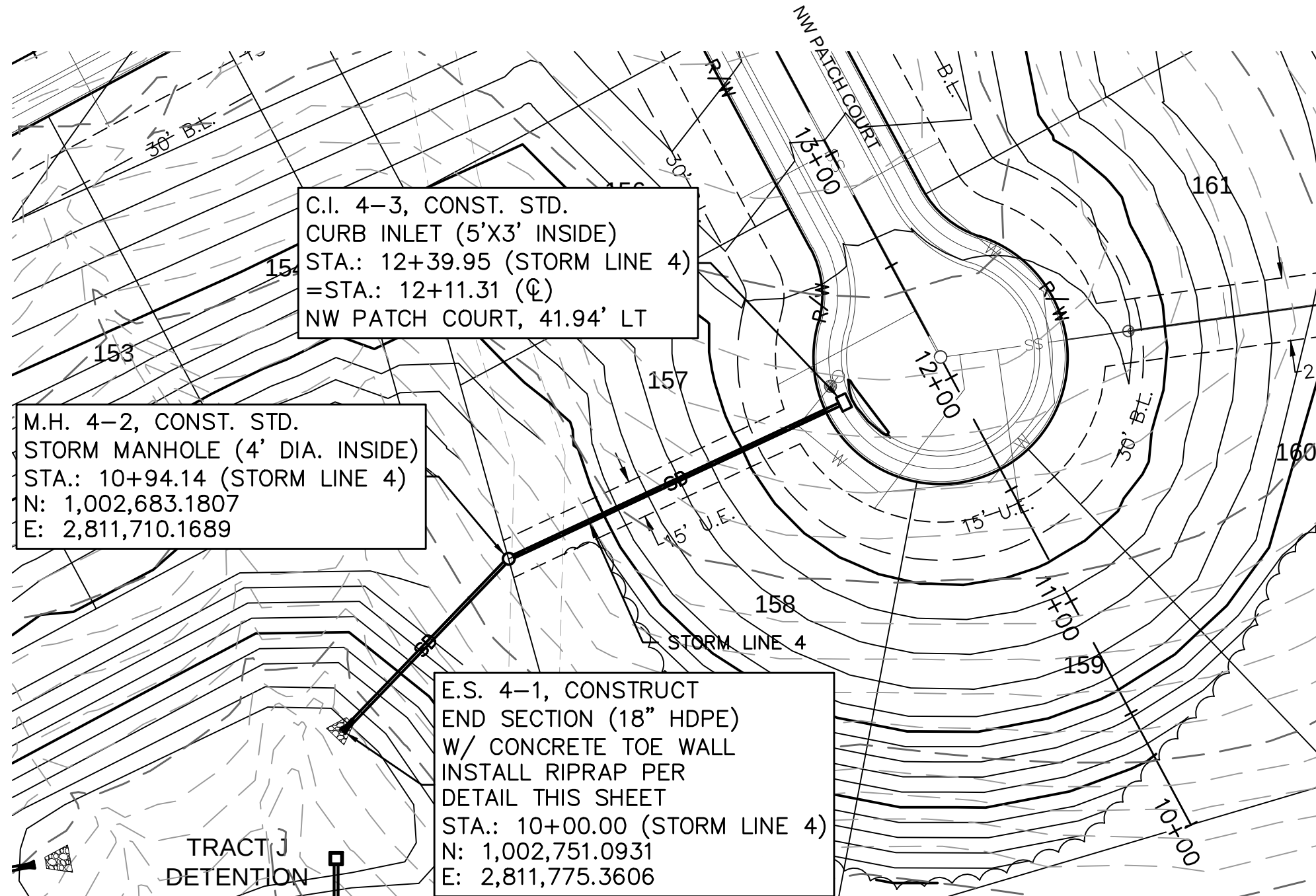
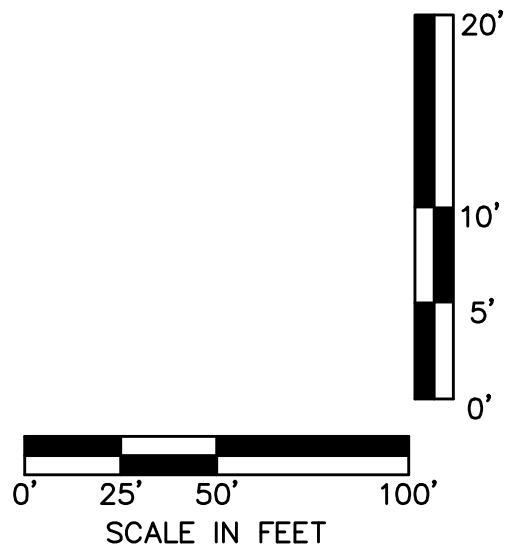
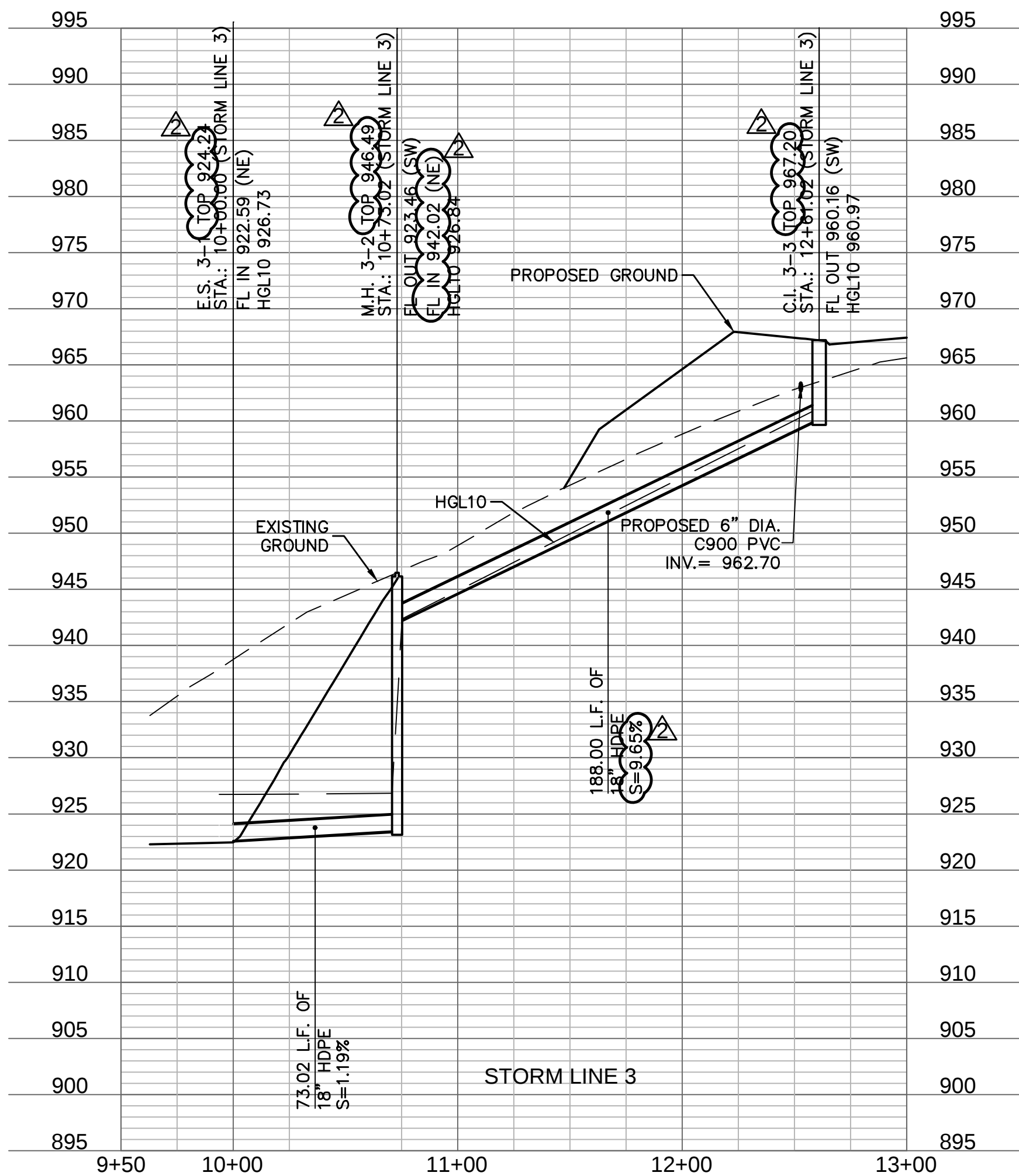
| Riprap Calculations |                           |                          |        |              |                         |                        |              |
|---------------------|---------------------------|--------------------------|--------|--------------|-------------------------|------------------------|--------------|
| End Section         | Q <sub>100</sub><br>(cfs) | Pipe<br>Diameter<br>(ft) | Class* | D50*<br>(in) | Apron<br>Length<br>(ft) | Apron<br>Depth<br>(ft) | Area<br>(SY) |
| E.S. 2-1            | 9.35                      | 1.5                      | 3      | 10           | 7.5                     | 2.00                   | 7.3          |

\*Per Table 10.1 HEC 14-FHWA-Energy Dissipators Pg. 10-18

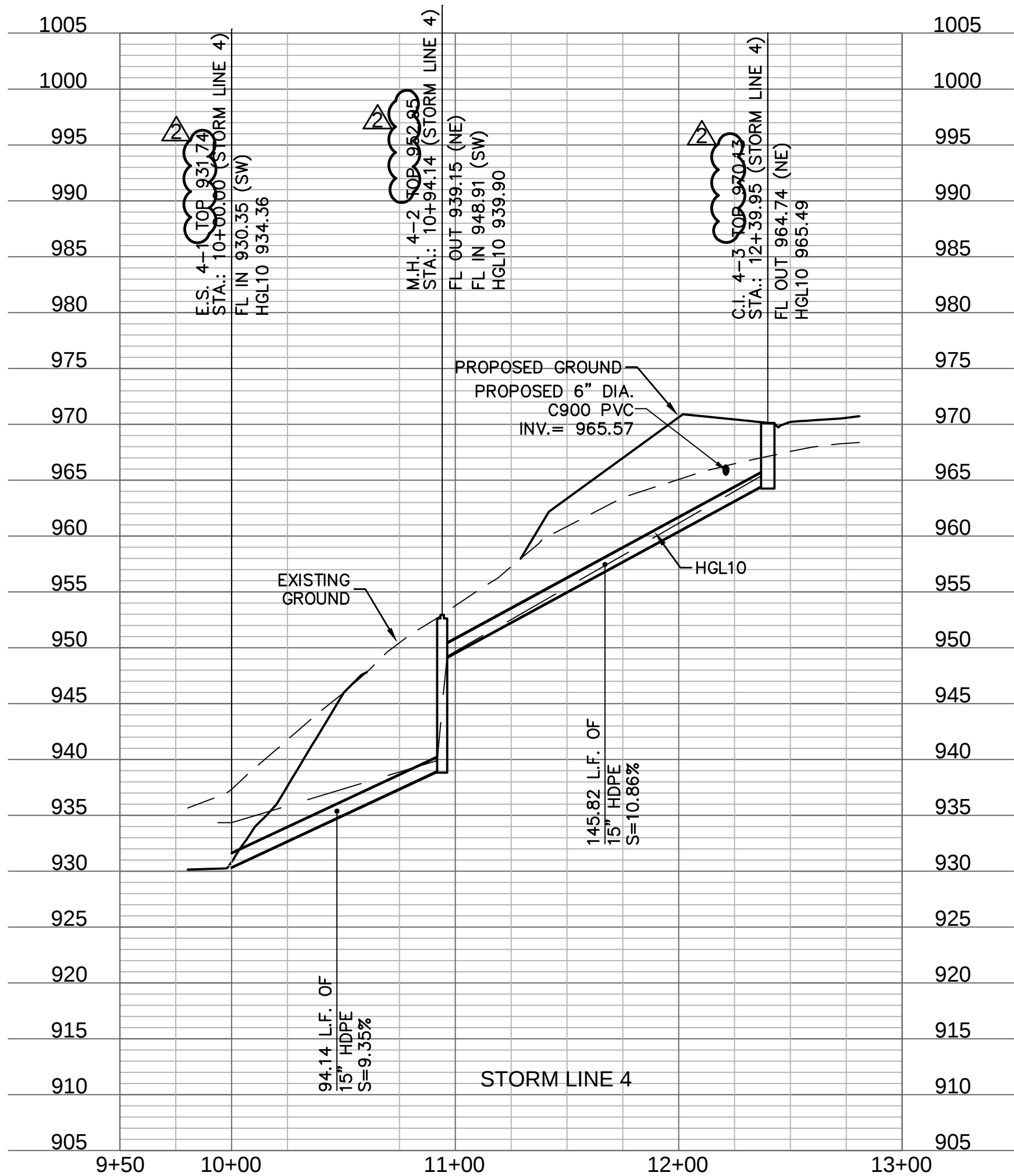




| Riprap Calculations                                      |                           |                          |        |              |                         |                        |
|----------------------------------------------------------|---------------------------|--------------------------|--------|--------------|-------------------------|------------------------|
| End Section                                              | Q <sub>100</sub><br>(cfs) | Pipe<br>Diameter<br>(ft) | Class* | D50*<br>(in) | Apron<br>Length<br>(ft) | Apron<br>Depth<br>(ft) |
| E.S. 3-1                                                 | 7.83                      | 1.5                      | 3      | 10           | 7.5                     | 2.00                   |
| *Per Table 10.1 HEC 14-FHWA-Energy Dissipators Pg. 10-18 |                           |                          |        |              |                         |                        |



| Riprap Calculations                                      |                           |                          |        |              |                         |                        |
|----------------------------------------------------------|---------------------------|--------------------------|--------|--------------|-------------------------|------------------------|
| End Section                                              | Q <sub>100</sub><br>(cfs) | Pipe<br>Diameter<br>(ft) | Class* | D50*<br>(in) | Apron<br>Length<br>(ft) | Apron<br>Depth<br>(ft) |
| E.S. 4-1                                                 | 6.05                      | 1.25                     | 3      | 10           | 6.25                    | 2.00                   |
| *Per Table 10.1 HEC 14-FHWA-Energy Dissipators Pg. 10-18 |                           |                          |        |              |                         |                        |



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STATE OF MISSOURI  
JULIE ELAINE  
SELLERS  
NUMBER  
PE-2017000367  
3/23/21  
PROFESSIONAL

BY  
NO. REV. DATE  
2 3/16/2021  
REVISED PER CONTRACTOR COMMENT

REVISIONS DESCRIPTION

REVISIONS

STORM SEWER PLAN & PROFILE  
STREET & STORM SEWER PLANS

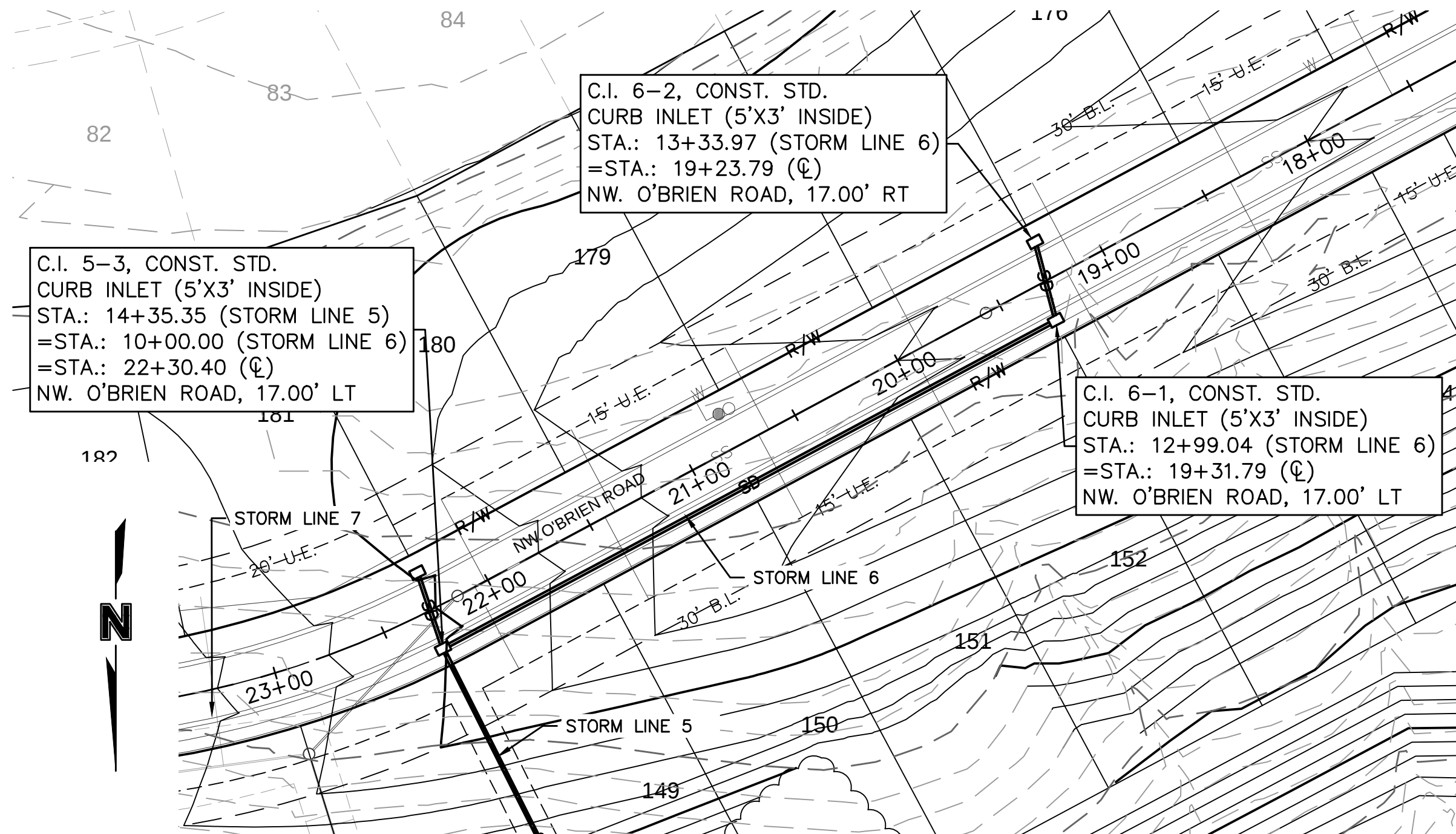
WOODSIDE RIDGE  
SECOND PLAT

LEE'S SUMMIT, MO

drawn by: C.S.M.  
checked by: S.M.S.  
designed by: C.S.M.  
QA/QC by: J.E.S.  
project no.: C18-1140  
date: 2020.07.10

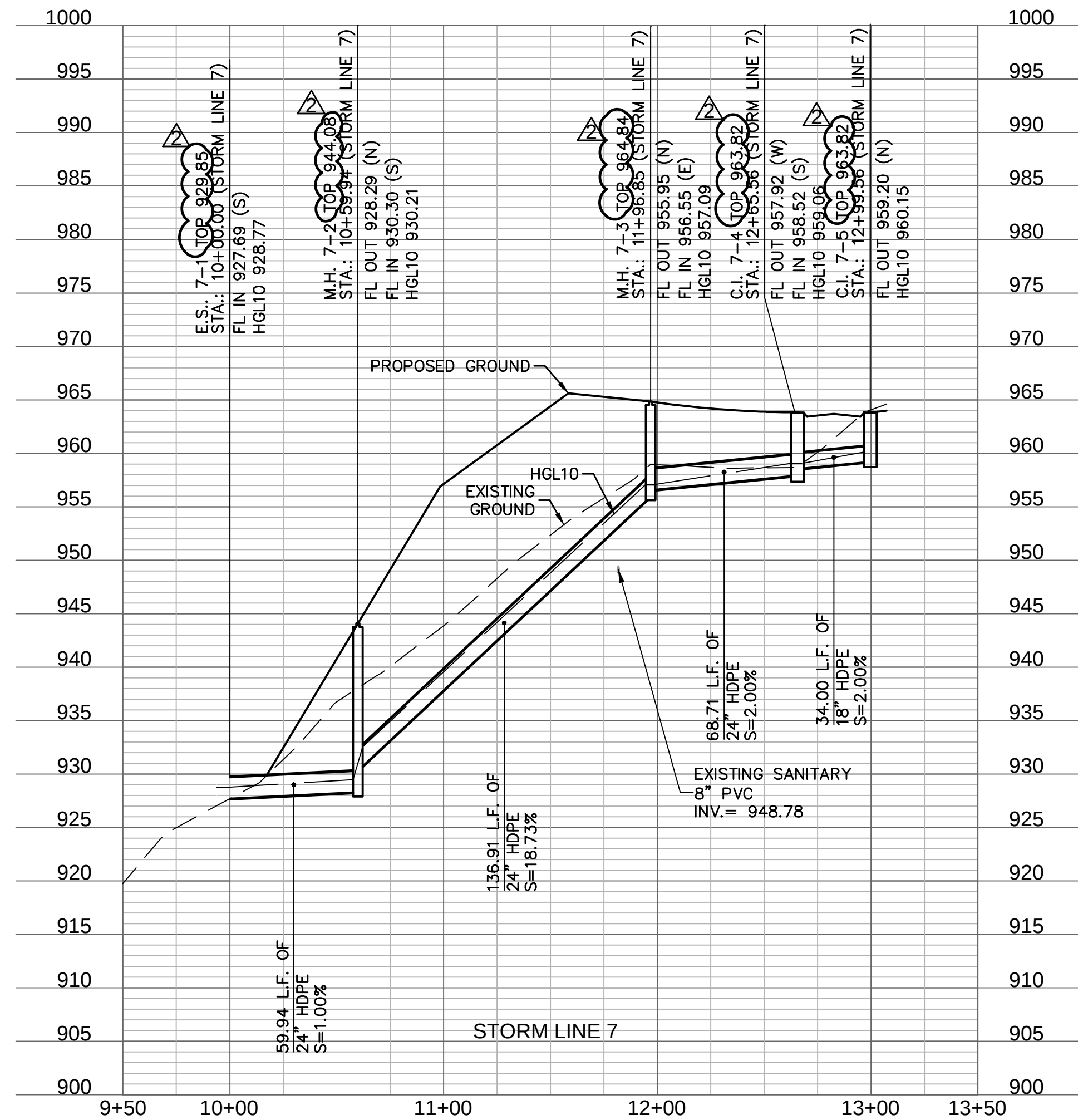
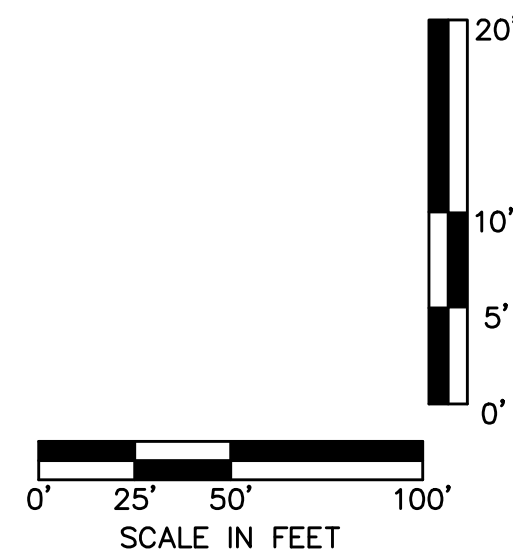
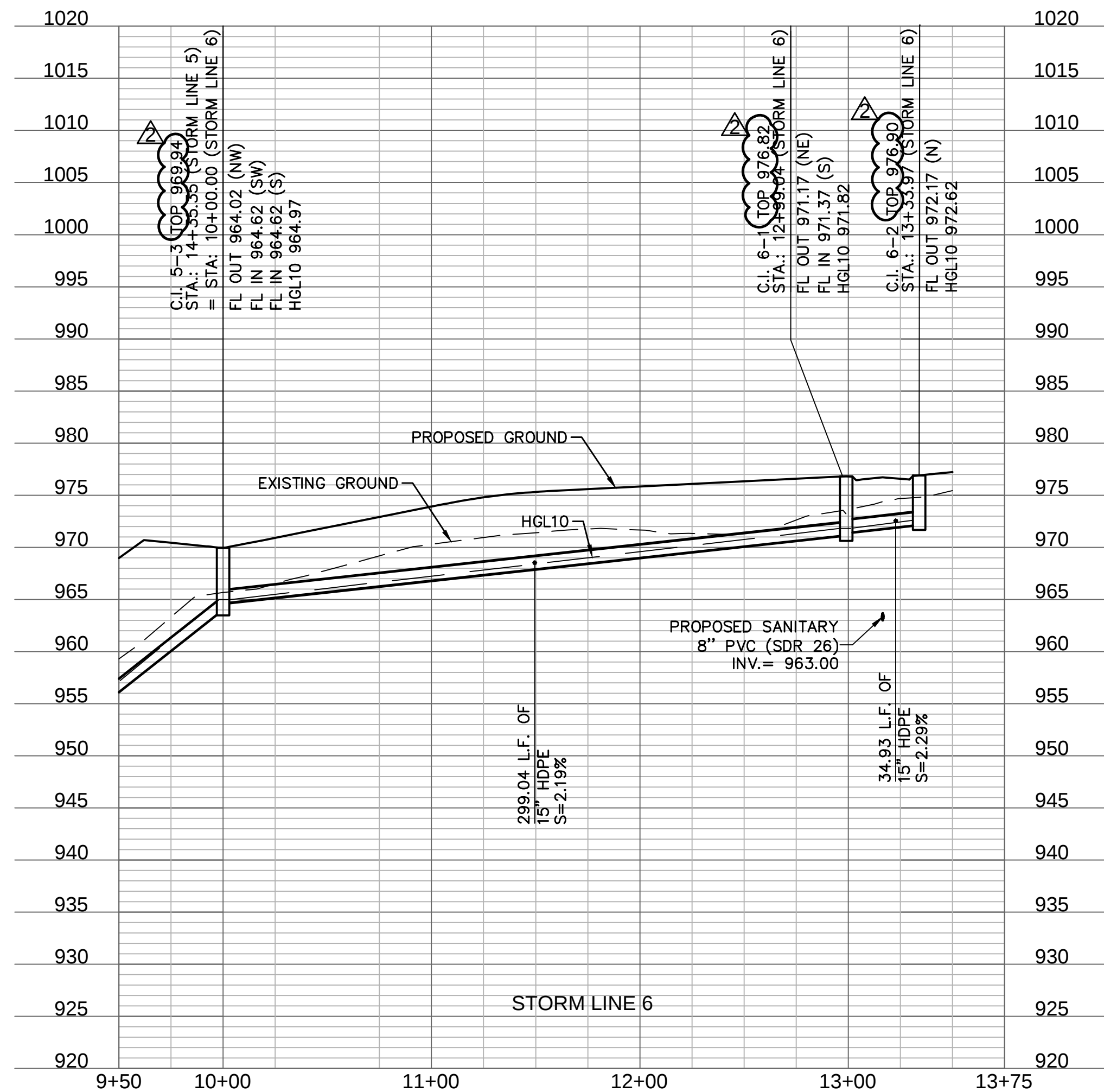
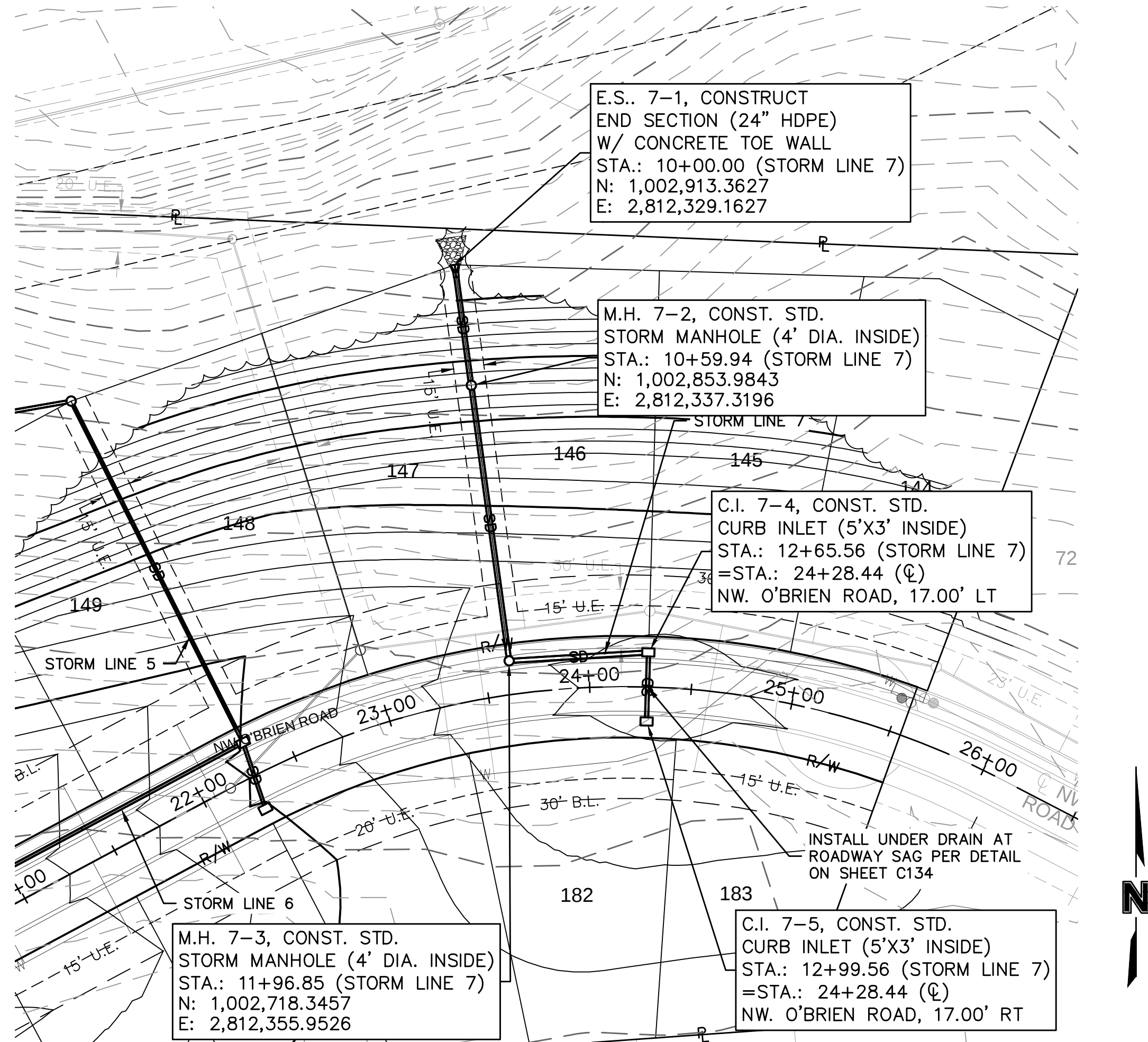
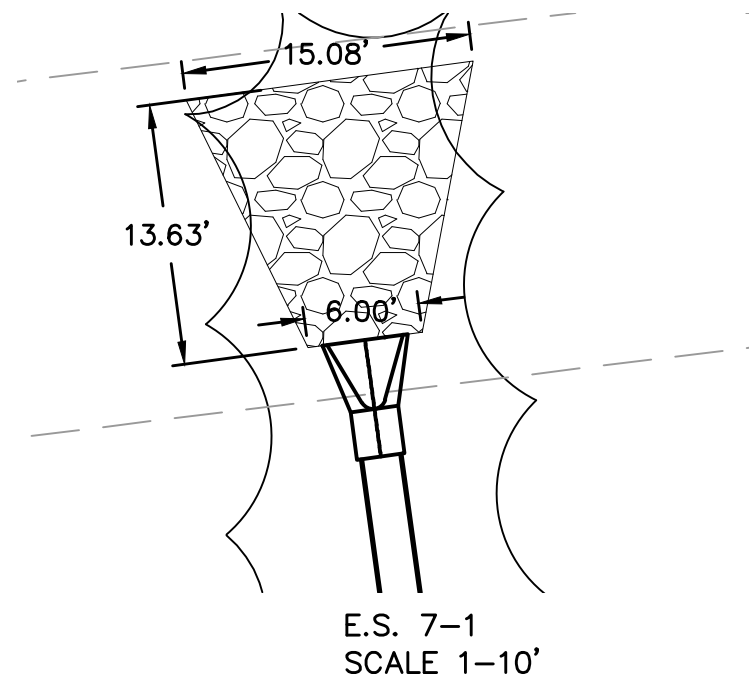
SHEET  
C118





