# CONSTRUCTION PLANS

for

## INDIAN RIVER COUNTY, FLORIDA SEPTEMBER 2023

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IRC PROJECT #1759

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10. 10/20/23 DEPICT ADDITIONAL WHEELCHAIR VIEWING PADS

IRRIGATION DETAILS

3 | 4/6/20 | A.A. REQUEST TO PHASE PROJECT

6. 8/28/18 REVISED PER IRC UTIL MARKUPS

4. 8/11/18

9/18/18 REVISED PER IRC COMMENTS 9/17/18

5. | 8/28/18 REVISED PER IRC COMMENTS EMAILED ON 7/31/18

ADDED DATUM NOTE PER SJRWMD

5/10/18 REVISED PER IRC PRE-APP COMMENTS

2. | 6/11/18 | REVISED PER IRC TRC COMMENT LETTER OF 6/14/18

PUMP CONTROL SYSTEM AND SPECIFICATIONS

9 7/17/23 REMOVE PHASING; ADD RIP-RAP TO LATERAL G CANAL BANK SH/SEM

REVISED PER IRC COMMENT LETTERS OF 6/20 & 6/30/18

REVISIONS

#### **UTILITIES**

LOCATION OF UTILITIES SHOWN ON THESE PLANS ARE PLOTTED FROM INFORMATION FURNISHED BY UTILITY COMPANIES AND ARE APPROXIMATE ONLY. CONTRACTOR IS TO FAMILIARIZE HIMSELF WITH, AND VERIFY CONDITIONS AT SITE. CONTRACTOR SHALL MAKE DILIGENT INQUIRY AT THE OFFICE OF THE UTILITY COMPANIES AND MUNICIPAL AUTHORITIES TO DETERMINE THE EXACT LOCATION OF UTILITY STRUCTURES. THE CONTRACTOR SHALL NOTIFY, IN WRITING, THE UTILITY COMPANIES, MUNICIPALITY AND OWNERS INVOLVED OF THE NATURE AND SCOPE OF THE PROJECT, AND OF HIS OPERATIONS THAT AFFECT THEIR FACILITIES OF PROPERTY.

Call 48 hours before you dig in Florida



#### **DATUM**

THE DATUM AND DESIGN GRADES SHOWN WITHIN THESE PLANS REFER TO THE NORTH AMERICAN VERTICAL DATUM OF 1988

(NAVD 1988)

ONNECTION WITH THIS PROJECT. ANY OTHER USE OF THOUT CONSENT OF MASTELLER & MOLER, INC

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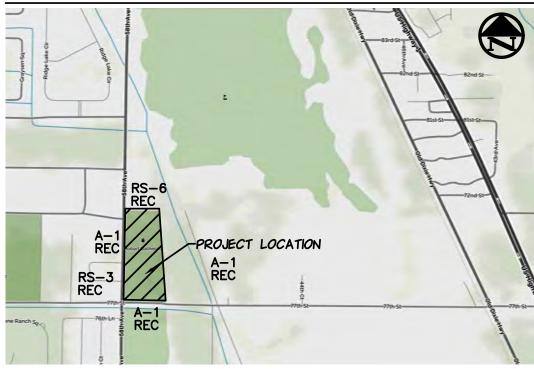
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#### **APPLICANT**

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#### **ARCHITECT**

DONADIO & ASSOCIATES, ARCHITECTS, P.A. A SPIEZLE GROUP INC. COMPANY 2001 9th AVENUE, SUITE 308 VERO BEACH, FLORIDA 32960 Phone: (772) 794-2929

#### **SURVEYOR**

INDIAN RIVER COUNTY 1801 27th STREET VERO BEACH, FL 32960 Phone: (772) 226-1220

#### STRUCTURAL ENGINEER

ML ENGINEERING, INC. 2030 37th AVENUE VERO BEACH, FLORIDA 32960 Phone: (772) 569-1257 / Fax: (772) 569-4041 mastmolr@bellsouth.net

#### ELECTRICAL ENGINEER

TREASURE COAST ENGINEERING 4925 13tH LANE VERO BEACH, FLORIDA 32966 Phone: (772) 567-1007

#### LANDSCAPE ARCHITECT

SARTAIN ASSOCIATES 5099 HIGHWAY A-I-A, SUITE 3 VERO BEACH, FL 32966 Phone: (772) 234-II33

### HOBART PARK BASEBALL FIELDS



1655 27th STREET, SUITE #2, VERO BEACH, FLORIDA, 32960 (772) 567-5300 / FAX (772) 794-II06 CERTIFICATE OF AUTHORIZATION NUMBER 4204

#### FOR BIDDING PURPOSES ONLY

STEPHEN E. MOLER, P.E. FL#33193

#### 

LEGEND		
DESCRIPTION	EXISTING	PROPOSED
BLOCK NUMBER	(A)	Α
BUILDING OR STRUCTURE		
CENTERLINE HEAD WALL		
CURB		
CUT AND PATCH		
EASMENT LINE		
FENCE (AS INDICATED)		
LOT LINE		
LOT NUMBER	2	2
PHASE LINE		
PROPERTY LINE		
RAILROAD TRACKS RIGHT-OF-WAY LINE		
SIGN (POST MOUNTED)		<del>- o -</del>
TRAFFIC FLOW ARROW	$\Rightarrow$	<b>→</b>
ASPHALT DRIVE		
GRAVEL DRIVE		
CONCRETE DRIVE		
EDGE OF PAVEMENT		
MAILBOX/NEWSPAPER BOX TREE	•	
BENCH MARK CONCRETE FLUME		
CONCRETE PLOME  CONCRETE MITER END	=====	
CONTOURS	20~ -	
CURB INLET	Ė	<i>y</i> <b>2</b> 0 0
DRAINAGE FLOW ARROW	<b>-</b> ∼►	<b>-√-</b>
FINISH FLOOR	F.F.=20.00	F.F.=20.00
INLET		
SAND CEMENT RIP-RAP	1	
SOIL BORING LOCATION AND NUMBER	<del>-                                    </del>	<b>+</b> <sub>2</sub>
SPOT ELEVATION		8.65
STORM DRAIN PIPE STORM MANHOLE	D	Ø
STRUCTURE NUMBER	<b>S−1</b>	⊌ S−1
SWALE		
BASIN DIVIDE		
SILT FENCE		
CLEAN OUT		
UNDERDRAIN		
DITCH BLOCK		
PLUG, BLOW-OFF & TERMINAL RESTRAINTS	+0	
REDUCER		
FIRE HYDRANT W/ GATE VALVE VALVE BOX , HYDRANT TEE &		
RESTRAINTS		
GATE VALVE & BOX		
WATERMAIN W/ 3' COVER TYPICAL	WM(6"ø)	
1"Ø SERVICE LATERAL W/ METER BOX		
1-1/2"Ø SERVICE LATERAL W/		
(2) METER BOXES		
RESTRAINED JOINT TEE		1
RESTRAINED BEND		
TELEPHONE JUNCTION BOX		
TELEPHONE LINE UNDERGROUND ELECTRIC LINE	TELE	
OVERHEAD WIRE	OH	
LIGHT POLE	OII	
WATER WELL		
POWER POLE		<b>D</b>
GUY WIRE	$\leftarrow$	
TV CABLE BOX		
GAS MAIN	————GAS ————	

#### **GENERAL NOTES**

- 1. THE CONTRACTOR SHALL NOTIFY THE OWNER (772) 794-7827 AND ENGINEER (772) 567-5300 A MINIMUM OF (48) HOURS PRIOR TO COMMENCEMENT OF CONSTRUCTION.
- 2. ALL WORK SHALL BE COMPLETED IN CONFORMANCE WITH 62-555.314, F.A.C.: THE FLORIDA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" MOST CURRENT EDITION. AND (LOCAL AGENCY) DESIGN STANDARDS, AS APPLICABLE.
- 3. CONTRACTOR IS ADVISED TO FAMILIARIZE HIMSELF WITH THE OVERALL SCOPE OF WORK TO BE PERFORMED PRIOR TO SUBMITTING A BID.
- 4. SHOP DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL PRIOR TO MANUFACTURE.
- 5. ALL BACKFILL OVER PIPES UNDER PLANNED PAVEMENT AREAS SHALL BE COMPACTED PER F.D.O.T. STANDARD SPECIFICATIONS, SECTION 125.8.3., TO 98% OF THE MAXIMUM DENSITY PER AASHTO T-180.
- 6. LOCATION OF EXISTING UTILITIES DEPICTED ON THE PLANS ARE APPROXIMATE. CONTRACTOR SHALL COORDINATE WITH UTILITY COMPANIES PRIOR TO START OF CONSTRUCTION AND VERIFY THE EXACT LOCATION OF ALL EXISTING UTILITIES, SHOWN OR NOT SHOWN, IN ORDER TO PREVENT DAMAGE TO EXISTING UTILITIES, AND THE ADJUSTMENT AND/OR ELOCATION OF SAME IF REQUIRED. THE CONTRACTOR SHALL NOTIFY THE UTILITY COMPANY AND ENGINEER OF ANY DAMAGE DURING HIS CONSTRUCTION EFFORTS, AND REPLACE OR REPAIR DAMAGE TO THE SATISFACTION OF THE UTILITY COMPANY, AT NO ADDITIONAL COST TO THE OWNER.
- 7. ALL GENERAL CONSTRUCTION, MATERIAL TESTING AND METHODS OF INSTALLATION SHALL BE SUBJECT TO THE APPROVAL OF THE OWNER, AND ENGINEER OF RECORD.
- 8. INSPECTION OR FAILURE TO INSPECT ANY MATERIALS OR WORK BY THE OWNER, PERMITTING AGENCIES, OR ENGINEER OF RECORD SHALL IN NO WAY RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITY TO PERFORM THE WORK IN ACCORDANCE WITH APPLICABLE PLANS, SPECIFICATIONS AND LAWS.
- 9. ALL DIMENSIONS MUST BE VERIFIED IN THE FIELD BY THE CONTRACTOR AND IF ANY DISCREPANCIES ARE DISCOVERED, THE ENGINEER OF RECORD SHALL BE NOTIFIED IMMEDIATELY.
- 10. OWNER SHALL PROVIDE SELECTED CONTRACTOR WITH COPIES OF PERMITS RECEIVED FOR THE PROJECT. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ANY AND ALL PERMITS NOT PROVIDED BY THE OWNER.
- 11. CONTRACTOR SHALL COORDINATE CONNECTIONS TO EXISTING WATER PLANT PIPING AND SHALL VERIFY LOCATION AND ELEVATION OF SAID FACILITIES PRIOR TO THE START OF CONSTRUCTION. ANY FACILITIES DISTURBED SHALL BE REPAIRED TO EQUAL OR BETTER THAN EXISTING CONDITIONS
- 12. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE OWNER OR ENGINEER OF ANY CHANGES OR DEVIATIONS FROM THE ORIGINAL PLANS PRIOR TO CONSTRUCTION OF SAID CHANGE OR DEVIATION.
- 13. POTABLE WATER SOURCE IS INDIAN RIVER COUNTY DEPARTMENT OF UTILITY SERVICES (IRCDUS).
- 14. CONTRACTOR SHALL PROVIDE MAINTENANCE OF TRAFFIC PLAN.
- 15. CONTRACTOR SHALL NOT REMOVE ANY TREES FROM PROJECT SITE WITHOUT PRIOR AUTHORIZATION FROM PROJECT OWNER OR ENGINEER.
- 16. THE ENGINEER SHALL BE NOTIFIED AT LEAST 48 HOURS IN ADVANCE PRIOR TO ANY INSPECTIONS.
- 17. CONTRACTOR SHALL SOD ALL DISTURBED AREAS. HYDROSEED & MULCH MAY BE APPLIED IF APPROVED BY THE ENGINEER.
- 18. CONTRACTOR SHALL MAINTAIN DRAINAGE AT ALL TIMES, TO INCLUDE THE USE OF TEMPORARY PIPING AND/OR SWALES.
- 19. THE CONTRACTOR SHALL BE RESPONSIBLE TO MAINTAIN THE SITE IN A CLEAN AND ORDERLY MANNER DURING CONSTRUCTION. ALL TRASH AND DEBRIS IS TO BE REMOVED ON A DAILY BASIS, OR IN A REFUSE CONTAINER APPROVED BY THE LOCAL WASTE MANAGEMENT AUTHORITY, AND REGULAR REMOVAL IS TO BE SCHEDULED BY THE CONTRACTOR.
- 20. ALL PROPOSED MODIFICATIONS TO APPROVED PLANS SHALL BE SUBMITTED TO THE ENGINEER IN WRITING FOR CONSIDERATION. NO FIELD CHANGES OR DEVIATIONS FROM THE APPROVED DESIGN SHALL BE MADE WITHOUT PRIOR CONSULTATION WITH THE ENGINEER
- 21. CONTRACTOR SHALL OBTAIN ALL NECESSARY INSURANCE AND BONDS REQUIRED BY THE OWNER FOR THIS PROJECT.
- 22. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROTECT ANY PUBLIC LAND CORNER, GPS CONTROL POINT, OR OTHER SURVEY BENCHMARK WITHIN THE PROJECT LIMITS. ANY SURVEY BENCHMARK DAMAGED OR DESTROYED BY CONSTRUCTION ACTIVITIES SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.
- 23. CONTRACTOR SHALL NOTIFY THE ENGINEER AND GEODETIC INFORMATION CENTER OF ANY NGVD 1929 MONUMENT DISTURBED OR IN DANGER OF BEING DISTURBED IN THE PROJECT LIMITS:

GEODETIC INFORMATION CENTER MARK MAINTENANCE SECTION ATTN: N/CG-162 6001 EXECUTIVE BLVD ROCKVILLE, MD 20852

TELEPHONE: (301) 443-8319

- 24. CONTRACTOR SHALL HAVE AVAILABLE AT THE JOB SITE, AT ALL TIMES, ONE COPY OF APPROVED CONSTRUCTION PLANS, SPECIFICATIONS, CONSTRUCTION PERMITS, AND ANY SPECIAL PROVISIONS.
- 25. CONTRACTOR SHALL COORDINATE ALL WORK WITH UTILITY COMPANIES PRIOR TO START OF CONSTRUCTION IN ORDER TO

PREVENT DAMAGE TO EXISTING UTILITIES AND THE ADJUSTMENT AND/OR RELOCATION OF SAME IF REQUIRED

- 26. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ANY AND ALL REQUIRED ROAD CROSSING PERMITS.
- 27. CONTRACTOR SHALL ENSURE THAT ALL DENSITY TESTS ARE PERFORMED PER AASHTO T-180 METHOD.
- 28. THE DEWATERING OF ANY EXCAVATION AREAS AND THE DISPOSAL OF WATER SHALL BE IN STRICT ACCORDANCE WITH THE LATEST REVISION OF ALL LOCAL AND STATE GOVERNMENT RULES AND REGULATIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAIN ANY REQUIRED DE-WATERING PERMIT FROM THE APPROPRIATE AGENCIES PRIOR TO COMMENCING DEWATERING OPERATIONS.

#### **PAVEMENT**

- 1. STRIP THE PROPOSED CONSTRUCTION LIMITS, INCLUDING A MARGIN OF AT LEAST FIVE BEYOND PAVEMENT EDGES, OF VEGETATION, ROOTS, RUBBLE AND OTHER DELETERIOUS MATERIALS. WE EXPECT AVERAGE CLEARING AND GRUBBING TO DEPTHS OF UP TO 6" TO 12" IN MOST AREAS OF THE ROADWAYS: HOWEVER AT SOME LOCATIONS, GRUBBING DEPTHS OF UP TO SEVERAL FEET MAY BE NECESSARY TO REMOVE LOCALIZED POCKETS OF ROOT MATS AND/OR LARGE STUMPS. THIS STRIPPED AND GRUBBED SURFACE SHOULD BE EXAMINED AND APPROVED BY THE ENGINEER BEFORE PLACEMENT OF SUBSEQUENT FILLS. ANY EXISTING COLLAPSIBLE OR LEAK PRONE UTILITIES SHOULD BE COMPLETELY REMOVED FROM
- 2. PROOF ROLL THE STRIPPED SURFACE WITH A VIBRATORY ROLLER WEIGHING AT LEAST 6 TONS UNDER THE SUPERVISION OF THE ENGINEER, TO LOCATE ANY UNFORESEEN SOFT AREAS OF UNSUITABLE SOILS, TO INCREASE THE DENSITY OF THE SHALLOW VERY LOOSE TO LOOSE FINE SAND SOILS. AND TO PREPARE THE EXCAVATED SURFACE FOR THE ADDITION OF THE FILL SOILS. EACH PASS SHOULD OVERLAP THE PROCEEDING PASS BY 30% TO INSURE COMPLETE COVERAGE. IF DEEMED NECESSARY, IN AREAS THAT CONTINUE TO YIELD, REMOVE ALL DELETERIOUS MATERIALS AS INDICATED BY ENGINEER PERSONNEL AND REPLACE WITH A CLEAN COMPACTED SAND BACKFILL. THE PROOF- ROLLING SHOULD OCCUR AFTER STRIPPING AND BEFORE FILLING.
- 3. CONTINUE COMPACTION EFFORTS UNTIL A SOIL DENSITY OF AT LEAST 95% OF THE MODIFIED PROCTOR MAXIMUM DRY DENSITY (ASTM D 1557) IS ACHIEVED TO A DEPTH OF 12" BELOW THE STRIPPED SURFACE. INCLUDING THE FIVE FEET MARGIN. DEPENDING ON WEATHER CONDITIONS OR OTHER FACTORS, THE ADDITION OR DRAINAGE OF WATER MAY BE NECESSARY TO AID COMPACTION EFFORTS. ADDITIONAL PASSES AND/OR OVER-EXCAVATION AND RE-COMPACTION MAY BE NECESSARY IF THESE MINIMUM DENSITY REQUIREMENTS ARE NOT ACHIEVED BY THE REQUIRED
- 4. FILL TO SUBGRADE LEVEL USING CLEAN SANDS WITH LESS THAN 5% SOIL FINES PASSING THE NO. 200 SIEVE. STRUCTURAL FILL SHOULD BE FREE OF ANY ORGANICS OR OTHER DELETERIOUS MATERIAL. THE FILL SHOULD BE PLACED IN UNIFORM 12" LOOSE LIFTS AND COMPACTED TO 95% OF MODIFIED PROCTOR MAXIMUM DRY DENSITY (AASHTO T-180, ASTM
- 5. THE OWNER RESERVES THE RIGHT TO REQUEST FROM THE CONTRACTOR ASPHALTIC CONCRETE SURFACE COURSE MIX CERTIFICATIONS TO ASSURE COMPLIANCE WITH F.D.O.T. SPECIFICATIONS.
- 6. IMPROPER DRAINAGE OF PAVED AREAS AND DRAINAGE SWALES WILL NOT BE ACCEPTED. ANY PONDING OR IMPROPERLY DRAINED AREAS WILL BE COMPLETELY STRIPPED OUT AND RE-GRADED OR RE-PAVED UNTIL ALL DEFECTIVE DRAINAGE IS CORRECTED. AT NO ADDITIONAL COST
- 7. TRAFFIC CONTROL SIGNAGE SHALL BE ERECTED AND PAVEMENT MARKINGS SHALL BE PAINTED AS REQUIRED BY ORDINANCE AND THE GOVERNING AUTHORITY SPECIFICATIONS. ALL TRAFFIC PAVEMENT MARKINGS IN PUBLIC RIGHTS-OF-WAY SHALL BE EXTRUDED ALKYD BASE THERMOPLASTIC.

#### DRAINAGE & STRUCTURES

- 1. ALL STORM WATER PIPES SHALL BE REINFORCED CONCRETE PIPE (RCP), CLASS III OR CORRUGATED ALUMINUM PIPE (CAP), RESPECTIVELY, AS NOTED ON THE PLANS, AND IN ACCORDANCE WITH THE SPECIFICATIONS OR APPROVED EQUAL.
- 2 BACKELL OVER ANY STORM PIPE IS TO BE COMPACTED IN 6" LIFTS MAXIMUM WITH A MECHANICAL TAMPER OR OTHER MEANS ACCEPTABLE TO THE OWNER AND/OR ENGINEER. UNSUITABLY SIZED STONES (REFERENCE AWWA SPECIFICATIONS) SHALL BE REMOVED FROM THE TRENCH FOR A DEPTH OF SIX INCHES BELOW THE BOTTOM OF THE PIPE. COMPACTION SHALL BE TO 95% MODIFIED PROCTOR (98% UNDER EXISTING OR PROPOSED PAVING) IN ACCORDANCE WITH AASHTO T-180. THE CONTRACTOR SHALL PROVIDE THE OWNER WITH COMPACTION TEST RESULTS AT 200' INTERVALS AT HIS EXPENSE.
- 3. INLETS SHALL BE PRE-CAST IN CONFORMANCE WITH F.D.O.T. STANDARD SPECIFICATIONS WITH 28 DAY 4000 PSI CONCRETE
- 4. ADJUSTMENT OF INLET AND MANHOLE TOPS SHALL BE INCLUDED IN THE CONTRACTOR'S BID. NO CLAIM SHALL BE MADE AGAINST THE OWNER AND/OR ENGINEER IN THE EVENT ADJUSTMENTS ARE NECESSARY.
- 5. ALL CORRUGATED ALUMINUM PIPE (CAP) SHALL BE SPIRAL RIBBED WITH A MANNING'S "n"=0.012.
- 6. ALL POND & SWALE SLOPES OF 5:1 OR GREATER WILL BE SODDED.

#### UTILITIES

- 1. ALL POTABLE & RAW WATER PIPING, JOINTING, AND PACKING MATERIALS, INTERNAL COATING AND LININGS, FITTINGS, AND APPURTENANCES USED IN THIS PROJECT SHALL BE IN CONFORMANCE WITH THE CORRESPONDING AWWA STANDARDS AND NSF REQUIREMENTS AS APPLICABLE
- 2. ALL CONSTRUCTION SHALL COMPLY WITH THE STANDARDS AND SPECIFICATIONS SET FORTH IN THE CONTRACT DOCUMENTS. SHOP DRAWINGS SHALL BE SUBMITTED TO THE OWNER AND ENGINEER FOR ALL SEWER AND WATER APPURTENANCES PRIOR TO FABRICATION.
- 3. ALL PIPE AND FITTINGS AS WELL AS SOLDER AND FLUX INSTALLED OR USED IN THE CONSTRUCTION OF THIS PROJECT ARE TO COMPLY WITH 62-555.322 F.A.C. WITH REGARD TO LEAD.
- 4. ALL PVC PIPE 4" 12" DIAMETER FOR POTABLE WATER MAINS SHALL BE THICKNESS CLASS DR-18 MEETING AWWA C900 AND SHALL BE BLUE OR APPROVED EQUAL. RAW WATER PIPE SHALL BE WHITE WITH BLUE LONGITUDINAL STRIPING AND
- 5. ALL PVC PIPE 3" OR SMALLER FOR WATER MAINS SHALL BE THICKNESS CLASS SDR-21 MEETING ASTM D2241 AND SHALL BE BLUE OR APPROVED EQUAL
- 6. ALL DIP FOR WATER MAINS SHALL BE PRESSURE CLASS 350 MEETING AWWA C150.
- 7. ALL PVC PIPE FOR GRAVITY SEWER MAINS SHALL BE SDR-35 MEETING ASTM C-76 AND SHALL BE GREEN OR APPROVED
- 8. ALL PVC PIPE FOR SEWAGE FORCE MAIN SHALL BE AWWA C-900 DR-18 AND SHALL BE GREEN OR APPROVED EQUAL.
- 9. ALL PE PIPE 4" THROUGH 63" DIAMETER SHALL BE AWWA C906. PE-3408. DR-11 OR APPROVED EQUAL. POTABLE & RAW WATER PE PIPE SHALL CONFORM TO AND BEAR THE MARKINGS OF NSF STANDARD 61. PE PIPE SHALL HAVE A COLOR-CODED LONGITUDINAL STRIPE AS FOLLOWS: BLUE FOR POTABLE WATER; WHITE FOR RAW WATER; PURPLE FOR
- 10. BENDS SHALL BE INSTALLED ON WATER MAINS AS NECESSARY TO AVOID CONFLICT WITH PROPOSED OR EXISTING
- 11. WATER MAIN AND FORCE MAINS SHALL BE INSTALLED WITH 36" MINIMUM COVER AND SHALL BE CONSTRUCTED SO AS TO AVOID EXISTING AND KNOWN FUTURE UTILITY LOCATIONS.
- 12. THE BACKFILL OVER ANY WATER MAIN, FORCE MAIN AND SANITARY SEWER IS TO BE COMPACTED IN 6" LIFTS MAXIMUM WITH A MECHANICAL TAMPER OR OTHER MEANS ACCEPTABLE TO THE OWNER AND/OR ENGINEER. UNSUITABLY SIZED STONES (REFERENCE AWWA SPECIFICATIONS) SHALL BE REMOVED FROM THE TRENCH FOR A DEPTH OF SIX INCHES BELOW THE BOTTOM OF THE PIPE. COMPACTION SHALL BE TO 98% MODIFIED PROCTOR IN ACCORDANCE WITH AASHTO T-180. THE CONTRACTOR SHALL PROVIDE THE OWNER WITH COMPACTION TEST RESULTS AT 200' INTERVALS AT HIS **EXPENSE**
- 13. ALL PRESSURE AND BACTERIOLOGICAL TESTING FOR WATER MAINS, TV/INFILTRATION TESTS FOR GRAVITY SEWER AND PRESSURE TEST FOR FORCE MAINS, SHALL BE COMPLETED AT THE CONTRACTOR'S EXPENSE AND COORDINATED WITH THE OWNER AND ENGINEER. THE CONTRACTOR SHALL PROVIDE THE ENGINEER WITH ALL TEST RESULTS.
- 14. MAGNETIC IDENTIFICATION TAPE SHALL BE INSTALLED OVER ALL PVC WATER MAINS AND SEWAGE FORCE MAINS.
- 15. THE OWNER WILL PROVIDE THE CONTRACTOR WITH A BASELINE AND A BENCHMARK FOR THE CONTRACTOR'S USE IN CONSTRUCTING THE SANITARY SEWER AND POTABLE WATER SYSTEM. THE CONTRACTOR SHALL PERFORM, AT HIS OWN EXPENSE, ANY ADDITIONAL SURVEY WORK SUCH AS GRADE STAKES, OFF-SET STAKES AND CUT SHEETS
- 16. CONTRACTOR SHALL OBTAIN A COPY OF THE F.D.E.P. WATER PERMITS AND PERFORM SAMPLING & TESTING IN CONFORMANCE WITH THE PERMIT CONDITIONS.
- 17. WATER MAINS AND FORCE MAIN SHALL BE FLUSHED AT A MINIMUM VELOCITY OF 2.5 FPS PRIOR TO PRESSURE TESTING
- AND DISINFECTION. 18. THE CONTRACTOR SHALL DISINFECT THE NEW WATER SYSTEM IN CONFORMANCE WITH AWWA C651, C652, AND C653 AS APPLICABLE, EXCEPT THAT BACTERIOLOGICAL EVALUATIONS TO VERIFY PROPER DISINFECTION SHALL BE CONDUCTED IN ACCORDANCE WITH 62-555,340 FAC. THE CONTRACTOR SHALL HAVE WATER SAMPLES TESTED AT HIS EXPENSE. WHICH SAMPLES SHALL BE PROVIDED TO THE ENGINEER TO ASSURE OBTAINMENT OF REQUIRED CHLORINE RESIDUALS. FOLLOWING SATISFACTORY CHLORINATION, THE SYSTEM SHALL BE FLUSHED TO ACHIEVE NORMAL CHLORINE RESIDUALS, BACTERIOLOGICAL SAMPLES SHALL BE TAKEN ON TWO (2) CONSECUTIVE DAYS, AT THE CONTRACTOR'S EXPENSE. AND RESULTS SHALL BE PROVIDED TO THE ENGINEER. IF THE SYSTEM PRESSURE DROPS FOLLOWING (2)
- PER FDEP PERMIT REQUIREMENTS. 19. WATER SYSTEM PRESSURE TESTS SHALL BE COMPLETED IN THE PRESENCE OF THE ENGINEER OR HIS REPRESENTATIVE FOR TWO (2) HOURS IN DURATION OR AS ACCEPTABLE TO THE UTILITY OWNER, AT AN AVERAGE PRESSURE OF 150 PSI. ALLOWABLE LEAKAGE WILL BE COMPUTED BASED ON AWWA C605 FOR PVC PIPE AND AWWA C600 FOR DIP AS FOLLOWS:

SUCCESSFUL DISINFECTIONS, THE WATER SYSTEM SHALL BE SUBJECT TO RE-TESTING. TESTING LOCATIONS SHALL BE

L = NDP 1/2

- WHERE: L = LEAKAGE ALLOWABLE (GPH) N = NUMBER OF PIPE JOINTS
  - D = NOMINAL PIPE DIAMETER (INCHES) P = AVERAGE TEST PRESSURE (PSI, GAUGE)
- 20. PRESSURE TESTING OF PE PIPE SHALL COMPLY WITH AWWA MANUAL M55, ASTM F 2164, AND PLASTIC PIPE INSTITUTE (PPI) HANDBOOK OF POLYETHYLENE PIPE. PE PIPE SHALL BE TESTED AFTER INSTALLATION (i.e.: DIRECTIONAL BORE); ZERO
- 25. FORCE MAINS (SANITARY SEWER & RECLAIMED) SHALL BE PRESSURE TESTED THE SAME AS WATER MAINS, EXCEPT THAT TEST PRESSURE SHALL AVERAGE NO LESS THAN 100 PSI.
- 26. USE POTABLE WATER FOR PRESSURE TESTS.
- 27. ALL POTABLE WATER MAINS SHALL BE CONSTRUCTED OF P.V.C. PIPE UNLESS NOTED OTHERWISE
- 28. GRAVITY SEWER AND MANHOLES SHALL BE CLEANED OF ALL DEBRIS, GRIT AND OTHER MATERIALS FOLLOWING COMPLETION OF THE SYSTEM. THE SYSTEM SHALL BE TESTED BY THE CONTRACTOR, AT HIS EXPENSE, IN THE PRESENCE OF THE ENGINEER, FOR INFILTRATION. INFILTRATION SHALL NOT EXCEED 50 GALLONS/DAY/INCH DIAMETER/MILE. TELEVISION TESTING FOR ALL GRAVITY SEWERS SHALL ALSO BE REQUIRED.
- 29. ADJUSTMENT OF MANHOLE TOPS SHALL BE INCLUDED IN THE CONTRACTOR'S UNIT PRICE AND NO CLAIM SHALL BE MADE AGAINST THE ENGINEER AND/OR OWNER FOR THESE ADJUSTMENTS. IF REQUIRED.
- 30. LATERALS AND CLEANOUTS SHALL BE INSTALLED AS REQUIRED BY APPLICABLE PLUMBING CODES.
- 31. THE CONTRACTOR SHALL SUPPLY THE OWNER AND ENGINEER WITH TWO COPIES OF AS-CONSTRUCTED INFORMATION SHOWING THE CONSTRUCTED LOCATION OF ALL MAINS, FITTINGS, VALVES, LATERALS (AT THE MAIN AND TERMINAL POINT), MANHOLES AND OTHER WATER AND SEWER APPURTENANCES. THE FORMAT SHALL BE APPROVED BY THE OWNER

#### FDEP SEPARATION NOTES

FROM 62-555.314, FAC:

- (1) HORIZONTAL SEPARATION BETWEEN UNDERGROUND WATER MAINS AND SANITARY OR STORM SEWERS, WASTEWATER OR STORMWATER FORCE MAINS, RECLAIMED WATER PIPELINES, AND ON-SITE SEWAGE TREATMENT AND DISPOSAL SYSTEMS. (A) NEW OR RELOCATED LINDERGROLIND WATER MAINS SHALL BE LAID TO PROVIDE A HORIZONTAL DISTANCE OF AT LEAST THREE FEET BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF ANY EXISTING OR PROPOSED STORM SEWER, STORMWATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER REGULATED UNDER PART III OF
- CHAPTER 62-610 F A C (B) NEW OR RELOCATED, UNDERGROUND WATER MAINS SHALL BE LAID TO PROVIDE A HORIZONTAL DISTANCE OF AT LEAST THREE FEET, AND PREFERABLY TEN FEET, BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF ANY
- EXISTING OR PROPOSED VACUUM-TYPE SANITARY SEWER. (C) NEW OR RELOCATED, UNDERGROUND WATER MAINS SHALL BE LAID TO PROVIDE A HORIZONTAL DISTANCE OF AT LEAST SIX FEET, AND PREFERABLY TEN FEET, BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF ANY EXISTING OR PROPOSED GRAVITY- OR PRESSURE-TYPE SANITARY SEWER, WASTEWATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER NOT REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C. THE MINIMUM HORIZONTAL SEPARATION DISTANCE BETWEEN WATER MAINS AND GRAVITY-TYPE SANITARY SEWERS SHALL BE REDUCED TO THREE FEET WHERE
- THE BOTTOM OF THE WATER MAIN IS LAID AT LEAST SIX INCHES ABOVE THE TOP OF THE SEWER. (D) NEW OR RELOCATED, UNDERGROUND WATER MAINS SHALL BE LAID TO PROVIDE A HORIZONTAL DISTANCE OF AT LEAST TEN FEET BETWEEN THE OUTSIDE OF THE WATER MAIN AND ALL PARTS OF ANY EXISTING OR PROPOSED "ON-SITE SEWAGE TREATMENT AND DISPOSAL SYSTEM" AS DEFINED IN SECTION 381.0065(2), F.S., AND RULE 64E-6.002, F.A.C.

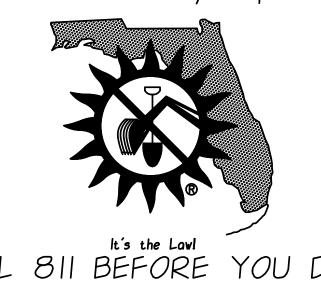
#### (2) VERTICAL SEPARATION BETWEEN UNDERGROUND WATER MAINS AND SANITARY OR STORM SEWERS, WASTEWATER OR STORMWATER FORCE MAINS, AND RECLAIMED WATER PIPELINES.

- (A) NEW OR RELOCATED, UNDERGROUND WATER MAINS CROSSING ANY EXISTING OR PROPOSED GRAVITY- OR VACUUM-TYPE SANITARY SEWER OR STORM SEWER SHALL BE LAID SO THE OUTSIDE OF THE WATER MAIN IS AT LEAST SIX INCHES. AND PREFERABLY 12 INCHES, ABOVE OR AT LEAST 12 INCHES BELOW THE OUTSIDE OF THE OTHER PIPELINE. HOWEVER, IT IS PREFERABLE TO LAY THE WATER MAIN ABOVE THE OTHER PIPELINE
- (B) NEW OR RELOCATED, UNDERGROUND WATER MAINS CROSSING ANY EXISTING OR PROPOSED PRESSURE-TYPE SANITARY SEWER. WASTEWATER OR STORMWATER FORCE MAIN. OR PIPELINE CONVEYING RECLAIMED WATER SHALL BE LAID SO THE OUTSIDE OF THE WATER MAIN IS AT LEAST 12 INCHES ABOVE OR BELOW THE OUTSIDE OF THE OTHER PIPELINE. HOWEVER, IT IS PREFERABLE TO LAY THE WATER MAIN ABOVE THE OTHER PIPELINE.
- (C) AT THE UTILITY CROSSINGS DESCRIBED IN PARAGRAPHS (A) AND (B) ABOVE, ONE FULL LENGTH OF WATER MAIN PIPE SHALL BE CENTERED ABOVE OR BELOW THE OTHER PIPELINE SO THE WATER MAIN JOINTS WILL BE AS FAR AS POSSIBLE FROM THE OTHER PIPELINE. ALTERNATIVELY, AT SUCH CROSSINGS, THE PIPES SHALL BE ARRANGED SO THAT ALL WATER MAIN JOINTS ARE AT LEAST THREE FEET FROM ALL JOINTS IN VACUUM-TYPE SANITARY SEWERS, STORM SEWERS, STORMWATER FORCE MAINS, OR PIPELINES CONVEYING RECLAIMED WATER REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C., AND AT LEAST SIX FEET FROM ALL JOINTS IN GRAVITY- OR PRESSURE-TYPE SANITARY SEWERS, WASTEWATER FORCE MAINS, OR PIPELINES CONVEYING RECLAIMED WATER NOT REGULATED UNDER PART III OF CHAPTER 62-610. F.A.C.
- (3) SEPARATION BETWEEN WATER MAINS AND SANITARY OR STORM SEWER MANHOLES.
- (A) NO WATER MAIN SHALL PASS THROUGH, OR COME INTO CONTACT WITH, ANY PART OF A SANITARY SEWER MANHOLE.
- (B) EFFECTIVE AUGUST 28, 2003, WATER MAINS SHALL NOT BE CONSTRUCTED OR ALTERED TO PASS THROUGH, OR COME INTO CONTACT WITH, ANY PART OF A STORM SEWER MANHOLE OR INLET STRUCTURE. WHERE IT IS NOT TECHNICALLY FEASIBLE OR ECONOMICALLY SENSIBLE TO COMPLY WITH THIS REQUIREMENT (I.E., WHERE THERE IS A CONFLICT IN THE ROUTING OF A WATER MAIN AND A STORM SEWER AND WHERE ALTERNATIVE ROUTING OF THE WATER MAIN OR THE STORM SEWER IS NOT TECHNICALLY FEASIBLE OR IS NOT ECONOMICALLY SENSIBLE), THE DEPARTMENT SHALL ALLOW EXCEPTIONS TO THIS REQUIREMENT (I.E., THE DEPARTMENT SHALL ALLOW CONSTRUCTION OF CONFLICT MANHOLES), BUT SUPPLIERS OF WATER OR PERSONS PROPOSING TO CONSTRUCT CONFLICT MANHOLES MUST FIRST OBTAIN A SPECIFIC PERMIT FROM THE DEPARTMENT IN ACCORDANCE WITH PART V OF THIS CHAPTER AND MUST PROVIDE IN THE PRELIMINARY DESIGN REPORT OR DRAWINGS, SPECIFICATIONS, AND DESIGN DATA ACCOMPANYING THEIR PERMIT APPLICATION THE FOLLOWING INFORMATION:
- 1. TECHNICAL OR ECONOMIC JUSTIFICATION FOR EACH CONFLICT MANHOLE.
- 2. A STATEMENT IDENTIFYING THE PARTY RESPONSIBLE FOR MAINTAINING EACH CONFLICT MANHOLE.
- 3. ASSURANCE OF COMPLIANCE WITH THE DESIGN AND CONSTRUCTION REQUIREMENTS IN SUB-SUBPARAGRAPHS A
- A. EACH WATER MAIN PASSING THROUGH A CONFLICT MANHOLE SHALL HAVE A FLEXIBLE, WATERTIGHT JOINT ON EACH SIDE OF THE MANHOLE TO ACCOMMODATE DIFFERENTIAL SETTLING BETWEEN THE MAIN AND THE MANHOLE.
- B. WITHIN EACH CONFLICT MANHOLE, THE WATER MAIN PASSING THROUGH THE MANHOLE SHALL BE INSTALLED IN A WATERTIGHT CASING PIPE HAVING HIGH IMPACT STRENGTH (I.E., HAVING AN IMPACT STRENGTH AT LEAST EQUAL TO THAT OF 0.25-INCH-THICK DUCTILE IRON PIPE).
- C. EACH CONFLICT MANHOLE SHALL HAVE AN ACCESS OPENING, AND SHALL BE SIZED, TO ALLOW FOR EASY CLEANING OF
- D. GRATINGS SHALL BE INSTALLED AT ALL STORM SEWER INLETS UPSTREAM OF EACH CONFLICT MANHOLE TO PREVENT LARGE OBJECTS FROM ENTERING THE MANHOLE.

(4) SEPARATION BETWEEN FIRE HYDRANT DRAINS AND SANITARY OR STORM SEWERS, WASTEWATER OR STORMWATER FORCE MAINS, RECLAIMED WATER PIPELINES, AND ON-SITE SEWAGE TREATMENT AND DISPOSAL SYSTEMS. NEW OR RELOCATED FIRE HYDRANTS WITH UNDERGROUND DRAINS SHALL BE LOCATED SO THAT THE DRAINS ARE AT LEAST THREE FEET FROM ANY EXISTING OR PROPOSED STORM SEWER, STORMWATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C.; AT LEAST THREE FEET, AND PREFERABLY TEN FEET, FROM ANY EXISTING OR PROPOSED VACUUM-TYPE SANITARY SEWER; AT LEAST SIX FEET, AND PREFERABLY TEN FEET, FROM ANY EXISTING OR PROPOSED GRAVITY- OR PRESSURE-TYPE SANITARY SEWER. WASTEWATER FORCE MAIN. OR PIPELINE CONVEYING RECLAIMED WATER NOT REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C.; AND AT LEAST TEN FEET FROM ANY EXISTING OR PROPOSED "ON-SITE SEWAGE TREATMENT AND DISPOSAL SYSTEM" AS DEFINED IN SECTION 381.0065(2), F.S., AND RULE 64E-6.002, F.A.C.

(5) IN THE EVENT THAT FDEP AND LOCAL UTILITY STANDARDS CONFLICT, THE MORE STRINGENT STANDARD SHALL APPLY.

Call 48 hours before you dig in Florida



### **CONSTRUCTION NOTES**

HOBART PARK

BASEBALL FIELD IMPROVEMENTS

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STEPHEN E. MOLER, P.E. FL#33193

REVISED PER IRC TRC COMMENT LETTER OF 6/14/18

SH/SEM

SH/SEM

DR/APP

REVISIONS

REVISED PER IRC PRE-APP COMMENTS

UNDERGROUND CABLE TV

3. | 7/17/23 | REMOVE PHASING

5/10/18

DATE

MASTELLER & MOLER, INC. CONSULTING ENGINEERS

1655 27th STREET, SUITE #2, VERO BEACH, FLORIDA, 32960

(772) 567-5300 / FAX (772) 794-1106 CERTIFICATE OF AUTHORIZATION NUMBER 4204

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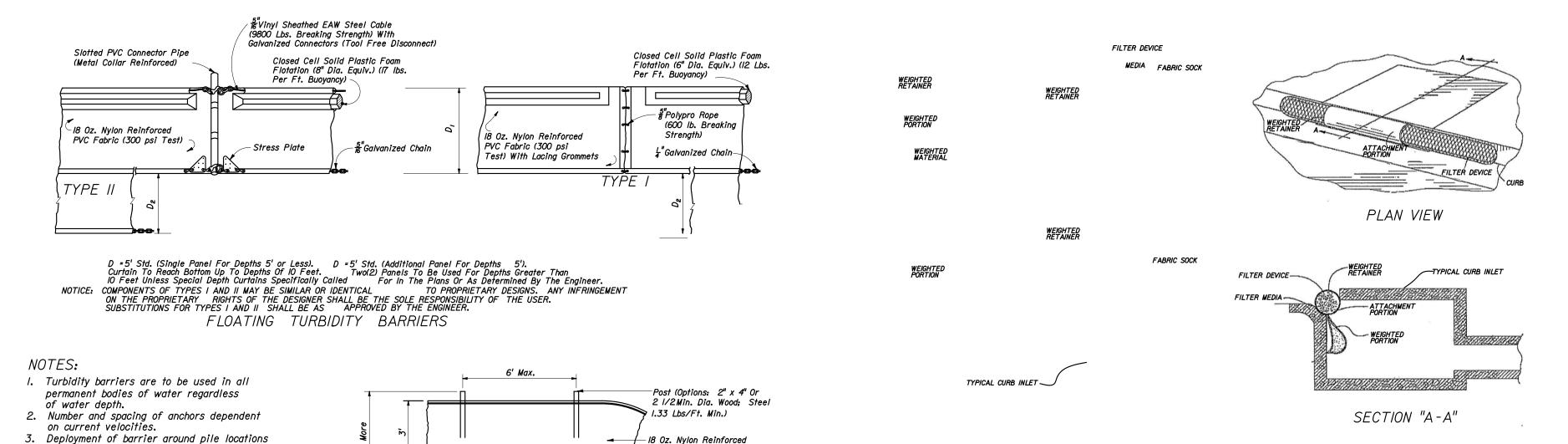
NTS T 2 OF 15 ROJECT NO.: 1756

SH

SIGNED SH

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9/23



#### of the Standard Specifications.

may vary to accommodate construction operations.

4. Navigation may require segmenting barrier

5. For additional information see Section 104

during construction operations.

NPDES NOTES

THIS PROJECT IS REQUIRED TO COMPLY WITH THE REQUIREMENTS OF THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) AS ADMINISTERED BY THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

THE CONTRACTOR SHALL THEREFORE COMPLY WITH THE REQUIREMENTS OF FDEP'S "GENERIC PERMIT FOR STORMWATER DISCHARGE FROM LARGE AND SMALL CONSTRUCTION ACTIVITIES" PER FDEP DOCUMENT NUMBER 62-621.300(4) (A). IT IS THE CONTRACTOR'S RESPONSIBILITY TO INSTALL AND MAINTAIN BMP'S AT THE SITE IN ACCORDANCE WITH THE CONDITIONS OF THE "GENERIC PERMIT". THE CONTRACTOR SHALL BE CONSIDERED TO BE THE "OPERATOR" AS DEFINED

THE OPERATOR IS DEFINED AS: THE LEGAL ENTITY THAT OWNS OR OPERATES THE CONSTRUCTION ACTIVITY AND THAT HAS THE AUTHORITY TO CONTROL THOSE ACTIVITIES AT THE PROJECT NECESSARY TO ENSURE COMPLIANCE WITH THE TERMS AND CONDITIONS OF THE PERMIT. THE OPERATOR'S RESPONSIBILITIES ARE AS A MINIMUM AS FOLLOWS:

1. PREPARE STORMWATER POLLUTION PREVENTION PLAN AND MAINTAIN THE SITE IN ACCORDANCE WITH THAT PLAN.

2. FILE A "NOTICE OF INTENT", (DEP FORM 62-621.300(4) (D), INCLUDING APPLICABLE PERMIT PROCESSING FEES 48 HOURS PRIOR TO COMMENCEMENT OF CONSTRUCTION. A COPY OF THE "NOI" OR A LETTER FROM THE FDEP CONFIRMING COVERAGE UNDER THE PERMIT SHALL BE POSTED ON SITE FOR PUBLIC VIEWING.

PROVIDE A "QUALIFIED INSPECTOR" TO PERFORM THE REQUIRED INSPECTIONS IN ACCORDANCE WITH THE STATE OF FLORIDA GENERIC PERMIT FOR STORMWATER DISCHARGE FROM LARGE AND SMALL CONSTRUCTION ACTIVITIES, DEP DOC # 62-621(4) (A).

4. BEFORE CONDUCTING ANY PROJECT ACTIVITIES THE OPERATOR AND ALL SUBCONTRACTORS SHALL SIGN AND PROVIDE TO THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION, THE OWNER/DEVELOPER AND THE ENGINEER A COPY OF THE FOLLOWING:

"I CERTIFY UNDER PENALTY OF LAW THAT I UNDERSTAND AND SHALL COMPLY WITH THE TERMS AND CONDITIONS OF THE STATE OF FLORIDA GENERIC PERMIT FOR STORMWATER DISCHARGE FROM LARGE AND SMALL CONSTRUCTION ACTIVITIES (FDEP DOC #62-621-.300(4) (A)) AND THE STORM WATER POLLUTION PREVENTION PLAN."

THE CERTIFICATION MUST INCLUDE THE NAME AND TITLE OF THE PERSON PROVIDING THE SIGNATURE; THE NAME, ADDRESS, AND TELEPHONE NUMBER OF THE CONTACTING FIRM; AND THE DATE THE CERTIFICATION IS MADE.

- 5. WITH IN 14 DAYS OF A DIFFERENT OPERATOR TAKING RESPONSIBILITY OF THE CONSTRUCTION ACTIVITIES A "NOTICE OF TERMINATION" (DEP FORM 62-621-300(6) ) SHALL BE SUBMITTED. IF A "N.O.T." IS SUBMITTED DUE TO A CHANGE OF OPERATOR, WITHIN 48 HOURS BEFORE ASSUMING CONTROL OF THE CONSTRUCTIONS ACTIVITIES, THE NEW OPERATOR SHALL FILE A SIGNED 'N.O.I" IN ACCORDANCE WITH THIS PERMIT.
- 6. WITHIN 14 DAYS OF THE FINAL STABILIZATION OF THE SITE, OPERATOR SHALL FILE A "NOTICE OF TERMINATION" (DEP FORM 62-621-300(6), TO THE F.D.E.P. WITH COPIES TO THE OWNER AND ENGINEER.

#### **EROSION CONTROL NOTES**

STAKED TURBIDITY BARRIER

PVC Fabric (300 psi Test)

- 1. CONTRACTOR SHALL OBTAIN FDEP NPDES (NOI) PERMIT. PROOF OF NOI SHALL BE PROVIDED TO ENGINEER PRIOR TO PRE-CONSTRUCTION MEETING.
- 2. CONTRACTOR SHALL BE RESPONSIBLE FOR EROSION CONTROL USING BEST MANAGEMENT PRACTICES FOR THE DURATION OF THE PROJECT UNTIL SUCH TIME AS THE PROJECT HAS BEEN CERTIFIED AS COMPLETE.
- 3. ATTENTION IS DIRECTED TO THE FACT THAT BMP's ARE PERFORMANCE-BASED. IN THE EVENT THAT INSTALLED BMP's FAIL TO CONTROL EROSION AND/OR STORM - WATER POLLUTION ADDITIONAL BMP's MAY BE REQUIRED.
- 4. CONTRACTOR SHALL BE RESPONSIBLE FOR NPDES PERMITTING, INSPECTION, REPORTING, AND COMPLIANCE.
- 5. THE CONTRACTOR SHALL SOD ALL OPEN SPACE AREAS TO BE GRASSED IMMEDIATELY FOLLOWING FINAL GRADING AND COMPLETION OF ALL UNDERGROUND UTILITIES. HYDROSEED & MULCH MAY BE APPLIED IF APPROVED BY THE ENGINEER.
- SILT FENCE SHALL BE INSTALLED ALONG LIMITS OF CONSTRUCTION.
- 7. SILT FENCES SHALL BE INSPECTED AFTER EACH RAINFALL AND REPAIRED IMMEDIATELY IF DAMAGED.
- 8. ALL SIDE SLOPES OF STORMWATER MANAGEMENT AREAS SHALL BE SODDED ON COMPLETION OF FINAL GRADING.
- 9. ALL INLETS SHALL BE PROTECTED FROM COLLECTION OF ERODED MATERIALS BY INSTALLATION OF TEMPORARY FILTER FABRIC AND/OR HAY BALES.
- 10. FLOATING TURBIDITY BARRIERS SHALL BE INSTALLED WITHIN ALL WATER BODIES DOWNSTREAM OF CONSTRUCTION ACTIVITIES WHERE TURBID
- 11. THE CONTRACTOR SHALL PROVIDE DUST CONTROL, SUCH AS AN ONSITE WATER TRUCK.

#### LAND CLEARING AND ENVIRONMENTAL NOTES

GRUBBING, TREE REMOVAL AND LAND CLEARING SHALL BE CONDUCTED UNDER THE PROJECT'S ENVIRONMENTAL RESOURCE PERMIT AND IRC LAND CLEARING & TREE REMOVAL PERMIT. THE CONTRACTOR SHALL MAINTAIN A COPY OF THE PERMITS AT THE SITE DURING LAND CLEARING AND TREE REMOVAL OPERATIONS.

PRIOR TO COMMENCING LAND CLEARING OPERATIONS THE ENGINEER, OWNER, AND CONTRACTOR SHALL INSPECT THE SITE TO IDENTIFY PRESERVATION TREES AND OTHER RESOURCES. CONTRACTOR SHALL INSTALL BMP'S PRIOR TO COMMENCEMENT.

PRIOR TO COMMENCEMENT OF LAND CLEARING THE OWNER SHALL CONDUCT A LISTED SPECIES SURVEY AND REMOVE ANY LISTED SPECIES FROM THE CONSTRUCTION AREA. THE CONTRACTOR SHALL COMPLY WITH THE CONDITIONS OF ALL ENVIRONMENTAL PERMITS.

IF PROTECTED/LISTED SPECIES ARE ENCOUNTERED IN THE DEVELOPMENT AREA AT ANY TIME DURING CONSTRUCTION THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER.

EXISTING NATIVE VEGETATION TO BE SAVED IS INTENDED TO BE INCORPORATED INTO THE LANDSCAPE PLAN. PROTECTIVE BARRIERS SHALL BE INSTALLED PRIOR TO LAND CLEARING TO PREVENT DAMAGE TO VEGETATION TO BE SAVED.

SPECIMEN TREES (IE: LARGE OAK TREES, ETC) SHALL NOT BE DISTURBED OR DAMAGED. CONTRACTOR SHALL BE LIABLE FOR FINES, MITIGATION AND OTHER PENALTIES INCURRED BY DAMAGE TO SPECIMEN TREES.

#### PROHIBITED AND UNDESIRABLE EXOTIC VEGETATION

ALL PROHIBITED AND UNDESIRABLE EXOTIC VEGETATION MUST BE REMOVED AT THE TIME OF CLEARING. PROHIBITED AND UNDESIRABLE EXOTIC VEGETATION SHALL NOT BE USED TO MEET THE TREE OR LANDSCAPING REQUIREMENTS OF THE LAND DEVELOPMENT CODE.

#### STORMWATER POLLUTION PREVENTION PLAN

Nature of Construction Activity: CONSTRUCT BASEBALL/SOFTBALL FIELDS, CONCESSIONS, DÚGOUTS/BLEACHERS, PAVEMENT, UTILITIES, AND DRY RETENTION POND

#### Sequence of Construction Events:

- 1. Install silt fence and other erosion control devices.
- 2. Clear and grub site. 3. Rough grading.
- 4. Construct stormwater management system.
- 5. Construct underground utilities.

