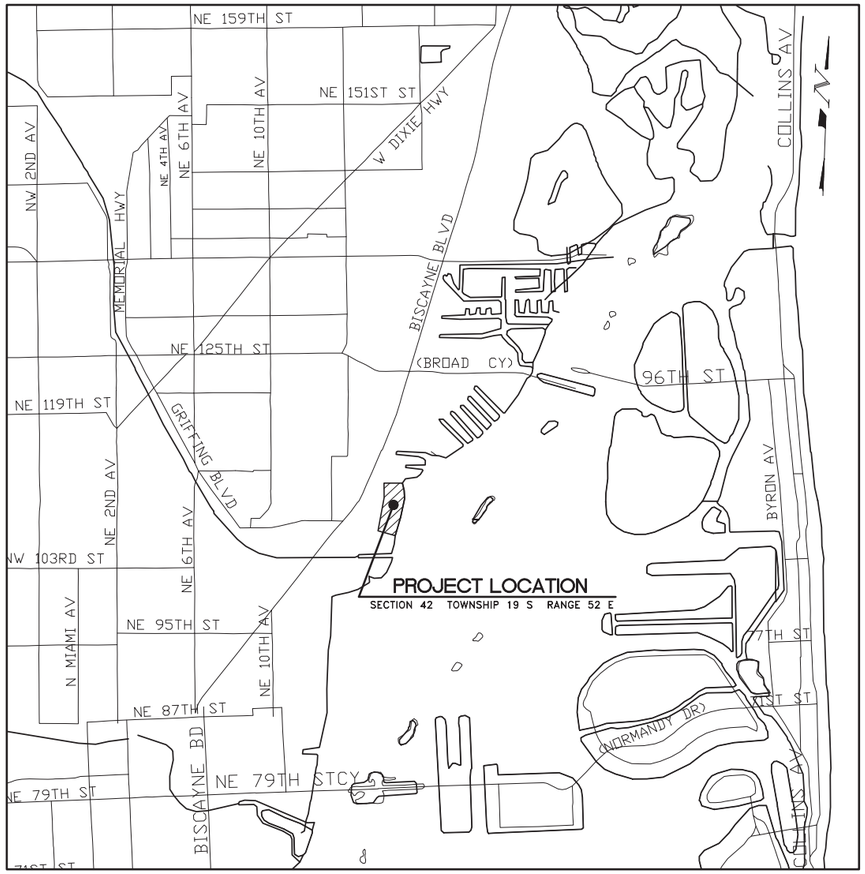
BISCAYNE SHORES PUMP STATION RETROFIT

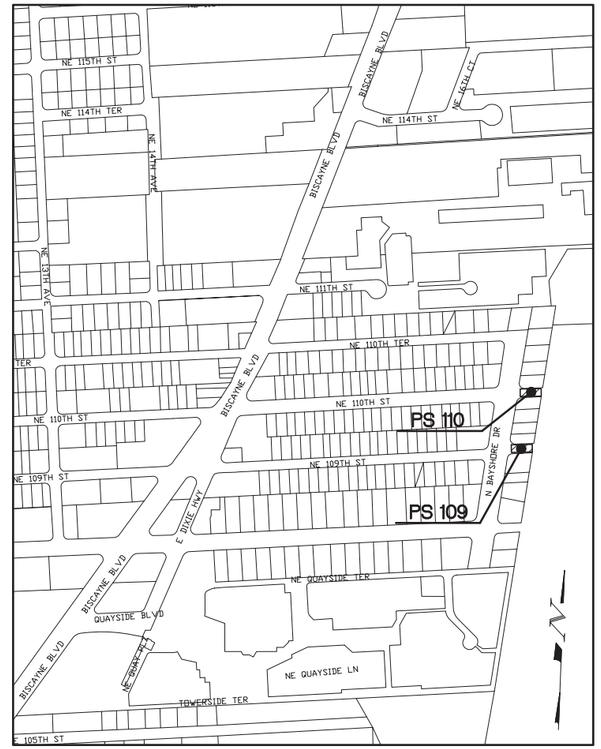
No. 109 AND 110

DTPW PROJECT NO. 20180139



LOCATION MAP
SCALE: APPROX. 1" = 2,000'

INDEX OF DRAWINGS



KEY PLAN
N.T.S.

GRAEF
9400 SOUTH DADELAND BLVD. SUITE 601
MIAMI, FLORIDA 33156 305 / 378 5555
CA 4270

NELSON H. ORTIZ LICENSE No 57556 STATE OF FLORIDA PROFESSIONAL ENGINEER

7/24/2023

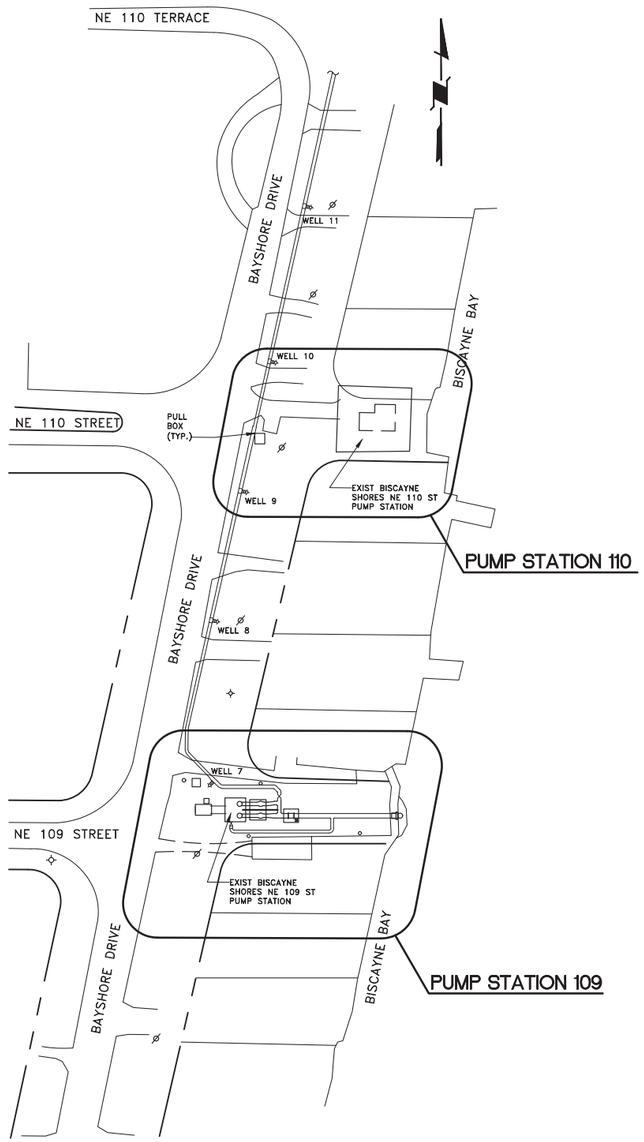
THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY NELSON H. ORTIZ, P.E. ON THE DATE ADJACENT TO THE SEAL.

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

FOR THE FIRM PROJECT NO.: 2017-7053.01 NELSON H. ORTIZ PE-57556 (CIVIL)

DESIGN BY: J.R.G.	DATE: 04/10/2020	COVER SHEET	BISCAYNE SHORES PUMP STATIONS No. 109 AND 110 RETROFIT	DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS STEPHEN P. CLARK CENTER 111 NW 1ST STREET, 16TH FLOOR MIAMI, FLORIDA 33128	PROJECT NO. 17053.01 / SHEET NO. 1
DRAWN BY: P.F.	DATE:				DRAWING NO. C-1 / OF 27 SHEETS
CHECKED BY: N.H.O.	DATE:				

100% SUBMITTAL



SITE LOCATION PLAN
SCALE: 1" = 50'

SUMMARY OF PAY ITEMS

Item No.	Description	Unit	Quantity
102-74-1	Barricades (Temporary - Types I, II, VP and Drum)	E.A./DAY	7,200
104-10-3	Sediment Barrier	L.F.	675
104-11	Floating silt barrier	L.F.	200
104-18	Inlet Protection System	E.A.	2
110-1-1B	Clearing and grubbing	L.S.	1
110-3D	Building Demolition	LS	1
120-6	Embankment	C.Y.	79
334-2-13-1A	Driveway Pavement - Asphalt	S.Y.	159
400-1-15	Class I Concrete [(Miscellaneous) (Trench build-up, collars, pipe plugs, structure plugs etc.) (This item is contingent upon field conditions and may increased decreased or eliminated by the Engineer)]	C.Y.	5
400-11-4	Seawall (Includes reinforcement)	S.F.	840
425-99E	ENERGY DISSIPATING OUTFALL (E.A.)	E.A.	2
430-19-30	Ductile Iron Pipe and Fittings, 30" Diameter	LF	145
430-19-36	Ductile Iron Pipe and Fittings, 36" Diameter	LF	125
430-94-1-1	Desilting Pipe, 0 - 48"	E.A.	190
430-95-2	Desilting Drainage Structure	L.F.	3
430-880-2533	CHECK VALVE (Pipe diameter 18" to 36 or equivalent)	EA	4
446-30-45	30" D.I.P. - 45 DEGREE BEND	E.A.	4
446-30-90	30" D.I.P. - 90 DEGREE BEND	EA	1
446-36-90	36" D.I.P. - 90 DEGREE BEND	E.A.	3
446-38-16	30" X 16" D.I.P.CONCENTRIC REDUCER	E.A.	1
446-38-30	30" X 24" D.I.P.CONCENTRIC REDUCER	E.A.	1
446-38-36	36" X 30" D.I.P.CONCENTRIC REDUCER	E.A.	2
447-30-30	30" x 30" Tee	E.A.	1
447-36-36	36" x 36" Tee	E.A.	1
508-72A	Emergency Generator with ATS and Fuel Tank (Full)	ASSM.	2
527-2	Detectable Warning on Walking Surface	S.F.	40
550-10-998	FENCE (Type B) (5.1'-6.0' Height)	L.F.	573
550-60-233	Fence Gate - Type B, Sliding/Cantilever, 12' -18- Opening	E.A.	1
550-60-235	Fence Gate, Type B, Sliding/Cantilever, 20.1 – 24' Opening	E.A.	1
550-75-1	REMOVAL AND DISPOSAL OF EXISTING CHAIN LINK FENCE.	L.F.	300
575-2A	Sodding-ST. Augustine, or match existing, includes watering and maintenance. Contingent item based on field conditions, may be increased, or decreased by the engineer.	S.Y.	1,020
580-4-32	Clusia Rosea Shrub	L.F.	160
580-327-3C	Removal and Relocate Existing Coconut Palm Trees	E.A.	3
600-4	Pump Station Improvements	L.S.	1
639-1-021	Electrical Power Service (FPL)	LS	1
685-118B	Telemetry System	LS	1

NOTES:

1) The Pump Station Improvements item covers, but is not limited to, all work to be completed at the BS 109 and BS 110 Pump Stations in the (structure/building footprint). Work is to include the replacement of roof and floor at BS 110, a new generator platform at BS 109, all electrical work, including the parts, associated in the cost of separating both pump station electrical systems; new ultra sonic transmitters and other miscellaneous items. Item price incudes all labor, parts, and permits.
2) The Electrical Power Service item includes all work and materials to establish new power and/or reestablish power at the pump stations, which includes all cost to FPL.
3) The Telemetry System item includes all work, labor, and materials to establish a new telemetry system and/or re-establish the system at the pump stations.
4) The Energy Dissipating Structure items includes the cost of the adjacent approved bank stabilization method and related costs.

GENERAL NOTES

1. ELEVATIONS SHOWN REFER TO THE NATIONAL GEODETIC VERTICAL DATUM 1929 (N.G.V.D. 29). SUBTRACT 1.55 FEET FROM ELEVATION SHOWN TO N.A.V.D.
2. ALL CONSTRUCTION LAYOUT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
3. IT IS THE INTENT OF THESE DRAWINGS TO BE IN ACCORDANCE WITH APPLICABLE CODES AND AUTHORITIES HAVING JURISDICTION. ANY DISCREPANCIES BETWEEN THESE DRAWINGS AND APPLICABLE CODES SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE ENGINEER.
4. EXISTING UTILITIES SHOWN ARE BASED ON INFORMATION SUPPLIED BY OTHERS. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO VERIFY ALL UNDERGROUND FACILITIES PRIOR TO THE START OF CONSTRUCTION AND COORDINATE WITH THE VARIOUS UTILITY COMPANIES TO RELOCATE, BY PASS OR OTHERWISE ENSURE THAT UTILITY SERVICES WILL NOT BE INTERRUPTED DURING CONSTRUCTION.
5. EXISTING GRADES WERE TAKEN FROM THE BEST AVAILABLE DATA AND MAY NOT ACCURATELY REFLECT PRESENT CONDITIONS. CONTRACTOR SHALL BE RESPONSIBLE FOR FAMILIARIZING HIMSELF WITH CURRENT SITE CONDITIONS, AND SHALL REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO STARTING WORK.
6. ALL CONSTRUCTION AND MATERIALS SHALL CONFORM TO APPLICABLE STANDARDS AND SPECIFICATIONS OF THE MIAMI-DADE COUNTY DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS, MIAMI-DADE COUNTY DRER AND ALL OTHER LOCAL, STATE AND NATIONAL CODES, WHERE APPLICABLE.
7. ALL SECTIONS INDICATED HEREIN REFER TO THE MIAMI-DADE COUNTY PUBLIC WORKS MANUAL.
8. THE INFORMATION PROVIDED IN THESE DRAWINGS IS SOLELY TO ASSIST THE CONTRACTOR IN ASSESSING THE NATURE AND EXTENT OF CONDITIONS WHICH WILL BE ENCOUNTERED DURING THE COURSE OF WORK. THE CONTRACTORS ARE DIRECTED, PRIOR TO BIDDING, TO CONDUCT WHATEVER INVESTIGATIONS THEY DEEM NECESSARY TO ARRIVE AT THEIR OWN CONCLUSIONS REGARDING THE ACTUAL CONDITIONS THAT WILL BE ENCOUNTERED, AND UPON WHICH BIDS WILL BE BASED.
9. LOCATIONS, ELEVATIONS AND DIMENSIONS OF EXISTING FACILITIES AND OTHER FEATURES ARE SHOWN ACCORDING TO THE BEST INFORMATION AVAILABLE AT THE TIME OF THE PREPARATION OF THESE DRAWINGS. THE CONTRACTOR SHALL VERIFY THE LOCATIONS, ELEVATIONS, AND OTHER FEATURES AFFECTING HIS WORK PRIOR TO CONSTRUCTION, AND NOTIFY THE ENGINEER IMMEDIATELY WHEN CONFLICT BETWEEN DRAWINGS AND ACTUAL CONDITIONS ARE DISCOVERED. CONTRACTOR SHALL WORK AS NEEDED TO AVOID CONFLICT WITH EXISTING UTILITIES (NO ADDITIONAL COST SHALL BE PAID FOR THIS WORK). EXISTING UTILITIES SHALL BE MAINTAINED IN SERVICE DURING CONSTRUCTION UNLESS OTHERWISE APPROVED BY THE UTILITY OWNER.
10. THE CONTRACTOR SHALL COORDINATE WITH UTILITIES TO ARRANGE RELOCATION AND TEMPORARY SUPPORT OF UTILITY FEATURES, ETC. AS NECESSARY TO COMPLETE THE WORK.
11. THE CONTRACTOR SHALL GIVE AT LEAST 48 HOURS NOTICE TO UTILITY COMPANIES TO PROVIDE FOR THE LOCATION OF EXISTING UNDERGROUND UTILITIES IN ADVANCE OF CONSTRUCTION. CONTACT UTILITIES NOTIFICATION CENTER AT 1-800-432-4770.
12. THE CONTRACTOR IS REQUIRED TO HAVE ALL APPLICABLE CONSTRUCTION PERMITS PRIOR TO START OF CONSTRUCTION.
13. THE CONTRACTOR SHALL NOTIFY THE MIAMI-DADE COUNTY DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS, MIAMI-DADE COUNTY DRER, WATER CONTROL, STORMWATER PLANNING AND DESIGN SECTION AND THE ENGINEER OF RECORD AT LEAST 48 HOURS PRIOR TO CONSTRUCTION.
14. PRIOR TO CONSTRUCTION AND INSTALLATION OF THE PROPOSED IMPROVEMENTS, FIVE SETS OF SHOP DRAWINGS SHALL BE SUBMITTED TO, AND APPROVED BY DRER-STORMWATER PLANNING AND DESIGN SECTION. IN ADDITION, IT IS THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN ANY OTHER AGENCY SHOP DRAWING APPROVAL, IF REQUIRED.
15. THE CONTRACTOR SHALL CONTACT THE ENGINEER IMMEDIATELY ON ANY CONFLICT ARISING DURING CONSTRUCTION OF ANY IMPROVEMENTS SHOWN IN THESE DRAWINGS.
16. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DAMAGE, REMOVAL OR MODIFICATION, ACCIDENTALLY OR PURPOSELY, CAUSED TO ANY IRRIGATION SYSTEMS, PRIVATE OR PUBLIC. THE CONTRACTOR SHALL REPLACE ANY DAMAGED, REMOVED OR MODIFIED IRRIGATION PIPES, SPRINKLER HEADS OR OTHER PERTINENT APPURTENANCES AT NO ADDITIONAL COST.
17. COMPLETE "AS-BUILT" INFORMATION RELATIVE TO LOCATION, SIZE AND DEPTH OF NEW PIPES, STRUCTURES, ETC., SHALL BE ACCURATELY RECORDED BY THE CONTRACTOR AND SUBMITTED (SIGNED AND SEALED BY A FLORIDA CERTIFIED P.L.S.) TO THE ENGINEER, PRIOR TO FINAL ACCEPTANCE OF THE WORK. ALL RECORD INFORMATION ON EXISTING UTILITIES CROSSINGS ENCOUNTERED DURING CONSTRUCTION, INCLUDING BUT NOT LIMITED TO PIPES, INLETS, MANHOLES, ETC., SHALL BE TAKEN BY A FLORIDA REGISTERED SURVEYOR AND SHOWN ON THE RECORD DRAWINGS. COST OF SIGNED AND SEALED AS-BUILTS SHALL BE COVERED IN OVERALL BID.
18. GRADING SHALL CONSIST OF ALL EXCAVATION, FILLING, SHAPING AND SLOPING NECESSARY FOR THE CONSTRUCTION, PREPARATION AND COMPLETION OF ALL SUBGRADES, SHOULDERS, SLOPES, INTERSECTIONS, PAVEMENTS AND OTHER AREAS, ALL IN ACCORDANCE WITH THE ALIGNMENT AND GRADES SHOWN IN THESE DRAWINGS.
19. CONTRACTOR SHALL BE RESPONSIBLE FOR RESETTING ALL DISTURBED EXISTING MANHOLE COVERS, VALVE BOXES, BLOW-OFF RISERS, ETC. TO NEW ELEVATIONS, AS REQUIRED, WHETHER SPECIFICALLY SHOWN ON DRAWINGS OR NOT.
20. THE CONTRACTOR SHALL NOT ENCROACH INTO PRIVATE PROPERTY WITH PERSONNEL, MATERIAL OR EQUIPMENT, UNLESS SPECIFICALLY APPROVED BY THE ENGINEER.
21. ALL DEMOLITION DEBRIS AND EXCESS MATERIAL TO BE DISPOSED OF BY CONTRACTOR IN AREAS PROVIDED BY HIM, UNLESS OTHERWISE NOTED. NO SEPARATE PAYMENT WILL BE MADE FOR THIS ITEM.
22. THE PROJECT SITE IS LOCATED IN FLOOD ZONE VE 11 (+11 FEET N.G.V.D. 29). ALL ELECTRICAL AND MECHANICAL EQUIPMENT, SUCH AS MOTORS, SWITCHES, RECEPTACLES, ETC. ARE REQUIRED TO BE AT LEAST A FOOT ABOVE FEMA'S FLOOD ELEVATION (+11 NGVD).

SPECIAL NOTES

EXISTING PUMP CAPACITY (32,000 GPM) SHALL BE MAINTAINED DURING CONSTRUCTION BY MEANS OF TEMPORARY STAND-BY PUMPS. TEMPORARY STAND-BY PUMPS, WITH AUTOMATIC AND MANUAL START/STOP, TO BE OPERATED AND MAINTAINED BY CONTRACTOR AT ALL TIMES (24 HOURS PER DAY-7 DAYS A WEEK).

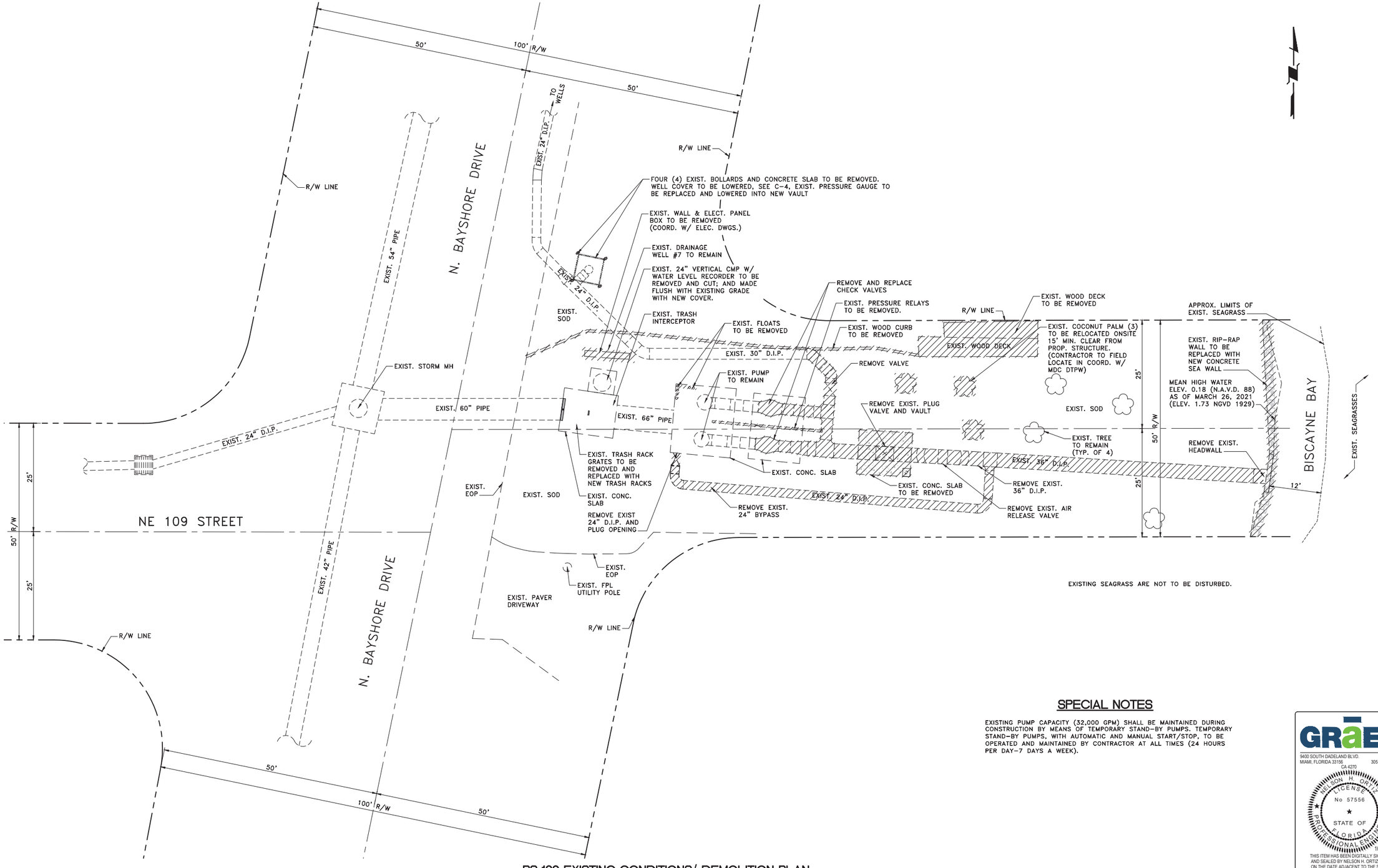
12/05/2023 UPDATE PAY ITEMS
09/26/2022 UPDATE PAY ITEMS
12/17/2021 ADDRESS M-D C COMMENTS
04/15/2021 ADDRESS SFWMD COMMENTS

GRAEF
9400 SOUTH DADELAND BLVD. SUITE 601
MIAMI, FLORIDA 33156 305 / 378 5555
CA 4270

NELSON H. ORTIZ LICENSE No 57556 STATE OF FLORIDA PROFESSIONAL ENGINEER
12/6/2023
THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY NELSON H. ORTIZ, P.E. ON THE DATE ADJACENT TO THE SEAL.
PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.
FOR THE FIRM: PROJECT NO.: 2017-7053.01
NELSON H. ORTIZ PE-57556 (CIVIL)

DESIGN BY: J.R.G.	DATE: 04/10/2020	QUANTITIES, PAY ITEMS, AND NOTES	BISCAYNE SHORES PUMP STATIONS No. 109 AND 110 RETROFIT	MIAMI-DADE COUNTY DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS STEPHEN P. CLARK CENTER 111 NW 1ST STREET, 16TH FLOOR MIAMI, FLORIDA 33128	PROJECT NO. 17053.01 / SHEET NO. 2
DRAWN BY: P.F.	DATE:				DRAWING NO. C-2 / OF 27 SHEETS
CHECKED BY: N.H.O.	DATE:				

100% SUBMITTAL



EXISTING SEAGRASS ARE NOT TO BE DISTURBED.

SPECIAL NOTES

EXISTING PUMP CAPACITY (32,000 GPM) SHALL BE MAINTAINED DURING CONSTRUCTION BY MEANS OF TEMPORARY STAND-BY PUMPS. TEMPORARY STAND-BY PUMPS, WITH AUTOMATIC AND MANUAL START/STOP, TO BE OPERATED AND MAINTAINED BY CONTRACTOR AT ALL TIMES (24 HOURS PER DAY-7 DAYS A WEEK).

PS 109 EXISTING CONDITIONS/ DEMOLITION PLAN

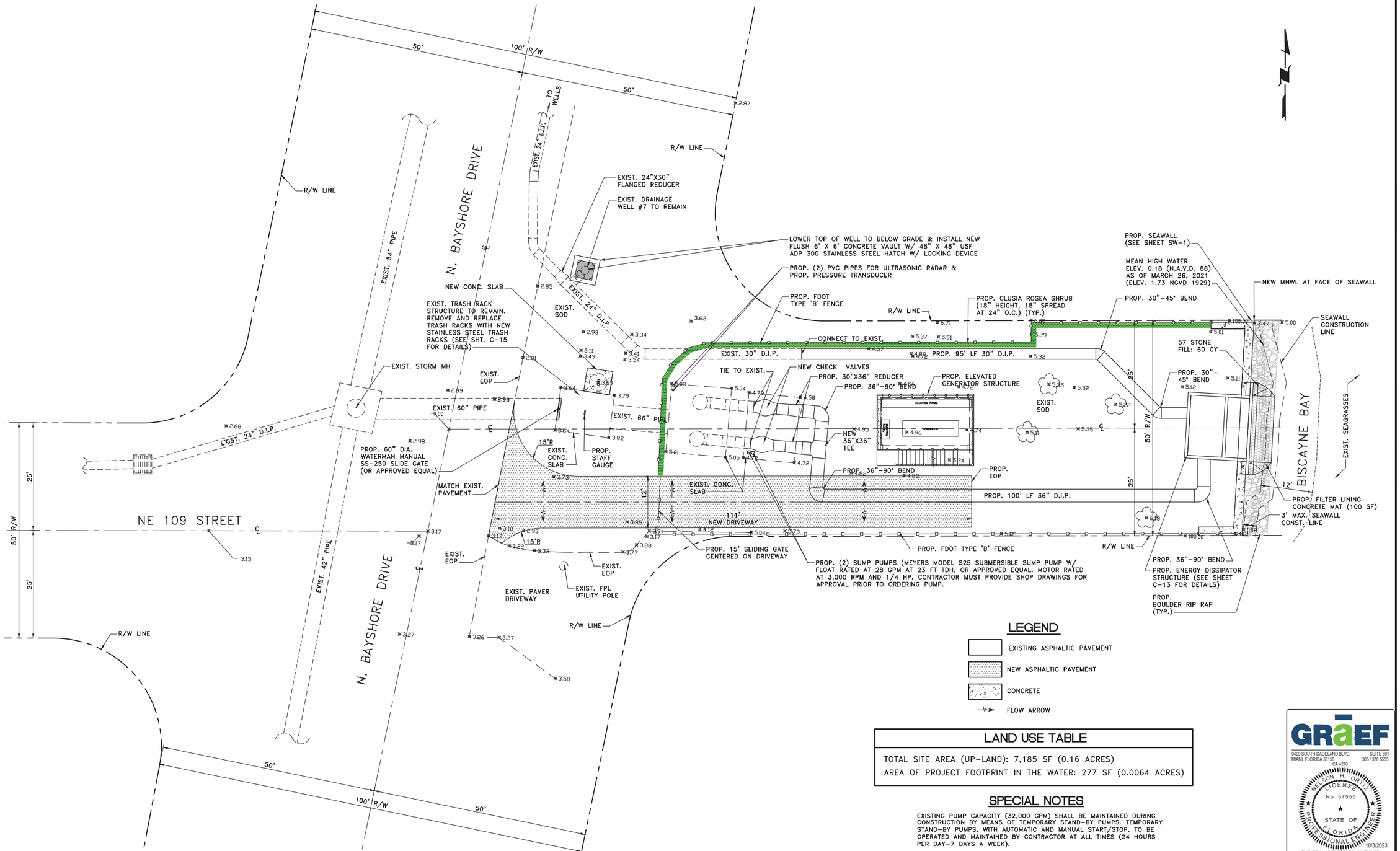
SCALE: 1" = 10'

07/20/2023 ADDRESS DERM COMMENTS
06/22/2023 ADDRESS M-D C COMMENTS
12/17/2021 ADDRESS M-D C COMMENTS
04/15/2021 ADDRESS SFWMD COMMENTS

GRAEF
9400 SOUTH DADELAND BLVD. SUITE 601
MIAMI, FLORIDA 33156 305 / 378 5555
CA 4270
NELSON H. ORTIZ LICENSE No 57556 STATE OF FLORIDA PROFESSIONAL ENGINEER
10/3/2023
THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY NELSON H. ORTIZ, P.E. ON THE DATE ADJACENT TO THE SEAL.
PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.
FOR THE FIRM: NELSON H. ORTIZ
PROJECT NO.: 2017-7053.01 PE-57556 (CIVIL)

DESIGN BY: J.R.G.	DATE: 04/10/2020	PS 109 EXISTING CONDITIONS / DEMOLITION PLAN	BISCAYNE SHORES PUMP STATIONS No. 109 AND 110 RETROFIT	MIAMI-DADE COUNTY DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS STEPHEN P. CLARK CENTER 111 NW 1ST STREET, 16TH FLOOR MIAMI, FLORIDA 33128	PROJECT NO. 17053.01 / SHEET NO. 3
DRAWN BY: P.F.	DATE:				DRAWING NO. C-3 / OF 27 SHEETS
CHECKED BY: N.H.O.	DATE:				

100% SUBMITTAL



PS 109 PROPOSED SITE PLAN

SCALE: 1" = 10'

LEGEND

- EXISTING ASPHALTIC PAVEMENT
- NEW ASPHALTIC PAVEMENT
- CONCRETE
- FLOW ARROW

LAND USE TABLE

TOTAL SITE AREA (UP-LAND): 7,185 SF (0.16 ACRES)
AREA OF PROJECT FOOTPRINT IN THE WATER: 277 SF (0.0064 ACRES)

SPECIAL NOTES

EXISTING PUMP CAPACITY (32,000 GPM) SHALL BE MAINTAINED DURING CONSTRUCTION BY MEANS OF TEMPORARY STAND-BY PUMPS. TEMPORARY STAND-BY PUMPS, WITH AUTOMATIC AND MANUAL START/STOP, TO BE OPERATED AND MAINTAINED BY CONTRACTOR AT ALL TIMES (24 HOURS PER DAY-7 DAYS A WEEK).

