CONSTRUCTION DRAWINGS

COSTCO WHOLESALE DEVELOPMENT

MARKET AT

LEE SUMMIT, MISSOURI

OWNER:

COSTCO WHOLESALE
999 LAKE DRIVE
ISSAQUAH, WASHINGTON 98027
(425) 313-8100

ENGINEER:

CIVIL & ENVIRONMENTAL CONSULTANTS, INC.
1450 BEALE STREET, SUITE 305
ST. CHARLES, MO 63303
CONTACT: DAN R. KOZIATEK, P.E.
(314) 656-4566
(314) 656-4588 (direct)
dkoziatek@cecinc.com

ARCHITECT:

MG2
1101 SECOND AVENUE, SUITE 100
SEATTLE, WASHINGTON 98101
CONTACT: WILLIE MAK
(206) 962-6500
(206) 962-6679 (direct)
willie.mak@MG2.com

VICINITY MAP

SITE VICINITY MAP SCALE: 1" = 2000'

USGS US TOPO 7.5-MINUTE MAP FOR LEE'S SUMMIT & LAKE JACOMO, MO 2025
USGS MAP COURTESY OF THE NATIONAL MAP
https://topobuilder.nationalmap.gov/ ACCESSED ON 12/04/2025

REGIONAL MAP

USGS TOPO MAP SCALE: 1" = 5000'

USGS US TOPO 7.5-MINUTE MAP FOR LEE'S SUMMIT & LAKE JACOMO, MO 2025
USGS MAP COURTESY OF THE NATIONAL MAP
https://topobuilder.nationalmap.gov/ ACCESSED ON 12/04/2025

PROJECT DATA

CLIENT:	COSTCO WHOLESALE 730 LAKE DRIVE ISSAQUAH, WA 98027
PROJECT ADDRESS:	10 & 20 SE OLDHAM PKWY LEE'S SUMMIT, MO 64081

SITE DATA:

TOTAL SITE AREA:	23.863 ACRES (1,039,464 SF)
PROPOSED ROW AREA:	1.388 ACRES (60,478 SF)
PROPOSED LOT AREA:	22.475 ACRES (978,986 SF)
JURISDICTION:	LEE'S SUMMIT MO
ZONING:	PLANNED MIXED USE DISTRICT (PMIX)

BUILDING DATA:

TOTAL BUILDING FOOTPRINT AREA:	161,540 SF
INCLUDES:	
WAREHOUSE MAIN LEVEL	155,420 SF
ENCLOSED CANOPY	6,120 SF

SETBACKS:	REQUIRED		ACTUAL
FRONT:	15'	FRONT:	20'
SIDE:	10'	SIDE:	10'
REAR:	20'	REAR:	20'

LOT COVERAGE:

PROPOSED IMPERVIOUS AREA:	16.089 ACRES (700,838 SF)
PROPOSED PERVIOUS AREA:	6.385 ACRES (278,148 SF)
PROPOSED PERCENT IMPERVIOUS:	71.59%

PARKING DATA:

TOTAL PARKING:	913 STALLS
INCLUDES:	
MAIN LEVEL PARKING PROVIDED:	
(P) 10' WIDE STALLS	870 STALLS
(P) ACCESSIBLE STALLS	19 STALLS
FUTURE STALLS	24 STALLS
NUMBER OF STALLS PER 1000 SF OF BUILDING AREA:	5.75 STALLS

FLOOD:

INFO:	MAP PANEL 29095C0419G EFFECTIVE DATE OF 01/20/2017 LIES WITHIN ZONE X

NOTES:
- EXISTING CONDITIONS TO BE FIELD VERIFIED.
- A SEPARATE PERMIT IS REQUIRED FOR ANY WORK WITHIN THE CITY OWNED RIGHT OF WAY THAT DISTURBS OR OCCUPIES ANY PORTION OF THE PAVEMENT, CURB AND GUTTER, DRIVEWAY ENTRANCES, SIDEWALK, LANDSCAPING OR GRASSED AREAS, ETC. A RIGHT-OF-WAY PERMIT IS ALSO REQUIRED FOR EQUIPMENT OR MATERIAL STORAGE ON THE STREET OR SIDEWALK FOR MORE THAN 4 HOURS. PLEASE CONTACT THE DEPARTMENT OF PUBLIC WORKS AND PARKS (816-969-1809) TO DETERMINE IF A RIGHT-OF-WAY PERMIT IS REQUIRED.

SHEET LIST

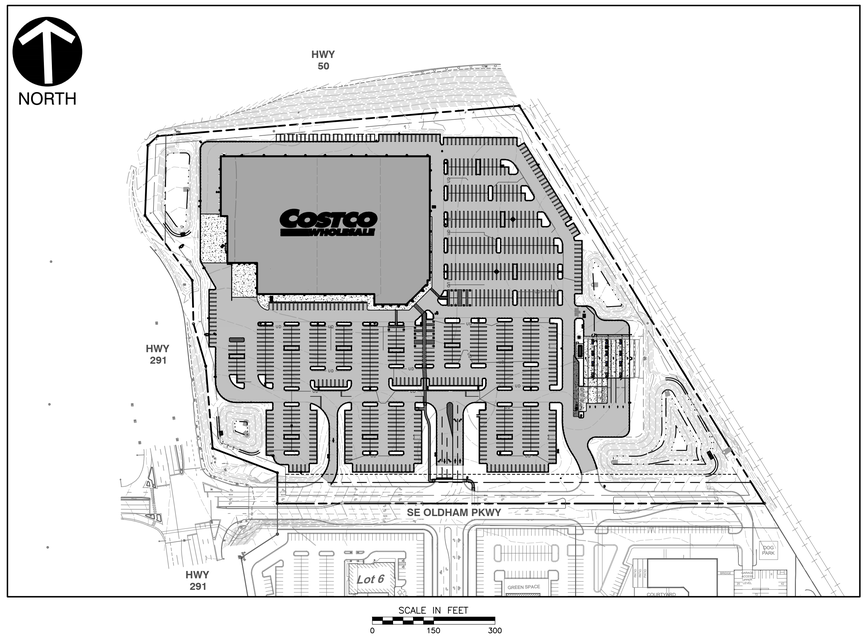
NO.	NAME	TITLE
01	C000	COVER
02	C100	EXISTING CONDITIONS
03	C200	SITE PLAN
04	C201	CURB ISLAND DIMENSION PLAN
05	C202	FIRE APPARATUS TURNING
06	C300	GRADING PLAN
07	C301	ADA GRADING PLAN
08	C400	STORM SEWER PLAN
09	C401	EXISTING DRAINAGE AREA MAP
10	C402	PROPOSED DRAINAGE AREA MAP
11	C403	STORM SEWER PROFILES
12	C404	STORM SEWER PROFILES
13	C405	STORM HYDRAULICS
14	C406	STORMWATER MANAGEMENT BASIN
15	C407	STORMWATER MANAGEMENT BASIN
16	C408	ROOF DRAIN PLAN
17	C500	UTILITY PLAN
18	C501	SANITARY PROFILES
19	C502	WATER PROFILES
20	C700	FUEL FACILITY SITE PLAN
21	C701	FUEL FACILITY GRADING PLAN
22	C702	FUEL FACILITY DETAILS SECTIONS & NOTES
23	C800	SITE DETAILS
24	C801	SITE DETAILS
25	C802	SITE DETAILS
26	C803	LOCAL UTILITY DETAILS
27	C804	SUB-SURFACE BUILDING PAD DETAILS
28	C900	EROSION CONTROL PLAN
29	C901	E&S DETAILS

LEGAL DESCRIPTION

ALL THAT PART OF THE SOUTHWEST QUARTER OF SECTION 8, TOWNSHIP 47, RANGE 31, IN LEE'S SUMMIT, JACKSON COUNTY, MISSOURI, DESCRIBED AS FOLLOWS:

COMMENCING AT A POINT ON THE NORTH LINE OF SAID QUARTER SECTION, AND 270 FEET EAST OF THE NORTHWEST CORNER THEREOF; THENCE SOUTH 00° 21' 55" WEST, A DISTANCE OF 323.29 FEET; THENCE NORTH 84° 48' 15" EAST, A DISTANCE OF 40.19 FEET TO THE TRUE POINT OF BEGINNING, WHICH IS AT A POINT OF INTERSECTION OF THE EAST RIGHT-OF-WAY OF U.S. HIGHWAY NO. 71 BYPASS AND THE SOUTHERLY RIGHT-OF-WAY OF U.S. HIGHWAY NO. 50, AS SAID HIGHWAYS ARE NOW ESTABLISHED; THENCE NORTH 84° 48' 15" EAST, ALONG THE SOUTHERLY RIGHT-OF-WAY LINE OF U.S. HIGHWAY NO. 50, A DISTANCE OF 21.18 FEET, TO A POINT OPPOSITE AND 215 FEET FROM BASE LINE STATION 691+96.85 (AHEAD) OF SAID HIGHWAY; THENCE NORTH 85° 19' 57" EAST, ALONG THE SOUTHERLY RIGHT-OF-WAY LINE OF U.S. HIGHWAY NO. 50, A DISTANCE OF 843.72 FEET TO A POINT ON THE SOUTHWESTERLY RIGHT-OF-WAY LINE OF THE MISSOURI PACIFIC RAILROAD, AS NOW ESTABLISHED, AND 50 FEET FROM THE CENTERLINE OF THE MAIN TRACKS THEREOF, SAID POINT ALSO BEING OPPOSITE AND 155 FEET FROM STATION 700+36.7 OF U.S. HIGHWAY NO. 50; THENCE SOUTH 31° 41' 20" EAST, ALONG SAID RAILROAD RIGHT-OF-WAY LINE, A DISTANCE OF 1144.59 FEET; THENCE SOUTH 89° 59' 20" WEST, PARALLEL WITH THE SOUTH LINE OF SAID QUARTER SECTION, A DISTANCE OF 1429.04 FEET TO A POINT ON THE EAST RIGHT-OF-WAY LINE OF U.S. HIGHWAY NO. 71 BYPASS, AND 80 FEET EAST OF THE CENTERLINE THEREOF; THENCE NORTH 00° 21' 55" EAST, ALONG SAID RIGHT-OF-WAY, A DISTANCE OF 93.20 FEET, TO A POINT OPPOSITE AND 80 FEET FROM THE STATION 114+31.27 (AHEAD) OF THE CENTERLINE OF SAID HIGHWAY; THENCE IN A NORTHEASTERLY, NORTHERLY AND NORTHWESTERLY DIRECTION ALONG A CURVE TO THE LEFT HAVING A RADIUS OF 1512.39 FEET, AND TANGENT TO THE LAST DESCRIBED COURSE, AND ALONG THE EASTERLY RIGHT-OF-WAY LINE, OF SAID HIGHWAY, AN ARC DISTANCE OF 348.59 FEET; THENCE NORTH 00° 21' 55" EAST, ALONG SAID EASTERLY RIGHT-OF-WAY LINE, A DISTANCE OF 464.70 FEET TO THE TRUE POINT OF BEGINNING. THE BEARINGS IN THE DESCRIPTION REFER TO THE NORTH LINE OF THE SOUTHWEST QUARTER OF SECTION 8, TOWNSHIP 47, RANGE 31, AS HAVING A BEARING OF DUE EAST; EXCEPT ALL THAT PART IN STREETS, ROADS AND HIGHWAY RIGHT OF WAY AND EXCEPT THOSE PORTIONS CONVEYED TO THE STATE OF MISSOURI, ACTING BY THROUGH THE MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION IN A GENERAL WARRANTY DEED RECORDED AUGUST 25, 2016 AS DOCUMENT NO. 2016E0078768.

SITE MAP



SCALE IN FEET
0 150 300

UTILITY CONTACTS:

STORM SEWER
CITY OF LEE'S SUMMIT PUBLIC WORKS
220 SE GREEN ST.
LEE'S SUMMIT, MO 64063
PHONE: (816) 969-1800

WATER & SANITARY SEWER
CITY OF LEE'S SUMMIT WATER UTILITIES
1200 SE HAMBLEN RD
LEE'S SUMMIT, MO 64081
PHONE: (816) 969-1900

ELECTRIC SERVICE
EVERGY
1300 SE HAMBLEN RD
LEE'S SUMMIT, MO 64081
PHONE: (816) 298-1196

GAS SERVICE
SPIRE GAS
3025 SE CLOVER DR
(816) 969-2200
CELL: (816) 969-2200

TELEPHONE / FIBER
AT&T
635 NW MURRAY RD
LEE'S SUMMIT, MO 64081
PHONE: (816) 736-2335

CABLE
AT&T
635 NW MURRAY RD
LEE'S SUMMIT, MO 64081
PHONE: (816) 736-2335

FIRE PROTECTION
LEE'S SUMMIT FIRE DEPT.
207 SE DOUGLAS ST
LEE'S SUMMIT, MO 64063
PHONE: (816) 969-7360

BENCHMARK

MISSOURI DEPARTMENT OF NATURAL RESOURCES BENCHMARK JA-25, DESCRIBED AS STANDARD MO DNR GPS DISK STAMPED "JA-25 1987"
ELEVATION NAVD 1988 = 1055.63
HORIZONTAL NAD 1983 = N:996212.17, E:2824634.92

REFERENCE

EXISTING TOPOGRAPHIC DATA AND FEATURES ARE A COMBINATION OF THE FOLLOWING:
1. ALTA SURVEY DATED 08-20-2025 BY CIVIL & ENVIRONMENTAL CONSULTANTS, INC.
2. DEVELOPMENT PLANS FOR OLDHAM VILLAGE (BY OTHER)
3. SITE DEVELOPMENT PLANS DATED XXXX BY CIVIL & ENVIRONMENTAL CONSULTANTS, INC.

811 or 1-800-344-7483
https://missouri-811.org

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NOTES:

1. CONTRACTOR SHALL REFER TO OTHER PLANS WITHIN THIS CONSTRUCTION SET FOR OTHER PERTINENT INFORMATION. IT IS NOT THE ENGINEER'S INTENT THAT ANY SINGLE PLAN SHEET IN THIS SET OF DOCUMENTS FULLY DEPICT ALL WORK ASSOCIATED WITH THIS PROJECT.

STATE OF MISSOURI
KARL A. SCHOENIKE
PE NUMBER
PE-2003015039
12/22/2025
PROFESSIONAL ENGINEER

KARL A. SCHOENIKE, PE
(MO PE# 2003015039)

REVISION RECORD

NO.	DATE	DESCRIPTION

ENGINEERING, SURVEYING AND LANDSCAPE ARCHITECTURE IN THE STATE OF NORTH CAROLINA WILL BE PROVIDED BY CEC SURVEYING AND LANDSCAPE ARCHITECTS OF NC, PLLC. ENGINEERING, SURVEYING AND LANDSCAPE ARCHITECTURE SERVICES IN THE STATE OF OHIO WILL BE PROVIDED BY CEC ENGINEERS & CONSULTANTS, LLC. LANDSCAPE ARCHITECTURE SERVICES IN THE STATE OF OHIO WILL BE PROVIDED BY MG2 ARCHITECTS, LLC.

1450 Beale Street
Suite 305
St. Charles, MO 63303
Ph: 314.656.4566
www.cecinc.com

Civil & Environmental Consultants, Inc.

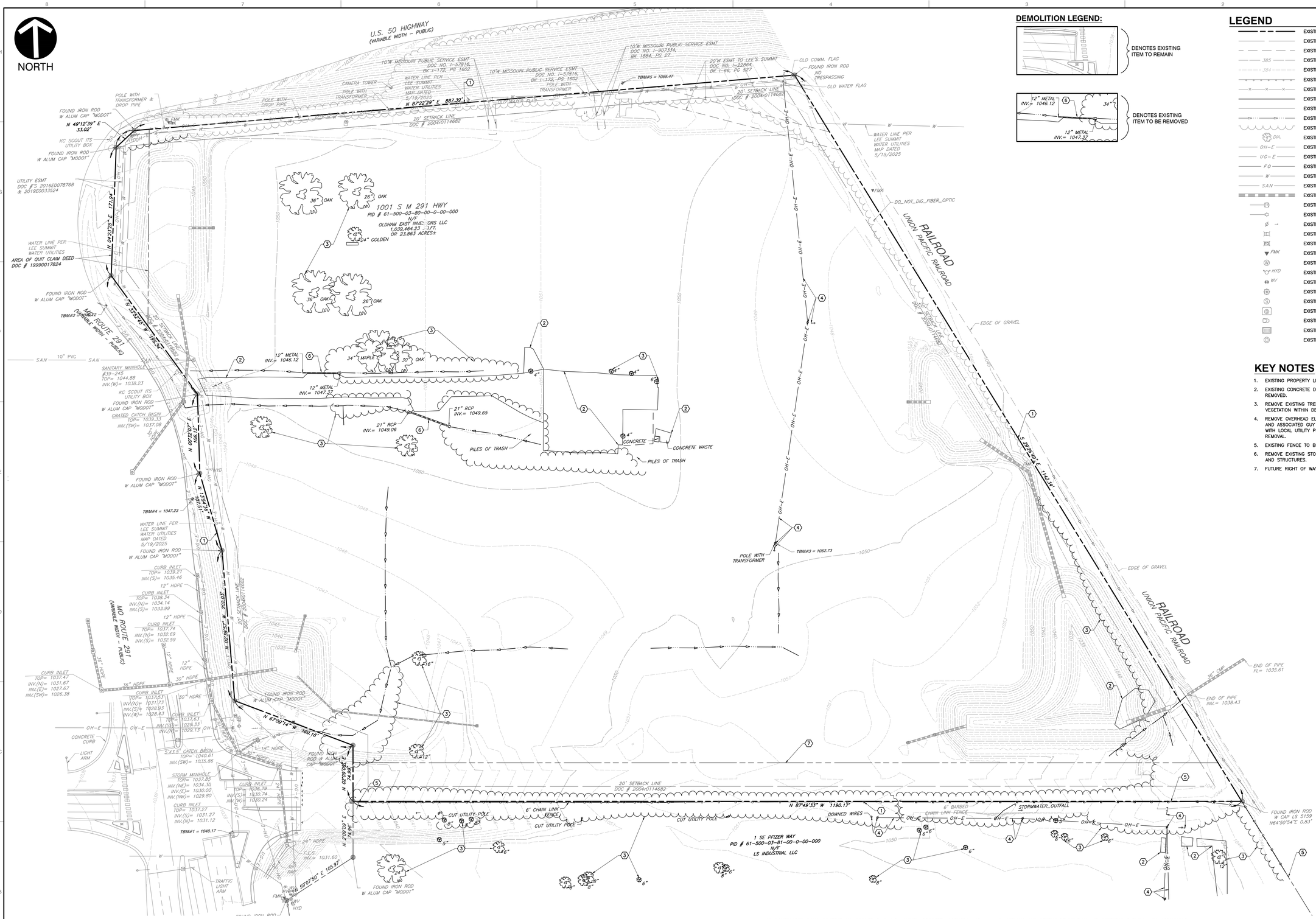
COSTCO WHOLESALE
LEE'S SUMMIT, MISSOURI

COSTCO LEES SUMMIT
CONSTRUCTION DOCUMENTS
COVER
MUNICIPAL REVIEW SET

DATE: DECEMBER 22, 2025 | DRAWN BY: MK
DWG SCALE: AS NOTED | CHECKED BY: KAS
PROJECT NO: 353-308.0002 | APPROVED BY: DRK

DRAWING NO.: C000
SHEET 01 OF 31

A:\353-000\353-308\~DATA\Dwg\civil-cad\353308-CIVIL-C000.dwg[C000] 12/22/2025 - jbehlings - 12/22/2025 4:07 PM



DEMOLITION LEGEND:

DENOTES EXISTING ITEM TO REMAIN

12" METAL INV.= 1046.12 — 34" — 12" METAL INV.= 1047.32

DENOTES EXISTING ITEM TO BE REMOVED

LEGEND

- EXISTING PROPERTY LINE
- EXISTING SETBACK
- EXISTING EASEMENT
- 385 — EXISTING INDEX (MAJOR) CONTOUR
- 384 — EXISTING INTERMEDIATE (MINOR) CONTOUR
- EXISTING GUARD RAIL
- EXISTING FENCE
- EXISTING VERTICAL CONCRETE CURB
- EXISTING EDGE OF PAVEMENT
- EXISTING DITCH FLOW LINE
- EXISTING TREE LINE
- DIA. — EXISTING TREE WITH TRUNK SIZE
- OH–E — EXISTING OVERHEAD ELECTRIC
- UG–E — EXISTING UNDERGROUND ELECTRIC
- FO — EXISTING FIBER OPTIC LINE
- W — EXISTING WATER LINE
- SAN — EXISTING SANITARY SEWER LINE
- EXISTING STORM DRAIN
- EXISTING TRAFFIC POLE WITH ARM
- EXISTING LIGHT POLE WITH ARM
- EXISTING UTILITY POLE AND GUY WIRE
- EXISTING ELECTRIC PULL BOX
- EXISTING FIBER OPTIC PULL BOX
- FMK — EXISTING FIBER MARKER
- W — EXISTING WATER MANHOLE
- HYD — EXISTING FIRE HYDRANT
- WV — EXISTING WATER VALVE
- EXISTING WATER METER
- S — EXISTING SANITARY MANHOLE
- EXISTING CURB INLET
- EXISTING FLARED END SECTION (F.E.S.)
- EXISTING GRATED CATCH BASIN
- EXISTING STORMWATER MANHOLE

KEY NOTES (#)

1. EXISTING PROPERTY LINE.
2. EXISTING CONCRETE DEBRIS TO BE REMOVED.
3. REMOVE EXISTING TREES, SHRUBS, AND VEGETATION WITHIN DEMOLITION AREA.
4. REMOVE OVERHEAD ELECTRICAL WIRE, POLE, AND ASSOCIATED GUY WIRES. COORDINATE WITH LOCAL UTILITY PROVIDER PRIOR TO REMOVAL.
5. EXISTING FENCE TO BE REMOVED.
6. REMOVE EXISTING STORM SEWER PIPING AND STRUCTURES.
7. FUTURE RIGHT OF WAY LINE.

DEMOLITION NOTES

1. ALL EXISTING ABOVE AND BELOW GROUND STRUCTURES WITHIN THE LIMITS OF CONSTRUCTION SHALL BE REMOVED UNLESS NOTED OTHERWISE WITHIN THIS CONSTRUCTION SET AND/OR PROJECT SPECIFICATIONS. THIS INCLUDES FOUNDATION SLABS, WALLS AND FOOTINGS. CAVITIES LEFT BY STRUCTURE REMOVAL SHALL BE BACKFILLED WITH SATISFACTORY MATERIALS AND COMPACTED TO THE GEOTECHNICAL ENGINEER'S RECOMMENDATION.
2. CLEARING LIMITS SHALL BE PHYSICALLY MARKED IN THE FIELD BY THE CONTRACTOR.
3. NO TREES SHALL BE REMOVED, NOR VEGETATION DISTURBED BEYOND THE LIMITS OF CONSTRUCTION WITHOUT THE EXPRESS WRITTEN APPROVAL OF THE OWNER'S REPRESENTATIVE.
4. TREE PROTECTION FENCING SHALL BE IN ACCORDANCE WITH JACKSON COUNTY STANDARDS – OR – IN ACCORDANCE WITH THE DETAILED DRAWINGS, DO NOT OPERATE OR STORE EQUIPMENT, NOR HANDLE OR STORE MATERIALS WITHIN THE DRIP LINES OF THE TREES SHOWN TO REMAIN.
5. PROTECTION OF EXISTING TREES AND VEGETATION: PROTECT EXISTING TREES AND OTHER VEGETATION INDICATED TO REMAIN IN PLACE AGAINST UNNECESSARY CUTTING, BREAKING OR SKINNING OF ROOTS, SKINNING OR BRUISING OF BARK, SMOTHERING OF TREES BY STOCKPILING CONSTRUCTION MATERIALS OR EXCAVATED MATERIALS WITHIN DRIP LINE, EXCESS FOOT OR VEHICULAR TRAFFIC, OR PARKING OF VEHICLES WITHIN DRIP LINE. PROVIDE TEMPORARY GUARDS TO PROTECT TREES AND VEGETATION TO BE LEFT STANDING.
6. ALL DEMOLITION WASTE AND CONSTRUCTION DEBRIS SHALL BECOME THE PROPERTY OF THE CONTRACTOR UNLESS OTHERWISE DESIGNATED AND SHALL BE REMOVED BY THE CONTRACTOR AND DISPOSED OF OFFSITE IN A STATE APPROVED WASTE SITE AND IN ACCORDANCE WITH ALL LOCAL AND STATE CODES AND PERMIT REQUIREMENTS. TAKE CARE TO PROTECT UTILITIES THAT ARE TO REMAIN. REPAIR DAMAGE ACCORDING TO THE APPROPRIATE UTILITY COMPANY STANDARDS AND AT THE CONTRACTOR'S EXPENSE.
7. ALL UTILITY DISCONNECTION, REMOVAL, RELOCATION, CUTTING, CAPPING AND/OR ABANDONMENT SHALL BE COORDINATED WITH THE APPROPRIATE UTILITY COMPANY / AGENCY. UTILITY CONTACTS ARE LISTED ON THE COVER SHEET.
8. THE BURNING OF CLEARED MATERIAL AND DEBRIS SHALL NOT BE ALLOWED UNLESS CONTRACTOR OBTAINS PRIOR WRITTEN AUTHORIZATION FROM THE LOCAL AUTHORITIES.
9. EROSION & SEDIMENT CONTROL MEASURES AROUND AREAS OF DEMOLITION SHALL BE PROPERLY INSTALLED AND FUNCTION PROPERLY PRIOR TO INITIALIZATION OF DEMOLITION ACTIVITIES.
10. ASBESTOS OR HAZARDOUS MATERIALS ARE NOT EXPECTED, IF FOUND ON SITE, SUCH MATERIALS SHALL BE REMOVED BY A LICENSED HAZARDOUS MATERIALS CONTRACTOR. CONTRACTOR SHALL NOTIFY OWNER IMMEDIATELY IF HAZARDOUS MATERIALS ARE ENCOUNTERED.
11. CONTRACTOR SHALL ADHERE TO ALL LOCAL, STATE, FEDERAL AND OSHA REGULATIONS DURING ALL DEMOLITION ACTIVITIES.
12. CONTRACTOR SHALL PROTECT ALL CORNER PINS, MONUMENTS, PROPERTY CORNERS AND BENCHMARKS DURING DEMOLITION ACTIVITIES. IF DISTURBED, CONTRACTOR SHALL HAVE DISTURBED ITEMS RESET BY A LICENSED SURVEYOR AT NO ADDITIONAL COST TO THE OWNER.
13. CONTRACTOR SHALL PROTECT ALL EXISTING UTILITIES, STRUCTURES, AND FEATURES TO REMAIN. ANY ITEMS TO REMAIN THAT HAVE BEEN DISTURBED OR DAMAGED AS A RESULT OF CONSTRUCTION SHALL BE REPAIRED OR REPLACED BY THE CONTRACTOR AT CONTRACTOR'S EXPENSE.
14. CONTRACTOR SHALL PROVIDE AND MAINTAIN TRAFFIC CONTROL MEASURES IN ACCORDANCE WITH STATE DEPARTMENT OF TRANSPORTATION REGULATIONS AND AS REQUIRED BY LOCAL AGENCIES WHEN WORKING IN AND/OR ALONG STREETS, ROADS, HIGHWAYS, ETC.. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN APPROVAL AND COORDINATE WITH LOCAL AND/OR STATE AGENCIES REGARDING THE NEED, EXTENT AND LIMITATIONS ASSOCIATED WITH INSTALLING AND MAINTAINING TRAFFIC CONTROL MEASURES.
15. PROVIDE NEAT, STRAIGHT, FULL DEPTH, SAW CUTS OF EXISTING PAVEMENT WHERE INDICATED ALONG LIMITS OF PAVEMENT DEMOLITION.
16. ALL UTILITY AND STRUCTURE REMOVAL, RELOCATION, CUTTING, CAPPING AND/OR ABANDONMENT SHALL BE COORDINATED AND PROPERLY DOCUMENTED BY A CERTIFIED PROFESSIONAL, WHEN APPLICABLE, WITH THE APPROPRIATE UTILITY COMPANY, MUNICIPALITY AND/OR AGENCY. DEMOLITION OF REGULATED ITEMS MAY INCLUDE, BUT ARE NOT LIMITED TO WELLS, ASBESTOS, UNDER GROUND STORAGE TANKS, SEPTIC TANKS AND ELECTRIC TRANSFORMERS. DEMOLITION CONTRACTOR SHALL REFER TO ANY ENVIRONMENTAL STUDIES FOR DEMOLITION RECOMMENDATIONS AND GUIDANCE. AVAILABLE ENVIRONMENTAL STUDIES MAY INCLUDE, BUT ARE NOT LIMITED TO PHASE I ESA, PHASE II, WETLAND AND STREAM DELINEATION AND ASBESTOS SURVEY. ALL APPLICABLE ENVIRONMENTAL STUDIES SHALL BE MADE AVAILABLE UPON REQUEST.
17. ALL PAVEMENT, BASE COURSES, SIDEWALKS, CURBS, BUILDINGS, FOUNDATIONS, ETC., WITHIN THE AREA TO BE DEMOLISHED SHALL BE REMOVED TO FULL DEPTH. EXISTING BASE COURSE MATERIALS MAY BE WORKED INTO THE NEW PAVEMENT OR BUILDING SUBGRADE IF THE GRADATION, CONSISTENCY, COMPACTION, SUBGRADE CONDITION, ETC., ARE IN ACCORDANCE WITH THE SPECIFICATIONS AND RECOMMENDATIONS OF THE REPORT OF GEOTECHNICAL INVESTIGATION. BASE COURSE MATERIALS SHALL NOT BE WORKED INTO THE SUBGRADE AREAS TO RECEIVE LANDSCAPING.
18. THE CONTRACTOR SHALL USE SUITABLE METHODS TO CONTROL DUST AND DIRT CAUSED BY THE DEMOLITION ACTIVITIES.

REFERENCE

EXISTING TOPOGRAPHIC DATA AND FEATURES ARE A COMBINATION OF THE FOLLOWING:
1. ALTA SURVEY DATED 08–20–2025 BY CIVIL & ENVIRONMENTAL CONSULTANTS, INC.
2. DEVELOPMENT PLANS FOR OLDHAM VILLAGE (BY OTHER)
3. SITE DEVELOPMENT PLANS DATED XXXX BY CIVIL & ENVIRONMENTAL CONSULTANTS, INC.

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SCALE IN FEET
0 50 100

KARL A. SCHOENIKE, PE (MO PE# 2003015039)

STATE OF MISSOURI · KARL A. SCHOENIKE · NUMBER PE-2003015039 · 12/22/2025 · PROFESSIONAL ENGINEER

REVISION RECORD

NO	DATE	DESCRIPTION

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Ph: 314.656.4566
www.cecinc.com

COSTCO WHOLESALE
LEE'S SUMMIT, MISSOURI

COSTCO LEES SUMMIT
CONSTRUCTION DOCUMENTS
EXISTING CONDITIONS
MUNICIPAL REVIEW SET

DATE: DECEMBER 22, 2025 | DRAWN BY: MK
DWG SCALE: 1" = 50' | CHECKED BY: KAS
PROJECT NO: 353-308.0002
APPROVED BY: *DRK

DRAWING NO.: C100
SHEET 02 OF 31

J:\350–000\353–308\–CAD\Dwg\civil–cvr\353308–CIVIL–C100.dwg[C100] 12/12/2025 4:07 PM – LR

NORTH

U.S. 50 HIGHWAY
(VARIABLE WIDTH – PUBLIC)

MO ROUTE 291
(VARIABLE WIDTH – PUBLIC)

SE OLDHAM PKWY
(VARIABLE WIDTH - PUBLIC)
(TO BE BUILT BY DEVELOPER)

PR SIGNAL
(TO BE BUILT BY DEVELOPER)

RAILROAD
UNION PACIFIC RAILROAD

COSTCO WHOLESALE
10 SE OLDHAM PKWY
TOTAL BLDG. FOOTPRINT: 161,540 SF
FINISHED FLOOR 1052.02'

NORTH WEST DETENTION BASIN

SOUTH WEST DETENTION BASIN

EAST DETENTION BASIN

1 SE PFIZER WAY
PID # 81-500-03-81-00-0-00-000
N/F
LS INDUSTRIAL LLC

LEGEND

- EXISTING PROPERTY LINE
- EXISTING SETBACK
- EXISTING EASEMENT
- EXISTING INDEX (MAJOR) CONTOUR
- EXISTING INTERMEDIATE (MINOR) CONTOUR
- EXISTING GUARD RAIL
- EXISTING FENCE
- EXISTING VERTICAL CONCRETE CURB
- EXISTING EDGE OF PAVEMENT
- EXISTING DITCH FLOW LINE
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- EXISTING OVERHEAD ELECTRIC
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- EXISTING FIBER MARKER
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- EXISTING FIRE HYDRANT
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- EXISTING WATER METER
- EXISTING SANITARY MANHOLE
- EXISTING CURB INLET
- EXISTING FLARED END SECTION (F.E.S.)
- EXISTING GRATED CATCH BASIN
- EXISTING STORMWATER MANHOLE
- PROPOSED CONCRETE CURB AND GUTTER
- PROPOSED CONCRETE PAVEMENT
- PROPOSED HEAVY DUTY PAVEMENT
- PROPOSED LIGHT DUTY PAVEMENT
- PROPOSED CONCRETE SIDEWALK
- PROPOSED PAINTED 2' O.C. DIAGONAL STRIPING
- PROPOSED PAINTED PARKING DIVIDER
- PROPOSED CART CORRAL
- PROPOSED MANHOLE – SOLID COVER
- PROPOSED AREA INLET – 3-WAY
- PROPOSED GRATE INLET
- PROPOSED 2 GRATE INLET W/ SIDE INTAKE
- PROPOSED FLARED END SECTION (F.E.S.)
- PROPOSED CLEAN OUT
- PROPOSED PRIVATE SANITARY MANHOLE
- PROPOSED PRIVATE SANITARY CLEANOUT
- PROPOSED WATER VALVE
- PROPOSED FIRE HYDRANT
- PROPOSED BUILDING MOUNTED LIGHT AND LIGHT POLE [REFER TO LIGHTING PLAN BY OTHERS]
- PROPOSED BOLLARD
- PROPOSED PARKING STALL COUNT
- PROPOSED PARKING STALL COUNT (ADA)
- PROPOSED REVERSE CURB

SITE LAYOUT NOTES

1. ALL SITE WORK SHOWN HEREON SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT'S SPECIFICATIONS, THE CURRENT EDITION OF LEE'S SUMMIT STANDARD SPECIFICATIONS AND ALL APPLICABLE FEDERAL, STATE AND LOCAL BUILDING CODES AND ORDINANCES.
2. THE CONTRACTOR SHALL CHECK EXISTING GRADES, DIMENSIONS, AND INVERTS IN THE FIELD AND REPORT ANY DISCREPANCIES TO THE OWNER'S REPRESENTATIVE PRIOR TO BEGINNING WORK.
3. THE CONTRACTOR SHALL VERIFY THE EXACT LOCATION OF ALL EXISTING UTILITIES AND PROTECT UTILITIES THAT ARE TO REMAIN. RELOCATE EXISTING UTILITIES AS INDICATED, OR AS NECESSARY FOR CONSTRUCTION.
4. PROVIDE A SMOOTH TRANSITION BETWEEN EXISTING PAVEMENT AND NEW PAVEMENT. FIELD ADJUSTMENT OF FINAL GRADES MAY BE NECESSARY. INSTALL ALL UTILITIES, INCLUDING IRRIGATION SLEEVES, PRIOR TO INSTALLATION OF PAVED SURFACES.
5. ALL DAMAGE TO EXISTING PAVEMENT TO REMAIN WHICH RESULTS FROM THE CONTRACTOR'S OPERATIONS SHALL BE REPLACED WITH LIKE MATERIALS AT THE CONTRACTOR'S EXPENSE.
6. SITE DIMENSIONS AND/OR COORDINATES SHOWN ARE TO THE FACE OF CURB, EDGE OF PAVEMENT, EXTERIOR BUILDING WALL, CENTER OF MANHOLE, CENTER AT FACE OF CURB FOR DRAIN INLETS AND CENTERLINE OF PIPE OR FITTING, UNLESS OTHERWISE NOTED. DISTANCES SHOWN ON PIPING ARE HORIZONTAL DISTANCES FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE, UNLESS OTHERWISE NOTED.
7. REFER TO THE ARCHITECTURAL DRAWINGS FOR EXACT BUILDING DIMENSIONS AND LOCATIONS OF UTILITY SERVICE ENTRANCES, BUILDING DRAINS, ROOF DRAINS, DOORS AND EXIT FEATURES.
8. CONTRACTOR SHALL MAINTAIN VEHICLE AND PEDESTRIAN ACCESS ON ADJACENT ROADWAYS AND DRIVES TO THE MAXIMUM EXTENT FEASIBLE THROUGHOUT THE DURATION OF THE PROJECT – COORDINATE WITH NEIGHBORING BUSINESSES AND WITH PUBLIC STREET AUTHORITIES HAVING JURISDICTION. PROVIDE TEMPORARY TRAFFIC CONTROL MEASURES TO MAINTAIN WORK SITE SAFETY AND TO PROTECT THE TRAVELING PUBLIC IN ACCORDANCE WITH APPLICABLE PROVISIONS OF THE CURRENT EDITION OF MISSOURI MUTCD, MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.

KEY NOTES

1. 1'-7" CONCRETE CURB AND GUTTER. SEE DETAIL 17/C801.
2. FLUSH CURB AT PAVEMENT. SEE DETAIL 18/C801.
3. PAINTED STRIPING. SEE DETAIL 34/C802.
4. CART STORAGE. SEE DETAILS 08/C801 & 09/C801.
5. WHEEL STOP. SEE DETAILS 24/C802.
6. 5' WIDE CONCRETE SIDEWALK. SEE DETAIL 25/C802 FOR ON-SITE (PRIVATE) SIDEWALK SECTION.
7. BOLLARDS. SEE DETAILS 23/C802, 29/C802, & 32/C802.
8. STOP BAR, PAVEMENT ARROWS, AND STOP SIGN. SEE ARCH. PLANS FOR DETAILS.
9. ACCESSIBLE PARKING STALLS. SEE DETAILS 30/C802, 31/C802, & 33/C802.
10. PAINTED CROSSWALK. MATCH ADA STRIPING ON DETAIL 31/C802.
11. LOADING DOCK TRENCH DRAIN. SEE DETAIL 10/C801.
12. LOADING DOCK WALL. SEE ARCHITECTURAL PLANS FOR DETAILS.
13. ADA RAMP PER ST. LOUIS COUNTY. SEE DETAILS 35/C803 AND 36/C803
14. ASPHALT ADA PATHWAY.
15. PROPOSED LIGHT POLE ISLAND SEE DETAIL 12/C801

REFERENCE

EXISTING TOPOGRAPHIC DATA AND FEATURES ARE A COMBINATION OF THE FOLLOWING:
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2. DEVELOPMENT PLANS FOR OLDHAM VILLAGE (BY OTHER)
3. SITE DEVELOPMENT PLANS DATED XXXX BY CIVIL & ENVIRONMENTAL CONSULTANTS, INC.

811 or 1-800-344-7483
https://missouri-811.org

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SCALE IN FEET
0 50 100

KARL A. SCHOENIKE, PE
(MO PE# 2003015039)

STATE OF MISSOURI
KARL A. SCHOENIKE
PE NUMBER
PE-2003015039
12/22/2025
PROFESSIONAL ENGINEER

REVISION RECORD

NO.	DATE	DESCRIPTION

ENGINEERING, SURVEYING AND LANDSCAPE ARCHITECTURE IN THE STATE OF NORTH CAROLINA WILL BE PROVIDED BY CEC SURVEYING AND LANDSCAPE ARCHITECTS OF NO. PLLC. CEC ENGINEERING IN THE STATE OF MISSOURI WILL BE PROVIDED BY CEC ENGINEERS & CONSULTANTS, LLC. LANDSCAPE ARCHITECTURE SERVICES IN THE STATE OF OHIO WILL BE PROVIDED BY CEC EXPLORE ARCHITECTS, LLC.

1450 Beale Street
Suite 305
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Ph: 314.656.4566
www.cecinc.com

Civil & Environmental
Consultants, Inc.