| Riprap Calculations |                           |                          |        |              |                         |                        |
|---------------------|---------------------------|--------------------------|--------|--------------|-------------------------|------------------------|
| End Section         | Q <sub>100</sub><br>(cfs) | Pipe<br>Diameter<br>(ft) | Class* | D50*<br>(in) | Apron<br>Length<br>(ft) | Apron<br>Depth<br>(ft) |
| E.S. 7-1            | 18.97                     | 2                        | 3      | 10           | 10                      | 2.00                   |

\*Per Table 10.1 HEC 14-FHWA-Energy Dissipators Pg. 10-18



STORM SEWER PLAN & PROFILE  
STREET & STORM SEWER PLANS

WOODSIDE RIDGE  
SECOND PLAT

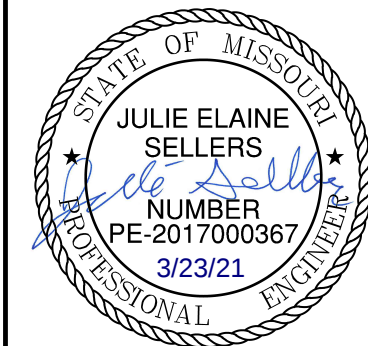
LEE'S SUMMIT, MO

2020

drawn by: C.S.M.  
checked by: S.M.S.  
designed by: C.S.M.  
QA/QC by: J.E.S.  
project no.: C18-1140  
date: 2020.07.10

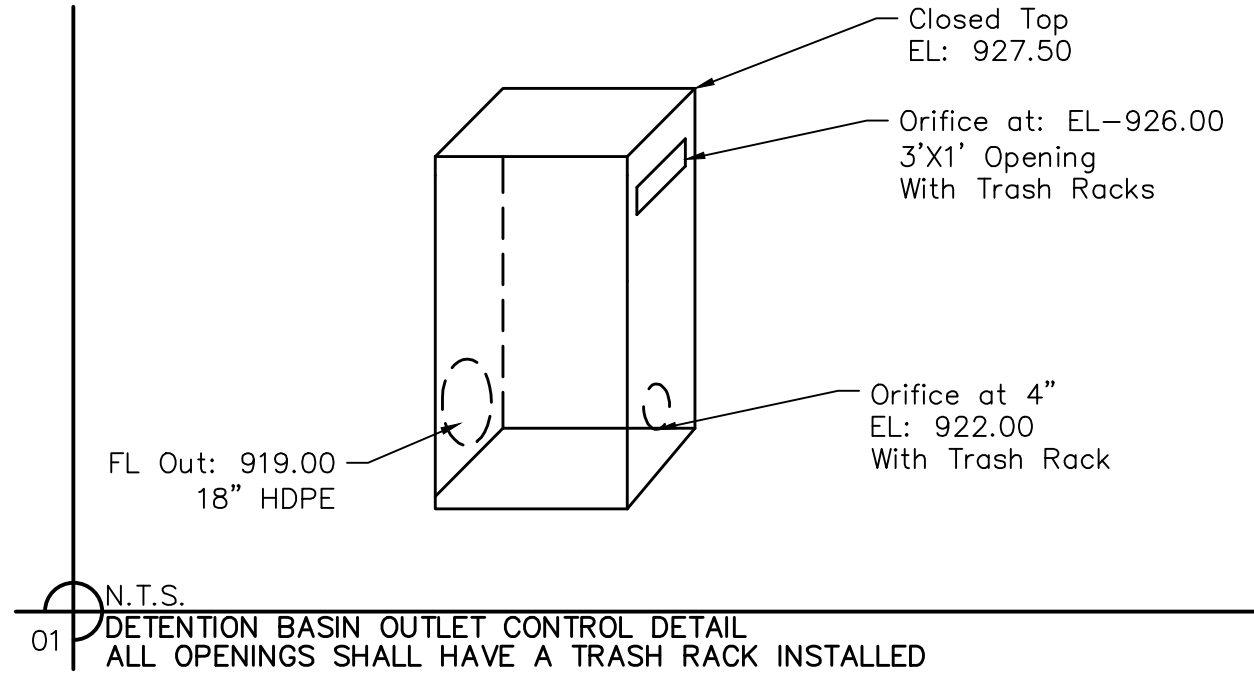
SHEET  
C120

| NO. REV.  |  | DATE      | REVISIONS DESCRIPTION          |
|-----------|--|-----------|--------------------------------|
| 2         |  | 3/16/2021 | REVISED PER CONTRACTOR COMMENT |
| REVISIONS |  |           |                                |



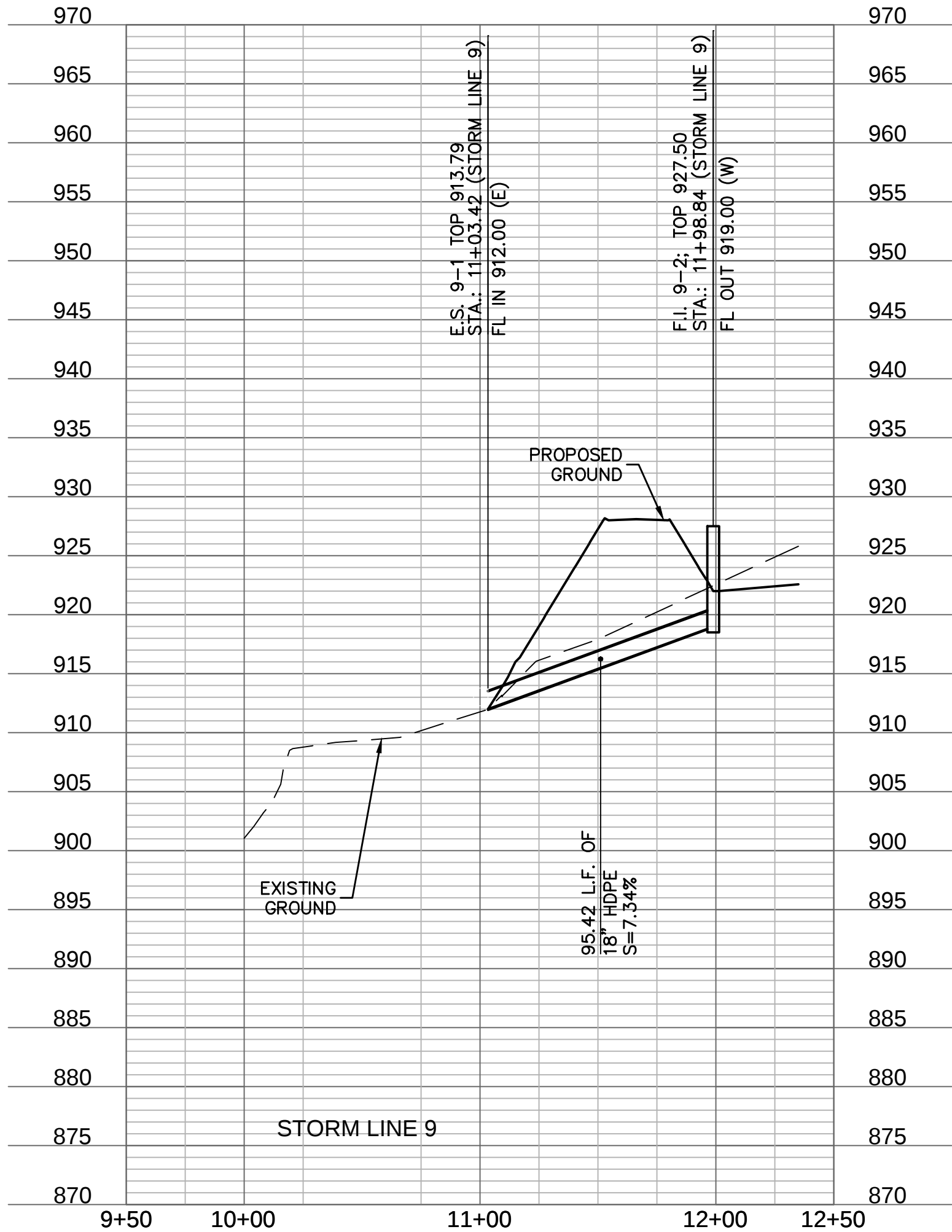
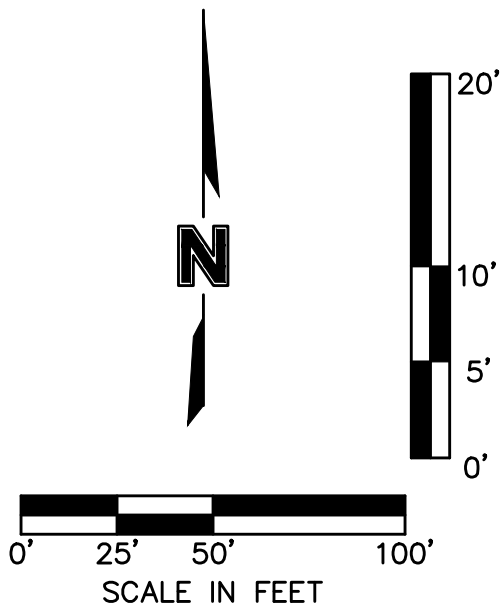
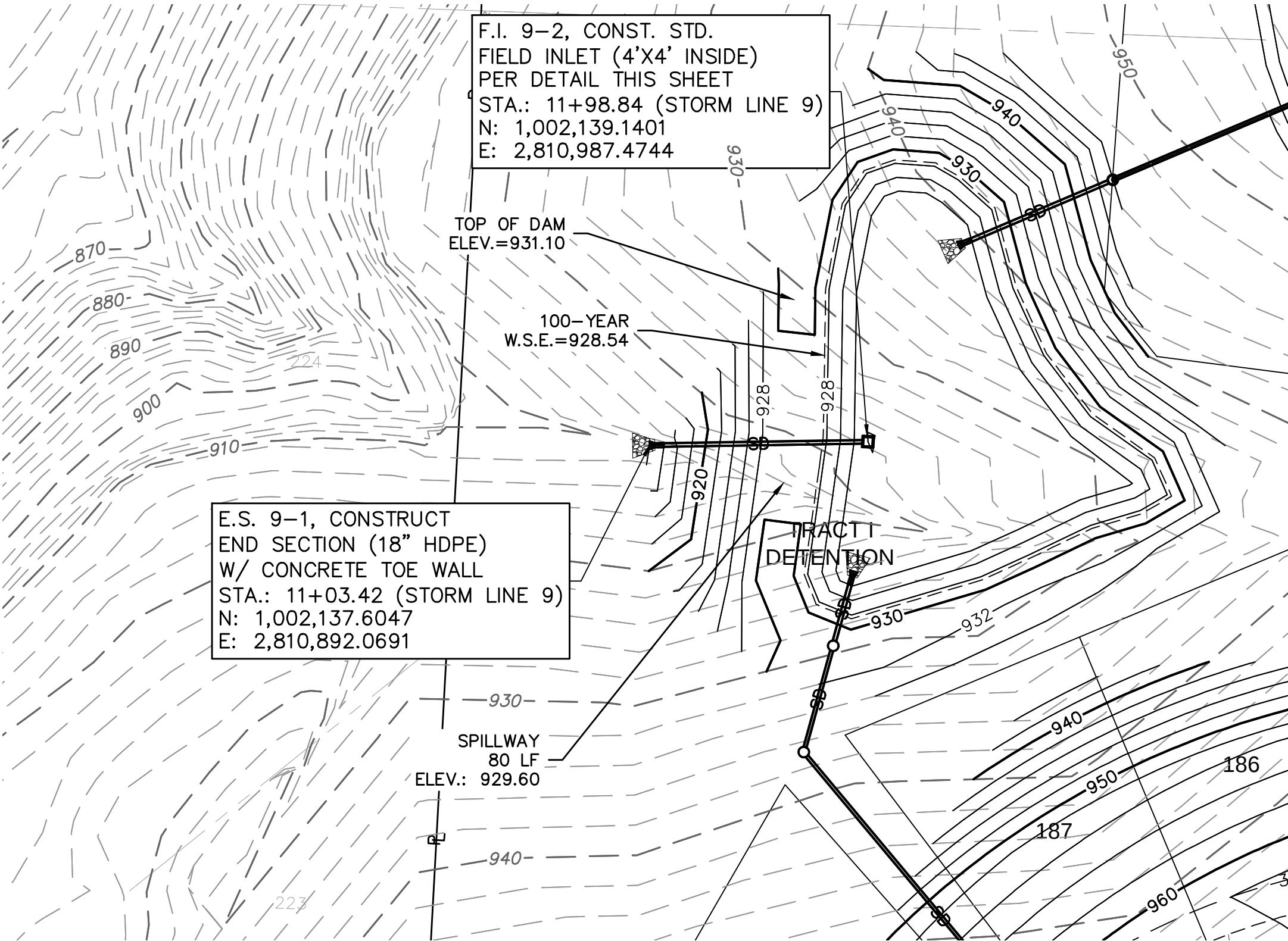
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303 E. HURDIS STREET, SUITE 100  
NORTH KANSAS CITY, MO 64116  
TEL. 816.361.1177  
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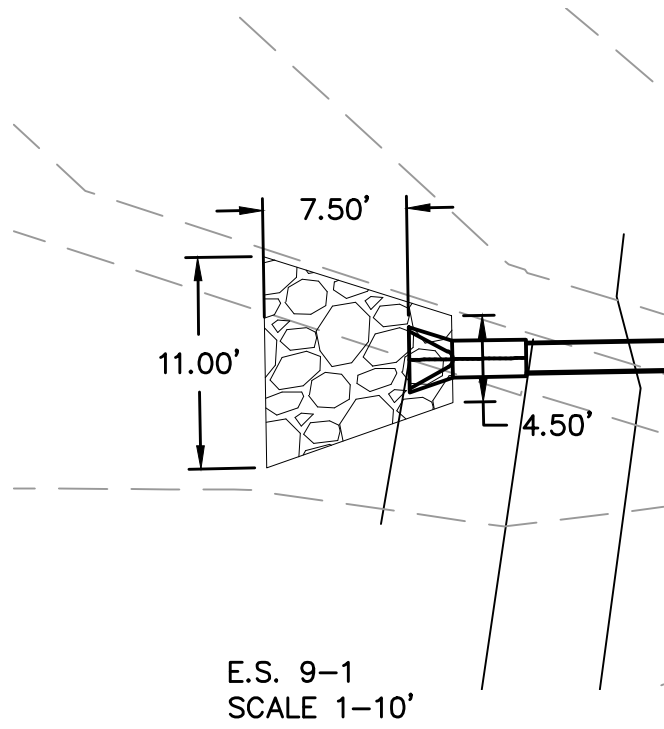


| EARTHWORK QUANTITIES |             |
|----------------------|-------------|
| CUT (C.Y.)           | FILL (C.Y.) |
| 6,485                | 2,184       |

| 10yr. W.S.E. | 100yr. W.S.E. |
|--------------|---------------|
| 926.73       | 928.54        |



- NOTES:
1. CONTRACTOR SHALL MAINTAIN DRAINAGE DURING CONSTRUCTION AND IS RESPONSIBLE FOR ANY DEWATERING NECESSARY FOR CONSTRUCTION. DEWATERING SHALL BE SUBSIDIARY TO OTHER BID ITEMS.
  2. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS DETAILING THE STRUCTURE DIMENSIONS, INVERTS, AND STRUCTURAL REINFORCEMENT DETAILS ON THE PRINCIPAL SPILLWAY.



| Riprap Calculations |                           |                       |        |              |                      |                     |              |
|---------------------|---------------------------|-----------------------|--------|--------------|----------------------|---------------------|--------------|
| End Section         | Q <sub>100</sub><br>(cfs) | Pipe Diameter<br>(ft) | Class* | D50*<br>(in) | Apron Length<br>(ft) | Apron Depth<br>(ft) | Area<br>(SY) |
| E.S. 9-1            | 23.91                     | 1.5                   | 3      | 10           | 7.5                  | 2.00                | 27.4         |

\*Per Table 10.1 HEC 14-FHWA-Energy Dissipators Pg. 10-18

REVISIONS DESCRIPTION

NO. REV. DATE

DETENTION BASIN PLAN  
STREET & STORM SEWER PLANS

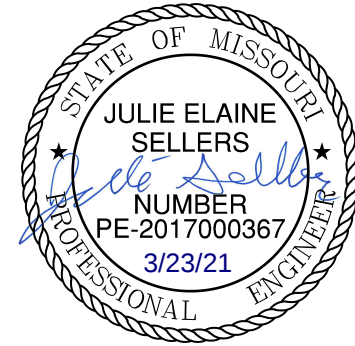
WOODSIDE RIDGE  
SECOND PLAT

LEE'S SUMMIT, MO

2020

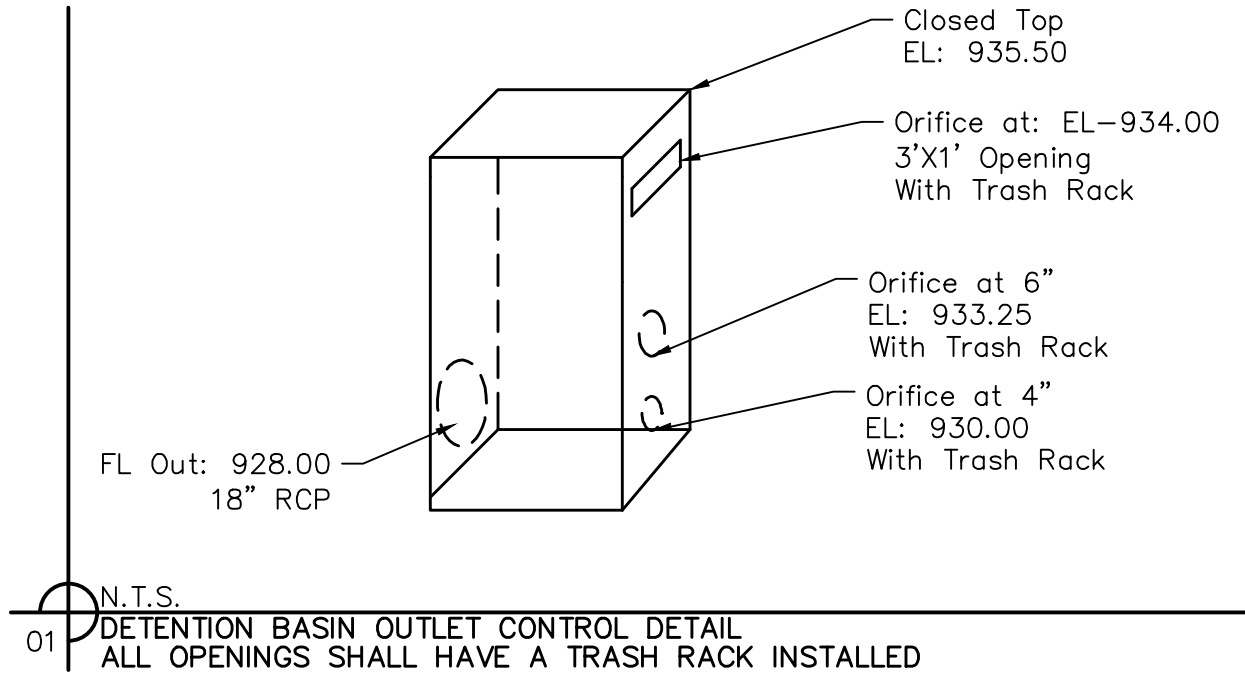
drawn by: \_\_\_\_\_ C.S.M.  
checked by: \_\_\_\_\_ S.M.S.  
designed by: \_\_\_\_\_ C.S.M.  
QA/QC by: \_\_\_\_\_ J.E.S.  
project no.: C18-1140  
date: 2020.07.10