DATUM: N.G.V.D. 29

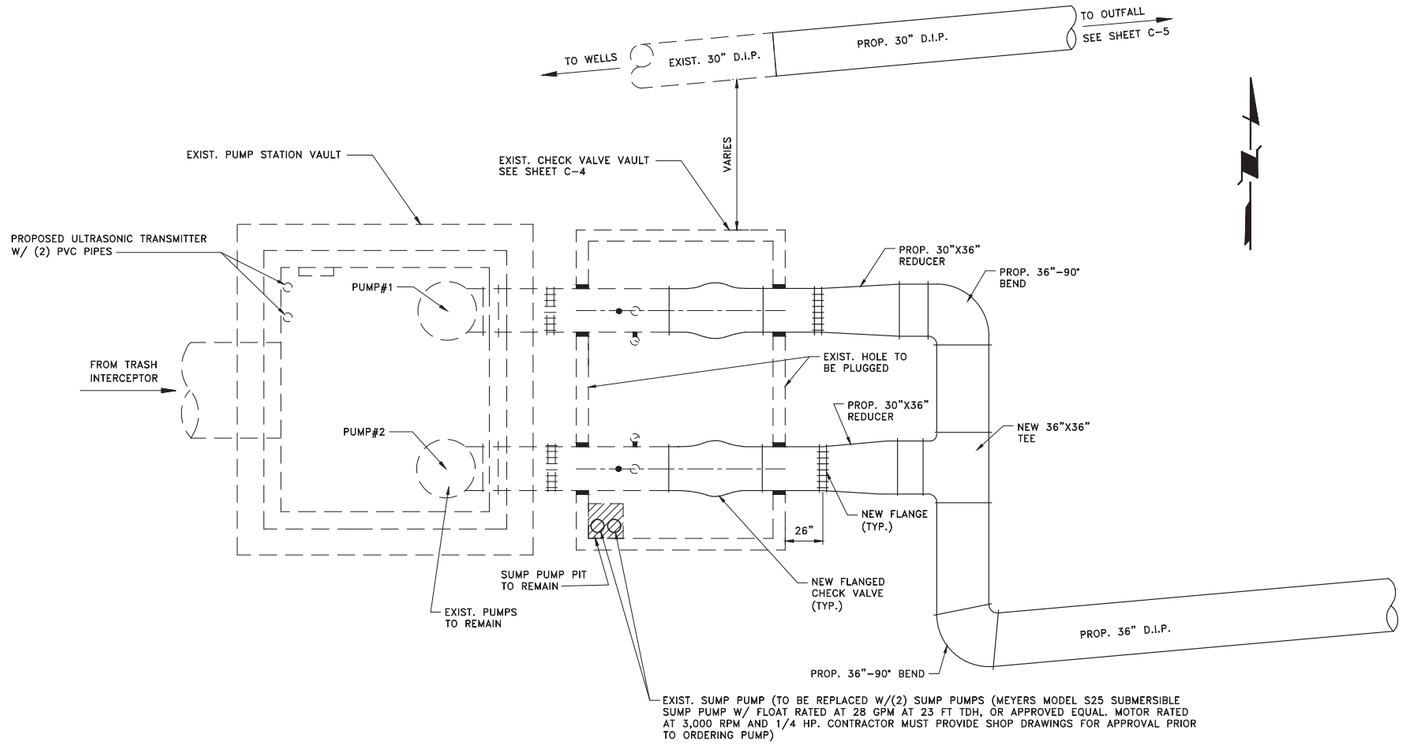
07/20/2023 ADDRESS DERM COMMENTS
06/22/2023 ADDRESS M-D C COMMENTS
12/17/2021 ADDRESS M-D C COMMENTS
09/08/2021 ADDRESS SFWMD COMMENTS
08/10/2021 ADDRESS SFWMD COMMENTS
04/15/2021 ADDRESS SFWMD COMMENTS

GRAEF
9400 SOUTH DADELAND BLVD. SUITE 601
MIAMI, FLORIDA 33156 305 / 379 5555
CA 4270
NELSON H. ORTIZ LICENSE No 57556 STATE OF FLORIDA PROFESSIONAL ENGINEER
10/3/2023
THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY NELSON H. ORTIZ, P.E. ON THE DATE ADJACENT TO THE SEAL.
PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.
FOR THE FIRM: PROJECT NO.: 2017-7053.01
NELSON H. ORTIZ PE-57556 (CIVIL)

DESIGN BY: J.R.G.	DATE: 04/10/2020	PS 109 PROPOSED SITE PLAN	BISCAYNE SHORES PUMP STATIONS No. 109 AND 110 RETROFIT	MIAMI-DADE COUNTY	DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS STEPHEN P. CLARK CENTER 111 NW 1ST STREET, 16TH FLOOR MIAMI, FLORIDA 33128
DRAWN BY: P.F.	DATE:				
CHECKED BY: N.H.O.	DATE:				

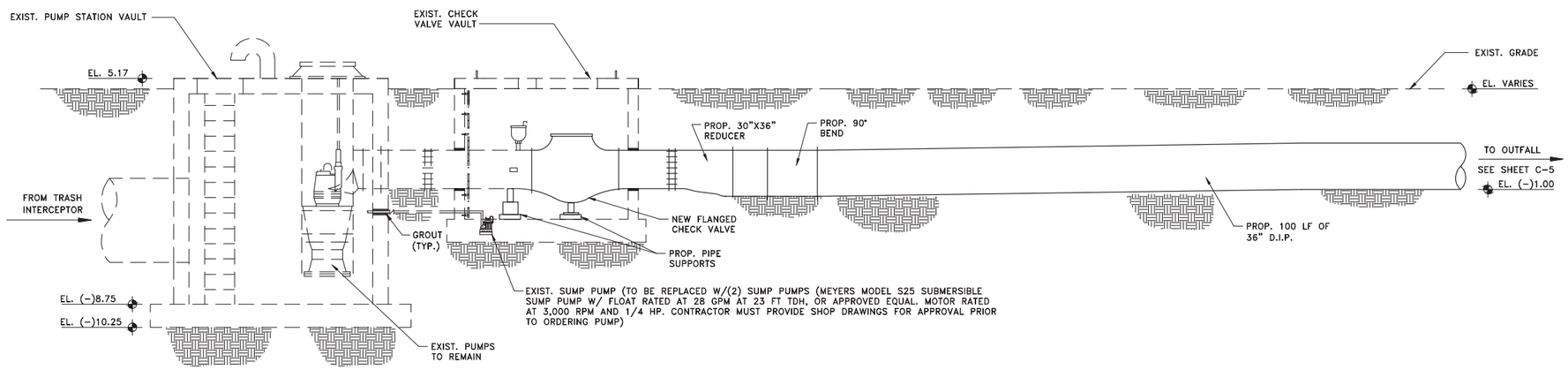
PROJECT NO. 17053.01	SHEET NO. 4
DRAWING NO. C-4	OF 27 SHEETS

100% SUBMITTAL



OVERALL PROPOSED PLAN

SCALE: 1" = 4'



OVERALL PROPOSED SECTION

SCALE: 1" = 4'

EXIST. PUMP STATION DATA TABLE			
#1 PUMP	PUMP CAPACITY	G.P.M.	16.000
	T.D.H.	FEET	12.0
#2 PUMP	PUMP CAPACITY	G.P.M.	16.000
	T.D.H.	FEET	12.0
NORMAL OPERATING RANGE		FEET OF HEAD	6.0-18.0
PUMP CYCLE TIME		MINUTES	10 MIN.
WET WELL DIMENSIONS		FEET	12'X14' I.D.
PUMP MODEL		SUBMERSIBLE PROPELLER	
SIZE		24" PROPELLER	
B.H.P.		-	61
PUMP EFFICIENCY		-	80%
DISCHARGE PIPE DIAMETER		INCHES	30"
MOTOR SIZE		H.P.	75
FINISH GRADE		ELEV. A	4.5
℄ DISCHARGE PIPE		ELEV. B	0.25
INFLUENT PIPE INVERT		ELEV. C	-5.25
ALARM SIGNAL HIGH WATER VALVE OPEN		ELEV. D	3.5
LAG PUMP ON		ELEV. E	3.0
LEAD PUMP ON		ELEV. F	2.5
WET WELL SLAB		ELEV. H	-8.75
ELECTRICAL SERVICE		AMP. MIN.	
R.P.M.		-	660
HIGH PRESSURE SHUT OFF SWITCH		FEET OF HEAD	22#
HIGH PRESSURE ALARM LIGHT AND CONTROL VALVE OPEN		FEET OF HEAD	18
LAG PUMP LOW WATER SHUT OFF		ELEV. J	-2.0
LEAD PUMP LOW WATER SHUT OFF		ELEV. K	-2.5
LOW WATER ALARM/EMERGENCY SHUT OFF		ELEV. L	-3.0

SEQUENCE OF CONSTRUCTION NOTES

1. TURN OFF PUMPS #1 & #2.
2. REMOVE EXIST. PLUG VALVE VAULT IN ITS ENTIRETY.
3. REMOVE ALL PLUG VALVES AND PIPES, AS REQUIRED.
4. INSTALL ENERGY DISSIPATOR STRUCTURE.
5. INSTALL PIPES & APPURTENANCES.
6. ALL PIPES AND VALVES SHALL BE TESTED FOR LEAKS PRIOR TO BACKFILLING THE EXCAVATIONS, WHILE MIAMI-DADE COUNTY DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS PERSONNEL ARE PRESENT.

NOTE: CONTRACTOR TO PROVIDE CONTINUOUS TEMPORARY BY-PASS PUMPING AND PIPING DURING THE DURATION OF PROJECT CONSTRUCTION. CAPACITY SHALL MATCH EXISTING CAPACITY.

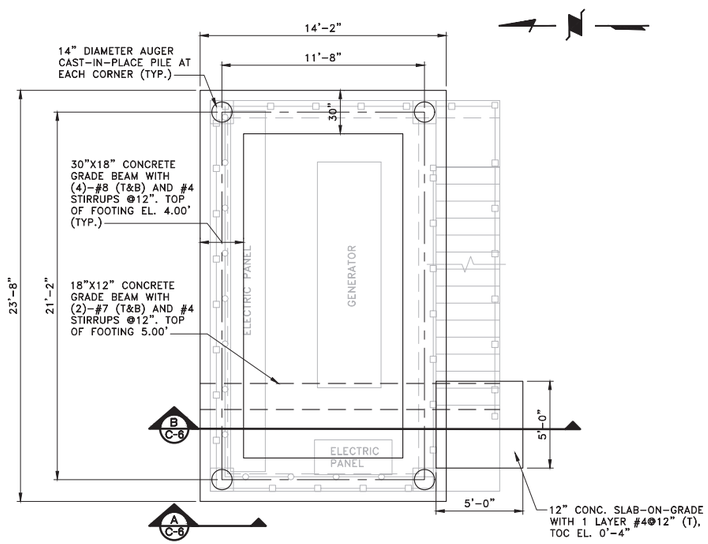
GRAEF
9400 SOUTH DADELAND BLVD. SUITE 601
MIAMI, FLORIDA 33156 305 / 378 5555
CA 4270
NELSON H. ORTIZ LICENSE No 57556 STATE OF FLORIDA PROFESSIONAL ENGINEER
7/24/2023
THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY NELSON H. ORTIZ, P.E. ON THE DATE ADJACENT TO THE SEAL.
PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.
FOR THE FIRM PROJECT NO.: 2017-7053.01
NELSON H. ORTIZ PE-57556 (CIVIL)

DATUM: N.G.V.D. 29

12/17/2021 ADDRESS M-D C COMMENTS

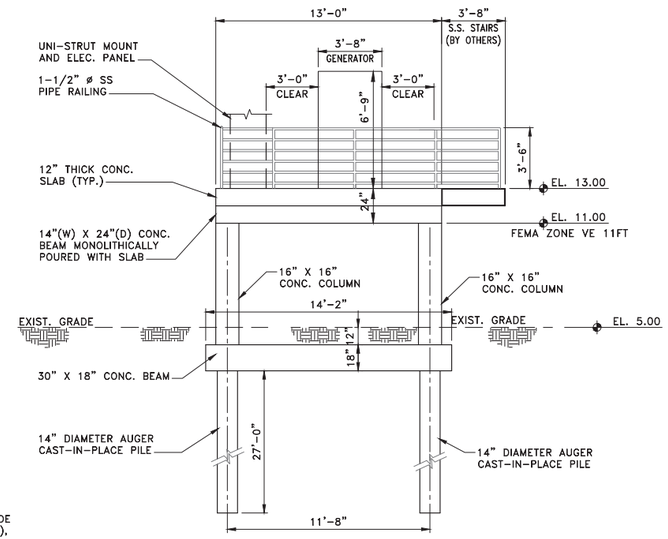
DESIGN BY: J.R.G.	DATE: 04/10/2020	PS 109 PLAN AND ELEVATION	BISCAYNE SHORES PUMP STATIONS No. 109 AND 110 RETROFIT	MIAMI-DADE COUNTY	DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS STEPHEN P. CLARK CENTER 111 NW 1ST STREET, 16TH FLOOR MIAMI, FLORIDA 33128	PROJECT NO. 17053.01 / SHEET NO. 5
DRAWN BY: P.F.	DATE:					DRAWING NO. C-5 / OF 27 SHEETS
CHECKED BY: N.H.O.	DATE:					

100% SUBMITTAL



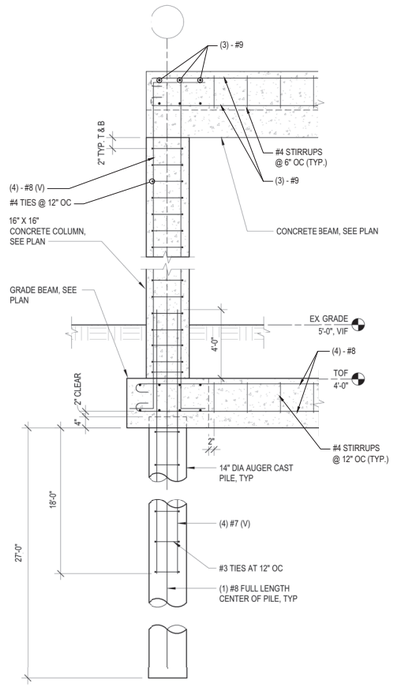
FOUNDATION PLAN VIEW

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



WEST ELEVATION

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



SECTION "A"

SCALE: N.T.S.

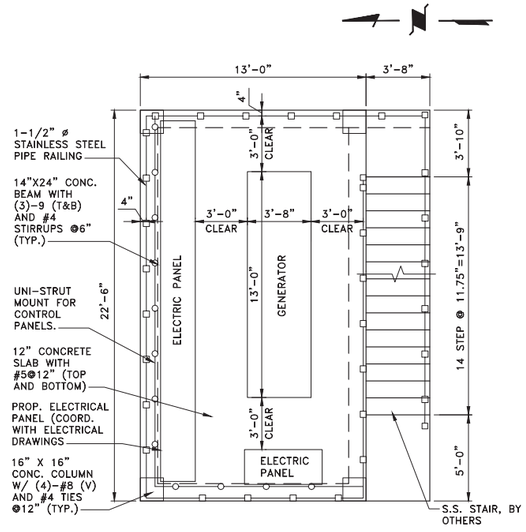
STRUCTURAL GENERAL NOTES

1. DESIGN IS IN ACCORDANCE WITH THE STATE OF FLORIDA BUILDING CODE, 2020 EDITION.
2. MINIMUM 28 DAY CONCRETE CYLINDER STRENGTH SHALL BE:
   AUGER CAST-IN-PLACE PILES: 5000 PSI
   OTHERS: 4000 PSI.
   WATER/CEMENT RATIO SHALL NOT BE LARGER THAN 0.50.
3. REINFORCING STEEL SHALL CONFORM TO ASTM A615 GRADE 60.
4. STAINLESS STEEL WIDE FLANGE BEAMS, CHANNELS, ANGLES SHALL CONFORM TO ASTM A276, ALLOY 316L.
5. STAINLESS STEEL PLATES SHALL CONFORM TO ASTM A240, ALLOY 316L.
6. STAINLESS STEEL BOLTS SHALL CONFORM TO ASTM F593D, ALLOY 316L.
7. STAINLESS STEEL NUTS AND WASHERS SHALL CONFORM TO ASTM F594 GROUP 2, ALLOY 316L.
8. ALL WELDING SHALL COMPLY WITH AWS D1.6 USING E316 ELECTRODES. ALL WELDERS TO BE CERTIFIED BY AWS.
9. ALL STAIR, HARDWARE, WIDE FLANGE BEAMS, CHANNELS, ANGLES, PLATES, RAILS, BRACKETS, BOLTS AND ANY FIXTURES OR SUPPORTS SHALL BE STAINLESS STEEL.
10. STATED AUGER CAST PILE COMPRESSIVE CAPACITY IS 26 TONS, TENSILE CAPACITY IS 6.5 TONES AND LATERAL CAPACITY IS 10, BASED ON SOIL REPORT PREPARED BY WINGERTER LABORATORIES, INC., DATED NOVEMBER 15, 2019.
11. DESIGN LOADS:
    LIVE LOADS:
    PLATFORM: 40 PSF
    WIND LOAD (ASCE 7-16)
    BUILDING RISK CATEGORY III
    BASIC WIND SPEED V = 181 MPH
    EXPOSURE: D
    INTERNAL PRESSURE COEFFICIENT GCPI =0.0
12. RESISTANCE TO LATERAL LOADS ON STRUCTURE IS PROVIDED BY FLOOR DIAPHRAGMS AND CONCRETE MOMENT FRAMES. CONTRACTOR SHALL PROVIDE SUFFICIENT TEMPORARY BRACING UNTIL ALL LATERAL SUPPORT SYSTEMS ARE IN PLACE AND FUNCTIONAL.
13. ALL STRUCTURAL FRAMING AND CONNECTIONS HAVE BEEN DESIGNED FOR THE FINAL COMPLETED CONDITION AND HAVE NOT BEEN INVESTIGATED FOR POTENTIAL LOADINGS ENCOUNTERED DURING ERECTION AND CONSTRUCTION. ANY INVESTIGATION OF THE STRUCTURAL FRAMING AND CONNECTIONS FOR ADEQUACY DURING THE ERECTION AND CONSTRUCTION PROCESS IS THE RESPONSIBILITY OF THE CONTRACTOR.
14. CONTRACTOR IS RESPONSIBLE FOR MEANS AND METHODS OF CONSTRUCTION AND JOB SITE SAFETY.

PILE DESIGN CAPACITY:

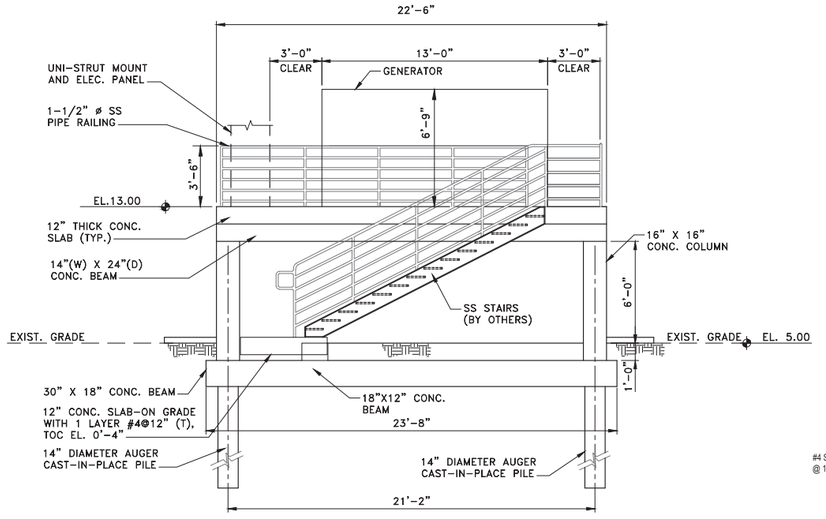
ALLOWABLE AXIAL LOADS:

- 26 TONS DOWNWARD
- 6.5 TONS UPWARD
- 10 TONS LATERAL



PLATFORM PLAN VIEW

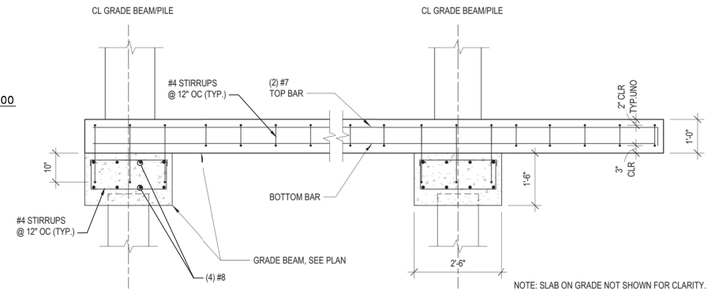
SCALE: 1/4" = 1'-0"



NORTH ELEVATION

PROPOSED ELEVATED GENERATOR STRUCTURE

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



NOTE: SLAB ON GRADE NOT SHOWN FOR CLARITY.

SECTION "B"

SCALE: 1/2" = 1'-0"

DATUM: N.G.V.D. 29

12/17/2021 ADDRESS M-D C COMMENTS

GRAEF
9400 SOUTH DADELAND BLVD. SUITE 601
MIAMI, FLORIDA 33156 305 / 378 5555
CA 4270

NELSON H. ORTIZ LICENSE No 57556 STATE OF FLORIDA PROFESSIONAL ENGINEER

7/24/2023

THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY NELSON H. ORTIZ, P.E. ON THE DATE ADJACENT TO THE SEAL.
PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.

FOR THE FIRM: PROJECT NO.: 2017-7053.01
NELSON H. ORTIZ PE-57556 (CIVIL)

DESIGN BY: J.R.G.	DATE: 04/10/2020	PS 109 ELEVATED GENERATOR STRUCTURE	BISCAYNE SHORES PUMP STATIONS No. 109 AND 110 RETROFIT	MIAMI-DADE COUNTY	DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS STEPHEN P. CLARK CENTER 111 NW 1ST STREET, 16TH FLOOR MIAMI, FLORIDA 33128
DRAWN BY: P.F.	DATE:				
CHECKED BY: N.H.O.	DATE:				

PROJECT NO. 17053.01	SHEET NO. 6
DRAWING NO. C-6	OF 27 SHEETS

100% SUBMITTAL

STRUCTURAL NOTES

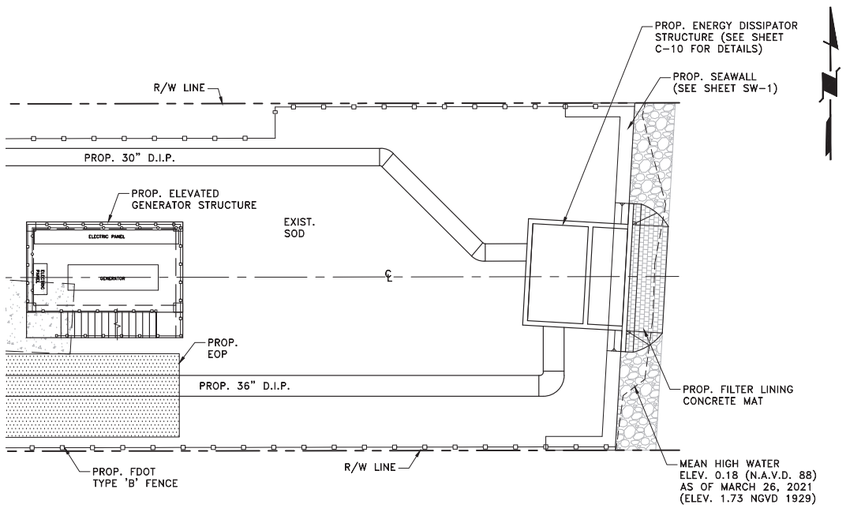
1. ALL DEBRIS ASSOCIATED WITH CLEARING SHALL BE REMOVED FROM THE SITE AND DISPOSED OF BY
2. CONCRETE PILES SHALL BE DRIVEN TO THE FOLLOWING CRITERIA:
   KING PILES SHALL BE DRIVEN TO A MINIMUM BEARING CAPACITY OF 25 TONS AND TO A TIP ELEVATION OF ELEV.
   BATTER PILES SHALL BE DRIVEN TO A MINIMUM BEARING CAPACITY OF 25 TONS AND A MINIMUM DEPTH OF EMBEDMENT OF FEET INTO FIRM MATERIAL.
3. CONCRETE PILES SHALL BE 12" SQUARE PRECAST PRESTRESSED PILES, AS DETAILED IN THESE DRAWINGS.
4. SHOP DRAWINGS FOR ALL REBAR SHALL SHOW THE ACTUAL MILL MARK ON THE REBARS MEETING ASTM A615.
5. SPLICES IN REINFORCING STEEL BARS SHALL BE A MINIMUM OF 36 BAR DIAMETERS EXCEPT WHERE DIMENSIONED OTHERWISE.
6. MINIMUM CONCRETE COVER FOR REINFORCING SHALL BE AS DETAILED IN THESE DRAWINGS. WHERE THIS COVER IS NOT DIMENSIONED, USE THE SAME AS DIMENSIONED FOR SIMILAR ITEMS. WHERE THERE ARE NO SIMILAR ITEMS THAT INDICATE THE AMOUNT OF COVER, 3 INCHES OF COVER SHALL BE PROVIDED.
7. THE CONTRACTOR SHALL PREPARE AND SUBMIT SHOP DRAWINGS FOR ALL PRECAST UNITS AND SHALL NOT PROCEED WITH THE MANUFACTURE OF THESE ITEMS PRIOR TO RECEIVING APPROVAL OF THE ENGINEER.
8. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY ALL DIMENSIONS PRIOR TO CASTING ANY NON-TYPICAL CONCRETE PANELS. RE-CASTING OF ANY NON-TYPICAL CONCRETE PANEL DUE TO A DISCREPANCY IN DIMENSIONS SHALL AT THE CONTRACTOR'S EXPENSE.
9. ALL EXPOSED CONCRETE EDGES SHALL BE CHAMFERED 3/4", OR AS SHOWN.
10. ALL EXPOSED CONCRETE SURFACES SHALL HAVE A LIGHT BROOM FINISH.
11. EXPANSION JOINTS SHALL BE PREFORMED BITUMINOUS MATERIAL CONFORMING TO ASTM D1751 AND LOCATED AS SHOWN IN THESE DRAWINGS.
12. NO CONSTRUCTION JOINTS, OTHER THAN SHOWN, SHALL BE MADE WITHOUT PRIOR APPROVAL OF THE
13. ALL BACKFILL WHICH MAY BE REQUIRED FOR THE PROJECT WILL BE ACQUIRED FROM OFF-SITE SOURCES. CONTRACTOR SHALL BEAR ALL COSTS OF TRANSPORT OF THIS MATERIAL TO AND WITHIN THE PROJECT
14. TESTING OF CONCRETE: TESTING LABORATORY WILL BE RETAINED BY THE OWNER TO VERIFY SPECIFIED CONCRETE STRENGTHS. FAILURE OF ANY CONCRETE CYLINDER TO MEET SPECIFIED REQUIREMENTS SHALL BE DEEMED NON-COMPLYING. ALL COSTS OF ADDITIONAL TESTING TO DETERMINE ADEQUACY AND/OR REPLACEMENT OF DEFECTIVE WORK SHALL BE BORNE BY CONTRACTOR.
15. SILT BARRIERS: FLOATING SILT BARRIERS SHALL BE INSTALLED AROUND ALL GRADING OPERATIONS AND AROUND PILE OPERATIONS (PREDRILLING PILE HOLES AND PILE DRIVING), WHERE NECESSARY, SUCH THAT ALL REQUIRED TURBIDITY LIMITS AS DESIGNATED BY ENVIRONMENTAL REGULATORY AGENCIES ARE MAINTAINED.

