

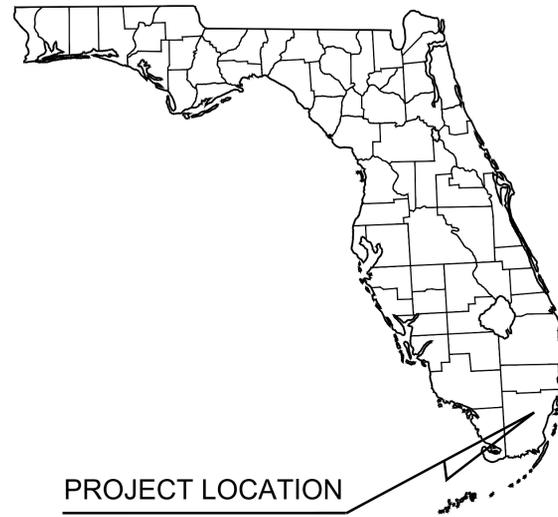


EXHIBIT B
ITB # 2021-011
PROJECT: WASTEWATER PUMP STATION IMPROVEMENTS

NORTH BAY VILLAGE

MIAMI-DADE COUNTY, FLORIDA

MAIN PUMP STATION IMPROVEMENTS



PROJECT LOCATION MAP

SCALE: 1" = 100'

PROJECT LOCATION

PROJECT TEAM:

CIVIL ENGINEER:

Kimley-Horn and Associates, Inc.
600 North Pine Island Road, Suite 450
Ft. Lauderdale, FL 33324
Phone: (954) 535-5100
Fax: (561) 863-8175
Contact: Gary Ratay, P.E.

CLIENT:

North Bay Village
1666 Kennedy Causeway, 3rd Floor
North Bay Village, FL 33141
Phone: (305) 756-7171
Fax: (305) 756-7722

CITY OFFICIALS:

- BRENT LATHAM - MAYOR
- MARVIN WILMOTH - VICE MAYOR
- JOSE R. ALVAREZ - COMMISSIONER
- ANDREANA JACKSON - COMMISSIONER
- JULIANNA STROUT - COMMISSIONER

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C100.2	DEMOLITION PLAN
C200.0	SITE PLAN
C200.1	FORCE MAIN AND GRAVITY MAIN PROFILES
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FOR BIDDING



Plotted By: Leanne Arabella - Sheet Set: NORTH BAY VILLAGE MAIN PUMP STATION IMPROVEMENTS - Layout: C01 COVER SHEET - May 13, 2020 - 10:32:37am - K:\VTL\Civil\043 Jobs\043138041-Mk_Author_18-03_WW_Station_Improva\CAD_Plansheets\Main_Lit_Station\C100.0 COVER SHEET.dwg - This document, together with the concepts and design presented herein, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.

No.	REVISIONS	DATE	BY

Kimley»Horn

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KHA PROJECT	043138041
DATE	MAY 2020
SCALE	AS SHOWN
DESIGNED BY	MM
DRAWN BY	MM
CHECKED BY	GR

NORTH BAY VILLAGE MAIN PUMP STATION IMPROVEMENTS

PREPARED FOR
NORTH BAY VILLAGE

NORTH BAY VILLAGE FLORIDA

LICENSED PROFESSIONAL	GARY R. RATAY
FLORIDA LICENSE NUMBER	46682
DATE:	05/13/20

COVER SHEET

SHEET NUMBER	C100.0
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Plotted By: Leanne Arabella
 Sheet: Set-NORTH BAY VILLAGE MAIN PUMP STATION IMPROVEMENTS
 Date: 03/11/2009
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 Rev. 4/30/2018
 This regulation delegates the permitting review process to the contractor and the contractor is responsible for obtaining all necessary permits and approvals from the appropriate agencies.

GENERAL NOTES

- CONTRACTOR TO SUBMIT MAINTENANCE OF TRAFFIC PLAN PER APPLICABLE FDOT STANDARD INDEXES FOR APPROVAL PRIOR TO START OF WORK.
- CONNECTIONS TO EXISTING UTILITIES SHALL NOT BE MADE UNTIL ALL NECESSARY CERTIFICATIONS AND APPROVALS HAVE BEEN OBTAINED FROM THE APPROPRIATE AGENCIES. EXISTING UTILITIES MUST REMAIN IN SERVICE UNTIL NEW UTILITIES ARE READY FOR CONNECTION.
- THE CONTRACTOR IS RESPONSIBLE FOR A DEWATERING PLAN AND A PERMIT THAT WILL PROVIDE PRETREATMENT OF EFFLUENT PRIOR TO DISCHARGE INTO THE EXISTING DRAINAGE SYSTEM. COST TO OBTAIN ALL DEWATERING PERMITS AS NEEDED AND IMPLEMENTING THE DEWATERING PLAN IS TO BE INCLUDED IN THE RELATED BID ITEM FOR THE WORK BEING DONE.
- ALL APPLICABLE PERMITS MUST BE OBTAINED PRIOR TO COMMENCEMENT OF CONSTRUCTION, AND ALL APPLICABLE FEES AND CHARGES MUST BE PAID PRIOR TO COMMENCEMENT OF CONSTRUCTION.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING LOCATIONS OF ALL UTILITIES AND NOTIFICATION OF SUNSHINE STATE ONE CALL. COORDINATE DIRECTLY WITH NORTH BAY VILLAGE PUBLIC WORKS FOR NORTH BAY VILLAGE UTILITY LOCATIONS.
- THE CONTRACTOR SHALL MAINTAIN A CURRENT APPROVED SET OF CONSTRUCTION PLANS ON SITE. THE PLANS ARE TO BE MADE AVAILABLE TO THE ENGINEERING INSPECTOR OR HIS DESIGNEE UPON REQUEST.
- ALL CONSTRUCTION, INSTALLATION AND TESTING SHALL CONFORM TO THE STANDARDS AND SPECIFICATIONS OF MDWASD, FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION, FDOT AND ALL OTHER LOCAL AND NATIONAL CODES WHERE APPLICABLE.
- ALL CONSTRUCTION SHALL BE DONE IN A SAFE MANNER SPECIFICALLY, THE RULES AND REGULATIONS OF THE OCCUPATIONAL SAFETY AND HEALTH AND THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES SHALL BE STRICTLY OBSERVED.
- EXISTING UTILITY LOCATIONS SHOWN ON THESE DRAWINGS ARE APPROXIMATE. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OF EXISTING UTILITIES WITHIN THE AREAS OF CONSTRUCTION.
- PRIOR TO BEGINNING CONSTRUCTION, THE CONTRACTOR SHALL VERIFY THE SIZE, LOCATION AND MATERIAL OF ALL EXISTING UTILITIES WITHIN THE REPLACEMENT LOCATIONS.
- IF UPON EXCAVATION, AN EXISTING UTILITY IS FOUND TO BE IN CONFLICT WITH THE PROPOSED CONSTRUCTION OR TO BE A SIZE OR MATERIAL DIFFERENT FROM THAT SHOWN ON THE DRAWINGS, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER AND OWNER.
- THE CONTRACTOR SHALL SUPPORT ANY UTILITIES UNCOVERED DURING CONSTRUCTION. CONTRACTOR SHALL REPAIR ANY UTILITY DAMAGED DURING CONSTRUCTION AT NO COST TO THE VILLAGE.
- CONTRACTOR SHALL MAINTAIN REQUIRED COVER AND UTILITY SEPARATION AS SHOWN AND SPECIFIED FOR ALL UTILITY IMPROVEMENTS.
- CONTRACTOR SHALL PROVIDE COMPLETE FINAL RECORD DRAWINGS TO THE OWNER AS SPECIFIED. ALL AS-BUILT MEASUREMENTS AND ELEVATIONS TO BE SIGNED AND SEALED BY A REGISTERED LAND SURVEYOR.
- ALL NEW PIPING COMPONENTS MUST BE RESTRAINED AS SPECIFIED.
- ALL ROADWAY AND OTHER AREAS OF THE PROJECT SITE IMPACTED BY CONSTRUCTION MUST BE RESTORED TO EQUAL OR BETTER CONDITION AND IN COMPLIANCE WITH THE EXISTING NORTH BAY VILLAGE CONTRACT.
- THE CONTRACTOR SHALL BE RESPONSIBLE AT ALL TIMES THROUGHOUT THE DURATION OF CONSTRUCTION AND UNTIL ACCEPTANCE OF WORK, FOR THE PROTECTION OF EXISTING AND NEWLY INSTALLED UTILITIES FROM DAMAGE OR DISRUPTION OF SERVICE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR TAKING SUCH MEASURES AS NECESSARY TO PROTECT THE HEALTH, SAFETY AND WELFARE OF THOSE PERSONS HAVING ACCESS TO THE WORK SITE.



RER-DERM WATER-SEWER GENERAL NOTES

- A horizontal distance of at least 6 feet, and preferably 10 feet (outside to outside), shall be maintained between gravity or pressure sewer pipes and water pipes. The minimum horizontal separation can be reduced to 3 feet for vacuum-type sewers or for gravity sewers where the top of the sewer pipe is at least 6 inches below the bottom of the water pipe. When the above specified horizontal distance criteria cannot be met due to an existing underground facility conflict, smaller separations are allowed if one of the following is met:
 - The sewer pipes are designed and constructed equal to the water pipe and pressure tested at 150 psi.
 - The sewer is encased in a watertight carrier pipe or concrete.
 - The top of the sewer is at least 18 inches below the bottom of the water pipe.
- A vertical distance of at least 12 inches (outside to outside) shall be maintained between any water and sewer mains with sewer pipes preferably crossing under water mains. The minimum vertical separation can be reduced to 6 inches for vacuum-type sewers or for gravity sewers where the sewer pipe is below the water main. The crossing shall be arranged so that all water main joints are at least 6 feet from all joints in gravity and pressure sewer pipes. This distance can be reduced to 3 feet for vacuum-type sewers. When the above specified vertical distance criteria cannot be met due to an existing underground facility conflict, smaller separations are allowed if one of the following is met:
 - The sewer pipes are designed and constructed equal to the water pipe and pressure tested at 150 psi.
 - The sewer is encased in a watertight carrier pipe or concrete.
- Air release valves shall be provided at high points of new force main sanitary sewers.
- Gravity sanitary sewers constructed within a public wellfield protection area shall be C-900 PVC or Ductile Iron Pipe. The maximum allowable exfiltration rate of gravity sanitary sewers constructed in a public wellfield protection area shall be:
 - Residential Land Uses. Fifty (50) gallons per inch pipe diameter per mile per day, based on a minimum two (2) hour test having a minimum of two (2) feet of positive head above the crown of the pipe.
 - Non-Residential Land Uses. Twenty (20) gallons per inch pipe diameter per mile per day, based on a minimum two (2) hour test having a minimum of two (2) feet of positive head above the crown of the pipe.
 - Any observed leaks or any obviously defective joints or pipes shall be replaced even when the total leakage is below that allowed.
- The maximum allowable exfiltration rate of gravity sanitary sewers constructed outside a public wellfield protection area shall be one hundred (100) gallons per inch pipe diameter per mile per day, based on a minimum two (2) hour test having a minimum of two (2) feet of positive head above the crown of the pipe. Any observed leaks or any obviously defective joints or pipes shall be replaced even when the total leakage is below that allowed.
- Force main sanitary sewers constructed within a public wellfield protection area shall be ductile iron, C-900 PVC, HDPE or reinforced concrete pressure sewer pipes.
- The maximum allowable exfiltration/leakage rate of force main sanitary sewers shall be:
 - Ductile Iron, C-900 PVC, HDPE and PVC Pipe. The allowable leakage rate specified in American Water Works Association Standard (AWWAS) C600-82 at a test pressure of 100 psi for a duration of not less than two (2) hours.
 - Reinforced Concrete Pressure Pipe. Half (1/2) the allowable leakage rate specified in AWWA C600-82 at a test pressure of 100 psi for a duration of not less than two (2) hours.
 - Any observed leaks or any obviously defective joints or pipes shall be replaced even when the total leakage is below that allowed.
- The contractor shall verify nature, depth, and character of existing underground utilities prior to start of construction.
- In no case shall a contractor install utility pipes, conduits, cables, etc. in the same trench above an existing water or sewer pipe except where they cross.
- If any area of the work site is found to contain buried solid waste and/or ground or ground water contamination, the following shall apply:
 - All work in the area shall follow all applicable safety requirements (e.g., OSHA, etc.) and notification must be provided to the appropriate agencies.
 - Immediately notify the Environmental Monitoring and Restoration Division (EMRD). The EMRD can be contacted at (305) 372-6700.
 - If contaminated soils and/or buried solid waste material is excavated during construction, then they require proper handling and disposal in accordance with the local, state and federal regulations. Be advised that the landfill owner/operator is the final authority on disposal and may have requirements beyond those provided by herein. If disposal within a Miami-Dade County owned landfill (Class I landfill) is appropriate and selected, please contact the Miami-Dade County Department of Solid Waste Management at (305) 594-6666 for information.
 - The reuse of contaminated soils that are not returned to the original excavation requires prior approval of a Soil Management Plan from the Environmental Monitoring and Restoration Division. The EMRD can be contacted at (305) 372-6700.
- Pumps must comply with the National Electrical Code (NEC) requirements for Class I, Group D, Division 1 locations (Explosion Proof).
- The contractor is advised that a Tree Removal/Relocation Permit may be required prior to the removal and/or relocation of tree resources. Prior to removing or relocating any trees, the Contractor shall notify the Tree and Forest Resources Section of DERM at (305) 372-6574 or via e-mail at: tfra@miamidade.gov, or contact the municipality with tree ordinance jurisdiction to obtain any required permits. Those trees not interfering with the construction shall be protected in place in accordance with the provisions of Section 24-49.5 of the Miami-Dade Code.
- Please note that the demolition, removal, and/or disturbance of existing underground utilities that contain asbestos-cement pipes (ACP) are subject to the provisions of 40 CFR-61 Subpart M. Therefore, pursuant to the provisions of 40 CFR-61-145, a NOTICE OF DEMOLITION OR ASBESTOS RENOVATION form must be filed with the Air Quality Management Division (AQMD) of DERM, at least ten (10) working days prior to starting of any work. Note that the backfilling and burial of crushed ACP would cause these locations to be considered active disposal sites and subject to 40 CFR-61.154, and 40 CFR-61.151 a year after project completion. Existing standard operating procedures, as well as applicable federal, state and local regulatory criteria, must be followed and implemented to minimize any potential release of fugitive emissions, especially during project construction activities. The AQMD can be contacted via email at asbestos@miamidade.gov or 305-372-6925.

Rev. 4/30/2018
 This regulation delegates the permitting review process to the contractor and the contractor is responsible for obtaining all necessary permits and approvals from the appropriate agencies.

- ALL MATERIALS AND LABOR UNDER THIS PROJECT SHALL BE IN STRICT ACCORDANCE WITH THE REQUIREMENTS OF THE MIAMI-DADE WATER AND SEWER DEPARTMENT AND SHALL CONFORM TO THE STANDARDS AND SPECIFICATIONS AVAILABLE AND ON FILE WITH THE DEPARTMENT. SUBMIT SHOP DRAWINGS FOR ALL MATERIALS.
- COVER OVER WATER OR SEWER FORCE MAINS SHALL BE 4'-0" MIN.
- ALL MAIN LINE VALVES SHALL BE INSTALLED COMPLETE WITH 10" RISER PIPES AND NO. 3 OR 53 VALVE BOXES FIRE HYDRANTS AND SERVICE VALVES SHALL BE INSTALLED COMPLETE WITH 6" RISER PIPES AND NO. 2 VALVE BOXES.
- ALL FORCE MAIN SERVICE CONNECTIONS INTO PRESSURE TRANSMISSION MAINS SHALL HAVE A SHUT OFF VALVE AND CHECK VALVE AT THE POINT OF ENTRY.
- ALL GRAVITY SYSTEMS SHALL BE CONSTRUCTED IN ACCORDANCE WITH DEPARTMENT STANDARDS.
- ALL WATER METERS WILL BE INSTALLED BY THE MIAMI-DADE WATER AND SEWER DEPARTMENT, PROVIDING THE APPROPRIATE CHARGES HAVE BEEN PREPAID.
- FIRE HYDRANT REQUIREMENTS (NUMBER AND LOCATION) SHALL BE AS REQUIRED BY MIAMI-DADE COUNTY FIRE DEPARTMENT OR THE APPROPRIATE FIRE AGENCY WITH INSTALLATION IN ACCORDANCE WITH DEPARTMENT STANDARDS.
- CONTRACTOR MUST CALL MDWASD INSPECTION DIVISION TO ARRANGE FOR A PRECONSTRUCTION MEETING 2 FULL BUSINESS DAYS PRIOR TO PROPOSED START OF CONSTRUCTION. CONTACT ONE CALL CENTER 48 HRS PRIOR TO EXCAVATION.
- CONTRACT INSPECTOR WILL INSPECT ANY FACILITIES APPROVED BY THE DEPARTMENT. ALL OTHER REQUIREMENTS OF THE PERMITTING AGENCY SHALL BE IN ACCORDANCE WITH THEIR STANDARDS AND REQUIREMENTS.
- WORK PERFORMED UNDER THIS PROJECT WILL NOT BE CONSIDERED AS COMPLETE UNTIL FINAL ACCEPTANCE OF THE SYSTEM BY THE DEPARTMENT AND UNTIL THE FOLLOWING DOCUMENTS ARE RECEIVED AND APPROVED BY THE DEPARTMENT:
 - EASEMENTS, IF REQUIRED
 - CONTRACTOR'S WAIVER AND RELEASE OF LIEN
 - ABSOLUTE BILL OF SALE
 - CONTRACTOR'S LETTER OF WARRANTY (I.E., LETTER AGREEMENT)
 - DEVELOPER'S CONTRACT BOND (I.E., CONTRACT AGREEMENT)
 - "RECORD DRAWING" PRINTS (24" x 36") SHOWING SPECIFIC LOCATIONS, DEPTH, ETC. OF ALL WATER AND SEWER FACILITIES AS LOCATED BY A LICENSED SURVEYOR & MAPPER, ALONG WITH PRINTS OF "RECORD DRAWINGS" WHICH HAVE BEEN SIGNED AND SEALED BY A REGISTERED SURVEYOR & MAPPER. (No. OF PRINTS: 3-FOR WATER, 4-FOR GRAVITY SEWER AND 5-FOR FORCE MAIN OR PUMP STATION PROJECTS). Submittal of final CAD Files required.
 - H.R.S. LETTER OF RELEASE REQUIRED FOR ALL WATER PROJECTS
 - BILL OF SALE SKETCH (8 1/2" x 11") FOR WATER AND SEWER, SEPARATELY
- ALL NEW CONNECTIONS FROM EXISTING DEPARTMENT MAINS TO BE MADE BY DEPARTMENT FORCES ONLY. THE CONTRACTOR TO EXCAVATE AT REQUIRED LOCATIONS, PROVIDE AND INSTALL MATERIAL WITH FITTINGS, PRIOR TO TAP.
- AN APPROVED PAVING AND DRAINAGE PLAN MUST BE SUBMITTED TO MDWASD FOR ALL NEW SUBDIVISIONS PRIOR TO APPROVAL OF WATER AND SEWER PERMIT PLANS, UPON REQUEST.
- UNLESS OTHERWISE SPECIFIED, ALL TAPS 20 INCHES AND SMALLER FOR CONNECTIONS TO EXISTING MAINS WILL BE DONE BY DEPARTMENT FORCES. UNDER NO CIRCUMSTANCES WILL THE CONTRACTOR BE PERMITTED TO TAP EXISTING MAINS IN THE SIZE RANGE SPECIFIED ABOVE. THE TAPPING SLEEVE AND TAPPING VALVE ARE FURNISHED AND INSTALLED BY THE CONTRACTOR UNDER THE SUPERVISION OF THE INSPECTOR.

