

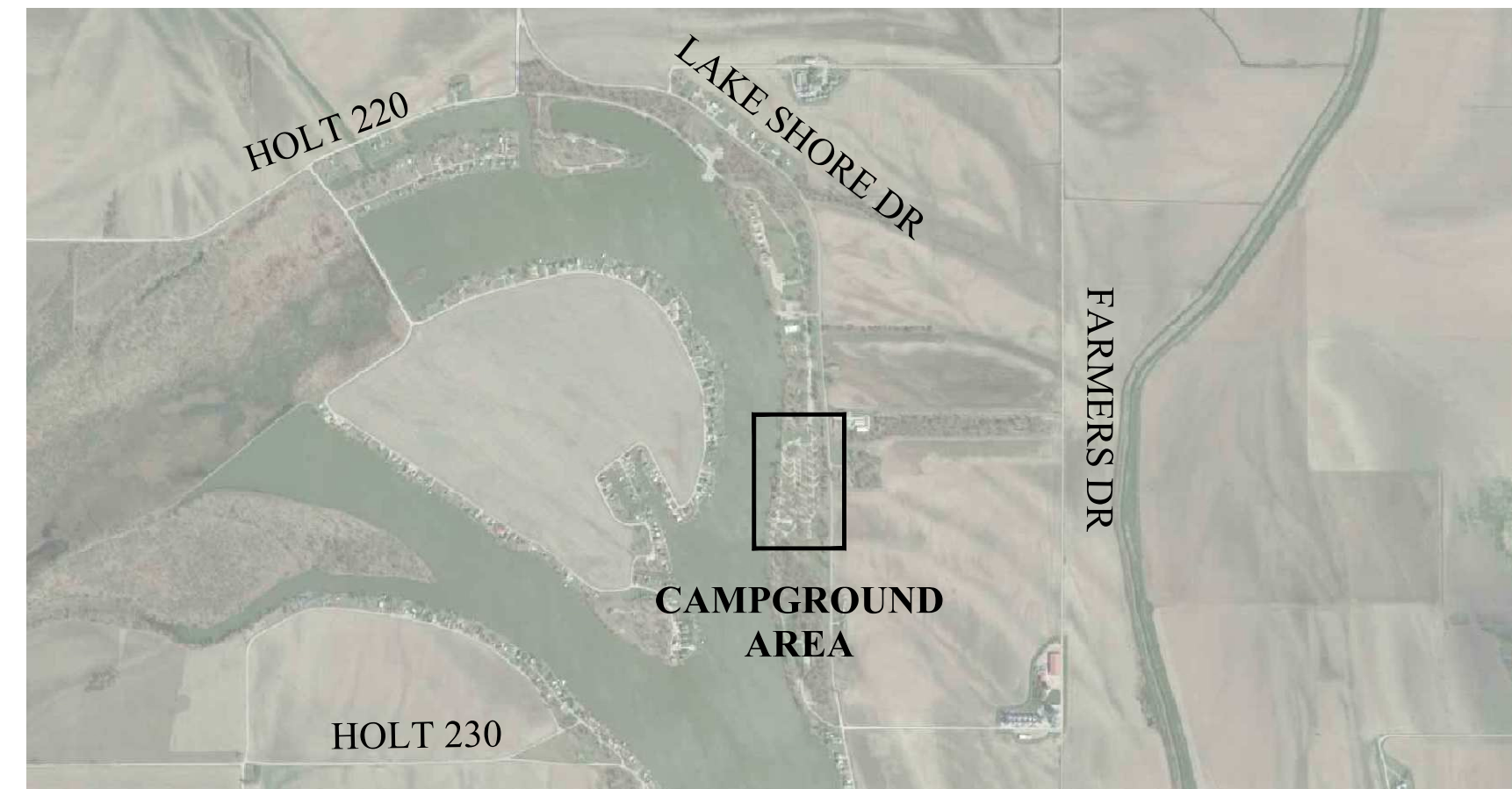
Campground Renovation and Upgrade

Big Lake State Park

Craig, Missouri

BIG LAKE STATE PARK
204 LAKE SHORE DRIVE
CRAIG, MO 64437

SITE NUMBER: 5105 ASSET NUMBER: 7815105008



SHEET INDEX:

- G-100 - COVER SHEET
- L-100 - SITE PLAN
- L-400 - ENLARGED SITE PLAN
- L-401 - ENLARGED SITE PLAN
- L-402 - ENLARGED SITE PLAN
- L-403 - ENLARGED SITE PLAN
- L-500 - SITE DETAILS
- L-501 - SITE DETAILS
- L-502 - SITE DETAILS
- C-001 - GENERAL NOTES
- C-002 - EXISTING CONDITIONS
- C-101 - DEMOLITION PLAN
- C-102 - GENERAL LAYOUT
- C-103 - PAVEMENT PLAN
- C-104 - UTILITY PLAN
- C-105 - WATER PLAN - NORTH
- C-106 - WATER PLAN - SOUTH
- C-201 - WATERLINE A - PLAN & PROFILE
- C-202 - WATERLINE B - PLAN & PROFILE
- C-203 - SANITARY LINE A PLAN & PROFILE
- C-204 - SANITARY LINE B PLAN & PROFILE
- C-501 - SANITARY STUBS & CALCS
- C-502 - WATER DETAILS
- C-503 - SANITARY DETAILS
- C-504 - SANITARY DETAILS
- C-505 - EROSION CONTROL DETAILS
- C-601 - PHASE I OF CONSTRUCTION
- C-602 - PHASE II OF CONSTRUCTION
- C-603 - EROSION CONTROL PHASE I
- C-604 - EROSION CONTROL PHASE II
- C-605 - EROSION CONTROL PHASE III
- S-001 - GENERAL NOTES
- S-100 - PLANS
- S-200 - ELEVATIONS
- S-300 - FOUNDATION SECTIONS
- S-301 - FRAMING SECTIONS
- E-001 - ELECTRICAL SYMBOLS AND GENERAL NOTES
- E-101 - ELECTRICAL SITE PLAN DEMOLITION
- E-201 - ELECTRICAL SITE PLAN
- E-501 - ELECTRICAL DETAILS
- E-801 - ELECTRICAL RISER AND SCHEDULES

OWNER: STATE OF MISSOURI
MICHAEL L. PARSON,
GOVERNOR

DEPARTMENT OF
NATURAL RESOURCES,
MISSOURI STATE PARKS

PROJECT MANAGEMENT: OFFICE OF ADMINISTRATION
DIVISION OF FACILITIES
MANAGEMENT,
DESIGN AND CONSTRUCTION



LANDSCAPE ARCHITECT:

VIREO
414 Oak Street, Suite 101
Kansas City, MO 64106
Phone: (816) 756-5690



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CIVIL ENGINEER:

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INFRASTRUCTURE
CONSULTING
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Phone: (913) 317-9500



MEP:

ANTELLA CONSULTING
ENGINEERS
1600 Genessee Street, Ste 260
Kansas City, Missouri 64102
Phone: (816) 421-0950



STRUCTURAL ENGINEER:

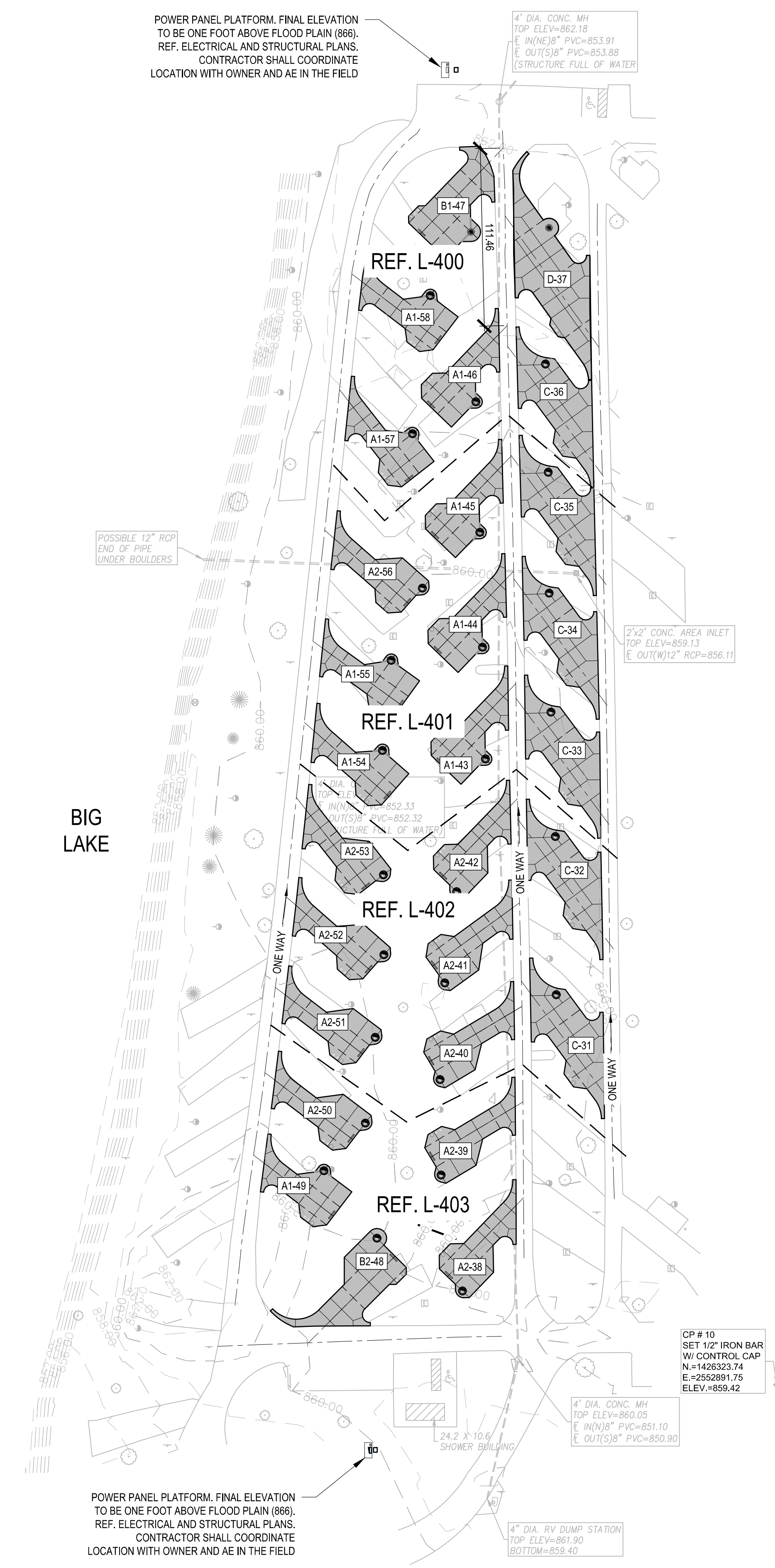
LEIGH + O'KANE
250 NE MULBERRY ST #201
LEE'S SUMMIT, MO 64086
Phone: (816) 444-3144

PROJECT NUMBER: X2218-01

SHEET NUMBER:

G-100

1 of 41 SHEETS
APRIL 7, 2023



POWER PANEL PLATFORM. FINAL ELEVATION TO BE ONE FOOT ABOVE FLOOD PLAIN (866). REF. ELECTRICAL AND STRUCTURAL PLANS. CONTRACTOR SHALL COORDINATE LOCATION WITH OWNER AND AE IN THE FIELD

4' DIA. CONC. MH
TOP ELEV=862.18
IN(N)8" PVC=853.91
OUT(S)8" PVC=853.88
(STRUCTURE FULL OF WATER)

POSSIBLE 12" RCP
END OF PIPE
UNDER BOULDERS

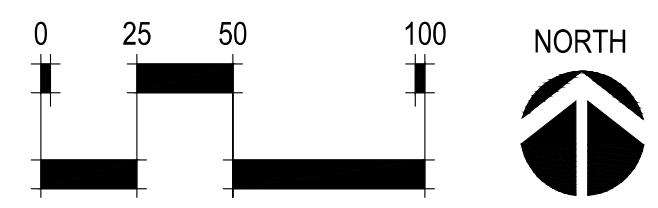
24" CONC. AREA INLET
TOP ELEV=859.13
OUT(W)12" RCP=856.11

CP # 10
SET 1/2" IRON BAR
W/ CONTROL CAP
N=1426323.74
E=2652881.75
ELEV.=859.42

4' DIA. CONC. MH
TOP ELEV=860.05
IN(N)8" PVC=851.10
OUT(S)8" PVC=850.90

4" DIA. RV DUMP STATION
TOP ELEV=861.90
BOTTOM=859.40

POWER PANEL PLATFORM. FINAL ELEVATION TO BE ONE FOOT ABOVE FLOOD PLAIN (866). REF. ELECTRICAL AND STRUCTURAL PLANS. CONTRACTOR SHALL COORDINATE LOCATION WITH OWNER AND AE IN THE FIELD



SITE LEGEND

- PIP CONCRETE REF DETAIL 01/L-502 AND SPEC SECTION 321313
- TYP. CENTERLINE OF EXISTING ROAD AND PROPOSED STALL ALIGNMENT
- TYP. CONTROL JOINT. REF. SPEC SECTION 321313
- TYP. EXPANSION JOINT. REF. SPEC SECTION 321313

CAMP SITE LEGEND

- 01 / L-500 STALL STYLE A1- BACK IN STANDARD
- 02 / L-500 STALL STYLE A2- BACK IN STANDARD
- 03 / L-500 STALL STYLE B1- BACK-IN ADA STANDARD
- 04 / L-500 STALL STYLE B2- BACK IN STANDARD
- 01 / L-501 STALL STYLE C - STANDARD PULL-THROUGH
- 02 / L-501 STALL STYLE D - ADA PULL-THROUGH

STATE OF MISSOURI
MICHAEL L. PARSON,
GOVERNOR



LANDSCAPE ARCHITECT:



LAC# MO-2002023826
929 Walnut Street, Ste. 700
Kansas City, Missouri 64108
P 816-786-5890

SURVEYOR & CIVIL ENGINEER:

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8633 Penrose Lane
Lenexa, Kansas 66219
P 913-317-8500

MEP:

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P 816-421-0950

GEOTECHNICAL:

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OFFICE OF ADMINISTRATION
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MANAGEMENT,
DESIGN AND CONSTRUCTION

DEPARTMENT OF
NATURAL RESOURCES,
MISSOURI STATE PARKS

CAMPGROUND
RENOVATION AND
UPGRADE

BIG LAKE STATE PARK
204 LAKE SHORE DRIVE
CRAIG, MO 64437

PROJECT # X2218-01
SITE # 5105
FACILITY # 7815105008

REVISION: _____
DATE: _____
REVISION: _____
DATE: _____
REVISION: _____
DATE: _____

ISSUE DATE: 4/7/2023

CAD DWG FILE: _____
DRAWN BY: MJH _____
CHECKED BY: CDP _____
DESIGNED BY: MJH / CDP _____

SHEET TITLE:
SITE PLAN

SHEET NUMBER:

L-100

SHEET 2 OF 41
APRIL 7, 2023



LANDSCAPE ARCHITECT:



LAC# MO-2002023826
929 Walnut Street, Ste. 700
Kansas City, Missouri 64108
P 816-786-5890

SURVEYOR & CIVIL ENGINEER:

RENAISSANCE INFRASTRUCTURE
CONSULTING
8633 Penrose Lane
Lenexa, Kansas 66219
P 913-317-8500



MEP:

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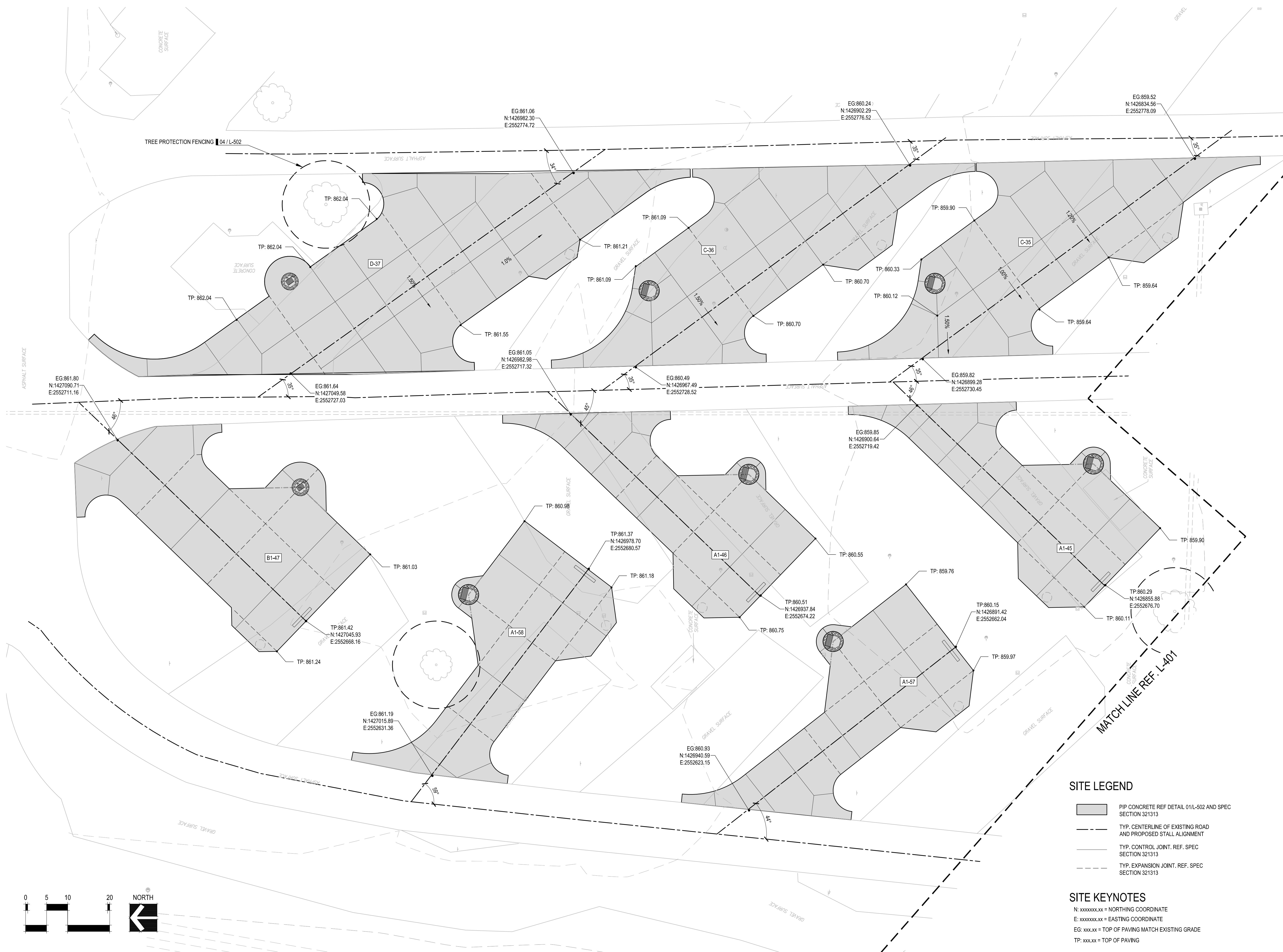
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DRAWN BY: MJH
CHECKED BY: CDP
DESIGNED BY: MJH / CDP

SHEET TITLE:
**ENLARGED SITE
PLAN**

SHEET NUMBER:

L-400

SHEET 3 OF 41
APRIL 7, 2023



SITE LEGEND

- PIP CONCRETE REF DETAIL 01L-502 AND SPEC SECTION 321313
- TYP. CENTERLINE OF EXISTING ROAD AND PROPOSED STALL ALIGNMENT
- TYP. CONTROL JOINT, REF. SPEC SECTION 321313
- TYP. EXPANSION JOINT, REF. SPEC SECTION 321313

SITE KEYNOTES

- N: xxxxxxxx = NORTHING COORDINATE
- E: xxxxxxxx = EASTING COORDINATE
- EG: xxx.xx = TOP OF PAVING MATCH EXISTING GRADE
- TP: xxx.xx = TOP OF PAVING



LANDSCAPE ARCHITECT:



LAC# MO-2002023826
929 Walnut Street, Ste. 700
Kansas City, Missouri 64106
P 816-786-5890

SURVEYOR & CIVIL ENGINEER:

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CONSULTING
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P 913-317-8500



MEP:

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UPGRADE

BIG LAKE STATE PARK
204 LAKE SHORE DRIVE
CRAIG, MO 64437

PROJECT # X2218-01
SITE # 5105
FACILITY # 7815105008

REVISION: _____
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DATE: _____
REVISION: _____
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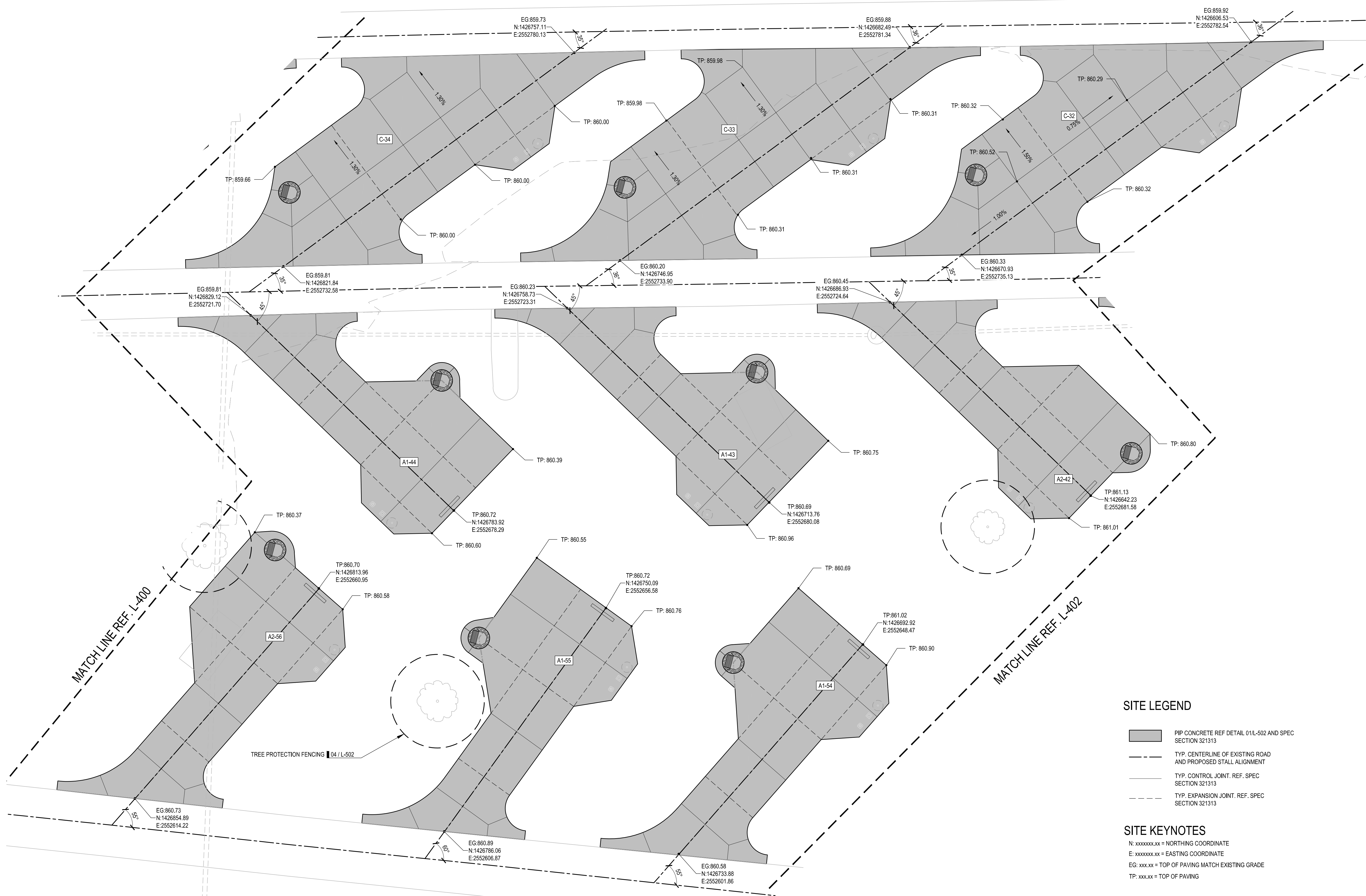
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DRAWN BY: MJH _____
CHECKED BY: CDP _____
DESIGNED BY: MJH / CDP _____

SHEET TITLE:
ENLARGED SITE
PLAN

SHEET NUMBER:

L-401

SHEET 4 OF 41
APRIL 7, 2023

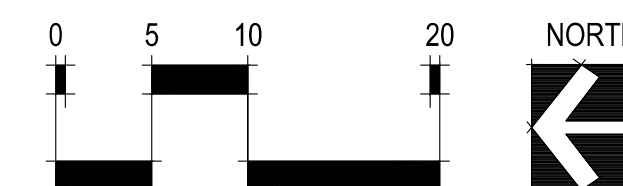


SITE LEGEND

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LANDSCAPE ARCHITECT:



LAC# MO-2002023826
929 Walnut Street, Ste. 700
Kansas City, Missouri 64106
P 816-786-8690

SURVEYOR & CIVIL ENGINEER:

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BIG LAKE STATE PARK
204 LAKE SHORE DRIVE
CRAIG, MO 64437

PROJECT # X2218-01
SITE # 5105
FACILITY # 7815105008

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CAD DWG FILE: _____
DRAWN BY: MJH _____
CHECKED BY: CDP _____
DESIGNED BY: MJH / CDP _____

SHEET TITLE:
ENLARGED SITE
PLAN

SHEET NUMBER:

L-402

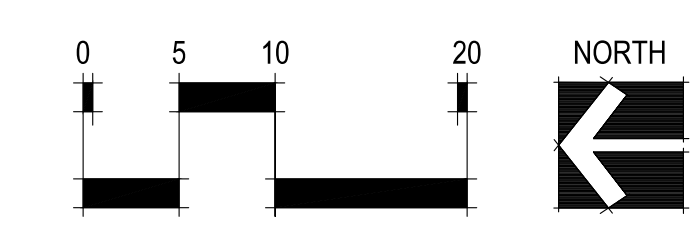
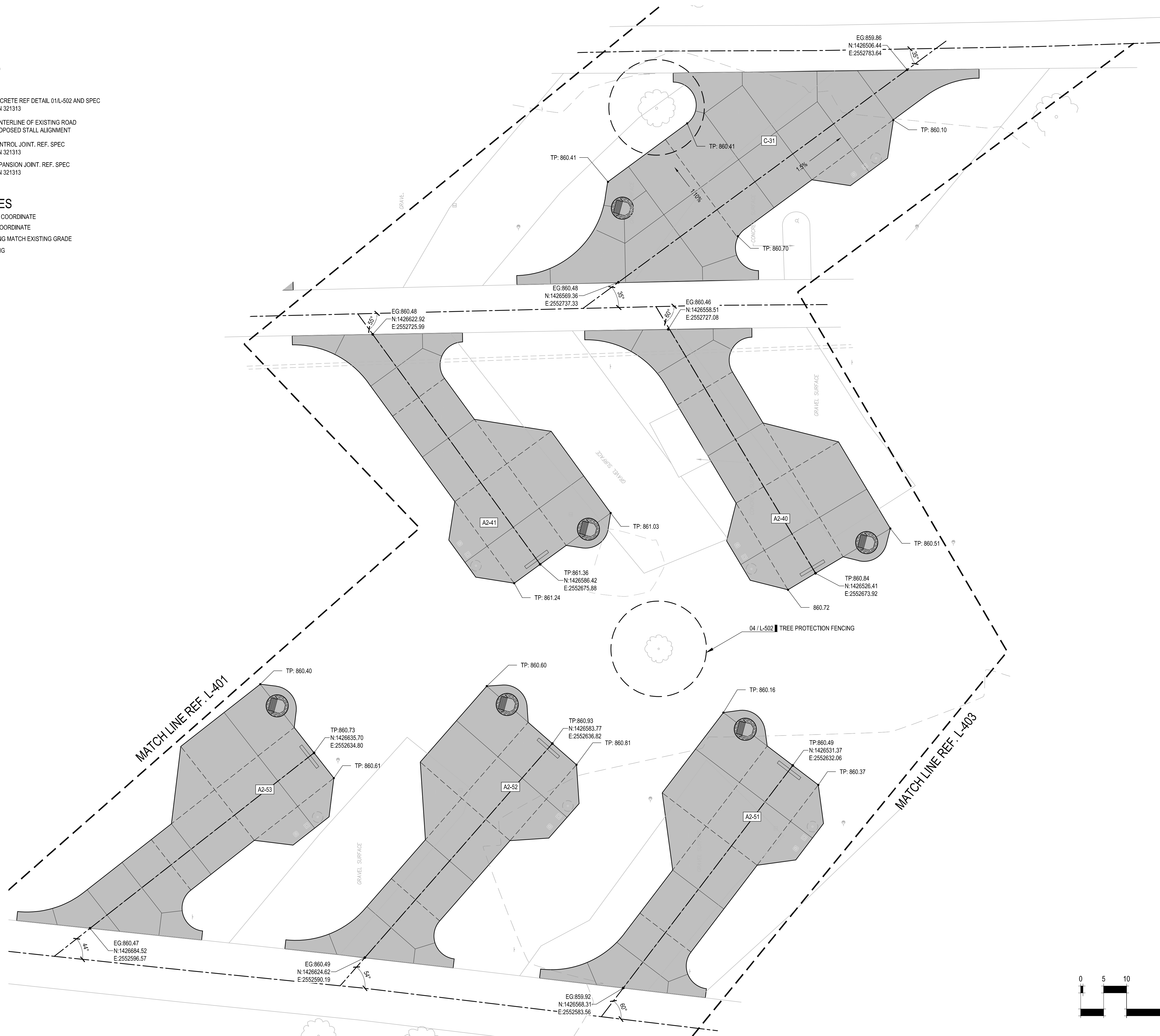
SHEET 5 OF 41
APRIL 7, 2023

SITE LEGEND

- PIP CONCRETE REF DETAIL 01/L-502 AND SPEC SECTION 321313
- TYP. CENTERLINE OF EXISTING ROAD AND PROPOSED STALL ALIGNMENT
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LANDSCAPE ARCHITECT:



LAC# MO-2002023826
929 Walnut Street, Ste. 700
Kansas City, Missouri 64108
P 816-756-5890

SURVEYOR & CIVIL ENGINEER:

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8653 Penrose Lane
Lenexa, Kansas 66219
P 913-317-9500



MEP:

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1800 Genessee Street, Ste 260
Kansas City, Missouri 64102
P 816-421-0950



GEOTECHNICAL:

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MISSOURI STATE PARKS

CAMPGROUND
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BIG LAKE STATE PARK
204 LAKE SHORE DRIVE
CRAIG, MO 64437

PROJECT # X2218-01
SITE # 5105
FACILITY # 7815105008

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DATE: _____
REVISION: _____
DATE: _____

ISSUE DATE: 4/7/2023

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DRAWN BY: MJH _____
CHECKED BY: CDP _____
DESIGNED BY: MJH / CDP _____

SHEET TITLE:
ENLARGED SITE
PLAN

SHEET NUMBER:

L-403

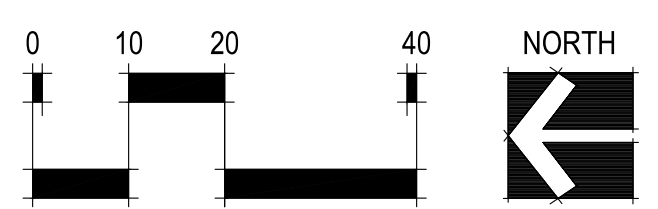
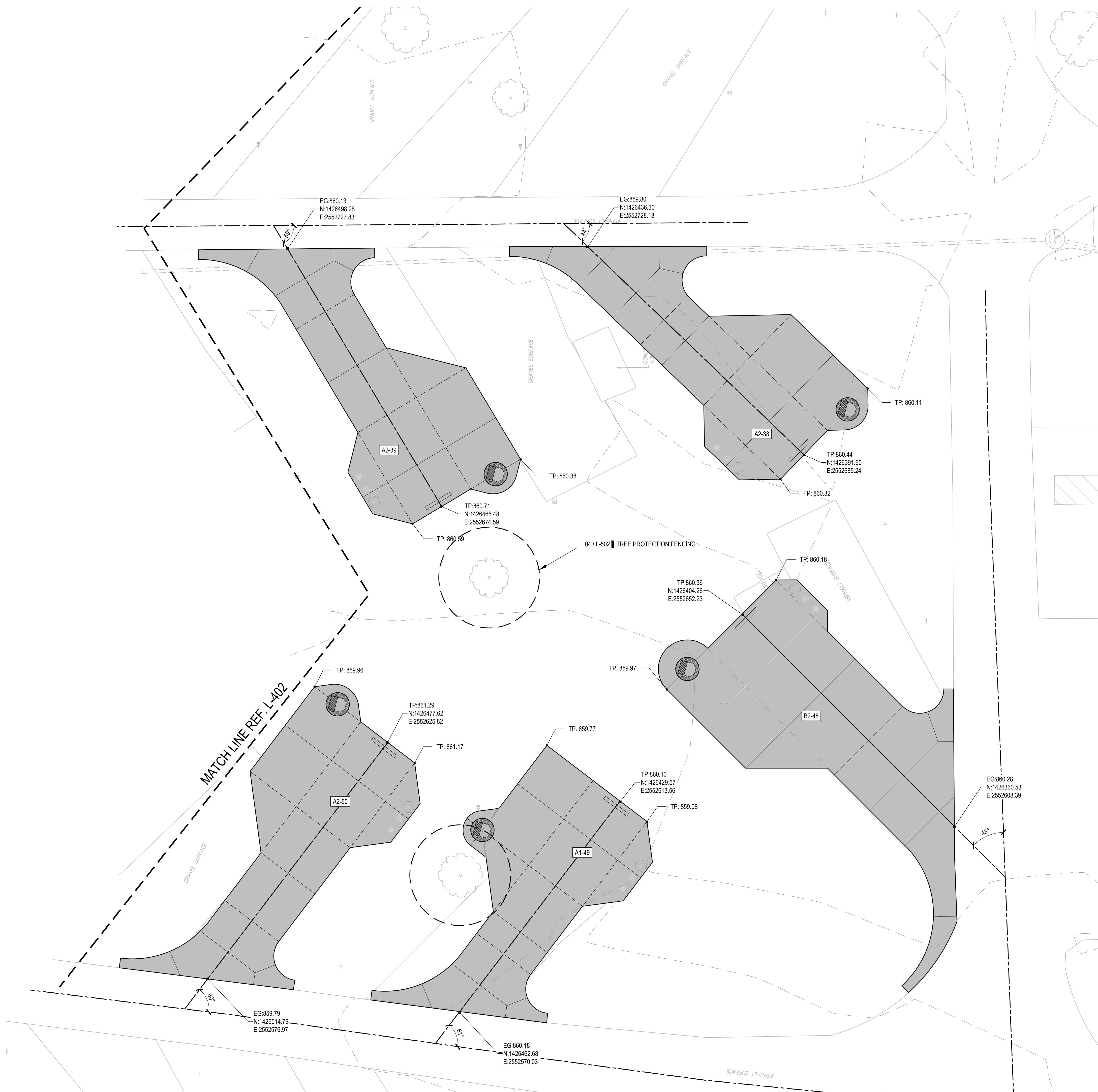
SHEET 6 OF 41
APRIL 7, 2023

SITE LEGEND

- PIP CONCRETE REF DETAIL 01/L-502 AND SPEC SECTION 321313
- TYP. CENTERLINE OF EXISTING ROAD AND PROPOSED STALL ALIGNMENT
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LANDSCAPE ARCHITECT:



LAC# MO-2002023826
929 Walnut Street, Ste. 700
Kansas City, Missouri 64108
P 816-786-5890

SURVEYOR & CIVIL ENGINEER:

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Lenexa, Kansas 66219
P 816-317-9500



MEP:

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GEOTECHNICAL:

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BIG LAKE STATE PARK
204 LAKE SHORE DRIVE
CRAIG, MO 64437

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DRAWN BY: MJH _____
CHECKED BY: CDP _____
DESIGNED BY: MJH / CDP _____

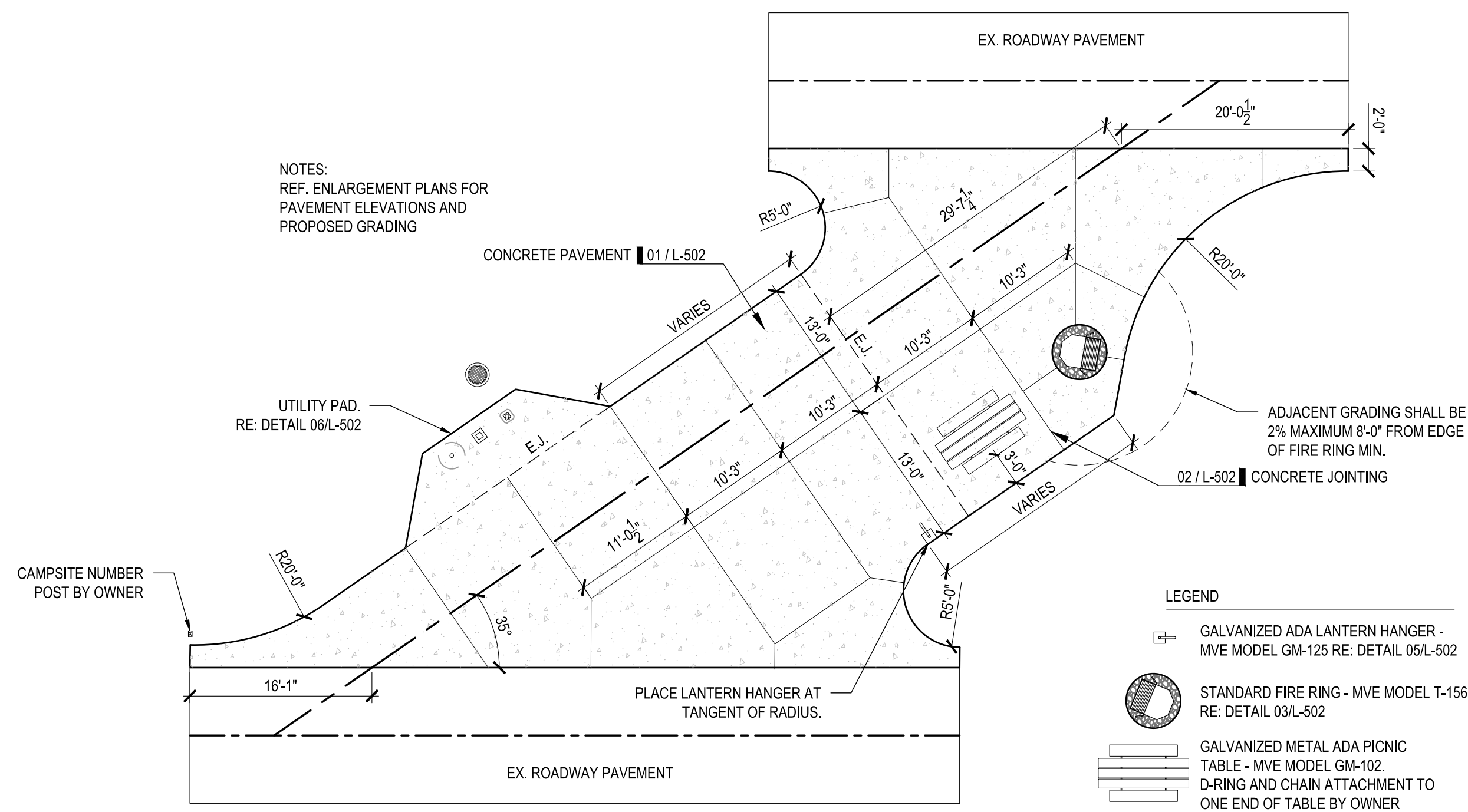
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SITE DETAILS

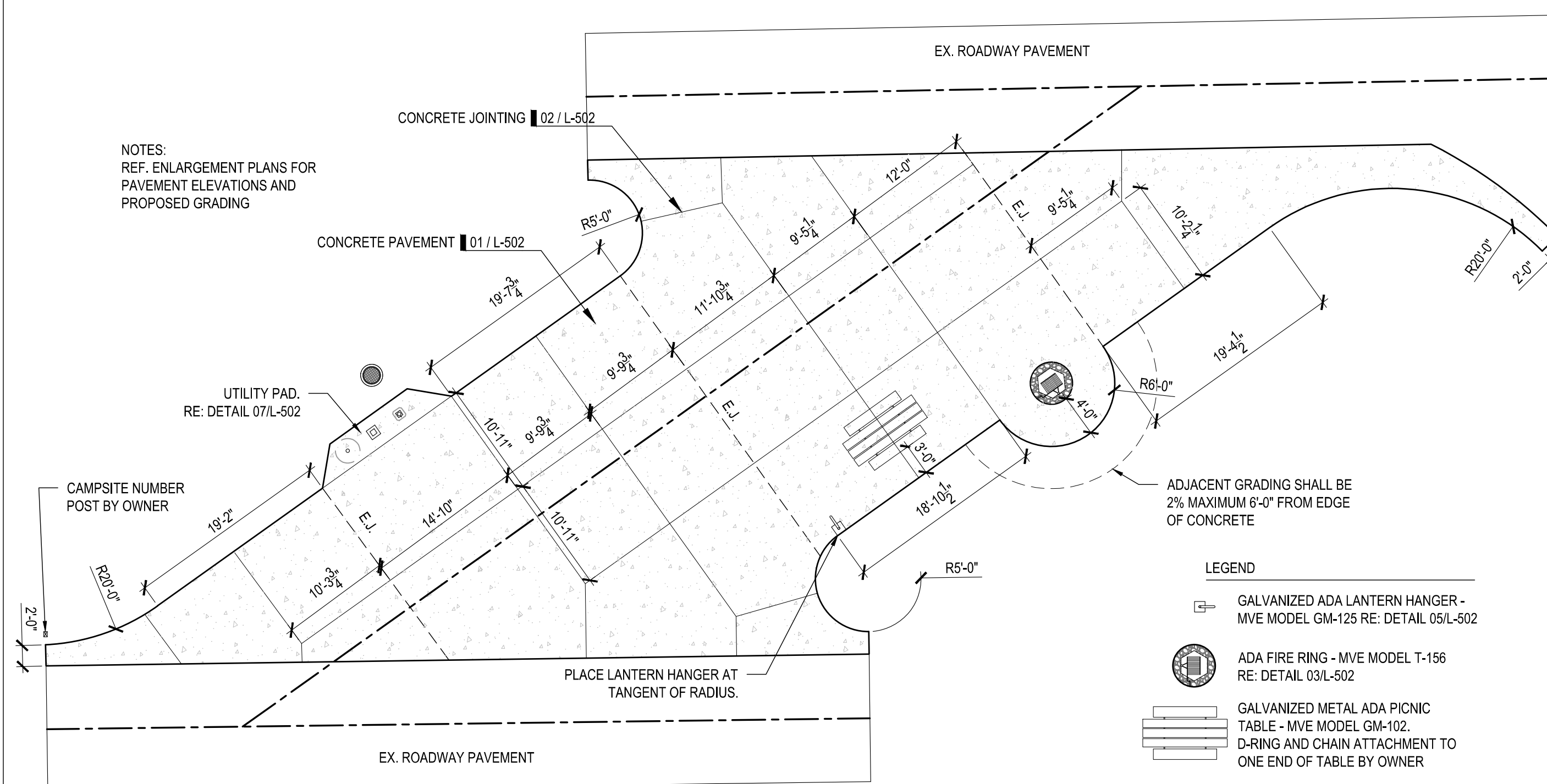
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SHEET 8 OF 41
APRIL 7, 2023

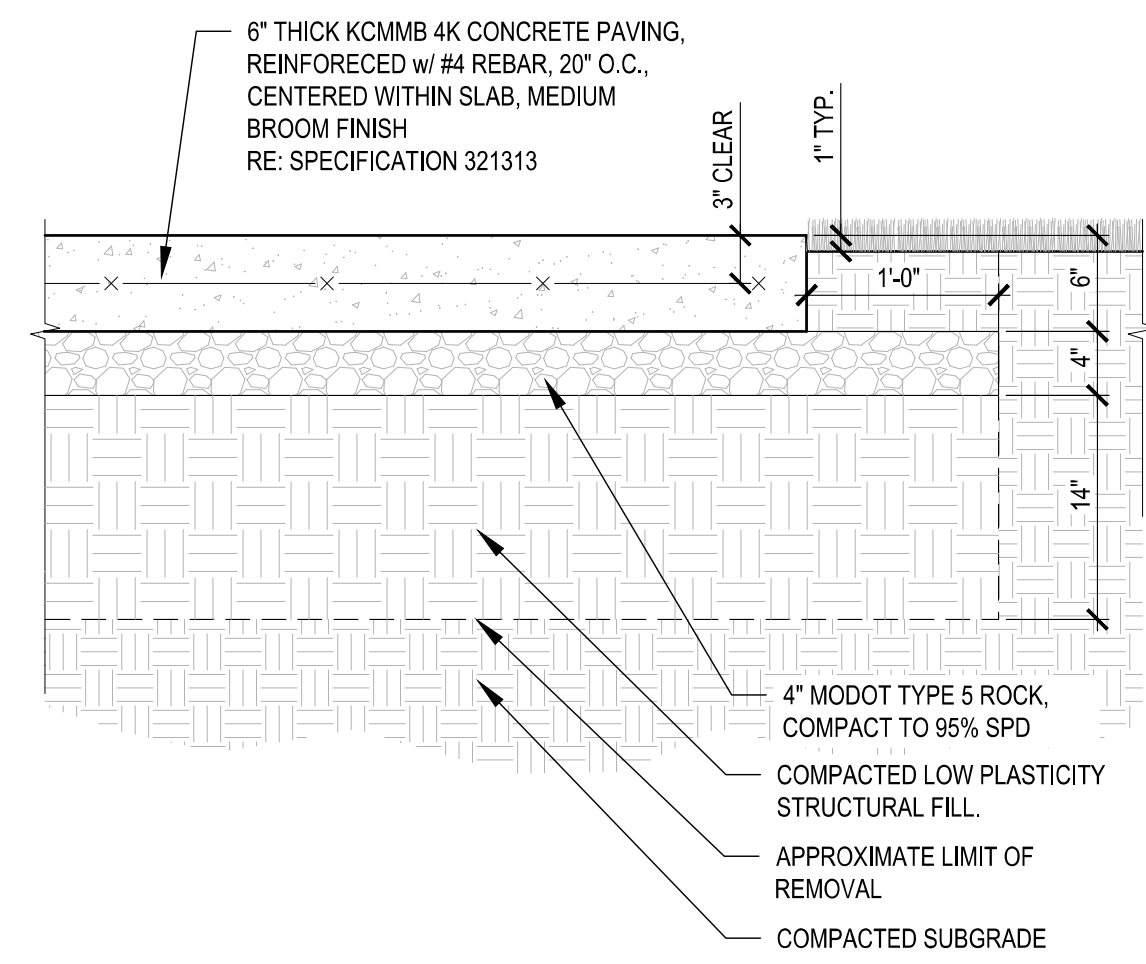


STALL STYLE C - STANDARD PULL-THROUGH 01
N.T.S.



