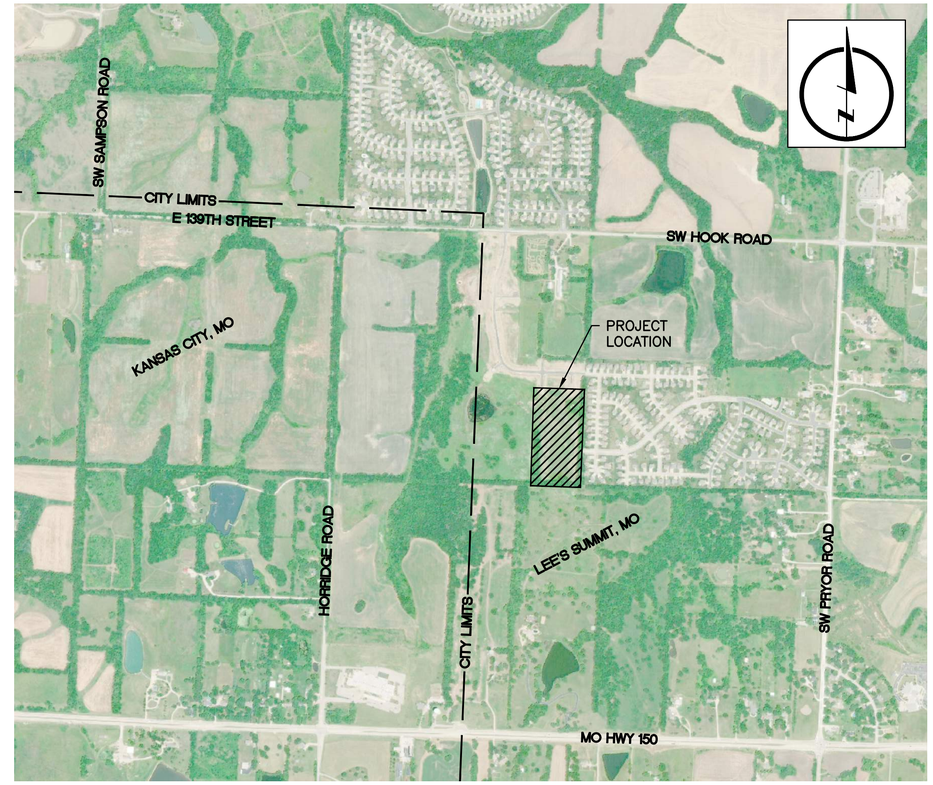
SUMMIT VIEW FARMS 3RD PLAT
LOTS 51-74 AND TRACT C

MASS GRADING, EROSION CONTROL, PAVING, STORM AND SANITARY PLANS
LEE'S SUMMIT, JACKSON COUNTY, MISSOURI
SECTION 26, TOWNSHIP 47 N, RANGE 32 W
LRA NO. 0318050.01

MISSOURI
STATE LOCATION MAP



LOCATION MAP

OWNER CONTACT
BILL KENNEY
SUMMIT VIEW FARMS DEVELOPMENT GROUP, LLC
P.O. BOX 291
LEE'S SUMMIT, MO 64063
billkenney9@gmail.com
(816) 838-0552

CONSULTANT CONTACT
DAN MCGHEE
LARKIN LAMP RYNEARSON
9001 STATE LINE ROAD, SUITE 200
KANSAS CITY, MO 64114
Dan.McGhee@LRA-inc.com
(816) 361-0440

INDEX OF SHEETS

CALL 2 WORKING DAYS BEFORE you DIG
TOLL FREE
1-800-DIG-RITE
(344-7483)
MISSOURI ONE CALL SYSTEM, INC.

ALL UTILITIES ARE SHOWN BASED ON THE INFORMATION AVAILABLE TO THE ENGINEER. THERE IS NO GUARANTEE ALL FACILITIES ARE SHOWN OR THAT THE LOCATION, DEPTH, AND SIZE OF EACH FACILITY IS CORRECT. THE CONTRACTOR IS RESPONSIBLE FOR LOCATING ALL UTILITIES AND SERVICE LINES PRIOR TO CONSTRUCTION. COORDINATE NECESSARY RELOCATIONS WITH UTILITY COMPANIES.

UTILITIES		
ELECTRIC:	KCP&L	(816) 471-5275
GAS:	SPIRE ENERGY	(816) 756-5252
TELEPHONE:	AT&T	(816) 325-5607
CABLE:	SPECTRUM	(816) 358-8833
WATER:	LEE'S SUMMIT WATER UTILITIES	(816) 969-1900
SEWER:	LEE'S SUMMIT WATER UTILITIES	(816) 969-1900

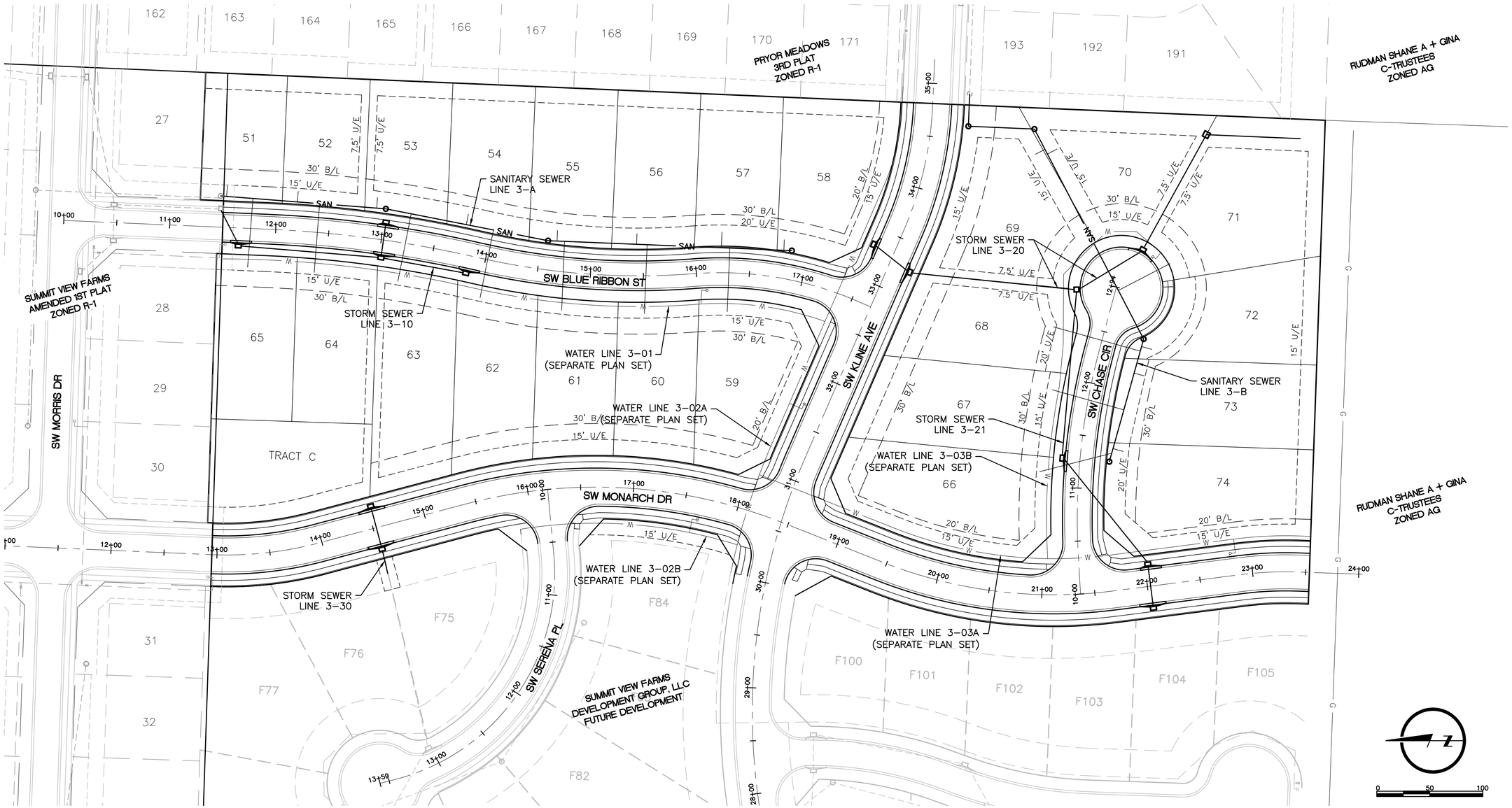
STATE OF MISSOURI
MARK DANIEL MCGHEE JR.
NUMBER
PE-2008019568
PROFESSIONAL ENGINEER

APPROVED: _____ DATE: 09-19-2018
MARK DANIEL MCGHEE JR., PE

LARKIN LAMP RYNEARSON
9001 State Line Rd., Suite 200 816.361.0440 | P
Kansas City , Missouri 64114 816.361.0045 | F
www.LRA-Inc.com

GENERAL NOTES:

1. ALL CONSTRUCTION TO FOLLOW THE CITY OF LEE'S SUMMIT DESIGN AND CONSTRUCTION MANUAL AS ADOPTED BY ORDINANCE 5813.
2. ALL WORKMANSHIP AND MATERIALS SHALL BE SUBJECT TO THE INSPECTION AND APPROVAL OF THE ENGINEERING DEPARTMENT OF THE CITY OF LEE'S SUMMIT, MISSOURI.
3. LINEAL FOOT MEASUREMENTS SHOWN ON THE PLANS ARE HORIZONTAL MEASUREMENTS, NOT SLOPE MEASUREMENTS.
4. NO GEOLOGICAL INVESTIGATION THIS BEEN PERFORMED ON THIS PLAT.
5. THE UTILITY LOCATIONS SHOWN ON THESE PLANS ARE TAKEN FROM UTILITY COMPANY RECORDS AND APPARENT FIELD LOCATIONS. THE CONTRACTOR SHALL VERIFY THE LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO CONSTRUCTION.
6. THE CONTRACTOR SHALL ADHERE TO THE PROVISIONS OF THE SENATE BILL NUMBER 583, 78TH GENERAL ASSEMBLY OF THE STAT OF MISSOURI. THE BILL REQUIRES THAT ANY PERSON OR FIRM DOING EXCAVATION ON PUBLIC RIGHT–OF–WAY DO SO ONLY AFTER GIVING NOTICE TO, AND OBTAINING INFORMATION FROM, UTILITY COMPANIES. STATE LAW REQUIRES 72 HOURS ADVANCE NOTICE. THE CONTRACTOR MAY ALSO UTILIZE THE FOLLOWING TOLL FREE PHONE NUMBER PROVIDED BY "MISSOURI ONE CALL SYSTEM, INC.": 1–(800)–DIG–RITE OR 811. THIS PHONE NUMBER IS APPLICABLE ANYWHERE WITHIN THE STATE OF MISSOURI PRIOR TO COMMENCEMENT OF WORK, THE CONTRACTOR SHALL NOTIFY ALL THOSE COMPANIES WHICH ARE FACILITIES IN THE NEAR VICINITY OF THE CONSTRUCTION TO BE PERFORMED.
7. PRIOR TO ORDERING PRECAST STRUCTURES, SHOP DRAWINGS SHALL BE SUBMITTED TO THE DESIGN ENGINEER FOR APPROVAL.
8. THE CONTRACTOR SHALL PROTECT ALL MAJOR TREES FROM DAMAGE. NO TREE SHALL BE REMOVED WITHOUT PERMISSION OF THE OWNER, UNLESS SHOWN OTHERWISE.
9. CLEARING AND GRUBBING OPERATIONS AND DISPOSAL OF ALL DEBRIS THEREFROM SHALL BE PERFORMED BY THE CONTRACTOR IN STRICT ACCORDANCE WITH ALL LOCAL CODES AND ORDINANCES.
10. ALL WASTE MATERIAL RESULTING FROM THE PROJECT SHALL BE DISPOSED OF OFF–SITE BY THE CONTRACTOR, OR AS DIRECTED BY THE OWNER.
11. ALL EXCAVATION SHALL BE UNCLASSIFIED.
12. THE CONTRACTOR SHALL CONTROL THE EROSION AND SILTATION DURING ALL PHASES OF CONSTRUCTION, AND SHALL KEEP THE STREETS CLEAN OF MUD AND DEBRIS.
13. ALL MANHOLES, CATCH BASINS, UTILITY VALVES AND METER PITS TO BE ADJUSTED OR REBUILT TO GRADE AS REQUIRED. ALL EXISTING UTILITIES SHALL BE ADJUSTED AS REQUIRED.
14. SUBGRADE SOIL FOR ALL CONCRETE STRUCTURES, REGARDLESS OF THE TYPE OR LOCATION, SHALL BE FIRM, DENSE AND THOROUGHLY COMPACTED AND CONSOLIDATED; SHALL BE FREE FROM MUCK AND MUD; AND SHALL BE SUFFICIENTLY STABLE TO REMAIN FIRM AND INTACT UNDER THE FEET OF THE WORKMEN OR MACHINERY ENGAGED IN SUBGRADE SURFACING, LAYING REINFORCING STEEL, AND DEPOSITING CONCRETE THEREON. IN ALL CASES WHERE SUBSOIL IS MUCKY OR WORKS INTO MUD OR MUCK DURING SUCH OPERATION, A SEAL COURSE OF EITHER CONCRETE OR ROCK SHALL BE PLACED BELOW SUGRADE TO PROVIDE A FIRM BASE FOR WORKING AND STRUCTURE CONSTRUCTION.
15. THE CONTRACTOR SHALL CONTACT PUBLIC WORKS INSPECTIONS AT 816–969–1800 TO OBTAIN A PUBLIC WORKS CONSTRUCTION PERMIT. PERMITS ARE ISSUED BY THE DEVELOPMENT ENGINEERING DIVISION AFTER PLANS ARE APPROVED FOR PERMITTING AND FEES ARE PAID.
16. THE CONTRACTOR SHALL CONTACT THE CITY'S DEVELOPMENT ENGINEERING FIELD ENGINEERING INSPECTORS AT 816–969–1200 PRIOR TO ANY LAND DISTURBANCE.
17. THE CONTRACTOR SHALL CONTACT THE CITY'S RIGHT–OF–WAY INSPECTOR AT 816–969–1800 PRIOR TO ANY LAND DISTURBANCE ACTIVITIES WITHIN THE RIGHT–OF–WAY. THESE ACTIVITIES MAY REQUIRE A PERMIT.
18. THE CONTRACTOR SHALL PROVIDE AND MAINTAIN ALL TRAFFIC HANDLING MEASURES NECESSARY TO ENSURE THAT THE GENERAL PUBLIC IS PROTECTED AT ALL TIMES. TRAFFIC CONTROL SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD – LATEST EDITION).



REVISIONS	
08/10/18 – RESUBMITTAL PER ADJUSTED LAYOUT	
09/19/18 – RESUBMITTAL PER CITY COMMENTS	

DRAWN BY	AJM
DESIGNED BY	MDM
DATE	09–19–2018
JOB NUMBER-TASK#	0318050.01
BOOK AND PAGE	

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SUMMIT VIEW FARMS 3RD PLAT
LEE'S SUMMIT, MISSOURI

MASS GRADING, EROSION CONTROL, PAVING, STORM AND SANITARY PLANS

GENERAL LAYOUT PLAN SHEET

LARKIN LAMP RYNEARSON - ENGINEERS
MO Certificate of Authority No. 2013011903

STATE OF MISSOURI
MARK DANIEL McGHEE JR.
NUMBER
PE-2008019568
PROFESSIONAL ENGINEER
09–19–2018

MARK DANIEL MCGHEE JR.
PE - 2008019568

SHEET
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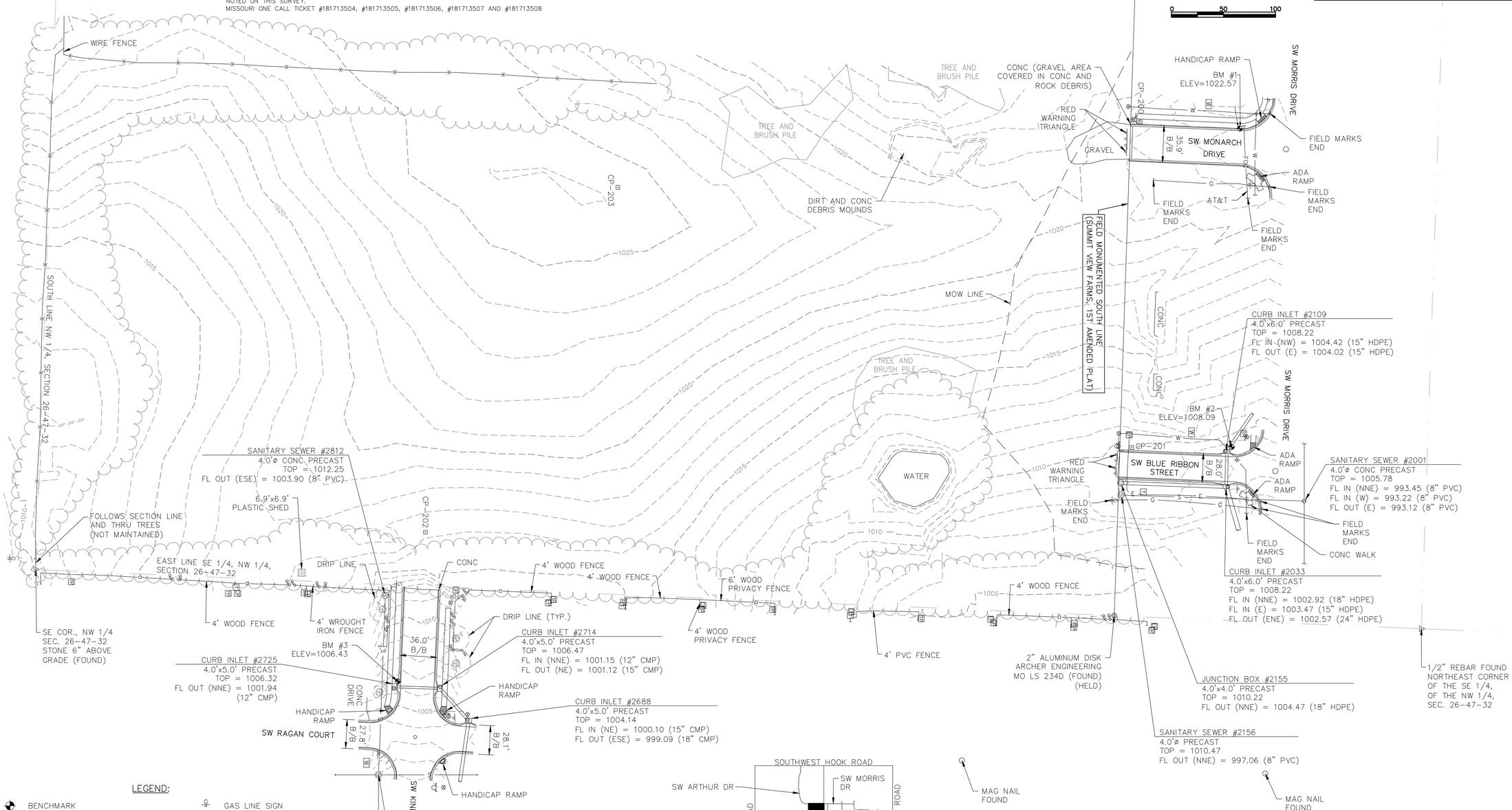
L:\Engineering\0318050 SVFDG Summit View Farms 3rd Plat\DRAWINGS\CONSTRUCTION DRAWINGS\PAV-PLANS\0318050-PAV-GEN.dwg, 9/19/2018 7:52:48 AM, JAMIE MCMURRY, LARKIN LAMP RYNEARSON, & ASSOCIATES

UTILITY STATEMENT:

THE UNDERGROUND UTILITIES SHOWN HEREON ARE FROM FIELD SURVEY INFORMATION OF ONE-CALL LOCATED UTILITIES, FIELD SURVEY INFORMATION OF ABOVE GROUND OBSERVABLE EVIDENCE, AND/OR THE SCALING AND PLOTTING OF EXISTING UTILITY MAPS AND DRAWINGS AVAILABLE TO THE SURVEYOR AT THE TIME OF SURVEY. THE SURVEYOR MAKES NO GUARANTEE THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. FURTHERMORE, THE SURVEYOR DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH HE DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM INFORMATION AVAILABLE. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES BY EXCAVATION UNLESS OTHERWISE NOTED ON THIS SURVEY.
MISSOURI ONE CALL TICKET #181713504, #181713505, #181713506, #181713507 AND #181713508

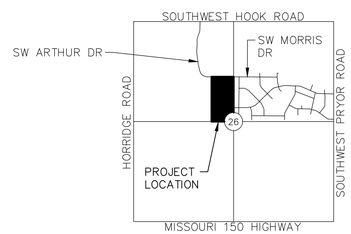
NOTE:

TOPOGRAPHIC AND BOUNDARY SURVEY WAS PERFORMED BY KAW VALLEY ENGINEERING, INC.



LEGEND:

- BENCHMARK
- B/B BACK TO BACK OF CURB
- E/E EDGE TO EDGE OF ASPHALT
- CONTROL POINT
- MONUMENT FOUND ORIGIN UNKNOWN UNLESS OTHERWISE NOTED
- SECTION CORNER
- STORM SEWER MANHOLE
- CABLE TV PEDESTAL
- UNDERGROUND ELECTRIC PEDESTAL
- ELECTRICAL TRANSFORMER
- FIRE HYDRANT
- BARBED WIRE FENCE
- WOOD FENCE
- GATE POST
- UNDERGROUND GAS
- GAS LINE SIGN
- TELEPHONE PEDESTAL
- FOC UNDERGROUND FIBER OPTIC CABLE
- SANITARY SEWER MANHOLE
- E UNDERGROUND ELECTRIC
- UTILITY POLE W/ LIGHT
- W WATER LINE
- WATER METER
- WATER LINE GATE VALVE
- STREET/TRAFFIC SIGN
- BUSH
- DECIDUOUS TREE
- TREE LINE
- EELEV EXISTING GRADE 1' CONTOUR
- ELEV EXISTING GRADE 5' CONTOUR



VICINITY MAP
SEC 26- TWP 47N - RNG32W
NOT TO SCALE

REFERENCE SURVEY

1. TOPOGRAPHIC SURVEY, PREPARED BY: HDR ENGINEERING INC. PROJECT #:239662 AND DATED: JANUARY 6, 2015.

2. TOPOGRAPHIC SURVEY, PREPARED BY: PHOENIX ENGINEERING & SURVEYING, LLC, PROJECT #:02067A AND DATED: OCTOBER 22, 2003.

HORIZONTAL AND VERTICAL DATUM:

THE COORDINATES SHOWN HEREON ARE GROUND COORDINATES BASED ON THE MISSIOURI STATE PLANE WEST ZONE (JA-50) (JA-142)
CAF: 0.99989925 GROUND X CAF = GRID
1 METER = 3.28083333 U.S. SURVEY FEET

JA-50 (PID-095050)
NORTHING: 302358.525 (METERS)
EASTING: 854683.866 (METERS)
ELEV = 289.8 (METERS)

JA-142 (PID-095142)
NORTHING: 302106.953 (METERS)
EASTING: 858960.056 (METERS)
ELEV = 318.0 (METERS)

PROJECT BENCH MARK:

BM-1
BC AT ER AT SW QUADRANT OF SOUTHWEST MONACH DRIVE AND SOUTHWEST MORRIS DRIVE.
ELEV = 1022.57

BM-2
NORTHWEST CORNER CURB INLET AT SOUTHWEST QUADRANT OF SOUTHWEST MORRIS AND BLUE RIBBON.
ELEV = 1008.09

BM-3
NORTHWEST CORNER CURB INLET AT SOUTHWEST QUADRANT OF REGAN AND KLINE.
ELEV = 1006.43

PROJECT CONTROL:

CP #200
1/2"x24" REBAR W/ ORANGE CONTROL CAP
NORTHING: 982314.897
EASTING: 2809619.172
ELEV = 1021.33

CP #201
1/2"x24" REBAR W/ ORANGE CONTROL CAP
NORTHING: 982306.810
EASTING: 2809931.790
ELEV = 1009.95

CP #202
1/2"x24" REBAR W/ ORANGE CONTROL CAP
NORTHING: 981629.293
EASTING: 2810013.131
ELEV = 1016.27

CP #203
1/2"x24" REBAR W/ ORANGE CONTROL CAP
NORTHING: 981813.846
EASTING: 2809682.206
ELEV = 1026.15

DRAWN BY	AJM
DESIGNED BY	MDM
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BOOK AND PAGE	

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SUMMIT VIEW FARMS 3RD PLAT
LEE'S SUMMIT, MISSOURI

MASS GRADING, EROSION CONTROL, PAVING, STORM AND SANITARY PLANS

EXISTING CONDITIONS PLAN

LARKIN LAMP RYNEARSON - ENGINEERS
MO Certificate of Authority No. 2013011903

STATE OF MISSOURI
MARK DANIEL MCGHEE JR.
NUMBER
PE-2008019568
PROFESSIONAL ENGINEER
09-19-2018

MARK DANIEL MCGHEE JR.
PE - 2008019568

SHEET
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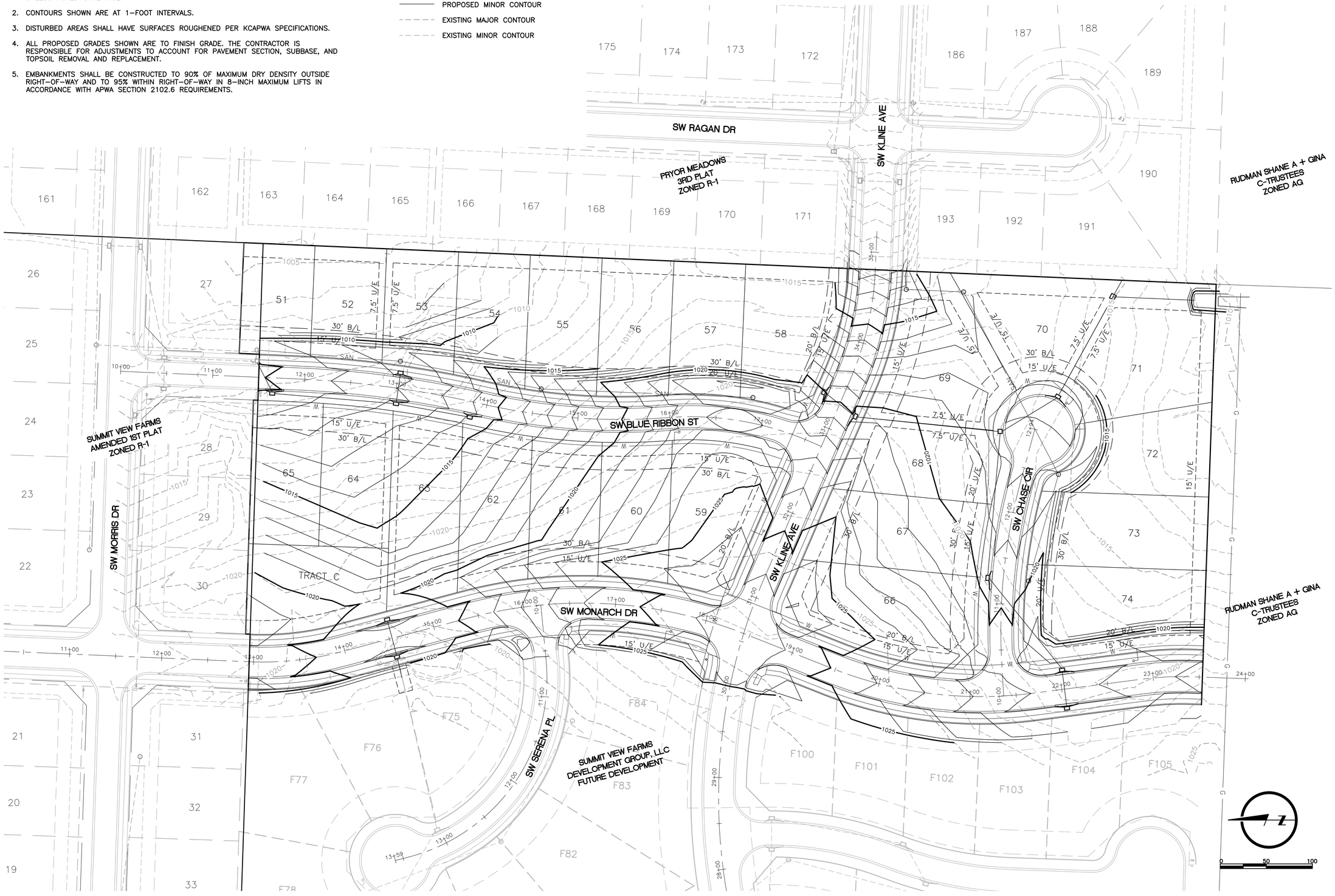
GENERAL NOTES:

1. SLOPES SHALL BE GRADED AS SHOWN ON THE PLANS WITH A MAXIMUM SLOPE OF 3:1 UNLESS NOTED OTHERWISE.
2. CONTOURS SHOWN ARE AT 1-FOOT INTERVALS.
3. DISTURBED AREAS SHALL HAVE SURFACES ROUGHENED PER KCAPWA SPECIFICATIONS.
4. ALL PROPOSED GRADES SHOWN ARE TO FINISH GRADE. THE CONTRACTOR IS RESPONSIBLE FOR ADJUSTMENTS TO ACCOUNT FOR PAVEMENT SECTION, SUBBASE, AND TOPSOIL REMOVAL AND REPLACEMENT.
5. EMBANKMENTS SHALL BE CONSTRUCTED TO 90% OF MAXIMUM DRY DENSITY OUTSIDE RIGHT-OF-WAY AND TO 95% WITHIN RIGHT-OF-WAY IN 8-INCH MAXIMUM LIFTS IN ACCORDANCE WITH APWA SECTION 2102.6 REQUIREMENTS.

