

SITE USGS AND LOCATION MAP
U.S.G.S. 7.5 TOPOGRAPHIC MAP FOR WELDON SPRING QUADRANGLE, MISSOURI
DATED 2021. SCALE: 1" = 1,000'

MASTERCARD PARKING LOT F IMPROVEMENT PLAN

A TRACT OF LAND BEING PART OF FRACTIONAL SECTION 13 AND PART OF LOT 23 OF THE WALNUT GROVE TRACT IN U.S. SURVEY 1669, TOWNSHIP 46 NORTH, RANGE 2 EAST AS RECORDED IN DEED BOOK 2300 PAGE 1139, ST CHARLES COUNTY, MISSOURI



CITY OF O'FALLON
ENGINEERING DEPARTMENT
ACCEPTED FOR CONSTRUCTION
BY: Jeannie Greenlee DATE 02/24/2026
PROFESSIONAL ENGINEER'S SEAL
INDICATES RESPONSIBILITY FOR DESIGN

DEVELOPMENT NOTES

- OVERALL AREA OF TRACT: 52.08 ACRES (2,268,605 ± SQ.FT)
- PROPOSED LIMITS OF DISTURBANCE: 3.28 ACRES
- SITE ADDRESS: 2200 MASTERCARD BLVD
O'FALLON, MO 63368
- LOCATOR ID: 4-0047-5013-00-0004.2300000
- ZONING: HTCD (HIGH TECH CORRIDOR DISTRICT)
PUD (PLANNED UNIT DEVELOPMENT)
- PLANNING AND DEVELOPMENT DIVISION FILE #: 25-010702
- CURRENT USE: UNDEVELOPED WOODED LAND
PROPOSED USE: VEHICLE PARKING LOT (NO PROPOSED BUILDINGS OR TRASH CONTAINERS)
- OWNER: MISSOURI DEVELOPMENT FINANCE BOARD
- SETBACKS (HIGH TECH CORRIDOR DISTRICT):
FRONT- 30'
SIDE- 20'
REAR- 35'
MAXIMUM BUILDING HEIGHT: 50'
- FLOOD PLAIN NOTE:
ACCORDING TO THE FLOOD INSURANCE RATE MAP OF CITY OF O'FALLON, MISSOURI AND INCORPORATED AREAS, MAP PANEL NUMBER 29183C04300 & 29183C02400 DATED JANUARY 1, 2015, THIS DEVELOPMENT IS LOCATED IN ZONE V UNSHADED, AREA OF MINIMAL FLOOD HAZARD, AREAS DETERMINED TO BE OUTSIDE OF THE 0.2% ANNUAL CHANCE FLOODPLAIN.
- THIS SITE PLAN MUST MEET THE REQUIREMENTS AND CONDITIONS OF THE O'FALLON MUNICIPAL CODE, TITLE IV: LAND USE, ARTICLE XIII: PERFORMANCE STANDARDS, ARTICLE XIV: SITE PLAN REVIEW, AND SHALL BE CONSISTENT WITH THE OVERALL COMPREHENSIVE PLAN.
- THIS SITE SHALL COMPLY WITH THE LOCAL FIRE DISTRICT, MISSOURI DEPARTMENT OF NATURAL RESOURCES, AND APPLICABLE SANITARY AND WATER DISTRICT REGULATIONS.
- THIS SITE PLAN MUST MEET THE REQUIREMENTS OF THE O'FALLON MUNICIPAL CODE, CHAPTER 402, TREES AND LANDSCAPING.
- ALL PROPOSED UTILITIES SHALL BE LOCATED UNDERGROUND UNLESS OTHERWISE APPROVED BY THE CITY.

SHEET LIST TABLE

#	TITLE	NAME
01	C000	COVER SHEET
02	C001	GENERAL NOTES
03	C100	EXISTING CONDITIONS
04	C101	DEMOLITION PLAN
05	C200	SITE & UTILITY LAYOUT
06	C300	GRADING PLAN
07	C301	CUT + FILL MAP
08	C400	STORM SEWER PLAN
09	C401	STORM SEWER PROFILE
10	C800	CONSTRUCTION DETAILS
11	C900	EROSION AND SEDIMENT CONTROL PLAN
12	C901	E & S DETAILS
13	HD1	DRAINAGE AREA MAPS
14	HD2	STORMWATER MANAGEMENT
15	E001	ELECTRICAL SYMBOLS, ABBREVIATIONS & GENERAL NOTES
16	E002	SPECIFICATIONS
17	E101	ELECTRICAL
18	E201	PHOTOMETRICS
19	L1.0	PLANTING PLAN
20	L1.1	PLANTING SPECIFICATIONS

CONDITIONS OF APPROVAL

- THIS APPROVAL IS CONDITIONAL UPON ALL APPLICABLE REQUIREMENTS PROVIDED WITHIN TITLE IV OF THE CITY'S MUNICIPAL CODE BEING ADDRESSED ON THE CONSTRUCTION SITE PLAN.
- PROVIDE DETENTION EASEMENTS (ACCESS & 20' HIGH WATER) ALL THE WAY FROM A PUBLIC ROAD.
- PROVIDE FIRE DISTRICT, MDRN, SANITARY AND WATER DISTRICT APPROVAL.
- PROVIDE DIFFERENTIAL RUN OFF CALCULATIONS FOR 100-YEAR 20-MINUTE STORM.

CITY OF O'FALLON CONSTRUCTION WORK HOURS PER CITY ORDINANCE 3429 AS SHOWN IN SECTION 500.420 OF THE MUNICIPAL CODE OF THE CITY OF O'FALLON ARE AS FOLLOWS:

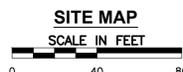
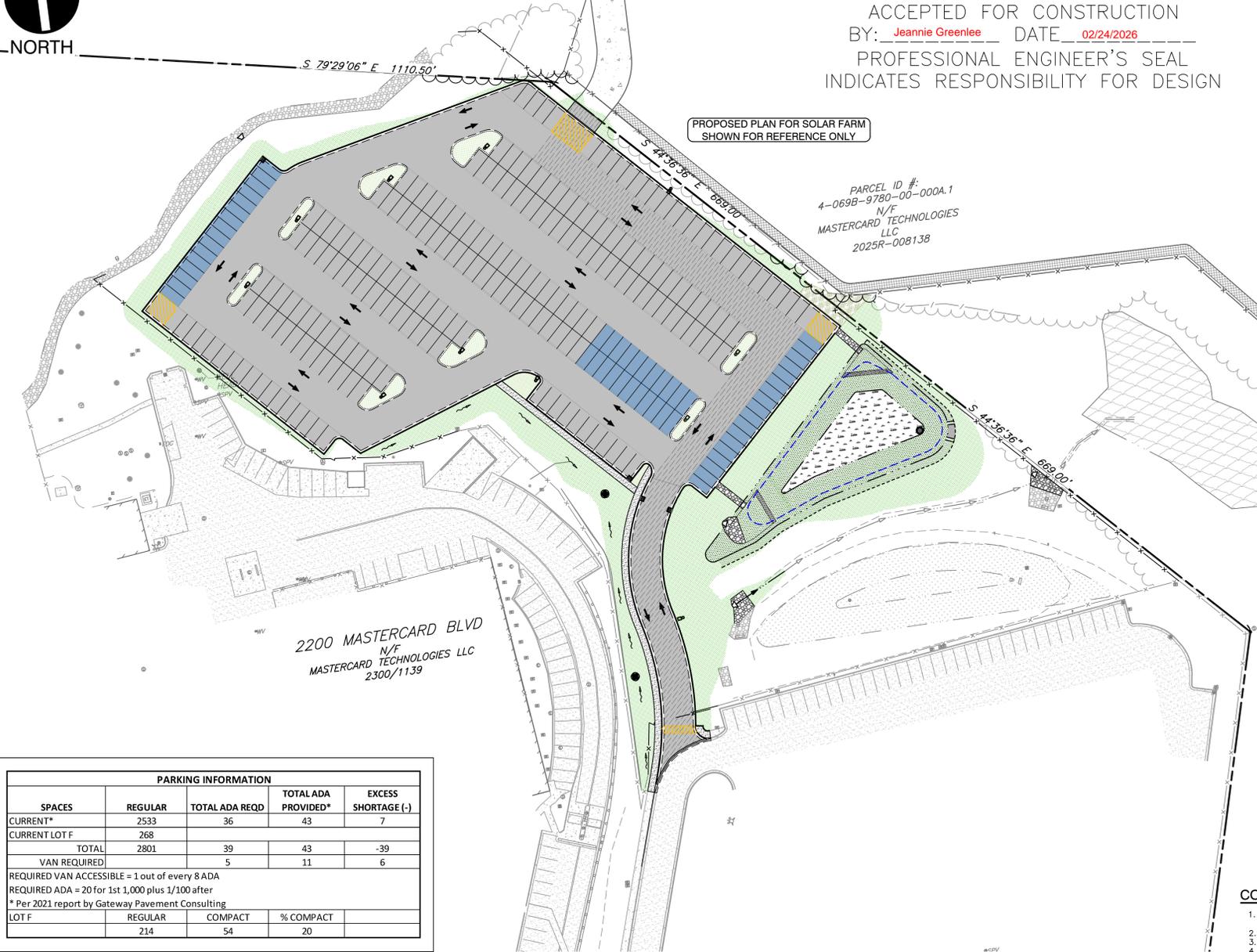
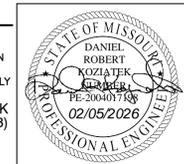
October 1 through May 31
7:00 A.M. To 7:00 P.M. Monday Through Sunday
June 1 Through September 30
6:00 A.M. To 8:00 P.M. Monday Through Friday
7:00 A.M. to 8:00 P.M. Saturday and Sunday

NOTES:

- REFER TO SHEET C001 FOR GENERAL NOTES AND ABBREVIATIONS.
- 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.

DANIEL R. KOZIATEK
(MO PE# 2004017198)

P&Z FILE #: 25-010702
NOVEMBER 6, 2025



LEGAL DESCRIPTION

BEGINNING AT THE INTERSECTION OF THE SOUTHWESTERN LINE OF U.S. SURVEY 1669 WITH THE NORTHERN LINE OF SURVEY 1641, SAID POINT BEING THE SOUTHWESTERN CORNER OF SAID LOT 23 OF THE "WALNUT GROVE TRACT", SAID POINT ALSO BEING THE SOUTHEAST CORNER OF PROPERTY CONVEYED TO MCEAGLE--O'FALLON, L.C. BY DEED RECORDED IN BOOK 1989, PAGE 316 OF THE ST. CHARLES COUNTY RECORDS; THENCE ALONG THE COMMON LINE BETWEEN SAID U.S. SURVEY 1641 AND SAID FRACTIONAL SECTION 13, SOUTH 82 DEGREES 34 MINUTES 07 SECONDS WEST, 1,014.38 FEET TO A POINT, SAID POINT BEING THE SOUTHWEST CORNER OF SAID MCEAGLE--O'FALLON; THENCE ALONG THE SOUTHWESTERN LINE OF MCEAGLE--O'FALLON NORTH 18 DEGREES 40 MINUTES 53 SECONDS WEST, 762.00 FEET TO AN IRON PIPE; THENCE SOUTH 89 DEGREES 20 MINUTES 07 SECONDS WEST, 236.96 FEET TO AN IRON PIPE; THENCE SOUTH 49 DEGREES 01 MINUTES 37 SECONDS WEST, 278.60 FEET TO AN IRON PIPE ON THE EXISTING NORTHEASTERN RIGHT-OF-WAY LINE OF HIGHWAY 40-61, SAID POINT BEING 88.50 FEET PERPENDICULAR NORTHEASTERLY FROM EXISTING CENTERLINE STATION 322+47.50; THENCE LEAVING SAID NORTHEASTERN RIGHT-OF-WAY LINE, NORTH 34 DEGREES 48 MINUTES 36 SECONDS WEST, 156.56 FEET TO A POINT, SAID POINT BEING 92.21 FEET PERPENDICULAR NORTHEASTERLY FROM EXISTING CENTERLINE STATION 320+91.0; THENCE NORTH 20 DEGREES 14 MINUTES 05 SECONDS WEST, 216.00 FEET TO A POINT, SAID POINT BEING 151.51 FEET PERPENDICULAR NORTHEASTERLY FROM EXISTING CENTERLINE STATION 318+83.3; THENCE NORTH 14 DEGREES 45 MINUTES 35 SECONDS WEST, 149.18 FEET TO A POINT, SAID POINT BEING 205.97 FEET PERPENDICULAR NORTHEASTERLY FROM EXISTING CENTERLINE STATION 317+44.4; THENCE NORTH 5 DEGREES 11 MINUTES 43 SECONDS WEST, 148.14 FEET TO A POINT, SAID POINT BEING 282.20 FEET PERPENDICULAR NORTHEASTERLY FROM EXISTING CENTERLINE STATION 316+17.4; THENCE NORTH 4 DEGREES 26 MINUTES 08 SECONDS EAST, 148.75 FEET TO A POINT, SAID POINT BEING 379.02 FEET PERPENDICULAR NORTHEASTERLY FROM EXISTING CENTERLINE STATION 315+04.5; THENCE NORTH 14 DEGREES 05 MINUTES 19 SECONDS EAST, 148.56 FEET TO A POINT, SAID POINT BEING 493.24 FEET PERPENDICULAR NORTHEASTERLY FROM EXISTING CENTERLINE STATION 314+09.5; THENCE NORTH 18 DEGREES 56 MINUTES 07 SECONDS EAST, 103.32 FEET TO A POINT, SAID POINT BEING 578.00 FEET PERPENDICULAR NORTHEASTERLY FROM EXISTING CENTERLINE STATION 313+50.4; THENCE SOUTH 69 DEGREES 32 MINUTES 53 SECONDS EAST, 60.30 FEET; THENCE SOUTH 18 DEGREES 32 MINUTES 53 SECONDS EAST, 30.75 FEET; THENCE NORTH 71 DEGREES 27 MINUTES 07 SECONDS EAST, 364.44 FEET; THENCE NORTH 89 DEGREES 56 MINUTES 28 SECONDS EAST, 112.33 FEET; THENCE SOUTH 62 DEGREES 54 MINUTES 33 SECONDS EAST, 197.46 FEET; THENCE SOUTH 49 DEGREES 19 MINUTES 53 SECONDS EAST, 165.21 FEET; THENCE SOUTH 79 DEGREES 27 MINUTES 53 SECONDS EAST, 1,110.50 FEET; THENCE SOUTH 44 DEGREES 35 MINUTES 23 SECONDS EAST, 669.00 FEET; THENCE SOUTH 14 DEGREES 40 MINUTES 37 SECONDS WEST, 332.23 FEET TO A POINT ON THE NORTHERN LINE OF A TRACT OF LAND CONVEYED TO LRA C. AND LILLIAN JONES BY ALFRED SET FEN, ETAL, BY DEED RECORDED IN BOOK 372, PAGE 7 OF THE ST. CHARLES COUNTY RECORDS; THENCE ALONG SAID NORTHERN LINE OF JONES, SOUTH 82 DEGREES 08 MINUTES 07 SECONDS WEST, 475.86 FEET TO A POINT ON THE SOUTHWESTERN LINE OF SAID U.S. SURVEY 1669; THENCE ALONG SAID SOUTHWESTERN LINE, SOUTH 26 DEGREES 46 MINUTES 13 SECONDS EAST, 211.46 FEET TO THE POINT OF BEGINNING AND CONTAINING 52.08 ACRES ACCORDING TO SURVEY BY THE CLAYTON ENGINEERING COMPANY MARCH, 1999.

PARKING INFORMATION				
SPACES	REGULAR	TOTAL ADA REQD	TOTAL ADA PROVIDED*	EXCESS SHORTAGE (-)
CURRENT*	2533	36	43	7
CURRENT LOT F	268			
TOTAL	2801	39	43	-39
VAN REQUIRED		5	11	6

REQUIRED VAN ACCESSIBLE = 1 out of every 8 ADA
REQUIRED ADA = 20 for 1st 1,000 plus 1/100 after
* Per 2021 report by Gateway Pavement Consulting

LOT F	REGULAR	COMPACT	% COMPACT
	214	54	20

BASIS OF BEARING AND ELEVATION

BASIS OF BEARING AND ELEVATIONS FOR THIS SURVEY IS MISSOURI EAST STATE PLANE. SITE WAS SCALED TO GROUND USING A GROUND SCALE FACTOR DERIVED FROM A CENTRAL POINT ON SITE USING TRIMBLE ACCESS SOFTWARE ON A 15027 DATA COLLECTOR. SAID POINT IS AT
LAT 38°44'44.56605"N
LONG 90°44'38.67264"W
HEIGHT 452.793'
GROUND SCALE FACTOR=1.0000827842

OWNER

NAME: MASTERCARD TECHNOLOGIES LLC
ADDRESS: 2200 MASTERCARD BLVD.
O'FALLON, MO 63368
PH: (636) 722-7747
CONTACTS: JEFFREY WILDBERGER
EMAIL: Jeffrey.Wildburger@mastercard.com

OWNER/TEAM INFORMATION

LANDSCAPE ARCHITECT

NAME: DERMODY & ASSOCIATES
ADDRESS: 2394 CHARELMAGNE DRIVE
MARYLAND HEIGHTS, MO 63043
PH: (314) 602-8542
CONTACTS: EDWARD M. DERMODY
EMAIL: Ed.Dermody@att.net

CIVIL ENGINEER

NAME: CIVIL & ENVIRONMENTAL CONSULTANTS, INC.
ADDRESS: 1450 BEALE STREET, SUITE 305,
SAINT CHARLES, MO 63303
PH: (314) 656-4566
CONTACTS: DAN R. KOZIATEK, PE
CYNTHIA A. NAGEL, PM

DEVELOPER

NAME: CUSHMAN WAKEFIELD
ADDRESS: 2200 MASTERCARD BOULEVARD
O'FALLON, MO 63368
PH: (314) 280-9819
CONTACT: BARRY ALT
EMAIL: Barry.Alt@mastercard.com

ELECTRICAL & STRUCTURAL

NAME: EDDY DESIGN GROUP, LLC
ADDRESS: 18336 EDISON AVENUE, SUITE 103
CHESTERFIELD, MO 63005
PH: (314) 463-0400
CONTACT: CARA MCKEY
EMAIL: cmckey@eddydesigngroup.com

THE FOLLOWING UTILITIES AND OWNERS ARE LOCATED WITHIN THE WORK LIMITS OF THIS PROJECT

- WATER**
PUBLIC WATER SUPPLY DISTRICT NO. 2
P.O. BOX 967
O'FALLON, MO 63366
PHONE: (636) 561-3737 EXT. 131
- ELECTRIC**
AMEREN MISSOURI
200 CALLAHAN ROAD
WENTZVILLE, MO 63385
PHONE: (636) 639-8312
- CABLE**
CENTURY LINK
1151 CENTURY TEL DR.
WENTZVILLE, MO 63385
PHONE: (636) 332-7261
- TELEPHONE**
AT&T
12851 MANCHESTER ROAD, 2-E-214
DES PERES, MO 63131
PHONE: (314) 894-4003
- SANITARY SEWER**
DUCKETT CREEK SANITARY DISTRICT
3550 HIGHWAY K
O'FALLON, MO 63368
PHONE: (636) 441-1244
- STORM SEWER**
CITY OF O'FALLON
100 N. MAIN ST
O'FALLON, MO 63366
PHONE: (636) 240-2000
- FIRE PROTECTION**
WENTZVILLE FIRE DISTRICT
209 WEST PEARCE BLVD.
WENTZVILLE, MO 63385



REFERENCE

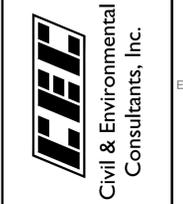
- TOPOGRAPHIC INFORMATION BASED UPON SURVEY CONDUCTED BY CIVIL & ENVIRONMENTAL CONSULTANTS, INC ON 09/18/2025.

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.

811 or 1-800-344-7483
https://missouri-811.org
ISSUED TICKET#: 133611243
TICKET DATE: 00/00/00

NO	DATE	DESCRIPTION
1	1/15/2025	PRELIMINARY
2	1/15/2025	CONSTRUCTION PLAN SUBMISSION
3	1/15/2025	FINAL PLAN SUBMISSION
4	1/15/2025	REVISIONS FOR PERMITTING
5	1/15/2025	REVISIONS FOR PERMITTING
6	1/15/2025	REVISIONS FOR PERMITTING
7	1/15/2025	REVISIONS FOR PERMITTING

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



MASTERCARD PARKING LOT "F"
2200 MASTERCARD BOULEVARD
O'FALLON, MO 63368

DATE	DRAWN BY	CAN	DIRK
SEP. 2025	AS NOTED	384-285	DIRK

COVER SHEET

DRAWING NO: **C000**

SHEET 01 OF 20

CITY OF FALLON NOTES

General Notes

- 1. Driveway locations shall not interfere with the sidewalk handicap ramps, or curb inlet ramps
2. Sidewalks, curb ramps, ramps and accessible parking spaces shall be constructed in accordance with currently approved
Americans with Disabilities Act Accessibility Guidelines (ADAAG) along with the required grades, signage, specifications, and
construction materials. If any conflict occurs between the above information and the plans, the ADAAG guidelines shall be
followed and the contractor, prior to any construction, shall notify the Project Engineer.
2.1. Truncated domes for curb ramps located in public right of way shall meet PROWAG requirements and shall be constructed
using red pre-cast truncated domes per pavement details.
3. Any proposed pavilions or playground areas will need a separate permit from the Building Division.
4. The Contractor is responsible to call Missouri One Call and The City of O'Fallon for the location of utilities. Contact the City of
O'Fallon (636) 379-3814 for the location of City maintained cable for street lights and traffic signals, all other utilities call
Missouri One Call 1-800-DIG-RITE. 1-800-344-7483
5. All proposed utilities and/or utility relocations shall be located underground.
6. All proposed fencing requires a separate permit through the Building Safety Division.
7. All construction operations and work zone traffic control within the right of way will follow MoDOT or M.U.T.C.D. standards
whichever is more stringent.
8. (INTENTIONALLY OMITTED)
9. All subdivision identification or directional sign(s) must have the locations and sizes approved and permitted separately through
the Planning and Development Division.
10. Materials such as trees, organic debris, rubble, foundations, and other deleterious material shall be removed from the site and
disposed of in compliance with all applicable laws and regulations. If the material listed previously are reused, a letter from a
soil Engineer must clarify amount, location, depth, etc. and be approved with the construction plans. Landfill tickets for such
disposal shall be maintained on file by the developer. Burning on site shall be allowed only by permit from the local fire
district. If a burn pit is proposed the location and mitigation shall be shown on the grading plan and documented by the soils
engineer.
11. Twenty-four (24) hours prior to starting any of the work covered by the above plans and after approval thereof, the developer
shall make arrangements with the Construction Inspection Office to provide for inspection of the work, sufficient in the opinion
of the City Engineer, to assure compliance with the plans and specifications as approved.
12. The City Engineer or their duly authorized representative shall make all necessary inspections of City infrastructure, escrow items
or infrastructure located on the approved plans.
13. All installations and construction shall conform to the approved engineering drawings. However, if the developer chooses to make
minor modifications in design and/or specifications during construction, he/she shall make such changes at his/her own risk,
without any assurance that the City Engineer will approve the completed installation or construction. It shall be the responsibility
of the developer to notify the City Engineer of any changes from the approved drawings. The developer may be required to
correct the installed improvements so as to conform to the approved engineering drawings. The developer may request a letter
from the Construction Inspection Division regarding any field changes approved by the City inspectors.
14. City approval of the construction site plans does not mean that any building can be constructed on the lots without meeting
the building setbacks as required by the zoning code.

Grading Notes

- 1. Developer must supply City Construction Inspectors with an Engineer's soil reports prior to and during site grading. The soil
report will be required to contain the following information on soil test curves (Proctor reports) for projects within the City:
1.1. Maximum dry density
1.2. Optimum moisture content
1.3. Maximum and minimum allowable moisture content
1.4. Curve must be plotted to show density from a minimum of 90% Compaction and above as determined by the "Modified
AASHTO T-180 Compaction Test" (A.S.T.M.-D-1157) or from a minimum of 95% as determined by the "Standard Proctor
Test AASHTO T-99, Method C" (A.S.T.M.-D-698). Proctor type must be designated on document.
1.5. Curve must have at least 5 density points with moisture content and sample locations listed on document
1.6. Specific gravity
1.7. Natural moisture content
1.8. Liquid limit
1.9. Plastic limit
Be advised that if this information is not provided to the City's Construction Inspector the City will not allow grading or
construction activities to proceed on any project site.
2. All fill placed in areas other than proposed storm sewers, sanitary sewers, proposed roads, and paved areas shall be
compacted from the bottom of the fill up in 8" lifts and compacted to 90% maximum density as determined by Modified
AASHTO T-180 compaction test or 95% of maximum density as determined by the Standard Proctor Test AASHTO T-99.
Ensure the moisture content of the soil in fill areas corresponds to the compactive effort as defined by the Standard or
Modified Proctor Test. Optimum moisture content shall be determined using the same test that was used for compaction. Soil
compaction curves shall be submitted to the City of O'Fallon prior to the placement of fill.
3. The surface of the fill shall be finished so it will not impound water. If at the end of a days work it would appear that there
may be rain prior to the next working day, the surface shall be finished smooth. If the surface has been finished smooth for
any reason, it shall be scarified before proceeding with the placement of succeeding lifts. Fill shall not be placed on frozen
ground, nor shall fill operations continue when the temperature is such as to permit the layer under placement to freeze.
4. All sediment and detention basins are to be constructed during the initial phase of the grading operation or in accordance with
the approved SWPPP.
5. When grading operations are complete or suspended for more than 14 days, permanent grass must be established at sufficient
density to provide erosion control on site. Between permanent grass seeding periods, temporary cover shall be provided
according to Missouri Department of Natural Resources Protecting Water Quality - a field guide to erosion, sediment and
stormwater best management practices for development sites in Missouri and Kansas.All finished grades (areas not to be
disturbed by improvements) in excess of 20% slopes (5:1) shall be mulched and tacked at a rate of 100 pounds per 1000
square feet when seeded.
6. No slopes shall exceed 3 (horizontal): 1 (vertical) unless otherwise approved by the soils report and specifically located on the
plans and approved by the City Engineer.
7. All low places whether on site or off shall be graded to provide drainage with temporary ditches.
8. Any existing wells and/or springs which may exist on the property must be sealed in a manner acceptable to the City of
O'Fallon Construction Inspection Department and following Missouri Department of Natural Resources standards and specifications.
9. (INTENTIONALLY OMITTED)
10. All trench back fills under paved areas shall be granular back fill, and compacted mechanically. All other trench back fills
may be earth material (free of large clods, or stones) and compacted using either mechanical tamping or water jetting. Granular
material and earth material associated with new construction outside of pavements may be jetted, taking care to avoid damage
to newly laid sewers. The jetting shall be performed with a probe route on not greater than 7.5 foot centers with the jetting
probe centered over and parallel with the direction of the pipe. Trench widths greater than 10 feet will require multiple probes
every 7.5 foot centers.
[Section 405.210(D)(1)Outside (beyond) the pavement limits, excavations shall be jetted with water and allowed to set for a length
of time satisfactory to the City Engineer.
1. Jetting. Granular materials and earth materials associated with new construction beyond the pavement may be jetted, taking
care to avoid damage to newly laid sewers. The jetting shall be performed with a probe route on not greater than
seven-and-one-half-foot centers with the jetting probe centered over and parallel with the direction of the pipe. Trench
widths greater than ten (10) feet will require multiple probes every seven-and-one-half-foot centers.]
10.1. Depth. Trench back fills less than 8 feet deep shall be probed to a depth extending half the depth of the trench back fill,
but not less than 3 feet. Trench back fill greater than 8 feet in depth shall be probed to half the depth of the trench
back fill but not greater than 8 feet.
10.2. Equipment. The jetting probe shall be a metal pipe with an interior diameter of 1.5 to 2 inches.
10.3. Method. Jetting shall be performed from the lowest surface topographic point and proceed toward the highest point, and
from the bottom of the trench back fill toward the surface. The flooding of each jetting probe shall be started slowly
allowing slow saturation of the soil. Water is not allowed to flow away from the trench without first saturating the trench.
10.4. Surface Bridging. The contractor shall identify the locations of the surface bridging (the tendency for the upper surface to
crust and arch over the trench rather than collapse and consolidate during the jetting process). The contractor shall break
down the bridged areas using an appropriate method such as wheels or bucket of a backhoe. When surface crust is
collapsed, the void shall be back filled with the same material used as trench back fill and re-jetted. Compaction of the
materials within the sunken/jetted area shall be compacted such that no further surface subsidence occurs.
11. Site grading.
11.1. Within City right-of-way. Material is to be placed in eight (8) inch to twelve (12) inch loose lifts and compacted per the
approved compaction requirements. One (1) compaction test will be performed every two hundred fifty (250) feet along
the centerline for each lift.
11.2. Outside of City right-of-way. Material is to be placed in eight (8) inch to twelve (12) inch loose lifts and compacted per
the approved compaction requirements. One (1) compaction test will be performed at two (2) foot vertical intervals and
approximately every one thousand (1,000) cubic yards.
12. Access to the site from any other location other than the proposed construction entrance is strictly prohibited!

