ASPHALT PAVEMENT - PROPOSED

CONCRETE PAVEMENT - EXISTING

ASPHALT PAVEMENT - EXISTING

CONCRETE SIDEWALK - EXISTING

CONCRETE SIDEWALK - PROPOSED

CURB & GUTTER - EXISTING

EXISTING LOT AND R/W LINES

STORM SEWER - EXISTING

TELEPHONE LINE - EXIST.

WATERLINE - EXISTING

EXISTING SANITARY MANHOLE

PROPOSED SANITARY MANHOLE

CABLE TV - EXISTING

-----FOC_x ----- FIBER OPTIC CABLE - EXISTING

—— UGE, —— UNDERGROUND ELECTRIC - EX.

LIGHT - EXISTING

EXISTING MANHOLE

EXISTING AREA INLET

EXISTING CURB INLET

EXISTING GRATE INLET

EXISTING JUNCTION BOX

EXISTING STORM MANHOLE

GAS LINE - EXISTING

CLEANOUT

31 BONDS

EXISTING PLAT LINES

CURB & GUTTER

TREELINE

—— P/L —— PROPERTY LINES

MISSOURI DEPARTMENT OF TRANSPORTATION (MODOT) Lee's Summit, MO 64086 (816) 607-2186

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

KANSAS CITY POWER & LIGHT COMPANY (KCP&L) Ron Dejarnette 1300 SE Hamblin Road Lee's Summit, MO 6408 Office: (816) 347-4316 Cell: (816) 810-5234 ron.dejarnette@kcpl.com

CITY OF LEES SUMMIT PUBLIC WORKS Dena Mezger 220 SE Green Street Lee's Summit, MO 64063 (816) 969-1800

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

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

PUBLIC WATER SUPPLY DISTRICT Mark Schaufler 220 SE Green Street Lee's Summit, MO 64063 (816) 969-1900

CHMMADY OF CHARITIES

		SUMMARY OF QUANTITIES		
		ITEM	QUANTITY	UNITS
	1	GRADING	1	LS
	2	SEEDING AND SODDING	1	LS
	3	TYPE "CG-2" CURB AND GUTTER	1,535	LF
	4	TYPE "CG-1" CURB AND GUTTER	151	LF
	5	SAWCUT EXISTING PAVEMENT	5	LF
	6	2" SURFACE COURSE - TYPE 3	2,732	SY
	7	4" BASE COURSE - TYPE 1	2,732	SY
	8	10" BASE COURSE - MODOT TYPE 5 (WITH GEOGRID) (OPTION B)	3,210	SY
*	9	6" BASE COURSE - MODOT TYPE 5 (6" CHEMICAL STABILIZATION) (OPTION A)	3,210	SY
*	10	TYPE I SIDEWALK RAMP	2	EA
	11	TYPE II SIDEWALK RAMP	1	EA
	12	TYPE III SIDEWALK RAMP (MID-BLOCK RAMP)	3	EA
	13	15" HDPE	397	LF
	14	18" HDPE	43	LF
	15	24" HDPE	260	LF
	16	42" HDPE	238	LF
	17	18" HDPE END SECTION W/ TOEWALL	1	EA
	18	24" HDPE END SECTION W/ TOEWALL	1	EA
	19	42" HDPE END SECTION W/ TOEWALL	1	EA
	20	STD. 6'X4' CURB INLET	6	EA
	21	STD. 6'X6' CURB INLET	1	EA
	22	STD. 4'X4' AREA INLET	2	EA
	23	5'X5' DETENTION STRUCTURE	1	EA
	24	SCOUR BASIN/PLUNGE POOL	1	EA
	25	D ₅₀ -15" STONE RIP-RAP W/ FILTER FABRIC	13	CY
	26	EROSION CONTROL DEVICES	1	LS
	27	AB-3 FOR STREET CROSSING	62	SY
	28	SIGNAGE & PAVEMENT MARKING	1	LS
	29	CITY PERMIT FEE	1	LS
	30	LAND DISTURBANCE CITY FEE	1	LS
	21	DONDS	1	1.0

STREET, STORMWATER, MASTER DRAINAGE PLAN AND EROSION AND SEDIMENT CONTROL

WINTERSET VALLEY, 13TH PLAT

IN THE CITY OF LEE'S SUMMIT JACKSON COUNTY, MISSOURI

GENERAL NOTES:

- ALL CONSTRUCTION TO FOLLOW THE CITY OF LEE'S SUMMIT DESIGN AND CONSTRUCTION MANUAL AS ADOPTED BY ORDINANCE 5813.
- ALL WORKMANSHIP AND MATERIALS SHALL BE SUBJECT TO THE INSPECTION AND APPROVAL OF THE
- ENGINEERING DEPARTMENT OF THE CITY OF LEE'S SUMMIT, MISSOURI. LINEAL FOOT MEASUREMENTS SHOWN ON THE PLANS ARE HORIZONTAL MEASUREMENTS, NOT SLOPE
- MEASUREMENTS. ALL PAYMENTS SHALL BE MADE ON HORIZONTAL MEASUREMENTS. NO GEOLOGICAL INVESTIGATION HAS BEEN PERFORMED ON THE SITE
- THE UTILITY LOCATIONS SHOWN ON THESE PLANS ARE TAKEN FROM UTILITY COMPANY RECORDS AND
- EXCAVATION ON PUBLIC RIGHT OF WAY DO SO ONLY AFTER GIVING NOTICE TO, AND OBTAINING INFORMATION FROM, UTILITY COMPANIES. STATE LAW REQUIRES 48 HOURS ADVANCE NOTICE. THE

- CLEARING AND GRUBBING OPERATIONS AND DISPOSAL OF ALL DEBRIS THEREFROM SHALL BE PERFORMED BY THE CONTRACTOR IN STRICT ACCORDANCE WITH ALL LOCAL CODES AND ORDINANCES.
- ALL WASTE MATERIAL RESULTING FROM THE PROJECT SHALL BE DISPOSED OF OFF-SITE BY THE
- CONTRACTOR, OR AS DIRECTED BY THE OWNER. ALL EXCAVATIONS SHALL BE UNCLASSIFIED. NO SEPARATE PAYMENT WILL BE MADE FOR ROCK
- **EXCAVATION** AND SHALL KEEP THE STREETS CLEAN OF MUD AND DEBRIS
- ALL MANHOLES, CATCH BASINS, UTILITY VALVES AND METER PITS TO BE ADJUSTED OR REBUILT TO GRADE

- THE CONTRACTOR SHALL CONTACT THE RIGHT OF WAY INSPECTOR AT 816-969-1800 PRIOR TO ANY LAND DISTURBANCE ACTIVITIES WITHIN THE RIGHT OF WAY. THESE ACTIVITIES MAY REQUIRE A PERMIT.
- THE CONTRACTOR SHALL PROVIDE AND MAINTAIN ALL TRAFFIC HANDLING MEASURES NECESSARY TO ENSURE THAT THE GENERAL PUBLIC IS PROTECTED AT ALL TIMES. TRAFFIC CONTROL SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD-LATEST EDITION)

STREET NOTES:

- 1. ALL STREET CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE CITY OF LEE'S
- SUMMIT DESIGN AND CONSTRUCTION MANUAL. ALL APPLICABLE AASHTO STANDARDS HAVE BEEN MET. 2. ALL INSPECTION OF STREET CONSTRUCTION TO BE PERFORMED BY THE CITY OF LEE'S SUMMIT PUBLIC WORKS DEPARTMENT.
- CURB RETURN RADII SHALL BE 25' AT BACK OF CURB UNLESS OTHERWISE NOTED.
- SUBGRADE TO BE COMPACTED TO 95% STANDARD PROCTOR DENSITY.
- ASSUMED DESIGN SPEED = 25 MPH (COLLECTOR). MINIMUM STOPPING SIGHT DISTANCE = 155 FEET.
- MINIMUM K, SAG CURVE = 26 (14 WITH LIGHTING), CREST CURVE = 12. GRADE INTERSECTIONS TO DRAIN AS SHOWN.
- SSD = STOPPING SIGHT DISTANCE.

EARTHWORK:

- 1. IT IS RECOMMENDED THAT A GEOTECHNICAL ENGINEER OBSERVE AND DOCUMENT ALL EARTHWORK
- CONTOURS HAVE BEEN SHOWN AT 1-FOOT OR 2-FOOT INTERVALS, AS INDICATED. GRADING SHALL CONSIST OF COMPLETING THE EARTHWORK REQUIRED TO BRING THE PHYSICAL GROUND ELEVATIONS OF THE EXISTING SITE TO THE FINISHED GRADE (OR SUB-GRADE) ELEVATIONS PROVIDED ON THE PLANS AS SPO GRADES, CONTOURS OR OTHERS MEANS AS INDICATED ON THE PLANS
- INHERENT ACCURACY OF ANY EARTHWORK QUANTITY IS ASSUMED FROM THE TOPOGRAPHY ACCURACY
- GUTTER, SIDEWALK AND FURTHER MANIPULATION OF UTILITY TRENCH SPOILS. THE SITE SHALL BE LEFT IN A
- UNLESS OTHERWISE NOTED, ALL EARTHWORK IS CONSIDERED UNCLASSIFIED. NO ADDITIONAL

- LANDSCAPED AREAS TO A MINIMUM DEPTH OF 6-INCHES BELOW FINAL GRADE
- ALL AREAS SHALL BE GRADED FOR POSITIVE DRAINAGE. UNLESS NOTED OTHERWISE THE FOLLOWING A. TURF AREAS – 2.5% MINIMUM, 4H:1V MAXIMUM
- B. PAVED AREAS 1.2% MINIMUM, 5% MAXIMUM
- 13. ALL DISTURBED AREAS SHALL BE FERTILIZED, SEEDED AND MULCHED IMMEDIATELY AFTER EARTHWORK LANDSCAPE PLAN. IF NOT SPECIFIED SEEDING SHALL BE PER APWA SECTION 2400, LATEST EDITION. UNLESS OTHERWISE NOTED, SEEDING SHALL BE SUBSIDIARY TO THE CONTRACT PRICE FOR EARTHWORK AND
- GRADING ACTIVITIES. 14. ALL DISTURBED AREAS IN THE RIGHT-OF-WAY SHALL BE SODDED.
- UNDERDRAINS ARE RECOMMENDED FOR ALL PAVED AREAS ADJACENT TO IRRIGATED TURF AND
- CONTRACTOR SHALL ADHERE TO THE REPORTING REQUIREMENTS OUTLINED IN THE STORM WATER POLLUTION PREVENTION PLAN (SWPPP) PREPARED FOR THIS PROJECT. EROSION AND SEDIMENT CONTROL

DEVICES SHALL BE PROPERLY MAINTAINED AND KEPT CLEAN OF SILT AND DEBRIS AND IN GOOD WORKING

ORDER. ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED AS REQUIRED.

UTILITIES:

- EXISTING UTILITIES HAVE BEEN SHOWN TO THE GREATEST EXTENT POSSIBLE BASED UPON INFORMATION PROVIDED TO THE ENGINEER. THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING THE RESPECTIVE UTILITY COMPANIES AND FIELD LOCATING UTILITIES PRIOR TO CONSTRUCTION AND IDENTIFYING ANY POTENTIAL CONFLICTS. ALL CONFLICTS SHALL IMMEDIATELY BE BROUGHT TO THE ATTENTION OF THE ENGINEER.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ANY REQUIRED UTILITY RELOCATIONS. UTILITIES DAMAGED THROUGH THE NEGLIGENCE OF THE CONTRACTOR SHALL BE REPAIRED AT THE
- CONTRACTOR SHALL VERIFY FLOW-LINES AND STRUCTURE TOPS PRIOR TO CONSTRUCTION, AND SHALL NOTIFY ENGINEER OF ANY DISCREPANCIES. PROVIDE SHOP DRAWINGS FOR ALL PRECAST AND MANUFACTURED UTILITY STRUCTURES FOR REVIEW BY THE ENGINEER PRIOR TO CONSTRUCTION OF THE
- 4. UTILITY SEPARATION: WATERLINES SHALL HAVE A MINIMUM OF 10 FEET HORIZONTAL AND 2 FEET VERTICAL SEPARATION FROM ALL SANITARY AND STORM SEWER LINES. IF MINIMUM SEPARATIONS CAN NOT BE OBTAINED, A CONTINUOUS CASING PIPE MUST BE USED ON THE WATER LINE AND EXTEND NO LESS THAN 10 FEET IN EACH DIRECTION FROM THE CROSSING OF THE SANITARY OR STORM SEWER LINE IN CONFLICT.
- UP, SEEDING, SODDING AND ANY OTHER ITEMS NECESSARY FOR THE CONSTRUCTION OF THE UTILITY LINE SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE UTILITY INSTALLATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING RESPECTIVE UTILITY COMPANIES 48-HOURS IN ADVANCE FOR THE INSPECTION OF ANY PROPOSED UTILITY MAIN EXTENSION OR SERVICE LINE OR SERVICE

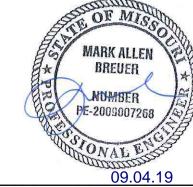
PAYMENT FOR TRENCHING, BACKFILLING, PIPE EMBEDMENT, FLOWABLE FILL, BACKFILL MATERIALS, CLEAN

CONNECTION TO ANY EXISTING MAIN. TRENCH SPOILS SHALL BE NEATLY PLACED ONSITE ADJACENT TO THE TRENCH, AND COMPACTED TO PREVENT SATURATION AND EXCESS SEDIMENT RUNOFF. UNSUITABLE MATERIALS, EXCESS ROCK AND SHALE, ASPHALT, CONCRETE, TREES, BRUSH ETC. SHALL BE PROPERLY DISPOSED OF OFFSITE. MATERIALS MAY BE WASTED ONSITE AT THE DIRECTION OF THE OWNER OR HIS APPOINTED REPRESENTATIVE.

Sheet Number **COVER SHEET** PRE-CLEARING PLAN **ECP-CONSTRUCTION** FINAL STABILIZATION PLAN **EROSION CONTROL DETAILS EROSION CONTROL DETAILS** GENERAL LAYOUT MASTER DRAINAGE PLAN - GRADING PLAN MASTER DRAINAGE PLAN - SPOT ELEVATIONS MASTER DRAINAGE PLAN - DRAINAGE MAP MASTER DRAINAGE PLAN-DRAINAGE MAP CONT'D 12 NW THOREAU DRIVE PLAN AND PROFILE NW THOREAU PLACE AND NW THOREAU LANE PLAN AND PROFILE INTERSECTION DETAILS INTERSECTION DETAILS STORM PLAN STORM PROFILES **DETENTION BASIN** STREET AND STORM DETAILS STREET AND STORM DETAILS STREET AND STORM DETAILS STREET AND STORM DETAILS 22 STREET SIGN DETAILS

Sheet List Table

PREPARED AND SUBMITTED BY



SCHLAGEL & ASSOCIATES, P.A.

APPROVED BY

CITY ENGINEER APPROVED FOR ONE YEAR FROM THIS DATE

DATE

OWNER/DEVELOPER:

GALE COMMUNITIES, INC. DAVID GALE 400 SW LONGVIEW BLVD, STE 109 LEE'S SUMMIT, MO 64081 p 816.645.2336 (CELL) 816.761.9292 (OFFICE)

DGALE@GALECOMMUNITIES.COM



MISSOURI GEOGRAPHIC REFERENCE SYSTEM **BENCH MARK:**

BM JA-136, LOCATED AT INTERSECTION OF SW OLDHAM PARKWAY AND SW WARD ROAD, 61 FT SOUTH OF CL OF OLDHAM PARKWAY AND 28.9 FT EAST OF THE EAST EDGE OF WARD ROAD.

ELEV. 993.11'

PROJECT BENCH MARK:

SANITARY MANHOLE H2 AT NW CORNER OF LOT 1153 WINTERSET VALLEY 1ST PLAT, APPROX. 39' RT. OF CL OF NW PEALE BLVD.

ELEV.935.45'

COVER SHEET

SHEET

OF 24

QUANTITIES PULLED FOR STREET OPTION A & B FROM CITY OF LEE'S SUMMIT DESIGN CRITERIA, SECTION 5200, TABLE LS-2: MINIMUM ASPHALT PAVEMENT THICKNESSES. EITHER IS ALLOWED AT CONTRACTORS OPTION (SEE TABLE ON DETAIL SHEET 22.)

	_		EROSIC	ON AND SEDIMENT CONT	ROL ST	AGING CHART
ASE		PROJECT STAGE	BMP PLAN REF. NO	BMP DESCRIPTION	REMOVE AFTER STAGE	NOTES:
IG PH/			1	CONSTRUCTION ENTRANCE & STAGING AREA	D	MAINTAIN, REPAIR, OR REPLACE AS NECESSARY
LIZATION CONSTRUCTION PHASE TO DE CONSTRUCTION PHASE TO DE CONSTRUCTION PHASE		2	SILT FENCE 1 (PRIOR TO LAND DISTURBANCE)	E	PLACE WHERE INDICATED, REPAIR OR REPLACE AS NECESSARY AND REMOVE ONLY WHEN GRADED AREAS HAVE SUFFICIENT GROUND COVER ESTABLISHED	
PRE-	FINAL STABILIZATION CONSTRUCTION PHASE PHASE C C C C C C C C C C C C C C C C C C	A - PRIOR TO LAND DISTURBANCE	3*	EXISTING INLET PROTECTION	E	PLACE WHERE INDICATED, REPAIR OR REPLACE AS NECESSARY AND REMOVE ONLY WHEN GRADED AREAS HAVE SUFFICIENT GROUND COVER ESTABLISHED
			3a	FOAM SILT DIKE OR ROCK DITCH CHECK AND SEDIMENT TRAPS	E	PLACE WHERE INDICATED AT EXISTING SWALES AND DRAINAGE COURSES
IASE		B - MASS GRADING	4	SILT FENCE 2 (DURING CONSTRUCTION)	E	PLACE WHERE INDICATED, REPAIR OR REPLACE AS NECESSARY AND REMOVE ONLY WHEN GRADED AREAS HAVE SUFFICIENT GROUND COVER ESTABLISHED
HION PH	CONSTRUCTION PHASE	B - MASS GRADING	5	FOAM SILT DIKE OR ROCK DITCH CHECK AND SEDIMENT TRAPS	E	PLACE WHERE INDICATED AS SOON AS SWALE IS ESTABLISHED, REPAIR OR REPLACE AS NECESSARY
NSTRUC			6	CONCRETE WASHOUT AREA	E	MAINTAIN, REPAIR, OR REPLACE AS NECESSARY
-	C - UTILITY CONSTRUCTION	7	INLET PROTECTION (SILT FENCE)	D/E	PLACE SILT FENCE AROUND ALL STORM SEWER STRUCTURES / YARD AREA STORM STRUCTURES TO HAVE SILT FENCE REMOVED ONLY WHEN GRADED AREAS HAVE SUFFICIENT GROUND COVER ESTABLISHED	
IZATION	ı		8	INLET PROTECTION (GRAVEL FILTER BAGS)	E	BOARDS SHALL BE PLACED IN FRONT OF INLET OPENING FROM THE TIME SILT FENCE IS REMOVED UNTIL SUCH TIME THAT THE CURB / THROAT IS POURED. PLACE GRAVEL FILTER BAGS AT THE OPENING OF ALL CURB INLETS IMMEDIATELY AFTER THE INLET THROATS ARE POURED
VAL STABII) = -	D - AFTER PAVING OPERATIONS	9	SILT FENCE 2 (AFTER CURB CONSTRUCTION)	E	PLACE WHERE INDICATED, REPAIR OR REPLACE AS NECESSARY AND REMOVE ONLY WHEN GRADED AREAS HAVE SUFFICIENT GROUND COVER ESTABLISHED
			10	SEEDING AND MULCHING	E	ALL DISTURBED AREAS AFTER 14 DAYS OF CONSTRUCTION INACTIVITY
	· •	E - UNTIL CLOSURE OF LAND DISTURBANCE PERMIT				ADDITIONAL SEDIMENT AND EROSION CONTROL MEASURES MAY BE REQUIRED ANY TIME CURRENT MEASURES ARE FOUND TO BE INEFFECTIVE.

MULCH BERMS ARE AN ACCEPTABLE
ALTERNATIVE TO SILT FENCE REQUIRED
PRIOR TO LAND DISTURBANCE AND ADJACENT

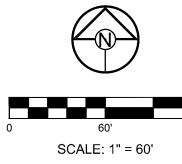
TO WOODED/UNDEVELOPED AREAS.

