1112 Manatee Avenue West
Bradenton, FL 34205
purchasing@mymanatee.org

Solicitation Addendum

Addendum No.:	1
Solicitation No.:	21-TA003505AJ
Project No.:	6022385
Solicitation Title:	Southeast Master Lift Station 677E Rehabilitation
Addendum Date:	November 6, 2020
Procurement Contact:	Abby Jenkins

IFBC 21-TA003505AJ is amended as set forth herein. Responses to questions posed by prospective bidders are provided below. This addendum is hereby incorporated in and made a part of IFBC 21-TA003505AJ.

The deadline to submit all inquiries concerning interpretation, clarification or additional information pertaining to this IFBC was October 30, 2020, at 5:00 P.M. ET.

CHANGE TO:
APPENDIX A, MINIMUM QUALIFICATIONS, ITEM NO. 3

Must have possessed a General Contractor's license issued by the Florida Department of Business and Professional Regulation for a period of at least ~~three~~ five consecutive years since October 1, ~~2017~~ 2015. License must be current and valid through the Due Date for submission of bids for this IFBC.

Provide a copy of Bidder's General Contractor's license issued by the Florida Department of Business and Professional Regulation and documentation confirming Bidder has been licensed and/or certified for the period of October 1~~, 2017~~2015, through the date of submission of the Bid.

CHANGE TO:
APPENDIX A, MINIMUM QUALIFICATIONS, ITEM NO. 4

Bidder has provided lift station rehabilitation for at least three projects since October 1, ~~2017~~ 2015, which each project included the following components: (i) lift station rehabilitation; (ii) installation, testing, and startup of new submersible pumps, (iii) construction, plumbing, electrical and mechanical.

ADD:
BID ATTACHMENT 2, TECHNICAL SPECIFICATION, DIVISON 9, SECTION 09971 CONCRETE PROTECTIVE LINER (CPL)

Add Section 09971 to Division 9 to Bid Attachment 2, Technical Specification, which is issued with this Addendum 1.

REPLACE:
BID ATTACHMENT 3 PLANS/DRAWINGS

Replace Attachment 3, Plans/Drawings, Sheet M-3, Mechanical Section with the revised Attachment 3, Plans/Drawings, Sheet M-3, Mechanical Section issued with this Addendum 1.

QUESTIONS AND RESPONSES:

Q1. What is the Engineer/Budget/Project Estimate?
R1. The Engineer's Opinion of cost is: $988,484.77

Q2. What is the Site Location Address?
R2. 14700 The Masters Avenue, Bradenton, FL 34202

Q3. I could not find the Plans to this bid, where can I obtain them?
R3. The plans can be downloaded from the below listed web site locations:
My Manatee.org and Bidsync.com

Q4. Please consider extending the qualifications timeframe from a period of 3-years to a period of 8-years.
R4. The qualification timeframe has been changed to a five-year period.

Q5. Do you anticipate extending the bid due date?
R5. No.

Q6. What additional details are you willing to provide, if any, beyond what is stated in bid documents concerning how you will identify the winning bid?
R6. Details on the award process are provided in the IFBC and addendums documents.

Q7. Other than your own website, where was this bid posted?
R7. See response to Q3.

Q8. Drawing sheet M-2 has gate valves called out on the lift station. Please confirm the style of valve required for isolation for this type of service, as plug valves are observed downstream on sheet M-3.
R8. Drawings are correct as is, the gate valves are to be installed above ground at the lift station.

Q9. The County is furnishing the Flygt pumps. Typically, the hatch covers, SS guide rails and floats come as part of the pump package. Will the hatch cover's, rails, and floats also be provided by the County?

R9. No, the contractor is responsible for purchasing hatch covers, rails and floats. See Section 01150 of the Specifications, Bid Item Number 34 – Lift Station Equipment. The only thing the County will be providing are the pumps themselves.

Q10. Please provide the dimensions and/or a scaled drawing detail for the concrete slab at the new electric equipment rack.

R10. The concrete slab should be 17'x3'. The payment for this shall be included in the miscellaneous concrete lump sum bid item.

Q11. Section 2.02 Offer Format - A.2 States, "NOTE: Electronic submissions should be submitted on a USB drive...." If we are submitting electronically via e-mail, does the submittal of a USB drive still apply?

