NAPA VALLEY - 5th PLAT

Street, Stormwater, Master Drainage Plan

LOTS 166-196

PART OF THE NW 1/4 SECTION 36. TOWNSHIP 47 N, RANGE 32 W
LEE'S SUMMIT, JACKSON COUNTY, MISSOURI

CONSTRUCTION AND DESIGN NOTES:

STREET & STORM SEWERS:

1 ~ STREET PAVEMENT SHALL CONSIST OF TYPE CG-2 CURBS WITH PAVEMENT PER TABLE LS-2 OF THE LEE'S SUMMIT DESIGN AND CONSTRUCTION MANUAL

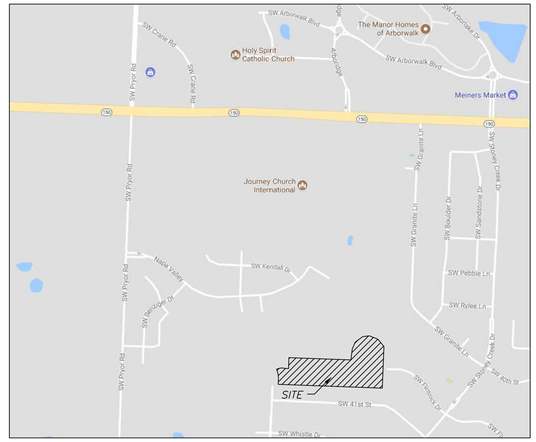
RESIDENTIAL LOCAL STREET SEE BELOW FOR TYPICAL SECTION.
OPTION 1) 4" TYPE 5 ASPHALT BASE AND 2" TYPE 5 or 6 ASPHALT SURFACE OVER A 6" MoDOT TYPE 5 BASE AND A SUBGRADE MIXTURE OF 6" FLY ASH STABILIZED SUBGRADE IN ACCORDANCE WITH THE CITY OF LEE'S SUMMIT DESIGN AND CONSTRUCTION MANUAL.
OPTION 2) 4" TYPE 5 ASPHALT BASE AND 2" TYPE 5 or 6 ASPHALT SURFACE OVER 10" MoDOT TYPE 5 BASE OVERTOP A BIAXIAL GEOGRID PER THE CITY'S APPROVED PRODUCT LIST.

2 ~ STORM SEWER PIPE SHALL BE HIGH DENSITY POLYETHYLENE (HDPE) AS APPROVED BY CITY OF LEES SUMMIT DESIGN AND CONSTRUCTION MANUAL.

3 ~ JUNCTION BOXES SHALL BE PER CITY OF LEES SUMMIT STANDARD DRAWING NO. STM-3. FIELD INLETS SHALL BE PER CITY OF LEES SUMMIT STANDARD DRAWING STM-2. TOEWALLS SHALL BE PER CITY OF LEES SUMMIT DRAWING NO. STM-5. JUNCTION BOXES SHALL BE PER CITY OF LEES SUMMIT STM-3. ROCK LINING AND RIP RAP SHALL BE PER CITY OF LEES SUMMIT.

GENERAL NOTES:

1 ~ ALL CONSTRUCTION SHALL CONFORM TO THE CITY OF LEE'S SUMMIT DESIGN AND CONSTRUCTION MANUAL AS ADOPTED BY ORDINANCE 5813.
2 ~ ALL REQUIRED EASEMENTS WITHIN THE BOUNDARY OF THIS PROJECT SHALL BE PROVIDED FOR ON THE FINAL PLAT.
3 ~ ANY REQUIRED EASEMENT LOCATED OUTSIDE OF THE BOUNDARY OF THIS PROJECT SHALL BE PROVIDED FOR BY SEPARATE INSTRUMENT PRIOR TO ISSUANCE OF CONSTRUCTION PERMITS.
4 ~ THE CONTRACTOR SHALL CONTACT THE CITY'S DEVELOPMENT SERVICES ENGINEERING INSPECTION TO SCHEDULE A PRE-CONSTRUCTION MEETING WITH A FIELD ENGINEERING INSPECTOR PRIOR TO ANY LAND DISTURBANCE WORK AT (816) 969-1200.
5 ~ THE CONTRACTOR SHALL NOTIFY ENGINEERING SOLUTIONS AT 816.623.9888 OF ANY CONFLICT WITH THE IMPROVEMENTS PROPOSED BY THESE PLANS AND SITE CONDITIONS.
6 ~ THE CONTRACTOR SHALL NOTIFY THE CITY ENGINEER AND OBTAIN THE APPROPRIATE BLASTING PERMITS FOR A REQUIRED BLASTING. IF BLASTING IS ALLOWED, ALL BLASTING SHALL CONFORM TO STATE REGULATIONS AND LOCAL ORDINANCES.



SITE LOCATION MAP

NOT TO SCALE

N
W E
S

INDEX OF SHEETS:

UTILITY COMPANIES:

THE FOLLOWING LIST OF UTILITY COMPANIES IS PROVIDED FOR INFORMATION ONLY. WE DO NOT OFFER ANY GUARANTEE OR WARRANTY THAT THIS LIST IS COMPLETE OR ACCURATE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING ALL UTILITY COMPANIES THAT MAY BE AFFECTED BY THE PROPOSED CONSTRUCTION AND VERIFYING THE ACTUAL LOCATION OF EACH UTILITY LINE. THE CONTRACTOR SHALL NOTIFY ENGINEERING SOLUTIONS AT 816.623.9888 OF ANY CONFLICT WITH PROPOSED IMPROVEMENTS.

EVERGY ~ 298-1196
MISSOURI GAS ENERGY ~ 756-5261
SOUTHWESTERN BELL TELEPHONE ~ 761-5011
COMCAST CABLE ~ 795-1100
WILLIAMS PIPELINE ~ 422-6300
CITY OF LEE'S SUMMIT PUBLIC WORKS ~ 969-1800
CITY OF LEE'S SUMMIT DEVELOPMENT ENGINEERING INSPECTION AT 816.969.1200
CITY OF LEE'S SUMMIT WATER UTILITIES ~ 969-1900
MISSOURI ONE CALL (DIG RITE) ~ 1-800-344-7483

LEGEND:

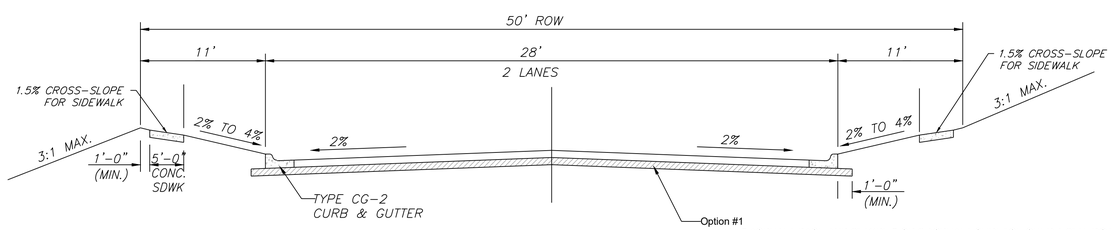
B/L – BUILDING SET-BACK
C/A – COMMON AREA
D/E – DRAINAGE EASEMENT
FND. – FOUND
L/E – LANDSCAPE EASEMENT
L.N.A. – LIMITS OF NO ACCESS
R/W – RIGHT OF WAY
SAN – SANITARY SEWER LINE
S/W – SIDEWALK
U/E – UTILITY EASEMENT
W – WATER LINE
ST – STORM SEWER LINE

OIL - GAS WELLS

ACCORDING TO EDWARD ALTON MAY JR'S ENVIRONMENTAL IMPACT STUDY OF ABANDONED OIL AND GAS WELLS IN LEE'S SUMMIT, MISSOURI IN 1995, THERE ARE NOT OIL AND GAS WELLS WITHIN 185 FEET OF THE PROPERTY AS SURVEYED HEREON.

FLOOD INFORMATION:

THE SUBJECT PROPERTY SURVEYED LIES WITHIN A FLOOD ZONE DESIGNATED ZONE (X), AREAS LOCATED OUTSIDE THE 100 YEAR FLOOD PLAIN, PER F.E.M.A. MAP, COMMUNITY PANEL NO. 29095C0412G EFFECTIVE DATE: JANUARY 20, 2017.



TYPICAL SECTION
(RESIDENTIAL STREET)

Option #1
4" TYPE 5 ASPHALT BASE AND 2" TYPE 5 OR 6 ASPHALT SURFACE OVER A 6" MoDOT TYPE 5 BASE AND A SUBGRADE MIXTURE OF 6" FLY ASH STABILIZED SUBGRADE IN ACCORDANCE WITH THE CITY OF LEE'S SUMMIT DESIGN AND CONSTRUCTION MANUAL.

Option #2
4" TYPE 5 ASPHALT BASE AND 2" TYPE 5 OR 6 ASPHALT SURFACE OVER 10" MoDOT TYPE 5 BASE OVERTOP A BIAXIAL GEOGRID PER THE CITY'S APPROVED PRODUCT LIST.

Summary of Quantities:

ITEM AND DESCRIPTION	UNIT	ESTIMATED QUANTITY
ASPHALT PAVING	S.Y.	4,062.00
CURBING	FT	2,810.00
5' SIDEWALK	S.F.	6,895.00
MoDOT Type 5 Base	S.Y.	4,997.00
GEOGRID	S.Y.	4,997.00
ADA SIDEWALK RAMP	UNIT	3
STREET SIGNAGE	UNIT	2
STORM		
15" HDPE END SECTION / TOE WALL	LS	2.00
24" HDPE END SECTION / TOE WALL	LS	1.00
24" HDPE	FT	323.02
18" HDPE	FT	161.68
15" HDPE	FT	626.39
4' x 4' STORM FIELD INLET	EA	3.00
5' x 4' STORM CURB INLET	EA	7.00

ENGINEER'S CERTIFICATION:

I HEREBY CERTIFY THAT THIS PROJECT HAS BEEN DESIGNED AND THESE PLANS PREPARED IN ACCORDANCE WITH THE CURRENT DESIGN CRITERIA OF THE CITY OF LEE'S SUMMIT, MISSOURI AND THE STATE OF MISSOURI. I FURTHER CERTIFY THAT THESE PLANS WERE DESIGNED IN ACCORDANCE TO AASHTO STANDARDS.

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Surveying 2005000319-D
Kansas
Engineering E-1695
Surveying LS-218
Oklahoma
Engineering 6254
Nebraska
Engineering CA2821

Napa Valley 5th Plat
Lee's Summit, Jackson County, Missouri

Project: NAPA VALLEY LSMO
Issue Date: August 2, 2021

Cover Sheet
Street, Stormwater, Master Drainage Plans for:
Napa Valley 5th Plat
Lee's Summit, Jackson County, Missouri

STATE OF MISSOURI
MATTHEW J. SCHLICHT
NUMBER
PE2006019708
PROFESSIONAL ENGINEER

Matthew J. Schlicht
MO PE 2006019708
KS PE 19071
OK PE 25226
NE PE E-14335

REVISIONS

1 REV. 9/28/2021
2 REV. 12/6/2021
3 REV. 12/17/2021
4 REV. 3/2/2022

C.001

North

0 25' 50' 100'

PRE CLEARING PLAN

SCALE: 1" = 50'

SILT FENCE PROTECTION
TO BE MAINTAINED BY CONTRACTOR

LEGEND

PHASE 1 SILT FENCE — SF-1 — SF-1

PHASE 2 SILT FENCE — SF-2 — SF-2

INLET PROTECTION
GUTTER BUDDY OR EQUIVALENT

FIELD INLET PROTECTION
GUTTER BUDDY OR EQUIVALENT

4 Added area inlet protection symbol.

DURING ALL PHASES OF CONSTRUCTION, INACTIVE AREA STABILIZATION METHODS AS DESCRIBED IN APWA SECTION 5111.3 SHALL BE USED TO CONTROL EROSION AND SILTATION.

NOTES: The Land Disturbance Plans indicates the Final placement of erosion control devices. The contractor(s) may proceed with construction prior to the final placement of these devices by providing additional devices to control erosion on their items of work. These devices shall be maintained until the final devices are in place.

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Napa Valley 5th Plat
Lee's Summit, Jackson County, Missouri

Project: NAPA VALLEY LSMO
Issue Date: August 2, 2021

ESC PHASE 1 PLAN
Erosion and Sediment Control Plans for:
Napa Valley 5th Plat
Lee's Summit, Jackson County, Missouri

STATE OF MISSOURI
MATTHEW J. SCHLICHT
NUMBER
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Matthew J. Schlicht
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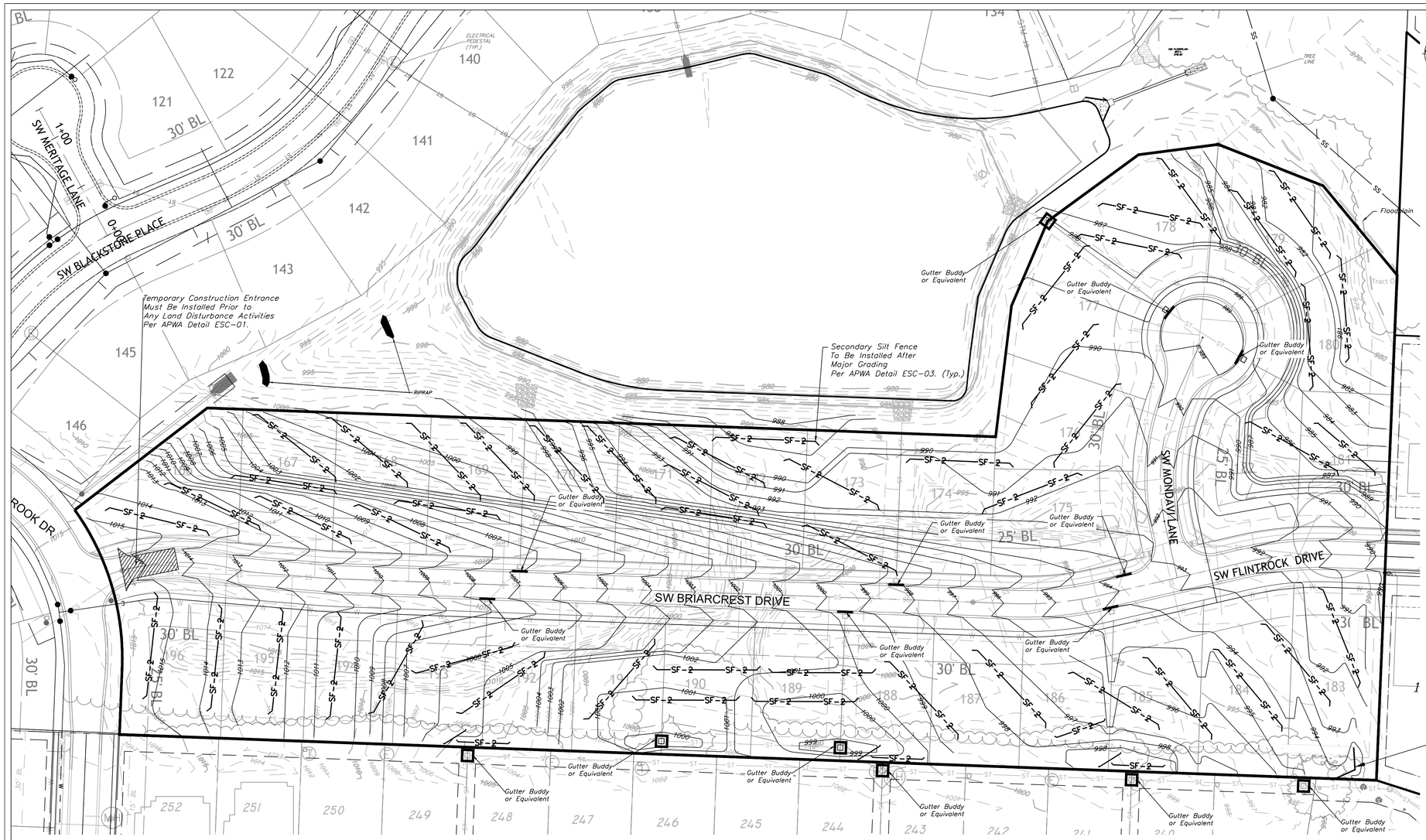
3 REV. 1/3/2022
4 REV. 2/7/2022

C.050



INACTIVE AREA STABELIZATION PLAN

SCALE: 1" = 50'

0 25' 50' 100'

North

SILT FENCE PROTECTION TO BE MAINTAINED BY CONTRACTOR

LEGEND

Phase 1 Silt Fence	SF-1 SF-1
Phase 2 Silt Fence	SF-2 SF-2
Proposed Storm Line	S S S
Existing Storm Line	X-STM-
Inlet Protection Gutter Buddy or Equivalent	
FIELD INLET PROTECTION GUTTER BUDDY OR EQUIVALENT	

Added area inlet protection symbol.