LEGEND

- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR



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SUMMIT VIEW FARMS 3RD PLAT
LEE'S SUMMIT, MISSOURI

MASS GRADING, EROSION CONTROL, PAVING, STORM AND SANITARY PLANS

MASS GRADING PLAN

LARKIN LAMP RYNEARSON - ENGINEERS
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09-19-2018

MARK DANIEL MCGHEE JR.
PE - 2008019568

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GENERAL NOTES:

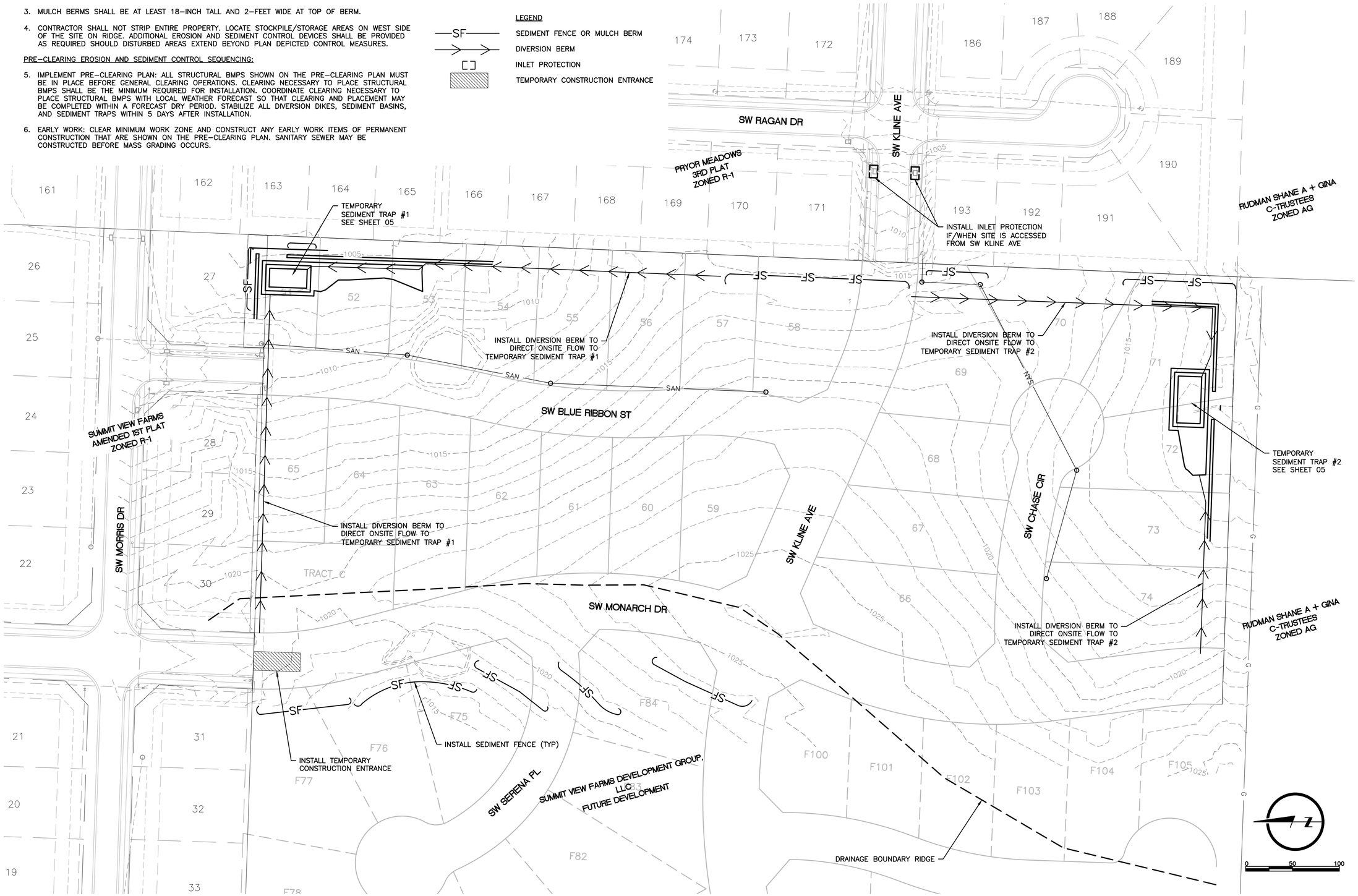
1. CONTRACTOR IS RESPONSIBLE FOR KEEPING ALL PUBLIC ROADWAYS ADJACENT TO THE CONSTRUCTION SITE FREE OF DIRT AND DEBRIS RESULTING FROM ACTIVITIES RELATED TO THE CONSTRUCTION OF THIS PROJECT.
2. CONTRACTOR SHALL UTILIZE TEMPORARY CONSTRUCTION ENTRANCE FOR ACCESS TO SITE.
3. MULCH BERMS SHALL BE AT LEAST 18-INCH TALL AND 2-FEET WIDE AT TOP OF BERM.
4. CONTRACTOR SHALL NOT STRIP ENTIRE PROPERTY. LOCATE STOCKPILE/STORAGE AREAS ON WEST SIDE OF THE SITE ON RIDGE. ADDITIONAL EROSION AND SEDIMENT CONTROL DEVICES SHALL BE PROVIDED AS REQUIRED SHOULD DISTURBED AREAS EXTEND BEYOND PLAN DEPICTED CONTROL MEASURES.

PRE-CLEARING EROSION AND SEDIMENT CONTROL SEQUENCING:

5. IMPLEMENT PRE-CLEARING PLAN: ALL STRUCTURAL BMPS SHOWN ON THE PRE-CLEARING PLAN MUST BE IN PLACE BEFORE GENERAL CLEARING OPERATIONS. CLEARING NECESSARY TO PLACE STRUCTURAL BMPS SHALL BE THE MINIMUM REQUIRED FOR INSTALLATION. COORDINATE CLEARING NECESSARY TO PLACE STRUCTURAL BMPS WITH LOCAL WEATHER FORECAST SO THAT CLEARING AND PLACEMENT MAY BE COMPLETED WITHIN A FORECAST DRY PERIOD. STABILIZE ALL DIVERSION DIKES, SEDIMENT BASINS, AND SEDIMENT TRAPS WITHIN 5 DAYS AFTER INSTALLATION.
6. EARLY WORK: CLEAR MINIMUM WORK ZONE AND CONSTRUCT ANY EARLY WORK ITEMS OF PERMANENT CONSTRUCTION THAT ARE SHOWN ON THE PRE-CLEARING PLAN. SANITARY SEWER MAY BE CONSTRUCTED BEFORE MASS GRADING OCCURS.

LEGEND

—SF—	SEDIMENT FENCE OR MULCH BERM
→ →	DIVERSION BERM
[ ]	INLET PROTECTION
▨	TEMPORARY CONSTRUCTION ENTRANCE



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LEE'S SUMMIT, MISSOURI

MASS GRADING, EROSION CONTROL, PAVING, STORM AND SANITARY PLANS
PRE CLEARING
EROSION AND SEDIMENT CONTORL PLAN

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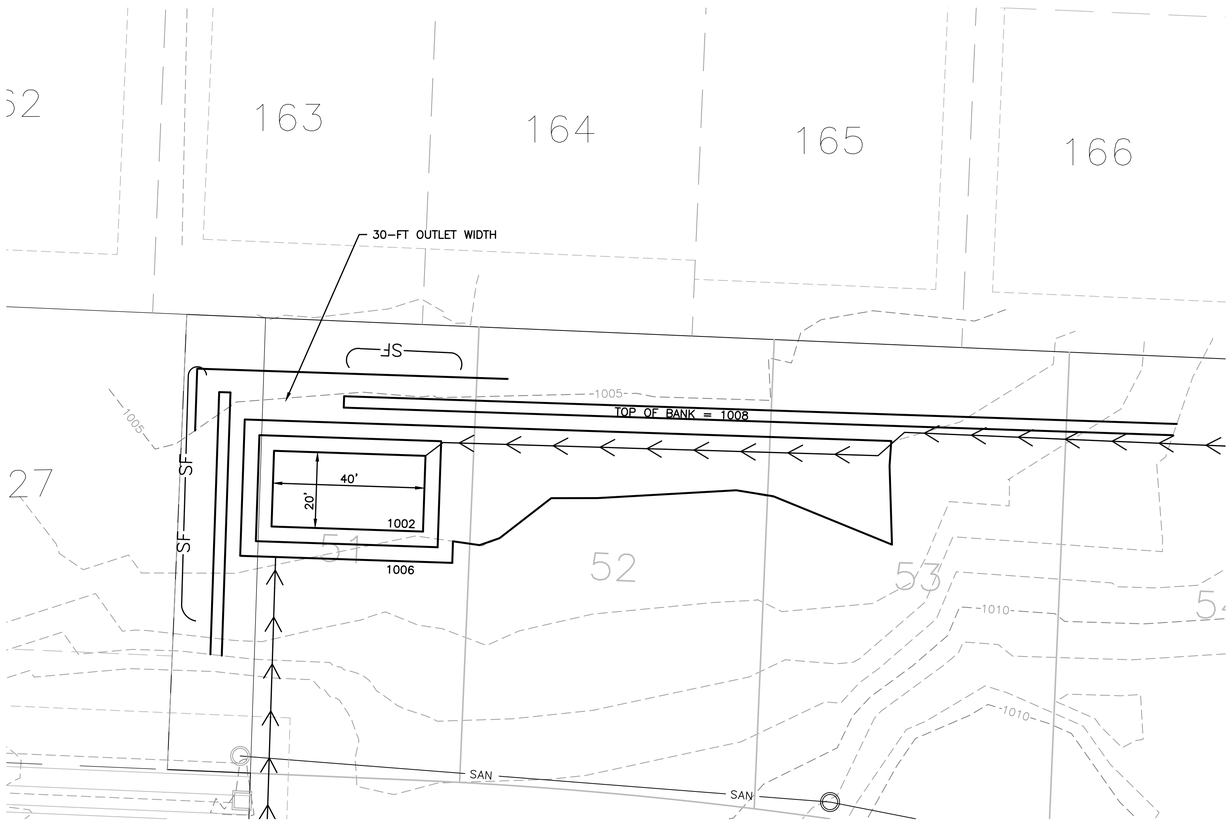
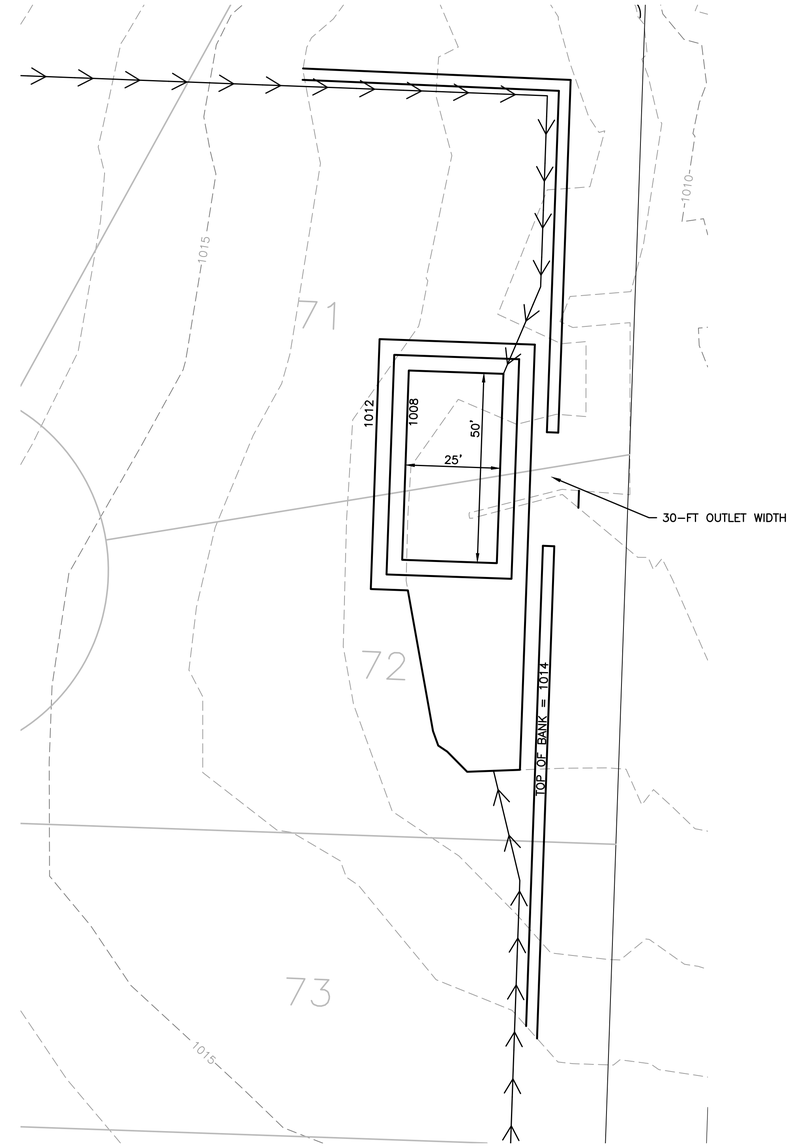


SEDIMENT TRAP #1 PLAN

TRIBUTARY DRAINAGE AREA	4.08 AC
VOLUME REQUIRED (67 CY/AC)	7,381 CF
DESIGN VOLUME PROVIDED (4-FT DEPTH)	7,799 CF
TOP OF BANK ELEVATION	1008
OUTLET WIDTH	30 Ft
TOP OF OUTLET ELEVATION	1007



SEDIMENT TRAP #2 PLAN

TRIBUTARY DRAINAGE AREA	4.72 AC
VOLUME REQUIRED (67 CY/AC)	8,538 CF
DESIGN VOLUME PROVIDED (4-FT DEPTH)	8,983 CF
TOP OF BANK ELEVATION	1014
OUTLET WIDTH	30 Ft
TOP OF OUTLET ELEVATION	1013

GENERAL NOTES:

1. TEMPORARY SEDIMENT TRAPS HAVE BEEN DESIGNED PER KC APWA SECTION 5100 DESIGN CRITERIA.
2. REFER TO SHEET 09 FOR TYPICAL KC APWA TEMPORARY SEDIMENT TRAP CONSTRUCTION DETAIL.
3. EXISTING CONTOURS ARE SHOWN AT 1-FT INTERVALS ON THIS SHEET.

0 20 40

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DESIGNED BY: MDM
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MASS GRADING, EROSION CONTROL, PAVING, STORM AND SANITARY PLANS
TEMPORARY SEDIMENT TRAP
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MARK DANIEL MCGHEE JR.
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SHEET
06 OF 31

GENERAL NOTES:

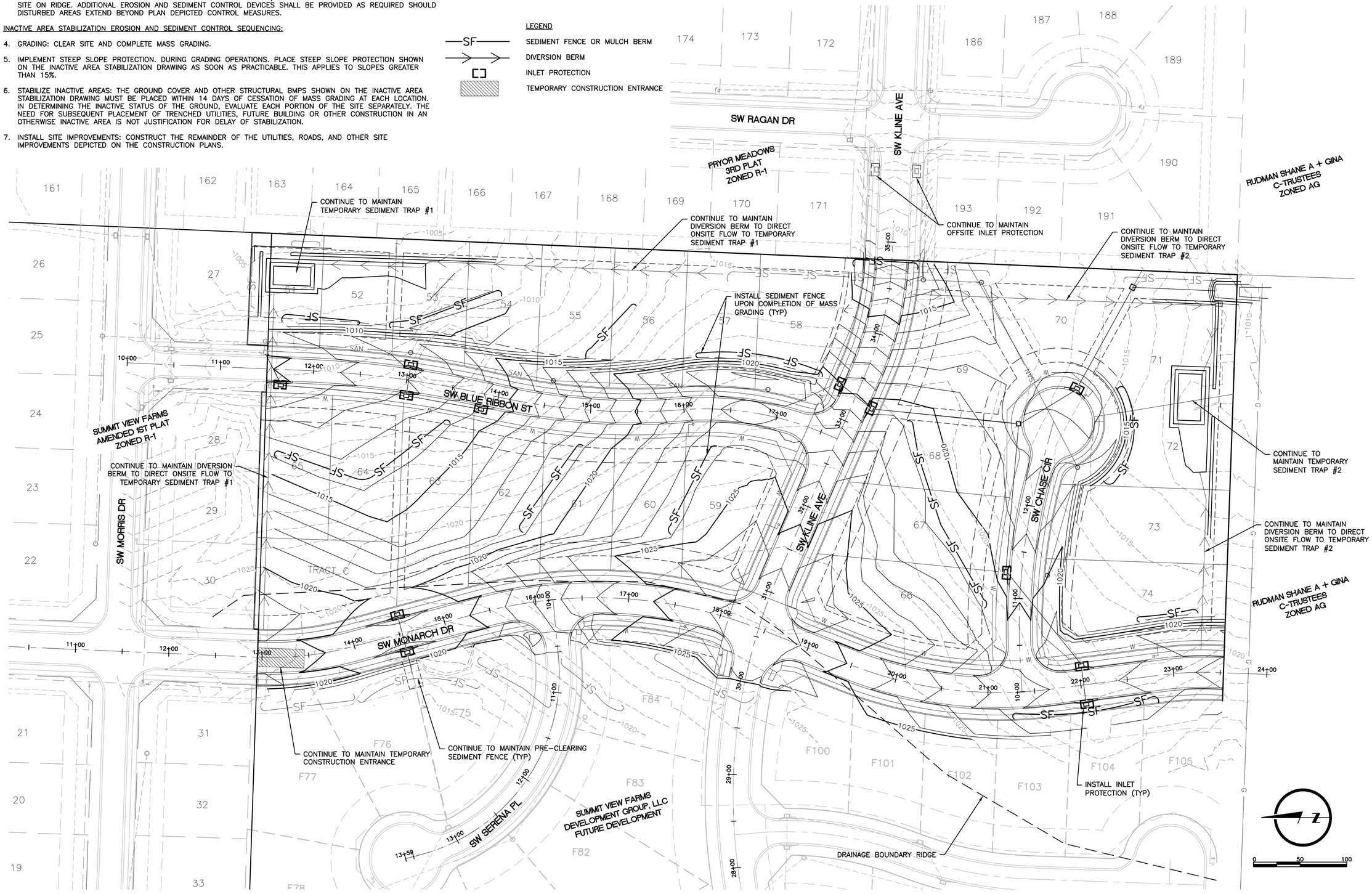
1. CONTRACTOR IS RESPONSIBLE FOR KEEPING ALL PUBLIC ROADWAYS ADJACENT TO THE CONSTRUCTION SITE FREE OF DIRT AND DEBRIS RESULTING FROM ACTIVITIES RELATED TO THE CONSTRUCTION OF THIS PROJECT.
2. DISTURBED AREAS SHALL HAVE SURFACES ROUGHENED IN ACCORDANCE WITH KCAPWA SPECIFICATIONS.
3. CONTRACTOR SHALL NOT STRIP ENTIRE PROPERTY. LOCATE STOCKPILE/STORAGE AREAS ON WEST SIDE OF THE SITE ON RIDGE. ADDITIONAL EROSION AND SEDIMENT CONTROL DEVICES SHALL BE PROVIDED AS REQUIRED SHOULD DISTURBED AREAS EXTEND BEYOND PLAN DEPICTED CONTROL MEASURES.

INACTIVE AREA STABILIZATION EROSION AND SEDIMENT CONTROL SEQUENCING:

4. GRADING: CLEAR SITE AND COMPLETE MASS GRADING.
5. IMPLEMENT STEEP SLOPE PROTECTION. DURING GRADING OPERATIONS. PLACE STEEP SLOPE PROTECTION SHOWN ON THE INACTIVE AREA STABILIZATION DRAWING AS SOON AS PRACTICABLE. THIS APPLIES TO SLOPES GREATER THAN 15%.
6. STABILIZE INACTIVE AREAS: THE GROUND COVER AND OTHER STRUCTURAL BMPS SHOWN ON THE INACTIVE AREA STABILIZATION DRAWING MUST BE PLACED WITHIN 14 DAYS OF CESSATION OF MASS GRADING AT EACH LOCATION. IN DETERMINING THE INACTIVE STATUS OF THE GROUND, EVALUATE EACH PORTION OF THE SITE SEPARATELY. THE NEED FOR SUBSEQUENT PLACEMENT OF TRENCHED UTILITIES, FUTURE BUILDING OR OTHER CONSTRUCTION IN AN OTHERWISE INACTIVE AREA IS NOT JUSTIFICATION FOR DELAY OF STABILIZATION.
7. INSTALL SITE IMPROVEMENTS: CONSTRUCT THE REMAINDER OF THE UTILITIES, ROADS, AND OTHER SITE IMPROVEMENTS DEPICTED ON THE CONSTRUCTION PLANS.

LEGEND

—SF—	SEDIMENT FENCE OR MULCH BERM
→	DIVERSION BERM
[ ]	INLET PROTECTION
▨	TEMPORARY CONSTRUCTION ENTRANCE



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NUMBER PE-2008019568
PROFESSIONAL ENGINEER
09-19-2018

MARK DANIEL MCGHEE JR.
PE - 2008019568

SHEET
07 OF 31

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GENERAL NOTES:

1. CONTRACTOR IS RESPONSIBLE FOR KEEPING ALL PUBLIC ROADWAYS ADJACENT TO THE CONSTRUCTION SITE FREE OF DIRT AND DEBRIS RESULTING FROM ACTIVITIES RELATED TO THE CONSTRUCTION OF THIS PROJECT.
2. DISTURBED AREAS SHALL HAVE SURFACES ROUGHENED IN ACCORDANCE WITH KCAPWA SPECIFICATIONS.
3. ALL DISTURBED AREAS SHALL BE SEEDED AND MULCHED, INCLUDING AREAS PREVIOUSLY OCCUPIED BY TEMPORARY EROSION CONTROL DEVICES.

FINAL RESTORATION EROSION AND SEDIMENT CONTROL SEQUENCING:

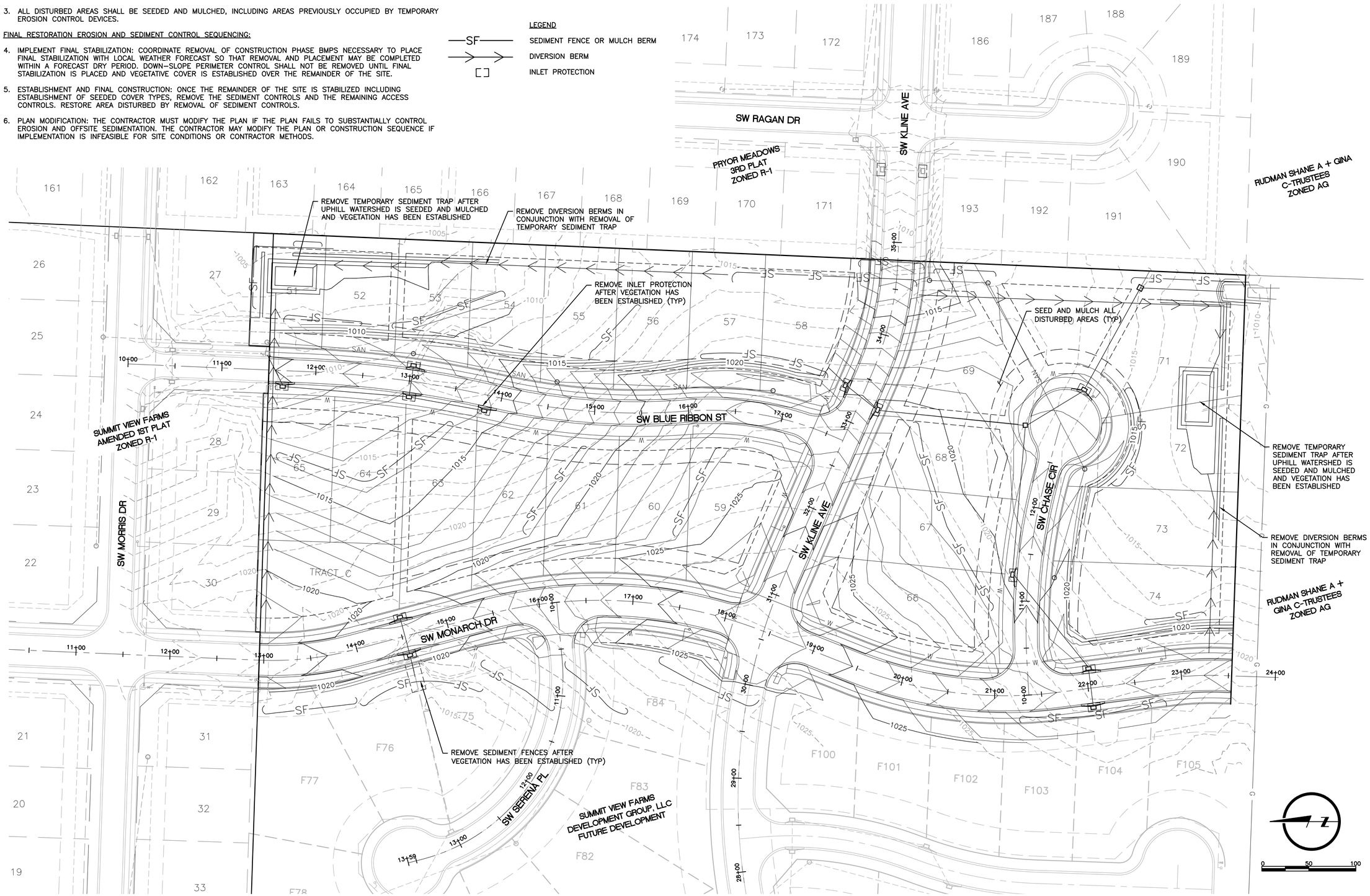
4. IMPLEMENT FINAL STABILIZATION: COORDINATE REMOVAL OF CONSTRUCTION PHASE BMPS NECESSARY TO PLACE FINAL STABILIZATION WITH LOCAL WEATHER FORECAST SO THAT REMOVAL AND PLACEMENT MAY BE COMPLETED WITHIN A FORECAST DRY PERIOD. DOWN-SLOPE PERIMETER CONTROL SHALL NOT BE REMOVED UNTIL FINAL STABILIZATION IS PLACED AND VEGETATIVE COVER IS ESTABLISHED OVER THE REMAINDER OF THE SITE.
5. ESTABLISHMENT AND FINAL CONSTRUCTION: ONCE THE REMAINDER OF THE SITE IS STABILIZED INCLUDING ESTABLISHMENT OF SEEDED COVER TYPES, REMOVE THE SEDIMENT CONTROLS AND THE REMAINING ACCESS CONTROLS. RESTORE AREA DISTURBED BY REMOVAL OF SEDIMENT CONTROLS.
6. PLAN MODIFICATION: THE CONTRACTOR MUST MODIFY THE PLAN IF THE PLAN FAILS TO SUBSTANTIALLY CONTROL EROSION AND OFFSITE SEDIMENTATION. THE CONTRACTOR MAY MODIFY THE PLAN OR CONSTRUCTION SEQUENCE IF IMPLEMENTATION IS INFEASIBLE FOR SITE CONDITIONS OR CONTRACTOR METHODS.

LEGEND

—SF— SEDIMENT FENCE OR MULCH BERM

DIVERSION BERM

[ ] INLET PROTECTION



DRAWN BY	AJM
DESIGNED BY	MDM
DATE	09-19-2018
JOB NUMBER-TASK#	0318050.01
BOOK AND PAGE	

REVISIONS
08/10/18 - RESUBMITTAL PER ADJUSTED LAYOUT
09/19/18 - RESUBMITTAL PER CITY COMMENTS

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SUMMIT VIEW FARMS 3RD PLAT
LEE'S SUMMIT, MISSOURI

MASS GRADING, EROSION CONTROL, PAVING, STORM AND SANITARY PLANS
FINAL RESTORATION
EROSION AND SEDIMENT CONTROL PLAN

LARKIN LAMP RYNEARSON - ENGINEERS
MO Certificate of Authority No. 2013011903

STATE OF MISSOURI
MARK DANIEL MCGHEE JR.
NUMBER PE-2008019568
PROFESSIONAL ENGINEER
09-19-2018

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PE - 2008019568

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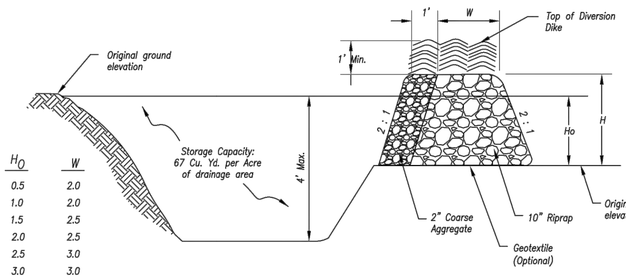
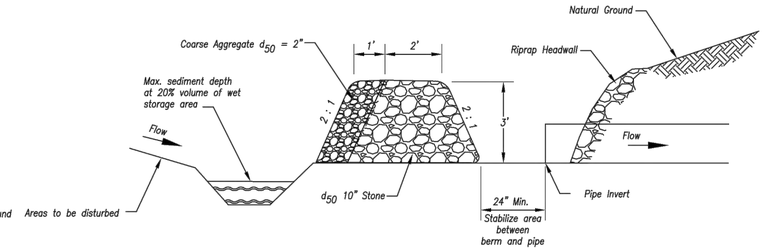


H	H_O	W
1.5	0.5	2.0
2.0	1.0	2.0
2.5	1.5	2.5
3.0	2.0	2.5
3.5	2.5	3.0
4.0	3.0	3.0
4.5	3.5	4.0
5.0	4.0	4.5

(*) Cross Section of Outlet

Not to Scale

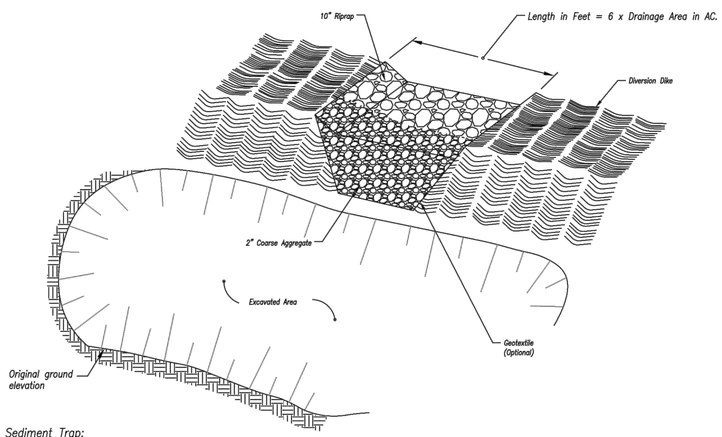


Section A–A

Not to Scale

Notes for Concrete Washout:

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



(*) Perspective View of Outlet

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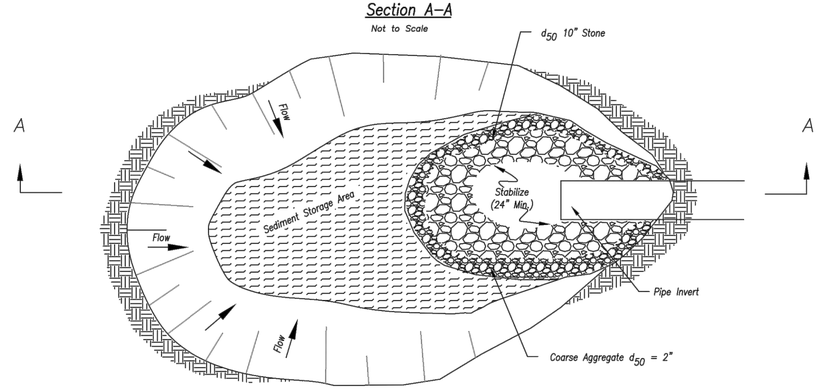
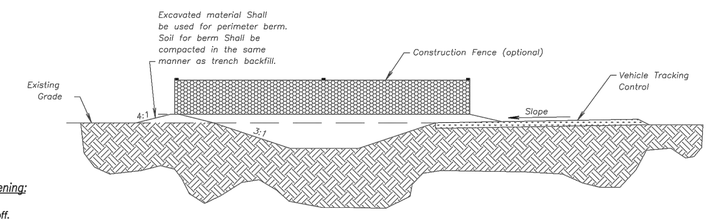


Plan View

Not to Scale

Maintenance for Concrete Washout:

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



CONCRETE WASHOUT

Notes for Sediment Trap:

1. The area under the embankment shall be cleared, grubbed, and stripped of any vegetation and root mat.
2. Fill material for the embankment shall be free of roots or other woody vegetation, organic material, large stones, and other objectionable material. The embankment should be compacted in 6–inch layers by traversing with construction equipment.
3. The earthen embankment shall be stabilized immediately after installation.
4. Construction operations shall be carried out to minimize erosion and water pollution.
5. The structure shall be removed and the area stabilized when the upslope drainage area has been stabilized.
6. All cut and fill slopes shall be 2H : 1V or flatter, except for excavated, wet storage areas which may be at a maximum 1H : 1V grade.