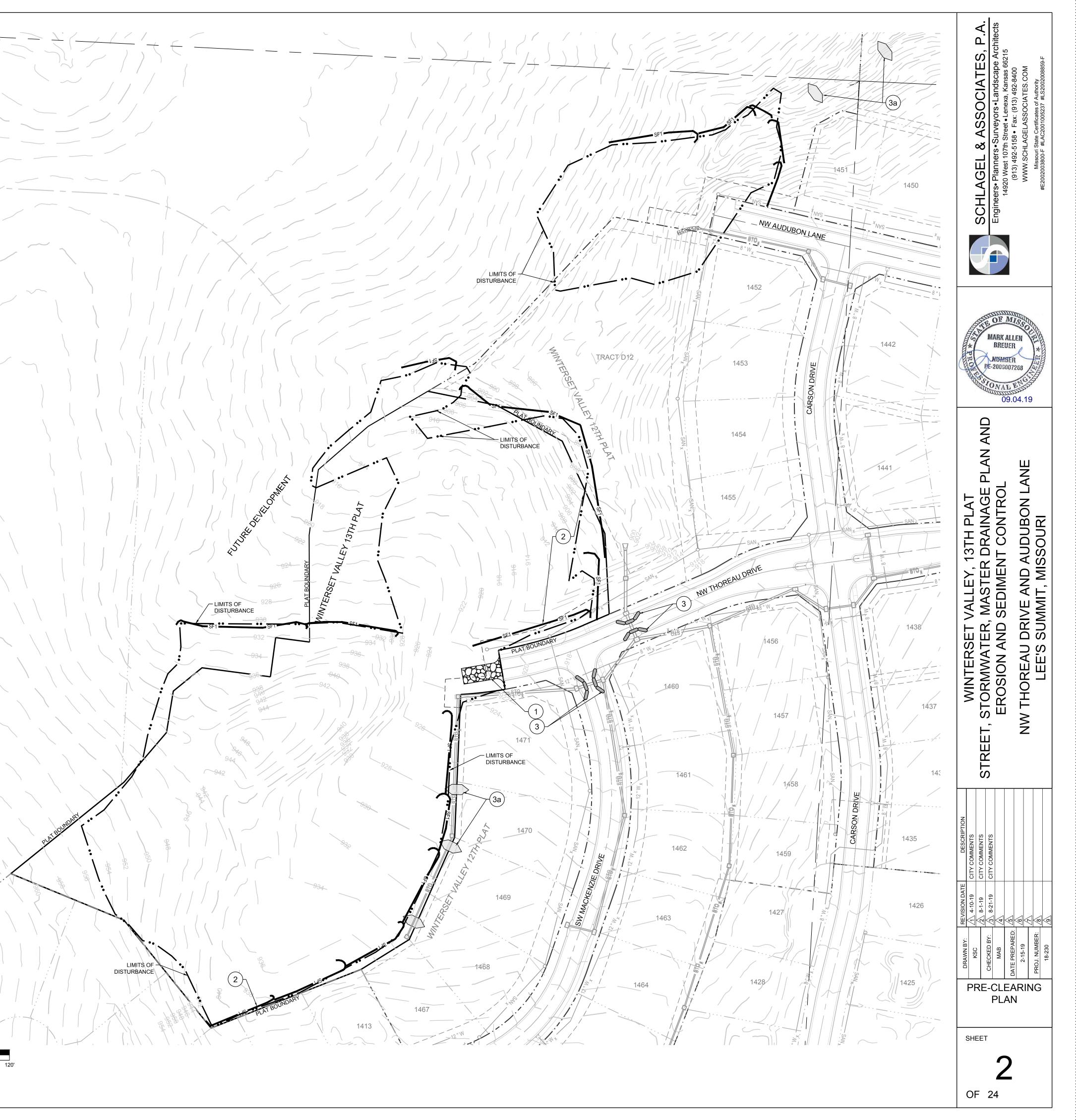
DISTURBED AREA = 6.77 A.C.

SITE SPECIFIC NOTES:

- 1. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL EXISTING UTILITY LOCATIONS PRIOR TO EXCAVATION.
- 2. THERE ARE NO WETLANDS, NATURAL OR ARTIFICIAL WATER STORAGE DETENTION AREAS IN THE PROJECT AREA.
- 3. NO PART OF THE PROJECT LIES WITHIN THE 100 YEAR FLOOD PLAIN PER FEMA FLOOD INSURANCE RATE MAP NUMBER 29095C0412G DATED JANUARY 20, 2017.
- 4. ALL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE IMPLEMENTED ACCORDING TO THE BMP STAGING CHART.
- 5. ADDITIONAL EROSION CONTROL MAY BE REQUIRED BY THE CITY ENGINEER AT ANY TIME EXISTING MEASURES ARE FOUND TO BE INEFFECTIVE OR PROBLEMATIC AREAS ARE NOTED IN THE FIELD.
- 6. STABILIZATION OF DISTURBED AREAS MUST, AT A MINIMUM, BE INITIATED IMMEDIATELY WHENEVER ANY CLEARING, GRADING, EXCAVATING, OR OTHER SOIL DISTURBING ACTIVITIES HAVE PERMANENTLY CEASED ON ANY PORTION OF THE SITE, OR TEMPORARILY CEASED ON ANY PORTION OF THE SITE AND WILL NOT RESUME FOR A PERIOD EXCEEDING 14 CALENDAR DAYS. THE DISTURBED AREAS SHALL BE PROTECTED FROM EROSION BY STABILIZING THE AREA WITH MULCH OR OTHER SIMILARLY EFFECTIVE SOIL STABILIZING BMPS. INITIAL STABILIZATION ACTIVITIES MUST BE COMPLETED WITHIN 14 DAYS AFTER SOIL DISTURBING ACTIVITIES CEASE.
- 7. ALL PERIMETER SILT FENCE, EARTH DIKES, SEDIMENT BASINS, AND ROCK CONSTRUCTION ENTRANCES WILL BE INSTALLED BEFORE GRADING OPERATIONS BEGIN.
- 8. SILT FENCE AND EARTH DIKES THAT ARE PLACED BEFORE GRADING BEGINS WILL BE MAINTAINED BY THE GRADING CONTRACTOR.
- 9. AREAS WITHIN PUBLIC RIGHT-OF-WAY SHALL BE SODDED IMMEDIATELY AFTER CONSTRUCTION IS COMPLETE.







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			ON AND SEDIMENT CONT	DEMO\/E	
	PROJECT STAGE	BMP PLAN REF. NO	BMP DESCRIPTION	REMOVE AFTER STAGE	NOTES:
		1	CONSTRUCTION ENTRANCE & STAGING AREA	D	MAINTAIN, REPAIR, OR REPLACE AS NECESSARY
		2	SILT FENCE 1 (PRIOR TO LAND DISTURBANCE)	E	PLACE WHERE INDICATED, REPAIR OR REPLACE AS NECESSARY AND REMOVE ONLY WHEN GRADED AREA HAVE SUFFICIENT GROUND COVER ESTABLISHED
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		3a	FOAM SILT DIKE OR ROCK DITCH CHECK AND SEDIMENT TRAPS	E	PLACE WHERE INDICATED AT EXISTING SWALES AND DRAINAGE COURSES
	B - MASS GRADING	4	SILT FENCE 2 (DURING CONSTRUCTION)	E	PLACE WHERE INDICATED, REPAIR OR REPLACE AS NECESSARY AND REMOVE ONLY WHEN GRADED AREA HAVE SUFFICIENT GROUND COVER ESTABLISHED
	B - IMAGG GRADING	5	FOAM SILT DIKE OR ROCK DITCH CHECK AND SEDIMENT TRAPS	E	PLACE WHERE INDICATED AS SOON AS SWALE IS ESTABLISHED, REPAIR OR REPLACE AS NECESSARY
		6	CONCRETE WASHOUT AREA	E	MAINTAIN, REPAIR, OR REPLACE AS NECESSARY
	C - UTILITY CONSTRUCTION	7	INLET PROTECTION (SILT FENCE)	D/E	PLACE SILT FENCE AROUND ALL STORM SEWER STRUCTURES / YARD AREA STORM STRUCTURES TO HAVE SILT FENCE REMOVED ONLY WHEN GRADED AREAS HAVE SUFFICIENT GROUND COVER ESTABLISH
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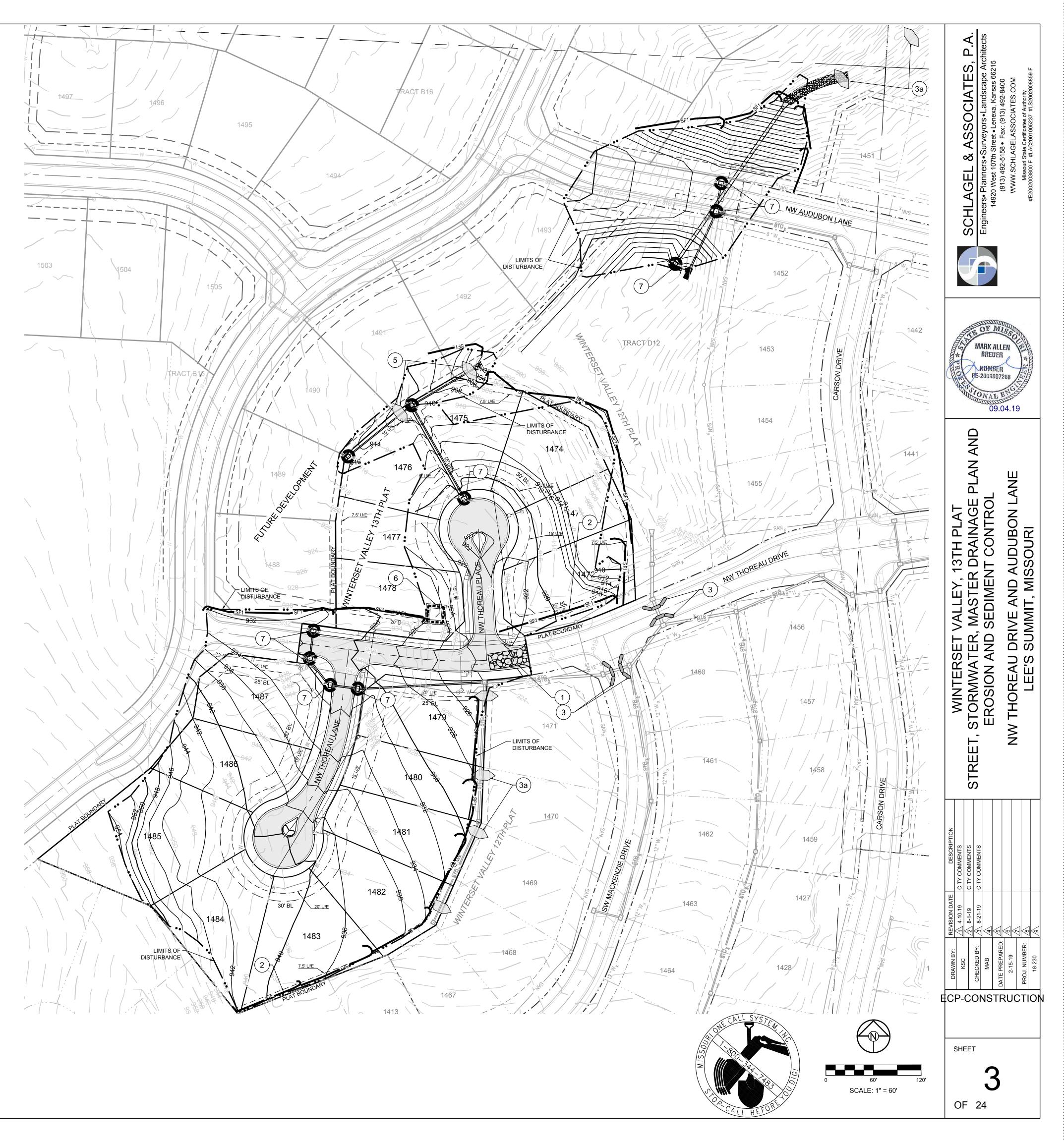
STAGING CHART.

NOTED IN THE FIELD.

SITE SPECIFIC NOTES:

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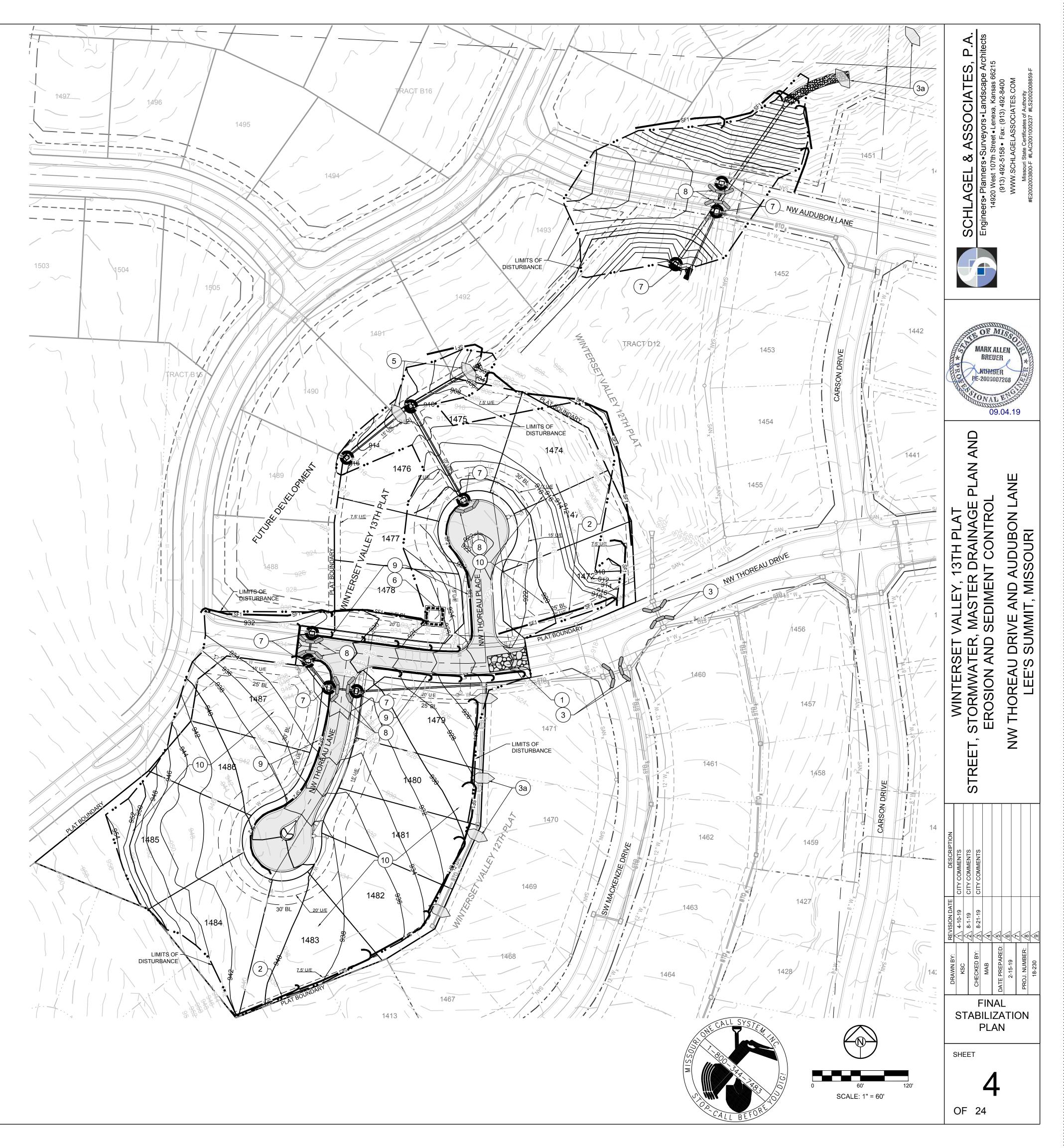
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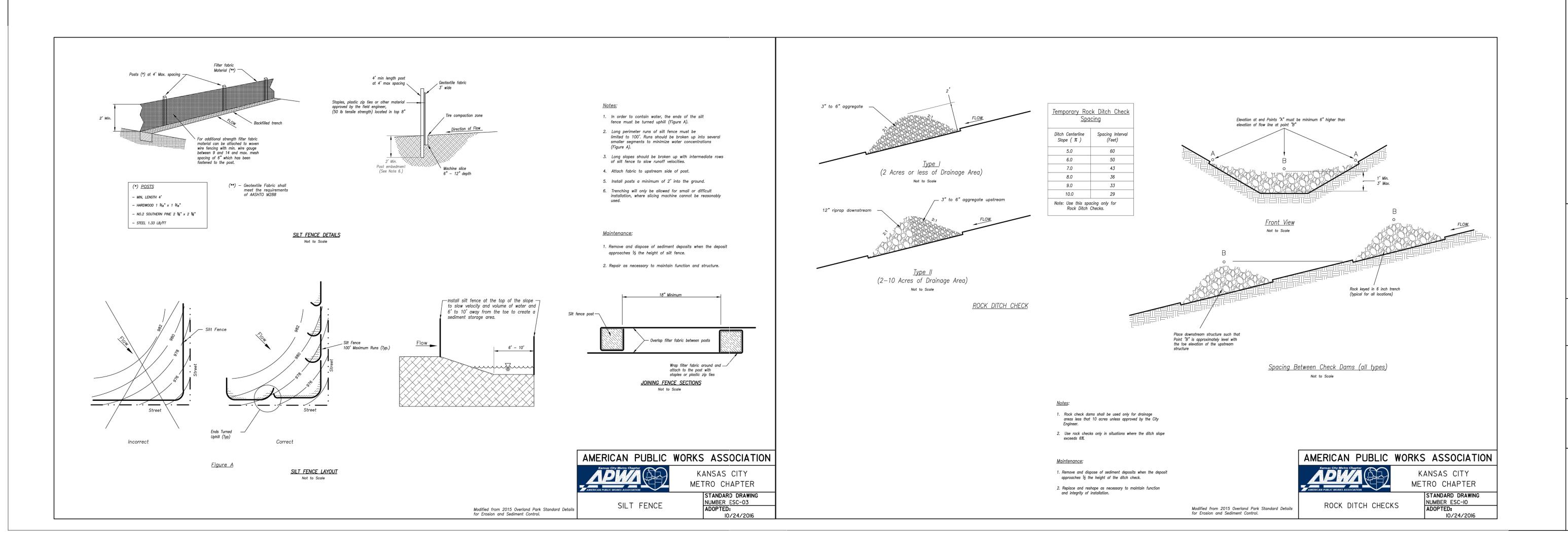
				REMOVE	
L	PROJECT STAGE	BMP PLAN REF. NO	BMP DESCRIPTION	AFTER STAGE	NOTES:
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		6	CONCRETE WASHOUT AREA	E	MAINTAIN, REPAIR, OR REPLACE AS NECESSARY
	C - UTILITY CONSTRUCTION	7	INLET PROTECTION (SILT FENCE)	D/E	PLACE SILT FENCE AROUND ALL STORM SEWER STRUCTURES / YARD AREA STORM STRUCTURES TO HAVE SILT FENCE REMOVED ONLY WHEN GRADED AREAS HAVE SUFFICIENT GROUND COVER ESTABLISH
Ш		8	INLET PROTECTION (GRAVEL FILTER BAGS)	E	BOARDS SHALL BE PLACED IN FRONT OF INLET OPENII FROM THE TIME SILT FENCE IS REMOVED UNTIL SUCH TIME THAT THE CURB / THROAT IS POURED. PLACE GRAVEL FILTER BAGS AT THE OPENING OF ALL CURB INLETS IMMEDIATELY AFTER THE INLET THROATS ARE POURED
THAU	D - AFTER PAVING OPERATIONS	9	SILT FENCE 2 (AFTER CURB CONSTRUCTION)	E	PLACE WHERE INDICATED, REPAIR OR REPLACE AS NECESSARY AND REMOVE ONLY WHEN GRADED AREA HAVE SUFFICIENT GROUND COVER ESTABLISHED
		10	SEEDING AND MULCHING	E	ALL DISTURBED AREAS AFTER 14 DAYS OF CONSTRUCTION INACTIVITY

DISTURBED AREA = 6.77 A.C.

SITE SPECIFIC NOTES:

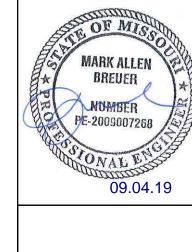
- THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL EXISTING UTILITY LOCATIONS PRIOR TO EXCAVATION.
- THERE ARE NO WETLANDS, NATURAL OR ARTIFICIAL WATER STORAGE DETENTION AREAS IN THE PROJECT AREA.
- 3. NO PART OF THE PROJECT LIES WITHIN THE 100 YEAR FLOOD PLAIN PER FEMA FLOOD INSURANCE RATE MAP NUMBER 29095C0412G DATED JANUARY 20, 2017.
- 4. ALL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE IMPLEMENTED ACCORDING TO THE BMP STAGING CHART.
- 5. ADDITIONAL EROSION CONTROL MAY BE REQUIRED BY THE CITY ENGINEER AT ANY TIME EXISTING MEASURES ARE FOUND TO BE INEFFECTIVE OR PROBLEMATIC AREAS ARE NOTED IN THE FIELD.
- 6. STABILIZATION OF DISTURBED AREAS MUST, AT A MINIMUM, BE INITIATED IMMEDIATELY WHENEVER ANY CLEARING, GRADING, EXCAVATING, OR OTHER SOIL DISTURBING ACTIVITIES HAVE PERMANENTLY CEASED ON ANY PORTION OF THE SITE, OR TEMPORARILY CEASED ON ANY PORTION OF THE SITE AND WILL NOT RESUME FOR A PERIOD EXCEEDING 14 CALENDAR DAYS. THE DISTURBED AREAS SHALL BE PROTECTED FROM EROSION BY STABILIZING THE AREA WITH MULCH OR OTHER SIMILARLY EFFECTIVE SOIL STABILIZING BMPS. INITIAL STABILIZATION ACTIVITIES MUST BE COMPLETED WITHIN 14 DAYS AFTER SOIL DISTURBING ACTIVITIES CEASE.
- 7. ALL PERIMETER SILT FENCE, EARTH DIKES, SEDIMENT BASINS, AND ROCK CONSTRUCTION ENTRANCES WILL BE INSTALLED BEFORE GRADING OPERATIONS BEGIN.
- 8. SILT FENCE AND EARTH DIKES THAT ARE PLACED BEFORE GRADING BEGINS WILL BE MAINTAINED BY THE GRADING CONTRACTOR.
- 9. AREAS WITHIN PUBLIC RIGHT-OF-WAY SHALL BE SODDED IMMEDIATELY AFTER CONSTRUCTION IS COMPLETE.