SHEET  
C121



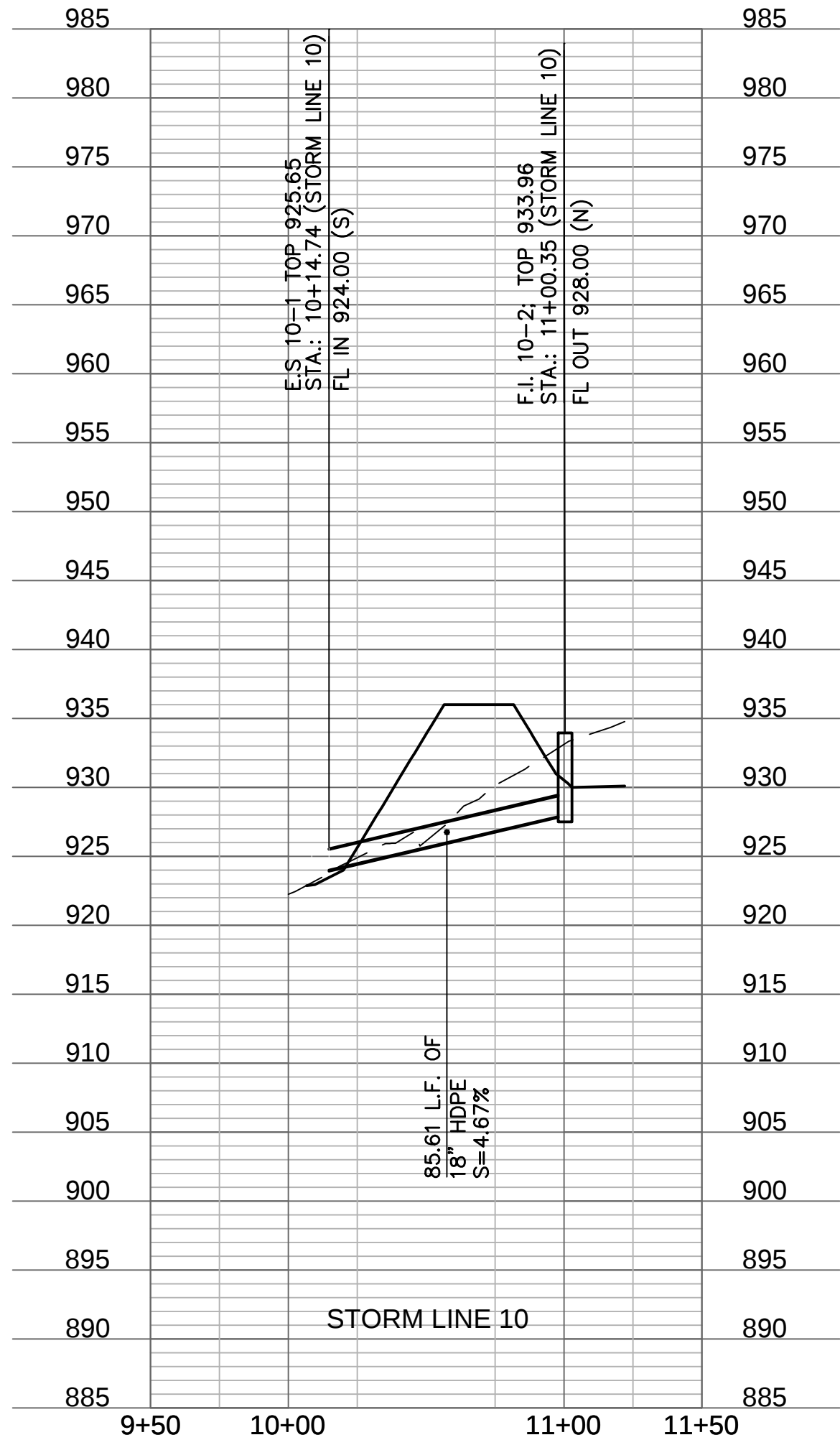
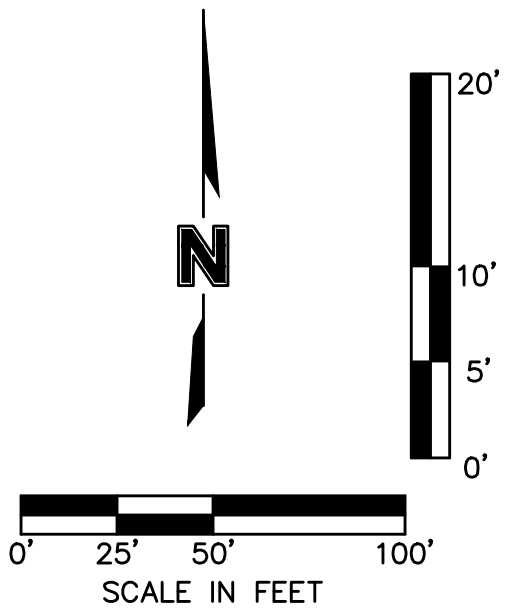
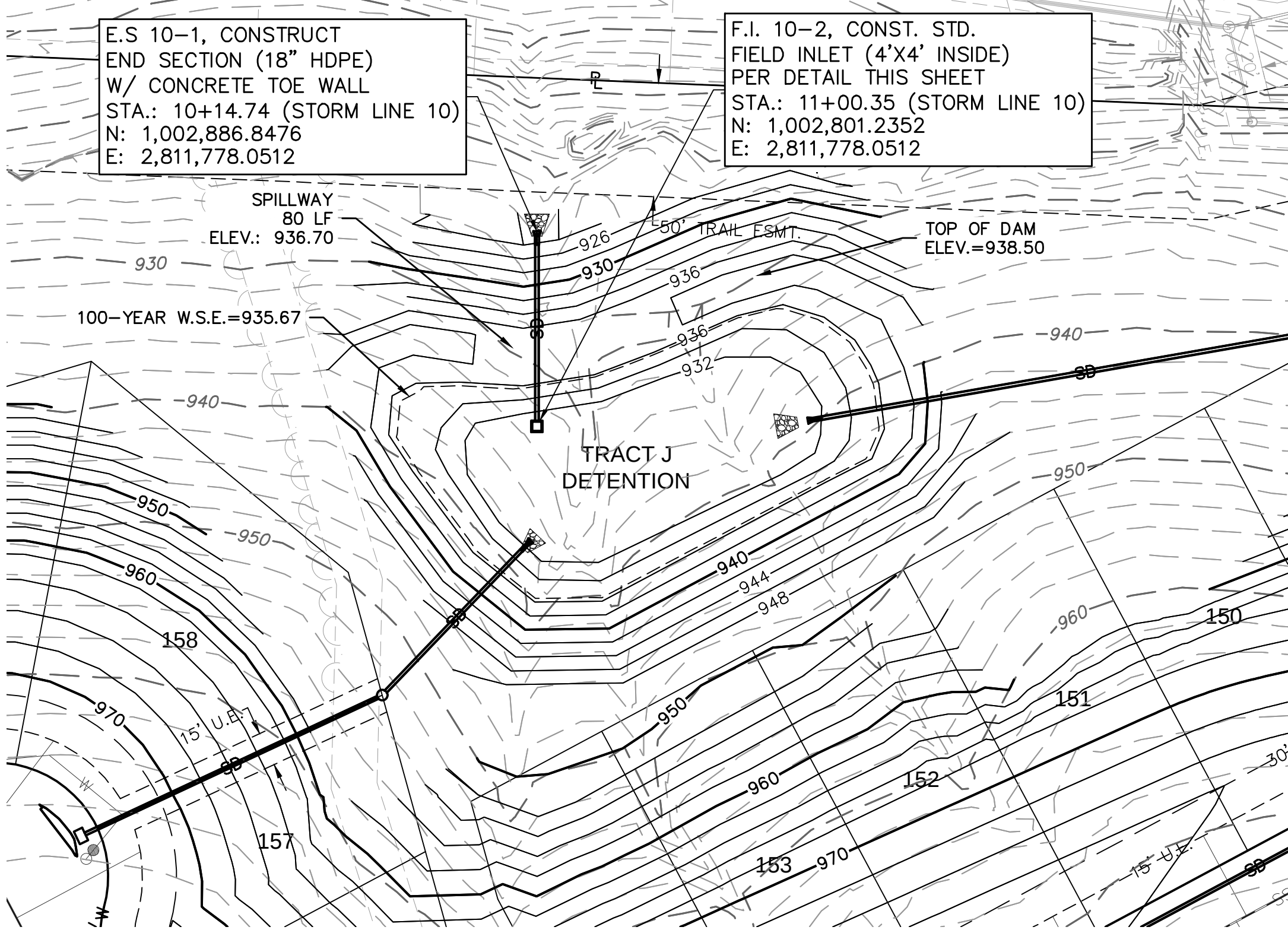
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NO. 001101101  
301 E. BROADWAY, SUITE 100  
NORTH KANSAS CITY, MO 64116  
TEL. 816.861.1177  
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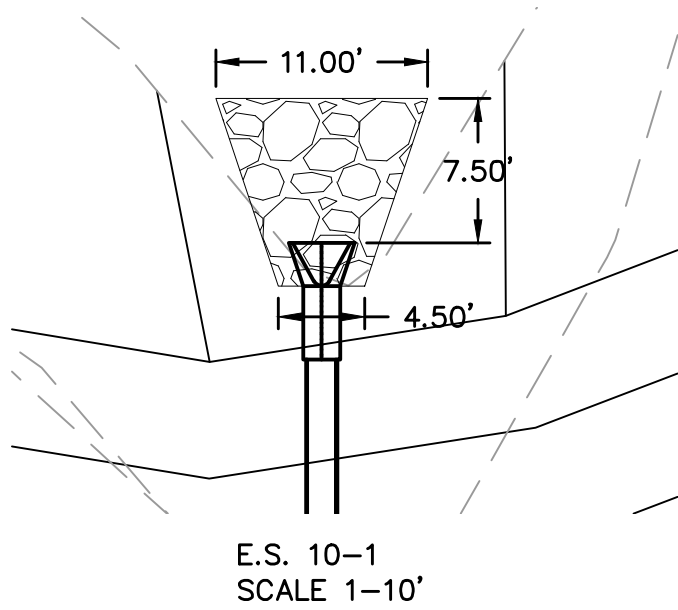


| EARTHWORK QUANTITIES |             |
|----------------------|-------------|
| CUT (C.Y.)           | FILL (C.Y.) |
| 4,012                | 2,535       |

| 10yr. W.S.E. | 100yr. W.S.E. |
|--------------|---------------|
| 934.36       | 935.67        |



- NOTES:
1. CONTRACTOR SHALL MAINTAIN DRAINAGE DURING CONSTRUCTION AND IS RESPONSIBLE FOR ANY DEWATERING NECESSARY FOR CONSTRUCTION. DEWATERING SHALL BE SUBSIDIARY TO OTHER BID ITEMS.
  2. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS DETAILING THE STRUCTURE DIMENSIONS, INVERTS, AND STRUCTURAL REINFORCEMENT DETAILS ON THE PRINCIPAL SPILLWAY.



| Riprap Calculations |                  |               |        |      |              |             |
|---------------------|------------------|---------------|--------|------|--------------|-------------|
| End Section         | Q <sub>100</sub> | Pipe Diameter | Class* | D50* | Apron Length | Apron Depth |
|                     | (cfs)            | (ft)          |        | (in) | (ft)         | (ft)        |
| E.S. 10-1           | 18.41            | 1.5           | 3      | 10   | 7.5          | 2.00        |
| Area (SY)           |                  |               |        |      |              |             |
| E.S. 10-1           |                  |               |        |      |              | 27.4        |

\*Per Table 10.1 HEC 14-FHWA-Energy Dissipators Pg. 10-18

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TEL 816.861.1177  
WWW.OLSSON.COM

STATE OF MISSOURI  
JULIE ELAINE SELLERS  
Professional Engineer  
NUMBER  
PE-2017000367  
3/23/21

BY  
NO. REV.  
DATE  
REVISIONS DESCRIPTION

DETENTION BASIN PLAN  
STREET & STORM SEWER PLANS  
WOODSIDE RIDGE  
SECOND PLAT  
LEE'S SUMMIT, MO  
2020

drawn by: \_\_\_\_\_ C.S.M.  
checked by: \_\_\_\_\_ S.M.S.  
designed by: \_\_\_\_\_ C.S.M.  
QA/QC by: \_\_\_\_\_ J.E.S.  
project no.: C18-1140  
date: 2020.07.10

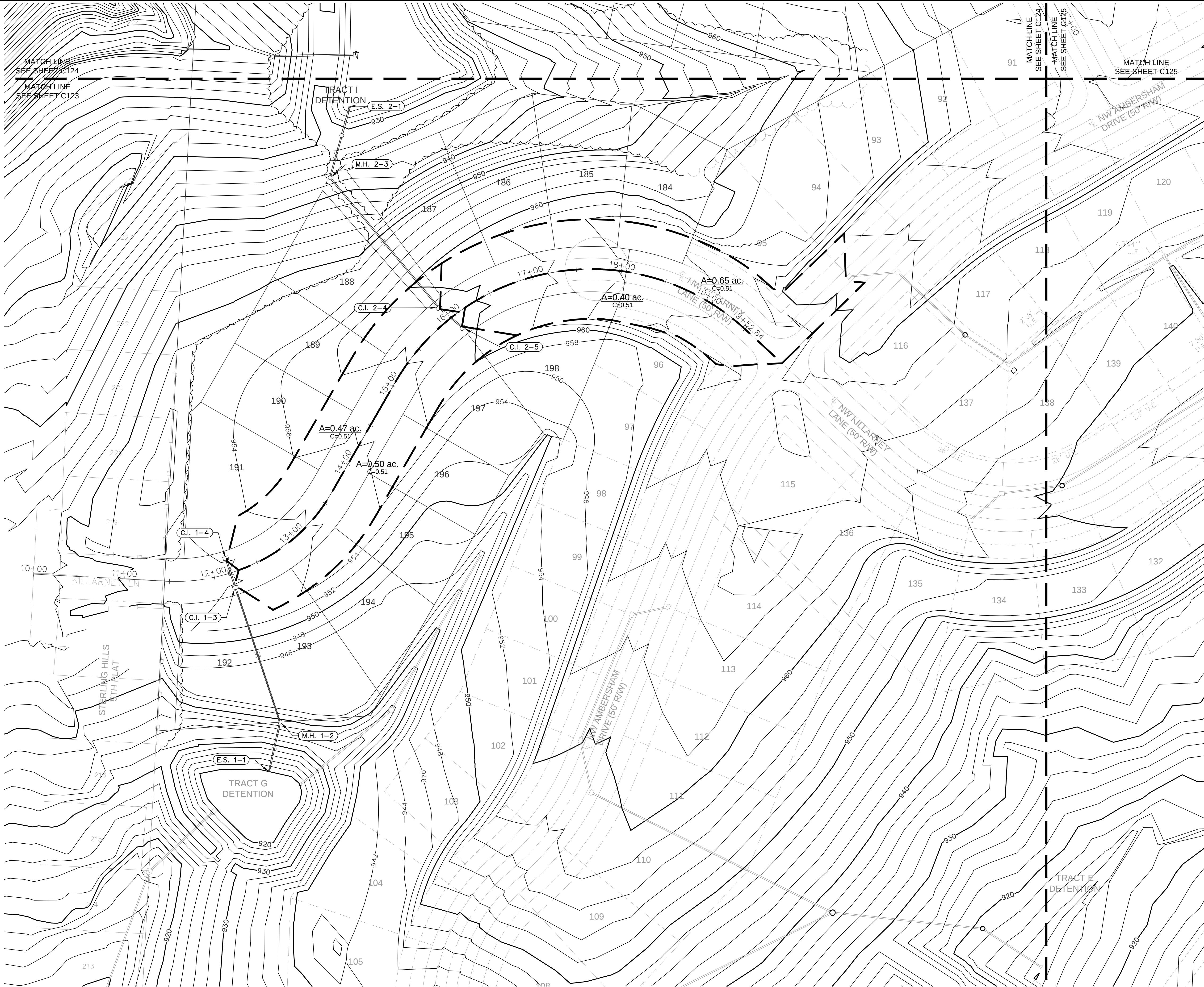
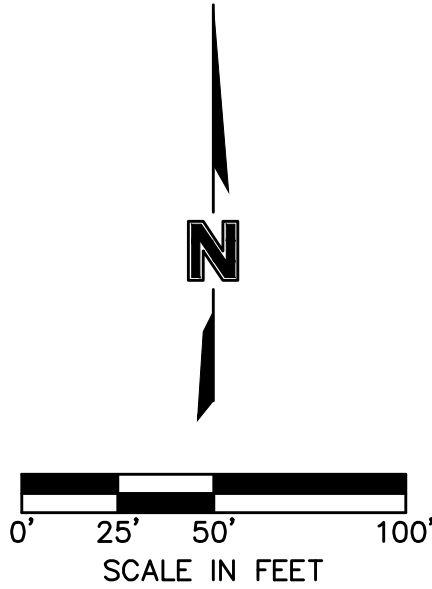
SHEET  
C122



KEY MAP

| LEGEND |                                |
|--------|--------------------------------|
|        | FINISHED INDEX CONTOURS        |
|        | FINISHED INTERMEDIATE CONTOURS |
|        | RIDGE LINE                     |
|        | DRAINAGE AREA                  |
|        | RUNOFF COEFFICIENT             |
|        | STORM STRUCTURE NUMBER         |

- NOTES:
1. INDIVIDUAL LOT OWNERS SHALL NOT CHANGE OR OBSTRUCT THE DRAINAGE FLOW LINES OR PATHS ON THE LOTS, AS SHOWN ON THE MASTER DRAINAGE PLAN, UNLESS SPECIFIC APPLICATION IS MADE AND APPROVED BY THE CITY ENGINEER.
2. PLAT IS LOCATED IN ZONE X, "AREAS OUTSIDE THE 1-PERCENT ANNUAL CHANCE FLOODPLAINS, AREAS OF 1-PERCENT ANNUAL CHANCE SHEET FLOW FLOODING WHERE THE AVERAGE DEPTHS ARE LESS THAN 1 FOOT, AREAS OF 1-PERCENT ANNUAL CHANCE STREAM FLOODING WHERE THE CONTRIBUTING DRAINAGE AREA IS LESS THAN 1 SQUARE MILE, OR AREAS PROTECTED FROM THE 1-PERCENT ANNUAL CHANCE FLOOD BY LEVEES. NO BASE FLOOD ELEVATIONS OR DEPTHS ARE SHOWN WITHIN THIS ZONE"
3. BUFFER ZONE FOR NATURAL STREAMS IS LOCATED WITHIN PLAT.
4. MLO ELEVATIONS HAVE BEEN PROVIDED AT EACH LOT CORNER. INTERPOLATION WILL BE ALLOWED BETWEEN CORNER MBOES SHOWN ON THE MASTER DRAINAGE PLAN, DEPENDING ON THE LOCATION OF THE LOWEST OPENING ON THE PROPOSED STRUCTURE.
5. NO BUILDING PERMITS WILL BE ISSUED UNTIL AN AS-GRADED MASTER DRAINAGE PLAN HAS BEEN SUBMITTED TO THE CITY AND APPROVED BY THE CITY.



STATE OF MISSOURI  
JULIE ELAINE  
SELLERS  
NUMBER  
PE-2017000367  
3/23/21  
PROFESSIONAL

BY  
NO. REV.  
DATE  
REVISIONS DESCRIPTION

DRAINAGE PLAN  
STREET & STORM SEWER PLANS  
WOODSIDE RIDGE  
SECOND PLAT  
LEE'S SUMMIT, MO  
2020

drawn by: C.S.M.  
checked by: S.M.S.  
designed by: C.S.M.  
QA/QC by: J.E.S.  
project no.: C18-1140  
date: 2020.07.10

SHEET  
C123

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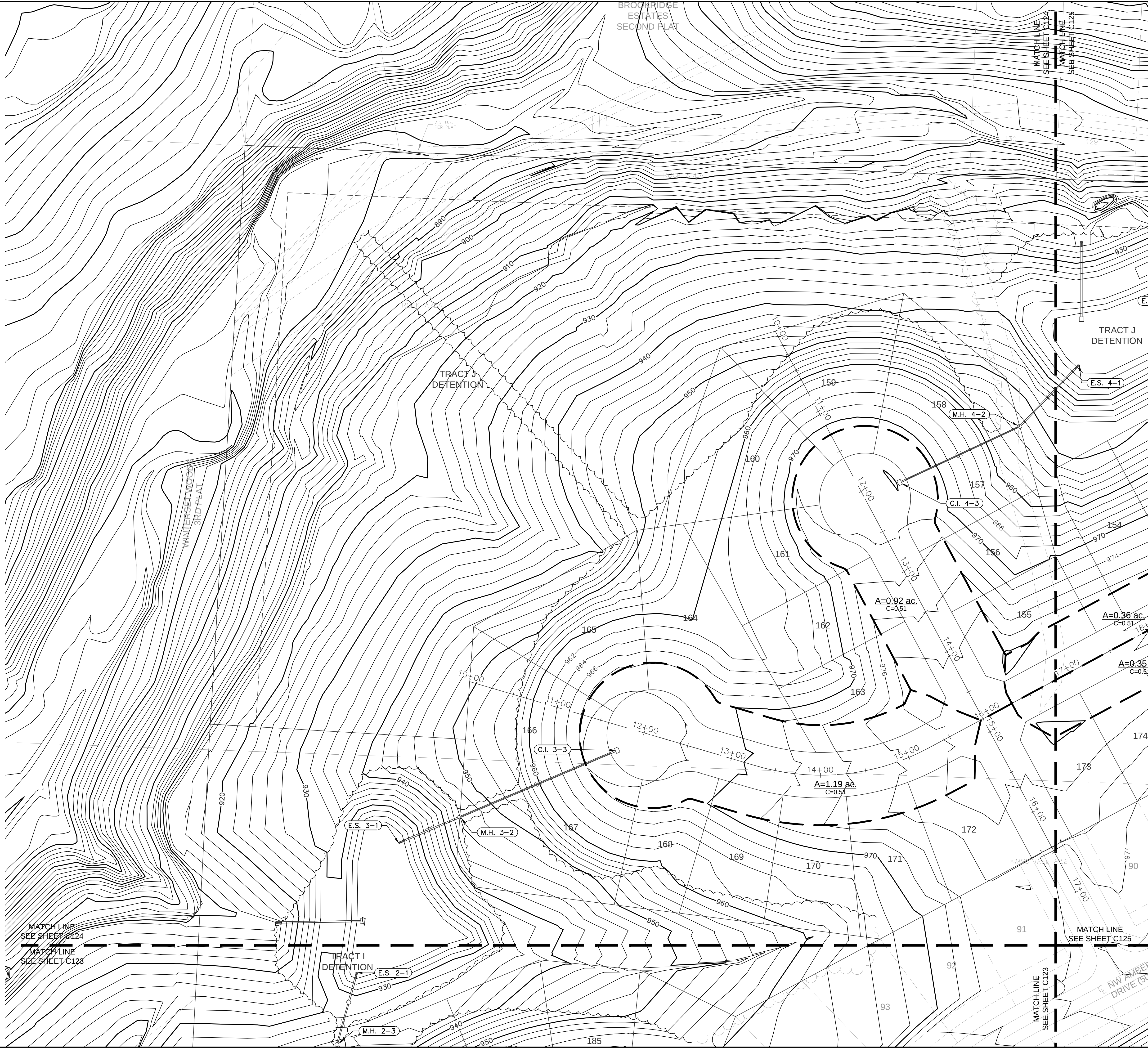
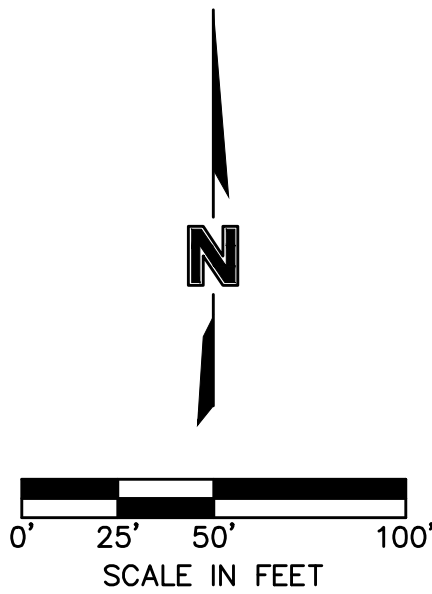
NO Conflicts of Interest at 03/23/21  
300 E. BROADWAY, SUITE 100  
NORTH KANSAS CITY, MO 64116  
TEL 816.861.1177  
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KEY MAP

| LEGEND |                                |
|--------|--------------------------------|
|        | FINISHED INDEX CONTOURS        |
|        | FINISHED INTERMEDIATE CONTOURS |
|        | RIDGE LINE                     |
|        | DRAINAGE AREA                  |
|        | RUNOFF COEFFICIENT             |
|        | STORM STRUCTURE NUMBER         |

- NOTES:
- INDIVIDUAL LOT OWNERS SHALL NOT CHANGE OR OBSTRUCT THE DRAINAGE FLOW LINES OR PATHS ON THE LOTS, AS SHOWN ON THE MASTER DRAINAGE PLAN, UNLESS SPECIFIC APPLICATION IS MADE AND APPROVED BY THE CITY ENGINEER.
  - PLAT IS LOCATED IN ZONE X, "AREAS OUTSIDE THE 1-PERCENT ANNUAL CHANCE FLOODPLAINS, AREAS OF 1-PERCENT ANNUAL CHANCE SHEET FLOW FLOODING WHERE THE AVERAGE DEPTHS ARE LESS THAN 1 FOOT, AREAS OF 1-PERCENT ANNUAL CHANCE STREAM FLOODING WHERE THE CONTRIBUTING DRAINAGE AREA IS LESS THAN 1 SQUARE MILE, OR AREAS PROTECTED FROM THE 1-PERCENT ANNUAL CHANCE FLOOD BY LEVEES." NO BASE FLOOD ELEVATIONS OR DEPTHS ARE SHOWN WITHIN THIS ZONE"
  - BUFFER ZONE FOR NATURAL STREAMS IS LOCATED WITHIN PLAT.
  - MLO ELEVATIONS HAVE BEEN PROVIDED AT EACH LOT CORNER. INTERPOLATION WILL BE ALLOWED BETWEEN CORNER MBOES SHOWN ON THE MASTER DRAINAGE PLAN, DEPENDING ON THE LOCATION OF THE LOWEST OPENING ON THE PROPOSED STRUCTURE.
  - NO BUILDING PERMITS WILL BE ISSUED UNTIL AN AS-GRADED MASTER DRAINAGE PLAN HAS BEEN SUBMITTED TO THE CITY AND APPROVED BY THE CITY.