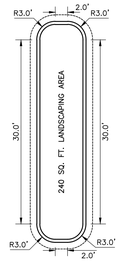
COSTCO WHOLESALE
LEE'S SUMMIT, MISSOURI

COSTCO LEES SUMMIT
CONSTRUCTION DOCUMENTS
SITE PLAN
MUNICIPAL REVIEW SET

DATE:	DECEMBER 22, 2025
DRAWN BY:	MK
DVG SCALE:	1" = 100'
CHECKED BY:	KAS
PROJECT NO:	353-308.0002
APPROVED BY:	*DRK

DRAWING NO.:
C200
SHEET 03 OF 31

J:\353-0001\353-308\1-CAD\1Dwg\civil\sht\353308-CIVIL-C200.dwg(C200) LS (12/22/2025 - mattmuth) - LPT: 12/22/2025 4:08 PM



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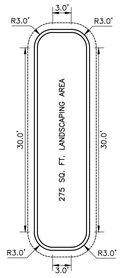

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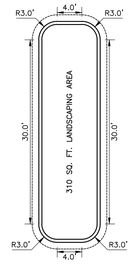

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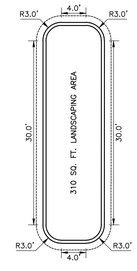

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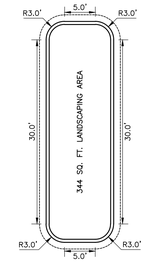

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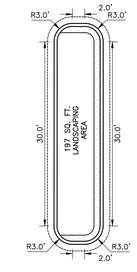

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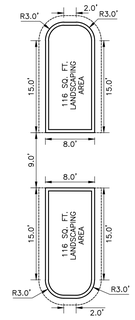

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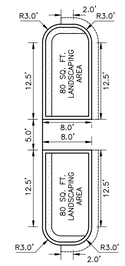

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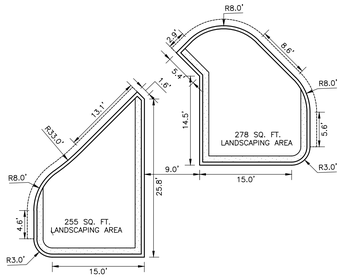

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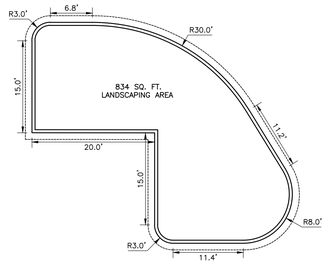

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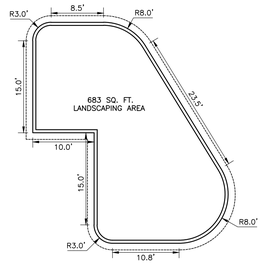

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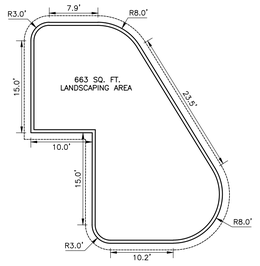

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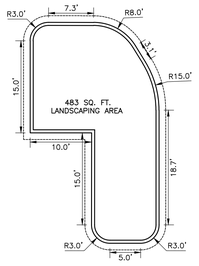

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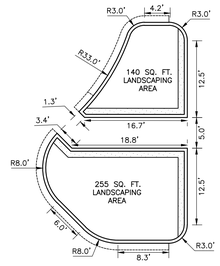
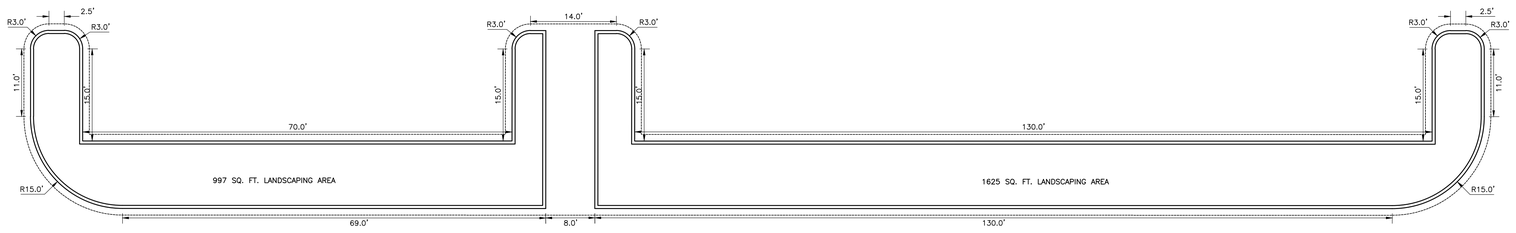


TYPE-M ISLAND
SCALE: 1"=10'

TYPE-N ISLAND
SCALE: 1"=10'

TYPE-O ISLAND
SCALE: 1"=10'

TYPE-P ISLAND
SCALE: 1"=10'



TYPE-Q ISLAND
SCALE: 1"=10'

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SCALE IN FEET
0 10 20

STATE OF MISSOURI
KARL A. SCHOENIKE
NUMBER PE-2003015039
12/22/2025
PROFESSIONAL ENGINEER

KARL A. SCHOENIKE, PE
(MO PE# 2003015039)

REVISION RECORD

NO	DATE	DESCRIPTION

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Ph: 314.656.4566
www.cecinc.com

Civil & Environmental Consultants, Inc.

COSTCO WHOLESALE
LEE'S SUMMIT, MISSOURI

COSTCO LEES SUMMIT
CONSTRUCTION DOCUMENTS
CURB ISLAND DIMENSION PLAN
MUNICIPAL REVIEW SET

DATE:	DECEMBER 22, 2025
DRAWN BY:	MK
CHECKED BY:	KAS
DWG SCALE:	1" = 10'
PROJECT NO:	353-308.0002
APPROVED BY:	*DRK

DRAWING NO.:
C201
SHEET 04 OF 31

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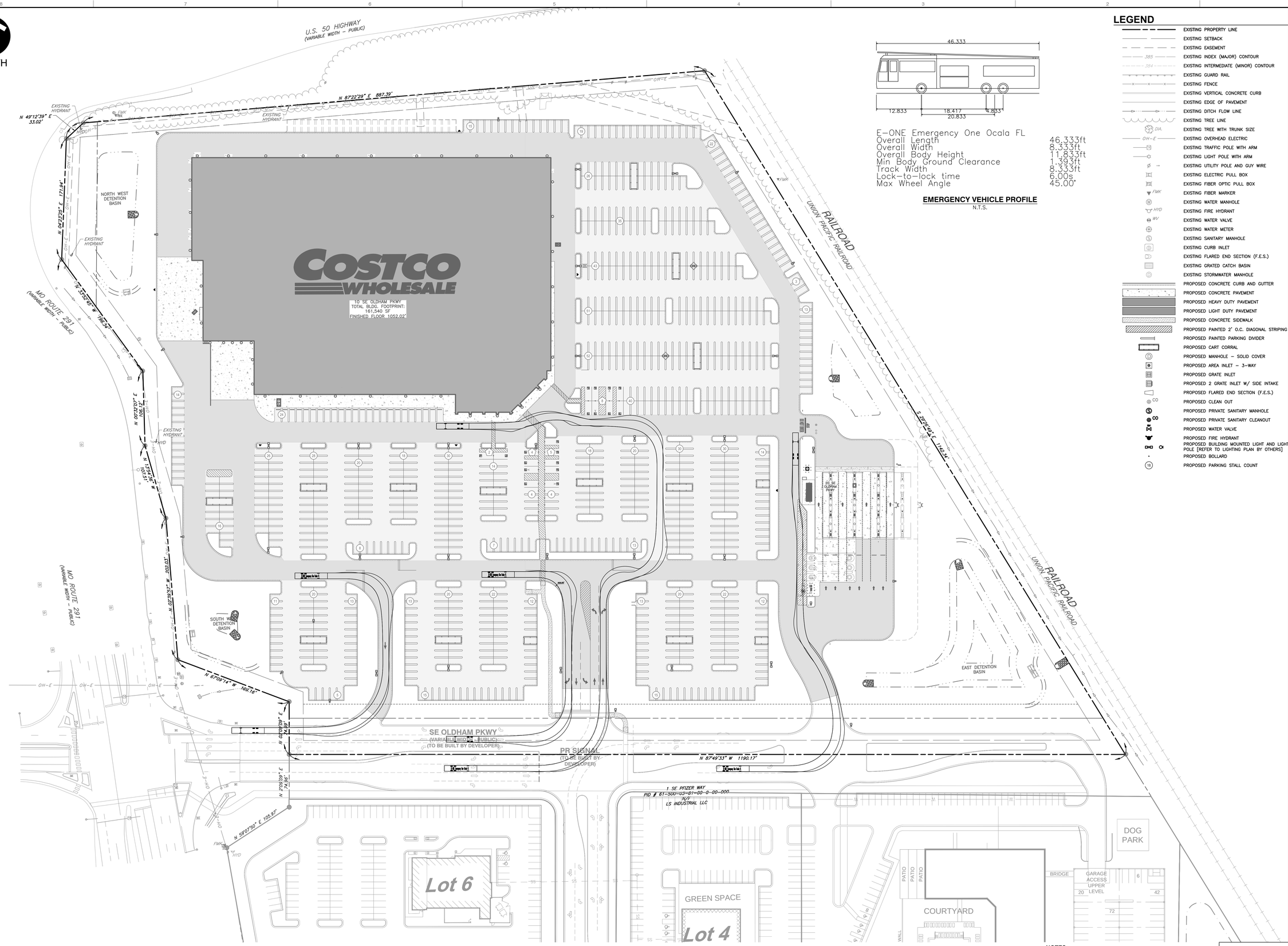
NORTH



E-ONE Emergency One Ocala FL

Overall Length	46.333ft
Overall Width	8.333ft
Overall Body Height	11.833ft
Min Body Ground Clearance	1.393ft
Track Width	8.333ft
Lock-to-lock time	6.00s
Max Wheel Angle	45.00°

EMERGENCY VEHICLE PROFILE
N.T.S.

LEGEND

- EXISTING PROPERTY LINE
- EXISTING SETBACK
- EXISTING EASEMENT
- EXISTING INDEX (MAJOR) CONTOUR
- EXISTING INTERMEDIATE (MINOR) CONTOUR
- EXISTING GUARD RAIL
- EXISTING FENCE
- EXISTING VERTICAL CONCRETE CURB
- EXISTING EDGE OF PAVEMENT
- EXISTING DITCH FLOW LINE
- EXISTING TREE LINE
- EXISTING TREE WITH TRUNK SIZE
- EXISTING OVERHEAD ELECTRIC
- EXISTING TRAFFIC POLE WITH ARM
- EXISTING LIGHT POLE WITH ARM
- EXISTING UTILITY POLE AND GUY WIRE
- EXISTING ELECTRIC PULL BOX
- EXISTING FIBER OPTIC PULL BOX
- EXISTING FIBER MARKER
- EXISTING WATER MANHOLE
- EXISTING FIRE HYDRANT
- EXISTING WATER VALVE
- EXISTING WATER METER
- EXISTING SANITARY MANHOLE
- EXISTING CURB INLET
- EXISTING FLARED END SECTION (F.E.S.)
- EXISTING GRATED CATCH BASIN
- EXISTING STORMWATER MANHOLE
- PROPOSED CONCRETE CURB AND GUTTER
- PROPOSED CONCRETE PAVEMENT
- PROPOSED HEAVY DUTY PAVEMENT
- PROPOSED LIGHT DUTY PAVEMENT
- PROPOSED CONCRETE SIDEWALK
- PROPOSED PAINTED 2' O.C. DIAGONAL STRIPING
- PROPOSED PAINTED PARKING DIVIDER
- PROPOSED CART CORRAL
- PROPOSED MANHOLE – SOLID COVER
- PROPOSED AREA INLET – 3-WAY
- PROPOSED GRATE INLET
- PROPOSED 2 GRATE INLET W/ SIDE INTAKE
- PROPOSED FLARED END SECTION (F.E.S.)
- PROPOSED CLEAN OUT
- PROPOSED PRIVATE SANITARY MANHOLE
- PROPOSED PRIVATE SANITARY CLEANOUT
- PROPOSED WATER VALVE
- PROPOSED FIRE HYDRANT
- PROPOSED BUILDING MOUNTED LIGHT AND LIGHT POLE [REFER TO LIGHTING PLAN BY OTHERS]
- PROPOSED BOLLARD
- PROPOSED PARKING STALL COUNT

REFERENCE

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MISSOURI 811
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SCALE IN FEET
0 50 100

KARL A. SCHOENIKE, PE
(MO PE# 2003015039)

STATE OF MISSOURI
KARL A. SCHOENIKE
NUMBER PE-2003015039
12/22/2025
PROFESSIONAL ENGINEER

REVISION RECORD

NO.	DATE	DESCRIPTION

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Ph: 314.656.4566
www.cecinc.com

Civil & Environmental Consultants, Inc.

COSTCO WHOLESALE
LEE'S SUMMIT, MISSOURI

COSTCO LEES SUMMIT
CONSTRUCTION DOCUMENTS
FIRE APPARATUS TURNING
MUNICIPAL REVIEW SET

DATE:	DECEMBER 22, 2025
DWG SCALE:	1" = 50'
DRAWN BY:	MK
CHECKED BY:	KAS
PROJECT NO:	353-308.0002
APPROVED BY:	*DRK

DRAWING NO.:
C202
SHEET 05 OF 31

P:\350-099\353-308\-CAD\Dwg\civil\c202-swept.dwg(C202) 12/22/2025 - mattmuhy - 10:12:22 AM

NORTH

LEGEND

- EXISTING PROPERTY LINE
- EXISTING SETBACK
- EXISTING EASEMENT
- EXISTING INDEX (MAJOR) CONTOUR
- EXISTING INTERMEDIATE (MINOR) CONTOUR
- EXISTING GUARD RAIL
- EXISTING FENCE
- EXISTING VERTICAL CONCRETE CURB
- EXISTING EDGE OF PAVEMENT
- EXISTING DITCH FLOW LINE
- EXISTING TREE LINE
- EXISTING TREE WITH TRUNK SIZE
- EXISTING OVERHEAD ELECTRIC
- EXISTING UNDERGROUND ELECTRIC
- EXISTING FIBER OPTIC LINE
- EXISTING WATER LINE
- EXISTING SANITARY SEWER LINE
- EXISTING STORM DRAIN
- EXISTING TRAFFIC POLE WITH ARM
- EXISTING LIGHT POLE WITH ARM
- EXISTING UTILITY POLE AND GUY WIRE
- EXISTING ELECTRIC PULL BOX
- EXISTING FIBER OPTIC PULL BOX
- EXISTING FIBER MARKER
- EXISTING WATER MANHOLE
- EXISTING FIRE HYDRANT
- EXISTING WATER VALVE
- EXISTING WATER METER
- EXISTING SANITARY MANHOLE
- EXISTING CURB INLET
- EXISTING FLARED END SECTION (F.E.S.)
- EXISTING GRATED CATCH BASIN
- EXISTING STORMWATER MANHOLE
- PROPOSED CONCRETE CURB AND GUTTER
- PROPOSED CONCRETE PAVEMENT
- PROPOSED CONCRETE SIDEWALK
- PROPOSED PAINTED 2' O.C. DIAGONAL STRIPING
- PROPOSED PAINTED PARKING DIVIDER
- PROPOSED CART CORRAL
- PROPOSED STORM PIPE
- PROPOSED UNDERDRAIN
- PROPOSED PRIVATE SANITARY SEWER
- PROPOSED PRIVATE WATER LINE (SIZE DENOTED)
- PROPOSED UNDERGROUND ELECTRIC
- PROPOSED DATA LINE
- PROPOSED MANHOLE – SOLID COVER
- PROPOSED AREA INLET – 3-WAY
- PROPOSED GRATE INLET
- PROPOSED 2 GRATE INLET W/ SIDE INTAKE
- PROPOSED FLARED END SECTION (F.E.S.)
- PROPOSED CLEAN OUT
- PROPOSED PRIVATE SANITARY MANHOLE
- PROPOSED PRIVATE SANITARY CLEANOUT
- PROPOSED WATER VALVE
- PROPOSED FIRE HYDRANT
- PROPOSED BUILDING MOUNTED LIGHT AND LIGHT POLE [REFER TO LIGHTING PLAN BY OTHERS]
- PROPOSED BOLLARD
- PROPOSED REVERSE CURB

COSTCO WHOLESALE

10 SE OLDHAM PKWY
TOTAL BLDG. FOOTPRINT:
161,540 SF
FINISHED FLOOR 1052.02'

SE OLDHAM PKWY
(VARIABLE WIDTH - PUBLIC)
(TO BE BUILT BY DEVELOPER)

GRADING NOTES

1. ALL PROPOSED GRADES SHOWN ARE FINAL GRADES, TOP OF GROUND LEVEL, OR TOP OF PAVEMENT, OR GRATE ELEVATION AT THE DRAWDOWN POINT, UNLESS INDICATED OTHERWISE. FOR PROPOSED TOP OF CURB ELEVATION, SEE SITE PLAN FOR CURB TYPE AND DETAIL FOR DIMENSIONS.
2. WHERE NOT EXPLICITLY DEFINED BY A SPOT ELEVATION, PAVEMENT AND CURB ELEVATIONS SHALL PRODUCE THE PROPOSED SLOPES AS SHOWN AND PROVIDE POSITIVE DRAINAGE TO INLETS.
3. REFER TO AND FOLLOW THE RECOMMENDATIONS OF THE GEOTECHNICAL REPORT PREPARED FOR THIS PROJECT BY GEOTECHNOLOGY INC.
4. ALL SITE WORK SHOWN HEREON SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT'S SPECIFICATIONS AND ALL APPLICABLE FEDERAL, STATE AND LOCAL BUILDING CODES AND ORDINANCES.
5. CONTRACTOR SHALL STRICTLY ADHERE TO THE EROSION CONTROL PLAN PREPARED FOR THIS PROJECT. ALL AREAS NOT PAVED SHALL BE STABILIZED IN ACCORDANCE WITH THE EROSION CONTROL PLAN, AND THE LANDSCAPE PLAN, UNLESS NOTED OTHERWISE.
6. EARTHWORK SHALL INCLUDE, STRIPPING AND STOCKPILING AND/OR DISPOSING OF TOPSOIL AND/OR VEGETATED SURFACE SOILS, GRADING, EXCAVATION, FILLING, UNDERCUT AND REPLACEMENT, IF REQUIRED, AND COMPACTION.
7. CONTRACTOR TO REFILL UNDERCUT AREAS WITH SUITABLE MATERIAL AND COMPACTION AS RECOMMENDED BY THE GEOTECHNICAL ENGINEER.
8. PLACE TOPSOIL OVER THE SUBGRADE OF UNPAVED, DISTURBED AREAS TO DEPTH(S) INDICATED ON THE LANDSCAPE DRAWINGS.
9. FINAL PAVEMENT SLOPES SHALL BE MINIMUM 1% AND MAXIMUM 2% UNLESS INDICATED OTHERWISE. FINAL PAVEMENT SLOPES ACROSS HANDICAP PARKING STALLS AND ADJOINING ACCESS AISLES SHALL BE MAXIMUM 2%.
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12. SOFT OR OTHERWISE UNSUITABLE SOILS IN THE BOTTOMS AND BANKS OF ANY SEDIMENT BASINS OR TRAPS SHALL BE REMOVED, SPREAD OUT AND DRIED SUFFICIENTLY TO BE USED AS FILL, SUBJECT TO THE GEOTECHNICAL ENGINEER'S APPROVAL.
13. ALL SIDEWALKS SHALL BE CONSTRUCTED TO MEET ADA STANDARDS.

REFERENCE

EXISTING TOPOGRAPHIC DATA AND FEATURES ARE A COMBINATION OF THE FOLLOWING:
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MISSOURI 811
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SCALE IN FEET
0 40 80

STATE OF MISSOURI PROFESSIONAL ENGINEER
KARL A. SCHOENIKE
NUMBER PE-2003015039
12/22/2025

KARL A. SCHOENIKE, PE
(MO PE# 2003015039)

NO	DATE	REVISION RECORD DESCRIPTION

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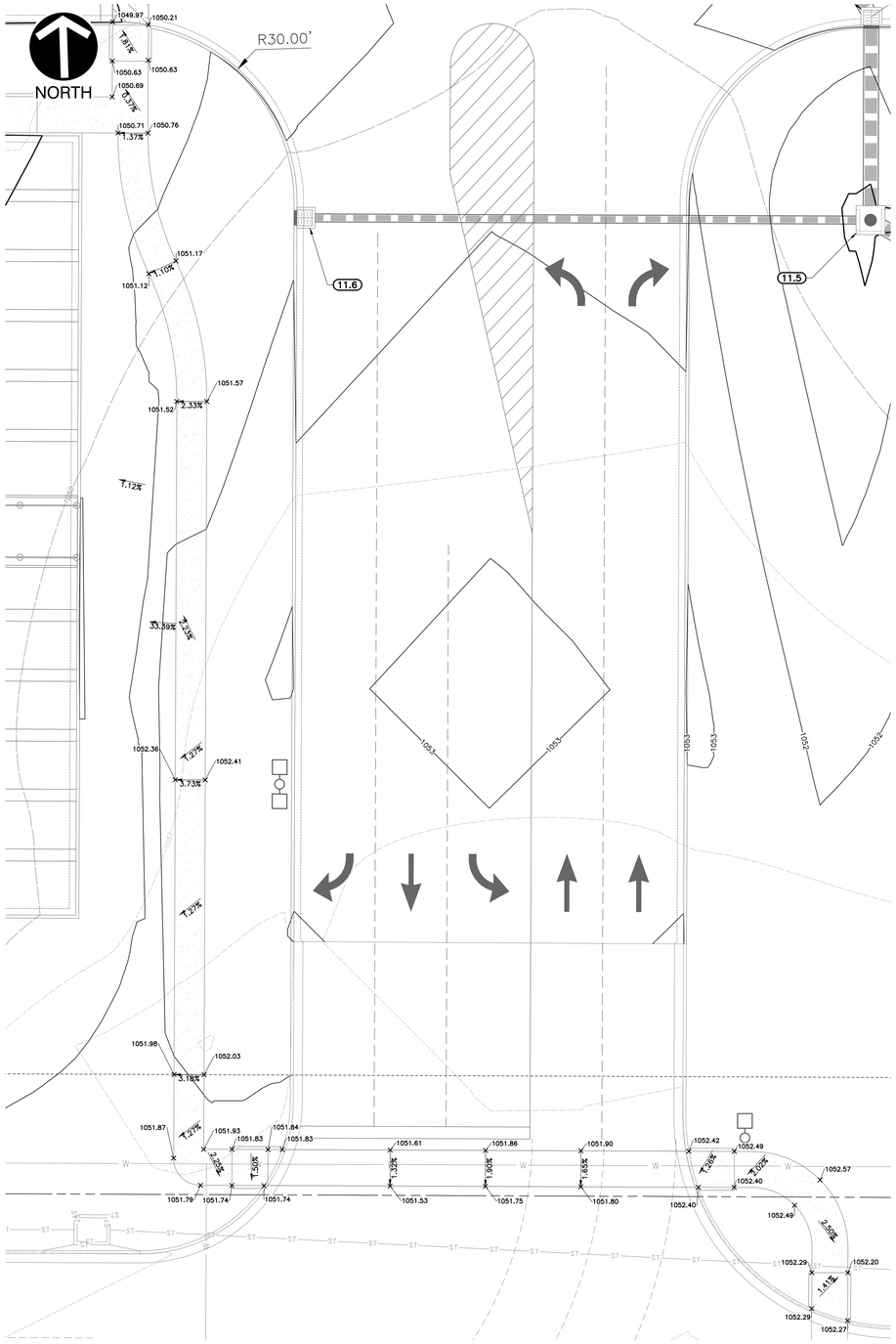
Ph: 314.656.4566
www.cecinc.com

COSTCO WHOLESALE
LEE'S SUMMIT, MISSOURI

COSTCO LEES SUMMIT
CONSTRUCTION DOCUMENTS
GRADING PLAN
MUNICIPAL REVIEW SET

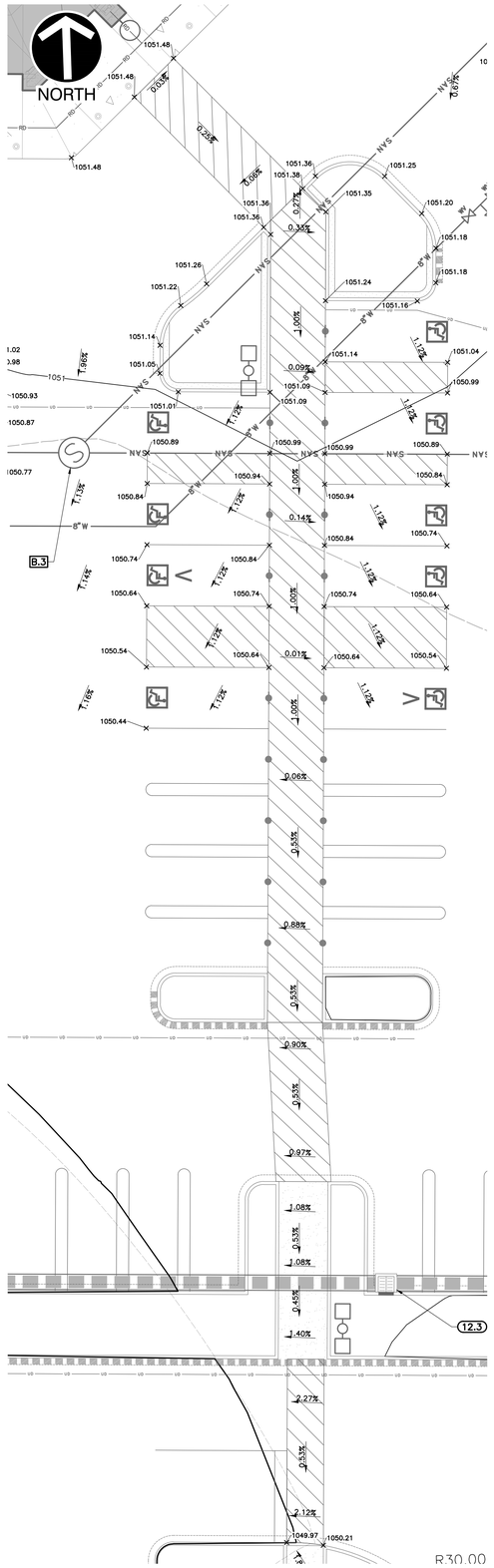
DATE:	DECEMBER 22, 2025
DRAWN BY:	MK
CHECKED BY:	KAS
DWG SCALE:	1" = 40'
PROJECT NO.	353-308.0002
APPROVED BY:	*DRK

DRAWING NO.: C300
SHEET 06 OF 31



ADA PATH ENLARGEMENT

SCALE: 1"=10'

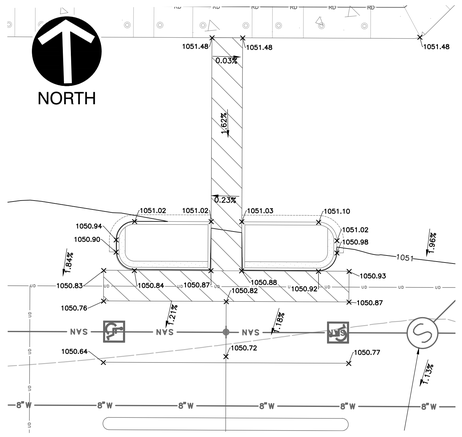


ADA PATH ENLARGEMENT

SCALE: 1"=10'

LEGEND

EXISTING PROPERTY LINE	EXISTING CURB INLET
EXISTING SETBACK	EXISTING FLARED END SECTION (F.E.S.)
EXISTING EASEMENT	EXISTING GRATED CATCH BASIN
EXISTING INDEX (MAJOR) CONTOUR	EXISTING STORMWATER MANHOLE
EXISTING INTERMEDIATE (MINOR) CONTOUR	PROPOSED CONCRETE CURB AND GUTTER
EXISTING GUARD RAIL	PROPOSED CONCRETE PAVEMENT
EXISTING FENCE	PROPOSED CONCRETE SIDEWALK
EXISTING VERTICAL CONCRETE CURB	PROPOSED PAINTED 2' O.C. DIAGONAL STRIPING
EXISTING EDGE OF PAVEMENT	PROPOSED PAINTED PARKING DIVIDER
EXISTING DITCH FLOW LINE	PROPOSED CART CORRAL
EXISTING TREE LINE	PROPOSED STORM PIPE
EXISTING TREE WITH TRUNK SIZE	PROPOSED UNDERDRAIN
EXISTING OVERHEAD ELECTRIC	PROPOSED PRIVATE SANITARY SEWER
EXISTING UNDERGROUND ELECTRIC	PROPOSED PRIVATE WATER LINE (SIZE DENOTED)
EXISTING FIBER OPTIC LINE	PROPOSED UNDERGROUND ELECTRIC
EXISTING WATER LINE	PROPOSED DATA LINE
EXISTING SANITARY SEWER LINE	PROPOSED MANHOLE – SOLID COVER
EXISTING STORM DRAIN	PROPOSED AREA INLET – 3-WAY
EXISTING TRAFFIC POLE WITH ARM	PROPOSED GRATE INLET
EXISTING LIGHT POLE WITH ARM	PROPOSED 2 GRATE INLET W/ SIDE INTAKE
EXISTING UTILITY POLE AND GUY WIRE	PROPOSED FLARED END SECTION (F.E.S.)
EXISTING ELECTRIC PULL BOX	PROPOSED CLEAN OUT
EXISTING FIBER OPTIC PULL BOX	PROPOSED PRIVATE SANITARY MANHOLE
EXISTING FIBER MARKER	PROPOSED PRIVATE SANITARY CLEANOUT
EXISTING WATER MANHOLE	PROPOSED WATER VALVE
EXISTING FIRE HYDRANT	PROPOSED FIRE HYDRANT
EXISTING WATER VALVE	PROPOSED BUILDING MOUNTED LIGHT AND LIGHT POLE [REFER TO LIGHTING PLAN BY OTHERS]
EXISTING WATER METER	PROPOSED BOLLARD
EXISTING SANITARY MANHOLE	PROPOSED REVERSE CURB



ADA PARKING ENLARGEMENT

SCALE: 1"=10'

GRADING NOTES

1. ALL PROPOSED GRADES SHOWN ARE FINAL GRADES, TOP OF GROUND LEVEL, OR TOP OF PAVEMENT, OR GRATE ELEVATION AT THE DRAWDOWN POINT, UNLESS INDICATED OTHERWISE. FOR PROPOSED TOP OF CURB ELEVATION, SEE SITE PLAN FOR CURB TYPE AND DETAIL FOR DIMENSIONS.
2. WHERE NOT EXPLICITLY DEFINED BY A SPOT ELEVATION, PAVEMENT AND CURB ELEVATIONS SHALL PRODUCE THE PROPOSED SLOPES AS SHOWN AND PROVIDE POSITIVE DRAINAGE TO INLETS.
3. REFER TO AND FOLLOW THE RECOMMENDATIONS OF THE GEOTECHNICAL REPORT PREPARED FOR THIS PROJECT BY KLEINFELDER.
4. ALL SITE WORK SHOWN HEREON SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT'S SPECIFICATIONS AND ALL APPLICABLE FEDERAL, STATE AND LOCAL BUILDING CODES AND ORDINANCES.
5. CONTRACTOR SHALL STRICTLY ADHERE TO THE EROSION CONTROL PLAN PREPARED FOR THIS PROJECT. ALL AREAS NOT PAVED SHALL BE STABILIZED IN ACCORDANCE WITH THE EROSION CONTROL PLAN, AND THE LANDSCAPE PLAN, UNLESS NOTED OTHERWISE.
6. EARTHWORK SHALL INCLUDE, STRIPPING AND STOCKPILING AND/OR DISPOSING OF TOPSOIL AND/OR VEGETATED SURFACE SOILS, GRADING, EXCAVATION, FILLING, UNDERCUT AND REPLACEMENT, IF REQUIRED, AND COMPACTION.
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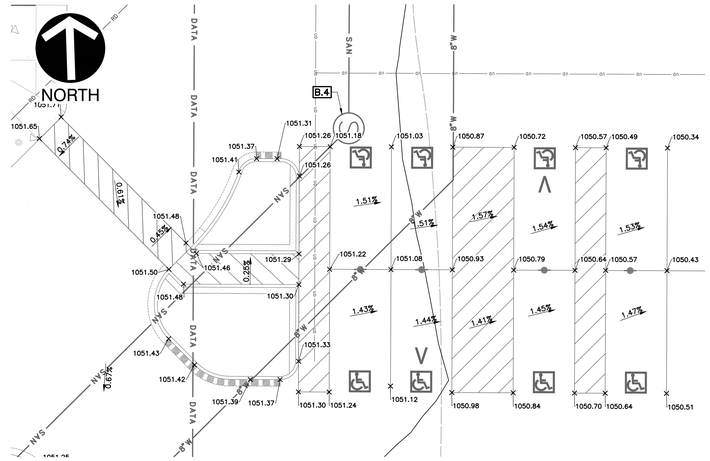

ADA PARKING ENLARGEMENT

SCALE: 1"=10'

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SCALE IN FEET
0 10 20

STATE OF MISSOURI
KARL A. SCHOENIKE
NUMBER PE-2003015039
12/22/2025
PROFESSIONAL ENGINEER

KARL A. SCHOENIKE, PE
(MO PE# 2003015039)

NO	DATE	DESCRIPTION

REVISION RECORD

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Civil & Environmental Consultants, Inc.

COSTCO WHOLESALE

LEE'S SUMMIT, MISSOURI

COSTCO LEES SUMMIT
CONSTRUCTION DOCUMENTS
ADA GRADING PLAN
MUNICIPAL REVIEW SET

DATE:	DECEMBER 22, 2025
DWG SCALE:	1" = 10'
PROJECT NO:	353-308.0002
DRAWN BY:	MK
CHECKED BY:	KAS
APPROVED BY:	*DRK

DRAWING NO.:
C301
SHEET 07 OF 31

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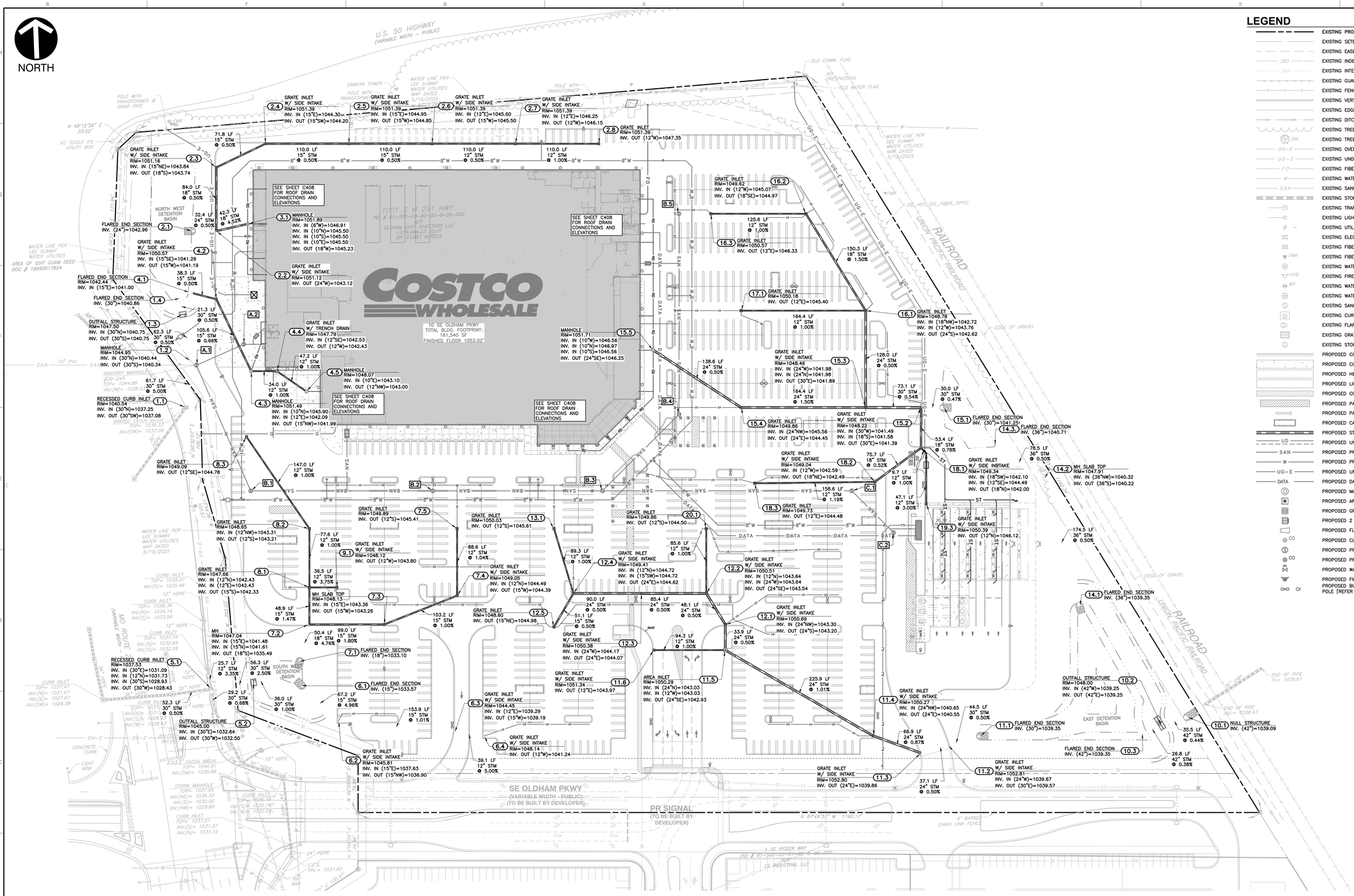

LEGEND

- EXISTING PROPERTY LINE
- EXISTING SETBACK
- EXISTING EASEMENT
- EXISTING INDEX (MAJOR) CONTOUR
- EXISTING INTERMEDIATE (MINOR) CONTOUR
- EXISTING GUARD RAIL
- EXISTING FENCE
- EXISTING VERTICAL CONCRETE CURB
- EXISTING EDGE OF PAVEMENT
- EXISTING DITCH FLOW LINE
- EXISTING TREE LINE
- EXISTING TREE WITH TRUNK SIZE
- EXISTING OVERHEAD ELECTRIC
- EXISTING UNDERGROUND ELECTRIC
- EXISTING FIBER OPTIC LINE
- EXISTING WATER LINE
- EXISTING SANITARY SEWER LINE
- EXISTING STORM DRAIN
- EXISTING TRAFFIC POLE WITH ARM
- EXISTING LIGHT POLE WITH ARM
- EXISTING UTILITY POLE AND GUY WIRE
- EXISTING ELECTRIC PULL BOX
- EXISTING FIBER OPTIC PULL BOX
- EXISTING FIBER MARKER
- EXISTING WATER MANHOLE
- EXISTING FIRE HYDRANT
- EXISTING WATER VALVE
- EXISTING WATER METER
- EXISTING SANITARY MANHOLE
- EXISTING CURB INLET
- EXISTING FLARED END SECTION (F.E.S.)
- EXISTING GRATED CATCH BASIN
- EXISTING STORMWATER MANHOLE
- PROPOSED CONCRETE CURB AND GUTTER
- PROPOSED CONCRETE PAVEMENT
- PROPOSED HEAVY DUTY PAVEMENT
- PROPOSED LIGHT DUTY PAVEMENT
- PROPOSED CONCRETE SIDEWALK
- PROPOSED PAINTED 2' O.C. DIAGONAL STRIPING
- PROPOSED PAINTED PARKING DIVIDER
- PROPOSED CART CORRAL
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- PROPOSED UNDERDRAIN
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- PROPOSED PRIVATE SANITARY CLEANOUT
- PROPOSED WATER VALVE
- PROPOSED FIRE HYDRANT
- PROPOSED BUILDING MOUNTED LIGHT AND LIGHT POLE [REFER TO LIGHTING PLAN BY OTHERS]

STORM DRAINAGE NOTES

1. DISTANCES SHOWN ON PIPING ARE HORIZONTAL DISTANCES FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE, UNLESS OTHERWISE NOTED.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH THE INSTALLATION, INSPECTION, TESTING AND FINAL ACCEPTANCE OF ALL NEW STORMWATER MANAGEMENT FACILITIES CONSTRUCTION. CONTRACTOR SHALL COORDINATE WITH ALL APPLICABLE REGULATING AGENCIES CONCERNING INSTALLATION, INSPECTION AND APPROVAL OF THE STORM DRAINAGE SYSTEM CONSTRUCTION.
3. ALL STORMWATER MANAGEMENT FACILITIES, INCLUDING COLLECTION AND CONVEYANCE STRUCTURES SHALL BE INSTALLED IN ACCORDANCE WITH ALL APPLICABLE LOCAL AND STATE CODES AND REGULATIONS.
4. ALL CATCH BASINS IN THE PAVEMENT OR CURB ARE TO HAVE A MINIMUM OF ONE, 4" PERFORATED UNDERDRAIN EXTENDING 10 LF FROM THE CATCH BASIN IN THE UPHILL DIRECTION. SEE DETAIL ON SHEET C800.
5. ANY FIELD TILE CUT IN EXCAVATION, WHICH DRAINS AN OFFSITE AREA, MUST BE TIED INTO THE STORM DRAINAGE SYSTEM.
6. FOR EXACT LOCATION OF DOWN SPOUTS & ROOF DRAINS, CONTRACTOR IS TO COORDINATE WITH ARCHITECTURAL AND PLUMBING DRAWINGS.
7. ALL PROPOSED STORM SEWERS, SURFACE OR OTHER DRAINAGE FACILITIES ARE TO BE PRIVATE AND MAINTAINED BY THE OWNER.
8. THE CONTRACTOR IS TO CONSTRUCT CURBS, CATCH BASINS, DOWNSPOUTS, PIPING AND CONNECTION ETC. AS REQUIRED TO CONVEY THE ROOF AND PAVED SURFACE DRAINAGE TO THE DETENTION BASIN.
9. ALL CATCH BASINS AND MANHOLES WITH A DEPTH GREATER THAN 2' SHALL BE PROVIDED WITH STEPS.
10. STORM SEWER PIPE LABELED "STM" SHALL BE ONE OF THE FOLLOWING: POLYVINYL CHLORIDE SDR-35 "PVC", HIGH DENSITY POLYETHYLENE "HDPE", POLYPROPYLENE "PP" OR REINFORCED CONCRETE PIPE "RCP".