SCHLAGEL

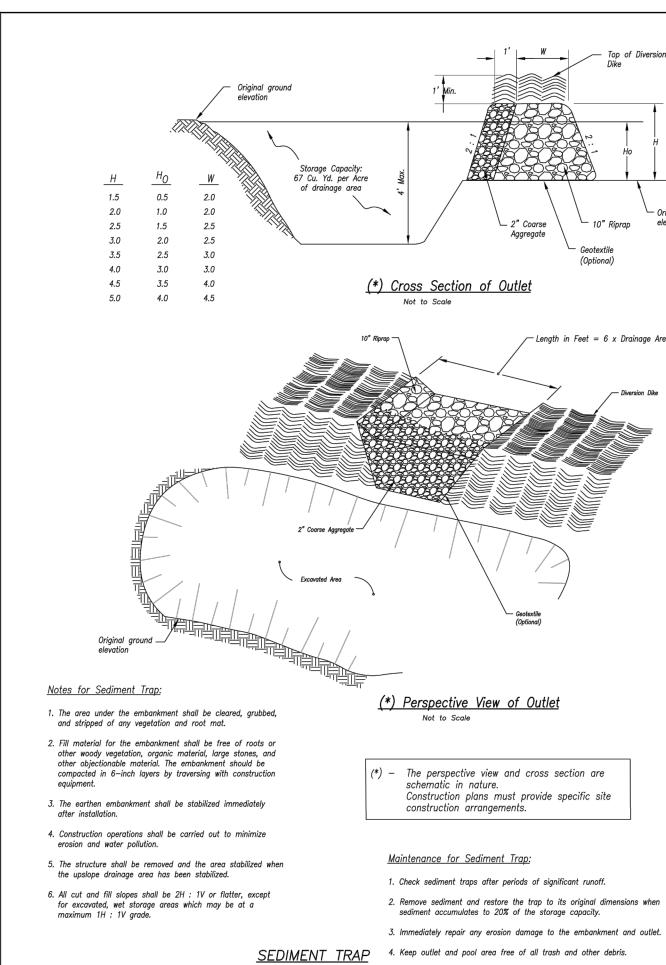




PLAT R DRAINAGE NT CONTROL ND AUDUBON I , MISSOURI EY, 13TH PL/ , MASTER DF SEDIMENT (DRIVE AN SUMMIT, STORMWA: EROSION A THOF AND,

EROSION CONTROL DETAILS

SHEET



STANDARD DRAWING

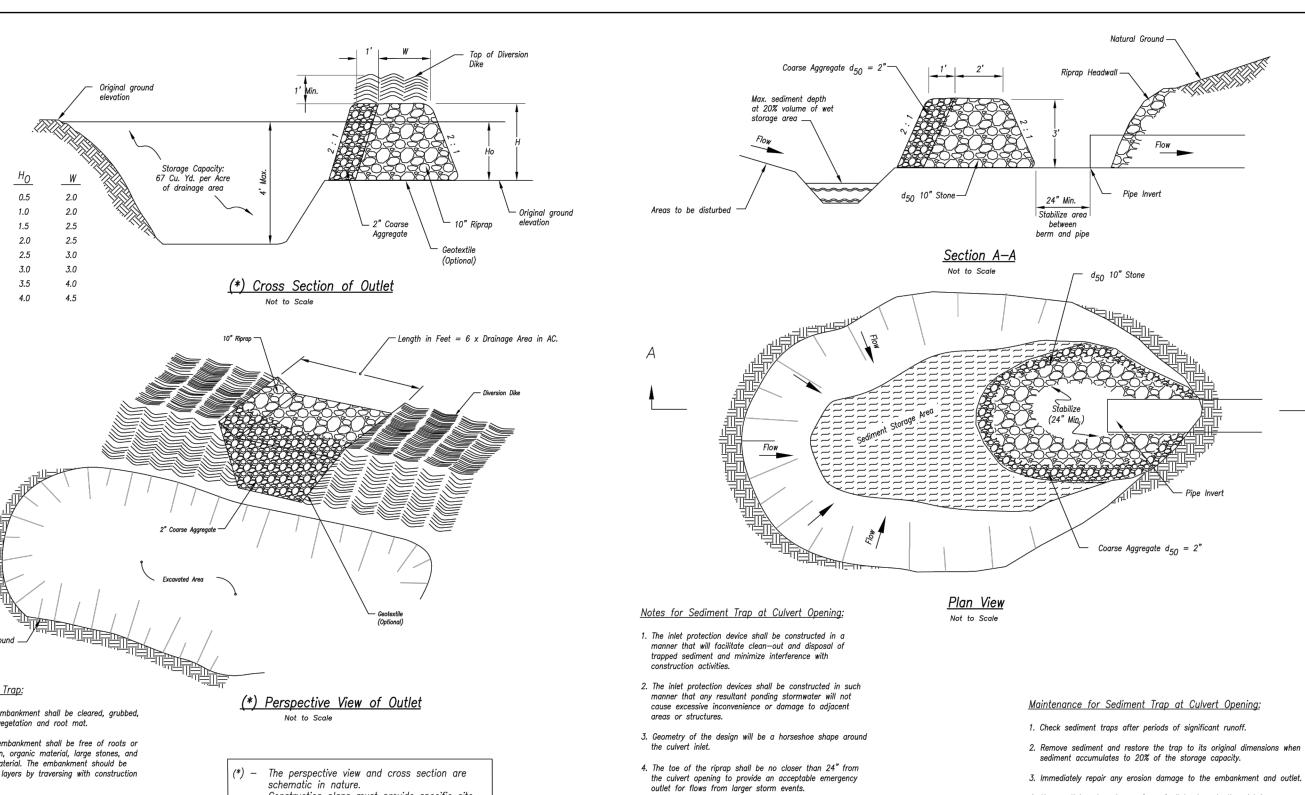
NUMBER ESC-07

AREA INLET AND

JUNCTION BOX PROTECTION

Modified from 2015 Overland Park Standard Details

for Erosion and Sediment Control.



5. Storage requirements equivalent to that of temporary

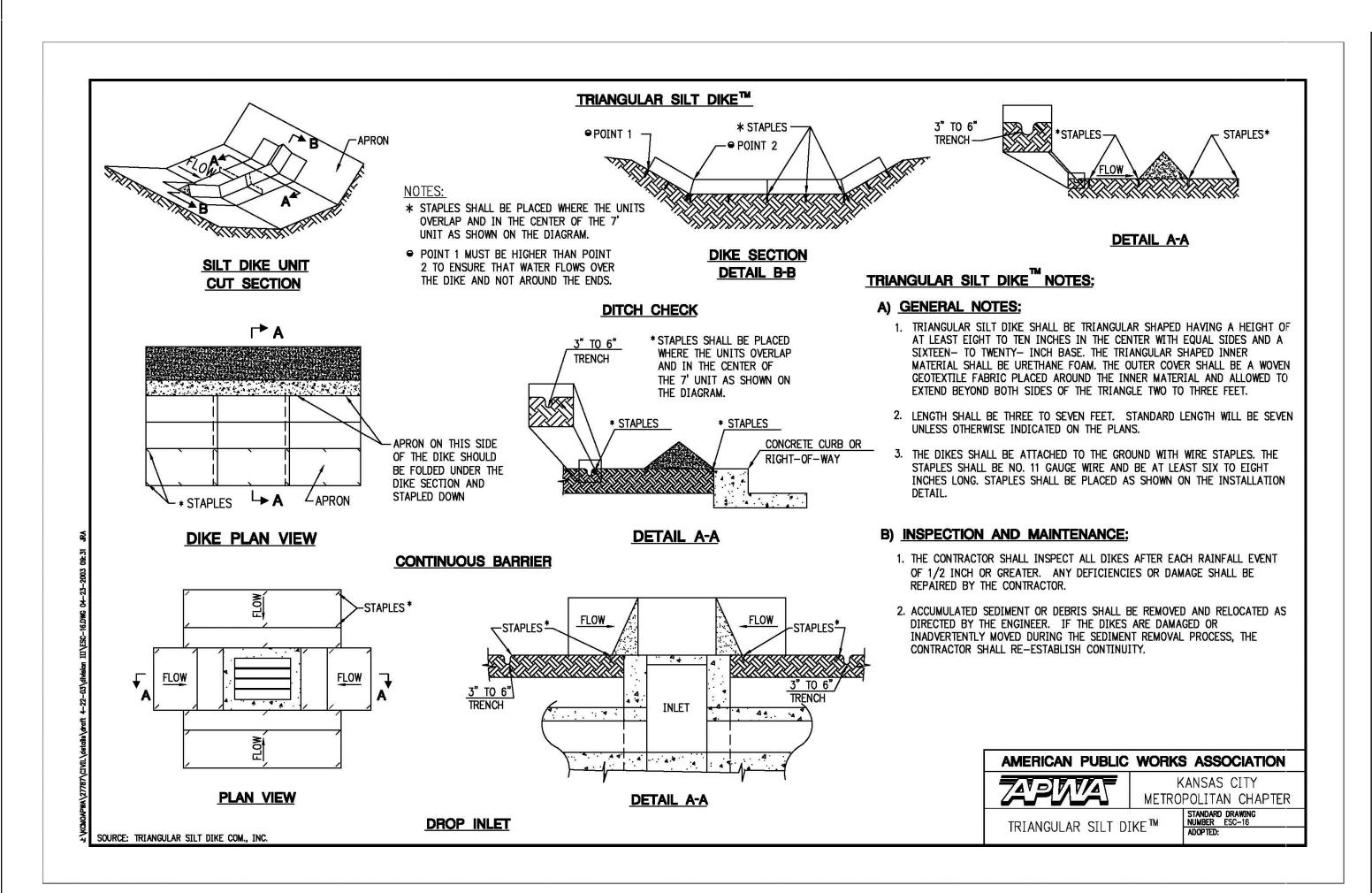
7. 67 C.Y./Acre dry storage from base of stone to top of

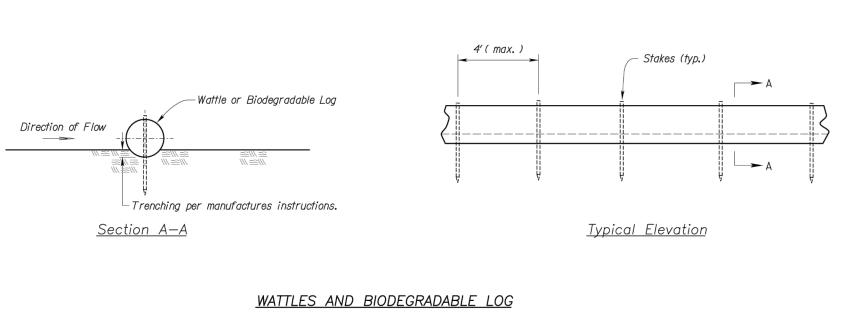
Modified from 2015 Overland Park Standard Detail

for Erosion and Sediment Control.

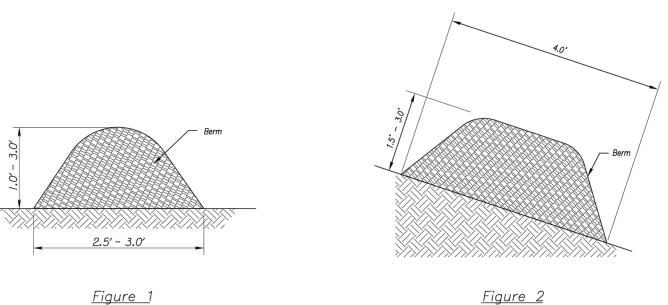
6. 67 C.Y./Acre wet storage below base of stone.

sediment trap.









(Perimeter Control)

MULCH OR COMPOST FILTER BERMS

Notes for Wattles and Biodegradable Log Slope

SEDIMENT TRAPS

- 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".

4. Keep outlet and pool area free of all trash and other debris.

AMERICAN PUBLIC WORKS ASSOCIATION

KANSAS CITY

METRO CHAPTER

STANDARD DRAWING

NUMBER ESC-08

<u>Notes for Mulch and Compost Filter Beam:</u>

- 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
- 5. Wood mulch shall consist of tree and shrub debris resulting from clearing and grubbing and shall be ground 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.

AMERICAN PUBLIC WORKS ASSOCIATION KANSAS CITY METRO CHAPTER

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

AND MULCH/COMPOST FILTER BERM | "

STANDARD DRAWING WATTLES/BIODEGRADABLE LOG NUMBER ESC-04

OF 24

WINTERSET VALLEY EET, STORMWATER, N I AND EROSION AND S DRIVE AN SUMMIT,

MARK ALLEN BREUER

PE-2009007268

RAINAGE

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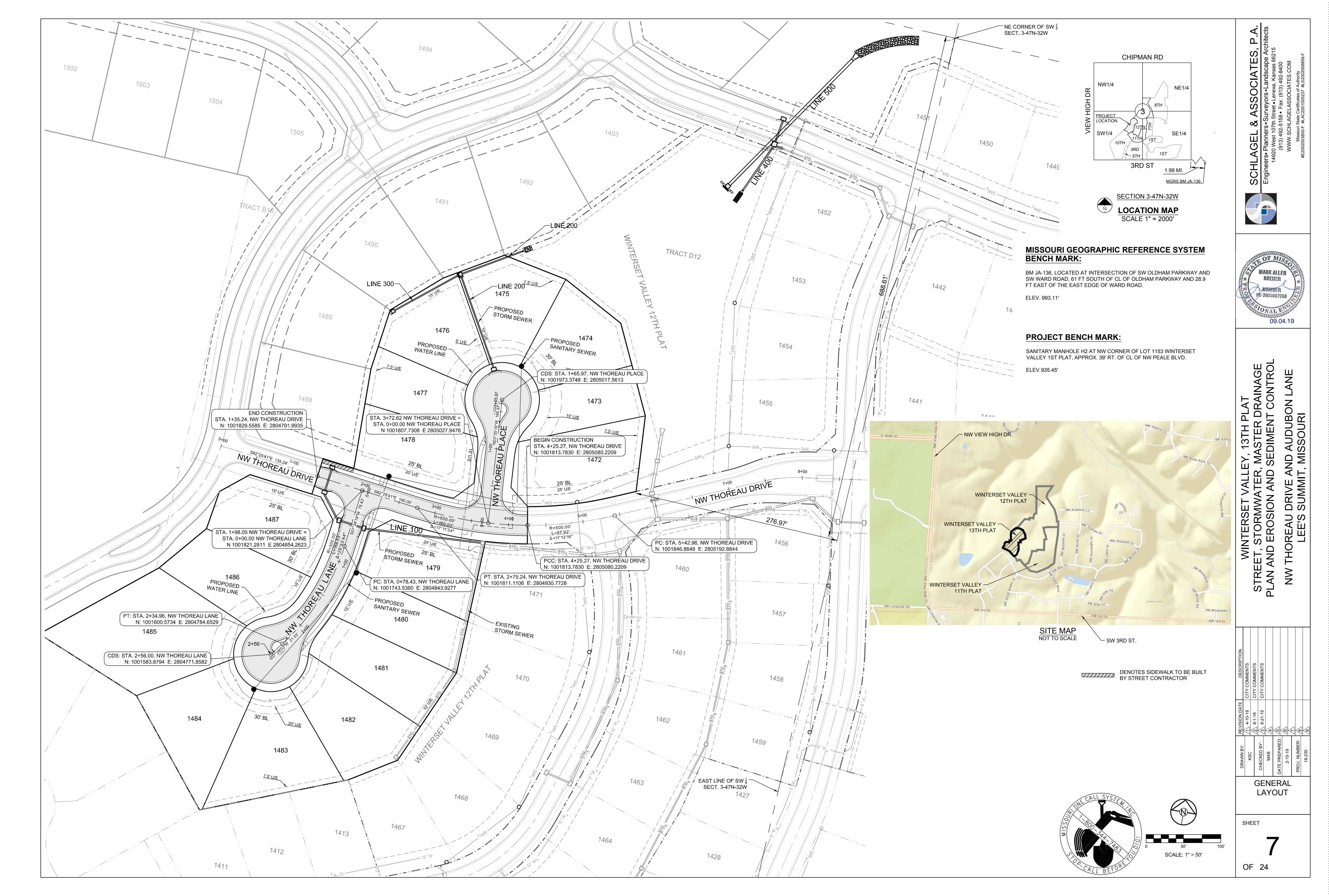
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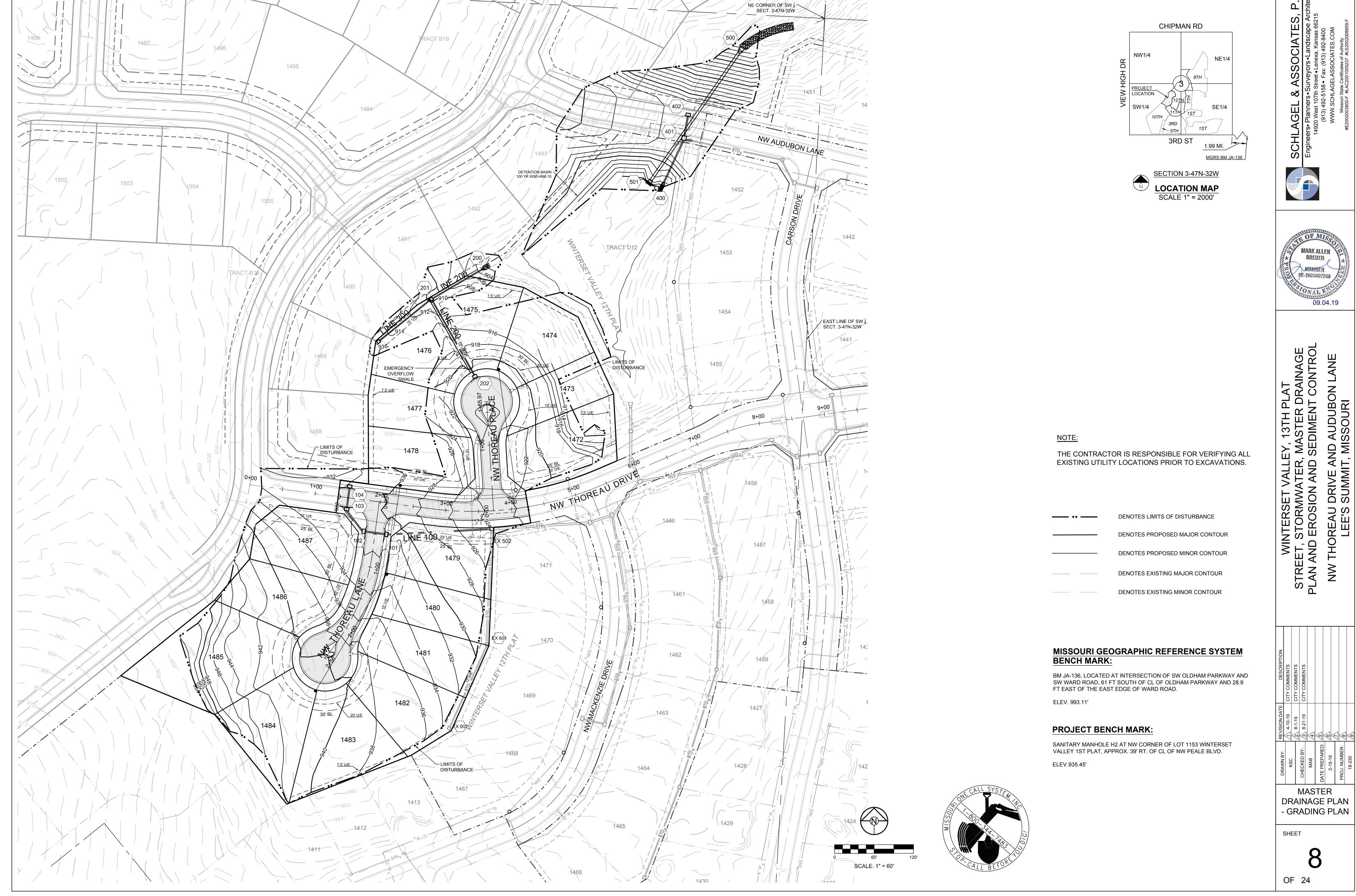
THO

EROSION

CONTROL DETAILS

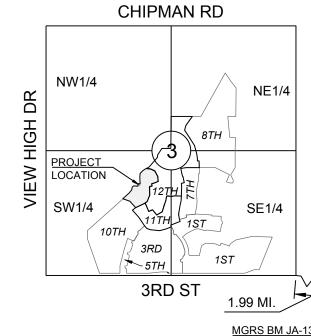


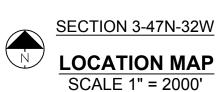
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. NUMBER: 8
l8-230







MISSOURI GEOGRAPHIC REFERENCE SYSTEM **BENCH MARK:**

BM JA-136, LOCATED AT INTERSECTION OF SW OLDHAM PARKWAY AND SW WARD ROAD, 61 FT SOUTH OF CL OF OLDHAM PARKWAY AND 28.9 FT EAST OF THE EAST EDGE OF WARD ROAD.

ELEV. 993.11'

PROJECT BENCH MARK:

SANITARY MANHOLE H2 AT NW CORNER OF LOT 1153 WINTERSET VALLEY 1ST PLAT, APPROX. 39' RT. OF CL OF NW PEALE BLVD.

ELEV.935.45'

NOTES:

CORNERS.