R11. Manatee County will not be accepting electronically submitted bids via e-mail. Refer to Section A, Information for Bidders, A.04 Submission of Bids, for instruction on how to submit the bid documents and electronic format.

Q12. Section 2.02 Offer Format - C.2 States, "Provide a copy of Offeror's General Contractor License issued by Florida Department of Business and Professional Regulations..." As this is a Service Contract, does this requirement still apply?

R12. Refer to Appendix A, Minimum Qualifications for all required licenses and experience

Q13. Please clarify what areas, if any, will be allowed for use by contractor as staging.

R13. Any area inside of the lift station fence

Q14. Please clarify what permits are expected to be obtained by the contractor and provide expected costs.

R14. Manatee County Building Permit, if required for electrical and HVAC installation in the building.

Q15. Please provide thickness of existing asphalt and/or clarify the intended replacement thickness for bid purposes.

R15. The existing asphalt drive should be replaced with 3" of asphalt (1-1/2" of Type S-III asphaltic concrete with prime coat and 1-1/2" of Type S-I asphaltic concrete), 8" crushed concrete base compacted to 98% max density by AASHTO method T-180 (modified), and 8" stabilized sub-base, min. LBR of 40.

Q16. Will a field office be required?

R16. No.

Q17. Will a full hydrostatic pressure test of pressure pipe be required before connection, or will visual inspection be acceptable?

R17. Visual inspection will be acceptable.

Q18. What is the distance to the closest 16" valve to the west of the site?

R18. Based on County GIS, the closest 16" valve is roughly 250' west of the site driveway along The Masters Ave.

Q19. Drawing M-3 calls for the lift station wall liner to be cleaned and inspected by Contractor. That same page has a detail pointing to the new lid is to receive an AGRU liner. However, in the specs there is a section 9970 Surface Protection

Spray System. If we won't know the condition of the walls until after they are clean and inspect them and the roof is to be AGRU Liner. What is the purpose of the 9970 Spec? There is also a H2S resistant coating named in 9900 Painting. If the exposed concrete in the LS is to be field coated instead of receiving an AGRU liner, which system shall be used, 9970 or 9900?

R19. Specification 9970 may be removed, there is no application in this project. The 9900 Painting Spec is intended for exposed and aboveground piping. The new top slab will be required to be AGRU lined per the bid documents. If the lift station liner is inspected and repairs are needed, the repairs will be done per ARGU liner manufacturer's recommendations.

Q20. Will DRYLOK FastPlug Hydraulic Cement manufactured by UGL be accepted as an equivalent to Water Plug Hydraulic Cement manufactured by Thoro Systems Products?

R20. As with all products an "as-equal" product may be evaluated if the specified product is unavailable.

NOTE:
Items that are ~~struck through~~ are deleted. Items that are <u>underlined</u> have been added or changed. All other terms and conditions remain as stated in the IFBC

INSTRUCTIONS:
Receipt of this addendum must be acknowledged as instructed in the solicitation document. Failure to acknowledge receipt of this Addendum may result in the response being deemed non-responsive.

END OF ADDENDUM

AUTHORIZED FOR RELEASE

Jacob Erickson, MBA, CPPO, NIGP-CPP

Digitally signed by Jacob Erickson, MBA, CPPO, NIGP-CPP
Date: 2020.11.06 14:45:34 -05'00'

SECTION 09971 CONCRETE PROTECTIVE LINER (CPL)

PART 1 GENERAL

1.0 MATERIALS

1.1 Concrete Protective Liner (CPL)

A. Areas designated as lined on the plans shall be lined using AGRU High Density Polyethylene (HDPE) Concrete Protective Liner (CPL), or an approved equal.

B. The lining shall have good impact resistance, shall be flexible, and shall have an elongation sufficient to bridge up to 6 mm settling crack, without damage to the lining. The liner shall be able to bridge any expansion cracks that may occur.

C. To simplify construction quality control at seams, connections, and termination points, the CPL system shall have available End Profiles, Joining (Tear-off) Profiles, Water Stop Profiles, and Flat Liner Sheet, as well as available Fabric-backed CPL materials. The Tear-off Profiles shall include electro-conductive materials for enhancing spark testing reliability at such welded seams. Note that Tear-off Profiles shall not be used in the horizontal direction in the large diameter shafts so as to allow for adequate drainage for the pressure relief system.