GENERAL NOTES

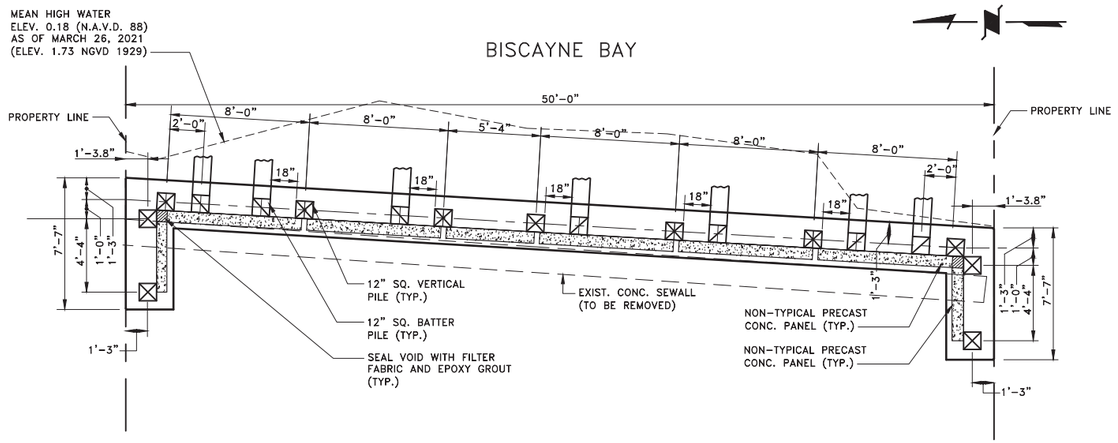
1. ELEVATIONS SHOWN REFER TO THE NORTH GEODETIC VERTICAL DATUM. (N.G.V.D.).
2. HORIZONTAL AND VERTICAL CONTROL SHALL BE PROVIDED BY THE OWNER'S SURVEYOR. ALL CONSTRUCTION LAYOUT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
3. IT IS THE INTENT OF THESE PLANS TO BE IN ACCORDANCE WITH APPLICABLE CODES AND AUTHORITIES HAVING JURISDICTION. ANY DISCREPANCIES BETWEEN THESE PLANS AND APPLICABLE CODES SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE ENGINEER.
4. IT IS THE INTENT OF THESE PLANS AND THE RESPONSIBILITY OF THE CONTRACTOR TO COMPLY WITH LOCAL, STATE, AND FEDERAL ENVIRONMENTAL PERMITS ISSUED FOR THIS PROJECT. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO FAMILIARIZE HIMSELF WITH AND GOVERN HIMSELF BY ALL PROVISIONS OF THESE PERMITS.
5. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY ALL UNDERGROUND FACILITIES PRIOR TO THE START OF CONSTRUCTION AND COORDINATE WITH THE VARIOUS UTILITY COMPANIES TO RELOCATE, BYPASS, OR OTHERWISE ENSURE THAT UTILITY SERVICES WILL NOT BE INTERRUPTED DURING CONSTRUCTION.
6. EXISTING GRADES AND SOUNDINGS WERE TAKEN FROM THE BEST AVAILABLE DATA AND MAY NOT ACCURATELY REFLECT PRESENT CONDITIONS. CONTRACTOR SHALL BE RESPONSIBLE FOR FAMILIARIZING HIMSELF WITH CURRENT SITE CONDITIONS, AND SHALL REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO STARTING WORK.
7. EXISTING CONDITIONS WERE TAKEN FROM THE SURVEY PREPARED BY MIAMI-DADE COUNTY DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS ROADWAY ENGINNERING AND RIGHT OF WAY DIVISION, MIAMI, FLORIDA, DATED JUNE 14, 2016.

MATERIAL AND DESIGN DATA

A. MATERIALS:
   1. CONCRETE: (Fc' = MIN. COMPRESSIVE STRENGTH AT 28 DAYS)
      A. CAST-IN-PLACE CONCRETE.....Fc' = 4,000 PSI
      B. PRECAST CONCRETE.....Fc' = 4,000 PSI
      C. PRECAST PRESTRESSED CONCRETE PILES.....Fc' = 5,500 PSI
   2. CONCRETE PILES SHALL BE 12" SQUARE PRECAST PRESTRESSED PILES WITH FOUR 1/2"ø 270K LO-LAX STRANDS WITH #5 GAGE WIRE SPIRAL TIES.
   3. REBAR, ANY SIZES, SHALL BE GALVANIZED STEEL AND SHALL CONFORM TO ASTM A615, GRADE 60.
   4. ACCESSORIES SHALL BE ASTM A-36.
   5. GEOTEXTILE FABRIC SHALL BE NON-WOVEN POLYPROPYLENE, MIRAFI 140N OR APPROVED EQUAL AT EACH PILE LOCATION (24" MIN. WIDTH).
B. STRUCTURAL DESIGN IN ACCORDANCE WITH THE FOLLOWING CODES AND SPECIFICATIONS:
   1. THE FLORIDA BUILDING CODE (CURRENT EDITION).
   2. ACI STANDARD BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE (ACI 318).



N.E. 109 STREET PUMP STATION SEAWALL
SCALE: 1" = 10'



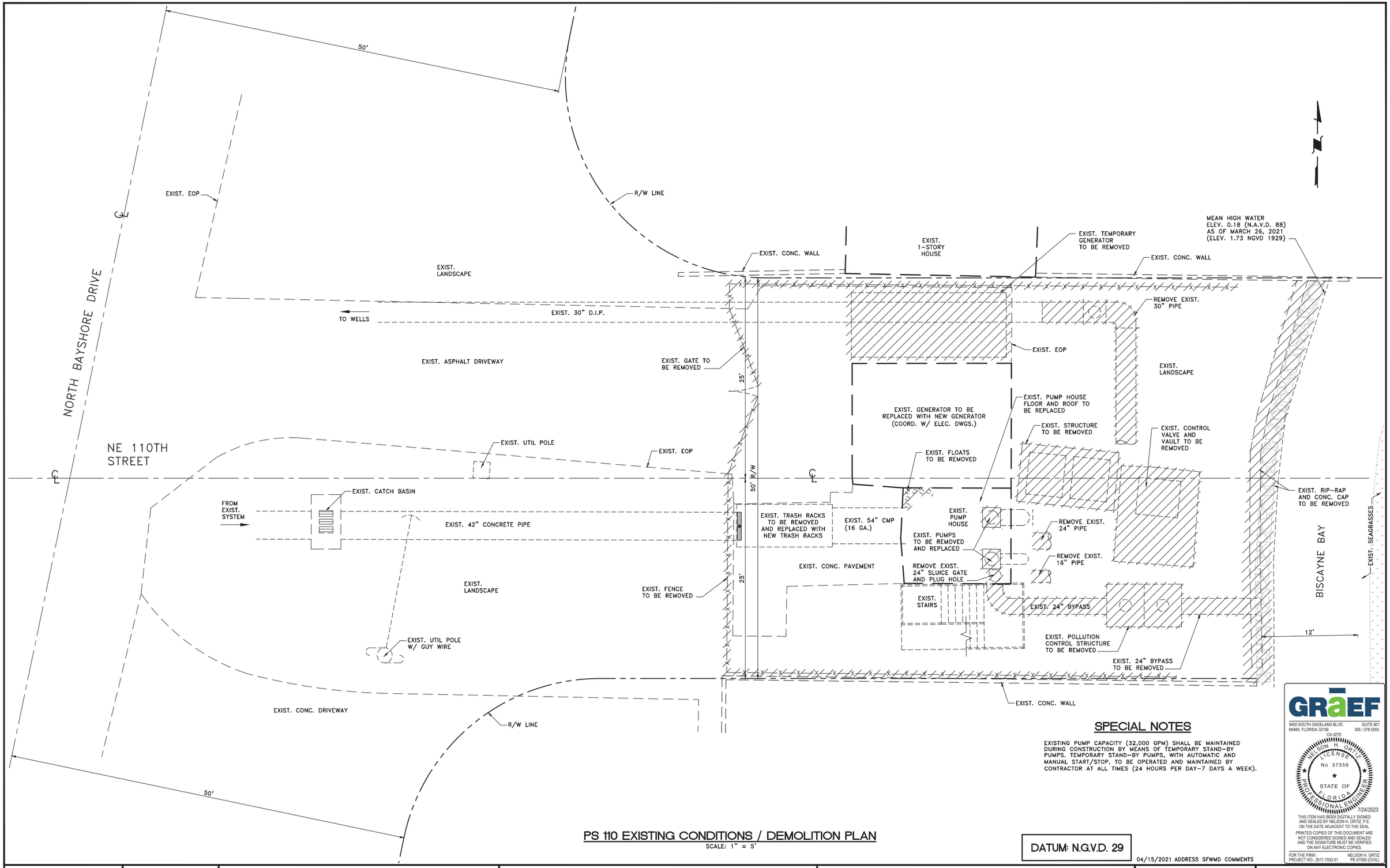
PILE LAYOUT PLAN
SCALE: 1/4" = 1'-0"

GRAEF
9400 SOUTH DADELAND BLVD. SUITE 601
MIAMI, FLORIDA 33156 305 / 378 5555
CA 4270

NELSON H. ORTIZ LICENSE No 57556 STATE OF FLORIDA PROFESSIONAL ENGINEER
7/24/2023
THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY NELSON H. ORTIZ, P.E. ON THE DATE ADJACENT TO THE SEAL.
PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.
FOR THE FIRM: PROJECT NO.: 2017-7053.01
NELSON H. ORTIZ PE-57556 (CIVIL)

DESIGN BY: J.R.G.	DATE: 04/10/2020	PS 109 SEAWALL PLAN AND DETAILS	BISCAYNE SHORES PUMP STATIONS No. 109 AND 110 RETROFIT	MIAMI-DADE COUNTY	DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS STEPHEN P. CLARK CENTER 111 NW 1ST STREET, 16TH FLOOR MIAMI, FLORIDA 33128	PROJECT NO. 17053.01 / SHEET NO. 7
DRAWN BY: P.F.	DATE:					DRAWING NO. C-7 / OF 27 SHEETS
CHECKED BY: N.H.O.	DATE:					

100% SUBMITTAL



SPECIAL NOTES

EXISTING PUMP CAPACITY (32,000 GPM) SHALL BE MAINTAINED DURING CONSTRUCTION BY MEANS OF TEMPORARY STAND-BY PUMPS. TEMPORARY STAND-BY PUMPS, WITH AUTOMATIC AND MANUAL START/STOP, TO BE OPERATED AND MAINTAINED BY CONTRACTOR AT ALL TIMES (24 HOURS PER DAY-7 DAYS A WEEK).

PS 110 EXISTING CONDITIONS / DEMOLITION PLAN

SCALE: 1" = 5'

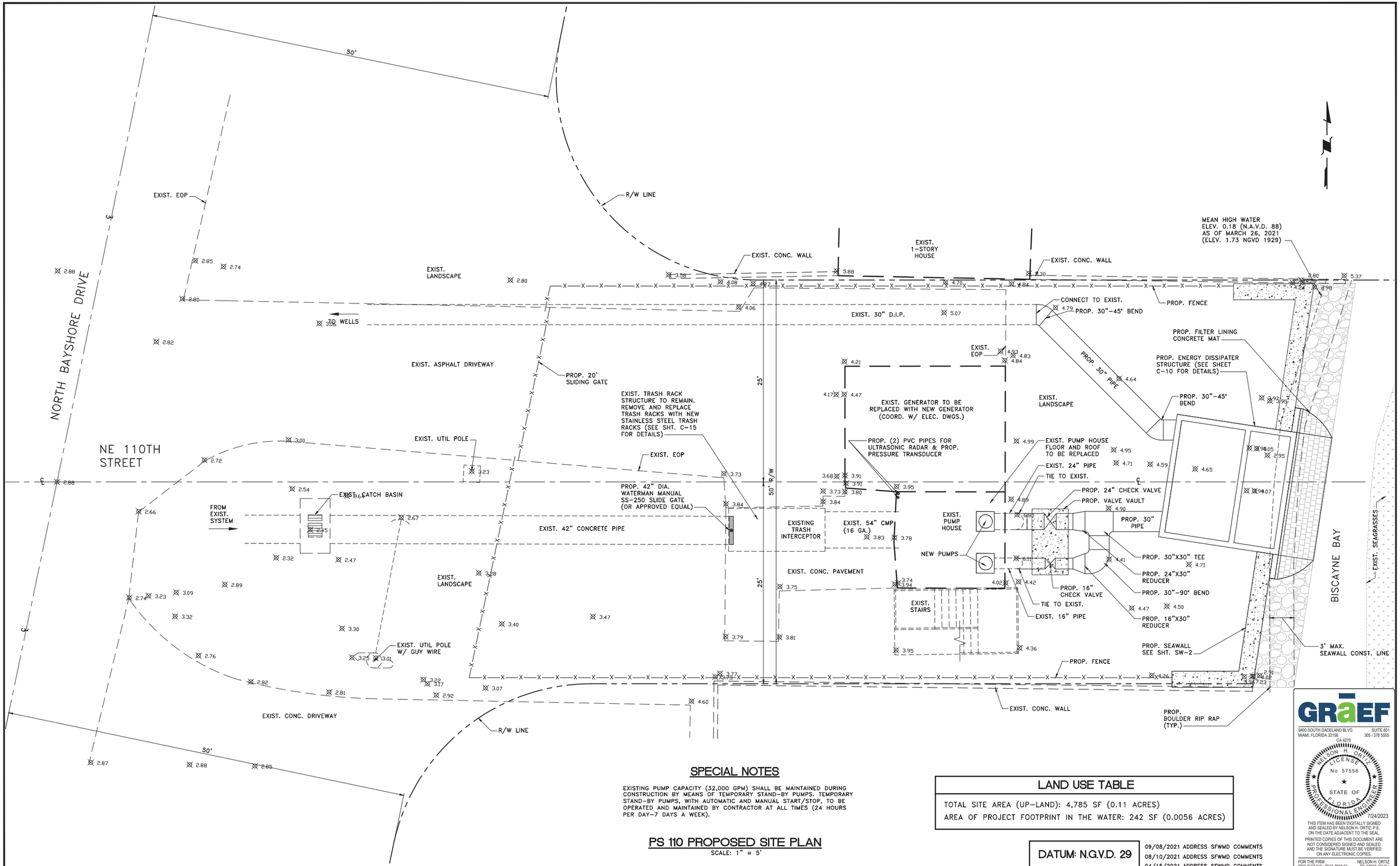
DATUM: N.G.V.D. 29

04/15/2021 ADDRESS SFWMD COMMENTS

GRAEF
9400 SOUTH DADELAND BLVD. SUITE 601
MIAMI, FLORIDA 33156 305 / 378 5555
CA 4270
NELSON H. ORTIZ LICENSE No 57556 STATE OF FLORIDA PROFESSIONAL ENGINEER
7/24/2023
THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY NELSON H. ORTIZ, P.E. ON THE DATE ADJACENT TO THE SEAL.
PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.
FOR THE FIRM PROJECT NO.: 2017-7053.01
NELSON H. ORTIZ PE-57556 (CIVIL)

DESIGN BY: J.R.G.	DATE: 04/10/2020	PS 110 EXISTING CONDITIONS / DEMOLITION PLAN	BISCAYNE SHORES PUMP STATIONS No. 109 AND 110 RETROFIT	MIAMI-DADE COUNTY DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS STEPHEN P. CLARK CENTER 111 NW 1ST STREET, 16TH FLOOR MIAMI, FLORIDA 33128	PROJECT NO. 17053.01
DRAWN BY: P.F.	DATE:				DRAWING NO. C-8
CHECKED BY: N.H.O.	DATE:				SHEET NO. 8 OF 27 SHEETS

100% SUBMITTAL



SPECIAL NOTES

EXISTING PUMP CAPACITY (32,000 GPM) SHALL BE MAINTAINED DURING CONSTRUCTION BY MEANS OF TEMPORARY STAND-BY PUMPS. TEMPORARY STAND-BY PUMPS, WITH AUTOMATIC AND MANUAL START/STOP, TO BE OPERATED AND MAINTAINED BY CONTRACTOR AT ALL TIMES (24 HOURS PER DAY-7 DAYS A WEEK).

PS 110 PROPOSED SITE PLAN

SCALE: 1" = 5'

LAND USE TABLE
TOTAL SITE AREA (UP-LAND): 4,785 SF (0.11 ACRES)
AREA OF PROJECT FOOTPRINT IN THE WATER: 242 SF (0.0056 ACRES)

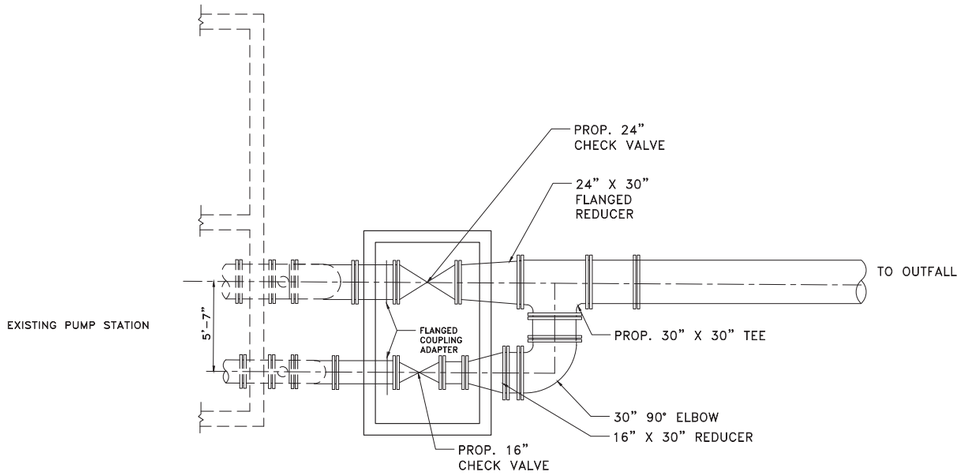
DATUM: N.G.V.D. 29

09/08/2021 ADDRESS SFWMD COMMENTS
08/10/2021 ADDRESS SFWMD COMMENTS
04/15/2021 ADDRESS SFWMD COMMENTS

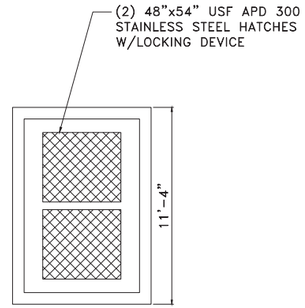
GRAEF
9400 SOUTH DADELAND BLVD. SUITE 601
MIAMI, FLORIDA 33156 305 / 378 5555
CA 4270
NELSON H. ORTIZ LICENSE No 57556 STATE OF FLORIDA PROFESSIONAL ENGINEER
7/24/2023
THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY NELSON H. ORTIZ, P.E. ON THE DATE ADJACENT TO THE SEAL.
PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.
FOR THE FIRM: NELSON H. ORTIZ
PROJECT NO.: 2017-7053.01 PE-57556 (CIVIL)

DESIGN BY: J.R.G.	DATE: 04/10/2020	PS 110 PROPOSED SITE PLAN	BISCAYNE SHORES PUMP STATIONS No. 109 AND 110 RETROFIT	MIAMI-DADE COUNTY DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS STEPHEN P. CLARK CENTER 111 NW 1ST STREET, 16TH FLOOR MIAMI, FLORIDA 33128	PROJECT NO. 17053.01 / SHEET NO. 9
DRAWN BY: P.F.	DATE:				DRAWING NO. C-9 / OF 27 SHEETS
CHECKED BY: N.H.O.	DATE:				

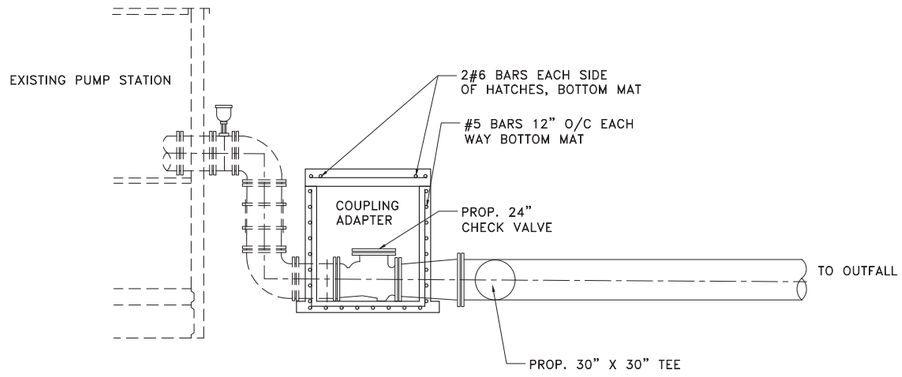
100% SUBMITTAL



PLAN



CHECK VALVE BOX COVER



ELEVATION

NOTES:

1. ALL JOINTS UP STREAM OF PLUG SHALL BE FLANGED OR RESTRAINED.
2. 16" & 24" CHECK VALVES SHALL BE APCO SERIES 100 RUBBER FLAPPER TYPE OR APPROVED EQUAL.
3. ADJUST PIPING TO FIT EXISTING CONDITIONS.

GRAEF
9400 SOUTH DADELAND BLVD. SUITE 601
MIAMI, FLORIDA 33156 305 / 378 5555
CA 4270

NELSON H. ORTIZ LICENSE No 57556 STATE OF FLORIDA PROFESSIONAL ENGINEER

7/24/2023

THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY NELSON H. ORTIZ, P.E. ON THE DATE ADJACENT TO THE SEAL.

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

FOR THE FIRM: PROJECT NO.: 2017-7053.01 NELSON H. ORTIZ PE-57556 (CIVIL)

12/17/2021 ADDRESS M-D C COMMENTS

DESIGN BY: J.R.G.	DATE: 04/10/2020	PS 110 PLAN AND ELEVATION	BISCAYNE SHORES PUMP STATIONS No. 109 AND 110 RETROFIT	MIAMI-DADE COUNTY	DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS STEPHEN P. CLARK CENTER 111 NW 1ST STREET, 16TH FLOOR MIAMI, FLORIDA 33128	PROJECT NO. 17053.01	SHEET NO. 10
DRAWN BY: P.F.	DATE:					DRAWING NO. C-10	OF 27 SHEETS
CHECKED BY: N.H.O.	DATE:						

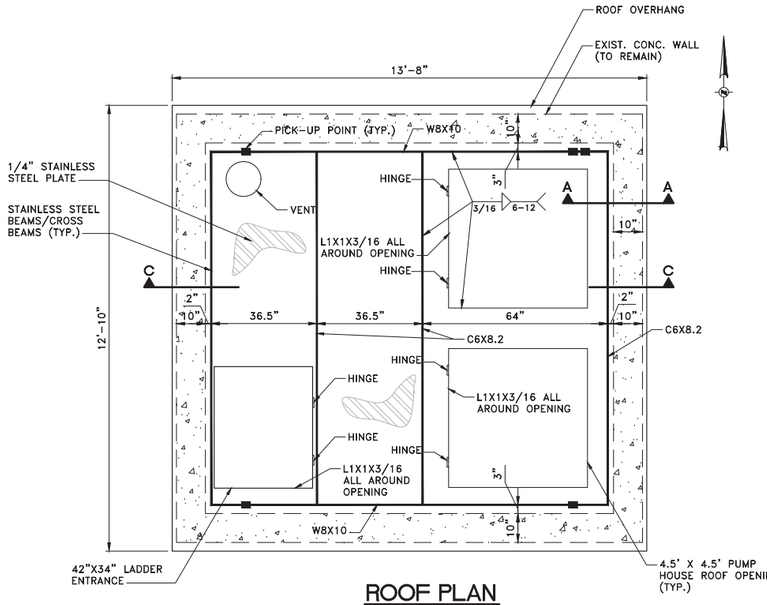
100% SUBMITTAL

STRUCTURAL GENERAL NOTES

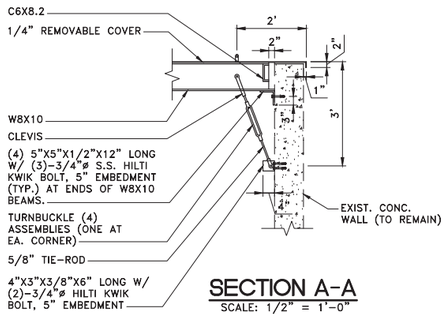
1. DESIGN IS IN ACCORDANCE WITH THE STATE OF FLORIDA BUILDING CODE, 2020 EDITION.
2. STAINLESS STEEL WIDE FLANGE BEAMS, CHANNELS SHALL CONFORM TO ASTM A276, ALLOY 316L.
3. STAINLESS STEEL PLATES SHALL CONFORM TO ASTM A240, ALLOY 316L.
4. STAINLESS STEEL BOLTS SHALL CONFORM TO ASTM F593D, ALLOY 316L.
5. STAINLESS STEEL NUTS AND WASHERS SHALL CONFORM TO ASTM F594 GROUP 2, ALLOY 316L.
6. ALL WELDING SHALL COMPLY WITH AWS D1.6 USING E316 ELECTRODES. ALL WELDERS TO BE CERTIFIED BY AWS.
7. CONTRACTOR MUST FIELD MEASURE EXACT VAULT DIMENSIONS PRIOR TO FABRICATION OF WORKING PLATFORM AND NEW ROOF. WORKING PLATFORM MUST BE INSTALLED PRIOR TO INSTALLATION OF DISCHARGE PIPES.
8. ALL LADDERS, HARDWARE, WIDE FLANGE BEAMS, CHANNELS, ANGLES, PLATES, RAILS, BRACKETS, BOLTS AND ANY FIXTURES OR SUPPORTS SHALL BE STAINLESS STEEL.
9. DESIGN LOADS:

   LIVE LOADS:
   FLOOR: 40 PSF
   ROOF: 20 PSF

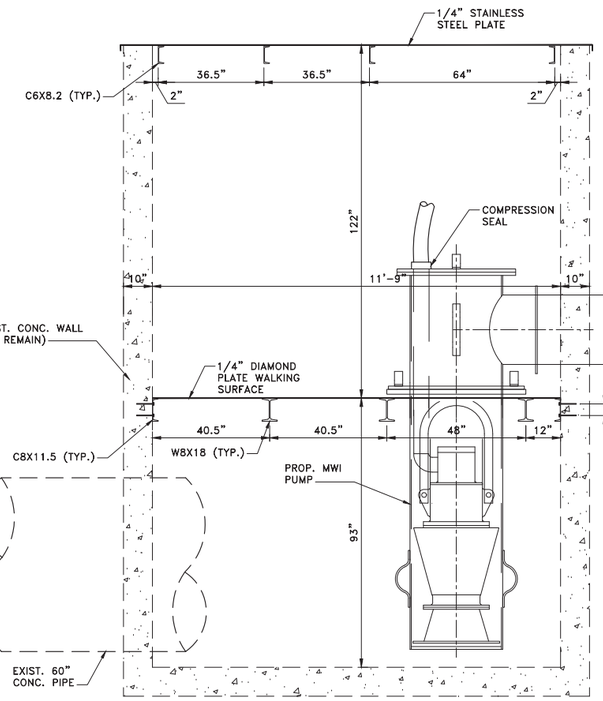
   WIND LOAD (ASCE 7-16)
   BUILDING RISK CATEGORY III
   BASIC WIND SPEED V = 181 MPH
   EXPOSURE: D
   INTERNAL PRESSURE COEFFICIENT GCPI =+/-0.18



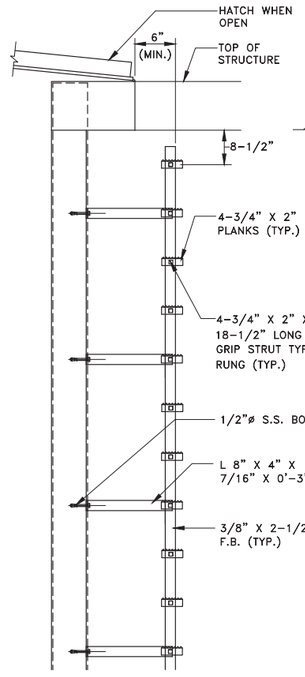
ROOF PLAN
SCALE: 1/2" = 1'-0"



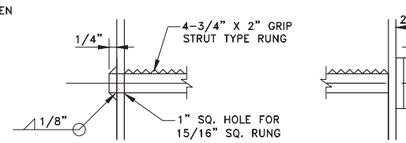
SECTION A-A
SCALE: 1/2" = 1'-0"



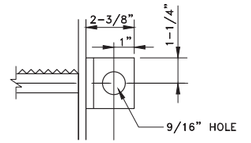
SECTION C-C
SCALE: 1/2" = 1'-0"



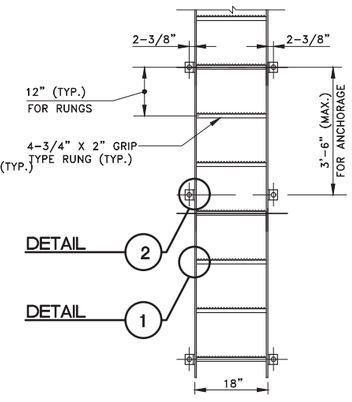
SECTION



DETAIL 1
N.T.S.



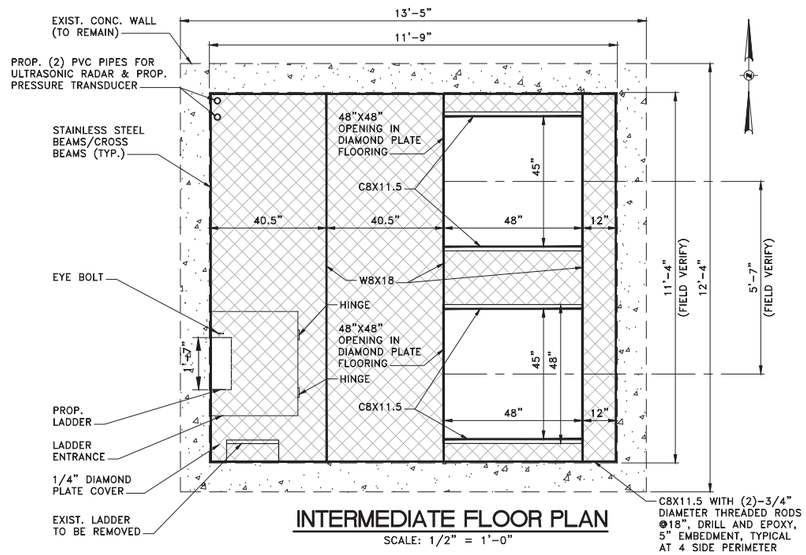
DETAIL 2
N.T.S.



ELEVATION

DETAIL 2
DETAIL 1

LADDER DETAIL
N.T.S.