DURING ALL PHASES OF CONSTRUCTION, INACTIVE AREA STABILIZATION METHODS AS DESCRIBED IN APWA SECTION 5111.3 SHALL BE USED TO CONTROL EROSION AND SILTATION.

NOTES: The Land Disturbance Plans indicates the Final placement of erosion control devices. The contractor(s) may proceed with construction prior to the final placement of these devices by providing additional devices to control erosion on their items of work. These devices shall be maintained until the final devices are in place.

MAINTENANCE:

TO MAINTAIN THE EROSION AND SEDIMENT CONTROLS, THE FOLLOWING PROCEDURES WILL BE PERFORMED:

SEDIMENT CAPTURE DEVICES: SEDIMENT WILL BE REMOVED FROM THE UPSTREAM OR UPSLOPE SIDE OF THE FILTER FABRIC FENCES. WHEN THE DEPTH OF ACCUMULATED SEDIMENT REACHES ABOUT ONE-THIRD THE HEIGHT OF THE STRUCTURE.

STORM SEWER INLETS: ANY SEDIMENT IN THE STORM SEWER INLETS WILL BE REMOVED AND DISPOSED OF PROPERLY.

TEMPORARY CONTROLS: ALL TEMPORARY CONTROLS WILL BE REMOVED AFTER THE DISTURBED AREAS HAVE BEEN STABILIZED.

INSPECTION PROCEDURES:

INSPECTIONS WILL BE DONE BY THE RESPONSIBLE PERSON(S) AT LEAST ONCE EVERY WEEK AND WITHIN 24 HOURS EACH STORM EVENT PRODUCING ANY AMOUNT OF RAINFALL. AREAS THAT HAVE BEEN RESEEDED WILL BE INSPECTED REGULARLY AFTER SEED GERMINATION TO ENSURE COMPLETE COVERAGE OF EXPOSED AREAS. DISTURBED AREAS THAT HAVE NOT BEEN FINALLY STABILIZED SHALL HAVE ALL POLLUTION CONTROL MEASURES INSPECTED FOR PROPER INSTALLATION, OPERATION AND MAINTENANCE. LOCATIONS WHERE STORM WATER LEAVES THE SITE SHALL BE INSPECTED FOR EVIDENCE OF EROSION OR SEDIMENT DEPOSITION. ANY DEFICIENCIES SHALL BE NOTED IN A REPORT OF THE INSPECTION AND CORRECTED WITHIN SEVEN CALENDAR DAYS OF THE INSPECTION. THE PERMITTEE SHALL PROMPTLY NOTIFY THE SITE CONTRACTORS RESPONSIBLE FOR OPERATION AND MAINTENANCE OF POLLUTION CONTROL DEVICES OF DEFICIENCIES.

IF THE EXISTING GROUND COVER IS NATURAL GRASS, DISTURBED AREAS SHALL BE TEMPORARILY SEEDED WITH WHEAT/RYE AT A RATE OF 1.5 POUNDS PER 1000 SQUARE FEET. PERMANENT SEEDING SHALL CONSIST OF 90% IN THREE EQUAL PARTS OF THIN BLADE, TURF-TYPE, TALL FESCUE AND 10% BLUEGRASS SEED AT A RATE OF 10 POUNDS PER 1000 SQUARE FEET. BOTH TEMPORARY AND PERMANENT SEEDED AREAS SHALL BE MULCHED AND WATERED TO MAINTAIN THE PROPER MOISTURE LEVEL OF THE SOIL TO ESTABLISH GRASS. NEW GRASS SHALL BE WATERED AND MAINTAINED UNTIL IT REACHES A HEIGHT OF 3 INCHES. ANY BARE AREAS SHALL BE RESEEDED.

ALL EROSION CONTROL DEVICES SHALL BE REMOVED BY GENERAL CONTRACTOR AFTER SITE STABILIZATION IS COMPLETE AND APPROVED BY ENGINEER.

THE DEVELOPER WILL DESIGNATE A QUALIFIED PERSON OR PERSONS TO PERFORM THE FOLLOWING INSPECTIONS:

STABILIZATION MEASURES: DISTURBED AREAS AND AREAS USED FOR STORAGE OF MATERIALS THAT ARE EXPOSED TO PRECIPITATION WILL BE INSPECTED FOR EVIDENCE OF, OR THE POTENTIAL FOR, POLLUTANTS ENTERING THE DRAINAGE SYSTEM. AFTER A PORTION OF THE SITE IS FINALLY STABILIZED, INSPECTIONS WILL BE CONDUCTED AT LEAST ONCE EVERY MONTH THROUGHOUT THE LIFE OF THE PROJECT. CONTRACTOR CAN CONTACT ENGINEERING SOLUTIONS FOR COPIES OF THE INSPECTION FORM TO BE USED FOR STABILIZATION MEASURES.

STRUCTURAL CONTROLS: FILTER FABRIC FENCES AND ALL OTHER EROSION AND SEDIMENT CONTROL MEASURES IDENTIFIED IN THE PLAN WILL BE INSPECTED REGULARLY FOR PROPER POSITIONING, ANCHORING, AND EFFECTIVENESS IN TRAPPING SEDIMENTS. SEDIMENT WILL BE REMOVED FROM THE UPSTREAM OR UPSLOPE SIDE OF THE FILTER FABRIC. CONTRACTOR CAN CONTACT ENGINEERING SOLUTIONS FOR COPIES OF THE INSPECTION FORM TO BE USED FOR STABILIZATION MEASURES.

DISCHARGE POINTS: DISCHARGE POINTS OR LOCATIONS WILL BE INSPECTED TO DETERMINE WHETHER EROSION CONTROL MEASURES ARE EFFECTIVE IN PREVENTING SIGNIFICANT AMOUNTS OF POLLUTANTS FROM ENTERING RECEIVING WATERS.

CONSTRUCTION ENTRANCE: LOCATIONS WHERE VEHICLES ENTER OR EXIT THE SITE WILL BE INSPECTED FOR EVIDENCE OF OFF-SITE SEDIMENT TRACKING.

A LOG OF EACH INSPECTION SHALL BE KEPT. THE INSPECTION REPORT IS TO INCLUDE THE FOLLOWING MINIMUM INFORMATION: INSPECTOR'S NAME, DATE OF INSPECTION, OBSERVATIONS RELATIVE TO THE EFFECTIVENESS OF THE POLLUTION CONTROL DEVICES, ACTIONS TAKEN OR NECESSARY TO CORRECT DEFICIENCIES, AND LISTING OF AREAS WHERE LAND DISTURBANCE OPERATIONS HAVE PERMANENTLY OR TEMPORARILY STOPPED. THE INSPECTION REPORT SHALL BE SIGNED BY THE PERMITTEE OR BY THE PERSON PERFORMING THE INSPECTION IF DULY AUTHORIZED TO DO SO.

EROSION CONTROL DESCRIPTION:

1.) SILT FENCE SHALL BE PLACE AT THE PERIMETER OF THE GRADING AND AT INTERMEDIATE AREAS THROUGHOUT THE SITE AS SHOWN ON THE PLAN. INLET SEDIMENT TRAPS SHALL BE PLACED SURROUNDING ALL STORM INLETS

2.) INSTALL TEMPORARY CONSTRUCTION ENTRANCE AS SHOWN ON PLAN

EROSION CONTROL PROCEDURE:

1.) SILT FENCE AND TEMPORARY CONSTRUCTION ENTRANCE SHALL BE INSTALLED AT THE PERIMETER OF THE GRADED AREAS PRIOR TO BEGINNING OF CLEARING OR DEMOLITION OPERATIONS. THE CONTRACTOR SHALL INSTALL SILT FENCE AS SHOWN ON PLANS AS GRADING PROGRESSES

TEMPORARY CONSTRUCTION ENTRANCE NOTES:

A.) INSTALLATION

1.) AVOID LOCATING ON STEEP SLOPES OR AT CURVES ON PUBLIC STREETS. IF POSSIBLE, LOCATE WHERE PERMANENT ROADS WILL EVENTUALLY BE CONSTRUCTED

2.) REMOVE ALL VEGETATION AND OTHER UNSUITABLE MATERIAL FROM THE FOUNDATION AREA, GRADE AND CROWN FOR POSITIVE DRAINAGE.

3.) IF SLOPE TOWARDS THE PUBIC ROAD EXCEED 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 AWAY FROM IT.

4.) INSTALL PIPE UNDER THE ENTRANCE IF NEEDED TO MAINTAIN DRAINAGE DITCHES ALONG PUBLIC ROADS

5.) PLACE STONE TO DIMENSIONS AND GRADES AS SHOWN ON PLANS. LEAVE SURFACE SMOOTH AND SLOPED FOR DRAINAGE

6.) DIVERT ALL SURFACE RUNOFF AND DRAINAGE FROM THE ENTRANCE TO A SEDIMENT CONTROL DEVICE

7.) IF WET CONDITIONS ARE ANTICIPATED PLACE GEOTEXTILE FABRIC ON THE GRADED FOUNDATION TO IMPROVE STABILITY

B.) TROUBLESHOOTING

1.) CONSULT WITH A QUALIFIED DESIGN PROFESSIONAL IF ANY OF THE FOLLOWING OCCUR:

-INADEQUATE RUNOFF CONTROLS TO THE EXTENT THAT SEDIMENT WASHES ONTO PUBLIC ROADS

- INSTALL DIVERSIONS OR OTHER RUNOFF CONTROL MEASURES

-SMALL STONE, THIN PAD, OR ABSENCE OF GEOTEXTILE FABRIC RESULTS IN RUTS AND MUDDY CONDITIONS AS STONE IS PRESSED INTO SOIL - INCREASE STONE SIZE OR PAD THICKNESS OR ADD GEOTEXTILE FABRIC

-PAD TOO SHORT FOR HEAVY CONSTRUCTION TRAFFIC - EXTEND PAD BEYOND THE MINIMUM 50 FOOT LENGTH AS NECESSARY

C.) INSPECTION AND MAINTENANCE

1.) INSPECT STONE PAD AND SEDIMENT DISPOSAL AREA WEEKLY AND AFTER ANY RAIN EVENT

2.) RESHAPE PAD AS NEEDED FOR PROPER DRAINAGE AND RUNOFF CONTROL

3.) TOP DRESS WITH CLEAN 2 AND 3 INCH STONE AS NEEDED

4.) IMMEDIATELY REMOVE MUD OR SEDIMENT TRACKED OR WASHED ONTO PUBLIC ROADWAY. REPAIR ANY BROKEN ROAD PAVEMENT IMMEDIATELY

5.) REMOVE ALL TEMPORARY ROAD MATERIALS FROM AREAS WHERE PERMANENT VEGETATION WILL BE ESTABLISHED

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Napa Valley 5th Plat
Lee's Summit, Jackson County, Missouri

Project: NAPA VALLEY LSMO
Issue Date: August 2, 2021

ESC PHASE 2 PLAN
Erosion and Sediment Control Plans for:
Napa Valley 5th Plat
Lee's Summit, Jackson County, Missouri

STATE OF MISSOURI
MATTHEW J. SCHLIGHT
NUMBER PE2006019708
PROFESSIONAL ENGINEER

Matthew J. Schlight
MO PE 2006019708
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NE PE E-14335

REVISIONS

1 REV. 9/28/2021
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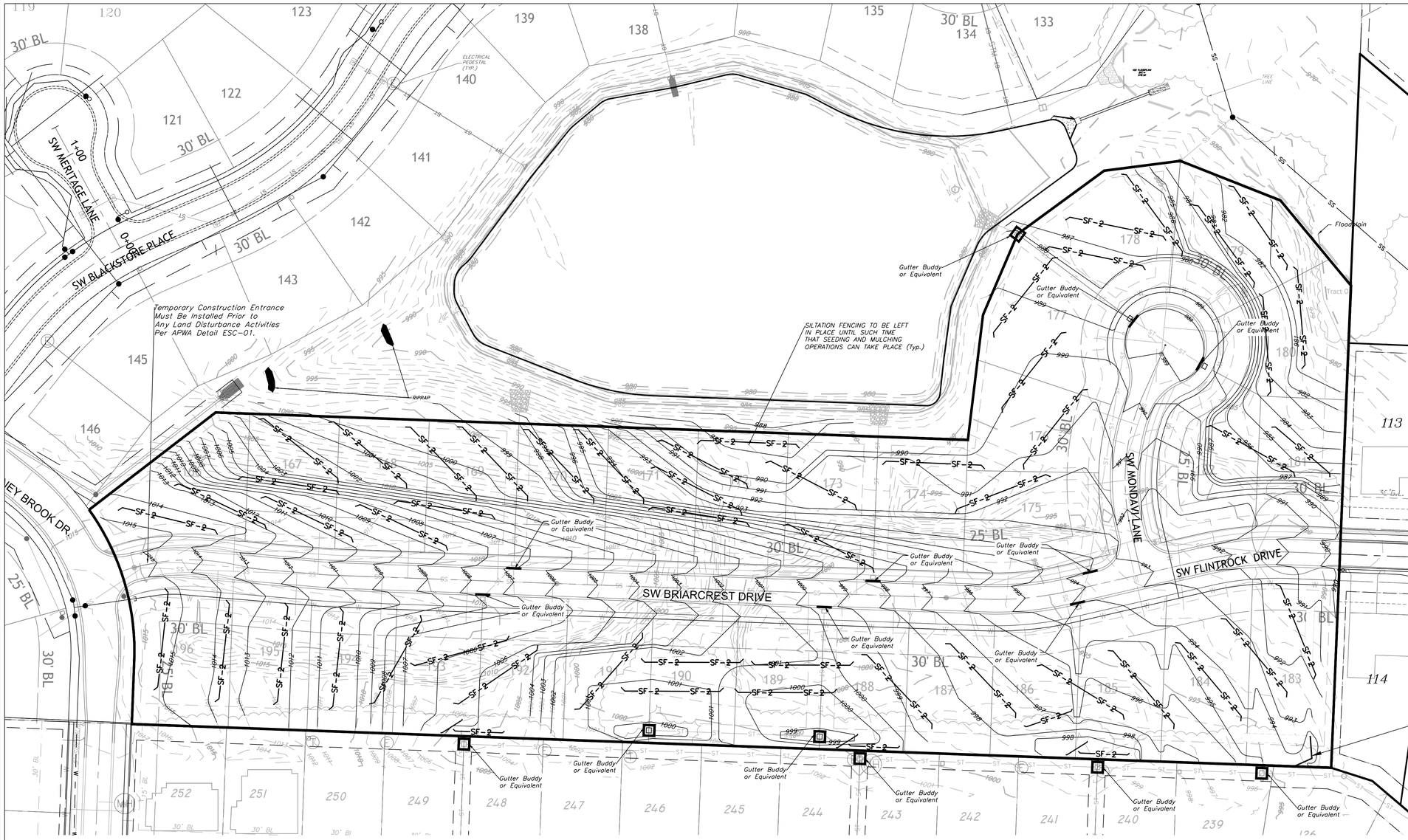
4 REV. 2/7/2022

C.051



North

FINAL RESTORATION PLAN

SCALE: 1" = 50'

SILT FENCE PROTECTION TO BE MAINTAINED BY CONTRACTOR

LEGEND

PHASE 1 SILT FENCE

PHASE 2 SILT FENCE

INLET PROTECTION GUTTER BUDDY OR EQUIVALENT

FIELD INLET PROTECTION GUTTER BUDDY OR EQUIVALENT

Added area inlet protection symbol.