MIAMI-DADE COUNTY	ISSUE DATE	APPROVED BY	STANDARD DETAIL	GS
WATER & SEWER DEPARTMENT	03/01/2010	V.F.C.	STANDARD REQUIREMENTS WATER AND SEWER CONSTRUCTION	0.5
	07/20/2016	D.V.		
				SHEET 1 of 2

- AT THE COMPLETION OF ANY WATER AND SEWER JOB EITHER DONATION OR CONTRACT, THE CONTRACTOR SHALL SUBMIT:
 - RECORD DRAWING PRINTS WHICH HAVE BEEN SIGNED AND SEALED BY A FLORIDA LICENSED PROFESSIONAL SURVEYOR AND MAPPER (QTY. OF PRINTS AS REQUIRED BY THE DEPARTMENT).
 - "RECORD DRAWING" FORMAT:
 - 24" x 36" PRINTS
 - PDF FILE
 - CADD FILE (DWG OR DXF) ROTATED AND TRANSLATED TO STATE PLANE COORDINATES NAD 83 FLORIDA EAST ZONE
 - THE WORDS "RECORD DRAWING" IN LARGE LETTERS
 - TITLE BLOCK WITH DEPARTMENT DS, DW OR ER NUMBER AND PERTINENT INFORMATION
 - PREFERRED SCALE TO BE 1"= 40' HORIZONTALLY AND 1"= 4' VERTICALLY*
 - STREET NOMENCLATURE
 - SEPARATE RECORD DRAWINGS FOR WATER AND SEWER
 - SEPARATE WATER AND SEWER PROFILE
 - STATIONING STARTING WITH 0+00 AT PERMANENT REFERENCE POINT (I.E. C, S, ETC.) OR AS SHOWN ON DESIGN PERMIT PLANS, AND TO RUN CONTINUOUSLY TO END OF MAIN
 - EASEMENTS, IF ANY, TIED TO PERMANENT REFERENCE POINT
 - IDENTIFY ALL CONTROL LINES (I.E. BLDG. LINE, PROPERTY LINE, R/W, ETC.)
 - ALL "PROPOSED" INFORMATION TO BE REMOVED FROM PRINTS, LEAVING ONLY RECORD DRAWING INFORMATION REFLECTED IN DRAWINGS
 - WATER "RECORD DRAWINGS" MUST INCLUDE:
 - PLANS SHOWING PIPE SIZE, MATERIAL AND OFFSET OF MAIN, DEFLECTIONS (IF ANY), STATION OF SERVICES, HYDRANTS, VALVES, FITTINGS, IF ANY, ALL IN STATE PLANE COORDINATES. UTILITY CROSSINGS SHALL BE CLEARLY IDENTIFIED AND LOCATED.
 - PROFILE SHOWING TOP OF GROUND AND TOP OF PIPE ELEVATIONS AT EVERY 100' STATION AND AT ANY CHANGE IN GRADE (WITH CORRESPONDING STATION), PIPE SIZE AND PIPE MATERIALS REFERENCED TO PLAN.
 - SEWER "RECORD DRAWINGS" MUST INCLUDE:
 - PLAN SHOWING MANHOLE NUMBER, PIPE SIZE AND PIPE MATERIAL OF PIPE, DEFLECTION, SLOPE OF GRAVITY SEWER, LOCATION OF LATERALS WITH REFERENCE TO MANHOLE AND CLEANOUTS.
 - THE NORTHERLY AND EASTERLY COORDINATES ON ALL FIELD OBTAINED MEASUREMENTS AND PROVIDED ON ALL RECORD DRAWING SUBMITTALS
 - PROFILE SHOWING MANHOLE NUMBER (AS PER PLAN), RIM AND INVERT ELEVATIONS (IF MORE THAN ONE INVERT, LABEL NORTH, SOUTH, ETC.), AND STATION STARTING AT 0+00 AT DOWNSTREAM MANHOLE.
 - FORCE MAIN "RECORD DRAWING" SAME AS WATER MAIN.
 - EACH RECORD DRAWING SHALL SHOW THE FLORIDA STATE PLANE COORDINATES (CURRENT READJUSTMENT) OF ALL THE MANHOLES AND VALVES AND OF AT LEAST TWO HORIZONTAL CONTROL POINTS PROPERLY IDENTIFIED AND LOCATED WITHIN THE PROJECT.
- * OTHER SCALE MAY BE PERMITTED, BUT MUST BE APPROVED BY THE DEPARTMENT PRIOR TO PREPARATION OF DRAWINGS.

MIAMI-DADE COUNTY	ISSUE DATE	APPROVED BY	STANDARD DETAIL	GS
WATER & SEWER DEPARTMENT	03/11/2009	V.F.C.	"RECORD DRAWING" REQUIREMENTS	0.5
	07/20/2016	D.V.		
				SHEET 2 of 2

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KHA PROJECT
 043138041
 DATE
 MAY 2020
 SCALE AS SHOWN
 DESIGNED BY MM
 DRAWN BY MM
 CHECKED BY GR

NORTH BAY VILLAGE MAIN PUMP STATION IMPROVEMENTS

PREPARED FOR
 NORTH BAY VILLAGE

NORTH BAY VILLAGE

LICENSED PROFESSIONAL

GARY R. RATAY

FLORIDA LICENSE NUMBER
 46682

DATE: 05/13/20

GENERAL NOTES

SHEET NUMBER

C100.1

No.	REVISIONS	DATE	BY

Plotted By: Leanne Arabella Sheet: NORTH BAY VILLAGE MAIN PUMP STATION IMPROVEMENTS Layout: C200.0 SITE PLAN May 13, 2020 10:33:13am K:\VTL-Civil\043-Jobs\043138041-Wk_Auto-18-03_WW_Station_Improvements\Main_Lift_Station\C200.0 SITE PLAN.dwg
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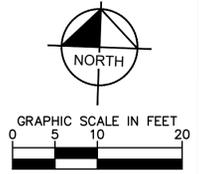
GENERAL NOTES:

- CONTRACTOR SHALL MAINTAIN FUNCTION OF SEWAGE PUMPING DURING CONSTRUCTION BY UTILIZING BY-PASS PUMPING SYSTEM, FITTINGS AND VALVES AS REQUIRED. CONTRACTOR SHALL SUBMIT A PLAN OUTLINING SEWAGE "BY PASS" PROCEDURE TO THE ENGINEER FOR APPROVAL PRIOR TO COMMENCING WORK.
- CONTRACTOR SHALL PERFORM ALL WORK WITHIN LEGAL PROPERTY AND EASEMENT, AND SHALL NOT DISTURB ADJACENT PROPERTY.
- CONTRACTOR SHALL INCLUDE NECESSARY CUTTING, PATCHING AND RESTORATION OF ALL EXISTING SURFACES TO MATCH SURROUNDING AREAS.
- FIELD VERIFY ALL ELEVATIONS PRIOR TO COMMENCING THE WORK.
- PROVIDE DIELECTRIC FITTINGS BETWEEN TWO DIFFERENT MATERIALS AS REQUIRED.
- CONTRACTOR SHALL VERIFY EXISTING PIPING TO REMAIN BEFORE ORDERING PROPOSED PIPING/FITTINGS CONNECTING TO IT.
- CARE SHOULD BE TAKEN TO AVOID DISTURBING EXISTING ELECTRICAL SERVICE IN THE AREA UNDER CONSTRUCTION.
- MECHANICAL CONTRACTOR SHALL CHECK AND VERIFY ALL DIMENSIONS AND CONDITIONS AT JOB SITE AND COORDINATE NEW WORK TO BE DONE WITH THEIR TRADES PRIOR TO COMMENCING IT. THE MECHANICAL WORK SHALL BE SCHEDULED SO THAT IT WILL OCCUR IN THE PROPER SEQUENCE AND WITHOUT DELAYING THE COMPLETION OF THE WORK.
- CONTRACTOR TO COAT ALL UNDERGROUND FITTINGS IN DIRECT CONTACT W/SOIL WITH TWO COATS OF BITUMASTIC OR APPROVAL EQUAL.
- SHEET PILING MAY BE REQUIRED FOR EXCAVATION. IF SO CONTRACTOR SHALL SUBMIT SHOP DRAWINGS AND CALCULATIONS SIGNED AND SEALED BY A STATE OF FLORIDA LICENSED PROFESSIONAL ENGINEER.
- ELEVATIONS INDICATED HEREON ARE IN FEET AND DECIMALS REFERENCED TO THE NATIONAL GEODETIC VERTICAL DATUM OF 1929 (NGVD 1929).
- BASE FLOOD ELEVATION (BFE): 9.0' NGVD 1929, ZONE AE (BASED ON FEMA FIRM MAP).
- MINIMUM FLOOD CRITERIA ELEVATION: 12.83'

LIFT STATION GENERAL NOTES:

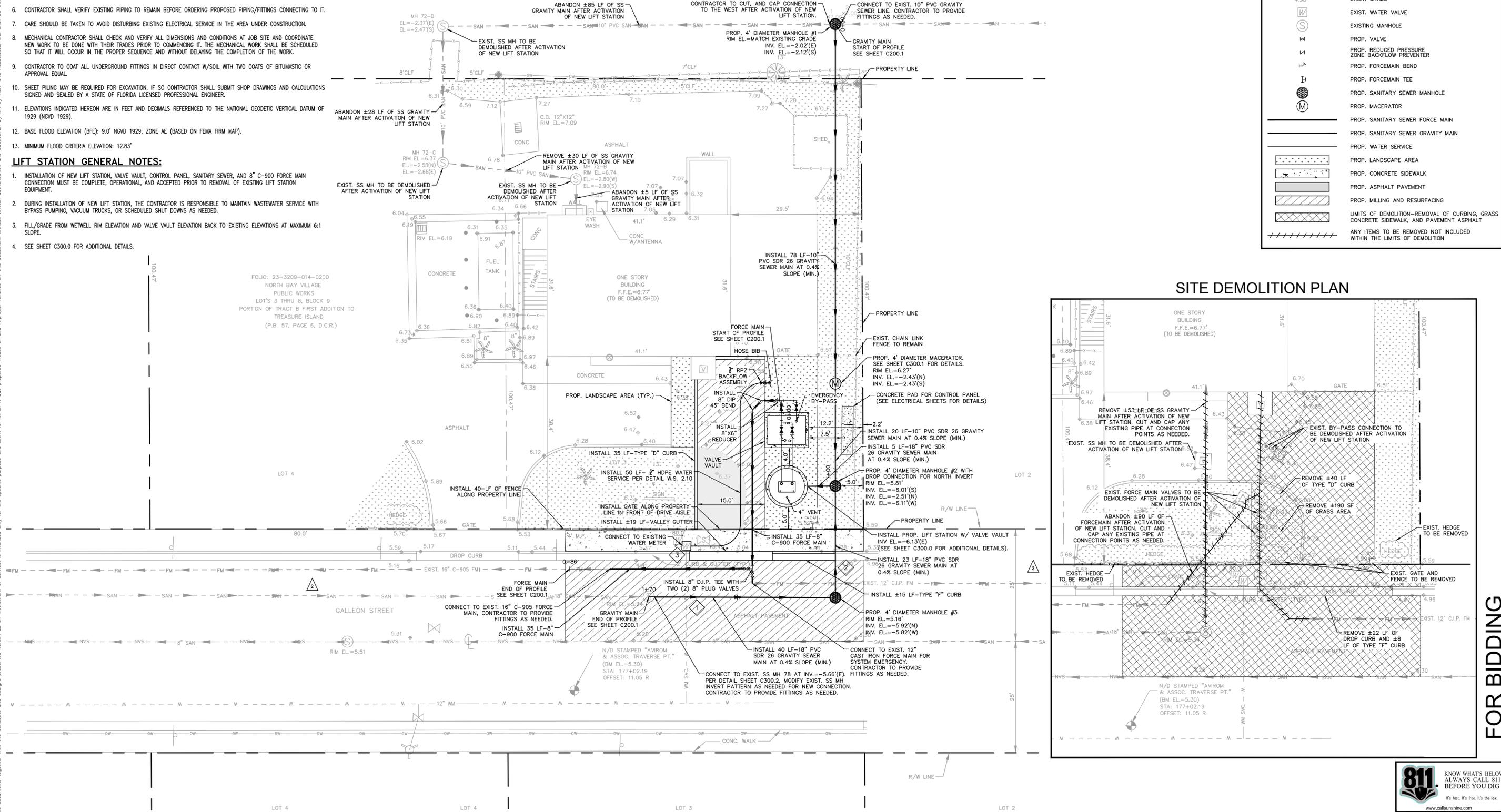
- INSTALLATION OF NEW LIFT STATION, VALVE VAULT, CONTROL PANEL, SANITARY SEWER, AND 8" C-900 FORCE MAIN CONNECTION MUST BE COMPLETE, OPERATIONAL, AND ACCEPTED PRIOR TO REMOVAL OF EXISTING LIFT STATION EQUIPMENT.
- DURING INSTALLATION OF NEW LIFT STATION, THE CONTRACTOR IS RESPONSIBLE TO MAINTAIN WASTEWATER SERVICE WITH BYPASS PUMPING, VACUUM TRUCKS, OR SCHEDULED SHUT DOWNS AS NEEDED.
- FILL/GRADE FROM WETWELL RIM ELEVATION AND VALVE VAULT ELEVATION BACK TO EXISTING ELEVATIONS AT MAXIMUM 6:1 SLOPE.
- SEE SHEET C300.0 FOR ADDITIONAL DETAILS.

CONFLICT TABLE		
UTILITY	ELEVATIONS	CLEARANCE
◇ EXIST. 2" WATER SERVICE	EXIST. 2" WATER SERVICE B.O.P. EL.=1.90' PROP. 18" SS T.O.P. EL.=4.13'	6.03'
◇ EXIST. 12" FORCE MAIN	EXIST. 12" FM B.O.P. EL.=0.96' PROP. 18" SS T.O.P. EL.=4.39'	5.35'
◇ EXIST. 2" WATER SERVICE	EXIST. 2" WATER SERVICE B.O.P. EL.=1.90' PROP. 8" FM T.O.P. EL.=0.79'	1.11'

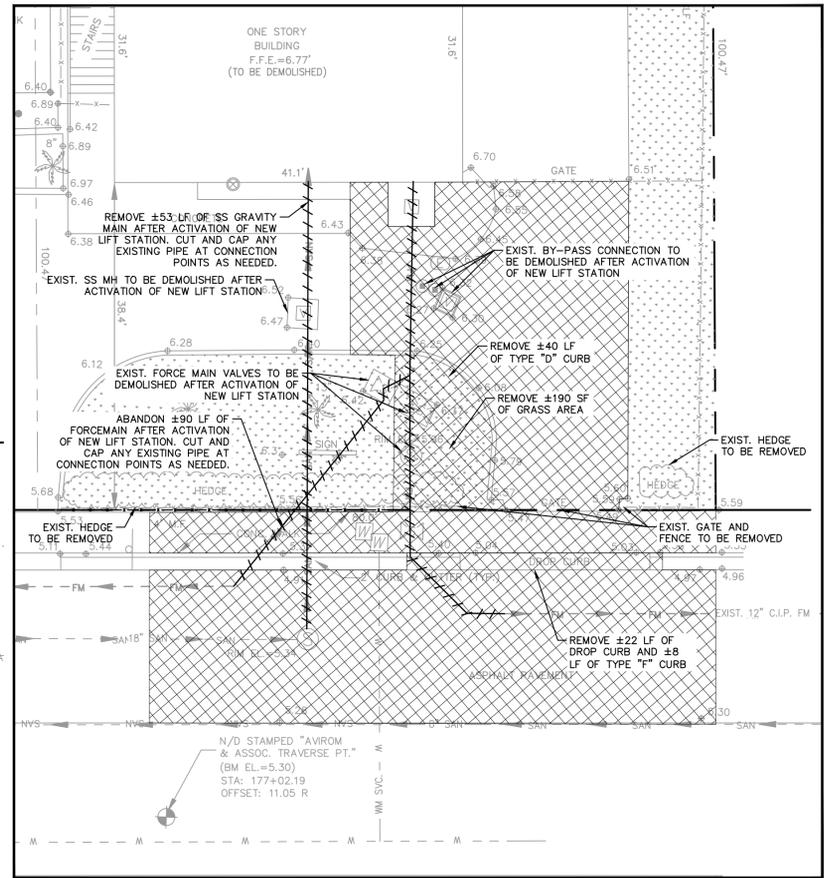


LEGEND:

	PROPERTY LINE/RIGHT-OF-WAY
	CENTERLINE OF ROAD
	EXIST. CHAIN LINK FENCE
	EXIST. WATER MAIN
	EXIST. FORCE MAIN
	EXIST. SANITARY SEWER
	EXIST. UNDERGROUND ELECTRICAL LINE
	EXIST. GRADE
	EXIST. WATER VALVE
	EXISTING MANHOLE
	PROP. VALVE
	PROP. REDUCED PRESSURE ZONE BACKFLOW PREVENTER
	PROP. FORCE MAIN BEND
	PROP. FORCE MAIN TEE
	PROP. SANITARY SEWER MANHOLE
	PROP. MACERATOR
	PROP. SANITARY SEWER FORCE MAIN
	PROP. SANITARY SEWER GRAVITY MAIN
	PROP. WATER SERVICE
	PROP. LANDSCAPE AREA
	PROP. CONCRETE SIDEWALK
	PROP. ASPHALT PAVEMENT
	PROP. MILLING AND RESURFACING
	LIMITS OF DEMOLITION-REMOVAL OF CURBING, GRASS CONCRETE SIDEWALK, AND PAVEMENT ASPHALT
	ANY ITEMS TO BE REMOVED NOT INCLUDED WITHIN THE LIMITS OF DEMOLITION



SITE DEMOLITION PLAN



FOR BIDDING

No.	REVISIONS	DATE	BY

Kimley»Horn

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 PHONE: 954-535-5100 FAX: 954-739-2247
 WWW.KIMLEY-HORN.COM CA 0000696

KHA PROJECT 043138041
DATE MAY 2020
SCALE AS SHOWN
DESIGNED BY MM
DRAWN BY MM
CHECKED BY GR

NORTH BAY VILLAGE MAIN PUMP STATION IMPROVEMENTS

PREPARED FOR
NORTH BAY VILLAGE

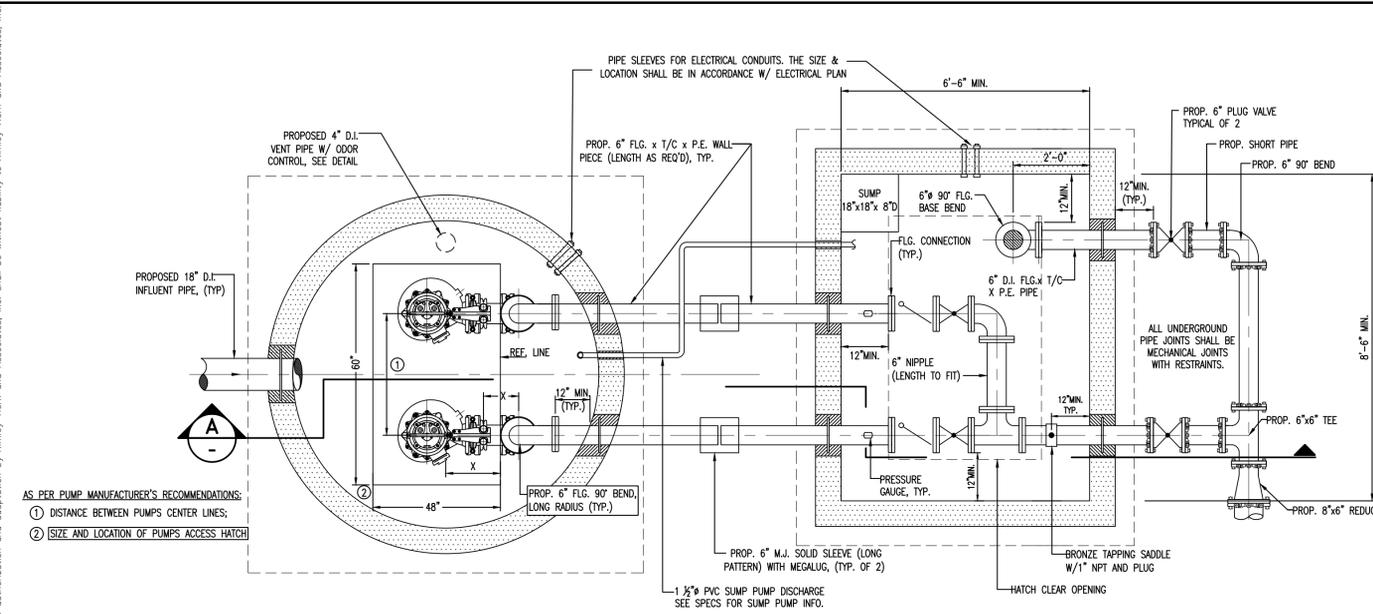
NORTH BAY VILLAGE FLORIDA

LICENSED PROFESSIONAL
GARY R. RATAY
FLORIDA LICENSE NUMBER 46682
DATE: 05/13/20

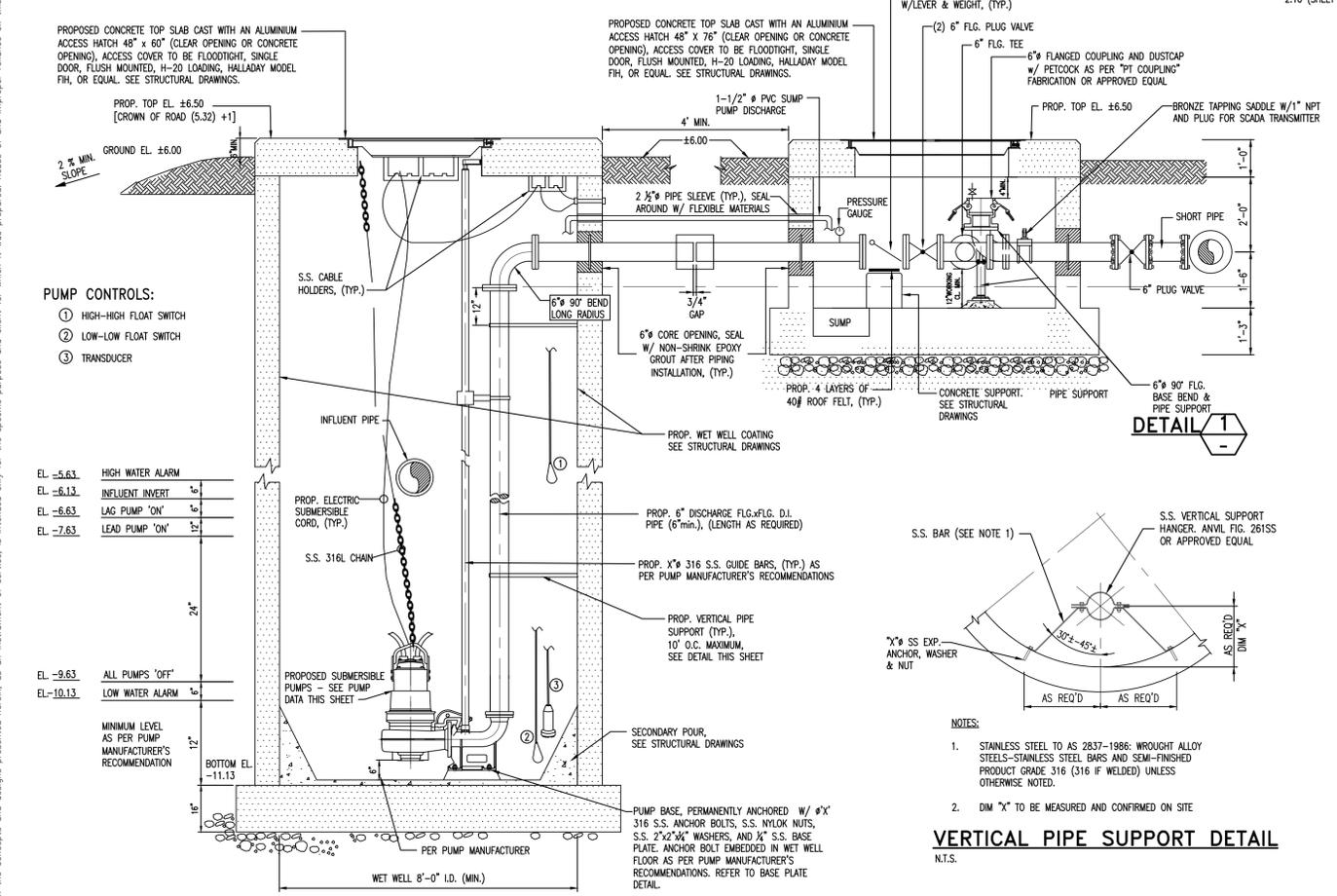
SITE PLAN

SHEET NUMBER
C200.0

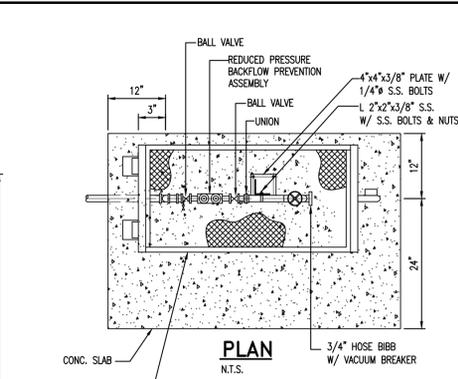
Plotted By: Leanne, Arabella
 Sheet Set: NORTH BAY VILLAGE MAIN PUMP STATION IMPROVEMENTS
 Location: C300.0 PUMP STATION DETAILS
 Date: May 13, 2020
 ID: 33-3309
 Revision: 18-03-3309
 File Path: C:\Users\leanne\OneDrive\Documents\Projects\33-3309\18-03-3309\18-03-3309.dwg
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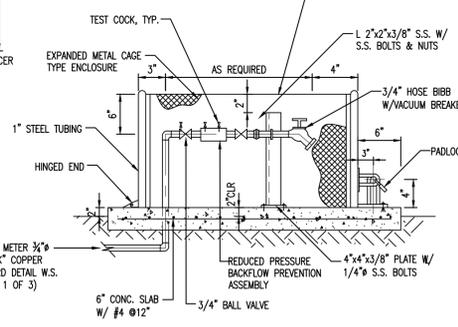
WET WELL AND VALVE VAULT PLAN
N.T.S.



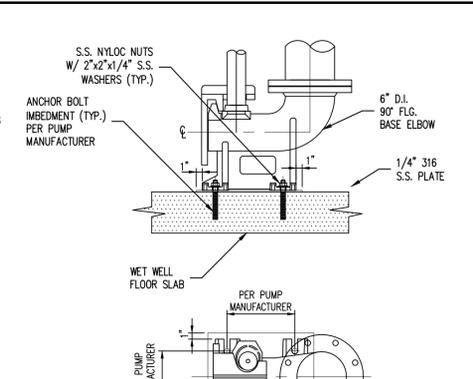
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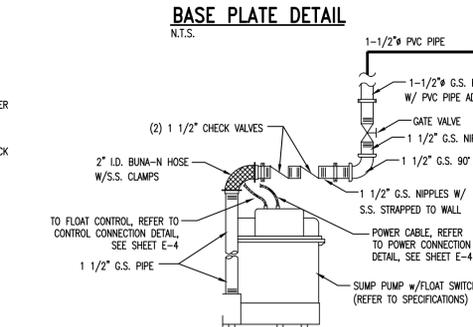
PLAN
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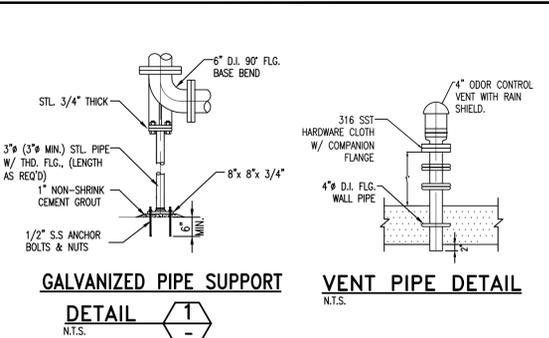
BACKFLOW PREVENTER WITH HOSE BIBB
N.T.S.



BASE PLATE DETAIL
N.T.S.



SUMP PUMP AND PING DETAIL
N.T.S.



GALVANIZED PIPE SUPPORT
DETAIL 1
N.T.S.

VENT PIPE DETAIL
N.T.S.

PUMP DATA:	
FLUID	RAW SEWAGE
INSTALLATION LOCATION	1841 GALLEON STREET NORTH BAY VILLAGE, FL
PUMP TYPE	SUBMERSIBLE PUMP
RATED POINT	CAPACITY, GPM: 874 TDH, FEET: 154
SHUT OFF HEAD, FT	210
CONTINUOUS OPERATING RANGE	MAXIMUM TDH, FT: 124
	CAPACITY, GPM: 1,310
	MINIMUM TDH, FT: 171
	CAPACITY, GPM: 627
	NPSHR, FT: 12.5
PUMP EFFICIENCY	AT B.E.P., %: 67
	MIN. @ RUNOUT, %: 60
PUMP CONSTRUCTION	CASING: CAST IRON CLASS 35B
	IMPELLER: CAST IRON CLASS 35B
	SHAFT: AISI 420 S.S.
	BEARINGS L-10 LIFE, HRS.: AS SPECIFIED
	MAX. SHAFT DEFLECTION IN OPERATING RANGE, MILS: 2
	MAX. VEL. OF VIBRATIONS IN OP. RANGE, INCH/SEC: 0.15
	SUCTION, INCHES: -
	DISCHARGE, INCHES: 4
	RATED HP: 70
	RPM: 1,750
ELECTRIC MOTOR	VOLTS/PHASE/Hz/S.F.: 460/3/60/1.15
	AMBIENT TEMP. FOR MOTOR RATING, °C: 40
	MAXIMUM TEMP. RISE, °C: 40
	BEARINGS L-10 LIFE, HRS.: AS SPECIFIED
	MAX. VIBRATION AMP., MILS: 0.1
	EXPLOSION PROOF: CLASS 1, DIV 1, GRP D
	NEMA DESIGN CODE LETTER: B
START. CURR. LETTER CODE: G	
INSULATION CLASS: H	
MOTOR RATED HP NOT OVERLOADED AT ANY POINT IN THE PUMPS PERFORMANCE CURVE	
MANUFACTURERS & MODELS	PUMP: AS SPECIFIED
	MOTOR: AS SPECIFIED

MECHANICAL NOTES:

- 1) THE STANDARD DRAWINGS PRESENTED ARE BASED ON MINIMUM OF 6" DISCHARGE FORCE MAIN.
- 2) CONTRACTOR SHALL VERIFY EXISTING UNDERGROUND UTILITIES IN APPLICATIONS, ELEVATIONS, AND QUALITIES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL VERIFY EXISTING PIPING TO REMAIN BEFORE ORDERING NEW PIPE AND FITTINGS FOR CONNECTIONS. THE CONTRACTOR SHALL INSPECT AND VERIFY ALL SITE CONDITIONS, DIMENSIONS, ELEVATIONS ETC. AND COORDINATE WITH OTHER TRADES PRIOR TO CONSTRUCTION. WORK SHALL BE SCHEDULED ACCORDING TO SPECIFIED CONSTRUCTION SEQUENCE.
- 3) PAY ATTENTION TO AVOID DISTURBING EXISTING ELECTRICAL SERVICE IN THE AREA UNDER CONSTRUCTION (FOR EXISTING FACILITIES ONLY).
- 4) ALL ELEVATIONS FOR UNDERGROUND UTILITIES SHOWN ARE T.O.P. ELEVATIONS UNLESS OTHERWISE SPECIFIED.
- 5) ALL PIPING, UNLESS SPECIFIED, TO USE DUCTILE IRON WITH LINING OF SEWER APPLICATION. FITTINGS AND CONNECTIONS UNDERGROUND TO USE MECHANICAL JOINT WITH RESTRAINTS; FITTINGS ABOVE GROUND OR IN VAULT TO USE FLANGE JOINT.
- 6) PROTECT ALL UNDERGROUND FITTING WITH BOLT CONNECTIONS IN DIRECT CONTACT WITH SOIL WITH TWO COATS OF BITUMASTIC MATERIAL OR APPROVED EQUAL. PROVIDE DIELECTRIC FITTINGS BETWEEN TWO DIFFERENT PIPING MATERIALS.
- 7) PIPE SUPPORTS SHALL BE HOT-DIP GALVANIZED AFTER FABRICATION.
- 8) PROPOSED WET WELL SHALL BE CYLINDRICAL TYPE MADE OF REINFORCED CONCRETE WITH DEPTH NO GREATER THAN 24 FEET.
- 9) PROVIDE SPARK-PROOF CONTACT BETWEEN PUMPS AND GUIDE RAIL SYSTEM.
- 10) ALL PUMP CONTROLS SHALL BE SET AS PER DESIGN REQUIREMENTS.

NOTES:

1. AUTOMATIC AIR RELEASE VALVES ARE REQUIRED UNLESS APPROVED BY DEPARTMENT. MANUAL AIR RELEASE VALVES ARE ONLY USED WHERE GROUND COVER DOES NOT ALLOW FOR AN AUTOMATIC ARV OR AT LOCATIONS REQUIRED TO BLEED THE FM FOR TESTING.
2. AIR RELEASE RISER AND PVC PIPE HOUSING SHALL BE PLACED AND MAINTAINED IN VERTICAL POSITION.
3. METALLIC THREADS TO BE COATED WITH BITUMASTIC COATING.
4. INSTALL TAPPING SADDLE FOR THICKNESS CLASS D.I. MAINS 4" & SMALLER, OR PRESSURE CLASS D.I. MAINS 8" & SMALLER, OR WHEN MAIN IS PVC, HDPE, OR AC PIPE.
5. FOR MANHOLE/VALVE BOX IN GRASS AREAS, SEE SS 21.0 SHEET 1 OF 1.

ISSUE DATE	APPROVED BY
6/29/2011	F.A.
1/22/2019	D.V.

