Indian River County Purchasing Division
purchasing@ircgov.com

ADDENDUM NO. 1

Issue Date: November 17, 2023

Project Name: Landfill Improvements

ITB Number: 2024023

ITB Opening Date: **December 8, 2023**

This addendum is being released to provide the pre-bid sign in sheet and to provide additional plans.

The information and documents contained in this addendum are hereby incorporated in the invitation to bid. **This addendum must be acknowledged where indicated on the Bid form, or the bid may be declared non-responsive.**

Attachment
Pre-Bid meeting sign in sheet
Electrical Plans
Landscape Plans
Structural Plans

Mandatory Pre-Bid Conference – Bid 2024023 Landfill Improvements Project
Wednesday, November 15, 2023, 10:00 a.m. 1325 74th Ave SW

Name	Company	Phone	Address	Email
John Korswold	Dickerson Infrastructure Inc.	772-429-4444	3122 N. 25th St. Fort Pierce, FL 34946	JKorswold@dfifl.com
CHRIS STURGEON	CARLSON ENVIRONMENTAL CONSULTANTS	386-965-5969	1127 CURTIS ST. STE. 100 MONROE, NC 28112	csturgeon@cecenv.com
Jill Grimaldi	Kimley-Horn	772-519-0660	445 24th St. #200 Vero 32960	jill.grimaldi@Kimley-horn.com
CHASE ROGERS	HINTERLAND GROUP	561-640-3503	2051 W. BLUEHERON BLVD RIVIERA BEACH, FL 33404	CROGERS@HINTERLANDGRUP.COM
Tony Contreras	Sibonney Contracting	(561)236-4612	1450 Centrepark BLVD suite 100 WPB 33401	TContreras@Sibonneycc.com

TREE DISPOSITION LIST

KHA TREE NO.	SCIENTIFIC NAME	COMMON NAME	DBH (In.)	HEIGHT (FT.)	DISPOSITION	MITIGATION(SQFT.)
1	*Sabal Palmetto*	Cabbage Palm	12	24	**Relocate**	n/a
2	*Sabal Palmetto*	Cabbage Palm	15	21	**Relocate**	n/a
3	*Sabal Palmetto*	Cabbage Palm	10	17	**Relocate**	n/a
4	*Sabal Palmetto*	Cabbage Palm	10	18	**Relocate**	n/a
5	*Sabal Palmetto*	Cabbage Palm	10	21	**Relocate**	n/a
6	*Sabal Palmetto*	Cabbage Palm	14	26	**Relocate**	n/a
7	*Sabal Palmetto*	Cabbage Palm	12	18	**Relocate**	n/a
8	*Sabal Palmetto*	Cabbage Palm	12	19	**Relocate**	n/a

TREE DISPOSITION GRAPHIC LEGEND

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
PALM #	PALM TO BE RELOCATED	PALM #	PROPOSED LOCATION OF RELOCATED PALM
	TREE PROTECTION FENCE		

NORTH

GRAPHIC SCALE IN FEET
0 10 20 40

LEGEND	
	EXISTING CONCRETE
	EXISTING GRAVEL
	PROPOSED CONCRETE
	PROPOSED GRAVEL
	NEW ASPHALT PAVEMENT
	ASPHALT MILLING & RESURFACING
	PROPOSED SOD
	FENCE
	PROPERTY LINE

Sunshine811

Call 811 or visit sunshine811.com two full business days before digging to have buried facilities located and marked.

Check positive response codes before you dig!

ISSUED FOR BID

THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY BENJAMIN V. JOHNSON, PLA ON THE DATE ADJACENT TO THE SEAL. PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.

No.	REVISIONS	DATE	BY

Kimley»Horn

© 2023 KIMLEY-HORN AND ASSOCIATES, INC.
445 24th ST SUITE 200, VERO BEACH, FL 32960
PHONE: 772-794-4100
WWW.KIMLEY-HORN.COM REGISTRY 696

BENJAMIN VAN JOHNSON LICENSE No LA6667524 DATE: 10/2/2023 STATE OF FLORIDA PROFESSIONAL LANDSCAPE ARCHITECT

KHA PROJECT	047035124
DATE	SEPT 2023
SCALE	AS SHOWN
DESIGNED BY	----
DRAWN BY	JSW
CHECKED BY	----

TREE DISPOSITION PLAN

IRC LANDFILL IMPROVEMENTS
PREPARED FOR
INDIAN RIVER COUNTY
FLORIDA
INDIAN RIVER COUNTY

SHEET NUMBER
C-420D

TREE REMOVAL AND TREE TO REMAIN PRUNING SPECIFICATIONS

PART 1 - DEFINITIONS

A. Natural Resource - Existing trees or palms.
B. Critical Root Zone - The minimum volume of roots necessary to have for tree health and stability.
C. DBH - Diameter Breast High - Indicates the location on the trunk, approximately 4.5' above ground, to measure the diameter of a tree.
D. Preserved Trees - Trees that are to be saved/remain in place.
E. Owner's Representative - A representative, hired and paid for by the owner, that supervises the construction of the procedures shown on the tree disposition plans.
F. Tree Protection Zone (TPZ) - The area surrounding a tree defined by a specified distance, which excavation and other construction related activities should be avoided. The TPZ is variable depending on species, factors, age and health of the plant, soil conditions, and proposed construction.
G. Contractor's Certified Arborist - an independent ISA Certified Arborist, hired and paid for by the contractor, that supervises the construction of the procedures shown on the tree disposition plans.

PART 2 - TREE BARRIER

A. Tree Protector Barrier Material.
1. Six (6) foot tall wire mesh construction fence supported by eight (8) foot tall metal T-Bar Posts and Post Caps.
2. The tree protector barrier shall have a two (2) foot by two (2) foot "tree protection zone" sign affixed to the fence every twenty (20) feet placed in such a manner to be clearly visible to the construction workers. The sign must be made up of weather resistant material.
3. The eight (8) foot tall metal T-Bar Post and Post Cap shall be placed a maximum of six (6) foot intervals.

PART 3 - EXECUTION

A. If hazards are determined by qualified certified arborist in an individual tree then those hazards can be mitigated according to the specifications given by the Qualified Certified Arborist.
1. The tree disposition list. This item is to be coordinated by the Qualified Certified Arborist with the Owner's Representative.
2. All pruning shall be done in accordance with ANSI A300 (Part 1) Pruning and best management practices.
3. The Contractor's Certified Arborist shall be present during all pruning operations.

B. Root Pruning - Refer to Arborist Report
1. Trenching locations shall be approved in the field by the Owner's Representative and the Contractor's Certified Arborist.
2. All roots shall be cut by hand.
3. The trench shall be backfilled minus debris and large rocks, as directed by the Contractor's Certified Arborist.
4. Phased root pruning timeframes vary by species. Contractor's certified arborist shall direct pruning schedule.

C. Tree Protector Barrier
1. See detail in this sheet.
2. Tree Protector Barrier shall be placed by the Contractor around each tree to remain as directed by the Contractor's Certified Arborist.

D. Tree Removals
1. Contractor shall remove and discard all trees shown as "Remove" on the Tree Disposition Plan and the Tree Disposition List. Tree stump shall be ground below grade. Care shall be taken to not damage the existing trees marked to remain and their critical root zones shall not be compacted by equipment.
2. If Tree Protector Barrier is damaged, repair shall be performed immediately.
3. Contractor shall remove and haul away from the job site all wood generated from tree removals, including stumps, the same day the removal happens.
4. Burn pits are not allowed.

PART 4 - PENALTIES

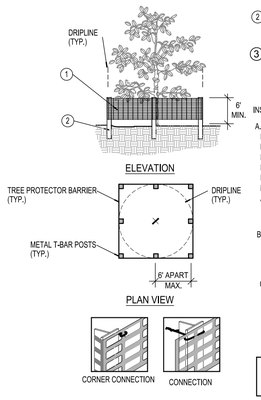
A. Repair of Damaged Trees To Remain
1. If any damage to trees to remain or other natural resources should occur by accident or negligence during the construction period, shall be immediately inspected by Qualified Certified Arborist who shall determine the prescription of care at the Contractor's expense.

PART 5 - TREE PROTECTION

A. Contractor's Certified Arborist to determine the location of the Tree Protector Barrier around each tree to remain based on his/her analysis of each existing tree to remain that is adjacent to construction improvements such as utility installation, pavement addition and/or restoration, etc.
B. Contractor shall maintain and repair the Tree Protector Barrier during site construction operations.
C. Contractor's access to the fenced tree protection areas will be permitted only with approval of Owner's Representative and Contractor's Certified Arborist's written directive.
D. There shall no be change in grade within the critical root zone as per ANSI Standards.
E. Contractor shall clear by hand all vegetation to grade within the critical root zones of trees to remain.
F. Contractor shall not install conduit, sprinklers, or any utility line in any critical root zone areas without the approval of the Contractor's Certified Arborist and Owner's Representative.