STORM INLET PROTECTION

- 6. Construct paved areas and structures
- 7. Final grading/landscaping

#### Total Area of the Site: 22.73 acres

Area to be Disturbed: Soil Description:

Pomello Sand EauGallie Fine Sand

14.21 acres

Myakka-Myakka Wet, Fine Sands

14.21 acres Drainage Area Size:

#### Best Management Practices (BMP's)

#### Silt fence, Inlet protection.

Construction sequence minimizes time for potential erosion, gravel entrance limits soil on adjacent paved roadways.

#### Potential Pollutants: Portable toilet chemicals will be properly handled and disposed.

Inspections: Site will be inspected for erosion problems daily and after each rainfall event greater than 0.5 inches. A rain gage shall be installed on site to monitor rainfall.

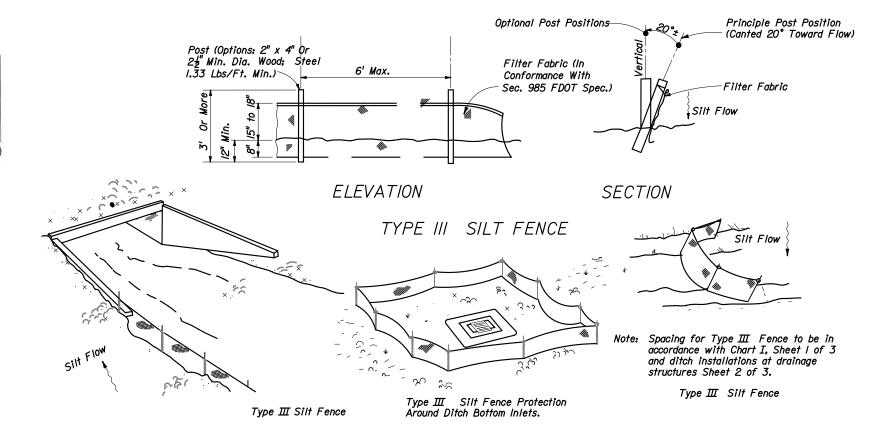
#### Contractor is responsible for installing additional erosion control as necessary to meet State and Local requirements.

CONTRACTOR (T.B.D.) Operator/Responsible Authority:

### CENTERLINE OF FLOW **OVERLAP** SIDES OF FLOW PATH TO PREVENT BYPASSING SWALE PROTECTION

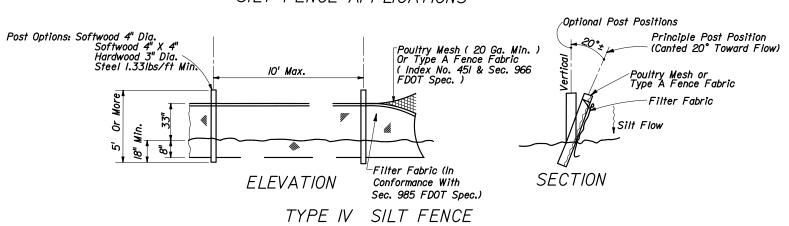
NOTE: SLIGHTLY ANGLE STAKES WITH TOP

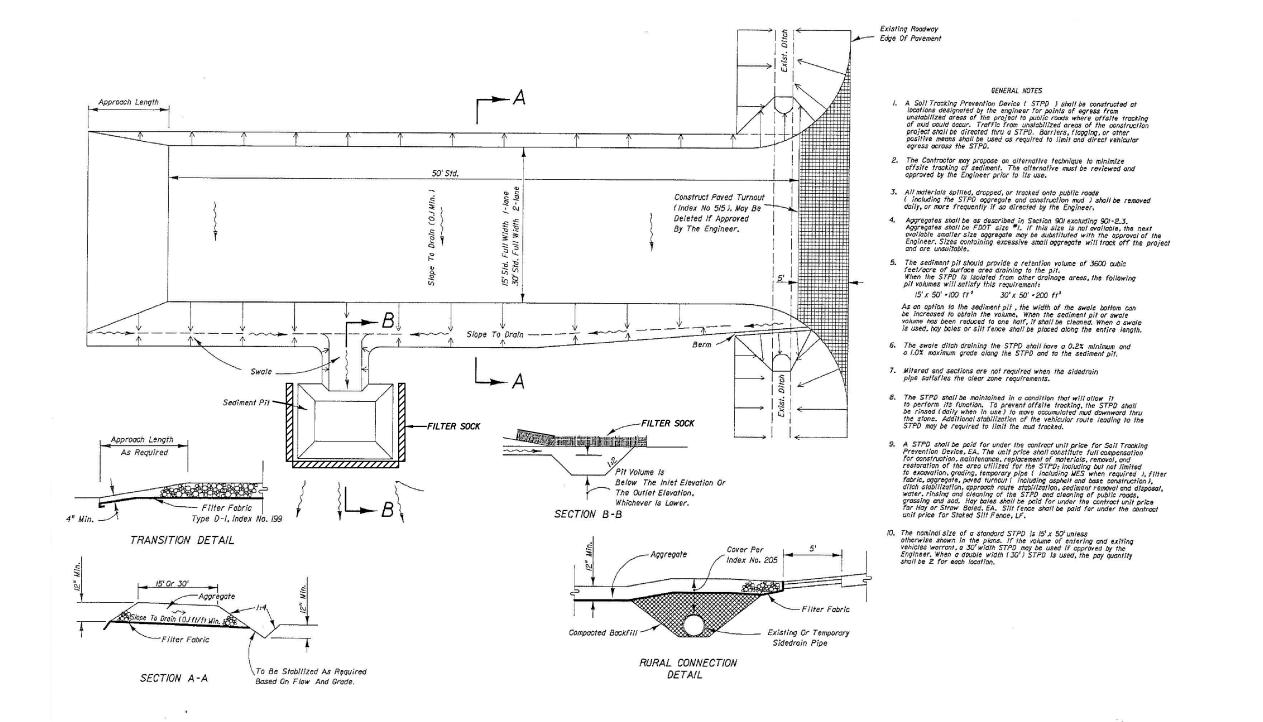
FACING TOWARDS DIRECTION OF FLOW.



#### Do not deploy in a manner that silt fences will act as a dam across permanent flowing watercourses. Silt fences are to be used at upland locations and turbidity barriers used at permanent bodies of water.

SILT FENCE APPLICATIONS





### STORMWATER POLLUTION PREVENTION PLAN

2. | 7/17/23 | REMOVE PHASING SH/SEM I. | 5/10/18| REVISED PER IRC PRE-APP COMMENTS DATE DR/APP REVISIONS

### MASTELLER & MOLER, INC.

CONSULTING ENGINEERS 1655 27th STREET, SUITE #2, VERO BEACH, FLORIDA, 32960 (772) 567-5300 / FAX (772) 794-II06 CERTIFICATE OF AUTHORIZATION NUMBER 4204

HOBART PARK

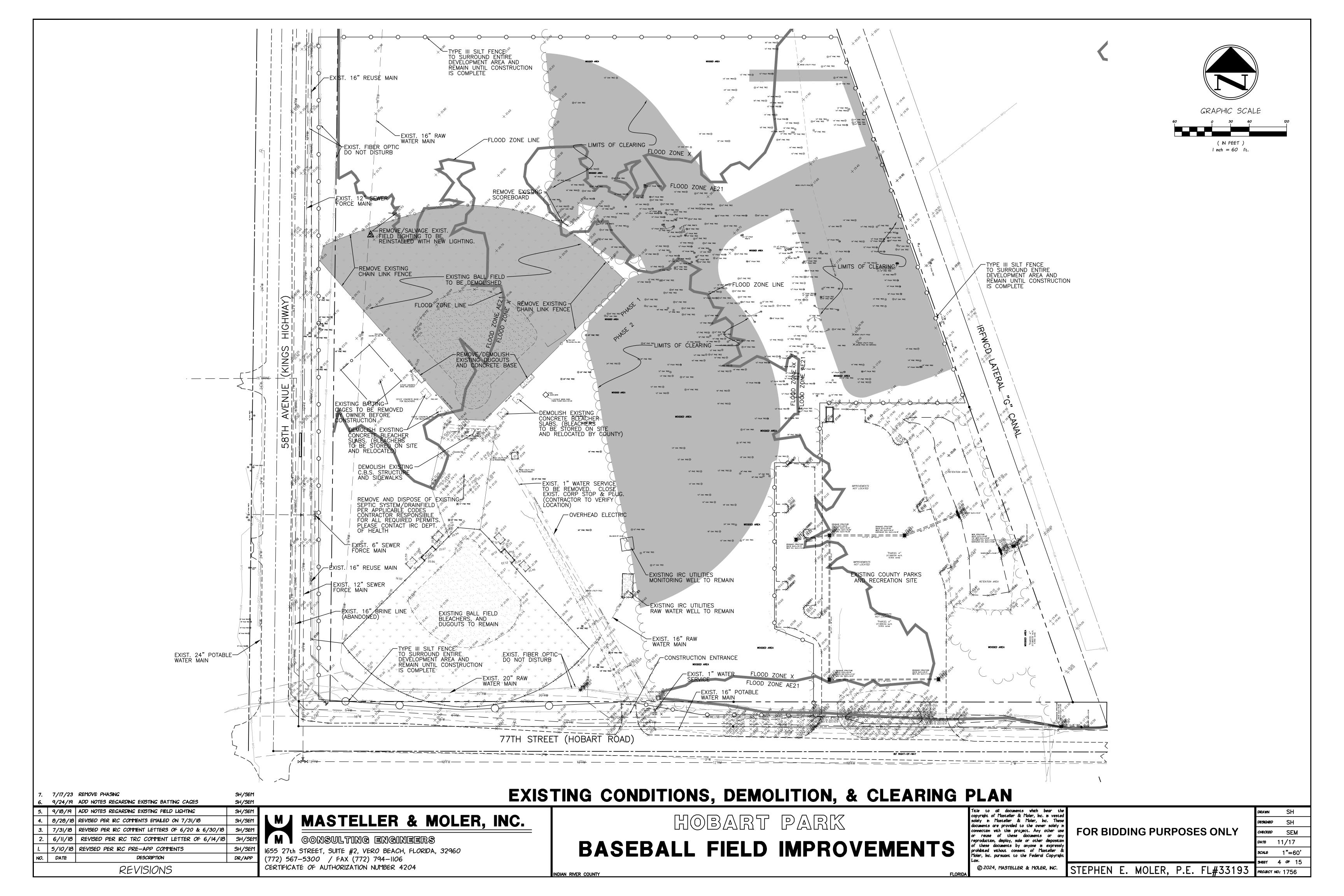
BASEBALL FIELD IMPROVEMENTS

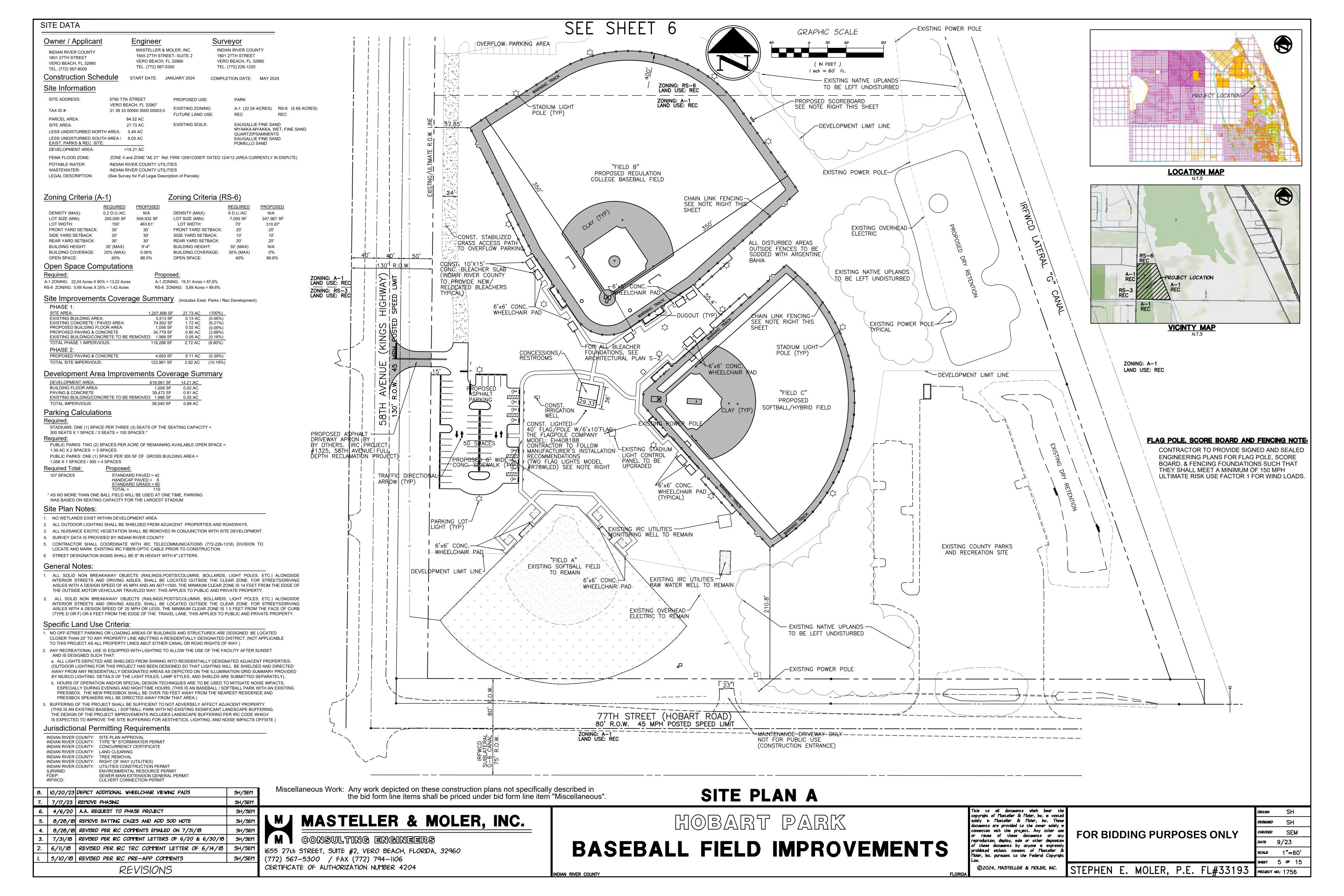
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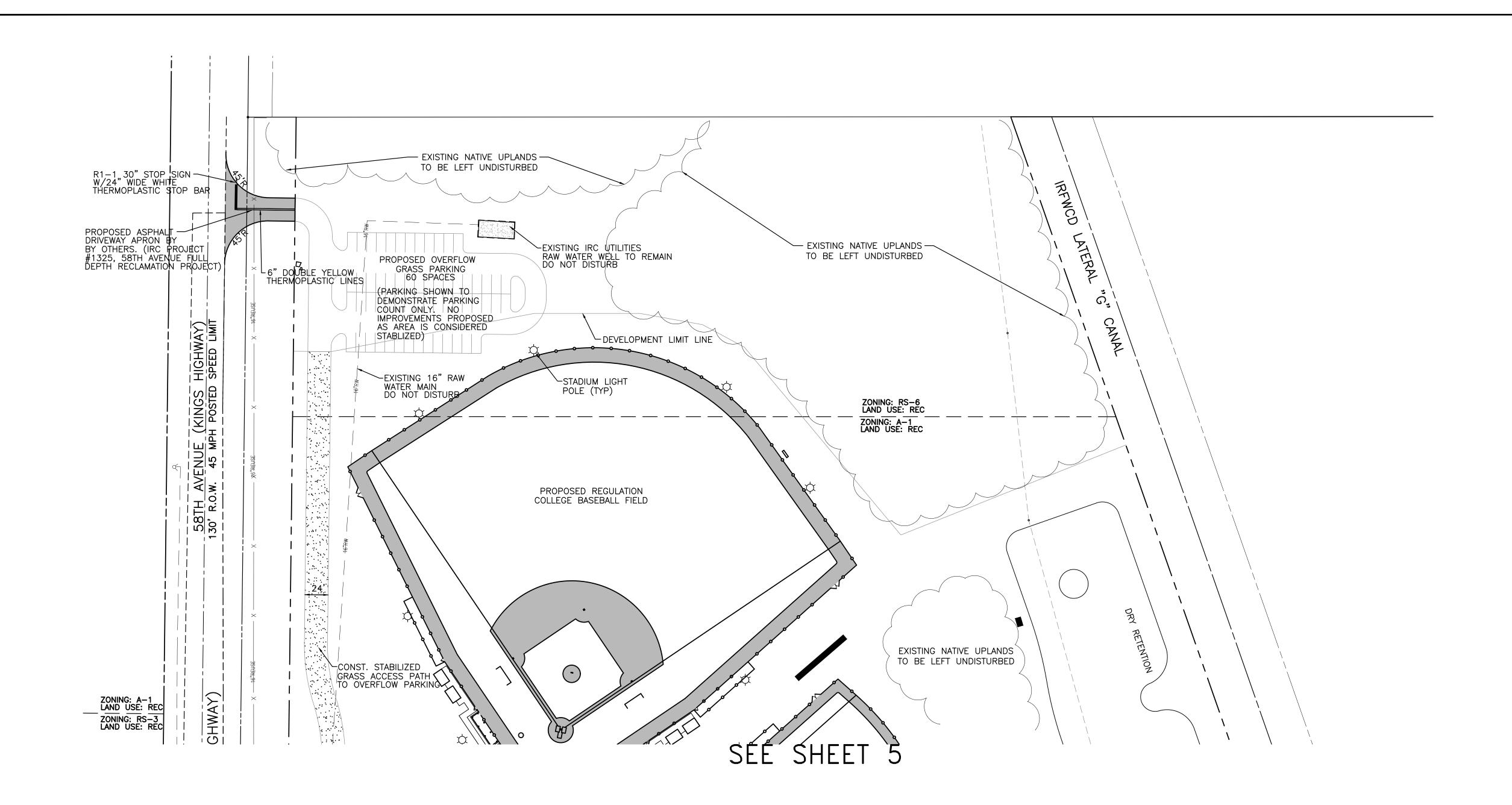
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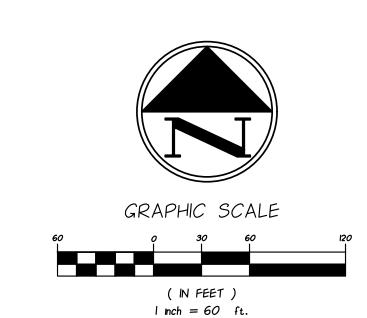
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STEPHEN	Ε.	MOLER,	P.E.	FL#33193	PROJECT	No.: 1756









Ī	7.	10/20/23	DEPICT ADDITIONAL WHEELCHAIR VIEWING PADS	SH/SEM	
	6.	7/17/23	REMOVE PHASING	SH/SEM	
ſ	5.	4/6/20	A.A. REQUEST TO PHASE PROJECT	SH/SEM	
Ī	4.	8/28/18	REVISED PER IRC COMMENTS EMAILED ON 7/31/18	SH/SEM	
	<i>3</i> .	7/31/18	REVISED PER IRC COMMENT LETTERS OF 6/20 & 6/30/18	SH/SEM	
	2.	6/11/18	REVISED PER IRC TRC COMMENT LETTER OF 6/14/18	SH/SEM	
	l.	5/10/18	REVISED PER IRC PRE-APP COMMENTS	SH/SEM	
	NO.	DATE	DESCRIPTION	DR/APP	
	REVISIONS				

SITE PLAN B MASTELLER & MOLER, INC.

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HOBART PARK

BASEBALL FIELD IMPROVEMENTS

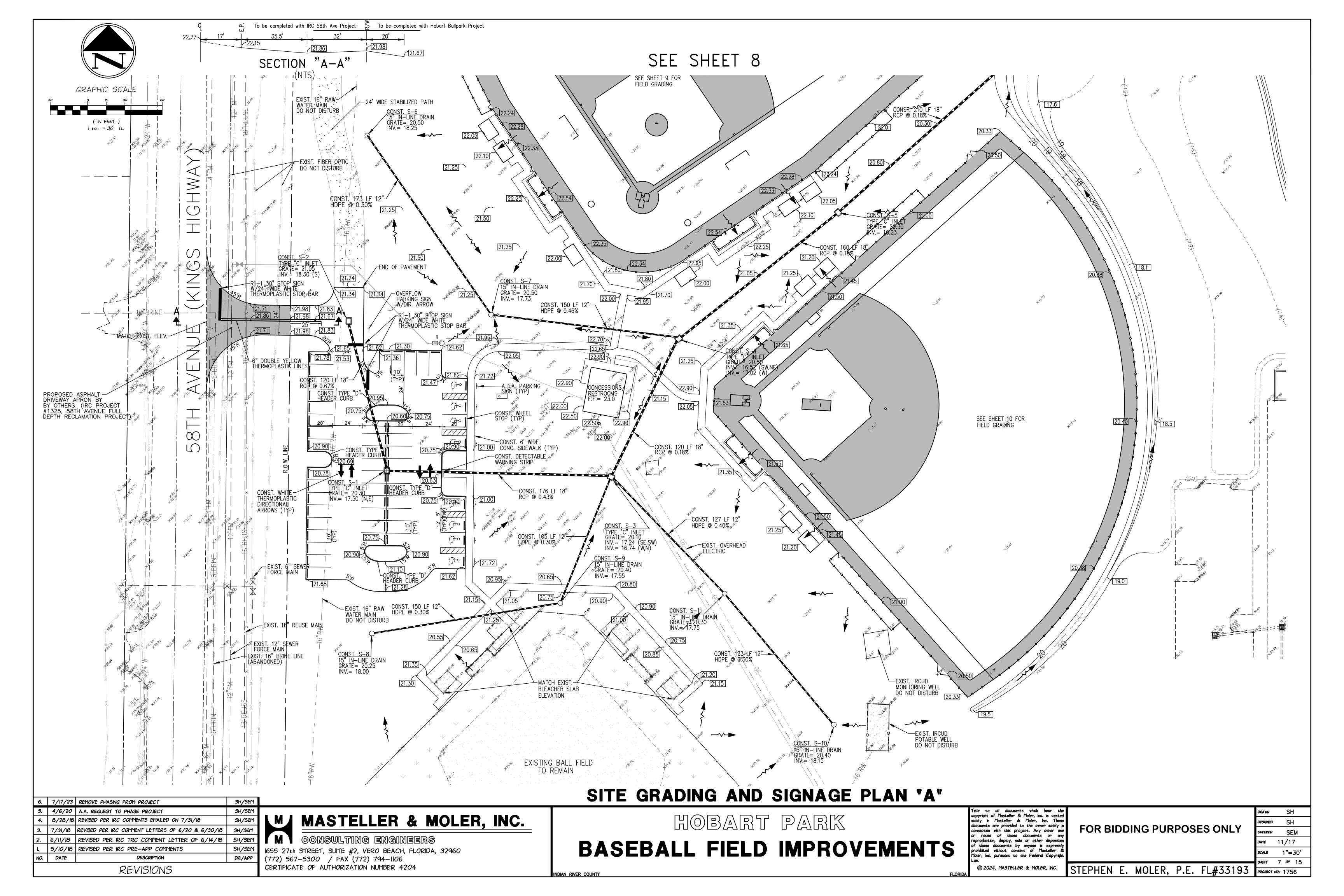
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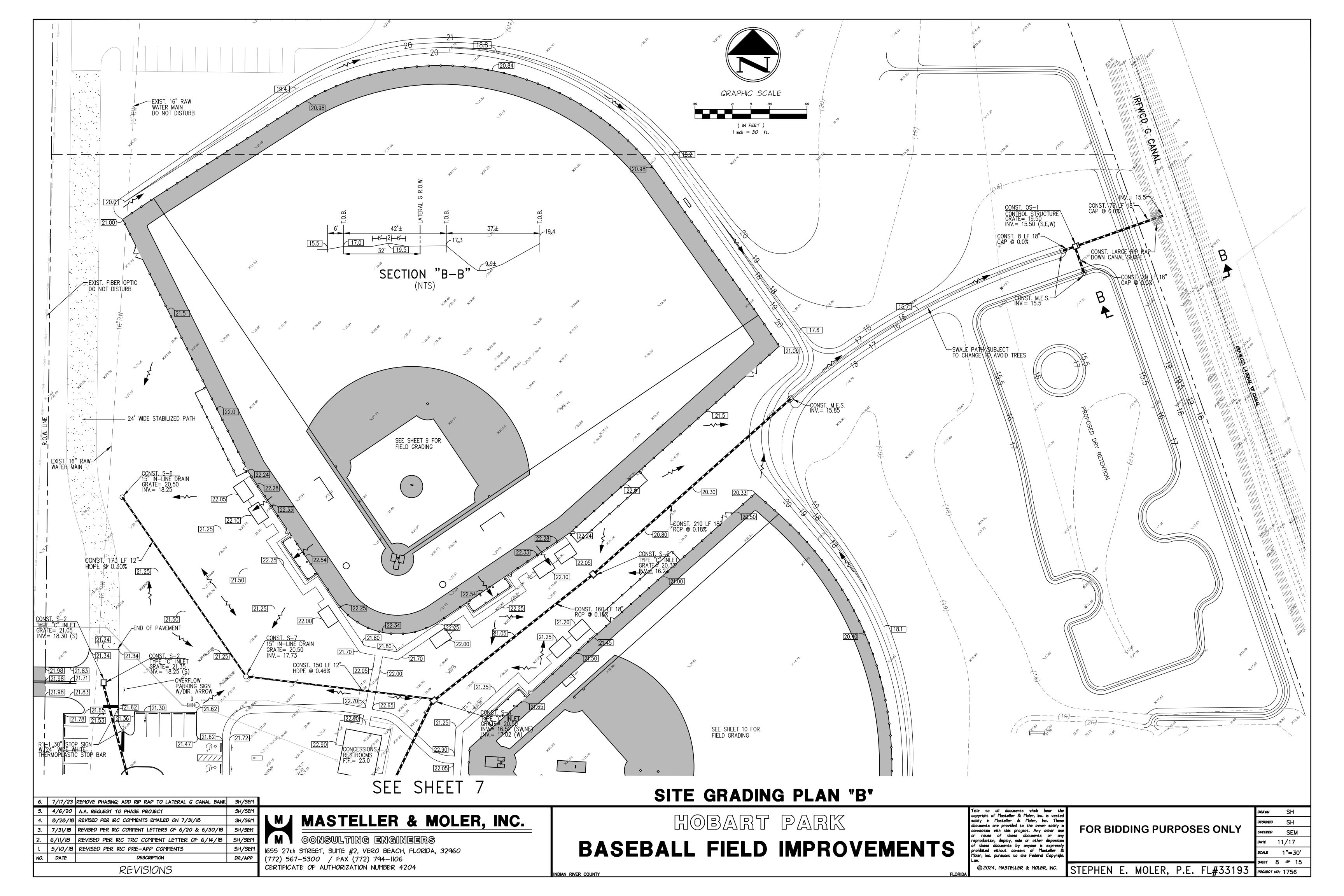
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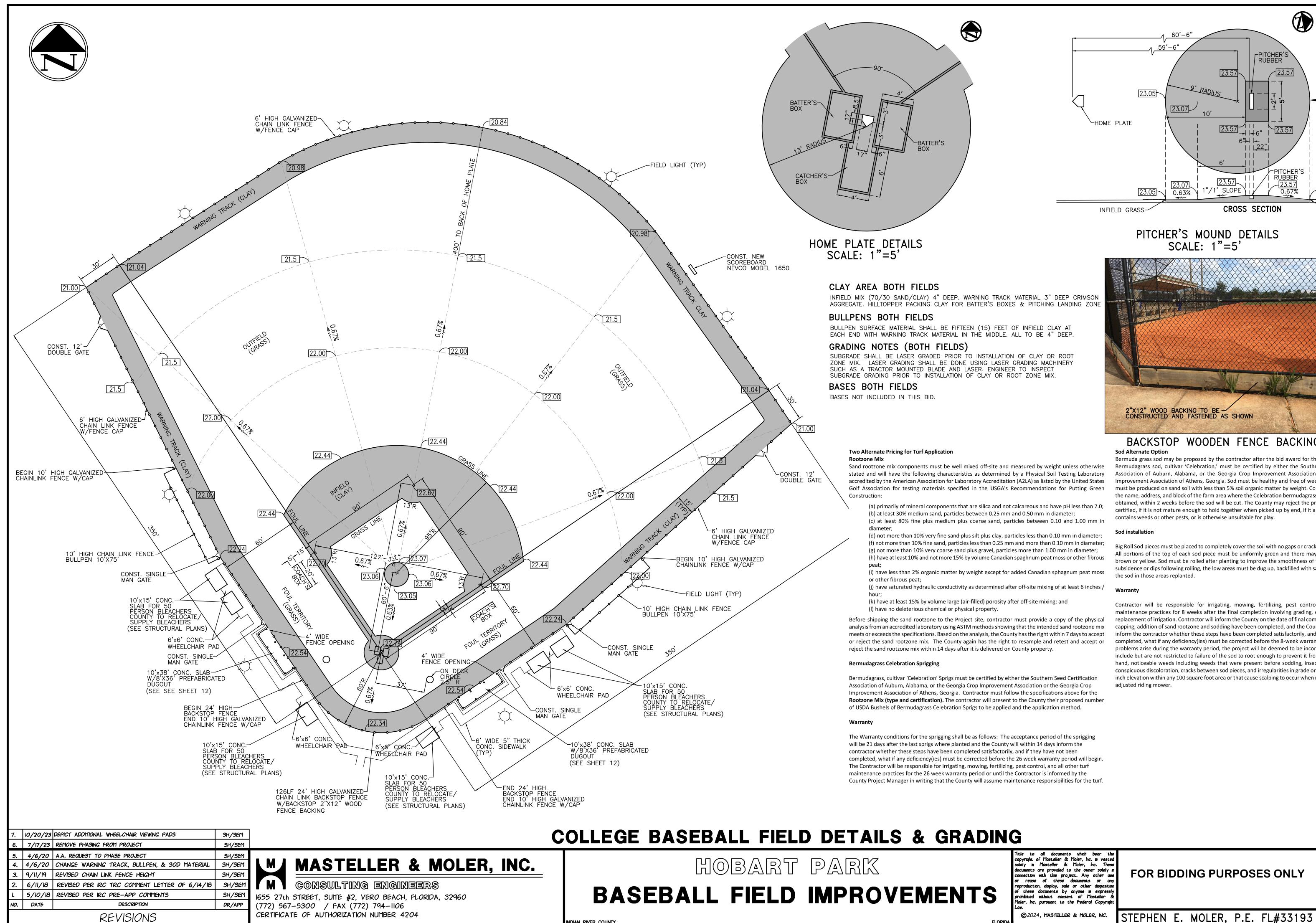
DATE 11/17 scale 1"=60' sheet 6 of 15

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STEPHEN E. MOLER, P.E. FL#33193 PROJECT NO: 1756







PITCHER'S MOUND DETAILS SCALE: 1"=5'



**CROSS SECTION** 

→PLAN VIEW

INFIELD GRASS

#### BACKSTOP WOODEN FENCE BACKING

#### Sod Alternate Option

Bermuda grass sod may be proposed by the contractor after the bid award for the County to consider Bermudagrass sod, cultivar 'Celebration,' must be certified by either the Southern Seed Certification Association of Auburn, Alabama, or the Georgia Crop Improvement Association or the Georgia Crop Improvement Association of Athens, Georgia. Sod must be healthy and free of weeds or other pests and must be produced on sand soil with less than 5% soil organic matter by weight. Contractor must provide the name, address, and block of the farm area where the Celebration bermudagrass sod is intended to be obtained, within 2 weeks before the sod will be cut. The County may reject the proposed sod if it is not certified, if it is not mature enough to hold together when picked up by end, if it appears unhealthy, if it contains weeds or other pests, or is otherwise unsuitable for play.

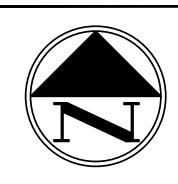
#### Sod installation

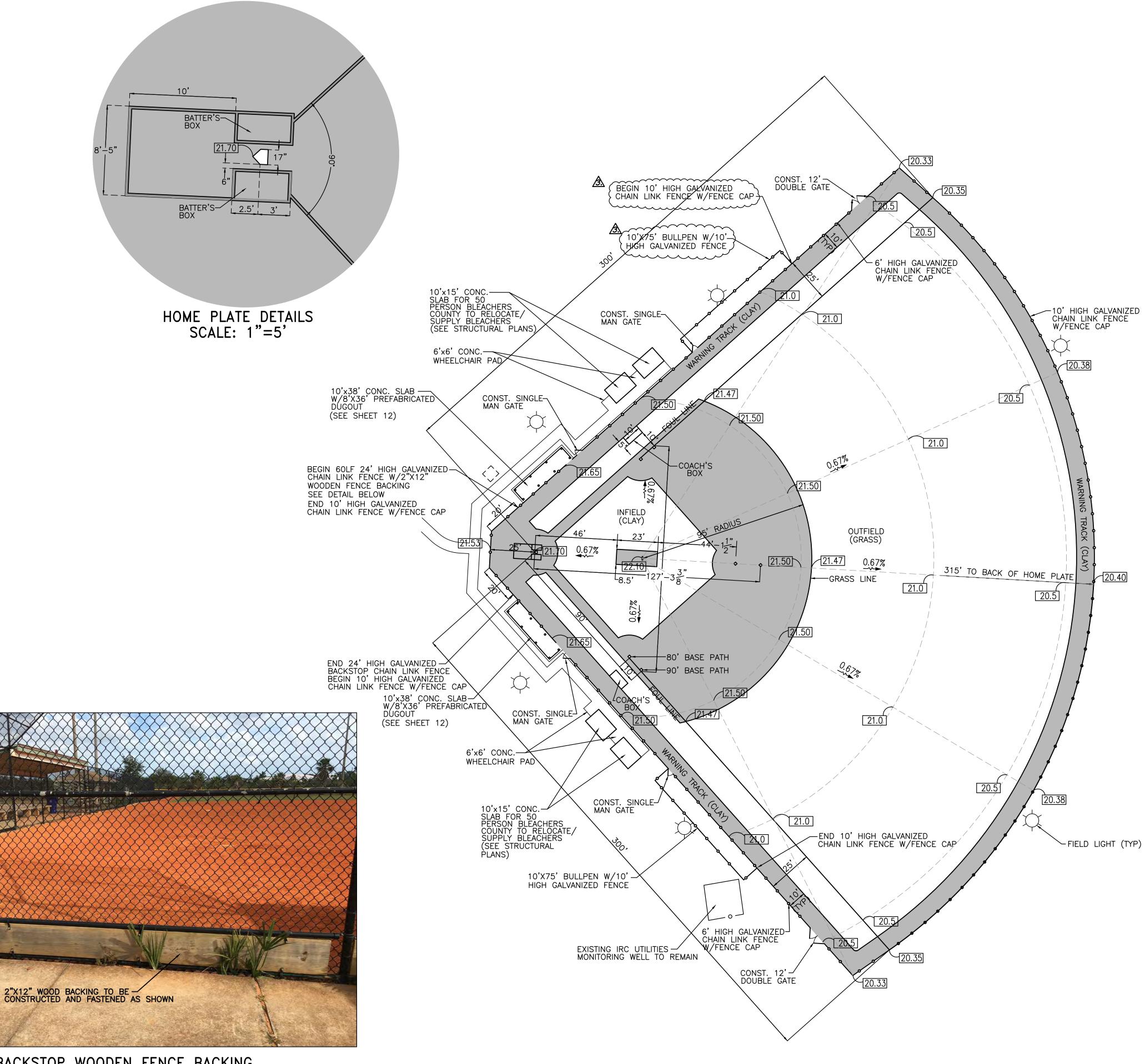
Big Roll Sod pieces must be placed to completely cover the soil with no gaps or cracks between sod pieces. All portions of the top of each sod piece must be uniformly green and there may be no areas that are brown or yellow. Sod must be rolled after planting to improve the smoothness of the surface. If there is subsidence or dips following rolling, the low areas must be dug up, backfilled with sand rootzone mix, and the sod in those areas replanted.

Contractor will be responsible for irrigating, mowing, fertilizing, pest control, and all other turf maintenance practices for 8 weeks after the final completion involving grading, capping, sodding, and replacement of irrigation. Contractor will inform the County on the date of final completion when grading, capping, addition of sand rootzone and sodding have been completed, and the County will within 14 days inform the contractor whether these steps have been completed satisfactorily, and if they have not been completed, what if any deficiency(ies) must be corrected before the 8-week warranty period will begin. If problems arise during the warranty period, the project will be deemed to be incomplete. Problems may include but are not restricted to failure of the sod to root enough to prevent it from being pulled out by hand, noticeable weeds including weeds that were present before sodding, insect or disease damage, conspicuous discoloration, cracks between sod pieces, and irregularities in grade or slope that exceed 1/2 inch elevation within any 100 square foot area or that cause scalping to occur when mowed with a suitably

FOR BIDDING PURPOSES ONLY

designed SH CHECKED SEM DATE 11/17 1"=30" SHEET 9 OF 15 PROJECT NO.: 1756





BACKSTOP WOODEN FENCE BACKING

6.	10/20/23	DEPICT ADDITIONAL WHEELCHAIR VIEWING PADS	SH/SEM
5.	7/17/23	REMOVE PHASING FROM PROJECT	SH/SEM
4.	4/6/20	A.A. REQUEST TO PHASE PROJECT	SH/SEM
3.	9/11/19	REVISED CHAIN LINK FENCE HEIGHT	SH/SEM
2.	6/11/18	REVISED PER IRC TRC COMMENT LETTER OF 6/14/18	SH/SEM
1.	5/10/18	REVISED PER IRC PRE-APP COMMENTS	SH/SEM
NO.	DATE	DESCRIPTION	DR/APP
		REVISIONS	

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### SOFTBALL/HYBRID FIELD DETAILS & GRADING

HOBART PARK

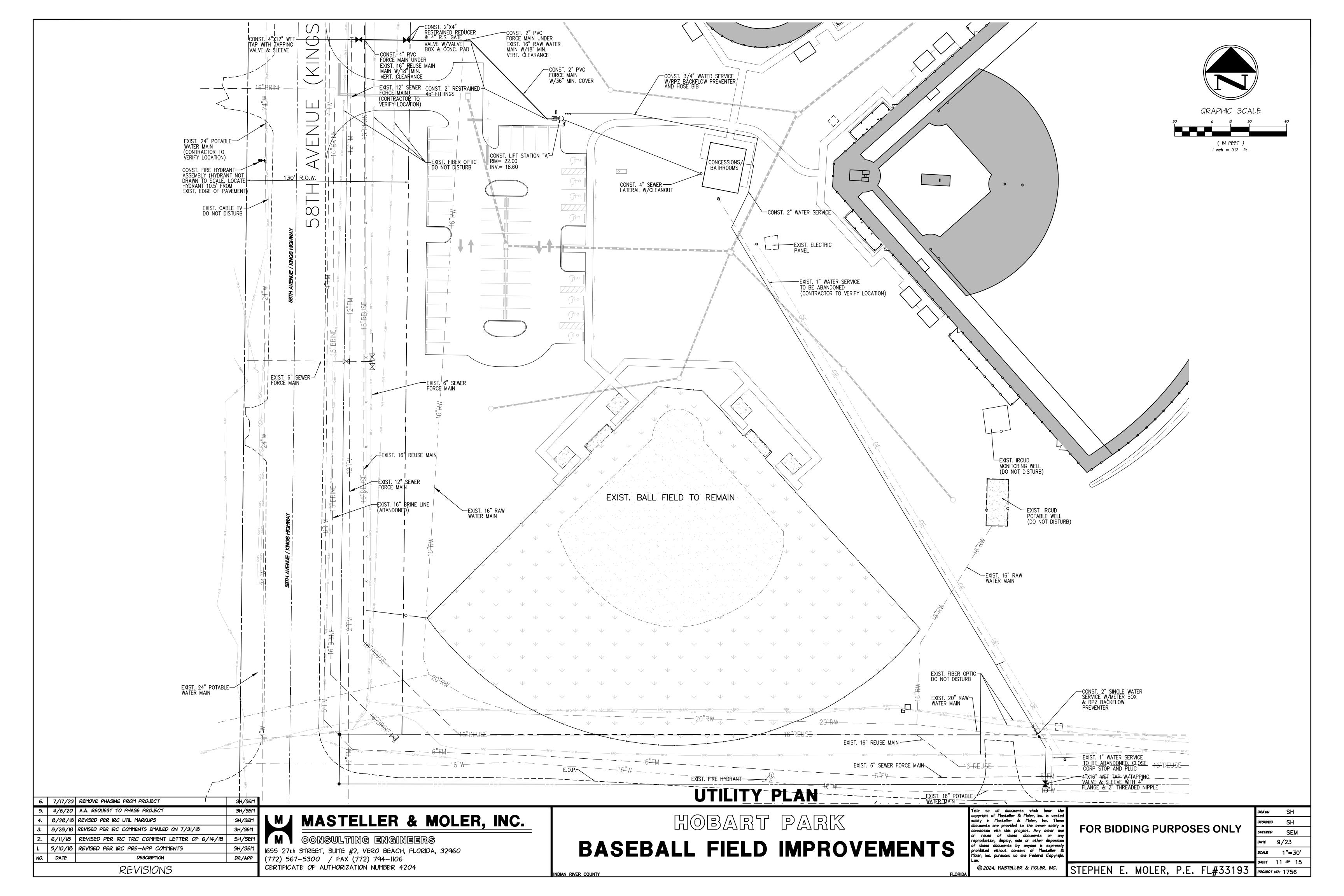
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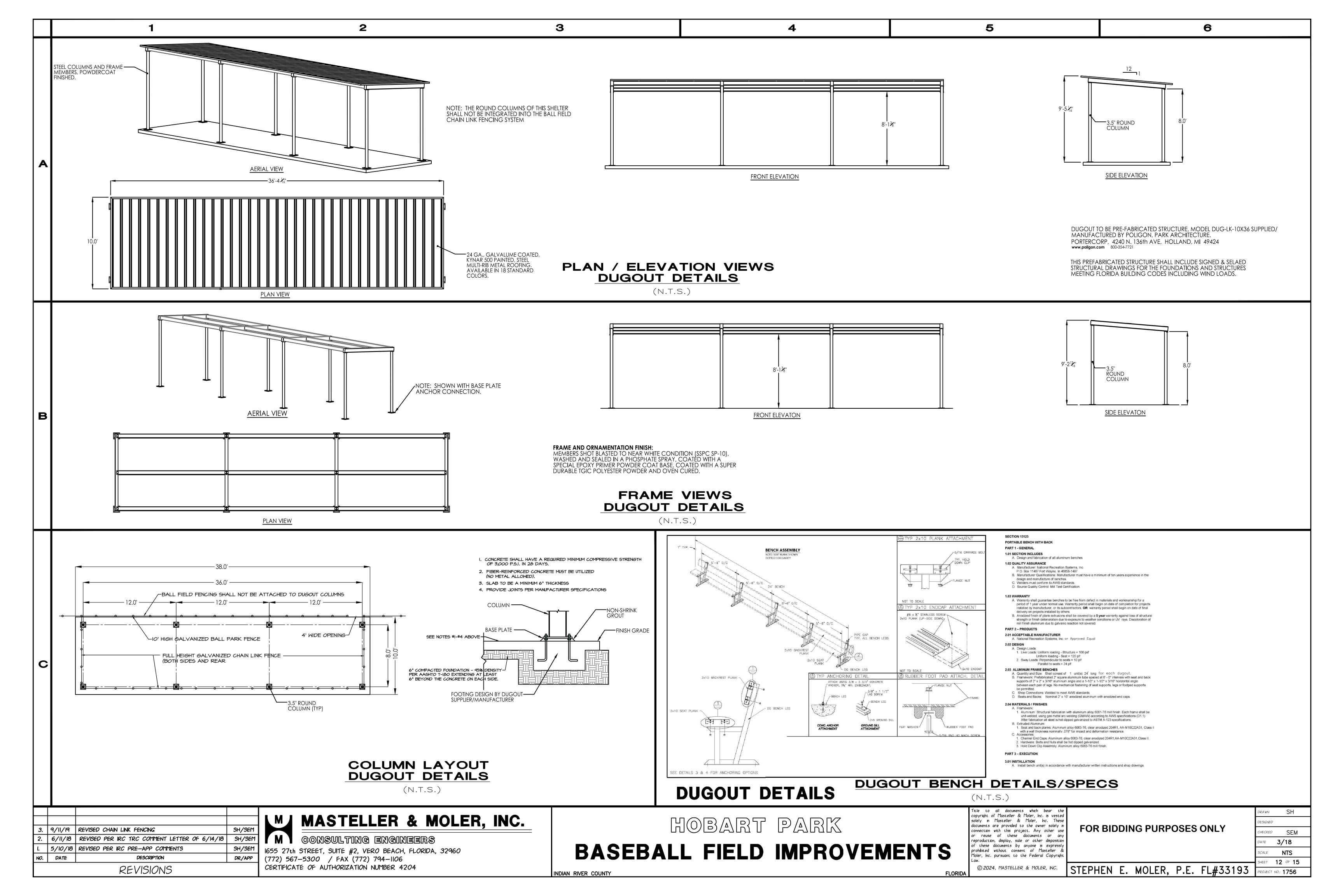
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DATE 11/17 scale 1"=30' sheet 10 of 15 STEPHEN E. MOLER, P.E. FL#33193 PROJECT NO: 1756

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#### **SECTION 26 56 68 – EXTERIOR ATHLETIC LIGHTING**

#### **Lighting System with LED Light Source**

#### PART 1 – GENERAL

#### 1.1 **SUMMARY**

- A. Work covered by this section of the specifications shall conform to the contract documents, engineering plans as well as state and local codes.
- B. The purpose of these specifications is to define the lighting system performance and design standards for Hobart Baseball Field using an LED Lighting source. The manufacturer / contractor shall supply lighting equipment to meet or exceed the standards set forth in these specifications.
- C. The sports lighting will be for the following venues:
- Baseball
- D. The primary goals of this sports lighting project are:
- 1. Guaranteed Light Levels: Selection of appropriate light levels impact the safety of the players and the enjoyment of spectators. Therefore, light levels are guaranteed to not drop below specified target values for a period of 10 years.
- 2. Environmental Light Control: It is the primary goal of this project to minimize spill light to adjoining properties and glare to the players, spectators and neighbors.
- 3. Cost of Ownership: In order to reduce the operating budget, the preferred lighting system shall be energy efficient and cost effective to operate. All maintenance costs shall be eliminated for the duration of the warranty.
- 4. Control and Monitoring: To allow for optimized use of labor resources and avoid unneeded operation of the facility, customer requires a remote on/off control system for the lighting system Fields should be proactively monitored to detect luminaire outages over a 10-year life cycle. All communication and monitoring costs for 10-year period shall be included in the bid.

#### 1.2 LIGHTING PERFORMANCE

A. Illumination Levels and Design Factors: Playing surfaces shall be lit to an average target illumination level and uniformity as specified in the chart below. Lighting calculations shall be developed and field measurements taken on the grid spacing with the minimum number of grid points specified below. Appropriate light loss factors shall be applied and submitted for the basis of design. Average illumination level shall be measured in accordance with the IESNA LM-5-04 (IESNA Guide for Photometric Measurements of Area and Sports Lighting Installations). Illumination levels shall not to drop below desired target values in accordance to IES RP-6-15, Page 2, Maintained Average Illuminance and shall be guaranteed for the full warranty period.

Area of Lighting	Average Target Illumination Levels	Maximum to Minimum Uniformity Ratio	Grid Points	Grid Spacing
Infield	50 footcandles	2.0:1.0	25	30' x 30'
Outfield	30 footcandles	2.5:1.0	123	30' x 30'

- B. Color: The lighting system shall have a minimum color temperature of <5700K and a CRI of 75.
- C. Mounting Heights: To ensure proper aiming angles for reduced glare and to provide better playability, minimum mounting heights shall be as described below. Higher mounting heights may be required based on photometric report and ability to ensure the top of the field angle is a minimum

f 10 degrees below norizontal.			
# of Poles	Pole Designation	Pole Height	
6	A3, A4, C3, C4, D1, D2	70'	
2	B3, B4	80'	

#### 1.1 ENVIRONMENTAL LIGHT CONTROL

- A. Light Control Luminaires: All luminaires shall utilize spill light and glare control devices including, but not limited to, internal shields, louvers and external shields. No symmetrical beam patterns are
- B. Spill Light and Glare Control: To minimize impact on adjacent properties, spill light and candela values must not exceed the following levels taken at 3 feet above grade.

	Average	Maximum
Horizontal Footcandles 150' offset	.0414	.174
Vertical Footcandles 150' offset	.0846	.234
Candela – 150' offset	1721	3289

- C. Spill Scans: Spill scans must be submitted indicating the amount of horizontal and vertical footcandles along the specified lines. Light levels shall be taken at 30-foot intervals along the boundary line. Readings shall be taken with the meter orientation at both horizontal and aimed towards the most intense bank of lights. Illumination level shall be measured in accordance with the IESNA LM-5-04 after 1 hour warm up.
- D. The first page of a photometric report for all luminaire types proposed showing horizontal and vertical axial candle power shall be provided to demonstrate the capability of achieving the specified performance. Reports shall be certified by a qualified testing laboratory with a minimum of five years experience or by a manufacturer's laboratory with a current accreditation under the National Voluntary Laboratory Accreditation Program for Energy Efficient Lighting Products. A summary of the horizontal and vertical aiming angles for each luminaire shall be included with the photometric report.

#### 1.4 <u>Cost of Ownership</u>

A. Manufacturer shall submit a 10-year Cost of Ownership summary that includes energy consumption, anticipated maintenance costs, and control costs. All costs associated with faulty luminaire replacement - equipment rentals, removal and installation labor, and shipping - are to be included in the maintenance costs.

#### PART 2 - PRODUCT

#### 2.2 SPORTS LIGHTING SYSTEM CONSTRUCTION

- A. Manufacturing Requirements: All components shall be designed and manufactured as a system. All luminaires, wire harnesses, drivers and other enclosures shall be factory assembled, aimed, wired
- B. Durability: All exposed components shall be constructed of corrosion resistant material and/or coated to help prevent corrosion. All exposed carbon steel shall be hot dip galvanized per ASTM A123. All exposed aluminum shall be powder coated with high performance polyester or anodized. All exterior reflective inserts shall be anodized, coated, and protected from direct environmental exposure to prevent reflective degradation or corrosion. All exposed hardware and fasteners shall be stainless steel, passivated and coated with aluminum-based thermosetting epoxy resin for protection against corrosion and stress corrosion cracking. Structural fasteners may be carbon steel and galvanized meeting ASTM A153 and ISO/EN 1461 (for hot dipped galvanizing), or ASTM B695 (for mechanical galvanizing). All wiring shall be enclosed within the cross-arms, pole, or electrical components enclosure.
- C. System Description: Lighting system shall consist of the following:

1. Galvanized steel poles and cross-arm assembly.

#### 1. Non-approved pole technology:

- Square static cast concrete poles will not be accepted.
- b. Direct bury steel poles which utilize the extended portion of the steel shaft for their foundation will not be accepted due to potential for internal and external corrosive reaction to the soils and long term performance concerns.
- 2. Lighting systems shall use concrete foundations. See Section 2.4 for details.
- a. For a foundation using a pre-stressed concrete base embedded in concrete backfill the concrete shall be air-entrained and have a minimum compressive design strength at 28 days of 3,000 PSI. 3,000 PSI concrete specified for early pole erection, actual required minimum allowable concrete strength is 1,000 PSI. All piers and concrete backfill must bear on and against firm undisturbed soil.
- b. For anchor bolt foundations or foundations using a pre-stressed concrete base in a suspended pier or re-enforced pier design pole erection may occur after 7 days. Or after a concrete sample from the same batch achieves a certain strength.
- Manufacturer will supply all drivers and supporting electrical equipment
- a. Remote drivers and supporting electrical equipment shall be mounted approximately 10 feet above grade in aluminum enclosures. The enclosures shall be touch-safe and include drivers and fusing with indicator lights on fuses to notify when a fuse is to be replaced for each luminaire. Disconnect per circuit for each pole structure will be located in the enclosure. Integral drivers are not allowed.
- b. Manufacturer shall provide surge protection at the pole equal to or greater than 40 kA for each line to ground (Common Mode) as recommended by IEEE C62.41.2\_2002.
- Wire harness complete with an abrasion protection sleeve, strain relief and plug-in connections for fast, trouble-free installation.
- 6. All luminaires, visors, and cross-arm assemblies shall withstand 150 mi/h winds and maintain luminaire aiming alignment.
- 8. Contactor cabinet to provide on-off control.
- 9. Manufacturer shall provide lightning grounding as defined by NFPA 780 and be UL Listed per
- a. Integrated grounding via concrete encased electrode grounding system.
- b. If grounding is not integrated into the structure, the manufacturer shall supply grounding electrodes, copper down conductors, and exothermic weld kits. Electrodes and conductors shall be sized as required by NFPA 780. The grounding electrode shall be minimum size of 5/8 inch diameter and 8 feet long, with a minimum of 10 feet embedment. Grounding electrode shall be connected to the structure by a grounding electrode conductor with a minimum size of 2 AWG for poles with 75 feet mounting height or less, and 2/0 AWG for poles with more than 75 feet mounting height.
- 10. Enhanced corrosion protection package: Due to the potentially corrosive environment for this project, manufacturers must provide documentation that their products meet the following enhanced requirements in addition to the standard durability protection specified above:
  - a) Exposed carbon steel horizontal surfaces on the crossarm assembly shall be galvanized to no less than a five (5) mil average thickness.
  - b) Exposed die cast aluminum components shall be Type II anodized per MIL-STD-8625 and coated with high performance polyester.
  - c) Exposed extruded aluminum components shall be Type II anodized per MIL-STD-8625 and coated with high performance polyester.
- D. Safety: All system components shall be UL listed for the appropriate application.

#### 2.1 ELECTRICAL

- A. Electric Power Requirements for the Sports Lighting Equipment:
- Electric power: 480 Volt, 1 Phase
- Maximum total voltage drop: Voltage drop to the disconnect switch located on the poles shall not exceed three (3) percent of the rated voltage.
- Energy Consumption: The kW consumption for the field lighting system shall be 57.84.