STANDARD DETAIL
MANUAL AIR RELEASE VALVE ASSEMBLY
IN PAVED AREAS FOR SEWAGE FORCE MAINS

MIAMI-DADE COUNTY
WATER & SEWER DEPARTMENT

TYPE "A" MANHOLE: SS 4.0

ITEM: I T E M
CROSS REF.:
SPEC. REF.:

SS 11.0
SHEET 1 OF 2

FOR BIDDING

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KHA PROJECT
043138041
DATE
MAY 2020
SCALE AS SHOWN
DESIGNED BY: MM
DRAWN BY: MM
CHECKED BY: GR

NORTH BAY VILLAGE MAIN PUMP STATION IMPROVEMENTS
PREPARED FOR
NORTH BAY VILLAGE
FLORIDA

LICENSED PROFESSIONAL
GARY R. RATAY
FLORIDA LICENSE NUMBER
46682
DATE: 05/13/20

PUMP STATION DETAILS

SHEET NUMBER
C300.0

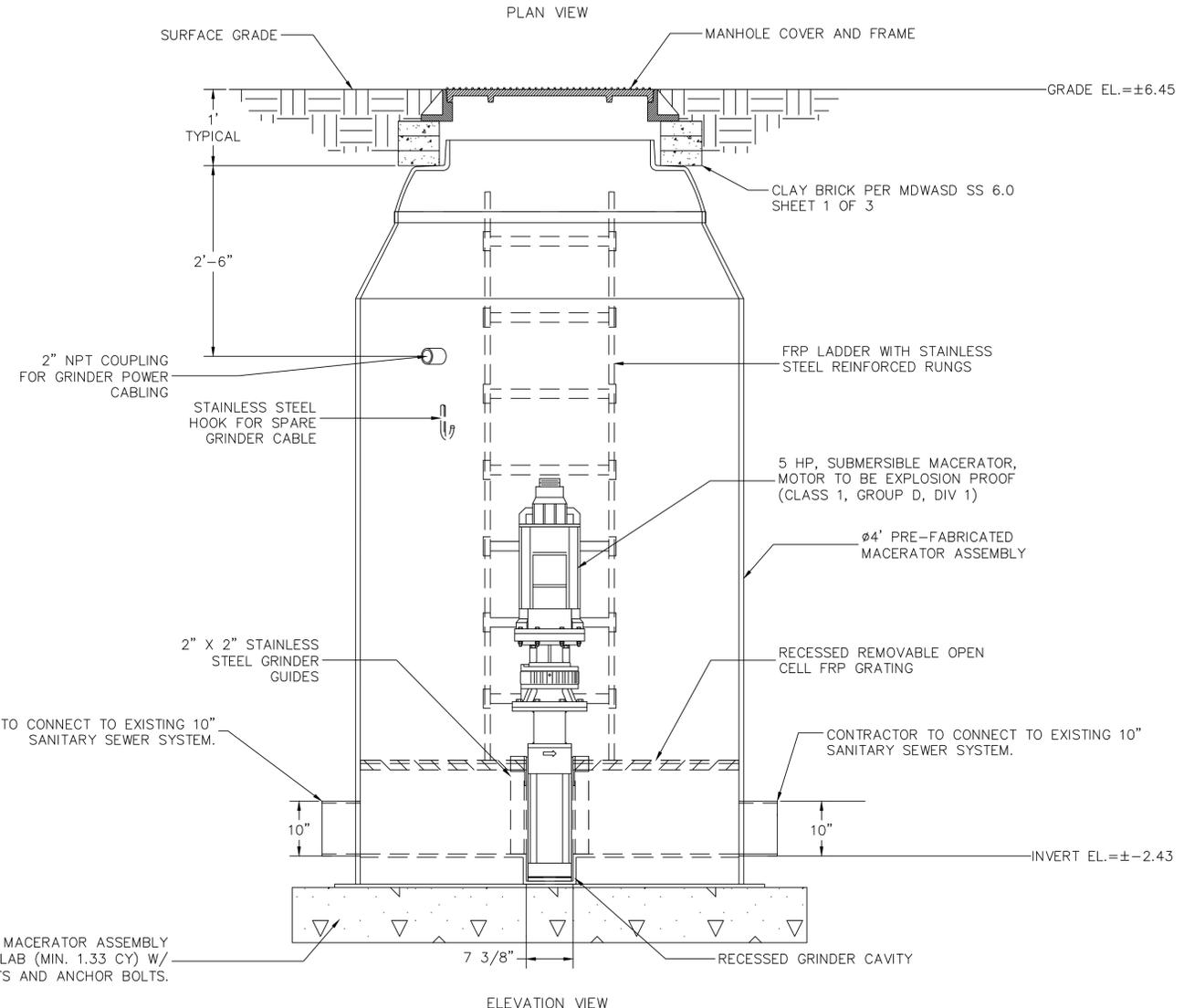
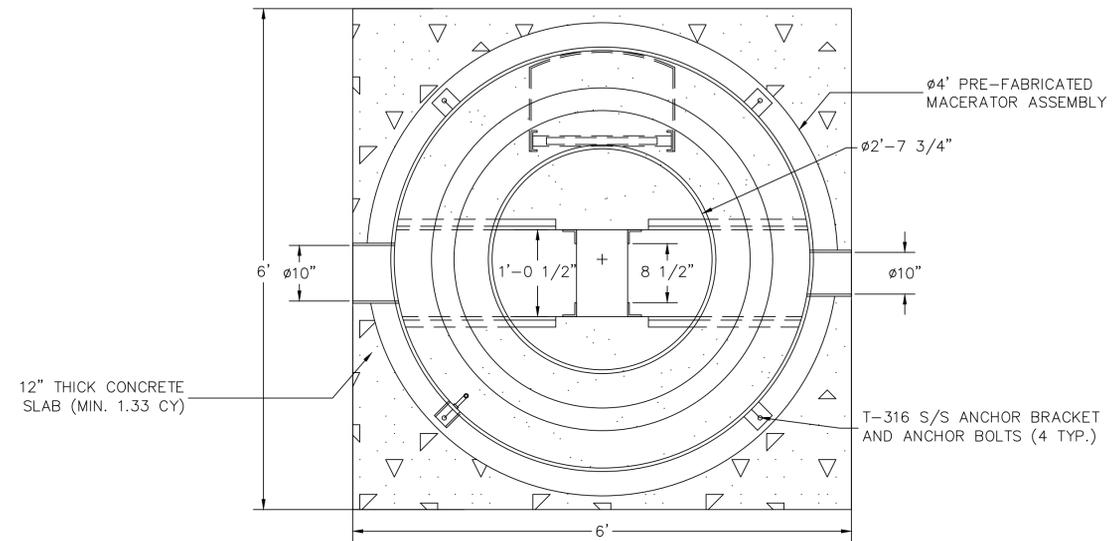
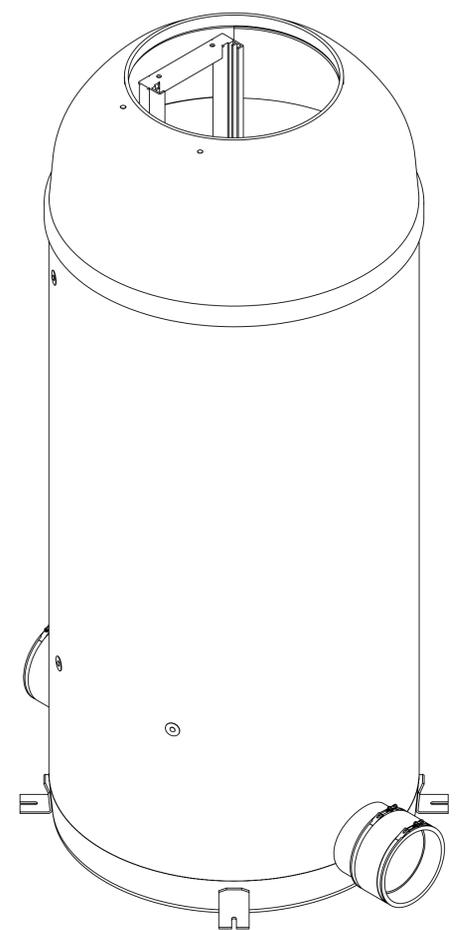


Plotted By: LeVine, Arabella
 Sheet: S01-NORTH BAY VILLAGE MAIN PUMP STATION IMPROVEMENTS - Layout: C300.1 MACERATOR DETAILS - May 13, 2020 10:33:45am
 K:\ITL\Civil\043 (043) 043138041 - W. Auto - 1B - 03 - W. Station Improv\CAD\Plan\Sheet\Main Lift Station\C300.1 MACERATOR DETAILS.dwg
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NOTES:

1. MATERIAL IS FRP (FIBERGLASS REINFORCED PLASTIC).
2. NEOPRENE BOOTS SECURED WITH S/S BANDS.
3. THE MANHOLE BARREL THICKNESS IS 1/2" (MIN) FRP.
4. MOLDED INTERIOR OF TANK & CHANNEL COLOR IS WHITE.
5. MINIMUM GLASS CONTENT IS 30%, EXCLUSIVE OF RESIN RICH SURFACES.
6. ANCHOR BRACKET & BOLTS ARE TYPE 316 STAINLESS STEEL.
7. MACERATOR GUIDE FRAME IS FACTORY INSTALLED.
8. PLANS NOT TO SCALE.
9. CONTRACTOR TO FIELD CONFIRM GRADE AND INVERT ELEVATION AS PART OF THE SHOP DRAWING PROCESS FOR APPROVAL AND PRIOR TO FABRICATING THE MACERATOR ASSEMBLY.

CONTRACTOR TO PROVIDE AND INSTALL PRE-FABRICATED MACERATOR ASSEMBLY WITH TYPE A MANHOLE COVER & FRAME PER MDWASD SS 4.0



CONTRACTOR TO MOUNT MACERATOR ASSEMBLY ON 12" THICK CONCRETE SLAB (MIN. 1.33 CY) W/ 316 S/S ANCHOR BRACKETS AND ANCHOR BOLTS.

FOR BIDDING



No.	REVISIONS	DATE	BY

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KHA PROJECT	043138041
DATE	MAY 2020
SCALE	AS SHOWN
DESIGNED BY	MM
DRAWN BY	MM
CHECKED BY	GR

NORTH BAY VILLAGE MAIN PUMP STATION IMPROVEMENTS

PREPARED FOR
NORTH BAY VILLAGE

NORTH BAY VILLAGE FLORIDA

LICENSED PROFESSIONAL

GARY R. RATAY

FLORIDA LICENSE NUMBER
 46682

DATE: 05/13/20

MACERATOR DETAILS

SHEET NUMBER
C300.1

PLOTTED BY: LeVine, Arabella
 SHEET: NORTH BAY VILLAGE MAIN PUMP STATION IMPROVEMENTS
 DATE: 05/13/2020 10:34:05am
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LOCATION OF PUBLIC WATER MAINS ACCORDANCE WITH F.A.C. RULE 62-555.314

OTHER PIPE	HORIZONTAL SEPARATION	CROSSINGS (1)	JOINT SPACING & CROSSINGS (FULL LENGTH OF PIPE CENTERED)
Storm Sewer; Reclaimed Water (2)	Water Main 3 ft. minimum	Water Main 12 inches is the minimum.	Alternate: 3 ft. minimum Water Main
Vacuum Sanitary Sewer	Water Main 10 ft. preferred 3 ft. minimum	Water Main 12 inches is the minimum.	Alternate: 3 ft. minimum Water Main
Gravity or Pressure; Sanitary Sewer; Force Main; Reclaimed Water (4)	Water Main 10 ft. preferred 6 ft. minimum (3)	Water Main 12 inches is the minimum.	Alternate: 6 ft. minimum Water Main
On-site Septage Treatment & Disposal System	10 ft. minimum		

NOTES:
 (1) WATER MAIN SHOULD BE ABOVE OTHER PIPE WHEN WATER MAIN MUST BE BELOW OTHER PIPE, THE MINIMUM SEPARATION IS 12 INCHES.
 (2) RECLAIMED WATER REGULATED UNDER PART III OF CHAPTER 62-410, F.A.C.
 (3) 3 FT. GRAVITY SANITARY SEWER WHERE THE BOTTOM OF THE WATER MAIN IS LAD AT LEAST 6 INCHES ABOVE THE TOP OF THE GRAVITY SANITARY SEWER.
 (4) RECLAIMED WATER NOT REGULATED UNDER PART III OF CHAPTER 62-410, F.A.C.

ISSUE DATE	APPROVED BY	STANDARD DETAIL	ITEM	CROSS REF.	SPEC. REF.
10/1/2017	D.V.	POTABLE WATER MAIN, WASTEWATER & STORM SEWER CONFLICT	GS 1.5		

NOTES:
 1. STORM SEWER, GRAVITY WASTEWATER AND RECLAIMED WATER MAIN CROSSING UNDER POTABLE WATER MAINS SHALL BE LAID TO PROVIDE A MINIMUM VERTICAL DISTANCE OF TWELVE (12) INCHES BETWEEN THE INVERT OF THE UPPER PIPE AND THE CROWN OF THE LOWER PIPE. WHERE THIS MINIMUM SEPARATION CANNOT BE MAINTAINED, THE CROSSING SHALL BE ARRANGED SO THAT THE STORM/WASTEWATER/RECLAIMED WATER PIPE JOINTS AND POTABLE WATER MAIN JOINTS ARE EQUIDISTANT FROM THE POINT OF CROSSING WITH NO LESS THAN TEN (10) FEET BETWEEN ANY TWO JOINTS. BOTH PIPES SHALL BE D.I.P. AND THE MINIMUM VERTICAL SEPARATION SHALL BE 6 INCHES. WHERE THERE IS NO ALTERNATIVE TO STORM/WASTEWATER/RECLAIMED WATER PIPES CROSSING OVER A POTABLE WATER MAIN, THE CRITERIA FOR MINIMUM 12" VERTICAL SEPARATION BETWEEN LINES AND JOINT ARRANGEMENT, AS STATED ABOVE, SHALL BE REQUIRED, AND BOTH PIPES SHALL BE D.I.P. D.I.P. IS NOT REQUIRED FOR STORM SEWERS.
 2. WHENEVER POSSIBLE MAINTAIN MIN. TEN (10) FEET HORIZONTAL DISTANCE (WALL TO WALL) BETWEEN POTABLE WATER MAIN AND STORM SEWER, WASTEWATER MAIN, OR FORCE MAIN (A MIN. 6" SEPARATION MAY BE APPROVED ON A CASE BY CASE BASIS). MAINTAIN MIN. THREE (3) FEET HORIZONTAL DISTANCE (WALL TO WALL) BETWEEN RECLAIMED WATER MAIN AND POTABLE WATER MAIN, STORM SEWER, WASTEWATER GRAVITY MAIN OR FORCE MAIN.
 3. FORCE MAIN CROSSING POTABLE WATER MAIN OR RECLAIMED WATER MAIN SHALL BE LAID TO PROVIDE A MINIMUM VERTICAL DISTANCE OF TWELVE (12) INCHES BETWEEN THE OUTSIDE OF THE FORCE MAIN AND OUTSIDE OF THE POTABLE WATER MAIN OR RECLAIMED WATER MAIN WITH THE POTABLE WATER MAIN OR RECLAIMED WATER MAIN CROSSING OVER THE FORCE MAIN.
 4. WASTEWATER LATERALS SHALL CROSS UNDER POTABLE WATER MAINS WITH A MIN. 12" VERTICAL SEPARATION. WHENEVER POSSIBLE, WHERE THIS MINIMUM SEPARATION CANNOT BE MAINTAINED, A 20" SECTION OF DUCTILE IRON PIPE POTABLE WATER MAIN CENTERED ON THE CROSSING IS REQUIRED AND THE MINIMUM VERTICAL SEPARATION SHALL BE 6". WHERE THERE IS NO ALTERNATIVE TO A WASTEWATER LATERAL PIPE CROSSING OVER A POTABLE WATER MAIN, A MINIMUM 12" VERTICAL SEPARATION IS REQUIRED. THE LATERAL SHALL BE P.V.C. C-900 SDR18 OR BETTER. THE POTABLE WATER MAIN SHALL BE D.I.P. AND THE PIPE JOINTS SHALL BE EQUIDISTANT FROM THE POINT OF CROSSING.
 5. POTABLE WATER SERVICE LINES SHALL CROSS OVER WASTEWATER MAINS WITH A MIN. 12" VERTICAL SEPARATION. WHERE THIS MIN. SEPARATION CANNOT BE MAINTAINED, THE WATER SERVICE SHALL BE ENCASED IN A MIN. 10" LONG PVC CASING CENTERED OVER THE CROSSING WITH MIN. 4" VERTICAL SEPARATION.
 6. WASTEWATER MAINS, WATER MAINS, STORM PIPES AND OTHER UTILITY PIPES SHALL CROSS PERPENDICULAR WHENEVER POSSIBLE.

ISSUE DATE	APPROVED BY	STANDARD DETAIL	ITEM	CROSS REF.	SPEC. REF.
10/1/2017	D.V.	WATER AND SEWER MAINS CROSSING	GS 1.5		

NOTES:
 1. FOR EXCAVATION AND BACKFILL AROUND MANHOLES, APPURTENANCES, OR IN WATER, REFER TO PROVISIONS WITHIN THE SPECIFICATIONS.
 2. UNLESS OTHERWISE SPECIFIED, BEDDING MATERIAL SHALL CONSIST OF SELECT BACKFILL MATERIAL 2" MAX. SIZE, OR WASHED AND GRADED LIMEROCK (3/8"-7/8"), COMPACTED TO AT LEAST 90% OF MAX. DENSITY, 6" LIFTS, PER AASHTO SPEC. NO. T-180.
 3. WHERE REQUIRED, SHEETING AND SHORING SHALL BE IN ACCORDANCE WITH SPECIFICATIONS.
 4. WHERE UNSTABLE SOILS ARE ENCOUNTERED, INCLUDING PEAT, MUCK OR OTHER ORGANIC SOILS, ELASTIC SILT AND CLAYS BELOW THE WATER TABLE, A FOUNDATION IS REQUIRED, COMPACTED TO AT LEAST 90% OF MAX. DENSITY, 6" LIFTS, PER AASHTO SPEC. NO. T-180. FOUNDATION MATERIAL SHALL BE SELECT BACKFILL MATERIAL, 2" MAXIMUM SIZE 6" LIFTS EXTEND EXCAVATION AT LEAST 2 DEEPER FOR FOUNDATION UNLESS SUITABLE MATERIAL IS FOUND AT A LESSER DEPTH. GREATER DEPTHS MAY BE REQUIRED FOR EXTREMELY POOR CONDITIONS.
 5. POLYETHYLENE ENCASEMENT OF CAST IRON VALVES, PIPE AND FITTINGS, IF REQUIRED BY THE DEPARTMENT, SHALL BE PER ANSI/AWWA C105/A21.5, METHOD A, B OR C FOR TYPE I CLASS C TUBE, MIN. 8 MILS

ISSUE DATE	APPROVED BY	STANDARD DETAIL	ITEM	CROSS REF.	SPEC. REF.
11/01/2006	V.E.F.	TYPICAL TRENCH BACKFILL FOR D.I. WATER AND FORCE MAINS	GS 1.9		

NOTES:
 1. LETTERS ON COVER TO BE ARRANGED WITH A RADIUS OF 6" TO CENTER OF LETTERS.
 2. EACH LETTER TO BE 2" LONG, 3/8" DEEP, 1/4" TO 3/8" THICK, AND FLUSH WITH TOP OF BEADS.
 3. BEADS TO BE 3/8" HIGH WITH A RADIUS OF 1/4" AT BOTTOM AND 3/8" AT TOP.
 4. ALL BEARING SURFACES TO BE MACHINED (IRON TO IRON).
 5. MIN. WEIGHTS
 COVER: 107 LBS
 FRAME: 259 LBS.