D. The CPL used shall have a minimum thickness of 3mm. It shall be yellow in color.

E. CPL Anchoring Strength

1. To consistently ensure CPL attachment integrity, the anchors shall not be welded or otherwise mechanically attached to the sheet. Anchors shall be manufactured during the sheet extrusion process as one homogenous piece by means of calendaring; no secondary manufacturing processes will be allowed for manipulating or attaching the anchors to the liner.

2. To ensure adequate embedment into the concrete, the CPL sheet shall have a minimum number of anchors of 420/m^2 [39/sf] and the minimum height of the anchors shall be 13mm (0.5 in) and the maximum height of the anchors shall be 38 mm (1.5 in)

3. To evenly disperse hydrostatic backpressure, the anchor design shall not channelize water flow and shall properly allow drainage of seepage water from behind the liner to pressure the pressure relief system if so required.

4. The CPL shall have a pull out strength of 420 lbs/anchor utilizing 3000 psi concrete; test results utilizing higher strength concrete shall require correspondingly higher test results. To ensure the integrity of adjacent anchors in the event of individual anchor failure, the individual anchor pull out strength requirement shall not be reduced in

consideration of a higher number of closer spaced anchors.

5. The CPL shall also have passed the SKZ Test for long-term back-pressure resistance meeting sustained pressure of 1.75 Bar for a minimum period of 1,000 hours.

6. All liner plates, welding strips and other accessories shall be resistant to a 20% solution of Sulfuric Acid (H2SO4) by weight. The completed CPL system is to be gas tight and resistant against H2S gas with a concentration equal to or exceeding 300 PPM. Furthermore, The CPL shall meet the requirements equal to that of SSPWC 210-2.3.3: 112-day, 9-solution Chemical resistance test ("Pickle Jar"), including D638 (tensile), and D2240 (hardness).

F. The CPL materials shall conform to the performance characteristics, as per the following table:

PRODUCT DATA

Property	Test Method	Minimum Average Values				
Thickness (nominal), mil (mm)	ASTM D5199	80 (2.0)	100 (2.5)	120 (3.0)	160 (4.0)	200 (5.0)
Density, g/cc, minimum (black)	ASTM D792, Method B	0.94	0.94	0.94	0.94	0.94
Density, g/cc, minimum (yellow/other)		0.935	0.935	0.935	0.935	0.935
Tensile Properties (ave. both directions)	ASTM D6693, Type IV					
Strength @ Yield (min. ave.), lb/in width (N/mm)	2 in/minute	176 (30.8)	220 (38.5)	264 (46)	352 (61)	440 (77)
Elongation @ Break (min. ave.), %(GL=2.0in)		300	300	300	300	300
Carbon Black Content (range in %)**	ASTM D4218	2 - 3	2 - 3	2 - 3	2 - 3	2 - 3
Carbon Black Dispersion (Category)**	ASTM D5596	Only near spherical agglomerates for 10 views: 9 views in Cat. 1 or 2, and 1 view in Cat. 3				
Pull Out Resistance psf (kN/m²)	ISO 4624	16,500 (800)				
Back Pressure Resistance long term	SKZ-Test 700mm x 700mm	1000 hour at 1.75 bar (25.38 psi)				

AGRU America geomembranes are certified to pass Low Temp. Brittleness via ASTM D746 (-80 °C) and Dimensional Stability via ASTM D1204 (±2% @ 100°C).

Notes:

Rolls will only be supplied with slings upon request. All rolls are wound on a 6 inch core. All sheets will be shipped on pallets. Special widths and lengths are available on request. All roll lengths and widths have a tolerance of ±1%. Any weight values may change due to project specifications (i.e. absolute minimum thickness or special roll lengths) or shipping requirements (i.e. international containerized shipments).

** Only applies to black product.

All information, recommendations and suggestions appearing in this literature concerning the use of our products are based upon tests and data believed to be reliable; however, it is the users' responsibility to determine the suitability for their own use of the products described herein. Since the actual use by others is beyond our control, no guarantee or warranty of any kind, expressed or implied, is made by AGRU America as to the effects of such use or the results to be obtained, nor does AGRU America assume any liability in connection herewith. Any statement made herein may not be absolutely complete since additional information may be necessary or desirable when particular or exceptional conditions or circumstances exist or because of applicable laws or government regulations. Nothing herein is to be construed as permission or as a recommendation to infringe any patent.