#### 2.3 <u>CONTROL</u>

- A. Instant On/Off Capabilities: System shall provide for instant on/off of luminaires
- B. Lighting contactor cabinet(s) constructed of NEMA Type 4 aluminum, designed for easy installation with contactors, labeled to match field diagrams and electrical design. Manual off-on-auto selector switches shall be provided.
- C. Dimming: System shall provide for 3-stage dimming (high-medium-low). Dimming will be set via scheduling options (Website, app, phone, fax, email)
- Remote Lighting Control System: System shall allow owner and users with a security code to schedule on/off system operation via a web site, phone, fax or email up to ten years in advance. Manufacturer shall provide and maintain a two-way TCP/IP communication link. Trained staff shall be available 24/7 to provide scheduling support and assist with reporting needs.

must be flexible to allow a range of privileges such as full scheduling capabilities for all fields to only having permission to execute "early off" commands by phone. Scheduling tool shall be capable of setting curfew limits.

The owner may assign various security levels to schedulers by function and/or fields. This function

Controller shall accept and store 7-day schedules, be protected against memory loss during power outages, and shall reboot once power is regained and execute any commands that would have occurred during outage.

- Remote Monitoring System: System shall monitor lighting performance and notify manufacturer if individual luminaire outage is detected so that appropriate maintenance can be scheduled. The controller shall determine switch position (manual or auto) and contactor status (open or closed).
- Management Tools: Manufacturer shall provide a web-based database and dashboard tool of actual field usage and provide reports by facility and user group. Dashboard shall also show current status of luminaire outages, control operation and service. Mobile application will be provided suitable for IOS, Android and Blackberry devices.

Hours of Usage: Manufacturer shall provide a means of tracking actual hours of usage for the field lighting system that is readily accessible to the owner.

- 1. Cumulative hours: shall be tracked to show the total hours used by the facility
- 2. Report hours saved by using early off and push buttons by users.
- G. Communication Costs: Manufacturer shall include communication costs for operating the control and monitoring system for a period of 10 years.
- H. Communication with luminaire drivers: Control system shall interface with drivers in electrical components enclosures by means of powerline communication.

#### 2.4 STRUCTURAL PARAMETERS

- A. Wind Loads: Wind loads shall be based on the 2020 Florida Building Code. Wind loads to be calculated using ASCE 7-10, an ultimate design wind speed of 160 (nominal design wind speed of
- B. Pole Structural Design: The stress analysis and safety factor of the poles shall conform to AASHTO 2013 Standard Specification for Structural Supports for Highway Signs, Luminaires, and Traffic Signals (LTS-6).

NDIAN RIVER COUNTY

- C. Foundation Design: The foundation design shall be based on soil parameters as outlined in the geotechnical report. Keller, Schleicher & MacWilliam Engineering and Testing, dated June 5, 2018.
- D. Foundation Drawings: Project specific foundation drawings stamped by a registered engineer in the state where the project is located are required. The foundation drawings must list the moment, shear (horizontal) force, and axial (vertical) force at ground level for each pole. These drawings must be submitted at time of bid to allow for accurate pricing.

#### PART 3 – EXECUTION

#### 3.1 SOIL QUALITY CONTROL

- A. It shall be the Contractor's responsibility to notify the Owner if soil conditions exist other than those on which the foundation design is based, or if the soil cannot be readily excavated. Contractor may issue a change order request / estimate for the Owner's approval / payment for additional costs associated with:
- 1. Providing engineered foundation embedment design by a registered engineer in the State of Florida for soils other than specified soil conditions;
- 2. Additional materials required to achieve alternate foundation;
- 3. Excavation and removal of materials other than normal soils, such as rock, caliche, etc.

#### 3.2 <u>DELIVERY TIMING</u>

A. Delivery Timing Equipment On-Site: The equipment must be on-site 6 – 8 weeks from receipt of approved submittals and receipt of complete order information.

#### 3.3 FIELD QUALITY CONTROL

- A. Illumination Measurements: Upon substantial completion of the project and in the presence of the Contractor, Project Engineer, Owner's Representative, and Manufacturer's Representative, illumination measurements shall be taken and verified. The illumination measurements shall be conducted in accordance with IESNA LM-5-04.
- B. Field Light Level Accountability
- 1. Light levels are guaranteed not to fall below the target maintained light levels for the entire warranty period of 10 years. These levels will be specifically stated as "guaranteed" on the illumination summary provided by the manufacturer.
- 2. The contractor/manufacturer shall be responsible for conducting initial light level testing and an additional inspection of the system, in the presence of the owner, one year from the date of commissioning of the lighting.
- 3. The contractor/manufacturer will be held responsible for any and all changes needed to bring these fields back to compliance for light levels and uniformities. Contractor/Manufacturer will be held responsible for any damage to the fields during these repairs.
- C. Correcting Non-Conformance: If, in the opinion of the Owner or his appointed Representative, the actual performance levels including footcandles and uniformity ratios are not in conformance with the requirements of the performance specifications and submitted information, the Manufacturer shall be required to make adjustments to meet specifications and satisfy Owner.

#### 3.4 WARRANTY AND GUARANTEE

- A. 10-Year Warranty: Each manufacturer shall supply a signed warranty covering the entire system for 10 years from the date of shipment. Warranty shall guarantee specified light levels. Manufacturer shall maintain specifically-funded financial reserves to assure fulfillment of the warranty for the full term. Warranty does not cover weather conditions events such as lightning or hail damage, improper installation, vandalism or abuse, unauthorized repairs or alterations, or product made by other manufacturers.
- Maintenance: Manufacturer shall monitor the performance of the lighting system, including on/off
  - A. status, hours of usage and luminaire outage for 10 years from the date of equipment shipment. Parts and labor shall be covered such that individual luminaire outages will be repaired when the usage of any field is materially impacted. Manufacturer is responsible for removal and replacement of failed luminaires, including all parts, labor, shipping, and equipment rental associated with maintenance. Owner agrees to check fuses in the event of a luminaire outage.

### NOTE:

THE LIGHTING VENDOR SHALL, TO SUPPORT ISSUANCE OF A BUILDING PERMIT FOR THIS PROJECT, SUBMIT WITH SHOP DRAWINGS, THE DESIGN OF THE LIGHTING SYSTEM INCLUDING STRUCTURAL ENGINEERING SIGNED AND SEALED BY A FLORIDA LICENSED ENGINEER.

### COLLEGE FIELD LIGHTING SPECIFICATIONS

6. 7/17/23 REMOVE PHASING FROM PROJECT SH/SEM 5. 4/6/20 REVISED LIGHTING SPECIFICATIONS SH/SEN 4. 9/18/18 REVISED PER IRC COMMENTS EMAILED 9/17/18 SH/SEM REVISED PER IRC COMMENT LETTERS OF 6/20 & 6/30/18 SH/SEM 3. 7/31/18 2. | 6/11/18 | REVISED PER IRC TRC COMMENT LETTER OF 6/14/18 | SH/SEM 5/10/18 REVISED PER IRC PRE-APP COMMENTS DATE DESCRIPTION DR/APP REVISIONS

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STEPHEN E. MOLER, P.E. FL#33193

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OJECT NO.: 1756

#### PART 1 - GENERAL

#### 1.1 **SUMMARY**

- A. Work covered by this section of the specifications shall conform to the contract documents, engineering plans as well as state and local codes.
- B. The purpose of these specifications is to define the performance and design standards for Hobart Park Softball Field. The manufacturer / contractor shall supply lighting equipment to meet or exceed the standards set forth in these specifications.
- C. The sports lighting will be for the following fields: 1. Softball Field

#### D. The primary goals of this sports lighting project are:

- 1. Guaranteed Light Levels: Selection of appropriate light levels impact the safety of the players and the enjoyment of spectators. Therefore light levels are guaranteed for a period of 10 years.
- 2. Environmental Light Control: It is the primary goal of this project to minimize spill light and glare.
- 3. Life-cycle Cost: In order to reduce the operating budget, the preferred lighting system shall be energy efficient and cost effective to operate.
- 4. Control and Monitoring: To allow for optimized use of labor resources and avoid unneeded operation of the facility, customer requires a remote on/off control system for the lighting system. Field(s) should be proactively monitored to detect fixture outages over a 10 year life-cycle.

#### 1.2 LIGHTING PERFORMANCE

A. Performance Requirements: Playing surfaces shall be lit to an average constant light level and uniformity as specified in the chart below. Light levels shall be held constant for 10 years. Lighting calculations shall be developed and field measurements taken on the grid spacing with the minimum number of grid points specified below. Average illumination level shall be measured in accordance with the IESNA LM-5-04. Light levels shall be guaranteed from the first 100 hours of operation for the maximum warranty period.

Area of Lighting	Average Constant Light Levels	Maximum to Minimum Uniformity Ratio	Grid Points	Grid Spacing
Infield	50 footcandles	2.0:1.0	25	30' x 30''
Outfield	30 footcandles	2.5:1.0	77	30' x 30'
Right Bullpen	23 footcandles	1.27:1.0	8	10' x 10'
Left Bullpen	23 footcandles	1.26:1.0	8	10' x 10'

- 1. Lumen maintenance control strategy: A constant light system shall use automatic power adjustments to achieve a lumen maintenance control strategy as described in the IESNA Lighting Handbook 10th Edition, Lighting Controls Section, page 16-8: "Lumen maintenance involves adjusting lamp output over time to maintain constant light output as lamps age, and dirt accumulation reduces luminaire output. With lumen maintenance control, either lamps are dimmed when new, or the lamp's current is increased as the system ages."
- 2. Independent Test Report: Manufacturers bidding any form of a constant light system must provide an independent test report certifying the system meets the lumen maintenance control strategy above and verifying the field performance of the system for the duration of the useful life of the lamp based on lamp replacement hours. Report shall be signed by a licensed professional engineer with outdoor lighting experience. If report is not provided at least 10 days prior to bid opening, the manufacturer shall provide the initial and maintained designs called for in this specification under Alternate Manufacturers, section 1.8.
- 3. Project References: Manufacturers bidding any form of a constant light system must provide a minimum of five (5) project references within the state of FL that have been completed within the last calendar year utilizing this exact technology. Manufacturer will include project name, project city, and if requested, contact name and contact phone number for each reference.
- A. Mounting Heights: To ensure proper aiming angles for reduced glare and to provide better playability, the pole mounting heights from the playing field surface shall be as follows:

# of Poles	Pole Designation	Pole Height
2	A3, A4	60'
4	B3, B4, C3, C4	70'

#### ENVIRONMENTAL LIGHT CONTROL

- A. Light Control Luminaires: All luminaires shall utilize spill light and glare control devices including, but 1.1 not limited to, internal shields, louvers, and external shields. No symmetrical beam patterns are
- B. No one Nema type at 19 degrees in the vertical plane, will exceed 3,000 candela. Independent laboratory report must be submitted with the bid to validate the above requirements.

#### 1.2 <u>LIFE-CYCLE COSTS</u>

- A. Energy Consumption: The average kW consumption for the field lighting system shall be 59.43 or
- B. Complete Lamp Replacement: Manufacturer shall include all group lamp replacements required to provide 10 years of operation based upon 500 usage hours per year.
- C. Preventative and Spot Maintenance: Manufacturer shall provide all preventative and spot maintenance, including parts and labor for 10 years from the date of equipment shipment. Individual lamp outages shall be repaired when the usage of any field is materially impacted. Owner agrees to check fuses in the event of a luminaire outage.
- D. Remote Monitoring System: System shall monitor lighting performance and notify manufacturer if individual luminaire outage is detected so that appropriate maintenance can be scheduled. The manufacturer shall notify the owner of outages within 24 hours, or the next business day. The controller shall determine switch position (Manual or Auto) and contactor status (open or closed).
- Remote Lighting Control System: System shall allow owner and users with a security code to schedule on/off system operation via a web site, phone, fax or email up to ten years in advance. Manufacturer shall provide and maintain a two-way TCP/IP communication link. Trained staff shall be available 24/7 to provide scheduling support and assist with reporting needs.

must be flexible to allow a range of privileges such as full scheduling capabilities for all fields, to only having permission to execute "early off" commands by phone. Controller shall accept and store 7-day schedules, be protected against memory loss during power

The owner may assign various security levels to schedulers by function and/or fields. This function

- outages, and shall reboot once power is regained and execute any commands that would have occurred during outage. Management Tools: Manufacturer shall provide a web-based database of actual field usage and
- provide reports by facility and user group. a. Hours of Usage: Manufacturer shall provide a means of tracking actual hours of usage for the field lighting system that is readily accessible to the owner.
- i. Cumulative hours: shall be tracked to show the total hours used by the facility
- ii. Current lamp hours: shall be tracked separately to reflect the amount of hours on the current set of lamps being used, so relamping can be scheduled accurately
- G. Communication Costs: Manufacturer shall include communication costs for operating the controls and monitoring system for a period of 10 years.
- H. 10-Year Life-cycle Cost: Manufacturer shall submit 10-year life-cycle cost calculations as follows.

	Equipment price and total life-cycle cost shall be entered separately on bid for	m.	
a.	Luminaire energy consumption  # luminaires xkW demand per luminaire x kWh rate x 500 annual usage hours x 10 years		
b.	Demand charges, if applicable]	+	
C.	Cost for spot relamping and maintenance over 10 years Assume repairs at \$ each if not included with the bid	+	
d.	Cost to relamp all luminaires during 10 years annual usage hours x 10 years / hours x \$125 lamp & labor x fixtures if not included with the bid	+	
e.	Extra energy used without base bid automated control system \$ Energy consumption in item a. x% if control system not included with the bid	+	
f.	Extra labor without base bid automated on/off operation  \$ per hour x hours per on/off cycle xcycles over 10 years if control system not included with the bid	+	
	TOTAL 10-Year Life-cycle Operating Cost	=	

#### WARRANTY AND GUARANTEE

A. 10-Year Warranty: Each manufacturer shall supply a signed warranty covering the entire system for 10 years OR for the maximum hours of coverage based on the estimated annual usage, whichever occurs first. Warranty shall guarantee light levels; lamp replacements; system energy consumption; monitoring, maintenance and control services, spill light control, and structural integrity. Manufacturer shall maintain specifically-funded financial reserves to assure fulfillment of the warranty for the full term. Warranty may exclude fuses, storm damage, vandalism, abuse and unauthorized repairs or alterations. Group lamp replacements for constant light systems must occur in accordance with the independent test report provided by the manufacturer; alternate systems must relamp every 3,000 hours.

#### 1.2 <u>DELIVERY TIMING</u>

A. Equipment On-Site: The equipment must be on-site 4 – 6 weeks from receipt of approved submittals and receipt of complete order information.

#### PRE-BID SUBMITTAL REQUIREMENTS

A. Approved Product: Musco's Green Generation Lighting® sports lighting system is the approved

Manufacturer shall provide lightning grounding as defined by NFPA 780 and be UL Listed per UL 96 and UL 96A.

### NOTE:

THE LIGHTING VENDOR SHALL, TO SUPPORT ISSUANCE OF A BUILDING PERMIT FOR THIS PROJECT, SUBMIT WITH SHOP DRAWINGS, THE DESIGN OF THE LIGHTING SYSTEM INCLUDING STRUCTURAL ENGINEERING SIGNED AND SEALED BY A FLORIDA LICENSED ENGINEER.

### SOFTBALL/HYBRID FIELD LIGHTING SPECIFICATIONS

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CERTIFICATE OF AUTHORIZATION NUMBER 4204

HOBART PARK

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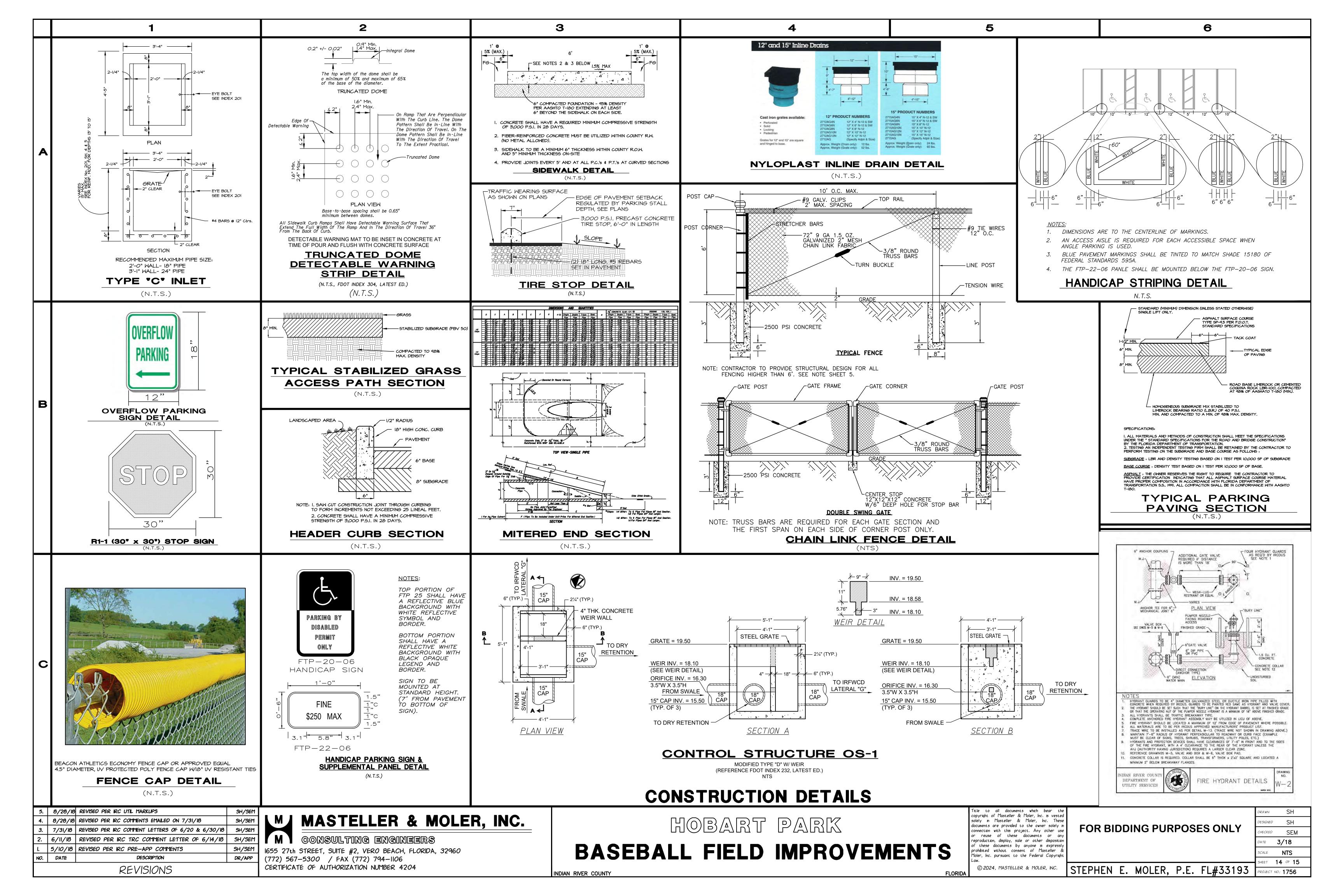
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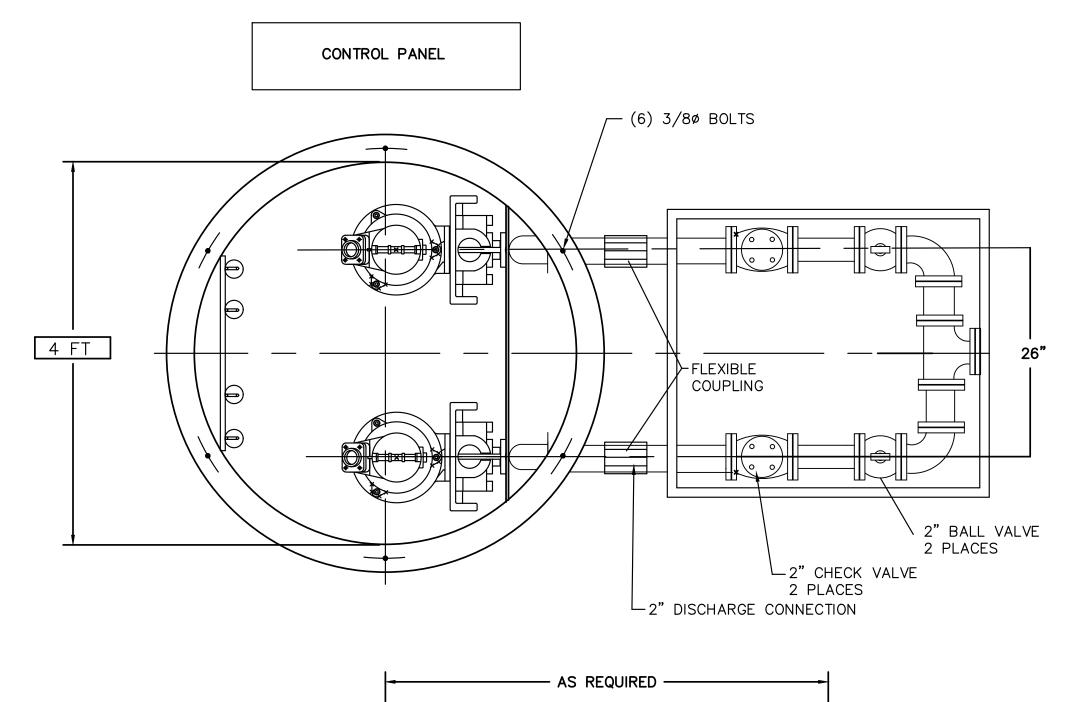
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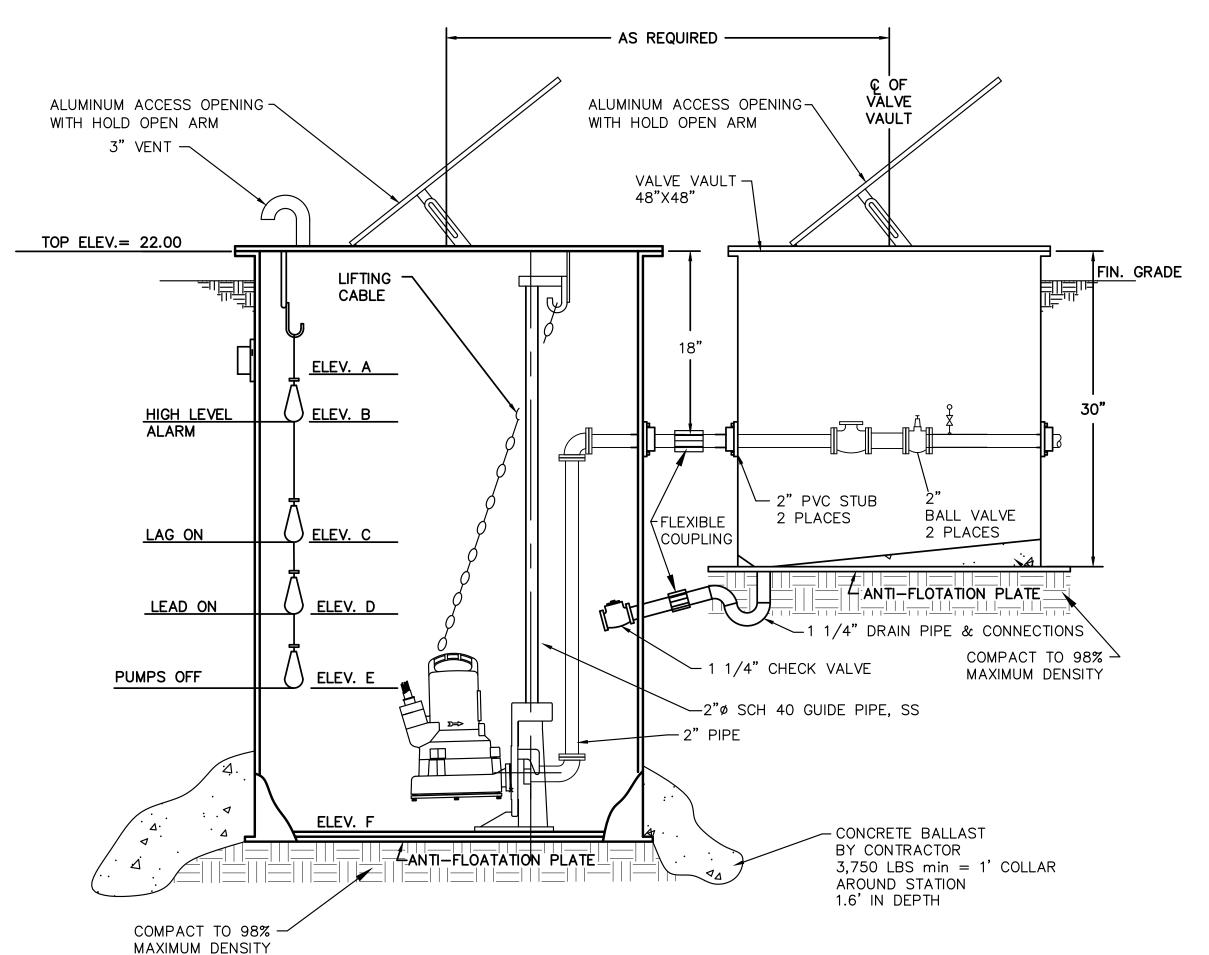
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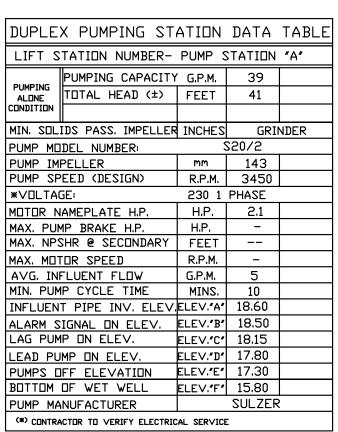
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RED COLOR FLASHING ALARM-

LIGHT WITH CAGE (VISIBLE

EMERGENCY GENERATOR

MOTOR CABLE (TYP)-

TO FIT CABLE

- COUPLING

RECEPTACLE SEE SPECIFICATIONS FOR

WATERTIGHT CONNECTOR-

MATCH CABLE (FURNISHED

W/NEOPRENE GLAND TO

WITH PUMP)

WATERTIGHT CONNECTOR -

(FURNISHED WITH PUMP)

PVC CONDUIT

PREVENT LEAKAGE.

34" AB□∨E GR□UND.

NON FUSABLE.

NDITAT2 DT

CONNECTOR DETAIL

ALARM HORN SHALL BE SEALED TO

2. BOTTOM OF PANEL TO BE 28" TO

3. DISCONNECT BETWEEN METER AND

4. ALL HARDWARE AND FASTENERS

5. CONTROL PANEL SHALL MEET THE

UL SERVICE ENTRANCE RATED.

TO BE STAINLESS STEEL

PANEL TO BE STAINLESS STEEL

REQUIREMENTS OF SERVICE ENTRANCE

BY PROPERLY BONDING OR SHALL BE

RECEPTACLE MODEL

360° IN AN UPRIGHT POSITION

#### PUMP STATION GENERAL NOTES 1. CONTRACTOR SHALL TAKE NECESSARY PRECAUTIONS AGAINST FLOATATION OF WET WELL UNTIL ALL BACK FILL IS IN PLACE. 2. ALL BACKFILL AROUND THE PUMP STATION SITE SHALL BE COMPACTED @ 98% DENSITY. 3. WET WELL WALL SHALL CONTAIN A MIN. OF 0.22 SQ.IN./LINEAR FOOT REINFORCEMENT, IN THE VERTICAL AND HORIZONTAL DIRECTIONS. 4. ALL PIPING AT THE PUMP STATION SITE SHALL BE RESTRAINED. 5. PUMPS SHALL BE SULZER, S 20/2 PIRANA GRINDER PUMPS.

- 6. STAINLESS STEEL CABLE HOLDER SHALL BE LOCATED ON OPPOSITE SIDE OF WET WELL FROM THE INFLUENT PIPE. 7. BUDYANCY CALCULATIONS SHALL BE REQUIRED FOR ALL PUMP STATIONS ALONG WITH THE REQUIRED PUMP STATION CALCULATIONS. 8. NO UNI-FLANGE PIPE CONNECTIONS ALLOWED.
- 9. MAINTAIN MINIMUM OF 6" BETWEEN ANY PIPING, FITTINGS, ETC. AND PRECAST CONCRETE. 10. PUMP STATION CONTROL PANEL SHALL BE PROVIDED WITH APPROPRIATE LIGHTENING ARRESTOR, VERIFY ALL DRIVER GROUNDS PER N.E.S.C.

11. PUMP STATION AND VALVE BOX HATCHES TO BE PROVIDED

— ANNUNCIATING LIGHT

(TYPICAL)

Ø

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 $\bigcirc$ 

FRONT VIEW

PLAN VIEW

CONDUITS TO PUMPING-

STATION (SEE PLAN)

FRONT ELEVATION

LEVEL SWITCHES

WITH LOCKABLE HASPS. 12. CONTROL PANEL TO HAVE DURABLE WEATHER RESISTANT SIGN POSTING EMERGENCY CONTACT NUMBER.

-2"Ø PRE-PUNCHED

CONNECTION HOLE

— RUN INDICATING LIGHTS

TERMINAL BLOCK FOR

EXTERNAL ALARMS

(2) 4" ALUMINUM

SCH 40 SUPPORT

CALL) SISON

- CONTROL PANEL

DISCONNECT

ALUMINUM UNISTRU1

SCH 40 SUPPORT

CONCRETE SUPPORT-1/4 CU. YD.

3000 PSI POURED AGAINST UNDISTURBED SOIL

COPPERWELD GROUND ROD

CAXT) STSON

GROUND CLAMP

-CONDUIT TO WEST BUILDING

BREAKER PANEL

TYPICAL SERVICE ENTRANCE STRUCTURE

ELECTRICAL

SILENCER

STAINLESS STEEL

~ 2" PVC CONDUIT TO STATION (MIN)

CONTROL PANEL MAIN POWER

CONFIRM WITH PUMP MANUFACTURER

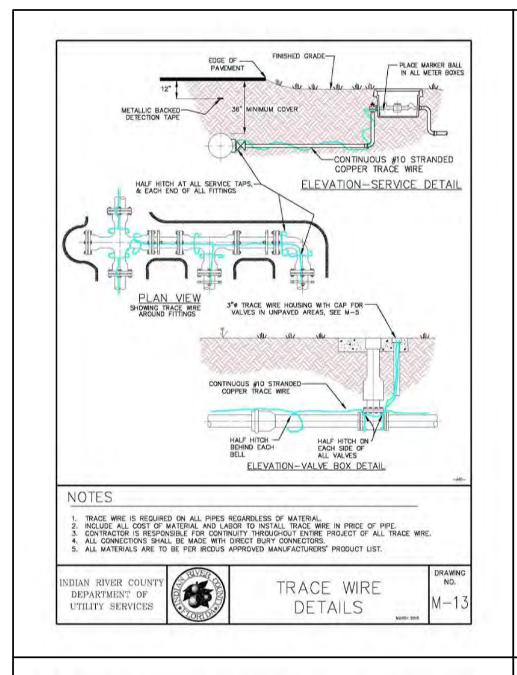
CONTROL PANEL 3X

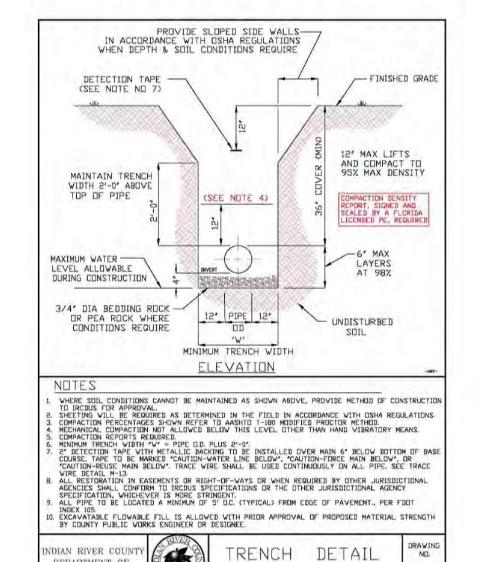
(STAINLESS STEEL)

SERVICE DISCONNECT

ENCASED

(STAINLESS STEEL)

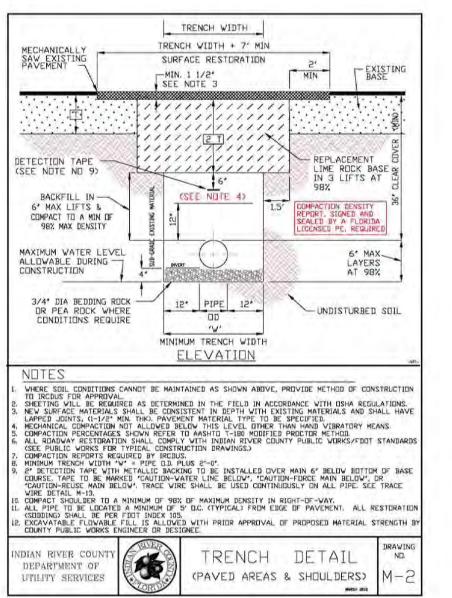


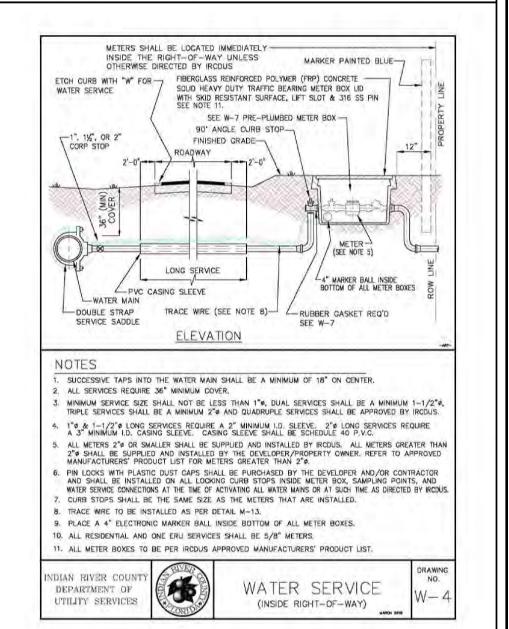


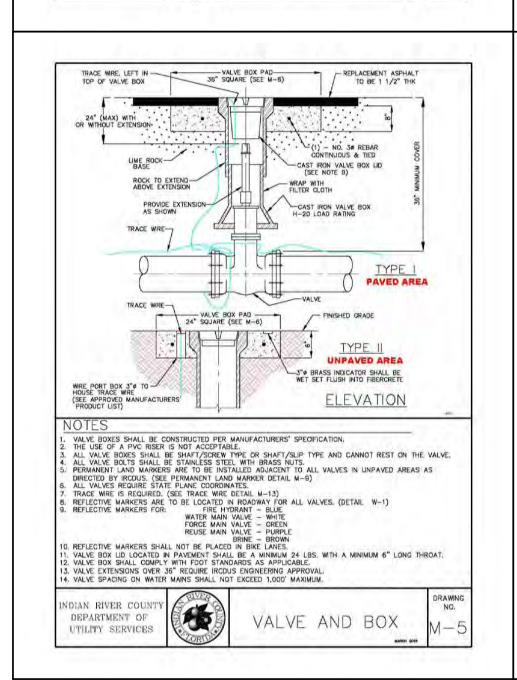
(UNPAVED EASEMENTS)

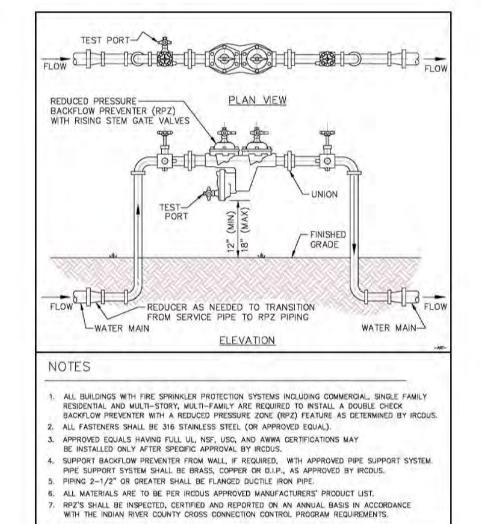
DEPARTMENT OF

UTILITY SERVICES









### PUMP STATION "A" DETAILS

(N.T.S.)

\* DISCLAIMER \* THE ENGINEER'S CERTIFICATION BELOW PERTAINS ONLY TO THE INFORMATION PRESENTED IN THE PUMPING STATION DATA TABLE AND THE ELEVATIONS AND PIPE SIZES DETAILED IN THE CROSS SECTION AND PLAN VIEWS. ALL ELECTRICAL DETAILS AND SCHEMATICS HAVE BEEN SHOWN FOR INFORMATIONAL PURPOSES ONLY.

### UTILITY DETAILS

4.	8/28/18	REVISED PER IRC UTIL MARKUPS	SH/SEM		
<i>3</i> .	8/28/18	REVISED PER IRC COMMENTS EMAILED ON 7/31/18	SH/SEM		
2.	6/11/18	REVISED PER IRC TRC COMMENT LETTER OF 6/14/18	SH/SEM		
1.	5/10/18	REVISED PER IRC PRE-APP COMMENTS	SH/SEM		
NO.	DATE	DESCRIPTION	DR/APP		
	REVISIONS				

MASTELLER & MOLER, INC.

CONSULTING ENGINEERS 1655 27th STREET, SUITE #2, VERO BEACH, FLORIDA, 32960 (772) 567-5300 / FAX (772) 794-II06 CERTIFICATE OF AUTHORIZATION NUMBER 4204

HOBART PARK

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NDIAN RIVER COUNT

DEPARTMENT OF

UTILITY SERVICES

ECKED SEM 9/23 NTS 15 of 15

SH

SH

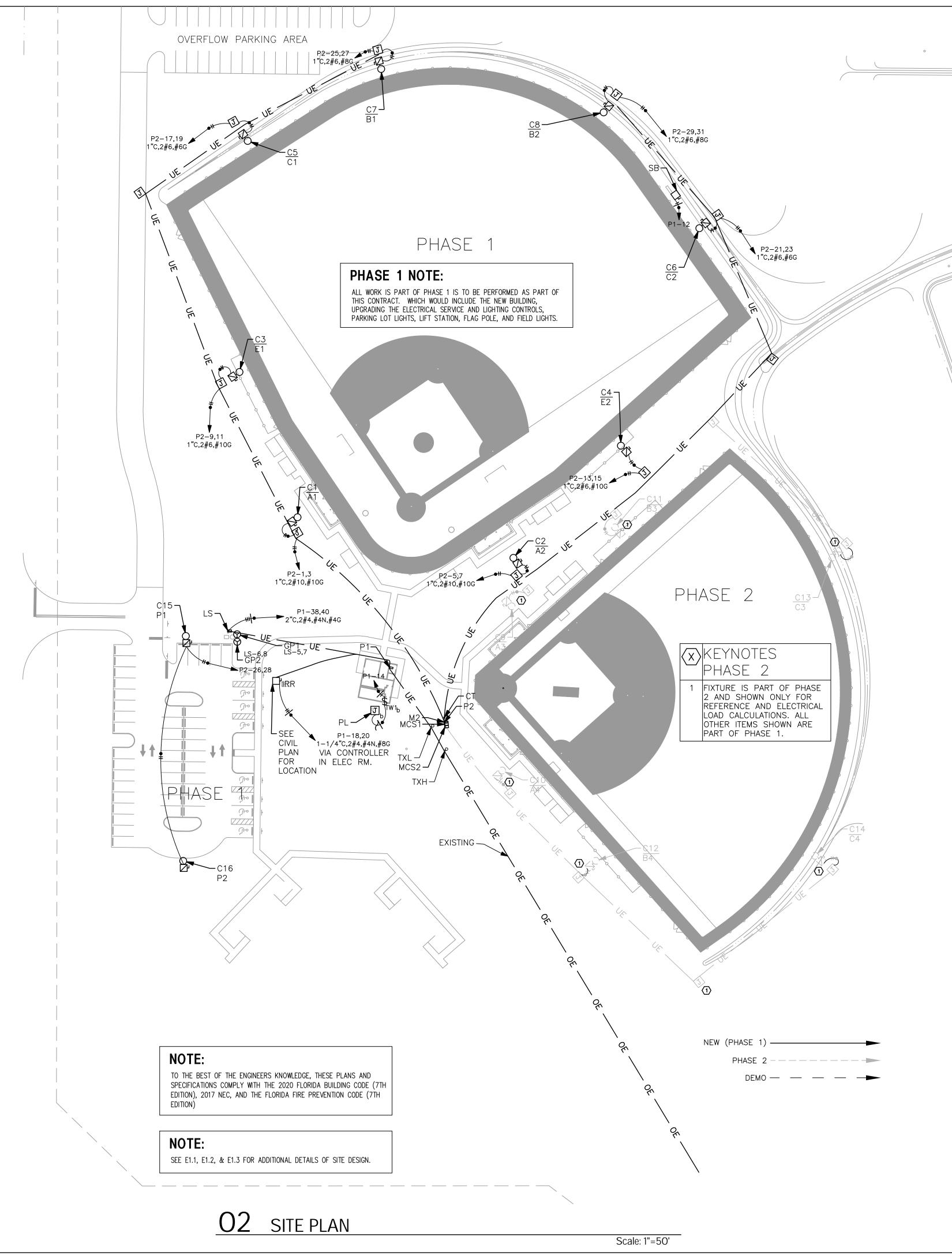
BACKFLOW PREVENTER W-1

(RPZ)

BASEBALL FIELD IMPROVEMENTS

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STEPHEN E. MOLER, P.E. FL#33193



#### MUSCO LIGHTING EQUIPMENT SCHEDULE

CALLOUT	SYMBOL	DESCRIPTION	VOLTS	AMPS	KVA	CIRCUIT	WIRE CALLOUT	POLE
C1	o^Zř	BASEBALL FIELD LIGHTING	480V 2P 2W	18.5	8.88	P2-1,3	1"C,2#10,#10G	A1
C2	ď	BASEBALL FIELD LIGHTING	480V 2P 2W	18.5	8.88	P2-5,7	1"C,2#10,#10G	A2
C3	o^Zi	BASEBALL FIELD LIGHTING	480V 2P 2W	44.4	21.31	P2-9,11	1"C,2#6,#10G	E1
C4	o Zi	BASEBALL FIELD LIGHTING	480V 2P 2W	44.4	21.31	P2-13,15	1"C,2#6,#10G	E2
C5	o Zi	BASEBALL FIELD LIGHTING	480V 2P 2W	18.5	8.88	P2-17,19	1"C,2#6,#6G	C1
C6	o Zi	BASEBALL FIELD LIGHTING	480V 2P 2W	18.5	8.88	P2-21,23	1"C,2#6,#6G	C2
C7	o Zi	BASEBALL FIELD LIGHTING	480V 2P 2W	25.9	12.43	P2-25,27	1"C,2#6,#8G	B1
C8	o Zi	BASEBALL FIELD LIGHTING	480V 2P 2W	25.9	12.43	P2-29,31	1"C,2#6,#8G	D2
C9	o Zi	SOFTBALL FIELD LIGHTING (PH 2)	480V 2P 2W	22.2	10.66	P2-2,4	1"C,2#10,#10G	А3
C10	o Zi	SOFTBALL FIELD LIGHTING (PH 2)	480V 2P 2W	22.2	10.66	P2-6,8	1"C,2#10,#10G	A4
C11	o Zi	SOFTBALL FIELD LIGHTING (PH 2)	480V 2P 2W	29.6	14.21	P2-10,12	1"C,2#8,#10G	В3
C12	o Zi	SOFTBALL FIELD LIGHTING (PH 2)	480V 2P 2W	29.6	14.21	P2-14,16	1"C,2#8,#10G	B4
C13	O Z Z	SOFTBALL FIELD LIGHTING (PH 2)	480V 2P 2W	18.5	8.88	P2-18,20	1"C,2#10,#10G	С3
C14	O Z	SOFTBALL FIELD LIGHTING (PH 2)	480V 2P 2W	18.5	8.88	P2-22,24	1"C,2#10,#10G	C4
C15	O Z	PARKING LOT LIGHTING	480V 2P 2W	2	0.96	P2-26,28	1"C,2#10,#10G	P1
C16	O Z	PARKING LOT LIGHTING	480V 2P 2W	2	0.96	P2-26,28	1"C,2#10,#10G	P2

SEE MUSCO LIGHTING SCHEDULE FOR EXACT DESCRIPTION AND REQUIREMENTS. MANY OF THE CIRCUIT CONDUCTORS HAVE BEEN UPSIDED FOR VOLTAGE DROP. BOTH HOT CONDUCTORS FROM THE POLE HAND HOLE TAP TO POLE DISCONNECT CAN BE REDUCED TO BREAKER RATING IF DESIRED. PLANVIEW CALLOUT TOP LABEL IS THE RELAY WHILE THE BOTTOM IS THE POLE.

DEVICE	FEEDER		BRANCH CIRCUIT			FEEDER	TOTAL
	VOLTAGE DROP	WIRE SIZE	MAX VOLTAGE DROP	WIRE SIZE	LENGTH	VOLTAGE DROP	VOLTAGE DROF
TXH	0%		_	_	_	0%	0%
P2	0.28%	(2)#350kcm	il4.28% (CKT 18,20)	#10	531'	0.28%	4.57%
			P2-1,3: 1.89%	#10	234'		
			P2-5,7: 1.24%	#10	154'		
			P2-9,11: 3.09%	#6	377'		
			P2-13,15: 2.46%	#6	300'		
			P2-17,19: 2.29%	#6	670'		
			P2-21,23: 1.99%	#6	582'		
			P2-25,27: 4.01%	#6	848'		
			P2-29,31: 3.4%	#6	720'		
			P2-2,4: 1.21%	#10	125'		
			P2-6,8: 0.69%	#10	71'		
			P2-10,12: 2.12%	#8	249'		
			P2-14,16: 1.59%	#8	187'		
			P2-18,20: 4.28%	#10	531'		
			P2-22,24: 3.93%	#10	487'		
			P2-26,28: 0.74%	#10	538'		
LS	2.64%	#4	0.31% (CKT 6,8)	#10	30'	1.24%	2.94%
			LS-5,7: 0.22%	#10	22'		
			LS-6,8: 0.31%	#10	30'		

THREE-PHASE % VOLTAGE DROP = CALCULATED CURRENT IN AMPS \* EFFECTIVE Z \* (FEEDER LENGTH / 1,000) \* 100 / LINE-TO-NEUTRAL VOLTAGE.

SINGLE-PHASE % VOLTAGE DROP = CALCULATED CURRENT IN AMPS \* EFFECTIVE Z \* (FEEDER LENGTH / 1,000) \* 100 \* 2 / LINE-TO-NEUTRAL VOLTAGE.

CALCULATED CURRENT IN AMPS IS BASED UPON THE TOTAL DEMAND CALCULATED CURRENT ASSUMING A BALANCED LOAD FOR THE FEEDER AND THE ACTUAL CURRENT FOR THE BRANCH CIRCUIT. TOTAL VOLTAGE DROP SHOWN IS THE MAX BETWEEN 2 SOURCES STARTING AT ANY ATS SWITCH.

EFFECTIVE Z = R COS(THETA) + X SIN (THETA), WHERE THETA IS THE POWER FACTOR AND EQUALS 0.85 (NEC TABLE 9 NOTE 2)

TRANSFORMERS VOLTAGE DROP CALCULATIONS ARE INCLUDED USING THE TRANSFORMERS %Z AND X/R RATIO.

### CONDUIT LEGEND CONDUIT TURNING UP CONDUIT TURNING DOWN

CONDUIT TURNING DOWN
CONDUIT STUB

CONDUIT CONTINUED

FLEXIBLE CONDUIT

UNDERGROUND ELECTRICAL

OVERHEAD ELECTRICAL

UC UNDERGROUND CONDUIT
UT UNDERGROUND TELEPHONE
GROUNDING CONDUCTOR

SWITCHED-TRAVELERS HOT-NEUTRAL

#### JUNCTION BOX SCHEDULE

CALLOUT	SYMBOL	NOTE 1
JUNCTION BOX	J	FLUSH IN-GROUND CHRISTY #N16 BOX WITH LABEL "LIGHTING", TO BE LOCATED ADJACENT TO SPORTS LIGHTING POLE ASSEMBLY. FIELD VERIFY EXACT LOCATION FOR BEST SITE COORDINATED LOCATION WITH RESPECT TO SPORTS LIGHTING POLE. BOTH HOT CONDUCTORS FROM TAP TO POLE DISCONNECT CAN BE REDUCED TO BREAKER RATING IF DESIRED.

### SUNSHINE STATE ONE CALL OF FLORIDA (SSOCOF)

CALL BEFORE DIGGING: CONTRACTOR
MUST CALL 811, (800) 432-4770 OR
(386) 575-2025 BEFORE BEGINNING ANY
EXCAVATION OR DEMOLITION SO SSOCOF
CAN NOTIFY ITS MEMBERS WITH
UNDERGROUND FACILITIES NEAR THE JOB
SITE TO MARK OFF THE AREA OF WORK.

Projec

HOBART PARK

# CONCESSION & RESTROOM BUILDING

INDIAN RIVER COUNTY, FLORIDA

Key Pla

Issu	es:	
No.:	Date:	Description:
Α.	03/11/24	Bid Set

PREPARED FOR

MASTELLER & MOLER, INC.

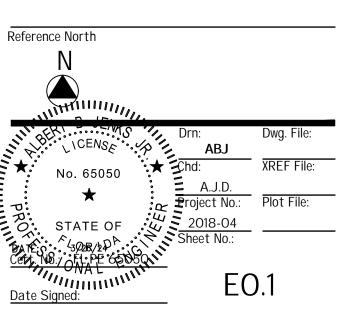
CONSULTING ENGINEERS

1655 27th STREET, SUITE #2, VERO BEACH, FLORIDA, 32960
(772) 567-5300 / FAX (772) 794-1106
CERTIFICATE OF AUTHORIZATION NUMBER 4204

Consultant



Drawing Title:
SITE LIGHTING PLAN
& LIGHTING SCHEDULES



#### SITE EQUIPMENT SCHEDULE WIRE CALLOUT CALLOUTSYMBOLDESCRIPTION VOLTSAMPSKVAHPCIRCUIT NOTES1/2"C,2#10,#10G GRINDER PUMP 1 240 2.88 2 HP $_{S}-5,7$ SEE CIVIL DRAWINGS FOR EXACT DETAILS 240 1/2"C,2#10,#10G GRINDER PUMP 2 2.88 2 HP \_S-6,8 SEE CIVIL DRAWINGS FOR EXACT DETAILS IRRIGATION EQUIPMENT (SEE CIVIL) 240/120 7.5 HP P1-18,201-1/4"C,2#4,#4N,#8G RAN THROUGH IRRIGATION CONTROLLER IN ELECTRICAL QUANTITY TWO (2) OF THE FLAG POLE 120 0.75 0.09 P1 - 141#12,#12N,#12G SPACE QUANTITY TWO (2) FIXTURES OPPOSITE OF COMPANY R78WLÉD NEMA BEAM SPREAD EACH EQUALLY SPACED FROM THE POLE. OF 3H X 3V NARROW BEAM. 1#12,#12N,#12G QUANTITY TWO (2) OF THE FLAG POLE 0.18 P1-14 SPACE QUANTITY TWO (2) FIXTURES OPPOSITE OF 1.48 EACH EQUALLY SPACED FROM THE POLE. COMPANY R78WLÉD NEMA BEAM SPREAD OF 3H X 3V NARROW BEAM. 120 P1-12 0.08 1#10,#10N,#10G SCOREBOARD IS INTENDED TO BE INSTALLED IN NEVCO MODEL 1650 (OUTDOOR) ACCORDANCE WITH THE REQUIREMENTS OF ARTICLE BASEBALL/SOFTBALL SCOREBOARD W/ 600 OF THE NEC. THIS INCLUDES PROPER GROUNDING MPCX2 CONTROL AND BONDING OF THE SCOREBOARD.

SEE CIVIL SCHEDULE FOR EXACT DESCRIPTION AND REQUIREMENTS.

CONFIRM WITH

**EXISTING** 

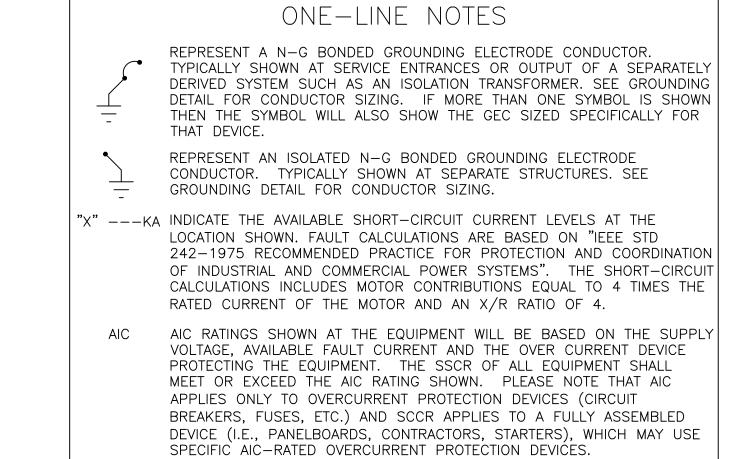
UTILITY PROPER

TRANSFORMER —

TXH

600A

11.17kA



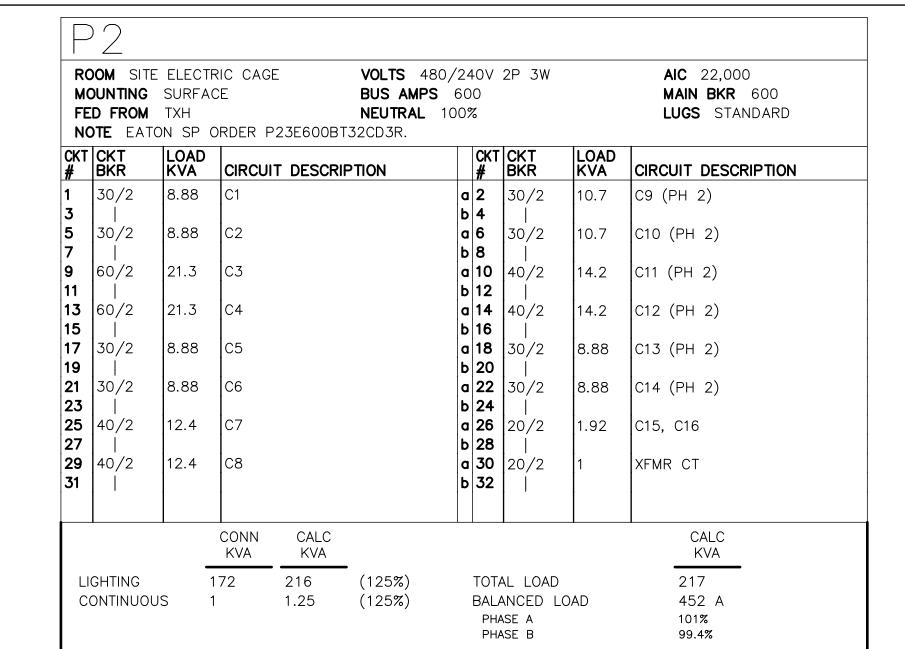
INCLUDED IN FEEDER SCHEDULE.