ISSUE DATE	APPROVED BY	STANDARD DETAIL	ITEM	CROSS REF.	SPEC. REF.
6/01/2015	J.F.	TYPE "A" MANHOLE COVER & FRAME	SS 4.0		

COVER SECTION
FRAME SECTION

ISSUE DATE	APPROVED BY	STANDARD DETAIL	ITEM	CROSS REF.	SPEC. REF.
11/01/2006	V.F.C.	TYPE "A" MANHOLE COVER & FRAME	SS 4.0		

KEYWAY JOINT: SEE DETAIL 1 ON SS 6.0 SHEET 3 OF 3.
NOTES:
 1. BRICK MASONRY CONSTRUCTION TO BE STUCCOED WITH 3/8" MORTAR INSIDE AND OUTSIDE.
 2. SEE DETAIL SS 7.0 FOR INFLUENT/EFFLUENT ARRANGEMENT.
 3. CONCRETE INSIDE TO BE SEAL COATED WITH 16 MIL THICKNESS APPROVED COATING/LINER.
 4. LEFT HOLES THROUGH PRECAST STRUCTURE ARE NOT PERMITTED.
 5. SEE TECHNICAL SPECIFICATIONS FOR PLACEMENT OF CONSTRUCTION JOINTS & REQUIRED ACCESSORIES.
 6. ECCENTRIC CORBELS FOR MANHOLES 8 FEET AND DEEPER (OPTIONAL).
 7. A FLOW CHANNEL SHALL BE CONSTRUCTED INSIDE MANHOLE TO DIRECT INFLUENT INTO FLOW STREAM. ALL OPENINGS SHALL BE SEALED WITH NON-SHRINK GROUT.
 8. NO CONSTRUCTION JOINTS TO BE ALLOWED BELOW AN ELEVATION OF FOUR FEET (4.0) ABOVE MEAN SEA LEVEL.
 9. CONSTRUCTION JOINTS WILL BE ALLOWED ABOVE ELEVATION +4.0 IF ADEQUATE KEY-WAYS AND WATER STOP APPROVED BY THE ENGINEER, ARE PROVIDED. SUBMIT SHOP DRAWINGS WITH COMPLETE DETAILS FOR APPROVAL.
 10. IF CONSHIELD ANTI-MICROBIAL AGENT IS USED IN THE CONCRETE MIXTURE, INTERIOR COATINGS AND LINERS CAN BE ELIMINATED.
 11. FOR BASE SLAB DETAIL, SCHEDULE AND ADDITIONAL NOTES SEE SS 6.0 SHEET 2 OF 3 FOR THE STANDARD MANHOLE.
 12. SEE SPECIFICATIONS SEC. 03300 AND SEC. 03410 FOR REQUIREMENTS OF CONCRETE, FORMWORK AND REINFORCING.
 13. FOR ANY DEVIATION FROM MONOLITHIC WALL MAX. HEIGHT AND THE USE OF WATER-STOP, SUBMIT PRECAST MANUF. SHOP DRAWINGS FOR APPROVAL.

ISSUE DATE	APPROVED BY	STANDARD DETAIL	ITEM	CROSS REF.	SPEC. REF.
9-30-2014	J.B.F.	STANDARD MANHOLE	SS 6.0		

BASE SLAB DETAIL
 (PVC WATERSTOP NOT SHOWN FOR 12" THICK BASE SLAB; SEE DETAIL 2 ON SS 6.0 SHEET 3 OF 3)
CIRCULAR BASE SLAB
 (SEE BASE SLAB SCHEDULE)

MANHOLE BASE SLAB SCHEDULE

BASE SLAB DIA. THICKNESS	(* MANHOLE OVERALL DEPTH	STEEL REINFORCEMENT	SHALLOW MANHOLE FLOW PATTERNS MANHOLE COVER	ITEM	CROSS REF.	SPEC. REF.
6'-4" 8" MIN. / 12" MAX.	4'-0" MIN. 14'-6" MAX.	#4 @ 12" OC. TOP E.W.	SS 7.0			
7'-4" 12"	14'-6" TO 17'-0" MAX.	#4 @ 12" OC. T. & B. E.W.	SS 6.1			
8'-4" 12"	17'-0" TO 18'-0" MAX.	#4 @ 12" OC. T. & B. E.W.	SS 4.0			

ISSUE DATE	APPROVED BY	STANDARD DETAIL	ITEM	CROSS REF.	SPEC. REF.
9-30-2014	J.B.F.	STANDARD MANHOLE	SS 6.0		

DETAIL 1 (KEYWAY JOINT DETAIL)
 NOTE: NOT REQUIRED FOR MONOLITHIC POUR OF LOWER WALL WITH CONE/CORBEL.
DETAIL 2 (TYPICAL CONSTRUCTION JOINT DETAIL AT 12" THK. BASE SLAB WITH P.V.C. WATERSTOP)
DETAIL 3 (TYPICAL ADDITIONAL WALL REINFORCING AROUND HOLE OPENINGS) (ROUND OR SQUARE)
 (*) ANY VERT. OR HOR. BAR AT MORE THAN 3" AWAY FROM EDGE OF OPENING SHALL HAVE ADD'L 1 #4 BAR WITH LENGTH = (D+36") PLACED AT 2" CL. FROM OPENING

ISSUE DATE	APPROVED BY	STANDARD DETAIL	ITEM	CROSS REF.	SPEC. REF.
9-30-2014	J.B.F.	KEYWAY JOINT DETAIL	SS 6.0		

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NORTH BAY VILLAGE MAIN PUMP STATION IMPROVEMENTS

PREPARED FOR
NORTH BAY VILLAGE
 FLORIDA DATE: 05/13/20

LICENSED PROFESSIONAL
 GARY R. RATAY
 FLORIDA LICENSE NUMBER
 46682

STANDARD DETAILS

SHEET NUMBER

C300.2



FOR BIDDING

Plotted By: Leanne Arabella
 Sheet: S-NORTH BAY VILLAGE MAIN PUMP STATION IMPROVEMENTS - LAYOUT: C300.4 STANDARD DETAILS - MAY 13, 2020 10:34:27am - K:\FTL\CIVIL\043 jobs\043138041-Mk_Auto-18-D3-WW Station Improv\CAD\Plan\Drawings\Main Lift Station\C300.4 SITE PLAN DETAILS.dwg
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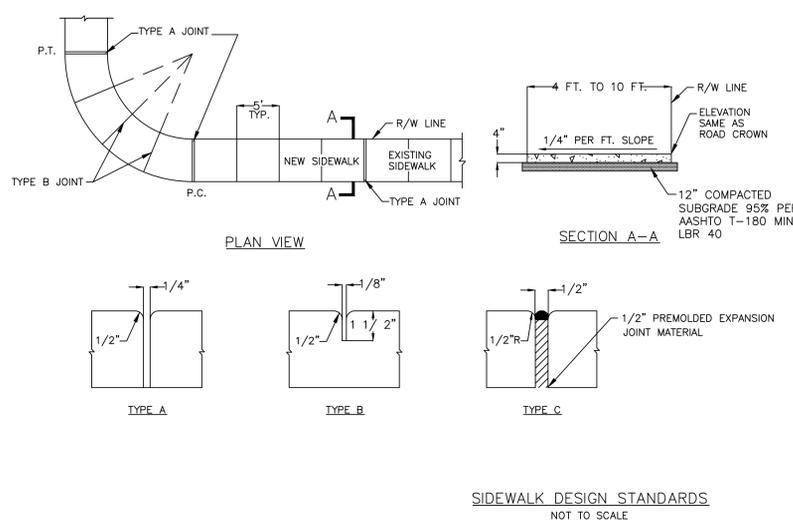
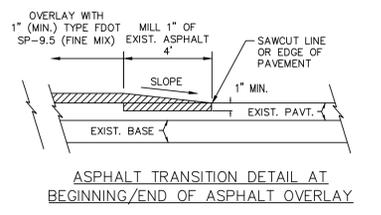
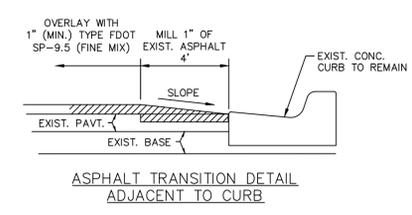
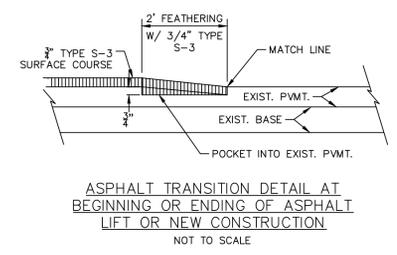
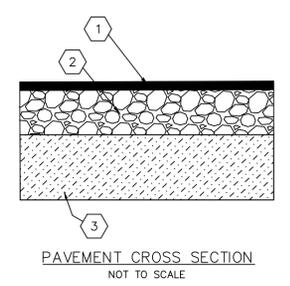


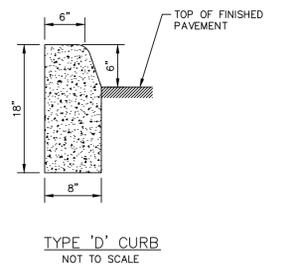
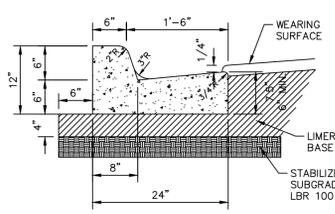
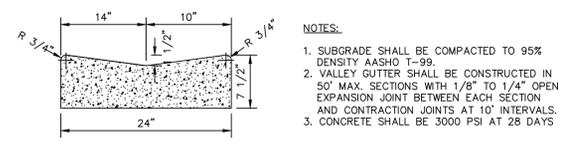
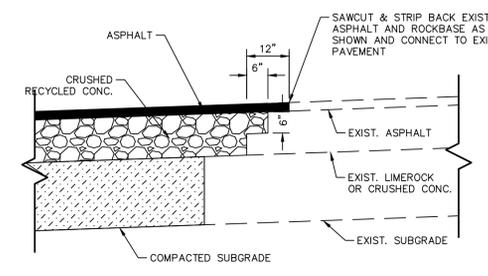
TABLE OF SIDEWALK THICKNESS - T	
LOCATION	STANDARD SIDEWALK AT DRIVEWAYS AND OTHER AREAS

TABLE OF SIDEWALK JOINTS	
LOCATION	P.C. AND P.T. OF CURVES, JUNCTION OF EXISTING AND NEW SIDEWALK.
A	5'-0" CENTER TO CENTER ON SIDEWALK.
B	WHERE SIDEWALK ABUTS CONCRETE CURBS, DRIVEWAYS, AND SIMILAR STRUCTURES

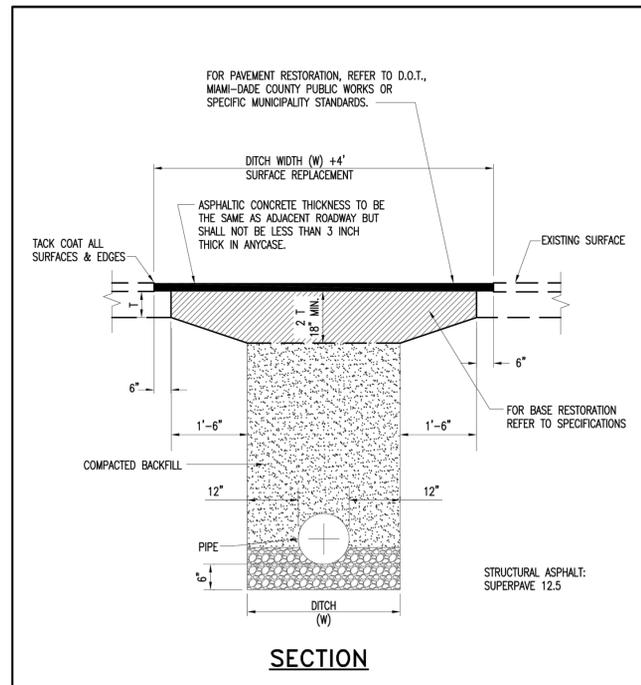
- NOTES:**
- PLACE #10/10 6x6 WIRE MESH IN THE PORTION OF THE SIDEWALK THAT CROSSES THE DRIVEWAY ONLY.
 - STANDARD SIDEWALK SHALL BE 3000 PSI @ 28 DAYS
 - CONCRETE FOR SIDEWALK AT DRIVEWAYS AND LOADING ZONES SHALL BE 4000 PSI @ 28 DAYS (HEAVY DUTY).
 - CURE ALL CONCRETE WITH CLEAN SAND, PLASTIC MEMBRANE, OR OTHER APPROVED METHOD.



- ASPHALT OVERLAY DETAILS**
NOT TO SCALE
- NOTES:**
- OVERLAY WITH FDOT TYPE SP-9.5 (FINE MIX) ASPHALTIC CONCRETE SURFACE COURSE (1" MIN. THICKNESS) AS SHOWN.
 - AT THE BEGINNING & END OF ASPHALT OVERLAY AND AT EDGE OF PAVEMENT ADJACENT TO CURBS, THE EXIST. PAVEMENT SHALL BE SAWCUT TO AN APPROXIMATE DEPTH OF 1" TO MAKE A CLEAN BUTT JOINT, & ENOUGH MATERIAL REMOVED FOR A SMOOTH TIE-IN AS SHOWN IN THE DETAIL.
 - CONTRACTOR TO PROVIDE SMOOTH AND CONTINUOUS GRADING DURING ASPHALT OVERLAY PROCESS TO AVOID AREAS OF STANDING WATER. THE COST SHALL BE INCLUDED IN THE ASPHALTIC CONCRETE SURFACE COURSE OVERLAY PAY ITEM.



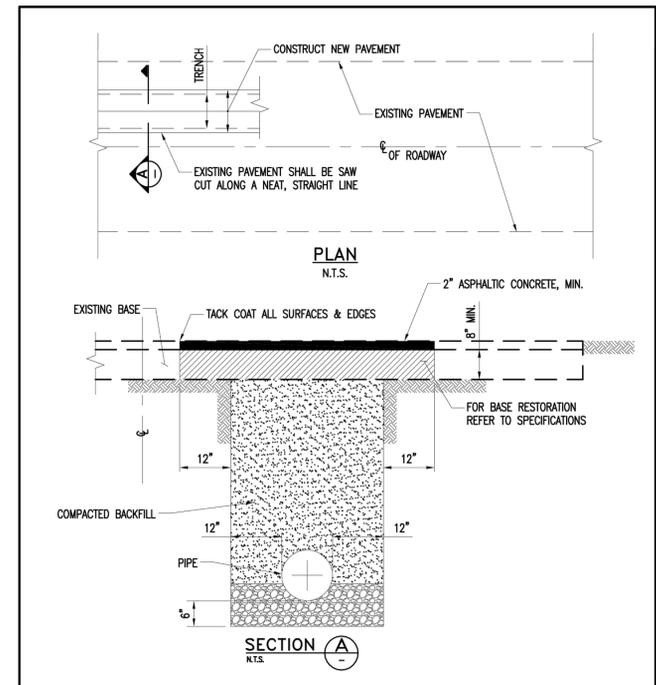
- NOTES:**
- WHEN USED ON HIGH SIDE OF ROADWAYS, CROSS SLOPE OF THE GUTTER SHALL MATCH THE CROSS SLOPE OF THE ADJACENT PAVEMENT AND THE THICKNESS OF THE LIP SHALL BE 6".
 - SAWCUTS REQUIRED AT 10' CENTERS SHALL BE MADE WITHIN 24 HOURS OF CONCRETE PLACEMENT.
 - MINIMUM CONCRETE STRENGTH OF 3,000 PSI.
 - TYPE F CURB SHALL BE PLACED ONE-QUARTER (1/4) INCH HIGHER THAN ADJACENT INLET FRAMES AND GRATES.



ITEM	CROSS REF.	SPEC. REF.

ISSUE DATE	APPROVED BY	STANDARD DETAIL	A
08/02/2013	J.B.F.	PAVEMENT RESTORATION (STATE ROAD) TYPE II	1.2

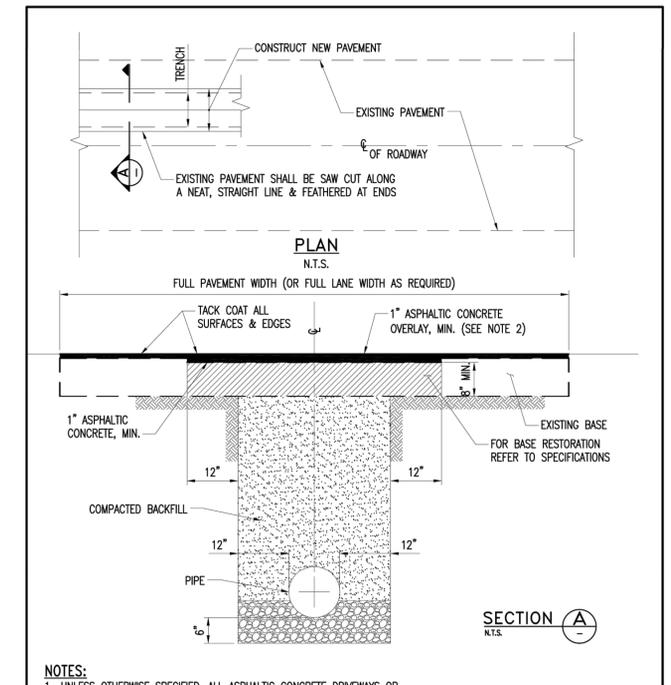
SHEET 1 of 1



ITEM	CROSS REF.	SPEC. REF.