STATE OF MISSOURI  
JULIE ELAINE SELLERS  
Professional Engineer  
NUMBER  
PE-2017000367  
3/23/21

BY  
NO. REV.  
DATE  
REVISIONS DESCRIPTION

DRAINAGE PLAN  
STREET & STORM SEWER PLANS

WOODSIDE RIDGE  
SECOND PLAT

LEE'S SUMMIT, MO

2020

REVISIONS

drawn by: C.S.M.  
checked by: S.M.S.  
designed by: C.S.M.  
QA/QC by: J.E.S.  
project no.: C18-1140  
date: 2020.07.10

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C124

USER: jbellers

DWG: F:\2018\1001-1500\018-1140-C\40-Design\AutoCAD\Final Plans\Sheets\GNCV\Street & Storm\C\_DRN02\_C181140.dwg

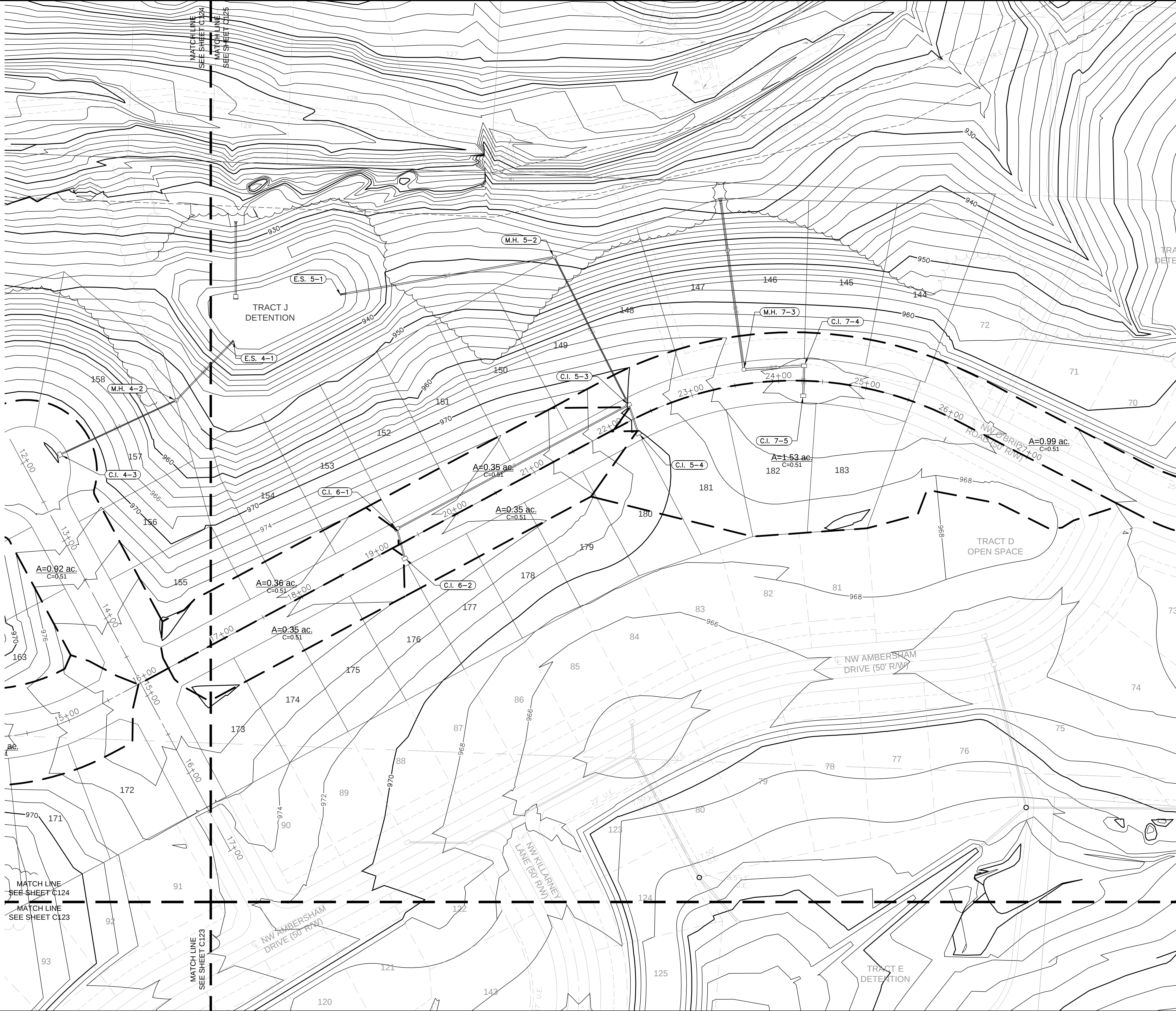
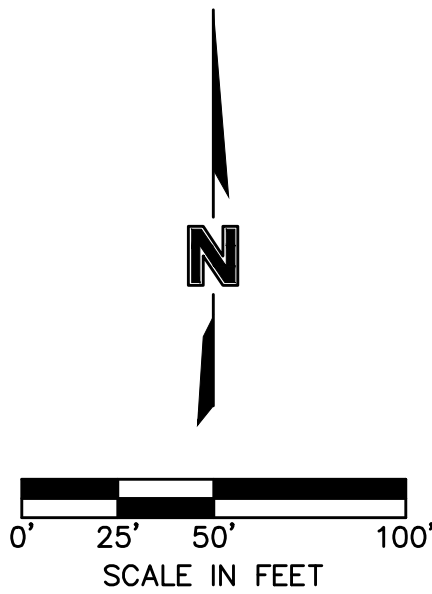
DATE: Mar 23, 2021 2:39pm



KEY MAP

| LEGEND |                                |
|--------|--------------------------------|
|        | FINISHED INDEX CONTOURS        |
|        | FINISHED INTERMEDIATE CONTOURS |
|        | RIDGE LINE                     |
|        | DRAINAGE AREA                  |
|        | RUNOFF COEFFICIENT             |
|        | STORM STRUCTURE NUMBER         |

- NOTES:
- INDIVIDUAL LOT OWNERS SHALL NOT CHANGE OR OBSTRUCT THE DRAINAGE FLOW LINES OR PATHS ON THE LOTS, AS SHOWN ON THE MASTER DRAINAGE PLAN, UNLESS SPECIFIC APPLICATION IS MADE AND APPROVED BY THE CITY ENGINEER.
  - PLAT IS LOCATED IN ZONE X, "AREAS OUTSIDE THE 1-PERCENT ANNUAL CHANCE FLOODPLAINS, AREAS OF 1-PERCENT ANNUAL CHANCE SHEET FLOW FLOODING WHERE THE AVERAGE DEPTHS ARE LESS THAN 1 FOOT, AREAS OF 1-PERCENT ANNUAL CHANCE STREAM FLOODING WHERE THE CONTRIBUTING DRAINAGE AREA IS LESS THAN 1 SQUARE MILE, OR AREAS PROTECTED FROM THE 1-PERCENT ANNUAL CHANCE FLOOD BY LEVEES. NO BASE FLOOD ELEVATIONS OR DEPTHS ARE SHOWN WITHIN THIS ZONE"
  - BUFFER ZONE FOR NATURAL STREAMS IS LOCATED WITHIN PLAT.
  - MLO ELEVATIONS HAVE BEEN PROVIDED AT EACH LOT CORNER. INTERPOLATION WILL BE ALLOWED BETWEEN CORNER MBOES SHOWN ON THE MASTER DRAINAGE PLAN, DEPENDING ON THE LOCATION OF THE LOWEST OPENING ON THE PROPOSED STRUCTURE.
  - NO BUILDING PERMITS WILL BE ISSUED UNTIL AN AS-GRADED MASTER DRAINAGE PLAN HAS BEEN SUBMITTED TO THE CITY AND APPROVED BY THE CITY.



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NO Conflicts of Authority at 03/23/2021  
303 E. BURNING TREE, SUITE 100  
NORTH KANSAS CITY, MO 64116  
TEL 816.861.1177  
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STATE OF MISSOURI  
JULIE ELAINE SELLERS  
Professional Engineer  
NUMBER  
PE-2017000367  
3/23/21

|                       |  |
|-----------------------|--|
| BY                    |  |
| NO. REV.              |  |
| DATE                  |  |
| REVISIONS DESCRIPTION |  |
| NO. REV.              |  |
| DATE                  |  |
| REVISIONS DESCRIPTION |  |

DRAINAGE PLAN  
STREET & STORM SEWER PLANS

WOODSIDE RIDGE  
SECOND PLAT

LEE'S SUMMIT, MO

drawn by: C.S.M.  
checked by: S.M.S.  
designed by: C.S.M.  
QA/QC by: J.E.S.  
project no.: C18-1140  
date: 2020.07.10

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C125

REVISIONS

2020

| Storm Sewer Design Calculation Table |                      |             |                      |                        |           |               |             |                  |                 |                |                 |                           |
|--------------------------------------|----------------------|-------------|----------------------|------------------------|-----------|---------------|-------------|------------------|-----------------|----------------|-----------------|---------------------------|
| 10 Year Return Frequency             |                      |             |                      |                        |           |               |             |                  |                 |                |                 |                           |
| Upstream Structure                   | Downstream Structure | Length (ft) | Upstream Invert (ft) | Downstream Invert (ft) | Slope (%) | Diameter (in) | Manning's n | Total Flow (cfs) | Velocity (ft/s) | Capacity (cfs) | Flow Depth (ft) | Upstream Struct. HGL (ft) |
| M.H. 5-2                             | Outfall              | 253.96      | 933.89               | 930.00                 | 1.53      | 18            | 0.012       | 5.48             | 3.60            | 14.08          | 1.50            | 934.95                    |
| C.I. 5-3                             | M.H. 5-2             | 188.19      | 964.02               | 934.29                 | 15.80     | 15            | 0.012       | 5.48             | 6.22            | 27.80          | 0.77            | 964.97                    |
| C.I. 6-1                             | C.I. 5-3             | 299.05      | 971.17               | 964.62                 | 2.19      | 15            | 0.012       | 2.66             | 5.58            | 10.35          | 0.43            | 971.82                    |
| C.I. 6-2                             | C.I. 6-1             | 34.93       | 972.17               | 971.37                 | 2.29      | 15            | 0.012       | 1.31             | 3.27            | 10.59          | 0.45            | 972.62                    |
| C.I. 5-4                             | C.I. 5-3             | 34.40       | 965.30               | 964.62                 | 1.98      | 15            | 0.012       | 1.41             | 4.20            | 9.84           | 0.35            | 965.77                    |
| M.H. 7-2                             | Outfall              | 42.64       | 925.43               | 925.00                 | 1.01      | 24            | 0.012       | 10.22            | 6.48            | 24.61          | 0.90            | 926.57                    |
| M.H. 7-3                             | M.H. 7-2             | 178.96      | 955.95               | 925.75                 | 16.88     | 24            | 0.012       | 10.22            | 6.94            | 100.66         | 0.82            | 957.09                    |
| C.I. 7-4                             | M.H. 7-3             | 68.71       | 957.92               | 956.55                 | 1.99      | 24            | 0.012       | 10.22            | 7.54            | 34.60          | 0.75            | 959.06                    |
| C.I. 7-5                             | C.I. 7-4             | 34.00       | 959.20               | 958.52                 | 2.00      | 18            | 0.012       | 6.12             | 6.82            | 16.09          | 0.64            | 960.15                    |
| M.H. 2-2                             | Outfall              | 33.74       | 922.67               | 922.00                 | 1.99      | 18            | 0.012       | 3.94             | 2.23            | 16.03          | 1.50            | 926.77                    |
| M.H. 2-3                             | M.H. 2-2             | 48.32       | 931.95               | 925.78                 | 12.77     | 15            | 0.012       | 3.94             | 4.20            | 25.00          | 1.02            | 932.75                    |
| C.I. 2-4                             | M.H. 2-3             | 187.22      | 952.46               | 932.55                 | 10.63     | 15            | 0.012       | 3.94             | 9.33            | 22.81          | 0.35            | 953.26                    |
| C.I. 2-5                             | C.I. 2-4             | 34.74       | 954.94               | 953.96                 | 2.82      | 15            | 0.012       | 1.50             | 4.99            | 11.75          | 0.30            | 955.42                    |
| M.H. 4-2                             | Outfall              | 91.51       | 939.15               | 930.00                 | 10.00     | 15            | 0.012       | 3.45             | 3.65            | 22.12          | 1.25            | 939.90                    |
| C.I. 4-3                             | M.H. 4-2             | 145.82      | 964.74               | 948.91                 | 10.86     | 15            | 0.012       | 3.45             | 8.99            | 23.05          | 0.33            | 965.49                    |
| M.H. 1-2                             | Outfall              | 55.95       | 921.68               | 920.00                 | 3.00      | 15            | 0.012       | 4.34             | 3.54            | 12.12          | 1.25            | 924.90                    |
| C.I. 1-3                             | M.H. 1-2             | 156.54      | 946.25               | 935.08                 | 7.14      | 15            | 0.012       | 4.34             | 8.66            | 18.69          | 0.41            | 947.09                    |
| C.I. 1-4                             | C.I. 1-3             | 34.01       | 947.53               | 946.85                 | 2.00      | 15            | 0.012       | 2.27             | 5.21            | 9.89           | 0.41            | 948.13                    |
| M.H. 3-2                             | Outfall              | 73.02       | 923.46               | 922.00                 | 2.00      | 18            | 0.012       | 4.46             | 2.52            | 16.09          | 1.50            | 926.84                    |
| C.I. 3-3                             | M.H. 3-2             | 188.00      | 960.16               | 942.02                 | 9.65      | 18            | 0.012       | 4.46             | 9.13            | 35.34          | 0.36            | 960.97                    |

| Inlet Design Table       |                |           |                 |            |                 |                |                             |               |             |                           |              |               |               |
|--------------------------|----------------|-----------|-----------------|------------|-----------------|----------------|-----------------------------|---------------|-------------|---------------------------|--------------|---------------|---------------|
| 10 Year Return Frequency |                |           |                 |            |                 |                |                             |               |             |                           |              |               |               |
| Inlet ID                 | Inlet Location | Peak Flow | Upstream Bypass | Total Flow | Clogging Factor | Inlet Capacity | Sag Inlet Capacity (Note 1) | Captured Flow | Bypass Flow | Inlet Efficiency (Note 2) | Gutter Depth | Gutter Spread | Ponding Depth |
|                          |                | (cfs)     | (cfs)           | (cfs)      |                 | (cfs)          | (cfs)                       | (cfs)         | (cfs)       | (%)                       | (ft)         | (ft)          | (ft)          |
| C.I. 5-3                 | GRADE          | 1.31      | 0.10            | 1.41       | 1.00            | 1.12           | 1.12                        | 1.12          | 0.29        | 79.64%                    | 0.12         | 5.85          | ...           |
| C.I. 5-4                 | GRADE          | 1.31      | 0.09            | 1.41       | 1.00            | 1.12           | 1.12                        | 1.12          | 0.29        | 79.72%                    | 0.12         | 5.85          | ...           |
| C.I. 6-1                 | GRADE          | 1.35      | 0.00            | 1.35       | 1.00            | 1.25           | 1.25                        | 1.25          | 0.10        | 92.60%                    | 0.15         | 7.46          | ...           |
| C.I. 6-2                 | GRADE          | 1.31      | 0.00            | 1.31       | 1.00            | 1.22           | 1.22                        | 1.22          | 0.09        | 92.83%                    | 0.15         | 7.38          | ...           |
| C.I. 7-4(L)              | SAG            | 0.75      | 0.39            | 1.14       | 0.80            | 19.40          | 15.52                       | 1.14          | 0.00        | 100.00%                   | 0.14         | 6.76          | ...           |
| C.I. 7-4(R)              | SAG            | 2.25      | 0.00            | 2.25       | 0.80            | 19.40          | 15.52                       | 2.25          | 0.00        | 100.00%                   | 0.14         | 6.97          | ...           |
| C.I. 7-4(B)              | SAG            | 0.71      | 0.00            | 0.71       | 0.80            | 19.40          | 15.52                       | 0.71          | 0.00        | 100.00%                   | ...          | ...           | ...           |
| C.I. 7-4                 | SAG            | 3.71      | 0.39            | 4.10       | 0.80            | 19.40          | 15.52                       | 4.10          | 0.00        | 100.00%                   | ...          | ...           | ...           |
| C.I. 7-5(L)              | SAG            | 2.25      | 0.38            | 2.63       | 0.80            | 19.40          | 15.52                       | 2.63          | 0.00        | 100.00%                   | 0.15         | 7.39          | ...           |
| C.I. 7-5(R)              | SAG            | 1.61      | 0.00            | 1.61       | 0.80            | 19.40          | 15.52                       | 1.61          | 0.00        | 100.00%                   | 0.15         | 7.71          | ...           |
| C.I. 7-5(B)              | SAG            | 1.88      | 0.00            | 1.88       | 0.80            | 19.40          | 15.52                       | 1.88          | 0.00        | 100.00%                   | ...          | ...           | ...           |
| C.I. 7-5                 | SAG            | 5.74      | 0.38            | 6.12       | 0.80            | 19.40          | 15.52                       | 6.12          | 0.00        | 100.00%                   | ...          | ...           | ...           |
| C.I. 4-3(L)              | SAG            | 2.29      | 0.00            | 2.29       | 0.80            | 19.40          | 15.52                       | 2.29          | 0.00        | 100.00%                   | 0.14         | 7.13          | ...           |
| C.I. 4-3(R)              | SAG            | 0.53      | 0.00            | 0.53       | 0.80            | 19.40          | 15.52                       | 0.53          | 0.00        | 100.00%                   | 0.10         | 5.03          | ...           |
| C.I. 4-3(B)              | SAG            | 0.64      | 0.00            | 0.64       | 0.80            | 19.40          | 15.52                       | 0.64          | 0.00        | 100.00%                   | ...          | ...           | ...           |
| C.I. 4-3                 | SAG            | 3.45      | 0.00            | 3.45       | 0.80            | 19.40          | 15.52                       | 3.45          | 0.00        | 100.00%                   | ...          | ...           | ...           |
| C.I. 3-3(L)              | SAG            | 1.99      | 0.00            | 1.99       | 0.80            | 19.40          | 15.52                       | 1.99          | 0.00        | 100.00%                   | 0.17         | 8.59          | ...           |
| C.I. 3-3(R)              | SAG            | 1.80      | 0.00            | 1.80       | 0.80            | 19.40          | 15.52                       | 1.80          | 0.00        | 100.00%                   | 0.16         | 7.77          | ...           |
| C.I. 3-3(B)              | SAG            | 0.68      | 0.00            | 0.68       | 0.80            | 19.40          | 15.52                       | 0.68          | 0.00        | 100.00%                   | ...          | ...           | ...           |
| C.I. 3-3                 | SAG            | 4.46      | 0.00            | 4.46       | 0.80            | 19.40          | 15.52                       | 4.46          | 0.00        | 100.00%                   | ...          | ...           | ...           |
| C.I. 2-4                 | GRADE          | 2.44      | 0.00            | 2.44       | 1.00            | 1.93           | 1.93                        | 1.93          | 0.51        | 79.16%                    | 0.17         | 8.26          | ...           |
| C.I. 2-5                 | GRADE          | 1.50      | 0.00            | 1.50       | 1.00            | 1.30           | 1.30                        | 1.30          | 0.20        | 86.81%                    | 0.14         | 6.88          | ...           |
| C.I. 1-3                 | GRADE          | 1.88      | 0.20            | 2.07       | 1.00            | 1.69           | 1.69                        | 1.69          | 0.39        | 81.41%                    | 0.15         | 7.69          | ...           |
| C.I. 1-4                 | GRADE          | 1.76      | 0.51            | 2.27       | 1.00            | 1.81           | 1.81                        | 1.81          | 0.46        | 79.80%                    | 0.16         | 7.96          | ...           |

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

| Drainage Area Design Table |               |      |       |         |      |           |
|----------------------------|---------------|------|-------|---------|------|-----------|
| 10 Year Return Frequency   |               |      |       |         |      |           |
| Inlet ID                   | Drainage Area | C    | Tc    | i       | K    | Peak Flow |
|                            | (ac)          |      | (min) | (in/hr) |      | (cfs)     |
| C.I. 5-3                   | 0.35          | 0.51 | 5.00  | 7.35    | 1.00 | 1.31      |
| C.I. 5-4                   | 0.35          | 0.51 | 5.00  | 7.35    | 1.00 | 1.31      |
| C.I. 6-1                   | 0.36          | 0.51 | 5.00  | 7.35    | 1.00 | 1.35      |
| C.I. 6-2                   | 0.35          | 0.51 | 5.00  | 7.35    | 1.00 | 1.31      |
| C.I. 7-4(L)                | 0.20          | 0.51 | 5.00  | 7.35    | 1.00 | 0.75      |
| C.I. 7-4(R)                | 0.60          | 0.51 | 5.00  | 7.35    | 1.00 | 2.25      |
| C.I. 7-4(B)                | 0.19          | 0.51 | 5.00  | 7.35    | 1.00 | 0.75      |
| C.I. 7-4                   | 0.99          | 0.51 | 5.00  | 7.35    | 1.00 | 3.71      |
| C.I. 7-5(L)                | 0.60          | 0.51 | 5.00  | 7.35    | 1.00 | 2.25      |
| C.I. 7-5(R)                | 0.43          | 0.51 | 5.00  | 7.35    | 1.00 | 1.61      |
| C.I. 7-5(B)                | 0.50          | 0.51 | 5.00  | 7.35    | 1.00 | 1.88      |
| C.I. 7-5                   | 1.53          | 0.51 | 5.00  | 7.35    | 1.00 | 5.74      |
| C.I. 4-3(L)                | 0.61          | 0.51 | 5.00  | 7.35    | 1.00 | 2.29      |
| C.I. 4-3(R)                | 0.14          | 0.51 | 5.00  | 7.35    | 1.00 | 0.53      |
| C.I. 4-3(B)                | 0.17          | 0.51 | 5.00  | 7.35    | 1.00 | 0.64      |
| C.I. 4-3                   | 0.92          | 0.51 | 5.00  | 7.35    | 1.00 | 3.45      |
| C.I. 3-3(L)                | 0.53          | 0.51 | 5.00  | 7.35    | 1.00 | 1.99      |
| C.I. 3-3(R)                | 0.48          | 0.51 | 5.00  | 7.35    | 1.00 | 1.80      |
| C.I. 3-3(B)                | 0.18          | 0.51 | 5.00  | 7.35    | 1.00 | 0.68      |
| C.I. 3-3                   | 1.19          | 0.51 | 5.00  | 7.35    | 1.00 | 4.46      |
| C.I. 2-4                   | 0.65          | 0.51 | 5.00  | 7.35    | 1.00 | 2.44      |
| C.I. 2-5                   | 0.40          | 0.51 | 5.00  | 7.35    | 1.00 | 1.50      |
| C.I. 1-3                   | 0.50          | 0.51 | 5.00  | 7.35    | 1.00 | 1.88      |
| C.I. 1-4                   | 0.47          | 0.51 | 5.00  | 7.35    | 1.00 | 1.76      |

10 YEAR DRAINAGE TABLES  
STREET & STORM SEWER PLANS

WOODSIDE RIDGE  
SECOND PLAT

LEE'S SUMMIT, MO

2020

BY

NO. REV.

2

DATE

3/16/2021

REVISIONS DESCRIPTION

REVISED PER CONTRACTOR COMMENT

REVISIONS

drawn by: \_\_\_\_\_ C.S.M  
checked by: \_\_\_\_\_ S.M.S  
designed by: \_\_\_\_\_ C.S.M  
QA/QC by: \_\_\_\_\_ J.E.S  
project no.: C18-1140  
date: 2020.07.10

SHEET  
C126

STATE OF MISSOURI

JULIE ELAINE SELLERS

Professional Engineer

NUMBER PE-2017000367

3/23/21

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303 E. BURNS ST., SUITE 100  
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| Storm Sewer Design Calculation Table |                      |             |                      |                        |           |               |             |                  |                 |                |                 |                           |
|--------------------------------------|----------------------|-------------|----------------------|------------------------|-----------|---------------|-------------|------------------|-----------------|----------------|-----------------|---------------------------|
| 100 Year Return Frequency            |                      |             |                      |                        |           |               |             |                  |                 |                |                 |                           |
| Upstream Structure                   | Downstream Structure | Length (ft) | Upstream Invert (ft) | Downstream Invert (ft) | Slope (%) | Diameter (in) | Manning's n | Total Flow (cfs) | Velocity (ft/s) | Capacity (cfs) | Flow Depth (ft) | Upstream Struct. HGL (ft) |
| M.H. 5-2                             | Outfall              | 253.96      | 933.89               | 930.00                 | 1.53      | 18            | 0.012       | 9.89             | 5.60            | 14.08          | 1.50            | 937.59                    |
| C.I. 5-3                             | M.H. 5-2             | 188.19      | 964.02               | 934.29                 | 15.80     | 15            | 0.012       | 9.89             | 8.15            | 27.80          | 1.25            | 965.20 j                  |
| C.I. 6-1                             | C.I. 5-3             | 299.05      | 971.17               | 964.62                 | 2.19      | 15            | 0.012       | 4.67             | 6.65            | 10.35          | 0.59            | 972.05                    |
| C.I. 6-2                             | C.I. 6-1             | 34.93       | 972.17               | 971.37                 | 2.29      | 15            | 0.012       | 2.30             | 3.65            | 10.59          | 0.68            | 972.78 j                  |
| C.I. 5-4                             | C.I. 5-3             | 34.40       | 965.30               | 964.62                 | 1.98      | 15            | 0.012       | 2.60             | 4.36            | 9.84           | 0.58            | 965.95                    |
| M.H. 7-2                             | Outfall              | 42.64       | 925.43               | 925.00                 | 1.01      | 24            | 0.012       | 18.97            | 7.91            | 24.61          | 1.32            | 927.00                    |
| M.H. 7-3                             | M.H. 7-2             | 178.96      | 955.95               | 925.75                 | 16.88     | 24            | 0.012       | 18.97            | 8.21            | 100.66         | 1.25            | 957.52                    |
| C.I. 7-4                             | M.H. 7-3             | 68.71       | 957.92               | 956.55                 | 1.99      | 24            | 0.012       | 18.97            | 9.23            | 34.60          | 1.06            | 959.49                    |
| C.I. 7-5                             | C.I. 7-4             | 34.00       | 959.20               | 958.52                 | 2.00      | 18            | 0.012       | 11.25            | 8.18            | 16.09          | 0.97            | 960.48                    |
| M.H. 2-2                             | Outfall              | 33.74       | 922.67               | 922.00                 | 1.99      | 18            | 0.012       | 6.91             | 3.91            | 16.03          | 1.50            | 928.66                    |
| M.H. 2-3                             | M.H. 2-2             | 48.32       | 931.95               | 925.78                 | 12.77     | 15            | 0.012       | 6.91             | 5.95            | 25.00          | 1.25            | 933.00 j                  |
| C.I. 2-4                             | M.H. 2-3             | 187.22      | 952.46               | 932.55                 | 10.63     | 15            | 0.012       | 6.91             | 11.27           | 22.81          | 0.47            | 953.51                    |
| C.I. 2-5                             | C.I. 2-4             | 34.74       | 954.94               | 953.96                 | 2.82      | 15            | 0.012       | 2.63             | 5.90            | 11.75          | 0.40            | 955.59                    |
| M.H. 4-2                             | Outfall              | 91.51       | 939.15               | 930.00                 | 10.00     | 15            | 0.012       | 6.05             | 5.36            | 22.12          | 1.25            | 940.14 j                  |
| C.I. 4-3                             | M.H. 4-2             | 145.82      | 964.74               | 948.91                 | 10.86     | 15            | 0.012       | 6.05             | 10.80           | 23.05          | 0.44            | 965.73                    |
| M.H. 1-2                             | Outfall              | 55.95       | 921.68               | 920.00                 | 3.00      | 15            | 0.012       | 8.40             | 2.65            | 17.17          | 1.25            | 927.29                    |
| C.I. 1-3                             | M.H. 1-2             | 156.54      | 946.25               | 935.08                 | 7.14      | 15            | 0.012       | 8.40             | 11.00           | 18.69          | 0.59            | 947.38                    |
| C.I. 1-4                             | C.I. 1-3             | 34.01       | 947.53               | 946.85                 | 2.00      | 15            | 0.012       | 4.52             | 6.44            | 9.89           | 0.59            | 948.39                    |
| M.H. 3-2                             | Outfall              | 73.02       | 923.46               | 922.00                 | 2.00      | 18            | 0.012       | 7.83             | 2.43            | 16.09          | 1.50            | 928.89                    |
| C.I. 3-3                             | M.H. 3-2             | 188.00      | 960.16               | 942.02                 | 9.65      | 18            | 0.012       | 7.83             | 10.90           | 35.34          | 0.48            | 961.24                    |