Roadway Notes

- 1. All paving (public and private) to be in accordance with St. Louis County Standards and Specifications except as modified by the City of O'Fallon
ordinances.
2. If the intersecting road does not have a curb, then the curb on the new entrance shall begin 10' from the edge of the existing road.
3. Provide 6" of concrete over 5" of aggregate base rock or asphalt equivalent for minor residential streets per City Code 405.370.
3.1. Rock to meet the all the requirements of MoDOT type 5 rock with a tighter restriction on the fines being that no more than ten percent
(10%) fines shall pass a no. 200 sieve. (City Code 405.210.B.1) The gradation of this rock needs to be submitted to the City for approval.
Any deliveries made without the proper delivery ticket, including signature, will not be accepted. The delivery ticket must list the project name
or jobsite location. A separate certification sheet may be provided attached to the delivery ticket with a signature of the company's quality
control manager. The quality control certification must be current and dated within 4 weeks of the delivery. (City Code 405.210.A.2.k)
4. Multi-use trail (when required) Shall have a minimum of 3" Type "C" Asphalt over 4" aggregate base per City requirements.
5. Type C (BP-1) Compaction requirements shall be 98% minimum density according to St. Louis Co. Standard Specifications.
6. Provide pavement striping at any point where the multi-use trail crosses existing or proposed pavement
7. All street stub-outs over 250' in length will require a temporary turnaround.
8. All sub grade in cut or fill will need to conform to the City of O'Fallon Compaction requirements
9. Material Testing And Frequency. Materials for construction shall be tested and inspected per the appropriate ASTM code or at the City Engineer's
discretion. The developer's engineer shall perform quality control guidelines, in accordance with St. Louis County requirements 501.3.1.
10. Approval Of Sub grade And Base (Sub base). The City Engineer or representative shall approve the sub grade before any base is placed thereon
and shall approve the base before concrete or surface course is placed. The sub grade and base shall be so constructed that it will be uniform
in density throughout.
11. In all fill areas in the roadways, soil tests shall be submitted and approved by the City Engineer for each foot of fill and at least one (1) test
and an average of one (1) test within every two hundred fifty (250) feet.
12. No traffic will be allowed on new concrete pavement until it has cured for seven (7) days and it reaches three thousand five hundred (3,500) psi
within 28 days.
12.1. Concrete pavements shall not be approved unless it reaches a strength of four thousand (4,000) psi. Cylinders/compressive strength. One (1)
set of four (5) cylinders within the first fifty (50) cubic yards and one (1) set per one hundred (100) cubic yards thereafter. One (1)
cylinder must be tested at seven (7) days, three (3) at twenty-eight (28) days, and one (1) held in reserve.
13. Prior to placement of aggregate base material on sub grade and prior to placement of pavement on base material, the sub grade and base
must be proofer-rolled with a fully loaded (ten (10) ton load) tandem truck or equivalent tire vehicle with one (1) pass down each driving lane no
faster than three (3) miles per hour. If soft spots are detected, or pumping, rutting or heaving occurs greater than one (1) inch at the sub
grade, the roadbed shall be considered unsatisfactory and the soil in these areas shall be remediated to the depth indicated by the contractor's
testing firm and approved by a representative of the City Engineer.
14. Sub grade and base beneath pavements shall be compacted to St. Louis County Highway Department specifications. The moisture range shall be
determined by the Standard or Modified Proctor Density Method AASHTO T-99 and within -2/+4 percentage points of the optimum moisture
content.
15. The entire width and length will conform to line, grade and cross section shown on the plans or as established by the engineer. If any settling
or washing occurs, or where hauling results in ruts or other objectionable irregularities, the contractor shall improve the sub grade or base to the
satisfaction of the City before the pavement is placed. Additional rolling or methods to verify compaction shall be at the discretion of the City
Engineer. Tolerance allowed on all lines, grades and cross sections shall be plus or minus four-hundredths (+0.04) feet.
16. Utility Work Prior To Base Construction. No base course work may proceed on any street until all utility excavations (storm and sanitary sewers,
water, gas, electric, etc.) have been properly back filled with granular material, crushed stone or gravel mechanically tamped in ten (10) inch lifts.
Utilities installed after sub grade preparation shall be bored. Compaction requirements shall follow St. Louis County standards.
17. Equipment calibration. The developer's contractors and subcontractors must have their equipment calibrated by the following minimum standards.
17.1. Air meter---weekly.
17.2. Cylinder compression---annually by independent calibration service.
17.3. Batch scales---monthly.
17.4. Nuclear testing devices---every six (6) months.
17.5. Proctor equipment---every six (6) months.
17.6. Slump cone---monthly.
18. All permanent traffic control will be per M.U.T.C.D. or MoDot standards. S1-1 from the M.U.T.C.D. manual will be used at all crosswalk locations
accompanied with ether w16-9p or w16-7p signs.
19. All traffic signals, street signs, sign post, backs and bracket arms shall be painted black using Corboline Rust Bond Penetrating Sealer SG and
Corboline 133 HB paint (or equivalent as approved by City of O'Fallon and MoDOT)
20. If the excavations are made in the improved portion of the right-of-way, twelve inches of granular backfill will be placed over exposed facilities
and controlled low strength material (CLSM) aka flowable fill will fill the hole with eight inches of the finished surface for concrete pavement. There
will be a plastic membrane placed between the rock base and the CLSM to prevent the material from bleeding into the rock base. The remaining
eight inches will be restored by placing a 28 day, 4,000 psi concrete mix.

Erosion Control Notes

- 1. The Permittee shall assume complete responsibility for controlling all siltation and erosion of the project area. The Permittee shall use whatever
means necessary to control erosion and siltation including, but not limited to, staked straw bales and/or siltation fabric fences (possible methods
of control are detailed in the plan). Control shall commence with the clearing operations and be maintained throughout the project until
acceptance of the work by City of O'Fallon and as needed by MoDOT. The Permittee's responsibilities include all design and implementation as
required to prevent erosion and the depositing of silt. The City of O'Fallon and as required by MoDOT may at their option direct the Permittee in
his methods as deemed fit to protect property and improvements. Any depositing of silt or mud on new or existing pavement shall be removed
immediately. Any depositing of silts or mud in new or existing storm sewers and/or swales shall be removed after each rain and affected areas
cleaned to the satisfaction of the City of O'Fallon and as required by MoDOT."
2. All erosion control systems are to be inspected and corrected weekly, especially within 48 hours of any rain storm resulting in one-quarter inch
of rain or more. Any silt or debris leaving the site and affecting public right of way or storm water drainage facilities shall be cleaned up within
24 hours after the end of the storm.
3. Erosion control devices (silt fence, sediment basin, etc.) shall be in accordance with Missouri Department of Natural Resources Protecting Water
Quality - a field guide to erosion, sediment and stormwater best management practices for development sites in Missouri and Kansas.
4. This development is required to provide long term post construction BMP's such as; low impact design, source control and treatment controls
that protects water quality and controls run off to maximum extent practical in compliance with Phase II Illicit Storm Water Discharge Guidelines.
(Ord. 5082, section 405.245)
5. Graded areas shall be seeded and mulched (strawed) within 14 days of stopping land disturbance activities. Unless it can be shown to the City
Engineer that weather conditions are not favorable, vegetative growth is to be established within 6 weeks of stopping grading work on the
project. The vegetative growth established shall be sufficient to prevent erosion and the standard shall be as required by EPA and DNR. (70%
coverage per square foot) Ord. 6496, Section 405.095

Storm Sewer Notes

- 1. All Storm Sewer installation is to be in accordance with M.S.D. standards and specifications except as modified by the City of O'Fallon
ordinances.
2. Brick shall not be used in the construction of storm sewer structures. Pre cast concrete structures are to be used unless otherwise approved
by the City of O'Fallon.
3. A 5/8" trash bar shall be installed horizontally in the center of the opening(s) in all curb inlets and area inlets.
4. (INTENTIONALLY OMITTED)
5. Encase with concrete both sanitary and storm sewer at crossing when storm sewer is within 18 inches above sanitary sewer. Add concrete
cradle to only RCP storm sewer and encase flexible storm sewer when it is more than 18 inches above sanitary line. Show on profile sheet.
6. The storm sewers should run diagonally through the side yards to minimize any additional utility easements required.
7. All concrete pipes will be installed with O-ring rubber type gaskets.
8. Connections at all storm structures are to be made with A-lock joint or equal.
9. Pre cast concrete inlet covers are not to be used.
10. The swale in the detention basins shall have a minimum 2% longitudinal slope and be lined with a permanent erosion control blanket that will
allow infiltration of storm water.
11. All structures and flared end sections must be concrete. H.D.P.E. pipe will not be allowed for detention basin outflows, final pipe run to
detention basins, creek discharge or other approved means.
12. (INTENTIONALLY OMITTED)
13. Rip rap shown at flared end sections will be evaluated in the field by the Engineer, Contractor, and City Inspectors after installation for
effectiveness and field modified, if necessary to reduce erosion on and off site.
14. Add 1" minus rock back fill to all storm sewer that lie within the 1:1 shear plane of the road.
15. (INTENTIONALLY OMITTED)

Retaining Walls: Terraced and Vertical

- 1. A permit is required for all retaining walls that are 48 inches or taller in height, measured from the top of the footing to the top of the wall or
for walls that support a surcharge load or that alters the channelized drainage of any lot or drainage area.
2. Retaining walls will not be allowed in public right-of-way without written approval from the City Engineer.
3. Any retaining wall more than thirty (30) inches tall which supports a walking surface that is within two (2) feet of the wall will require a guard
on the retaining wall.
4. Retaining walls that alter the channelled drainage of any lot or drainage area shall not be constructed without prior approval and permitting
from the City of O'Fallon Engineering Department regardless of the height of the wall.
5. See section 405.275 of the City code for additional design requirements.

Water Notes

- 1. Fire hydrants shall be a maximum of 600' apart. Local fire district approval is required.
2. Coordinate with the water company on the location of water meters. For meters in the
City's district, meters shall be in the right-of-way, otherwise an access easement from
the right-of-way shall be provided.
3. All water main must have a minimum of 42" of cover. (City water mains)
4. Provide water valves to isolate the system.
5. All water mains shall be class 200 SDR 21 or equal with locator/tracer wires
6. If the excavations are made in the improved portion of the right-of-way, twelve inches
of granular backfill will be placed over exposed facilities and controlled low strength
material (CLSM) aka flowable fill will fill the hole with eight inches of the finished surface
for concrete pavement. There will be a plastic membrane placed between the rock base
and the CLSM to prevent the material from bleeding into the rock base. The remaining
eight inches will be restored by placing a 28 day, 4,000 psd concrete mix.
7. DISINFECTING: Disinfecting shall be accomplished by placing sufficient hypo chlorite granule
(HTH) in each section of pipe to achieve a chlorine residual in the pipeline, upon initial
filling, of 50 mg/L (PPM). HT. tablets will not be allowed. Following completion of the
pipeline, it shall be slowly filled with water and a sample will be taken immediately and
the chlorine residual must be 50 mg/L or greater. The solution shall be allowed to stand
for 24 hours and a sample shall then be taken. The chlorine residual after 24 hours
shall be 30 mg/L or greater. If the piping shows insufficient chlorine residuals in either
test, the piping shall be re-chlorinated by the injection of hypo chlorite solution until
satisfactory results are achieved. All disinfecting shall be done by the contractor. Only
the testing to determine the chlorine residual will be done by the City.
8. PRESSURE TESTING: Immediately following disinfection, the piping shall be pumped to a
pressure (at the HIGHEST point in the project) of 150 psi or higher where the working
pressure is higher than 150 PSI as determined by the City. In such cases, the pressure
shall be as specified by the City and two pressure tests shall be conducted. The first
test shall be with the fire hydrant auxiliary valve open and be to 50 PSI. The second
test shall be with the fire hydrant auxiliary valve closed and be to the higher pressure
as directed by the City. All pumping equipment and pressure gauges shall be provided by
the contractor. After achieving the test pressure, the piping shall be left closed for a
period of two (2) hours. At the end of this time the pressure drop shall not exceed 2
psi. In addition, if the pressure appears, in judgment of the City's representative, to be
continuing to drop, the test shall be continued for another two (2) hours and if any
further drop occurs, the test shall be considered a failure. If the pressure test fails, the
contractor will be required to find and correct the source of the leakage. If this requires
draining of the pipeline, when the leakage is corrected, the pipeline must be
re-disinfected and the pressure tested again until satisfactory result are achieved. Any
MDNR required dechlorination will be performed by the contractor.
9. All tops for valves, meters, and manholes are to be constructed to within 1
inch (0.08") of finish grade. Grading around structure tops on slopes need to
be accounted for.
10. BACTERIOLOGICAL TESTING: After satisfactory disinfection and pressure testing, a sample
shall be taken by the contractor in the presence of a City representative and submitted
to a laboratory approved by the Missouri Department of Natural Resources and the City
for bacteriological analysis. After 24 hours, a second sample shall be taken in a like
manner and submitted for analysis. The two samples taken on consecutive days a
minimum of 24 hours apart, must be found to be "safe" by the testing laboratory, and
copies of the test results must be supplied to the City, if the samples are not found to
be "safe" further flushing and/or disinfection as directed by the City shall be conducted
by the contractor until "safe" samples on two consecutive test days are achieved.
Following successful bacteriological testing and a determination by the City that the
samples are "safe", the mains may be placed into service.

Sanitary Sewer Notes

- 1. All sanitary sewer installation is to be in accordance with M.S.D. standards and
specifications except as modified by the City of O'Fallon Ordinances.
2. Brick shall not be used in the construction of sanitary sewer structures. Pre cast
concrete structures are to be used unless otherwise approved by the City of
O'Fallon.
3. Connections at all sanitary structures are to be made with A-Lock joint or equal
4. All sanitary laterals shall be a minimum of 4" residential, 6" commercial diameter
pipe.
5. All sanitary mains shall be a minimum of 8" diameter pipe.
6. All sanitary sewer line with a slope greater than 20% will require concrete cradle
or concrete collar at each pipe joint. Sanitary line with a slope greater than 50%
will require a special approved design as shown on detail sheet.
7. All manholes built within the 100 year flood plain must have lock type watertight
manhole covers.
8. All sanitary sewer mains must have a minimum of 42" cover.
9. When sanitary mains cross over storm line the sanitary main must be ductile iron
pipe for 10 feet on each side of the crossing.
10. Encase with concrete both sanitary and storm sewer at crossing when storm sewer
is within 18 inches above sanitary sewer. Add concrete cradle to only RCP storm
sewer and encase flexible storm sewer when it is more than 18 inches above
sanitary line. Show on profile sheet.
11. The sanitary sewers should run diagonally through the side yards to minimize any
additional utility easements required.
12. All sanitary sewer structures shall be waterproofed on the exterior in accordance to
Missouri DNR specifications 10CSR-8.120 (7)(E).
13. All sanitary sewer pipe shall be SDR35 or equal. All sanitary sewer laterals shall be
Schedule 40.
14. All sanitary sewer manholes and pipes will be tested to the following specifications.
ASTM C1244, Standard testing method for Concrete Sewer Manhole by Negative Air
Pressure (Vacuum), Latest revision ASTM F1417, Standard testing method for
Installation Acceptance of Plastic Gravity Sewer Lines Using Low Pressure Air, Latest
revision.
15. Add 1" minus rock back fill to all sanitary sewer and all other utilities that lie
within the 1:1 shear plane of the road.

Flood plain Information

- 1. Refer to Section 415 for Floodplain Development Information

Additional Notes from "Commercial Construction Site Plan Application" Checklist

- 1. All sanitary laterals and sanitary mains crossing under pavement must have proper
rock backfill and required compaction
2. Refer to Section 405.210(D)(1) under Grading Notes, this sheet.
3. Lighting values will be reviewed on site prior to the final occupancy inspection.
4. HDPE pipe is to be N-12WT or equal and to meet ASTM F1417 water tight field test
5. Rip-rap shown at flared ends will be evaluated in the field by the Engineer,
Contractor and City Inspector after installation for effectiveness and field modified, if
necessary, to reduce erosion on and off-site.
6. No graded areas are to remain bare for over 14 days without being seeded and
mulched.

CEC GENERAL NOTE

- 1. CONTRACTOR SHALL REFER TO THE GEOTECHNICAL REPORT BY HOLLAND ENGINEERS TITLED
"MASTERCARD-PARKING LOT F" DATED NOVEMBER 11, 2025. NOTE: ANY DIFFERENCES WITHIN
THIS REPORT AND THE NOTES HEREIN, THE CONTRACTOR SHALL ABIDE BY THE MOST
RESTRICTIVE.



Table with 2 columns: NO, DATE, DESCRIPTION

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

MASTERCARD PARKING LOT "F"
2200 MASTERCARD BOULEVARD
OFFALLON, MO 63368
CITY OF FALLON STANDARD NOTES
JGD SEP. 2025 DRAWN BY: CAN
DWG SCALE: NONE CHECKED BY: 384-285
PROJECT NO.: DIRK
APPROVED BY:



C001
SHEET 02 OF 20



MATCHLINE

MATCHLINE

PROPOSED PLAN FOR SOLAR
SHOWN FOR REFERENCE ONLY

PARCEL ID #
4-0498-3780-001-000A.1
N/V
MASTERCARD TECHNOLOGIES, LLC
(2025R-008138)

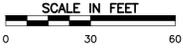
2200 MASTERCARD BLVD
N/V
MASTERCARD TECHNOLOGIES LLC
2300/1139

LEGEND

- EXISTING PROPERTY LINE
- 385 — EXISTING INDEX (MAJOR) CONTOUR
- 384 — EXISTING INTERMEDIATE (MINOR) CONTOUR
- EXISTING DRAINAGE DITCH
- EXISTING CONCRETE CURB & GUTTER
- EXISTING EDGE OF ASPHALT PAVEMENT
- EXISTING EDGE OF CONCRETE PAVEMENT
- EXISTING ASPHALT PAVEMENT
- EXISTING CONCRETE PAVEMENT
- EXISTING STRUCTURE
- EXISTING WALL
- ST — EXISTING STORM PIPE
- UG-E — RECORD UNDERGROUND ELECTRIC LINE
- ST — RECORD STORM PIPE
- SAN — RECORD SANITARY SEWER LINE
- W — RECORD WATER LINE
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- EXISTING WATER BODY
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- EXISTING WOODEN FENCE LINE
- EXISTING GUIDE RAIL
- EXISTING TREELINE
- EXISTING IRON PIN FOUND
- ★ EXISTING SIGN
- EXISTING BOLLARD
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- EXISTING CURB INLET
- EXISTING INLET SQUARE
- EXISTING FLARED END SECTION
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- EXISTING CLEAN OUT
- EXISTING WATER BOX (WATER VALVE)
- EXISTING FIRE HYDRANT
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- EXISTING SPRINKLER VALVE
- EXISTING SPRINKLER HEAD
- EXISTING IRRIGATION CONTROL BOX
- EXISTING FIRE DEPT. CONNECTION (BLDG.)
- EXISTING TREE, DECIDUOUS
- EXISTING TREE, CONIFER
- EXISTING ELECTRIC MANHOLE
- EXISTING ELECTRIC PULL BOX
- EXISTING ELECTRIC CONTROL BOX
- EXISTING ELECTRIC METER
- EXISTING TRANSFORMER
- EXISTING ELECTRIC CONTROL CABINET
- EXISTING CABLE PEDESTAL
- EXISTING TRAFFIC POLE
- EXISTING TEST BORING

NOTES:

1. REFER TO SHEET C001 FOR GENERAL NOTES AND ABBREVIATIONS.
2. 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.



DANIEL R. KOZIATEK
(MO PE# 2004017188)

P&Z FILE #: 25-010702
NOVEMBER 6, 2025



EXISTING CONDITIONS

DATE:	SEP. 2025
DWG SCALE:	1"=30'
PROJECT NO.:	384-285
APPROVED BY:	DIRK

DRAWING NO.:
C100
SHEET 03 OF 20

MASTERCARD PARKING LOT "F"
2200 MASTERCARD BOULEVARD
OFALLON, MO 63368



Civil & Environmental
Consultants, Inc.

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

NO	DATE	DESCRIPTION
1	11/17/2024	PRELIMINARY
2	11/17/2024	CONSTRUCTION PLAN SUBMISSION
3	12/17/2024	FINAL PERMIT COMMENT ADDRESS
4	12/17/2024	PERMIT/ISSUE FOR PERMITTING
5	01/16/2025	PERMIT/ISSUE FOR PERMITTING
6	02/05/2026	PERMIT/ISSUE FOR PERMITTING

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REFERENCE

1. TOPOGRAPHIC INFORMATION BASED UPON SURVEY CONDUCTED BY CIVIL & ENVIRONMENTAL CONSULTANTS, INC ON 09/18/2025.

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.

811 or 1-800-344-7483
https://missouri-811.org
ISSUED TICKET#: 133611243
TICKET DATE: 09/09/20



LEGEND

- EXISTING PROPERTY LINE
- 385 --- EXISTING INDEX (MAJOR) CONTOUR
- 384 --- EXISTING INTERMEDIATE (MINOR) CONTOUR
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- EXISTING TREELINE
- EXISTING IRON PIN FOUND
- ☆ EXISTING SIGN
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- EXISTING BOLLARD
- EXISTING STORM MANHOLE
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- EXISTING CABLE PEDESTAL
- EXISTING TRAFFIC POLE
- EXISTING TEST BORING

DEMOLITION LEGEND:

- DENOTES EXISTING ITEM TO REMAIN
- DENOTES EXISTING ITEM TO BE REMOVED

REFERENCE

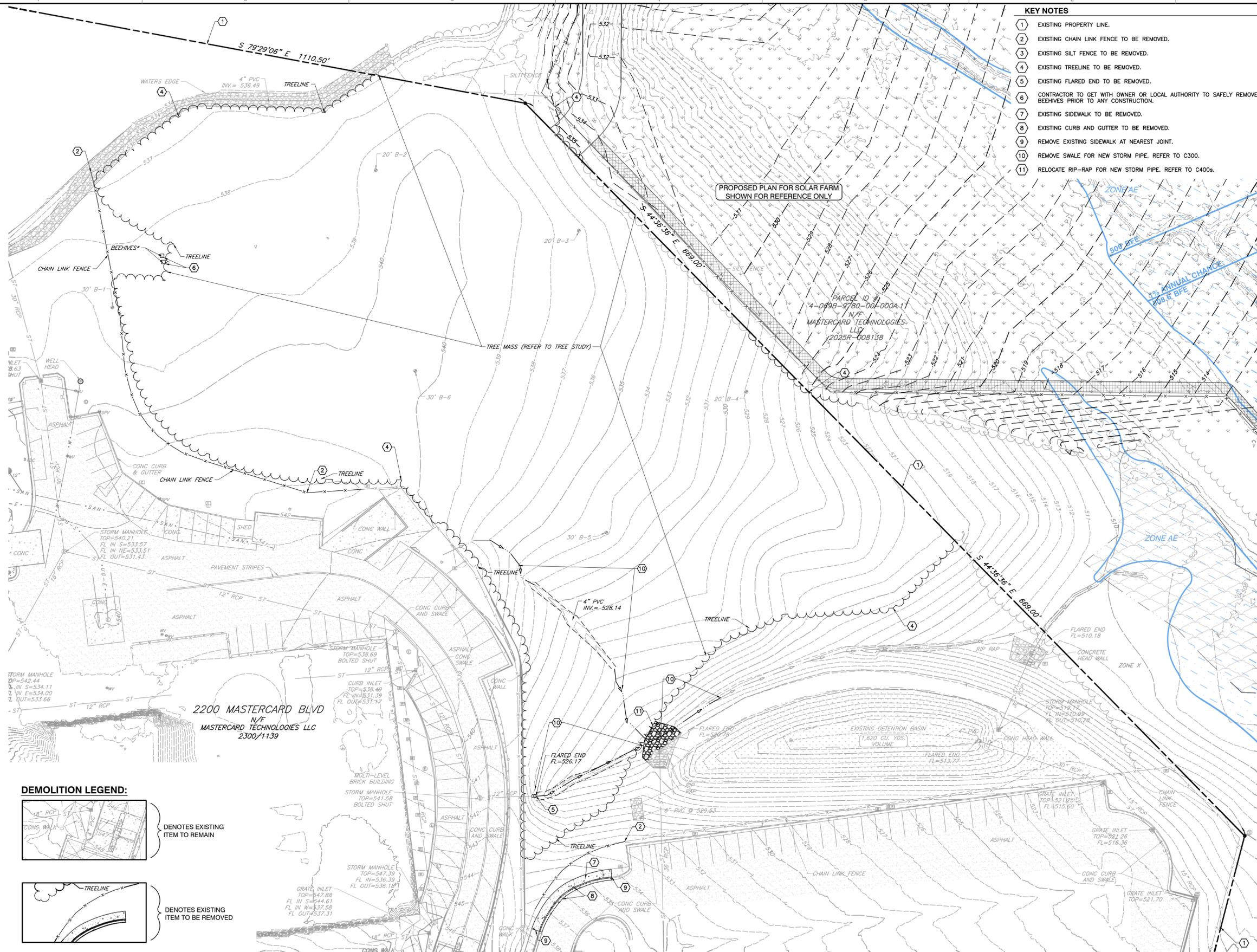
1. TOPOGRAPHIC INFORMATION BASED UPON SURVEY CONDUCTED BY CIVIL & ENVIRONMENTAL CONSULTANTS, INC ON 09/18/2025.

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MISSOURI 811
811 or 1-800-344-7483
https://missouri-811.org
ISSUED TICKET#: 133611243
TICKET DATE: 09/09/2025

KEY NOTES

- 1 EXISTING PROPERTY LINE.
- 2 EXISTING CHAIN LINK FENCE TO BE REMOVED.
- 3 EXISTING SILT FENCE TO BE REMOVED.
- 4 EXISTING TREELINE TO BE REMOVED.
- 5 EXISTING FLARED END TO BE REMOVED.
- 6 CONTRACTOR TO GET WITH OWNER OR LOCAL AUTHORITY TO SAFELY REMOVE BEEHIVES PRIOR TO ANY CONSTRUCTION.
- 7 EXISTING SIDEWALK TO BE REMOVED.
- 8 EXISTING CURB AND GUTTER TO BE REMOVED.
- 9 REMOVE EXISTING SIDEWALK AT NEAREST JOINT.
- 10 REMOVE SWALE FOR NEW STORM PIPE. REFER TO C300.
- 11 RELOCATE RIP-RAP FOR NEW STORM PIPE. REFER TO C400s.