DURING ALL PHASES OF CONSTRUCTION, INACTIVE AREA STABILIZATION METHODS AS DESCRIBED IN APWA SECTION 5111.3 SHALL BE USED TO CONTROL EROSION AND SILTATION.

ONCE SITE IS 90% VEGETATED ALL ESC DEVICES SHALL BE REMOVED AND ANY DISTURBED AREAS SHALL BE RESTORED

NOTES:

1) The Land Disturbance Plans indicates the Final placement of erosion control devices. The contractor(s) may proceed with construction prior to the final placement of these devices by providing additional devices to control erosion on their items of work. These devices shall be maintained until the final devices are in place.

2) Per Unified Ordinance Section 14.090.B.2. All portions of the site not covered with paving or buildings shall be landscaped. Open areas not covered with other materials shall be covered with sod. Ground cover shall be utilized on all slopes in excess of 3:1 slope.

ONCE SITE IS 90% VEGETATED ALL ESC DEVICES SHALL BE REMOVED AND ANY DISTURBED AREAS SHALL BE RESTORED

SEED AND MULCH NOTES:

Seeding shall be done before the proposed seedbed becomes eroded, crusted over, or dried out and shall not be done when the ground is frozen, or covered with snow. The seed shall comply with the requirements of the Missouri Seed Law and the Federal Seed Act. Also, it shall contain no seed of any plant on the Federal Noxious Weed List. Other weed seeds shall not exceed one percent by weight of mix

Seed and Fertilizer Rate:

Mix I – Rye Grass / Blue Grass --------- 100 lbs. per Acre

Mix II – Tall Fescue / Blue Grass ------ 195 lbs. per Acre

Lime ----------2000 lbs per Acre (50 lbs. per 1000 sq. ft.)

Fertilizer ----------800 to 1200 lbs per Acre (25 lbs per 1000 sq. ft.)

During the dates December 15th through May 31 ALL lime fertilizer, seed and mulch shall be applied to finished slopes of disturbed areas. During the months of June, July, October and November 1st through December 15th, lime fertilizer, seed and mulch shall be applied at the following rates:

Lime – 100% of specified quantity

Fertilizer – 75% of the specified quantity

Seed – 50% of the specified quantity

Mulch – 100% of the specified quantity

Mulch shall be Vegetative type, cereal straw from stalks of oats, rye, or barley, or approved equal. The straw shall be free of prohibited weed seed and relatively free of all other noxious and undesirable seed. Mulch shall be applied at the rate of 2 tons per acre, (70 to 90 lbs per 1000 sq. ft.). Mulch shall be embedded by a mulch anchoring tool or disk type roller having flat serrated disks spaced not more than 10 inches apart and cleaning scrapers shall be provided

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Napa Valley 5th Plat
Lee's Summit, Jackson County, Missouri

Project: NAPA VALLEY LSMO

Issue Date: August 2, 2021

ESC Phase 3 Plan
Erosion and Sediment Control Plans for:
Napa Valley 5th Plat
Lee's Summit, Jackson County, Missouri

STATE OF MISSOURI
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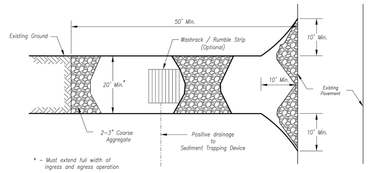
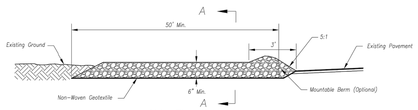
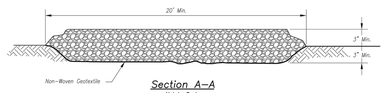
C.052



Plan View
Not to Scale



Side Elevation
Not to Scale



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.

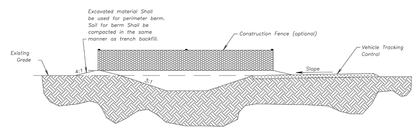
CONSTRUCTION ENTRANCE

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 gravely soils.

Maintenance for Concrete Washout:

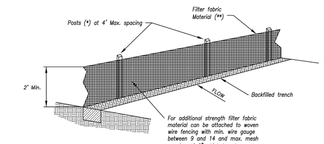
1. Concrete washout materials shall be removed once the materials have filled the washout to approximately 75% full.
2. Concrete washout areas shall be enlarged as necessary to maintain capacity for wasted concrete.
3. Concrete washout water, wasted pieces of concrete and all other debris in the subsurface 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

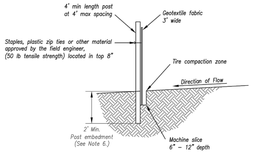
Construction Entrance modified from 2015 Overland Park Standard Details for Erosion and Sediment Control; Concrete Washout modified from 2009 City of Great Bend Standard Drawings.

AMERICAN PUBLIC WORKS ASSOCIATION
Kansas City Metro Chapter APWA American Public Works Association
KANSAS CITY METRO CHAPTER
CONSTRUCTION ENTRANCE AND CONCRETE WASHOUT
STANDARD DRAWING NUMBER ESC-01
ADOPTED: 10/24/2016



(*) POSTS
– MIN. LENGTH 4'
– HARDWOOD 1 ½" x 1 ½"
– NO.2 SOUTHERN PINE 2 ⅜" x 2 ⅜"
– 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.

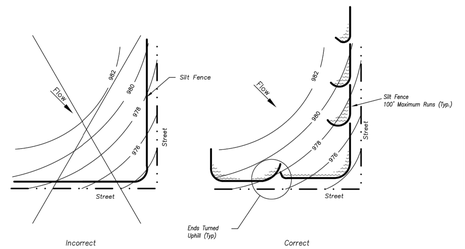
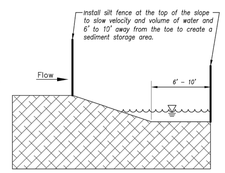
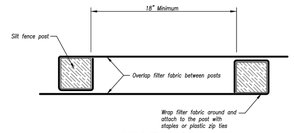


Figure A

SILT FENCE LAYOUT
Not to Scale

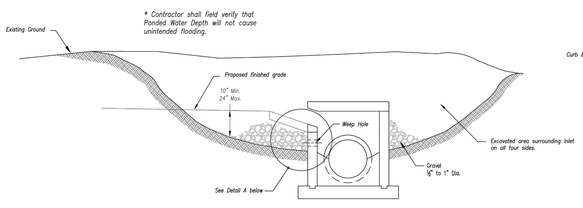


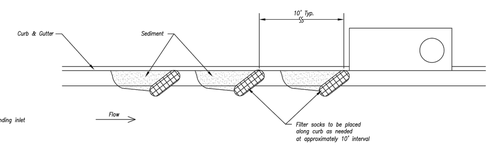


JOINING FENCE SECTIONS
Not to Scale

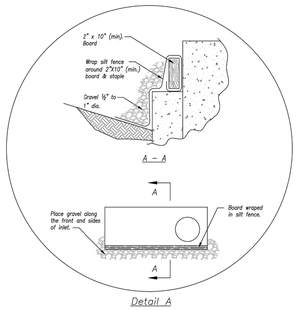
Modified from 2015 Overland Park Standard Details for Erosion and Sediment Control.

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





On Grade Curb Inlet Protection



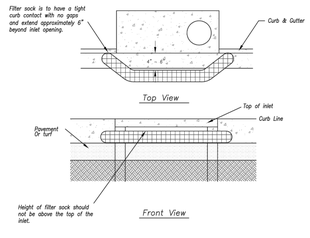
EARLY STAGE CURB INLET
(Open Box and Prior to Pouring Curb and Inlet Throat)

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.

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.



Sump Inlet Sediment Filter

LATE STAGE CURB INLET
(After Pouring Curb and Inlet Throat)

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

AMERICAN PUBLIC WORKS ASSOCIATION
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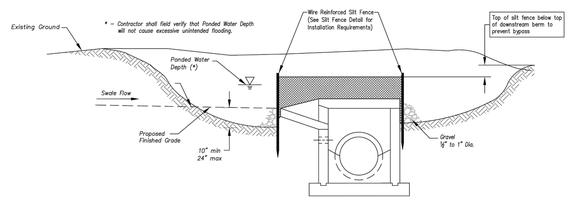
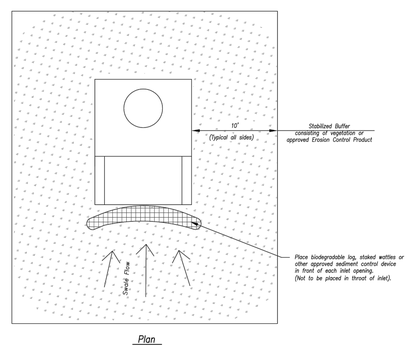
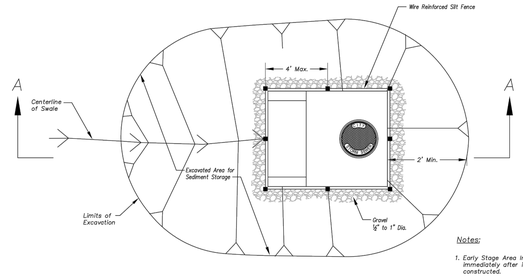
KANSAS CITY METRO CHAPTER
CURB INLET PROTECTION
STANDARD DRAWING NUMBER ESC-06
ADOPTED: 10/24/2016



Section A–A
Not to Scale

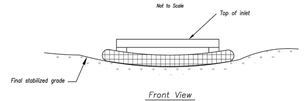


Plan
Not to Scale



Plan
Not to Scale

EARLY STAGE AREA INLET
(All open boxes and inlets not at final grade)



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.

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
AREA INLET AND JUNCTION BOX PROTECTION
STANDARD DRAWING NUMBER ESC-07
ADOPTED: 10/24/2016

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Surveying 2005008319-D
Kansas
Engineering E-1695
Surveying LS-218
Oklahoma
Engineering 6254
Nebraska
Engineering CA2821

Napa Valley 5th Plat
Lee's Summit, Jackson County, Missouri

Project: NAPA VALLEY LSMO
Issue Date: August 2, 2021

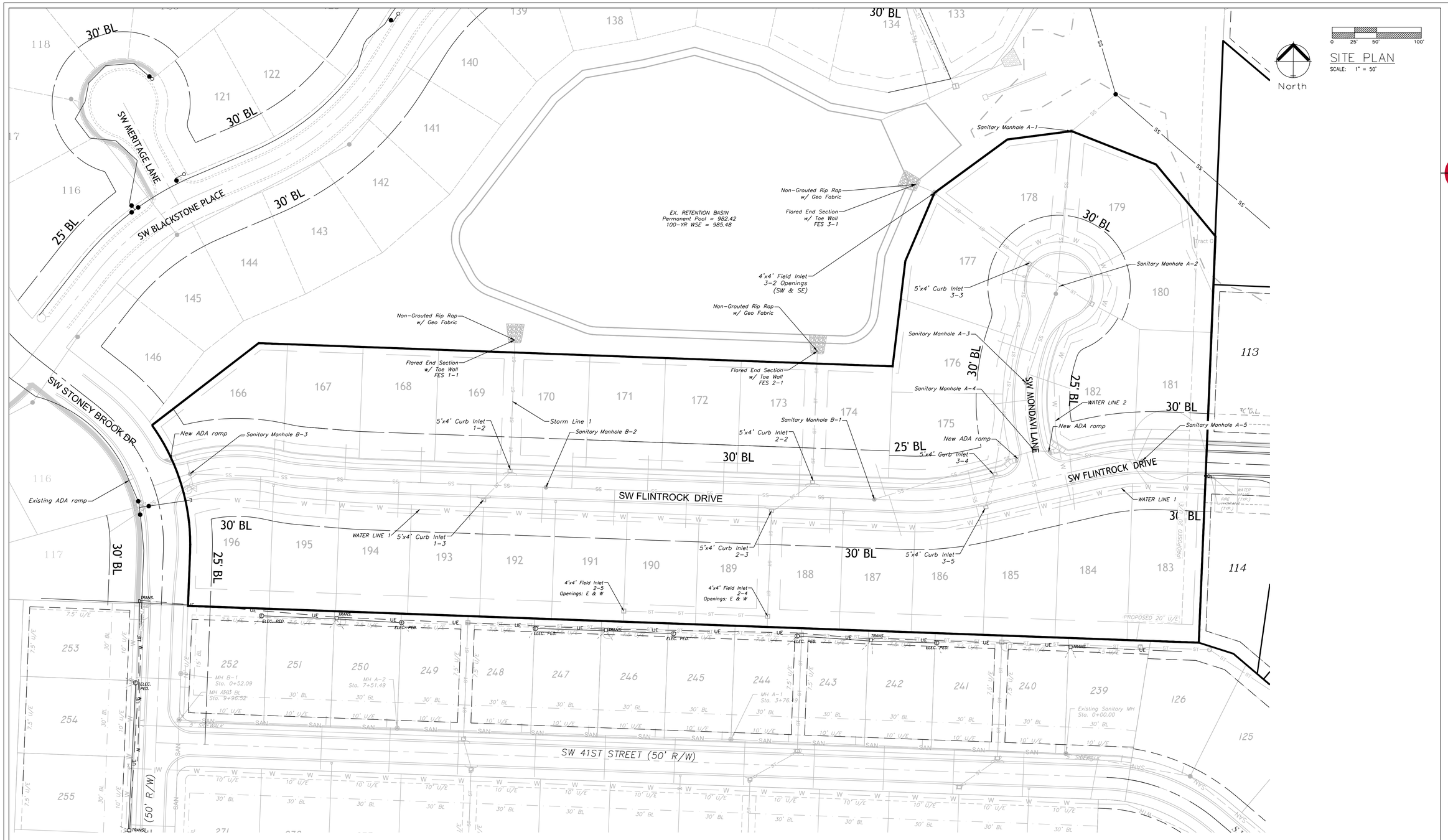
ESC – Standard Details
Erosion and Sediment Control Plans for:
Napa Valley 5th Plat
Lee's Summit, Jackson County, Missouri

STATE OF MISSOURI MATTHEW J. SCHLICHT NUMBER PE2006019708 PROFESSIONAL ENGINEER

Matthew J. Schlicht
MO PE 2006019708
KS PE 19071
OK PE 25226
NE PE E-14335

REVISIONS

1 REV. 9/28/2021
2 REV. 12/6/2021
3 REV. 1/3/2022
4 REV. 2/7/2022



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Surveying 2005000319-D
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Surveying LS-218
Oklahoma
Engineering 6254
Nebraska
Engineering CA2821