SEWER ABBREVIATIONS:

2G.I. W/S.I.	2 GRATE INLET WITH SIDE INTAKE
G.I.	GRATE INLET
A.I.	AREA INLET
Y.D.	YARD DRAIN
C.O.	CLEANOUT
T.S.	TOP OF SURFACE
F.F.	FINISHED FLOOR
R.D	ROOF DRAIN
D.S.	DOWNSPOUT
T.D.	TRENCH DRAIN
E.O.P.	END OF PIPE
INV.	INVERT
HGL	HYDRAULIC GRADE LINE
HDPE	HIGH DENSITY POLYETHYLENE
P.P.	POLYPROPYLENE
W.S.	WATER SURFACE
LFB	LOW FLOW BLOCKED
UG	UNDERGROUND
UD	UNDER DRAIN

REFERENCE

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SCALE IN FEET
0 50 100

KARL A. SCHOENIKE, PE
(MO PE# 2003015039)

STATE OF MISSOURI
KARL A. SCHOENIKE
NUMBER PE-2003015039
12/22/2025
PROFESSIONAL ENGINEER

REVISION RECORD

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COSTCO WHOLESALE
LEE'S SUMMIT, MISSOURI

COSTCO LEES SUMMIT
CONSTRUCTION DOCUMENTS
STORM SEWER PLAN
MUNICIPAL REVIEW SET

DATE:	DECEMBER 22, 2025
DRAWN BY:	MK
CHECKED BY:	KAS
DWG SCALE:	1" = 50'
PROJECT NO:	353-308.0002
APPROVED BY:	*DRK

DRAWING NO.:
C400
SHEET 08 OF 31

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NORTH

1.40 ACRES
PRE DEVELOPED NORTH
Tc = 8.7 MIN
Q10 = 5.67 CFS

15.76 ACRES
PRE DEVELOPED WEST
TYc = 14.3 MIN
Q10 = 53.68 CFS

18.40 ACRES
PRE DEVELOPED EAST
Tc = 19.8 MIN
Q10 = 53.82 CFS

U.S. 50 HIGHWAY
(VARIABLE WIDTH - PUBLIC)

1001 S M 291 HWY
PID # 61-500-03-80-00-0-00-000
N/F
OLDHAM EAST INVE: ORS LLC
1,039,464.23 ± I.FT.
OR 23.863 ACRES±

AREA OF QUIT CLAIM DEED
DOC # 19990017824

MO ROUTE 291
(VARIABLE WIDTH - PUBLIC)

RAILROAD
UNION PACIFIC RAILROAD

SE OLDHAM PKWY
(VARIABLE WIDTH - PUBLIC)
(TO BE BUILT BY DEVELOPER)

PR SIGNAL
(TO BE BUILT BY DEVELOPER)

1 SE PFIZER WAY
PID # 61-500-03-81-00-0-00-000
N/F
LS INDUSTRIAL LLC

DOG PARK

SANITARY MANHOLE
TOP= 1043.70
INV.(E)= 1036.85
INV.(S)= 1036.50

SANITARY MANHOLE #39-245
TOP= 1044.88
INV.(W)= 1038.23

GRATED CATCH BASIN
TOP= 1039.33
INV.(SW)= 1037.08

PIPE MATERIAL CHANGE

SANITARY MANHOLE
TOP= 1031.74
INV.(N)= 1023.39
INV.(S)= 1023.34

SANITARY MANHOLE
TOP= 1029.51
INV.(N)= 1019.91
INV.(W)= 1019.81

CURB INLET
TOP= 1039.21
INV.(S)= 1035.46

CURB INLET
TOP= 1038.34
INV.(N)= 1034.14
INV.(S)= 1033.99

CURB INLET
TOP= 1037.74
INV.(N)= 1032.69
INV.(S)= 1032.59

CURB INLET
TOP= 1037.47
INV.(N)= 1031.67
INV.(E)= 1027.67
INV.(SW)= 1026.38

CURB INLET
TOP= 1037.53
INV.(N)= 1031.72
INV.(S)= 1028.63
INV.(W)= 1028.43

CURB INLET
TOP= 1037.63
INV.(SE)= 1029.33
INV.(N)= 1029.13

5'x3.2' CATCH BASIN
TOP= 1040.61
INV.(SW)= 1035.86

STORM MANHOLE
TOP= 1037.85
INV.(NE)= 1034.30
INV.(E)= 1030.00
INV.(NW)= 1029.80

CURB INLET
TOP= 1037.27
INV.(S)= 1031.27
INV.(N)= 1031.12

CURB INLET
TOP= 1037.
INV.(S)= 1030.2
INV.(W)= 1030.0

FES
INV.= 1031.60

END OF PIPE
FL= 1035.61

END OF PIPE
INV.= 1038.43

N 49°12'39" E
33.02'

N 04°23'23" E 171.91'

N 33°32'45" W 146.54'

N 13°04'06" W
N 10°26'20" E 200.00'

N 13°04'06" W
N 10°26'20" E 276.76'

N 67°09'14" W 160.16'

N 22°50'46" W 576.72'

N 67°09'09" E
74.98'

N 67°09'09" E
74.98'

S 59°37'50" E 105.97'

N 87°49'33" W 1190.17'

S 22°50'46" E 1140.34'

W 2.3% S 89°1

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SCALE IN FEET
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STATE OF MISSOURI
KARL A. SCHOENIKE
NUMBER PE-2003015039
12/22/2025
PROFESSIONAL ENGINEER

REVISION RECORD

NO	DATE	DESCRIPTION

ENGINEERING, SURVEYING AND LANDSCAPE ARCHITECTURE IN THE STATE OF NORTH CAROLINA WILL BE PROVIDED BY CEC SURVEYING AND LANDSCAPE ARCHITECTS OF NC, PLLC. ENGINEERING, SURVEYING AND LANDSCAPE ARCHITECTURE IN THE STATE OF MISSOURI WILL BE PROVIDED BY CEC ENGINEERS & CONSULTANTS, LLC. LANDSCAPE ARCHITECTURE SERVICES IN THE STATE OF IOWA WILL BE PROVIDED BY CEC LANDSCAPE ARCHITECTS, LLC.

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Ph: 314.656.4566
www.cecinc.com

COSTCO WHOLESALE
LEE'S SUMMIT, MISSOURI

COSTCO LEES SUMMIT
CONSTRUCTION DOCUMENTS
EXISTING DRAINAGE AREA MAP
MUNICIPAL REVIEW SET

DATE: DECEMBER 22, 2025
DWG SCALE: 1"= 50'
PROJECT NO: 353-308.0002
DRAWN BY: MK
CHECKED BY: KAS
APPROVED BY: *DRK

DRAWING NO.:
C401

SHEET 09 OF 31

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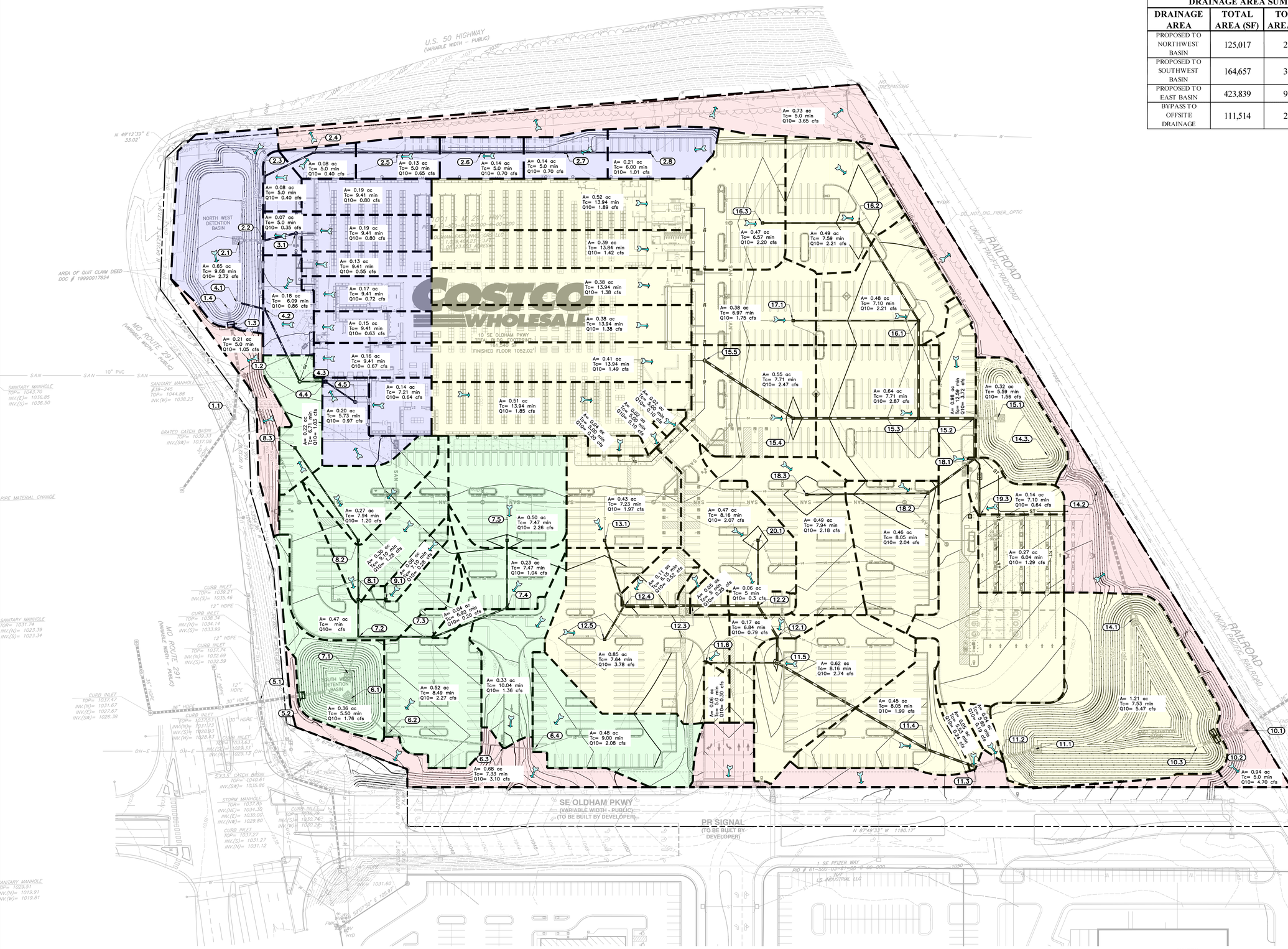
NORTH

DRAINAGE AREA SUMMARY TABLE			
DRAINAGE AREA	TOTAL AREA (SF)	TOTAL AREA (AC)	TOTAL Q10 (CFS)
PROPOSED TO NORTHWEST BASIN	125,017	2.87	13.57
PROPOSED TO SOUTHWEST BASIN	164,657	3.78	16.74
PROPOSED TO EAST BASIN	423,839	9.73	55.59
BYPASS TO OFFSITE DRAINAGE	111,514	2.56	12.50



REFERENCE

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2. DEVELOPMENT PLANS FOR OLDHAM VILLAGE (BY OTHER)
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THIS SHEET IS NOT FOR CONSTRUCTION. FOR DRAINAGE PURPOSES ONLY

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SCALE IN FEET
0 50 100

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KARL A. SCHOENIKE, PE (MO PE# 2003015039)

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PROPOSED DRAINAGE AREA MAP
MUNICIPAL REVIEW SET

DATE: DECEMBER 22, 2025
DRAWN BY: MK
CHECKED BY: KAS
DWG SCALE: 1" = 50'
PROJECT NO: 353-308.0002
APPROVED BY: *DRK

DRAWING NO.: C402
SHEET 10 OF 31

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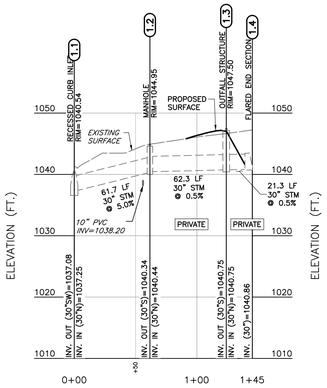
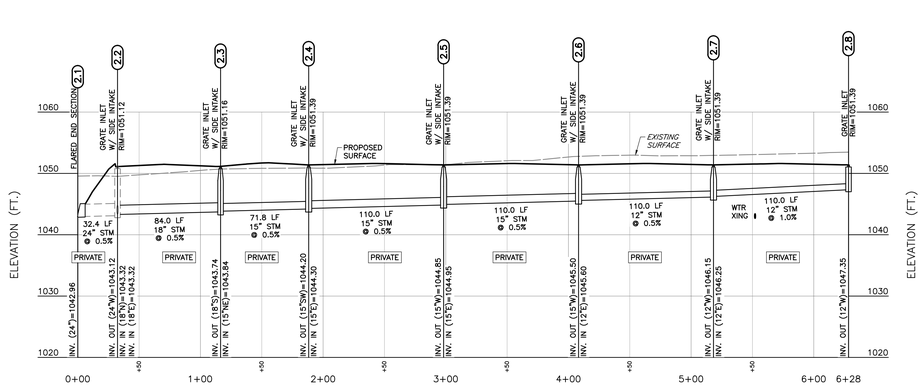


353308 - STORM 1 PROFILE

SCALE H:1"=50'; V:1"=10'



353308 - STORM 2 PROFILE

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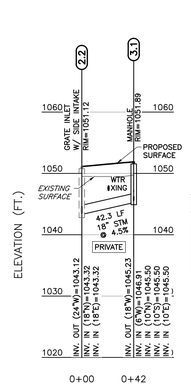
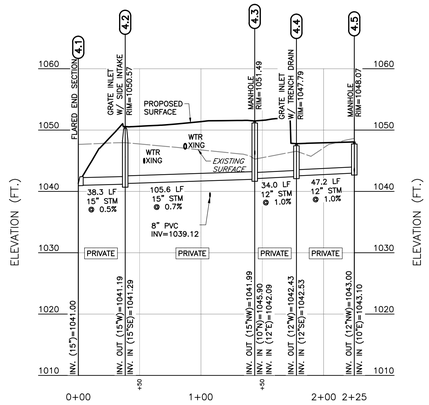


353308 - STORM 3 PROFILE

SCALE H:1"=50'; V:1"=10'



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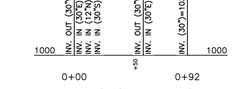

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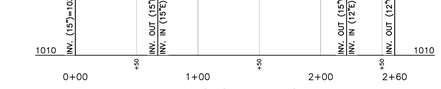

353308 - STORM 6 PROFILE

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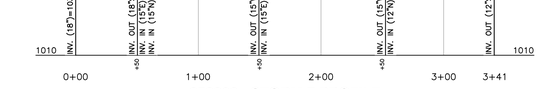

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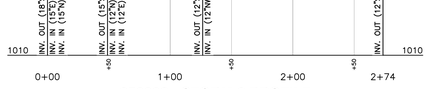

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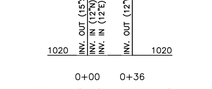

353308 - STORM 9 PROFILE

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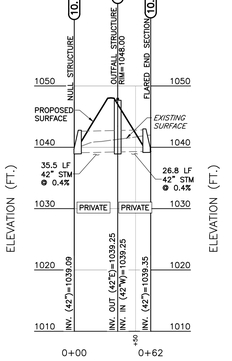

353308 - STORM 10 PROFILE

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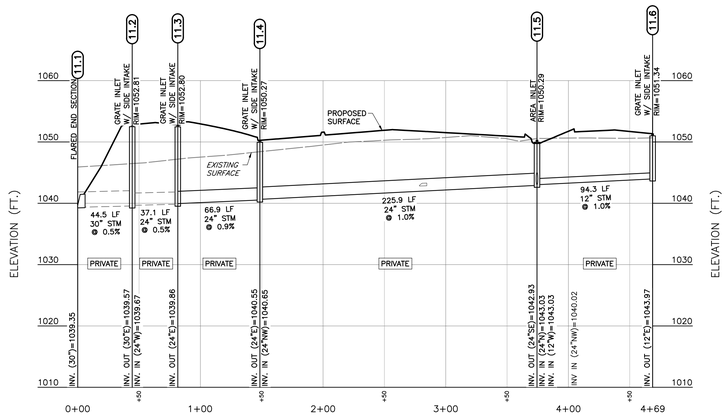
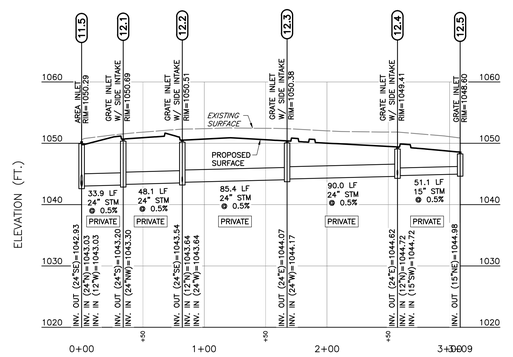


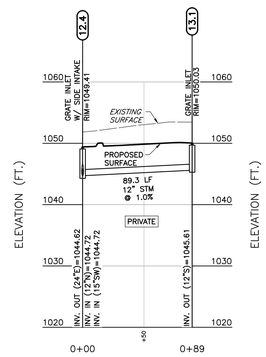
353308 - STORM 11 PROFILE

SCALE H:1"=50'; V:1"=10'



353308 - STORM 12 PROFILE

SCALE H:1"=50'; V:1"=10'



353308 -STORM 13 PROFILE

SCALE H:1"=50'; V:1"=10'

SEWER ABBREVIATIONS:

2G.I. W/S.I.	2 GRATE INLET WITH SIDE INTAKE
G.I.	GRATE INLET
A.I.	AREA INLET
Y.D.	YARD DRAIN
C.O.	CLEANOUT
T.S.	TOP OF SURFACE
F.F.	FINISHED FLOOR
R.D	ROOF DRAIN
D.S.	DOWNSPOUT
T.D.	TRENCH DRAIN
E.O.P.	END OF PIPE
INV.	INVERT
HGL	HYDRAULIC GRADE LINE
HDPE	HIGH DENSITY POLYETHYLENE
P.P.	POLYPROPYLENE
W.S.	WATER SURFACE
LFB	LOW FLOW BLOCKED
UG	UNDERGROUND
UD	UNDER DRAIN

REFERENCE

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SCALE IN FEET (HORIZONTAL)
0 50 100

SCALE IN FEET (VERTICAL)
0 10 20

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KARL A. SCHOENIKE
NUMBER PE-2003015039
12/22/2025
PROFESSIONAL ENGINEER

KARL A. SCHOENIKE, PE
(MO PE# 2003015039)

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COSTCO LEES SUMMIT
CONSTRUCTION DOCUMENTS
STORM SEWER PROFILES
MUNICIPAL REVIEW SET

DATE: DECEMBER 22, 2025 | DRAWN BY: MK | CHECKED BY: KAS
DWG SCALE: 1" = 50' | PROJECT NO: 353-308.0002
APPROVED BY: *DRK

DRAWING NO.: **C403**
SHEET 11 OF 31

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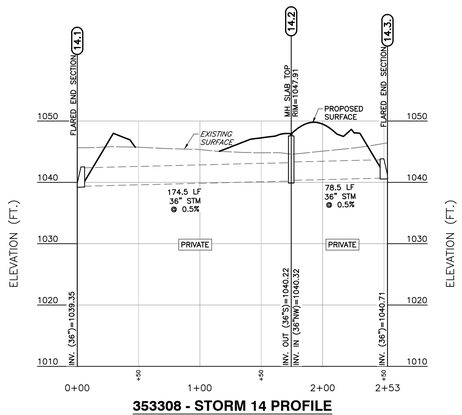
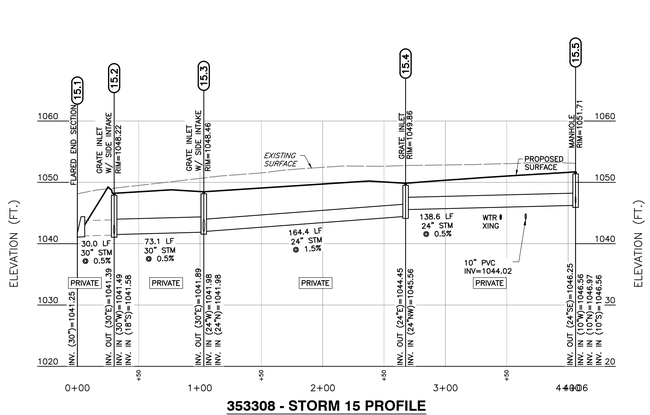


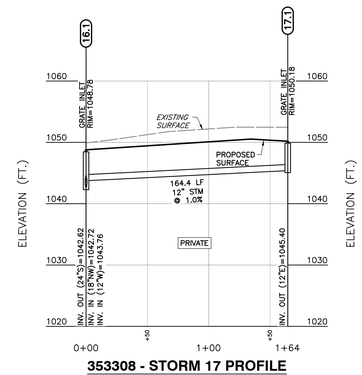
353308 - STORM 14 PROFILE

SCALE H:1"=50'; V:1"=10'



353308 - STORM 15 PROFILE

SCALE H:1"=50'; V:1"=10'



353308 - STORM 17 PROFILE

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P.P.	POLYPROPYLENE
W.S.	WATER SURFACE
LFB	LOW FLOW BLOCKED
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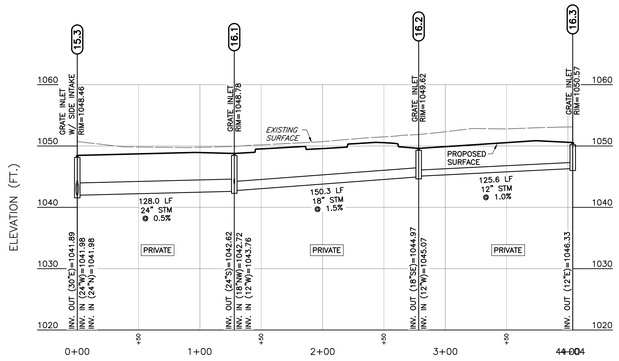

353308 - STORM 16 PROFILE

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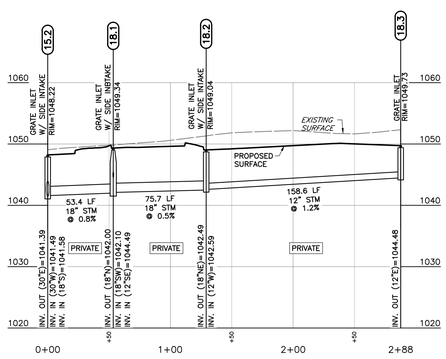
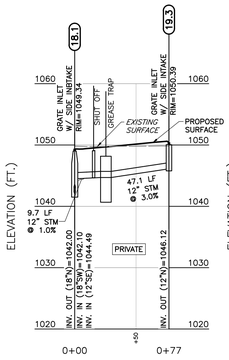


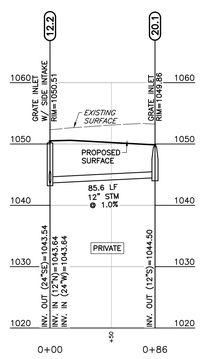
353308 - STORM 18 PROFILE

SCALE H:1"=50'; V:1"=10'



353308 - STORM 19 PROFILE

SCALE H:1"=50'; V:1"=10'



353308 - STORM 20 PROFILE

SCALE H:1"=50'; V:1"=10'

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SCALE IN FEET (VERTICAL)
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(MO PE# 2003015039)

STATE OF MISSOURI
KARL A. SCHOENIKE
NUMBER PE-2003015039
12/22/2025
REGISTERED PROFESSIONAL ENGINEER

REVISION RECORD

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COSTCO WHOLESALE

LEE'S SUMMIT, MISSOURI

COSTCO LEES SUMMIT
CONSTRUCTION DOCUMENTS

STORM SEWER PROFILES
MUNICIPAL REVIEW SET

DATE:	DECEMBER 22, 2025
DWG SCALE:	1" = 50'
PROJECT NO:	353-308.0002
DRAWN BY:	MK
CHECKED BY:	KAS
APPROVED BY:	*DRK

DRAWING NO.:
C404
SHEET 12 OF 31

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353-308 COSTCO LEES SUMMIT 10 YEAR STORM EVENT

LineNo.	LineID	Line Length (ft)	Line Size (in)	Line Slope (%)	Defl. Angle (Deg)	Inver Up (ft)	Invert Dn (ft)	Grnd/RimElev Up (ft)	Grnd/RimElev Dn (ft)	HGL Up (ft)	HGL Dn (ft)	Rim-Hw (ft)	Flow Rate (cfs)	CapacityFull (cfs)	VelDn (ft/s)	Energy Loss (ft)	Minor Loss (ft)	n-value Pipe
1	2.2-2.1	32.43	24	0.49	2.14	1043.12	1042.96	1051.12	1045.34	1044.06	1043.90	7.06	7.08	15.89	4.88	0.00	0.37	0.013
2	2.3-2.2	84.00	18	0.50	-89.96	1043.74	1043.32	1051.16	1051.12	1044.51	1044.09	6.40	3.86	7.43	4.24	0.42	0.26	0.013
3	2.4-2.3	71.85	15	0.50	64.25	1044.20	1043.84	1051.39	1051.16	1045.01	1044.77	6.25	3.46	4.57	3.55	0.31	0.13	0.013
4	2.5-2.4	110.01	15	0.50	25.75	1044.85	1044.30	1051.39	1051.39	1045.57	1045.14	5.78	3.06	4.57	3.50	0.52	0.04	0.013
5	2.6-2.5	110.01	15	0.50	0.00	1045.50	1044.95	1051.39	1051.39	1046.14	1045.61	5.22	2.41	4.57	3.69	0.55	0.03	0.013
6	2.7-2.6	110.01	12	0.50	0.00	1046.15	1045.60	1051.39	1051.39	1046.76	1046.20	4.61	1.71	2.52	3.45	0.55	0.03	0.013
7	2.8-2.7	110.01	12	1.00	0.00	1047.35	1046.25	1051.39	1051.39	1047.77	1046.78	3.62	1.01	3.56	2.38	0.00	n/a	0.013
8	3.1-2.2	42.30	18	4.52	-12.70	1045.23	1043.32	1051.89	1051.12	1045.87	1044.06	6.02	2.87	22.31	3.28	0.00	n/a	0.013
9	15.2-15.1	29.96	36	0.47	-177.68	1041.39	1041.25	1048.22	1044.77	1043.29	1043.16	4.15	33.40	45.60	7.03	0.14	0.77	0.013
10	15.3-15.2	73.10	30	0.55	-0.14	1041.89	1041.49	1048.46	1048.22	1044.28	1044.07	3.81	23.53	30.34	4.79	0.23	0.37	0.013
11	15.4-15.3	164.45	24	1.50	0.00	1044.45	1041.98	1049.86	1048.46	1045.71	1044.65	4.15	12.29	27.72	3.91	0.71	n/a	0.013
12	15.5-15.4	138.58	24	0.50	33.16	1046.25	1045.56	1051.71	1049.86	1047.39	1046.70	3.88	9.82	15.96	5.34	0.69	0.44	0.013
13	16.1-15.3	128.00	24	0.50	90.00	1042.62	1041.98	1048.78	1048.46	1044.83	1044.65	3.84	8.37	15.99	2.66	0.18	0.11	0.013
14	16.2-16.1	150.32	18	1.50	-31.62	1044.98	1042.72	1049.62	1048.78	1045.79	1044.94	3.84	4.41	12.88	2.50	0.55	n/a	0.013
15	16.3-16.2	125.64	12	1.00	-58.38	1046.33	1045.07	1050.57	1049.62	1046.96	1045.79	3.61	2.20	3.57	3.66	0.00	n/a	0.013
16	18.1-15.2	53.41	18	0.79	-90.15	1042.00	1041.58	1049.34	1048.22	1044.25	1044.07	4.93	6.15	9.31	3.48	0.18	0.16	0.013
17	19.1-18.1	9.68	12	1.03	-44.84	1044.59	1044.49	1045.82	1049.34	1045.07	1044.90	0.75	1.29	3.62	4.22	0.00	0.14	0.013
18	19.2-19.1	11.47	12	0.96	44.78	1044.70	1044.59	1045.93	1045.82	1045.18	1045.07	0.75	1.29	3.49	3.47	0.00	0.03	0.013
19	19.2a-19.2	8.66	12	0.00	0.00	1044.70	1044.70	1045.94	1045.93	1045.30	1045.18	0.63	1.29	0.00	3.47	0.04	0.02	0.013
20	19.3-19.2a	47.07	12	3.02	0.00	1046.12	1044.70	1050.39	1045.94	1046.60	1045.31	3.79	1.29	6.19	2.56	0.00	n/a	0.013
21	17.1-16.1	164.45	12	1.00	-90.00	1045.40	1043.76	1050.18	1048.78	1045.96	1044.94	4.22	1.75	3.56	2.23	0.74	n/a	0.013
22	18.2-18.1	75.69	18	0.52	53.69	1042.49	1042.10	1049.04	1049.34	1044.53	1044.41	4.45	4.22	7.54	2.39	0.12	0.06	0.013
23	18.3-18.2	158.58	12	1.19	35.68	1044.48	1042.59	1049.73	1049.04	1045.20	1044.59	4.33	2.18	3.89	2.78	0.69	0.20	0.013
24	11.2-11.1	44.48	30	0.49	166.52	1039.57	1039.35	1052.82	1041.73	1040.88	1040.64	11.94	15.14	28.84	5.93	0.00	n/a	0.013
25	11.3-11.2	37.10	30	0.51	-0.92	1039.86	1039.67	1052.80	1052.82	1041.16	1040.93	11.64	14.95	29.34	6.01	0.00	0.34	0.013
26	11.4-11.3	66.95	24	0.88	36.42	1040.55	1039.96	1050.27	1052.80	1041.93	1041.19	8.34	14.71	21.23	7.30	0.00	n/a	0.013
27	11.5-11.4	225.88	24	1.01	10.26	1042.93	1040.65	1050.29	1050.27	1044.21	1041.93	6.08	12.72	22.72	5.99	0.00	0.50	0.013
28	12.1-11.5	33.92	24	0.50	59.89	1043.20	1043.03	1050.69	1050.29	1044.32	1044.21	6.11	9.68	16.01	5.01	0.16	0.26	0.013
29	12.2-12.1	48.11	24	0.50	-31.47	1043.54	1043.30	1050.51	1050.69	1044.63	1044.58	5.53	8.89	15.97	4.20	0.18	0.35	0.013
30	12.3-12.2	85.42	24	0.50	-58.52	1044.07	1043.64	1050.38	1050.51	1044.97	1044.98	5.41	6.52	16.05	2.91	0.00	n/a	0.013
31	12.4-12.3	90.00	24	0.50	0.00	1044.62	1044.17	1049.41	1050.38	1045.51	1045.04	3.90	6.27	15.99	4.78	0.00	0.33	0.013
32	12.5-12.4	51.12	15	0.51	-59.97	1044.98	1044.72	1048.60	1049.41	1045.84	1045.58	2.49	3.78	4.61	4.19	0.26	0.27	0.013
33	13.1-12.4	89.29	12	1.00	73.35	1045.61	1044.72	1050.03	1049.41	1046.21	1045.51	3.82	1.97	3.56	2.98	0.00	n/a	0.013
34	20.1-12.2	85.55	12	1.01	31.48	1044.50	1043.64	1049.86	1050.51	1045.24	1044.98	4.45	2.07	3.57	2.64	0.32	0.17	0.013
35	11.6-11.5	94.26	12	1.00	-30.11	1043.97	1043.03	1051.34	1050.29	1044.27	1044.21	7.03	0.30	3.56	0.38	0.09	0.04	0.013
36	7.2-7.1	50.36	18	4.75	-73.19	1035.49	1033.10	1047.04	1034.90	1036.67	1033.77	10.37	9.30	22.88	12.17	0.00	n/a	0.013
37	7.3-7.2	99.05	15	2.00	75.37	1043.59	1041.61	1048.13	1047.04	1044.35	1042.15	3.78	3.53	9.13	6.96	0.00	n/a	0.013
38	7.4-7.3	103.20	15	0.68	-21.60	1044.39	1043.69	1049.05	1048.13	1045.13	1044.41	3.92	3.34	5.32	4.58	0.00	0.29	0.013
39	7.5-7.4	88.55	12	1.04	-68.40	1045.41	1044.49	1049.89	1049.05	1046.05	1045.13	3.84	2.26	3.63	4.29	0.00	0.28	0.013
40	8.1-7.2	48.92	15	1.47	-14.63	1042.33	1041.61	1047.66	1047.04	1043.12	1042.22	4.54	3.79	7.83	6.33	0.00	n/a	0.013
41	8.2-8.1	77.64	12	1.00	0.00	1043.21	1042.43	1048.65	1047.66	1043.85	1043.12	4.80	2.23	3.57	3.88	0.00	n/a	0.013
42	8.3-8.2	147.00	12	1.00	-34.37	1044.78	1043.31	1049.09	1048.65	1045.21	1043.85	3.88	1.03	3.56	2.39	0.00	n/a	0.013
43	9.1-8.1	36.49	12	3.75	90.00	1043.80	1042.43	1048.12	1047.66	1044.02	1043.12	4.10	0.28	6.90	0.49	0.00	n/a	0.013
44	4.2-4.1	38.26	15	0.50	16.46	1041.19	1041.00	1050.57	1042.44	1042.06	1041.87	8.30	3.77	4.55	4.13	0.19	0.21	0.013
45	4.3-4.2	105.59	15	0.66	49.91	1041.99	1041.29	1051.49	1050.57	1042.68	1042.27	8.81	2.91	5.26	2.81	0.00	n/a	0.013
46	4.4-4.3	33.99	12	1.00	-64.20	1042.43	1042.09	1047.79	1051.49	1042.97	1042.68	4.82	1.61	3.56	3.37	0.00	n/a	0.013
47	4.5-4.4	47.18	12	1.00	34.53	1043.00	1042.53	1048.08	1047.79	1043.33	1042.97	4.75	0.64	3.55	1.93	0.00	n/a	0.013
48	1.2-1.1	61.70	30	5.01	-81.84	1040.34	1037.25	1044.95	1040.54	1041.58	1037.90	3.37	13.56	91.78	13.37	0.00	n/a	0.013
49	1.3-1.2	62.26	30	0.50	-15.55	1040.75	1040.44	1047.50	1044.95	1041.99	1041.64	5.51	13.56	28.94	5.80	0.00	n/a	0.013
50	1.4-1.3	21.26	30	0.52	0.00	1040.86	1040.75	1043.80	1047.50	1042.10	1041.99	1.70	13.56	29.49	5.60	0.00	n/a	0.013

353-308 COSTCO LEES SUMMIT 10 YEAR STORM EVENT

LineNo.	LineID	Line Length (ft)	Line Size (in)	Line Slope (%)	Defl. Angle (Deg)	Inver Up (ft)	Invert Dn (ft)	Grnd/RimElev Up (ft)	Grnd/RimElev Dn (ft)	HGL Up (ft)	HGL Dn (ft)	Rim-Hw (ft)	Flow Rate (cfs)	CapacityFull (cfs)	VelDn (ft/s)	Energy Loss (ft)	Minor Loss (ft)	n-value Pipe
51	14.2-14.1	174.46	36	0.50	-103.47	1040.22	1039.35	1047.91	1042.87	1042.15	1041.27	5.19	34.97	47.10	7.32	0.87	0.57	0.013
52	14.3.-14.2	78.51	36	0.50	-40.26	1040.71	1040.32	1044.23	1047.91	1042.83	1042.72	0.73	34.97	47.01	5.78	0.26	0.66	0.013
53	10.2-10.1	35.49	42	0.45	162.68	1039.25	1039.09	1048.00	1043.18	1041.67	1041.51	6.19	55.60	67.56	7.83	0.16	0.14	0.013
54	10.3-10.2	26.84	42	0.37	0.00	1039.35	1039.25	1043.44	1048.00	1041.96	1041.86	0.67	55.60	61.40	7.23	0.10	0.81	0.013
55	6.2-6.1	67.23	15	4.95	45.91	1036.90	1033.57	1045.81	1035.09	1037.87	1034.12	7.95	5.68	14.37	10.92	0.00	0.32	0.013
56	6.3-6.2	153.95	15	1.01	-37.82	1039.19	1037.63	1044.46	1045.81	1039.93	1038.27	4.53	3.41	6.50	5.36	0.00	n/a	0.013
57	6.4-6.3	39.09	12	5.01	0.12	1041.25	1039.29	1048.14	1044.46	1041.86	1039.93	6.28	2.05	7.97	3.83	0.00	n/a	0.013
58	5.2-5.1	56.29	30	2.50	-6.58	1032.50	1031.09	1045.00	1037.53	1032.93	1031.37	12.07	1.76	64.91	5.73	0.00	0.02	0.013
59	5.3-5.2	35.98	30	1.00	0.00	1033.00	1032.64	1035.95	1045.00	1033.43	1032.99	2.52	1.76	41.02	4.15	0.00	0.15	0.013

10 YEAR STORM INTENSITY CALCULATIONS

i = 175 / (Tc + 18.8)

INLET TIME CALCULATIONS

Tc = 1.8 * (1 – C) * ((D^½) / (S^⅓))

C = RATIONAL METHOD RUNOFF COEFFICIENT
D = OVERLAND FLOW DISTANCE (FT)
S = SLOPE (%)

Q = C * i * A

A = DRAINAGE AREA (ACRES)

353-308 COSTCO LEES SUMMIT 100 YEAR STORM EVENT

LineNo.	LineID	Line Length (ft)	Line Size (in)	Line Slope (%)	Defl. Angle (Deg)	Inver Up (ft)	Invert Dn (ft)	Grnd/RimElev Up (ft)	Grnd/RimElev Dn (ft)	HGL Up (ft)	HGL Dn (ft)	Rim-Hw (ft)	Flow Rate (cfs)	CapacityFull (cfs)	VelDn (ft/s)	Energy Loss (ft)	Minor Loss (ft)	n-value Pipe
1	2.2-2.1	32.43	24	0.49	2.14	1043.12	1042.96	1051.12	1045.34	1044.26	1044.11	6.41	9.95	15.89	5.32	0.16	0.45	0.013
2	2.3-2.2	84	18	0.5	-89.96	1043.74	1043.32	1051.16	1051.12	1044.87	1044.71	6.08	5.41	7.43	3.17	0.228	0.2	0.013
3	2.4-2.3	71.85	15	0.5	64.25	1044.2	1043.84	1051.39	1051.16	1045.44	1045.08	5.83	4.85	4.57	3.96	0.378	0.12	0.013
4	2.5-2.4	110.01	15	0.5	25.75	1044.85	1044.3	1051.39	1051.39	1046	1045.56	5.36	4.29	4.57	3.5	0.453	0.03	0.013
5	2.6-2.5	110.01	15	0.5	0	1045.5	1044.95	1051.39	1051.39	1046.32	1046.03	5.03	3.38	4.57	2.99	0.393	0.04	0.013
6	2.7-2.6	110.01	12	0.5	0	1046.15	1045.6	1051.39	1051.39	1045.93	1046.38	4.43	2.4	2.52	3.65	0.55	0.03	0.013
7	2.8-2.7	110.01	12	1	0	1047.35	1046.25	1051.39	1051.39	1047.85	1046.96	3.54	1.42	3.56	2.37	0	n/a	0.013
8	3.1-2.2	42.3	18	4.52	-12.7	1045.23	1043.32	1051.89	1051.12	1046.00	1044.71	5.89	4.05	22.31	2.37	0	n/a	0.013
9	15.2-15.1	29.96	36	0.47	-177.68	1041.39	1041.25	1048.22	1044.77	1043.96	1043.82	3.43	47.21	45.6	7.32	0.14	0.83	0.013
10	15.3-15.2	73.1	30	0.55	-0.14	1041.89	1041.49	1048.46	1048.22	1045.27	1044.79	2.47	33.25	30.34	6.77	0.481	0.71	0.013
11	15.4-15.3	164.45	24	1.5	0	1044.45	1041.98	1049.86	1048.46	1046.96	1045.99	2.61	17.41	27.72	5.54	0.975	0.29	0.013
12	15.5-15.4	138.58	24	0.5	33.16	1046.25	1045.56	1051.71	1049.86	1047.71	1047.25	3.5	13.93	15.96	4.92	0.586	0.5	0.013
13	16.1-15.3	128	24	0.5	90	1042.62	1041.98	1048.78	1048.46	1044.36	1045.99	2.23	11.79	15.99	3.75	0.348	0.22	0.013
14	16.2-16.1	150.32	18	1.5	-31.62	1044.98	1042.72	1049.62	1048.78	1047.08	1046.55	2.37	6.21	12.88	3.51	0.526	0.17	0.013
15	16.3-16.2	125.64	12	1	-58.38	1046.33	1045.07	1050.57	1049.62	1048.2	1047.25	2.13	3.1	3.57	3.95	0.952	0.24	0.013
16	18.1-15.2	53.41	18	0.79	-90.15	1042	1041.58	1049.34	1048.22	1045.16	1044.79	3.86	8.69	9.31	4.92	0.366	0.32	0.013
17	19.1-18.1	9.68	12	1.03	-44.84	1044.59	1044.49	1045.82	1049.34	1045.16	1045.48	0.66	1.82	3.62	2.32	0	0.18	0.013
18	19.2-19.1	11.47	12	0.96	44.78	1044.7	1044.59	1045.93	1045.82	1045.27	1045.16	0.66	1.82	3.49	3.9	0	0.04	0.013
19	19.2a-19.2	8.66	12	0	0	1044.7	1044.7	1045.94	1045.93	1045.41	1045.27	0.51	1.82	0	3.9	0.044	0.02	0.013
20	19.3-19.2a	47.07	12	3.02	0	1046.12	1044.7	1050.39	1045.94	1046.69	1045.43	3.7	1.82	6.19	2.95	0	n/a	0.013
21	17.1-16.1	164.45	12	1	-90	1045.4	1043.76	1050.18	1048.78	1047.35	1046.55	2.68	2.47	3.56	3.15	0.791	0.15	0.013
22	18.2-18.1	75.69	18	0.52	53.69	1042.49	1042.1	1049.04	1049.34	1045.72	1045.48	3.21	5.96	7.54	3.37	0.244	0.11	0.013
23	18.3-18.2	158.58	12	1.19	35.68	1044.48	1042.59	1049.73	1049.04	1047.02	1045.83	2.47	3.08	3.89	3.92	1.186	0.24	0.013
24	11.2-11.1	44.48	30	0.49	166.52	1039.57	1039.35	1052.82	1041.73	1041.17	1040.95	11.55	21.35	28.84	6.44	0.22	0.1	0.013
25	11.3-11.2	37.1	30	0.51	-0.92	1039.86	1039.67	1052.8	1052.82	1041.43	1041.27	10.95	21.08	29.34	6.37	0.186	0.43	0.013
26	11.4-11.3	66.95	24	0.88	36.42	1040.55	1039.96	1050.27	1052.8	1042.18	1041.85	8.09	20.74	21.23	6.74	0	0.19	0.013
27	11.5-11.4	225.88	24	1.01	10.26	1042.93	1040.65	1050.29	1050.27	1044.45	1042.18	5.84	17.93	22.72	6.95	0	n/a	0.013
28	12.1-11.5	33.92	24	0.5	59.89	1043.2	1043.03	1050.69	1050.29	1044.62	1044.45	5.77	13.65	16.01	5.7	0.169	0.29	0.013
29	12.2-12.1	48.11	24	0.5	-31.47	1043.54	1043.3	1050.51	1050.69	1045.02	1044.92	5.14	12.54	15.97	4.61	0.168	0.35	0.013
30	12.3-12.2	85.42	24	0.5	-58.52	1044.07	1043.64	1050.38	1050.51	1045.45	1045.37	4.9	9.19	16.05	3.19	0.17	0.04	0.013
31	12.4-12.3	90	24	0.5	0	1044.62	1044.17	1049.41	1050.38	1045.69	1045.48	3.32	8.84	15.99	4.04	0.339	n/a	0.013
32	12.5-12.4	51.12	15	0.51	-59.97	1044.98	1044.72	1048.6	1049.41	1046.44	1046.09	1.87	5.33	4.61	4.34	0.348	0.29	0.013
33	13.1-12.4	89.29	12	1	73.35	1045.61	1044.72	1050.03	1049.41	1046.6	1046.09	3.24	2.77	3.56	3.53	0.519	0.19	0.013
34	20.1-12.2	85.55	12	1.01	31.48	1044.5	1043.64	1049.86	1050.51	1045.95	1045.37	3.7	2.93	3.57	3.73	0.579	0.22	0.013
35	11.6-11.5	94.26	12	1	-30.11	1043.97	1043.03	1051.34	1050.29	1044.47	1044.45	6.85	0.42	3.56	0.53	0.032	0.02	0.013
36	7.2-7.1	50.36	18	4.75	-73.19	1035.49	1033.1	1047.04	1034.9	1036.84	1033.91	10.2	13.09	22.88	13.38	0	n/a	0.013
37	7.3-7.2	99.05	15	2	75.37	1043.59	1041.61	1048.13	1047.04	1044.49	1042.27	3.64	4.97	9.13	7.6	0	n/a	0.013
38	7.4-7.3	103.2	15	0.68	-21.6	1044.39	1043.69	1049.05	1048.13	1045.31	1044.61	3.4	4.71	5.32	4.89	0.699	0.35	0.013
39	7.5-7.4	88.55	12	1.04	-68.4	1045.41	1044.49	1049.89	1049.05	1046.25	1045.36	3.3	3.19	3.63	4.06	0.675	0.29	0.013
40	8.1-7.2	48.92	15	1.47	-14.63	1042.33	1041.61	1047.66	1047.04	1043.27	1042.37	4.4	5.33	7.83	6.86	0	n/a	0.013
41	8.2-8.1	77.64	12	1	0	1043.21	1042.43	1048.65	1047.66	1043.97	1043.27	4.68	3.13	3.57	4.47	0	n/a	0.013
42	8.3-8.2	147	12	1	-34.37	1044.78	1043.31	1049.09	1048.65	1045.29	1043.97	3.8	1.44	3.56	2.63	0	n/a	0.013
43	9.1-8.1	36.49	12	3.75	90	1043.8	1042.43	1048.12	1047.66	1044.06	1043.27	4.06	0.39	6.9	0.56	0	n/a	0.013
44	4.2-4.1	38.26	15	0.5	16.46	1041.19	1041	1050.57	1042.44	1042.51	1042.25	7.83	5.32	4.55	4.34	0.26	0.23	0.013
45	4.3-4.2	105.59	15	0.66	49.91	1041.99	1041.29	1051.49	1050.57	1043.13	1042.74	8.19	4.11	5.26	3.35	0.401	0.18	0.013
46	4.4-4.3	33.99	12	1	-64.2	1042.43	1042.09	1047.79	1051.49	1043.43	1043.3	4.28	2.26	3.56	2.88	0.135	0.08	0.013
47	4.5-4.4	47.18	12	1	34.53	1043	1042.53	1048.08	1047.79	1043.4	1043.51	4.68	0.9	3.55	1.15	0	0.15	0.013
48	1.2-1.1	61.7	30	5.01	-81.84	1040.34	1037.25	1044.95	1040.54	1041.82	1038.03	3.13	19.12	91.78	14.62	0	n/a	0.013
49	1.3-1.2	62.26	30	0.5	-15.55	1040.75	1040.44	1047.5	1044.95	1042.24	1041.92	5.17	19.12	28.94	6.3	0.309	0.09	0.013
50	1.4-1.3	21.26	30	0.52	0	1040.86	1040.75	1043.8	1047.5	1042.34	1042.33	1.46	19.12	29.49	5.85	0	n/a	0.013