- 1. MBOE = MINIMUM BUILDING OPENING ELEVATION FOR HOUSES ADJACENT TO ENGINEERED OVERFLOW SWALES SHALL BE MINIMUM 2 FEET ABOVE THE 100 YR WATER SURFACE ELEVATION.
- EGL = ENERGY GRADE LINE (100 YR)

LOT TYPE TABLE

1472 | WALKOUT

1473 WALKOUT

1474 | WALKOUT 1475 | WALKOUT

1476 | WALKOUT

1477 DAYLIGHT

1478 STANDARD

1479 DAYLIGHT

1480 DAYLIGHT

1481 DAYLIGHT

1482 DAYLIGHT

1483 DAYLIGHT

1484 STANDARD

1485 STANDARD

1486 STANDARD

1487 | STANDARD

DAYLIGHT BASED ON ADJACENT GRADE 4 FT BELOW TOP OF FOUNDATION WHILE

MAINTAINING 2.5% (MIN) GRADE TO LOT

AT BASEMENT FLOOR ELEVATION WHILE

MAINTAINING 2.5% (MIN) GRADE TO LOT

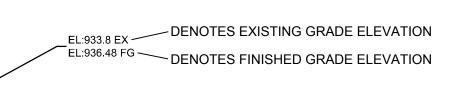
2. WALKOUT BASED ON ADJACENT GRADE

LOT#

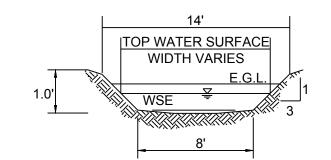
BASEMENT

TYPE

- WSE = WATER SURFACE ELEVATION (100 YR) ENGINEERED SWALES TO BE GRADED TO NORMAL DEPTH OF FLOW
- (WATER SURFACE ELEVATION) OR 1.0 FT, WHICHEVER IS GREATER. MINIMUM SLOPE OF ENGINEERED SWALES SHALL BE AS NOTED.
- MBOE'S ADJACENT TO SUMPED INLETS SHALL BE A MINIMUM OF 1' ABOVE TOP OF ADJACENT BERM



DENOTES CONCEPTUAL BUILDING FOOTPRINT



100 YR OVERFLOW SWALE SECTIONS SECTION A-A, B-B, C-C, D-D, E-E, F-F

(SEE ADJACENT CHART)

RUNOFF CALCULATIONS:

0.07

8.4

1.25

0.02

0.09

Q = K * C * I * A $K_{10} = 1.0$ $K_{100} = 1.25$ C = 0.51 I = INTENSITYDESIGN OVERFLOW=Q_{OVERFLOW} = Q₁₀₀ - Q₁₀ MANNINGS "n" = .030 FOR SWALES



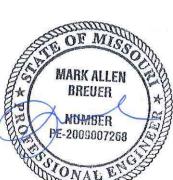
				100	YEAR OVE	RFLOW SWA	ALES					
SECTION	DRAINAGE AREA (AC.)	Q100 (CFS)	Q10 (CFS)	DESIGN OVERFLOW (CFS)	BED SLOPE (%)	BASE WIDTH (FT.)	SIDE SLOPE	TOP WATER SURFACE WIDTH (FT.)	NORMAL DEPTH (FT.)	VELOCITY (FPS)	VELOCITY HEAD (FT.)	EGL (FT.)
A-A	1.61	10.59	7.00	3.59	2.60	8	3:1	9.1	0.18	2.36	0.09	0.27
B-B	0.91	5.99	3.96	2.03	2.50	8	3:1	8.8	0.13	1.88	0.05	0.18
C-C	1.14	7.50	4.96	2.54	2.50	8	3:1	8.9	0.15	2.02	0.06	0.21
D-D	0.51	3.36	2.39	3.36	8.34	8	3:1	8.7	0.12	3.35	0.17	0.29
E-E	0.99	6.51	4.31	2.21	5.64	8	3:1	8.7	0.11	2.43	0.09	0.20
F-F	0.52	3.42	2.26	1.16	7.66	8	3:1	8.4	0.07	2.03	0.06	0.13

3:1

2.38

MGRS BM JA-136





09.04.19

LAT DRAINAGE CONTROL

WINTERSET VALLE STREET, STORMWATER, PLAN AND EROSION AND NW THOREAU DRIVE AN LEE'S SUMMIT,

MASTER DRAINAGE PLAN - SPOT **ELEVATIONS**

SHEET



SCALE: 1" = 60'



09.04.19

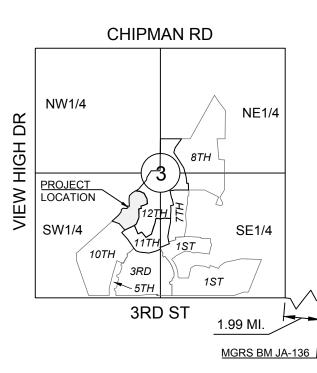
DRIVE AN SUMMIT, WINTERSET V. STREET, STORMWAT LAN AND EROSION A

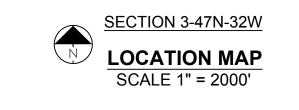
MASTER DRAINAGE MAP

DRAINAGE PLAN

SHEET







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SANITARY MANHOLE H2 AT NW CORNER OF LOT 1153 WINTERSET VALLEY 1ST PLAT, APPROX. 39' RT. OF CL OF NW PEALE BLVD.

WINTERSET VALLE STREET, STORMWATER, PLAN AND EROSION AND NW THOREAU DRIVE AN LEE'S SUMMIT,

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MASTER DRAINAGE PLAN-DRAINAGE MAP CONT'D SHEET

5' SIDEWALK -(BY STREET CONTRACTOR) U/E DOC. # 1472 STA. 3+72.62 NW THOREAU DRIVE = END CONSTRUCTION STA. 0+00.00 NW THOREAU PLACE 50.00' R/W STA. 1+35.24, NW THOREAU DRIVE N 1001807.7308 E 2805027.9476 - SAW CUT ±5 LF N: 1001829.5585 E: 2804791.9935 (BY OTHERS) NW THOREAU DRIVE BEGIN CONSTRUCTION 1460 STA. 4+25.27, NW THOREAU DRIVE N: 1001813.7830 E: 2805080.2209 PC: STA. 4+25.27, NW THOREAU DRIVE N: 1001813.7830 E: 2805080.2209 STA. 1+98.05 NW THOREAU DRIVE = STA. 0+00.00 NW THOREAU LANE N 1001821.2811 E 2804854.2623 PT: STA. 2+75.24, NW THOREAU DRIVE N: 1001811.1106 E: 2804930.7728

5' SIDEWALK (BY OTHERS)

MISSOURI GEOGRAPHIC REFERENCE SYSTEM BENCH MARK:

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ELEV. 993.11'

PROJECT BENCH MARK:

SANITARY MANHOLE H2 AT NW CORNER OF LOT 1153 WINTERSET VALLEY 1ST PLAT, APPROX. 39' RT. OF CL OF NW PEALE BLVD.

ELEV.935.45'

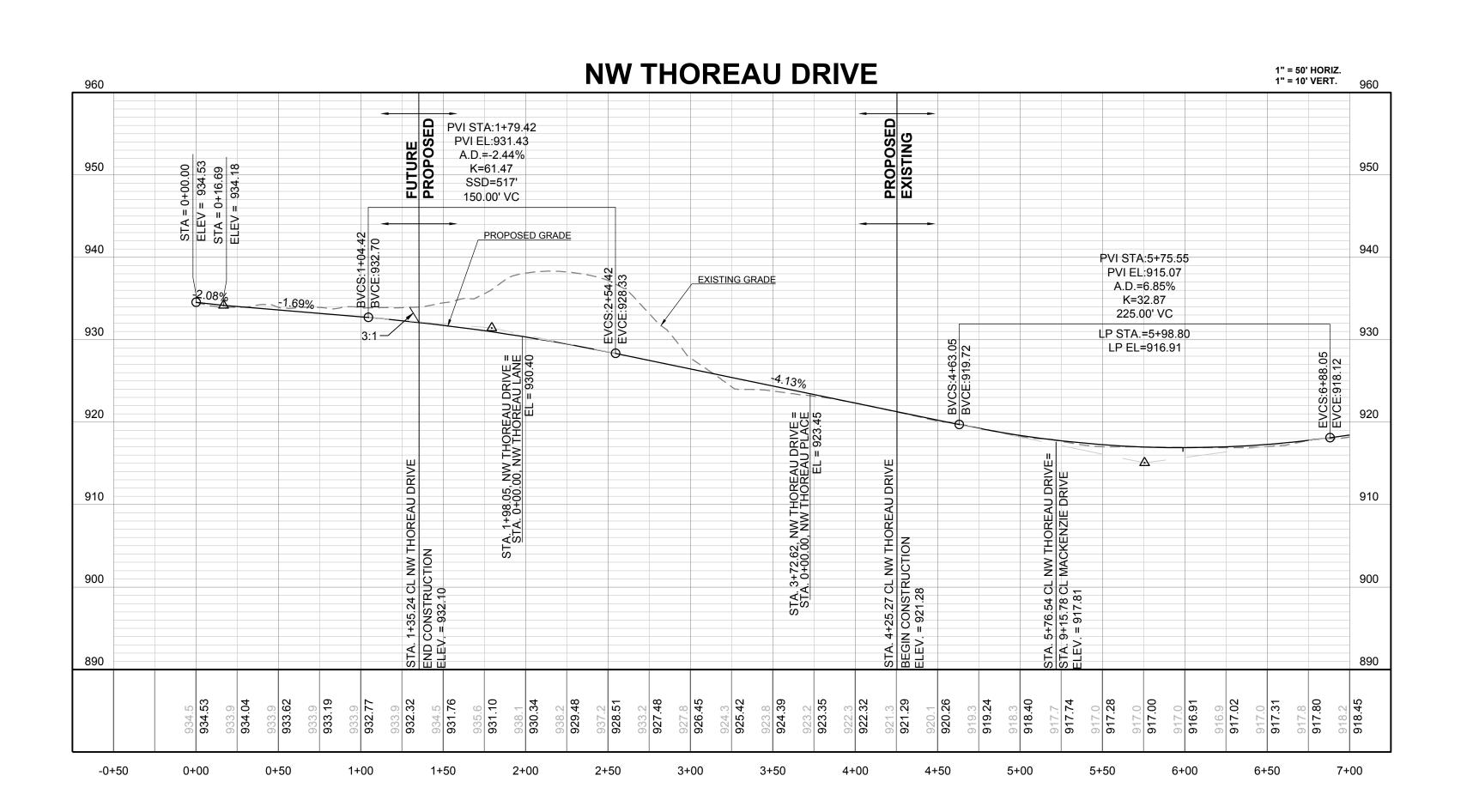
DENOTES SIDEWALK TO BE BUILT BY STREET CONTRACTOR

BREUER

MUMBER
PE-2009007268

09.04.19

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



WINTERSET VALLEY, 13TH PLAT
STREET, STORMWATER, MASTER DRAINAGE
PLAN AND EROSION AND SEDIMENT CONTROL
NW THOREAU DRIVE AND AUDUBON LANE
LEE'S SUMMIT, MISSOURI

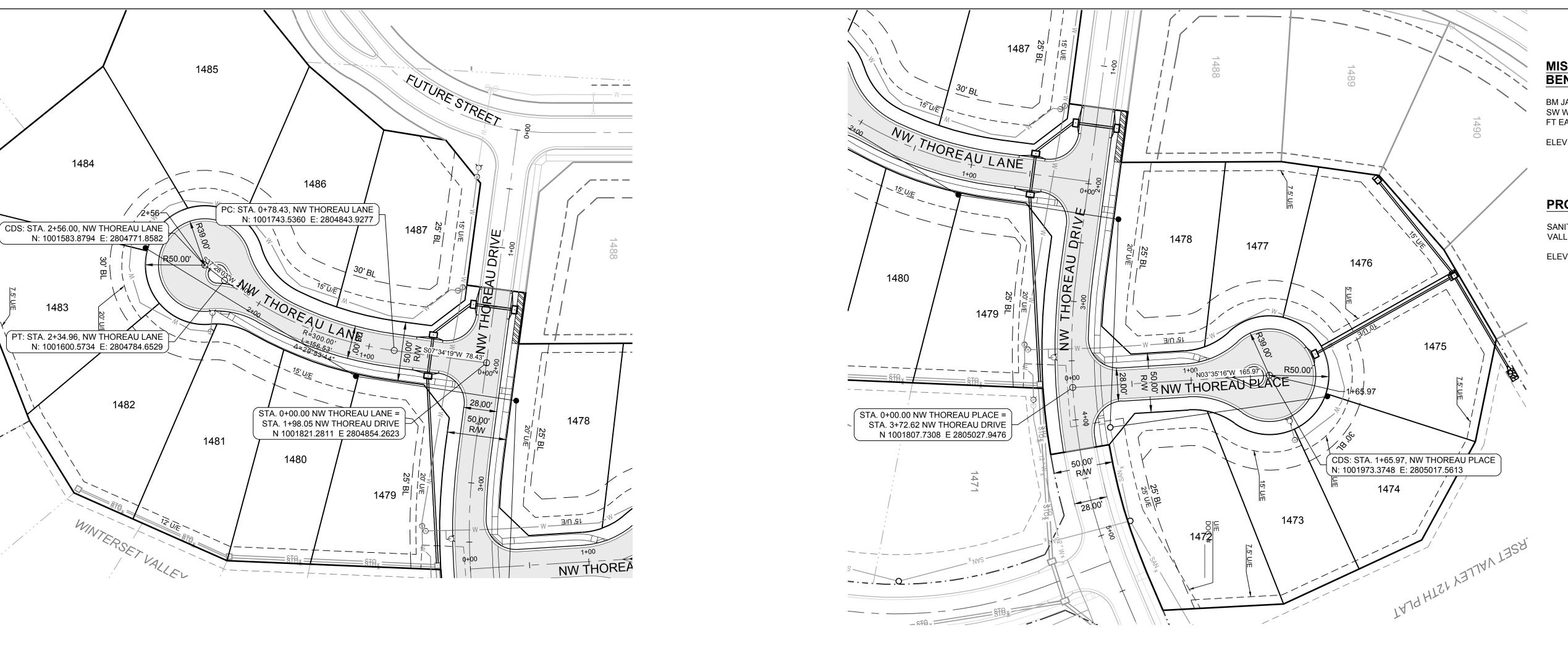
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NW THOREAU DRIVE PLAN AND PROFILE

SHEET

OF 24

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MISSOURI GEOGRAPHIC REFERENCE SYSTEM BENCH MARK:

BM JA-136, LOCATED AT INTERSECTION OF SW OLDHAM PARKWAY AND SW WARD ROAD, 61 FT SOUTH OF CL OF OLDHAM PARKWAY AND 28.9 FT EAST OF THE EAST EDGE OF WARD ROAD.

ELEV. 993.11'

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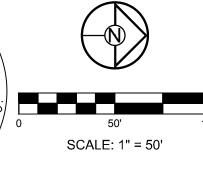
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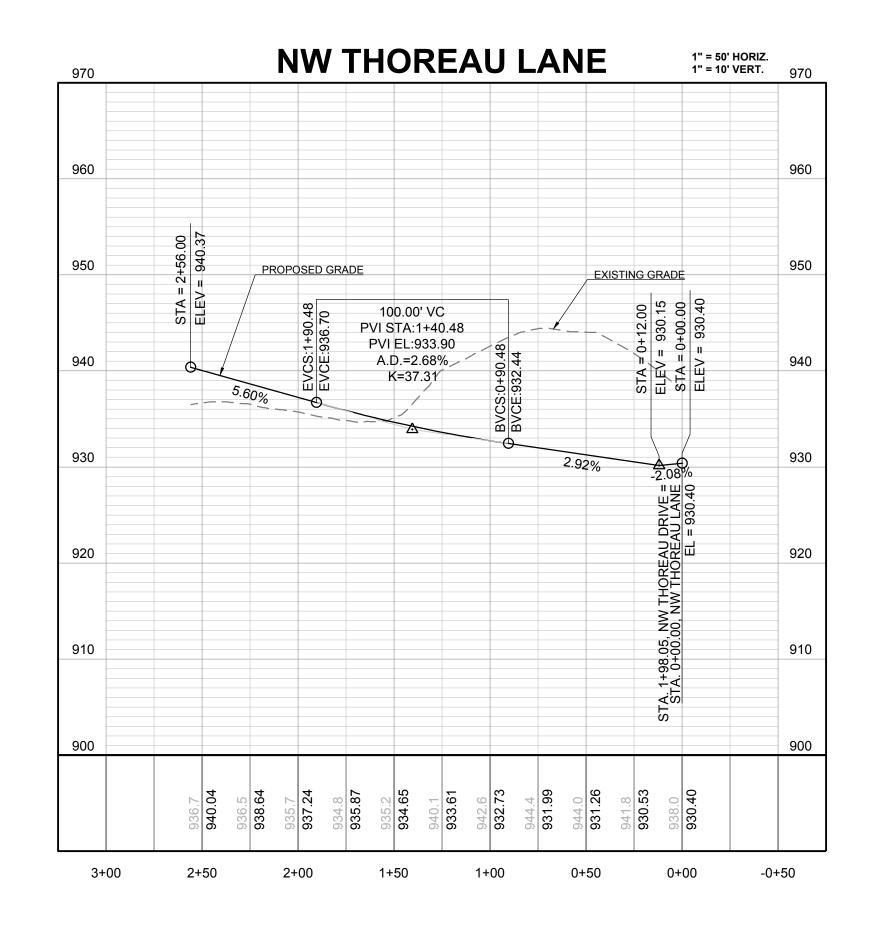
DENOTES SIDEWALK TO BE BUILT BY STREET CONTRACTOR

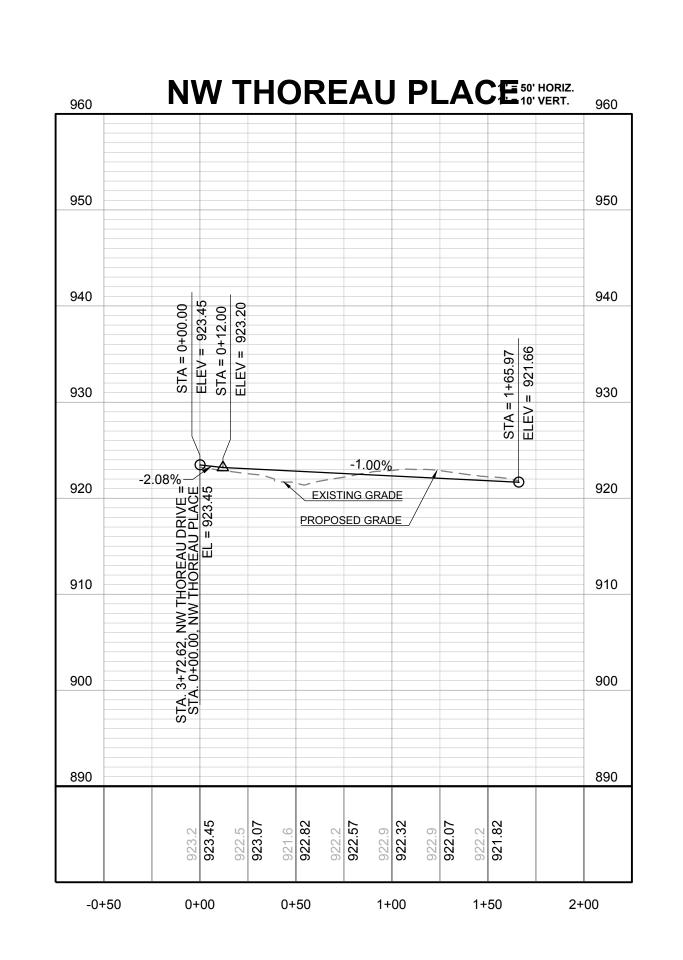
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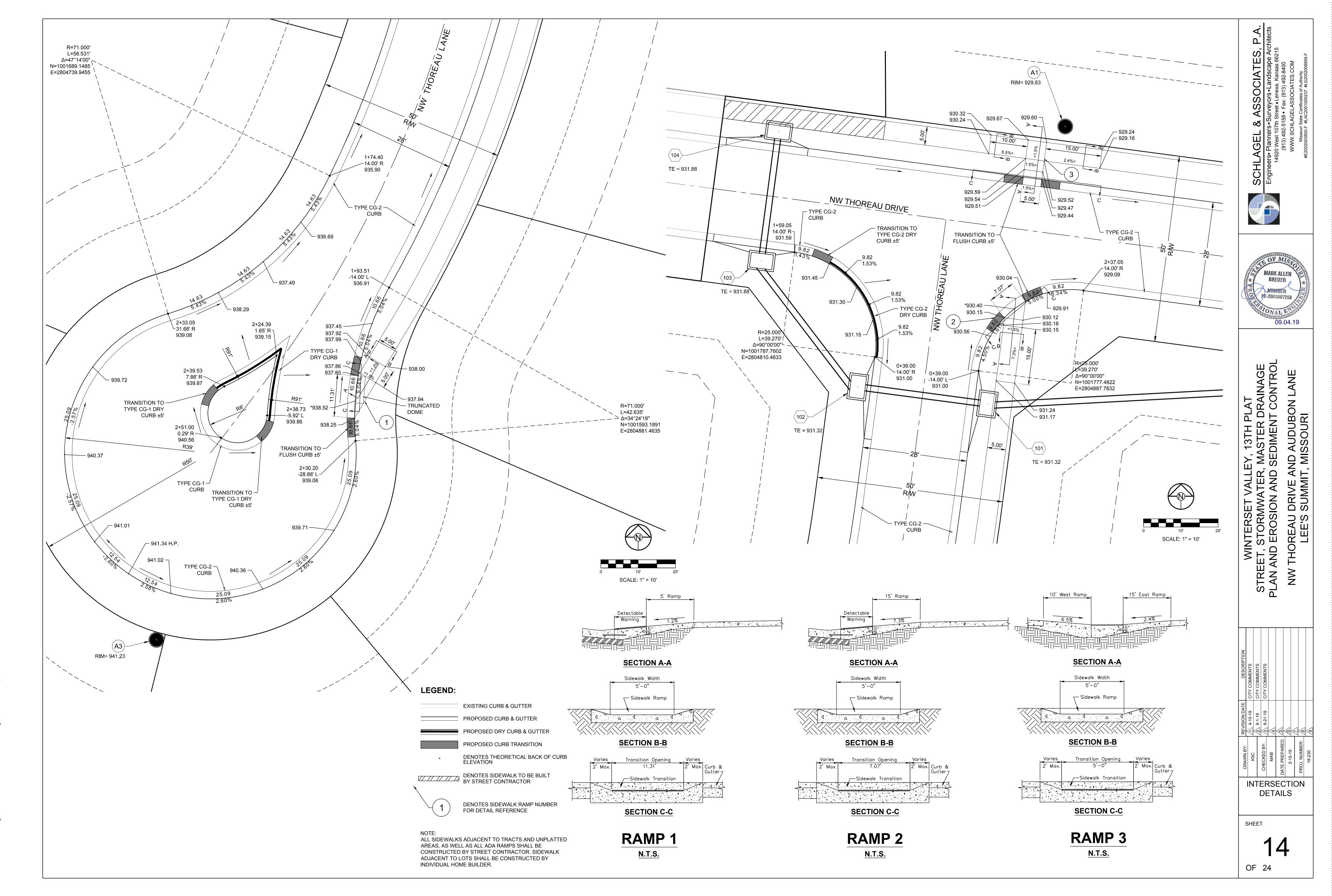