(*) – The perspective view and cross section are schematic in nature. Construction plans must provide specific site construction arrangements.

Maintenance for Sediment Trap:

1. Check sediment traps after periods of significant runoff.
2. Remove sediment and restore the trap to its original dimensions when sediment accumulates to 20% of the storage capacity.
3. Immediately repair any erosion damage to the embankment and outlet.
4. Keep outlet and pool area free of all trash and other debris.

SEDIMENT TRAP

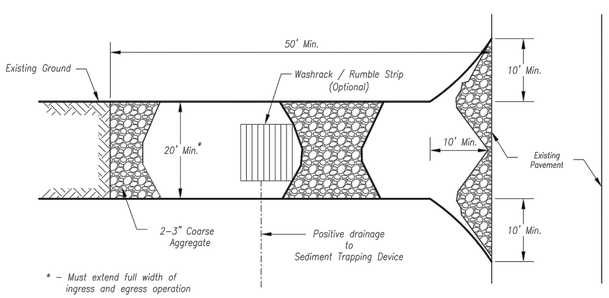
Notes for Sediment Trap at Culvert Opening:

1. The inlet protection device shall be constructed in a manner that will facilitate clean–out and disposal of trapped sediment and minimize interference with construction activities.
2. The inlet protection devices shall be constructed in such manner that any resultant ponding stormwater will not cause excessive inconvenience or damage to adjacent areas or structures.
3. Geometry of the design will be a horseshoe shape around the culvert inlet.
4. The toe of the riprap shall be no closer than 24" from the culvert opening to provide an acceptable emergency outlet for flows from larger storm events.
5. Storage requirements equivalent to that of temporary sediment trap.
6. 67 C.Y./Acre wet storage below base of stone.
7. 67 C.Y./Acre dry storage from base of stone to top of stone berm.

Maintenance for Sediment Trap at Culvert Opening:

1. Check sediment traps after periods of significant runoff.
2. Remove sediment and restore the trap to its original dimensions when sediment accumulates to 20% of the storage capacity.
3. Immediately repair any erosion damage to the embankment and outlet.
4. Keep outlet and pool area free of all trash and other debris.

SEDIMENT TRAP AT CULVERT OPENING



Plan View

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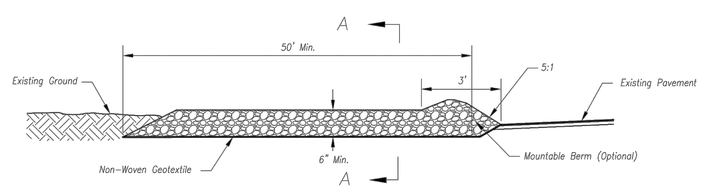

Side Elevation

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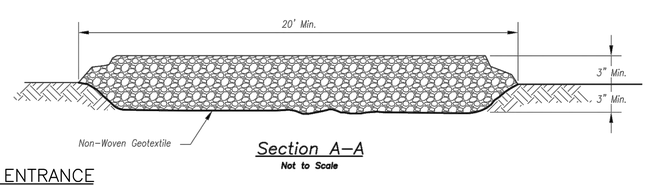

Section A–A

Not to Scale

Notes for Construction Entrance:

1. Avoid locating on steep slopes, at curves on public roads, or downhill of disturbed area.
2. Remove all vegetation and other unsuitable material from the foundation area, grade, and crown for positive drainage.
3. If slope towards the public road exceeds 2%, construct a 6– to 8–inch high ridge with 3H:1V side slopes across the foundation approximately 15 feet from the edge of the public road to divert runoff from it.
4. Install pipe under the entrance if needed to maintain drainage ditches along public roads.
5. Place stone to dimensions and grade as shown on plans. Leave surface sloped for drainage.
6. Divert all surface runoff and drainage from the entrance to a sediment control device.
7. If conditions warrant, place geotextile fabric on the graded foundation to improve stability.

Maintenance for Construction Entrance:

1. Reshape entrance as needed to maintain function and integrity of Installation. Top dress with clean aggregate as needed.

CONSTRUCTION ENTRANCE

AMERICAN PUBLIC WORKS ASSOCIATION

Kansas City Metro Chapter APWA American Public Works Association

KANSAS CITY METRO CHAPTER

SEDIMENT TRAPS	STANDARD DRAWING NUMBER ESC-08 ADOPTED: 10/24/2016
CONSTRUCTION ENTRANCE AND CONCRETE WASHOUT	STANDARD DRAWING NUMBER ESC-01 ADOPTED: 10/24/2016

DRAWN BY	AJM
DESIGNED BY	MDM
DATE	03–19–2018
JOB NUMBER-TASK8	
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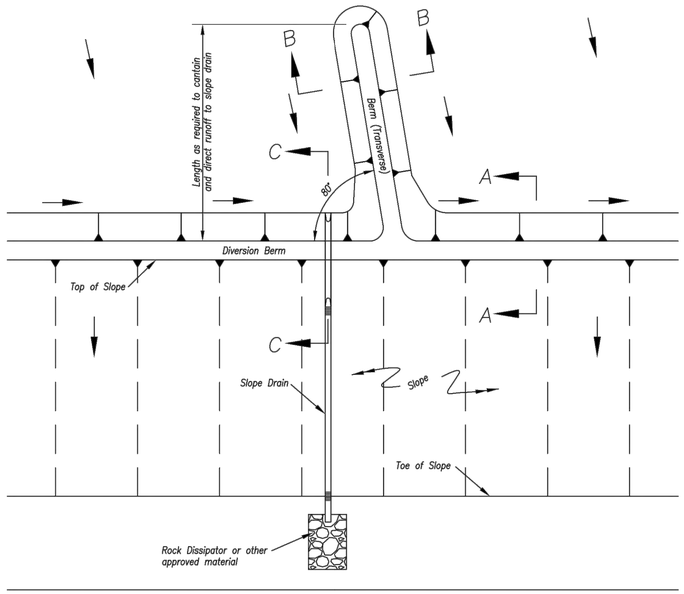


TYPICAL PLAN VIEW OF DIVERSION BERM AND SLOPE DRAIN

Notes for Diversion Berm:

1. Slope drains are optional, but may be required by the engineer if the berm is at the top of a steep slope.
2. Diversion berms must be installed as a first step in the land-disturbing activity and must be functional prior to upslope land disturbance.
3. The berm should be adequately compacted to prevent failure.
4. Temporary or permanent seeding and mulch shall be applied to the berm immediately following its construction.
5. Place the berm so to minimize damages by construction operations and traffic.
6. The berm must discharge to a temporary sediment trap or stabilized area.
7. All trees, brush, stumps, obstructions and other objectionable material shall be removed and disposed of so as not to interfere with the proper functioning of diversion.
8. The diversion shall be excavated or shaped to line, grade and cross-section as required to meet the criteria specified herein, free of irregularities which will impede flow.
9. Fills shall be compacted as needed to prevent unequal settlement that would cause damage in the completed diversion. Fill shall be composed of soil which is free from excessive organic debris, rocks or other objectionable materials.

Maintenance:

1. Berm shall be reshaped, compacted, and stabilized as necessary to maintain its function.
2. Breaches in the berm shall be repaired immediately.

Notes for Slope Drain:

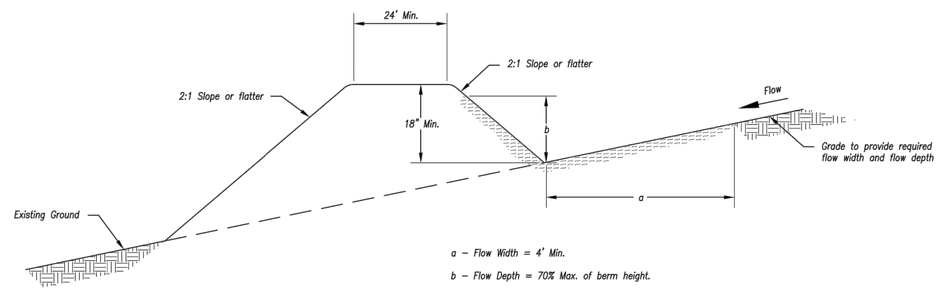
1. Slope Drain and Diversion Berm may be used on either project foreslopes or project backslopes.
2. Discharge of Slope Drains shall be into stabilized ditch or area, or into Sediment Basin.
3. Pipe shall be secured in place as approved by Engineer.

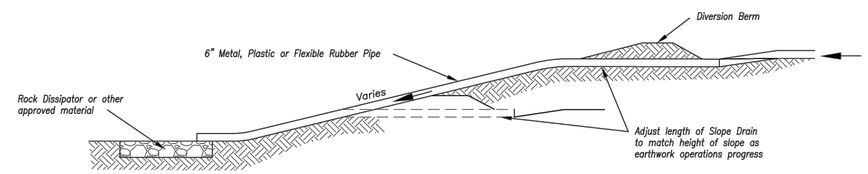
Maintenance:

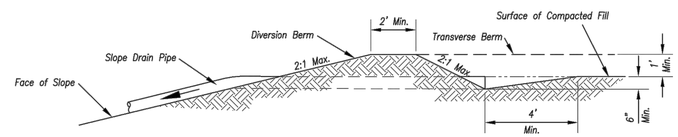
1. Accumulation of any visible sediment at the inlet and outlet shall be removed promptly.
2. Outlet conditions shall be repaired if scour is observed. Leaking or damaged section of pipe shall be repaired immediately.
3. Barriers directing water to the inlet shall be monitored for continuity and effectiveness.

TYPICAL PROFILE OF DIVERSION BEAM

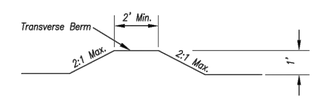
Not to Scale





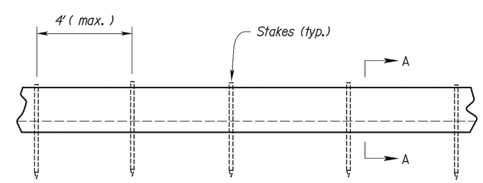


Section C–C

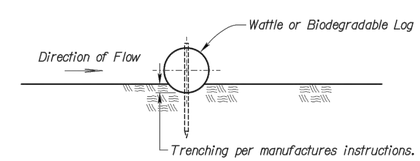


Section B–B

TYPICAL PROFILE OF DIVERSION BERM WITH SLOPE DRAIN



Typical Elevation



Section A–A

Notes for Wattles and Biodegradable Log Slope Protection:

1. The Slope barriers shall be placed along contour lines, with a short section turned upgrade at each end of the barrier. The maximum length of the slope barrier shall not exceed 250 feet, and the barrier ends need to be staggered.
2. Install wattles and biodegradable logs per manufacturer's instructions.
3. Spacing of stakes per manufacturer's instructions with 4' max. spacing. Length of stakes shall be a minimum of 2 times the diameter of the log with minimum of 24".

WATTLES AND BIODEGRADABLE LOG

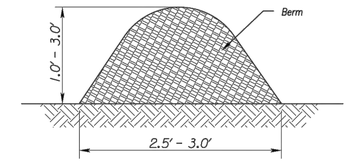


Figure 1
(Perimeter Control)

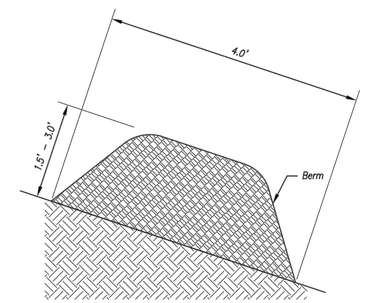


Figure 2
(Steep Slopes)

Notes for Mulch and Compost Filter Beam:

1. The sediment control berm shall be placed uncompacted in a windrow at locations shown on the plans or as directed by the engineer.
2. Parallel to the base of the slope, or around the perimeter of other affected areas, construct a 1 to 3 foot high by 2.5 to 3 foot wide berm (see Figure 1). For maximum water treatment ability or for steep slopes, construct a 1.5 to 3 foot high trapezoidal berm that is a minimum of 4 feet wide at the base (see Figure 2). In extreme conditions, or where specified by the engineer, a second berm shall be constructed at the top of the slope. Engineer will specify berm requirements.
3. If berm is to be left as permanent or part of the natural landscape, the compost berm may be seeded during application for permanent vegetation.
4. Do not use compost or wood mulch berms in any runoff channels or concentrated flow areas.
5. Wood mulch shall consist of tree and shrub debris resulting from clearing and grubbing and shall be ground by the mechanical means such as a chipper, hammermill, tub grinder or other approved method. Mulch sizing varies with a maximum width of 2" and a maximum length of 10".

Maintenance for Mulch and Compost Filter Beam:

1. Berm shall be reshaped and material added as necessary to maintain function and dimensions.
2. Breaches in the berm shall be repaired promptly.

MULCH OR COMPOST FILTER BERMS

AMERICAN PUBLIC WORKS ASSOCIATION	
Kansas City Metro Chapter APWA American Public Works Association	KANSAS CITY METRO CHAPTER
DIVERSION BERMS AND SLOPE DRAINS	STANDARD DRAWING NUMBER ESC-05 ADOPTED: 10/24/2016
WATTLES/BIODEGRADABLE LOG AND MULCH/COMPOST FILTER BERM	STANDARD DRAWING NUMBER ESC-04 ADOPTED: 10/24/2016

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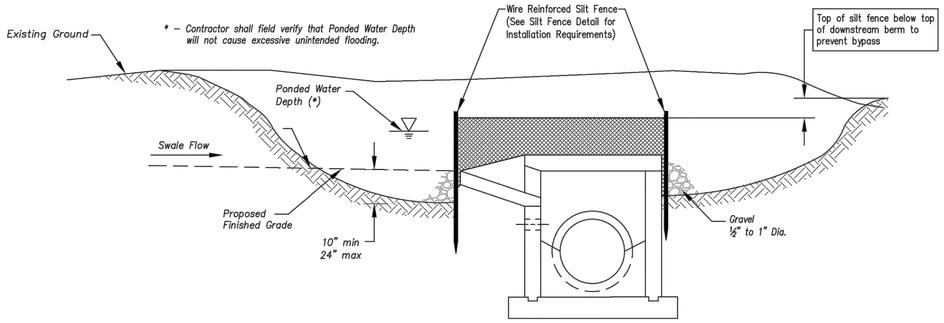

Section A–A

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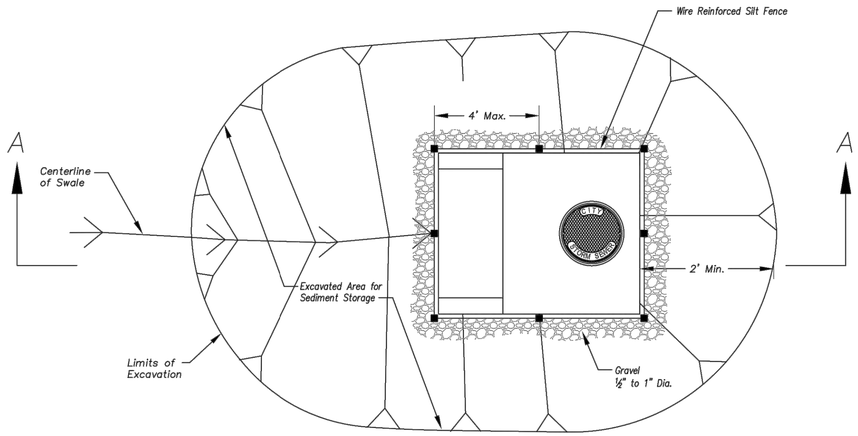
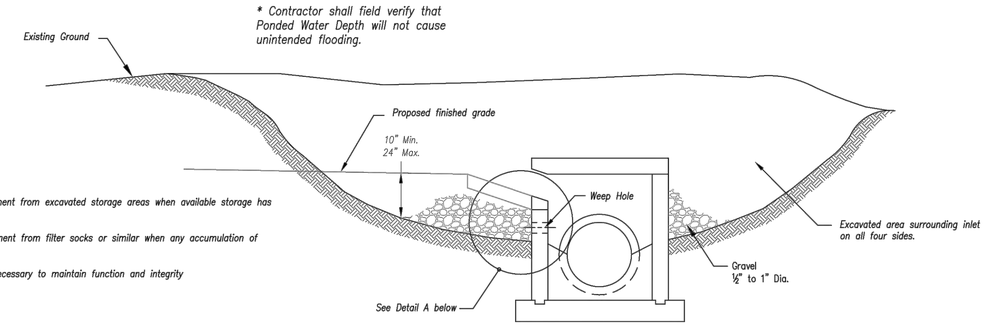


PLAN
NOT TO SCALE

EARLY STAGE AREA INLET

(ALL OPEN BOXES AND INLETS NOT AT FINAL GRADE)

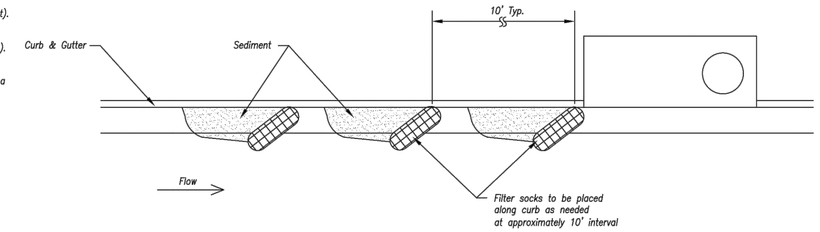


Maintenance:

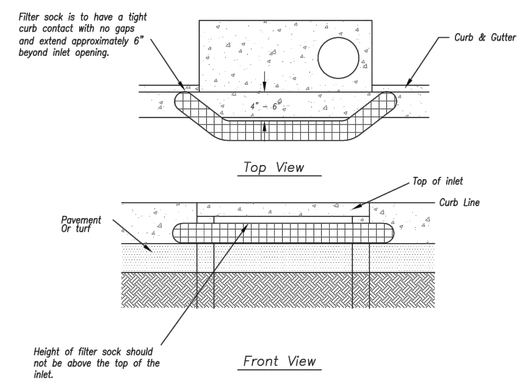
1. Remove deposited sediment from excavated storage areas when available storage has been reduced by 20%.
2. Remove deposited sediment from filter socks or similar when any accumulation of sediment is visible.
3. Repair or replace as necessary to maintain function and integrity of installation.

Notes:

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



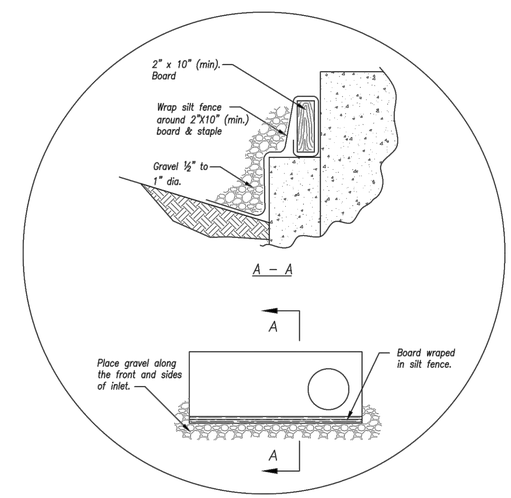
On Grade Curb Inlet Protection



Sump Inlet Sediment Filter

LATE STAGE CURB INLET

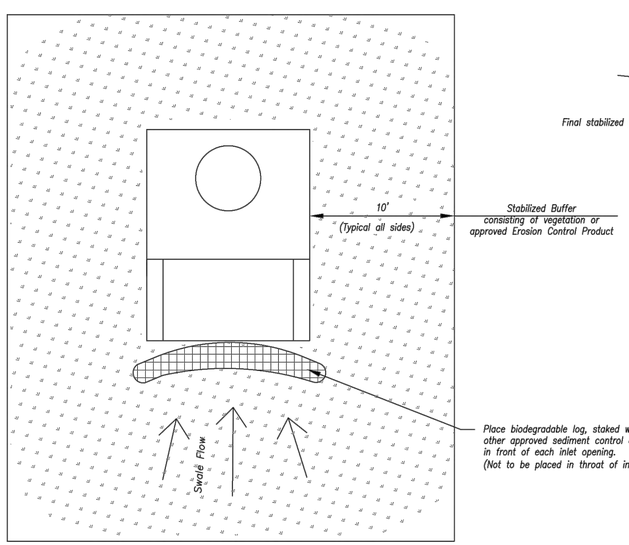
(After Pouring Curb and Inlet Throat)



Detail A

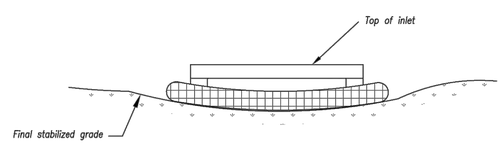
EARLY STAGE CURB INLET

(Open Box and Prior to Pouring Curb and Inlet Throat)



Plan

Not to Scale



Front View

LATE STAGE AREA INLET

(Area inlets at final grade and existing inlets)

Notes:

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

Maintenance:

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

AMERICAN PUBLIC WORKS ASSOCIATION	
Kansas City Metro Chapter APWA American Public Works Association	KANSAS CITY METRO CHAPTER
CURB INLET PROTECTION	STANDARD DRAWING NUMBER ESC-06 ADOPTED: 10/24/2016
AREA INLET AND JUNCTION BOX PROTECTION	STANDARD DRAWING NUMBER ESC-07 ADOPTED: 10/24/2016

DRAWN BY: AJM
DESIGNED BY: MDM
DATE: 03-19-2018
JOB NUMBER-TASK8: 0318050.01
BOOK AND PAGE:

REVISIONS
08/10/18 – RESUBMITTAL PER ADJUSTED LAYOUT
09/19/18 – RESUBMITTAL PER CITY COMMENTS

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SUMMIT VIEW FARMS 3RD PLAT
LEE'S SUMMIT, MISSOURI

MASS GRADING, EROSION CONTROL, PAVING, STORM AND SANITARY PLANS

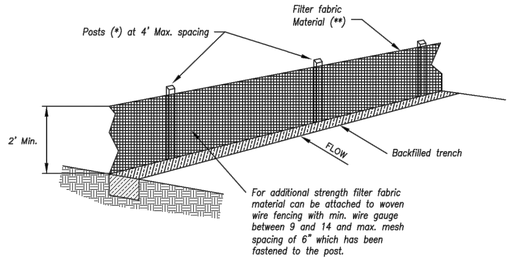
EROSION CONTROL DETAILS

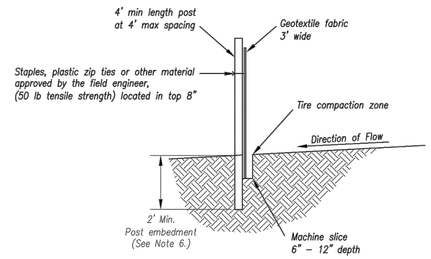
LARKIN LAMP RYNEARSON - ENGINEERS
MO Certificate of Authority No. 2013011903

STATE OF MISSOURI
MARK DANIEL MCGHEE JR.
NUMBER E-2008019568
PROFESSIONAL ENGINEER
09-19-2018

MARK DANIEL MCGHEE JR.
PE - 2008019568

SHEET 11 OF 31





(*) POSTS

- MIN. LENGTH 4'
- HARDWOOD 1 3/16" x 1 3/16"
- NO.2 SOUTHERN PINE 2 5/8" x 2 5/8"
- STEEL 1.33 LB/FT

(**) – Geotextile Fabric shall meet the requirements of AASHTO M288

SILT FENCE DETAILS

Not to Scale

Notes:

1. In order to contain water, the ends of the silt fence must be turned uphill (Figure A).
2. Long perimeter runs of silt fence must be limited to 100'. Runs should be broken up into several smaller segments to minimize water concentrations (Figure A).
3. Long slopes should be broken up with intermediate rows of silt fence to slow runoff velocities.
4. Attach fabric to upstream side of post.
5. Install posts a minimum of 2' into the ground.
6. Trenching will only be allowed for small or difficult installation, where slicing machine cannot be reasonably used.

Maintenance:

1. Remove and dispose of sediment deposits when the deposit approaches ½ the height of silt fence.
2. Repair as necessary to maintain function and structure.