1.2 Concrete

A. Applicable concrete shall be utilized when casting CPL into a new concrete structure; structural reinforcement can optionally be included as specified by the Project Engineer.

1. The concrete cement shall test to a minimum 4000 psi at 28 days.

2. The maximum aggregate size used shall be 20 mm or less.

B. The CPL System shall be repairable at any time during the life of the structure.

C. Each Material Manufacturer shall certify that the materials supplied meet the applicable standards and the performance requirements listed herein; this certification shall be signed by an officer of the manufacturing company.

PART 2 INSTALLATION

2.0 INSTALLATION LAYOUT

2.1 The CPL layout pattern and sequence for lining any structure must be carried out in accordance with the CPL manufacturer's recommendations.

2.2 The CPL layout pattern and sequence for lining any structure must be carried out in accordance with the CPL manufacturer's recommendations.

2.3 The design layout pattern for attaching the liner sheet sections to the forms shall consider the following:

A. All seams shall be properly welded to form a homogeneous, watertight and gastight seal.
B. Avoid X-intersections of CPL sheet joints; use only T-intersections.
C. CPL sheets shall be shaped/thermoformed into corners when possible to avoid welding seams in the corners.
D. Care shall be taken to minimize the space between the CPL sheets, keeping it to 10mm or less; cap strips shall be used where the gap exceeds this limit
    1. Electro-conductive Joining (Tear-off) Profiles may be used to join the CPL sheet sections in cast-in-place applications with a more controllable gap and with improved spark testing.

2.4 Terminal edges and material transitions

A. Optimally, to fully protect against corrosion, abrasion, infiltration, and exfiltration, whenever practical: all walls, the floor, and the ceiling will be lined with CPL as specified in the plans; wherever possible all penetrations will be accomplished with identical materials to the CPL; and all will be joined by welding into a homogenous, CPL lined structure.
B. Where constructing a homogenous structure is not practical and therefore not specified, the resulting transitions between the CPL and dissimilar materials (such as at pipe penetrations with metal, clay, FRP, PVC, fiberglass, etc.) shall be accomplished by using a polyester fabric-backed liner; the fabric-backed sheets shall have a thickness and properties equal to that of the protective concrete liner. A low modulus epoxy resin adhesive that is moisture insensitive shall be used to adhere the polyester fabric to the dissimilar material. The fabric-backed liner shall be welded to the CPL. The epoxy to be used shall be evaluated to determine suitability for the application and approved by the Project Engineer prior to installation.

PART 3 EXECUTION

3.0 CONSTRUCTION

3.1 Manufacturer Recognized CPL Welder: Prior to project award, a current welder training certificate shall be submitted, thereby certifying by individual name that each CPL welder has met the CPL Manufacturer's welding training requirements and is a CPL Welder currently recognized by the CPL Manufacturer. A copy of each welder training certificate shall be kept by the CPL Fabricator and made available to inspectors at the jobsite for comparison with the IDs of the CPL welders. Only such currently recognized CPL welders shall be permitted to weld and fabricate the liner.

3.2 Required Equipment: To avoid project delays and other challenges, the CPL Fabricator shall have specified equipment on-site during CPL fabrication, including available back-up equipment in the event of equipment failure.

A. Welding Equipment
B. Spark Testing Equipment
C. Weld Tensile Testing Equipment

3.3 CPL seam prep

A. Before pouring or pumping the concrete into the annular space behind the CPL, all CPL section seams shall be either joined by Joining (Tear-off) Profiles or otherwise properly secure to the formworks while minimizing penetrations. Spaces greater than 10mm shall be covered using a 4" minimum 6" maximum cap strip and welded on both edges. Additionally, all open joints or edges of the CPL that might leak the concrete shall be sealed.

3.4 Formworks

A. The GC shall support the CPL by forming the inside area with wooden or metal forms.
B. In attaching the CPL to the forms, CARE SHALL BE TAKEN to keep penetrations of the liner to a minimum. During installation planning, the CPL Fabricator shall be consulted for advice on layout optimization to avoid unnecessary CPL penetrations. It is highly recommended that the CPL fabricator/welder at least have a representative on site during the placement of the liner on the forms.
C. Joining (Tear-Off) Profiles may be nailed to the formworks through their centerline using small finishing nails.
D. To prevent wrinkling, the liner must be allowed to expand upward as the annular space between the liner and the form fills with concrete; therefore, the top edge of the CPL on the form must be loosely fastened per the manufacturer's recommendations.