WINTERSET VALLEY, 13TH PLA STREET, STORMWATER, MASTER DR. PLAN AND EROSION AND SEDIMENT C NW THOREAU DRIVE AND AUDUBON LEE'S SUMMIT, MISSOURI

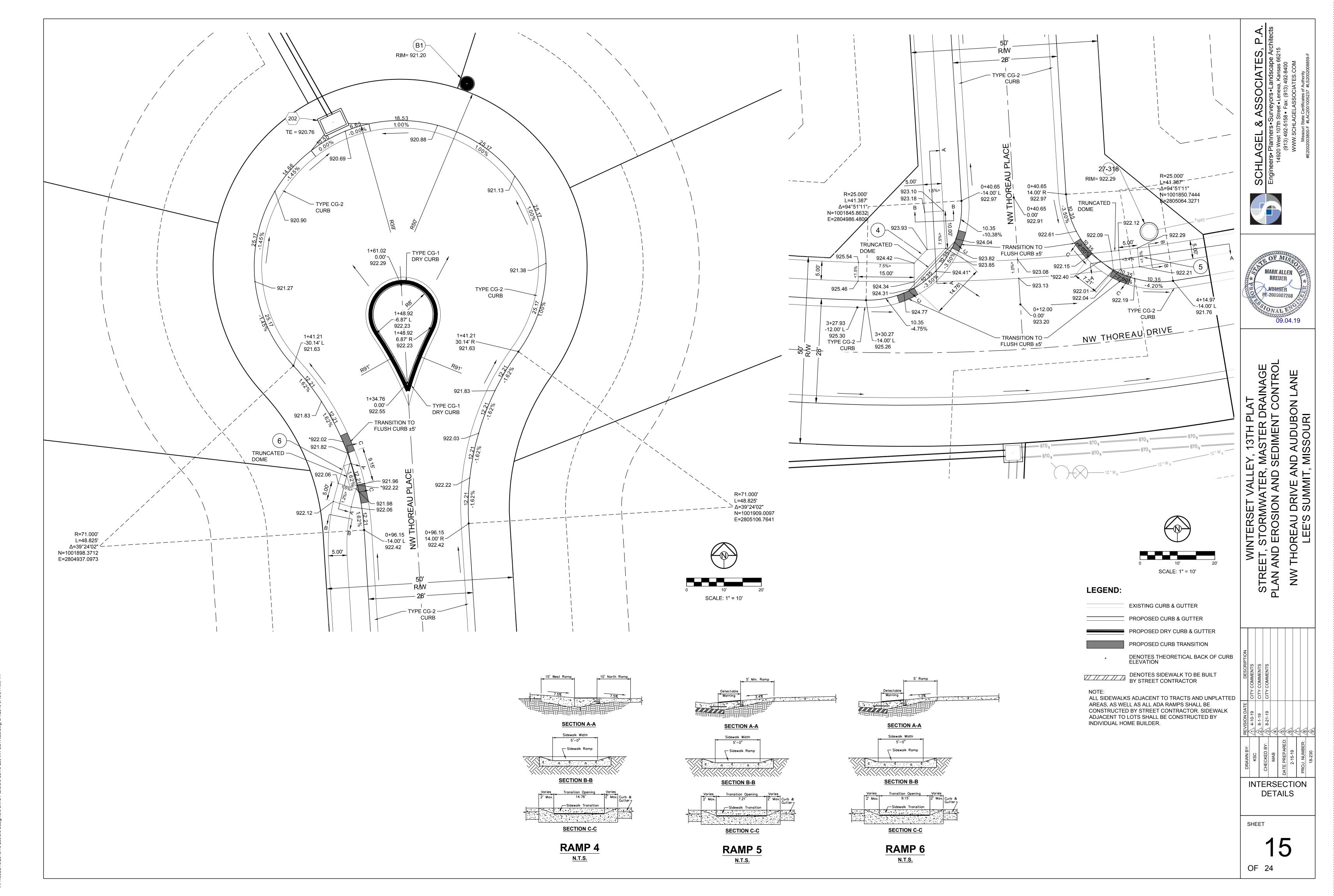
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NW THOREAU
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PLAN AND
SHEEPROFILE

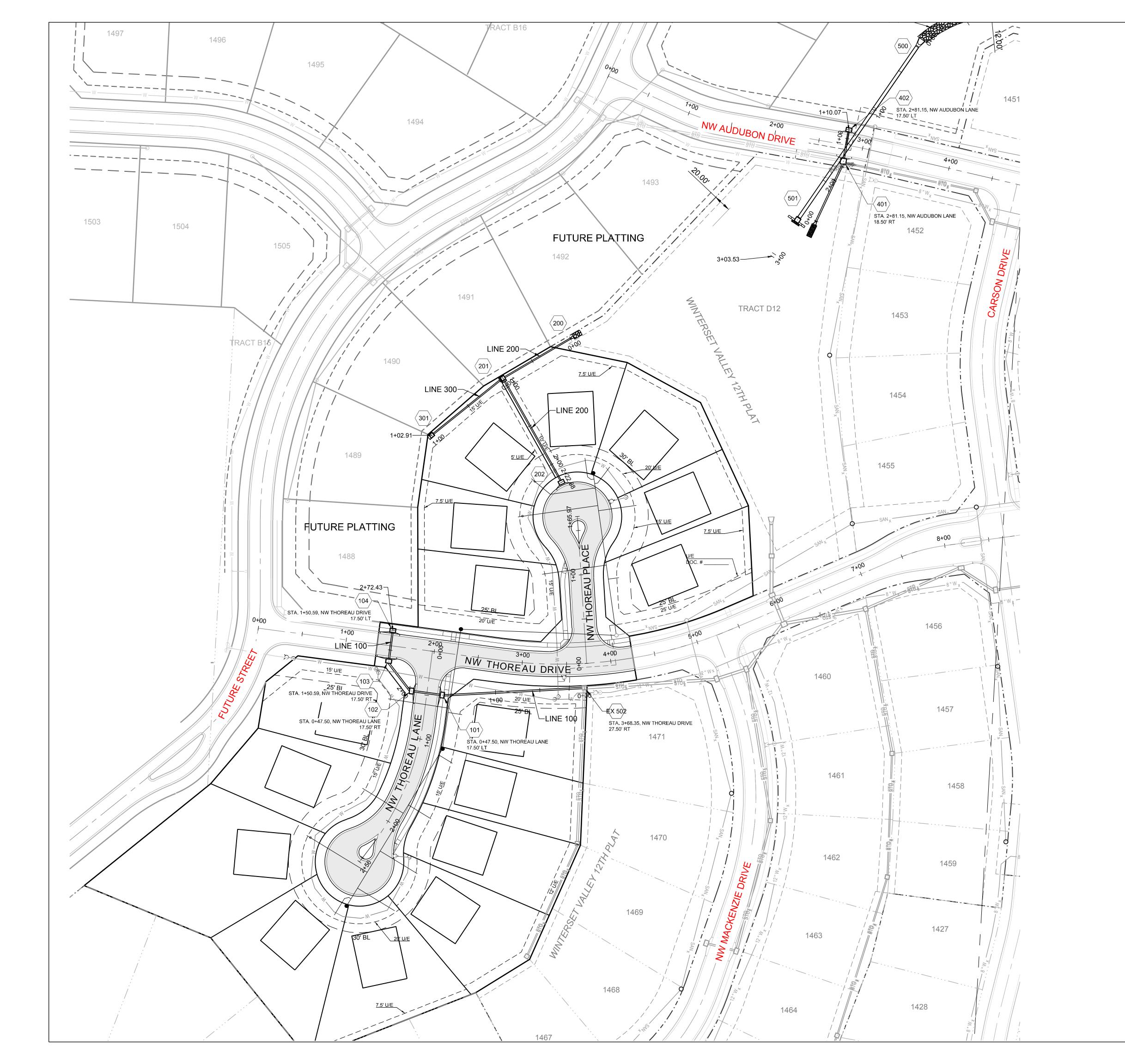
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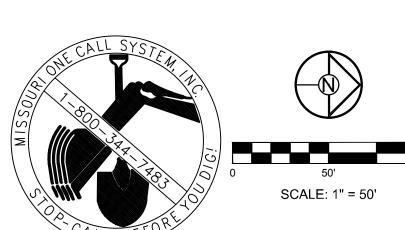
ELEV. 993.11'

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SANITARY MANHOLE H2 AT NW CORNER OF LOT 1153 WINTERSET VALLEY 1ST PLAT, APPROX. 39' RT. OF CL OF NW PEALE BLVD.

ELEV.935.45'

Structure	Notes
101	STA 1+60.03, LINE 100 INSTALL 6 X 4 CURB INLET N 1001771.8893 E 2804865.3506
102	STA 1+95.03, LINE 100 INSTALL 6 X 4 CURB INLET N 1001776.5013 E 2804830.6558
103	STA 2+37.43, LINE 100 INSTALL 6 X 4 CURB INLET N 1001810.1882 E 2804804.9060
104	STA 2+72.43, LINE 100 INSTALL 6 X 4 CURB INLET N 1001844.8828 E 2804809.5179
200	STA -0+00.04, LINE 200 INSTALL 18 INCH HDPE END SECTION W/ TOEWALL AND 5 CY STONE RIP RAP N 1002174.0148 E 2805009.7732
201	STA 0+88.27, LINE 200 INSTALL 4 X 4 AREA INLET WITH OPENING TO SOUTHEAST F.F.B. S30°27'54"E N 1002129.2388 E 2804933.6522
202	STA 2+22.88, LINE 200 INSTALL 6 X 4 CURB INLET N 1002011.9194 E 2804999.6569
301	STA 1+02.91, LINE 300 INSTALL 4 X 4 AREA INLET WITH OPENING TO SOUTHEAST F.F.B. S41°03'59"E N 1002064.8666 E 2804853.3638
400	STA 0+00.00, LINE 400 INSTALL 42" HDPE END SECTION W/ TOEWALL AND 8 CY STONE RIP RAP N 1002306.4992 E 2805286.6945
401	STA 0+74.07, LINE 400 INSTALL 6 X 6 CURB INLET N 1002373.9490 E 2805317.2915
402	STA 1+10.07, LINE 400 INSTALL 6 X 4 CURB INLET N 1002409.3973 E 2805323.5696
500	STA 0+16.27, LINE 500 INSTALL 42" HDPE END SECTION W/ TOEWALL AND SCOUR BASIN N 1002503.0403 E 2805400.4139
501	STA 2+53.53, LINE 500 INSTALL 5 X 5 DETENTION STRUCTURE W/ ORIFICE TO SOUTHWEST F.F.B. S55°25'42"E

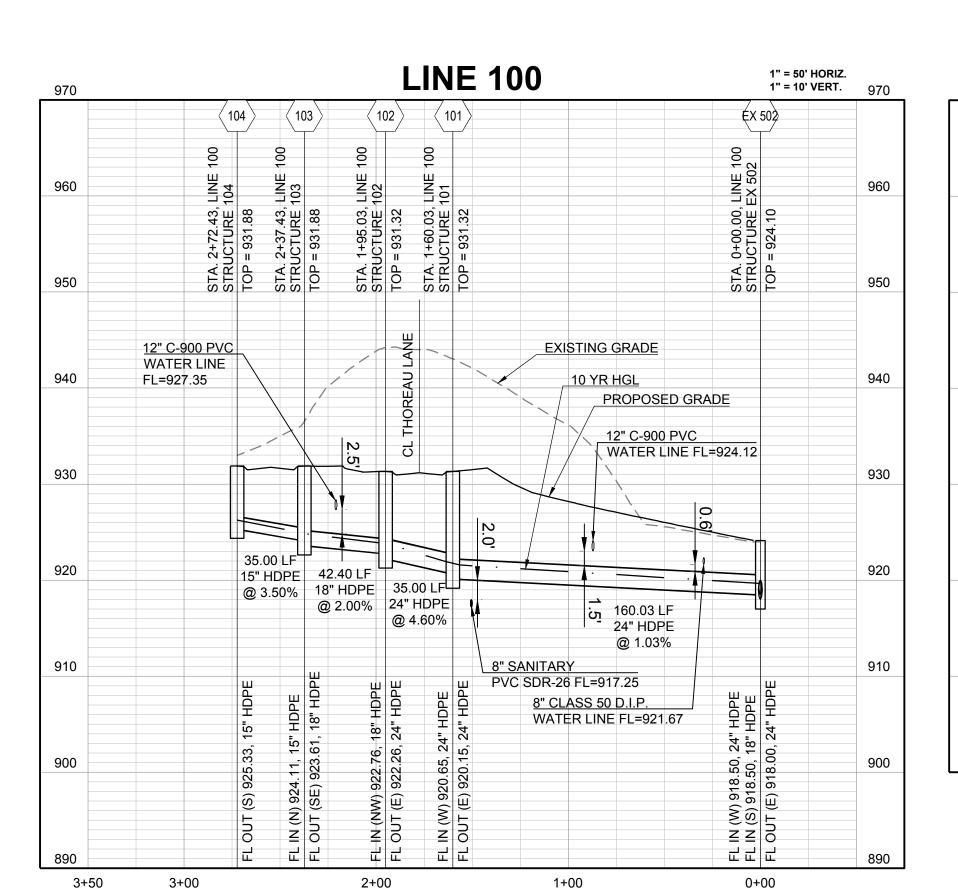


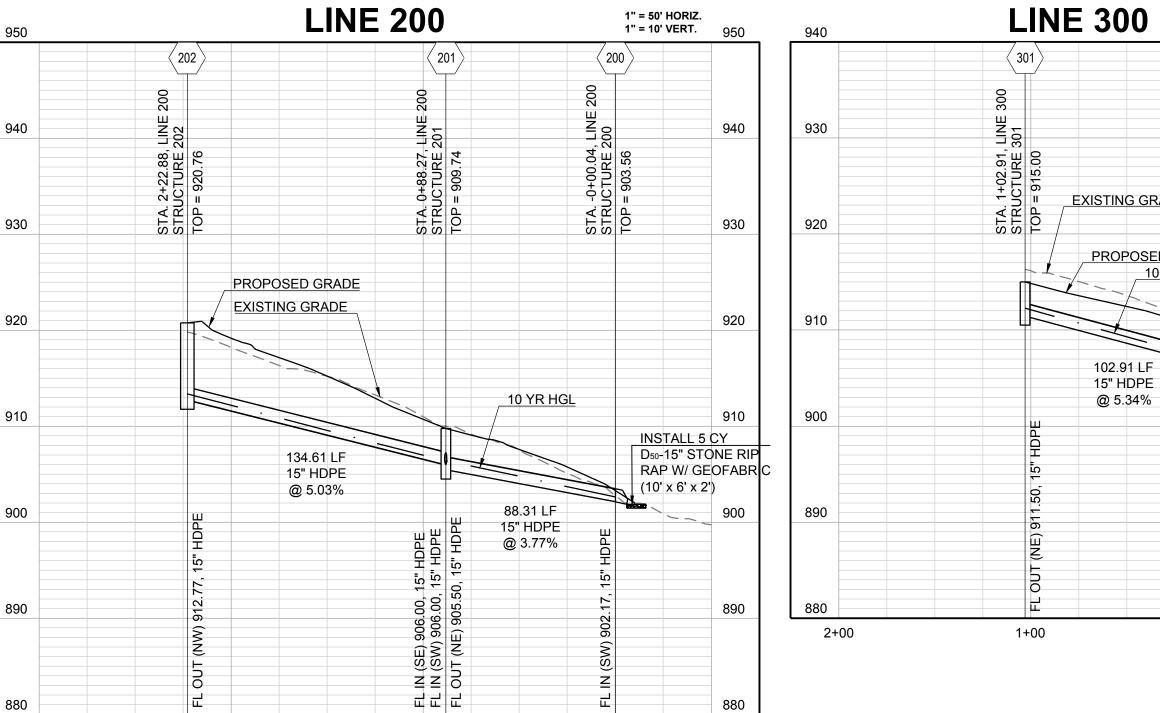
STORM PLAN

WINTERSET VALLE STREET, STORMWATER, PLAN AND EROSION AND

NW THOREAU DRIVE AN LEE'S SUMMIT,

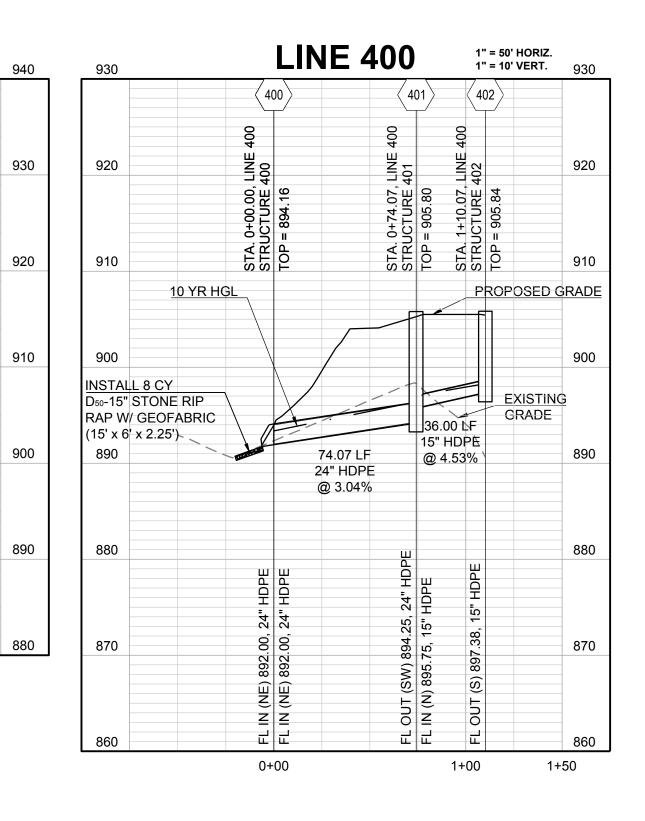
SHEET

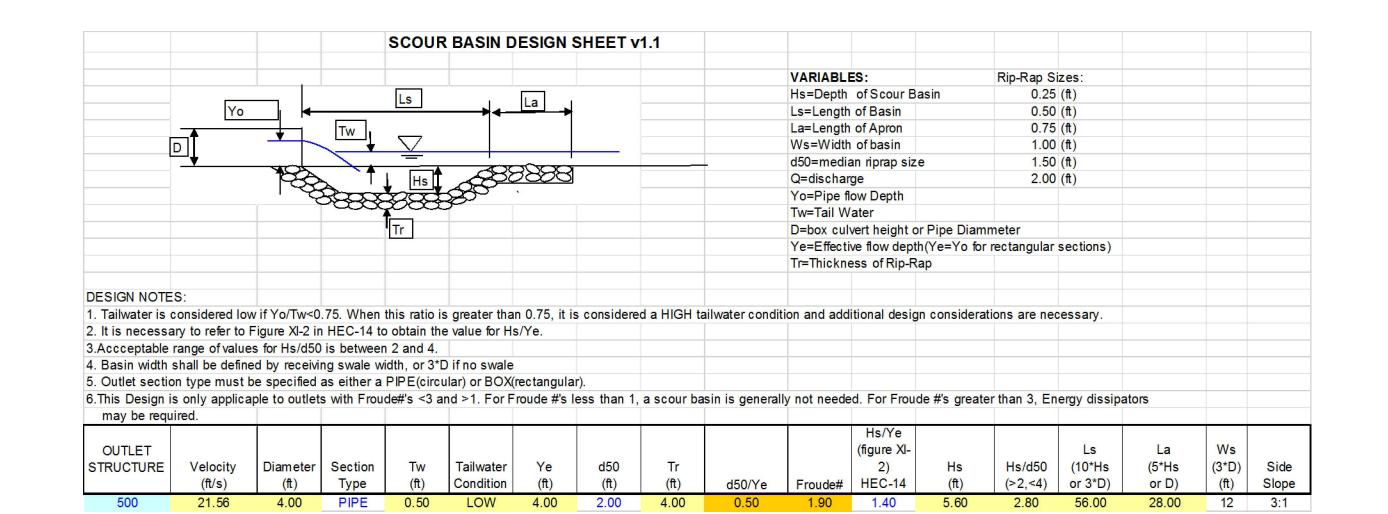




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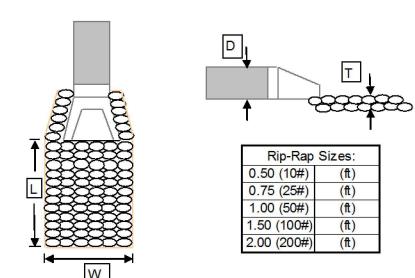




OUTLET RIP-RAP DESIGN WORKSHEET v1.0

FL IN (SE) 9 FL IN (SW) FL OUT (NE

1" = 50' HORIZ. 1" = 10' VERT.