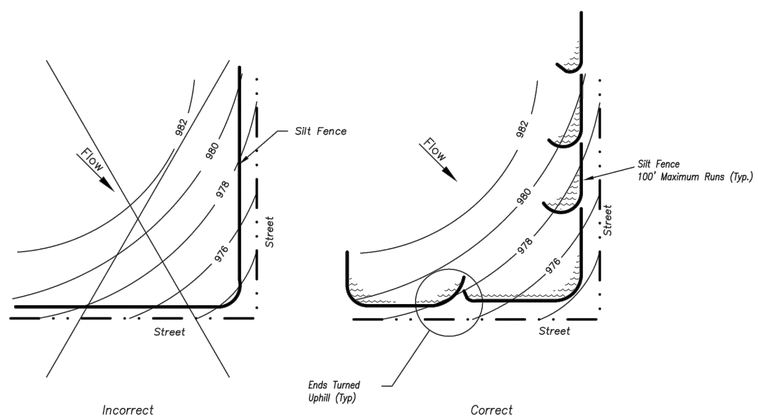
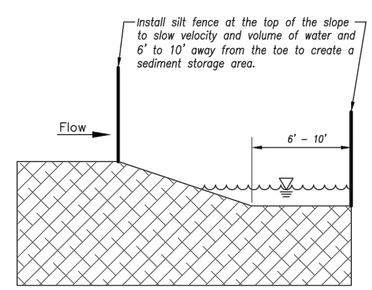
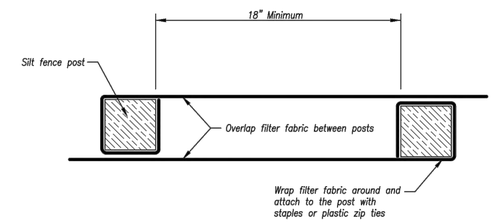


Figure A

SILT FENCE LAYOUT

Not to Scale





JOINING FENCE SECTIONS

Not to Scale

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

AMERICAN PUBLIC WORKS ASSOCIATION

Kansas City Metro Chapter APWA AMERICAN PUBLIC WORKS ASSOCIATION

KANSAS CITY METRO CHAPTER

SILT FENCE

STANDARD DRAWING NUMBER ESC-03

ADOPTED: 10/24/2016

DRAWN BY: AJM
DESIGNED BY: MDM
DATE: 09-19-2018
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LEE'S SUMMIT, MISSOURI

MASS GRADING, EROSION CONTROL, PAVING, STORM AND SANITARY PLANS

EROSION CONTROL DETAILS

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09-19-2018

MARK DANIEL MCGHEE JR.
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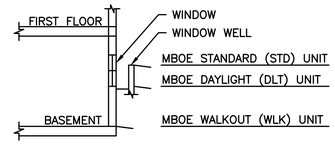
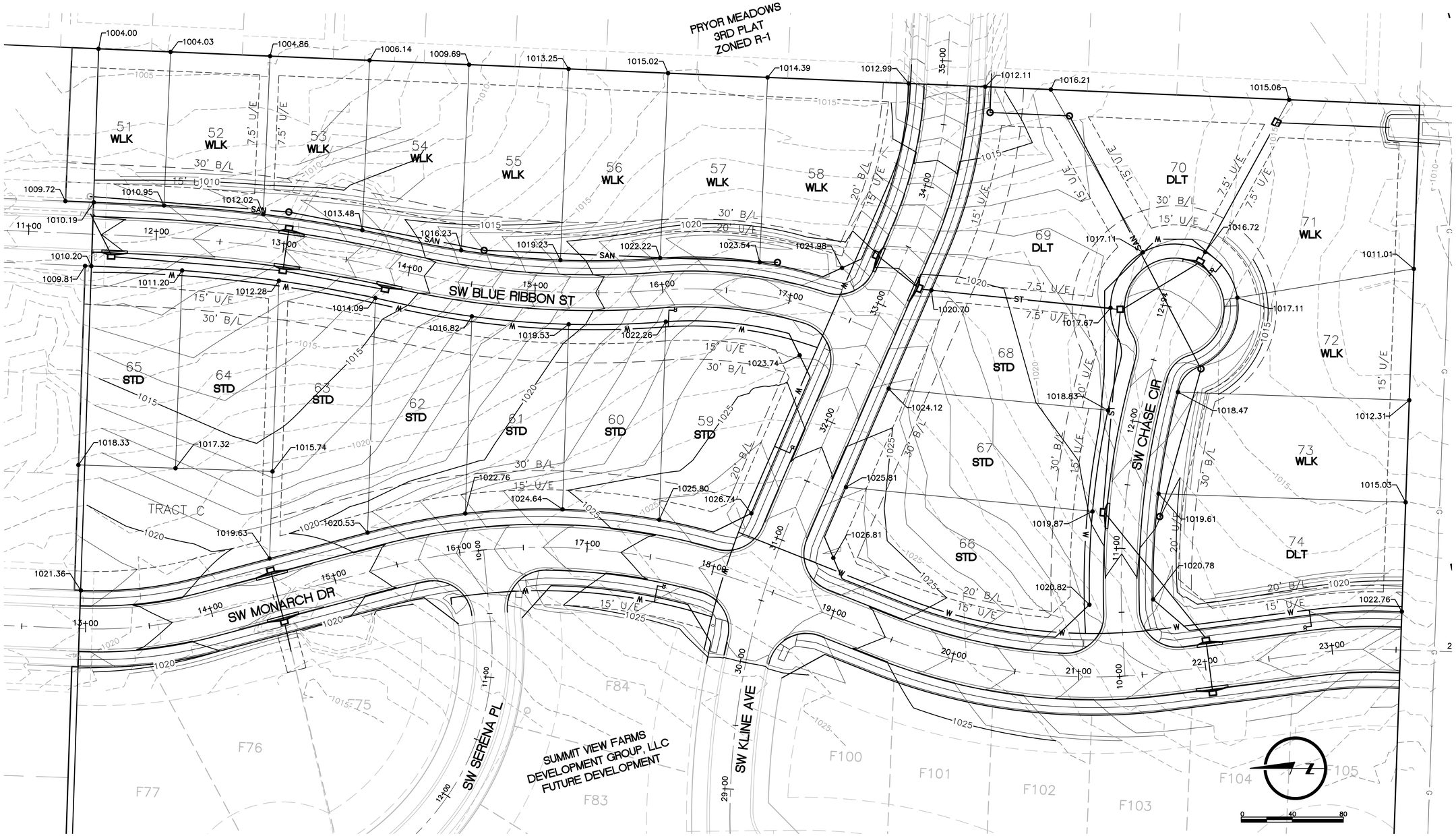


TYPICAL UNIT SECTION
NOT TO SCALE

GENERAL NOTES:

1. MINIMUM BUILDING OPENING ELEVATIONS (MBOE'S) SHOWN REPRESENT THE MINIMUM RECOMMENDED ELEVATIONS THAT WILL PROVIDE ADEQUATE POSITIVE STORM WATER DRAINAGE TO THE LOWEST POINT ON THE LOT FROM THE ANTICIPATED LOW SIDE OF THE BUILDING. THE HOME BUILDER SHALL BE RESPONSIBLE FOR ENSURING ADEQUATE POSITIVE DRAINAGE AWAY FROM ALL BUILDING OPENINGS TO PREVENT LOCALIZED STRUCTURE FLOODING.
2. A DAYLIGHT OR STANDARD UNIT MAY BE CONSTRUCTED ON WALKOUT LOT, AND A STANDARD UNIT MAY BE CONSTRUCTED ON A DAYLIGHT LOT.
3. A DAYLIGHT UNIT IS DEFINED AS A UNIT HAVING A WINDOW ON THE BASEMENT LEVEL WITH AT LEAST 5'-4" OF CLEARANCE FROM THE FINISHED FIRST FLOOR ELEVATION TO THE BOTTOM OF THE WINDOW. CLEARANCES LESS THAN 5'-4" ARE DEFINED AS STANDARD UNITS, WHETHER OR NOT A WINDOW WELL IS REQUIRED.
4. REFER TO SANITARY SEWER SHEETS FOR SEWER MAIN AND LATERAL ELEVATIONS. BASEMENT ELEVATION MAY NEED TO BE HIGHER THAN MBOE SHOWN FOR GRAVITY BASEMENT SEWER SERVICE.
5. ALL FRONT LOT ELEVATIONS ARE PROPOSED ELEVATIONS.
6. HOME BUILDERS SHALL MAINTAIN 2% GRADE, 1.5% ACROSS SIDEWALKS, WITHIN RIGHT-OF-WAY.



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DESIGNED BY	MDM
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MASS GRADING, EROSION CONTROL, PAVING, STORM AND SANITARY PLANS

MASTER DRAINAGE PLAN

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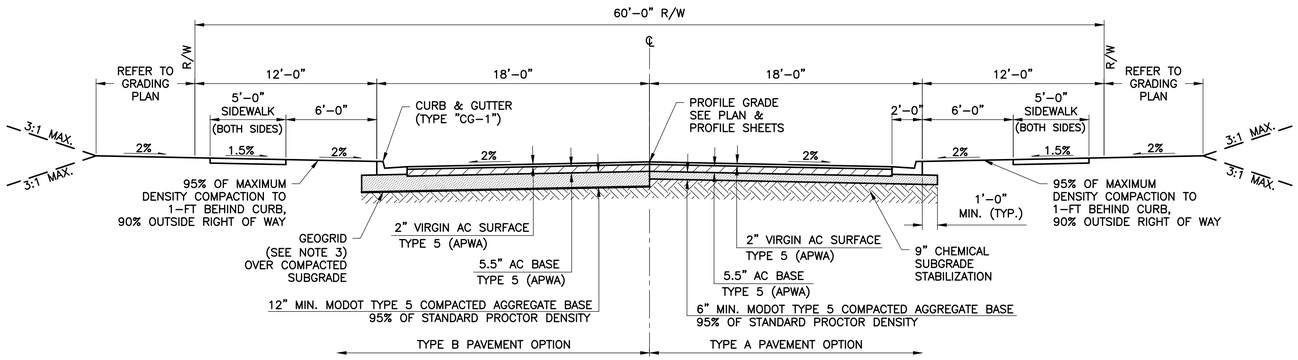
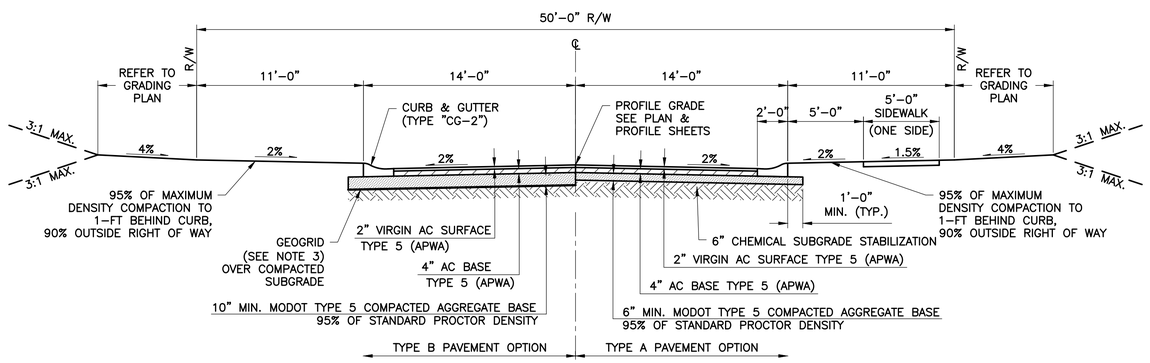


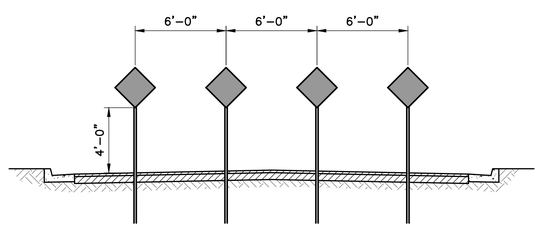
TYPICAL 36' COLLECTOR STREET SECTION

NOT TO SCALE



TYPICAL 28' LOCAL/ACCESS STREET SECTION

NOT TO SCALE



TYPE OM4-3 END PAVEMENT MARKERS

NOT TO SCALE

1. TYPE OM4-3 OBJECT MARKERS (SIZE 18"x18") ARE TO BE INSTALLED AT THE TERMINATION POINTS OF SW MONARCH DR., SW KLINE AVE, AND SW SERENA PL.
2. SIGN INSTALLATION AND MATERIALS TO CONFORM TO THE CITY OF LEE'S SUMMIT STANDARD DESIGN CRITERIA.

GENERAL NOTES

1. REFER TO LEE'S SUMMIT STANDARD DETAIL GEN-4 FOR CURB SECTIONS AND ADDITIONAL NOTES. SEE SHEET 28 OF 31.
2. GEOGRID MUST MEET SPECIFICATIONS OF LEE'S SUMMIT SECTION 2200, 2201.6.C.
3. MATERIAL DEPTHS PROVIDED ARE CITY'S ABSOLUTE MINIMUM ACCEPTABLE DEPTHS.
4. ALL SIDEWALK SHOWN ALONG TRACTS SHALL BE CONSTRUCTED DURING PUBLIC INFRASTRUCTURE CONSTRUCTION.
5. ADA ACCESSIBLE RAMPS SHALL BE CONSTRUCTED DURING PUBLIC INFRASTRUCTURE CONSTRUCTION.

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TYPICAL STREET SECTION AND DETAILS SHEET

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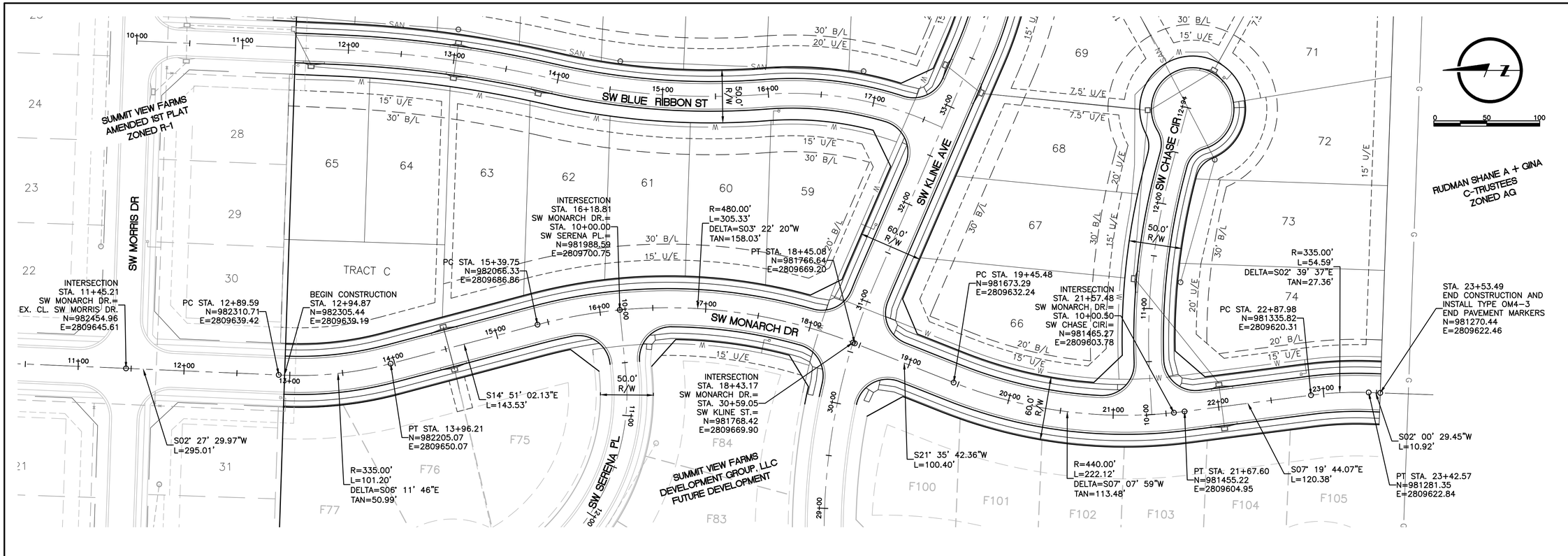

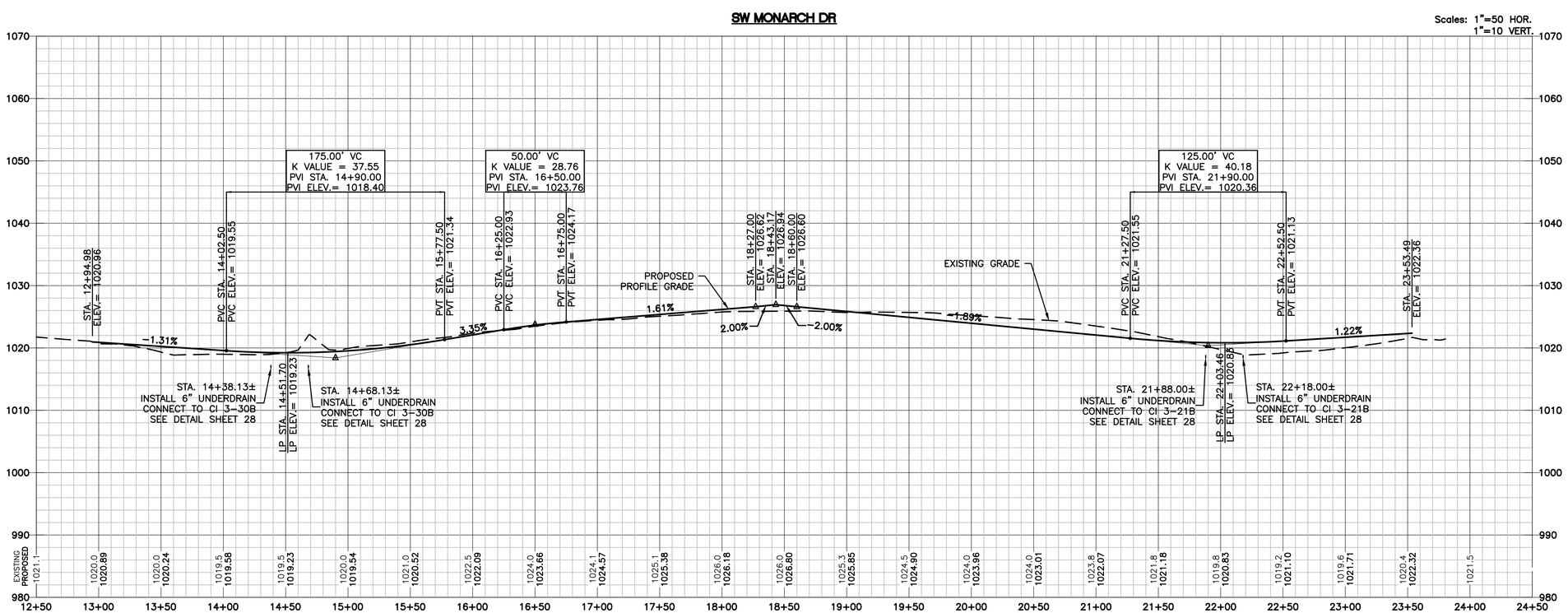

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SW MONARCH DRIVE
STREET PLAN/PROFILE SHEET

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SHEET
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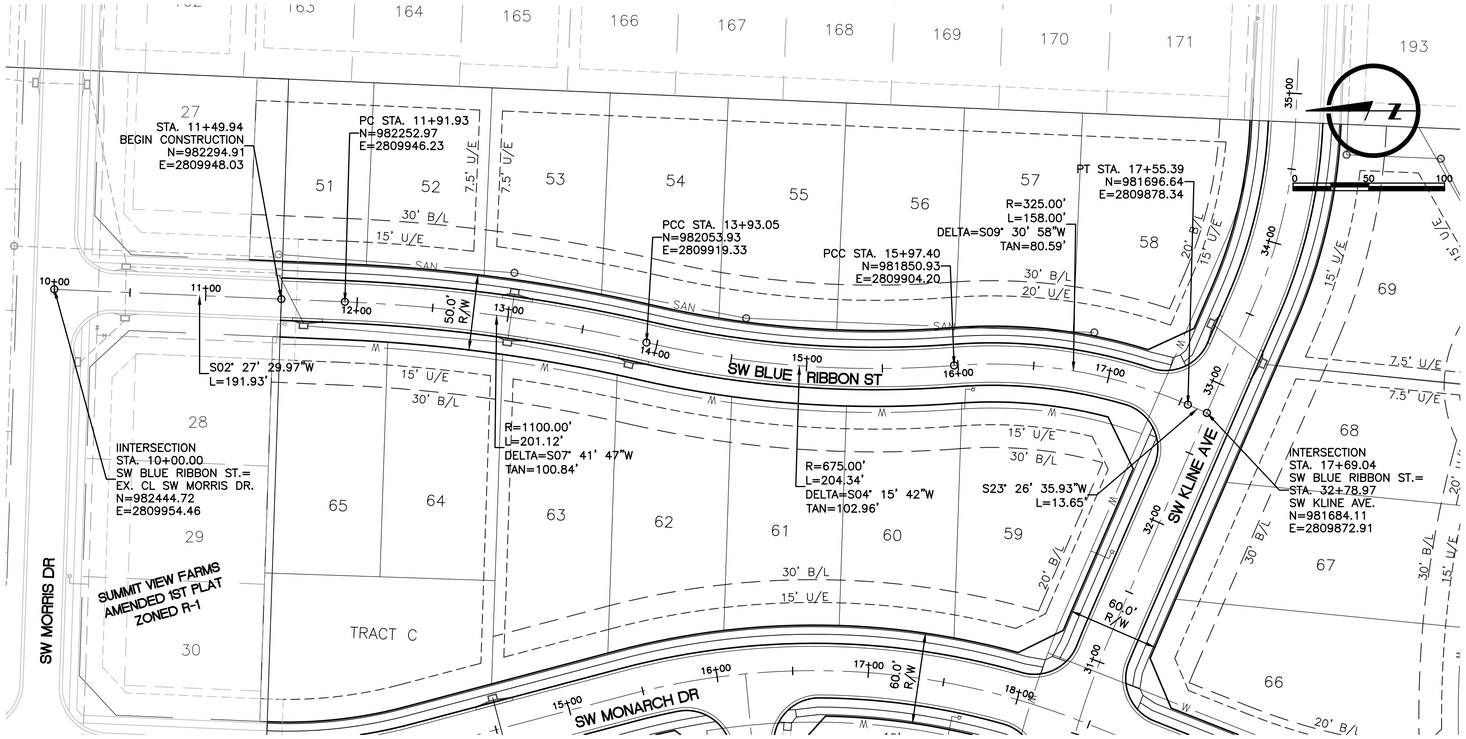
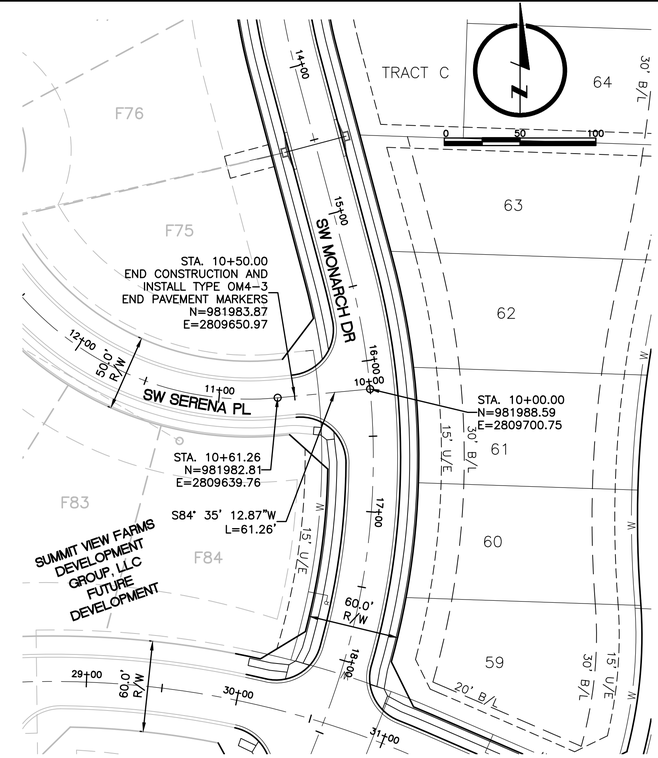
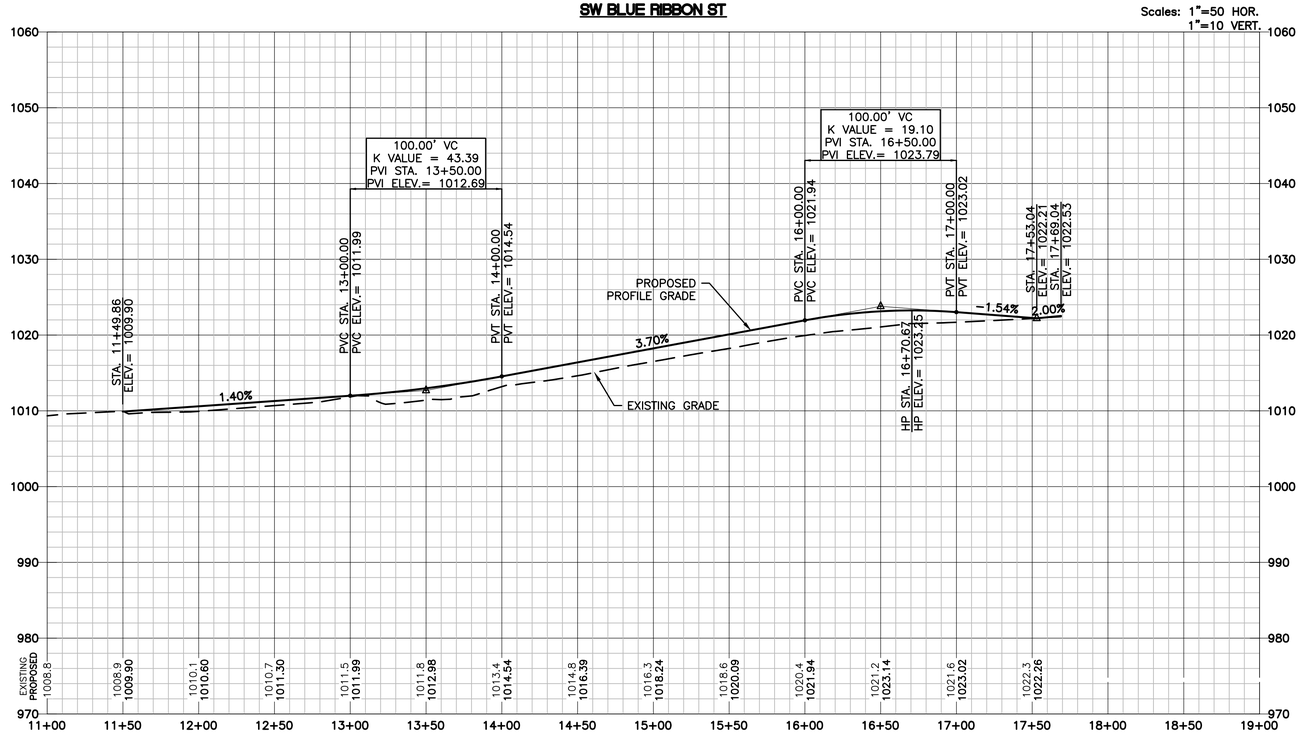
L:\Engineering\0318050 SVFDG Summit View Farms 3rd Plat\DRAWINGS\CONSTRUCTION DRAWINGS\PAV-PLANS\0318050-PAV-PNP-01.dwg, 9/19/2018 8:53:40 AM, JAMIE MCMURRY, LAMP RYNEARSON & ASSOCIATES





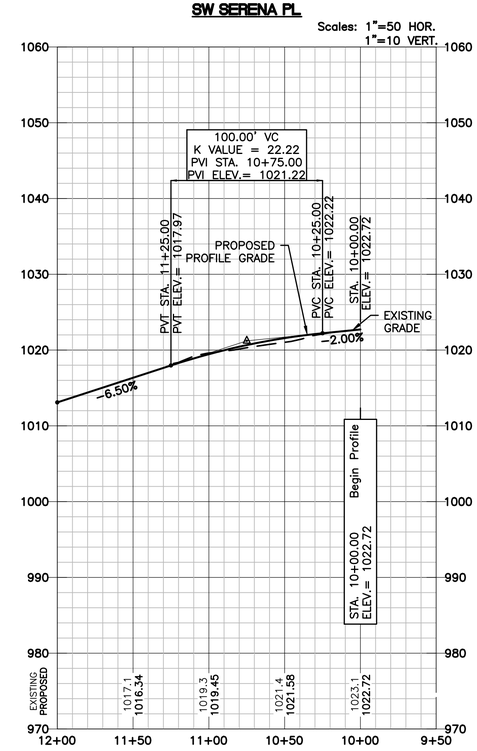
SW BLUE RIBBON ST

Scales: 1"=50 HOR.
1"=10 VERT.



SW SERENA PL

Scales: 1"=50 HOR.
1"=10 VERT.