INTERMEDIATE FLOOR PLAN
SCALE: 1/2" = 1'-0"

12/17/2021 ADDRESS M-D C COMMENTS

GRAEF
9400 SOUTH DADELAND BLVD. SUITE 601
MIAMI, FLORIDA 33156 305 / 378 5555
CA 4270
NELSON H. ORTIZ LICENSE No 57556 STATE OF FLORIDA PROFESSIONAL ENGINEER
7/24/2023
THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY NELSON H. ORTIZ, P.E. ON THE DATE ADJACENT TO THE SEAL.
PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.
FOR THE FIRM: PROJECT NO.: 2017-7053.01
NELSON H. ORTIZ PE-57556 (CIVIL)

DESIGN BY: J.R.G.	DATE: 04/10/2020	PS 110 PUMP HOUSE RETROFIT DETAILS	BISCAYNE SHORES PUMP STATIONS No. 109 AND 110 RETROFIT	MIAMI-DADE COUNTY	DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS STEPHEN P. CLARK CENTER 111 NW 1ST STREET, 16TH FLOOR MIAMI, FLORIDA 33128	PROJECT NO. 17053.01 / SHEET NO. 11
DRAWN BY: P.F.	DATE:					DRAWING NO. C-11 / OF 27 SHEETS
CHECKED BY: N.H.O.	DATE:					

100% SUBMITTAL

GENERAL NOTES

1. ELEVATIONS SHOWN REFER TO THE NORTH GEODETIC VERTICAL DATUM. (N.G.V.D.).
2. HORIZONTAL AND VERTICAL CONTROL SHALL BE PROVIDED BY THE OWNER'S SURVEYOR. ALL CONSTRUCTION LAYOUT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
3. IT IS THE INTENT OF THESE PLANS TO BE IN ACCORDANCE WITH APPLICABLE CODES AND AUTHORITIES HAVING JURISDICTION. ANY DISCREPANCIES BETWEEN THESE PLANS AND APPLICABLE CODES SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE ENGINEER.
4. IT IS THE INTENT OF THESE PLANS AND THE RESPONSIBILITY OF THE CONTRACTOR TO COMPLY WITH LOCAL, STATE, AND FEDERAL ENVIRONMENTAL PERMITS ISSUED FOR THIS PROJECT. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO FAMILIARIZE HIMSELF WITH AND GOVERN HIMSELF BY ALL PROVISIONS OF THESE PERMITS.
5. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY ALL UNDERGROUND FACILITIES PRIOR TO THE START OF CONSTRUCTION AND COORDINATE WITH THE VARIOUS UTILITY COMPANIES TO RELOCATE, BYPASS, OR OTHERWISE ENSURE THAT UTILITY SERVICES WILL NOT BE INTERRUPTED DURING CONSTRUCTION.
6. EXISTING GRADES AND SOUNDINGS WERE TAKEN FROM THE BEST AVAILABLE DATA AND MAY NOT ACCURATELY REFLECT PRESENT CONDITIONS. CONTRACTOR SHALL BE RESPONSIBLE FOR FAMILIARIZING HIMSELF WITH CURRENT SITE CONDITIONS, AND SHALL REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO STARTING WORK.
7. EXISTING CONDITIONS WERE TAKEN FROM THE SURVEY PREPARED BY MIAMI-DADE COUNTY DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS ROADWAY ENGINNERING AND RIGHT OF WAY DIVISION, MIAMI, FLORIDA, DATED JUNE 14, 2016.

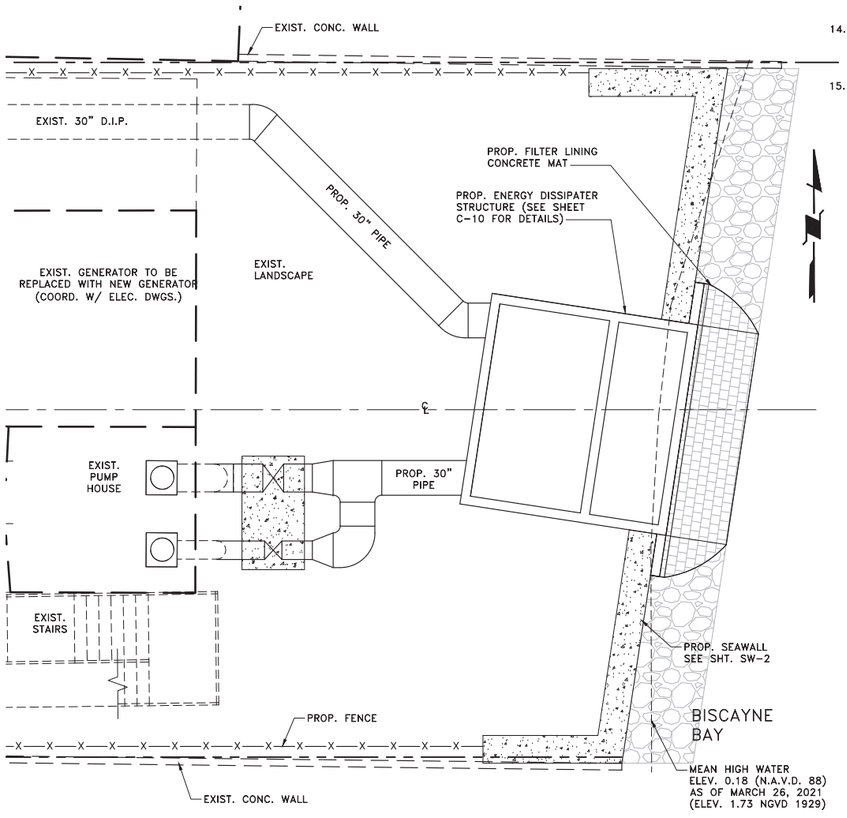
STRUCTURAL NOTES

1. ALL DEBRIS ASSOCIATED WITH CLEARING SHALL BE REMOVED FROM THE SITE AND DISPOSED OF BY THE CONTRACTOR.
2. CONCRETE PILES SHALL BE DRIVEN TO THE FOLLOWING CRITERIA:
   A. KING PILES SHALL BE DRIVEN TO A MINIMUM BEARING CAPACITY OF 25 TONS AND TO A TIP ELEVATION OF ELEV.
   B. BATTER PILES SHALL BE DRIVEN TO A MINIMUM BEARING CAPACITY OF 25 TONS AND A MINIMUM DEPTH OF EMBEDMENT OF FEET INTO FIRM MATERIAL.
3. CONCRETE PILES SHALL BE 12" SQUARE PRECAST PRESTRESSED PILES, AS DETAILED IN THESE DRAWINGS.
4. SHOP DRAWINGS FOR ALL REBAR SHALL SHOW THE ACTUAL MILL MARK ON THE REBARS MEETING ASTM A615.
5. SPLICES IN REINFORCING STEEL BARS SHALL BE A MINIMUM OF 36 BAR DIAMETERS EXCEPT WHERE DIMENSIONED OTHERWISE.
6. MINIMUM CONCRETE COVER FOR REINFORCING SHALL BE AS DETAILED IN THESE DRAWINGS. WHERE THIS COVER IS NOT DIMENSIONED, USE THE SAME AS DIMENSIONED FOR SIMILAR ITEMS. WHERE THERE ARE NO SIMILAR ITEMS THAT INDICATE THE AMOUNT OF COVER, 3 INCHES OF COVER SHALL BE PROVIDED.
7. THE CONTRACTOR SHALL PREPARE AND SUBMIT SHOP DRAWINGS FOR ALL PRECAST UNITS AND SHALL NOT PROCEED WITH THE MANUFACTURE OF THESE ITEMS PRIOR TO RECEIVING APPROVAL OF THE ENGINEER.
8. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY ALL DIMENSIONS PRIOR TO CASTING ANY NON-TYPICAL CONCRETE PANELS. RE-CASTING OF ANY NON-TYPICAL CONCRETE PANEL DUE TO A DISCREPANCY IN DIMENSIONS SHALL AT THE CONTRACTOR'S EXPENSE.
9. ALL EXPOSED CONCRETE EDGES SHALL BE CHAMFERED 3/4", OR AS SHOWN.
10. ALL EXPOSED CONCRETE SURFACES SHALL HAVE A LIGHT BROOM FINISH.
11. EXPANSION JOINTS SHALL BE PREFORMED BITUMINOUS MATERIAL CONFORMING TO ASTM D1751 AND LOCATED AS SHOWN IN THESE DRAWINGS.
12. NO CONSTRUCTION JOINTS, OTHER THAN SHOWN, SHALL BE MADE WITHOUT PRIOR APPROVAL OF THE ENGINEER.
13. ALL BACKFILL WHICH MAY BE REQUIRED FOR THE PROJECT WILL BE ACQUIRED FROM OFF-SITE SOURCES. CONTRACTOR SHALL BEAR ALL COSTS OF TRANSPORT OF THIS MATERIAL TO AND WITHIN THE PROJECT SITE.
14. TESTING OF CONCRETE: TESTING LABORATORY WILL BE RETAINED BY THE OWNER TO VERIFY SPECIFIED CONCRETE STRENGTHS. FAILURE OF ANY CONCRETE CYLINDER TO MEET SPECIFIED REQUIREMENTS SHALL BE DEEMED NON-COMPLYING. ALL COSTS OF ADDITIONAL TESTING TO DETERMINE ADEQUACY AND/OR REPLACEMENT OF DEFECTIVE WORK SHALL BE BORNE BY CONTRACTOR.
15. SILT BARRIERS: FLOATING SILT BARRIERS SHALL BE INSTALLED AROUND ALL GRADING OPERATIONS AND AROUND PILE OPERATIONS (PREDRILLING PILE HOLES AND PILE DRIVING), WHERE NECESSARY, SUCH THAT ALL REQUIRED TURBIDITY LIMITS AS DESIGNATED BY ENVIRONMENTAL REGULATORY AGENCIES ARE MAINTAINED.

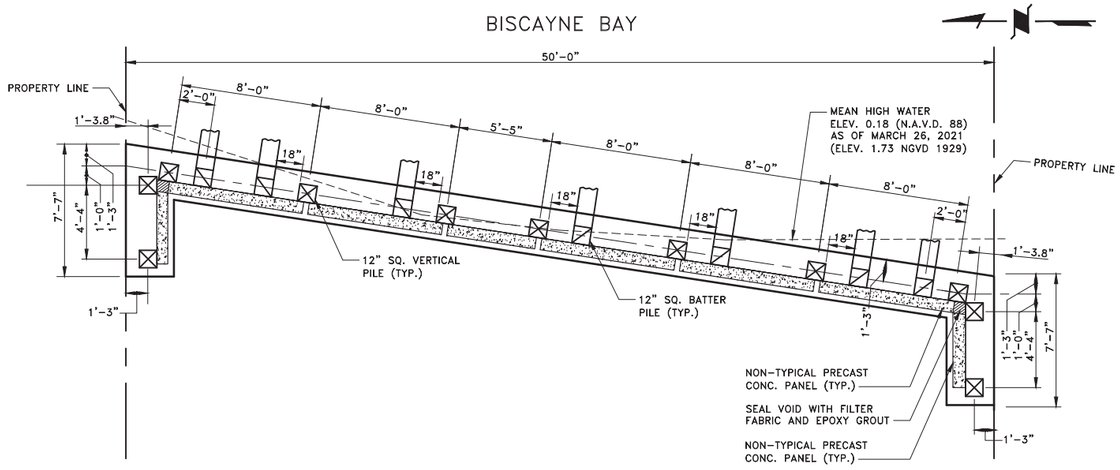
MATERIAL AND DESIGN DATA

A. MATERIALS:
   1. CONCRETE: (Fc' = MIN. COMPRESSIVE STRENGTH AT 28 DAYS)
      A. CAST-IN-PLACE CONCRETE.....Fc' = 4,000 PSI
      B. PRECAST CONCRETE.....Fc' = 4,000 PSI
      C. PRECAST PRESTRESSED CONCRETE PILES.....Fc' = 5,500 PSI
   2. CONCRETE PILES SHALL BE 12" SQUARE PRECAST PRESTRESSED PILES WITH FOUR 1/2"ø 270K LO-LAX STRANDS WITH #5 GAGE WIRE SPIRAL TIES.
   3. REBAR, ANY SIZES, SHALL BE GALVANIZED STEEL AND SHALL CONFORM TO ASTM A615, GRADE 60.
   4. ACCESSORIES SHALL BE ASTM A-36.
   5. GEOTEXTILE FABRIC SHALL BE NON-WOVEN POLYPROPYLENE, MIRAFI 140N OR APPROVED EQUAL AT EACH PILE LOCATION (24" MIN. WIDTH).

B. STRUCTURAL DESIGN IN ACCORDANCE WITH THE FOLLOWING CODES AND SPECIFICATIONS:
   1. THE FLORIDA BUILDING CODE (CURRENT EDITION).
   2. ACI STANDARD BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE (ACI 318).



N.E. 110 STREET PUMP STATION SEAWALL
SCALE: 1" = 5'



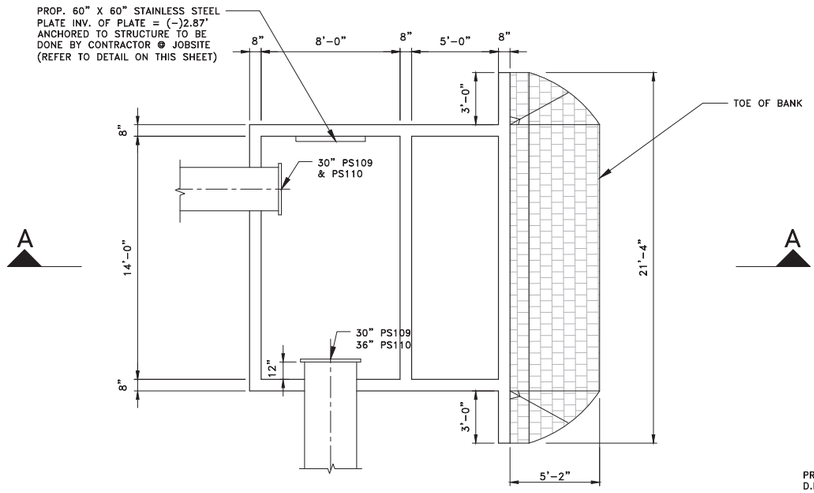
PILE LAYOUT PLAN
SCALE: 1/4" = 1'-0"

GRAEF
9400 SOUTH DADELAND BLVD. SUITE 601
MIAMI, FLORIDA 33156 305 / 378 5555
CA 4270
NELSON H. ORTIZ LICENSE No 57556 STATE OF FLORIDA PROFESSIONAL ENGINEER
7/24/2023
THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY NELSON H. ORTIZ, P.E. ON THE DATE ADJACENT TO THE SEAL.
PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.
FOR THE FIRM PROJECT NO.: 2017-7053.01
NELSON H. ORTIZ PE-57556 (CIVIL)

DESIGN BY: J.R.G.	DATE: 04/10/2020	PS 110 SEAWALL PLAN AND DETAILS	BISCAYNE SHORES PUMP STATIONS No. 109 AND 110 RETROFIT	MIAMI-DADE COUNTY	DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS STEPHEN P. CLARK CENTER 111 NW 1ST STREET, 16TH FLOOR MIAMI, FLORIDA 33128
DRAWN BY: P.F.	DATE:				
CHECKED BY: N.H.O.	DATE:				

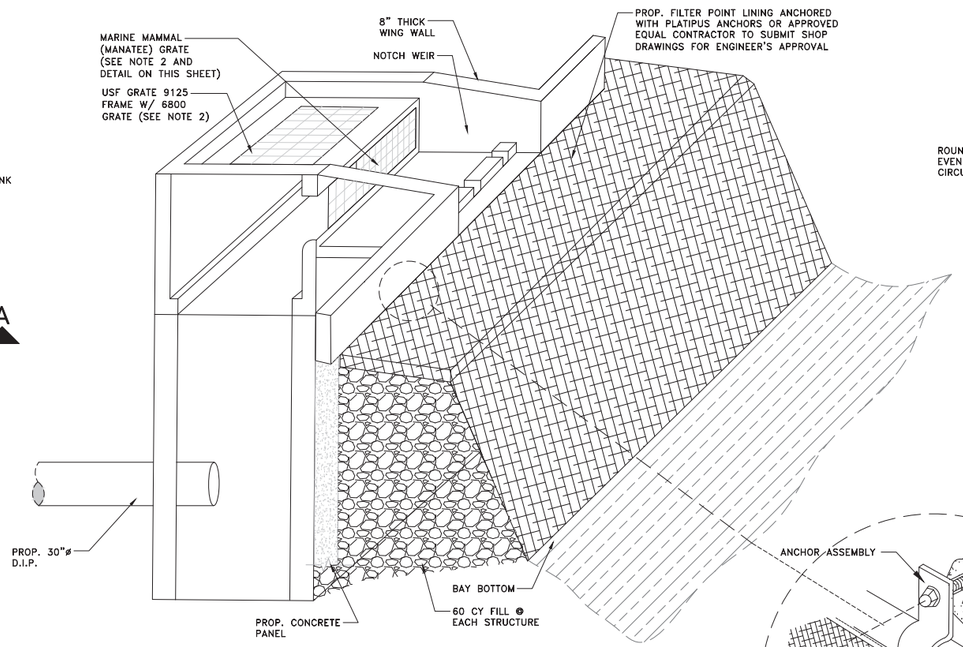
PROJECT NO. 17053.01	SHEET NO. 12
DRAWING NO. C-12	OF 27 SHEETS

100% SUBMITTAL



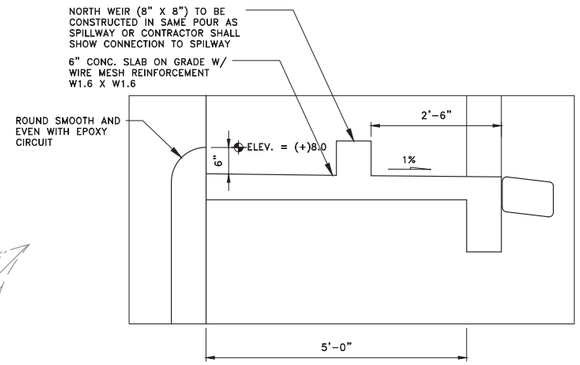
PLAN VIEW

SCALE: 1" = 4'



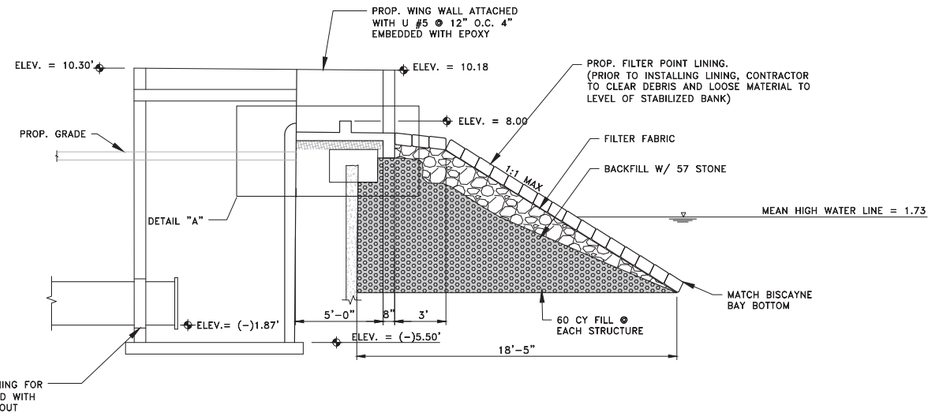
3D VIEW

NOT TO SCALE



DETAIL "A"

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

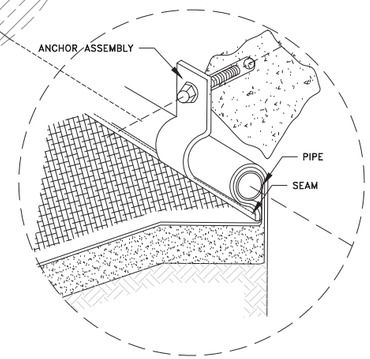


SECTION A-A

SCALE: 1" = 4'

NOTE:

1. PRECAST DEPOT ENERGY DISSIPATING STRUCTURE OR APPROVED EQUAL CONTRACTOR TO SUBMIT SIGNED AND SEALED SHOP DRAWINGS BY SPECIALTY ENGINEER FOR ENGINEER'S APPROVAL SHOP DRAWINGS TO INCLUDE ANCHORAGE SPECIFICATIONS.
2. GRATE 6800 AND MARINE MAMMAL (MANATEE) GRATE TO BE REMOVABLE AND LOCKABLE. CONTRACTOR TO SHOW IN SHOP DRAWINGS AND SUBMIT FOR ENGINEER'S APPROVAL.

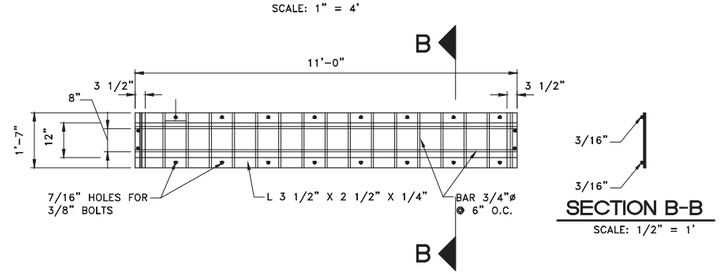


NOTE: ALL METAL MUST BE STAILESS STEEL.

FILTER POINT LINNING ANCHORAGE DETAIL

(OR APPROVED EQUAL AS RECOMMENDED BY MANUFACTURER)

NOT TO SCALE

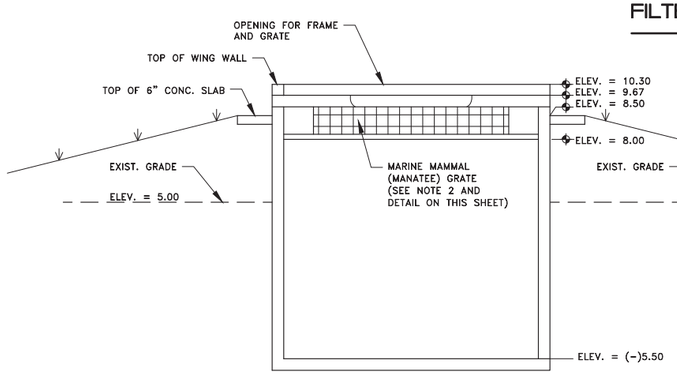


STRUCTURAL DETAIL OF MANATEE GRATE

SCALE: 1/2" = 1'

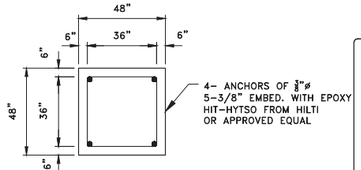
SECTION B-B

SCALE: 1/2" = 1'



FRONT VIEW

NOT TO SCALE



STAINLESS STEEL PLATE DETAIL

SCALE: 1/4" = 1'

DATUM: N.G.V.D. 29

07/20/2023 ADDRESS DERM COMMENTS
12/17/2021 ADDRESS M-D C COMMENTS
08/10/2021 ADDRESS SFWMD COMMENTS
04/15/2021 ADDRESS SFWMD COMMENTS

GRAEF
9400 SOUTH DADELAND BLVD. SUITE 601
MIAMI, FLORIDA 33156 305 / 378 5555
CA 4270

NELSON H. ORTIZ LICENSE No 57556 STATE OF FLORIDA PROFESSIONAL ENGINEER

7/24/2023

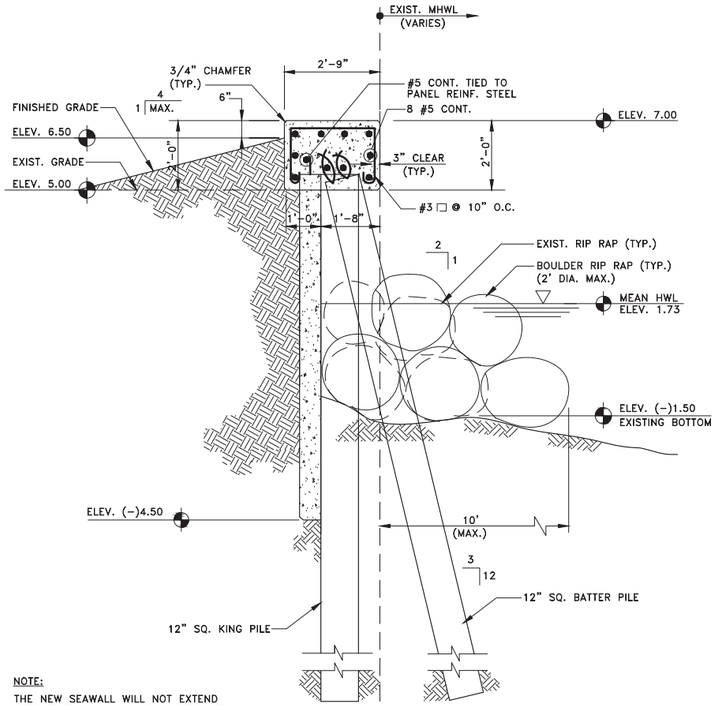
THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY NELSON H. ORTIZ, P.E. ON THE DATE ADJACENT TO THE SEAL.
PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.

FOR THE FIRM: PROJECT NO.: 2017-7053.01 NELSON H. ORTIZ PE-57556 (CIVIL)

DESIGN BY: J.R.G.	DATE: 04/10/2020	ENERGY DISSIPATOR DETAILS	BISCAYNE SHORES PUMP STATIONS No. 109 AND 110 RETROFIT	DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS STEPHEN P. CLARK CENTER 111 NW 1ST STREET, 16TH FLOOR MIAMI, FLORIDA 33128	PROJECT NO. 17053.01	SHEET NO. 13
DRAWN BY: P.F.	DATE:				DRAWING NO. C-13	OF 27 SHEETS
CHECKED BY: N.H.O.	DATE:					

MIAMI-DADE COUNTY

100% SUBMITTAL

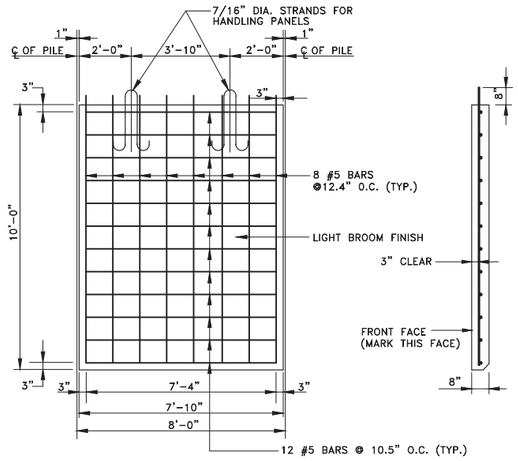


NOTE:

THE NEW SEAWALL WILL NOT EXTEND FURTHER THAN 12 INCHES WATERWARD OF THE MEAN HIGH WATER LINE (MHWL).

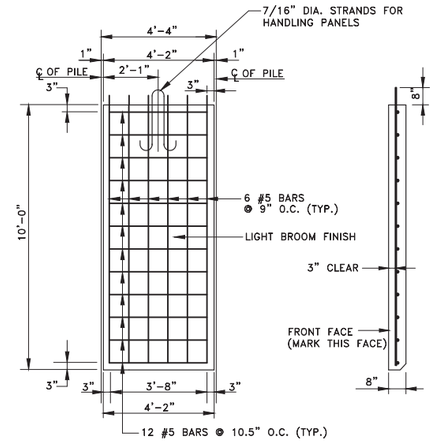
SECTION A-A

SCALE: 1/2" = 1'-0"



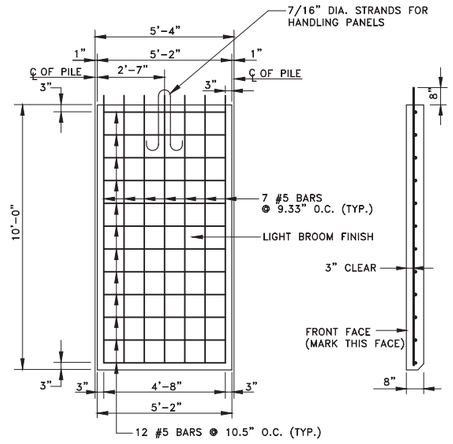
DETAIL: TYPICAL PRECAST CONCRETE PANEL

SCALE: 3/8" = 1'-0"



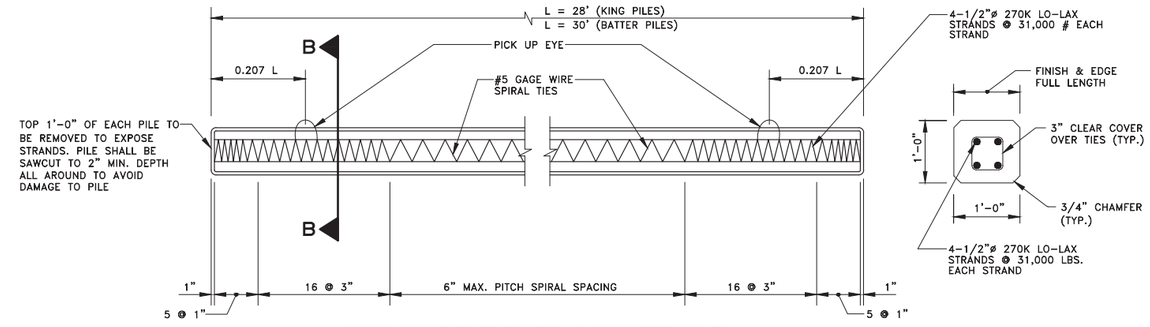
DETAIL: NON-TYPICAL PRECAST CONCRETE PANEL

SCALE: 3/8" = 1'-0"



DETAIL: NON-TYPICAL PRECAST CONCRETE PANEL

SCALE: 3/8" = 1'-0"

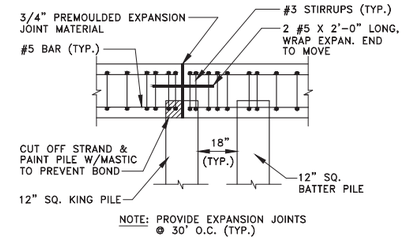


12" X 12" PRESTRESSED CONCRETE PILE

N.T.S.

SECTION B-B

N.T.S.



NOTE: PROVIDE EXPANSION JOINTS @ 30' O.C. (TYP.)

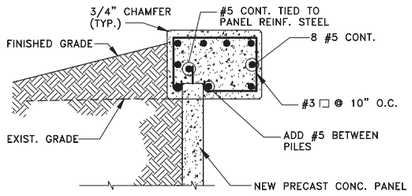
TYPICAL ELEVATION AT EXPANSION JOINT

N.T.S.

NOTE: #5'S CONT. NOT SHOWN FOR CLARITY

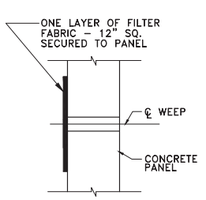
PLAN: ADDED REINF. @ PILES

SCALE: 1/2" = 1'-0"



TYPICAL CAP SECTION BETWEEN PILES

N.T.S.



WEEP DETAIL

N.T.S.