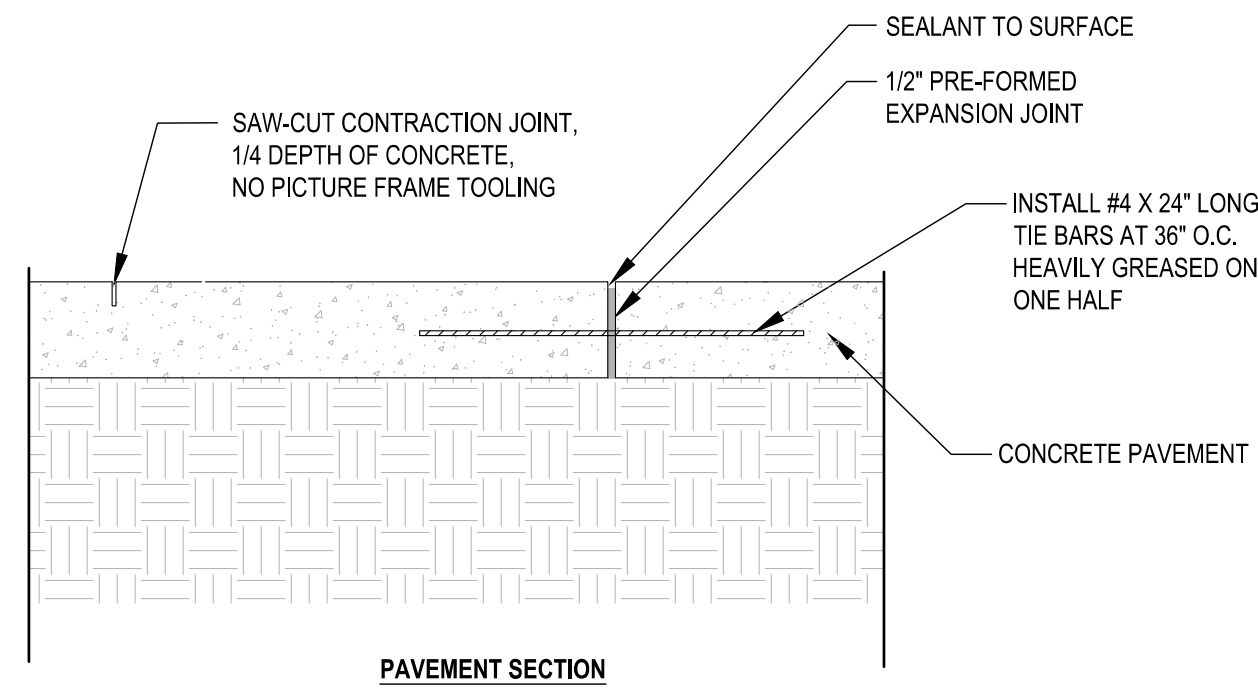
STALL STYLE D - ADA PULL-THROUGH 02
N.T.S.

NOTES:
1. REFERENCE GEOTECHNICAL REPORT FOR SPECIFIC RECOMMENDATIONS REGARDING THE PAVEMENT SECTION.

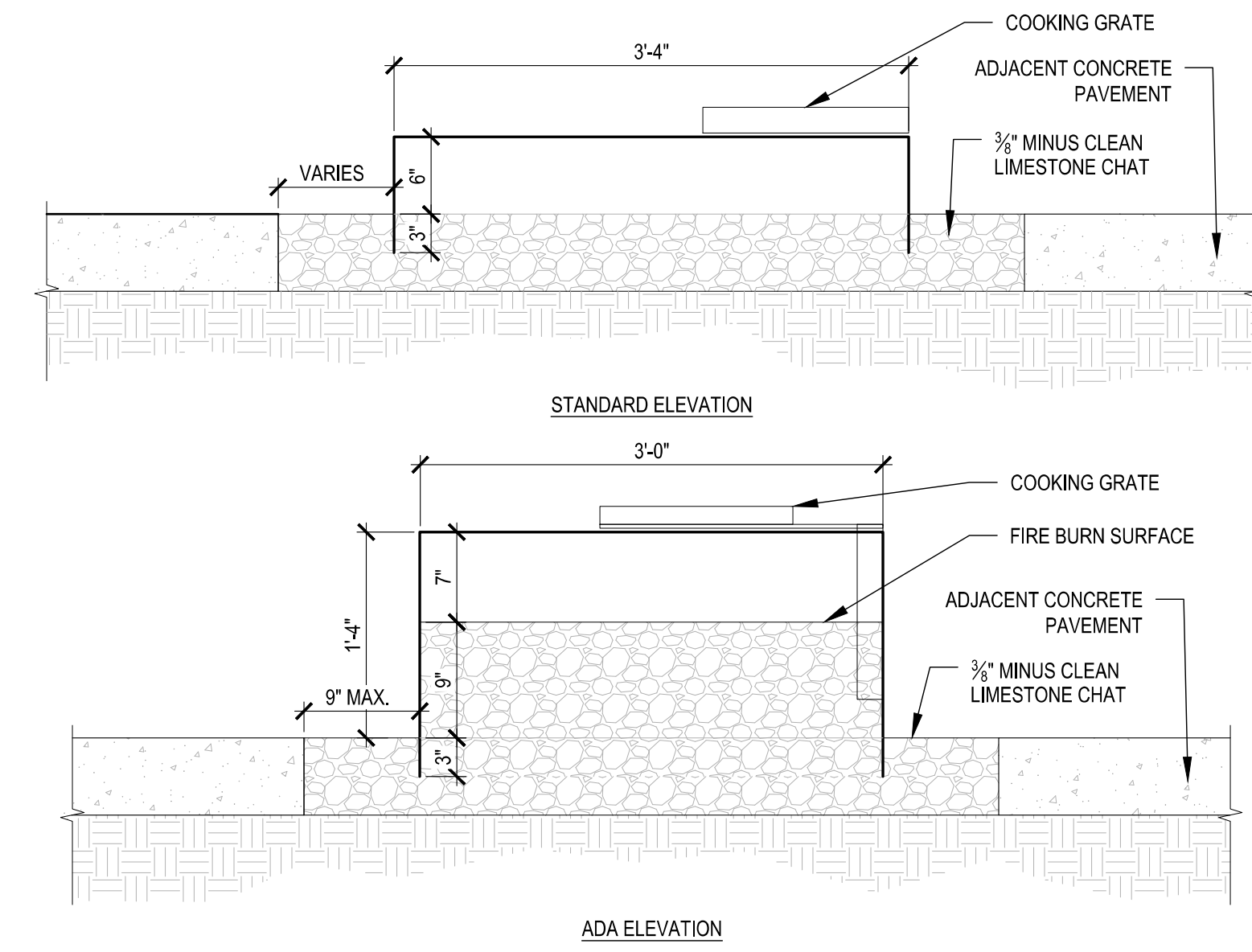
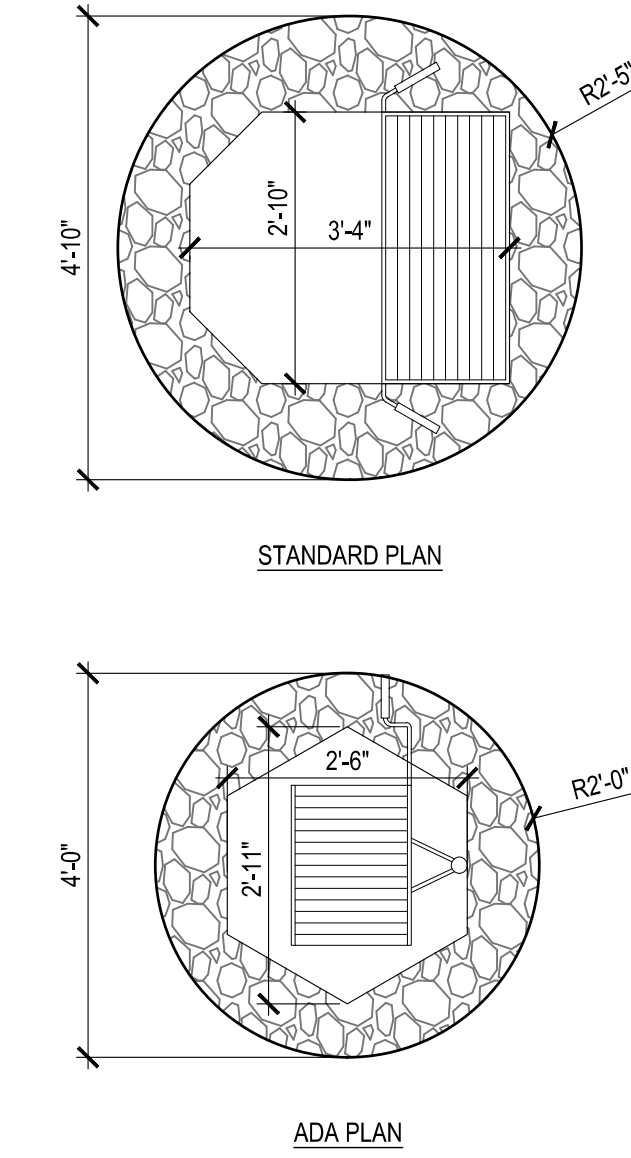


CONCRETE PAVEMENT
N.T.S. 01

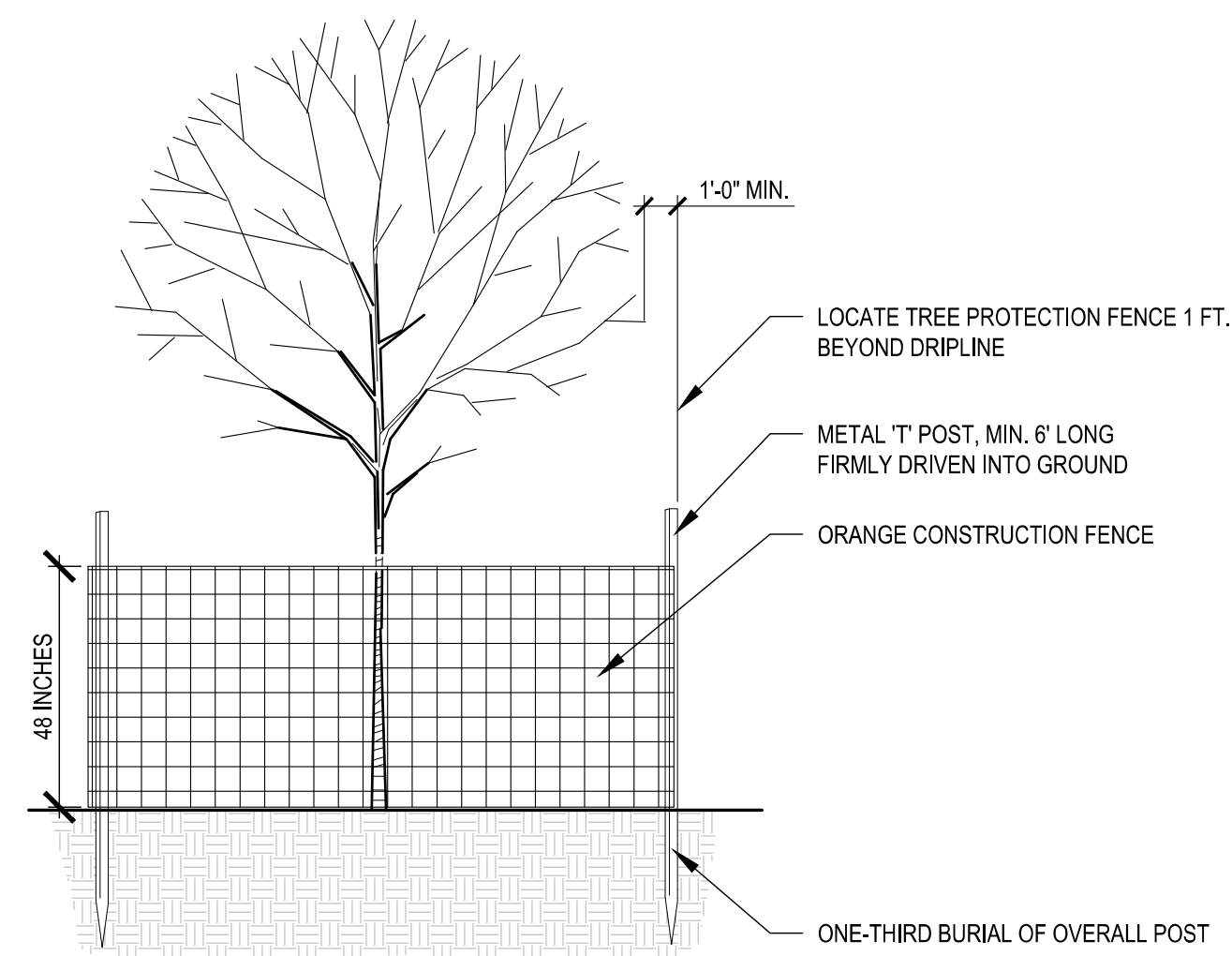
NOTES:
1. CONCRETE PAVEMENT TO HAVE MEDIUM BROOM FINISH PERPENDICULAR TO THE CENTERLINE OF THE CAMPSITE.
2. EXPANSION JOINTS SHALL OCCUR AS SHOWN.
3. CONTRACTION JOINTS SHALL OCCUR AS SHOWN.



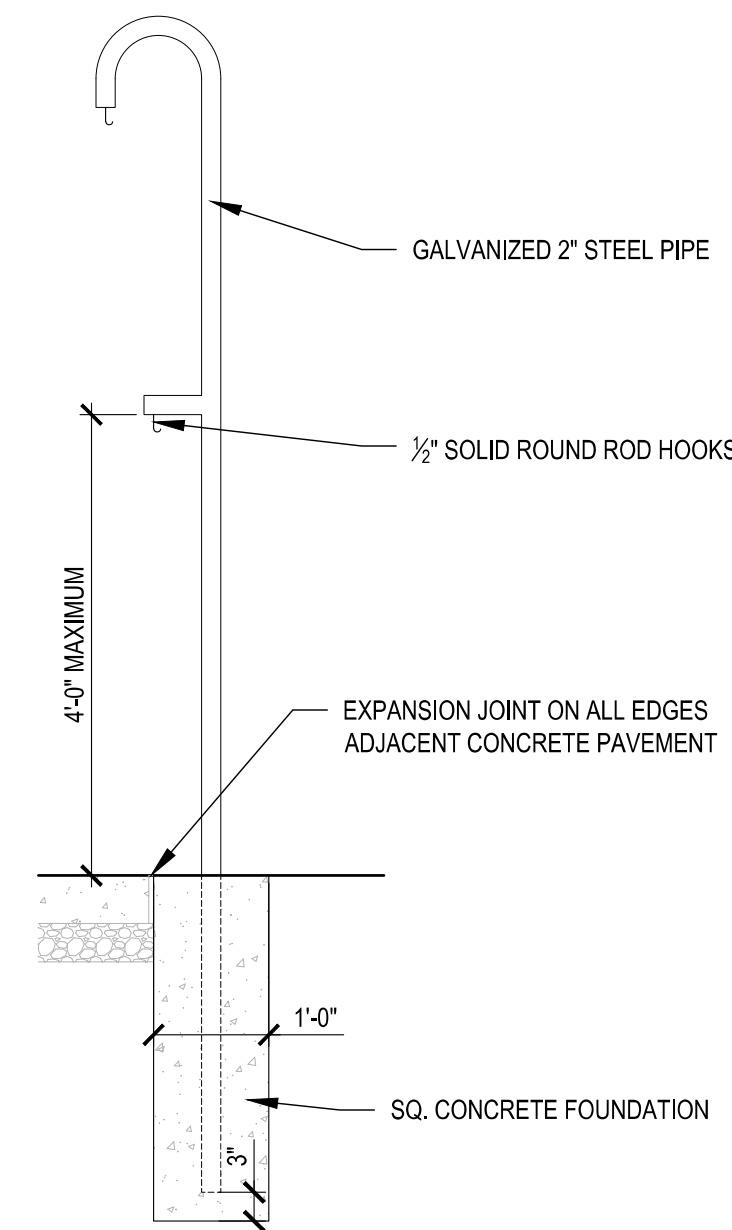
CONCRETE JOINTING
N.T.S. 02



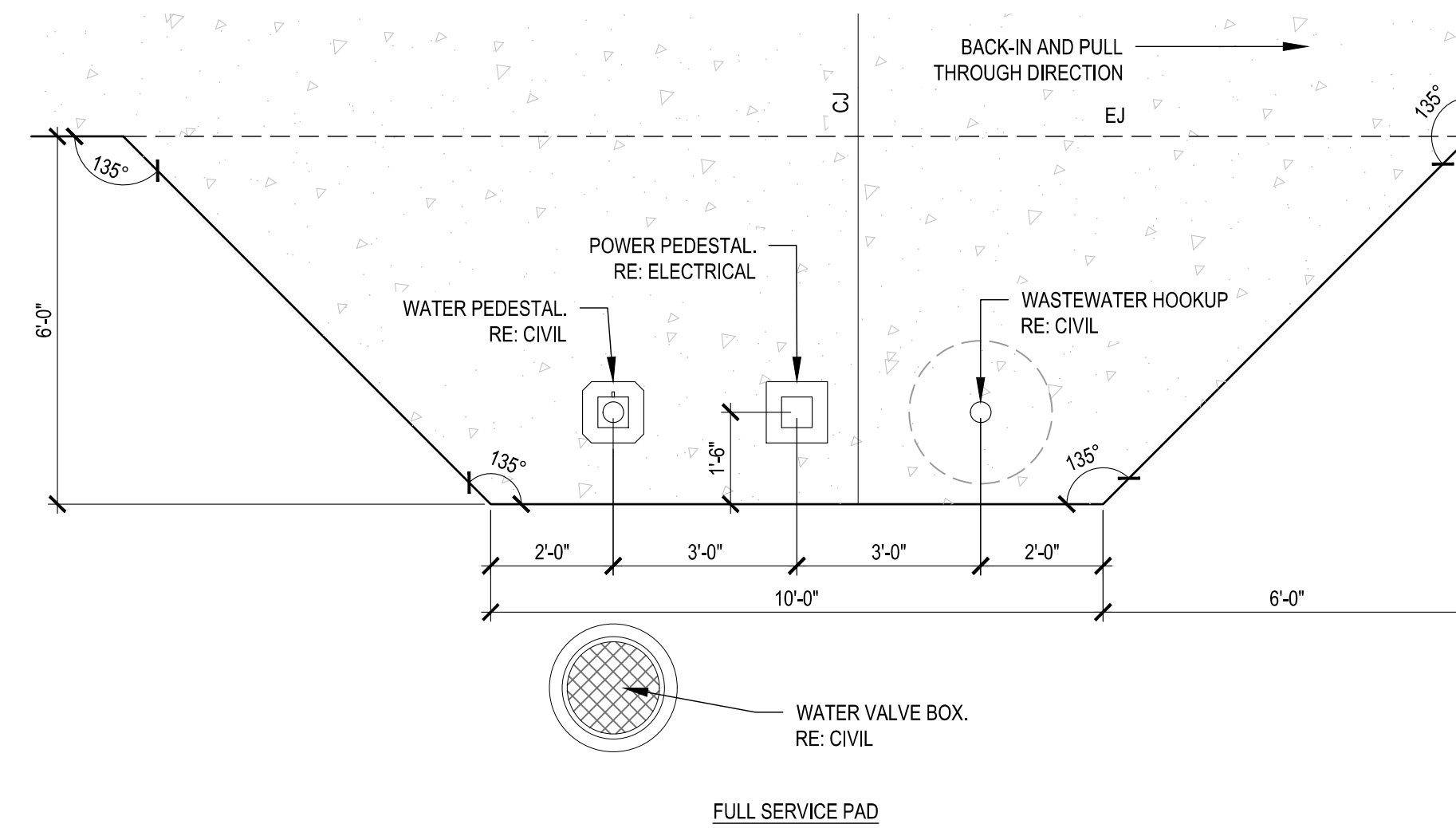
FIRE RING
N.T.S. 03



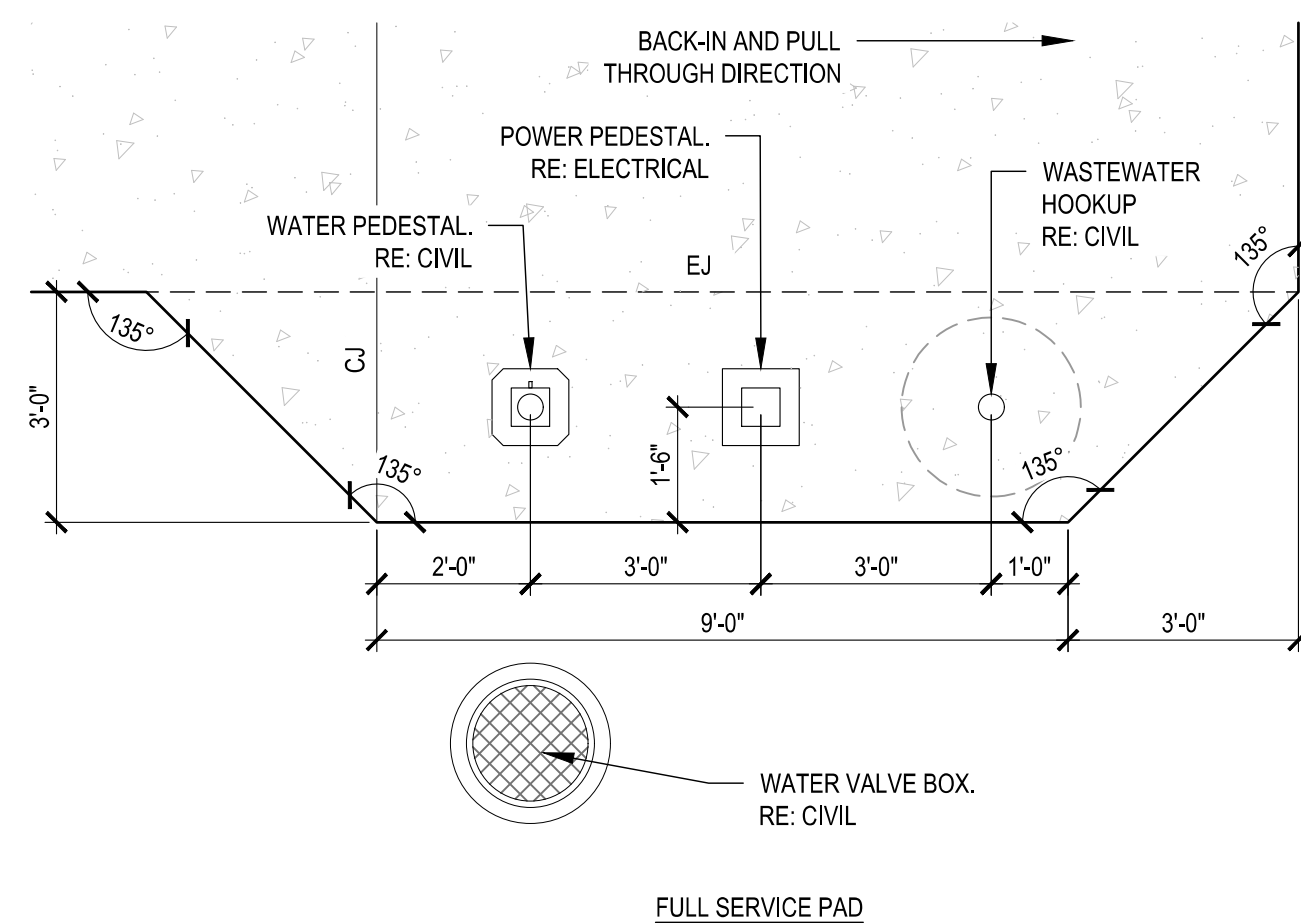
TREE PROTECTION FENCING
N.T.S. 04



LANTERN HANGER
N.T.S. 05



UTILITY PAD
N.T.S. 06



ADA UTILITY PAD
N.T.S. 07

STATE OF MISSOURI
MICHAEL L. PARSON,
GOVERNOR



LANDSCAPE ARCHITECT:



LAC# MO-2002023826
929 Walnut Street, Ste. 700
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P 816-756-5890

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P 913-317-9500



MEP:

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1800 Genessee Street, Ste 260
Kansas City, Missouri 64102
P 816-421-0950



GEOTECHNICAL:

INTERTEK-PSI
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Kansas City, Kansas 66103
P 913-310-1600



OFFICE OF ADMINISTRATION
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DEPARTMENT OF
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CAMPGROUND
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BIG LAKE STATE PARK
204 LAKE SHORE DRIVE
CRAIG, MO 64437

PROJECT # X2218-01
SITE # 5105
FACILITY # 7815105008

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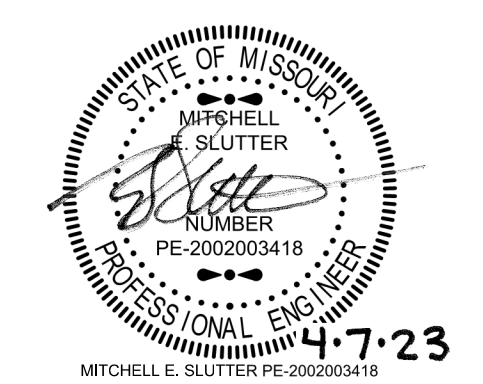
CAD DWG FILE: _____
DRAWN BY: MJH _____
CHECKED BY: CDP _____
DESIGNED BY: MJH / CDP _____

SHEET TITLE:
SITE DETAILS

SHEET NUMBER:

L-502

SHEET 9 OF 41
APRIL 7, 2023



LANDSCAPE ARCHITECT:



LAC# MO-200223826
929 Walnut Street, Ste. 700
Kansas City, Missouri 64108
P 816-316-5890

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CONSULTING
8633 Penrose Lane
Lenexa, Kansas 66219
P 913-317-9500



MEP:

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REVISION: _____
DATE: _____
REVISION: _____
DATE: _____

ISSUE DATE: 4/7/2023

CAD DWG FILE: _____
DRAWN BY: TCD
CHECKED BY: MES
DESIGNED BY: ZMM

SHEET TITLE:

GENERAL NOTES

SHEET NUMBER:

C-001

SHEET 10 OF 41
APRIL 7, 2023

ADA ACCESSIBLE ROUTE NOTES

- All Accessible route construction shall conform to the latest version of the ADA Standards for Accessible Design published by the Department of Justice and the Proposed Accessibility Guidelines for Pedestrian Facilities in the Public Right-of-Way published by the United States Access Board.
- Other than ramps and ramp runs, walking surfaces must have running slopes not steeper than 1:20.
- The cross slope of walking surfaces shall not be steeper than 2%.
- The minimum width for a linear segment of accessible route shall be 36 inches.
- Where the accessible route makes a 180 degree turn around an element which is less than 48 inches wide, clear width shall be 42 inches minimum approaching the turn, 48 inches minimum at the turn and 42 inches leaving the turn.
- An accessible route with a clear width less than 60 inches shall provide passing spaces at intervals of 200 feet maximum. Passing spaces shall be 60 inch by 60 inch minimum.
- Ramp runs shall have a running slope not steeper than 1:12.
- Ramp runs with a rise greater than 6 inches shall have handrails.
- Ramp landings with a maximum slope of 1:48 shall be provided before and after ramp runs.
- The maximum rise of a ramp run shall be 30 inches.
- The maximum counter slope between the pavement and the curb at a curb ramp shall be 1:20.
- Curb ramp landings with a maximum slope of 1:48 shall be provided at the top of curb ramps with a clear width of 60 inches.
- Detectable warning surfaces complying with the latest ADA Standards shall be provided at pedestrian street crossings and refuge islands.
- Passenger loading zones shall be provided adjacent to any ADA Accessible stall and have a 2% maximum slope in all directions.
- Contractor to field verify existing site conditions and contact the engineer if field conditions do not match plan prior to construction.

LAYOUT & PAVING NOTES

- All construction shall conform to the Missouri State Parks Dept minimum design standards.
- The contractor shall check existing grades, dimensions, and inverts in the field and report any discrepancies to the architect/engineer prior to beginning work.
- The contractor shall verify the exact location of all existing utilities, take care to protect utilities that are to remain, and repair contractor caused damage according to current local standards and at the contractor's expense. Coordinate all construction with the appropriate utility company.
- The contractor shall comply with all local codes, obtain all permits, and pay all fees prior to beginning work.
- Provide a smooth transition between existing pavement and new pavement. Field adjustment of final grades may be necessary. Adjust all utilities prior to installation of pavement.
- The contractor shall protect all trees to remain, in accordance with the specifications. Do not operate or store heavy equipment, nor handle, nor store materials within the drip lines of trees or outside the limit of grading.
- Concrete walks and pads shall have a broom finish. All concrete shall be 4,000 p.s.i. unless otherwise noted. Curb ramps, sidewalk slopes, and driveway ramps shall be constructed in accordance with all current local requirements. If applicable, the contractor shall request inspection of sidewalk and ramp forms prior to placement of concrete.
- All damage to existing asphalt pavement to remain which results from new construction shall be replaced with like materials at contractor's expense.
- Dimensions are to the back of curb, or edge of concrete, unless otherwise noted.
- Maintain one set of as-built drawings on the job site for distribution to the engineer upon completion.
- For all asphalt pavement, the contractor shall have no more than 30% recycled material in the base course and no recycled material in the surface course.

PAVEMENT MARKING AND SIGNAGE NOTES

- Parking stall marking stripes shall be four inch (4") wide white stripes. Handicap stall marking shall be furnished at locations shown on plans.
- Traffic control devices and pavement markings shall conform to the requirements of the "Manual of Uniform Traffic Control Devices."
- Traffic control and pavement markings shall be painted with a white Sherwin Williams TM2125 HOTLINE Fast Dry or approved equal. The pavement marking shall be applied in accordance with manufacturers recommendations. Apply on a clean, dry surface and at a surface temperature of not less than 70°F and the ambient air temperature shall not be less than 60°F and rising. Two coats shall be applied.

WRITTEN SEQUENCING

- Implement Pre-Construction Plan:
All temporary structural BMP's shown on the BMP plan must be in place before any site disturbance. Clearing necessary to place temporary structural BMP's is the minimum required for installation. Coordinate clearing necessary to place temporary structural BMP's with local weather forecast so that clearing and placement may be completed within a forecast dry period. Stabilize all erosion control measures after installation. Temporary Barrier Fence shall be in Place, around areas not to be disturbed, prior to any construction activities. This area includes Stream Corridor.
- Clear and Stabilize Work Areas:
Grade contractor areas and place all-weather surface on contractor areas.
- Clearing and Grubbing:
After Phase I BMP's are installed, contractor may clear, grub, and demo required areas as necessary.

GRADING NOTES

- All construction shall conform to the Missouri State Parks Dept minimum design standards.
- Spot Grades shown herein shall govern over finished grades.
- The contractor shall provide evidence that his insurance meets the requirements of the Project.
- All traffic control shall be in conformance with the Manual of Uniform Traffic Control Devices (MUTCD).
- The contractor is responsible for the protection of all property corners and section corners. Any property corners and/or section corners disturbed or damaged by construction activities shall be reset by a Registered Land Surveyor licensed in the State of Missouri, at the contractor's expense.
- The contractor is responsible for providing erosion and sediment control BMPs to prevent sediment from reaching paved areas, storm sewer systems, drainage courses and adjacent properties. In the event the prevention measures are not effective, the contractor shall remove any debris, silt, or mud and restore the right-of-way, or adjacent properties to original or better condition.
- All sidewalk ramps constructed will be required to comply with the Americans with Disabilities Act (ADA).
- All work shall be confined within easements and/or construction limits as shown on the plans.
- Curb stakes and hubs shall be provided at all high points, low points, ADA ramp openings, and on each side of all curb inlets when setting string line.
- All National Pollution Discharge Elimination System (NPDES) standards shall be met.
- Public and Private utility facilities shall be moved or adjusted as necessary by the owners to fit the new construction unless otherwise noted on the plans. The Contractor is responsible for the cost of utility relocations unless otherwise indicated on the plans.

EARTHWORK NOTES:

- CONTOURS AND ELEVATIONS: Existing and proposed contours are shown on plans at one foot (1') contour intervals, unless otherwise noted. Proposed contours and elevations shown represent approximate finish grade.
- CLEARING AND GRUBBING: Prior to the start of grading and earthwork, the areas to be graded shall be stripped of all vegetation, organic matter, and topsoil, to a minimum depth of four inches (4") or as otherwise directed by the Geotechnical Engineer. Stripping materials shall not be incorporated into structural fills. Topsoil materials shall not be used in building and pavement areas.
- TOPSOIL: Prior to the start of grading, the contractor shall strip all topsoil from areas to be graded and stockpile at a location on or adjacent to the site as directed by the owner. At completion of grading operations and related construction, the contractor will be responsible for redistribution of topsoil over all areas disturbed by the construction activities. Topsoil shall be placed to a minimum depth of six inches (6") and in accordance with specifications for landscaping. Subgrade below turf areas shall have a minimum 6" depth of soil free of rock larger than 3".
- SUBGRADE PREPARATION: Prior to placement of new fill material, the existing subgrade shall be proof rolled and approved under the direction of the Geotechnical Engineer or his representative.
- proof rolling: Prior to the placement of new fill material, the existing subgrade shall be proof rolled and approved under the direction of the Geotechnical Engineer. Unsuitable areas identified by the proof rolling areas shall be undercut and replaced with controlled structural fill or treated with fly ash per the Geotechnical report.
- EARTHWORK:
 - GEOTECHNICAL: All earthwork shall conform to the recommendations of the Geotechnical report.
 - SURFACE WATER: Surface water shall be intercepted and diverted during the placement of fill.
 - FILLS: All fills shall be considered controlled or structural fill and shall be free of vegetation, organic matter, topsoil, and debris. All fill required for project shall be provided by the Contractor. Material Shall be pre-approved by the Engineer prior to placement.
 - EXISTING SLOPES: Where fill material is to be placed on existing slopes greater than 5:1 (horizontal to vertical), existing slope shall be benched providing a minimum vertical face of twelve inches (12"). Fill material shall be placed and compacted in horizontal lifts not exceeding nine inches (9") (loose fit measurement), unless otherwise approved by the Geotechnical Engineer.
 - COMPACTION REQUIREMENTS: Earth fill material shall be placed and compacted to a minimum density of ninety five percent (95%) of the material's maximum dry density as determined by ASTM D698 (standard proctor compaction). The moisture content at the time of placement and compaction shall be within a range of -2% to 3% above the optimum moisture content as defined by the standard proctor compaction procedure. The moisture contents shall be maintained within this range until completion of the work. Where compaction of earth fill by a large roller is impractical or undesirable, the earth fill shall be hand compacted with small vibrating rollers or mechanical tampers.
- TESTING AND INSPECTION: Testing and inspection services required to make tests required by the specifications and to observe the placement of fills and other work performed on this project shall be provided by a commercial testing laboratory (Geotechnical Engineer) selected by the owner. The cost of testing will be the owner's responsibility.
- SEEDING: All areas disturbed by earthwork operations in the right-of-way shall be seeded.