Napa Valley 5th Plat
Lee's Summit, Jackson County, Missouri

Project: NAPA VALLEY I, LSMO
Issue Date: August 2, 2021

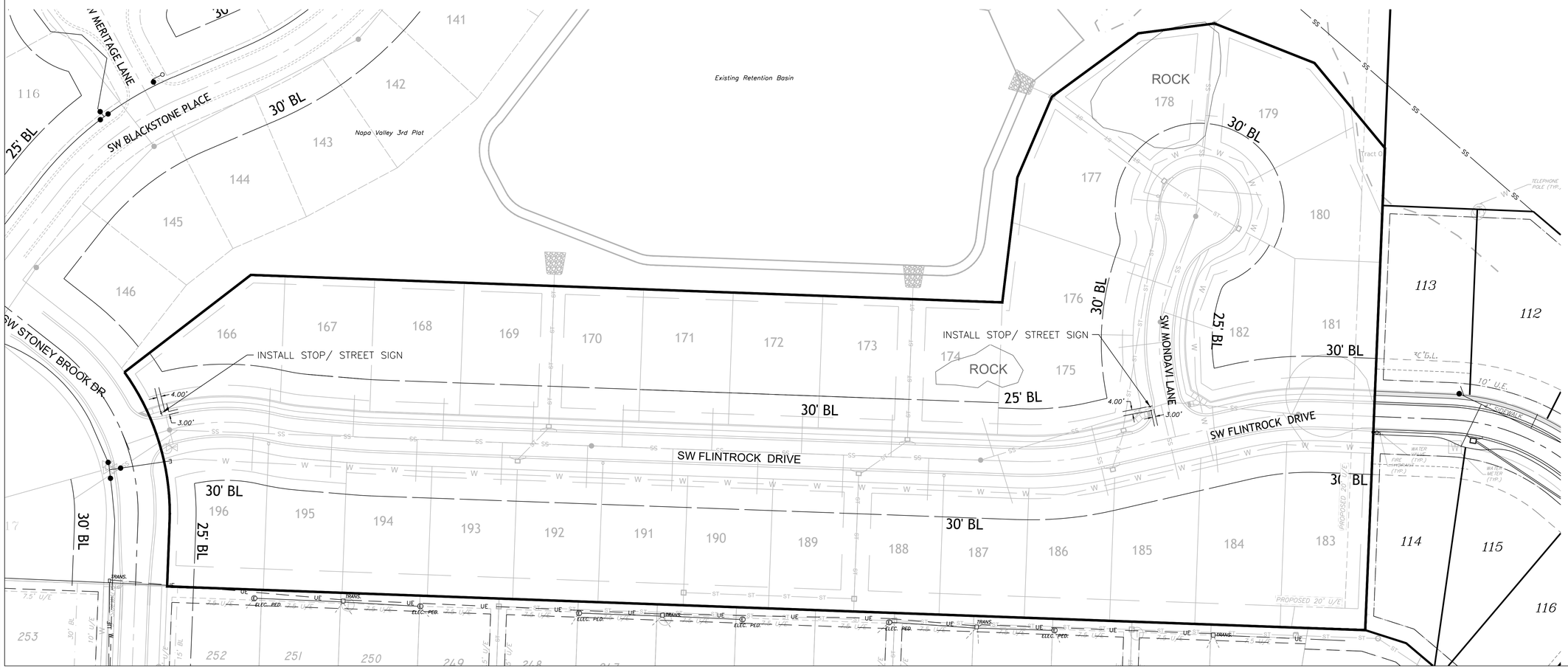
SITE PLAN
Street, Stormwater, Master Drainage Plans for:
Napa Valley 5th Plat
Lee's Summit, Jackson County, Missouri

STATE OF MISSOURI
MATTHEW J. SCHLICHT
NUMBER
PE-2006019708
PROFESSIONAL ENGINEER

Matthew J. Schlicht
MO PE 2006019708
KS PE 19071
OK PE 25226
NE PE E-14335

REVISIONS
1 REV. 9/28/2021
2 REV. 12/6/2021
3 REV. 12/17/2021
4 REV. 3/2/2022

C.100



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Surveying 2005008319-D
Kansas
Engineering E-1695
Surveying LS-218
Oklahoma
Engineering 6254
Nebraska
Engineering CA2821

Napa Valley 5th Plat
Lee's Summit, Jackson County, Missouri

Project: NAPA VALLEY LSMO
Issue Date: August 2, 2021

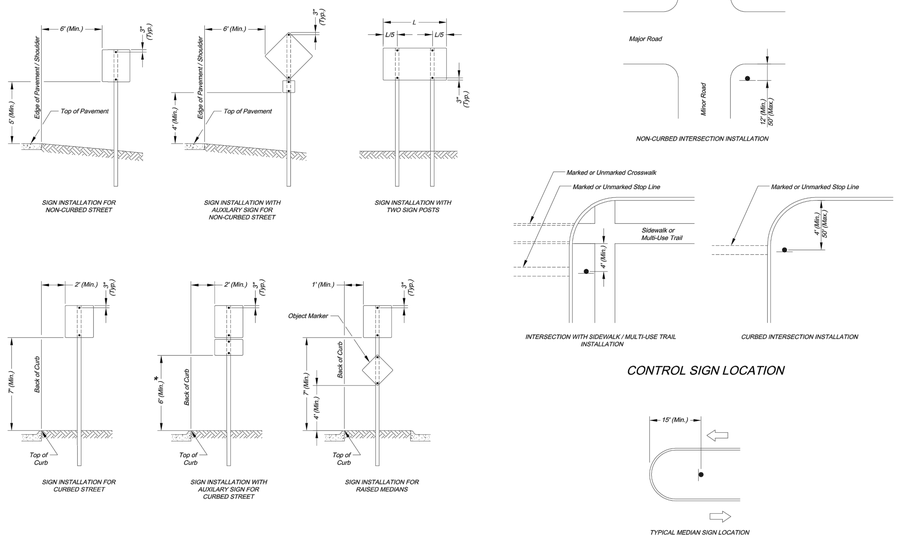
Street Signage
Street, Stormwater, Master Drainage Plans for:
Napa Valley 5th Plat
Lee's Summit, Jackson County, Missouri

STATE OF MISSOURI
MATTHEW J. SCHLICHT
NUMBER
PE-2006019708
PROFESSIONAL ENGINEER

Matthew J. Schlicht
MO PE 2006019708
KS PE 19071
OK PE 25226
NE PE E-14335

REVISIONS
1 REV. 9/28/2021
2 REV. 12/6/2021
3 REV. 12/17/2021
4 REV. 3/2/2022

C.101



SIGN INSTALLATION FOR NON-CURBED STREET

SIGN INSTALLATION WITH AUXILARY SIGN FOR NON-CURBED STREET

SIGN INSTALLATION WITH TWO SIGN POSTS

NON-CURBED INTERSECTION INSTALLATION

INTERSECTION WITH SIDEWALK / MULTI-USE TRAIL INSTALLATION

CURBED INTERSECTION INSTALLATION

SIGN INSTALLATION FOR CURBED STREET

SIGN INSTALLATION WITH AUXILARY SIGN FOR CURBED STREET

SIGN INSTALLATION FOR RAISED MEDIANS

CONTROL SIGN LOCATION

TYPICAL MEDIAN SIGN LOCATION

MEDIAN SIGN LOCATION

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

SIGN MOUNTING DETAILS

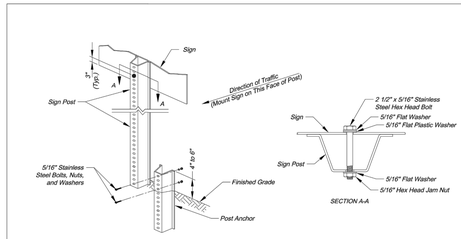
* The height to the bottom of a sign when it is located in a pedestrian walkway or extends into a walkway shall be a minimum of 80 inches above the walkway.

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

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

Project:
SIGN MOUNTING DETAILS
Sheet Name: STANDARD DRAWING SN-1

Drawn By: AS
Checked By: JW
Date: 08/26/2009
Project#
1 OF 3
1

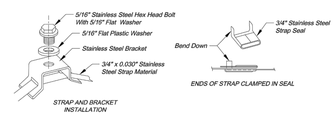


U-STEEL POST DETAILS

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.

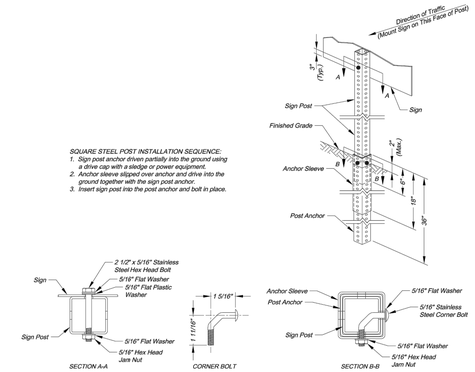
PERMANENT SIGNING GENERAL NOTES:
1. All signing shall be in accordance with the latest edition of the Manual on Uniform Traffic Control Devices (MUTCD).
2. The Contractor is responsible for avoiding any and all utilities when installing sign posts, whether the utility is indicated on the plans or not.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

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



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.



SQUARE STEEL POST DETAILS

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

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

Project:
SIGN POST DETAILS
Sheet Name: STANDARD DRAWING SN-2

Drawn By: AS
Checked By: JW
Date: 08/26/2009
Project#
2 OF 3
2

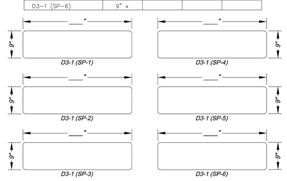
STANDARD ABBREVIATION LISTS

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

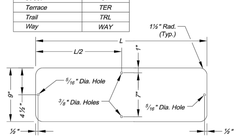
Numbered Streets	
First	ST
Second	ND
Third	RD
Fourth to Tenth	TH

STREET NAME SIGN QUANTITIES

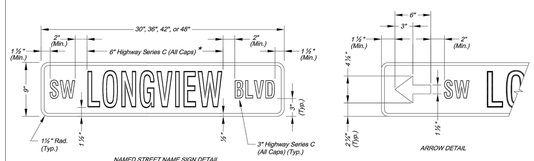
Sign Designation	Sign Size	Sign Area (Sq. Ft.)	Number	Quantity (Sq. Ft.)
D3-1 (SP-1)	9" x	Sq. Ft.	1	1
D3-1 (SP-2)	9" x			
D3-1 (SP-3)	9" x			
D3-1 (SP-4)	9" x			
D3-1 (SP-5)	9" x			
D3-1 (SP-6)	9" x			



PROJECT SIGN DETAILS



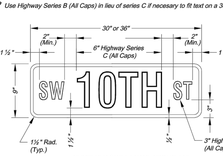
STREET NAME SIGN BLANK DETAILS
For Mounting on Square Steel Posts



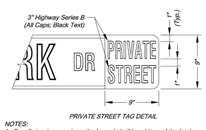
NAMED STREET NAME SIGN DETAIL

ARROW DETAIL

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



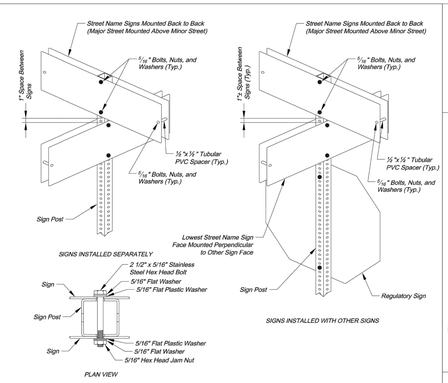
NUMBERED STREET NAME SIGN DETAIL



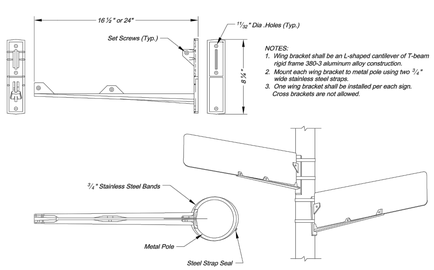
PRIVATE STREET TAG DETAIL

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

STREET NAME SIGN FACE DETAILS



SQUARE STEEL POST MOUNTING DETAILS



NOTES:
1. Wing bracket shall be an L-shaped cantilever of T-beam rigid frame 380-3 aluminum alloy construction.
2. Mount each wing bracket to metal pole using two 3/4" wide stainless steel straps.
3. One wing bracket shall be installed per each sign. Cross brackets are not allowed.

WING BRACKET MOUNTING DETAILS

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LEE'S SUMMIT, MISSOURI 64063
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Project:
STREET NAME SIGN DETAILS
Sheet Name: STANDARD DRAWING SN-3

Drawn By: AS
Checked By: JW
Date: 08/26/2009
Project#
3 OF 3
3

ENGINEERING SOLUTIONS
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50 SE 30TH STREET
LEE'S SUMMIT, MO 64082
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Missouri
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Surveying 2005003319-D
Kansas
Engineering E-1695
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Engineering CA2821

Napa Valley 5th Plat
Lee's Summit, Jackson County, Missouri

Project: NAPA VALLEY LSMO
Issue Date: August 2, 2021

Street Signage Standard Details
Street, Stormwater, Master Drainage Plans for:
Napa Valley 5th Plat
Lee's Summit, Jackson County, Missouri

STATE OF MISSOURI
MATTHEW J. SCHLICHT
NUMBER
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Matthew J. Schlicht
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REVISIONS

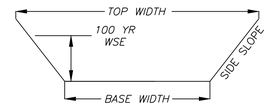
1 REV. 9/28/2021
2 REV. 12/6/2021
3 REV. 12/17/2021
4 REV. 3/2/2022

C.102

Notes

1. Contractor is responsible for verifying all existing utility locations prior to excavation
2. There are no known natural or artificial water storage detention areas, or wetlands in the area designated for construction
3. No part of the project lies within the 100 year flood plain
4. All erosion and sediment control measures need to be implemented prior to construction
5. Additional erosion control may be required by the City Engineer, Design Engineer or Owner at any time problematic areas are noted in the field or existing measures are found to be ineffective
6. Soil Stabilization of disturbed areas shall be completed within 14 days of construction inactivity
7. Contractor responsible for all density testing of roadway subgrade and granular base.

NOTE: Swale sections extend the entire length between upstream and downstream structures with the exception of a transition at each structure. The minimum swale depth shall be 6" over the 100-year water surface elevation.