| Inlet Design Table        |                |           |                 |            |                 |                |                             |               |             |                           |              |               |               |
|---------------------------|----------------|-----------|-----------------|------------|-----------------|----------------|-----------------------------|---------------|-------------|---------------------------|--------------|---------------|---------------|
| 100 Year Return Frequency |                |           |                 |            |                 |                |                             |               |             |                           |              |               |               |
| Inlet ID                  | Inlet Location | Peak Flow | Upstream Bypass | Total Flow | Clogging Factor | Inlet Capacity | Sag Inlet Capacity (Note 1) | Captured Flow | Bypass Flow | Inlet Efficiency (Note 2) | Gutter Depth | Gutter Spread | Ponding Depth |
|                           |                | (cfs)     | (cfs)           | (cfs)      |                 | (cfs)          | (cfs)                       | (cfs)         | (cfs)       | (%)                       | (ft)         | (ft)          | (ft)          |
| C.I. 5-3                  | GRADE          | 2.30      | 0.31            | 2.62       | 1.00            | 1.73           | 1.73                        | 1.73          | 0.89        | 65.92%                    | 0.15         | 7.38          | ...           |
| C.I. 5-4                  | GRADE          | 2.30      | 0.30            | 2.60       | 1.00            | 1.72           | 1.72                        | 1.72          | 0.88        | 66.09%                    | 0.15         | 7.36          | ...           |
| C.I. 6-1                  | GRADE          | 2.37      | 0.00            | 2.37       | 1.00            | 2.05           | 2.05                        | 2.05          | 0.31        | 86.71%                    | 0.18         | 9.21          | ...           |
| C.I. 6-2                  | GRADE          | 2.30      | 0.00            | 2.30       | 1.00            | 2.01           | 2.01                        | 2.01          | 0.30        | 87.07%                    | 0.18         | 9.12          | ...           |
| C.I. 7-4(L)               | SAG            | 1.32      | 1.21            | 2.52       | 0.80            | 19.40          | 15.52                       | 2.52          | 0.00        | 100.00%                   | 0.18         | 9.12          | ...           |
| C.I. 7-4(R)               | SAG            | 3.95      | 0.00            | 3.95       | 0.80            | 19.40          | 15.52                       | 3.95          | 0.00        | 100.00%                   | 0.17         | 8.61          | ...           |
| C.I. 7-4(B)               | SAG            | 1.25      | 0.00            | 1.25       | 0.80            | 19.40          | 15.52                       | 1.25          | 0.00        | 100.00%                   | ...          | ...           | ...           |
| C.I. 7-4                  | SAG            | 6.51      | 1.21            | 7.72       | 0.80            | 19.40          | 15.52                       | 7.72          | 0.00        | 100.00%                   | ...          | ...           | ...           |
| C.I. 7-5(L)               | SAG            | 3.95      | 1.18            | 5.13       | 0.80            | 19.40          | 15.52                       | 5.13          | 0.00        | 100.00%                   | 0.19         | 9.49          | ...           |
| C.I. 7-5(R)               | SAG            | 2.83      | 0.00            | 2.83       | 0.80            | 19.40          | 15.52                       | 2.83          | 0.00        | 100.00%                   | 0.19         | 9.52          | ...           |
| C.I. 7-5(B)               | SAG            | 3.29      | 0.00            | 3.29       | 0.80            | 19.40          | 15.52                       | 3.29          | 0.00        | 100.00%                   | ...          | ...           | ...           |
| C.I. 7-5                  | SAG            | 10.07     | 1.18            | 11.25      | 0.80            | 19.40          | 15.52                       | 11.25         | 0.00        | 100.00%                   | ...          | ...           | ...           |
| C.I. 4-3(L)               | SAG            | 4.01      | 0.00            | 4.01       | 0.80            | 19.40          | 15.52                       | 4.01          | 0.00        | 100.00%                   | 0.18         | 8.80          | ...           |
| C.I. 4-3(R)               | SAG            | 0.92      | 0.00            | 0.92       | 0.80            | 19.40          | 15.52                       | 0.92          | 0.00        | 100.00%                   | 0.12         | 6.21          | ...           |
| C.I. 4-3(B)               | SAG            | 1.12      | 0.00            | 1.12       | 0.80            | 19.40          | 15.52                       | 1.12          | 0.00        | 100.00%                   | ...          | ...           | ...           |
| C.I. 4-3                  | SAG            | 6.05      | 0.00            | 6.05       | 0.80            | 19.40          | 15.52                       | 6.05          | 0.00        | 100.00%                   | ...          | ...           | ...           |
| C.I. 3-3(L)               | SAG            | 3.49      | 0.00            | 3.49       | 0.80            | 19.40          | 15.52                       | 3.49          | 0.00        | 100.00%                   | 0.21         | 10.61         | ...           |
| C.I. 3-3(R)               | SAG            | 3.16      | 0.00            | 3.16       | 0.80            | 19.40          | 15.52                       | 3.16          | 0.00        | 100.00%                   | 0.19         | 9.60          | ...           |
| C.I. 3-3(B)               | SAG            | 1.18      | 0.00            | 1.18       | 0.80            | 19.40          | 15.52                       | 1.18          | 0.00        | 100.00%                   | ...          | ...           | ...           |
| C.I. 3-3                  | SAG            | 7.83      | 0.00            | 7.83       | 0.80            | 19.40          | 15.52                       | 7.83          | 0.00        | 100.00%                   | ...          | ...           | ...           |
| C.I. 2-4                  | GRADE          | 4.28      | 0.00            | 4.28       | 1.00            | 2.85           | 2.85                        | 2.85          | 1.43        | 66.66%                    | 0.20         | 10.19         | ...           |
| C.I. 2-5                  | GRADE          | 2.63      | 0.00            | 2.63       | 1.00            | 2.04           | 2.04                        | 2.04          | 0.59        | 77.68%                    | 0.17         | 8.50          | ...           |
| C.I. 1-3                  | GRADE          | 3.29      | 0.59            | 3.88       | 1.00            | 2.65           | 2.65                        | 2.65          | 1.23        | 68.23%                    | 0.19         | 9.73          | ...           |
| C.I. 1-4                  | GRADE          | 3.09      | 1.43            | 4.52       | 1.00            | 2.90           | 2.90                        | 2.90          | 1.61        | 64.28%                    | 0.21         | 10.31         | ...           |

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

| Drainage Area Design Table |               |      |       |         |      |           |
|----------------------------|---------------|------|-------|---------|------|-----------|
| 100 Year Return Frequency  |               |      |       |         |      |           |
| Inlet ID                   | Drainage Area | C    | Tc    | i       | K    | Peak Flow |
|                            | (ac)          |      | (min) | (in/hr) |      | (cfs)     |
| C.I. 5-3                   | 0.35          | 0.51 | 5.00  | 10.32   | 1.25 | 2.30      |
| C.I. 5-4                   | 0.35          | 0.51 | 5.00  | 10.32   | 1.25 | 2.30      |
| C.I. 6-1                   | 0.36          | 0.51 | 5.00  | 10.32   | 1.25 | 2.37      |
| C.I. 6-2                   | 0.35          | 0.51 | 5.00  | 10.32   | 1.25 | 2.30      |
| C.I. 7-4(L)                | 0.20          | 0.51 | 5.00  | 10.32   | 1.25 | 1.32      |
| C.I. 7-4(R)                | 0.60          | 0.51 | 5.00  | 10.32   | 1.25 | 3.95      |
| C.I. 7-4(B)                | 0.19          | 0.51 | 5.00  | 10.32   | 1.25 | 1.25      |
| C.I. 7-4                   | 0.99          | 0.51 | 5.00  | 10.32   | 1.25 | 6.51      |
| C.I. 7-5(L)                | 0.60          | 0.51 | 5.00  | 10.32   | 1.25 | 3.95      |
| C.I. 7-5(R)                | 0.43          | 0.51 | 5.00  | 10.32   | 1.25 | 2.83      |
| C.I. 7-5(B)                | 0.50          | 0.51 | 5.00  | 10.32   | 1.25 | 3.29      |
| C.I. 7-5                   | 1.53          | 0.51 | 5.00  | 10.32   | 1.25 | 10.07     |
| C.I. 4-3(L)                | 0.61          | 0.51 | 5.00  | 10.32   | 1.25 | 4.01      |
| C.I. 4-3(R)                | 0.14          | 0.51 | 5.00  | 10.32   | 1.25 | 0.92      |
| C.I. 4-3(B)                | 0.17          | 0.51 | 5.00  | 10.32   | 1.25 | 1.12      |
| C.I. 4-3                   | 0.92          | 0.51 | 5.00  | 10.32   | 1.25 | 6.05      |
| C.I. 3-3(L)                | 0.53          | 0.51 | 5.00  | 10.32   | 1.25 | 3.49      |
| C.I. 3-3(R)                | 0.48          | 0.51 | 5.00  | 10.32   | 1.25 | 3.16      |
| C.I. 3-3(B)                | 0.18          | 0.51 | 5.00  | 10.32   | 1.25 | 1.18      |
| C.I. 3-3                   | 1.19          | 0.51 | 5.00  | 10.32   | 1.25 | 7.83      |
| C.I. 2-4                   | 0.65          | 0.51 | 5.00  | 10.32   | 1.25 | 4.28      |
| C.I. 2-5                   | 0.40          | 0.51 | 5.00  | 10.32   | 1.25 | 2.63      |
| C.I. 1-3                   | 0.50          | 0.51 | 5.00  | 10.32   | 1.25 | 3.29      |
| C.I. 1-4                   | 0.47          | 0.51 | 5.00  | 10.32   | 1.25 | 3.09      |

100 YEAR DRAINAGE TABLES  
STREET & STORM SEWER PLANS

WOODSIDE RIDGE  
SECOND PLAT

LEE'S SUMMIT, MO

2020

BY

NO. REV. 2

DATE 3/16/2021

REVISIONS DESCRIPTION

REVISED PER CONTRACTOR COMMENT

REVISIONS

drawn by: C.S.M.  
checked by: S.M.S.  
designed by: C.S.M.  
QA/QC by: J.E.S.  
project no.: C18-1140  
date: 2020.07.10

SHEET C127

olsson

NO. Certificate of Authority: 001692  
303 E. BIRNINGHAM SUITE 100  
NORTH KANSAS CITY, MO 64116  
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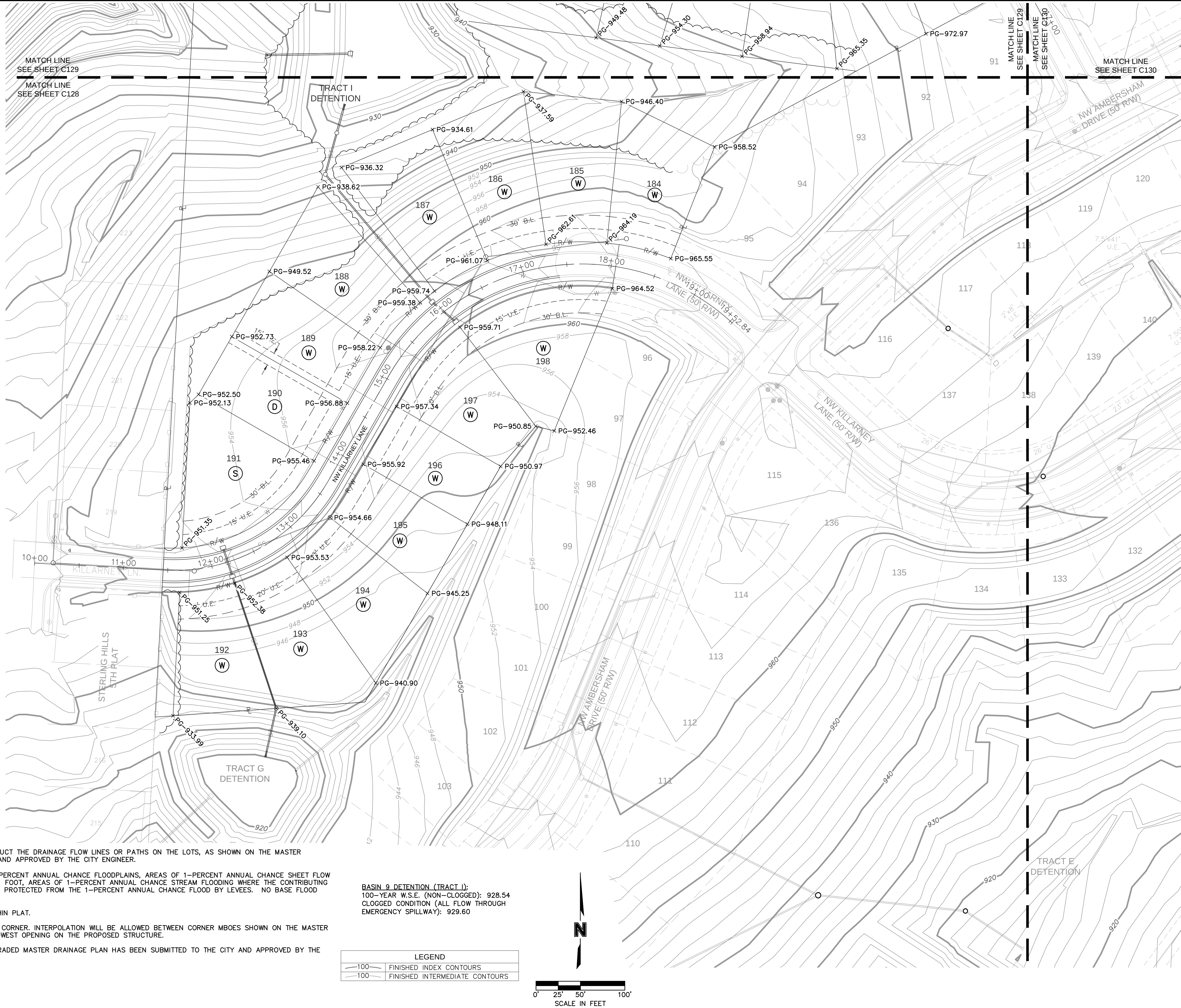
STATE OF MISSOURI  
JULIE ELAINE SELLERS  
PE-2017000367  
3/23/21  
PROFESSIONAL

| Woodside Ridge Second Plat<br>Minimum Building Opening Elevation |                   |                    |                    |                     |                                   |
|------------------------------------------------------------------|-------------------|--------------------|--------------------|---------------------|-----------------------------------|
| Lot                                                              | Rear Left<br>MBOE | Rear Right<br>MBOE | Front Left<br>MBOE | Front Right<br>MBOE | As Built<br>Plot Plan<br>Required |
| 144                                                              | 940.10            | 945.66             | 965.31             | 966.10              | N                                 |
| 145                                                              | 933.24            | 940.10             | 964.68             | 965.31              | N                                 |
| 146                                                              | 928.29            | 933.24             | 965.74             | 964.68              | N                                 |
| 147                                                              | 933.18            | 928.29             | 968.29             | 965.74              | N                                 |
| 148                                                              | 939.46            | 933.18             | 970.92             | 968.29              | N                                 |
| 149                                                              | 945.79            | 939.46             | 973.86             | 970.92              | N                                 |
| 150                                                              | 951.84            | 945.79             | 976.29             | 973.86              | N                                 |
| 151                                                              | 951.38            | 951.84             | 977.05             | 976.29              | Y                                 |
| 152                                                              | 947.93            | 951.38             | 977.80             | 977.05              | Y                                 |
| 153                                                              | 949.37            | 947.93             | 978.55             | 977.80              | Y                                 |
| 154                                                              | 952.61            | 949.37             | 979.30             | 978.55              | Y                                 |
| 155                                                              | 969.65            | 979.35             | 977.69             | 980.14              | N                                 |
| 156                                                              | 957.40            | 969.65             | 974.34             | 977.69              | N                                 |
| 157                                                              | 950.17            | 957.40             | 971.11             | 974.34              | Y                                 |
| 158                                                              | 937.67            | 950.17             | 971.56             | 971.11              | Y                                 |
| 159                                                              | 946.44            | 937.67             | 972.01             | 971.56              | N                                 |
| 160                                                              | 951.59            | 946.44             | 972.45             | 972.01              | N                                 |
| 161                                                              | 957.15            | 955.18             | 973.50             | 972.45              | N                                 |
| 162                                                              | 967.15            | 957.15             | 977.04             | 973.50              | N                                 |
| 163                                                              | 973.63            | 967.15             | 979.36             | 977.04              | N                                 |
| 164                                                              | 948.53            | 955.18             | 968.89             | 973.93              | N                                 |
| 165                                                              | 945.07            | 948.53             | 967.94             | 968.89              | N                                 |
| 166                                                              | 947.09            | 945.07             | 968.19             | 967.94              | Y                                 |
| 167                                                              | 950.08            | 947.09             | 968.68             | 968.19              | Y                                 |
| 168                                                              | 954.90            | 950.08             | 970.38             | 968.68              | Y                                 |
| 169                                                              | 959.54            | 954.90             | 972.82             | 970.38              | Y                                 |
| 170                                                              | 965.95            | 959.54             | 975.03             | 972.82              | Y                                 |
| 171                                                              | 973.41            | 965.95             | 977.24             | 975.03              | N                                 |
| 172                                                              | 977.02            | 973.41             | 979.44             | 977.24              | N                                 |
| 173                                                              | 974.60            | 977.02             | 980.13             | 980.02              | N                                 |
| 174                                                              | 973.09            | 974.60             | 979.38             | 980.13              | N                                 |
| 175                                                              | 971.62            | 973.09             | 978.63             | 979.38              | N                                 |
| 176                                                              | 970.02            | 971.62             | 977.86             | 978.63              | N                                 |
| 177                                                              | 968.93            | 970.02             | 977.13             | 977.86              | N                                 |
| 178                                                              | 968.60            | 968.93             | 976.38             | 977.13              | N                                 |
| 179                                                              | 968.79            | 968.60             | 974.18             | 976.38              | N                                 |
| 180                                                              | 972.83            | 977.49             | 971.12             | 974.18              | N                                 |
| 181                                                              | 969.41            | 972.83             | 966.76             | 971.12              | N                                 |
| 182                                                              | 966.47            | 969.41             | 964.73             | 966.76              | N                                 |
| 183                                                              | 969.68            | 971.53             | 966.04             | 964.73              | N                                 |
| 184                                                              | 962.58            | 969.68             | 965.01             | 966.71              | Y                                 |
| 185                                                              | 968.19            | 962.58             | 963.43             | 965.01              | Y                                 |
| 186                                                              | 934.00            | 938.19             | 961.89             | 963.43              | Y                                 |
| 187                                                              | 936.92            | 934.00             | 960.56             | 961.89              | Y                                 |
| 188                                                              | 939.22            | 936.92             | 959.04             | 960.20              | N                                 |
| 189                                                              | 950.12            | 939.22             | 957.70             | 959.04              | N                                 |
| 190                                                              | 953.33            | 950.12             | 956.28             | 957.70              | N                                 |
| 191                                                              | 954.38            | 953.33             | 952.17             | 956.28              | N                                 |
| 192                                                              | 937.39            | 934.54             | 953.20             | 952.07              | Y                                 |
| 193                                                              | 941.50            | 937.39             | 954.35             | 952.07              | Y                                 |
| 194                                                              | 945.85            | 941.50             | 955.48             | 954.35              | Y                                 |
| 195                                                              | 948.71            | 945.85             | 956.74             | 955.48              | Y                                 |
| 196                                                              | 951.57            | 948.71             | 958.16             | 956.74              | Y                                 |
| 197                                                              | 965.82            | 970.06             | 960.53             | 958.16              | Y                                 |
| 198                                                              | 961.69            | 965.82             | 965.34             | 960.53              | Y                                 |

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

- NOTES:
- INDIVIDUAL LOT OWNERS SHALL NOT CHANGE OR OBSTRUCT THE DRAINAGE FLOW LINES OR PATHS ON THE LOTS, AS SHOWN ON THE MASTER DRAINAGE PLAN, UNLESS SPECIFIC APPLICATION IS MADE AND APPROVED BY THE CITY ENGINEER.
  - PLAT IS LOCATED IN ZONE X, "AREAS OUTSIDE THE 1-PERCENT ANNUAL CHANCE FLOODPLAINS, AREAS OF 1-PERCENT ANNUAL CHANCE SHEET FLOW FLOODING WHERE THE AVERAGE DEPTHS ARE LESS THAN 1 FOOT, AREAS OF 1-PERCENT ANNUAL CHANCE STREAM FLOODING WHERE THE CONTRIBUTING DRAINAGE AREA IS LESS THAN 1 SQUARE MILE, OR AREAS PROTECTED FROM THE 1-PERCENT ANNUAL CHANCE FLOOD BY LEVEES. NO BASE FLOOD ELEVATIONS OR DEPTHS ARE SHOWN WITHIN THIS ZONE"
  - BUFFER ZONE FOR NATURAL STREAMS IS LOCATED WITHIN PLAT.
  - MBOE ELEVATIONS HAVE BEEN PROVIDED AT EACH LOT CORNER. INTERPOLATION WILL BE ALLOWED BETWEEN CORNER MBOES SHOWN ON THE MASTER DRAINAGE PLAN, DEPENDING ON THE LOCATION OF THE LOWEST OPENING ON THE PROPOSED STRUCTURE.
  - NO BUILDING PERMITS WILL BE ISSUED UNTIL AN AS-GRADED MASTER DRAINAGE PLAN HAS BEEN SUBMITTED TO THE CITY AND APPROVED BY THE CITY.
- RMBOE - REAR MINIMUM BUILDING OPENING ELEVATION  
FMBOE - FRONT MINIMUM BUILDING OPENING ELEVATION

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



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STATE OF MISSOURI  
JULIE ELAINE  
SELLERS  
NUMBER  
FE-2017000367  
3/23/21  
PROFESSIONAL

BY  
REVISIONS DESCRIPTION  
NO. REV. DATE  
1 7/10/2020 REVISED PER CITY COMMENTS

MASTER DRAINAGE PLAN  
STREET & STORM SEWER PLANS

WOODSIDE RIDGE  
SECOND PLAT

LEE'S SUMMIT, MO

drawn by: C.S.M.  
checked by: S.M.S.  
designed by: C.S.M.  
QA/QC by: J.E.S.  
project no.: C18-1140  
date: 2020.07.10

SHEET  
C128

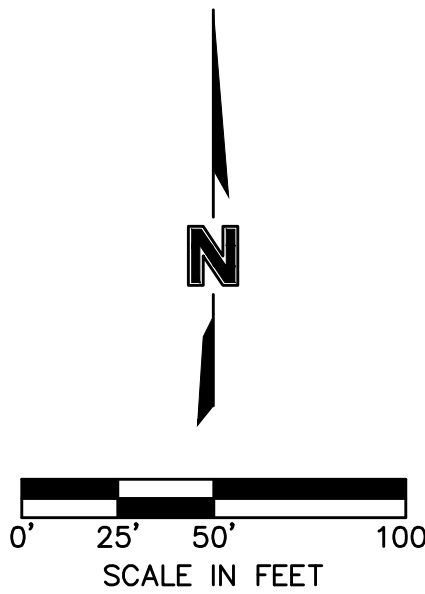
2020



KEY MAP

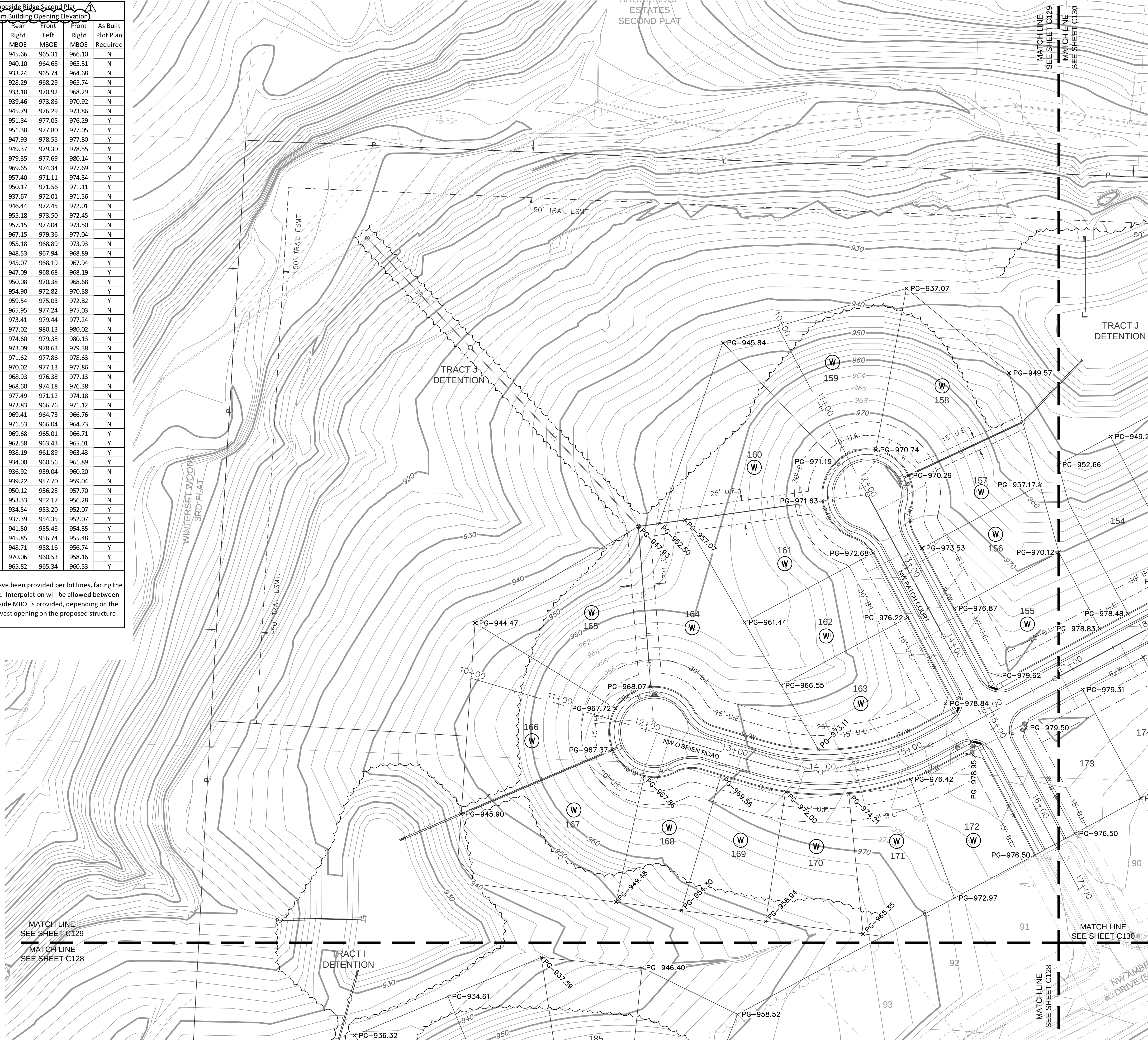
NOTES:  
1. INDIVIDUAL LOT OWNERS SHALL NOT CHANGE OR OBSTRUCT THE DRAINAGE FLOW LINES OR PATHS ON THE LOTS, AS SHOWN ON THE MASTER DRAINAGE PLAN, UNLESS SPECIFIC APPLICATION IS MADE AND APPROVED BY THE CITY ENGINEER.  
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3. BUFFER ZONE FOR NATURAL STREAMS IS LOCATED WITHIN PLAT.  
4. MBOE ELEVATIONS HAVE BEEN PROVIDED AT EACH LOT CORNER. INTERPOLATION WILL BE ALLOWED BETWEEN CORNER MBOES SHOWN ON THE MASTER DRAINAGE PLAN, DEPENDING ON THE LOCATION OF THE LOWEST OPENING ON THE PROPOSED STRUCTURE.  
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RMBOE - REAR MINIMUM BUILDING OPENING ELEVATION  
FMBOE - FRONT MINIMUM BUILDING OPENING ELEVATION  
LOT TYPES:  
S - STANDARD  
D - DAYLIGHT  
W - WALKOUT  
BASIN C1 DETENTION (TRACT I):  
100-YEAR W.S.E. (NON-CLOGGED): 928.54  
CLOGGED CONDITION (ALL FLOW THROUGH EMERGENCY SPILLWAY): 929.60  
BASIN C1 DETENTION (TRACT J):  
100-YEAR W.S.E. (NON-CLOGGED): 935.67  
CLOGGED CONDITION (ALL FLOW THROUGH EMERGENCY SPILLWAY): 936.70