SITE UTILITY NOTES

- The contractor is specifically cautioned that the location and/or elevation of existing utilities as Shown on these plans is based on records of the various utility Companies, and where possible, measurements taken in the field. The information is not to be relied on as being exact or complete. The contractor must call the appropriate utility companies at least 48 hours before any excavation to request exact field location of utilities. It shall be the responsibility of the contractor to coordinate with and relocate and/or remove all existing utilities which conflict with the proposed improvements shown on the plans.
- The construction of storm sewers on this project shall conform to the requirements of Missouri State Parks Dept Technical Specifications and Design Criteria.
- The contractor shall field verify the exact location and elevation of the existing storm sewer locations and the existing elevations at locations where the proposed storm sewer collects or releases to existing ground. If discrepancies are encountered from the information shown on the plans. The contractor shall contact the design engineer. No pipes shall be laid until direction is received from the design engineer.
- It will be the contractors responsibility to field adjust the top of all manholes and boxes as necessary to match the grade of the adjacent area. Tops of existing manholes shall be raised as necessary to be flush with proposed pavement elevations, and to be 6-inches above finished ground elevations in non-paved areas. No separate or additional compensation will be made to the contractor for making final adjustments to the manholes and boxes.
- Inlet locations, horizontal pipe information and vertical pipe information is shown to the center of the structure. Deflection angles shown for storm sewer pipes are measured from the center of the curb inlets and manholes. The contractor shall adjust the horizontal location of the pipes to go to the face of the boxes.
- The contractor shall be responsible for furnishing and installing all domestic water lines, meters, back flow devices, pits, valves and all other incidentals required for a complete operable domestic water system. Coordinate with the local water department as necessary. All costs associated with the complete water system for the campgrounds shall be the responsibility of the contractor. All work shall conform to the requirements of Missouri State Parks Dept.
- The contractor shall be responsible for furnishing and installing all sanitary sewer service lines from the campground to the main line. All work shall conform to the requirements of Missouri State Parks Dept.
- The contractor is responsible for securing all permits, bonds and insurance required by the contract documents, Missouri State Parks Dept, and all other governing agencies (including local, county, state and federal authorities) having jurisdiction over the work proposed by the construction documents. The cost for all permit bonds and insurance shall be the contractors responsibility and shall be included in the bid for the work.
- By the use of these construction documents the contractor hereby agrees that he/she shall be solely responsible for the safety of the construction workers and the public. The contractor agrees to hold the engineer and owner harmless for any and all injuries, claims, losses or damages related to the project.
- All fill material is to be in place, compacted, and consolidated before installation of proposed utilities. On-site geotechnical engineer shall provide written confirmation that this requirement has been met and that utilities may proceed in the fill areas. All utilities are to be placed in trench conditions.
- Minimum trench width shall be 2 feet.
- Contractor shall maintain a minimum of 42" of cover on all waterlines. All water line joints are to be mechanical joints with thrust blocking as called out in specifications and construction plans. Water mains and service lines shall be constructed in accordance with the Missouri State Parks Dept specifications for commercial services.
- All waterlines shall be kept ten feet (10') apart (parallel) from sanitary sewer lines or manholes. Or when crossing, an 18" vertical clearance (outside edge of pipe to outside edge of pipe) of the waterline above the sewer line is required.
- In the event of a vertical conflict between waterlines, sanitary lines, storm lines and gas lines (existing and proposed), the sanitary line shall be ductile iron pipe with mechanical joints at least 10 feet on both sides of the crossing (or encased in concrete the same distance), the waterline shall have mechanical joints with appropriate thrust blocking as required to provide a minimum of 18" clearance. Meeting requirements ANSI A21.10 or ANSI 21.11 (AWWA C151)(Class 50).
- All necessary inspections and/or certifications required by codes and/or utility service companies shall be performed prior to announced building possession and the final connection of service. Contractor shall coordinate with all utility companies for installation requirements and specifications.
- When a building utility Connection from site utilities leading up to the building cannot be made immediately, temporarily mark all such utility terminations.

GENERAL NOTES

- The contractor shall provide evidence that his insurance meets the requirements of Missouri State Parks Dept.
- All traffic control shall be in conformance with the Manual of Uniform Traffic Control Devices (MUTCD).
- The contractor is responsible for the protection of all property corners and section corners. Any property corners and/or section corners disturbed or damaged by construction activities shall be reset by a Registered Land Surveyor licensed in the State of Missouri, at the contractor's expense.
- The contractor shall be responsible for the restoration of the right-of-way and for damaged improvements such as curbs, driveways, sidewalks, street light and traffic signal junction boxes, traffic signal loop lead ins, signal poles, irrigation systems, etc. Damaged improvements shall be repaired in conformance with the latest City and State standards and to the City's and/or State's satisfaction.
- The contractor is responsible for providing erosion and sediment control BMPs to prevent sediment from reaching paved areas, storm sewer systems, drainage courses and adjacent properties. In the event the prevention measures are not effective, the contractor shall remove any debris, silt, or mud and restore the right-of-way, or adjacent properties to original or better condition.
- Excavation for utility work in public street right-of-way requires a Right-of-Way Work Permit from the Public Works Department, in addition to all other permits.
- All work shall be confined within easements and/or construction limits as shown on the plans.
- All existing utilities indicated on the drawings are according to the best information available to the engineer; however, all utilities actually existing may not be shown. The contractor shall be responsible for contacting all utility companies for an exact field location of each utility prior to any construction. All utilities, shown and un-shown, damaged through the negligence of the contractor shall be repaired or replaced by the contractor at his expense.
- The contractor will be responsible for all damages to existing utilities, pavement, fences, structures, and other features not designated for removal. The contractor shall repair all damages at his expense.
- By use of these construction documents the contractor hereby agrees that he shall be solely responsible for the safety of the construction workers and the public. The contractor agrees to hold the engineer and owner harmless for any and all injuries, claims, losses, or damages related to the project.
- The contractor will be responsible for providing all signage, barricades, lighting, etc., as required for temporary traffic control during the construction of this project. Maintenance of the temporary traffic control devices will be the contractor's responsibility.
- Geogrid, footings, or other elements of the retaining wall(s) cannot encroach into the right of way, public easements, or adjacent private property.
- Contractor shall be responsible for obtaining all permits including land disturbance, right-of-way, hauling, etc., prior to construction.
- Contractor shall restore all disturbed right-of-way upon project completion.
- Prior to construction, contractor shall install pre-construction erosion control measures.

EROSION CONTROL NOTES

- The contractor shall provide all materials, tools, equipment, and labor as necessary to install and maintain adequate erosion control, keep the streets clean of mud and debris, and prevent soil from leaving the project site. The contractor's erosion control measures shall conform to Missouri State Parks Dept Technical Provisions and Specifications.
- Erosion control plan modifications shall be required if the plan fails to substantially control erosion and offsite sedimentation.
- The contractor shall be responsible for maintaining erosion control devices and removing sediment until a minimum of 70% of permanent vegetation has become established and established. Erosion control devices shall remain in place until the 70% established vegetation is met, or the duration of the project, whichever is the later date.
- The contractor shall temporarily seed and mulch all disturbed areas if there has been no construction activity on them for a period of fourteen (14) calendar days.
- Contractor to install all Phase I erosion control devices prior to construction.
- Contractor shall replace disturbed area with seed or sod, as indicated on the plans, and shall be installed within 14 days after paving completion and final topsoil grading.
- Topsoil replacement shall be 6" thick.
- Straw wattles to be installed in accordance with Missouri State Parks Dept Standard Details.
- Refer to Specifications for good housekeeping and spill measures.
- The Contractor shall inspect erosion control devices every 7 days and within 24 hours of a storm of 0.5 inches or more. The Contractor shall repair damage, clean out sediment, and add additional erosion control devices as needed, as soon as practicable, after inspection. The Contractor shall also inspect and assure that all sediment control devices are in working condition prior to any forecasted rainfall.

4' DIA. CONC. MH
 TOP ELEV = 862.18'
 IN(NE)8" PVC = 853.91'
 OUT(S)8" PVC = 853.88'
 (STRUCTURE FULL OF WATER)

Existing Bathrooms and Showers

Existing Fire Hydrant w/
 Approx. Waterline Location
 (To Be Relocated, See Water Plans)

Existing Storm Sewer

POSSIBLE 12" RCP
 END OF PIPE
 UNDER BOULDERS

2'x2' CONC. AREA INLET
 TOP ELEV = 859.13
 E. OUT(W)12" RCP = 856.11

Existing Fire Hydrant

Existing Sanitary Sewer

Existing Transformer

Existing Tree/ Shrub (Typ.)

Existing Fire Hydrant

Existing Water Main
 (Approximate Locations Contractor to Field Verify)

4' DIA. CONC. MH
 TOP ELEV = 860.28'
 IN(NE)8" PVC = 852.33'
 OUT(S)8" PVC = 852.32'
 (STRUCTURE FULL OF WATER)

4' DIA. CONC. MH
 TOP ELEV = 860.05'
 IN(N)8" PVC = 851.10'
 OUT(S)8" PVC = 850.90'
 (STRUCTURE FULL OF WATER)

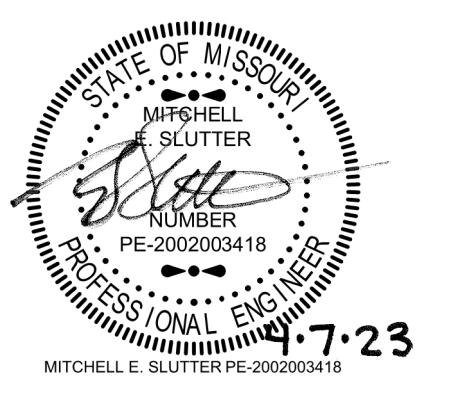
Existing Bathrooms and Showers

Big Lake

Missouri Hwy 111

Missouri Hwy 111

Missouri Hwy 111



LANDSCAPE ARCHITECT:
vireo

LAC# MO-2002023826
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OFFICE OF ADMINISTRATION
 DIVISION OF FACILITIES
 MANAGEMENT,
 DESIGN AND CONSTRUCTION

DEPARTMENT OF
 NATURAL RESOURCES,
 MISSOURI STATE PARKS

CAMPGROUND
 RENOVATION AND
 UPGRADE

BIG LAKE STATE PARK
 204 LAKE SHORE DRIVE
 CRAIG, MO 64437

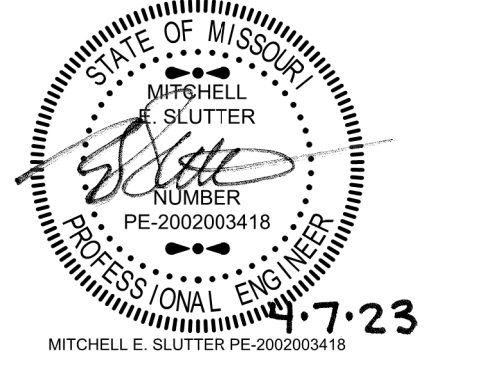
PROJECT # X2218-01
 SITE # 5105
 FACILITY # 7815105008

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 DATE: _____
 REVISION: _____
 DATE: _____
 REVISION: _____
 DATE: _____
 ISSUE DATE: 4/7/2023

CAD DWG FILE: _____
 DRAWN BY: TCD
 CHECKED BY: MES
 DESIGNED BY: ZMM

SHEET TITLE:
EXISTING CONDITIONS

SHEET NUMBER:
C-002
 SHEET 11 OF 41
 APRIL 7, 2023



LANDSCAPE ARCHITECT:
vireo

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CAMPGROUND
RENOVATION AND
UPGRADE

BIG LAKE STATE PARK
204 LAKE SHORE DRIVE
CRAIG, MO 64437

PROJECT # X2218-01
SITE # 5105
FACILITY # 7815105008

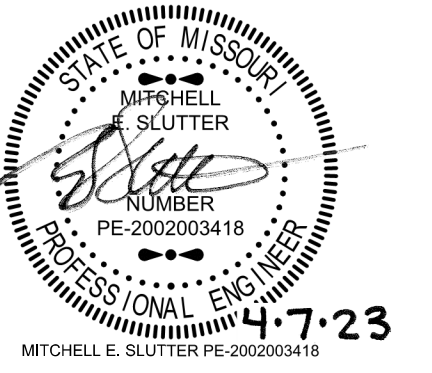
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DATE: _____
REVISION: _____
DATE: _____
ISSUE DATE: 4/7/2023

CAD DWG FILE: _____
DRAWN BY: TCD
CHECKED BY: MES
DESIGNED BY: ZMM

SHEET TITLE:
DEMOLITION PLAN

SHEET NUMBER:
C-101
SHEET 12 OF 41
APRIL 7, 2023





LANDSCAPE ARCHITECT:



LAC# MO-2002023826
929 Walnut Street, Ste. 700
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DEPARTMENT OF
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MISSOURI STATE PARKS

CAMPGROUND
RENOVATION AND
UPGRADE

BIG LAKE STATE PARK
204 LAKE SHORE DRIVE
CRAIG, MO 64437

PROJECT # X2218-01
SITE # 5105
FACILITY # 7815105008

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REVISION: _____
DATE: _____
REVISION: _____
DATE: _____

ISSUE DATE: 4/7/2023

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CHECKED BY: MES
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SHEET TITLE:

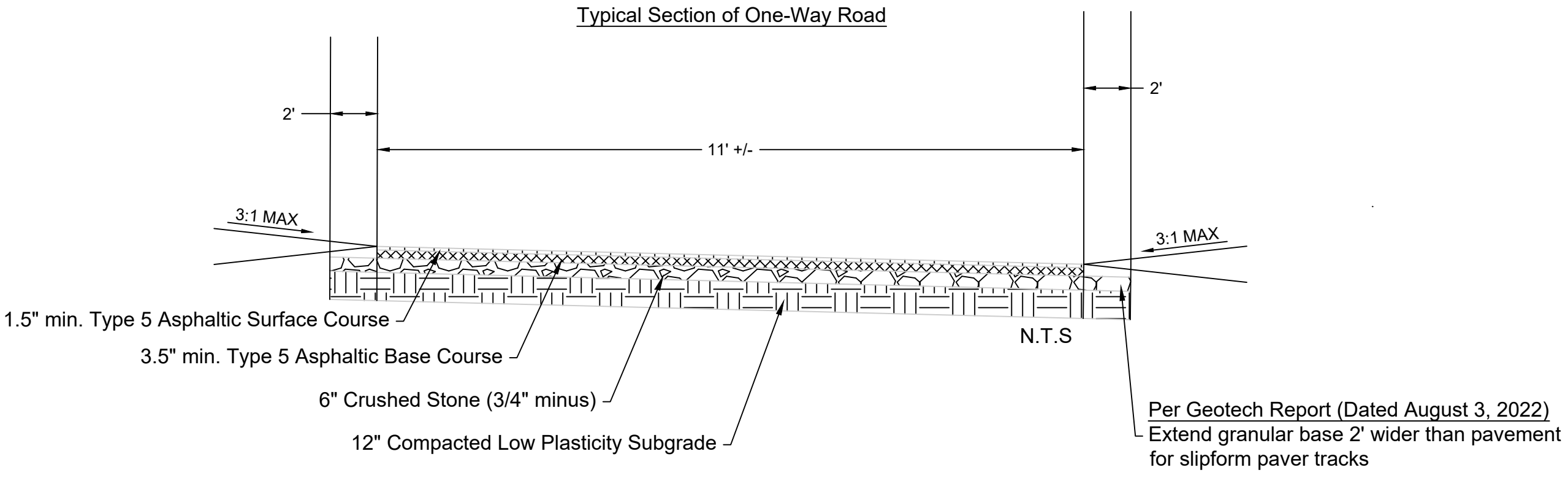
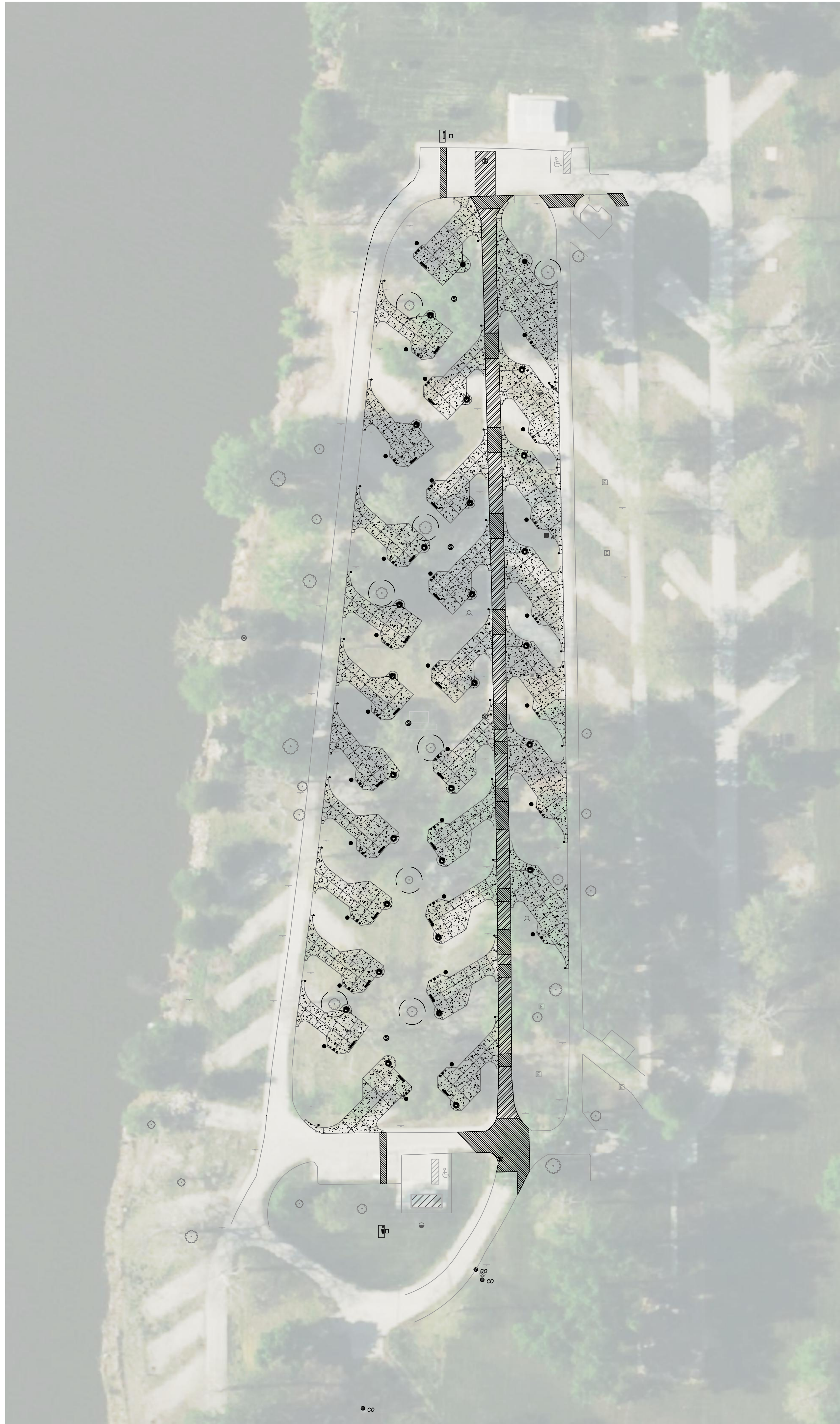
GENERAL LAYOUT

SHEET NUMBER:

C-102

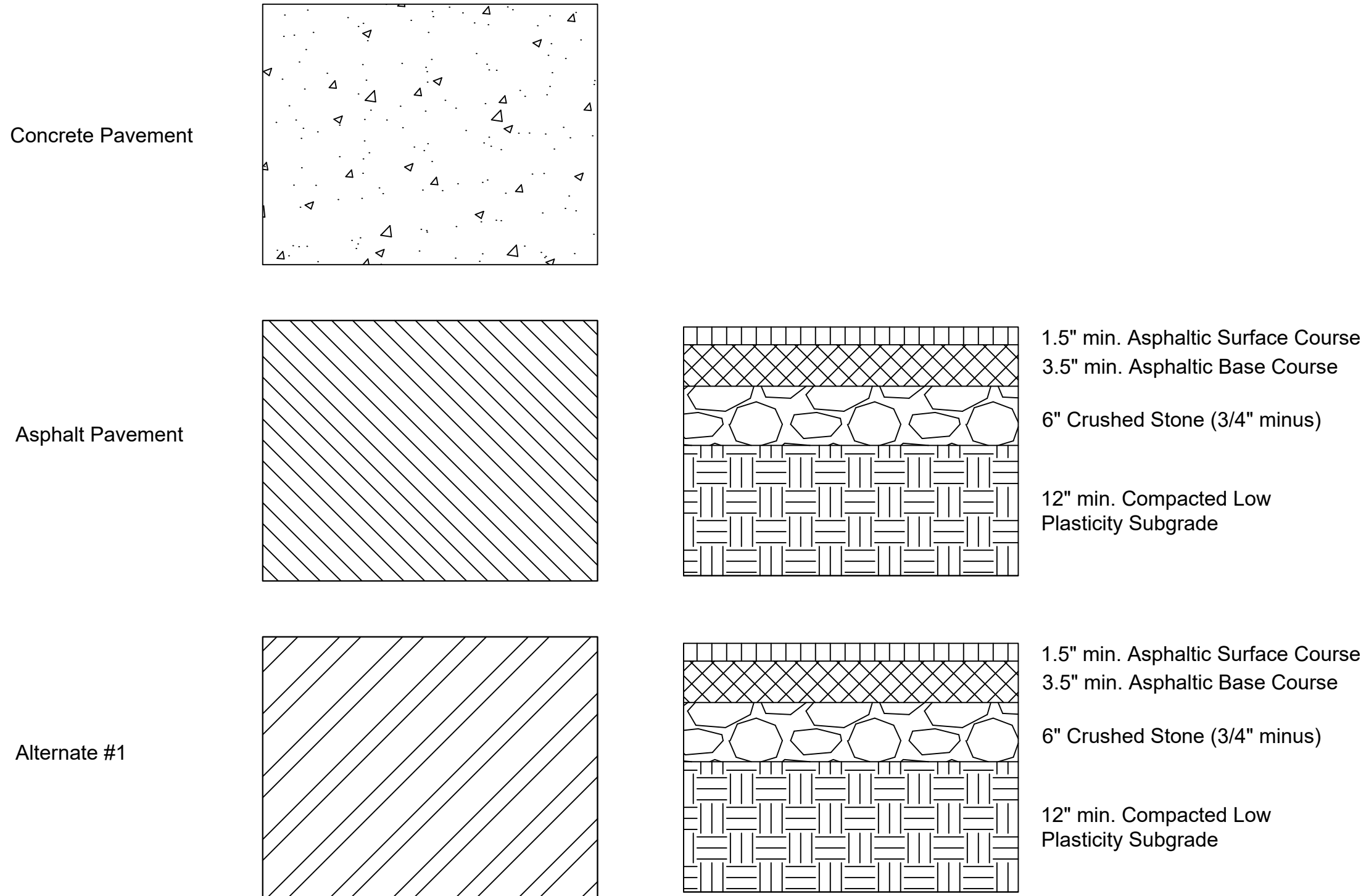
SHEET 13 OF 41
APRIL 7, 2023





Pavement Alternates

Alternate #1 - Sanitary Main Replacement: Full depth pavement to be replaced above the existing sanitary pipe to be removed.



Note:
See Intertek Geotech Report Dated August 3, 2022
Pavement Sections are provided for information only, Contractor Shall refer to Intertek PSI Geotech Report Dated August 3, 2022



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DEPARTMENT OF
NATURAL RESOURCES,
MISSOURI STATE PARKS

CAMPSITE
RENOVATION
& UPDATES

BIG LAKE STATE PARK
204 LAKE SHORE DRIVE
CRAIG, MO 64437

PROJECT # X2218-01
SITE # 5105
FACILITY # 7815105008

REVISION: _____
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REVISION: _____
DATE: _____
REVISION: _____
DATE: _____

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DRAWN BY: TCD
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DESIGNED BY: ZMM

SHEET TITLE:
PAVEMENT PLAN

SHEET NUMBER:

C-103

SHEET 14 OF 41
APRIL 7, 2023



LANDSCAPE ARCHITECT:



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DEPARTMENT OF
NATURAL RESOURCES,
MISSOURI STATE PARKS

CAMPGROUND
RENOVATION AND
UPGRADE

BIG LAKE STATE PARK
204 LAKE SHORE DRIVE
CRAIG, MO 64437

PROJECT # X2218-01
SITE # 5105
FACILITY # 7815105008

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CAD DWG FILE: _____
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DESIGNED BY: ZMM

SHEET TITLE:

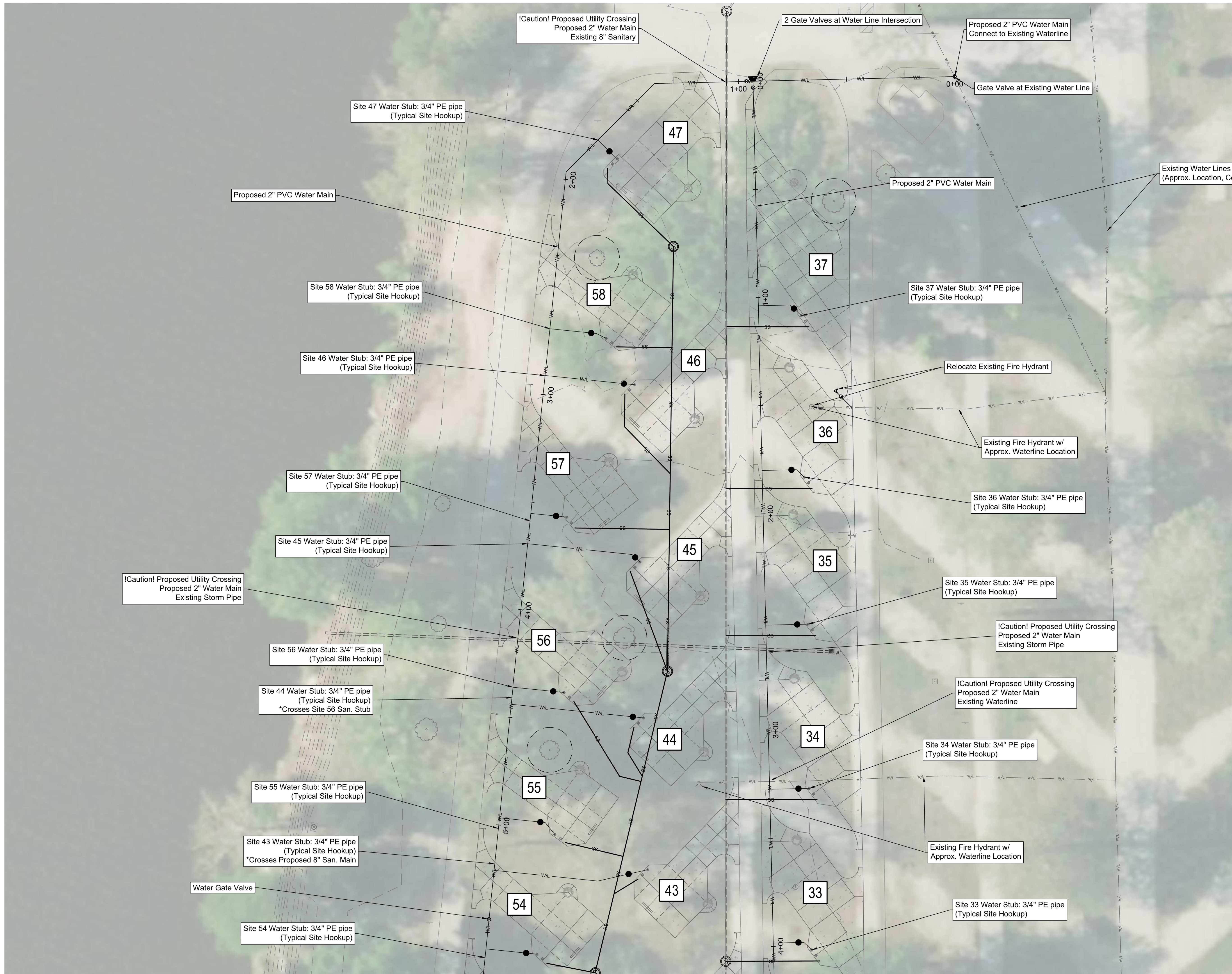
UTILITY PLAN

SHEET NUMBER:

C-104

SHEET 15 OF 41
APRIL 7, 2023





LANDSCAPE ARCHITECT:



LAC# MO-200223826
929 Walnut Street, Ste. 700
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GEOTECHNICAL:

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MISSOURI STATE PARKS

CAMPGROUND
RENOVATION AND
UPGRADE

BIG LAKE STATE PARK
204 LAKE SHORE DRIVE
CRAIG, MO 64437

PROJECT # X2218-01
SITE # 5105
FACILITY # 7815105008

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ISSUE DATE: 4/7/2023

CAD DWG FILE: _____
DRAWN BY: TCD
CHECKED BY: MES
DESIGNED BY: ZMM

SHEET TITLE:

WATER PLAN -
NORTH

SHEET NUMBER:

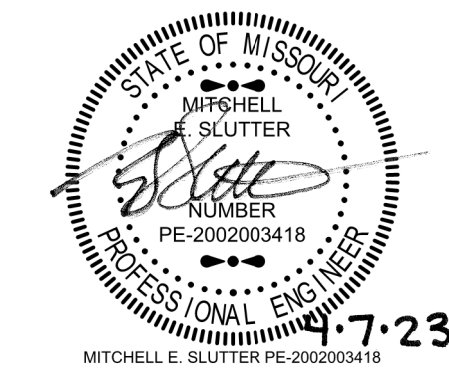
C-105

SHEET 16 OF 41
APRIL 7, 2023





STATE OF MISSOURI
MICHAEL L. PARSON,
GOVERNOR



LANDSCAPE ARCHITECT:



LAC# MO-2002023826
929 Walnut Street, Ste. 700
Kansas City, Missouri 64106
P 816-756-5690

SURVEYOR & CIVIL ENGINEER:

RENAISSANCE INFRASTRUCTURE
CONSULTING
8653 Penrose Lane
Lenexa, Kansas 66219
P 913-317-9500



MEP:

ANTELLA CONSULTING ENGINEERS
1600 Genessee Street, Ste 260
Kansas City, Missouri 64102
P 816-421-0950



GEOTECHNICAL:

INTERTEK-PSI
1211 W. Cambridge Circle Drive
Kansas City, Kansas 66103
P 913-310-1600



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MANAGEMENT,
DESIGN AND CONSTRUCTION

DEPARTMENT OF
NATURAL RESOURCES,
MISSOURI STATE PARKS

CAMPGROUND
RENOVATION AND
UPGRADE

BIG LAKE STATE PARK
204 LAKE SHORE DRIVE
CRAIG, MO 64437

PROJECT # X2218-01
SITE # 5105
FACILITY # 7815105008

REVISION: _____
DATE: _____
REVISION: _____
DATE: _____
REVISION: _____
DATE: _____

ISSUE DATE: 4/7/2023

CAD DWG FILE: _____
DRAWN BY: TCD
CHECKED BY: MES
DESIGNED BY: ZMM

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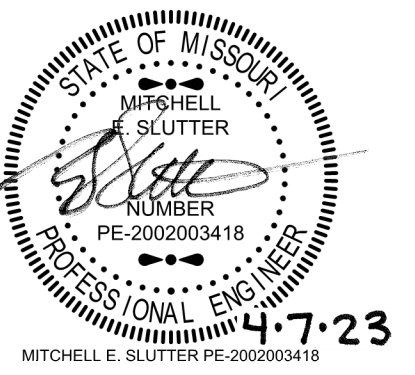
WATER PLAN -
SOUTH

SHEET NUMBER:

C-106

SHEET 17 OF 41
APRIL 7, 2023





LANDSCAPE ARCHITECT:



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929 Walnut Street, Ste. 700
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SURVEYOR & CIVIL ENGINEER:

RENAISSANCE INFRASTRUCTURE
CONSULTING
8653 Penrose Lane
Lenexa, Kansas 66219
P 913-317-9500



MEP:

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1600 Genessee Street, Ste 260
Kansas City, Missouri 64102
P 816-421-0950



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RENOVATION AND
UPGRADE

BIG LAKE STATE PARK
204 LAKE SHORE DRIVE
CRAIG, MO 64437

PROJECT # X2218-01
SITE # 5105
FACILITY # 7815105008

REVISION: _____
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ISSUE DATE: 4/7/2023

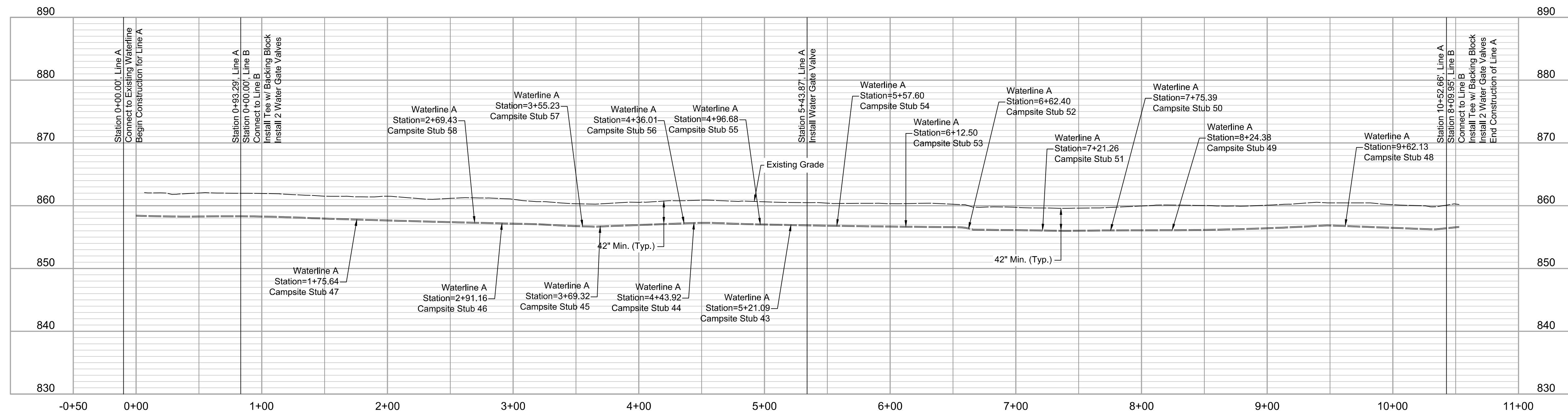
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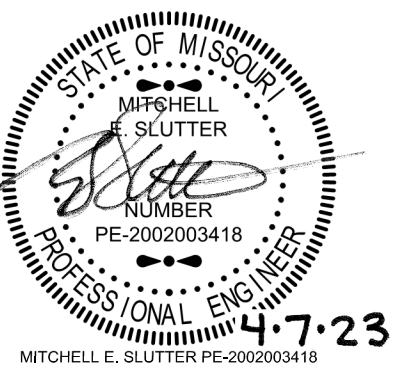
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WATERLINE A
PLAN & PROFILE

SHEET NUMBER:

C-201

SHEET 18 OF 41
APRIL 7, 2023





LANDSCAPE ARCHITECT:



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929 Walnut Street, Ste. 700
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SURVEYOR & CIVIL ENGINEER:

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CONSULTING
8653 Penrose Lane
Lenexa, Kansas 66219
P 816-317-9500



MEP:

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1800 Genessee Street, Ste 260
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P 816-421-0950



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DEPARTMENT OF
NATURAL RESOURCES,
MISSOURI STATE PARKS

CAMPGROUND
RENOVATION AND
UPGRADE

BIG LAKE STATE PARK
204 LAKE SHORE DRIVE
CRAIG, MO 64437

PROJECT # X2218-01
SITE # 5105
FACILITY # 7815105008

REVISION: _____
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REVISION: _____
DATE: _____

ISSUE DATE: 4/7/2023

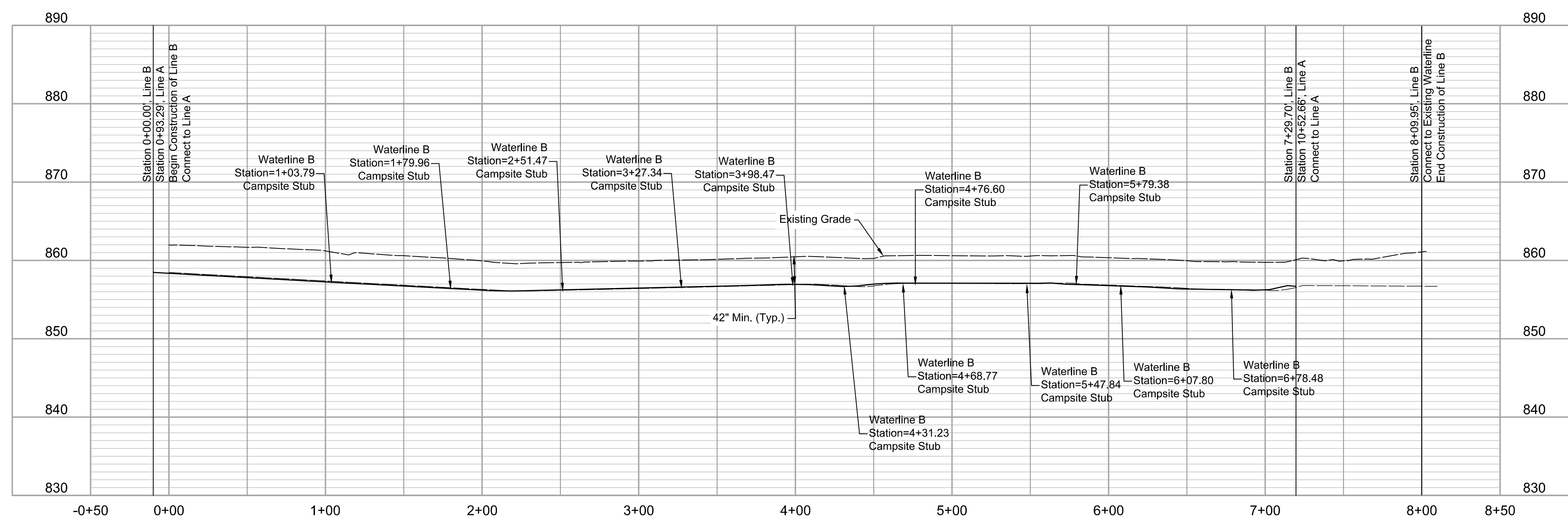
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DESIGNED BY: ZMM

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WATERLINE B
PLAN & PROFILE

SHEET NUMBER:

C-202

SHEET 19 OF 41
APRIL 7, 2023



LANDSCAPE ARCHITECT:



LAC# MO-2002023826
929 Walnut Street, Ste. 700
Kansas City, Missouri 64106
P 816-736-5890

SURVEYOR & CIVIL ENGINEER:

RENAISSANCE INFRASTRUCTURE
CONSULTING
8653 Penrose Lane
Lenexa, Kansas 66219
P 913-317-9500



MEP:

ANTELLA CONSULTING ENGINEERS
1800 Genessee Street, Ste 260
Kansas City, Missouri 64102
P 816-421-0950



GEOTECHNICAL:

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1211 W. Cambridge Circle Drive
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DEPARTMENT OF
NATURAL RESOURCES,
MISSOURI STATE PARKS

CAMPSITE
RENOVATION
& UPDATES

BIG LAKE STATE PARK
204 LAKE SHORE DRIVE
CRAIG, MO 64437

PROJECT # X2218-01
SITE # 5105
FACILITY # 7815105008

REVISION: _____
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REVISION: _____
DATE: _____
REVISION: _____
DATE: _____
ISSUE DATE: 4/7/2023

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CHECKED BY: MES
DESIGNED BY: ZMM

SHEET TITLE:
SANITARY LINE A
PLAN & PROFILE

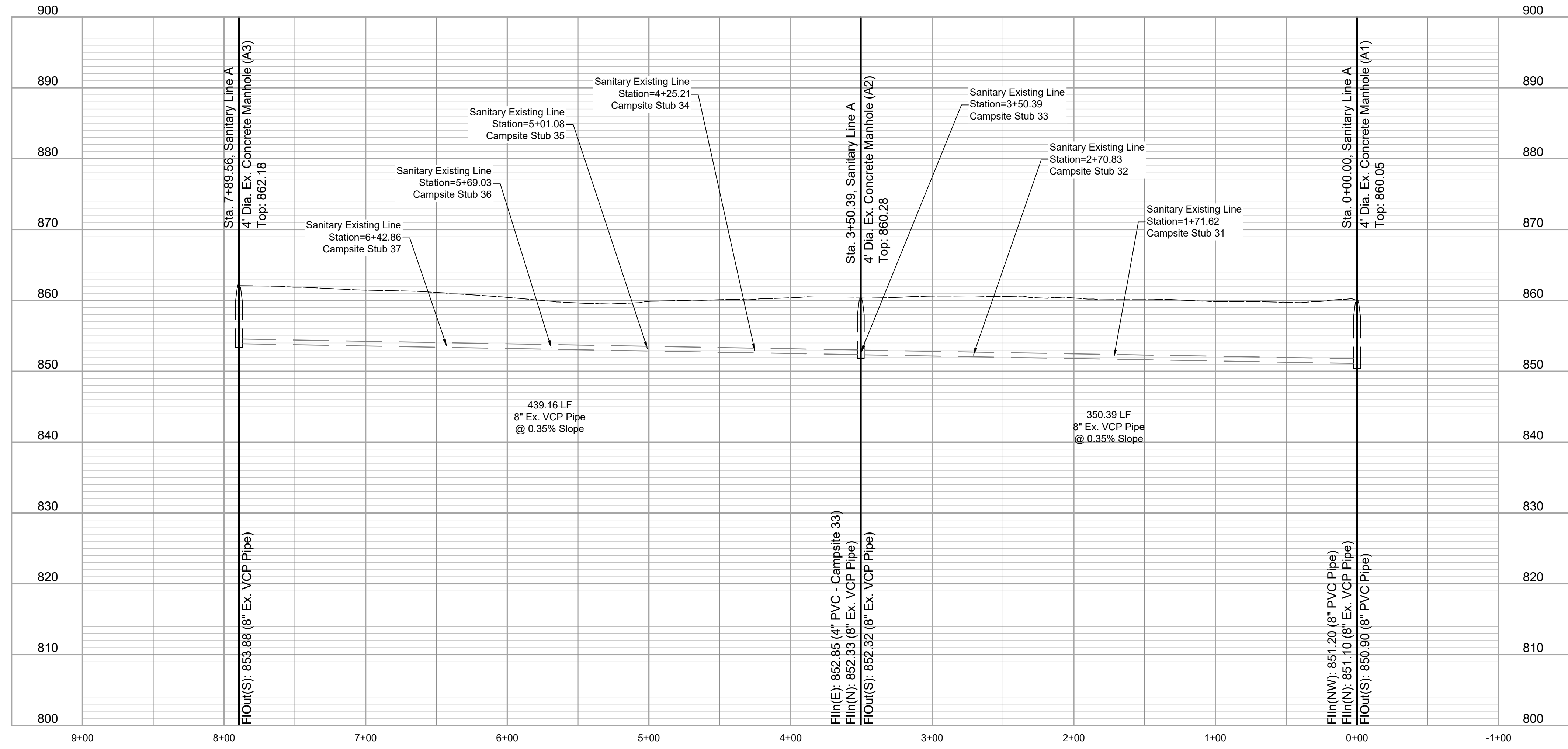
SHEET NUMBER:

C-203

SHEET 18 OF 41
APRIL 7, 2023



*See Sheet C-501 for Stub Details





LANDSCAPE ARCHITECT:



LAC# MO-2002023826
929 Walnut Street, Ste. 700
Kansas City, Missouri 64102
P 816-756-5890

SURVEYOR & CIVIL ENGINEER:

RENAISSANCE INFRASTRUCTURE
CONSULTING
8653 Penrose Lane
Lenexa, Kansas 66219
P 913-317-8500



MEP:

ANTELLA CONSULTING ENGINEERS
1600 Genessee Street, Ste 260
Kansas City, Missouri 64102
P 816-421-0950



GEOTECHNICAL:

INTERTEK-PSI
1211 W. Cambridge Circle Drive
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P 913-310-1600



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DEPARTMENT OF
NATURAL RESOURCES,
MISSOURI STATE PARKS

CAMPGROUND
RENOVATION AND
UPGRADE

BIG LAKE STATE PARK
204 LAKE SHORE DRIVE
CRAIG, MO 64437

PROJECT # X2218-01
SITE # 5105
FACILITY # 7815105008

REVISION: _____
DATE: _____
REVISION: _____
DATE: _____
REVISION: _____
DATE: _____
ISSUE DATE: 4/7/2023

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DESIGNED BY: ZMM

SHEET TITLE:
SANITARY LINE B
PLAN & PROFILE

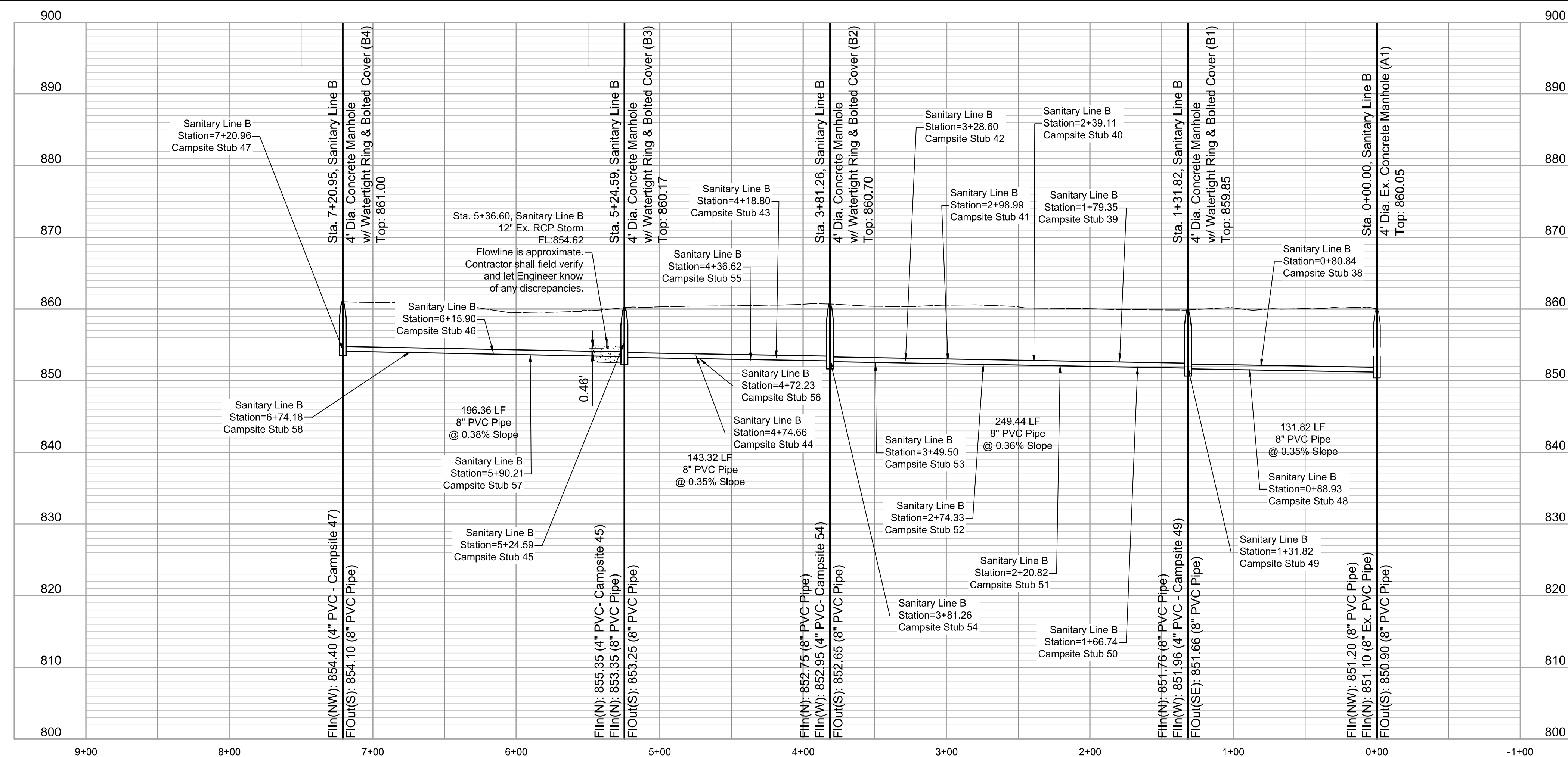
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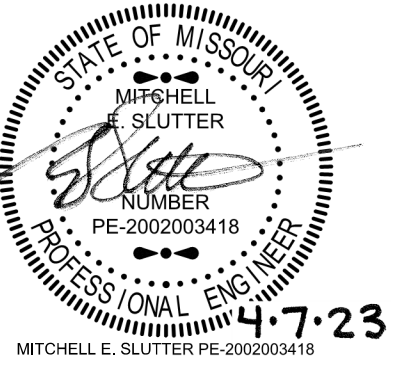
C-204

SHEET 21 OF 41
APRIL 7, 2023



*See Sheet C-501 for Stub Details





LANDSCAPE ARCHITECT:



LAC# MO-2002023826
929 Walnut Street, Ste. 700
Kansas City, Missouri 64108
P 816-736-5890

SURVEYOR & CIVIL ENGINEER:

RENAISSANCE INFRASTRUCTURE
CONSULTING
8653 Penrose Lane
Lenexa, Kansas 66219
P 913-317-8500



MEP:

ANTELLA CONSULTING ENGINEERS
1800 Genessee Street, Ste 260
Kansas City, Missouri 64102
P 816-421-0950



GEOTECHNICAL:

INTERTEK-PSI
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P 913-310-1600



Note: Minimum Cleansing Velocity = 2 fps per MDNR Minimum Design Standards for Gravity Sewers

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MISSOURI STATE PARKS

CAMPGROUND
RENOVATION AND
UPGRADE

BIG LAKE STATE PARK
204 LAKE SHORE DRIVE
CRAIG, MO 64437

PROJECT # X2218-01
SITE # 5105
FACILITY # 7815105008

REVISION: _____
DATE: _____
REVISION: _____
DATE: _____
REVISION: _____
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ISSUE DATE: 4/7/2023

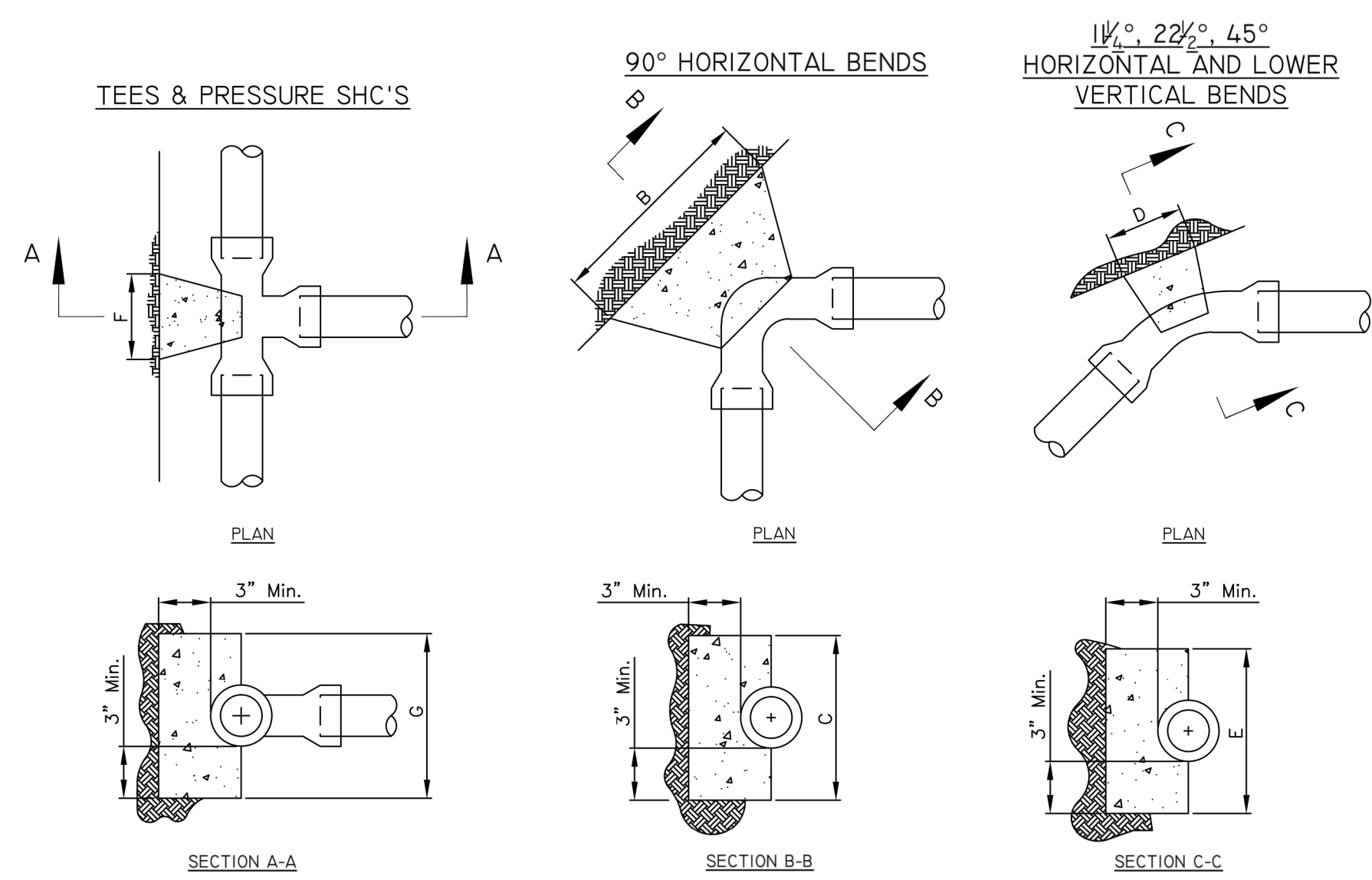
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SHEET TITLE:
SANITARY STUBS &
CALCS

SHEET NUMBER:

C-501

SHEET 22 OF 41
APRIL 7, 2023

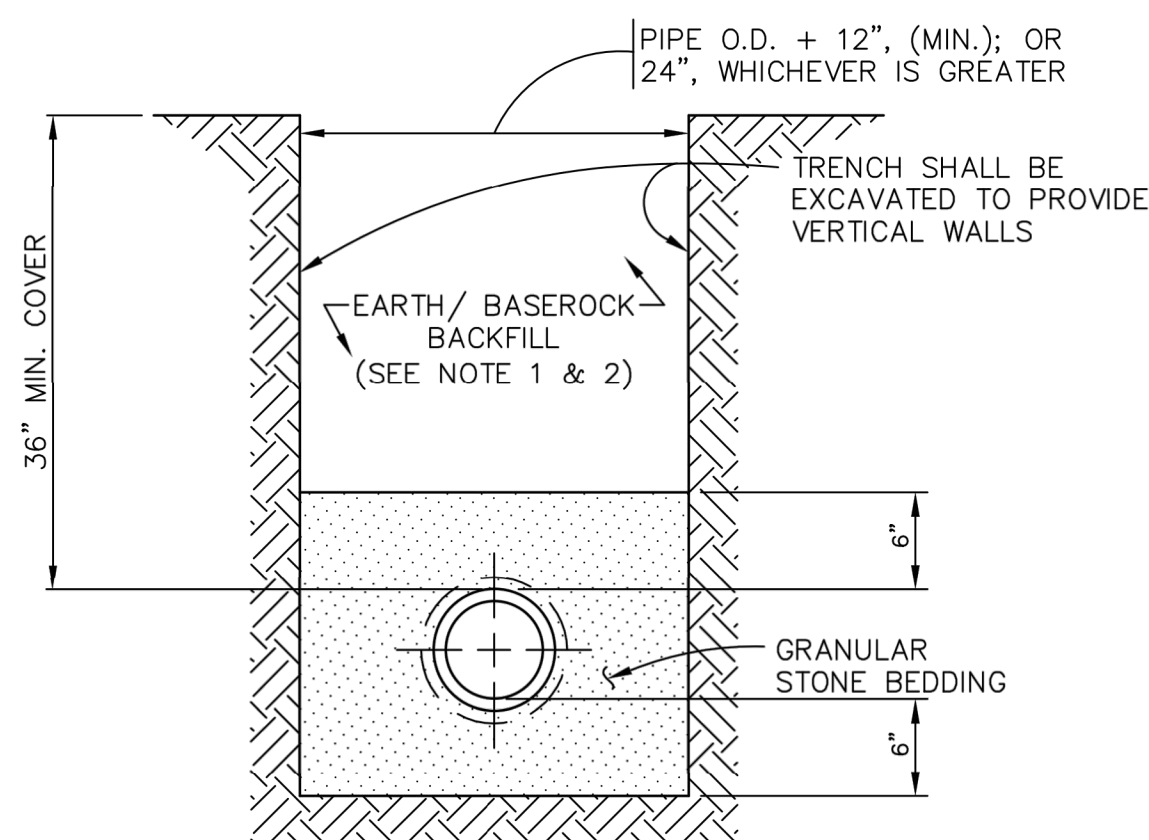


BLOCKING SCHEDULE

PIPE SIZE	B	C	D	E	F	G
1" THRU 1 1/2"	8"	8"	10"	5"	6"	6"
2"	10"	10"	14"	7"	10"	10"
2 1/2"	10"	10"	14"	7"	10"	10"
3"	12"	12"	18"	9"	12"	12"
4"	13"	12"	24"	12"	16"	16"

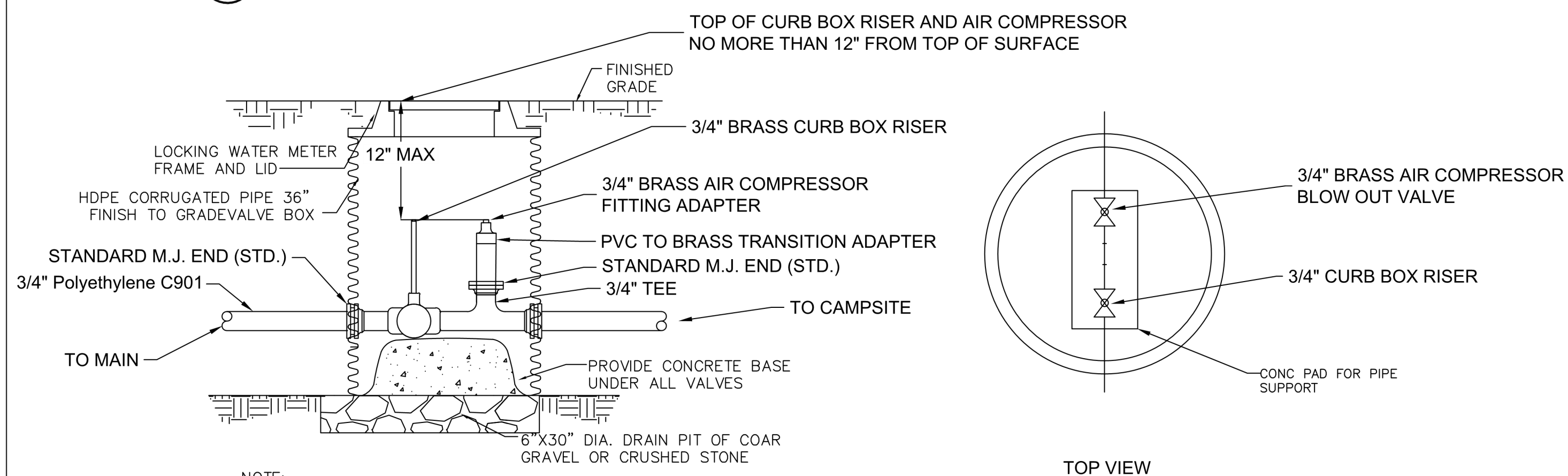
- NOTES:**
- USE TYPE 1 CONCRETE
 - CARRY ALL BEARING SURFACES TO UNDISTURBED GROUND OR FIRM SUBGRADE
 - BUTTRISS SIZED FOR 160 PSI
 - DO NOT ENCASE JOINTS
 - ONLY MIX WITH POTABLE WATER

3 THRUST BLOCKING
C18 NTS



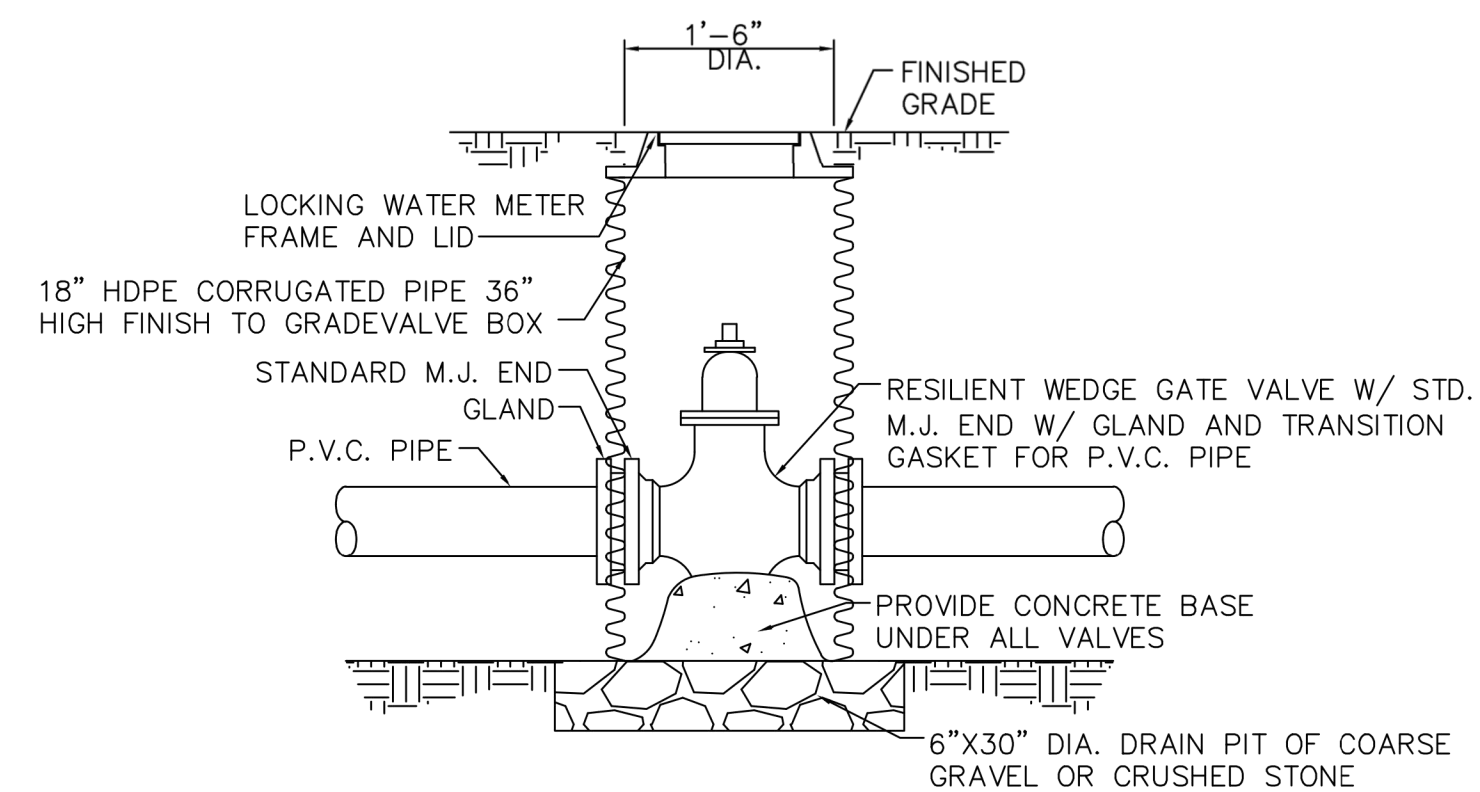
- NOTE:**
- TRENCH SHALL BE BACKFILLED AND COMPACTED FULL DEPTH WITH GRANULAR STONE ON ALL ROAD CROSSINGS.
 - WATER LINES INSTALLED WITHIN ROAD DITCH SHALL REPAIR DITCH WITH A 6" MINIMUM DEPTH OF CLEAN ROCK WITH A NOMINAL DIAMETER OF 4".

8 WATER LINE TRENCH & BEDDING DETAIL
C18 NTS



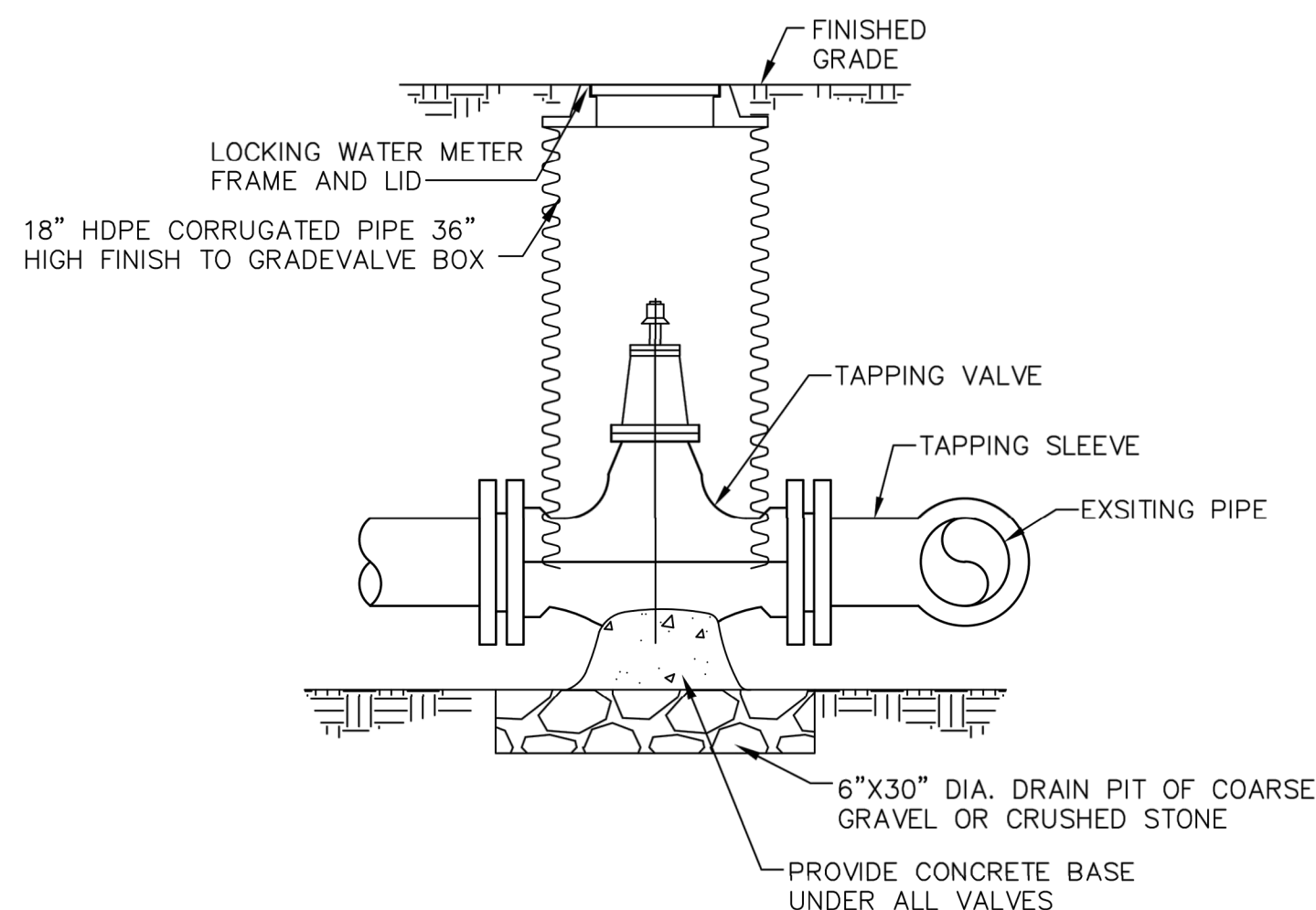
- NOTE:**
- WHEN GATE VALVE IS INSTALLED IN EXISTING DUCTILE OR C.I. PIPE, REPLACE TRANSITION GASKET W/ STANDARD M.J. GASKET.

2 VALVE BOX - CAMPSITE
C18 NTS

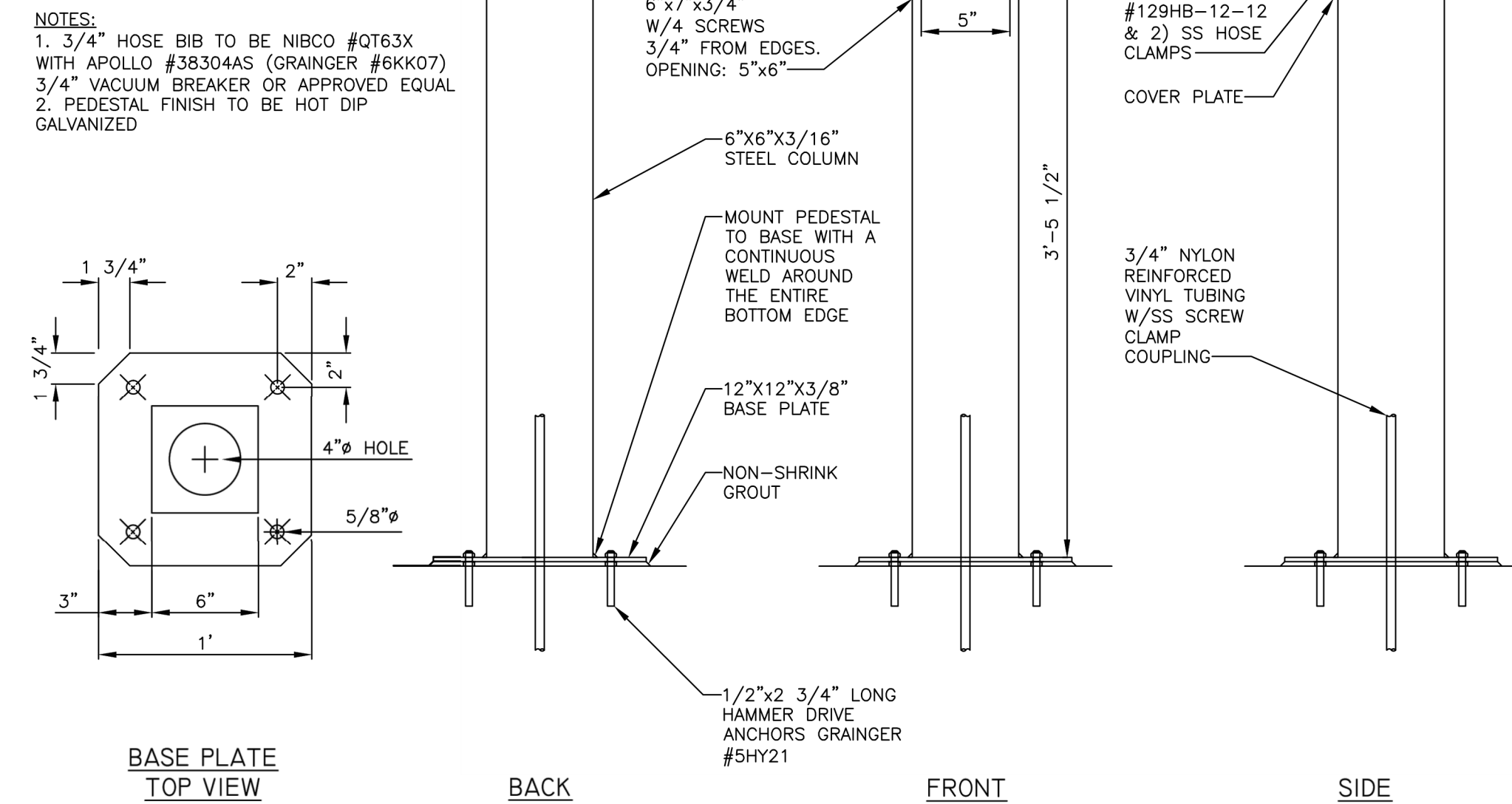


- NOTE:**
- WHEN GATE VALVE IS INSTALLED IN EXISTING DUCTILE OR C.I. PIPE, REPLACE TRANSITION GASKET W/ STANDARD M.J. GASKET.

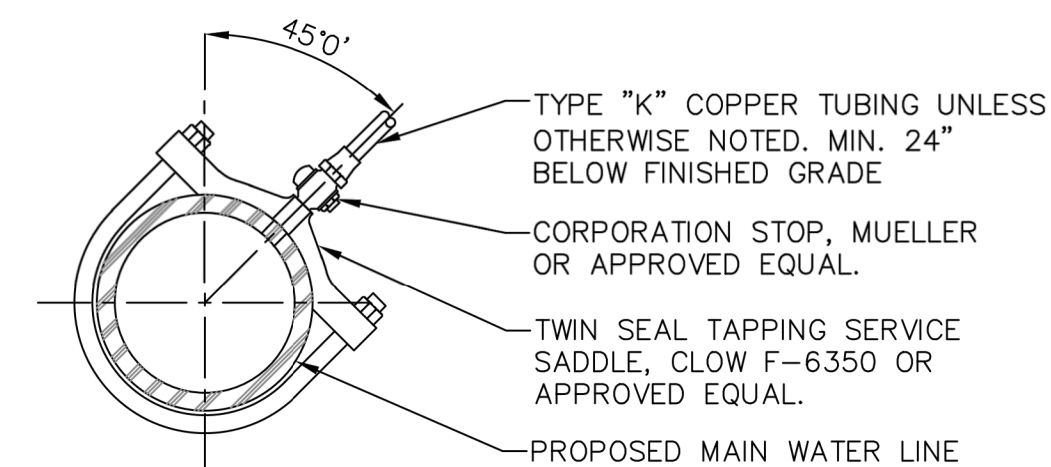
5 GATE VALVE INSTALLATION DETAIL
C18 NTS



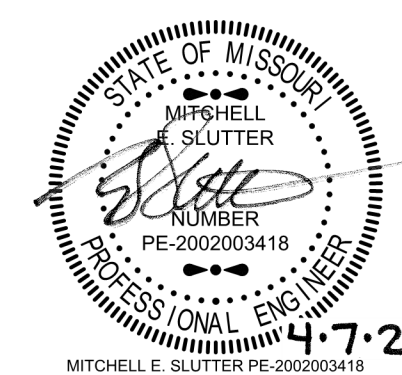
6 TAPPING VALVE & SLEEVE INSTALLATION
C18 NTS



1 WATER PEDESTAL
C18 NTS



4 SERVICE TAP DETAIL
C18 NTS



LANDSCAPE ARCHITECT:



LAC# MO-2002023826
929 Walnut Street, Ste. 700
Kansas City, Missouri 64108
P 816-756-5890

SURVEYOR & CIVIL ENGINEER:

RENAISSANCE INFRASTRUCTURE CONSULTING
8633 Penrose Lane
Lenexa, Kansas 66219
P 913-317-9500

MEP:

ANTELLA CONSULTING ENGINEERS
1800 Genessee Street, Ste 260
Kansas City, Missouri 64102
P 816-421-0950

GEOTECHNICAL:

INTERTEK-PSI
1211 W. Cambridge Circle Drive
Kansas City, Kansas 66103
P 913-310-1600



OFFICE OF ADMINISTRATION
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MANAGEMENT,
DESIGN AND CONSTRUCTION

DEPARTMENT OF
NATURAL RESOURCES,
MISSOURI STATE PARKS

CAMPGROUND
RENOVATION AND
UPGRADE

BIG LAKE STATE PARK
204 LAKE SHORE DRIVE
CRAIG, MO 64437

PROJECT # X2218-01
SITE # 5105
FACILITY # 7815105008

REVISION: _____
DATE: _____
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ISSUE DATE: 4/7/2023

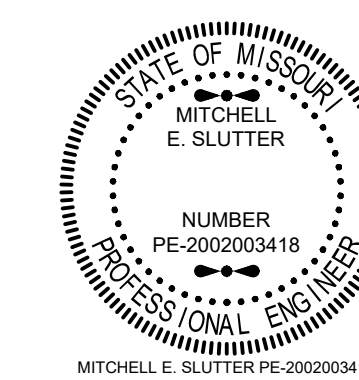
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DESIGNED BY: ZMM

SHEET TITLE:
WATER DETAILS

SHEET NUMBER:

C-502

SHEET 23 OF 41
APRIL 7, 2023



LANDSCAPE ARCHITECT:



LAC# MO-2002023826
929 Walnut Street, Ste. 700
Kansas City, Missouri 64108
P 816-736-5890

SURVEYOR & CIVIL ENGINEER:

RENAISSANCE INFRASTRUCTURE
CONSULTING
8653 Penrose Lane
Lenexa, Kansas 66219
P 913-317-9500



MEP:

ANTELLA CONSULTING ENGINEERS
1800 Genessee Street, Ste 260
Kansas City, Missouri 64102
P 816-421-0950



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1211 W. Cambridge Circle Drive
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DEPARTMENT OF
NATURAL RESOURCES,
MISSOURI STATE PARKS

CAMP SITE
RENOVATION
& UPDATES

BIG LAKE STATE PARK
204 LAKE SHORE DRIVE
CRAIG, MO 64437

PROJECT # X2218-01
SITE # 5105
FACILITY # 7815105008

REVISION:
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ISSUE DATE: 4/7/2023

CAD DWG FILE:
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SHEET TITLE:
SANITARY
DETAILS

SHEET NUMBER:

C-503

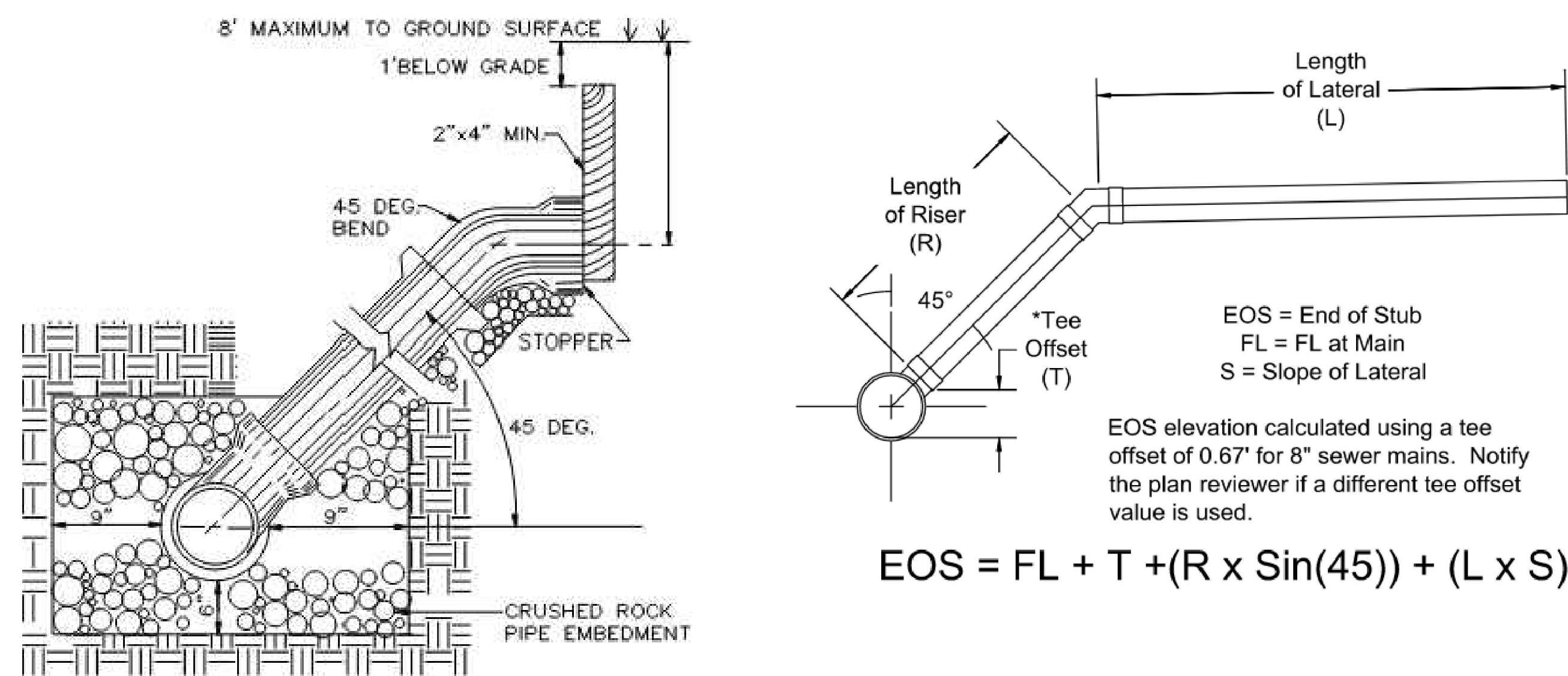
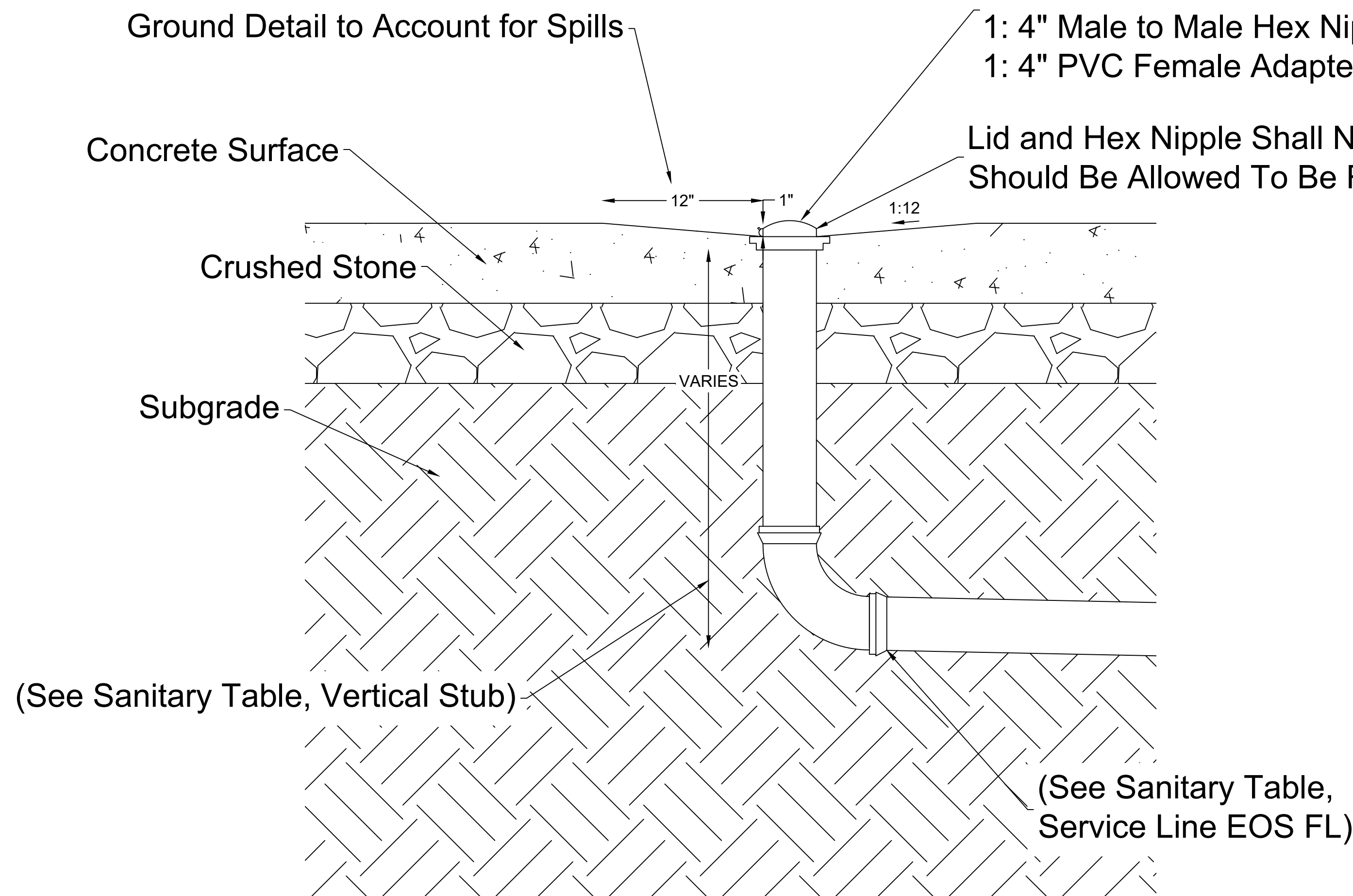
SHEET 24 OF 41
APRIL 7, 2023