TYPICAL CHANNEL SECTION
SWALE DETAIL
Not To Scale

100 YEAR OVERFLOW SWALE SECTIONS									
Section	100 Yr. Runoff (c.f.s.)	Bed Slope (%)	Base Width (ft)	Side Slope (1:V)	100 Yr WSE (ft)	Sectional Area	Velocity 100Yr. (f.p.s.)	Hydraulic Radius (ft)	Shear Stress (p.s.f.)
1-1	0.82	2.00	5	6	0.11	0.62	1.32	0.10	0.12
2-2	1.30	2.00	5	6	0.14	0.82	1.59	0.12	0.15

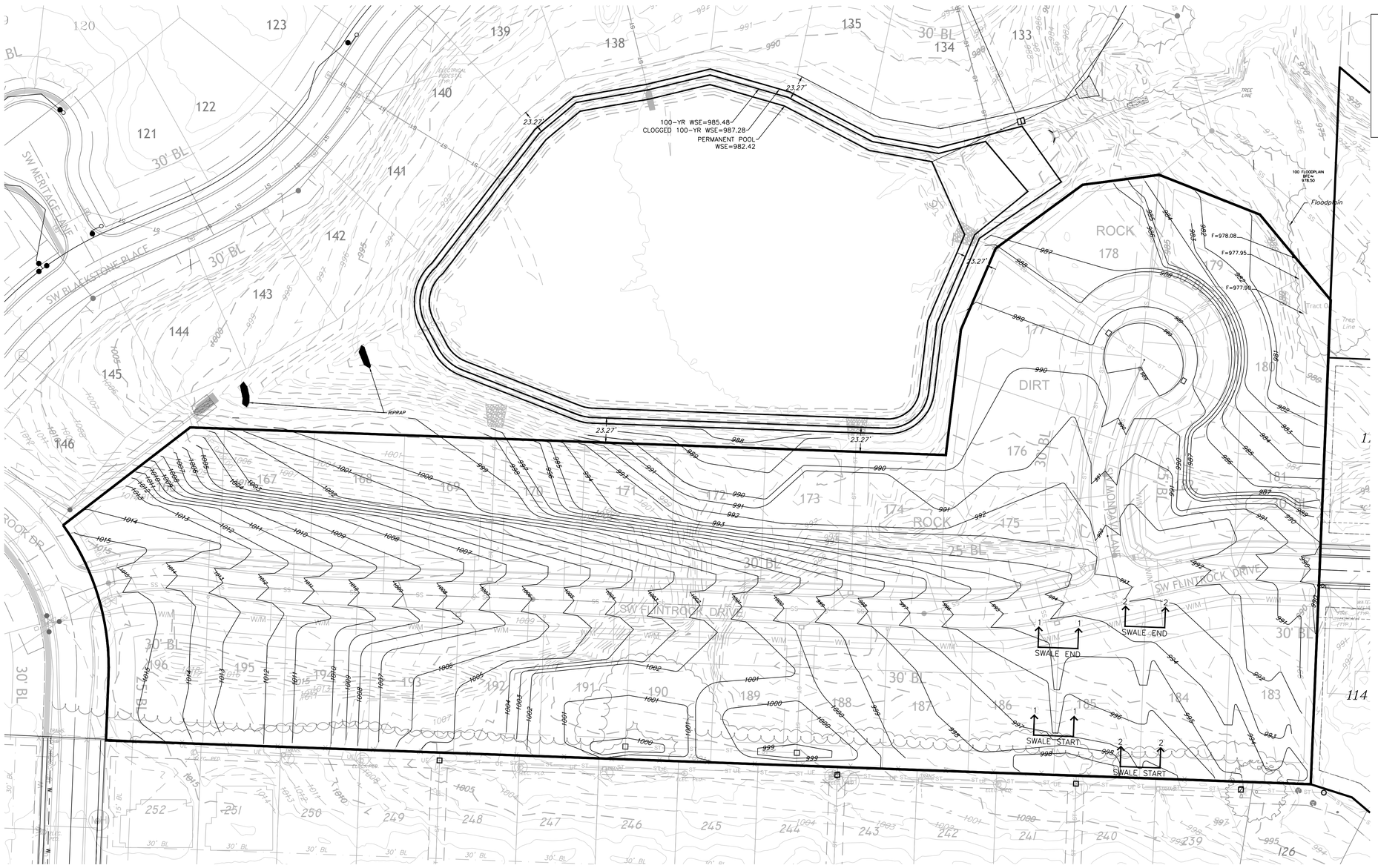
Note: See Table 8.10 of the APWA / MARC BMP Manual for design Summary for Native Vegetation Swales.

NOTE: Swale should be lined with "Straw with Net" turf reinforcement (Curlex Blanket or Eqv.). Per Table 5607-1 in APWA Manual

North

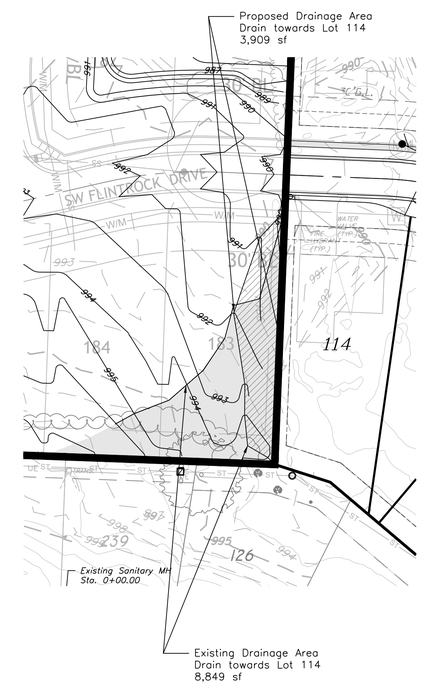
0 25' 50' 100'

GRADING PLAN
SCALE: 1" = 50'



Estimated Cut / Fill Quantities

Site Area	*9.65 Acres*
Cut Volume (Unadjusted)	*17,287 c.y.*
Fill Volume (Unadjusted)	*20,068 c.y.*
Street & Sidewalk Cut Volume	*1,680 c.y.*
Net Fill	*1,101 c.y. (Unadjusted)*



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Engineering 6254
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Engineering CA2821

Napa Valley 5th Plat
Lee's Summit, Jackson County, Missouri

Project: NAPA VALLEY LSMO
Issue Date: August 2, 2021

Master Drainage Plan 1 of 3:
Grading Plan
Street, Stormwater, Master Drainage Plans for:
Napa Valley 5th Plat
Lee's Summit, Jackson County, Missouri

STATE OF MISSOURI
MATTHEW J. SCHLICHT
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REVISIONS

1. REV. 9/28/2021
2. REV. 12/6/2021
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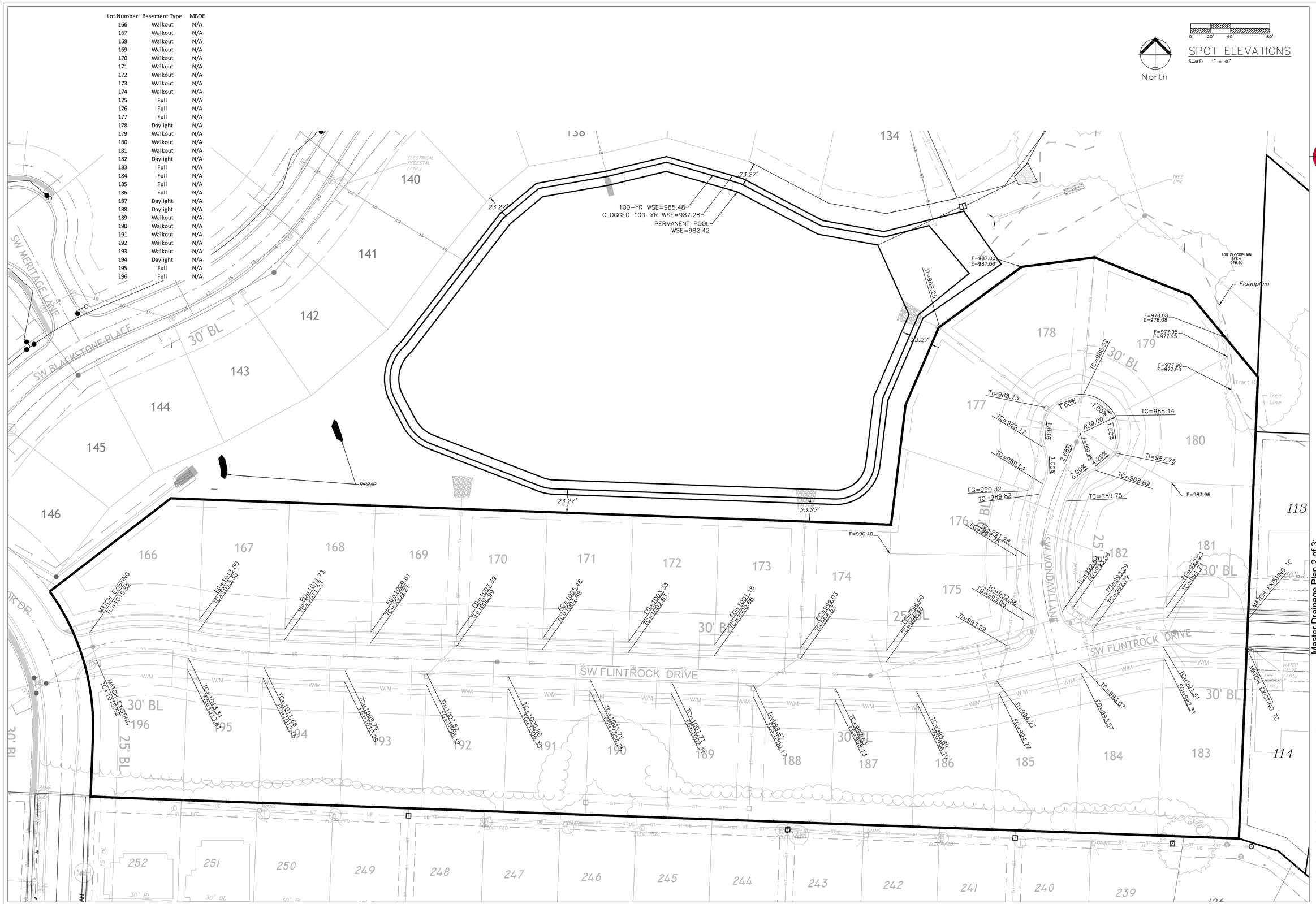
4. REV. 3/2/2022

C.200

Lot Number	Basement Type	MBOE
166	Walkout	N/A
167	Walkout	N/A
168	Walkout	N/A
169	Walkout	N/A
170	Walkout	N/A
171	Walkout	N/A
172	Walkout	N/A
173	Walkout	N/A
174	Walkout	N/A
175	Full	N/A
176	Full	N/A
177	Full	N/A
178	Daylight	N/A
179	Walkout	N/A
180	Walkout	N/A
181	Walkout	N/A
182	Daylight	N/A
183	Full	N/A
184	Full	N/A
185	Full	N/A
186	Full	N/A
187	Daylight	N/A
188	Daylight	N/A
189	Walkout	N/A
190	Walkout	N/A
191	Walkout	N/A
192	Walkout	N/A
193	Walkout	N/A
194	Daylight	N/A
195	Full	N/A
196	Full	N/A



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Napa Valley 5th Plat
Lee's Summit, Jackson County, Missouri

Project: NAPA VALLEY, LSMO
Issue Date: August 2, 2021

Master Drainage Plan 2 of 3:
Spot Elevations
Street, Stormwater, Master Drainage Plans for:
Napa Valley 5th Plat
Lee's Summit, Jackson County, Missouri

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REVISIONS

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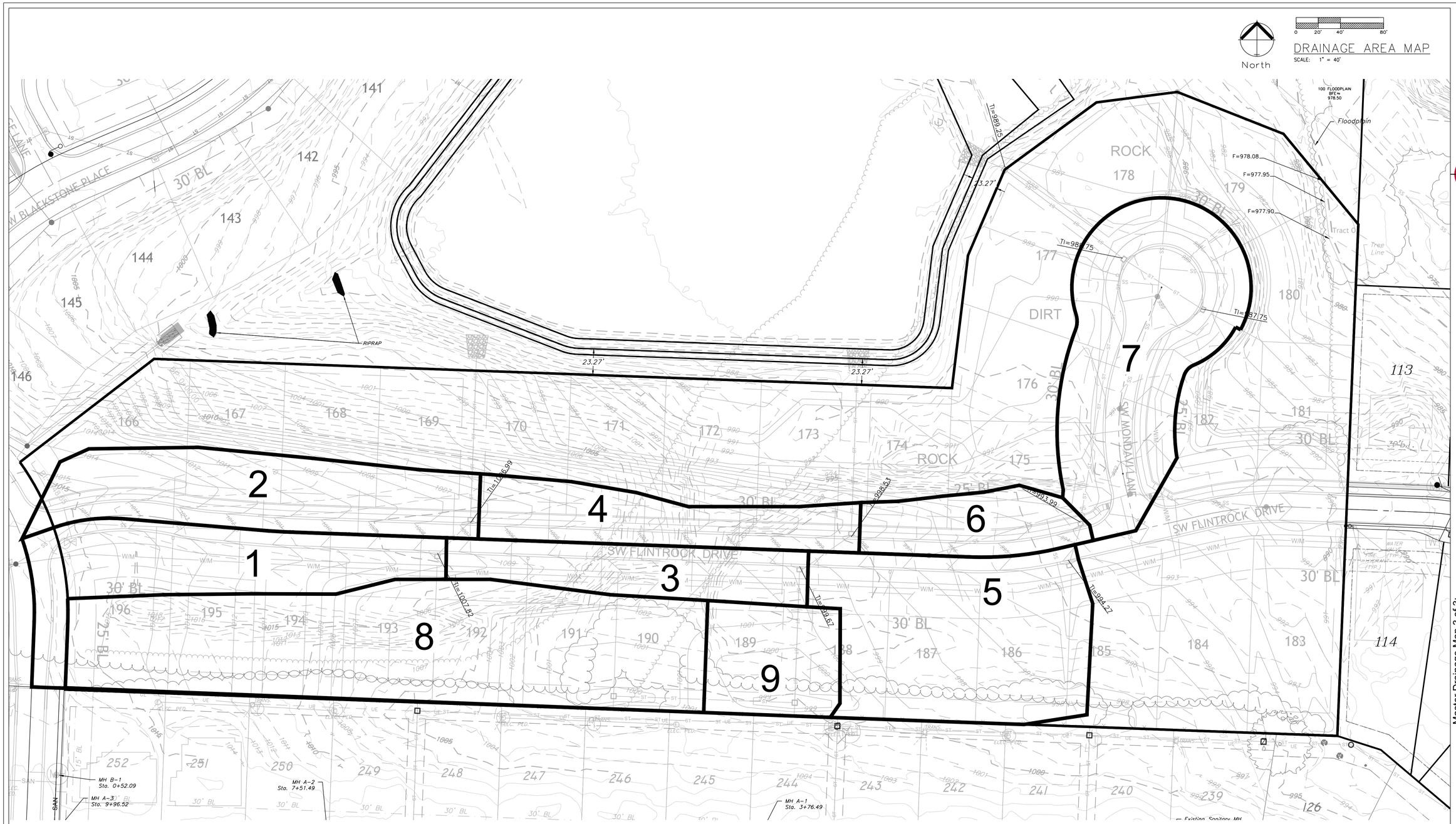
3 REV. 12/17/2021
4 REV. 3/2/2022

C.201



APWA STORM DRAINAGE "TC" COMPUTATIONS FOR : NAPA VALLEY 5TH PLAT

yellow areas are self computing
overwrite if necessary

TOTAL WATERSHED

Surface types: Asph/ConcBus/Com, Dirt, Grass/Park, Lake, MultFam, SnglFam, Undev, Other
SURFACE CODES: A, B, D, G, L, M, S, U, Z
"C" Values: 0.90, 0.87, 0.60, 0.30, 0.90, 0.66, 0.51, 0.3

OVERLAND FLOW - 100' MAX (Overwrite Length - DnElev or Slope if necessary)

CHANNEL FLOW - FIRST REACH (SURFACE CODE: P=Paved, U=Unpaved; Overwrite Slope or Elevations if necessary)

TC COMPUTATION

AREA ID	TOTAL ACRES	WTRSHD LENGTH	UP ELEV	DN ELEV	SURFACE CODE	"C" VALUE	OVRLND LENGTH	UP ELEV	DN ELEV	SLOPE %	SURFACE CODE P or U	CHANNEL LENGTH	UP ELEV	DN ELEV	SLOPE %	VELOCITY F/S	Cal Overland Flow T(I)	Used Min 5 Max 15 T(I)	Cal Channel One T(T)	Cal Channel Two T(T)	Total T@ 10	AREA ID
1	0.54	359.00	1015.00	1010.50	S	0.51	59.0	1015.0	1013.70	2.2	P	300.0	1013.7	1010.5	1.07	2.1	6.3	6.3	2.4	0.0	8.7	1
2	0.57	384.00	1016.00	1010.20	S	0.51	49.0	1016.0	1015.00	2.0	P	335.0	1015.0	1010.2	1.43	2.4	5.9	5.9	2.3	0.0	8.2	2
3	0.32	333.00	1010.50	1005.00	S	0.51	26.0	1010.5	1009.80	2.7	P	307.0	1009.8	1005.0	1.56	2.5	3.9	5.0	2.0	0.0	7.0	3
4	0.35	369.00	1012.20	1003.00	S	0.51	47.0	1012.2	1011.00	2.6	P	322.0	1011.0	1003.0	2.48	3.2	5.3	5.3	1.7	0.0	7.0	4
5	0.32	258.00	1007.20	994.50	S	0.51	41.0	1007.2	1004.00	7.8	P	217.0	1004.0	994.5	4.38	4.3	3.4	5.0	0.9	0.0	5.9	5
6	0.24	221.00	1005.00	994.00	S	0.51	36.0	1005.0	1003.00	5.6	P	185.0	1003.0	994.0	4.86	4.5	3.6	5.0	0.7	0.0	5.7	6
7	0.78	236.00	995.00	991.00	S	0.51	49.0	995.0	992.50	5.1	P	187.0	992.5	991.0	0.80	1.8	4.3	5.0	1.7	0.0	6.7	7
8	2.26	508.00	1016.00	999.00	S	0.51	100.0	1016.0	1014.00	2.0	U	408.0	1014.0	999.0	3.68	3.1	8.4	8.4	2.2	0.0	10.6	8
9	0.46	133.00	1008.50	999.00	S	0.51	100.0	1008.5	1000.00	8.5	U	33.0	1000.0	999.0	3.03	2.8	5.2	5.2	0.2	0.0	5.4	9