| LEGEND |                                |
|--------|--------------------------------|
|        | FINISHED INDEX CONTOURS        |
|        | FINISHED INTERMEDIATE CONTOURS |



| Woodside Ridge Second Plat<br>Minimum Building Opening Elevation |                |                 |                 |                  |                             |
|------------------------------------------------------------------|----------------|-----------------|-----------------|------------------|-----------------------------|
| Lot                                                              | Rear Left MBOE | Rear Right MBOE | Front Left MBOE | Front Right MBOE | As Built Plot Plan Required |
| 144                                                              | 940.10         | 945.66          | 965.31          | 966.10           | N                           |
| 145                                                              | 933.24         | 940.10          | 964.68          | 965.31           | N                           |
| 146                                                              | 928.29         | 933.24          | 965.74          | 964.68           | N                           |
| 147                                                              | 933.18         | 928.29          | 968.29          | 965.74           | N                           |
| 148                                                              | 939.46         | 933.18          | 970.92          | 968.29           | N                           |
| 149                                                              | 945.79         | 939.46          | 973.86          | 970.92           | N                           |
| 150                                                              | 951.84         | 945.79          | 976.29          | 973.86           | N                           |
| 151                                                              | 951.38         | 951.84          | 977.05          | 976.29           | Y                           |
| 152                                                              | 947.93         | 951.38          | 977.80          | 977.05           | Y                           |
| 153                                                              | 949.37         | 947.93          | 978.55          | 977.80           | Y                           |
| 154                                                              | 952.61         | 949.37          | 979.30          | 978.55           | Y                           |
| 155                                                              | 969.65         | 979.35          | 977.69          | 980.14           | N                           |
| 156                                                              | 957.40         | 969.65          | 974.34          | 977.69           | N                           |
| 157                                                              | 950.17         | 957.40          | 971.11          | 974.34           | Y                           |
| 158                                                              | 937.67         | 950.17          | 971.56          | 971.11           | Y                           |
| 159                                                              | 946.44         | 937.67          | 972.01          | 971.56           | N                           |
| 160                                                              | 951.59         | 946.44          | 972.45          | 972.01           | N                           |
| 161                                                              | 957.15         | 955.18          | 973.50          | 972.45           | N                           |
| 162                                                              | 967.15         | 957.15          | 977.04          | 973.50           | N                           |
| 163                                                              | 973.63         | 967.15          | 979.36          | 977.04           | N                           |
| 164                                                              | 948.53         | 955.18          | 968.89          | 973.93           | N                           |
| 165                                                              | 945.07         | 948.53          | 967.94          | 968.89           | N                           |
| 166                                                              | 947.09         | 945.07          | 968.19          | 967.94           | Y                           |
| 167                                                              | 950.08         | 947.09          | 968.68          | 968.19           | Y                           |
| 168                                                              | 954.90         | 950.08          | 970.38          | 968.68           | Y                           |
| 169                                                              | 959.54         | 954.90          | 972.82          | 970.38           | Y                           |
| 170                                                              | 965.95         | 959.54          | 975.03          | 972.82           | Y                           |
| 171                                                              | 973.41         | 965.95          | 977.24          | 975.03           | N                           |
| 172                                                              | 977.02         | 973.41          | 979.44          | 977.24           | N                           |
| 173                                                              | 974.60         | 977.02          | 980.13          | 980.02           | N                           |
| 174                                                              | 973.09         | 974.60          | 979.38          | 980.13           | N                           |
| 175                                                              | 971.62         | 973.09          | 978.63          | 979.38           | N                           |
| 176                                                              | 970.02         | 971.62          | 977.86          | 978.63           | N                           |
| 177                                                              | 968.93         | 970.02          | 977.13          | 977.86           | N                           |
| 178                                                              | 968.60         | 968.93          | 976.38          | 977.13           | N                           |
| 179                                                              | 968.79         | 968.60          | 974.18          | 976.38           | N                           |
| 180                                                              | 972.83         | 977.49          | 971.12          | 974.18           | N                           |
| 181                                                              | 969.41         | 972.83          | 966.76          | 971.12           | N                           |
| 182                                                              | 966.47         | 969.41          | 964.73          | 966.76           | N                           |
| 183                                                              | 969.68         | 971.53          | 966.04          | 964.73           | N                           |
| 184                                                              | 962.58         | 969.68          | 965.01          | 966.71           | Y                           |
| 185                                                              | 968.19         | 962.58          | 963.43          | 965.01           | Y                           |
| 186                                                              | 934.00         | 938.19          | 961.89          | 963.43           | Y                           |
| 187                                                              | 936.92         | 934.00          | 960.56          | 961.89           | Y                           |
| 188                                                              | 939.22         | 936.92          | 959.04          | 960.20           | N                           |
| 189                                                              | 950.12         | 939.22          | 957.70          | 959.04           | N                           |
| 190                                                              | 953.33         | 950.12          | 956.28          | 957.70           | N                           |
| 191                                                              | 954.38         | 953.33          | 952.17          | 956.28           | N                           |
| 192                                                              | 937.39         | 934.54          | 953.20          | 952.07           | Y                           |
| 193                                                              | 941.50         | 937.39          | 954.35          | 952.07           | Y                           |
| 194                                                              | 945.85         | 941.50          | 955.48          | 954.35           | Y                           |
| 195                                                              | 948.71         | 945.85          | 956.74          | 955.48           | Y                           |
| 196                                                              | 951.57         | 948.71          | 958.16          | 956.74           | Y                           |
| 197                                                              | 965.82         | 970.06          | 960.53          | 958.16           | Y                           |
| 198                                                              | 961.69         | 965.82          | 965.34          | 960.53           | Y                           |

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



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NO Conflicts of Interest at 03/09/22  
300 E. BIRCH STREET, SUITE 100  
NORTH KANSAS CITY, MO 64116  
TEL: 816.861.1177  
www.olsson.com

STATE OF MISSOURI  
JULIE ELAINE  
SELLERS  
Professional Engineer  
NUMBER  
PE-2017000367  
3/23/21

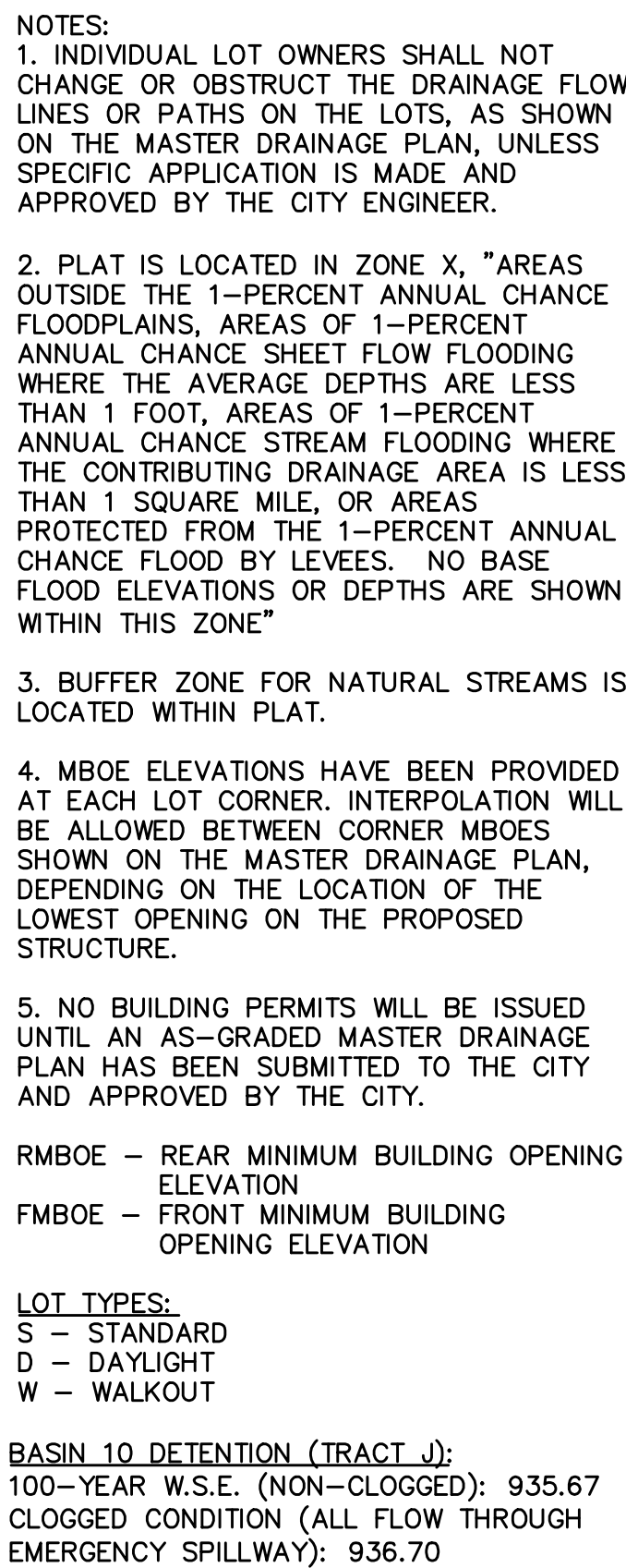
BY: [Signature]  
NO. REV. 1  
DATE 7/10/2020  
REVISIONS DESCRIPTION  
REVISED PER CITY COMMENTS

MASTER DRAINAGE PLAN  
STREET & STORM SEWER PLANS  
WOODSIDE RIDGE  
SECOND PLAT  
LEE'S SUMMIT, MO  
2020  
SHEET C129



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

A north arrow pointing upwards with the letter 'N' in the center. Below it is a scale bar with markings at 25, 50, and 100 feet. The text 'SCALE IN FEET' is written below the scale bar.



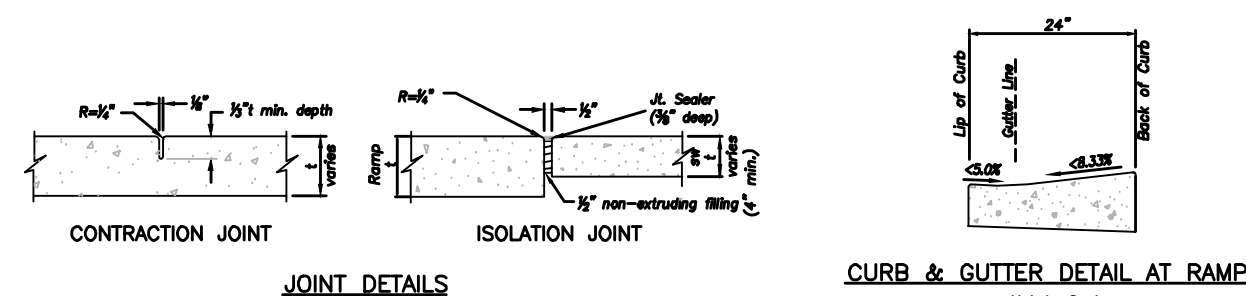
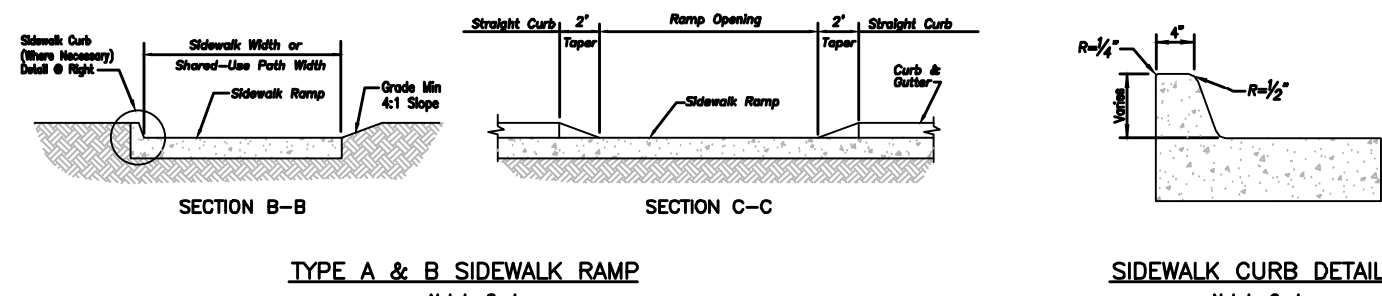
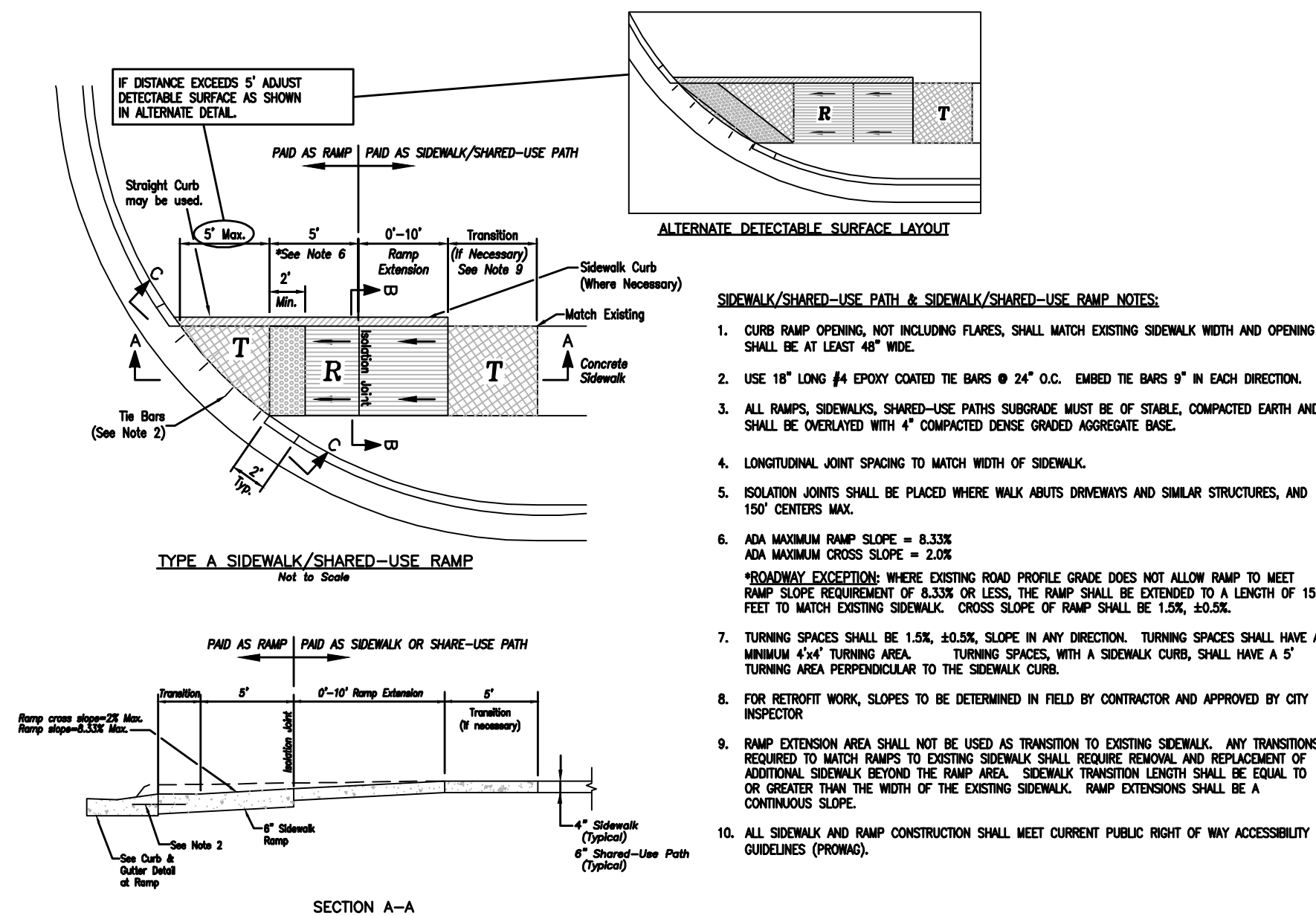
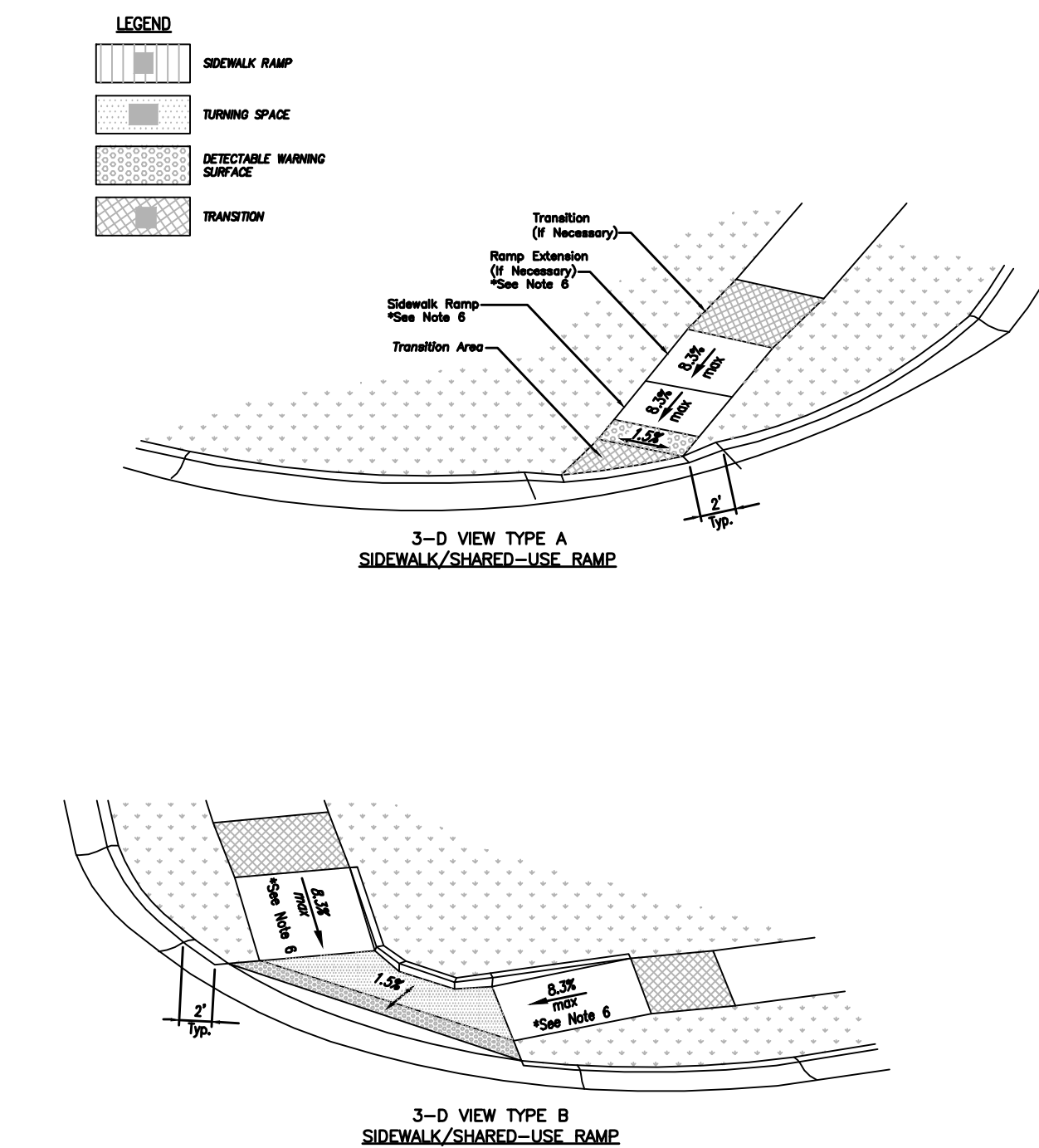
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|--------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-----------------------------------------------------------------------------------------------------------------|--|------|--|
| drawn by: _____ C.S.M.<br>checked by: _____ S.M.S.<br>designed by: _____ C.S.M.<br>QA/QC by: _____ J.E.S.<br>project no.: _____ C18-1140<br>date: 2020.07.10 |  | MASTER DRAINAGE PLAN<br>STREET & STORM SEWER PLANS<br><br>WOODSIDE RIDGE<br>SECOND PLAT<br><br>LEE'S SUMMIT, MO |  | 2020 |  |
|                                                                                                                                                              |  | REVISIONS                                                                                                       |  |      |  |
|                                                                                                                                                              |  |                                                                                                                 |  |      |  |
|                                                                                                                                                              |  | REVISIONS DESCRIPTION                                                                                           |  |      |  |
|                                                                                                                                                              |  |                                                                                                                 |  |      |  |
|                                                                                                                                                              |  | REVISED PER CITY COMMENTS                                                                                       |  |      |  |
|                                                                                                                                                              |  |                                                                                                                 |  |      |  |
|                                                                                                                                                              |  | DATE                                                                                                            |  |      |  |
|                                                                                                                                                              |  |                                                                                                                 |  |      |  |
|                                                                                                                                                              |  | NO. REV.                                                                                                        |  |      |  |
|                                                                                                                                                              |  |                                                                                                                 |  |      |  |
|                                                                                                                                                              |  | BY                                                                                                              |  |      |  |
|                                                                                                                                                              |  |                                                                                                                 |  |      |  |



NO. Certificate of Authority: #001592  
 1301 BURLINGTON, SUITE 100  
 NORTH KANSAS CITY, MO 64116  
 TEL: 816.381.1377  
[www.djbslon.com](http://www.djbslon.com)