The Tower Company, Inc.
4" RV Site Sewer Cap, Cast Metal
(Or approved equal)

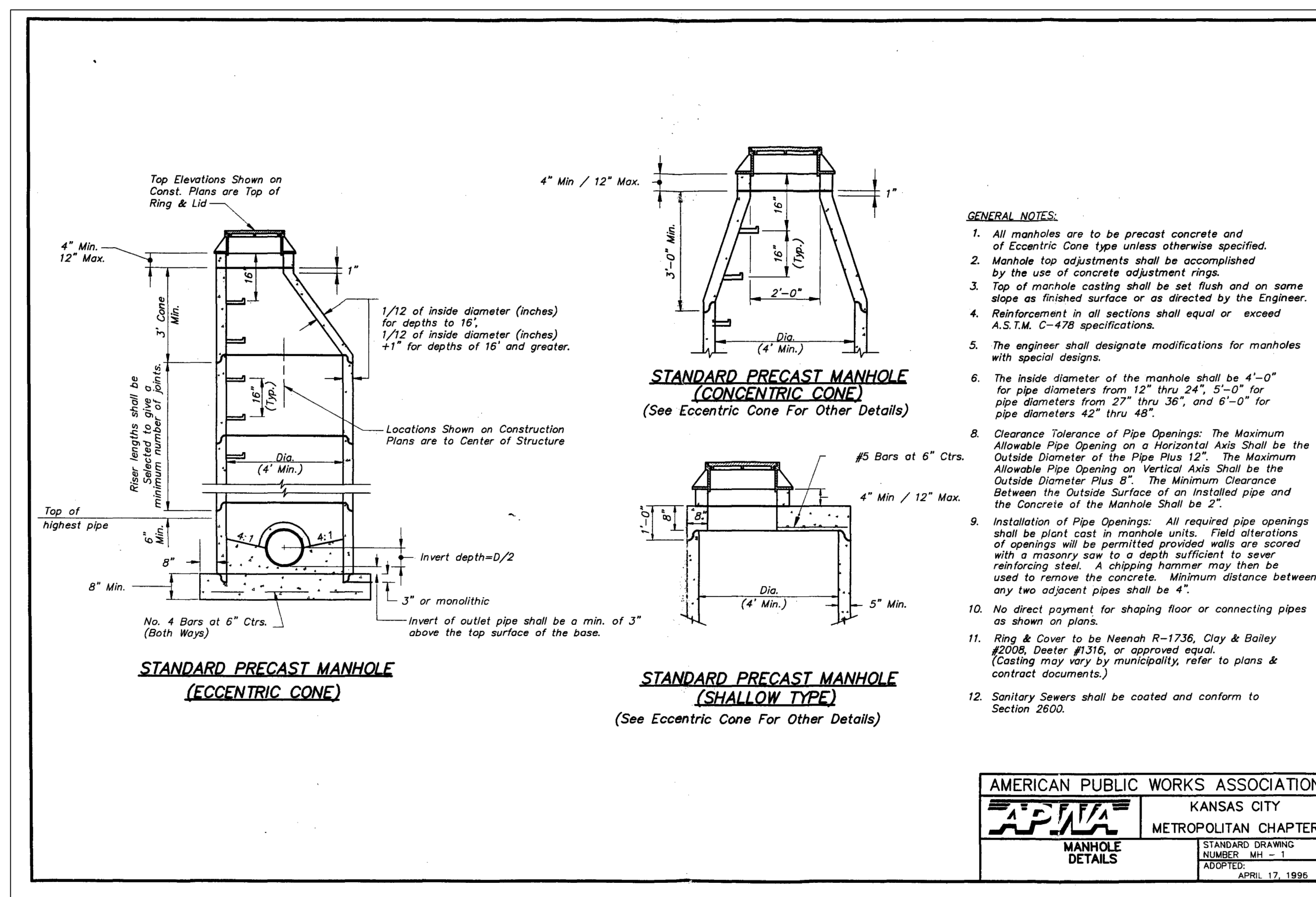


EOS Top Detail, Install:
1: 4" Cast Metal Sewer Cap
1: 4" Male to Male Hex Nipple
1: 4" PVC Female Adapter (Installed flush in concrete)

Lid and Hex Nipple Shall Not Be Cemented &
Should Be Allowed To Be Removed for Maintenance

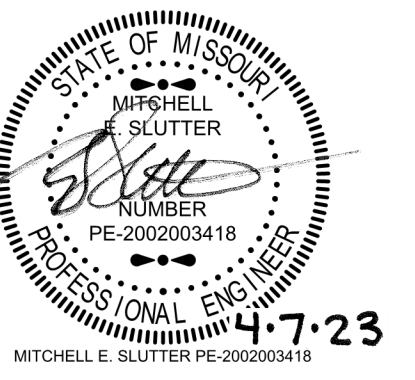


STANDARD DEEP TRENCH SERVICE RISER
NOT TO SCALE



- GENERAL NOTES:**
- All manholes are to be precast concrete and of Eccentric Cone type unless otherwise specified.
 - Manhole top adjustments shall be accomplished by the use of concrete adjustment rings.
 - Top of manhole casting shall be set flush and on same slope as finished surface or as directed by the Engineer.
 - Reinforcement in all sections shall equal or exceed A.S.T.M. C-478 specifications.
 - The engineer shall designate modifications for manholes with special designs.
 - The inside diameter of the manhole shall be 4'-0" for pipe diameters from 12" thru 24", 5'-0" for pipe diameters from 27" thru 36", and 6'-0" for pipe diameters 42" thru 48".
 - Clearance Tolerance of Pipe Openings: The Maximum Allowable Pipe Opening on a Horizontal Axis Shall be the Outside Diameter of the Pipe Plus 12". The Maximum Allowable Pipe Opening on Vertical Axis Shall be the Outside Diameter Plus 8". The Minimum Clearance Between the Outside Surface of an Installed Pipe and the Concrete of the Manhole Shall be 2".
 - Installation of Pipe Openings: All required pipe openings shall be cast in manhole units. Field alterations of openings will be permitted provided walls are scored with a masonry saw to a depth sufficient to sever reinforcing steel. A chipping hammer may then be used to remove the concrete. Minimum distance between any two adjacent pipes shall be 4".
 - No direct payment for shaping floor or connecting pipes as shown on plans.
 - Ring & Cover to be Neenah R-1736, Clay & Bailey #200B, Dester #1316, or approved equal. (Coating may vary by municipality, refer to plans & contract documents.)
 - Sanitary Sewers shall be coated and conform to Section 2603.

AMERICAN PUBLIC WORKS ASSOCIATION	
KANSAS CITY	
MANHOLE DETAILS	METROPOLITAN CHAPTER
STANDARD DRAWING NUMBER MH - 1	ADOPTED APRIL 17, 1996



LANDSCAPE ARCHITECT:



LAC# MO-2002023826
929 Walnut Street, Ste. 700
Kansas City, Missouri 64106
P 816-756-5890

SURVEYOR & CIVIL ENGINEER:

RENAISSANCE INFRASTRUCTURE
CONSULTING
8653 Penrose Lane
Lenexa, Kansas 66219
P 913-317-8500



MEP:

ANTELLA CONSULTING ENGINEERS
1800 Genessee Street, Ste 260
Kansas City, Missouri 64102
P 816-421-0950



GEOTECHNICAL:

INTERTEK-PSI
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DEPARTMENT OF
NATURAL RESOURCES,
MISSOURI STATE PARKS

CAMPGROUND
RENOVATION AND
UPGRADE

BIG LAKE STATE PARK
204 LAKE SHORE DRIVE
CRAIG, MO 64437

PROJECT # X2218-01
SITE # 5105
FACILITY # 7815105008

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ISSUE DATE: 4/7/2023

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DESIGNED BY: ZMM

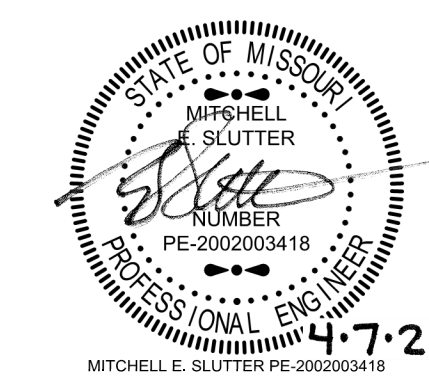
SHEET TITLE:

SANITARY
DETAILS

SHEET NUMBER:

C-504

SHEET 25 OF 41
APRIL 7, 2023



LANDSCAPE ARCHITECT:



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929 Walnut Street, Ste. 700
Kansas City, Missouri 64108
P 816-736-5690

SURVEYOR & CIVIL ENGINEER:

RENAISSANCE INFRASTRUCTURE
CONSULTING
8653 Penrose Lane
Lenexa, Kansas 66219
P 913-317-9500



MEP:

ANTELLA CONSULTING ENGINEERS
1600 Genessee Street, Ste 260
Kansas City, Missouri 64102
P 816-421-0950



GEOTECHNICAL:

INTERTEK-PSI
1211 W. Cambridge Circle Drive
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P 913-310-1600



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DESIGN AND CONSTRUCTION

DEPARTMENT OF
NATURAL RESOURCES,
MISSOURI STATE PARKS

CAMPGROUND
RENOVATION AND
UPGRADE

BIG LAKE STATE PARK
204 LAKE SHORE DRIVE
CRAIG, MO 64437

PROJECT # X2218-01
SITE # 5105
FACILITY # 7815105008

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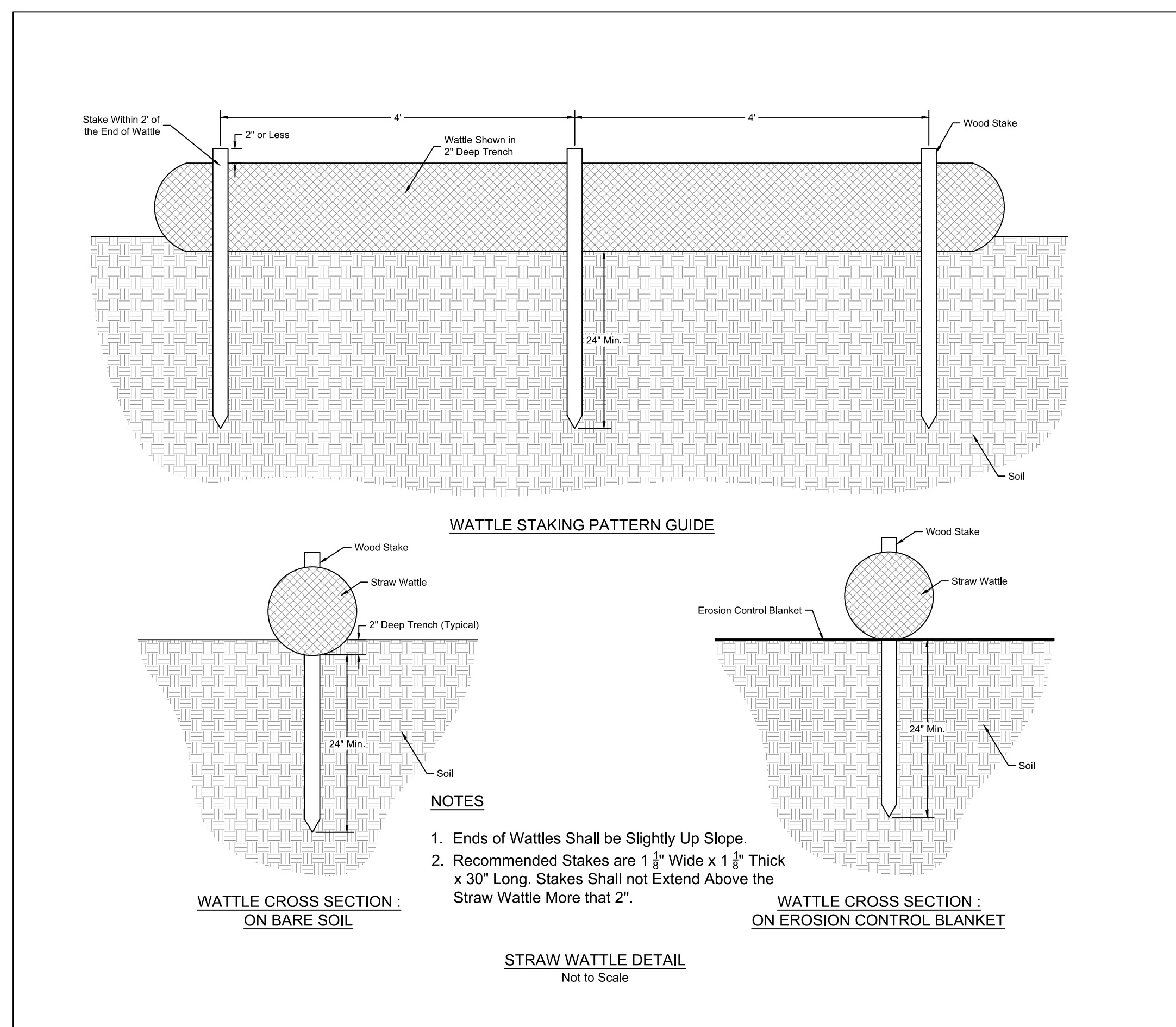
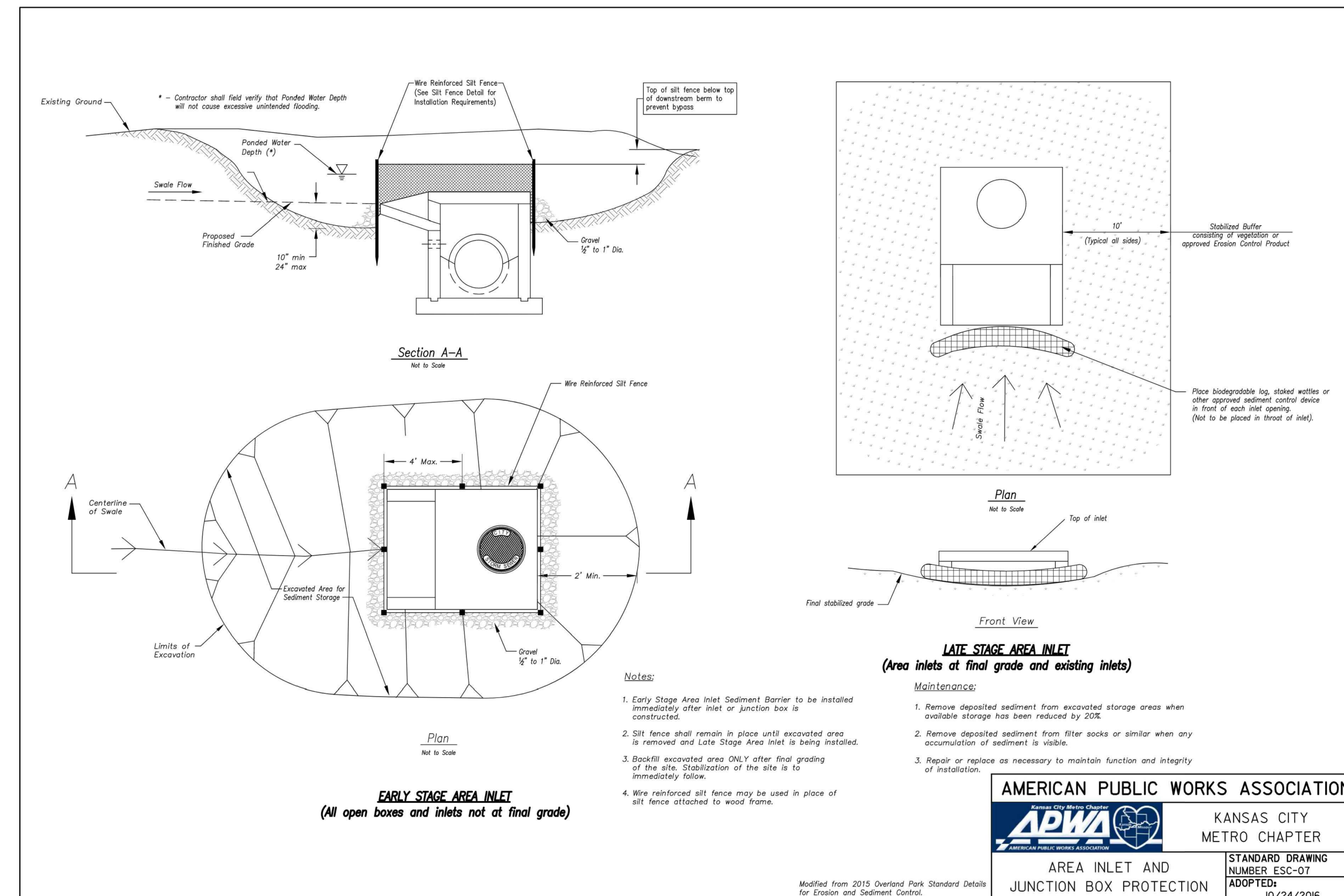
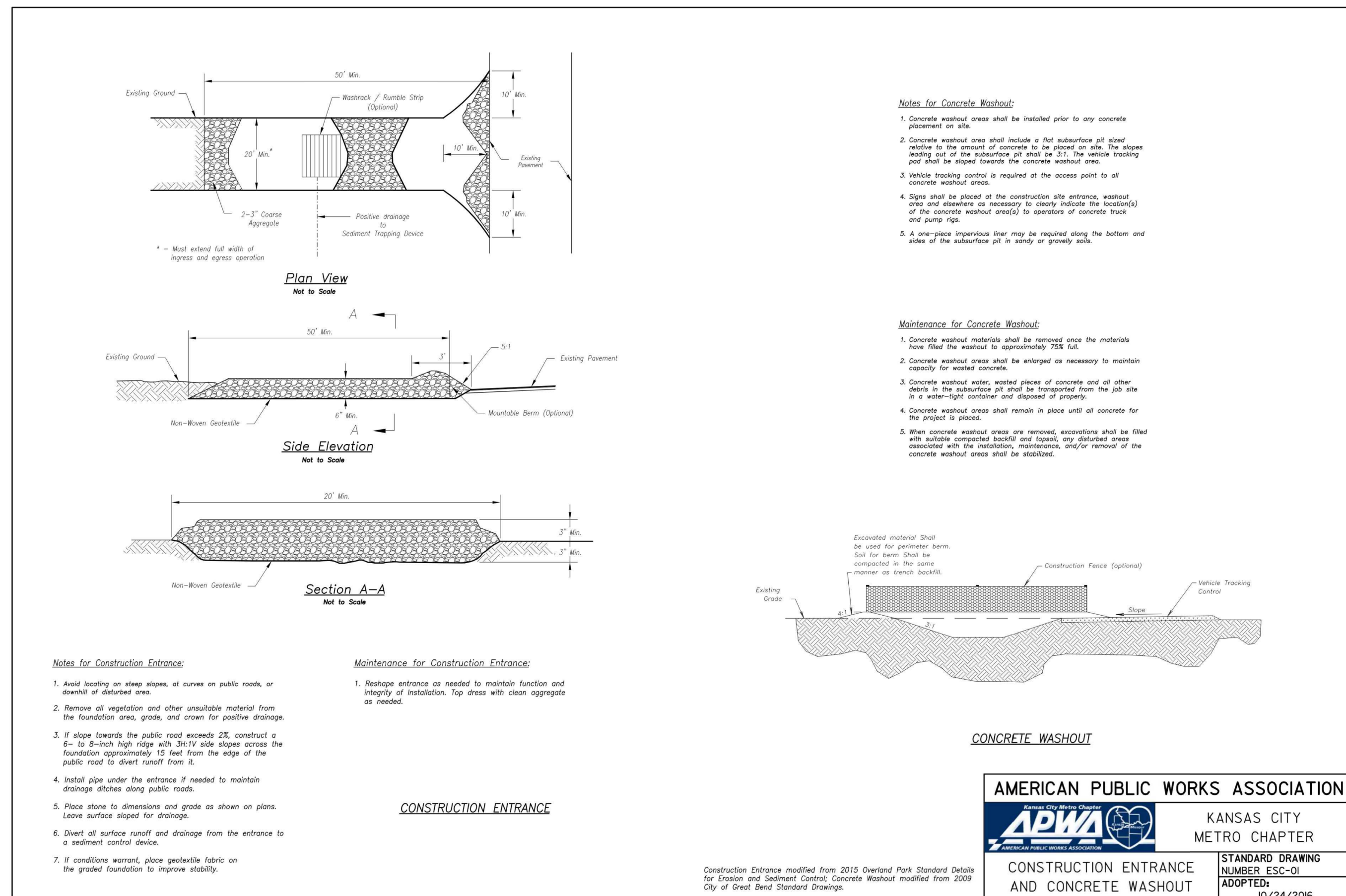
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EROSION CONTROL
DETAILS

SHEET NUMBER:

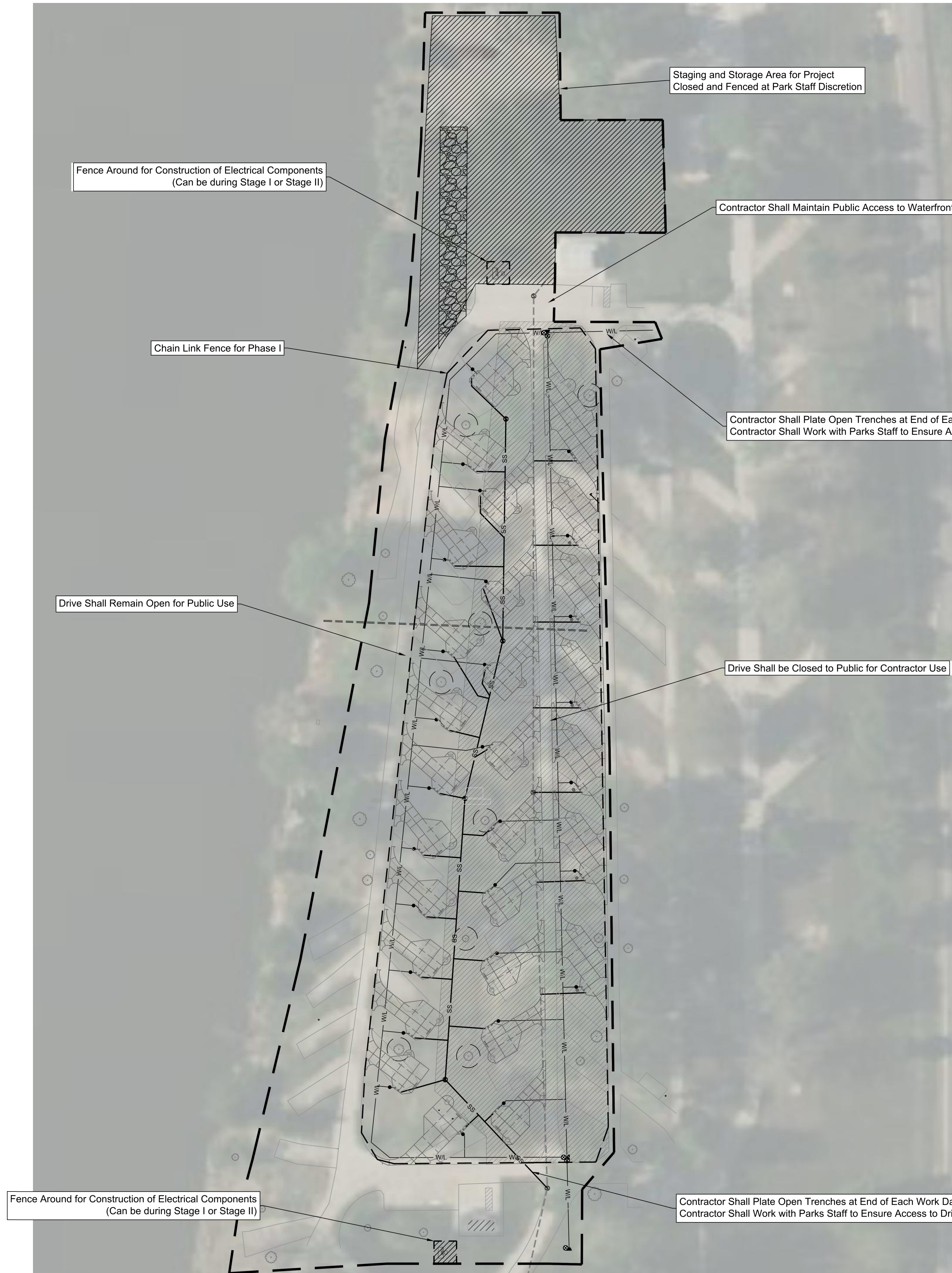
C-505

SHEET 26 OF 41
APRIL 7, 2023



*Contractor to coordinate with Missouri State Parks staff to schedule work around park availability.

*Contractor to provide temporary signage for public use of park during each phase.



Staging and Storage Area for Project Closed and Fenced at Park Staff Discretion

Fence Around for Construction of Electrical Components (Can be during Stage I or Stage II)

Contractor Shall Maintain Public Access to Waterfront

Chain Link Fence for Phase I

Contractor Shall Plate Open Trenches at End of Each Work Day (Typ.)
Contractor Shall Work with Parks Staff to Ensure Access to Drive and Camper Safety

Drive Shall Remain Open for Public Use

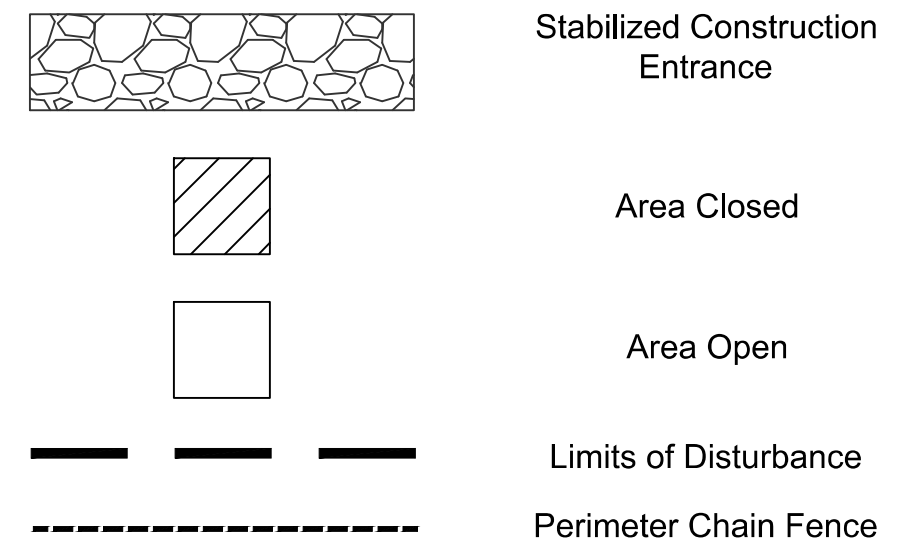
Drive Shall be Closed to Public for Contractor Use

Fence Around for Construction of Electrical Components (Can be during Stage I or Stage II)

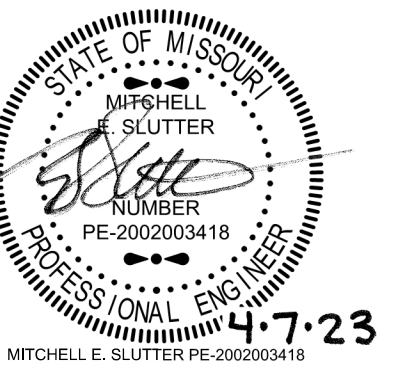
Contractor Shall Plate Open Trenches at End of Each Work Day (Typ.)
Contractor Shall Work with Parks Staff to Ensure Access to Drive and Camper Safety

Disturbed Area: 5.748 Acres

PHASE CONTROL LEGEND



STATE OF MISSOURI
MICHAEL L. PARSON,
GOVERNOR



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Kansas City, Missouri 64108
P 816-756-5890

SURVEYOR & CIVIL ENGINEER:

RENAISSANCE INFRASTRUCTURE
CONSULTING
8653 Penrose Lane
Lenexa, Kansas 66219
P 913-317-9500



MEP:

ANTELLA CONSULTING ENGINEERS
1800 Genessee Street, Ste 260
Kansas City, Missouri 64102
P 816-421-0950



GEOTECHNICAL:

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OFFICE OF ADMINISTRATION
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MANAGEMENT,
DESIGN AND CONSTRUCTION

DEPARTMENT OF
NATURAL RESOURCES,
MISSOURI STATE PARKS

CAMPGROUND
RENOVATION AND
UPGRADE

BIG LAKE STATE PARK
204 LAKE SHORE DRIVE
CRAIG, MO 64437

PROJECT # X2218-01
SITE # 5105
FACILITY # 7815105008

REVISION: _____
DATE: _____
REVISION: _____
DATE: _____
REVISION: _____
DATE: _____

ISSUE DATE: 4/7/2023

CAD DWG FILE: _____
DRAWN BY: TCD
CHECKED BY: MES
DESIGNED BY: ZMM

SHEET TITLE:
PHASE I OF
CONSTRUCTION

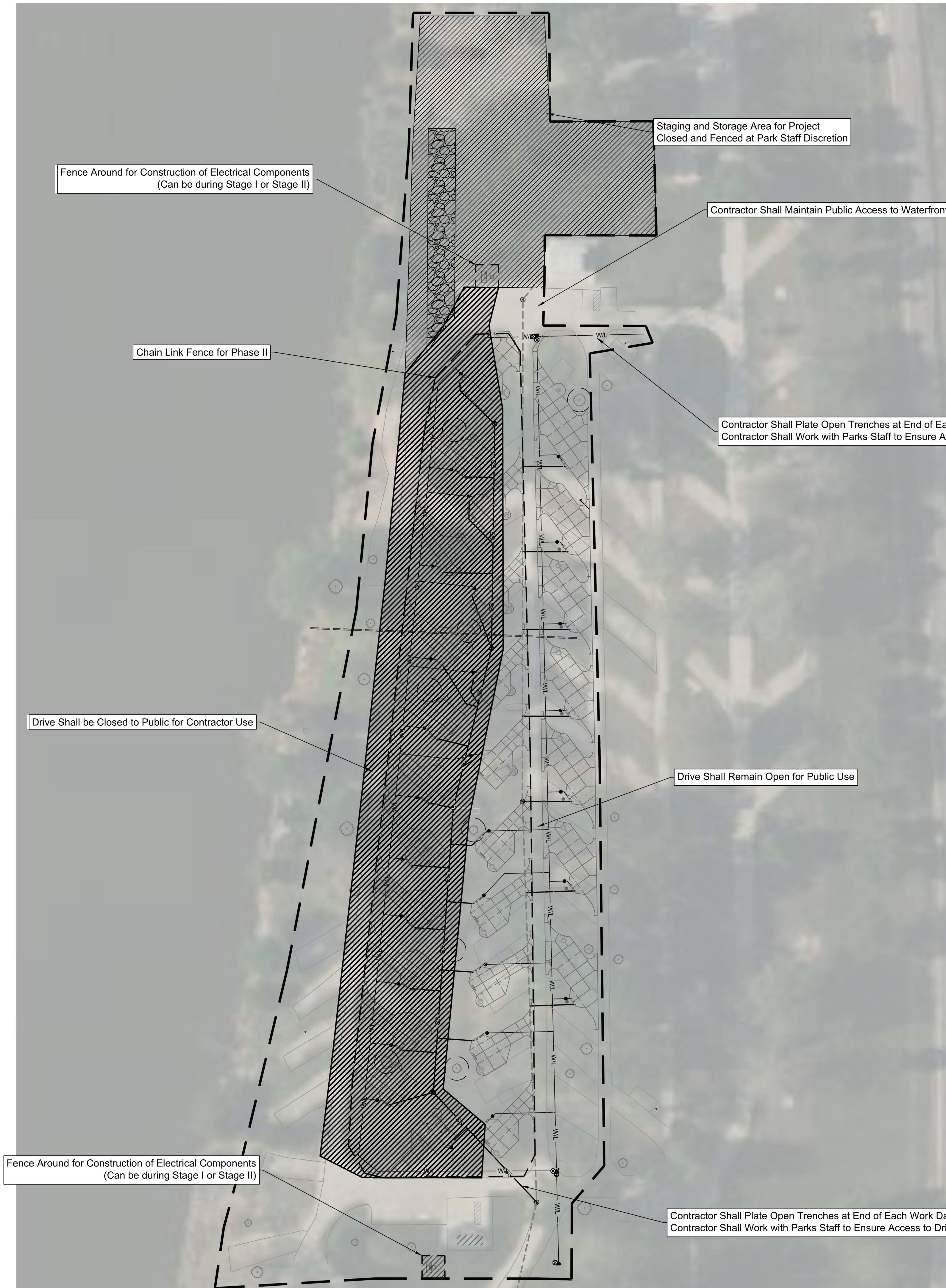
SHEET NUMBER:

C-601

SHEET 27 OF 41
APRIL 7, 2023

*Contractor to coordinate with Missouri State Parks staff to schedule work around park availability.

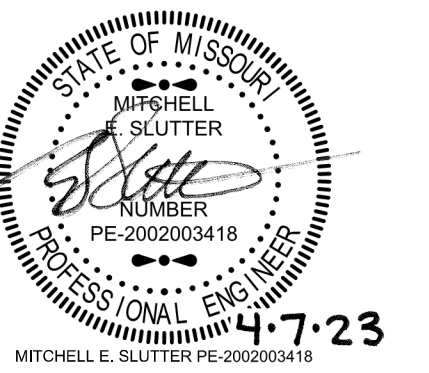
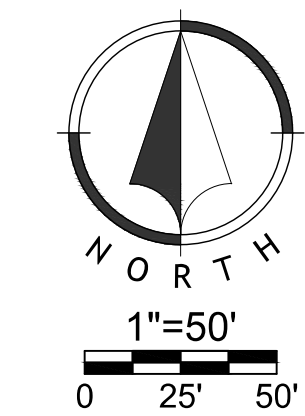
*Contractor to provide temporary signage for public use of park during each phase.



Disturbed Area: 5.748 Acres

PHASE CONTROL LEGEND

	Stabilized Construction Entrance
	Area Closed
	Area Open
	Limits of Disturbance
	Perimeter Chain Fence



LANDSCAPE ARCHITECT:



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DRAWN BY: TCD
CHECKED BY: MES
DESIGNED BY: ZMM

SHEET TITLE:
PHASE II OF
CONSTRUCTION

SHEET NUMBER:

C-602

SHEET 28 OF 41
APRIL 7, 2023



LANDSCAPE ARCHITECT:



LAC# MO-2002023826
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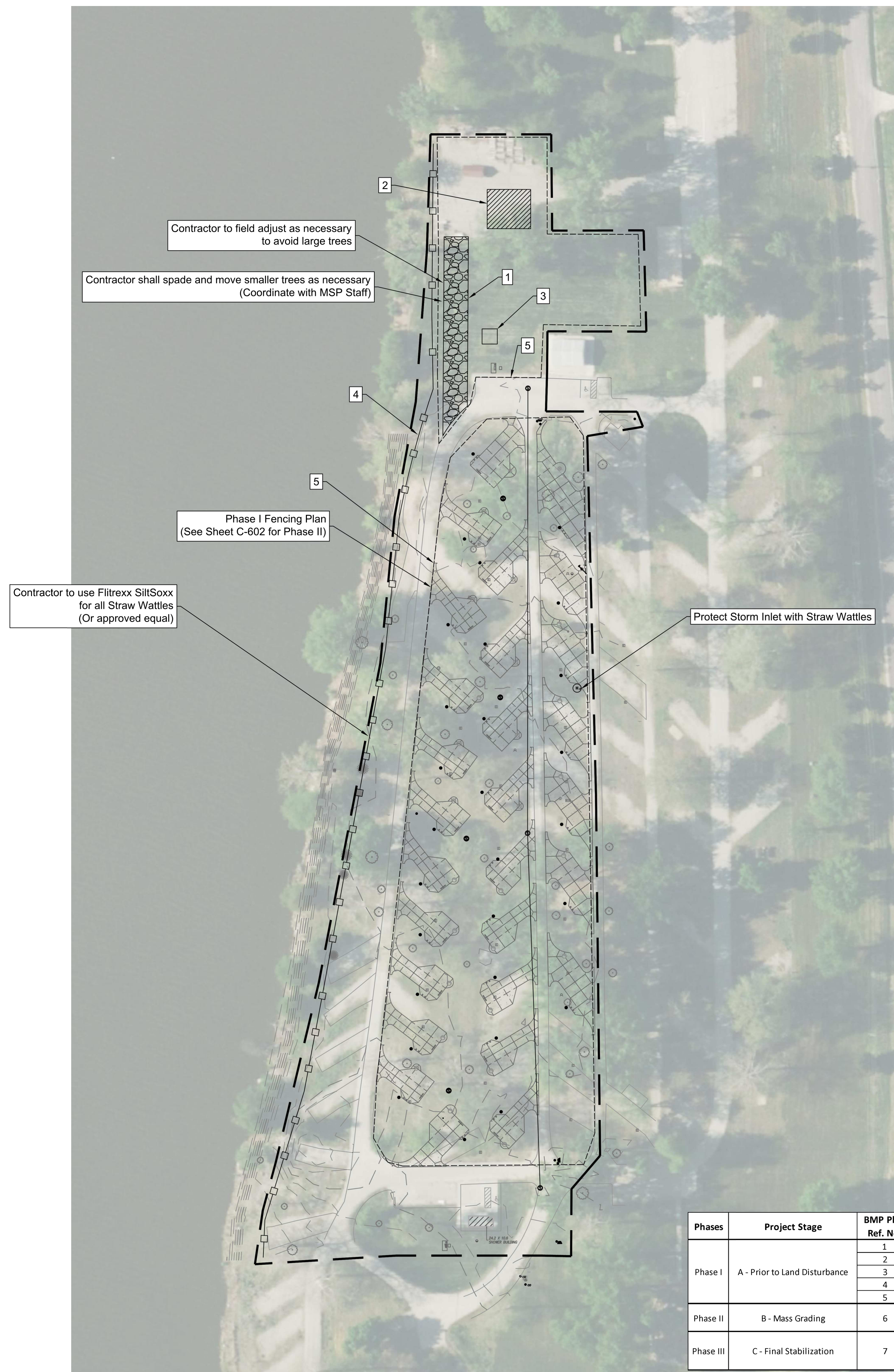
CAD DWG FILE: _____
DRAWN BY: TCD
CHECKED BY: MES
DESIGNED BY: ZMM

SHEET TITLE:
EROSION CONTROL
PHASE I

SHEET NUMBER:

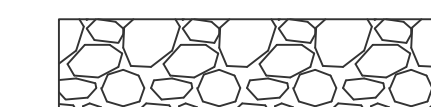
C-603

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APRIL 7, 2023

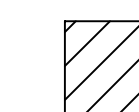


Disturbed Area: 5.748 Acres

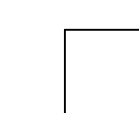
EROSION CONTROL LEGEND



Stabilized Construction Entrance



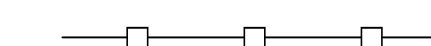
Staging Area



Concrete Washout



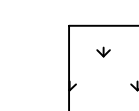
Limits of Disturbance



Perimeter Straw Wattles



Perimeter Chain Fence



Seed



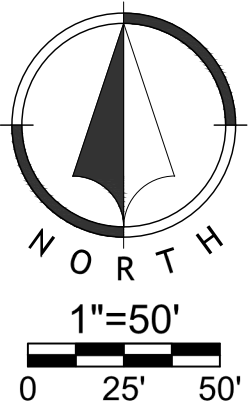
Phases	Project Stage	BMP Plan Ref. No.	BMP Description	Remove After Stage	Notes
Phase I	A - Prior to Land Disturbance	1	Stabilized Construction Entrance	C	Install Construction Vehical Entry per APWA Standards (see Standard Details).
		2	Staging Area	C	Install Staging Area.
		3	Concrete Washout	C	Install Concrete Washout as shown on plans prior to pouring any concrete.
		4	Perimeter Straw Wattles	C	Install Perimeter Straw Wattles. As Shown on the Plans.
		5	Perimeter Fencing	C	Install Chain Link Fence around the perimeter of the working area.
Phase II	B - Mass Grading	6	Stockpile Topsoil	C	Install Silt Fence a Minimum of 5' Beyond Toe of Slope.
Phase III	C - Final Stabilization	7	Establish Perennial Vegetation	N/A	Redistribute Topsoil and Seed all Disturbed Areas. Stabilization Complete when 100% Disturbed Area is Established with Perennial Vegetation with a Density of 70% per MDNR Land Disturbance Permit.