PART 6 - IRRIGATION

A. Contractor shall irrigate trees as specified by Landscape Architect and Qualified Certified Arborist.
B. On a monthly basis an irrigation audit shall be conducted by an irrigation specialist for review by Landscape Architect or Qualified Certified Arborist.



A TREE/SHRUB PROTECTOR
Barrier Detail
NTS

1. SIX (6) FOOT TALL WIRE MESH CONSTRUCTION FENCE BY EIGHT (8) FOOT TALL METAL T-BAR POSTS AND POST CAPS. SUBMIT PRODUCT INFORMATION FOR APPROVAL BY OWNER'S REPRESENTATIVE PRIOR TO INSTALLATION.
2. WEATHER RESISTANT MATERIAL 2' X 2' "TREE PROTECTION ZONE" SIGN. SUBMIT PRODUCT INFORMATION FOR APPROVAL BY OWNER'S REPRESENTATIVE PRIOR TO INSTALLATION.
3. EIGHT (8) FOOT TALL METAL T-BAR POSTS, 24" MINIMUM BURIAL BELOW GRADE OR AS REQUIRED TO CREATE A SAFE CONDITION, WHICHEVER GREATEST. SUBMIT PRODUCT INFORMATION FOR APPROVAL BY OWNER'S REPRESENTATIVE PRIOR TO INSTALLATION.

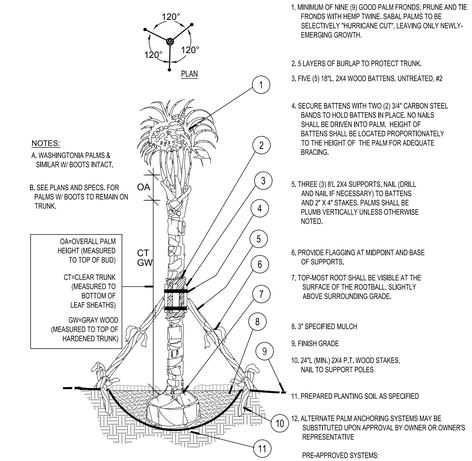
INSTALLATION NOTES:

A. POST SELECTION SHOULD BE BASED ON EXPECTED STRENGTH NEEDS AND THE LENGTH OF TIME FENCE WILL BE IN PLACE. FLEXIBLE FIBERGLASS ROD POSTS ARE RECOMMENDED FOR PARKS, ATHLETIC EVENTS AND CROWD CONTROL INSTALLATIONS. METAL "T" POSTS OR ARE TYPICALLY USED FOR CONSTRUCTION AND OTHER APPLICATIONS.

B. POSTS SHALL BE DRIVEN INTO THE GROUND TO A DEPTH OF TWO (2) FEET MINIMUM OR AS REQUIRED TO ENSURE A SAFE CONDITION. SPACE POSTS 6' MAXIMUM ON CENTER.

C. SECURE FENCING TO POST WITH NYLON CABLE TIES (AVAILABLE FROM CONWED PLASTICS). WOOD STRIPS MAY BE ALSO BE USED TO PROVIDE ADDITIONAL SUPPORT AND PROTECTION BETWEEN TIES AND POSTS.

NOTE: IF WIRE TIES ARE USED, AVOID DIRECT CONTACT WITH PROTECTOR BARRIER. WIRE MAY DAMAGE PROTECTOR BARRIER OVER TIME.



1. MINIMUM OF NINE (9) GOOD PALM FRONDS; PRUNE AND TIE FRONDS WITH HEMP TWINE. SABAL PALMS TO BE SELECTIVELY "HURRICANE CUT", LEAVING ONLY NEWLY-EMERGING GROWTH.
2. 5 LAYERS OF BURLAP TO PROTECT TRUNK.
3. FIVE (5) 18"L, 2X4 WOOD BATTENS, UNTREATED, #2
4. SECURE BATTENS WITH TWO (2) 3/4" CARBON STEEL BANDS TO HOLD BATTENS IN PLACE. NO NAILS SHALL BE DRIVEN INTO PALM. HEIGHT OF BATTENS SHALL BE LOCATED PROPORTIONATELY TO THE HEIGHT OF THE PALM FOR ADEQUATE BRACING.
5. THREE (3) 8'L 2X4 SUPPORTS, NAIL (DRILL AND NAIL IF NECESSARY) TO BATTENS AND 2" X 4" STAKES. PALMS SHALL BE PLUMB VERTICALLY UNLESS OTHERWISE NOTED.
6. PROVIDE FLAGGING AT MIDPOINT AND BASE OF SUPPORTS.
7. TOP-MOST ROOT SHALL BE VISIBLE AT THE SURFACE OF THE ROOTBALL, SLIGHTLY ABOVE SURROUNDING GRADE.
8. 3" SPECIFIED MULCH
9. FINISH GRADE
10. 24"L (MIN.) 2X4 P.T. WOOD STAKES, NAIL TO SUPPORT POLES
11. PREPARED PLANTING SOIL AS SPECIFIED
12. ALTERNATE PALM ANCHORING SYSTEMS MAY BE SUBSTITUTED UPON APPROVAL BY OWNER OR OWNER'S REPRESENTATIVE

PRE-APPROVED SYSTEMS:
*BROOKS TREE BRACE SYSTEM
*ARBOR TIE TREE BRACING

B Palm Planting and Staking
SECTION
NTS

Sunshine811
Call 811 or visit sunshine811.com two full business days before digging to have buried facilities located and marked.
Check positive response codes before you dig!

No.	REVISIONS	DATE	BY

Kimley»Horn

445 24th ST SUITE 200, VERO BEACH, FL 32960
PHONE: 772-794-4100
WWW.KIMLEY-HORN.COM REGISTRY 696

THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY BENJAMIN V. JOHNSON, PLA ON THE DATE ADJACENT TO THE SEAL. PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.

BENJAMIN V. JOHNSON LICENSED No LA6667524 DATE: 10/12/2023 FOR DP PROFESSIONAL LANDSCAPE ARCHITECT

KHA PROJECT 047035124
DATE SEPT 2023
SCALE AS SHOWN
DESIGNED BY ---
DRAWN BY JSW
CHECKED BY ---

TREE DISPOSITION NOTES

IRC LANDFILL IMPROVEMENTS
PREPARED FOR
INDIAN RIVER COUNTY
INDIAN RIVER COUNTY FLORIDA

SHEET NUMBER
C-420E

STRUCTURAL NOTES

GENERAL NOTES:

1. The Governing Code for this project is the Florida Building Code, Seventh Edition (2020). This Code prescribes which Edition of each referenced standard applies to this project.
2. To the best of our knowledge, the Structural drawings and specifications comply with the applicable requirements of the Governing Building Code.
3. Construction is to comply with the requirements of the Governing Building Code and all other applicable Federal, State, and local Codes, Standards, Regulations and Laws.
4. The Structural documents are to be used in conjunction with the Architectural documents. Use these notes in conjunction with the project specifications. If a conflict exist, notify the Architect.
5. Details labeled "Typical" apply to all situations that are the same or similar to those specifically referenced, whether or not they are keyed in at each location. Questions regarding the applicability of typical details shall be resolved by the Architect.
6. Openings shown on Structural drawings are only pictorial. See the Architectural and M.E.P. drawings for the size and location of openings in the structure.
7. Contractors who discover discrepancies, omissions or variations in the contract documents during bidding shall immediately notify the Engineer. The Engineer will resolve the condition and issue a written clarification.
8. The General Contractor shall coordinate all contract documents with field conditions and dimensions and project shop drawings prior to construction. Do not scale drawings; use only printed dimensions. Report any discrepancies in writing to the Engineer prior to proceeding with work. Do not change size or location of Structural members without written instructions from the Structural Engineer of record.
9. The contractor shall protect adjacent property, his own work and the public from harm. The contractor is solely responsible for construction means and methods, and jobsite safety including all OSHA requirements.
10. The Structure is designed to be structurally sound when completed. Prior to completion, the Contractor is responsible for stability and temporary bracing, including, but not limited to, masonry walls. Wherever the Contractor is unsure of these requirements, the Contractor shall retain a Florida Licensed Engineer to design and inspect the temporary bracing and stability of the Structure.
11. **DESIGN SUPERIMPOSED LOADS:**

Occupancy	LIVE LOAD	RED. LL	DEAD LOAD	POINT LL
DRIVEWAYS SUBJECT TO TRUCKING	250 PSF	–	–	–

12. **DESIGN WIND LOADS:**

Governing Code	ASCE 7-16
Basic Wind Speed	Vult= 160 MPH/Vasd= 124 MPH
Risk Category	III
Building Enclosure	OPEN
Directionality Factor	Kd = 0.85
Exposure	C
Mean Roof Height	<15 FEET

13. **FLOOD DESIGN CRITERIA:**

Governing Code	ASCE 24-14
Flood Design Class	II
Flood Zone	X

SHALLOW FOUNDATIONS:

1. Foundation design, soil preparation and compaction are based on geotechnical investigation, data and recommendations in report #2300801-b by KMS Engineering & Testing dated February 22, 2023.
2. Footing sizes and reinforcing are based on an assumed allowable soil bearing capacity of 1,500 psf for the biogas equipment pad and 2,000 psf for the scale slab. All footings shall bear on compacted fill, natural soil or rock prepared per the geotechnical report.
3. Subgrade preparation shall be field controlled and tested by a licensed soils Engineer in accordance with the geotechnical report. At completion, that Engineer shall prepare and submit to the owner, Architect, contractor and Structural Engineer a signed and sealed letter indicating that the recommendations of the geotechnical report have been followed.
4. Center all footings under their respective columns or walls, u.o.n.