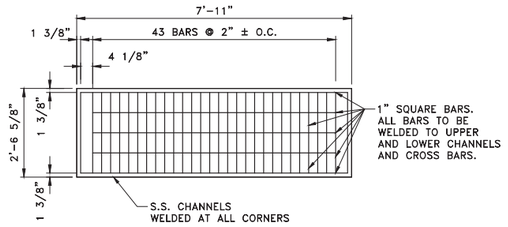
07/20/2023 ADDRESS DERM COMMENTS
08/10/2021 ADDRESS SFWMD COMMENTS
04/15/2021 ADDRESS SFWMD COMMENTS

GRÄEF
9400 SOUTH DADELAND BLVD. SUITE 601
MIAMI, FLORIDA 33156 305 / 378 5555
CA 4270
NELSON H. ORTIZ LICENSE No 57556 STATE OF FLORIDA PROFESSIONAL ENGINEER
7/24/2023
THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY NELSON H. ORTIZ, P.E. ON THE DATE ADJACENT TO THE SEAL.
PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.
FOR THE FIRM : PROJECT NO.: 2017-7053.01
NELSON H. ORTIZ PE-57556 (CIVIL)

DATUM: N.G.V.D. 29

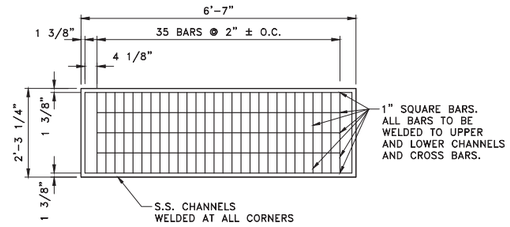
DESIGN BY: J.R.G.	DATE: 04/10/2020	SEAWALL DETAILS AND SECTIONS	BISCAYNE SHORES PUMP STATIONS No. 109 AND 110 RETROFIT	MIAMI-DADE COUNTY DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS STEPHEN P. CLARK CENTER 111 NW 1ST STREET, 16TH FLOOR MIAMI, FLORIDA 33128	PROJECT NO. 17053.01 / SHEET NO. 14
DRAWN BY: P.F.	DATE:				DRAWING NO. C-14 / OF 27 SHEETS
CHECKED BY: N.H.O.	DATE:				

100% SUBMITTAL



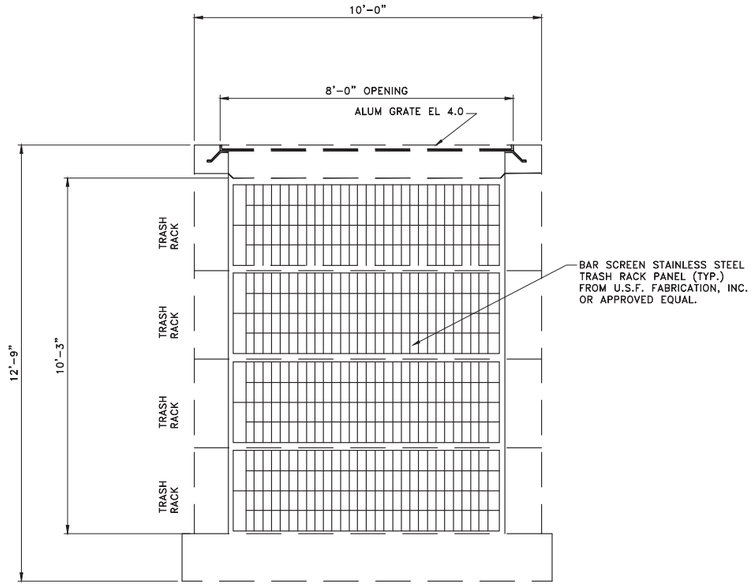
P.S. 109 TRASH RACK DETAIL

N.T.S.



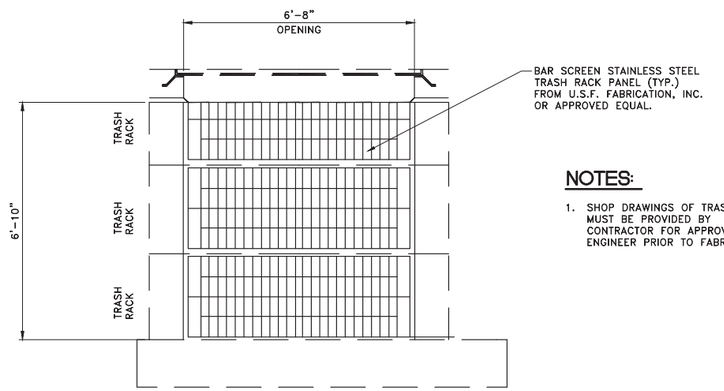
P.S. 110 TRASH RACK DETAIL

N.T.S.



P.S. 109 STAINLESS STEEL TRASH RACK

SCALE: 1/2" = 1'



P.S. 110 STAINLESS STEEL TRASH RACK

SCALE: 1/2" = 1'

NOTES:

1. SHOP DRAWINGS OF TRASH RACK MUST BE PROVIDED BY CONTRACTOR FOR APPROVAL BY ENGINEER PRIOR TO FABRICATION.

GRAEF
9400 SOUTH DADELAND BLVD. SUITE 601
MIAMI, FLORIDA 33156 305 / 378 5555
CA 4270

NELSON H. ORTIZ LICENSED No 57556 STATE OF FLORIDA PROFESSIONAL ENGINEER

7/24/2023

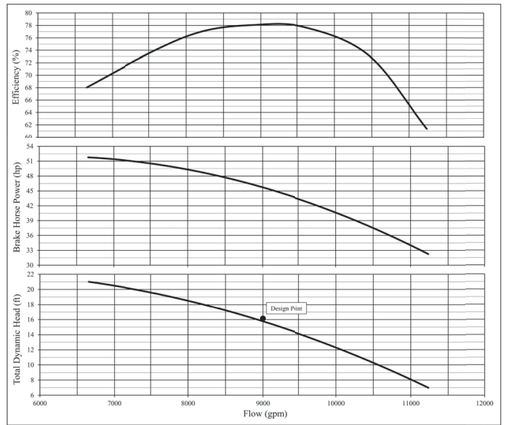
THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY NELSON H. ORTIZ, P.E. ON THE DATE ADJACENT TO THE SEAL.

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

FOR THE FIRM PROJECT NO.: 2017-7053.01 | NELSON H. ORTIZ PE-57556 (CIVIL)

DESIGN BY: J.R.G.	DATE: 04/10/2020	TRASH INTERCEPTOR DETAILS	BISCAYNE SHORES PUMP STATIONS No. 109 AND 110 RETROFIT	MIAMI-DADE COUNTY DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS STEPHEN P. CLARK CENTER 111 NW 1ST STREET, 16TH FLOOR MIAMI, FLORIDA 33128	PROJECT NO. 17053.01 / SHEET NO. 15
DRAWN BY: P.F.	DATE:				DRAWING NO. C-15 / OF 27 SHEETS
CHECKED BY: N.H.O.	DATE:				

100% SUBMITTAL



PUMP BOWL PERFORMANCE CURVE	
Project: Miami Dade Biscayne Shores 110th ?S 9000	
TYPE: Axial Flow	PROPELLER DIA.: 18 in
MODEL NO: SEA318X20	SPEED: 1180 RPM
INTAKE DIA: 27 in	DISCHARGE DIA.: 20 in

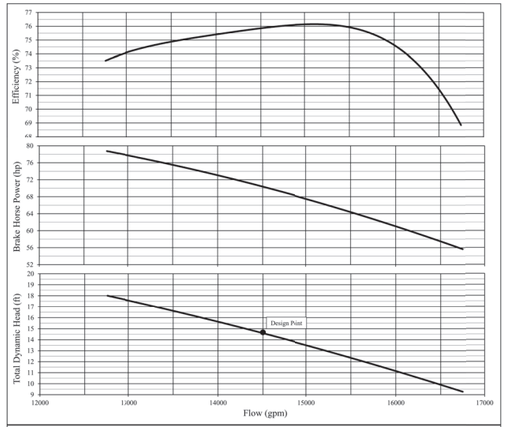
SINGLE STAGE PERFORMANCE
FOR TWO STAGES MULTIPLY HEAD AND HORSEPOWER BY 2.0 AND EFFICIENCY BY 1.0
PERFORMANCE IS BASED ON PUMPING CLEAR, NON-AERATED WATER, WITH A SPECIFIC GRAVITY OF 1.0, TEMPERATURE 85 DEG F OR LESS AND AT SEA LEVEL. PUMP PERFORMANCE MAY BE AFFECTED BY HIGHER TEMPERATURES, SPECIFIC GRAVITY, ALTITUDES AND SUMP CONDITIONS.

MWI CORPORATION ESTABLISHED 1926

IT IS HEREBY CERTIFIED THAT THIS CURVE REPRESENTS THE TRUE PERFORMANCE CHARACTERISTICS OF THE MWI PUMP MODEL SHOWN AND WAS OBTAINED BY SCALE MODEL TEST AND CALCULATIONS IN ACCORDANCE WITH STANDARDS OF THE HYDRAULIC INSTITUTE.

MWI CORPORATION CERTIFIED BY

MWI CORPORATION
Deerfield Beach, Florida



PUMP BOWL PERFORMANCE CURVE	
Project: Miami Dade Biscayne Shores 110th IS 14500	
TYPE: Axial Flow	PROPELLER DIA.: 24 in
MODEL NO: SEA324X26	SPEED: 700 RPM
INTAKE DIA: 36 in	DISCHARGE DIA.: 26 in

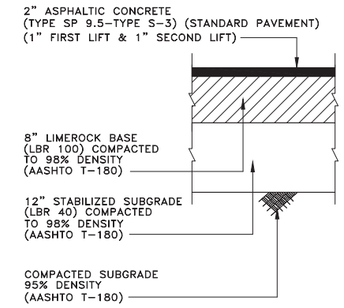
SINGLE STAGE PERFORMANCE
FOR TWO STAGES MULTIPLY HEAD AND HORSEPOWER BY 2.0 AND EFFICIENCY BY 1.0
PERFORMANCE IS BASED ON PUMPING CLEAR, NON-AERATED WATER, WITH A SPECIFIC GRAVITY OF 1.0, TEMPERATURE 85 DEG F OR LESS AND AT SEA LEVEL. PUMP PERFORMANCE MAY BE AFFECTED BY HIGHER TEMPERATURES, SPECIFIC GRAVITY, ALTITUDES AND SUMP CONDITIONS.

MWI CORPORATION ESTABLISHED 1926

IT IS HEREBY CERTIFIED THAT THIS CURVE REPRESENTS THE TRUE PERFORMANCE CHARACTERISTICS OF THE MWI PUMP MODEL SHOWN AND WAS OBTAINED BY SCALE MODEL TEST AND CALCULATIONS IN ACCORDANCE WITH STANDARDS OF THE HYDRAULIC INSTITUTE.

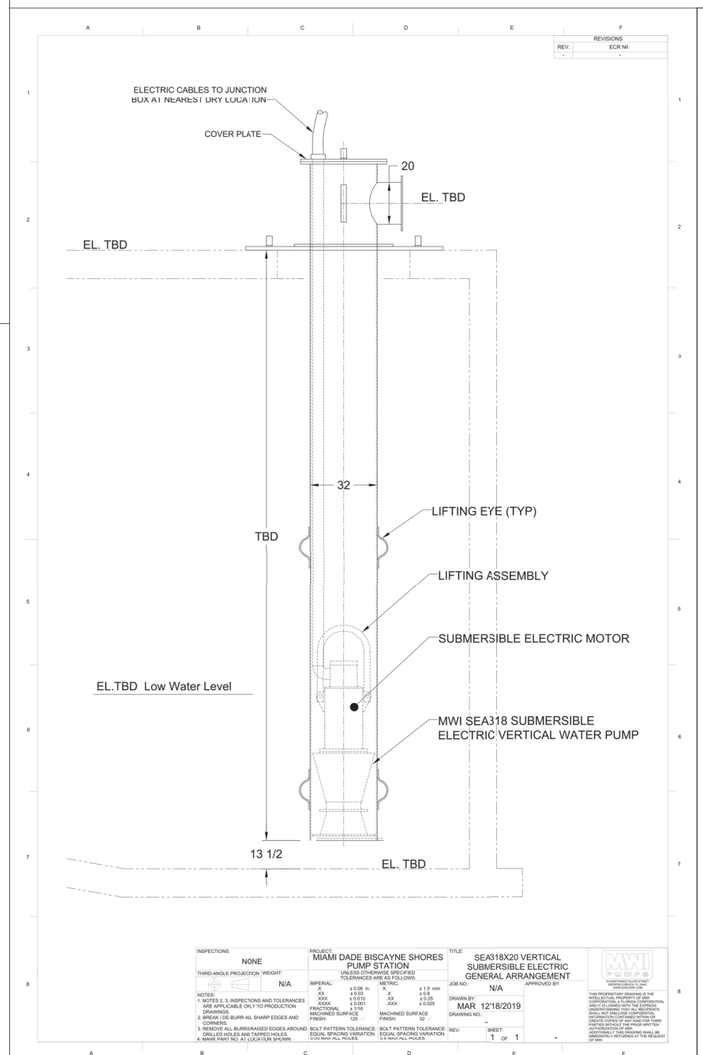
MWI CORPORATION CERTIFIED BY

MWI CORPORATION
Deerfield Beach, Florida

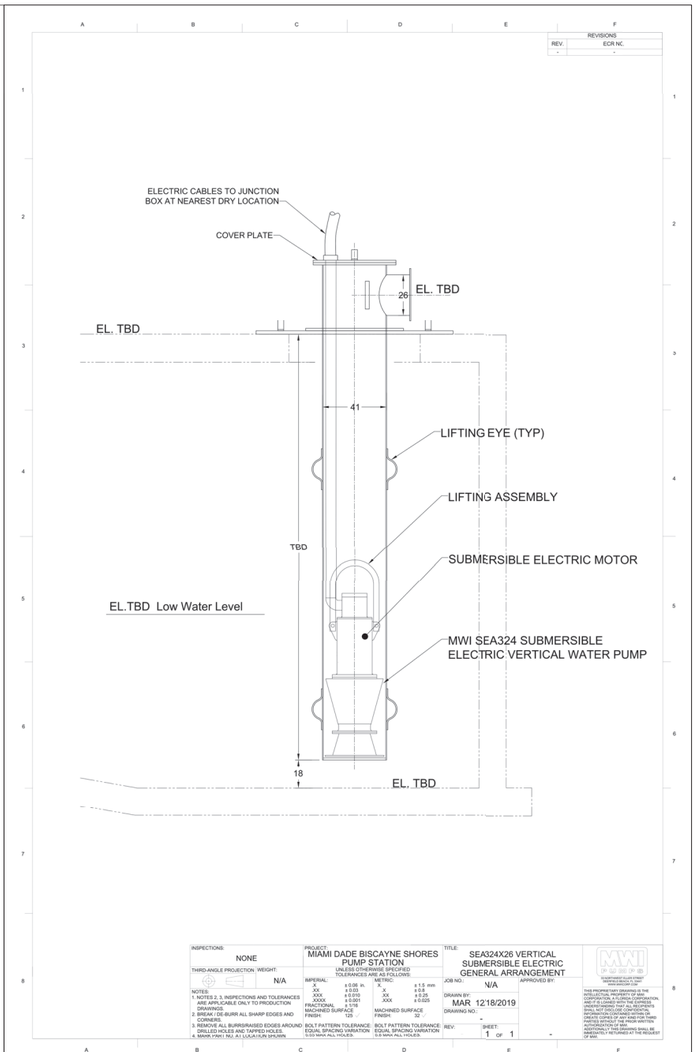


ASPHALTIC PAVEMENT SECTION

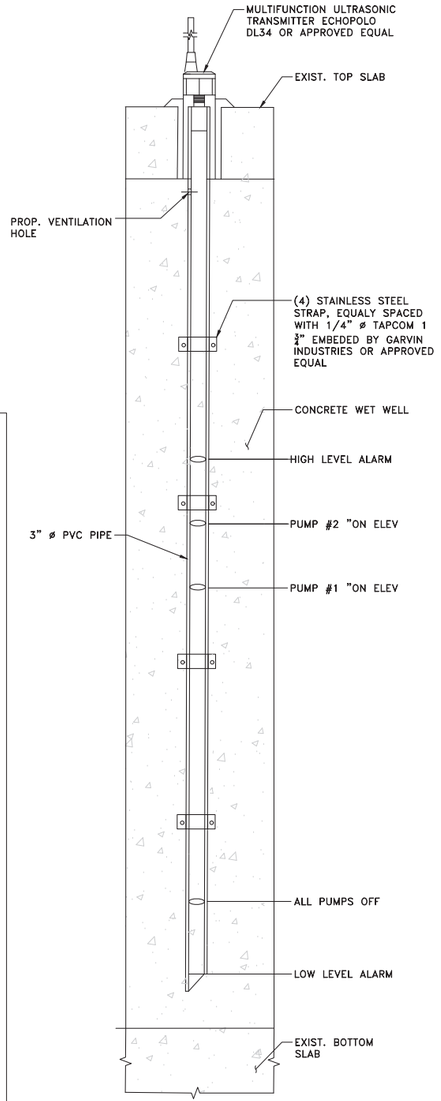
SCALE: 1" = 1'-0"



INSPECTIONS:	NONE
THIRD-ANGLE PROJECTION: WEIGHT:	N/A
PROJECT:	MIAMI DADE BISCAYNE SHORES PUMP STATION
TITLE:	SEA318X20 VERTICAL SUBMERSIBLE ELECTRIC GENERAL ARRANGEMENT
JOB NO.:	N/A
APPROVED BY:	
DRAWN BY:	MAR 12'18/2019
DRAWING NO.:	-
REV:	-
SHEET:	1 OF 1



INSPECTIONS:	NONE
THIRD-ANGLE PROJECTION: WEIGHT:	N/A
PROJECT:	MIAMI DADE BISCAYNE SHORES PUMP STATION
TITLE:	SEA324X26 VERTICAL SUBMERSIBLE ELECTRIC GENERAL ARRANGEMENT
JOB NO.:	N/A
APPROVED BY:	
DRAWN BY:	MAR 12'18/2019
DRAWING NO.:	-
REV:	-
SHEET:	1 OF 1



ULTRASONIC TRANSMITTER DETAIL

N.T.S

GRAEF
9400 SOUTH DADELAND BLVD. SUITE 601
MIAMI, FLORIDA 33156 305 / 378 5505
CA 4270

NELSON H. ORTIZ LICENSE No 57556 STATE OF FLORIDA PROFESSIONAL ENGINEER

7/24/2023

THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY NELSON H. ORTIZ, P.E. ON THE DATE ADJACENT TO THE SEAL
PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.

FOR THE FIRM : NELSON H. ORTIZ
PROJECT NO.: 2017-7053.01 PE-57556 (CIVIL)

DESIGN BY: J.R.G.	DATE: 04/10/2020	MISCELLANEOUS DETAILS & NOTES	BISCAYNE SHORES PUMP STATIONS No. 109 AND 110 RETROFIT
DRAWN BY: P.F.	DATE:		
CHECKED BY: N.H.O.	DATE:		

MIAMI-DADE COUNTY

DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS
STEPHEN P. CLARK CENTER
111 NW 1ST STREET, 16TH FLOOR
MIAMI, FLORIDA 33128

PROJECT NO. 17053.01	SHEET NO. 16
DRAWING NO. C-16	OF 27 SHEETS

100% SUBMITTAL

A. GENERAL NOTES

ENVIRONMENTAL CONTROL FEATURES AS PROVIDED IN PLANS ARE TO BE INSTALLED AT ALL AREAS OF EXCAVATION OR FILL FOR DRAINAGE SYSTEM OR STRUCTURE CONSTRUCTION PRIOR TO SUCH EXCAVATION OR FILL. INLET ENTRANCES ARE ALSO TO BE PROTECTED FROM SILTATION AS DETAILED IN THE FDOT STANDARDS.

ALL ENVIRONMENTAL CONTROL FEATURES ARE TO BE MAINTAINED THROUGHOUT THE LIFE OF THE PROJECT IN ACCORDANCE WITH FDEP'S NPDES REQUIREMENTS. THE CONTRACTOR MUST ENSURE THAT ALL EROSION CONTROL FEATURES FUNCTION PROPERLY AT ALL TIMES.

ALL EROSION AND MATERIAL DEPOSITS MUST BE CONTAINED WITHIN THE PROJECT LIMITS.

CONTRACTOR'S SUBMITTALS: THE CONTRACTOR IS RESPONSIBLE FOR SUBMITTING THE FOLLOWING ITEMS TO FDEP IN ORDER FOR THE NPDES PERMIT TO BE PROCESSED:

IF THIS SWPPP IS ADOPTED BY THE CONTRACTOR, THE SWPPP SHEETS AND OTHER PLAN SHEETS SHALL BE INCLUDED BY REFERENCE IN THE NOTICE OF INTENT (NOI) SUBMITTAL. THE CONTRACTOR MAY ELECT TO SUBMIT A REVISED SWPPP THAT IS IN COMPLIANCE WITH THE STORM WATER REGULATIONS AT 40 CFR 122.26(B)(14) AND STATE WATER QUALITY STANDARDS.
SIGNED CONTRACTOR CERTIFICATION FORMS (2). THESE FORMS MUST BE SIGNED BY BOTH THE PRIME CONTRACTOR AND SUB-CONTRACTOR (IF APPLICABLE) PERFORMING SOIL-DISTURBING ACTIVITIES.
HAZARDOUS MATERIAL SPILL CONTROL PLAN.
STAGING AREAS, STOCKPILE LOCATIONS AND STABILIZATION PRACTICES.
BRIDGE CONSTRUCTION METHOD AND SEQUENCING (IF APPLICABLE).
DEWATERING PLAN (IF APPLICABLE).

NO SOIL DISTURBING ACTIVITIES CAN BE CONDUCTED UNTIL THE NPDES PACKAGE HAS BEEN MAILED TO THE FDEP.

ANY DAMAGED OR INEFFECTIVE BAGS ARE TO BE REPLACED WITH NEW ONES. THE LOCATION OF ROCK BAG INSTALLATION IS AS MENTIONED IN EROSION CONTROL PLANS. THE PROJECT ENGINEER MAY SPECIFY OTHER AREAS AS NECESSARY.

DITCH BOTTOM INLETS SHALL BE PROTECTED FROM SEDIMENT INTAKE UNTIL PROJECT IS COMPLETE. ELEVATION OF GROUND OUTSIDE INLET TOP SHALL NOT BE HIGHER THAN INLET TOP. ROCK BAGS SHALL BE INSTALLED AROUND INLET TOP.

COMPLETED INLETS IN PAVED AREAS SHALL ALSO BE PROTECTED WITH ROCK BAGS TO PREVENT SEDIMENT INTAKE FROM OTHER AREAS.

CURB INLETS ALSO SHALL BE PROTECTED FROM SEDIMENT INTAKE UNTIL THE PROJECT IS COMPLETE. ALL FILL EMBANKMENT AND GRADED AREAS SHALL BE PROTECTED AGAINST EROSION BY METHODS STATED IN "SECTION ID4" FDOT STANDARDS SPECIFICATIONS FOR BRIDGE AND ROAD CONSTRUCTION.

STOCKPILED MATERIALS SHALL NOT BE LEFT IN EROSION PRONE AREAS UNLESS PROTECTED BY COVER AND/OR OTHER APPROPRIATE EROSION CONTROL MEASURES.

INSPECTION OF EROSION CONTROL MEASURES AND CONDITION OF ADJACENT PROPERTIES SHALL BE PERFORMED DAILY BY THE CONTRACTOR'S REPRESENTATIVE AND THE PROJECT ENGINEER. DEFICIENCIES SHALL BE NOTED AND CORRECTED.

ANY OFFSITE SEDIMENT DISCHARGE TO A MUNICIPALLY SEPARATE STORM SEWER SYSTEM ARISING FROM THE CONTRACTOR'S ACTIVITIES SHALL HAVE EROSION CONTROLS PROVIDED FOR THOSE INLETS.

THE AGGREGATE LAYER OF ALL CONSTRUCTION ENTRANCE GRAVEL BEDS MUST BE AT LEAST 6 INCHES THICK. IT MUST EXTEND THE FULL WIDTH OF THE VEHICULAR INGRESS AND EGRESS AREA. THE LENGTH OF THE ENTRANCE MUST BE AT LEAST 50 FEET. THE ENTRANCE MUST WIDEN AT ITS CONNECTION TO THE ROADWAY IN ORDER TO ACCOMMODATE THE TURNING RADIUS OF LARGE TRUCKS.

B. SITE DESCRIPTION

1. CONSTRUCTION ACTIVITY:
   CLEARING AND DEMOLITION; DRAINAGE AND UTILITY INSTALLATION, NEW BUILDING, LAND DEVELOPMENT.

   PROJECT LIMITS:
   MIAMI-DADE COUNTY PS 109 AND 110 LOCATED IN BISCAYNE SHORES BETWEEN N. BAYSHORE DRIVE AND BISCAYNE BAY.

   PROJECT DESCRIPTION:

   REPLACE EXISTING PUMPS AT PS 110 AND DISCONNECT ELECTRIC DEPENDANCY AT PS 109 FROM PS 110. SEAWALL REPLACEMENT AT BOTH SITES WITH CONCRETE PILE AND PANEL AND INSTALLATION OF NEW DISSIPATOR STRUCTURES. CONSTRUCTION OF NEW GENERATOR HOUSE AND REPLACEMENT OF ROOF AND FLOOR OF EXISTING PUMP HOUSE.

2. MAJOR SOIL DISTURBING ACTIVITIES:

   DEMOLITION; CLEARING; EXCAVATION FOR STORMWATER FACILITIES, PARKING, AND OTHER UTILITIES.

3. TOTAL PROJECT AREA: 0.324 ACRES
   TOTAL AREA TO BE DISTURBED: 0.324 ACRES

4. LOCATIONS OF DRAINAGE AREAS AND OUTFALLS:
   SEE ATTACHED PLAN.

5. THE DRAINAGE SYSTEM RECEIVING WATER IN THE EVENT OF A MAJOR STORM EVENT WILL BE BISCAYNE BAY AT LATITUDE AND LONGITUDE 25°52'37.0"N / 80°09'50.0"W AND 25°52'34.2"N / 80°09'50.2"W.

6. AREA OF DISCHARGE FOR THIS PROJECT IS ACRES = 14,424 SF

7. SOILS ARE CLASSIFIED AS URBAN LAND AND QUALITY OF DISCHARGE IS LIMEROCK FILL AND SAND.

8. LATITUDE AND LONGITUDE OF DIRECT DISCHARGE POINTS ARE 25°52'37.0"N / 80°09'50.0"W AND 25°52'34.2"N / 80°09'50.2"W.

C. CONTROLS

NARRATIVE - SEQUENCE OF SOIL DISTURBING ACTIVITIES AND IMPLEMENTATION OF CONTROLS.

1. CLEARING AND DEMOLITION
2. CONSTRUCTION OF REPLACEMENT SEAWALL AT PS 109 AND PS 110.
3. REPLACEMENT OF PUMPS AT PS 110.
4. CONSTRUCTION OF NEW GENERATOR HOUSE.
5. REPLACEMENT OF FLOOR AND ROOF OF EXISTING PUMP HOUSE.

PRIOR TO COMMENCEMENT OF CONSTRUCTION ACTIVITIES, ALL EROSION CONTROLS MUST BE IMPLEMENTED.

1. TEMPORARY STABILIZATION:
   DISTURBED PORTIONS OF THE SITE (E.G. EMBANKMENT AT TEMPORARY RAMPS) WHERE CONSTRUCTION ACTIVITY CEASES FOR AT LEAST 21 DAYS, SHALL BE STABILIZED WITH TEMPORARY SOD OR TEMPORARY SEEDING AND MULCHING NO LATER THAN 14 DAYS FROM THE LAST CONSTRUCTION ACTIVITY IN THAT AREA.

   PERMANENT STABILIZATION: DISTURBED PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITY PERMANENTLY CEASES SHALL BE STABILIZED WITH SOD NO LATER THAN 14 DAYS AFTER THE LAST CONSTRUCTION ACTIVITY.

   EROSION AND SEDIMENT CONTROLS:

   (1) STABILIZATION PRACTICES:
   _____ TEMPORARY SODDING
   _____ TEMPORARY GRASSING
   __X__ PERMANENT SODDING, SEEDING OR SEED & MULCH
   _____ TEMPORARY MULCHING
   _____ ARTIFICIAL COVERING
   _____ BUFFER ZONES
   _____ PRESERVATION OF NATURAL RESOURCES

   OTHER:

   (2) STRUCTURAL PRACTICES:
   _____ SAND BAGGING
   __X__ SILT FENCES
   _____ ROCK BAGS
   _____ BERMS
   _____ DIVERSION, INTERCEPTOR, OR PERIMETER DITCHES
   _____ PIPE SLOPE DRAINS
   _____ FLUMES
   __X__ ROCK BEDDING AT CONSTRUCTION EXIT
   _____ TIMBER BEDDING AT CONSTRUCTION EXIT
   _____ DITCH LINER
   _____ SEDIMENT TRAPS
   _____ SEDIMENT BASINS
   __X__ STORM INLET SEDIMENT TRAP
   _____ STONE OUTLET STRUCTURES
   _____ CURBS AND GUTTERS
   __X__ STORM SEWERS
   _____ VELOCITY CONTROL DEVICES
   __X__ TURBIDITY BARRIER
   _____ RIP RAP

2. DESCRIPTION OF STORM WATER MANAGEMENT:

   THE STORMWATER MANAGEMENT SYSTEM CONSISTS OF RAINWATER LEADERS THAT CONVEY STORMWATER INTO CATCH BASINS, AND EXFILTRATION TRENCHES THAT TREAT THE WATER QUALITY REQUIREMENTS.

   OTHER CONTROLS
   (1) WASTE DISPOSAL:
   IN APPROVED OFFSITE AREAS PROVIDED BY THE CONTRACTOR.

   (2) OFFSITE VEHICLE TRACKING:
   __X__ HAUL ROADS DAMPENED FOR DUST CONTROL
   __X__ LOADED HAUL TRUCKS TO BE COVERED WITH TARPAULIN
   __X__ EXCESS DIRT ON ROAD REMOVED DAILY
   __X__ STABILIZED CONSTRUCTION ENTRANCE

3. OTHER:

   (1) SANITARY WASTE: ALL SANITARY WASTE WILL BE COLLECTED FROM THE PORTABLE UNITS AS NECESSARY OR AS REQUIRED BY LOCAL REGULATION OF A LICENSED SANITARY WASTE MANAGEMENT CONTRACTOR.
   (2) FERTILIZERS AND PESTICIDES: FERTILIZER TO BE APPLIED ONLY IN THE MINIMUM AMOUNTS RECOMMENDED BY THE MANUFACTURER. ONCE APPLIED, FERTILIZER WILL BE WORKED INTO THE SOIL TO LIMIT EXPOSURE TO STORMWATER. IF STORED ON-SITE, STORAGE WILL BE IN COVERED SHED. THE CONTENT OF ANY PARTIALLY USED BAGS OF FERTILIZER WILL BE TRANSFERRED TO A SEPARATE PLASTIC BIN TO AVOID SPILLS.
   (3) NON-STORM WATER DISCHARGE (INCLUDING SPILL REPORTING) THE CONTRACTOR IS RESPONSIBLE FOR REPORTING SPILLS TO MIAMI-DADE COUNTY DEPARTMENT OF REGULATORY AND ECONOMIC RESOURCES (RER). DEWATERING IS NOT ANTICIPATED.

