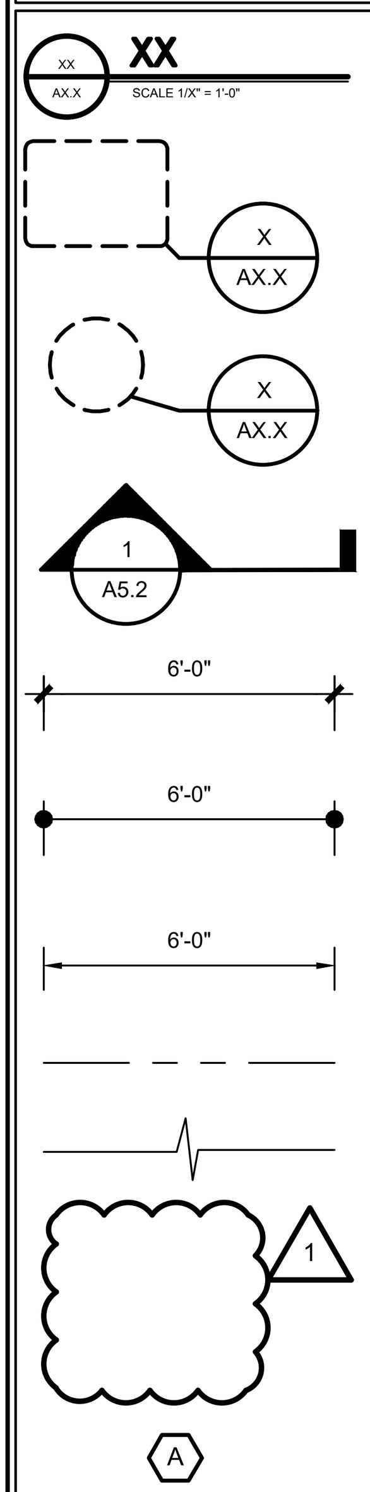
RELEASED FOR BID:

LAWRENCEVILLE BICENTENNIAL PLAZA SCULPTURE PROJECT

275 SOUTH PERRY STREET, LAWRENCEVILLE, GA 30046

Symbols Legend



- DRAWING TITLE
- ENLARGED PLAN DETAIL
- DETAIL REFERENCE
- SECTION REFERENCE
- DIMENSION LINE TO FACE OF STUD OR MASONRY
- DIMENSION LINE TO COLUMN CENTER LINE
- DIMENSION LINE TO FINISH ASSEMBLIES
- PROPERTY LINE
- BREAK LINE
- REVISION NUMBER
- PLAN KEYNOTES

General Notes

1. THESE DRAWINGS HAVE BEEN DEVELOPED FROM OWNER INPUT, AND SITE VISITS. THE CONTRACTOR SHALL VERIFY THAT THESE DRAWINGS CORRESPOND TO EXISTING FIELD CONDITIONS AND NOTIFY THE ARCHITECT IMMEDIATELY OF ANY INCONSISTENCIES BEFORE PROCEEDING WITH CONSTRUCTION. THE CONTRACTOR SHALL ALSO NOTIFY THE ARCHITECT IMMEDIATELY OF ANY WORK INDICATED IN THE CONTRACT DOCUMENTS THAT CANNOT BE PERFORMED IN ACCORDANCE WITH THE DOCUMENTS DUE TO EXISTING FIELD CONDITIONS.
2. THE GENERAL CONTRACTOR SHALL VERIFY ALL CLEARANCES, DIMENSIONS AND SIZES PRIOR TO ORDERING OR PURCHASING ASSEMBLIES OR FIXTURES FOR CONSTRUCTION.
3. ALL WORK SHALL BE IN COMPLIANCE WITH THE BUILDING CODES, RECOGNIZED INDUSTRY STANDARDS, CRAFTSMANSHIP STANDARDS IN THE AREA, AND ALL MANUFACTURER'S RECOMMENDATIONS.
4. ALL CONSTRUCTION TO COMPLY WITH GWINNETT COUNTY STANDARDS.
5. THE CONTRACTOR(S) SHALL BE RESPONSIBLE FOR BUILDING THIS PROJECT IN ACCORDANCE WITH THE DRAWINGS, SPECIFICATIONS AND STATE AND LOCAL CODES, UNLESS WRITTEN NOTIFICATION IS RECEIVED FROM THE ARCHITECT.
6. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR ALL TEMPORARY CONSTRUCTION AND ALL STAGING, SCHEDULING, MATERIAL DELIVERIES AND OTHER ITEMS THAT AFFECT THE SEQUENCE OF CONSTRUCTION OR SCHEDULING THE CONSTRUCTION PROJECT.
7. DO NOT SCALE DRAWINGS. IF DIMENSIONS ARE IN QUESTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING WRITTEN CLARIFICATION FROM THE ARCHITECT BEFORE CONTINUING WITH CONSTRUCTION.
8. THE SITE SHALL BE KEPT IN A CLEAN AND ORDERLY MANNER AT ALL TIMES. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR DISPOSING OF DEBRIS IN A CONSISTENT AND LEGAL MANNER. THE OWNER'S DUMPSTERS SHALL NOT BE USED FOR WASTE DISPOSABLE.
9. CONTRACTORS ARE REQUIRED TO HAVE A VALID GEORGIA STATE GENERAL CONTRACTING LICENSE FOR COMMERCIAL PROJECTS. THE GENERAL CONTRACTOR AND ALL SUBCONTRACTORS ARE REQUIRED TO PROVIDE THE GEORGIA SECURITY AND IMMIGRATION COMPLIANCE ACT AFFIDAVIT AND THE RESIDENCY STATUS AFFIDAVIT.
10. ALL CONTRACTORS SHALL VISIT THE PROJECT SITE PRIOR TO SUBMITTING A QUOTE. CONTRACTORS SHALL BECOME FAMILIAR WITH ALL EXISTING CONDITIONS.
11. THE ARCHITECT DOES NOT GUARANTEE THE PERFORMANCE OF THE PROJECT IN ANY RESPECT OTHER THAN THE ARCHITECTURAL WORK PERFORMED WHICH MEETS THE STANDARDS OF PROFESSIONAL CARE.
12. THE GENERAL CONTRACTOR SHALL PROVIDE ADEQUATE BRACING AND SHORING FOR ALL WORK DURING THE CONSTRUCTION PERIOD.
13. THE CONTRACTOR IS RESPONSIBLE FOR THE REMOVAL AND DISPOSAL OF ALL CONSTRUCTION WASTE AND DEBRIS.
14. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR PROVIDING NECESSARY SAFETY MEASURES REQUIRED TO PROTECT THE GENERAL PUBLIC, AND STAFF FROM DEMOLITION AND CONSTRUCTION WORK FOR THE DURATION OF THE PROJECT.
15. THE CONTRACTOR SHALL VERIFY LOCATION OF EXISTING UTILITIES BEFORE COMMENCING WORK. CARE SHALL BE TAKEN TO PROTECT ALL SYSTEMS & UTILITIES WHICH ARE TO REMAIN.
16. IN THE EVENT THE OWNER, THE OWNER'S CONTRACTORS OR SUBCONTRACTORS, OR ANYONE FOR WHOM THE OWNER IS LEGALLY LIABLE MAKES OR PERMITS TO BE MADE ANY CHANGES TO THE CONSTRUCTION DOCUMENTS PREPARED BY PRECISION PLANNING , INC. RELATING TO THIS PROJECT WITHOUT OBTAINING PRECISION PLANNING, INC.'S PRIOR WRITTEN CONSENT, THE OWNER SHALL ASSUME FULL RESPONSIBILITY FOR THE RESULTS OF SUCH CHANGES. THEREFORE THE OWNER AGREES TO WAIVE ANY CLAIM AGAINST PRECISION PLANNING, INC. AND TO RELEASE PRECISION PLANNING, INC. FROM ANY LIABILITY ARISING DIRECTLY OR INDIRECTLY FROM SUCH CHANGES.
17. CURRENTLY TAGGED AND FULLY CHARGED PORTABLE FIRE EXTINGUISHERS SHALL BE PROVIDED BY CONTRACTOR AND KEPT READILY ACCESSIBLE DURING ALL CONSTRUCTION ACTIVITIES.
18. WHERE A DETAIL, TYPICAL DETAIL, SECTION, TYPICAL SECTION OR AS NOTED IS INDICATED FOR ONE CONDITION, IT SHALL APPLY FOR ALL LIKE OR SIMILAR CONDITIONS UNLESS NOTED OTHERWISE.
19. IF ANY SERVICES REQUIRE INTERRUPTION FOR ANY REASON, PROPER NOTICE MUST BE GIVEN TO THE OWNER PRIOR TO SCHEDULING OF THIS WORK.
20. THE INTENT OF THIS PROJECT IS TO MATCH THE LOOK AND FUNCTION OF THE EXISTING PLAZA. ALL NEW COMPONENTS ARE TO MATCH THE EXISTING STANDARDS, UNLESS NOTED OTHERWISE.
21. ASSIGN THE WORK OF MOVING, REMOVAL, CUTTING AND PATCHING TO TRADES QUALIFIED TO PERFORM THE WORK IN A MANNER WHICH CAUSES THE LEAST DAMAGE TO EACH TYPE OF WORK AND PROVIDE MEANS OF RETURNING SURFACES TO THE APPEARANCE OF NEW WORK.
22. STORAGE OR SALE OF REMOVED ITEMS OR MATERIALS ON SITE IS NOT PERMITTED.
23. PRIOR TO CONSTRUCTION ACTIVITIES, PROPERLY DISCONNECT ALL ELECTRICAL EQUIPMENT FROM ITS RESPECTIVE POWER SOURCE. AT NO TIME SHALL ELECTRICAL EQUIPMENT REMAIN ENERGIZED IN AN UNPROTECTED FASHION.
24. CONSTRUCTION ACTIVITIES SHALL BE LIMITED TO AREAS SO INDICATED ON THE DRAWINGS. ENCROACHMENT INTO OTHER AREAS SHALL REQUIRE WRITTEN APPROVAL BY OWNER.
25. WORK SHALL BE IN COMPLIANCE WITH NFPA 241 - STANDARD FOR SAFEGUARDING CONSTRUCTION, ALTERATION, AND DEMOLITION OPERATIONS CURRENT EDITION.
26. CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING EXISTING CONSTRUCTION TO REMAIN BY ANY MEANS NECESSARY FROM DAMAGE AND ACCUMULATION OF DUST FOR THE DURATION OF DEMOLITION AND CONSTRUCTION ACTIVITIES. ANY EXISTING ITEMS TO REMAIN THAT ARE DAMAGED SHALL BE REPAIRED OR REPLACED AS NECESSARY BY CONTRACTOR AT NO COST TO THE OWNER.
27. EXISTING EQUIPMENT LOCATED NEAR WORK AREAS SHALL BE PROTECTED FROM DUST AND/OR DAMAGE RESULTING FROM DEMOLITION AND CONSTRUCTION ACTIVITIES.
28. CONDUCT DEMOLITION AND DEBRIS REMOVAL OPERATIONS TO ENSURE MINIMUM INTERFERENCE WITH AND DAMAGE TO ROADS, STREETS, CURBS, CURB INLETS, DRAINS, WALKS, WALKWAYS, LANDSCAPING AND OTHER ADJACENT FACILITIES. ALL DAMAGE SHALL BE REPAIRED AT CONTRACTORS EXPENSE.

Demolition Notes

1. USE WATER SPRINKLING, TEMPORARY ENCLOSURES AND OTHER SUITABLE METHODS AS NECESSARY TO LIMIT THE AMOUNT OF DUST AND DIRT RISING AND SCATTERING IN THE AIR, TO THE LOWEST LEVEL POSSIBLE.
2. EXISTING CONDITIONS ARE SHOWN FROM REFERENCE DRAWINGS. IF ADDITIONAL PIPING/STRUCTURES ARE ENCOUNTERED, OR ACTUAL LOCATION OF EXISTING STRUCTURES ARE OTHER THAN SHOWN, CONTRACTOR SHALL NOTIFY THE OWNER/ENGINEER PRIOR TO DEMOLITION.
3. CONTRACTORS ARE RESPONSIBLE FOR OBTAINING ALL DEMOLITION PERMITS.
4. SAFETY & PROTECTION: CONTRACTOR SHALL BE RESPONSIBLE FOR INITIATING, MAINTAINING, AND SUPERVISING ALL SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK. CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS FOR THE SAFETY OF, AND SHALL PROVIDE THE NECESSARY PROTECTION TO PREVENT DAMAGE, INJURY OR LOSS TO ALL EMPLOYEES ON THE WORK AND OTHER PERSONS OR ORGANIZATIONS WHO MAY BE EFFECTED THEREBY. AT A MINIMUM THE CONTRACTOR SHALL PROVIDE TEMPORARY SAFETY FENCING AROUND THE PROJECT SITE TO PREVENT THE GENERAL PUBLIC FROM ACCESSING THE WORK SITE.
5. CONTRACTOR SHALL STAGE DEMOLITION & CONSTRUCTION IN A MANNER THAT WILL MINIMIZE DISRUPTION OF VEHICULAR AND PEDESTRIAN TRAFFIC FLOW.
6. CONTRACTOR RESPONSIBLE FOR PROVIDING REQUIRED TRAFFIC CONTROL AND SAFETY FEATURES DURING CONSTRUCTION. ALL TRAFFIC CONTROL DEVICES, LANE CONTROL AND TRAFFIC CONTROL SHALL COMPLY WITH MUTCD STANDARDS AND GEORGIA DEPARTMENT OF TRANSPORTATION STANDARDS AND SPECIFICATION, LATEST EDITION.
7. EXISTING UTILITY SERVICE IS NOT TO BE INTERRUPTED BY ANY PHASE OF CONSTRUCTION. ANY DAMAGE TO EXISTING UTILITY FACILITIES WILL BE REPLACED/REPAIRED AT THE EXPENSE OF THE CONTRACTOR.

Grading and Earthwork Notes

1. ALL EARTHWORK OPERATIONS SHALL COMPLY WITH REQUIREMENTS OF OSHA CONSTRUCTION STANDARDS, PART 1926, SUBPART P, EXCAVATIONS, TRENCHING, AND SHORING, AND SUBPART O, MOTOR VEHICLES, MECHANIZED EQUIPMENT, AND MARINE OPERATIONS, AND SHALL BE CONDUCTED IN A MANNER ACCEPTABLE TO ENGINEER.
2. FILL MATERIALS SHALL CONSIST OF CLEAN SOIL, FREE OF ORGANIC OR DELETERIOUS MATERIALS, ROCKS, OR BROKEN PIECES OF CONCRETE LARGER THAN THREE INCHES IN SIZE, OR OF ANY OTHER FOREIGN OBJECTS THAT COULD IMPEDE THE COMPACTION RESULTS.
3. FILL MATERIALS SHALL BE SPREAD EVENLY IN HORIZONTAL LAYERS AND COMPACTED IN ACCORDANCE WITH GEOTECHNICAL RECOMMENDATIONS.
4. SEE GEOTECHNICAL ENGINEER FOR RECOMMENDATIONS CONCERNING PROPER PLACEMENT AND COMPACTION OF STRUCTURAL FILL.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR AN "AS-BUILT" SURVEY OF ALL SITE IMPROVEMENTS INCLUDING WATER AND FIRE PROTECTION SYSTEMS; SAID "AS-BUILT" SURVEY SHALL BE PERFORMED BY AN EXPERIENCED GEORGIA REGISTERED LAND SURVEYOR AND SHALL ILLUSTRATE ALL FINAL GRADE ELEVATIONS, HORIZONTAL AND VERTICAL RELATIONSHIPS BETWEEN BUILT STRUCTURES, PIPING, DETENTION PONDS, FINISHED GRADIENTS OF PIPES AND MATERIAL TYPES. THE CONTRACTOR SHALL RENDER THE AS-BUILT DRAWINGS AT AN ACCEPTABLE MEASURED SCALE(S) AND SHALL DELIVER A REPRODUCIBLE COPY OF SAID "AS-BUILT" TO THE OWNER PRIOR TO APPLICATION OF FINAL PAYMENT.
6. THE SCOPE OF WORK IMPLIED WITHIN THIS PLAN INCLUDES ALL GRADING OPERATIONS FOR FINAL GRADE ELEVATIONS AS SHOWN. THE CONTRACTOR IS RESPONSIBLE FOR ALL EARTH QUANTITIES, GRADING OPERATIONS, AND MISCELLANEOUS HAULING AND/OR DISPOSAL OPERATIONS TO RENDER THE SITE TO THE FINAL CONTOUR AND GRADE ELEVATIONS SHOWN ON THE PLAN. FILL REQUIRED SHALL BE FURNISHED, INSTALLED, AND COMPACTED AS PART OF CONTRACTOR'S BASE BID. IF "EXCESS" CUT IS GENERATED FROM EXCAVATION, SAID "EXCESS" SHALL BE DISTRIBUTED AND FINE GRADED AND GRASSED ON DESIGNATED OR APPROVED AREA OF THE OWNER'S PROPERTY OR HAULED OFF-SITE AT NO ADDITIONAL COST TO THE OWNER.

Utility Notes

1. THE CONTRACTOR SHALL NOTIFY EACH INDIVIDUAL UTILITY OWNER OF HIS PLAN OF OPERATION IN THE AREA OF THE UTILITIES. PRIOR TO COMMENCING WORK, THE CONTRACTOR SHALL CONTACT THE UTILITY OWNERS AND REQUEST THEM TO PROPERLY LOCATE THEIR RESPECTIVE UTILITY ON THE GROUND. THIS NOTIFICATION SHALL BE GIVEN AT LEAST THREE BUSINESS DAYS PRIOR TO COMMENCEMENT OF OPERATIONS AROUND THE UTILITY. CALL THE UTILITIES PROTECTION CENTER AT 811 BETWEEN 7:00 A.M. AND 7:00 P.M. MONDAY THRU FRIDAY.
2. CONTRACTOR SHALL VERIFY LOCATION AND ELEVATION OF ALL UTILITIES PRIOR TO EXCAVATION OR DEMOLITION. ADDITIONAL UTILITIES MAY NOT BE SHOWN ON THESE PLANS. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR LOCATIONS SHOWN. FIBER OPTICS LINES MAY EXIST ON SITE CONSULT OWNER FOR LOCATIONS PRIOR TO ANY LAND DISTURBANCE ACTIVITIES.

Project Information

PERMIT NUMBER:	COMBLD2024-00736
PROJECT NAME:	LAWRENCEVILLE BICENTENNIAL PLAZA SCULPTURE PROJECT
PROJECT ADDRESS:	275 SOUTH PERRY STREET LAWRENCEVILLE, GA 30046
PARCEL NUMBER:	5146D074
DEVELOPMENT TYPE:	COMMERCIAL / PUBLIC
ZONING:	GB & RS150
TOTAL AREA (ACRES):	5.18 TOTAL SITE AREA ACRES
LIMITS OF DISTURBED AREA (ACRES):	0.03 ACRES
TOTAL EXISTING PARKING SPACES:	9
PAVEMENT TYPE:	ASPHALT
TOTAL NEW PARKING SPACES:	0
BUILDING DATE:	N/A (NO NEW BUILDINGS PROVIDED, NO EXISTING BUILDINGS ALTERED)
TREES:	N/A (NO EXISTING TREES REMOVED, NO NEW TREES PROVIDED)

Building Codes

THE FOLLOWING CODES SHALL GOVERN FOR THIS PROJECT FOR 2024

THE GWINNETT COUNTY CONSTRUCTION CODE (2015 VERSION)

INTERNATIONAL BUILDING CODE (IBC):
2018 EDITION WITH 2020, 2022 AND 2024 GEORGIA STATE AMENDMENTS

NATIONAL ELECTRICAL CODE (NFPA):
2020 EDITION WITH 2021 GEORGIA STATE AMENDMENTS

INTERNATIONAL FUEL GAS (ICC):
2018 EDITION WITH 2020 AND 2022 GEORGIA STATE AMENDMENTS

INTERNATIONAL MECHANICAL CODE (IMC):
2018 EDITION WITH 2020 AND 2024 AMENDMENTS

INTERNATIONAL PLUMBING CODE (IPC):
2018 EDITION WITH 2020, 2022, 2023 AND 2024 GEORGIA STATE AMENDMENTS

INTERNATIONAL ENERGY CONSERVATION CODE:
2015 EDITION WITH 2020, 2022 AND 2023 GEORGIA STATE AMENDMENTS

Project Directory

OWNER: GWINNETT COUNTY BOARD OF COMMISSIONERS
75 LANGLEY DRIVE
LAWRENCEVILLE, GEORGIA 30045
PROJECT MANAGER: THOMAS COOK

ARCHITECT: PRECISION PLANNING, INC.
400 PIKE BOULEVARD
LAWRENCEVILLE, GEORGIA 30046
(770) 338-8000
ARCHITECT OF RECORD: LANCE G. DAVIS, RA

ELECTRICAL: PHILLIPS CONSULTING ENGINEERS, LLC.
260 BECKENHAM WALK DRIVE
DACULA, GEORGIA 30019
ENGINEER OF RECORD:
CHRIS PHILLIPS, P.E.

* PREFERRED MAILING ADDRESS

NOTE:
COMMUNICATIONS BY AND WITH THE ARCHITECT'S CONSULTANTS SHALL BE THROUGH THE ARCHITECT. COMMUNICATIONS BY AND WITH THE SUBCONTRACTORS AND MATERIAL SUPPLIERS SHALL BE THROUGH THE CONTRACTOR.

Drawing Index

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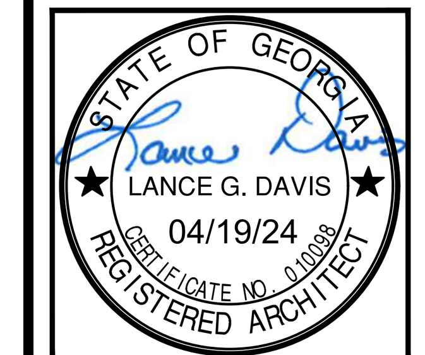

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400 Pike Boulevard, Lawrenceville, Ga 30046
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275 SOUTH PERRY STREET
LAWRENCEVILLE, GA 30046

PROJECT

COVER SHEET

DESIGN	DRAWN	CHECKED
LGD	WEW	LGD

SHEET TITLE

DATE	NO.	DESCRIPTION
02/15/24		50% CD'S FOR OWNER REVIEW
03/07/24		90% CD'S FOR OWNER REVIEW
03/22/24		RELEASED FOR PERMIT REVIEW
04/12/24		PERMIT REVIEW COMMENTS ADDRESSED
06/19/24		RELEASED FOR BID

RELEASE

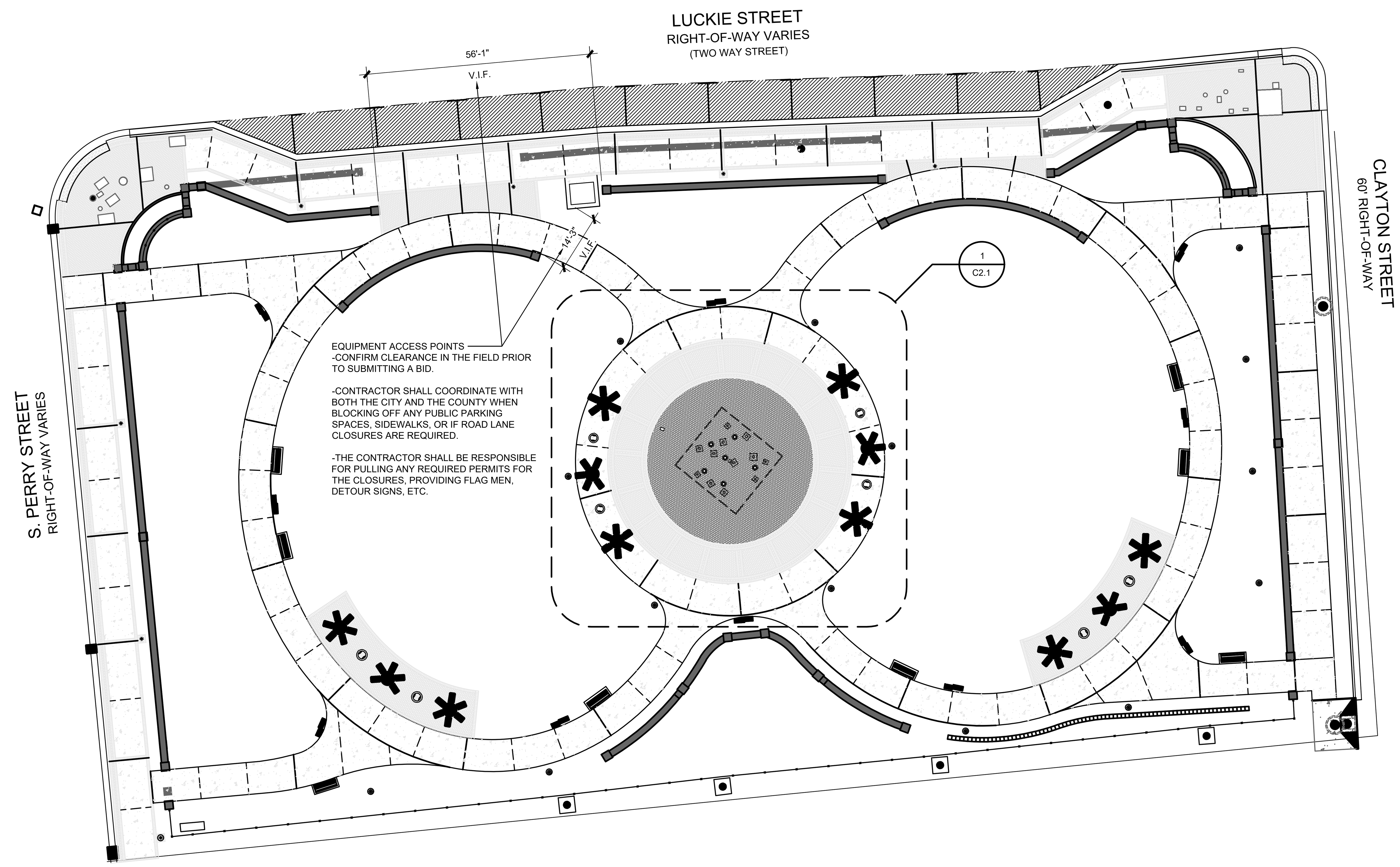
03/22/2024
DATE

A21-160GSB
PROJ. NUMBER

160GSB-CS
FILE NAME

FILE NUMBER

CS



1 / C1.0 **Overall Site Plan**
SCALE 1" = 20'-0"

N — Job North

General Contractors Scope Outline

1. EXCAVATION REMOVAL AND DISPOSAL OF SOIL AS REQUIRED FOR THE INSTALLATION OF THE SCULPTURE FOOTING, AND PAVER SYSTEM.
2. COORDINATION WITH THE OWNERS GEOTECHNICAL ENGINEERS FOR SOIL COMPACTION UNDER THE SCULPTURE FOOTING.
3. REBAR PLACEMENT, FORMING, AND POURING THE SCULPTURE FOOTING.
4. COORDINATION WITH THE SCULPTURES ARTIST FOR HIS INSTALLATION OF THE SCULPTURE ON THE FOOTING.
5. COORDINATION WITH THE SCULPTURES ARTIST FOR FINAL PLACEMENT OF THE UP-LIGHTS. THE GENERAL CONTRACTOR SHALL PROVIDE THE COMPLETE INSTALLATION AND WIRING OF THE UP-LIGHTS.
6. AFTER THE SCULPTURE HAS BEEN INSTALLED THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL BACKFILLING, GAB PLACEMENT, COMPACTION, AND INSTALLATION OF THE COMPLETE PAVER SYSTEM, TO INCLUDE CONCRETE BASE, SETTING BED, AND THE PAVERS.
7. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL MATERIAL COST, ORDERING, DELIVERIES, CLEANUP OF THE SITE, PULLING PERMITS, SCHEDULING INSPECTIONS, AND ALL OTHER ASPECTS OF THE PROJECT REQUIRED FOR A COMPLETE FINAL INSTALLATION.
8. CLEANUP OF THE SITE SHALL INCLUDE PRESSURE WASHING ALL CONCRETE AND PAVER WALKWAYS OF ANY TIRE MARKS, DIRT AND DEBRIS BOTH DURING AND AT THE COMPLETION OF CONSTRUCTION. IN THE EVENT THE CONTRACTOR MUST DEMOBILIZE IN BETWEEN PHASES THE SITE MUST BE FULLY CLEANED PRIOR TO DEMOBILIZATION.

STATE OF GEORGIA
LANCE G. DAVIS
04/19/24
CERTIFICATE NO. 010098
REGISTERED ARCHITECT

STAMP

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400 Pike Boulevard, Lawrenceville, Ga 30046
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LAWRENCVILLE BICENTENNIAL PLAZA SCULPTURE PROJECT
275 SOUTH PERRY STREET
LAWRENCEVILLE, GA 30046

PROJECT

OVERALL SITE PLAN

DESIGN	DRAWN	CHECKED
LGD	WEW	LGD

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RELEASE

03/22/2024
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A21-160GSB
PROJ. NUMBER
160GSB-C2.1
FILE NAME

FILE NUMBER

C1.0

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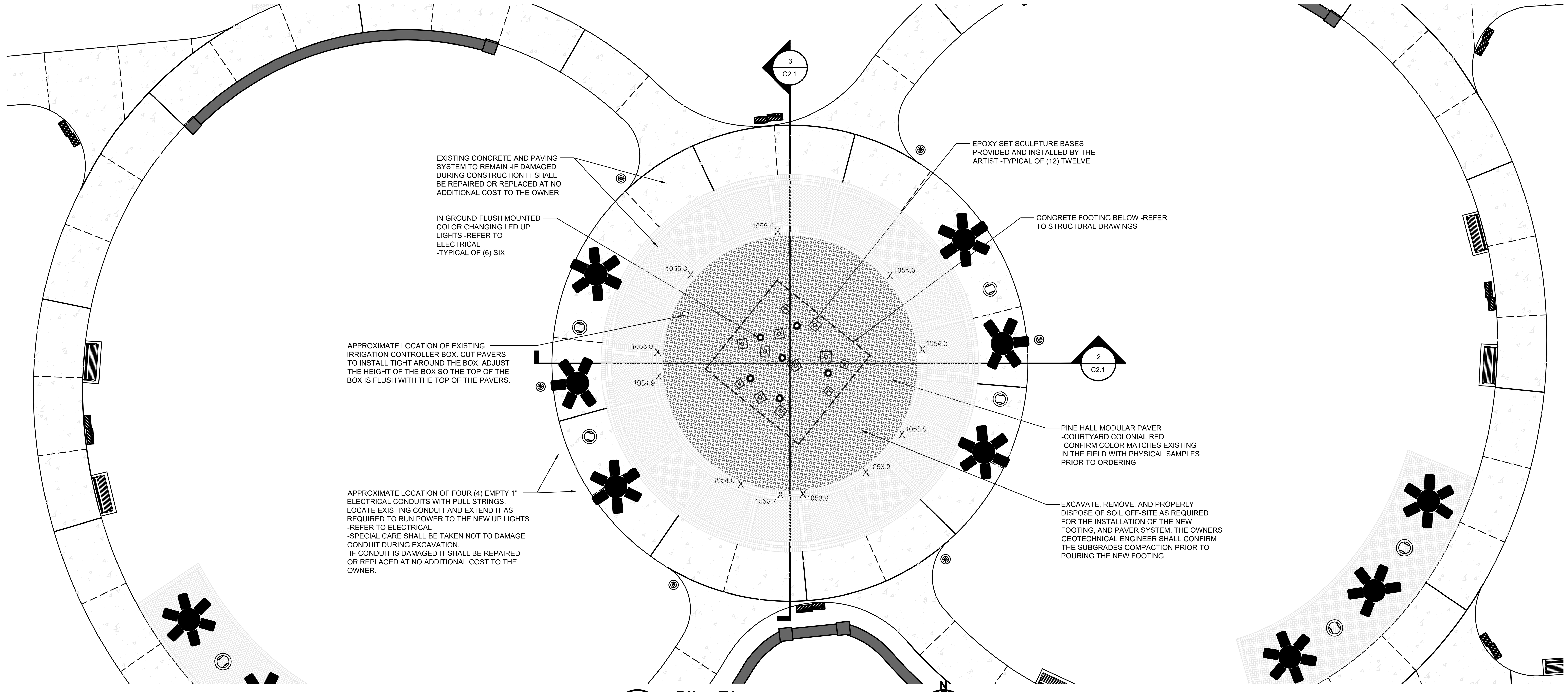
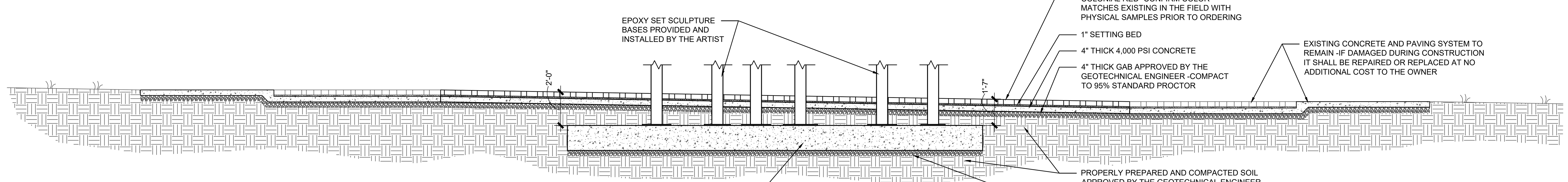
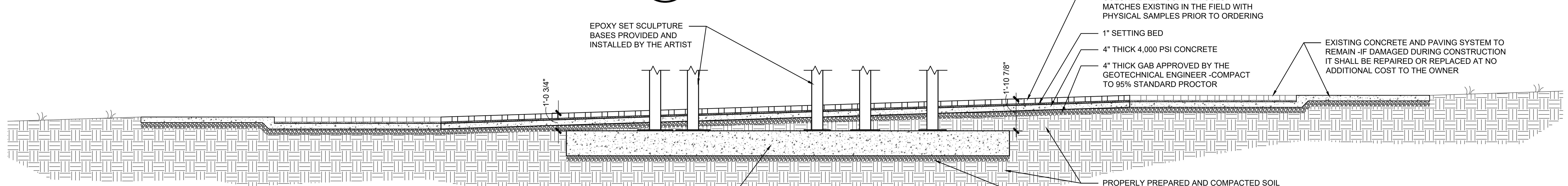


1 C2.1 **Site Plan**
SCALE 1" = 20'-0"



2 C2.1 **East / West Section Detail**
SCALE 1/4" = 1'-0"



3 C2.1 **North / South Section Detail**
SCALE 1/4" = 1'-0"

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STATE OF GEORGIA
LANCE G. DAVIS
04/19/24
REGISTERED ARCHITECT
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PROJECT

ENLARGED PLAZA PLAN AND DETAILS

DESIGN	DRAWN	CHECKED
LGD	WEW	LGD

SHEET TITLE

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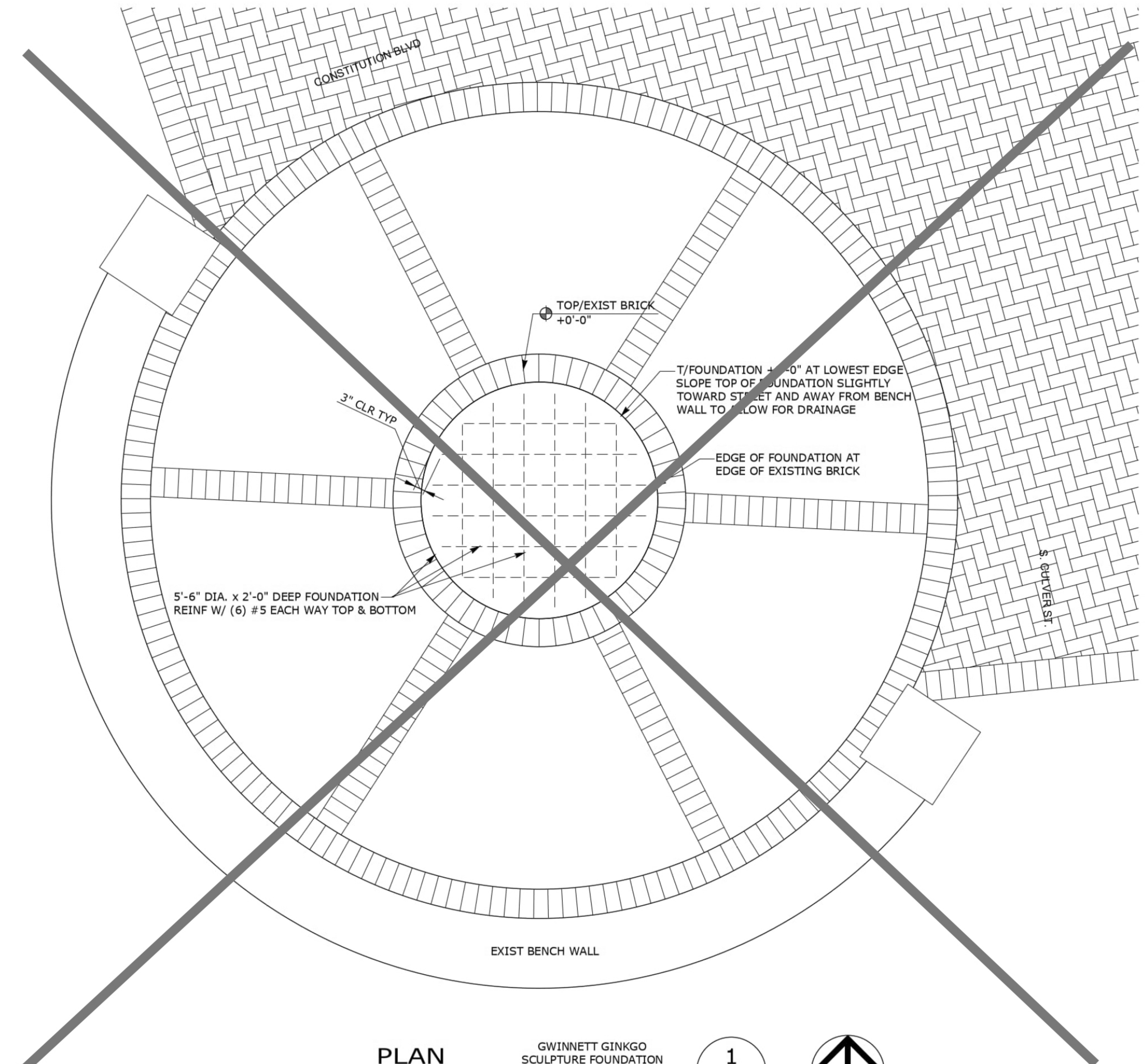
A21-160GSB
PROJ. NUMBER
160GSB-C2.1
FILE NAME
FILE NUMBER

C2.1



PLAN — GWINNETT GINKGO SCULPTURE FOUNDATION — 1 / SF1.1

SCALE: 1/2 = 1'-0"

NORTH

THIS DETAIL NOT INCLUDED IN THE SCOPE OF THIS PROJECT.

GWINNETT COUNTY DOES NOT REQUIRE IBC CHAPTER 17 SPECIAL INSPECTIONS FOR THIS PROJECT.

STRUCTURAL GENERAL NOTES - IBC 2018

1. GENERAL
   - a. PROVIDE CONSTRUCTION CONFORMING TO THE 2018 INTERNATIONAL BUILDING CODE WITH THE LATEST GEORGIA STATE AMENDMENTS. REFERENCE TO OTHER STANDARDS, SPECIFICATIONS, OR CODES MEANS THE LATEST STANDARD OR CODE PUBLISHED AND ADOPTED.
   - b. THE STRUCTURAL GENERAL NOTES APPLY EXCEPT WHERE INDICATED OTHERWISE ON THE DRAWINGS OR IN THE SPECIFICATIONS. A DETAIL SHOWN FOR ONE CONDITION APPLIES FOR ALL LIKE OR SIMILAR CONDITIONS EVEN THOUGH NOT SPECIFICALLY INDICATED ON THE DRAWINGS.
   - c. VERIFY ALL EXISTING CONDITIONS, DIMENSIONS, AND ELEVATIONS BEFORE STARTING WORK. NOTIFY THE ARCHITECT AND STRUCTURAL ENGINEER OF RECORD IN WRITING OF ANY DISCREPANCY.
   - d. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE DESIGN, ADEQUACY, AND SAFETY OF ERECTION BRACING, SHORING, TEMPORARY SUPPORTS, AND ALL OTHER MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES OF CONSTRUCTION.
   - e. COORDINATE THE STRUCTURAL CONTRACT DOCUMENTS WITH ARCHITECTURAL, CIVIL, AND ALL OTHER CONSULTANTS. NOTIFY THE ARCHITECT AND STRUCTURAL ENGINEER OF RECORD IN WRITING OF ANY CONFLICT AND/OR OMISSION.
   - f. PROVIDE AN ALLOWANCE OF 15% OF ALL STRUCTURAL MATERIALS INCLUDING LABOR TO BE FABRICATED AND PLACED DURING PROGRESS OF WORK AS MAY BE DIRECTED BY THE STRUCTURAL ENGINEER OF RECORD IN ADDITION TO ALL STRUCTURAL MATERIALS INDICATED ON THE CONTRACT DOCUMENTS. CREDIT ANY UNUSED QUANTITY TO THE OWNER AT THE END OF THE PROJECT.

2. REINFORCED CONCRETE
   - a. PROVIDE REINFORCED CONCRETE CONFORMING TO THE FOLLOWING STANDARDS:
     - ACI 301-16, SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS
     - ACI 318-14, BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE
   - b. ALL CONCRETE SHALL BE NORMAL WEIGHT 3000 PSI COMPRESSIVE STRENGTH AT 28 DAYS UNLESS NOTED OTHERWISE. PROVIDE CONCRETE WITH MAXIMUM WATER-TO-CEMENTITIOUS MATERIAL MATERIALS RATIO OF 0.50.
   - c. FULLY DOCUMENT AND SUBMIT FOR REVIEW THE PROPOSED MATERIALS AND MIX DESIGN FOR ALL CONCRETE. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING THE REQUIRED STRENGTH. ALL CONCRETE TEST DATA MUST BE AVAILABLE AT THE JOB SITE.
   - d. THE USE OF CALCIUM CHLORIDE, CHLORIDE IONS, OR OTHER SALTS IS NOT PERMITTED.
   - e. PLACE CONCRETE AT A SLUMP OF 5" ± 1".
   - f. DETAIL CONCRETE REINFORCEMENT ACCORDING TO ACI SP-66 DETAILING MANUAL. SUBMIT SHOP DRAWINGS FOR APPROVAL, SHOWING ALL FABRICATION DIMENSIONS AND LOCATIONS FOR PLACING CONCRETE REINFORCING AND ACCESSORIES. DO NOT BEGIN FABRICATION UNTIL SHOP DRAWINGS ARE COMPLETED AND REVIEWED BY THE STRUCTURAL ENGINEER OF RECORD.
   - g. PROVIDE REINFORCING STEEL CONFORMING TO ASTM A615, GRADE 60.
   - h. TIE ALL REINFORCING STEEL AND EMBEDDED ITEMS SECURELY IN PLACE PRIOR TO PLACING CONCRETE. PROVIDE SUFFICIENT SUPPORTS TO MAINTAIN THE POSITION OF THE REINFORCEMENT WITHIN SPECIFIED TOLERANCES DURING ALL CONSTRUCTION ACTIVITIES. "STICKING" DOWELS, ANCHOR RODS, OR OTHER EMBEDDED ITEMS INTO WET CONCRETE IS NOT PERMITTED.
   - i. LAP ALL REINFORCING STEEL WITH CLASS "B" TENSION LAP SPLICES.
   - j. THE PLACEMENT OF ALL REINFORCING STEEL MUST BE REVIEWED BY A PROFESSIONAL ENGINEER REGISTERED IN THE PROJECT STATE OR BY A REPRESENTATIVE RESPONSIBLE TO HIM PER ACI 318, 1.3.1.
   - k. UNLESS NOTED OTHERWISE, PROVIDE THE FOLLOWING CONCRETE COVER ON ALL REINFORCING STEEL:

     CONCRETE AGAINST EARTH (NOT FORMED): 3"

3. FOUNDATIONS
   - a. THE DESIGN OF FOUNDATIONS, RETAINING WALLS, AND SLABS-ON-GRADE IS BASED ON THE FOLLOWING PRESUMED CRITERIA:

ALLOWABLE SOIL BEARING PRESSURE:	2000 PSF
EQUIVALENT LATERAL FLUID PRESSURE - PASSIVE CASE:	150 PSF/FT
COEFFICIENT OF SLIDING FRICTION:	0.25
SOIL DENSITY:	110 PCF

     REDESIGN OF FOUNDATIONS MAY BE REQUIRED IF THE ACTUAL CONDITIONS ARE DIFFERENT THAN THE VALUES LISTED ABOVE. THE FOLLOWING CONDITIONS COULD ALSO RESULT IN REDESIGN OF FOUNDATIONS: PRESENCE OF EXPANSIVE SOILS, HIGH WATER TABLE, POTENTIAL FOR LARGE SETTLEMENTS, OR ANY OTHER RECOMMENDATIONS STATED BY A GEOTECHNICAL ENGINEER.
   - b. A GEOTECHNICAL ENGINEER MUST VERIFY THE CONDITION AND/OR ADEQUACY OF ALL SUBGRADES, FILLS, AND BACKFILLS PRIOR TO THE PLACEMENT OF FOUNDATIONS, FOOTINGS, SLABS, WALLS, ETC.
   - c. IF ANY INTERFERENCE APPEARS BETWEEN EXISTING FOUNDATIONS AND THE SPECIFIED DESIGN, NOTIFY THE ARCHITECT SO THAT THE FOUNDATIONS MAY BE REDESIGNED AS REQUIRED.
   - d. COORDINATE TOP OF FOOTING ELEVATIONS WITH THE REQUIREMENTS OF OTHER TRADES INCLUDING BUT NOT LIMITED TO PLUMBING, MECHANICAL, OR ELECTRICAL.
   - e. PLACE ALL COLUMN FOOTINGS AND WALL FOOTINGS MONOLITHICALLY WITH ADJACENT FOOTINGS AT THE SAME ELEVATION.
   - f. ALL FOOTINGS MUST BEAR ON ORIGINAL UNDISTURBED SOIL WHERE POSSIBLE.
   - g. REMOVE ALL ORGANIC SOILS AND REPLACE WITH CLEAN STRUCTURAL FILL AT THE DIRECTION OF THE GEOTECHNICAL ENGINEER. PLACE FILL SOILS IN 10" MAXIMUM (LOOSE) LIFTS AT MOISTURE CONTENTS WITHIN 4% OF OPTIMUM MOISTURE CONTENT. COMPACT ALL FILL WITHIN 10'-0" OF THE BUILDING LIMIT TO THE FOLLOWING MINIMUM DENSITIES:
     - WITHIN 18" OF FINISHED GRADE: 98% OF MAXIMUM STANDARD PROCTOR
     - BELOW 18" OF FINISHED GRADE: 95% OF MAXIMUM STANDARD PROCTOR
   - h. FIELD DENSITY TESTS MUST BE MADE AS DESCRIBED BY THE GEOTECHNICAL ENGINEER TO VERIFY ADEQUATE COMPACTION AND DESIGN BEARING PRESSURE.
   - i. SIDES OF FOUNDATIONS MUST BE FORMED UNLESS CONDITIONS PERMIT EARTH FORMING. FOUNDATIONS PLACED AGAINST THE EARTH REQUIRE THE FOLLOWING PRECAUTIONS: SLOPE SIDES OF EXCAVATIONS AS APPROVED BY THE GEOTECHNICAL ENGINEER AND CLEAN UP SLOUGHING BEFORE AND DURING CONCRETE PLACEMENT.

4. DESIGN LOADS
   - a. WIND DESIGN DATA:

RISK CATEGORY:	CATEGORY II
EXPOSURE CATEGORY:	EXPOSURE C
ULTIMATE WIND SPEED (3 SECOND GUST):	115 MPH
NOMINAL WIND SPEED:	89 MPH

   - b. SEISMIC DESIGN DATA:

RISK CATEGORY:	CATEGORY II
SEISMIC IMPORTANCE FACTOR:	I = 1.0
MAPPED SPECTRAL RESPONSE ACCELERATIONS:	SS = 0.191g
	S1 = 0.086g
SITE CLASS:	SITE CLASS D-DEFAULT
SPECTRAL RESPONSE COEFFICIENTS:	SDS = 0.204g
	SD1 = 0.137g
SEISMIC DESIGN CATEGORY:	CATEGORY C
BASIC SEISMIC FORCE RESISTING SYSTEM:	STEEL ORDINARY CANTILEVER COLUMN
RESPONSE MODIFICATION FACTOR	R = 1.25
SEISMIC RESPONSE COEFFICIENT:	CS = 0.061
ANALYSIS PROCEDURE:	EQUIVALENT LATERAL FORCE PROCEDURE

ISSUED: 06/12/2024

REVISIONS

NO.	REMARKS	DATE

CLOVER & GINKGO SCULPTURE FOUNDATIONS

GWINNETT COUNTY, GA

PEC PALMER engineering company
PECGA LLC dba Palmer Engineering Company
3585 Habersham at Northlake, Building N,
Tucker, Georgia 30084
P:(770) 908-9908 F:(770) 908-9919 www.pecga.com
GEORGIA C.O.A. No. PEF000497
PEC PROJECT No. 22031
ENGINEER: MJ

GEORGIA REGISTERED No. 139 STRUCTURAL ENGINEER BAKULESH M. PATEL

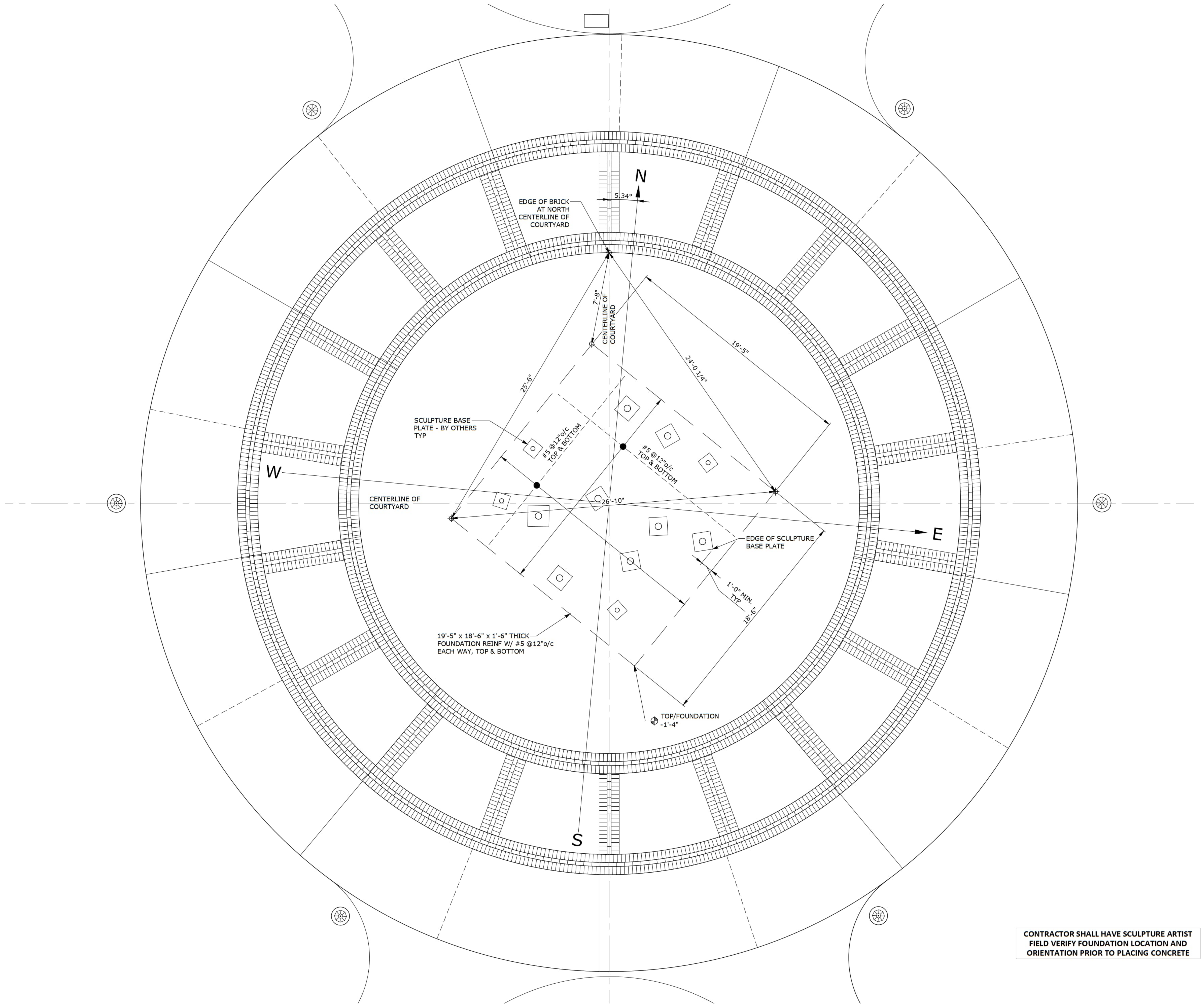
06/12/2024

GINKGO FOUNDATION PLAN, GENERAL NOTES & SPECIAL INSPECTIONS

RELEASED FOR BID

SHEET SF1.1

1 OF 2



CONTRACTOR SHALL HAVE SCULPTURE ARTIST FIELD VERIFY FOUNDATION LOCATION AND ORIENTATION PRIOR TO PLACING CONCRETE

PLAN

GWINNETT CLOVER SCULPTURE FOUNDATION

SCALE: 1/4 = 1'-0"

1 / SF1.2

NORTH

ISSUED: 06/12/2024

REVISIONS		
NO.	REMARKS	DATE

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06/12/2024

CLOVER FOUNDATION PLAN

RELEASED FOR BID

SHEET SF1.2

2 OF 2

SYMBOLS LEGEND:

ABBREVIATIONS

AF	AMPERES FRAME
AFF	ABOVE FINISH FLOOR
AFG	ABOVE FINISH GRADE
AT	AMPERES TRIP
A.T.S.	AUTOMATIC TRANSFER SWITCH
CCTV	CLOSED CIRCUIT TELEVISION SYSTEM
ex	EXISTING TO REMAIN
exr	EXISTING RELOCATED TO LOCATION ON PLAN
FACP	FIRE ALARM CONTROL PANEL
GFCI	GROUND FAULT CIRCUIT INTERRUPTERS
IG	ISOLATED GROUND
MSGB	MASTER STATION GROUND BUS
M.T.S.	MANUAL TRANSFER SWITCH
TR	TAMPER RESISTANT DEVICE
PTZ	PTZ INDICATES PAN/TILT/ZOOM
WP	DENOTES WEATHERPROOF DEVICE
XX"	INDICATES MOUNTING HEIGHT AFF IN INCHES TO CENTERLINE, EXCEPT AS NOTED

WIRING SYMBOLS

- EXISTING RACEWAY TO REMAIN
- DENOTES EXISTING EQUIPMENT OR WIRING TO BE REMOVED
- DENOTES EXISTING EQUIPMENT OR WIRING TO BE REMOVED
- RACEWAY CONCEALED IN WALL OR ABOVE CEILING
- RACEWAY EXPOSED
- HEAVY LINE DENOTES NEW EQUIPMENT OR NEW WIRING
- LITE LINE DENOTES EXISTING EQUIPMENT OR EXISTING WIRING
- RACEWAY CONCEALED IN FLOOR SLAB, BELOW SLAB OR GRADE, OR UNDER RAISED ACCESS FLOOR

MISCELLANEOUS SYMBOLS

- CABLE TRAY
- PUSH BUTTON
- CLOCK OUTLET
- KEYNOTE SYMBOL
- RELAY
- BELL OR CHIME
- FLUSH MOUNTED EQUIPMENT AS NOTED

ONE-LINE DIAGRAM SYMBOLS

- TRANSFER SWITCH
- DRAW-OUT CIRCUIT BREAKER
- BOLT-ON CIRCUIT BREAKER
- STARTER
- COMBINATION STARTER & FUSED DISCONNECT SWITCH
- FUSED DISCONNECT SWITCH
- FUSE
- NON-FUSED DISCONNECT SWITCH
- SHUNT TRIP COIL
- GROUND FAULT
- CURRENT TRANSFORMER
- UTILITY REVENUE METER
- TRANSFORMER
- GENERATOR
- MOTOR-NUMERAL INDICATES THE HORSE POWER RATING
- LUG
- VARIABLE FREQUENCY DRIVE
- GROUND
- BATTERY
- PULLBOX
- SURGE PROTECTIVE DEVICE
- NORMALLY OPEN CONTACT/CLOSES WHEN COIL IS ENERGIZED
- NORMALLY CLOSED CONTACT/OPENS WHEN COIL IS ENERGIZED
- BUS
- BRANCH PANEL

LIGHTING SYMBOLS

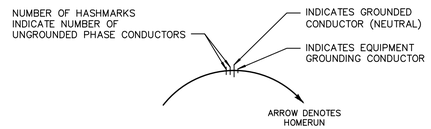
- FLUORESCENT FIXTURE, TYPE AS NOTED
- FLUORESCENT FIXTURE, TYPE AS NOTED
- SURFACE OR PENDANT MOUNTED FIXTURE, TYPE AS NOTED
- WALL MOUNTED FIXTURE, TYPE AS NOTED
- WALL MOUNTED LUMINARIE ON UN-SWITCHED CIRCUIT WITH EM. BATTERY BALLAST, TYPE AS NOTED
- WALL MOUNTED LUMINARIE ON SWITCHED CIRCUIT WITH EM. BATTERY BALLAST, TYPE AS NOTED
- LUMINARIE ON UN-SWITCHED CIRCUIT WITH EMERGENCY BATTERY BALLAST, TYPE AS NOTED
- LUMINARIE ON SWITCHED CIRCUIT WITH EMERGENCY BATTERY BALLAST, TYPE AS NOTED
- WALL MOUNTED FIXTURE, TYPE AS NOTED
- DOWNLIGHT, DECORATIVE, SITE OR MISC. FIXTURE, TYPE AS NOTED
- WALLWASH, OR ACCENT FIXTURE, TYPE AS NOTED
- EMERGENCY BATTERY FIXTURE, TYPE AS NOTED
- WALL/CEILING MOUNTED EXIT FIXTURE - BAR INDICATES FACE ORIENTATION - PROVIDE ARROWS AS SHOWN, TYPE AS NOTED
- STEPLIGHT FIXTURE, TYPE AS NOTED
- ADJUSTABLE DIRECTIONAL FIXTURE - ARROW INDICATES DIRECTION, TYPE AS NOTED
- SINGLE POLE SWITCH
- TWO SINGLE POLE SWITCHES UNDER COMMON FACEPLATE CONNECTED FOR INNER/OUTER CONTROL OF LAMPS
- THREE WAY SWITCH
- TWO THREE-WAY SWITCHES UNDER COMMON FACEPLATE CONNECTED FOR INNER/OUTER CONTROL OF LAMPS FROM MULTIPLE LOCATIONS
- FOUR WAY SWITCH
- REMOTE SWITCH WITH LOCAL OVERRIDE
- WALL BOX DIMMER
- DIGITAL TIMER SWITCH - SET TIMER FOR 2-HOURS
- MOMENTARY CONTACT SWITCH
- OCCUPANCY SENSOR FOR LIGHTING CONTROL, TYPE AS SCHEDULED.
- 360° OCCUPANCY SENSOR FOR LIGHTING CONTROL, TYPE AS SCHEDULED.
- POWER PACK - TYPE AS SCHEDULED
- PHOTO CELL
- TIME CLOCK
- PARTITION SENSOR FOR LIGHTING CONTROL PANEL
- PRESET STATION FOR LIGHTING CONTROL - SUB-SCRIBT DENOTES NUMBER OF BUTTIONS

GROUNDING SYMBOLS

- GROUND BUS-TYPE AS NOTED
- DRIVEN GROUND ROD
- G — CONDUCTOR IN RACEWAY-TYPE AND SIZE AS NOTED
- BOND CONNECTION

POWER SYMBOLS

- WALL/CEILING MOUNTED LOW VOLTAGE JUNCTION BOX
- WALL/CEILING MOUNTED JUNCTION BOX - COORDINATE EXACT MOUNTING LOCATION WITH MANUFACTURER RECOMMENDATIONS AND ARCHITECT PRIOR TO ROUGH-IN, SUBSCRIPT DENOTES TYPE:
- JUNCTION BOX MOUNTED UNDER RAISED FLOOR, CAST IN CONCRETE FLOORING OR IN-GRADE. SUBSCRIPT DENOTES
- POWER AND VOICE/DATA CONNECTION
- PULLBOX
- CONDUIT STUBBED OUT ABOVE ACCESSIBLE CEILING
- SLEEVE THROUGH WALL ABOVE CEILING.
- SLEEVE THROUGH FLOOR-SIZE NOTED ON PLANS
- NEW SURFACE MOUNTED PANELBOARD
- NEW FLUSH MOUNTED PANELBOARD
- EXISTING SURFACE MOUNTED PANELBOARD
- EXISTING FLUSH MOUNTED PANELBOARD
- EQUIPMENT AS NOTED
- TRANSFORMER-TYPE AND CAPACITY AS NOTED
- DISCONNECT SWITCH - TYPE AS NOTED. 30/3/F/WP INDICATES 30A, 3-POLE, F=FUSED/NF=NON-FUSED, WP=WEATHERPROOF
- COMBINATION STARTER - TYPE AS NOTED.
- MOTOR STARTER-TYPE AS NOTED.
- MOTOR
- PLYWOOD EQUIPMENT BACKBOARD
- SURFACE RACEWAY
- SINGLE RECEPTACLE
- DUPLEX RECEPTACLE
- DUPLEX RECEPTACLE CEILING MOUNTED
- DUPLEX RECEPTACLE MOUNTED 8" ABOVE COUNTERTOP EXCEPT AS NOTED
- DOUBLE DUPLEX RECEPTACLE
- DOUBLE DUPLEX RECEPTACLE MOUNTED MOUNTED 8" ABOVE COUNTERTOP, EXCEPT AS NOTED
- GROUND FAULT CIRCUIT INTERRUPTER DUPLEX RECEPTACLE
- GROUND FAULT CIRCUIT INTERRUPTER DUPLEX RECEPTACLE MOUNTED 8" ABOVE COUNTERTOP, EXCEPT AS NOTED
- GROUND FAULT CIRCUIT INTERRUPTER DOUBLE DUPLEX RECEPTACLE
- GROUND FAULT CIRCUIT INTERRUPTER DOUBLE DUPLEX RECEPTACLE MOUNTED 8" ABOVE COUNTERTOP, EXCEPT AS NOTED
- SPECIAL PURPOSE RECEPTACLE - TYPE AS NOTED
- EMERGENCY POWER OFF STATION
- MOTOR RATED SWITCH



NOTES:

1. NO HASHMARKS INDICATE (1) UNGROUNDED PHASE CONDUCTOR, (1) GROUNDED CONDUCTOR (NEUTRAL), AND (1) EQUIPMENT GROUNDING CONDUCTOR IN 1/2" CONDUIT.
2. 15A & 20A MULTI-WIRE CIRCUITS WITH A COMMON GROUNDED CONDUCTOR (NEUTRAL) SHALL BE PROVIDED WITH A #10 AWG GROUNDED CONDUCTOR (NEUTRAL).

1 / E1.0 **WIRING SYMBOLOGY - DETAIL**

SCALE: N.T.S

FIXTURE SCHEDULE:

TYPE	DESCRIPTION	CONE/LENS/LOUVER	LAMPS	NOTES	BASIS OF DESIGN
S1	RECESSED, IN-GRADE, DRIVE-OVER, COLOR CHANGING, ADJUSTABLE 15° TILT L.E.D. FIXTURE WITH INTEGRAL DMX DRIVER AND IP-68 RATED	SLIP RESISTANT GLASS WITH 10'x60° OPTICS	(1) 60W LED RGBW, W=4000'K 2,090 LUMENS	1,2	ACCLAIM: TERRA DRUM# TD-A-*-1-R
S1_ALT	RECESSED, IN-GRADE, DRIVE-OVER, ADJUSTABLE 15° TILT L.E.D. FIXTURE WITH INTEGRAL DIMMING DRIVER AND IP-68 RATED	SLIP RESISTANT GLASS WITH 10'x60° OPTICS	(1) 60W LED 4000'K 2,090 LUMENS	1,2,3	ACCLAIM: TERRA DRUM# TD-A-*-1-G

NOTES:

1. COLOR/FINISH, AS DIRECTED BY ARCHITECT.
2. PROVIDE IN-GROUND SLEEVE FOR EACH FIXTURE - BASIS OF DESIGN: ACCLAIM# TGAIGS.
3. PROVIDE ALTERNATE FIXTURE IN LIEU OF COLOR CHANGING FIXTURE AS PART OF DEDUCTIVE ALTERNATE FOR REMOVING COLOR CHANGING - REFER TO SHEET E2.0 FOR ADDITIONAL INFORMATION.

GENERAL NOTES:

1. CONTRACTOR SHALL PROVIDE ALL LABOR, TOOLS, AND MATERIAL REQUIRED FOR A COMPLETE AND FULLY OPERATIONAL INSTALLATION, AS DESCRIBED ON THE DRAWINGS.
2. CONTRACTOR'S WORK SHALL BE INSTALLED IN A NEAT AND WORKMANLIKE MANNER.
3. CONTRACTOR SHALL COMPLY WITH LOCAL CODES ENFORCED BY THE LOCAL INSPECTION AUTHORITY.
4. CONTRACTOR SHALL COMPLY WITH THE EDITION OF THE NATIONAL ELECTRICAL CODE BEING ENFORCED FOR THIS PROJECT BY THE LOCAL INSPECTION AUTHORITY.
5. CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE LAWS AND ORDINANCES.
6. CONTRACTOR SHALL PROVIDE ALL NEW MATERIALS THAT COMPLY WITH THE INDICATED STANDARDS.
7. ALL MATERIALS PROVIDED SHALL BE U/L LABELED OR U/L LISTED, EXCEPT WHERE THE MATERIAL IS OF A TYPE NOT INCLUDED IN THE U/L LISTING SERVICE, IN WHICH CASE THE MATERIAL SHALL COMPLY WITH OTHER APPLICABLE INDUSTRY STANDARDS AND THE CONTRACTOR SHALL PROVIDE ANY EXAMINATIONS OR CERTIFICATIONS REQUIRED BY THE LOCAL INSPECTION AUTHORITY IN LIEU OF U/L LISTINGS.
8. ALL MATERIAL SHALL BE OF A SUITABLE TYPE AND RATED FOR THE INTENDED USE, AND SHALL BE INSTALLED IN CONFORMANCE WITH THE INSTRUCTIONS AND RECOMMENDATIONS OF THE MANUFACTURER.
9. THE DRAWINGS ARE SCHEMATIC IN NATURE AND DO NOT SHOW ALL OF THE REQUIRED DETAILS OF THE WORK. ALL MATERIALS CUSTOMARILY CONSIDERED TO BE A PART OF THE ELECTRICAL INSTALLATION AND REQUIRED FOR A COMPLETE AND OPERATIONAL INSTALLATION SHALL BE PROVIDED WITHOUT ADDITIONAL COST TO THE OWNER.
10. REFER TO CIVIL/ARCHITECTURAL DRAWINGS FOR EXACT LOCATION AND QUANTITIES OF DEVICES AND LIGHT FIXTURES. IF CONFLICTING LOCATIONS OR QUANTITIES ARE INDICATED THE ARCHITECTURAL DRAWINGS TAKE PRECEDENCE.
11. SCALE OF DRAWINGS - MEASUREMENTS AND/OR LOCATIONS SHALL NOT BE SCALED FROM THE CONSTRUCTION DRAWINGS. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS.
12. ALL NONMETALLIC RACEWAYS LISTED FOR DIRECT BURIAL WITH CONCRETE ENCASEMENT SHALL HAVE A MINIMUM OF 3.00" THICK CONCRETE ENCASEMENT OVER ALL CONDUITS. POWER AND COMMUNICATIONS CONDUITS SHALL BE SEPARATED BY A MINIMUM OF 6" OF CONCRETE. CONDUITS OF THE SAME SYSTEM SHALL BE SEPARATED BY A MINIMUM OF 2" OF CONCRETE. SUPPORT CONDUITS ON SPACERS, ANCHOR AND TIE CONDUITS TO PREVENT DISPLACEMENT WHEN CONCRETE IS POURED. POUR CONCRETE AGAINST UNDISTRUBED FILL AND TRIMMED TRENCH WALLS OR FORMS AS NEEDED. VIBRATE CONCRETE TO ELIMINATE VOIDS. DO NOT ALLOW EXCESS CONCRETE TO BE DISPOSED OF IN TRENCHES.
13. ALL NONMETALLIC RACEWAYS LISTED FOR DIRECT BURIAL WITHOUT CONCRETE ENCASEMENT SHALL BE BURIED AS LISTED BELOW:
    - MINIMUM OF 24" FOR ALL LOCATIONS UNDER STREETS, ROADS, DRIVEWAYS, AND PARKING OTS.
    - MINIMUM OF 18" FOR ALL OTHER LOCATIONS ON SITE.

DEMOLITION NOTES:

1. THE CIVIL/ARCHITECTURAL DRAWINGS SHOW THE GENERAL EXTENT OF THE DEMOLITION WORK REQUIRED. THE DRAWINGS DO NOT NECESSARILY SHOW EVERYTHING TO BE REMOVED IN PREPARATION FOR NEW CONSTRUCTION.
2. THE CONTRACTOR SHALL VERIFY THE EXACT CONDITIONS AND EXTENT OF EXISTING CONSTRUCTION TO BE REMOVED DURING THE SITE INSPECTION.
3. ALL DEMOLITION/CONSTRUCTION IS TO BE DONE IN AN ORDERLY MANNER.
4. ALL MEASURES NECESSARY TO ASSURE THE SAFE DEMOLITION OF ALL AREAS INDICATED ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
5. THE CONTRACTOR IS RESPONSIBLE FOR INFORMING THE ARCHITECT OF ANY HAZARDOUS MATERIAL ENCOUNTERED DURING DEMOLITION AND/OR CONSTRUCTION.
6. THE CONTRACTOR SHALL TAKE ALL NECESSARY MEASURES TO PROTECT THE EXISTING TO REMAIN OWNER'S PROPERTY.
7. THE CONTRACTOR SHALL REPAIR ALL DAMAGE DUE TO DEMOLITION/CONSTRUCTION WORK.
8. THE CONTRACTOR SHALL TAKE ALL NECESSARY MEASURES TO PROTECT EXISTING EQUIPMENT TO BE RELOCATED.
9. THE EXISTING ELECTRICAL INSTALLATION SHALL REMAIN AS-INSTALLED AND IN OPERATION EXCEPT WHERE OTHERWISE REQUIRED BY INSTALLATION OF NEW WORK. GIVE WRITTEN NOTICE OF ANY UNFORESEEN EXISTING CONDITIONS, WHICH MAY AFFECT THE NEW WORK. NEW WORK INVOLVING EXISTING SYSTEMS OR EXISTING SPACES SHALL BE ACCOMPLISHED WITH THE MINIMUM INCONVENIENCE TO THE OWNER, AND SHALL BE DONE IN A MANNER AND TIME APPROVED BY THE OWNER. NO INTERRUPTIONS SHALL BE ALLOWED FOR THIS PROJECT WITHOUT PRIOR APPROVAL FROM THE OWNER.
11. THE CONTRACTOR SHALL MAINTAIN THE INTEGRITY AND CONTINUITY OF ALL EXISTING FEEDERS AND BRANCH CIRCUITS FEEDING THE AREAS OF THE BUILDING THAT ARE NOT WITHIN THIS PROJECTS SCOPE OF WORK, AS DEFINED BY THE CONTRACT DOCUMENTS.
12. THE CONTRACTOR SHALL REMOVE ALL LIGHT FIXTURES IN AREAS, AS SCHEDULED BY THE ARCHITECT FOR LIGHT REMOVAL, ALONG WITH ALL ASSOCIATED WIRE AND RACEWAY BACK TO THE PANEL OF ORIGIN.
13. REFER TO CIVIL/ARCHITECTURAL DRAWINGS FOR ADDITIONAL DEMOLITION REQUIREMENTS.
14. ALL FIXTURES SCHEDULED FOR DEMOLITION SHALL BE DISASSEMBLED INTO THE FOLLOWING PARTS FOR RECYCLING:
    - BALLAST
    - CCF-BULBS
    - BATTERIES
    - METAL
15. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING RECYCLE CONTAINERS FOR THE CCF-BULBS, BATTERIES AND BALLAST. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR PROVIDING PROPER RECYCLING OF ALL MATERIALS REQUIRED TO BE RECYCLED AS PART OF THIS PROJECT. THE CONTRACTOR SHALL PROVIDE PROOF OF RECYCLING VIA RECEIPTS FROM RECYCLING CENTER.
16. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SCRAPING ALL OTHER MATERIAL.

STAMP

GEORGIA REGISTERED No. 025946 PROFESSIONAL ENGINEER
CHRISTOPHER W. PHILLIPS
06/19/24

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LAWRENCVILLE BICENTENNIAL PLAZA SCULPTURE PROJECT
275 SOUTH PERRY STREET
LAWRENCEVILLE, GA 30046

PROJECT

SYMBOLS LEGEND, FIXTURE SCHEDULE & NOTES

DESIGN PCE | DRAWN CAD | CHECKED RVG

SHEET TITLE

NO.	DESCRIPTION	DATE
	50% CD'S FOR OWNER REVIEW	02/15/24
	90% CD'S FOR OWNER REVIEW	03/07/24
	RELEASED FOR PERMIT REVIEW	03/22/24
	RELEASED FOR BID	06/19/24

RELEASE

06/19/2024 DATE
A21-160GSB PROJ. NUMBER
FILE NAME
FILE NUMBER

E1.0

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ELECTRICAL SPECIFICATIONS

SECTION 26 00 00
ELECTRICAL GENERAL PROVISIONS

PART 1 - GENERAL
1.01 SCOPE
A. This section applies to all Sections of Division 26 00 00 - Electrical General Provisions.
B. The general provisions of the Contract, including General and Supplementary Conditions and General Requirements, apply to the work specified in this section and in all sections of this division.
1.02 WORK INCLUDED
A. Provide all labor, tools, and materials required for a complete and fully operational installation, as described on the Drawings or in the Specifications.
B. The work shall be installed in a neat and workmanlike manner.
1.03 WORK NOT INCLUDED UNDER DIVISION 26 00 00
A. The following items of work are specified under other divisions of the specifications:
1. Temporary service for construction.
2. Electric motors.
3. Electric heaters unless otherwise noted on the Drawings.
4. Control and interlock wiring for work furnished under other divisions, except where specifically required under this division.
5. Access panels in walls or ceilings.
6. Field finish painting, except for field painting of electrical material with paint supplied by the manufacturer of the material.
7. Starters for certain items of equipment are furnished under other divisions for installation under this division.
B. Refer to other sections of this division for work required in connection with the above items.
1.04 DEFINITIONS
A. "Provide": furnish and install, complete and ready for operation.
B. "Install": receive, mount, and connect, complete and ready for operation.
C. "Wiring": wires and cables installed with all required raceways, connectors, and fittings.
D. "Concealed": not exposed to view; embedded in masonry or other construction; in furred spaces or above suspended ceilings; below grade.
E. "Exposed": not concealed; not embedded or installed underground; under raised floors; inside trenches, tunnels, basements, inside built-up HVAC equipment, crawl spaces, and accessible attics.
F. "The Drawings": that portion of the Contract Drawings annotated as electrical.
G. "Furnish": Supply, deliver to job site, protect and store.
1.05 ABBREVIATIONS
A. The abbreviations used on the Drawings and in the Specification are defined as follows:
1. "AC": Alternating Current
2. "AFF": Height above Finished Floor
3. "AIC": Ampere Interrupting Capacity
4. "AICR": Ampere Interrupting Current Rating
5. "AHJ": Authority Having Jurisdiction
6. "NEC": National Electrical Code
7. "NIC": Not in the Contract
8. "NF": or "N/F": Non-fused
9. "30A/2P": Example of a circuit designation for a 30 Amp 2-Pole fused switch or a 30 Amp 2-Pole circuit breaker or device.
10. "FBO": Furnished by Others
11. "EC": Electrical Contractor
12. "EX": Existing to Remain
13. "EXR": Existing Relocated - new location indicated on the Drawings.
14. "HP": Horsepower
15. "kVA": Kilovolt Ampere
16. "kW": Kilowatt
17. "MCC": Motor Control Center
18. "MLO": Main Lugs Only
19. "NTS": Not to Scale
20. "WP": Weatherproof
1.06 CODES, RULES, AND REGULATIONS
A. Comply with the following:
1. Local codes enforced by the local inspection authority.
2. The edition of the National Electrical Code being enforced for this Project by the local inspection authority.
3. All applicable laws and ordinances.
4. The rules and regulations of electric utility company serving the Project applicable to the installation of service and metering equipment.
5. The rules and regulations of the telephone company serving the Project applicable to the work required for routing telephone service into the facility.
B. Give all necessary notices, obtain all required permits, and pay all inspection and other fees imposed by Authorities Having Jurisdiction over the work.
1.07 STANDARDS
A. The standards of the following organizations shall be applicable to the work:
1. The National Fire Protection Association (NFPA)
2. Underwriters Laboratories (U/L)
3. National Electrical Manufacturers Association (NEMA)
4. American National Standards Institute (ANSI)
5. Institute of Electrical and Electronic Engineers (IEEE)
6. Insulated Power Cable Engineers Association (IPECA)
7. Illuminating Engineering Society of North America (IESNA)
8. National Electrical Testing Association (NETA)
9. National Electrical Contractors Association (NECA), Standard of Installation
10. American Society for Testing and Materials (ASTM)
B. Comply with the latest editions of standards applicable to the work.
1.08 MATERIALS
A. All material shall be new and shall comply with the indicated standards.
B. All material shall be UL labeled or UL listed, except where the material is of a type not included in the UL listing service, in which case the material shall comply with other applicable industry standards and the Contractor shall provide any examinations or certifications required by the local inspection authority in lieu of UL listing.
C. All material shall be of a suitable type and rating for the intended use and shall be installed in conformance with the instructions and recommendations of the manufacturer.
1.09 DRAWINGS
A. The Drawings are schematic in nature and do not indicate all of the required details of the work. All materials customarily considered to be a part of the electrical work and normally required for a complete and operational installation, shall be provided without additional cost to the Owner.
B. Refer also to the Drawings of all other trades to coordinate the electrical installation.
C. Equipment of other trades is shown schematically on the electrical Drawings. Examine the Drawings of the trade providing the equipment before roughing in the connections for it. Connect the equipment where actually installed, including wiring through any line voltage controllers, without any additional cost to the Owner.
D. Prior to roughing in circuits for equipment furnished by other trades, and prior to releasing for manufacture panelboards, starters or motor control centers feeding such equipment coordinate the electrical provisions being planned with the trade providing the equipment and submit any conflicts in writing.
E. The Architect or the Architect's Engineer directs the location of any electrical outlet, or wall switch, or luminaries, or other equipment, to a location within 10 feet of the location shown on the Drawings at no additional cost to the Owner provided such relocation is made prior to the installation of the equipment being relocated.
1.10 SUBMITTALS
A. General: Submittals shall be in accordance with Specification Section 01 33 00.
B. Submittals are required for material as noted in other sections of this division.
C. Check shop Drawings prior to submission and provide date and signature of checker on each item. Note all corrections. Note any requested deviation from the Drawings or specifications, or if none, then so indicate. The Architect shall return Documents without review where submitted without prior review by the Contractor.
D. Review of submittals will be only for general conformance with the design concept indicated on the Drawings and in the Specifications and general compliance with the information given in the Contract Documents. Review will be made only of information clearly and specifically indicated in the submittal, and does not imply the acceptability of details, which are not so described in the submittal. Approval of a specific item shall not include approval of an assembly of which the item is a component. Contractor is responsible for: dimensions to be confirmed and correlated at the jobsite; information that pertains solely to the fabrication processes or to the means, methods, techniques, sequences and procedures of construction; coordination of the Work of all trades; and performing all work in a satisfactory manner.
E. Review of the submittal documents by the Architect does not relieve the Contractor of the responsibility to comply with all requirements of the Contract Documents.
1.11 PROJECT CLOSEOUT
A. Furnish Closeout Documents in the manner and form described in Specification Section 01 77 00 Contract Closeout.
B. Closeout Documents shall include the following:
1. Final shop Drawings.
2. As-built Drawings including as-built field layout Drawings.
3. Operation and maintenance manuals.
4. Receipts from the Owner stating that he has received satisfactory operational demonstrations and instruction for electrical systems.
5. Signed receipts from the Owner for spare parts and materials that are specified to be furnished.
6. Written guarantee.
7. All required certifications, including certificate of inspection approval of the code-enforcing authority.
8. All required test reports (include in operations and maintenance manual).
1.12 AS-BUILT DRAWINGS
A. Provide as-built Drawings in the manner and form described in Specification Section 01 81 00 Project Record Documents.
B. As-built Drawings shall be maintained at the jobsite and shall be available for review during construction.
C. Record the final arrangement of the work and exact locations of the work as installed. Provide photographs of buried grounding work prior to backfill of trenches.
D. As-built Drawings shall be kept current during the course of construction of the work.

1.13 OPERATION AND MAINTENCE MANUALS
A. Provide minimum of three (3) copies of operation and maintenance manuals in the manner and form described in Specification Section 01 78 20 Operations and Maintenance Data. Manuals shall be typewritten, indexed, tabbed, and loose leaf bound in heavy duty 3-ring binders.
E. Manuals shall include the following:
1. Operating instructions customized to this specific Project
2. Maintenance instructions
3. Parts list
4. Descriptive literature
5. Location, telephone number and contact information of Contractors, distributors, dealers and authorized service agents.
6. Test reports and certifications.
7. Record copies of all shop or submittal Drawings and data
8. Copies of all software on diskette or compact disk, licensed to the Owner.
F. Maintenance instructions and parts lists shall include the most detailed and advanced publications available from the equipment manufacturer.
G. Demonstrate the operation of the equipment to the Owner, including instruction in its use and operation. Provide instruction by manufacturers representatives where specified.
H. Provide operation and maintenance manuals for equipment and systems as specifically by the sections in Division 26 00 00.
1.14 SPARE PARTS
A. Furnish spare parts as specified by the sections in Division 26 00 00.
B. Turn over spare parts to Owners representative. Store on site as directed by the Owner. Obtain written receipt detailing specific spare parts turned over and submit with Closeout Documents.
C. Replace at no cost to the Owner any spare parts used from the Owners stock prior to Substantial Completion or for warranty related repairs.
1.15 GENERAL TESTING
A. Test all parts of the work to verify compliance with the Drawings and Specifications.
B. Verify tightness of all mechanical and electrical connections.
C. Verify integrity of all wiring systems to assure continuity, absence of unintentional grounds, and integrity of required grounds.
D. Perform any required special factory or field testing as specified in the other sections of this division. Provide all wiring, instruments, and personnel required to complete these tests.
E. Where other requirements of this division require testing in the presence of the Architect, provide at least seven (7) business days advance written notice of such testing to the Architect.
F. Where other requirements of this division require submission of written records of tests and test results, accumulate and submit all such reports and include as a separate section in the operations and maintenance manuals described elsewhere in this section.

END OF SECTION 26 00 00

SECTION 26 05 00
BASIC MATERIALS AND METHODS

PART 1 - GENERAL
1.01 GENERAL
A This section covers items of work required by more than one section of Division 26 00 00 - Electrical General Provisions.
B Refer to other Divisions for requirements pertaining to:
1. Cutting and repairing
2. Excavation and backfilling
3. Concrete
4. Field painting
5. Equipment furnished under other Divisions and installed under this Division
1.02 SUBMITTALS
A. General: Submittals shall be in accordance with Specification Section 01 33 00.
B. Required for fireproofing system materials and
C Provide manufacturer's data sheets with complete description of all components, catalog numbers, specific details of applicable UL listings, and detailed line drawings of fireproofing methodology to be used for each type of penetration.
PART 2 - PRODUCTS
2.01 MANUFACTURE
A Concrete Inserts: Grinnell, Kindorf, Unistrut, B-Line or Hohmann & Barnard.
B Drilled Anchors: All metal; heavy duty, non-caulking, expansion bolt anchor equivalent to Rawl #9650 Series or Red-Head, Hilti or Grinnell. Minimum size used shall be ¼" machine thread.
C Metal Framing Channel: 1-5/8" x 1-5/8", 12 Gauge, equivalent to Kindorf, Unistrut, B-Line, Power-Strut, or Super-Strut. Use appropriate fittings of same manufacture.
2.02 WOOD BACKBOARDS
A Wood backboards shall be ¾" thick, grade B-C, plywood. Paint with gray color fire-retardant paint.
B Use backboards only in interior spaces and sized as indicated on the Drawings.
2.03 NAMEPLATES
A Provide engraved plastic equipment nameplates for all switchboards, panelboards, motor control centers, starters, disconnects, primary selector switches, time clock controls, contactors, and transformers.
B A circuit nameplate indicating circuit number and the equipment served shall be provided for each feeder in service switchboard, and each branch device in power distribution panels, and motor control centers.
C Distribution equipment nameplates shall state equipment designation, ampere rating, voltage and phase, and "fed from (name)".
D Nameplates for individually mounted starters, safety switches, etc., shall state load served, circuit number, voltage and phase.
E Refer also to Section 26 27 26 "Wiring Devices" for additional requirements pertaining to Wiring Device labeling.
F Refer also to Section 26 05 53 "Electrical Identification" for additional Electrical Identification requirements.
2.04 FIREPROOFING
A All fireproofing materials shall be the product of one manufacturer and shall be U.L. listed for the type of application where applied.
B Provide caulk, expanding foam, putty, rigid boards, tape and packing as required by the U.L. listing for the type of penetration being fireproofed.
C Fireproofing of sleeves, cable trays, troughs, and nipples to be used for low voltage cables shall be indefinitely non-hardening and removable with common hand tools.
D Fireproofing for penetrations of floor slabs shall also be waterproof for standing water in a non-fire condition.
E Acceptable Manufacturers:
1. Dow Corning
2. Hilti
3. Nelson
4. 3-M
5. Other manufacturers as determined acceptable by the Architect.
PART 3 - EXECUTION
3.01 SUPPORTS
A All work shall be supported from structural elements of the building, except ceiling mounted equipment such as light fixtures, detectors, remote lamps, which shall be supported from ceiling support members independent of ceiling tiles.
B Size and spacing of supports shall be determined by the load to be supported such that the working load of supports will not exceed a safety factor of 4:1.
C Spacing intervals of supports shall in no case exceed intervals required by applicable codes.
D Plastic anchors and non-removable drive-in type expansion anchors are not acceptable.
E Work under this division shall not be supported from piping, ducts, or work of other trades, unless specifically noted on the Drawings or with the written permission of the Architect.
F Drilled anchors in sides of concrete joists shall be at least 3" from bottom of joist in the vertical plane.
G Provide drilled expansion bolt anchors to support all material mounted on masonry construction.
H All hardware, nuts, bolts, channel, braces, etc., used on exterior of building shall be galvanized.
I Rod supports shall be constructed of minimum 3/8" nominal continuously threaded rod of a continuous length. Use of rod couplings to extend the length of hanger rod shall not be allowed.
J Work installed under Division 26 00 00 supported from or attached to structural steel members shall not be welded to steel member but shall be attached by clamping a device manufactured specifically for this purpose.
K Floor mounted equipment shall be anchored to supporting concrete pad with expansion anchors, minimum ½" nominal stud size.
L Framework required to support electrical equipment shall be constructed of 1 ½" x 1 ½" steel framing channel bolted together with fittings provided by the framing channel manufacturer.
3.02 PAINTING
A Provide the following painting under Division 26 00 00 "Electrical General Provisions" in accordance with the requirements of the specification section describing Finish Painting.
1. Plywood backboards - wood primer and finish coat of ASA 61 gray fire-retardant paint.
2. Exposed conduits that are a part of the life safety distribution system - primer (on conduits only) and one coat of red enamel.
3. Color of all field paint shall be as directed by Architect.
B The vendor for painting furnished under Division 26 00 00 "Electrical General Provisions" shall be Contractor's primary painting Subcontractor.
3.02 WOOD BACKBOARDS
A Unless otherwise noted on the Drawings, backboards shall be 8'-0" high by the width shown on the Drawings.
B Backboards shall be attached to supporting structure with 3/8" expansion anchors or toggle bolts with fender washers placed a maximum of 48" on center on all sides of backboard.
3.03 CONCRETE
A Provide 3000 PSI concrete where concrete work is required to support equipment furnished under Division 26 00 00, such as for equipment pads, lighting standard bases, and concrete-encased duct banks. Refer to Drawings and other sections for locations where concrete is required.
B Exposed surfaces of concrete placed under this section shall be hand rubbed and all edges shall have 1" chamfer.
3.04 EQUIPMENT PADS
A Provide 4" high concrete pads for all floor mounted electrical distribution equipment, including switchboards, and elsewhere as specifically noted on the Drawings.
B Concrete pads for switchgear, switchboard motor control centers and UPS equipment shall be level to with 1/8" from front to back and from side to side. Provide (2) embedded steel "U" channels; 4" W X 1 ½" H x 0.25" T, inverted and flush with the top of the pad. Channels shall be at the front and back of the pad located as directed by the equipment manufacturer, to provide a level base for the equipment.
C Anchor equipment in accordance with seismic study.
3.05 EQUIPMENT OF OTHER TRADES
A Motors, heaters, and other utilization apparatus shall be mounted by the trade which furnished the apparatus.
B Provide all power wiring and connections for all electrically operated equipment. Power wiring includes wiring through any line voltage control devices, such as thermostats and manual starters.
C Phase connections of motors shall provide proper motor shaft rotation.
D Starters and contactors furnished under other divisions, except those furnished as an integral part of the equipment, shall be installed under this division.
3.06 EQUIPMENT CONNECTIONS
A Connections to motors, transformers, duct heaters and other vibrating equipment shall be made with a short length of liquidtight flexible conduit, minimum 18", installed in a manner to permit movement of equipment.
B For floor-mounted equipment, which is fed overhead and not located adjacent to a wall or column, provide a rigid conduit standpipe from floor to ceiling with a floor flange. Provide appropriate cast conduit "tee" fitting in standpipe for connection of equipment.
3.07 MISCELLANEOUS WORK
A Perform all excavating, backfilling, cutting and repairing required for work included in this division.
B Protect all work from damage and from entry of concrete, moisture, and other foreign material.
3.08 FIREPROOFING
A All penetrations of fire rated walls, slabs, partitions, and ceilings shall be fireproofed with a U.L. listed system that will maintain the original fire rating of the penetrated structure.
B Initial fireproofing of sleeves, cable trays and wireways for low voltage cable shall not be installed until cables are installed or until required for issuance of certificate of final inspection, whichever is earlier.

END OF SECTION 26 05 00

SECTION 26 05 19
600 VOLT BUILDING WIRE AND CABLE

PART 1 - GENERAL
1.01 SCOPE
A This section covers:
1. Building Wire
2. Flexible Cords
B Wires and cables used with special systems are specified with the respective system.
1.02 SIZE REFERENCE: AWG except as noted.
1.03 QUALITY ASSURANCE
A All wire and cable shall be delivered to the jobsite in original unbroken packages, cartons or reels, with the manufacturer's name, UL label, and characteristics of the product plainly visible.
B Wire or cable with defective or damaged insulation or jackets shall not be installed. Where damage, such as cuts, gouges, or slices, is discovered in the insulation or jacket while being installed, the damaged wire or cable shall be removed, and replaced. Field taping or other repair of damaged wire or cable is not acceptable.
1.04 SUBMITTALS
A General: Submittals shall be in accordance with Specification Section 01 33 00.
B Provide for all wire, cable, and accessories.
C Documents shall plainly indicate the construction of the product, illustrating compliance with all requirements of Part 2, "Products".
PART 2 - PRODUCTS
2.01 BUILDING WIRE
A Conductors:
1. Material: copper, 98% conductivity.
2. Construction:
a. AWG 10 and AWG 12: solid only
b. AWG 8 and larger: stranded unless otherwise detailed on the Drawings.
c. AWG 14 and smaller: stranded (control use only).
B Insulation:
1. Type THWN/THHN, dual-rated.
2. Type XHHW: for underground secondary service entrance.
3. Type SFF: for wiring inside of luminaries.
4. Type SIS: for control wiring inside switchboards
C Voltage Rating: 600
D Color Coding:
1. Unless contrary to requirements of local codes, the following color code shall apply:

120/208 volts	480/277 volts
Phase A - black	Phase A - brown
Phase B - red	Phase B - orange
Phase C - blue	Phase C - yellow
Neutral - white	Neutral - gray
Ground - green	Ground - green

2. Isolated Ground Conductor color code: AWG 10 and smaller: green with yellow stripe in insulation. AWG 8 and larger: continuous green tape and two bands yellow tape adjacent to each other.
3. If local codes require other than these color codes to be used, the local codes shall be complied with.
4. Color code shall be indicated by:
a. AWG #10 and smaller: insulation color
b. AWG #8 and larger: colored tape applied at all terminations, and junction boxes, pull boxes and manholes.
c. Ground conductors shall be color coded along entire length where visible inside boxes and equipment.
E Accepted Manufacturers:
1. Belden
2. Clifford of Vermont
3. General Cable
4. Pirelli
5. Rome
6. Senator
7. Southwire
8. Triangle
9. West-Penn
2.02 FLEXIBLE CORDS
A 300 Volt - Type SJO with copper conductors
B 600 Volt - Type SO with copper conductors
C Use only where indicated on the Drawings.
2.03 600 VOLT ACCESSORIES
A Conduit wedges: 0-Z/Gedney Type "S"
B Terminations, power connections, splices, taps:
1. Splices: Compression type, copper, insulated with heat shrink sleeves.
2. Taps #8 and larger: Compression type copper or copper alloy with snap-on insulation cover designed for the specific tap. Insulation displacement type fittings are not acceptable.
3. Taps #10 and #12: twist-on insulated spring type connectors (i.e., Buchanan B-4) or squeeze-on insulated connector (i.e. 3M #560)
4. Terminations: feeder cable to bus bar: copper or copper alloy compression lug, two bolt hole tongue if mounting space allows.
5. Terminations: feeder cable to device or other condition where compression lugs mechanically will not fit: copper alloy mechanical lug, T&B "Locktite" series.
6. Accepted Manufacturers:
a. Burndy
b. 0-Z/Gedney
c. T&B
d. Illsco
e. Square D
f. Panduit
g. Buchanan
h. 3M
i. Ideal
C Terminations: Control Conductors:
1. Compression Lug: insulated, T & B "StaKon" or equal
2. Terminal Strip: barrier style, screw type, suitable for wire size and voltage applied.
D Wire Lubricants:
1. Lubricant used shall be certified by conductor manufacturer to be satisfactory for use with the specific conductor insulation.
2. Approved material:
a. Ideal "Yellow 77"
b. Ideal "Yellow 77 Plus"
c. 3M wire pulling lubricant
E Wire markers: Permanent, machine printed, self-laminating vinyl, T & B Type "WSC", Burndy Type "XC".
F Feeder Identification Labels: Engraved black color laminated plate attached to conductors with nylon tie, or T & B TY-553M marked with WT-163M-1 pen.
PART 3 - EXECUTION
3.01 SIZES, QUANTITIES, TYPES
A Building Wire:
1. AWG 12 minimum, except as noted below.
2. AWG 10 minimum for all outdoor applications, except as noted below.
3. 120 Volt circuits with homerun length over 100 feet shall have AWG 10 minimum homerun conductors.
4. 277 Volt circuits with homerun length over 200 feet shall have AWG 10 minimum homerun conductors.
5. Type THHN/THWN shall be used for all branch circuits, AWG 12 through AWG 8. Conductors shall be stranded, unless otherwise noted on the Drawings. Where stranded wire is to be connected to wiring devices or other equipment whose terminals are not rated for use with stranded wire, "Stakon" type terminals shall be used on the wire.
6. Conductors larger than AWG 8 installed above grade shall be Type THHN or THWN. Where installed in conduit run below grade, shall be type THWN or XHHW.
7. Where branch circuit conductors enter the wiring compartment of lighting fixtures, the insulation used on that segment of the branch circuit shall be UL listed for application at the temperature that will be encountered in the fixture.
8. General-purpose control conductors: AWG 14 minimum, stranded, protected by control circuit overcurrent protection rated not greater than or set at the rated ampacity of the conductor.
B Flexible Cords:
1. AWG 16 minimum
2. Rated for the applied voltage and load
3. Contain full size ground conductor
3.02 INSTALLATION
A Building Wire:
1. Conductors shall not be pulled in an ambient temperature lower than 15° F.
2. Adequate wire lubricants shall be used to minimize pulling tension.
3. Conductors shall not be bent, either manually or with bending tools, in a manner that puts excessive stress on insulation or causes it to buckle. Avoid bending to a radius less than manufacturers recommended minimum. Conductors with visibly damaged insulation shall be replaced at no additional cost to the Owner.
4. Conductors installed in vertical raceways shall be supported by wedge fittings attached to the conduit on intervals as prescribed by code. Provide suitable sized pull box enclosures as required to contain the support wedges.
5. All terminations of feeder conductors not made directly on device terminals shall be made with compression lugs installed in accordance with the manufacturer's instructions and with a compression tool approved for the terminator used.
6. Feeder conductors shall be individually identified at each end and at all intermediate pull boxes and other accessible locations with feeder designation, source, load, voltage, and phase.
7. General-purpose control conductors and all special systems conductors shall be identified on each end with a unique number or designation. This identification shall be recorded on the Contractor's as-built Drawings.
B Flexible Cords: Shall be installed with cord grip and strain-relief connectors.
3.03 TESTS
A Cable Test:
1. Megger test all feeders.
2. Megger test of all feeders shall be accomplished before energizing circuits. Test shall be phase to phase and phase to ground.
3. Submit a written tabulation of the results of each test to the Architect for review. Replace any cable with installed insulation resistance of less than accepted industry standards.
B Replacement of Conductors
1. Replace conductors, determined by testing as not acceptable, without additional cost to the Owner.

END OF SECTION 26 05 19

SECTION 26 05 26
GROUNDING SYSTEM

PART 1 - GENERAL
1.01 DESCRIPTION
A Grounding System: Grounding of all electrical equipment and raceways.
B Buried Grounds: Buried ground ring, buried ground radials, driven ground rods as indicated on the Drawings.
C Miscellaneous grounding, installation of separate ground bus bars and miscellaneous bonding.
D Provide all grounding and bonding described herein and as detailed on the Drawings.
E Contractor shall provide the services of an approved Testing Contractor to perform a ground resistance test of the completed grounding system.
F The completed grounding system installation is subject to review and acceptance by the Architect.
1.02 SUBMITTALS
A General: Submittals shall be in accordance with Specification Section 01 33 00.
B Required for materials and fittings for exterior grounding work.
C Documents:
1. Manufacturers data sheets describing each component of the system;
2. Qualifications of the proposed Testing Contractor.
PART 2 - PRODUCTS
2.01 BUILDING GROUNDING SYSTEM
A Raceways for separate ground conductors: Type RNC, Schedule 40 conduit.
B Conductors:
1. 98% conductivity copper, solid or stranded, sizes and types as indicated on the Drawings.
2. In general, main buried ground conductors shall be bare copper, AWG 3/0, seven-strand.
C Connections:
1. Underground or exterior connections shall be exothermic weld between conductors, and between conductors and ground rods.
2. In locations where conductor connects to main structural steel components, exothermic welds shall be used. For connections to light-gauge metals or in other locations where a lug must be used, a 2-hole lug shall be exothermic welded to the grounding conductor.
3. Lugs shall be 2-bolt tongue, compression type.
4. Compression Splices and Taps: Tin plated copper.
5. Water pipe clamps, fence posts, test ground rod: T&B 3900 series or Burndy Type "GAR" Series, cast bronze.
6. Exothermic welds: Cadweld, Thermaweld or Ultraweld.
7. Solid conductor to equipment or bus: Exothermic weld lug bolted to equipment.
8. Flexible copper grounding and bonding jumpers: 0-Z/Gedney Type "FB" series, or Burndy Type "B" Series, rated 190 AMPS, length as required for each application.
9. Ground Rods: "Copperweld", copper clad steel, ¾" diameter, 10' length. Provide sectional rods of same construction where lengths greater than 10 feet are required to be used.
D Non-Oxide Compound:
1. "NO OXID A" compound as manufactured by Sanchem Chemical Company, Chicago Illinois.
PART 3 - EXECUTION
3.01 BURIED GROUNDS
A Unless otherwise indicated, ground rods shall be driven into undisturbed earth.
B Tops of rods and all horizontal buried conductors shall be minimum 30" below finished grade.
C Minimum lateral distance from building footings shall be 24".
D Installed grounding work below grade shall not be covered until reviewed by the Testing Contractor.
3.02 EQUIPMENT GROUNDING CONDUCTORS
A Separate Grounding Conductor: All branch circuits and feeders operating at higher than 50 volts to ground shall have an insulated equipment ground conductor, green color, sized in accordance with the National Electrical Code.
B Raceway Grounds: Other circuits shall utilize the raceway as the equipment ground conductor except where noted otherwise.
C Single grounding conductors, or RNC conduits containing single ground conductors, shall not be totally encircled by ferrous metal. Use nylon bolts in pipe hangers or in Unistrut conduit straps.
D All grounding connections shall be subject to inspection and review by the Testing Contractor and the Consultant. Provide 72 hours advance notice for scheduling review.
E Provide specified "non-oxide" compound between mating surfaces on all equipment bonding connections where mechanical connections are utilized in lieu of exothermic welds.
F Ground conductors shall be installed using long radius bends, minimum 12" radius, and shall maintain a downward or horizontal direction. U-bends or tight radius bends less than 90 degrees are not acceptable.
G All connections to the buried ground ring conductor shall be exothermic welded including connections to ground rods.
H Bond connections to equipment shall utilize exothermic weld lugs, 2-bolt tongue type, attached using machine screw thread type bolts where exothermic welds cannot, or should not, be utilized.
I Provide combination "Do Not Disconnect" and "Destination" tags at all interior bonding and grounding connections. Tags shall be green plastic laminate with white letters. Letters shall be minimum ¼" high. Attach all tags using Nylon cable Ty-raps.
3.03 GROUND TESTING
A Testing of grounding systems and made ground electrodes shall be performed by an approved testing company.
B Measurements shall include the earth resistivity and resistance of the grounding electrode system.
C Record ambient temperature; date; time; condition of soil (wet or dry). Where available, record approximate water table level (as obtained from local geologists, special core drilling is not required); type of earth materials; earth resistivity.
D Provide written record of resistance readings and all other information listed above. Include on "Record Drawings".

END OF SECTION 26 05 26

SECTION 26 05 33
CONDUIT

PART 1 - GENERAL
1.01 GENERAL
A This section describes conduit and related fittings. Other raceway types are specified in other sections.
B Boxes and other raceway accessories are specified in other sections.
C Concrete-encased ductbanks are specified in Specification Section 26 05 33.
1.02 SIZE
A Minimum conduit size shall be ½"; Exception: 3/8" flexible metal conduit or Type AC or MC is permitted for flexible connections to lighting fixtures and fire alarm devices.
B Conduit size may be increased to facilitate pulling of conductors.
1.03 COORDINATION WITH WORK OF OTHER TRADES
A Coordinate the conduit layout with the work of other trades. Conduits shall be located to avoid interference with equipment that requires access, maintenance, adjustment, or repair. Conduits shall not restrict the required working clearance around such equipment.
B Conduits feeding, or connecting to, equipment provided by other trades shall not be installed until such equipment is installed or until the trade providing the equipment furnishes specific rough-in instructions.
C Conduits shall be concealed, unless otherwise indicated.
1.04 SCOPE OF CONDUIT WORK SHOWN ON THE DRAWINGS
A The conduit layout indicated on the Drawings is schematic and is not intended to show the exact location of conduits unless specifically dimensioned. Locate conduit as required by the architectural and structural details of construction and by the coordination with the work of other trades.
B Provide all fittings, offsets, supports, pull boxes and other components of the conduit system as required for a complete raceway system.
1.05 QUALITY ASSURANCE
A The conduit shall be new, of uniform quality and appearance, and marked with U.L. listing and name of manufacturer.
B All seams shall be smooth, without splits, clean, and with threads protected when delivered to or stored on site.
C Provide fittings designed and U.L. listed for use with the specific wiring method used.
1.06 SUBMITTALS
A. General: Submittals shall be in accordance with Specification Section 01 33 00.
B. Provide Submittal Documents for the following:
1. PVC raceways and fittings
2. EMT fittings
3. Conduit bushings
4. Flexible conduit and fittings
PART 2 - PRODUCTS
2.01 RIGID METAL CONDUIT (TYPE RMC)
A Manufacturers:
1. Allied Tube & Conduit Corp.
2. Jones & Laughlin
3. Pittsburgh-Standard
4. Republic
5. Triangle Wire & Cable, Inc.
6. Wheatland Tube Co.
7. Youngstown
8. ETP
9. Robroy Industries, Inc.
B Material: Full weight, steel, standard size, hot dipped galvanized outside, galvanized or coated inside, threaded ends.
C Fittings:
1. Couplings: Continuous threaded, furnished by the manufacturer with conduit. For IMC, ETP "Uni-Swivel" couplings are acceptable.
2. Threaded joint compound: Fel-Pro C5A.
3. Terminations (dry locations): Double locknuts with insulated throat, metallic grounding bushing, 0-Z/Gedney type "BLG".
4. Terminations (wet locations): Watertight hubs, 0-Z/Gedney Type "CHM", or conduit hubs integral with equipment.
2.02 INTERMEDIATE METAL CONDUIT (TYPE IMC)
A Manufacturers: same as for RMC
B Material: Lightweight steel, standard size, hot dipped or electro-galvanized zinc outside and galvanized or enamel coated inside, threaded ends.
C Fittings: same as for RMC
2.03 RIGID NON-METALLIC CONDUIT (TYPE RNC)
A Manufacturer:
1. Carlon, Division of Lamson & Sessions Co.
2. Sedco
3. Centex, Inc.
4. Heritage Plastics
5. Certainteed Corp.
B Material: PVC Schedule 40, unless otherwise indicated, rated for use with 90ºC conductors.
C Where PVC being run under slabs, or grade, turns up through the slab, or above grade, the elbow and vertical section of conduit from the elbow to the termination of the conduit shall be RMC, or IMC, as protection against the exposed conduit being damaged.
D Accessories: Fittings, couplings, cement, and other accessories shall be of the same manufacture as the PVC conduit that they are used with.
2.04 ELECTRICAL METALLIC TUBING (TYPE EMT)
A Manufacture: same as for RMC.
B Material: Thin-wall steel, galvanized outside, coated inside, threadless.
C Fittings:
1. For EMT (Sizes 1.25" and smaller):
a. Couplings: All steel, setscrew type, concrete tight where installed in concrete, Raco, T&B, Midwest, or Steel City, O-Z/Gedney
b. Connectors: All steel, setscrew type, with nylon throat; Raco, T&B, Midwest, or Steel City.
2. For EMT (Sizes 1.50" and larger):
a. Couplings: All steel, setscrew type, of same manufacture.
b. Connectors: All steel, setscrew type, of same manufacture, and insulated throat, metallic grounding bushing, 0-Z/Gedney Type "BLG".
2.05 FLEXIBLE METAL CONDUIT (TYPE FMC)
A Manufacture:
1. AFC Cable Systems, Inc.
2. Alflex
3. Electri-Flex Co.
4. Steelflex Electro Corp.
B Material: galvanized steel, Continuous single interlocking strip.
C Fittings: T&B "Tite-Bite" series, Midwest Fittings.
2.06 LIQUIDTIGHT FLEXIBLE METAL CONDUIT (TYPE LFMC)
A Manufacture: same as for FMC.
B Material: Flexible metallic conduit with PVC jacket, type "UA", with integral copper grounding conductor suitable for use as equipment grounding conductor.
C Fittings:
1. Material: Steel, or malleable iron, liquid-tight connector with insulating throat liner (use bushing above 1.25").
2. Manufacture: T&B, Midwest Fittings, O-Z/Gedney.
2.07 EXPANSION FITTINGS AND ACCESSORIES
A Expansion fittings:
1. For conduit not embedded in concrete while passing across building expansion joint, provide 0-Z/Gedney type AX for GRC and IMC or type TX for EMT. Provide bonding jumper.
2. For conduit embedded in concrete while passing across building expansion joint, provide 0-Z/Gedney type DX expansion joint or type AXDX if required by the degree of expansion possible.
B Seals for exterior wall below grade penetrations:
1. Cast-in-place type: 0-Z/Gedney Type "WSK".
2. Cored openings: 0-Z/Gedney Type "CSMI" and Type "CSMC".
3. Non-shrink grout where indicated on the Drawings and where acceptable to the Architect.
C Conduit bodies:
1. Used for pulling conductors: Crouse-Hinds LBD series through 2.00" and LBNEC Series 2.50" and above.
2. Used for motor connection: Crouse-Hinds condulet "T" series.
D Pull strings for empty conduits shall be equal to Greenlee 430 poly pull line.
PART 3 - EXECUTION
3.01 GENERAL
A Conduit supports and seismic bracing is specified in other sections.
B Run exposed conduits parallel or perpendicular to structural elements.
C Two or more raceways run together shall be installed on trapeze type gang hangers. Such raceways assemblies shall be run parallel or perpendicular to structural elements.
D Where bends are made in a rack of exposed conduits, field bent concentric elbows shall be used.
E All wiring shall be installed in conduit, unless plenum rated cable is specified in other sections to be installed without conduit or, unless the wiring is shown to be in a wireway or cable tray.
F Unless specifically noted on the Drawings all raceways shall be concealed in walls, floor slabs, topping slab on floor, or in ceiling plenums.
G Apply threaded joint compound on all Type RMC and Type IMC threaded joint connections.
3.02 SCHEDULE
A Unless otherwise required, provide RMC or IMC for the following applications:
1. Exposed stub-ups from floor.
2. In poured concrete walls and columns.
3. Where subject to damage.
4. Exposed on exterior of building.
5. Exterior circuits under roadways.
6. Feeder or service conduits under slab, or in grade, where concrete encased RNC PVC are not used.
B Provide EMT in dry locations only for the following applications:
1. Concealed work in slabs, walls, and ceiling plenums.
2. Branch circuit feeder wiring not otherwise required to be run in RMC or IMC.
3. Signal or communication raceways (other than underground)
C Provide RNC PVC for the following applications:
1. Concrete encased duct banks where specifically indicated.
2. Single grounding conductors as indicated and where not run in plenum spaces.
D Flexible conduit is permitted only where concealed above suspended ceilings for connections of light fixtures, tele-power poles, and similar equipment and shall not exceed 3'-0" length. Luminary fixture whips may be 6'0" in length.
E Liquid-tight flexible metal conduit (LFMC) shall be used for all connections to vibrating equipment, such as motors and transformers, and where flexible conduit is indicated on the Drawings, except as noted above. Use Type FMC in plenum spaces.
3.03 INSTALLATION
A Conduits embedded in slabs shall have a minimum of 1" cover of concrete on all sides. Outside diameter of conduit shall not exceed 1/3 of the slab thickness and shall not be larger than 1.25".
B For physical protection during construction, include rigid galvanized steel elbows at conduit turn-ups at slab or grade. Otherwise, underground conduits maybe schedule 40 PVC.
C All threaded conduits shall be terminated with specified bushings.
D Paint all underground steel conduits with one coat of Rustoleum 5269 primer and one coat of Rustoleum 5282 acrylic industrial enamel. Touch up all wrench marks and other defects.
E Underground conduits shall be a minimum of 24" below final grade.
F Conduit joints:
1. Ream end of conduit smooth.
2. Conduit ends shall meet in coupling.
3. Provide unions where required, of the Erickson Type.
4. Provide joint compound on the male threads of RMC and IMC conduit.
G Use double locknuts at threaded conduit terminations.
H The conduit system shall be left free of all debris, water and foreign material. Plug or cap all conduits with exposed ends to prevent entrance of concrete or other foreign material. Pull a cleaning swab through all conduits prior to pulling conductors.
I Conduits run parallel to, or crossing hot pipes, shall not be closer than 0'-6" to hot pipe.
J Anchors or supports in waterproof walls shall be of the type and methodology directed by the Architect.
K Empty EMT raceways shall be terminated with connectors, and if over 1.25", specified bushings.
L Raceways in accessible ceiling plenums shall not be installed closer than 8" to ceiling.
M Groups of two or more conduits turned out of a slab shall be neatly arranged parallel to the adjacent wall and evenly spaced with at least (1) inch separation.
N Conduit passing through walls below grade shall be run through specified fittings in the wall and shall be sealed to be waterproof.
O All threaded joints in rigid conduit shall have pipe compound applied to the male thread only, to be watertight where buried below grade and not encased in concrete.
3.04 ACCESSORIES
A Pull wires: provide nylon pull wire in all empty conduits and at all data and telephone outlet locations.
B Expansion fittings: provide at all building expansion joints.
C Fire seals: provide where conduit passes through a floor slab (other than slab on grade) and where conduit passes through fire-rated masonry walls, unless cast in place.
D Install specified seals for exterior wall below grade for penetrations of conduits.
3.05 IDENTIFICATION
A All exposed conduits 2 inches and larger shall be identified with markers 20 feet on center. Also refer to Specification Section 26 05 53 Electrical Identification.
B Markers shall be permanent, plastic-sheet conduit markers extending 360 degrees around conduit.
C Marker shall identify voltage and function of conductors in conduit and be minimum length of 8 inches.

END OF SECTION 26 05 33

SECTION 26 05 34
BOXES

PART 1 - GENERAL
1.01 SCOPE
A This section covers pull boxes, outlet boxes, and junction boxes.
1.02 APPLICATIONS
A All splices, pull boxes, taps, connections, devices, etc., shall be installed using boxes of the appropriate type, designed and approved for the intended purpose.
PART 2 - PRODUCTS
2.01 GENERAL
A Box sizes specified are minimum and shall be increased where required by code due to the number of conduit entries, conductors, devices, or taps in the box.
B All boxes shall be made of galvanized sheet steel, of code gauge thickness, but no less than 1/16" thick or 14 Gauge.
C Outlet box covers shall be attached by means of machine screws. Self-tapping sheet metal screws are not acceptable.
2.02 MANUFACTURER
A Outlet boxes: Steel City, Appleton, Raco
B Cast boxes: Crouse-Hinds, Appleton
2.03 SCHEDULE
A Schedule indicates box type; select actual box and plaster ring to suit actual conditions:

USE	BOX	COVER
Recessed device outlet	RACO 683	RACO 770
Recessed tele/data outlet	RACO 683	RACO 770
Recessed wall mounted fixture	RACO 683	RACO 767
Flush concrete outlet	RACO 272	RACO 893
Flush concrete junction	RACO 272	RACO 892
Junction box above ceiling	RACO 257	RACO 832
Exposed device outlet	C/H "FS"	C/H DS32
Exposed fixture outlet	C/H "GRFX"	---------
Flush ceiling fixture	RACO 683	RACO 767

2.04 SPECIALTIES
A Boxes installed in concrete shall be UL listed for such use.
B Through-wall boxes are not acceptable.
C Provide 3/8-fixture stud and box supported from structure when required by weight of fixture being supported.
D Junction boxes installed above ceilings shall be plenum type.
2.05 PULL BOXES AND JUNCTION BOXES
A In dry locations, boxes shall be galvanized sheet steel, minimum 12 gauge, with machine screw covers, and welded construction. Welds shall be slag-free and cold galvanized.
B In damp locations or outdoors, unless otherwise shown on the Drawings, boxes in steel raceway runs shall be galvanized cast iron, with gasketed covers and conduit hubs, or drilled and tapped. Boxes in Type RNC PVC raceway runs shall be PVC with gasketed cover.
C All boxes shall be rated for their application, such as sidewalk, or light vehicle traffic.
D Provide insulated cable support racks in feeder pull boxes where conductor length exceeds 48" inside pullbox.
PART 3 - EXECUTION
3.01 GENERAL
A Refer to other sections for mounting heights of boxes for devices and equipment.
B Boxes shall be located clear of other trades and shall be accessible.
C Coordinate the exact location of ceiling outlet boxes and boxes concealed above ceilings, with ductwork and piping so that the boxes will be accessible.
D All required pull boxes are not indicated on the Drawings. Provided boxes as determined by actual field installation and as required for a complete installation.
E Using a permanent, waterproof, wide black marker, clearly label cover of all branch circuit junction boxes, and smaller pull boxes, with panel and circuit number of circuits contained in, or passing through, the box.
F Branch circuit and feeder junction and pull boxes used with emergency life-safety feeders and circuits shall be painted red.
G Provide engraved "lamicore" nameplate on cover of each major feeder pull, or junction, box as specified under Specification Section 26 05 53 Electrical Identification.
3.02 INSTALLATION
A Boxes shall be securely anchored in place and shall be supported independent of the raceway system.
B Boxes installed in poured concrete shall be anchored to the formwork and protected against entry of any concrete.\
C Boxes shall be set square and plumb with building elements.
D Outlets for ceiling mount fixtures shall be rigidly supported from the grid or structure with an assembly manufactured for this purpose.
E For exposed conduits, use cast boxes; otherwise, use sheet metal 4"x4" boxes.

END OF SECTION 26 05 34

SECTION 26 24 00
NEW OVERCURRENT DEVCIES IN EXISTING EQUIPMENT

PART 1 - GENERAL
1.01 SCOPE
A This section covers the installation of new overcurrent protective devices in existing equipment.
1.02 DESCRIPTION OF WORK
A Provide new overcurrent protective devices, hardware and associated components as required for a complete installation in existing switchboards and panelboards as indicated on the plans.
PART 2 - PRODUCTS
2.01 AVAILABILITY OF DEVICES
A Where a device is obsolete and the manufacturer does not offer an equivalent replacement device, provide written notice.
B New device voltage and fault current interrupting ratings (SCCR) shall equal, or exceed, existing device ratings unless otherwise noted elsewhere in the specification or on the drawings.
2.02 HARDWARE
A Bus bars, draw-out and plug-in assemblies, connectors, adapters, lugs, and other hardware shall be of the same type and manufacture as existing equipment.
B New closure panels and doors shall match existing equipment.
PART 3 - EXECUTION
3.01 INSTALLATION
A Extend, modify, brace and install all new busing to match existing busing.
B All hardware, doors, panels and closure plates shall be mounted in alignment with existing equipment.
C Provide engraved nameplates on all new circuits in switchboards and in power distribution panelboards.
D Provide new typewritten directory in branch circuit lighting and receptacle panelboards where circuits have been modified under this scope of work.
3.02 TESTING
A All costs incurred for testing shall be included under Division 26.
B Test and calibrate all new circuit breakers furnished under this contract and "spare" breakers scheduled to be placed into service, prior to acceptance of the building. This requirement shall apply to breakers rated 100 amps and larger.
C Tests shall be conducted by a NETA certified and approved independent testing company per NETA recommendations and in accordance with NETA Standard Practices.
D In general, tests shall include the following:
1. Determine proper operation of circuit breaker trip devices.
2. Determine trip ratings or settings are correctly adjusted
3. Determine control and interlock devices performed as specified.
4. Determine electrical resistance across contact surfaces in switches, circuit breakers and busway are acceptable.
5. Torque all bolted connections
E These tests shall not alter the contractor's guarantee of the equipment. All work and materials found to be in non-compliance shall be replaced and re-tested by the contractor without additional cost to the Owner.
F Provide (3) copies of bound test reports, bound and included in the closeout documentation.

END OF SECTION 26 24 00

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PROJECT

SPECIFICATIONS

DESIGN	DRAWN	CHECKED
PCE	CAD	RVG

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RELEASE

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E1.1

ELECTRICAL SPECIFICATIONS (CONTINUED)

SECTION 26 50 00
LUMINAIRES

PART 1 -GENERAL

1.01 SCOPE
- A. Interior lighting fixtures, lamps, ballasts, and drivers.
- B. Emergency lighting units.
- C. Exit signs.
- D. Lighting fixture supports.
- E. Retrofit kits for fluorescent lighting fixtures.

1.02 STANDARDS
- A. ANSI/NFPA 70, National Electrical Code
- B. IESNA LM-79, Electrical and Photometric Measurement of Solid-State Lighting Products
- C. IESNA LM-80, Approved Method of Measuring Lumen Maintenance of LED Light Sources
- D. IESNA TM-21, Luminaire Classification System for Indoor Luminaires
- E. UL1598, Standard for Safety of Luminaires
- F. All material shall bear the label of the Underwriters Laboratories, Inc.

1.03 VOLTAGE
- A. Fixture voltage is indicated by circuit in which it is connected. Contractor shall determine fixture voltage from Drawings.

1.04 CEILING INTERFACE
- A. Specific catalog numbers shown for fixtures do not necessarily describe all mounting hardware or accessories required for a particular installation. Determine ceiling types from the finish schedule specified under another division and furnish all required materials for a complete and proper installation. Provide plaster frames for wet plaster or stucco ceilings.

1.05 COORDINATION
- A. Provide other trades with a schedule of the outside dimensions of each type of recessed fixture when Submittal Documents have been approved. Examine applicable plans and shop Drawings describing the work of other trades for possible conflicts in the clearances required for installation. The Architect shall be notified prior to fabrication of any material of any conflict that cannot be resolved at no cost to the Owner by normal jobsite coordination between trades.

1.06 SUBMITTALS
- A. General: Submittals shall be in accordance with Specification Section 01 3300.
- B. Furnish a bill of material cover sheet and original data sheet, combined into binder, describing each fixture type. If a catalog page describes more than one fixture, the page shall be appropriately marked identifying the exact item being submitted. Photometric data shall be submitted for each fixture type that has a reflector or lens for directing the light output. Drawings larger than 8 ½ x 14 shall be submitted in 8 ½ x 11 envelopes bound into the submittal brochure.
- C. Shop Drawings: Show details of nonstandard or custom lighting fixtures. Indicate dimensions, weights, methods of field assembly, components, features, and accessories. Product Certificates: For each type of ballast for bi-level and dimmer-controlled fixtures, from manufacturer.
- D. Copy of Solid-State Ballast warranty.
- E. Copy of driver warranty.
- F. Point by point plot on a scaled drawing to indicate the foot-candle performance of all exterior fixtures.
- G. A tabulation of all lamps to be utilized in each fixture.
- H. One manufacturer and model number is listed as "Basis of Design" on the fixture schedule. The intent is to define the appearance, style, function, performance, and level of quality deemed necessary by the Architect as well as to define the standard used by the Architect as the basis of the design described by the Drawings and specifications. Light fixtures equal in the appearance, style, function, performance, and level of quality as manufactured by other than the "Basis of Design" manufacturer may be proposed by the Contractor in accordance with specification section 01 63 00. The proposed material will be evaluated by the Architect and determination of equality with the "Design Standard" will not be unreasonably withheld. To assist in this determination, the Contractor shall submit detailed photometric and power density calculations for each space that the proposed alternate fixture will be utilized. If the alternate manufacturer or model is determined by the Architect to not be equal to the "Basis of Design" in a parameter whose acceptance would not be in the best interest of the Owner, the alternate fixture will be rejected. The Contractor may then submit, at no additional cost to the Owner, another alternate fixture or the fixture scheduled as the "Basis of Design" for review by the Architect. Alternate material furnished shall comply with all requirements of the material specification, shall be, as determined by the Architect, equal in form and performance to the "Basis of Design" and shall be dimensionally identical to the design standard where features are visible or where the work of other trades is affected. Determination of equality shall remain solely with the Architect and his decision shall be final.

1.07 OPERATING and MAINTENANCE MANUAL
- A. Provide record copy of Submittal Documents.
- B. Provide tabulation of lamp type furnished for each fixture type.
- C. Bind all information together with other Division 26 manuals.

1.08 QUALITY ASSURANCE
- A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
- B. Comply with NFPA 70.
- C. Luminaires shall be fully assembled and individually electrically tested prior to shipment.
- D. Manufacturers of LED luminaires shall demonstrate a suitable testing program to ensure system reliability and to substantiate lifetime claims.
- E. The sole use of IESNA LM-80 data to predict luminaire lifetime is not acceptable.
- F. Luminaires shall be provided with a minimum 5-year warranty covering, LEDs, drivers and paint finish.

PART 2 -PRODUCTS

2.01 GENERAL REQUIREMENTS FOR LIGHTING FIXTURES AND COMPONENTS
- A. Recessed Fixtures: Comply with NEMA LE 4 for ceiling compatibility for recessed fixtures.
- B. Incandescent Fixtures: Comply with UL 1598. Where LER is specified, test according to NEMA LE 5A.
- C. Fluorescent Fixtures: Comply with UL 1598. Where LER is specified, test according to NEMA LE 5 and NEMA LE 5A as applicable.
- D. HID Fixtures: Comply with UL 1598. Where LER is specified, test according to NEMA LE 5B.
- E. Metal Parts: Free of burrs and sharp corners and edges.
- F. Sheet Metal Components: Steel unless otherwise indicated. Form and support to prevent warping and sagging.
- G. Doors, Frames, and Other Internal Access: Smooth operating, free of light leakage under operating conditions, and designed to permit relamping without use of tools. Designed to prevent doors, frames, lenses, diffusers, and other components from falling accidentally during relamping and when secured in operating position.
- H. All lamps of any one type shall be of the same manufacturer.
- I. Diffusers and Globes:
  1. Acrylic Lighting Diffusers: 100 percent virgin acrylic plastic. High resistance to yellowing and other changes due to aging, exposure to heat, and UV radiation.
     a. Lens Thickness: At least [0.125 inch (3.175 mm)] minimum unless otherwise indicated.
     b. UV stabilized.
  2. Glass: Annealed crystal glass unless otherwise indicated.

2.02 BALLASTS FOR LINEAR FLUORESCENT LAMPS
- A. General Requirements for Electronic Ballasts:
  1. Comply with UL 935 and with ANSI C82.11.
  2. Designed for type and quantity of lamps served.
  3. Ballasts shall be designed for full light output unless another BF, dimmer, or bi-level control is indicated.
  4. Sound Rating: Class "A"
  5. Total Harmonic Distortion Rating: Less than 10 percent.
  6. Transient Voltage Protection: IEEE C62.41.1 and IEEE C62.41.2, Category A or better.
  7. Power Factor: 0.95 or higher.
  8. UL, CBM, & ETL listed.
  9. Suitable for continuous operation in fixtures where used.
  10. Warranty by ballast manufacturer to fixture end user: minimum 2 years non-prorated.
  11. Ballast shall have an RFI filter on line input and shall comply with FCC Part 18 and NEMA requirements limiting EMI and RFI and shall not interfere with the operation of other normal electrical equipment.
  12. Design standard: Triad Ballastar.
  13. Acceptable manufacturers: Advance, Valmont, Osram/Sylvania, General Electric/Motorola.
- B. Luminaires controlled by occupancy sensors shall have programmed-start ballasts.
- C. Electromagnetic Ballasts: Comply with ANSI C82.1; energy saving, high-power factor, Class P, and having automatic-reset thermal protection.
  1. Ballast Manufacturer Certification: Indicated by label.
- D. Single Ballasts for Multiple Lighting Fixtures: Factory wired with ballast arrangements and bundled extension wiring to suit final installation conditions without modification or rewiring in the field.

2.03 DRIVERS FOR LED FIXTURES
- A. Electronic Driver for LED Fixtures: Comply with UL 1310 Class 2 requirements for dry and damp locations. Include the following features unless otherwise indicated:
  1. Rated for 50,000 hours of life, unless otherwise noted.
  2. Sound Rating: Class A.
  3. Total Harmonic Distortion Rating: 15 percent or less.
  4. Current Crest Factor: 1.5 or less.
  5. 0-10V Dimming Standard (Step Dimming does not qualify).

2.04 LED FIXTURES
- A. Except as otherwise indicated, provide LED luminaires, of types and sizes indicated on fixture schedules.
- B. Include the following features unless otherwise indicated:
  1. Each Luminaire shall consist of an assembly that utilizes LEDs as the light source. In addition, a complete luminaire shall consist of a housing, LED array, and electronic driver (power supply).
  2. Each luminaire shall be rated for a minimum operational life of 50,000 hours utilizing a minimum ambient temperature of (25°C).
  3. Light Emitting Diodes tested under LM-80 Standards for a minimum of 12,000 hours.
  4. Color Rendering Index (CRI) of 82 at a minimum.
  5. Color temperature 3500°K, unless otherwise indicated.
  6. Rated lumen maintenance at 70% lumen output for 50,000 hours, unless otherwise indicated.
  7. Fixture efficacy of 60 Lumens/Watt, minimum.
  8. 5-year luminaire warranty, minimum.
  9. Photometry must comply with IESNA LM-79.
  10. Luminaire shall be constructed such that LED modules may be replaced or repaired without the replacement of the whole fixture.
- C. Technical Requirements
  1. Luminaire shall be constructed such that LED modules may be replaced or repaired without the replacement of the whole fixture.
  2. Operation Voltage: The luminaire shall operate from a 50 HZ to 60 HZ AC line over a voltage ranging from 120 VAC to 277 VAC. The fluctuations of line voltage shall have no visible effect on the luminous output.
  3. Power Factor: The luminaire shall have a power factor of 0.9 or greater.
  4. THD: Total harmonic distortion (current and voltage) induced into an AC power line by a luminaire shall not exceed 15 percent.
  5. Operational Performance: The LED circuitry shall prevent visible flicker to the unaided eye over the voltage range specified above.
- D. Thermal Management
  1. The thermal management (of the heat generated by the LEDs) shall be of sufficient capacity to assure proper operation of the luminaire over the expected useful life.
  2. The LED manufacturer's maximum thermal pad temperature for the expected life shall not be exceeded.
  3. Thermal management shall be passive by design. The use of fans or other mechanical devices shall not be allowed.
  4. The luminaire shall have a minimum heat sink surface such that LED manufacturer's maximum junction temperature is not exceeded at maximum rated ambient temperature.

2.05 TROFFERS
- A. Housing
  1. All steel parts shall be painted after fabrication with a minimum 90% reflective paint.
  2. The housing for a fixture with parabolic louvers shall be a minimum of 5½" deep.
  3. The housing for a fixture with lens shall be a minimum of 4½" deep.
- B. Lens
  1. The lens shall be a minimum of 1/8" thick and shall be pattern A-12.
  2. The lens frame shall be regressed aluminum, hinged and secured to the housing with reversible cam-action latches.
  3. Submit a 4" x 4" sample of lens with submittals.

2.06 RECESSED DOWN LIGHTS
- A. Reflector cones shall be one-piece, self-flanged.

2.07 POLES, POLE MOUNTED FIXTURES, BOLLARDS, WALL MOUNTED AREA LIGHTS
- A. Fixture and Bollard Finish
  1. Powder coating, 5mil minimum thickness
  2. Color as selected by Architect
- B. Area Lighting Poles:
  1. Aluminum square non-tapered pole with finish as scheduled.
  2. Constructed of seamless 6063 alloy aluminum tubing with internal vibration damper.
  3. With galvanized anchor bolts and hardware.
  4. With handhole at base and ground lug accessible through handhole.
  5. With anchor bolt cover with finish on all surfaces identical to pole finish.
  6. Wind rating: 100 MPH when supporting scheduled fixtures.
- C. Provide in-line, waterproof disconnecting fuse holders at each pole at handhole with fuses sized at 300% of driver line amps.

2.08 FIXTURE TYPES:
- A. As scheduled on the Drawings.
- B. All downlights shall be by the same manufacturer.
- C. All parabolic fluorescent troffers shall be by the same manufacturer.
- D. All direct/indirect and indirect suspended fixtures shall be by the same manufacturer.

PART 3 -EXECUTION

3.01 LOCATION
- A. The exact location of all fixtures in finished areas shall be as shown on the Civil/Architectural plans. If the location shown on the Civil/Architectural plans for a fixture differs from the location shown on the electrical plans, the fixture shall be installed as shown on the Civil/Architectural plans.

3.02 INSTALLATION
- A. Lighting fixtures shall be set level, plumb, and square with ceilings and walls. Install lamps in each fixture.
- B. Comply with NFPA 70 for minimum fixture supports.
- C. Suspended Lighting Fixture Support:
  1. Pendants and Rods: Where longer than 48 inches (1200 mm), brace to limit swinging.
  2. Stem-Mounted, Single-Unit Fixtures: Suspend with twin-stem hangers.
  3. Continuous Rows: Use tubing or stem for wiring at one point and tubing or rod for suspension for each unit length of fixture chassis, including one at each end
- D. Fluorescent fixtures with steel housings shall not be installed in direct contact with concrete structure but shall be held off of the structure at least ½ inch with approved spacers.
- E. All wire run into a fluorescent or HID fixture housing or raceway shall be minimum 90ºC rated, Type THHN/THWN. Wiring run into incandescent fixture housings shall be 150ºC rated, Type SFF, or better.
- F. Flexible conduit connections to recessed fixtures shall be six (6) ft. lengths of 3/8-inch steel flex with flex connectors as specified in the "Basic Materials and Methods" section. The flexible connections shall contain stranded conductors, AWG #14 minimum, Type THWN, with a separate grounding conductor bonded securely to the fixture housing.
- G. Flexible conduit connections to recessed fixtures located in accessible ceilings shall be installed such that each fixture can be relocated one (1) ceiling tile space in any direction.