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SW BLUE RIBBON STREET
STREET PLAN/PROFILE SHEET

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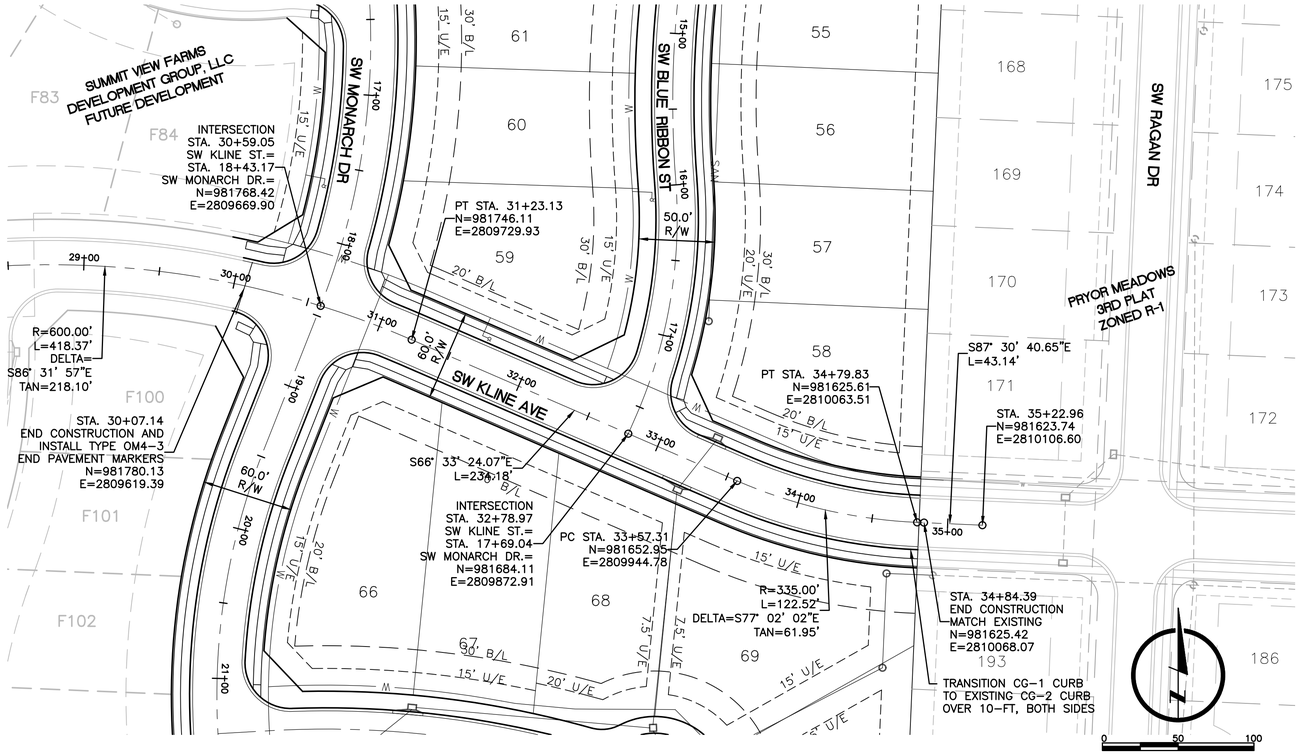

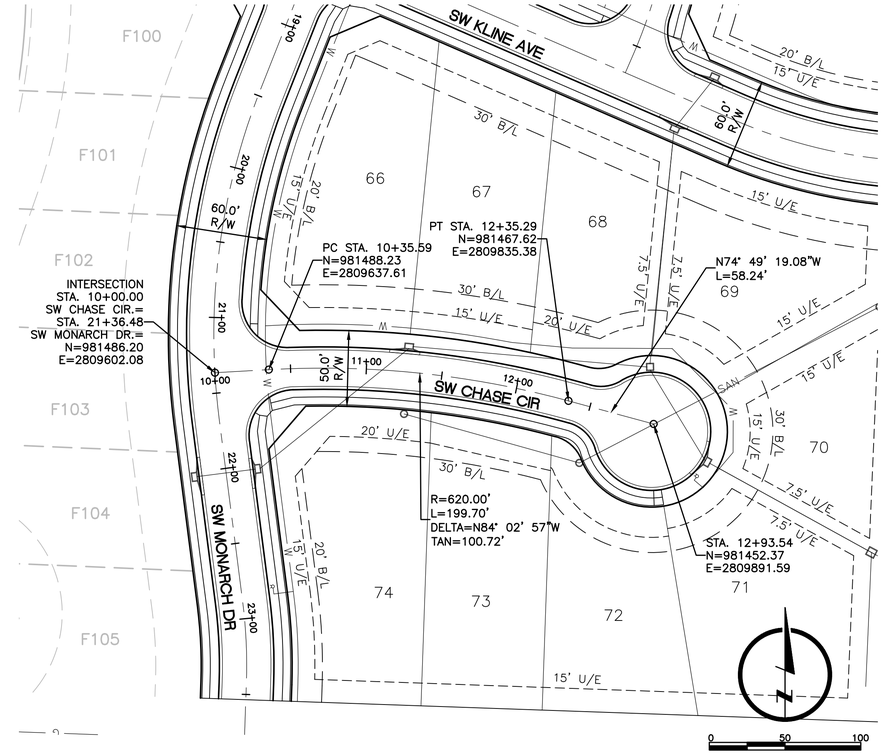

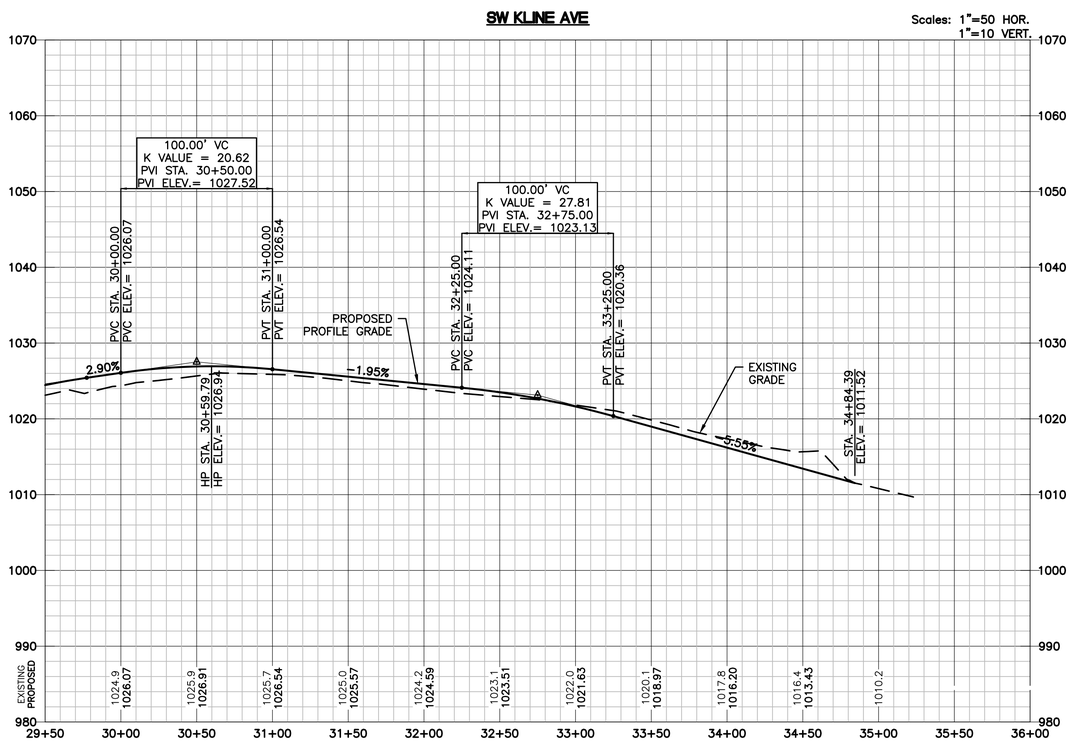

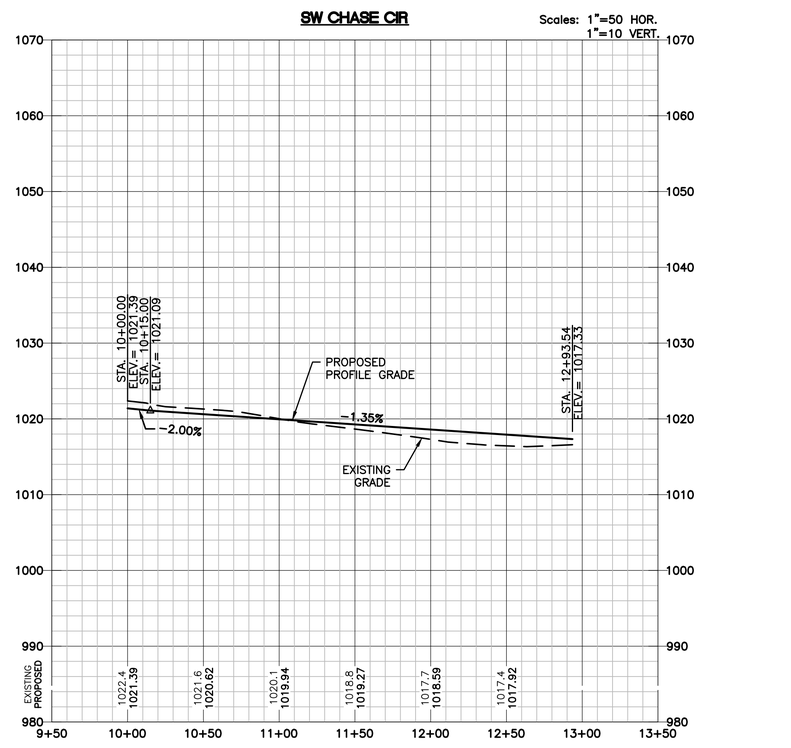

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STREET PLAN/PROFILE SHEET

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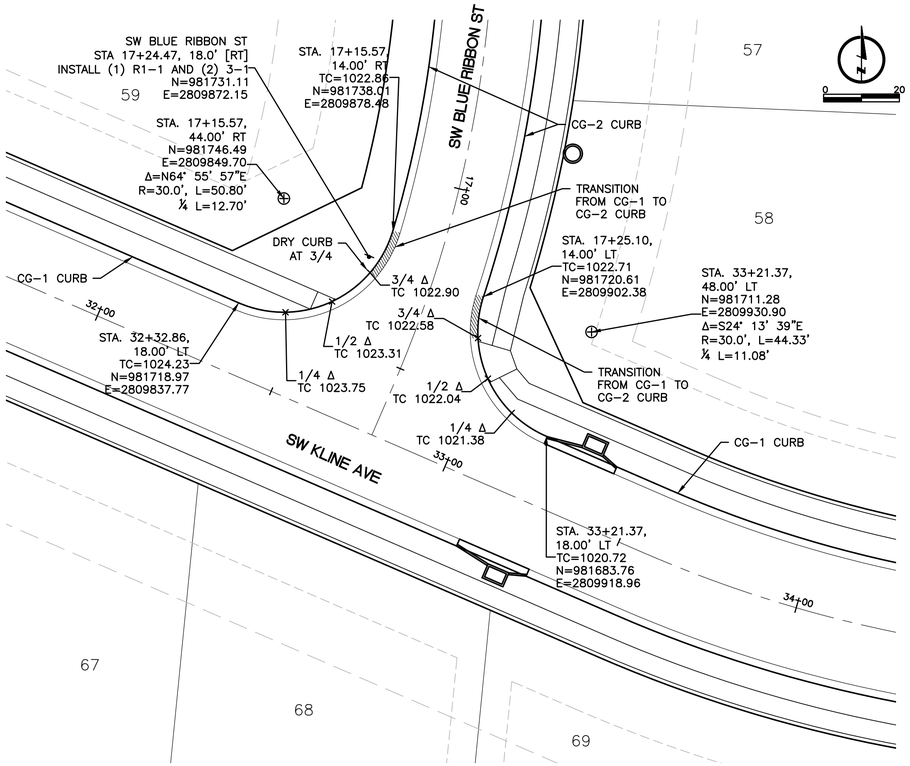

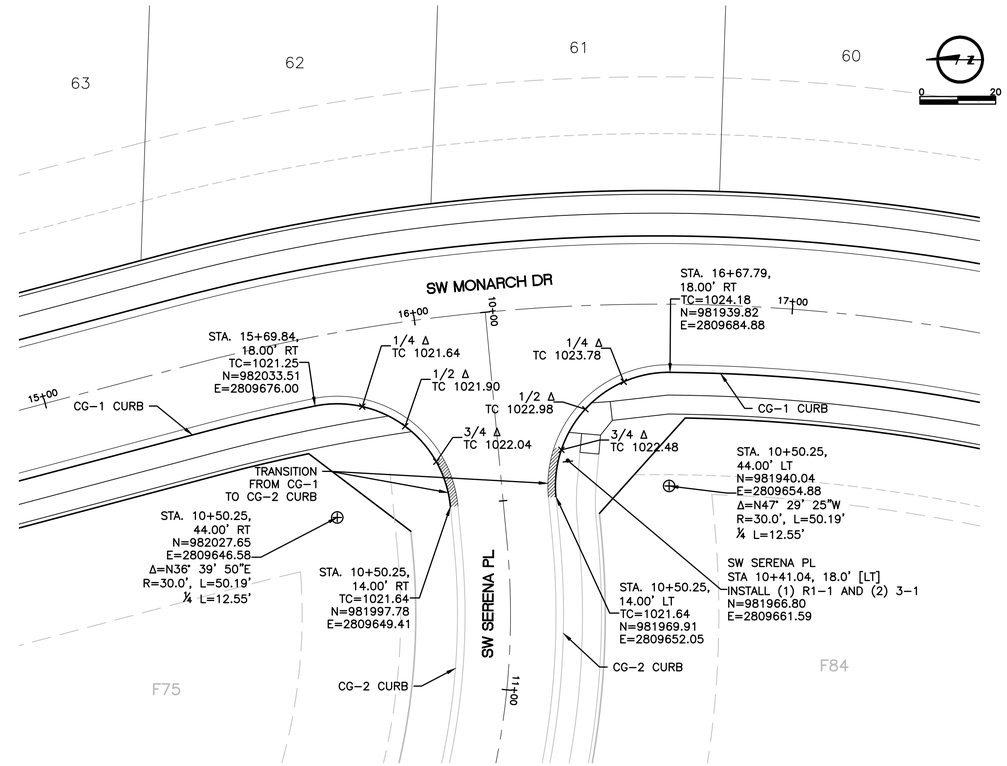

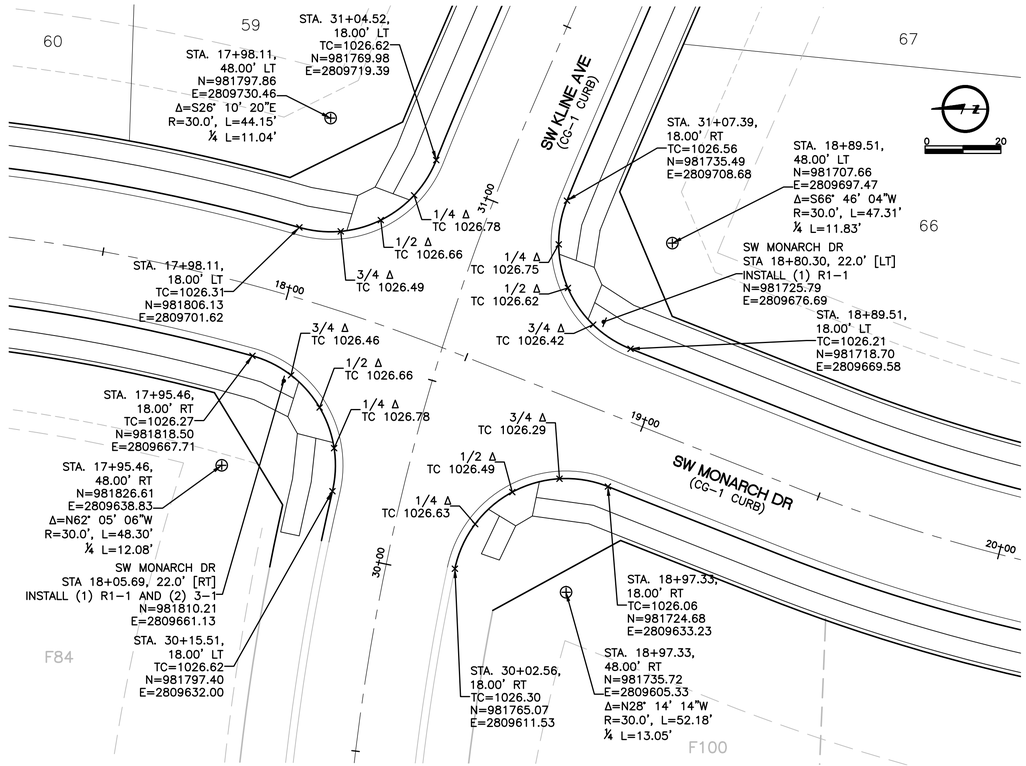

NOTES

1. R1-1 IS STOP SIGN AND 3-1 IS STREET SIGN. REFER TO CITY STANDARD DETAILS FOR MOUNTING AND SIGN REQUIREMENTS. TWO STREET SIGNS REQUIRED FOR EACH SIDE OF POST, PER STREET NAME.

2. TOP OF CURB ELEVATIONS AT RAMP LOCATIONS ARE THEORETICAL CURB ELEVATIONS (PROJECTING THROUGH RAMP). REFER TO SIDEWALK RAMP DETAIL SHEET FOR RAMP ELEVATIONS. CURB IS TO BE DEPRESSED AT RAMP LOCATIONS.

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INTERSECTION LAYOUT PLAN

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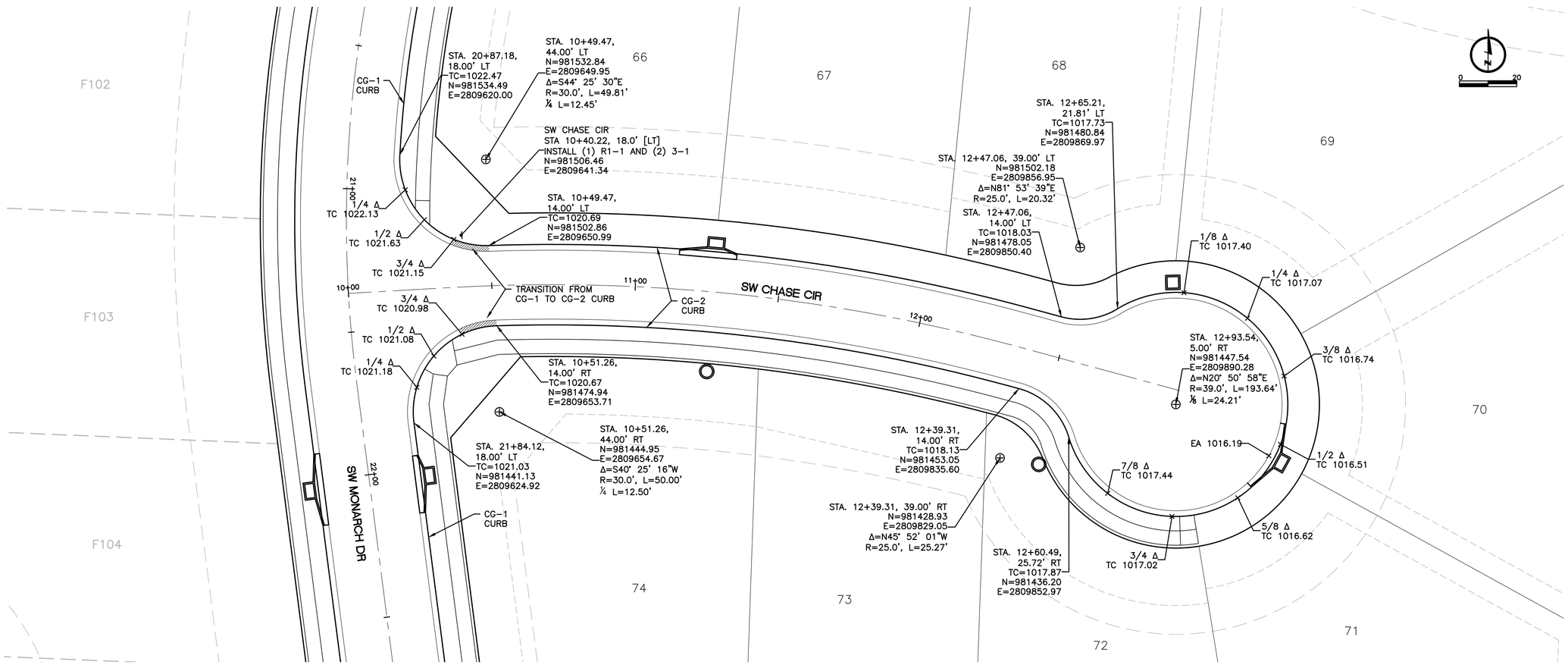

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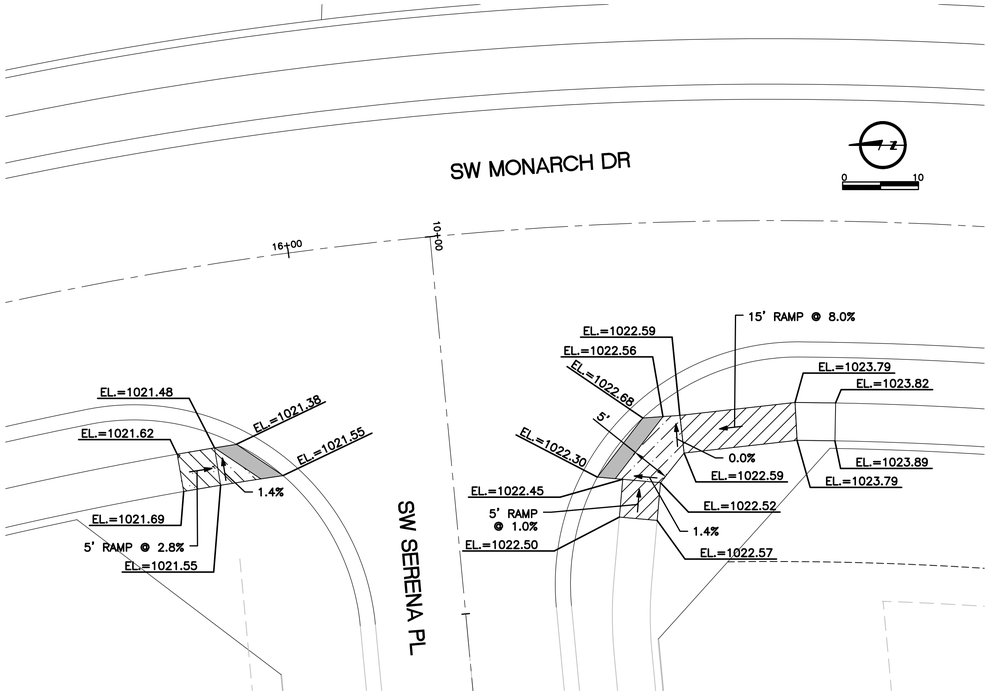

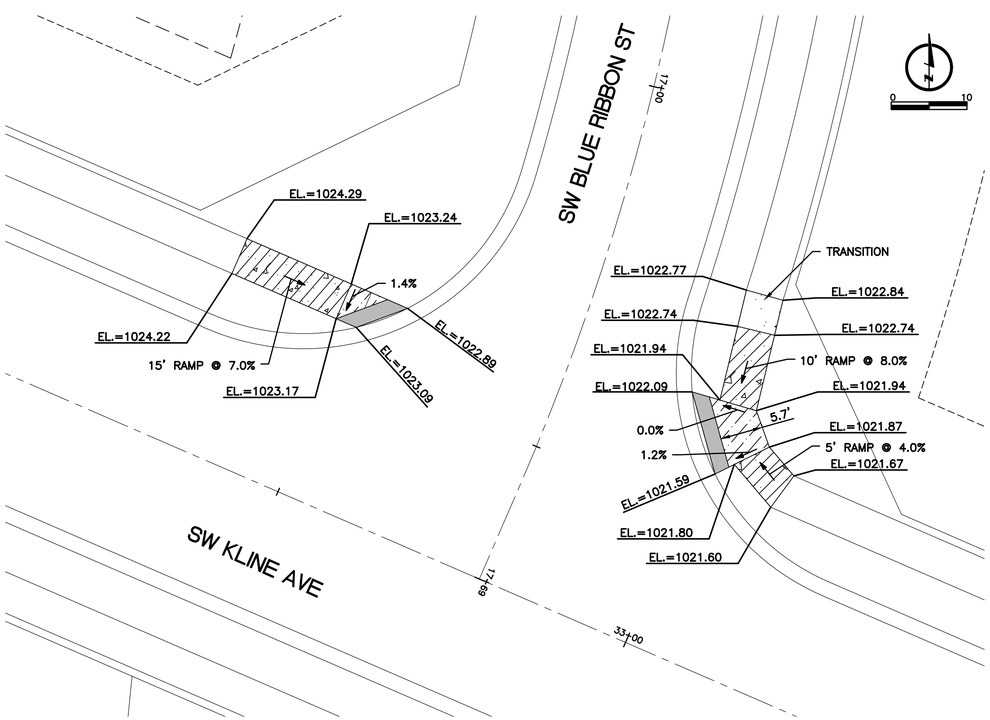

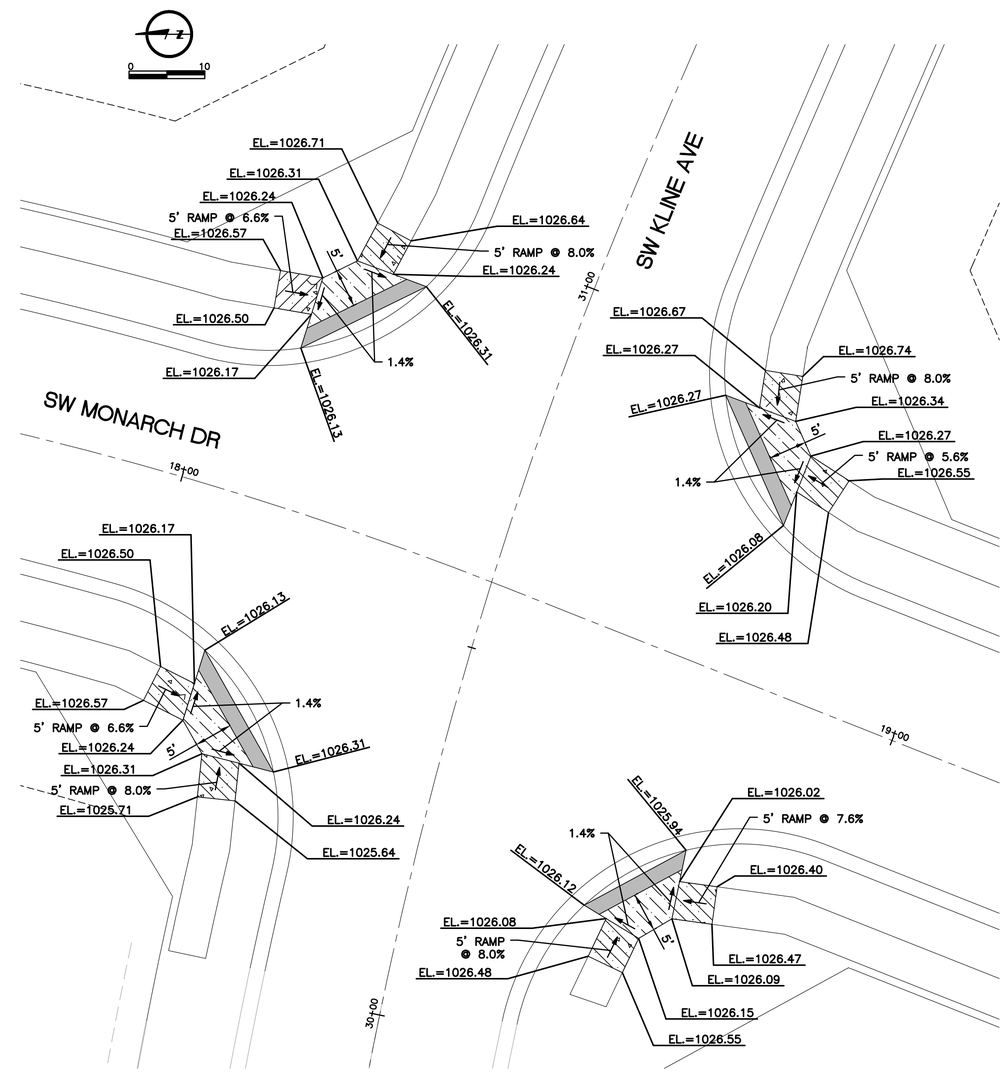

NOTE:

SEE SHEET 28 FOR ADA RAMP STANDARD DETAIL.

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SUMMIT VIEW FARMS 3RD PLAT
LEE'S SUMMIT, MISSOURI

MASS GRADING, EROSION CONTROL, PAVING, STORM AND SANITARY PLANS

INTERSECTION LAYOUT PLAN

LARKIN LAMP RYNEARSON - ENGINEERS
MO Certificate of Authority No. 2013011903

STATE OF MISSOURI
MARK DANIEL MCGHEE JR.
NUMBER PE-2008019568
PROFESSIONAL ENGINEER
09-19-2018

MARK DANIEL MCGHEE JR.
PE - 2008019568

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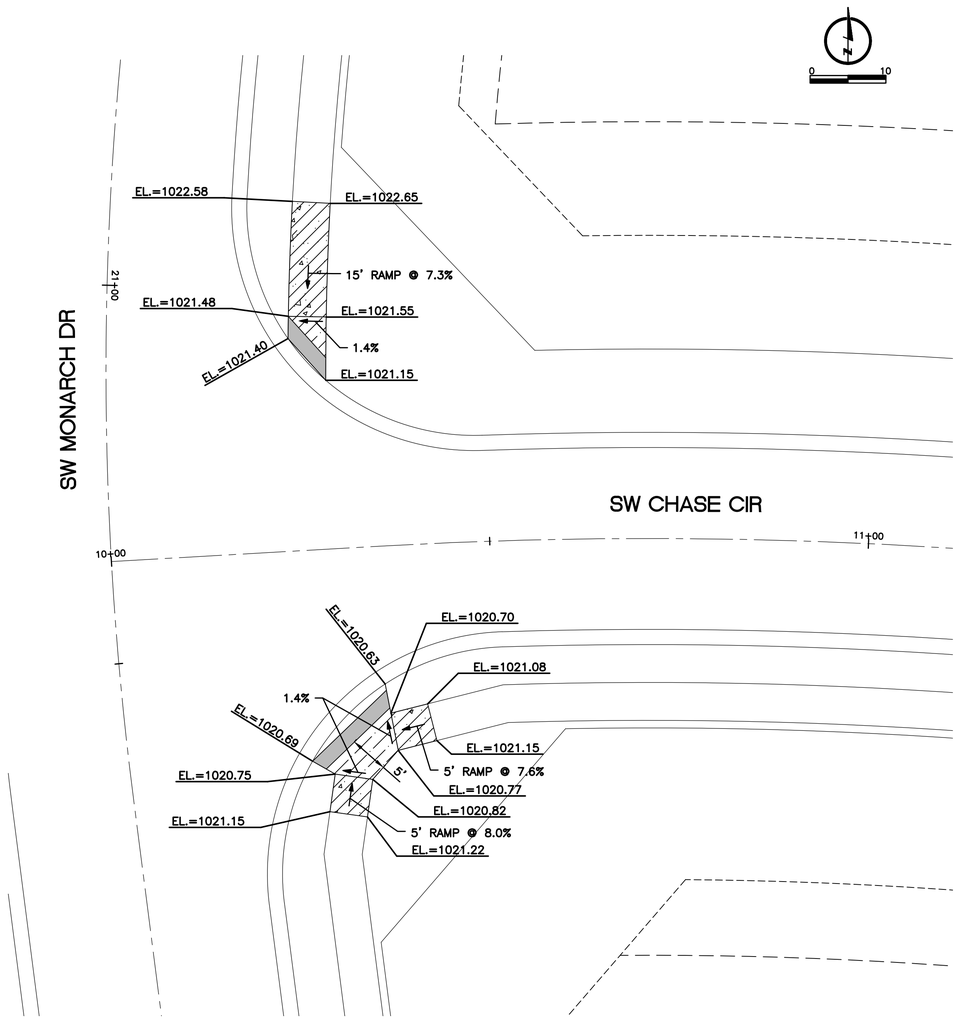

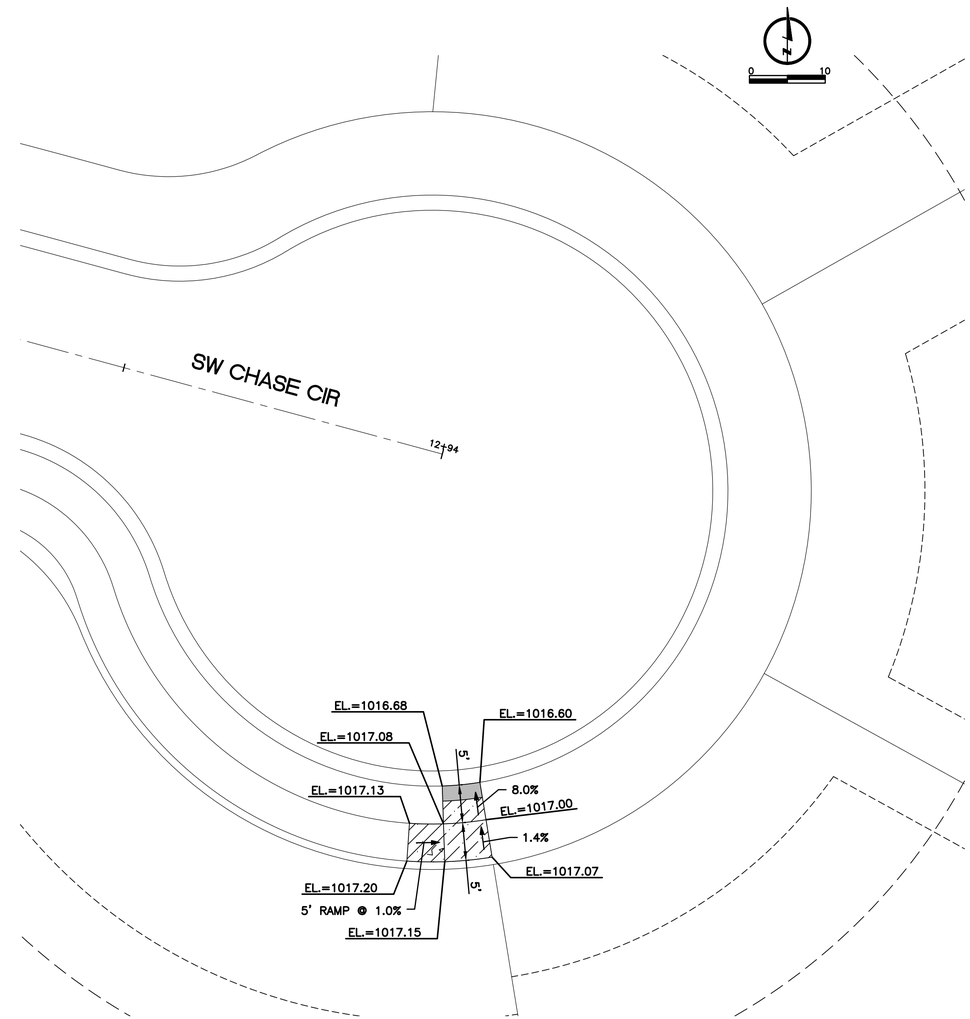

NOTE:

SEE SHEET 28 FOR ADA RAMP STANDARD DETAIL.