DESIGN NOTES:	
1. Rip-Rap width calculated to be either D+4',3*D, or top width of channel, whichever is greater	

2. Rip-Rap length calculated to be 1/(2*tan(e))*(A/Yt-3), where e=20°,A=flow area, and Yt=normal depth 3. D50 calculated using (1/2)(1.384*V²/(s-1)*2g (Eqn.10, pg.32, HEC-11), where V=Outlet Velocity, s=Specific Gravity of Stone=2.65, and g=32.2

4.Critical Shear Stresses provided by A.P.W.A. 5600

5.Rip-Rap thickness equals 2*D50 for 12" and smaller rip-rap, and 1.5*D50 for larger than 12"

Outlet/Cha	annel Prope	rties				Rip-Rap Din	n ensions								
Outlet Structure	Pipe Size (ft)	Downstream Channel/Swale Section	V Pipe (ft/s)	V Swale (ft/s)	Average Shear Stress (lb/ft^2)	W Calculated (ft)	W USED (ft)	L Calculated (ft)	L (min.) 3*D (ft)	L (max.) 10*D (ft)	L USED (ft)	D50 Calculated (in)	Size (Wt.) USED (d50,in)	Critical Shear Stress (lb/ft^2)	T (ft)
200	1.25	N/A	11.07	N/A	N/A	5.25	6	n/a	3.75	12.50	10	0.80	1.00 (50#)	4.00	2.00
400	2.00	N/A	14.04	N/A	N/A	6.00	6	n/a	6.00	20.00	15	1.28	1.50 (100#)	5.16	2.25



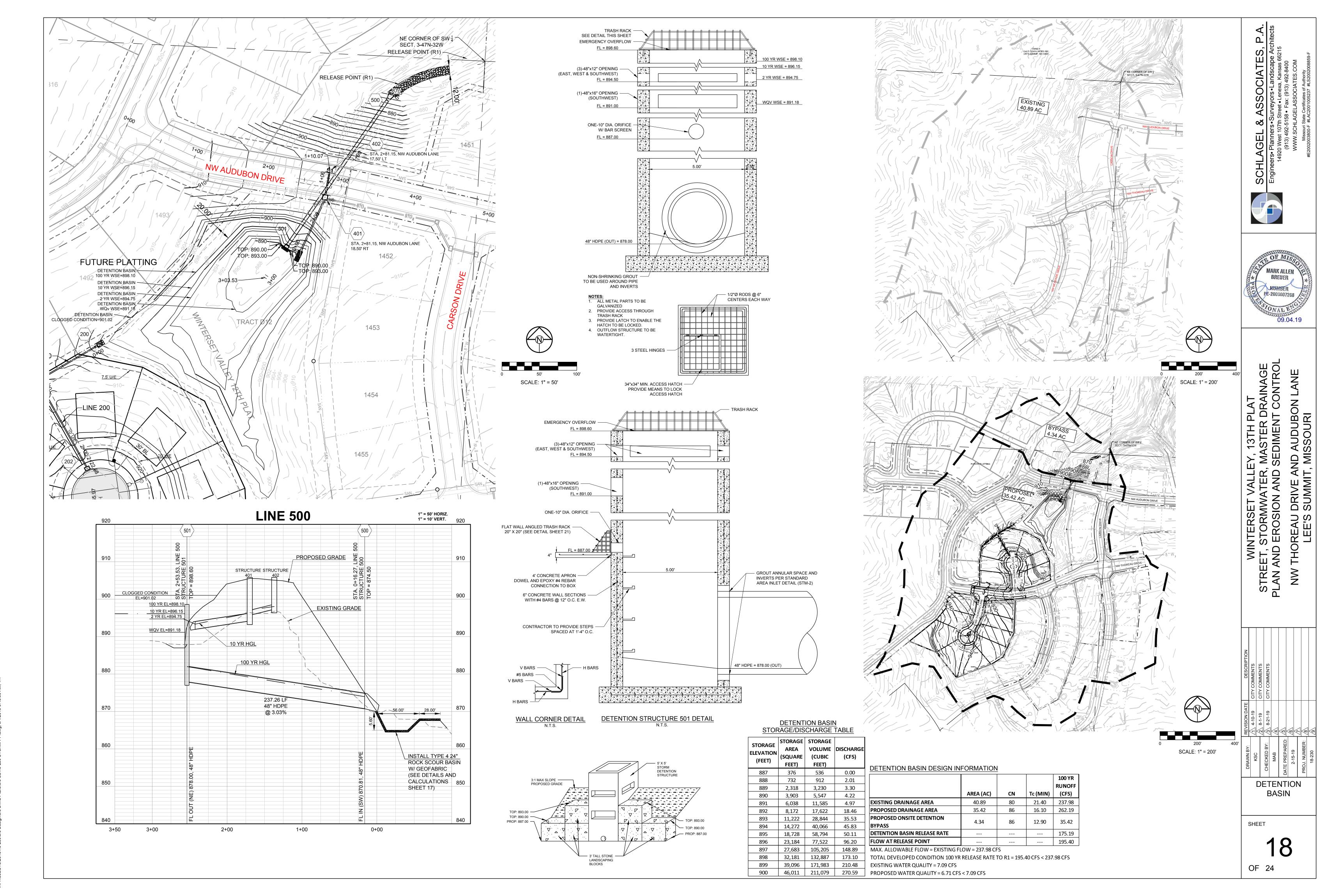


LEY, 13TH PLAT 8, MASTER DRAINAGE 9) SEDIMENT CONTROL ND AUDUBON LANE MISSOURI DRIVE AN SUMMIT, WINTERSET VALLE STREET, STORMWATER, PLAN AND EROSION AND NW THOREAU I

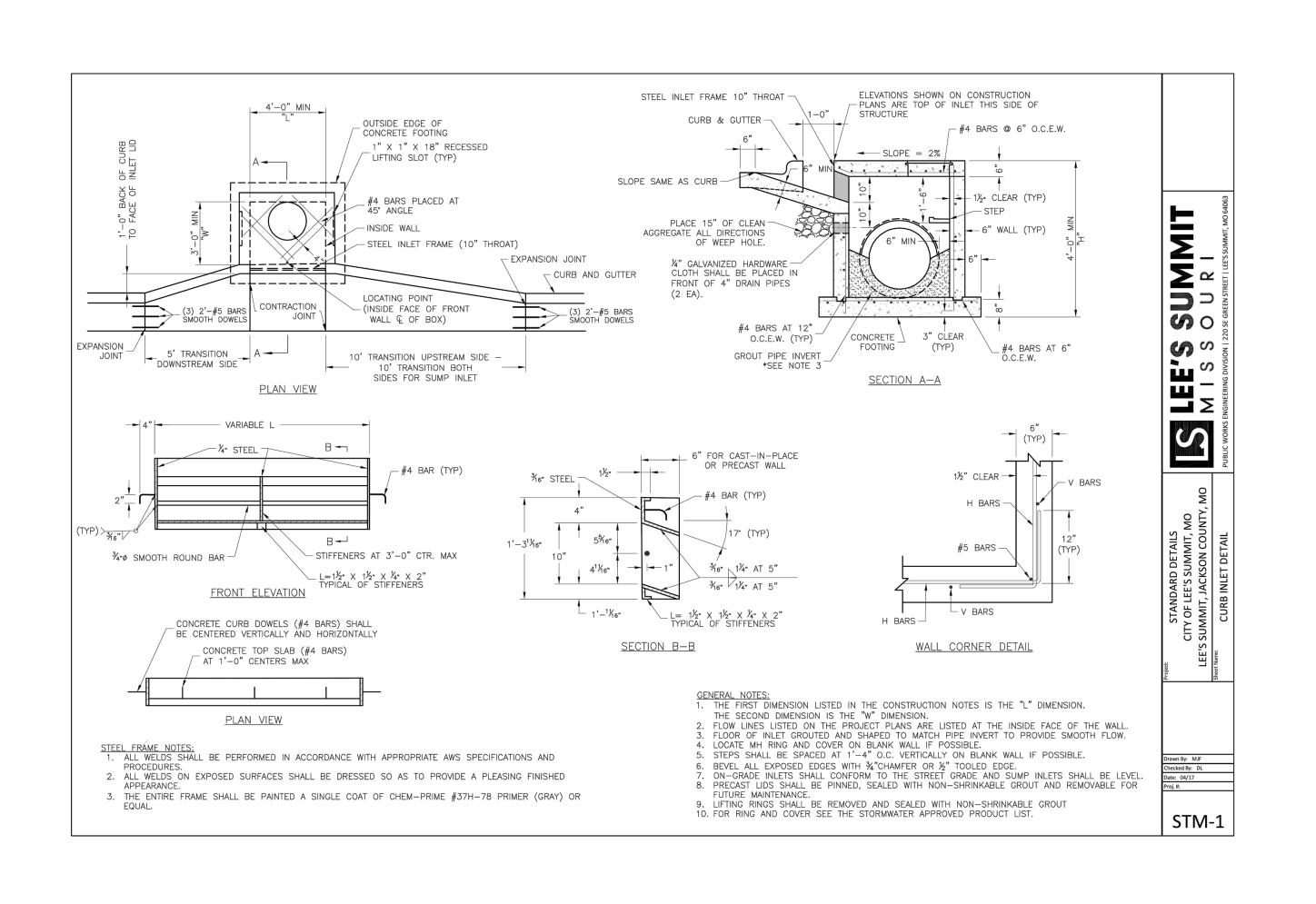
DESCRIPTION	CITY COMMENTS	CITY COMMENTS	CITY COMMENTS						
REVISION DATE	4-10-19	/2\ 8-1-19	3 8-21-19	4	\\$ /	9	<\f	√ 8	6
DRAWN BY:	JSX	2	CHECKED BY:	MAB	DATE PREPARED:	2-15-10	5-12-13	PROJ. NUMBER:	18-230

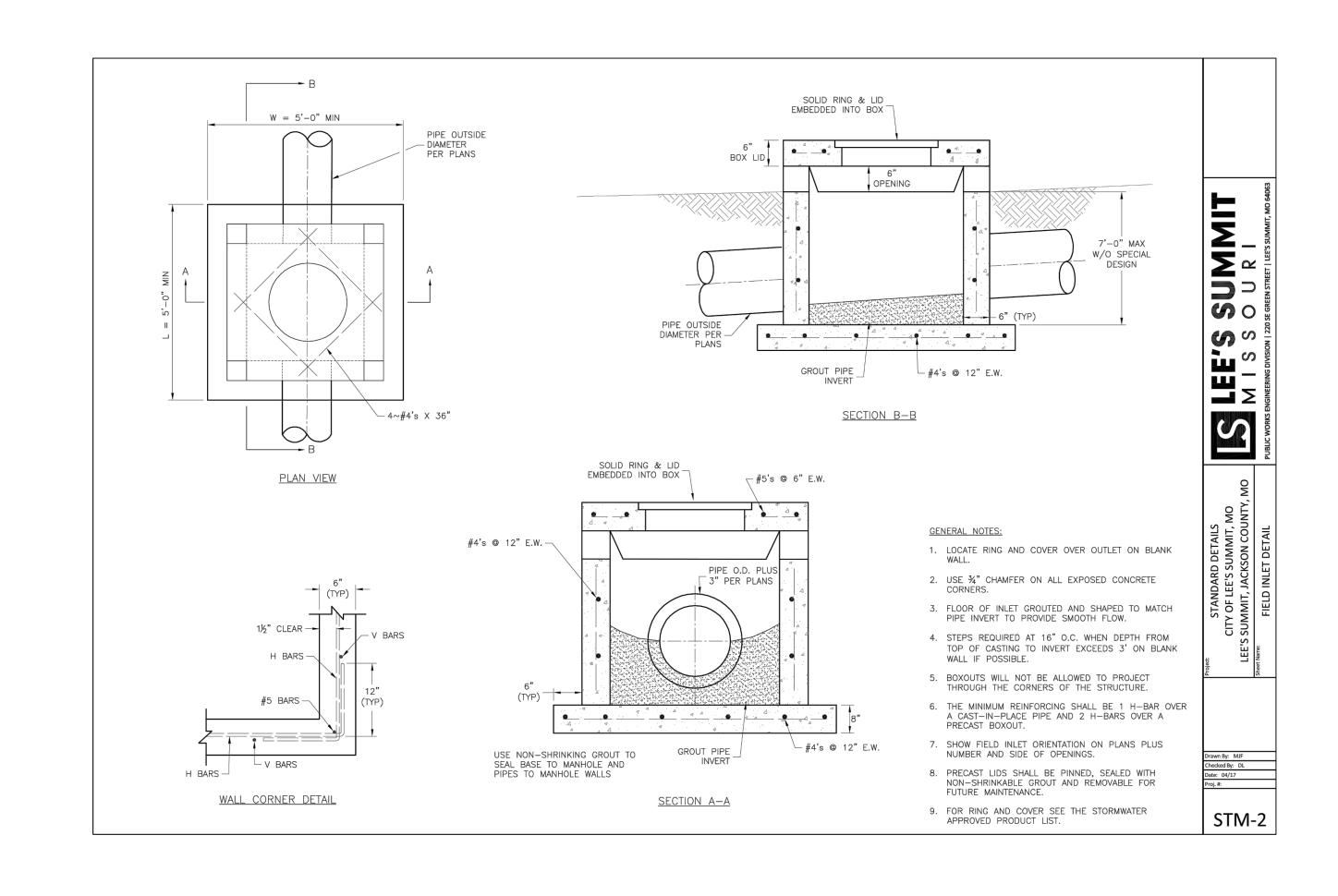
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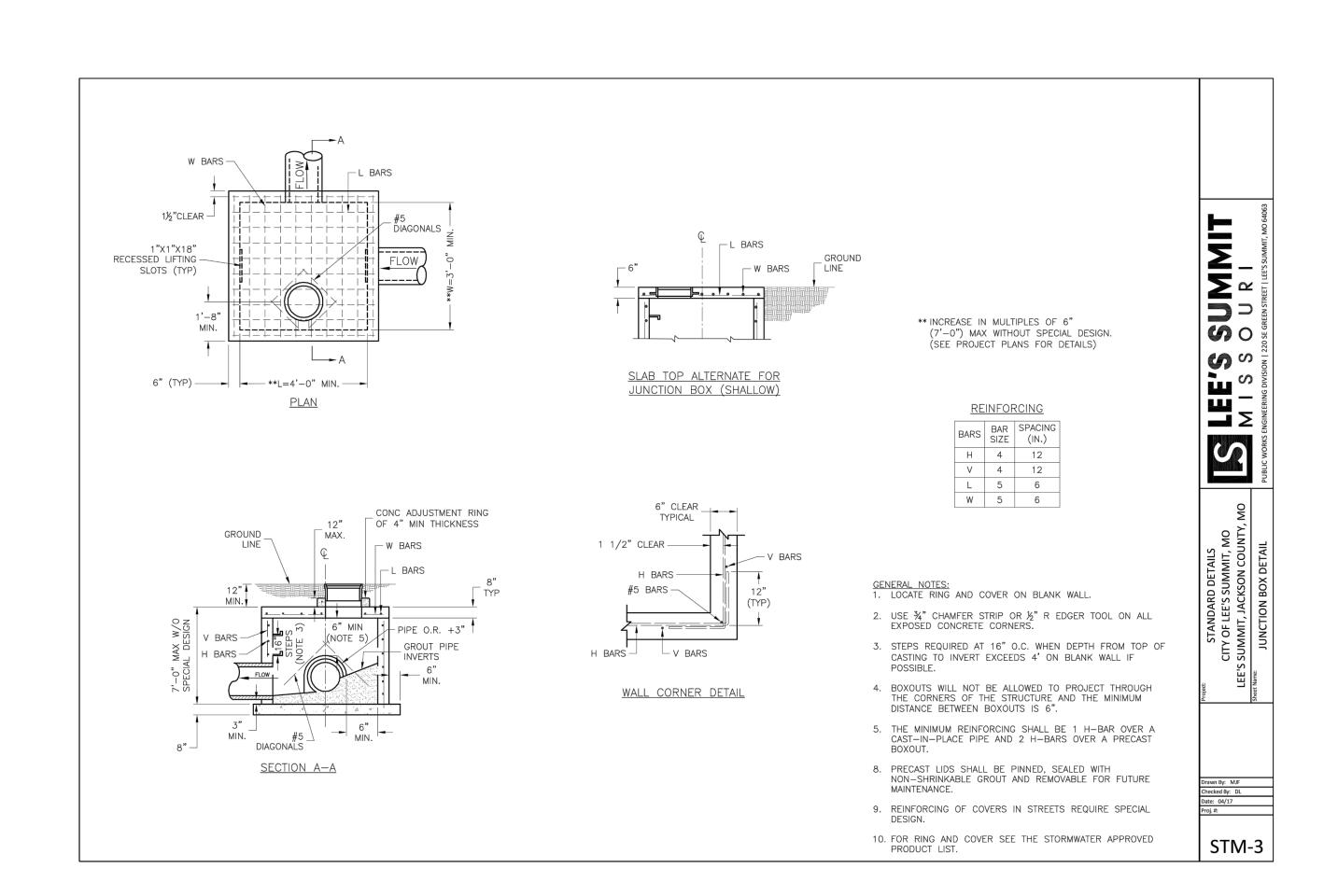
SHEET

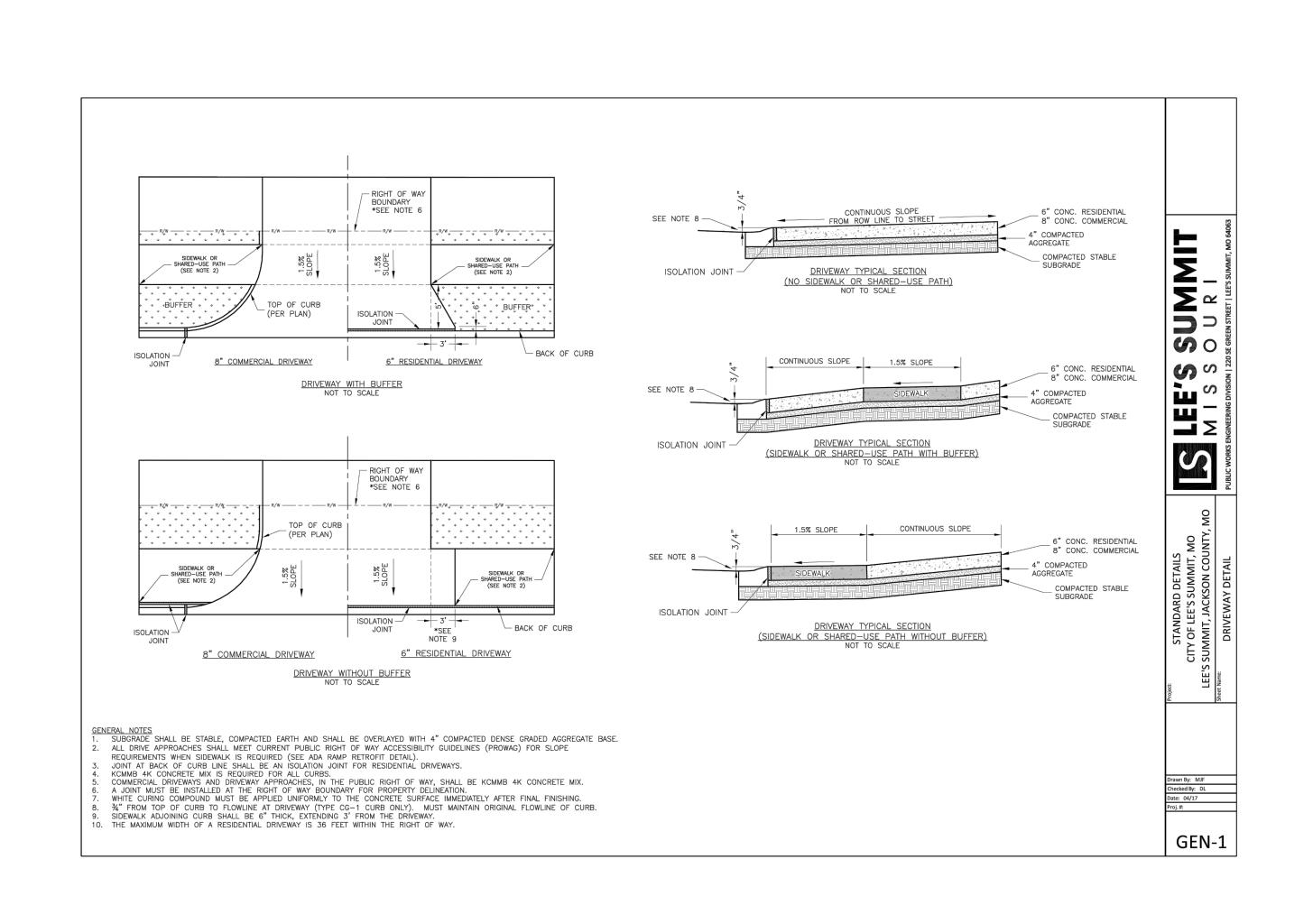


I-PBO.IFCTS/2018/18-23/0/3 () Design/3 () DWG Plans/6 () SS/18-23() STORM PP dwg 9/4/2019 9-46