3.03 SUPPORTS AND ANCHORS
- A. Fixtures shall not be supported from ducts or piping of other trades without the approval of the Architect.
- B. Recessed fixtures not designed to lay-in a ceiling grid, and suspended fixtures, shall be supported by a threaded rod dropped from approved channels or brackets transmitting the fixture weight to the building structure. If the fixture is outlet box mounted, the box shall be supported in the same manner.
- C. Provide four (4) clips with each lay-in type fixture anchoring the fixture to its supporting grid members.
- D. Hardware and unpainted metal used for mounting of exterior fixtures shall electrogalvanized.

3.04 ACCEPTANCE
- A. Target and focus adjustable fixtures in the presence of the Architect's Electrical Engineer.
- B. Noisy drivers shall be considered defective and shall be replaced.
- C. All fixtures' trims shall be free of light leaks as viewed from the occupied space. Suitably seal around trims to eliminate any light leakage around downlight trims and fluorescent fixtures. Louvers and lens shall be clean and free from fingerprints, dust, and physical damage.

END OF SECTION 26 50 00

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275 SOUTH PERRY STREET
LAWRENCEVILLE, GA 30046

PROJECT

SPECIFICATIONS (CONTINUED)

DESIGN	DRAWN	CHECKED
PCE	CAD	RVG

SHEET TITLE

DATE	NO.	DESCRIPTION
02/15/24		50% CD'S FOR OWNER REVIEW
03/07/24		90% CD'S FOR OWNER REVIEW
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RELEASE

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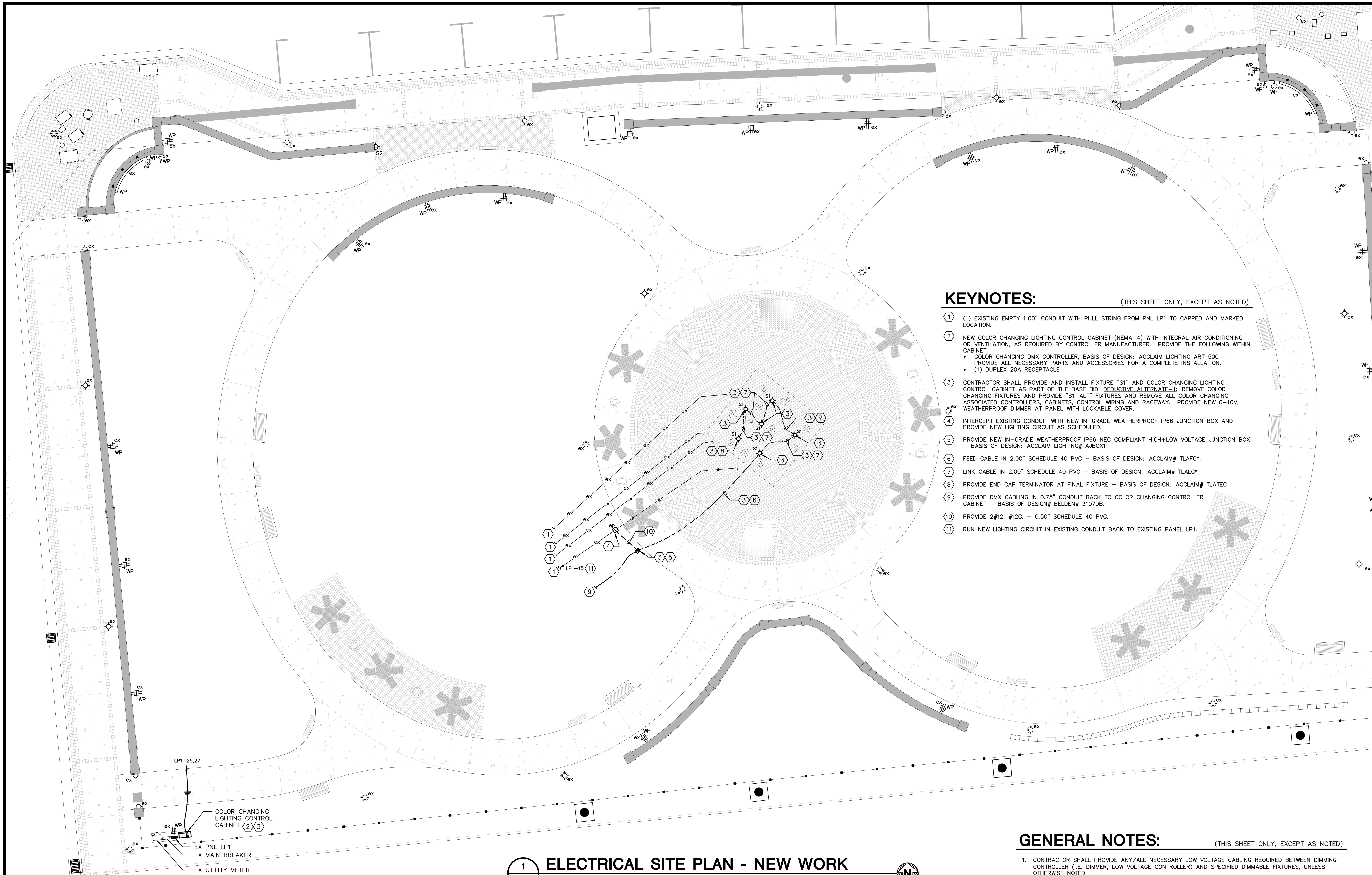
DATE

A21-160GSB
PROJ. NUMBER

FILE NAME

FILE NUMBER

E1.2



1 E2.1 ELECTRICAL SITE PLAN - NEW WORK
SCALE: 1" = 10'

KEYNOTES:

(THIS SHEET ONLY, EXCEPT AS NOTED)

1. (1) EXISTING EMPTY 1.00" CONDUIT WITH PULL STRING FROM PNL LP1 TO CAPPED AND MARKED LOCATION.
2. NEW COLOR CHANGING LIGHTING CONTROL CABINET (NEMA-4) WITH INTEGRAL AIR CONDITIONING OR VENTILATION, AS REQUIRED BY CONTROLLER MANUFACTURER. PROVIDE THE FOLLOWING WITHIN CABINET:
   - COLOR CHANGING DMX CONTROLLER, BASIS OF DESIGN: ACCLAIM LIGHTING ART 500 – PROVIDE ALL NECESSARY PARTS AND ACCESSORIES FOR A COMPLETE INSTALLATION.
   - (1) DUPLEX 20A RECEPTACLE
3. CONTRACTOR SHALL PROVIDE AND INSTALL FIXTURE "S1" AND COLOR CHANGING LIGHTING CONTROL CABINET AS PART OF THE BASE BID. DEDUCTIVE ALTERNATE-1: REMOVE COLOR CHANGING FIXTURES AND PROVIDE "S1-ALT" FIXTURES AND REMOVE ALL COLOR CHANGING ASSOCIATED CONTROLLERS, CABINETS, CONTROL WIRING AND RACEWAY. PROVIDE NEW 0-10V, WEATHERPROOF DIMMER AT PANEL WITH LOCKABLE COVER.
4. INTERCEPT EXISTING CONDUIT WITH NEW IN-GRADE WEATHERPROOF IP66 JUNCTION BOX AND PROVIDE NEW LIGHTING CIRCUIT AS SCHEDULED.
5. PROVIDE NEW IN-GRADE WEATHERPROOF IP66 NEC COMPLIANT HIGH+LOW VOLTAGE JUNCTION BOX – BASIS OF DESIGN: ACCLAIM LIGHTING# AJBOX1
6. FEED CABLE IN 2.00" SCHEDULE 40 PVC – BASIS OF DESIGN: ACCLAIM# TLAFC*.
7. LINK CABLE IN 2.00" SCHEDULE 40 PVC – BASIS OF DESIGN: ACCLAIM# TLALC*
8. PROVIDE END CAP TERMINATOR AT FINAL FIXTURE – BASIS OF DESIGN: ACCLAIM# TLATEC
9. PROVIDE DMX CABLING IN 0.75" CONDUIT BACK TO COLOR CHANGING CONTROLLER CABINET – BASIS OF DESIGN# BELDEN# 3107DB.
10. PROVIDE 2#12, #12G. – 0.50" SCHEDULE 40 PVC.
11. RUN NEW LIGHTING CIRCUIT IN EXISTING CONDUIT BACK TO EXISTING PANEL LP1.

GENERAL NOTES:

(THIS SHEET ONLY, EXCEPT AS NOTED)

1. CONTRACTOR SHALL PROVIDE ANY/ALL NECESSARY LOW VOLTAGE CABLING REQUIRED BETWEEN DIMMING CONTROLLER (I.E. DIMMER, LOW VOLTAGE CONTROLLER) AND SPECIFIED DIMMABLE FIXTURES, UNLESS OTHERWISE NOTED.
2. REFER TO CIVIL/ARCHITECTURAL DRAWINGS FOR EXACT QUANTITIES AND LOCATIONS OF FIXTURES.

PRIOR TO COMMENCING ANY EXCAVATION, CALL TO GET ALL UTILITIES MARKED. THE CONTRACTOR MUST NOTIFY THE UTILITIES PROTECTION CENTER (UPC) AND PROVIDE A MINIMUM OF 72-HOUR NOTICE TO ALLOW LOCATION OF EXISTING UTILITIES. NO DIGGING IS PERMITTED UNTIL THE UPC HAS MARKED ALL EXISTING UTILITY LOCATIONS.

ANY DAMAGES SHALL BE PROMPTLY REPAIRED AT THE CONTRACTOR'S EXPENSE.

Phillips Consulting Engineers, LLC
260 Beckenham Walk Drive
Dacula, GA 30019

GEORGIA REGISTERED PROFESSIONAL ENGINEER No. 025946 CHRISTOPHER W. PHILLIPS 06/19/24

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LAWRENCVILLE BICENTENNIAL PLAZA SCULPTURE PROJECT
275 SOUTH PERRY STREET
LAWRENCEVILLE, GA 30046

PROJECT

ELECTRICAL SITE PLAN - NEW WORK

DESIGN	DRAWN	CHECKED
PCE	CAD	RVG

SHEET TITLE

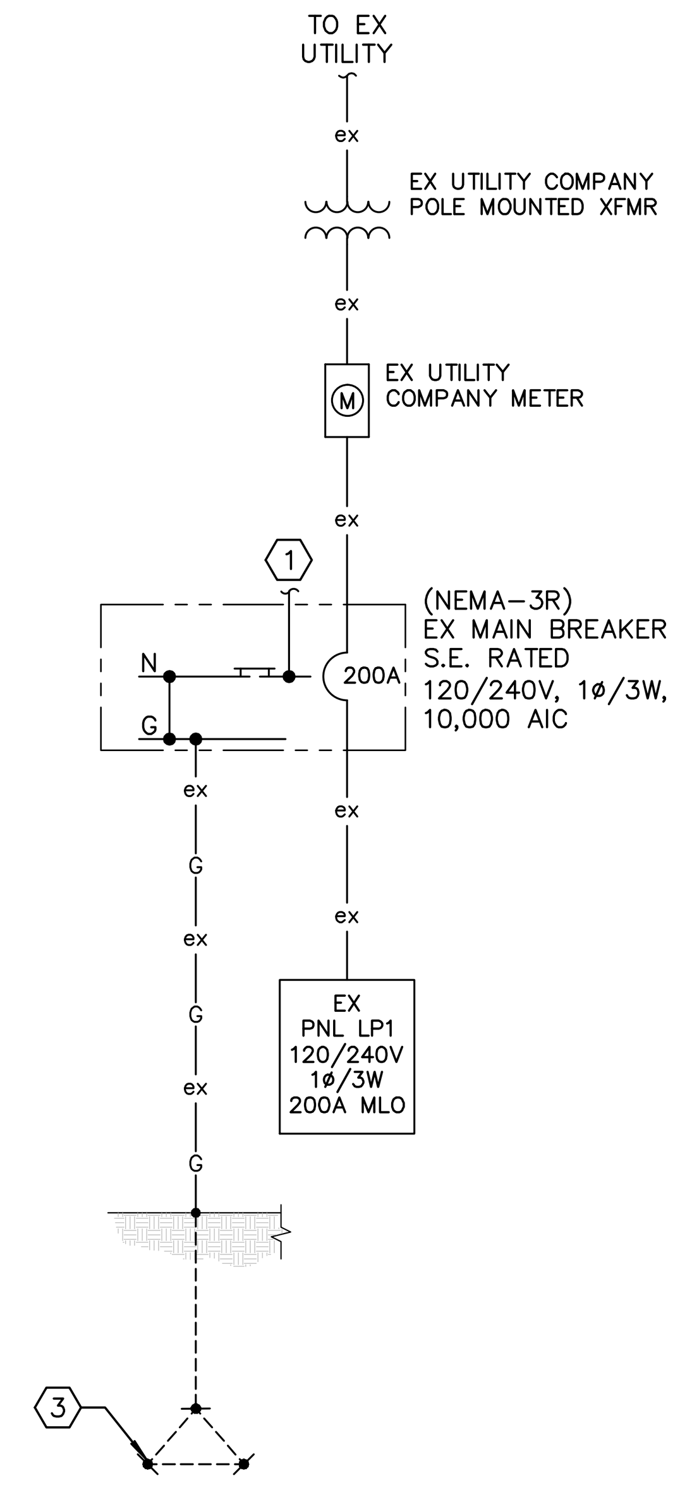
DATE	NO.	DESCRIPTION
02/15/24		50% CD'S FOR OWNER REVIEW
03/07/24		90% CD'S FOR OWNER REVIEW
03/22/24		RELEASED FOR PERMIT REVIEW
06/19/24		RELEASED FOR BID

RELEASE

06/19/2024
DATE
A21-160GSB
PROJ. NUMBER
FILE NAME
FILE NUMBER

E2.1

Jun 10, 2024 – 5:08pm D:\Phillips Consulting Dropbox\Projects\2024\24101 – GC Bi-Centennial Park Sculpture Ltg\CAD\E2.1_24101.dwg • E2.1



1 E3.1 EXISTING ONE-LINE DIAGRAM - PLAZA

SCALE: N.T.S

(FOR INFORMATION ONLY)

KEYNOTES:

(THIS SHEET ONLY, EXCEPT AS NOTED)

1. EXISTING OUTGOING NEUTRAL.
2. EXISTING 0.75"X10' LONG COPPER CLAD GROUND RODS SPACED 10' APART, TOP OF ROD 24" BELOW GRADE.

SCHEDULE OF PANEL **LP1 (EXISTING)**

(NOTE-3)

MAINS: ☒ LUGS ONLY 200A
☐ MAIN BREAKER

VOLTAGE: ☒ 240/120V, 1ø, 3W
☐ 200% NEUTRAL
☒ GROUND
☐ ISOLATED GROUND

MOUNTING: ☐ FLUSH
☒ SURFACE

SCCR: 10,000 AIC

CKT NO	DESCRIPTION	WIRING				LOAD (KVA)	NOTES	BKR	POLES	PHASE	POLES	BKR	NOTES	LOAD (KVA)	WIRING				DESCRIPTION	CKT NO
		PH	N	GND	COND										PH	N	GND	COND		
1	EX CLAYTON STREET LTG	#10	#10	#10	1.00"	0.21	4	20	1	A	1	20	4	1.50	#4	#4	#8	1.00"	EX CLAYTON PLAZA REC	2
3	EX LUCKIE STREET LTG	#10	#10	#10	1.00"	0.29	4	20	1	B	1	20	4	1.50	#6	#6	#8	0.75"	EX CLAYTON PLAZA REC	4
5	EX S. PERRY STREET LTG	#10	#10	#10	1.00"	0.21	4	20	1	A	1	20	4	1.50	#6	#6	#8	0.75"	EX CLAYTON PLAZA REC	6
7	EX PLAZA LTG	#10	#10	#10	1.00"	0.21	4	20	1	B	1	20	4	1.50	#6	#6	#8	0.75"	EX EAST PLAZA REC	8
9	EX N.E. SIGN LTG	#10	#10	#10	1.00"	0.20	4	20	1	A	1	20	4	1.50	#6	#6	#8	0.75"	EX EAST PLAZA REC	10
11	EX N.W. SIGN LTG	#10	#10	#10	1.00"	0.20	4	20	1	B	1	20	4	1.50	#6	#6	#8	0.75"	EX EAST PLAZA REC	12
13	EX IRRIGATION CNTRL					0.50	4	20	1	A	1	20	4	1.50	#4	#4	#8	1.00"	EX LUCKIE ST. PLAZA REC	14
15	NEW SCULPTURE LTG	#10	#10	#10	1.00"	0.36	4,6	20	1	B	1	20	4	1.50	#6	#6	#8	0.75"	EX LUCKIE ST. PLAZA REC	16
17	EX SPARE						4	20	1	A	1	20	4	1.50	#6	#6	#8	0.75"	EX LUCKIE ST. PLAZA REC	18
19	EX SPARE						4	20	1	B	1	20	4	1.50	#6	#6	#8	0.75"	EX LUCKIE ST. PLAZA REC	20
21	EX SPARE						4	20	1	A	1	20	4	1.50	#8	#8	#10	0.75"	EX LUCKIE ST. PLAZA REC	22
23	EX SPARE						4	20	1	B	1	20	4	1.50	#10	#10	#10	0.75"	EX PERRY ST. PLAZA REC	24
25	NEW LTG CNTRL CABINET					0.10	5	20	1	A	1	20	4	1.50	#10	#10	#10	0.75"	EX PERRY ST. PLAZA REC	26
27	NEW LTG CNTRL CAB. AC					0.70	5	20	1	B	1	20	4	1.50	#10	#10	#10	0.75"	EX PERRY ST. PLAZA REC	28
29	EX SPACE								1	A	1	20	4	1.50	#10	#10	#10	0.75"	EX PERRY ST. PLAZA REC	30
31	EX SPACE								1	B	1	20	4	1.50	#10	#10	#10	0.75"	EX WEST PLAZA REC	32
33	EX SPACE								1	A	1	20	4	1.50	#10	#10	#10	0.75"	EX WEST PLAZA REC	34
35	EX SPACE								1	B	1	20	4	1.50	#10	#10	#10	0.75"	EX WEST PLAZA REC	36
37	EX SPACE								1	A	1	20	4	1.50	#8	#8	#10	0.75"	EX SOUTH PLAZA REC	38
39	EX SPACE								1	A	1	20	4	1.50	#10	#10	#10	0.75"	EX SOUTH PLAZA REC	40
41	EX SPACE								1	B	1	20							EX SPARE	42

TOTAL LOADS
CONNECTED (KVA): 32.98
DEMAND (KVA): 22.98
DESIGN (KVA): 38.40

NOTES:
1. BRANCH BREAKERS SHALL BE 20 AMP. 1 POLE UNLESS NOTED OTHERWISE.
2. BRANCH CIRCUIT WIRING SHALL BE #12 WIRE, #12 GND IN 0.50" CONDUIT, UNLESS NOTED OTHERWISE.
3. INTELLIGENT CONTROLLED BREAKER PANEL WITH INTEGRAL CONTROLLER.
4. CONTROLLED BREAKER.
5. PROVIDE NEW NORMAL NON-CONTROLLED GFCI BREAKER, AS SCHEDULED.
6. USE EXISTING SPARE CONTROLLED BREAKER, AS SCHEDULED.

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ONE-LINE DIAGRAM & PANEL SCHEDULE

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