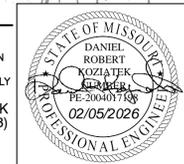


NOTES:

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SCALE IN FEET
0 30 60

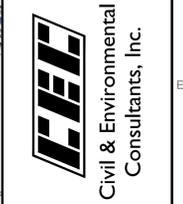


DANIEL R. KOZIATEK
(MO PE# 2004017188)
P&Z FILE #: 25-010702
NOVEMBER 6, 2025

SUBMITTAL RECORD

NO	DATE	DESCRIPTION
1	10/01/2025	PRELIMINARY PLAN SUBMISSION
2	10/01/2025	CONSTRUCTION PLAN SUBMISSION
3	10/01/2025	FINAL PLAN COMMENT ADDRESS
4	10/01/2025	FINAL PLAN COMMENT ADDRESS
5	10/01/2025	FINAL PLAN COMMENT ADDRESS
6	10/01/2025	FINAL PLAN COMMENT ADDRESS
7	10/01/2025	FINAL PLAN COMMENT ADDRESS

1450 Beale Street
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Ph: 314.656.4566
www.cecinc.com



MASTERCARD PARKING LOT "F"
2200 MASTERCARD BOULEVARD
OFALLON, MO 63368

DEMOLITION PLAN

DATE:	SEP. 2025	DRAWN BY:	ROBERT KOZIATEK
DWG SCALE:	1"=30'	CHECKED BY:	384-285
PROJECT NO.:		APPROVED BY:	DIRK

DRAWING NO.:
C101
SHEET 04 OF 20



LEGEND

- EXISTING PROPERTY LINE
- EXISTING CONCRETE CURB & GUTTER
- EXISTING EDGE OF ASPHALT PAVEMENT
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- EXISTING ELECTRIC CONTROL BOX
- EXISTING ELECTRIC METER
- EXISTING TRANSFORMER
- EXISTING ELECTRIC CONTROL CABINET
- PROPOSED VERTICAL CONCRETE CURB & GUTTER
- PROPOSED ROLLED CONCRETE CURB & GUTTER
- PROPOSED CONCRETE GUTTER/BAND
- PROPOSED SETBACK
- PROPOSED LIGHT-DUTY ASPHALT
- PROPOSED MEDIUM-DUTY ASPHALT
- PROPOSED STRIPING
- PROPOSED SIDEWALK
- PROPOSED 8' TALL BLACK VINYL COATED FENCE
- PROPOSED RIP-RAP
- PROPOSED DISTURBED AREA TO BE RE-VEGETATED
- PROPOSED PERMANENT TURF REINFORCEMENT MAT
- PROPOSED COMPACT VEHICLE PARKING
- PROPOSED BERM AT BASIN
- PROPOSED WEIR AT TOP OF BERM AT BASIN
- PROPOSED BIORETENTION AREA
- PROPOSED LIGHT STANDARD
- PROPOSED CONDUIT (REFER TO ELECTRICAL PLAN)
- DRAINAGE ARROW
- PROPOSED AREA INLET
- PROPOSED OUTFALL STRUCTURE
- PROPOSED 2 GRATE INLET W/ SIDE INTAKE
- PROPOSED FLARED END

REFERENCE

1. TOPOGRAPHIC INFORMATION BASED UPON SURVEY CONDUCTED BY CIVIL & ENVIRONMENTAL CONSULTANTS, INC ON 09/18/2025.

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MISSOURI 811
811 or 1-800-344-7483
https://missouri-811.org
ISSUED TICKET#: 133611243
TICKET DATE: 09/09/20



KEY NOTES

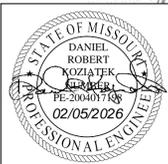
- 1 EXISTING PROPERTY LINE.
- 2 INSTALL 8'-0" TALL BLACK VINYL COATED CHAIN LINK PERIMETER SECURITY FENCE & MAN GATE (WHERE DENOTED). REFER TO DETAIL #08 FOR REFERENCE. LOT F PERIMETER FENCE SHALL CONNECT TO LOT E OR SOLAR FARM FENCE TO PROVIDE A CLOSED/SECURE LOT.
- 3 PROPOSED ASPHALT PAVEMENT. DENOTES LIGHT VS. MEDIUM DUTY. SEE DETAIL #02 ON C800. HATCH
- 4 PROPOSED 8'-0" TALL BLACK VINYL COATED CHAIN LINK MANUAL CANTILEVER SLIDE SECURITY GATE. FENCING DESIGNED BY OTHERS, NOT PART OF THIS PLAN SET.
- 5 STRIPE PARKING LOT PER LOCAL CODE AS SHOWN.
- 6 PROPOSED CHANNELIZATION ARROWS SHOWN FOR REFERENCE ONLY.
- 7 PROPOSED CLEAR ACCESS STRIPING. REFER TO DETAIL #07 ON C800.
- 8 PROPOSED VERTICAL CONCRETE CURB & GUTTER. REFER TO DETAIL #01 ON C800.
- 9 PROPOSED CONCRETE SIDEWALK TO MATCH EXISTING. REFER TO DETAIL #04 ON C800.
- 10 LANDSCAPE AND SEED AREA PER COUNTY SEEDING RATES. REFER TO LANDSCAPE PLAN FOR AREAS TO BE SODDED. REFER ALSO TO C400 SERIES FOR BIORETENTION AREA.
- 11 PROPOSED ROLLED CONCRETE CURB & GUTTER. TRANSITION FROM VERTICAL TO ROLLED IN ~2'. REFER TO DETAIL #03 ON C800.
- 12 PROPOSED CONCRETE GUTTER/BAND, NO CURB. REFER TO DETAIL #06 ON C800.
- 13 PROPOSED CROSSWALK. PAVEMENT MARKINGS SHOWN FOR REFERENCE ONLY.
- 14 PROPOSED POWER AND COMMUNICATION CONDUIT. REFER TO ELECTRICAL PLAN SHEETS THIS PLAN SET. PROPOSED IRRIGATION CONDUIT SHALL BE PLACED AT MIN 30" BELOW GRADE. CONTRACTOR SHALL ADJUST PROPOSED CONDUIT DEPTHS AS REQUIRED TO AVOID CONFLICT.

NOTES:

1. REFER TO SHEET C001 FOR GENERAL NOTES AND ABBREVIATIONS.
2. 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.



DANIEL R. KOZIATEK
(MO PE# 200401718)
P&Z FILE #: 25-010702
NOVEMBER 6, 2025



SUBMITTAL RECORD

NO	DATE	DESCRIPTION
1	11/17/2025	PRELIMINARY
2	11/17/2025	CONSTRUCTION PLAN SUBMISSION
3	12/01/2025	FINAL PERMIT COMMENTARY ADDRESS
4	12/01/2025	PERMIT REVIEW COMMENTARY ADDRESS
5	12/01/2025	PERMIT REVIEW COMMENTARY ADDRESS
6	12/01/2025	PERMIT REVIEW COMMENTARY ADDRESS
7	12/01/2025	PERMIT REVIEW COMMENTARY ADDRESS

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Suite 305
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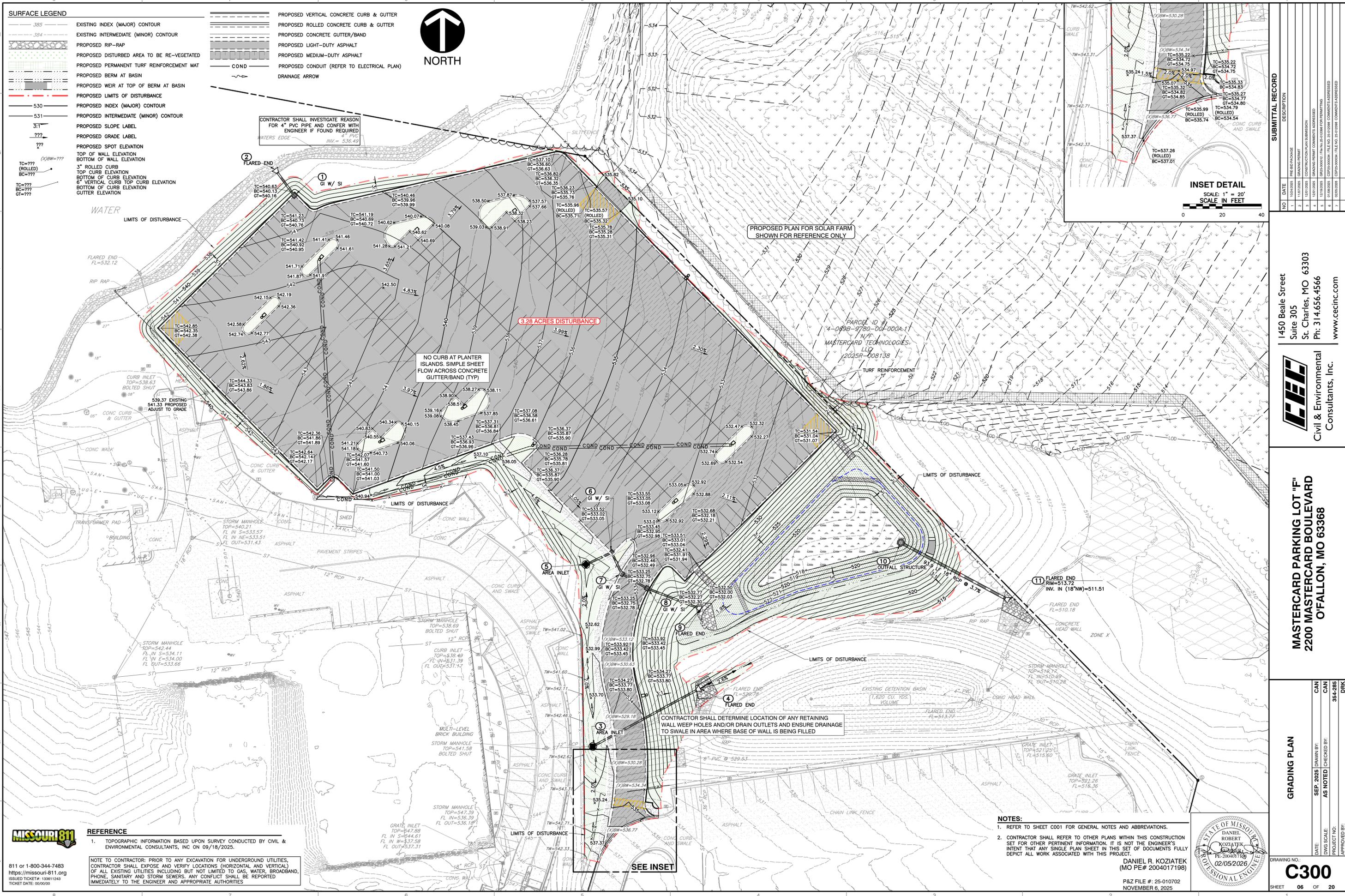
Civil & Environmental Consultants, Inc.

MASTERCARD PARKING LOT "F"
2200 MASTERCARD BOULEVARD
O'FALLON, MO 63368

SITE & UTILITY LAYOUT

DATE:	SEP. 2025	DRAWN BY:	JDG
DWG SCALE:	1"=30'	CHECKED BY:	CAN
PROJECT NO.:		384-285	DIRK

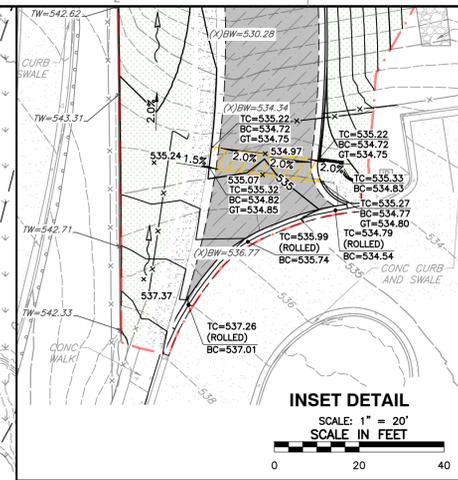
DRAWING NO.: **C200**
SHEET 05 OF 20



SURFACE LEGEND

	EXISTING INDEX (MAJOR) CONTOUR
	EXISTING INTERMEDIATE (MINOR) CONTOUR
	PROPOSED RIP-RAP
	PROPOSED DISTURBED AREA TO BE RE-VEGETATED
	PROPOSED PERMANENT TURF REINFORCEMENT MAT
	PROPOSED BERM AT BASIN
	PROPOSED WEIR AT TOP OF BERM AT BASIN
	PROPOSED LIMITS OF DISTURBANCE
	PROPOSED INDEX (MAJOR) CONTOUR
	PROPOSED INTERMEDIATE (MINOR) CONTOUR
	PROPOSED SLOPE LABEL
	PROPOSED GRADE LABEL
	PROPOSED SPOT ELEVATION
	TOP OF WALL ELEVATION
	BOTTOM OF WALL ELEVATION
	3" ROLLED CURB
	TOP OF CURB ELEVATION
	6" VERTICAL CURB TOP CURB ELEVATION
	BOTTOM OF CURB ELEVATION
	GUTTER ELEVATION

	PROPOSED VERTICAL CONCRETE CURB & GUTTER
	PROPOSED ROLLED CONCRETE CURB & GUTTER
	PROPOSED CONCRETE GUTTER/BAND
	PROPOSED LIGHT-DUTY ASPHALT
	PROPOSED MEDIUM-DUTY ASPHALT
	PROPOSED CONDUIT (REFER TO ELECTRICAL PLAN)
	DRAINAGE ARROW



CONTRACTOR SHALL INVESTIGATE REASON FOR 4" PVC PIPE AND CONFER WITH ENGINEER IF FOUND REQUIRED

PROPOSED PLAN FOR SOLAR FARM SHOWN FOR REFERENCE ONLY

3.28 ACRES DISTURBANCE

NO CURB AT PLANTER ISLANDS. SIMPLE SHEET FLOW ACROSS CONCRETE GUTTER/BAND (TYP)

CONTRACTOR SHALL DETERMINE LOCATION OF ANY RETAINING WALL WEEP HOLES AND/OR DRAIN OUTLETS AND ENSURE DRAINAGE TO SWALE IN AREA WHERE BASE OF WALL IS BEING FILLED

- NOTES:**
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REFERENCE

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DANIEL R. KOZIATEK
(MO PE# 200401718)
P&Z FILE #: 25-010702
NOVEMBER 6, 2025



SUBMITTAL RECORD

NO.	DATE	DESCRIPTION
1	11/11/2025	PRELIMINARY
2	11/11/2025	FINAL PLAN SUBMISSION
3	11/11/2025	FINAL PLAN SUBMISSION
4	11/11/2025	FINAL PLAN SUBMISSION
5	11/11/2025	FINAL PLAN SUBMISSION
6	11/11/2025	FINAL PLAN SUBMISSION
7	11/11/2025	FINAL PLAN SUBMISSION

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

Civil & Environmental Consultants, Inc.

"F"
MASTERCARD PARKING LOT "F"
2200 MASTERCARD BOULEVARD
OFALLON, MO 63368

GRADING PLAN

DATE:	SEP. 2025	DRAWN BY:	CAN
DWG SCALE:	AS NOTED	CHECKED BY:	CAN
PROJECT NO.:	384-285	APPROVED BY:	DIRK
PROJECT NO.:	384-285		

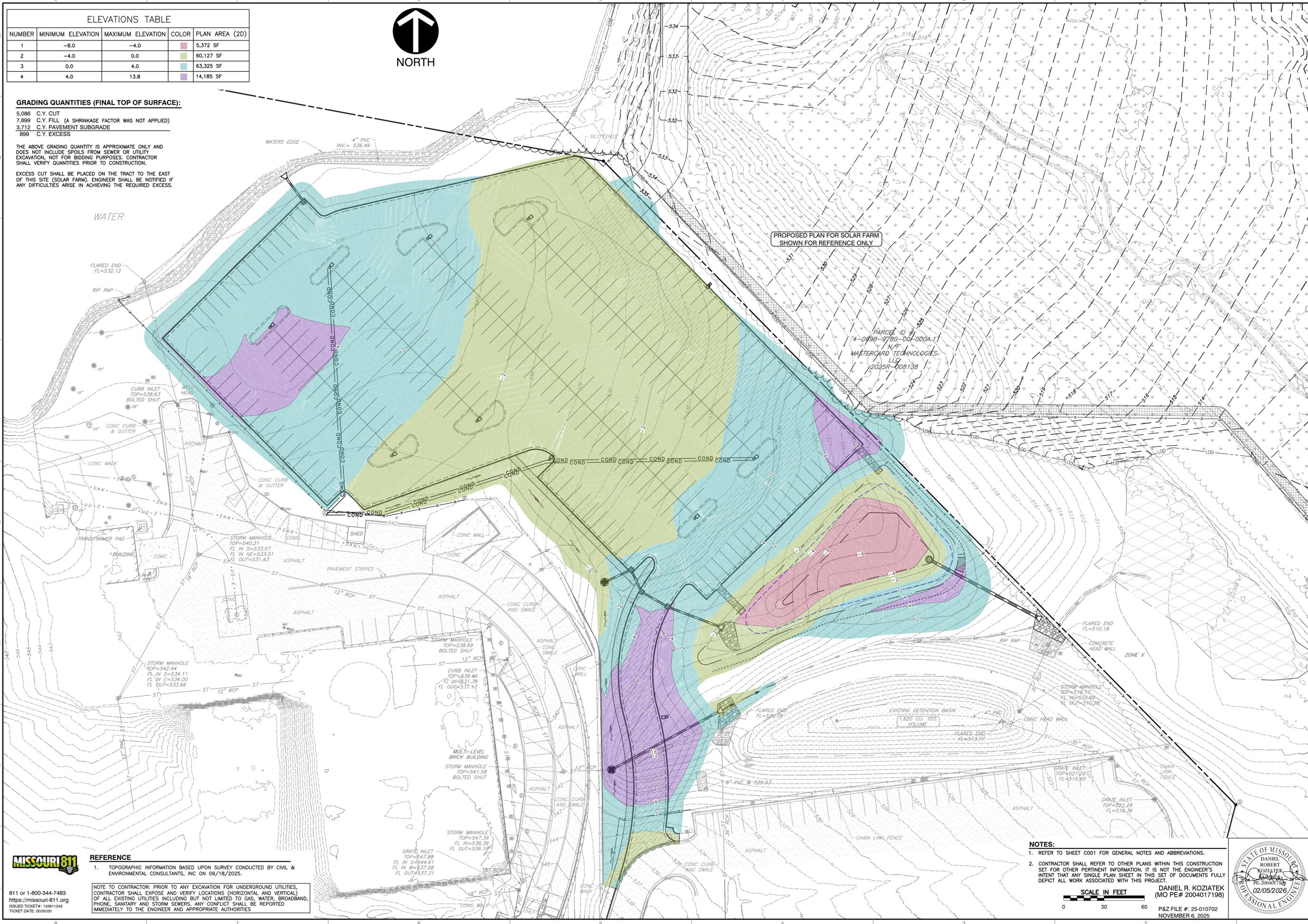
DRAWING NO.: **C300**
SHEET 06 OF 20

ELEVATIONS TABLE				
NUMBER	MINIMUM ELEVATION	MAXIMUM ELEVATION	COLOR	PLAN AREA (2D)
1	-8.0	-4.0	Red	5,372 SF
2	-4.0	0.0	Green	60,127 SF
3	0.0	4.0	Blue	63,325 SF
4	4.0	13.8	Purple	14,185 SF



GRADING QUANTITIES (FINAL TOP OF SURFACE):
 5,086 C.Y. CUT
 7,899 C.Y. FILL (A SHRINKAGE FACTOR WAS NOT APPLIED)
 3,712 C.Y. PAVEMENT SUBGRADE
 899 C.Y. EXCESS

THE ABOVE GRADING QUANTITIES IS APPROXIMATE ONLY AND DOES NOT INCLUDE SPOILS FROM SEWER OR UTILITY EXCAVATION, NOT FOR BIDDING PURPOSES. CONTRACTOR SHALL VERIFY QUANTITIES PRIOR TO CONSTRUCTION.
 EXCESS CUT SHALL BE PLACED ON THE TRACT TO THE EAST OF THIS SITE (SOLAR FARM). ENGINEER SHALL BE NOTIFIED IF ANY DIFFICULTIES ARISE IN ACHIEVING THE REQUIRED EXCESS.



PROPOSED PLAN FOR SOLAR FARM SHOWN FOR REFERENCE ONLY

PARCEL ID # 4-0999-9780-00-0004-1
 NYE
 MASTERCARD TECHNOLOGIES, LLC
 2025R-108138

P:\150-000\150-2851-CADD\150-2851-CADD-150-2851-CADD-150-2851-CADD.dwg (150-2851-CADD-150-2851-CADD-150-2851-CADD.dwg) - Lp, 2/2/2026, 3:06 PM



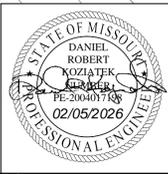
REFERENCE
 1. TOPOGRAPHIC INFORMATION BASED UPON SURVEY CONDUCTED BY CIVIL & ENVIRONMENTAL CONSULTANTS, INC ON 09/18/2025.

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NOTES:
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SCALE IN FEET
 0 30 60

DANIEL R. KOZIATEK
 (MO PE# 2004017188)
 P&Z FILE #: 25-010702
 NOVEMBER 6, 2025



SUBMITTAL RECORD		
NO	DATE	DESCRIPTION
1	11/17/2025	PREPARED
2	11/17/2025	REVISION
3	11/17/2025	CONSTRUCTION PLAN SUBMISSION
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7	11/17/2025	REVISION

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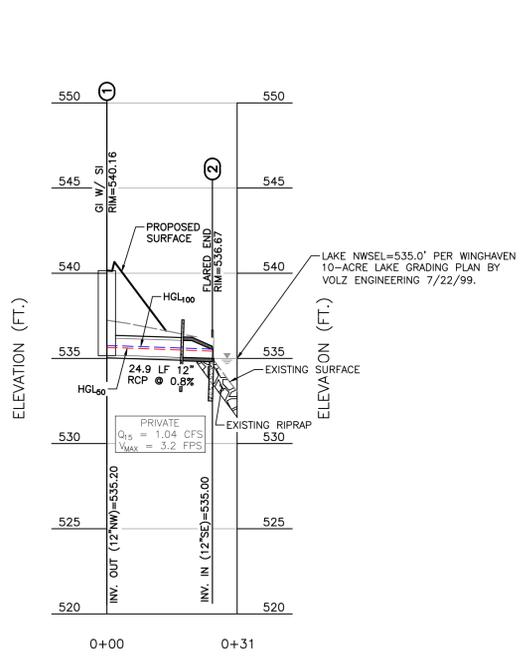
Civil & Environmental Consultants, Inc.

**MASTERCARD PARKING LOT "F"
 2200 MASTERCARD BOULEVARD
 OFALLON, MO 63368**

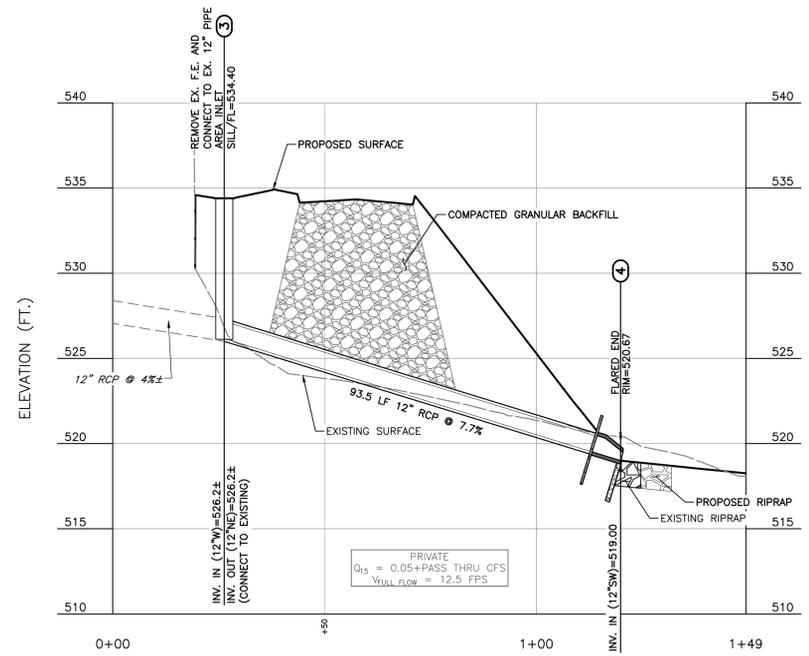
CUT + FILL MAP

DATE: SEP. 2025
 DRAWN BY: CAN
 DWG SCALE: 1"=30'
 CHECKED BY: CAN
 PROJECT NO.: 384-285
 APPROVED BY: DIRK

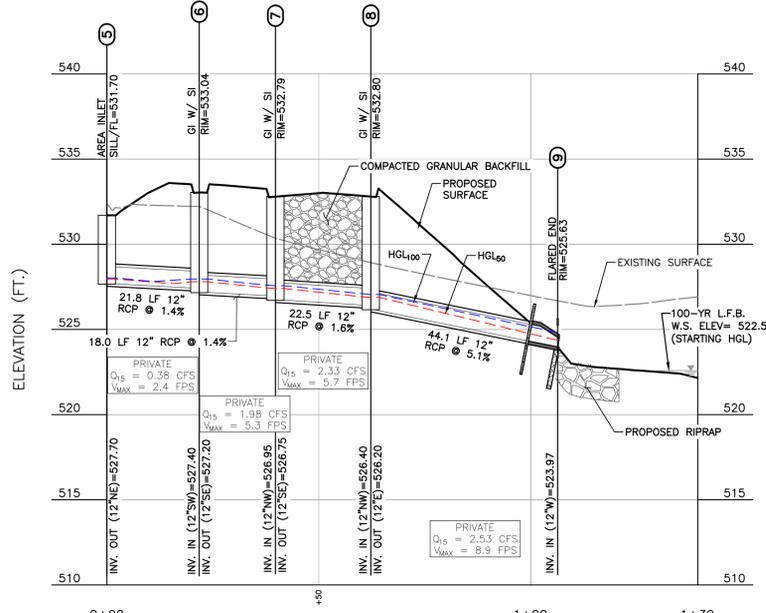
DRAWING NO.: **C301**
 SHEET 07 OF 20



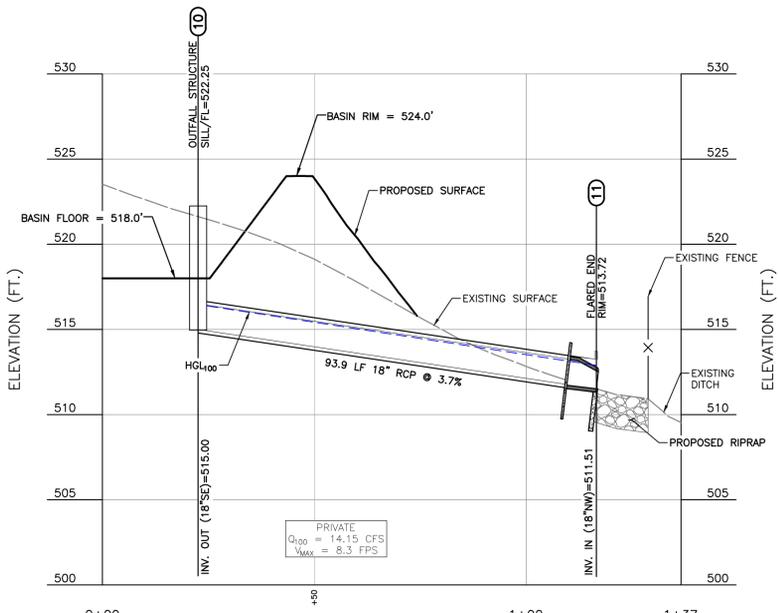
STORM STRUCTURES 1-2 PROFILE
SCALE H:1"=20'; V:1"=5'



STORM STRUCTURES 3-4 PROFILE
SCALE H:1"=20'; V:1"=5'



STORM STRUCTURES 5-9 PROFILE
SCALE H:1"=20'; V:1"=5'

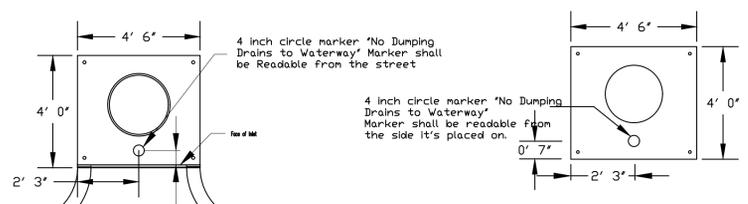


STORMWATER BASIN DISCHARGE PROFILE
SCALE H:1"=20'; V:1"=5'

* The City of O'Fallon must be provided with a symbol/medallion for review and approval prior to installation. Contact the City if any information is needed.