REINFORCED CONCRETE:

1. Comply with ACI 301 and 318-14 and specification sections 03100, 03200 and 03300.
2. Provide Structural Concrete with a minimum ultimate Compressive Design Strength of 4,000 psi in 28 days as follows:

Element	Strength
Footings	4,000 psi
Slabs on Grade	4,000 psi

3. Use normal weight concrete for all Structural Members. u.o.n. with W/C ratio of 0.40.
4. Provide ASTM A-615 Grade 60 reinforcing steel. Weldable Rebar shall be ASTM-706, Grade 60 per AWS D.1. Reinforcing shall be accurately placed, rigidly supported and firmly tied in place, with appropriate bar supports and spacers. Lap bottom steel over supports and top steel at midspan (u.o.n.). Hook discontinuous ends of all top bars and all bars in walls, u.o.n. Provide cover over reinforcing as follows:

Element	bottom	top	sides
Footings	3"	2"	3"
Slabs on Grade	2"	1"	2"

5. Where specified, provide plain, cold-drawn electrically-welded wire reinforcement conforming to ASTM A-185. Supply in flat sheets only. Lap splice two cross wire spacing.
6. In addition to specified reinforcing, provide 2 tons of reinforcing bars to be detailed, fabricated, delivered to site and placed as directed by the Architect/Engineer to account for unforeseeable conditions.
7. Utilities shall not penetrate beams or columns but may pass through slabs and walls individually, u.o.n. For openings 24" long or less, cut reinforcing and replace alongside opening with splice bars of equivalent area with 48 bar dia. lap. Prepare and submit shop drawings for openings longer than 24". For rectangular openings 12" long or longer, add 1#5 x 6' mid depth diagonal at all 4 corners.
8. Where reinforcing steel congestion permits, conduit and pipes up to 1" diameter may be embedded in concrete per ACI 318, section 6.3. Space at 3 diameters o.c. Place between outer layers of reinforcing if conduits are significantly congested, additional reinforcing perpendicular to piping may be required. Requests to embed larger pipes shall be accompanied by a detailed description and be submitted to the Architect for evaluation.
9. Provide construction joints in accordance with ACI 318, section 6.4. Provide keyways and adequate dowels. Submit drawings showing location of construction joints and direction of pour for review.
10. Provide 3/4" chamfer for all exposed corners.
11. Provide reinforcing steel placer with a set of Structural Drawings for field reference. Inspect reinforcing steel placing from Structural Drawings.
12. Consolidate placed concrete with mechanical vibrating equipment in accordance with ACI 301.
13. After applying float finish, apply first troweling and consolidate concrete by power-driven trowel. Continue troweling passes and restraighten until surface is free of trowel marks and uniform in texture and appearance. Grind smooth any surface defects that would telegraph through applied coatings or floor coverings. Do not add water to concrete surface. Do not apply hard-troweled finish to concrete, which has a total air content greater than 3 percent.

MIN. LAP SPLICE LENGTH SCHEDULE — f'c = 4000 PSI

BAR TYPE	BAR SIZE								
	#3	#4	#5	#6	#7	#8	#9	#10	#11
48 BAR DIAMETER	18"	24"	30"	36"	42"	48"	54"	61"	68"
FOOTINGS	16"	16"	19"	23"	33"	37"	42"	47"	53"
SLABS	16"	19"	28"	37"	60"	74"	–	–	–

LAP SPLICE LENGTH SCHEDULE

SLABS ON GRADE:

1. Refer to geotechnical report for subgrade preparation more than 12" below bottom of slab.
2. Above subgrade, use fill containing not more than 10% passing #200 sieve and maximum 1 inch diameter. Compact to 95% of maximum dry density as determined by modified proctor ASTM D-1557. Each layer of fill shall not exceed 6" loose thickness. Compact prior to placement of the next layer.
3. Fill placement and compaction shall be monitored and accepted by the testing agency. Take a min. of one field density test (ASTM D-1556 or D-2922) for each 2,500 square feet of each layer. The testing agency shall randomly select test locations.
4. Place concrete in long-strip construction method. Provide crack control joints at 15 feet maximum to limit areas between joints to 225 sq. ft. In all floating slabs on grade. Locate to conform to bay spacing whenever possible, add crack control joints at re-entrant corners which tend to invite cracks.

EXCAVATION, BACKFILL AND DEWATERING:

1. The Contractor is solely responsible for all excavation procedures including lagging, shoring, and protection of adjacent property, structures, streets and utilities in accordance with the requirements of the local Building Department and OSHA regulations. Do not excavate within one foot of the angle of repose of any soil bearing foundation unless the foundation is properly protected against settlement.
2. The Contractor is responsible for the disposal of all accumulated water in a manner that does not inconvenience or damage the work.

POST-INSTALLED ANCHORS:

1. Unless otherwise indicated on plans, post-installed anchors shall consist of the following anchor types, or equivalent:

POST-INSTALLED ANCHOR SCHEDULE

INSTALLED IN	ADHESIVE ANCHOR	MECHANICAL ANCHOR
SOLID CONCRETE	HILTI HIT-RE 500v3 SAFE SET SYSTEM HILTI HIT-HY 200 SAFE SET SYSTEM	HILTI KWIK HUS EZ HILTI KWIK BOLT TZ

2. Substitution requests for alternate products must be approved in writing by the engineer of record prior to use. Contractor shall provide calculations demonstrating that the substituted product is capable of achieving the performance values of the specified product. Substitutions will be evaluated by their having an ICC ERS showing compliance with the relevant and current building code.
3. Install anchors per the manufacturer instructions, as included in the anchor packaging.
4. The contractor shall arrange an anchor manufacturer's representative to provide onsite installation training for all of their anchoring products specified. The structural engineer of record must receive documented confirmation that all of the Contractor's personnel who install anchors are trained prior to the commencement of installing anchors.
5. See project specifications for post-installed anchor inspection requirements.
6. Construction of post-installed anchors requires continuous inspection by the testing lab to ensure proper embedment and installation per manufacturer's specifications.
7. Anchor capacity is dependent upon spacing between adjacent anchors and proximity of anchors to edge of concrete. Install anchors in accordance with spacing and edge clearances indicated on the drawings.
8. Existing reinforcing bars and / or post-tensioned tendons in the concrete structure may conflict with specific anchor locations. The contractor shall review the existing structural drawings and shall undertake to locate the position of the reinforcing bars and/or post-tensioned tendons by non-destructive methods at the locations of the concrete anchors. Contractor shall immediately contact the engineer if a conflict is identified. If existing reinforcing and / or tendon layout prohibits the installation of anchors as indicated on the drawings, the contractor shall immediately notify the design professionals.
9. If a conflict exists, the anchors position can be adjusted by no more than 1 inch. If a larger deviation is necessary, contact the Engineer.
10. Post-installed anchors shall only be used where specified on the construction documents. The contractor shall obtain approval from the engineer of record prior to installing post-installed anchors in place of missing or misplaced cast-in-place anchors. Care shall be take in placing post-installed anchors to avoid conflicts with existing rebar and / or post-tensioned tendons. Holes shall be drilled and cleaned in accordance with the manufacturer's written instructions. Substitution requests for products other than those specified, shall be submitted by the contractor to the engineer of record along with calculations that are prepared and sealed by a registered professional engineer. The calculations shall demonstrate that the substituted product is capable of achieving the pertinent equivalent performance values (minimum) of the specified product using the appropriate design procedure and / or standard(s) as required by the building code. Contact manufacturer's representative for the initial training and installation of anchors and for product related questions and availability.
11. Post-installed concrete anchors shall be of size, type, and quantity as noted on details, as manufactured by hilti, simpson strong-tie qnchors systems or powers fasteners. No other manufacturer permitted. Anchors from only one manufacturer shall be utilized on the project.
12. Overhead and / or constant tension adhesive anchor installations not shown on the drawings shall not be permitted unless each condition is reviewed and approved in writing by the engineer of record.
13. Proof testing of adhesive anchors shall be performed in accordance with the project specifications. Unless noted otherwise, adhesive anchor proof tension loads shall be per the adhesive anchor proof tension schedules. Proof testing of reinforcement for concrete housekeeping pads is not required.