Disturbed Area: 5.748 Acres

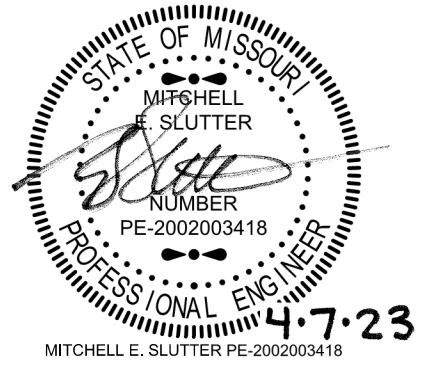
EROSION CONTROL LEGEND

	Stabilized Construction Entrance
	Staging Area
	Stockpile Area
	Concrete Washout
	Limits of Disturbance
	Perimeter Straw Wattles
	Perimeter Chain Fence
	Seed



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CAMPGROUND
RENOVATION AND
UPGRADE

BIG LAKE STATE PARK
204 LAKE SHORE DRIVE
CRAIG, MO 64437

PROJECT # X2218-01
SITE # 5105
FACILITY # 7815105008

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CHECKED BY: MES
DESIGNED BY: ZMM

SHEET TITLE:
EROSION CONTROL
PHASE II

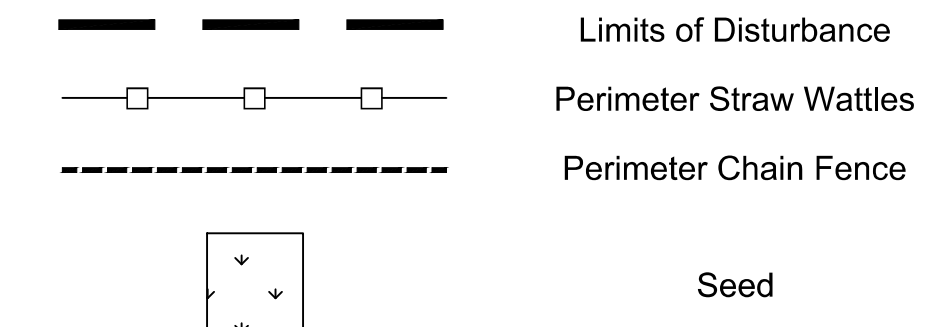
SHEET NUMBER:
C-604
SHEET 30 OF 41
APRIL 7, 2023

*Contractor shall reseed all areas disturbed in accordance with spec. section 329200



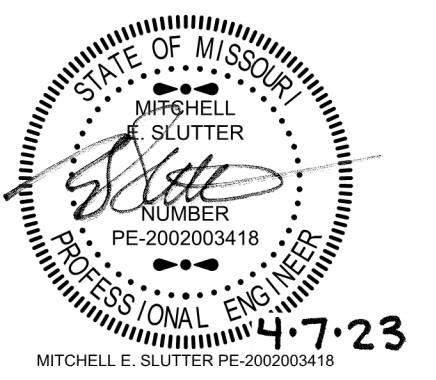
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EROSION CONTROL LEGEND



Phases	Project Stage	BMP Plan Ref. No.	BMP Description	Remove After Stage	Notes
Phase I	A - Prior to Land Disturbance	1	Stabilized Construction Entrance	C	Install Construction Vehical Entry per APWA Standards (see Standard Details).
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STATE OF MISSOURI
MICHAEL L. PARSON,
GOVERNOR



LANDSCAPE ARCHITECT:



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CAMPGROUND
RENOVATION AND
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BIG LAKE STATE PARK
204 LAKE SHORE DRIVE
CRAIG, MO 64437

PROJECT # X2218-01
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DRAWN BY: TCD
CHECKED BY: MES
DESIGNED BY: ZMM

SHEET TITLE:
EROSION CONTROL
PHASE III

SHEET NUMBER:

C-605

SHEET 31 OF 41
APRIL 7, 2023

1. ALL WORK SHALL CONFORM TO 2018 INTERNATIONAL BUILDING CODE.
2. DESIGN LOADS
 - A. OVERALL BUILDING CLASSIFICATIONS
 1. RISK CATEGORY II
 2. SNOW IMPORTANCE FACTOR, I_s 1.00
 3. ICE IMPORTANCE FACTOR - WIND, I_w 1.00
 4. SEISMIC IMPORTANCE FACTOR, I_e 1.00
 - B. PLATFORM FLOOR LOADS
 1. LIVE LOAD 40 PSF
 2. CONCENTRATED LOAD 300 LB
 - C. ROOF SNOW LOADS
 1. GROUND SNOW LOAD, P_g 20 PSF
 2. SNOW EXPOSURE FACTOR, C_e 0.9
 3. THERMAL FACTOR, C_t 1.2
 4. SLOPE FACTOR, C_s 0.6
 5. DRIFTING PER CODE
 - D. WIND LOADS
 1. BASIC WIND SPEED (3 SECOND GUST) 110 MPH
 2. EXPOSURE CATEGORY C
 - E. SEISMIC LOADS
 1. S_s 0.083
 2. S_1 0.056
 3. SITE CLASS D
 4. S_{0s} 0.088
 5. S_{0i} 0.089
 6. SEISMIC DESIGN CATEGORY STEEL ORDINARY CANTILEVER COLUMN SYSTEM
 7. SEISMIC FORCE RESISTING SYSTEM
 8. DESIGN BASE SHEAR C_sW
 9. DESIGN RESPONSE COEFFICIENT, C_s 0.132
 10. RESPONSE MODIFICATION COEFFICIENT, R 1.25
 11. ANALYSIS PROCEDURE USED EQUIVALENT LATERAL FORCE (ELF) PROCEDURE
 - F. ROOF RAIN LOADS
 1. 60-MIN DURATION/100 YEAR RAIN INTENSITY, I 3.83 IN
 2. 15-MIN DURATION/100 YEAR RAIN INTENSITY, I 1.93 IN
3. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING DIMENSIONS PRIOR TO FABRICATION.
4. IF DISCREPANCIES EXIST BETWEEN CONTRACT DRAWINGS, AND/OR SHOP DRAWINGS NOTIFY THE ENGINEER OF RECORD.
5. THE CONTRACTOR SHALL REVIEW DRAWINGS FROM ALL OTHER DISCIPLINES FOR PERTINENT MISC. ITEMS OR INFORMATION RELATED TO THE STRUCTURAL WORK AND COORDINATE AS REQUIRED.
6. THE BUILDING IS NOT STRUCTURALLY STABLE UNTIL ALL CONNECTIONS, FRAMING, SHEAR WALLS, PERMANENT BRACING, AND EXTERIOR LOAD-BEARING WALLS ARE COMPLETE AND HAVE ACHIEVED THEIR RESPECTIVE DESIGN STRENGTHS. CONTRACTOR IS SOLELY RESPONSIBLE FOR MAINTAINING STRUCTURAL STABILITY DURING ERECTION AND CONSTRUCTION. TEMPORARY BRACING SYSTEMS ARE NOT TO BE REMOVED UNTIL STRUCTURAL WORK IS COMPLETE.
7. PROVIDE ADEQUATE SHORING DURING CONSTRUCTION TO RESIST FORCES SUCH AS WIND AND UNBALANCED LOADS DUE TO CONSTRUCTION. DO NOT BACKFILL UNTIL CONCRETE HAS CURED 14 DAYS.
8. FOUNDATIONS
 - A. FOUNDATIONS ARE DESIGNED TO BEAR ON 1500 PSF FOR FOOTINGS ON SOIL.
 - B. CONTRACTOR SHALL REMOVE EXISTING FOOTINGS AND FOUNDATIONS THAT ARE LOCATED WITHIN THE FOOTPRINT OF THE NEW BUILDING.
 - C. CONTRACTOR SHALL NOTIFY ENGINEER OF ANY UNUSUAL SOIL CONDITIONS THAT ARE IN VARIANCE WITH THE GEOTECHNICAL REPORT OR WHEN DIFFERENT BEARING MATERIAL IS EVIDENT AND THERE IS A QUESTION OF BEARING CAPACITY.
9. CONCRETE
 - A. CAST-IN-PLACE CONCRETE CONSTRUCTION SHALL CONFORM TO LATEST APPLICABLE AMERICAN CONCRETE INSTITUTE DOCUMENTS, ACI-301, 305, 306, 315, 318, AND 347 UNLESS NOTED OTHERWISE IN THESE CONTRACT DOCUMENTS.
 - B. ALL CONCRETE, UNLESS NOTED OTHERWISE, SHALL DEVELOP A 28 DAY COMPRESSIVE STRENGTH AND HAVE MAXIMUM DRY SHRINKAGE PER ASTM C157 AS FOLLOWS:
 1. FOOTINGS, GRADE BEAMS, WALLS, BEAMS, COLUMNS: 4000 PSI (DS MAX 0.05%)
 2. AIR ENTRAIN ALL EXTERIOR CONCRETE TO 5% ± 1.5%
 - C. IT IS THE INTENT OF THESE CONCRETE SPECIFICATIONS THAT THE CONTRACTOR SUPPLY CONCRETE MIXES WITH A MINIMUM AMOUNT OF WATER IN ORDER TO LIMIT PLASTIC SHRINKAGE CRACKING IN FRESHLY PLACED CONCRETE. IT IS EXPECTED THAT PRODUCING WORKABILITY FOR CONCRETE MIXES WILL REQUIRE THE ADDITION OF WATER-REDUCING CHEMICAL ADMIXTURES.
 - D. CONCRETE MIX DESIGNS SHALL INCLUDE ALL APPLICABLE ADMIXTURES.
 - E. CONCRETE SLUMP SHALL BE A MAXIMUM OF 4" +/- 1" (ASTM C-145) AS DELIVERED IN THE FIELD. CONTRACTOR MAY USE CHEMICAL ADMIXTURES TO ATTAIN A MAXIMUM SLUMP OF 8" FOR WORKABILITY IF ADMIXTURE IS TO BE ADDED IN THE FIELD IS SHALL BE ADDED THROUGH THE USE OF AN EXTERNAL MEASURING DEVICE (I.E. 5 GALLON BUCKET).
 - F. CONCRETE EXPOSED TO WEATHER, PARKED VEHICLES, AND/OR DEICING CHEMICAL SHALL CONTAIN 5% (+/- 1.5%) ENTRAINED AIR BY VOLUME.
 - G. CHAMFER ALL EXPOSED CORNERS OF CONCRETE WALLS, 3/4" UNLESS NOTED OTHERWISE.
 - H. PRIOR TO PLACING CONCRETE IN ANY LOCATION, IT IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR TO HAVE THOROUGHLY CHECKED AND COORDINATED ALL DIMENSIONS, ELEVATIONS, OPENINGS, RECESS, AND BLOCKOUTS AS SHOWN ON ANY CONTRACT DRAWINGS. IN THE EVENT ERRORS, CONFLICTS, OR OMISSIONS EXIST, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO CONTACT THE ARCHITECT OR ENGINEER FOR NECESSARY CORRECTIVE ACTION.
 - I. EMBEDDED ITEMS ARE TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR PRIOR TO PLACING CONCRETE.
 - J. ANCHOR RODS AND ANCHOR BOLTS SHALL BE HELD IN PLACE WITH A RIGID TEMPLATE
10. REINFORCING STEEL
 - A. ALL REINFORCING SHALL BE ASTM A615 GRADE 60, EXCEPT WELDED REINFORCING WHICH SHALL BE ASTM A706 GRADE 60.
 - B. ALL WELDED WIRE FABRIC SHALL BE ASTM A82 COLD DRAWN WIRE.
 - C. ALL ACCESSORIES FOR SUPPORTING REINFORCING SHALL BE GALVANIZED OR HAVE PLASTIC-COATED FEET.
 - D. PROVIDE CORNER BARS AT THE EXTERIOR FACE OF ALL WALL AND FOOTING CORNERS EQUAL TO HORIZONTAL BARS.
 - E. REINFORCING SHALL BE DETAILED, FABRICATED, PLACE, AND SUPPORTED IN ACCORDANCE WITH ACI 315, LATEST APPLICABLE EDITION.
 - F. STANDARD COVERAGE OF REINFORCING SHALL BE AS FOLLOWS UNLESS NOTED OTHERWISE.
 1. PERMANENTLY EXPOSED TO WEATHER
 - A. CAST AGAINST EARTH 3"
 - B. IN CONTACT WITH WATER 3"
 - C. FORMED 2"
 2. NOT EXPOSED TO EARTH OR WEATHER 3/4"
 - A. SLABS AND WALLS
 - B. BEAMS AND COLUMNS 1 1/2"
 - G. SPLICE LENGTH
 1. 3000 PSI CONCRETE
 - A. NON-COATED 55 db (BAR DIAMETER)
 - B. EPOXY COATED 83 db
 2. 4000 PSI CONCRETE
 - A. NON-COATED 48 db
 - B. EPOXY COATED 72 db
 3. 5000 PSI CONCRETE
 - A. NON-COATED 43 db
 - B. EPOXY COATED 64 db
 - H. REINFORCEMENT PARTIALLY EMBEDDED IN CONCRETE SHALL NOT BE FIELD BENT, EXCEPT AS SHOWN AND NOTED ON THE CONTRACT DRAWINGS OR PERMITTED BY THE ENGINEER OF RECORD.
 - I. ALL REINFORCEMENT AND EMBEDDED ITEMS INCLUDING PLATES AND ANCHOR RODS SHALL BE ACCURATELY PLACED, ADEQUATELY SUPPORTED, AND SECURED AGAINST DISPLACEMENT BEFORE CONCRETE IS PLACED. NEITHER REINFORCEMENT NOR EMBEDDED ITEMS SHALL BE PLACED INTO FRESHLY PLACED CONCRETE UNLESS APPROVED BY THE ENGINEER OF RECORD.

16. STRUCTURAL STEEL
 - A. ALL STRUCTURAL STEEL SHALL BE DETAILED, FABRICATED, AND ERECTED IN ACCORDANCE WITH AISC SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS, LATEST APPLICABLE EDITION AND AISC CODE OF STANDARD PRACTICE.
 - B. ALL STRUCTURAL STEEL FOR WIDE FLANGE SHALL BE A992 GRADE 50 UNLESS NOTED OTHERWISE. ALL ANGLES, PLATES AND CHANNELS SHALL BE ASTM A36 UNLESS NOTED OTHERWISE. ALL RECTANGULAR AND ROUND HSS SHAPES SHALL BE ASTM A500, GRADE B.
 - C. ALL BOLTS SHALL BE 3/4" Ø A-325 BOLTS WITH HEAVY HEX HEADS UNLESS NOTED OTHERWISE. ALL CONNECTIONS SHALL HAVE A MINIMUM OF (2) 3/4" Ø BOLTS, BEARING TYPE CONNECTIONS ONLY.
 - D. ALL STRUCTURAL STEEL WELDS IN THE SHOP OR IN THE FIELD SHALL BE PERFORMED BY A QUALIFIED WELDER AND SHALL CONFORM TO THE CURRENT REQUIREMENTS OF A.W.S.
 - E. SHOP WELDED AND FIELD BOLTED CONNECTIONS ARE PREFERRED UNLESS NOTED OTHERWISE.
 - F. ALL STEEL EXPOSED TO THE EXTERIOR, EXHIBITS, POOLS, AND LSS AREAS SHALL BE HOT-DIP GALVANIZED AND PAINTED PER ARCHITECT UNLESS NOTED OTHERWISE.
 - G. THE CONTRACTOR SHALL PROVIDE SHELF ANGLES, GLASS SUPPORTS, LINTELS, AND OTHER MISC. STEEL AS SHOWN ON THESE DRAWINGS AS REQUIRED TO PROVIDE SUPPORT (STABILIZATION) AROUND AND THROUGHOUT THE BUILDING. SEE ARCHITECTURAL DRAWINGS FOR ADDITIONAL MISC. STEEL DETAILS.
14. STRUCTURAL ENGINEER SITE OBSERVATIONS
 - A. THE CONTRACT STRUCTURAL DRAWINGS REPRESENT THE FINISHED STRUCTURE AND, EXCEPT WHERE SPECIFICALLY SHOWN, DO NOT INDICATE THE METHOD OR MEANS OF CONSTRUCTION. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, PROCEDURES, TECHNIQUES, AND SEQUENCES.
 - B. THE ENGINEER SHALL NOT HAVE CONTROL NOR CHARGE OF, AND SHALL NOT BE RESPONSIBLE FOR, CONSTRUCTION MEANS, METHODS, PROCEDURES, TECHNIQUES, OR SEQUENCES, FOR SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK FOR THE ACHOR, SUBCONTRACTOR, OR ANOTHER PERSONS PERFORMING ANY OF THE WORK, OR THE FAILURE OF ANY OF THEM TO CARRY OUT THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
 - C. PERIODIC SITE OBSERVATION BY FIELD REPRESENTATIVES OF LEIGH & OKANE L.L.C. IS SOLELY FOR THE PURPOSE OF DETERMINING IF THE WORK OF THE CONTRACTOR IS PROCEEDING IN ACCORDANCE WITH THE STRUCTURAL CONTRACT DOCUMENTS. THIS LIMITED SITE OBSERVATION SHOULD NOT BE CONSTRUED AS EXHAUSTIVE OR CONTINUOUS TO CHECK THE QUALITY OR QUANTITY OF WORK, BUT RATHER PERIODIC IN AN EFFORT TO GUARD THE OWNER AGAINST DEFECTS AND DEFICIENCIES IN THE WORK OF THE CONTRACTOR.
15. SUBMITTALS
 - A. ALL SHOP DRAWINGS AND SUBMITTALS MUST BE REVIEWED AND APPROVED BY THE CONTRACTOR PRIOR TO SUBMITTAL. ENGINEER'S REVIEW OF SHOP DRAWINGS IS LIMITED TO CHECKING FOR GENERAL CONFORMANCE WITH DESIGN DRAWINGS AND STRENGTH OF COMPONENTS AND MATERIALS. CONTRACTOR IS RESPONSIBLE FOR ANY CHANGES FROM THE DESIGN DRAWINGS, QUANTITIES, DIMENSIONAL ERRORS, OR OMISSIONS IN THE SHOP DRAWINGS.
 - B. ALL SHOP DRAWINGS MUST BE ORIGINAL DOCUMENTS AND SHALL NOT BE REPRODUCTIONS OF THESE CONTRACT DOCUMENTS.
 - C. CONTRACTOR SHALL SUBMIT STRUCTURAL SHOP DRAWINGS FOR THE FOLLOWING ITEMS.
 1. CONCRETE MIX DESIGN AND MATERIALS
 2. CONCRETE REINFORCING STEEL
 3. STRUCTURAL STEEL FRAMING
 - D. PROVIDE A FINAL, "FOR CONSTRUCTION" SET OF ALL SHOP DRAWINGS TO THE ENGINEER OF RECORD PRIOR TO FABRICATION OR CONSTRUCTION OF THOSE ITEMS.
16. SPECIAL INSPECTIONS
 - A. THE FOLLOWING MINIMUM ITEMS REQUIRE SPECIAL INSPECTION IN ACCORDANCE WITH THE BUILDING CODE.
 1. CONCRETE PLACING
 2. CONCRETE REINFORCING
 3. BOLTS EMBEDDED IN CONCRETE / POST-INSTALLED ANCHORS
 4. ANCHOR RODS
 5. SOIL VERIFICATION
 - B. THE CONTRACTOR SHALL REQUEST SPECIAL INSPECTION OF THE ITEMS LISTED ABOVE PRIOR TO THOSE ITEMS BECOMING INACCESSIBLE AND UNOBSERVABLE DUE TO PROGRESSION OF THE WORK.

PLAN SYMBOL KEY	
	= FOOTING TYPE (REFER TO FOOTING SCHEDULE)
	= COLUMN TYPE (REFER TO COLUMN SCHEDULE)
	= WOOD WALL TYPE (REFER TO WOOD WALL SCHEDULE)
	= SHEAR WALL TYPE (REFER TO WOOD WALL SCHEDULE)
	= CONCRETE WALL TYPE (REFER TO CONCRETE WALL SCHEDULE)
	= MASONRY WALL TYPE (REFER TO MASONRY WALL SCHEDULE)
	= SHEAR WALL HOLDOWN
	= MOMENT FRAME CONNECTION
	= BEAM SPLICE CONNECTION

WALL TYPE KEY	
	= LOAD BEARING WALL
	= NON-LOAD BEARING WALL
	= SHEAR WALL

STANDARD ABBREVIATIONS	
ALT.	ALTERNATE
A.B.	ANCHOR BOLT
ARCH.	ARCHITECT
@	AT
BM.	BEAM
BOT.	BOTTOM
B.O.	BOTTOM OF
BLDG.	BUILDING
CL.	CENTER LINE
CLR.	CLEAR
COL.	COLUMN
CONC.	CONCRETE
CONN.	CONNECTION
CONT.	CONTINUOUS
C.J.	CONTROL JOINT
DET.	DETAIL
DIA.	DIAMETER
DIM.	DIMENSION
DWG(S)	DRAWING(S)
EA.	EACH
ELEV.	ELEVATION
EL.	ELEVATION
EQ.	EQUAL
EQUIP.	EQUIPMENT
EXIST.	EXISTING
EXT.	EXTERIOR
F.S.	FAR SIDE
FIN.	FINISH
FLR.	FLOOR
FTG.	FOOTING
FOUND.	FOUNDATION
GALV.	GALVANIZED
GYP.	GYPSPUM
H.S.	HEADED STUD
HT	HIGH
HORIZ.	HORIZONTAL
INSUL.	INSULATION
INT.	INTERIOR
LOC.	LOCATION
LLH	LONG LEG HORIZONTAL
LLO	LONG LEG OUT
LLV	LONG LEG VERTICAL
LONG.	LONGITUDINAL
LO	LOW
MSRY.	MASONRY
MAX.	MAXIMUM
MECH.	MECHANICAL
MIN.	MINIMUM
MIR.	MIRRORED
N.S.	NEAR SIDE
N.A.	NOT APPLICABLE
N.T.S.	NOT TO SCALE
O.C.	ON CENTER
OPNG.	OPENING
PL	PLATE
R.	RADIUS
RE:	REFERENCE
REINF.	REINFORCING
REQ'D	REQUIRED
SCHED.	SCHEDULE
SEC.	SECTION
SHT.	SHEET
SIM.	SIMILAR
SQ.	SQUARE
S.S.	STAINLESS STEEL
STL.	STEEL
T&B	TOP & BOTTOM
T.O.	TOP OF
TRANS.	TRANSVERSE
TYP.	TYPICAL
U.N.O.	UNLESS NOTED OTHERWISE
VERT.	VERTICAL
W/	WITH
W/O	WITHOUT

HATCH PATTERN KEY	
	= CONCRETE IN SECTION
	= EARTH IN SECTION
	= EPOXY IN SECTION
	= EXISTING IN PLAN AND SECTION
	= GRANULAR FILL IN SECTION
	= GRATING IN PLAN AND SECTION
	= GROUT IN SECTION
	= INSULATION IN SECTION
	= PLYWOOD IN SECTION
	= SNOW DRIFT LOADING IN PLAN
	= STEEL IN SECTION
	= TOPPING IN SECTION
	= WOOD END GRAIN IN SECTION
	= WOOD FACE GRAIN IN SECTION

STATE OF MISSOURI
MICHAEL L. PARSON,
GOVERNOR



LANDSCAPE ARCHITECT:



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SURVEYOR & CIVIL ENGINEER:

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OFFICE OF ADMINISTRATION
DIVISION OF FACILITIES
MANAGEMENT,
DESIGN AND CONSTRUCTION

DEPARTMENT OF
NATURAL RESOURCES,
MISSOURI STATE PARKS

CAMPGROUND
RENOVATION AND
UPGRADE

BIG LAKE STATE PARK
204 LAKE SHORE DRIVE
CRAIG, MO 64437

PROJECT # X2218-01
SITE # 5105
FACILITY # 7815105008

REVISION: _____
DATE: _____
REVISION: _____
DATE: _____
REVISION: _____
DATE: _____
ISSUE DATE: 4/7/2023

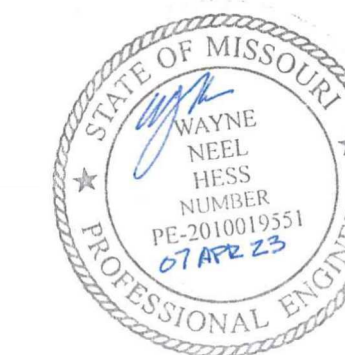
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CHECKED BY: WNH _____
DESIGNED BY: WNH _____

SHEET TITLE:
GENERAL NOTES

SHEET NUMBER:

S-001

SHEET 32 OF 41
APRIL 7, 2023



LANDSCAPE ARCHITECT:



LAC# MO-2002023826
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DESIGNED BY: WNH _____

SHEET TITLE:

PLANS

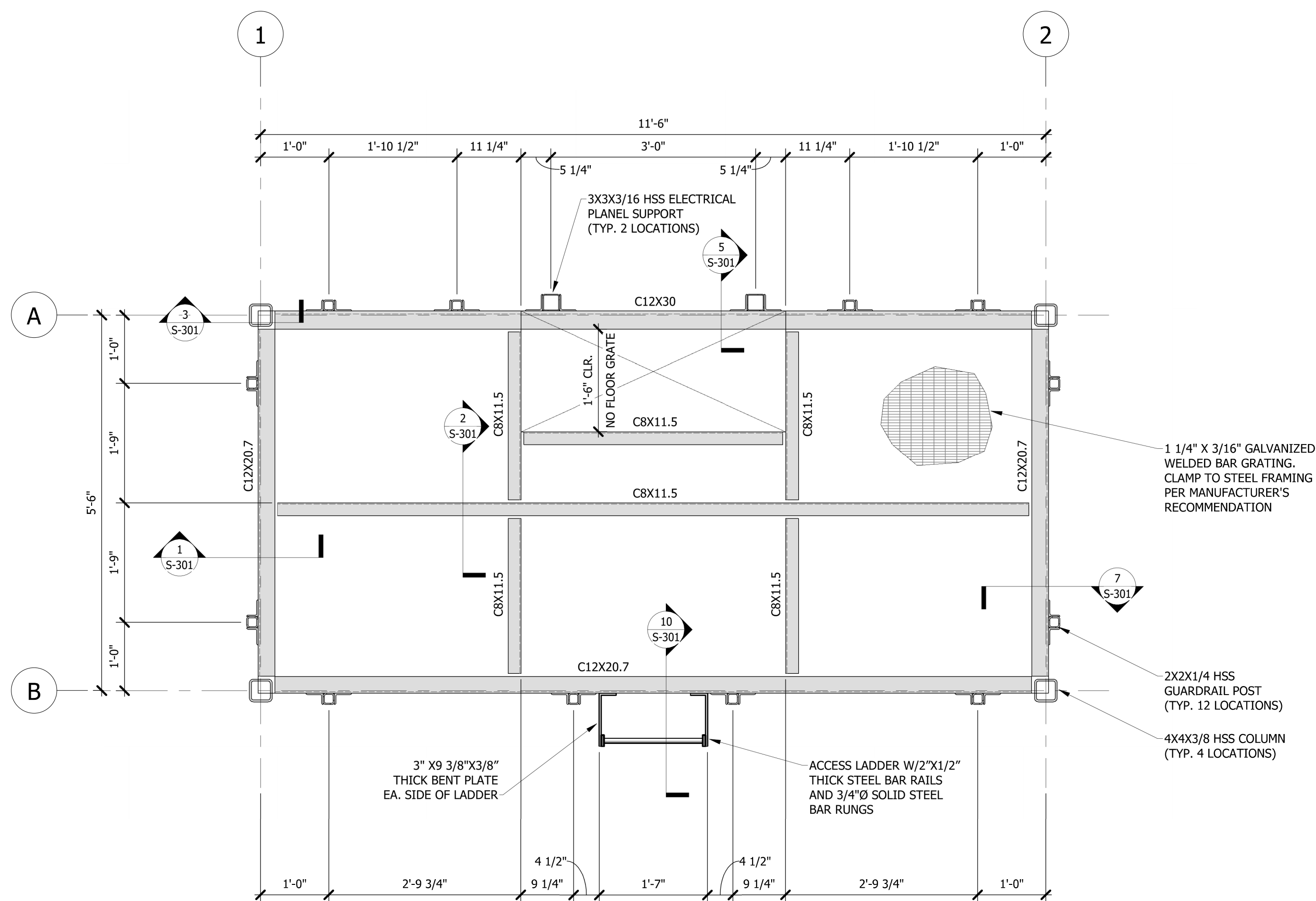
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S-100

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APRIL 7, 2023

FRAMING PLAN NOTES

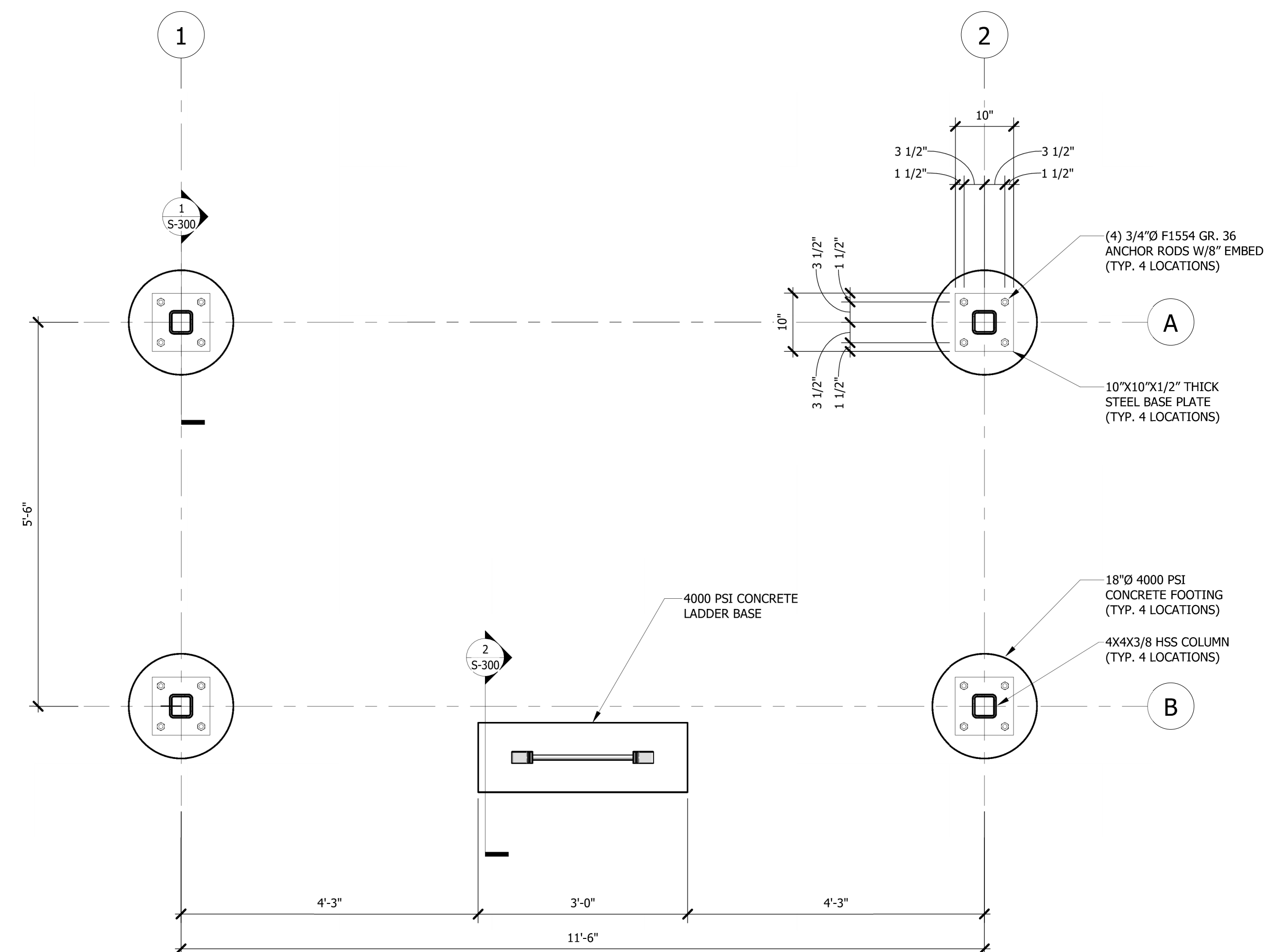
1. ALL STEEL TO BE HOT DIPPED GALVANIZED.
2. ALL BOLTS TO BE A325N.
3. FLOOR GRATING TO BE 1 1/4" X 3/16" GALVANIZED WELDED BAR GRATING
4. COORDINATE ALL OPENINGS IN FLOOR GRATING WITH OTHER DISCIPLINES.
5. CONTRACTOR IS RESPONSIBLE FOR THE DESIGN OF MEMBERS DIRECTLY SUPPORTING THE ELECTRICAL PANEL AND ATTACHED TO SUPPORTS.



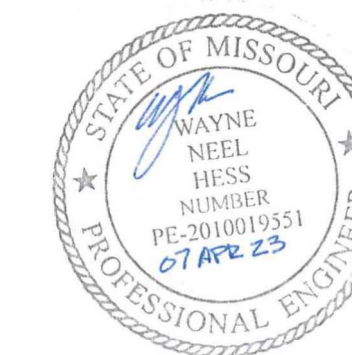
2 PLATFORM LEVEL FRAMING PLAN
3/4" = 1'-0"

FOUNDATION PLAN NOTES

1. ALL CONCRETE TO HAVE 4000 PSI COMPRESSIVE STRENGTH.
2. BASE ELEVATIONS VARY BETWEEN THE NORTH AND SOUTH PLATFORM LOCATION.
3. REFER TO OTHER DISCIPLINES DRAWINGS FOR ELECTRICAL PLATFORM LOCATIONS.
4. ALL ANCHOR RODS TO BE F1554 GRADE 36.
5. ANCHOR RODS TO BE CAST-IN-PLACE AND HELD IN PLACE USING A RIGID TEMPLATE.



1 PLATFORM FOUNDATION PLAN
3/4" = 1'-0"



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204 LAKE SHORE DRIVE
CRAIG, MO 64437

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DRAWN BY: WNH _____
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DESIGNED BY: WNH _____

SHEET TITLE:
ELEVATIONS

SHEET NUMBER:

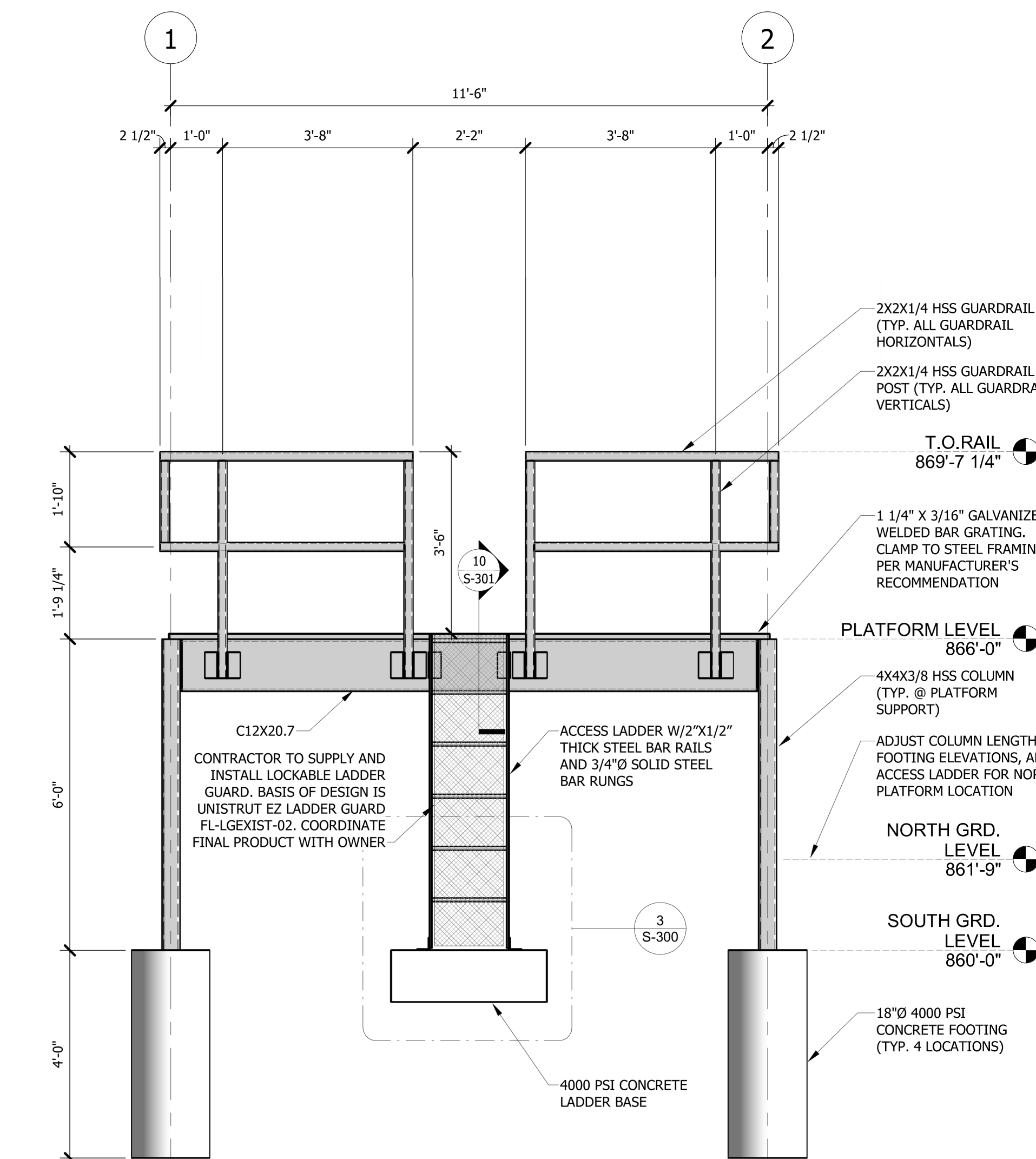
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APRIL 7, 2023

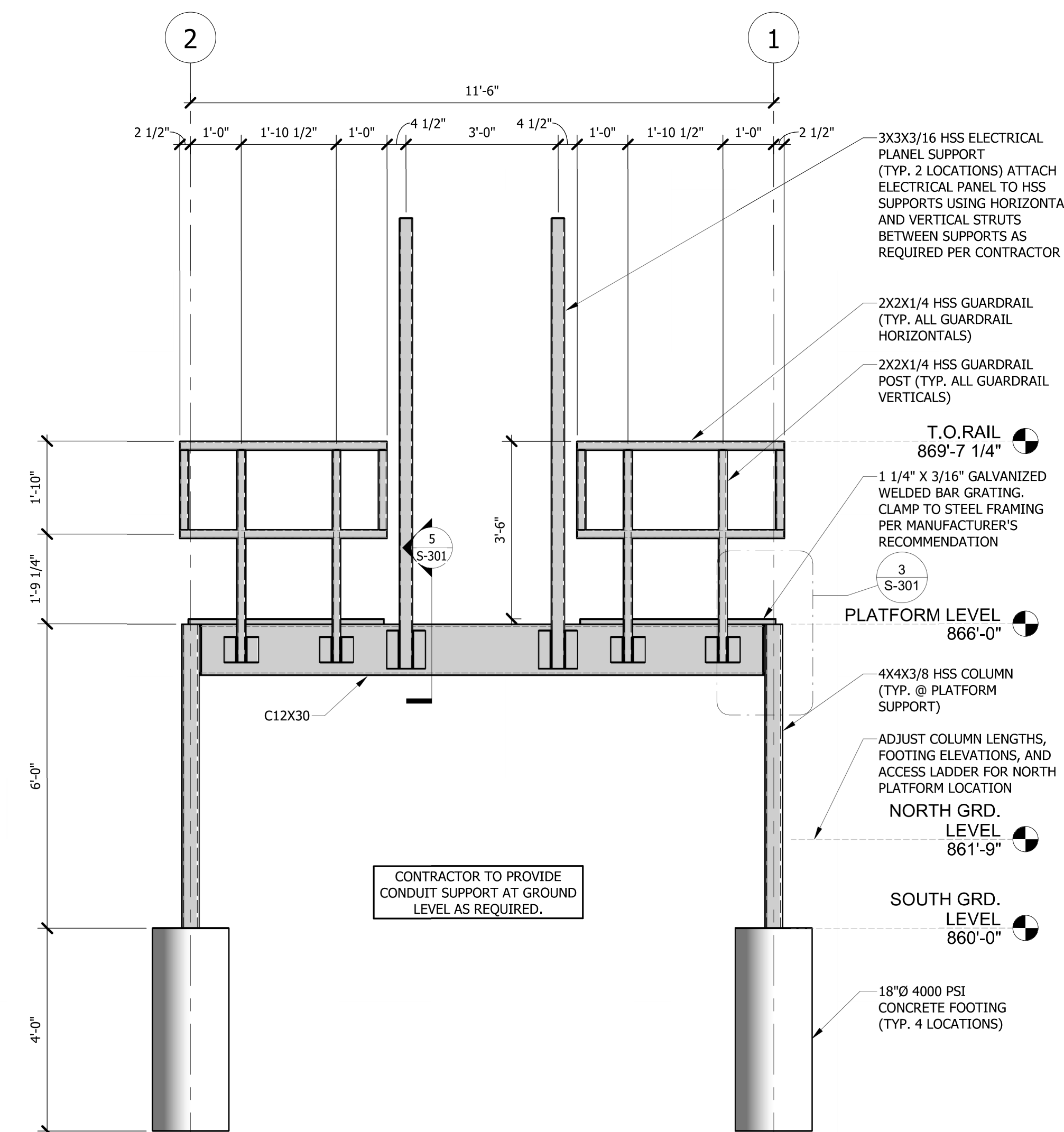
CAUTION SIGN TO BE ATTACHED TO
PLATFORM STRUCTURE COORDINATE
SIZE, QUANTITY, TYPE, AND
LOCATIONS WITH OWNER.
CONTRACTOR TO INSTALL SIGNS IN
LOCATIONS PROVIDED BY OWNER.