Size	Style	Adhesive	Message (Part #)
3 7/8" TO 4"	Crystal Cap or Standard Style	Epoxy	No Dumping Drains to Waterway

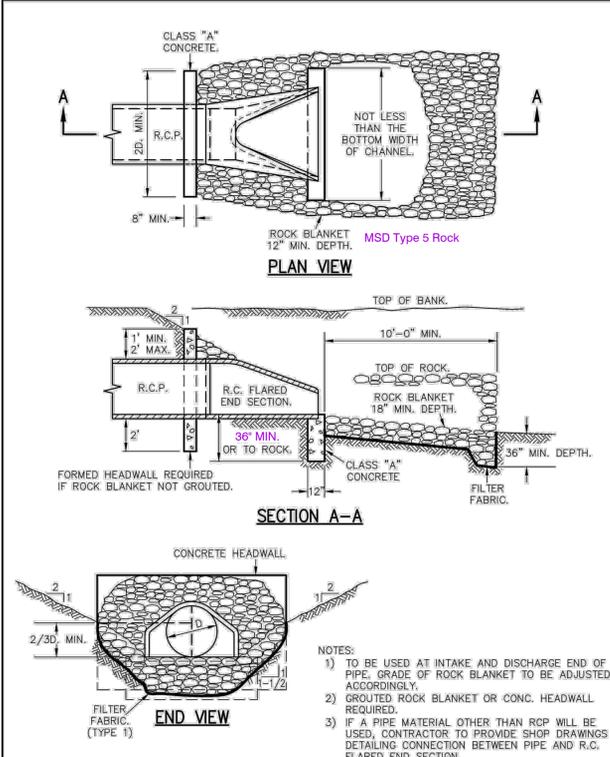
City will also allow the precast inlet stone with a similar message as an approved alternate to the marker.



PLAN VIEW OF CURB INLET
PLAN VIEW OF AREA INLET
STORM DRAIN MARKER LOCATION

Public or Private inlets

- ALL OTHER STORM OR SANITARY SEWER DETAILS WILL BE BY M.S.D. STANDARDS AND SPECIFICATIONS.
- ALL INLETS SHALL HAVE 5/8" TRASH BAR CENTERED WITH THE OPENING(S).



FLARED END SECTION
SECTION A-A
END VIEW

METROPOLITAN ST. LOUIS SEWER DISTRICT <i>Standard Details of Sewer Construction</i>			
Dr. WSH/SAM	2009	SHEET 55	
Ch. J.C.K.			

SHEET #	STANDARD DETAIL
4	PIPE BEDDING CLASS "C" (MODIFIED FOR REINFORCED CONCRETE PIPE)
17	PRECAST CONCRETE MANHOLES
28	GRATE SEAT FOR 2 GRATE INLET WITH SIDE INTAKE
29	PRECAST CONCRETE STORMWATER STRUCTURES
30A	AREA INLET PRECAST CONCRETE
31	SINGLE STREET INLETS PRECAST CONCRETE
36	PRECAST CONCRETE UNIT FOR 4-WAY AREA INLET
46	CAST IRON SIDE INTAKE UNIT FOR GRATED INLETS 249LBS

ADDITIONAL MSD DETAILS MAY BE REFERENCED AND AVAILABLE ONLINE

STORM SEWER - 15-YEAR HYDRAULICS																	
UP ID	Down ID	Length (ft)	Size (in)	Angle (Deg)	LineSlope (%)	n-value	Junct Type	Capacity Full (cfs)	Known Q (cfs)	FlowRate (cfs)	Invert Dn (ft)	Invert Up (ft)	HGLDn (ft)	HGLUp (ft)	VelMax (ft/s)	Ground Elev (ft)	Rim-Hw (ft)
1	Outfall	24.9	12	53.7	0.8	0.013	2GIW/SI	3.19	1.04	1.04	535.00	535.20	535.43	535.63	3.2	540.16	4.53
5	6	21.8	12	-89.6	1.4	0.013	A.I.	4.18	0.38	0.38	527.40	527.70	527.80	527.95	2.4	531.70	3.75
6	7	18.0	12	34.9	1.4	0.013	2GIW/SI	4.20	1.60	1.98	526.95	527.20	527.43	527.80	5.3	533.04	5.24
7	8	22.5	12	9.0	1.6	0.013	2GIW/SI	4.44	0.35	2.33	526.40	526.75	526.91	527.40	5.7	532.79	5.39
8	Basin	44.1	12	-159.2	5.1	0.013	2GIW/SI	8.01	0.20	2.53	523.97	526.20	524.36	526.88	8.9	532.80	5.92
STORM SEWER - 100-YEAR HYDRAULICS																	
UP ID	Down ID	Length (ft)	Size (in)	Angle (Deg)	LineSlope (%)	n-value	Junct Type	Capacity Full (cfs)	Known Q (cfs)	FlowRate (cfs)	Invert Dn (ft)	Invert Up (ft)	HGLDn (ft)	HGLUp (ft)	VelMax (ft/s)	Ground Elev (ft)	Rim-Hw (ft)
1	Outfall	24.9	12	53.7	0.8	0.013	2GIW/SI	3.19	1.65	1.65	535.00	535.20	535.55	535.75	3.8	540.16	4.41
5	6	21.8	12	-89.6	1.4	0.013	A.I.	4.18	0.60	0.60	527.40	527.70	527.96	528.02	2.8	531.70	3.68
6	7	18.0	12	34.9	1.4	0.013	2GIW/SI	4.20	2.53	3.13	526.95	527.20	527.59	527.96	5.9	533.04	5.08
7	8	22.5	12	9.0	1.6	0.013	2GIW/SI	4.44	0.55	3.68	526.40	526.75	527.09	527.57	6.3	532.79	5.22
8	Basin	44.1	12	-159.2	5.1	0.013	2GIW/SI	8.01	0.32	4.00	523.97	526.20	524.82	527.05	5.6	532.80	5.75
10	Outfall	116.5	18	-152.0	3.0	0.013	Outfall Str.	18.17	14.15	14.15	511.51	515.00	512.89	516.38	8.3	518.00	----

REFERENCE
1. TOPOGRAPHIC INFORMATION BASED UPON SURVEY CONDUCTED BY CIVIL & ENVIRONMENTAL CONSULTANTS, INC ON 09/18/2025.

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MISSOURI 811
811 or 1-800-344-7483
https://missouri-811.org
ISSUED TICKET#: 133611243
TICKET DATE: 09/09/2025

SUBMITTAL RECORD

NO	DATE	DESCRIPTION
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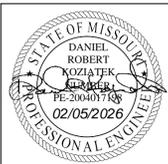
Civil & Environmental Consultants, Inc.

MASTERCARD PARKING LOT "F"
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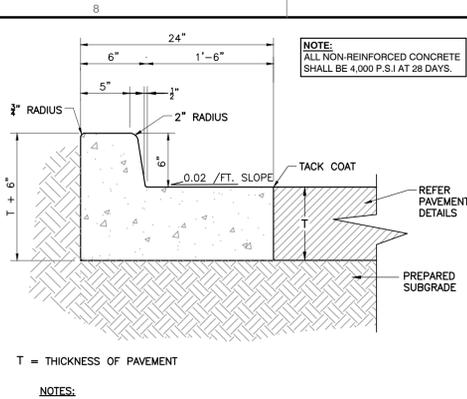
STORM SEWER PROFILE

DATE: SEP. 2025
DWG SCALE: AS SHOWN
PROJECT NO: 384-285
APPROVED BY: DIRK

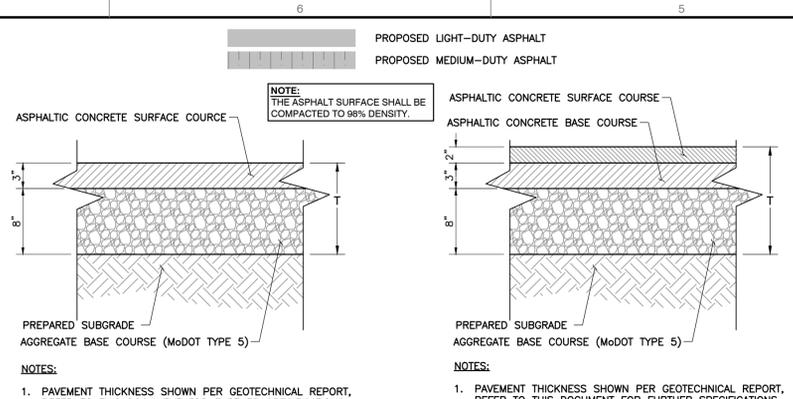
DRAWING NO: **C401**
SHEET 09 OF 20



DANIEL R. KOZIATEK
(MO PE# 2004017188)
P&Z FILE #: 25-010702
NOVEMBER 6, 2025

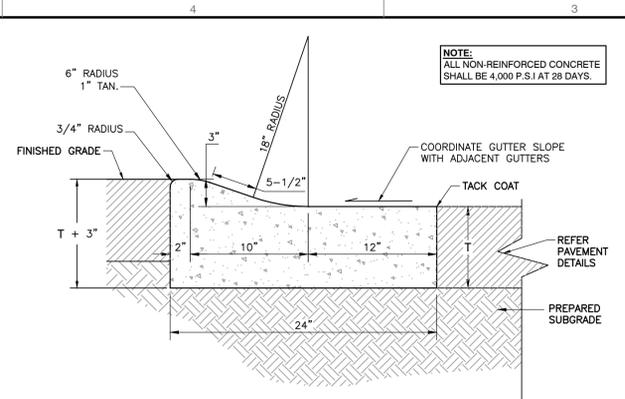


**DETAIL 01
CONCRETE CURB & GUTTER**
N.T.S.

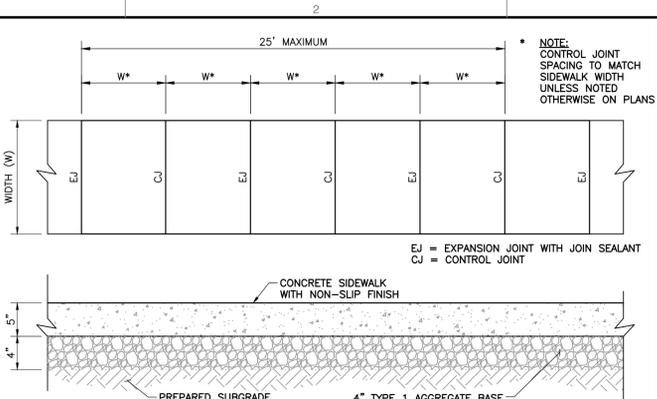


**DETAIL 02A
LIGHT DUTY ASPHALT PAVEMENT**
N.T.S.

**DETAIL 02B
MEDIUM DUTY ASPHALT PAVEMENT**
N.T.S.



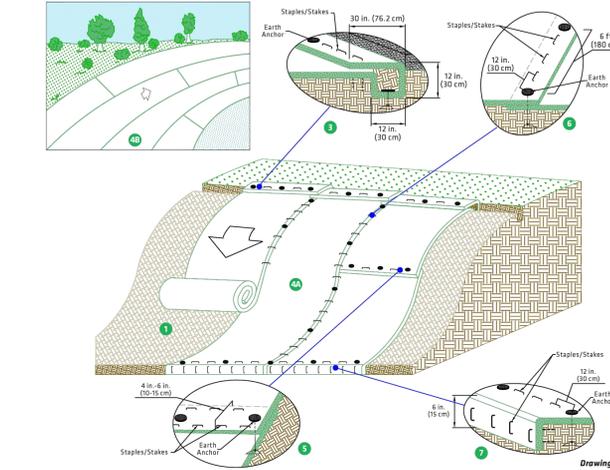
**DETAIL 03
ROLLED CONCRETE CURB & GUTTER**
N.T.S.



**DETAIL 04
CONCRETE SIDEWALK**
N.T.S.

Slope and Levee Installation Detail

Choosing the right solution is half the battle against costly erosion. The other half is proper installation. North American Green® provides all of the tools and instructions you need for quick, effective installation on your site.

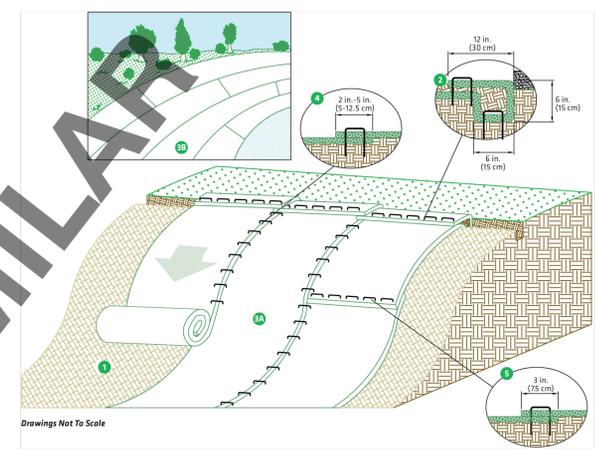


- GENERAL INSTALLATION**
1. Prepare soil before installing the High-Performance Turf Reinforcement Mat (HPTRM), including any necessary application of soil amendments such as lime or fertilizer.
 2. See Seeding and Vegetating section for details regarding preseeding, overseeding, or use with sod.
 3. Begin at the top of the slope by anchoring the HPTRM in 12 in. (30 cm) deep x 12 in. (30 cm) wide trench with approximately 30 in. (76.2 cm) of HPTRM extended beyond the up-slope portion of the trench. Anchor the HPTRM with a row of anchors/staples approximately 12 in. (30 cm) apart in the bottom of the trench. Backfill and compact the trench after stapling. Compact soil and fold remaining 30 in. (76.2 cm) portion of HPTRM back over compacted soil. Secure HPTRM over soil with a row of staples/staples spaced approximately 12 in. (30 cm) across the width of the HPTRMs.
 4. Roll the HPTRM (4A) down or (4B) horizontally across the slope. HPTRM will unroll with appropriate side against the soil surface. All HPTRM must be securely fastened to soil surface by placing anchors/staples/stakes in appropriate locations as shown in the anchoring detail.
 5. Place consecutive HPTRMs end over end (shingle style) with a 4 in. x 6 in. (10-15 cm) overlap. Staple/stake through overlapped area, approximately 12 in. (30 cm) apart across entire HPTRM width.
 6. Adjacent HPTRMs must be overlapped approximately 4 in. (10 cm) and fastened using staples/stakes every 12 in. (30 cm) between earth anchors. For curved sections, adjust the overlap edges accordingly to accommodate transitional segments.
 7. The terminal end of the HPTRM must be anchored with a row of staples/staples approximately 12 in. (30 cm) apart in a 6 in. (15 cm) deep x 6 in. (15 cm) wide trench. Backfill and compact the trench after stapling.

**DETAIL 05
TURF REINFORCEMENT MAT**
N.T.S.

Slope Installation

The following slope guide outlines general recommendations for installing RollMax® System temporary and/or permanent RECPS on sloping applications. Consult the staple pattern guide (Figure 1) for fastener spacing recommendations based on the slope severity.

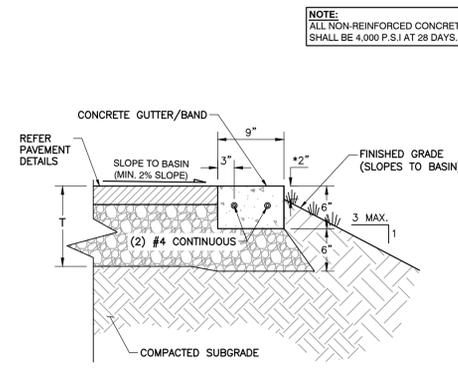


- SLOPE INSTALLATION STEPS**
1. Prepare soil before installing RECPS, including any necessary application of lime, fertilizer and seed.
 2. Begin at the top of the slope by anchoring the RECPS in a 6 in. (15 cm) deep x 6 in. (15 cm) wide trench with approximately 12 in. (30 cm) of RECPS extended beyond the upslope portion of the trench. Anchor the RECPS with a row of staples/stakes approximately 12 in. (30 cm) apart in the bottom of the trench. Backfill and compact the trench after stapling. Apply seed to the compacted soil and fold the remaining 12 in. (30 cm) portion of RECPS back over the seed and compacted soil. Secure RECPS over compacted soil with a row of staples/stakes spaced approximately 12 in. (30 cm) apart across the width of the RECPS.
 3. Roll the RECPS (3A) down or (3B) horizontally across the slope. RECPS will unroll with appropriate side against the soil surface. All RECPS must be securely fastened to soil surface by placing staples/stakes in appropriate locations as shown in the staple pattern guide.
 4. The edges of parallel RECPS must be stapled with an approximately 2 in. x 5 in. (5-12.5 cm) overlap depending on the RECPS type.
 5. Consecutive RECPS spliced down the slope must be end-over-end (shingle style) with an approximate 3 in. (7.5 cm) overlap. Staple through overlapped area, approximately 12 in. (30 cm) apart across entire RECPS width.*

PRODUCT INFO:
PRODUCT NAME: VMax Permanent Turf Reinforcement Mats
WEB PAGE: <https://nagreen.com/Systems-and-products/RollMax/VMax>
MANUFACTURER: NORTH AMERICAN GREEN
LOCAL DISTRIBUTOR: ASP Enterprises
 1099 Cassens Industrial Court
 Fenton, MO 63026

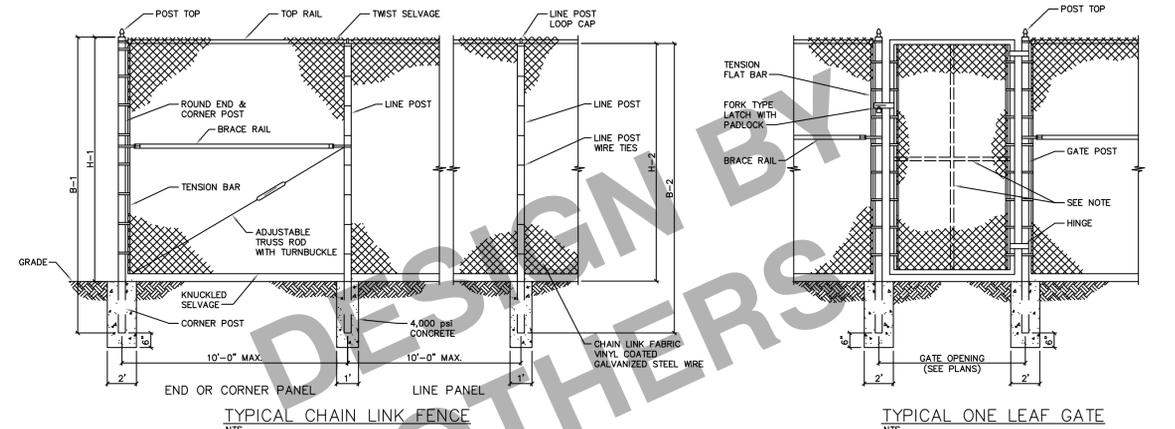
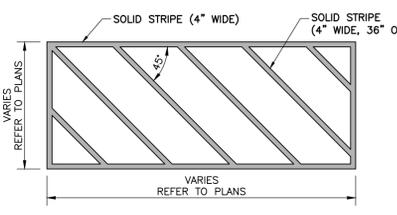
CONTACT NAME: Mark Stimaman
 mstimaman@aspent.com
 314-630-9605
DETAIL #/ID: VMax® SC250® Permanent TRM
CONTACT REPRESENTATIVE FOR COMPLETE CONSTRUCTION AND INSTALLATION DETAILS & REQUIREMENTS

GEOTECHNICAL NOTE:
 THE GEOTECHNICAL INVESTIGATION WAS PROVIDED BY HOLLAND ENGINEERS. REFER TO REPORT DATED NOVEMBER 11, 2025 TITLED "MASTERCARD - PARKING LOT F" PROJECT NUMBER 25184.
HOLLAND ENGINEERS
 798 Hoff Road, O'Fallon, Missouri 63366
 Phone: 636-978-7112
 110 West Main Street, Belleville, Illinois 62220
 Phone: 618-538-6666



**DETAIL 06
CONCRETE GUTTER/BAND**
N.T.S.

**DETAIL 07
CLEAR ACCESS PAVEMENT MARKING**
N.T.S.



FENCE HEIGHT	END & CORNER POSTS		LINE POSTS	
	NOMINAL HEIGHT	BAR LENGTH	H-1 HEIGHT ABOVE GRADE	H-2 HEIGHT ABOVE GRADE
5'-0"	8'-6"	5'-0 5/8"	8'-2"	4'-8 7/8"
6'-0"	9'-6"	6'-0 5/8"	9'-2"	5'-8 7/8"
7'-0"	10'-6"	7'-0 5/8"	10'-2"	6'-8 7/8"
8'-0"	11'-6"	8'-0 5/8"	11'-2"	7'-8 7/8"
9'-0"	12'-6"	9'-0 5/8"	12'-2"	8'-8 7/8"
10'-0"	13'-6"	10'-0 5/8"	13'-2"	9'-8 7/8"
11'-0"	14'-6"	11'-0 5/8"	14'-2"	10'-8 7/8"
12'-0"	15'-6"	12'-0 5/8"	15'-2"	11'-8 7/8"

**DETAIL 08
8'-0" TALL BLACK VINYL COATED CHAIN LINK FENCE & MAN GATE**
N.T.S.

SUBMITTAL RECORD

NO.	DATE	DESCRIPTION
1	11/11/2025	PRELIMINARY
2	11/11/2025	CONSTRUCTION PLAN SUBMISSION
3	11/11/2025	CONSTRUCTION PLAN SUBMISSION
4	11/11/2025	CONSTRUCTION PLAN SUBMISSION
5	11/11/2025	CONSTRUCTION PLAN SUBMISSION
6	11/11/2025	CONSTRUCTION PLAN SUBMISSION
7	11/11/2025	CONSTRUCTION PLAN SUBMISSION

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

**Civil & Environmental
Consultants, Inc.**

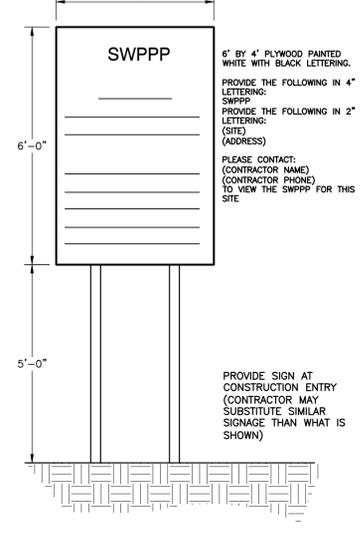
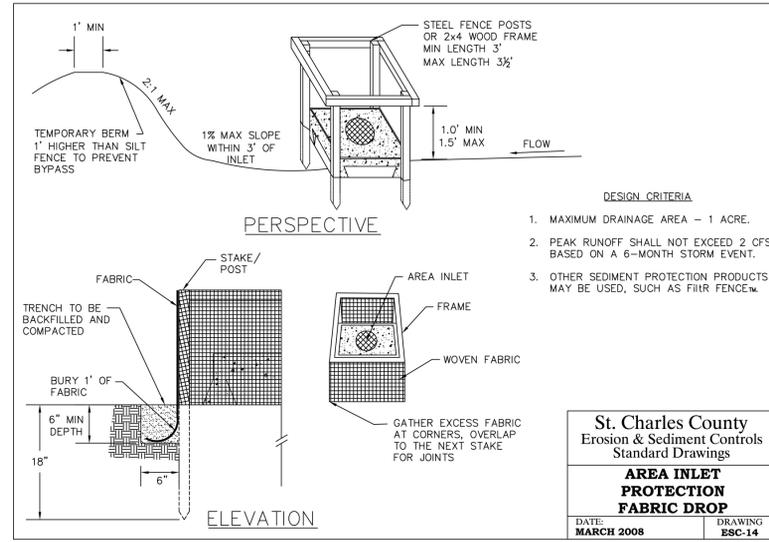
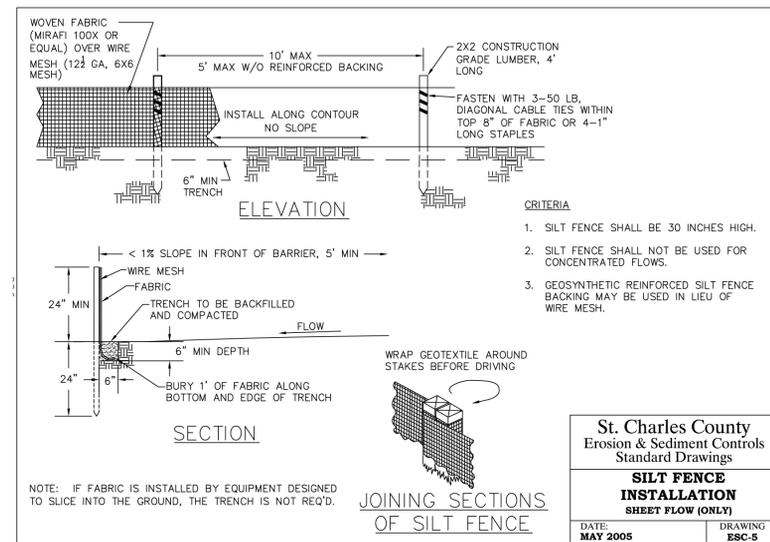
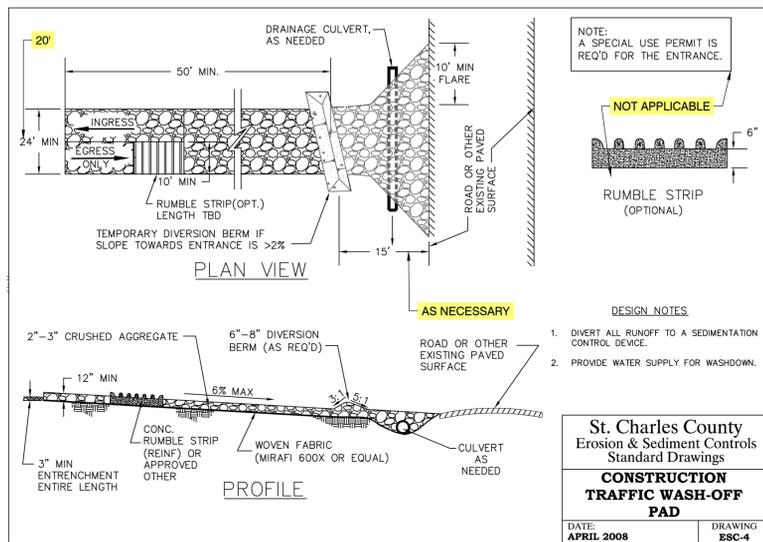
**MASTERCARD PARKING LOT "F"
2200 MASTERCARD BOULEVARD
OFALLON, MO 63368**

CONSTRUCTION DETAILS

DATE: SEP. 2025
 DRAWN BY: CAN
 DWG SCALE: NONE
 PROJECT NO: 384-285
 CHECKED BY: DIRK
 APPROVED BY:

STATE OF MISSOURI
 DANIEL ROBERT KOZIAJEK
 PROFESSIONAL ENGINEER
 PE-200401708
 02/05/2026

DRAWING NO.: **C800**
 SHEET 10 OF 20



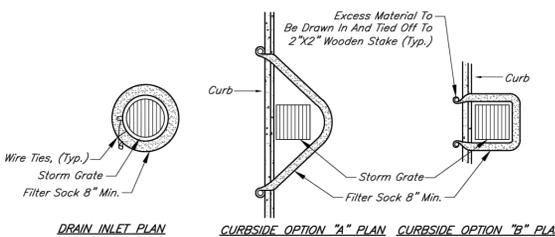
PER CITY OF FALLON: PROVIDE A 20' X 50' TEMPORARY TRUCK WASH OFF AREA (MIN 6\"/>

DETAIL 01
CONSTRUCTION ENTRANCE
N.T.S.