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Nebraska
Engineering CA2821

Napa Valley 5th Plat
Lee's Summit, Jackson County, Missouri

Project: NAPA VALLEY LSMO
Issue Date: August 2, 2021

Master Drainage Map 3 of 3:
Drainage Area Map
Street, Stormwater, Master Drainage Plans for:
Napa Valley 5th Plat
Lee's Summit, Jackson County, Missouri

STATE OF MISSOURI
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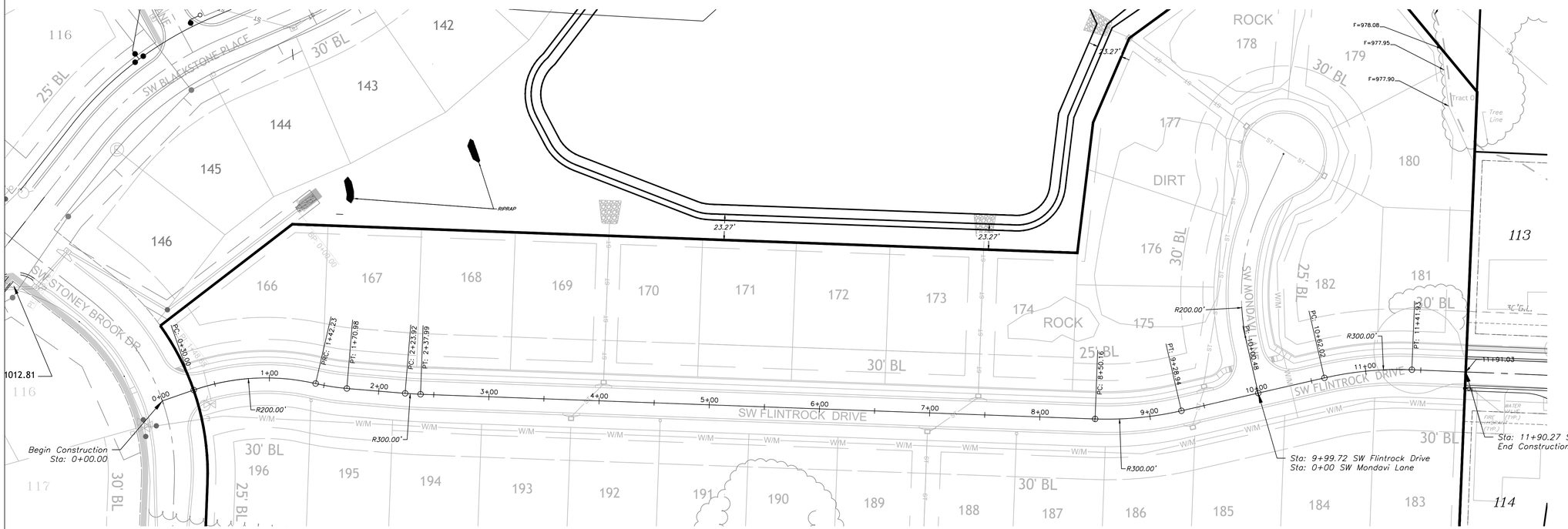
REVISIONS
1 REV. 9/28/2021
2 REV. 12/6/2021
3 REV. 12/17/2021
4 REV. 3/2/2022

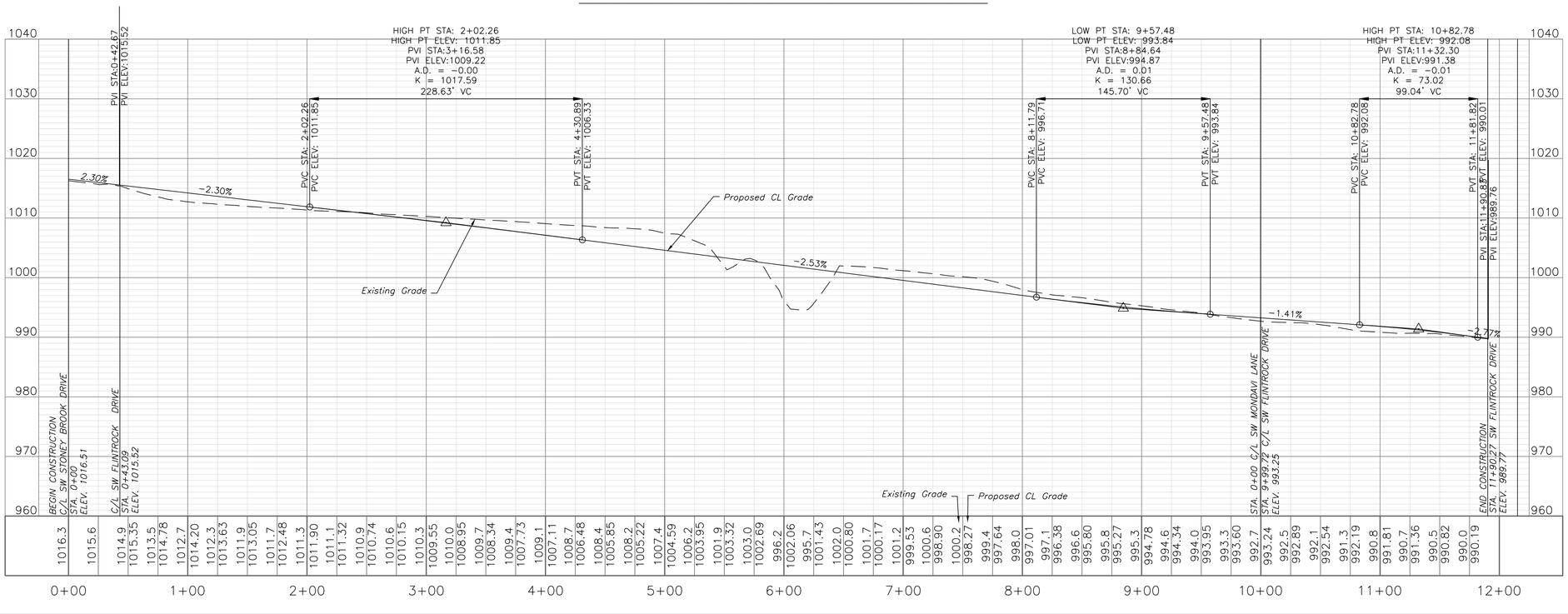
C.202

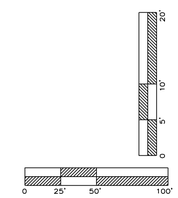
STREET PLAN & PROFILE

SCALE: 1" = 50'



SW FLINTROCK DRIVE





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Napa Valley 5th Plat
Lee's Summit, Jackson County, Missouri

Project: NAPA VALLEY LSMO
Issue Date: August 2, 2021

STREET PLAN & PROFILE
Street, Stormwater, Master Drainage Plans for:
Napa Valley 5th Plat
Lee's Summit, Jackson County, Missouri

STATE OF MISSOURI
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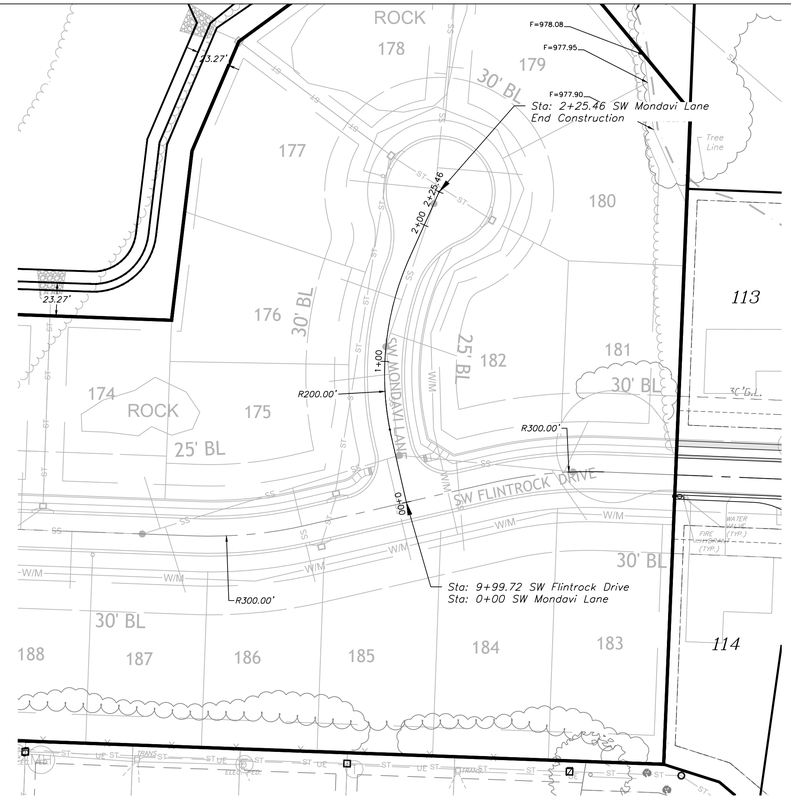
REVISIONS

1 REV. 9/28/2021
2 REV. 12/6/2021
3 REV. 12/17/2021
4 REV. 3/2/2022

C.203



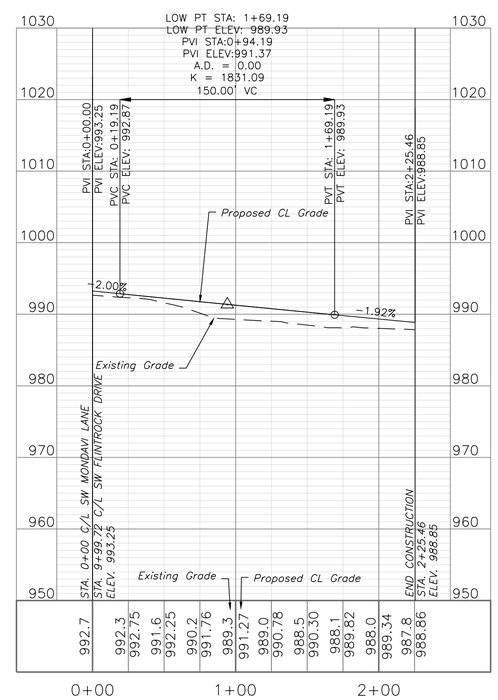
North

0 20' 40' 80'

STREET PLAN & PROFILE

SCALE: 1" = 50'

SW MONDAVI LANE



0 25' 50' 100'

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Napa Valley 5th Plat
Lee's Summit, Jackson County, Missouri

Project: NAPA VALLEY LSMO
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STREET PLAN & PROFILE
Street, Stormwater, Master Drainage Plans for:
Napa Valley 5th Plat
Lee's Summit, Jackson County, Missouri

STATE OF MISSOURI
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REVISIONS

1 REV. 9/28/2021
2 REV. 12/6/2021
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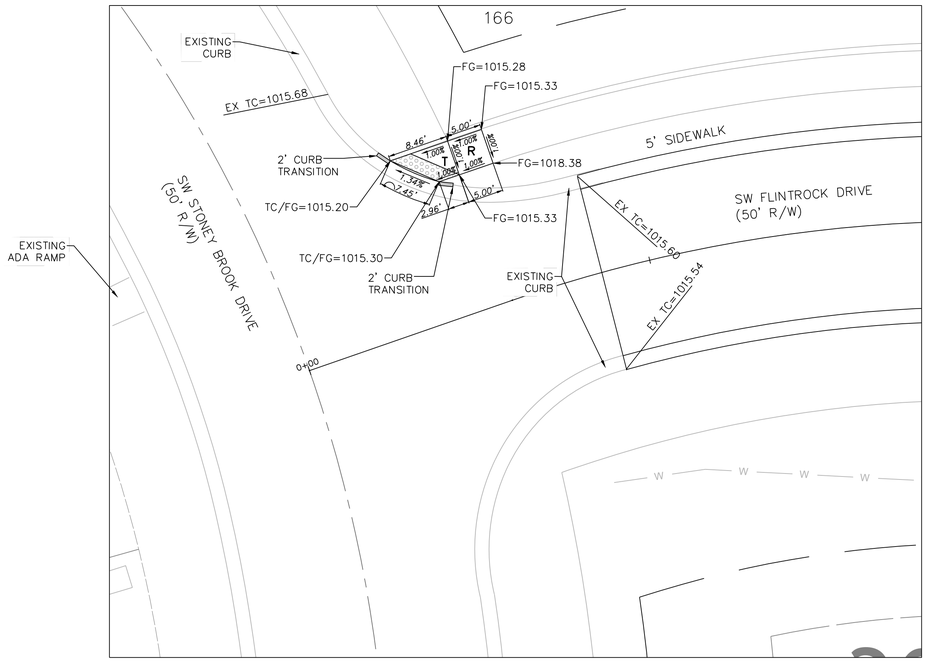
C.204



DETAIL 1

Legend:

EX TC = Existing Top of Curb

EX FG = Existing Finished Grade

FG = Finished Grade

TC = Top of Curb

TC/FG = Top of Curb/Finished Grade

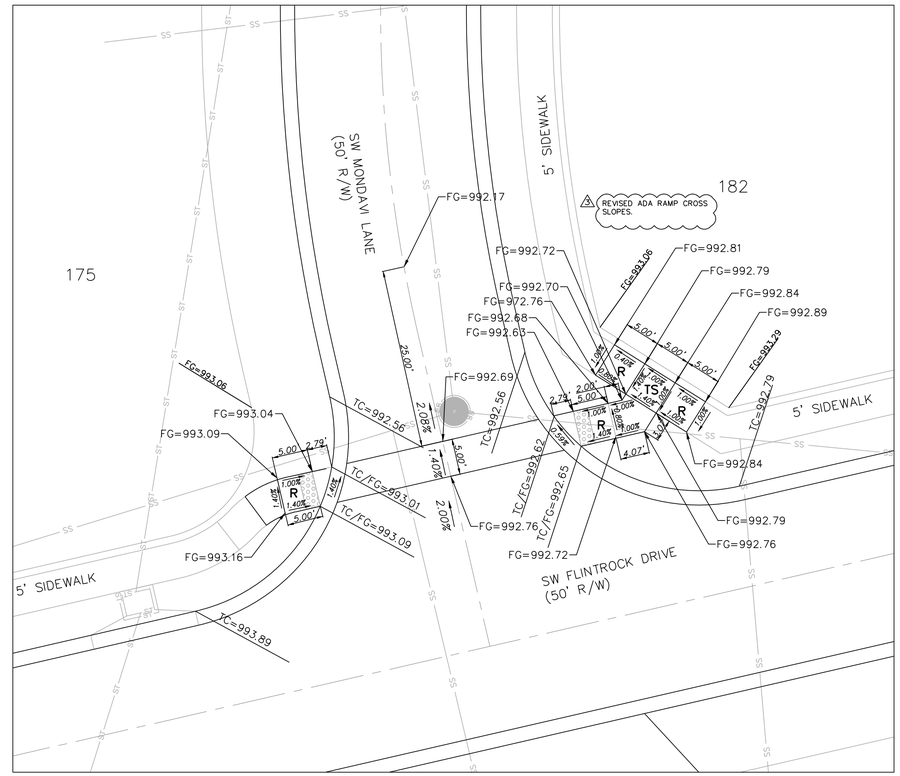
Detectable Warning

North

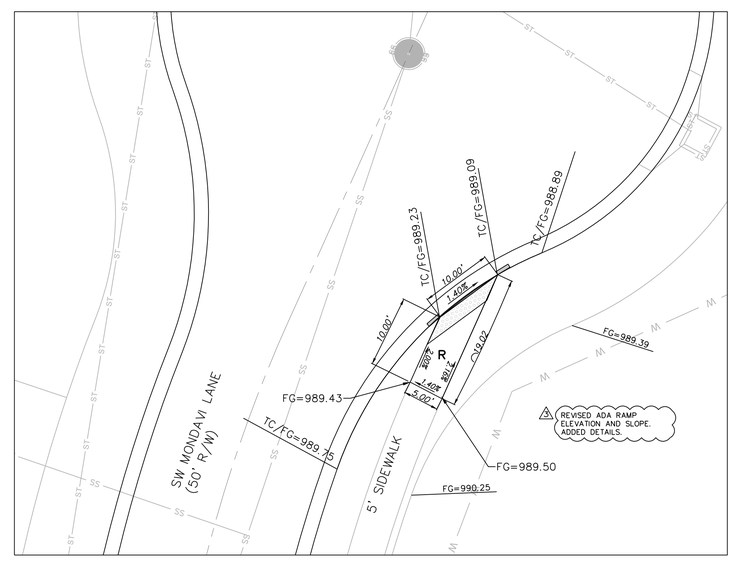
GRAPHIC SCALE 0 10' 20' 40'