SEE FEEDER SCHEDULE TO IDENTIFY NUMBER OF CONDUITS. THE

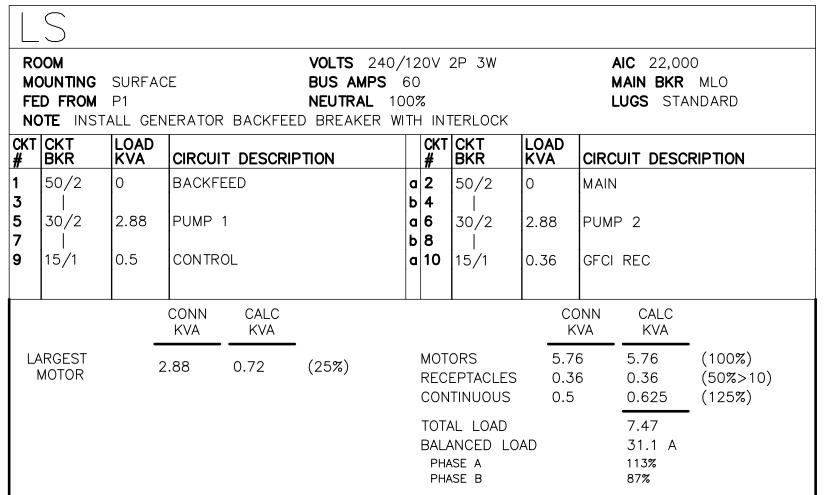
QUANTITY OF PHASE, NEUTRAL, & EGC IS PER CONDUIT. GEC ARE NOT

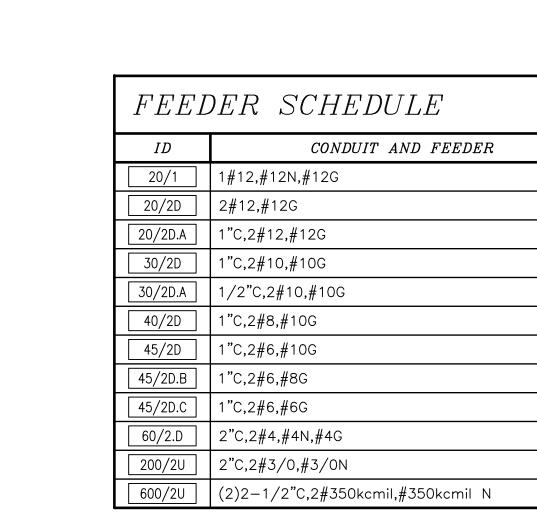
NEW (PHASE 1) —

PHASE 2 - - - - - - - - -



IN 72"H NEMA 3R W/ PDG33G0600 BKR





SIZING METHOD: COPPER, 60°C #12 THROUGH #1, 75°C 1/0 AND ABOVE PVC (EXCEPT WHERE NOTED)

Projec

HOBART PARK

# CONCESSION & RESTROOM BUILDING

INDIAN RIVER COUNTY, FLORIDA

Key Plan:

No.:	Date:	Description:
A.	03/11/24	Bid Set

LMJ MASTELLER & MOLER, INC.

1655 27th STREET, SUITE #2, VERO BEACH, FLORIDA, 32960

CONSULTING ENGINEERS

(772) 567-5300 / FAX (772) 794-1106 CERTIFICATE OF AUTHORIZATION NUMBER 4204

Consultant:

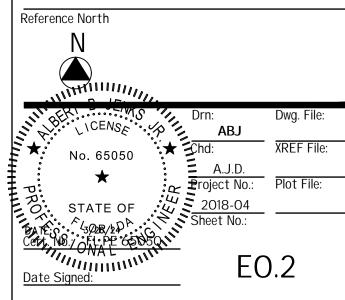
PREPARED FOR

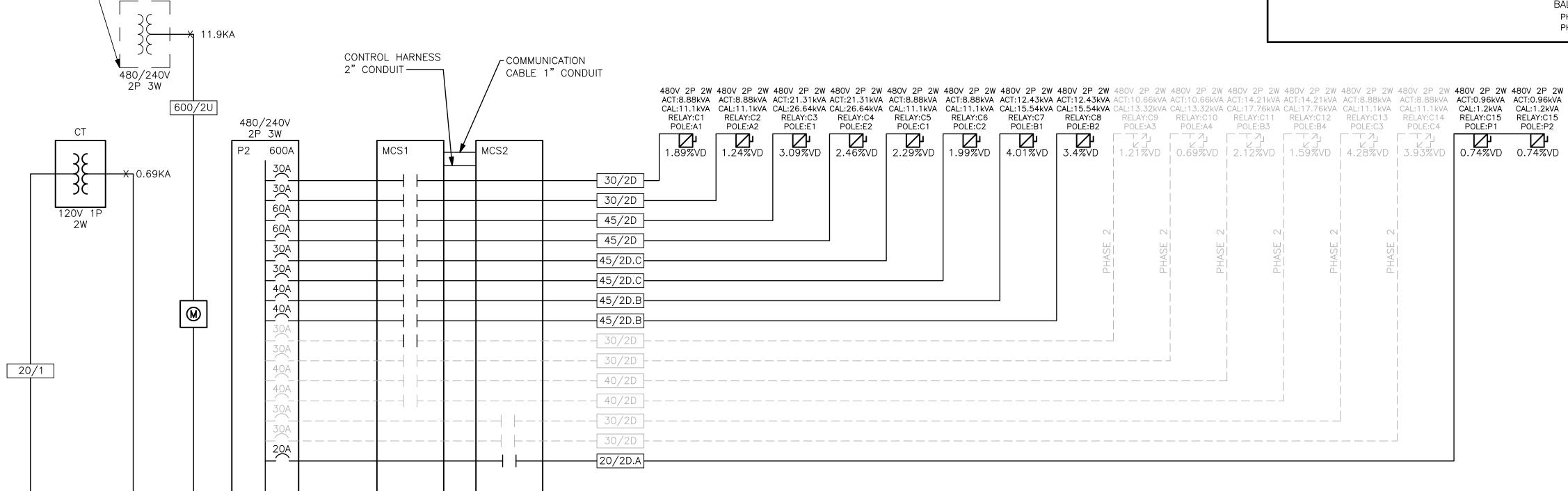
TREASURE COAST
NGINEERING
Your MEP Design Consultant

Treasure Coast Engineering, Inc.
CA# 27181

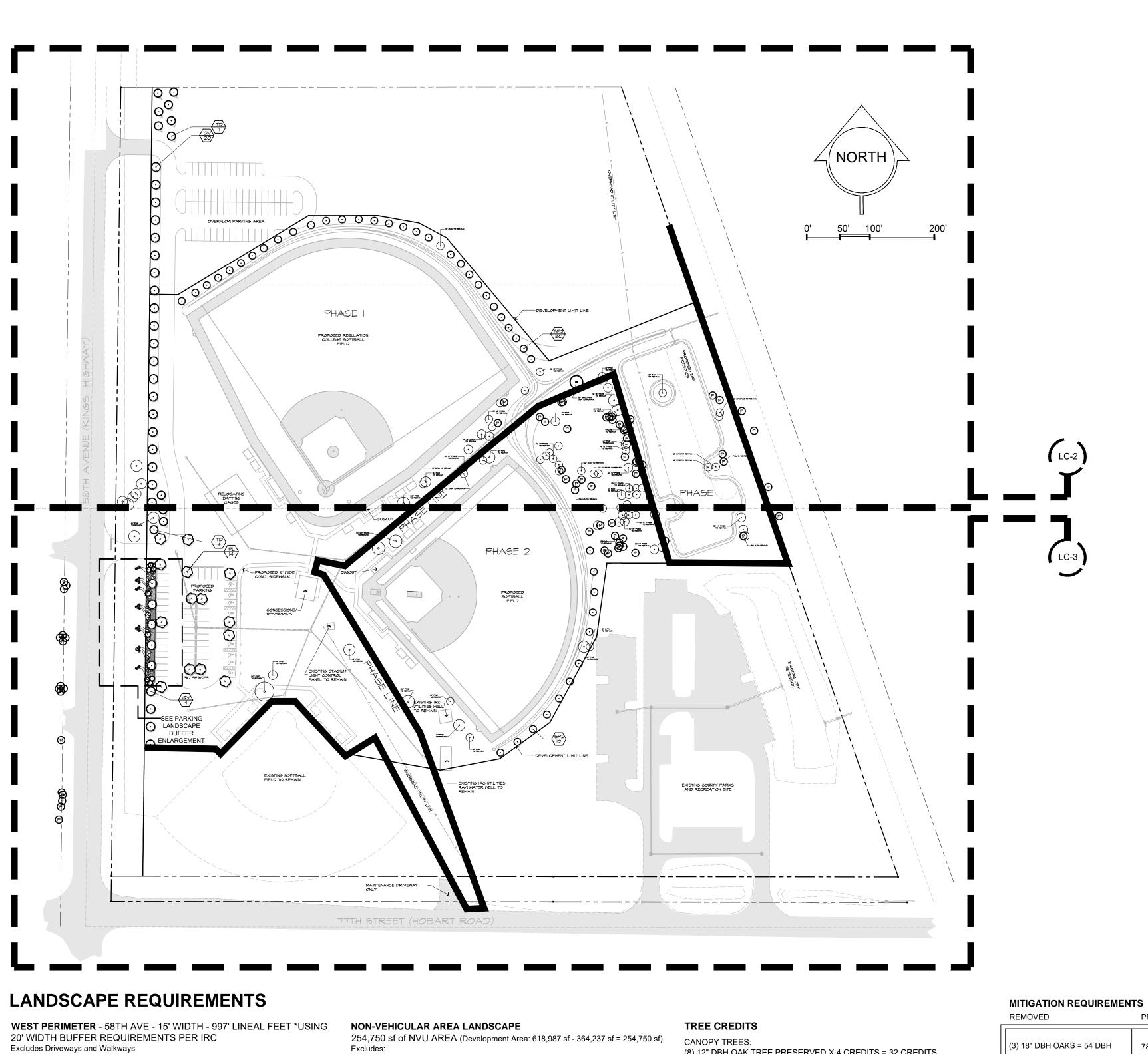
4925 13th Lane, Vero Beach, FL 32966
772-567-1007 www.tce.eng.pro

Drawing Title:
ELECTRICAL ONE-LINES
& SITE LIGHTING PANEL SCHEDULE





SITE LIGHTING ELECTRICAL ONE-LINE



REQUIRED PROPOSED

4 CANOPY TREES PER 100' = 40 ^\* 29 LIVE OAK ^\* 11 BALD CYPRESS

\* NATIVE PLANT MATERIAL ^ DROUGHT TOLERANT PLANT MATERIAL

WEST PERIMETER LANDSCAPE BUFFER AT PARKING - 58TH AVE 15' WIDTH - 200' LINEAL FEET \*USING 20' WIDTH BUFFER

REQUIREMENTS PER IRC

REQUIRED PROPOSED

П		
	5 UNDERSTORY TREES PER 100' = 10	^* 6 EAST PALATKA HOLLY
-		^* 2 SOUTHERN RED CEDAR
	50 SHRUBS PER 100' = 100	^* 2 LIGUSTRUM
-		
1		^* 16 SAW PALMETTO
-		^* 30 SWEET VIBURNUM
		^* 30 FIRE BUSH
-		^* 24 COONTIE

\* NATIVE PLANT MATERIAL ^ DROUGHT TOLERANT PLANT MATERIAL

RS-6 Zoning - 33,594 sf Impervious - 38,540 sf Baseball Fields - 239,017 sf Landscape Buffer - 19,940 sf (997 LF X 20') Parking Interior Landscape - 33,146 sf

REQUIRED

Total Excluded: 364,237 sf

1 CANOPY TREE PER 3000' = 85 422 TREE CREDITS APPLIED TO NVU +

PROPOSED

\* NATIVE PLANT MATERIAL ^ DROUGHT TOLERANT PLANT MATERIAL

PARKING INTERIOR LANDSCAPE - 33,146 sf

Driving Aisles: 8,193 sf, Driveway: 14,007 sf, Parking Spaces: 10,946 sf) REQUIRED

12% X IMPERVIOUS AREA = 3,978 SQ FT LANDSCAPE AREA	^* 14 AMERICAN SYCAMORE
1 CANOPY TREE PER 300' = 14	

\* NATIVE PLANT MATERIAL ^ DROUGHT TOLERANT PLANT MATERIAL

(8) 12" DBH OAK TREE PRESERVED X 4 CREDITS = 32 CREDITS (1) 20" DBH SPECIMEN OAK TREE PRESERVED X 8 CREDITS = 8 CREDITS (35) 12" DBH PINE TREES PRESERVED X 4 CREDITS = 140 CREDITS (21) 14" DBH PINE TREES PRESERVED X 6 CREDITS = 126 CREDITS (1) 16" DBH PINE TREE PRESERVED X 6 CREDITS = 6 CREDITS (7) 18" DBH PINE TREES PRESERVED X 6 CREDITS = 42 CREDITS (4) 20" DBH PINE TREES PRESERVED X 8 CREDITS = 32 CREDITS (1) 30" DBH PINE TREE PRESERVED X 8 CREDITS = 8 CREDITS

(44) PALM TREES PRESERVED (3 PALMS = 1 CREDIT) = 14 CREDITS (42) RELOCATED PALMS PRESERVED (3 PALMS = 1 CREDIT) = 14 CREDITS TOTAL CREDITS = 422 CREDITS

**TOTAL LANDSCAPE** REQUIRED PROPOSED CANOPY TREES 54 + 422 CREDITS UNDERSTORY TREES

100

SHRUBS

100

_			
	LANDSCAPE POINT SYSTEM		
	OPTION	POINTS	
	MOISTURE SENSING CONTROLLER	5	
	WATER USAGE ZONES INDICATED	5	
	76% to 100% DROUGHT TOLERANT SHRUBS	10	
	76% to 100% DROUGHT TOLERANT TREES	10	

PROPOSED

(3) 18" DBH OAKS = 54 DBH	78" DBH REMOVED
(1) 24" DBH OAKS = 24 DBH	FEE ASSESSMENT
	78" DBH x \$100 PER INCH = \$7,800 PAYABLE TO INDIAN RIVER COUNTY
42 PALMS REMOVED	42 PALMS RELOCATED

(3) 18" DBH OAKS = 54 DBH	78" DBH REMOVED
(1) 24" DBH OAKS = 24 DBH	FEE ASSESSMENT
	78" DBH x \$100 PER INCH = \$7,800 PAYABLE TO INDIAN RIVER COUNTY
42 PALMS REMOVED	42 PALMS RELOCATED
COMBINED FEE ASSESSMENT =	\$7,800

**IRRIGATION NOTES:** 

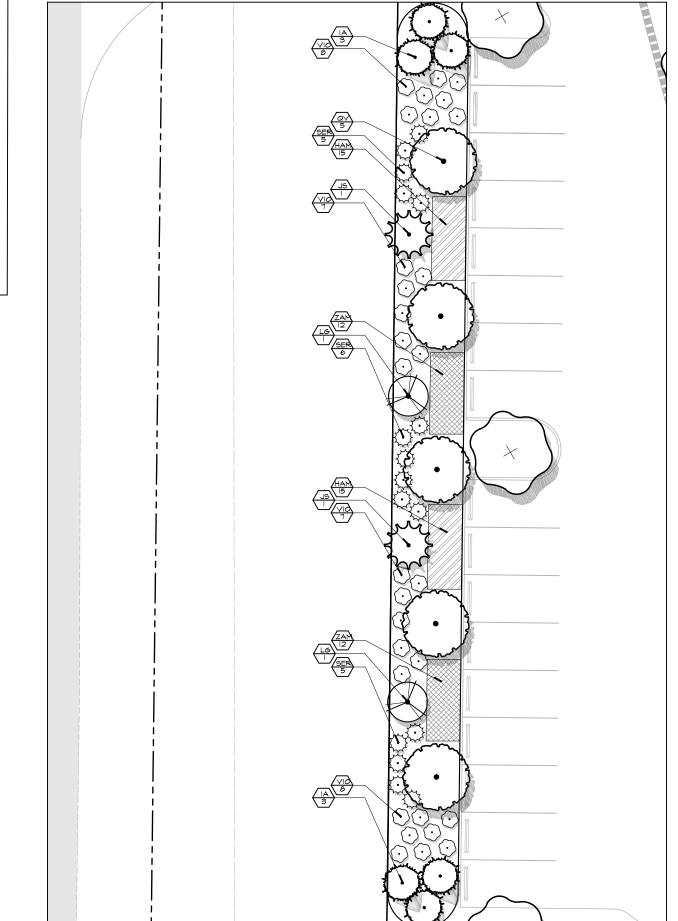
1. ALL LANDSCAPE AREAS ARE TO RECEIVE IRRIGATION FROM AN AUTOMATIC SYSTEM THAT PROVIDES 100% COVERAGE, WITH 20% MINIMUM OVERLAP IN GROUNDCOVER AND SHRUB AREAS. A WIRELESS RAINSWITCH MUST BE INCLUDED WITH THE SYSTEM, INSTALL AT ROOF OF BUILDING (PLACE WITH NO OVERHEAD OBSTRUCTION INCLUDING TREES)

2. THE CONTRACTOR MUST VERIFY LOCATIONS OF ALL UNDERGROUND UTILITIES PRIOR TO PERFORMING ANY WORK ON THE SYSTEM. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROTECT OF ALL UTILITIES AND TO REPAIR ANY AND ALL DAMAGE TO UTILITIES, STRUCTURES, SITE APPURTENANCES, ETC. WHICH OCCURS AS A RESULT OF THE CONSTRUCTION.

3. IRRIGATION CONTRACTOR SHALL SECURE ANY AND ALL NECESSARY PERMITS FOR THE WORK PRIOR TO COMMENCEMENT OF HIS OPERATIONS ON-SITE. COPIES OF THE PERMITS SHALL BE SENT TO THE OWNER/GENERAL CONTRACTOR. WORK IN THE R.O.W. SHALL CONFORM TO THE STANDARDS AND SPECIFICATIONS OF LOCAL AND/OR STATE JURISDICTION

4. THE IRRIGATION SYSTEM SHALL BE DESIGNED TO CONFORM TO THE REQUIREMENTS OF INDIAN RIVER COUNTY AND THE RESTRICTIONS ON IRRIGATION USE AS SPECIFIED BY THE ST. JOHN'S RIVER WATER

PARKING LANDSCAPE BUFFER ENLARGEMENT



LANDSCAPE NOTES:

SUPPLEMENTAL PLANTING SOIL.

RECOMMENDATIONS.

SPECIFICATIONS.

PLANS BEFORE PRICING AND PERFORMING THE WORK.

1. ALL PROPOSED PLANT MATERIAL USED ON SITE SHALL BE FLORIDA GRADE A NUMBER 1 OR

BETTER, IN ACCORDANCE WITH "GRADES AND STANDARDS FOR NURSERY PLANTS" PUBLISHED

BY THE FLORIDA DEPARTMENT OF AGRICULTURE. ALL PLANT MATERIAL ARE SUBJECT TO THE

APPROVAL OF THE LANDSCAPE ARCHITECT BEFORE, DURING, AND AFTER INSTALLATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ALL QUANTITIES SHOWN ON THESE

2. SOD AREAS PROPOSED FOR THIS SITE SHALL BE STENOTAPHRUM SECUNDATUM / ST.

3. ALL PROPOSED LANDSCAPE PLANTING AREAS SHALL RECEIVE AN APPROVED MIX OF

LARGE SHRUB, AND 1 CUBIC YARD PER 50 SMALL SHRUBS OR GROUNDCOVERS.

IRRIGATION AND RAINFALL TO ENSURE HEALTHY PLANT ESTABLISHMENT.

PROCEDURES SHALL BE IN CONFORMANCE WITH MANUFACTURES MINIMUM

UTILITIES AND TO REPAIR ANY AND ALL DAMAGE TO UTILITIES, STRUCTURES, SITE APPURTENANCES, ETC. WHICH OCCURS AS A RESULT OF THE CONSTRUCTION.

AUGUSTINE 'FLORITAM'. CONTRACTOR IS RESPONSIBLE FOR DETERMINING EXACT QUANTITY.

A MINIMUM OF 3/4 CUBIC YARDS ARE REQUIRED FOR EACH TREE, 1/4 CUBIC YARDS FOR EACH

DURING INSTALLATION AND DURING THE WARRANTY PERIOD. DEEP WATERING IS REQUIRED FOR ALL TREES AND PALMS. SUPPLEMENTAL WATERING MAY BE NEEDED IN ADDITION TO

4. THE CONTRACTOR SHALL ENSURE THAT ALL PLANTINGS RECEIVE ADEQUATE WATER

5. TABLETIZED FERTILIZER EQUAL TO AGRIFORM PLANTING TABLETS (20-10-15) 21 GRAM, SHALL BE PROVIDED FOR ALL PLANT MATERIAL. APPLICATION RATES AND INSTALLATION

6. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING ALL UNDERGROUND UTILITIES AND SHALL AVOID DAMAGE TO ALL UTILITIES DURING THE COURSE OF THE WORK. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROTECT OF ALL

8. ANY PLANT MATERIAL WHICH IS DISEASED, DISTRESSED, DEAD, OR REJECTED (PRIOR TO SUBSTANTIAL COMPLETION) SHALL BE PROMPTLY REMOVED FROM THE SITE AND REPLACED

WITH MATERIAL OF THE SAME SPECIES, QUANTITY, AND SIZE AND MEETING ALL PLANT LIST

9. THE CONTRACTOR SHALL COMPLETELY GUARANTEE ALL PLANT MATERIAL FOR A MINIMUM PERIOD OF 90 DAYS FOLLOWING SUBSTANTIAL COMPLETION. THE CONTRACTOR SHALL PROMPTLY MAKE ALL REPLACEMENTS DURING THE NORMAL PLANTING SEASON.

10. WHERE SHOWN ON THE PLANS AND DETAILS, PLANTING BEDS ARE TO BE COMPLETELY COVERED WITH NATURAL MULCH FROM A LOCAL SOURCE HARVESTED IN A SUSTAINABLE

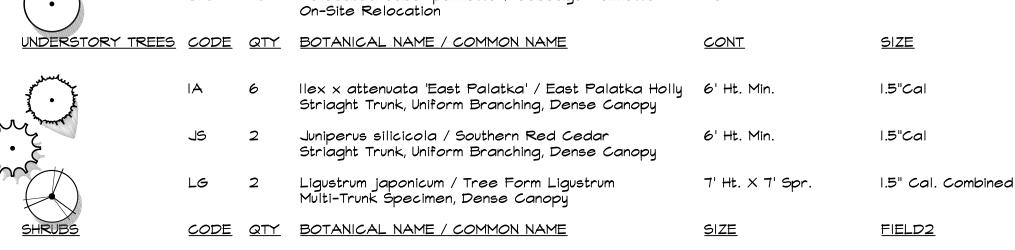
MANNER TO A MINIMUM DEPTH OF THREE (3) INCHES.

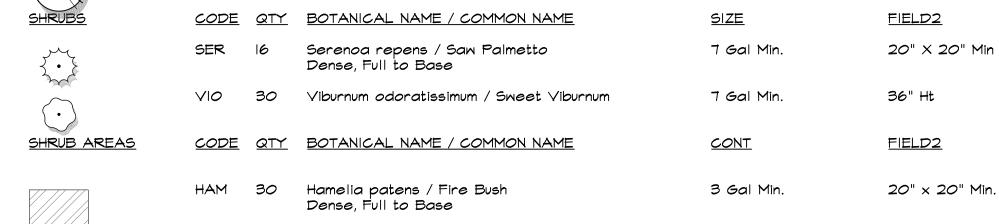
SHRUB PLANTING

(OA) OVERALL HEIGHT TO BE MEASURED TO TOP OF BUD (CW) CLEAR WOOD TO BE MEASURED TO BOTTOM OF LEAF SHEATHS

2 PALM PLANTING DETAIL

PLANT SCHE	DULI	E		- Company of the Comp	
CANOPY TREES	CODE	<u>aty</u>	BOTANICAL NAME / COMMON NAME	CONT	SIZE
X	PL	14	Platanus occidentalis / American Sycamore Striaght Trunk, Uniform Branching, Dense Canopy	12' Ht. X 4.5' Spr.	2"Cal
. )	QV	29	Quercus virginiana / Live Oak Striaght Trunk, Uniform Branching, Dense Canopy	18'-20' H X 7'-8' W	2"Cal
$(\cdot)$	TD	П	Taxodium distichum / Bald Cypress Striaght Trunk, Uniform Branching, Dense Canopy	12' Ht. X 4.5' Spr.	2"Cal
PALM TREES	CODE	QTY	BOTANICAL NAME / COMMON NAME	CONT	<u>SIZE</u>
$\overline{}$	SP2	42	Relocated Sabal palmetto / Cabbage Palmetto On-Site Relocation	FG	
UNDERCTORY TREEC	CODE	<b>○T</b> ✓	DOTANICAL NIANE / CONMINIANE	CONT	C17F





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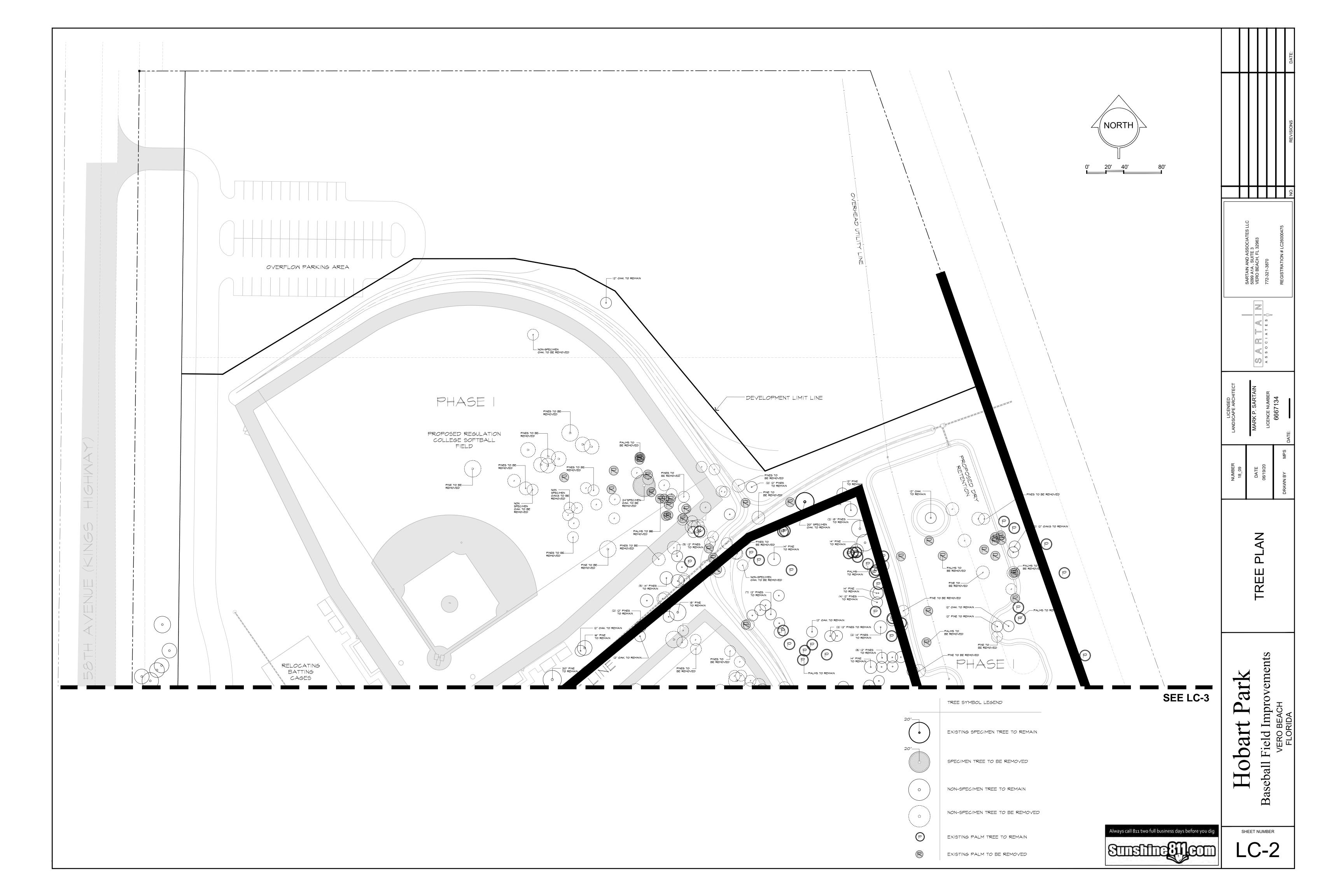
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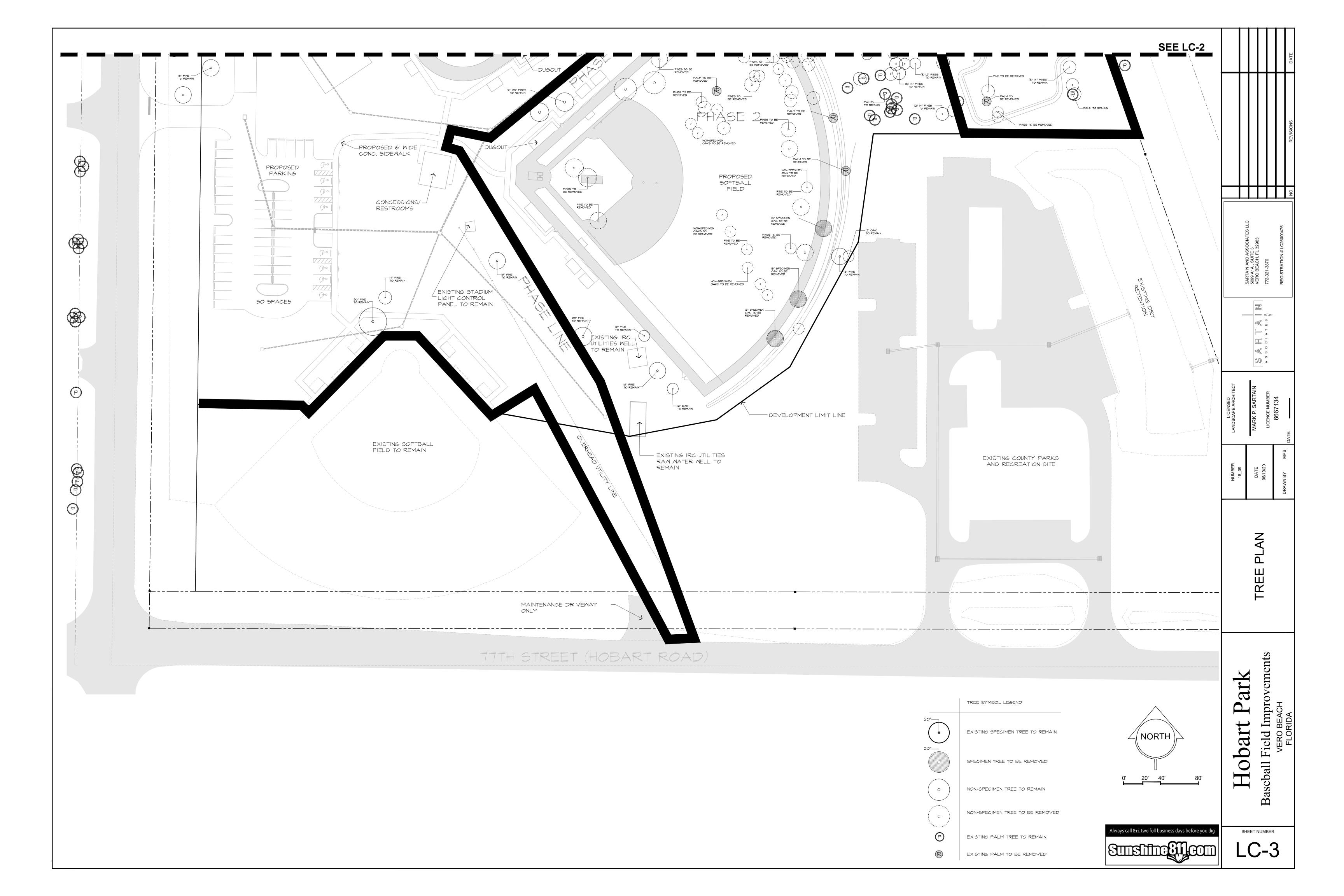
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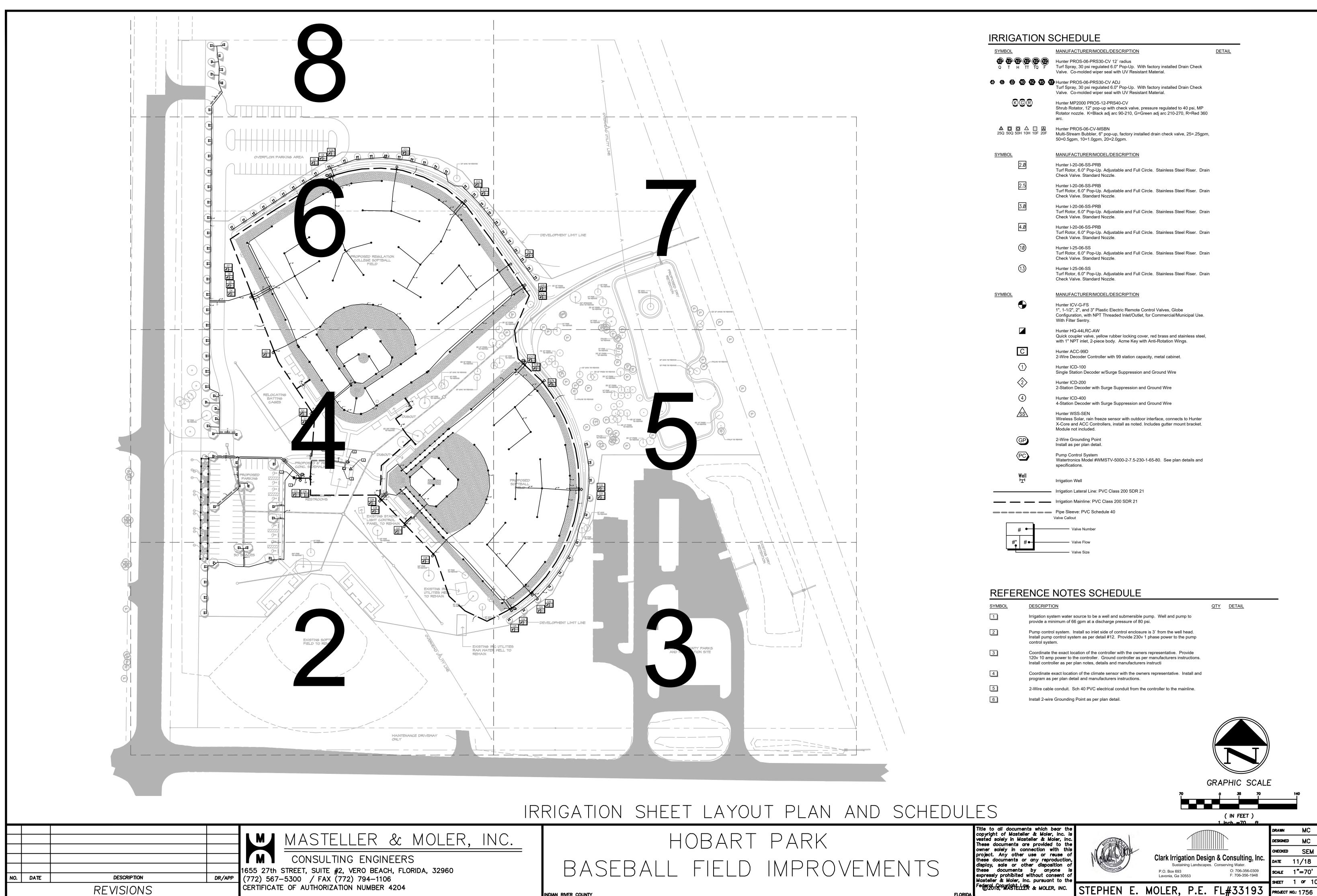
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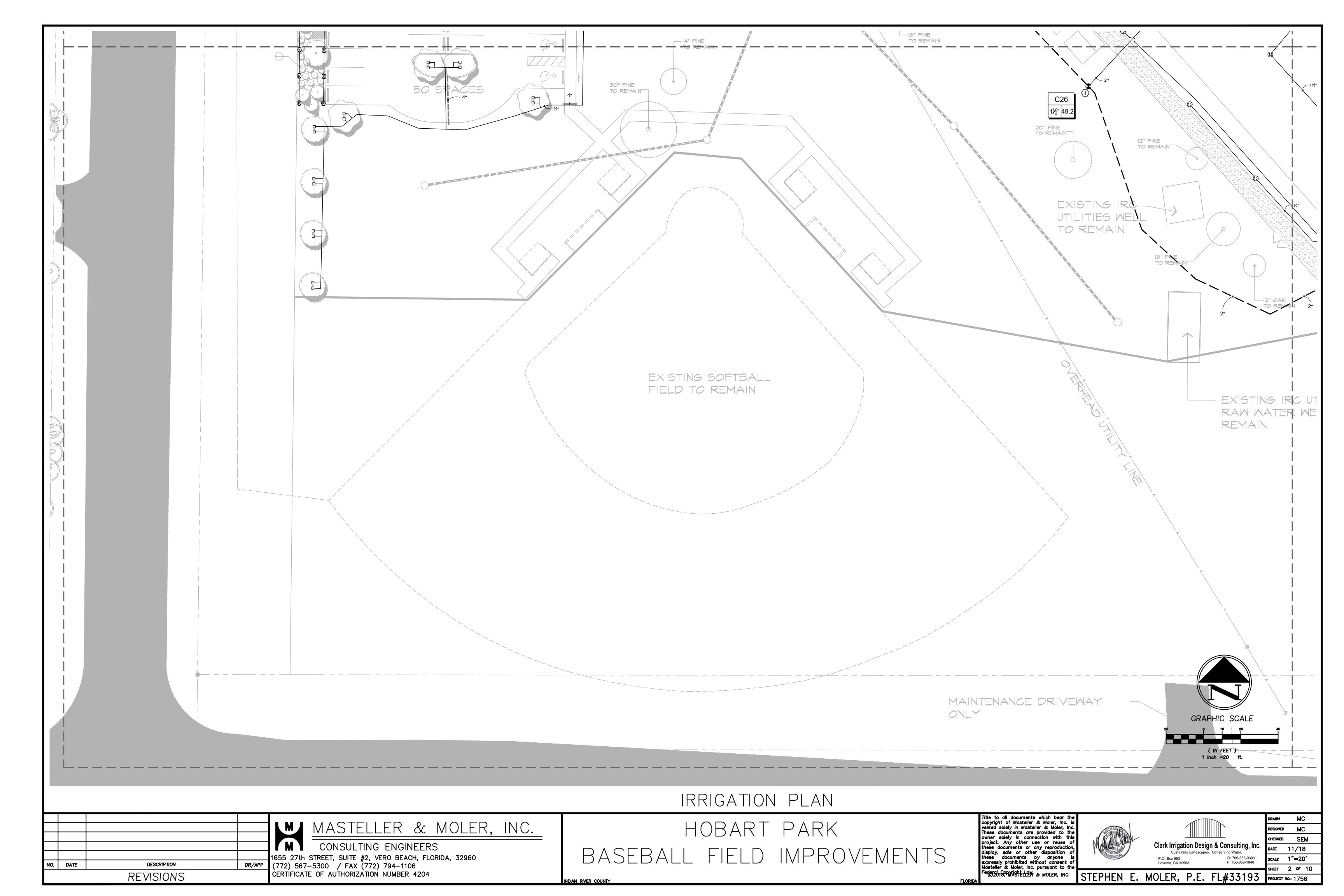


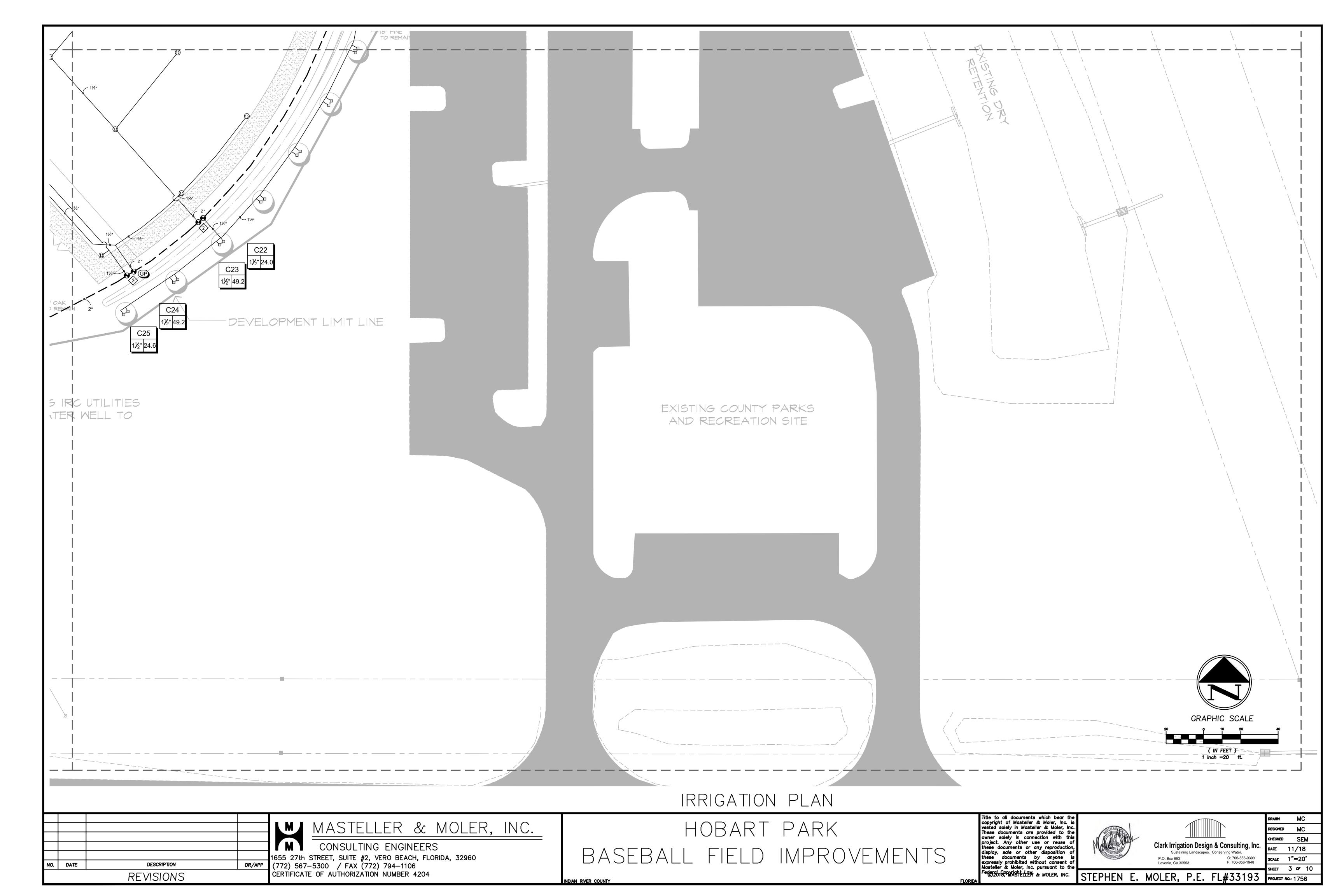
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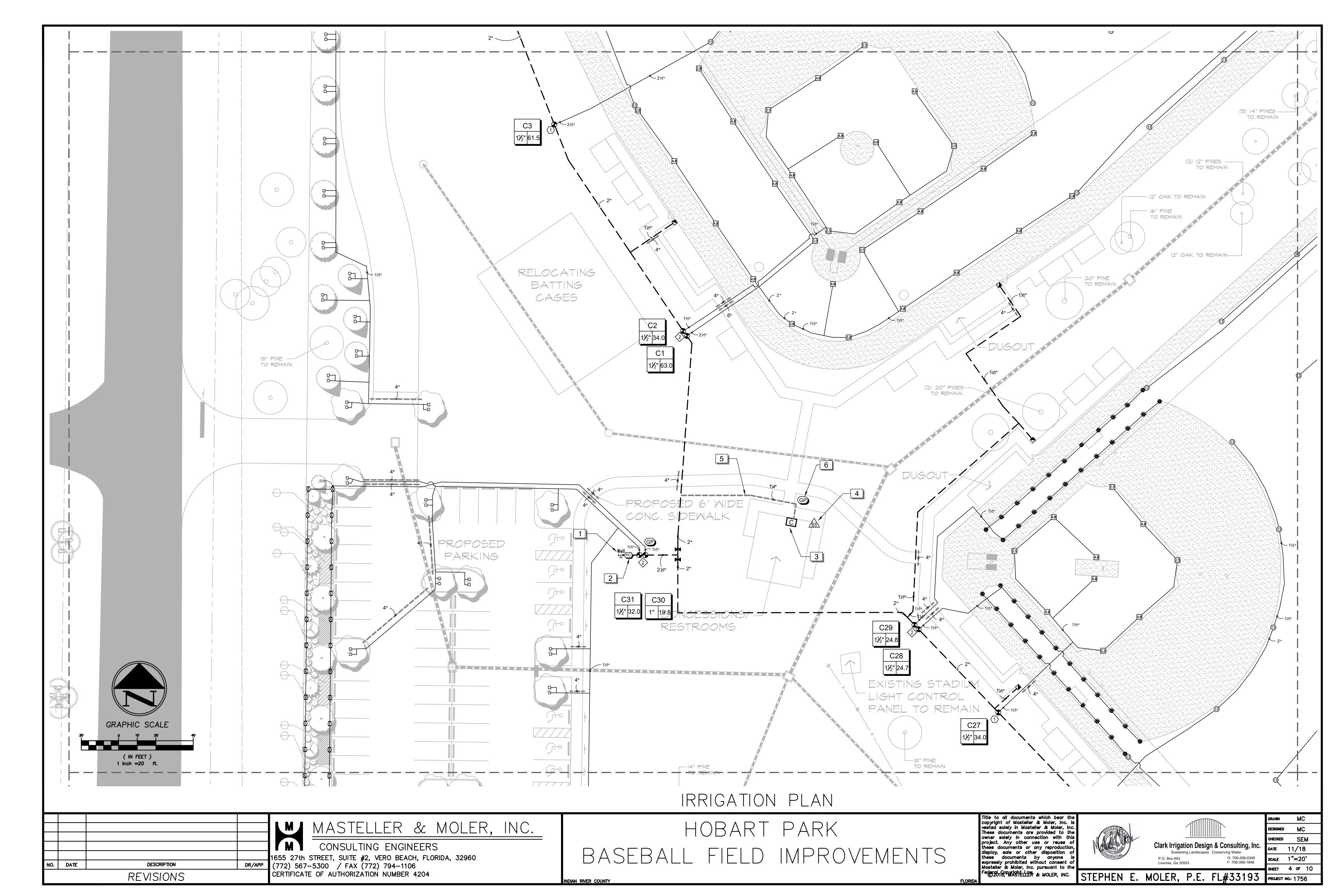
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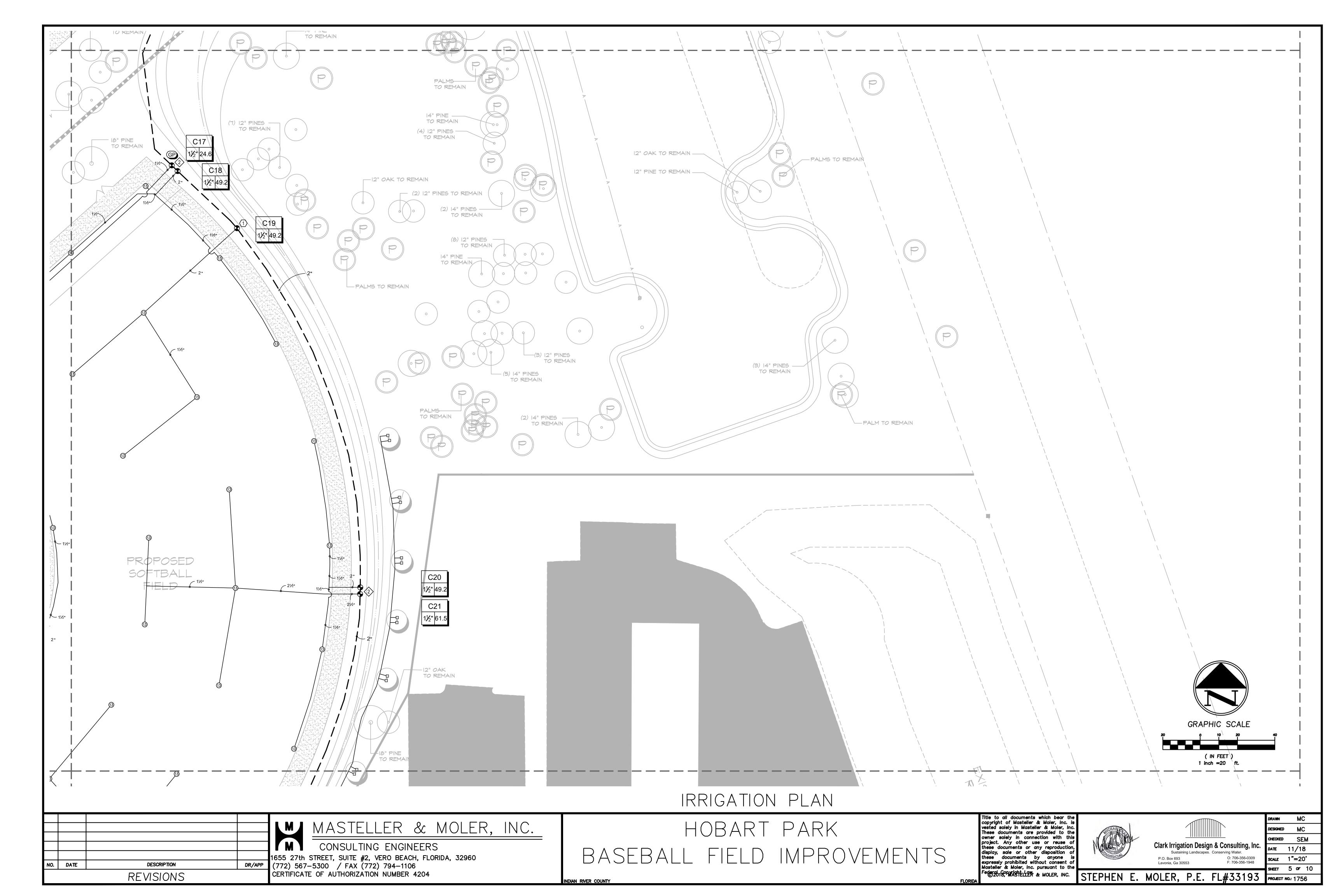
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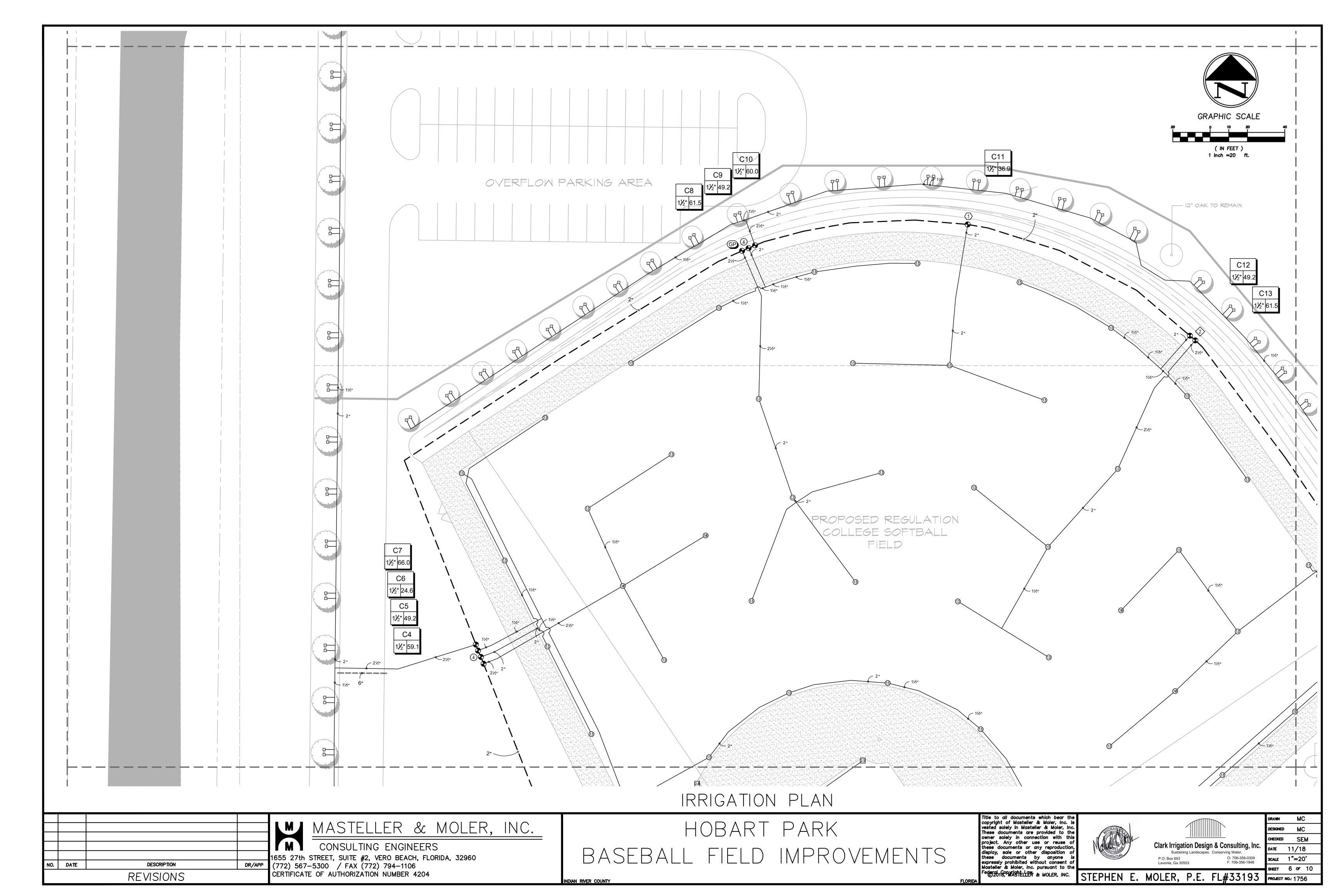
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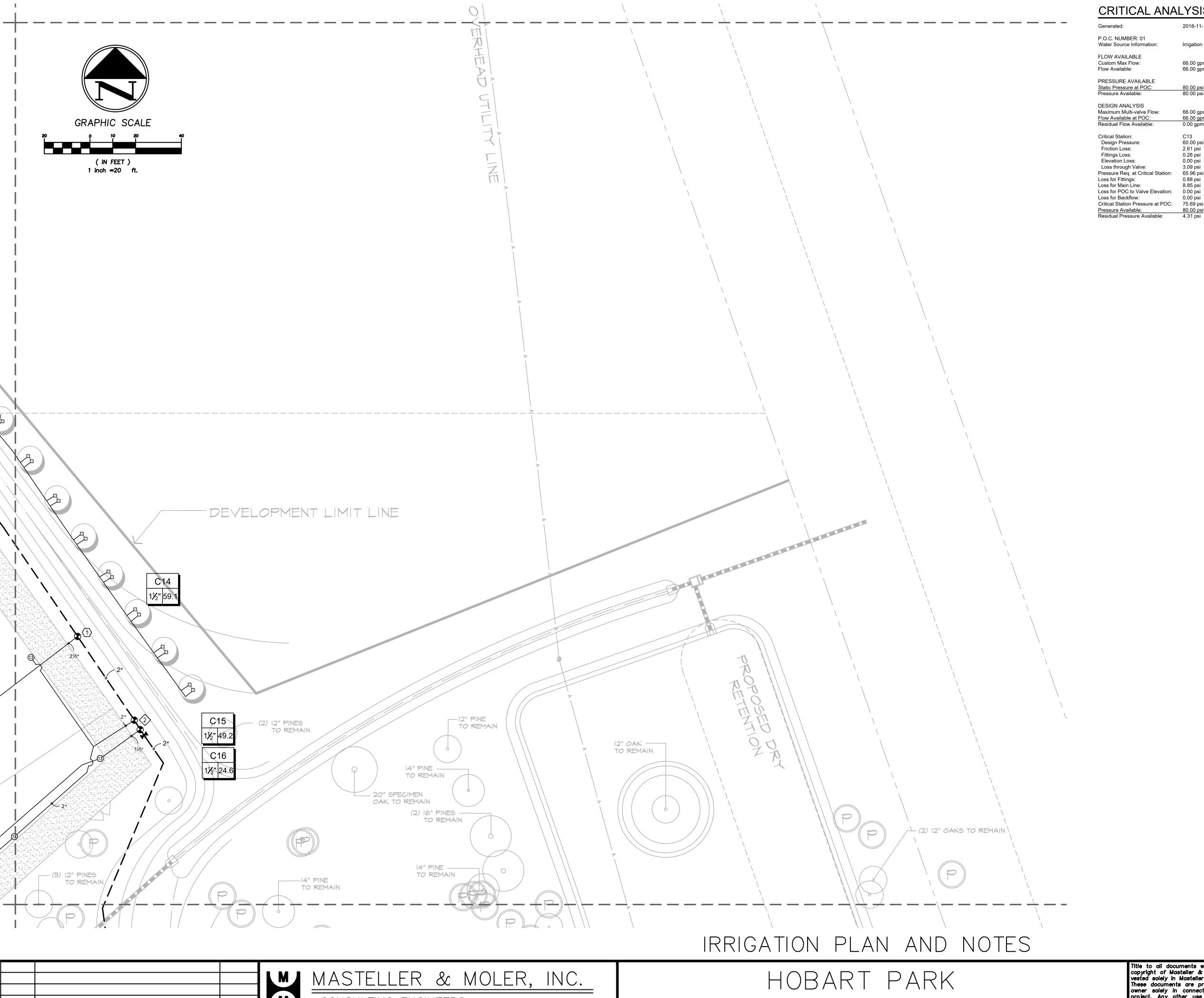