SHOP DRAWINGS AND OTHER SUBMITTALS:

1. Submit specific components, such as columns, footings, etc., in a single package. Submit similar floors together.
2. On first submittal, clearly flag and cloud all differences from the contract documents. On resubmittals, flag and cloud all changes and additions to previous submittal; only clouded items will be reviewed.
3. Submittals for special structural, load-carrying items that are required by codes or standards to resist forces must be prepared by, or under the direct supervision of, a delegated engineer as follows:

SHOP DRAWING SUBMITTAL REQUIREMENTS

COMPONENT	DRAWINGS/ MATERIAL SHEETS	PRODUCT APPROVALS	SIGNED & SEALED DRAWINGS	SIGNED & SEALED CALCULATIONS
CONCRETE MIXES	X			
REINFORCEMENT	X			
CONCRETE ACCESSORIES	X			
EPOXY, EXPANSION, OR SCREW ANCHORS	X			
BOLLARD	X	X	X	X

4. A delegated Engineer is defined as a Florida licensed Engineer who specializes in and undertakes the design of structural components or structural systems included in a specific submittal prepared for this project and is an employee or officer of, or consultant to, the contractor or fabricator responsible for the submittal. The delegated Engineer shall sign, seal and date the submittal, including calculations and drawings.
5. The trade contractor is responsible for confirming and correlating dimensions at the job sites, for tolerances, clearances, quantities, fabrication processes and techniques of construction, coordination of the work with other trades and full compliance with the contract documents.
6. The general contractor/construction manager shall review and approve submittals and shall sign and date each drawing prior to submitting to the Architect. This approval is to confirm that the submittal is complete, complies with the submittal requirements and is coordinated with field dimensions, other trades, erection sequencing and constructibility.
7. The structural Engineer reviews submittals to confirm that the submittal is in general conformance with the design concept presented in the contract documents. Quantities and dimensions are not checked. Notations on submittals do not authorize changes to the contract sum. Checking of the submittal by the Structural Engineer shall not relieve the contractor of responsibility for deviations from the contract documents and from errors or omissions in the submittal.
8. In addition to the above, the structural Engineer's review of delegated Engineer submittals is limited to verifying that the specified structural submittal has been furnished, signed and sealed by the delegated Engineer and that the delegated Engineer has understood the design intent and used the specified structural criteria. No detailed check of calculations will be made. The delegated Engineer is solely responsible for their design, including but not limited to the accuracy of their calculations and compliance with the applicable codes and standards.
9. CAD files of Structural Drawings may be used as an aid in preparing shop drawings only upon the contractor signing an agreement. When Cad files or copies of the Structural Drawings are made available, it is under the following conditions:

   A. All information contained in the CAD files or copies of the Structural Drawings are instruments of service of the Architect/ Engineer and shall not be used for other projects. additions to the project or the completion of the project by others. CAD files and copies of the Structural Drawings remain the property of Kimley-Horn & Associates, Inc. and in no case shall their transfer be considered a sale.

   B. Cad files or copies of the Structural Drawings are not contract documents. In the event of a conflict, the Structural Drawings shall govern.

   C. The use of CAD files or copies of the StructuralDdrawings shall not in any way relieve the Contractor's responsibility for proper checking and coordination of dimensions, details, sizes and quantities of materials as required for the preparation of complete and accurate shop drawing; and

   D. The Contractor shall revise all references to contract document sheet numbers and section marks and shall remove information that is not required for their work from the CAd files or copies of the Structural Drawings, including the title block.

   E. Dimensions in the CAD files may not be precise and, in some cases, have been intentionally altered for presentation purposes. Do not scale dimensions electronically or otherwise.

ISSUED FOR BID

Sunshine811

Call 811 or visit sunshine811.com two full business days before digging to have buried facilities located and marked.

Check positive response codes before you dig!

Kimley»Horn
445 24th ST SUITE 200, VERO BEACH, FL 32960
PHONE: 772-794-4100
WWW.KIMLEY-HORN.COM REGISTRY 696

No.	REVISIONS	DATE	BY

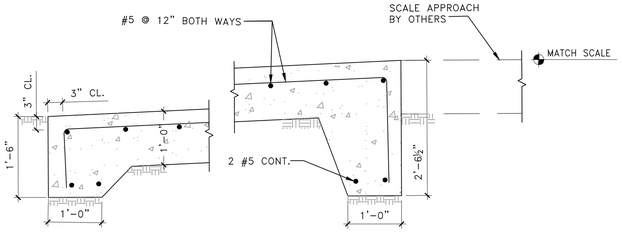
LICENSED PROFESSIONAL
ALLYSON V GOOLABSINGH P.E.
LICENSE NO. 82292
DATE: 10/06/2023

KHA PROJECT 047035124
DATE SEPT 2023
SCALE AS SHOWN
DESIGNED BY ----
DRAWN BY JSW
CHECKED BY ----

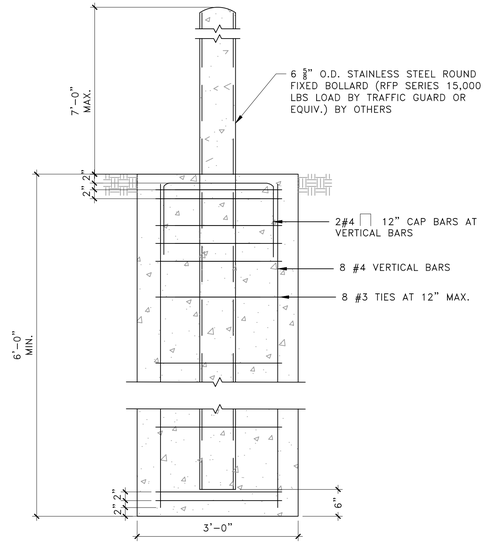
GENERAL STRUCTURAL NOTES

IRC LANDFILL IMPROVEMENTS
PREPARED FOR
INDIAN RIVER COUNTY FLORIDA
INDIAN RIVER COUNTY

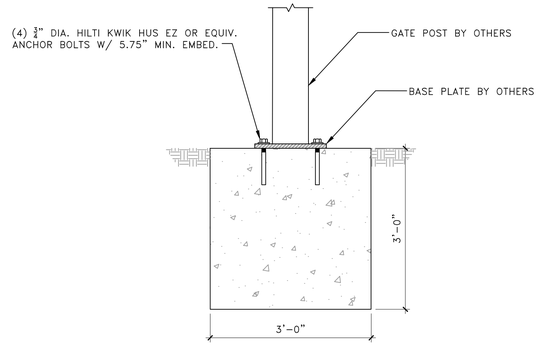
SHEET NUMBER
S-200



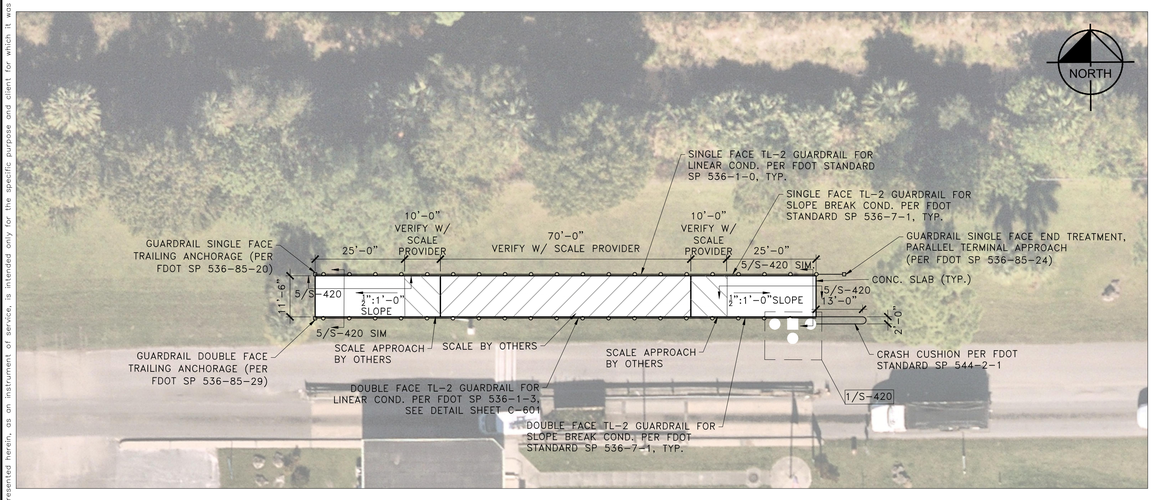
5 APPROACH SLAB-ON-GRADE
SCALE: 3/4"=1'-0"