4. REMARKS:

   IF CONTAMINATED SOIL OR GROUNDWATER IS ENCOUNTERED OR HAZARDOUS SPILLS OCCUR DURING CONSTRUCTION THE MIAMI-DADE COUNTY DEPARTMENT OF REGULATORY AND ECONOMIC RESOURCES (RER) SHALL BE CONTACTED AT THEIR HOTLINE: (305) 372-6955.

   APPROVED STATE, LOCAL PLANS, OR STORM WATER PERMITS: MIAMI-DADE COUNTY BUILDING DEPARTMENT, MIAMI-DADE COUNTY DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS AND MIAMI-DADE COUNTY RER.

D. MAINTENANCE

ITEM:	MAINTENANCE:
SILT FENCE	ALL CONTROLS SHALL BE MAINTAINED IN PROPER WORKING ORDER AT ALL TIMES DURING CONSTRUCTION. IF A REPAIR IS NECESSARY, IT WILL BE INITIATED WITHIN 24 HOURS OF BEING NOTED IN CONTRACTOR'S DAILY INSPECTION REPORT.
CONSTRUCTION ENTRANCE	WHEN THE CONSTRUCTION ENTRANCE GRAVEL BEDS BECOME LOADED WITH SEDIMENTS, REWORK BEDS TO DISPLACE SEDIMENT LOAD AND RE-ESTABLISH EFFECTIVENESS OF THE GRAVEL BEDS. ALL CONTROLS SHALL BE MAINTAINED IN PROPER WORKING ORDER AT ALL TIMES DURING CONSTRUCTION. IF A REPAIR IS NECESSARY, IT WILL BE INITIATED WITHIN 24 HOURS OF BEING NOTED IN CONTRACTOR'S DAILY INSPECTION REPORT.

E. INSPECTION

THE CONTRACTOR SHALL INSPECT ALL EROSION CONTROL FEATURES AT LEAST ONCE EVERY SEVEN CALENDAR DAYS AND WITHIN 24 HOURS OF THE END OF A STORM OF 0.5" OR GREATER. IN ADDITION, A DAILY REVIEW OF THE LOCATION OF SILT FENCES SHALL BE MADE IN AREAS WHERE CONSTRUCTION ACTIVITIES HAVE CHANGED THE NATURAL CONTOUR AND DRAINAGE RUNOFF. IN ORDER TO INSURE THAT SILT FENCES AND OTHER EROSION CONTROL DEVICES ARE PROPERLY LOCATED FOR EFFECTIVENESS. A FORM ACCEPTABLE TO THE FDEP WILL BE USED TO REPORT ALL INSPECTION FINDINGS AND CORRECTIVE ACTIONS TAKEN AS A RESULT OF THE INSPECTION. EACH INSPECTION REPORT SHALL BE SIGNED AND SUBMITTED WEEKLY TO THE PROJECT ENGINEER. IF A REPAIR IS NECESSARY, IT WILL BE INITIATED WITHIN 24 HOURS OF BEING NOTED IN CONTRACTOR'S INSPECTION REPORT.

STATE OF FLORIDA E&SC DESIGNER & REVIEWER MANUAL; LATEST EDITION: JULY 2013

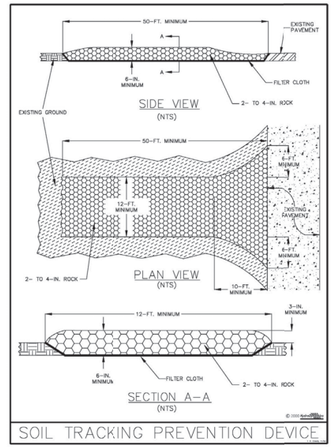
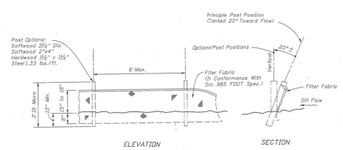


Figure V-19: Illustration of ı Soil Tracking Prevention Device



TYPE III SILT FENCE DETAIL

(FDOT INDEX 102) N.T.S.

GRAEF
9400 SOUTH DADELAND BLVD. SUITE 601
MIAMI, FLORIDA 33156 305 / 378 5555
CA 4270

NELSON H. ORTIZ LICENSE No 57556 STATE OF FLORIDA PROFESSIONAL ENGINEER

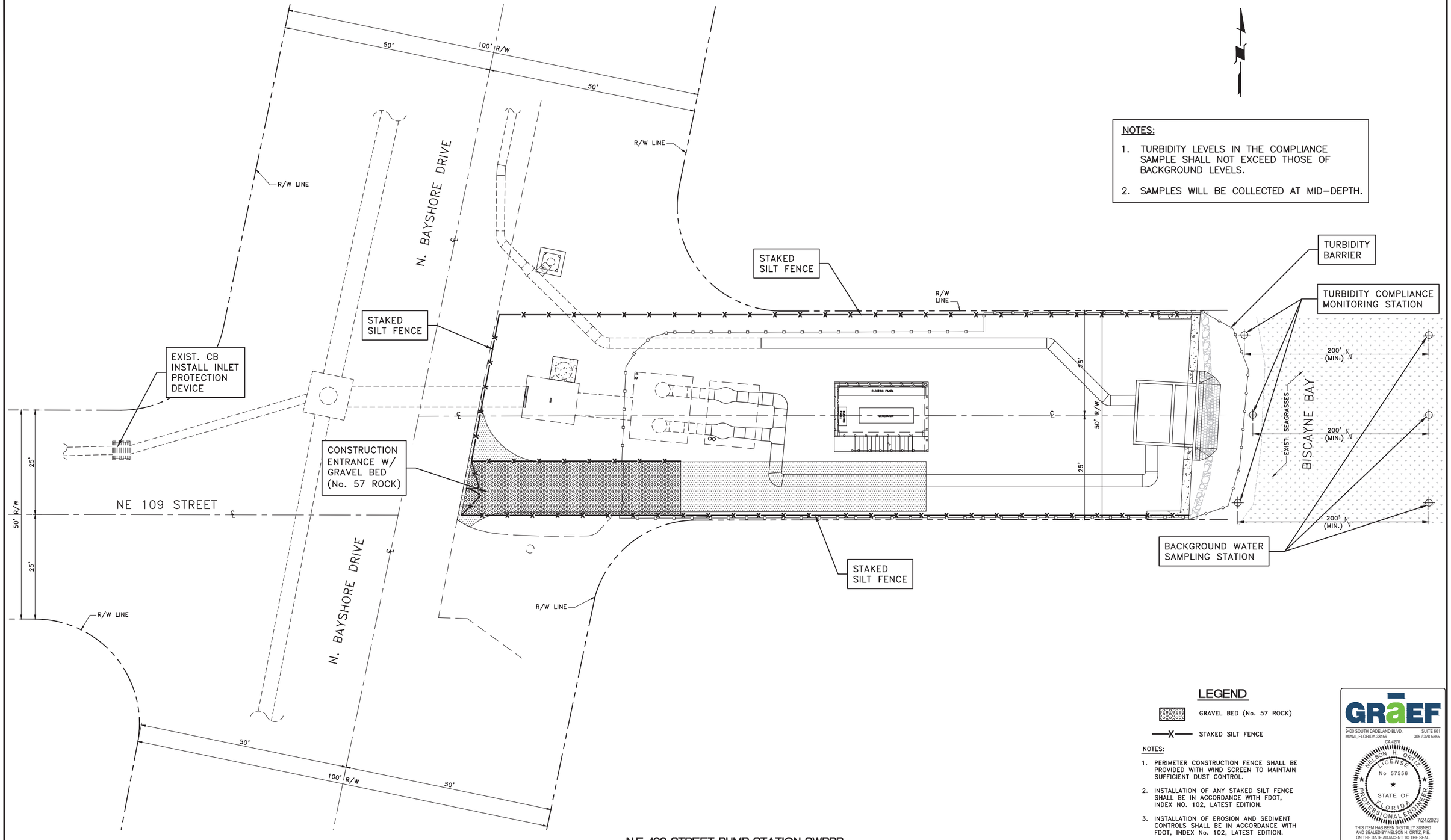
7/24/2023

THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY NELSON H. ORTIZ, P.E. ON THE DATE ADJACENT TO THE SEAL.
PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.

FOR THE FIRM: NELSON H. ORTIZ
PROJECT NO.: 2017-7053.01 PE-57556 (CIVIL)

DESIGN BY: J.R.G.	DATE: 04/10/2020	STORMWATER POLLUTION PREVENTION PLAN DETAILS AND NOTES	BISCAYNE SHORES PUMP STATIONS No. 109 AND 110 RETROFIT	MIAMI-DADE COUNTY	DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS STEPHEN P. CLARK CENTER 111 NW 1ST STREET, 16TH FLOOR MIAMI, FLORIDA 33128	PROJECT NO. 17053.01	SHEET NO. 17
DRAWN BY: P.F.	DATE:					DRAWING NO. C-17	OF 27 SHEETS
CHECKED BY: N.H.O.	DATE:						

100% SUBMITTAL



NOTES:

1. TURBIDITY LEVELS IN THE COMPLIANCE SAMPLE SHALL NOT EXCEED THOSE OF BACKGROUND LEVELS.
2. SAMPLES WILL BE COLLECTED AT MID–DEPTH.

N.E. 109 STREET PUMP STATION SWPPP

SCALE: 1" = 10'

LEGEND

GRAVEL BED (No. 57 ROCK)

STAKED SILT FENCE

NOTES:

1. PERIMETER CONSTRUCTION FENCE SHALL BE PROVIDED WITH WIND SCREEN TO MAINTAIN SUFFICIENT DUST CONTROL.
2. INSTALLATION OF ANY STAKED SILT FENCE SHALL BE IN ACCORDANCE WITH FDOT, INDEX NO. 102, LATEST EDITION.
3. INSTALLATION OF EROSION AND SEDIMENT CONTROLS SHALL BE IN ACCORDANCE WITH FDOT, INDEX No. 102, LATEST EDITION.

08/10/2021 ADDRESS SFWMD COMMENTS
04/15/2021 ADDRESS SFWMD COMMENTS

GRAEF
9400 SOUTH DADELAND BLVD. SUITE 601
MIAMI, FLORIDA 33156 305 / 378 5555
CA-4270

NELSON H. ORTIZ LICENSE No 57556 STATE OF FLORIDA PROFESSIONAL ENGINEER

7/24/2023

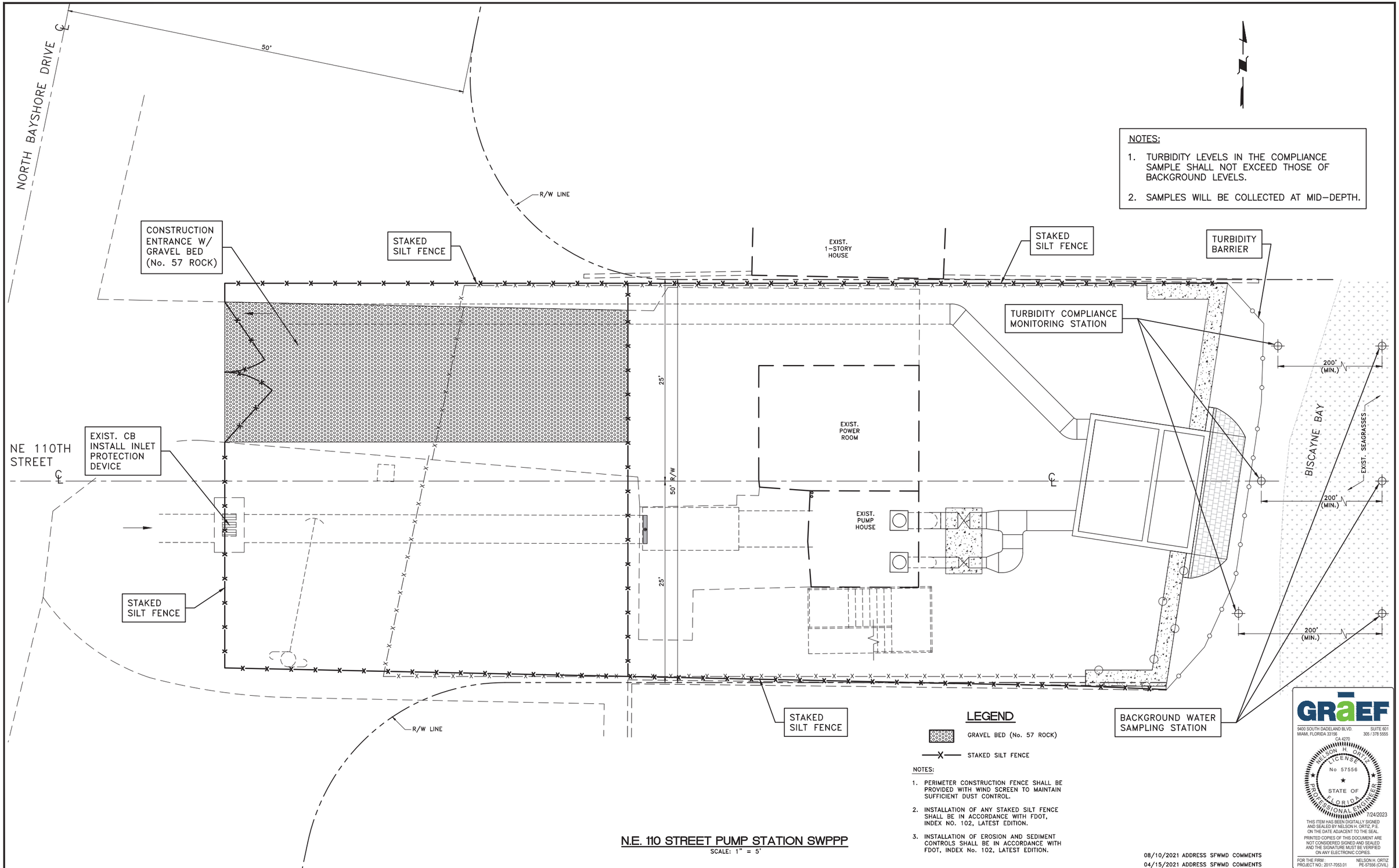
THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY NELSON H. ORTIZ, P.E. ON THE DATE ADJACENT TO THE SEAL.

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

FOR THE FIRM PROJECT NO.: 2017-7053.01 NELSON H. ORTIZ PE-57556 (CIVIL)

DESIGN BY: J.R.G.	DATE: 04/10/2020	PS 109 STORMWATER POLLUTION PREVENTION PLAN	BISCAYNE SHORES PUMP STATIONS No. 109 AND 110 RETROFIT	MIAMI-DADE COUNTY DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS STEPHEN P. CLARK CENTER 111 NW 1ST STREET, 16TH FLOOR MIAMI, FLORIDA 33128	PROJECT NO. 17053.01 / SHEET NO. 18
DRAWN BY: P.F.	DATE:				DRAWING NO. C-18 / OF 27 SHEETS
CHECKED BY: N.H.O.	DATE:				

100% SUBMITTAL



NOTES:

1. TURBIDITY LEVELS IN THE COMPLIANCE SAMPLE SHALL NOT EXCEED THOSE OF BACKGROUND LEVELS.
2. SAMPLES WILL BE COLLECTED AT MID-DEPTH.

LEGEND

GRAVEL BED (No. 57 ROCK)

STAKED SILT FENCE

NOTES:

1. PERIMETER CONSTRUCTION FENCE SHALL BE PROVIDED WITH WIND SCREEN TO MAINTAIN SUFFICIENT DUST CONTROL.
2. INSTALLATION OF ANY STAKED SILT FENCE SHALL BE IN ACCORDANCE WITH FDOT, INDEX NO. 102, LATEST EDITION.
3. INSTALLATION OF EROSION AND SEDIMENT CONTROLS SHALL BE IN ACCORDANCE WITH FDOT, INDEX No. 102, LATEST EDITION.

N.E. 110 STREET PUMP STATION SWPPP

SCALE: 1" = 5'

08/10/2021 ADDRESS SFWMD COMMENTS
04/15/2021 ADDRESS SFWMD COMMENTS

GRAEF
9400 SOUTH DADELAND BLVD. SUITE 601
MIAMI, FLORIDA 33156 305 / 378 5555
CA 4270

NELSON H. ORTIZ LICENSE No 57556 STATE OF FLORIDA PROFESSIONAL ENGINEER

7/24/2023

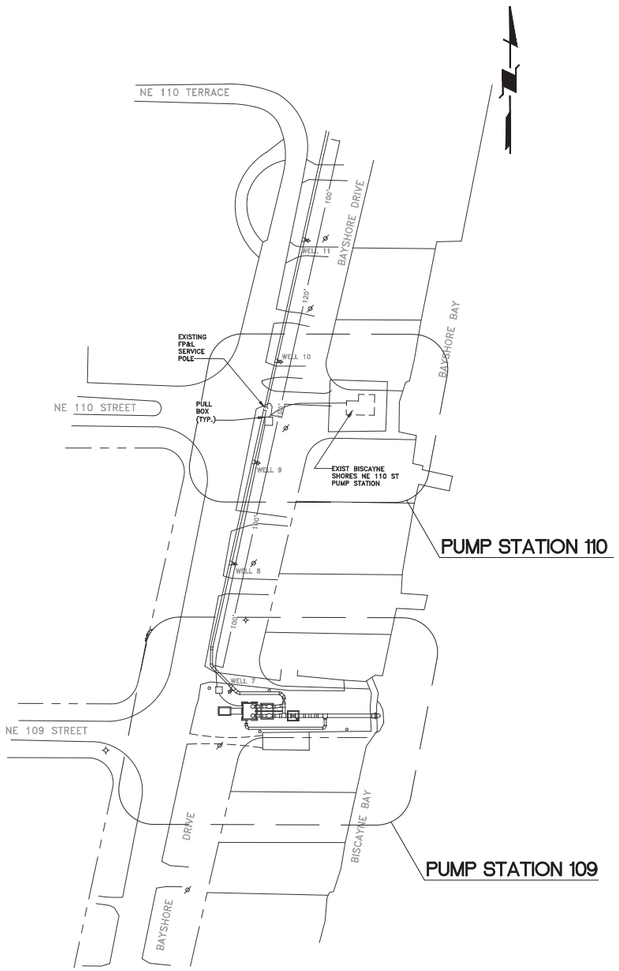
THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY NELSON H. ORTIZ, P.E. ON THE DATE ADJACENT TO THE SEAL.
PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.

FOR THE FIRM: NELSON H. ORTIZ
PROJECT NO.: 2017-7053.01 PE-57556 (CIVIL)

DESIGN BY: J.R.G.	DATE: 04/10/2020	PS 110 STORMWATER POLLUTION PREVENTION PLAN	BISCAYNE SHORES PUMP STATIONS No. 109 AND 110 RETROFIT	MIAMI-DADE COUNTY	DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS STEPHEN P. CLARK CENTER 111 NW 1ST STREET, 16TH FLOOR MIAMI, FLORIDA 33128
DRAWN BY: P.F.	DATE:				
CHECKED BY: N.H.O.	DATE:				

PROJECT NO. 17053.01	SHEET NO. 19
DRAWING NO. C-19	OF 27 SHEETS

100% SUBMITTAL



SITE LOCATION PLAN

SCALE: NONE

GENERAL ELECTRICAL NOTES

1. ALL WORK SHALL BE IN ACCORDANCE WITH THE CURRENT ADOPTED EDITION OF THE NATIONAL ELECTRICAL CODE, FLORIDA BUILDING CODE AND OTHER APPLICABLE CODES, ORDINANCES AND STANDARDS.
2. IT IS THE CONTRACTORS RESPONSIBILITY TO BE FULLY COGNIZANT WITH ALL CODE SECTIONS AS THEY APPLY TO THE WORK/INSTALLATION AT HAND WHETHER OR NOT SHOWN ON THE DRAWINGS BUT REQUIRED BY CODE. IF ANY DISCREPANCY ARISES BETWEEN ANY DESIGN ISSUES AND CODE REQUIREMENTS, CONTRACTOR MUST ADHERE TO THE MOST STRINGENT REQUIREMENT.
3. THE DRAWINGS ARE DIAGRAMMATIC AND DO NOT SHOW ALL OFFSETS, BENDS AND BOXES REQUIRED TO MAKE A COMPLETE INSTALLATION IN ACCORDANCE WITH THE NEC.
4. IF CONFLICTS ARISE IN LOCATING WIRING DEVICES, ELECTRICAL EQUIPMENT, DISCONNECTS, PANELBOARDS, OR OTHER MISCELLANEOUS ELECTRICAL EQUIPMENT, DUE TO FIELD CONDITION OR IMPROPER FIELD COORDINATION, THEN THE CONTRACTOR SHALL BRING THE ISSUE TO THE A/E FOR RESOLUTION, AND SHALL RELOCATE THE ITEM AT NO EXTRA COST TO THE OWNER.
3. THE CONTRACTOR SHALL EVALUATE FIELD CONDITIONS BY VISITING THE SITE PRIOR TO BIDDING/STARTING WORK. THE CONTRACTOR SHALL COORDINATE HIS WORK WITH ALL TRADES PRIOR TO ROUGH-IN.
4. CONTRACTOR SHALL FURNISH AND INSTALLING ALL ELECTRICAL SYSTEMS EQUIPMENT, COMPONENTS, MATERIALS AND CONTROLS FOR A COMPLETE WORKING SYSTEM IN ACCORDANCE WITH APPLICABLE CODES AND EQUIPMENT/SYSTEM MANUFACTURER RECOMMENDATIONS.
5. THE CONTRACTOR SHALL SATISFACTORILY REPAIR/REPLACE EQUIPMENT OR PART OF STRUCTURE DAMAGED AS A RESULT OF HIS WORK. SURFACES AND FINISHED AREAS SHALL BE RESTORED TO MATCH ADJACENT AREAS.
6. APPROVAL SHALL BE OBTAINED FROM THE ARCHITECT/STRUCTURAL ENGINEER, IN WRITING, PRIOR TO CUTTING OR DRILLING ANY STRUCTURAL SUPPORT MEMBER.
7. NOT USED.
8. ALL DEVICES INSTALLED OUTDOORS TO HAVE WEATHERPROOF COVERS.
8. WIRE SIZE SHALL BE 12 AWG THHN/THWN UNLESS OTHERWISE NOTED ON PLANS. CONDUCTORS 6 AWG AND LARGER SHALL BE THWN.
9. ALL CONDUCTORS SHALL BE COPPER.
10. ALL CONDUCTORS SHALL BE RUN IN PVC CONDUIT. AN EQUIPMENT GROUND CONDUCTOR SIZED IN ACCORDANCE WITH NEC 250-122 SHALL BE RUN WITH ALL FEEDERS AND BRANCH CIRCUITS. EXPOSED EXTERIOR CONDUIT SHALL BE SCHEDULE 80 PVC WITH COMPATIBLE FITTINGS.
11. ALL MATERIALS SHALL BE U.L. LISTED.
12. TYPEWRITTEN PANEL DIRECTORIES, REFLECTING WORK PERFORMED, SHALL BE FURNISHED AFTER JOB IS COMPLETED. THIS APPLIES TO NEW AND EXISTING PANELBOARDS.
13. PANELBOARDS SHALL BE PROPERLY PHASE BALANCED.
14. CONTRACTOR SHALL SEAL ALL OPENINGS WITH AN APPROVED FIRE SEAL SIMILAR TO 'OZ' FLAMESEAL.
15. ALL BRANCH CIRCUITS TO HAVE A GREEN INSULATION EQUIPMENT GROUNDING CONDUCTOR SIZED PER NEC 250.122.
16. ALL EMPTY CONDUITS TO BE PROVIDED WITH NYLON PULL STRING. EXPOSED CONDUIT SHALL BE RUN PERPENDICULAR (PLUMB) TO BUILDING CONSTRUCTION LINES.
17. FUSES SHALL BE DUAL ELEMENT, TIME DELAY TYPE UNLESS OTHERWISE NOTED.
18. RISERS ARE DIAGRAMMATIC IN NATURE AND DO NOT SHOW EVERY BEND, OFFSET, OR ELBOW REQUIRED FOR THE INSTALLATION.
19. ALL WIRING SHALL BE RUN WITHOUT SPLICES EXCEPT AS OTHERWISE INDICATED.
20. ALL PULL AND JUNCTION BOXES SHALL BE ACCESSIBLE AT COMPLETION OF WORK.
21. EXACT POINT AND METHODS OF CONNECTION SHALL BE DETERMINED IN FIELD.
22. ALL WORK SHALL BE PERFORMED IN A NEAT AND WORKMANLIKE MANNER IN ACCORDANCE WITH NECA, NEMA AND THE NEC.
23. BRANCH CIRCUIT BREAKERS SHALL BE OF THE BOLT-ON TYPE. PLUG-IN CIRCUIT BREAKERS WILL NOT BE ACCEPTED.
24. ELECTRICAL SYSTEM CONDUCTOR COLOR CODE SHALL BE AS FOLLOWS OR AS DIRECTED BY MIAMI-DADE:

	208Y/120V-3ø-4W SYSTEM	480Y/277V-3ø-4W
PHASE 'A'	BLACK	ORANGE
PHASE 'B'	RED	BROWN
PHASE 'C'	BLUE	PURPLE
NEUTRAL	WHITE	GRAY
GROUND	GREEN	GREEN W/YELLOW STRIPE

25. ALL ROUGH-IN DIMENSIONS ARE TO CENTER LINE OF DEVICE UNLESS OTHERWISE NOTED.
26. ALL CONDUCTOR SPLICES IN EXTERIOR LOCATED JUNCTION/PULL BOXES EXPOSED TO THE WEATHER SHALL BE WEATHER SEALED WITH AN APPROVED METHOD SUCH AS 3M SCOTCHLOCK CONNECTOR EPOXY SEALING PACKS OR SIMILAR.
27. WHEN ITEMS ARE REQUIRED BY LOCAL, STATE OR NATIONAL CODES, CONTRACTOR SHALL INCLUDE THEM WHETHER SHOWN ON THE DRAWINGS OR NOT.

ELECTRICAL LEGEND

SYMBOL	DESCRIPTION
	FLUORESCENT FIXTURE
	FLUORESCENT FIXTURE, BARE STRIP
	WALL MOUNTED LUMINAIRE
	EXIT LIGHT FIXTURE (CLG/WALL MTD)
S_a	SINGLE-POLE TOGGLE SWITCH, 20A-125/277V, +48", SWITCH "a"
S_3	THREE-WAY TOGGLE SWITCH, 20A-125/277V, +48"
	DUPLEX RECEPTACLE OUTLET, 20A-125V-3W, +18"
	JUNCTION BOX
	MOTOR, SIZE AS INDICATED
	MOTOR STARTER OR CONTROLLER
3 30 F / 3 30 20	DISCONNECT SWITCH; 3 = NUMBER OF POLES; 30 = AMP RATING; 20 = FUSE SIZE; F = FUSE SIZE RECOMMENDED BY EQUIPMENT MANUFACTURER
	LIGHTING AND APPLIANCE PANELBOARD
	DISTRIBUTION PANELBOARD
	CONDUIT RUN CONCEALED IN WALL OR CEILING
	QUADRUPLEX RECEPTACLE NEMA 5-20R, 20A-125V-3W, +18" U.O.N.
GFI	GROUND FAULT CIRCUIT INTERRUPTER RECEPTACLE NEMA 5-20R, 20A-125V-3W, HEIGHT AS DENOTED ON PLANS.
	SINGLE RECEPTACLE OUTLET, 20A,125V,+18" UNLESS OTHERWISE NOTED
IG	ISOLATED GND DUPLEX RECEPTACLE (ORANGE) NEMA 5-20R, 20A, 125V,3W
	CONDUIT RUN EXPOSED
IG	BRANCH CIRCUIT HOMERUN. SHORT CROSSMARKS = NUMBER OF PHASE CONDUCTORS, LONG CROSSMARKS = NEUTRAL, IG = ISOLATED GROUND CONDUCTOR, FLAGGED CROSSMARK OR G = GROUND CONDUCTOR.
	FLEXIBLE CONDUIT
WP	DENOTES 'WEATHERPROOF' EQUIPMENT
EC	EMPTY CONDUIT
AFF	ABOVE FINSHED FLOOR
3R	NEMA '3R' ENCLOSURE (RAINTIGHT)
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
N.I.C	NOT IN CONTRACT
M.L.O	MAIN LUG ONLY
DISC	DISCONNECT SWITCH
JB	JUNCTION BOX
NEC	NATIONAL ELECTRICAL CODE
(1)	DENOTES KEY NOTE #1 SEE APPROPRIATE DWG FOR KEY NOTE DESCRIPTION.
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
AFCI	ARC FAULT CIRCUIT INTERRUPTER
AGFCI	COMBINATION ARC/GROUND FAULT CIRCUIT INTERRUPTER
SPD	SURGE PROTECTION DEVICE

SCOPE OF WORK

1. PROVIDE DEMOLITION AND NEW WORK AS INDICATED BY THE PLANS.
2. MAINTAIN POWER, CONTROLS, AND COMMUNICATIONS TO INFRASTRUCTURE TO REMAIN AS REQUIRED.
3. COORDINATE THE POWER OUTAGE(S) WITH FPL PRIOR TO STARTING WORK.
4. DEVELOP A SEQUENCE OF WORK TO BE APPROVED IN WRITING BY MIAMI-DADE.
5. BUILDING PENETRATIONS SHALL BE APPROVED BY ARCHITECT AND STRUCTURAL ENGINEER PRIOR TO ANY ROUGH-IN.
6. SEAL BUILDING ENVELOPE PENETRATIONS AND REPAIR FINISHES AS DIRECTED BY ARCHITECT.
7. COORDINATE INSTALLATION OF NEW FEEDERS AND ASSOCIATED DISTRIBUTION EQUIPMENT WITH EXISTING INFRASTRUCTURE AND MEP/FP SERVICES.
8. PROVIDE TEMPORARY BY-PASS SYSTEMS AND SERVICES AS REQUIRED TO ACCOMPLISH WORK INDICATED BY THE PLANS.
9. CONTRACTOR SHALL MAINTAIN SITE IN ORDERLY CONDITION AT THE END OF EACH DAY BY REMOVING AND DISPOSING OF CONSTRUCTION DEBRIS AND STORING EQUIPMENT AND MATERIALS IN ASSIGNED/DESIGNATED AREAS.
10. PROVIDE FULL FUEL TANKS FOR GENERATORS AFTER TESTING AND COMMISSIONING THE PROJECT.