CRITICAL ANALYSIS

2018-11-15 07:44 Water Source Information: Irrigation Well 66.00 gpm 66.00 gpm PRESSURE AVAILABLE Static Pressure at POC: 66.00 gpm Maximum Multi-valve Flow: Flow Available at POC: Residual Flow Available: 60.00 psi 2.61 psi 0.26 psi 0.00 psi Pressure Req. at Critical Station: 65.96 psi 8.85 psi

#### VALVE SCHEDULE

			_				
NUMBER	MODEL	SIZE	TYPE	GPM	PSI	PSI @ POC	PRECIP
C1	Hunter ICV-G-FS	1-1/2"	Turf Rotor	63.00	51.64	54.75	0.60 in/h
C2	Hunter ICV-G-FS	1-1/2"	Turf Rotor	34.00	50.80		0.60 in/h
C3	Hunter ICV-G-FS	1-1/2"	Turf Rotor	61.50	67.21	72.82	0.79 in/h
C4	Hunter ICV-G-FS	1-1/2"	Turf Rotor	59.10	65.36	72.45	0.43 in/h
C5	Hunter ICV-G-FS	1-1/2"	Turf Rotor	49.20	65.38	72.52	0.83 in/h
C6	Hunter ICV-G-FS	1-1/2"	Turf Rotor	24.60	64.51	71.70	2.03 in/h
C7	Hunter ICV-G-FS	1-1/2"	Bubbler	66.00	38.35	45.58	4.31 in/h
C8	Hunter ICV-G-FS	1-1/2"	Turf Rotor	61.50	65.97	75.64	0.42 in/h
C9	Hunter ICV-G-FS	1-1/2"	Turf Rotor	49.20	64.03	73.72	0.82 in/h
C10	Hunter ICV-G-FS	1-1/2"	Bubbler	60.00	38.56	48.26	4.35 in/h
C11	Hunter ICV-G-FS	1-1/2"	Turf Rotor	36.90	63.46	73.35	0.40 in/h
C12	Hunter ICV-G-FS	1-1/2"	Turf Rotor	49.20	64.12	73.86	0.82 in/h
C13	Hunter ICV-G-FS	1-1/2"	Turf Rotor	61.50	65.96	75.69	0.41 in/h
C14	Hunter ICV-G-FS	1-1/2"	Turf Rotor	59.10	65.06	74.28	0.43 in/h
C15	Hunter ICV-G-FS	1-1/2"	Turf Rotor	49.20	64.76	73.75	0.82 in/h
C16	Hunter ICV-G-FS	1-1/2"	Turf Rotor	24.60	66.22	75.19	2.61 in/h
C17	Hunter ICV-G-FS	1-1/2"	Turf Rotor	24.60	65.15	74.61	1.65 in/h
C18	Hunter ICV-G-FS	1-1/2"	Turf Rotor	49.20	64.29	73.77	0.83 in/h
C19	Hunter ICV-G-FS	1-1/2"	Turf Rotor	49.20	64.94	74.57	0.45 in/h
C20	Hunter ICV-G-FS	1-1/2"	Turf Rotor	49.20	64.01	73.88	0.86 in/h
C21	Hunter ICV-G-FS	1-1/2"	Turf Rotor	61.50	64.85	74.71	0.46 in/h
C22	Hunter ICV-G-FS	1-1/2"	Bubbler	24.00	35.82	44.90	4.38 in/h
C23	Hunter ICV-G-FS	1-1/2"	Turf Rotor	49.20	64.93	73.99	0.44 in/h
C24	Hunter ICV-G-FS	1-1/2"	Turf Rotor	49.20	64.27	73.02	0.85 in/h
C25	Hunter ICV-G-FS	1-1/2"	Turf Rotor	24.60	65.10	73.82	1.64 in/h
C26	Hunter ICV-G-FS	1-1/2"	Turf Rotor	49.20	65.79	72.13	0.71 in/h
C27	Hunter ICV-G-FS	1-1/2"	Turf Rotor	34.00	49.74		0.68 in/h
C28	Hunter ICV-G-FS	1-1/2"	Turf Spray	24.68	33.17	37.20	1.68 in/h
C29	Hunter ICV-G-FS	1-1/2"	Turf Spray	24.77	33.84	37.81	1.70 in/h
C30	Hunter ICV-G-FS	1"	Shrub Rotary	19.83	45.68	45.81	0.63 in/h
C31	Hunter ICV-G-FS	1-1/2"	Bubbler	32.00	35.84	35.94	4.31 in/h

#### TWO WIRE CONTROL SYSTEM NOTES

- 1. ALL DECODER WIRE SPLICE CONNECTORS TO BE 3M DBY-6 OR BETTER. 2. ALL DECODER TO VALVE SOLENOID SPLICE CONNECTORS TO BE 3M DBY-6 OR
- 3. ALL GROUNDING POINTS TO BE INSTALLED AS PER DETAIL. 4. ALL CONTROL SYSTEM PRODUCTS TO BE INSTALLED AND OPERATED AS PER THE MANUFACTURER'S RECOMMENDATIONS AND OR REQUIREMENTS.

5. IRRIGATION CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL NECESSARY MANUFACTURER'S INSTALLATION TRAINING PRIOR TO PROJECT START, NOTIFY IRRIGATION CONSULTANT WHEN TRAINING HAS BEEN COMPLETED 6. IRRIGATION CONTRACTOR IS RESPONSIBLE FOR TRAINING OWNERS STAFF, AS NEEDED, ON THE OPERATION AND MAINTENANCE OF THE CONTROL SYSTEM.

7. IRRIGATION CONTRACTOR IS RESPONSIBLE FOR COMPLETE PROGRAMMING AND OPERATION OF THE CONTROL SYSTEM FOR 6 MONTHS FROM THE DAY THE CONTROLLER BECOMES FUNCTIONAL. CONTRACTOR TO PROVIDE THE OWNERS REPRESENTATIVE A COMPUTER SPREAD SHEET THAT SHOWS EACH PROGRAM, OPERATIONAL DAYS AND RUN TIMES PER ZONE.

#### CONTROLLER INSTALLATION NOTES

- 1. IRRIGATION CONTRACTOR TO COORDINATE EXACT LOCATION OF CONTROLLER WITH OWNER'S REPRESENTATIVE.
- 2. PROVIDE 120VAC 10 AMP POWER TO JUNCTION BOX AT CONTROLLER LOCATION.
- 3. IRRIGATION CONTRACTOR TO HARD WIRE CONTROLLER TO POWER SUPPLY AS PER PREVAILING CODE.
- 4. CONTROLLER TO BE SECURELY ATTACHED TO THE WALL USING METALLIC FASTENERS MADE FOR WALL TYPE.
- 5. ALL IRRIGATION CONTROL WIRE ABOVE GRADE TO BE ENCASED IN PVC ELECTRICAL CONDUIT.
- 6. IRRIGATION CONTRACTOR IS RESPONSIBLE FOR ALL POTENTIAL WALL PENETRATIONS AND THE SEALING OF THOSE PENETRATIONS. 7. CONTROLLER TO BE GROUNDED AS PER MANUFACTURERS RECOMMENDATIONS.

#### **GENERAL NOTES**

- 1. ALL TRENCHING TO BE OUTSIDE OF TREE DRIP LINE 2. MAINLINE TO HAVE MINIMUM OF 24" OF COVER AND A MINIMUM OF 24" OFF
- OF THE HARDSCAPE
- 3. LATERALS TO HAVE MINIMUM OF 18" OF COVER IN SPORTS FIELDS AND A MINIMUM OF 12" IN GENERAL LANDSCAPE AREAS. ALL LATERALS ARE TO BE A MINIMUM OF 18" OFF OF THE HARDSCAPE EDGE.
- 4. NO ROCKS, BOULDERS OR SHARP OBJECTS TO BE IN TRENCH BACKFILL
- 5. ALL PIPE TO BE INSTALLED AS PER MANUFACTURES SPECIFICATIONS 6. SPRINKLERS AND RELATED EQUIPMENT TO BE INSTALLED AS PER DETAILS 7. TWO WIRE CONTROL WIRE TO BE 14 GA UL 2 CONDUCTOR, JACKETED AND APPROVED BY 2-WIRE CONTROLLER MANUFACTURER
- 9. WIRE SPLICES TO BE DONE AS PER DETAILS 10. ALL WIRE SPLICES OUTSIDE OF CONTROL VALVE BOX TO BE IN 10" VALVE
- 11. TWO WIRE CONDUCTORS TO BE COLOR CODED
- 12. CONTRACTOR SHALL INSTALL MANUFACTURES GROUNDING EQUIPMENT ON BOTH THE POWER AND OUTPUT SIDES OF CONTROLLER, ALL GROUNDING POINTS TO BE INSTALLED AS PER PLANS AND DETAILS
- 13. AT EACH VALVE AND CHANGE IN MAINLINE DIRECTION CONTRACTOR TO INSTALL A 30" LOOP OF EXTRA WIRE
- 14. SPRINKLERS ARE TO BE ADJUSTED TO AVOID OVER-SPRAY INTO NON-IRRIGATED AREAS
- 15. ELECTRIC CONTROL VALVES ARE TO BE INSTALLED IN VALVE BOXES AS

14" RECTANGULAR MINIMUM FOR EACH ELECTRIC CONTROL VALVE

- 16. SPRINKLERS TO BE INSTALLED 12" FROM FOUNDATIONS AND 2" FROM
- 17. CONTRACTOR TO ADD RISER EXTENSIONS TO SPRINKLERS IF REQUIRED TO MAINTAIN PROPER COVERAGE
- 18. ALL PIPING TO BE FLUSHED PRIOR TO INSTALLATION OF SPRINKLERS
- 19. ALL VALVES, QUICK COUPLER VALVES, WIRE SPLICES TO BE IN LANDSCAPED BEDS WHEREVER POSSIBLE
- 20. CONTRACTOR IS RESPONSIBLE FOR OBTAINING PROPER COVERAGE OF AREA TO BE IRRIGATED, MAKE ADJUSTMENTS AS NECESSARY
- 21. CONTRACTOR SHALL EXERCISE CARE NOT TO DAMAGE EXISTING UTILITIES
- REPAIRING ANY DAMAGES AT HIS OWN COST 22. PLAN IS DIAGRAMMATIC TO IMPROVE CLARITY ALL IRRIGATION EQUIPMENT TO BE INSTALLED WITHIN PROPERTY LINES AND LANDSCAPED AREAS
- 23. ANY DISCREPANCIES BETWEEN THE PLAN AND THE SITE TO BE REFERRED TO THE OWNERS REPRESENTATIVE PRIOR TO CONSTRUCTION
- 24. CONTRACTOR TO PROVIDE 1 YEAR WARRANTEE OF ALL PRODUCTS AND
- WORKMANSHIP TO INCLUDE WINTERIZATION AND SPRING START-UP 25. CONTRACTOR TO PROVIDE OWNER AND OR LANDSCAPE ARCHITECT
- RECORD DRAWING PRIOR TO SUBSTANTIAL COMPLETION. 26. INSTALLATION OF IRRIGATION SLEEVES IS THE IRRIGATION CONTRACTORS RESPONSIBILITY IRRIGATION CONTRACTOR TO COORDINATE WITH
- GENERAL CONTRACTOR SLEEVE INSTALLATION PRIOR TO PAVEMENT INSTALLATION 27. CLEANUP AND DISPOSE OF ALL DEBRIS, WASTE AND EXCESS
- CONSTRUCTION MATERIALS LEAVE AREA NEAT, CLEAN AND READY FOR OWNERS USE PROVIDE CLEAN PAVEMENT SURFACES INCLUDING AREAS OF PUBLIC R.O.W.



CERTIFICATE OF AUTHORIZATION NUMBER 4204

NO. DATE

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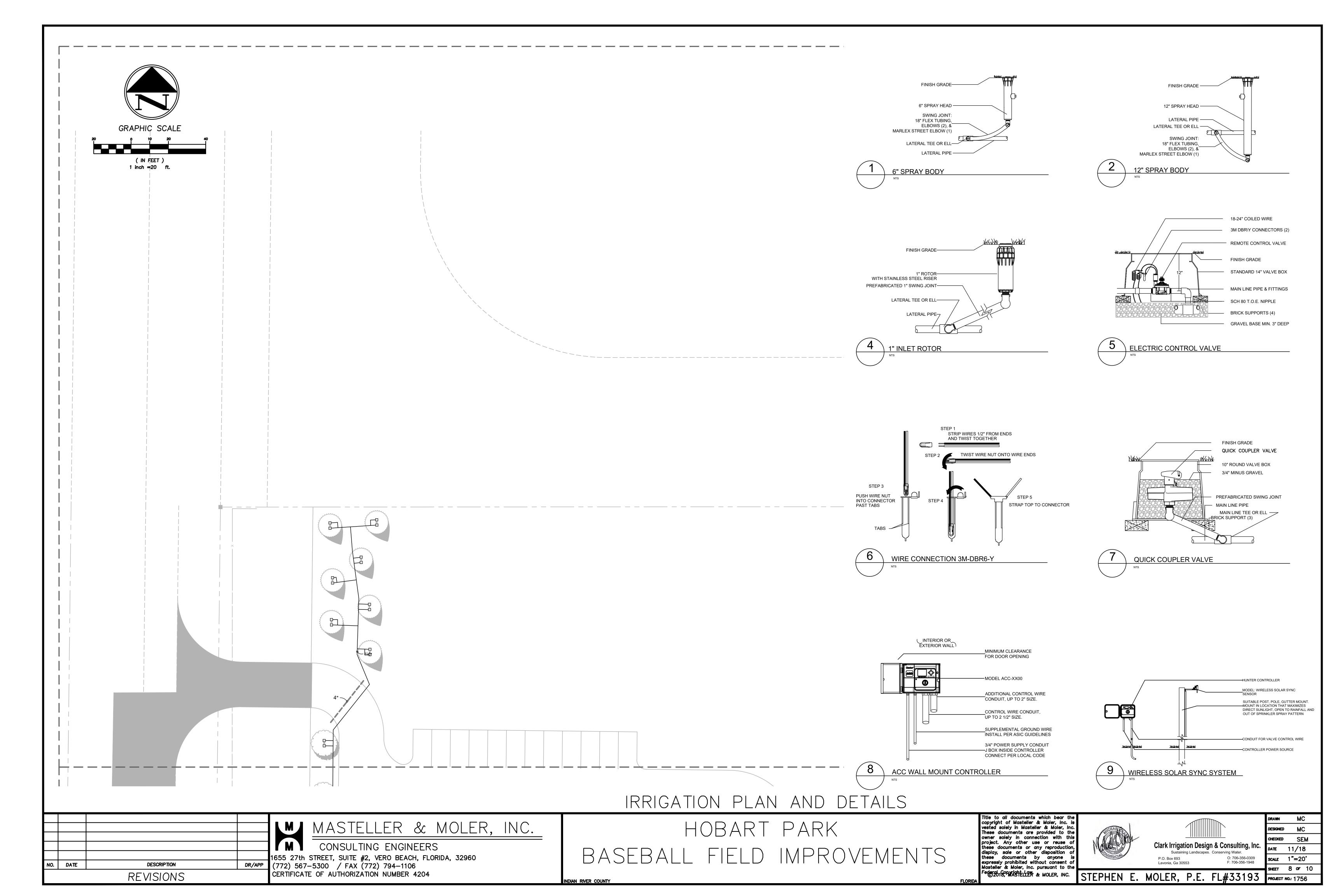
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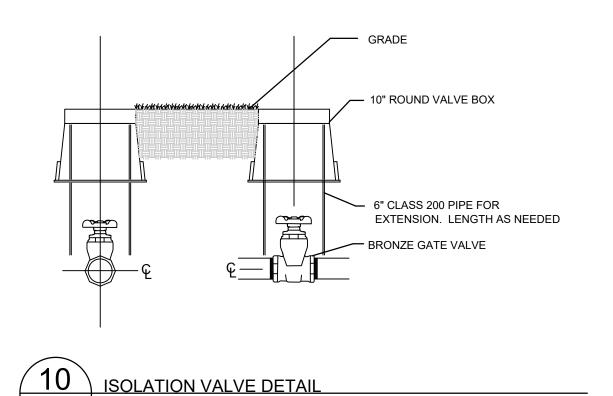
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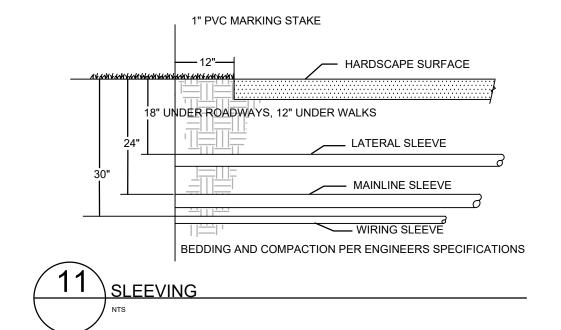
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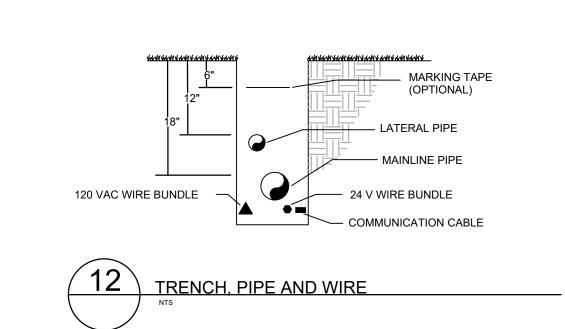
Clark Irrigation Design & Consulting, Inc. O: 706-356-0309

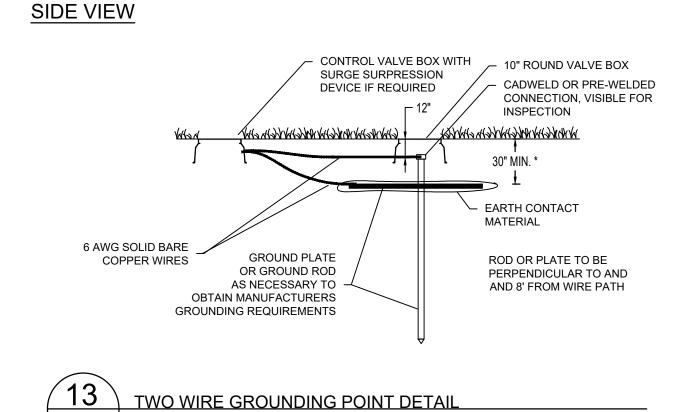
STEPHEN E. MOLER, P.E. FL#33193 PROJECT NO.: 1756

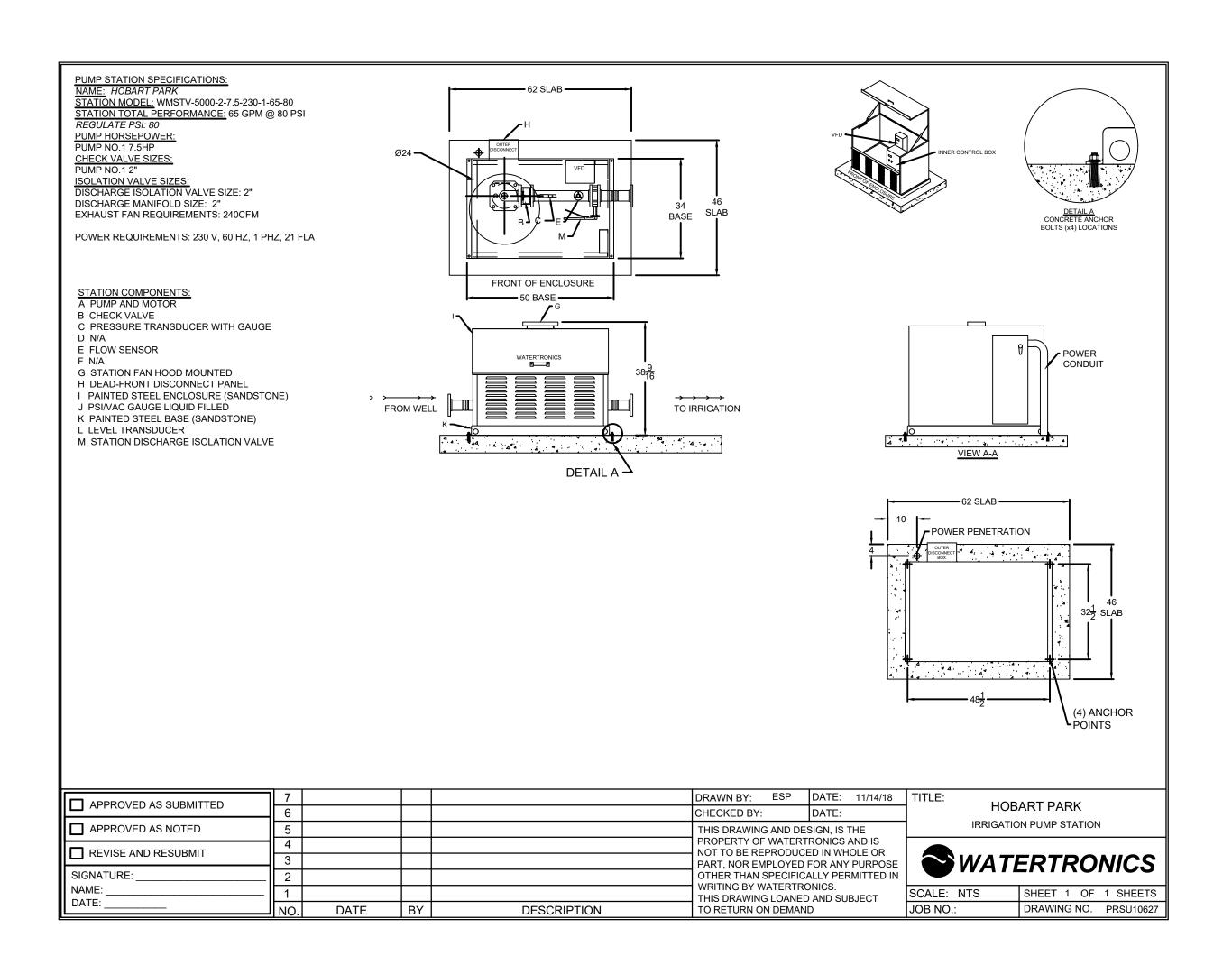


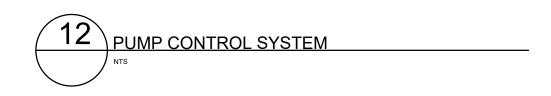












### IRRIGATION DETAILS

1655 27th STREET, SUITE #2, VERO BEACH, FLORIDA, 32960 (772) 567-5300 / FAX (772) 794-1106 NO. DATE DESCRIPTION CERTIFICATE OF AUTHORIZATION NUMBER 4204 REVISIONS

MASTELLER & MOLER, INC. CONSULTING ENGINEERS

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Clark Irrigation Design & Consulting, Inc.
Sustaining Landscapes. Conserving Water.

DATE 11/18 O: 706-356-0309 SCALE NO SCALE SHEET 9 OF 10

STEPHEN E. MOLER, P.E. FL#33193 PROJECT NO.: 1756

NDIAN RIVER COUNTY

#### WaterMax

5000-2 SUBMERSIBLE TURBINE GENERAL SPECIFICATIONS

#### Project Name: Hobart Park Project Location: Pumping System Model #: WMSTV-5000-2-7.5-230-1-65-80 Total Design Criteria: Quantity of Pumps: 1 Station Design Capacity: 65 GPM @ 80 PSI Discharge

#### SCOPE OF WORK

It is the intention of this specification to describe a self-enclosed, automatic SUBMERSIBLE pump station for a commercial turf irrigation system. This is to be accomplished by using a completely prefabricated pump station conforming to the following specifications.

The pumping station shall be model number WaterMax WMSTV-5000-3 as manufactured by WATERTRONICS, INC. 525 Industrial Drive, P.O. Box 530, Hartland, Wisconsin 53029-0530 www.watertronics.com.

For Pricing Contact: John VanDerCruyssen 262-269-2440 John.VanDerCruyssen@Watertronics.com

#### MANUFACTURER REQUIREMENTS

The pump station shall be manufactured by Watertronics, Inc., Hartland, Wisconsin. The following information must be furnished by the contractor or manufacturer's representative within 10 days before bid date, to the Consultant/Engineer for consideration as an equal brand.

- a. A complete specification and submittal of all major components for the proposed pump with individual pump performance verification.
- A detailed pumping station proposal drawing complete with component location, sizes and dimensions specific to the installation.
- A complete electrical schematic for all high and low voltage circuits showing breaker/ fuse sizing, wire numbering and color.
- Pump station manufacturers U.L. file number for the electrical controls and pump station.
- e. A copy of the manufacturer's certificate of insurance.
- Product support technicians shall be capable of accessing all information pertaining to the pumping equipment, e.g. electrical schematics, pump curves, program data, bill of materials, etc. The manufacturer shall have no less then two technicians on call seven days a week.
- The pump station manufacturer shall provide factory authorized or factory direct service personnel for the set, start-up, preventative maintenance and general service of the pump system. A factory authorized or factory direct service technician must be located within onehundred (100) mile radius of the project site. The pump systems technician must have a minimum of 5 years experience. The pump station manufacturer shall provide technical phone support twenty-four hours a day seven days a week.

#### SECTION 1: GENERAL

1.1 The pump station performance at enclosure limits shall be as noted in the technical specifications. The capacity, discharge pressure, and discharge pipe dimensions shall be per the technical specifications. The pump shall operate at no more than 3600 RPM. The power supply to the station shall be as noted in the technical specifications.

1.2 The station shall be completely wired, piped, dynamically flow and pressure tested prior to shipment.

1.3 Operational sequence: The pump shall activate automatically upon a drop in manifold pressure to an adjustable set point. Operation shall be maintained at an adjustable minimum flow. The pump shall be automatically retired when system flow drops below the minimum adjustable set point and the pressure set point has been met for an adjustable time delay.

1.4 Construction shall be of modular form utilizing a steel base structurally adequate to support piping, and electrical equipment as a single integral assembly. All nuts, bolts washers, and fasteners shall be stainless steel, zinc or cadmium plated for corrosion resistance.

#### SECTION 2: PUMP AND MOTOR

#### **2.1** PUMP

Pump shall be submersible type. Bowl assembly including suction case, intermediate bowls and discharge bowls shall be of cast iron. The impellers shall be of bronze, statically balanced. Each pump shaft is to be turned, ground and polished stainless steel having a chromium content of not less than 12%. It shall be supported by bearings above and below each impeller. The size of each shaft shall be appropriate to transmit the horsepower required by the pump. The pump shall have a corrosive resistant basket type strainer with an area no larger than  $\mathcal{U}^{n}$ .

#### 2.2 MOTOR Submersible

Motor shall be submersible type and meet applicable NEMA standards. The motor shall be of corrosion resistant construction, 316 Stainless Steel shell, splined stainless steel shaft, cast iron end bells, hermetically sealed windings, Kingsbury-type thrust bearings, pressure equalizing diaphragm, removable "water-bloc" lead connector and U.L. 778 recognized

SECTION 3: PIPING MANIFOLD, VALVES, GAUGES AND OTHER MECHANICAL EQUIPMENT

#### 3.1 FABRICATED PIPING

All fabricated piping shall conform to ASTM specifications A53 for Grade B welded or seamless schedule 40 pipe. All welded flanges shall be forged steel, slip-on or weld neck type. All welded fittings shall be seamless, ASTM Specification A234, with pressure rating not less than 150 PSI.

#### 3.2 CHECK VALVE

Pump check valve shall be of the silent operating type that begin to close as forward velocity diminishes and be fully closed at zero velocity preventing flow reversal. Valve bodies shall be cast from ASTM-126C castiron or better and shall be free from blow holes, sand holes, and other impurities. The valve design shall incorporate a center guided, spring loaded poppet, guided at opposite ends and having a short linear stroke that generates a flow area equal to the pipe diameter. Internals shall be machined bronze disc, seat, and stem guide. Valves shall be sized to permit full pump capacity to discharge through them without exceeding a pressure drop of 2.5 PSI. Valves 4" and smaller to be pressure rated for 250 PSI.

#### 3.3 STATION DISCHARGE ISOLATION VALVE

Isolation valves shall be butterfly type with ten position lever for sizes 4" and smaller and gear operators for sizes above 4". All shall be rated at 200 psi WOG working pressure. Trim shall include stainless steel stem, bronze or nickel coated iron, streamlined disc, and full faced resilient seat designed to eliminate need for

#### 3.4 DRAIN VALVES

Drains are to be provided from any possible low point in the system and are to consist of 1/4" brass petcocks.

#### 3.5 PRESSURE GAUGES

A compound pressure gauge shall be located on the pump suction and on the discharge manifold for easy reading of the suction vacuum and discharge pressure. Pressure gauges shall be 304 stainless steel case and bezel construction. Gauges shall be 2-1/2" diameter, liquid filled. Pressure sensing connection shall be 1/4" NPT lower gauge connection.

#### 3.6 HYDRAULIC PRESSURE REDUCING VALVE (Must be call for in Technical Specification)

A hydraulic pressure-reducing valve shall provide constant discharge pressure to the irrigation system under varying flow requirements. The valve shall be hydraulically operated, diaphragm actuated, angle pattern. The valve shall be equipped with a strainer for protecting the pilot valve, valve chamber and tubing from debris. The valve shall be equipped with an opening speed adjustment.

3.7 VARIABLE FREQUENCY DRIVE PRESSURE REGULATION (Replaces Pressure Reducing Valve) (Option must be called out in the Technical Specifications)

The variable frequency drive shall be IGBT based with selectable carrier frequency up to 15 KHZ. The VFD shall include terminals for incoming power, motor output power and control terminals.

The VFD shall generate a sine-coded, variable voltage/ frequency, three phase output for optimum speed control. The VFD shall incorporate power loss ride-through for a minimum of 2 seconds. VFD protective features shall include current limit, auto restart, short circuit protection, electronic motor overload protection and ground fault protection. The VFD shall have a push button programming display for easy access to operation parameters. The VFD shall be protected on the primary side by fuses of the appropriate

Overload capacity: 120% rated output current for one minute. Voltage Fluctuation: +10%, -15%. Sine wave PWM with full range, automatic torque boost. Frequency Control Range: 0.1 to 400Hz. Frequency Accuracy: Digital, 0.01Hz, Analog. .1%. Motor overload protection, Instantaneous Over current of 180% of rated output

current. Over voltage at 820VDC if 460V input. Under voltage: user adjustable. Momentary Power Loss: up to 2 second ride through. Electronic Ground Fault. LED capacitor charge indicator. Input Phase loss alarm. Ambient temperature range of 0 to 50 degrees C. Humidity of 95% non-condensing.

#### 3.8 PRESSURE TRANSDUCER (Required when the VFD option is selected)

A solid state pressure transducer shall provide a noise free, linear output proportional to discharge pressure. Transducer shall be solid-state, strain gauge type with integral voltage regulation and output accuracy not less than 0.25%. Transducer shall be constructed of stainless steel and rated for the pump station discharge pressure called out in the technical specifications.

#### SECTION 4: ELECTRICAL CONTROLS

#### 4.1 GENERAL PANEL UL FILE NO: **E142155**

The complete control panel assembly shall be built in accordance with the provisions of the National Electrical Code and shall bear the U.L. listing mark for NEMA 1 industrial control panels along with the pump station manufacturers' U.L. panel shop file number.

#### 4.2 MOTOR COMBINATION STARTER-BREAKER

Each motor shall be protected by a MSP combination starter and breaker. Device will be UL 508 Type F. Motor starter protector and contactor are electrically and mechanically linked by means of a link module and adapter plate. All starters are suitable for use in group installation applications according to NEC-430-53(c).

#### 4.3 MAIN STATION DISCONNECT AND FUSING

A three-pole, service rated main station disconnect shall be mounted in a separate NEMA 4 enclosure outside the pump station enclosure to completely isolate the pump station electrical system from incoming power. The service disconnect shall not be located inside the pump enclosure.

#### 4.4 PROGRAMMABLE LOGIC CONTROLLER

The pump sequence controller shall be an industrial grade PLC with diagnostic LED for monitoring of discrete inputs and outputs. Not less than two additional analog inputs and outputs shall be standard for monitoring and control purposes. The PLC shall contain two communication ports for monitoring and programming purposes. The PLC shall contain an EEPROM, battery backed RAM and non volatile memory for storage of critical configuration data.

#### 4.5 VARIABLE FREQUENCY DRIVE (VFD)

DIAN RIVER COUNTY

The variable frequency drive shall be IGBT based with selectable carrier frequency up to 15 KHZ. The VFD shall include terminals for incoming power, motor output power and control terminals. The VFD shall generate a sine-coded, variable voltage/frequency, three-phase output for optimum speed control. The VFD shall incorporate power loss ride-through. VFD protective features shall include current limit, short circuit protection, electronic motor overload protection and ground fault protection. The VFD shall have push button programming display for easy access to operation parameters. VFD must be designed for operation in 50

#### 4.6 SECONDARY CONTROL CIRCUIT FUSES

Single-pole secondary distribution fuses with appropriate ratings shall supply power to the pump starter coil circuit, the control system and to other circuits as specified.

#### 4.7 FLOW SENSOR

The pump station discharge manifold shall incorporate an insertion type, pulse frequency output flow sensor for continuous output to the pump station controls. The flow sensor output pulse shall be conditioned and fed directly to the PLC interrupt input for conversion and display in Gallons Per Minute and totalize. For accuracy and security considerations, conversion to an analog signal prior to PLC input shall not be accepted. Flow sensor accuracy shall be no less than 2% for flow velocities ranging from 1-30 feet per second.

#### 4.8 NATIONAL ELECTRICAL CODE STANDARDS

Electrical controls shall conform to National Electrical Code Standards and be U.L. listed

#### 4.9 LIGHTNING ARRESTOR

The main power supply to the pump station shall be equipped with a secondary lighting arrestor having a breakdown current rating of not less than 60,000 Amps at 14,000 Volts discharge. Power supplies 300 Volts and less shall use a 300 Volt arrestor with an 800 Volt spark-over Voltage. Power supplies up to 600 Volts shall use a 600 Volt rated arrestor with a 1,000 Volt spark-over Voltage.

#### 4.10 CORROSION INHIBITING MODULES

Corrosion inhibiting modules shall be installed in the main electrical control enclosure in accordance with the manufacture's recommendations.

#### **CONTROL ALARMS:**

#### 4.11 LOW DISCHARGE PRESSURE SAFETY SHUTDOWN

Low discharge pressure is to be sensed by the pump starting set point. When the station discharge pressure decreases to this point and maintains a start signal for the time called out in the Technical Specifications, the pumps will be de-energized and remain so until the circuit is manually reset. The operator interface shall illuminate to indicate a low discharge pressure shutdown has occurred.

#### 4.11(a) HIGH DISCHARGE PRESSURE SAFETY SHUTDOWN

High discharge pressure is to be sensed by the pump starting set point. When the station discharge pressure increases to this point and maintains a start signal for the time called out in the Technical Specifications, the pumps will be de-energized and remain so until the circuit is manually reset. The operator interface shall illuminate to indicate a high discharge pressure shutdown has occurred.

#### 4.12 VFD FAULT ALARM (Option required with VFD control system)

The operator interface shall illuminate to indicate a VFD shut off fault. Manual reset required.

#### SECTION 5: MOUNTING BASE & ENCLOSURE

#### 5.1 MOUNTING BASE

Construction shall include a fabricated steel base assembly to support all components during shipping and to serve as the installed mounting base. Pump station base shall be formed from a single sheet of 1/4" plate resulting in a seamless, one-piece base with rounded edges and corners. The base shall be strategically reinforced beneath as required to provide additional support and strength. Standard base dimensions are 50" long, 34" wide, 3 1/2" high. The base shall be drilled and tapped allowing the pump and manifold to be secured to the base. The exterior of the base will be drilled to accept anchoring bolts. The base shall be shot blasted to bare metal prior to the painting process.

PUMP CONTROL SYSTEM SPECIFICATIONS

DESCRIPTION DATE REVISIONS

MASTELLER & MOLER, INC.

CONSULTING ENGINEERS

655 27th STREET, SUITE #2, VERO BEACH, FLORIDA, 32960 (772) 567-5300 / FAX (772) 794-1106 CERTIFICATE OF AUTHORIZATION NUMBER 4204

HOBART PARK BASEBALL FIELD IMPROVEMENTS

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Clark Irrigation Design & Consulting, Inc. O: 706-356-0309

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NO SCALE

10 of 10

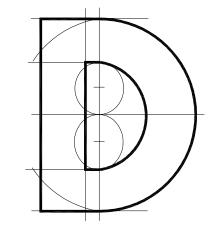
DATE 11/18

STEPHEN E. MOLER, P.E. FL#33193

### PROPOSED

# CONCESSION & RESTROOM BUILDING HOBART PARK, INDIAN RIVER COUNTY, FLORIDA

March 11, 2024 BID SET



DONADIO & Associates, Architects P.A.

A Spiezle Group Inc. Company



2001 9th Avenue, Suite 308 Vero Beach, FL 32960 Tel.772.794.2929 Fax.772.562.8600 License No. AA0002238 www.spiezle.com

### CIVIL ENGINEER

MASTELLER & MOLER, INC.

1655 27th Street, Suite 2 Vero Beach, Florida 32960 Tel.: 772/567-5300 Fax.: 772/794-1106

### STRUCTURAL ENGINEER M L ENGINEERING INC.

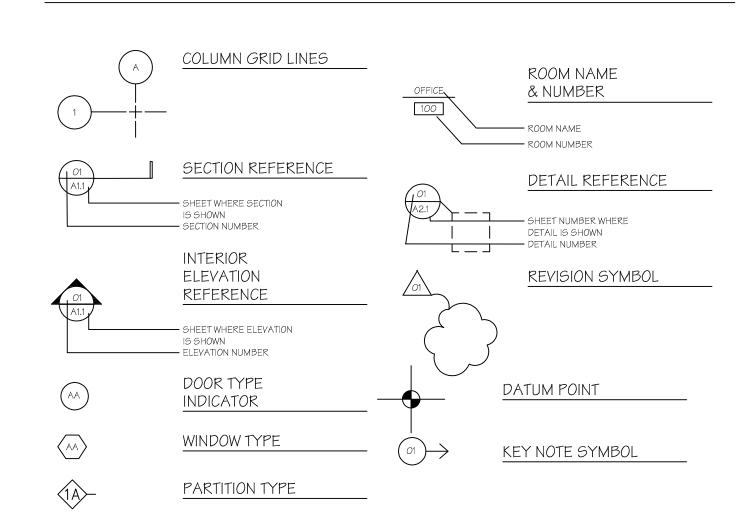
2030 37th Avenue Vero Beach, Florida 32960 Tel.: 772/569-1257 Fax.: 772/569-4041

MECH., ELEC. & PLUMBING ENGINEER

TREASURE COAST ENGINEERING

4925 13th Lane Vero Beach, FL 32966 Tel.: 772/567-1007 Fax.: 772/567-1084

### ARCHITECTURAL SYMBOLS



#### INDEX OF DRAWINGS

1/0	Dwg. No	Drawing Name
$\boxtimes$	A0.10	COVER SHEET & DRAWING INDEX

#### ARCHITECTURAL DRAWINGS

1/0	Dwg. No	Drawing Name
$\boxtimes$	A1.10	LIFE SAFETY PLAN & CODE REVIEW
	A2.10	FLOOR PLAN & REFLECTED CEILING PLAN
$\boxtimes$	A2.20	ROOF PLAN & ROOF DETAILS
$\boxtimes$	A2.30	ENLARGED PLANS & INTERIOR ELEVATIONS
$\boxtimes$	A3.10	EXTERIOR ELEVATIONS
	A4.10	SECTIONS
$\boxtimes$	A6.10	FINISH & DOOR SCHEDULES

AND DOOR & WINDOW DETAILS

#### STRUCTURAL DRAWINGS

· · · · · · · · · · · · · · · · · · ·		
1/0	Dwg. No	Drawing Name
	S-1	FOUNDATION PLAN, ROOF FRAMING
		PLAN, SECTIONS & DETAILS
$\boxtimes$	<b>S-2</b>	TYPICAL SECTIONS & DETAILS,
		SCHEDULES & GENERAL NOTES

#### MECHANICAL DRAWINGS

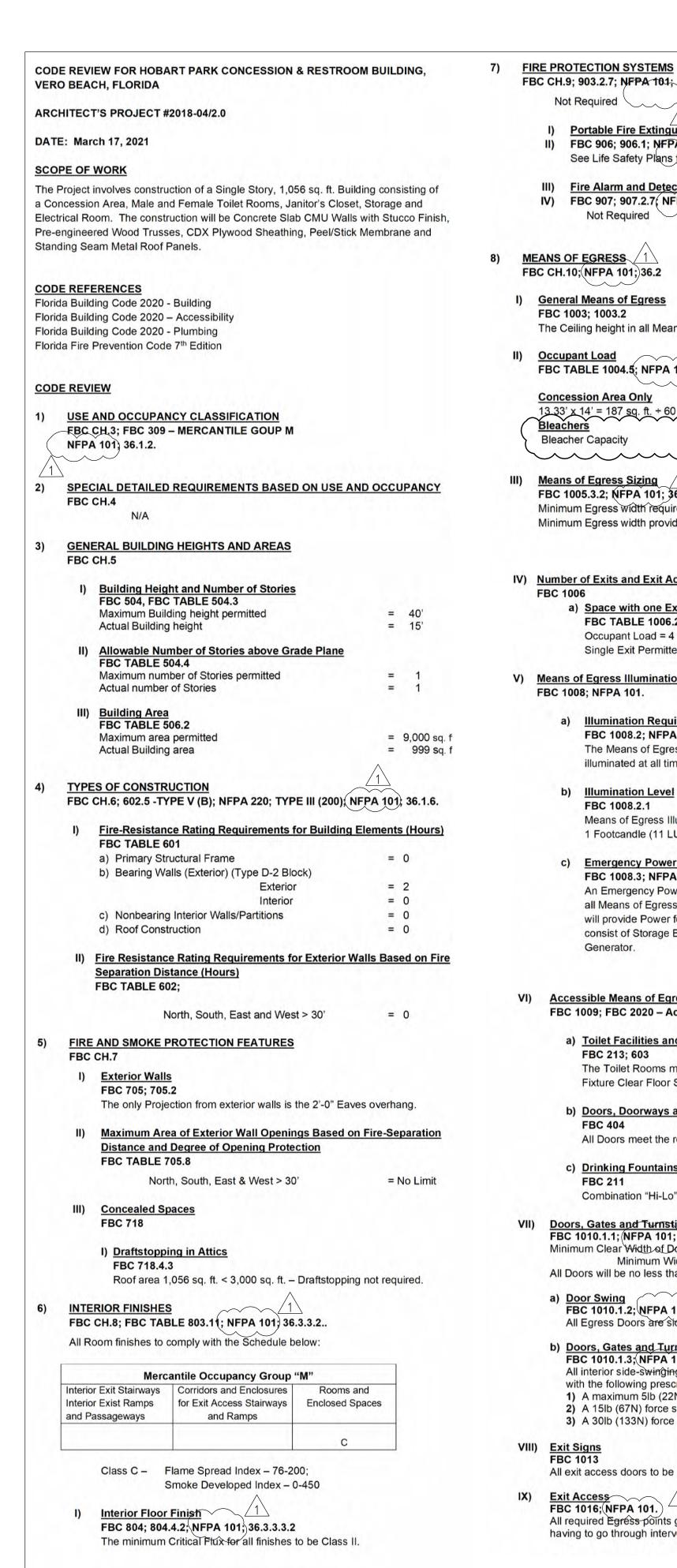
<u> </u>	10	Dwg. No	Drawing Name
	X	M1.1	MECHANICAL PLAN

#### ELECTRICAL DRAWINGS

1/0	Dwg. No	Drawing Name
$\boxtimes$	E1.1	LIGHTING PLAN & ELECTRICAL PLAN
	E1.2	ELECTRICAL SCHEDULES & ONE-LINE
	E1.3	ELECTRICAL DETAILS

#### PLUMBING DRAWINGS

1/0	Dwg. No	Drawing Name
	P1.1	PLUMBING



FBC CH.9; 903.2.7; NFPA 101; 36.3.5 Not Required Portable Fire Extinguishers II) FBC 906; 906.1; NFPA 101; 36.3.5.3 See Life Safety Plans for locations. III) Fire Alarm and Detection Systems FBC 907; 907.2.7; NFPA 101; 36.3.4 Not Required \\_\_\_\_ 8) MEANS OF EGRESS 1 FBC CH.10; (NFPA 101;)36.2 General Means of Egress FBC 1003; 1003.2 The Ceiling height in all Means of Egress will be 9'-2" > 7'-6" II) Occupant Load FBC TABLE 1004.5; NFPA 101; 36.1.7 Concession Area Only = 4 Occupants = 300 Occupants Bleacher Capacity Female III) Means of Egress Sizing FBC 1005.3.2; NFPA 101; 36.2.3 Minimum Egress width required (Concessions)  $4 \times 0.2$ " = 0.8" Minimum Egress width provided (Concessions) 1 x 36" = 36" IV) Number of Exits and Exit Access Doorways a) Space with one Exit or Exit Access Doorway FBC TABLE 1006.2.1; NFPA 101; 36.2.4. Occupant Load = 4 < 49; maximum common path of Travel 19' > 75' Single Exit Permitted. DOOR # V) Means of Egress Illuminations FBC 1008: NFPA 101. a) Illumination Required FBC 1008.2; NFPA 101; 36.2.8 The Means of Egress, including Exit Discharge, will be WINDOW# illuminated at all times during Building Occupancy. b) Illumination Level Means of Egress Illumination Level shall not be less than ROOFING 1 Footcandle (11 LUX) at the walking surface. c) Emergency Power for Illumination FBC 1008.3; NFPA 101; 36.2.9 An Emergency Power Supply will be provided to illuminate all Means of Egress components. The Emergency Supply will provide Power for a minimum of 90 minutes and will consist of Storage Batteries, Unit Equipment or an on-site VI) Accessible Means of Egress FBC 1009; FBC 2020 - Accessibility. a) Toilet Facilities and Bathing Facilities FBC 213; 603 The Toilet Rooms meet the ADA required Standards in terms of Fixture Clear Floor Space, Turning Circles and Accessible Route. b) Doors, Doorways and Gates **FBC 404** All Doors meet the required maneuvering clearances for approach. c) Drinking Fountains FBC 211 Combination "Hi-Lo" Drinking Foundation provided. Doors, Gates and Turnstiles BC 1010.1.1; NFPA 101; 36.2.2.2 Minimum Clear Width of Doors Allowed = 32" = 36" Minimum Width Provided All Doors will be no less than 80" in Height. a) Door Swing FBC 1010.1.2; NFPA 101. All Egress Doors are side hinged and swing in the Direction of Travel. b) Doors, Gates and Turnstiles / 1 FBC 1010.1.3; NFPA 101; 36.2.2.2. All interior side-swinging doors (without closers) to comply with the following prescribed forces: 1) A maximum 5lb (22N) force shall swing door fully open. 2) A 15lb (67N) force shall release a latch. 3) A 30lb (133N) force shall set door in motion. VIII) Exit Signs **FBC 1013** All exit access doors to be marked with an exit access sign. Exit Access
FBC 1016;(NFPA 101.) All required Egress points go directly to the Building exterior without having to go through intervening spaces.