SIDEWALK AND INTERSECTION PLAN

SCALE: 1" = 20'



DETAIL 2



DETAIL 3

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Napa Valley 5th Plat
Lee's Summit, Jackson County, Missouri

Project: NAPA VALLEY LSMO

Issue Date: August 2, 2021

Sidewalk and Intersection Plan
Street, Stormwater, Master Drainage Plans for:
Napa Valley 5th Plat
Lee's Summit, Jackson County, Missouri

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Napa Valley 5th Plat
Lee's Summit, Jackson County, Missouri

Project: NAPA VALLEY, LSMO
Issue Date: August 2, 2021

Storm Sewer General Layout
Street, Stormwater, Master Drainage Plans for:
Napa Valley 5th Plat
Lee's Summit, Jackson County, Missouri

STATE OF MISSOURI
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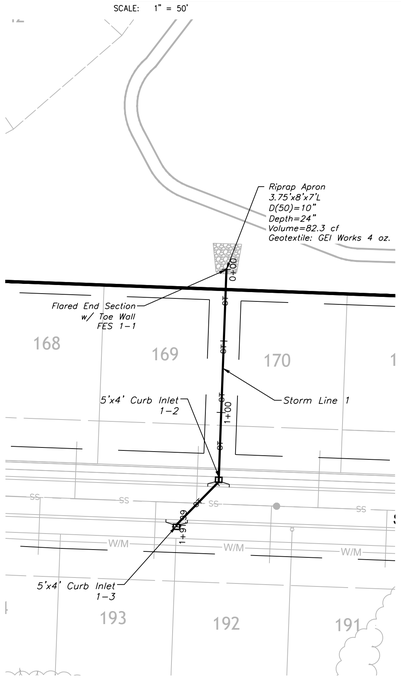
4 REV. 3/2/2022

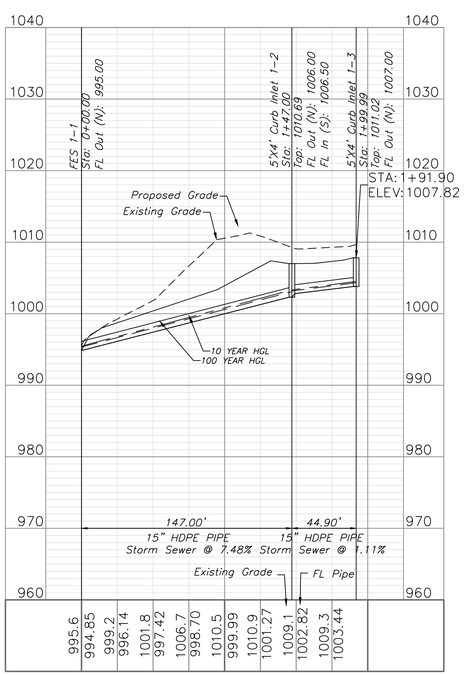
C.300

STORM SEWER PLAN & PROFILE

SCALE: 1" = 50'

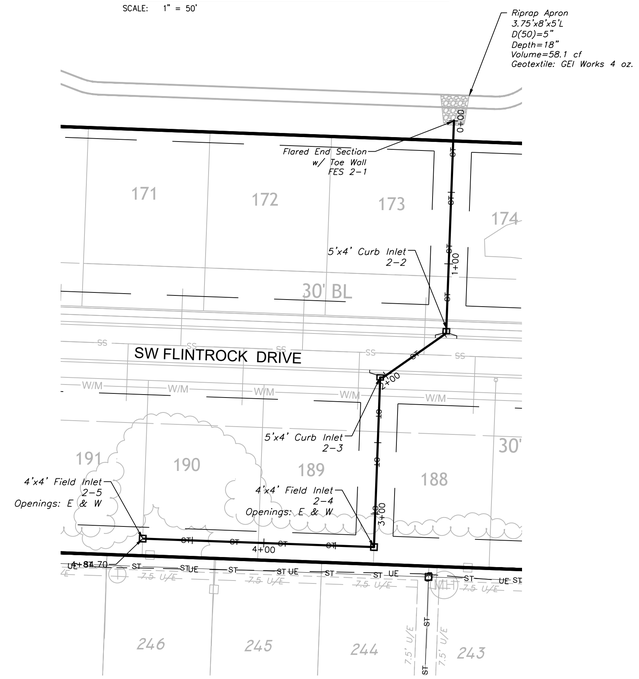


STORM LINE 1



STORM SEWER PLAN & PROFILE

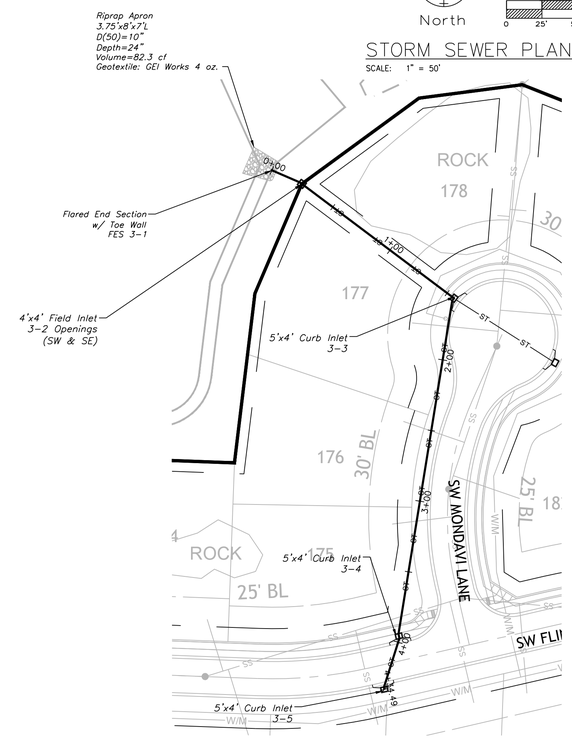
SCALE: 1" = 50'



STORM LINE 2

STORM SEWER PLAN & PROFILE

SCALE: 1" = 50'



STORM LINE 3

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Napa Valley 5th Plat
Lee's Summit, Jackson County, Missouri

Project: NAPA VALLEY LSMO
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Storm Sewer Plan and Profile
Street, Stormwater, Master Drainage Plans for:
Napa Valley 5th Plat
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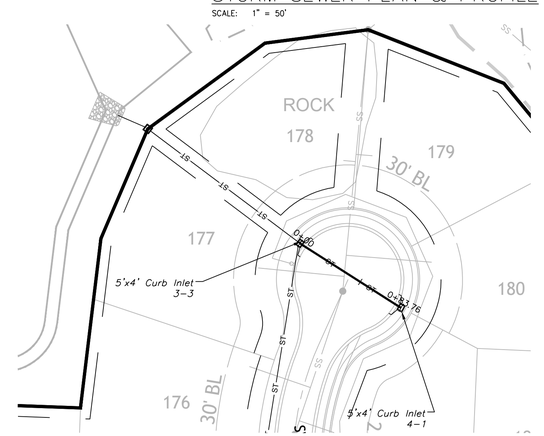
C.301

North

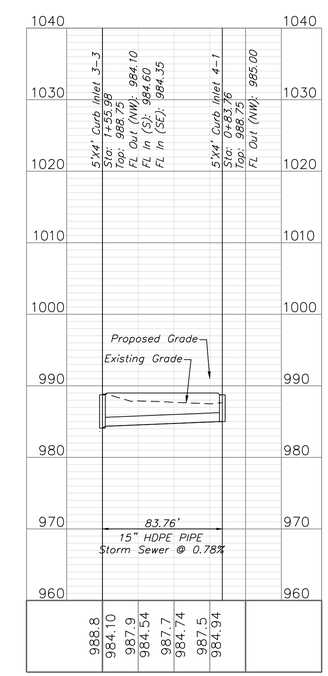
0 25' 50' 100'

STORM SEWER PLAN & PROFILE

SCALE: 1" = 50'



STORM LINE 4



0 25' 50' 100'

0 5 10 20

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PE-2006019708
PROFESSIONAL ENGINEER

Matthew J. Schlicht
MO PE 2006019708
KS PE 19071
OK PE 25226
NE PE E-14335

REVISIONS

1 REV. 9/28/2021
2 REV. 12/6/2021
3 REV. 12/17/2021
4 REV. 3/2/2022

C.302

10-YR STRUCTURE

D.S. Str.	Str. No.	Area	InletTime	Int.	RunoffCoeff.	Q =CIA	Q Carry-over	QCaptured	QBypassed	JunctType	CurbHeight	CurbLength	GutterSlope	GutterWidth	CrossSlope, Sw	CrossSlope, Sx	InletDepth	BypassDepth	BypassSpread	GutterDepth	GutterSpread	Bypass Str.
		(ac)	(min)	(in/hr)	(C)	(cfs)	(cfs)	(cfs)	(cfs)		(in)	(ft)	(ft/ft)	(ft)	(ft/ft)	(ft/ft)	(ft)	(ft)	(ft)	(ft)	(ft)	
1-1	1-2	0.57	8.2	6.5	0.51	1.89	0	0.78	1.11	Curb	10	5	0.012	2	0.05	0.02	0.21	0.18	5.93	0.21	7.55	2-2
1-2	1-3	0.54	8.7	6.39	0.51	1.76	0	0.75	1.01	Curb	10	5	0.012	2	0.05	0.02	0.21	0.17	5.67	0.21	7.32	2-3
2-1	2-2	0.35	7	6.79	0.51	1.21	1.11	0.63	1.69	Curb	10	5	0.048	2	0.05	0.02	0.18	0.16	5.19	0.18	6.05	3-4
2-2	2-3	0.32	7	6.79	0.51	1.11	1.01	0.6	1.52	Curb	10	5	0.048	2	0.05	0.02	0.18	0.16	4.9	0.18	5.79	3-5
2-3	2-4	0.46	5.4	7.23	0.51	1.7	0	1.7	0	Dp-Curb	6	8	Sag	....	0.02	0.02	0.17	n/a	n/a	0.17	8.54	Sag
2-4	2-5	2.26	10.6	6	0.51	6.92	0	6.92	0	Dp-Curb	6	8	Sag	....	0.02	0.02	0.44	n/a	n/a	0.44	21.8	Sag
3-1	3-2	0	0	0	0	0	1.69	1.69	0	Dp-Curb	6	5	Sag	....	0.02	0.02	0.23	n/a	n/a	0.23	11.67	Sag
3-2	3-3	0.78	6.7	6.87	0.51	2.73	1.91	4.64	0	Curb	10	5	Sag	2	0.05	0.02	0.44	n/a	n/a	0.44	19.01	Sag
3-3	3-4	0.24	5.7	7.14	0.51	0.87	0	0.49	0.39	Curb	10	5	0.014	2	0.05	0.02	0.16	0.12	3.15	0.16	5.07	3-3
3-4	3-5	0.32	5.9	7.08	0.51	1.16	0	0.57	0.58	Curb	10	5	0.014	2	0.05	0.02	0.18	0.14	4.07	0.18	5.82	Offsite

10-YR PIPE

D.S. Str.	U.S. Str.	LineLength	Incr.Area	TotalArea	RunoffCoeff.	IncrC x A	TotalC x A	InletTime	TimeConc	RnfalInt	TotalRunoff	TotalFlow	CapacFull	Veloc	PipeSize	PipeSlope	Inv ElevDn	Inv ElevUp	HGLDn	HGLUp	Grnd/RimDn	Grnd/RimUp
		(ft)	(ac)	(ac)	(C)			(min)	(min)	(in/hr)	(cfs)	(cfs)	(cfs)	(ft/s)	(in)	(%)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
1-1	1-2	147	0.57	1.11	0.51	0.29	0.57	8.2	8.9	6.4	3.6	3.6	21.9	8.87	15	6.8	996	1006	996.34	1006.77	0	1010.69
1-2	1-3	44.9	0.54	0.54	0.51	0.28	0.28	8.7	8.7	6.4	1.76	1.76	8.86	4.6	15	1.11	1006.5	1007	1006.88	1007.53	1010.69	1011.02
2-1	2-2	147	0.35	3.39	0.51	0.18	1.73	7	11.5	5.8	10.08	10.08	42	8.23	24	2.04	989	992	989.67	993.14	0	1003.09
2-2	2-3	57.37	0.32	3.04	0.51	0.16	1.55	7	11.4	5.9	9.08	9.08	27.45	6.56	24	0.87	992.5	993	993.29	994.07	1003.09	1004.98
2-3	2-4	118.65	0.46	2.72	0.51	0.23	1.39	5.4	11.1	5.9	8.2	8.2	26.99	6.32	24	0.84	993.5	994.5	994.26	995.52	1004.98	1000
2-4	2-5	161.68	2.26	2.26	0.51	1.15	1.15	10.6	10.6	6	6.92	6.92	10.74	5.94	18	0.62	995	996	995.88	997.02	1000	1000
3-1	3-2	22.98	0	1.34	0	0	0.68	0	7.4	6.7	4.58	4.58	7.83	5.84	15	0.87	985	985.2	985.69	986.07	0	989.25
3-2	3-3	133	0.78	1.34	0.51	0.4	0.68	6.7	7	6.8	4.64	4.64	7.63	5.8	15	0.83	985.4	986.5	986.1	987.37	989.25	991
3-3	3-4	239.54	0.24	0.56	0.51	0.12	0.29	5.7	6.1	7	2.01	2.01	7.67	4.5	15	0.83	987	989	987.44	989.56	991	994.14
3-4	3-5	38.97	0.32	0.32	0.51	0.16	0.16	5.9	5.9	7.1	1.16	1.16	8.39	3.98	15	1.28	989.5	990	989.81	990.42	994.14	994.72