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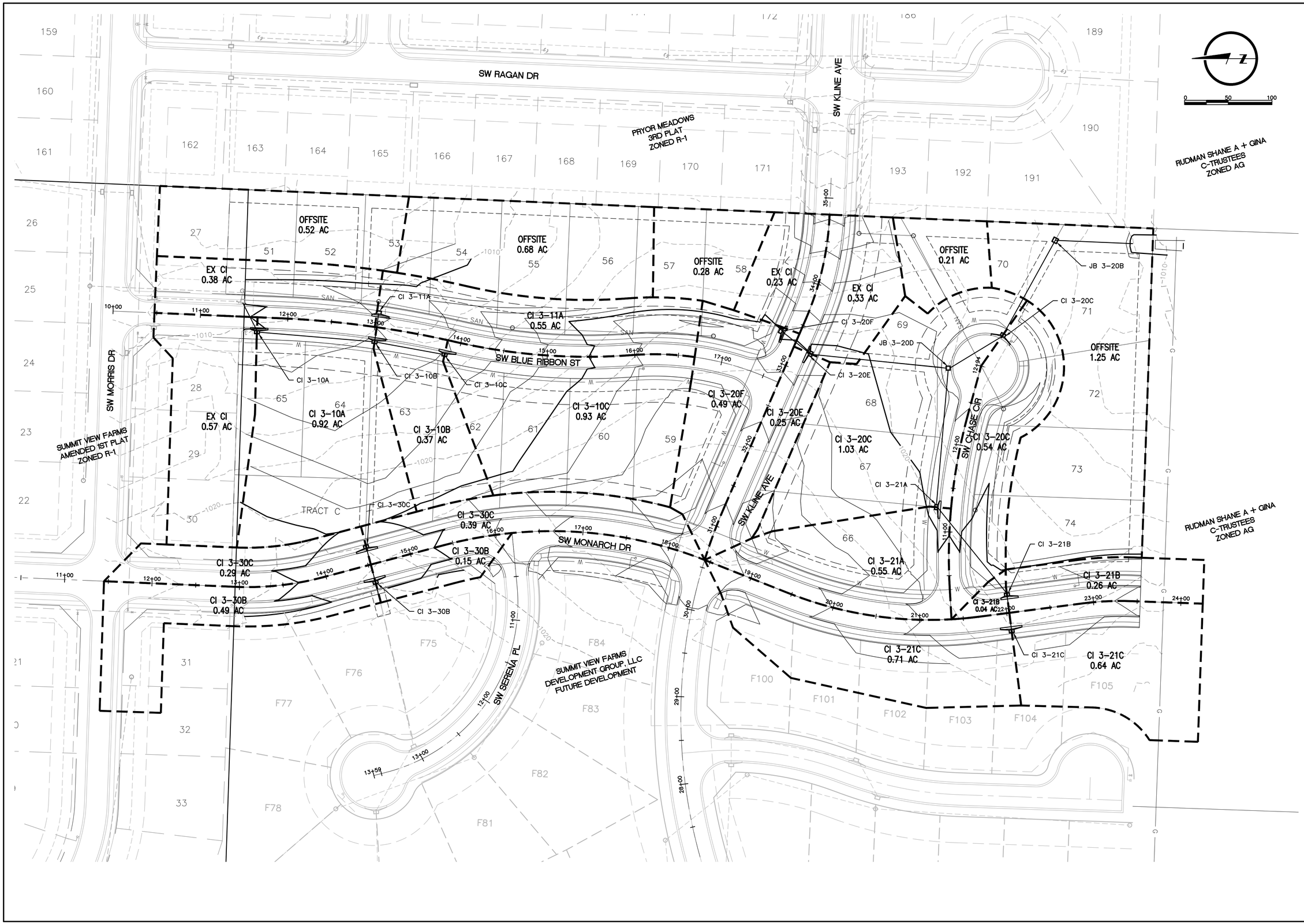

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MASS GRADING, EROSION CONTROL, PAVING, STORM AND SANITARY PLANS

DRAINAGE AREA MAP

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SHEET
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SUMMIT VIEW FARMS 3RD PLAT
STORM SEWER CALCULATIONS

PIPE	NODE UPSTREAM DOWNSTREAM	INLET TC (MIN)	INLET AREA (ACRES)	RUNOFF COEFF.	TOTAL CA (ACRES)	10% STORM INTENSITY (IN/HR)	10% RUNOFF (CFS)	TOTAL 10% RUNOFF (CFS)	10% RUNOFF CAPTURED (CFS)	10% PIPE FLOW (CFS)	DESIGN VELOCITY (FT/S)	FULL FLOW VELOCITY (FT/S)	FULL FLOW CAPACITY (CFS)	TOTAL 1% RUNOFF (CFS)	1% PIPE FLOW (CFS)	1% STORM	10% STORM HGL UPSTREAM DOWNSTREAM (FT)	1% STORM HGL UPSTREAM DOWNSTREAM (FT)	INVERT UPSTREAM DOWNSTREAM (FT)	SECTION MATERIAL	SECTION SIZE	SLOPE (%)	LENGTH (FT)	10% SPREAD (FT)	25% SPREAD (FT)
LINE 3-10																									
1	CI 3-10A JB 103633	7.0	0.92	0.51	0.47	6.8	3.19	3.64	2.71	8.73	6.39	6.03	10.65	7.44	13.24	SUR.	1006.54 1006.03	1007.37 1006.75	1005.40 1005.00	HDPE	18"	1.03	38.87	11.55	N/A
2	CI 3-10B CI 3-10A	6.6	0.37	0.51	0.19	6.9	1.30	2.45	2.00	6.02	4.89	6.27	11.07	5.24	9.08	SUR.	1008.35 1006.93	1010.01 1009.00	1007.40 1005.90	HDPE	18"	1.11	134.93	10.12	N/A
3	CI 3-10C CI 3-10B	7.2	0.93	0.51	0.47	6.7	3.19	3.19	2.04	2.04	3.78	7.14	8.77	5.62	2.66	SUR.	1010.07 1008.71	1011.09 1010.96	1009.50 1008.00	HDPE	15"	1.84	81.39	9.73	N/A
LINE 3-11																									
4	CI 3-11A CI 3-10B	7.0	0.55	0.65	0.36	6.8	2.43	2.43	1.99	1.99	3.04	5.34	7.83	4.27	3.00	SUR.	1008.81 1008.72	1011.01 1010.94	1008.25 1007.90	HDPE	15"	1.03	34.00	10.09	N/A
LINE 3-20																									
5	JB 3-20B FES 3-20A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	17.25	6.14	6.13	29.23	N/A	29.76	PIPE	1010.10 1009.63	1010.79 1010.34	1008.70 1008.25	RCP	30"	0.54	83.57	N/A	N/A
6	CI 3-20C JB 3-20B	7.3	1.57	0.54	0.85	6.7	5.69	5.99	5.99	17.25	6.43	8.57	42.05	10.91	29.76	PIPE	1011.90 1010.49	1012.36 1011.59	1010.50 1009.20	HDPE	30"	1.05	123.63	11.93 (N) 9.56 (S)	N/A
7	JB 3-20D CI 3-20C	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	11.59	5.51	7.28	22.88	N/A	18.85	PIPE	1012.95 1012.28	1013.31 1012.70	1011.75 1011.00	HDPE	24"	1.02	73.28	N/A	N/A
8	CI 3-20E JB 3-20D	6.0	0.25	0.70	0.18	7.1	1.28	1.28	1.23	3.26	4.92	5.92	7.27	2.17	4.55	PIPE	1015.69 1013.55	1015.86 1013.90	1015.00 1013.00	HDPE	15"	1.27	157.88	5.92	6.42
9	CI 3-20F CI 3-20E	6.9	0.49	0.60	0.29	6.8	2.37	2.37	2.03	2.03	4.11	5.66	6.94	3.53	2.68	PIPE	1016.53 1015.94	1016.66 1016.18	1016.00 1015.50	RCP	15"	1.16	43.29	6.97	7.57
LINE 3-21																									
10	CI 3-21A JB 3-20D	6.5	0.55	0.55	0.30	6.9	2.10	2.10	1.79	8.33	6.33	6.13	10.84	3.69	14.30	SUR.	1015.07 1013.24	1016.71 1013.75	1013.95 1012.25	HDPE	18"	1.07	159.59	9.84	N/A
11	CI 3-21B CI 3-21A	6.6	0.30	0.71	0.21	6.9	1.46	1.46	1.46	6.54	5.43	5.98	10.56	2.57	11.51	SUR.	1016.74 1015.40	1019.74 1018.20	1015.75 1014.45	HDPE	18"	1.01	128.57	4.30 (N) 7.66 (S)	4.65 (N) 8.32 (S)
12	CI 3-21C CI 3-21B	6.8	1.35	0.55	0.74	6.8	5.08	5.08	5.08	5.08	5.77	5.74	7.05	8.94	8.94	SUR.	1017.66 1017.04	1021.12 1020.32	1016.75 1016.25	RCP	15"	1.19	42.00	9.94 (N) 9.61 (S)	10.83 (N) 10.46 (S)
LINE 3-30																									
13	CI 3-30B FES 3-30A	7.4	0.64	0.66	0.42	6.7	2.83	2.83	2.83	6.13	8.54	11.84	14.53	4.99	10.80	PIPE	1015.75 1014.13	1015.95 1014.36	1014.75 1013.56	HDPE	15"	5.06	42.00	9.08 (N) 6.31 (S)	9.88 (N) 6.85 (S)
14	CI 3-30C CI 3-30B	6.4	0.68	0.70	0.48	6.9	3.30	3.30	3.30	3.30	3.93	5.74	7.05	5.81	5.81	SUR.	1016.48 1016.17	1017.18 1016.84	1015.75 1015.25	RCP	15"	1.19	23.50	7.91 (N) 8.68 (S)	8.60 (N) 9.45 (S)

NOTES
REFER TO STORM SEWER PLAN AND PROFILE SHEETS FOR FINAL PIPE MATERIALS, ELEVATIONS, AND SLOPES.

RIP RAP CALCULATIONS
Using USDA, SCS (1975) procedure (containing nomographs)
Minimum tailwater condition
1% Storm depth of flow at pipe outlet = 2.11 ft (pipe is 85% full)
1% Storm pipe velocity = 6.72 ft/s
D_{50} Riprap size = intersection of depth and velocity curve = 0.6 ft (using 9-inches)
Apron length corresponding to depth and velocity intersection, at 2.11 ft depth = 18 feet (use 20 feet)

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DRAINAGE CALCULATIONS

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PROFESSIONAL ENGINEER
09-19-2018

MARK DANIEL MCGHEE JR.
PE - 2008019568

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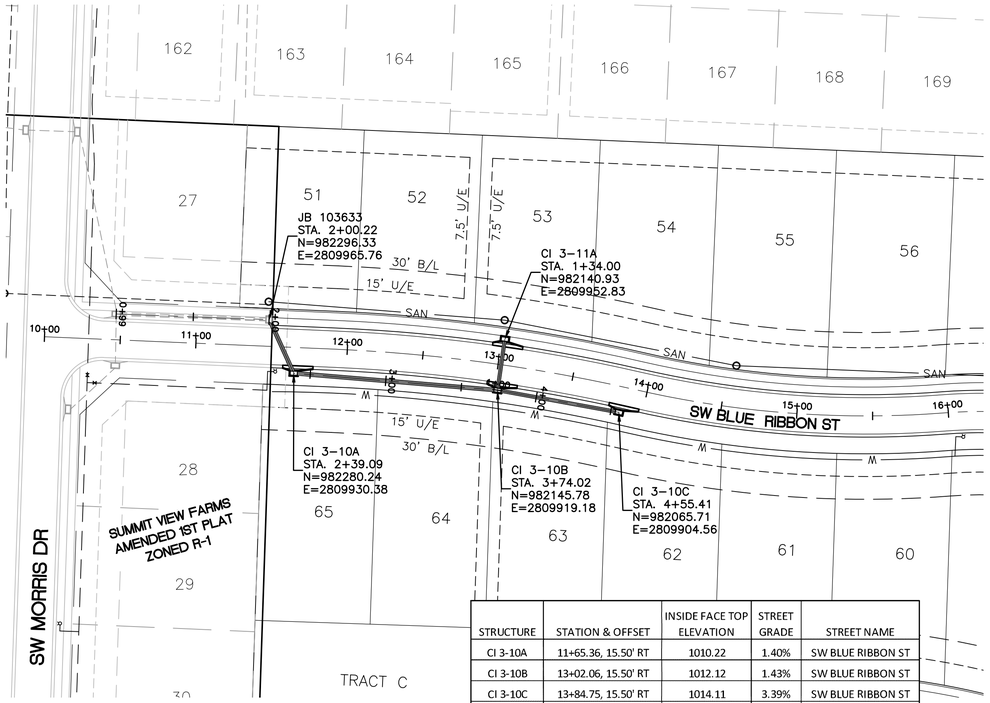
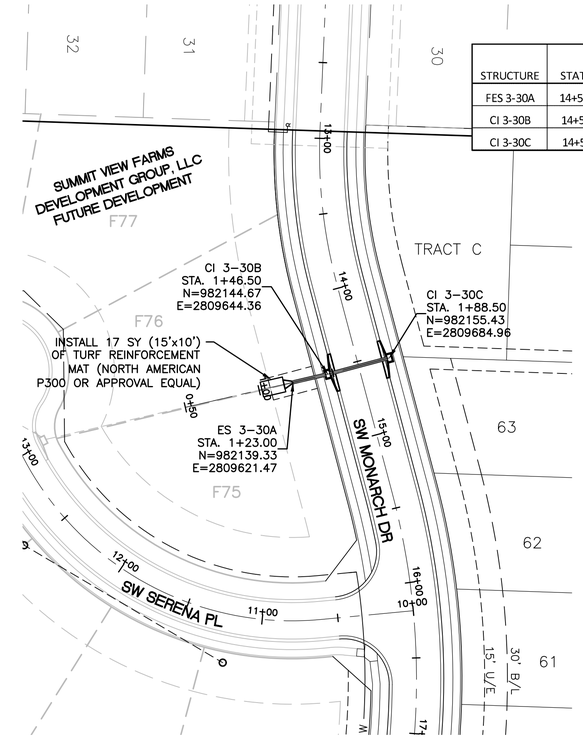


STRUCTURE	STATION & OFFSET	INSIDE FACE TOP ELEVATION	STREET GRADE	STREET NAME
CI 3-10A	11+65.36, 15.50' RT	1010.22	1.40%	SW BLUE RIBBON ST
CI 3-10B	13+02.06, 15.50' RT	1012.12	1.43%	SW BLUE RIBBON ST
CI 3-10C	13+84.75, 15.50' RT	1014.11	3.39%	SW BLUE RIBBON ST
CI 3-11A	13+02.06, 15.50' LT	1012.12	1.43%	SW BLUE RIBBON ST



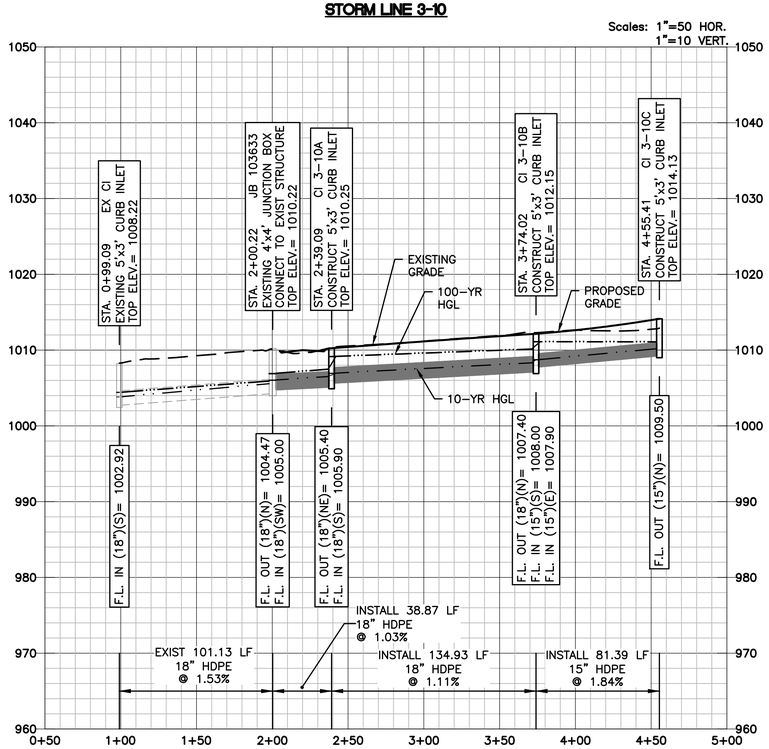
STRUCTURE	STATION & OFFSET	INSIDE FACE TOP ELEVATION	STREET GRADE	STREET NAME
FES 3-30A	14+52.43', 44.49' RT	N/A	N/A	SW MONARCH DR
CI 3-30B	14+53.13, 19.50' RT	1019.42	SUMP	SW MONARCH DR
CI 3-30C	14+53.13, 19.50' LT	1019.42	SUMP	SW MONARCH DR

STORM SEWER NOTES (APPLICABLE TO ALL STORM PLAN AND PROFILE SHEETS):

1. POLYPROPYLENE PIPE OR CONCRETE PIPE MAY BE USED IN LIEU OF HDPE PIPE. ALL PIPE SHALL MEET CITY SPECIFICATIONS (LEES SUMMIT SECTION 2600).
2. PROPOSED CURB INLETS SHALL CONFORM TO CITY STANDARD DETAIL STM-1 AND JUNCTION BOXES TO STM-3.
3. COORDINATES AND TOP ELEVATIONS SHOWN ARE LOCATED AT CENTER OF STRUCTURES. ROAD OFFSETS ARE AT INSIDE FACE OF CURB INLETS.
4. PIPE LENGTHS AND SLOPES ARE FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE.
5. INSIDE FRONT FACE OF CURB INLETS SHALL BE LOCATED 1.5 FEET BEHIND BACK OF CURB. STRUCTURE SHALL BE PARALLEL WITH CURB ALIGNMENT AND TOP SHALL BE SLOPED TO CONFORM TO GRADE OF STREET.
6. WATER MAINS AND STORM SEWERS SHALL HAVE AT LEAST 5-FT OF CLEAR HORIZONTAL SEPARATION.

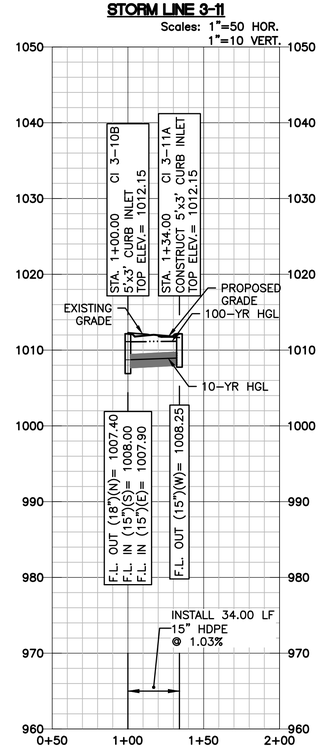
STORM LINE 3-10

Scales: 1"=50 HOR. 1"=10 VERT.



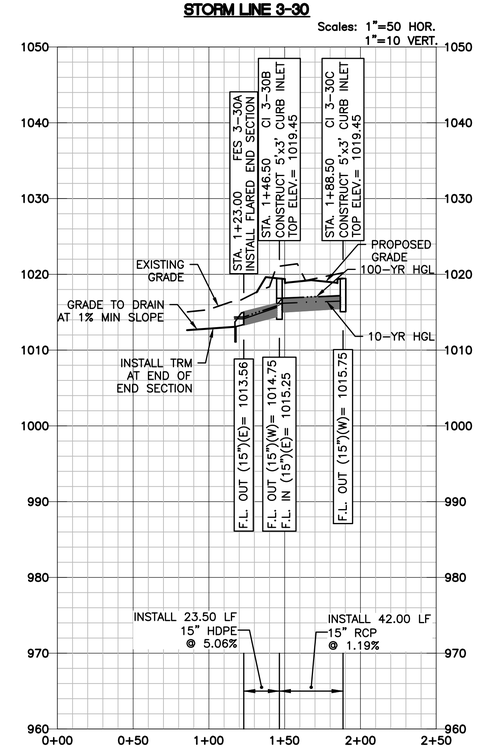
STORM LINE 3-11

Scales: 1"=50 HOR. 1"=10 VERT.



STORM LINE 3-30

Scales: 1"=50 HOR. 1"=10 VERT.



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STORM SEWER PLAN AND PROFILE
LINES 3-10, 3-11 AND 3-30

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STATE OF MISSOURI
MARK DANIEL MCGHEE JR.
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PROFESSIONAL ENGINEER
09-19-2018

MARK DANIEL MCGHEE JR.
PE - 2008019568

SHEET
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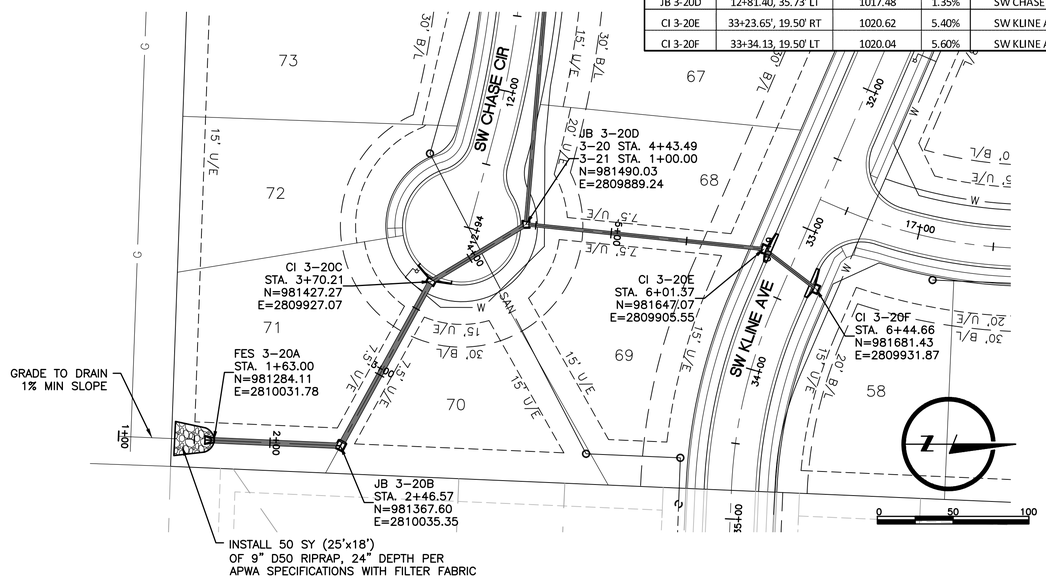
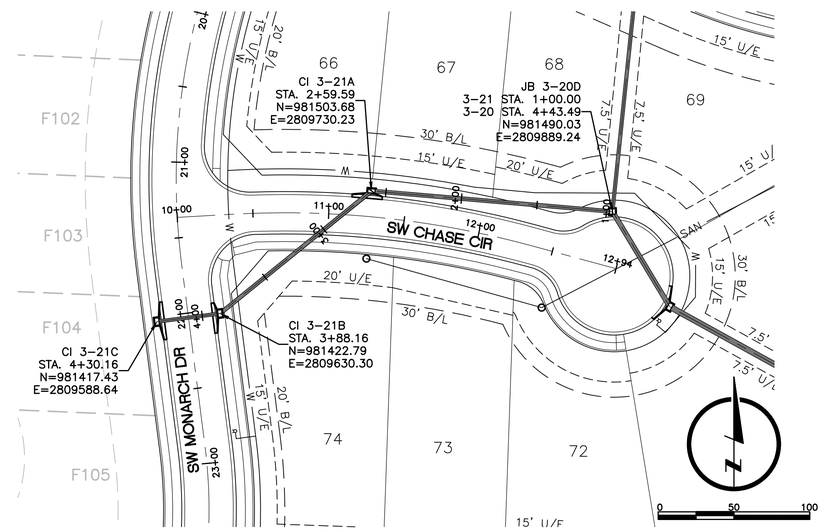
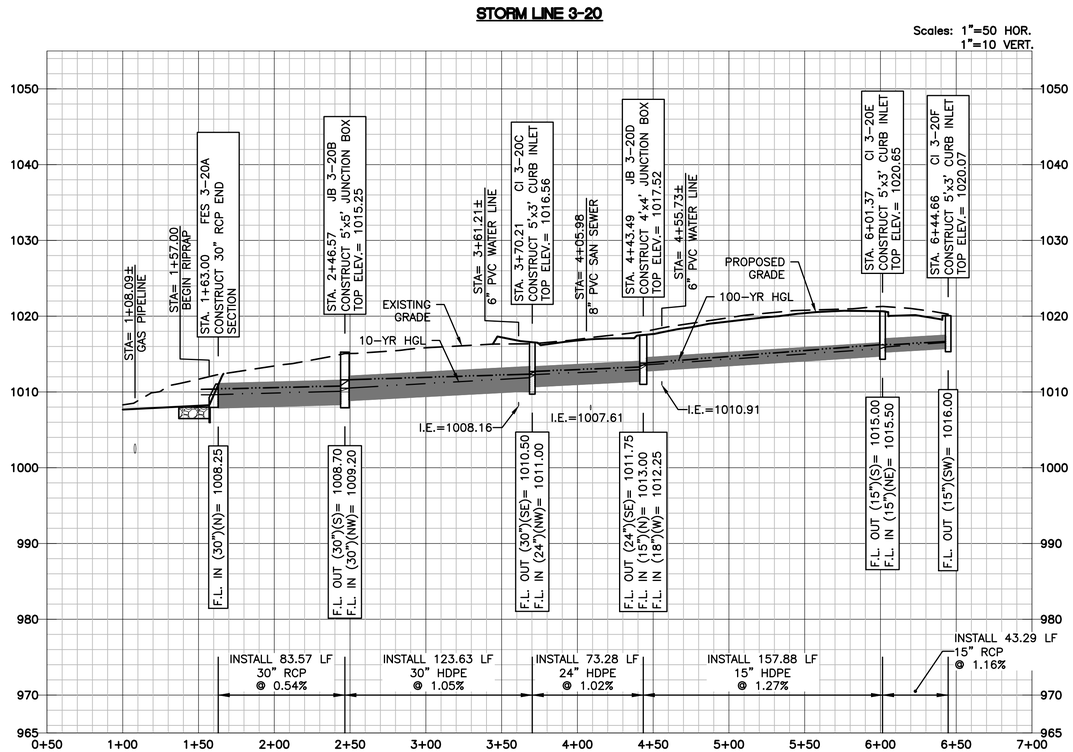
STORM SEWER STRUCTURE TABLE				
STRUCTURE	STATION & OFFSET	INSIDE FACE TOP ELEVATION	STREET GRADE	STREET NAME
FES 3-20A	14+72.88, 125.69' RT	N/A	N/A	SW CHASE CIR
JB 3-20B	14+54.47, 44.17' RT	N/A	N/A	SW CHASE CIR
CI 3-20C	13+32.89, 14.58' RT	1016.53	SUMP	SW CHASE CIR
JB 3-20D	12+81.40, 35.73' LT	1017.48	1.35%	SW CHASE CIR
CI 3-20E	33+23.65', 19.50' RT	1020.62	5.40%	SW KLINE AVE
CI 3-20F	33+34.13, 19.50' LT	1020.04	5.60%	SW KLINE AVE