X) Exit Access Travel Distance FBC Table 1017.2; NFPA 101; 36.2.6.1 Maximum Travel Distance to an Exit Permitted Actual Maximum Travel Distance to Exit Door XI) <u>Exit Discharge</u> FBC 1028.1; NFPA 101; 36.2.7 All required Exits are continuous and discharge directly to the Building exterior. MINIMUM PLUMBING FIXTURE COUNT FBC TABLE 403.1 Mercantile Group M
Occupant Count = 304 Male: 152 152 Female: Water Closets. 1 per 500 Male/Female: 1 per 750 Male/Female; Lavatories: Drinking Fountains: 1 per 1,000; Service Sink = MINIMUM PLUMBING FIXTURES COUNTY WATER CLOSETS LAVATORIES SERVICE SINKS Required Provided Required Provided Required Provided Provided Provided 2 Urinals 4 Note: The NUMBER OF Water Closets provided for Male/Female will serve a population of  $(8 \times 500) = 4,000$  Occupants. DESIGN PRESSURE / OPENING SCHEDULE MANUFACTURER PRODUCT APPROVAL STEEL CRAFT 49 53.6 STEELCRAFT 01-1203.11 01-1203.11 49 53.6 STEELCRAFT 49 53.6 STEELCRAFT 49 53.6 STEELCRAFT 01-1203.11 49 53.6 STEELCRAFT 01-1203.11 90 90 YKK 90 90 CORNELL FL 14218.6 FL 17419 NOA NO. 16-0518.05 STANDING SEAM 70 ENGLERT SERIES 2000 Design No. U905 Bearing Wall Rating — 2 HR. Nonbearing Wall Rating - 2 HR 3/4"

Load Restricted for Canadian Applications — See Guide BXUV7 1. Concrete Blocks\* — Various designs. Classification D-2 (2 hr). See Concrete Blocks category for list of eligible manufacturers. less than 2-1/4 and not more than 3-1/2 parts of clean sharp sand to 1 part Portland cement (proportioned by volume) and not more than 50 percent hydrated lime (by cement volume). Vertical joints staggered B. Portland Cement Stucco or Gypsum Plaster — Add 1/2 hr to classifi cation if used. Where combustible members are framed in wall, plaster or stucco must be applied on the face opposite framing to achieve a max. Classification of 1-1/2 hr. Attached to concrete blocks (Item 1). 4. Loose Masonry Fill — If all core spaces are filled with loose dry expanded slag, expanded clay or shale (Rotary Kiln Process), water repellant vermiculite masonry fill insulation, or silicone treated perlite loose fill insulation add 2 hr to classification. 5. Foamed Plastic\* — (Optional-Not Shown) — 1-1/2 in. thick max, 4 ft wide sheathing attached to concrete blocks (Item 1). THE DOW CHEMICAL CO — Type Thermax \*Bearing the UL Classification Mark Design No. U906 Bearing Wall Rating - 2 HR. Nonbearing Wall Rating - 2 HR. Load Restricted for Canadian Applications — See Guide BXUV7 \_\_\_\_\_\_ Horizontal Section 1. Concrete Blocks\* — Nominal 6 by 8 by 16 in, hollow or solid. Classification D-2 (2 hr). ANCHOR CONCRETE PRODUCTS INC GAGNE & SON CONCRETE BLOCK INC Allowable compressive stress of 57% of max allowable compressive stress in accordance with the empirical design method. OLDCASTLE APG NE DBA ARTHUR WHITCOMB WESTBROOK CONCRETE BLOCK CO INC Allowable compressive stress of 75.6% of max allowable compressive stress in accordance with the emptric Orderian method 6 Mortar — Blocks laid in stull bed of mortar, nom, 3/8 in. thick, of not less than 2-1/4 and not more than 3-1/2 parts of clean sharp sand to 1 part Portland cement (proportioned by volume) and not more than 50 percent hydrated lime (by cement volume). Vertical joints staggered. 3. Portland Cement Stucco or Gypsum Plaster — Add 1/2 hr to Classification if used. Attached to concrete blocks (Item 1). 4. Foamed Plastic\* — (Optional-Not Shown) — 1-1/2 in. thick max, 4 ft wide sheathing attached to concrete blocks (Item 1).

THE DOW CHEMICAL CO—Type Thermax \*Bearing the UL Classification Mark

CONCESSIONS ELEC. 103 STORAGE 102 22 x 30 ATTIC ---MAX. TRĂVEL DISTANCE TO AN EXIT = 37 MAX. COMM. PATH OF EGRESS TRAVEL = 25' MALE 105 FEMALE

LIFE SAFETY LEGEND

SURFACE MOUNTED 1 X 4 LED FIXTURE

FIRE EXTINGUISHER (WALL MOUNTED) (TYPE 2-A-10B:C)

WITH INTEGRAL BATTERY PACK

CEILING MOUNTED SENSOR

MAXIMUM TRAVEL DISTANCE

POWER PACK

155ues: No.: Date: Description: 12.04.18 FINAL DOCUMENTS B. PERMIT DRAWINGS 3.26.21 NFPA 101 REVISED 4.15.21 6.7.21 PERMIT COMMENTS 10.03.23 PERMIT RE-SUBMISSIO B.DEPT. RESPONSE / : 10.24.23 03.11.24 BID SET

Project:

Key Plan:

HOBARTPARK

CONCESSION &

RESTROOM

BUILDING

INDIAN RIVER COUNTY, FLORIDA

DONADIO & Associates, Architects P.A A Spiezle Group Inc. Company spieze 2001 9th Avenue, Suite 308

Tel.772.794.2929

Fax.772.562.8600

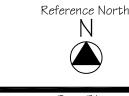
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Consultant:

Architect:

Drawing Title:

LIFE SAFETY PLAN & CODE REVIEW

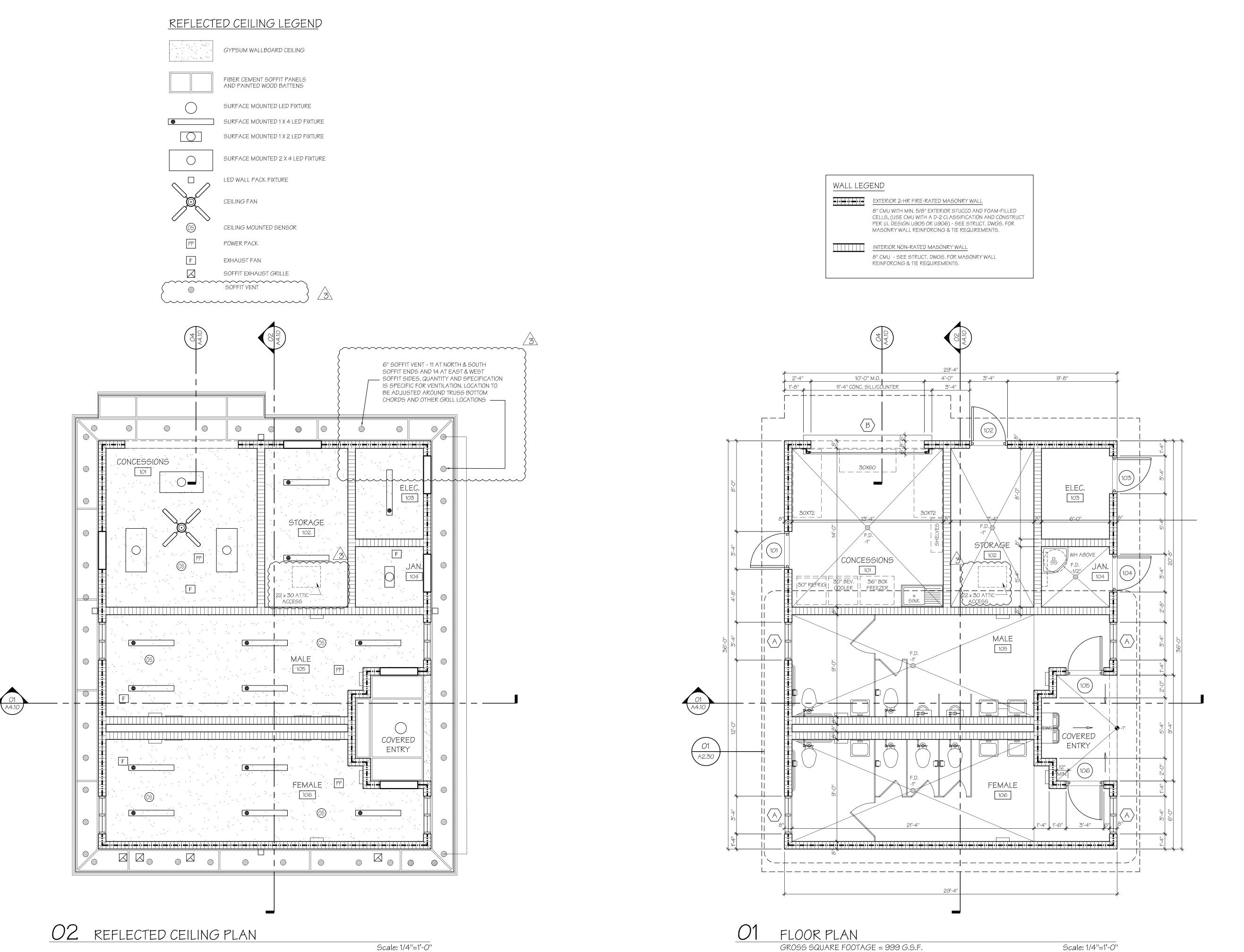


<u>Cert. No.:</u> 12,456 Date Signed:

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

LIFE SAFETY PLAN

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Project:

HOBART PARK

# CONCESSION & RESTROOM BUILDING

INDIAN RIVER COUNTY, FLORIDA

K*e*y Plan:

Issue	es:	
No.:	Date:	Description:
Α.	01.30.18	CLIENT REVIEW
В.	02.20.18	CLIENT REVIEW
C.	02.22.18	CLIENT REVIEW
D.	05.15.18	SPA SUBMISSION
E.	12.04.18	FINAL DOCUMENTS
F.	3.26.21	PERMIT DOCUMENTS
G.	10.04.23	BLDG. PERMIT RESUBMITTA
Н.	10.24.23	B.DEPT. RESPONSE 3
l.	03.11.24	BID SET

Architect:

DONADI

DONADIO & Associates, Architects P.A. A Spiezle Group Inc. Company

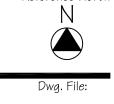
SPIEZLE ARCHITECTURAL GROUP INC.
2001 9th Avenue, Suite 308

Tel.772.794.2929 Fax.772.562.8600

Consultant:

Drawing Title:

FLOOR PLAN & REFLECTED CEILING PLAN



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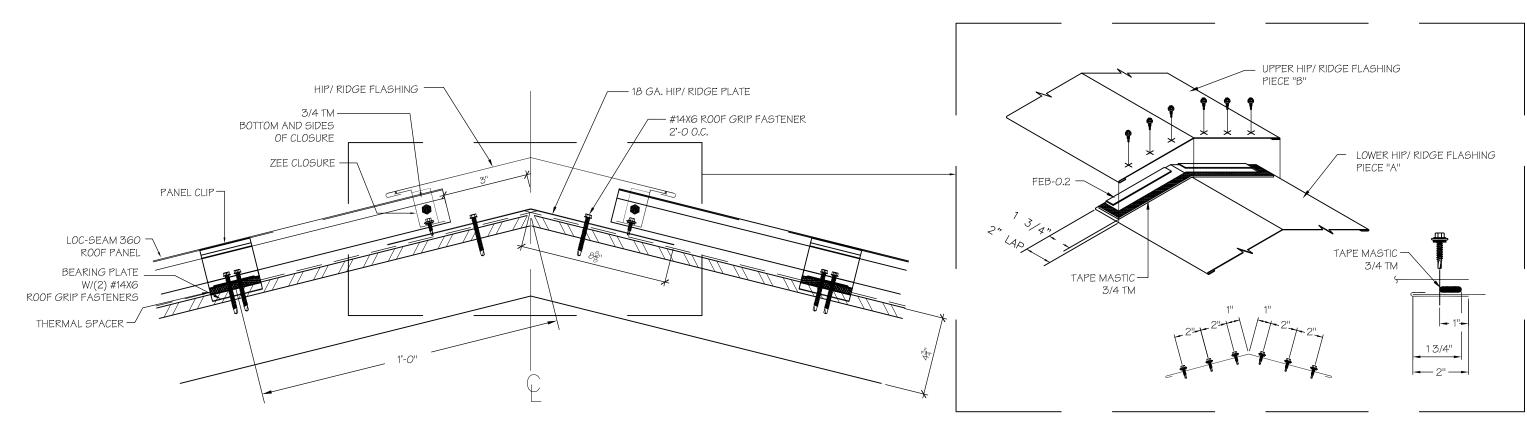
Chd: JEL
A.J.D.
Project No.: Plot File:

2018-04

Cert. No.: 12,456

Date Signed:

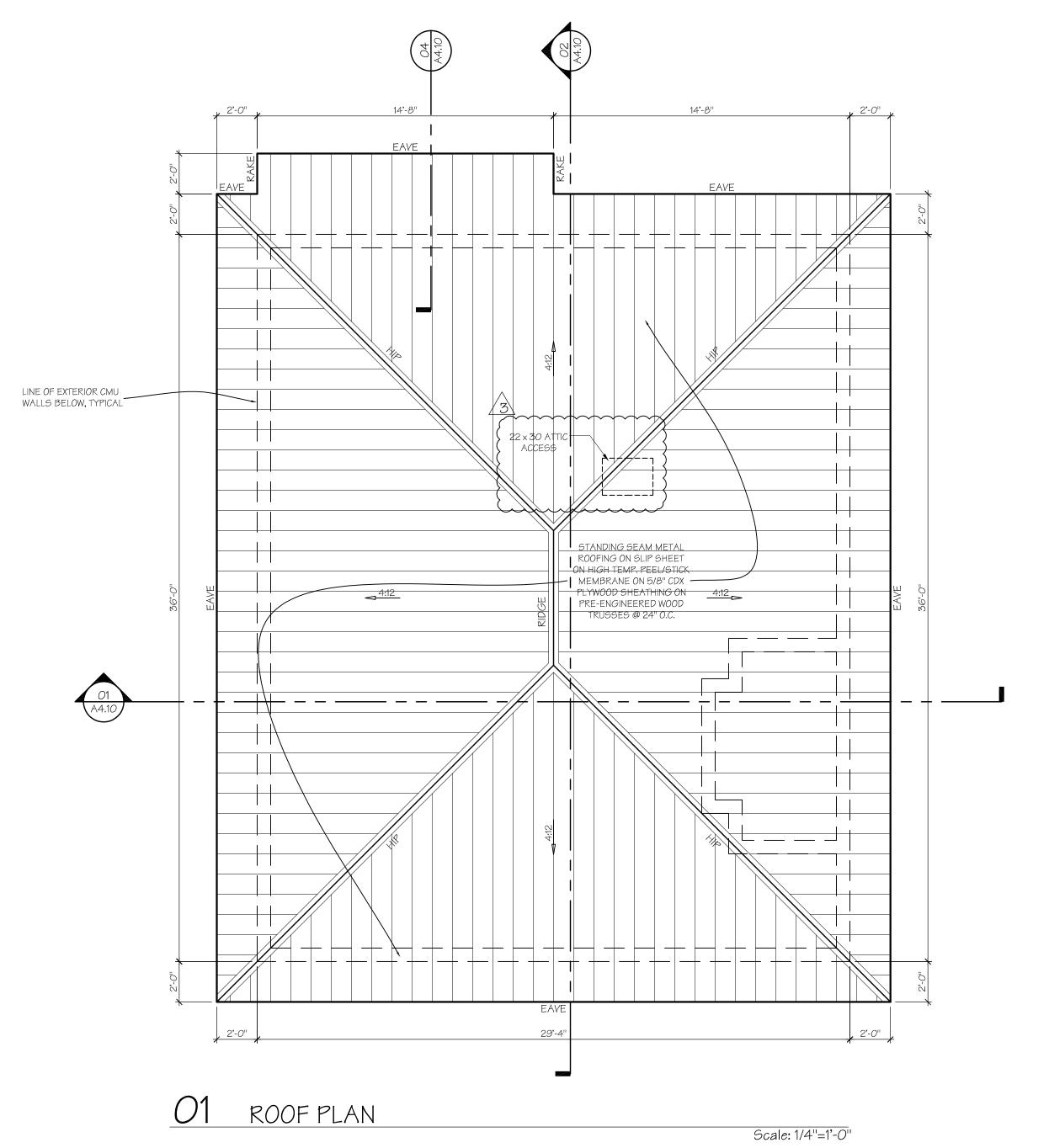
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HOLES MUST BE DRILLED PRIOR TO APPLYING MASTIC. TEMPORARILY LAP PIECE "B" OVER PIECE "A". PRE-DRILL THE REQUIRED NUMBER OF 1/4"Ø HOLES THROUGH BOTH PIECES OF RIDGE FLASHING BUT NOT BACKUP FLASHING. SLIDE PIECE "B" BACK AND APPLY TAPE MASTIC AND BACKUP FLASHING ON PIECE "A" AS SHOWN. LAP PIECE "B" OVER PIECE "A" BEING CAREFUL TO ALIGN HOLES. INSTALL ROOF FASTENERS AS SHOWN. CONTINUE PROCESS ALONG HIP.

### 02 TYPICAL HIP/RIDGE DETAIL

SCALE: N.T.S.



HOBART PARK

# CONCESSION & RESTROOM BUILDING

INDIAN RIVER COUNTY, FLORIDA

Key Plan:

Issue	es:	
No.:	Date:	Description:
Α.	12.04.18	FINAL DOCUMENTS
В.	3.26.21	PERMIT DOCUMENTS
G.	10.03.23	PERMIT RE-SUBMITTAL
Н.	10.24.23	B.DEPT. RESPONSE 3
Ī.	03.11.24	BID SET

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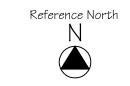
2001 9th Avenue, Suite 308 Vero Beach, FL 32960

Tel.772.794.2929 Fax.772.562.8600 License No. AA0002238 www.spiezle.com

Consultant:

Drawing Title:

ROOF PLAN & ROOF DETAILS



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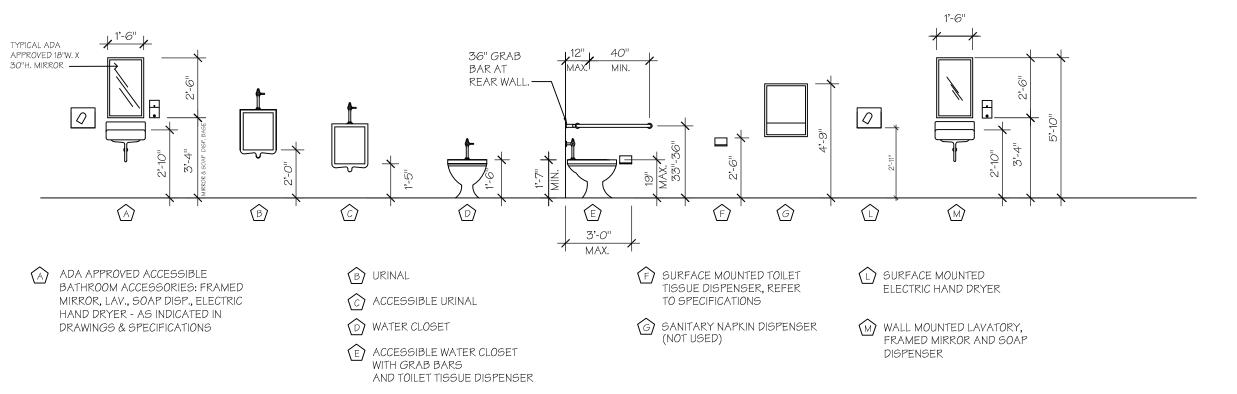
Chd: S.M.
A.J.D.
Project No.: Plot File:
2018-04

Cert. No.: 12,456

Date Signed:

A2.20

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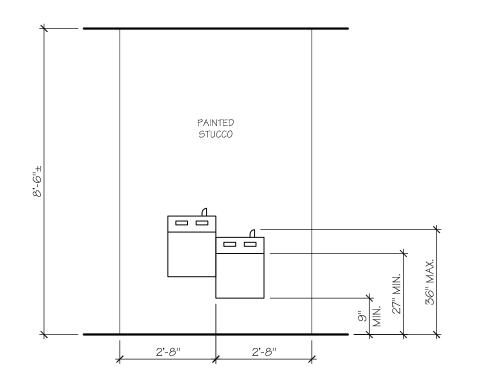
#### GENERAL NOTES:

- REFER TO FIXTURE AND ACCESSORY LEGEND FOR MOUNTING HEIGHTS (THIS SHEET) PROVIDE SURFACE MOUNTED TOILET TISSUE DISPENSER IN ALL TOILET STALLS.
- GROUT AROUND ALL WALL PENETRATIONS AFTER INSTALLATION OF RESTROOM FIXTURES AND
- EQUIPMENT, AND PROVIDE CAULKING AS NECESSARY.

  4. LOCATE SHUT-OFF VALVES ACCESS PANELS UNDERNEATH LAVATORY COUNTERS. PAINT TO MATCH WALL TILE FINISH AND CAULK PERIMETER OF PANEL (COLOR TO MATCH GROUT.)
- 9. CONTRACTOR SHALL CAULK PERIMETER OF TOILET ACCESSORIES. 10. HOT WATER AND DRAIN PIPES UNDER LAVATORIES OR SINKS SHALL BE INSULATED OR OTHERWISE PROTECTED. THERE SHALL BE NO SHARP OR ABRASIVE SURFACES UNDER
- LAVATORIES OR SINKS. 11. THE STRUCTURAL STRENGTH OF GRAB BARS AND SHOWER SEATS SHALL BE DESIGNED AND SUPPORTED AS TO WITHSTAND A LOAD OF NOT LESS THAN 250 POUNDS APPLIED AT ANY POINT, DOWNWARD OR HORIZONTALLY.
- 12. ALL TOILET PARTITIONS ARE TO BE 6'-10" A.F.F. TO TOP OF HEADRAIL, 5'-10" A.F.F. TO THE TOP
- OF PANEL AND 1'-O" A.F.F. TO THE BOTTOM OF PANEL.

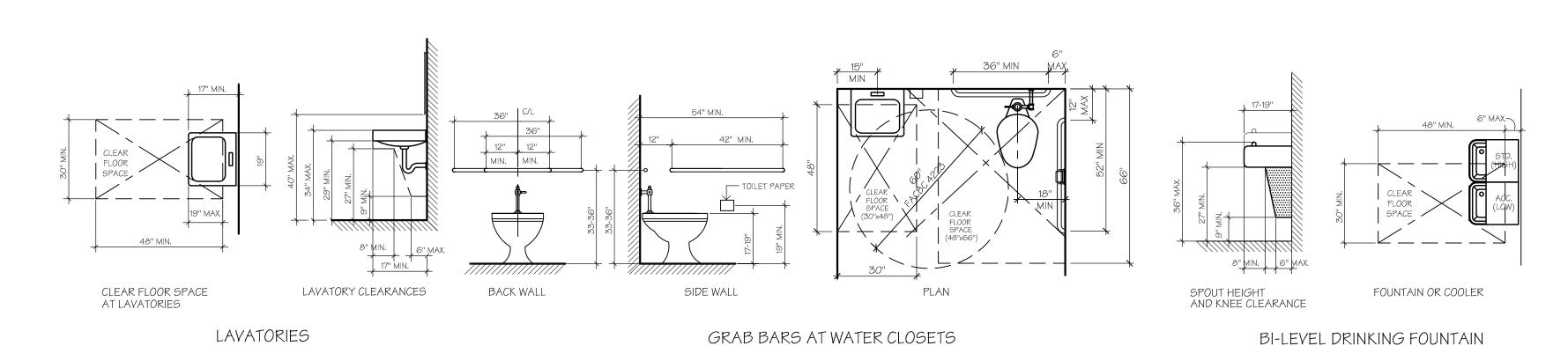
  13. PRIVACY PANELS BETWEEN URINALS TO BE 4'-8" A.F.F. TO THE TOP OF PANEL AND 1'-2" A.F.F.

### 02 TYPICAL TOILET FIXTURE VERTICAL DIMENSIONS AND ACCESSORY LEGEND

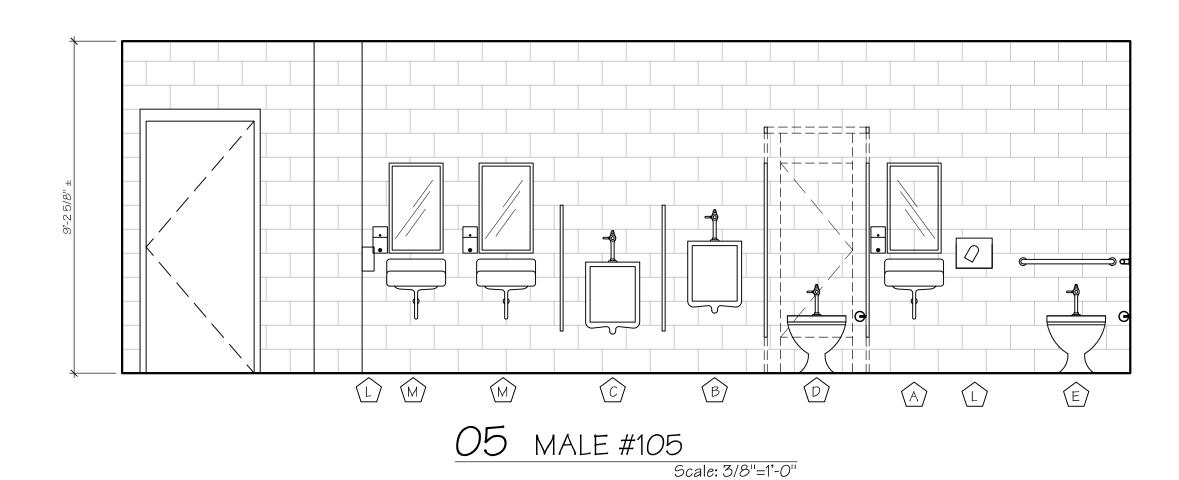


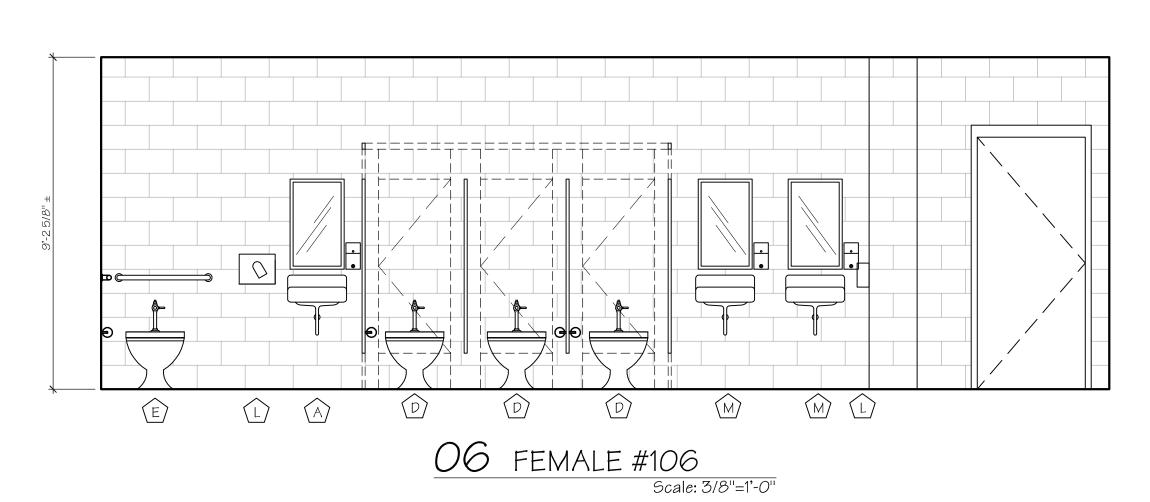
03 WATER COOLER ELEVATION

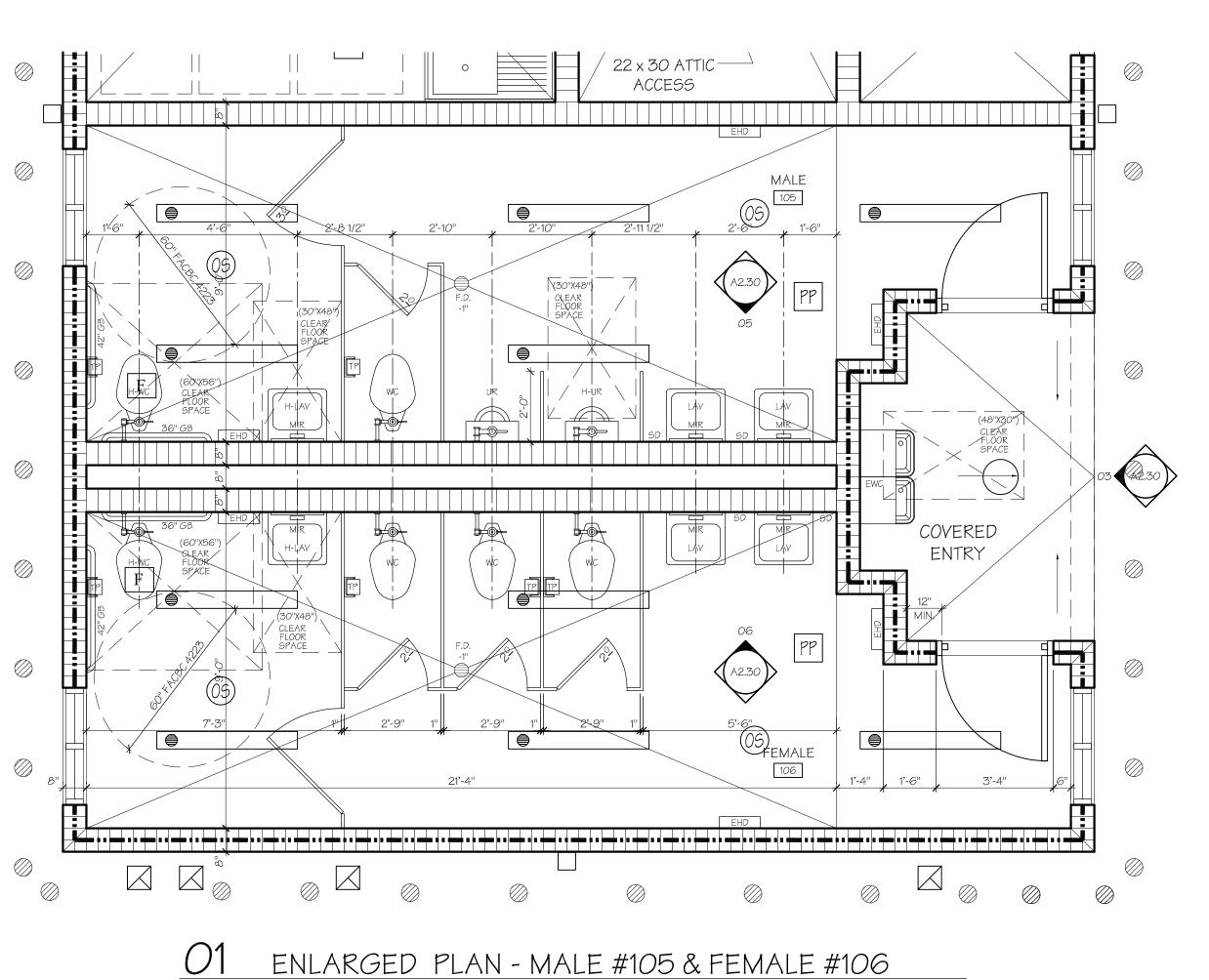
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04 ADA DETAILS







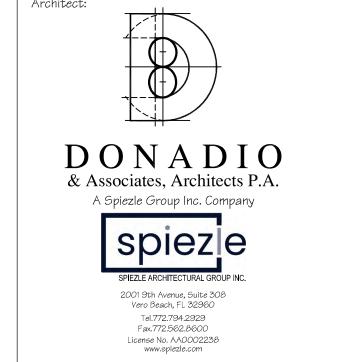
HOBARTPARK

### CONCESSION & RESTROOM BUILDING

INDIAN RIVER COUNTY, FLORIDA

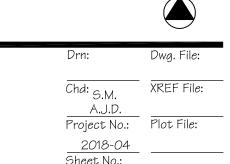
K*e*y Plan:

No.:	Date:	Description:
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В.	3.26.21	PERMIT DOCUMENTS
C.	03.11.24	BID SET

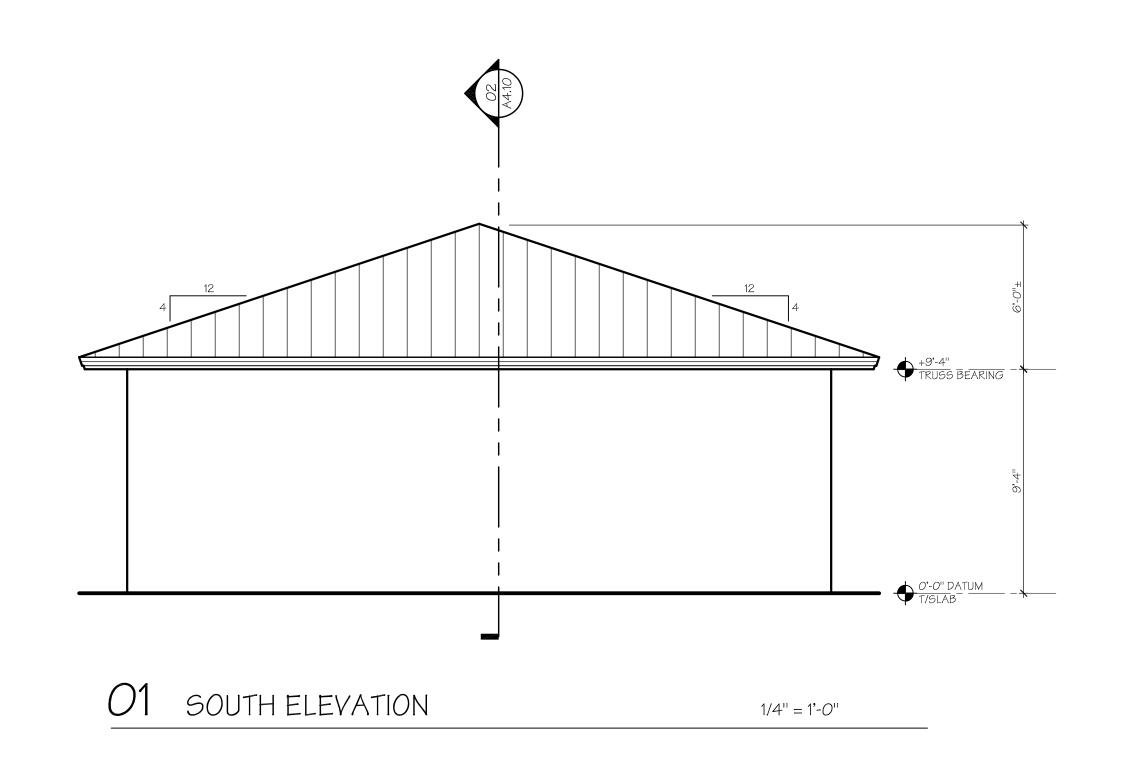


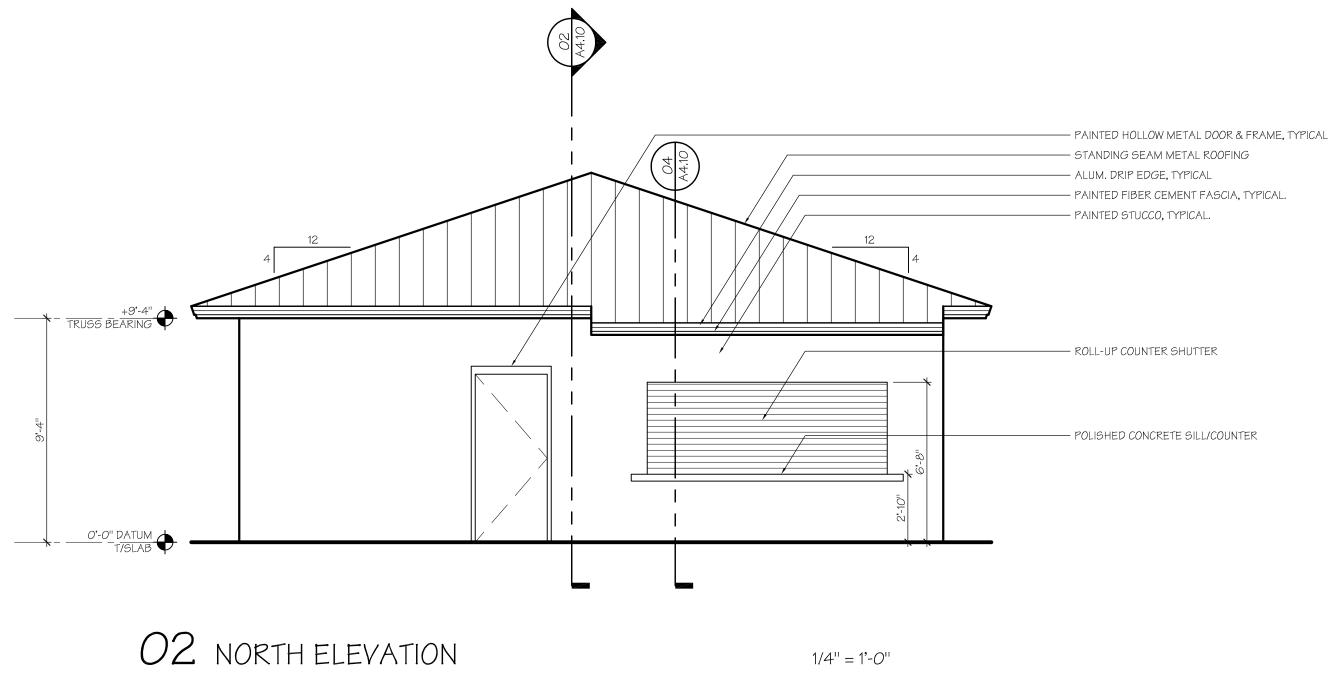
Consultant:

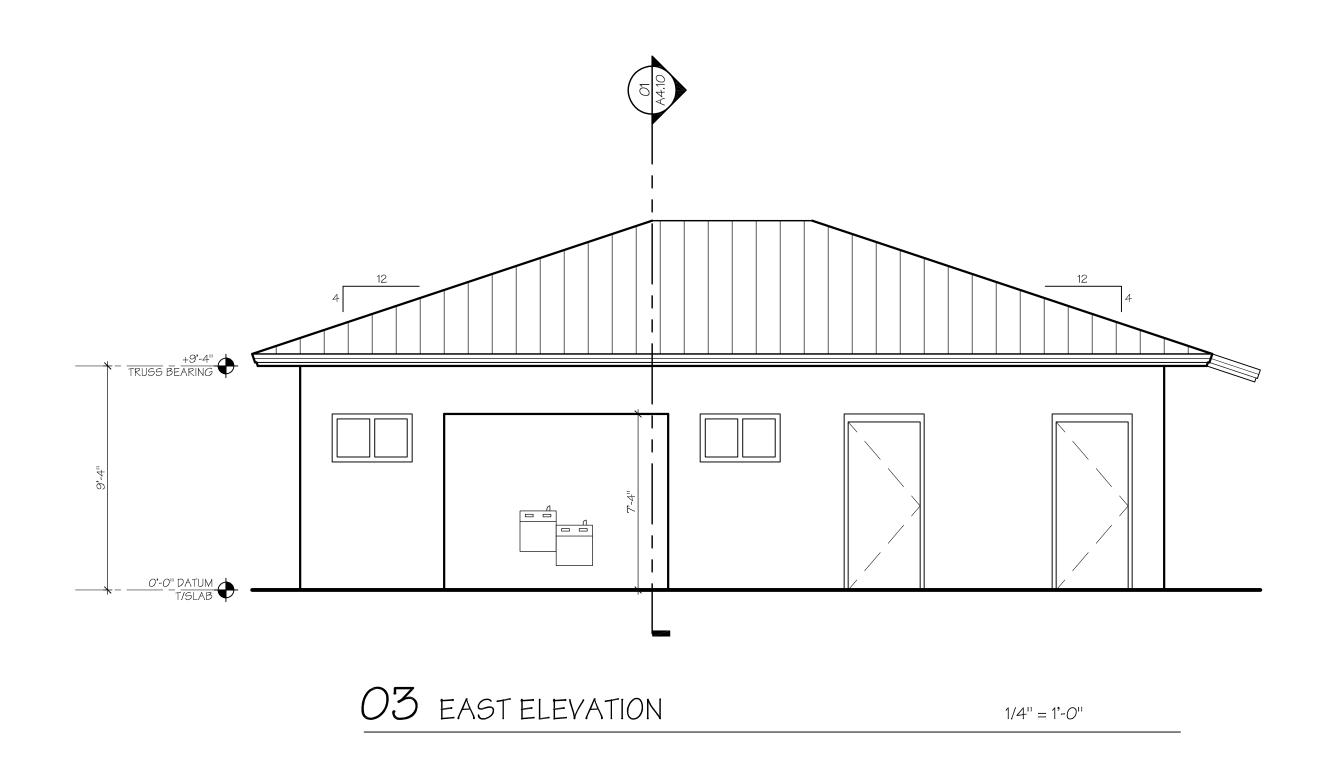
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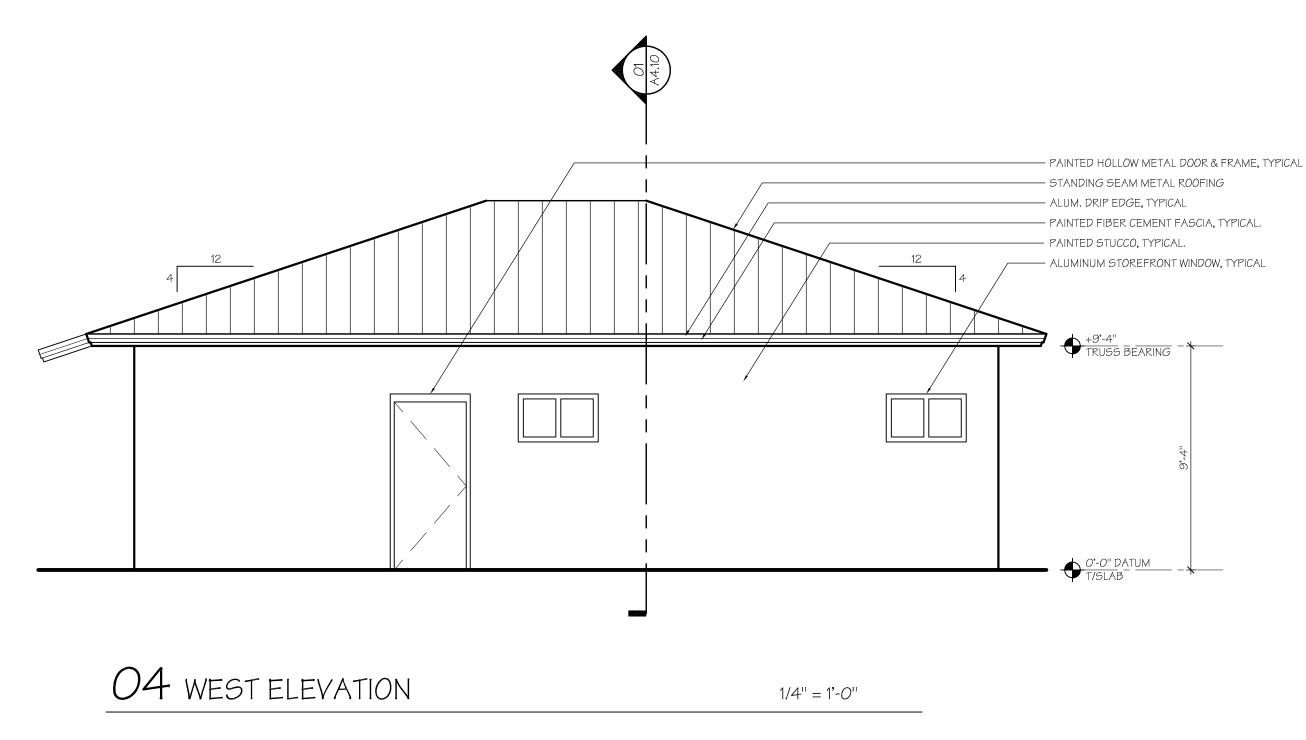


Cert. No.: 12,456 Date Signed:









Project:

HOBART PARK

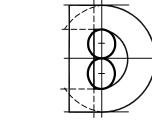
# CONCESSION & RESTROOM BUILDING

INDIAN RIVER COUNTY, FLORIDA

Key Plan:

Issue	26:	
No.:	Date:	Description:
Α.	01.30.18	CLIENT REVIEW
В.	05.15.18	SPA SUBMISSION
C.	12.04.18	FINAL DOCUMENTS
D.	3.26.21	PERMIT DOCUMENTS
E.	03.11.24	BID SET

Architect



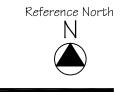
DONADIO & Associates, Architects P.A.



Consultant:

Drawing Title:

EXTERIOR ELEVATIONS



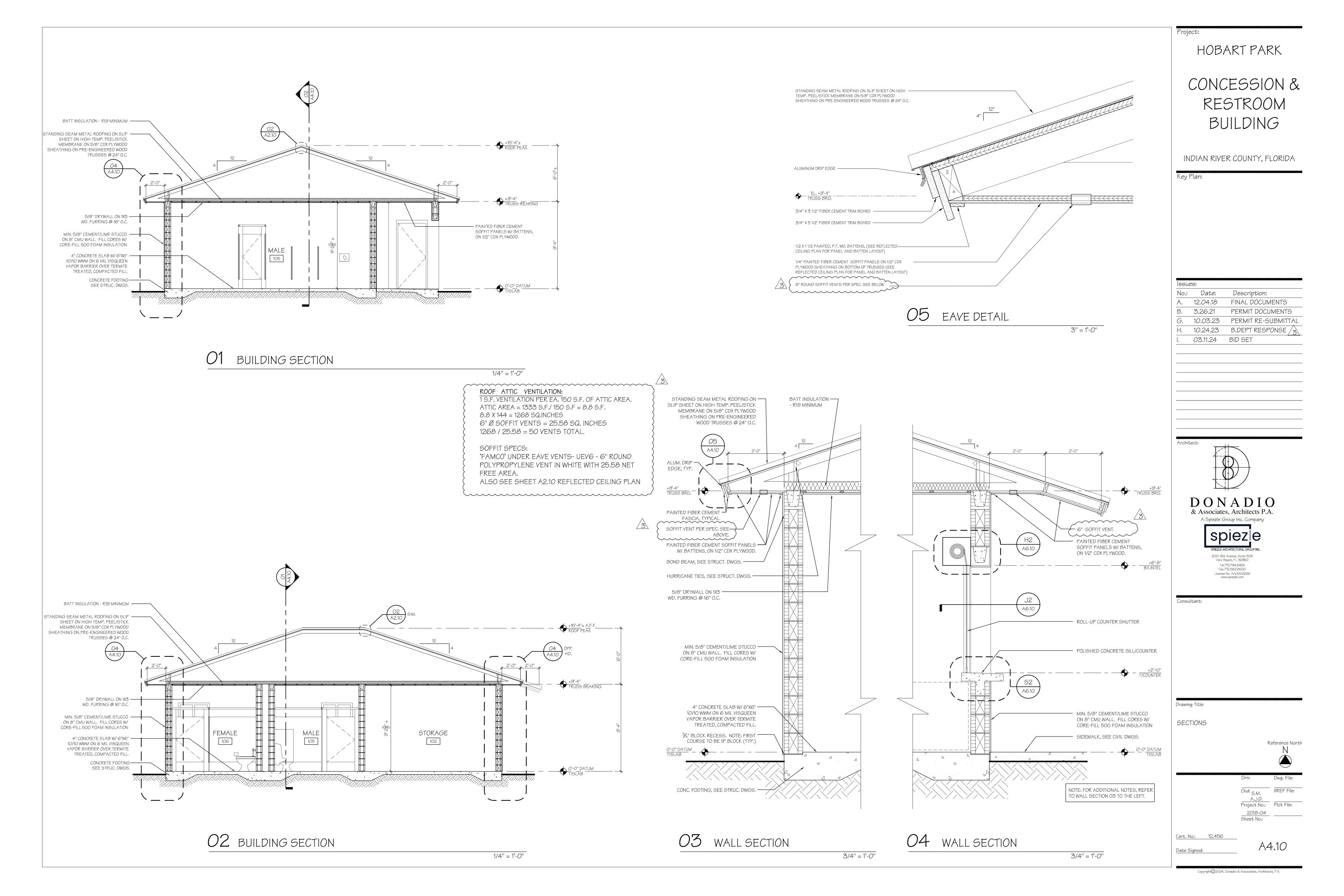
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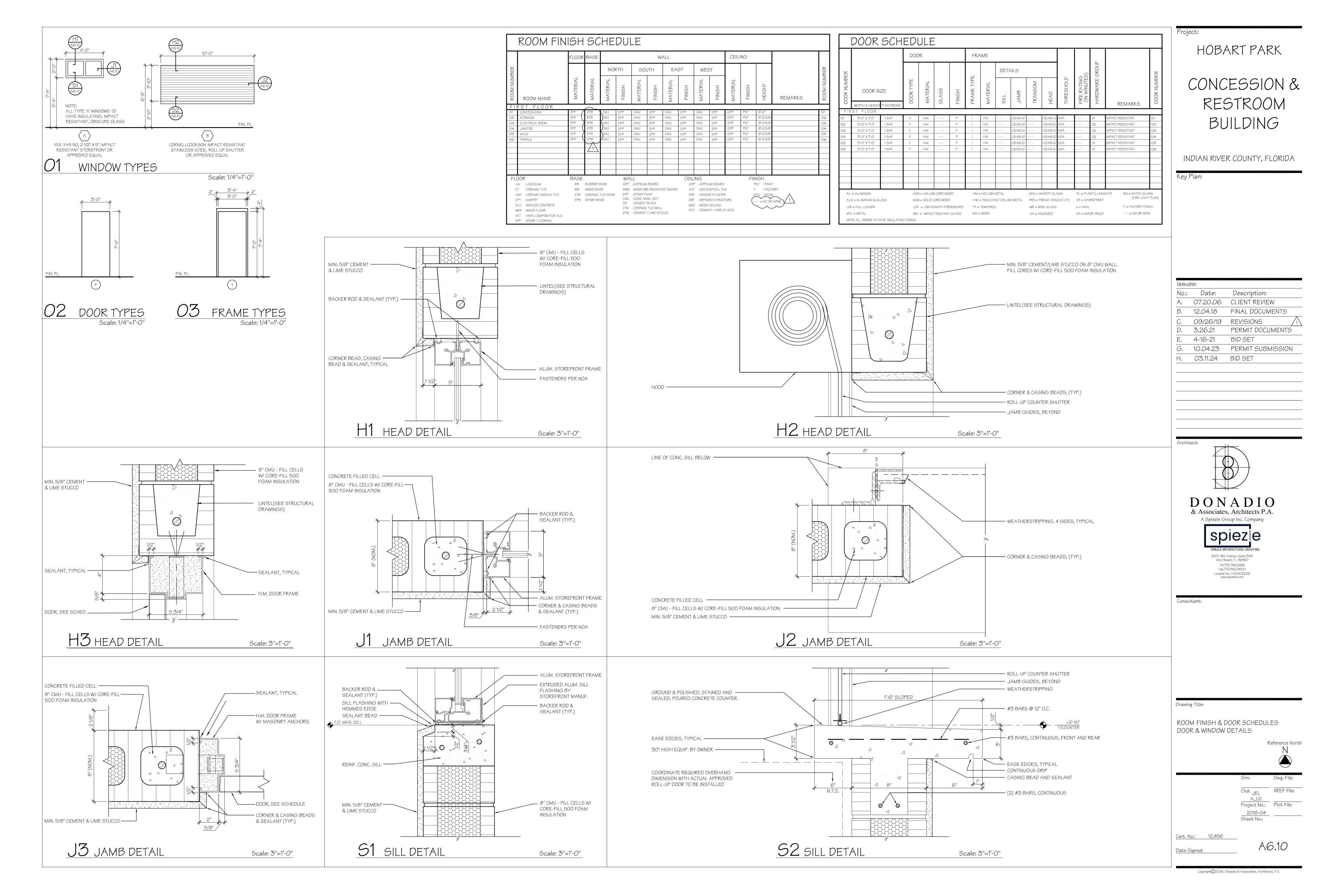
Chd: S.M.
A.J.D.
Project No.: Plot File:
2018-04
Sheet No.:

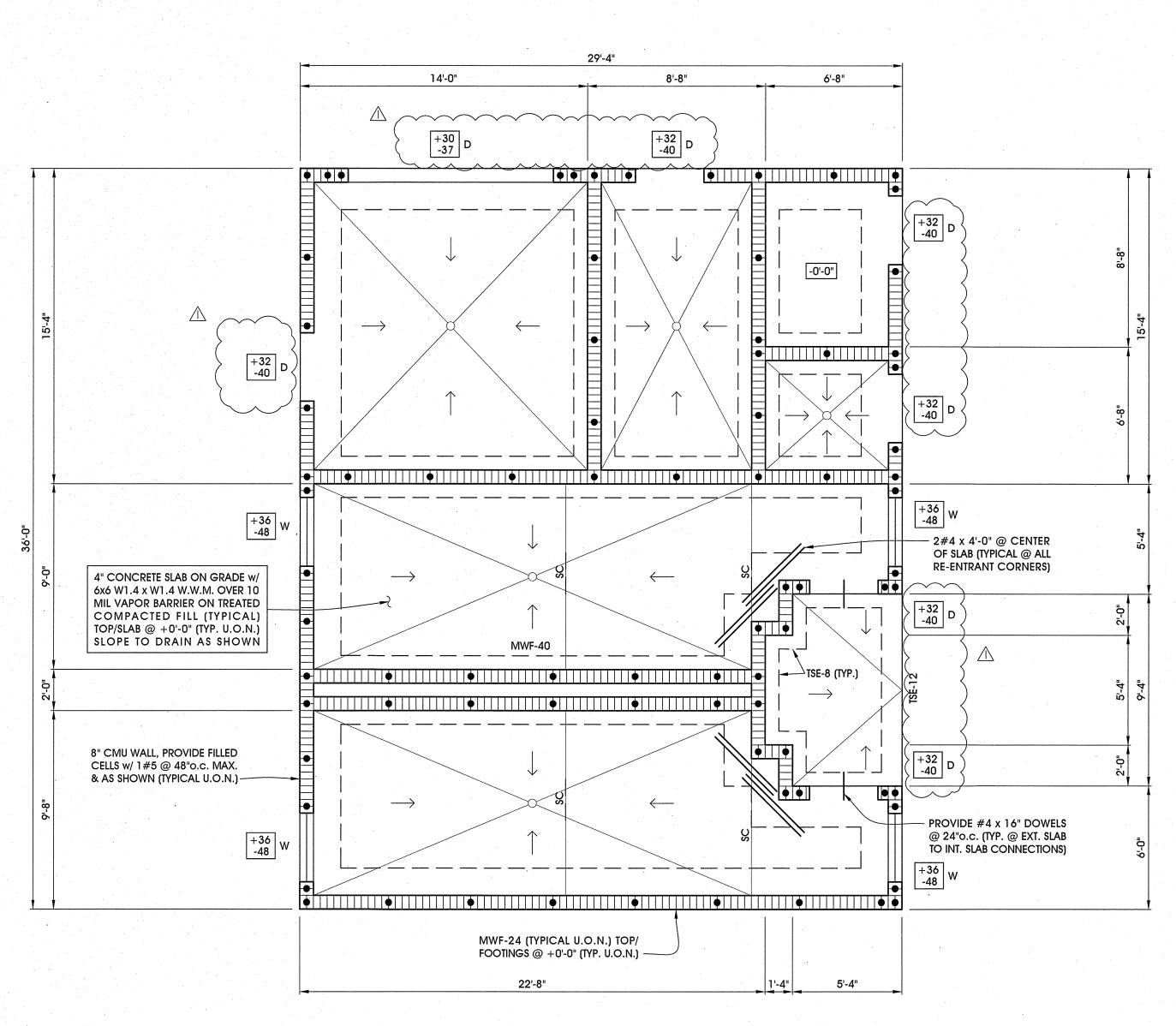
Cert. No.: 12,456

Date Signed:

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**FOUNDATION PLAN** ½" = 1'-0"

#### NOTES:

- 1. ALL ELEVATIONS REFER TO TOP OF MAIN FIRST FLOOR SLAB @+0'-0" (SEE SITE PLAN FOR ACTUAL ELEVATION). 2. CONTRACTOR SHALL COORDINATE STRUCTURAL WORK WITH ARCHITECTURAL, MECHANICAL, PLUMBING & ELECTRICAL DRAWINGS FOR VERIFICATION OF LOCATIONS & DIMENSIONS OF ALL PROJECT REQUIREMENTS, ANY DISCREPANCIES SHALL BE CALLED TO THE ATTENTION OF THE ARCHITECT OR ENGINEER OF RECORD BEFORE PROCEEDING WITH WORK. 3. ALL DIMENSIONS ARE TO ROUGH OPENING OR CENTERLINE OF STRUCTURE (TYPICAL, UNLESS OTHERWISE NOTED).
- 4. SEE ARCHITECTURAL DRAWINGS FOR ANY DIMENSIONS NOT SHOWN. 5. S.C.: DENOTES 1/8" WIDE x 1" DEEP SAW CUTS IN SLAB AS SHOWN IN PLAN, TO BE MADE AS SOON AS THE CONCRETE
- HAS HARDENED SUFFICIENTLY ENOUGH TO PREVENT THE AGGREGATE FROM BEING DISLODGED BY THE SAW BLADE. 6. W.J.: DENOTES 1/2" VERTICAL CMU WALL JOINT AS SHOWN IN PLAN. SEE TYPICAL CMU WALL JOINT DETAIL.