ISSUE DATE	APPROVED BY	STANDARD DETAIL	A
10/07/2010	V.F.C.	PAVEMENT RESTORATION TYPE I	1.0

SHEET 1 of 1



ITEM	CROSS REF.	SPEC. REF.

ISSUE DATE	APPROVED BY	STANDARD DETAIL	A
08/02/2013	J.B.F.	PAVEMENT RESTORATION TYPE V	1.1

SHEET 1 of 1

FOR BIDDING

Kimley»Horn

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 PHONE: 954-535-5100 FAX: 954-739-2247
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KHA PROJECT	043138041
DATE	MAY 2020
SCALE	AS SHOWN
DESIGNED BY	MM
DRAWN BY	MM
CHECKED BY	GR

NORTH BAY VILLAGE MAIN PUMP STATION IMPROVEMENTS

PREPARED FOR
NORTH BAY VILLAGE

FLORIDA DATE: 05/13/20

LICENSED PROFESSIONAL	GARY R. RATAY
FLORIDA LICENSE NUMBER	46682

SITE PLAN DETAILS

SHEET NUMBER	C300.4
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Plotted By: LeVine, Arabella Sheet: Set: NORTH BAY VILLAGE MAIN PUMP STATION IMPROVEMENTS Layout: C400.0 May 13, 2020 10:54:39am K:\VTL\Civil\CA03 Jobs\043138041\Wk Auto - 18-03-W3 Station Improv\CA03\Drawings\Main_Ltr_Station\C400.0 STRUCTURAL GENERAL NOTES.dwg This document, together with the concepts and design presented herein, as an instrument of service, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.

STRUCTURAL GENERAL NOTES:

- UNLESS OTHERWISE NOTED (U.O.N.) ON DRAWINGS OR IN THE SPECIFICATIONS, THE FOLLOWING GENERAL STRUCTURAL NOTES SHALL APPLY TO THIS PROJECT.
- IF ANY ERRORS OR OMISSIONS APPEAR ON THE DRAWINGS, SPECIFICATIONS OR OTHER DOCUMENTS, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IN WRITING OF SUCH OMISSIONS OR ERRORS PRIOR TO PROCEEDING WITH ANY WORK WHICH APPEARS IN QUESTION. IN THE EVENT OF THE CONTRACTOR'S FAILURE TO GIVE SUCH NOTICE, HE SHALL BE HELD RESPONSIBLE FOR THE RESULTS OF ANY SUCH ERRORS OR OMISSIONS AND THE COST OF RECTIFYING THE SAME.
- DO NOT CONCEAL ANY WORK UNTIL REQUIRED INFORMATION IS RECORDED. ALL LOCATIONS FOR FUTURE CONNECTIONS OR TIE-INS SHALL BE LEFT UNBUILT AND UNCOVERED UNTIL THE DEPARTMENT'S SURVEYING FORCES OBTAIN AND RECORD THE AS-BUILT INFORMATION.

STRUCTURAL DESIGN CRITERIA:

- THIS DESIGN COMPLIES WITH THE REQUIREMENTS OF THE FLORIDA BUILDING CODE AND OTHER REFERENCED CODES AND SPECIFICATIONS. ALL REFERENCED CODES AND SPECIFICATIONS SHALL BE LATEST EDITION AT TIME OF PERMIT.
- WIND LOAD CRITERIA:
 - BASIC WIND VELOCITY = 100 MPH AT A HEIGHT OF 30 FEET.
 - NET UPLIFT 0 P.S.F. NOTE: WIND LOADS SHALL COMPLY WITH THE "FLORIDA BUILDING CODE" AND THE "DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES" (ASCE 7-10 SECTION 6) - ALL WIND PRESSURES, INCLUDING CALCULATED UPLIFT SHALL BE MODIFIED BY THE CORRESPONDING USE AND SHAPE FACTORS, INCLUDING THOSE REQUIRED FOR THE COASTAL BUILDING ZONE, IF APPLICABLE.
- LIVE LOADS
 - FLOORS.....100 P.S.F.
 - WELL AND VALVE PIT TOP SLAB - ASHTO H20 OCCASIONALLY.

SEE PLANS FOR ADDITIONAL LOADING INFORMATION. RAILING AND STAIR RAILING TO COMPLY WITH F.B.C.

FOUNDATIONS:

- SPREAD FOOTINGS (SHOP DRAWINGS FOR CONCRETE AND REINFORCEMENT REQUIRED).
- FOUNDATIONS ARE DESIGNED TO BEAR ON WELL COMPACTED FILL OR UNDISTURBED SOIL WITH AN ALLOWABLE BEARING CAPACITY OF 2000 P.S.F. FOR STEWARDS INCLUDING SURFACE STRIPPING, EXCAVATION, COMPACTION, PAVING, ETC.; SEE SPECIFICATIONS. NOTIFY ENGINEER OF ANY DISCREPANCY IN SOIL BEARING CAPACITY BEFORE PROCEEDING WITH THE WORK.
- THE ALLOWABLE BEARING CAPACITIES FOR SOILS CONSISTING OF UNDISTURBED SAND, OR SAND AND ROCK, MAY BE TAKEN AS A MAXIMUM OF 2000 POUNDS PER SQUARE FOOT (PSF) UNLESS A HIGHER VALUE IS SUBSTANTIATED BY RECOGNIZED TESTS, ANALYSIS AND PROCEDURE. AT THE TIME OF CONSTRUCTION, A LICENSED ARCHITECT OR REGISTERED PROFESSIONAL ENGINEER SHALL SUBMIT TO THE BUILDING OFFICIAL A LETTER ATTESTING THAT THE SITE HAS BEEN OBSERVED AND THE FOUNDATION CONDITIONS ARE SIMILAR TO THOSE UPON WHICH THE DESIGN IS BASED. THE LETTER SHALL BE SIGNED AND BEAR THE IMPRESS SEAL OF THE ARCHITECT OR ENGINEER, AS APPLICABLE.
- TOP OF WALL FOOTINGS TO BE AT SAME ELEVATION AS TOP OF COLUMN FOOTINGS. WALL FOOTING REINFORCEMENT TO RUN CONTINUOUS THROUGH COLUMN FOOTING. STEP WALL FOOTING FROM HIGHER COLUMN FOOTING TO LOWER ONE.
- ALL TOP OF FOOTINGS TO BE MINIMUM 1'-4" BELOW BOTTOM OF CONCRETE SLAB ON GRADE OR MINIMUM 1'-0" BELOW FINAL GRADE, WHICHEVER IS LOWER. TYPICAL, UNLESS OTHERWISE NOTED ON DRAWINGS.

SLABS ON GRADE:

- SUBMIT SHOP DRAWINGS FOR CONCRETE AND REINFORCEMENT FOR ENGINEER'S APPROVAL PRIOR TO CONSTRUCTION.
- ALL CONCRETE SLABS ON GRADE SHALL BE 6" THICK MINIMUM AND REINFORCED WITH #4 @12" E.W.
- ALL CONCRETE SLABS ON GRADE TO BE IN ACCORDANCE WITH "GUIDE FOR CONCRETE FLOOR AND SLAB CONSTRUCTION" (ACI 302.1R).
- JOINTS SHALL BE PROVIDED IN ALL SLABS ON GRADE WHERE INDICATED ON DRAWINGS CONSTRUCTION JOINTS OTHER THAN THOSE SHOWN ON THE DRAWINGS SHALL BE SUBJECTED TO THE ENGINEER'S APPROVAL.
- PROVIDE SAWCUT JOINTS IN ALL SIDEWALKS AT A MAXIMUM SPACING OF 5 FEET ON CENTER AND ISOLATION JOINTS AT A MAXIMUM OF 20- FEET APART.
- DEPTH OF SAWCUT JOINTS SHALL BE AS FOLLOWS: 4" & 6" SLABS = 1-1/2" 8" SLABS = 2". CUTTING SHOULD BE DONE AS SOON AS POSSIBLE AFTER THE CONCRETE HARDENS, NORMALLY WITHIN 6 HOURS. THE CONCRETE IS HARD ENOUGH WHEN THE SLAB DOES NOT DISLODGE AGGREGATE AND WHEN THE EDGES OF THE CUT DO NOT RAVEL.
- CONCRETE SLABS SHALL BE SLOPED AS SHOWN ON THE DRAWINGS. TOPPING OVER CONCRETE SLAB TO ATTAIN SPECIFIED SLOPES IS NOT ALLOWED.

CONCRETE:

- SUBMIT SIGNED AND SEALED CONCRETE DESIGN MIX SHOP DRAWINGS FOR ENGINEER'S APPROVAL PRIOR TO CONSTRUCTION.
- CONCRETE DESIGN AND REINFORCEMENT IN ACCORDANCE WITH "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE" (ACI 318) AND WITH "DETAILS AND DETAILING OF CONCRETE REINFORCEMENT" (ACI 315).
- ALL CONCRETE WORK IN ACCORDANCE WITH "STANDARD SPECIFICATIONS FOR STRUCTURAL CONCRETE" (ACI 301). PRODUCTION OF CONCRETE, DELIVERY, AND PLACING TO BE IN ACCORDANCE WITH "HOT WEATHER CONCRETING" (ACI 305R-89) AND "COLD WEATHER CONCRETING" (ACI 308R & 306.1). CONCRETE FOR SANITARY STRUCTURES SHALL ALSO COMPLY WITH THE RECOMMENDATIONS OF ACI 350R. "ENVIRONMENTAL ENGINEERING CONCRETE STRUCTURES".
- CONCRETE CURING SHALL BE DONE THROUGH WATER CURING METHOD AND SHALL COMPLY WITH ACI-305-2.2 LATEST EDITION.
- NO ADMIXTURES PERMITTED WITHOUT THE REVIEW AND APPROVAL OF ENGINEER.
- FOR ALL CONCRETE TO BE PLACED IN SLABS (INCLUDING SLABS ON GRADE), THE SLUMP SHALL NOT EXCEED 4-INCHES. NO WAVERS OF THIS REQUIREMENT SHALL BE CONSIDERED. SLUMP FOR OTHER CONCRETE SHALL NOT EXCEED 8-INCHES, EXCEPT FOR PUMPED CONCRETE CONTAINING WATER REDUCING ADMIXTURES OR TREMIE CONCRETE, IN WHICH CASE SLUMP SHALL NOT EXCEED 8-INCHES.
- ALL CONCRETE TO BE REGULAR WEIGHT WITH A MINIMUM DESIGN COMPRESSIVE STRENGTH OF 4000 P.S.I. AT 28 DAYS, WITH A MINIMUM OF 6 BAGS OF TYPE II CEMENT, AND WATER/CEMENT RATIO OF 0.32. USE SUPERPLASTICIZER RHEOBUILT 1000 OR EQUAL TO ACHIEVE THE 0.32 WATER/CEMENT RATIO.
- MAXIMUM SIZE OF COARSE AGGREGATE SHALL BE: SLABS, WALLS AND BEAMS: 3/4-INCH(NO. 67); ALL OTHER: 1-INCH (NO. 57) BUT NO MORE THAN 75 MINIMUM CLEAR SPACING BETWEEN INDIVIDUAL REINFORCING BARS, WIRES OR PRESTRESSING TENDONS OR DUCTS.
- CONTRACTOR IS RESPONSIBLE FOR THE ADEQUACY OF FORMS, SHORING AND RESHORING AND FOR SAFE PRACTICE IN THEIR USE AND REMOVAL.
- PLACING OF CONCRETE IN ALL REINFORCED COLUMNS AND WALLS SHALL BE IN EQUAL LIFTS. CONCRETE SHALL BE PLACED THROUGH "ELEPHANT TRUNK" TUBULAR CHUTES LOCATED SUCH THAT THE FREE AIR DROP OF THE MIX DOES NOT EXCEED FIVE FEET.
- SPECIFIED EXPANSION BOLTS SHALL BE OF THE SIZE INDICATED AND OF THE MAXIMUM EMBEDMENT LENGTH INTO THE CONCRETE. EXPANSION BOLTS AND ACCESSORIES SHALL BE STAINLESS STEEL DEEP WEDGE TYPE OF CHEMICAL ADHESIVE ANCHOR, AS SPECIFIED. LEAD SHIELDS ARE NOT ACCEPTABLE. EXPANSION BOLTS OR CHEMICAL ADHESIVE ANCHORS SHALL NOT BE SUBSTITUTES FOR SPECIFIED EMBEDDED ANCHOR BOLTS WITHOUT THE ENGINEER'S APPROVAL.
- FOR PROTECTION OF CONCRETE SURFACES EXPOSED TO RAW SEWAGE, WASTEWATER SLUDGE AND THEIR GASEOUS EMISSIONS, IN OPEN OR CLOSED STRUCTURES, SEE SPECIFICATIONS.
- SAMPLES FOR STRENGTH TEST SHALL BE AS FOLLOWS: OBTAIN AND MOLD THREE (3) SPECIMENS FOR EACH 50 CUBIC YARDS, OR FRACTION THEREOF, OF EACH CLASS OF CONCRETE PLACED EACH DAY OR AS DIRECTED BY THE ENGINEER.
- IMMEDIATELY AFTER COMPLETION OF PLACEMENT AND FINISHING, CURE CONCRETE CONTINUOUSLY FOR MINIMUM 7 DAYS BY PONDING OR CONTINUOUS SPRINKLING OR APPLICATION OF OTHER ACCEPTABLE MOISTURE RETAINING COVERING SUBJECT TO THE APPROVAL OF THE ENGINEER.

- SECONDARY CONCRETE TOPPINGS WHERE SPECIFIED OVER STRUCTURAL SLABS OR SLABS-ON-GRADE SHALL BE AS FOLLOWS:
 - REGULAR WEIGHT CONCRETE TOPPING SHALL HAVE A DESIGN STRENGTH OF 4,000 P.S.I. AT 28 DAYS, WITH MINIMUM 6-1/2 BAGS OF CEMENT (TYPE II) IN EACH CUBIC YARD OF CONCRETE, 3/8-INCH MAXIMUM SIZE OF AGGREGATE AND MAXIMUM 0.45 WATER/CEMENT RATIO.
 - LIGHTWEIGHT INSULATING CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI AT 28 DAYS, AN OPEN DRY DENSITY OF 41 +/- 3 PCF A NET DENSITY AT POINT OF PLACEMENT OF 44 PCF +/- 3 PCF AND A THERMAL CONDUCTIVITY ("K" VALUE) OF 0.45 AT 25 PCF.
 - CONCRETE TOPPING SHALL BE MINIMUM 2-INCHES THICK OVER SUBSTRATE AND SLOPED AS SHOWN ON DRAWINGS. PROVIDE CONSTRUCTION JOINTS AS DETAILED.
 - NEW SLABS TO RECEIVE TOPPING SHALL BE FINISHED BY BRUSHING SURFACE WITH A COARSE WIRE BROOM TO REMOVE LAITANCE AND SCRATCH SURFACE, AND WATER CURED ONLY CONTINUOUSLY FOR A MINIMUM OF 3 DAYS. PRIOR TO PLACEMENT OF TOPPING, DAMPEN SLAB AND SCRUB INTO THE ROUGHENED SURFACE A COAT OF BONDING GROUT CONSISTING OF ONE PART CEMENT TO PART FINE SAND, MIXED TO THE CONSISTENCY OF THICK CREAM; DO NOT ALLOW TO SET OR DRY BEFORE TOPPING IS APPLIED. PLACE TOPPING, CONSOLIDATE AND FINISH AS SPECIFIED.
 - EXISTING SLABS TO RECEIVE TOPPING SHALL BE CLEAN OF ALL CONTAMINANTS PREVENTING BOND. SCARIFY EXISTING SURFACE TO A MINIMUM 1/4-INCH AMPLITUDE. PRIOR TO PLACEMENT OF TOPPING, DAMPEN SLAB AND SCRUB INTO THE ROUGHENED SURFACE A COAT OF BONDING GROUT CONSISTING OF ONE PART CEMENT TO ONE PART FINE SAND, MIXED TO THE CONSISTENCY OF THICK CREAM; DO NOT ALLOW TO SET OR DRY BEFORE TOPPING IS APPLIED. PLACE TOPPING,CONSOLIDATE AND FINISH AS SPECIFIED IN THE SPECIFICATIONS.
- MIX APPROVED WATERPROOFING ADDITIVE TO THE WET AND DRY WELLS CONCRETE MIXTURE, TO THE RECOMMENDED LEVELS SPECIFIED BY THE PRODUCT MANUFACTURER.