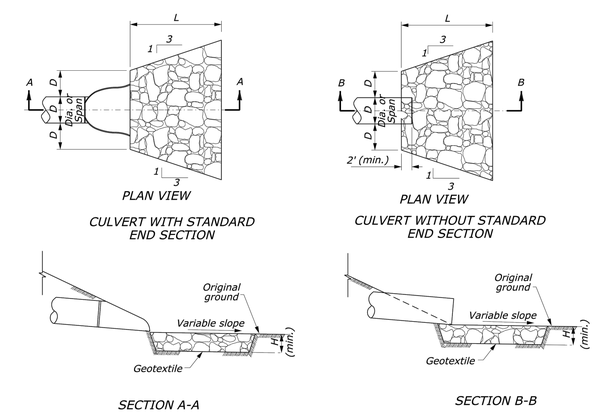
100-YR STRUCTURE

D.S. Str.	Str. No.	Area	InletTime	Int.	RunoffCoeff.	Q =CIA	Q Carry-over	QCaptured	QBypassed	JunctType	CurbHeight	CurbLength	GutterSlope	GutterWidth	CrossSlope, Sw	CrossSlope, Sx	InletDepth	BypassDepth	BypassSpread	GutterDepth	GutterSpread	Bypass Str.
		(ac)	(min)	(in/hr)	(C)	(cfs)	(cfs)	(cfs)	(cfs)		(in)	(ft)	(ft/ft)	(ft)	(ft/ft)	(ft/ft)	(ft)	(ft)	(ft)	(ft)	(ft)	
1-1	1-2	0.57	8.2	11.53	0.51	3.35	0	1.06	2.29	Curb	10	5	0.012	2	0.05	0.02	0.25	0.22	8.22	0.25	9.64	2-2
1-2	1-3	0.54	8.7	11.34	0.51	3.12	0	1.02	2.11	Curb	10	5	0.012	2	0.05	0.02	0.25	0.22	7.92	0.25	9.36	2-3
2-1	2-2	0.35	7	12	0.51	2.14	2.29	0.88	3.56	Curb	10	5	0.048	2	0.05	0.02	0.22	0.21	7.35	0.22	8.1	3-4
2-2	2-3	0.32	7	12	0.51	1.96	2.11	0.84	3.22	Curb	10	5	0.048	2	0.05	0.02	0.22	0.2	7.03	0.22	7.79	3-5
2-3	2-4	0.46	5.4	12.71	0.51	2.98	0	2.98	0	Dp-Curb	6	8	Sag	....	0.02	0.02	0.25	n/a	n/a	0.25	12.44	Sag
2-4	2-5	2.26	10.6	10.69	0.51	12.33	0	12.33	0	Dp-Curb	6	8	Sag	....	0.02	0.02	0.64	n/a	n/a	0.64	32.06	Sag
3-1	3-2	0	0	0	0	0	3.56	3.56	0	Dp-Curb	6	5	Sag	....	0.02	0.02	0.38	n/a	n/a	0.38	19.14	Sag
3-2	3-3	0.78	6.7	12.13	0.51	4.82	4.09	8.91	0	Curb	10	5	Sag	2	0.05	0.02	0.65	n/a	n/a	0.65	29.38	Sag
3-3	3-4	0.24	5.7	12.57	0.51	1.54	0	0.67	0.87	Curb	10	5	0.014	2	0.05	0.02	0.19	0.16	5.05	0.19	6.65	3-3
3-4	3-5	0.32	5.9	12.48	0.51	2.04	0	0.78	1.25	Curb	10	5	0.014	2	0.05	0.02	0.21	0.18	6.05	0.21	7.54	Offsite

100-YR PIPE

D.S. Str.	U.S. Str.	LineLength	Incr.Area	TotalArea	RunoffCoeff.	IncrC x A	TotalC x A	InletTime	TimeConc	RnfalInt	TotalRunoff	TotalFlow	CapacFull	Veloc	PipeSize	PipeSlope	Inv ElevDn	Inv ElevUp	HGLDn	HGLUp	Grnd/RimDn	Grnd/RimUp
		(ft)	(ac)	(ac)	(C)			(min)	(min)	(in/hr)	(cfs)	(cfs)	(cfs)	(ft/s)	(in)	(%)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
1-1	1-2	147	0.57	1.11	0.51	0.29	0.57	8.2	8.8	11.3	6.39	6.39	21.9	10.72	15	6.8	996	1006	996.46	1007.02	0	1010.69
1-2	1-3	44.9	0.54	0.54	0.51	0.28	0.28	8.7	8.7	11.3	3.12	3.12	8.86	5.41	15	1.11	1006.5	1007	1007.02	1007.71	1010.69	1011.02
2-1	2-2	147	0.35	3.39	0.51	0.18	1.73	7	11.4	10.5	18.08	18.08	42	8.39	24	2.04	989	992	990.14	993.53	0	1003.09
2-2	2-3	57.37	0.32	3.04	0.51	0.16	1.55	7	11.2	10.5	16.27	16.27	27.45	7.88	24	0.87	992.5	993	993.61	994.45	1003.09	1004.98
2-3	2-4	118.65	0.46	2.72	0.51	0.23	1.39	5.4	11	10.6	14.67	14.67	26.99	7.56	24	0.84	993.5	994.5	994.55	995.88	1004.98	1000
2-4	2-5	161.68	2.26	2.26	0.51	1.15	1.15	10.6	10.6	10.7	12.33	12.33	10.74	6.98	18	0.62	995	996	996.5	997.82	1000	1000
3-1	3-2	22.98	0	1.34	0	0	0.68	0	7.5	11.8	8.07	8.07	7.83	7.11	15	0.87	985	985.2	986.06	986.32	0	989.25
3-2	3-3	133	0.78	1.34	0.51	0.4	0.68	6.7	7.2	11.9	8.16	8.16	7.63	6.81	15	0.83	985.4	986.5	986.53	987.74	989.25	991
3-3	3-4	239.54	0.24	0.56	0.51	0.12	0.29	5.7	6.1	12.4	3.54	3.54	7.67	3.71	15	0.83	987	989	988.67	989.76	991	994.14
3-4	3-5	38.97	0.32	0.32	0.51	0.16	0.16	5.9	5.9	12.5	2.04	2.04	8.39	4.69	15	1.28	989.5	990	989.92	990.57	994.14	994.72

STANDARD RIPRAP APRON DETAIL



NOTES:
1. ALL RIPRAP APRONS SHALL CONFORM TO THE STANDARD CONFIGURATION SHOWN IN THE STANDARD DETAIL ABOVE UNLESS OTHERWISE NOTED. PLAN VIEW DIMENSIONS SHOWN SHALL BE MET OR EXCEEDED INCLUDING AREAS OF LONGITUDINAL AND/OR TRANSVERSE SLOPE.
2. DIMENSIONS FOR EACH RIPRAP APRON AND ASSOCIATED RIPRAP ARE DETAILED IN THE PLAN SET.
3. GEOTEXTILE SHALL BE "GEI WORKS 4 OUNCE" NON-WOVEN FILTER FABRIC DESIGNED FOR FILTRATION, STABILIZATION AND SEPARATION WRAPPED CONTINUOUSLY ALONG THE SIDEWALLS AND BOTTOM OF THE PREPARED AREA OR SLOPE.
   - WATER FLOW = 120 GPM/SF
   - GRAB STRENGTH (MIN) = 400 N
   - PUNCTURE STRENGTH (MIN) = 178 N
   - TRAPEZOIDAL TEAR (MIN) = 133 N
   - ELONGATION (MIN) = 15%

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Professional Registration
Missouri
Engineering 2005002186-D
Surveying 2005000319-D
Kansas
Engineering E-1695
Surveying LS-218
Oklahoma
Engineering 6254
Nebraska
Engineering CA2821

Napa Valley 5th Plat
Lee's Summit, Jackson County, Missouri

Project: NAPA VALLEY LSMO
Issue Date: August 2, 2021

10 YR & 100 YR STORM TABLES
Street, Stormwater, Master Drainage Plans for:
Napa Valley 5th Plat
Lee's Summit, Jackson County, Missouri

STATE OF MISSOURI
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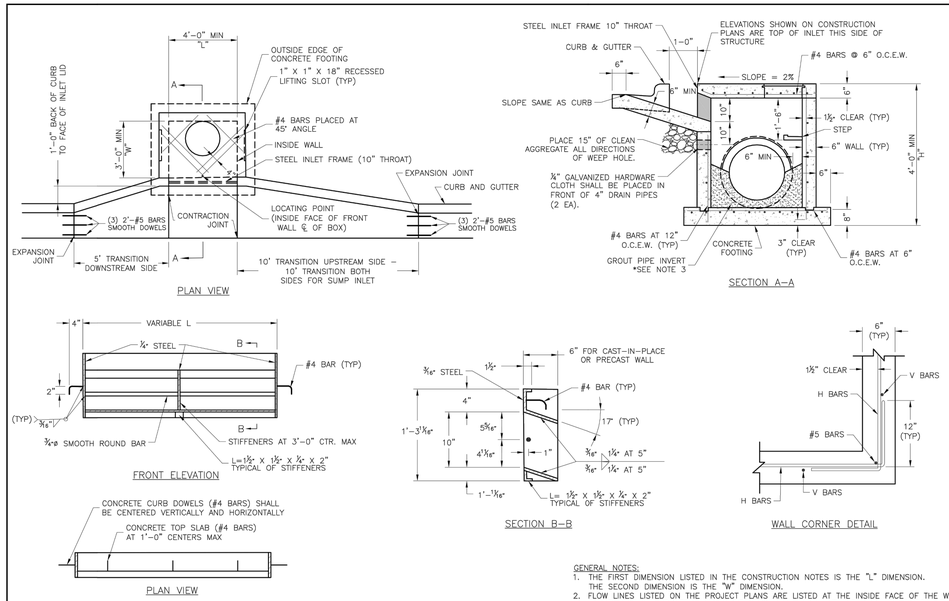


STEEL FRAME NOTES:

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

GENERAL NOTES:

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

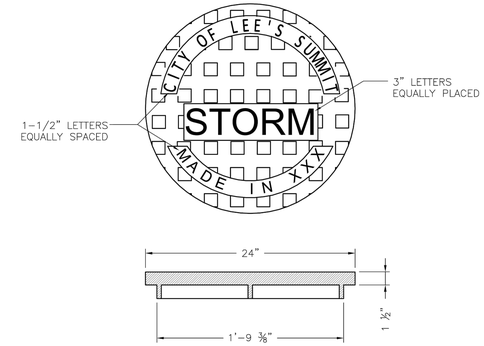
STANDARD DETAILS
CITY OF LEE'S SUMMIT, MO
LEE'S SUMMIT, JACKSON COUNTY, MO

CURB INLET DETAIL

Project:
Drawing Name:

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

STM-1



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

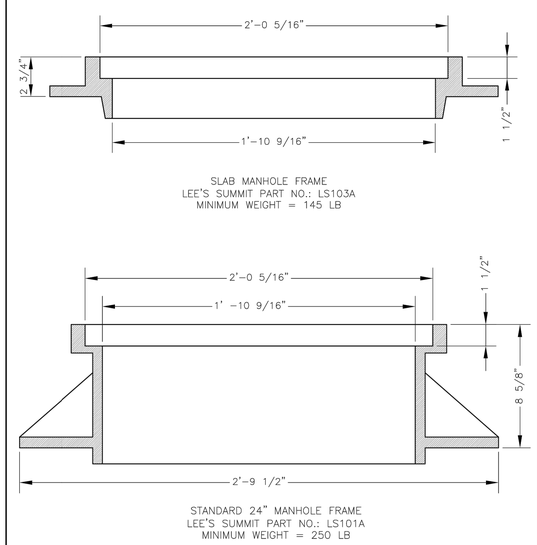
*COVER AND FRAME MODEL INFORMATION REFER TO THE STORMWATER APPROVED PRODUCT LIST.

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



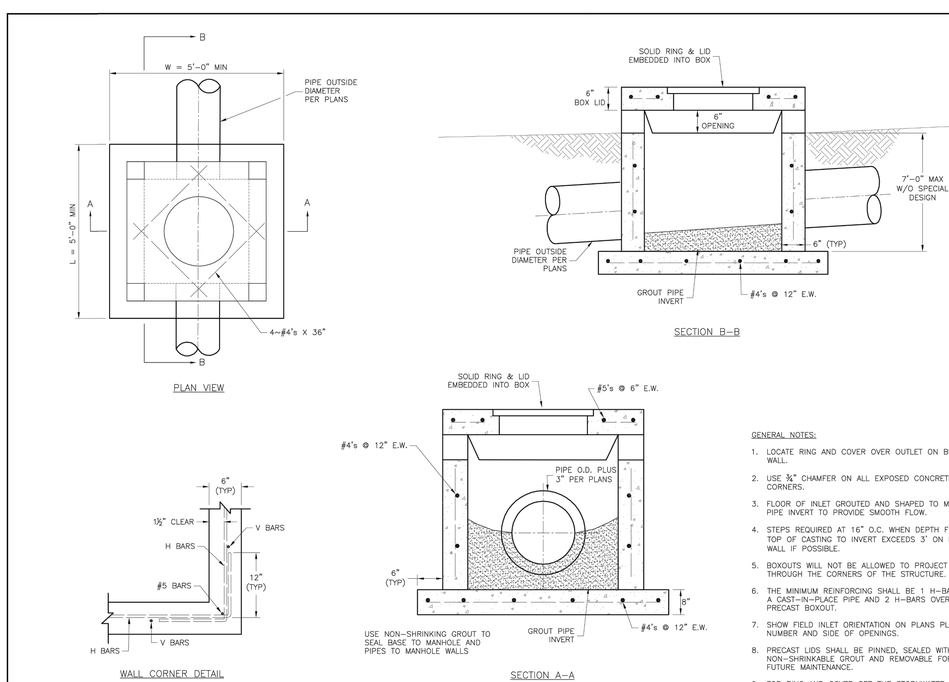
*COVER AND FRAME MODEL INFORMATION REFER TO THE STORMWATER APPROVED PRODUCTS LIST.

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



GENERAL NOTES:

1. LOCATE RING AND COVER OVER OUTLET ON BLANK WALL.
2. USE ¾" CHAMFER ON ALL EXPOSED CONCRETE CORNERS.
3. FLOOR OF INLET GROUTED AND SHAPED TO MATCH PIPE INVERT TO PROVIDE SMOOTH FLOW.
4. STEPS REQUIRED AT 16" O.C. WHEN DEPTH FROM TOP OF CASTING TO INVERT EXCEEDS 3' ON BLANK WALL IF POSSIBLE.
5. BOXOUTS WILL NOT BE ALLOWED TO PROJECT THROUGH THE CORNERS OF THE STRUCTURE.
6. THE MINIMUM REINFORCING SHALL BE 1 H–BAR OVER A CAST–IN–PLACE PIPE AND 2 H–BARS OVER A PRECAST BOXOUT.
7. SHOW FIELD INLET ORIENTATION ON PLANS PLUS NUMBER AND SIDE OF OPENINGS.
8. PRECAST LIDS SHALL BE PINNED, SEALED WITH NON–SHRINKABLE GROUT AND REMOVABLE FOR FUTURE MAINTENANCE.
9. FOR RING AND COVER SEE THE STORMWATER APPROVED PRODUCT LIST.

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

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

FIELD INLET DETAIL

Project:
Drawing Name:

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

STM-2

GENERAL NOTE:

1 ~ ALL CONSTRUCTION SHALL CONFORM TO THE CITY OF LEE'S SUMMIT DESIGN AND CONSTRUCTION MANUAL AS ADOPTED BY ORDINANCE 5813.

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Professional Registration
Missouri
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Surveying 2005000319-D
Kansas
Engineering E-1695
Surveying LS-218
Oklahoma
Engineering 6254
Nebraska
Engineering CA2821

Napa Valley 5th Plat
Lee's Summit, Jackson County, Missouri

Project: NAPA VALLEY LSMO
Issue Date: August 2, 2021

Construction Details
Street, Stormwater, Master Drainage Plans for:
Napa Valley 5th Plat
Lee's Summit, Jackson County, Missouri

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C.600