#### LEGEND

- +PSF WINDOW & DOOR DESIGN PRESSURES (ALLOWABLE -PSF | STRESS PSF) (TYPICAL AS SHOWN) SEE COMPONENT & CLADDING PRESSURES FOR DISTANCES OF END ZONES FOR EACH BUILDING D - DOOR W - WINDOW
- RW ROLL UP WINDOW C1) CONCRETE OR CMU COLUMN AS SHOWN

#### ROOF FRAMING PLAN

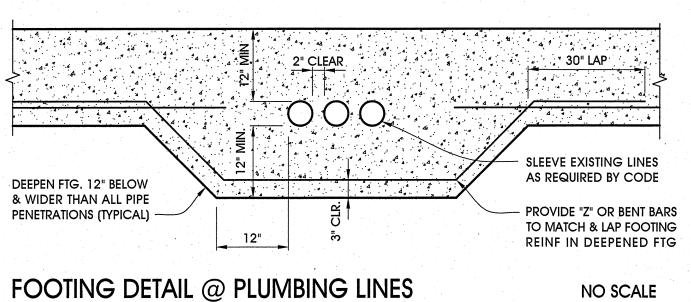
2'-0" O.H. (TYP)

- 1. ALL ELEVATIONS REFER TO TOP OF MAIN FIRST FLOOR SLAB @+0'-0" (SEE SITE PLAN FOR ACTUAL ELEVATION). 2. CONTRACTOR SHALL COORDINATE STRUCTURAL WORK WITH ARCHITECTURAL, MECHANICAL, PLUMBING & ELECTRICAL DRAWINGS FOR VERIFICATION OF LOCATIONS & DIMENSIONS OF ALL PROJECT REQUIREMENTS. ANY DISCREPANCIES SHALL BE CALLED TO THE ATTENTION OF THE ARCHITECT OR ENGINEER OF RECORD BEFORE PROCEEDING WITH WORK.
- 3. ALL DIMENSIONS ARE TO ROUGH OPENING OR CENTERLINE OF STRUCTURE (TYPICAL, UNLESS OTHERWISE NOTED). 4. SEE ARCHITECTURAL DRAWINGS FOR ANY DIMENSIONS NOT SHOWN.

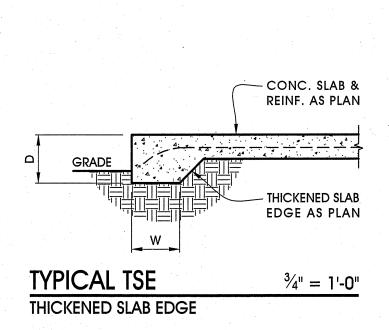
#### LEGEND

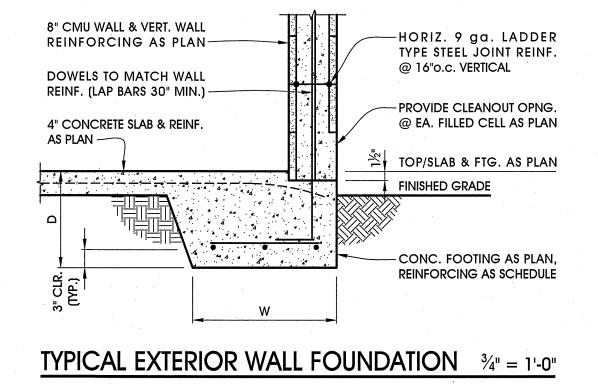
5'-4"

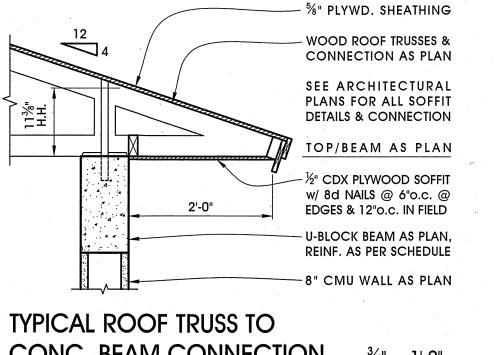
- (1) CONNECTOR DESIGNATIONS AS SHOWN, SEE SCHEDULE
- RT: WOOD ROOF TRUSS
- HT: WOOD ROOF HIP TRUSS GT: WOOD ROOF GIRDER TRUSS



FOOTING DETAIL @ PLUMBING LINES







29'-4"

RT @ 24"o.c. (TYP.)

- %" CDX PLYWD.

SHEATHING (TYP.) -

22'-8"

8'-8"

SL 4:12 (TYP.)

B-2 (TYP. U.O.N.) TOP/BEAMS @ +9'-4" (TYPICAL U.O.N.)— 6'-8"

14'-0"

B-2 (+9'-4")

B-1 (+8'-0" OVER - ROLL-UP WINDOW) -

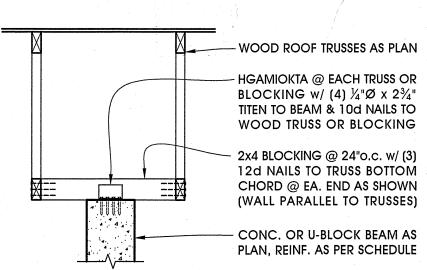
(2) TYPICAL GT CONN. TO CONC. BEAM (U.O.N.) SEE CONN. SCHEDULE

(1) Typical RT Conn. To

CONC. BEAM (U.O.N.)

SEE CONN. SCHEDULE

TYPICAL ROOF TRUSS TO CONC. BEAM CONNECTION  $\frac{3}{4}$ " = 1'-0"



TYPICAL NON-BEARING CMU WALL BRACING DETAIL <sup>3</sup>⁄<sub>4</sub>" = 1'-0"

HOBART PARK

### CONCESSION & **RESTROOM** BUILDING

INDIAN RIVER COUNTY, FLORIDA

Key Plan

Issue		•				-
No.:	Date			cription		
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Consultant:

½" = 1'-0"

VL ENGINEERING, INC. Consulting Structural Engineer 2030 37th Avenue Vero Beach, Florida 32960 Phone: 772.569.1257 Fax: 772.569.4041

DONADIO

& Associates, Architects P.A.

609 17th Street Vero Beach, FL 32960 Tel.772.794.2929 Fax.772.562.8600 License No. AA0002238

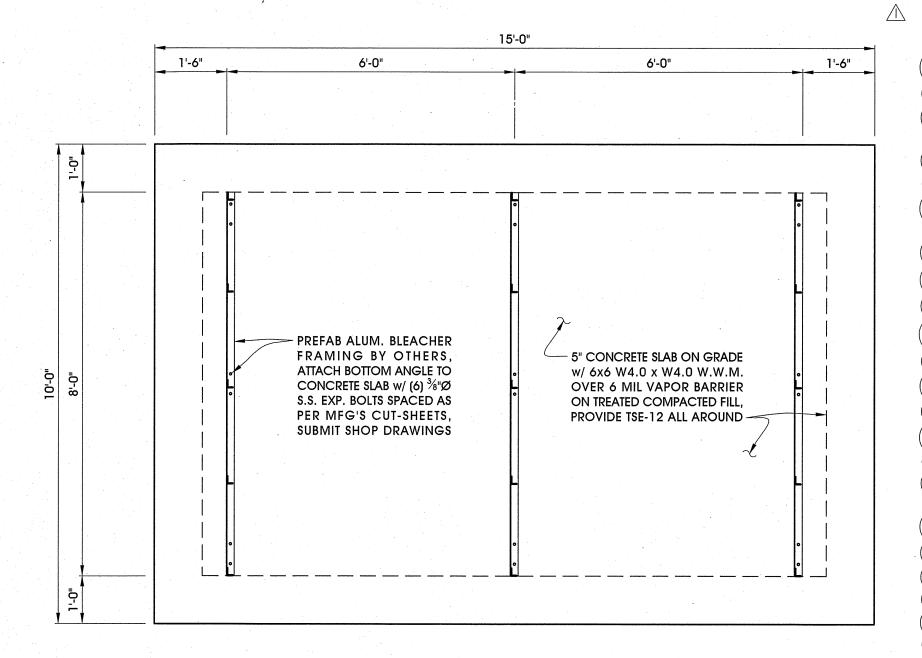
Drawing Title:

FOUNDATION & ROOF FRAMING PLANS, SECTIONS & DETAILS

Reference North

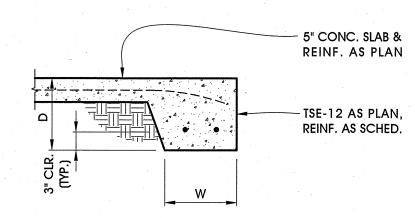
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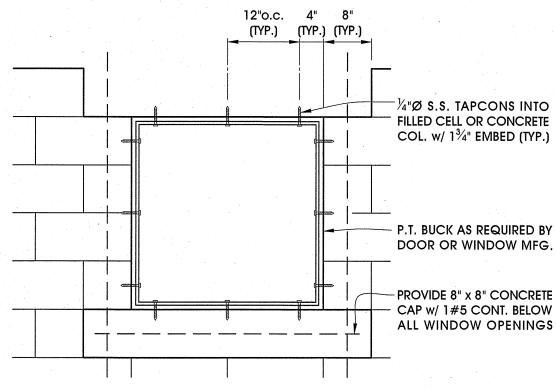
#### BLEACHER FOUNDATION PLAN - TYPICAL x 10

NOTE: SEE BALL FIELD SITE PLANS FOR LOCATIONS



 $\frac{1}{2}$ " = 1'-0"

TYP. SECT. THRU TSE-12 3/4" = 1'-0"

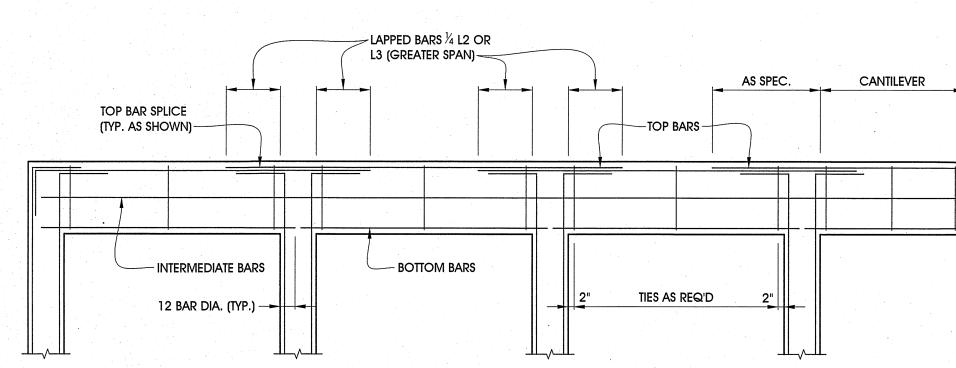


#### **TYPICAL WINDOW & DOOR BUCK ATTACHMENT DETAIL**

1. DOORS & WINDOWS SHALL BE DESIGNED, MANUFACTURED, INSTALLED & CERTIFIED TO WITHSTAND THE MIN. DESIGN WIND PRESSURES AS NOTED IN PLAN & SHALL BE IMPACT RATED.

2. WATERPROOF ALL DOOR & WINDOW PERIMETERS WITH APPLICABLE WATERPROOFING.

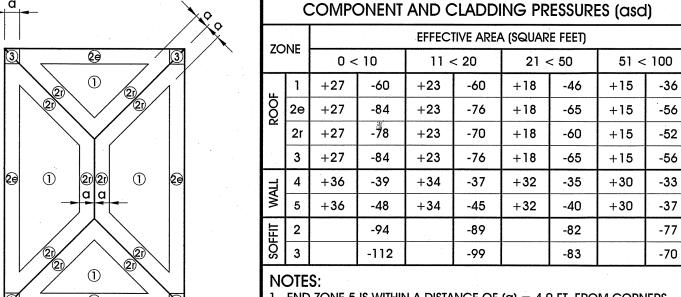
(1) COAT BEFORE INSTALLING BUCKS & (1) COAT AFTER BUCK INSTALLATION.



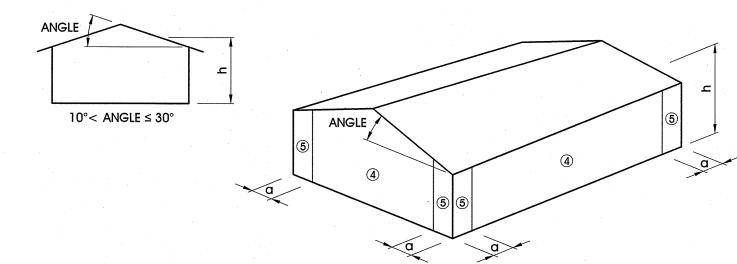
TYPICAL CONCRETE BEAM REINFORCING DIAGRAM

NO SCALE

 $\frac{3}{4}$ " = 1'-0"



I. END ZONE 5 IS WITHIN A DISTANCE OF (a) = 4.0 FT. FROM CORNERS 2. 160 MPH - EXPOSURE CATEGORY "C" 3. ROOF PITCH 4:12



COMPONENT AND CLADDING PRESSURE ZONES

1. PRESSURES ARE IN ALLOWABLE STRESS DESIGN (asd) FOR WINDOWS, DOORS, ROOFING, DECKING, WOOD TRUSSES AND ALL OTHER BUILDING COMPONENTS AND CLADDING.

2. POSITIVE PRESSURES INDICATE PRESSURES ACTING TOWARD A PROJECTED SURFACE. NEGATIVE PRESSURES INDICATE PRESSURES ACTING AWAY FROM A PROJECTED SURFACE.

3. NET DESIGN ROOF PRESSURES SHALL BE CALCULATED USING SELF WEIGHT OF MATERIAL. HOWEVER, THE APPLIED DEAD LOADS 6. SHALL NOT EXCEED 10 PSF (U.N.O.) FOR THE ROOFS OF THE MAIN STRUCTURES. 4. END ZONE "a" = 4 FEET.

MARK	SIZE	ВОТ	BOT. REINF.		REINF.	REMARKS
VIAKK	DxWxL	L.W.	S.W.	L.W.	S.W.	- KEIVIAKKS
TSE-8	8" x 8" x CONT.	1#5	-			THICKENED SLAB EDGE
TSE-12	12" x 12" x CONT.	2#5			-	THICKENED SLAB EDGE
MWF-24	18" x 24" x CONT.	3#6	#5 @ 24"			MONOLITHIC WALL FOOTING
MWF-40	18" x 40" x CONT.	4#6	#5 @ 24"			MONOLITHIC WALL FOOTING
					-	: , , , , , , , , , , , , , , , , , , ,

				CON	<b>ICRE</b>	ETE B	EAM SCHEDUI	LE
	NANDIZ	ELEV.	SIZE	REIN	NFORC	ING	TIES	DEMANDIC.
	MARK	@ TOP	W" x D"	TOP	MID	ВОТ	SIZE & SPACING	- REMARKS
	B-1	AS PLAN	8 x 8	1#5				1 COURSE U-BOND BLOCK
-	B-2	AS PLAN	8 x 16	1#5		1#5		2 COURSE U-BOND BLOCK
	B-3	AS PLAN	8 x 24	1#5	1#5	1#5		3 COURSE U-BOND BLOCK

EACH END (TYPICAL U.O.N.)

. PROVIDE STANDARD HOOK ON TOP BARS AT DISCONTINUOUS BEAM ENDS. PROVIDE CORNER BARS AT BEAM CORNERS 8 INTERSECTIONS TO MATCH BEAM REINFORCING. . PROVIDE PRECAST LINTELS 8F16-1B w/ 1#5 bar @ all window, door & louver openings w/ 8" minimum bearing

ACI S	TAN	DARD	HO	OK LE	NGTI	HS		LAP S	SPLIC	E LEN	IGTH	S (30	00 PS	SI)	
BAR SIZE (#)	3	4	5	6	7	8	9	BAR SIZE (#)	3	4	5	6	7	8	
LENGTH (INCH)	6	8	10	12	14	16	19	TOP BARS	28"	37"	47"	56"	81"	93"	10
								ALL OTHER BARS	18"	24"	30"	36"	42"	48"	5

	TRUSS CO	NNEC	CTOR	SCHEDULE
MARK	HARDWARE	UPLIFT (LBS.)	CAP. (LBS)	REMARKS
1)	(1) HETA 20	1600	1810	TYPICAL WOOD TRUSS TO CONCRETE
2	(2) HETA 20	2000	2500	TYPICAL GIRDER TRUSS TO CONCRETE
- 3				
				•

. ALL CONNECTORS ARE BY SIMPSON STRONG-TIE (TYPICAL U.O.N.). INSTALL WITH MAXIMUM NAILS, BOLTS, SCREWS AS PER MANUFACTURER'S SPECIFICATIONS. 2. OFFSET MULTIPLE CONNECTORS TO OFFSET NAILING AND PREVENT SPLITTING OF WOOD. DO NOT BOLT THRU GUSSET PLATES.

3. REFER TO TRUSS MANUFACTURER DRAWINGS FOR TRUSS TO TRUSS CONNECTIONS (TYPICAL U.O.N.). 4. PROVIDE VERTICAL STUD UNDER TRUSSES IN METAL STUD WALLS (TYPICAL).

**DESIGN CRITERIA** 

THE FLORIDA BUILDING CODE, 7th EDITION (2020) ROOF LOADS DEAD . 20 PSF WIND LOADS PER ASCE 7-16

WIND BORNE DEBRIS REGION ENCLOSED STRUCTURE BUILDING RISK CATEGORY. BUILDING DESIGN HEIGHT. .<20 FT. ROOF PITCH . INTERNAL PRESSURE COEFF . ±0.18 EXPOSURE . HEIGHT & EXPOSURE COEFF.

#### STRUCTURAL NOTES

WIND SPEED REGION V(uit) .

CONTRACTOR SHALL VERIFY ALL DIMENSIONS IN THE FIELD AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES PRIOR TO CONSTRUCTION.

ALL CONSTRUCTION SHALL BE BRACED AND SHORED BY THE CONTRACTOR AS REQUIRED TO SAFELY PERFORM THE WORK. ALL DOORS, WINDOWS AND HARDWARE MUST BE DESIGNED AND CERTIFIED TO WITHSTAND THE DESIGN WIND PRESSURES

NOTED IN THIS DOCUMENT AND SHALL BE IMPACT RESISTANT AS REQUIRED BY THE FLORIDA BUILDING CODE.

4. THE MINIMUM STRUCTURAL SUBMITTALS SHALL BE AS PER SPECS AND AS FOLLOWS:

160 MPH

. 124 MPH

- a. CONCRETE MIX DESIGNS b. MASONRY & ACCESSORIES
- c. REINFORCEMENT
- d. PRE-ENGINEERED WOOD TRUSSES ...... SIGNED & SEALED

#### **FOUNDATION**

 FOUNDATIONS ARE DESIGNED BASED ON AN ALLOWABLE BEARING PRESSURE OF 2,000 PSF. 2. CONTRACTOR SHALL VERIFY THAT THE MINIMUM COMPACTION OF 95% OF ITS MODIFIED PROCTOR IN ACCORDANCE WITH

ASTM D1557 IS OBTAINED PRIOR TO FOOTING PLACEMENT 3. FOOTINGS SHALL BE PLACED ON COMPACTED SOIL FREE OF ORGANIC DEBRIS.

4. REFER TO SOILS INVESTIGATIVE REPORT BY KSM ENGINEERING & TESTING REPORT NO. 181813-b FOR ALL SITE PREPARATION REQUIREMENTS.

#### CONCRETE

NO SCALE

1. CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITIONS OF A.C.I. 301 "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS" AND A.C.I. 318 BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE.

2. THE MINIMUM CONCRETE 28 DAY COMPRESSIVE STRENGTHS SHALL BE AS FOLLOWS: FOUNDATIONS. . 3000 PSI SLUMP 5"±1" SLAB ON GRADE . . 3000 PSI SLUMP 5"±1" COLUMNS & BEAMS . .. 3000 PSI SLUMP 5"±1"

MASONRY GROUT. .. 3000 PSI SLUMP 10"±1" REINFORCING STEEL SHALL BE IN ACCORDANCE WITH ASTM A615 GRADE 60.

WELDED WIRE FABRIC SHALL BE IN ACCORDANCE WITH ASTM A185 AND SHALL BE ADEQUATELY SUPPORTED AT 36" o.c. E.W.

5. THE MINIMUM CONCRETE COVERAGES SHALL BE AS FOLLOWS: CAST AGAINST EARTH....3" EXPOSED TO WEATHER.... 1-1/2" FORMED SURFACES....1

PROVIDE 90° CORNER LAP SPLICES AT ALL INTERSECTIONS. THE MINIMUM LAP SPLICE SHALL BE 30 BAR DIAMETERS OR AS NOTED IN SCHEDULE,

8. CONCRETE SHALL BE TESTED BY AN INDEPENDENT TESTING LABORATORY IN ACCORDANCE WITH ASTM C39, A MINIMUM OF (5) TEST CYLINDERS SHALL BE TAKEN FOR EACH POUR, AND ADDITIONAL SETS FOR EVERY 50 CUBIC YARDS OF POUR. CYLINDERS SHALL BE TESTED AS FOLLOWS:

1 AT 3 DAYS, 1 AT 7 DAYS, 1 AT 14 DAYS, 1 AT 28 DAYS & 1 AT 56 DAYS (IF THE MINIMUM STRENGTH IS NOT MET IN 28 DAYS) CONTRACTOR SHALL PROVIDE SAW CUTS IN SLABS ON GRADE AS PLAN OR AT A MAXIMUM SPACING OF 20'-0" o.c. EACH WAY OR 400 S.F. U.O.N. AND AT ALL RE-ENTRANT CORNERS. SAW CUTS SHALL BE 1/4 OF THE SLAB DEPTH AND SHALL BE

PERFORMED AS SOON AS THE CONCRETE HAS HARDENED SUFFICIENTLY ENOUGH TO PREVENT THE AGGREGATE FROM BEING DISLODGED BY THE SAW BLADE. THIS IS AN EFFORT TO CONTROL THE STRESSES, AN INHERENT PROPERTY OF CONCRETE WHICH SOMETIMES RESULTS IN CRACKS, WHICH IS NOT UNCOMMON.

#### **CONCRETE MASONRY**

1. CONCRETE MASONRY WORK SHALL BE IN ACCORDANCE WITH ACI 530.1/ASCE 6/TMS 602, SPECIFICATION FOR CONCRETE MASONRY STRUCTURES AND ACI 530/ASCE 5/TMS 402, BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES. 2. CONCRETE MASONRY UNITS SHALL BE IN CONFORMANCE WITH ASTM C90, GRADE N, TYPE II. MASONRY UNITS SHALL BE

TESTED IN ACCORDANCE WITH ASTM C140 AND SHALL HAVE A MINIMUM NET AREA STRENGTH OF 1900 PSI (F'm = 1500 PSI). 3. GROUT SHALL BE IN CONFORMANCE WITH ASTM C476, COARSE TYPE WITH A 28 DAY COMPRESSIVE STRENGTH OF 3,000 PSI AND A SLUMP OF 9" TO 11".

4. MORTAR SHALL BE IN ACCORDANCE WITH ASTM C270, TYPE S. 5. PROVIDE CLEANOUTS FOR ALL GROUTED CONSTRUCTION AND LIMIT MORTAR PROTRUSIONS TO 1/2" MAX. IN GROUTED CELLS. 6. ALL MASONRY WALLS SHALL BE CONSTRUCTED IN RUNNING BOND WITH 9 GA. LADDER TYPE JOINT REINFORCING SPACED

16"o.c. VERTICALLY. LAP 8" MINIMUM AT ALL CORNERS & SPLICES. 7. PROVIDE PRECAST CONCRETE LINTEL WITH 1#5 HORIZ BAR GROUTED SOLID WITH 8" MINIMUM BEARING AT ALL MASONRY

#### OPENINGS (TYP. UNLESS OTHERWISE NOTED). 8. PROVIDE HOOKED DOWELS IN FOOTINGS AND BEAMS WITH A MINIMUM LAP SPLICE OF 48 BAR DIAMETERS.

SUBMIT TRUSS SHOP DRAWINGS, SIGNED & SEALED, BY A FLORIDA REGISTERED ENGINEER FOR REVIEW PRIOR TO FABRICATION. SHOP DRAWINGS SHALL INCLUDE TRUSS LAYOUT, DESIGN LOADS, TRUSS REACTIONS (DL & LL AND DL & WL) AND ALL OTHER INFORMATION REQUIRED FOR PROPER TRUSS INSTALLATION, ERECTION AND BRACING CRITERIA. DESIGN OF ROOF TRUSSES SHALL BE DESIGNED TO SUPPORT ALL GRAVITY AND UPLIFT LOADS AS PER THE F.B.C.

. ROOF TRUSSES SHALL BE DESIGNED WITH BOTTOM CHORD LATERAL BRACING AT A UNIFORM MINIMUM SPACING OF 6'-0"O.C.

WHERE THERE IS NOT A RIGID CEILING ATTACHED TO TRUSS BOTTOM CHORDS. . ALL ROOF TRUSSES SHALL BE ANCHORED WITH A TRUSS CONNECTOR STRAP AS PER PLAN & SCHEDULE.

4. ROOF SHEATHING SHALL BE A MIN. OF 5/8" CDX SPAN RATED STRUCTURAL PLYWOOD, INSTALLED PERPENDICULAR TO ROOF FRAMING WITH 10d RING SHANK NAILS 4"o.c. AT PANEL EDGES AND 6"o.c. IN THE FIELD. PROVIDE 2x4 BLOCKING AT HIPS AND VALLEYS. SPACE NAILS AT 4"O.C. AT BLOCKING.

5. EXTERIOR PLYWOOD CEILINGS SHALL BE A MIN. OF  $lac{1}{2}$ " CDX SPAN RATED STRUCTURAL PLYWOOD TO ROOF FRAMING WITH 8 d NAILS 4"o.c. AT PANEL EDGES AND 8"o.c. IN THE FIELD.

THE MINIMUM LUMBER GRADES SHALL BE: INTERIOR NON-LOAD BEARING WALLS .....

ALL NAILS SHALL BE COMMON WIRE NAILS. SPACE NAILS IN STRAPS SO AS NOT TO SPLIT WOOD. ALL FASTENERS IN PRESSURE TREATED LUMBER SHALL BE CORROSION RESISTANT.

TRUSS SHOP DRAWINGS & CALCULATIONS SHALL BE SUBMITTED SIGNED AND SEALED FOR REVIEW PRIOR TO FABRICATION.

Project:

HOBART PARK

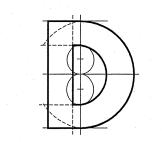
CONCESSION & **RESTROOM** BUILDING

INDIAN RIVER COUNTY, FLORIDA

Key Plan

Issue	es:	
No.:	Date:	Description:
	12.04.2018	FINAL DOCUMENTS
$\triangle$	03.19.2021	FBC 7TH EDITION UPDA
	10.04.2023	PERMIT SUBMISSION
	03.11.2024	BID SET

Architect:



DONADIO & Associates, Architects P.A

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Consultant:

**VL** ENGINEERING, INC. **Consulting Structural Engineer** 

2030 37th Avenue Vero Beach, Florida 32960 Phone: 772.569.1257 Fax: 772.569.4041

	Drawing Title:		
	TYPICAL SE	ECTIONS & I	DETAILS.
	SCHEDULES	1	
	Reference North		
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-		Chd:	XREF File:
		Mike Lu	<b>e</b>
		Project No.	: Plot File:

C.A. License No.: 8662

Date Signed:

FL P.E. No.: 47520

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#### **HVAC GENERAL NOTES**

- ALL WORK SHALL COMPLY WITH APPLICABLE NATIONAL, STATE AND LOCAL CODES. THIS INCLUDES
  THE 2020 7TH EDITION FLORIDA BUILDING CODE AND FLORIDA MECHANICAL CODE, WITH LOCAL
  AMENDMENTS, THE APPLICABLE NFPA CODES AND THE FLORIDA ENERGY CODE.
- ALL ELECTRICAL EQUIPMENT SHALL BE UL CLASSIFIED OR LISTED.
   DEFINITIONS: "FURNISH" SHALL MEAN TO PURCHASE AND LOCATE AN ITEM ON THE JOBSITE.
  "INSTALL" SHALL MEAN TO PHYSICALLY INSTALL AN ITEM AND CONNECT IT TO ALL REQUIRED
  SERVICES TO MAKE THE ITEM FULLY FUNCTIONAL. "PROVIDE" SHALL MEAN TO BOTH FURNISH AND
  INSTALL THE ITEM.
- 4. TEST AND BALANCE SHALL BE PERFORMED BY THE MECHANICAL CONTRACTOR ON APPROVED FORMS USED BY AABC OR NEBB. THE MECHANICAL CONTRACTOR SHALL HAVE ALL SYSTEMS FULLY INSTALLED AND OPERATIONAL WITH CLEAN FILTERS INSTALLED PRIOR TO TEST AND BALANCE.

#### **DUCTWORK**

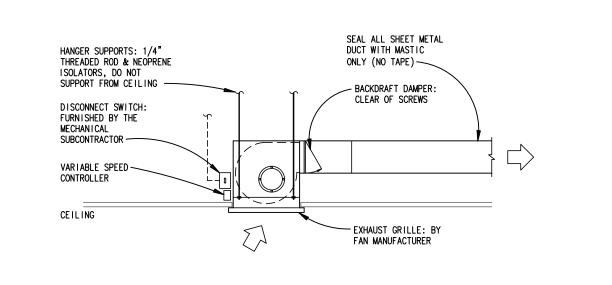
- 1. EXHAUST DUCT WORK SHALL BE GALVANIZED SHEET METAL WITH ALL JOINTS SEALED WITH MASTIC. ROUND DUCT WORK SHALL BE "THERMOFIN" OR SINGLE WALL SHEET METAL. DUCTS DO NOT NEED TO BE INSULATED UNLESS REQUIRED BY LOCAL JURISDICTION. ALL DUCT SHALL BE CONSTRUCTED AND INSTALLED PER SMACNA.
- ALL DUCT SIZES DEPICTED ARE CLEAR INSIDE DIMENSIONS.
   PROVIDE A FLEXIBLE CONNECTION FROM EACH AIR HANDLER AND FAN TO THE DUCT SYSTEM.
- 4. PROVIDE ACCESS PANELS IN DUCTS FOR ACCESS TO VOLUME DAMPERS, FIRE DAMPERS, FIRE/SMOKE DAMPERS, DUCT MOUNTED SMOKE DETECTORS AND WHERE REQUIRED TO MAINTAIN EQUIPMENT.

#### **CONTROLS**

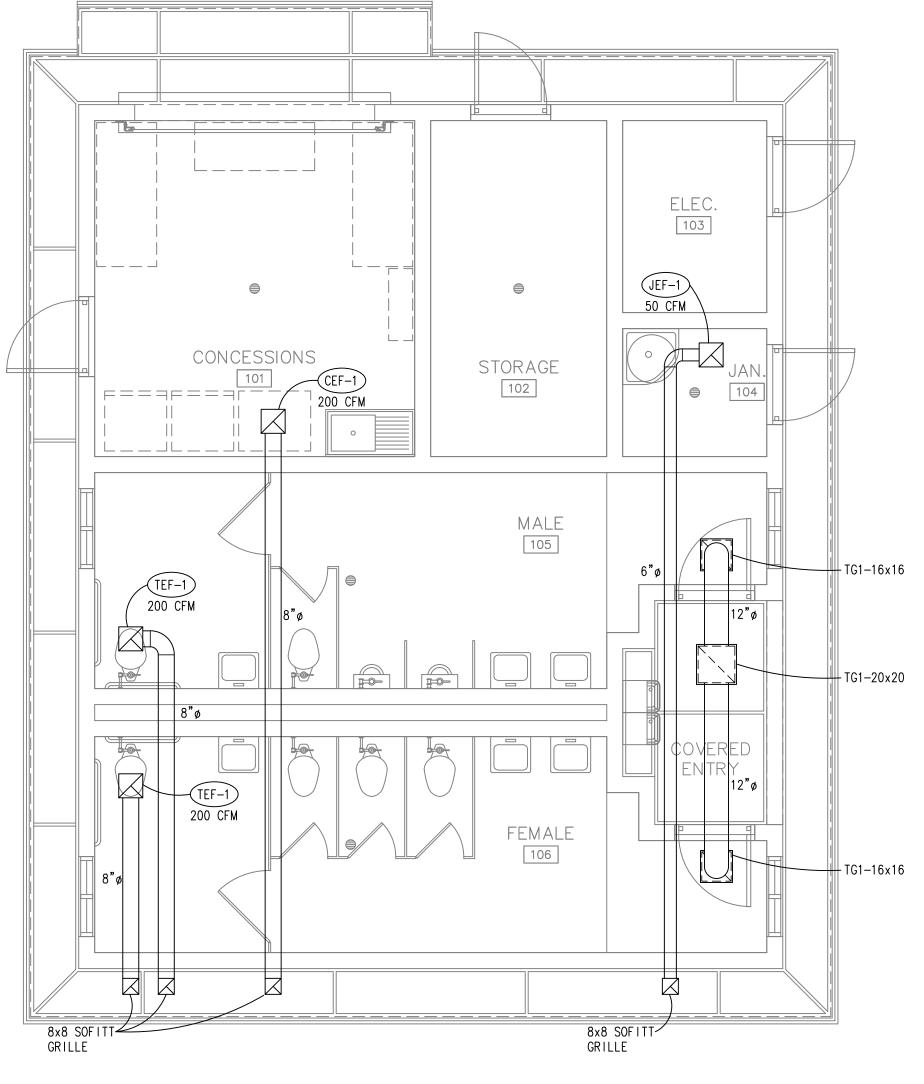
- LOW VOLTAGE CONTROL WIRING SHALL BE PROVIDED BY THE MECHANICAL CONTRACTOR. THE ELECTRICAL CONTRACTOR SHALL PROVIDE CONDUIT FOR ALL CONTROL WIRING AS COORDINATED WITH THE MECHANICAL CONTRACTOR.
- 2. LINE VOLTAGE (110 VOLT OR HIGHER) POWER AND CONDUIT SHALL BE PROVIDED BY THE
- ELECTRICAL CONTRACTOR.

  3. THE ELECTRICAL CONTRACTOR SHALL PROVIDE ALL DISCONNECT SWITCHES. DO NOT MOUNT
- DISCONNECT SWITCHES OVER NAMEPLATES OR SERVICE PANELS.

  4. TEST AND BALANCE SHALL VERIFY THE OPERATION OF ALL CONTROLS AT THE COMPLETION OF THE



MARK		JEF-1	TEF-1, CEF-1
MANUFACTURER		GREENHECK	GREENHECK
MODEL		SP-B70	SP-A250
SERVICE		SEE PLAN	SEE PLAN
AIR QUANTITY	CFM	50	200
EXTERNAL STATIC PRESSURE	IN H <sub>2</sub> 0	0.3	0.3
FAN TYPE		CENTRIFUGAL	CENTRIFUGAL
MAXIMUM FAN SPEED	RPM	643	930
DRIVE		DIRECT	DIRECT
MOTOR	HP(W)	45 W	83 W
ELECTRICAL	V/PH/HZ	115/1	115/1
CONTROLS		WITH LIGHTS	VIA DIV 16 TIMECLOCK
SONES		2.0	2.5
WE I GHT	LBS.	9	9
NOTES			



O1 MECHANICAL FLOOR PLAN

GROSS SQUARE FOOTAGE = 999 G.S.F. Scale: 1/4"=1'-0"

| Project:

HOBART PARK

CONCESSION & RESTROOM BUILDING

NDIAN RIVER COUNTY, FLORIDA

Key Plan:

Issu	es:	
No.:	Date:	Description:
Α.	03/11/24	BID SET

Consultant:

TREASURE COAST
NGINEERING
Your MEP Design Consultant

Treasure Coast Engineering, Inc.
CA# 27181

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Fax.772.562.8600
License No. AA0002238
www.donadio-arch.com

Drawing Title:

MECHANICAL PLAN

Reference North

Drn: Dwg. File:

JGS
Chd: XREF File

EH
Project No.: Plot File:

Cert. No.:FL PE 77543

Date Signed:

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CIRCUITING LEGEND	FIXTURE LEGEND	SWITCH LEGEND
SWITCHED ISO GND GROUND HOT NEUTRAL	SYMBOL B GROUP  CIRCUIT A FIXTURE DESIGNATION	SYMBOL————————————————————————————————————

	L5	P1-8	P1-10	
		S <sub>R</sub>	TW1	W <sub>1</sub>
		L2	P1 F F C.	
			103	<b>√</b>
L4	P1-8	*		
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<u>+</u> (03)		FEMALE PP		
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	10 🗖 a		M1	
SE	E EO.1 P1-14 R LOCATION—	4		
FO	PL PL			

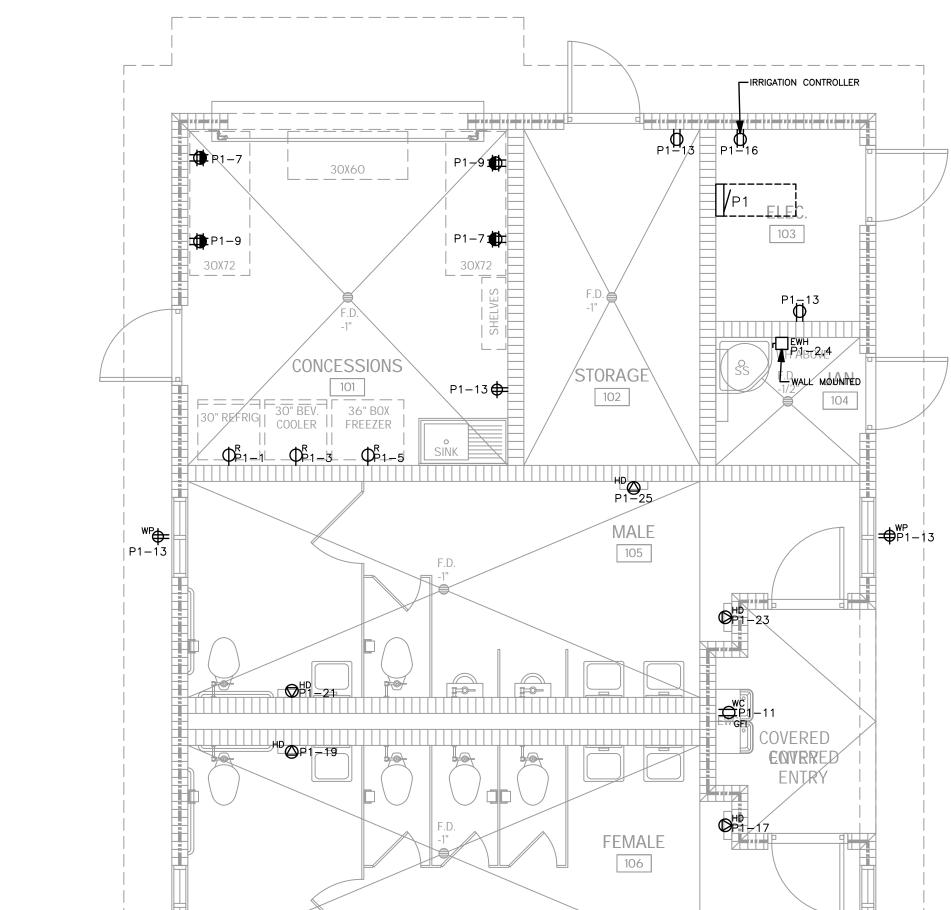
MC FE	OOM ELE DUNTING D FROM DTE SQ	SURFA(	CE	VOLTS 240 BUS AMPS NEUTRAL	20	0	2P 3W		N	AIC 22,00 Main BKR Lugs sta	200
KT	CKT BKR	LOAD KVA	CIRCUIT DESCRI	PTION		CKT #	CKT BKR	LOAD KVA	CIRC	UIT DESC	CRIPTION
1357913579 13579	20/1 20/1 20/1 20/1 20/1 20/1 20/1 20/1	0.96 0.96 0.96 0.72 0.72 0.72 0.37 0.9 1.45 1.45 1.45 1.45 0 0 0	30" REFRIGERAT 30" BEVERAGE 30" BOX FREEZ CONCESSION CO RECEPTACLE CONCESSION CO RECEPTACLE WATER COOLER RECEPTACLE HAND DRYER HAND DRYER HAND DRYER HAND DRYER HAND DRYER HAND DRYER SPACE SPACE SPACE SPACE SPACE SPACE SPACE SPACE SURGE PROTECT	COOLER ER UNTERS, UNTERS,	b a	2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38	_/1 _/1	4.5 0.532 0.595 0.148 0.084 0.268 0.5 9.61 0 0 0 0 0 0 0 0 0 0 0 6.62	LIGHT FAN, EXTE SCOFFLAG IRRIG IRRIG SPAG SPAG SPAG SPAG SPAG SPAG	RIOR LIGHTING REBOARD POLE LIGHTION CONTROL  GATION SY  CE  CE  CE  CE  CE  CE  CE  CE  CE  C	HTING  GHT  ONTROLLER  YSTEM
l (	THER LIGHTING (NONCON CLUB GHTING PPLIANCE	TINUOUS 2 0	CONN CALC KVA  2 2 ) 2 1,000 SF 0.416 0.52 7.38 5.54	(100%) (2 VA/SF) (125%) (75%)		MOT REC CON NON DIVE TOTA BALA PHA	GEST OTOR ORS EPTACLES ITINUOUS ICONTINU IRSE AL LOAD ANCED LOASE A ASE B	9.6 15. 2.7 1.0 OUS 8.7 0.0	7	CALC KVA  2.4  15.7  2.7  1.36  8.7  0  38.9  162 A  106% 94.3%	(25%) (100%) (50%>10) (125%) (100%) (0%)

SEE EO.1 & CIVIL PLAN

FOR LOCATION

IRR P1-18,20 VIA CONTROLLER

SEE CIVIL PLAN FOR LOCATION OF LIFT STATION.



)1 ELECTRICAL PLAN

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

**⊘**HD P1-15

#### NOTE:

TO THE BEST OF THE ENGINEERS KNOWLEDGE, THESE PLANS AND SPECIFICATIONS COMPLY WITH THE 2020 FLORIDA BUILDING CODE (7TH EDITION), 2017 NEC, AND THE FLORIDA FIRE PREVENTION CODE (7TH EDITION)

#### NOTE:

SEE EO.2 FOR BUILDING ELECTRICAL ONE—LNE, LIFT STATION SCHEDULE, AND SITE EQUIPMENT SCHEDULE.

Projec

HOBART PARK

# CONCESSION & RESTROOM BUILDING

INDIAN RIVER COUNTY, FLORIDA

Key Plan:

Issu		
No.:	Date:	Description:
A.	03/11/24	Bid Set
Archi <sup>-</sup>	tect:	

Consultant:



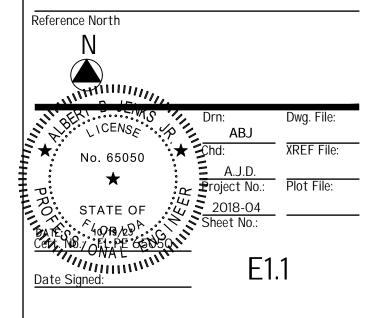
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Drawing Title:

LIGHTING PLAN &

ELECTRICAL PLAN



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RECEPTACLE SCHEDULE						
SYMBOL	NEMA	VOLTS	FEATURES	NOTE 1		
Ф	5-15-2R	120V 1P 2W	GND	STANDARD WALL RECEPTACLE MOUNTED 15" AFF, AS NOTED (SEE ARCH DRAWINGS)		
<del> </del>	5-15-2R	120V 1P 2W	GND	STANDARD WALL RECEPTACLE MOUNTED 15" AFF OR AS NOTED WITH GFCI PROTECTED		
<b>⊕</b> wP	5-15-2R	120V 1P 2W	GND	STANDARD WALL RECEPTACLE MOUNTED 18" AFF (WEATHER PROOF PER NEC, GFCI)		
#	5-15-4R	120V 1P 2W	GND	COUNTER MOUNT 42" AFF, AS NOTED, OR BACKSPLASH WITH GFCI PROTECTED.		
		120V 1P 2W	GND	CEILING FAN (SEE ARCHITECTS SPECS)		
□'		240V 2P 2W	GND	ELECTRIC WATER HEATER		
<b>⊘</b> HD		120V 1P 2W	GND	EXCEL HAND DRYER WITH HEATER BRUSHED STAINLESS STEEL XLERATOR MODEL XL—SB—120		
Ф	5-15R	120V 1P 2W	GND	REFRIGERATION MOUNTED 42" AFF (GFCI PROTECTED)		
F		120V 1P 2W	GND	EXHAUST FAN. SPEC & LOCATE EXACT LOCATION FROM MECHANICAL DRAWINGS		
Ф	5-20-2R	120V 1P 2W	GFI, GND	WATER COOLER		

SEE ARCHITECT SPECIFICATIONS FOR EXACT REQUIREMENTS. WP=WET OR DAMP RATED

DEPENDING ON ENVIRONMENT, GFCI= RECEPTACLE MUST BE A GROUND FAULT CIRCUIT

INTERRUPTER TYPE OR PROTECTED UPSTREAM BY ONE OR RATED BREAKER TYPE.

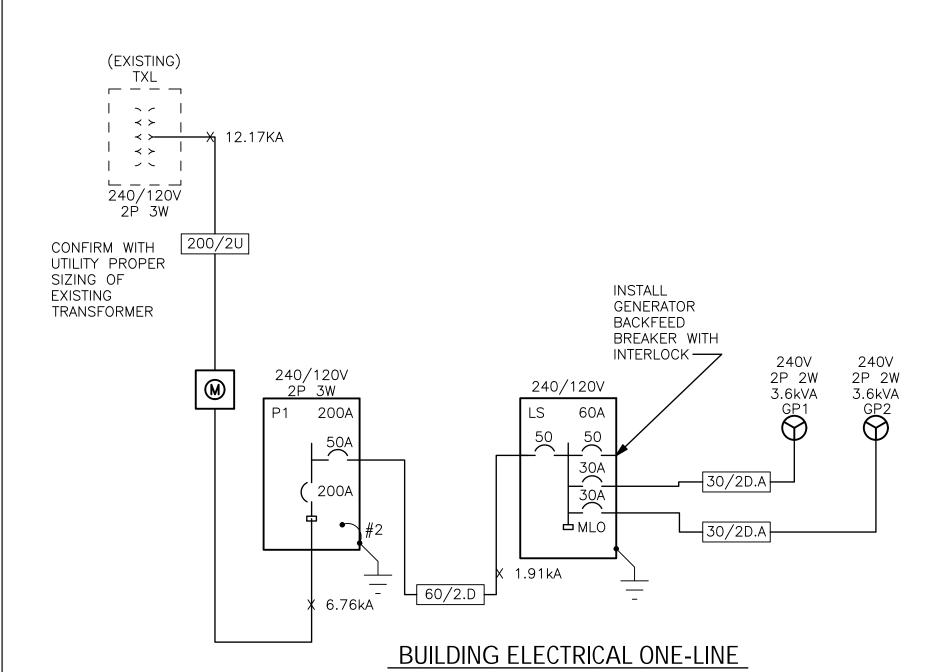
SWITCH SCHEDULE			
SYMBOL DESCRIPTION			
DECORA TYPE, SPECIFICATION GRADE, RATED 20 AMPS.			
MOMENTARY CONTACT SWITCH, GREENGATE GMDS-W, WHEN TOGGLED, THE SWITCH MOMENTARILY MAKES A CONTACT CLOSURE TO THE LIGHTING CONTROL PANEL OR OCCUPANCY SENSOR, SENDING AN "ON" SIGNAL. WHEN NOT PRESSED, THE SWITCH IS IN THE (OPEN) POSITION.			
GREENGATE OAC-DT-1000-R CEILING MOUNTED SENSOR, MULTI-TECHNOLOGY PIR/ULTRASONIC VERSION, SELF-ADJUSTING - ADJ TIME DELAY. CONNECT WITH THREE WIRE TO POWER PACK WITH 120V INPUT/ 10-30 VDC OUTPUT.			
GREENGATE OAC-P-1500-MV CEILING MOUNTED SENSOR, PIR VERSION, SELF-ADJUSTING - ADJ TIME DELAY. CONNECT WITH THREE WIRE TO POWER PACK WITH 120V INPUT/ 10-30 VDC OUTPUT.			

NOTE DERATING	OF	GANGED	DIMMERS	S AND	LOA
WATTAGE DOES	NOT	EXCEED	RATING	BASED	ON
LAMP TYPE.					

SWITCH SCHEDULE				CH SCHEDULE
YMBOL DESCRIPTION			(CON)	T'. )
\$	DECORA TYPE, SPECIFICATION GRADE, RATED 20 AMPS.		SYMBOL	DESCRIPTION
MOMENTARY CONTACT SWITCH, GREENGATE GMDS-W, WHEN TOGGLED, THE SWITCH MOMENTARILY MAKES A CONTACT CLOSURE TO			\$ IR	PASSIVE INFRARED (PIR) VERSION, SELF-ADJUSTING, 1/2 HP MOTOR RATING, ADJ TIME DELAY, SETTABLE TO MANUAL TURN ON AUTO OFF.
\$ MC	THE LIGHTING CONTROL PANEL OR OCCUPANCY SENSOR, SENDING AN "ON" SIGNAL. WHEN NOT PRESSED, THE SWITCH IS IN THE (OPEN)		PP	GREENGATE SP20-MV POWER PACK. USED TO CONTROL FIXTURE FROM OS. (SEE DETAIL)
	POSITION.  GREENGATE OAC-DT-1000-R CEILING MOUNTED SENSOR, MULTI-TECHNOLOGY PIR/ULTRASONIC VERSION, SELF-ADJUSTING - ADJ TIME DELAY. CONNECT WITH THREE WIRE TO POWER PACK WITH 120V INPUT/ 10-30 VDC OUTPUT.		\$ TWx	WALL MOUNT TIMER SWITCH CIRCUIT (SEE DETAIL). HOME RUN TO IDENTIFIED TIMER AND CHANNEL NUMBER.
<u>(6</u> )				
	GREENGATE OAC-P-1500-MV			

LUM	MINAIRE	SCHEDULE								
CALLOUT	SYMBOL	DESCRIPTION	MANUFACTURE	CATALOG NUMBER	LAMP	TOTAL LUMENS	EGRESS MODE TOTAL LUMENS	VOLTS	WATTS	NOTE 1
L1	$\bigcirc$	LED UNDERCANOPY LUMINAIRE	MCGRAW EDISON	TT-C1-LED-E1-MW-DP	(1) 28W LED	3922	0	120V 1P 2W	28	
L2	•	LED VANDAL 1X4	FAILSAFE	HVL8-4-LD4-1-STD-40-0-EDC -1-S-VRSD	(1) 34.6W LED	3118	0	120V 1P 2W	34.6	
L2E	•	LED VANDAL 1X4 W/ INTEGRAL EM BATTERY PACK	FAILSAFE	HVL8-4-LD4-1-STD-40-0-EDC -1-S-VRSD-EL7W	(1) 34.6W LED (1) 5W LED	3118 0	0 624	120V 1P 2W	34.6 5	CONNECT WITH 3 WIRE TO WITH ONE BEFORE AND ANOTHER AFTER LOCAL SWITCH.
L3		LED VANDAL 1X2	FAILSAFE	HVL8-2-LD4-1-LO-40-0-EDC -1-S-VRSD	(1) 24.7W LED	2339	0	120V 1P 2W	24.7	
L4	0	SURFACE MTD 2X4	METALUX	24FP4740C / FPSURF24	(1) 40.3W LED	4858	0	120V 1P 2W	40.3	
L5	П	LED WALL PACK	MCGRAW EDISON	GWC-AF-01-LED-E1-SL2-DP	(1) 30W LED	6227	0	120V 1P 2W	30	

WP=WET OR DAMP RATED DEPENDING ON ENVIRONMENT. IF FIXTURES UNAVAILABLE, SUBMIT TO ENGINEER EQUAL FOR APPROVED REPLACEMENT



FEEL	FEEDER SCHEDULE					
ID	CONDUIT AND FEEDER					
20/1	1#12,#12N,#12G					
20/2D	2#12,#12G					
20/2D.A	1"C,2#12,#12G					
30/2D	1"C,2#10,#10G					
30/2D.A	1/2"C,2#10,#10G					
40/2D	1"C,2#8,#10G					
45/2D	1"C,2#6,#10G					
45/2D.B	1"C,2#6,#8G					
45/2D.C	1"C,2#6,#6G					
60/2.D	2"C,2#4,#4N,#4G					
200/2U	2"C,2#3/0,#3/0N					
600/2U	(2)2-1/2"C,2#350kcmil,#350kcmil N					

SIZING METHOD: COPPER, 60°C #12 THROUGH #1, 75°C 1/O AND ABOVE PVC (EXCEPT WHERE NOTED)

=	REPRESENT A N-G BONDED GROUNDING ELECTRODE CONDUCTOR. TYPICALLY SHOWN AT SERVICE ENTRANCES OR OUTPUT OF A SEPARATELY DERIVED SYSTEM SUCH AS AN ISOLATION TRANSFORMER. SEE GROUNDING DETAIL FOR CONDUCTOR SIZING. IF MORE THAN ONE SYMBOL IS SHOWN THEN THE SYMBOL WILL ALSO SHOW THE GEC SIZED SPECIFICALLY FOR THAT DEVICE.
-	REPRESENT AN ISOLATED N-G BONDED GROUNDING ELECTRODE CONDUCTOR. TYPICALLY SHOWN AT SEPARATE STRUCTURES. SEE GROUNDING DETAIL FOR CONDUCTOR SIZING.
"Х"КА	INDICATE THE AVAILABLE SHORT—CIRCUIT CURRENT LEVELS AT THE LOCATION SHOWN. FAULT CALCULATIONS ARE BASED ON "IEEE STD 242—1975 RECOMMENDED PRACTICE FOR PROTECTION AND COORDINATION OF INDUSTRIAL AND COMMERCIAL POWER SYSTEMS". THE SHORT—CIRCUIT CALCULATIONS INCLUDES MOTOR CONTRIBUTIONS EQUAL TO 4 TIMES THE RATED CURRENT OF THE MOTOR AND AN X/R RATIO OF 4.