DETAIL 02
SILT FENCE
N.T.S.

DETAIL 03
INLET PROTECTION (OPT. 1)
N.T.S.

DETAIL 04
SWPPP PERMIT SIGNAGE
N.T.S.

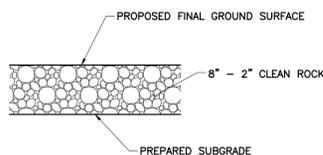


DRAIN INLET PLAN
CURBSIDE OPTION "A" PLAN
CURBSIDE OPTION "B" PLAN

NOTES:
Installation:
Filter Sock Should Maintain Solid Contact With The Surface And Be Installed In A Manner That Minimizes Gaps Between The Bottom Of The Sock And The Underlying Substrate.
Socks Placed On Unpaved Surfaces Shall Be Staked In The Center Of The Sock Or Immediately Downslope Of The Sock At The Interval Recommended By The Manufacturer. Socks Installed On Paved Surfaces Shall Have Concrete Blocks Placed Immediately Downslope Of The Sock At An Interval Recommended By The Manufacturer.
Maintenance:
Traffic Shall Not Be Permitted To Cross Filter Socks.
Inspect The Structure Weekly And After Each Rainfall Event. Damaged Socks Shall Be Repaired According To The Manufacturer's Specifications Or Replaced Within 24 Hours Of Inspection.
Remove Deposited Sediment When It Reaches Half The Height Of The Filter Sock At Its Lowest Point.
Take Care To Avoid Undermining The Filter Sock During Clean Out.
After The Contributing Drainage Area Has Been Stabilized, Remove And Properly Dispose Of Any Unstable Sediment And Construction Material, And Stabilize.

FILTER SOCK INLET PROTECTION
Not To Scale

DETAIL 05
INLET PROTECTION (OPT. 2)
N.T.S.



DETAIL 06
GRANULAR SECTION
N.T.S.

- Surface stabilization may be suspended from portions of the project area which have an active building permit. Upon completion of the building activity, the site must be permanently stabilized.
- Non-degradable mats shall be used only as a permanent installation, and in areas that will not be moved.
- Surface stabilization shall be scheduled as provide in Table 60-5 below:

Table 60-5 Soil Stabilization Schedule

Soil Disturbance Activity or Condition	Required Stabilization Time
Soil disturbance has ceased in areas greater than 2,000 square feet.	14 days
After construction of dikes, swales, diversions, and other concentrated flow areas	5 days
When slopes are steeper than 3 horizontal to 1 vertical	7 days
When slopes are greater than 3% and longer than 150 feet.	14 days
Perimeter controls around soil stockpiles.	End of workday
Stabilization or covering of inactive stockpiles.	30 days
When land disturbance is completed, permanent soil stabilization must be installed.	30 days

60.20.2.1 Temporary Seeding

Temporary seeding and mulching shall be applied to all cleared, unvegetated, or sparsely vegetated soil surfaces where vegetative cover is required for less than 1 year. Temporary seeding shall germinate to a density of at least 70% of the total disturbed site area. Temporary seeding may be used for diversions, dams, temporary sediment basins, temporary road banks, topsoil stockpiles, and any other exposed areas of a construction site, which meet velocity and other requirements for its use.

Temporary seeding may be suspended from individual lots located in the project area, which have an active building permit. Upon completion of the building activity, the site shall be permanently vegetated.

60.20.2.1.1 Seed

Seed must be clean, relatively free of weed seed and other contaminants, and comply with the Federal Seed Act and the Missouri State Seed Law. Seed that has become wet, moldy, or otherwise damaged in transit or storage is not acceptable.

Turf mixes can be used with no more than 10% Kentucky bluegrass and at least 20% perennial ryegrass.

Table 60-9 Mulching Materials

Material	Rate	Requirements	Installation/Uses
Straw	1.5-2.5 tons/ac (3-4 tons, if roller punched)	Dry, unchopped, unweathered; free of weed seeds & rot.	Spread by machine 1.5-2.5 inches deep; must be tacked or tied down.
Compost Blanket	1" thick	Double the application rate for embankments	Follow manufacturer's application method.
Wood fiber, wood cellulose, paper	1-2 tons/ac	Double the application rate in critical areas	Use with power mulcher or hydroseeder; may be used to tack straw on steep slopes. Cannot be used in hot dry weather.

60.20.2.5 Tackifiers & Soil Binders

Tackifiers and soil binders can increase the performance of mulch material. Binders can also be directly applied to the bare soil to provide binding of the soil particles and reduce the erosion potential of the bare soil.

60.20.2.5.1 Tackifiers & Binders

Tackifiers and binders are applied to organic mulch to reduce the potential of mulch movement by water or wind and increase the performance of the material. Substances are used to anchor straw, hay, paper, or wood mulch by causing the organic material to bind together.

60.20.2.5.2 Bonded Fiber Matrix (BFM)

A classification of erosion control products that are designed to stay in place on steep slopes. A bonded fiber matrix is a continuous layer of elongated fiber strands held together by a binding agent that is water-resistant. Once dry, the BFM forms a water absorbent protective cover that is porous and breathable and secures soil and seed while enhancing establishment of vegetation. Due to many different types of products available on the market, it is best to consult with the manufacturer for proper application rates and procedures with a minimum of 2 tons per acre.

60.20.2.5.3 Flexible Growth Medium (FGM)

FGM combines both chemical and mechanical bonding techniques to lock the engineered medium in place to bond directly to the soil. Wood fibers, crimped man-made fibers, and performance-enhancing additives form a lofty, interlocking matrix that creates air space and water absorbing cavities that accelerate germination, reduce the impact of rainfall energy, and minimize soil loss. The chemistry enables this matrix to handle higher rates of surface flow energy. As with the BFM, maximum effectiveness is achieved when the matrix has dried and has thoroughly cured.

Table 60-7 Temporary Fall Seeding

Plant Species	Rate ¹ (lb/acre)	Seeding Times
Side-Oats	65	8/16 - 9/30
Winter Rye	50	8/01 - 10/15
Winter Wheat	60	8/01 - 10/15
Orchard Grass	120	8/01 - 10/15
Perennial Ryegrass	80	8/01 - 10/15
Tall fescue, Smooth Brome	80	8/01 - 10/15
K-31 Fescue	120	9/01 - 11/15
Ladino Clover	2 ²	8/15 - 9/15
Crimson Clover	6 ²	8/15 - 9/15
Orchard Grass and Oats or Rye	15 ² 40 ²	8/15 - 9/15

¹ If using aerial seeding or other broadcast method to apply seed without rolling or culti-packing, increase seeding rates by 50 percent.

² Pure live seed (PLS)

Table 60-8 Temporary Spring Seeding

Plant Species	Rate ¹ (lb/acre)	Seeding Dates
Winter Rye	50	3/15 - 5/31
Spring Oats	65	3/15 - 5/31
Annual Ryegrass	4 ²	3/15 - 6/15
Sudangrass	16 ²	4/15 - 6/15
K-31 Fescue	30 ²	3/15 - 5/31
Red Clover & Oats	2 ² 30 ²	3/15 - 5/31

¹ If using aerial seeding or other broadcast method to apply seed without rolling or culti-packing, increase seeding rates by 50 percent.

² Pure live seed (PLS)

60.20.2.1.2 Seedbed Preparation

Seedbed preparation is essential for the seed to germinate and grow. For broadcast seeding and drilling, loosen the top 3 to 6 inches of soil. Lime and fertilizer should be incorporated by disking. If recent tillage or grading operations have resulted in a loose surface, additional tillage may not be required. If rainfall caused the soil surface to become sealed or crusted, surface tilling will be required prior to seeding.

The seedbed area shall be tested by an approved nursery for proper application rates of lime and fertilizer. Results of the test are to be sent to the County inspector with the recommended application rates. Mulching or the addition of stockpiled topsoil is required on all seedbeds prior to the placement of seed wherever there are inadequate amounts of topsoil. Mulch shall be applied after seeding for protection and to aid in seed germination. Mulch shall be placed in accordance with the mulching section of this document.

In lieu of soil testing for land disturbance sites less than two (2) acres, the following fertilizer and lime rates shall be applied:

Table 60-6 Soil Amendment Rates

Soil Amendment Material	Application Rate (Lb per Acre)	
Fertilizer	Nitrogen (N)	30 ¹
	Phosphate (P ₂ O ₅)	90 ¹
	Potash (K ₂ O)	90 ¹
Lime	1,000 ²	

¹ Increase the rate by 25% for slopes steeper than 5:1.
² Rate is in effective neutralizing material (ENM) units.

60.20.2.1.3 Temporary Seeding Rates and Times

In areas that are on slopes flatter than 4:1 and that are not within watercourses, seeding shall be applied at the rates and times specified in Table 60-7 and Table 60-8. Seed shall be evenly spread with a broadcast seeder, drill, or hydro seeder. The proper depth is 1/4 to 1/2 inches deep for legumes and grasses such as annual ryegrass and up to 1 and 1/2 inches for cereal grains. If the seed is applied by a broadcast method, the area will be rolled or culti-packed immediately after seeding on a prepared seedbed only. Rolling or culti-packing is not required if the broadcast seeding rate is increased by 50 percent. Other seed species and mixtures can be proposed prior to planting, as recommended by an agronomist, competent nursery company, or refer to NRCSS MOFOTG Code 340 (Cover Crop) in Appendix D.

For channels, embankments, and slopes of 4:1 or steeper, seeding shall be a mixture of K31 fescue and rye at a rate of 400 pounds per acre.

113 1/2021

117 1/2021

115 1/2021

114 1/2021

DETAIL 07
SOIL STABILIZATION
N.T.S.

DETAIL 08
MULCHING MATERIALS
N.T.S.

DETAIL 09
SEEDING SCHEDULE
N.T.S.

DETAIL 10
SEEDBED PREPARATION
N.T.S.



E & S DETAILS

DATE: SEP. 2025
DWG SCALE: 1"=30'
PROJECT NO.: 384-285
DRAWN BY: CAN
CHECKED BY: CAN
DIRK

DRAWING NO.: **C901**
SHEET 12 OF 20

MASTERCARD PARKING LOT "F"
2200 MASTERCARD BOULEVARD
O'FALLON, MO 63368



Civil & Environmental
Consultants, Inc.

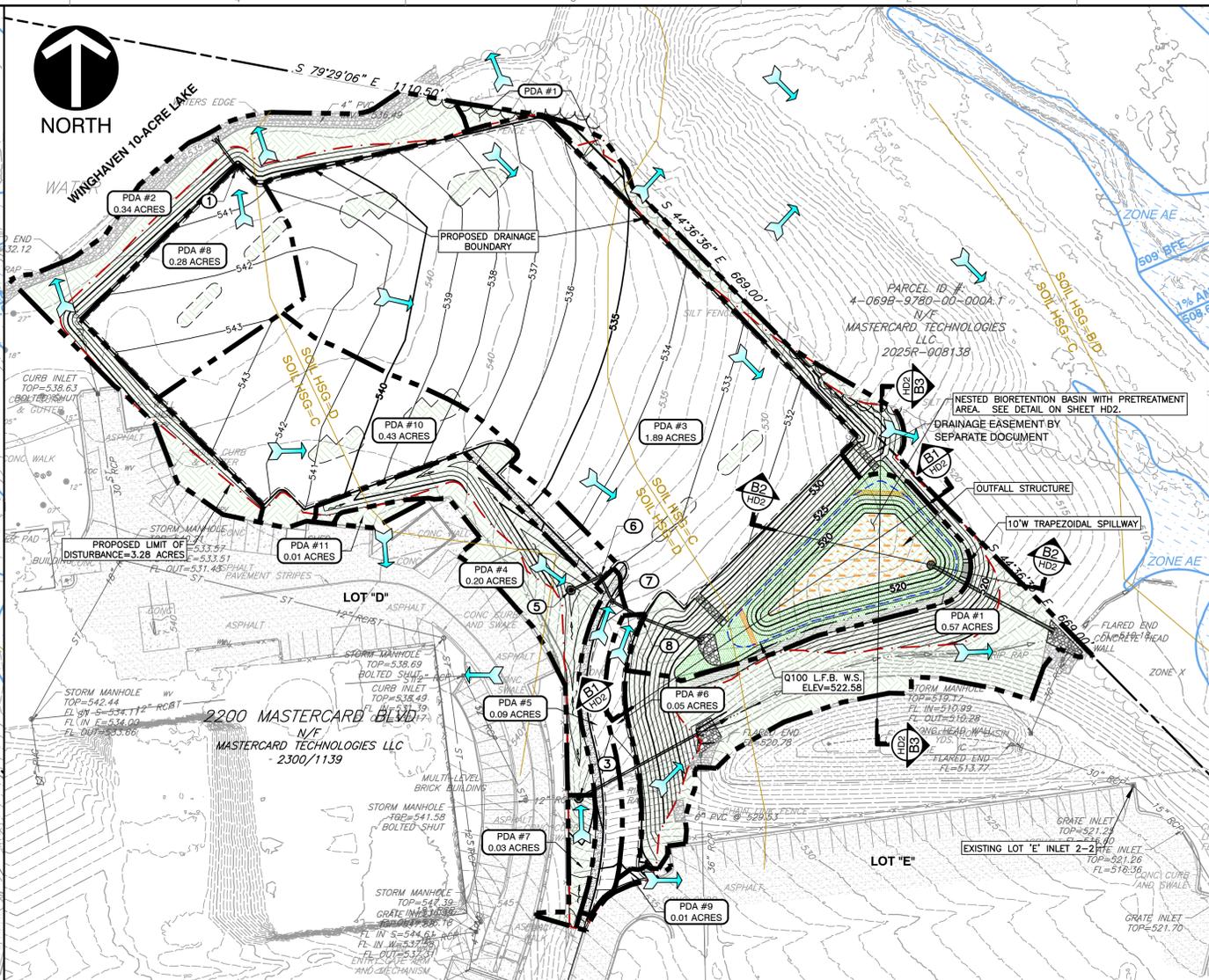
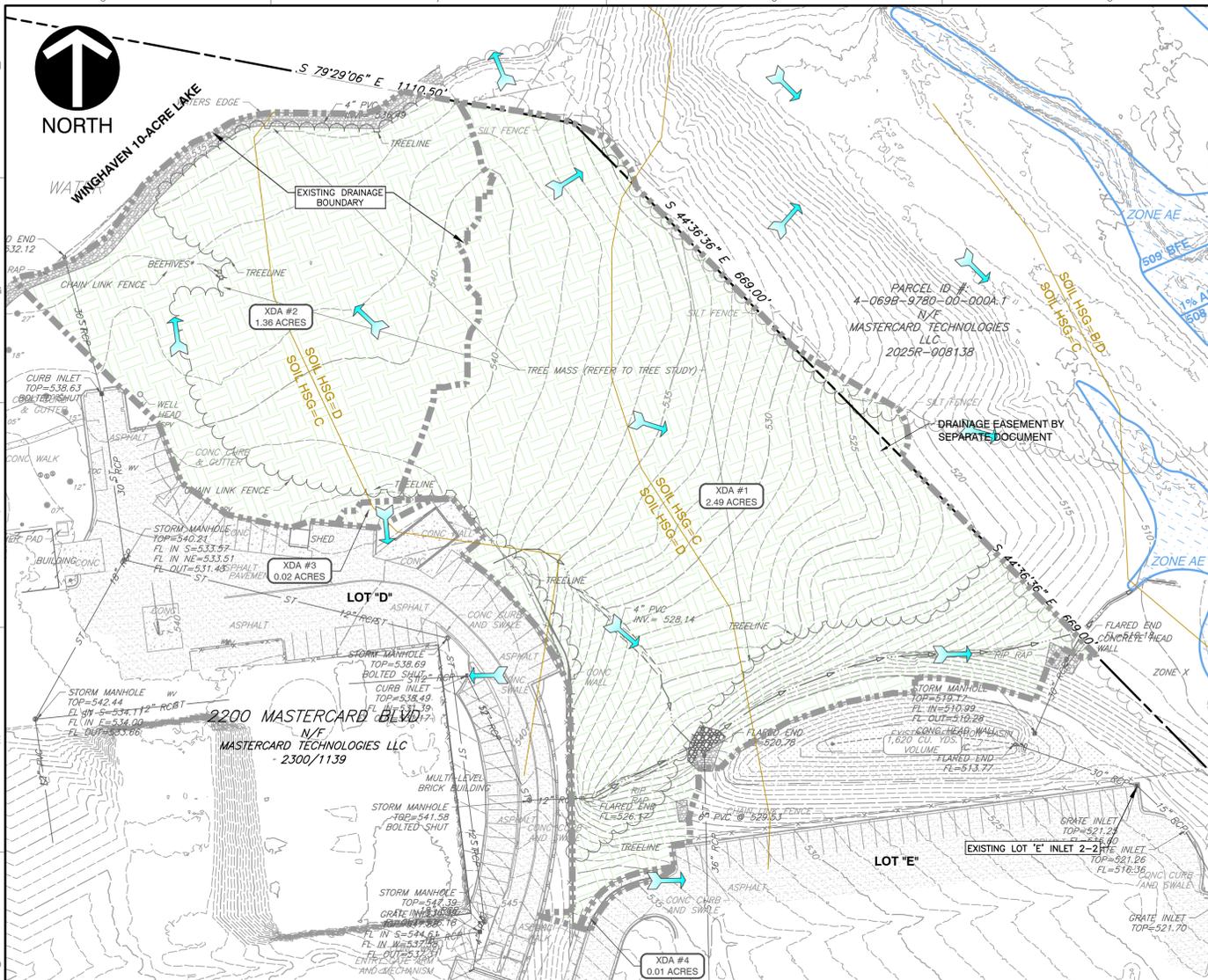
1450 Beale Street
Suite 305
St. Charles, MO 63303
Ph: 314.656.4566
www.ccecinc.com

SUBMITTAL RECORD

NO	DATE	DESCRIPTION
1	1/15/2025	PRELIMINARY SUBMITTAL
2	1/15/2025	CONSTRUCTION PLAN SUBMISSION
3	1/15/2025	PERMIT REVIEW COMMENTS ADDRESS
4	1/15/2025	PERMIT REVIEW COMMENTS ADDRESS
5	1/15/2025	PERMIT REVIEW COMMENTS ADDRESS
6	1/15/2025	PERMIT REVIEW COMMENTS ADDRESS
7	1/15/2025	PERMIT REVIEW COMMENTS ADDRESS

PROVIDE THE FOLLOWING IN 4" LETTERING:
SWPPP
PROVIDE THE FOLLOWING IN 2" LETTERING:
(SITE)
(ADDRESS)
PLEASE CONTACT:
(CONTRACTOR NAME)
(CONTRACTOR PHONE)
TO VIEW THE SWPPP FOR THIS SITE

PROVIDE SIGN AT CONSTRUCTION ENTRY (CONTRACTOR MAY SUBSTITUTE SIMILAR SIGNAGE THAN WHAT IS SHOWN)



EXISTING LEGEND

- EXISTING DRAINAGE ARROW
- EXISTING DRAINAGE AREA LABEL
- EXISTING DRAINAGE BOUNDARY
- EXISTING PERVIOUS
- EXISTING NRCS HYDROLOGIC SOIL GROUP

EXISTING DRAINAGE AREAS

XDA	Description	Subareas	Area (SF)	Area (AC)	15YR/20MIN		100YR/20MIN	
					P.I.	Q (CFS)	P.I.	Q (CFS)
XDA #1	SURFACE RUNOFF TO SOUTHEAST (TO FEMA FLOOD ZONE AE)	PERVIOUS	109,880	2.52	1.87	4.72	2.95	7.44
		IMPERVIOUS	112	0.00	3.85	0.01	6.08	0.02
		TOTAL	109,992	2.53	1.87	4.73	2.95	7.46
XDA #2	SURFACE RUNOFF TO NORTH (TO EXISTING WINGHAM 10-AC LAKE)	PERVIOUS	59,202	1.36	1.87	2.54	2.95	4.01
		IMPERVIOUS	0	0.00	3.85	0.00	6.08	0.00
		TOTAL	59,202	1.36	1.87	2.54	2.95	4.01
XDA #3	SURFACE RUNOFF TO SOUTHWEST (TO DEVELOPED LOT "D")	PERVIOUS	656	0.02	1.87	0.03	2.95	0.04
		IMPERVIOUS	0	0.00	3.85	0.00	6.08	0.00
		TOTAL	656	0.02	1.87	0.03	2.95	0.04
XDA #4	SURFACE RUNOFF TO SOUTHWEST (TO DEVELOPED LOT "E")	PERVIOUS	0	0.00	1.87	0.00	2.95	0.00
		IMPERVIOUS	506	0.01	3.85	0.04	6.08	0.07
		TOTAL	506	0.01	3.85	0.04	6.08	0.07
TOTALS			170,356	3.91		7.34		11.58

DIFFERENTIAL RUNOFF CALCULATION (15-YEAR)

IMPROVEMENT AREA	AREA (SF)	AREA (AC)
TOTAL DRAINAGE AREA	170,356	3.91

EXISTING RUNOFF (IMP% = 0.1%)

	AREA (SF)	AREA (AC)	PI	Q (CFS)
IMPERVIOUS	112	0.00	3.85	0.01
PERVIOUS	170,244	3.91	1.87	7.31
TOTAL	170,356	3.91	1.87	7.32

PROPOSED RUNOFF (IMP% = 58.4%)

	AREA (SF)	AREA (AC)	PI	Q (CFS)
IMPERVIOUS	99,462	2.28	3.85	8.79
PERVIOUS	70,894	1.63	1.87	3.04
TOTAL	170,356	3.91	3.03	11.83

DIFFERENTIAL RUNOFF

PROPOSED (CFS)	EXISTING (CFS)	DIFFERENTIAL (CFS)
11.83	7.32	4.52

PROPOSED DRAINAGE AREAS

PDA	Description	Subareas	Area (SF)	Area (AC)	15YR/20MIN		100YR/20MIN	
					P.I.	Q (CFS)	P.I.	Q (CFS)
PDA #1	SURFACE RUNOFF TO SOUTHWEST (TO FEMA FLOOD ZONE AE)	PERVIOUS	24,678	0.57	1.87	1.06	2.95	1.67
		IMPERVIOUS	247	0.01	3.85	0.02	6.08	0.03
		TOTAL	24,925	0.57	1.89	1.08	2.98	1.71
PDA #2	SURFACE RUNOFF TO NORTH (TO EXISTING WINGHAM 10-AC LAKE)	PERVIOUS	14,625	0.34	1.87	0.63	2.95	0.99
		IMPERVIOUS	0	0.00	3.85	0.00	6.08	0.00
		TOTAL	14,625	0.34	1.87	0.63	2.95	0.99
PDA #3	SURFACE RUNOFF TO PROPOSED BASIN	PERVIOUS	18,730	0.43	1.87	0.80	2.95	1.27
		IMPERVIOUS	63,657	1.46	3.85	5.63	6.08	8.89
		TOTAL	82,387	1.89	3.40	6.43	5.37	10.15
PDA #4	SURFACE RUNOFF TO PROPOSED INLET #5	PERVIOUS	8,634	0.20	1.87	0.37	2.95	0.58
		IMPERVIOUS	98	0.00	3.85	0.01	6.08	0.01
		TOTAL	8,732	0.20	1.89	0.38	2.99	0.60
PDA #5	SURFACE RUNOFF TO PROPOSED INLET #7	PERVIOUS	63	0.00	1.87	0.00	2.95	0.00
		IMPERVIOUS	3,901	0.09	3.85	0.34	6.08	0.54
		TOTAL	3,964	0.09	3.82	0.35	6.03	0.55
PDA #6	SURFACE RUNOFF TO PROPOSED INLET #8	PERVIOUS	0	0.00	1.87	0.00	2.95	0.00
		IMPERVIOUS	2,297	0.05	3.85	0.20	6.08	0.32
		TOTAL	2,297	0.05	3.85	0.20	6.08	0.32
PDA #7	SURFACE RUNOFF TO PROPOSED INLET #3	PERVIOUS	1,352	0.03	1.87	0.06	2.95	0.09
		IMPERVIOUS	46	0.00	3.85	0.00	6.08	0.01
		TOTAL	1,398	0.03	1.94	0.06	3.05	0.10
PDA #8	SURFACE RUNOFF TO PROPOSED INLET #1	PERVIOUS	483	0.01	1.87	0.02	2.95	0.03
		IMPERVIOUS	11,555	0.27	3.85	1.02	6.08	1.61
		TOTAL	12,038	0.28	3.77	1.04	5.95	1.65
PDA #9	SURFACE RUNOFF TO SOUTHWEST (TO DEVELOPED LOT "E")	PERVIOUS	85	0.00	1.87	0.00	2.95	0.01
		IMPERVIOUS	355	0.01	3.85	0.03	6.08	0.05
		TOTAL	440	0.01	3.47	0.04	5.48	0.06
PDA #10	SURFACE RUNOFF TO PROPOSED INLET #6	PERVIOUS	1,668	0.04	1.87	0.07	2.95	0.11
		IMPERVIOUS	17,306	0.40	3.85	1.53	6.08	2.42
		TOTAL	18,974	0.44	3.68	1.60	5.80	2.53
PDA #11	SURFACE RUNOFF TO SOUTHWEST (TO DEVELOPED LOT "D")	PERVIOUS	576	0.01	1.87	0.02	2.95	0.04
		IMPERVIOUS	0	0.00	3.85	0.00	6.08	0.00
		TOTAL	576	0.01	1.87	0.02	2.95	0.04
TOTALS			170,356	3.91		11.83		18.68

PROPOSED LEGEND

- PROPOSED DRAINAGE ARROW
- PROPOSED DRAINAGE AREA LABEL
- PROPOSED DRAINAGE BOUNDARY
- PROPOSED DISTURBED AREA (REFERENCE)
- PROPOSED PERVIOUS

REFERENCE

- TOPOGRAPHIC INFORMATION BASED UPON SURVEY CONDUCTED BY CIVIL & ENVIRONMENTAL CONSULTANTS, INC ON 09/18/2025.