3.5 Casting in Place

A. The GC shall pour or pump concrete from the top of the forms into the annular space to completely fill the space. The fill shall be vibrated using form vibration to avoid trapping air and to produce a dense, homogenous

concrete, thereby securely embedding the anchors to the concrete.

B. When filling the annular space under a floor with concrete or grout, the liner shall be held down with plywood sheets weighted down by sand bags and tamped to ensure the concrete is properly vibrated back behind anchors unless otherwise approved. Plywood and sand bags shall remain in place until concrete is set.

C. When the concrete is sufficiently cured, the General Contractor and the CPL Fabricator shall strip the forms and clean the surface area of the liner, in preparation for finish welding. During form removal, care shall be taken to protect the liner from damage; sharp instruments shall not be used to pry forms from lined surfaces. As forms are removed, nails that remain in the liner shall be pulled without tearing the lining, and all resulting holes shall be clearly marked at the time of form removal.

3.6 Welding

A. Initial welding may be conducted during seam preparation prior to casting in place of the CPL; welding may be conducted after casting in place of the CPL.

B. The CPL Fabricator shall strip the Tear-Off Profiles (if used) and prepare the underlying seams for welding.

C. All nails and metal fasteners protruding through the cast-in-place CPL system shall be cut off or ground flush with the CPL before welding. All nail and tie holes and any cut, torn and abraded areas in the liner shall be patched using a method recommended by the liner manufacturer and acceptable to the Project Engineer.

D. The following welding techniques are acceptable:
   1. Extrusion Welding (DVS 2227 part 1 or 2225-1)
   2. Butt Welding (DVS 2207 part 1)
   3. Hot Air Welding (DVS 2207 part 3)

E. Hot air welding use shall be carefully limited in permanently exposed welds; temporary tack welding using hot air string bead welding is allowed for alignments and adjustments. In addition, hot air string bead welding may be used where approved for detail areas or areas of restricted space.

F. After the surfaces to be welded are properly prepared, the CPL Fabricator shall extrusion weld the seams between the CPL sheets; in places where extrusion welds are not possible, a triple string weld is acceptable. Spaces greater than 10mm shall be covered using a cap strip which is extrusion welded on each edge.

G. Each completed weld shall be visually inspected and spark tested (see the section on Inspection and Quality Assurance)

4.0 GENERAL CONTRACTOR AND CPL FABRICATOR RESPONSIBILITIES

4.1 The typical areas of responsibility between the General Contractor and the CPL Fabricator are outlined herein and are included as a guide only. This section is to be used to better understand the tasks required to complete the lining project and can be changed by the parties involved, as approved by the Project Engineer.

A. The GC will provide the necessary power and water required to install the lining

B. When required, the GC will by-pass or dewater the area to be lined as

indicated by the plans.

C. The GC will obtain all measurements required for all items which are to be fabricated elsewhere, so that all of the parts will fit together and meet the conditions of the site.

D. The GC will provide, build, and erect all formwork as required by the CPL Manufacturer's guidelines. The CPL Fabricator shall have input regarding the design of the formworks and the attachment thereto in order to minimize penetration of the CPL sheets.

E. The GC will pour all of the concrete/grout required as guided by the CPL Fabricator.

F. The GC and the CPL Fabricator will strip the forms and clean the liner surface.

G. Fabrication of linings shall only be completed by "Manufacturer Recognized" CPL Fabricators; CPL certified-trained welders shall do all fabrication, application, welding, and testing of the lining.

5.0 INSPECTION AND QUALITY ASSURANCE

5.1 Material Handling and Storage: All materials shall be stored in an area and manner so as to prevent damage to the materials.

5.2 Before starting the project, a current copy of the CPL Manufacturer's Installation Guidelines shall be submitted to the Project Engineer; all CPL fabrication and welding shall conform to these guidelines.

5.3 Test Welds

A. At the start of each shift, CPL welders shall make a test weld sample before starting to weld; the purpose of this test is to ensure that the equipment is performing correctly. All test welds shall test to 80% of the value of the listed tensile strength of the original material without failing in the body of the weld being tested.