353-308 COSTCO LEES SUMMIT 100 YEAR STORM EVENT

LineNo.	LineID	Line Length (ft)	Line Size (in)	Line Slope (%)	Defl. Angle (Deg)	Inver Up (ft)	Invert Dn (ft)	Grnd/RimElev Up (ft)	Grnd/RimElev Dn (ft)	HGL Up (ft)	HGL Dn (ft)	Rim-Hw (ft)	Flow Rate (cfs)	CapacityFull (cfs)	VelDn (ft/s)	Energy Loss (ft)	Minor Loss (ft)	n-value Pipe
51	14.2-14.1	174.46	36	0.5	-103.47	1040.22	1039.35	1047.91	1042.87	1042.84	1041.97	4.46	49.39	47.1	7.54	0.869	0.61	0.013
52	14.3.-14.2	78.51	36	0.5	-40.26	1040.71	1040.32	1044.23	1047.91	1043.88	1043.45	-0.41	49.39	47.01	6.99	0.431	0.76	0.013
53	10.2-10.1	35.49	42	0.45	162.68	1039.25	1039.09	1048	1043.18	1042.81	1042.59	5.04	78.46	67.56	8.16	0.216	0.16	0.013
54	10.3-10.2	26.84	42	0.37	0	1039.35	1039.25	1043.44	1048	1043.13	1042.96	-0.72	78.46	61.4	8.16	0.163	1.03	0.013
55	6.2-6.1	67.23	15	4.95	45.91	1036.9	1033.57	1045.81	1035.09	1038.02	1034.24	7.79	8.03	14.37	11.99	0	0.49	0.013
56	6.3-6.2	153.95	15	1.01	-37.82	1039.19	1037.63	1044.46	1045.81	1040.08	1038.43	4.38	4.83	6.5	5.8	0	0.06	0.013
57	6.4-6.3	39.09	12	5.01	0.12	1041.25	1039.29	1048.14	1044.46	1041.98	1040.08	6.16	2.9	7.97	4.36	0	n/a	0.013
58	5.2-5.1	56.29	30	2.5	-6.58	1032.5	1031.09	1045	1037.53	1033.01	1031.42	11.99	2.48	64.91	6.35	0	n/a	0.013
59	5.3-5.2	35.98	30	1	0	1033	1032.64	1035.95	1045	1033.51	1033.06	2.44	2.48	41.02	4.6	0	n/a	0.013

Notes: j-Line contains hyd. jump

100 YEAR STORM INTENSITY CALCULATIONS

i = 256 / (Tc + 19.8)

INLET TIME CALCULATIONS

Tc = 1.8 * (1 – C) * ((D^½) / (S^⅓))

C = RATIONAL METHOD RUNOFF COEFFICIENT
D = OVERLAND FLOW DISTANCE (FT)
S = SLOPE (%)

Q = C * i * A

A = DRAINAGE AREA (ACRES)

REFERENCE

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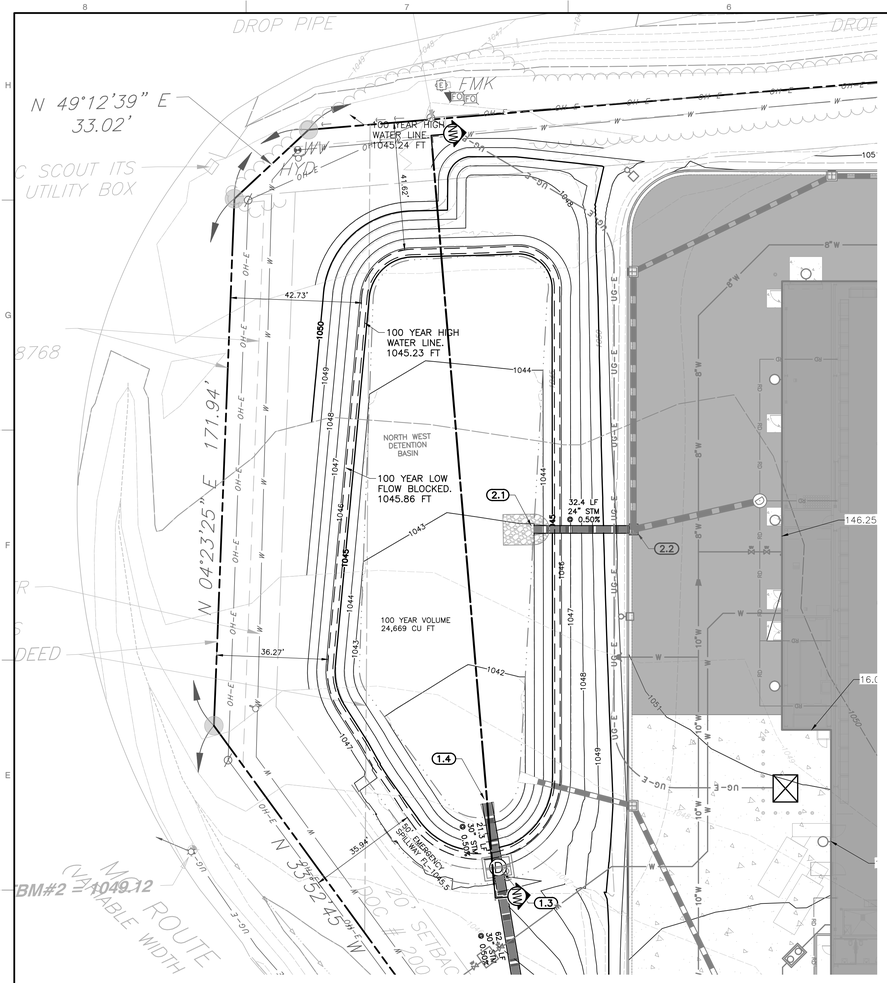
1. ALTA SURVEY DATED 08-20-2025 BY CIVIL & ENVIRONMENTAL CONSULTANTS, INC.
2. DEVELOPMENT PLANS FOR OLDHAM VILLAGE (BY OTHER)
3. SITE DEVELOPMENT PLANS DATED XXXX BY CIVIL & ENVIRONMENTAL CONSULTANTS, INC.

811 or 1-800-344-7483
https://missouri-811.org

NOTE TO CONTRACTOR: PRIOR TO ANY EXCAVATION FOR UNDERGROUND UTILITIES, CONTRACTOR SHALL EXPOSE AND VERIFY LOCATIONS (HORIZONTA



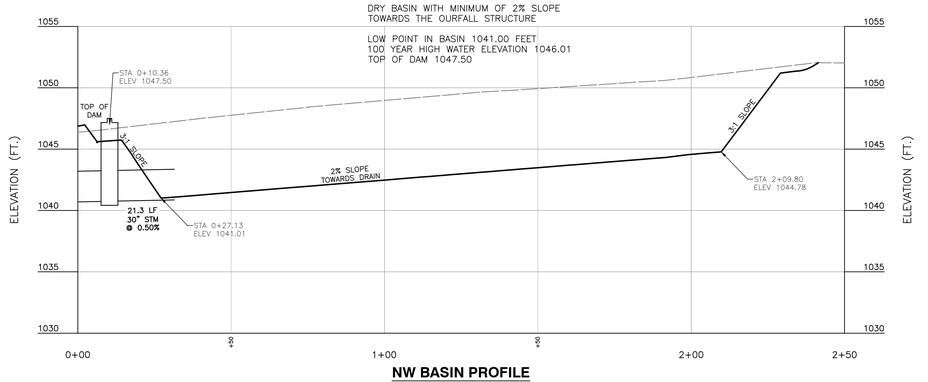
NORTH

SCALE IN FEET

0 20 40

NORTHWEST DETENTION BASIN

NOTES:
1. THE BASIN SHALL BE CONSTRUCTED WITH EROSION AND SEDIMENT CONTROL MEASURES.
2. AN AS-BUILT DETENTION BASIN PLAN SHALL BE SUBMITTED AND ACCEPTED PRIOR TO ISSUANCE OF A CERTIFICATE OF SUBSTANTIAL COMPLETION, WITH AS-BUILT VERSUS PROPOSED STORAGE.
3. TURF REINFORCEMENT MAT SHALL BE NORTH AMERICAN GREEN ERONET OR APPROVED EQUAL. TRM TO BE VEGETATED.
4. TRASH RACK TO BE INSTALLED AT EACH LOW FLOW ORIFICE. (SEE DETAIL)

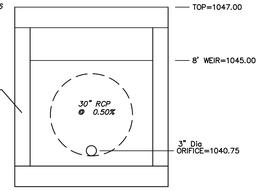


NW BASIN PROFILE
SCALE H:1"=20'; V:1"=5'

TOP OF DAM 1047.00

HIGHWATER ELEVATIONS

100 YR OVERFLOW – 1045.86
100 YR – 1045.23
10 YR – 1044.70
2 YR – 1044.18

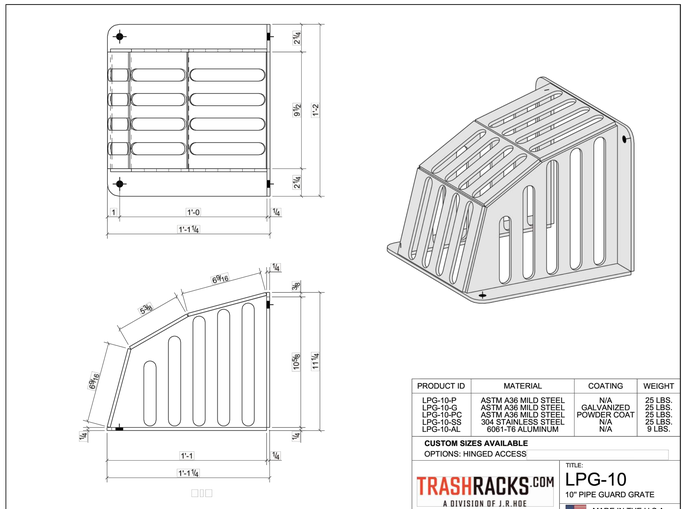


OUTFALL NOTE:
OUTFALL STRUCTURE SHALL BE REINFORCED CONCRETE.

OUTFALL STRUCTURE 1.3
8'x6' BOX STRUCTURE

CONTROL STRUCTURE NOTES

1. CONTROL STRUCTURE TO BE 8'x6' PRECAST BOX
2. INSTALL TRASH RACK PER MANUFACTURERS SPECIFICATIONS



PRODUCT ID	MATERIAL	COATING	WEIGHT
LPG-10-P	ASTM A36 MILD STEEL	N/A	25 LBS.
LPG-10-G	ASTM A36 MILD STEEL	GALVANIZED	25 LBS.
LPG-10-PC	ASTM A36 MILD STEEL	POWDER COAT	25 LBS.
LPG-10-SS	304 STAINLESS STEEL	N/A	25 LBS.
LPG-10-AL	6061-T6 ALUMINUM	N/A	9 LBS.

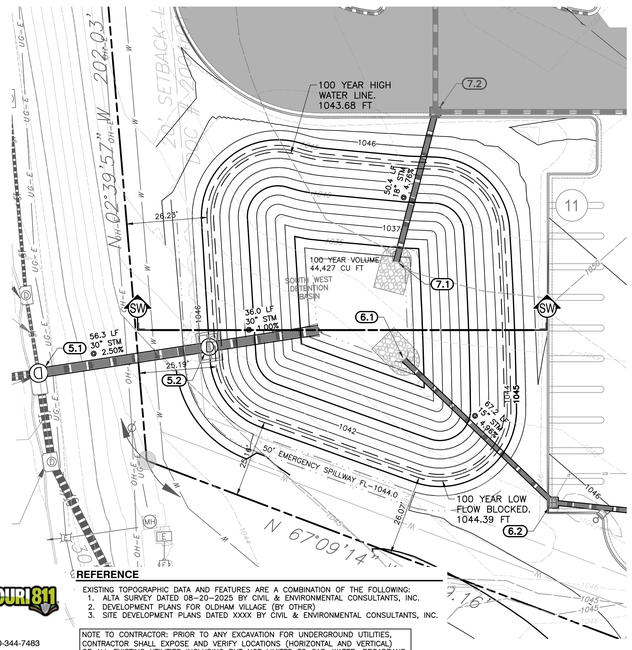
CUSTOM SIZES AVAILABLE
OPTIONS: HINGED ACCESS

TRASHRACKS.COM
A DIVISION OF J.R.HOE

TITLE: LPG-10
10" PIPE GUARD GRATE

MADE IN THE U.S.A.

THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF J.R. HOE, INC. ANY USAGE IN PART OR AS A WHOLE WITHOUT REFERENCING MANUFACTURER IS PROHIBITED. J.R. HOE RESERVES THE RIGHT TO AMEND PRODUCT DESIGN WITHOUT PRIOR NOTICE FOR PRODUCT IMPROVEMENT



NORTH

SCALE IN FEET

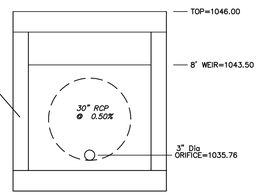
0 20 40

SOUTHWEST DETENTION BASIN

TOP OF DAM 1046.00

HIGHWATER ELEVATIONS

100 YR OVERFLOW – 1044.39
100 YR – 1043.68
10 YR – 1041.49
2 YR – 1039.68

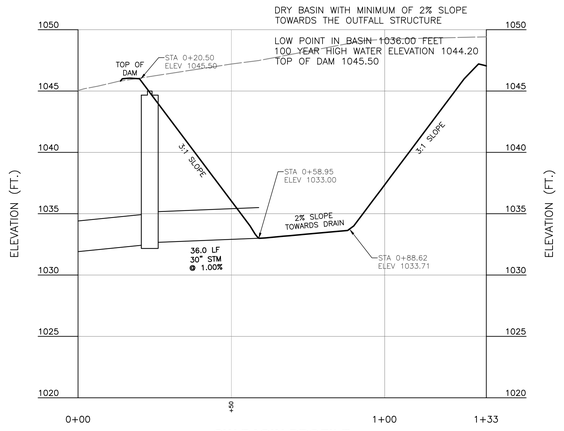


OUTFALL NOTE:
OUTFALL STRUCTURE SHALL BE REINFORCED CONCRETE.

OUTFALL STRUCTURE 5.2
8'x6' BOX STRUCTURE

CONTROL STRUCTURE NOTES

1. CONTROL STRUCTURE TO BE 8'x6' PRECAST BOX
2. INSTALL TRASH RACK PER MANUFACTURERS SPECIFICATIONS



SW BASIN PROFILE
SCALE H:1"=20'; V:1"=5'

REFERENCE

EXISTING TOPOGRAPHIC DATA AND FEATURES ARE A COMBINATION OF THE FOLLOWING:
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NOTES:
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KARL A. SCHOENIKE, PE
(MO PE# 2003015039)

STATE OF MISSOURI
KARL A. SCHOENIKE
NUMBER PE-2003015039
12/22/2025
PROFESSIONAL ENGINEER

REVISION RECORD

NO	DATE	DESCRIPTION

CIVIL, SURVEYING AND LANDSCAPE ARCHITECTURE IN THE STATE OF NORTH CAROLINA WILL BE PROVIDED BY CEC SURVEYING AND LANDSCAPE ARCHITECTS OF NC, PLLC CIVIL, SURVEYING AND LANDSCAPE ARCHITECTURE IN THE STATE OF MISSOURI WILL BE PROVIDED BY CEC ENGINEERS & CONSULTANTS, LLC. LANDSCAPE ARCHITECTURE SERVICES IN THE STATE OF OHIO WILL BE PROVIDED BY CEC LANDSCAPE ARCHITECTS, LLC.

1450 Beale Street
Suite 305
St. Charles, MO 63303
Ph: 314.656.4566
www.cecinc.com

Civil & Environmental Consultants, Inc.

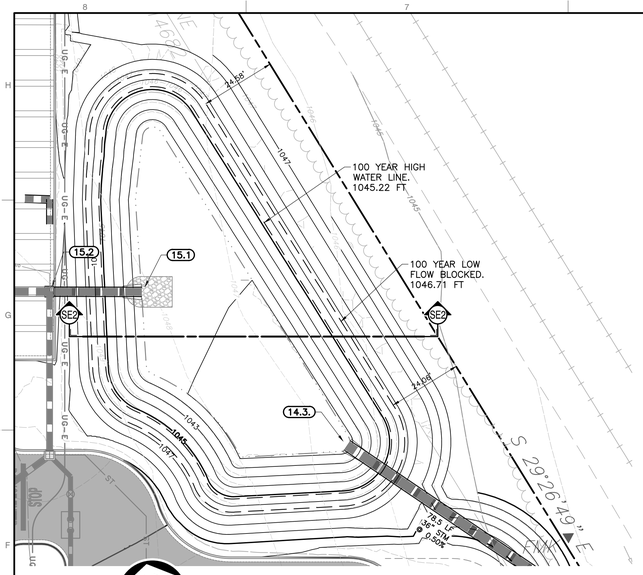
COSTCO WHOLESALE
LEE'S SUMMIT, MISSOURI

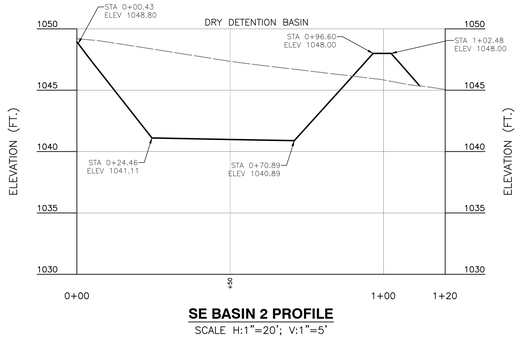
COSTCO LEES SUMMIT
CONSTRUCTION DOCUMENTS
STORMWATER MANAGEMENT BASIN
MUNICIPAL REVIEW SET

DATE:	DECEMBER 22, 2025
DWG SCALE:	
PROJECT NO:	353-308.0002
DRAWN BY:	MK
CHECKED BY:	KAS
APPROVED BY:	*DRK

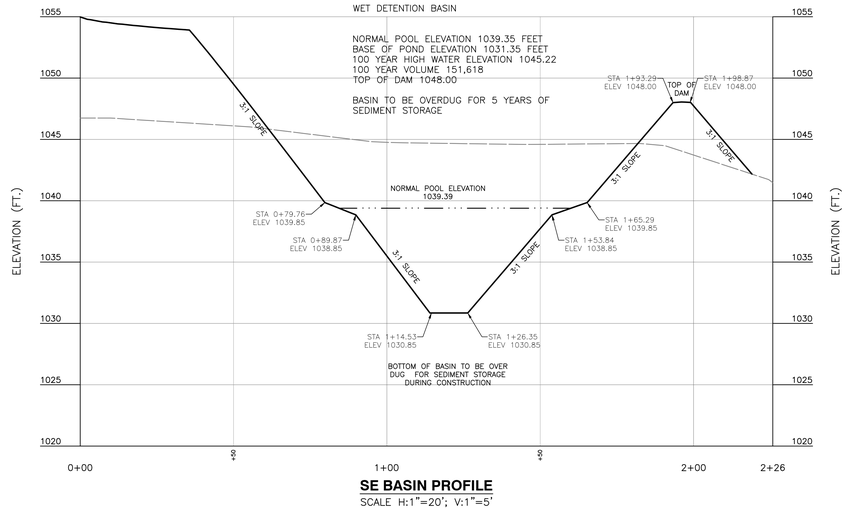
DRAWING NO.:
C406
SHEET 14 OF 31

A:\353-0002\353-308\cadd\dwg\civil\353308-civil-site\353308-civil-site.dwg14 cad@ (12/22/2025 - jschomaker) - LM 12/22/2025 4:11 PM





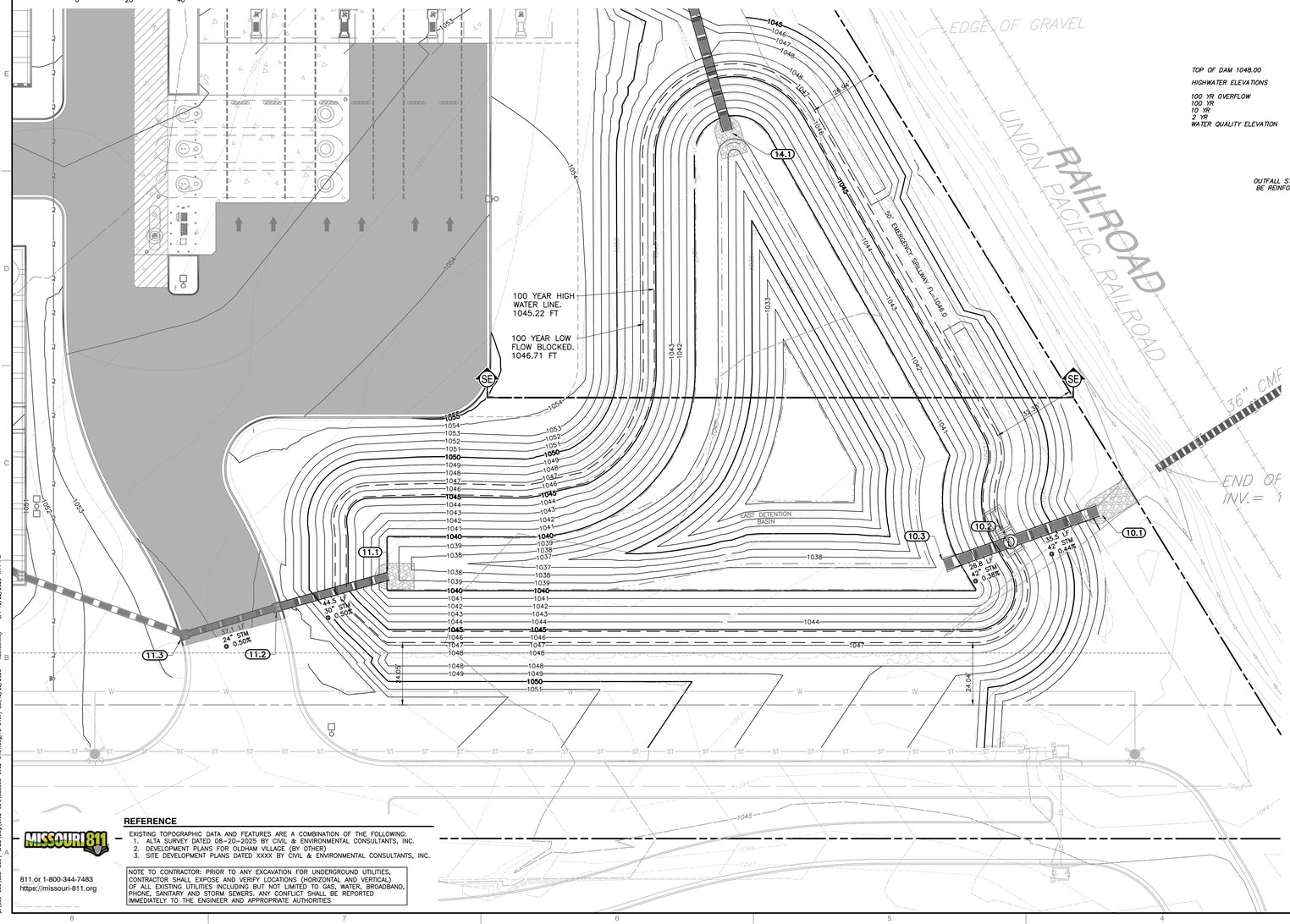
SE BASIN 2 PROFILE
SCALE H:1"=20'; V:1"=5'



SE BASIN PROFILE
SCALE H:1"=20'; V:1"=5'

SOUTHEAST DETENTION BASIN

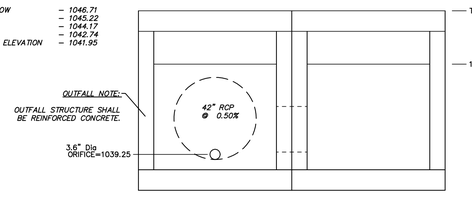
NOTES:
1. THE BASIN SHALL BE CONSTRUCTED WITH EROSION AND SEDIMENT CONTROL MEASURES.
2. AN AS-BUILT DETENTION BASIN PLAN SHALL BE SUBMITTED AND ACCEPTED PRIOR TO ISSUANCE OF A CERTIFICATE OF SUBSTANTIAL COMPLETION, WITH AS-BUILT VERSUS PROPOSED STORAGE.
3. TURF REINFORCEMENT MAT SHALL BE NORTH AMERICAN GREEN ERONET OR APPROVED EQUAL. TRM TO BE VEGETATED. NO MAT REQUIRED BELOW NORMAL POOL ELEVATION.
4. TRASH RACK TO BE INSTALLED AT EACH LOW FLOW ORIFICE. (SEE DETAIL)



TOP OF DAM 1048.00

HIGHWATER ELEVATIONS

100 YR OVERFLOW	*– 1046.71*
100 YR	*– 1045.22*
10 YR	*– 1044.17*
2 YR	*– 1042.74*
WATER QUALITY ELEVATION	*– 1041.95*



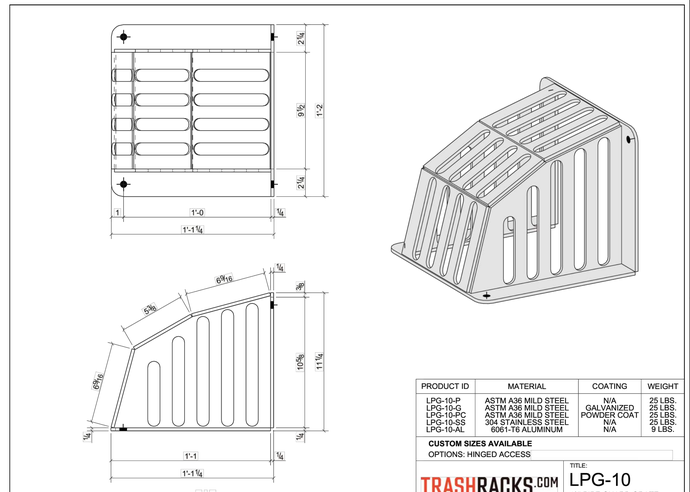
OUTFALL NOTE:

OUTFALL STRUCTURE SHALL BE REINFORCED CONCRETE.

OUTFALL STRUCTURE 10.2
8'x6' BOX STRUCTURE

CONTROL STRUCTURE NOTES

1. CONTROL STRUCTURE TO BE 8'x6' PRECAST BOX
2. THE ADJACENT BOX SHALL NOT CONTAIN THE 3.8" DIAMETER ORIFICE
3. THE ADJACENT BOX SHALL HAVE A 24" DIAMETER LEVELER PIPE INSTALLED TO MAIN BOX UPSTREAM AND DOWNSTREAM OF THE WEIR WALL
4. INSTALL TRASH RACK PER MANUFACTURERS SPECIFICATIONS



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LPG-10-G	ASTM A36 MILD STEEL	GALVANIZED	25 LBS.
LPG-10-PC	ASTM A36 MILD STEEL	POWDER COAT	25 LBS.
LPG-10-SS	304 STAINLESS STEEL	N/A	25 LBS.
LPG-10-AL	6061-T6 ALUMINUM	N/A	9 LBS.

CUSTOM SIZES AVAILABLE
OPTIONS: HINGED ACCESS

TRASHRACKS.COM
A DIVISION OF J.R.HOE

TITLE: LPG-10
10" PIPE GUARD GRATE

MADE IN THE U.S.A.

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KARL A. SCHOENIKE, PE
(MO PE# 2003015039)

STATE OF MISSOURI
KARL A. SCHOENIKE
NUMBER PE-2003015039
12/22/2025
PROFESSIONAL ENGINEER

REFERENCE

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MISSOURI 811
811 or 1-800-344-7483
https://missouri-811.org

REVISION RECORD

NO.	DATE	DESCRIPTION

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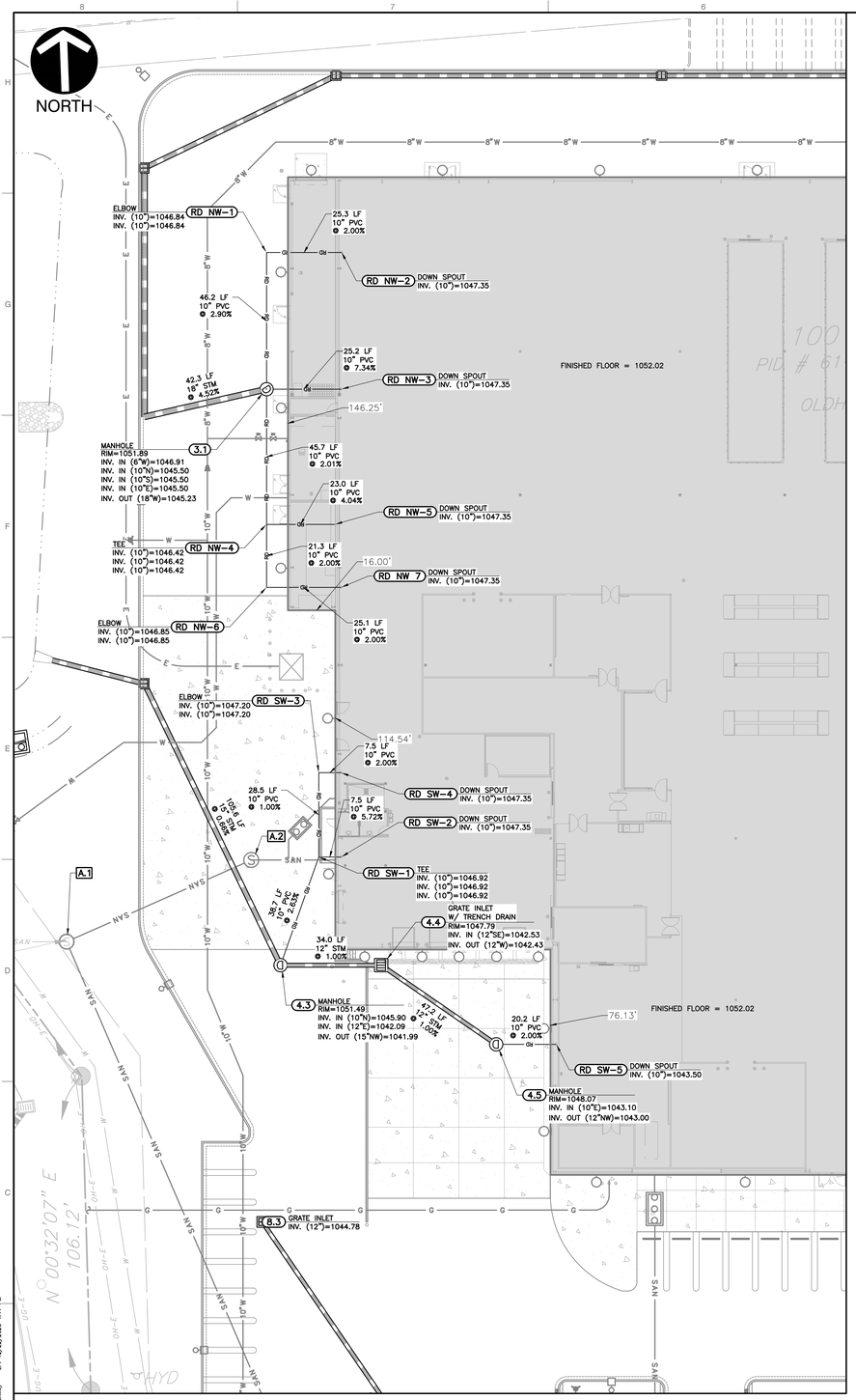
COSTCO WHOLESALE
LEE'S SUMMIT, MISSOURI

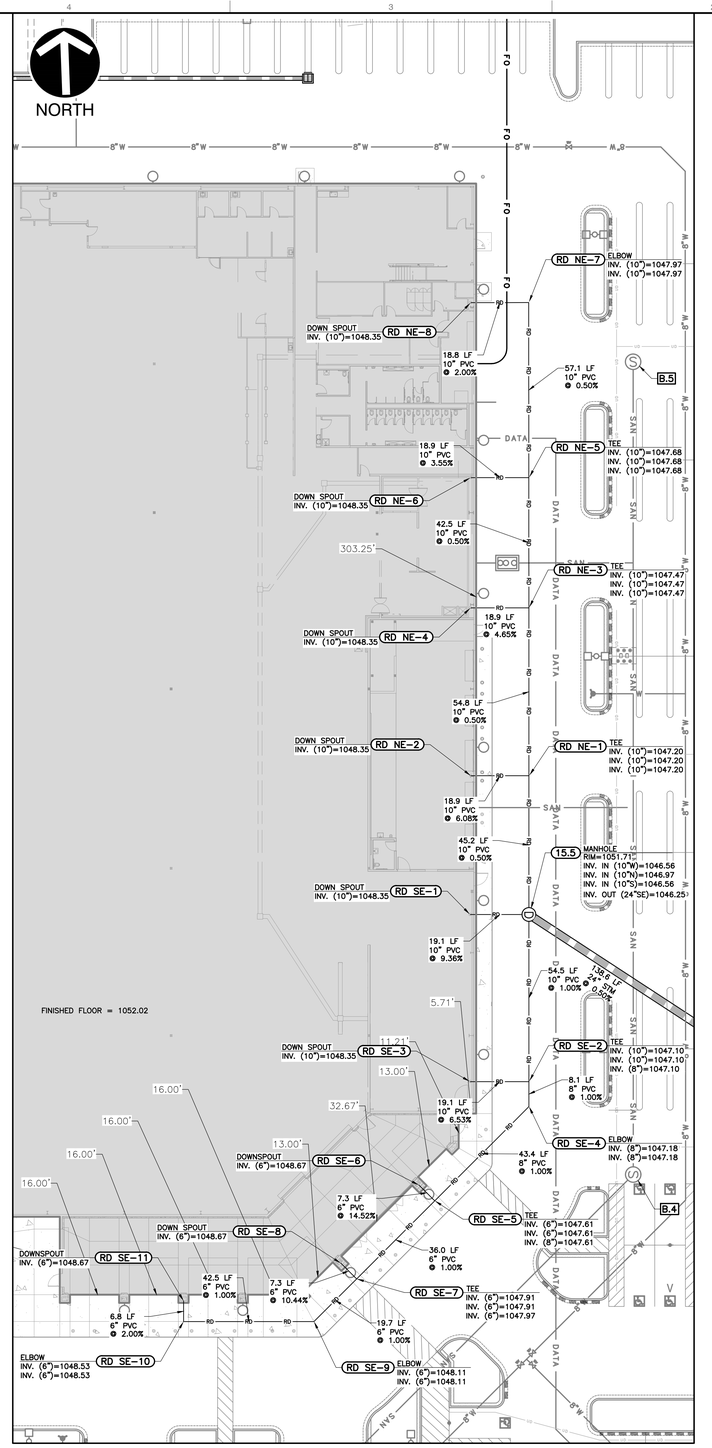
COSTCO LEES SUMMIT
CONSTRUCTION DOCUMENTS
STORMWATER MANAGEMENT BASIN
MUNICIPAL REVIEW SET

DATE: DECEMBER 22, 2025
DRAWN BY: MK
CHECKED BY: KAS
DWG SCALE:
PROJECT NO: 353-308.0002
APPROVED BY: *DRK

DRAWING NO.: C407
SHEET 15 OF 31

p:\353-0001\353-3081-civil\dwg\civil\sheets\353308-civil-c404.dwg[15 c407] LS:[12/22/2025 - kschoenike] - LP: 12/22/2025 4:14 PM





LEGEND

- EXISTING PROPERTY LINE
- EXISTING SETBACK
- EXISTING EASEMENT
- EXISTING INDEX (MAJOR) CONTOUR
- EXISTING INTERMEDIATE (MINOR) CONTOUR
- EXISTING GUARD RAIL
- EXISTING FENCE
- EXISTING VERTICAL CONCRETE CURB
- EXISTING EDGE OF PAVEMENT
- EXISTING DITCH FLOW LINE
- EXISTING TREE LINE
- EXISTING TREE WITH TRUNK SIZE
- EXISTING OVERHEAD ELECTRIC
- EXISTING UNDERGROUND ELECTRIC
- EXISTING FIBER OPTIC LINE
- EXISTING WATER LINE
- EXISTING SANITARY SEWER LINE
- EXISTING STORM DRAIN
- EXISTING TRAFFIC POLE WITH ARM
- EXISTING LIGHT POLE WITH ARM
- EXISTING UTILITY POLE AND GUY WIRE
- EXISTING ELECTRIC PULL BOX
- EXISTING FIBER OPTIC PULL BOX
- EXISTING FIBER MARKER
- EXISTING WATER MANHOLE
- EXISTING FIRE HYDRANT
- EXISTING WATER VALVE
- EXISTING WATER METER
- EXISTING SANITARY MANHOLE
- EXISTING CURB INLET
- EXISTING FLARED END SECTION (F.E.S.)
- EXISTING GRATED CATCH BASIN
- EXISTING STORMWATER MANHOLE
- PROPOSED CONCRETE CURB AND GUTTER
- PROPOSED CONCRETE PAVEMENT
- PROPOSED HEAVY DUTY PAVEMENT
- PROPOSED LIGHT DUTY PAVEMENT
- PROPOSED CONCRETE SIDEWALK
- PROPOSED PAINTED 2' O.C. DIAGONAL STRIPING
- PROPOSED PAINTED PARKING DIVIDER
- PROPOSED CART CORRAL
- PROPOSED STORM PIPE
- PROPOSED UNDERDRAIN
- PROPOSED PRIVATE SANITARY SEWER
- PROPOSED PRIVATE WATER LINE (SIZE DENOTED)
- PROPOSED UNDERGROUND ELECTRIC
- PROPOSED DATA LINE
- PROPOSED MANHOLE – SOLID COVER
- PROPOSED AREA INLET – 3-WAY
- PROPOSED GRATE INLET
- PROPOSED 2 GRATE INLET W/ SIDE INTAKE
- PROPOSED FLARED END SECTION (F.E.S.)
- PROPOSED CLEAN OUT
- PROPOSED PRIVATE SANITARY MANHOLE
- PROPOSED PRIVATE SANITARY CLEANOUT
- PROPOSED WATER VALVE
- PROPOSED FIRE HYDRANT
- PROPOSED BUILDING MOUNTED LIGHT AND LIGHT POLE [REFER TO LIGHTING PLAN BY OTHERS]

STORM DRAINAGE NOTES

1. DISTANCES SHOWN ON PIPING ARE HORIZONTAL DISTANCES FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE, UNLESS OTHERWISE NOTED.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH THE INSTALLATION, INSPECTION, TESTING AND FINAL ACCEPTANCE OF ALL NEW STORMWATER MANAGEMENT FACILITIES CONSTRUCTION. CONTRACTOR SHALL COORDINATE WITH ALL APPLICABLE REGULATING AGENCIES CONCERNING INSTALLATION, INSPECTION AND APPROVAL OF THE STORM DRAINAGE SYSTEM CONSTRUCTION.
3. ALL STORMWATER MANAGEMENT FACILITIES, INCLUDING COLLECTION AND CONVEYANCE STRUCTURES SHALL BE INSTALLED IN ACCORDANCE WITH ALL APPLICABLE LOCAL AND STATE CODES AND REGULATIONS.
4. ALL CATCH BASINS IN THE PAVEMENT OR CURB ARE TO HAVE A MINIMUM OF ONE, 4" PERFORATED UNDERDRAIN EXTENDING 10 LF FROM THE CATCH BASIN IN THE UPHILL DIRECTION. SEE DETAIL ON SHEET C800.
5. ANY FIELD TILE CUT IN EXCAVATION, WHICH DRAINS AN OFFSITE AREA, MUST BE TIED INTO THE STORM DRAINAGE SYSTEM.
6. FOR EXACT LOCATION OF DOWN SPOUTS & ROOF DRAINS, CONTRACTOR IS TO COORDINATE WITH ARCHITECTURAL AND PLUMBING DRAWINGS.
7. ALL PROPOSED STORM SEWERS, SURFACE OR OTHER DRAINAGE FACILITIES ARE TO BE PRIVATE AND MAINTAINED BY THE OWNER.
8. THE CONTRACTOR IS TO CONSTRUCT CURBS, CATCH BASINS, DOWNSPOUTS, PIPING AND CONNECTION ETC. AS REQUIRED TO CONVEY THE ROOF AND PAVED SURFACE DRAINAGE TO THE DETENTION BASIN.
9. ALL CATCH BASINS AND MANHOLES WITH A DEPTH GREATER THAN 2' SHALL BE PROVIDED WITH STEPS.
10. STORM SEWER PIPE LABELED "STM" SHALL BE ONE OF THE FOLLOWING: POLYVINYL CHLORIDE SDR-35 "PVC", HIGH DENSITY POLYETHYLENE "HDPE", OR REINFORCED CONCRETE PIPE "RCP".