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811 or 1-800-344-7483
<https://missouri-811.org>
 ISSUED TICKET #: 133611243
 TICKET DATE: 09/01/2025

OFFSITE DRAINAGE COMPARISON CHART

OFFSITE DRAINAGE LOCATION	SPECIFICATION	EX	PROP	DIFFERENCE
TO EXISTING WINGHAM 10-ACRE LAKE	AREA (AC)	1.36	0.61	(0.75)
	Q 15YR/20MIN (CFS)	2.54	1.67	(0.87)
	Q 100YR/20MIN (CFS)	4.01	2.64	(1.37)
TO DEVELOPED LOT "D"	AREA (AC)	0.02	0.01	(0.01)
	Q 15YR/20MIN (CFS)	0.03	0.02	(0.01)
	Q 100YR/20MIN (CFS)	0.04	0.04	(0.00)
TO DEVELOPED LOT "E"	AREA (AC)	0.01	0.01	(0.00)
	Q 15YR/20MIN (CFS)	0.04	0.04	(0.00)
	Q 100YR/20MIN (CFS)	0.07	0.06	(0.01)

NOTES:

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SCALE IN FEET: 0 50 100

DANIEL R. KOZIATEK (MO PE# 200401718)
 P&Z FILE #: 25-010702
 NOVEMBER 6, 2025

MASTERCARD PARKING LOT "F"
2200 MASTERCARD BOULEVARD
O'FALLON, MO 63368

DRAINAGE AREA MAPS

DATE: SEP. 2025
 DWG SCALE: 1"=50'
 DRAWN BY: ROBERT KOZIATEK
 CHECKED BY: DANIEL R. KOZIATEK
 APPROVED BY: DANIEL R. KOZIATEK

HD1

SHEET 13 OF 20

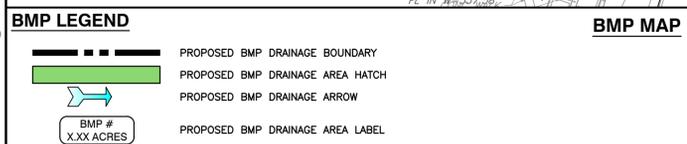
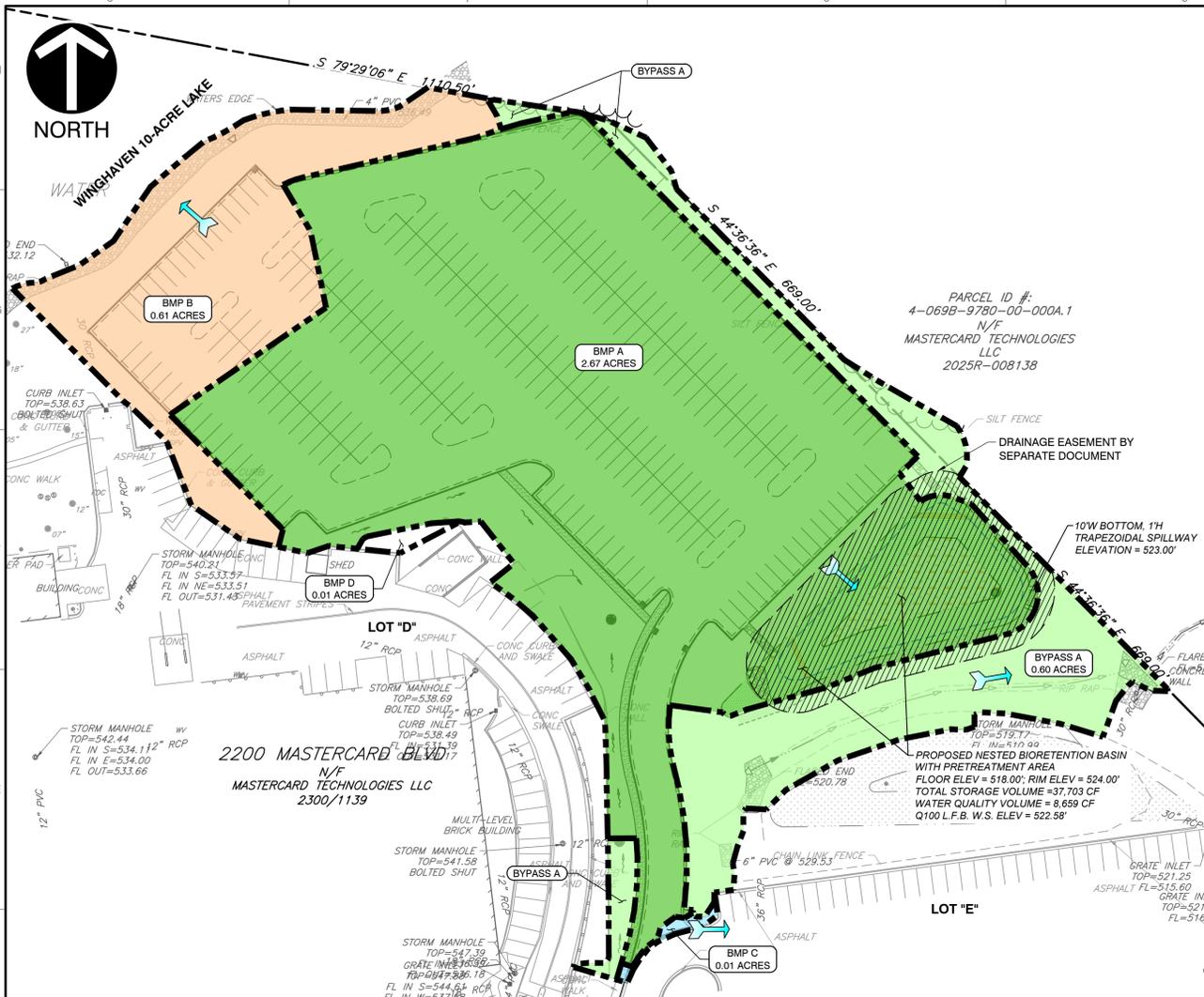
1450 Beale Street
 Suite 305
 St. Charles, MO 63303
 Ph: 314.656.4566
 www.cecinco.com

Civil & Environmental Consultants, Inc.

PROFESSIONAL ENGINEER
 DANIEL R. KOZIATEK
 PE 200401718
 02/05/2026

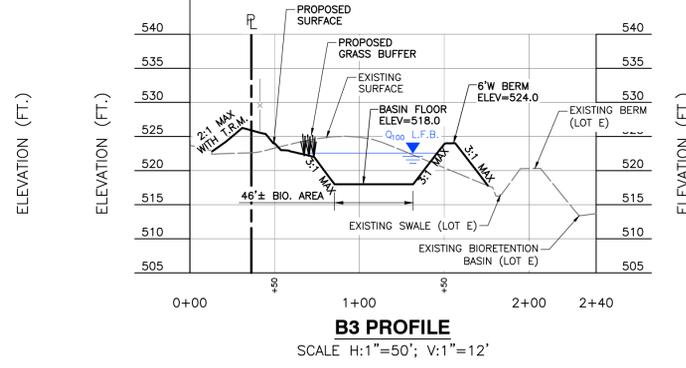
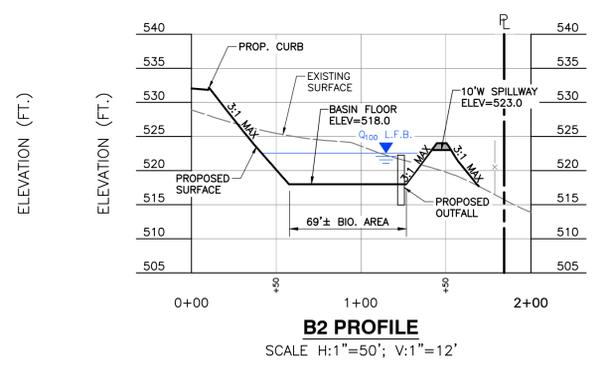
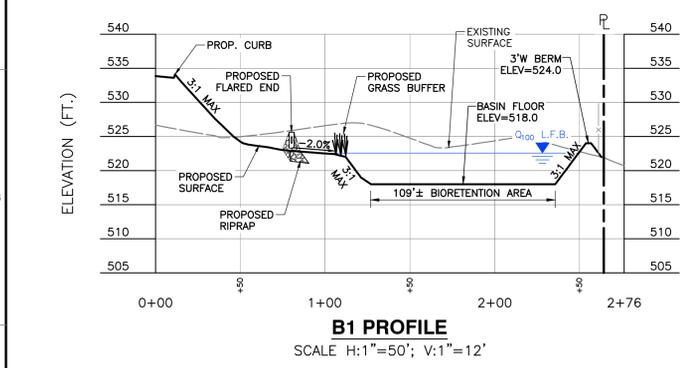
SUBMITTAL RECORD

NO	DATE	DESCRIPTION
1	11/17/2024	PRELIMINARY PLAN SUBMISSION
2	10/17/2024	CONSTRUCTION PLAN SUBMISSION
3	10/17/2024	FINAL PERMIT COMMENT ADDRESS
4	10/17/2024	PERMIT REVIEW FOR REMITTING
5	10/17/2024	PERMIT REVIEW FOR REMITTING
6	10/17/2024	PERMIT REVIEW FOR REMITTING



BMP ID	Total Area (ac)	Imp Area (ac)	Description	BMP	WQ Req'd (cf)	WQ Provided (cf)
BMP A	2.67	2.00	Pavement and greenspace	Proposed Nested Bioretention	6,010	8,659
BMP B	0.61	0.27	Pavement and greenspace	Ex. Winghaven 10-Acre Lake	REDUCED*	
BMP C	0.01	0.01	Pavement and greenspace	Ex. Lot E Nested Bioretention	REDUCED*	
BMP D	0.01	0.00	Greenspace/Landscape	---	---	---
BYPASS A	0.60	0.01	Greenspace/Landscape	---	---	---
TOTAL	3.91	2.28				

*PROPOSED CONDITION SENDS LESS WATER INTO EXISTING OFFSITE BMP THAN THE EXISTING CONDITION



Summary of Storage Volume & Release Rates Per 24-HR Storm Event

DRAINAGE AREA SPECIFICATIONS					
AREA	AREA (AC)	IMP (AC)	IMP %	CN	TC (MIN)
XDA1 (FEMA)	2.53	0.00	0.1%	77	20
BMP A (BASIN-FEMA)	2.67	2.00	75.0%	93	20
BYPASS A (FEMA)	0.60	0.01	1.1%	76	20

Note: 20-minute storm used for detention per O'Fallon code 405.240.4

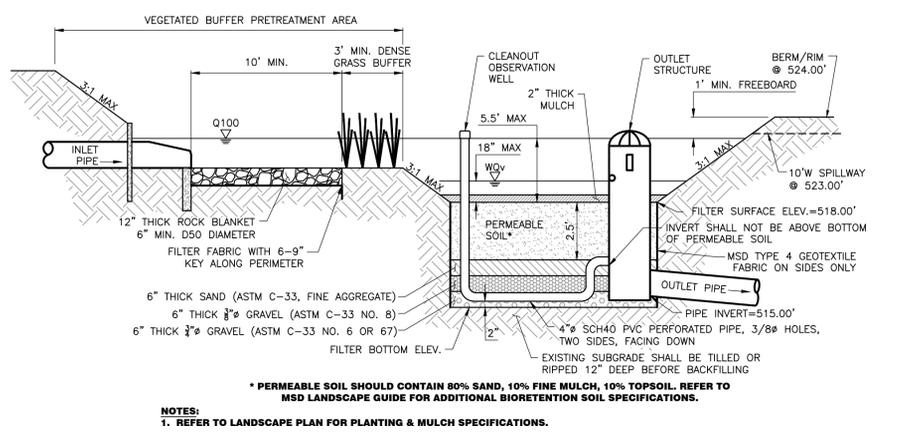
COMPARISON OF INFLOW/OUTFLOW RATES (cfs)				
DRAINAGE LOCATION	24-HOUR EVENT	EX. PEAK FLOW*	PROP. TOTAL PEAK OUTFLOW*	DIFFERENCE IN PRE-POST RELEASE RATES
FEMA ZONE AE	2	4.11	3.95	(0.16)
DRAINAGE CHANNEL	15	8.45	7.52	(0.92)
	100	13.31	13.03	(0.28)

Note: 2, 15, and 100-year (20-minute) storms used for detention per O'Fallon code 405.240.4
* From Hydraul. Includes flow from basin and bypass, where applicable

NESTED BIORETENTION SPECIFICATIONS					
EVENT	PEAK OUTFLOW (CFS)	STORAGE VOLUME (CF)	MAX. POND DEPTH (FT)*	MAX. ELEV. (FT)	L.F.B. ELEV. (FT)
2-yr/24-hr	3.45	13,263	2.94	520.94	
15-yr/24-hr	6.22	18,820	3.82	521.82	
100-yr/24-hr	11.08	23,445	4.44	522.44	522.58

*Ponding depth measured from Basin Floor Elevation = 518.00'

NOTES:
1. Basin routing assumes a starting W.S. elevation of 518.16' to account for 534cf of sediment accumulation (2-year).
2. Basin Rim = 524.00'; Spillway Elevation = 523.00'; Outfall Elevation = 522.25'; Low Flow Hole (7" Dia) = 519.50'; Mid Hole (8"Wx15"H) = 520.00'
3. Underdrains are ignored for basin routing calculations
4. Low Flow Blocked (L.F.B.) W.S. elevation assumes that the low flow hole is inactive and that the starting W.S. is pooled to the next inlet (520.00')



NESTED BIORETENTION DESIGN SHEET

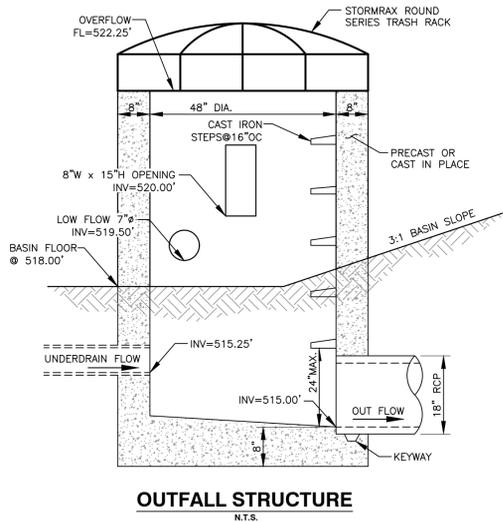
DRAINAGE AREA SPECS		MSD Bioretention WQv Requirement (75%)	
Drainage Area	2.67 ac	WQv*	8,013 cf
Impervious Area	75 %	MSD Bioretention WQv Requirement (75%)	6,010 cf

Note: WQv = (P * Rv * A) / 12 where P = 1.14 inches of rainfall, Rv = 0.05 + 0.009I where I is % impervious cover and A is drainage area in acres

BIORETENTION CALCULATIONS - MINIMUM FILTER BED AREA			
Filter Bed Depth, d _f	2.50 ft	(2.5 to 4.0 feet standard)	
Coefficient of Permeability, k	2.0 ft/day	(k = 2ft/day with proper soil)	
Avg Height of Water Above Filter Bed, h _f	0.75 ft	(MSD Max ponding depth is 18", avg height = 0.75')	
Design Filter Drain Time, t _f	2.0 days	(48 hrs maximum)	
MINIMUM Filter Bed Surface Area, A _f	1,541 sf	Filter Bed Surface Area Provided = 3250 sf	
Provided Area > Minimum Area	PASS		

NESTED BIORETENTION VOLUMES			
Basin Floor Surface Area & Elevation	3,267 sf	518.00 ft	
Max WQv S.A./Elev./Volume	5,815 cf	519.50 ft	
Q2/100 S.A./Elev./Volume	27,860 cf	523.00 ft	
Basin Rim S.A./Elev./Volume	37,703 cf	524.00 ft	
Volume From Within Filter Bed (included in volumes above)	2,844 cf		{35% porosity filter}

NESTED BIORETENTION WATER QUALITY AREA DESIGN DETAILS			
Filter Bed Surface Area	3,250 sf	(may be a portion of the basin floor)	
Filter Bed/Basin Floor Elevation	518.00 ft		
Max. WQv W.S. Elevation	519.50 ft	(MSD Max ponding depth is 18", avg height = 0.75')	
Basin Rim Elevation	524.00 ft		
Filter Bed Depth	2.50 ft	(2.5 to 4.0 feet standard)	
Underdrain Pipe Invert Elev.	514.17 ft	4" Sch40 PVC 3/8" perforated holes, facing down	
Perched Underdrain Invert At Outlet Structure	515.25 ft	Not above bottom of permeable soil	
Storage Depth Below Underdrain Pipe	0.17 ft	{2" per typical section; storage below}	
Filter Bottom Elevation	514.00 ft		
Total WQv Above & Within Entire Bed	8,659 cf	(B28*(B30-B29))+F25	
# Cleanouts Required	3		
Quantity Soil	8,125 cf	(80% sand, 10% fine ground mulch, 10% topsoil)	
Quantity Sand	1,625 cf	(ASTM C-33 fine aggregate)	
Quantity 3/8" Gravel	1,625 cf	(ASTM C-33 No. 8)	
Quantity 3/4" Clean Gravel	1,625 cf	(ASTM C-33 No. 6 or 67)	



PRODUCT INFO:
 PRODUCT NAME: STORMRAX ROUND SERIES
 WEB PAGE: WWW.PLASTIC-SOLUTION.COM
 MANUFACTURER: PLASTIC SOLUTIONS, INC.
 DISTRIBUTOR: WWW.CONTECHES.COM
 CONTACT NAME: JOE BRATCHIE
 314-712-4857

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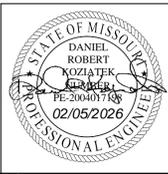
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SCALE IN FEET
 0 50 100

DANIEL R. KOZIATEK
 (MO PE# 2004017188)
 P&Z FILE #: 25-010702
 NOVEMBER 6, 2025



STORMWATER MANAGEMENT

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

Civil & Environmental Consultants, Inc.

MASTERCARD PARKING LOT "F"
2200 MASTERCARD BOULEVARD
O'FALLON, MO 63368

DATE: SEP. 2025
 DWG SCALE: 1"=50'
 PROJECT NO.: 25-010702
 APPROVED BY: [Signature]

DRAWING NO.: **HD2**

SHEET 14 OF 20

ELECTRICAL SYMBOLS LEGEND	
LIGHTING FIXTURES	
	LIGHT POLE WITH SINGLE HEAD LUMINAIRE.
	LIGHT POLE WITH MULTIPLE HEADS (AS INDICATED).
	SHADING DENOTES EMERGENCY FIXTURE.
1a,b NL	FIXTURE CIRCUITRY NOTATION: 1 - CIRCUIT NUMBER TO WHICH FIXTURE IS CONNECTED a,b - LETTER(S) OF SWITCH(ES) CONTROLLING FIXTURE NL - NIGHT LIGHT (UNSWITCHED CIRCUIT)
INTRUSION ALARM SYSTEM	
	VIDEO SURVEILLANCE CAMERA
CIRCUITRY DESIGNATIONS	
	BRANCH CIRCUITRY, CONCEALED IN WALLS OR ABOVE CEILINGS. ARROW INDICATES HOME RUN TO PANEL. SHORT SLASH MARKS INDICATE "HOT" WIRES, LONG SLASH MARK INDICATES "NEUTRAL" WIRE, LONG SLASH WITH SOLID CIRCLE INDICATES GREEN GROUNDING CONDUCTOR.
	BRANCH CIRCUITRY AS ABOVE, CONCEALED IN FLOOR SLAB OR UNDERGROUND.
	BRANCH CIRCUITRY AS ABOVE, EXPOSED ON WALLS OR STRUCTURE.
	CIRCUITRY UP - CIRCUITRY DOWN.
ABBREVIATIONS	
AC	ABOVE COUNTER
AIC	AMP INTERRUPTING CURRENT
AFC	AVAILABLE FAULT CURRENT
AFF	ABOVE FINISHED FLOOR.
AFI/AFCI	ARC FAULT CIRCUIT INTERRUPTER TYPE DEVICE, (U.N.O.).
ATS	AUTOMATIC TRANSFER SWITCH
CATV	CABLE TELEVISION
EC	ELECTRICAL CONTRACTOR.
ELEV	ELEVATOR CONTRACTOR
EM	EMERGENCY.
EWC	ELECTRIC WATER COOLER. ROUGH-IN RECEPTACLE INCONSPICUOUSLY; COORDINATE WITH PC.
EWH	ELECTRIC WATER HEATER.
EX	EXISTING.
FLA	FULL LOAD AMPS
FPC	FIRE PROTECTION CONTRACTOR.
FSS	FUSIBLE SAFETY SWITCH.
GC	GENERAL CONTRACTOR.
GFI/GFCI	GROUND FAULT CIRCUIT INTERRUPTER TYPE DEVICE, (U.N.O.).
H.I.D.	HIGH INTENSITY DISCHARGE.
IG	ISOLATED GROUND TYPE DEVICE.
KEC	KITCHEN EQUIPMENT CONTRACTOR.
MAX	MAXIMUM.
MC	MECHANICAL CONTRACTOR.
MFR	MANUFACTURER.
MH	MOUNTING HEIGHT
MIN	MINIMUM.
NF	NON-FUSED SWITCH.
NTS	NOT TO SCALE
PC	PLUMBING CONTRACTOR.
RT	RAINTIGHT.
TR	TAMPER RESISTANT TYPE DEVICE.
TCC	TEMPERATURE CONTROL CONTRACTOR
TYP	TYPICAL
U.N.O.	UNLESS NOTED OTHERWISE.
UPS	UNINTERRUPTIBLE POWER SUPPLY
WP	WEATHERPROOF.
MISCELLANEOUS	
	MECHANICAL EQUIPMENT ITEM IDENTIFICATION PER EQUIPMENT SCHEDULE ON MECHANICAL DRAWINGS.
	MISCELLANEOUS EQUIPMENT NUMBER. SEE MISCELLANEOUS EQUIPMENT SCHEDULE.
	BOLD AND DASHED ON DEMO PLAN INDICATES ITEM TO BE DEMOLISHED.
	BOLD AND SOLID ON PLAN INDICATES ITEM TO BE NEW IN THIS SCOPE OF WORK.
	LIGHT AND SOLID PLAN INDICATES ITEM EXISTING TO REMAIN AND BE PROTECTED.

ELECTRICAL GENERAL CONSTRUCTION NOTES:

- ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR NECESSARY PERMITS, LICENSES, INSPECTIONS AND FEES FROM THE LOCAL AUTHORITIES. CONTRACTOR SHALL BE LICENSED BY LOCAL AND/OR STATE AUTHORITIES HAVING JURISDICTION..
- ALL MATERIAL AND WORKMANSHIP SHALL CONFORM TO THE NATIONAL FIRE PROTECTION ASSOCIATION (NFPA), NATIONAL ELECTRICAL CODE (NEC), INTERNATIONAL BUILDING CODE (IBC) AND OTHER APPLICABLE LOCAL, STATE AND NATIONAL CODES.
- ALL ELECTRICAL MATERIAL USED ON THIS PROJECT SHALL BE "UL" LISTED AND LABELED.
- THE ENTIRE ELECTRICAL SYSTEM AND ALL ELECTRICAL EQUIPMENT SHALL BE GROUNDED IN STRICT ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE AND AS SHOWN ON THE DRAWINGS. PROVIDE A GROUND WIRE IN EACH POWER CONDUIT, SIZED PER THE NEC.
- CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING A COMPLETE SYSTEM PER CONTRACT DRAWINGS AND ENSURING THAT THE SYSTEM IS OPERATIONAL UPON JOB COMPLETION.
- CONTRACTOR SHALL GUARANTEE ALL LABOR AND MATERIAL INSTALLED OR FURNISHED UNDER THIS CONTRACT FOR A PERIOD OF NOT LESS THAN ONE YEAR AFTER FINAL ACCEPTANCE OF THE BUILDING.
- PROVIDE ELECTRICAL SYSTEMS IDENTIFICATION AS INDICATED IN THE SPECIFICATIONS AND REQUIRED BY THE NEC OR NFPA 70E.
- IF ANYTHING ON THE PLANS IS NOT IN COMPLIANCE WITH NATIONAL, STATE OR LOCAL CODES, THE ENGINEER SHALL BE ADVISED BY THE ELECTRICAL CONTRACTOR DURING THE BIDDING PROCESS. THERE ARE TO BE NO CHANGES TO THE CONTRACT DOCUMENTS WITHOUT WRITTEN PERMISSION FROM THE ENGINEER.
- CONTRACTOR SHALL BE RESPONSIBLE FOR ALL MEANS AND METHODS FOR NEW WORK, SAFETY, ETC., IN ACCORDANCE WITH ALL AUTHORITIES HAVING JURISDICTION. (I.E. OSHA, NEC, ETC.)
- VERIFY ALL INDICATED DIMENSIONS BY FIELD MEASUREMENTS. NOTIFY ENGINEER OF ANY DISCREPANCIES.
- PRIOR TO TURNOVER, THIS CONTRACTOR SHALL REMOVE ALL RUBBISH, DIRT, DEBRIS AND STAINS ON THEIR WORK OR CAUSED BY THEIR WORK AND SHALL THOROUGHLY CLEAN ALL EQUIPMENT, FIXTURES, DEVICES, ETC. CONTRACTOR SHALL REPLACE, TOUCH-UP OR REFINISH THE FACTORY FINISH ON EQUIPMENT, FIXTURES, DEVICES, ETC. MARRED DURING SHIPMENT, INSTALLATION OR CONSTRUCTION.
- MINIMUM WIRE SIZE SHALL BE #12 AWG UNLESS OTHERWISE NOTED, MINIMUM CONDUIT SIZE SHALL BE 1/2" UNLESS OTHERWISE NOTED. ALL CONDUIT IN SLABS OR EXTERIOR TO BUILDING SHALL BE MINIMUM 1". PROVIDE A NYLON/POLY FULL CORD IN ALL EMPTY CONDUITS.
- ELECTRICAL CONTRACTOR SHALL PROVIDE ALL COPPER CONDUCTORS TYPE THHN OR THWN FOR ALL INTERIOR BUILDING WIRE. FOR EXTERIOR FEEDERS AND BRANCH CIRCUITS PROVIDE ALL COPPER CONDUCTORS TYPE XHHW-2.
- VOLTAGE DROP MINIMUM WIRE SIZING (20A CIRCUIT) USE:
120V CIRCUIT OVER 100' SHALL BE #10 MINIMUM;
120V CIRCUIT OVER 175' SHALL BE #8 MINIMUM;
208V CIRCUIT OVER 200' SHALL BE #10 MINIMUM;
277V CIRCUIT OVER 200' SHALL BE #10 MINIMUM.
MINIMUM WIRE SIZE FOR ANY 20A CIRCUIT SHALL BE #12 MINIMUM;
FURTHERMORE, CONSIDER ALL DERATING OF CONDUCTORS AS REQUIRED IN ACCORDANCE WITH THE APPLICABLE NEC.
- ELECTRICAL CONTRACTOR SHALL HAVE THE OPTION OF GROUPING HOME RUNS IN ONE CONDUIT, PER THE REQUIREMENTS OF SECTION 310 OF THE NATIONAL ELECTRICAL CODE. NO MORE THAN FOUR (4) CIRCUITS SHALL BE ALLOWED TO BE GROUPED AND INSTALLED IN A SINGLE JUNCTION BOX. EC SHALL BE RESPONSIBLE FOR INCREASING CONDUCTOR SIZE AND DERATING. HOME RUNS WITH MORE THAN THREE CIRCUITS SHALL BE #10 AWG, CONDUCTOR MINIMUM. PROVIDE DEDICATED NEUTRALS FOR EACH PHASE CONDUCTOR AND CONSIDER THEM AS A CURRENT CARRYING CONDUCTOR FOR DERATING.
- ONLY PVC CONDUIT SHALL BE PERMITTED IN CONCRETE SLAB, EXCEPT FOR GRS ELLS.
- ELECTRICAL CONTRACTOR SHALL ARRANGE WITH THE ELECTRIC, CATV AND TELEPHONE UTILITY COMPANIES FOR INCOMING SERVICE REQUIREMENTS AND INCLUDE ALL COSTS IN BASE BID.
- EXTERIOR LIGHT FIXTURES SHALL BE FURNISHED AND INSTALLED AS SHOWN ON THE DRAWINGS AND AS CALLED OUT IN THE LIGHTING FIXTURE SCHEDULE.
- OWNER RESERVES THE RIGHT TO RELOCATE ANY LIGHT FIXTURE, RECEPTACLE, ETC., BEFORE BEING INSTALLED 10'-0" FROM LOCATION AS SHOWN ON PLANS AT NO ADDITIONAL EXPENSE TO THE OWNER.
- NO CONDUIT OR CABLES SHALL BE INSTALLED EXPOSED IN FINISHED AREA. NON-CEILING AREA CONDUITS SHALL BE INSTALLED EXPOSED IN A NEAT WORKMAN LIKE MANNER AND BE PAINTED TO MATCH ADJACENT FINISHES.
- ALL MATERIALS, DEVICES, FIXTURES, ETC., THAT ARE REQUIRED FOR THIS PROJECT ARE TO BE FURNISHED AND INSTALLED BY THE EC, UNLESS SPECIFICALLY INDICATED TO BE FURNISHED AND OR INSTALLED BY OTHERS.