REINFORCING STEEL:

- SUBMIT SHOP DRAWINGS FOR REINFORCING STEEL FOR ENGINEER'S REVIEW PRIOR TO FABRICATION.
- TO BE DOMESTIC, NEW BILLET STEEL CONFORMING TO THE LATEST ASTM, A615 GRADE 60 SPECIFICATIONS, FABRICATED IN ACCORDANCE WITH MANUAL OF STANDARD PRACTICE OF THE CRSI AND PLACED IN ACCORDANCE WITH ACI 315, AND ACI MANUAL OF STANDARD PRACTICE.
- COLUMN AND WALL REINFORCEMENT: DOWELS TO BE SAME SIZE AND NUMBER AS VERTICALS ABOVE. LAP 36 BAR DIAMETER OR MINIMUM OF 18-INCHES, WHICHEVER IS GREATER. PROVIDE GRID TEMPLATES FOR DOWEL LOCATION. PROVIDE STANDARD HOOKS FOR ALL VERTICAL NON-CONTINUOUS REINFORCEMENT, TYPICAL UNLESS OTHERWISE NOTED. PROVIDE MINIMUM 2- FEET HOOKS AT CORNERS FOR ALL HORIZONTAL EXTERIOR WALL REINFORCING AND STANDARD HOOKS FOR HORIZONTAL INTERIOR WALL REINFORCING.
- ALL DOWELS FOR COLUMNS AND WALLS TO BE SECURED IN POSITION PRIOR TO CONCRETING. DRILLING OR PUSHING THE DOWELS INTO POSITION IN WET CONCRETE IS NOT PERMITTED.
- CONCRETE COVER TO REINFORCING STEEL, UNLESS OTHERWISE DETAILED ON DRAWINGS:
 - FOOTINGS, INCLUDING PLUNG CAPS: 3".
 - COLUMNS: 1-1/2" TO TIES, OR MINIMUM 2" WHEN EXPOSED TO SEWER, WATER OR SOIL.
 - BEAMS: 1-1/2" TO STIRRUPS OR MINIMUM 2" WHEN EXPOSED TO SEWER, WATER OR SOIL.
 - WALLS: EXTERIOR FACE EXPOSED TO WEATHER=1-1/2", INTERIOR FACE=1", EXPOSED TO SEWAGE=2".
 - INTERIOR STRUCTURAL SLABS: 3/4".
 - EXPOSED STRUCTURAL SLABS: 1-1/2" FOR TOP REINFORCING AND 1" FOR BOTTOM REINFORCING.
 - SLABS ON GRADE: (MEASURED FROM TOP OF SLAB) 4" & 6" SLABS=2"; 8" SLABS=3".
- MINIMUM CLEAR SPACING BETWEEN REINFORCING BARS: (BD = BAR DIAMETER)
 - BEAMS: BD > 1-INCH.
 - COLUMNS: 1.5 BD > 1 1/2-INCHES.
 - WHERE PARALLEL REINFORCEMENT IS PLACED IN TWO OR MORE LAYERS, BARS IN THE UPPER LAYERS SHALL BE PLACED DIRECTLY ABOVE BARS IN THE BOTTOM LAYER WITH A CLEAR DISTANCE BETWEEN LAYERS NOT LESS THAN 1 INCH.
 - ALL REINFORCING PLACED THAT DOES NOT COMPLY WITH THE MINIMUM CLEAR SPACING SPECIFIED IN "A", "B" AND "C" ABOVE, WILL BE REJECTED.
- SLAB, BEAM AND WALL REINFORCEMENT SHALL BE PLACED IN ACCORDANCE WITH THE REINFORCING DIAGRAMS AND LAPPED AS SHOWN ON PLANS OR A MINIMUM OF 40 BAR DIAMETERS FOR TENSION, 30 BAR DIAMETERS FOR COMPRESSION BUT NEVER LESS THAN 18-INCHES, WHICHEVER IS GREATER. BOTTOM BARS SPLICED ONLY AT SUPPORTS, TOP BARS SPLICED ONLY AT MID-SPAN. ALL TOP BARS HOOKED AT NON-CONTINUOUS EDGES (U.O.N.). ALL HOOKS TO BE STANDARD 90 DEGREE OR 180 DEGREE HOOKS AS REQUIRED (U.O.N.).
- REINFORCEMENT SPLICES:
 - SPLICES IN SLABS, COLUMNS AND BEAMS MUST BE DONE AS SHOWN ON PLANS.
 - REINFORCEMENT SPLICES IN STRAIGHT OR CIRCULAR WALLS SHALL BE STAGGERED AT LEAST BE STAGGERED AT LEAST 24 INCHES IN EITHER DIRECTION.

* HORIZONTALLY (PLAN VIEW) BETWEEN SPICES IN PARALLEL MATS.

* VERTICALLY (ELEVATION) BETWEEN SPICES IN THE SAME MAT. NO SPLICE SHALL BE CONTINUOUS WITH THE NEXT ONE, HORIZONTALLY OR VERTICALLY.

- ADDITIONAL REINFORCEMENT: PROVIDE ADDITIONAL CORNER BARS BENT WITH MINIMUM 30-INCHES LEGS EACH WAY AT CORNERS IN OUTER FACES OF ALL WALLS TO MATCH ALL HORIZONTAL BARS NOT DETAILED WITH A HOOKED END. ADDITIONAL TOP BARS, NOT SHOWN ON DRAWINGS, SHALL BE USED AS REQUIRED TO HOLD IN POSITION MAIN TOP REINFORCEMENT.
- BOTTOM REINFORCEMENT IS SHOWN ON DRAWINGS WITH DASHED LINES. TOP REINFORCEMENT SHOWN ON DRAWINGS WITH SOLID LINES.
- THE CONTRACTOR SHALL INFORM THE REBAR DETAILER OF HIS PROPOSED REBAR SUPPORT METHOD AND CONSTRUCTION SEQUENCES. ALL SUPPORT ITEMS AND SPLICES REQUIRED SHALL BE SO DETAILED AND PROVIDED.
- BAR LENGTHS SHOWN ON DRAWINGS INCLUDE THE HOOK LENGTH. THIS LENGTH IS SHOWN TO INDICATE TO THE CONTRACTOR THE CLOSEST ACCURACY IN BAR LENGTH AND PLACING OF SAME. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THIS LENGTH WITH STRUCTURAL DRAWINGS AND ACTUAL FIELD CONDITIONS AND TO FURNISH THE FINAL BAR DETAILING ON THE CORRESPONDING SHOP DRAWINGS. CONTRACTOR SHALL BRING ALL DISCREPANCIES TO THE ATTENTION OF THE ENGINEER.
- MECHANICAL CONNECTIONS OF REINFORCING BARS:
 - ALL MECHANICAL CONNECTIONS SHOWN IN DETAILS OR SPECIFIED SHALL BE THREADED TYPE, COMPLYING WITH ALL LATEST ACI, CRSI AND ASTM REQUIREMENTS FOR A TENSION TYPE SPLICE.
 - PROVIDE AND PLACE THE REINFORCING REQUIRED FOR FUTURE CONNECTION WITH A THREADED STEEL SLEEVE AND AN INTERNAL PLASTIC COUPLER PROTECTOR ON THE FUTURE CONNECTION END OF SLEEVE.
 - COMPLY WITH ALL SPECIFICATIONS AND MANUFACTURER'S RECOMMENDATIONS FOR THE REBAR END PREPARATION, COUPLER PROTECTION, CLEARANCES AND PLACING SO AS TO MAKE THE FUTURE CONNECTION POSSIBLE.
 - NO WELDED TYPE SPLICES SHALL BE USED.
 - CONTRACTOR TO SUBMIT SHOP DRAWINGS WITH ALL TECHNICAL DATA RELATED TO THE SELECTED MECHANICAL CONNECTION FOR ENGINEER'S REVIEW.

STRUCTURAL AND MISCELLANEOUS STEEL:

- SUBMIT SHOP DRAWINGS AND CALCULATIONS FOR ENGINEER'S REVIEW PRIOR TO FABRICATION. THE SUBMITTAL SHALL INCLUDE THE PROJECT IDENTITY, THE LOADING AND DESIGN CRITERIA; FRAMING PLAN AND CONNECTION DETAILS; LIST THE DESIGN CRITERIA AND LOADING. SPECIFY ALL MEMBER SIZES, BRACING ANCHORAGE, CONNECTIONS, TRUSS LOCATIONS AND OTHER NECESSARY TEMPORARY AND PERMANENT FABRICATION AND ERECTION INFORMATION.
- ALL STRUCTURAL STEEL TO BE DOMESTIC ASTM, A36 (Fy=36 KSI), DESIGNED IN ACCORDANCE WITH THE LATEST AISC. *STRUCTURAL FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS* AND THE AISC CODE OF STANDARD PRACTICE.
- STEEL TUBES TO BE DOMESTIC STEEL CONFORMING TO ASTM, A500 GRADE B (Fy=46 KSI).
- HIGH STRENGTH BOLTS TO BE ASTM A325, DOUBLE HOT-DIPPED GALVANIZED, UNLESS OTHERWISE SPECIFIED. PROVIDE MATCHING HIGH STRENGTH NUTS AND WASHERS.
- ALL STRUCTURAL STEEL, TUBING, ANCHORS AND ANCHOR BOLTS SHALL BE DOUBLE HOT-DIP GALVANIZED AFTER FABRICATION.
- ALL STAINLESS STEEL SHALL CONFORM TO AISI TYPE 316 AND TYPE 316L WHERE WELDING IS REQUIRED.
- ALL WELDING TO BE IN ACCORDANCE WITH AWS LATEST "STRUCTURAL WELDING CODE - STEEL", (ANSI /AWS D1.1). RUSTPROOF ALL FIELD WELDS AND SURROUNDING AREA WITH TWO (2) COATS OF ZINC BASED PAINT.
- ALL CONNECTIONS SHALL BE AS SHOWN AND INDICATED ON DRAWINGS.
- SPLICE LOCATIONS, OTHER THAN SHOWN ON DRAWINGS, TO BE REVIEWED BY ENGINEER.
- STEEL BEAMS BEARING ON WALLS TO HAVE ANGLE ANCHORS AND/OR BEARING STEEL PLATES, AS SHOWN ON THE DRAWINGS.
- SHOP COAT ALL STRUCTURAL STEEL WITH RUSTOLEUM "769" RED PRIMER OR APPROVED EQUAL PRIOR TO INSTALLATION.

STRUCTURAL ALUMINUM:

- STRUCTURAL ALUMINUM SHALL BE DOMESTIC ALLOY 6061-T6, DESIGNED IN ACCORDANCE WITH THE ALUMINUM ASSOCIATION'S SPECIFICATIONS FOR ALUMINUM STRUCTURES, LATEST EDITION.
- FASTENERS: UNLESS DETAILED OTHERWISE, ALL FASTENERS SHALL BE 316 STAINLESS STEEL. ALUMINUM BOLTS, WHERE SPECIFIED, SHALL BE 2024-T4 OR 6061-T6 ALLOY.
- ALL WELDING SHALL CONFORM WITH AWS D1.2, LATEST STRUCTURAL WELDING CODE-ALUMINUM.
- WHERE THE CONTACT OF DISSIMILAR METALS MAY CAUSE ELECTROLYSIS OR WHERE ALUMINUM WILL COME IN CONTACT WITH CONCRETE, MORTAR OR PLASTER, THE CONTACT SURFACE OF THE ALUMINUM SHALL BE COATED WITH 1 COAT OF ZINC CHROMATE PRIMER AND ONE HEAVY COAT OF ALUMINUM PIGMENTED ASPHALT PAINT.

WATERSTOPS:

- ALL WATERSTOPS SHALL BE POLYVINYL CHLORIDE (PVC) AND SHALL BE OF THE TYPE SHOWN ON THE "PVC WATERSTOP DETAILS" FOR THE SPECIFIED JOINT. SUBMIT SHOPDRAWINGS FOR ENGINEER'S APPROVAL PRIOR TO CONSTRUCTION.
- INSTALLATION:
 - DURING PROGRESS OF WORK ALL WATERSTOPS SHALL BE PROTECTED FROM DAMAGE AND SHALL BE FREE OF OIL, DIRT AND CONCRETE SPATTER. UNCOIL WATERSTOP COILS SEVERAL DAYS BEFORE INSTALLATION TO INSURE EASE OF INSTALLATION AND FABRICATION. BE SURE STEEL REINFORCING BARS DO NOT INTERFERE WITH PROPER POSITIONING OF WATERSTOP.
 - THE LOCATION AND EMBEDMENT OF THE WATERSTOP SHALL BE AS SHOWN ON THE PLANS AND ON THE "PVC WATERSTOP DETAILS", WITH APPROXIMATELY ONE-HALF OF THE WIDTH OF THE WATERSTOP EMBEDDED IN THE CONCRETE ON EACH SIDE OF THE JOINT. ALL WATERSTOPS SHALL BE SUFFICIENTLY HELD IN PLACE TO INSURE THAT THEY ARE CORRECTLY POSITIONED TO FORM A CONTINUOUS WATERTIGHT DIAPHRAGM IN THE JOINT. THE METHOD USED TO FASTEN THE WATERSTOP MAY BE AS FOLLOWS:
 - EXTENDING THROUGH A SLOT IN THE KEYWAY.
 - HELD IN PLACE BY SPLIT BULKHEADS.
 - HOG RING NO WIRE TIE TO REINFORCING BARS EVERY 12 INCHES ALWAYS SECURE HOG RING OR WIRE BETWEEN THE LAST RIB AND THE END OF THE WATERSTOP.
- CARE SHOULD BE TAKEN DURING CONCRETE PLACEMENT ON HORIZONTAL SECTIONS TO PREVENT EXCESSIVE MOVEMENT OF THE WATERSTOP TO INSURE AGAINST DISPLACEMENT. ALWAYS THOROUGHLY AND SYSTEMATICALLY VIBRATE CONCRETE AROUND THE WATERSTOP TO AVOID THE AIR ENTRAPMENT AND TO PROVIDE A POSITIVE CONTACT BETWEEN THE WATERSTOP AND THE CONCRETE. ON THE SECOND POUR, SWEEP HORIZONTAL JOINTS TO INSURE THAT THERE IS NO FOREIGN MATTER TO INTERFERE WITH POSITIVE CONTACT BETWEEN THE WATERSTOP AND THE CONCRETE. WHEN USING SPLIT-RIBBED WATERSTOPS, THE SPLIT LEG OF THE WATERSTOP IS OPENED AND NAILED TO THE BULKHEAD BETWEEN THE LAST RIB AND THE EDGE. UPON STRIPPING THE FORMS, THE SPLIT LEGS ARE JOINED TOGETHER BY USING A RUBBER BASED CONTACT CEMENT AND PLACING HOG RINGS EVERY 12-INCHES AND WIRE TIED TO THE REINFORCING BAR.
- DO NOT DRIVE NAILS THROUGH THE WATERSTOP. DO NOT EMBED WATERSTOP BULB IN CONCRETE; IT MUST BE POSITIONED IN CENTER OF JOINT TO INSURE PROPER PERFORMANCE. SWEEP OR BLOW CLEAN ALL HORIZONTAL JOINTS PRIOR TO POURING IN ORDER TO INSURE THAT FOREIGN MATERIAL DOES NOT INTERFERE WITH THE DIRECT CONTACT BETWEEN WATERSTOP AND CONCRETE. SECURE WATERSTOP PROPERLY TO PREVENT MISALIGNMENT OF WATERSTOP DURING CONCRETE OPERATIONS.
- THERMOPLASTIC BUTT SPLICES SHALL BE PERFORMED USING APPROVED PREFABRICATED PRETESTED FITTINGS (FLAT AND 90° ELLS, TEES AND CROSSSES). DO NOT LAP SPLICE WATERSTOPS.

ENGINEER'S REVIEW OF SHOP DRAWINGS:

- THE REVIEW BY THE ENGINEER OF DRAWINGS, DATA AND SAMPLES SUBMITTED BY THE CONTRACTOR WILL COVER ONLY GENERAL CONFORMITY TO THE DRAWING AND SPECIFICATIONS. THE ENGINEER'S REVIEW WILL NOT CONSTITUTE AN APPROVAL OF DIMENSIONS, QUANTITIES, AND DETAILS OF THE MATERIAL, EQUIPMENT, DEVICE, OR ITEM SHOWN. THE REVIEW OF DRAWINGS AND SCHEDULES WILL BE GENERAL, AND SHALL NOT BE CONSTRUED:
 - AS PERMITTING ANY DEPARTURE FROM THE CONTRACT REQUIREMENTS.
 - AS RELIEVING THE CONTRACTOR OF RESPONSIBILITY FOR ANY ERRORS, INCLUDING DETAILS, DIMENSIONS, AND MATERIALS.
 - AS APPROVING DEPARTURES FROM DETAILS FURNISHED BY THE ENGINEER, EXCEPT AS OTHERWISE PROVIDED HEREIN.
- APPROVAL SHALL NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY FOR DETAILS OF DESIGN, CORRECT DIMENSIONS FOR PROPER FITTING, CAPACITY, PERFORMANCE, CONSTRUCTION, OR ANY OTHER REQUIREMENT OF THE CONTRACT.
- SHOP DRAWINGS SHALL BE DATED AND SIGNED BY THE CONTRACTOR AND BY THE SUPPLIER BEFORE SUBMITTING TO THE ENGINEER. NON COMPLIANCE WILL CAUSE REJECTION WITHOUT REVIEWING.
- FIVE COPIES OF SHOP DRAWINGS ARE REQUIRED FOR WADD FILES IN ADDITION TO THE AMOUNT OF COPIES REQUIRED BY THE CONTRACTOR. NON COMPLIANCE WILL CAUSE REJECTION WITHOUT REVIEWING.
- SEE SPECS, SECTION 01340 FOR FURTHER SHOP DRAWING REQUIREMENTS.
- WHEN SUBMITTING CONCRETE MIX SHOP DRAWINGS THE CONTRACTOR SHALL INDICATE CLEARLY WHERE THE CONCRETE MIX WILL BE USED.