SEWER ABBREVIATIONS:

2G.I. W/S.I.	2 GRATE INLET WITH SIDE INTAKE
G.I.	GRATE INLET
A.I.	AREA INLET
Y.D.	YARD DRAIN
C.O.	CLEANOUT
T.S.	TOP OF SURFACE
F.F.	FINISHED FLOOR
R.D	ROOF DRAIN
D.S.	DOWNSPOUT
T.D.	TRENCH DRAIN
E.O.P.	END OF PIPE
INV.	INVERT
HGL	HYDRAULIC GRADE LINE
HDPE	HIGH DENSITY POLYETHYLENE
P.P.	POLYPROPYLENE
W.S.	WATER SURFACE
LFB	LOW FLOW BLOCKED
UC	UNDERGROUND
UD	UNDER DRAIN

REFERENCE

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SCALE IN FEET
0 20 40

STATE OF MISSOURI
KARL A. SCHOENIKE
NUMBER PE-2003015039
12/22/2025
PROFESSIONAL ENGINEER

KARL A. SCHOENIKE, PE
(MO PE# 2003015039)

REVISION RECORD

NO.	DESCRIPTION	DATE

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COSTCO WHOLESALE
LEE'S SUMMIT, MISSOURI

COSTCO LEES SUMMIT
CONSTRUCTION DOCUMENTS
ROOF DRAIN PLAN
MUNICIPAL REVIEW SET

DATE:	DECEMBER 22, 2025
DWG SCALE:	1" = 20'
PROJECT NO:	353-308.0002
DRAWN BY:	MK
CHECKED BY:	KAS
APPROVED BY:	DRK

DRAWING NO.: C408
SHEET 16 OF 31

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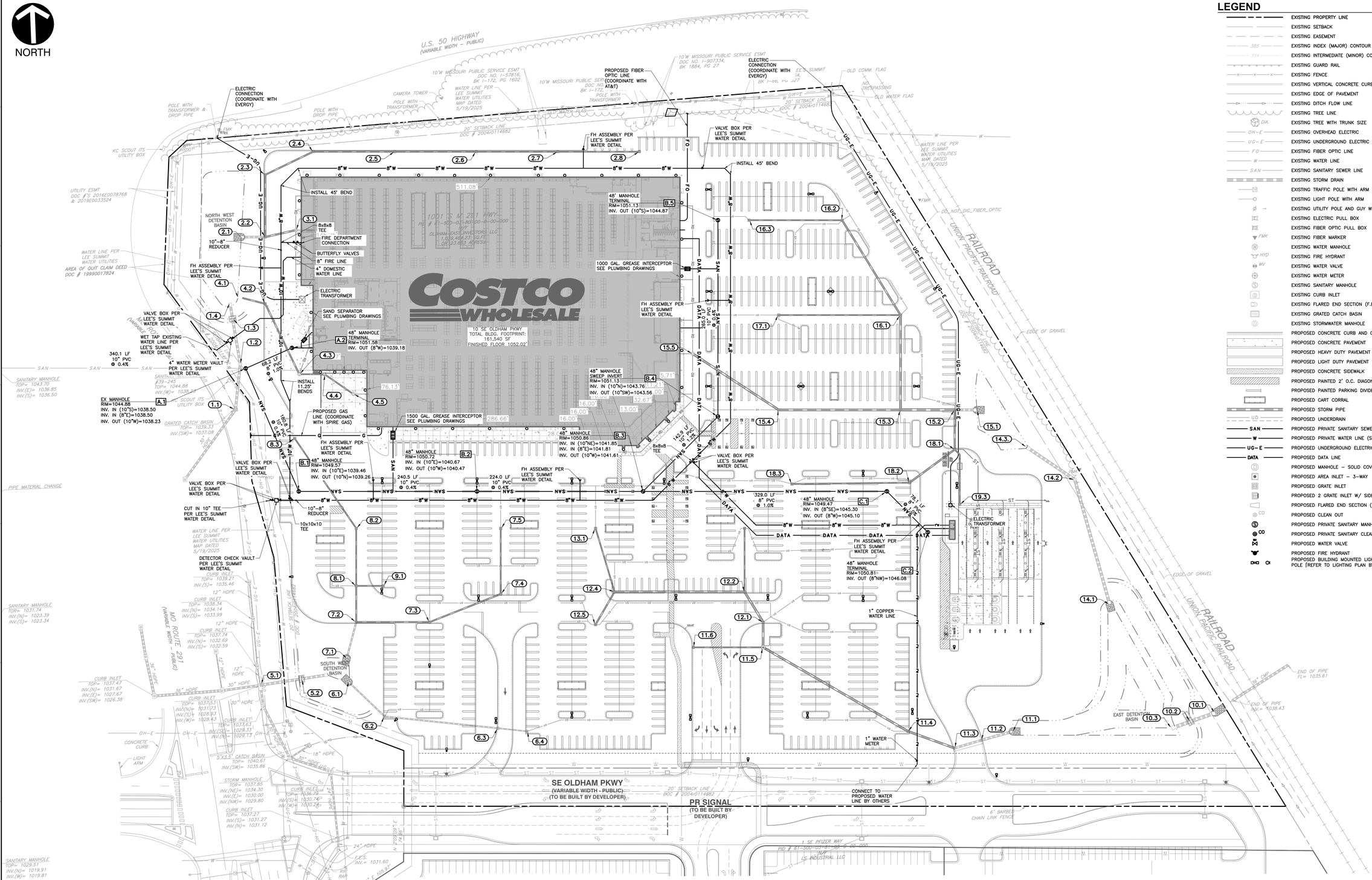
NORTH



LEGEND

- EXISTING PROPERTY LINE
- EXISTING SETBACK
- EXISTING EASEMENT
- EXISTING INDEX (MAJOR) CONTOUR
- EXISTING INTERMEDIATE (MINOR) CONTOUR
- EXISTING GUARD RAIL
- EXISTING FENCE
- EXISTING VERTICAL CONCRETE CURB
- EXISTING EDGE OF PAVEMENT
- EXISTING DITCH FLOW LINE
- EXISTING TREE LINE
- EXISTING TREE WITH TRUNK SIZE
- EXISTING OVERHEAD ELECTRIC
- EXISTING UNDERGROUND ELECTRIC
- EXISTING FIBER OPTIC LINE
- EXISTING WATER LINE
- EXISTING SANITARY SEWER LINE
- EXISTING STORM DRAIN
- EXISTING TRAFFIC POLE WITH ARM
- EXISTING LIGHT POLE WITH ARM
- EXISTING UTILITY POLE AND GUY WIRE
- EXISTING ELECTRIC PULL BOX
- EXISTING FIBER OPTIC PULL BOX
- EXISTING FIBER MARKER
- EXISTING WATER MANHOLE
- EXISTING FIRE HYDRANT
- EXISTING WATER VALVE
- EXISTING WATER METER
- EXISTING SANITARY MANHOLE
- EXISTING CURB INLET
- EXISTING FLARED END SECTION (F.E.S.)
- EXISTING GRATED CATCH BASIN
- EXISTING STORMWATER MANHOLE
- PROPOSED CONCRETE CURB AND GUTTER
- PROPOSED CONCRETE PAVEMENT
- PROPOSED HEAVY DUTY PAVEMENT
- PROPOSED LIGHT DUTY PAVEMENT
- PROPOSED CONCRETE SIDEWALK
- PROPOSED PAINTED 2' O.C. DIAGONAL STRIPING
- PROPOSED PAINTED PARKING DIVIDER
- PROPOSED CART CORRAL
- PROPOSED STORM PIPE
- PROPOSED UNDERDRAIN
- PROPOSED PRIVATE SANITARY SEWER
- PROPOSED PRIVATE WATER LINE (SIZE DENOTED)
- PROPOSED UNDERGROUND ELECTRIC
- PROPOSED DATA LINE
- PROPOSED MANHOLE – SOLID COVER
- PROPOSED AREA INLET – 3–WAY
- PROPOSED GRATE INLET
- PROPOSED 2 GRATE INLET W/ SIDE INTAKE
- PROPOSED FLARED END SECTION (F.E.S.)
- PROPOSED CLEAN OUT
- PROPOSED PRIVATE SANITARY MANHOLE
- PROPOSED PRIVATE SANITARY CLEANOUT
- PROPOSED WATER VALVE
- PROPOSED FIRE HYDRANT
- PROPOSED BUILDING MOUNTED LIGHT AND LIGHT POLE [REFER TO LIGHTING PLAN BY OTHERS]

UTILITY NOTES

1. ALL PROPOSED UTILITY LINES AND EXTENSIONS ARE TO BE CONSTRUCTED IN ACCORDANCE WITH THE UTILITY AGENCY / DISTRICT / MUNICIPALITY / COMPANY REQUIREMENTS. CONTRACTOR SHALL COORDINATE UTILITY DISCONNECTIONS, IF APPLICABLE, WITH THE APPROPRIATE AGENCY.
2. ALL SEWER CONSTRUCTION AND MATERIALS SHALL CONFORM TO AND BE IN ACCORDANCE WITH PROJECT SPECIFICATIONS AND ALL APPLICABLE LOCAL AND STATE CODES AND REGULATIONS.
3. BEFORE INSTALLATION OF STORM OR SANITARY SEWER, OR OTHER UTILITY, THE CONTRACTOR SHALL VERIFY ALL CROSSINGS, BY EXCAVATION WHERE NECESSARY, AND INFORM THE OWNER'S REPRESENTATIVE OF ANY CONFLICTS OR UNCHARTED EXISTING UTILITIES ENCOUNTERED. SUBMIT NOTIFICATION SO AS TO ALLOW DESIGN ADJUSTMENTS THAT MAY BE REQUIRED TO AVOID CONFLICTS. THE ENGINEER WILL BE HELD HARMLESS IN THE EVENT HE IS NOT NOTIFIED OF DESIGN CONFLICTS PRIOR TO CONSTRUCTION.
4. THE CONTRACTOR SHALL CALL THE APPROPRIATE UTILITY COMPANY AT LEAST 72 HOURS PRIOR TO ANY EXCAVATION AND REQUEST FIELD VERIFICATION OF UTILITY LOCATIONS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO RELOCATE EXISTING UTILITIES CONFLICTING WITH IMPROVEMENTS SHOWN HEREON IN ACCORDANCE WITH ALL LOCAL, STATE, AND FEDERAL REGULATIONS GOVERNING SUCH OPERATIONS.
5. THE CONTRACTOR SHALL OBTAIN ALL APPLICABLE REQUIRED PERMITS PRIOR TO COMMENCEMENT OF CONSTRUCTION.
6. MAINTAIN A MINIMUM OF 10 FEET HORIZONTAL AND A MINIMUM OF 18 INCHES VERTICAL SEPARATION BETWEEN SANITARY SEWER OR STORM SEWER AND WATER SUPPLY PIPING, UNLESS OTHERWISE INDICATED.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE SEQUENCING OF CONSTRUCTION FOR ALL UTILITY LINES SO THAT WATER LINES, GAS LINES, AND UNDERGROUND ELECTRIC DO NOT CONFLICT WITH SANITARY SEWERS OR STORM SEWERS. INSTALL UTILITIES PRIOR TO PAVEMENT CONSTRUCTION.
8. ALL UTILITY TRENCH EXCAVATION SPOILS SHALL BECOME THE PROPERTY OF THE CONTRACTOR UNLESS OTHERWISE INDICATED AND, IF REQUIRED, SHALL BE REMOVED BY THE CONTRACTOR AND DISPOSED OF OFFSITE AT NO ADDITIONAL COST TO THE OWNER IN ACCORDANCE WITH ALL LOCAL AND STATE CODES AND PERMIT REQUIREMENTS.
9. ADJUST ALL EXISTING UTILITY SURFACE FEATURES INCLUDING BUT NOT LIMITED TO CASTINGS, VALVE BOXES, PEDESTALS, CLEANOUTS, ETC. TO MATCH PROPOSED FINISHED GRADES, UNLESS OTHERWISE INDICATED.
10. SITE DIMENSIONS AND/OR COORDINATES SHOWN ARE TO THE FACE OF CURB, EDGE OF PAVEMENT, EXTERIOR BUILDING WALL, CENTER OF MANHOLE, CENTER AT FACE OF CURB FOR DRAIN INLETS AND CENTERLINE OF PIPE OR FITTING, UNLESS OTHERWISE NOTED. DISTANCES SHOWN ON PIPING ARE HORIZONTAL DISTANCES FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE, UNLESS OTHERWISE NOTED.
11. REFER TO THE ARCHITECTURAL DRAWINGS FOR EXACT BUILDING DIMENSIONS AND LOCATIONS OF UTILITY SERVICE ENTRANCES, BUILDING DRAINS, ROOF DRAINS, DOORS AND EXIT FEATURES.
12. TERMINATE UTILITY SERVICES AND DOWNSPOUT LEADER PIPING 5 FEET FROM BUILDING EXTERIOR WALL UNLESS INDICATED OTHERWISE. INSTALL DETECTABLE UTILITY WARNING TAPE ABOVE ALL UTILITY PIPING OR CONDUITS, 12 INCHES BELOW FINISHED GRADE, EXCEPT 6 INCHES BELOW SUBGRADE UNDER PAVEMENTS AND SLABS.
13. SANITARY SEWER SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH PROJECT SPECIFICATIONS AND LOCAL REQUIREMENTS. SANITARY SEWER SYSTEM SHALL BE VACUUM AND PRESSURE TESTED PER LOCAL REQUIREMENTS. SANITARY BUILDING SEWER SERVICE PIPE SHALL BE POLYVINYL CHLORIDE PIPE, ASTM D3034, SDR 26, FOR GASKETED JOINTS; OR DUCTILE IRON SEWER PIPE, ASTM A 746, AWWA C110, AWWA C111, AWWA C150, AWWA C151, AWWA C 153, FOR PUSH–ON JOINTS; IN ACCORDANCE WITH THE REQUIREMENTS OF THE UTILITY COMPANY.
14. ALL SANITARY AND STORM SEWER OUTSIDE THE RIGHT–OF–WAY AND NOT IN AN EASEMENT WILL REMAIN PRIVATE AND WILL BE MAINTAINED PRIVATELY BY COSTCO.
15. PUBLIC WATER MAIN PIPES, FITTINGS, RESTRAINTS, VALVES/VALVE BOXES, FIRE HYDRANTS, ETC. SHALL BE INSTALLED IN ACCORDANCE TO LEE'S SUMMIT WATER.
16. PUBLIC WATER MAIN PIPE MATERIAL SHALL BE POLYVINYL CHLORIDE (PVC) PRESSURE PIPE IN FULL ACCORDANCE WITH AWWA C909. PIPE MUST BE STAMPED WITH "NSF – pw" OR "NSF–dwDP 14 & 61" SHOWING IT CONFORMS TO NSF 14 AND 61 FOR POTABLE WATER PIPE.
17. PUBLIC WATER MAIN FITTINGS SHALL BE DUCTILE IRON, MECHANICAL JOINT IN ACCORDANCE WITH ASA 21.10–98 OR AWWA C110, WITH ANSI/AWWA C104/A21.4–95 STANDARD THICKNESS CEMENT MORTAR LINING SUITABLE FOR USE WITH CLASS 50 DUCTILE IRON PIPE.
18. FIRE SERVICE PIPING SHALL BE AWWA C600, THICKNESS CLASS 50, DUCTILE IRON PIPE WITH AWWA C104 CEMENT MORTAR LINING, DUCTILE IRON COMPACT FITTINGS AND PUSH–ON OR MECHANICAL JOINTS, AND POLYETHYLENE TUBING FOR CORROSION PROTECTION MEETING AWWA C105; OR AWWA C900, CLASS 150, DR18, POLY VINYL CHLORIDE PLASTIC PIPE, ELASTOMERIC JOINTS, WITH AWWA C110 OR AWWA C153 DUCTILE IRON FITTINGS. PER NFPA 24, FIRE SERVICE PIPING UNDERNEATH BUILDING SHALL BE DUCTILE IRON PIPE.
19. DOMESTIC AND IRRIGATION WATER PIPING LARGER THAN 2–INCHES SHALL BE AWWA C150, CLASS 52, DUCTILE IRON PIPE WITH AWWA C104 CEMENT MORTAR LINING, INCLUDING ANY OF THE FOLLOWING AWWA C111 TYPE JOINTS; MECHANICAL JOINTS WITH PLAIN RUBBER GASKETS WITH MEGALUGS AT ALL FITTINGS, SINGLE RUBBER GASKET JOINTS KNOWN AS BELL–TITLE JOINTS WITH BRONZE WEDGES FOR EACH JOINT, OR SINGLE RUBBER GASKET JOINTS KNOWN AS TYTON JOINTS WITH BRONZE WEDGES FOR EACH JOINT. DOMESTIC AND IRRIGATION PIPING 2–INCH AND SMALLER SHALL BE COPPER TUBE ASTM B88, TYPE K, SEAMLESS WATER TUBE WITH ASME B16.18 CAST COPPER ALLOY OR B16.22 WROUGHT COPPER SOLDER–JOINT PRESSURE TYPE FITTINGS.
20. CONTRACTOR TO INSTALL CONDUIT SYSTEMS FOR UNDERGROUND ELECTRIC AND TELEPHONE SERVICES IN ACCORDANCE WITH UTILITY COMPANIES' REQUIREMENTS, INCLUDING PULL CORDS INSIDE CONDUITS AND HIGHWAY LOAD–BEARING PULL BOXES AND MANHOLES.
21. CONTRACTOR SHALL INSTALL THE COSTCO SWITCH, TRANSFORMER, CONCRETE PADS, CONDUITS, AND WIRING FOR UNDERGROUND PRIMARY ELECTRIC SERVICE FROM THE NEW METER TO THE COSTCO TRANSFORMER IN ACCORDANCE WITH UTILITY COMPANY REQUIREMENTS.
22. CONTRACTOR SHALL PROVIDE AND INSTALL 2 – 5" DIAMETER SCHEDULE 80 PVC CONDUITS AND WIRING FOR PRIMARY ELECTRIC SERVICE IN ACCORDANCE WITH UTILITY COMPANY'S REQUIREMENTS.
23. CONTRACTOR SHALL PROVIDE AND INSTALL 4 – 4" DIAMETER SCHEDULE 40 PVC CONDUITS FOR TELEPHONE SERVICE CONDUITS IN ACCORDANCE WITH THE REQUIREMENTS OF THE UTILITY COMPANY. TELEPHONE SERVICE CONDUITS SHALL BE RIGID, NONMETALLIC CONDUITS NEMA TC 2, SCHEDULE 40 PVC, AND/OR IN ACCORDANCE WITH THE REQUIREMENTS OF THE UTILITY COMPANY. INSTALL INSULATED WIRE WITH CONDUITS TO FACILITATE LOCATION AFTER CONSTRUCTION.
24. GAS UTILITY COMPANY WILL INSTALL GAS SERVICE PIPING TO BUILDING AND METER SETTING. IF TIMING DICTATES, CONTRACTOR TO PROVIDE TRENCH AND A 4" DIAMETER SCHEDULE 40 PVC CONDUIT AS NECESSARY FOR INSTALLATION OF SERVICE PIPING. CONTRACTOR TO COORDINATE INSTALLATION SCHEDULE WITH UTILITY COMPANY.

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SCALE IN FEET
0 50 100

KARL A. SCHOENIKE, PE
(MO PE# 2003015039)

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3. SITE DEVELOPMENT PLANS DATED XXXX BY CIVIL & ENVIRONMENTAL CONSULTANTS, INC.

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COSTCO WHOLESALE
LEE'S SUMMIT, MISSOURI

COSTCO LEES SUMMIT
CONSTRUCTION DOCUMENTS
UTILITY PLAN
MUNICIPAL REVIEW SET

DATE:	DECEMBER 22, 2025
DRAWN BY:	MK
DWG SCALE:	1" = 50'
CHECKED BY:	KAS
PROJECT NO:	353-308.0002
APPROVED BY:	*DRK

DRAWING NO.:
C500
SHEET 17 OF 31

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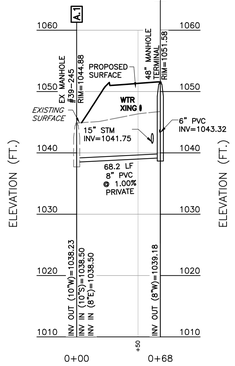

353308 - SANITARY A PROFILE

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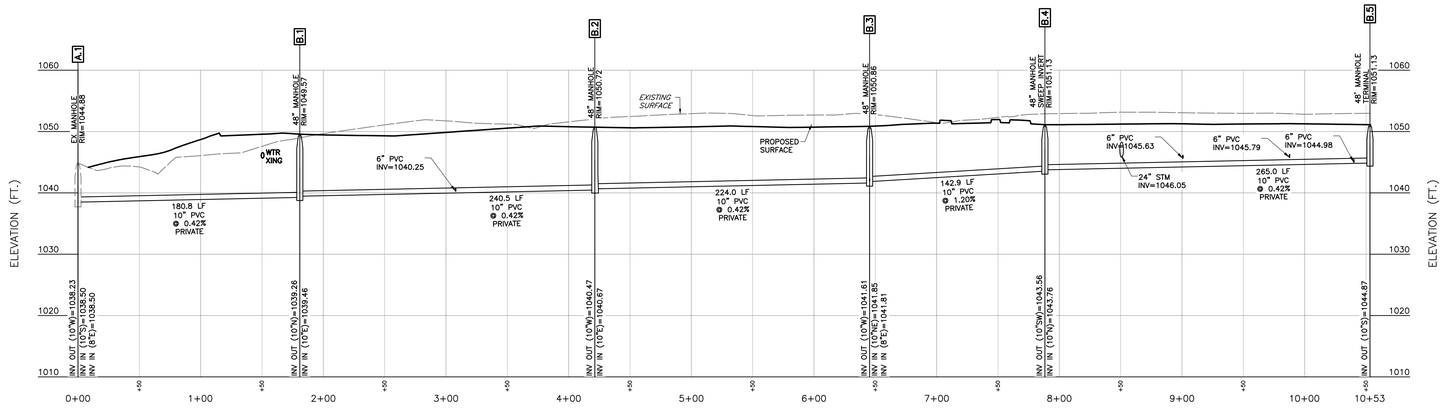

353308 - SANITARY B PROFILE

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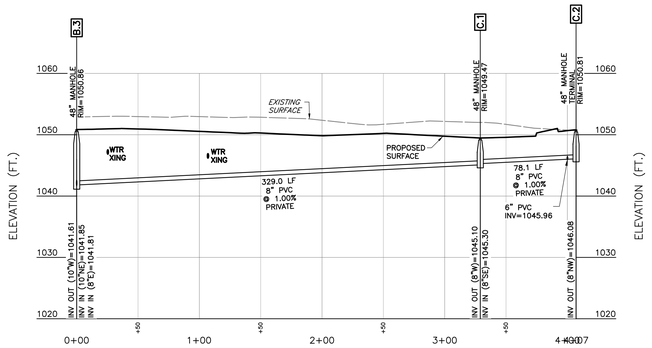

353308 - SANITARY D PROFILE

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SCALE IN FEET (HORIZONTAL)
0 50 100

SCALE IN FEET (VERTICAL)
0 10 20

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KARL A. SCHOENIKE, PE
(MO PE# 2003015039)

STATE OF MISSOURI
KARL A. SCHOENIKE
NUMBER PE-2003015039
12/22/2025
PROFESSIONAL ENGINEER

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PROJECT NO:	353-308.0002
APPROVED BY:	*DRK

DRAWING NO.:
C501
SHEET 18 OF 31

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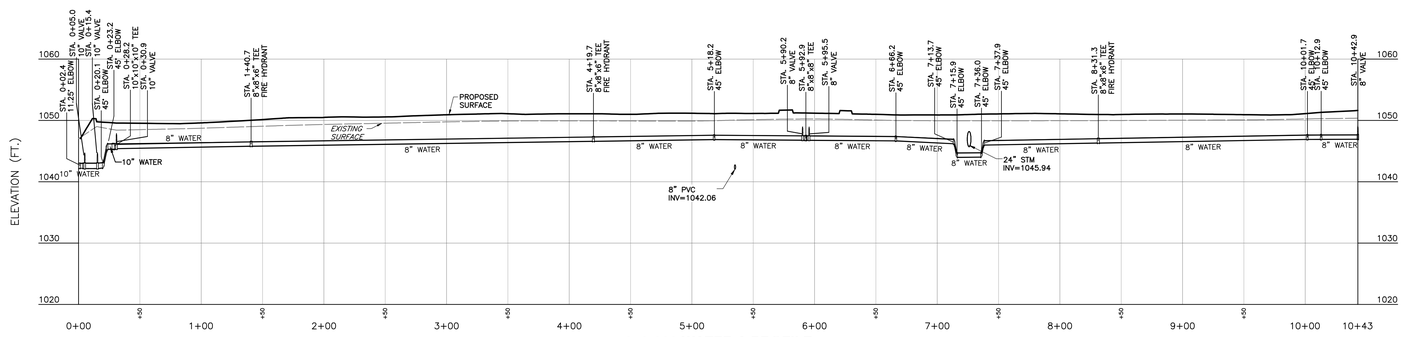

353-308 WATER A PROFILE

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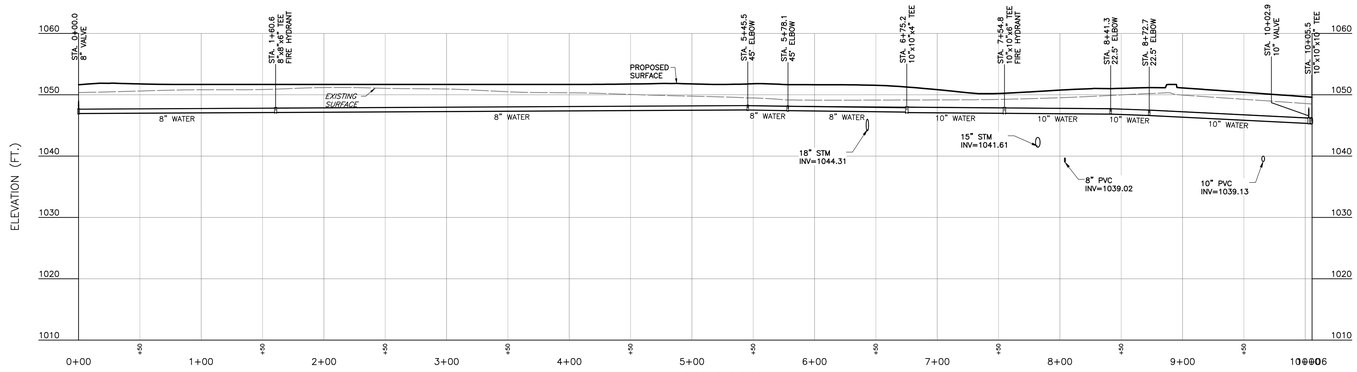

353-308 WATER B PROFILE

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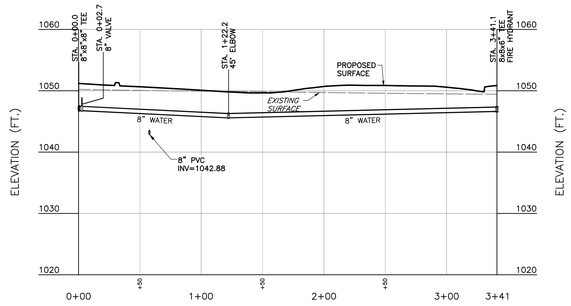

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LEE'S SUMMIT, MISSOURI

COSTCO LEES SUMMIT
CONSTRUCTION DOCUMENTS
WATER PROFILES
MUNICIPAL REVIEW SET

DATE: DECEMBER 22, 2025
DRAWN BY: MK
DWG SCALE: 1" = 50'
CHECKED BY: KAS
PROJECT NO: 353-308.0002
APPROVED BY: *DRK

DRAWING NO.: **C502**

SHEET 19 OF 31

p:\353-0001\353-3081-CAD\dwg\civil\sht\353308-CIVIL-C501.dwg[F19 C502] LS(12/22/2025 - jpompey) - LM 12/22/2025 4:17 PM

VICINITY MAP

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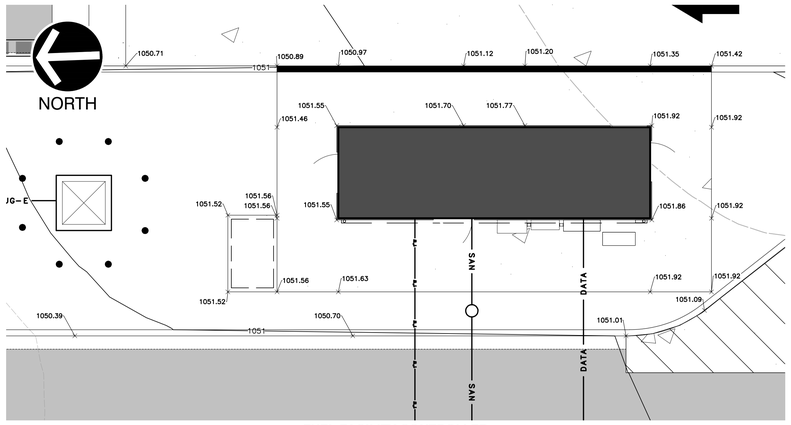
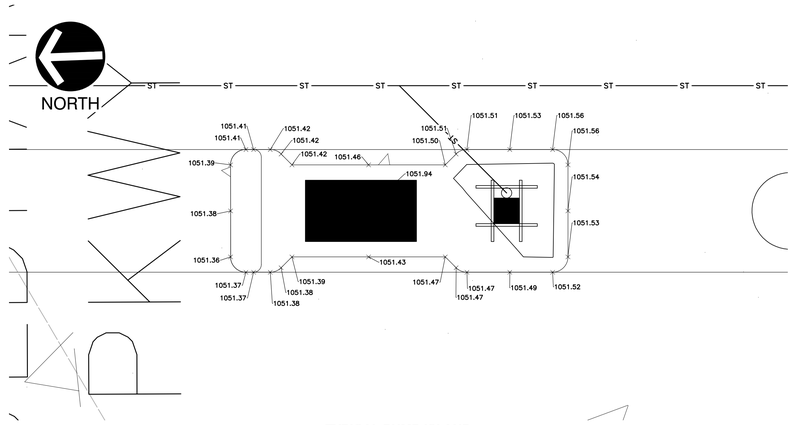
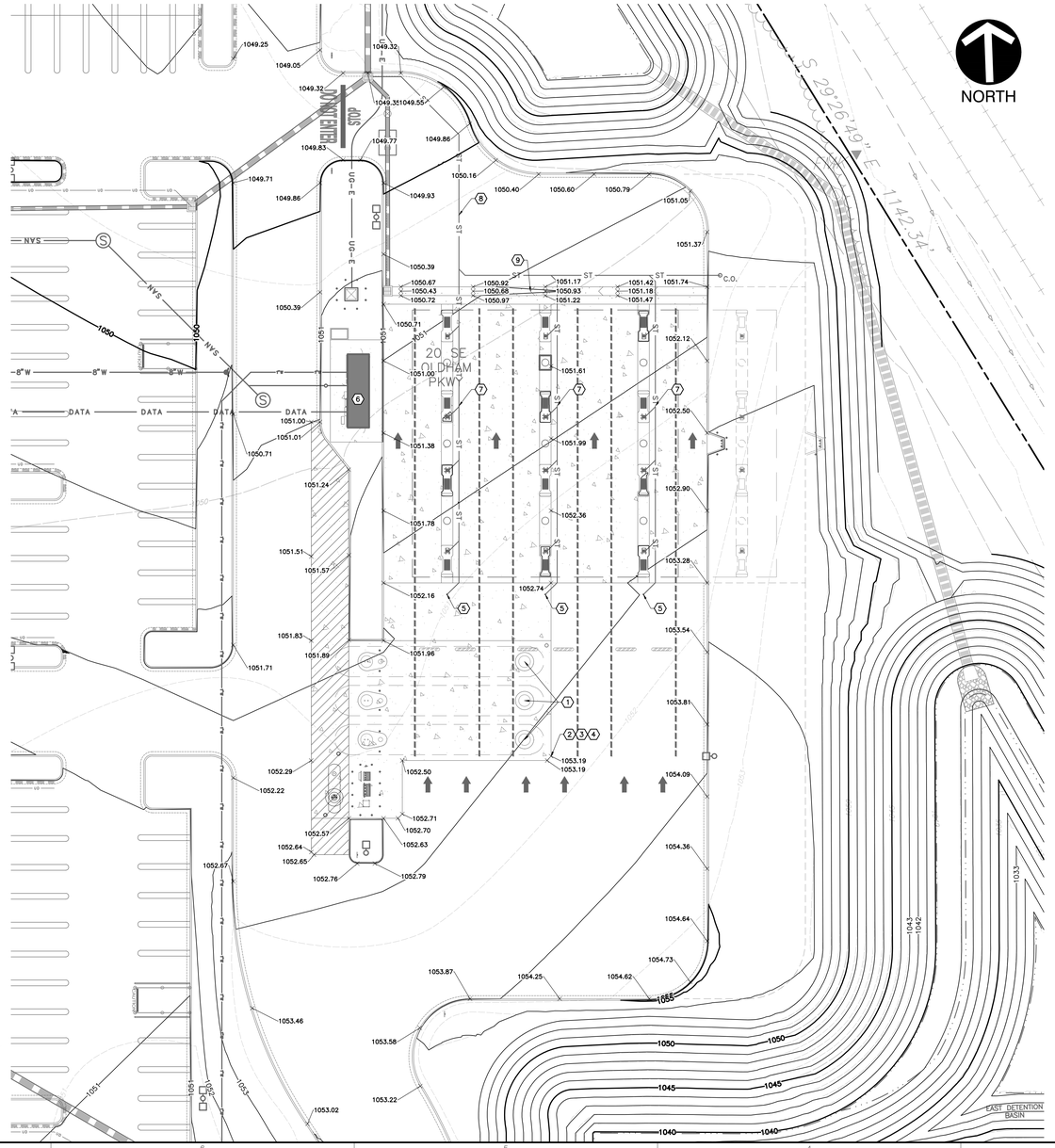


FUEL FACILITY CONTROLLER ENCLOSURE ENLARGEMENT
SCALE: 1"=5'



TYPICAL PUMP ISLAND GRADING ENLARGEMENT
SCALE: 1"=2'



KEY NOTES

1. ELEVATE CONCRETE SLAB AT MANWAY OPENINGS (SEE TANK PLANS FOR DETAIL)
2. COMPACT BOTTOM SURFACE OF TANK HOLE TO 90% MAX. DENSITY. SEE SOILS REPORT FOR ALL REQUIREMENTS/RECOMMENDATIONS ON TANK HOLE EXCAVATION, SLOPING, DEWATERING, ETC.
3. TANK EXCAVATION AND MFRS INSTALLATION WITH SIDE SLOPES PER SOILS ENGINEER RECOMMENDATIONS.
4. CONTRACTOR TO INSTALL SHORING OF TANK HOLE EXCAVATION PER SOILS REPORT. EXACT LIMITS/EXTENT OF SHORING TO BE DETERMINED BY SOILS ENGINEER GUIDELINES.
5. CLEAN OUT. SEE DETAIL 3/C702.
6. 7'-4"x25'-5" CONTROLLER ENCLOSURE AND CONCRETE PAD PER ARCHITECTURAL PLANS. SEE LANDSCAPE PLAN/DETAILS FOR PLANTING AT ENCLOSURE. FFE=663.38.
7. 6" PVC @ 1.00% MIN. FOR ROOF DRAIN CONNECTION. CONNECT TO NEW 8" STORM LINE.
8. 8" PVC @ 1.00% CONNECT TO NEW STORM CURB INLET NO. 108.
9. CONCRETE GUTTER SWALE (SEE ARCHITECTURAL PLANS FOR DETAIL).
10. 4" PERFORATED UNDERDRAIN PER DETAIL 8/C702.
11. 4" PAVEMENT UNDERDRAIN PER DETAIL 9/C702.

LEGEND

- EXISTING PROPERTY LINE
- EXISTING SETBACK
- EXISTING EASEMENT
- 385 EXISTING INDEX (MAJOR) CONTOUR
- 384 EXISTING INTERMEDIATE (MINOR) CONTOUR
- EXISTING GUARD RAIL
- EXISTING FENCE
- EXISTING VERTICAL CONCRETE CURB
- EXISTING EDGE OF PAVEMENT
- EXISTING DITCH FLOW LINE
- EXISTING TREE LINE
- DIA. EXISTING TREE WITH TRUNK SIZE
- OH-E EXISTING OVERHEAD ELECTRIC
- UG-E EXISTING UNDERGROUND ELECTRIC
- FO EXISTING FIBER OPTIC LINE
- W EXISTING WATER LINE
- SAN EXISTING SANITARY SEWER LINE
- EXISTING STORM DRAIN
- EXISTING TRAFFIC POLE WITH ARM
- EXISTING LIGHT POLE WITH ARM
- EXISTING UTILITY POLE AND GUY WIRE
- EXISTING ELECTRIC PULL BOX
- EXISTING FIBER OPTIC PULL BOX
- FMK EXISTING FIBER MARKER
- EXISTING WATER MANHOLE
- HYD EXISTING FIRE HYDRANT
- WV EXISTING WATER VALVE
- EXISTING WATER METER
- EXISTING SANITARY MANHOLE
- EXISTING CURB INLET
- EXISTING FLARED END SECTION (F.E.S.)
- EXISTING GRATED CATCH BASIN
- EXISTING STORMWATER MANHOLE
- PROPOSED CONCRETE CURB AND GUTTER
- PROPOSED CONCRETE PAVEMENT
- PROPOSED HEAVY DUTY PAVEMENT
- PROPOSED LIGHT DUTY PAVEMENT
- PROPOSED CONCRETE SIDEWALK
- PROPOSED PAINTED 2' O.C. DIAGONAL STRIPING
- PROPOSED PAINTED PARKING DIVIDER
- PROPOSED CART CORRAL
- PROPOSED STORM PIPE
- UD PROPOSED UNDERDRAIN
- SAN PROPOSED PRIVATE SANITARY SEWER
- W PROPOSED PRIVATE WATER LINE (SIZE DENOTED)
- UG-E PROPOSED UNDERGROUND ELECTRIC
- DATA PROPOSED DATA LINE
- PROPOSED 2 GRATE INLET W/ SIDE INTAKE
- CO PROPOSED CLEAN OUT
- PROPOSED PRIVATE SANITARY MANHOLE
- CO PROPOSED PRIVATE SANITARY CLEANOUT
- PROPOSED WATER VALVE
- PROPOSED FIRE HYDRANT
- PROPOSED BUILDING MOUNTED LIGHT AND LIGHT POLE [REFER TO LIGHTING PLAN BY OTHERS]
- PROPOSED BOLLARD

GRADING NOTES

1. ALL PROPOSED GRADES SHOWN ARE FINAL GRADES, TOP OF GROUND LEVEL, OR TOP OF PAVEMENT, OR GRATE ELEVATION AT THE DRAWDOWN POINT, UNLESS INDICATED OTHERWISE. FOR PROPOSED TOP OF CURB ELEVATION, SEE SITE PLAN FOR CURB TYPE AND DETAIL FOR DIMENSIONS.
2. WHERE NOT EXPLICITLY DEFINED BY A SPOT ELEVATION, PAVEMENT AND CURB ELEVATIONS SHALL PRODUCE THE PROPOSED SLOPES AS SHOWN AND PROVIDE POSITIVE DRAINAGE TO INLETS.
3. REFER TO AND FOLLOW THE RECOMMENDATIONS OF THE GEOTECHNICAL REPORT PREPARED FOR THIS PROJECT BY GEOTECHNOLOGY INC.
4. ALL SITE WORK SHOWN HEREON SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT'S SPECIFICATIONS AND ALL APPLICABLE FEDERAL, STATE AND LOCAL BUILDING CODES AND ORDINANCES.
5. CONTRACTOR SHALL STRICTLY ADHERE TO THE EROSION CONTROL PLAN PREPARED FOR THIS PROJECT. ALL AREAS NOT PAVED SHALL BE STABILIZED IN ACCORDANCE WITH THE EROSION CONTROL PLAN, AND THE LANDSCAPE PLAN, UNLESS NOTED OTHERWISE.
6. EARTHWORK SHALL INCLUDE, STRIPPING AND STOCKPILING AND/OR DISPOSING OF TOPSOIL AND/OR VEGETATED SURFACE SOILS, GRADING, EXCAVATION, FILLING, UNDERCUT AND REPLACEMENT, IF REQUIRED, AND COMPACTION.
7. CONTRACTOR TO REFILL UNDERCUT AREAS WITH SUITABLE MATERIAL AND COMPACTION AS RECOMMENDED BY THE GEOTECHNICAL ENGINEER.
8. PLACE TOPSOIL OVER THE SUBGRADE OF UNPAVED, DISTURBED AREAS TO DEPTH(S) INDICATED ON THE LANDSCAPE DRAWINGS.
9. FINAL PAVEMENT SLOPES SHALL BE MINIMUM 1% AND MAXIMUM 2% UNLESS INDICATED OTHERWISE. FINAL PAVEMENT SLOPES ACROSS HANDICAP PARKING STALLS AND ADJOINING ACCESS AISLES SHALL BE MAXIMUM 2%.
10. ALL UNPAVED SURFACE SLOPES SHALL BE 3:1 (HORIZONTAL:VERTICAL) MAXIMUM UNLESS INDICATED OTHERWISE.
11. ALL EXCESS SOIL MATERIALS SHALL BECOME THE PROPERTY OF THE CONTRACTOR UNLESS OTHERWISE INDICATED AND SHALL BE REMOVED BY THE CONTRACTOR AND DISPOSED OF OFFSITE AT NO ADDITIONAL COST TO THE OWNER IN ACCORDANCE WITH ALL LOCAL AND STATE CODES AND PERMIT REQUIREMENTS.
12. SOFT OR OTHERWISE UNSUITABLE SOILS IN THE BOTTOMS AND BANKS OF ANY SEDIMENT BASINS OR TRAPS SHALL BE REMOVED, SPREAD OUT AND DRIED SUFFICIENTLY TO BE USED AS FILL, SUBJECT TO THE GEOTECHNICAL ENGINEER'S APPROVAL.
13. ALL SIDEWALKS SHALL BE CONSTRUCTED TO MEET ADA STANDARDS.

NOTES:

1. CONTRACTOR SHALL REFER TO OTHER PLANS WITHIN THIS CONSTRUCTION SET FOR OTHER PERTINENT INFORMATION. IT IS NOT THE ENGINEER'S INTENT THAT ANY SINGLE PLAN SHEET IN THIS SET OF DOCUMENTS FULLY DEPICT ALL WORK ASSOCIATED WITH THIS PROJECT.