MISSOURI CERTIFICATE OF AUTHORITY: #001244



11/21/2025
Jeffrey A Huetttenmeyer:
MO LIC#: PE-2001018755 EXP:12/31/25

THE SEAL AND SIGNATURE APPLY ONLY TO THE DOCUMENT TO WHICH THEY ARE AFFIXED, AND EXPRESSLY DISCLAIM ANY RESPONSIBILITY FOR ALL OTHER PLANS, SPECIFICATIONS, ESTIMATES, REPORTS, OR OTHER DOCUMENTS OR INSTRUMENTS RELATING TO OR INTENDED TO BE USED FOR ANY PART OR PARTS OF THE ARCHITECTURAL OR ENGINEERING PROJECT.

MASTERCARD - PARKING LOT F
2200 MASTERCARD BLVD
O'FALLON, MO

REVISIONS

PROJECT NO. 2025388
DATE 11/21/25
DRAWN BY ZHB
CHECKED BY JAH

SHEET CONTENTS
ELECTRICAL SYMBOLS, ABBREVIATIONS & GENERAL NOTES

SHEET

E001

ELECTRICAL SHEET LIST	
SHEET NUMBER	SHEET NAME
E001	ELECTRICAL SYMBOLS, ABBREVIATIONS & GENERAL NOTES
E002	MASTERCARD - PARKING LOT F SPECIFICATIONS
E101	MASTERCARD - PARKING LOT F PHOTOMETRICS
E201	MASTERCARD - PARKING LOT F PHOTOMETRICS

2025388

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HIGHLIGHT HL-ML-ASL



The design of solar street light / courtyard light absorbs energy from the universe, and combines it with high efficiency solar panel, LEDs, and Lithium battery. It adopts advantage technics such as micro-controller, human infrared sensor and so on and combines with integrated design to achieve multiple features such as low power consumption but high brightness, long lifespan and maintenance free, meanwhile with waterproof function and great thermal dissipation. The intelligent control can be reprogrammed from the ground with an infrared before and after install. It is one of our great innovation patented products.



HIGHLIGHT HL-ML-ASL

Technical specification		
Solar Module Parameters	Type	High-efficiency Monocrystalline Silicon
	Power	Up to 250W
Solar Charge Controller	MPPT (Maximum Power Point Tracking), infrared solar charging controller	
Battery	LifePO4	Up to 48AH
	Battery enclosure	Integrated in lighting fixture
	Light Source Power	200W (Up to 38,000 lm)
LED Light Parameters	CCT (Correlated color temperature)	2,500K-6,500K/Amber
	CRI (Color rendering index)	>70
Working Mode	* Operation profile above are active depending to the solar radiation in the installation location, please consult with one of Solarpath representative.	
IP Rating	IP65	
Material	Aluminum Die-casting	



HIGHLIGHT HL-ML-ASL

ORDERING GUIDE

Ordering Guide: HIGHLIGHT HL-ML-ASL-45W-20W-1-25K -12AH-BLK-SP-00

Model	Solar Panel	LED Power	Distribution type	LED Color Temp	Battery Options	Body Color	Mounting options	Options
HIGHLIGHT	55W	20W	1 - Type I	25K	12AH	BLK- Black	SP- Slip Fitter	00- No motion sensor
HL-ML-ASL	75W	30W	2 - Type II	30K	18AH	GR- Grey	UB- U-Bracket	01-Motion sensor
	105W	40W	3 - Type III	40K	24AH			
	160W	50W	4 - Type IV	50K	30AH			
	250W	60W	5 - Type V	65K	36AH			
		80W		Amber	42AH			
		90W			48AH			
		100W						
		120W						
		150W						
		180W						
		200W						

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MASTERCARD - PARKING
LOT F
 2200 MASTERCARD BLVD
 O'FALLON, MO

REVISIONS

PROJECT NO. 2025388
 DATE 11/21/25
 DRAWN BY ZHB
 CHECKED BY JAH

SHEET CONTENTS
 MASTERCARD - PARKING LOT F
 SPECIFICATIONS

SHEET

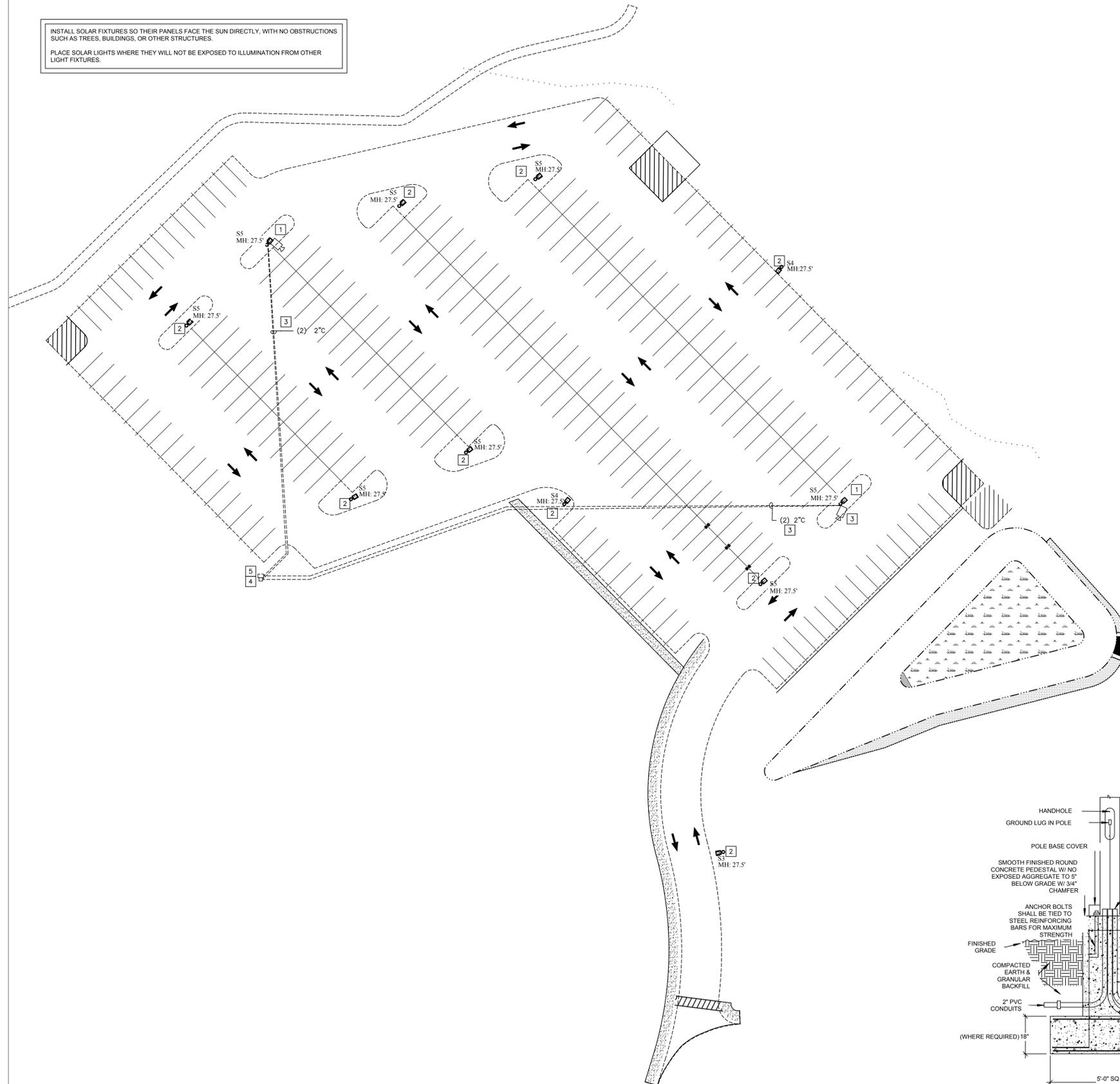
E002

2025388

LIGHTING FIXTURE SCHEDULE

Type Mark	Manufacturer	Catalog No.	Mounting	Lamp	Fixture Finish	Remarks (Type)	Description
S3	SOLAR PATH	HL-ML-ASL-250W-200W-3-40K-48AH-BLK-SP-01	POLE	200W, LED, 30K	BLACK	POLE S250060608Y4D1-DMB	SITE LIGHT SINGLE HEAD LED AREA LIGHT WITH TYPE 3 DISTRIBUTION, INTERGRATED 250W SOLAR PANEL AND 48AMP HOUR BATTERY. INSTALLED TO 25' POLE. INTERGRATED MOTION SENSOR. POLE TO BE MOUNTED TO CONCRETE BASE SIMILAR IN HEIGHT TO THOSE USED IN ADJACENT PARKING LOT. IP RATING IP65.
S4	SOLAR PATH	HL-ML-ASL-250W-200W-4-40K-48AH-BLK-SP-01	POLE	200W, LED, 30K	BLACK	POLE S250060608Y4D1-DMB	SITE LIGHT SINGLE HEAD LED AREA LIGHT WITH TYPE 4 DISTRIBUTION INTERGRATED 250W SOLAR PANEL AND 48 AMP HOUR BATTERY. INSTALLED TO 25' POLE. INTERGRATED MOTION SENSOR. POLE TO BE MOUNTED TO CONCRETE BASE SIMILAR IN HEIGHT TO THOSE USED IN ADJACENT PARKING LOT. IP RATING IP65.
S5	SOLAR PATH	HL-ML-ASL-250W-200W-5-40K-48AH-BLK-SP-01	POLE	200W, LED, 30K	BLACK	POLE S250060608Y4D1-DMB	SITE LIGHT SINGLE HEAD LED AREA LIGHT WITH TYPE 5 DISTRIBUTION, INTERGRATED 250W SOLAR PANEL AND 48 AMP HOUR BATTERY. INTERGRATED MOTION SENSOR. INSTALLED TO 25' POLE. POLE TO BE MOUNTED TO CONCRETE BASE SIMILAR IN HEIGHT TO THOSE USED IN ADJACENT PARKING LOT. IP RATING IP65.

INSTALL SOLAR FIXTURES SO THEIR PANELS FACE THE SUN DIRECTLY, WITH NO OBSTRUCTIONS SUCH AS TREES, BUILDINGS, OR OTHER STRUCTURES.
PLACE SOLAR LIGHTS WHERE THEY WILL NOT BE EXPOSED TO ILLUMINATION FROM OTHER LIGHT FIXTURES.

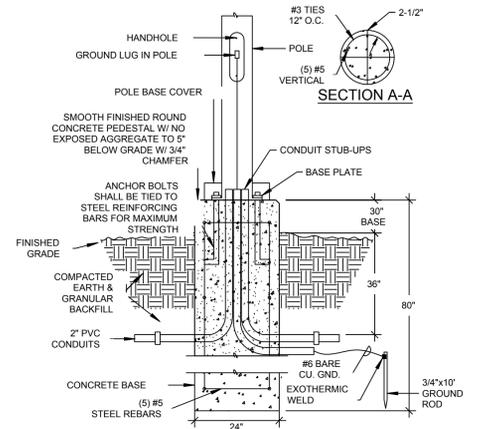


ELECTRICAL GENERAL NOTES:

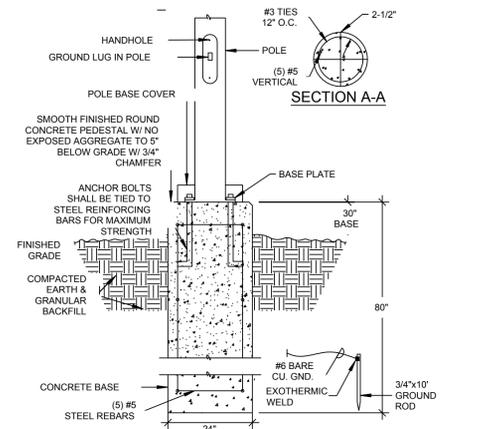
- EC SHALL FIELD VERIFY EXISTING POLES, MANHOLES, SPARE CONDUIT, RIGHTS-OF-WAY, UTILITIES, AND BUILDING LOCATIONS PRIOR TO STARTING WORK. NOTIFY ENGINEER IMMEDIATELY IF DISCREPANCIES EXIST.
- PROVIDE 1800M MULETAPE IN ALL NEW CONDUITS, INNERDUCTS AND IN ALL CONDUITS FOR NEW CABLE RUNS.
- EC SHALL COORDINATE EXACT LOCATIONS, REQUIREMENTS, METERING AND TERMINATIONS WITH UTILITY PROVIDERS PRIOR TO BID.
- COORDINATE ALL UNDERGROUND ELECTRICAL WORK AND UTILITY TIE-INS WITH UTILITY PROVIDERS AND WORK OF OTHER TRADES.
- UNDERGROUND FACILITY STRUCTURES AND UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE SURVEYS AND RECORDED INFORMATION. THEREFORE, THEIR LOCATIONS MUST BE CONSIDERED APPROXIMATE ONLY. VERIFICATION OF LOCATION OF ALL UNDERGROUND STRUCTURES AND FACILITIES EITHER SHOWN OR NOT SHOWN ON THESE PLANS, SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
- ALL IN-GROUND CONDUITS SHALL BE 2" MINIMUM. SCHEDULE 40 PVC, UNLESS NOTED OTHERWISE.
- ELECTRICAL CONTRACTOR SHALL PROTECT AND EXTEND EXISTING SERVICES TO EXISTING BUILDINGS TO MAINTAIN CONTINUITY OF SERVICE. REROUTE EXISTING SERVICES AS REQUIRED TO AVOID CONSTRUCTION AND WORK OF OTHER TRADES.
- ALL UNDERGROUND AND EXTERIOR CONDUCTORS SHALL BE TYPE "XHHW-2".

KEYED NOTES

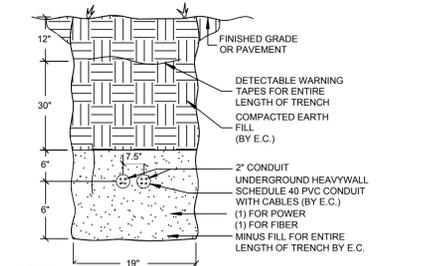
- PROVIDE POLE BASE PER DETAIL 1/E-101.
- PROVIDE POLE BASE PER DETAIL 2/E-101.
- PROVIDE TRENCH AND CONDUITS BELOW GRADE PER 3/E101.
- PROVIDE CONDUIT STUB UPS INTO EXISTING IN-GRADE PULLBOXES. FIELD VERIFY EXACT LOCATION AND ROUTING.
- PROVIDE POWER CONNECTION TO EXISTING PANELBOARD FOR BRANCH CIRCUIT TO SERVE NEW SECURITY CAMERAS.



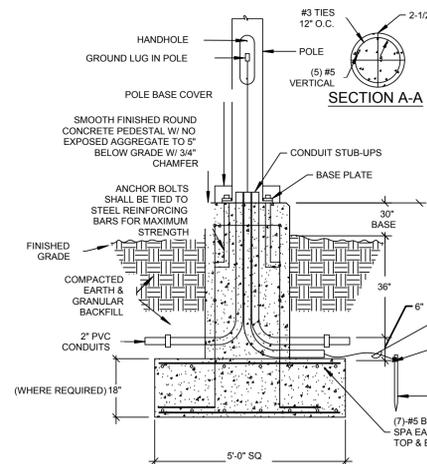
1 POLE LIGHT CONCRETE BASE DETAIL SCALE



2 POLE LIGHT CONCRETE BASE WITHOUT CONDUITS DETAIL SCALE



3 TRENCH DETAIL FOR POWER CONDUITS SCALE



4 POLE LIGHT CONCRETE SPREAD FOOTING DETAIL SCALE

(USE AS AN ALTERNATIVE TO DETAIL 1 WHERE PREFERRED DUE TO HIGH WATER TABLE, WHERE SHALLOW ROCKS ARE ENCOUNTERED OR WHERE PIER DEPTH IS A CONSTRUCTION ISSUE)

- NOTES:**
- ALL EXCAVATION IN ELECTRICAL ONLY TRENCHES BY E.C.
 - COORDINATE ALL WORK WITH UTIL. COMPANIES & APPLICABLE TRADES.
 - EXCAVATED MATERIAL SHALL BE PLACED A MINIMUM OF 2' FROM BOTH EDGES OF THE TRENCH.
 - EDGES OF TRENCH SHALL BE A MIN OF 36" FROM EDGE OF WATER, GAS OR SEWER PIPES.



11/21/2025
Jeffrey A Huetttenmeyer:
MO LIC#: PE-2001018755 EXP:12/31/25

THE SEAL AND SIGNATURE APPLY ONLY TO THE DOCUMENT TO WHICH THEY ARE AFFIXED, AND EXPRESSLY DISCLAIM ANY RESPONSIBILITY FOR ALL OTHER PLANS, SPECIFICATIONS, ESTIMATES, REPORTS, OR OTHER DOCUMENTS OR INSTRUMENTS RELATING TO OR INTENDED TO BE USED FOR ANY PART OR PARTS OF THE ARCHITECTURAL OR ENGINEERING PROJECT.

MASTERCARD - PARKING LOT F
2200 MASTERCARD BLVD
OFALLON, MO

REVISIONS

PROJECT NO. 2025388
DATE 11/21/25
DRAWN BY ZHB
CHECKED BY JAH

SHEET CONTENTS
MASTERCARD - PARKING LOT F
ELECTRICAL

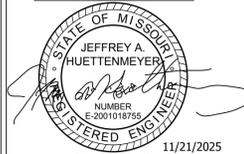
SHEET

E101



MASTERCARD - PARKING LOT F ELECTRICAL
SCALE: 1" = 30'

2025388



11/21/2025
Jeffrey A Huettnermeyer
MO LIC#: PE-2001018755 EXP:12/31/25

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MASTERCARD - PARKING LOT F
2200 MASTERCARD BLVD
OF FALLON, MO

REVISIONS

PROJECT NO. 2025388
DATE 11/21/25
DRAWN BY ZHB
CHECKED BY JAH

SHEET CONTENTS
MASTERCARD - PARKING LOT F
PHOTOMETRICS

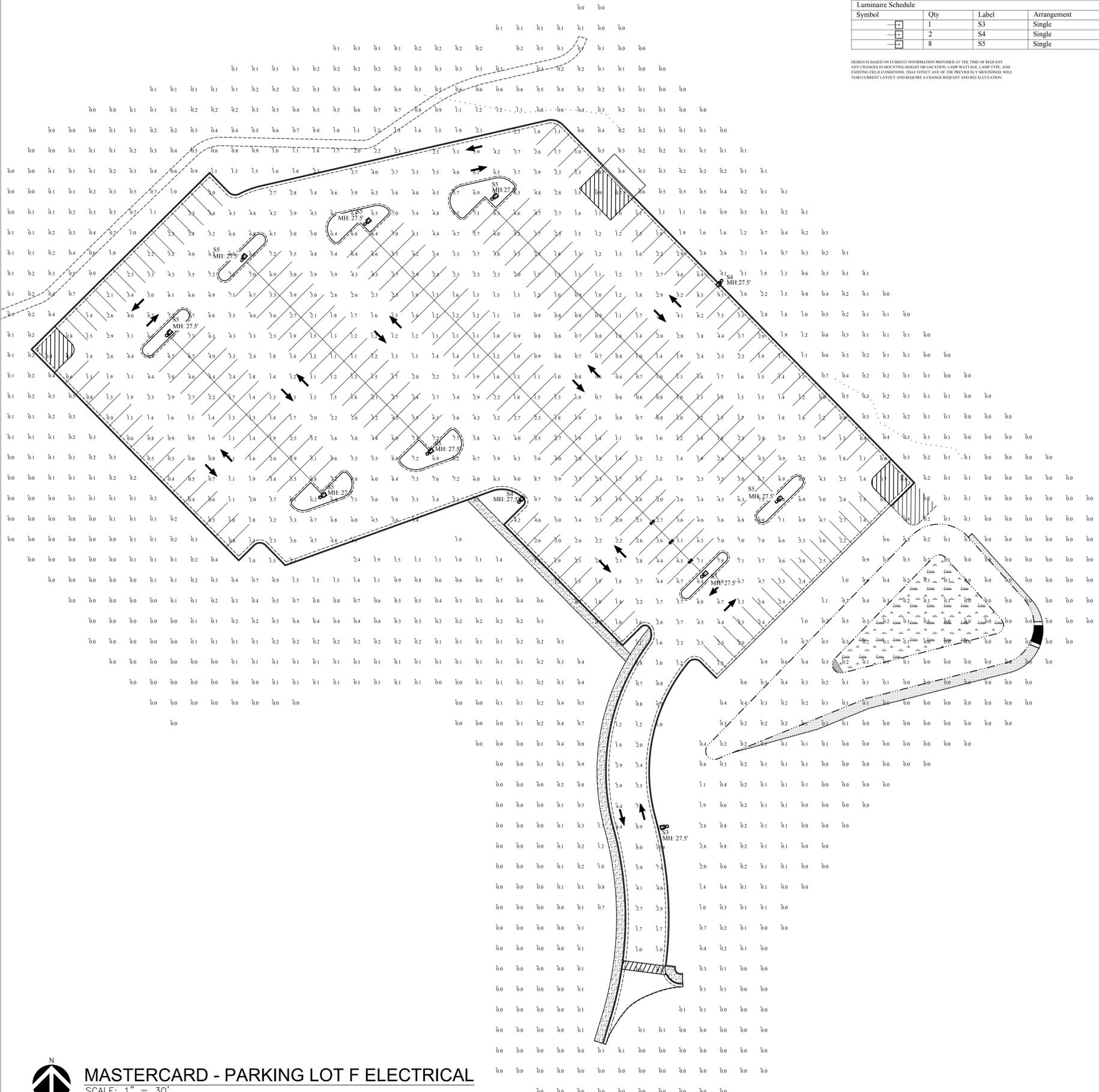
SHEET

E201

Calculation Summary					
Label	CalcType	Units	Avg	Max	Min
SITE	Illuminance	Fc	3.23	11.5	0.4
SPILL LIGHT	Illuminance	Fc	0.26	4.1	0.0
			Avg/Min		Max/Min
			8.1		28.8
			N.A.		N.A.

Luminaire Schedule							
Symbol	Qty	Label	Arrangement	LLF	Lum. Watts	Total Watts	Description
□	1	S3	Single	0.900	200	200	HL-ML-ASL-3-200W-S : POLE 250060608Y4
□	2	S4	Single	0.900	200	400	HL-ML-ASL-4-200W-S : POLE 250060608Y4
□	8	S5	Single	0.900	200	1600	HL-ML-ASL-200W-VS : POLE 250060608Y4

DESIGN IS BASED ON CURRENT INFORMATION PROVIDED AT THE TIME OF REQUEST. ANY CHANGES IN MOUNTING HEIGHT OR LOCATION, LAMP WATTAGE, LAMP TYPE, AND EXISTING FIELD CONDITIONS, THAT EFFECT ANY OF THE PREVIOUSLY MENTIONED WILL VOID CURRENT LAYOUT AND REQUIRE A CHANGE REQUEST AND RE-CALCULATION.



MASTERCARD - PARKING LOT F ELECTRICAL
SCALE: 1" = 30'

2025388

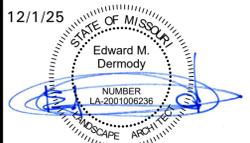


LANDSCAPE ARCHITECTS
 Uisce - beatha
 ph# 314.205.8871
 Missouri Certificate of Authority
 #200902208

Civil Engineer and Surveyor:
 Civil & Environmental
 Consultants, Inc
 1450 Beale Street, Suite 305
 St. Charles, MO 63303

Landscape Construction Plans for:
MASTERCARD -Parking Lot F
 2200 Mastercard Boulevard
 O'Fallon, MO
 Drawing prepared for:
 Civil & Environmental Consultants, Inc
 1450 Beale Street, Suite 305
 St. Charles, MO 63303

Revisions:		Date:
No.	Description	
1	Bioretention	2/5/26



Edward M. Dermody
 Landscape Architect
 LA-2001006236

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Issue Date: November 25, 2025

Drawn by: EMD

Checked By: EMD

Sheet Title
Planting Plan

Project Number: 757.003

Sheet Number:
L1.0

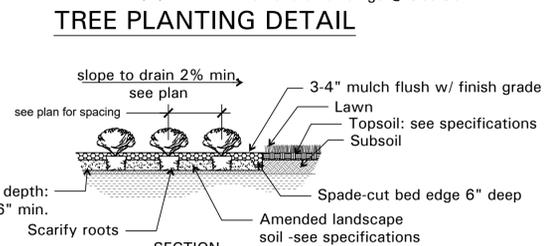
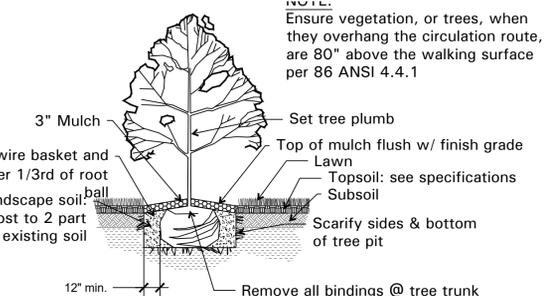
PLANTING SCHEDULE					
Key	Qty.	Common Name	Botanical Name	Size	Comment
A	3	Red Maple	Acer rubrum 'October Glory'	2" Caliper	Ball & Burlapped
B	3	Black Gum	Nyssa sylvatica	2" Caliper	Ball & Burlapped
C	4	Common Hickory	Celtis Occidentalis	2" Caliper	Ball & Burlapped
D	3	American Hornbeam	Carpinus caroliniana	2" Caliper	Ball & Burlapped
E	19	White Fringe Tree	Chionanthus virginicus	2" Caliper	Ball & Burlapped
F	18	Redbud	Ceris candensis	2" Caliper	Ball & Burlapped

a	36	Viburnum	Viburnum dentatum 'All That Glitters'	5 Gal.	
b	28	Winterberry	Ilex verticillata 'Berry Poppins'	5 Gal.	
c	30	Little Blue Stem	Schizachyrium scoparium 'Blue Paradise'	1 Gal.	
d	138	Muhly Grass	Muhlenbergia reverchonii 'Undaunted'	1 Gal.	