4 BOLLARD FOOTING
SCALE: 3/4"=1'-0"

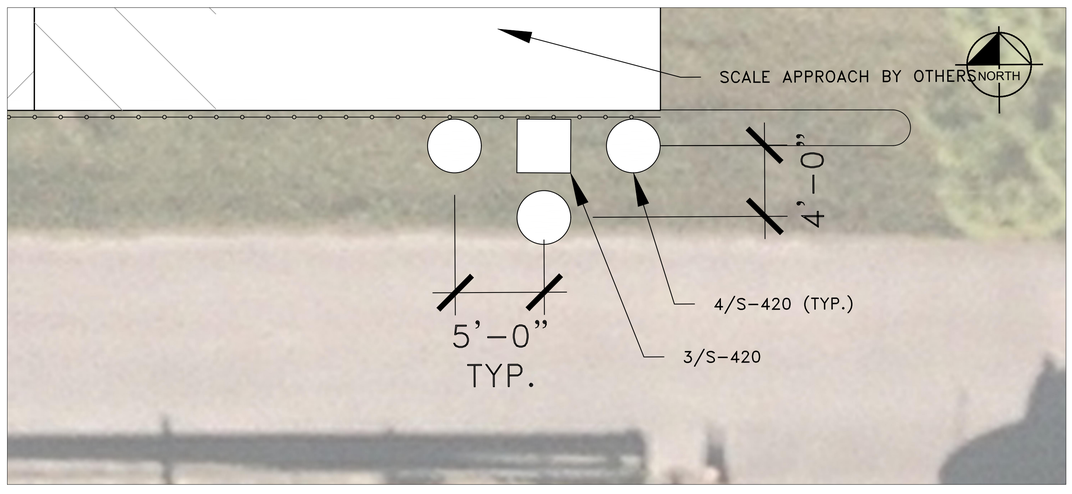


3 GATE FOOTING
SCALE: 3/4"=1'-0"



STRUCTURAL FOUNDATION NOTES:
1. COORDINATE ELEVATIONS WITH SITE PLAN.

2 SCALE FOUNDATION PLAN
SCALE: 1" = 20'



STRUCTURAL FOUNDATION NOTES:
1. COORDINATE ELEVATIONS WITH SITE PLAN.

1 ENLARGED GATE AND BOLLARD FOUNDATION PLAN
SCALE: 3" = 1'-0"

ISSUED FOR BID

Sunshine811
Call 811 or visit sunshine811.com two full business days before digging to have buried facilities located and marked.
Check positive response codes before you dig!

No.	REVISIONS	DATE	BY

Kimley»Horn
445 24th ST SUITE 200, VERO BEACH, FL 32960
PHONE: 772-794-4100
WWW.KIMLEY-HORN.COM REGISTRY 696

LICENSED PROFESSIONAL
ALLYSON V. GOOLABSINGH, P.E.
LICENSE NO. 82392
DATE: 10/06/2023

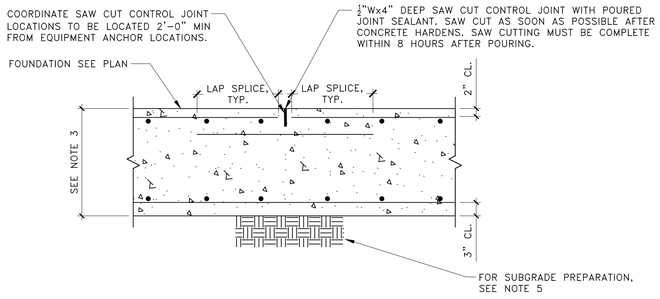
KHA PROJECT 047035124
DATE SEPT 2023
SCALE AS SHOWN
DESIGNED BY ---
DRAWN BY JSW
CHECKED BY ---

PROPOSED STRUCTURAL PLAN AUTOMATES SCALE IMPROVEMENTS

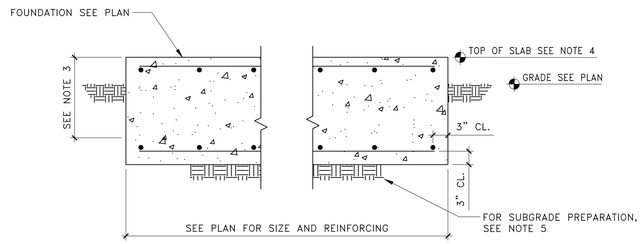
IRC LANDFILL IMPROVEMENTS
PREPARED FOR
INDIAN RIVER COUNTY
FLORIDA
INDIAN RIVER COUNTY

SHEET NUMBER
S-420

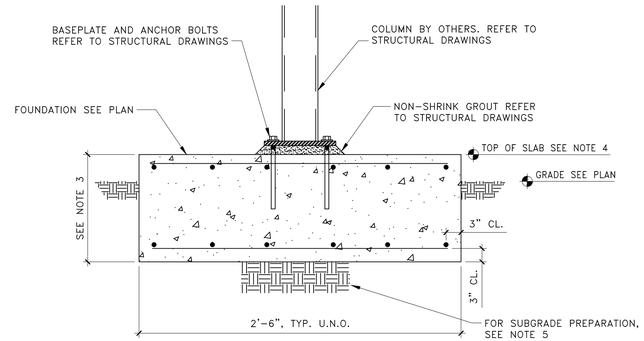
Table of Equipment								
Item	Description	Qty	Weight (lbs/unit)	Weight (lbs)	Width (ft)	Length (ft)	Height (ft)	Stand height (ft)
1	Blowers	3	4,800	14,400	10.00	3.25	4.15	1.50
2	Aftercooler	1	9,000	9,000	7.00	12.00	2.50	7.50
3	Control Panels	1	500	500	11.00	1.50	6.00	1.50
4	Skid Frame	1	18,000	18,000	12.00	40.00	1.50	–
5	Downstream separator	1	900	900	1.33	–	5.75	2.50
6	Upstream separator	1	1,400	1,400	3.00	–	6.75	2.50
7	Chiller	1	16,500	16,500	7.50	14.00	9.00	–
8	Media Vessel	2	190,000	380,000	12.00	–	22.25	–
9	Flare	1	2,300	2,300	0.83	–	45.00	–
10	Heat exchange	1	1,500	1,500	4.33	4.17	4.33	2.50
11	Filter	1	800	800	1.33	–	6.00	1.50



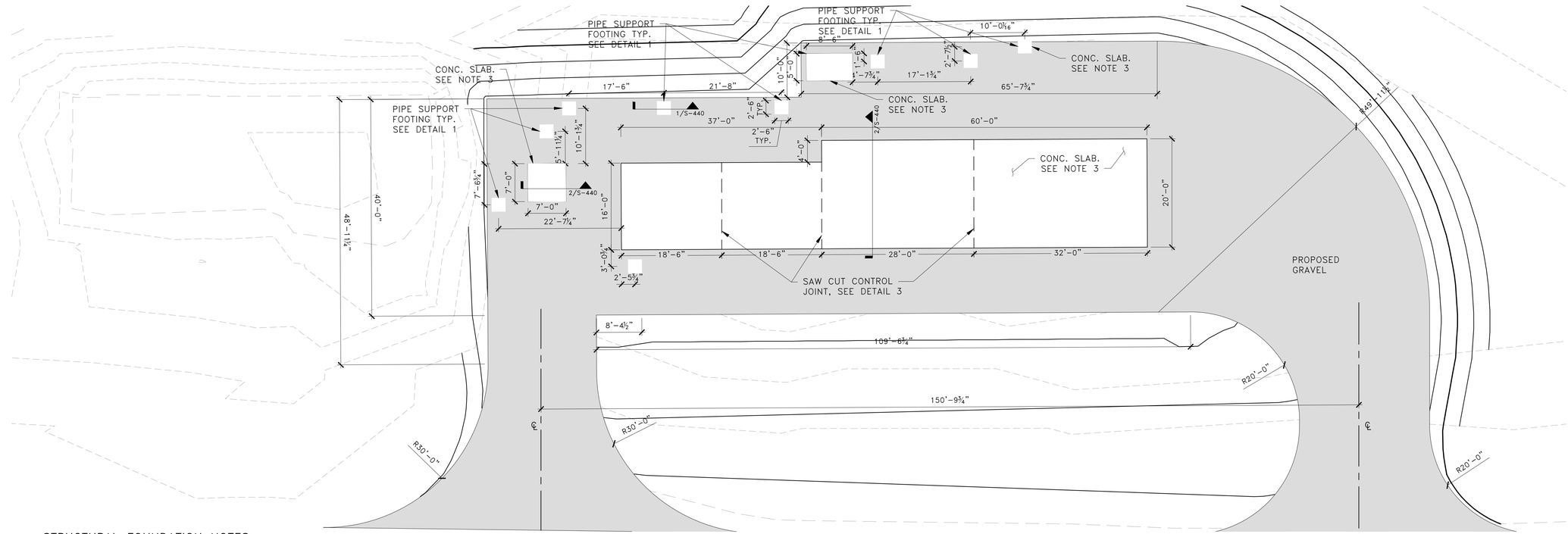
3 TYP. SLAB CONTROL JOINT
SCALE: 3/4"=1'-0"



2 TYP. SLAB-ON-GRADE FOUNDATION
SCALE: 3/4"=1'-0"



1 TYP. PIPE SUPPORT FOOTING
SCALE: 3/4"=1'-0"



LANDFILL GAS SYSTEM FOUNDATION PLAN
SCALE: 1"= 10'