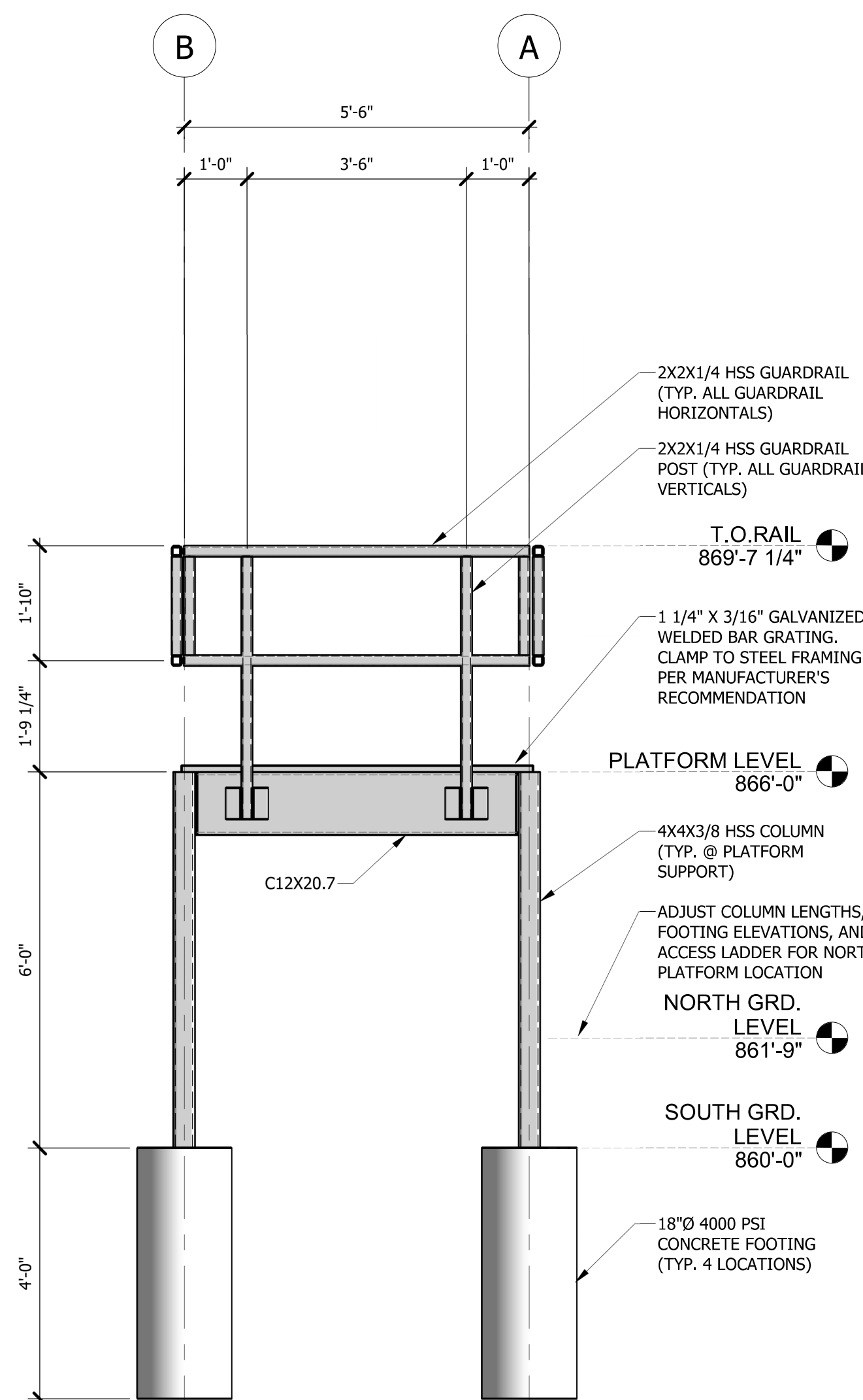
4 CAUTION SIGN
3" = 1'-0"



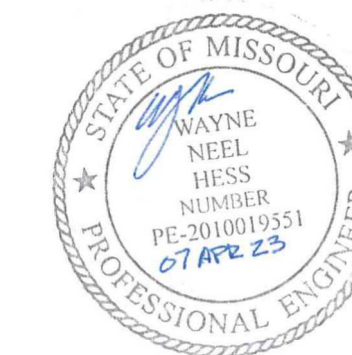
1 ELEVATION - ACCESS LADDER SIDE
1/2" = 1'-0"



2 ELEVATION - ELECTRIC PANEL SUPPORT SIDE
1/2" = 1'-0"



3 ELEVATION - SIDE (1 THUS, 1 REVERSE)
1/2" = 1'-0"



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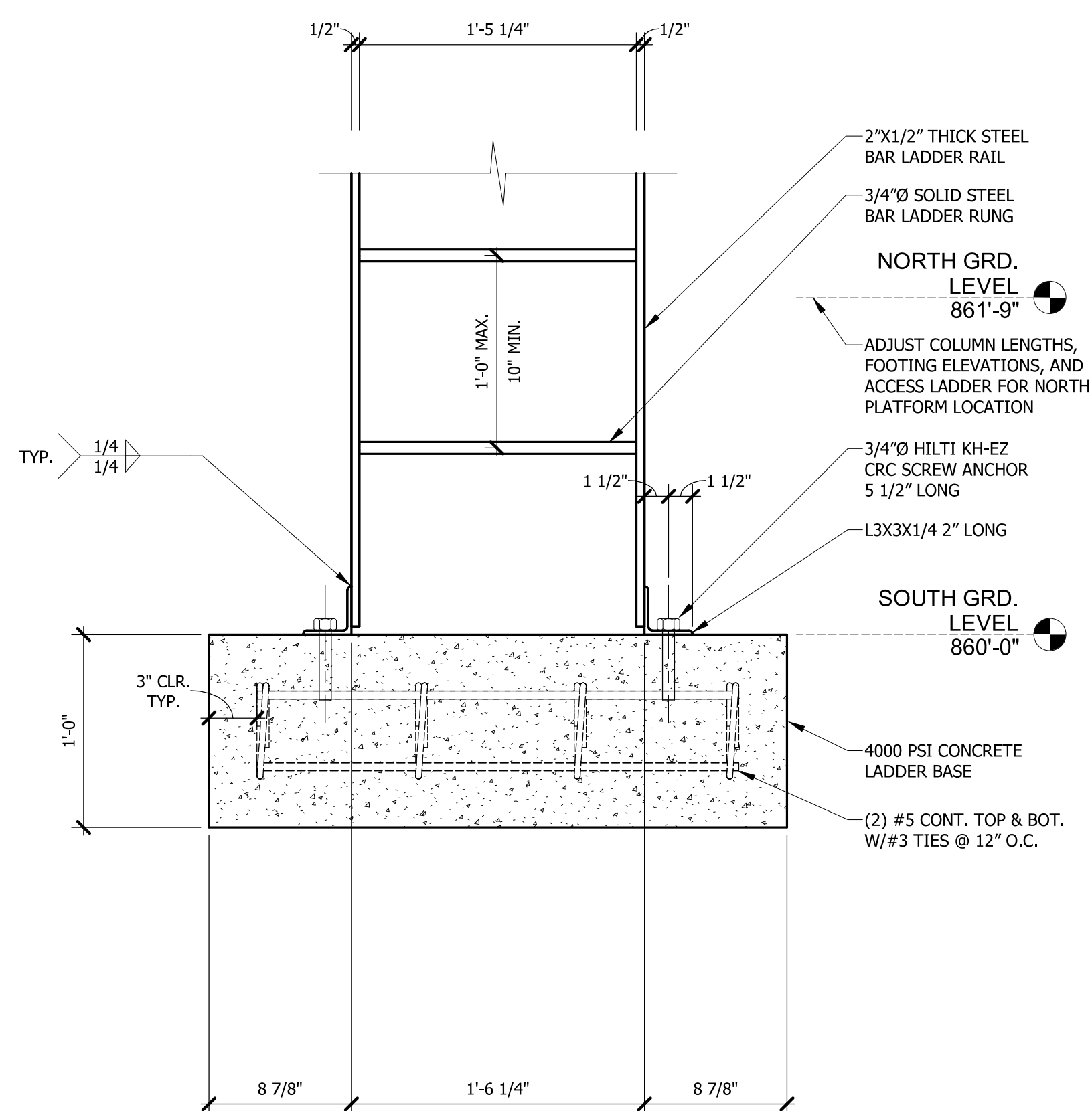
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DESIGNED BY: WNH _____

SHEET TITLE:
**FOUNDATION
SECTIONS**

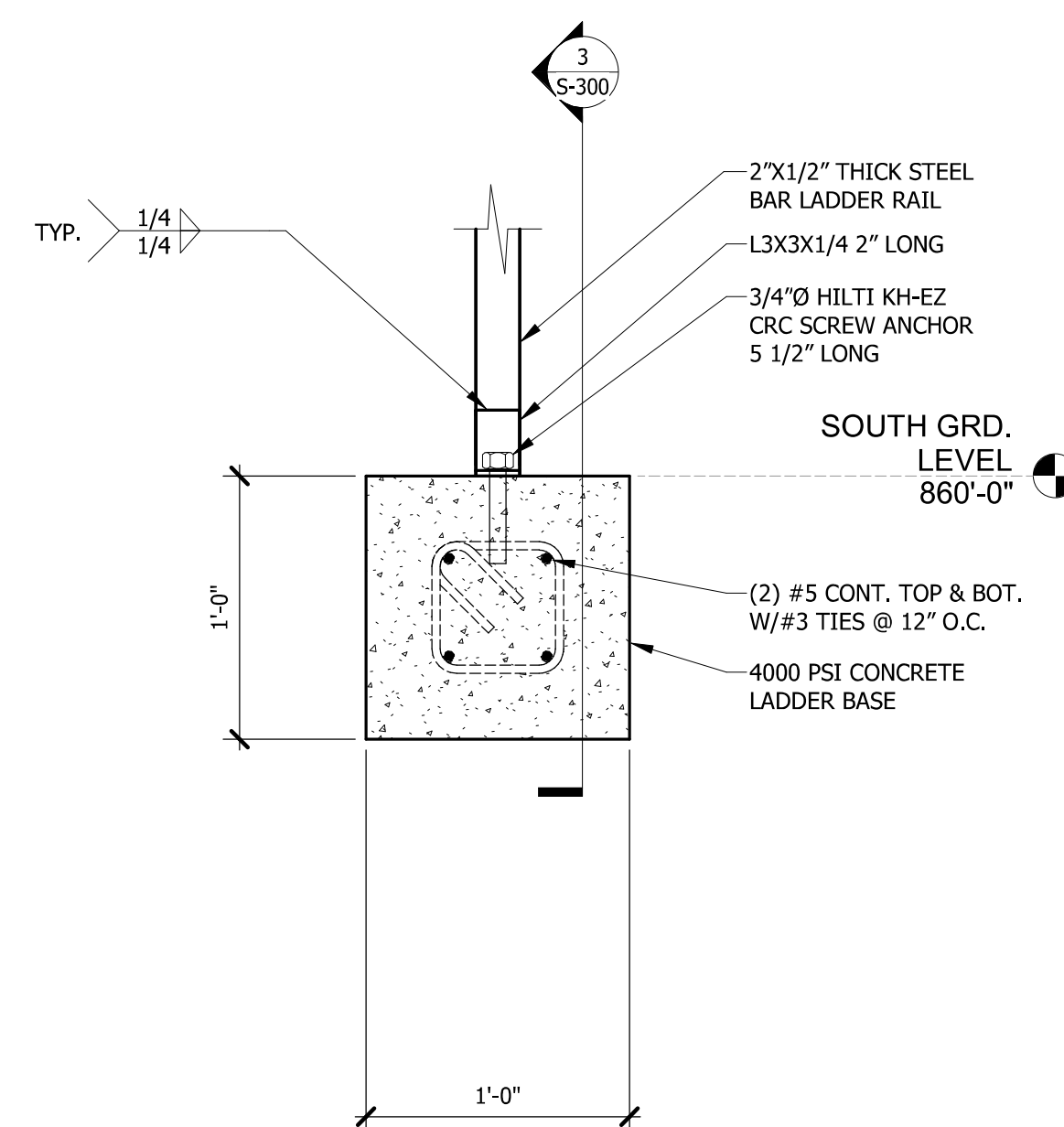
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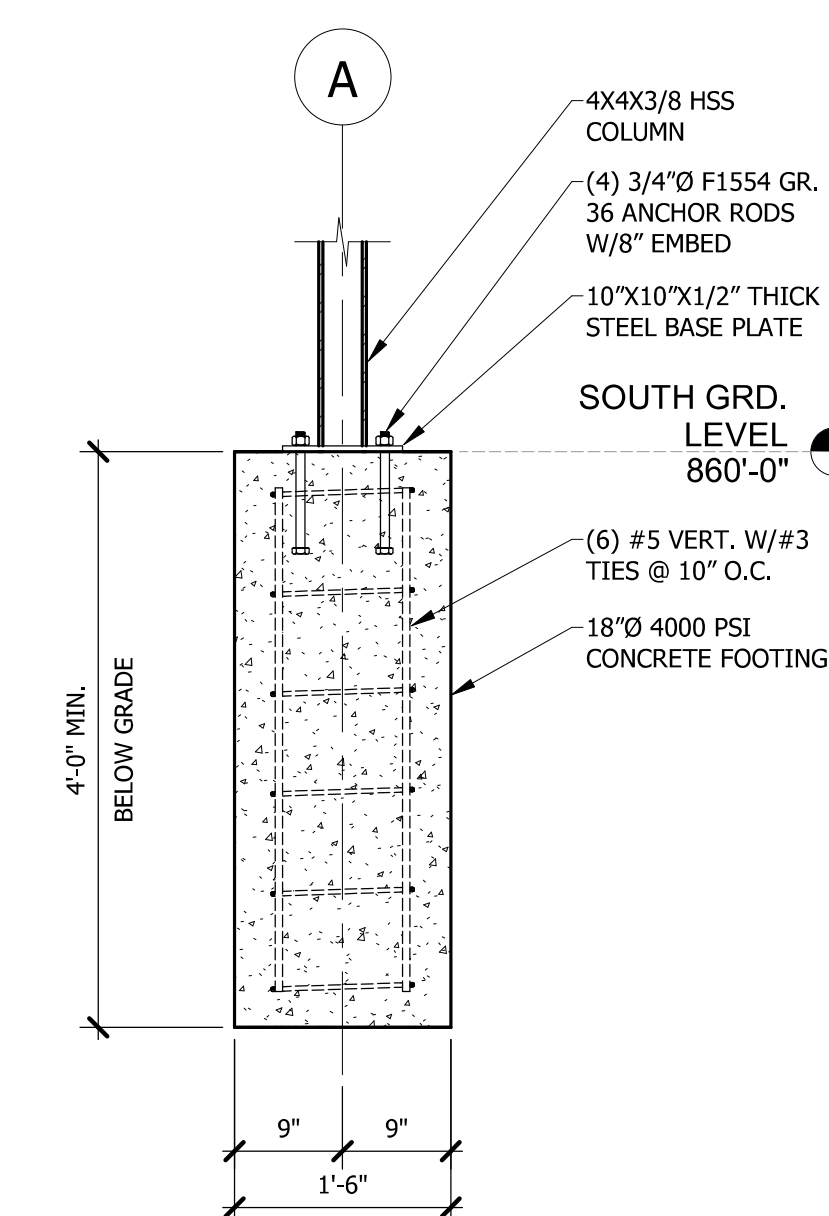
SHEET 35 OF 41
APRIL 7, 2023



3 LADDER BASE SECTION - LONGITUDINAL
1 1/2" = 1'-0"



2 LADDER BASE SECTION
1 1/2" = 1'-0"



1 PLATFORM FOUNDATION SECTION
3/4" = 1'-0"

GENERAL NOTES: (TYPICAL ALL SHEETS)

- A) ALL WORK SHALL CONFORM TO THE APPLICABLE PROVISIONS OF THE LATEST NATIONAL ELECTRICAL CODE, UNDERWRITERS LABORATORIES, INC., OCCUPATIONAL SAFETY AND HEALTH ACT, AND ALL STATE, LOCAL, MUNICIPAL, AND STATUTORY REQUIREMENTS.
- B) PEDESTAL FEEDER WIRING TO BE COPPER: XLPE, RHW-2 OR USE-2 TYPE, DIRECT BURIED.
- C) ALL SINGLE PHASE, SINGLE POLE LOADS TO HAVE DEDICATED NEUTRALS. LABEL NEUTRAL CONDUCTORS WITH CORRESPONDING CIRCUIT NUMBER AT EACH PULL BOX, JUNCTION BOX, HANDHOLE AND OTHER SPLICE POINTS. USE OF BREAKER TIES IS NOT PERMITTED. SHARING OF NEUTRALS IS NOT PERMITTED.
- D) WHERE ELECTRICAL SITE WORK IS REQUIRED, CONTRACTOR SHALL RESTORE EXISTING SITE TO ITS ORIGINAL CONDITION, INCLUDING BUT NOT LIMITED TO REPLACING VEGETATION, SOFTSCAPE AND HARDSCAPE REQUIRED TO BE DISTURBED DURING INSTALLATION OF ELECTRICAL COMPONENTS.
- E) USE OF 3M SCOTCHLOK CONNECTORS OR PUSH-IN WIRE CONNECTORS (SIMILAR TO WAGO PUSH-IN CONNECTORS) ARE NOT PERMITTED. ALL WIRING CONNECTIONS TO BE DONE WITH WIRE NUT CONNECTORS.
- F) IF CONTRACTOR CHOOSES TO GROUP CIRCUITS FOR HOMERUNS, CONTRACTOR SHALL APPLY ADJUSTMENT FACTORS FOR MORE THAN THREE CURRENT CARRYING CONDUCTORS IN A RACEWAY PER NEC TABLE 310.15(B)(3)(a). CONDUCTORS SHALL BE UPSIZED AS REQUIRED TO MAINTAIN FULL AMPACITY RATING.
- G) ALL EMPTY CONDUITS SHALL BE PROVIDED WITH A PULL WIRE.
- H) ALL PANELBOARDS, SWITCHBOARDS AND LINE VOLTAGE CONTROL EQUIPMENT SHALL BE FIELD MARKED TO WARN QUALIFIED PERSONS OF POTENTIAL ELECTRIC ARC FLASH HAZARDS. MARKING SHALL BE LOCATED SO AS TO BE CLEARLY VISIBLE TO QUALIFIED PERSONS BEFORE EXAMINATION, ADJUSTING, SERVICING OR MAINTENANCE OF EQUIPMENT. MARKING SHALL BE SELF ADHESIVE, COMMERCIAL LABEL CONFORMING TO NEC AND ANSI REQUIREMENTS.
- I) ANY MATERIAL REMOVED THAT OWNER DOES NOT WISH TO RETAIN SHALL BE REMOVED FROM PROJECT SITE AND DISPOSED OF BY THE CONTRACTOR.
- J) UPDATED, TYPEWRITTEN PANELBOARD DIRECTORY SHALL BE PROVIDED FOR EACH PANELBOARD THAT CIRCUITS HAVE BEEN ADDED TO OR MODIFIED.



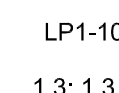
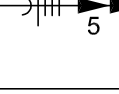
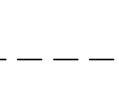

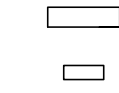
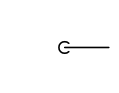




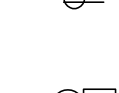
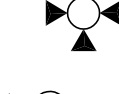
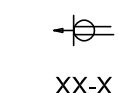

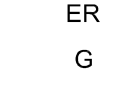
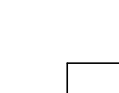
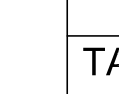
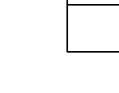
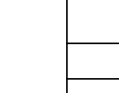
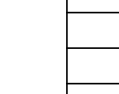
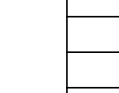






GENERAL DEMO NOTES:

- A) REMOVE ALL WIRING (CONDUIT, CONDUCTORS, BOXES, ETC.) ABANDONED AS PART OF THIS PROJECT.
- C) ANY EXISTING DEVICE AND/OR CIRCUIT SHOWN ARE INDICATED ONLY FOR INFORMATION PURPOSES. THE CONTRACTOR SHALL VISIT THE SITE AND VERIFY ALL CONDITIONS AS THEY EXIST AND SHALL REMOVE, RELOCATE AND/OR REWORK ANY ELECTRICAL EQUIPMENT OR CIRCUITS NECESSARY FOR A COMPLETE REWIRING SYSTEM.
- D) UNLESS NOTED OTHERWISE, THE CONTRACTOR SHALL FAMILIARIZE THEMSELVES WITH ALL WORK TO BE DONE BY OBSERVATION OF THE SITE. FAILURE TO DO SO WILL NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY FOR PERFORMING ALL WORK NECESSARY TO PROVIDE A WORKMANLIKE INSTALLATION.
- E) THE CONTRACTOR SHALL MAINTAIN ACCURATE RECORDS OF ANY MODIFICATIONS TO THE EXISTING SYSTEMS WHICH ARE TO REMAIN AND SHALL, UPON COMPLETION OF THIS PROJECT, DELIVER "RECORD" DRAWINGS TO THE ARCHITECT INDICATING ALL SUCH CHANGES. THE CONTRACTOR SHALL MAINTAIN IN THE PROJECT OFFICE, AS WORK PROGRESSES, AN UP-TO-DATE NEATLY MARKED COPY OF THESE DRAWINGS FOR REVIEW BY THE APPROPRIATE PARTIES.
- F) WHERE NEW WORK INTERFERES WITH CIRCUITS OTHERWISE UNDISTURBED, EXISTING CIRCUITS SHALL BE REWORKED AS REQUIRED TO MAINTAIN SERVICE.
- G) THE CONTRACTOR SHALL FIELD VERIFY THE LOCATION OF ALL EXISTING UTILITIES, THE CONDITION OF EXISTING DEVICES AND MATERIALS, AND SHALL BE RESPONSIBLE FOR THE PROTECTION OF THE SAME DURING THE COURSE OF THIS WORK. EXISTING UTILITIES, EXISTING BUILDING, AND/OR MATERIALS WHICH ARE DAMAGED BY NEGLIGENCE ON THIS CONTRACTOR'S PART OR ANY PARTIES ASSOCIATED WITH THIS CONTRACTOR, SHALL BE REPAIRED OR REPLACED AT THIS CONTRACTOR'S EXPENSE, IN A TIMELY MANNER, AND TO THE ARCHITECT'S AND OWNER'S WRITTEN ACCEPTANCE.
- H) CIRCUIT ROUTINGS SHOWN MAY BE MODIFIED TO SUIT FIELD CONDITIONS, HOWEVER, KEEP CIRCUITS AS INDICATED TO AVOID OVERLOADING OF THE CIRCUIT.
- I) WHERE EXISTING ELECTRICAL DISTRIBUTION PANELBOARDS ARE TO BE REMOVED, THE CONTRACTOR SHALL PROVIDE TEMPORARY CONNECTIONS TO MAINTAIN POWER TO FEEDER CIRCUITS UNTIL A PERMANENT PANEL IS INSTALLED TO RECONNECT THE EXISTING REMAINING CIRCUITS.
- J) MAINTAIN CONTINUITY OF EXISTING CIRCUITS SERVING DEVICES, FIXTURES OR EQUIPMENT TO REMAIN.

CODE SUMMARY:

INTERNATIONAL BUILDING CODE	2018
NFPA 70 NATIONAL ELECTRICAL CODE	2020

ELECTRICAL SYMBOLS:

-  BRANCH CIRCUIT CONCEALED IN CEILING OR WALL. ARROWS INDICATE HOMERUNS TO PANEL. ALL CONDUCTORS #12 AWG UNLESS NOTED OTHERWISE. EACH SINGLE PHASE CIRCUIT TO HAVE DEDICATED NEUTRAL.
-  PHASE CONDUCTORS
-  NEUTRAL CONDUCTOR
-  GROUND CONDUCTOR
-  DENOTES PARTIAL CIRCUIT
- LP1-10 PANEL - BREAKER NUMBER (IDENTIFICATION)
- 1,3; 1,3,5 INDICATES X,X= 2-POLE C.B.; X,X,X = 3-POLE C.B.
-  HOMERUN INDICATED LIKE THIS INDICATED THREE SEPARATE SINGLE PHASE CIRCUITS. EACH CIRCUIT TO HAVE DEDICATED NEUTRAL.
-  CONDUIT CONCEALED IN CEILING OR WALL WITH THREE CONDUCTORS: 1-PHASE; 1-NEUTRAL; 1-GROUND WIRE, NO.12 AWG UNLESS OTHERWISE SPECIFIED ON DRAWINGS.
-  CONDUIT RUN UNDERGROUND OR CONCEALED IN FLOOR SLAB.
-  GROUNDING CONDUCTOR NO.12 WIRE EXCEPT AS NOTED.
-  MOTOR
-  208Y/120V OR 120/240V PANELBOARD TOP MOUNTED 72" AFF
-  DISTRIBUTION PANEL (SURFACE OR FLOOR MOUNTED).
-  SURFACE MOUNTED EQUIPMENT, TYPE AS INDICATED ON DRAWINGS
-  CONDUIT UP
-  CONDUIT DOWN
-  CONDUIT STUBBED THRU WALL WITH BUSHINGS ON BOTH ENDS. SIZE AS NOTED ON PLANS.
-  EMPTY CONDUIT STUB-UP INSIDE WALL TO ABOVE ACCESSIBLE CEILING WITH BUSHING ON THE END. SIZE AS NOTED ON DRAWINGS.
-  GROUND
-  POWER CONNECTION POINT
-  DISCONNECT SWITCH, SIZE AND TYPE AS NOTED TOP MOUNTED 60" AFF
-  PAD MOUNTED TRANSFORMER.
-  PAD MOUNTED POWER PEDESTAL. REFER TO DETAILS/SPECS FOR TYPE.
-  GFI DUPLEX RECEPTACLE WITH WEATHERPROOF WHILE-IN-USE COVER. HEIGHT AS NOTED.
-  DUPLEX RECEPTACLE W/GROUND FAULT PROTECTION. +18" AFF OR AS NOTED
-  OVERHEAD POWER POLE WITH A RISER POLE.
-  OVERHEAD POWER POLE WITH POLE MOUNTED TRANSFORMERS.
-  WALL MOUNTED OR CEILING MOUNTED JUNCTION BOX.
-  INDICATES DEVICE ABOVE RE: DRAWING
-  ELECTRICAL EQUIPMENT PROVIDED BY AND INSTALLED BY E.C.
- +48" TOP OF OUTLET BOX ABOVE FINISHED FLOOR
- AFF ABOVE FINISH FLOOR
- ETR EXISTING TO REMAIN
- ER EXISTING RELOCATED
- G GFCI (GROUND FAULT CIRCUIT INTERRUPTER) PROTECTION

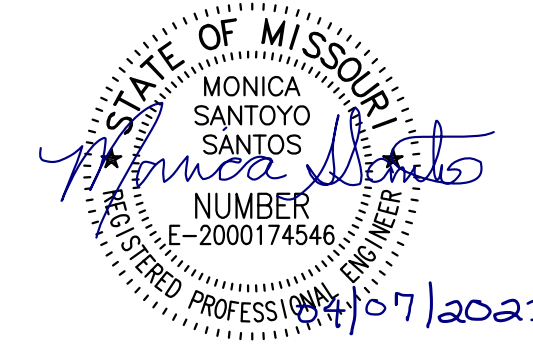
PLAN NOTE LEGEND

TAG VALUE	PLAN NOTE TEXT
ED000	ELECTRICAL DEMOLITION
EP000	POWER

WIRING SCHEDULE-VOLTAGE DROP	
DISTANCE	CONDUCTOR SIZE
120V-20A BRANCH CIRCUIT	
UP TO 100'	#12
100'-150'	#10
150'-250'	#8
250'-OVER	#6
277V-20A BRANCH CIRCUIT	
UP TO 200'	#12
200'-375'	#10
375'-OVER	#8

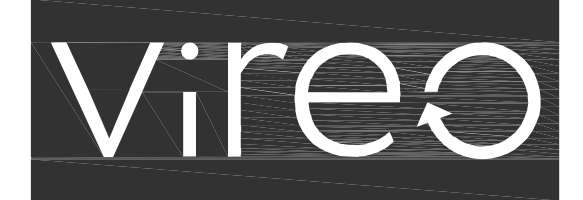
NOTE:
FOR ALL CIRCUITS WITH #6 CONDUCTORS, REDUCE TO #8 CONDUCTORS AT PANEL FOR FINAL CONNECTION TO CIRCUIT BREAKER.

STATE OF MISSOURI
MICHAEL L. PARSON,
GOVERNOR



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DEPARTMENT OF
NATURAL RESOURCES,
MISSOURI STATE PARKS

CAMPGROUND
RENOVATION AND
UPGRADE

BIG LAKE STATE PARK
204 LAKE SHORE DRIVE
CRAIG, MO 64437

PROJECT # X2218-01
SITE # 5105
FACILITY # 7815105008

REVISION: _____
DATE: _____
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DATE: _____
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DATE: _____

ISSUE DATE: 4/7/2023

CAD DWG FILE: _____
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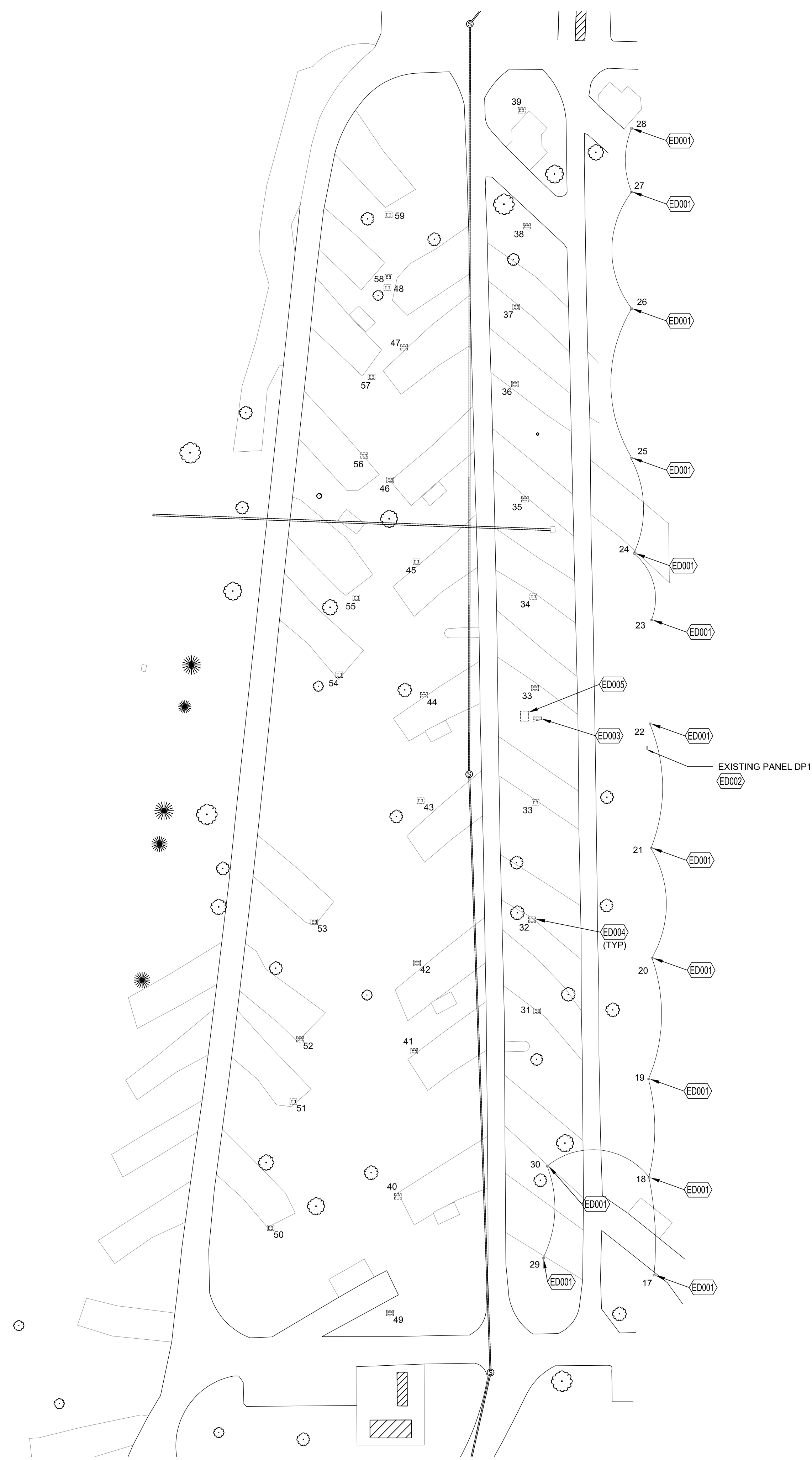
SHEET TITLE:

ELECTRICAL
SYMBOLS AND
GENERAL NOTES

SHEET NUMBER:

E-001

SHEET 37 OF 41
APRIL 7, 2023



ELECTRICAL SITE PLAN - BIG LAKE
 1"=40'
 0 40' 80'

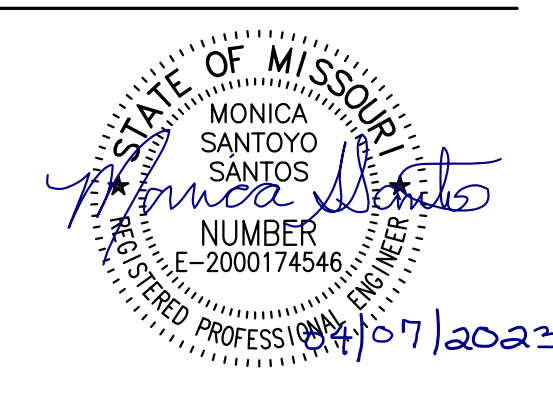
GENERAL NOTES

1	CIRCUIT ROUTING SHOWN IS DIAGRAMMATIC ONLY.
2	CONTRACTOR TO FIELD LOCATE, MAINTAIN AND PROTECT ALL EXISTING UTILITIES UNLESS OTHERWISE NOTED.
3	ATCHISON-HOLT ELECTRIC COOP (AHEC) CONTACT IS: MIKE DAUGHERTY. EMAIL: MDAUGHERTY@AHEC.COOP, CELL (660) 744-4599

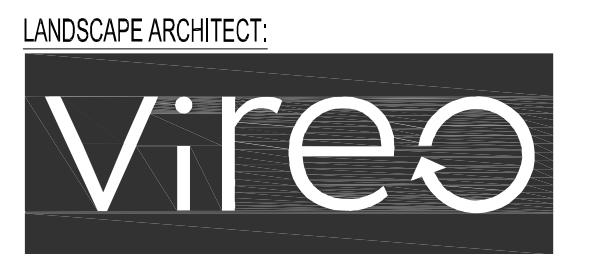
DEMOLITION PLAN NOTES

ED001	EXISTING POWER PEDESTAL TO REMAIN. MAINTAIN CONTINUITY OF CIRCUIT FEEDING PEDESTAL. WIRING SHOWN TO SHOW GROUPING OF PEDESTALS AND FOR REFERENCE ONLY.
ED002	EXISTING PANEL TO REMAIN. PROTECT DURING NEW WORK. RE-FEED FROM RELOCATED TRANSFORMER AS PER NEW WORK PLANS.
ED003	EXISTING PANEL TO BE DISCONNECTED AND REMOVED. REMOVE ALL ASSOCIATED WIRING AND CONDUIT BACK TO UTILITY TRANSFORMER.
ED004	EXISTING PEDESTAL TO BE SALVAGED. DISCONNECT AND REMOVE ALL ASSOCIATED WIRING AND CONDUIT BACK TO PANEL. OWNER HAS THE RIGHT OF FIRST REFUSAL OF POWER PEDESTAL. IF THEY DO NOT WANT IT, THEN PROPERLY DISPOSE OF PEDESTAL.
ED005	EXISTING UTILITY TRANSFORMER TO BE RELOCATED. COORDINATE WITH ATCHISON-HOLT ELECTRIC COOP (AHEC) FOR REMOVAL AND RE-INSTALL PER NEW WORK PLANS. EXISTING METER ASSOCIATED WITH TRANSFORMER TO BE RELOCATED ADJACENT TO EXISTING PANEL TO REMAIN.

STATE OF MISSOURI
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CAMPGROUND
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BIG LAKE STATE PARK
 204 LAKE SHORE DRIVE
 CRAIG, MO 64437

PROJECT # X2218-01
 SITE # 5105
 FACILITY # 7815105008

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ISSUE DATE: 4/7/2023

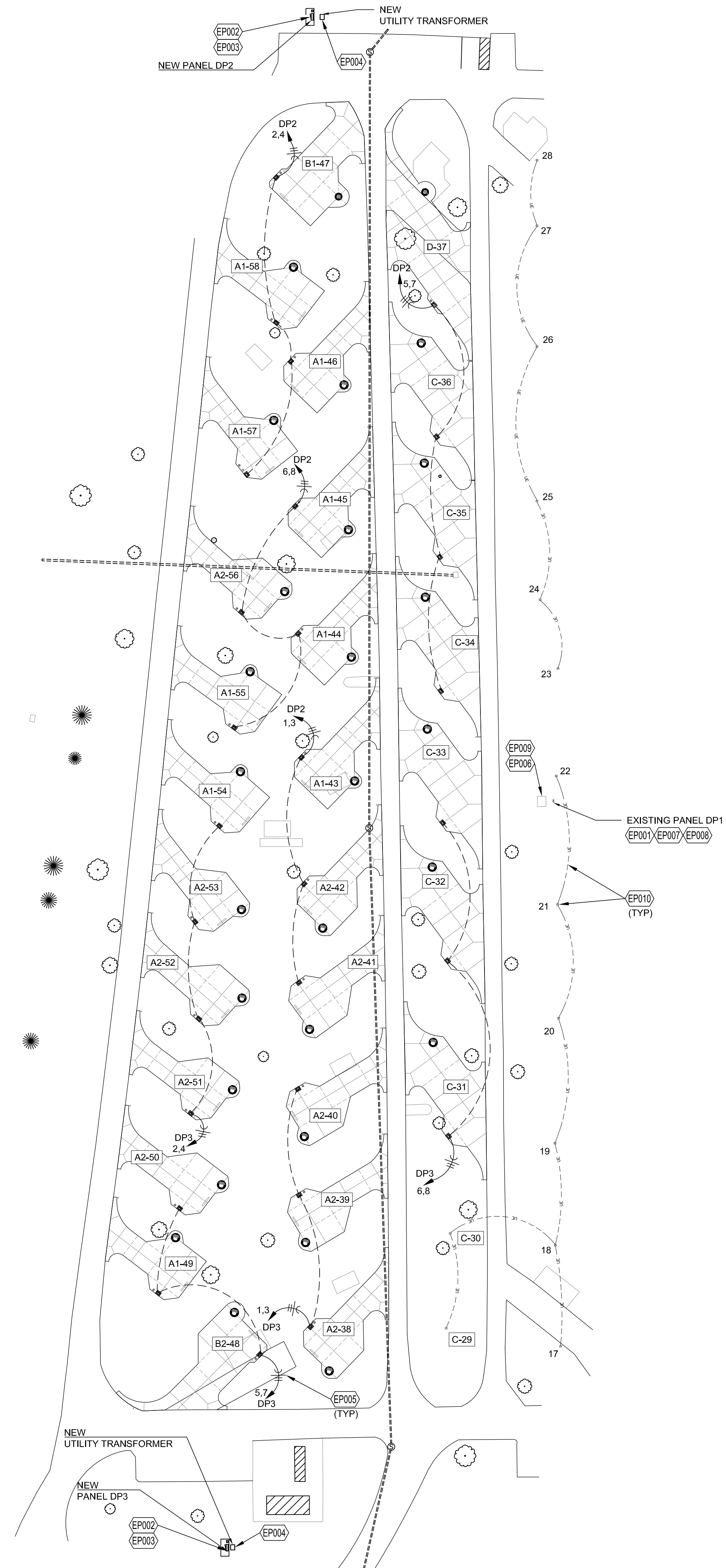
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 DRAWN BY: MSS
 CHECKED BY: MSS
 DESIGNED BY: MSS

SHEET TITLE:
**ELECTRICAL
 SITE PLAN
 DEMOLITION**

SHEET NUMBER:

E-101

SHEET 38 OF 41
 APRIL 7, 2023



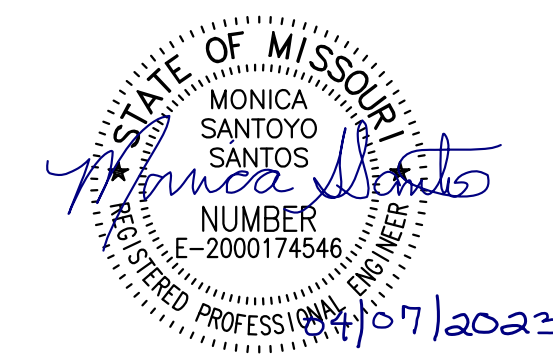
GENERAL NOTES	
1	CIRCUIT ROUTING SHOWN IS DIAGRAMMATIC ONLY.
2	CONTRACTOR TO FIELD LOCATE, MAINTAIN AND PROTECT ALL EXISTING UTILITIES UNLESS OTHERWISE NOTED.
3	ATCHISON-HOLT ELECTRIC COOP (AHEC) CONTACT IS: MIKE DAUGHERTY, EMAIL: MDAUGHERTY@AHEC.COOP, CELL: (660) 744-4599.