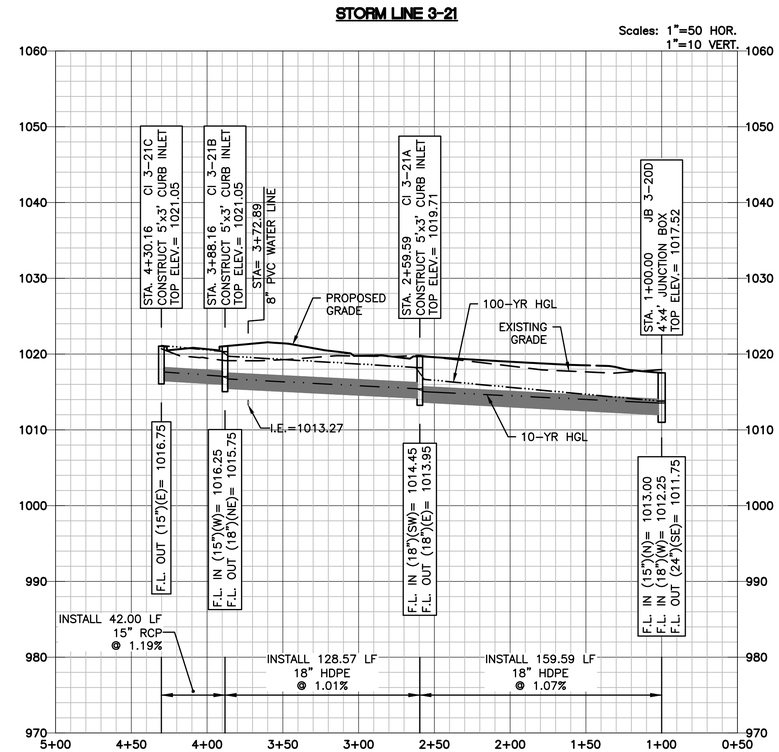
STORM SEWER STRUCTURE TABLE				
STRUCTURE	STATION & OFFSET	INSIDE FACE TOP ELEVATION	STREET GRADE	STREET NAME
CI 3-21A	11+26.78, 15.50' LT	1019.68	1.35%	SW CHASE CIR
CI 3-22B	22+03.00, 19.50' LT	1021.02	SUMP	SW MONARCH DR
CI 3-22C	22+03.00, 19.50' RT	1021.02	SUMP	SW MONARCH DR



STORM LINE 3-20



STORM LINE 3-21



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STORM SEWER PLAN AND PROFILE
LINES 3-20 AND 3-21

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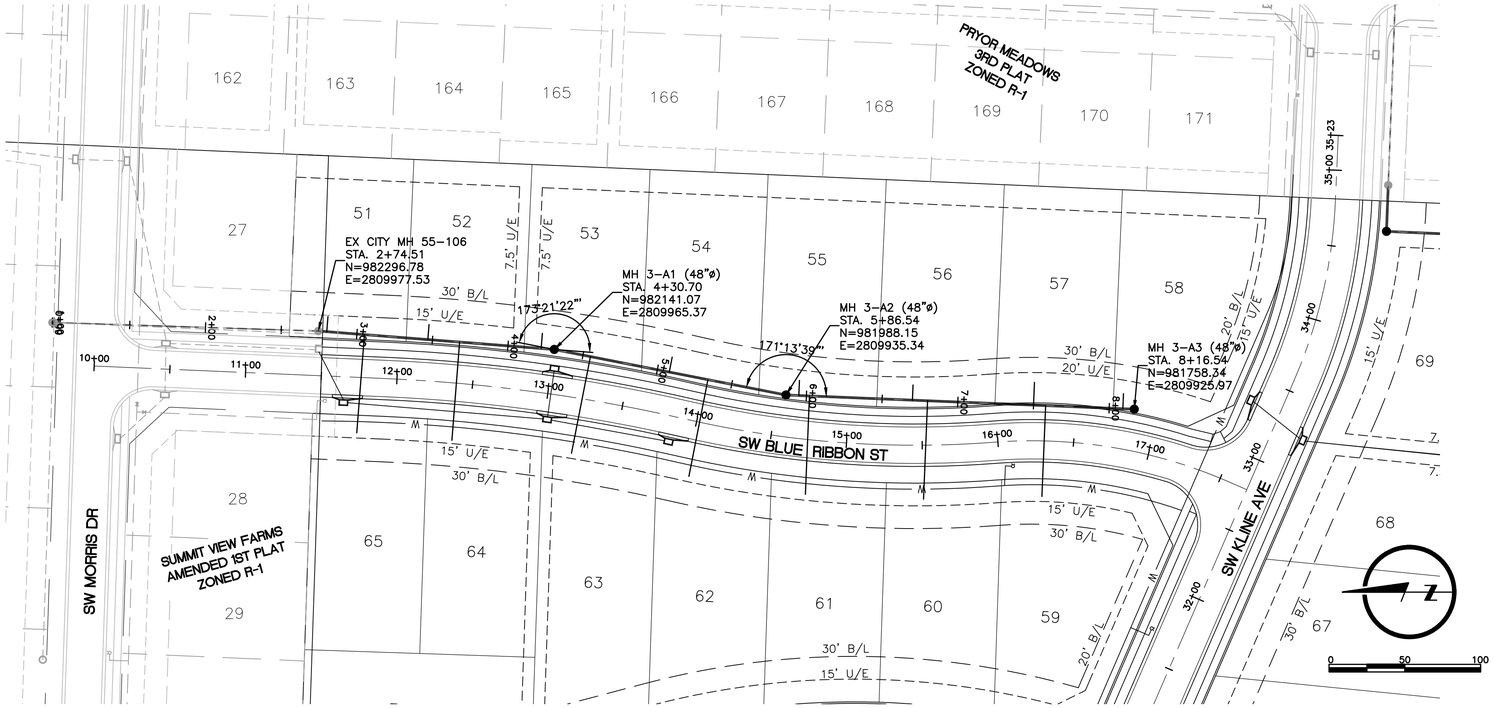
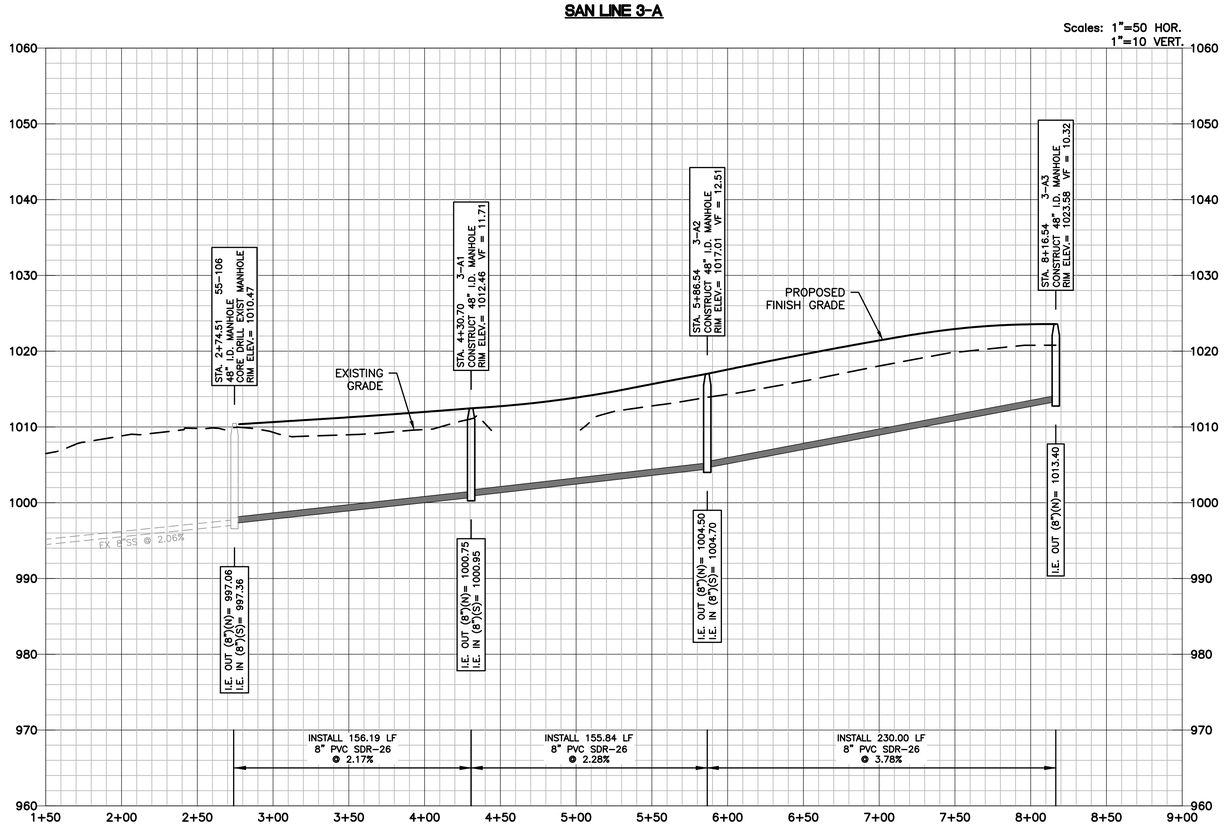


SAN LINE 3-A



SANITARY SEWER NOTES (APPLICABLE TO ALL SANITARY SEWER PLAN AND PROFILE SHEETS):

1. PROPOSED MANHOLES SHALL CONFORM TO CITY STANDARD DETAIL SAN-2.
2. COORDINATES, ROAD OFFSETS, AND TOP ELEVATIONS SHOWN ARE LOCATED AT CENTER OF STRUCTURES.
3. PIPE LENGTHS AND SLOPES ARE FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE.
4. ALL SANITARY SEWER LATERALS SHALL OF A TRENCH CHECK, CONSISTING OF FLOWABLE BACKFILL, INSTALLED DURING CONSTRUCTION. REFER TO LEES SUMMIT SPECIFICATION SECTION 3500.
5. TRACER WIRE SHALL BE INSTALLED ON ALL SERVICE LATERALS PER CITY STANDARD DETAIL SAN-1.
6. WATER MAINS AND SANITARY SEWER MAINS (INCLUDING STRUCTURES) SHALL HAVE AT LEAST 10-FT OF HORIZONTAL SEPARATION FROM EDGE OF WATER PIPE TO EDGE OF SEWER PIPE OR SEWER STRUCTURE.
7. WATER MAINS AND SANITARY SEWERS SHALL HAVE AT LEAST 18-INCHES OF VERTICAL SEPARATION FROM EDGE OF PIPE TO EDGE OF PIPE. THE CROSSING SHALL BE ARRANGED SO THAT THE SEWER JOINTS WILL BE EQUIDISTANT AND AS FAR AS POSSIBLE FROM THE WATER MAIN JOINTS.

SANITARY SEWER STRUCTURE TABLE

STRUCTURE	STATION & OFFSET	STREET NAME
MH 3-A1	13+00.19, 29.40' LT	SW BLUE RIBBON ST
MH 3-A2	14+56.25, 27.50' LT	SW BLUE RIBBON ST
MH 3-A3	16+85.16, 27.35' LT	SW BLUE RIBBON ST

Sewer Line	Main Station	Sewer Main Invert Elevation	Lateral Stub Length	Minimum Lateral Stub Elevation	Minimum Service Floor Elevation	Lot
3-A	2+80	997.48	10	999.01	1000.90	51
3-A	2+95	997.80	65	1000.43	1002.30	65
3-A	3+47	998.93	10	1000.46	1002.35	52
3-A	3+68	999.39	65	1002.02	1003.90	64
3-A	4+22	1000.56	10	1002.09	1003.95	53
3-A	4+55	1001.50	65	1004.13	1006.05	63
3-A	5+08	1002.71	10	1004.24	1006.10	54
3-A	5+34	1003.30	65	1005.93	1007.85	62
3-A	5+95	1005.02	10	1006.55	1008.40	55
3-A	6+02	1005.28	65	1007.91	1009.80	61
3-A	6+70	1007.86	10	1009.39	1011.25	56
3-A	6+80	1008.24	65	1010.87	1012.80	60
3-A	7+50	1010.88	15	1012.51	1014.35	57
3-A	7+58	1011.19	60	1013.72	1015.60	59
3-A	8+09	1013.11	10	1014.64	1016.50	58

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LINE 3-A

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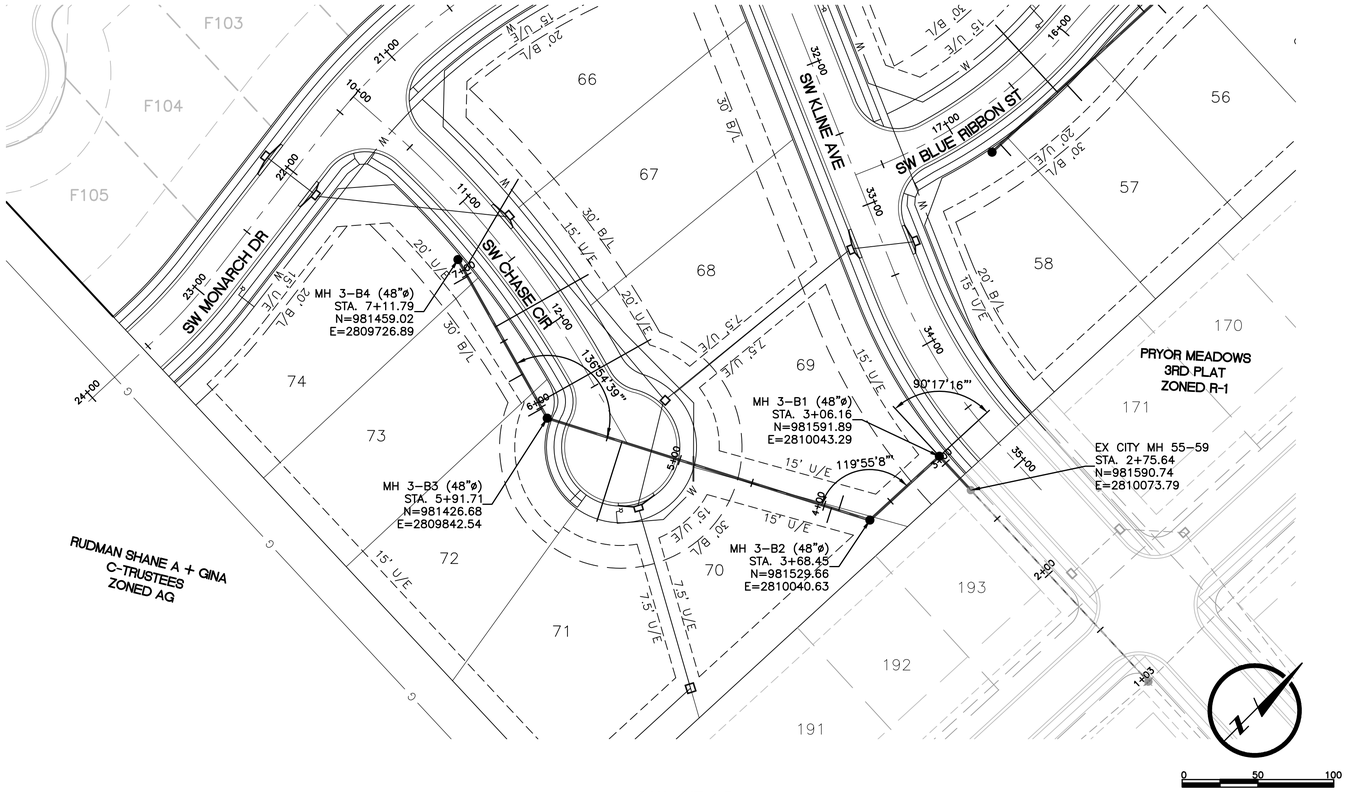
MO Certificate of Authority No. 2013011903

STATE OF MISSOURI
MARK DANIEL MCGHEE JR.
NUMBER PE-2008019568
PROFESSIONAL ENGINEER
09-19-2018

MARK DANIEL MCGHEE JR.
PE - 2008019568

SHEET
26 OF 31

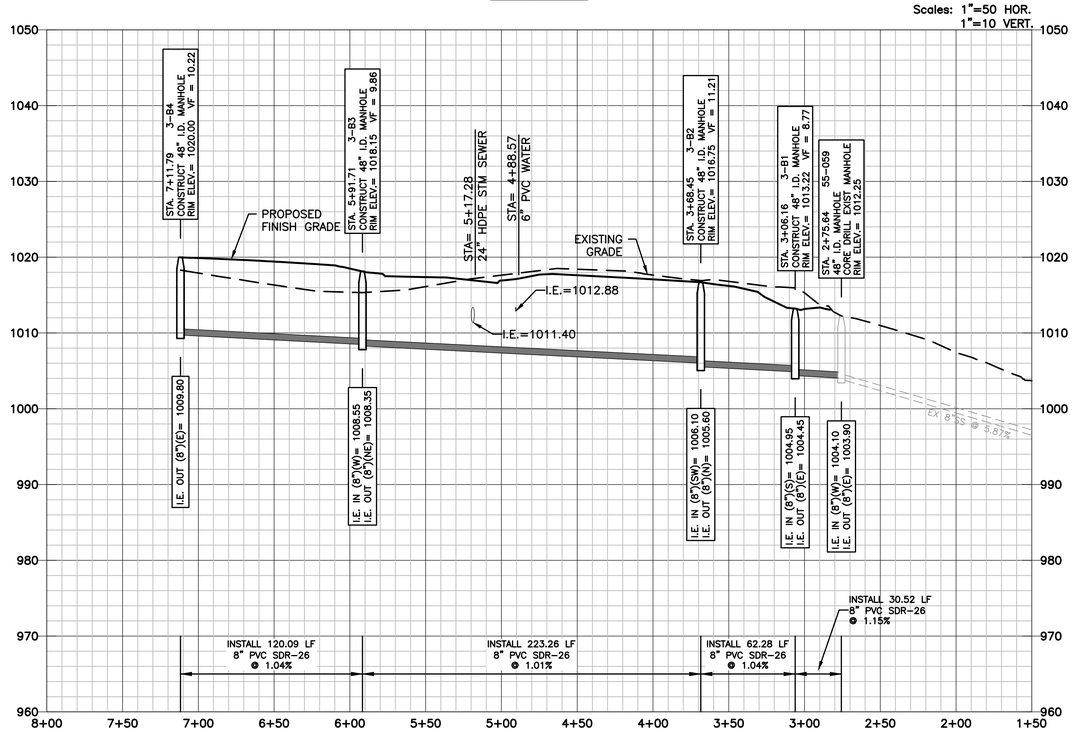


SANITARY SEWER STRUCTURE TABLE		
STRUCTURE	STATION & OFFSET	STREET NAME
MH 3-B1	34+62.86, 35.04' RT	SW KLINE AVE
MH 3-B2	34+65.33, 97.25' RT	SW KLINE AVE
MH 3-B3	12+52.92, 37.63' RT	SW CHASE CIR
MH 3-B4	11+27.49, 27.78' RT	SW CHASE CIR

Sewer Line	Main Station	Sewer Main Invert Elevation	Lateral Stub Length	Minimum Lateral Stub Elevation	Minimum Service Floor Elevation	Lot
3-B	3+90	1006.32	10	1007.85	1009.70	69
3-B	3+95	1006.37	10	1007.90	1009.75	70
3-B	5+40	1007.83	55	1010.26	1012.20	71
3-B	5+99	1008.63	10	1010.16	1012.40	72
3-B	6+03.5	1008.67	85	1011.70	1013.75	68
3-B	6+25	1008.90	10	1010.43	1012.20	73
3-B	6+61	1009.27	70	1012.00	1013.90	67
3-B	6+99	1009.67	10	1011.20	1013.00	74
3-B	7+03.5	1009.71	70	1012.44	1014.35	66

SAN LINE 3-B

Scales: 1"=50 HOR.
1"=10 VERT.



DRAWN BY	AJM
DESIGNED BY	MDM
DATE	09-19-2018
JOB NUMBER-TASK#	0318050.01
BOOK AND PAGE	

REVISIONS
08/10/18 – RESUBMITTAL PER ADJUSTED LAYOUT
09/19/18 – RESUBMITTAL PER CITY COMMENTS

LARKIN LAMP RYNEARSON
9001 State Line Rd., Suite 200 Kansas City, Missouri 64114
816.361.0440 | P
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SUMMIT VIEW FARMS 3RD PLAT
LEE'S SUMMIT, MISSOURI

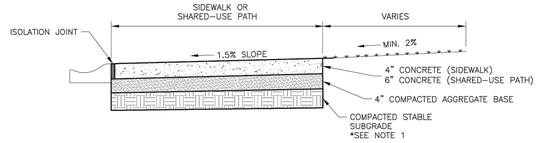
MASS GRADING, EROSION CONTROL, PAVING, STORM AND SANITARY PLANS
SANITARY SEWER PLAN AND PROFILE
LINE 3-B

LARKIN LAMP RYNEARSON - ENGINEERS
MO Certificate of Authority No. 2013011903

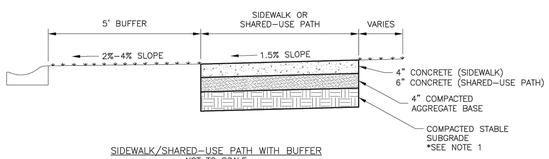
STATE OF MISSOURI
MARK DANIEL MCGHEE JR.
NUMBER
PE-2008019568
PROFESSIONAL ENGINEER
09-19-2018

MARK DANIEL MCGHEE JR.
PE - 2008019568

SHEET
27 OF 31



SIDEWALK/SHARED-USE PATH WITHOUT BUFFER
NOT TO SCALE



SIDEWALK/SHARED-USE PATH WITH BUFFER
NOT TO SCALE

GENERAL NOTES:

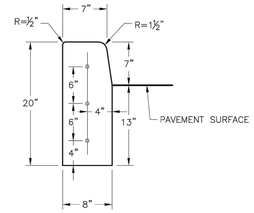
1. SUBGRADE MUST BE OF STABLE, COMPACTED EARTH AND SHALL BE OVERLAYED WITH 4" COMPACTED DENSE GRADED AGGREGATE BASE.
2. 1.5% CROSS SLOPE MUST BE MAINTAINED THROUGH DRIVEWAYS.
3. KCMMB 4K CONCRETE MIX SHALL BE REQUIRED FOR ALL SIDEWALKS AND SHARED-USE PATHS OR AS APPROVED BY THE CITY INSPECTOR.
4. ALL SIDEWALKS SHALL MEET CURRENT PUBLIC RIGHT OF WAY ACCESSIBILITY GUIDELINES (PROWAG).
5. 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.
6. SHARED-USE PATH WIDTH SHALL BE 10 FT. WIDE.
7. SIDEWALK FINISHING (NO PICTURE FRAMING) AS DIRECTED BY CITY INSPECTOR.
8. WHITE CURING COMPOUND MUST BE APPLIED UNIFORMLY TO THE CONCRETE SURFACE IMMEDIATELY AFTER FINAL FINISHING.

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

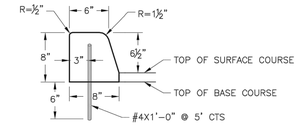
SIDEWALK/SHARED-USE PATH DETAIL

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

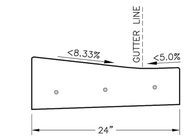
GEN-2



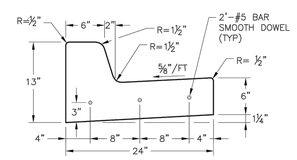
STRAIGHT CURB
(TYPE C-1)



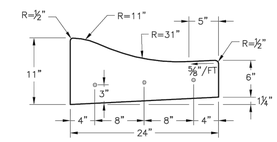
DOWELLED CURB
(TYPE DC)



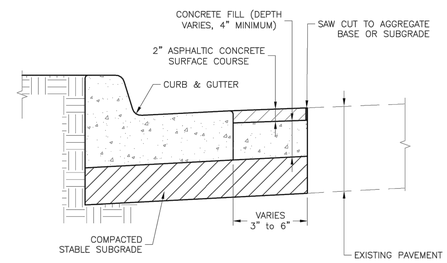
CURB & GUTTER DETAIL AT RAMP
(ADA SLOPE REQUIREMENTS)



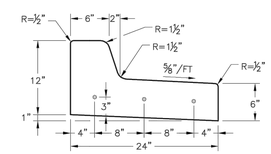
STRAIGHT BACK CURB & GUTTER
(TYPE CG-1)



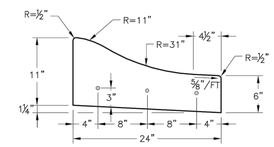
ROLL BACK CURB & GUTTER
(TYPE CG-2)



CURB REPLACEMENT DETAIL



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



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

GENERAL NOTES

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

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

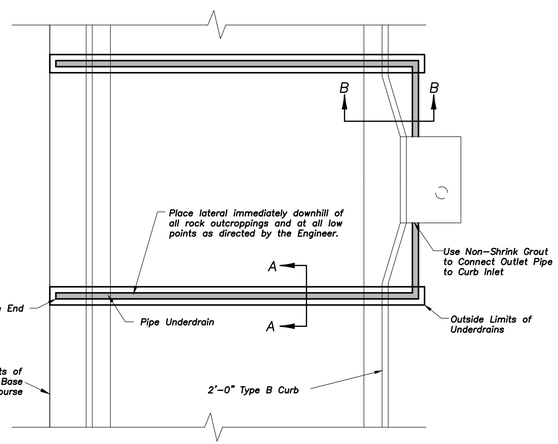
STANDARD DETAILS
CITY OF LEE'S SUMMIT, MO
LEE'S SUMMIT, JACKSON COUNTY, MO

Sheet Name: CURB & GUTTER DETAIL

Project:

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

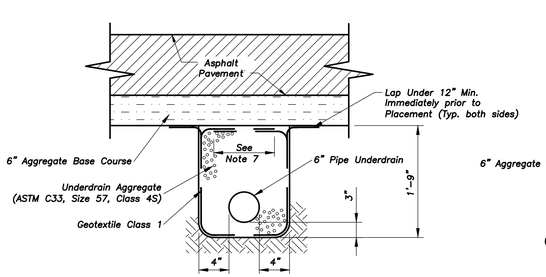
GEN-4



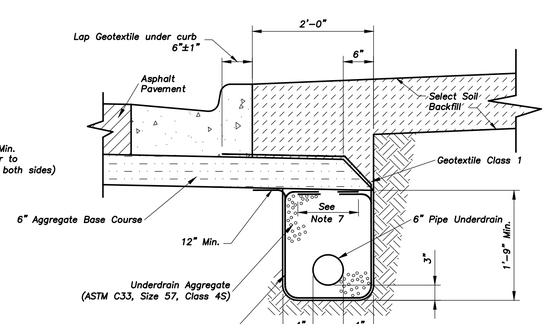
UNDERDRAIN LAYOUT

Underdrain Notes:

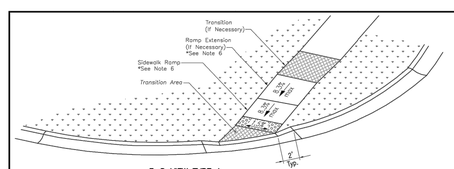
1. *A minimum of 12" of select soil (topsoil) shall be placed on exposed rock cut or fill slopes outside the limits of the roadway. All rock and shale slopes shall be benched at a maximum of 2' vertical intervals prior to placement of select soil.*
2. *All underdrain pipes shall be installed at a minimum slope of 1%. Pipe shall be installed with the perforations placed down.*
3. *Construct underdrain and fold geotextile over underdrain aggregate to protect the underdrain until the Aggregate Base Course is constructed. Fold the geotextile back and construct the Aggregate Base Course. Geotextile seams shall be overlapped at a minimum of 12".*



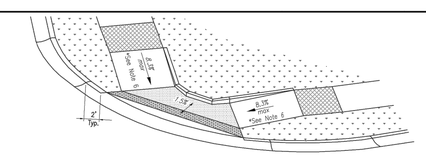
PIPE UNDERDRAIN LATERAL A-A
Not to Scale



PIPE UNDERDRAIN BEHIND CURB B-B
Not to Scale



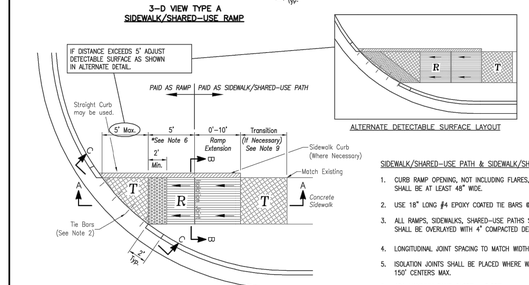
3-D VIEW TYPE A
SIDEWALK/SHARED-USE RAMP



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

LEGEND

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

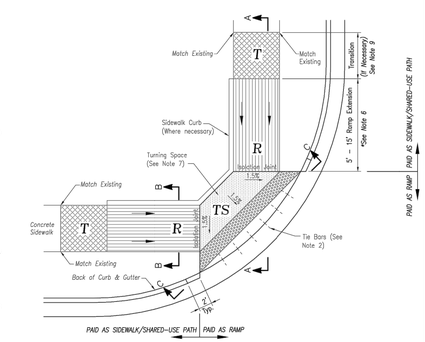


TYPE A SIDEWALK/SHARED-USE RAMP
Not to Scale

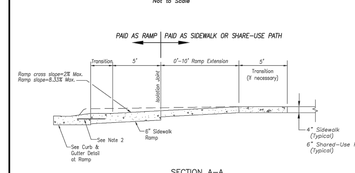
ALTERNATE DETECTABLE SURFACE LAYOUT

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

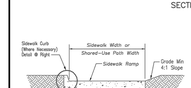
1. CURB RAMP OPENING, NOT INCLUDING FLARES, SHALL MATCH EXISTING SIDEWALK WIDTH AND OPENING SHALL BE AT LEAST 48" WIDE.
2. USE 18" LONG #4 EPOXY COATED TIE BARS @ 24" O.C. EMBED TIE BARS 9" IN EACH DIRECTION.
3. ALL RAMPS, SIDEWALKS, SHARED-USE PATHS SUBGRADE MUST BE OF STABLE, COMPACTED EARTH AND SHALL BE OVERLAYED WITH 4" COMPACTED DENSE GRADED AGGREGATE BASE.
4. LONGITUDINAL JOINT SPACING TO MATCH WIDTH OF SIDEWALK.
5. ISOLATION JOINTS SHALL BE PLACED WHERE WALK ABUTS DRIVEWAYS AND SIMILAR STRUCTURES, AND 150' CENTERS MAX.
6. ADA MAXIMUM RAMP SLOPE = 8.33%
   ADA MAXIMUM CROSS SLOPE = 2.0%
   *ROADWAY EXCEPTION: WHERE EXISTING ROAD PROFILE GRADE DOES NOT ALLOW RAMP TO MEET RAMP SLOPE REQUIREMENT OF 8.33% OR LESS, THE RAMP SHALL BE EXTENDED TO A LENGTH OF 15 FEET TO MATCH EXISTING SIDEWALK. CROSS SLOPE OF RAMP SHALL BE 1.5%, ±0.5%.
7. TURNING SPACES SHALL BE 1.5%, ±0.5%, SLOPE IN ANY DIRECTION. TURNING SPACES SHALL HAVE A MINIMUM 4'x4' TURNING AREA. TURNING SPACES, WITH A SIDEWALK CURB, SHALL HAVE A 5' TURNING AREA PERPENDICULAR TO THE SIDEWALK CURB.
8. FOR RETROFIT WORK, SLOPES TO BE DETERMINED IN FIELD BY CONTRACTOR AND APPROVED BY CITY INSPECTOR
9. RAMP EXTENSION AREA SHALL NOT BE USED AS TRANSITION TO EXISTING SIDEWALK. ANY TRANSITIONS REQUIRED TO MATCH RAMPS TO EXISTING SIDEWALK SHALL REQUIRE REMOVAL AND REPLACEMENT OF ADDITIONAL SIDEWALK BEYOND THE RAMP AREA. SIDEWALK TRANSITION LENGTH SHALL BE EQUAL TO OR GREATER THAN THE WIDTH OF THE EXISTING SIDEWALK. RAMP EXTENSIONS SHALL BE A CONTINUOUS SLOPE.
10. ALL SIDEWALK AND RAMP CONSTRUCTION SHALL MEET CURRENT PUBLIC RIGHT OF WAY ACCESSIBILITY GUIDELINES (PROWAG).