GENERAL DEMOLITION NOTES

1. PROVIDE ELECTRICAL DEMOLITION WORK NECESSARY TO INSTALL NEW WORK. ELECTRICAL CONTRACTOR SHALL RE-ROUTE AND RECONNECT ANY CIRCUITS THAT REMAIN IN USE BUT INTERFERE WITH NEW CONSTRUCTION.
2. MAINTAIN CONTINUITY OF ALL EXISTING CIRCUITS TO REMAIN OR PORTIONS THEREOF AFFECTED BY NEW WORK.
3. ALL MATERIALS REMOVED UNDER DEMOLITION, AND NOT TO BE RE-USED OR NOT TO BE RELOCATED, SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED COMPLETELY FROM THE SITE.
4. CONTRACTOR SHALL EXERCISE CARE IN REMOVING DEMOLITION ITEMS AND SHALL REPAIR OR REPLACE AT HIS COST ANY DAMAGE CAUSED TO EXISTING CONSTRUCTION AND EQUIPMENT TO REMAIN.
5. DRAWINGS ARE BASED ON EXISTING PLANS AND FIELD INVESTIGATION WITHOUT DEMOLITION. CONTRACTOR SHALL VISIT THE SITE AND FAMILIARIZE HIMSELF WITH EXISTING CONDITIONS AND SHALL EXAMINE ALL RELATED DRAWINGS TO AVOID CONFLICTS. FAILURE TO REVIEW ALL CONTRACT DOCUMENTS AND/OR VISIT THE SITE WILL NOT RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITY TO PERFORM ALL WORK REQUIRED AT NO ADDITIONAL COST TO THE OWNER.

DRAWING INDEX

HNGS ENGINEERS
HUFSEY • NICOLAIDES • GARCIA • SUAREZ
CONSULTING ENGINEERS HNGS # 190069
4800 SW 74TH COURT
MIAMI, FLORIDA 33155 (305) 270-9935 Fax (305)665-6891
FL CA Lic. # 444

02-04022 REVISION 1 ADDRESS MDC COMMENTS

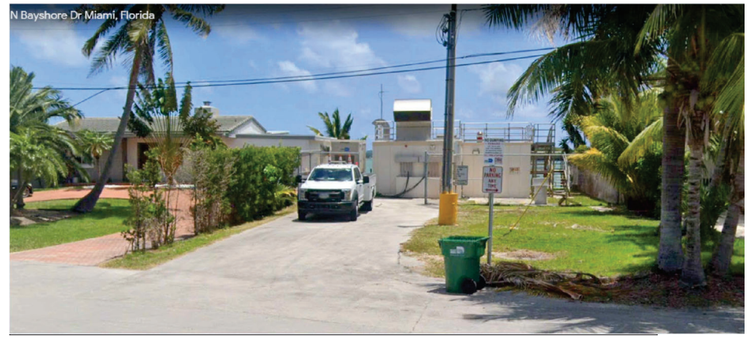
PERMIT SET 02-02-2022

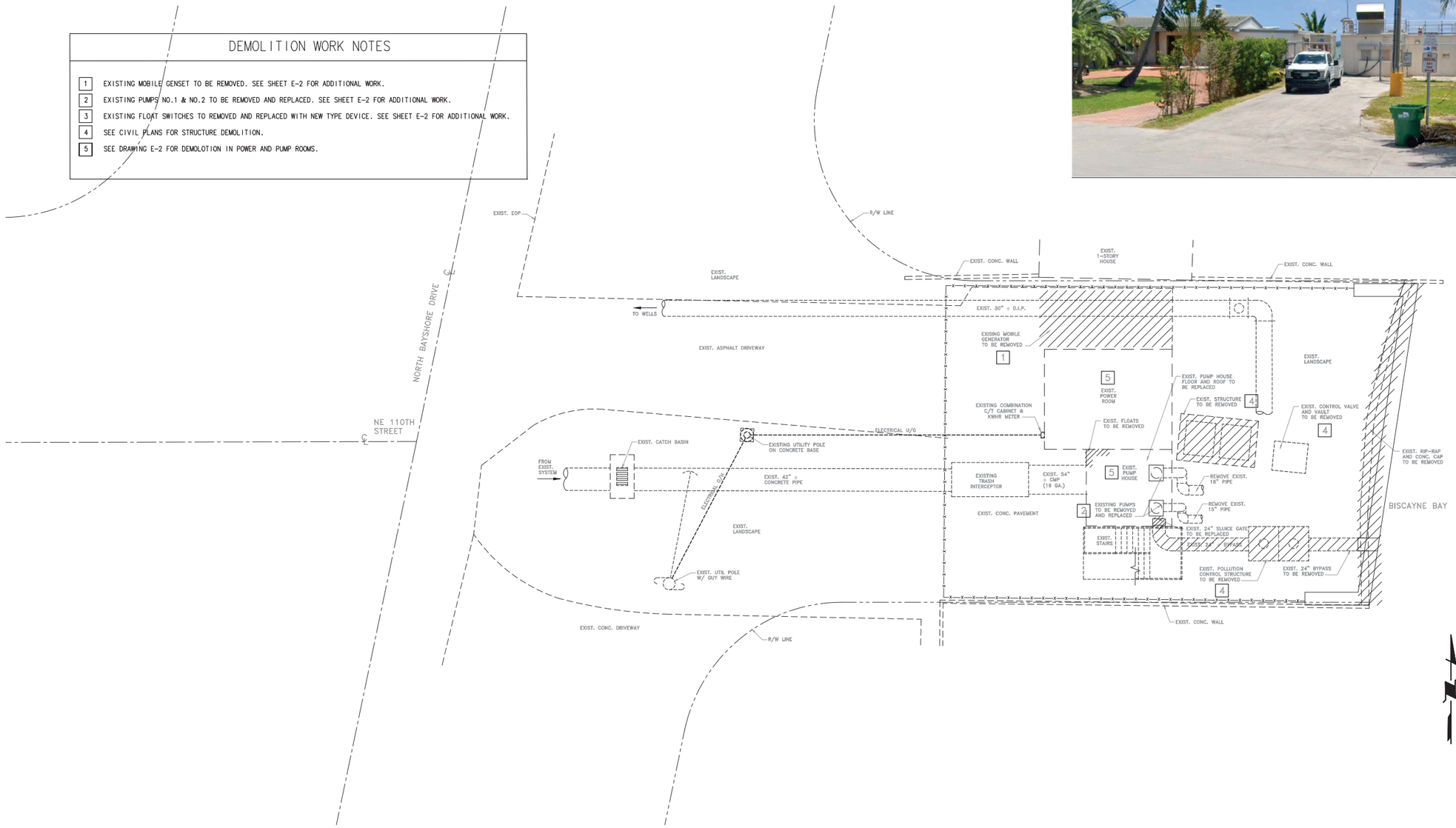
DESIGN BY: A.E.W.	DATE: 12/16/19	SITE LOCATION, LEGEND, AND NOTES	BISCAYNE SHORES PUMP STATIONS No. 109 AND 110 RETROFIT	MIAMI-DADE COUNTY TRANSPORTATION AND PUBLIC WORKS DEPARTMENT STEPHEN P. CLARK CENTER 111 NW 1ST STREET, 16TH FLOOR MIAMI, FLORIDA 33128	PROJECT NO. 17053.01 / SHEET NO. 20
DRAWN BY:	DATE:				DRAWING NO. E-0 / OF 27 SHEETS
CHECKED BY: A.E.W.	DATE:				

100% SUBMITTAL

DEMOLITION WORK NOTES

1. EXISTING MOBILE GENSET TO BE REMOVED. SEE SHEET E-2 FOR ADDITIONAL WORK.
2. EXISTING PUMPS NO.1 & NO.2 TO BE REMOVED AND REPLACED. SEE SHEET E-2 FOR ADDITIONAL WORK.
3. EXISTING FLOAT SWITCHES TO REMOVED AND REPLACED WITH NEW TYPE DEVICE. SEE SHEET E-2 FOR ADDITIONAL WORK.
4. SEE CIVIL PLANS FOR STRUCTURE DEMOLITION.
5. SEE DRAWING E-2 FOR DEMOLOTION IN POWER AND PUMP ROOMS.





PS 110 EXISTING SITE CONDITIONS / DEMOLITION PLAN

SCALE: 1/8" = 1'-0"

HNGS ENGINEERS
HUFSEY • NICOLAIDES • GARCIA • SUAREZ
CONSULTING ENGINEERS HNGS # 190069
4800 SW 74TH COURT
MIAMI, FLORIDA 33155 (305) 270-9935 Fax (305)666-5891
FL CA Lic. # 444

02-04022 REVISION 1 ADDRESS MDC COMMENTS

PERMIT SET 02-02-2022

DESIGN BY: A.E.W.	DATE: 12/16/19	PS 110 EXISTING SITE CONDITIONS / DEMOLITION PLAN	BISCAYNE SHORES PUMP STATIONS No. 109 AND 110 RETROFIT	MIAMI-DADE COUNTY	TRANSPORTATION AND PUBLIC WORKS DEPARTMENT STEPHEN P. CLARK CENTER 111 NW 1ST STREET, 16TH FLOOR MIAMI, FLORIDA 33128	PROJECT NO. 17053.01 / SHEET NO. 21
DRAWN BY:	DATE:					DRAWING NO. E-1 / OF 27 SHEETS
CHECKED BY: A.E.W.	DATE:					

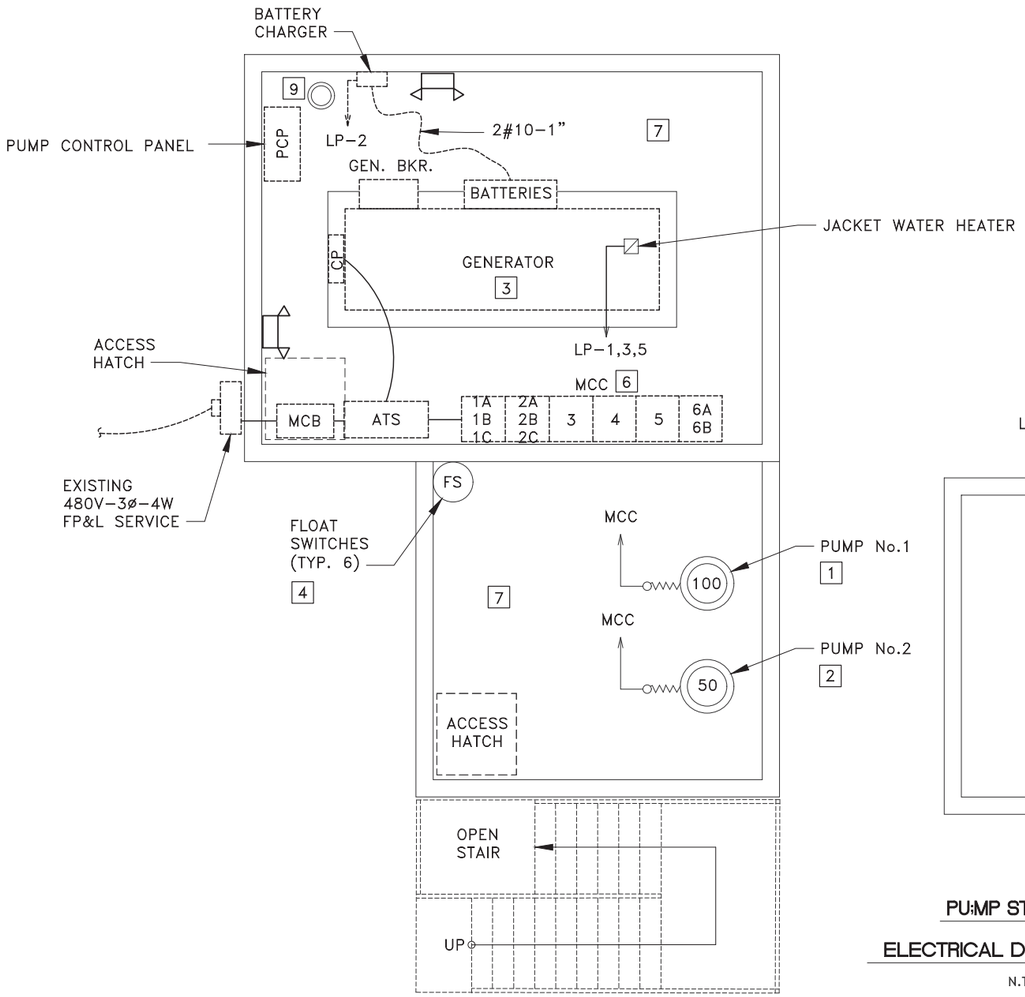
100% SUBMITTAL

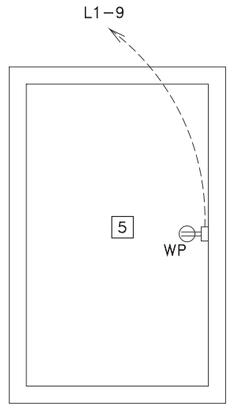
MCC DEVICES

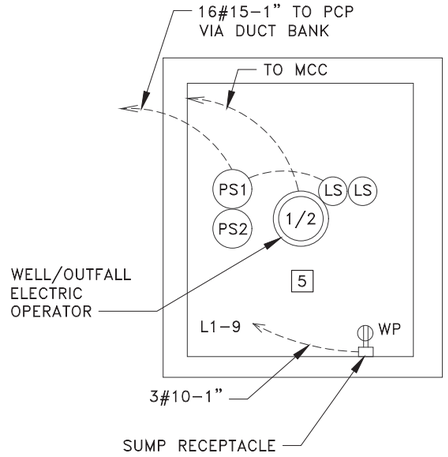
1A INCOMING SECTION (MLO)
1B CIRCUIT MONITOR
1C EXISTING 110TH ST PUMP 2 STARTER
2A EXISTING SPD
2B LIGHTING PANEL LP
2C TRANSFORMER
3 EXISTING 109TH ST PUMP 1 STARTER
4 EXISTING 110TH ST PUMP 1 STARTER
5 EXISTING 109TH ST PUMP 2 STARTER
6A EXISTING MOTORIZED VALVE 110TH ST
6B EXISTING MOTORIZED VALVE 109TH ST

DEMOLITION WORK NOTES

1. EXISTING PUMP NO. 1, 100HP-480V-3ø. REMOVE PUMP, FEEDER AND CONTROL BACK TO SOURCE. PROVIDE NEW AS INDICATED ON DRAWING E-3. SEE POWER RISER DIAGRAM DRAWING E-7 FOR ADDITIONAL WORK.
2. EXISTING PUMP NO. 2, 50HP-480V-3ø. REMOVE PUMP, FEEDER AND CONTROL BACK TO SOURCE. PROVIDE NEW AS INDICATED ON DRAWING E-3. SEE POWER RISER DIAGRAM DRAWING E-7 FOR ADDITIONAL WORK.
3. EXISTING GENSET. DRAIN FUEL AND SAVE FOR REUSE IN NEW GENSET. REMOVE GENSET COMPLETE WITH OUTPUT FEEDER, CONTROL WIRING, ASSOCIATED APPURTENANCES BACK TO SOURCE. SEE DRAWING E-3 AND E-7 FOR NEW WORK.
4. REMOVE EXISTING FLOAT SWITCHES (QUANTITY TO BE VERIFIED ON SITE). MAKE PROVISIONS FOR NEW EQUIPMENT AS REQUIRED. SEE DRAWING E-3 FOR NEW WORK.
5. EXISTING STRUCTURES TO BE REMOVED. SEE CIVIL PLANS FOR WORK. REMOVE POWER AND LOW VOLTAGE WIRING BACK TO SOURCE OR LAST DEVICE TO REMAIN ACTIVE. SEE DRAWING E-3 FOR NEW WORK.
6. EXISTING MCC. REMOVE COMPLETE WITH POWER AND CONTROL WIRING. SEE DRAWING E-3 FOR NEW WORK.
7. REMOVE EXISTING NORMAL AND EMERGENCY LUMINAIRES, IN PUMP HOUSE AND ELECTRICAL ROOM, INCLUDING ALL WIRING AND CONTROLS BACK TO SOURCE. PROVIDE NEW AS INDICATED IN NEW WORK, SEE DRAWING E-3 AND E-7.
8. EXISTING PUMP CONTROL PANEL. REMOVE COMPLETE WITH ALL CONTROL POWER AND CONTROL WIRING. ABANDON UNDERGROUND CONDUITS IN PLACE, SEAL ENDS AT FLOOR AND WALL PENETRATIONS AS DIRECTED.
9. REMOVE EXISTING VENTILATION FAN, STORE FOR SAFEKEEPING AND REINSTALL IN NEW WORK.







PUMP STATION 110

ELECTRICAL DEMOLITION PLAN

N.T.S.

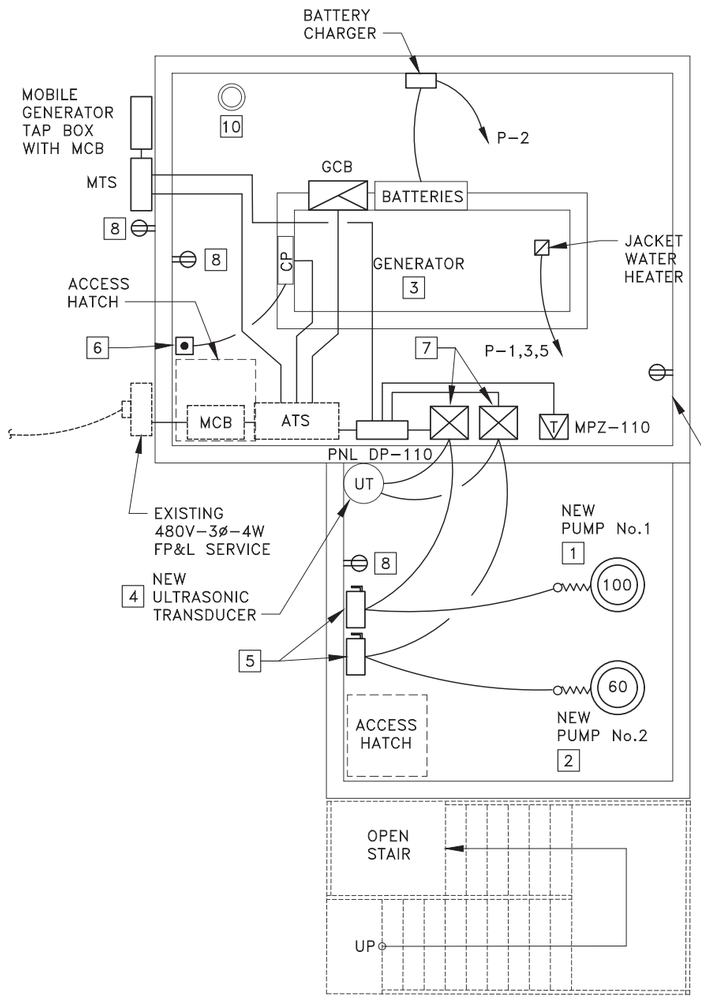
HNGS ENGINEERS
HUFSEY • NICOLAIDES • GARCIA • SUAREZ
CONSULTING ENGINEERS HNGS # 190069
4800 SW 74TH COURT
MIAMI, FLORIDA 33155 (305) 270-9935 Fax (305)665-5891
FL CA Lic. # 444

02-04022 REVISION 1 ADDRESS MDC COMMENTS

PERMIT SET 02-02-2022

DESIGN BY: A.E.W.	DATE: 12/16/19	PUMP STATION 110 ELECTRICAL DEMOLITION PLAN	BISCAYNE SHORES PUMP STATIONS No. 109 AND 110 RETROFIT	MIAMI-DADE COUNTY TRANSPORTATION AND PUBLIC WORKS DEPARTMENT STEPHEN P. CLARK CENTER 111 NW 1ST STREET, 16TH FLOOR MIAMI, FLORIDA 33128	PROJECT NO. 17053.01 / SHEET NO. 22
DRAWN BY:	DATE:				DRAWING NO. E-2 / OF 27 SHEETS
CHECKED BY: A.E.W.	DATE:				

100% SUBMITTAL



POWER PLAN

NEW WORK NOTES

1. NEW PUMP NO. 1, 100HP-480V-3ø. PROVIDE NEW SOFT START STARTER. PROVIDE NEW FEEDER TO NEW PANEL DP. SEE POWER RISER DIAGRAM FOR SPECS.
2. NEW PUMP NO. 2, 60HP-480V-3ø. PROVIDE NEW SOFT START STARTER. PROVIDE NEW FEEDER TO NEW PANEL DP. SEE POWER RISER DIAGRAM FOR SPECS.
3. NEW GENSET 200KW-480V-3ø-4W. SEE SHEET E-7 FOR DETAILS. TRANSFER DIESEL FUEL FROM TEMPORARY CONTAINER TO NEW GENSET BASE TANK.
4. NEW ULTRASONIC TRANDUCER. FINAL CONNECT AS REQUIRED.
5. 200A-3P-600V-NFSS-NEMA 4X
6. GENERATOR EMERGENCY POWER OFF (EPO) PUSHBUTTON IN NEMA 4X WEATHER PROOF ENCLOSURE. MOUNT EPO ADJACENT ACCESS HATCH AS REQUIRED.
7. SOFT START STARTER. EATON S811+T18P3S IN NEMA 4X ENLOSURE OR APPROVED EQUAL. PROVIDE WITH HOA SWITCH AND RUN/OFF PILOT LIGHTS IN COVER.
8. RECEPTACLE WITH WEATHERPROOF COVER. MOUNT 48" AFF. CONNECT TO 1P-20A CKT BKR IN PANEL P.
9. SWITCH WITH WEATERPROOF COVER. MOUNT ADJACENT LADDER NEAR TOP OF ACCESS COVER. CARLON-E98TSCN-WP-COVER FOR TOGGLE SWITCH.
10. RE-INSTALL VENTILATON FAN. PROVIDE NEW CONTROLS AS REQUIRED. FINAL CONNECT AS REQUIRED.

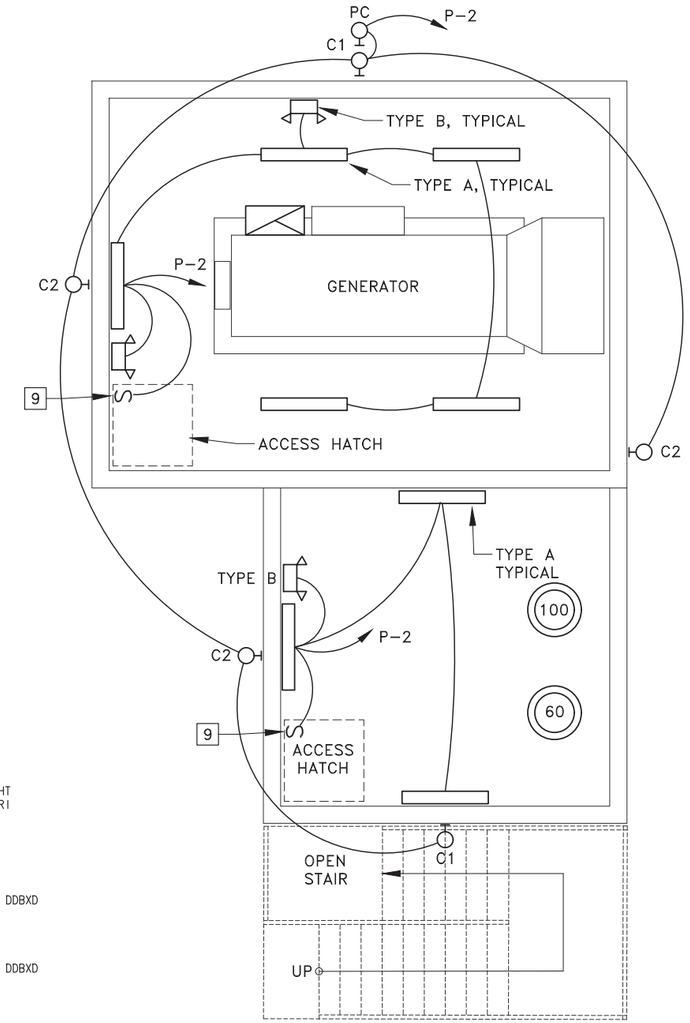
LUMINAIRE SCHDULE

A LITHONIA ENCLOSED GASKETED STRIPLIGHT FEM L48 4000LM LPAFL MD 120 35K 90CRI WLFEND2 STSL - 120V-23.8W

B LITHONIA EMERGENCY LIGHT MLTU MR - 120V-6W

C1 LITHONIA WALL PACK WDGE2 LED P5 35K 80CRI VF MVOLT AWS DDBXD - 120V-18W

C2 LITHONIA WALL PACK WDGE2 LED P5 35K 80CRI VW MVOLT AWS DDBXD - 120V-18W



LIGHTING PLAN

PUMP STATION 110

ELECTRICAL NEW WORK PLAN

N.T.S.

02-04022 REVISION 1 ADDRESS MDC COMMENTS

HUFSEY • NICOLAIDES • GARCIA • SUAREZ
CONSULTING ENGINEERS
HNGS # 190069
4800 SW 74TH COURT
MIAMI, FLORIDA 33155 (305) 270-9935 Fax (305)665-5891
FL CA Lic. # 444

PERMIT SET 02-02-2022

DESIGN BY: A.E.W.	DATE: 12/16/19	PUMP STATON 110 ELECTRICAL NEW WORK PLAN	BISCAYNE SHORES PUMP STATIONS No. 109 AND 110 RETROFIT	MIAMI-DADE COUNTY TRANSPORTATION AND PUBLIC WORKS DEPARTMENT STEPHEN P. CLARK CENTER 111 NW 1ST STREET, 16TH FLOOR MIAMI, FLORIDA 33128	PROJECT NO. 17053.01 / SHEET NO. 23
DRAWN BY:	DATE:				DRAWING NO. E-3 / OF 27 SHEETS
CHECKED BY: A.E.W.	DATE:				

100% SUBMITTAL

DEMOLITION WORK NOTES

1. EXISTING PUMP NO.1 DISCONNECT FROM MCC AT PS 110. REMOVE FEEDER AND CONTROL WIRING BACK TO SOURCE. SEE SHEETS E-5 AND E-6 FOR ADDITIONAL WORK.
2. EXISTING PUMP NO.2 DISCONNECT FROM MCC AT PS 110. REMOVE FEEDER AND CONTROL WIRING BACK TO SOURCE. SEE SHEETS E-5 AND E-6 FOR ADDITIONAL WORK.
3. REMOVE EXISTING PULLBOXES (2). REMOVE POWER AND CONTROL WIRING BACK TO SOURCE (PS 110). PROVIDE NEW AS INDICATED ON DRAWING E-5. DEMOLISH AND REMOVE CONCRETE PEDESTAL.
4. EXISTING LEVEL RECORDER TO REMAIN.
5. EXISTING PUMP DISCONNECT TO REMAIN. RECONNECT AS INDICATED ON NEW WORK PLAN. REPLEACE PUMP CONTROLS WITH NEW INDICATED ON NEW WORK PLAN SHEETS E-5 AND E-6.

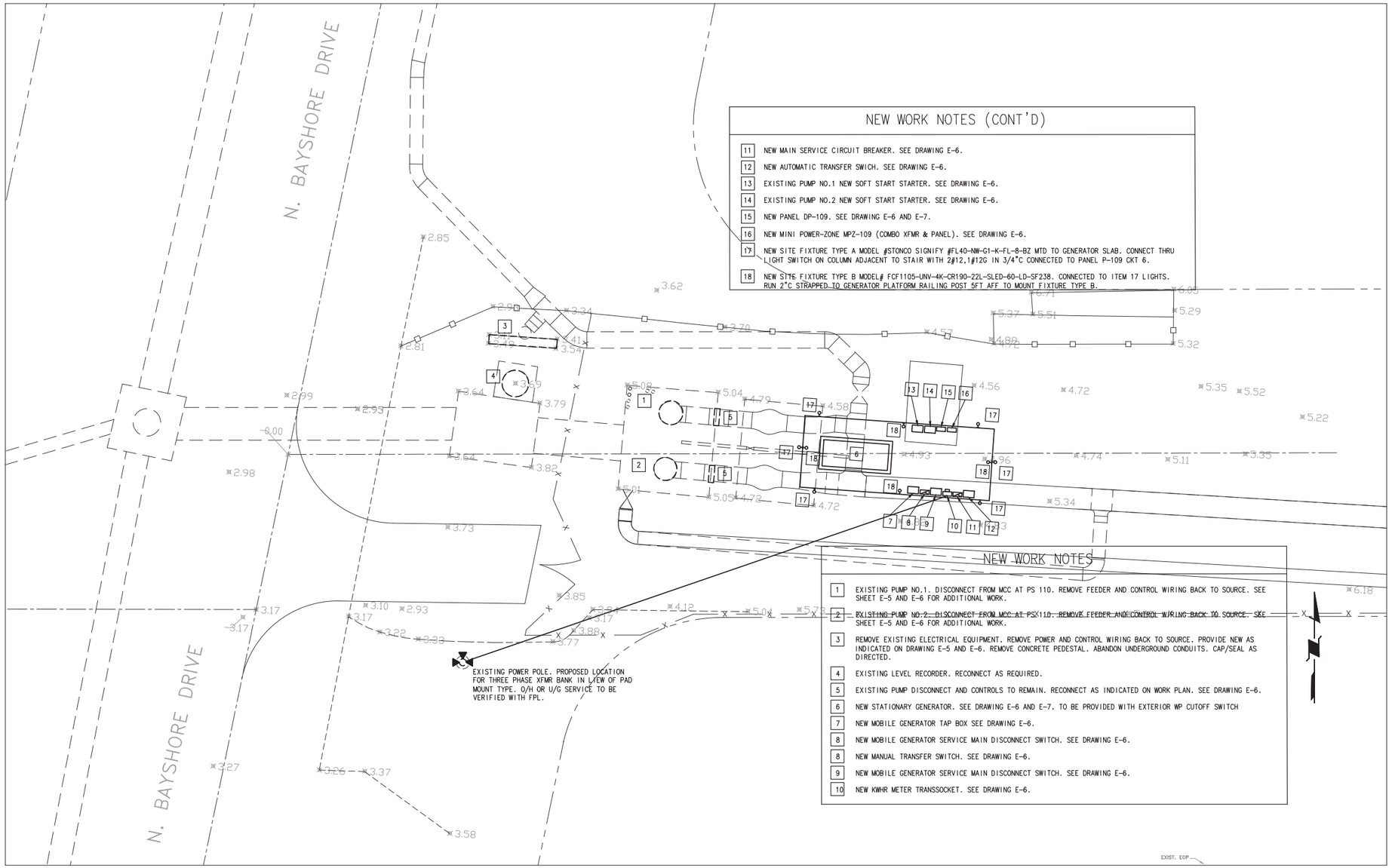
HNGS ENGINEERS
HUFSEY • NICOLAIDES • GARCIA • SUAREZ
CONSULTING ENGINEERS HNGS # 190069
4800 SW 74TH COURT
MIAMI, FLORIDA 33155 (305) 270-9935 Fax (305)665-5891
FL CA Lic. # 444

02-04022 REVISION 1 ADDRESS MDC COMMENTS

PERMIT SET 02-02-2022

DESIGN BY: A.E.W.	DATE: 12/16/19	PS 109 EXISTING CONDITIONS / DEMOLITION PLAN	BISCAYNE SHORES PUMP STATIONS No. 109 AND 110 RETROFIT	MIAMI-DADE COUNTY TRANSPORTATION AND PUBLIC WORKS DEPARTMENT STEPHEN P. CLARK CENTER 111 NW 1ST STREET, 16TH FLOOR MIAMI, FLORIDA 33128	PROJECT NO. 17053.01 / SHEET NO. 24
DRAWN BY:	DATE:				DRAWING NO. E-4 / OF 27 SHEETS
CHECKED BY: A.E.W.	DATE:				

100% SUBMITTAL



NEW WORK NOTES (CONT'D)

11. NEW MAIN SERVICE CIRCUIT BREAKER. SEE DRAWING E-6.
12. NEW AUTOMATIC TRANSFER SWICH. SEE DRAWING E-6.
13. EXISTING PUMP NO.1 NEW SOFT START STARTER. SEE DRAWING E-6.
14. EXISTING PUMP NO.2 NEW SOFT START STARTER. SEE DRAWING E-6.
15. NEW PANEL DP-109. SEE DRAWING E-6 AND E-7.
16. NEW MINI POWER-ZONE MPZ-109 (COMBO XFMR & PANEL). SEE DRAWING E-6.
17. NEW SITE FIXTURE TYPE A MODEL #STONCO SIGNIFY #FL40-NW-G1-K-FL-8-BZ MTD TO GENERATOR SLAB. CONNECT THRU LIGHT SWITCH ON COLUMN ADJACENT TO STAIR WITH 2#12,1#12G IN 3/4"C CONNECTED TO PANEL P-109 CKT 6.
18. NEW SITE FIXTURE TYPE B MODEL# FCF1105-UNV-4K-CR190-22L-SLED-60-LD-SF238. CONNECTED TO ITEM 17 LIGHTS. RUN 2"C STRAPPED TO GENERATOR PLATFORM RAILING POST 5FT AFF TO MOUNT FIXTURE TYPE B.