STRUCTURAL FOUNDATION NOTES:

1. COORDINATE ELEVATIONS WITH SITE PLAN.
2. REFER TO SKID AND FLARE MECHANICAL AND STRUCTURAL DRAWINGS FOR EQUIPMENT SIZE, CONFIGURATION, BASE STAND FRAMING, AND CONNECTIONS TO FOUNDATIONS.
3. CONC. SLAB IS 24" CAST-IN-PLACE SLAB ON GRADE REINFORCED WITH #5@12" EACH WAY TOP AND BOTTOM.
4. TYPICAL SLAB ELEVATION IS +30'-6".
5. REFER TO GEOTECHNICAL REPORT FOR SUBGRADE PREPARATION BELOW FOUNDATIONS AND SLABS. AFTER CLEARING AND GRUBBING, SUBGRADE SHALL BE COMPACTED TO 95% OF MODIFIED PROCTOR MAXIMUM DRY DENSITY TO A DEPTH OF 2 FT. BELOW GRADE. STRUCTURAL FILL FOR GRADING SHALL BE PLACED IN LIFTS NOT MORE THAN 12 INCHES AND COMPACTED TO 95% OF MODIFIED PROCTOR MAXIMUM DRY DENSITY. TESTING SHALL BE DONE AND VERIFIED BY THE GEOTECHNICAL ENGINEER TO CONFIRM THE LEVEL OF COMPACTION HAS BEEN ACHIEVED.

NORTH

ISSUED FOR BID

Sunshine811
Call 811 or visit sunshine811.com two full business days before digging to have buried facilities located and marked.
Check positive response codes before you dig!

No.	REVISIONS	DATE	BY

Kimley»Horn
445 24th ST SUITE 200, VERO BEACH, FL 32960
PHONE: 772-794-4100
WWW.KIMLEY-HORN.COM REGISTRY 696

LICENSED PROFESSIONAL

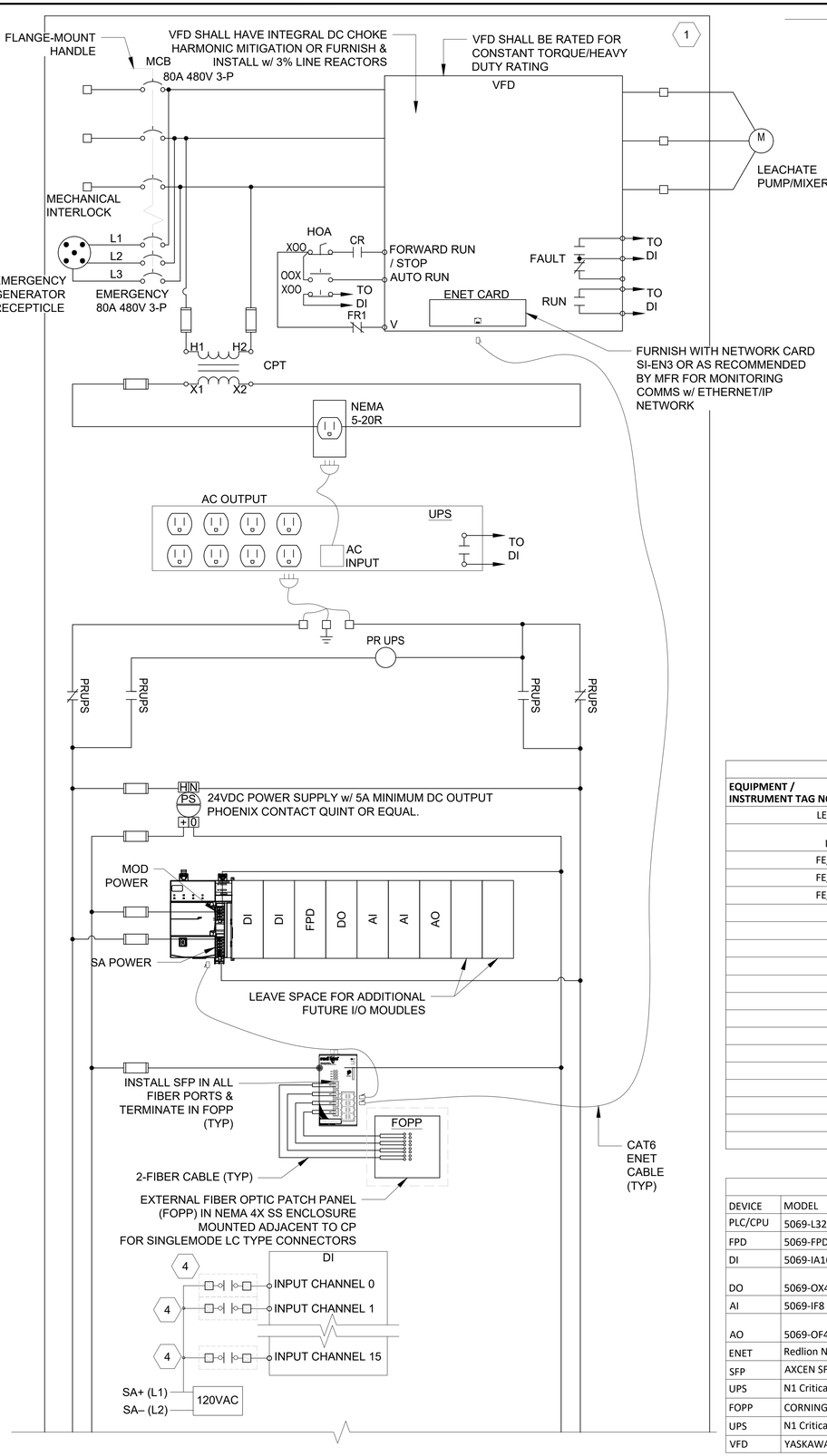
ALYSON V. GOOLABSINGH P.E.
LICENSE NO. 82292
DATE: 10/06/2023

KHA PROJECT 047035124
DATE SEPT 2023
SCALE AS SHOWN
DESIGNED BY ---
DRAWN BY JSW
CHECKED BY ---

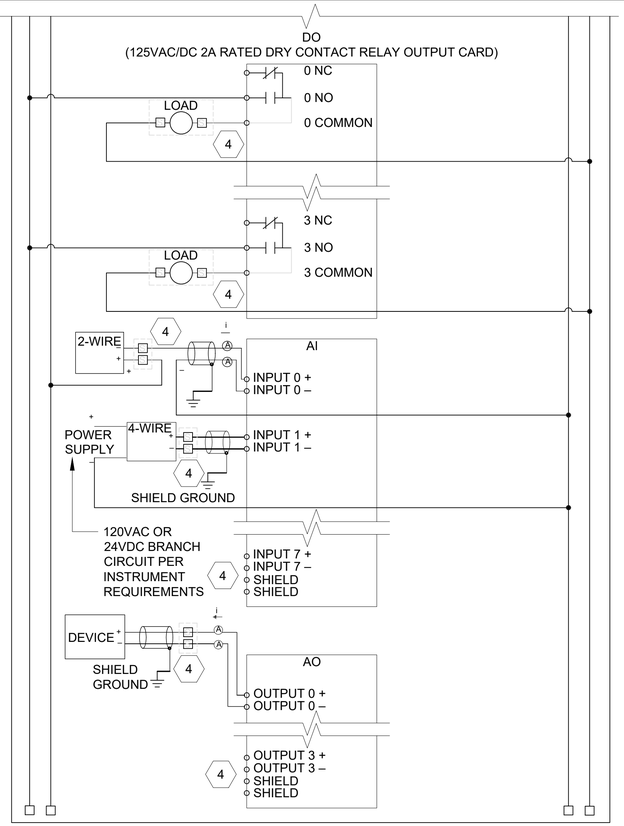
PROP. STR. PLAN LANDFILL GAS BLOWER SKID & FLARE IMPROVEMENTS

IRC LANDFILL IMPROVEMENTS
PREPARED FOR
INDIAN RIVER COUNTY
FLORIDA
INDIAN RIVER COUNTY

SHEET NUMBER
S-440



1 LEACHATE PUMP/MIXER VFD & PLC CP ELEMENTARY
NTS



PRELIMINARY I/O DATA TABLE

EQUIPMENT / INSTRUMENT TAG NO.	EQUIPMENT / INSTRUMENT	SIGNAL	SIGNAL TYPE		RANGE/UNITS
LE/LIT-01	LEACHATE TANK LEVEL	LEVEL	AI	4-20mA	0-x (in)
LSLL-01	LEACHATE TANK LEVEL LEVEL SWITCH LOW LOW	LEVEL	DI	120VAC	-/ALARM-LOW LOW LEVEL
FE/FIT-01	LEACHATE TANK DISCHARGE FLOW	FLOW	AI	4-20mA	0-x (gpm)
FE/FIT-02	XXX FLOW	FLOW	AI	4-20mA	0-x (gpm)
FE/FIT-03	XXX FLOW	FLOW	AI	4-20mA	0-x (gpm)
MX-1	LEACHATE TANK MIXER H-O-A	AUTO MODE	DI	120VAC	-/IN AUTO
MX-1	LEACHATE TANK MIXER VFD	STATUS - RUNNING	DI	120VAC	-/Running
MX-1	LEACHATE TANK MIXER VFD	ALARM FAIL	DI	120VAC	-/Alarm
MX-1	LEACHATE TANK MIXER VFD	CONTROL - STOP/START	DO	120VAC	Stop/Start
MX-1	LEACHATE TANK MIXER VFD	FEEDBACK - SPEED	AI	4-20mA	0-60 Hz
MX-1	LEACHATE TANK MIXER VFD	CONTROL - SPEED	AO	4-20mA	0-60 Hz
	SPARE		DI	120VAC	
	SPARE		DI	120VAC	
	SPARE		DO	120VAC	
	SPARE		DO	120VAC	
	SPARE		DO	120VAC	

