Lake Chatuge Boardwalk

Hiawassee, Towns County, Georgia

Construction Documents

Issued Date: October 25, 2023

Reissued: November 13, 2023 (1)

OWNER / DEVELOPER:

City of Hiawassee
229 Chatuge Way, Hiawassee, GA 30546
(706) 896-2202

LANDSCAPE ARCHITECT:

Root Design Studio
3469 Lawrenceville Highway, #204
Tucker, GA 30084
404-606-3654
agreco@rootdstudio.com

CIVIL ENGINEER:

David Freedman, PE,LEED AP-BD&C
Freedman Engineering Group
1000 Whitlock Avenue
Suite 320, #218
Marietta, GA 30064
(770) 851-3175
Davidf@Freedmanengineering.com

STRUCTURAL ENGINEER:

Allen Morris, PE
Stability Engineering
1376 Church Street, Suite 200
Decatur, GA 30030
(404) 377-9316
Amorris@Stabilityengineering.com

ELECTRICAL ENGINEER:

Axia Consulting Group, LLC
2484 Ingleside Ave.
Suite B201
Macon, GA 31204
(706) 389-0868
info@axiagrp.com

811 Know what's **below.** **Call** before you dig.

24hr. Contact

RANDY DAY
706-897-3892

ROOT DESIGN STUDIO landscape architecture
3469 Lawrenceville Highway
Suite 204
Tucker, Georgia 30084
(404)895-2253
www.RootDStudio.com

RELEASED FOR CONSTRUCTION

October 25, 2023
Construction Documents
Lake Chatuge Boardwalk

PROJECT INFORMATION:

Project Name:

Lake Chatuge Boardwalk

Project Address:

1000 US-76
Hiawassee, GA 30546

Project Description:

This project consists of a boardwalk with fishing/viewing platforms across Lake Chatuge from Mayor's Park to Lloyd's Landing. Concrete trail connections will be provided at either end of the boardwalk. Lighting will also be provided.

APPLICABLE CODE:

Zoning Code:

Code of Ordinances Hiawassee Code of Ordinances November 30, 2022

Accessibility Code:

ADA Standards for Accessible Design, 2010

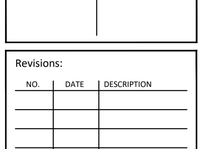
Building Code:

International Building Code, 2021

DRAWING INDEX:

ROOT DESIGN STUDIO
landscape architecture
3469 Lawrenceville Highway
Suite 204
Tucker, Georgia 30084
(404) 895-2253
www.RootDStudio.com

Seal:



Date:	2023-10-25
Project No:	2023-026
Drawn By:	MW
Checked By:	MK

Lake Chatuge Boardwalk

City of Hiawassee
229 Chatuge Way
Hiawassee, GA 30546

Revisions:

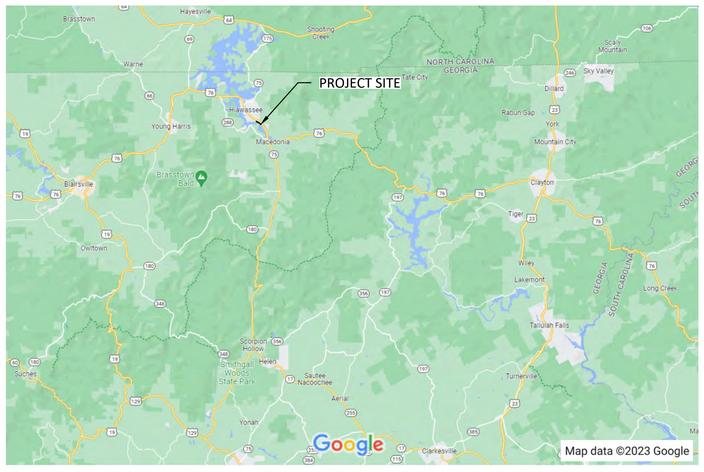
NO.	DATE	DESCRIPTION

Sheet Title:

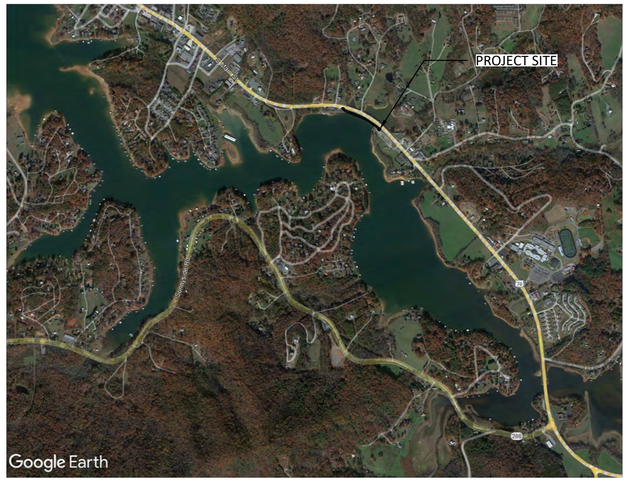
Project Information & Drawing Index

Sheet No:

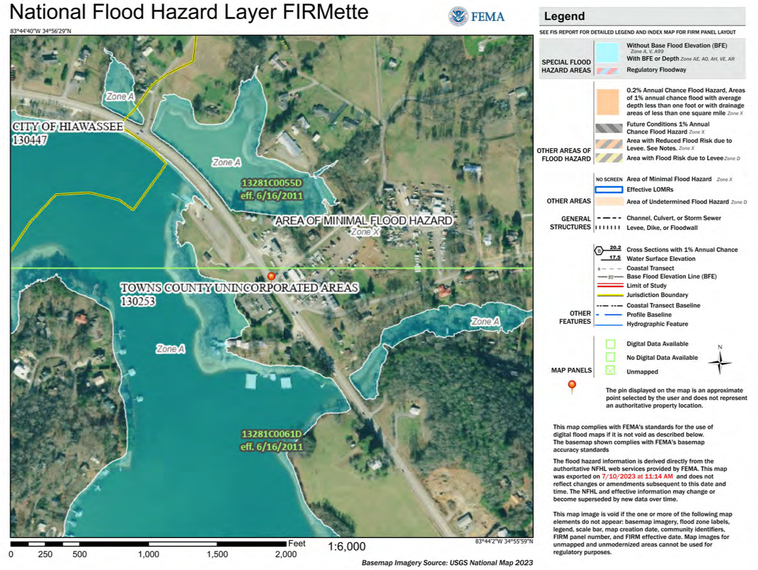
G-000



VICINITY MAP
(NOT TO SCALE)



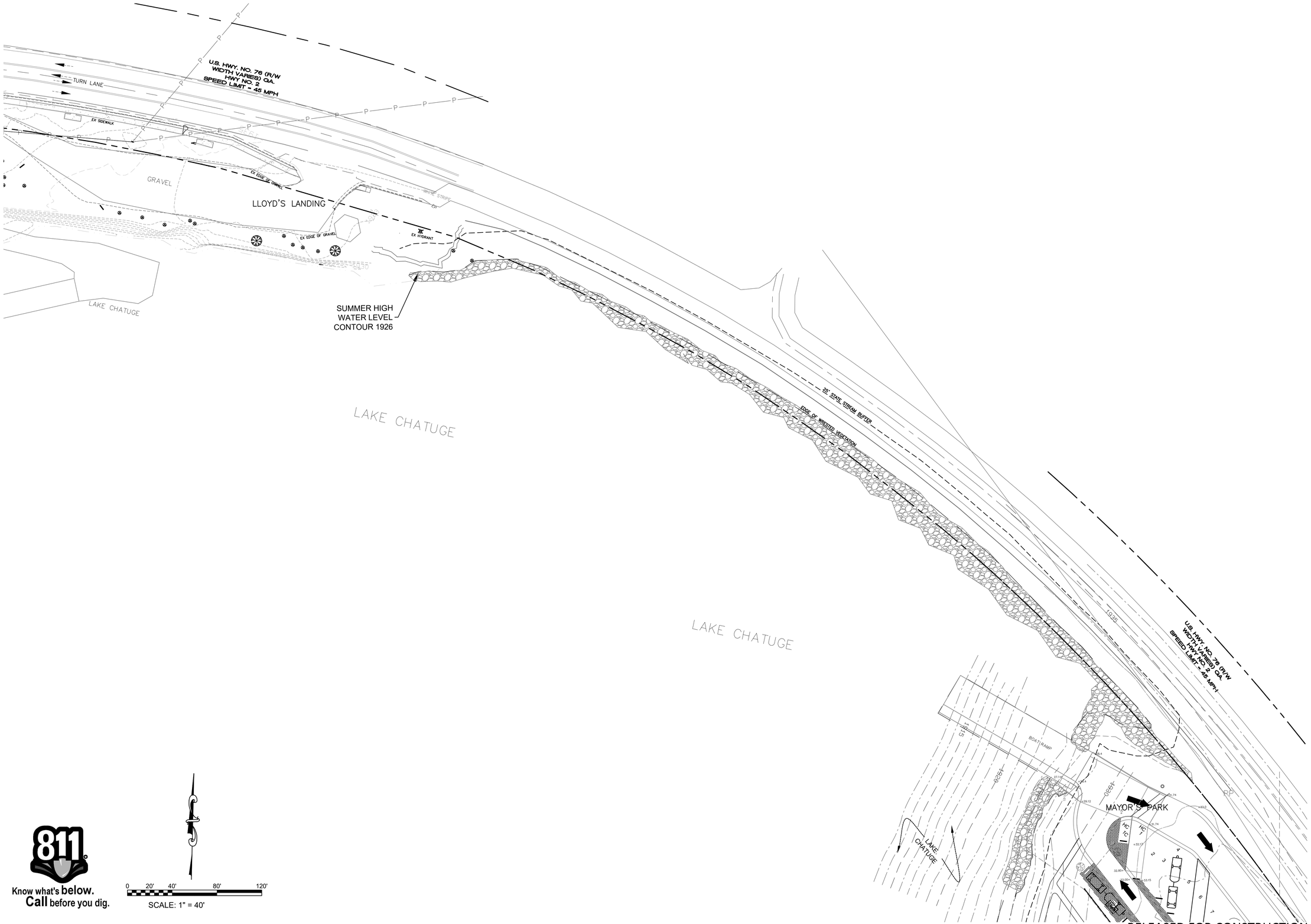
LOCATION MAP
(NOT TO SCALE)



FIRM NOTE
This site is not located within zone AE as defined by FIRM Community Panel Number 13281C005D for Towns County, GA.

FEMA FLOOD MAP
(NOT TO SCALE)

RELEASED FOR CONSTRUCTION



Know what's below. Call before you dig.

0 20' 40' 80' 120'

SCALE: 1" = 40'

ROOT DESIGN STUDIO
landscape architecture
3469 Lawrenceville Highway
Suite 204
Tucker, Georgia 30084
(404) 895-2253
www.RootDStudio.com

Seal:

GEORGIA REGISTERED NO. LA001404 LANDSCAPE ARCHITECT ANDREA MICHELE GRECO 10/25/23

Date:	2023-10-25
Project No:	2023-026
Drawn By:	MW
Checked By:	MK

Lake Chatuge Boardwalk

City of Hiawassee
229 Chatuge Way
Hiawassee, GA 30546

Revisions:

NO.	DATE	DESCRIPTION

Sheet Title:
Existing Conditions

Sheet No:
V-100

C:\Users\Andrea Greco\RocketSync\PROJECTS\Hiawassee Boardwalk\02-CDs & PERMITTING\ROOT\CAD\Hiawassee Boardwalk - 23.1018 - CDs

GENERAL NOTES:

1. IF ANY OF THESE NOTES ARE FOUND TO BE IN CONFLICT WITH LOCAL JURISDICTION NOTES AND SPECIFICATIONS, THEN LOCAL JURISDICTION NOTES AND SPECIFICATIONS TAKE PRECEDENCE.
2. ALL WORK AND MATERIALS SHALL COMPLY WITH ALL FEDERAL, STATE, AND LOCAL REGULATIONS AND CODES AS REQUIRED.
3. CONTRACTOR SHALL REFER TO ARCHITECTURAL PLANS FOR PRECISE BUILDING DIMENSIONS, BUILDING UTILITY ENTRANCE LOCATIONS, EXACT LOCATIONS AND DIMENSIONS OF ENTRIES, DOWNSPOUTS, AND OTHER FEATURES RELATED TO BUILDINGS AND STRUCTURES.
4. UNLESS SHOWN OTHERWISE ON THE PLANS, CONTRACTOR SHALL APPLY 2" OF TOP SOIL TO ALL DISTURBED AREAS OF THE SITE, PLANT GRASS SEED OR SOD, APPLY STRAW, AND WATER. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ESTABLISH A HEALTHY STAND OF GRASS ON ALL SEEDED OR SODDED AREAS. IF A HEALTHY STAND OF GRASS CAN NOT BE ESTABLISHED BY THE TIME THE BUILDING BECOMES OCCUPIED, THEN SOD SHALL BE INSTALLED AND WATERED UNTIL GRASS IS ESTABLISHED.
5. ALL DIMENSIONS AND RADII ARE REFERENCED TO THE FACE OF CURB UNLESS OTHERWISE NOTED. ALL BUILDING DIMENSIONS ARE REFERENCED TO THE OUTSIDE FACE OF THE STRUCTURE UNLESS OTHERWISE NOTED.
6. IF REQUIRED, CONTRACTOR SHALL BE RESPONSIBLE FOR ALL RELOCATIONS, INCLUDING BUT NOT LIMITED TO, ALL UTILITIES, STORM DRAINAGE, SIGNS, ETC. AS REQUIRED. ALL WORK SHALL BE IN ACCORDANCE WITH GOVERNING AUTHORITIES SPECIFICATIONS AND SHALL BE APPROVED BY SUCH. ALL COST SHALL BE INCLUDED IN BID. AREAS TO BE DISTURBED SHALL BE IMPROVED PER THESE PLANS OR RESTORED TO THEIR ORIGINAL OR BETTER CONDITION.
7. ALL HEIGHTS AND SETBACKS SHALL MEET THE MINIMUM STANDARDS SET FORTH IN THE LOCAL CODE.
8. THE CONTRACTOR SHALL PROTECT ALL MONUMENTS, IRON PINS, AND PROPERTY CORNERS DURING CONSTRUCTION.
9. CONTRACTOR AGREES TO REPAIR ANY DAMAGE TO THE PUBLIC RIGHT-OF-WAY IN ACCORDANCE WITH THE STANDARDS OF THE GDOT.
10. THE CONTRACTOR SHALL IMMEDIATELY REPORT TO THE OWNER ANY DISCREPANCIES FOUND BETWEEN THE ACTUAL FIELD CONDITIONS AND THE CONSTRUCTION DOCUMENTS AND SHALL WAIT FOR INSTRUCTION PRIOR TO PROCEEDING.

TRAFFIC CONTROL NOTES:

1. REFER TO MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (LATEST EDITION) FOR DETAILS OF STANDARD TRAFFIC CONTROL SIGNS AND STANDARDS.
2. THE CONTRACTOR SHALL EMPLOY ALL NECESSARY BARRICADES, SIGNS, FENCES, FLASHING LIGHTS, TRAFFIC MEN, ETC. FOR MAINTENANCE AND PROTECTION OF TRAFFIC AS REQUIRED.

BOAT RAMP & PARK OPERATIONS NOTE:

BOAT RAMP AND PARKS TO REMAIN OPERATIONAL AND OPEN TO PUBLIC DURING CONSTRUCTION.

EROSION CONTROL NOTES:

1. IF THERE IS A CONFLICT BETWEEN THESE NOTES AND THE NOTES FOUND ON THE EROSION, SEDIMENTATION, AND POLLUTION CONTROL PLANS, THE NOTES ON THE ES&PC PLANS SHALL GOVERN.
2. CONTRACTOR SHALL IMPLEMENT BEST MANAGEMENT PRACTICES AS REQUIRED BY THESE DRAWINGS. ADDITIONAL BEST MANAGEMENT PRACTICES SHALL BE IMPLEMENTED AS DICTATED BY CONDITIONS AT NO ADDITIONAL COST TO OWNER THROUGHOUT ALL PHASES OF CONSTRUCTION.
3. BEST MANAGEMENT PRACTICES (BMP'S) AND CONTROLS SHALL CONFORM TO FEDERAL, STATE, OR LOCAL REQUIREMENTS, AS APPLICABLE. CONTRACTOR SHALL IMPLEMENT ADDITIONAL CONTROLS AS DIRECTED BY PERMITTING AGENCY OR OWNER.
4. CONTRACTOR SHALL MINIMIZE CLEARING TO THE MAXIMUM EXTENT PRACTICAL.
5. ALL WASH WATER (CONCRETE TRUCKS, VEHICLE CLEANING, EQUIPMENT CLEANING, ETC.) SHALL BE CONTAINED AND PROPERLY TREATED OR DISPOSED.
6. SUFFICIENT OIL AND GREASE ABSORBING MATERIALS AND FLOTATION BOOMS SHALL BE MAINTAINED ON SITE OR READILY AVAILABLE TO CONTAIN AND CLEAN-UP FUEL OR CHEMICAL SPILLS AND LEAKS.
7. DUST ON THE SITE SHALL BE CONTROLLED. THE USE OF MOTOR OILS AND OTHER PETROLEUM BASED OR TOXIC LIQUIDS FOR DUST SUPPRESSION OPERATIONS IS PROHIBITED.
8. RUBBISH, TRASH, GARBAGE, LITTER, OR OTHER SUCH MATERIALS SHALL BE DEPOSITED INTO SEALED CONTAINERS. MATERIALS SHALL BE PREVENTED FROM LEAVING THE PREMISES THROUGH THE ACTION OF WIND OR STORMWATER DISCHARGE INTO DRAINAGE DITCHES OR JURISDICTIONAL WATERS.
9. ALL STORM WATER POLLUTION PREVENTION MEASURES PRESENTED ON THE EROSION AND SEDIMENT CONTROL PLANS SHALL BE INITIATED AS SOON AS PRACTICABLE.
10. DISTURBED PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITY HAS PERMANENTLY STOPPED SHALL BE PERMANENTLY SEEDED. THESE AREAS SHALL BE SEEDED NO LATER THAN 14 DAYS AFTER THE LAST CONSTRUCTION ACTIVITY OCCURRING IN THESE AREAS. REFER TO THE EROSION CONTROL PLANS AND/OR LANDSCAPE PLAN.
11. IF THE ACTION OF VEHICLES TRAVELING OVER THE GRAVEL CONSTRUCTION ENTRANCES IS NOT SUFFICIENT TO REMOVE DIRT OR MUD, THEN THE TIRES MUST BE WASHED BEFORE THE VEHICLES ENTER A PUBLIC ROAD. IF WASHING IS USED, PROVISIONS MUST BE MADE TO INTERCEPT THE WASH WATER AND TRAP THE SEDIMENT BEFORE IT IS CARRIED OFF THE SITE.
12. ALL MATERIALS SPILLED, DROPPED, WASHED, OR TRACKED FROM VEHICLES ONTO ROADWAYS OR INTO STORM DRAINS MUST BE REMOVED IMMEDIATELY. SEDIMENT SHALL BE REMOVED FROM THE ROADS BY SHOVELING OR SWEEPING AND TRANSPORTED TO A SEDIMENT CONTROL DISPOSAL AREA. STREET WASHING SHALL BE ALLOWED ONLY AFTER SEDIMENT IS REMOVED IN THIS MANNER.

EROSION CONTROL NOTES (CONTINUED):

13. CONTRACTORS OR SUBCONTRACTORS WILL BE RESPONSIBLE FOR REMOVING SEDIMENT FROM THE EROSION CONTROL BASINS AND ANY SEDIMENT THAT MAY HAVE COLLECTED IN THE STORM SEWER DRAINAGE SYSTEMS IN CONJUNCTION WITH THE STABILIZATION OF THE SITE.
14. SLOPES SHALL BE LEFT IN A ROUGHENED CONDITION DURING THE GRADING PHASE TO REDUCE RUNOFF VELOCITIES AND EROSION.
15. ALL CONSTRUCTION SHALL BE STABILIZED AT THE END OF EACH WORKING DAY. THIS INCLUDES BACKFILLING OF TRENCHES FOR UTILITY CONSTRUCTION AND PLACEMENT OF GRAVEL OR BITUMINOUS PAVING FOR ROAD CONSTRUCTION.
16. ALL EROSION CONTROL MEASURES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE STATE EROSION AND SEDIMENT CONTROL REGULATIONS, U.S. DEPARTMENT OF AGRICULTURE, AND U.S. SOIL CONSERVATION SERVICE REGULATIONS.
17. THE CONTRACTOR SHALL DILIGENTLY AND CONTINUOUSLY MAINTAIN ALL EROSION CONTROL DEVICES AND STRUCTURES TO MINIMIZE EROSION. THE CONTRACTOR SHALL MAINTAIN CLOSE CONTACT WITH THE INSPECTOR SO THAT PERIODIC INSPECTIONS CAN BE PERFORMED AT APPROPRIATE STAGES OF CONSTRUCTION.
18. STABILIZATION IS THE BEST FORM OF EROSION CONTROL. ALL DISTURBED AREAS WHICH ARE NOT OTHERWISE STABILIZED SHALL BE TOP SOILED AND SEEDED, TEMPORARILY OR PERMANENTLY IN ACCORDANCE WITH THE STATE REGULATIONS. TOPSOILING, PERMANENT SEEDING AND GRASS ESTABLISHMENT IS REQUIRED PRIOR TO PROJECT COMPLETION AND ACCEPTANCE.
19. ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED AFTER THE TEMPORARY MEASURES ARE NO LONGER NEEDED. TRAPPED SEDIMENT AND THE DISTURBED SOIL AREAS RESULTING FROM THE DISPOSITION OF TEMPORARY MEASURES SHALL BE PERMANENTLY STABILIZED TO PREVENT FURTHER EROSION AND SEDIMENTATION.
20. WHEN A CRUSHED STONE CONSTRUCTION ENTRANCE HAS BEEN COVERED WITH SOIL OR HAS BEEN PUSHED INTO THE SOIL BY CONSTRUCTION TRAFFIC, IT SHALL BE REPLACED, AT NO ADDITIONAL COST TO THE OWNER, WITH A DEPTH OF STONE EQUAL TO THAT OF THE ORIGINAL APPLICATION.
21. ALL DRAINAGE INLETS SHALL BE PROTECTED FROM SILTATION. INEFFECTIVE PROTECTION DEVICES SHALL BE IMMEDIATELY REPLACED AND THE INLET CLEANED. FLUSHING IS NOT AN ACCEPTABLE METHOD OF CLEANING.
22. SEDIMENT BASINS AND TRAPS, PERIMETER DIKES, SEDIMENT BARRIERS AND OTHER MEASURES INTENDED TO TRAP SEDIMENT SHALL BE CONSTRUCTED AS A FIRST STEP IN ANY LAND-DISTURBING ACTIVITY AND SHALL BE MADE FUNCTIONAL BEFORE UPSLOPE LAND DISTURBANCE TAKES PLACE.
23. STABILIZATION MEASURES SHALL BE APPLIED TO STRUCTURES SUCH AS DAMS, DIKES AND DIVERSIONS IMMEDIATELY AFTER INSTALLATION.
24. LIMITS OF GRADING SHOWN ON THE PLAN ARE MAXIMUM LIMITS FOR EROSION CONTROL PURPOSES ONLY. SURVEYOR TO DETERMINE ACTUAL LIMIT.
25. MAINTENANCE:
    ALL MEASURES STATED ON THE EROSION AND SEDIMENT CONTROL PLANS, SHALL BE MAINTAINED IN FULLY FUNCTIONAL CONDITION UNTIL NO LONGER REQUIRED FOR A COMPLETED PHASE OF WORK OR FINAL STABILIZATION OF THE SITE. ALL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE CHECKED BY A QUALIFIED PERSON AT LEAST ONCE EVERY SEVEN CALENDAR DAYS AND WITHIN 24 HOURS OF THE END OF A 0.5" RAINFALL EVENT, AND CLEANED AND REPAIRED IN ACCORDANCE WITH THE FOLLOWING:

    CONTRACTOR SHALL IMPLEMENT BEST MANAGEMENT PRACTICES AS REQUIRED BY THE CONSTRUCTION DRAWINGS. ADDITIONAL BEST MANAGEMENT PRACTICES SHALL BE IMPLEMENTED AS DICTATED BY CONDITIONS AT NO ADDITIONAL COST OF OWNER THROUGHOUT ALL PHASES OF CONSTRUCTION.

    INLET PROTECTION DEVICES AND BARRIERS SHALL BE REPAIRED OR REPLACED IF THEY SHOW SIGNS OF UNDERMINING, OR DETERIORATION.

    ALL SEEDED AREAS SHALL BE CHECKED REGULARLY TO SEE THAT A GOOD STAND IS MAINTAINED. AREAS SHOULD BE FERTILIZED, WATERED, AND RESEEDED AS NEEDED.

    SILT FENCES SHALL BE REPAIRED TO THEIR ORIGINAL CONDITIONS IF DAMAGED. SEDIMENT SHALL BE REMOVED FROM THE SILT FENCES WHEN IT REACHES ONE-HALF THE HEIGHT OF THE SILT FENCE.

    THE CONSTRUCTION ENTRANCES SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOW OF MUD ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING OF THE CONSTRUCTION ENTRANCES AS CONDITIONS DEMAND.

    OUTLET STRUCTURES IN THE SEDIMENTATION BASINS SHALL BE MAINTAINED IN OPERATIONAL CONDITIONS AT ALL TIMES. SEDIMENT SHALL BE REMOVED FROM SEDIMENT BASINS OR TRAPS WHEN THE DESIGN CAPACITY HAS BEEN REDUCED BY 50%.

DEMOLITION NOTES:

1. THE CONTRACTOR SHALL FIELD VERIFY AND LOCATE ALL EXISTING UTILITIES ON SITE PRIOR TO ANY DEMOLITION.
2. THE CONTRACTOR SHALL PERFORM DEMOLITION ACTIVITIES AS NOTED AND SHOWN ON THESE PLANS.
3. IT WILL BE THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN ANY PERMITS AND PAY FEES REQUIRED FOR DEMOLITION AND HAUL-OFF FROM THE APPROPRIATE AUTHORITIES. THESE FEES ARE TO BE INCLUDED WITH THE BID.
4. THE CONTRACTOR SHALL PREPARE ALL DOCUMENTS AND ACQUIRE APPROPRIATE PERMITS AS REQUIRED PRIOR TO THE COMMENCEMENT OF DEMOLITION.
5. THE DEMOLITION PLAN IS INTENDED TO DEPICT GENERAL DEMOLITION AND UTILITY WORK. IT IS NOT INTENDED TO IDENTIFY EACH ELEMENT OF DEMOLITION OR RELOCATION. CONTRACTOR SHALL COORDINATE WITH THE OWNER AND APPROPRIATE UTILITY COMPANY PRIOR TO WORK.
6. IN ACCORDANCE WITH THE DEMOLITION PLAN, CONTRACTOR TO COMPLETELY DEMOLISH AND DISPOSE OF OFFSITE IN A LAWFUL MANNER EXISTING BUILDINGS, INCLUDING FOUNDATIONS AND ALL APPURTENANCES LOCATED ON AND AROUND THE PROPERTY INCLUDING BUT NOT LIMITED TO BOLLARDS, GAS METERS, AIR CONDITIONING UNITS, SIGNS, CURBS, SIDEWALKS, ELECTRIC METERS, FENCING, ETC. UNLESS OTHERWISE NOTED ON THE DRAWINGS.
7. REMOVE AND/OR PLUG EXISTING UTILITIES SUCH AS SANITARY SEWER, WATER, GAS, ELECTRIC, AND TELEPHONE AS SHOWN. THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING EACH UTILITY COMPANY TO COORDINATE REMOVAL OF ALL UTILITIES AND FOR DETERMINING HORIZONTAL AND VERTICAL LOCATIONS OF UTILITIES PRIOR TO COMMENCING WORK.
8. THE CONTRACTOR SHALL CUT AND PLUG, OR ARRANGE FOR THE APPROPRIATE UTILITY COMPANY TO CUT AND PLUG, ALL SERVICE PIPING AT THE STREET LINE OR MAIN, AS REQUIRED, OR AS OTHERWISE NOTED. ALL SERVICES MAY NOT BE SHOWN ON THIS PLAN.
9. THE CONTRACTOR SHALL INVESTIGATE THE SITE PRIOR TO BIDDING TO DETERMINE THE EXTENT OF SERVICE PIPING TO BE REMOVED, CUT OR PLUGGED.
10. THE CONTRACTOR SHALL ARRANGE FOR RESETTING OF CURB BOXES, VALVE BOXES AND REMOVAL AND/OR RELOCATION OF OVERHEAD UTILITIES AND POLES WITH THE APPROPRIATE UTILITY COMPANY.
11. INSTALL ALL EROSION AND SEDIMENT CONTROL DEVICES AND TREE PROTECTION PRIOR TO BEGINNING DEMOLITION WORK.
12. THE CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION OF ALL UTILITIES TO REMAIN IN PLACE.
13. THE CONTRACTOR SHALL TAKE ALL PRECAUTIONS TO AVOID UNNECESSARY DAMAGE TO EXISTING ROAD SURFACES.
14. SAWCUT AT INTERFACE OF PAVEMENT OR CURB TO REMAIN. SAWCUT EXISTING PAVEMENT AT THE R.O.W. WHERE REQUIRED.
15. ALL EXISTING ITEMS TO REMAIN WHICH ARE DAMAGED DURING CONSTRUCTION SHALL BE RESTORED TO THEIR ORIGINAL CONDITION AT THE SOLE EXPENSE OF THE CONTRACTOR.
16. THE CONTRACTOR SHALL MAINTAIN ALL UTILITY SERVICES TO THE ADJOINING PROPERTIES DURING THE DEMOLITION PROCESS.
17. SHOULD ANY UNCHARTED OR INCORRECTLY CHARTED EXISTING PIPING OR OTHER UTILITY BE UNCOVERED DURING EXCAVATION, CONSULT THE OWNER'S REPRESENTATIVE IMMEDIATELY FOR DIRECTION BEFORE PROCEEDING FURTHER WITH WORK IN THIS AREA.
18. ASBESTOS OR HAZARDOUS MATERIAL, IF FOUND ON SITE, SHALL BE REMOVED BY A LICENSED HAZARDOUS MATERIAL CONTRACTOR AND DISPOSED OF PROPERLY .