B. The results shall be logged in duplicate and a copy of the logs shall be retained at the jobsite by the CPL Fabricator. An Inspector may request to review these logs at any time. At the end of the project, a copy of the log shall be submitted to the Project Engineer.

5.4 Spark Testing of Completed Welds

A. All surfaces covered with lining, including welds, shall be spark tested with an approved electrical holiday detector by the CPL Fabricator under supervision of the owner's representative.

B. Spark testing shall be conducted in accordance with the recommendations of the manufacturer of the spark testing equipment.

C. The results of the spark tests shall be logged in duplicate and a copy of the logs shall be retained at the jobsite by the CPL Fabricator. An Inspector may request to view these logs at any time. At the end of the project, a copy of the log shall be submitted to the Project Engineer.

6.0 SUBMITTAL DOCUMENTATION

6.1 Material Certifications

A. All Material Manufacturers shall certify in writing that the materials

supplied meet the applicable standards and performance requirements listed herein; this certification shall be signed by an officer of the manufacturing company.

6.2 Manufacturer's Installation Guidelines

A. A current copy of the CPL Manufacturer's installation guidelines and all appropriate industry standards.

6.3 Shop Drawings

A. Any fabrication executed before review of shop drawings shall be at the Contractor's own risk

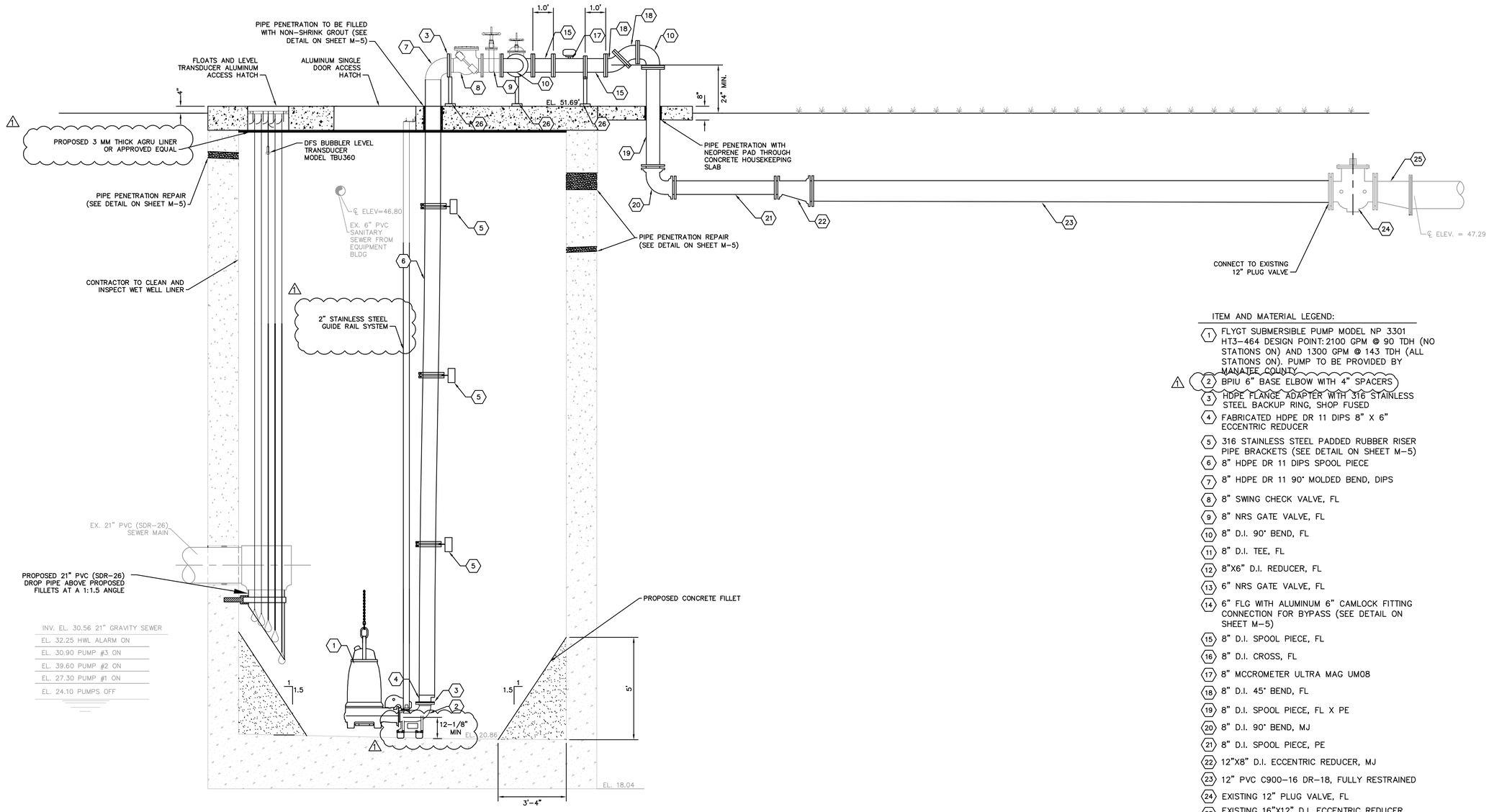
B. Drawings of each of the areas to be lined detailing the surface areas to be lined and reflecting any valves, hardware or appurtenances that exist or are going to be installed.