AGEL SCHL



MARK ALLEN

BREUER

MUMBER

PE-2009007268

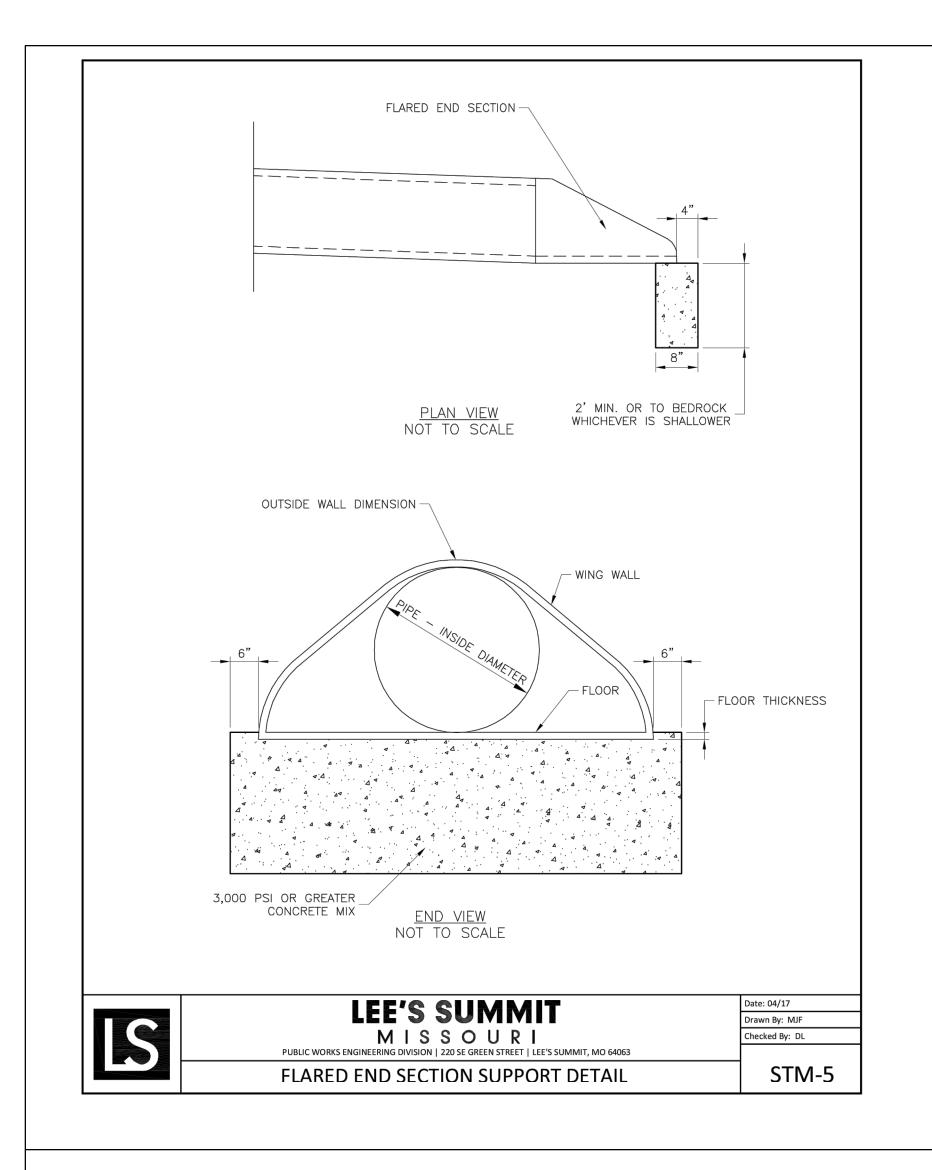


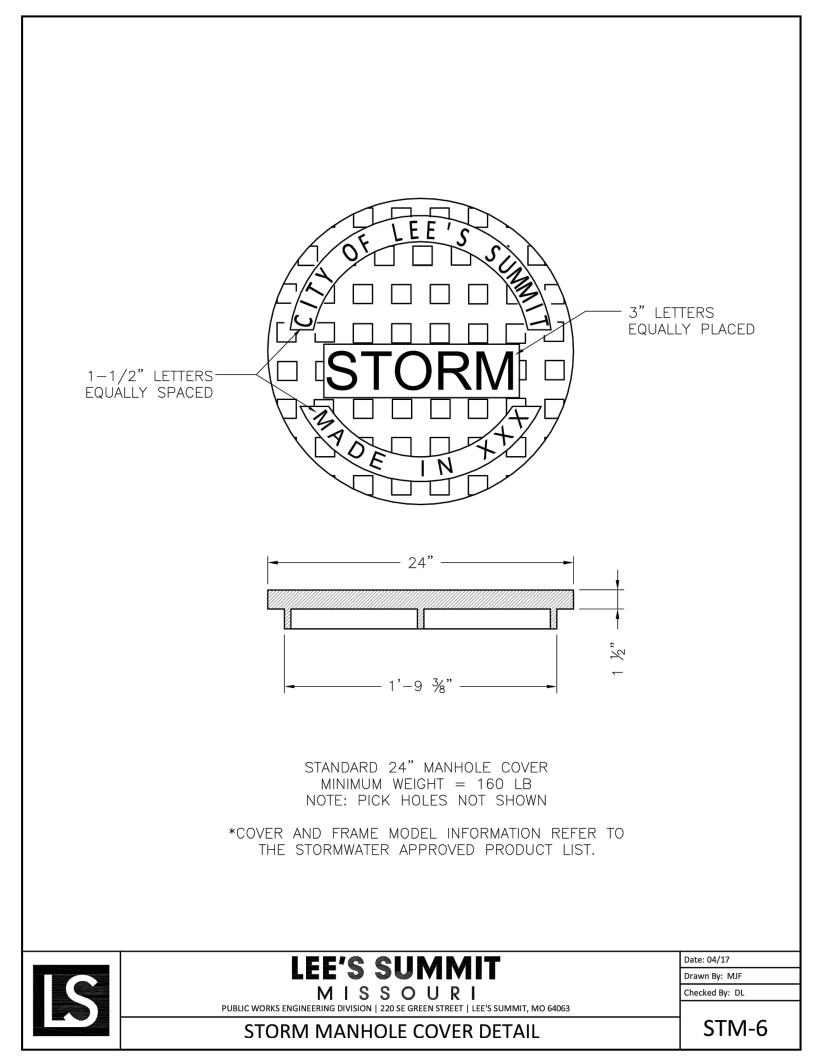
DRIVE AN

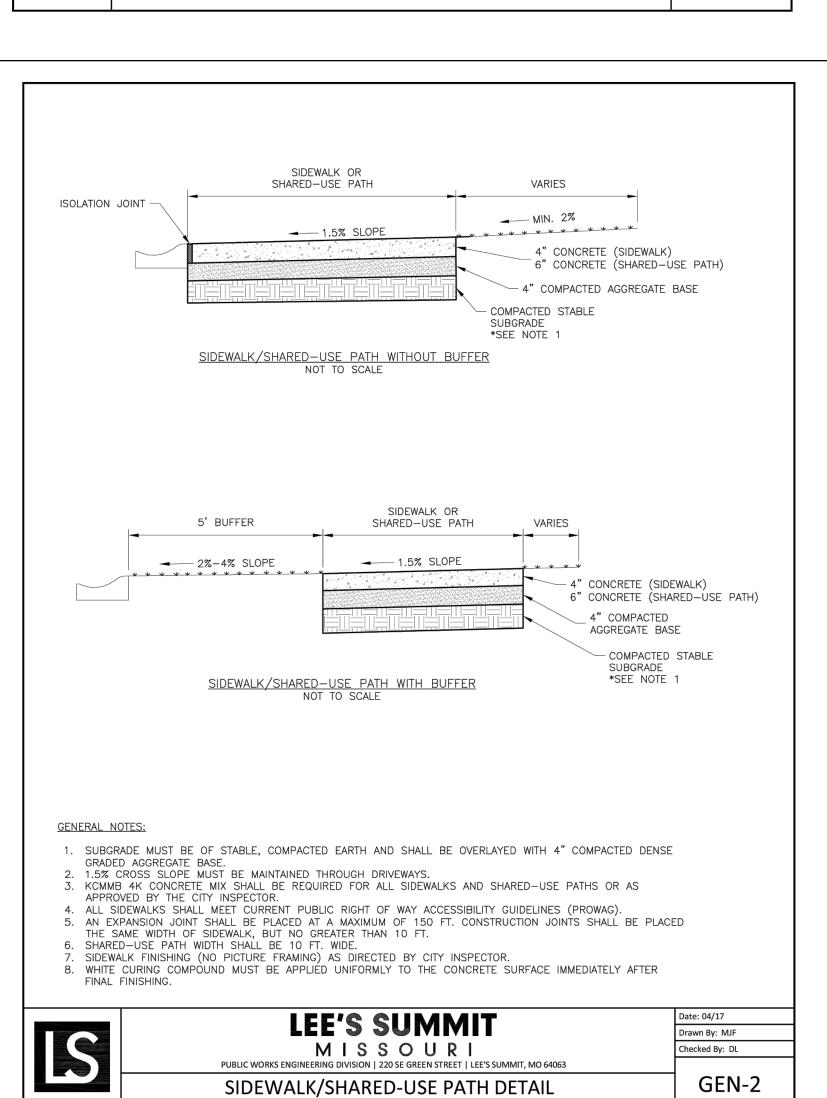
WINTERSET \STORMWATER, EROSION AND (

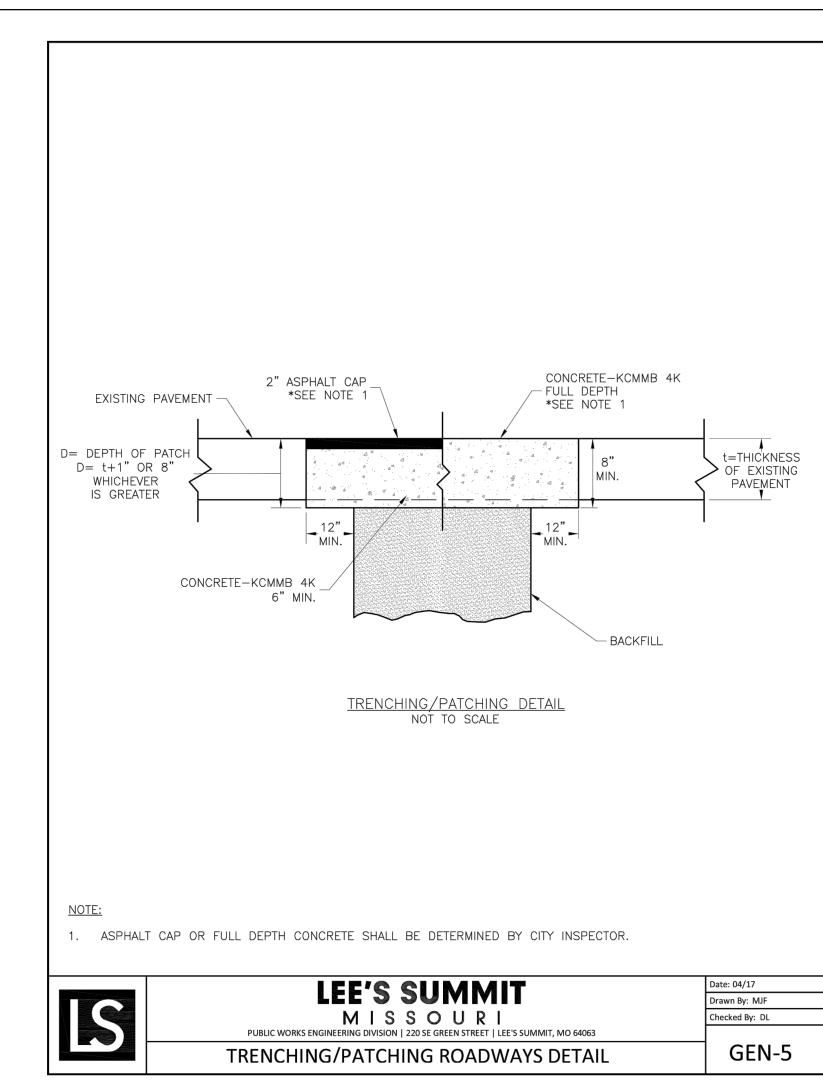
STREET AND STORM DETAILS

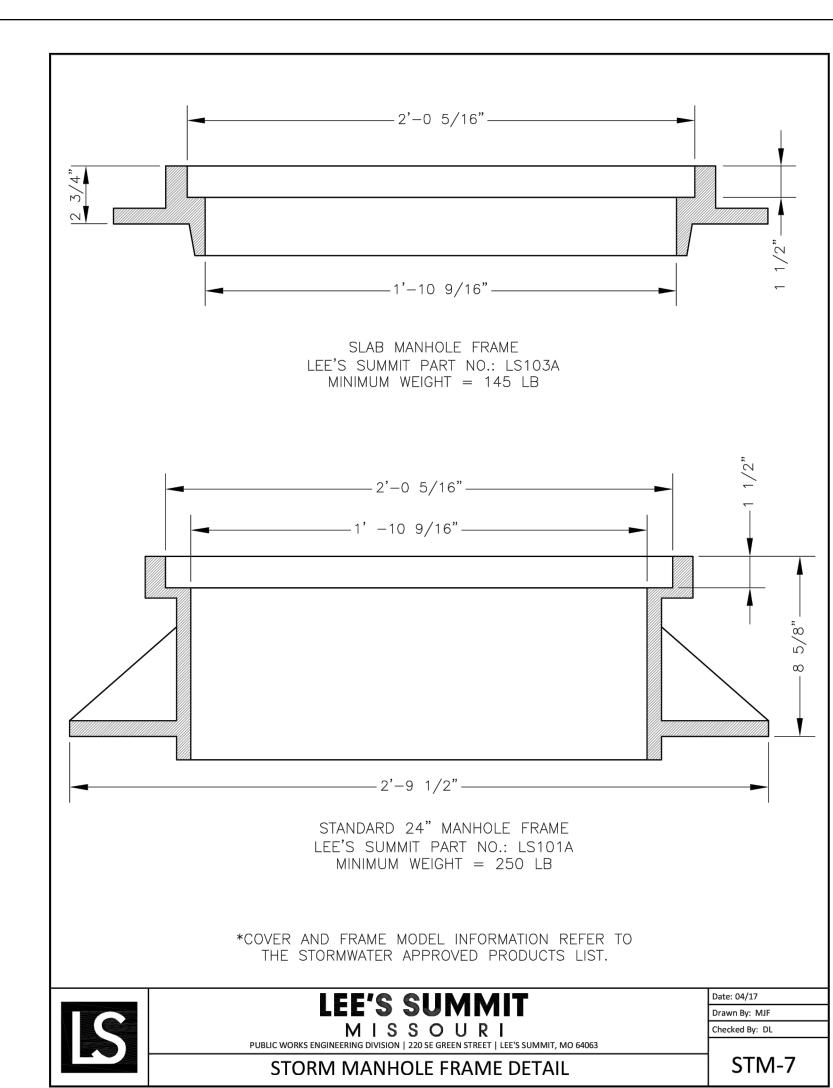
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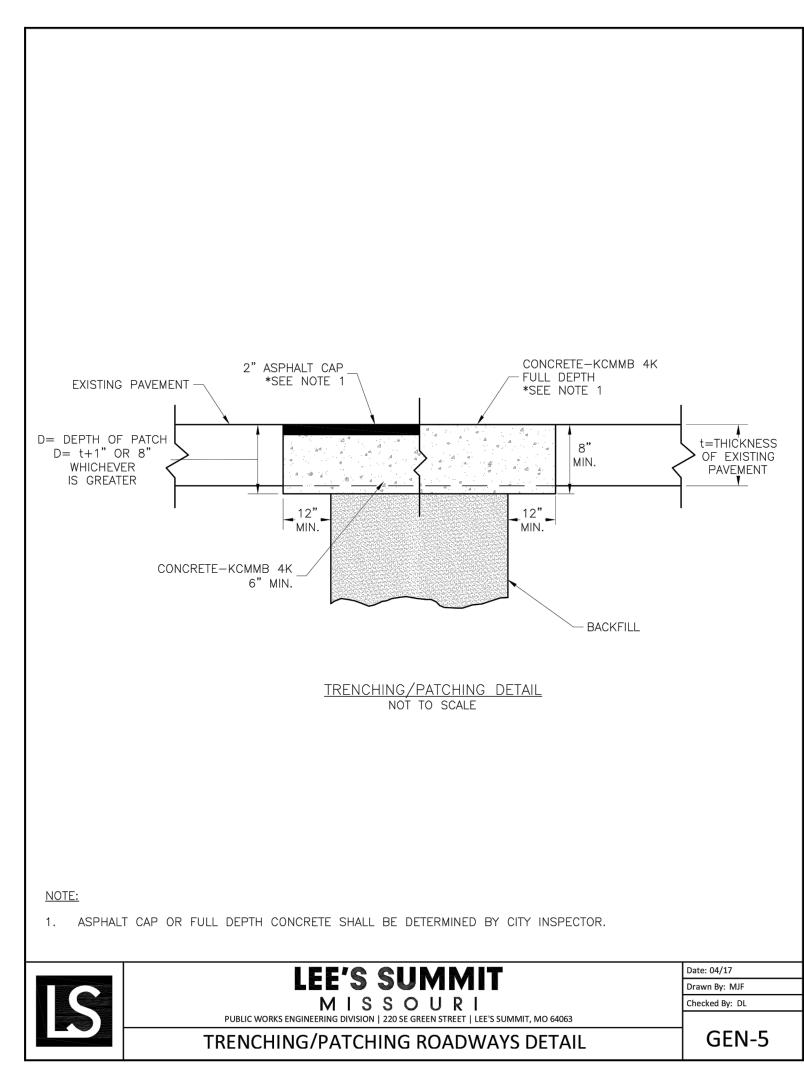