38,400 +/- Sq. Ft. New lawn -provide top soil as needed ensure healthy lawn(s)
 +/- Sq. Ft. Refer to C400 series for bioretention area
 4,100 +/- Sq. Ft. Landscape bed with hardwood double ground bark mulch

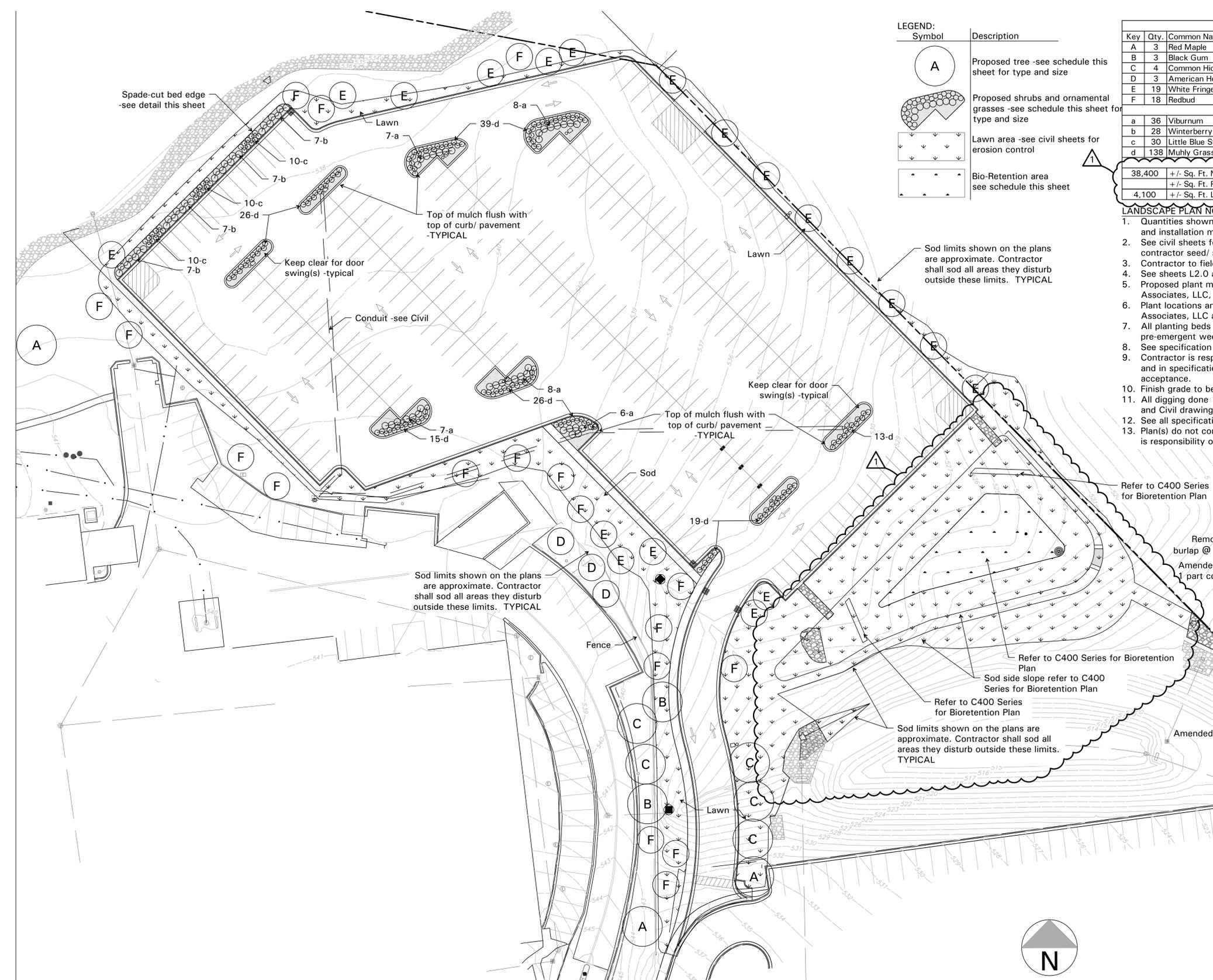
LANDSCAPE PLAN NOTES:

- Quantities shown on plant Schedule is bid permitting only. Contractor is responsible for verifying and installation materials and quantities shown on drawings and as defined in specifications.
- See civil sheets for erosion control. Limits of construction shown for bidding purposes only, contractor seed/ sod all disturbed.
- Contractor to field locate all private and public utilities prior to construction.
- See sheets L2.0 and L2.1 for proposed irrigation.
- Proposed plant material is to be selected by the contractor and approved by Dermody & Associates, LLC, and/or Owner prior to installation.
- Plant locations and planting beds to be located by the contractor and approved by Dermody & Associates, LLC and/or Owner prior to installation.
- All planting beds to receive 3-4 inch layer of mulch in a continuous bed. Apply a granular pre-emergent weed control prior to mulching.
- See specification for soil amendments and tillage at all landscape beds.
- Contractor is responsible for installing all plant material, sod, topsoil and mulch as shown on plan and in specifications and maintaining landscape beginning after installation and ending at owner acceptance.
- Finish grade to be a minimum of 5% away from all building foundations.
- All digging done 12 inches below finish grade shall follow and adhere to Earthwork specifications and Civil drawings and details.
- See all specifications for full requirements.
- Plan(s) do not constitute contractor means and methods. Job site safety and project coordination is responsibility of contractor(s).

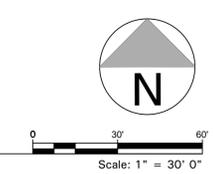


LEGEND:

Symbol	Description
(A)	Proposed tree -see schedule this sheet for type and size
(Group of circles)	Proposed shrubs and ornamental grasses -see schedule this sheet for type and size
(Downward arrows)	Lawn area -see civil sheets for erosion control
(Dotted area)	Bio-Retention area see schedule this sheet



1 Planting Plan



PLANTING SPECIFICATIONS
PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.
- B. Irrigation watering diagram, details, and specifications.
- C. Civil sheets

1.2 SUMMARY

- A. Extent of plantings and lawn installation is shown on drawings, either by specification terms or their abbreviation.
- B. The major items of work include, but are not limited to the following:
 - 1. Verify underground utility locations.
 - 2. Furnishing, installation and maintenance of landscape materials.
 - 3. Coordination with Irrigation Installer regarding planting schedule and water requirements.
 - 4. Fine grading and preparation of tree, shrub, groundcover, perennial and bulb planting areas.
 - 5. Preparation of planting pits and beds including excavation, back filling and disposal of surplus and unsuitable excavated material.
 - 6. Planting of trees, shrubs, ground cover, perennials and bulbs as shown on plan, including fertilizing, mulching and trimming, guying and wrapping
 - 7. Soil amendments and fertilizers, in landscape areas as approved by owner
 - 8. Mulch all planting areas and trees.
 - 9. All planting beds and trees shall have a clean, even spade edge.
- C. Sub grade Elevations: Excavation, filling and grading required to establish elevations shown on drawings are not specified in this section. Refer to Earthwork sections.
- D. Warranty begins after owner acceptance.
 - 1. Plantings: one (1) year
 - 2. Sod: thirty (30) days
 - 3. Seed: ninety (90) days

1.3 QUALITY ASSURANCE

- A. Landscape and lawn installation shall be performed by an experienced, single firm specializing in landscape work. Identify all subcontractors (if used) for specialty work.
- B. Bidders Qualifications: Landscape installation firm experienced in installing landscape work similar in size and contract amount to that required for this Project, with sufficient experience to produce required installation without causing delay in the Work. Bidders shall have eight (8) years of experience in installation of Landscape Work similar to that indicated and specific for this Project.
- C. General: Ship landscape materials with certificates of inspection required by governing authorities. Comply with regulations applicable to landscape materials.
- D. Plants: Provide plants, of quantity, size, genus, species and variety shown and scheduled for landscape work and complying with recommendations and requirements of ANSI Z60.1 "American Standard for Nursery Stock". Provide healthy, vigorous stock, grown in recognized nursery in accordance with good horticultural practice and free of disease, insects, eggs, larvae and defects such as knots, sunscald, injuries, abrasions, or disfigurement. Plants shall be approved or rejected at the Owner's Representatives discretion for damage, health, form, and size at any time before or during planting. Plant materials that are poor in health or damaged prior to completion or during the warrantee period will be identified by the Owner's Representative and shall be replaced by the Contractor within five (5) days of written notice.
- E. All plants shall be labeled with a securely attached waterproof tag bearing legible designation of botanical and common name.
- F. Locate plants complying with requirements, and obtain Owner's Representative acceptance, through submission of digital photographs of their visual qualities before they are delivered to site and installation. Scale figure must appear in each photograph. Identification of plant nursery or source of origin shall accompany digital photographs. After submission of digital photographs, Owner Representative, may require, an in person visual inspection of plant varieties at nursery or source prior to delivery or installation. For list of submittals see below.
- G. Measure trees with branches and trunks or canes in their normal position. Do not prune to obtain required sizes. Take caliper measurements 6" above ground for trees up to 4" caliper size, and 12" above ground for larger sizes. Measure main body of tree for height and spread dimensions, do not measure from branch or root tip-to-tip.
- H. Trees shall be located, selected and dug prior to showing new growth. All plants shall be maintained in a favorable storage conditions and approved location until ready to plant.
- I. Plants shall be subject to inspection and approval by the Owner's Representative upon delivery for conformity to specifications. SUCH APPROVAL SHALL NOT IMPAIR THE RIGHT OF INSPECTION AND REJECTION DURING PROGRESS OF THE WORK.
- J. Substitutions of plant materials shall not be permitted. If proof is submitted that any plant specified is not obtainable, a proposal may be considered for use of the nearest equivalent size or variety with corresponding adjustment of Contract price. These provisions shall not relieve Contractor of the responsibility of obtaining specified materials in advance of installation.
- K. The contractor shall attend a pre-construction meeting with Owner and Owner's Representative prior to the start of any installation.

1.4 SUBMITTALS

- A. List of submittals provided at end of this specification

1.5 PRODUCT DELIVERY, STORAGE AND HANDLING

- A. A Packaged Materials: Deliver packaged materials in containers showing weight, analysis and name of manufacturer. Protect materials from deterioration during delivery, and while stored at site.
- B. Delivery of Plants: Provide freshly dug trees to the greatest extent possible. Do not prune prior to delivery, except as approved by the Owner's Representative. Provide adequate protection of root systems and balls from drying winds and sun. Do not bend or bind-tie trees in such a manner as to damage bark, break branches or destroy natural shape. Provide protective covering during delivery. Do not drop stock during delivery. Such damage or improper handling shall be cause for rejection by Owner.
- C. Deliver plants after preparations for planting have been completed and plant immediately. If planting is delayed more than 6 hours after delivery, set plants in shade, protect from weather and mechanical damage, and keep roots moist as follows:
 - 1. Set balled stock on ground and cover ball with mulch, peat moss, saw dust or other acceptable material.
 - 2. Do not remove container grown stock from containers before time of planting.
 - 3. Periodically water root systems of trees stored on site using a fine mist spray. Water as often as necessary to maintain root systems in a moist condition.
 - 4. Store products with protection from weather or other conditions, which would damage or impair the effectiveness of the product.

1.6 JOB CONDITIONS

- A. Acceptance of Site: Contractor shall inspect the site to determine its suitability for landscaping operations. If the site is not suitable for landscaping operations, the Contractor is not bound to accept the site for his work. He should inform the Owner in writing.

- B. Proceed with and complete landscape work as rapidly as portions of site become available, working within seasonal limitations for each kind of landscape work required, including but not limited to requirements listed in the Plant Schedule on the Drawings.
- C. Utilities: Contractor shall verify and locate all existing and proposed utilities and site conditions prior to construction. Should utilities not shown on the plans be found during excavations, contractor shall promptly notify the Owner and utility company for instructions as to further action. Failure to verify all existing utilities and notify Owner and utility companies will make Contractor liable for any and all damage arising from his/her operations subsequent actions and discovery of such utilities not shown on plan. Maintain grade stakes set by others until removal is mutually agreed upon by parties concerned.
- D. Excavation: When conditions detrimental to plant growth are encountered, such as rubble fill, adverse drainage conditions, or obstructions, notify Owner's Representative before planting.
- E. Planting Schedule: Supply planting schedule for approval from Owner's Representative prior to installation. Schedule each type of landscape work required during normal seasons for such work in area of site. Establish dates for each type of work and establish completion date. Flowering trees during the spring planting season, except as otherwise acceptable to the Owner.
- F. Plant frost-tender trees only after danger of frost is past or sufficiently before frost season to allow for establishment before first frost.
- G. Submit request to the Owner's Representative for changes in-planting schedule. Plantings shall be done in typical and normal planting seasons of spring and fall. When delays in planting schedule are unavoidable, include documentation of reason for delay. Maintenance periods, if any, shall be adjusted to compensate for extension of time of work outside of time limitations.
- H. Coordination with Lawns: Plant material after final grades are established and prior to the installation of lawns, unless otherwise acceptable to the Owner's Representative. If planting of trees occurs after lawn work, protect lawn areas and promptly repair damage to lawns resulting from planting operations. Damaged lawn areas shall be replaced by Contractor at no added expense to the Owner.
- I. Coordinate plant material watering requirements with the Irrigation Contractor.

1.7 PROJECT WARRANTY

- A. Landscape Installer shall warranty planting material for a period of one year after date of owner acceptance inspection. Warranty against defects including disease and unsatisfactory growth, except for defects resulting from neglect by Owner, abuse or damage by others, or unusual phenomena or incidents which are beyond Landscape Installer's control. **Replacements(s) as a result of initial "punch list" does not constitute warranty replacements(s).**
- B. Plantings: Contractor shall be responsible to ensure landscape materials are watered as needed to insure health of plant materials during warranty period.
- C. Lawn: Contractor shall be responsible to ensure sod is healthy and viable for 30 days after installation including mowing, weeding and watering.

PART 2 - PRODUCTS

2.1 SOIL AMENDMENTS AND MULCH

- A. Manure: Well-rotted, unbleached stable or cattle manure containing not more than 25% by volume of straw, sawdust or other bedding materials and containing no chemicals or ingredients harmful to plants.
- B. Mulch: Top dressing for trees and planting areas shall be organic mulch free from deleterious materials and consisting of the following:
 - 1. Double Ground Hardwood Bark Mulch shall be use. Distributed by St Louis Composting, Valley Park MO or equal.
 - C. Organic Soil Conditioner: A product of composted plant materials only, with total carbon:nitrogen ratio no greater than 10:1 per AOAC method. Shall be in a uniform "beaded" homogenous matrix, all material must pass through a No. 4 sieve per ASTM method. All material must be coated with a water-soluble biodegradable binder. Shall contain in available form: a minimum of 0% organic nitrogen, 3% organic phosphate and 1% organic potash, 500/g aerobic/anaerobic bacteria, yeast and mold, 1% iron. .05% manganese and .05% zinc. Packaged weight to be no more than 50 lbs. with Manufacturer's name, product name, percentage of nutrients, and net weight of materials shown on label.

2.2 FERTILIZER:

- A. Commercial Fertilizer: Complete fertilizer of neutral character, with some elements derived from organic sources, containing following percentages of available plant nutrients: AGRI FORM 21 gram time release fertilizer 20-10-5 formulation. Mycorrhizae 'Starter Packs' or approved equal.

2.3 MISCELLANEOUS LANDSCAPE MATERIALS

- A. Mulch shall consist of decorative shredded hardwood bark, which has been hammer milled and screened. Sawdust, wood shavings, bark chunks, dirt, rocks, and twig scraps are not considered acceptable mulch materials. Substitute material similar to shredded bark may be used if approved by Owner's Representative.
- B. Wound Dressing: Pruning paint manufactured by Ferti-lome.
- C. Anti-desiccant: Anti-desiccant shall be non-clogging emulsion which provides a protective film over plant surfaces, permeable enough to permit transpiration, delivered in containers of the manufacturer, and shall be mixed according to the manufacturer's directions, e.g., "Wilt-pruf", "Dowax" or approved equal.
- D. Wrapping Materials: Wrapping material for tree trunks of trees susceptible to sunscald shall be standard nursery tree wrapping paper, tan in color. Tan shiny postal tape shall affix the wrap top and bottom. DO NOT apply manufacturer's trademark facing outward.
- E. Herbicides: Herbicide use should be limited to specific pre-emergent and systemic herbicides to control weed competition in planting beds. Submit schedule of proposed herbicides and specific control goals for approval by Landscape Architect prior to application. All herbicides submitted must be acceptable with Local, State and Federal Agencies having jurisdiction.

2.4 PLANT MATERIAL

- A. General: Provide nursery grown plants, except as otherwise indicated, grown in a recognized nursery in accordance with good horticultural practice, with healthy root systems developed by transplanting or root pruning. Provide only healthy, vigorous stock free of disease, insects, eggs, larvae, and defects such as knots, sunscald, injuries, abrasions, or disfigurement. Plants shall be approved or rejected at the Owner's Representatives discretion for damage, health, form, and size at any time before or during planting. Plant materials that are poor in health or damaged prior to completion or during the warrantee period will be identified by the Owner's Representative and shall be replaced by the Contractor within five (5) days of written notice.
- B. Plant materials shall be grown in within 150 radii of project site. Plant materials shipped from out-state sources shall pre-approved by Owner's Representative.
- C. Size: Provide plants of the sizes indicated in planting list and in accordance with dimensional relationship requirements of ANSI Z60.1 for kind and type of trees required. Trees of larger size than specified may be used if acceptable to the Owner's Representative in which case, increase size of roots or balls proportionately.
- D. Quality: Provide plants complying with recommendations and requirements of ANSI Z60.1 "Standard for Nursery Stock" and as specified.
- E. Container stock shall have grown in the containers in which delivered for at least six months, but not over two years. Samples must prove no root-bound conditions exist. No container plants that have cracked or broken balls of earth when taken from container shall be planted except upon approval by the Owner's Representative.

2.5 TREES

- A. All trees to be grown and harvested within 150 radius of project site.
- B. Size: Provide trees of height and/or caliper indicated and to standards recommended by ANSI Z60.1 unless otherwise indicated. Provide trees with straight trunks, having a natural growth habit for that species with a full crown. Each plant must be as near perfect as is possible.
- C. Provide balled and burlapped (B&B) deciduous and evergreen trees as identified on planting schedule. Container stock will not be accepted.

2.6 REQUIREMENTS FOR CONTAINER GROWN STOCK

- A. General: Where specified as acceptable, provide healthy, vigorous, well-rooted trees established in container in which they are sold.
- B. Established container stock is defined as a tree transplanted into a container and grown in container for a length of time sufficient to develop new fibrous roots, so that root mass will retain its shape and hold together when removed from container.
- C. Containers: Use rigid containers, which will hold ball shape and protect root mass during shipping. Provide trees established in containers of not less than minimum sizes recommended by ANSI Z60.1 for kind, type and size of trees required.

2.7 SOD -LAWN

- A. Lawn Sod: 90% Turf Type Tall Fescue/10% Bluegrass Sod
- B. Lawn Sod: Provide strongly rooted sod, free of weeds and undesirable native grasses and machine cut to pad thickness of 19 mm +/- 6 mm, excluding top growth and thatch. Provide only sod capable of vigorous growth and development when planted (viable, not dormant).
- C. Provide sod of uniform pad sizes with maximum 5% deviation in either length or width. Broken pads or pads with uneven ends will not be acceptable. Sod pads incapable of supporting their own height when suspended vertically with a firm grasp on upper 10% of pad will be rejected. Provide sod composed principally of the above-mentioned lawn seed in the areas indicated on the plan.

PART 3 - EXECUTION

3.1 FINISH GRADING -GENERAL

- A. Remove stones over one-half inch (1/2") in any dimension and sticks, roofs, rubbish and other extraneous matter.
- B. Grading and mounding with the exception of final planting shall be completed prior to soil preparation.
- C. Planting areas shall be free of all weeds (plants not specified in planting areas), stones, stumps, roots, or other debris 1-inch in diameter and greater.
- D. Contractor shall allow for soil amendments, as approved by owner when establishing sub grade elevations. All planting areas shall have a finish grade conforming to approved plans and specifications after full settlement has occurred. Spread specified soil amendments over all areas to be and cultivate thoroughly in at least two directions to thoroughly mix into the soil to a depth of 4"
- E. Inspection: Inspection shall be made during and at the completion of fine grading (fill/backfill and excavation). If grading is not satisfactory, additional grading shall be performed at the direction of the Owner's Representative until work conforms to the plans.

3.2 PLANT INSTALLATION

- A. Excavation for balled and burlapped planting shall be circular with vertical sides. Their diameter shall exceed by at least twenty-four inches (24") the diameter of the ball in balled and burlapped material, to allow 12 inches minimum from edge of ball to edge of the pit. Plant pits dug by auger are acceptable provided vertical sides are scarified 6" minimum. If building rubble is encountered while digging, plant pit is to be doubled in size and backfilled with new topsoil and rubble hauled away.

- 1. For Tree Planting: Mix: thoroughly in a 4:2:1/2 ratio;
 - a. 4 parts original soil removed from the plant pit.
 - b. 2 parts mulch.
 - c. 1/2 part well-rotted manure.
- B. Setting and Backfilling:
 - 1. Set balled and burlapped stock on layer of compacted soil mix, plumb and in center of pit or trench with top of ball at same elevation as adjacent finished landscape grades. Remove burlap from tops of balls but do not remove from under balls after placement of tree staples. Remove pallets, if any, before setting. Do not use stock if ball is cracked or broken before or during planting operation. When set, place additional soil mix around base and sides of ball, and work each layer to settle soil mix and eliminate voids and air pockets. When excavation is approximately 2/3-full, water thoroughly before placing remainder of soil mix. Repeat watering until no more water is absorbed. Water again after placing final layer of soil mix.
 - 2. Set container grown stock as specified for balled and burlapped stock, except cut cans on 2 sides with a metal cutter; remove bottoms of wooden boxes before setting. Carefully remove sides of wooden boxes after partial backfilling so as not to damage root ball.
 - 3. Disturb the root system by slashing 4 or 5 one-inch deep cuts into the entire vertical length of the root ball. For 1-gallon, 3-gallon and 5-gallon sized plants; the "butterfly" method of separating the lower one-half of the root ball with a spade is also suggested.
 - 4. After plants are installed water thoroughly to eliminate air pockets. Add additional fill if soil has settled and straighten settled material.
 - 5. Dish top of backfill to allow for mulching for the shrubs.
 - 6. Provide not less than 3" thickness of mulch and water into top of backfill and finish forming 6" dish.
 - 7. Apply anti-desiccant to all evergreen material using power spray to provide an adequate film over trunks, branches, stems, twigs and foliage.
 - 8. If deciduous trees or shrubs are moved in full-leaf, spray with anti-desiccant at nursery prior to moving and again 2 weeks after planting.
- C. Prune, thin out and shape trees in accordance with standard horticultural practice. Prune trees to retain required height and spread. Unless otherwise directed by the Owner's Representative, do not cut tree leaders, and remove only injured or dead branches from flowering trees. Pruning cuts over one-half inch in diameter shall be painted over with approved tree paint.
- D. Remove and replace excessively pruned or malformed stock resulting from improper pruning.
- E. General tree staking is optional. It is the responsibility of the Contractor to provide trees standing plumb thru the maintenance period in order to gain final acceptance. The Owner reserves the right to have the Contractor stake certain trees at any time during the maintenance period.
- F. Wrap tree trunks of all trees susceptible to sunscald with tree wrap. Start at ground and cover trunk to height of first branches and securely attach with twine. Inspect tree trunks for injury, improper pruning and insect infestation and take corrective measures required before wrapping.

3.3 SOD INSTALLATION

- A. General: Proceed with and complete sod work as rapidly as portions of site are released to Contractor by Owner, working within seasonal limitations for each kind of seeding and sod work required.
- B. Limit preparation to areas which will be planted in immediate future.
- C. Finish grade lawn sod areas to a smooth, even surface with loose, uniformly fine texture.

- Roll and rake, remove ridges and fill depressions, to meet finish grades and elevations as shown and defined in grading plan. Limit fine grading to areas which can be planted within immediate future.
- D. Moisten prepared lawn sod areas before planting if soil is dry. Water thoroughly and allow surface to dry off before planting of lawns. Do not create a muddy soil condition.
- E. Restore prepared areas to specified condition if eroded or otherwise disturbed after fine grading and prior to planting.
- F. Lay sod within 24 hours from time of stripping. Do not plant dormant sod or if ground is frozen.
- G. Lay sod to form a solid mass with tightly fitted joints. Butt ends and sides of sod strips; do not overlap. Stagger strips to offset joints in adjacent courses. Work from boards to avoid damage to sub grade or sod. Tamp or roll lightly to ensure contact with sub grade. Work sifted soil into minor cracks between pieces of sod; remove excess to avoid smothering of adjacent grass.
- H. Water sod thoroughly with a fine spray immediately after planting.
- I. Anchor into soil on 3:1 slope or greater with sod staples.

3.4 PROTECTION

- A. Erect barricades and warning signs as required to protect newly planted areas from traffic. Maintain barricades throughout maintenance period until plants are established.
 - B. Take necessary precautions to protect existing and new work from damage during the life of the project. Contractor shall be responsible for the cost to repair any damage done to existing or new work provided by others.
 - C. Work shall not be done when site conditions are detrimental to quality of work as determined by Owner's Representative.
- 3.6 CLEAN-UP, PROTECTION, AND REPAIRS**
- A. During the work, the premises are to be kept neat and orderly at all times. Contractor shall organize storage areas for plants and other materials so that they are neat and orderly. Contractor shall remove all trash daily as the work progresses, including debris resulting from removing weeds or rock from planting areas. Contractor shall sweep or hose clean all walks, drives and streets. Site should be left "broom clean" at completion of Contract.
 - B. Protect completed work and materials from damage due to operations by other contractors and trades and trespassers. Maintain protection during installation and maintenance periods, until Owner's acceptance. Repair or replace damaged landscape work as directed.

PART 4 - MAINTENANCE, INSPECTION AND ACCEPTANCE

4.1 MAINTENANCE

- A. Contractor shall be responsible for maintenance of all plantings, lawn and beds from the time of installation until OWNER ACCEPTANCE. This shall include watering, trimming, weed removal, disease control, fertility and mowing.
- B. Maintain trees, by pruning, cultivating, and weeding as required for healthy growth. Restore planting saucers. Reset trees to proper grades or vertical position as required. Restore or replace damaged wrappings. Spray as required to keep trees free of insects and disease.
- C. Maintain lawns by watering, mowing, and weed removal.
- D. Plant maintenance shall be ninety (90) days after OWNER ACCEPTANCE.
- E. Lawn maintenance shall be thirty (30) days after OWNER ACCEPTANCE.
- F. Contractor shall be responsible to ensure landscape materials are watered as needed to insure health of plant materials.

4.2 INSPECTION AND ACCEPTANCE:

- A. Acceptance Inspection will be made upon written request from the Contractor at the completion of landscape operations. The Owner's shall observe that plants and related work are installed according to plans and specifications and prepare a "punch list" of items to be completed prior to OWNER ACCEPTANCE. Upon acceptance by the Owner, the Contractor will receive written notification of OWNER ACCEPTANCE. Owner reserves to right to accept and or reject completed portions of landscape.
- B. FINAL ACCEPTANCE inspection will be made at the end of the warranty period and upon written request from Contractor. The Owner's shall insure that plants are healthy, showing satisfactory growth and in general, show signs of developing into healthy, mature representatives of their respective species. Contractor shall remove and replace promptly any plant material required under this specification that is dead or not showing satisfactory growth, as determined by the Owner. Decision of the Owner is final.
- C. The replacement shall be of the same variety, size and character as specified for original planting. The replacement plant shall be guaranteed as specified under Project Warranty above.
- D. If approved by the Owner, trees may be replanted at start of next year's digging and planting season. In such case, Contractor shall remove dead trees immediately and backfill holes remaining as the result of removal work.
- E. Upon acceptance by the Owner, Contractor shall receive notification of FINAL ACCEPTANCE.
- F. The landscape work may be inspected for acceptance in parts agreeable to the Owner, provided work offered for inspection is complete; including maintenance and that the area comprises one complete unit or area of substantial size.

Submittal List for Plantings
Landscape contractor qualifications
Landscape Plant-nursery/ grower name and contact phone number
Images of items identified on plan schedule
Sod -nursery/ grower name and contact phone number
Sod grass mix and composition (name and percentage each species)
Pre-installation Agronomic Soils Report
Planting and maintenance schedule
Double Ground Mulch certificate and sample of requested
Topsoil certificate and sample of requested
Organic Soil Condition certificate and sample of requested
Edge material with stake (if used) manufacturer name w/ product number and sample if requested
Weed Fabric (if used) manufacturer name w/ product number and sample of requested
Image and or sample for decorative rock (if used)
Soil Amendments manufacturer name and sample of requested
Fertilizer for plantings
Anti-desiccant
Herbicide for landscape bed areas
Pre-installation Agronomic Soils Report
Maintenance Instruction for full year
Owner Manual with certificate of each plant and product used on site
NOTE: Additional information may be requested as determined by owner

END OF SECTION

DERMODY & ASSOCIATES



LANDSCAPE ARCHITECTS
U i s c e - b e a t h a
ph# 314.205.8871
Missouri Certificate of Authority
#200902208

Civil Engineer and Surveyor:
Civil & Environmental
Consultants, Inc
1450 Beale Street, Suite 305
St. Charles, MO 63303

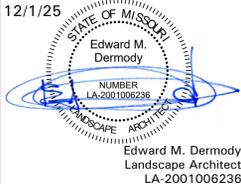
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Checked By: EMD

Sheet Title

Planting Specifications

Project Number: 757.003

Sheet Number:

L1.1

Landscape Construction Plans for:
MASTERCARD -Parking Lot F
2200 Mastercard Boulevard
O'Fallon, MO
Drawing prepared for:
Civil & Environmental Consultants, Inc
1450 Beale Street, Suite 305
St. Charles, MO 63303