SCALE IN FEET
0 20 40

KARL A. SCHOENIKE, PE
(MO PE# 2003015039)

STATE OF MISSOURI
KARL A. SCHOENIKE
NUMBER PE-2003015039
12/22/2025
PROFESSIONAL ENGINEER

REFERENCE

EXISTING TOPOGRAPHIC DATA AND FEATURES ARE A COMBINATION OF THE FOLLOWING:
1. ALTA SURVEY DATED 08-20-2025 BY CIVIL & ENVIRONMENTAL CONSULTANTS, INC.
2. DEVELOPMENT PLANS FOR OLDHAM VILLAGE (BY OTHER)
3. SITE DEVELOPMENT PLANS DATED XXXX BY CIVIL & ENVIRONMENTAL CONSULTANTS, INC.

NOTE TO CONTRACTOR: PRIOR TO ANY EXCAVATION FOR UNDERGROUND UTILITIES, CONTRACTOR SHALL EXPOSE AND VERIFY LOCATIONS (HORIZONTAL AND VERTICAL) OF ALL EXISTING UTILITIES INCLUDING BUT NOT LIMITED TO GAS, WATER, BROADBAND, PHONE, SANITARY AND STORM SEWERS. ANY CONFLICT SHALL BE REPORTED IMMEDIATELY TO THE ENGINEER AND APPROPRIATE AUTHORITIES

MISSOURI 811
811 or 1-800-344-7483
https://missouri-811.org

REVISION RECORD

NO.	DATE	DESCRIPTION

ENGINEERING, SURVEYING AND LANDSCAPE ARCHITECTURE IN THE STATE OF NORTH CAROLINA WILL BE PROVIDED BY CEC SURVEYING AND LANDSCAPE ARCHITECTS OF NC, PLLC. ENGINEERING, SURVEYING AND LANDSCAPE ARCHITECTURE SERVICES IN THE STATE OF MISSOURI WILL BE PROVIDED BY CEC ENGINEERS & CONSULTANTS, LLC. LANDSCAPE ARCHITECTURE SERVICES IN THE STATE OF MISSOURI WILL BE PROVIDED BY CEC ENGINEERS & CONSULTANTS, LLC. LANDSCAPE ARCHITECTURE SERVICES IN THE STATE OF KANSAS ARE PROVIDED BY CEC ARCHITECTS, LLC.

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Civil & Environmental Consultants, Inc.

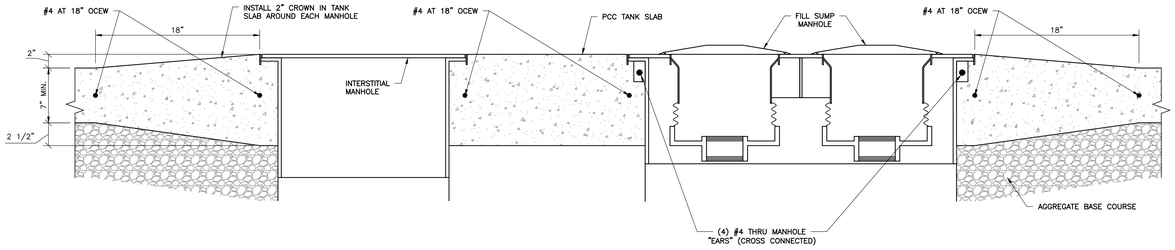
COSTCO WHOLESALE
LEE'S SUMMIT, MISSOURI

COSTCO LEES SUMMIT
CONSTRUCTION DOCUMENTS
FUEL FACILITY GRADING PLAN
MUNICIPAL REVIEW SET

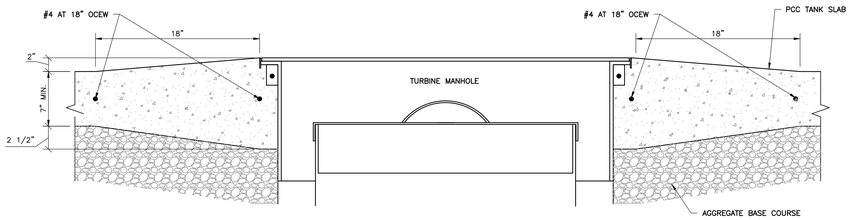
DATE: DECEMBER 22, 2025
DWG SCALE: AS NOTED
PROJECT NO: 353-308.0002
DRAWN BY: MK
CHECKED BY: KAS
APPROVED BY: *DRK

DRAWING NO.: **C701**
SHEET 21 OF 31

A:\353-308\353-308_CADD\Dwg\civil-set\353308-CVSD-C700.dwg[21 C701] LS(12/22/2025 - mattknuth) - LO: 12/22/2025 4:20 PM



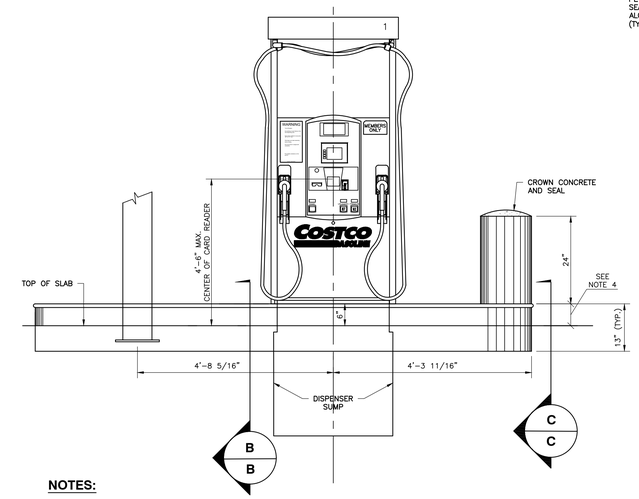
DETAIL #01
SECTION OF FILL COLLAR DETAIL
N.T.S.



DETAIL #02
SECTION OF TURBINE COLLAR DETAIL
N.T.S.

SLAB CONCRETE SPECIFICATIONS:

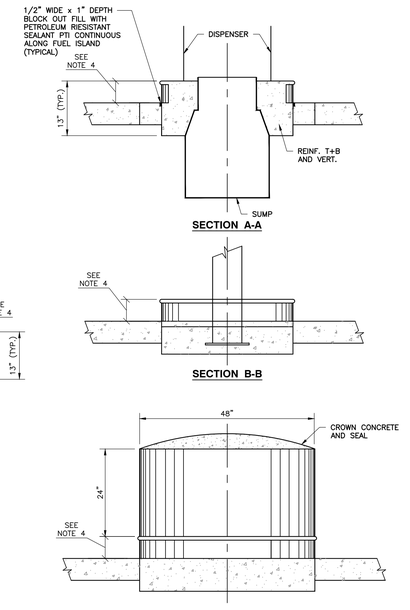
1. UNLESS OTHERWISE NOTED ON THESE DRAWINGS:
   a. CONCRETE – REGULAR WEIGHT HARD ROCK CONCRETE (150 LBS/CU FT)
   b. CEMENT – TYPE II, SULFATE RESISTANT
   c. AGGREGATES – ASTM C33, (MAXIMUM SIZE ¾ INCHES)
   d. 28 DAY CONCRETE STRENGTH (fc): 4,000 PSI – SLAB (DESIGN BASED ON 2,000 PSI NO SPECIAL INSPECTION REQUIRED)
   e. SLUMP – 3"+1" = 4" MAXIMUM AT POINT OF PLACEMENT
   f. SHRINKAGE – 0.05% MAXIMUM
   g. ENTRAINED AIR RANGE 4%–6%.
2. CONCRETE SHALL BE NORMAL WEIGHT WITH A MIX OF 1: 2 ½ : 3 ½, WITH A MAXIMUM 7 ¼ GALLONS OF WATER PER SACK.
3. REINFORCING STEEL FOR TANK SLABS BE #4 BARS @ 18" O.C. EACH WAY. SUMP CAGES SHALL BE #3 REBAR TOP AND BOTTOM.
4. MAINTAIN CONCRETE IN A MOIST CONDITION FOR AT LEAST 7 DAYS AFTER PLACEMENT.
5. PLACE CONCRETE DIRECTLY FROM TRUCK INTO FORMS. DO NOT PUMP CONCRETE UNLESS SPECIAL INSPECTION, BY CONCRETE TESTING SERVICE, IS PROVIDED.
6. SUBMIT MIX DESIGNS, WITH STRENGTH AND SHRINKAGE TEST RESULTS, TO OWNER'S ENGINEER AT LEAST 7 DAYS BEFORE PLACING CONCRETE.
7. CONSOLIDATE CONCRETE IN PLACE USING A MECHANICAL VIBRATOR.
8. BEFORE PLACING CONCRETE, SECURE REINFORCING STEEL, ANCHOR BOLTS, DOWELS, AND OTHER INSERTS IN POSITION TO PREVENT MOVEMENT.
9. MATERIALS AND WORKMANSHIP SHALL CONFORM TO A.C.I. – 318 (SPECIFICATIONS OF THE DESIGN AND PLACEMENT OF CONCRETE)



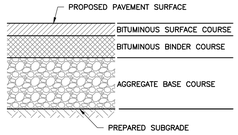
NOTES:

1. THE HIGHEST OPERABLE PART OF EACH PRIMARY OR ALTERNATE CARD READER SHALL BE NO MORE THAN 54" (1372mm) MEASURED FROM THE BASE OF THE FUEL DISPENSER. WHERE CARD READERS ARE LOCATED ON FREE STANDING PEDESTALS, THE CARD READING CONTROL FUNCTION SHALL BE NO MORE THAN 54" (1372mm) ABOVE AN ACCESSIBLE LEVEL AREA WHICH IS SERVED BY AN ACCESSIBLE PATH OF TRAVEL.
2. AN ACCESSIBLE PATH OF TRAVEL SHALL BE PROVIDED TO THE BASE OF ALL FUEL DISPENSERS REQUIRED TO MEET THE PROVISIONS OF THIS SECTION. SUCH FUEL DISPENSERS SHALL BE MOUNTED ON THE ACCESSIBLE LEVEL AREA.
3. AN ACCESSIBLE LEVEL AREA SHALL BE PROVIDED WHICH IS MINIMALLY 30" BY 48" (762mm BY 1219mm) LEVEL AND CLEAR. THIS AREA SHALL BE PROVIDED WITHIN 10"(254mm) IN PLAN VIEW OF THE FACE OF THE CONTROLS AND SHALL BE UNOBSTRUCTED BY ANY FEATURES, EXCEPT PUMP NOZZLES AND HOSES, WITH THE LONG SIDE OF THIS SPACE PARALLEL TO AND CENTERED [PLUS OR MINUS 9"(229mm)] WITH THE FACE OF THE CARD–READER CONTROLS.
4. 6" FROM TOP OF ISLAND TO TOP OF DRIVE SLAB AT CENTERLINE OF DISPENSER WIDTH. TOP OF ISLANDS TO BE LEVEL.

DETAIL #03
TYPICAL ISLAND ELEVATION
N.T.S.



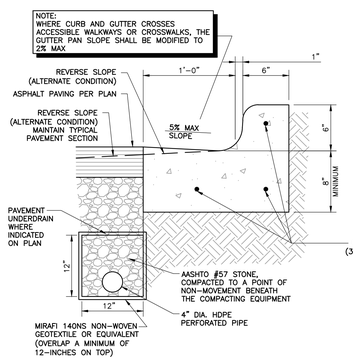
ITEM	MATERIAL REFERENCE	HEAVY DUTY PAVEMENT SECTION DEPTH	LIGHT DUTY PAVEMENT SECTION DEPTH
BITUMINOUS SURFACE COURSE	SUPERPAVE SURFACE – PG64–22	2"	2"
BITUMINOUS BINDER COURSE	SUPERPAVE SURFACE – PG64–22	4"	2"
AGGREGATE BASE COURSE	MODOT TYPE 5	8"	8"



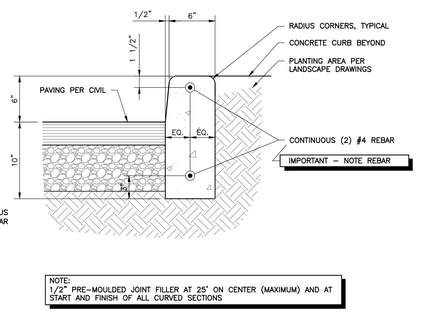
NOTES:

1. THE PAVEMENT SUBGRADE SHALL BE PREPARED AS FOLLOWS:
   A. APPROVED FILL FOR THE SUBGRADE SHALL BE PLACED WHERE REQUIRED IN MAXIMUM 10" THICK, LOOSE LIFTS AND COMPACTED TO AT LEAST 95% OF ITS MODIFIED PROCTOR MAXIMUM DRY DENSITY PER ASTM D–1557.
   B. THE SUBGRADE SHALL BE PROOFROLLED WITH A MINIMUM 10 TON ROLLER. ANY SOFT AND YIELDING AREAS SHALL BE OVEREXCAVATED TO A FIRM AND COMPETENT MATERIAL AND BACKFILLED AS DESCRIBED ABOVE.
   C. AFTER PROOFROLLING, THE SUBGRADE SHALL BE GRADED AND SHAPED AS REQUIRED TO CONSTRUCT THE PAVEMENT AREAS IN CONFORMANCE WITH THE GRADES, LINES AND THICKNESSES SHOWN ON THE DRAWINGS. THE SUBGRADE SHALL PROVIDE A FIRM AND UNYIELDING FOUNDATION WITH NO SUDDEN, SHARP OR ABRUPT CHANGES OR BREAKS IN GRADES. NO STANDING WATER OR EXCESS MOISTURE SHALL BE PRESENT. ALL SOFT AND YIELDING AREAS SHALL BE OVEREXCAVATED TO A FIRM AND COMPETENT MATERIAL, AND BACKFILLED AS DESCRIBED IN SPECIFICATIONS.
2. PLACE & COMPACT AGGREGATE BASE COURSE IN ACCORDANCE WITH TECHNICAL SPECIFICATIONS.
3. THE BITUMINOUS COURSES SHALL BE COMPACTED TO MINIMUM DENSITY ACCORDING TO ASTM D 2041, AS INDICATED IN TECHNICAL SPECIFICATIONS. STATE DEPARTMENT OF TRANSPORTATION PAVEMENT DESIGN MIXES ARE TO BE MODIFIED TO PROVIDE THE BITUMINOUS COURSE CHARACTERISTICS INDICATED IN THE TECHNICAL SPECIFICATIONS.
4. THE FINAL ASPHALT PAVEMENT SECTION DESIGN IS CONTINGENT UPON THE RECOMMENDATION OF THE FINAL GEOTECHNICAL REPORT PREPARED BY KLEINFELDER.
5. STABILIZE GROUND WHEREVER THE EXPOSED SUBGRADE SHOWS SIGNS OF MINOR RUTTING OR DEFLECTION IN ACCORDANCE WITH RECOMMENDATION OF THE GEOTECHNICAL ENGINEER.
6. TYPICAL BUTT JOINT AT PAVEMENT RESTORATION LOCATIONS, WHERE APPLICABLE: APPLY BITUMINOUS TACK COAT TO EX. VERTICAL PAVEMENT SAWCUT FACES PRIOR TO ASPHALT RESTORATION PAVING. APPLY 4" W. BITUMINOUS SEALANT AT SURFACE JOINT.
7. BITUMINOUS BINDER COURSE SHALL MEET THE SAME TECHNICAL SPECIFICATION AS THE BITUMINOUS SURFACE COURSE.

DETAIL #04
ASPHALT PAVEMENT SECTION
N.T.S.

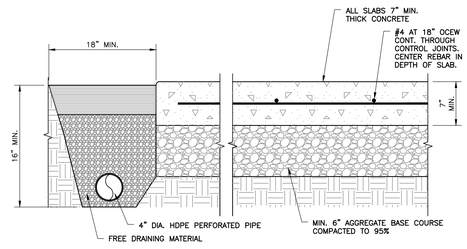


DETAIL #05
CONCRETE CURB AND GUTTER
N.T.S.

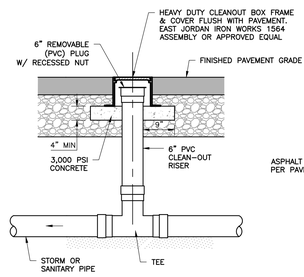


DETAIL #06
CAST-IN-PLACE CONCRETE CURB
N.T.S.

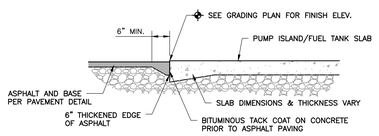
DETAIL #10
OIL & WATER SEPARATOR
N.T.S.



DETAIL #07
CONCRETE SLAB SECTION AT FUEL FACILITY
N.T.S.



DETAIL #08
TYPICAL CLEANOUT DETAIL
N.T.S.



DETAIL #09
TYPICAL JOINT SECTION AT CONCRETE AND ASPHALT PAVEMENT
N.T.S.

NOTES:

1. CONTRACTOR SHALL REFER TO OTHER PLANS WITHIN THIS CONSTRUCTION SET FOR OTHER PERTINENT INFORMATION. IT IS NOT THE ENGINEER'S INTENT THAT ANY SINGLE PLAN SHEET IN THIS SET OF DOCUMENTS FULLY DEPICT ALL WORK ASSOCIATED WITH THIS PROJECT.

GENERAL NOTES:

1. ALL WORK AND MATERIALS SHALL BE IN ACCORDANCE WITH THE STANDARDS AND SPECIFICATIONS OF JACKSON COUNTY.
2. CONTRACTOR SHALL SCHEDULE A PRE–CONSTRUCTION CONFERENCE WITH THE CITY'S ENGINEERING REPRESENTATIVE A MINIMUM OF 3 WORKING DAYS PRIOR TO BEGINNING CONSTRUCTION.
3. CONTRACTOR SHALL CONTACT UTILITY LOCATION SERVICE 3 DAYS PRIOR TO STARTING CONSTRUCTION.
4. ALL WORK MUST BE INSPECTED BY A REPRESENTATIVE OF THE MUNICIPALITY. CONTRACTOR SHALL CALL AT LEAST 24 HOURS IN ADVANCE FOR MUNICIPAL INSPECTION AS FOLLOWS:
   A. PLACEMENT OF TEMPORARY EROSION AND SEDIMENTATION CONTROL MEASURES.
   B. PLACEMENT AND BACKFILLING OF UNDERGROUND UTILITIES, STORM SEWER AND SANITARY SEWER.
   C. ROADWAY GRADING AT:
      1. COMPLETION OF SUBGRADE.
      2. COMPLETION OF CRUSHED SURFACE.
   D. POURING OF CURB/GUTTER AND SIDEWALK.
   E. ASPHALT PAVING IN PROGRESS.
   F. OVERALL INSPECTION FOR FINISHED WORK
5. ALL TESTING REQUIRED FOR THE IMPROVEMENTS SHALL BE THE RESPONSIBILITY OF THE OWNER AND SHALL BE IN CONFORMANCE WITH THE MUNICIPAL DEVELOPMENT STANDARDS.
6. CONTRACTOR SHALL RESTORE ALL PRIVATE AND PUBLIC PROPERTY DISRUPTED BY THE PROJECT IMMEDIATELY AFTER CONSTRUCTION.
7. THE CONTRACTOR SHALL INFORM THE ENGINEER AND OBTAIN APPROVAL FROM AUTHORITIES HAVING JURISDICTION OF ANY PROPOSED CHANGES IN PLAN PRIOR TO CONSTRUCTION OF THAT CHANGE. THE CONTRACTOR SHALL KEEP RECORD OF DEVIATIONS AND FORWARD TO THE ENGINEER.
8. TRAFFIC CONTROL TO BE MAINTAINED IN ACCORDANCE WITH ST. LOUIS COUNTY AND LOCAL JURISDICTION REQUIREMENTS.
9. A COPY OF THESE APPROVED PLANS MUST BE ON THE JOB SITE WHENEVER CONSTRUCTION IS IN PROGRESS.

MISSOURI 811

811 or 1-800-344-7483
https://missouri-811.org

REFERENCE

EXISTING TOPOGRAPHIC DATA AND FEATURES ARE A COMBINATION OF THE FOLLOWING:
1. ALTA SURVEY DATED 08–20–2025 BY CIVIL & ENVIRONMENTAL CONSULTANTS, INC.
2. DEVELOPMENT PLANS FOR OLDHAM VILLAGE (BY OTHER)
3. SITE DEVELOPMENT PLANS DATED XXXX BY CIVIL & ENVIRONMENTAL CONSULTANTS, INC.

NOTE TO CONTRACTOR: PRIOR TO ANY EXCAVATION FOR UNDERGROUND UTILITIES, CONTRACTOR SHALL EXPOSE AND VERIFY LOCATIONS (HORIZONTAL AND VERTICAL) OF ALL EXISTING UTILITIES INCLUDING BUT NOT LIMITED TO GAS, WATER, BROADBAND, PHONE, SANITARY AND STORM SEWERS. ANY CONFLICT SHALL BE REPORTED IMMEDIATELY TO THE ENGINEER AND APPROPRIATE AUTHORITIES

KARL A. SCHOENIKE, PE
(MO PE# 2003015039)

STATE OF MISSOURI
KARL A. SCHOENIKE
NUMBER PE-2003015039
12/22/2025
PROFESSIONAL ENGINEER

REVISION RECORD

NO.	DATE	DESCRIPTION

ENGINEERING, SURVEYING AND LANDSCAPE ARCHITECTURE IN THE STATE OF NORTH CAROLINA WILL BE PROVIDED BY CEC SURVEYING AND LANDSCAPE ARCHITECTS OF NC, PLLC. ENGINEERING, SURVEYING AND LANDSCAPE ARCHITECTURE IN THE STATE OF MISSOURI WILL BE PROVIDED BY CEC ENGINEERS & CONSULTANTS, LLC. LANDSCAPE ARCHITECTURE SERVICES IN THE STATE OF IOWA WILL BE PROVIDED BY CEC ENGINEERS & CONSULTANTS, LLC.

Civil & Environmental Consultants, Inc.
1450 Beale Street
Suite 305
St. Charles, MO 63303
Ph: 314.656.4566
www.cecinc.com

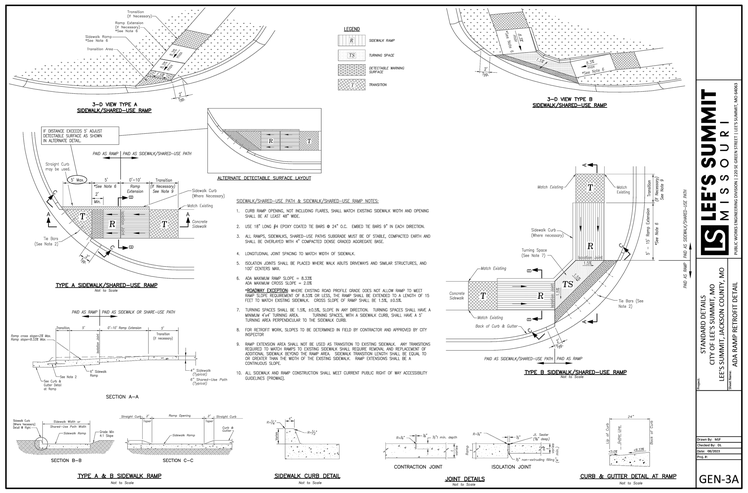
COSTCO WHOLESALE
LEE'S SUMMIT, MISSOURI

COSTCO LEES SUMMIT
CONSTRUCTION DOCUMENTS
FUEL FACILITY DETAILS
& SECTIONS

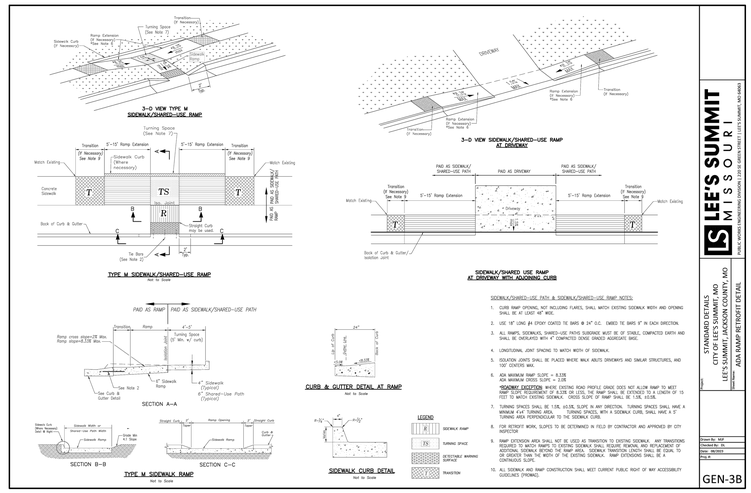
DATE:	DECEMBER 22, 2025
DWG SCALE:	N.T.S.
PROJECT NO:	353-308.0002
APPROVED BY:	*DRK
DRAWN BY:	KAS
CHECKED BY:	MK

DRAWING NO.:
C702
SHEET 22 OF 31

A:\353-0001\353-308\cadd\dwg\civil-cad\353308-0002-C702.dwg[22 C702 LS](12/22/2025 - mattward) - LO: 12/22/2025 4:05 PM



DETAIL #01
TYPE B CURB RAMP
N.T.S.



DETAIL #02
TYPE M CURB RAMP
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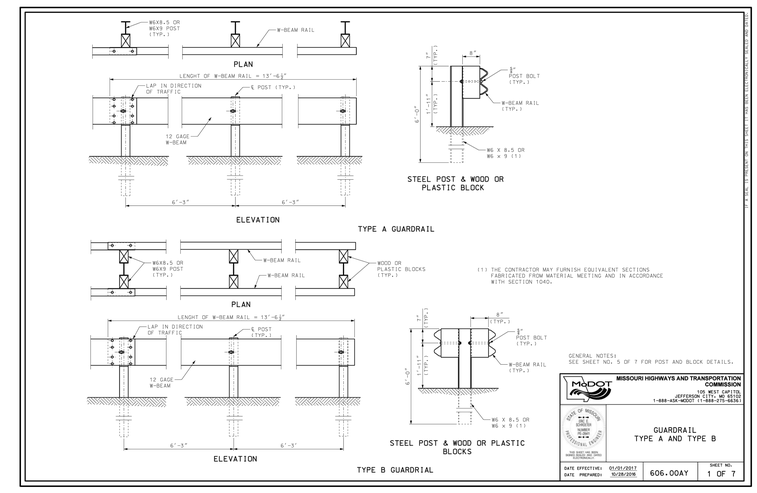
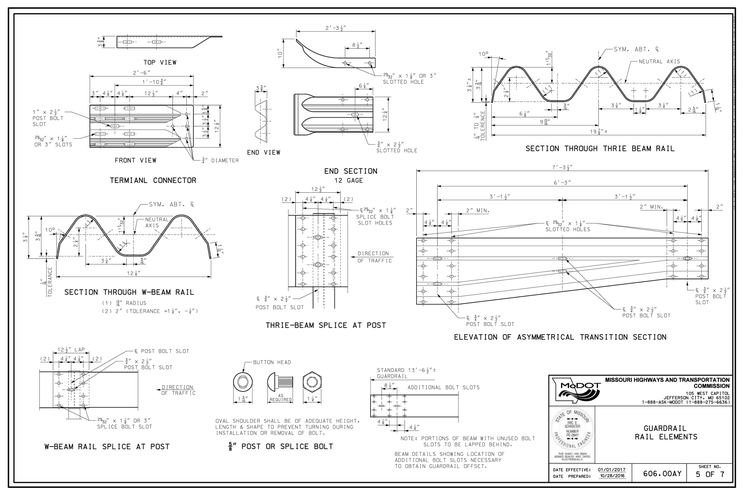
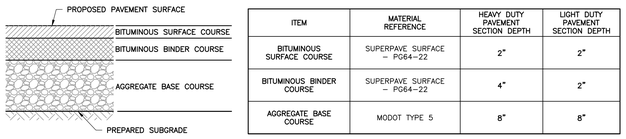


DETAIL #03
GUARDRAIL TYP. A & B
N.T.S.



DETAIL #04
GUARDRAIL ELEMENTS
N.T.S.



ITEM	MATERIAL REFERENCE	HEAVY DUTY PAVEMENT SECTION DEPTH	LIGHT DUTY PAVEMENT SECTION DEPTH
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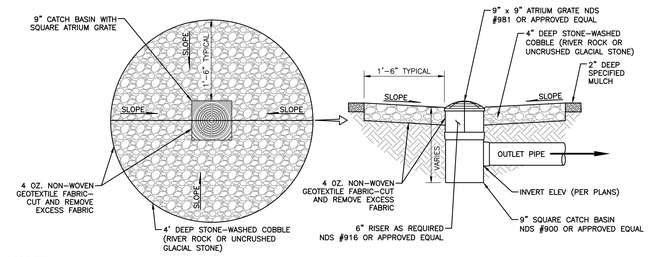
DETAIL #05
ASPHALT PAVEMENT SECTION
N.T.S.



NOTE:

1. SLOPE FINISHED GRADE TO DRAIN TOWARDS CATCH BASIN.

PLAN VIEW **SECTION VIEW**

DETAIL #06
LANDSCAPING STORM DRAIN
N.T.S.

811 or 1-800-344-7483
https://missouri-811.org

KARL A. SCHOENIKE, PE
(MO PE# 2003015039)

STATE OF MISSOURI
KARL A. SCHOENIKE
NUMBER PE-2003015039
12/22/2025
PROFESSIONAL ENGINEER

REVISION RECORD

NO.	DATE	DESCRIPTION

1450 Beale Street
Suite 305
St. Charles, MO 63303
Ph: 314.656.4566
www.cecinc.com
Civil & Environmental Consultants, Inc.

ENGINEERING, SURVEYING AND LANDSCAPE ARCHITECTURE IN THE STATE OF NORTH CAROLINA WILL BE PROVIDED BY CEC SURVEYING AND LANDSCAPE ARCHITECTS OF NC, PLLC. ENGINEERING, SURVEYING AND LANDSCAPE ARCHITECTURE SERVICES IN THE STATE OF OHIO WILL BE PROVIDED BY CEC ENGINEERS & CONSULTANTS, LLC. LANDSCAPE ARCHITECTURE SERVICES IN THE STATE OF OHIO WILL BE PROVIDED BY CEC LANDSCAPE ARCHITECTS, LLC.

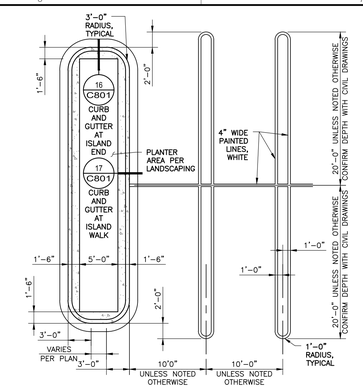
COSTCO WHOLESALE
LEE'S SUMMIT, MISSOURI

COSTCO LEES SUMMIT
CONSTRUCTION DOCUMENTS
SITE DETAILS
MUNICIPAL REVIEW SET

DATE:	DECEMBER 22, 2025
DRAWN BY:	MK
CHECKED BY:	KAS
DWG SCALE:	N.T.S.
PROJECT NO:	353-309.0002
APPROVED BY:	*DRK

DRAWING NO.:
C800
SHEET 23 OF 31

p:\353-0001\353-309\~CAD\[dwg\sd2~sd3\353309-civil~C800.dwg]23 C800 | LPI 12/22/2025 4:29 PM



DETAIL #07
END ISLAND CURBS
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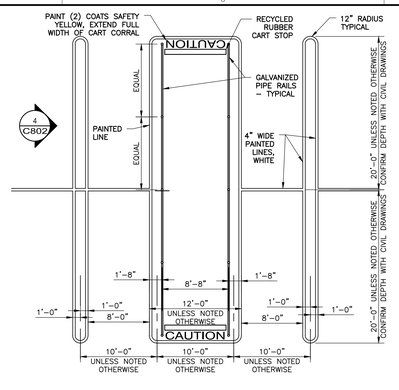
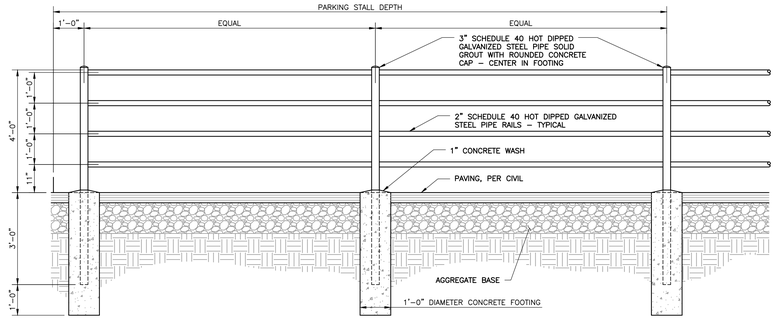
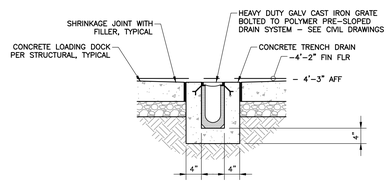


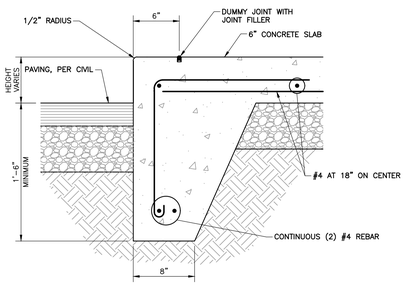
DETAIL #08
CART CORRAL AND TYPICAL PARKING STALL
N.T.S.



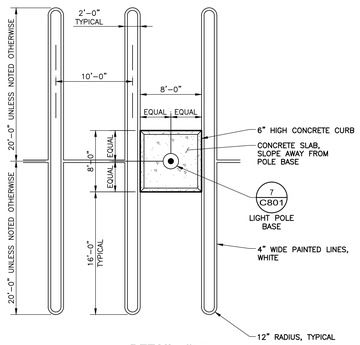
DETAIL #09
CART STORAGE
N.T.S.



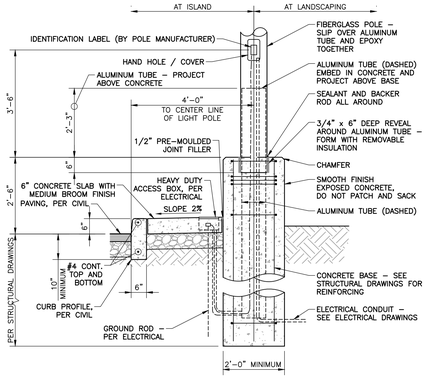
DETAIL #10
LOADING DOCK TRENCH DRAIN
N.T.S.



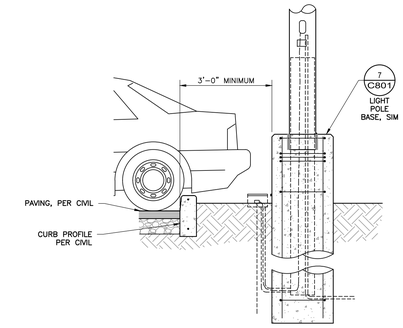
DETAIL #11
INTEGRATED CURB & SIDEWALK
N.T.S.



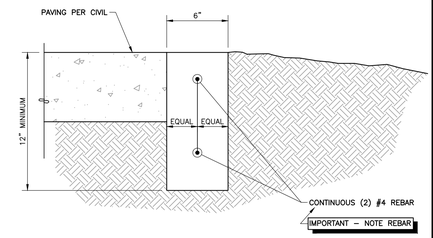
DETAIL #12
ISLAND AT LIGHT POLE BASE
N.T.S.



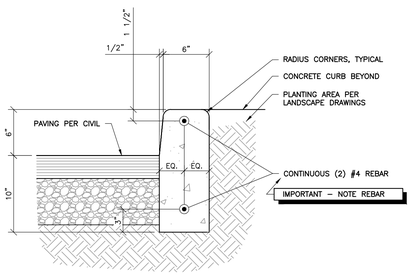
DETAIL #13
LIGHT POLE BASE AT CONCRETE ISLAND-LANDSCAPING
N.T.S.



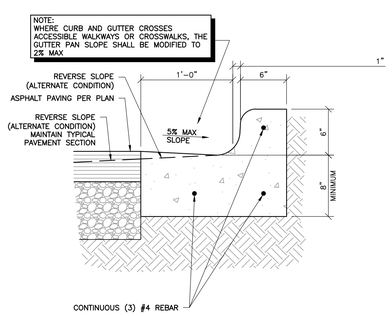
DETAIL #14
LIGHT POLE LOCATION WHERE PARKING OCCURS
N.T.S.



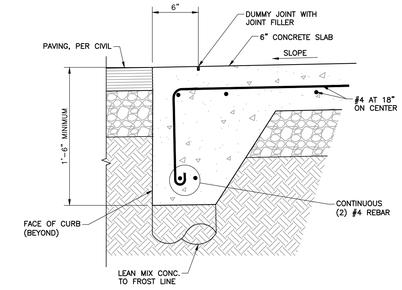
DETAIL #15
FLUSH TERMINATION CURB
N.T.S.



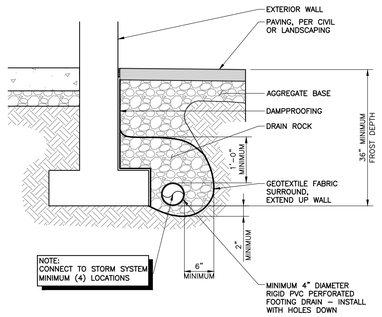
DETAIL #16
CAST-IN-PLACE CONCRETE CURB
N.T.S.



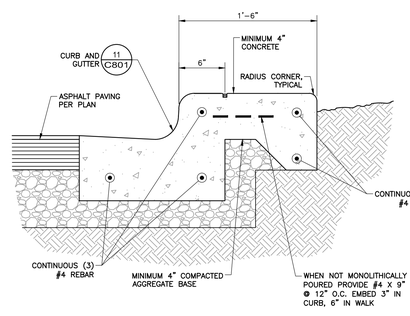
DETAIL #17
CONCRETE CURB AND GUTTER
N.T.S.



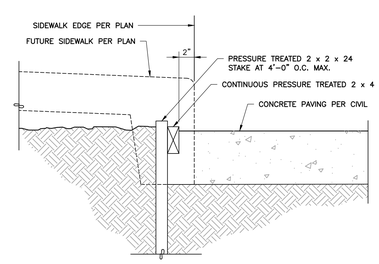
DETAIL #18
FLUSH CURB AT PAVEMENT
N.T.S.



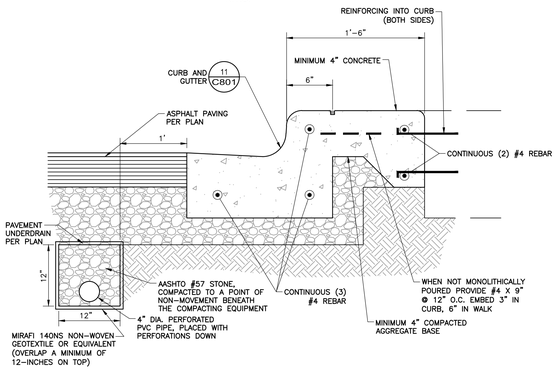
DETAIL #19
FOOTING DRAIN
N.T.S.



DETAIL #20
CURB AND GUTTER AT ISLAND WALK
N.T.S.



DETAIL #21
TEMPORARY EDGE OF PAVEMENT
N.T.S.



DETAIL #22
CURB AND GUTTER AT ISLAND END
N.T.S.

MISSOURI 811
811 or 1-800-344-7483
https://missouri-811.org

KARL A. SCHOENIKE, PE
(MO PE# 2003015039)

STATE OF MISSOURI
KARL A. SCHOENIKE
PE-NUMBER / PE-2003015039
12/22/2025
PROFESSIONAL ENGINEER

REVISION RECORD

NO.	DATE	DESCRIPTION

ENGINEERING, SURVEYING AND LANDSCAPE ARCHITECTURE IN THE STATE OF NORTH CAROLINA WILL BE PROVIDED BY CEC SURVEYING AND LANDSCAPE ARCHITECTS OF NC, PLLC. ENGINEERING, SURVEYING AND LANDSCAPE ARCHITECTURE IN THE STATE OF MISSOURI WILL BE PROVIDED BY CEC ENGINEERS & CONSULTANTS, LLC. LANDSCAPE ARCHITECTURE SERVICES IN THE STATE OF IOWA WILL BE PROVIDED BY CEC LANDSCAPE ARCHITECTS, LLC.

Civil & Environmental Consultants, Inc.
1450 Beale Street
Suite 305
St. Charles, MO 63303
Ph: 314.656.4566
www.cecinc.com

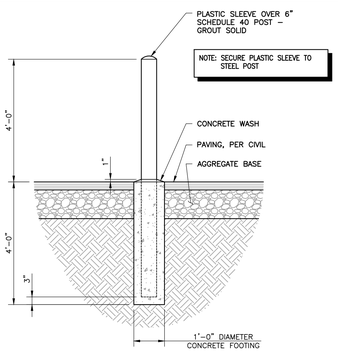
COSTCO WHOLESALE
LEE'S SUMMIT, MISSOURI

COSTCO LEES SUMMIT
CONSTRUCTION DOCUMENTS
SITE DETAILS
MUNICIPAL REVIEW SET

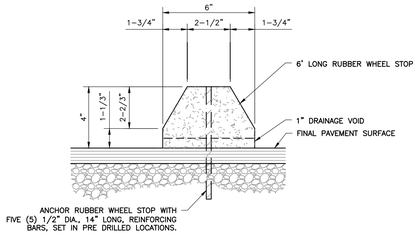
DATE:	DECEMBER 22, 2025
DRAWN BY:	MK
DWG SCALE:	N.T.S.
CHECKED BY:	KAS
PROJECT NO:	353-308.0002
APPROVED BY:	DRK

DRAWING NO.: **C801**
SHEET 24 OF 31

A:\353-0003\353-308\...\24001(dwg)\c401(sv5)\353308-CVSD-C800.dwg[A1 C801] 12/12/2025 4:29 PM - (gdmgp) - LD: 12/22/2025

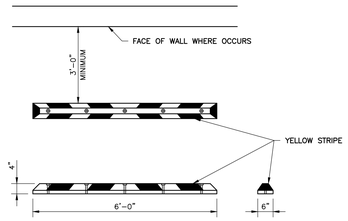


DETAIL #23
TYPICAL EXTERIOR BOLLARD
N.T.S.

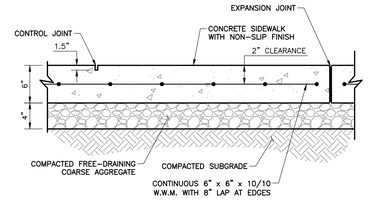


NOTES:
1. OTHER EQUIVALENT RUBBER WHEEL STOP DESIGNS MAY BE USED IF APPROVED BY THE OWNER.