NEW WORK NOTES

1. EXISTING PUMP NO.1. DISCONNECT FROM MCC AT PS 110. REMOVE FEEDER AND CONTROL WIRING BACK TO SOURCE. SEE SHEET E-5 AND E-6 FOR ADDITIONAL WORK.
2. ~~EXISTING PUMP NO.2. DISCONNECT FROM MCC AT PS 110. REMOVE FEEDER AND CONTROL WIRING BACK TO SOURCE. SEE~~ SHEET E-5 AND E-6 FOR ADDITIONAL WORK.
3. REMOVE EXISTING ELECTRICAL EQUIPMENT. REMOVE POWER AND CONTROL WIRING BACK TO SOURCE. PROVIDE NEW AS INDICATED ON DRAWING E-5 AND E-6. REMOVE CONCRETE PEDESTAL. ABANDON UNDERGROUND CONDUITS. CAP/SEAL AS DIRECTED.
4. EXISTING LEVEL RECORDER. RECONNECT AS REQUIRED.
5. EXISTING PUMP DISCONNECT AND CONTROLS TO REMAIN. RECONNECT AS INDICATED ON WORK PLAN. SEE DRAWING E-6.
6. NEW STATIONARY GENERATOR. SEE DRAWING E-6 AND E-7. TO BE PROVIDED WITH EXTERIOR WP CUTOFF SWITCH
7. NEW MOBILE GENERATOR TAP BOX SEE DRAWING E-6.
8. NEW MOBILE GENERATOR SERVICE MAIN DISCONNECT SWITCH. SEE DRAWING E-6.
8. NEW MANUAL TRANSFER SWITCH. SEE DRAWING E-6.
9. NEW MOBILE GENERATOR SERVICE MAIN DISCONNECT SWITCH. SEE DRAWING E-6.
10. NEW KWHR METER TRANSSOCKET. SEE DRAWING E-6.

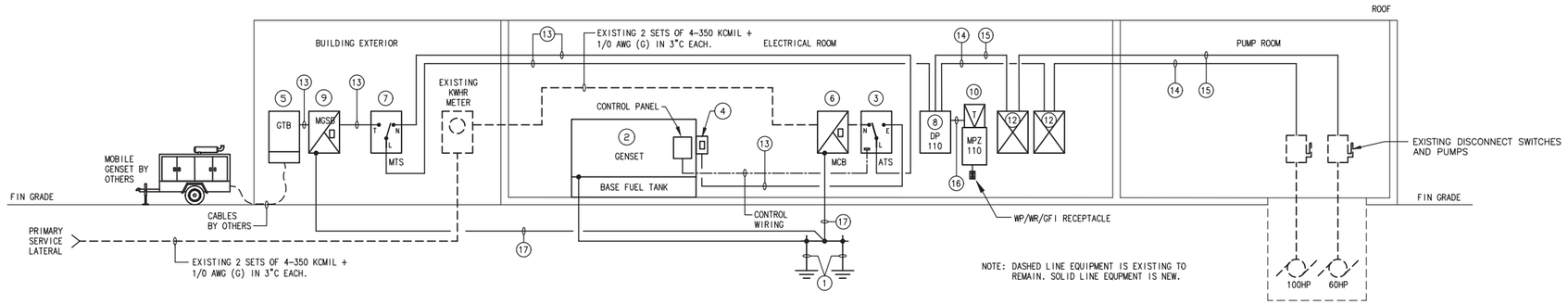
HNTB ENGINEERS
HUFSEY • NICOLAIDES • GARCIA • SUAREZ
CONSULTING ENGINEERS HNGS # 190069
4800 SW 74TH COURT
MIAMI, FLORIDA 33155 (305) 270-9935 Fax (305)665-5891
FL CA Lic. # 444

02-04022 REVISION 1 ADDRESS MDC COMMENTS

PERMIT SET 02-02-2022

DESIGN BY: A.E.W.	DATE: 12/16/19	PUMP STATION 109 ELECTRICAL NEW WORK PLAN	BISCAYNE SHORES PUMP STATIONS No. 109 AND 110 RETROFIT	MIAMI-DADE COUNTY	TRANSPORTATION AND PUBLIC WORKS DEPARTMENT STEPHEN P. CLARK CENTER 111 NW 1ST STREET, 16TH FLOOR MIAMI, FLORIDA 33128	PROJECT NO. 17053.01 / SHEET NO. 25
DRAWN BY:	DATE:					DRAWING NO. E-5 / OF 27 SHEETS
CHECKED BY: A.E.W.	DATE:					

100% SUBMITTAL



NOTE: DASHED LINE EQUIPMENT IS EXISTING TO REMAIN. SOLID LINE EQUPMENT IS NEW.

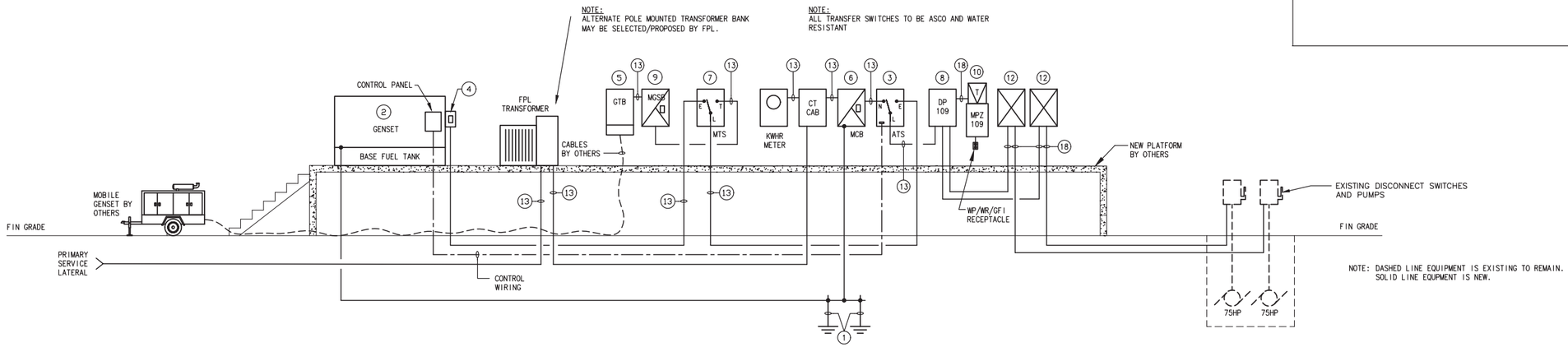
(1) E-5 PS 110 POWER RISER DIAGRAM

SCALE: NONE

NOTE:
POWER RISER DIAGRAM IS DIAGRAMMATIC IN NATURE. INSTALLATION AND FINAL CONFIGURATION TO BE DETERMINED BY ACTUAL EQUIPMENT PROVIDED.

KEY NOTES

1. 1-1/0 AWG TO TWO (2) COPPER CLAD STEEL GROUND RODS AND BOND TO FOUNDATION REBARS. INSTALL RODS MINIMUM SIX (6) FEET ON CENTER. PROVIDE 10' LONG BY 3/4" DIAMETER RODS.
2. 200KW-480V-3ø-3W EMERGENCY STAND-BY DIESEL GENERATOR WITH ALUMINUM SOUND ATTENUATED, WEATHERPROOF AND HURRICANE RESISTANT ENCLOSURE. GENSET INCLUDES A SUB-BASE FUEL TANK PROVIDING 24 HOURS RUN TIME.
3. NEW AUTOMATIC TRANSFER SWITCH (ATS) 3P-400A-480V, 45KAIC IN NEMA 4X ENCLOSURE.
4. 3P-400A-600V-45KAIC GENERATOR MOUNTED CIRCUIT BREAKER.
5. GENERATOR TAP BOX. 400A-3P-3W IN NEMA 4X ENCLOSURE. PROVIDE WITH FEMALE KAM-LOC CONNECTORS. POWERTRON SERIES 400 OR APPROVED EQUAL.
6. NEW MCB - 400A-3P-480V IN NEMA 4X ENCLOSURE.
7. MANUAL TRANSFER SWITCH (MTS) 3P-400A, 480V, IN NEMA 4X ENCLOSURE.
8. PANEL DP. SEE SCHEDULE SHEET E-7.
9. MGSB (MOBILE GENSET SERVICE BREAKER) - 400A-3P-480V IN NEMA 4X ENCLOSURE.
10. MINI POWER-ZONE CENTER (MPZ). 10KVA-480V:120/240V-1ø-3W NEMA 4X WITH 65KAIC 20A PRI MCB, 40A SEC MCB, AND 8-1P SPACES. MPZ TO SERVE 120V AND 240V LOADS AS REQUIRED.
11. PROVIDE STAND ALONE KWHR DEMAND METER AND CT CABINET OR COMBINATION UNIT AS REQUIRED BY FPL.
12. SOFT START STARTERS IN NEMA 4X ENCLOSURES. SIZE AND TYPE WITH ACCESSORIES AS RECOMMENDED BY PUMP MANUFACTURER.
13. NEW 2 SETS OF 4-4/0 AWG + 2 AWG (G) IN 2.5"C EACH.
14. NEW 3-4/0 AWG + 4 AWG (G) IN 2"C.
15. NEW 3-1/0 AWG + 6 AWG (G) IN 2"C.
16. NEW 2-12 AWG + 12 AWG (G) IN 3/4" C.
17. 1/0 AWG GROUNDING ELECTRODE CONDUCTOR IN 3/4" C.
18. 3-2/0 AWG + 1-6AWG (G) IN 2" C.
18. 2-10 AWG + 1-10 AWG (G) IN 3/4" C.



NOTE: DASHED LINE EQUIPMENT IS EXISTING TO REMAIN. SOLID LINE EQUPMENT IS NEW.

(1) E-5 PS 109 POWER RISER DIAGRAM

SCALE: NONE

NOTE:
POWER RISER DIAGRAM IS DIAGRAMMATIC IN NATURE. INSTALLATION AND FINAL CONFIGURATION TO BE DETERMINED BY ACTUAL EQUIPMENT PROVIDED.

HNTB ENGINEERS
HUFSEY • NICOLAIDES • GARCIA • SUAREZ
CONSULTING ENGINEERS HNGS # 190069
4800 SW 74TH COURT
MIAMI, FLORIDA 33155 (305) 270-9935 Fax (305)665-5891
FL CA Lic. # 444

02-04022 REVISION 1 ADDRESS MDC COMMENTS

PERMIT SET 02-02-2022

DESIGN BY: A.E.W.	DATE: 12/16/19	PS 109 NEW WORK PLAN	BISCAYNE SHORES PUMP STATIONS No. 109 AND 110 RETROFIT	MIAMI-DADE COUNTY	TRANSPORTATION AND PUBLIC WORKS DEPARTMENT STEPHEN P. CLARK CENTER 111 NW 1ST STREET, 16TH FLOOR MIAMI, FLORIDA 33128	PROJECT NO. 17053.01	SHEET NO. 26
DRAWN BY:	DATE:					DRAWING NO. E-6	OF 27 SHEETS
CHECKED BY: A.E.W.	DATE:						

100% SUBMITTAL

TRADEWINDS® POWER CORP

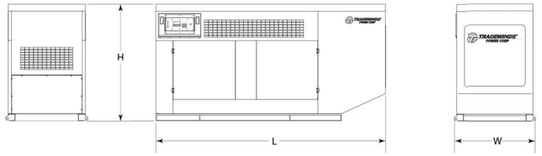
MODEL: TP200 T3

STANDBY UL2200 GENERATOR SET

ENGINE SPECIFICATION	
Manufacturer	Perkins
Model	1106D-E70TAG5
Emissions	EPA Tier 3
Engine speed (rpm)	1800
Nominal Engine hp 1800rpm	306
Cyclinder arrangement	Vertical inline
Combustion system	Direct Injection
Aspiration	Turbocharged aftercooled
Engine type	Diesel
Diesel Fuel Grade	ASTM D975 D2
Number of Cylinders	6
Displacement in^3 (liters)	428.0 (7.0)
Bore and Stroke inches (mm)	4.13 x 5.3 (105 X 135)
Cooling	Water-cooled
Governor	Electronic
Starting aids	Glow Plugs
Compression ratio	16.8:1
Air cleaner type	Medium duty dry type
Exhaust Silencer dBA	80dBA
Oil Filter	Engine mounted/water separator
COOLING SYSTEM FOR OPERATING AT 120° AMBIENT:	
Total coolant capacity gals (Liter)	5.5 (21.0)
Cooling System	Water-cooled
Radiator System	Engine Mounted
Maximum Allowable Oil Temperature F (C)	250 (121)
LUBRICATING SYSTEM:	
Total lubricating capacity quarts (Liter)	4.6 (17.5)
Oil consumption at full load	< 0.1% of fuel consumption
Recommended lubricating oil grade	SAE 15W40
Oil Filter	Full flow spin on, cartridge type

ENGINE ELECTRICAL SYSTEM:	
Starting motor voltage	12 volt
Charger	65 amp alternator with DC output
Wet Cell Battery	Lead Acid
ALTERNATOR:	
Configuration	Brushless, 12-wire, 4-pole
Frequency	60 Hz
Voltage regulation	+ / - 1%, 1/3Hz, Electronic, EMI filtered
No load to full load voltage regulation	+/- 2%
Coupling	SAE Adapter, Flexible Disc, Direct
Bearing	Single
Manufacturer	Marathon
Model	431CSL6206
Load acceptance	One step, 100% per NFPA 110
Comoliance	NEMA, IEEE & ANSI for temp. rise
TIP FACTOR	Self ventilated drip-proof
FUEL CONSUMPTION: PER HOUR GALS (LITERS)	
100%	15.6 (59.1)
75%	11.5 (43.5)
50%	7.8 (29.5)
25%	4.2 (16.0)
CONTROL PANEL SPECIFICATIONS:	
Manufacturer (Model)	Basler (DSC-2020ES)
MPC-10 Controller Inputs	16
MPC-10 Controller Outputs	12
Operating power/consumption	6-32 VDC Average load 14.2W
Communications	UL 508 R& CSA C22.2 #14
GENERATOR OPTIONS:	
Aluminum Enclosure	Sound attenuated to 68 dBA
Base arrangement	Rigid steel base frame with AVMs
Spill containment	UL double wall base mounted

DIMENSIONS & ARRANGEMENT DRAWING UL2200 MODEL: TP200 T3



KEY DIMENSIONS (inches), WEIGHT (pounds) FUEL TANK (US gals)								
Description & Configuration	Height		Length		Width		Dry Weight lbs	Fuel Tank
Open set	H1	60.00	L1	107.00	W1	44.00	3185	270
Enclosed Set	H2	81.00	L2	132.00	W2	44.00	5149	TBA

TRADEWINDS® POWER CORP

SPECIFICATION SHEET

Power Ratings		kW	kVA
Power	Standby	200.0	250.0
	Prime	180	225
Amps 0.8 Power Factor 3-phase 208V		695	
12-wire voltages: 1P = 120/240; 3P = 120/208, 120/240, 480/277			

Rating Definitions: Rated for 1800 rpm.

Standby ratings are applicable for the duration of any power outage. No overload is available at these ratings. Prime ratings are continuous per BS 5514, DIN 6271, ISO3046 & IEC 34-1. Overload capacity on prime-power ratings is 10% for one hour in each twelve hours of operation. All single phase ratings are based on a 1.0 power factor, three (3) phase ratings based on a 0.8 power factor. Ratings are established based on 85°F (29°C) and an elevation of 1,000 feet (305 meters).

STANDARD FEATURES:

Tradewinds Power Corp (TPC) PERKINS diesel powered generator sets are UL2200 approved set contained standby generator packages complete with mounted auto control panel, fuel connector, air cleaners, exhaust silencers, and other accessories mounted on a rigid base frame. All TPC systems and components are prototyped, assembled and tested within a purpose built packaging, manufacturing, and test facility.

Engine:

- PERKINs model 1106D-E70TAG5 6-cylinder diesel engines designed to provide economic and durable operation at prime and standby duties, hitting the key power nodes required by the power generation industry.
- Building upon Perkins proven reputation within the power generation industry, the 1100 Series range of ElectropaK engines fit closely to customers needs
- These ultra clean engines are assembled on a new high technology production line. Frequent computerised checks during the production process ensure high build quality is maintained throughout.
- Oil and filter changes are 500 hours, dependent on load factor
- Wet steel sump with filler and dipstick
- Spin-on full-flow lub oil filter

Alternator:

- Marathon 4-pole, 12-wire brushless generator, single bearing
- Superior voltage waveform achieved by a 2/3 pitch and skewed rotor.
- Vacuum-impregnated windings with fungus-resistant epoxy for dependability and long-life
- Sustained short-circuit capability enabling down-line circuit breakers to trip without collapsing the generator field

Starting System:

- 12-VDC Starter
- Engine mounted Battery Charging Alternator
- Battery Cables and Rack along with Grounding Strap

Enclosure and Arrangement of Complete Assembly:

- Engine and generator close coupled on rigid frame with vibration isolators
- Vertical radiator and exhaust discharge
- Oil & Coolant Drain Lines with Brass Ball Check Valves

Generator Options:

- Weather Protective Enclosure constructed of Marine Grade Aluminum 0.125 thickness, SS Hardware, white powder coat paint finish on both sides, sound Insulation resistant to high temperatures, fuel and oil, hinged / removable / keyed alike coors
- UL double wall base mounted fuel tank
- Residential rated interior mounted exhaust silencer kit

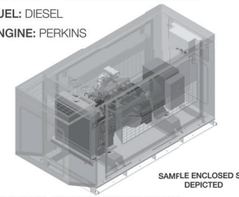
TRADEWINDS® POWER CORP

MODEL: TP200 T3

STANDBY UL GENERATOR SET

FUEL: DIESEL

ENGINE: PERKINS



SAME FLE ENCLOSED SET DEPICTED

AUTOMATIC ENGINE CONTROLLER DGC2020:

- Automatic engine controller with analog display of all functions
- Microprocessor Based, Navigation key with large LCD display
- SAE J1939 CANBUS Communication
- Event Recording
- Transfer Switch Control (main failures)
- Alternator Protection: under/over voltage, under/over frequency
- Engine Protection: Low oil pressure, High coolant temperature,Over speed & over crank, Sender Unit failure, Fuel Failure sensor, Battery Charger Failure
- All protections are programmable as Alarms or Pre-alarms
- Metering (ample range): Volts, Current, Hz, Watts, VA, PF, Oil Pressure, Coolant Temperature, RPM, DC Volts Fuel Level, Engine running time
- Engine Control with Timers
- External remote start input (on or off load)
- 16 programmable contact inputs - 7 Contact outputs

SCADA interface points:

- No fuel
- Low battery charging voltage
- Engine running
- Common engine alarm
- Switch in Emergency Position

DGC-2020 DIGITAL CONTROLLER

OPTIONAL CONTROL EQUIPMENT:

- Low coolant level switch
- Water separator fuel filter
- Space heater
- Generator drip covers
- 17-light remote annunciator panel

WARRANTY:

- Engine covered under the original equipment manufacturer's warranty - consult Tradewinds Power Corp for details
- Complete package supplied with 2-year limited warranty

The manufacture reserves the right to change the design or specifications without notice and without any obligation or liability whatsoever.

VOLTAGE: 480Y/277V 3PH 4W
BUS: 400A
MAIN: CIRCUIT BREAKER
MAIN SIZE: 400A
OPTION: SPD

TYPE: SIEMENS P3
CIRCUITS: AS NOTED
MOUNT: SURFACE
LOCATION:
SERVES:

PANEL

DP-110

PANEL COVER SHALL BE MARKED "DANGER: POTENTIAL ARC FLASH HAZARD"

PANEL AIC: 42,000 SYMM

LT	CKT NO	LOAD DESCRIPTION	BKR P	BKR TRIP	WIRING AND CONDUIT	CONNECTED VA A	CONNECTED VA B	CONNECTED VA C	WIRING AND CONDUIT	BKR P	BKR TRIP	LOAD DESCRIPTION	CKT NO	LT
L	1	PUMP NO. 1	3	225	SEE RISER DIAG	34333 21329			SEE RISER DIAG	3	150	PUMP NO. 2	2	M
L	3	-	-	-			34333 21329			-	-	-	4	M
L	5	-	-	-				34333 21329		-	-	-	6	M
M	7	PANEL P TRANSFORMER	2	30	3-10,1-10G,3/4"C	5000			4-10+1-10G	3	30	SPD	8	
M	9	-	-	-			5000			-	-	-	10	
	11	SPACE	1	-						-	-	-	12	
	13	SPACE	1	-									14	
	15	SPACE	1	-									16	
	17	SPACE	1	-									18	
	19	SPACE	1	-									20	
	21	SPACE	1	-									22	
	23	SPACE	1	-									24	
					CONNECTED VA:	60662	60662	55662						

TOTAL CONNECTED VA: 176986 TOTAL CONNECTED A: 213 PANEL REQUIRED AMPACITY: 244

LT	LOAD TYPE	FACTOR	VA
C	CONTINUOUS	1.25	0
L	LARGEST MOTOR	1.25	128749
M	MISCELANEOUS	1.00	73987
R	RECEPTACLES ≤ 10kVA	1.00	0
	RECEPTACLES >10kVA	0.50	
K	KITCHEN	0.65	0
		TOTAL CALCULATED LOAD	202736

VOLTAGE: 120/240V 1PH 3W
BUSS: 100A
MAIN: 60A MCB
OPTION:

TYPE: SIEMENS
MOUNTING: SURFACE
LOCATION:
SERVES:

PANEL

P-110

PANEL COVER SHALL BE MARKED "DANGER: POTENTIAL ARC FLASH HAZARD"

BRANCH CKT BKRS INT. RATING: 10 kAIC MAX.

LT	CKT NO	LOAD DESCRIPTION	BKR P	BKR TRIP	WIRING AND CONDUIT	CONNECTED VA A	CONNECTED VA B	WIRING AND CONDUIT	BKR P	BKR TRIP	LOAD DESCRIPTION	CKT NO	LT
C	1	LIGHTS - ELEC RM	1	20	2-12+12G-3/4"C	131 180		2-12+12G-3/4"C	1	20	RECEPTACLE - ELEC RM	2	R
C	3	LIGHTS - PUMP RM	1	20	2-12+12G-3/4"C		77 180	2-12+12G-3/4"C	1	20	RECEPTACLE - PUMP RM	4	R
C	5	LIGHTS - EXTERIOR	1	20	2-12+12G-3/4"C	90 180		2-12+12G-3/4"C	1	20	RECEPTACLE - ROOF	6	R
M	7	BATTERY CHARGER	2	30	2-10+10G-3/4"C		3000 600	2-12+12G-3/4"C	1	20	CONTROLS	8	M
M	9	-	-	-		3000 864		2-12+12G-3/4"C	1	20	EXHAUST FAN	10	L
	11	SPACE	1	-			200	2-12+12G-3/4"C	1	20	SUMP PUMP	12	R
	13	SPACE	1	-					1	-	SPACE	14	
	15	SPACE	1	-					1	-	SPACE	16	
	17	SPACE	1	-					1	-	SPACE	18	
	19	SPACE	1	-					1	-	SPACE	20	
	21	SPACE	1	-					1	-	SPACE	22	
	23	SPACE	1	-					1	-	SPACE	24	
					CONNECTED VA:	4445	4057						

TOTAL CONNECTED VA: 8502 TOTAL CONNECTED A: 35 PANEL REQUIRED AMPACITY: 37

LT	LOAD TYPE	VA
C	CONTINUOUS	373
L	LARGEST MOTOR	1080
M	MISCELANEOUS	6600
R	RECEPTACLES	740
		8793

VOLTAGE: 120/240V 1PH 3W
BUSS: 100A
MAIN SIZE: 60A MCB
OPTION:

TYPE: SIEMENS
MOUNTING: SURFACE
LOCATION:
SERVES:

PANEL

P-109

PANEL COVER SHALL BE MARKED "DANGER: POTENTIAL ARC FLASH HAZARD"

BRANCH CKT BKRS INT. RATING: 18 kAIC MAX.

LT	CKT NO	LOAD DESCRIPTION	BKR P	BKR TRIP	WIRING AND CONDUIT	CONNECTED VA A	CONNECTED VA B	WIRING AND CONDUIT	BKR P	BKR TRIP	LOAD DESCRIPTION	CKT NO	LT
M	1	BATTERY CHARGER	1	20	2-12+12G-3/4"C	1440 180		2-12+12G-3/4"C	1	20	RECEPTACLE	2	R
M	3	BLOCK HEATER	1	20	2-12+12G-3/4"C		1500 200	2-12+12G-3/4"C	1	20	CONTROLS	4	M
M	5	OIL PRE-HEATER	1	20	2-12+12G-3/4"C	500		2-12+12G-3/4"C	1	20	EXTERIOR LTG [1]	6	C
	7	SPACE	1	-					1	-	SPACE	8	
	9	SPACE	1	-					1	-	SPACE	10	
	11	SPACE	1	-					1	-	SPACE	12	
					CONNECTED VA:	2120	1700						

TOTAL CONNECTED VA: 3820 TOTAL CONNECTED A: 16 PANEL REQUIRED AMPACITY: 16

[1] VIA 2 POLE ASTRONOMIC TIME CLOCK

LT	LOAD TYPE	VA
C	CONTINUOUS	625
L	LARGEST MOTOR	0
M	MISCELANEOUS	3140
R	RECEPTACLES	180
		3945

VOLTAGE: 480Y/277V 3PH 4W
BUS: 400A
MAIN: CIRCUIT BREAKER
MAIN SIZE: 400A
OPTION: SPD

TYPE: SIEMENS P3
CIRCUITS: AS NOTED
MOUNT: SURFACE
LOCATION:
SERVES:

PANEL

DP-109

PANEL COVER SHALL BE MARKED "DANGER: POTENTIAL ARC FLASH HAZARD"

PANEL AIC: 42,000 SYMM

LT	CKT NO	LOAD DESCRIPTION	BKR P	BKR TRIP	WIRING AND CONDUIT	CONNECTED VA A	CONNECTED VA B	CONNECTED VA C	WIRING AND CONDUIT	BKR P	BKR TRIP	LOAD DESCRIPTION	CKT NO	LT
L	1	PUMP NO. 1	3	175	SEE RISER DIAG	26600 26600			SEE RISER DIAG	3	175	PUMP NO. 2	2	M
L	3	-	-	-			26600 26600			-	-	-	4	M
L	5	-	-	-				26600 26600		-	-	-	6	M
M	7	PANEL P TRANSFORMER	2	30	3-10,1-10G,3/4"C	3750			4-10+1-10G	3	30	SPD	8	
M	9	-	-	-			3750			-	-	-	10	
	11	SPACE	1	-						-	-	-	12	
	13	SPACE	1	-									14	
	15	SPACE	1	-									16	
	17	SPACE	1	-									18	
	19	SPACE	1	-									20	
	21	SPACE	1	-									22	
	23	SPACE	1	-									24	
					CONNECTED VA:	56950	56950	53200						

TOTAL CONNECTED VA: 167100 TOTAL CONNECTED A: 201 PANEL REQUIRED AMPACITY: 225

LT	LOAD TYPE	FACTOR	VA
C	CONTINUOUS	1.25	0
L	LARGEST MOTOR	1.25	99750
M	MISCELANEOUS	1.00	87300
R	RECEPTACLES ≤ 10kVA	1.00	0
	RECEPTACLES >10kVA	0.50	
K	KITCHEN	0.65	0
		TOTAL CALCULATED LOAD	187050

02-04022 REVISION 1 ADDRESS MDC COMMENTS

HNGS ENGINEERS
HUFSEY • NICOLAIDES • GARCIA • SUAREZ
CONSULTING ENGINEERS HNGS # 190069
4800 SW 74TH COURT
MIAMI, FLORIDA 33155 (305) 270-9935 Fax (305)665-5891
FL CA Lic. # 444

PERMIT SET 02-02-2022

DESIGN BY: A.E.W.	DATE: 12/16/19	PANEL SCHECULES AND GENERATOR SPECIFICATIONS	BISCAYNE SHORES PUMP STATIONS No. 109 AND 110 RETROFIT
DRAWN BY:	DATE:		
CHECKED BY: A.E.W.	DATE:		

MIAMI-DADE COUNTY

TRANSPORTATION AND PUBLIC WORKS DEPARTMENT
STEPHEN P. CLARK CENTER
111 NW 1ST STREET, 16TH FLOOR
MIAMI, FLORIDA 33128

PROJECT NO. 17053.01	SHEET NO. 27
DRAWING NO. E-7	OF 27 SHEETS

100% SUBMITTAL