GRADING NOTES:

1. TOPOGRAPHIC INFORMATION TAKEN FROM A TOPOGRAPHIC SURVEY BY XXX
2. EXISTING AND PROPOSED GRADE CONTOUR INTERVALS SHOWN AT [X FOOT].
3. ALL ELEVATIONS ARE IN REFERENCE TO THE **BENCHMARK**, AND THIS MUST BE VERIFIED BY THE GENERAL CONTRACTOR PRIOR TO GROUND BREAKING.
4. ALL CUT OR FILL SLOPES SHALL BE 2:1 OR FLATTER UNLESS OTHERWISE NOTED.
5. FOR PAVED WALKWAYS:
   5.1. RUNNING SLOPES SHALL NOT EXCEED 5%, UNLESS OTHERWISE NOTED.
   5.2. -CROSS SLOPES SHALL NOT EXCEED 2%, UNLESS OTHERWISE NOTED.
6. FOR ACCESSIBLE RAMPS:
   6.1. RUNNING SLOPES SHALL NOT EXCEED 1:12 (8.33%)
   6.2. CROSS SLOPES SHALL NOT EXCEED 2%
7. ALL PROPOSED CONTOURS AND SPOT ELEVATIONS REFLECT FINISHED GRADES.
8. CONTRACTOR SHALL ADJUST AND/OR CUT EXISTING PAVEMENT AS NECESSARY TO ASSURE A SMOOTH FIT AND CONTINUOUS GRADE.
9. CONTRACTOR SHALL ASSURE POSITIVE DRAINAGE AWAY FROM BUILDINGS FOR ALL LANDSCAPED AND PAVED AREAS.
10. THE CONTRACTOR SHALL IMMEDIATELY REPORT TO OWNER ANY DISCREPANCIES FOUND BETWEEN ACTUAL FIELD CONDITIONS AND CONSTRUCTION DOCUMENTS AND SHALL WAIT FOR INSTRUCTION PRIOR TO PROCEEDING.
11. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING AND PROTECTING EXISTING UTILITIES, AND SHALL REPAIR ALL DAMAGE TO EXISTING UTILITIES THAT OCCUR DURING CONSTRUCTION.
12. CONTRACTOR SHALL BLEND NEW EARTHWORK SMOOTHLY TO TRANSITION BACK TO EXISTING GRADE.
13. UNLESS OTHERWISE NOTED ON THE LANDSCAPE PLANS, ALL UNSURFACED AREAS DISTURBED BY GRADING OPERATION SHALL RECEIVE 2 INCHES OF TOPSOIL. CONTRACTOR SHALL APPLY STABILIZATION FABRIC TO ALL SLOPES 3H:1V OR STEEPER. CONTRACTOR SHALL GRASS AND MAINTAIN DISTURBED AREAS UNTIL A HEALTHY STAND OF GRASS IS OBTAINED.
14. ALL SITE PREPARATION AND UNSUITABLE SOIL REMOVAL, AS WELL AS THE PLACEMENT OF FILL MATERIALS SHALL BE IN ACCORDANCE WITH THE RECOMMENDATIONS CONTAINED IN THE GEOTECHNICAL REPORT (BY OTHERS).
15. LIMITS OF CLEARING SHOWN ON GRADING PLAN ARE BASED UPON THE APPROXIMATE CUT AND FILL SLOPE LIMITS, OR OTHER GRADING REQUIREMENTS.
16. THE PROPOSED CONTOURS SHOWN IN DRIVES AND PARKING LOTS AND SIDEWALKS ARE FINISHED ELEVATIONS INCLUDING PAVEMENT. REFER TO PAVEMENT CROSS SECTION DATA TO ESTABLISH CORRECT SUBBASE OR AGGREGATE BASE COURSE ELEVATIONS.
17. CONTRACTOR SHALL ENSURE POSITIVE DRAINAGE SO THAT RUNOFF WILL DRAIN BY GRAVITY FLOW ACROSS NEW PAVEMENT AREAS TO NEW OR EXISTING DRAINAGE INLETS OR SHEET OVER LAND.
18. ANY GRADING BEYOND THE LIMITS OF CONSTRUCTION AS SHOWN ON THE GRADING PLAN IS PROHIBITED.
19. THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN AND IMPLEMENTATION OF ALL SHEETING, SHORING, BRACING AND SPECIAL EXCAVATION MEASURES REQUIRED TO MEET OSHA, FEDERAL, STATE AND LOCAL REGULATIONS PURSUANT TO THE INSTALLATION OF THE WORK INDICATED ON THESE DRAWINGS. THE DESIGN ENGINEER ACCEPTS NO RESPONSIBILITY FOR THE DESIGN(S) TO INSTALL SAID ITEMS.
20. THE CONTRACTOR SHALL INCLUDE IN THE BID ANY DEWATERING AND MOISTURE CONDITIONING NECESSARY TO CONSTRUCT THE PROJECT AS SHOWN ON THE PLANS.
21. ALL FOUNDATION EXCAVATION SHALL BE INSPECTED BY A QUALIFIED GEOTECHNICAL ENGINEER TO DETERMINE WHETHER UNSUITABLE MATERIAL MUST BE REMOVED. ALL UNDESIRABLE MATTER SHALL BE REMOVED, BACKFILLED AND COMPACTED AS REQUIRED BY THE GEOTECHNICAL REPRESENTATIVE. GEOTECHNICAL TESTING WILL BE PROVIDED BY OWNER.
22. GRADES, ELEVATIONS AND LOCATIONS SHOWN ARE APPROXIMATE. AS DIRECTED BY THE ENGINEER, THEY MAY BE ADJUSTED TO ACCOMMODATE UNFORESEEN CONDITIONS. STATIONS, OFFSETS AND ELEVATIONS REFER TO THE CENTER OF DROP INLETS, MANHOLES AND JUNCTION BOXES, AND THE MIDPOINT OF THE LIP FOR CATCH BASINS.

RELEASED FOR CONSTRUCTION

ROOT DESIGN STUDIO
landscape architecture
3469 Lawrenceville Highway
Suite 204
Tucker, Georgia 30084
(404) 895-2253
www.RootDStudio.com

Seal:

GEORGIA REGISTERED
NO. LA001404
LANDSCAPE ARCHITECT
10/6/2023
ANDREA MICHELE GRECO

Date:	2023-10-25
Project No:	2023-026
Drawn By:	MW
Checked By:	MK

Lake Chatuge Boardwalk

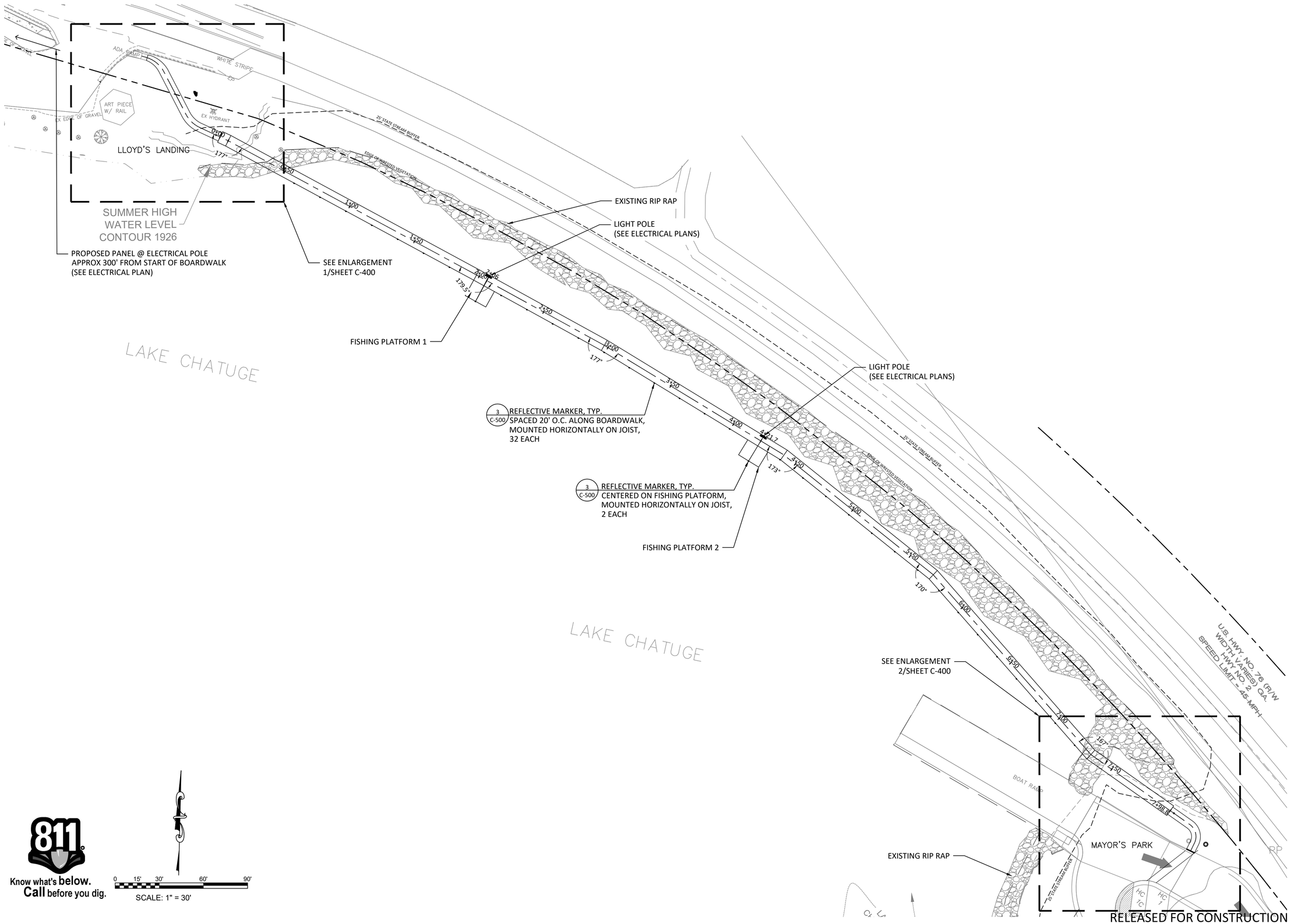
City of Hiawassee
229 Chatuge Way
Hiawassee, GA 30546

Revisions:

NO.	DATE	DESCRIPTION

Sheet Title:
General Notes

Sheet No:
C-000



ROOT DESIGN STUDIO
landscape architecture
3469 Lawrenceville Highway
Suite 204
Tucker, Georgia 30084
(404) 895-2253
www.RootDStudio.com

Seal:

GEORGIA REGISTERED
NO. LA001404
10/6/2023
LANDSCAPE ARCHITECT
ANDREA MICHELE GRECO

Date:	2023-10-25
Project No:	2023-026
Drawn By:	MW
Checked By:	MK

Lake Chatuge Boardwalk

City of Hiawassee
229 Chatuge Way
Hiawassee, GA 30546

Revisions:

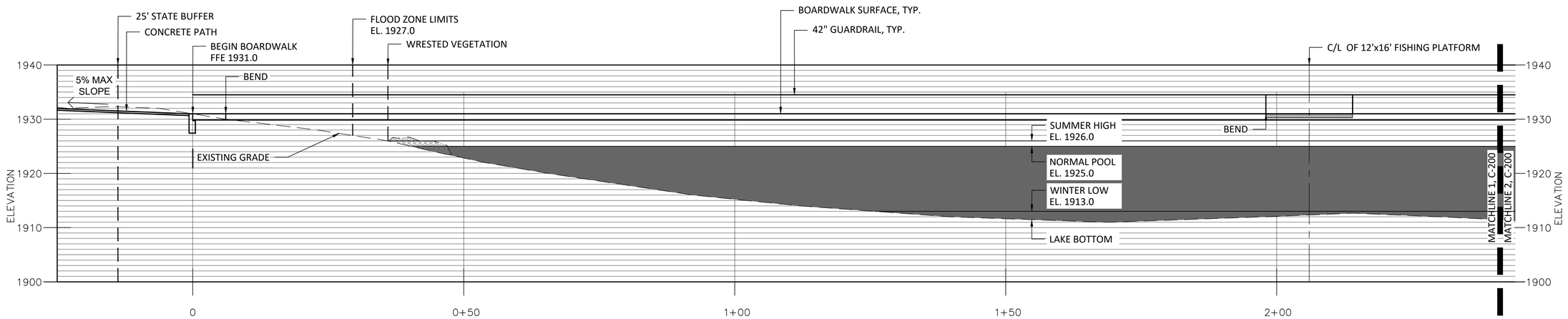
NO.	DATE	DESCRIPTION

Sheet Title:
Site Plan

Sheet No:
C-100

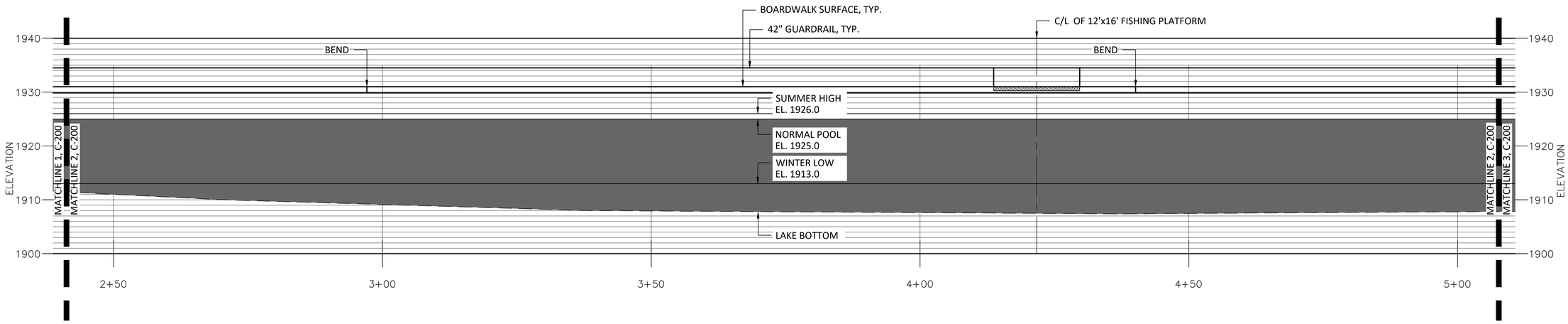
RELEASED FOR CONSTRUCTION

C:\Users\Andrea Greco\RocketSync\PROJECTS\Hiawassee Boardwalk\02-CDs & PERMITTING\ROOT\CAD\Hiawassee Boardwalk - 23.1018 - CDs



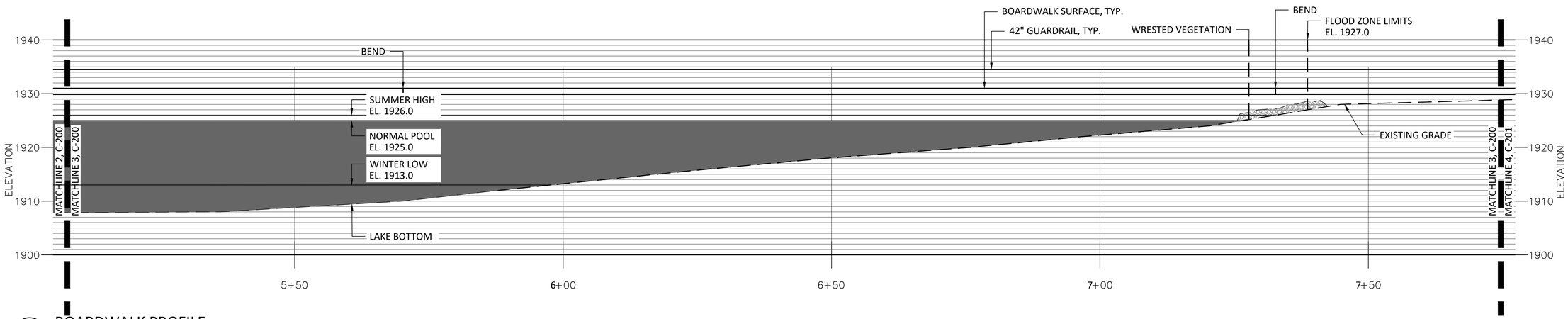
1 BOARDWALK PROFILE

Scale: 1" = 10'-0"



2 BOARDWALK PROFILE

Scale: 1" = 10'-0"



3 BOARDWALK PROFILE

Scale: 1" = 10'-0"

RELEASED FOR CONSTRUCTION

ROOT DESIGN STUDIO
landscape architecture
3469 Lawrenceville Highway
Suite 204
Tucker, Georgia 30084
(404) 895-2253
www.RootDStudio.com

Seal:

GEORGIA REGISTERED LANDSCAPE ARCHITECT ANDREA MICHELE GRECO NO. LA001404 10/12/2023

Date:	2023-10-25
Project No:	2023-026
Drawn By:	MW
Checked By:	MK

Lake Chatuge Boardwalk

City of Hiawassee
229 Chatuge Way
Hiawassee, GA 30546

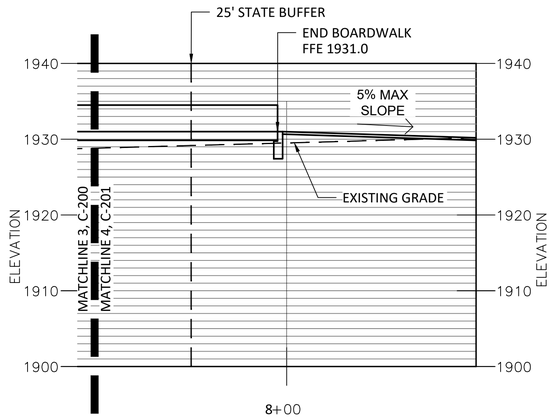
Revisions:

NO.	DATE	DESCRIPTION

Sheet Title:
Boardwalk Profiles

Sheet No:
C-200

C:\Users\Andrea Greco\RocketSync\PROJECTS\Hiawassee Boardwalk\02-CDs & PERMITTING\ROOT\CAD\Hiawassee Boardwalk - 23.1018 - CDs



1 BOARDWALK PROFILE

Scale: 1" = 10'-0"

RELEASED FOR CONSTRUCTION

ROOT DESIGN STUDIO
landscape architecture
3469 Lawrenceville Highway
Suite 204
Tucker, Georgia 30084
(404) 895-2253
www.RootDStudio.com

Seal:

GEORGIA REGISTERED NO. LA001404 LANDSCAPE ARCHITECT ANDREA MICHELE GRECO 10/6/2023

Date:	2023-10-25
Project No:	2023-026
Drawn By:	MW
Checked By:	MK

Lake Chatuge Boardwalk

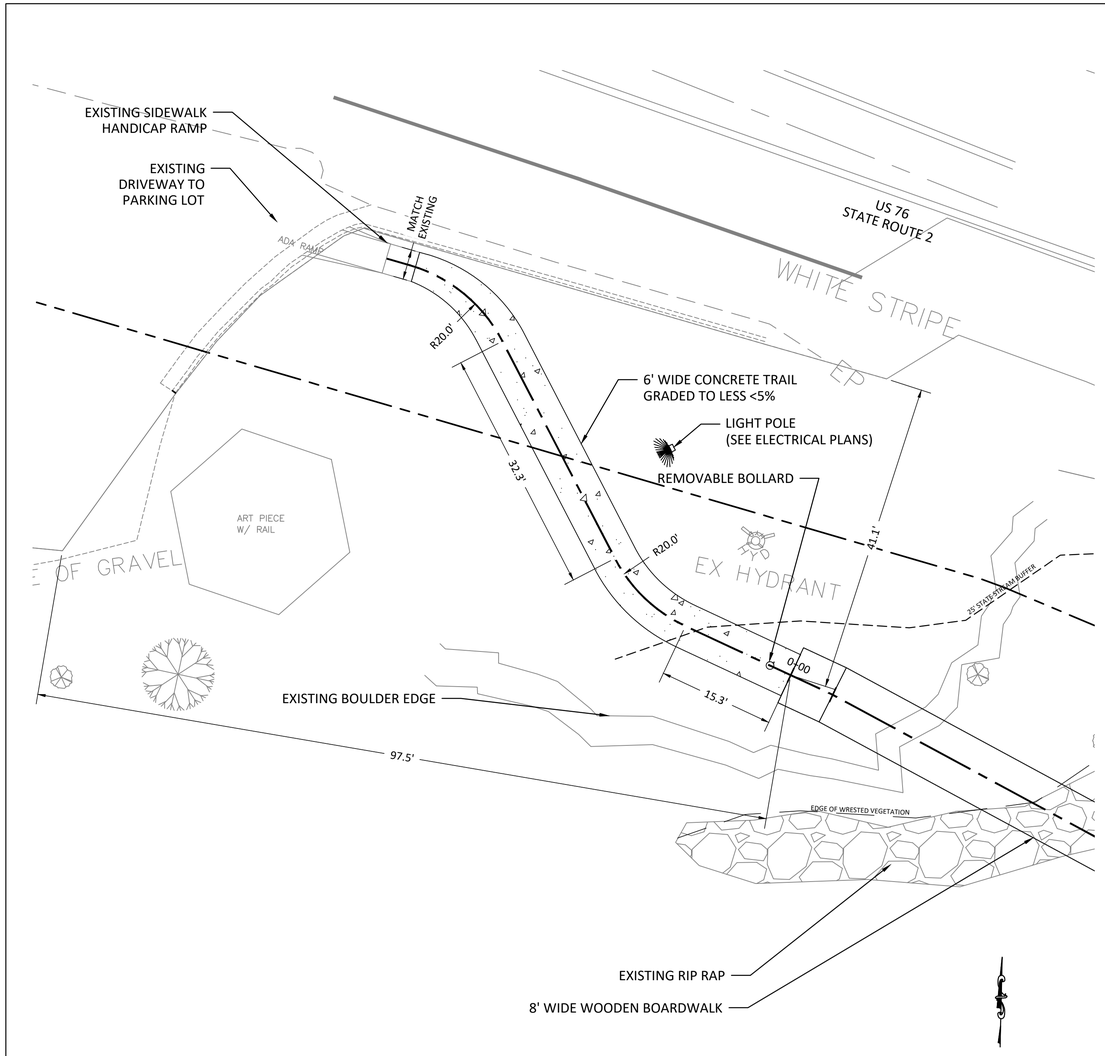
City of Hiawassee
229 Chatuge Way
Hiawassee, GA 30546

Revisions:

NO.	DATE	DESCRIPTION

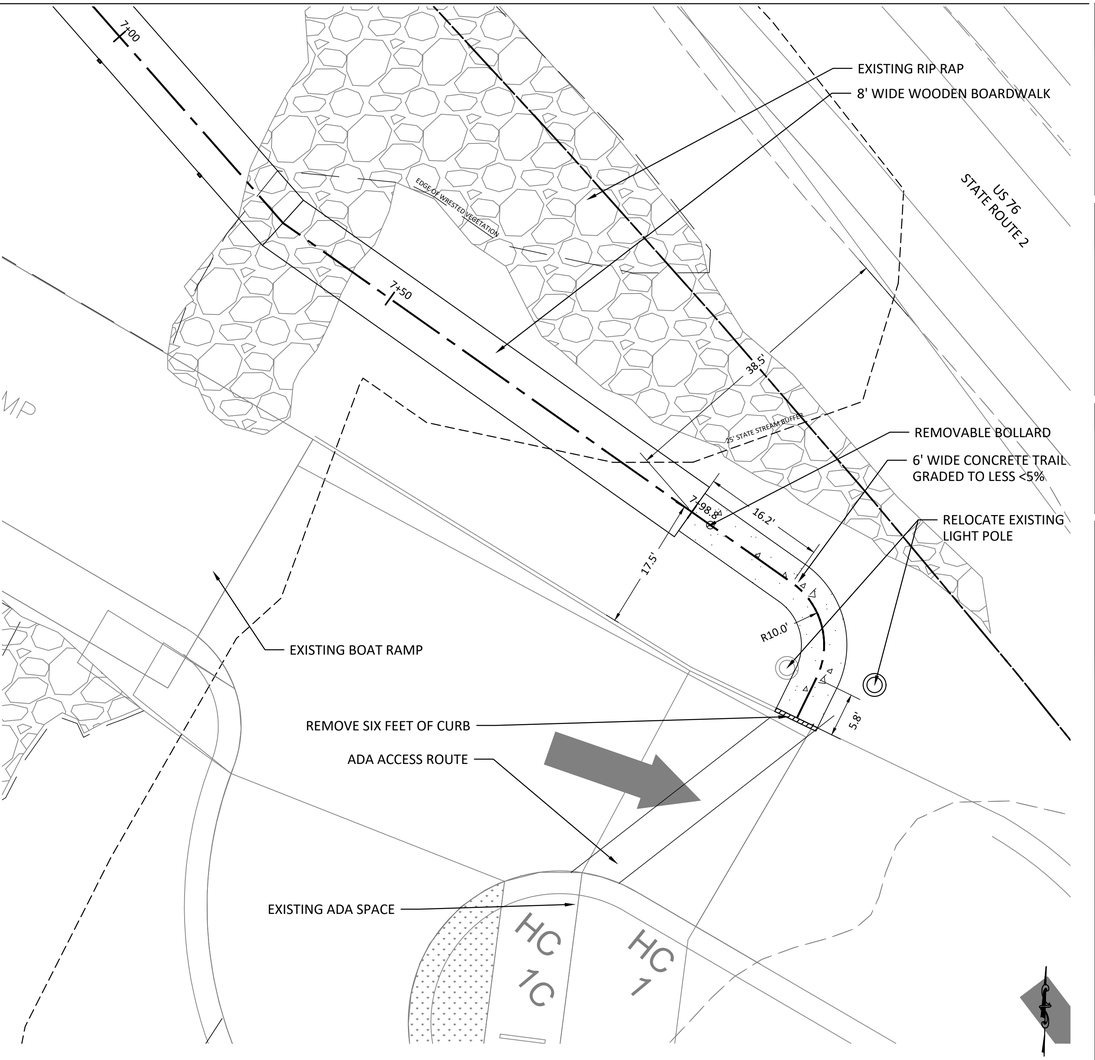
Sheet Title:
Boardwalk Profiles

Sheet No:
C-201



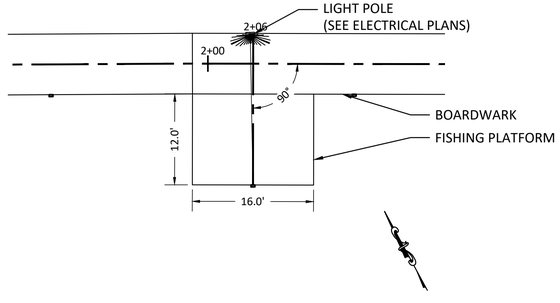
1 LLOYD'S LANDING ENLARGEMENT

Scale: 1" = 10'-0"



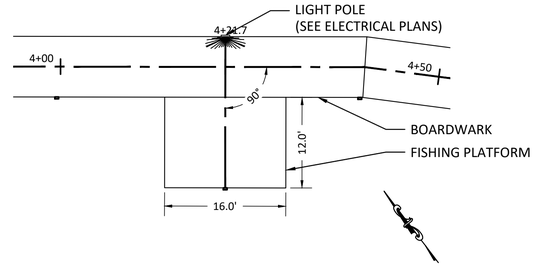
2 MAYOR'S PARK ENLARGEMENT

Scale: 1" = 10'-0"



3 FISHING PLATFORM 1 ENLARGEMENT

Scale: 1" = 10'-0"



4 FISHING PLATFORM 2 ENLARGEMENT

Scale: 1" = 10'-0"

811 Know what's **below.** **Call** before you dig.

RELEASED FOR CONSTRUCTION

ROOT DESIGN STUDIO landscape architecture
3469 Lawrenceville Highway
Suite 204
Tucker, Georgia 30084
(404) 895-2253
www.RootDStudio.com

Seal:

GEORGIA REGISTERED NO. LA001404 LANDSCAPE ARCHITECT ANDREA MICHELE GRECO 10/25/2023

Date:	2023-10-25
Project No:	2023-026
Drawn By:	MW
Checked By:	MK

Lake Chatuge Boardwalk

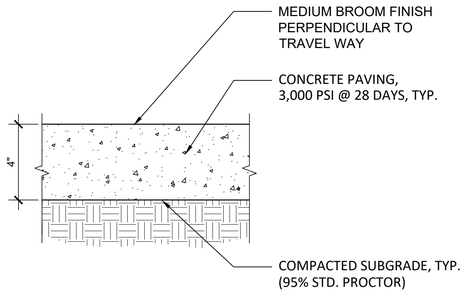
City of Hiawassee
229 Chatuge Way
Hiawassee, GA 30546

Revisions:

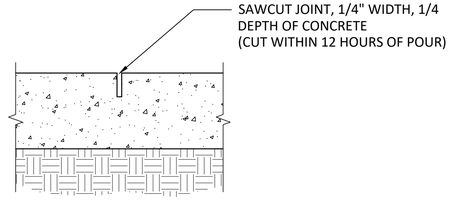
NO.	DATE	DESCRIPTION

Sheet Title: Site Plan Enlargements

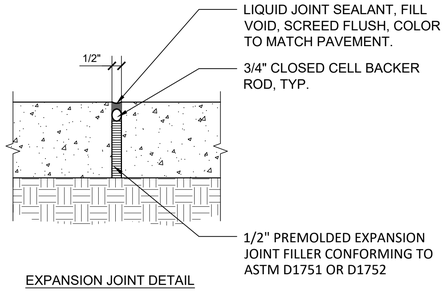
Sheet No: C-400



TYPICAL PAVING SECTION



CONTROL JOINT DETAIL



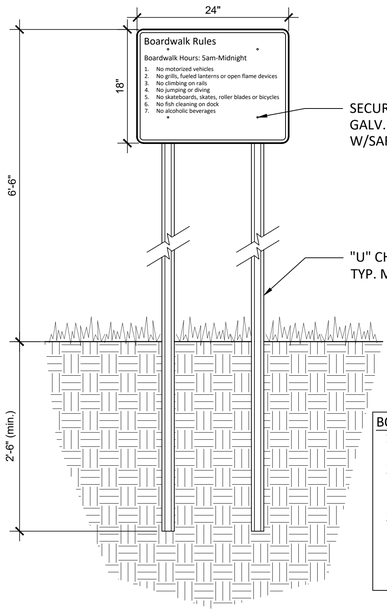
EXPANSION JOINT DETAIL

CONCRETE PAVING NOTES:

1. PAVEMENT WIDTH VARIES. REFER TO SITE PLAN.
2. CONTROL JOINT SPACING EQUAL TO WIDTH OF WALK UNLESS OTHERWISE INDICATED ON THE PLANS.
3. EXPANSION JOINTS @ 40' MAX., AND WHEN ABUTTING ADJACENT RIGID PAVEMENTS, CURBS, AND STRUCTURES, OR AS SHOWN ON PLANS.
4. INSTALL A TEMPORARY SNAP/CAP OVER THE TOP OF THE EXPANSION JOINT AFTER THE EXPANSION JOINT BOARD IS INSTALLED. ONCE CURED, REMOVE THE CAP, INSTALL BACKER ROD, AND CAULK THE TOP OF JOINT.
5. ALL JOINTS SHALL BE PERPENDICULAR WITH EDGES OF WALK. IF WALK IS CURVED, JOINTS SHALL EXTEND FROM RADIUS POINT.
6. CONCRETE TO BE 3,000 PSI @ 28 DAYS, AIR ENTRAINED. CONCRETE TO BE LOW CARBON VERTUA BY CEMEX (READY MIX USA) OR EQUIVALENT WITH 30% OR GREATER REDUCTION IN EMISSIONS COMPARED TO STRAIGHT CONCRETE MIX.
7. SEE GENERAL NOTES AND/OR SPECIFICATIONS FOR ADDITIONAL INFORMATION.

1 CONCRETE PAVING DETAIL

Scale: 3" = 1'-0"



BOARDWALK RULES SIGN

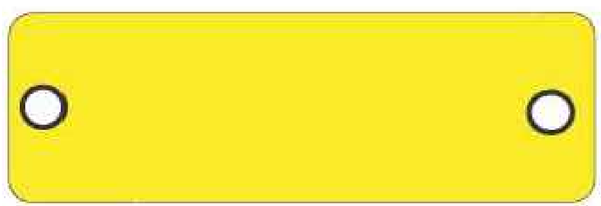
1. SIGN PANEL TO BE BROWN ALUMINUM WITH WHITE LETTERING.
2. PROJECT REPRESENTATIVE TO PROVIDE LANGUAGE TO CONTRACTOR FOR SIGN IN DRAWING FILE.
3. SUBMITTAL: CONTRACTOR TO PROVIDE FULL SCALE PDF OF SIGN LAYOUT INCLUDING TEXT AND FONT TO BE USED FOR APPROVAL BY PROJECT REPRESENTATIVE.

2 BOARDWALK RULES SIGN DETAIL

Scale: 3/4" = 1'-0"

REFLECTIVE MARKER NOTES

1. MANUFACTURER
   SETON
   P.O. Box 458
   Buffalo, NY 14240-0458
   800-243-6624
   www.seton.com
2. REFLECTIVE RECTANGULAR DELINEATOR
   MODEL: 94654
3. COLOR
   YELLOW
4. SIZE: 3" x 9"
5. REFLECTIVE TYPE
   HIGH-INTENSITY
6. QUANTITY: X
7. INSTALLATION
   PER MANUFACTURER'S INSTRUCTIONS.
8. SUBMITTAL
   CONTRACTOR TO PROVIDE PRODUCT SAMPLE PRIOR TO INSTALLATION.

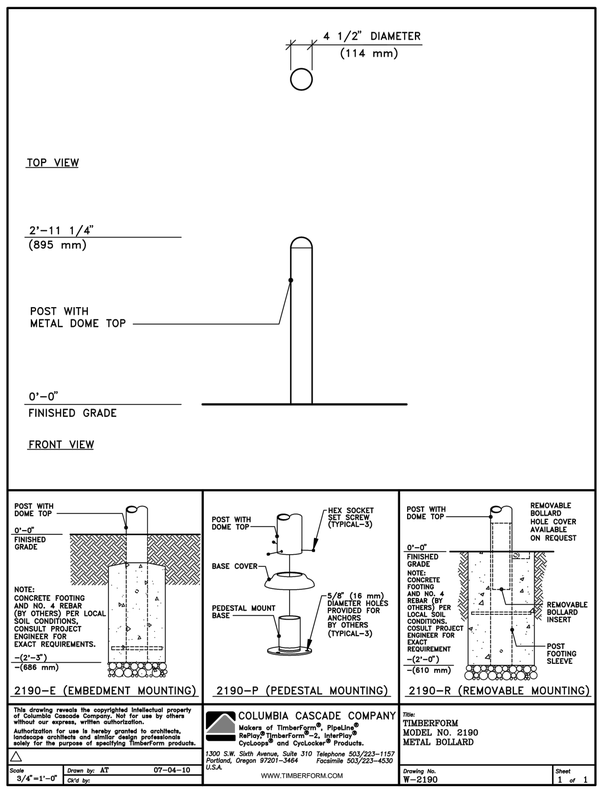


3 REFLECTIVE MARKER DETAIL

Scale: 3/4" = 1'-0"

REMOVABLE BOLLARD NOTES

1. MANUFACTURER
   COLUMBIA CASCADE COMPANY
   700 NE Fourth Ave., Suite 201
   PO Box 1039
   Camas, WA 98607-0039 U.S.A.
   (503) 223-1157
2. REMOVABLE METAL BOLLARD
   MODEL: 2190-R (REMOVABLE MOUNTING)
3. INSTALLATION
   PER MANUFACTURER'S INSTRUCTIONS.
4. SUBMITTAL
   CONTRACTOR TO PROVIDE PRODUCT SAMPLE PRIOR TO INSTALLATION.



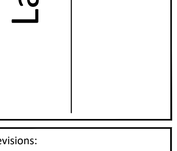
4 REMOVABLE BOLLARD DETAIL

Scale: 3/4" = 1'-0"

RELEASED FOR CONSTRUCTION

ROOT DESIGN STUDIO landscape architecture
3469 Lawrenceville Highway
Suite 204
Tucker, Georgia 30084
(404) 895-2253
www.RootDStudio.com

Seal:



Date:	2023-10-25
Project No:	2023-026
Drawn By:	MW
Checked By:	MK

Lake Chatuge Boardwalk

City of Hiawassee
229 Chatuge Way
Hiawassee, GA 30546

Revisions:

NO.	DATE	DESCRIPTION

Sheet Title: Construction Details

Sheet No: C-500

PROJECT DESCRIPTION

THE PROJECT CONSISTS OF CONSTRUCTION OF A NEW BOARDWALK ACROSS A SECTION OF LAKE CHATUGE AND INCLUDES CONNECTING CONCRETE SIDEWALSK OB NOTH SIDES OF THE BOARDWALK. THE TOTAL PROJECT AREA IS 17,000 SQUARE FEET OR 0.39 ACRES AND THE DISTURBED AREA IS 4,050 SQUARE FEET OR 0.09 ACRES. THE TOTAL VOLUME OF EARTH TO BE DISTURBED IS 150 CUBIC YARDS.

CONSTRUCTION ACTIVITIES FOR THE PROJECT WILL INCLUDE THE FOLLOWING:

- INSTALLATION AND MAINTENANCE OF EROSION AND SEDIMENTATION CONTROL MEASURES
- ESTABLISHING TEMPORARY AND PERMANENT VEGETATION
- DEMOLITION
- CONSTRUCTION OF ALL OF THE PROJECT ELEMENTS

DISTURBED AREAS WILL BE RESTORED WITH PERMANENT GRASS VEGETATION AND LANDSCAPE MULCHING. THE REMAINING AREAS DISTURBED BY CONSTRUCTION ACTIVITIES WILL BE RETURNED TO THEIR ORIGINAL CONDITIONS. TOPOGRAPHY WILL BE RETURNED TO ORIGINAL GRADE AND SLOPE AS MUCH AS POSSIBLE, AND RUNOFF COEFFICIENTS WILL BE COMPARABLE TO PRE CONSTRUCTION VALUES. STORM WATER RUNOFF RATES WILL BE MINIMALLY AFFECTED AS A RESULT OF THIS PROJECT.

STORM-DRAIN PIPE AND WEIR VELOCITIES:

EXISTING SITE DRAINAGE PATTERNS WILL NOT BE ALTERED AS A RESULT OF THE PROJECT. NO STORM DRAINAGE STRUCTURES WILL BE INSTALLED.

SEDIMENT STORAGE:

CONSTRUCTION ACTIVITY IS LIMITED TO INSTALLING AND MAINTAINING EROSION CONTROL MEASURES AND SITE IMPROVEMENTS. GIVEN THE SMALL SITE DRAINAGE AREA ASSOCIATED WITH THIS PROJECT AS WELL AS THE LINEAR NATURE OF THE IMPROVEMENTS, DIVERTING FLOWS AND/OR CONSTRUCTING TEMPORARY SEDIMENT BASINS OR EQUIVALENT CONTROLS IS NOT FEASIBLE. SILT FENCE, MULCHING, AND GRASSING WILL BE USED FOR SEDIMENT CONTROL FOR THE PROJECT.

DISTURBED AREA TOTAL = 0.09 ACRES

REQUIRED VOLUME OF SEDIMENT STORAGE = (0.09 ACRES)(67 C.Y./ACRE) = 6.03 CUBIC YARDS
SILT FENCE STORAGE = 1 L.F. X 1.5' HIGH X 1.5' DEEP = 0.083 C.Y./L.F.

TOTAL AMOUNT OF SILT FENCE REQUIRED FOR SEDIMENT STORAGE = (6.03 CUBIC YARDS)/(0.083CUBIC YARDS/LINEAR FOOT) = 73 LINEAR FEET
THE AMOUNT OF SILT FENCE SHOWN ON THE PLANS EXCEEDS THIS AMOUNT.

SEDIMENT ACCUMULATED BEHIND SILT FENCE WILL BE REMOVED WITHIN 3 DAYS OF A STORM EVENT.

POLLUTION PREVENTION PRACTICES & REMEDIATION OF PETROLEUM SPILLS AND LEAKS:

THE CONTRACTOR IS PROHIBITED FROM STORING OIL OR ANY HAZARDOUS WASTE MATERIAL AT THE CONSTRUCTION SITE. CONSTRUCTION EQUIPMENT AND VEHICLES ARE THE ONLY ANTICIPATED SOURCE OF POTENTIAL POLLUTION EXPECTED WITHIN THE CONSTRUCTION AREA FOR THIS PROJECT.

PREVENTION OF SPILLS AND LEAKS:

THE CONTRACTOR IS RESPONSIBLE FOR MINIMIZING THE POTENTIAL OF POLLUTION FROM EQUIPMENT AND VEHICLE LEAKS OR SPILLS REACHING ANY RECEIVING WATERS. AT A MINIMUM, THE FOLLOWING PRACTICES SHALL BE IMPLEMENTED:

REGULARLY INSPECT ONSITE VEHICLES AND EQUIPMENT FOR LEAKS AND REPAIR IMMEDIATELY.

CHECK INCOMING VEHICLES AND EQUIPMENT FOR LEAKING OIL AND FLUIDS. DO NOT ALLOW LEAKING VEHICLES OR EQUIPMENT ONSITE.

IF FUELING MUST OCCUR ONSITE, USE LOCATIONS AWAY FROM DRAINAGE COURSES TO PREVENT THE RUNOFF OF STORMWATER AND THE RUNOFF OF SPILLS. ALWAYS USE SECONDARY CONTAINMENT, SUCH AS A DRAIN PAN, WHEN FUELING TO CATCH SPILLS/LEAKS.

IF MAINTENANCE MUST OCCUR ONSITE, USE A DESIGNATED AREA AND SECONDARY CONTAINMENT, LOCATED AWAY FROM DRAINAGE COURSES, TO PREVENT THE RUNOFF OF STORMWATER AND THE RUNOFF OF SPILLS.

ALWAYS USE SECONDARY CONTAINMENT, SUCH AS DRAIN PAN OR DROP CLOTH, TO CATCH SPILLS OR LEAKS WHEN REMOVING OR CHANGING FLUIDS. PROMPTLY TRANSFER USED FLUIDS TO PROPER WASTE OR RECYCLING CONTAINERS. IMMEDIATELY REMOVE FROM SITE AND AND DISPOSE OF IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS.

TO THE EXTENT THAT THE WORK CAN BE ACCOMPLISHED SAFELY, SPILLS OF OIL OR PETROLEUM PRODUCTS SHOULD BE CONTAINED AND CLEANED UP IMMEDIATELY. SPILLS SHOULD BE COVERED AND PROTECTED FROM STORMWATER RUNOFF DURING RAINFALL TO THE EXTENT THAT IT DOESN'T COMPROMISE CLEAN UP ACTIVITIES.

CLEANUP OF PETROLEUM LEAKS OR SPILLS-

CLEAN UP LEAKS AND SPILLS IMMEDIATELY. NEVER HOSE DOWN OR BURY SPILLS. REMOVE CONTAMINATED SOILS AND DISPOSE OF IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS.

MINOR SPILLS:
CONTAIN THE SPREAD OF THE SPILL, REMOVE CONTAMINATED SOILS, AND DISPOSE OF IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS.

SEMI-SIGNIFICANT SPILLS:
SPILLS SHOULD BE CLEANED UP IMMEDIATELY WITH THE AID OF AS MANY ONSITE PERSONNEL AS NECESSARY. IMMEDIATELY CONTAIN THE SPILL BY CONSTRUCTING AN EARTHEN DIKE. DIG UP AND PROPERLY DISPOSE OF CONTAMINATED SOIL IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS.

SIGNIFICANT SPILLS:
FOR SIGNIFICANT SPILLS THAT CANNOT BE CONTROLLED BY PERSONNEL IN THE IMMEDIATE VICINITY, THE FOLLOWING STEPS SHOULD BE TAKEN:

NOTIFY THE LOCAL EMERGENCY RESPONSE BY CONTACTING 911. IN ADDITION TO 911, THE CONTRACTOR WILL NOTIFY THE PROPER 24 HOUR EMERGENCY CONTACT. THE SERVICES OF A SPILLS CONTRACTOR OR A HAZ-MAT TEAM SHOULD BE OBTAINED IMMEDIATELY. CONSTRUCTION PERSONNEL SHOULD NOT ATTEMPT TO CLEAN UP UNTIL THE APPROPRIATE AND QUALIFIED STAFFS HAVE ARRIVED AT THE JOB SITE.

THE CONTRACTOR IS REQUIRED TO ADHERE TO ALL REPORTING REQUIREMENTS OF GEORGIA'S OIL OR HAZARDOUS MATERIAL SPILLS OR RELEASES ACT (O.C.G.A. §§12-14-2, ET SEQ.), 40 CFR PART 117 AND 40 CFR PART 302. WHERE A RELEASE CONTAINING A HAZARDOUS SUBSTANCE IN AN AMOUNT EQUAL TO OR IN EXCESS OF A REPORTING QUANTITY ESTABLISHED UNDER EITHER GEORGIA'S OIL OR HAZARDOUS MATERIAL SPILLS OR RELEASES ACT (O.C.G.A. §§12-14-2, ET SEQ.), 40 CFR 117 OR 40 CFR 302 OCCURS DURING A 24 HOUR PERIOD, THE CONTRACTOR IS REQUIRED TO NOTIFY EPD AT (404) 656-4863 OR (800) 241-4113 AND THE NATIONAL RESPONSE CENTER (NRC) AT (800) 424-8802 IN ACCORDANCE WITH THE REQUIREMENTS OF GEORGIA'S OIL OR HAZARDOUS MATERIAL SPILLS OR RELEASES ACT (O.C.G.A. §§12-14-2, ET SEQ.), 40 CFR 117 AND 40 CFR 302 AS SOON AS HE/SHE HAS KNOWLEDGE OF THE DISCHARGE.

POST CONSTRUCTION POLLUTION CONTROL MEASURES:

DISTURBED AREAS WILL BE RETURNED TO PRE-CONSTRUCTION GRADES AND SLOPES AND PERMANENT GRASS VEGETATION WILL BE ESTABLISHED AS WORK PROGRESSES TO CONTROL POLLUTANTS IN STORM WATER THAT WILL OCCUR AFTER CONSTRUCTION OPERATIONS HAVE BEEN COMPLETED.

THE CONTRACTOR SHALL ENSURE SATISFACTORY GROWTH AND COVERAGE OF PERMANENT GRASS VEGETATION ON DISTURBED AREAS. GRASSED AREAS WILL BE CONSIDERED ACCEPTABLE WHEN PERMANENT GRASS VEGETATION HAS REACHED A POINT OF MATURITY, COVERAGE IS AT LEAST 95% OF THE TOTAL AREA WITH NO BARE SPOTS EXCEEDING ONE SQUARE FOOT, AND GROUND SURFACE IS FULLY STABILIZED AGAINST EROSION. SILT FENCE AND MULCH INSTALLED DURING INSTALLATION OF THE PIPELINE WILL BE KEPT IN PLACE AND MAINTAINED UNTIL PERMANENT VEGETATION HAS BEEN EFFECTIVELY ESTABLISHED AND CONTRACTOR HAS RECEIVED FINAL ACCEPTANCE BY THE OWNER.

WASTE MATERIALS:

WASTE MATERIALS SHALL NOT BE DISCHARGED TO WATERS OF THE STATE, EXCEPT BY A SECTION 404 PERMIT. ANY WASTE MATERIAL FROM CONSTRUCTION ACTIVITIES SHALL BE COLLECTED AND STORED IN A SECURE, LIDDED CONTAINER. AT THE END OF EACH WORK DAY WASTE MATERIAL SHALL BE REMOVED FROM THE CONSTRUCTION SITE AND DISPOSED OF PROPERLY.

IF EXISTING SANITARY FACILITIES ARE UNAVAILABLE, PORTABLE SANITARY FACILITIES SHALL BE PROVIDED. CONTRACTOR SHALL PAY THE COST FOR INSTALLATION, MAINTENANCE, AND REMOVAL OF TEMPORARY SANITARY FACILITIES. UNITS SHALL BE CLEANED AND SANITARY WASTE SHALL BE COLLECTED A MINIMUM OF ONE TIME PER WEEK BY A LICENSED PORTABLE FACILITY PROVIDER AND IN COMPLIANCE WITH LOCAL AND STATE REGULATIONS.

UNITS SHALL BE LOCATED AT SUCH PLACES AS APPROVED BY THE OWNER AND WHERE THE LIKELIHOOD OF THE UNIT CONTRIBUTING TO STORM WATER DISCHARGE IS NEGLIGIBLE.

THESE PLANS ARE IN COMPLIANCE WITH APPLICABLE STATE AND LOCAL WASTE DISPOSAL, SANITARY SEWER, AND SEPTIC SYSTEM REGULATIONS.

INSPECTION OF BMP'S:

THE DESIGN PROFESSIONAL WHO PREPARED THE ES AND PC PLAN IS TO INSPECT THE INSTALLATION OF THE INITIAL SEDIMENT STORAGE REQUIREMENTS AND PERIMETER CONTROL BMPS WITHIN 7 DAYS AFTER INSTALLATION IN ACCORDANCE WITH PART 1V.A.5, PAGE 25 OF THE GENERAL NPDES PERMIT.

ES&PC PLAN AMENDMENTS/REVISIONS:

ANY AMENDMENT TO THE EROSION CONTROL PLANS WHICH HAS A SIGNIFICANT EFFECT ON BMP'S WITH A HYDRAULIC COMPONENT MUST BE CERTIFIED BY THE ES&PC PLAN DESIGN PROFESSIONAL.

CONCRETE WASHDOWN:

CONCRETE WASHDOWN OF TOOLS, CONCRETE MIXER CHUTES, HOPPERS, DRUMS, THE REAR OF VEHICLES, AND/OR ANY OTHER EQUIPMENT IS PROHIBITED ON THE PROJECT SITE.

PRIMARY PERMITTEE:
THE PRIMARY PERMITTEE FOR THIS SITE IS THE CITY OF HIAWASSEE, GEORGIA, 50 RIVER STREET, HIAWASSEE, GEORGIA, 30546, (706) 896-2202, mayor@hiawassee.gov.

STATE WATERS:
THIS PROJECT IS LOCATED ADJACENT TO STATE WATERS. THE RECEIVING WATERS FOR THIS PROJECT IS LAKE CHATUGE. THERE ARE BUFFER ENCROACHMENTS ASSOCIATED WITH THIS PROJECT BUT THE DISTURBANCE IN THE BUFFER IS LESS THAN 100 SQUARE FEET SO A BUFFER VARIANCE IS NOT REQUIRED.

EXISTING LAND USE:
THE EXISTING LANDS AT THE PROJECT SITE ARE A CITY PARK.

CRITICAL AREAS INFORMATION:
THERE ARE NO CRITICAL AREAS WITHIN THIS PROJECT.

WETLANDS:
THERE ARE NOT WETLANDS WITHIN THE PROJECT AREA.

EROSION, SEDIMENTATION AND POLLUTION CONTROL INSPECTIONS AND REPORTING:
INSPECTIONS AND REPORTING REQUIREMENTS ARE NOT REQUIRED.

MULCHING: Ds1

ALL SLOPED AREAS TO BE MULCHED AND TEMPORARILY GRASSED WITH 2 1/2 TONS PER ACRE OF DRY STRAW.

TEMPORARY GRASSING: Ds2

TEMPORARY GRASSING SHALL CONSIST OF SOWING A QUICK GRASS SUCH AS RYE GRASS, BROWN TOP MILLET, OR A GRASS SUITABLE TO THE AREA AND SEASON. LIME AND FERTILIZER WILL BE OMITTED. MULCH IS NOT REQUIRED BUT SHOULD BE USED AS DICTATED BY EXISTING SITE CONDITIONS.

SPECIES	RATE	PLANTING DATE
RYE GRASS-ANNUAL BROWNTOP MILLET RYE	40-50#/AC. 30-40#/AC. 160-170#/AC.	AUGUST THRU MID-APRIL APRIL THRU MID-JULY MID-AUGUST THRU DECEMBER

PERMANENT GRASSING: Ds3

PERMANENT GRASSING SHALL CONSIST OF GROUND PREPARATION, LIMING AND FERTILIZATION, SEEDING, AND MULCHING.

THE GROUND SHALL BE PREPARED BY PLOWING AND DISKING NOT LESS THAN 4". FERTILIZER AND LIME SHALL BE UNIFORMLY MIXED INTO THE GROUND - FERTILIZER AT A RATE OF 1500#/AC. AND LIME AT 2000#/AC. THE GROUND SHALL BE FINISHED OFF SMOOTH AND UNIFORM BEING FREE OF ROCKS, CLODS, ROOTS, ETC. FERTILIZER MIXED GRADE SHALL BE EITHER 4-12-12; 6-12-12 OR 5-10-15. SEEDING SHALL BE DONE WITHIN 24 HOURS OF THE FERTILIZER APPLICATION, WEATHER PERMITTING. SEED SHALL BE UNIFORMLY SPREAD AT THE RATE SHOWN BELOW. MULCHING IS REQUIRED AND SHALL BE DONE IMMEDIATELY AFTER SEEDING. MULCH SHALL BE UNIFORMLY APPLIED OVER THE AREA LEAVING APPROXIMATELY 25% OF THE GROUND SURFACE EXPOSED. THE RATE OF APPLICATION SHALL BE DOUBLED ON SIDE SLOPES 4:1 AND STEEPER.

SPECIES	RATE	PLANTING DATE
TALL FESCUE COMMON BERMUDA (HULLED) COMMON BERMUDA (UNHULLED) WEEPING LOVEGRASS	50#/AC. 10#/AC. 10#/AC. 4#/AC.	MID AUGUST THRU OCTOBER MARCH THRU JUNE OCTOBER THRU FEBRUARY MARCH THRU MAY

DUST CONTROL: Du

PROVIDE DUST CONTROL THROUGH A COMBINATION OF MEASURES INCLUDING MULCHING, VEGETATION COVER , SPRAY ON ADHESIVES, TILLAGE, IRRIGATION, SPRAY ON ADHESIVES, AND/OR CALCIUM CHLORIDE

EROSION CONTROL NOTES:

EROSION CONTROL MEASURES WILL BE MAINTAINED AT ALL TIMES. IF FULL IMPLEMENTATION OF THE APPROVED PLAN DOES NOT PROVIDE FOR EFFECTIVE EROSION CONTROL, ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IMPLEMENTED TO CONTROL OR TREAT THE SEDIMENT SOURCE.

ANY DISTURBED AREA LEFT EXPOSED FOR A PERIOD GREATER THAN 14 DAYS SHALL BE STABILIZED WITH MULCH OR TEMPORARY SEEDING.

THE ESCAPE OF SEDIMENT FROM THE SITE SHALL BE PREVENTED BY THE INSTALLATION OF EROSION AND SEDIMENT CONTROL MEASURES AND PRACTICES PRIOR TO, OR CONCURRENT WITH, LAND-DISTURBING ACTIVITIES.

THE EXTENT AND LOCATION OF EROSION CONTROL MEASURES SHOWN ARE THE ESTIMATED REQUIRED. ADDITIONAL EROSION CONTROL MEASURES MAY BE REQUIRED DUE TO THE ACTUAL FIELD CONDITIONS, AND WILL BE INSTALLED AT THE OWNER/DEVELOPERS EXPENSE WHEN DIRECTED BY THE PROPER GOVERNING AUTHORITY.

ALTERNATE TYPE C SILT FENCE CAN BE USED PROVIDED IT IS APPROVED BY THE GEORGIA DEPARTMENT OF TRANSPORTATION.

NO CLEARING OF THE SITE UNTIL ALL BASINS, DIVERSIONS, AND SEDIMENT CONTROLS ARE INSTALLED, STABILIZED, AND FUNCTIONAL

LAND DISTURBANCE CANNOT BEGIN ON SITE UNTIL AFTER THE PRECONSTRUCTION CONFERENCE AND THE EROSION CONTROL INSPECTOR GIVES THE LDA PERMIT TO THE CONTRACTOR. PRESENT FOR THE PRECONSTRUCTION CONFERENCE SHALL BE: GENERAL CONTRACTOR, GRADING CONTRACTOR, AND OWNER. THE DESIGN PROFESSIONAL MAY BE PRESENT AT THE DIRECTION OF THE OWNER.

THE GSWCC MANUAL REQUIRES TWO ROWS OF TYPE S SEDIMENT BARRIERS, 36 INCHES APART, ALONG ALL STATE WATERS.

IMPAIRED STREAM REQUIREMENTS, TMDL PLANS, AND ALTERNATIVE BMP NOTES:

1. STORM WATER FROM THIS PROJECT SITE WILL NOT DISCHARGE WITHIN ONE LINEAR MILE OF AN IMPAIRED LAKE ACCORDING TO THE 2022 305B/303D LIST OF IMPAIRED STREAMS. THE DRINKING WATER AND RECREATION USES ARE BEING MET. THE FISHING USE IS IMPAIRED FOR FISH TISSUE(MERCURY). TMDL IMPLEMENTATION PLAN HAS THEREFORE NOT BEEN WRITTEN, AND APPENDIX 1 DOES NOT APPLY TO THIS PROJECT.
2. ALTERNATIVE BMPS WILL NOT BE INSTALLED DURING THIS PROJECT.

NON EXEMPT ACTIVITIES SHALL NOT BE CONDUCTED WITHIN THE 25 OR 50 FOOT UNDISTURBED STREAM BUFFERS AS MEASURED FROM THE POINT OF WRESTED VEGETATION OR WITHIN 25 FEET OF A COASTAL MARSHLAND BUFFER AS MEASURED FROM THE JURISDICTIONAL DETERMINATION LINE WITHOUT FIRST ACQUIRING THE NECESSARY VARIANCES AND PERMITS.

GIVEN THE SMALL "SITE" DRAINAGE AREAS ASSOCIATED WITH THIS PROJECT, DIVERTING FLOWS AND/OR CONSTRUCTING TEMPORARY SEDIMENT BASINS OR EQUIVALENT CONTROLS IS NOT ATTAINABLE. SILT FENCE, TEMPORARY GRASSING, MULCHING AND PERMANENT GRASSING WILL BE USED FOR SEDIMENT CONTROL FOR THE PROJECT.

RATIONALE FOR SINGLE PHASE EROSION CONTROL PLAN:

THE PROJECT SITE AND DISTURBED AREA IS RELATIVELY SMALL AT 0.39 AND 0.09 ACRES, RESPECTIVELY. THE PROJECT CONSISTS OF VERY LITTLE NEW IMPERVIOUS SURFACE AND THE SITE GRADING IS MINIMAL. THE EXISTING SITE DOES NOT CONTAIN ANY STORMWATER MANAGEMENT FEATURES SUCH AS A DETENTION POND AND STORMWATER CURRENTLY SHEET FLOWS OFF THE SITE. THE PROPOSED EROSION CONTROL MEASURES CONSIST OF SILT FENCE AND A CONSTRUCTION EXIT IN ADDITION TO GRASSING, MULCHING, ETC. THE PROJECT ALSO HAS A RELATIVELY SHORT DURATION OF SEVEN MONTHS. AS A RESULT OF THESE FACTORS THE MOST APPROPRIATE EROSION CONTROL STRATEGY IS TO COMBINE THE THREE EROSION CONTROL PHASES (INITIAL, INTERMEDIATE, AND FINAL) INTO ONE PHASE. PER THE EROSION, SEDIMENTATION, AND POLLUTION CONTROL PLAN CHECKLIST FOR STAND ALONE CONSTRUCTION PROJECTS, FOR CONSTRUCTION SITES WHERE THERE WILL BE NO MASS GRADING AND THE INITIAL PERIMETER CONTROL BMP'S, INTERMEDIATE GRADING AND DRAINAGE BMP'S, AND FINAL BMP'S ARE THE SAME, THE PLAN MAY COMBINE ALL OF THE BMP'S INTO A SINGLE PHASE. THIS PROJECT FALLS INTO THIS CATEGORY.

ACTIVITY	2023 MONTH 1	2	3	4	5	6	7	8	9	10	11	12
EROSION CONTROL INSTALLATION OF: SILT FENCE, TREE PROTECTION FENCE, AND CONSTRUCTION EXIT Sd1 Tr Co												
CONSTRUCTION												
INSTALLATION OF MULCHING AND TEMPORARY GRASSING , DUST CONTROL AS NEEDED Ds1 Ds2 Du												
INSTALLATION OF PERMANENT GRASSING Ds3												
MAINTAIN INSTALLED EROSION CONTROL BMPS UNTIL PERMANENT VEGETATION IS ESTABLISHED AND EFFECTIVE CONTROL OF EROSION HAS BEEN ACHIEVED IN ALL AREAS DISTURBED BY CONSTRUCTION ACTIVITIES Sd1 Ds1 Ds2 Ds3 Du												

I CERTIFY THAT THE PERMITTEE'S EROSION, SEDIMENTATION AND POLLUTION CONTROL PLAN PROVIDES FOR AN APPROPRIATE AND COMPREHENSIVE SYSTEM OF BEST MANAGEMENT PRACTICES REQUIRED BY THE GEORGIA WATER QUALITY CONTROL ACT AND THE DOCUMENT "MANUAL FOR EROSION AND SEDIMENT CONTROL IN GEORGIA" (MANUAL) PUBLISHED BY THE STATE SOIL AND WATER CONSERVATION COMMISSION AS OF JANUARY 1 OF THE YEAR IN WHICH THE LAND DISTURBANCE ACTIVE WAS PERMITTED, PROVIDES FOR THE SAMPLING OF THE RECEIVING WATER(S) OR THE SAMPLING OF THE STORM WATER OUTFALLS AND THAT THE DESIGNED SYSTEM OF BEST MANAGEMENT PRACTICES AND SAMPLING METHODS IS EXPECTED TO MEET THE REQUIREMENTS CONTAINED IN THE GENERAL NPDES PERMIT NO. GAR 100001, GAR 100002, GAR 100003

DAVID FREEDMAN — 10/25/2023
DAVID FREEDMAN — DATE
P.E.LICENSE NO. 14392, GSWCC LEVEL II CERTIFICATION NO. 66474

CERTIFICATION - ES&PC DESIGN PROFESSIONAL

10/25/2023
DAVID FREEDMAN — **DATE**
P.E. - LICENSE NO. 14392, GSWCC LEVEL II CERTIFICATION NO. 66474

I CERTIFY UNDER PENALTY OF LAW THAT THIS PLAN WAS PREPARED AFTER A SITE VISIT TO THE LOCATIONS DESCRIBED HEREIN BY MYSELF OR MY AUTHORIZED AGENT, UNDER MY SUPERVISION

10/25/2023
DAVID FREEDMAN — **DATE**
P.E. - LICENSE NO. 14392, GSWCC LEVEL II CERTIFICATION NO. 66474

GSWCC — Georgia Soil and Water Conservation Commission
David M Freedman
Level II Certified Design Professional
Certification Number 0000066474
Issued: 06/22/2021 Expires: 06/22/2024

24hr. Contact
RANDY DAY
706-897-3892

RELEASED FOR CONSTRUCTION

ROOT DESIGN STUDIO landscape architecture
3469 Lawrenceville Highway
Suite 204
Tucker, Georgia 30084
(404) 895-2253
www.RootDStudio.com

Seal:

GEORGIA REGISTERED NO. 14392 PROFESSIONAL ENGINEER DAVID M. FREEDMAN
10/25/2023

Date: 2023-10-25
Project No: 2023-026
Drawn By: MW
Checked By: DF

Lake Chatuge Boardwalk

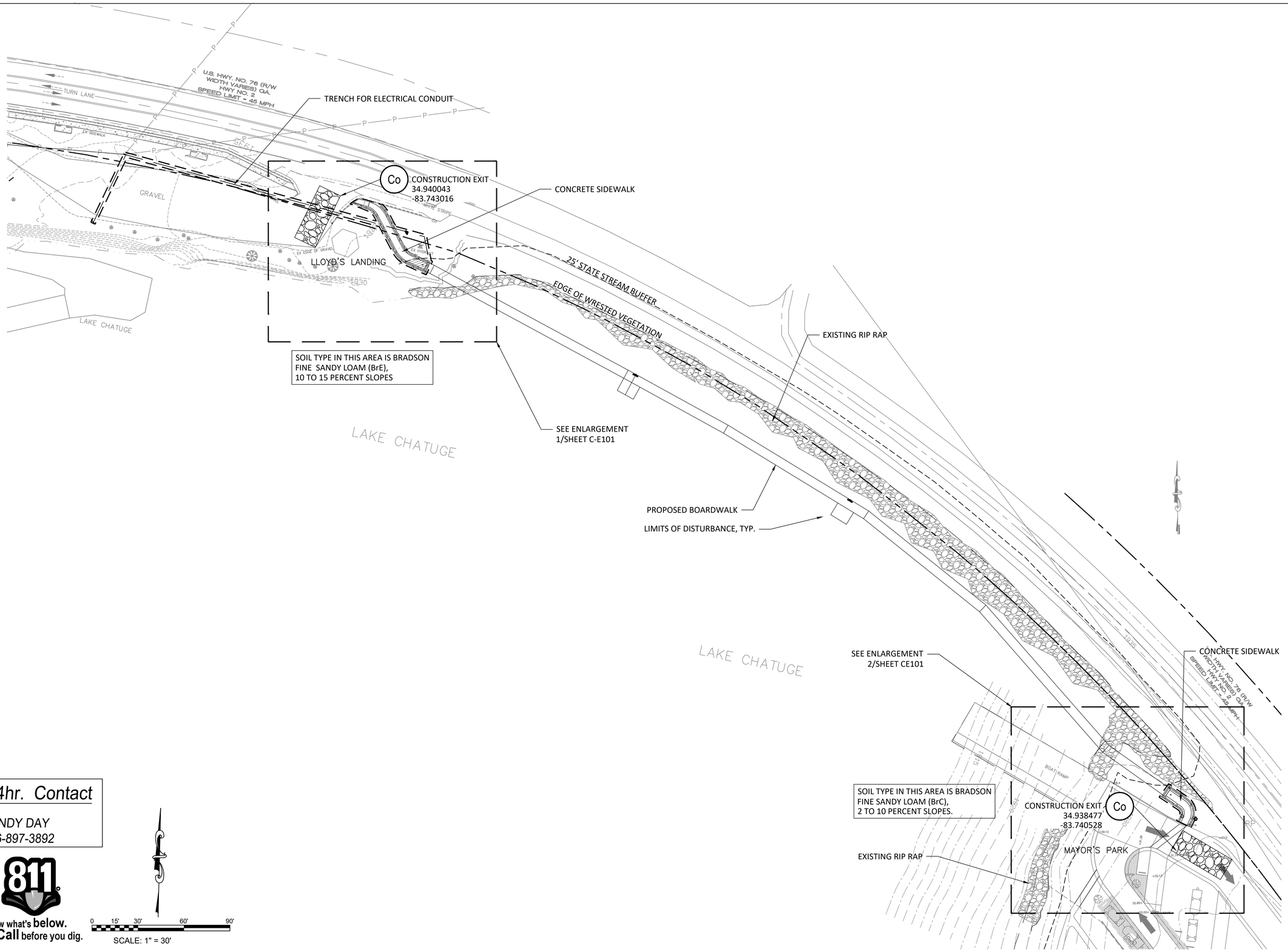
City of Hiawassee
229 Chatuge Way
Hiawassee, GA 30546

Revisions:

NO.	DATE	DESCRIPTION

Sheet Title:
Erosion, Sedimentation, and Pollution Control Notes

Sheet No:
CE000



24hr. Contact

RANDY DAY
706-897-3892

811
Know what's below.
Call before you dig.

RELEASED FOR CONSTRUCTION

ROOT DESIGN STUDIO
landscape architecture
3469 Lawrenceville Highway
Suite 204
Tucker, Georgia 30084
(404) 895-2253
www.RootDStudio.com

Seal:

GEORGIA REGISTERED NO. 14292 PROFESSIONAL ENGINEER DAVID M. FREEDMAN
10/25/2023

Date:	2023-10-25
Project No:	2023-026
Drawn By:	MW
Checked By:	DF

Lake Chatuge Boardwalk

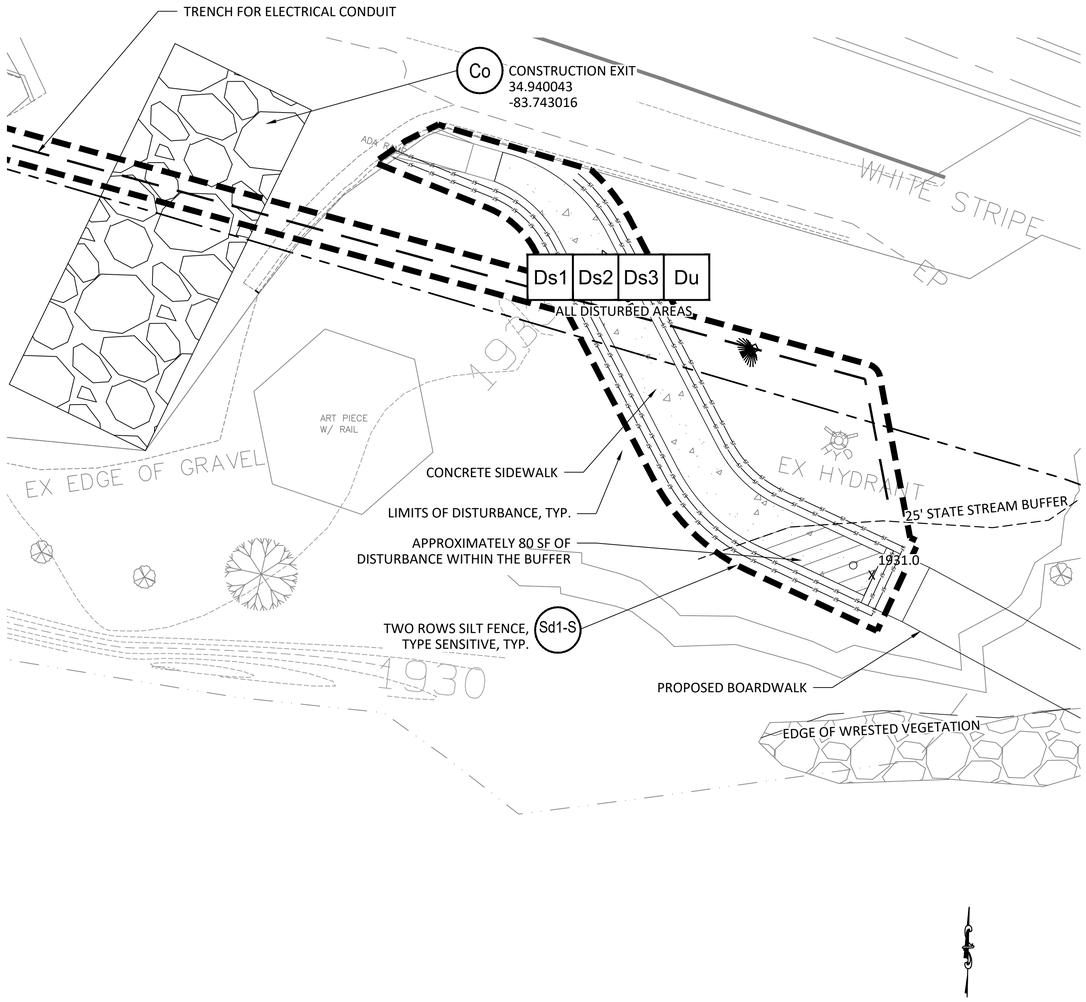
City of Hiawassee
229 Chatuge Way
Hiawassee, GA 30546

Revisions:

NO.	DATE	DESCRIPTION

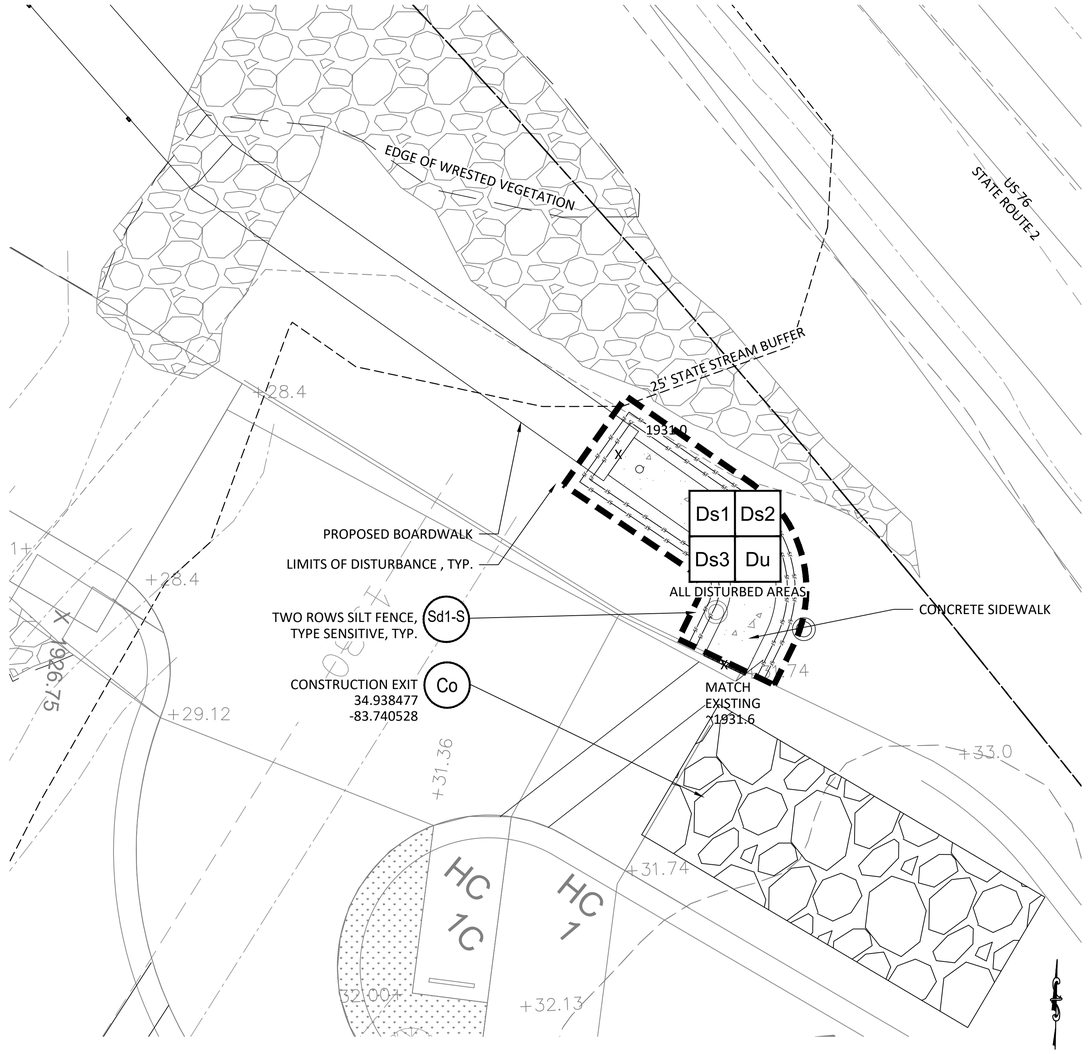
Sheet Title:
Erosion, Sedimentation, and Pollution Control Plan

Sheet No:
CE100



1 LLOYD'S LANDING ENLARGEMENT

Scale: 1" = 10'-0"



2 MAYOR'S PARK ENLARGEMENT

Scale: 1" = 10'-0"

24hr. Contact

RANDY DAY
706-897-3892

811
Know what's **below.**
Call before you dig.

RELEASED FOR CONSTRUCTION

ROOT DESIGN STUDIO
landscape architecture
3469 Lawrenceville Highway
Suite 204
Tucker, Georgia 30084
(404) 895-2253
www.RootDStudio.com

Seal:

GEORGIA REGISTERED NO. 14292 PROFESSIONAL ENGINEER DAVID M. FREEDMAN
10/25/2023

Date:	2023-10-25
Project No:	2023-026
Drawn By:	MW
Checked By:	DF

Lake Chatuge Boardwalk

City of Hiawassee
229 Chatuge Way
Hiawassee, GA 30546

Revisions:

NO.	DATE	DESCRIPTION

Sheet Title:
Erosion, Sedimentation, and Pollution Control Plan

Sheet No:
CE101

EROSION, SEDIMENTATION & POLLUTION CONTROL PLAN CHECKLIST
STAND ALONE CONSTRUCTION PROJECTS
SWCD: Blue Ridge Mountain, Region 1

Project Name: Lake Chatuge Boardwalk **Address:** 229 Chatuge Way, Hiawassee, GA, 30546
City/County: Hiawassee/Towns **Date on Plans:** 09/12/2023
Name & email of person filling out checklist: David Freedman, Davidf@Freedmanengineering.com

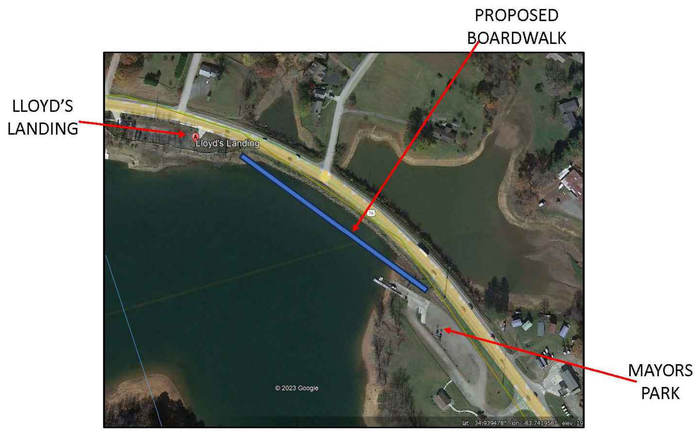
Plan Page #	Included Y/N		TO BE SHOWN ON ES&PC PLAN
CE102	Y	1	The applicable Erosion, Sedimentation and Pollution Control Plan Checklist established by the Commission as of January 1 of the year in which the land-disturbing activity was permitted. (The completed Checklist must be submitted with the ES&PC Plan or the Plan will not be reviewed)
CE000	Y	2	Level II certification number issued by the Commission, signature and seal of the certified design professional. (Signature, seal and level II number must be on each sheet pertaining to ES&PC plan or the Plan will not be reviewed)
N/A	N/A	3	Limits of disturbance shall be no greater than 50 acres at any one time without prior written authorization from the GAEPD District Office. If GAEPD approves the request to disturb 50 acres or more at any one time, the Plan must include at least 4 of the BMPs listed in Appendix 1 of this checklist and the GAEPD approval letter. * (A copy of the written approval by GAEPD must be attached to the plan for the Plan to be reviewed.)
CE000	Y	4	The name and phone number of the 24-hour contact responsible for erosion, sedimentation and pollution controls.
CE000	Y	5	Provide the name, address, email address, and phone number of primary permittee.
CE000	Y	6	Note total and disturbed acreages of the project or phase under construction.
CE100	Y	7	Provide the GPS location of the construction exit for the site. Give the Latitude and Longitude in decimal degrees.
CE000	Y	8	Initial date of the Plan and the dates of any revisions made to the Plan including the entity who requested the revisions.
CE000	Y	9	Description of the nature of construction activity and existing site conditions.
CE102	Y	10	Provide vicinity map showing site's relation to surrounding areas. Include designation of specific phase, if necessary.
CE000	Y	11	Identify the project receiving waters and describe all sensitive adjacent areas including streams, lakes, residential areas, wetlands, marshlands, etc. which may be affected.
CE000	Y	12	Design professional's certification statement and signature that the site was visited prior to development of the ES&PC Plan as stated on **Part IV page 19** of the permit.
CE000	Y	13	Design professional's certification statement and signature that the permittee's ES&PC Plan provides for an appropriate and comprehensive system of BMPs and sampling to meet permit requirements as stated on **Part IV page 19** of the permit. *
CE000	Y	14	Clearly note the statement that "The design professional who prepared the ES&PC Plan is to inspect the installation of the initial sediment storage requirements and perimeter control BMPs within 7 days after installation." in accordance with **Part IV.A.5 page 25** of the permit. *
CE000	Y	15	Clearly note the statement that "Non-exempt activities shall not be conducted within the 25 or 50-foot undisturbed stream buffers as measured from the point of wrested vegetation or within 25-feet of the coastal marshland buffer as measured from the Jurisdictional Determination Line without first acquiring the necessary variances and permits."
CE000	Y	16	Provide a description of any buffer encroachments and indicate whether a buffer variance is required.
CE000	Y	17	Clearly note the statement that "Amendments/revisions to the ES&PC Plan which have a significant effect on BMPs with a hydraulic component must be certified by the design professional." *
CE000	Y	18	Clearly note the statement that "Waste materials shall not be discharged to waters of the State, except as authorized by a Section 404 permit." *
CE000	Y	19	Clearly note statement that "The escape of sediment from the site shall be prevented by the installation of erosion and sediment control measures and practices prior to land disturbing activities."
CE000	Y	20	Clearly note statement that "Erosion control measures will be maintained at all times. If full implementation of the approved Plan does not provide for effective erosion control, additional erosion and sediment control measures shall be implemented to control or treat the sediment source."
CE000	Y	21	Clearly note the statement "Any disturbed area left exposed for a period greater than 14 days shall be stabilized with mulch or temporary seeding."
N/A	N/A	22	Any construction activity which discharges storm water into an Impaired Stream Segment, or within 1 linear mile upstream of and within the same watershed as, any portion of a Biota Impaired Stream Segment must comply with Part III. C. of the permit. Include the completed Appendix 1 listing all the BMPs that will be used for those areas of the site which discharge to the Impaired Stream Segment. *
N/A	N/A	23	If a TMDL Implementation Plan for sediment has been finalized for the Impaired Stream Segment (identified in Item 22 above) at least six months prior to submittal of NOI, the ES&PC Plan must address any site-specific conditions or requirements included in the TMDL Implementation Plan. *
CE000	Y	24	BMPs for concrete washdown of tools, concrete mixer chutes, hoppers and the rear of the vehicles. Washout of the drum at the construction site is prohibited. *
CE000	Y	25	Provide BMPs for the remediation of all petroleum spills and leaks.
N/A	N/A	26	Description of the measures that will be installed during the construction process to control pollutants in storm water that will occur after construction operations have been completed. *
N/A	N/A	27	Description of practices to provide cover for building materials and building products on site. *
N/A	N/A	28	Description of the practices that will be used to reduce the pollutants in storm water discharges. *
CE000	Y	29	Description and chart or timeline of the intended sequence of major activities which disturb soils for the major portions of the site (i.e., initial perimeter and sediment storage BMPs, clearing and grubbing activities, excavation activities, utility activities, temporary and final stabilization).
N/A	N/A	30	Provide complete requirements of Inspections and record keeping by the primary permittee. *
N/A	N/A	31	Provide complete requirements of Sampling Frequency and Reporting of sampling results. *
N/A	N/A	32	Provide complete details for Retention of Records as per Part IV.F. of the permit. *
N/A	N/A	33	Description of analytical methods to be used to collect and analyze the samples from each location. *
N/A	N/A	34	Appendix B rationale for NTU values at all outfall sampling points where applicable. *
N/A	N/A	35	Delineate all sampling locations, perennial and intermittent streams and other water bodies into which storm water is discharged. *
N/A	N/A	36	A description of appropriate controls and measures that will be implemented at the construction site including: (1) initial sediment storage requirements and perimeter control BMPs, (2) intermediate grading and drainage BMPs, and (3) final BMPs. For construction sites where there will be no mass grading and the initial perimeter control BMPs, intermediate grading and drainage BMPs, and final BMPs are the same, the Plan may combine all of the BMPs into a single phase. *
CE100	Y	37	Graphic scale and North arrow.
CE100	Y	38	Existing and proposed contour lines with contour lines drawn at an interval in accordance with the following:

Map Scale	Ground Slope	Contour Intervals, ft.
1 inch = 100ft or larger scale	Flat 0 - 2%	0.5 or 1
	Rolling 2 - 6%	1 or 2
	Steep 8% +	2,5 or 10

CE000	Y	39	Use of alternative BMPs whose performance has been documented to be equivalent to or superior to conventional BMPs as certified by a Design Professional (unless disapproved by GAEPD or the Georgia Soil and Water Conservation Commission). Please refer to the Alternative BMP Guidance Document found at www.gaswcc.georgia.gov.
N/A	N/A	40	Use of alternative BMP for application to the Equivalent BMP List. Please refer to Appendix A-2 of the Manual for Erosion & Sediment Control in Georgia 2016 Edition. *
CE100	Y	41	Delineation of the applicable 25-foot or 50-foot undisturbed buffers adjacent to state waters and any additional buffers required by the Local Issuing Authority. Clearly note and delineate all areas of impact.
CE100	Y	42	Delineation of on-site wetlands and all state waters located on and within 200 feet of the project site.
CE102	Y	43	Delineation and acreage of contributing drainage basins on the project site.
N/A	N/A	44	Provide hydrology study and maps of drainage basins for both the pre- and post-developed conditions. *
CE102	Y	45	An estimate of the runoff coefficient or peak discharge flow of the site prior to and after construction activities are completed.
CE000	Y	46	Storm-drain pipe and weir velocities with appropriate outlet protection to accommodate discharges without erosion. Identify/Delineate all storm water discharge points.
CE100	Y	47	Soil series for the project site and their delineation.
CE000	Y	48	The limits of disturbance for each phase of construction.
CE000	Y	49	Provide a minimum of 67 cubic yards of sediment storage per acre drained using a temporary sediment basin, retrofitted detention pond, and/or excavated inlet sediment traps for each common drainage location. Sediment storage volume must be in place prior to and during all land disturbance activities until final stabilization of the site has been achieved. A written justification explaining the decision to use equivalent controls when a sediment basin is not attainable must be included in the Plan for each common drainage location in which a sediment basin is not provided. A written justification as to why 67 cubic yards of storage is not attainable must also be given. Worksheets from the Manual included for structural BMPs and all calculations used by the storage design professional to obtain the required sediment when using equivalent controls. When discharging from sediment basins and impoundments, permittees are required to utilize outlet structures that withdraw water from the surface, unless infeasible. If outlet structures that withdraw water from the surface are not feasible, a written justification explaining this decision must be included in the Plan.
CE100	Y	50	Location of Best Management Practices that are consistent with and no less stringent than the Manual for Erosion and Sediment Control in Georgia. Use uniform coding symbols from the Manual, Chapter 6, with legend.
CE500	Y	51	Provide detailed drawings for all structural practices. Specifications must, at a minimum, meet the guidelines set forth in the Manual for Erosion and Sediment Control in Georgia.
CE000	Y	52	Provide vegetative plan, noting all temporary and permanent vegetative practices. Include species, planting dates and seeding, fertilizer, lime and mulching rates. Vegetative plan shall be site specific for appropriate time of the year that seeding will take place and for the appropriate geographic region of Georgia.

* If using this checklist for a project that is less than 1 acre and not part of a common development but within 200 ft of a perennial stream, the * checklist items would be N/A.

Effective January 1, 2023



VICINITY MAP

DRAINAGE BASIN INFORMATION

ONSITE DRAINAGE BASIN

NOTE: THERE IS NO OFFSITE DRAINAGE

AREA DESCRIPTION	RUNOFF COEFFICIENT (C)	PRE-CONSTRUCTION SIZE (SQUARE FEET)	PRE-CONSTRUCTION CA	POST-CONSTRUCTION SIZE (SQUARE FEET)	POST-CONSTRUCTION CA
GRAVEL	0.50	3,200	1,600	2,700	1,350
VEGETATION	0.25	13,800	3,450	12,885	3,221
CONCRETE	0.95	0		600	570
BOARDWALK	0.50	0		815	408
TOTAL		17,000	5,050	17,000	5,549

PRE-CONSTRUCTION RUNOFF COEFFICIENT = 5,050/17,000 = 0.30

POST-CONSTRUCTION RUNOFF COEFFICIENT = 5,549/17,000 = 0.33

FOR THE ONSITE DRAINAGE BASIN, THE POST-CONSTRUCTION RUNOFF COEFFICIENT (0.33) IS SLIGHTLY HIGHER THAN THE PRE-CONSTRUCTION RUNOFF COEFFICIENT (0.30).

24hr. Contact

RANDY DAY
706-897-3892

811
Know what's **below.**
Call before you dig.

RELEASED FOR CONSTRUCTION

ROOT DESIGN STUDIO
landscape architecture
3469 Lawrenceville Highway
Suite 204
Tucker, Georgia 30084
(404) 895-2253
www.RootDStudio.com

Seal:

GEORGIA REGISTERED NO. 34292 PROFESSIONAL ENGINEER DAVID M. FREEDMAN
10/25/2023

Date: 2023-10-25
Project No: 2023-026
Drawn By: MW
Checked By: DF

Lake Chatuge Boardwalk

City of Hiawassee
229 Chatuge Way
Hiawassee, GA 30546

Revisions:

NO.	DATE	DESCRIPTION

Sheet Title:
Erosion, Sedimentation, and Pollution Control Checklist

Sheet No:
CE102

C:\Users\Andrea Greco\RocketSync\PROJECTS\Hiawassee Boardwalk\02-CDs & PERMITTING\ROOT\CAD\Hiawassee Boardwalk - 23.1018 - CDs

GEORGIA

UNIFORM CODING SYSTEM

FOR SOIL EROSION AND SEDIMENT CONTROL PRACTICES

GEORGIA SOIL AND WATER CONSERVATION COMMISSION

STRUCTURAL PRACTICES

CODE	PRACTICE	DETAIL	MAP SYMBOL	DESCRIPTION
Co	CONSTRUCTION EXIT			A crushed stone pad located at the construction site exit to provide a place for removing mud from tires thereby protecting public streets.
Sd1	SEDIMENT BARRIER			A barrier to prevent sediment from leaving the construction site. It may be sandbags, bales of straw or hay, brush, logs and poles, gravel, or a silt fence.

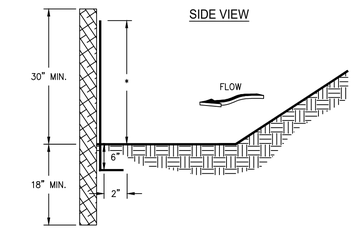
VEGETATIVE PRACTICES

CODE	PRACTICE	DETAIL	MAP SYMBOL	DESCRIPTION
Ds1	DISTURBED AREA STABILIZATION (WITH MULCHING ONLY)		Ds1	Establishing temporary protection for disturbed areas where seedlings may not have a suitable growing season to produce an erosion retarding cover.
Ds2	DISTURBED AREA STABILIZATION (WITH TEMP. SEEDING)		Ds2	Establishing a temporary vegetative cover with fast growing seedings on disturbed areas.
Ds3	DISTURBED AREA STABILIZATION (WITH PERM SEEDING)		Ds3	Establishing a permanent vegetative cover such as trees, shrubs, vines, grasses, or legumes on disturbed areas.
Du	DUST CONTROL ON DISTURBED AREAS		Du	Controlling surface and air movement of dust on construction site, roadways and similar sites.

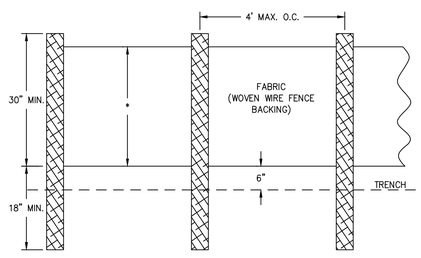
SILT FENCE - TYPE SENSITIVE

Sd1-S

SIDE VIEW



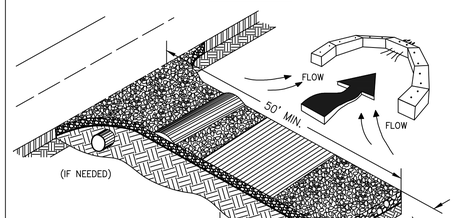
FRONT VIEW



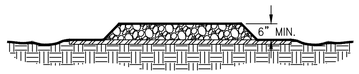
NOTES:
1. USE STEEL OR WOOD POSTS OR AS SPECIFIED BY THE EROSION, SEDIMENTATION, AND POLLUTION CONTROL PLAN.
2. HEIGHT (*) IS TO BE SHOWN ON THE EROSION, SEDIMENTATION, AND POLLUTION CONTROL PLAN.

CRUSHED STONE CONSTRUCTION EXIT

EXIT DIAGRAM



ENTRANCE ELEVATION



NOTES:
1. AVOID LOCATING ON STEEP SLOPES OR AT CURVES ON PUBLIC ROADS.
2. REMOVE ALL VEGETATION AND OTHER UNSUITABLE MATERIAL FROM THE FOUNDATION AREA, GRADE, AND CROWN FOR POSITIVE DRAINAGE.
3. AGGREGATE SIZE SHALL BE IN ACCORDANCE WITH NATIONAL STONE ASSOCIATION R-2 (1.5"-3.5" STONE).
4. GRAVEL PAD SHALL HAVE A MINIMUM THICKNESS OF 6".
5. PAD WIDTH SHALL BE EQUAL FULL WIDTH AT ALL POINTS OF VEHICULAR EGRESS, BUT NO LESS THAN 20'.
6. A DIVERSION RIDGE SHOULD BE CONSTRUCTED WHEN GRADE TOWARD PAVED AREA IS GREATER THAN 2%.
7. INSTALL PIPE UNDER THE ENTRANCE IF NEEDED TO MAINTAIN DRAINAGE DITCHES.
8. WHEN WASHING IS REQUIRED, IT SHOULD BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN (DIVERT ALL SURFACE RUNOFF AND DRAINAGE FROM THE ENTRANCE TO A SEDIMENT CONTROL DEVICE).
9. WASHRACKS AND/OR TIRE WASHERS MAY BE REQUIRED DEPENDING ON SCALE AND CIRCUMSTANCE. IF NECESSARY, WASHRACK DESIGN MAY CONSIST OF ANY MATERIAL SUITABLE FOR TRUCK TRAFFIC THAT REMOVE MUD AND DIRT.
10. MAINTAIN AREA IN A WAY THAT PREVENTS TRACKING AND/OR FLOW OF MUD ONTO PUBLIC RIGHTS-OF-WAYS. THIS MAY REQUIRE TOP DRESSING, REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.

24hr. Contact

RANDY DAY
706-897-3892

811
Know what's **below.**
Call before you dig.

RELEASED FOR CONSTRUCTION

ROOT DESIGN STUDIO
landscape architecture
3469 Lawrenceville Highway
Suite 204
Tucker, Georgia 30084
(404) 895-2253
www.RootDStudio.com

Seal:

Date:	2023-10-25
Project No:	2023-026
Drawn By:	MW
Checked By:	DF

Lake Chatuge Boardwalk

City of Hiawassee
229 Chatuge Way
Hiawassee, GA 30546

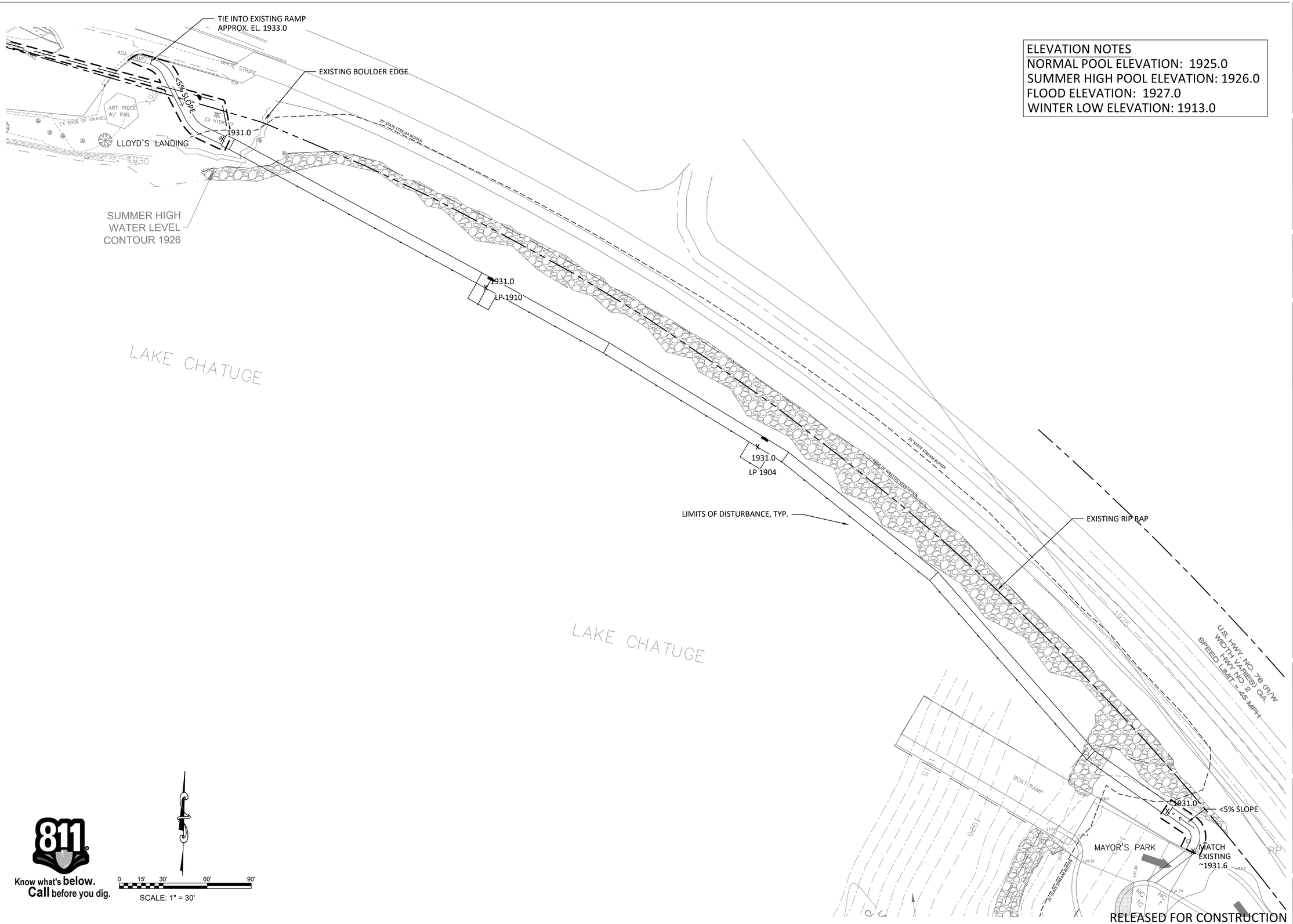
Revisions:

NO.	DATE	DESCRIPTION

Sheet Title:
Erosion, Sedimentation, and Pollution Control Details

Sheet No:
CE500

C:\Users\Andrea Greco\RocketSync\PROJECTS\Hiawassee Boardwalk\02-CDs & PERMITTING\ROOT\CAD\Hiawassee Boardwalk - 23.1018 - CDs



ELEVATION NOTES
NORMAL POOL ELEVATION: 1925.0
SUMMER HIGH POOL ELEVATION: 1926.0
FLOOD ELEVATION: 1927.0
WINTER LOW ELEVATION: 1913.0

Know what's below. Call before you dig.

0 15' 30' 60' 90'
SCALE: 1" = 30'

ROOT DESIGN STUDIO
landscape architecture
3469 Lawrenceville Highway
Suite 204
Tucker, Georgia 30084
(404) 895-2253
www.RootDStudio.com

Seal:

GEORGIA REGISTERED NO. LA001404 LANDSCAPE ARCHITECT ANDREA MICHELE GRECO 10/6/2023

Date:	2023-10-25
Project No:	2023-026
Drawn By:	MW
Checked By:	MK

Lake Chatuge Boardwalk

City of Hiawassee
229 Chatuge Way
Hiawassee, GA 30546

Revisions:

NO.	DATE	DESCRIPTION

Sheet Title:
Grading and Drainage Plan

Sheet No:
CG100

RELEASED FOR CONSTRUCTION

C:\Users\Andrea Greco\RocketSync\PROJECTS\Hiawassee Boardwalk\02-CDs & PERMITTING\ROOT\CAD\Hiawassee Boardwalk - 23.1018 - CDs

LUMBER SPECIFICATIONS				
LOCATIONS	SPECIES	GRADE	TREATMENT	
HANDRAILS & MISC. LUMBER	SYP	#1	.40	ACQ
DECKING	SYP	#1	.40	ACQ
DECK STRINGERS/JOISTS	SYP	#1	.40	ACQ
PILE CAPS	SYP	#1	.60	ACQ
TIMBER PILES & SPLICE PLATES	SYP	#1	.80	ACQ
LATERAL BRACING & SPACERS	SYP	#1	.80	ACQ

GENERAL NOTES:

1. THE GENERAL CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND EXISTING SITE CONDITIONS PRIOR TO COMMENCING WORK. PROMPTLY NOTIFY THE ARCHITECT/ENGINEER OF ANY DISCREPANCIES BETWEEN ACTUAL SITE CONDITIONS AND THE CONTRACT DOCUMENTS.
2. THE STRUCTURE IS DESIGNED TO BE SELF-SUPPORTING AND STABLE AFTER FULLY COMPLETED. THE ERECTION PROCEDURE AND SEQUENCE INCLUDING THE DESIGN ADEQUACY AND SAFETY OF ERECTION BRACING, TEMPORARY SUPPORTS AND SHORING, ETC., ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
3. WHERE A DETAIL IS SHOWN FOR ONE CONDITION, IT SHALL ALSO APPLY FOR ALL LIKE OR SIMILAR CONDITIONS UNLESS NOTED OTHERWISE.
4. THESE GENERAL NOTES APPLY WHERE OTHER PROVISIONS ARE NOT PROVIDED BY THE DRAWINGS, SPECIFICATIONS OR TYPICAL DETAILS.

DESIGN LOADS

- BOARDWALK:
  PEDESTRIAN LIVE LOAD – 90PSF
  VEHICULAR LOAD – SMALL UTILITY PERMITTED, 2000LB MAXIMUM, NO IMPACT, NON-CONCURRENT WITH PEDESTRIAN LOADS
- HANDRAIL:
  LIVE LOAD – 50PLF AT TOP RAIL OR 250LB POINT LOAD

WOOD FRAMING:

1. ALL CONVENTIONAL TIMBER CONSTRUCTION SHALL CONFORM TO THE "NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION" BY THE AMERICAN FOREST AND PAPER ASSOCIATION. ALL TIMBER SHALL BE STRUCTURAL GRADED #1 SOUTHERN PINE WITH 19% MOISTURE CONTENT PRIOR TO TREATMENT. SEE LUMBER SPECIFICATIONS TABLE FOR TREATMENT REQUIRED.
2. TREATED WOOD SHALL BE INSPECTED AND CERTIFIED IN ACCORDANCE WITH AWPA STANDARD U1.

TIMBER PILE FOUNDATIONS:

1. TIMBER PILES SHALL CONSIST OF 8"ø PRESSURE TREATED #1 SOUTHERN YELLOW PINE WITH 19% MOISTURE CONTENT PRIOR TO TREATMENT. SEE LUMBER SPECIFICATIONS TABLE FOR TREATMENT REQUIRED.
2. PILES ARE TO BE DRIVEN TO REFUSAL AND MUST ACHIEVE A MINIMUM DEPTH OF 10 FEET BELOW EXISTING GRADE ELEVATION. IF ROCK IS ENCOUNTERED BEFORE MINIMUM DEPTH IS ACHIEVED, REFER TO DETAILS PROVIDED FOR ROCK SOCKET OR PILE BASE CONNECTION. PILE INSTALLATION SHOULD BE OVERSEEN BY A REGISTERED GEOTECHNICAL ENGINEER.
3. DESIGN CAPACITY FOR PILES HAS BEEN LIMITED TO 6.0 KIPS ALLOWABLE WORKING LOAD PER PILE.
4. ALL PILINGS SHALL MEET THE REQUIREMENTS AS SET FORTH BY THE AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM) UNDER THE PROVISIONS OF D25 (LATEST EDITION) STANDARD SPECIFICATIONS FOR ROUND TIMBER PILES. TOLERANCE IN DIAMETER OF PILINGS SHALL BE 1" TAPER IN 10 LINEAR FEET.

FASTENERS & CONNECTORS:

1. ALL STEEL COMPONENTS EXPOSED TO WEATHER SHALL BE A36 GRADE STEEL OR BETTER WITH HOT DIPPED GALVANIZED COATING.
2. WASHERS SHALL BE PROVIDED UNDER ALL BOLT AND LAG SCREW HEADS AND NUTS. BOLTS, LAG SCREWS, AND THREADED RODS SHALL BE GRADE A307 WITH HOT DIPPED GALVANIZED COATING.
3. WOOD SCREWS AND NAILS SHALL BE HOT DIPPED GALVANIZED.
4. ALL MECHANICAL WOOD CONNECTORS (SIMPSON STRONG-TIE OR EQUIVALENT) AND ASSOCIATED FASTENERS SHALL BE HOT DIPPED GALVANIZED OR HAVE SIMPSON Z-MAX COATING.

SHALLOW FOUNDATIONS:

1. THE END ABUTMENTS FOR THIS PROJECT HAVE BEEN DESIGNED FOR AN ALLOWABLE SOIL BEARING PRESSURE OF 2000PSF AT THE BOARDWALK.

   THIS VALUE SHOULD BE VERIFIED BY A REGISTERED SOILS ENGINEER PRIOR TO FOUNDATION CONSTRUCTION. IF ACTUAL VALUES VARY BY MORE THAN TEN PERCENT FROM DESIGN BEARING PRESSURE, FOOTINGS SHALL BE REDESIGNED. ALL FOOTINGS ARE TO BE PLACED ON UNDISTURBED ORIGINAL SOIL BELOW TOPSOIL LAYER OR ON COMPACTED FILL.

REINFORCING:

1. CONCRETE REINFORCING STEEL SHALL COMPLY WITH THE REQUIREMENTS OF ASTM A615, GRADE 40 FOR #3 BARS AND ASTM A615, GRADE 60 FOR #4 AND LARGER BARS.
2. DETAILING OF CONCRETE REINFORCEMENT AND ACCESSORIES SHALL BE IN ACCORDANCE WITH ACI 315, LATEST EDITION.
3. REINFORCING STEEL SHALL BE SPLICED ONLY AS INDICATED ON THE PLANS. WHEN SPLICE LENGTHS ARE NOT GIVEN ON THE PLANS, THEY SHALL BE TAKEN FROM THE TABLE BELOW. USE "CLASS B" LAPS UNLESS THE PLANS INDICATE "CLASS A".

BAR SIZE	CLASS "B" SPLICE	CLASS "A" SPLICE
#3	28"	22"
#4	37"	29"
#5	47"	36"

LAPS SHOWN ABOVE WERE CALCULATED PER ACI 318, LATEST EDITION. VALUES ASSUMED ARE: f'c 3000 PSI, Ktr=0, 1" MIN COVER AND 2" MINIMUM CLEAR BETWEEN BARS.

4. ALL BAR HOOKS SHALL BE STANDARD 90-DEGREE HOOKS UNLESS NOTED OTHERWISE ON THE DRAWINGS.

REINFORCING:

1. CONCRETE REINFORCING STEEL SHALL COMPLY WITH THE REQUIREMENTS OF ASTM A615, GRADE 40 FOR #3 BARS AND ASTM A615, GRADE 60 FOR #4 AND LARGER BARS.
2. DETAILING OF CONCRETE REINFORCEMENT AND ACCESSORIES SHALL BE IN ACCORDANCE WITH ACI 315, LATEST EDITION.
3. REINFORCING STEEL SHALL BE SPLICED ONLY AS INDICATED ON THE PLANS. WHEN SPLICE LENGTHS ARE NOT GIVEN ON THE PLANS, THEY SHALL BE TAKEN FROM THE TABLE BELOW. USE "CLASS B" LAPS UNLESS THE PLANS INDICATE "CLASS A".

BAR SIZE	CLASS "B" SPLICE	CLASS "A" SPLICE
#3	28"	22"
#4	37"	29"
#5	47"	36"

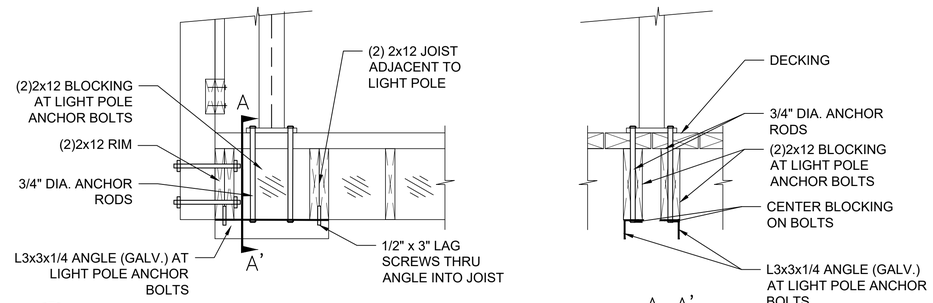
LAPS SHOWN ABOVE WERE CALCULATED PER ACI 318, LATEST EDITION. VALUES ASSUMED ARE: f'c 3000 PSI, Ktr=0, 1" MIN COVER AND 2" MINIMUM CLEAR BETWEEN BARS.

4. ALL BAR HOOKS SHALL BE STANDARD 90-DEGREE HOOKS UNLESS NOTED OTHERWISE ON THE DRAWINGS.

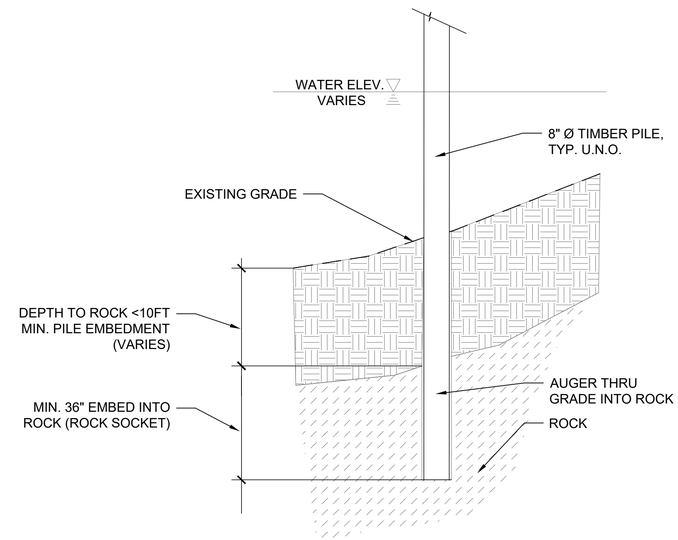
CONCRETE:

1. CONCRETE SHALL BE NORMAL WEIGHT AND HAVE A DESIGNATED COMPRESSIVE STRENGTH (F'c) IN 28 DAYS OF 3000 PSI WITH A 4" SLUMP UNLESS NOTED OTHERWISE.
2. DETAILING OF CONCRETE REINFORCEMENT AND ACCESSORIES SHALL BE IN ACCORDANCE WITH ACI 318, LATEST EDITION.
3. CONCRETE COARSE AGGREGATE, WITH A MAXIMUM SIZE OF 1" MAY BE USED IN FOUNDATIONS. ALL OTHER CONCRETE SHALL HAVE A COARSE AGGREGATE WITH A MAXIMUM SIZE OF ¾".
4. CONCRETE MIXING, TRANSPORTING, PLACING, AND CURING SHALL BE DONE IN ACCORDANCE WITH THE RECOMMENDATIONS OF ACI 301. READY-MIXED CONCRETE SHALL BE MIXED AND DELIVERED IN ACCORDANCE WITH REQUIREMENTS OF ASTM C94 OR ASTM C685.
5. MINIMUM COVER FOR CAST-IN-PLACE CONCRETE REINFORCEMENT:

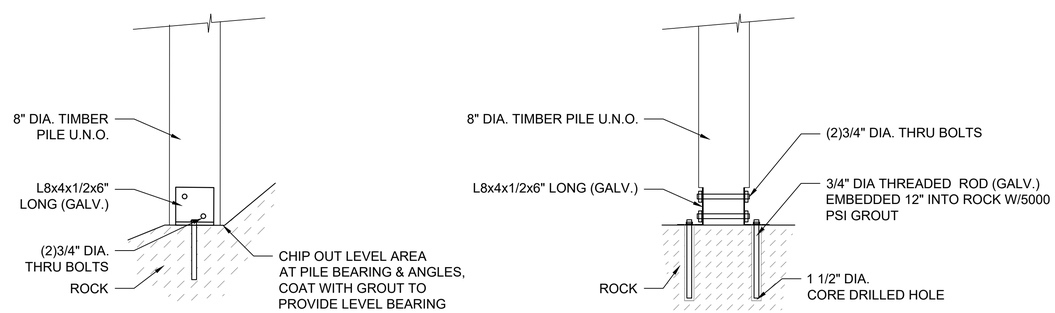
	MINIMUM COVER (IN)
(a) CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH	3
(b) CONCRETE EXPOSED TO EARTH OR WEATHER:	
#6 THROUGH #18 BARS	2
#5 BAR, W31 OR D31 WIRE, AND SMALLER	1½



1 / S-1.0 LIGHT POLE MOUNTING DETAIL
SCALE: 1"=1'-0"



2 / S-1.0 PILE TIP BEARING AT ROCK
SCALE: 1/2"=1'-0"



3 / S-1.0 PILE TIP BEARING AT ROCK (ALTERNATE AT EXPOSED ROCK)
SCALE: 1"=1'-0"

RELEASED FOR CONSTRUCTION

Se STABILITY ENGINEERING
1376 Church St. Ste 200, Decatur, GA 30030 Ph/Fax: 404-377-9316
SE #23298

ROOT DESIGN STUDIO landscape architecture
3469 Lawrenceville Highway
Suite 204
Tucker, Georgia 30084
(404) 895-2253
www.RootDStudio.com

Seal:

GEORGIA REGISTERED No. PE035681 PROFESSIONAL 9/12/23 ENGINEER ALLEN MORRIS

Date: 2023- 9-12
Project No: 2023-026
Drawn By: MW
Checked By: MS

Lake Chatuge Boardwalk

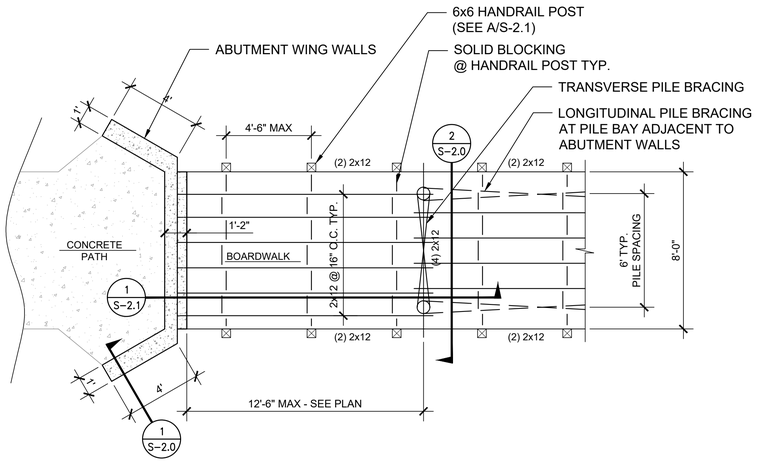
City of Hiawassee
229 Chatuge Way
Hiawassee, GA 30546

Revisions:

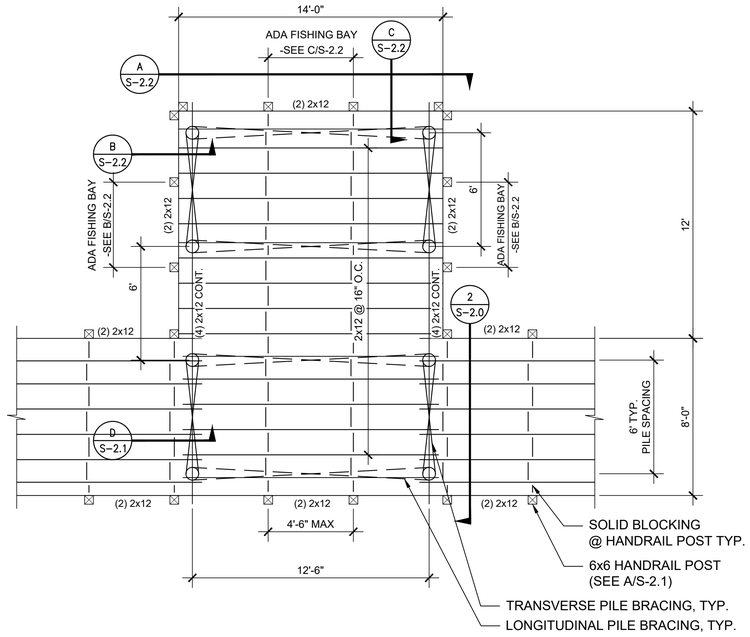
NO.	DATE	DESCRIPTION

Sheet Title: Structural Notes and Details

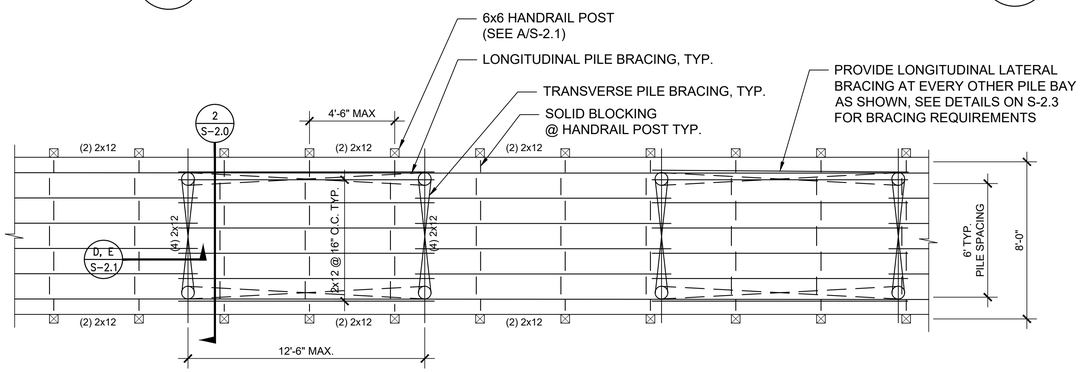
Sheet No: S-1.0



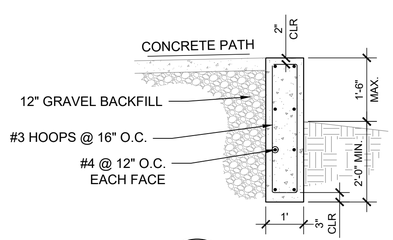
A S-2.0 CONCRETE TO BOARDWALK TRANSITION PLAN
SCALE: 1/4"=1'-0"



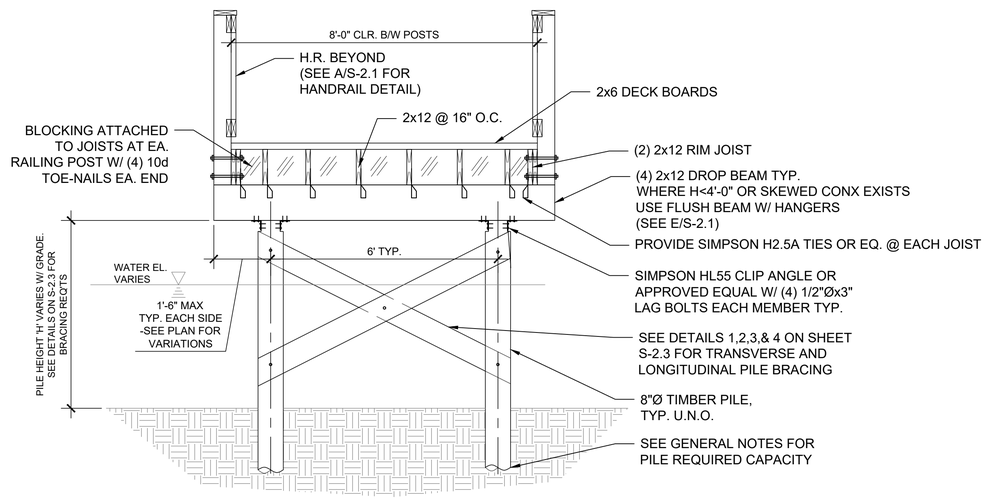
C S-2.0 FISHING DOCK FRAMING PLAN
SCALE: 1/4"=1'-0"



B S-2.0 PARTIAL (TYP.) FRAMING PLAN
SCALE: 1/4"=1'-0"



1 S-2.0 ABUTMENT WING WALLS
SCALE: 1/2"=1'-0"



2 S-2.0 TYP. BENT SECTION W/ PILES
SCALE: 1/2"=1'-0"

RELEASED FOR CONSTRUCTION

Se STABILITY ENGINEERING
1376 Church St. Ste 200, Decatur, GA 30030 Ph/Fax: 404-377-9316
SE #23298

ROOT DESIGN STUDIO landscape architecture
3469 Lawrenceville Highway
Suite 204
Tucker, Georgia 30084
(404) 895-2253
www.RootDStudio.com

Seal:

GEORGIA REGISTERED No. PE035681 PROFESSIONAL ENGINEER ALLEN MORRIS 9/12/23

Date:	2023- 9-12
Project No:	2023-026
Drawn By:	MW
Checked By:	MS

Lake Chatuge Boardwalk

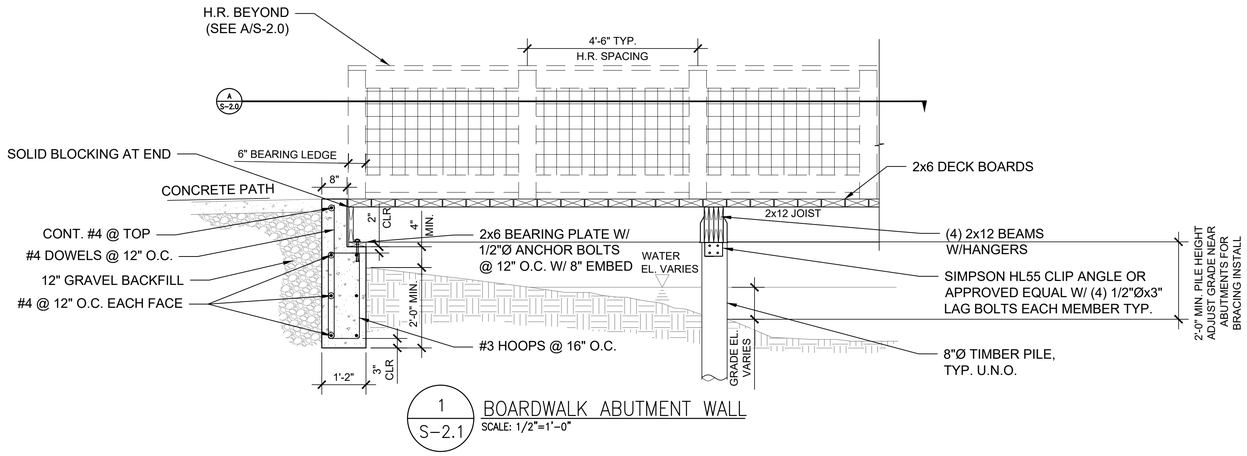
City of Hiawassee
229 Chatuge Way
Hiawassee, GA 30546

Revisions:

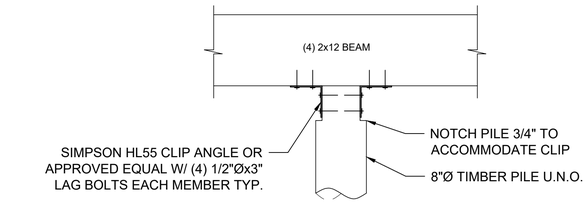
NO.	DATE	DESCRIPTION

Sheet Title:
Structural Plans, Sections, and Details

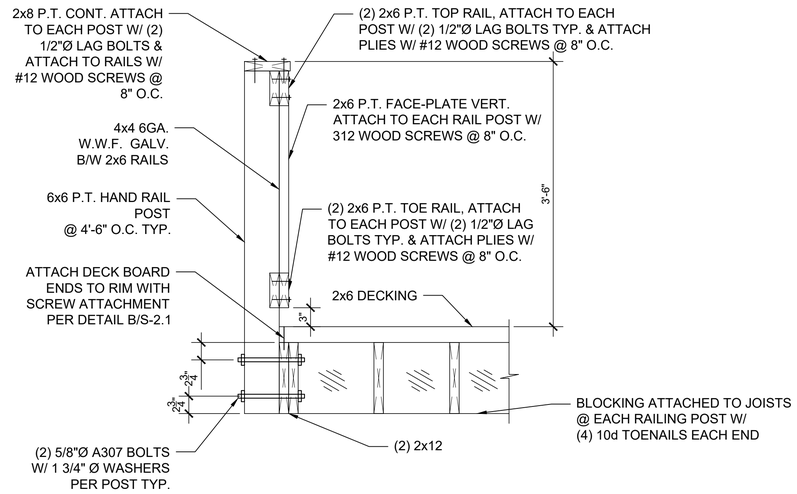
Sheet No:
S-2.0



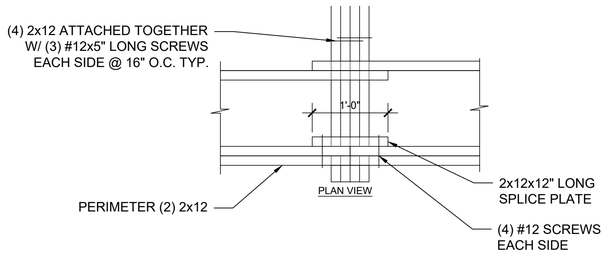
1 / S-2.1 BOARDWALK ABUTMENT WALL
SCALE: 1/2"=1'-0"

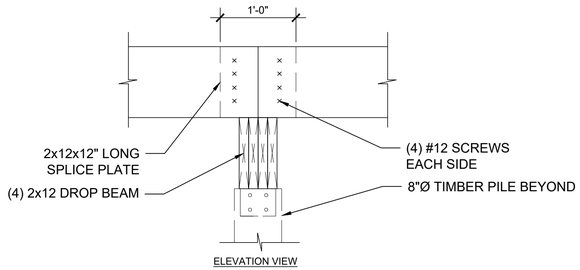


SECTION A-A

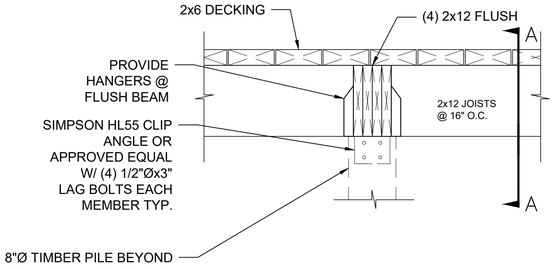


A / S-2.1 TYPICAL HANDRAIL DETAIL
SCALE: 1"=1'-0"

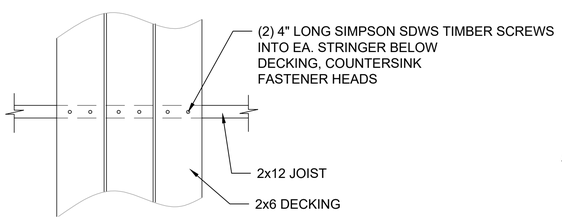




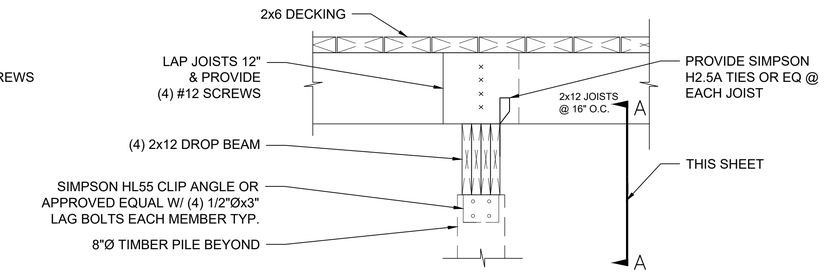
C / S-2.1 PERIMETER BEAM SPLICE CONX
SCALE: 1"=1'-0"



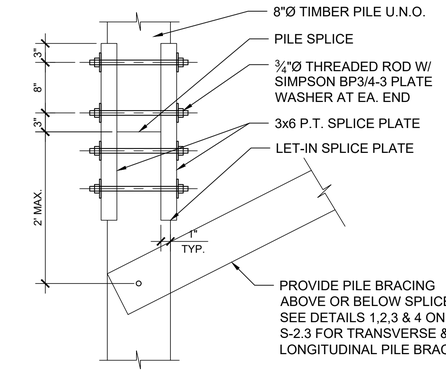
E / S-2.1 CONNECTION DETAIL @ *H<4'-0"
SCALE: 1"=1'-0" SEE 2/S-2.0 FOR "H" DEF.



B / S-2.1 TYP. DECKING ATTACHMENT DETAIL
SCALE: 1"=1'-0"



D / S-2.1 CONNECTION DETAIL @ *H>4'-0"
SCALE: 1"=1'-0" SEE 2/S-2.0 FOR "H" DEF.



F / S-2.1 PILE SPLICE DETAIL
SCALE: 1"=1'-0"

RELEASED FOR CONSTRUCTION

Se STABILITY ENGINEERING
1376 Church St. Ste 200, Decatur, GA 30030 Ph/Fax: 404-377-9316
SE #23298

ROOT DESIGN STUDIO
landscape architecture
3469 Lawrenceville Highway
Suite 204
Tucker, Georgia 30084
(404) 895-2253
www.RootDStudio.com

Seal:

GEORGIA REGISTERED No. PE035681 PROFESSIONAL ENGINEER ALLEN MORRIS 9/12/23

Date:	2023- 9-12
Project No:	2023-026
Drawn By:	MW
Checked By:	MS

Lake Chatuge Boardwalk

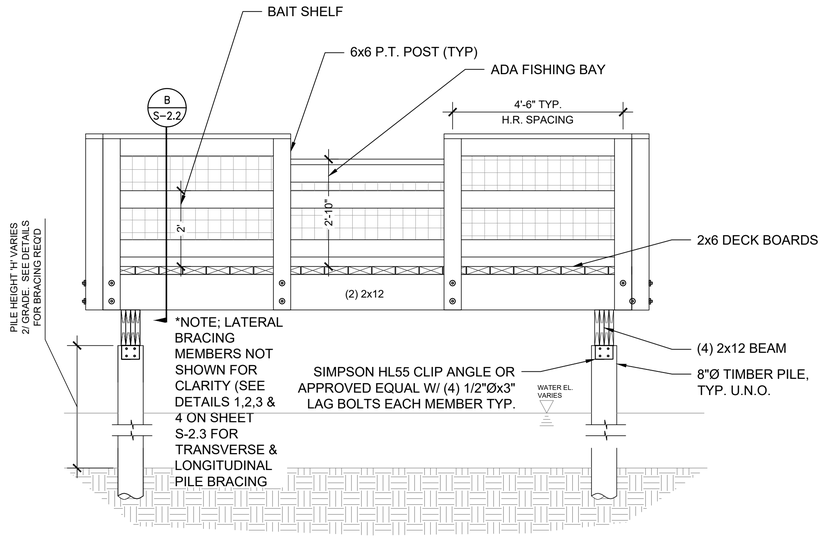
City of Hiawassee
229 Chatuge Way
Hiawassee, GA 30546

Revisions:

NO.	DATE	DESCRIPTION

Sheet Title:
Structural Plans, Sections, and Details

Sheet No:
S-2.1



A S-2.2 ADA FISHING BAY & BAIT SHELF
SCALE: 1/2"=1'-0"

B S-2.2 TYPICAL FISHING RAIL DETAIL
SCALE: 1"=1'-0"

C S-2.2 FISHING RAIL DETAIL AT PIER ENDS
SCALE: 1"=1'-0"

RELEASED FOR CONSTRUCTION

C:\Users\Andrea Greco\RocketSync\PROJECTS\Hiawassee Boardwalk\02-CDs & PERMITTING\ROOT\CAD\Hiawassee Boardwalk - 23.1018 - CDs

Se Stability Engineering
1376 Church St. Ste 200, Decatur, GA 30030 Ph/Fax: 404-377-9316
SE #23298

ROOT DESIGN STUDIO landscape architecture
3469 Lawrenceville Highway
Suite 204
Tucker, Georgia 30084
(404) 895-2253
www.RootDStudio.com

Seal:

GEORGIA REGISTERED No. PE035681 PROFESSIONAL ENGINEER ALLEN MORRIS 9/12/23

Date:	2023- 9-12
Project No:	2023-026
Drawn By:	MW
Checked By:	MS

Lake Chatuge Boardwalk

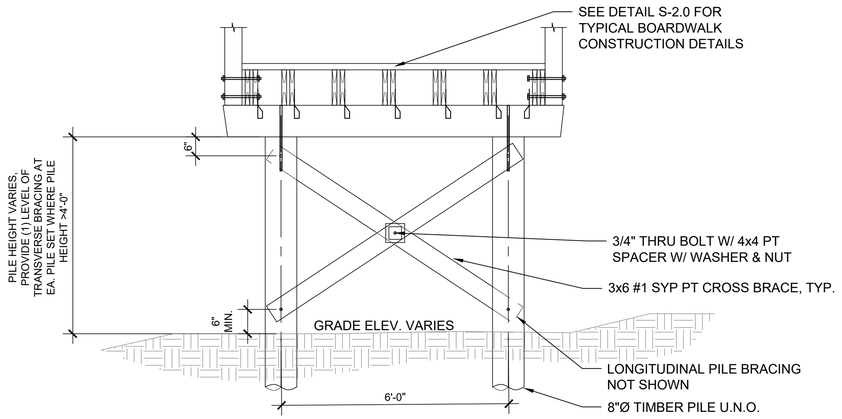
City of Hiawassee
229 Chatuge Way
Hiawassee, GA 30546

Revisions:

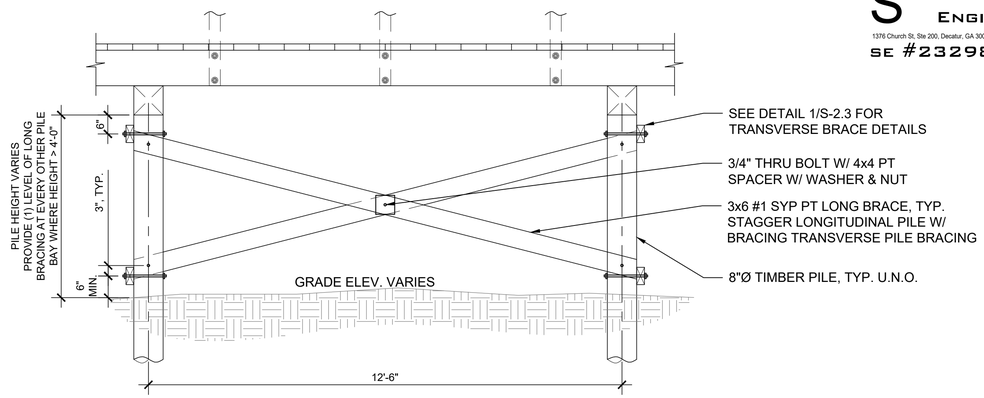
NO.	DATE	DESCRIPTION

Sheet Title:
Structural Plans, Sections, and Details

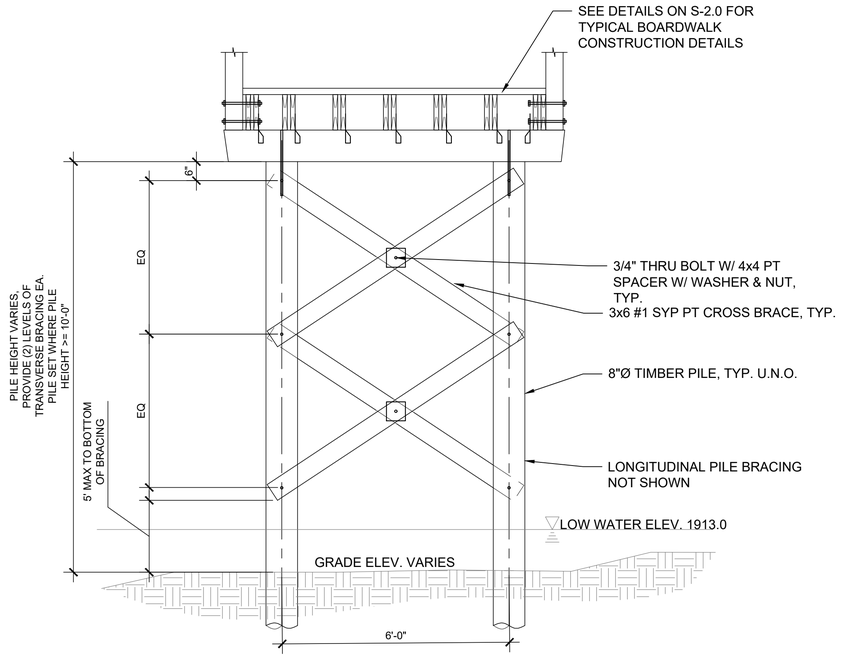
Sheet No:
S-2.2



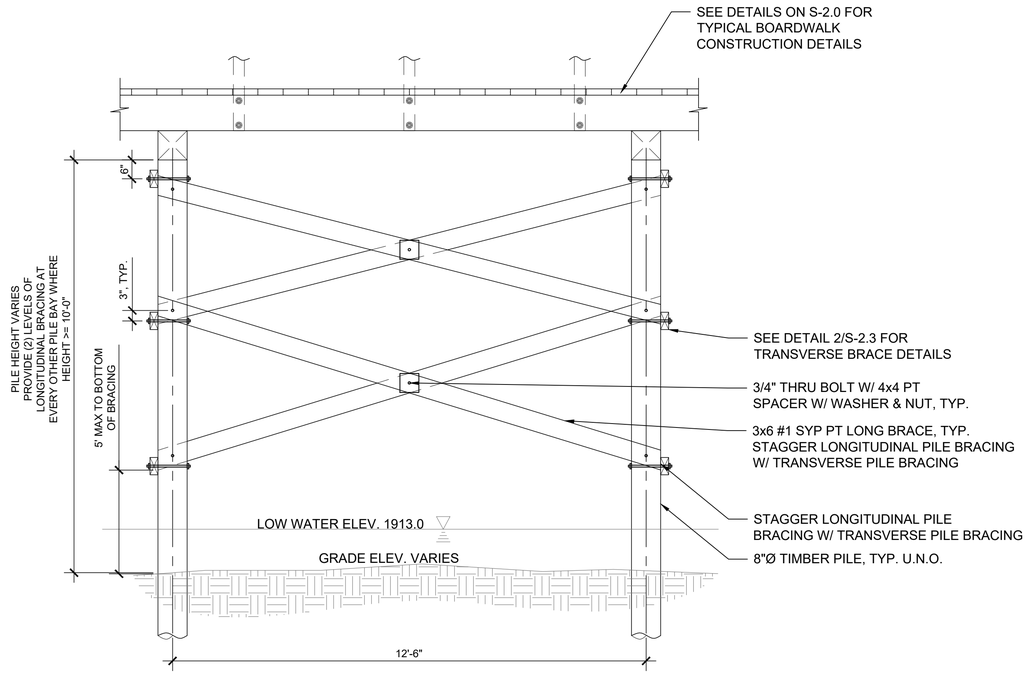
1 S-2.3 TRANSVERSE PILE BRACING DETAIL (H<10'-0")
SCALE: 1/2"=1'-0"



3 S-2.3 LONGITUDINAL PILE BRACING DETAIL (H<10'-0")
SCALE: 1/2"=1'-0"



2 S-2.3 TRANSVERSE PILE BRACING DETAIL (H>=10'-0")
SCALE: 1/2"=1'-0"



4 S-2.3 LONGITUDINAL PILE BRACING DETAIL (H>=10'-0")
SCALE: 1/2"=1'-0"

RELEASED FOR CONSTRUCTION

Se STABILITY ENGINEERING
1376 Church St. Ste 200, Decatur, GA 30030 Ph/Fax: 404-377-9316
SE #23298

ROOT DESIGN STUDIO
landscape architecture
3469 Lawrenceville Highway
Suite 204
Tucker, Georgia 30084
(404) 895-2253
www.RootDStudio.com

Seal:

GEORGIA REGISTERED No. PE035681 PROFESSIONAL ENGINEER ALLEN MORRIS 9/12/23

Date:	2023- 9-12
Project No:	2023-026
Drawn By:	MW
Checked By:	MS

Lake Chatuge Boardwalk

City of Hiawassee
229 Chatuge Way
Hiawassee, GA 30546

Revisions:

NO.	DATE	DESCRIPTION

Sheet Title:
Structural Plans, Sections, and Details

Sheet No:
S-2.3

AXIA
Axia Consulting Group, LLC
2484 Ingleside Ave
Suite B201
Macon, GA 31204
706-389-0868
info@axiagrp.com
GA COA: PEF007950
Exp: 30 June 2024
Axia Project: 2317

Abbreviations

Φ	Electrical Phase
§	Section
A, AMP	Ampere
ADA	Americans With Disabilities Act
AF	Amp Frame
AFC	Available Fault Current
AFF	Above Finished Floor
AFG	Above Finished Grade
AFI/AFCI	Arc Fault Circuit Interrupter
AHJ	Authority Having Jurisdiction
AIC	Amps Interrupting Capacity
AL	Aluminum
AMSL	Above Mean Sea Level
Arch	Architect/Architectural
AT	Amp Trip
ATS	Automatic Transfer Switch
AV, A/V	Audio/Visual
AWG	American Wire Guage
BAS	Building Automation System
Bldg	Building
BFE	Base Flood Elevation
BFG	Below Finished Grade
BKR	Circuit Breaker
BMS	Building Management System
BOD	Basis of Design
C	Conduit
C&I	Controls and Indications
CB	Circuit Breaker
CCT	Correlated Color Temperature
CGD	Combustible Gas Detector
CKT	Circuit
CMD	Command
CPT	Control Power Transformer
CT	Current Transformer
CTR	Center
CTRL	Control
CU	Copper
D	Deep
DEMO	Demolish, Demolition
DESC	Description
DHL	Delta High-Leg
DISC	Disconnect
DIST	Distribution, Distance
EC	Electrical Contractor
ECB	Enclosed Circuit Breaker
EG, EGC	Equipment Grounding Conductor
ELEC	Electric, Electrical
ELU	Emergency Lighting Unit
EM	Emergency
EMT	Electrical Metallic Tubing
EPO	Emergency Power-Off
ETM	Elapsed Time Meter
ETR	Existing-To-Remain
EV	Electric Vehicle
EVSE	Electric Vehicle Supply Equipment
EX	Existing
FA	Fire Alarm
FACP	Fire Alarm Control Panel
FLA	Full-Load Amps
FLR	Floor
FMC	Flexible Metal Conduit
FN	Function
FVNR	Full-Voltage Non-Reversing
GC	General Contractor
GEC	Grounding Electrode Conductor
GEN	Generator
GFI, GFCI	Ground-Fault Circuit Interrupter
GFPE	Ground-Fault Protection for Equipment
GND	Ground, Grounding
GRC, GRS	Galvanized Rigid Steel (Conduit)
H	High
HOA	Hand-Off-Automatic (Switch)
HP	Horsepower
ID	Identification, Identity
IG	Isolated Ground
IMC	Intermediate Metal Conduit
I/O	Input/Output
JB	Junction Box
K	Kelvin
KAIC	Kiloamps Interrupting Capacity
KW	Kilowatt
KVA	Kilovolt-Ampere
KVAR	Kilovolt-Ampere Reactive
LFNC	Liquid-Tight Flexible Non-Metallic Conduit
LRA	Locked-Rotor Amps
LTS	Lights, Lighting
LVL	Level (of building)
MBJ	Main Bonding Jumper
MCA	Minimum Circuit Ampacity
MCB	Main Circuit Breaker
MCC	Motor Control Center
MCP	Motor Circuit Protector
MFR	Manufacturer
MH	Metal-Halide
MLO	Main Lugs Only
MSL	Mean Sea Level
N	Neutral
NEC	National Electrical Code
NECA	National Electrical Contractors Association
NEMA	National Electrical Manufacturer's Association
NETA	National Electrical Testing Association
NFPA	National Fire Protection Association
NRTL	Nationally Recognized Testing Laboratory
NTS	Not to Scale
OC	On Center
OCP	Overcurrent Protection
PC	Photocell
PCP	Pump Control Panel
PCRA	PVC-Coated Rigid Aluminum Conduit
PCRM	PVC-Coated Rigid Metal Conduit
PCRS	PVC-Coated Rigid Galvanized Steel Conduit
PM	Preventative Maintenance
PR	Pair
PNL	Panel
PVC	Polyvinyl Chloride Conduit
PVC40	PVC Schedule 40 Conduit
PVC80	PVC Schedule 80 Conduit
REC	Receptacle(s)
REQD	Required
RGS	Rigid Galvanized Steel Conduit
RM	Room
RMC	Rigid Metal Conduit
RTU	Remote (or Radio) Telemetry Unit
RVAT	Reduced Voltage Autotransformer
RVSS	Reduced Voltage Solid State
SBJ	System Bonding Jumper
SBT	Solid Bare Tinned Copper
SCH	Schedule
SCADA	Supervisory Control and Data Aquisition
SCCR	Short-Circuit Current Rating
SE	Service Entrance
sKVA	Starting kVA
SLC	Signaling Line Circuit (FA)
SLD	Single-Line Diagram
SPD	Surge Protective Device
SSBJ	Supply-Side Bonding Jumper
SST	Stainless Steel
STP	Shielded Twisted Pair
Telecom	Telecommunications
TYP	Typical
UL	Underwriters Laboratories
UNO	Unless Noted Otherwise
UPS	Uninterruptible Power Supply
UTP	Unshielded Twisted Pair
V	Volts, Voltage
VA	Volt-Amperes
VFD	Variable Frequency Drive
W	Watt, Wire
WP	Weatherproof
WWTB	Wet Well Terminal Box
XFMR	Transformer

Electrical Diagram Symbol Legend

Single-Line Symbols

- Circuit Breaker
  A: Amps Trip (frame not specified)
  AT: Amps Trip
  AF: Amps Frame
- Fuse, Amp rating as indicated
- Switch
- Lug Connection
- Splice, Tap, or Junction
- SPD — Surge Protective Device
- (M) — Utility Meter
- (P) — Power Quality Meter
- Transformer
- Grounding Electrode
- Contactor
- Terminal
- Motor
- Poured Conduit Seal-Off
- FNVR Motor Starter
- VFD — Variable Frequency Drive
- RVSS — RVSS Motor Starter
- Line Reactor
- dV/dt Filter
- Capacitor

Power Symbols

Wall / Ceiling / Floor

- Simplex Receptacle
- Duplex Receptacle
- Quadruplex (Quad) Receptacle
- Special Receptacle, Type as indicated
  UNO, install wall receptacles at 18" OC AFF.
  Receptacle Modifiers:
  ##": Inches OC AFF
  A: Above Counter.
  G: Integral Ground Fault Circuit Interrupter
  WP: Weatherproof
- Half shading indicates split (typically switched)
- $ — Single-Pole Wall Switch
  Switch Modifiers:
  ##": Inches OC AFF
  A: Above-Counter
  M: Motor-Rated
- Multioutlet Assembly
  Filled squares indicate 120V outlet
  Open squares indicate with USB chargers
- (J) — Junction Box
- [F] — Floor Box, see schedule for type
- Safety Switch
- Smoke or Smoke/CO Alarm

Lighting Symbols

- Lighting Fixtures, Rectangular (Various Symbols)
- Lighting Fixtures, Round (Various Symbols)
- Wall-Mounted Fixtures (Various Symbols)
- Strip Fixture
- Directional Light, Track Light, Flood Light
- Emergency Lighting Unit, Wall-Mounted
- Emergency Lighting Unit, Ceiling-Mounted
- Exit Light, Ceiling-Mounted
  Shading and arrows indicate faces and chevrons
- Exit Light, Wall-Mounted
  Shading and arrows indicate faces and chevrons
- Exit/ELU Combo
- $ — Single-Pole Wall Switch
  Switch Modifiers:
  UNO, install light switches at 44" OC AFF
  ##": Inches OC AFF
  3: 3-Way
  4: 4-Way
  D: Dimming
  T: Timer
  WP: Weatherproof
  OS: Occupancy Sensor
  VS: Vacancy Sensor
  A: Above-Counter
  LV: Low-Voltage
  M: Motor-Rated
- (OS) — Occupancy Sensor Ceiling (Auto On Auto Off)

Flood Protection Notes

1. The base flood elevation at the project location is 1927.0' AMSL.
2. Grade at the kiosk and utility pole is 1935.0' AMSL. Grade at the new on-shore light pole is 1981.0' AMSL. The elevation of the boardwalk deck is 1931.0' AMSL.
3. The installation shall comply with the requirements of NEC 682.
4. No energized electrical splices or connections shall be made below 1929.0' AMSL unless the splices or connections are made with connectors rated for submersible applications.
5. Regardless of elevation, underground splices, including those made within handholes, shall be made with submersible connections according to specs.

General Electrical Notes and Specifications

1. See book specifications, E-300 series sheets, for additional requirements. These drawings are incomplete without reference to the book specifications.
2. UNO, all single-pole 15A and 20A circuits shall be 2-12 AWG, 12 AWG EG, 3/4" C, circuited per panel schedule. Underground conduit shall be 1" minimum.

Electrical Sheet List

These electrical plans comprise a portion of the plans and specifications pertinent to this project. Refer to the full set of plans and specifications for all requirements.

RELEASED FOR CONSTRUCTION

ROOT DESIGN STUDIO
landscape architecture
3469 Lawrenceville Highway
Suite 204
Tucker, Georgia 30084
(404) 895-2253
www.RootDStudio.com

Seal:

GEORGIA
REGISTERED
No. PE044202
PROFESSIONAL
ENGINEER
STEVEN C. BUMMER
9/12/23

Date:	2023-09-12
Project No:	2023-026
Drawn By:	NAV
Checked By:	SCB

Lake Chatuge Boardwalk

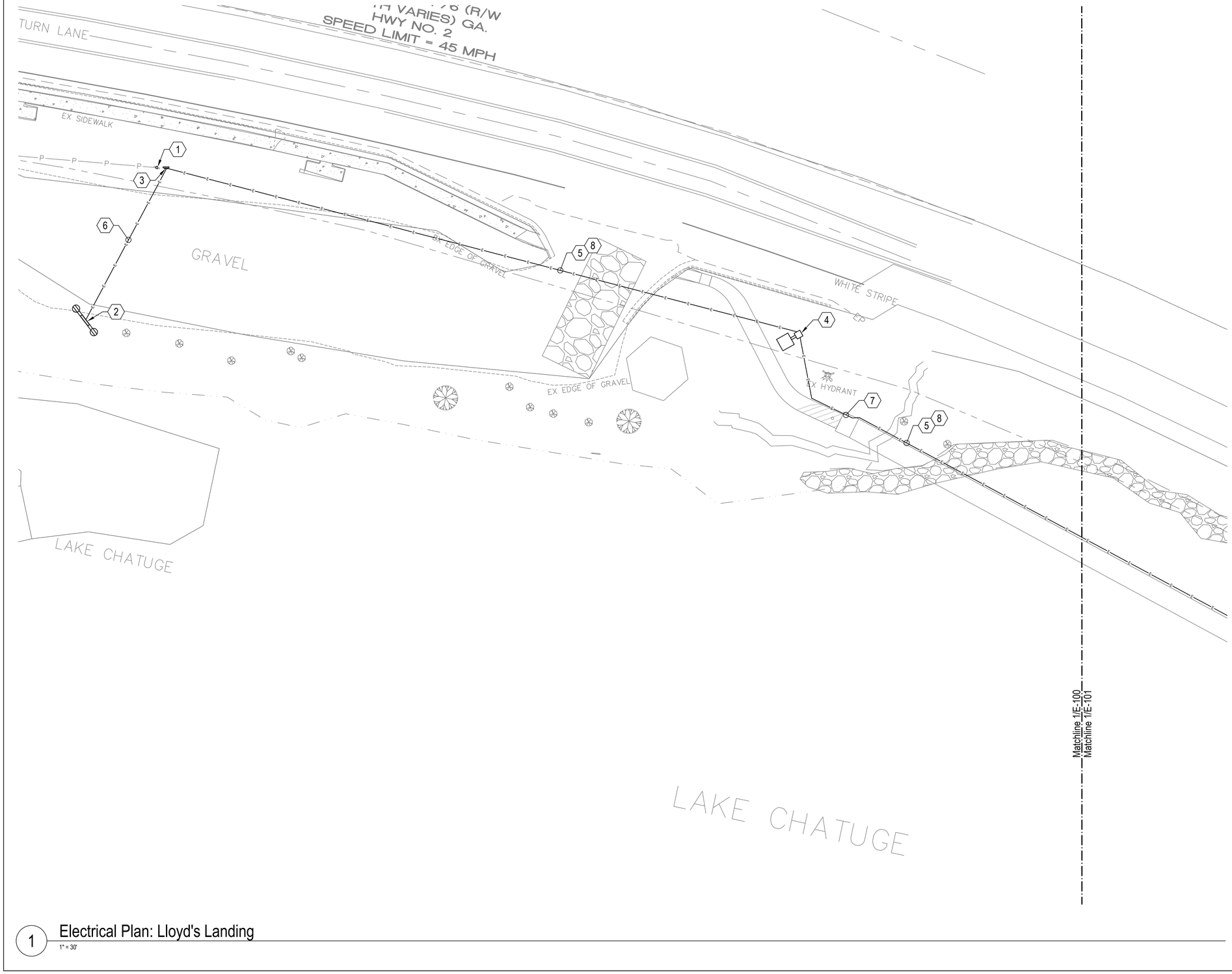
City of Hiawassee
229 Chatuge Way
Hiawassee, GA 30546

Revisions:

NO.	DATE	DESCRIPTION

Sheet Title:
Notes & Legends

Sheet No:
E-001



Plan Keynotes

1. Existing Utility Pole.
2. Existing wooden information kiosk. Provide two GFI, WP receptacles, one on each side of the kiosk as shown. Circuit to A-1.
3. Provide electrical rack with meter base and Panel A. Construct rack per Electrical Equipment Rack Detail. Coordinate exact location with the Owner and the Utility.
4. Area light. Provide Lithonia RSX1 LED P1 R2 MVOLT SPA NLTAIR2 PIRHN EGS DDBXD or equal, 51W, 6520 lumens, 4000K. Configure lighting controls per Owner direction but, at a minimum, the fixture shall automatically turn off at dawn. Install on a 25' square straight steel pole, Lithonia SSS 25 4C DM19AS NEC DDBXD or equal. See Pole Base detail. Install 10' back from sidewalk at the location shown.
5. Lighting Circuits
   Connect to A-2,4
   2-12 AWG
   12 AWG EG
   1" C
6. Receptacle Circuit
   Connect to A-1
   2-12 AWG
   12 AWG EG
   1" C
7. Where the boardwalk ramps up from grade to final level elevation, RGS conduit shall emerge from grade beneath the boardwalk (not on the side). Where the boardwalk levels off to final elevation, provide LFMC to flex to the side of the split pile caps to continue on.
8. Provide RGS conduit. Install supported to the side of each split pile cap, routed underneath the handrail posts.

1 Electrical Plan: Lloyd's Landing
1" = 30'

RELEASED FOR CONSTRUCTION

AXIA
Axia Consulting Group, LLC
2484 Ingleside Ave
Suite B201
Macon, GA 31204
706-389-0868
info@axiagrp.com
GA COA: PEF007950
Exp: 30 June 2024
Axia Project: 2317

ROOT DESIGN STUDIO
landscape architecture
3469 Lawrenceville Highway
Suite 204
Tucker, Georgia 30084
(404) 895-2253
www.RootDStudio.com

Seal:

GEORGIA REGISTERED No. PE044202 PROFESSIONAL ENGINEER STEVEN C. BUMER 9/12/23

Date:	2023-09-12
Project No:	2023-026
Drawn By:	NAV
Checked By:	SCB

Lake Chatuge Boardwalk

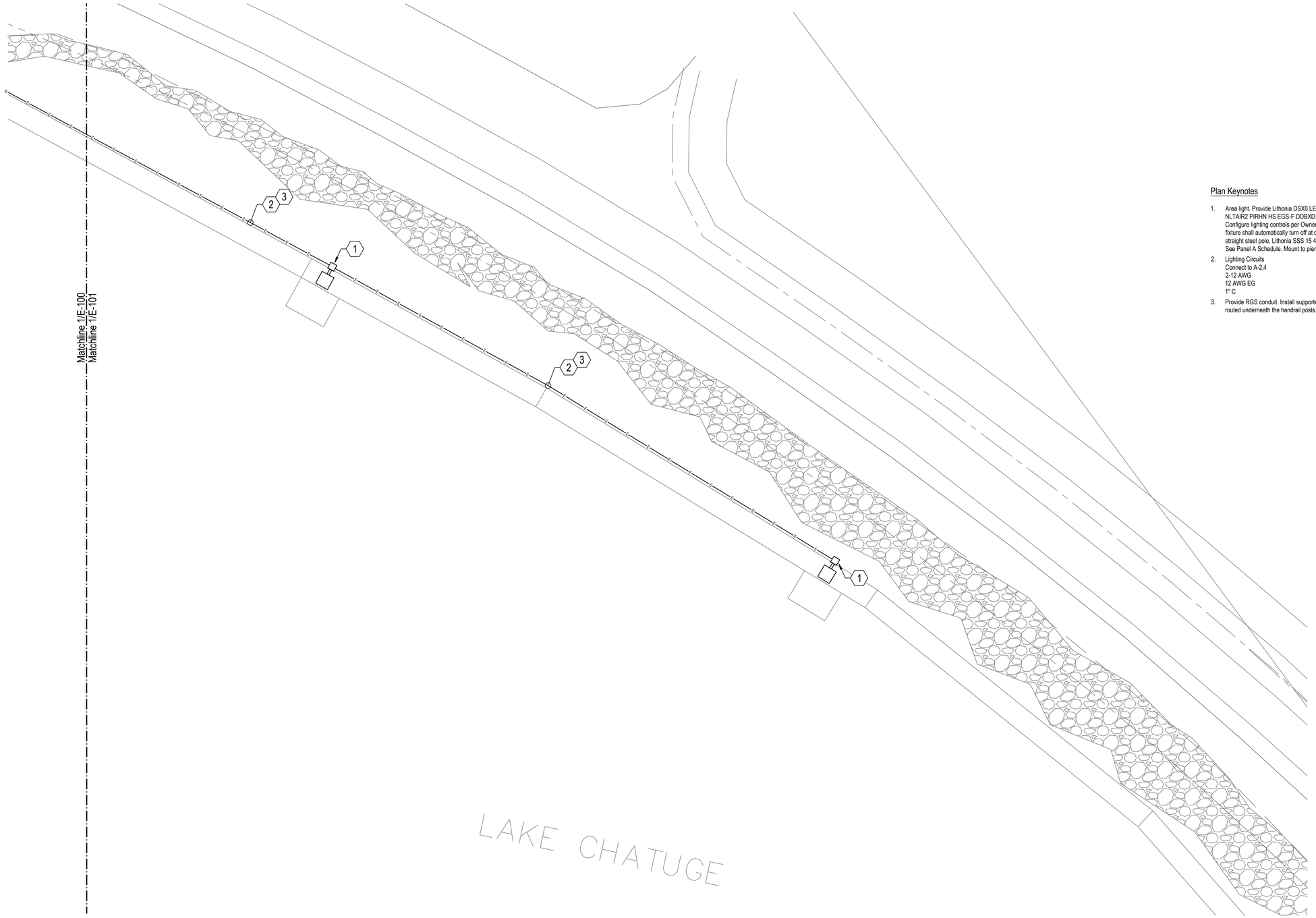
City of Hiawassee
229 Chatuge Way
Hiawassee, GA 30546

Revisions:

NO.	DATE	DESCRIPTION

Sheet Title:
Electrical Plan:
Lloyd's Landing

Sheet No:
E-100



1 Electrical Plan: Boardwalk
1" = 30'

Plan Keynotes

1. Area light. Provide Lithonia DSX0 LED P1 40K 70CRI T2M MVOLT SPA NLTAIR2 PIRHN HS EGS-F DDBXD or equal, 33W, 2690 lumens, 4000K. Configure lighting controls per Owner direction but, at a minimum, the fixture shall automatically turn off at dawn. Install at 15' AFF on 15' square straight steel pole, Lithonia SSS 15 4C DM19AS NEC DDBXD or equal. See Panel A Schedule. Mount to pier per structural drawings.
2. Lighting Circuits
   Connect to A-2,4
   2-12 AWG
   12 AWG EG
   1" C
3. Provide RGS conduit. Install supported to the side of each split pile cap, routed underneath the handrail posts.

RELEASED FOR CONSTRUCTION

AXIA
Axia Consulting Group, LLC
2484 Ingleside Ave
Suite B201
Macon, GA 31204
706-389-0868
info@axiagrp.com
GA COA: PEF007950
Exp: 30 June 2024
Axia Project: 2317

ROOT DESIGN STUDIO
landscape architecture
3469 Lawrenceville Highway
Suite 204
Tucker, Georgia 30084
(404) 895-2253
www.RootDStudio.com

Seal:

REGISTERED No. PE044202 PROFESSIONAL ENGINEER STEVEN C. BUMMER 9/12/23

Date:	2023-09-12
Project No:	2023-026
Drawn By:	NAV
Checked By:	SCB

Lake Chatuge Boardwalk

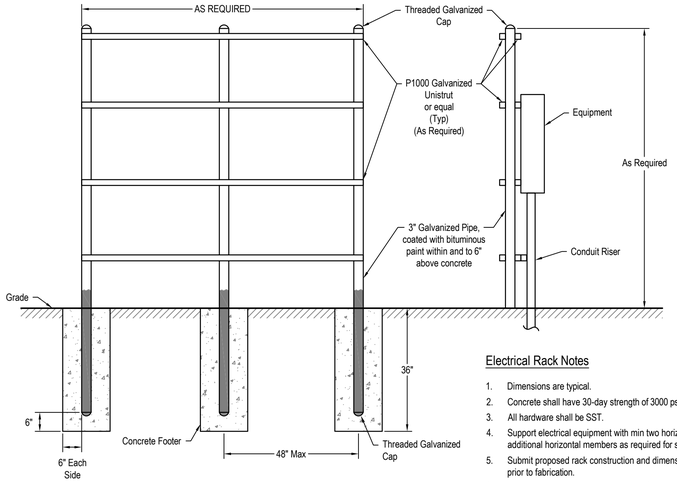
City of Hiawassee
229 Chatuge Way
Hiawassee, GA 30546

Revisions:

NO.	DATE	DESCRIPTION

Sheet Title:
Electrical Plan: Boardwalk

Sheet No:
E-101

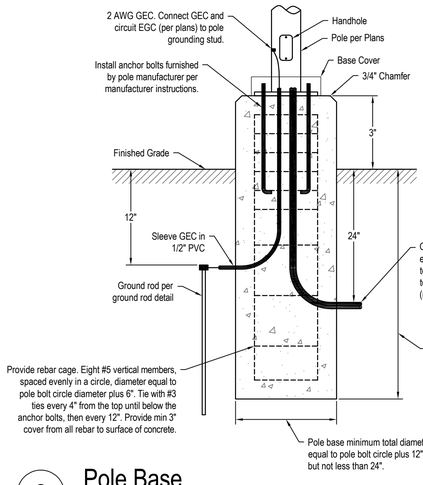


Electrical Rack Notes

1. Dimensions are typical.
2. Concrete shall have 30-day strength of 3000 psi.
3. All hardware shall be SST.
4. Support electrical equipment with min two horizontal members. Provide additional horizontal members as required for secure support.
5. Submit proposed rack construction and dimensioned equipment layout prior to fabrication.
6. Unistrut shown on back required only if plans show equipment on both sides of rack.

3 Electrical Equipment Rack

NTS

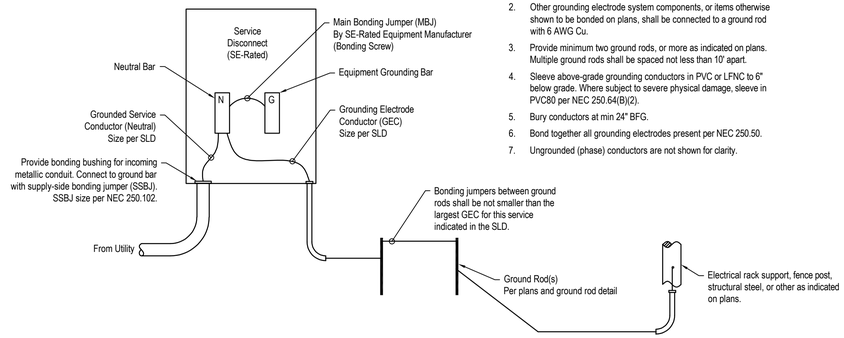


Pole Base Notes

1. Concrete 30-day strength shall be 3000 psi.
2. Provide 12" compacted #57 stone below pole base.
3. Compact backfill around pole base to 95% maximum dry density.
4. Wrap RGS elbow with corrosion protection tape, installed per manufacturer's instructions. Alternate at contractor's discretion: provide PVC-coated rigid steel elbow.
5. Handhole shall be weatherproof, compliant with NEC 410.30(B)(1). Install so that handhole is easily accessible, not facing fences, walls, or other nearby structures.

2 Pole Base

NTS



Service Grounding Notes

1. Each grounding electrode conductor (GEC) shall be sized per the SLD and shall connect directly to a ground rod or a bonding jumper connecting ground rods sized per the largest GEC. Do not connect to other components of the grounding electrode system.
2. Other grounding electrode system components, or items otherwise shown to be bonded on plans, shall be connected to a ground rod with 6 AWG Cu.
3. Provide minimum two ground rods, or more as indicated on plans. Multiple ground rods shall be spaced not less than 10' apart.
4. Sleeve above-grade grounding conductors in PVC or LFNC to 6" below grade. Where subject to severe physical damage, sleeve in PVC80 per NEC 250.64(B)(2).
5. Bury conductors at min 24" BFG.
6. Bond together all grounding electrodes present per NEC 250.50.
7. Ungrounded (phase) conductors are not shown for clarity.

4 Grounding Electrode System and Service Grounding

NTS

Panelboard: A

Location: Electrical Rack
Mounting: Surface
Enclosure: NEMA 3R
Special: -

Supply: Utility
Voltage: 240/120V 1Φ 3W
Bus Amps: 60 A
Neutral: 100%

Poles: 16
Feed-Thru Lugs: No
SE-Rated: Yes
Isolated Ground: No
New/Existing: -

Mains Type: MCB
Mains Rating: 60 A
Mains FN/Note: -
SCCR: 10 kAIC

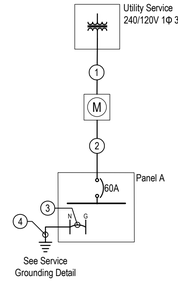
CKT	Description	Trip (A)	Poles	FN/ Note	Load (kVA)	Phase		Load (kVA)	FN/ Note	Poles	Trip (A)	Description	CKT
1	Recs Kiosk	20	1	-	0.36	A	A	0.05	-	2	15	Lts Boardwalk	2
3	Spare	20	1	-	0.00	B	B	0.05					4
5	Spare	20	1	-	0.00	A	A	0.00	-	1	20	Spare	6
7	Spare	20	1	-	0.00	B	B	0.00	-	1	20	Spare	8
9	Spare	20	1	-	0.00	A	A	0.00	-	1	20	Spare	10
11	Spare	20	1	-	0.00	B	B	0.00	-	1	20	Spare	12
13	Spare	20	1	-	0.00	A	A	0.00	-	1	20	Spare	14
15	Spare	20	1	-	0.00	B	B	0.00	-	1	20	Spare	16

Load Classification	Connected (kVA) A	Connected (kVA) B	Factor	Demand (kVA) A	Demand (kVA) B
Lighting - Exterior	0.05	0.05	125%	0.06	0.06
Receptacle - General	0.36	0.00	NEC	0.36	0.00

Phase Totals	A	B
Connected Load (kVA):	0.4	0.1
Connected Current (A):	3	0
Demand Load (kVA):	0.4	0.1
Demand Current (A):	4	1

Panel Totals	
Connected Load (kVA):	0.5
Connected Current (A):	2
Demand Load (kVA):	0.5
Demand Current (A):	2

Notes:



SLD Tags (#)

1. 3-6 AWG
   1 1/4" C
2. 3-6 AWG
   8 AWG SSBJ
   1 1/4" C
3. MBJ by SE-Rated Equipment Mfr.
4. 6 AWG GEC
   PVC Sleeve

1 Single-Line Diagram

None

Breaker Function Schedule

The "Circuit Note / FN" fields in the panel schedules indicates notes, breaker functions, or other information for the circuit, panel, or breaker. Codes are identified below. Codes are intended as a design documentation aid only, including former circuit designations in {braces}; do not include in field-applied circuit directories.

#	For any number, see panel schedule footer note.
A	Arc-Fault Interrupter (AFCI) Protection
AR	Arc Energy Reduction Maintenance Switch
D	Demolished circuit (now Spare or Space) {former circuit in braces}
E	Existing-to-remain circuit
EM	Provide identification per NEC 700.12(I)(2)(4).
G	Ground-Fault Circuit Interrupter (GFCI) Protection (5 mA)
GF	Adjustable Ground-Fault Protection for Equipment
GE	Ground-Fault Protection for Equipment (30 mA)
H	Breaker hasp to prevent unintentional opening
L	Lockable open according to NEC 110.25.
LSI	Long-Time, Short-Time, Instantaneous Adjustments
LSIG	Long-Time, Short-Time, Instantaneous, Ground-Fault Adjustments
N	New circuit (in existing panel, previously spare or space)
NR	New circuit to replace existing circuit {former circuit in braces}
NB	New breaker to replace existing breaker or space (new trip rating shown)
R	Relocated circuit
S	Switch-rated per NEC 240.83(D)

Distribution and SLD

1. Electrical service shall be 240/120V 1Φ 3W. Apply for new electrical service for the owner. All costs associated with new electrical service shall be paid by the contractor. Coordinate with the utility for transformer location, metering requirements, and service routing.
2. Design assumes an available fault current of 10,000 amps at the point of service. Prior to submitting shop drawings, contact the electric utility company and obtain in writing the maximum available fault current at the utility service point. Submit this documentation to the engineer along with equipment submittal. Provide max AFC signage as required per NEC 110.24 and 409.22.
3. Provide arc-flash hazard warning labels for equipment affected by this project per NEC 110.16.
4. Label service disconnect per NEC 230.70(B).
5. UNO, series combination ratings shall not be acceptable.
6. UNO, outdoor enclosures shall be NEMA 3R.

RELEASED FOR CONSTRUCTION

AXIA
Axia Consulting Group, LLC
2484 Ingleside Ave
Suite B201
Macon, GA 31204
706-389-0868
info@axiagrp.com
GA COA: PEF007950
Exp: 30 June 2024
Axia Project: 2317

ROOT DESIGN STUDIO landscape architecture
3469 Lawrenceville Highway
Suite 204
Tucker, Georgia 30084
(404) 895-2253
www.RootDStudio.com

Seal:

Date:	2023-09-12
Project No:	2023-026
Drawn By:	NAV
Checked By:	SCB

Lake Chatuge Boardwalk

City of Hiawassee
229 Chatuge Way
Hiawassee, GA 30546

Revisions:

NO.	DATE	DESCRIPTION

Sheet Title:
Single-Line Diagram & Schedules

Sheet No:
E-200

DIVISION 26 - ELECTRICAL

SECTION 260100

ELECTRICAL GENERAL REQUIREMENTS

PART 1 GENERAL

1.01 GENERAL

A. As used in these documents, the word "furnish" shall mean to order, purchase, and receive delivery, "install" shall mean to make ready for installation, install, connect, test, and make complete and ready for operation, and "provide" shall mean to furnish and install according to the definitions above.

B. As used in these documents, the word "verify" shall mean to check the conditions on site against the Drawings and adjust work to match site conditions or notify the Engineer of conflicts or discrepancies which cannot be resolved in the field.

C. Provide all labor, transportation, supervision, materials, tools, and equipment, and perform all work and services necessary for, or incidental to, the furnishing and installation of all electrical work as shown on the drawings and as specified in the Contract Documents.

D. Unless noted otherwise, provide final electrical connections to all equipment and devices in the contract documents, including those furnished by other trades, as required for a complete, fully functional operating system.

E. Coordinate with the work of other trades involved in the construction in order to avoid conflict during construction and to allow for required maintenance and working space for equipment.

F. The Contractor is responsible for additional costs which may result from unapproved deviation from the Contract Documents.

G. Although such work may not be specifically shown or specified, provide as part of the work all supplementary or miscellaneous items, appurtenances, and devices incidental to or necessary for a sound, secure, and complete installation.

H. Electrical work shall be complete and left in operating condition in accordance with the drawings and specifications.

1.02 DRAWINGS

A. Conduit Routing: Conduits and wiring are shown diagrammatically or conceptually only. The layout does not necessarily show the total number of conduits for the circuits required, nor are the locations of indicated runs intended to show the exact routing of conduits. Actual routing and quantity of conduits shall be determined by the contractor to suit field conditions.

B. Equipment Locations: The drawings show the general locations of feeders, transformers, equipment, outlets, conduits, and circuit arrangements. Exact equipment and device layout and locations shall be determined by the contractor to suit field conditions and provided equipment, conforming to the requirements of the contract documents. Where Contractor proposes significantly different equipment arrangement, submit for approval prior to construction.

C. Equipment Electrical: Prior to connecting equipment provided by others, verify the voltage and load information on the equipment's nameplate with the Drawings. Contact the Engineer with any discrepancies.

D. Do not scale the drawings. Dimensions required for layout of equipment shall be obtained from dimensioned plans unless specifically indicated on the drawings.

E. Discrepancies shown on different drawings, between the drawings and the specifications, or between the contract documents and field conditions shall be promptly brought to the attention of the Owner's Representative.

1.03 ABBREVIATIONS

A. Abbreviations defined within the electrical drawings also apply to Division 26 specifications.

B. Abbreviations defined within Division 26 specifications shall also apply to the electrical drawings.

1.04 LOCAL CONDITIONS

A. Contractor shall examine the site and become familiar with conditions affecting the work. Investigate, determine, and verify any overhead or buried utilities on or near the site, and determine such locations in conjunction with all public and/or private utility companies and with all authorities having jurisdiction. All costs, both temporary and permanent, to connect all utilities shall be included in the bid. The contractor shall be responsible for scheduling and coordinating with the local utility for temporary and permanent services.

B. Protect existing underground utilities during construction.

1.05 NEW ELECTRICAL SERVICE

A. Electrical service shall be: as indicated on the plans.

B. Coordinate with the electric utility company to determine all requirements for the electrical service. The Contractor shall apply for and pay for new service for the owner. Contractor shall pay for all electricity charges incurred until final inspection and turnover to the Owner.

C. Provide complete utility metering systems in accordance with the utility's standards. Coordinate meter location with the utility. Contractor shall pay all costs required by the utility for metering installation.

D. Where required, provide transformer concrete pad in accordance with the utility's standard's.

1.06 PERMITS

A. Contractor shall apply for and pay for all permits and inspection certificates required by the Authority Having Jurisdiction. Comply with all requirements of the Authority Having Jurisdiction.

1.07 APPLICABLE CONSTRUCTION CODES AND STANDARDS

A. Installation shall meet or exceed the requirements and recommendations of the following codes, regulations, standards and/or other authorities exercising jurisdiction over the electrical construction work and the project.

B. State of Georgia:

1. International Building Code (IBC), 2018 Edition, with GA Amendments
2. International Existing Building Code (IEBC), 2018 Edition, with GA Amendments
3. International Energy Conservation Code (IECC), 2015 Edition, with GA Amendments
4. NFPA 70 National Electrical Code, 2020 Edition (NEC)
5. International Fire Code (IFC), 2018 Edition, with GA Amendments
6. NFPA 101 Life Safety Code (LSC), 2018 Edition, with GA Amendments
7. International Swimming Pool and Spa Code (ISPSC), 2018 Edition, with GA Amendments

1.08 SUBMITTALS FOR REVIEW

A. Submit for review by the Owner and Engineer Product Data required by the Contract Documents.

1. Provide sufficient descriptive material (such as catalog pages, data sheets, diagrams) to evaluate the adequacy of the product for the application and compliance with drawings and specifications.
2. Submit each item in PDF format. Mark or otherwise indicate exact product selections and options where multiple options are presented on a page. Do not submit pages which contain irrelevant or unrelated content (such as entire catalogs).
3. Submittals shall be legible.
4. Identify variations from Contract Documents and product or system limitations that may be detrimental to successful performance of the completed work.
5. When revised for resubmission, identify all changes made since previous submission.
6. Submittals not meeting these requirements will be returned without review for resubmission.

B. Submittals will be approved only to the extent of information shown. Approval of an item of equipment shall not be construed to mean approval for components of that item for which the Contractor has provided no information.

C. Submittals shall be reviewed for the limited purpose of checking for compliance with information given and the design concept expressed in the Contract Documents.

D. Submittal requirements are contained within specification sections pertaining to those items. In addition to submittals required by other sections, submit the following:

1. Maximum available fault current (from utility).
   a. Prior to submitting shop drawings, contact the electric utility company and obtain in writing the maximum available fault current at the utility service point. Submit this information to the Engineer with the electrical gear submittal.

E. Engineer shall review and return submittals within 10 business days of receipt.

1.09 SUBMITTALS FOR CLOSEOUT

A. Submit project record documents, operations and maintenance data, warranties, and other data indicated in the contract documents.

PART 2 PRODUCTS

2.01 GENERAL PRODUCT REQUIREMENTS

A. Provide products that comply with requirements of NFPA 70.

B. Provide products listed and labeled by a nationally recognized testing laboratory as suitable for the purpose intended.

C. All material and equipment shall be the product of an established and reputable manufacturer; shall be new and of first class construction and must be designed and warrantied to perform the service required.

D. When a specified or indicated item has been superseded or is no longer available, the manufacturer's latest equivalent type or model of material or equipment as approved by the Engineer shall be furnished and installed at no additional cost to the Owner.

E. Materials of the same type shall be the product of one manufacturer.

F. Provide stands, racks, brackets, supports, and similar equipment required to properly serve the equipment which is furnished.

G. Device and equipment terminations rated higher than 30A shall be rated at 75°C.

2.02 SUBSTITUTIONS

A. Any manufacturer's name or model number indicated in the drawings or specifications is intended to provide a quality standard and a basis of design.

B. Contractor may propose substitutions to items identified within the contract documents if they meet all standards of quality and if they are suitable for the purpose intended, as determined by the Owner.

C. All costs incurred by the acceptance of substitutions, including redesign costs, shall be borne by the Contractor.

PART 3 EXECUTION

3.01 INSTALLATION

A. Perform work in accordance with NECA 1 (general workmanship).

B. Install all products in accordance with manufacturer's, vendor's, and/or supplier's instructions and recommendations.

C. Provide code-required and manufacturer-recommended or required working and maintenance clearances about all equipment.

D. Torque feeders and circuitry per the panel, breaker, device, or particular equipment manufacturer's specifications.

3.02 EXCAVATION, TRENCHING, AND BACKFILLING

A. The contractor shall perform all excavation required to install the work as specified.

B. Provide all erosion control for this project as required by authorities having jurisdiction.

C. During excavation, material for backfilling shall be piled back from the banks of the trench to avoid overloading and to prevent slides and cave-ins. All excavated materials not used for backfill shall be removed and disposed by the contractor.

D. Grade to prevent surface water from flowing into open trenches. Any water accumulated within the trench shall be removed by pumping.

E. Hand trim excavations and remove loose matter.

F. Remove large stones and other hard matter that could damage conduit or impede consistent backfilling or compaction.

G. Do not interfere with 45 degree bearing splay of foundations.

H. Cut trenches wide enough to allow inspection of installed utilities.

I. Grade the bottom of trenches to provide uniform support for conduits on undisturbed soil at every point along its entire length. Fill overdepths with loose, granular, moist soil, tamped.

J. Backfill with unfrozen excavated materials approved for backfilling, consisting of earth, loam, sandy clay, sand, and gravel or soft shale, free from large clods of earth and large stones or boulders.

K. Place and compact materials in equal continuous layers not exceeding 6 inches compacted depth.

L. Compact materials to 95% maximum dry density. Settling backfill with water is not permitted. Reopen any trenches not meeting compaction requirements or where settlement occurs.

M. Any area disturbed during excavation shall be repaired to its original condition, including paving, concrete, grassing, sod, gravel, etc.

N. Photograph all underground construction prior to covering. Take photos in quantities, resolution, and detail sufficient to show compliance with project documents, including photos with measuring tape indicating depths. Submit photos, in digital format, to Engineer.

3.03 CLEANING AND PAINTING

A. Prior to final inspection, clean all oil, dirt, grease, and other foreign materials from all installed electrical materials and equipment.

B. Prior to final inspection, scratched or marred surfaces of lighting fixtures, cabinet trims, or other equipment enclosures shall be touched up with paint or other coating furnished by the equipment manufacturer specifically for that purpose.

3.04 FINAL INSPECTION

A. Upon request by Owner, Engineer, or other inspector, remove equipment covers, perform control functions, test equipment to demonstrate proper working order.

B. Upon request by the Owner or Engineer, demonstrate the operation of the system or any of its components.

3.05 RECORD DOCUMENTS AND CLOSEOUT

A. At the time of final inspection, provide data on electrical equipment used in the project and as-built drawings reflecting all field changes. Submit one electronic (PDF) copy of each document required. Record Documents shall include the following items, minimum:

1. Contact information for all contractors and subcontractors involved in construction.
2. Approved shop drawings, including data sheets, for all installed equipment and each major component.
3. Final electrical equipment circuit directories, reflecting field changes, including wire size for each circuit.
4. As-built drawings, including dimensioned locations of all electrical work installations.
5. Actual installed locations of all below-grade conduits, including total length of each run.
6. Warranty information for all installed equipment and each major component.
7. Contact information for local service companies for all installed equipment and each major component.
8. Contact information for local contractors capable of performing emergency repairs.

3.06 WARRANTY

A. All systems, component parts, and installations shall be guaranteed for a minimum of one year from the date of final acceptance of the completed project. Defects found during this guarantee period shall be promptly corrected at no additional cost to the Owner.

END OF SECTION

SECTION 260519

ELECTRICAL CONDUCTORS AND CABLES

PART 1 GENERAL

1.01 SUBMITTALS

A. Product Data: Provide manufacturer's standard catalog pages and data sheets for conductors and cables, including detailed information on materials, construction, ratings, listings, and available sizes, configurations, and stranding.

B. Field Quality Control Test Reports.

C. Project Record Documents: Record actual installed circuiting arrangements. Record actual routing for underground circuits.

PART 2 PRODUCTS

2.01 CONDUCTOR AND CABLE APPLICATIONS

A. Do not use conductors and cables for applications other than as permitted by NFPA 70 and product listing.

B. Provide single conductor building wire installed in suitable raceway unless otherwise indicated, permitted, or required.

1. Exceptions:

C. Nonmetallic-sheathed cable is not permitted.

D. Underground feeder and branch-circuit cable is not permitted.

E. Service entrance cable is not permitted.

F. Armored cable is not permitted.

G. Metal-clad cable is not permitted.

H. Manufactured wiring systems are not permitted.

2.02 CONDUCTOR AND CABLE GENERAL REQUIREMENTS

A. Provide products that comply with requirements of NFPA 70.

B. Provide products listed, classified, and labeled as suitable for the purpose intended.

C. Unless specifically indicated to be excluded, provide all required conduit, boxes, wiring, connectors, etc. as required for a complete operating system.

D. Comply with NEMA WC 70.

E. Thermoplastic-Insulated Conductors and Cables: Listed and labeled as complying with UL 83.

F. Thermoset-Insulated Conductors and Cables: Listed and labeled as complying with UL 44.

G. Conductors for Grounding and Bonding: Also comply with Section 260526.

H. Conductors and Cables Installed Where Exposed to Direct Rays of Sun: Listed and labeled as sunlight resistant.

I. Conductor Material:
   1. Provide copper conductors only. Aluminum conductors are not acceptable for this project. Conductor sizes indicated are based on copper.
   2. Copper Conductors: Soft drawn annealed, 98 percent conductivity, uncoated copper conductors complying with ASTM B3, ASTM B8, or ASTM B787/B787M unless otherwise indicated.
   3. Tinned Copper Conductors: Comply with ASTM B33.

J. Minimum Conductor Size:
   1. Branch Circuits: 12 AWG.

K. Power Conductor Color Coding:
   1. Color code conductors as indicated unless otherwise required by the authority having jurisdiction. Maintain consistent color coding throughout project.
   2. Color Coding Method: Integrally colored insulation.
      a. Conductors size 4 AWG and larger may have black insulation color coded using vinyl color coding electrical tape.
   3. Color Code:
      a. 240/120 V, 1 Phase, 3 Wire System:
         1) Phase A: Black.
         2) Phase B: Red.
         3) Neutral/Grounded: White.
      b. Equipment Ground, All Systems: Green.

2.03 SINGLE CONDUCTOR BUILDING WIRE

A. Description: Single conductor insulated wire.

B. Conductor Stranding:
   1. Feeders and Branch Circuits:
      a. Size 10 AWG and Smaller: Solid.
      b. Size 8 AWG and Larger: Stranded.
   2. Control Circuits: Stranded.

C. Insulation Voltage Rating: 600 V.

D. Insulation:
   1. Copper Building Wire: Type THHN/THWN-2 or XHHW-2 , rated for 90°C in wet and dry environments.

2.04 WIRING CONNECTORS

A. Description: Wiring connectors appropriate for the application, suitable for use with the conductors to be connected, and listed as complying with UL 486A-486B or UL 486C as applicable.

B. Connectors for Grounding and Bonding: Comply with Section 260526.

C. Wiring Connectors for Splices and Taps:
   1. Copper Conductors Size 8 AWG and Smaller : Use twist-on insulated spring connectors .
   2. Copper Conductors Size 6 AWG and Larger : Use mechanical connectors .
   3. Underground splices (including within underground enclosures): Use submersible insulated splice connectors.

D. Wiring Connectors for Terminations:
   1. Provide terminal lugs for connecting conductors to equipment furnished with terminations designed for terminal lugs.
   2. Where over-sized conductors are larger than the equipment terminations can accommodate, provide connectors suitable for reducing to appropriate size, but not less than required for the rating of the overcurrent protective device.
   3. Provide motor pigtail connectors for connecting motor leads in order to facilitate disconnection.
   4. Where multiple wires are shown to be connected at a single point on any equipment terminal, provide suitable lugs/terminals for the number of conductors as identified by the manufacturer.
   5. Copper Conductors Size 8 AWG and Larger : Use mechanical connectors where connectors are required .
   6. Stranded Conductors Size 10 AWG and Smaller: Use crimped terminals for connections to terminal screws.
   7. Conductors for Control Circuits: Use crimped terminals for all connections.

E. Do not use insulation-piercing or insulation-displacement connectors designed for use with conductors without stripping insulation.

F. Twist-on Insulated Spring Connectors: Rated 600 V, 221 degrees F (105 degrees C) for standard applications and 302 degrees F (150 degrees C) for high temperature applications; pre-filled with sealant and listed as complying with UL 486D for damp and wet locations.

G. Mechanical Connectors: Provide bolted type or set-screw type.

H. Crimped Terminals: Nylon-insulated, with insulation grip and terminal configuration suitable for connection to be made.

I. Submersible Insulated Splice Connectors: Insulated wire connectors rated for direct burial and submersible applications.
   1. Polaris SLWB, SLWOB, IPLWB, or SSWB
   2. RAB Flood-Seal Wiring Conector
   3. Burndy DIBS DB
   4. Ilsco PED3-DB

PART 3 EXECUTION

3.01 PREPARATION

A. Clean raceways thoroughly to remove foreign materials before installing conductors and cables.

3.02 INSTALLATION

A. Circuiting Requirements:
   1. Unless dimensioned, circuit routing indicated is diagrammatic.
   2. When circuit destination is indicated without specific routing, determine exact routing required.
   3. Arrange circuiting to minimize splices.
   4. Include circuit lengths required to install connected devices within 10 ft (3.0 m) of location indicated.
   5. Circuiting Adjustments: Unless otherwise indicated, when branch circuits are indicated as separate, combining them together in a single raceway is permitted, under the following conditions:
      a. Up to nine current-carrying conductors may be installed in a single raceway when all conductors originate from the same panelboard, are 12 AWG 90°C conductors, are protected upstream by 20A or less overcurrent protection, and no other derating conditions exist. Dedicated neutrals shall be counted as current-carrying conductors.
      b. Size raceways, boxes, etc. to accommodate conductors.
   6. Common Neutrals: Unless otherwise indicated, sharing of neutral/grounded conductors among single phase branch circuits of different phases installed in the same raceway is not permitted. Provide dedicated neutral/grounded conductor for each individual branch circuit.

B. Install products in accordance with manufacturer's instructions.

C. Perform work in accordance with NECA 1 (general workmanship).

D. Installation in Raceway:
   1. Tape ends of conductors and cables to prevent infiltration of moisture and other contaminants.
   2. Pull all conductors and cables together into raceway at same time.
   3. Do not damage conductors and cables or exceed manufacturer's recommended maximum pulling tension and sidewall pressure.
   4. Use suitable wire pulling lubricant where necessary, except when lubricant is not recommended by the manufacturer.

E. Terminate cables using suitable fittings.

F. Install conductors with a minimum of 6 inches (152 mm) of slack at each outlet.

G. Where conductors are installed in enclosures for future termination by others, provide a minimum of 4 feet (1.2 m) of slack.

H. Neatly train and bundle conductors inside boxes, wireways, panelboards and other equipment enclosures.

I. Group or otherwise identify neutral/grounded conductors with associated ungrounded conductors inside enclosures in accordance with NFPA 70.

J. Make wiring connections using specified wiring connectors.
   1. Make splices and taps only in accessible boxes . Do not pull splices into raceways or make splices in conduit bodies .
   2. Remove appropriate amount of conductor insulation for making connections without cutting, nicking or damaging conductors.
   3. Do not remove conductor strands to facilitate insertion into connector.
   4. Clean contact surfaces on conductors and connectors to suitably remove corrosion, oxides, and other contaminates. Do not use wire brush on plated connector surfaces.
   5. Mechanical Connectors: Secure connections according to manufacturer's recommended torque settings.

K. Insulate splices and taps that are made with uninsulated connectors using methods suitable for the application, with insulation and mechanical strength at least equivalent to unspliced conductors.
   1. Underground (including within underground enclosures): Use watertight splice kits listed for direct burial and submersible installations.

L. Field-Applied Color Coding: Where vinyl color coding electrical tape is used in lieu of integrally colored insulation as permitted in Part 2 under "Color Coding", apply half overlapping turns of tape for a minimum of 3 inches at each termination and at each location conductors are accessible.

M. Identify conductors and cables in accordance with Section 260553.

N. Unless specifically indicated to be excluded, provide final connections to all equipment and devices, including those furnished by others, as required for a complete operating system.

END OF SECTION

SECTION 260526

GROUNDING AND BONDING FOR ELECTRICAL SYSTEMS

PART 1 GENERAL

1.01 SUBMITTALS

A. Product Data: Provide manufacturer's standard catalog pages and data sheets for grounding and bonding system components.

B. Field quality control test reports.

C. Project Record Documents: Record actual locations of grounding electrode system components and connections.

PART 2 PRODUCTS

2.01 GROUNDING AND BONDING REQUIREMENTS

A. Do not use products for applications other than as permitted by NFPA 70 and product listing.

B. Unless specifically indicated to be excluded, provide all required components, conductors, connectors, conduit, boxes, fittings, supports, accessories, etc. as necessary for a complete grounding and bonding system.

C. Grounding Electrode System:
   1. Provide connection to required and supplemental grounding electrodes indicated to form grounding electrode system.
      a. Provide continuous grounding electrode conductors without splice or joint.
      b. Install grounding electrode conductors in nonmetallic raceway .
   2. Metal In-Ground Support Structure:
      a. Provide connection to metal in-ground support structure that is in direct contact with earth in accordance with NFPA 70.
   3. Ground Rod Electrode(s):
      a. Provide electrodes as indicated on the drawings.
      b. Space electrodes not less than 10 feet (3.0 m) from each other and any other ground electrode.

D. Service-Supplied System Grounding:
   1. For each service disconnect, provide grounding electrode conductor to connect neutral (grounded) service conductor to grounding electrode system. Unless otherwise indicated, make connection at neutral (grounded) bus in service disconnect enclosure.
   2. For each service disconnect, provide main bonding jumper to connect neutral (grounded) bus to equipment ground bus where not factory-installed. Do not make any other connections between neutral (grounded) conductors and ground on load side of service disconnect.

E. Bonding and Equipment Grounding:
   1. Provide bonding for equipment grounding conductors, equipment ground busses, metallic equipment enclosures, metallic raceways and boxes, device grounding terminals, and other normally non-current-carrying conductive materials enclosing electrical conductors/equipment or likely to become energized as indicated and in accordance with NFPA 70.
   2. Provide insulated equipment grounding conductor in each feeder and branch circuit raceway. Do not use raceways as sole equipment grounding conductor.
   3. Unless otherwise indicated, connect wiring device grounding terminal to branch circuit equipment grounding conductor and to outlet box with bonding jumper.
   4. Terminate branch circuit equipment grounding conductors on solidly bonded equipment ground bus only. Do not terminate on neutral (grounded) or isolated/insulated ground bus.

F. Pole-Mounted Luminaires: Also comply with Section 265600.

2.02 GROUNDING AND BONDING COMPONENTS

A. General Requirements:
   1. Provide products listed, classified, and labeled as suitable for the purpose intended.
   2. Provide products listed and labeled as complying with UL 467 where applicable.

B. Conductors for Grounding and Bonding, in Addition to Requirements of Section 260519:
   1. Use insulated copper conductors unless otherwise indicated.
      a. Exceptions:
         1) Use bare copper conductors where installed underground in direct contact with earth.
         2) Use bare copper conductors where directly encased in concrete (not in raceway).
   2. Factory Pre-fabricated Bonding Jumpers: Furnished with factory-installed ferrules; size braided cables to provide equivalent gauge of specified conductors. Where installed on moving parts, attach at locations and provide length as required so that strap neither binds nor becomes taut along the full range of motion.

C. Connectors for Grounding and Bonding:
   1. Description: Connectors appropriate for the application and suitable for the conductors and items to be connected; listed and labeled as complying with UL 467.
   2. Unless otherwise indicated, use exothermic welded connections or compression connectors for underground, concealed and other inaccessible connections.
   3. Unless otherwise indicated, use mechanical connectors, compression connectors, or exothermic welded connections for accessible connections.

D. Ground Rod Electrodes:
   1. Comply with NEMA GR 1.
   2. Material: Copper-bonded (copper-clad) steel.
   3. Size: 3/4 inch (19 mm) diameter by 10 feet (3.0 m) length, unless otherwise indicated.

PART 3 EXECUTION

3.01 INSTALLATION

A. Install products in accordance with manufacturer's instructions.

B. Perform work in accordance with NECA 1 (general workmanship).

C. Ground Rod Electrodes: Unless otherwise indicated, install ground rod electrodes vertically. Where encountered rock prohibits vertical installation, install at 45 degree angle or bury horizontally in trench at least 30 inches (750 mm) deep in accordance with NFPA 70 or provide ground plates.
   1. Outdoor Installations: Unless otherwise indicated, install with top of rod 6 inches (150 mm) below finished grade.

D. Bonding Conductors:

RELEASED FOR CONSTRUCTION

AXIA

Axia Consulting Group, LLC
2484 Ingleside Ave
Suite B201
Macon, GA 31204
706-389-0868
info@axiagrp.com
GA COA: PEF007950
Exp: 30 June 2024
Axia Project: 2317

ROOT DESIGN STUDIO landscape architecture

3469 Lawrenceville Highway
Suite 204
Tucker, Georgia 30084
(404) 895-2253
www.RootDStudio.com

Seal:

Date:	2023-09-12
Project No:	2023-026
Drawn By:	NAV
Checked By:	SCB

Lake Chatuge Boardwalk

City of Hiawassee
229 Chatuge Way
Hiawassee, GA 30546

Revisions:

NO.	DATE	DESCRIPTION

Sheet Title:

Specifications

Sheet No:

E-300

1. Protect all bonding conductors by installing within Schedule 80 PVC conduit. Where flexibility is required, LFNC may be used. Conduit may terminate 6" below finished grade where conductor runs bare underground.
2. Install bonding conductors so that no bend in the conductor has a radius of less than 8 inches, whether within conduit or exposed. Do not install bonding conductors throuh "L" conduit bodies unless the 8" minimum bend can be maintained.

E. Make grounding and bonding connections using specified connectors.
1. Remove appropriate amount of conductor insulation for making connections without cutting, nicking or damaging conductors. Do not remove conductor strands to facilitate insertion into connector.
2. Remove nonconductive paint, enamel, or similar coating at threads, contact points, and contact surfaces.
3. Exothermic Welds: Make connections using molds and weld material suitable for the items to be connected in accordance with manufacturer's recommendations.
4. Mechanical Connectors: Secure connections according to manufacturer's recommended torque settings.
5. Compression Connectors: Secure connections using manufacturer's recommended tools and dies.

F. Identify grounding and bonding system components in accordance with Section 260553.

END OF SECTION

SECTION 260529
HANGERS AND SUPPORTS FOR ELECTRICAL SYSTEMS

PART 1 GENERAL

PART 2 PRODUCTS

2.01 SUPPORT AND ATTACHMENT COMPONENTS

A. General Requirements:
1. Comply with the following. Where requirements differ, comply with most stringent.
a. NFPA 70.
b. Requirements of authorities having jurisdiction.
2. Provide required hangers, supports, anchors, fasteners, fittings, accessories, and hardware as necessary for complete installation of electrical work.
3. Provide products listed, classified, and labeled as suitable for purpose intended, where applicable.
4. Do not use products for applications other than as permitted by NFPA 70 and product listing.
5. Do not use wire, chain, perforated pipe strap, or wood for permanent supports unless specifically indicated or permitted.
6. Steel Components: Use corrosion-resistant materials suitable for environment where installed.
a. Outdoor and Damp or Wet Indoor Locations: Use galvanized steel, stainless steel, or approved equivalent unless otherwise indicated.
b. Zinc-Plated Steel: Electroplated in accordance with ASTM B633.
c. Galvanized Steel: Hot-dip galvanized after fabrication in accordance with ASTM A123/A123M or ASTM A153/A153M.

B. Conduit and Cable Supports: Straps and clamps suitable for conduit or cable to be supported.
1. Conduit Straps: One-hole or two-hole type; steel or malleable iron.
2. Conduit Clamps: Bolted type unless otherwise indicated.

C. Metal Channel/Strut Framing Systems:
1. Description: Factory-fabricated, continuous-slot, metal channel/strut and associated fittings, accessories, and hardware required for field assembly of supports.
2. Comply with MFMA-4.
3. Channel Material:
a. Outdoor and Damp or Wet Indoor Locations: Use galvanized steel or stainless steel or as indicated by the drawings.
4. Minimum Channel Thickness: Steel sheet, 12 gauge, 0.1046 inch (2.66 mm).
5. Minimum Channel Dimensions: 1-5/8 inch (41 mm) width by 13/16 inch (21 mm) height.

D. Anchors and Fasteners:
1. Unless otherwise indicated and where not otherwise restricted, use anchor and fastener types indicated for specified applications.
2. Concrete: Use expansion anchors or screw anchors .
3. Steel: Use beam clamps, machine bolts, or welded threaded studs.
4. Wood: Use wood screws.
5. Plastic and lead anchors are not permitted.
6. Powder-actuated fasteners are not permitted.
7. Hammer-driven anchors and fasteners are not permitted.

PART 3 EXECUTION

3.01 INSTALLATION

A. Install products in accordance with manufacturer's instructions.

B. Install hangers and supports in accordance with NECA 1.

C. Provide independent support from building structure. Do not provide support from piping, ductwork, or other systems.

D. Do not penetrate or otherwise notch or cut structural members without approval of Structural Engineer.

E. Secure fasteners in accordance with manufacturer's recommended torque settings.

F. Remove temporary supports.

3.02 FIELD QUALITY CONTROL

A. Inspect support and attachment components for damage and defects.

B. Repair cuts and abrasions in galvanized finishes using zinc-rich paint recommended by manufacturer. Replace components that exhibit signs of corrosion.

C. Correct deficiencies and replace damaged or defective support and attachment components.

END OF SECTION

SECTION 260533.13
CONDUIT FOR ELECTRICAL SYSTEMS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Galvanized steel rigid metal conduit (RMC).

B. Liquidtight flexible metal conduit (LFMC).

C. Galvanized steel electrical metallic tubing (EMT).

D. Rigid polyvinyl chloride (PVC) conduit.

1.02 SUBMITTALS

A. Product Data: Provide manufacturer's standard catalog pages and data sheets for conduits, fittings, and accessories, including paint and coatings where specified .

B. Project Record Documents: Record actual routing for conduits installed underground . Indicate total length of conduit installed underground or embedded in concrete.

PART 2 PRODUCTS

2.01 CONDUIT APPLICATIONS

A. Do not use conduit and associated fittings for applications other than as permitted by NFPA 70, manufacturer's instructions, and product listing.

B. Unless otherwise indicated and where not otherwise restricted, use conduit types indicated for specified applications. Where more than one listed application applies, comply with most restrictive requirements. Where conduit must transition to a different type due to location or environment change, transition to the more restictive conduit type at least 6 inches before the environment or location change. Where conduit type for particular application is not specified, use galvanized steel rigid metal conduit.

C. Underground:
1. Under Slab on Grade: Use galvanized steel rigid metal conduit, PVC-coated galvanized steel rigid metal conduit, or rigid PVC conduit .
2. Exterior, Direct-Buried: Use galvanized steel rigid metal conduit or rigid PVC conduit .
3. Where rigid polyvinyl (PVC) conduit is provided, transition to galvanized steel rigid metal conduit where emerging from underground. Entire bend shall be concealed below grade. Conduit shall rise vertically from grade or through concrete.
4. Where steel conduit emerges from concrete to soil, use corrosion protection tape or bituminous paint to provide supplementary corrosion protection for a minimum of 4 inches (100 mm) on each side of where conduit emerges or use PVC-coated galvanized steel rigid metal conduit .

D. Exposed, Exterior: Use galvanized steel rigid metal conduit .

E. Conduit or Sleeves for Grounding and Bonding conductors; Use non-metallic conduit only.
1. Not subject to physical damage: PVC Schedule 40
2. Subject to physical damage: PVC Schedule 80
a. Areas subject to physical damage include exposed installations below 8 feet.

F. Grounding and Bonding Conductors:
1. Where installed above ground, sleeve grounding electrode conductors and bonding jumpers in non-metallic. Provide conduit sleeve from a maximum of 6 inches from each above grounding bonding connection to a minimum of 6 inches below grade.

2.02 CONDUIT - GENERAL REQUIREMENTS

A. Comply with NFPA 70.

B. Fittings for Grounding and Bonding: See Section 260526 for additional requirements.

C. Provide conduit, fittings, supports, and accessories required for complete raceway system.

D. Provide products listed, classified, and labeled as suitable for purpose intended.

E. Minimum Conduit Size, Unless Otherwise Indicated:
1. Branch Circuits: 3/4 inch (21 mm) trade size.
2. Underground, Exterior: 1-inch (27 mm) trade size.

2.03 GALVANIZED STEEL RIGID METAL CONDUIT (RMC)

A. Description: NFPA 70, Type RMC galvanized steel rigid metal conduit complying with ANSI C80.1 and listed and labeled as complying with UL 6.

B. Fittings:
1. Nonhazardous Locations: Use fittings complying with NEMA FB 1 and listed and labeled as complying with UL 514B or UL 6.
2. Material: Use steel or malleable iron.
3. Connectors and Couplings: Use threaded type fittings only. Threadless fittings, including set screw and compression/gland types, are not permitted.

2.04 LIQUIDTIGHT FLEXIBLE METAL CONDUIT (LFMC)

A. Description: NFPA 70, Type LFMC polyvinyl chloride (PVC) jacketed steel flexible metal conduit listed and labeled as complying with UL 360.

B. Fittings:
1. Description: Fittings complying with NEMA FB 1 and listed and labeled as complying with UL 514B.
2. Material: Use steel or malleable iron.
a. Do not use die cast zinc fittings.

2.05 RIGID POLYVINYL CHLORIDE (PVC) CONDUIT

A. Description: NFPA 70, Type PVC rigid polyvinyl chloride conduit complying with NEMA TC 2 and listed and labeled as complying with UL 651; Schedule 40 unless otherwise indicated, Schedule 80 where subject to physical damage; rated for use with conductors rated 90 degrees C.

B. Fittings:
1. Manufacturer: Same as manufacturer of conduit to be connected.
2. Description: Fittings complying with NEMA TC 3 and listed and labeled as complying with UL 651; material to match conduit.

2.06 ACCESSORIES

A. Corrosion Protection Tape: PVC-based, minimum thickness of 20 mil, 0.020 inch (0.51 mm).
1. Products:
a. 3M Scotchrap 51

B. Bituminous Paint for Corrosion Protection: solvent-based bitumen, black, identified by the manufacturer for the purpose of corrosion protection of bare metal.

C. Conduit Joint Compound: Corrosion-resistant, electrically conductive compound listed as complying with UL 2419; suitable for use with conduit to be installed.

D. Solvent Cement for PVC Conduit and Fittings: As recommended by manufacturer of conduit and fittings to be installed.

E. Conduit Mechanical Seals:
1. Listed as complying with UL 514B.
2. Specifically designed for sealing conduit openings against water, moisture, gases, and dust.
3. Suitable for sealing around conductors/cables to be installed.

PART 3 EXECUTION

3.01 INSTALLATION

A. Install products in accordance with manufacturer's instructions.

B. Install conduit in accordance with NECA 1.

C. Install galvanized steel rigid metal conduit (RMC) in accordance with NECA 101.

D. Install rigid polyvinyl chloride (PVC) conduit in accordance with NECA 111.

E. Conduit Routing:
1. Unless dimensioned, conduit routing indicated is diagrammatic.
2. When conduit destination is indicated without specific routing, determine exact routing required.
3. Arrange conduit to provide no more than the equivalent of four 90 degree bends between pull points. Provide pull boxes as required.
a. Where underground pull points are required and not shown on plans, submit proposed locations for approval.
4. Arrange conduit to provide so that manufacturer's recommended maximum pulling tension and conduit sidewall pressure is not exceeded in between pull points.
5. Arrange conduit to prevent moisture traps. Provide drain fittings at low points and at sealing fittings where moisture may collect.

F. Conduit Support:
1. Secure and support conduits in accordance with NFPA 70 using suitable supports and methods approved by authorities having jurisdiction; see Section 260529.
2. Provide independent support from building structure. Do not provide support from piping, ductwork, or other systems.
3. Use conduit strap to support single surface-mounted conduit.
a. Use clamp back spacer with conduit strap for damp and wet locations to provide space between conduit and mounting surface.
4. Use of spring steel conduit clips for support of conduits is not permitted.
5. Use of wire for support of conduits is not permitted.

G. Connections and Terminations:
1. Use approved conduit joint compound on field-cut threads of galvanized steel conduits prior to making connections.
2. Where two threaded conduits must be joined and neither can be rotated, use three-piece couplings or split couplings. Do not use running threads. Do not use compression fittings.
3. Wherever feasible, make conduit connections to outdoor enclosures on the bottom of the enclosure. Where it is not feasible to make connections at the bottom of the enclosure, install such that, should the hub leak, water will not drip directly onto live parts.
4. Use suitable adapters where required to transition from one type of conduit to another.
5. Provide drip loops for liquidtight flexible conduit connections to prevent drainage of liquid into connectors.
6. Terminate threaded conduits in boxes and enclosures using threaded hubs or double lock nuts for dry locations and raintight hubs for wet locations.
7. Provide insulating bushings, insulated throats, or listed metal fittings with smooth, rounded edges at conduit terminations to protect conductors.
8. Secure joints and connections to provide mechanical strength and electrical continuity.

H. Underground Installation:
1. Minimum Cover, Unless Otherwise Indicated or Required:
a. Underground, Exterior: 24 inches (610 mm) .
2. Provide underground warning tape in accordance with Section 260553 along entire conduit length .

I. Corrosion Protection:
1. Prepare surfaces and apply corrosion protection tape according to manufacturer recommendations with minimum 1/2 inch overlap
2. Prepare surfaces and apply corrosion protection bituminous paint according to manufacturer recommendations with minimum two coats.

J. Provide pull string in each empty conduit and in conduits where conductors and cables are to be installed by others. Leave minimum slack of 12 inches (300 mm) at each end.

K. Provide grounding and bonding; see Section 260526.

3.02 FIELD QUALITY CONTROL

A. Repair cuts and abrasions in galvanized finishes using zinc-rich paint recommended by manufacturer. Replace components that exhibit signs of corrosion.

B. Repair cuts and abrasions in field-applied coatings and finishes.

C. Correct deficiencies and replace damaged or defective conduits.

3.03 CLEANING

A. Clean interior of conduits to remove moisture and foreign matter.

3.04 PROTECTION

A. Immediately after installation of exterior or underground conduit, use suitable manufactured plugs to provide protection from entry of moisture and foreign material and do not remove until ready for installation of conductors.

END OF SECTION

SECTION 260533.16
BOXES FOR ELECTRICAL SYSTEMS

PART 1 GENERAL

1.01 SUBMITTALS

A. Product Data: Provide manufacturer's standard catalog pages and data sheets for underground boxes/enclosures .

B. Project Record Documents: Record actual locations for outlet and device boxes, pull boxes, cabinets and enclosures, floor boxes, and underground boxes/enclosures.

PART 2 PRODUCTS

2.01 BOXES

A. General Requirements:
1. Do not use boxes and associated accessories for applications other than as permitted by NFPA 70 and product listing.
2. Provide all boxes, fittings, supports, and accessories required for a complete raceway system and to accommodate devices and equipment to be installed.
3. Provide products listed, classified, and labeled as suitable for the purpose intended.
4. Where box size is not indicated, size to comply with NFPA 70 but not less than applicable minimum size requirements specified.
5. Provide grounding terminals within boxes where equipment grounding conductors terminate.

B. Outlet and Device Boxes Up to 100 cubic inches (1,650 cu cm), Including Those Used as Junction and Pull Boxes:
1. Use cast iron boxes or cast aluminum boxes for damp or wet locations unless otherwise indicated or required; furnish with compatible weatherproof gasketed covers.
2. Use cast iron boxes or cast aluminum boxes where exposed galvanized steel rigid metal conduit is used.
3. Cast Metal Boxes: Comply with NEMA FB 1, and list and label as complying with UL 514A; furnish with threaded hubs.
4. Wall Plates: Comply with Section 262726.

C. Underground Boxes/Enclosures:
1. Description: In-ground, open bottom boxes furnished with flush, non-skid covers with legend indicating type of service and stainless steel tamper resistant cover bolts.
2. Size: as required, per NEC, for application indicated on the drawings .
3. Depth: As required to extend below frost line to prevent frost upheaval, but not less than 12 inches (300 mm).
4. Provide logo on cover to indicate type of service.
5. Applications:
a. Sidewalks and Landscaped Areas Subject Only to Occasional Nondeliberate Vehicular Traffic: Use polymer concrete enclosures, with minimum SCTE 77 Tier 8 load rating.
b. Parking Lots, in Areas Subject Only To Occasional Nondeliberate Vehicular Traffic: Use polymer concrete enclosures, with minimum SCTE 77 Tier 22 load rating .
c. Do not use polymer concrete enclosures in areas subject to deliberate vehicular traffic.
6. Polymer Concrete Underground Boxes/Enclosures: Comply with SCTE 77.
a. Combination fiberglass/polymer concrete boxes/enclosures are acceptable.

PART 3 EXECUTION

3.01 INSTALLATION

A. Install products in accordance with manufacturer's instructions.

B. Install boxes in accordance with NECA 1 (general workmanship) and, where applicable, NECA 130, including mounting heights specified in those standards where mounting heights are not indicated.

C. Arrange equipment to provide minimum clearances in accordance with manufacturer's instructions and NFPA 70.

D. Box Locations:
1. Locate boxes to be accessible. Provide access panels as required where approved by the Architect or Owner.
2. Unless dimensioned, box locations indicated are approximate.
3. Locate junction and pull boxes as indicated, as required to facilitate installation of conductors, and to limit conduit length and/or number of bends between pulling points in accordance with Section 260533.13.

E. Box Supports:
1. Secure and support boxes in accordance with NFPA 70 and Section 260529 using suitable supports and methods approved by the authority having jurisdiction.

F. Install boxes plumb and level.

G. Underground Boxes/Enclosures:
1. Comply with detail on the drawings.
2. Install enclosure on gravel base, minimum 6 inches (150 mm) deep.
3. Flush-mount enclosures located in concrete or paved areas.
4. Mount enclosures located in landscaped areas with top at 1 inch (25 mm) above finished grade.
5. Install additional bracing inside enclosures in accordance with manufacturer's instructions to minimize box sidewall deflections during backfilling. Backfill with cover bolted in place.
6. Install parallel and perpendicular to nearby site objects such as sidewalks, buildings, and walls.

H. Close unused box openings.

I. Provide grounding and bonding in accordance with Section 260526.

3.02 CLEANING

A. Clean interior of boxes to remove dirt, debris, plaster and other foreign material.

3.03 PROTECTION

A. Immediately after installation, protect boxes from entry of moisture and foreign material until ready for installation of conductors.

END OF SECTION

SECTION 260553
IDENTIFICATION FOR ELECTRICAL SYSTEMS

PART 2 PRODUCTS

1.01 IDENTIFICATION REQUIREMENTS

A. Identification for Equipment:
1. Use identification nameplate to identify each piece of electrical distribution and control equipment and associated sections, compartments, and components.
a. Panelboards:
1) Identify voltage and phase.
2) Identify power source and circuit number. Include location when not within the same space as the equipment.
3) For panelboards with a door, use typewritten circuit directory to identify load(s) served. Identify spares and spaces. Provide a date the directory was completed.
(a) Outdoor installations (in outdoor enclosures): laminate typewritten circuit directory and affix to the inside of panelboard door with foam tape identified for outdoor use. Trim lamination to provide minimum 1/4 inch of lamination around printed sheet in order to prevent moisture from penetrating lamination. If present, remove clear plastic cover from panelboard door.
b. Transformers:
1) Identify power source and circuit number. Include location when not within sight of equipment.
2. Service Equipment:
a. Use identification nameplate to identify each service disconnecting means.
3. Available Fault Current Documentation: Use identification label to identify the available fault current and date calculations were performed at locations requiring documentation by NFPA 70 including but not limited to the following.
a. Service equipment.
4. Arc Flash Hazard Warning Labels: Use warning labels to identify arc flash hazards for electrical equipment, such as switchboards, panelboards, industrial control panels, meter socket enclosures, and motor control centers that are likely to require examination, adjustment, servicing, or maintenance while energized.
a. Minimum Size: 3.5 by 5 inches (89 mm by 127 mm).
b. Legend: Include orange header that reads "WARNING", followed by the word message "Arc Flash and Shock Hazard; Appropriate PPE Required; Do not operate controls or open covers without appropriate personal protection equipment; Failure to comply may result in injury or death; Refer to NFPA 70E for minimum PPE requirements" or approved equivalent.

B. Identification for Conductors and Cables:
1. Color Coding for Power Conductors 600 V and Less: Comply with Section 260519.
2. Use identification nameplate or identification label to identify color code for ungrounded and grounded power conductors inside door or enclosure at each piece of feeder or branch-circuit distribution equipment .

C. Identification for Raceways:
1. Use factory-painted conduit to identify specified systems for accessible conduit.
a. Color Code:
1) Fire Alarm System: Red.
2. Use underground warning tape to identify underground raceways.
3. Use identification labels or plastic marker tags to identify conduits containing intrinsically safe circuits where accessible at all penetrations and at intervals not exceeding 25 feet as required by NFPA 70.

1.02 IDENTIFICATION NAMEPLATES AND LABELS

A. Identification Nameplates:
1. Materials:
a. Outdoor Locations: Use plastic or stainless steel nameplates suitable for exterior use.
2. Plastic Nameplates: Two-layer or three-layer laminated acrylic or electrically non-conductive phenolic with beveled edges; minimum thickness of 1/16 inch (1.6 mm); engraved text.
a. Exception: Provide minimum thickness of 1/8 inch (3 mm) when any dimension is greater than 4 inches (100 mm).
3. Stainless Steel Nameplates: Minimum thickness of 1/32 inch (0.8 mm); engraved or laser-etched text.

B. Identification Labels:
1. Materials: Use self-adhesive laminated plastic labels; UV, chemical, water, heat, and abrasion resistant.
2. Text: Use factory pre-printed or machine-printed text. Do not use handwritten text unless otherwise indicated.

C. Format for Equipment Identification:
1. Minimum Size: 1 inch (25 mm) by 2.5 inches (64 mm).
2. Legend:
a. Equipment designation or other approved description.
b. Other information as indicated.
3. Text: All capitalized unless otherwise indicated.
4. Minimum Text Height:
a. Equipment Designation: 1/4 inch (6 mm) .
b. Other Information: 1/4 inch (6 mm).
5. Color:
a. Normal Power System: White text on black background.

1.03 UNDERGROUND WARNING TAPE

A. Materials: Use foil-backed detectable type polyethylene tape suitable for direct burial, unless otherwise indicated.

B. Foil-backed Detectable Type Tape: 6 inches (152 mm) wide, with minimum thickness of 5 mil (0.1 mm) , unless otherwise required for proper detection.

C. Legend: Type of service, continuously repeated over full length of tape.

1.04 WARNING SIGNS AND LABELS

A. Comply with ANSI Z535.2 or ANSI Z535.4 as applicable.

B. Warning Labels:
1. Materials: Use factory pre-printed or machine-printed self-adhesive polyester or self-adhesive vinyl labels; UV, chemical, water, heat, and abrasion resistant; produced using materials recognized to UL 969.
2. Machine-Printed Labels: Use thermal transfer process printing machines and accessories recommended by label manufacturer.
3. Minimum Size: 2 by 4 inches (51 mm by 102 mm) unless otherwise indicated.

PART 3 EXECUTION

2.01 PREPARATION

A. Clean surfaces to receive adhesive products according to manufacturer's instructions.

2.02 INSTALLATION

A. Install products in accordance with manufacturer's instructions.

B. Install identification products centered, level, and parallel with lines of item being identified.

C. Secure nameplates to exterior surfaces of enclosures using epoxy cement and to interior surfaces using self-adhesive backing. Epoxy cement shall be identified by the manufacturer as suitable for the substrates.

D. Install self-adhesive labels and markers to achieve maximum adhesion, with no bubbles or wrinkles and edges properly sealed.

2.03 FIELD QUALITY CONTROL

A. Replace self-adhesive labels and markers that exhibit bubbles, wrinkles, curling or other signs of improper adhesion.

END OF SECTION

SECTION 262416
PANELBOARDS

PART 1 GENERAL

1.01 SUBMITTALS

A. Product Data: Provide manufacturer's standard catalog pages and data sheets for panelboards, enclosures, overcurrent protective devices, and other installed components and accessories.

B. Shop Drawings: Indicate outline and support point dimensions, voltage, main bus ampacity, overcurrent protective device arrangement and sizes, short circuit current ratings, conduit entry locations, conductor terminal information, and installed features and accessories.

C. Project Record Documents: Record actual installed locations of panelboards and actual installed circuiting arrangements.

PART 2 PRODUCTS

2.01 PANELBOARDS - GENERAL REQUIREMENTS

A. Provide products listed, classified, and labeled as suitable for the purpose intended.

B. Short Circuit Current Rating:
1. Provide panelboards with listed short circuit current rating not less than the available fault current at the installed location as indicated on the drawings.
2. Listed series ratings are not acceptable .

C. Panelboards Used for Service Entrance: Listed and labeled as suitable for use as service equipment according to UL 869A.

D. Mains: Configure for top or bottom incoming feed as indicated or as required for the installation. Do not train incoming feeder conductors to the opposite end of the enclosure.

E. Branch Overcurrent Protective Devices: Replaceable without disturbing adjacent devices.

F. Bussing: Sized in accordance with UL 67 temperature rise requirements.

RELEASED FOR CONSTRUCTION

AXIA
Axia Consulting Group, LLC
2484 Ingleside Ave
Suite B201
Macon, GA 31204
706-389-0868
info@axiagrp.com
GA COA: PEF007950
Exp: 30 June 2024
Axia Project: 2317

ROOT DESIGN STUDIO landscape architecture
3469 Lawrenceville Highway
Suite 204
Tucker, Georgia 30084
(404) 895-2253
www.RootDStudio.com

Seal:

GEORGIA REGISTERED No. PE044202 PROFESSIONAL ENGINEER STEVEN C. BUMER 9/11/23

Date:	2023-09-12
Project No:	2023-026
Drawn By:	NAV
Checked By:	SCB

Lake Chatuge Boardwalk

City of Hiawassee
229 Chatuge Way
Hiawassee, GA 30546

Revisions:

NO.	DATE	DESCRIPTION

Sheet Title:
Specifications

Sheet No:
E-301

1. Provide fully rated neutral bus unless otherwise indicated, with a suitable lug for each feeder or branch circuit requiring a neutral connection.
2. Provide solidly bonded equipment ground bus in each panelboard, with a suitable lug for each feeder and branch circuit equipment grounding conductor.

G. Conductor Terminations: Suitable for use with the conductors to be installed.

H. Enclosures: Comply with NEMA 250, and list and label as complying with UL 50 and UL 50E.
1. Environment Type per NEMA 250: As indicated on the drawings.
2. Lockable Doors: All locks keyed alike unless otherwise indicated.

I. Future Provisions: Prepare all unused spaces for future installation of devices including bussing, connectors, mounting hardware and all other required provisions.

J.

2.02 LOAD CENTERS

A. Description: Circuit breaker type load centers listed and labeled as complying with UL 67; ratings, configurations, and features as indicated on the drawings.

B. Bussing:
1. Phase Bus Connections: Arranged for sequential phasing of overcurrent protective devices.
2. Bus Material: Aluminum or copper.

C. Circuit Breakers: Thermal magnetic plug-in type.

D. Enclosures:
1. Provide circuit directory label on inside of door or individual circuit labels adjacent to circuit breakers.

2.03 OVERCURRENT PROTECTIVE DEVICES

A. Molded Case Circuit Breakers:
1. Description: Quick-make, quick-break, over center toggle, trip-free, trip-indicating circuit breakers listed and labeled as complying with UL 489, and complying with FS W-C-375 where applicable; ratings, configurations, and features as indicated on the drawings.
2. Interrupting Capacity:
a. Provide circuit breakers with interrupting capacity as required to provide the short circuit current rating indicated.
b. Fully Rated Systems: Provide circuit breakers with interrupting capacity not less than the short circuit current rating indicated.
3. Conductor Terminations:
a. Lug Material: Aluminum, suitable for terminating aluminum or copper conductors.
4. Thermal Magnetic Circuit Breakers: For each pole, furnish thermal inverse time tripping element for overload protection and magnetic instantaneous tripping element for short circuit protection.
5. Multi-Pole Circuit Breakers: Furnish with common trip for all poles.
6. Do not use tandem circuit breakers.
7. Do not use handle ties in lieu of multi-pole circuit breakers.

PART 3 EXECUTION

3.01 INSTALLATION

A. Perform work in accordance with NECA 1 (general workmanship).

B. Install products in accordance with manufacturer's instructions.

C. Install panelboards in accordance with NECA 407 and NEMA PB 1.1.

D. Arrange equipment to provide minimum clearances in accordance with manufacturer's instructions and NFPA 70.

E. Provide required support and attachment in accordance with Section 260529.

F. Install panelboards plumb.

G. Mount panelboards such that the highest position of any operating handle for circuit breakers or switches does not exceed 79 inches (2000 mm) above the floor or working platform.

H. Provide grounding and bonding in accordance with Section 260526.

I. Install all field-installed branch devices, components, and accessories.

J. Group grounded and ungrounded conductors together in the panelboard as required by NFPA 70.

K. Breakers for circuits labeled "Spare" or otherwise made Spare by the scope of work shall be left in the "OFF" position.

L. Provide filler plates to cover unused spaces in panelboards.

M. Identify panelboards in accordance with Section 260553.

3.02 ADJUSTING

A. Adjust tightness of mechanical and electrical connections to manufacturer's recommended torque settings.

3.03 CLEANING

A. Clean dirt and debris from panelboard enclosures and components according to manufacturer's instructions.

B. Repair scratched or marred exterior surfaces to match original factory finish.

END OF SECTION

SECTION 262726
WIRING DEVICES

PART 1 GENERAL

1.01 SUBMITTALS

A. Product Data: Provide manufacturer's catalog information showing dimensions, colors, and configurations.

PART 2 PRODUCTS

2.01 WIRING DEVICE APPLICATIONS

A. Provide wiring devices suitable for intended use and with ratings adequate for load served.

B. For single receptacles installed on an individual branch circuit, provide receptacle with ampere rating not less than that of the branch circuit.

C. Provide weather resistant GFCI receptacles with specified weatherproof in-use covers for receptacles installed outdoors or in damp or wet locations.

2.02 WIRING DEVICE FINISHES

A. Provide wiring device finishes as described below unless otherwise indicated. Where not indicated, verify device and wall plate colors with the architect or owner.

B. Wiring Devices Installed in Wet or Damp Locations: Gray with specified weatherproof cover.

2.03 RECEPTACLES

A. Receptacles - General Requirements: Self-grounding, complying with NEMA WD 1 and NEMA WD 6, and listed as complying with UL 498, and where applicable, FS W-C-596; types as indicated on the drawings.
1. Wiring Provisions: Terminal screws for side wiring or screw actuated binding clamp for back wiring with separate ground terminal screw.
2. NEMA configurations specified are according to NEMA WD 6.

B. GFCI Receptacles:
1. GFCI Receptacles - General Requirements: Self-testing, with feed-through protection and light to indicate ground fault tripped condition and loss of protection; listed as complying with UL 943, class A.
2. Weather Resistant GFCI Receptacles: Industrial specification grade, duplex, 20A, 125V, NEMA 5-20R, rectangular decorator style, listed and labeled as weather resistant type complying with UL 498 Supplement SD suitable for installation in damp or wet locations.

2.04 WALL PLATES AND COVERS

A. Wall Plates: Comply with UL 514D.
1. Configuration: One piece cover as required for quantity and types of corresponding wiring devices.
2. Size: Standard
3. Screws: Metal with slotted heads finished to match wall plate finish.

B. Weatherproof Receptacle Covers for Wet Locations: Gasketed, cast aluminum, with hinged lockable cover and corrosion-resistant screws; listed as suitable for use in wet locations while in use with attachment plugs connected and identified as extra-duty type.

PART 3 EXECUTION

3.01 INSTALLATION

A. Perform work in accordance with NECA 1 (general workmanship) and, where applicable, NECA 130, including mounting heights specified in those standards unless otherwise indicated.

B. Coordinate locations of outlet boxes provided under Section 260533.16 as required for installation of wiring devices provided under this section.
1. Mounting Heights (on center): Unless otherwise indicated, as follows:
a. Receptacles: 18 inches (450 mm) above finished floor or 6 inches (150 mm) above counter.
2. Install device boxes flush within the mounting surface except in areas where conduit is permitted to be surface-mounted according to Section 260533.13 .
3. Orient outlet boxes for vertical installation of wiring devices unless otherwise indicated.

C. Install wiring devices in accordance with manufacturer's instructions.

D. Install permanent barrier between ganged wiring devices when served by different systems or voltages.

E. Where required, connect wiring devices using pigtails not less than 6 inches (150 mm) long. Do not connect more than one conductor to wiring device terminals.

F. Connect wiring devices by wrapping conductor clockwise 3/4 turn around screw terminal and tightening to proper torque specified by the manufacturer. Where present, do not use push-in pressure terminals that do not rely on screw-actuated binding.

G. Unless otherwise indicated, connect wiring device grounding terminal to branch circuit equipment grounding conductor and to outlet box with bonding jumper.

H. Unless otherwise indicated, provide GFCI receptacles with integral GFCI protection at each location indicated. Do not use feed-through wiring to protect downstream devices.

I. Install wiring devices plumb and level with mounting yoke held rigidly in place.

J. Install vertically mounted receptacles with grounding pole on bottom and horizontally mounted receptacles with grounding pole on left .

END OF SECTION

SECTION 265600
EXTERIOR LIGHTING

PART 1 GENERAL

1.01 SUBMITTALS

A. Product Data: Provide manufacturer's standard catalog pages and data sheets including detailed information on luminaire construction, dimensions, ratings, finishes, mounting requirements, listings, service conditions, photometric performance, weight, effective projected area (EPA), and installed accessories; include model number nomenclature clearly marked with all proposed features.
1. LED Luminaires:
a. Include estimated useful life, calculated based on IES LM-80 test data.

1.02 WARRANTY

A. Provide 2-year manufacturer warranty for all LED luminaires, including drivers.

PART 2 PRODUCTS

2.01 LUMINAIRES

A. Provide products that comply with requirements of NFPA 70.

B. Provide products that are listed and labeled as complying with UL 1598, where applicable.

C. Provide products listed, classified, and labeled as suitable for the purpose intended.

D. Unless otherwise indicated, provide complete luminaires including lamp(s) and all sockets, ballasts, reflectors, lenses, housings and other components required to position, energize and protect the lamp and distribute the light.

E. Unless specifically indicated to be excluded, provide all required conduit, boxes, wiring, connectors, hardware, poles, foundations, supports, trims, accessories, etc. as necessary for a complete operating system.

F. Provide products suitable to withstand normal handling, installation, and service without any damage, distortion, corrosion, fading, discoloring, etc.

G. LED Luminaires:
1. Components: UL 8750 recognized or listed as applicable.
2. Tested in accordance with IES LM-79 and IES LM-80.
3. LED Estimated Useful Life: Minimum of 100,000 hours at 80 percent lumen maintenance, calculated based on IES LM-80 test data.

H. Exposed Hardware: Stainless steel.

2.02 POLES

A. All Poles:
1. Provide poles and associated support components suitable for the luminaire(s) and associated supports and accessories to be installed.
2. Material: Steel, unless otherwise indicated.
3. Shape: Square straight, unless otherwise indicated.
4. Finish: Match luminaire finish, unless otherwise indicated.
5. Mounting: Install on concrete foundation, height as indicated on the drawings, unless otherwise indicated.
6. Unless otherwise indicated, provide with the following features/accessories:
a. Top cap.
b. Handhole compliant with NEC 410.30(B)(1).
c. Anchor bolts with leveling nuts or leveling shims.
d. Anchor base cover.

B. Metal Poles: Provide ground lug, accessible from handhole or transformer base.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that field measurements are as indicated.

B. Verify that outlet boxes are installed in proper locations and at proper mounting heights and are properly sized to accommodate conductors in accordance with NFPA 70.

C. Verify that suitable support frames are installed where required.

D. Verify that branch circuit wiring installation is completed, tested, and ready for connection to luminaires.

E. Verify that conditions are satisfactory for installation prior to starting work.

3.02 INSTALLATION

A. Coordinate locations of outlet boxes provided under Section 260533.16 as required for installation of luminaires provided under this section.

B. Perform work in accordance with NECA 1 (general workmanship).

C. Install products in accordance with manufacturer's instructions.

D. Install luminaires in accordance with NECA/IESNA 501.

E. Provide required support and attachment in accordance with Section 260529.

F. Install luminaires plumb and square and aligned with building lines and with adjacent luminaires.

G. Pole-Mounted Luminaires:
1. Foundation-Mounted Poles:
a. Install foundations plumb.
b. Install poles plumb, using leveling nuts or shims as required to adjust to plumb.
c. Tighten anchor bolt nuts to manufacturer's recommended torque.
d. Install anchor base covers as indicated.
2. Grounding:
a. Bond luminaires, metal accessories, metal poles, and foundation reinforcement to branch circuit equipment grounding conductor.
3. Install separate service conductors, 12 AWG copper, from each luminaire down to handhole for connection to branch circuit conductors.

H. Install accessories furnished with each luminaire.

I. Bond products and metal accessories to branch circuit equipment grounding conductor.

END OF SECTION

RELEASED FOR CONSTRUCTION

AXIA
Axia Consulting Group, LLC
2484 Ingleside Ave
Suite B201
Macon, GA 31204
706-389-0868
info@axiagrp.com
GA COA: PEF007950
Exp: 30 June 2024
Axia Project: 2317

ROOT DESIGN STUDIO
landscape architecture
3469 Lawrenceville Highway
Suite 204
Tucker, Georgia 30084
(404) 895-2253
www.RootDStudio.com

Seal:

Date:	2023-09-12
Project No:	2023-026
Drawn By:	NAV
Checked By:	SCB

Lake Chatuge Boardwalk

City of Hiawassee
229 Chatuge Way
Hiawassee, GA 30546

Revisions:

NO.	DATE	DESCRIPTION

Sheet Title:
Specifications

Sheet No:
E-302