DETAIL #24
RUBBER WHEEL STOP
N.T.S.

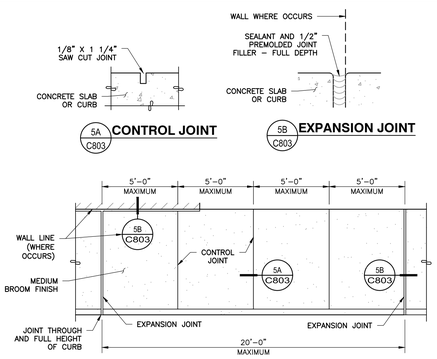


NOTE:
1. CENTER IN WIDTH OF PARK STALL
2. SEE SPECS FOR MATERIAL



NOTES:
1. PROVIDE 1/2" EXPANSION JOINT FILLER WITH SEALANT WHERE THE CONCRETE SIDEWALK ABUTS THE BUILDING.
2. REFER TO THE ARCHITECTURAL SPECIFICATIONS FOR SPECIAL FINISHES, AGGREGATE TREATMENT, COLORS, PATTERN FINISHES, ETC.

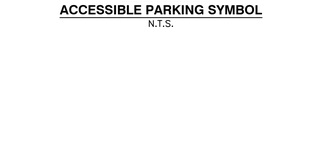
DETAIL #25
TYPICAL CONCRETE SIDEWALK
N.T.S.



PLAN

DETAIL #26
ON-SITE WALKS (EXCEPT AT CANOPY ENTRY)
N.T.S.

DETAIL #27
SIDEWALK JOINT
N.T.S.



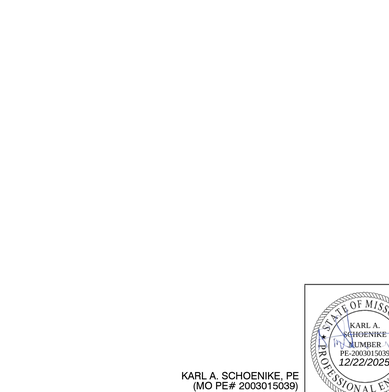
DETAIL #28
SIDEWALK JOINT AT EGRESS DOORS
N.T.S.

NOTE:
CONFIRM BOLLARD REQUIREMENTS WITH UTILITY COMPANY.

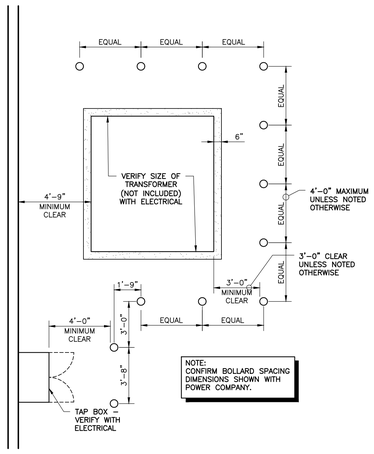
DETAIL #29
BOLLARDS AT GAS SERVICE
N.T.S.

NOTE:
1. SIGNAGE PER LOCAL JURISDICTION, VERIFY REQUIREMENTS
2. PROVIDE SIGN AT EACH ACCESSIBLE PARKING STALL

DETAIL #30
ADA PARKING SIGN
N.T.S.

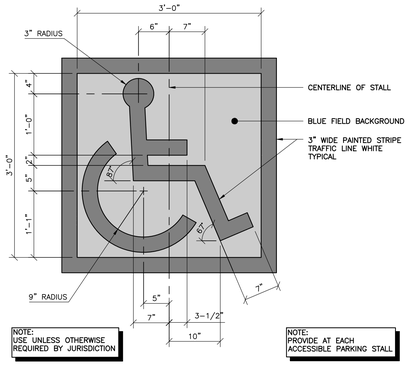


DETAIL #31
ACCESSIBLE PARKING STALLS
N.T.S.



NOTE:
CONFIRM BOLLARD SPACING DIMENSIONS SHOWN WITH POWER COMPANY.

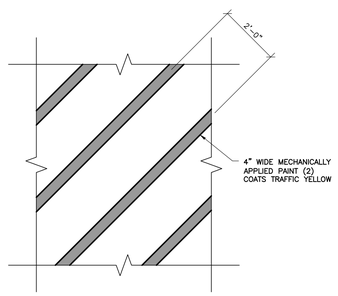
DETAIL #32
BOLLARDS AT TRANSFORMER
N.T.S.



NOTE:
USE UNLESS OTHERWISE REQUIRED BY JURISDICTION

NOTE:
PROVIDE AT EACH ACCESSIBLE PARKING STALL

DETAIL #33
ACCESSIBLE PARKING SYMBOL
N.T.S.



DETAIL #34
PAINTED STRIPE
N.T.S.

MISSOURI 811
811 or 1-800-344-7483
https://missouri-811.org

KARL A. SCHOENIKE, PE
(MO PE# 2003015039)

STATE OF MISSOURI
KARL A. SCHOENIKE
PE NUMBER
PE-2003015039
12/22/2025
PROFESSIONAL ENGINEER

REVISION RECORD

NO	DATE	DESCRIPTION

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1450 Beale Street
Suite 305
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Ph: 314.656.4566
www.cecinc.com

Civil & Environmental Consultants, Inc.

COSTCO WHOLESALE
LEE'S SUMMIT, MISSOURI

COSTCO LEES SUMMIT
CONSTRUCTION DOCUMENTS
SITE DETAILS
MUNICIPAL REVIEW SET

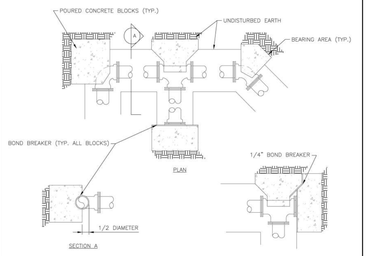
DATE:	DECEMBER 22, 2025
DRAWN BY:	MK
DWG SCALE:	N.T.S.
CHECKED BY:	KAS
PROJECT NO:	353-308.0002
APPROVED BY:	*DRK

DRAWING NO.:
C802
SHEET 25 OF 31

J:\353-0001\353-308_CAD\[dwg]\c402-c451\353308-CH02-C800.dwg[C802 LS(12/22/2025 - jgillespy) - LO: 12/22/2025 4:29 PM

REQUIRED CONCRETE BEARING AREA (SQUARE FEET – SF)

NOM. DIA. (INCHES)	180 TEE, PLUG	90 BEND	45 BEND	22.5 BEND	11.25 BEND
6	4.7	6.7	4.0	4.0	4.0
8	8.4	11.8	6.4	4.0	4.0
10	13.1	18.5	10.0	5.1	4.0
12	18.8	26.7	14.4	7.4	4.0
14	25.7	36.3	19.6	10.0	5.0
16	33.5	47.4	25.6	13.1	6.6
18	42.4	REST. JT.	32.5	16.5	8.3
20	REST. JT.	REST. JT.	40.1	20.4	10.3
24	REST. JT.	REST. JT.	REST. JT.	29.4	14.8



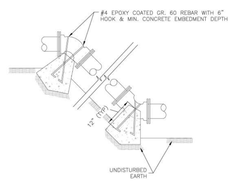
NOTES:
1. ALL BENDS WITHOUT RESTRAINED JOINTS SHALL HAVE CONCRETE THRUST BLOCKS INSTALLED FOR RESTRAINT.
2. MEGA LUGS MAY BE USED ONLY IN CONJUNCTION WITH CONCRETE THRUST BLOCKING.
3. BEARING AREA MUST BE AGAINST UNDISTURBED SOIL.
4. DO NOT COVER JOINTS OR BOLTS (WHERE APPLICABLE) WITH CONCRETE.

LEE'S SUMMIT MISSOURI
PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063
Date: 08/2023 | Drawn By: MJF | Checked By: KJY
HORIZONTAL THRUST BLOCK | WAT-1

DETAIL #35
HORIZONTAL THRUST BLOCK
N.T.S.

REQUIRED CONCRETE VOLUME (CUBIC FEET – CF)

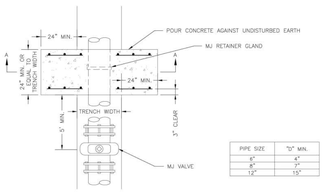
NOM. DIA. (INCHES)	180 TEE, PLUG	90 BEND	45 BEND	22.5 BEND	11.25 BEND
6	99.5	139.4	84.8	39.2	19.6
8	176.9	247.8	150.7	69.7	34.8
10	140.2	198.3	107.3	54.7	27.5
12	202.0	REST. JT.	154.6	78.8	39.6
14	REST. JT.	REST. JT.	210.4	107.3	53.9
16	REST. JT.	REST. JT.	REST. JT.	140.1	70.4
18	REST. JT.	REST. JT.	REST. JT.	177.5	89.1
20	REST. JT.	REST. JT.	REST. JT.	REST. JT.	110.0
24	REST. JT.	REST. JT.	REST. JT.	REST. JT.	158.4



NOTES:
1. ALL BENDS WITHOUT RESTRAINED JOINTS SHALL HAVE CONCRETE THRUST BLOCKS INSTALLED FOR RESTRAINT.
2. MEGA LUGS MAY BE USED ONLY IN CONJUNCTION WITH CONCRETE THRUST BLOCKING.
3. BEARING MUST BE AGAINST UNDISTURBED SOIL.
4. DO NOT COVER JOINTS OR BOLTS (WHERE APPLICABLE) WITH CONCRETE.

LEE'S SUMMIT MISSOURI
PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063
Date: 08/2023 | Drawn By: MF | Checked By: KJY
VERTICAL THRUST BLOCK | WAT-2

DETAIL #36
VERTICAL THRUST BLOCK
N.T.S.

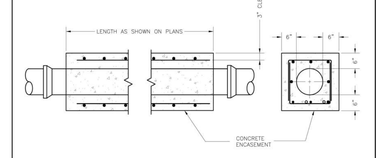


PIPE SIZE	"D" MIN.
6"	4"
8"	7"
12"	13"

NOTE:
THIS DETAIL NOT TO BE USED FOR PIPE GREATER THAN 12"

LEE'S SUMMIT MISSOURI
PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063
Date: 08/2023 | Drawn By: MJF | Checked By: KJY
STRADDLE BLOCK | WAT-3

DETAIL #37
STRADDLE BLOCK
N.T.S.



NOTES:
1. INTERMEDIATE BELLS SHALL BE ENCASED.
2. REINFORCING STEEL SHALL BE #4 @ 12" O.C. EACH WAY WITH A MINIMUM REBAR LAP OF 12".
3. THIS DETAIL IS FOR PIPES 12" AND SMALLER.

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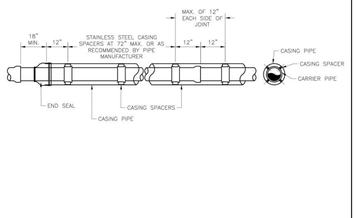
PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063
Date: 08/2023 | Drawn By: MJF | Checked By: KJY
WATER PIPE ENCASEMENT | WAT-4

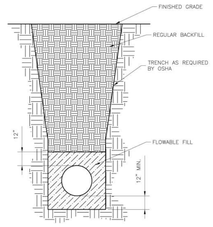
DETAIL #38
WATER PIPE ENCASEMENT
N.T.S.



NOTES:
1. REFER TO SPECIFICATION SECTION 3900 FOR ADDITIONAL INFORMATION.
2. LENGTH, DIAMETER, AND WALL THICKNESS TO BE SHOWN ON CONSTRUCTION PLANS.

LEE'S SUMMIT MISSOURI
PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063
Date: 08/2023 | Drawn By: MJF | Checked By: KJY
WATER CASING PIPE DETAIL | WAT-5

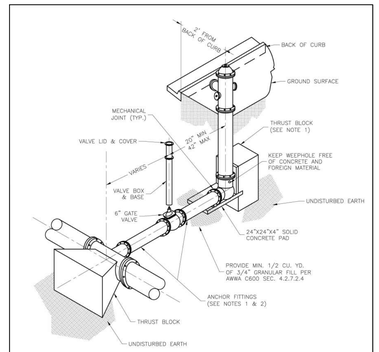
DETAIL #39
WATER CASING PIPE DETAIL
N.T.S.



NOTES:
1. FLOWABLE FILL SHALL MEET THE REQUIREMENTS OF THE CITY OF LEE'S SUMMIT DESIGN AND CONSTRUCTION MANUAL.
2. REGULAR BACKFILL ABOVE THE TRENCH CHECK SHALL BE FREE OF DEBRIS, ORGANIC MATTER, AND STONES > 6" IN ANY DIMENSION.
3. TOP OF FLOWABLE BACKFILL SHALL EXTEND 12" ABOVE THE TOP OF THE PIPE.
4. LENGTH OF TRENCH CHECK SHALL BE A MINIMUM OF 12'.

LEE'S SUMMIT MISSOURI
PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063
Date: 08/2023 | Drawn By: MJF | Checked By: KJY
WATER TRENCH CHECK DETAIL | WAT-6

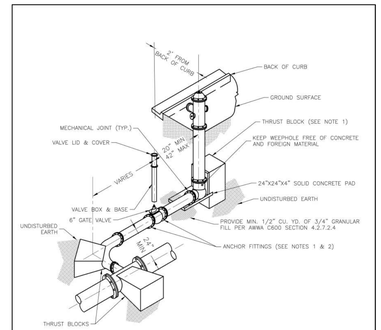
DETAIL #40
WATER TRENCH CHECK
N.T.S.



NOTES:
1. WHEN RETAINER GLANDS ARE USED IN LIEU OF ANCHOR FITTINGS, HORIZONTAL THRUST BLOCKS ARE REQUIRED.
2. GATE VALVE MAY BE BOLTED DIRECTLY TO ANCHOR TEE.
3. SEE APPROVED PRODUCTS LIST FOR WATER UTILITIES FOR FIRE HYDRANT, VALVES, VALVE BOX LID, AND COVER.
4. BOTTOM HYDRANT FLANGE SHALL BE 2" TO 6" ABOVE FINISHED GRADE.
5. FOR STREETS WITHOUT CURBS FIRE HYDRANTS SHALL BE PLACED WITHIN 1 FOOT OF THE R/W LINE, BUT NOT MORE THAN 10' FROM EDGE OF PAVEMENT. FIRE HYDRANT SHALL NOT BE PLACED IN BOTTOM OF DITCH.
6. HYDRANT SHALL BE ROTATED AS DIRECTED BY INSPECTOR.

LEE'S SUMMIT MISSOURI
PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063
Date: 08/2023 | Drawn By: MJF | Checked By: KJY
HYDRANT - STRAIGHT SET | WAT-7

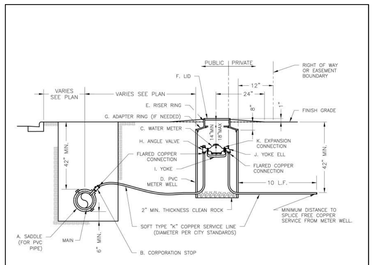
DETAIL #41
HYDRANT - STRAIGHT SET
N.T.S.



NOTES:
1. WHEN RETAINER GLANDS ARE USED IN LIEU OF ANCHOR RESTRAINT FITTINGS, HORIZONTAL THRUST BLOCKS ARE REQUIRED.
2. GATE VALVE MAY BE BOLTED DIRECTLY TO ANCHOR TEE.
3. SEE APPROVED PRODUCTS LIST FOR WATER UTILITIES FOR FIRE HYDRANT, VALVES, VALVE BOX LID, AND COVER.
4. BOTTOM HYDRANT FLANGE SHALL BE 2" TO 6" ABOVE FINISHED GRADE.
5. FOR STREETS WITHOUT CURBS FIRE HYDRANTS SHALL BE PLACED WITHIN 1 FOOT OF THE R/W LINE, BUT NOT MORE THAN 10' FROM EDGE OF PAVEMENT. FIRE HYDRANT SHALL NOT BE PLACED IN BOTTOM OF DITCH.
6. HYDRANT SHALL BE ROTATED AS DIRECTED BY INSPECTOR.

LEE'S SUMMIT MISSOURI
PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063
Date: 08/2023 | Drawn By: MJF | Checked By: KJY
HYDRANT WITH 90 DEGREE BEND | WAT-8

DETAIL #42
HYDRANT W/ 90 DEGREE BEND
N.T.S.



NOTES:
1. METER INSTALLATION SHALL NOT BE LOCATED IN AREAS SUBJECT TO VEHICULAR TRAFFIC OR IN CONCRETE PAVEMENT WITHOUT CITY APPROVAL.
2. IF METER IS TO BE LOCATED OTHER THAN IN FRONT OF PROPERTY LINE, CITY APPROVAL SHALL BE OBTAINED.
3. CITY TO FURNISH ITEMS A–K.
4. NO OTHER EQUIPMENT SHALL BE INSTALLED IN THIS PIT.
5. 42" MINIMUM BURY DEPTH FOR ALL SERVICE LINES.
6. EXCAVATION FOR TAP TO EXPOSE 1' LINEAR FEET OF MAIN.
7. SERVICE CONNECTION TAP AT 10 O'CLOCK OR 2 O'CLOCK.
8. SERVICE CONNECTION TAP AT APPROXIMATELY 45 DEGREES.
9. LID AND RISER RING SHALL BE SET SO THAT GROUND WATER WILL DRAIN AWAY FROM THE WELL.
10. CONTACT WATER UTILITIES, 816-969-1900, FOR REQUIREMENTS OF A METER LARGER THAN 2"

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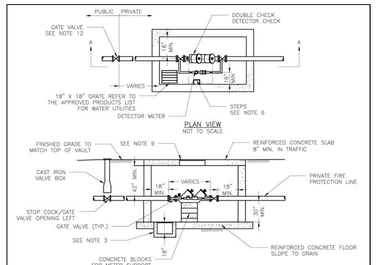
Date: 08/2023 | Drawn By: MJF | Checked By: KJY
SERVICE CONNECTION WITH METER WELL | WAT-11

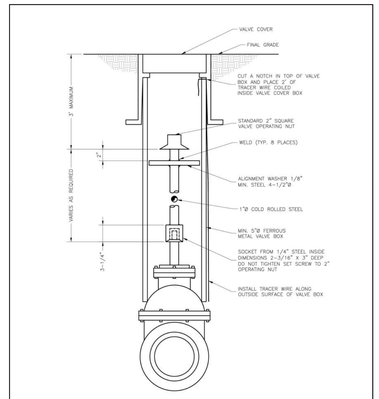
DETAIL #43
SERVICE CONNECTION W/ METER WELL
N.T.S.



GENERAL NOTES:
1. METER VAULT WALLS TO BE POURED OR PRECAST CONCRETE.
2. METER VAULT ROOF TO BE REINFORCED CONCRETE OPENING CENTERED OVER DETECTOR METER.
3. METER VAULT TO BE LOCATED, WHEN POSSIBLE, OUTSIDE TRAFFIC AREA WHERE SURFACE WATER WILL NOT DRAIN INTO IT. VAULT MUST BE KEPT FREE OF WATER. PROVIDE CONCRETE SUMP AS A MINIMUM, WHERE PRACTICAL, PROVIDE A 3" PIPE DRAIN WITH AN ABOVE-GROUND DISCHARGE POINT. PROJECT OWNER MAY DESIRE A PERMANENTLY INSTALLED SUMP PUMP.
4. ALL PIPE SHALL BE DUCTILE IRON CLASS 50. ALL PIPE FITTINGS FROM THE CITY WATER MAIN THROUGH THE VAULT SHALL BE PROVIDED WITH RESTRAINED JOINT FITTINGS.
5. ALL FITTINGS TO BE BRASS.
6. STEPS SHALL BE IN ACCORDANCE WITH THE APPROVED PRODUCTS LIST FOR WATER UTILITIES AND SHALL BE ON 16" CENTERS.
7. A DEPARTMENT OF NATURAL RESOURCES APPROVED DOUBLE CHECK DETECTOR CHECK BACKFLOW PREVENTER MUST BE USED. FOR A COPY OF THE MISSOURI DEPARTMENT OF NATURAL RESOURCES APPROVED BACKFLOW PREVENTION ASSEMBLIES, CONTACT THE WATER UTILITIES OPERATIONS DIVISION AT 816-969-1940. AS OF JANUARY 1, 1997, THE DNR REQUIRES FIRE SPRINKLER SYSTEMS USING CHEMICALS TO HAVE A DNR APPROVED PRESSURE BACKFLOW PREVENTER INSTALLED, PRIOR TO THE MIXING POINT.
8. ALL VALVES SHALL HAVE RISING STEMS.
9. ALL VALVES SHALL BE OPEN LEFT. NON-SHOCKLE FOUND ON THE APPROVED PRODUCTS LIST FOR WATER UTILITIES SUITABLE FOR EITHER TRAFFIC OR NON-TRAFFIC CONDITIONS.
10. A MINIMUM OF 18" CLEARANCE SHALL BE PROVIDED AROUND ALL PIPING, VALVES, APPURTENANCES, ETC.
11. METER SHALL BE OWNED AND MAINTAINED BY THE WATER UTILITIES DEPARTMENT.
12. IF PUBLIC WATER IS LOCATED ON THE OPPOSITE SIDE OF THE STREET, THEN THE PUBLIC WATER MAIN RESPONSIBILITY OF THE WATER UTILITIES DEPARTMENT ENDS AT THE GATE VALVE NEAREST THE VAULT.

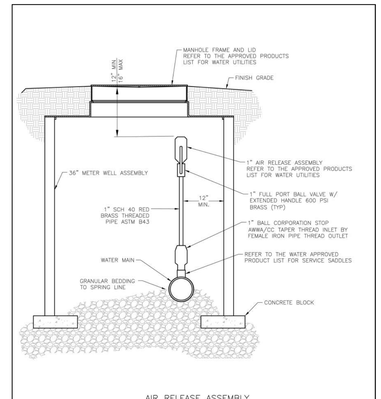
LEE'S SUMMIT MISSOURI
PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063
Date: 08/2023 | Drawn By: MJF | Checked By: KJY
VAULT FOR DOUBLE CHECK DETECTOR CHECK | WAT-12

DETAIL #44
VAULT FOR DOUBLE CHECK DETECTOR
N.T.S.



LEE'S SUMMIT MISSOURI
PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063
Date: 08/2023 | Drawn By: MJF | Checked By: KJY
VALVE STEM EXTENSION AND VALVE BOX | WAT-9

DETAIL #45
VALVE STEM EXTENSION AND VALVE BOX
N.T.S.



AIR RELEASE ASSEMBLY
NOT TO SCALE

LEE'S SUMMIT MISSOURI
PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063
Date: 08/2023 | Drawn By: MJF | Checked By: KJY
AIR RELEASE ASSEMBLY | WAT-10

DETAIL #46
AIR RELEASE ASSEMBLY
N.T.S.

MISSOURI 811
811 or 1-800-344-7483
https://missouri-811.org

KARL A. SCHOENIKE, PE
(MO PE# 2003015039)

STATE OF MISSOURI
KARL A. SCHOENIKE
NUMBER PE-2003015039
12/22/2025
PROFESSIONAL ENGINEER

REVISION RECORD

NO.	DATE	DESCRIPTION

ENGINEERING, SURVEYING AND LANDSCAPE ARCHITECTURE IN THE STATE OF NORTH CAROLINA WILL BE PROVIDED BY CEC SURVEYING AND LANDSCAPE ARCHITECTS OF NC, PLLC. ENGINEERING, SURVEYING AND LANDSCAPE ARCHITECTURE IN THE STATE OF MISSOURI WILL BE PROVIDED BY CEC ENGINEERS & CONSULTANTS, LLC. LANDSCAPE ARCHITECTURE SERVICES IN THE STATE OF IOWA WILL BE PROVIDED BY CEC EARTH, LLC. WHICH REFLECT ALL.

Civil & Environmental Consultants, Inc.
1450 Beale Street
Suite 305
St. Charles, MO 63303
Ph: 314.656.4566
www.cecinc.com

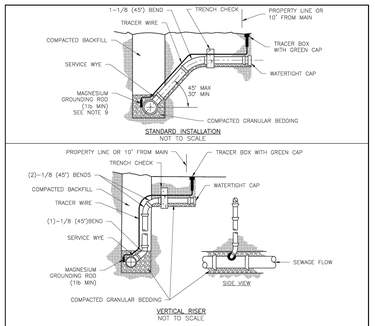
COSTCO WHOLESALE
LEE'S SUMMIT, MISSOURI

COSTCO LEES SUMMIT
CONSTRUCTION DOCUMENTS
LOCAL UTILITY DETAILS
MUNICIPAL REVIEW SET

DATE: DECEMBER 22, 2025 | DRAWN BY: MK
DWG SCALE: N.T.S. | CHECKED BY: KAS
PROJECT NO: 353-308.0002
APPROVED BY: *DRK

DRAWING NO.: **C803**
SHEET 26 OF 31

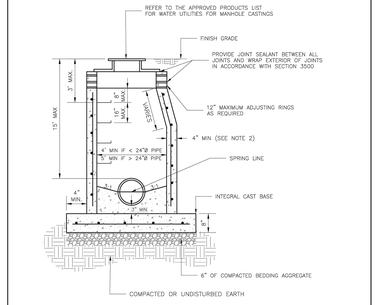
J:\353-000\353-308\~DWG\dwg\civil\v01\353308-CIVD1-CD01.mcp[26 DEC][12/22/2025 - [gdmcp] - LH 12/22/2025 4:29 PM



NOTES:
1. ALL SEWER STUBS SHALL BE CONSTRUCTED TO PROPERTY LINE OR 10' MINIMUM FROM THE MAIN, WHICHEVER IS GREATER. WHERE SIDEWALKS ARE PRESENT, CONTRACTOR SHALL EXTEND SERVICE LINE UNDER EXISTING SIDEWALK TO TWO FEET BEYOND.
2. IMPERVIOUS TRENCH CHECKS SHALL BE PLACED ON BUILDING SEWER STUBS (AT LEAST 5' AWAY FROM THE SANITARY SEWER MAIN).
3. TRENCH CHECKS ON THE BUILDING SEWER STUBS SHALL EXTEND 6" BELOW THE BOTTOM OF THE PIPE. LENGTH SHALL BE A MINIMUM OF 12". THE HEIGHT OF THE TRENCH CHECK SHALL EXTEND 12" ABOVE THE TOP OF THE PIPE. THE WIDTH OF THE TRENCH CHECK SHALL BE THE WIDTH OF THE TRENCH.
4. SEE SPECIFICATION SECTION 2100 FOR SEWER MAIN BEDDING AND BACKFILL.
5. TRACER WIRE SHALL BE INSTALLED PER SPECIFICATION SECTION 3500. TRACER WIRE TERMINAL BOXES SHALL BE INSTALLED DIRECTLY ABOVE THE SEWER SERVICE OR AS DETERMINED BY THE ENGINEER.
6. FOR SERVICES, TRACER WIRE SHALL RUN FROM THE WYE AND TERMINATE IN A FLUSH MOUNTED TRACER BOX WITH A GREEN CAST IRON LOCKABLE TOP. WIRE SHALL BE TAPED OR TIED TO THE PIPE AT 5' INTERVALS.
7. TRACER WIRE BOX SHALL BE INSTALLED WITHIN 1.0' OF PROPERTY LINE.
8. THE TRACER WIRE SHALL REMAIN CONTIGUOUS TO THE GREATEST EXTENT POSSIBLE. SPLICES IN THE TRACER WIRE SHOULD BE MADE WITH LOCKING SPLICE CONNECTOR MANUFACTURED WITH A WATERPROOF DIELECTRIC SEALANT.

LEE'S SUMMIT MISSOURI PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063	Date: 06/2023 Drawn By: MJF Checked By: AB
SANITARY SEWER STUB DETAIL	SAN-1

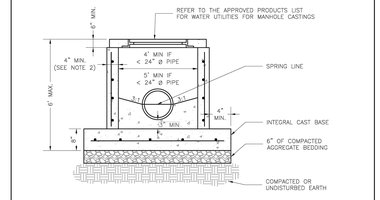
DETAIL #47
SANITARY SEWER STUB
N.T.S.



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

LEE'S SUMMIT MISSOURI PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063	Date: 06/2023 Drawn By: MJF Checked By: AB
STANDARD SANITARY PRECAST MANHOLE	SAN-2

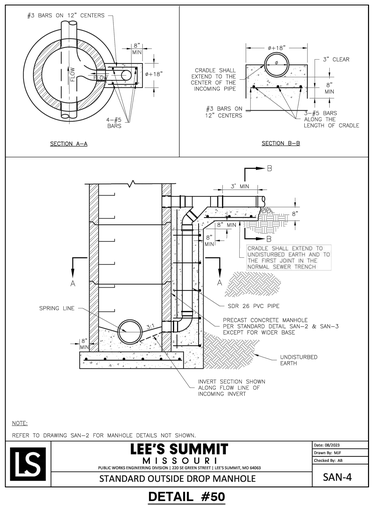
DETAIL #48
STANDARD SANITARY PRECAST MANHOLE
N.T.S.



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

LEE'S SUMMIT MISSOURI PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063	Date: 06/2023 Drawn By: MJF Checked By: AB
STANDARD SHALLOW SANITARY PRECAST MANHOLE	SAN-3

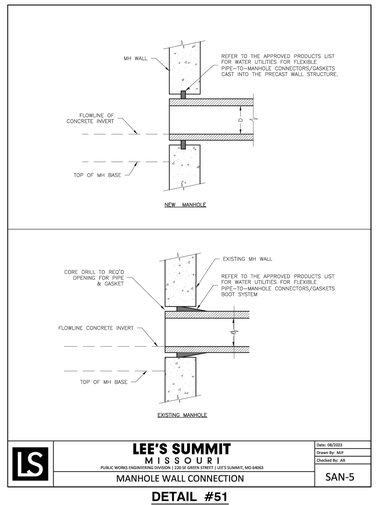
DETAIL #49
STD. SHALLOW SANITARY PRECAST MANHOLE
N.T.S.



NOTE:
REFER TO DRAWING SAN-2 FOR MANHOLE DETAILS NOT SHOWN.

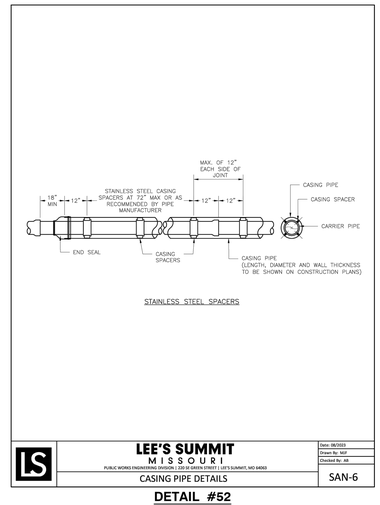
LEE'S SUMMIT MISSOURI PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063	Date: 06/2023 Drawn By: MJF Checked By: AB
STANDARD OUTSIDE DROP MANHOLE	SAN-4

DETAIL #50
STANDARD OUTSIDE DROP MANHOLE
N.T.S.



LEE'S SUMMIT MISSOURI PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063	Date: 06/2023 Drawn By: MJF Checked By: AB
MANHOLE WALL CONNECTION	SAN-5

DETAIL #51
MANHOLE WALL CONNECTION
N.T.S.



LEE'S SUMMIT MISSOURI PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063	Date: 06/2023 Drawn By: MJF Checked By: AB
CASING PIPE DETAILS	SAN-6

DETAIL #52
CASING PIPE DETAILS
N.T.S.

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

LEE'S SUMMIT MISSOURI PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063	Date: 06/2023 Drawn By: MJF Checked By: AB
PIPE ENCASEMENT DETAIL	SAN-7

DETAIL #53
PIPE ENCASEMENT DETAIL
N.T.S.

NOTES:
1. REINFORCING BARS SIZE AND SPACING CONTROLLED BY SIZE AND HEIGHT OF PIERS.
2. CYLINDRICAL PIER ACCEPTABLE WITH EQUIVALENT CROSS-SECTIONAL AREA AND REINFORCING. DESIGN SHALL BE APPROVED BY CITY ENGINEER.
3. CONCRETE SHALL BE 4000 PSI.

LEE'S SUMMIT MISSOURI PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063	Date: 06/2023 Drawn By: MJF Checked By: AB
PIPE SUPPORT PIER GUIDANCE DETAIL	SAN-8

DETAIL #54
PIPE SUPPORT PIER GUIDANCE DETAIL
N.T.S.

NOTES:
1. MINIMUM 2" CLEAR ON REINFORCEMENT. CENTER CASTING WITHIN BOXOUT AREA.
2. CONCRETE SHALL BE fc'=4000 4K MIX.
3. ALL STEEL SHALL BE EPOXY COATED.
4. FOR CONSTRUCTION JOINT DETAIL, SEE DETAIL 2 ON SHEET GEN-10, TYPICAL PAVEMENT JOINT DETAILS.

1 CONSTRUCTION JOINT.
2 4'-8"(TYP) #4 BAR, PLACE AT MID-SLAB.
3 #4 DOWELS @ 12" O.C. INTO CONCRETE PAVEMENT MIN. LENGTH 12".

LEE'S SUMMIT MISSOURI PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063	Date: 06/2023 Drawn By: MJF Checked By: AB
MANHOLE BOXOUT IN PAVEMENT DETAIL	SAN-9

DETAIL #55
MANHOLE BOXOUT IN PAVEMENT
N.T.S.

811 or 1-800-344-7483
https://missouri-811.org

KARL A. SCHOENIKE, PE
(MO PE# 2003015039)

STATE OF MISSOURI
KARL A. SCHOENIKE
NUMBER PE-2003015039
12/22/2025
PROFESSIONAL ENGINEER

REVISION RECORD

NO.	DATE	DESCRIPTION

1450 Beale Street
Suite 305
St. Charles, MO 63303
Ph: 314.656.4566
www.cecinc.com
Civil & Environmental Consultants, Inc.

ENGINEERING, SURVEYING AND LANDSCAPE ARCHITECTURE IN THE STATE OF NORTH CAROLINA WILL BE PROVIDED BY CEC SURVEYING, PLLC. ENGINEERING, SURVEYING AND LANDSCAPE ARCHITECTURE IN THE STATE OF MO WILL BE PROVIDED BY CEC ENGINEERS & CONSULTANTS, LLC. LANDSCAPE ARCHITECTURE SERVICES IN THE STATE OF OHIO WILL BE PROVIDED BY CEC LANDSCAPE ARCHITECTS, LLC.

COSTCO WHOLESALE
LEE'S SUMMIT, MISSOURI

COSTCO LEES SUMMIT
CONSTRUCTION DOCUMENTS
LOCAL UTILITY DETAILS
MUNICIPAL SEWER SET

DATE:	DECEMBER 22, 2025
DWG SCALE:	N.T.S.
PROJECT NO:	353-308.0002
DRAWN BY:	MK
CHECKED BY:	KAS
APPROVED BY:	*DRK

DRAWING NO.:
C804
SHEET 27 OF 31

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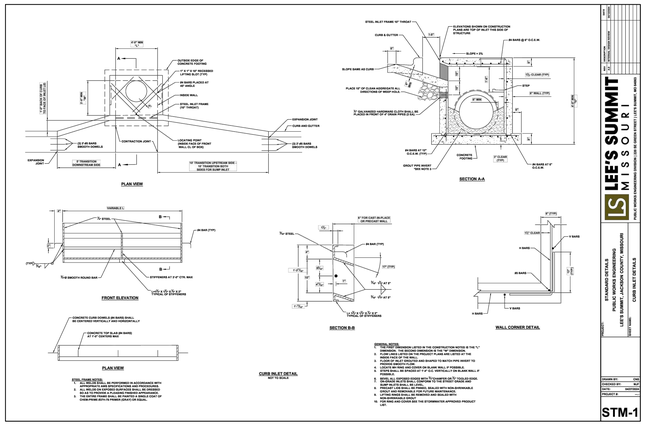
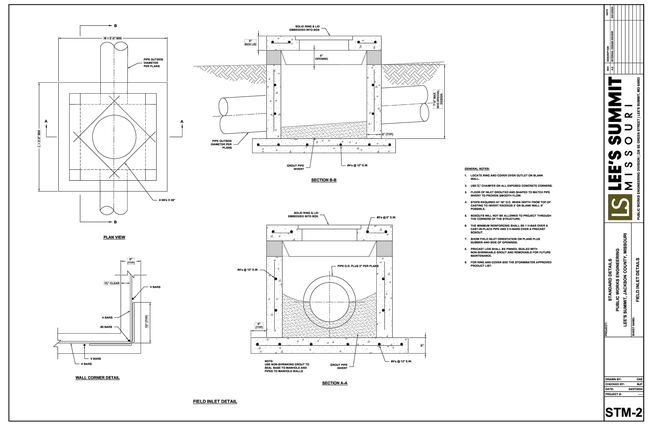
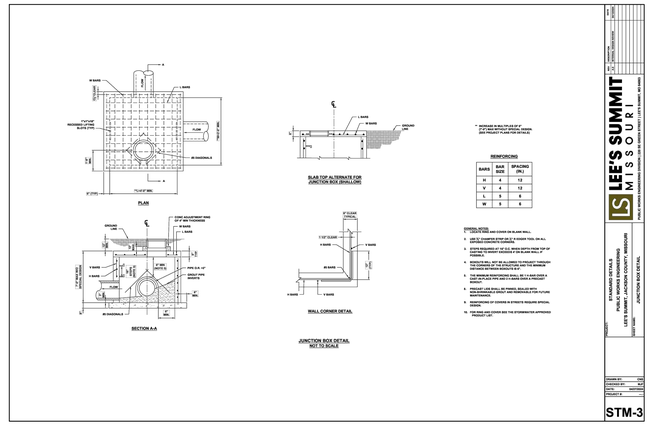


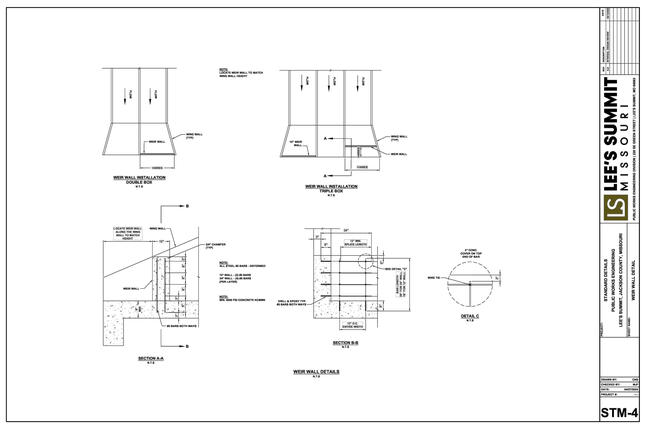
DETAIL #56
CURB INLET DETAIL
N.T.S.



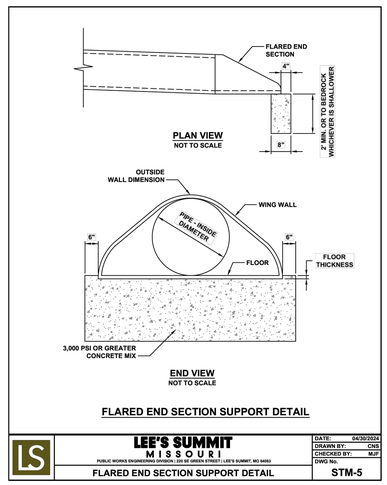
DETAIL #57
FIELD INLET DETAIL
N.T.S.



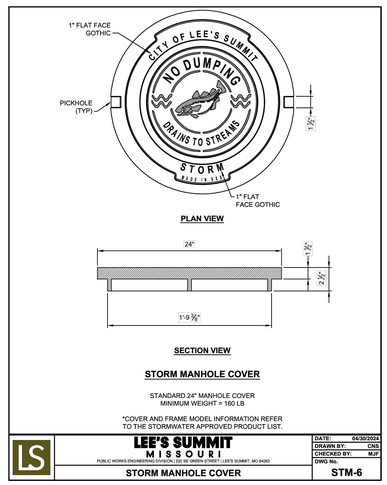
DETAIL #58
JUNCTION BOX DETAIL
N.T.S.



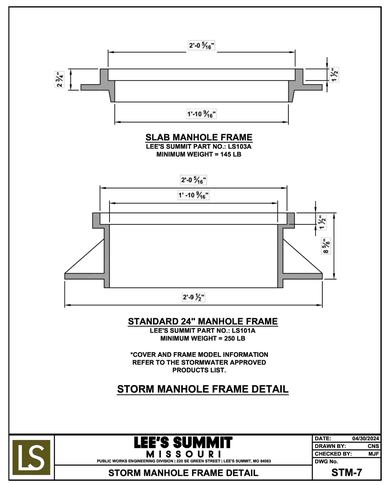
DETAIL #59
WEIR WALL DETAIL
N.T.S.



DETAIL #60
FLARED END SECTION SUPPORT
N.T.S.



DETAIL #61
STORM MANHOLE COVER
N.T.S.



DETAIL #62
STORM MANHOLE FRAME DETAIL
N.T.S.