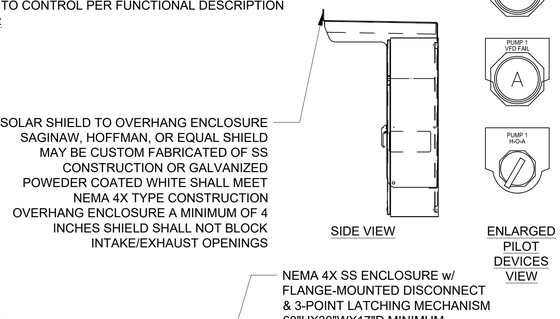
PLC MAJOR EQUIPMENT LIST

DEVICE	MODEL	DESCRIPTION
PLC/CPU	5069-L320ER	CompactLogix 5380 Controller, 2MB, 16 I/Os, 40 nodes, Standard
FPD	5069-FPD	5069 Compact I/O Field Potential Distributor Module
DI	5069-IA16	5069 Compact I/O 16 channels AC input modules, supporting both 120 & 240 VAC signals
DO	5069-OX4I	5069 Compact I/O 4 Channel Normally open/Normally Closed individually isolated type Relay Output Module, 2 tier fault mode, hold last state
AI	5069-IF8	5069 Compact I/O 8 Channel Voltage/Current Analog Input Module, 16 bit resolution, 1ms channel update rate, analog scaling
AO	5069-OF4	5069 Compact I/O 4 Channel Voltage/Current Analog Output Module, 16 bit resolution, 1ms channel update rate, forcing, analog scaling, hold last state
ENET	Redlion N-Tron NT24K-12SFP-DM4	
SFP	AXCEN SFP part number is AXGE-1354-0533	
UPS	N1 Critical Technologies N1C.L1000 UPS	
FOPP	CORNING CCH IN NEMA 4X ENCLOSURE	
UPS	N1 Critical Technologies N1C.L1000 UPS	
VFD	YASKAWA 1000 SERIES	

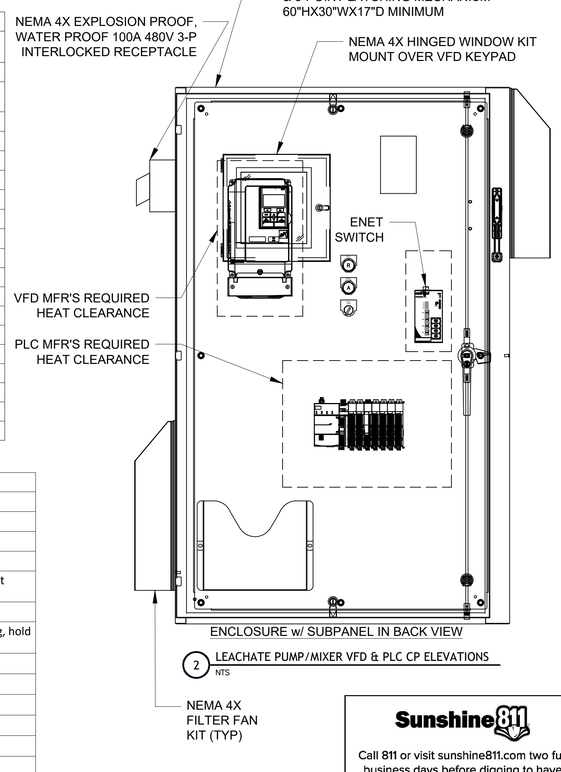
DRAWING NOTES:

1. INDUSTRIAL CONTROL PANEL SHALL BE FURNISHED BY A QUALIFIED CONTROL SYSTEMS INTEGRATOR (CSI) w/ UL 508A LABEL AND 35kA MINIMUM SCCR AS SPECIFIED. THIS DRAWING SHALL BE CONSIDERED A PERFORMANCE SPECIFICATION FOR A CONTROL PANEL & WITH PLC AND VFD MOTOR CONTROLLER. NOT ALL CIRCUITS AND COMPONENTS ARE SHOWN, INTENT OF FUNCTIONALITY AND MINIMUM REQUIREMENTS ARE ILLUSTRATED. CSI SHALL FURNISH AND INSTALL ANY ADDITIONAL COMPONENTS NECESSARY FOR A COMPLETE AND FUNCTIONING SYSTEM INCLUDING BUT NOT LIMITED TO TIMER RELAYS, ONE SHOT RELAYS, INTERPOSING RELAYS, POWER SUPPLIES.
2. CSI SHALL PROVIDE TWO WEEKS NOTICE TO COUNTY AND ENGINEER TO ATTEND FACTORY ACCEPTANCE TEST (FAT) OF CONTROL PANEL. FAT SHALL CONSIST OF DEMONSTRATING ALL I/O POINTS FUNCTIONAL FROM FIELD TERMINAL BLOCK TO I/O MODULE. FAT SHALL DEMONSTRATE UPS AND BYPASS RELAY FUNCTIONALITY. PROPOSED VFD PARAMETERS DIFFERING FROM FACTORY DEFAULT SHALL BE REVIEWED AND DISCUSSED. ANY ADDITIONAL CHECKS AS RECOMMENDED BY CSI AND/OR REQUESTED BY COUNTY.
3. CONTRACTOR SHALL PROVIDE FIELD WIRING TERMINAL BLOCKS AND SURGE PROTECTION TERMINAL BLOCKS FOR ALL I/O CIRCUITS EXTENDING OUTSIDE OF CONTROL PANEL AND FOR ALL UNUSED SPARE I/O POINTS.
4. CSI SHALL PERFORM ALL PLC AND VFD PROGRAMMING TO MEET FUNCTIONAL DESCRIPTION. IT IS ASSUMED CSI WILL HAVE LATEST STUDIO 5000 PROGRAMMING ENVIRONMENT SOFTWARE. SHALL THIS NOT BE THE CASE, PURCHASE OF PROGRAMMING SOFTWARE SHALL BE INCLUDED IN BID.

FUNCTIONAL DESCRIPTION
RUN 4 HOURS ON STARTUP FULL SPEED
AFTER THAT RUN FOREVER AT 40HZ
30HZ IS MINIMUM SAFE SPEED
VFD SHALL HAVE MINIMUM SPEED LOCKOUT SET TO 40Hz
HOA
HAND:
ADJUSTABLE SPEED 40-60Hz VIA KEYPAD
AUTO:
PLC TO CONTROL PER FUNCTIONAL DESCRIPTION
OFF:
OFF



ENLARGED PILOT DEVICES VIEW



2 LEACHATE PUMP/MIXER VFD & PLC CP ELEVATIONS
NTS

Sunshine811
Call 811 or visit sunshine811.com two full business days before digging to have buried facilities located and marked.
Check positive response codes before you dig!