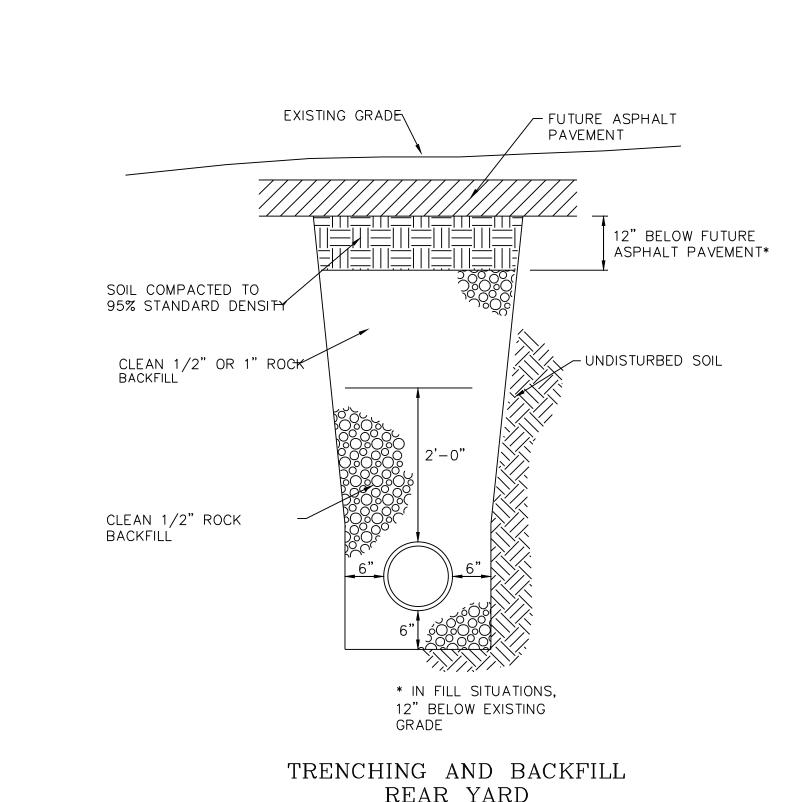


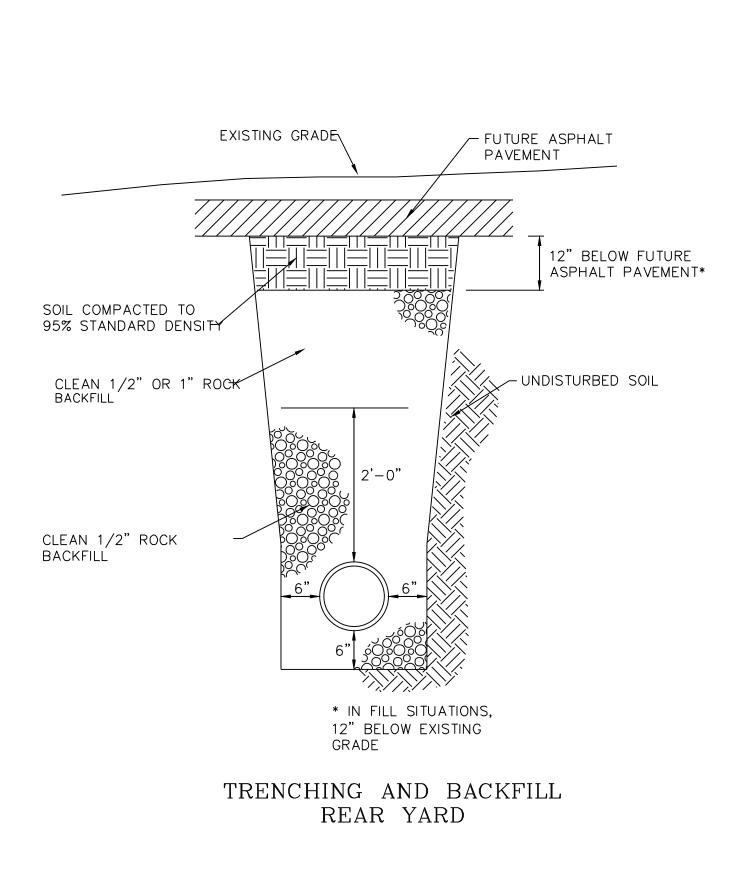


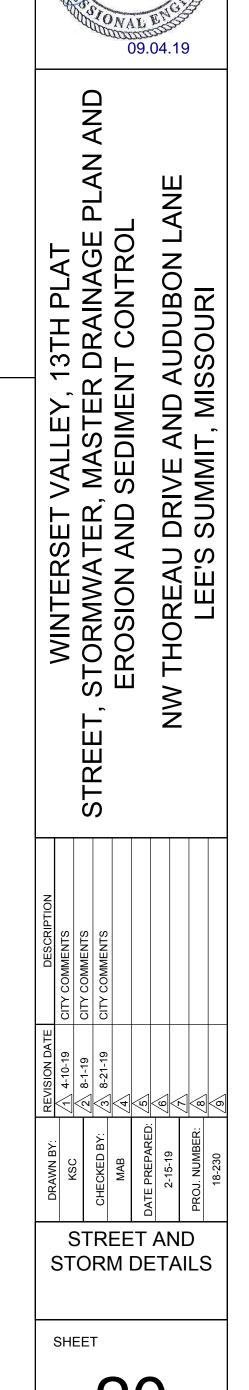








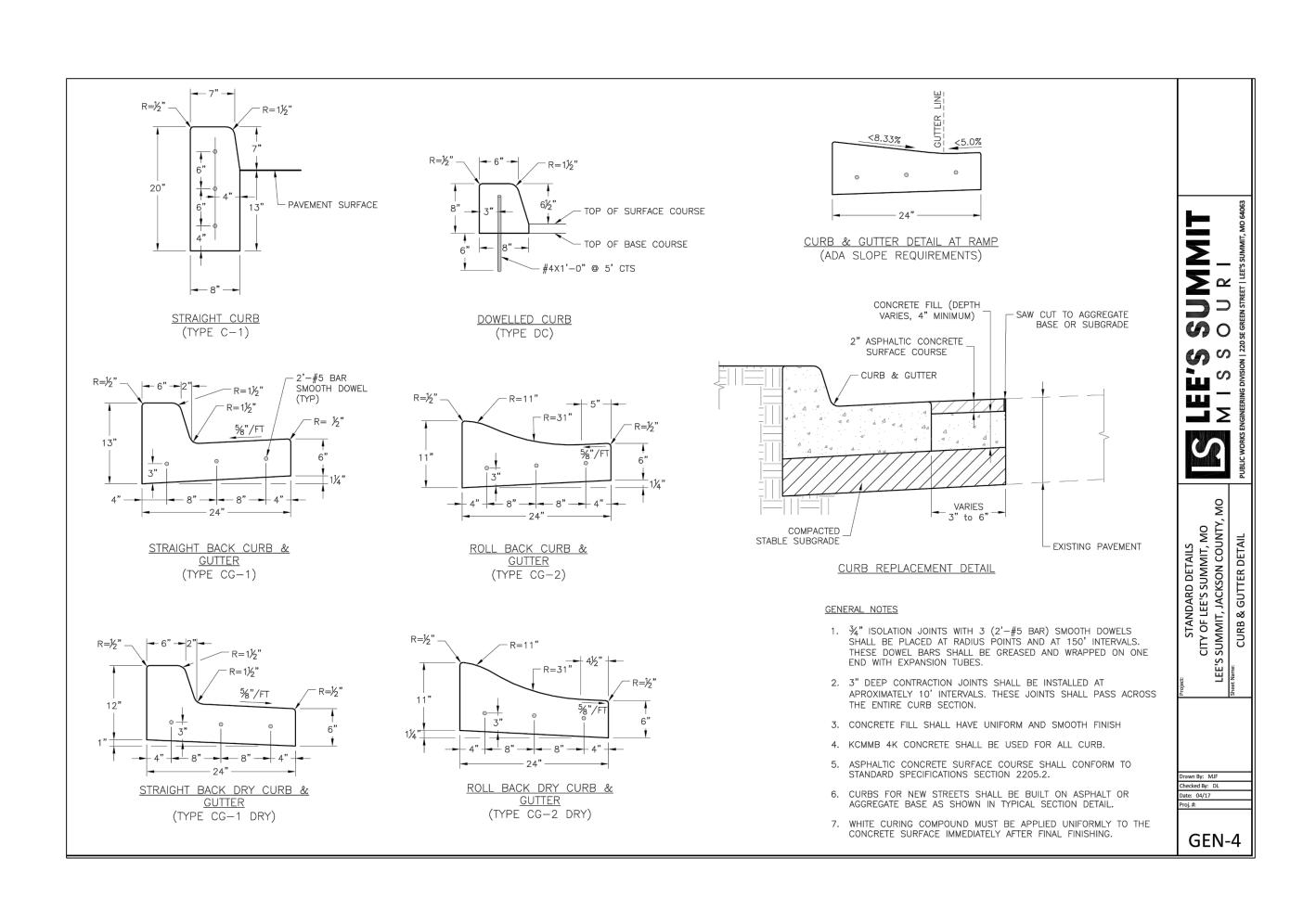


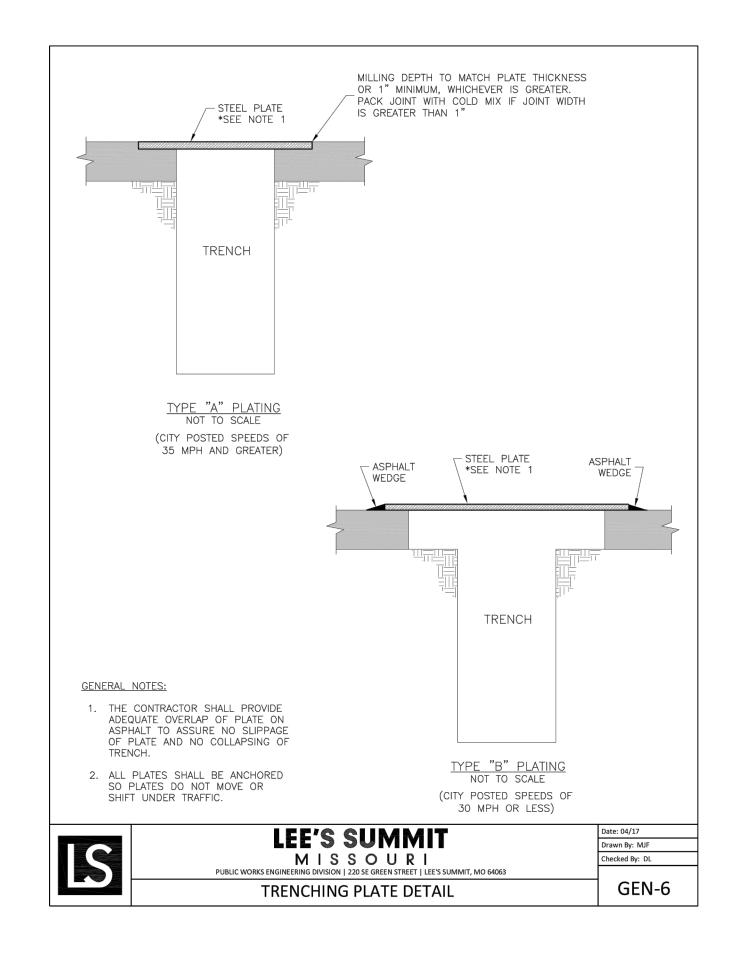


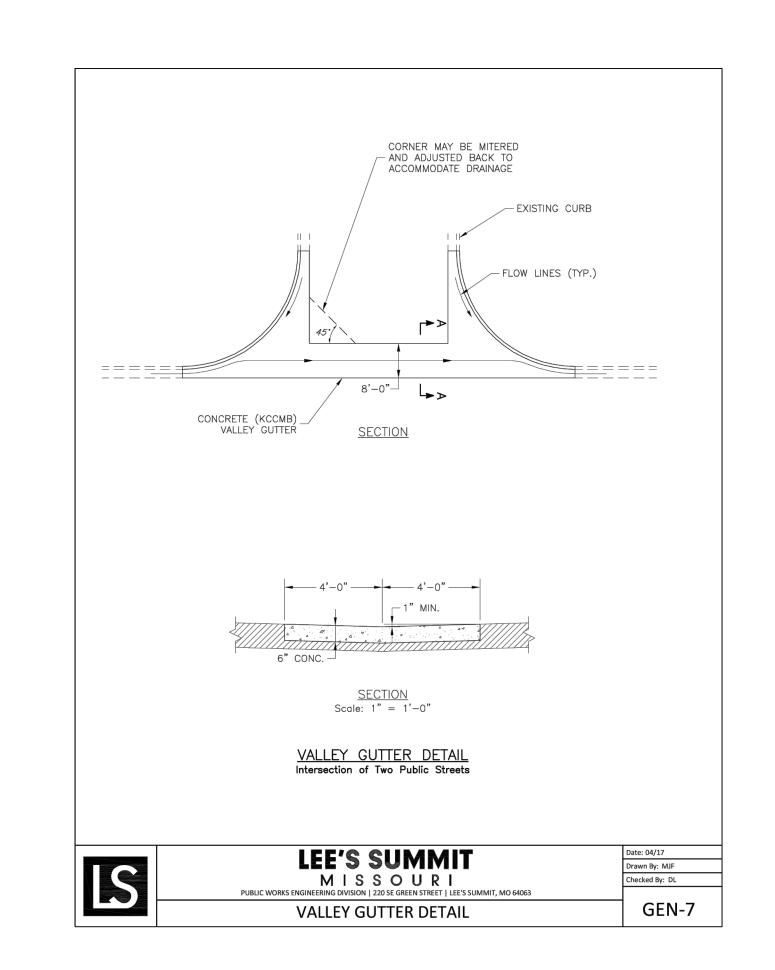
OF 24

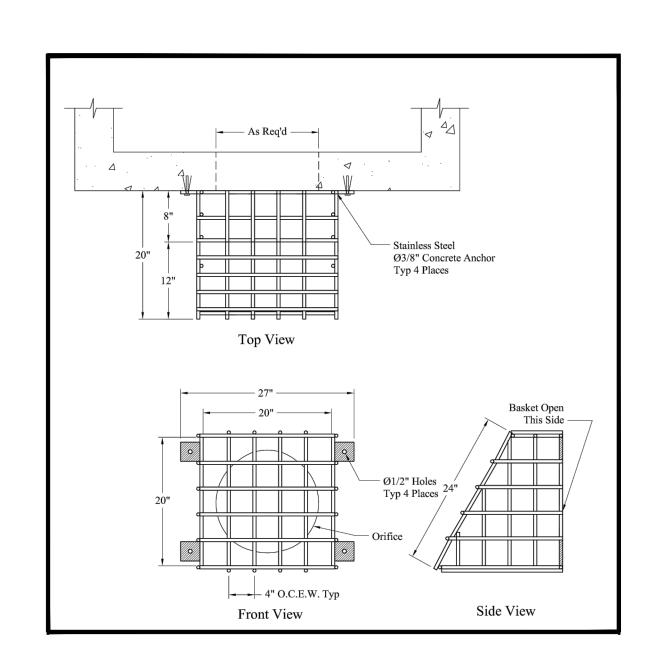
SCHL

PE-2009007268









FLAT WALL TRASH RACK ANGLED 20" X 20"

WINTERSET VALLEY, 13TH PLAT
STREET, STORMWATER, MASTER DRAINAGE PLAN
EROSION AND SEDIMENT CONTROL
NW THOREAU DRIVE AND AUDUBON LANE
LEE'S SUMMIT, MISSOURI

MARK ALLEN BREUER

09.04.19

MUMBER PE-2009007268

 AWN BY:
 REVISION DATE
 DESCRIPTION

 KSC
 1 4-10-19
 CITY COMMENTS

 CKED BY:
 2 8-1-19
 CITY COMMENTS

 CKED BY:
 3 8-21-19
 CITY COMMENTS

 MAB
 4
 CITY COMMENTS

 PREPARED:
 6

 -15-19
 6

 .NUMBER:
 8

STREET AND STORM DETAILS

SHEET

21

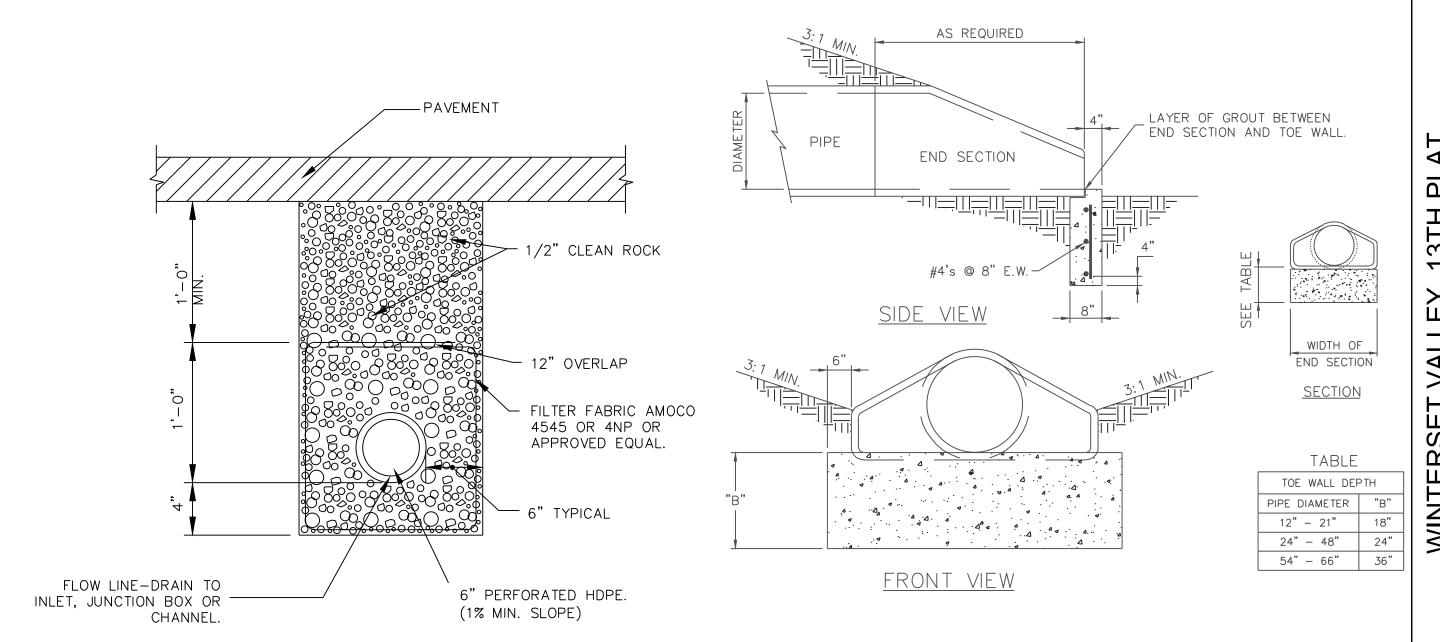
Street Classification	Pavement Option	AC Surface (in.)	AC Base (in.)	MoDOT Type 5 Base (in.)	Geogrid(1)	Chemical Subgrade Stabilization(2) (in.)
Residential Local/Access	A	2	4	6		6
	В	2	4	10	Geogrid	
Residential Collector	A	2	5.5	6	-	9
	В	2	5.5	12	Geogrid	
Commercial Industrial	A	2	7.5	6		9
Local/Collector	В	2	7.5	12	Geogrid	

TABLE LS-3: MINIMUM PCC PAVEMENT THICKNESSES

Street Classification	PCC (in.)	Aggregate Base	Subgrade Stabilization ⁽¹⁾
		(in.)	(in.)
Residential	6	4	
Local/Access			
Residential	6	4	6
Collector			
Commercial	8	4	9
Industrial			
Local/Collector			

(1) Subgrade Stabilization and 4" aggregate base may be replaced by approved geogrid and 6" of aggregate base

LS5200



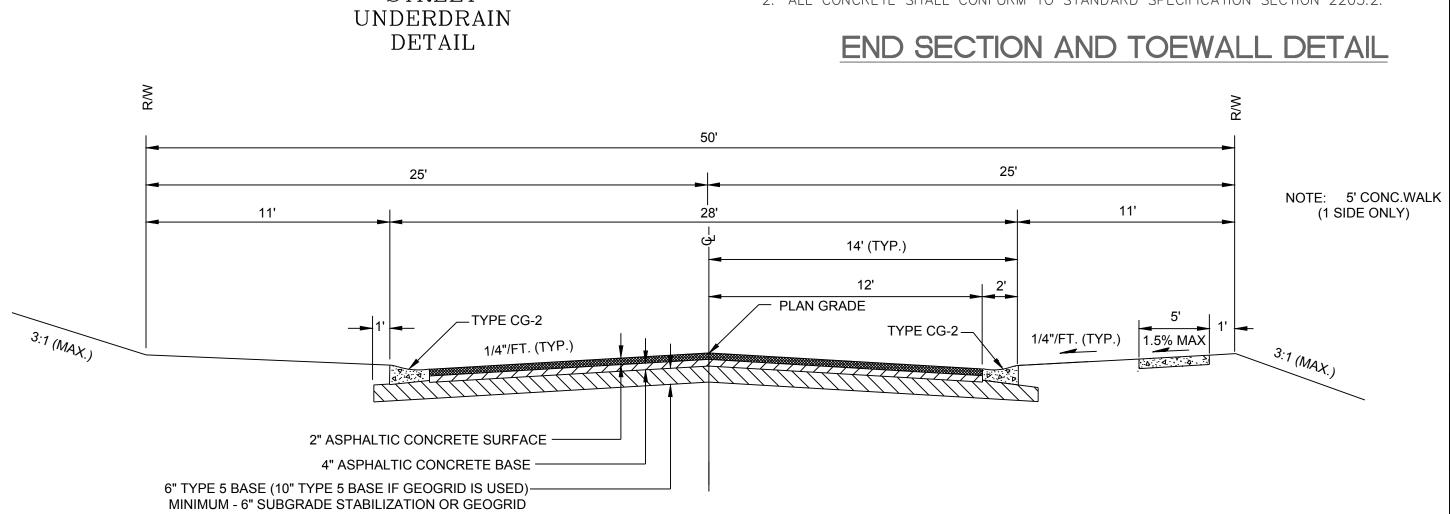
NOTES:

STREET

THE DEPTH OF THE TOE WALL SHALL BE PER TABLE. IF BEDROCK IS ENCOUNTERED A MINIMUM OF 12" INTO BEDROCK IS REQUIRED.

END SECTION AND TOEWALL DETAIL

2. ALL CONCRETE SHALL CONFORM TO STANDARD SPECIFICATION SECTION 2205.2.



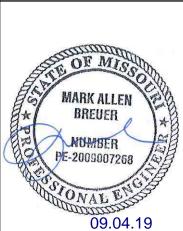
RESIDENTIAL LOCAL/ACCESS

NW THOREAU DR STA. 1+35.24 TO STA. 4+25.27

THOREAU LN STA. 0+00 TO STA. 2+56

THOREAU PL STA. 0+00 TO STA. 1+65.97





DRIVE AN SUMMIT,

STREET AND STORM DETAILS

SHEET

MISSOURI GEOGRAPHIC REFERENCE SYSTEM **BENCH MARK:**

BM JA-136, LOCATED AT INTERSECTION OF SW OLDHAM PARKWAY AND SW WARD ROAD, 61 FT SOUTH OF CL OF OLDHAM PARKWAY AND 28.9 FT EAST OF THE EAST EDGE OF WARD ROAD.

ELEV. 993.11'

PROJECT BENCH MARK:

SANITARY MANHOLE H2 AT NW CORNER OF LOT 1153 WINTERSET VALLEY 1ST PLAT, APPROX. 39' RT. OF CL OF NW PEALE BLVD.

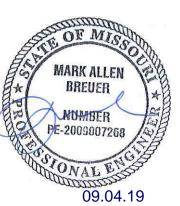
ELEV.935.45'



P.A.

ASSOCIATES,





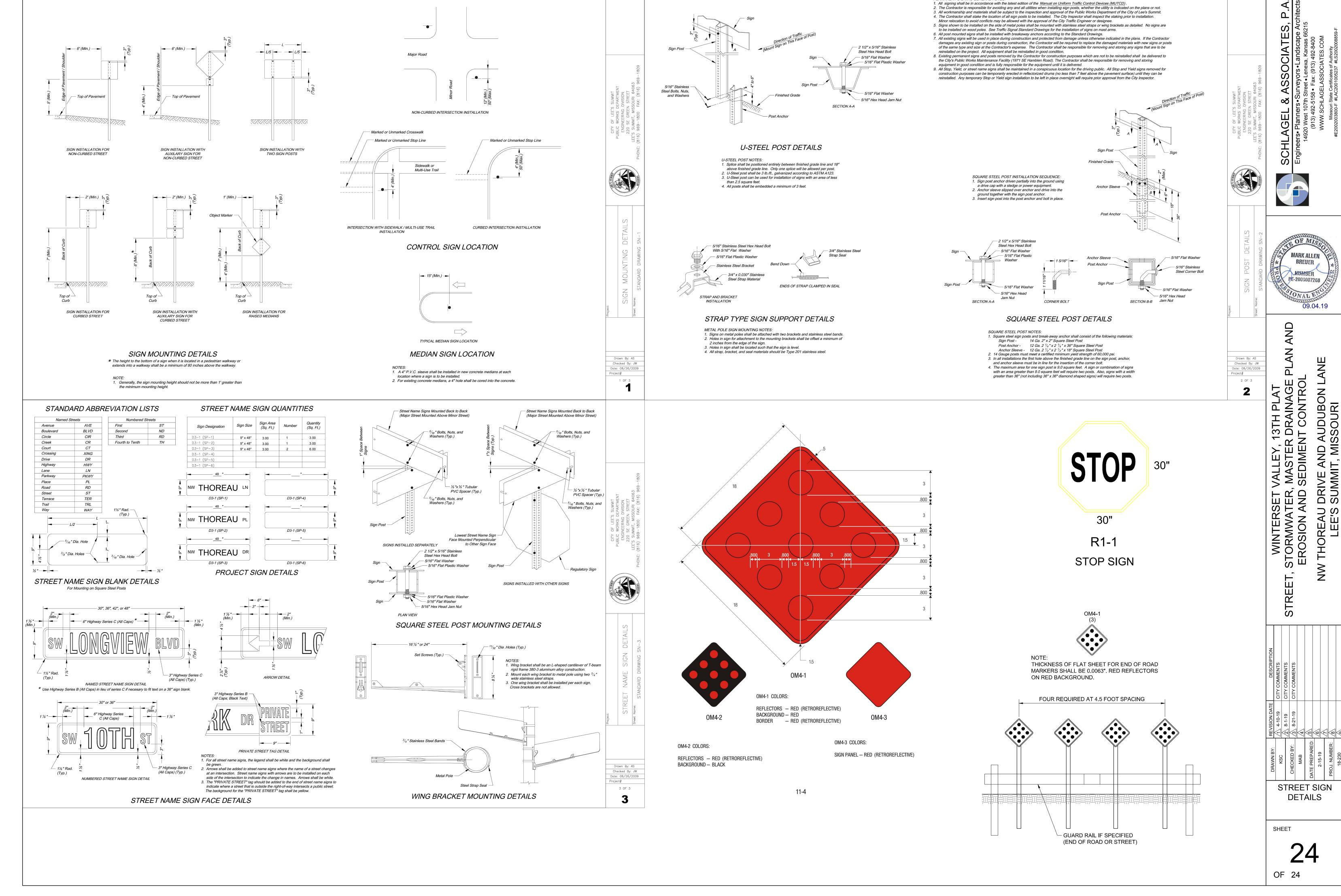
LEY, 13TH PLAT 8, MASTER DRAINAGE 9) SEDIMENT CONTROL ND AUDUBON LANE MISSOURI WINTERSET VALLEY STREET, STORMWATER, N PLAN AND EROSION AND S NW THOREAU DRIVE AND

REVISION DATE	TE DESCRIPTION	
<u> 1</u> 4-10-19	CITY COMMENTS	
2 8-1-19	CITY COMMENTS	
3 8-21-19	CITY COMMENTS	
4		
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9		
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SIGNING PLAN

SHEET





PERMANENT SIGNING GENERAL NOTES: