

IMPROVEMENT PLANS  
FOR



BUTLER STREET BOAT RAMP -  
RESTROOM BUILDING AND  
PARKING IMPROVEMENTS

SECTION 30 TOWNSHIP 15S RANGE 28E

|                                    |   |
|------------------------------------|---|
| SITE DATA:                         |   |
| ALTERNATE KEY                      | 1788412 & 3918957   |
| EXISTING FLU                       | RECREATION  |
| EXISTING ZONING                    | CP  |
| PROPOSED USE                       | RESTROOM FACILITY   |
| MAXIMUM BLDG. HEIGHT               | 9'-10"  |
| PARKING                            |   |
| EXISTING                           |   |
| VEHICLE                            | 5   |
| VEHICLE W/ TRAILER                 | 22  |
| HANDICAP                           | 2   |
| HANDICAP W/ TRAILER                | 2   |
| PROPOSED (IN ADDITION TO EXISTING) |   |
| VEHICLE                            | 8   |
| VEHICLE W/ TRAILER                 | 21  |
| HANDICAP                           | 0   |
| TOTAL PARKING                      | 60  |
| SITE AREA                          |   |
|                                    | 106,632.80 S.F. (2.45 AC.)  |
| TOTAL IMPERVIOUS AREA              |   |
| EXISTING IMPERVIOUS                | 57268.41 S.F. (1.32 AC.)  |
| PROPOSED BUILDING AREA             | 36664.45 S.F. (0.84 AC.)  |
| PROPOSED PAVEMENT AREA             | 254.89 S.F.   |
| IMPERVIOUS SURFACE RATIO (ISR)     | 20349.07 S.F. (0.47 AC.)  |
| FLOOR AREA RATIO (FAR)             | 0.537   |
| TOTAL OPEN SPACE                   | 49364.39 S.F. (1.13 AC.)  |
| WATER                              |   |
| SEWER                              | ST. JOHN'S RIVER UTILITY, INC.                                      |
| ELECTRIC                           | ST. JOHN'S RIVER UTILITY, INC.<br>CLAY ELECTRICAL COOPERATIVE, INC. |

LEGAL DESCRIPTION:

BEGIN AT THE SOUTHEAST CORNER OF BLOCK "54" OF THE TOWN SITE OF ASTOR, FLORIDA, AS RECORDED IN PLAT BOOK 2, PAGE 12, PUBLIC RECORDS OF LAKE COUNTY, FLORIDA, AND RUN N03°14'32"W ALONG THE EAST LINE OF SAID BLOCK "54" A DISTANCE OF 399.41 FEET; THENCE RUN N86°49'28"E, 337.37 FEET TO A POINT ON THE WESTERLY RIGHT-OF-WAY LINE OF STATE ROAD NO. 40; THENCE RUN S00°52'57"E ALONG SAID WESTERLY RIGHT-OF-WAY 47.66 FEET TO THE BEGINNING OF A CURVE CONCAVED NORTHWESTERLY AND HAVING A RADIUS OF 376.26 FEET; RUN THENCE ALONG SAID CURVE AND RIGHT OF WAY LINE THROUGH A CENTRAL ANGLE OF 75°07'08", AN ARC LENGTH OF 493.34 FEET TO THE END OF SAID CURVE; THENCE RUN S86°48'28"W, 41.01 FEET TO THE POINT OF BEGINNING.

AND ALSO:

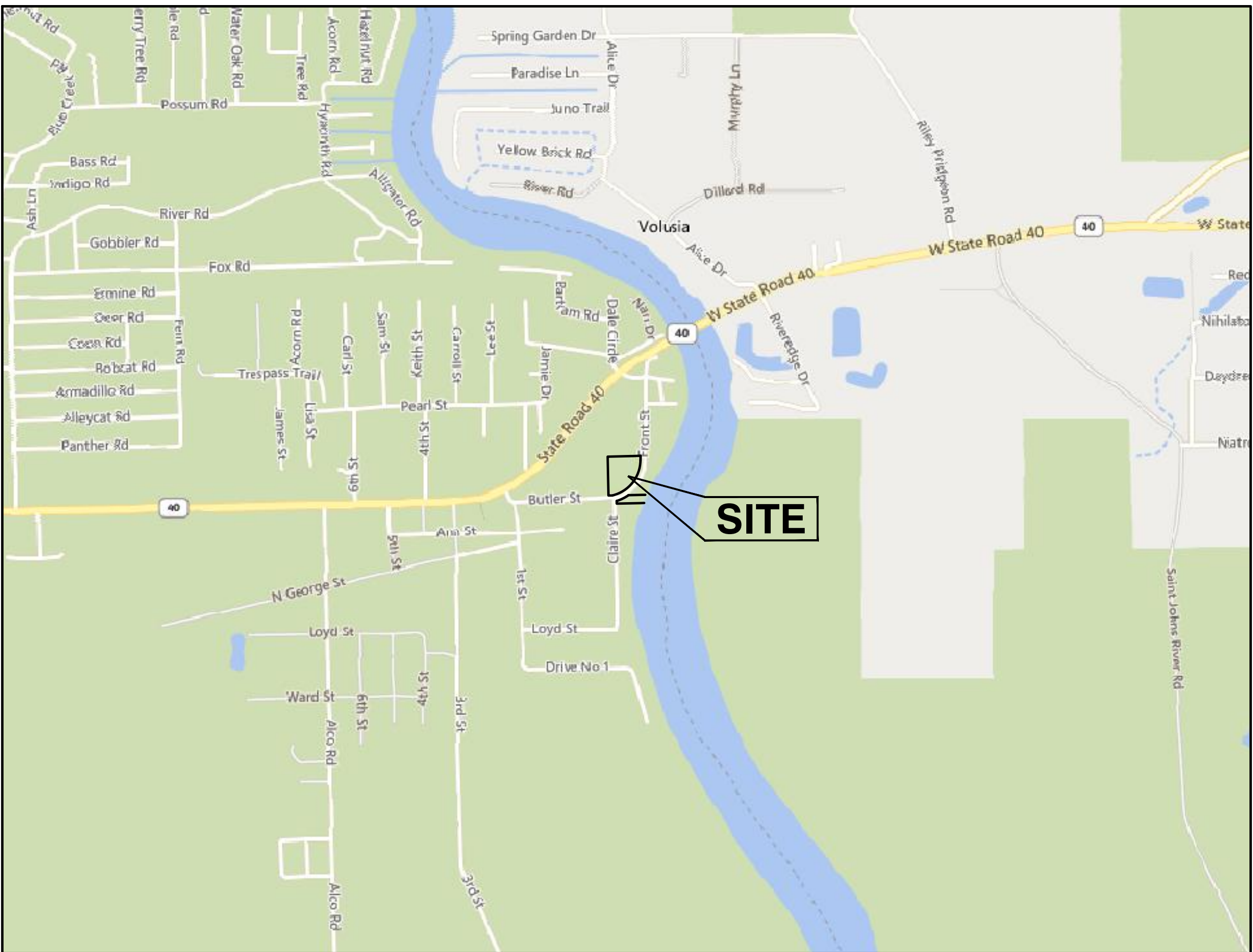
THAT PART OF BUTLER STREET, ACCORDING TO THE TOWN OF ASTOR, EXTENDING EAST FROM THE EAST BOUNDARY OF STATE ROAD 40 TO THE ST. JOHNS RIVER

OWNER/DEVELOPER:

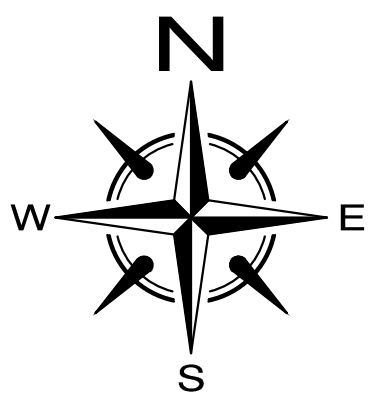
LAKE COUNTY OFFICE OF PARKS & TRAILS  
2401 WOODLEA RD.  
TAVARES FL 32778  
ROBERT BONILLA, DIRECTOR  
PHONE: (352) 253-4950  
RBONILLA@LAKECONTYFL.GOV

ENGINEER/SURVEYOR:

HALFF ASSOCIATES, INC.  
902 N. SINCLAIR AVENUE  
TAVARES, FL 32778  
HUGO CABRERA, P.E.  
(352) 343-8481  
HCABRERA@HALFF.COM



VICINITY MAP  
1" = 1,000'



INDEX OF SHEETS

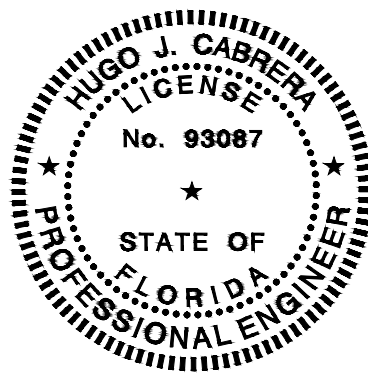
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Cabrera

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## SILT BARRIER DETAIL

THE FOLLOWING LIST REPRESENTS A BASIC EROSION AND SEDIMENT CONTROL PROGRAM WHICH IS TO BE IMPLEMENTED TO HELP PREVENT OFF-SITE SEDIMENTATION DURING AND AFTER CONSTRUCTION OF THE PROJECT.

PERMANENT EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED AT THE EARLIEST PRACTICAL TIME CONSISTENT WITH GOOD CONSTRUCTION PRACTICES. ONE OF THE FIRST CONSTRUCTION ACTIVITIES SHOULD BE THE PLACEMENT OF PERMANENT AND TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES AROUND THE PERIMETER OF THE PROJECT OR THE INITIAL WORK AREA TO PROTECT THE PROJECT, ADJACENT PROPERTIES AND WATER RESOURCES.

TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE COORDINATED WITH PERMANENT MEASURES TO ASSURE ECONOMICAL, EFFECTIVE AND CONTINUOUS CONTROL THROUGHOUT THE CONSTRUCTION PHASE. TEMPORARY MEASURES SHALL NOT BE CONSTRUCTED FOR EXPEDIENCY IN LIEU OF PERMANENT MEASURES.

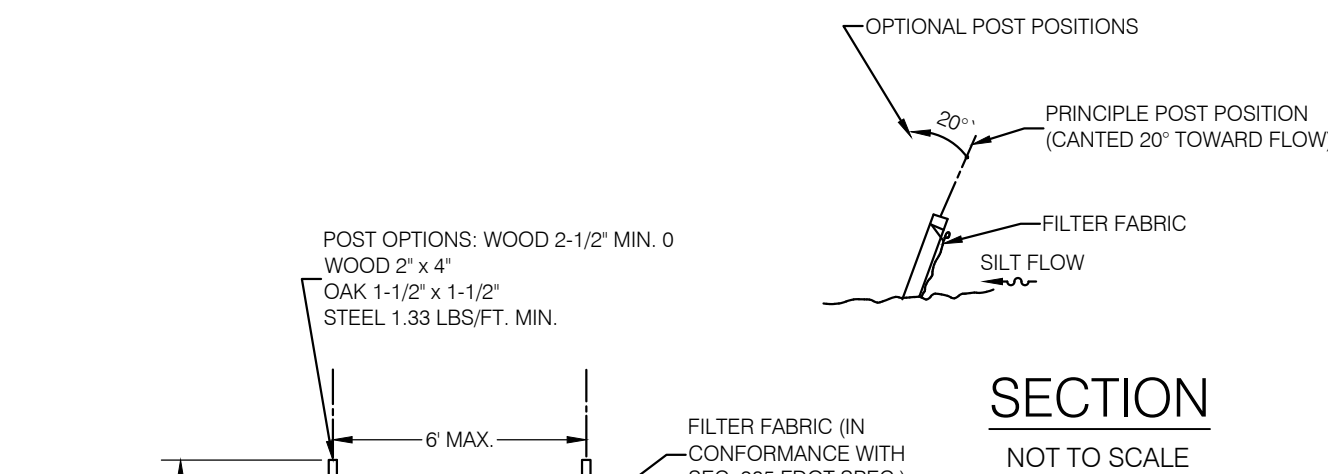
EROSION AND SEDIMENT CONTROL MEASURES SHALL BE ADEQUATELY MAINTAINED TO PERFORM THEIR INTENDED FUNCTION DURING CONSTRUCTION OF THE PROJECT.

NECESSARY REPAIRS TO BARRIERS OR REPLACEMENT OF BARRIERS SHALL BE ACCOMPLISHED PROMPTLY.

SEDIMENT DEPOSITS SHOULD BE REMOVED AFTER EACH RAINFALL. THEY MUST BE REMOVED WHEN THE LEVEL OF DEPOSITION REACHES APPROXIMATELY ONE-HALF THE HEIGHT OF THE BARRIER.

MATERIAL FROM SEDIMENT TRAPS SHALL NOT BE STOCKPILED OR DISPOSED OF IN A MANNER WHICH MAKES THEM READILY SUSCEPTIBLE TO BEING WASHED INTO ANY WATERCOURSE BY RUNOFF OR HIGH WATER.

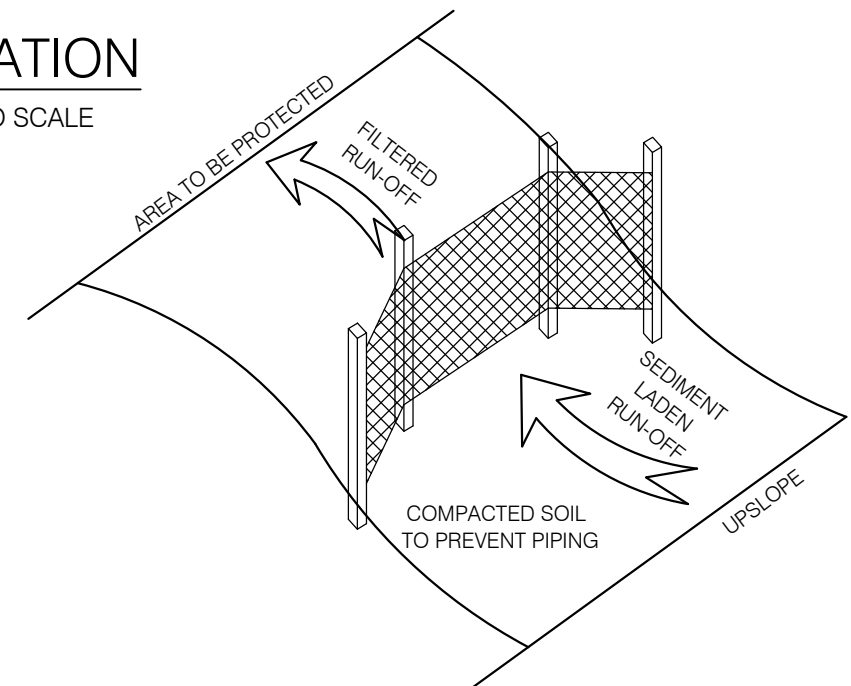
ANY SEDIMENT DEPOSITS REMAINING IN PLACE AFTER THE BARRIERS ARE NO LONGER REQUIRED SHALL BE DRESSED TO CONFORM TO THE EXISTING GRADE, PREPARED AND SEEDED.



**SECTION**  
NOT TO SCALE

## ELEVATION

NOT TO SCALE



## SILT FENCE DETAIL

NOT TO SCALE

### EROSION AND SEDIMENT CONTROL NOTES:

THE FOLLOWING LIST REPRESENTS A BASIC EROSION AND SEDIMENT CONTROL PROGRAM WHICH IS TO BE IMPLEMENTED TO HELP PREVENT OFF-SITE SEDIMENTATION DURING AND AFTER CONSTRUCTION OF THE PROJECT.

### EROSION AND SEDIMENT CONTROL

#### A. EROSION CONTROL DURING CONSTRUCTION

1. TEMPORARY EROSION CONTROL STRUCTURES SHALL BE UTILIZED DURING CONSTRUCTION AT AREAS ON-SITE WHERE UNSTABILIZED GRADES MAY CAUSE EROSION PROBLEMS. EROSION CONTROL STRUCTURES MAY BE REMOVED AFTER UPSLOPE AREA HAS BEEN STABILIZED BY SOD OR COMPACTED AS DETERMINED BY THE CONTRACTOR.

2. TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE COORDINATED WITH PERMANENT MEASURES TO ASSURE ECONOMICAL, EFFECTIVE AND CONTINUOUS CONTROL THROUGHOUT THE CONSTRUCTION PHASE. TEMPORARY MEASURES SHALL NOT BE CONSTRUCTED FOR EXPEDIENCY IN LIEU OF PERMANENT MEASURES.

3. PERMANENT EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED AT THE EARLIEST PREDICTABLE TIME CONSISTENT WITH GOOD CONSTRUCTION PRACTICES. ONE OF THE FIRST CONSTRUCTION ACTIVITIES SHOULD BE THE PLACEMENT OF PERMANENT AND TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES AROUND THE PERIMETER OF THE PROJECT OR THE INITIAL WORK AREA TO PROTECT THE PROJECT, ADJACENT PROPERTIES AND WATER RESOURCES.

4. STORM WATER MANAGEMENT AREAS, STORM SEWER SYSTEM AND CONTROL STRUCTURES SHALL BE EXCAVATED TO ROUGH GRADE PRIOR TO BUILDING CONSTRUCTION OR PLACEMENT OF IMPERVIOUS SURFACES WITHIN THE AREA TO BE SERVED BY THOSE FACILITIES. TO PREVENT REDUCTION IN STORAGE VOLUME AND PERCOLATION RATE, ALL ACCUMULATED SEDIMENT WILL BE REMOVED FROM THE STORM WATER FACILITIES PRIOR TO FINAL GRADING, STABILIZATION AND GRASSING.

5. EROSION CONTROL STRUCTURES, SUCH AS SILT FENCE AND BERMS, SHALL BE INSTALLED AROUND INLETS AND IN SWALES TO TRAP ERODED MATERIAL, PREVENT SEDIMENTATION IN DOWN STREAM AREAS AND KEEP RUNOFF VELOCITIES LOW.

6. THE CONTRACTOR SHALL MINIMIZE THE EXTENT OF AREA EXPOSED AT ANY ONE TIME AND THE DURATION OF EXPOSURE.

7. STABILIZATION MEASURES SHALL BE INITIATED FOR EROSION AND SEDIMENT CONTROL ON DISTURBED AREAS NO MORE THAN FOURTEEN (14) DAYS AFTER THE CONSTRUCTION ACTIVITY IN ANY PORTION OF THE SITE THAT HAS CEASED.

8. THE CONTRACTOR WILL INSTALL A PERMANENT VEGETATIVE COVER FOR EROSION AND SEDIMENT CONTROL ON ALL LAND SURFACES DISTURBED BY CONSTRUCTION. THIS PROTECTIVE COVER MUST BE INSTALLED WITHIN FOURTEEN (14) DAYS AFTER FINAL GRADING OF THE EFFECTED LAND SURFACES. A PERMANENT VEGETATIVE COVER MUST BE ESTABLISHED WITHIN SIXTY (60) DAYS AFTER PLANTING OR INSTALLATION.

9. EROSION AND SEDIMENT CONTROL MEASURES SHALL BE ADEQUATELY MAINTAINED TO PERFORM THEIR INTENDED FUNCTION DURING CONSTRUCTION OF THE PROJECT. SEDIMENT DEPOSITS SHOULD BE REMOVED AFTER EACH RAINFALL. THEY MUST BE REMOVED WHEN THE LEVEL OF DEPOSITION REACHES APPROXIMATELY ONE-HALF THE HEIGHT OF THE BARRIER.

10. PLACEMENT OF BARRIERS OR NECESSARY REPAIRS TO BARRIERS SHALL BE ACCOMPLISHED PROMPTLY.

11. MATERIAL FROM SEDIMENT TRAPS SHALL NOT BE STOCK PILED OR DISPOSED OF IN A MANNER WHICH MAKES THEM READILY SUSCEPTIBLE TO BEING WASHED INTO ANY WATER COURSE BY RUNOFF OR HIGH WATER.

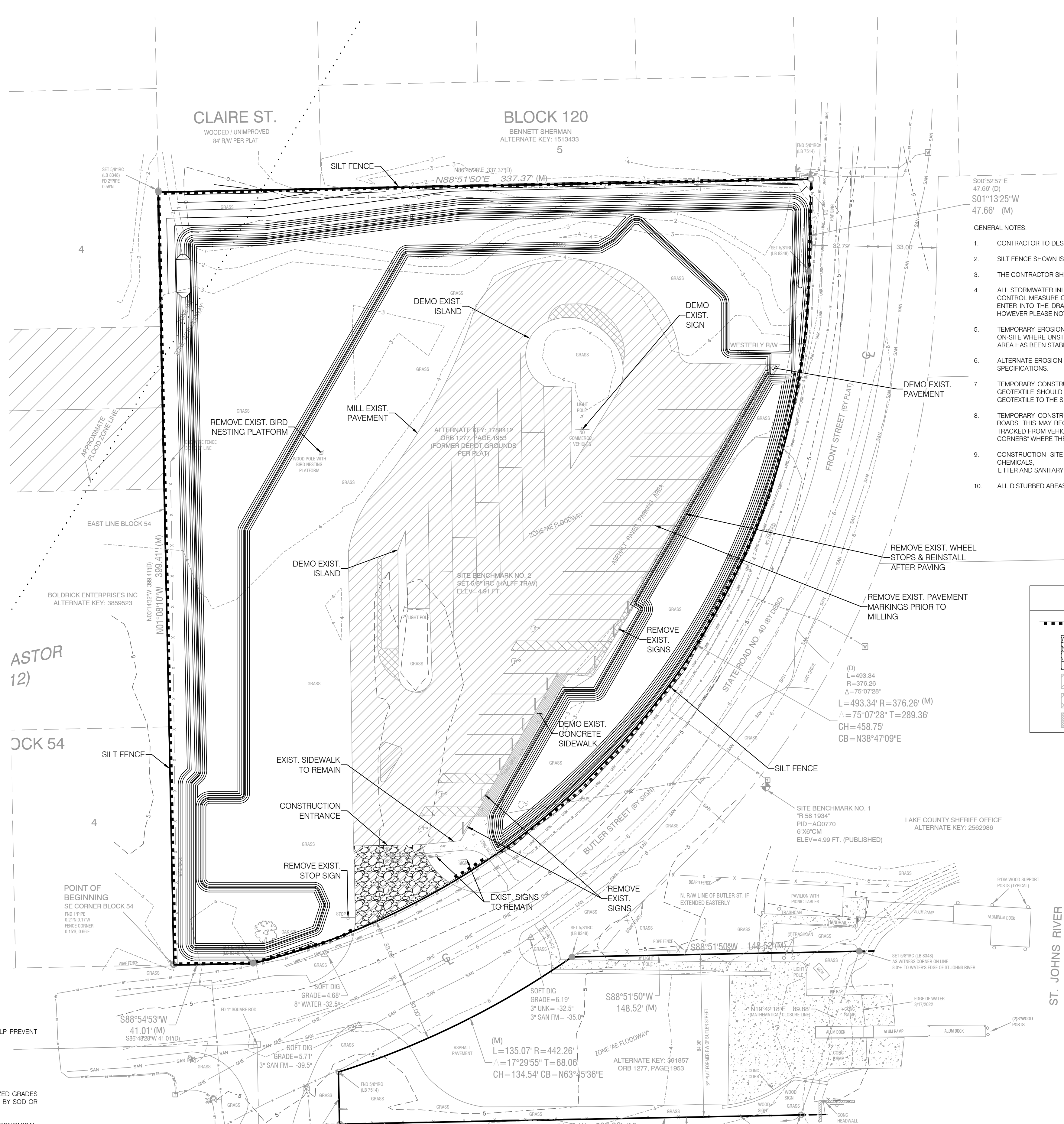
12. ANY ACCUMULATED SEDIMENT DEPOSITS REMAINING IN PLACE AFTER THE BARRIERS ARE NO LONGER REQUIRED SHALL BE DRESSED TO CONFORM TO THE EXISTING GRADE, PREPARED, AND SEEDED.

13. TO PROVIDE DUST CONTROL, A CONTRACTOR SHALL PROVIDE A WATER TRUCK OR IRRIGATION SYSTEM AS NEEDED, TO MAINTAIN SOIL MOISTURE.

14. IF SITE SPECIFIC CONDITIONS REQUIRE ADDITIONAL MEASURES DURING ANY PHASE OF CONSTRUCTION OR OPERATION TO PREVENT EROSION OR CONTROL SEDIMENT, BEYOND THOSE SPECIFIED IN THE EROSION AND SEDIMENT CONTROL PLAN, THE CONTRACTOR MUST IMPLEMENT ADDITIONAL BEST MANAGEMENT PRACTICES AS NECESSARY, IN ACCORDANCE WITH THE SPECIFICATION IN SECTION 6 OF THE FLORIDA LAND DEVELOPMENT MANUAL: A GUIDE TO LAND AND WATER MANAGEMENT (FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION, 1988).

#### B. PERMANENT STABILIZATION

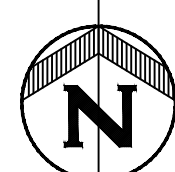
WHERE CONSTRUCTION IS COMPLETE, PERMANENT VEGETATION SHALL BE INSTALLED AS SPECIFIED ON THE CONSTRUCTION PLANS AND IN ACCORDANCE WITH THE CONSTRUCTION SPECIFICATION DOCUMENTS. PERMANENT VEGETATION WILL INCLUDE SOD OR SEED AND MULCH.



## LEGEND

|  |   |
|--|---|
|  | SILT FENCE                                |
|  | TEMPORARY CONSTRUCTION                    |
|  | ENTRANCE                                  |
|  | LIMITS OF MILLING & RESURFACING (1" AVG.) |
|  | LIMITS OF PAVEMENT DEMO                   |
|  | LIMITS OF CONCRETE SIDEWALK DEMO          |

- GENERAL NOTES:
- CONTRACTOR TO DESILT ALL PIPES PRIOR TO COMPLETION OF CONSTRUCTION OF PROJECT.
  - SILT FENCE SHOWN IS STRICTLY SCHEMATIC, FOR ILLUSTRATION ONLY, ALL FENCE TO BE WITHIN THE PROPERTY LINE OF THE PROJECT SITE.
  - THE CONTRACTOR SHALL APPLY WITH AND OBTAIN NPDES PERMIT FROM THE FLORIDA DEPT. OF ENVIRONMENTAL PROTECTION (FDEP).
  - ALL STORMWATER INLETS TO HAVE EROSION CONTROL MEASURES APPLIED UPON THE COMPLETION OF THEIR INSTALLATION. THIS EROSION CONTROL MEASURE CAN BE A 'SOCK' WITH ROCK BAGS THAT WILL NOT ALLOW FOR SEDIMENTS TO ENTER INTO THE INLETS AND ULTIMATELY ENTER INTO THE DRA. OTHER METHODS OF PROTECTION CAN BE OBTAINED FROM THE MOST RECENT FDOT STANDARD SPECIFICATIONS, HOWEVER PLEASE NOTE THE USE OF HAY/STRAW BALES IS NOT PERMITTED, A SYNTHETIC BALE MAY BE USED INSTEAD.
  - TEMPORARY EROSION CONTROL STRUCTURE TO BE UTILIZED DURING CONSTRUCTION AT AREAS DESIGNATED BY THE ENGINEER OR AREAS ON-SITE WHERE UNSTABILIZED GRADES MAY CAUSE EROSION PROBLEMS. EROSION CONTROL STRUCTURE MAY BE REMOVED AFTER UPSLOPE AREA HAS BEEN STABILIZED BY SOD, OR COMPACTED AS DETERMINED BY CONTRACTOR.
  - ALTERNATE EROSION CONTROL STRUCTURE: WOVEN FILTER FABRIC SILT FENCE IN ACCORDANCE WITH THE MOST RECENT FDOT STANDARD SPECIFICATIONS.
  - TEMPORARY CONSTRUCTION ENTRANCE AREA SHALL BE CLEARED OF ALL VEGETATION, ROOTS, AND OTHER OBJECTIONABLE MATERIAL. A GEOTEXTILE SHOULD BE LAID DOWN TO IMPROVE STABILITY AND SIMPLIFY MAINTENANCE. THE GRAVEL SHALL THEN BE PLACED OVER THE GEOTEXTILE TO THE SPECIFIED DIMENSIONS.
  - TEMPORARY CONSTRUCTION ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OF MUD ONTO PUBLIC ROADS. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH 2-INCH STONE AS CONDITIONS DEMAND. ALL MATERIALS SPILLED, DROPPED, OR TRACKED FROM VEHICLES ONTO ROADWAYS MUST BE REMOVED IMMEDIATELY. LOOK FOR SIGNS OF TRUCKS TRAILERED EQUIPMENT 'CUTTING CORNERS' WHERE THE GRAVEL MEETS THE ROADWAY. SWEEP THE PAVED ROAD DAILY FOR SEDIMENTS.
  - CONSTRUCTION SITE OPERATORS MUST CONTROL WASTE SUCH AS DISCARDED BUILDING MATERIALS, CONCRETE TRUCK WASHOUT, CHEMICALS, LITTER AND SANITARY WASTE AT THE CONSTRUCTION SITE THAT MAY CAUSE ADVERSE IMPACTS TO WATER QUALITY.
  - ALL DISTURBED AREAS TO BE SEEDED AND MACHED.



Scale: 1" = 30'



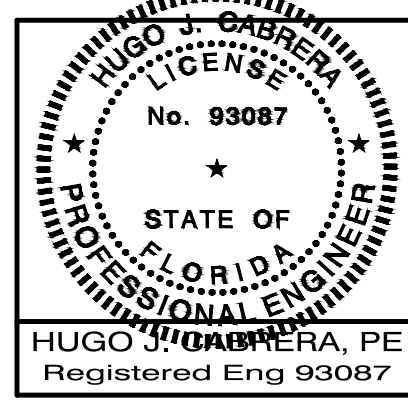
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LAKE COUNTY, FLORIDA  
BUTLER ST.  
BOAT RAMP PARKING LOT  
IMPROVEMENT PLANS  
EXISTING CONDITIONS, DEMO,  
& EROSION CONTROL PLAN



Office: 352.343.8481  
Fax: 352.343.8495  
Certificate of Authorization Number: 33380

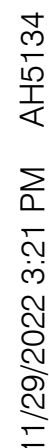
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| DRAWN BY:    | TNJ        |
| CHECKED BY:  | HJC        |
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| Sheet        | 02         |



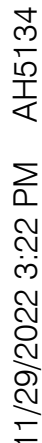
Hugo J  
Cabrera

Digitally signed by Hugo J Cabrera  
DN: cn=Hugo J Cabrera, o=US, ou=HALFF ASSOCIATES INC, email=hcabrera@halff.com  
Reason: I attest to the accuracy and integrity of this document  
Date: 2022.11.29 15:52:49 -0500

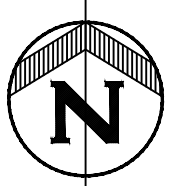
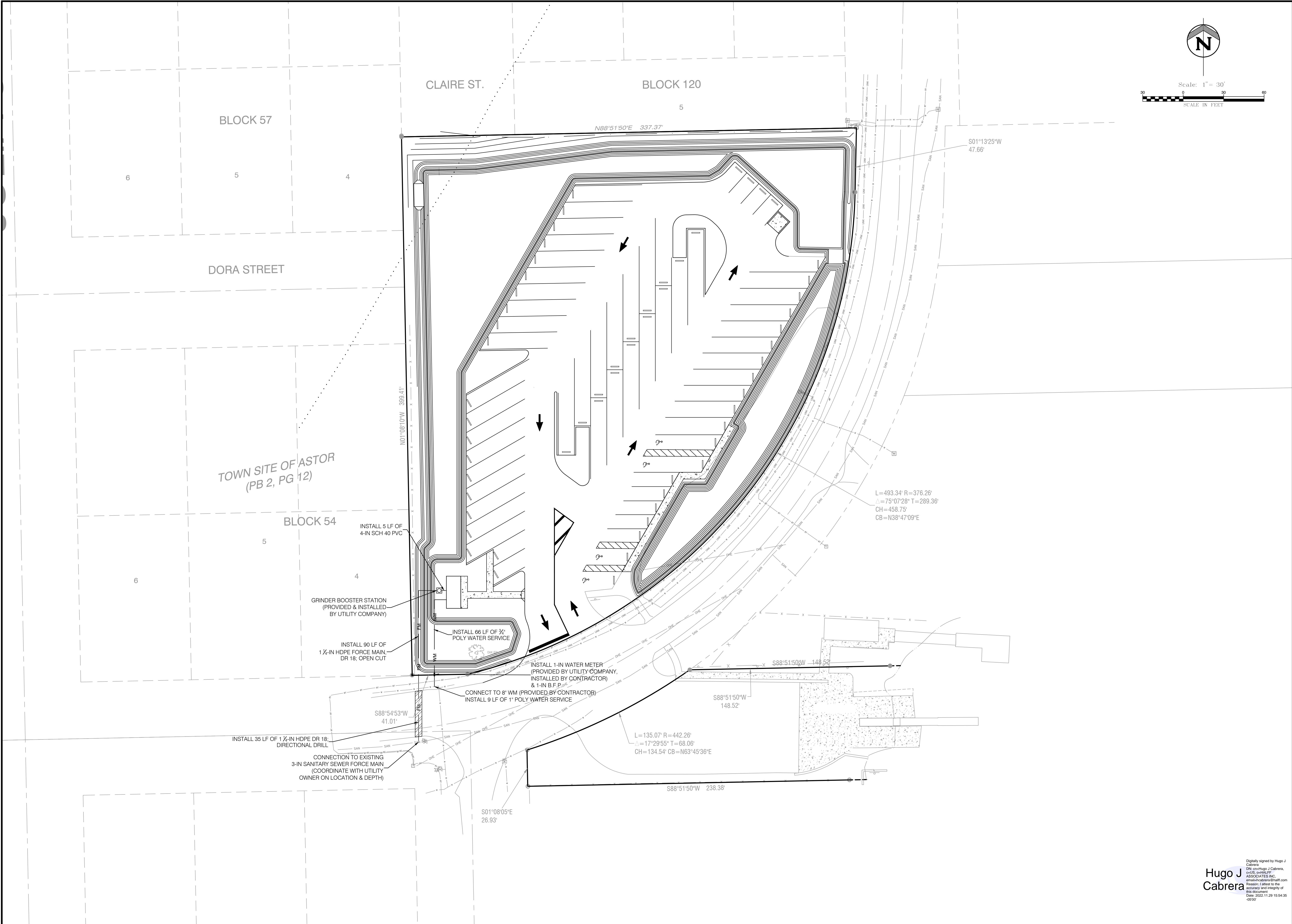












Scale: 1" = 30'



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LAKE COUNTY, FLORIDA  
BUTLER ST.  
BOAT RAMP PARKING LOT  
IMPROVEMENT PLANS  
UTILITY PLAN



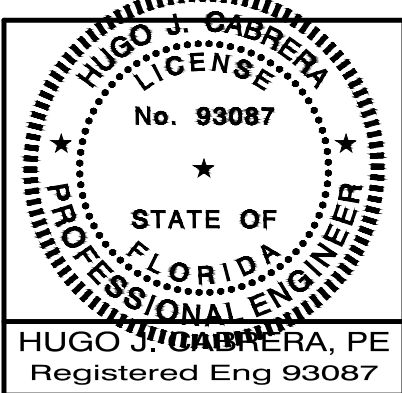
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902 North Sinclair Ave.  
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Certificate of Authorization Number: 33380

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| DATE:        | JUNE 2022  |
| DESIGNED BY: | HJC        |
| DRAWN BY:    | TNJ        |
| CHECKED BY:  | HJC        |
| JOB NO.:     | 043862.059 |
| FILE NAME:   | BUTLER ST. |

Sheet 05

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Date: 2022.11.29 15:54:35  
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PRECAST CONCRETE PLUMBED RESTROOM

SPECIFICATION SHEET

PART 1 - GENERAL

1.01 SUMMARY

Contractor or manufacturer to furnish a turn-key precast concrete plumbed restroom to be brought to the site in assembled modules or site assembled depending on size and set upon a level and compacted granular rock sub-base with up to a 100 ton crane, all included in the bid price. All site clearing and rough grading to within 6 inches of level are done by contractor, excavation for restroom sub-base to be done by contractor or manufacturer. To be an EasiSet/EasiSpan Building as manufactured by Leesburg Concrete Company Incorporated. Contractor or Manufacturer will pull all permits and connect to utilities.

1.02 QUALITY ASSURANCE

- A. Florida DBPR Insignia required, Section 553, Part I F.S.
- B. ACI-318-08, "Building Code Requirements for Reinforced Concrete". Concrete Reinforcing Institute, "Manual of Standard Practice".
- C. ANSI/ASCE-7-10 "Building Code Requirement for Minimum Design Loads in Buildings and Other Structures".
- D. Florida Building Code 2021, 7th Edition
- E. IBC 2021
- F. Concrete Reinforcing Institute, "Manual of Standard Practice".
- G. UL-752 test method level 5 for bullet resistance on concrete surfaces, certified by an independent ballistic laboratory.
- H. Fabricator must be a certified producer/member of The National Precast Concrete Association (NPCA).
- I. No alternate building designs to the pre-engineered building as produced by Leesburg Concrete will be allowed unless pre-approved by the owner 10 days prior to the bid date.

1.03 DESIGN REQUIREMENTS

- A. Design Loads
  - 1. Seismic Design Category 'C', Importance Factor 1
  - 2. Standard Live Roof Load - 60 PSF
  - 3. Standard Floor Load - 250 PSF (if precast floor provided by building manufacturer)
  - 4. Standard Wind Loading - ASCE 7-10 conforming to geographic area.
  - 5. Designed to meet the requirements of the Americans With Disabilities Act Requirements and Uniform Federal Accessibility Standard including as of the date of these specifications.
- B. Roof: To be post tensioned. The roof shall extend 4" beyond the wall panel and have a turnaround design which extends 1/2" below the top edge of the wall panels to prevent water migration into the building along the top of wall panels.
- C. Floor - The floor is provided and the walls sit on top of the floor with the floor extending to the edge of the walls for additional strength. Floor should be a minimum of 5 inches thick and have a looped post tension cable. Floor will have a 1/2" recessed keyway around the perimeter to accept the walls so as to form a physical water barrier.

1.04 SUBMITTALS

- A. Drawings and calculations sealed by a professional engineer, licensed to practice in the state where the project is located, shall be submitted for approval.
- B. Manufacturer to provide cut sheets on all attached fixtures.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Concrete: Steel-reinforced, 5000 PSI minimum 28-day compressive strength.
- B. Reinforcing Steel: ASTM A615, grade 60 unless otherwise specified.
- C. Post-tensioning Strand: Roof and floor shall be post-tensioned with a 41K polystrand CP50, 50", 270 KSI, 7-wire strand post tension cable, enclosed within a greased plastic sheath (ASTM A416).
- D. Caulking: All joints between panels shall be caulked on the exterior and interior surface of the joints. Caulking shall be SIKAFLEX-1A elastic sealant or equal. Exterior caulk joint to be 3/8" x 3/8" square so that sides of joint are parallel for correct caulk adhesion.
- E. Vents: Two screened aluminum vents to be cast in rear wall. Vents shall be SUNVENT 8"x16" with bug screen, or equal
- F. Panel Connections: All panel connections shall be welded together utilizing imbedded weld plates with Nelson anchors. Assembly shall be welded by a certified welder.

2.02 ACCESSORIES

- 1. Doors and Frames: 16 gauge galvanized 3068 HM door and frame, 4 7/8" throat, Schlage ND series heavy duty grade 1 cylindrical lockset and LCN series 1 Closer surface mounted. All doors and frames are in accordance with NOA 10-0209.07
- 2. ADA Stainless Steel Mirror
- 3. Stainless Steel, Jumbo Roll Type, Toilet tissue dispenser Bobrick model # BOB-2740
- 4. Grab bar 36" Bobrick model # B 5806.99x36.
- 5. Grab bar 42" Bobrick model # B 5806.99x42.
- 6. Stainless Steel, Refillable, Soap Dispenser by Bobrick model # BOB B-2112
- 7. Wall mounted trash can by Bobrick model # BOB-279
- 8. Door signs by Hillman with Braille, Men, Women, Family
- 9. Kohler K-1722-0 lavatory sink.
- 10. Kohler K-84323 toilet.
- 11. Sloan Royal Flushometer manual flush valve to include override flush button with Hardwire Power Supply
- 12. Sloan Sensor Faucet with Hardwire Power Supply
- 13. Solatube 160 DS 10" skylight in each restroom
- 14. Interior Lighting
- 15. Xlerator® Hand Dryer Model XL-BW
- 16. Drinking Water Fountain - Elkay Model VRCTL8WSK Bi-Level With Bottle Filler; ADA compliant installed on the front of restroom building
- 17. Exhaust Fan
- 18. Baby Changing Station
- 19. Door locks with a minimum of four (4) master keys

2.03 FINISHES

- A. Interior of Building: Smooth form finish on all interior panel surfaces.

- B. Exterior of Building shall be form lined finished in a pattern selected from the Lake County Building Finish Options page and noted on the drawings.
- C. Paint: 1 coat of Loxon primer and two coats of Duracraft paint in owner's choice of exterior color. Inside walls to be painted in white, floor to be painted in Sherwin Williams HC Silver Gray # 124.

PART 3 - EXECUTION

3.01 SITE PREPARATION

- A. Contractor or Manufacturer to bring all necessary utilities to a determined centralized point so as to align with an opening in the chase floor as called out in the manufacturer's provided plans.
- B. Building shall bear fully on a bed of crushed 3/8" stone base that is at least one foot larger in all directions than the footprint of the building.
- C. Pea gravel shall have a minimum depth of 6".
- D. Stone shall have a minimum depth of 10" down to firm sub grade. The vertical soil capacity under stone shall be compacted to have minimum bearing of 1,500 pounds per square foot. Stone shall be 3/8" or smaller and must be screeded level within 1/4" in both directions. Stone shall be placed within a perimeter form with flat and level top edge for screeding. Forming material shall remain around stone after the building is set.
- E. The crushed stone base shall be kept within the confines of the soil or perimeter form. Do not allow the base to become unconfined so that it may wash, erode, or otherwise be undermined.
- F. Select fill should be inorganic, non-plastic, granular soil with less than 10% passing the number 200 sieve. The fill should be placed in level lifts not to exceed 6 inches loose and should be compacted to a minimum of 95 percent (%) of the soils modified proctor maximum dry density as determined by ASTM Specification D-1557. In-place density tests should be performed on each lift by an experienced engineering technician working under the direction of a registered geotechnical engineer to verify that the recommended degree of compaction has been achieved.

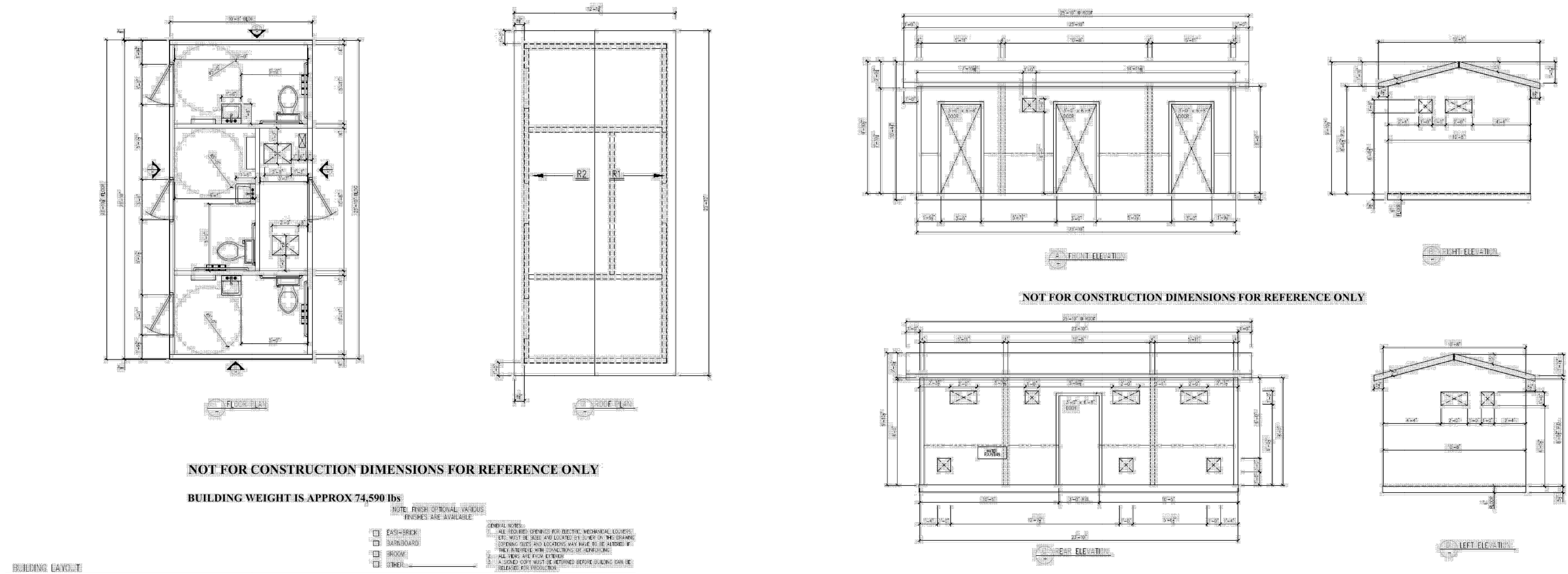
OR

If building is placed on pavement or concrete slab, substrate below pavement or slab must have a vertical soil capacity of 1,500 pounds per square foot. Place stone or sand to 1" above highest point of area where building will be placed and at least 1'-0" wide all around the building footprint. Retain stone or sand with a perimeter form to prevent the material from washing out.

- G. Provide positive drainage for the fill, pad, or slab as required.
- H. Contractor or Manufacturer to haul off excess dirt from excavation for sub-base and sidewalk.

3.02 ACCESS

The contractor must provide for a level, unobstructed area large enough for a 100 ton crane and a tractor-trailer to park adjacent to the pad. Crane must be able to place outriggers within 5'-0" of edge of pad, and truck and crane must be able to get side by side under their own power. No overhead obstructions may be within 75' radius of center of pad. Firm roadbed with turns that allow 65' lowbed tractor-trailer must be provided directly to site. No building shall be placed closer than 2'-0" to an existing structure.



| DATE | REVISION |
|------|----------|
| ***  | 1        |
|      | 2        |
|      | 3        |
|      | 4        |
|      | 5        |
|      | 6        |
|      | 7        |
|      | 8        |

LAKE COUNTY, FLORIDA  
BUTLER ST.  
BOAT RAMP PARKING LOT  
IMPROVEMENT PLANS  
PREFABRICATED RESTROOM  
SPECIFICATIONS



**HALFF**  
902 North Sinclair Ave.  
Tavares, Florida 32778  
Office: 352.343.8481  
Fax: 352.343.8495  
Certificate of Authorization Number: 33380

|              |            |
|--------------|------------|
| DATE:        | JUNE 2022  |
| DESIGNED BY: | HJC        |
| DRAWN BY:    | TNJ        |
| CHECKED BY.: | HJC        |
| JOB NO.:     | 043862.059 |
| FILE NAME:   | BUTLER ST. |

Sheet 07

HUGO J. CABRERA  
LICENSE  
No. 93087  
STATE OF FLORIDA  
PROFESSIONAL ENGINEER  
HUGO J. CABRERA, PE  
Registered Eng 93087

Hugo J. Cabrera



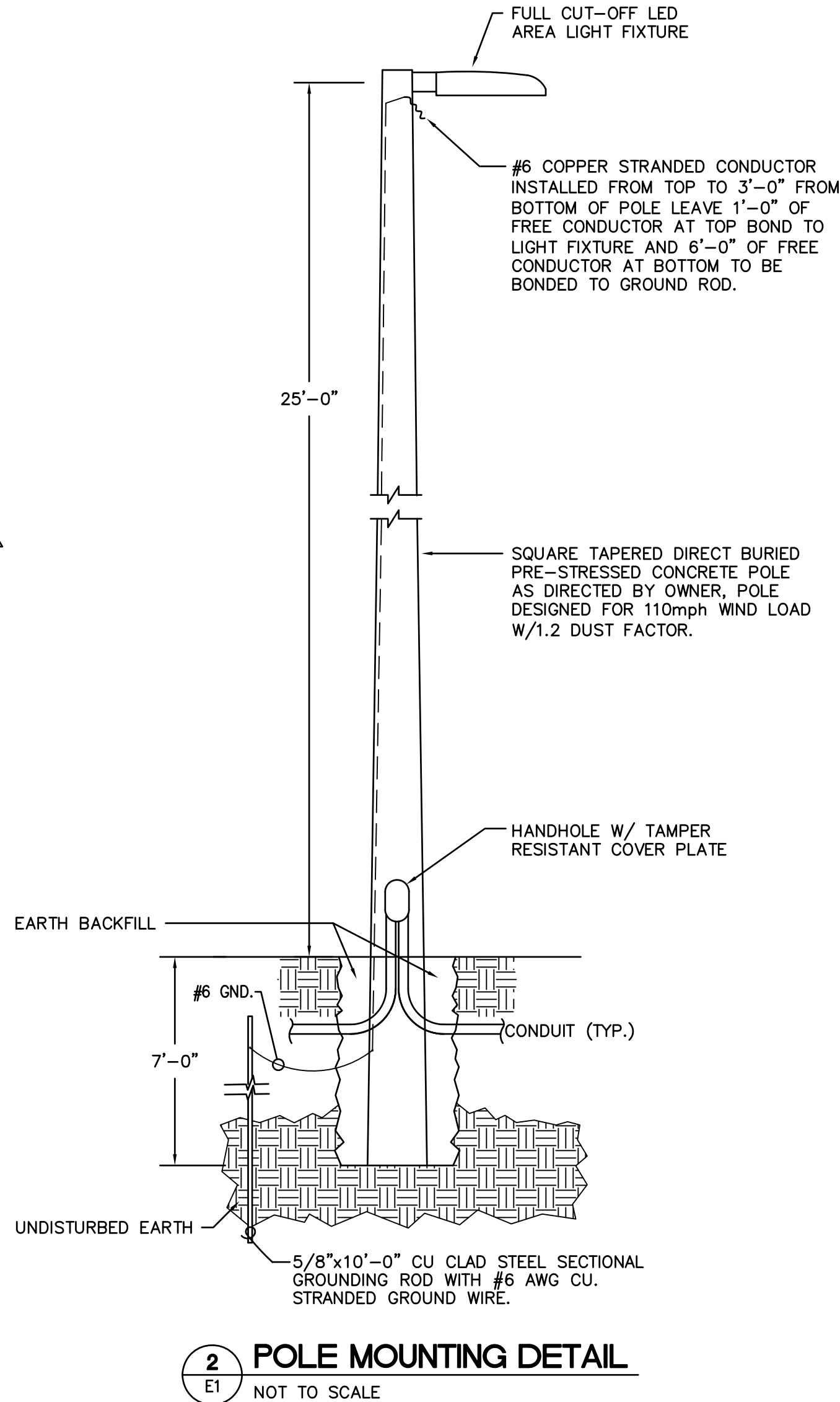
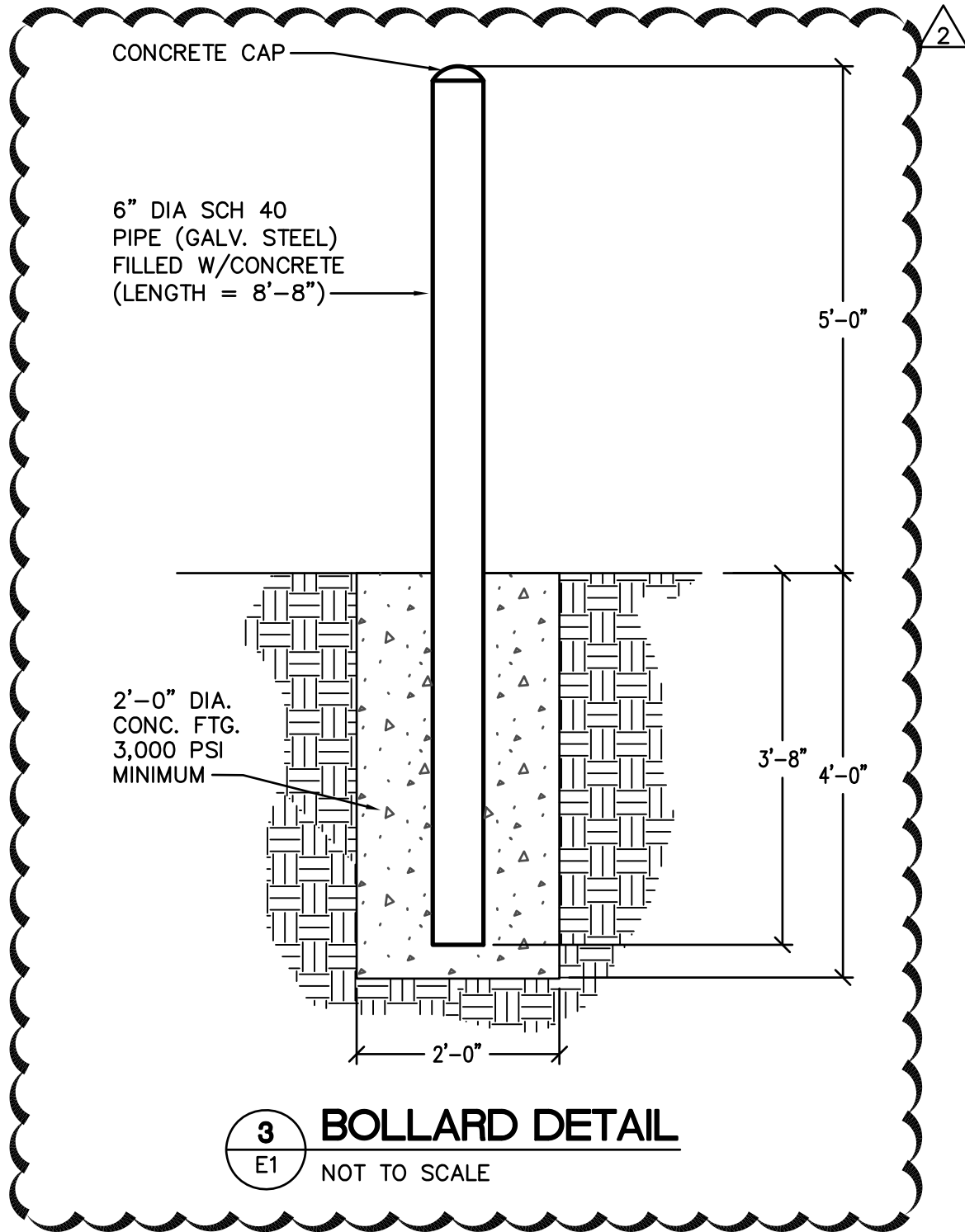
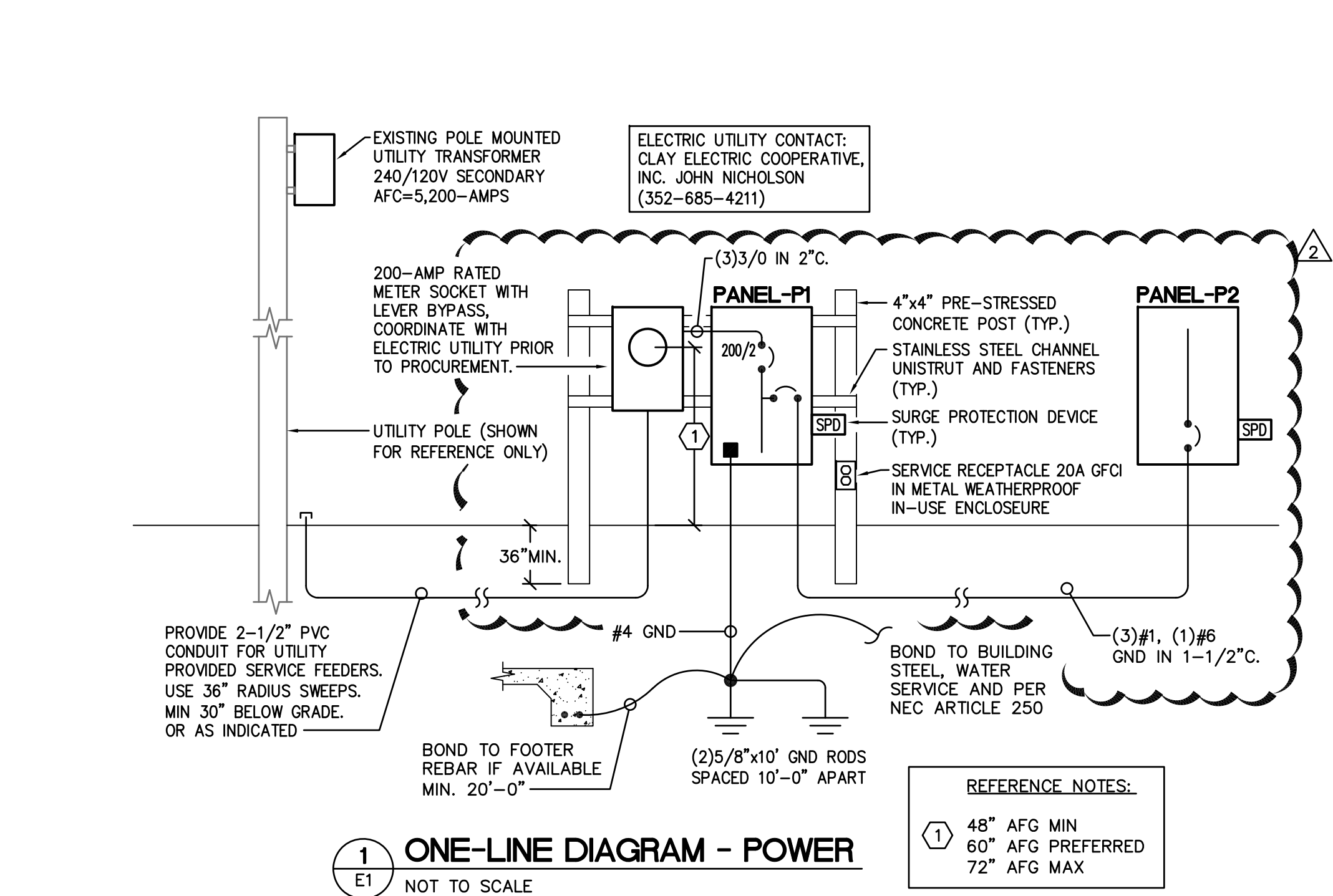
| LIGHT FIXTURE SCHEDULE   |           |            |   |              |   |       |         |       |  |
|--|-----------|------------|---|--------------|---|-------|---------|-------|--|
| Mark   | Lamp Data |            | Fixture Description   | Fixture Data |   |       | Voltage | Notes |  |
|  | No.       | Type       |   | Manufacturer | Catalog Number                            | Mount |         |       |  |
| S1   | 1         | LED (102W) | POLE MOUNTED LED AREA LIGHT FIXTURE 25'-0" AFG WITH TYPE-4 DISTRIBUTION AND BIRD SPIKES                   | LITHONIA     | DSX1-LED-P4-40K-T4M-MVOLT-SPA BS-DDBXD    | POLE  | 120     | 1     |  |
| S2   | 1         | LED (102W) | POLE MOUNTED LED AREA LIGHT FIXTURE 25'-0" AFG TYPE-4 DISTRIBUTION WITH HOUSE SIDE SHIELD AND BIRD SPIKES | LITHONIA     | DSX1-LED-P4-40K-T4M-MVOLT-SPA HS-BS-DDBXD | POLE  | 120     | 1     |  |
| S3   | 1         | LED (102W) | POLE MOUNTED LED AREA LIGHT FIXTURE 25'-0" AFG WITH TYPE-5 DISTRIBUTION AND BIRD SPIKES                   | LITHONIA     | DSX1-LED-P4-40K-T5W-MVOLT-SPA BS-DDBXD    | POLE  | 120     | 1     |  |
| LIGHTING FIXTURE GENERAL NOTES:  |           |            |   |              |   |       |         |       |  |
| A. PROJECT MUST BE BID AS SPECIFIED. ANY ALTERNATE TO THE BASE (AS SPECIFIED) BID MUST BE ACCOMPANIED BY A CREDIT TO THE OWNER WHICH WILL BE EVALUATED BY THE SPECIFIER. |           |            |   |              |   |       |         |       |  |
| B. CONTRACTOR SHALL PROVIDE ALL REQUIRED FIXTURE MOUNTING HARDWARE.  |           |            |   |              |   |       |         |       |  |
| LIGHTING FIXTURE REFERENCE NOTE:   |           |            |   |              |   |       |         |       |  |
| 1. UL LISTED, WET LOCATION RATED FIXTURE.  |           |            |   |              |   |       |         |       |  |

| DRAWING INDEX |  |
|---------------|--|
| E1            | LEGEND, SCHEDULES AND DETAILS - ELECTRICAL |
| E2            | DEMOLITION/EXISTING SITE PLAN - ELECTRICAL |
| E3            | RENOVATION/NEW SITE PLAN - ELECTRICAL      |
| E4            | SITE PLAN - LIGHTING PHOTOMETRICS          |
| E5            | SPECIFICATIONS - ELECTRICAL                |

|                                   |                          |       |                    |         |          |                     |         |         |                                |      |         |         |          |          |  |         |                         |            |
|-----------------------------------|--------------------------|-------|--------------------|---------|----------|---------------------|---------|---------|--------------------------------|------|---------|---------|----------|----------|--|---------|-------------------------|------------|
| PANEL DESIGNATION: P1             |                          |       | VOLTAGE: 240/120   |         |          | MAIN: 200A MCB      |         |         | AIC RATING: 10.0K              |      |         | AMPS    |          |          | BASIS OF DESIGN:<br>SQUARE-D LOAD CTR. |         |                         |            |
| LOCATION: EAST SIDE OF BUTLER ST. |                          |       | ENCLOSURE: NEMA-3R |         |          | WIRING: 1-PHASE, 3W |         |         | AFC AT PANEL: 4.36K            |      |         | AMPS    |          |          |  |         |                         |            |
| FED FROM: UTILITY XFMR            |                          |       | MOUNTING: SURFACE  |         |          | OPTIONS:            |         |         | BUS RATING: 200                |      |         | AMPS    |          |          |  |         |                         |            |
| REF. NOTES                        | LOAD DESCRIPTION         |       | KE LOAD            | EQ LOAD | REC LOAD | LTG LOAD            | CKT BKR | CKT No. | KVA PER PHASE A                | B    | CKT No. | CKT BKR | LTG LOAD | REC LOAD | EQ LOAD                                | KE LOAD | LOAD DESCRIPTION        | REF. NOTES |
|                                   | PANEL-P2 (BATHROOM BLDG) |       |                    | 9.20    |          |                     | 100/2   | 1       | 9.38                           |      | 2       | 20/1    |          |          |  |         | SERVICE RECEPTACLE      |            |
|                                   | -----                    |       |                    | 9.20    |          |                     | --      | 3       |                                | 9.20 | 4       | 20/1    |          | 0.18     |  |         | SPARE                   |            |
|                                   | SPARE                    |       |                    |         |          |                     | 20/1    | 5       | 0.00                           |      | 6       | 20/1    |          |          |  |         | SPARE                   |            |
|                                   | LIGHTING - BOAT RAMP     |       |                    |         |          | 0.31                | 20/1    | 7       |                                | 0.31 | 8       |         |          |          |  |         | SPARE                   |            |
|                                   | SPACE                    |       |                    |         |          |                     |         | 9       | 0.00                           |      | 10      |         |          |          |  |         | SPACE                   |            |
|                                   | SPACE                    |       |                    |         |          |                     |         | 11      |                                | 0.00 | 12      |         |          |          |  |         | SPACE                   |            |
|                                   | SPACE                    |       |                    |         |          |                     |         | 13      | 0.00                           |      | 14      |         |          |          |  |         | SPACE                   |            |
|                                   | SPACE                    |       |                    |         |          |                     |         | 15      |                                | 0.00 | 16      |         |          |          |  |         | SPACE                   |            |
|                                   | SPACE                    |       |                    |         |          |                     |         | 17      | 0.00                           |      | 18      | 30/2    |          |          |  |         | SURGE PROTECTION DEVICE |            |
|                                   | SPACE                    |       |                    |         |          |                     |         | 19      |                                | 0.00 | 20      | --      |          |          |  |         | -----                   |            |
| SUB TOTAL DEMAND KVA              |                          |       |                    |         |          | sf                  | VA/sf   |         | SUB TOTALS, CONN KVA PER PHASE |      |         |         |          |          |  |         | L-L VOLTAGE             | 240.00     |
| LTG                               | Actual x 125%            | 0.39  | 220.3(A)           |         |          |                     | 2       | 0       | PHASE-A                        |      |         |         | 9.38     |          |  |         | TOTAL CONN. KVA         | 18.89      |
| REC                               | NEC 220.13               | 0.18  |                    |         |          |                     |         |         | PHASE-B                        |      |         |         | 9.51     |          |  |         | TOTAL DEMAND KVA        | 18.97      |
| KE                                | NEC 220.20               | 0.00  | QTY. OF KE         |         | 0        |                     |         |         |                                |      |         |         |          |          |  |         | DEMAND AMPS             | 79.03      |
| EQ                                | 100%                     | 18.40 |                    |         |          |                     |         |         |                                |      |         |         |          |          |  |         |                         |            |

|                                |                        |                    |            |                     |          |                     |         |                                |      |                                     |         |          |          |         |         |                         |            |
|--------------------------------|------------------------|--------------------|------------|---------------------|----------|---------------------|---------|--------------------------------|------|-------------------------------------|---------|----------|----------|---------|---------|-------------------------|------------|
| PANEL DESIGNATION: P2          |                        | VOLTAGE: 240/120   |            | MAIN: 100A MCB      |          | AIC RATING: 10.0K   |         | AMPS                           |      | BASIS OF DESIGN: SQUARE-D LOAD CTR. |         |          |          |         |         |                         |            |
| LOCATION: EXTERIOR OF BATHROOM |                        | ENCLOSURE: NEMA-3R |            | WIRING: 1-PHASE, 3W |          | AFC AT PANEL: 1.95K |         | AMPS                           |      |                                     |         |          |          |         |         |                         |            |
| FED FROM: UTILITY XFMR         |                        | MOUNTING: SURFACE  |            | OPTIONS:            |          | BUS RATING: 125     |         | AMPS                           |      |                                     |         |          |          |         |         |                         |            |
| REF. NOTES                     | LOAD DESCRIPTION       | KE LOAD            | EQ LOAD    | REC LOAD            | LTG LOAD | CKT BKR             | CKT No. | KVA PER PHASE A                | B    | CKT No.                             | CKT BKR | LTG LOAD | REC LOAD | EQ LOAD | KE LOAD | LOAD DESCRIPTION        | REF. NOTES |
|                                | BATHROOM BUILDING      |                    | 5.76       |                     |          | 60/2                | 1       | 8.64                           |      | 2                                   | 30/2    |          |          | 2.88    |         | GRINDER PUMP            |            |
|                                |                        |                    | 5.76       |                     |          |                     | 3       |                                | 8.64 | 4                                   |         |          |          | 2.88    |         |                         |            |
|                                | LIGHTING - PARKING LOT |                    |            |                     | 0.61     | 20/1                | 5       | 0.79                           |      | 6                                   | 20/1    |          | 0.18     |         |         | SERVICE RECEPTACLE      |            |
|                                | SPARE                  |                    |            |                     |          | 20/1                | 7       |                                | 0.00 | 8                                   | 20/1    |          |          |         |         | SPARE                   |            |
|                                | SPACE                  |                    |            |                     |          |                     | 9       | 0.00                           |      | 10                                  |         |          |          |         |         | SPACE                   |            |
|                                | SPACE                  |                    |            |                     |          |                     | 11      |                                | 0.00 | 12                                  |         |          |          |         |         | SPACE                   |            |
|                                | SPACE                  |                    |            |                     |          |                     | 13      | 0.00                           |      | 14                                  |         |          |          |         |         | SPACE                   |            |
|                                | SPACE                  |                    |            |                     |          |                     | 15      |                                | 0.00 | 16                                  |         |          |          |         |         | SPACE                   |            |
|                                | SPACE                  |                    |            |                     |          |                     | 17      | 0.00                           |      | 18                                  | 30/2    |          |          |         |         | SURGE PROTECTION DEVICE |            |
|                                | SPACE                  |                    |            |                     |          |                     | 19      |                                | 0.00 | 20                                  | --      |          |          |         |         |                         |            |
| SUB TOTAL DEMAND KVA           |                        |                    |            |                     | sf       | VA/sf               |         | SUB TOTALS, CONN KVA PER PHASE |      |                                     |         |          |          |         |         | L-L VOLTAGE             | 240.00     |
| LTG                            | Actual x 125%          | 0.76               | 220.3(A)   |                     |          | 2                   | 0       | PHASE-A                        |      | 9.43                                |         |          |          |         |         | TOTAL CONN. KVA         | 18.07      |
| REC                            | NEC 220.13             | 0.18               |            |                     |          |                     |         | PHASE-B                        |      | 8.64                                |         |          |          |         |         | TOTAL DEMAND KVA        | 18.22      |
| KE                             | NEC 220.20             | 0.00               | QTY. OF KE | 0                   |          |                     |         |                                |      |                                     |         |          |          |         |         | DEMAND AMPS             | 75.93      |
| EQ                             | 100%                   | 17.28              |            |                     |          |                     |         |                                |      |                                     |         |          |          |         |         |                         |            |

| SYMBOL LEGEND |   |
|---------------|---|
| □-□           | POLE MOUNT LIGHT FIXTURE  |
| ⏻             | TIME SWITCH. 7-DAY 24-HOUR WITH BATTERY BACK-UP.  |
| ⊗x            | DUPLEX RECEPTACLE, FLUSH MOUNT (18" AFF)<br>WP = WEATHERPROOF<br>x = GFI = GROUND FAULT INTERRUPTER   |
| ■             | PANELBOARD - 240/120-VOLT   |
| →             | HOMERUN TO PANEL, ONE ARROW PER CIRCUIT   |
| ⎓             | BRANCH CIRCUIT CONDUCTORS IN CONDUIT, CROSSMARKS INDICATE NUMBER OF CONDUCTORS. EQUIPMENT GROUND REQUIRED BUT NOT SHOWN. TWO CONDUCTORS PLUS GROUND UNLESS OTHERWISE SHOWN. |



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| REVISION | DATE       | BY            | DESCRIPTION |
|----------|------------|---------------|-------------|
| 1        | 10/03/2022 | OWNER CHANGES |             |
| 2        | 12/02/2022 | OWNER CHANGES |             |
| 3        |            |               |             |
| 4        |            |               |             |
| 5        |            |               |             |
| 6        |            |               |             |
| 7        |            |               |             |
| 8        |            |               |             |
| 9        |            |               |             |
| 10       |            |               |             |

LAKE COUNTY, FLORIDA  
BUTLER ST. BOAT  
RAMP PARKING LOT  
IMPROVEMENT PLANS  
LEGEND, SCHEDULES AND  
DETAILS - ELECTRICAL

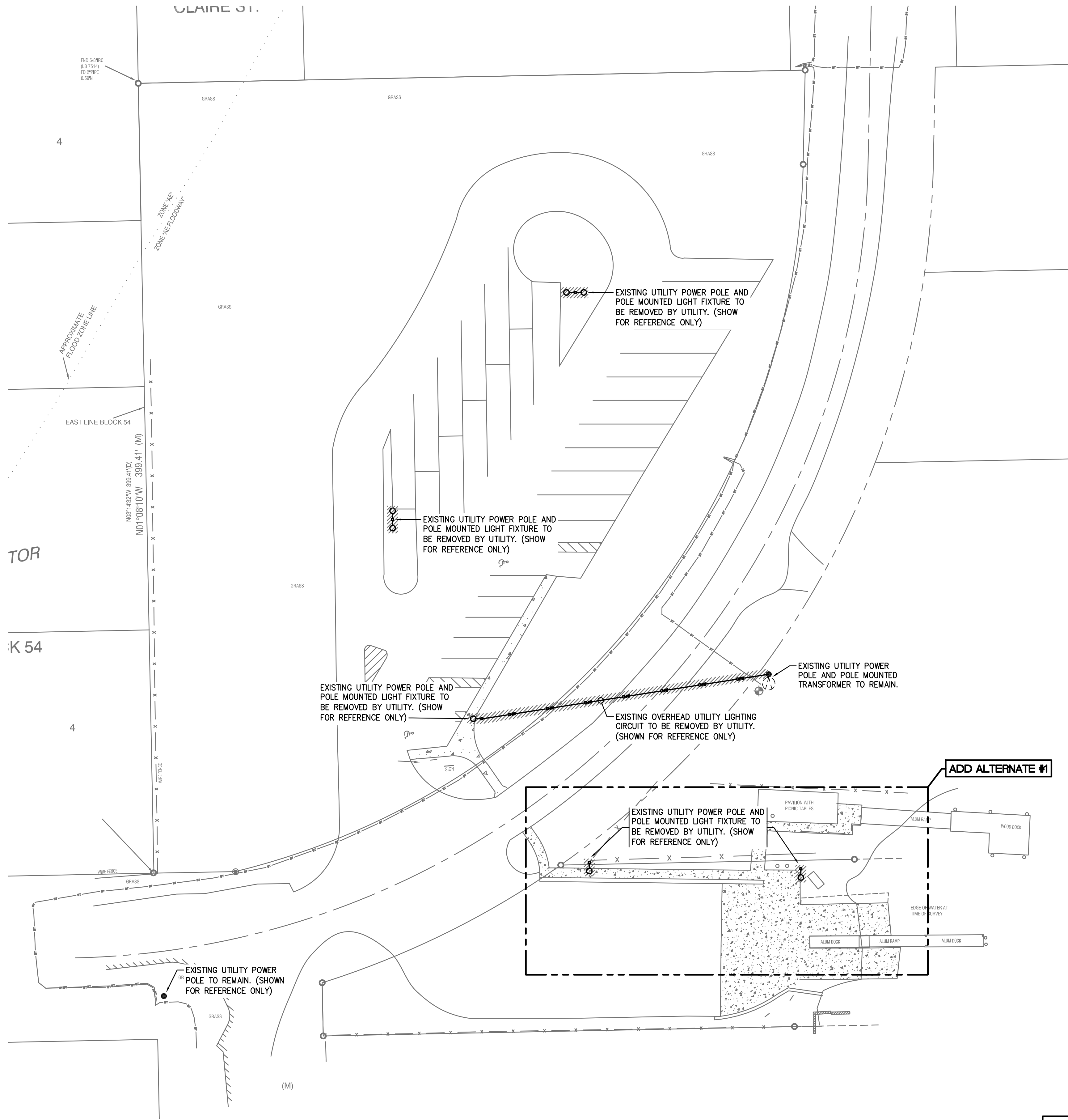
Electric Services, Inc.  
1746 US Highway 441 Leesburg, FL 34748  
P: 352-787-1322 F: 352-787-7871  
CA #9435 : EC #1415  
ES1 Job #E2207.01

HALEFF  
902 North Sinclair Ave.  
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Office: 352.343.8481  
Fax: 352.343.8495  
Certificate of Authorization Number: 33980

DATE: MAY 2022  
DESIGNED BY: WTB  
DRAWN BY: JEN  
CHECKED BY: WTB  
JOB NO.: 043862.059  
FILE NAME: E2207.01\_E1  
Sheet E1

WOOD T. BRAZILL, P.E.  
10/03/2022 10:40:03

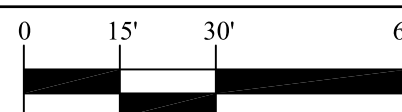




1  
E2

### DEMOLITION/EXISTING SITE PLAN - ELECTRICAL

SCALE: 1"=30'-0"



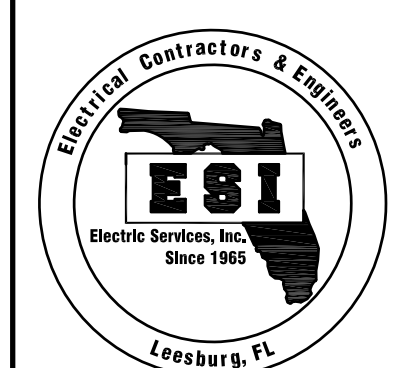
| DEMOLITION LEGEND |                        |
|-------------------|------------------------|
| -----             | EXISTING TO REMAIN     |
| ////              | REMOVE AND/OR RELOCATE |

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|----------|------------|---------------|
| 1        | 10/03/2022 | OWNER CHANGES |
| 2        | 12/02/2022 | OWNER CHANGES |
| 3        |            |               |
| 4        |            |               |
| 5        |            |               |
| 6        |            |               |
| 7        |            |               |
| 8        |            |               |
| 9        |            |               |
| 10       |            |               |

## LAKE COUNTY, FLORIDA BUTLER ST. BOAT RAMP PARKING LOT IMPROVEMENT PLANS DEMOLITION/EXISTING SITE PLAN - ELECTRICAL

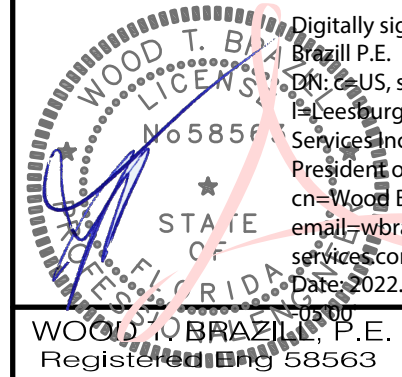


**Electric Services, Inc.**  
1746 US Highway 441 Leesburg, FL 34748  
P: 352-787-1322 F: 352-787-7871  
CA #9435 : EC #1415  
ESI Job #E2207.01

902 North Sinclair Ave.  
Tavares, Florida 32776  
Office: 352.343.6481  
Fax: 352.343.6495  
Certificate of Authorization Number: 33980

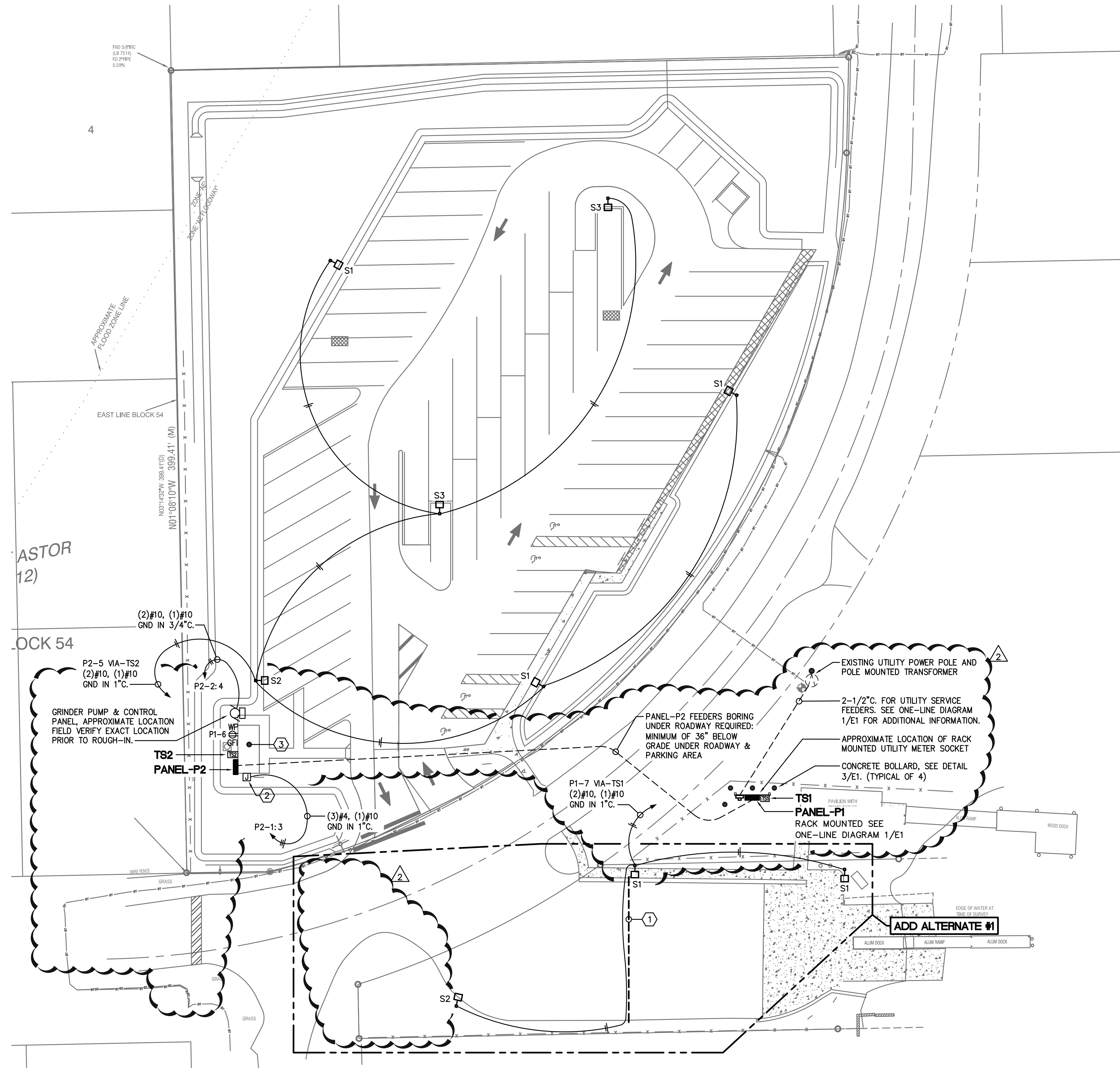
|              |             |
|--------------|-------------|
| DATE:        | MAY 2022    |
| DESIGNED BY: | WTB         |
| DRAWN BY:    | JEN         |
| CHECKED BY.: | WTB         |
| JOB NO.:     | 043862.059  |
| FILE NAME:   | E2207.01_E1 |

### Sheet E2



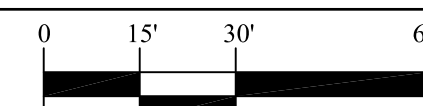
Digitally signed by Wood T. Brazill, P.E., DN: cn=Wood T. Brazill, o=Electric Services, Inc., ou=Vice-President of Engineering, email=wbrazill@electric-services.com, c=US, Date: 2022.12.02 10:40:40 -0500





# 1 RENOVATION/NEW SITE PLAN - ELECTRICAL

E3 SCALE: 1"=30'-0"



## REFERENCE NOTES:

- 1 APPROXIMATE BORING LOCATION FOR LIGHTING CIRCUITS, W/(1) SPARE 1" C. FOR FUTURE USE. (ADD ALTERNATE #1)
- 2 SINGLE POINT POWER CONNECTION TO BATHROOM BUILDING. COORDINATE POINT OF CONNECTION LOCATION AND REQUIREMENTS WITH BUILDING MANUFACTURE PRIOR TO ROUGH-IN.
- 3 PRE-FABRICATED BATHROOM BUILDING/STRUCTURE (BY GENERAL CONTRACTOR). MOUNT ELECTRICAL EQUIPMENT TO BACK SIDE OF STRUCTURE, COORDINATE WITH OWNER PRIOR TO ROUGH-IN.

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| 2        | 12/02/2022 | OWNER CHANGES |
| 3        |            |               |
| 4        |            |               |
| 5        |            |               |
| 6        |            |               |
| 7        |            |               |
| 8        |            |               |

LAKE COUNTY, FLORIDA  
BUTLER ST. BOAT  
RAMP PARKING LOT  
IMPROVEMENT PLANS  
RENOVATION/NEW  
SITE PLAN - ELECTRICAL

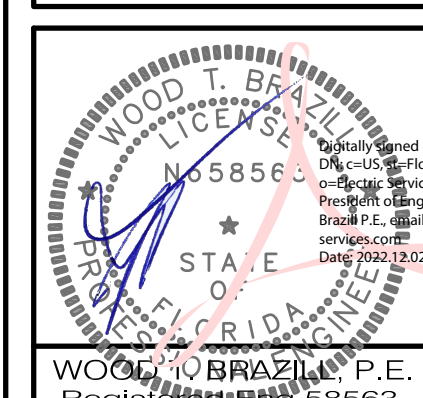


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P: 352-787-1322 F: 352-787-7871  
CA #9435 : EC #1415  
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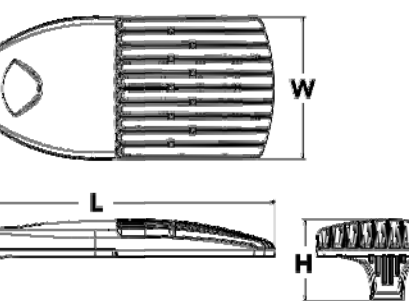


DATE: MAY 2022  
DESIGNED BY: WTB  
DRAWN BY: JEN  
CHECKED BY: WTB  
JOB NO.: 043862.059  
FILE NAME: E2207.01\_E1

Sheet E3







**CSA+ Capable Luminaires**

This item is an A+ capable luminaire, which has been designed and tested to provide consistent color appearance across system-level interoperability.

- A+ configuration of this luminaire meets the Acuity Brands specification for chromatic consistency

This luminaire is A+ Certified when ordered with DTL<sup>®</sup> controls marked by a **shaded background**. DTL DLL equipped luminaires meet the A+ specification for luminaire to photocolor control interoperability!

This luminaire is part of an A+ Certified solution for ROAM<sup>®</sup> or XPoint<sup>®</sup> Wireless control networks, providing out-of-the-box control compatibility with simple commissioning, when ordered with drivers and control options marked by a **shaded background**.

2. A+ Certified Solutions for ROAM require the order of one ROAM node per luminaire. Sold Separately: [Link to Roam](#); [Link to DTL-DLL](#)

**EXAMPLE: DSX1 LED P7 40K T3M MVOLT SPA DDBXD**

|        |       |                         |     |
|--------|-------|-------------------------|-----|
| S1, S2 | TF TM | Forward throw<br>medium | ACC |
|        | TSVS  | True V/s very short     |     |

|   |           |                        |
|---|-----------|------------------------|
| separate) <sup>1</sup>                                  | PIRH1FC3V | BI-level mount enables |
| TI <sup>2</sup>   | BL30      | BI-level               |
| TI,32   | BL50      | BI-level               |
| external control (leads exit fixture)                   | PNMTD03   | Plant rig              |
|   | PNMTS03   | Plant rig              |
| right, ambient sensor enabled at 5f: <sup>3,4,5,6</sup> | PNMT603   | Plant rig              |
| right, ambient sensor enabled at 5f: <sup>3,4,5,6</sup> | PNMT703   | Plant rig              |
|   | FAO       | Field as               |
| right, ambient sensor enabled at 1f: <sup>3,4,5,6</sup> |           |                        |



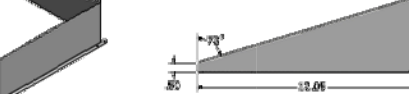
Page 1 of 1

**NOTES**  
1 P10, P11, P12 or P13 and rotated optics (LR, RS) only available with

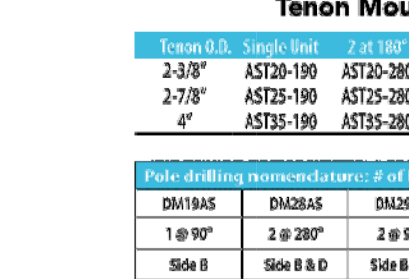
2. AMPIC/PC not available with BLC, LOCCO, RDO, A/P, PE, PF, or PS.
3. Not available with HS.
4. M/CCT driver operates on any line voltage from 120-277V/50/60 Hz.
5. Not available with BLC or RDO. BLC is not available with HS.
6. Single line HS requires 120V/50 or 240V/60 Double line HS requires 208/240V/50 or 208/240V/60.
7. Not available in P1 or P10. Not available with BLC, BLSR, or PAMT.
8. Existing drilled pilot only. Available as a separate combination order.
9. Must order fixture with VAP options. Must be ordered as a separate item.
10. Must be ordered with PPHM.
11. Protocol ordered and shipped as a separate line item from Assembly.
12. If NACAP needs require, it must be ordered and shipped as a separate line item from Assembly.
13. If NACAP needs require, it must be ordered as a separate line item from Assembly.
14. Requires 2" hexarily threaded chassis.
15. Reference Model Sensor table on page 3.
16. Reference FSR table on page 3 to see functionality.
17. Must be ordered with NUT492. For more information on night vision, see page 3.

[illegible]

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**Tenon Mou**



| Tension D.D. | Single Unit | 2 at 108" | 2 at 90"  | 3 at 120" | 3 at 90"  | 4 at 90"  |
|--------------|-------------|-----------|-----------|-----------|-----------|-----------|
| 2-3/8"       | AST20-190   | AST20-280 | AST20-290 | AST20-320 | AST20-390 | AST20-490 |
| 2-7/8"       | AST25-190   | AST25-280 | AST25-290 | AST25-320 | AST25-390 | AST25-490 |
| 4"           | AST35-190   | AST35-280 | AST35-290 | AST35-320 | AST35-390 | AST35-490 |

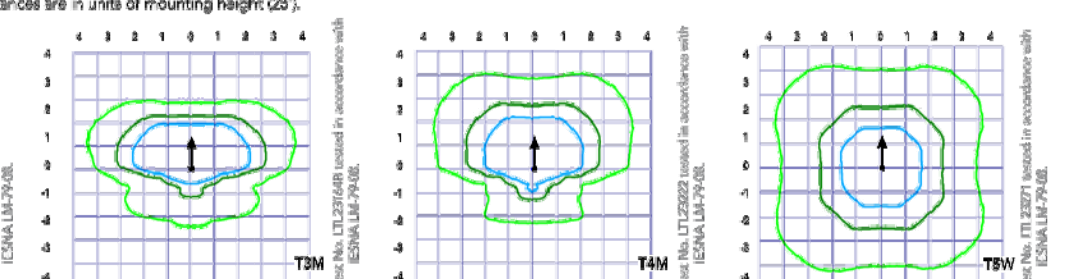
| Pole-drilling nomenclature: # of heads at degree from handle(s) (default side A) |            |            |                 |              |                  |
|--|------------|------------|-----------------|--------------|------------------|
| DM18AS   | DM28AS     | DM20AS     | DM32AS          | DM30AS       | DM40AS           |
| 1 @ 90°  | 2 @ 28°    | 2 @ 90°    | 3 @ 120°        | 3 @ 90°      | 4 @ 90°          |
| Side B   | Side B & D | Side B & C | Round pole only | Side A, C, D | Sides A, B, C, D |

Note: Barely luminaires spec sheet for specific nomenclature

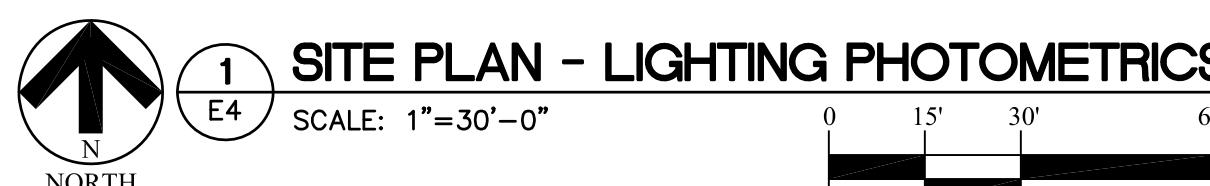
| Pola Top on Screen 0.0 | 4.5° @ 90° | 4° @ 90° | 3.5° @ 90° | 3° @ 90° | 4.5° @ 120° | 4° @ 120° | 3.5° @ 120° | 3° @ 120° |
|------------------------|------------|----------|------------|----------|-------------|-----------|-------------|-----------|
| DISI SPA               | Y          | Y        | Y          | N        | -           | -         | -           | -         |
| DISI PPA               | Y          | Y        | N          | N        | Y           | Y         | Y           | Y         |
| DISI SPUMBA            | Y          | N        | N          | N        | -           | -         | -           | -         |
| DISI PPUMBA            | N          | N        | N          | N        | Y           | Y         | Y           | N         |

To see complete photoelectric reports or download the files for this product, visit [4dphoto.com](http://www.4dphoto.com) or contact 4dphoto at [info@4dphoto.com](mailto:info@4dphoto.com).

For more information, contact the **PHOTONICS** team at 1-800-456-7890. Or visit our website at [www.photonics.com](http://www.photonics.com).



OSX1-LEI  
rev. 07/25/1  
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| STATISTICS        |          |         |        |        |               |             |
|-------------------|----------|---------|--------|--------|---------------|-------------|
| Label             | CalcType | Average | Max    | Min    | Average / Min | Max / Min   |
| PROPERTY BOUNDARY | lumiance | 0.1 fc  | 0.4 fc | 0.0 fc | N/A           | N/A         |
| PARKING LOT       | lumiance | 0.8 fc  | 2.4 fc | 0.2 fc | 4.0 : 1 fc    | 12.0 : 1 fc |
| AT RAMP           | lumiance | 1.1 fc  | 2.4 fc | 0.2 fc | 5.5 : 1 fc    | 12.0 : 1 fc |

THIS ITEM HAS BEEN DIGITALLY  
SIGNED AND SEALED BY  
WOOD T. BRAZILL, P.E. ON THE  
DATE ADJACENT TO THE SEAL.

PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES

| DATE       | REVISION        |
|------------|-----------------|
| 10/03/2022 | 1 OWNER CHANGES |
| 12/02/2022 | 2 OWNER CHANGES |
|            | 3               |
|            | 4               |
|            | 5               |
|            | 6               |
|            | 7               |
|            | 8               |

LAKE COUNTY, FLORIDA  
BUTLER ST. BOAT  
RAMP PARKING LOT  
IMPROVEMENT PLANS

SITE PLAN  
LIGHTING PHOTOMETRICS



**Electric Services, Inc.**  
1746 US Highway 441 Leesburg, FL 34748  
P:352-787-1322 F:352-787-7871  
CA #9435 : EC #1415  
**ESI Job #E2207.01**

**HALFF**  
 902 North Sinclair Ave.  
 Tavares, Florida 32778  
 Office: 352.343.8481  
 Fax: 352.343.8495  
 Certificate of Authorization Number: 33390

|                 |             |
|-----------------|-------------|
| DATE:           | MAY 2022    |
| DESIGNED BY:    | WTB         |
| DRAWN BY:       | JEN         |
| CHECKED BY.:    | WTB         |
| JOB NO.:        | 043862.059  |
| FILE NAME:      | E2207.01_E1 |
| <b>Sheet E4</b> |             |

WOOD T. BRAZILL, P.E.  
Lic. No. 58563-1  
Dover, N.S., Florida,  
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Services Inc., Vice-  
President of Engineering  
for Wood Brazill, P.E.  
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services.com  
Date: 2022.12.01 10:41:33  
2023



DIVISION 16  
ELECTRICAL SPECIFICATIONS

SECTION 16028 – CODES, FEES, AND STANDARDS

CODES AND FEES

UNLESS SPECIFICALLY NOTED TO THE CONTRARY, FURNISH ALL EQUIPMENT, MATERIALS LABOR, AND INSTALL AND TEST IN ACCORDANCE WITH APPLICABLE SECTIONS OF THE FOLLOWING CODES AND STANDARDS:

- NFPA–70 (2017) NATIONAL ELECTRICAL CODE
- ACCESSIBILITY REQUIREMENTS MANUAL, DEPARTMENT OF COMMUNITY AFFAIRS
- SEVENTH EDITION (2020) FLORIDA BUILDING CODE
- 2020 FLORIDA FIRE PREVENTION CODE
- ANSI: AMERICAN STANDARDS INSTITUTE, INC.
- ASTM: AMERICAN SOCIETY FOR TESTING AND MATERIALS
- NEMA: NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
- NESC: NATIONAL ELECTRIC SAFETY CODE
- NFPA: NATIONAL FIRE PROTECTION ASSOCIATION
- UL: UNDERWRITERS' LABORATORIES, INC.
- APPLICABLE LOCAL CODES

OBTAIN PERMITS AND INSPECTIONS FROM AUTHORITIES HAVING JURISDICTION. DELIVER CERTIFICATES OF INSPECTION TO THE OWNER AT TIME OF ACCEPTANCE INSPECTION.

STANDARDS

ALL MATERIALS SHALL BE NEW, FREE OF DEFECTS, AND SHALL BE UL LISTED, BEAR THE UL LABEL OR BE LABELED OR LISTED WITH AN APPROVED, NATIONALLY RECOGNIZED ELECTRICAL TESTING AGENCY. WHERE NO LABELING OR LISTING SERVICE IS AVAILABLE FOR CERTAIN TYPE OF EQUIPMENT, TEST DATA SHALL BE SUBMITTED TO PROVE TO THE OWNER THAT EQUIPMENT MEETS OR EXCEEDS AVAILABLE STANDARDS.

MATERIALS AND/OR EQUIPMENT FURNISHED, OR WORK PERFORMED BY THE CONTRACTORS SHALL FULLY CONFORM TO ALL REQUIREMENTS OF THE CONSTRUCTION DOCUMENTS AND IS FREE OF ANY DEFECT IN EQUIPMENT, MATERIAL OR WORKMANSHIP PERFORMED AND PROVIDED BY THE CONTRACTOR. THIS WARRANTY PERIOD SHALL CONTINUE FOR A MINIMUM OF ONE YEAR COMMENCING ON THE SUBSTANTIAL COMPLETION DATE OF THE PROJECT.

SECTION 16050 – BASIC REQUIREMENTS

1.1 RELATED DOCUMENTS

THE OTHER CONTRACT DOCUMENTS COMPLEMENT THE REQUIREMENTS OF THIS SECTION.

1.2 SCOPE

THE WORK SHALL INCLUDE, BUT NOT BE LIMITED TO, FURNISHING A COMPLETE ELECTRICAL SYSTEM AS SHOWN ON THE DRAWINGS.

DRAWINGS FOR THE WORK ARE DIAGRAMMATIC, INTENDED TO CONVEY THE SCOPE OF THE WORK AND TO INDICATE THE GENERAL ARRANGEMENT AND LOCATIONS OF THE WORK. BECAUSE OF THE SCALE OF THE DRAWINGS, CERTAIN BASIC ITEMS SUCH AS CONDUIT FITTINGS, ACCESS PANELS, SLEEVES, PULL AND JUNCTION BOXES MAY NOT BE SHOWN. WHERE SUCH ITEMS ARE REQUIRED BY CODE OR BY OTHER SECTIONS, SUCH ITEMS SHALL BE INCLUDED.

EQUIPMENT SPECIFICATION MAY NOT DEAL INDIVIDUALLY WITH MINUTE ITEMS SUCH AS COMPONENTS, PARTS, CONTROLS AND DEVICES WHICH MAY BE REQUIRED TO PRODUCE THE EQUIPMENT PERFORMANCE SPECIFIED OR AS REQUIRED TO MEET THE EQUIPMENT WARRANTIES. WHERE SUCH ITEMS ARE REQUIRED, THEY SHALL BE INCLUDED BY THE SUPPLIER OF THE EQUIPMENT, WHETHER OR NOT SPECIFICALLY INDICATED.

COORDINATE WITH ALL TRADES IN SUBMITTAL OF SHOP DRAWINGS. SHOP DRAWINGS SHALL DETAIL SPACE CONDITIONS TO THE SATISFACTION OF ALL CONCERNED TRADES, SUBJECT TO REVIEW AND FINAL ACCEPTANCE BY THE ARCHITECT. IN THE EVENT THAT THE CONTRACTOR INSTALLS HIS WORK BEFORE COORDINATING WITH OTHER TRADES OR SO AS TO CAUSE ANY INTERFERENCE WITH WORK OF OTHER TRADES, THE NECESSARY CHANGES SHALL BE MADE IN THE WORK TO CORRECT THE CONDITION, AT NO ADDITIONAL COST TO THE OWNER.

1.3 TEMPORARY LIGHTING AND POWER

FURNISH, INSTALL AND MAINTAIN TEMPORARY LIGHTING AND POWER TO BE USED BY ALL TRADES DURING CONSTRUCTION. THE ENTIRE SYSTEM SHALL BE GROUNDED. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL UTILITY COSTS FOR TEMPORARY SERVICE.

1.4 SUPERVISION OF THE WORK

PROVIDE FIELD SUPERINTENDENT WHO HAS HAD A MINIMUM OF FOUR (4) YEARS PREVIOUS SUCCESSFUL EXPERIENCE ON PROJECTS OF COMPARABLE SIZES AND COMPLEXITY. SUPERINTENDENT SHALL BE PRESENT AT ALL TIMES THAT WORK UNDER THIS DIVISION IS BEING INSTALLED OR AFFECTED.

1.5 DELIVERY AND STORAGE

HANDLE, STORE AND PROTECT EQUIPMENT AND MATERIALS IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND WITH THE REQUIREMENTS OF NAPA 70B, APPENDIX J, TITLED "EQUIPMENT STORAGE AND MAINTENANCE DURING CONSTRUCTION". REPLACE DAMAGED OR DEFECTIVE ITEMS WITH NEW ITEMS.

1.6 ELECTRICAL CONNECTIONS

CONNECTIONS SHALL BE TIGHTENED TO THE TORQUE VALUES RECOMMENDED BY THAT DEVICE MANUFACTURERS INSTRUCTIONS. IF THESE VALUES ARE NOT LISTED, TIGHTEN TO POUND-INCH OR POUND-FOOT VALUES RECOMMENDED IN UL STANDARD 486B, A SUMMARY OF WHICH MAY BE FOUND IN SECTION 110–14 OF THE NATIONAL ELECTRIC CODE HANDBOOK.

1.7 INTERRUPTIONS OF SERVICE

POWER INTERRUPTIONS SHALL BE HELD TO AN ABSOLUTE MINIMUM. ALL INTERRUPTIONS TO EXISTING BUILDINGS REQUIRED SHALL BE APPROVED IN WRITING BY THE OWNER'S REPRESENTATIVE IN WRITING 14 DAYS PRIOR TO THE TIME THE INTERRUPTION IS REQUESTED TO PERMIT SCHEDULING WITH THE OWNER'S STAFF.

ANY POWER INTERRUPTION SHALL NOT EXCEED TWO (2) HOURS IN THE DURATION APPROVED BY THE OWNER.

1.8 TESTS

SYSTEMS SHALL BE TESTED BY THE CONTRACTOR AND PLACED IN PROPER WORKING ORDER PRIOR TO DEMONSTRATING SYSTEMS TO OWNER.

AFTER WORK IS COMPLETED, A LOAD BALANCE TEST SHALL BE MADE FOR EACH PANELBOARD TO DEMONSTRATE THAT WITH FULL LIGHTING AND MECHANICAL LOAD, THE BALANCE BETWEEN PHASES IS WITHIN 15% UNBALANCED BEYOND THIS LIMIT SHALL BE CORRECTED, MAINTAINING PROPER PHASE RELATION TO NEUTRAL AT ALL TIMES.

PERFORM SUCH TESTS AS REQUIRED BY AUTHORITIES HAVING JURISDICTION OVER THE SITE.

1.9 DEMONSTRATIONS

PRIOR TO ACCEPTANCE OF THE WORK, THE CONTRACTOR SHALL DEMONSTRATE TO THE OWNER, OR HIS DESIGNATED REPRESENTATIVE, ALL FEATURES AND FUNCTIONS OF ALL SYSTEMS AND SHALL INSTRUCT THE OWNER IN THE PROPER OPERATION OF THE SYSTEMS. EACH SYSTEM SHALL BE DEMONSTRATED ONCE.

THE DEMONSTRATIONS SHALL CONSIST OF NOT LESS THAN THE FOLLOWING:

- POINT OUT THE ACTUAL LOCATION OF EACH COMPONENT OF A SYSTEM AND DEMONSTRATE ITS FUNCTION AND ITS RELATIONSHIP TO OTHER COMPONENTS WITHIN THE SYSTEM.
- DEMONSTRATE THE ELECTRICAL SYSTEMS BY ACTUAL "START–STOP" OPERATION SHOWING HOW TO WORK CONTROLS, HOW TO RESET PROTECTIVE DEVICES, AND WHAT TO DO IN AN EMERGENCY.
- DEMONSTRATE COMMUNICATION, SIGNAL, ALARM AND DETECTION SYSTEMS BY ACTUAL OPERATION OF THE SYSTEMS AND SHOW HOW TO RESET SIGNAL, ALARM AND DETECTION DEVICES.

SYSTEMS TO BE DEMONSTRATED SHALL INCLUDE BUT NOT BE LIMITED TO THE FOLLOWING:

- POWER DISTRIBUTION SYSTEMS
- LIGHTING AND LIGHTING CONTROL SYSTEMS
- MOTOR AND EQUIPMENT CONTROL
- TELEPHONE SYSTEM

CONTRACTOR SHALL FURNISH THE NECESSARY TRAINED PERSONNEL TO PERFORM THE DEMONSTRATIONS AND INSTRUCTIONS, AND SHALL ARRANGE TO HAVE THE MANUFACTURER'S REPRESENTATIVES PRESENT TO ASSIST WITH THE DEMONSTRATIONS.

CONTRACTOR SHALL ARRANGE WITH THE OWNER, THE ARCHITECT AND THE ENGINEER, THE DATES AND TIMES FOR PERFORMING EACH DEMONSTRATION.

1.10 IDENTIFICATION

CONTRACTOR SHALL PROVIDE IDENTIFICATION FOR WIRING SYSTEMS AND EQUIPMENT.

LETTERING FOR IDENTIFICATION SHALL BE OF SIGN PAINTERS QUALITY OR STENCIL LETTERING. PAINT SHALL BE FAST DRYING SIGN ENAMEL. ALL PULL AND JUNCTION BOXES FOR THESE SYSTEMS IN SERVICE AREAS, ABOVE ACCESSIBLE CEILINGS AND IN ACCESSIBLE CHASES SHALL HAVE ONE–HALF INCH HIGH BLACK LETTERING IDENTIFYING THE SYSTEM. LETTERING PRINTED NEATLY AND LEGIBLY WITH PERMANENT "MAGIC MARKER" IS ACCEPTABLE FOR LETTERING OF BOXES ABOVE CEILINGS.

POWER AND LIGHTING CIRCUITS SHALL HAVE CONDUCTORS COLOR CODED OR BANDED, PER 16120 "WIRE AND CABLE" IN EACH JUNCTION AND PULL BOX.

NAMEPLATES:

- THE FOLLOWING ITEMS SHALL BE EQUIPPED WITH NAME–PLATES: ALL MOTOR STARTERS, PUSHBUTTON STATIONS, CONTROL PANELS, TIME SWITCHES, DISCONNECT SWITCHES, PANELBOARDS, TRANSFORMERS, CONTACTORS OR RELAYS IN SEPARATE ENCLOSURES, POWER RECEPTACLES WHERE THE NOMINAL VOLTAGE BETWEEN ANY PAIR OR CONTACTS IS GREATER THAN 150V. ALL SWITCHES CONTROLLING OUTLETS OR EQUIPMENT WHERE THE OUTLETS ARE NOT LOCATED WITHIN SIGHT OF THE CONTROLLING SWITCH, AND CABINETS. SPECIAL ELECTRICAL SYSTEMS SHALL BE IDENTIFIED AT TERMINAL CABINETS AND EQUIPMENT RACKS.

- NAMEPLATES SHALL ADEQUATELY DESCRIBE THE FUNCTION OF THE PARTICULAR EQUIPMENT INVOLVED. WHERE NAMEPLATES ARE DETAILED ON THE DRAWINGS, INSCRIPTION AND SIZE OF LETTERS SHALL BE AS SHOWN ON THE SHOP DRAWINGS SUBMITTED FOR APPROVAL. NAMEPLATES FOR PANELBOARD SHALL INCLUDE THE PANEL DESIGNATION, VOLTAGE, PHASE, AND SOURCE. FOR EXAMPLE, "PANEL 3PA, 120/208V, 3–PHASE, 4–WIRE, FED FROM XFMR T–3A. THE NAME OF THE MACHINE ON THE NAMEPLATES FOR A PARTICULAR MACHINE SHALL BE THE SAME AS THE ONE USED ON ALL MOTOR STARTERS, DISCONNECT AND P.B. STATION NAMEPLATES FOR THAT MACHINE.

- NAMEPLATES SHALL BE LAMINATED PHENOLIC PLASTIC, BLACK FRONT WITH WHITE CORE, SELF ADHESIVE BACK WITH LETTERING ETCHED THROUGH THE OUTER COVERING. WITH PLATED OR STAINLESS STEEL SCREWS. NAMEPLATES TO IDENTIFY EMERGENCY AND FIRE ALARM DEVICES SHALL BE RED LAMINATE.

PANELBOARDS SHALL HAVE TYPE–WRITTEN CIRCUIT DIRECTORIES INSTALLED INSIDE THE DOORS UNDER TRANSPARENT PLASTIC COVERS.

1.11 SUBMITTALS

PRODUCT DATA: FOR EACH TYPE OF PRODUCT INDICATED.

- WITHIN THIRTY (30) DAYS AFTER AWARD OF THE CONTRACT, THE CONTRACTOR SHALL SUBMIT TO THE ARCHITECT, FOR APPROVAL, A LIST OF MANUFACTURERS' NAMES OF MATERIAL AND EQUIPMENT HE PROPOSES TO PROVIDE. IN THE EVENT ANY ITEMS OF MATERIAL OR EQUIPMENT CONTAINED THEREIN FAIL TO COMPLY WITH THE CONTRACT DOCUMENTS, SUCH ITEMS WILL BE REJECTED.

- ALL SUBMITTALS SHALL BE A MINIMUM OF SIX (6) COPIES AND SHALL BE BOUND IN A THREE RING BINDER. SUBMITTALS SHALL BE DIVIDED WITH TABBED SEPARATORS INDICATING SPECIFICATION SECTION NUMBERS. ALL PRODUCT DATA SHALL BE CLEARLY MARKED IN INK WITH THE CORRESPONDING EQUIPMENT IDENTIFICATION NUMBERS AS INDICATED IN THE CONTRACT DOCUMENTS.

- MARK–OUT ITEMS ON PRODUCT DATA SHEETS WHICH CONSTITUTE INFORMATION NOT PERTAINING TO THE EQUIPMENT SPECIFIED.

SUBMITTAL DATA FOR ELECTRICAL EQUIPMENT SHALL CONSIST OF SHOP DRAWINGS AND/OR CATALOG CUTS SHOWING TECHNICAL DATA NECESSARY TO EVALUATE THE MATERIAL OR EQUIPMENT, TO INCLUDE DIMENSIONS, WIRING DIAGRAMS, PERFORMANCE CURVES, RATINGS, CONTROL SEQUENCE AND OTHER DESCRIPTIVE DATA NECESSARY TO DESCRIBE FULLY THE ITEM PROPOSED AND ITS OPERATING CHARACTERISTICS. ANY SUBMITTAL DATA IN THE FOLLOWING ELECTRICAL SECTIONS, SPECIFIC TO THAT SECTION, IS IN ADDITION TO SUBMITTAL REQUIREMENTS OF THIS SECTION.

1.12 FIRE STOPPING

PENETRATIONS OF RATED WALLS AND FLOORS SHALL BE SEALED TO PREVENT PASSAGE OF FIRE, SMOKE, TOXIC GASES AND WATER. MAINTAIN THE FIRE/OR SMOKE RATING OF ALL RATED WALL AND FLOORS.

SEALING MATERIAL SHALL BE PERFORMED WITH THE USE OF MATERIAL SPECIFICALLY INTENDED FOR THE PURPOSE AND APPLICATION. METHOD OF INSTALLATION SHALL CONFORM TO THE MANUFACTURERS INSTRUCTIONS AND TO APPLICABLE CODES AND STANDARDS.

1.13 RECORD DRAWINGS

AT THE JOB SITE, MAINTAIN A SET OF PRINTS ON WHICH ARE RECORDED ALL FORMAL FIELD CHANGES AND OTHER PORTIONS OF THE WORK THAT VARY SIGNIFICANTLY FROM THE CONTRACT DOCUMENTS. INDICATE ACTUAL ROUTING OF ELECTRICAL FEEDERS.

DELIVER RECORD DRAWINGS TO THE ARCHITECT IN THE QUANTITY AND MANNER SPECIFIED IN DIVISION 1 – GENERAL REQUIREMENTS.

1.14 MAINTENANCE MANUALS

PROVIDE THREE (3) MAINTENANCE MANUALS CONTAINING PRODUCT DATA, SHOP DRAWINGS, WIRING DIAGRAMS, INSTRUCTIONS AND PART LISTS FOR MAINTAINING AND OPERATION ELECTRICAL SYSTEMS AND EQUIPMENT. INCLUDE A DESCRIPTION OF NORMAL ADJUSTMENTS AND A LIST OF ITEMS REQUIRING PERIODIC MAINTENANCE AND THE FREQUENCY REQUIRED. PROVIDE OWNER WITH ANY SPECIAL TOOLS REQUIRED.

DELIVER MAINTENANCE MANUALS TO THE OWNER AT THE TIME OF THE DEMONSTRATION OF SYSTEMS AND EQUIPMENT.

1.15 CONCRETE WORK

FURNISH AND INSTALL REINFORCED CONCRETE PADS FOR TRANSFORMERS OF SIZE REQUIRED. PADS SHALL BE THREE INCHES HIGH AND SHALL EXCEED DIMENSIONS OF EQUIPMENT BEING SET ON THEM BY SIX INCHES ON ALL SIDES. CHAMFER TOP EDGES TO ONE–HALF INCH. TROWEL ALL SURFACES SMOOTH. REINFORCE PADS WITH 6"x6" X 9/9 WELDED WIRE FABRIC.

THIS CONTRACTOR SHALL FURNISH ALL EQUIPMENT ANCHOR BOLTS AND SHALL BE RESPONSIBLE FOR THEIR PROPER INSTALLATION AND ACCURATE LOCATION.

EXPOSED CONDUIT BUNDLES THROUGH FLOORS UP INTO SURFACE MOUNTED PANELBOARDS SHALL HAVE 3" HIGH HOUSEKEEPING PAD POURED AROUND THEM.

SECTION 16111 – RACEWAYS

APPROVED RACEWAY MATERIALS INCLUDE GRS, IMC, EMT AND MC–CABLE AS LIMITED BELOW. SCHEDULE–40 PVC RACEWAYS ARE PERMITTED FOR UNDERGROUND ONLY. NO OTHER RACEWAY MATERIALS ARE PERMITTED WITH OUT PRIOR AUTHORIZATION.

HOT–DIPPED GALVANIZED (GRS), THREADED TYPE CONFORMING TO ANSI C80.1 AND UL 6. USE WHERE EXPOSED TO THE EXTERIOR AND AT ALL CONCRETE PENETRATIONS. BITUMASTIC COATING REQUIRED AT CONCRETE PENETRATIONS.

ELECTRICAL METALLIC TUBING (EMT) AND INTERMEDIATE METAL CONDUIT (IMC)

MC–CABLE IS ACCEPTABLE WITH THE EXCEPTION OF HOMERUM CIRCUITS AND EXAMINATION ROOMS. EXAMINATION ROOMS RACEWAYS SHALL BE EMT OR AC TYPE CABLE (HOSPITAL GRADE).

HOMERUNS SHALL BE DEFINED AS ORIGINATING AT THE BRANCH OVER CURRENT DEVICE AND CONTINUE TO THE FIRST BRANCH EQUIPMENT, DEVICE OR FIXTURE. MC–CABLE SHALL NOT ORIGINATE AT THE PANEL LOCATION.

ALL RACEWAYS SHALL BE RUN PARALLEL AND PLUMB TO BUILDING STRUCTURE.

SECTION 16120 – WIRES AND CABLES (600 VOLTS AND LESS)

WIRE AND CABLE

ALL CONDUCTORS SHALL BE COPPER.

TYPE THHN/THWN, SINGLE CONDUCTOR, NO. 12 MINIMUM FOR GENERAL USE WIRING.

ALL SPECIFIED CONDUCTOR SIZES HAVE BEEN SIZED TO ACCOMMODATE FOR VOLTAGE DROP AS REQUIRED BY FBC 13–413 AND NEC 210.19(A)(1) FPN #4.

CONDUCTOR SIZES FOR LIGHTING, RECEPTACLES AND SMALL MOTOR BRANCH CIRCUITS, WITH LESS THAN 30 AMPERE CONNECTED LOAD, MAY NOT BE SHOWN ON DRAWING. CONDUCTORS FOR SUCH CIRCUITS SHALL BE SIZED AS FOLLOWS:

120 VOLT CIRCUITS: CONDUCTOR SIZE FOR BRANCH CIRCUITS 75 FEET IN LENGTH FOR BRANCH CIRCUIT PANEL TO CENTER OF LOAD SHALL NOT BE SMALLER THAN No. 12; UP TO 125 FEET NOT SMALLER THAN No. 10, UP TO 175 FEET NOT SMALLER THAN No. 8.

277 VOLT CIRCUITS: CONDUCTOR SIZE FOR BRANCH CIRCUITS 150 FEET IN LENGTH FOR BRANCH CIRCUIT PANEL TO CENTER OF LOAD SHALL NOT BE SMALLER THAN No. 12; UP TO 200 FEET NOT SMALLER THAN No. 10, UP TO 350 FEET NOT SMALLER THAN No. 8.

EACH MULTIWIRE BRANCH CIRCUIT SHALL BE PROVIDED WITH MEANS THAT WILL SIMULTANEOUSLY DISCONNECT ALL UNGROUNDED CONDUCTORS AT THE POINT WHERE THE BRANCH CIRCUIT ORIGINATES.

SECTION 16130 – BOXES

OUTLET BOXES – FLUSH MOUNTED

WALL OUTLETS: 4 INCH SQUARE WITH PLASTER RING AS REQUIRED.

CEILING LIGHTING FIXTURE OUTLET BOXES: 4 INCH OCTAGON GALVANIZED BOX WITH RAISED COVER SET FLUSH WITH FINISHED SURFACE, COMPLETE WITH 3/8 INCH FIXTURE STUD.

OUTLET BOXES – SURFACE MOUNTED

GENERAL USE OUTLET BOXES: SINGLE OR MULTIPLE GANGED CADMIUM PLATED MALLEABLE IRON OR FERRALLOY TYPE FC OR FD CAST BOXES WITH THREADED HUBS, OR 4 INCH SQUARE PRESSED STEEL BOXES.

OUTLET BOX LOCATIONS

SWITCHES: 48 INCHES ABOVE FLOOR TO CENTER. LOCATE ON LATCH SIDE OF DOOR.

RECEPTACLES AND TELEPHONE OUTLETS: 18 INCHES ABOVE FLOOR TO CENTER OR 6 INCHES ABOVE COUNTERS.

MOTOR STARTERS AND DISCONNECT SWITCHES: 60 INCHES ABOVE FLOOR.

SECTION 16140 – WIRING DEVICES

RECEPTACLES

HEAVY DUTY DUPLEX: SPECIFICATION GRADE DUPLEX RECEPTACLES, 2 POLE, 3 WIRE, GROUNDING, 20 AMPERES, 125 VOLTS, WITH NEMA CONFIGURATION 5–20R UNLESS OTHERWISE INDICATED.

GROUND–FAULT CIRCUIT INTERRUPTERS: PROVIDE GROUND FAULT CIRCUIT INTERRUPTER, WITH HEAVY DUTY DUPLEX RECEPTACLES. SHALL BE GROUNDING TYPE, RATED 20 AMPERES, 120 VOLTS, 60 HZ; WITH SOLID–STATE GROUND FAULT SENSING.

SWITCHES

SINGLE POLE SNAP: GENERAL DUTY FLUSH SINGLE POLE QUIET TOGGLE SWITCHES, 20 AMPERES 120/277 VOLTS AC, WITH MOUNTING YOKE INSULATED FROM MECHANISM, EQUIP WITH PLASTER EARS, SWITCH HANDLE, AND SIDE–WIRED SCREW TERMINALS.

WALL PLATES

MATERIAL AND FINISH: PLASTIC, SMOOTH, COLOR: IVORY.

SECTION 16155 – MOTOR STARTERS

MAGNETIC COMBINATION NON–REVERSING STARTERS WITH H–O–A SWITCH AND RED AND GREEN INDICATOR LIGHTS, FOR 3 PHASE MOTORS.

AC FRACTIONAL HORSEPOWER MANUAL STARTERS FOR SINGLE PHASE MOTORS.

SECTION 16160 – PANELBOARDS

PANELBOARDS AND DISTRIBUTION PANELS

PROVIDE DEAD FRONT PANELBOARDS WITH SWITCHING AND PROTECTIVE DEVICES IN QUANTITIES, RATING, TYPES, AND ARRANGEMENTS SHOWN; WITH LUG CONNECTORS APPROVED FOR COPPER CONDUCTORS.

PANELBOARDS SHALL BE SQUARE D, SIEMENS, CUTLER HAMMER, OR GENERAL ELECTRIC COMPANY.

AIC RATINGS MUST BE OBTAINED BY FULLY RATING OR SERIES RATING OF CIRCUIT BREAKERS INDICATED.

SECTION 16170 – MOTOR AND CIRCUIT DISCONNECTS

GENERAL DUTY DISCONNECT SWITCHES

PROVIDE SURFACE MOUNTED, GENERAL DUTY TYPE, SHEET STEEL ENCLOSED SWITCHES, THAT ARE FUSIBLE OR NON–FUSIBLE, WITH VOLTAGE RATING FOR CIRCUIT, AMPERAGE, NUMBER OF POLES AND INDICATED ON DRAWINGS AND INCORPORATING SPRING ASSISTED, QUICK MAKE, QUICK BREAK SWITCHES WHICH ARE SO CONSTRUCTED THAT SWITCH BLADES ARE VISIBLE IN "OFF" POSITION WITH DOOR OPEN. UNLESS OTHERWISE INDICATED, PROVIDE NEMA TYPE 1 ENCLOSURE WITH STAMPED ENCLOSURE KNOCKOUTS. OUTDOOR ENCLOSURES SHALL BE NEMA 3R.

ALL SAFETY SWITCHES 30–600 AMPS, SHALL BE PROVIDED WITH CLASS R REJECTION STYLE FUSE CLIPS. THE COMBINATION RATING OF THE SAFETY SWITCH AND R FUSE SHALL BE 100,000 SYM AMPS AND LABELED AS SUCH.

SECTION 16450 – GROUNDING

CONDUCTORS

PROVIDE ELECTRICAL GROUNDING CONDUCTORS FOR GROUNDING CONNECTIONS MATCHING POWER SUPPLY WIRING MATERIALS AND SIZED ACCORDING TO NEC. CONDUCTORS SHALL BE COPPER.

SECTION 16500 – LIGHTING FIXTURES

FABRICATE OF SHEET STEEL, DIE–FORMED TO PROVIDE STRUCTURAL

TREAT FIXTURES FOR ACCEPTANCE OF BAKED WHITE HIGH REFLECTANCE ENAMEL OR PORCELAIN ENAMEL FINISH COAT.

LENS PANELS FOR SURFACE BOX TYPE FIXTURES AND FOR RECESSED TROFFERS SHALL BE FRAMED AND BE EQUIPPED WITH HINGE AND LATCH. EQUIP FRAMES AND LOUVERS WITH RETAINING MEANS TO SUPPORT FRAME DURING RELAMPING.

PROVIDE FIXTURES AS SCHEDULED ON THE DRAWINGS.

SECTION 16040 – ELECTRICAL DEMOLITION AND ALTERATIONS

RELATED DOCUMENTS

- THE OTHER CONTRACT DOCUMENTS COMPLEMENT THE REQUIREMENTS OF THIS SECTION. THE GENERAL REQUIREMENTS APPLY TO THE WORK OF THIS SECTION.

JOB CONDITIONS

- THIS CONTRACTOR IS RESPONSIBLE FOR ALL CHARGES, FEES, ETC. INCURRED AS A RESULT OF THE ELECTRICAL PORTION OF THE DEMOLITION.

- PRIOR TO DEMOLITION OR ALTERATION OF STRUCTURES, THE FOLLOWING SHALL BE ACCOMPLISHED:

- COORDINATE SEQUENCING WITH OWNER AND OTHER CONTRACTORS.

- SURVEY AND RECORD CONDITION OF EXISTING FACILITIES TO REMAIN IN PLACE THAT MAY BE AFFECTED BY DEMOLITION SURVEY OPERATIONS. AFTER DEMOLITION OPERATIONS ARE COMPLETED, CONDITIONS AGAIN AND RESTORE EXISTING FACILITIES TO THEIR PRE–DEMOLITION CONDITION, AT NO ADDITIONAL COST TO OWNER.

- SALVAGE EQUIPMENT SCHEDULED FOR REUSE IN NEW WORK OR SCHEDULED TO BE DELIVERED TO OWNER'S STORAGE FACILITY.

DEMOLITION

ELECTRICAL EQUIPMENT IN CONFLICT WITH CONSTRUCTION SHALL BE REMOVED AND/OR RELOCATED AS INDICATED ON THE ARCHITECTURAL DRAWINGS, AS DIRECTED OR REQUIRED. THIS CONTRACTOR SHALL REMOVE ALL ELECTRICAL EQUIPMENT RELEASED FROM SERVICE AS A RESULT OF CONSTRUCTION, AND NO EQUIPMENT REMOVED SHALL BE REUSED, EXCEPT AS SPECIFICALLY DIRECTED ON THE DRAWINGS OR ELSEWHERE HEREIN. EXCEPT FOR CONDUIT, CONDUCTORS AND MISCELLANEOUS HARDWARE, ALL ELECTRICAL EQUIPMENT SHALL REMAIN THE PROPERTY OF THE OWNER AND SHALL BE STORED ON THE SITE, AS PER DIRECTION FROM THE OWNER, FOR REMOVAL BY THE OWNER.

ANY EXISTING CIRCUITS OR EQUIPMENT NOT SHOWN ON THE DRAWINGS AND WHICH ARE LOGICALLY EXPECTED TO BE CONTINUED IN SERVICE AND WHICH MAY BE INTERRUPTED OR DISTURBED DURING CONSTRUCTION, SHALL BE RECONNECTED IN AN APPROVED MANNER. IN ADDITION, ANY EXISTING CIRCUIT OR EQUIPMENT WHICH MAY REQUIRE RELOCATION OR REROUTING AS A RESULT OF CONSTRUCTION, SHALL BE CONSIDERED IN THE CONTRACT WITH NO ADDITIONAL COMPENSATION.

REMOVE ALL WIRING TO EXISTING EQUIPMENT, LIGHTING AND RECEPTACLES BEING DISCONTINUED OR REMOVED DUE TO CONSTRUCTION. ABANDONED OR REMOVED CIRCUITS SHALL BE DISCONNECTED AT THEIR OVER CURRENT DEVICE, THE CONDUCTORS REMOVED AND THE CIRCUIT SPACE MARKED "SPARE" ON THE APPLICABLE DIRECTORY USING ADHESIVE BACKED CORRECTION TAPE.

OUTLET BOXES BEING ABANDONED IN EXISTING WALLS IN REMODELED AREAS SHALL HAVE OPENING PATCHED TO MATCH EXISTING WALL FINISH. BLANK COVERS ARE NOT ACCEPTABLE UNLESS NOTED OTHERWISE.

THE EXISTING BUILDING IS TO REMAIN IN OPERATION DURING CONSTRUCTION. THIS CONTRACTOR SHALL COORDINATE ALL WORK THAT WILL INTERFERE WITH THE PRESENT OPERATION OF THE FACILITY WITH THE OWNER.

DURING THE DEMOLITION AND ALTERATIONS, EXISTING LIGHTING SHALL REMAIN ACTIVE.

PROVIDE REQUIRED ADDITIONAL SUPPORT FOR EXISTING CONDUIT IN REMODELED AREA THAT IS NOT BEING REMOVED AND IS NOT PROPERLY SUPPORTED IN ACCORDANCE WITH N.E.C. REQUIREMENTS.

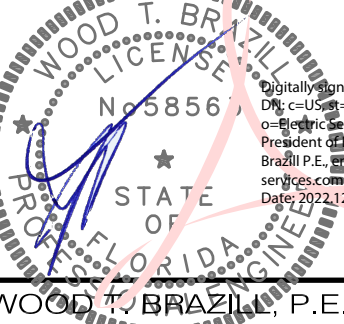
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| DATE     | 10/03/2022    | 12/02/2022    |   |   |   |   |   |   |   |
|          | OWNER CHANGES | OWNER CHANGES |   |   |   |   |   |   |   |

LAKE COUNTY, FLORIDA  
**BUTLER ST. BOAT  
RAMP PARKING LOT  
IMPROVEMENT PLANS**  
SPECIFICATIONS  
ELECTRICAL

  
**Electric Services, Inc.**  
1746 US Highway 441 Leesburg, FL 34748  
P:352-787-1321 F:352-787-7871  
CA #9435 : EC #1415  
**ESI Job #E2207.01**

  
902 North Sinclair Ave.  
Tavares, Florida 32776  
Office: 352.343.9481  
Fax: 352.343.9495  
Certificate of Authorization Number: 33390

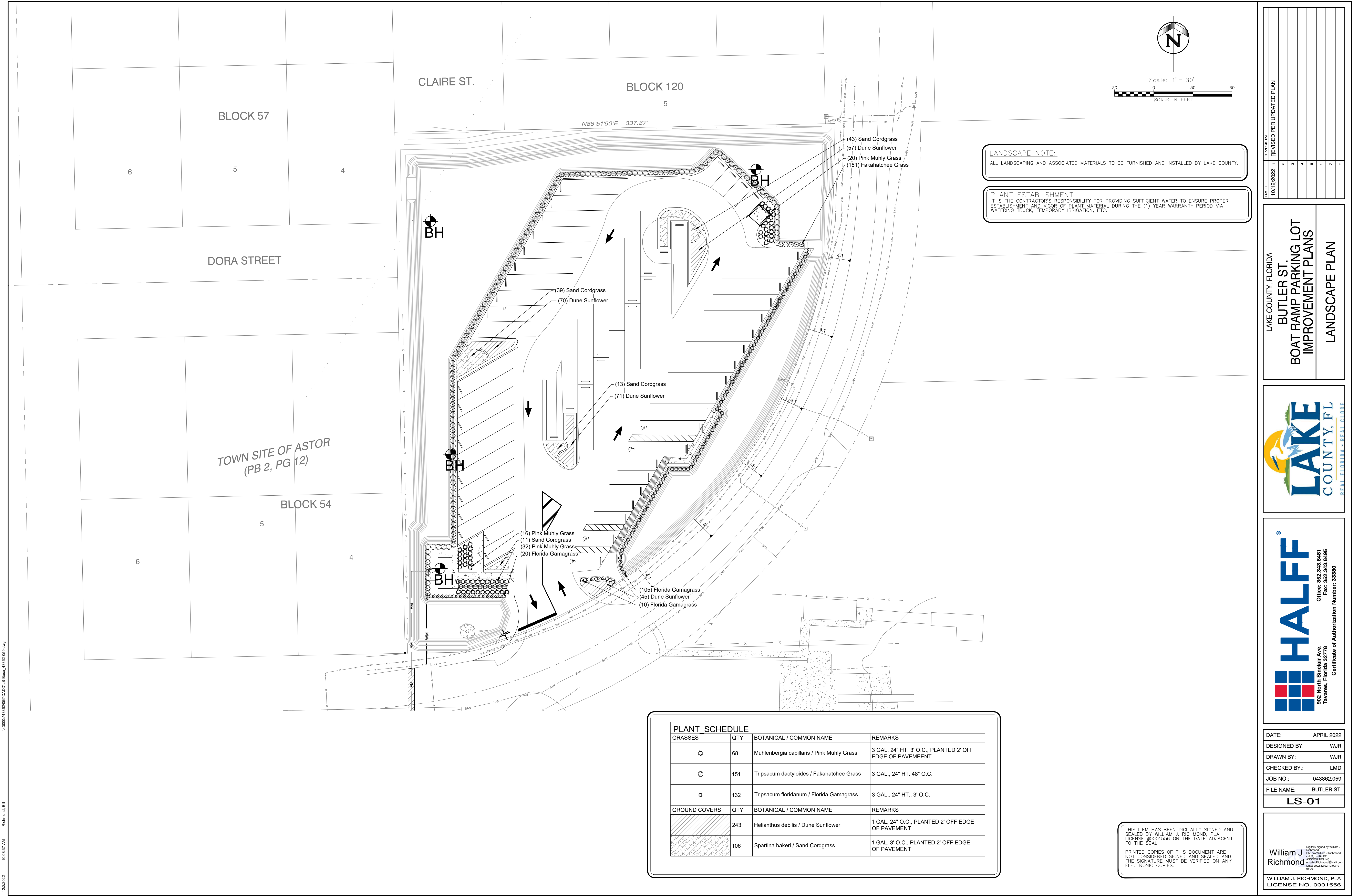
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| DATE:        | MAY 2022    |
| DESIGNED BY: | WTB         |
| DRAWN BY:    | JEN         |
| CHECKED BY.: | WTB         |
| JOB NO.:     | 043862-059  |
| FILE NAME:   | E2207.01_E1 |

  
**Sheet E5**  
WOOD T. BRAZZIL, P.E.  
Registered Professional Engineer  
License No. 58556

THIS ITEM HAS BEEN DIGITALLY  
SIGNED AND SEALED BY  
WOOD T. BRAZZIL, P.E. ON THE  
DATE ADJACENT TO THE SEAL.

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GENERAL LANDSCAPE NOTES:

- LANDSCAPE CONTRACTOR IS RESPONSIBLE FOR VERIFYING PROJECT SITE CONDITIONS AND DETERMINING REQUIRED QUANTITIES AND AVAILABILITY OF ALL MATERIALS PRIOR TO BIDDING. QUANTITIES ARE PROVIDED FOR INFORMATIONAL PURPOSES ONLY. IF ANY DISCREPANCIES OCCUR BETWEEN QUANTITIES CALLED FOR ON THE PLANT LIST AND THOSE INDICATED ON THE DRAWINGS, THE DRAWINGS SHALL GOVERN.
- PRIOR TO COMMENCEMENT OF CONSTRUCTION, CONTRACTOR SHALL INSPECT PLANTING AREAS AND VERIFY THAT NO OBJECTIONABLE MATERIALS OR OBSTRUCTIONS ARE PRESENT. PRESENT FINDINGS TO OWNER'S REPRESENTATIVE FOR APPROVAL. ALL EXISTING PLANTING SHALL REMAIN INTACT AND UNDISTURBED UNLESS OTHERWISE NOTED ON THE DRAWINGS. ALL EXISTING SITE FURNISHINGS, PAVING, LANDSCAPE, AND OTHER ELEMENTS TO REMAIN SHALL BE PROTECTED FROM ANY DAMAGE UNLESS OTHERWISE NOTED.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING ADJACENT IMPROVEMENTS FROM DAMAGE AND EROSION INCLUDING BUT NOT LIMITED TO EXISTING PLANT MATERIAL, GRADES, SIDEWALKS, SITE FURNISHINGS, CURBS, AND UTILITIES. ANY ADJACENT IMPROVEMENT DAMAGED DURING CONSTRUCTION SHALL, AT A MINIMUM, BE RESTORED TO A STATE EQUAL TO ITS PRE-CONSTRUCTION STATE AT THE CONTRACTOR'S EXPENSE. THE LANDSCAPE CONTRACTOR IS RESPONSIBLE FOR SODDING ALL AREAS DISTURBED BY OTHER CONTRACTORS OR BY LANDSCAPE INSTALLATION.
- IN GENERAL, THE WORK SHALL PROCEED AS RAPIDLY AS THE SITE BECOMES AVAILABLE. CONTRACTOR TO COORDINATE PROJECT SCHEDULE WITH OWNER'S REPRESENTATIVE. WORK TO BEGIN WITHIN 5 BUSINESS DAYS OF RECEIPT OF NOTICE TO PROCEED.
- THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS TO COMPLETE WORK, AND SHALL COMPLY WITH ALL LOCAL, STATE, AND FEDERAL REGULATIONS.
- THE LANDSCAPE CONTRACTOR SHALL COORDINATE CONSTRUCTION OF PLANTING AREAS WITH HARDSCAPE, ELECTRICAL, AND IRRIGATION WORK.
- LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ANY HOISTING EQUIPMENT NECESSARY FOR THE PLACEMENT OF PLANT MATERIAL.
- COLLECT SOIL SAMPLES AT A MINIMUM OF (4) PLANTING LOCATIONS THROUGHOUT THE PROJECT. SUBMIT TESTING LOCATIONS TO OWNER'S REPRESENTATIVE PRIOR TO TAKING SAMPLES. SAMPLES SHALL BE SENT TO AN APPROVED AGRONOMIC SOILS TESTING LABORATORY, STATING PROPOSED PLANT MATERIAL AT EACH TEST LOCATION. ANALYSIS SHALL INCLUDE, AT A MINIMUM, PH, NPK, ORGANIC CONTENT, TEXTURE, AND SOLUBLE SALTS. SUBMIT RESULTS/RECOMMENDATIONS AND PROPOSED FERTILIZER ANALYSIS/AMENDMENTS TO OWNER'S REPRESENTATIVE. COSTS OF FERTILIZER AND AMENDMENTS ARE TO BE INCLUDED IN THE COST OF THE PROJECT.
- LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING AND VERIFYING THE CONDITION OF UNDERGROUND UTILITIES THAT AFFECT PLANTING PROCEDURES. IF ANY CONFLICTS OCCUR BETWEEN PROPOSED LOCATION OF TREES ON THE DRAWINGS AND ANY UNDERGROUND, SUBSURFACE, OR OVERHEAD UTILITIES OR STRUCTURES THE LANDSCAPE CONTRACTOR SHALL NOTIFY THE OWNER'S REPRESENTATIVE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE LOCATIONS AND PROTECTION OF ALL EXISTING UTILITIES SHOWN OR NOT SHOWN AND ALL PROPOSED UTILITIES ON THESE DRAWINGS.
- IF THE LANDSCAPE CONTRACTOR DAMAGES ANY STAKED OR IN PLACE UTILITIES OR STRUCTURES BY HIS OWN NEGLIGENCE THEY SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
- THE LANDSCAPE CONTRACTOR SHALL REFER TO THE LANDSCAPE PLANTING DETAILS, NOTES, AND THE LANDSCAPE SCHEDULE FOR COMPLETE LANDSCAPE INSTALLATION INSTRUCTIONS. NOTIFY OWNER'S REPRESENTATIVE OF ANY AND ALL DISCREPANCIES PRIOR TO CONSTRUCTION OR INSTALLATION.
- THE LANDSCAPE CONTRACTOR SHALL RE-GRADE ALL AREAS DISTURBED BY PLANT REMOVAL, RELOCATION, AND/OR INSTALLATION WORK. ANY DAMAGED PLANT MATERIAL SHALL BE REPLACED WITH PLANTS OF SAME SPECIES (MIN 12" HT, 3" CAL, 5" DBH) EQUALING THE TOTAL DIAMETER BREAST HEIGHT(DBH) OF THE DAMAGED TREE AND SHALL BE SUBJECT TO ALL REQUIREMENTS HEREIN.
- THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR WATERING ALL NEWLY INSTALLED PLANT MATERIAL AS NEEDED TO MAINTAIN HEALTH AND VIGOR THROUGHOUT THE 90 DAY MAINTENANCE PERIOD REGARDLESS OF THE STATUS OF EXISTING OR PROPOSED IRRIGATION AND/OR RAINFALL.

DAMAGES AND WARRANTY:

- ALL PLANT MATERIAL, INCLUDING TRANSPLANTED PLANT MATERIAL, SHALL BE GUARANTEED AT OR ABOVE THE SPECIFIED CONDITIONS THROUGH SUBSTANTIAL COMPLETION AND UNTIL THE END OF THE (1) YEAR WARRANTY PERIOD. MAINTENANCE SHALL BE PROVIDED BY THE LANDSCAPE CONTRACTOR FOR (1) YEAR AFTER SUBSTANTIAL COMPLETION, AFTER WHICH THE LANDSCAPE CONTRACTOR WILL COORDINATE MAINTENANCE WITH OWNER'S REPRESENTATIVE. THE CONTRACTOR SHALL NOT PERMIT NAILS, SCREWS, WIRES ETC., TO PENETRATE OUTER SURFACE OF TREES. TREES REJECTED DUE TO THIS PRACTICE SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.
- THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR RE-STAKING OF TREES DURING THE WARRANTY PERIOD, IF NECESSARY. MAXIMUM TOLERANCE FROM VERTICAL SHALL BE 1 DEGREE. GUYING AND STAKING PRACTICES SHALL NOT PERMIT NAILS, SCREWS, WIRES ETC., TO PENETRATE OUTER SURFACE OF TREES. TREES REJECTED DUE TO THIS PRACTICE SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.
- THE OWNER AND/OR THE OWNER'S REPRESENTATIVE HAS THE RIGHT TO REJECT ANY AND ALL WORK WHICH DOES NOT MEET WITH THE REQUIREMENTS OF THE SPECIFICATIONS AT ANY STAGE OF THE PROJECT. CONTRACTOR TO REPLACE REJECTED PLANT MATERIAL WITHIN ONE WEEK (5 BUSINESS DAYS) OF NOTICE.
- CONTRACTOR TO REQUEST INSPECTION OF PROJECT IN WRITING TO OWNERS REPRESENTATIVE. IF ALL WORK IS SATISFACTORY AND COMPLETE IN ACCORDANCE WITH CONDITIONS OF CONTRACT DOCUMENTS, THEN THE OWNER AND/OR THEIR REPRESENTATIVE SHALL DECLARE THE PROJECT TO BE SUBSTANTIALLY COMPLETE. SUBSTANTIAL COMPLETION CONSTITUTES THE BEGINNING OF THE 1 YEAR WARRANTY PERIOD AND MAINTENANCE PERIOD.
- CONTRACTOR SHALL REMOVE ALL PLANT SAUCERS, GRADE SMOOTH, AND RE-MULCH AS WELL AS REMOVE PLANTING STAKES FROM SITE AFTER THE (1) YEAR WARRANTY PERIOD.

PROJECT SUBMITTALS:

- CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR APPROVAL FOR ALL PROPOSED MATERIALS INCLUDING BUT NOT LIMITED TO PLANTS, STAKING, SOIL AMENDMENTS, FERTILIZER, MULCH, ETC. PRIOR TO PURCHASING. CONTRACTOR SHALL PROVIDE REPRESENTATIVE SAMPLES OF ALL PLANT MATERIAL ON-SITE FOR REVIEW BY OWNER'S REPRESENTATIVE. NOTIFY OWNER'S REPRESENTATIVE OF INSPECTION A MINIMUM OF 3 BUSINESS DAYS PRIOR TO INSPECTION. IF APPROVED BY OWNER'S REPRESENTATIVE, THEN DATED AND SCALED COLOR PHOTOGRAPHS MAY ALSO BE SUBMITTED.
- ALL PROJECT SUBMITTALS MUST BE COMPLETED AND COMPILED IN AN EASILY REPRODUCIBLE FORM. SUBMITTAL SHEETS THAT ARE NOT LEGIBLE AND REPRODUCIBLE WILL BE REJECTED. SUBMITTALS SHEETS THAT DO NOT CLEARLY IDENTIFY THE PRODUCTS OR MATERIALS SELECTED WILL BE REJECTED.
- CONTRACTOR SHALL SUBMIT TO THE OWNER'S REPRESENTATIVE THE GROWER'S AND/OR STATE INSPECTION CERTIFICATE FOR PLANT MATERIAL TWO (2) WEEKS PRIOR TO COMMENCEMENT OF WORK.
- PRODUCTS INSTALLED ON THE PROJECT SITE THAT ARE NOT CONSISTENT WITH THE PROJECT SUBMITTALS WILL BE REMOVED AND REPLACED WITH THE PRODUCTS IDENTIFIED IN THE PROJECT SUBMITTAL PACKAGE.
- PRIOR TO ISSUING SUBSTANTIAL COMPLETION NOTICE THE CONTRACTOR SHALL SUBMIT TO THE OWNER THREE (3) COPIES OF AS BUILT PLANS/DOCUMENTS AND THREE (3) COPIES OF AN ANNUALIZED MAINTENANCE AND OPERATION MANUAL DETAILING ALL SCHEDULES, NURSERY PRACTICES, WATERING REQUIREMENTS, FERTILIZATION, TRIMMING, ETC., FOR ALL PLANT MATERIALS AND PLANT AREAS OF THE PROJECT.

SITE REQUIREMENTS:

- CONTRACTOR SHALL AGREE TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY, THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS, AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY, AND HOLD THE OWNER HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN THE CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE OWNER.
- LANDSCAPE HOLDING AREA, INGRESS, EGRESS, AND SITE ACCESS SHALL BE COORDINATED WITH THE OWNER'S REPRESENTATIVE. THE CONTRACTOR SHALL NOT DISTURB OR IMPEDE ACCESS TO THE SITE BY OTHERS.
- CONTRACTOR SHALL BE RESPONSIBLE FOR THE DAILY CLEANUP OF PREMISES AND REMOVAL OF DISCARDED OR SURPLUS MATERIALS AND RUBBISH IN A LAWFUL MANNER. ANY OPEN PITS OR TRENCHES SHALL BE COMPLETELY AND THOROUGHLY BARRICADED DURING THE WORKDAY AND COMPLETELY FILLED IN AT THE END OF EACH WORKDAY. ALL MATERIALS, PRODUCTS, AND EQUIPMENT REMAINING ON SITE AT THE END OF THE WORK DAY SHALL BE STORED IN AN ORGANIZED FASHION IN THE AREA DESIGNATED BY THE OWNER'S REPRESENTATIVE.
- ALL CONTRACTORS AND SUBCONTRACTORS SHALL HAVE A SET OF APPROVED CONSTRUCTION DOCUMENTS ON SITE AT ALL TIMES.
- DURING CONSTRUCTION, CREWS ARE REQUIRED TO HAVE AT LEASE ONE (1) ENGLISH SPEAKING PERSON ON SITE.

PLANT MATERIAL NOTES:

- ALL PLANT MATERIAL SHALL BE FLORIDA GRADE NO. 1 OR BETTER AS SPECIFIED IN GRADES AND STANDARDS FOR NURSERY PLANTS PARTS I AND II, DIVISION OF PLANT INDUSTRY, FLORIDA DEPARTMENT OF AGRICULTURE AND CONSUMER SERVICES, LATEST EDITION, AND SHALL CONFORM TO CURRENT AMERICAN ASSOCIATION OF NURSERYMAN STANDARDS FOR NURSERY STOCK.
- CONTAINER GROWN PLANTS: A MINIMUM OF 80% OF THE CONTAINER ROOTBALL MUST BE BOUND BY THE ROOT SYSTEM. ENROOTLING OR "RING" ROOTS ARE PROHIBITED AND PLANTS WILL BE REJECTED.
- ALL PLANT MATERIAL SHALL BE PROTECTED DURING TRANSPORT AND DELIVERY TO JOB SITE WITH SHADE CLOTH OR OTHER ACCEPTABLE MEANS OF WINDBURN PREVENTION.
- SUBSTITUTION OF PLANT MATERIALS WILL NOT BE PERMITTED UNLESS AUTHORIZED BY THE OWNER'S REPRESENTATIVE; ALL SUBSTITUTIONS MUST MEET MINIMUM SPECIFICATIONS ON THE PLANT LIST.
- SUBSTITUTION OF FIELD GROWN TREES FOR TREES THAT ARE SPECIFIED AS CONTAINER GROWN WILL NOT BE PERMITTED UNLESS OTHERWISE APPROVED BY THE OWNER'S REPRESENTATIVE. IF SUBSTITUTION IS APPROVED, ALL PLANT SPECIFICATIONS WILL APPLY TO APPROVED BALLED AND BURLAPPED MATERIAL.
- NEW PLANT MATERIAL TO BE INSTALLED WILL BE FIELD ADJUSTED TO ACCOMMODATE EXISTING PLANT MATERIAL SUCH AS OVERHEAD CANOPY TREES, UNDERSTORY TREES AND SHRUBS OR GROUND COVER. THIS WILL INSURE EXISTING PLANT MATERIAL TO REMAIN IN ITS NATURAL STATE. THEREFORE, NO EXISTING PLANT MATERIAL WILL BE ALTERED BY REMOVING, CUTTING, TRIMMING OR DESTROYING IN ORDER TO INSTALL NEW PLANT MATERIAL.
- ALL TREES SHALL BE LOCATED AT LEAST SIX FEET AWAY FROM THE CENTERLINE OF SWALES AND FROM PROPOSED STORMWATER INLETS.

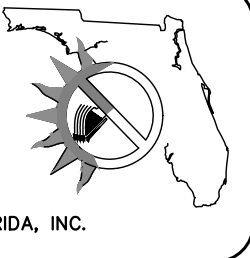
PLANTING:

- TREES GROWN IN GROW BAGS OR GROW BAG TYPE MATERIAL SHALL HAVE THE GROW BAG REMOVED ENTIRELY PRIOR TO PLANTING.
- BALLED AND BURLAPPED OR ANY BASKETED MATERIAL SHALL HAVE THE TOP ONE THIRD (1/3) OF DEGRADABLE BURLAP AND TOP ONE THIRD (1/3) OF WIRE CAGE PULLED BACK AND REMOVED FROM THE BASE OF THE TRUNK. STRAPS MUST BE CUT AND REMOVED ENTIRELY PRIOR TO INSTALLATION.