C. The drawings shall detail the sequencing of the installation of the CPL sheets and the welds, with numbering of all liner sheet sections and welded joints.

6.4 Welding Test Results

A. Shear test data logs

B. Spark test data logs



1A / M-2 MASTER LIFT STATION PROFILE
SCALE: 3/8"=1'

ITEM AND MATERIAL LEGEND:

1. FLYGT SUBMERSIBLE PUMP MODEL NP 3301 HT3-464 DESIGN POINT: 2100 GPM @ 90 TDH (NO STATIONS ON) AND 1300 GPM @ 143 TDH (ALL STATIONS ON). PUMP TO BE PROVIDED BY MANATEE COUNTY
2. BPIU 6" BASE ELBOW WITH 4" SPACERS
3. HDPE FLANGE ADAPTER WITH 316 STAINLESS STEEL BACKUP RING, SHOP FUSED
4. FABRICATED HDPE DR 11 DIPS 8" X 6" ECCENTRIC REDUCER
5. 316 STAINLESS STEEL PADDED RUBBER RISER PIPE BRACKETS (SEE DETAIL ON SHEET M-5)
6. 8" HDPE DR 11 DIPS SPOOL PIECE
7. 8" HDPE DR 11 90° MOLDED BEND, DIPS
8. 8" SWING CHECK VALVE, FL
9. 8" NRS GATE VALVE, FL
10. 8" D.I. 90° BEND, FL
11. 8" D.I. TEE, FL
12. 8"X6" D.I. REDUCER, FL
13. 6" NRS GATE VALVE, FL
14. 6" FLG WITH ALUMINUM 6" CAMLOCK FITTING CONNECTION FOR BYPASS (SEE DETAIL ON SHEET M-5)
15. 8" D.I. SPOOL PIECE, FL
16. 8" D.I. CROSS, FL
17. 8" MCCROMETER ULTRA MAG UM08
18. 8" D.I. 45° BEND, FL
19. 8" D.I. SPOOL PIECE, FL X PE
20. 8" D.I. 90° BEND, MJ
21. 8" D.I. SPOOL PIECE, PE
22. 12"X8" D.I. ECCENTRIC REDUCER, MJ
23. 12" PVC C900-16 DR-18, FULLY RESTRAINED
24. EXISTING 12" PLUG VALVE, FL
25. EXISTING 16"X12" D.I. ECCENTRIC REDUCER, FL
26. 316 STAINLESS STEEL PIPE SUPPORT (SEE DETAIL ON SHEET M-5)

No.	REVISIONS	DATE	BY
1	ADDENDUM 1	11/10/20	ASR

Kimley»Horn
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KHA PROJECT 148400053
DATE 11/4/2020
SCALE AS SHOWN
DESIGNED BY MAS
DRAWN BY GMB
CHECKED BY WEW

Manatee County FLORIDA

SOUTHEAST MLS 677E

MANATEE COUNTY FL

LICENSED PROFESSIONAL
MICHAEL A. SEMAGO, P.E
FL LICENSE NUMBER 87501
DATE:

MECHANICAL SECTION

SHEET NUMBER
M-3