TYPE B SIDEWALK/SHARED-USE RAMP
Not to Scale



SECTION A-A



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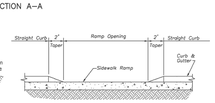
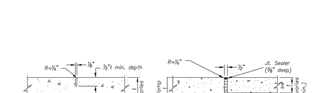


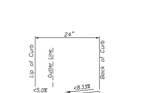
SECTION C-C

TYPE A & B SIDEWALK RAMP
Not to Scale

SIDEWALK CURB DETAIL
Not to Scale



JOINT DETAILS
Not to Scale



CURB & GUTTER DETAIL AT RAMP
Not to Scale

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

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

Sheet Name: ADA RAMP RETROFIT DETAIL

Project:

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

GEN-3A

REVISIONS	
08/10/18	RESUBMITTAL PER ADJUSTED LAYOUT
09/19/18	RESUBMITTAL PER CITY COMMENTS

DRAWN BY	AJM
DESIGNED BY	MDM
DATE	09-19-2018
JOB NUMBER-TASK#	0318050.01
BOOK AND PAGE	

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Kansas City, Missouri 64114 816.361.0045 | F
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SUMMIT VIEW FARMS 3RD PLAT
LEE'S SUMMIT, MISSOURI

MASS GRADING, EROSION CONTROL, PAVING, STORM AND SANITARY PLANS

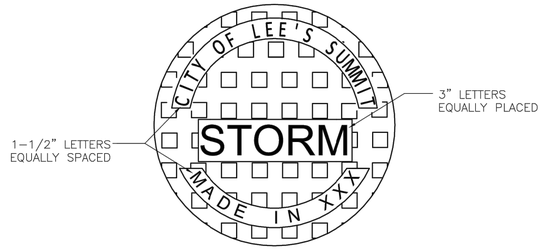
DETAIL SHEET

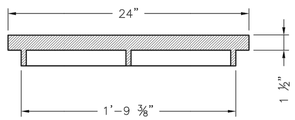
LARKIN LAMP RYNEARSON - ENGINEERS
MO Certificate of Authority No. 2013011903

STATE OF MISSOURI
MARK DANIEL MCGHEE
NUMBER PE-2008019568
PROFESSIONAL ENGINEER
09-19-2018

MARK DANIEL MCGHEE JR.
PE - 2008019568

SHEET
28 OF 31





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

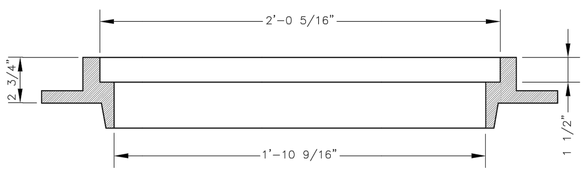
*COVER AND FRAME MODEL INFORMATION REFER TO THE STORMWATER APPROVED PRODUCT LIST.

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

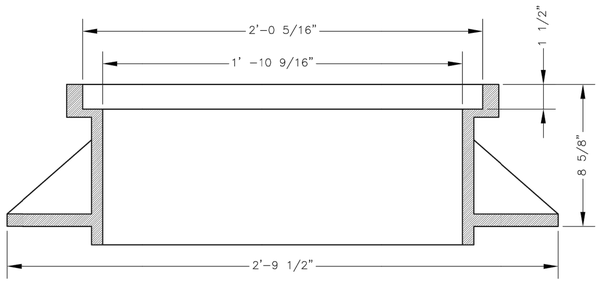
STORM MANHOLE COVER DETAIL

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

STM-6



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



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

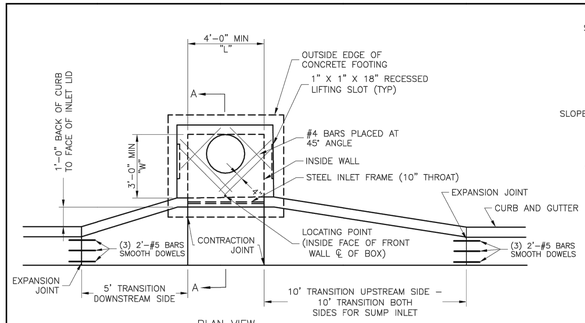
*COVER AND FRAME MODEL INFORMATION REFER TO THE STORMWATER APPROVED PRODUCTS LIST.

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

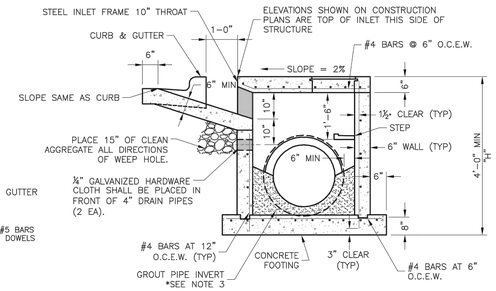
STORM MANHOLE FRAME DETAIL

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

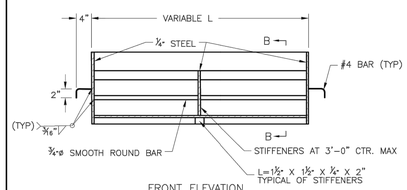
STM-7



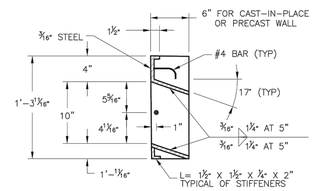
PLAN VIEW



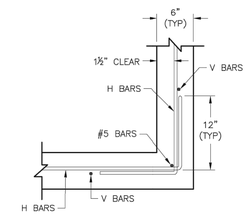
SECTION A–A



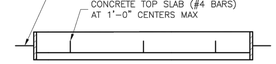
FRONT ELEVATION



SECTION B–B



WALL CORNER DETAIL



PLAN VIEW

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

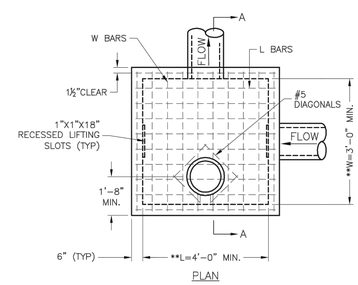
GENERAL NOTES:
1. THE FIRST DIMENSION LISTED IN THE CONSTRUCTION NOTES IS THE "L" DIMENSION. THE SECOND DIMENSION IS THE "W" DIMENSION.
2. FLOW LINES LISTED ON THE PROJECT PLANS ARE LISTED AT THE INSIDE FACE OF THE WALL.
3. FLOOR OF INLET GROUTED AND SHAPED TO MATCH PIPE INVERT TO PROVIDE SMOOTH FLOW.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

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

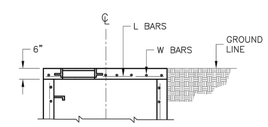
Project: STANDARD DETAILS
CITY OF LEE'S SUMMIT, MO
LEE'S SUMMIT, JACKSON COUNTY, MO
Sheet Name: CURB INLET DETAIL

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

STM-1



PLAN

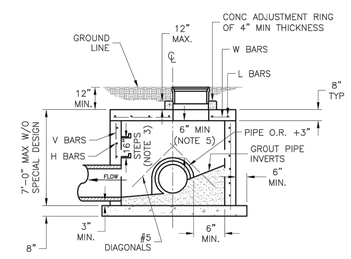


SLAB TOP ALTERNATE FOR JUNCTION BOX (SHALLOW)

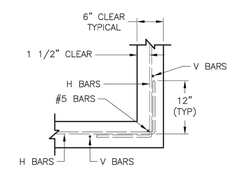
** INCREASE IN MULTIPLES OF 6" (7'–0") MAX WITHOUT SPECIAL DESIGN. (SEE PROJECT PLANS FOR DETAILS)

REINFORCING

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



SECTION A–A



WALL CORNER DETAIL

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

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

Project: STANDARD DETAILS
CITY OF LEE'S SUMMIT, MO
LEE'S SUMMIT, JACKSON COUNTY, MO
Sheet Name: JUNCTION BOX DETAIL

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

STM-3

REVISIONS	
08/10/18 – RESUBMITTAL PER ADJUSTED LAYOUT	
09/19/18 – RESUBMITTAL PER CITY COMMENTS	

DRAWN BY: AJM
DESIGNED BY: MDM
DATE: 09–19–2018
JOB NUMBER-TASK#: 0318050.01
BOOK AND PAGE:

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SUMMIT VIEW FARMS 3RD PLAT
LEE'S SUMMIT, MISSOURI

MASS GRADING, EROSION CONTROL, PAVING, STORM AND SANITARY PLANS

DETAIL SHEET

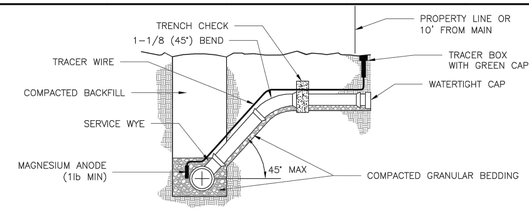
LARKIN LAMP RYNEARSON - ENGINEERS
MO Certificate of Authority No. 2013011903

STATE OF MISSOURI
MARK DANIEL MCGHEE JR.
NUMBER PE-2008019568
PROFESSIONAL ENGINEER
09–19–2018

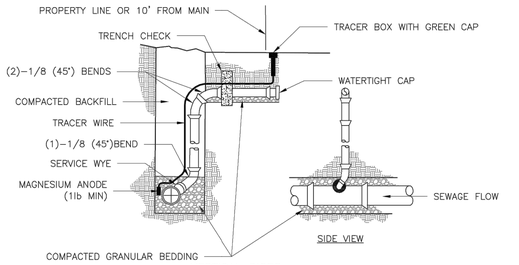
MARK DANIEL MCGHEE JR.
PE - 2008019568

SHEET
29 OF 31

L:\Engineering\0318050 SVFD2 Summit View Farms 3rd Plat\DRAWINGS\CONSTRUCTION DRAWINGS\PAV–PLANS\0318050–DETAILS.dwg, 9/19/2018 10:45:21 AM, JAMIE MCMURRY, LAMP RYNEARSON & ASSOCIATES



STANDARD INSTALLATION
NOT TO SCALE



VERTICAL RISER
NOT TO SCALE

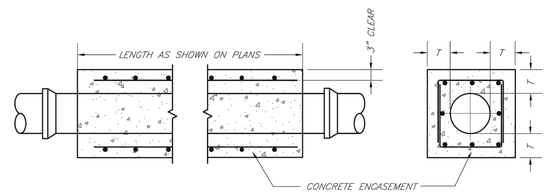
NOTES:

1. ALL SEWER STUBS SHALL BE CONSTRUCTED TO PROPERTY LINE OR 10' MINIMUM FROM THE MAIN. WHERE SIDEWALKS ARE PRESENT, CONTRACTOR SHALL EXTEND SERVICE LINE UNDER EXISTING SIDEWALK TO TWO FEET BEYOND.
2. ALL NEW CONSTRUCTION OFF SEWER STUBS SHALL BE TEMPORARILY MARKED WITH A MARKING STAKE, 36" ABOVE GROUND AND PAINTED GREEN.
3. IMPERVIOUS TRENCH CHECKS SHALL BE PLACED ON BUILDING SEWER STUBS (AT LEAST 5' AWAY FROM THE SANITARY SEWER MAIN).
4. TRENCH CHECKS ON THE BUILDING SEWER STUBS SHALL EXTEND 6" BELOW THE BOTTOM OF THE PIPE. LENGTH SHALL BE A MINIMUM OF 12". THE HEIGHT OF THE TRENCH CHECK SHALL EXTEND 12" ABOVE THE TOP OF THE PIPE. THE WIDTH OF THE TRENCH CHECK SHALL BE THE WIDTH OF THE TRENCH.
5. SEE SPECIFICATION SECTION 2100 FOR SEWER MAIN BEDDING AND BACKFILL.
6. #12 GAUGE GREEN INSULATED COPPER TRACER WIRE SHALL BE INSTALLED. TRACER WIRE TERMINAL BOXES SHALL BE INSTALLED DIRECTLY ABOVE THE SEWER SERVICE OR AS DETERMINED BY THE ENGINEER.
7. FOR SERVICES, TRACER WIRE SHALL RUN FROM THE WYE AND TERMINATE IN A FLUSH MOUNTED TRACER BOX WITH A GREEN CAST IRON LOCKABLE TOP. WIRE SHALL BE TAPED OR TIED TO THE PIPE AT 5' INTERVALS.
8. TRACER WIRE BOX SHALL BE INSTALLED WITHIN 1.0' OF PROPERTY LINE.
9. THE TRACER WIRE SHALL REMAIN CONTINUOUS TO THE GREATEST EXTENT POSSIBLE. SPLICES IN THE TRACER WIRE SHOULD BE MADE WITH SPLIT BOLT CONNECTORS. WIRE NUTS SHALL NOT BE USED. A WATER-PROOF CONNECTION IS NECESSARY TO PREVENT CORROSION.

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

BUILDING SEWER STUB AND RISER

Date: 04/17	
Drawn By: MJF	
Checked By: DL	
SAN-1	



NOTES:

1. FOR PIPES LESS THAN 15", T = 6" MIN.
2. FOR PIPES 15" THRU 36", T = 8" MIN.
3. INTERMEDIATE BELLS SHALL BE ENCASED.
4. REINFORCING STEEL SHALL BE #4 @ 12" O.C. EACH WAY WITH A MINIMUM REBAR LAP OF 12".

LEE'S SUMMIT
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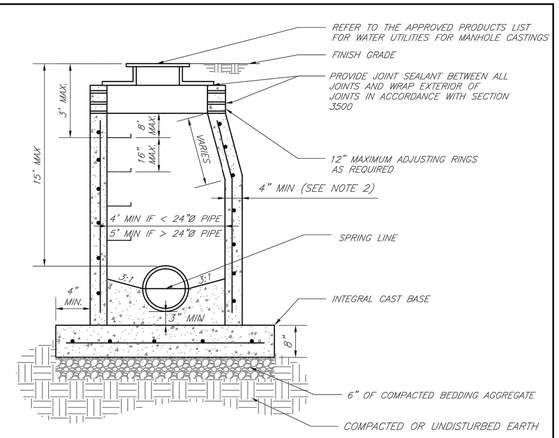
SANITARY PIPE ENCASEMENT

Date: 02/13	
Drawn By: JN	
Checked By: DL	
FILE: SAN-7	
Rev: 1/14	
Rev:	



NOTES:

1. PRECAST CONCRETE MANHOLES SHALL CONFORM TO ASTM C478 EXCEPT AS MODIFIED BY THE SPECIFICATIONS.
2. A WALL THICKNESS NOT LESS THAN ONE-TWELFTH (1/12) OF THE INSIDE DIAMETER OR 4", WHICHEVER IS GREATER, SHALL BE USED WHEN THE MANHOLE DEPTH IS LESS THEN 15'.
3. WATERPROOFING SHALL BE REQUIRED ON THE OUTSIDE OF MANHOLES. THE WATERPROOFING SHALL CONSIST OF A TOTAL DRY FILM THICKNESS OF NOT LESS THAN 14 MILS OF BITUMINOUS COATING.
4. ONLY ECCENTRIC MANHOLE CONES WILL BE ALLOWED UNLESS OTHERWISE APPROVED BY THE CITY ENGINEER.
5. THE FILL CONCRETE FLOW CHANNEL FOR SIDE BRANCHES SHALL BE PLACED TO PROVIDE A SMOOTH TRANSITION INTO THE FLOW LINE.
6. REFER TO THE APPROVED PRODUCTS LIST FOR WATER UTILITIES FOR APPROVED MANHOLE GASKET MODELS.
7. REFER TO THE APPROVED PRODUCTS LIST FOR APPROVED STEPS.

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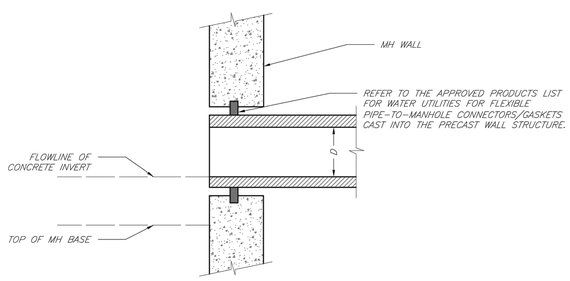
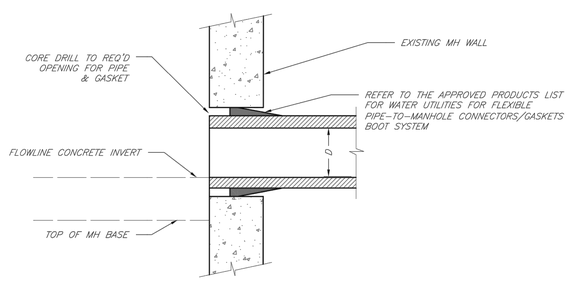
PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063

STANDARD PRECAST MANHOLE – SANITARY SEWER

Date: 02/13	
Drawn By: JN	
Checked By: DL	
FILE: SAN-2	
Rev: 1/14	
Rev:	



NEW MANHOLE

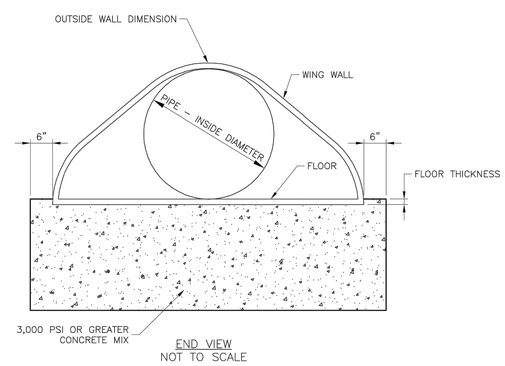


EXISTING MANHOLE

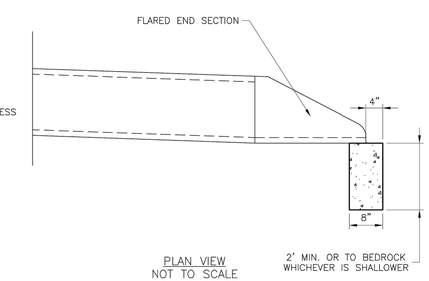
LEE'S SUMMIT
MISSOURI
PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063

MANHOLE WALL CONNECTIONS

Date: 02/13	
Drawn By: JN	
Checked By: DL	
FILE: SAN-5	
Rev: 1/14	
Rev:	



END VIEW
NOT TO SCALE



PLAN VIEW
NOT TO SCALE

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

FLARED END SECTION SUPPORT DETAIL

Date: 04/17	
Drawn By: MJF	
Checked By: DL	
STM-5	

DRAWN BY	AJM
DESIGNED BY	MDM
DATE	09-19-2018
JOB NUMBER-TASK#	0318050.01
BOOK AND PAGE	

REVISIONS
08/10/18 – RESUBMITTAL PER ADJUSTED LAYOUT
09/19/18 – RESUBMITTAL PER CITY COMMENTS

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SUMMIT VIEW FARMS 3RD PLAT
LEE'S SUMMIT, MISSOURI

MASS GRADING, EROSION CONTROL, PAVING, STORM AND SANITARY PLANS

DETAIL SHEET

LARKIN LAMP RYNEARSON - ENGINEERS
MO Certificate of Authority No. 2013011903

STATE OF MISSOURI
MARK DANIEL MCGHEE JR.
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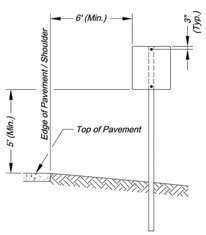
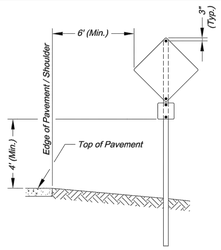
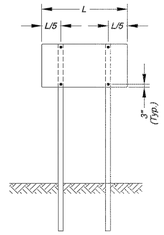
SHEET
30 OF 31



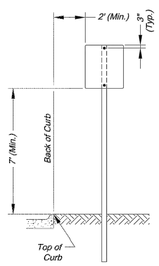
SIGN INSTALLATION FOR NON-CURBED STREET



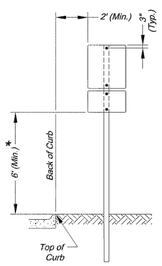
SIGN INSTALLATION WITH AUXILARY SIGN FOR NON-CURBED STREET



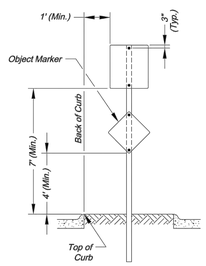
SIGN INSTALLATION WITH TWO SIGN POSTS



SIGN INSTALLATION FOR CURBED STREET



SIGN INSTALLATION WITH AUXILARY SIGN FOR CURBED STREET

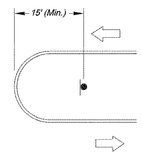


SIGN INSTALLATION FOR RAISED MEDIANS

SIGN MOUNTING DETAILS

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

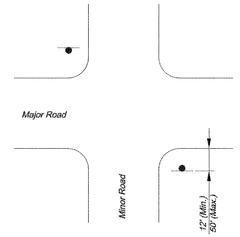
NOTE:
1. Generally, the sign mounting height should not be more than 1' greater than the minimum mounting height.



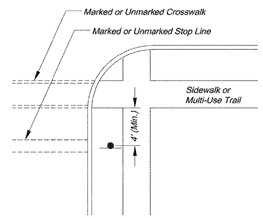
TYPICAL MEDIAN SIGN LOCATION

MEDIAN SIGN LOCATION

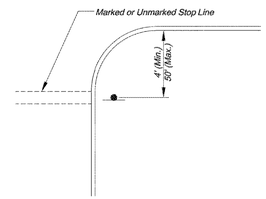
NOTES:
1. A 4" P.V.C. sleeve shall be installed in new concrete medians at each location where a sign is to be installed.
2. For existing concrete medians, a 4" hole shall be cored into the concrete.



NON-CURBED INTERSECTION INSTALLATION

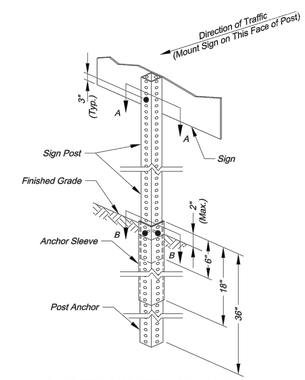


INTERSECTION WITH SIDEWALK / MULTI-USE TRAIL INSTALLATION

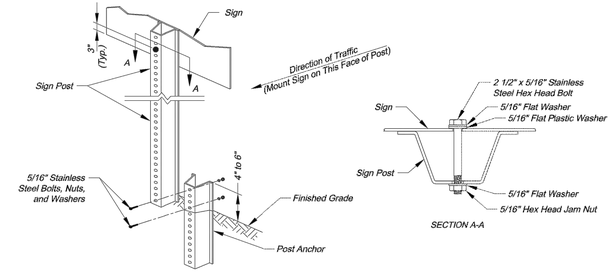


CURBED INTERSECTION INSTALLATION

CONTROL SIGN LOCATION

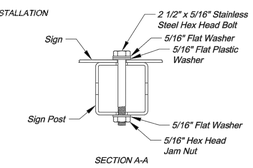


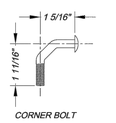
SQUARE STEEL POST INSTALLATION SEQUENCE:
1. Sign post anchor driven partially into the ground using a drive cap with a sledge or power equipment.
2. Anchor sleeve slipped over anchor and drive into the ground together with the sign post anchor.
3. Insert sign post into the post anchor and bolt in place.

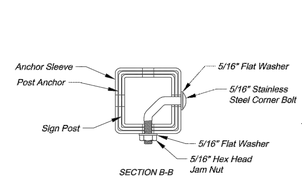


U-STEEL POST DETAILS

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

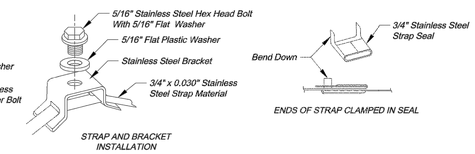






SQUARE STEEL POST DETAILS

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



STRAP TYPE SIGN SUPPORT DETAILS

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

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

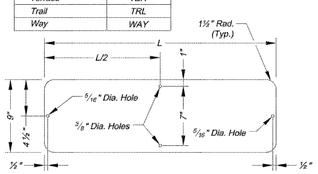
STANDARD ABBREVIATION LISTS

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

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

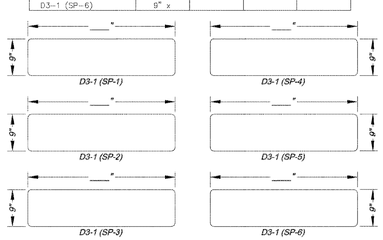
STREET NAME SIGN QUANTITIES

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

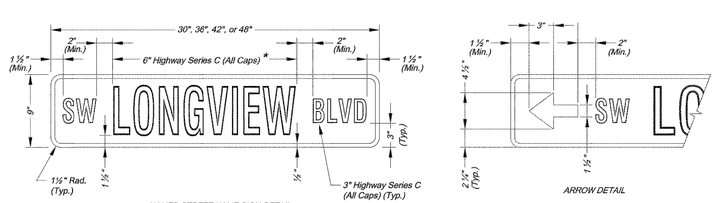


STREET NAME SIGN BLANK DETAILS

For Mounting on Square Steel Posts



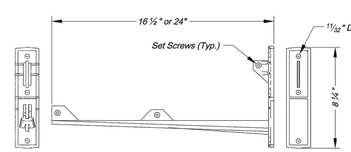
PROJECT SIGN DETAILS



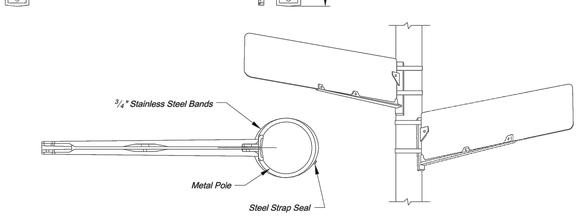
NAMED STREET NAME SIGN DETAIL

ARROW DETAIL

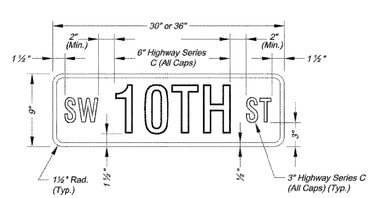
* Use Highway Series B (All Caps) in lieu of series C if necesary to fit text on a 36" sign blank.



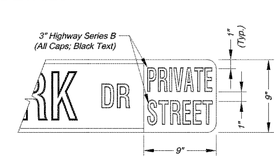
NOTES:
1. Wing bracket shall be an L-shaped cantilever of T-beam rigid frame 380-3 aluminum alloy construction.
2. Mount each wing bracket to metal pole using two ¾" wide stainless steel straps.
3. One wing bracket shall be installed per each sign. Cross brackets are not allowed.



WING BRACKET MOUNTING DETAILS



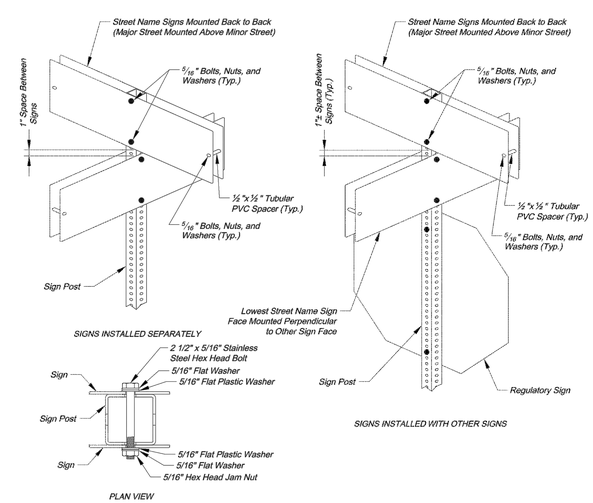
NUMBERED STREET NAME SIGN DETAIL



PRIVATE STREET TAG DETAIL

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

STREET NAME SIGN FACE DETAILS



SQUARE STEEL POST MOUNTING DETAILS

DRAWN BY	AJM
DESIGNED BY	MDM
DATE	09-19-2018
JOB NUMBER-TASK3	0318050.01
BOOK AND PAGE	

REVISIONS
08/10/18 – RESUBMITTAL PER ADJUSTED LAYOUT
09/19/18 – RESUBMITTAL PER CITY COMMENTS

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MO Certificate of Authority No. 2013011903

STATE OF MISSOURI
MARK DANIEL MCGHEE
NUMBER PE-2008019568
PROFESSIONAL ENGINEER
09-19-2018

MARK DANIEL MCGHEE JR.
PE - 2008019568

SHEET
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