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EXISTING TO REMAIN PLANT CARE:

- FLAG ALL TREES AND PALMS TO BE SAVED IN PLACE. PROVIDE BARRICADING IN ACCORDANCE WITH LOCAL STANDARDS AROUND TREES AND PALMS TO BE SAVED IN PLACE PRIOR TO SITE DEMOLITION.
- ALL WORK INVOLVING EXISTING TREES TO REMAIN SHALL BE UNDERTAKEN IN THE PRESENCE OF A REGISTERED ARBORIST. ALL TREES AND PALMS TO BE SAVED SHALL BE EXAMINED FOR DAMAGE, DISEASE AND INSECT INFESTATION. PARTS OF THE TREE SHOWING THESE CONDITIONS SHALL BE TREATED OR PRUNED IN ACCORDANCE WITH THE ARBORIST'S RECOMMENDATIONS. REMOVE ALL DEAD LIMBS AND VINES.
- ROOT PRUNE ALL TREES TO BE SAVED PER DRAWINGS PRIOR TO GRADING AROUND TREES.
- TREAT ALL CUTS WITH A FUNGICIDAL BARRIER. BACKFILL THE TRENCH, WITHIN 4 HOURS OF DIGGING, WITH A 1:1 MIXTURE OF SITE SOIL AND SAWDUST OR OTHER FINE ORGANIC MATERIAL. DO NOT COMPACT.
- FERTILIZE THE PLANT AS DIRECTED BY THE CONSULTING ARBORIST.

PLANTING AREA PREPARATION NOTES:

- THE CONTRACTOR SHALL STAKE LOCATIONS AND LIMITS OF TREES, PLANTING, AND MULCH AREAS TO REFLECT PLANS TO GREATEST EXTENT POSSIBLE. FOR TREES LOCATED BETWEEN BACK OF CURB AND FRONT OF SIDEWALK, PLACE TREES EQUAL DISTANCE FROM CURB AND SIDEWALK. FOR TREES LOCATED OUTSIDE OF RIGHT-OF-WAY, PLACE TREES A MINIMUM OF 5' FROM BACK OF SIDEWALK. COORDINATE WITH OWNER'S REPRESENTATIVE TO INSPECT STAKING LOCATIONS AND LIMITS ON SITE. PROVIDE MINIMUM 5 BUSINESS DAYS ADVANCE NOTIFICATION OF PROPOSED INSPECTION. CONTRACTOR SHALL MAKE MODIFICATIONS AS MAY BE REQUESTED.
- WORK WITHIN 15' OF EXISTING TREES TO REMAIN SHALL BE PERFORMED USING HAND TOOLS. ANY DISTURBED ROOTS SHALL BE SEVERED USING CLEAN AND SHARP TOOLS.
- HERBICIDE APPLICATION: BEGIN TURF SPRAYING PROCESS A MINIMUM 30 DAYS PRIOR TO PLANTING AS FOLLOWS: SPRAY TURF AREA TO BE KILLED WITH GLYPHOSATE PER MANUFACTURER'S RECOMMENDATIONS. 7 DAYS AFTER SPRAYING, CLOSE MOW TO 1" HEIGHT. 14 DAYS AFTER CLOSE MOWING, RE-SPRAY WITH GLYPHOSATE PER MANUFACTURER'S RECOMMENDATIONS. PROTECT EXISTING PLANTS TO REMAIN FROM OVER-SPRAY OR SPRAY WITHIN ROOT ZONE. CONTRACTOR TO ENSURE TOTAL WEED ERADICATION. 7 DAYS AFTER RE-SPRAYING, PROCEED WITH TURF REMOVAL AND LANDSCAPE INSTALLATION AS DESCRIBED BELOW.
- FOR PROPOSED INDIVIDUAL TREE PLANTING PITS  
KILLED TURF TO BE REMOVED SHALL BE CLEARED AND GRUBBED TO A MINIMUM DEPTH OF 4". EXCAVATED MATERIAL SHALL BE REMOVED FROM THE SITE AND DISPOSED OF IN A LAWFUL MANNER. TURF SHALL BE THOROUGHLY REMOVED PRIOR TO THE PLANTING AND BACKFILL PROCESS. INSTALL TREES AS DETAILED. ESTABLISH FINISHED PRE-MULCHING GRADE WITHIN 4" BELOW TOP OF SURROUNDING TURF OR HARDSCAPE.

TO ASSURE DRAINAGE/PERCOLATION OF INDIVIDUAL TREE PLANTING PITS PRIOR TO INSTALLATION, CONTRACTOR SHALL FILL SAMPLE TREE PITS (1 IN 5) WITH WATER AND OBSERVE PERCOLATION. HOLES SHALL PERCOLATE IN 30 MINUTES OR LESS. BRING DISCREPANCIES TO THE ATTENTION OF THE OWNER'S REPRESENTATIVE.

INSTALL BACKFILL MIXTURE IN LIFTS AND TAMP LIGHTLY AROUND EACH AND EVERY PLANT, THOROUGHLY FLUSH WITH WATER AT EACH LIFT AND MAKE ADJUSTMENTS TO PROVIDE PROPERLY SET PLANT MATERIAL WITH THE TOP OF ROOTBALL 1"-2" ABOVE FINISHED GRADE.

- FOR PROPOSED PLANTING AREAS  
KILLED TURF TO BE REMOVED SHALL BE CLEARED AND GRUBBED TO A MINIMUM DEPTH OF 6". EXCAVATED MATERIAL SHALL BE REMOVED FROM THE SITE AND DISPOSED OF IN A LAWFUL MANNER. TURF SHALL BE THOROUGHLY REMOVED PRIOR TO THE PLANTING PROCESS. BEFORE INSTALLING TOPSOIL, RAKE SUBSOIL SURFACE CLEAR OF STONES (1 INCH DIAMETER AND LARGER), DEBRIS, RUBBISH, DELETERIOUS MATERIALS. CONTAMINATED SOILS SHALL BE REMOVED AND REPLACED TO THEIR FULL DEPTHS AND EXTENTS. INSTALL TOPSOIL AT 6" DEPTH; TILL TOPSOIL AND EXISTING SUBSOIL TO A DEPTH OF 12". INSTALL PLANTINGS AS DETAILED. ESTABLISH OR RE-ESTABLISH PRE-MULCHING ROUGH GRADES INSURING POSITIVE FLOWS AND AESTHETIC LANDFORM SHAPES SHOWN IN THE GRADING PLANS.
- FOR PROPOSED MULCH ON GRADE AREAS  
LEAVE KILLED TURF IN PLACE. REMOVE KILLED TURF ONLY AT EDGES OF BED, APPROXIMATELY 12" WIDTH, AS REQUIRED TO ESTABLISH A TAPERED DIFFERENCE IN GRADE SO THAT INSTALLED MULCH (3" DEPTH) SHALL BE FLUSH TO 1" BELOW ADJACENT TURF OR HARDSCAPE.
- AN EVEN, WELL DEFINED LINE SHALL SEPARATE PLANTING AND MULCH ON GRADE AREAS FROM ALL SOD OR SEEDED AREAS.

DISCARD REMAINING SOIL IN A LAWFUL MANNER. ALL PLANTING BACKFILL MIXTURES ARE SUBJECT TO APPROVAL BY THE OWNER'S REPRESENTATIVE. MIX THOROUGHLY PRIOR TO INSTALLATION ACCORDING TO THE FOLLOWING SCHEDULE:

|             |                     |  |
|-------------|---------------------|--|
| 4" LINER:   | 0.001 CY (0.027 CF) | COARSE SAND AND 0.001 CY (0.027 CF) "BLENDED SOIL" |
| 1 GALLON:   | 0.003 CY (0.08 CF)  | COARSE SAND AND 0.003 CY (0.08 CF) "BLENDED SOIL"  |
| 3 GALLON:   | 0.006 CY (0.16 CF)  | COARSE SAND AND 0.006 CY (0.16 CF) "BLENDED SOIL"  |
| 7 GALLON:   | 0.015 CY (0.4 CF)   | COARSE SAND AND 0.015 CY (0.4 CF) "BLENDED SOIL"   |
| 15 GALLON:  | 0.03 CY (0.8 CF)    | COARSE SAND AND 0.03 CY (0.8 CF) "BLENDED SOIL"    |
| 30 GALLON:  | 0.06 CY (1.6 CF)    | COARSE SAND AND 0.06 CY (1.6 CF) "BLENDED SOIL"    |
| 45 GALLON:  | 0.11 CY (2.9 CF)    | COARSE SAND AND 0.11 CY (2.9 CF) "BLENDED SOIL"    |
| 65 GALLON:  | 0.17 CY (4.6 CF)    | COARSE SAND AND 0.17 CY (4.6 CF) "BLENDED SOIL"    |
| 100 GALLON: | 0.26 CY (7.1 CF)    | COARSE SAND AND 0.26 CY (7.1 CF) "BLENDED SOIL"    |
| 200 GALLON: | 0.88 CY (23.8 CF)   | COARSE SAND AND 0.88 CY (23.8 CF) "BLENDED SOIL"   |
| 300 GALLON: | 1.37 CY (37 CF)     | COARSE SAND AND 1.37 CY (37 CF) "BLENDED SOIL"     |

"BLENDED SOIL" SHALL CONSIST OF: 1/3 MUSHROOM COMPOST OR PEAT, 1/3 COMMERCIALY PROCESSED AND COMPOSTED COW MANURE AND 1/3 COMPOSTED BARK. SUBMIT PRODUCT SAMPLE/DATA SHEET FOR BLENDED SOIL COMPONENTS TO OWNER'S REPRESENTATIVE FOR APPROVAL PRIOR TO PURCHASE AND INSTALLATION.

- TOPSOIL IMPORTED TO THE SITE SHALL BE SIEVED TOPSOIL, FREE OF ROCKS AND DEBRIS. CONTRACTOR SHALL SUBMIT SOIL ANALYSIS RESULTS FROM AN APPROVED AGRONOMIC SOILS TESTING LABORATORY FOR A MINIMUM OF PH, ORGANIC CONTENT, SOLUBLE SALTS, AND TEXTURE WITH A STATEMENT OF SUITABILITY FOR (SPECIES) SHRUBS/GRASSES. TOPSOIL SHALL BE FREE OF DELETERIOUS MATERIALS THAT WOULD BE HARMFUL TO PLANT GROWTH. SHALL BE FREE OF NEMATODES, SHALL BE OF UNIFORM QUALITY AND SHALL HAVE A PH VALUE BETWEEN 6.5 AND 7.5 (AS DETERMINED IN ACCORDANCE WITH ASTM E70). PEAT SHALL BE STERILIZED TO MAKE FREE OF ALL VIBLE NUT GRASS AND OTHER UNDESIRABLE WEEDS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE SUITABILITY FOR GROWTH OF ALL PROPOSED PLANT MATERIAL. SUBMIT PRODUCT SAMPLE/DATA SHEET FOR TOPSOIL TO OWNER'S REPRESENTATIVE FOR APPROVAL PRIOR TO PURCHASE AND INSTALLATION.

LANDSCAPE CONTRACTOR SHALL BEAR FINAL RESPONSIBILITY FOR PROPER SURFACE DRAINAGE OF PLANTED AREAS. FINISH GRADE ALL PREPARED TOPSOIL AREAS TO A SMOOTH, EVEN SURFACE ENSURING A MINIMUM 3% POSITIVE DRAINAGE AWAY FROM STRUCTURES AND ELIMINATE ANY LOW AREAS WHICH MAY COLLECT WATER. ANY DISCREPANCY IN THE DRAWINGS, OBSTRUCTION ON THE SITE, OR PRIOR WORK DONE BY ANOTHER PARTY WHICH THE LANDSCAPE CONTRACTOR FEELS PRECLUDES ESTABLISHING PROPER DRAINAGE SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF OWNER'S REPRESENTATIVE.

- INSTALL FERTILIZER PER MANUFACTURER RECOMMENDATIONS. CONTRACTOR SHALL CONFIRM FERTILIZER REQUIREMENTS PER LOCAL MUNICIPALITY. AS A MINIMUM FOR BIDDING PURPOSES THE CONTRACTOR SHALL ASSUME THE FOLLOWING CONCERNING FERTILIZER:

FOR INITIAL INSTALLATION OF TREES AND SHRUBS/GROUNDCOVERS, FERTILIZER IS ASSUMED TO BE CONTROLLED RELEASE FERTILIZER WITH A 15-9-12 ANALYSIS AND CONTAINING TRACE ELEMENTS MG, S, B, CU, FE, MN, MO, AND ZN. FERTILIZER GRANULES SHALL BE COMPOSED OF DRY NUTRIENTS ENCAPSULATED IN MULTIPLE LAYERS OF POLYMER RESIN.

SOURCE FOR N SHALL BE RESIN-COATED UREA OR RESIN COATED AMMONIUM SALTS. MN, ZN, AND CU SHALL BE SULFATE FORMS. FE SHALL BE GRANULAR CHELATED IRON.

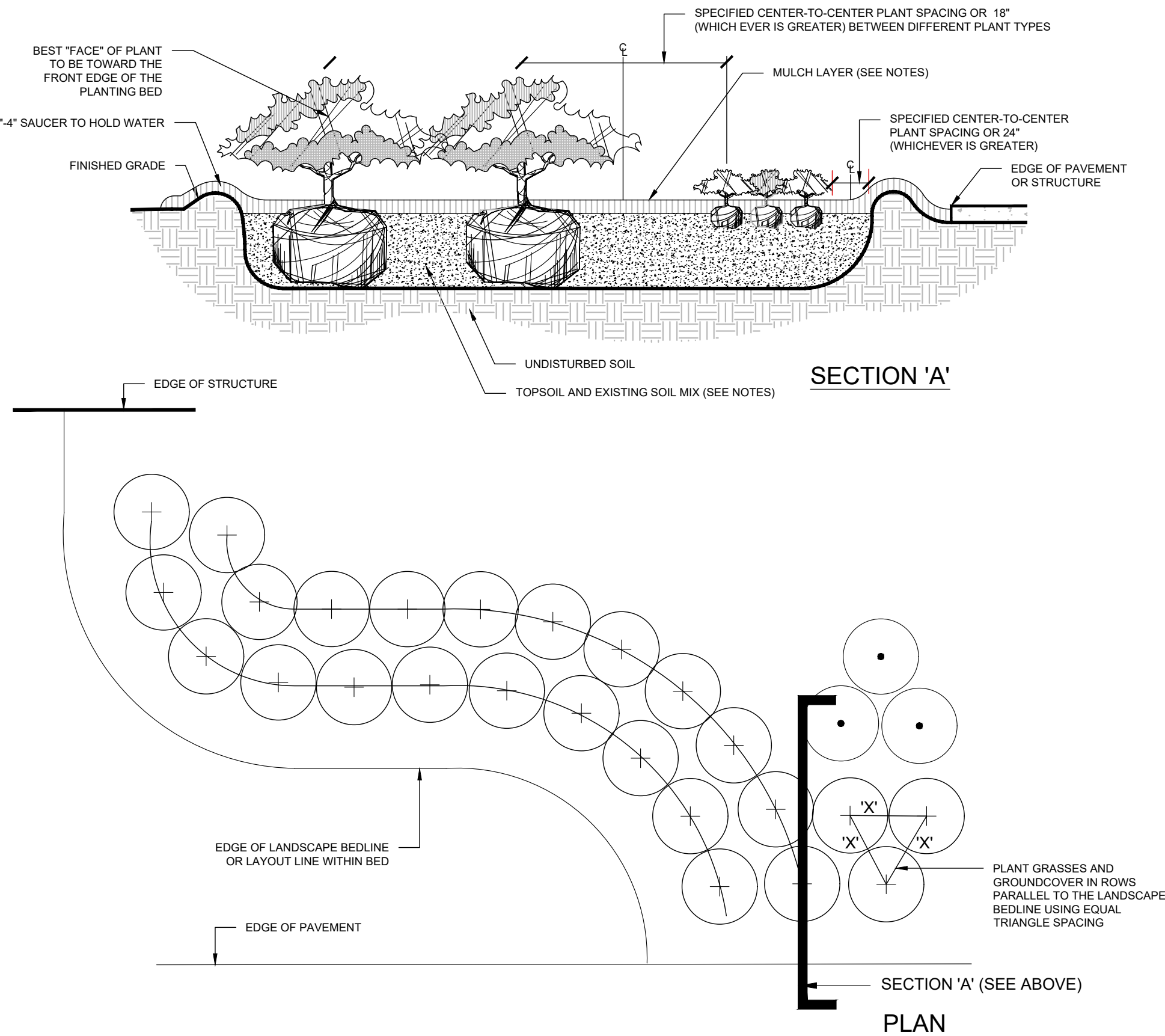
APPLICATION RATES ARE PROVIDED AS A RECOMMENDATION ONLY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE APPROPRIATE FERTILIZER/AMENDMENTS TO ENSURE PROPER ESTABLISHMENT AND VIGOR OF PLANT MATERIAL.

|                                     |                                     |                                     |
|-------------------------------------|-------------------------------------|-------------------------------------|
| 0.5 OZ PER EA 4" POT OR PLANT LINER | 1.0 OZ PER EA 1 GALLON CONTAINER    | 3.0 OZ PER EA 3 GALLON CONTAINER    |
| 6.0 OZ PER EA 7 GALLON CONTAINER    | 9.0 OZ PER EA 15 GALLON CONTAINER   | 16.0 OZ PER EA 30 GALLON CONTAINER  |
| 4.0 OZ PER EA 45 GALLON CONTAINER   | 32.0 OZ PER EA 65 GALLON CONTAINER  | 48.0 OZ PER EA 100 GALLON CONTAINER |
| 64.0 OZ PER EA 200 GALLON CONTAINER | 96.0 OZ PER EA 300 GALLON CONTAINER |                                     |

- BUILD EARTHEN SAUCER TO CONTAIN WATER AROUND EACH INDIVIDUAL TREE PLANTING PIT AND AT THE PERIMETER OF ALL PLANTING AREAS. REMOVE EXCESS EXCAVATED SOIL FROM THE SITE AND DISPOSE OF IN A LAWFUL MANNER.

- SPREAD MULCH AROUND INDIVIDUAL TREE RINGS, PLANTING AND MULCH AREAS.  
MULCHING FOR INDIVIDUAL TREE RINGS, PLANTING, AND MULCH AREAS SHALL BE: PINE STRAW MULCH, FULL LENGTH, DRY, BRIGHT IN COLOR, FRESHLY BALLED, AND 3" DEPTH AFTER SETTLING. COMPOSED ONLY OF NEEDLES OF SLASH, LOBBLOLLY, OR LONGLEAF PINE. PINE STRAW SHALL NOT BE USED IF IT IS ROTTED OR MOLDY, OR CONTAINS SEED, TUBERS, OR RHIZOMES OF ANY NOXIOUS SPECIES. THE ENTIRE LOT OF PINE STRAW SHALL BE REJECTED IF THERE IS ANY EVIDENCE THAT THE PINE STRAW LOT WAS HARVESTED FROM A SITE INFESTED WITH LYODIUM JAPONICUM OR LYODIUM MICROPHYLLUM (CLIMBING FERN). MULCH SHALL BE UNIFORMLY SPREAD OVER THE FULL DIAMETER OF EACH INDIVIDUAL TREE RING, PLANTING, AND MULCH AREA. MULCH AREAS INCLUDE INITIAL INSTALLATION (3" DEPTH) PLUS RE-MULCHING (1.5" DEPTH MINIMUM) A MINIMUM ONCE PER YEAR DURING THE (1) YEAR WARRANTY PERIOD. MULCH SHALL NOT BE PLACED AGAINST TRUNKS OR STEMS OF PLANTS. SUBMIT PRODUCT SAMPLE/DATA SHEET FOR MULCH TO OWNER'S REPRESENTATIVE FOR APPROVAL PRIOR TO PURCHASE AND INSTALLATION.

- PRE-EMERGENT HERBICIDE SHALL BE APPLIED TO ALL INDIVIDUAL TREE RINGS, PLANTING, AND MULCH AREAS. THE HERBICIDE ACTIVE INGREDIENTS SHALL BE SUITABLE FOR CONTROL OF ANNUAL AND PERENNIAL BROADLEAF WEEDS AND GRASSES. THE HERBICIDE SHALL BE APPLIED BY HAND. MANUFACTURER RECOMMENDATIONS FOR APPLICATION METHOD, TIMING AND APPLICATION RATE SHALL BE STRICTLY ADHERED TO.



A TYPICAL GRASS AND GROUNDCOVER INSTALLATION  
SCALE: N.T.S.

| DATE | REVISION | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|------|----------|---|---|---|---|---|---|---|---|
|      |          |   |   |   |   |   |   |   |   |

LAKE COUNTY, FLORIDA  
BUTLER ST.  
BOAT RAMP PARKING LOT  
IMPROVEMENT PLANS  
LANDSCAPE NOTES AND DETAILS



**HALFF**  
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Certificate of Authorization Number: 03380

DATE: APRIL 2022  
DESIGNED BY: WJR  
DRAWN BY: WJR  
CHECKED BY: LMD  
JOB NO.: 043862.059  
FILE NAME: BUTLER ST.

LS-02  
WILLIAM J. RICHMOND, PLA  
LICENSE NO. 0001556