No.	REVISIONS	DATE	BY

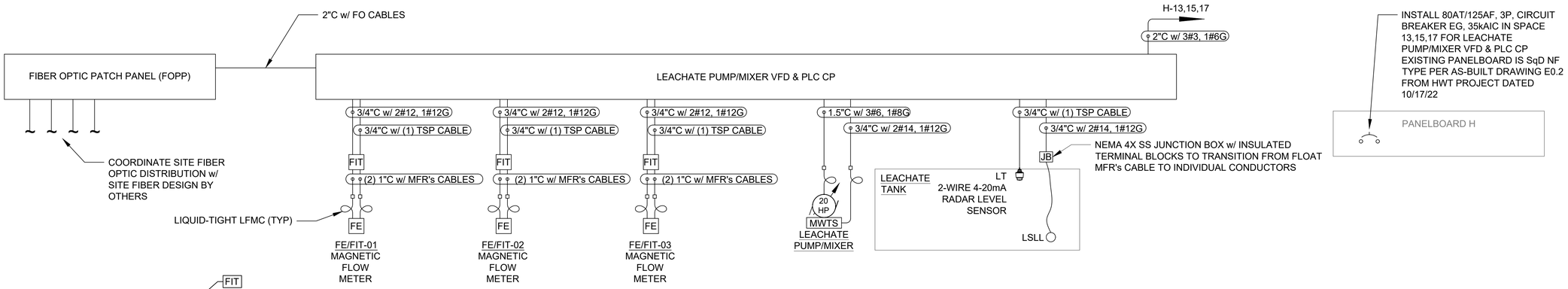
Kimley»Horn
445 24th ST SUITE 200, VERO BEACH, FL 32960
PHONE: 772-794-4100
WWW.KIMLEY-HORN.COM REGISTRY 696

KHA PROJECT 047035124
DATE SEPT 2023
SCALE AS SHOWN
DESIGNED BY ---
DRAWN BY TK
CHECKED BY ---

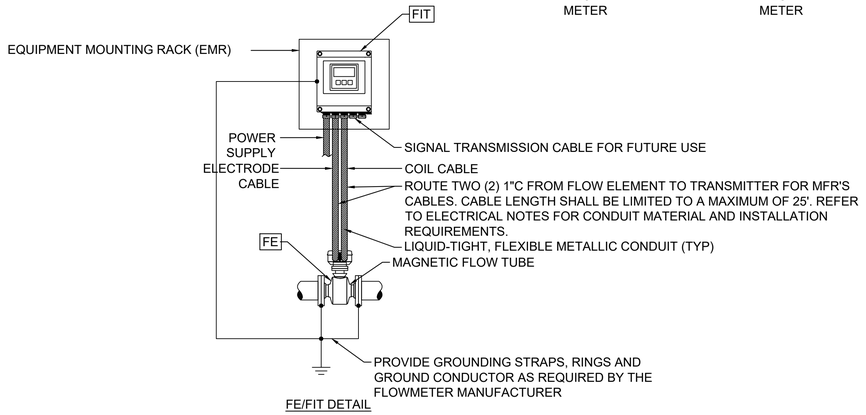
ELECTRICAL LEACHATE PUMP/MIXER VFD & PLC CONTROL PANEL

IRC LANDFILL IMPROVEMENTS
PREPARED FOR
INDIAN RIVER COUNTY FLORIDA
INDIAN RIVER COUNTY

SHEET NUMBER
E-410



1 ELECTRICAL CONDUIT RISER DIAGRAM
NTS

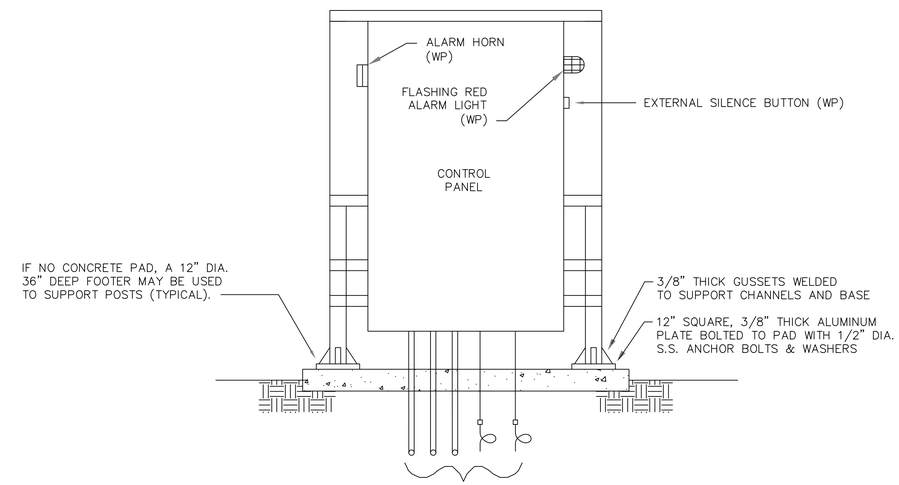


FE/FIT DETAIL

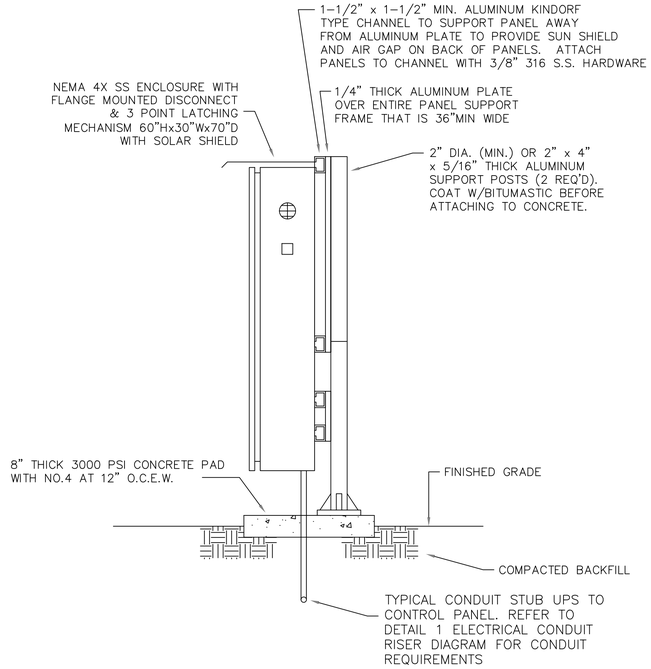
2 MAGNETIC (MAG) FLOW METER DETAIL
NTS

DRAWING GENERAL NOTES:

1. ALL WORK SHALL BE IN FULL COMPLIANCE WITH FLORIDA BUILDING CODE, 2017 NFPA 70 NATIONAL ELECTRICAL CODE, AND INDIAN RIVER COUNTY LOCAL CODES AND ORDINANCES.
2. CONTRACTOR SHALL COORDINATE FINAL CONCRETE EQUIPMENT PAD (CEP) DIMENSIONS WITH FINAL DIMENSIONS OF EQUIPMENT AND OTHER STRUCTURES TO BE MOUNTED ON PADS. REFER TO STRUCTURAL DRAWINGS FOR ADDITIONAL INFORMATION. CEPS SHALL BE SIZE TO ACCOMMODATE FUTURE EQUIPMENT/SECTIONS WHERE SPACE IS RESERVED AS SHOWN ON THE DRAWINGS.
3. EXTERIOR CEP SHALL MAINTAIN 4'-0" IN FRONT OF ELECTRICAL PANELS AND 6" ON SIDES.
4. EVERY EFFORT HAS BEEN MADE TO IDENTIFY REMOTE ITEMS TO BE CONNECTED BY THE ELECTRICAL CONTRACTOR, EITHER IN THE PLANS, DIAGRAMS OR SCHEDULES. HOWEVER, NOT ALL OF THE REMOTE DEVICES MAY HAVE BEEN SHOWN ON THE ELECTRICAL PLAN DRAWINGS. REFER TO THE DRAWINGS OF RESPECTIVE TRADES TO LOCATE OR CONFIRM EQUIPMENT LOCATIONS.
5. ELECTRICAL PLANS: CONTRACTOR SHALL REFER TO ONE-LINES, SCHEMATICS, CONDUIT RISER DIAGRAMS AND DUCT BANK SECTIONS TO COORDINATE CONDUIT AND CIRCUIT REQUIREMENTS FOR EACH SYSTEM.
6. ALL CIRCUITS SHALL BE ROUTED WITH AN INDIVIDUAL CONDUCTOR WIRE TYPE EGC.
7. CONDUCTORS SHALL BE XHHW-2, 90C RATED, WET LOCATION UON.
8. CONDUIT SHALL BE PVC SCHEDULE 40 IN CONCRETE ENCASED DUCT BANK AND PVC COATED RGS (OCAL, RED DOT, THOMAS & BETTS, OR EQUAL) EXPOSED UON.



3 CONTROL PANEL FRONT VIEW
NTS



4 CONTROL PANEL SIDE VIEW
NTS

NOTES:

1. ALL POWER AND CONTROL LINES SHALL BE CONTINUOUS (NO SPLICES).
2. THREE PHASE POWER WITH PHASE MONITORS, SURGE CAPACITOR AND LIGHTNING ARRESTOR SHALL BE SUPPLIED.
3. GROUND FAULT INTERRUPTER ON CONVENIENCE RECEPTACLE.

ISSUED FOR BID

Sunshine811
Call 811 or visit sunshine811.com two full business days before digging to have buried facilities located and marked.
Check positive response codes before you dig!

No.	REVISIONS	DATE	BY

Kimley»Horn
445 24th ST SUITE 200, VERO BEACH, FL 32960
PHONE: 772-794-4400
WWW.KIMLEY-HORN.COM REGISTRY 696

KHA PROJECT 047035124
DATE SEPT 2023
SCALE AS SHOWN
DESIGNED BY ---
DRAWN BY TK
CHECKED BY ---

ELECTRICAL CONDUIT RISER DIAGRAM AND CONCRETE PAD DETAIL

IRC LANDFILL IMPROVEMENTS
PREPARED FOR
INDIAN RIVER COUNTY
INDIAN RIVER COUNTY FLORIDA

SHEET NUMBER
E-410A