NEW WORK PLAN NOTES	
EP001	EXISTING PANEL TO REMAIN. RE-CONNECT TO RELOCATED TRANSFORMER. COORDINATE WITH AHEC.
EP002	PROVIDE NEW SINGLE PHASE, 240/120V PANELBOARD IN NEMA 3R ENCLOSURE. SEE ASSOCIATED PANEL SCHEDULE AND RISER DIAGRAM FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
EP003	PANELBOARD TO BE MOUNTED SO THAT BOTTOM OF PANEL IS A MINIMUM OF ONE (1) FOOT ABOVE THE 100 YEAR FLOOD PLAIN (866); PANELBOARD TO BE MOUNTED ON ELEVATED GALVANIZED STEEL PLATFORM. PROVIDE ALL THE REQUIRED UNI-STRUT SUPPORT FRAMING TO PROPERLY SUPPORT THE CONDUIT RISERS FROM THE GROUND AND TO PROPERLY SUPPORT THE PANELBOARD AND METER FROM THE ELEVATED PLATFORM. REFER TO S-100 & S-200 FOR PLATFORM DETAILS.
EP004	NEW TRANSFORMER TO BE LOCATED CLOSE TO THE ELEVATED PLATFORM MAINTAINING PROPER CLEARANCES AS REQUIRED BY ATCHISON-HOLT ELECTRIC.
EP005	PROVIDE 3#250 KCMIL AND 1 #4 GROUND (TYPE CU USE-2/RHW-2/XLPE CABLE) DIRECT BURIED A MINIMUM OF 24" INCHES THROUGHOUT FULL LENGTH OF CIRCUIT.
EP006	COORDINATE WITH ATCHISON-HOLT ELECTRIC COOP (AHEC) FOR THE RELOCATION OF THE EXISTING TRANSFORMER AND TERMINATION OF SECONDARY CONDUCTORS AT THE TRANSFORMER.
EP007	CONTRACTOR TO REFEED EXISTING PANEL FROM NEW TRANSFORMER LOCATION. MATCH EXISTING FEEDER CONDUCTOR SIZES AND TYPE. DO NOT SPLICE EXISTING FEEDERS. PROVIDE NEW RUN TO NEW TRANSFORMER LOCATION. AT MINIMUM FEEDER TO BE: TWO SETS OF: 3 # 500 KCMIL CU XLP IN 4" SCHEDULE 40 PVC CONDUIT EACH.
EP008	RE-LABEL EXISTING PANEL AS NOTED. PROVIDE A NEW PANEL ID ON INSIDE FACE OF CABINET.
EP009	UTILITY TO RE-LOCATE METER NEXT TO RE-LOCATED TRANSFORMER.
EP010	EXISTING WIRING SHOWN ONLY TO REPRESENT GROUPING OF CIRCUITS. INFORMATION TAKEN FROM EXISTING DRAWINGS. CONTRACTOR SHALL PROTECT FEEDERS TO PEDESTALS TO REMAIN. FIELD VERIFY AS REQUIRED TO PROTECT EXISTING PEDESTALS AND WIRING TO REMAIN.

ELECTRICAL SITE PLAN - BIG LAKE



STATE OF MISSOURI
MICHAEL L. PARSON,
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CAMPGROUND
RENOVATION AND
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BIG LAKE STATE PARK
204 LAKE SHORE DRIVE
CRAIG, MO 64437

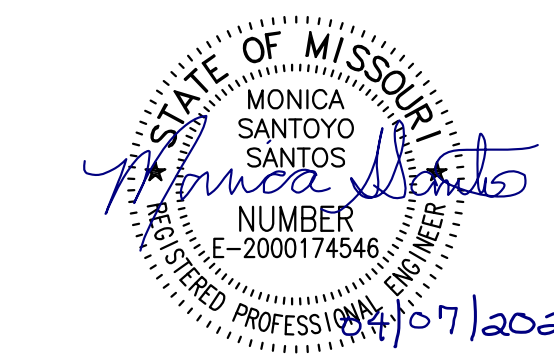
PROJECT # X2218-01
SITE # 5105
FACILITY # 7815105008

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DATE: _____
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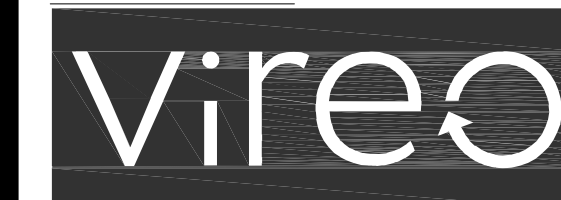
SHEET TITLE:
**ELECTRICAL
SITE PLAN**

SHEET NUMBER:
E-201
SHEET 39 OF 41
APRIL 7, 2023



Monica S Santos - Electrical
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SITE # 5105
FACILITY # 7815105008

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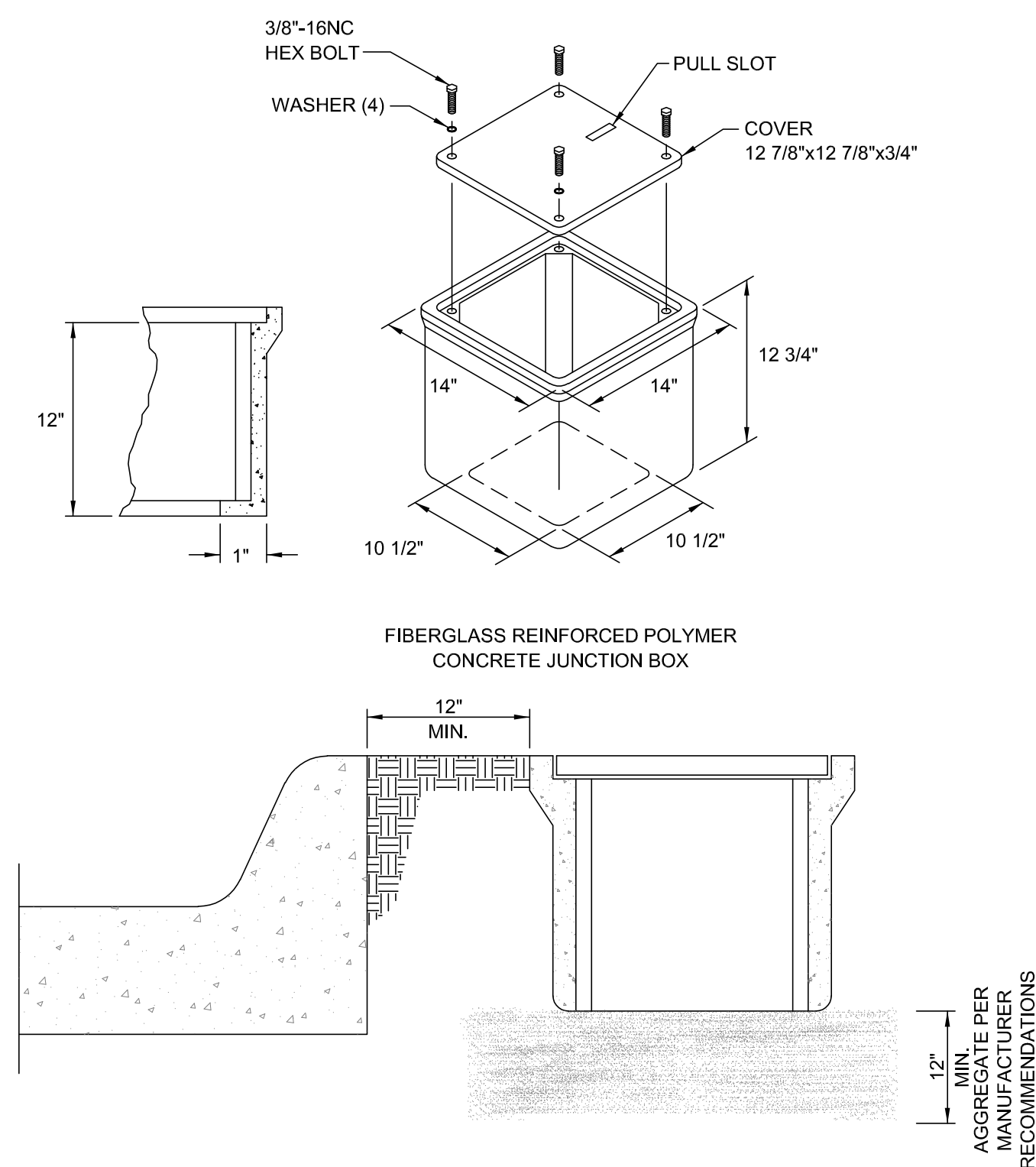
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SHEET TITLE:
**ELECTRICAL
DETAILS**

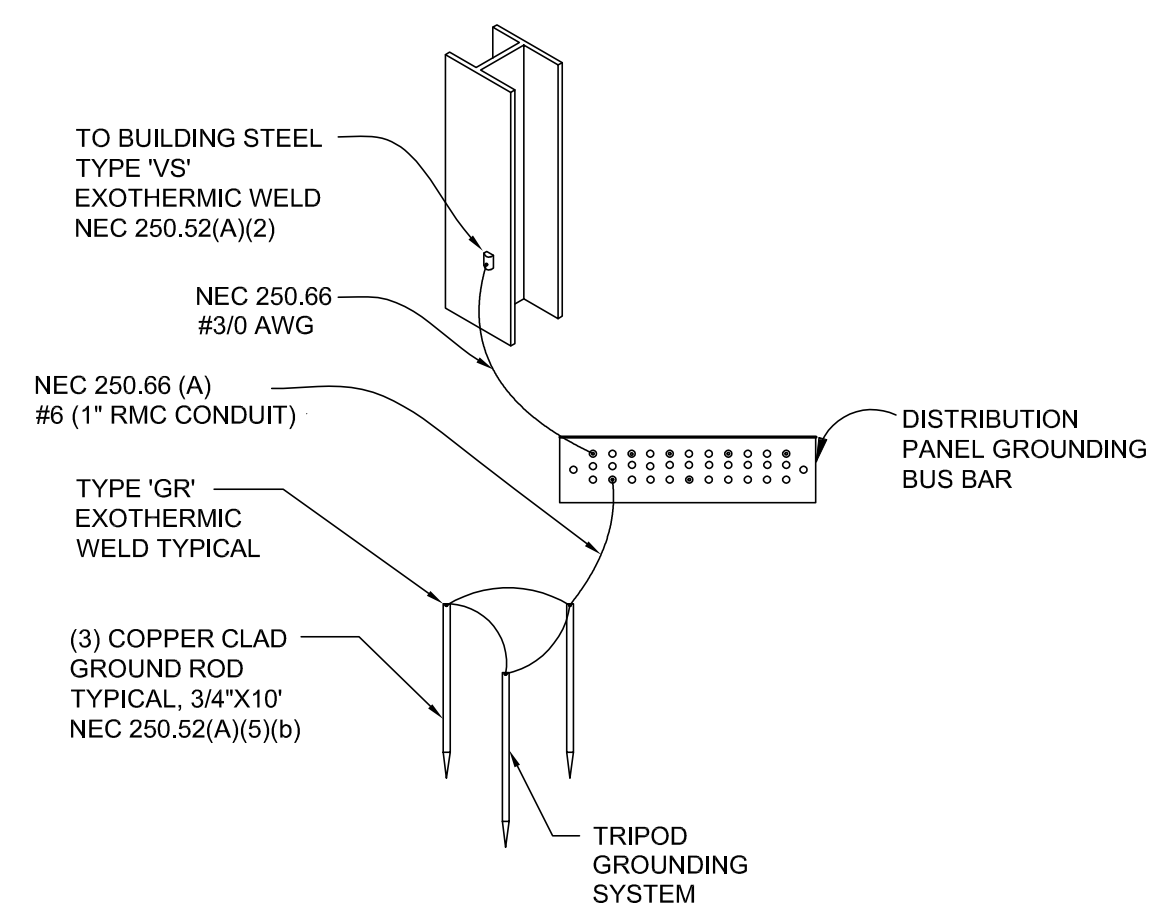
SHEET NUMBER:

E-501

SHEET 40 OF 41
APRIL 7, 2023



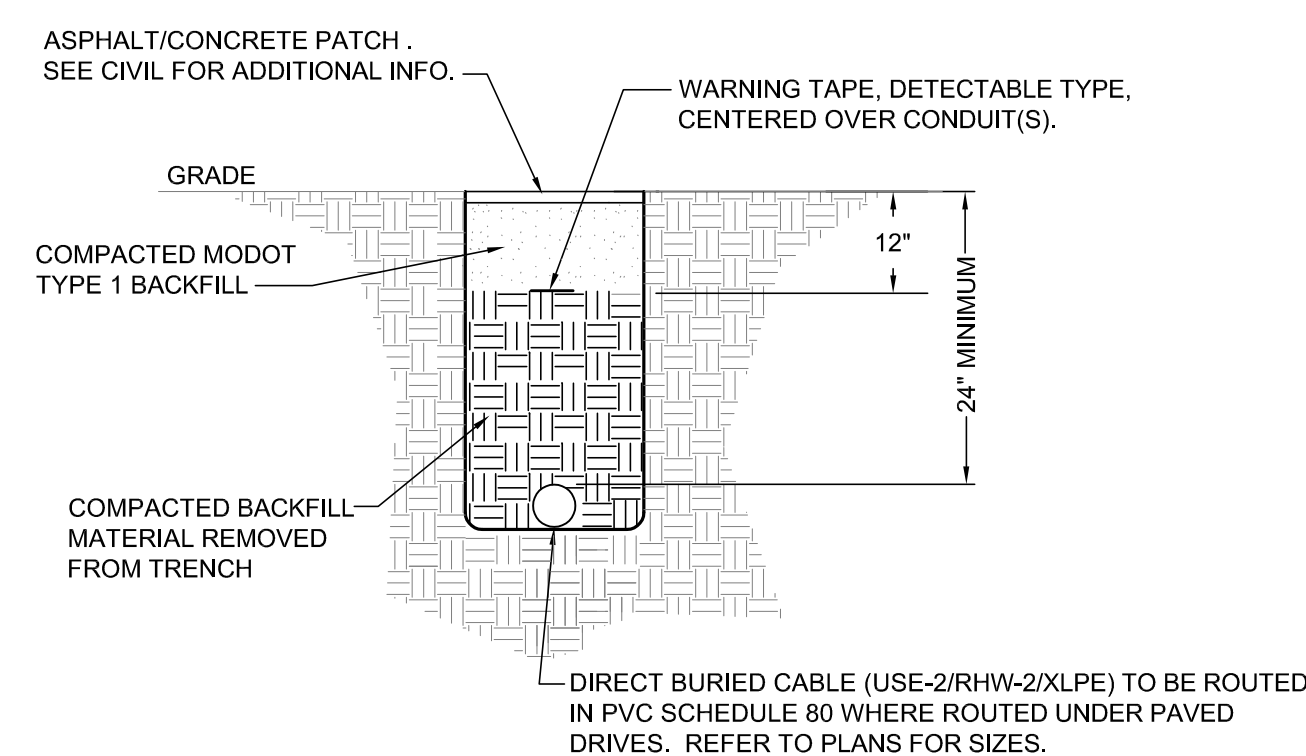
4 JUNCTION BOX DETAIL
NO SCALE



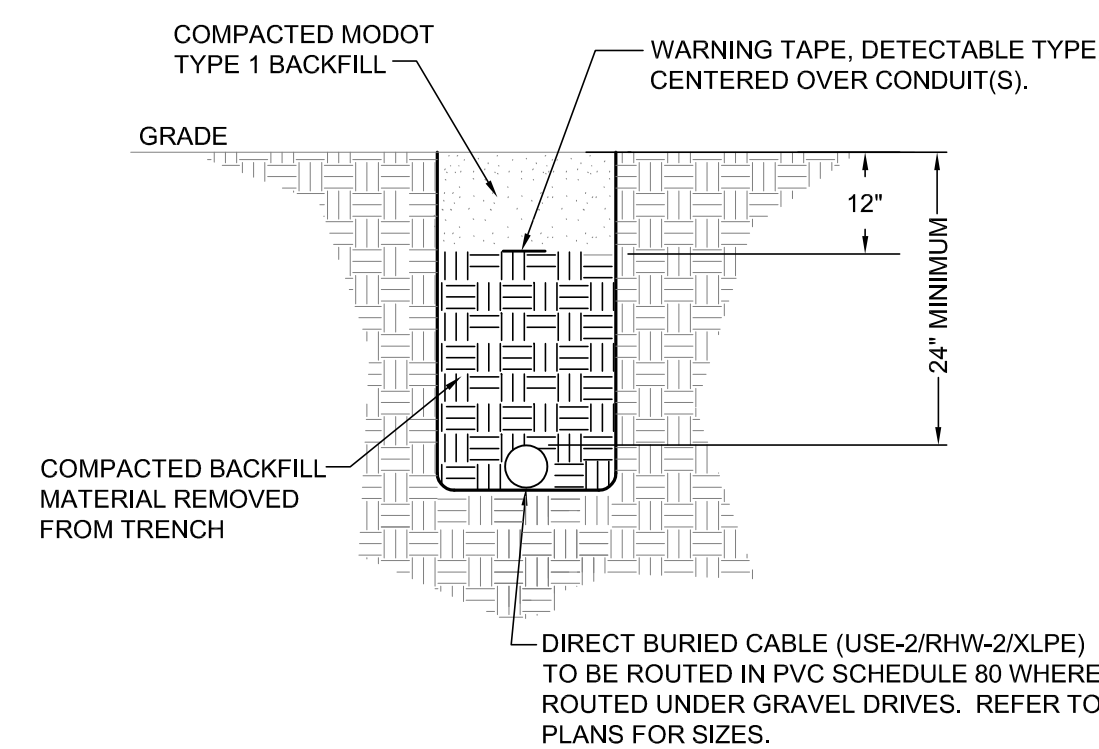
NOTES:

1. EXOTHERMIC WELD DESIGNATION INDICATED ABOVE ARE ERICO 'CADWELD'.
2. ALL GROUND BUS CONNECTIONS TO BE MADE WITH COPRESSION TYPE CONNECTORS.
3. ALL WIRING TO BE TYPE THHN/THWN-2.
4. MAIN GROUP OF RODS ARE TO BE LOCATED AT SERVICE ENTRANCE WITH SIZE AND QUANTITY PER SPECIFICATIONS.
5. EACH CABLE TIED TO THE MAIN PANEL GROUNDING BUS TO BE LABELED.
6. SIZING AND CODE REFERENCES ARE BASED ON NEC 2020.

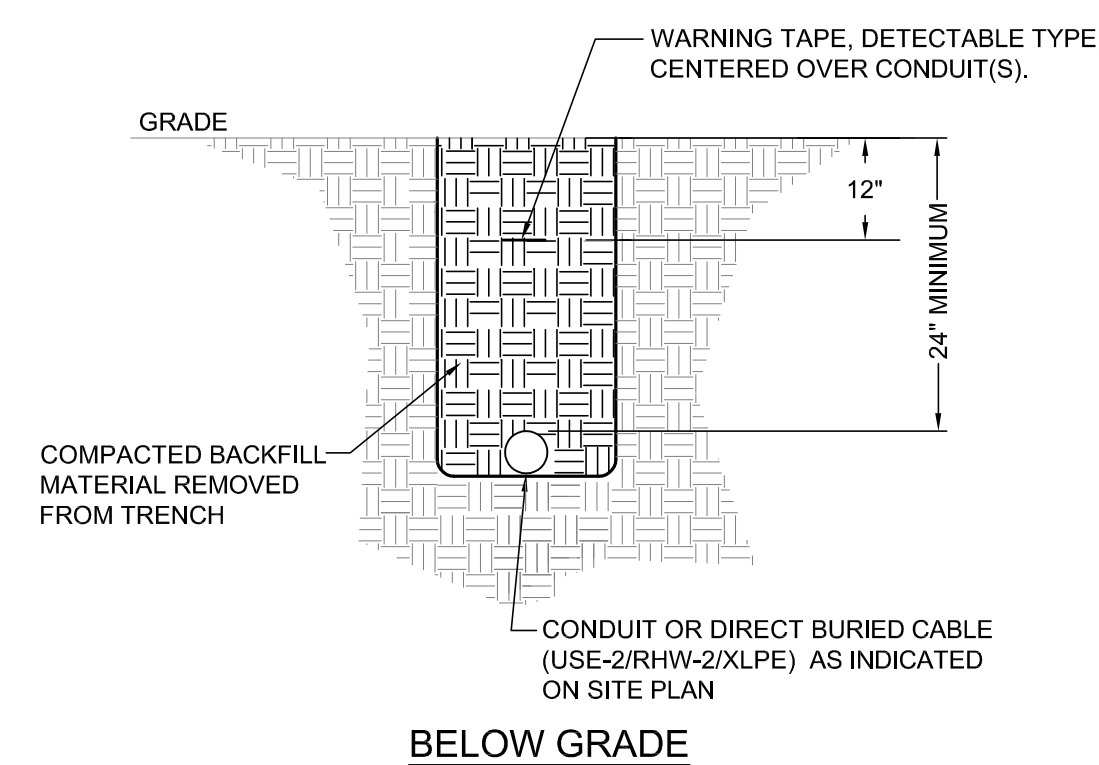
3 MAIN SERVICE GROUNDING
NO SCALE



BELOW PAVEMENT DRIVE



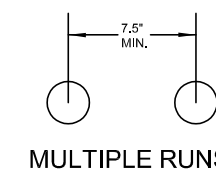
BELOW GRAVEL DRIVE



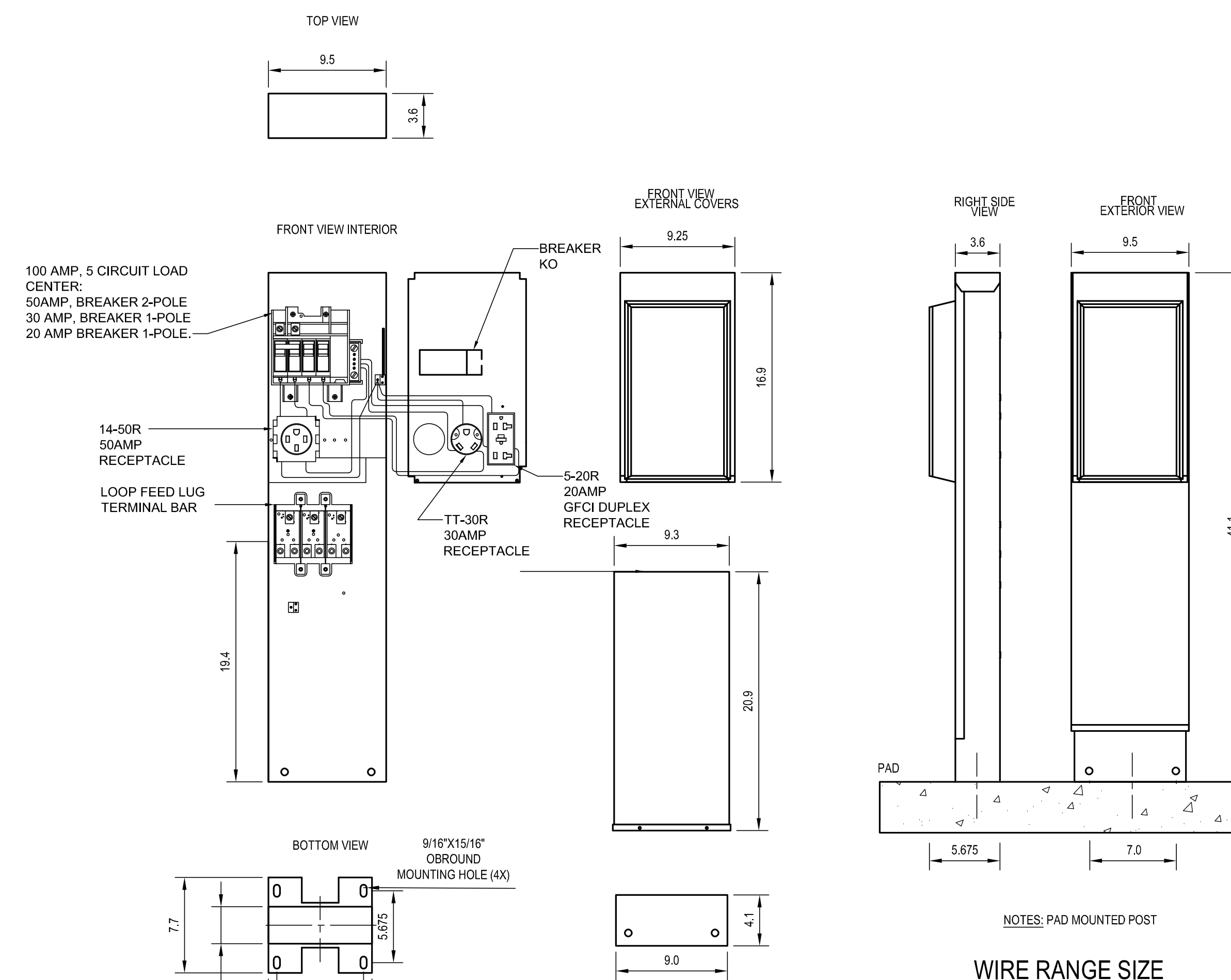
BELOW GRADE

GENERAL NOTES:

- 1) AT CONTRACTOR'S DISCRETION, CONDUITS MAY BE BORED UTILIZING SCHEDULE 40 HDPE CONDUIT.



2 UP TO 600V CONDUIT TRENCH DETAILS
NO SCALE



1 POWER PEDESTAL DETAIL
NO SCALE

NOTES: PAD MOUNTED POST

WIRE RANGE SIZE

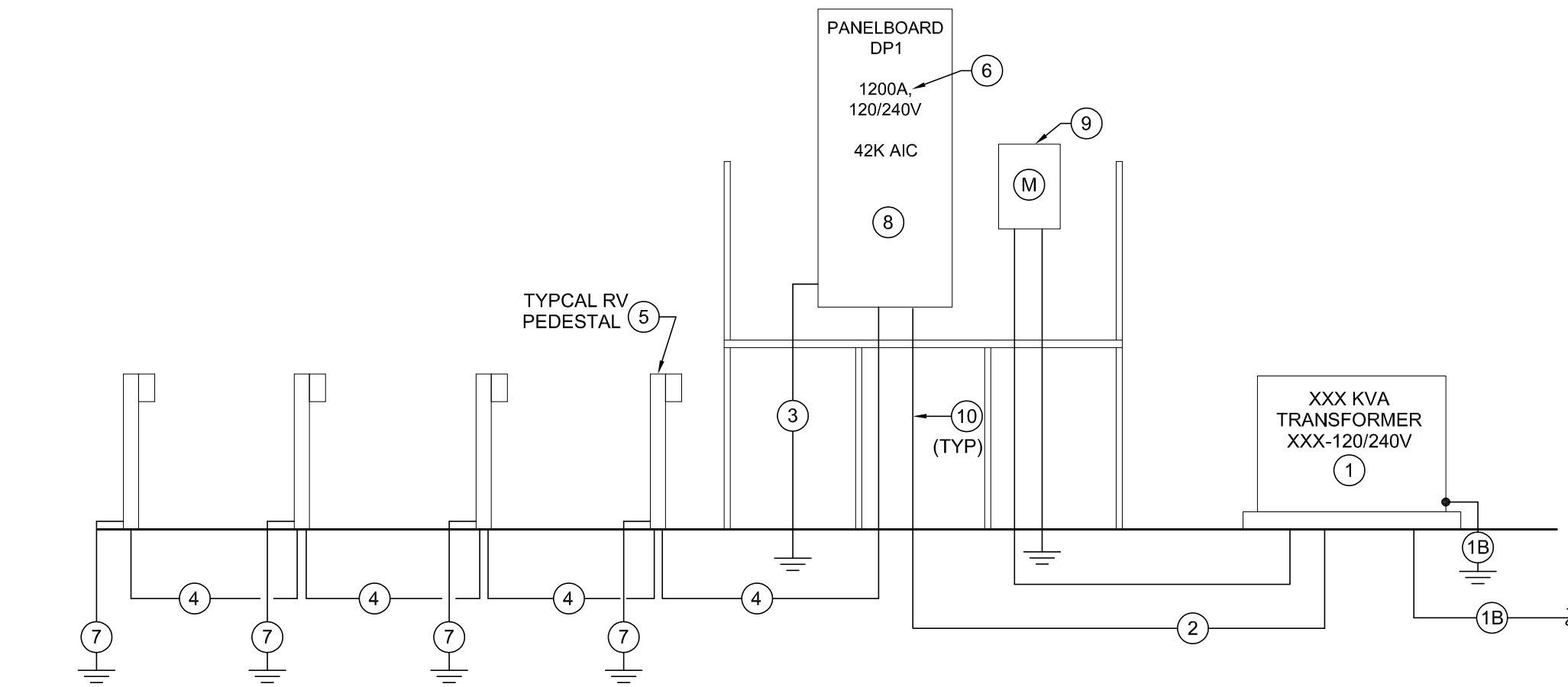
CONNECTOR	COPPER	
	SOILD	STRAND
LINE	14-8	14-8
LOAD	14-10	14-10
NEUTRAL	14-4	14-4
POST LINE CONNECTORS SUITABLE FOR LOOP FEED	#6-350 KCMIL	
EQUIP, GRND POST	14-20	14-20

PANELBOARD DP2 (BL) SCHEDULE									
SERVICE: 240/120 VOLT, 1-PHASE, 3-WIRE				BUS: COPPER, SIN, GND BUS		RATING: 42000 A.I.C.			
AMP: 1200 AMP				LOCATION: BIG LAKE		AMP: 1200 AMP			
MAINS: MCB / 1000 AMP MAIN BREAKER				MOUNTING: SURFACE		LOCATION: BIG LAKE			
PANEL SERVICE ENTRANCE RATED				NEMA 3R		RATING: 42000 A.I.C.			
REV NO.	NOTE	LOAD	BRKR	LOAD KVA	LOAD	BRKR	LOAD KVA	NOTE	REV NO.
		CRTH DESCRIPTION	P AMP	A B	CRTH DESCRIPTION	P AMP	A B		
1		SITES A2-41, A2-42, A1-43	2 250	18	2 SITES B1-47, A1-58, A1-47, A1-57	2 250	18		
3				18	4		18		
5		SITES C-34, C-35, C-36, D-37	2 250	24	6 SITES A1-55, A1-44, A2-56, A1-45	2 250	24		
7				24	8		24		
9		SPARE	2 125		10 SPARE	2 125			
11					12				
13		SPARE	2 125		14 SPARE	2 125			
15					16				
17		SPACE ONLY	1 20		18 SPACE ONLY	1 20			
19		SPACE ONLY	1 20		20 SPACE ONLY	1 20			
21		SPACE ONLY	1 20		22 SPACE ONLY	1 20			
23		SPACE ONLY	1 20		24 SPACE ONLY	1 20			
25		SPACE ONLY	1 20		26 SPACE ONLY	1 20			
27		SPACE ONLY	1 20		28 SPACE ONLY	1 20			
29		SPACE ONLY	1 20		30 SPACE ONLY	1 20			
TOTAL:				42	42	TOTAL:			
				42	42				
KVA / PHASE TOTAL:				84	84	KVA / PHASE TOTAL:			
AMP / PHASE TOTAL:				700	700	AMP / PHASE TOTAL:			
TOTAL CONNECTED LOAD:				168.00	KVA	TOTAL CONNECTED LOAD:			
TOTAL CONNECTED CURRENT:				700.00	AMPS	TOTAL CONNECTED CURRENT:			
TOTAL DEMAND CURRENT:				700.00	AMPS	TOTAL DEMAND CURRENT:			

NOTES:
MAIN BREAKER TO BE 100% RATED. IF ADJUSTABLE TO 1200 AMP THEN PROVIDE WITH ARC REDUCING MAINTENANCE SWITCH, OTHERWISE LIMIT TO AMPERAGE AS SHOWN.

PANELBOARD DP3 (BL) SCHEDULE									
SERVICE: 240/120 VOLT, 1-PHASE, 3-WIRE				BUS: COPPER, SIN, GND BUS		RATING: 42000 A.I.C.			
AMP: 1200 AMP				LOCATION: BIG LAKE		AMP: 1200 AMP			
MAINS: MCB / 1000 AMP MAIN BREAKER				MOUNTING: SURFACE		LOCATION: BIG LAKE			
PANEL SERVICE ENTRANCE RATED				NEMA 3R ENCLCLOSURE		RATING: 42000 A.I.C.			
REV NO.	NOTE	LOAD	BRKR	LOAD KVA	LOAD	BRKR	LOAD KVA	NOTE	REV NO.
		CRTH DESCRIPTION	P AMP	A B	CRTH DESCRIPTION	P AMP	A B		
1		SITES A2-38, A2-39, A2-40	2 250	24	2 SITES A2-51, A2-52, A2-53, A1-54	2 250	24		
3				12	4		12		
5		SITES B2-48, A1-49, A2-50	2 250	12	6 SITES C-31, C-32, C-33	2 250	12		
7					8				
9		SPACE ONLY	2		10 SPACE ONLY	2			
11					12				
13		SPACE ONLY	2		14 SPACE ONLY	2			
15					16				
17		SPACE ONLY	1 20		18 SPACE ONLY	1 20			
19		SPACE ONLY	1 20		20 SPACE ONLY	1 20			
21		SPACE ONLY	1 20		22 SPACE ONLY	1 20			
23		SPACE ONLY	1 20		24 SPACE ONLY	1 20			
25		SPACE ONLY	1 20		26 SPACE ONLY	1 20			
27		SPACE ONLY	1 20		28 SPACE ONLY	1 20			
29		SPACE ONLY	1 20		30 SPACE ONLY	1 20			
TOTAL:				36	36	TOTAL:			
				36	36				
KVA / PHASE TOTAL:				72	84	KVA / PHASE TOTAL:			
AMP / PHASE TOTAL:				600	700	AMP / PHASE TOTAL:			
TOTAL CONNECTED LOAD:				156.00	KVA	TOTAL CONNECTED LOAD:			
TOTAL CONNECTED CURRENT:				650.00	AMPS	TOTAL CONNECTED CURRENT:			
TOTAL DEMAND CURRENT:				650.00	AMPS	TOTAL DEMAND CURRENT:			

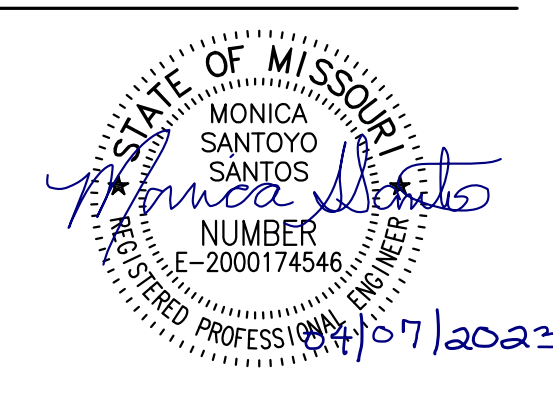
NOTES:
MAIN BREAKER TO BE 100% RATED. IF ADJUSTABLE TO 1200 AMP THEN PROVIDE WITH ARC REDUCING MAINTENANCE SWITCH, OTHERWISE LIMIT TO AMPERAGE AS SHOWN.



1 120/240V TYPICAL ELECTRICAL RISER DIAGRAM
NO SCALE

120/240V FEEDER SCHEDULE				
SYMBOL NUMBER	AMPACITY	NUMBER OF RUNS	FEEDER SIZE/NOTE	TEMP RATING
1			UTILITY TRANSFORMER AND PAD TO BE PROVIDED AND INSTALLED BY ATCHISON-HOLT ELECTRIC COOP (AHEC). CONTRACTOR TO COORDINATE EXACT PLACEMENT PRIOR TO ROUGH-IN OF PANELBOARD FEEDERS.	
1B			AHEC TO PROVIDE AND INSTALL PRIMARY FEEDER.	
2	1000	3	(3) #400 KCMIL IN 3" SCHEDULE 40 PVC CONDUIT.	90 DEG
3			#3/0 COPPER GROUNDING CONDUCTOR TO 3/4" X 10' GROUND ROD.	
4	250	1	(3) #250 KCMIL & (1) #4 GROUND DIRECT BURIED CU TYPE USE-2/RHW-2/XLPE CABLE.	90 DEG
5			PROVIDE NEW NEMA 3R, SURFACE MOUNTED, 125A, 120/240V, 1 PH, 3 WIRE SINGLE SIDED PEDESTAL (MILLBANK XXXX OR APPROVED EQUAL) WITH FULLY RATED LOOP-FEED LUG ASSEMBLY (MIN. #250 KCMIL). TO INCLUDE ONE (1) 20A, 1P, GFCI; ONE (1) 30A, 1P AND ONE (1) 50A, 2P BREAKER TO SERVE THE FOLLOWING RECEPTACLES: 20A NEMA 5-20 (WEATHER RESISTANT TYPE); 30A NEMA TT-30 AND 50A, NEMA 14-50R.	
6			PANELBOARD TO BE RATED AS NOTED ON SCHEDULE.	
7			#6 COPPER GROUNDING CONDUCTOR TO 3/4" X 10' GROUND ROD.	
8			PANELBOARD TO BE MOUNTED ON ELEVATED PLATFORM. REFER TO PLANS AND STRUCTURAL DETAILS FOR PLATFORM DETAILS. CONTRACTOR TO PROVIDE HORIZONTAL UNITSTRUT SUPPORT AS REQUIRED TO MOUNT OFF PLATFORM VERTICAL SUPPORTS FOR PANELBOARD AND METER.	
9			METER TO BE INSTALLED ADJACENT TO PANEL ON ELEVATED PLATFORM. COORDINATE EXACT PLACEMENT WITH AHEC. AHEC TO INSTALL. CONTRACTOR TO COORDINATE WORK WITH AHEC.	
10			CONTRACTOR TO PROVIDE UNI-STRUT SUPPORT AS REQUIRED TO PROPERLY SUPPORT VERTICAL RUNS OF CONDUIT.	

STATE OF MISSOURI
MICHAEL L. PARSON,
GOVERNOR



Monica S Santos - Electrical
MO # E-2000174546



LAC# MO-2002023826
929 Walnut Street, Ste. 700
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P 816-736-5880

SURVEYOR & CIVIL ENGINEER:
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8653 Penrose Lane
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MEP:
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1800 Genessee Street, Ste 250
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OFFICE OF ADMINISTRATION
DIVISION OF FACILITIES
MANAGEMENT,
DESIGN AND CONSTRUCTION

DEPARTMENT OF
NATURAL RESOURCES,
MISSOURI STATE PARKS

CAMPGROUND
RENOVATION AND
UPGRADE

BIG LAKE STATE PARK
204 LAKE SHORE DRIVE
CRAIG, MO 64437

PROJECT # X2218-01
SITE # 5105
FACILITY # 7815105008

REVISION: _____
DATE: _____
REVISION: _____
DATE: _____
REVISION: _____
DATE: _____
ISSUE DATE: 4/7/2023

CAD DWG FILE: _____
DRAWN BY: MSS _____
CHECKED BY: MSS _____
DESIGNED BY: MSS _____

SHEET TITLE:
ELECTRICAL
RISER AND
SCHEDULES

SHEET NUMBER:
E-801
SHEET 41 OF 41
APRIL 7, 2023