ONE-LINE NOTES

AIC RATINGS SHOWN AT THE EQUIPMENT WILL BE BASED ON THE SUPPLY 21 VOLTAGE, AVAILABLE FAULT CURRENT AND THE OVER CURRENT DEVICE PROTECTING THE EQUIPMENT. THE SSCR OF ALL EQUIPMENT SHALL MEET OR EXCEED THE AIC RATING SHOWN. PLEASE NOTE THAT AIC APPLIES ONLY TO OVERCURRENT PROTECTION DEVICES (CIRCUIT BREAKERS, FUSES, ETC.) AND SCCR APPLIES TO A FULLY ASSEMBLED DEVICE (I.E., PANELBOARDS, CONTRACTORS, STARTERS), WHICH MAY USE SPECIFIC AIC-RATED OVERCURRENT PROTECTION DEVICES. SEE FEEDER SCHEDULE TO IDENTIFY NUMBER OF CONDUITS. THE

QUANTITY OF PHASE, NEUTRAL, & EGC IS PER CONDUIT. GEC ARE NOT INCLUDED IN FEEDER SCHEDULE

#### WIRING METHODS & MATERIALS

NOTE

HE NATIONAL AND LOCAL ELECTRIC AND BUILDING CODES, AND THE ELECTRICAL REQUIREMENTS AS ESTABLISHED BY THE STATE AND LOCAL FIRE MARSHAL. AND RULES AND REGULATIONS OF THE POWER COMPANY SERVING THE PROJECT. ARE HEREBY MADE PART OF THIS SPECIFICATION. SHOULD ANY CHANGES BE NECESSARY IN THE DRAWINGS OR SPECIFICATIONS TO MAKE THE WORK COMPLY WITH THESE REQUIREMENTS, THE ELECTRICAL CONTRACTOR SHALL NOTIFY THE ARCHITECT/ENGINEER. CIRCUITS SHOWN ON PLANS ARE TO DETERMINE LOAD DATA AND PANEL SIZE. MATERIALS, PRODUCTS, AND EQUIPMENT, INCLUDING ALL COMPONENTS THEREOF SHALL BE NEW AND SHALL BE LISTED BY A NATIONALLY RECOGNIZED TESTING LABORATORY (NRTL)

CONTRACTOR TO INSTALL A COMPLETE ELECTRICAL SYSTEM FOR LIGHT AND POWER FROM THE POINT OF SERVICE OF THE POWER COMPANY TO AND THROUGH THE MAIN SERVICE DISCONNECT, DISTRIBUTION PANELS, AND BRANCH PANELS. INCLUDING ALL OUTLETS, DEVICES AND EQUIPMENT FURNISHED BY OTHERS AS MAY BE REQUIRED. UNTIL WORK IS COMPLETE, COST OF ALL POWER CONSUMED DURING CONSTRUCTION SHALL BE PAID BY THE PARTY DESIGNATED BY THE PRIME CONTRACTOR. CONTRACTOR MUST COORDINATE WITH UTILITY FOR INSTALLATION

OF METER. THE CONTRACTOR SHALL VISIT THE JOB SITE PRIOR TO BID AND FAMILIARIZE THEMSELVES WITH ALL CONDITIONS AFFECTING THE ELECTRICAL INSTALLATION AND MAKE PROVISIONS AS TO THE COST THEREOF.

IT IS THE INTENT OF THE PLANS AND SPECIFICATIONS TO PROVIDE A COMPLETE AND OPERATING INSTALLATION INCLUDING ALL OBVIOUSLY NECESSARY ITEMS EVEN THOUGH ITEMS ARE NOT INDICATED ON THE DRAWINGS OR SPECIFICATIONS. THE CONTRACTOR SHALL SECURE AND PAY FOR ALL PERMITS, STATE SALES TAX, FEDERAL EXCISE TAX, ROYALTIES AND OTHER TAXES OR FEES AS REQUIRED FOR INSTALLATION OF A COMPLETE SYSTEM AS OUTLINED HEREIN AND AS SHOWN ON THE PLANS. THE CONTRACTOR SHALL SECURE ALL NECESSARY LICENSES AND INSURANCE. WHERE THE MANUFACTURER ONLY IS NAMED, THE BIDS SHALL BE BASED ON FURNISHING EQUIPMENT OR MATERIALS BY THIS MANUFACTURER. PRODUCTS OF OTHER MANUFACTURERS WILL BE CONSIDERED FOR USE IF IN THE ENGINEER'S OPINION THE ITEM REQUESTED FOR SUBSTITUTION IS EQUAL TO THAT SPECIFIED. WHERE NO MANUFACTURERS ARE NAMED, THE CONTRACTOR SHALL SELECT EQUIPMENT OR MATERIAL WHICH MEETS THE SPECIFICATIONS. THE CONTRACT DRAWINGS INDICATE THE EXTENT AND GENERAL ARRANGEMENTS OF EQUIPMENT AND SYSTEMS. IF ANY DEPARTURES FROM THE CONTRACT DRAWINGS ARE DEEMED NECESSARY BY THE CONTRACTOR, DETAILS OF SUCH DEPARTURES AND REASONS THEREFORE SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL. NO SUCH DEPARTURES SHALL BE MADE WITHOUT THE PRIOR WRITTEN APPROVAL OF THE ENGINEER. ALL OBVIOUS ERRORS AND/OR OMISSIONS IN THE ABOVE MENTIONED DOCUMENTS SHALL BE CALLED TO THE ATTENTION OF THE ENGINEER AT LEAST FOUR DAYS PRIOR TO THE BID DATE. IF NOTIFICATION IS NOT RECEIVED, NO EXTRAS TO THE ORIGINAL DRAWINGS AND SPECIFICATIONS WILL BE AUTHORIZED. THE CONTRACTOR SHALL PROVIDE A GUARANTEE AGAINST DEFECTIVE WORKMANSHIP, MATERIALS OR EQUIPMENT FOR A PERIOD OF ONE YEAR FROM THE DATE OF ACCEPTANCE. THIS GUARANTEE SHALL INCLUDE ALL COSTS ENCOUNTERED IN THE REPLACING OF DEFECTIVE WORK OR MATERIALS. THE CONTRACTOR SHALL CONVEY TO THE OWNER ANY ADDITIONAL GUARANTIES OR WARRANTIES PROVIDED BY THE MANUFACTURER OF AN INDIVIDUAL ITEM, EQUIPMENT OR MATERIAL. CONTRACTOR SHALL SUBMIT A LINE DRAWING AS-BUILT OF THE CONDUIT LOCATIONS AND PULL BOX LOCATIONS FOR APPROVAL BY ENGINEER/ARCHITECT BEFORE PROCEEDING ANY WORK.

PROVIDE CIRCUIT BREAKERS WITH UL LISTED INTERRUPTING RATING (RMS SYMMETRICAL AMPERES) GREATER THAN THE AVAILABLE FAULT CURRENT SHOWN ON THE ELECTRICAL ONE-LINE DIAGRAM. ALL SUB-FEED BREAKERS ALLOWED TO BE SERIES RATED AT 10KA BOND RACEWAYS AND THE FRAMES AND ENCLOSURES OF MOTORS, BREAKERS, SWITCHES, AND OTHER ELECTRICAL

EQUIPMENT TO THE BUILDING GROUNDING SYSTEM. INSTALL AN INSULATED EQUIPMENT GROUND CONDUCTOR IN EACH RACEWAY OR CONDUIT.

FOR LONG BURIED SERVICE AND FEEDER RUNS INSTALL HANDHOLES EVERY 500 FT AND AT MAJOR TURNS. METAL FRAMING MEMBERS SHALL BE BONDED TO THE EQUIPMENT GROUNDING CONDUCTOR FOR ANY CIRCUIT THAT MAY ENERGIZE THE BUILDING FRAMING AND BE SIZED IN ACCORDANCE WITH THE NATIONAL ELECTRIC CODE, TABLE 250.122. FOR THE PURPOSE OF THIS REQUIREMENT, A GROUNDED METAL OUTLET BOX ATTACHED TO THE FRAMING SHALL BE PERMITTED.

IDENTIFY NEW BRANCH CIRCUITS AT THE PANEL AND AT THE LOAD OUTLET, RECEPTACLE AND SWITCH. IDENTIFY THE PURPOSE OF INDIVIDUAL CIRCUIT BREAKERS, SAFETY SWITCHES AND MOTOR STARTERS BY MEANS OF

NAMEPLATES AS INDICATED. ROUTE CONDUITS TO SUIT EQUIPMENT AND BUILDING STRUCTURE. UNLESS OTHERWISE NOTED ON DRAWINGS OR

NOT ALLOWED BY THE AHJ THE FOLLOWING SHALL APPLY: CONDUIT FOR ABOVE GRADE SHALL BE INTERMEDIATE METAL CONDUIT (IMC), RIGID METAL CONDUIT (RMC) OR ELECTRICAL METALLIC TUBING (EMT). [OPTIONAL: TYPE NM & NMS CAN BE USED IN THE BUILDING AS LONG AS IT ISN'T USED EXPOSED IN DROPPED OR SUSPENDED CEILINGS WHICH INCLUDES GYPSUM BOARD CEILINGS WITH ACCESS PANELS OR TYPE I & II STRUCTURES WITHOUT CONDUIT.] LIMIT THE USE OF EMT TO AREAS WHERE IT WILL NOT BE SUBJECT TO PHYSICAL DAMAGE, WET ENVIRONMENTS, OR CORROSION. USE IMC, RMC OR RIGID PVC SCH 40 FOR WORK EMBEDDED IN CONCRETE. ALL BURIED CONDUIT SHALL BE RIGID PVC SCH 40. GENERAL POWER AND LIGHTING HOME RUN CIRCUITS IN CONDUIT (IMC, RMC, EMT) WHEN RAN ABOVE CEILINGS (EXPOSED AND CONCEALED) SHALL BE RAN TO A JUNCTION BOX. METAL CLAD CABLE (MC) WILL BE PERMITTED FROM THE JUNCTION BOX DROPPED DOWN TO THE RECEPTACLE OUTLET OR SWITCH AT A MAXIMUM LENGTH OF 30 FEET. FLEXIBLE METAL CONDUIT OR MC CABLE MAY BE USED FOR TAP CONDUCTORS PER CODE FROM THE FIXTURES TERMINATION TO AN OUTLET BOX IN ACCESSIBLE CEILINGS. CONDUIT TERMINATIONS AT ELECTRICAL EQUIPMENT SUCH AS ELECTRIC MOTORS AND HEATERS SHALL BE MADE USING LIQUID-TIGHT, FLEXIBLE METAL CONDUIT. USE MINIMUM 3/4 INCH CONDUIT EXCEPT AS FOLLOWS: 1/2" CONDUIT MAY BE USED FOR 20 AMP GENERAL LIGHT AND POWER CIRCUITS AND FOR CONTROL CIRCUITS. CONDUIT EXPANSION FITTINGS AND GROUND BONDING JUMPERS SHALL BE INSTALLED ON ALL CONDUITS PASSING THROUGH BUILDING EXPANSION JOINTS TO PROVIDE MOVEMENT IN THE CONDUIT SYSTEM. WHERE GROUPS OF CONDUITS TERMINATE TOGETHER OR PASS THROUGH FLOORS, PROVIDE TEMPLATE TO HOLD CONDUITS IN PROPER RELATION TO EACH OTHER AND TO BUILDING.

OUTLET BOXES SHALL BE PRESSED STEEL IN DRY LOCATIONS, CAST ALLOY WITH THREADED HUBS IN WET LOCATIONS AND SPECIAL ENCLOSURES FOR OTHER CLASSIFIED AREAS. [OPTIONAL: NON-METALLIC BOXES ARE ALLOWED WERE ONLY TYPE NM & NMS CABLE ENTERS THE BOX.

ALL MEASUREMENTS ARE AFF (ABOVE FLOOR FINISH) AND MEASURED TO CENTER OF OPERABLE DEVICE. MOUNT WALL SWITCHES AND CONTROLS 46" AFF, UNLESS OTHERWISE NOTED ON DRAWING. GANG SWITCHES WHERE EVER POSSIBLE. RECEPTACLES & COMMUNICATION OUTLETS SHALL BE LOCATED 18" AFF, UNLESS OTHERWISE NOTED. ABOVE-COUNTER RECEPTACLES SHALL BE MOUNTED 6" ABOVE BACK SPLASH TO CENTERLINE

REQUIRED BY EXPOSURE. SEAL AROUND CONDUIT PENETRATIONS THROUGH INTERIOR WALLS AND FLOORS SEPARATING AREAS TO RESTORE SEAL PENETRATIONS THROUGH ROOF AND EXTERIOR WALLS TO MAKE WATERPROOF. REQUEST INSPECTION OF FIRE SEALS BY ELECTRICAL INSPECTOR FROM AUTHORITY HAVING JURISDICTION BEFORE AND AFTER PLACEMENT OF

DISCONNECT SWITCHES SHALL BE H.P. RATED, HEAVY DUTY, QUICK MAKE, QUICK BREAK, WITH ENCLOSURES AS

USE 12 AWG OR LARGER CONDUCTORS FOR POWER WIRING UNLESS OTHERWISE SPECIFIED OR SHOWN ON THE DRAWINGS OR SCHEDULE. USE 14 AWG STRANDED CONDUCTORS FOR CONTROL WIRING UNLESS OTHERWISE SPECIFIED, OR APPROVED BY THE MANUFACTURE, OR SHOWN ON THE DRAWINGS.

USE ONLY COPPER CONDUCTORS ON CIRCUITS 600V AND LESS. CONDUCTORS 10 AWG AND SMALLER SHALL BE SOLID AND 8 AWG AND LARGER AWG SHALL BE STRANDED. PROVIDE TYPE THHN/THWN WIRE INSULATION; XHHW INSULATION MAY BE USED FOR 1 AWG AND LARGER. USE THE FOLLOWING CONDUCTOR COLOR CODES:

<u>20/240V 120Δ/240V 120Υ/208V 277Υ/480V</u> BLACK BLACK BROWN RED ORANGE PHASE B ORANGE RED YELLOW YELLOW PHASE C BLUE NEUTRAL WHITE WHITE WHITE GRAY EQUIP. GROUND GREEN

ISOLATED GROUND SHALL BE GREEN WITH YELLOW TRACER.

TEST CONDUCTORS FOR CONTINUITY AND FREEDOM FROM SHORTS AND UNINTENTIONAL GROUNDS. KEEP JOB SITE IN AN ORDERLY CONDITION AND AT PROJECT COMPLETION, REMOVE ALL WASTE

IF DIRECTED BY THE ARCHITECT OR ENGINEER, THE CONTRACTOR SHALL, WITHOUT EXTRA CHARGE, MAKE REASONABLE MODIFICATIONS IN THE LAYOUT AS NEEDED TO PREVENT CONFLICT WITH WORK OF OTHER TRADES OR FOR PROPER EXECUTION OF THE WORK.

ANY APPARATUS, APPLIANCE, MATERIAL OR WORK NOT SHOWN ON DRAWINGS OR ANY INCIDENTAL ACCESSORIES NECESSARY TO MAKE THE WORK COMPLETE AND PERFECT IN ALL RESPECTS AND READY FOR OPERATION, EVEN IF NOT PARTICULARLY SPECIFIED, SHALL BE FURNISHED, DELIVERED AND INSTALLED BY THE CONTRACTOR WITHOUT ADDITIONAL EXPENSE TO THE OWNER.

WITH SUBMISSION OF BID, THE ELECTRICAL CONTRACTOR SHALL GIVE WRITTEN NOTICE TO THE ARCHITECT/ENGINEER OF ANY MATERIALS OR APPARATUS BELIEVED INADEQUATE OR UNSUITABLE, IN VIOLATION OF LAWS, ORDINANCES, RULES; AND ANY NECESSARY ITEMS OR WORK OMITTED. IN THE ABSENCE OF SUCH WRITTEN NOTICE, IT IS MUTUALLY AGREED THE CONTRACTOR HAS INCLUDED THE COST OF ALL REQUIRED ITEMS IN HIS PROPOSAL, AND THAT HE WILL BE RESPONSIBLE FOR THE APPROVED SATISFACTORY FUNCTIONING OF THE ENTIRE SYSTEM WITHOUT EXTRA COMPENSATION.

DO NOT SCALE THE ELECTRICAL DRAWINGS. REFER TO ARCHITECTAL/CIVIL ENGINEERS PLANS AND ELEVATIONS FOR EXACT LOCATION OF ALL EQUIPMENT. ALWAYS CONFIRM WITH OWNER'S REPRESENTATIVE IF IN DOUBT. ANY QUALITIES SHOW IN SCHEDULES ARE FOR REFERENCE ONLY AND SHALL NOT BE USED AS AN EXACT TAKE OFF. CONTRACTOR IS RESPONSIBLE FOR ALL ACTUAL QUANTITY COUNTS.

Project:

HOBART PARK

### CONCESSION & RESTROOM BUILDING

INDIAN RIVER COUNTY, FLORIDA

Key Plan:

Issues: No.: Date: Description: A. 03/11/24 Bid Set



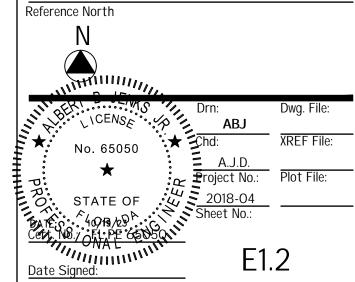
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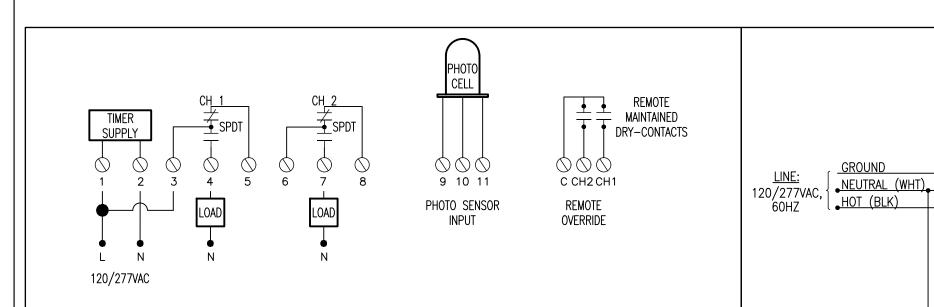
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Drawing Title: **ELECTRICAL SCHEDULES &** ONE-LINE



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#### GENERAL DESCRIPTION:

1. FURNISH AND INSTALL A 2 ZONE LIGHTING CONTROLLER W/ PHOTO SENSOR AND REMOTE OVERRIDE INPUT SUCH AS A TORK DGLC200A. 2. EACH ZONE SHALL BE CAPABLE OF INDEPENDENT, USER SETTABLE TURN ON AND TURN OFF LIGHT LEVEL SET POINTS RANGING FROM 1 TO 100 FOOTCANDLES. 3. TWO POSITION SLIDE SWITCHES SHALL BE PROVIDED FOR EACH OF THE 2 ZONES ALLOWING FOR USER SETTINGS BASED ON A) TIME OF DAY OR B) COMBINATION TIME OF DAY AND LIGHT LEVEL. 4. UNIT SHALL BE CAPABLE OF SWITCHING 20 AMP BALLAST LOAD FOR EACH ZONE. 5. EACH ZONE SHALL BE CAPABLE OF ASTRONOMIC FUNCTION. 6. CONTROLLER SHALL PROVIDE AUTOMATIC DAYLIGHT SAVING TIME. 7. CONTROLLER SHALL BE CAPABLE OF 56 SET POINTS WITH SEPARATE SCHEDULING FOR EACH DAY OF THE WEEK. 8. CONTROLLER SHALL HAVE BACK—UP CAPABILITY. 9. UNIT SHALL HAVE A NEMA TYPE 3, METAL INDOOR/OUTDOOR ENCLOSURE.

#### <u>ELECTRICA</u>

SCALE: NONE

SCALE: NONE

CONNECT CLOCK TO SAME CIRCUIT AS CH1 FIXTURE. WIRE FIXTURE TO LOAD CONTACT. MOUNT PHOTO CELL AT LEAST 10 FT UP ON NORTH SIDE OF BUILDING. CIRCUIT ON PLAN VIEW SHOULD SHOW SWITCH SYMBOL THAT REFERENCES TIMER NUMBER AND CHANNEL.

DIGITAL TIME SWITCH 2-CH. (SPDT) DETAIL W/OVERRIDE

BOTTOM OF FOUNDATION IN DIRECT EARTH CONTACT. (NOT

REQUIRED FOR EXISTING STRUCTURE WERE INACCESSIBLE)

SERVICE ENTRANCE GROUNDING SYSTEM DETAIL

"x" ON POWER PACK, SWITCH, AND OS REPRESENTS THE SWITCH GROUP THE OCCUPANCY SENSOR IS CONTROLLING.

POWER PACK CONTACTS RATED FOR 20 AMPS.

POWER PACK

BIUFF----

BLACK

SURGE PROTECTION DEVICE (SPD)

BLACK

RED

MANUFACTURE: LEVITON OR
EQUAL
MODEL NUMBERS

NOTE: ONLY USE A SPD DESIGNED FOR A 120/240 SINGLE PHASE OTHER VOLTAGE WILL CAUSE SPD TO FAIL AND NOT PROTECT

#### GENERAL SPD INSTALLATION NOTES:

- 1. LOCATE THE SPD UNIT AS CLOSE AS POSSIBLE TO THE ELECTRICAL PANEL SERVING THE LOADS TO BE PROTECTED TO MINIMIZE THE EFFECTS OF CONNECTION LEAD—LENGTH RESISTANCE AND INDUCTANCE.
- 2. LEADS FROM THE SPD UNIT MUST BE CONNECTED TO THE POWER MAINS THROUGH A DISCONNECT AND FUSING MEANS. EITHER DEDICATED 30-AMP BRANCH CIRCUIT BREAKERS (INDEPENDENT SINGLE-POLE PREFERRED), OR A FUSED 30-AMP DISCONNECT SWITCH MAY BE USED.
- 3. THE TOTAL CONNECTION LENGTH BETWEEN THE BRANCH POWER LINES AND SPD DEVICE SHOULD BE AS SHORT AS POSSIBLE (18"MAX). LEADS FROM THE SPD UNITS SHOULD BE BUNDLED TOGETHER AND SECURED WITH CABLE TIES WHEN POSSIBLE.
- 4. THE SUPPRESSOR'S BLACK WIRES MAY BE CONNECTED TO L1 OR L2 WITHOUT REGARD TO PHASE.
- 5. DO NOT CONNECT THE GREEN WIRE TO ISOLATED GROUND CONDUCTOR(S).

WIRING DIAGRAM—SINGLE POWER PACK APPLICATION
WITH NORMAL & EMERGENCY LIGHTS scale: NONE

PLICATION 4 SPD WIRING DET scale: none

SPD WIRING DETAIL - 1 PHASE, 3-WIRE

SURFACE MOUNT: 42120-1

FLUSH MOUNT: 51120-1

5

UTILITY TRANSFORMER - CANNOT BE SMALLER THAN NEC TABLE 250.66 SERVICE **ENTRANCE** GROUND **EQUIPMENT** NEUTRAL - TO FEEDER EQUIPMENT |-|----#14<20FT #14<20FT\ SAT/ANT CABLE TELE - METAL WATER PIPE WITHIN 5 FT OF ENTRANCE AND 10 FT LENGTH INSTALL IF TOTAL GROUND REACTANCE IS LESS MIN SIZE 10 FT LONG— THAN 25 OHMS AND 5/8" DIA. CONCRETE ENCASED ELECTRODE MUST BE AT LEAST 1/2" DIA. OR 4 AWG CU, TOTAL CONNECTED LENGTH AT LEAST 20' IN AT LEAST 2" OF CONCRETE LOCATED NEAR

### KEYED NOTES 1 INSTALL GROUNDED (NEUTRAL) CONDUCTOR WITHOUT EGC. NEUTRAL CONDUCTOR CANNOT BE

INSTALL BONDING JUMPER THAT IS SIZED BASED ON NEC TABLE 250.66 USING THE SERVICE OR SEPARATELY-DERIVED SYSTEM PHASE CONDUCTOR SIZE.

NORMAL LIGHTING

EMERGENCY LIGHTING LOAD

BROWN \_ \_

OCCUPANCY SWITCH (OPTIONAL)

SENSORS

N/O MOMENTARY

OVERRIDE SWITCH

(OPTIONAL)

OS HAS INTERNAL N/O

CONTROL (BLUE) AND

DCCUPANCY THAT THEN

CAUSES CONTACT CPP

CONTACT BETWEEN

24V (RED) THAT

CLOSES UPON

TO CLOSE

THE NUMBER OF DEVICES POWERED FROM A SINGLE POWER PACK VARIES WITH THE TYPE OF DEVICE.

- 3 INSTALL EQUIPMENT GROUNDING CONDUCTOR SIZED BASED ON NEC TABLE 250.122 USING THE FEEDER OVER CURRENT DEVICE SIZE. IF THE FEEDER SUPPLIES A SEPARATE STRUCTURE THEN DRIVE AN ADDITIONAL GROUND ROD AT STRUCTURE AND GROUND TO PANEL, BUT ISOLATE NEUTRAL.

  4 INSTALL GROUNDING ELECTRODE CONDUCTOR THAT IS SIZED BASED ON NEC TABLE 250.66 USING THE SEPARATELY DERIVED SYSTEM PHASE CONDUCTOR SIZE.
- THE SEPARATELT DERIVED STSTEM PHASE CONDUCTOR SIZE.

  SHALL BE 5/8" X 10'

  SEPARATELT DERIVED STSTEM PHASE CONDUCTOR SIZE.

#### GENERAL NOTES

- 1. EACH GROUNDING ELECTRODE SHOWN SHALL ONLY BE USED IF PRESENT AT EACH STRUCTURE/BUILDING SERVED. IF NONE ARE PART OF THE STRUCTURE/BUILDING THAN AT MINIMUM A GROUND ROD ELECTRODE SHALL BE INSTALLED. A METAL WATER PIPE SHALL NOT BE USED AS THE SOLE GROUNDING ELECTRODE SYSTEM (GES).
- BE USED AS THE SOLE GROUNDING ELECTRODE SYSTEM (GES).

  2. BOND GAS PIPE ON THE BUILDING SIDE OF THE GAS METER THAT IS SIZED BASED ON THE OCPD SERVING THE STRUCTURE/BUILDING USING NEC TABLE 250.122 WITH A MINIMUM SIZE OF #6 CU.
- 3. CONDUCTOR SIZES SHOWN ARE MINIMUM AND MAY BE LARGER THAN THE MINIMUM SIZES
- REQUIRED BY NEC.

  4. INSTALL GROUNDING TERMINATIONS TO BUILDING STRUCTURE AND WATER PIPES AT LOCATIONS THAT ARE VISIBLE AND ACCESSIBLE FOR INSPECTION, MAINTENANCE, AND TESTING (EXCEPT IF ENCAPSULATED BY FIREPROOFING MATERIAL).

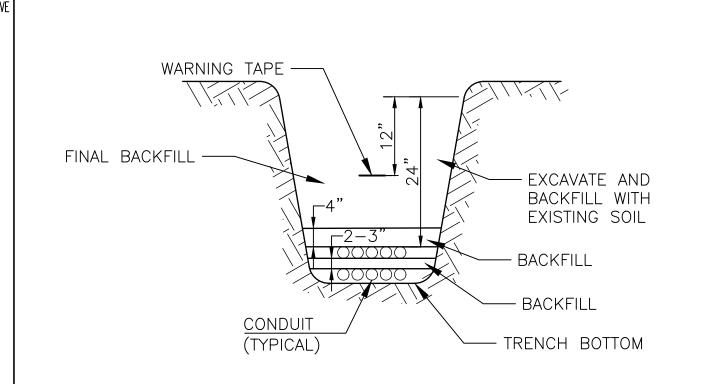
  5. INSTALL AN INSULATED THROAT GROUNDING BUSHING ON EACH METALLIC SERVICE ENTRANCE
- CONDUIT. BOND TO GROUND BUS USING CONDUCTOR THAT IS SIZED BASED ON NEC TABLE 250.66 USING THE SERVICE PHASE CONDUCTOR SIZE.

  6. INSTALL AN INSULATED THROAT GROUNDING BUSHING ON EACH METALLIC FEEDER CONDUIT.
- BOND TO GROUND BUS USING CONDUCTOR THAT IS SIZED BASED ON NEC TABLE 250.122

  USING THE FEEDER CIRCUIT OVER CURRENT DEVICE SIZE OR THE SEPARATELY DERIVED SYSTEM

  OVER CURRENT DEVICE SIZE.
- 7. BOND HOT AND COLD WATER PIPING SYSTEMS.
- INSTALL 5/8" X 10' GROUND ROD.

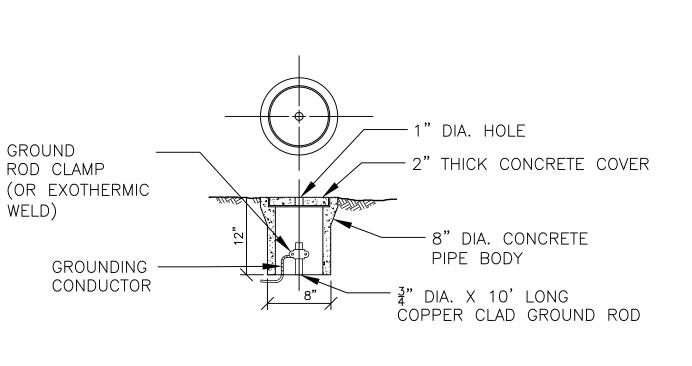
  OTHER METAL PIPING OR EXPOSED STRUCTURAL METALS THAT ARE LIKELY TO BE ENERGIZED SHALL BE BONDED TO THE SERVICE EQUIPMENT ENCLOSURE USING THE LARGEST GROUND WIRE.



NOTE:

BACKFILL SHALL BE TAMPED TO 95% COMPACTION. 4" OF CONCRETE MAY BE NEEDED TO CREATE SOLID BASE. BACKFILL SHALL BE FINE CLEAN SAND. FINAL BACKFILL WILL CONSIST OF EXISTING SOIL AND CAN CONTAIN SOME STONES IN IT.

DIRECT BURIAL DUCT BANK TRENCHING DETAIL (TYP) scale: none



GROUNDING ROD DETAILS (TYPICAL) SCALE: NONE

Project:

HOBART PARK

# CONCESSION & RESTROOM BUILDING

INDIAN RIVER COUNTY, FLORIDA

Key Plan:

Issues:
No.: Date: Description:
A. O3/11/24 Bid Set

Architect:

Consultant:



DONADIO

& Associates, Architects P.A.

609 17th Street Vero Beach, FL 32960

Tel.772.794.2929 Fax.772.562.8600

License No. AA0002238

Drawing Title: ELECTRICAL DETAILS

Reference North

No. 65050

No. 65050

The project No.:

STATE OF

Date Signed:

Date

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			ROUGH	I–IN	
MARK	FIXTURE, MODEL #, DESCRIPTION	WASTE	VENT	CW	HW
WC	WATER CLOSET AMERICAN STANDARD "MADERA" #2234.015 1.6 GALLON FLUSH WITH OLSONITE #95 OPEN FRONT SEAT LESS COVER, SLOAN #111 FLUSH VALVE.	3"	2"	1"	
WC-HC	WATER CLOSET, HANDICAPPED AMERICAN STANDARD "MADERA" #3043.102 1.6 GALLON FLUSH WITH OLSONITE #95 OPEN FRONT SEAT LESS COVER, SLOAN #111 FLUSH VALVE.	3"	2"	1"	
LAV	LAVATORY, WALL HUNG AMERICAN STANDARD "LUCERENE" #0355.012 20-1/2"x18-1/4" WALL HUNG LAVATORY WITH #5400.962 FAUCET, 1-1/4" CP P-TRAP, STOP AND SUPPLIES.	1-1/2"	2"	1/2"	1/2"
_AV—HC	LAVATORY, WALL HUNG, HANDICAPPED AMERICAN STANDARD "LUCERENE" #0355.012 WITH #7401.172H 6" GOOSENECK FAUCET AND 4" WRIST BLADE HANDLES, 1-1/4" CP P-TRAP, CP STOPS, SUPPLIES.	1-1/2"	2"	1/2"	1/2"
UR	URINAL AMERICAN STANDARD "ALLBROOK" #6541.132 1.0 GALLON FLUSH WITH SLOAN ROYAL #186—1.0 FLUSH VALVE. MOUNT AT STANDARD HEIGHT.	2"	2"	3/4"	
UR-HC	URINAL, HANDICAPPED AMERICAN STANDARD "ALLBROOK" #6541.132 1.0 GALLON FLUSH WITH SLOAN ROYAL #186-1.0 FLUSH VALVE. MOUNT AT HANDICAPPED HEIGHT.	2"	2"	3/4"	
SCS	SINGLE COMPARTMENT SINK BK RESOURCES BKREBKS-1-1824-14-24L SINGLE COMPARTMENT SINK WITH T&S BRASS 5F-8CWX10 FAUCET, 1-1/4" CP P-TRAP, STOP AND SUPPLIES.	1-1/2"	2"	1/2"	1/2"
EWH	ELECTRIC WATER HEATER A.O. SMITH DEL-40 R-16 FOAM INSULATED, GLASS-LINED 40 GALLON TANK, THREE (3) YEAR WARRANTY WATER HEATER. 32" HIGH x 26" DIAMETER, 4.5 kW @ 208 VOLT, 1 PHASE ELECTRIC HEATER. PROVIDE 120 VOLT PLUG IN GRUNDFOS RECIRC PUMP WITH AQUASTAT/TIMER.			3/4"	3/4"
EWC-SL	ELECTRIC WATER COOLER, DUAL LEVEL, HANDICAPPED ELKAY VRCHDTL8SC COOLER, STANDARD COLOR, 1-1/2" 20 GAUGE CP P-TRAP, LESS CO, STOP AND SUPPLIES. MOUNT LOWER BOWL NOZZLE AT 30" A.F.F FOR ADA.	1-1/2"	2"	1/2"	
MSB	MOP SERVICE BASIN FIAT MSB2424 24"x24" MOLDED STONE MOP SERVICE BASIN WITH 830—AA FAUCET, 832—AA HOSE BRACKET AND HANGER.	3"	2"	3/4"	3/4"
FD	FLOOR DRAIN ZURN Z415-6B-P 6" FLOOR DRAIN WITH "SURE SEAL" TRAP SEAL AND TYPE "B" STRAINER.	3"	2"		
WCO	WALL CLEANOUT ZURN Z1441 D.C.C.I. BODY WITH STAINLESS STEEL ACCESS COVER AND SECURING SCREW.	SEE PLAN			
FCO	FLOOR CLEANOUT ZURN Z1400 D.C.C.I. BODY ADJUSTABLE TO FINISHED FLOOR.	SEE PLAN			
COTG	CLEANOUT TO GRADE ZURN Z1400-HD D.C.C.I. BODY ADJUSTABLE TO FINISHED GRADE WITH HEAVY DUTY TOP. SET IN 24"x24"x6" CONCRETE PAD.	SEE PLAN			
TMV	THERMOSTATIC MIXING VALVE BRADLEY S59-2007 TWO INLETS, ONE OUTLET, SET TO 105 DEG. F. VALVE SHALL HAVE INTEGRAL CHECK STOPS, PROVIDE WITH WALL MOUNT BELOW SINK.			1/2"	1/2'
HB	HOSE BIBB JAY R. SMITH 5609QT WITH POSITIVE NON—FREEZE PROTECTION AND VACUUM			1/2"	

#### NOTES:

- 1. APPROVED MANUFACTURERS OF FIXTURES ARE AMERICAN STANDARD, ELJER AND KOHLER.
  2. APPROVED MANUFACTURERS OF DRAINS AND CLEANOUTS ARE J.R. SMITH, ZURN AND WADE.
- 3. ALL SUPPLIES SHALL BE PROVIDED WITH CP BRASS ANGLE STOPS BY EASTMAN OR BRASSCRAFT.
  4. ALL EXPOSED TRAPS AND WASTE ARMS SHALL BE CP BRASS BY MCGUIRE OR EQUAL.

#### PLUMBING GENERAL NOTES

- 1. ALL WORK SHALL COMPLY WITH NATIONAL, STATE AND LOCAL CODES. THIS SHALL INCLUDE THE
- 2020 7TH EDITION FLORIDA BUILDING CODE, WITH LOCAL AMENDMENTS.

  2. REVIEW PLANS OF ALL TRADES PRIOR TO BIDDING. INSTALLATION TO INCLUDE ALL PLUMBING FOR
- COMPLETE SYSTEMS DEPICTED ON THE PLANS.
- 3. COORDINATE WITH OTHER TRADES TO PREVENT CONFLICTS WITH HVAC DUCTS, ELECTRICAL LIGHTING AND STRUCTURAL ELEMENTS.
- 4. THE PLUMBING CONTRACTOR SHALL FURNISH AND INSTALL ALL FIXTURES SHOWN ON THE PLUMBING FIXTURE SCHEDULE. VERIFY MOUNTING HEIGHT AND CONNECTION SIZES OF ALL PLUMBING
- FIXTURES PRIOR TO INSTALLATION.

  5. ALL WORK, BOTH MATERIAL AND INSTALLATION SHALL BE GUARANTEED FOR A PERIOD OF ONE YEAR FROM ACCEPTANCE BY THE OWNER.

#### WATER PIPING

- 1. THE WATER PIPING SHALL BE CPVC WITH SOLVENT WELDED JOINTS, WITH MAIN RUNS BELOW SLAB.
- THE WATER SERVICE TO THE BUILDING IS NEW.
   THE MAIN BACKFLOW PREVENTER IS NEW.
- THE MAIN BACKFLOW PREVENTER IS NEW.
   THE SITE WATER METER IS NEW.
- SUPPORT ALL PIPING WITH PIPE HANGERS EQUAL TO GRINNEL.
   PROVIDE EACH FIXTURE WITH A SHUT-OFF SUPPLY STOPS. EXPOSED STOPS AND SUPPLY PIPING SHALL BE CHROME PLATED, WITH CHROME ESCUTCHEON PLATE AND SET SCREW. STOPS SHALL BE 16" AFF FOR LAVATORIES.
- 7. PROVIDE UNIONS FOR ALL CONNECTIONS TO SERVICEABLE EQUIPMENT. UNIONS SHALL BE DIELECTRIC WHERE DISSIMILAR METALS ARE CONNECTED.
- 8. INSULATE ALL HOT WATER PIPING WITH 1" ARMAFLEX OR 1" FIBERGLASS EQUAL TO MANVILLE MICRO-LOK AP-T. VAPOR SEAL ALL BUTT JOINTS.
- 9. PROVIDE WATER HAMMER ARRESTORS, EQUAL TO JR SMITH 5000 SERIES, IN ACCORDANCE WITH PDI STANDARD WH-201. FIELD FABRICATED SHOCK ABSORBERS ARE NOT ACCEPTABLE.
- 10. PROVIDE VACUUM BREAKERS AS REQUIRED BY CODE.
  11. STERILIZE ALL WATER PIPING IN ACCORDANCE WITH HEALTH DEPARTMENT REGULATIONS.
- 11. STERILIZE ALL WATER PIPING IN ACCORDANCE WITH HEALTH DEPARTMENT REGULATIONS. 12. TEST ALL WATER PIPING AT 100 PSIG FOR SIX HOURS OR AS REQUIRED BY THE JURISDICTION.

GATE TYPE, GLOBE VALVES ARE NOT ACCEPTABLE. VALVES SHALL BE INSTALLED IN AN

13. PROVIDE SHUT OFF VALVES FOR ALL EXTERIOR HOSE BIBS AND WALL HYDRANTS.14. PROVIDE SERVICE VALVES AT EACH BRANCH SUPPLY LINE, AS DEPICTED ON THE PLAN. ALL VALVES, CHECK STOPS, ETC. SHALL BE RATED FOR 125 LB SERVICE. VALVES SHALL BE BALL OR

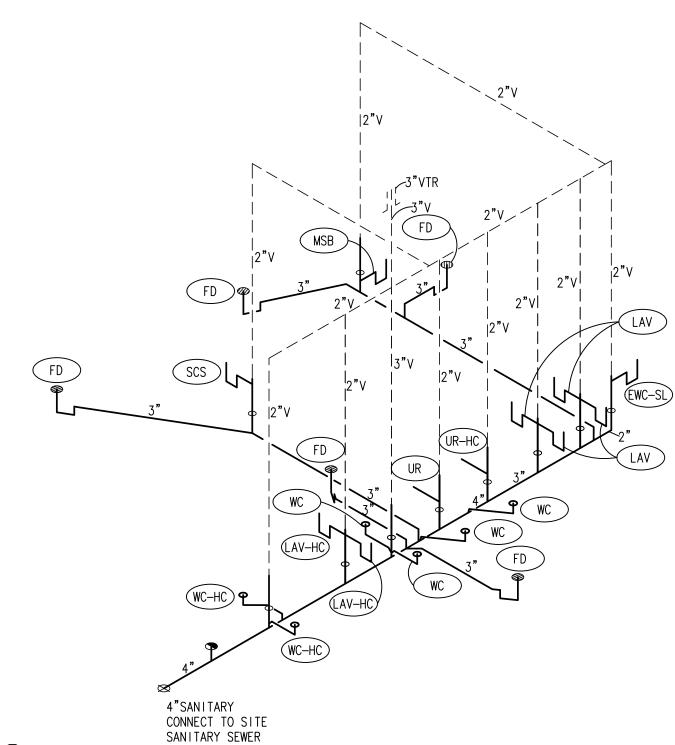
#### SANITARY, WASTE AND VENT PIPING

REQUIRED BY THE JURISDICTION.

ACCESSIBLE LOCATION FOR SERVICING AND OPERATION.

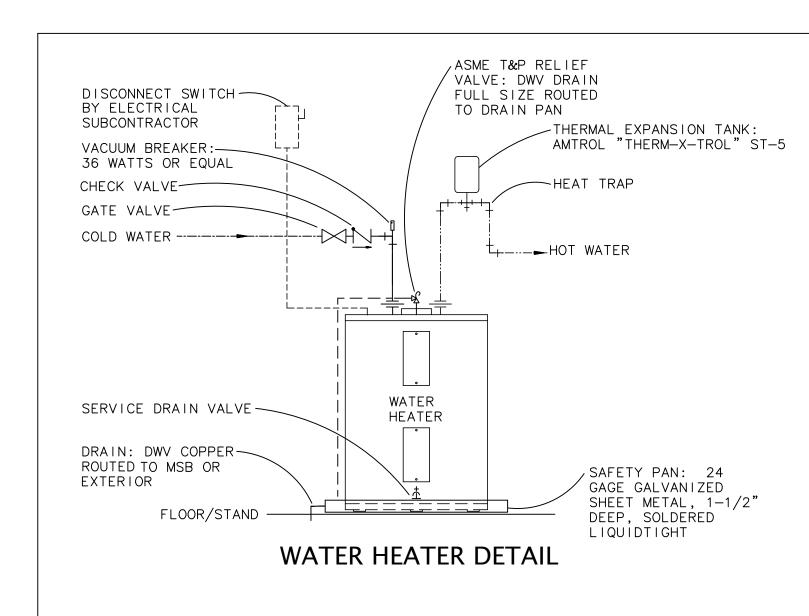
- 1. SANITARY WASTE, CONDENSATE AND VENT PIPING SHALL BE SCHEDULE 40 PVC DWV (ASTM-2665) WITH SOLVENT WELDED JOINTS.
- 2. SLOPE OF SANITARY, CONDENSATE AND WASTE PIPING SHALL BE UNIFORM, WITH A MINIMUM OF  $\frac{1}{4}$ " PER FOOT FOR 2" AND A MINIMUM OF  $\frac{1}{8}$ " PER FOOT FOR LARGER PIPING.
- 3. EXPOSED WASTE DRAINS IN RESTROOMS SHALL BE CHROME PLATED BRASS TUBING WITH MATCHING CHROME ESCUTCHEON PLATE.
- 4. PROVIDE INTERIOR AND EXTERIOR CLEANOUTS AS REQUIRED BY CODE.
  5. FURNISH 4 LB LEAD OR 8 OZ COPPER VENT FLASHING FOR INSTALLATION BY THE GENERAL
- CONTRACTOR FOR ALL VENTS THROUGH ROOF. VERIFY TYPE OF ROOFING PRIOR TO INSTALLATION.

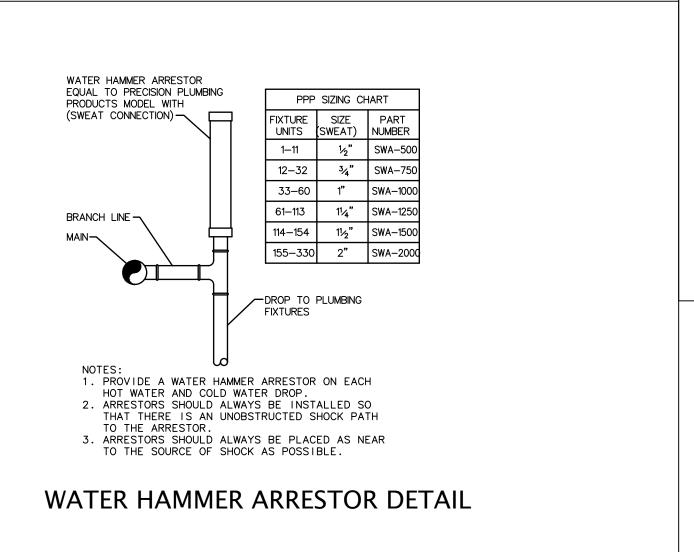
  6. TEST SANITARY, WASTE AND VENT PIPING USING A 10 FOOT WATER COLUMN FOR 2 HOURS OR AS

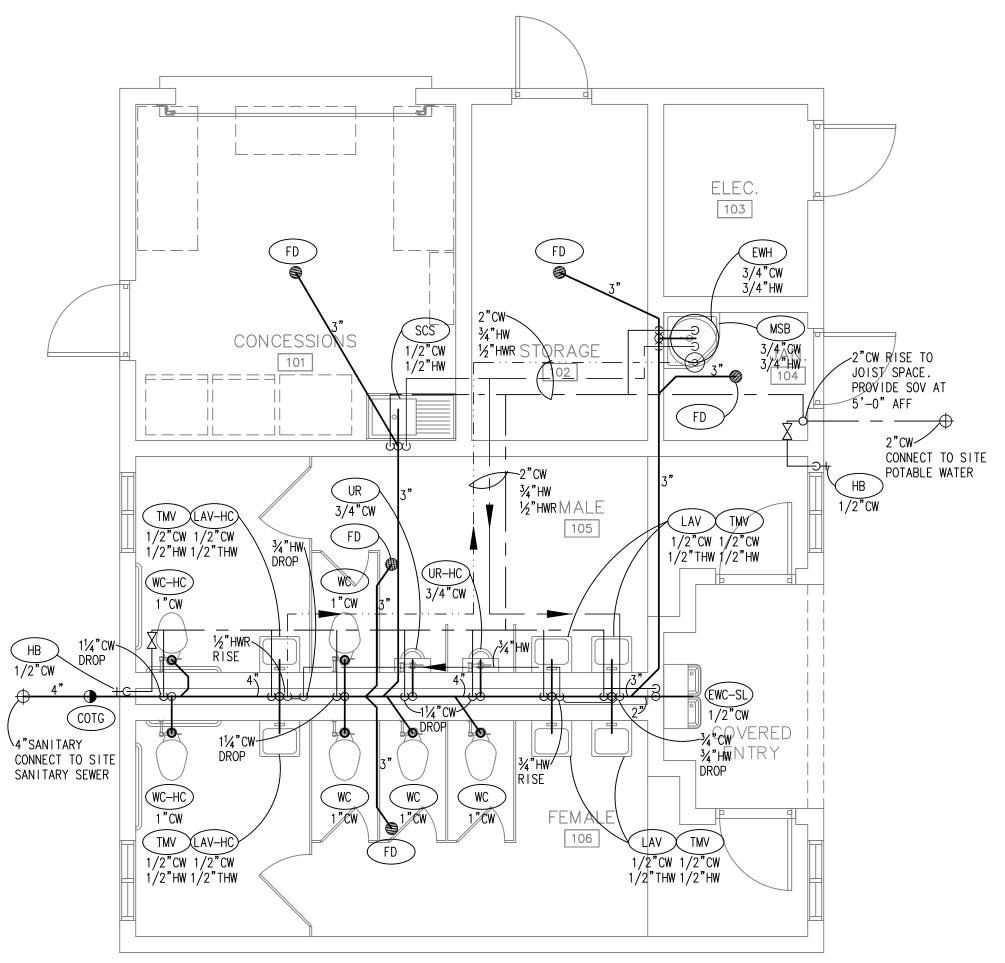


02 SANITARY SEWER

Scale: NOT TO SCALE

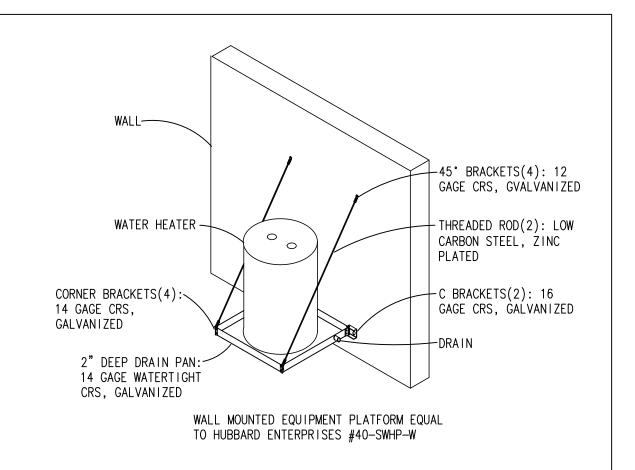








Scale: 1/4"=1'-0"



#### WATER HEATER SUPPORT DETAIL

	WATER DEMAND							
		CW EACH	HW EACH	TOTAL EACH	QTY EACH	TOTAL ALL		
WC LAV UR SINK MSB HB EWC	WATER CLOSET — FLUSH VALVE LAVATORY URINAL SINK MOP SERVICE BASIN HOSE BIBB ELECTRIC WATER COOLER	10 1.5 5 2.0 1.5 3.0 0.5	1.5 - 2.0 1.5 -	10 2 5 3 2 3 0.5	6 6 2 1 1 2	60 12 10 3 2 6 0.5		
TOTAL	WSFU					93.5		
TOTAL	GPM 64			PIPE :	SIZE	= 2"		

PLUMBING	LEGEND
SANITARY SEWER (SAN)	<i>y</i>
GREASE (GR)	۶
VENT (V)	<b>\$</b>
COLD WATER (CW)	<b>5</b> — <b>- - - - 5</b>
HOT WATER (HW)	<u> </u>
TEMPERED HOT WATER (THW)	<u> </u>
HOT WATER RETURN (HWR)	<u> </u>
LP GAS (G)	— GAS —— GAS —— GAS ——
SHUT-OFF VALVE	<b>&gt;</b>
SITE POINT OF CONNECTION	<b>+</b>

HOBART PARK

CONCESSION & RESTROOM

BUILDING

NDIAN RIVER COUNTY, FLORIDA

Key Plan:

Issues:
No.: Date: Description:
A. 03/11/24 BID SET

Consultant:



DONADIO

& Associates, Architects P.A

609 17th Street Vero Beach, FL 32960

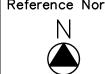
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Reference North



Drn: Dwg. File

JGS

Chd: XREF File

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2018—04

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