811 or 1-800-344-7483
https://missouri-811.org

KARL A. SCHOENIKE, PE
(MO PE# 2003015039)

STATE OF MISSOURI
KARL A. SCHOENIKE
NUMBER PE-2003015039
12/22/2025
PROFESSIONAL ENGINEER

REVISION RECORD

NO.	DATE	DESCRIPTION

Civil & Environmental Consultants, Inc.
1450 Beale Street
Suite 305
St. Charles, MO 63303
Ph: 314.656.4566
www.cecinc.com

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COSTCO WHOLESALE
LEE'S SUMMIT, MISSOURI

COSTCO LEES SUMMIT
CONSTRUCTION DOCUMENTS
LOCAL UTILITY DETAILS
MUNICIPAL REVIEW SET

DATE:	DECEMBER 22, 2025
DRAWN BY:	MK
CHECKED BY:	KAS
DWG SCALE:	N.T.S.
PROJECT NO:	353-308.0002
APPROVED BY:	*DRK

DRAWING NO.:
C805
SHEET 28 OF 31

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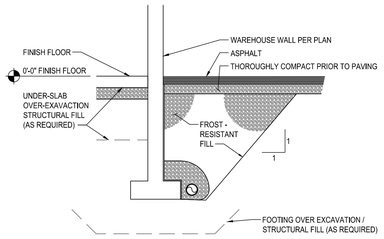
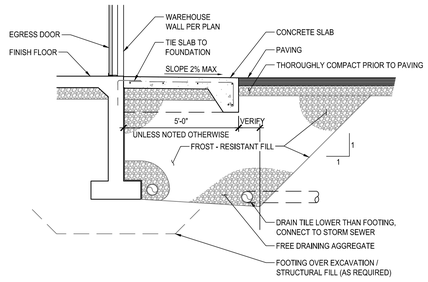


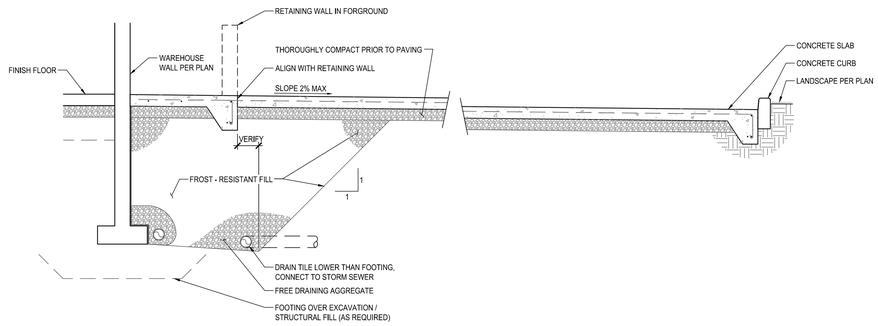
1 ALONG BACK WALL

SCALE: 3/8" = 1'-0" 0318



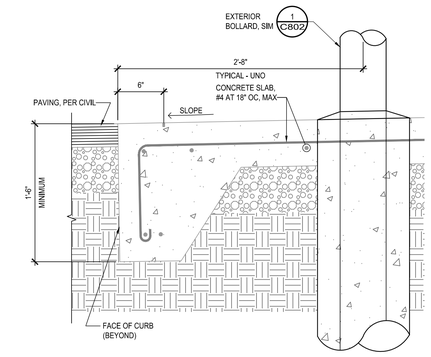
2 AT EGRESS DOOR WITH STOOP

SCALE: 3/8" = 1'-0" 0318



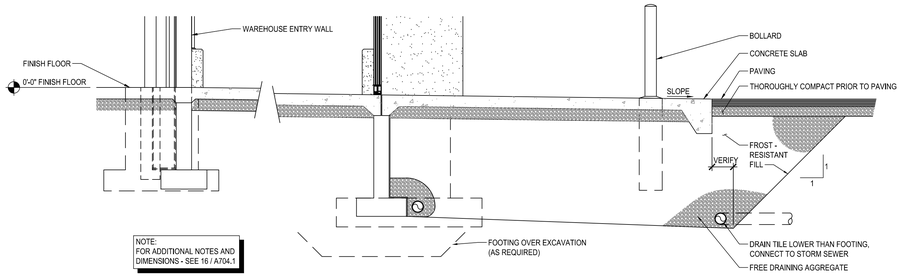
3 AT RECEIVING DOOR

SCALE: 3/8" = 1'-0" 0318



6 EDGE OF CANOPY SLAB

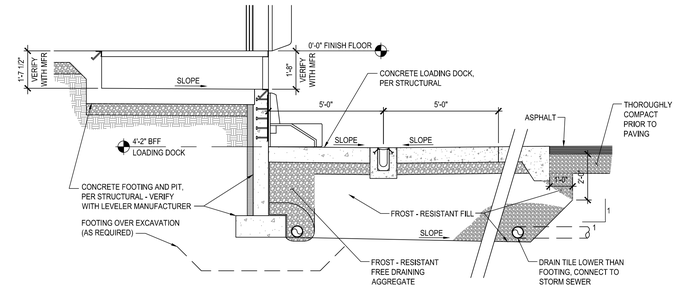
SCALE: 1-1/2" = 1'-0" 0813



11 AT AUTO-DOORS AT ENCLOSED CANOPY

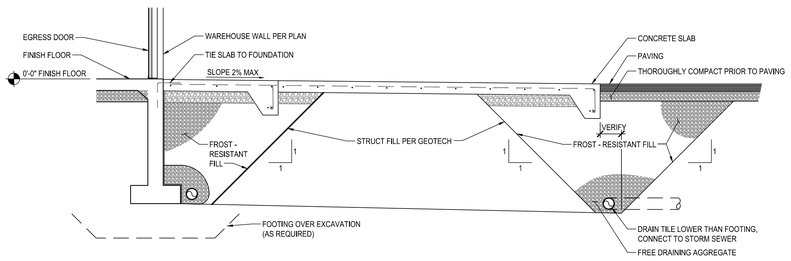
SCALE: 3/8" = 1'-0" 0318

NOTE:
FROST RESISTANT FILL NEEDS TO EXTEND TO TRANSITION FROM BEYOND SLOPE TO PAVEMENT



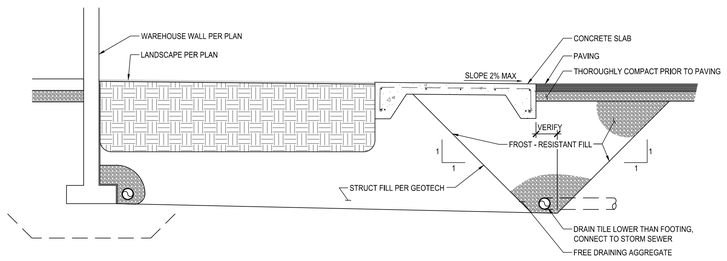
20 AT LOADING DOCK

SCALE: 3/8" = 1'-0" 0318



16 AT EGRESS DOOR WITH WALKWAY

SCALE: 3/8" = 1'-0" 0318



18 LANDSCAPING AT PARKING

SCALE: 3/8" = 1'-0" 0318

MISSOURI 811

811 or 1-800-344-7483
https://missouri-811.org

KARL A. SCHOENIKE, PE
(MO PE# 2003015039)

STATE OF MISSOURI
KARL A. SCHOENIKE
NUMBER PE-2003015039
12/22/2025
PROFESSIONAL ENGINEER

REVISION RECORD

NO	DATE	DESCRIPTION

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1450 Beale Street
Suite 305
St. Charles, MO 63303
Ph: 314.656.4566
www.cecinc.com

Civil & Environmental Consultants, Inc.

COSTCO WHOLESALE

LEE'S SUMMIT, MISSOURI

COSTCO LEES SUMMIT
CONSTRUCTION DOCUMENTS
SUB-SURFACE BUILDING PAD
PACKAGE
MUNICIPAL REVIEW SET

DATE:	DECEMBER 22, 2025
DRAWN BY:	MK
CHECKED BY:	KAS
DWG SCALE:	N.T.S.
PROJECT NO:	353-309.0002
APPROVED BY:	*DRK

DRAWING NO.:
C806
SHEET 29 OF 31

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NORTH

LEGEND

- EXISTING PROPERTY LINE
- EXISTING SETBACK
- EXISTING EASEMENT
- EXISTING INDEX (MAJOR) CONTOUR
- EXISTING INTERMEDIATE (MINOR) CONTOUR
- EXISTING GUARD RAIL
- EXISTING FENCE
- EXISTING VERTICAL CONCRETE CURB
- EXISTING EDGE OF PAVEMENT
- EXISTING DITCH FLOW LINE
- EXISTING TREE LINE
- EXISTING TREE WITH TRUNK SIZE
- EXISTING OVERHEAD ELECTRIC
- EXISTING UNDERGROUND ELECTRIC
- EXISTING FIBER OPTIC LINE
- EXISTING WATER LINE
- EXISTING SANITARY SEWER LINE
- EXISTING STORM DRAIN
- EXISTING TRAFFIC POLE WITH ARM
- EXISTING LIGHT POLE WITH ARM
- EXISTING UTILITY POLE AND GUY WIRE
- EXISTING ELECTRIC PULL BOX
- EXISTING FIBER OPTIC PULL BOX
- EXISTING FIBER MARKER
- EXISTING WATER MANHOLE
- EXISTING FIRE HYDRANT
- EXISTING WATER VALVE
- EXISTING WATER METER
- EXISTING SANITARY MANHOLE
- EXISTING CURB INLET
- EXISTING FLARED END SECTION (F.E.S.)
- EXISTING GRATED CATCH BASIN
- EXISTING STORMWATER MANHOLE
- PROPOSED CONCRETE CURB AND GUTTER
- PROPOSED CONCRETE PAVEMENT
- PROPOSED HEAVY DUTY PAVEMENT
- PROPOSED LIGHT DUTY PAVEMENT
- PROPOSED CONCRETE SIDEWALK
- PROPOSED PAINTED 2' O.C. DIAGONAL STRIPING
- PROPOSED PAINTED PARKING DIVIDER
- PROPOSED CART CORRAL
- PROPOSED STORM PIPE
- PROPOSED UNDERDRAIN
- PROPOSED PRIVATE SANITARY SEWER
- PROPOSED PRIVATE WATER LINE (SIZE DENOTED)
- PROPOSED UNDERGROUND ELECTRIC
- PROPOSED DATA LINE
- PROPOSED MANHOLE – SOLID COVER
- PROPOSED AREA INLET – 3-WAY
- PROPOSED GRATE INLET
- PROPOSED 2 GRATE INLET W/ SIDE INTAKE
- PROPOSED FLARED END SECTION (F.E.S.)
- PROPOSED CLEAN OUT
- PROPOSED PRIVATE SANITARY MANHOLE
- PROPOSED PRIVATE SANITARY CLEANOUT
- PROPOSED WATER VALVE
- PROPOSED FIRE HYDRANT
- PROPOSED BUILDING MOUNTED LIGHT AND LIGHT POLE [REFER TO LIGHTING PLAN BY OTHERS]
- PROPOSED LIMITS OF DISTURBANCE
- PROPOSED SILT FENCE
- PROPOSED INLET PROTECTION
- PROPOSED CONSTRUCTION EXIT

COSTCO WHOLESALE

10 SE OLDHAM PKWY
TOTAL BLDG. FOOTPRINT: 161,540 SF
FINISHED FLOOR 1052.02'

SE OLDHAM PKWY
(VARIABLE WIDTH - PUBLIC)
(TO BE BUILT BY DEVELOPER)

KEY NOTES

1. PROPOSED PERIMETER PROTECTION. REFER TO APWA SILT FENCE DETAIL #02 ON SHEET C901.
2. PROPOSED INLET PROTECTION. REFER TO APWA DETAIL #03 ON SHEET 901.
3. PROPOSED CONSTRUCTION ENTRANCE AND WASHOUT STATION. REFER TO APWA DETAIL #04 ON SHEET 901.
4. PROPOSED LIMITS OF DISTURBANCE.

THIS PLAN SHALL BE UPDATED AS CONSTRUCTION OCCURS TO INCLUDE ONSITE STORAGE OF POTENTIAL SOURCES OF POLLUTION AND ANY CHANGES OR ADDITIONS TO THE BMPS UTILIZED TO PREVENT POTENTIAL POLLUTANTS FROM DISCHARGE DURING LAND DISTURBANCE ACTIVITIES.

THE SWPPP, AS AMENDED THROUGHOUT CONSTRUCTION, AND THE STATE AND COUNTY LAND DISTURBANCE PERMITS SHALL BE RETAINED ONSITE BY THE SUPERINTENDENT AT ALL TIMES AND BE AVAILABLE UPON REQUEST. THE SUPERINTENDENT IS RESPONSIBLE FOR THE LOCATION, PROTECTION, AND ACCESSIBILITY OF THESE DOCUMENTS AT ALL TIMES.

REFERENCE

EXISTING TOPOGRAPHIC DATA AND FEATURES ARE A COMBINATION OF THE FOLLOWING:
1. ALTA SURVEY DATED 08-20-2025 BY CIVIL & ENVIRONMENTAL CONSULTANTS, INC.
2. DEVELOPMENT PLANS FOR OLDHAM VILLAGE (BY OTHER)
3. SITE DEVELOPMENT PLANS DATED XXXX BY CIVIL & ENVIRONMENTAL CONSULTANTS, INC.

NOTE TO CONTRACTOR: PRIOR TO ANY EXCAVATION FOR UNDERGROUND UTILITIES, CONTRACTOR SHALL EXPOSE AND VERIFY LOCATIONS (HORIZONTAL AND VERTICAL) OF ALL EXISTING UTILITIES INCLUDING BUT NOT LIMITED TO GAS, WATER, BROADBAND, PHONE, SANITARY AND STORM SEWERS. ANY CONFLICT SHALL BE REPORTED IMMEDIATELY TO THE ENGINEER AND APPROPRIATE AUTHORITIES

MISSOURI 811
811 or 1-800-344-7483
https://missouri-811.org

NOTES:

1. CONTRACTOR SHALL REFER TO OTHER PLANS WITHIN THIS CONSTRUCTION SET FOR OTHER PERTINENT INFORMATION. IT IS NOT THE ENGINEER'S INTENT THAT ANY SINGLE PLAN SHEET IN THIS SET OF DOCUMENTS FULLY DEPICT ALL WORK ASSOCIATED WITH THIS PROJECT.

SCALE IN FEET
0 40 80

STATE OF MISSOURI
KARL A. SCHOENIKE
NUMBER PE-2003015039
12/22/2025
PROFESSIONAL ENGINEER

KARL A. SCHOENIKE, PE
(MO PE# 2003015039)

REVISION RECORD

NO	DATE	DESCRIPTION

ENGINEERING, SURVEYING AND LANDSCAPE ARCHITECTURE IN THE STATE OF NORTH CAROLINA WILL BE PROVIDED BY CEC SURVEYING AND LANDSCAPE ARCHITECTS OF NC, PLLC. ENGINEERING, SURVEYING AND LANDSCAPE ARCHITECTURE IN THE STATE OF KANSAS WILL BE PROVIDED BY CEC KANSAS, PA. WHICH REFLECT, LLC.

1450 Beale Street
Suite 305
St. Charles, MO 63303
Ph: 314.656.4566
www.cecinc.com

Civil & Environmental Consultants, Inc.

COSTCO WHOLESALE
LEE'S SUMMIT, MISSOURI

COSTCO LEES SUMMIT
CONSTRUCTION DOCUMENTS

EROSION CONTROL PLAN
MUNICIPAL REVIEW SET

DATE:	DECEMBER 22, 2025
DRAWN BY:	MK
CHECKED BY:	KAS
DWG SCALE:	1" = 40'
PROJECT NO.	353-308.0002
APPROVED BY:	*DRK

DRAWING NO.:
C900
SHEET 30 OF 31

A:\353-0003\353-308_CADD\dwg\civil\sht\353308-CIVD-C900.dwg,8/8 C900 12/12/2025 - jpenley - 12/22/2025 4:23 PM

The seeded/sodded area shall be kept free of traffic until accepted. If at any time before acceptance of the completed contract, any portion of the seeded surface becomes gullied or otherwise damaged, or the seeding has been damaged or destroyed, the affected portion shall be repaired to re-establish the specified condition prior to the acceptance of the work.

2400.6 Acceptance of Seeding and Sodding

A. Acceptance: Acceptance by the Owner will occur when areas seeded and/or sodded are determined to be established turf areas ready for mowing. Gross areas in excess of one (1) square foot that are dead or in poor condition regarding color and quality shall be replaced at the Contractor's expense prior to the initiation of the Maintenance Period.

B. Sod Watering: Throughout the Maintenance Period, the Contractor shall be responsible for watering the installed sod until it is established and ready for mowing. In the absence of rainfall, watering shall be performed daily during the first week and shall be sufficient to maintain moist soil to a depth of at least 4 inches. Soil on sod pads shall be kept moist at all times. Watering may be done during the heat of the day to help prevent wilting. After the second week, the Contractor shall water the sod as required to maintain adequate moisture in the upper 4 inches of topsoil necessary for the promotion of deep root growth until final acceptance as established turf areas ready for mowing.

C. Seed Watering: The Contractor shall be responsible for watering seeded areas, keeping all areas moist throughout the germination period, following the substantial germination of the seed, and during the occurrence of a dry or drought period. Continued watering will be required until final acceptance as established turf areas ready for mowing.

D. Acceptance Notification: After acceptance of the seeded or sodded area by the Owner, the Contractor shall by door hangers or other approved methods, notify all affected property owners that the maintenance of the grassed areas is now their responsibility.

2400.7 Clean-up

During the progress of this work and upon completion, thoroughly clean the project area, remove and properly dispose of all resultant dirt, debris and other waste materials.

2400.8 Guarantee

The Contractor shall guarantee all work and materials for a period of one full growing season (Spring to Fall) after the date of final acceptance of the project. During the guarantee period, all turf which dies or exhibits weed growth or undesirable grasses, free of eroded areas, bare spots, diseases and insects, shall be replaced with like material at the expense of the Contractor. Contractor to replace as originally specified areas which have failed to survive, as often as required, to establish the seeded/sodded lawn area until accepted, at no additional compensation. Contractor to repair and replace to original condition all damages to property resultant from the sodding operation and all damages as a result from the remedying of these defects, without additional compensation.

SECTION 2401 SEEDING

2401.1 Scope

This section governs furnishing all labor, materials and equipment necessary for complete installation of seeding in

accordance with the Standard Drawings, the specifications and Special Provisions. The Contractor shall furnish all plants and materials and perform all operations in connection with the preparation, fertilizing, placing, watering, firming and establishment, of seeding areas, complete and in strict accordance with these specifications and applicable Plans, and subject to the terms and conditions of the Contract. The Contractor shall seed disturbed areas where shown on the Plans or by field inspection and as required by the Storm Water Pollution Prevention Plan. The Contractor shall be responsible for establishment of grass.

2401.2 Materials

A. Seed: Seed shall be labeled in accordance with U.S. Department of Agriculture Rules and Regulations under Federal Seed Act. All seed shall be furnished in sealed standard containers unless exception is granted in writing by the Owner. Seed shall be free from noxious weeds and reclaimed "Grade A" recent crop seed treated with appropriate fungicide at time of mixing. Seed which has become wet, moldy, or otherwise damaged in transit or in storage will not be acceptable. Seed mix to be used will be identified prior to sowing. The minimum percentage by weight of pure live seed in each lot of seed shall be as follows:

1. Seeding – Mix #1 (Turf Areas)

   Festuca arundinacea, Finelaef Tall Fescue. Varieties- Houndog V, Rebel Jr., Rebel III, Rebel 3D, Barlexas, Millennium, Southern Choice, Tar Heel, Wolf Pack, Bonsai 2000, Shortstop II Coyote, or other pre-approved substitutes..... 62.5%

   Poa pratensis, Kentucky Bluegrass. Varieties- Baran, Nassau, Ram I, Nublue, Rugby II, Award, Blacksburg, Challenger, Eagleton, Limousine, Livingston, Midnight, Nuglade, Preakness, Princeton 105, Quantum Leap, 1757 or other approved substitutes..... 25.0%

   Lolium multiflorum – annual ryegrass..... 12.5%

2. Seeding – Mix #2 (Low Use Areas)

   Festuca ovina, Sheeps Fescue. Varieties- Azay, Big Horn, or other pre-approved substitutes..... 15.0%

   Fescura rubra subsp. Commutata, Chewings Fescue, Varieties-James town II, Victory, Tiffany, or other approved substitutes..... 20.0%

   Fescuca longifolia, Hard Fescue. Varieties- Spartan, Tournament, Warwick, Discovery, Waldina, Aurora, 4 AG Attila, Reliant II, Scaldis, or other pre-approved substitutes..... 35.0%

   Fescuca ruba subp. Ruba, Creeping Red Fescue. Varieties- Shademaster II, Jasper, Cindy, Pennlawn, or other pre-approved substitutes..... 30.0%

3. Seeding Rate: Seed mixture shall be sown at the minimum rate of 10 pounds per 1000 square feet for new seeding. See Section 2408.3.E.1 for overseeding rates.

B. Inorganic Fertilizer: Inorganic fertilizer shall be composed of a formula 12-12-12, 13-13-13 or other approved substitute, and shall conform to the applicable State fertilizer laws. Fertilizer shall be of a type that can be uniformly distributed by the application equipment. Fertilizer may be furnished in a dry (granulated) or liquid form. When applied dry, the fertilizer shall be a granular, non-burning chemically combined product composed of not less than 50% organic slow acting, guaranteed analysis professional fertilizer. Granular or

pellet form shall be uniform in composition, dry and free flowing and shall be delivered to the site in the original unopened containers each bearing the manufacturer's guaranteed analysis. Any fertilizer which becomes caked or otherwise damaged, making it unsuitable for use, will not be accepted. When applied in a liquid form, fertilizer may be chemically combined or may be furnished as separate ingredients.

C. Mulch: Mulch shall be the vegetative type, or wood cellulose fiber type, whichever is specified in the Special Provisions, or as approved by the Owner.

1. Vegetative Type: The vegetative type shall be the cereal straw from stalks of oats, rye, wheat or barley and shall be free of prohibited and noxious weed seeds.

2. Wood Cellulose Fiber Mulch: Wood cellulose fiber shall contain no germination or growth inhibiting ingredients, and shall be dyed an appropriate color to aid in visual metering in its application. It shall be easily and evenly dispersed and suspended when agitated in water, and when sprayed uniformly on the soil surface, shall form a blotter-like cover, which readily absorbs the water and allows infiltration to the underlying soil. The mulch material shall be supplied in packages of not more than 100 pounds gross weight, and shall be marked by the manufacturer to show the air dry weight content (air dry weight shall contain no more than 10 percent moisture).

D. Water: Water, hose and other watering equipment required for the work shall be furnished by the Contractor.

E. Other Materials: Other materials not specifically described but required for a complete and proper planting installation, shall be as selected by the Contractor subject to the approval by the Owner.

F. Equipment: The seeding operation shall be accomplished with equipment suitable for preparing the seed bed, sowing the seed, fertilizing, spreading the vegetative type mulch, or spreading the wood cellulose fiber mulch in accordance with the applicable requirements of the following sub-section entitled "Construction".

G. Top Soil: The Contractor shall make every reasonable effort to stockpile existing top soil prior to excavation and reuse it in the same general locations. No payment will be made for topsoil furnishing and placement necessary due to excessive hauling off of existing top soil on the project site.

H. Qualifications of Workman: Provide at least one person, who shall be present at all times during the execution of this work, who is thoroughly familiar with all materials and installation procedures included in the Sodding and Seeding operations as specified herein.

I. Delivery Containers: Deliver all items to the site in their original containers with all labels intact and legible at time of Owner inspection.

J. Protection: Use all means necessary to protect all materials before, during and after installation, and to protect the installed work and materials of all other trades.

K. Replacements: In the event of damage or rejection, immediately make all repairs and replacements to the approval of the Owner and at no additional cost to the Owner.

L. Weather Conditions: All sodding and seeding shall be performed during favorable weather conditions and only during normal and acceptable planting seasons when satisfactory growing conditions exist. The planting operations shall not be performed during times of extreme drought, when ground is frozen or during times of other unfavorable climatic conditions unless otherwise approved by Owner. The Contractor assumes full and complete responsibility for all such plantings and operations.

M. Planting Dates: Recommended dates for all seeding and planting shall be March 15 through October 15 unless otherwise approved by the Owner.

N. Pre-planting Inspection: Prior to the work of this section, the Contractor shall carefully inspect the installed work of all other trades and verify that all such work is complete to the point where installation may properly commence.

O. Discrepancies: Do not proceed with installation in areas of discrepancy until all such discrepancies have been fully resolved.

2401.3 Construction

A. All equipment used in the project and all workmanship shall meet the approval of the Owner.

B. All areas to be seeded shall be tilled or disked to a depth of 3-4 inches and raked or smoothed to remove debris, clods, surface stone, 2-inches diameter or larger and weeds. Grades on the areas to be sodded or seeded shall be maintained in true, even and compacted conditions to prevent the formations of depressions. Areas overseeded, to be seeded that have washed or eroded shall be brought to grade and compacted thoroughly by the Contractor prior to placing the seeding or overseeding. No grading shall be done when the soils are in a muddy or frozen condition.

C. Steel Edging: The finish sub-grade of areas to be planted shall be 2" below top of steel edging, if present, for grass sod and flush with top of steel edging for seeding.

D. Other Edges: The finished sub-grade next to curbs, sidewalk and drive approaches shall allow for the seed to be placed level with the improvement. The sub-grade shall be finished level with the improvement for seeding.

E. Fertilizer Application: For areas to be seeded, fertilizer shall be applied when area receives final grading and tillage.

F. Application of Fertilizer: The Contractor has the option to obtain soil tests from a recognized testing laboratory, approved by Owner, to determine soil pH, nitrogen, phosphorus and potassium requirements and organic matter content. A pH or 5.8 to 7.0 and phosphorus and potassium levels of medium or higher range for the particular test used is required. Soils falling below these test levels must be supplemented with the appropriate materials to meet such test levels. If the above soil test is not performed a 13-13-13 fertilizer shall be applied at the rate of 400 pounds per acre.

G. Acceptance of Plant Bed: Acceptance of the plant bed for seeding shall be obtained from the Owner for each section of area as indicated on the Plans. The Contractor shall be responsible for maintaining the accepted areas until the effective date for planting.

H. Sowing shall be accomplished by use of an approved mechanical seeder or drill (hand spreader can be used in small areas), making sure that successive seed strips overlap to provide uniform coverage. Seed should be drilled to a depth of 1/2 inch.

1. Seed mixed in proportions shown in Section 2405.2 may be broadcast by approved sowing equipment. The seed shall be uniformly distributed over the designated areas. The seed shall be covered to an average depth of ½ inch by means of a brush harrow, spike-tooth harrow, chain

harrow, cultipacker or other approved device.

2. Areas to be seeded shall be fertilized at rates specified in Section 2401.3.F. The seedbed shall be free of any irregularities in the surface, and shall be corrected in order to prevent formation of water pockets. All seeded areas are to be completely covered with hydromulch or with straw anchored to the soil a minimum depth of 3 inches by a disc harrow set nearly straight, to properly maintain soil moisture and to provide shade for the newly germinated chutes.

3. Promptly after mulching, wet the seedbed thoroughly, keeping all areas moist throughout the germination period. Protect all turf areas by erecting temporary fences, barriers, signs, etc. as necessary to prevent trampling and disturbance.

4. When delays in operations carry the work beyond the most favorable planting season for the grasses designated, or when conditions are such, by reason of drought, high winds, excessive moisture, or other factors that satisfactory results are not likely to be obtained, the seeding operation shall be stopped and work shall be resumed only when conditions are favorable again or when approved alternative or corrective measures and procedures have been put into effect. If inspection during seeding operations or after indicate there are areas which have been skipped, the sowing of additional seed on these areas will be required.

5. The seeded areas will be inspected for acceptable grass coverage and will be acceptable when grasses designated are growing and are in good condition and no area more than ½ of one percent of the total areas shall be bare, of which no single area shall be more than one foot square in area. Any bare area larger than this will not be acceptable and shall be reseeded.

I. Compaction: Immediately following the completion of seeding operations, the entire area shall be compacted by means of a roller weighing at least 60 but not more than 90 pounds per linear foot of roller.

J. Maintenance Period: The Contractor shall be responsible for maintaining the installed grass seed and sod until all areas are complete and accepted by the Owner.

K. Mulching: Mulching shall be done within 24 hours following the seeding operation except in the case of wood cellulose fiber type mulch.

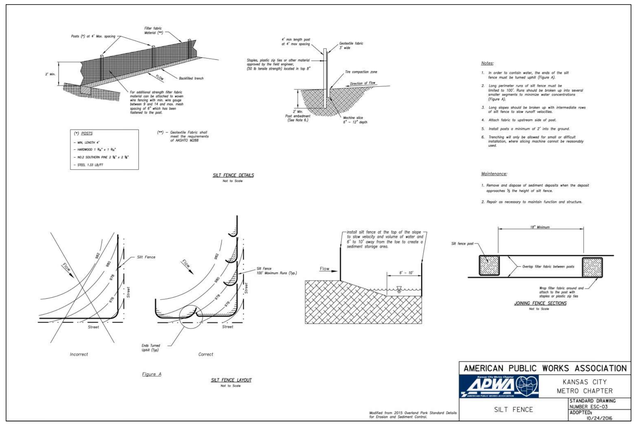
1. Vegetative Type Mulch: After compacting the surface, mulch shall be uniformly spread at the rate of 1.5 tons per acre by means of a mechanical spreader or other approved means. As soon as the mulch is spread it shall be anchored to the soil a minimum depth of 3 inches by use of a heavy disc harrow, set nearly straight, or a similar approved tool. Discs of the anchoring tool shall be set approximately 9 inches apart. Anchoring shall be accomplished by not more than two passes of the tool.

2. Wood Cellulose Fiber Type: Wood cellulose fiber mulch shall be added to the hydraulic seeder after the proportionate amounts of seed, fertilizer and water, and other approved materials are added. These ingredients shall be mixed to form a slurry which shall be applied at the rate of 1,000 pounds per acre. The mulch shall make a uniform coverage of the soil surface that will be satisfactory to the Owner.

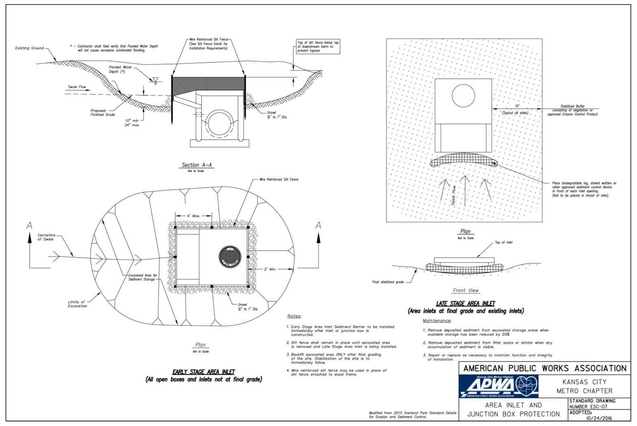
SECTION 2402 SODDING

2402.1 Scope

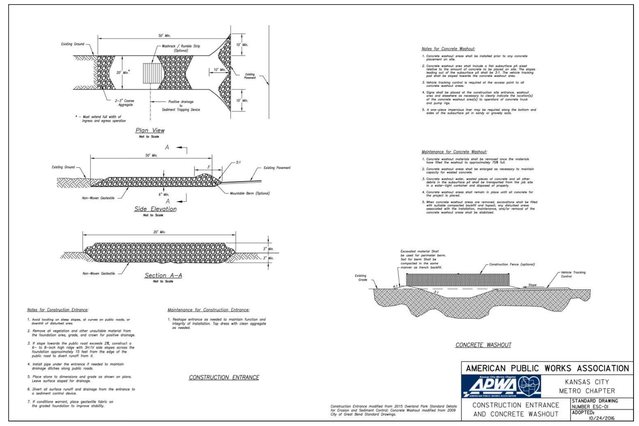
DETAIL #01
APWA SEED & SOD REQUIREMENTS
N.T.S.



DETAIL #02
SILT FENCE
N.T.S.



DETAIL #03
INLET PROTECTION
N.T.S.



DETAIL #04
CONSTRUCTION ENTRANCE AND WASHOUT STATION
N.T.S.

SWPPP GENERAL NOTES

1. SEDIMENT AND EROSION CONTROL SHALL NOT BE LIMITED TO THE MEASURES SHOWN ON THE PLANS. THE CONTRACTOR, WITH THE APPROVAL OF JACKSON COUNTY SHALL UTILIZE BEST MANAGEMENT PRACTICES TO PREVENT SEDIMENT FROM ENTERING ADJACENT PROPERTIES, ROADWAYS, STORM SEWERS, AND DRAINAGE WAYS.
2. ALL SILTATION CONTROL DEVICES SHALL BE INSPECTED BY THE CONTRACTOR WEEKLY AND WITHIN 48 HOURS AFTER EACH RAINFALL EVENT. ANY APPRECIABLE ACCUMULATION OF MUD TO BE REMOVED AND SILTATION MEASURES REPAIRED WHERE NECESSARY.
3. SEDIMENT AND EROSION CONTROL PLANS FOR SITES THAT EXCEED 20,000 SQUARE FEET OF GRADING SHALL PROVIDE FOR SEDIMENT OR DEBRIS BASINS, SILT TRAPS OR FILTERS, OR OTHER APPROVED MEASURES TO REMOVE SEDIMENT FROM RUN–OFF WATERS. THE DESIGN TO BE APPROVED BY THE DESIGNATED OFFICIAL. TEMPORARY SILTATION CONTROL MEASURES (STRUCTURAL) SHALL BE MAINTAINED UNTIL VEGETATIVE COVER IS ESTABLISHED AT A SUFFICIENT DENSITY TO PROVIDE EROSION CONTROL ON THE SITE.
4. WHERE NATURAL VEGETATION IS REMOVED DURING GRADING, VEGETATION SHALL BE RE–ESTABLISHED IN SUCH A DENSITY AS TO PREVENT EROSION. PERMANENT TYPE GRASSES SHALL BE ESTABLISHED AS SOON AS POSSIBLE DURING THE NEXT SEEDING PERIOD AFTER GRADING HAS BEEN COMPLETED.
5. WHEN GRADING OPERATIONS ARE COMPLETED OR SUSPENDED FOR MORE THAN 14 DAYS PERMANENT GRASS MUST BE ESTABLISHED AT SUFFICIENT DENSITY TO PROVIDE EROSION CONTROL ON THE SITE, BETWEEN PERMANENT GRASS SEEDING PERIODS, TEMPORARY COVER SHALL BE PROVIDED ACCORDING TO JACKSON COUNTY RECOMMENDATIONS. ALL FINISHED GRADES (AREAS NOT TO BE DISTURBED BY FUTURE IMPROVEMENT) IN EXCESS OF 20% SLOPES (5:1) SHALL BE MULCHED AND TACKED AT THE RATE OF 100 POUNDS PER 1,000 SQUARE FEET WHEN SEEDED.
6. PROVISIONS SHALL BE MADE TO ACCOMMODATE THE INCREASED RUNOFF CAUSED BY CHANGED SOILS AND SURFACE CONDITIONS DURING AND AFTER GRADING. UNVEGETATED OPEN CHANNELS SHALL BE DESIGNED SO THAT GRADIENTS RESULT IN VELOCITIES OF 2 FPS (FEET PER SECOND) OR LESS. OPEN CHANNELS WITH VELOCITIES MORE THAN 2 FPS AND LESS THAT 5 FPS SHALL BE ESTABLISHED IN PERMANENT VEGETATION BY USE OF COMMERCIAL EROSION CONTROL BLANKETS OR LINED WITH ROCK RIP RAP OR CONCRETE OR OTHER SUITABLE MATERIALS AS APPROVED BY THE COUNTY ENGINEER. DETENTION BASINS, DIVERSIONS, OR OTHER APPROPRIATE STRUCTURES SHALL BE CONSTRUCTED TO PREVENT VELOCITIES ABOVE 5 FPS.
7. THE ADJOINING GROUND TO DEVELOPMENT SITES (LOTS) SHALL BE PROVIDED WITH PROTECTION FROM ACCELERATED AND INCREASED SURFACE WATER, SILT FROM EROSION, AND ANY OTHER CONSEQUENCE OF EROSION. RUN–OFF WATER FROM DEVELOPED AREAS (PARKING LOTS, PAVED SITES AND BUILDINGS) ABOVE THE AREA TO BE DEVELOPED SHALL BE DIRECTED TO DIVERSIONS, DETENTION BASINS, CONCRETE GUTTERS AND/OR UNDERGROUND OUTLET SYSTEMS. SUFFICIENTLY ANCHORED STRAW BALES MAY BE TEMPORARILY SUBSTITUTED WITH THE APPROVAL OF THE COUNTY ENGINEER.
8. UPON COMPLETION OF STORM SEWERS, SILTATION CONTROL SHALL BE PROVIDED AROUND ALL OPEN SEWER INLETS AND SHALL REMAIN UNTIL THE DISTURBED DRAINAGE AREAS HAVE BEEN PROPERLY STABILIZED.
9. SEDIMENT SHALL BE WASHED FROM ALL VEHICLES AT WASH DOWN STATION PRIOR TO LEAVING THE SITE. NO TRACKING OF MUD ONTO PUBLIC ROADS SHALL BE ALLOWED.
10. ALL TRASH AND DEBRIS ON–SITE, EITHER EXISTING OR FROM CONSTRUCTION, MUST BE REMOVED AND PROPERLY DISPOSED OF OFF–SITE.
11. SILTATION CONTROL MEASURES SHALL BE INSTALLED BEFORE GRADING ACTIVITIES BEGIN AND SHALL BE MAINTAINED UNTIL ALL SITEWORK THAT COULD GENERATE SILT IS COMPLETED.
12. ALL FEDERAL, STATE AND LOCAL PERMITS AND BMP INSPECTION REPORTS ARE TO BE LOCATED AT THE JOB TRAILER FOR VIEWING AT ALL TIMES.
13. THE PROJECT WILL NOT EMPLOY THE USE OF TEMPORARY, ON SITE, CONCRETE OR ASPHALT BATCH PLANTS.
14. THIS SITE DOES NOT REQUIRE 404/401 PERMITTING.
15. NO DEWATERING METHODS ARE ANTICIPATED OR PROPOSED FOR THIS PROJECT.
16. NO CONSTRUCTION WASTE OR POTENTIAL POLLUTION SOURCES ARE PROPOSED TO BE STORED ON SITE DURING CONSTRUCTION OR LAND DISTURBANCES.
17. NO SINKHOLES, SPRINGS, SEEPS, OR KARST FEATURES ARE LOCATED ON THE SITE.
18. PRIOR TO ANY MAJOR LAND DISTURBANCE ACTIVITY, A LAND DISTURBANCE PERMIT FROM THE STATE OF MISSOURI DEPARTMENT ON NATURAL RESOURCES WILL BE REQUIRED. CONTRACTOR SHALL ADHERE TO THE REQUIREMENTS OF SAID PERMIT.
19. THE LOSS OF ANY CONTAINED SEDIMENT OR OTHER POLLUTANT REQUIRES IMMEDIATE ACTION WHICH MUST BE DOCUMENTED AND REPORTED TO ST. LOUIS COUNTY.
20. ROUTINE INSPECTIONS SHALL OCCUR WEEKLY AND NO LATER THAN 48 HOURS AFTER RUNOFF PRODUCING RAINFALL EVENT TO ENSURE THAT ALL BMPS ARE CONTINUALLY IMPLEMENTED AND ARE EFFECTIVE.
21. PROPOSED POST CONSTRUCTION SURFACE BMPS SHALL BE CONSTRUCTED AFTER SUBSTANTIAL COMPLETION OF LAND DISTURBANCE ACTIVITIES. ALL POST CONSTRUCTION BMPS ARE TO BE PROTECTED FROM RUNOFF, SEDIMENT, AND DAMAGE DURING CONSTRUCTION ACTIVITIES.
22. EPA ALLOWABLE NON–STORM WATER DISCHARGES:

    WATERLINE FLUSHING
    LANDSCAPE IRRIGATION
    DIVERTED STREAM FLOWS
    RISING GROUND WATERS
    UNCONTAMINATED GROUND WATER INFILTRATION
    UNCONTAMINATED PUMPED GROUND WATER
    FOUNDATION DRAINS
    DISCHARGE FROM POTABLE WATER SOURCES
    AIR CONDITIONING CONDENSATION
    IRRIGATION WATER, SPRINGS
    WATER FROM CRAWL SPACE PUMPS
    FOOTING DRAINS
    LAWN WATERING
    INDIVIDUAL RESIDENT CAR WASHING
    FLOWS FROM RIPARIAN HABITATS AND WETLANDS
    DE–CLORINATED SWIMMING POOL DISCHARGES
    STREET WASH WATER
    RESIDENTIAL BUILDING WASH WATERS, WITHOUT DETERGENTS
    DISCHARGES FROM EMERGENCY FIRE FIGHTING ACTIVITIES

SWPPP Certification

I certify under penalty of law that this Storm Water Pollution Prevention Plan has been prepared in accordance with the requirements and regulations of the Missouri Department of Natural Resources and the approval of the local governing agency. Additionally, this plan has been prepared to substantially comply with the General Permit Requirements of the United States Environmental Protection Agency. To the best of my knowledge and belief, the information contained in this plan is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for known violations.

Signature: _____ Date: _____

NOTES:

1. CONTRACTOR SHALL REFER TO OTHER PLANS WITHIN THIS CONSTRUCTION SET FOR OTHER PERTINENT INFORMATION. IT IS NOT THE ENGINEER'S INTENT THAT ANY SINGLE PLAN SHEET IN THIS SET OF DOCUMENTS FULLY DEPICT ALL WORK ASSOCIATED WITH THIS PROJECT.

KARL A. SCHOENIKE, PE
(MO PE# 2003015039)

STATE OF MISSOURI
KARL A. SCHOENIKE
NUMBER PE-2003015039
12/22/2025
PROFESSIONAL ENGINEER

REFERENCE

EXISTING TOPOGRAPHIC DATA AND FEATURES ARE A COMBINATION OF THE FOLLOWING:
1. ALTA SURVEY DATED 08–20–2025 BY CIVIL & ENVIRONMENTAL CONSULTANTS, INC.
2. DEVELOPMENT PLANS FOR OLDHAM VILLAGE (BY OTHER)
3. SITE DEVELOPMENT PLANS DATED XXXX BY CIVIL & ENVIRONMENTAL CONSULTANTS, INC.

MISSOURI 811
811 or 1-800-344-7483
https://missouri-811.org

NOTE TO CONTRACTOR: PRIOR TO ANY EXCAVATION FOR UNDERGROUND UTILITIES, CONTRACTOR SHALL EXPOSE AND VERIFY LOCATIONS (HORIZONTAL AND VERTICAL) OF ALL EXISTING UTILITIES INCLUDING BUT NOT LIMITED TO GAS, WATER, BROADBAND, PHONE, SANITARY AND STORM SEWERS. ANY CONFLICT SHALL BE REPORTED IMMEDIATELY TO THE ENGINEER AND APPROPRIATE AUTHORITIES

REVISION RECORD

NO.	DATE	DESCRIPTION

ENGINEERING, SURVEYING AND LANDSCAPE ARCHITECTURE IN THE STATE OF NORTH CAROLINA WILL BE PROVIDED BY CEC, SURVEYING AND LANDSCAPE ARCHITECTS OF NC, PLLC. CEC EARTH, LAND PLANNING AND ENVIRONMENTAL SERVICES IN THE STATE OF KANSAS WILL BE PROVIDED BY CEC ENGINEERS & CONSULTANTS, LLC. LANDSCAPE ARCHITECTURE SERVICES IN THE STATE OF MISSOURI WILL BE PROVIDED BY CEC LANDSCAPE ARCHITECTS, LLC.

Civil & Environmental Consultants, Inc.
1450 Beale Street
Suite 305
St. Charles, MO 63303
Ph: 314.656.4566
www.cecinc.com

COSTCO WHOLESALE
LEE'S SUMMIT, MISSOURI

COSTCO LEES SUMMIT
CONSTRUCTION DOCUMENTS
E&S DETAILS
MUNICIPAL REVIEW SET

DATE:	DECEMBER 22, 2025
DWG SCALE:	
PROJECT NO:	353-308.0002
DRAWN BY:	MK
CHECKED BY:	KAS
APPROVED BY:	*DRK

DRAWING NO.:
C901
SHEET 31 OF 31

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