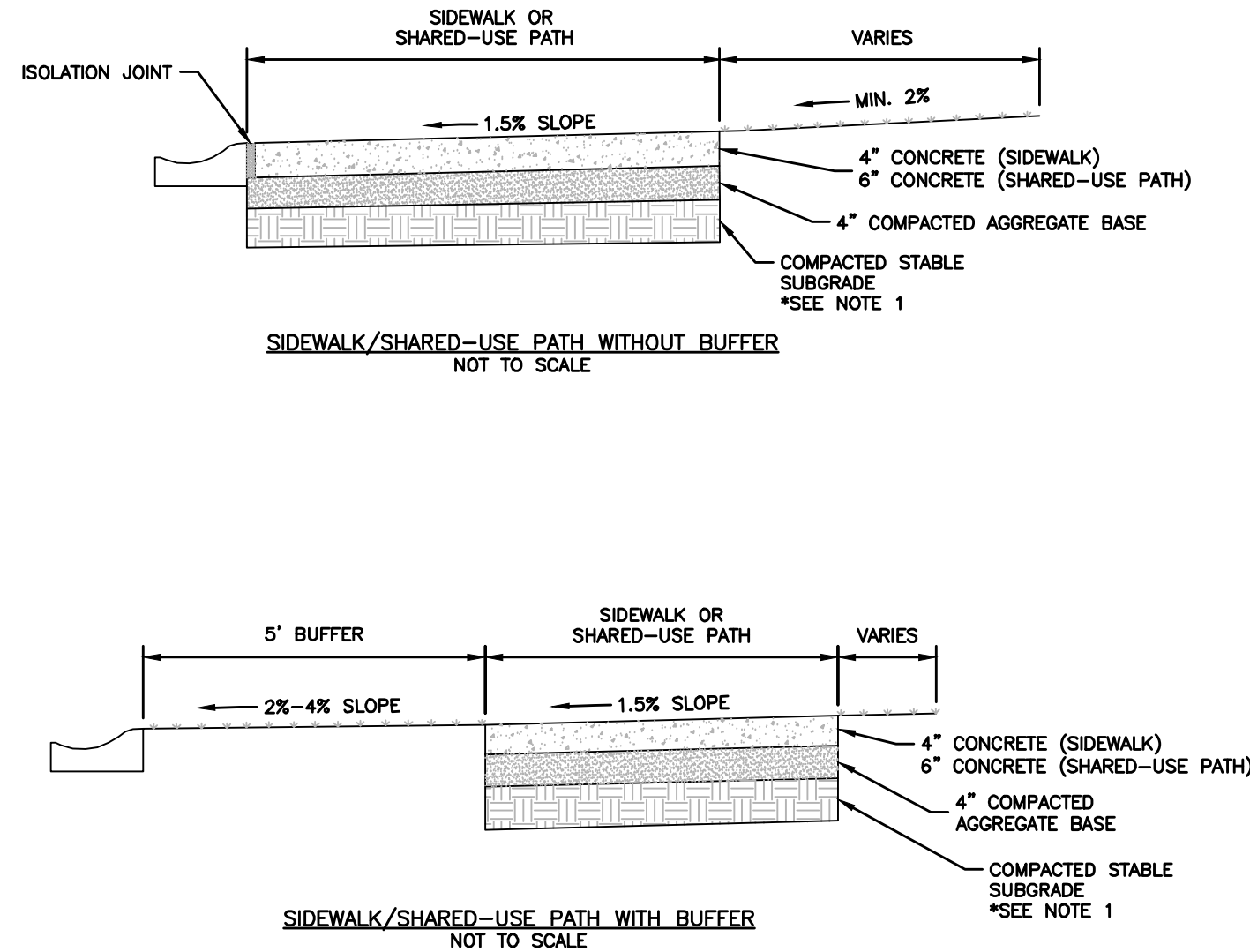
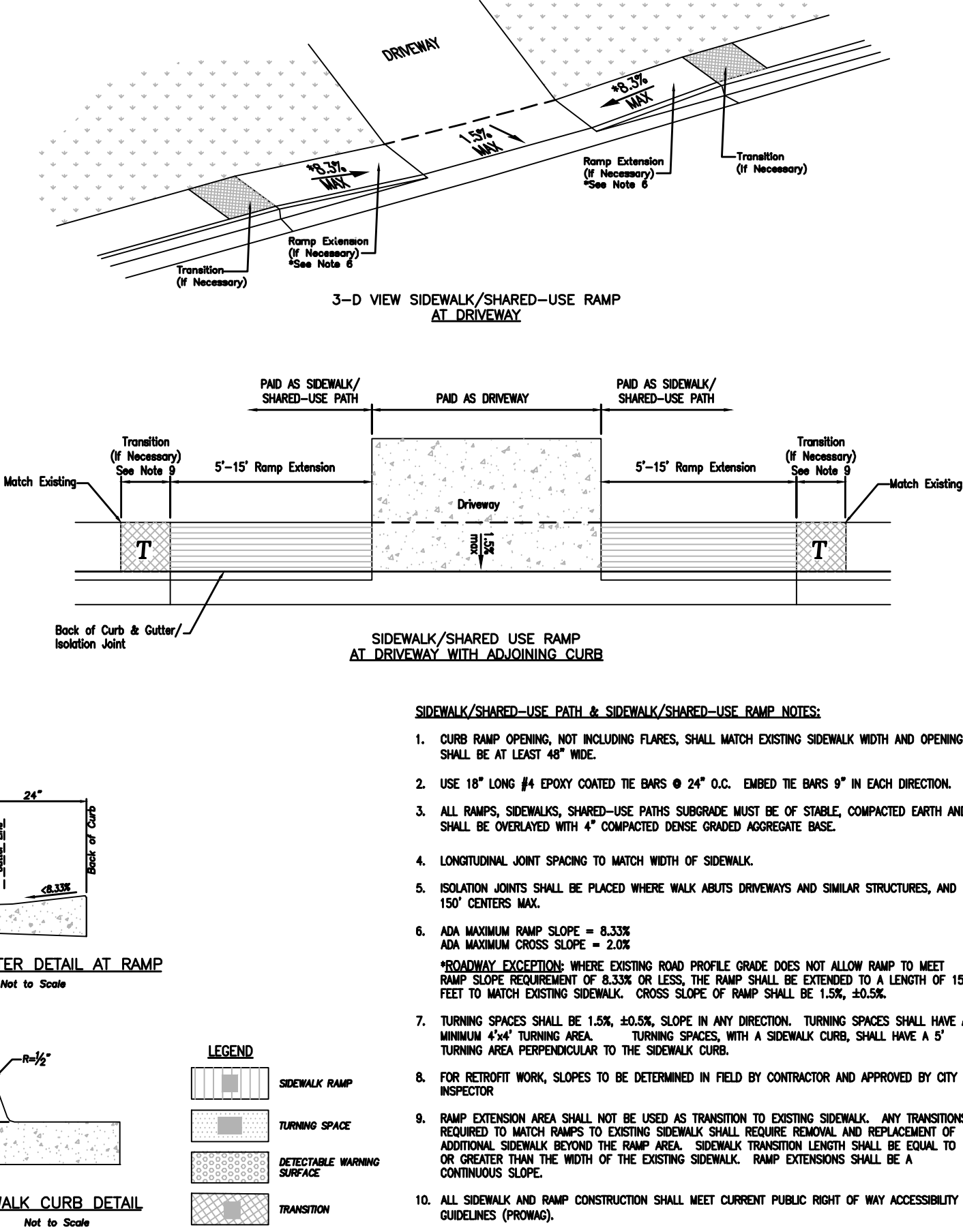
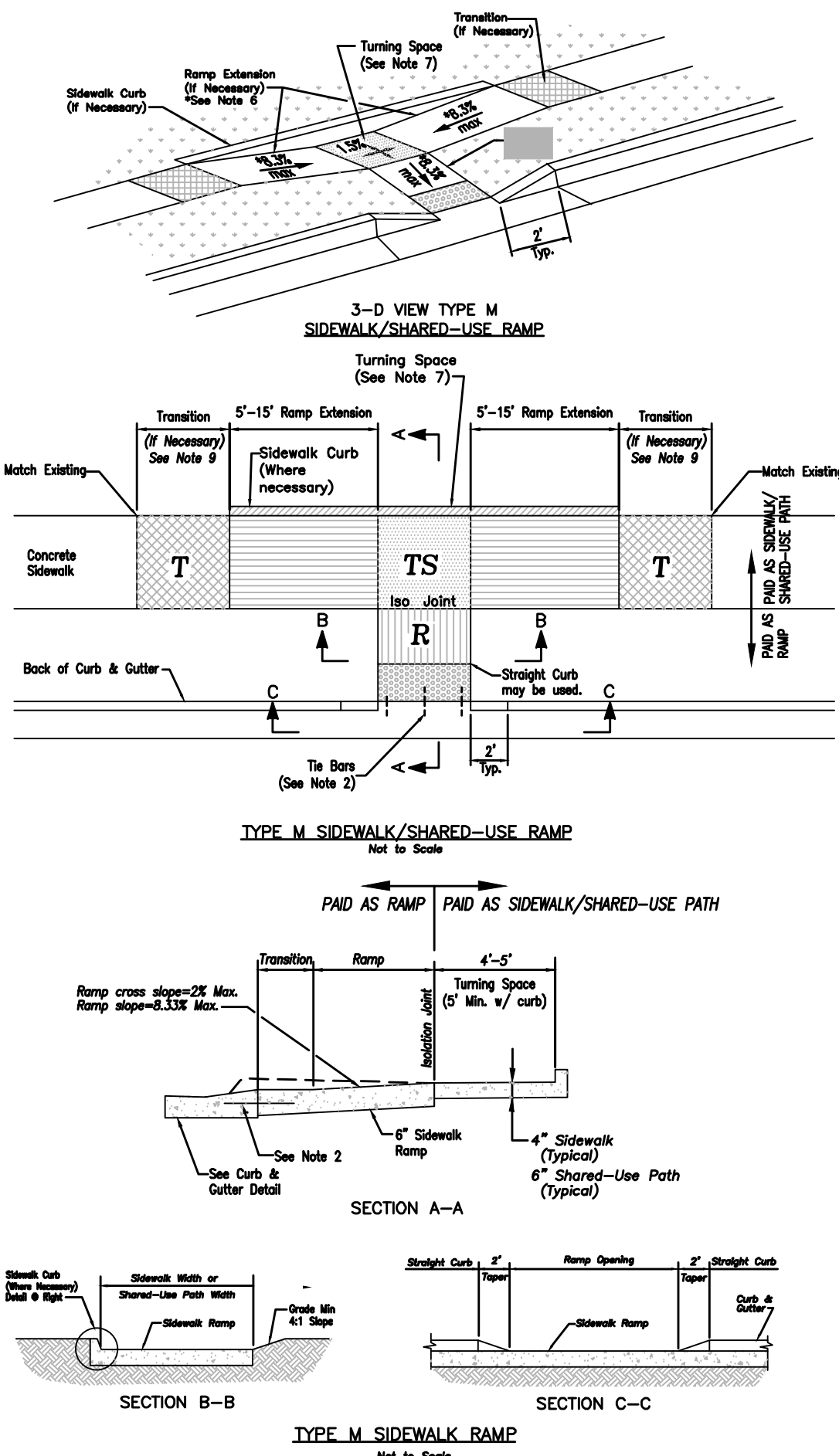
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01 N.T.S.  
ADA RAMP RETROFIT DETAIL (A)



REFER TO SHEETS C110 AND C111  
FOR RAMP SLOPE AND DIMENSION.  
DETAILS ARE GUIDELINES AS TO HOW  
RAMPS SHALL BE CONSTRUCTED.

02 N.T.S.  
ADA RAMP RETROFIT DETAIL (B)

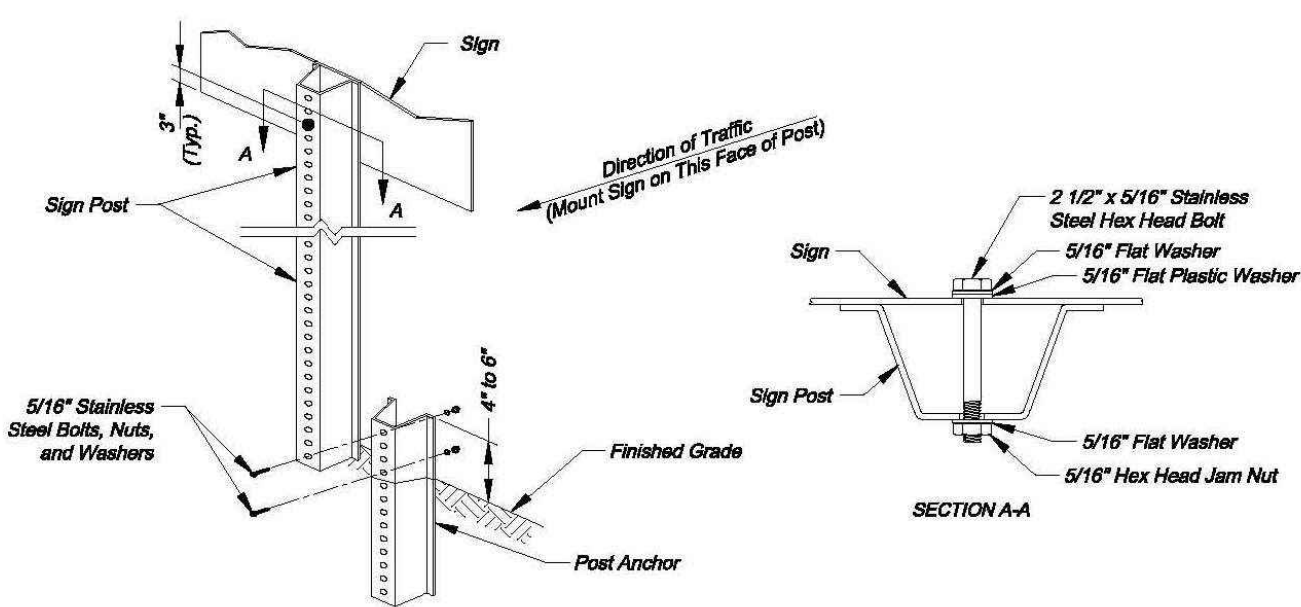


- GENERAL NOTES:
- SUBGRADE MUST BE OF STABLE, COMPACTED EARTH AND SHALL BE OVERLAYED WITH 4" COMPACTED DENSE GRADED AGGREGATE BASE.
  - 1.5% CROSS SLOPE MUST BE MAINTAINED THROUGH DRIVEWAYS.
  - KOMBE 4K CONCRETE MIX SHALL BE REQUIRED FOR ALL SIDEWALKS AND SHARED-USE PATHS OR AS APPROVED BY THE CITY INSPECTOR.
  - ALL SIDEWALKS SHALL MEET CURRENT PUBLIC RIGHT OF WAY ACCESSIBILITY GUIDELINES (PROWAG).
  - AN EXPANSION JOINT SHALL BE PLACED AT A MAXIMUM OF 150 FT. CONSTRUCTION JOINTS SHALL BE PLACED THE SAME WIDTH OF SIDEWALK, BUT NO GREATER THAN 10 FT.
  - SHARED-USE PATH WIDTH SHALL BE 10 FT. WIDE.
  - SIDEWALK FINISHING (NO PICTURE FRAMING) AS DIRECTED BY CITY INSPECTOR.
  - WHITE CURING COMPOUND MUST BE APPLIED UNIFORMLY TO THE CONCRETE SURFACE IMMEDIATELY AFTER FINAL FINISHING.

03 N.T.S.  
SIDEWALK/SHARED-USE PATH DETAIL

|                             |  |                                                |                               |      |                       |
|-----------------------------|--|------------------------------------------------|-------------------------------|------|-----------------------|
| drawn by: _____ C.S.M       |  | ADA DETAIL SHEET<br>STREET & STORM SEWER PLANS | NO. REV.                      | DATE | REVISIONS DESCRIPTION |
| checked by: _____ S.M.S     |  |                                                |                               |      |                       |
| QA/QC by: _____ C.S.M       |  |                                                |                               |      |                       |
| project no.: _____ C18-1140 |  |                                                |                               |      |                       |
| date: _____ 2020.07.10      |  |                                                |                               |      |                       |
| SHEET<br>C131               |  |                                                | WOODSIDE RIDGE<br>SECOND PLAT |      |                       |
| LEE'S SUMMIT, MO            |  |                                                | 2020                          |      | REVISIONS             |





#### U-STEEL POST DETAILS

- U-STEEL POST NOTES:**
1. Splice shall be positioned entirely between finished grade line and 16" above finished grade line. Only one splice will be allowed per post.
  2. U-Steel post shall be 3 to 6 ft., galvanized according to ASTM A123.
  3. U-Steel post can be used for installation of signs with an area of less than 2.5 square feet.
  4. All posts shall be embedded a minimum of 3 feet.



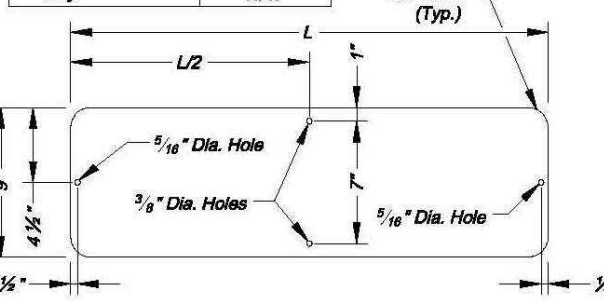
#### STRAP TYPE SIGN SUPPORT DETAILS

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

#### STANDARD ABBREVIATION LISTS

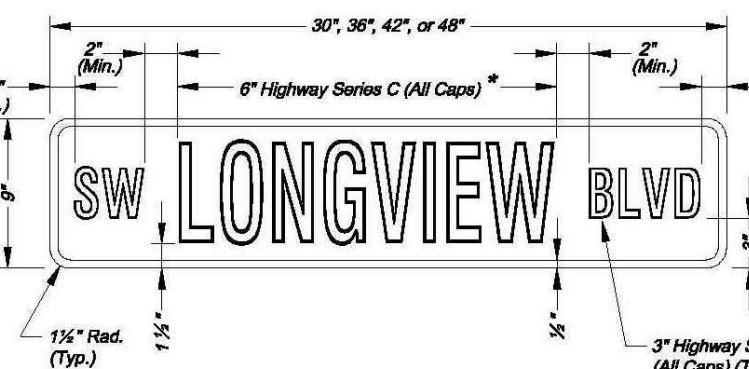
| Named Streets |      |
|---------------|------|
| Avenue        | AVE  |
| Boulevard     | BLVD |
| Circle        | CIR  |
| Creek         | CR   |
| Court         | CT   |
| Crossing      | XING |
| Drive         | DR   |
| Highway       | HWY  |
| Lane          | LN   |
| Parkway       | PKWY |
|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

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

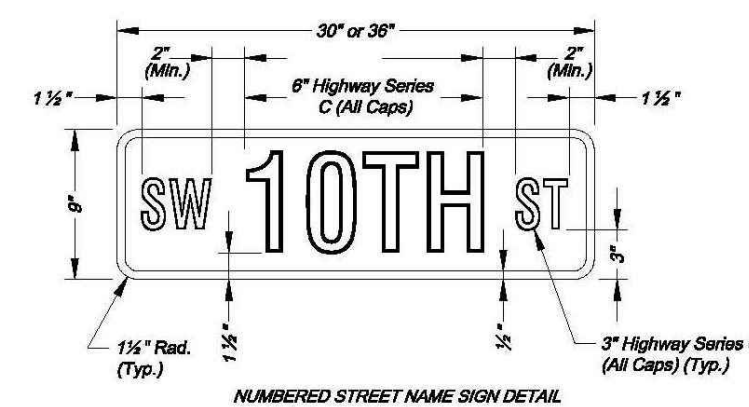


#### STREET NAME SIGN BLANK DETAILS

For Mounting on Square Steel Posts



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



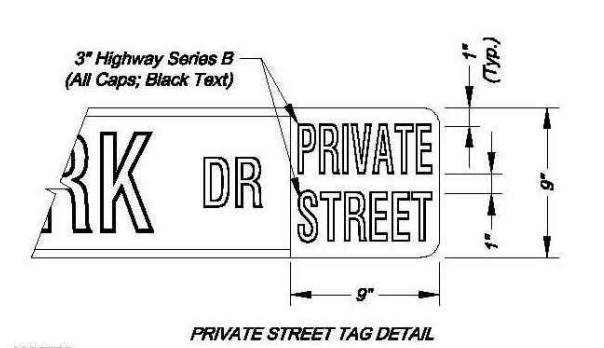
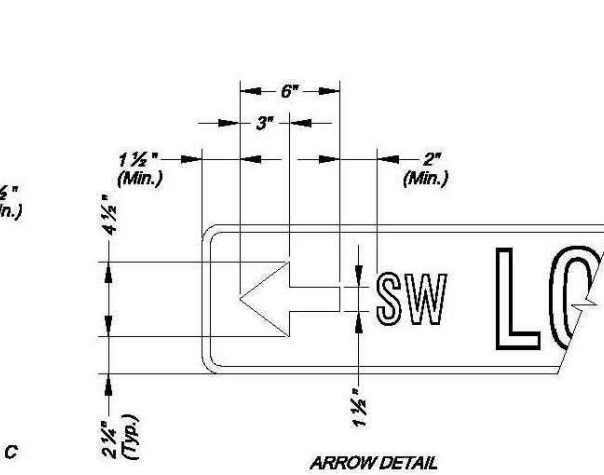
#### NUMBERED STREET NAME SIGN DETAIL

#### STREET NAME SIGN FACE DETAILS

#### STREET NAME SIGN QUANTITIES

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

#### PROJECT SIGN DETAILS

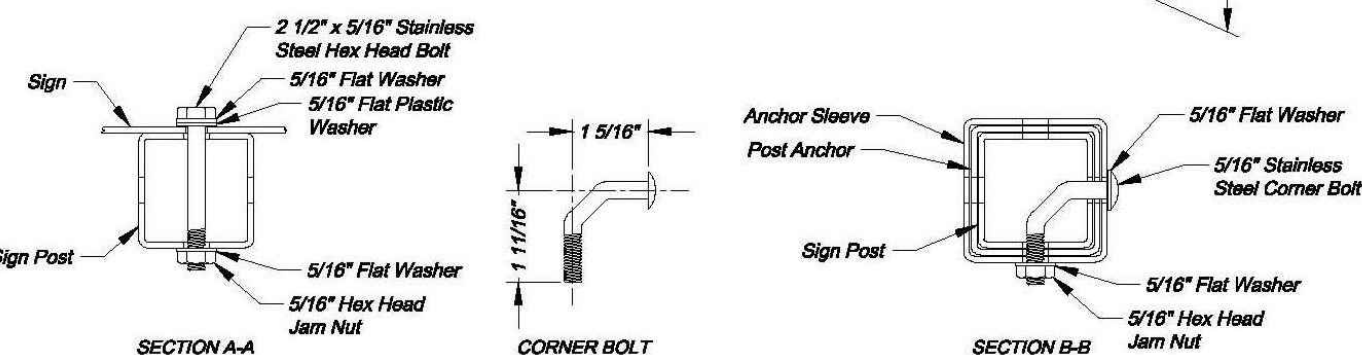


- NOTES:**
1. For all street name signs, the legend shall be white and the background shall be green.
  2. Arrows shall be added to street name signs where the name of a street changes at an intersection. Street name signs with arrows are to be installed on each side of the intersection to indicate the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

- PERMANENT SIGNING GENERAL NOTES:**
1. All signing shall be in accordance with the latest edition of the Manual on Uniform Traffic Control Devices (MUTCD).
  2. The Contractor is responsible for avoiding any and all utilities when installing sign posts, whether the utility is indicated on the plans or not.
  3. All workmanship and materials shall be subject to the inspection and approval of the Public Works Department of the City of Lee's Summit.
  4. The Contractor shall submit the location of all sign posts to be installed. The City Inspector shall inspect the staking prior to installation.
  5. Signs shown to be installed on the side of metal poles shall be mounted with stainless steel straps or wing brackets as detailed. No signs are to be installed on wood poles. See Traffic Signal Standard Drawings for the installation of signs on metal arms.
  6. All post mounted signs shall be installed with breakaway anchors according to the Standard Drawings.
  7. All existing signs will be used in place during construction and protected from damage unless otherwise indicated in the plans. If the Contractor damages any existing sign or posts during construction, the Contractor will be required to replace the damaged materials with new signs or posts of the same type and size at the Contractor's expense. The Contractor shall be responsible for removing and storing any signs that are to be reinstalled on the project. All equipment shall be maintained in good condition.
  8. Existing permanent signs and posts removed by the Contractor for construction purposes which are not to be reinstalled shall be delivered to the City's Public Works Maintenance Facility (1671 SE Hamblen Road). The Contractor shall be responsible for removing and storing equipment in good condition and is fully responsible for the equipment until it is delivered.
  9. All Stop, Yield, or street name signs shall be maintained in a conspicuous location for the driving public. All Stop and Yield signs removed for construction purposes can be temporarily erected in reflectorized drums (no less than 7 feet above the pavement surface) until they can be reinstalled. Any temporary Stop or Yield sign installation to be left in place overnight will require prior approval from the City Inspector.

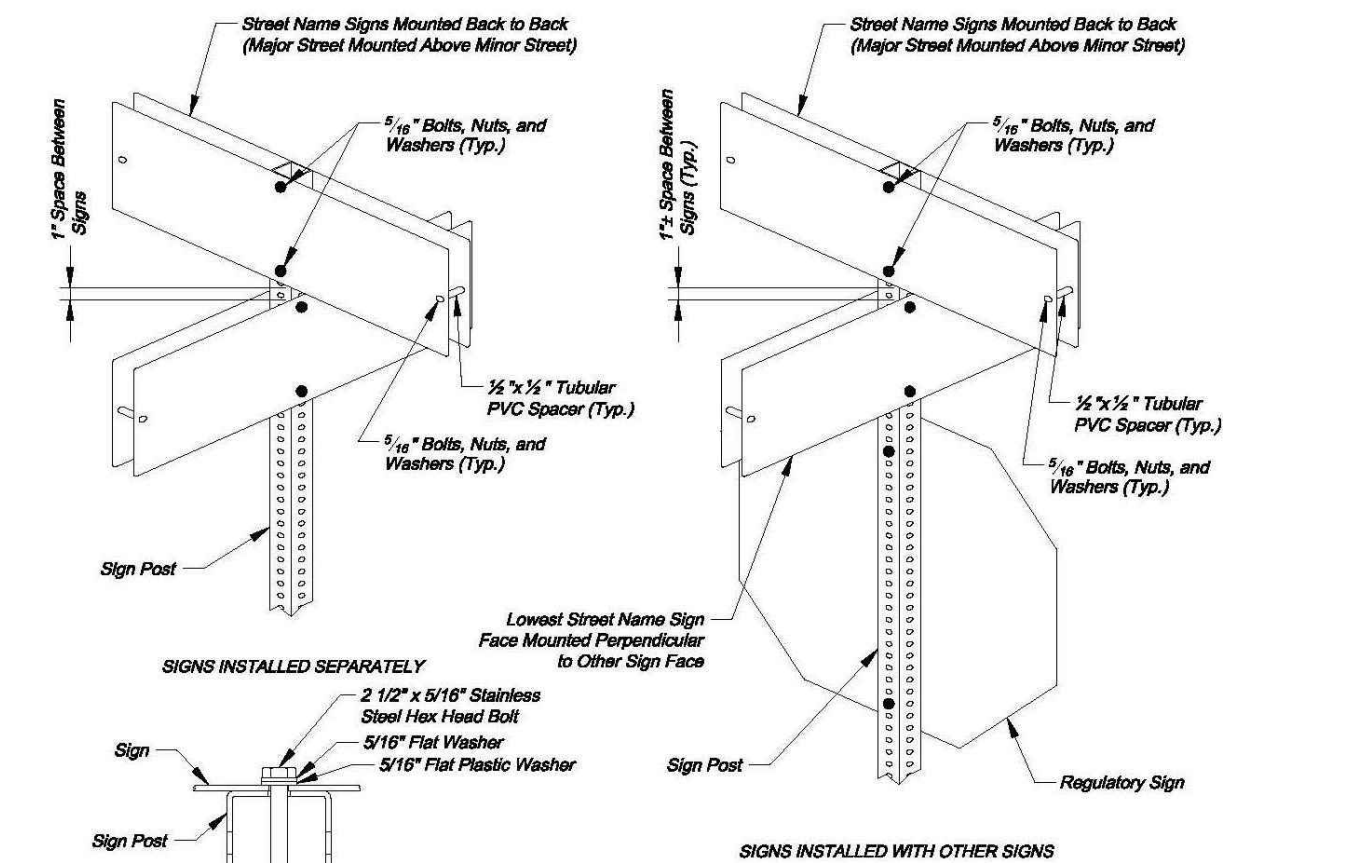
#### SQUARE STEEL POST INSTALLATION SEQUENCE:

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

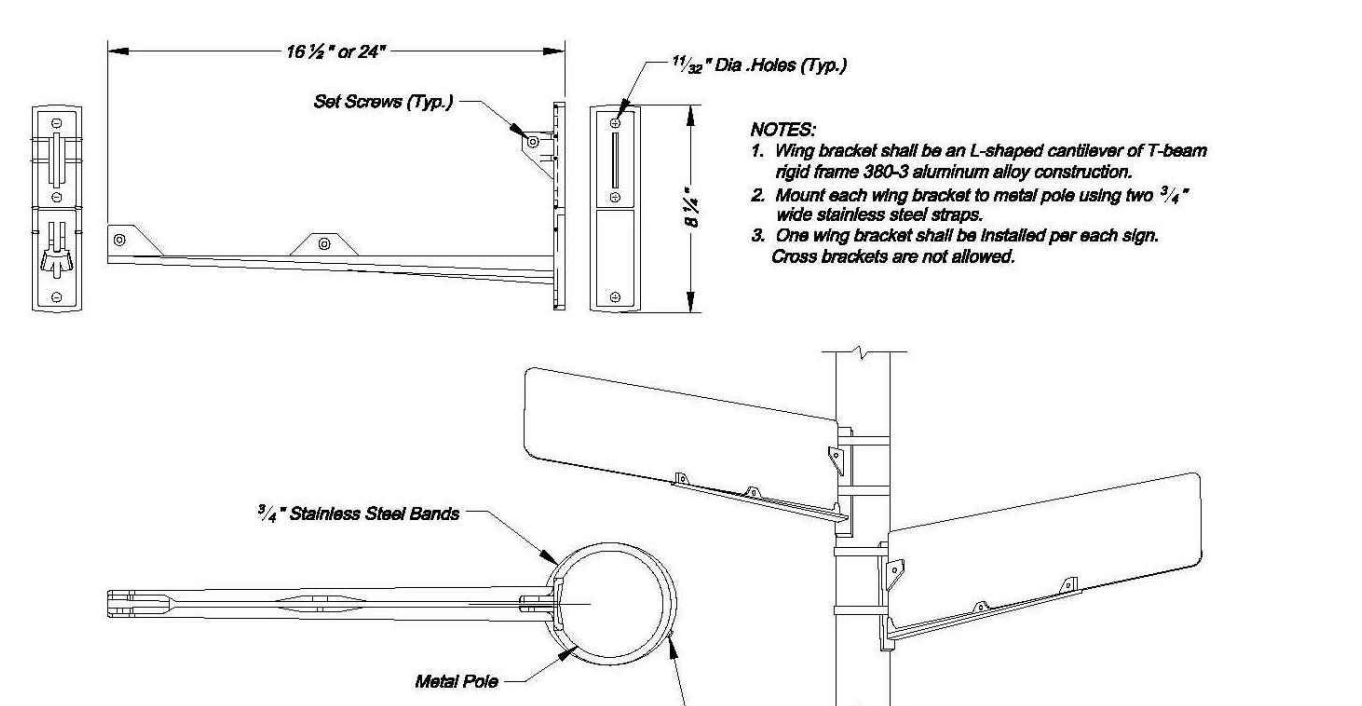


#### SQUARE STEEL POST DETAILS

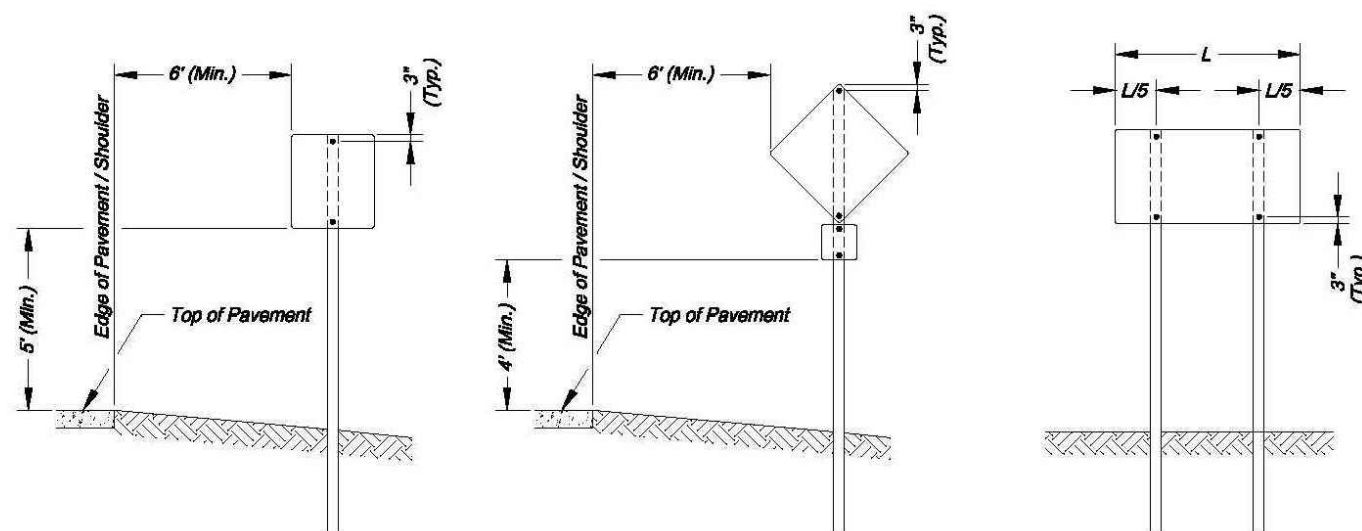
- SQUARE STEEL POST NOTES:**
1. Square steel sign posts and break-away anchor shall consist of the following materials:  
Sign Post - 14 Ga. 2" x 2" Square Steel Post  
Post Anchor - 12 Ga. 2 1/2" x 2 1/2" x 36" Square Steel Post  
Anchor Sleeve - 12 Ga. 2 1/2" x 2 1/2" x 18" Square Steel Post
  2. 14 Gauge posts must meet a certified minimum yield strength of 80,000 psi.
  3. In all installations the first hole above the finished grade line on the sign post, anchor, and anchor sleeve must be in line for the insertion of the corner bolt.
  4. The maximum area for one sign post is 9.0 square feet. A sign or combination of signs with an area greater than 9.0 square feet will require two posts. Also, signs with a width greater than 36" (not including 36" x 36" diamond shaped signs) will require two posts.



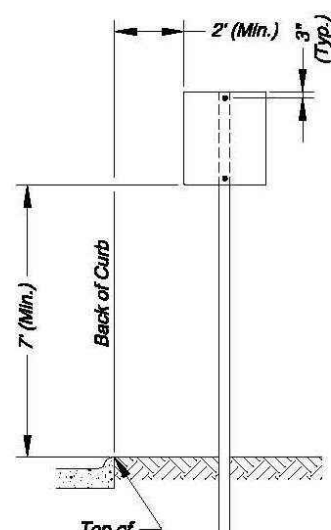
#### SQUARE STEEL POST MOUNTING DETAILS



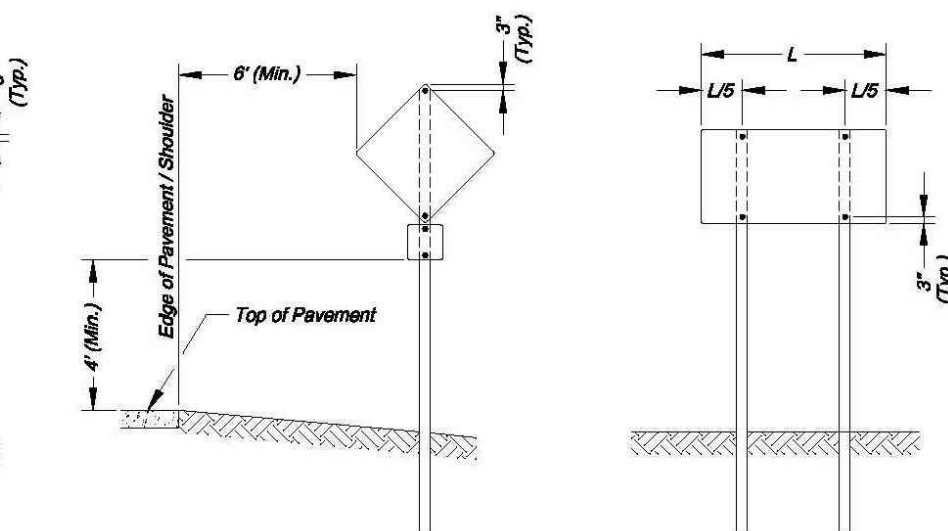
#### WING BRACKET MOUNTING DETAILS



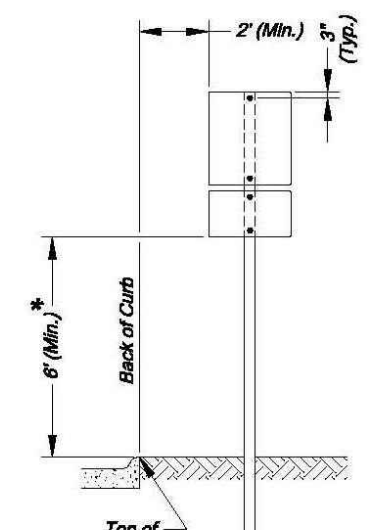
#### SIGN INSTALLATION FOR NON-CURBED STREET



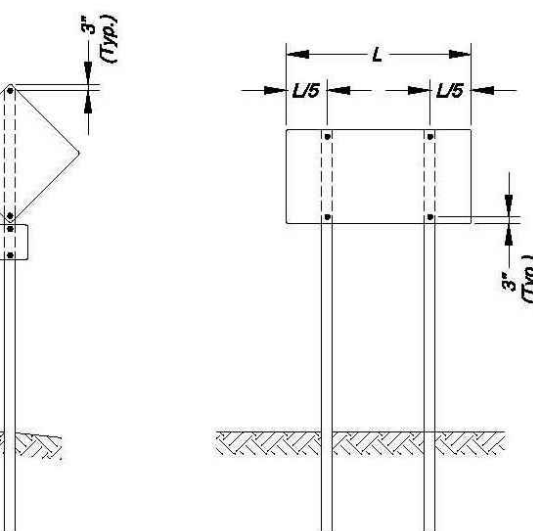
#### SIGN INSTALLATION FOR CURBED STREET



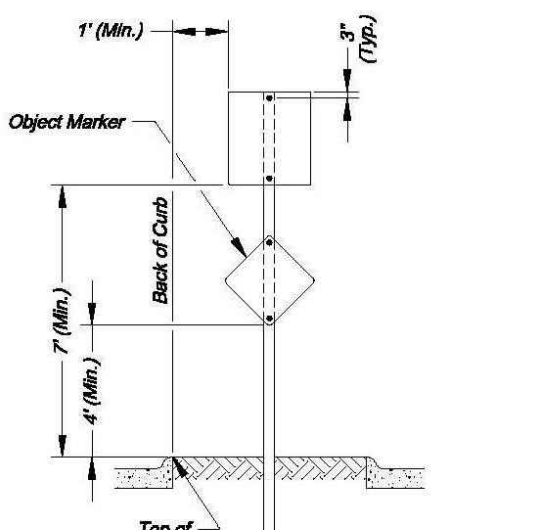
#### SIGN INSTALLATION WITH AUXILIARY SIGN FOR NON-CURBED STREET



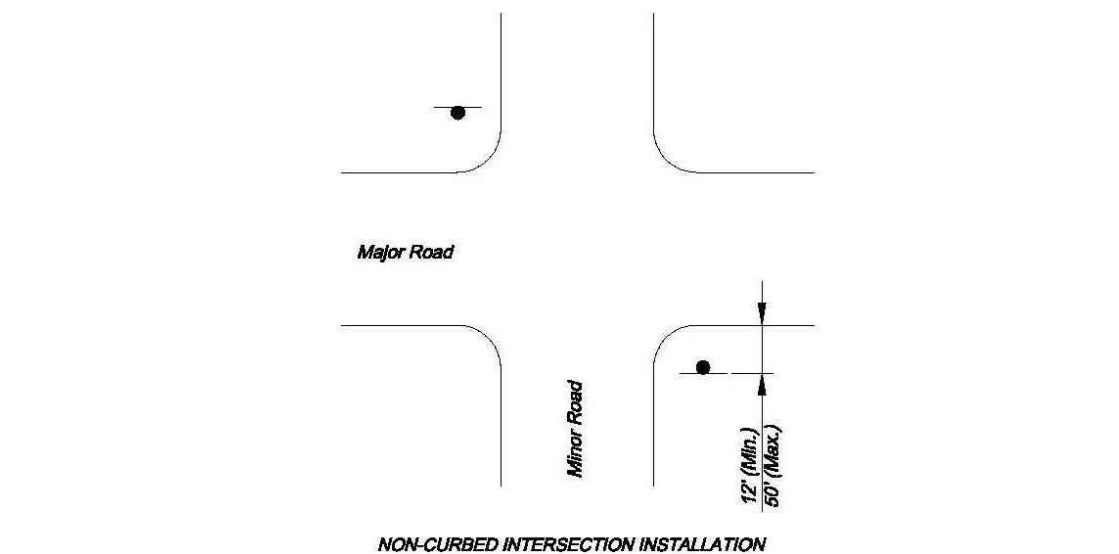
#### SIGN INSTALLATION WITH AUXILIARY SIGN FOR CURBED STREET



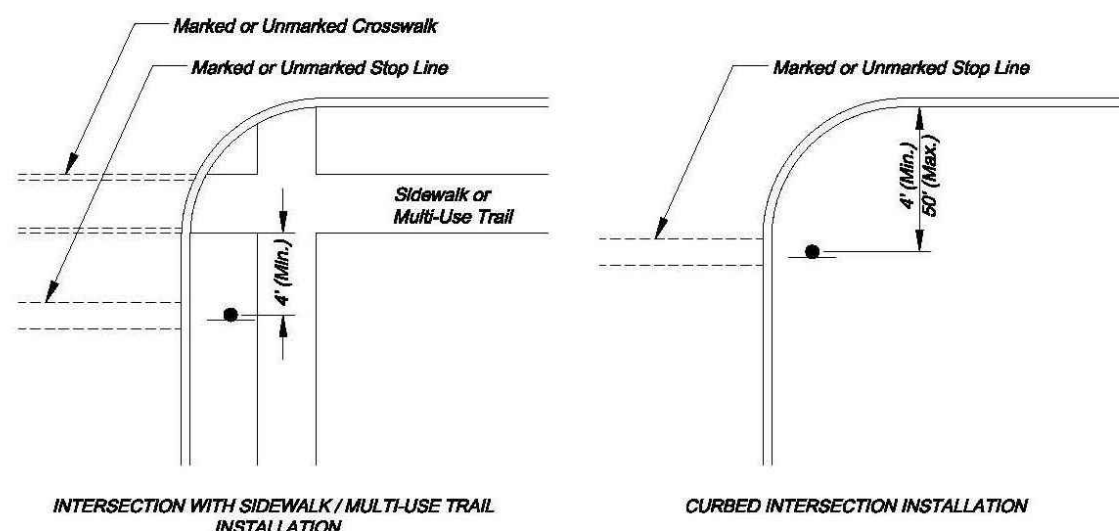
#### SIGN INSTALLATION WITH TWO SIGN POSTS



#### SIGN INSTALLATION FOR RAISED MEDIAN

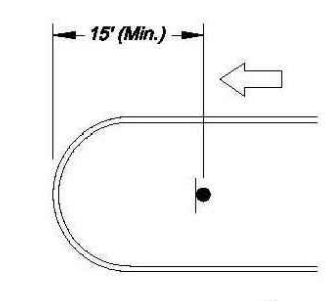


#### NON-CURBED INTERSECTION INSTALLATION



#### CURBED INTERSECTION INSTALLATION

#### CONTROL SIGN LOCATION



#### MEDIAN SIGN LOCATION

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

olsson

NO. Certificate of Authority #031992  
300 E. MAIN STREET, SUITE 100  
NORTH KANSAS CITY, MO 64116  
TEL. 816.851.1177  
WWW.OLSSON.COM

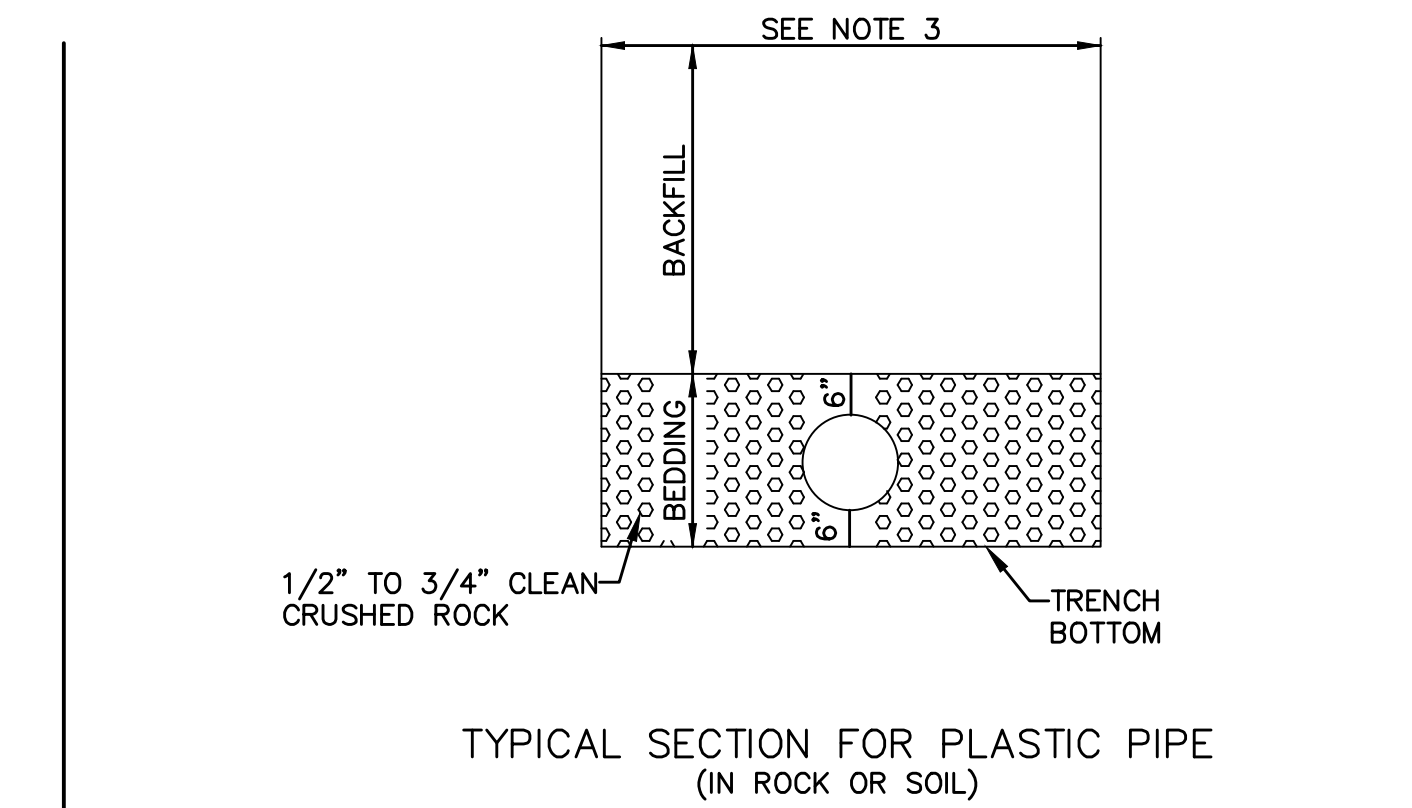
STATE OF MISSOURI  
JULIE ELAINE  
SELLERS  
NUMBER  
PE-2017000367  
3/23/21  
PROFESSIONAL

BY  
REVISIONS DESCRIPTION  
DATE  
NO. REV.  
2020

SINGAGE DETAIL SHEET  
STREET & STORM SEWER PLANS  
WOODSIDE RIDGE  
SECOND PLAT  
LEE'S SUMMIT, MO

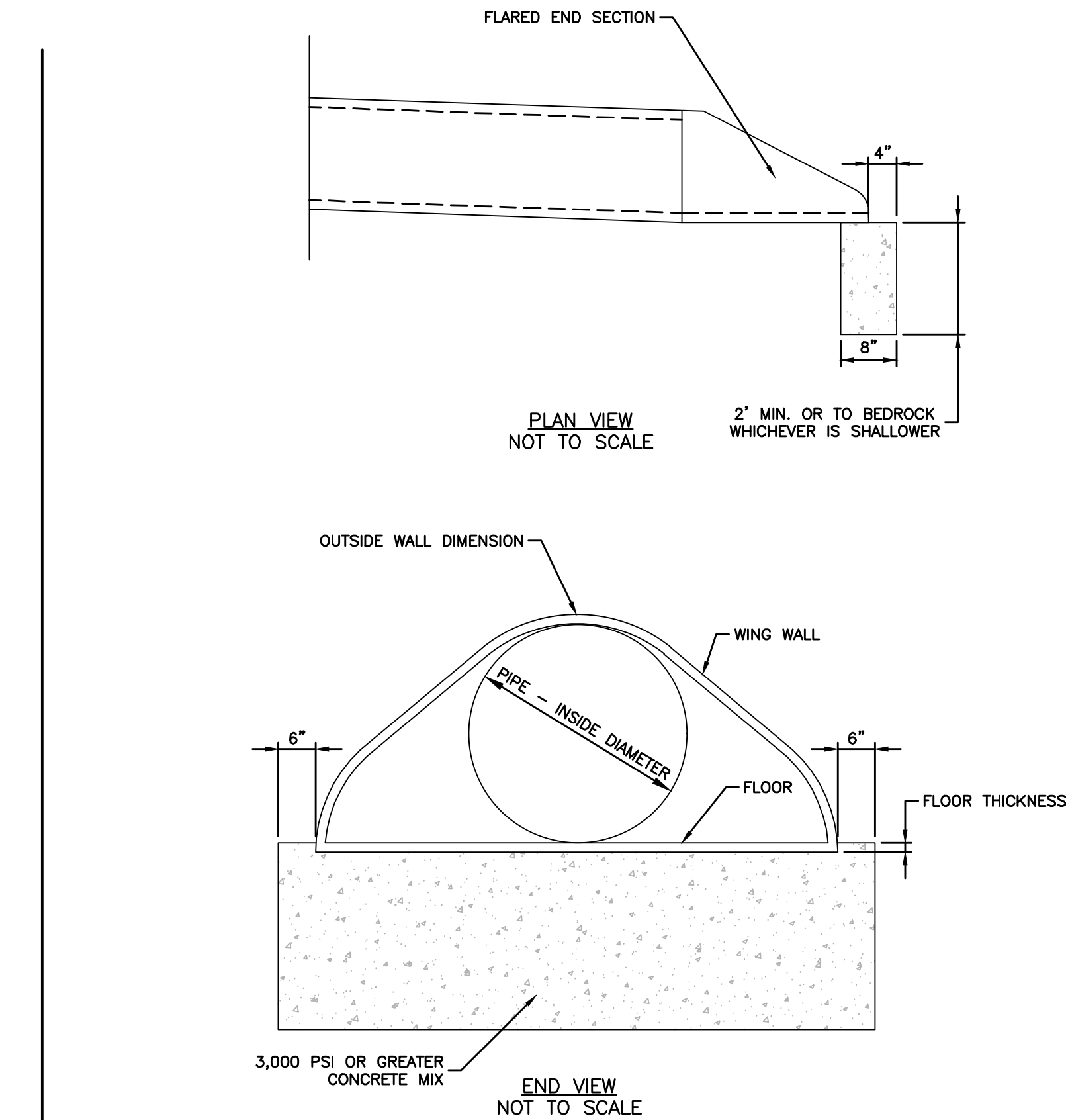
drawn by: C.S.M.  
checked by: S.M.S.  
designed by: C.S.M.  
QA/QC by: J.E.S.  
project no.: C18-1140  
date: 2020.07.10

SHEET  
C133

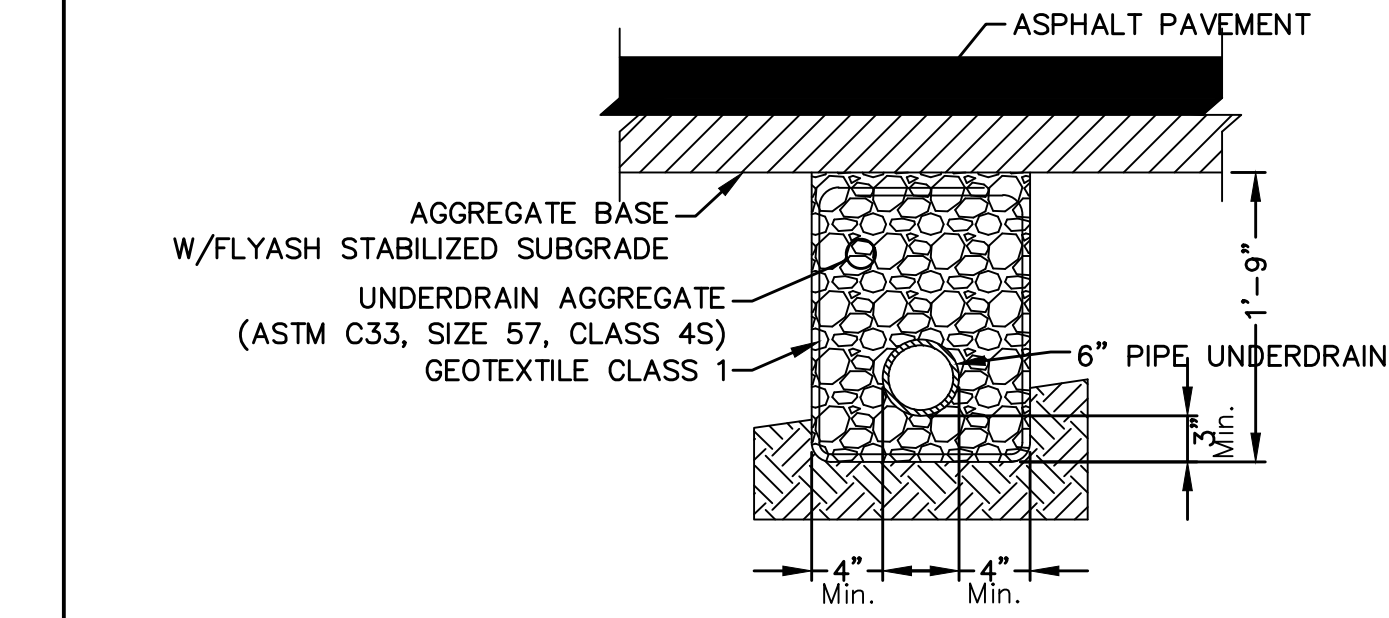


1. BACKFILL SHALL BE JOB EXCAVATED MATERIAL FREE FROM DEBRIS AND STONES COMPACTED TO 90% OF MAXIMUM DENSITY AT OPTIMUM MOISTURE CONTENT AS DETERMINED BY ASTM D698 FOR BACKFILL UNDER PAVEMENT (EXISTING OR PROPOSED).
2. TRENCH BANKS MAY BE CUT BACK ON SLOPES IN ACCORDANCE WITH CURRENT OSHA REGULATIONS, BUT ONLY IN AREAS WHERE THE INCREASED TRENCH WIDTH WILL NOT INTERFERE WITH SURFACE FEATURES. SLOPES MUST NOT EXTEND BELOW TOP OF BEDDING.
3. MINIMUM AND MAXIMUM WIDTHS SHALL BE IN ACCORDANCE WITH PIPE MANUFACTURER'S RECOMMENDATION AS APPROVED ON ENGINEERING PLANS.

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



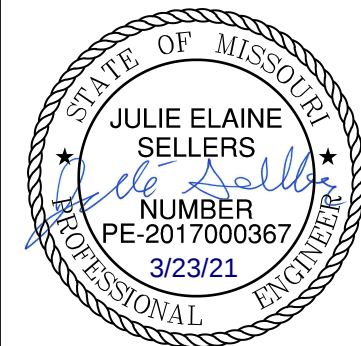
03 N.T.S. FLARED END SECTION SUPPORT DETAIL



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

05 N.T.S. PIPE UNDERDRAIN LATERAL

olsson



| NO. REV. | DATE | REVISIONS DESCRIPTION | BY |
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| STORM DETAIL SHEET         | 2020 |
| STREET & STORM SEWER PLANS |      |
| WOODSIDE RIDGE             |      |
| SECOND PLAT                |      |
| LEE'S SUMMIT, MO           |      |

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QA/QC by: \_\_\_\_\_ J.E.S.  
project no.: C18-1140  
date: 2020.07.10