MISCELLANEOUS:

- ALL ELEVATIONS SHOWN ON DRAWINGS REFER TO NATIONAL GEODETIC VERTICAL DATUM OF 1929 (N.G.V.D.-29).
 - CONSTRUCTION JOINTS, OTHER THAN THOSE SHOWN ON DRAWINGS, ARE SUBJECT TO THE APPROVAL OF THE ENGINEER.
 - COORDINATE EXACT SIZE AND LOCATION OF CONCRETE EQUIPMENT PADS, PIPES, PIPE ENCASMENT, WALL PIPE SLEEVES, CORBELS, PIPE SUPPORTS AND OTHER MISCELLANEOUS ITEMS TO BE PLACED PRIOR TO POURING CONCRETE, WITH MECHANICAL AND ELECTRICAL DRAWINGS AND MANUFACTURER'S REVIEWED SHOP DWG.
 - NO CONDUITS, PIPES, SLEEVES OR ANY OTHER ITEM SHALL BE EMBEDDED IN CONCRETE ALONG, THROUGH OR UNDER ANY BEAM, COLUMN, FOOTING, GRADE BEAM, SLAB, WALL OR ANY OTHER STRUCTURAL MEMBER WITHOUT THE PRIOR APPROVAL OF THE ENGINEER. SHOP DRAWINGS SHALL BE SUBMITTED PRIOR TO ANY WORK TO OBTAIN THE CORRESPONDING ENGINEER'S APPROVAL. WHEN APPROVED, PLACING SHALL COMPLY WITH ACI-318, SECTION 6.3
 - WHEN PLACING HANGERS TO SUPPORT PIPES OR ANY OTHER EQUIPMENT NO DRILLS OR SHOTS TO SECURE FASTENERS ARE PERMITTED IN ANY CONCRETE JOIST OF DOUBLE TEE STEEL; THOSE HANGERS SHALL BE PLACED ON THE SLAB ON TOP OF THE JOIST OR THE FLANGE SLAB OF THE DOUBLE TEE.
 - SUPERIMPOSED LOADS DUE TO CONSTRUCTION EQUIPMENT OR MATERIALS ABOVE POURED IN PLACE CONCRETE, PRESTRESSED DOUBLE TEES AND PRESTRESSED CONCRETE OR STEEL JOISTS, FLOOR OR ROOF DECKS, SHALL NOT EXCEED THE DESIGN SUPERIMPOSED LOADS. SHOP DRAWINGS SHALL BE SUBMITTED FOR ENGINEER'S APPROVAL SHOWING THE AMOUNT AND LOCATION OF SUCH LOADS PRIOR TO PLACING THEM OVER THE DECK.
 - ALL PHASES OF CONCRETE CONSTRUCTION, INCLUDING MATERIALS, FOUNDATIONS, CAST-IN-PLACE AND PRECAST CONCRETE, REINFORCING STEEL, MASONRY, FORM WORK AND ALL OTHER RELATED PROCEDURES AND MATERIALS SHALL COMPLY WITH THE MOST STRINGENT ALLOWED TOLERANCES OF ACI-301 AND ACI-112 STANDARDS. (LATEST EDITION). ALSO THEY SHALL COMPLY WITH THE LATEST APPLICABLE ACI STANDARD, SPECIAL PUBLICATION OR COMMITTEE REPORT AS SHOWN OR MENTIONED ON THE "ACI MANUAL OF CONCRETE PRACTICE".
- NON COMPLIANCE WITH THESE STANDARDS WILL CAUSE FULL REJECTION OF ANY WORK DONE.

NORTH BAY VILLAGE MAIN PUMP STATION IMPROVEMENTS

PREPARED FOR
NORTH BAY VILLAGE

NORTH BAY VILLAGE FLORIDA

KHA PROJECT
043138041
DATE
MAY 2020
SCALE AS SHOWN
DESIGNED BY MM
DRAWN BY MM
CHECKED BY GR

Kimley»Horn

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LICENSED PROFESSIONAL
GARY R. RATAY
FLORIDA LICENSE NUMBER
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DATE: 05/13/20

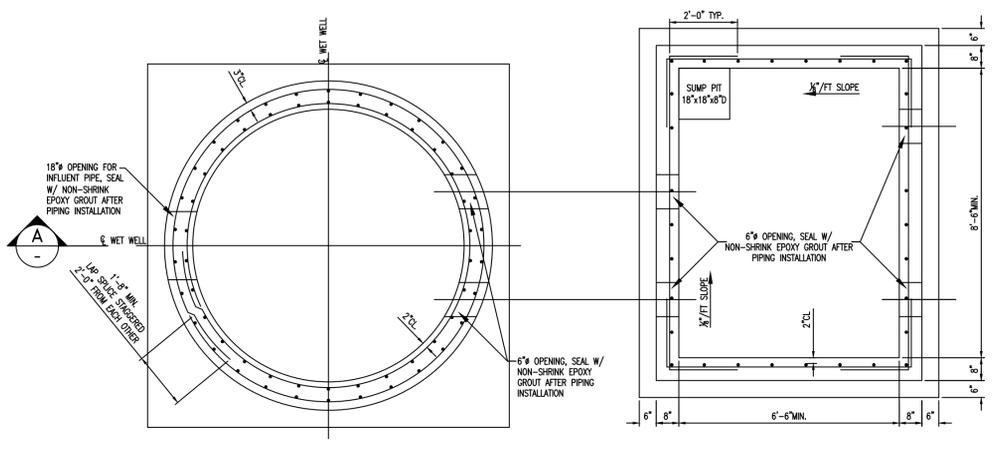
STRUCTURAL GENERAL NOTES

SHEET NUMBER

C400.0

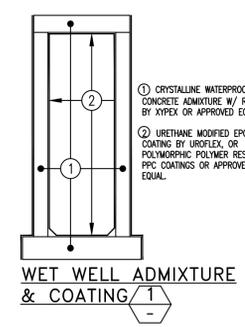


Plotted By: Leanne Arabella Sheet: Set-NORTH BAY VILLAGE MAIN PUMP STATION IMPROVEMENTS Layout: C400.1 May 13, 2020 10:34:49am K:\VTL\Civil\043 jobs\043138041-Wk Auto_18-03_WW Station Improv\CAD\Drawings\Main Ltr Station\C400.1_WET WELL AND VALVE VAULT STRUCTURAL PLAN, SECTIONS, AND DETAILS.dwg
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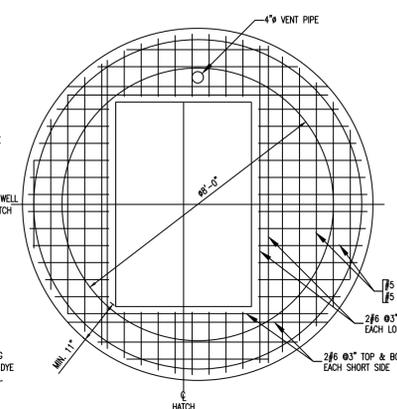


WET WELL AND VALVE VAULT SECTION PLAN
N.T.S.

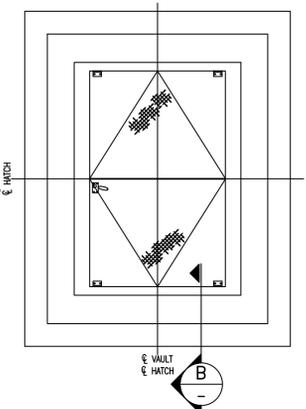
NOTE:
THE SIZE AND LOCATION OF THE OPENINGS FOR THE PIPES, CONDUITS AND FLOOR ACCESS DOORS SHALL BE IN ACCORDANCE WITH THE DESIGN OF THE PIPING LAYOUT, THE ELECTRICAL PLAN AND AS PER PUMP MANUFACTURERS RECOMMENDATION.



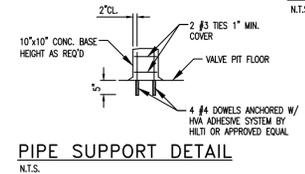
WET WELL ADMIXTURE & COATING
1



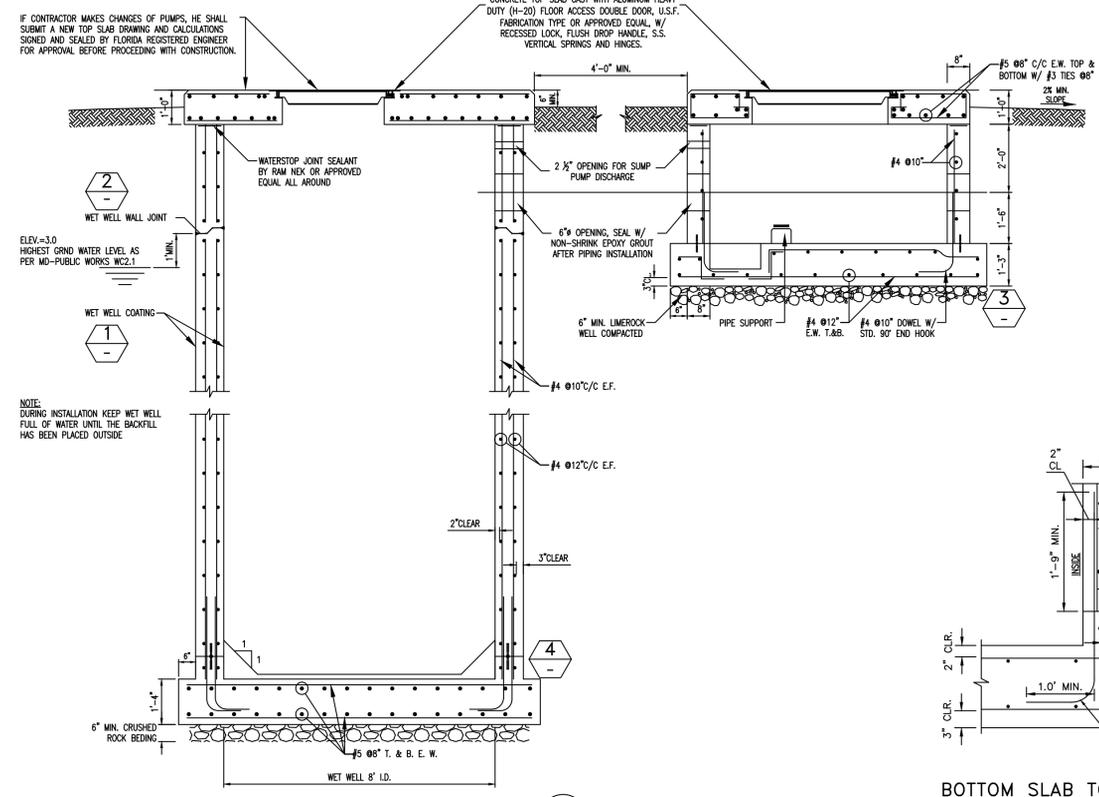
WET WELL TOP SLAB
N.T.S.



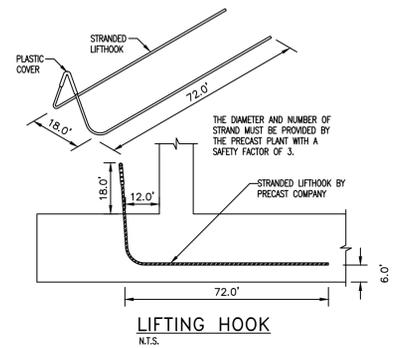
VALVE VAULT ACCESS
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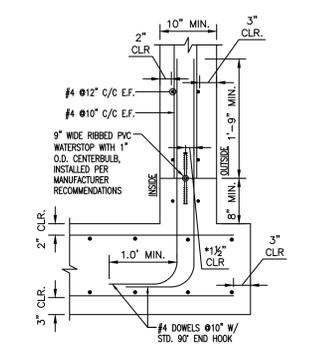
PIPE SUPPORT DETAIL
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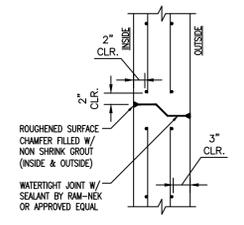
SECTION A
N.T.S.



LIFTING HOOK
N.T.S.



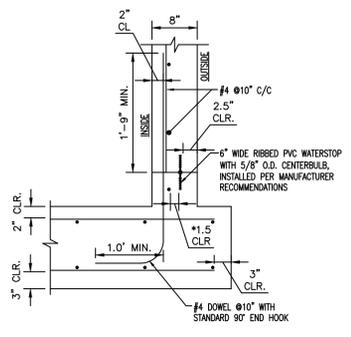
BOTTOM SLAB TO WALL JOINT
4



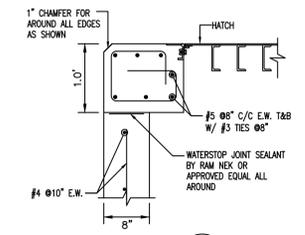
WALL JOINT
2

WET WELL CONSTRUCTION JOINTS

NOTE: THE ENTIRE REINFORCED CONCRETE STRUCTURE FOR THE WET WELL SHALL BE WATERPROOF. PREFERABLY NO CONSTRUCTION JOINTS UNDER GROUND WATER LEVEL. MINIMUM DISTANCE BETWEEN WALL JOINTS WITH PVC WATER STOP SHALL BE 8 FT.

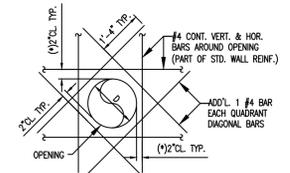


BOTTOM SLAB TO WALL JOINT
3



SECTION B
N.T.S.

VALVE VAULT CONSTRUCTION JOINTS



WALL OPENING
TYPICAL ADDITIONAL WALL REINFORCING AROUND HOLE OPENINGS (ROUND OR SQUARE).
(*) ANY VERTICAL OR HORIZONTAL BAR AT MORE THAN 3" AWAY FROM EDGE OF OPENING SHALL HAVE ADDITIONAL 1 #4 BAR WITH LENGTH=(D+36"), PLACED AT 2" CLEAR FROM OPENING.

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KHA PROJECT
043138041
DATE
MAY 2020
SCALE AS SHOWN
DESIGNED BY MM
DRAWN BY MM
CHECKED BY GR

NORTH BAY VILLAGE MAIN PUMP STATION IMPROVEMENTS
PREPARED FOR
NORTH BAY VILLAGE
FLORIDA

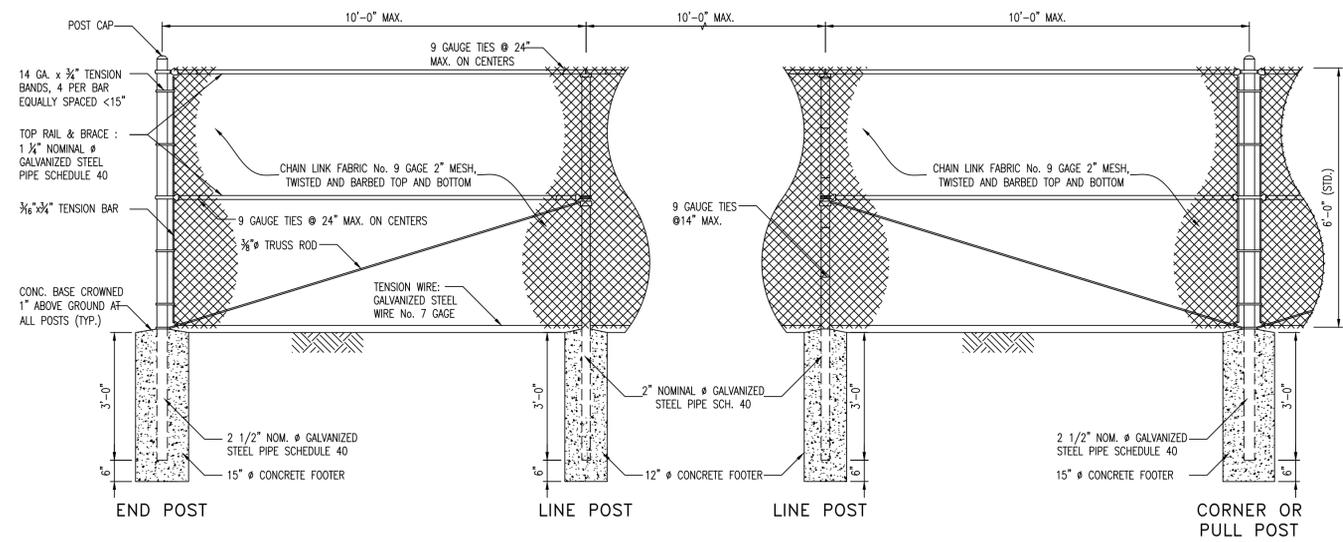
LICENSED PROFESSIONAL
GARY R. RATAY
FLORIDA LICENSE NUMBER
46682
DATE: 05/13/20

WET WELL AND VALVE VAULT STRUCTURAL PLAN, SECTIONS, AND DETAILS

SHEET NUMBER
C400.1



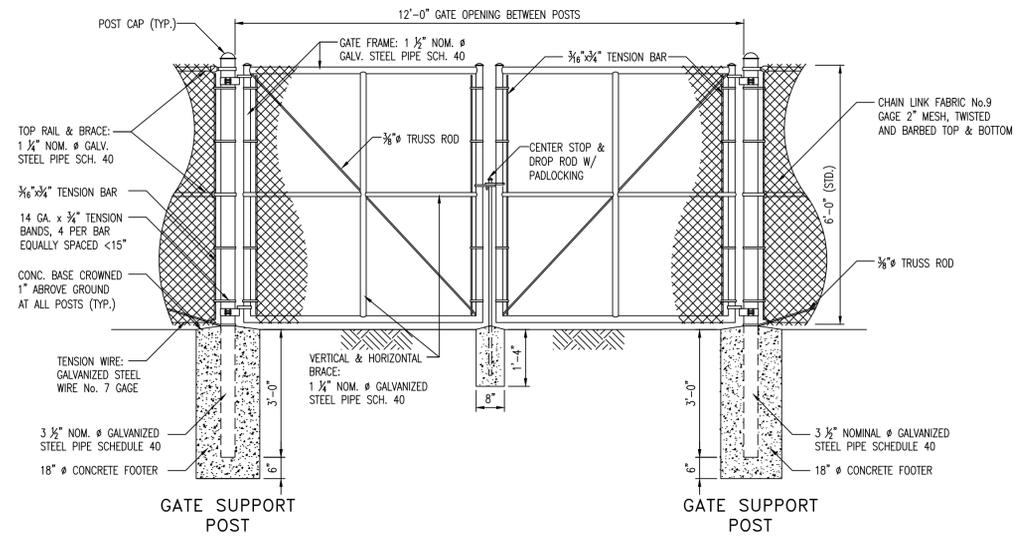
Plotted By: Leanne Arabella - Sheet Set: NORTH BAY VILLAGE MAIN PUMP STATION IMPROVEMENTS - Layout: C400.2 CHAIN LINK FENCE AND GATE - May 13, 2020 10:34:59am - K:\FTL\Civil\043_jobs\043138041-06_Auto - 18-03_WW Station Improv\CAD\Drawings\Main - Lit - Station - C400.3 CHAIN LINK FENCE AND GATE.dwg
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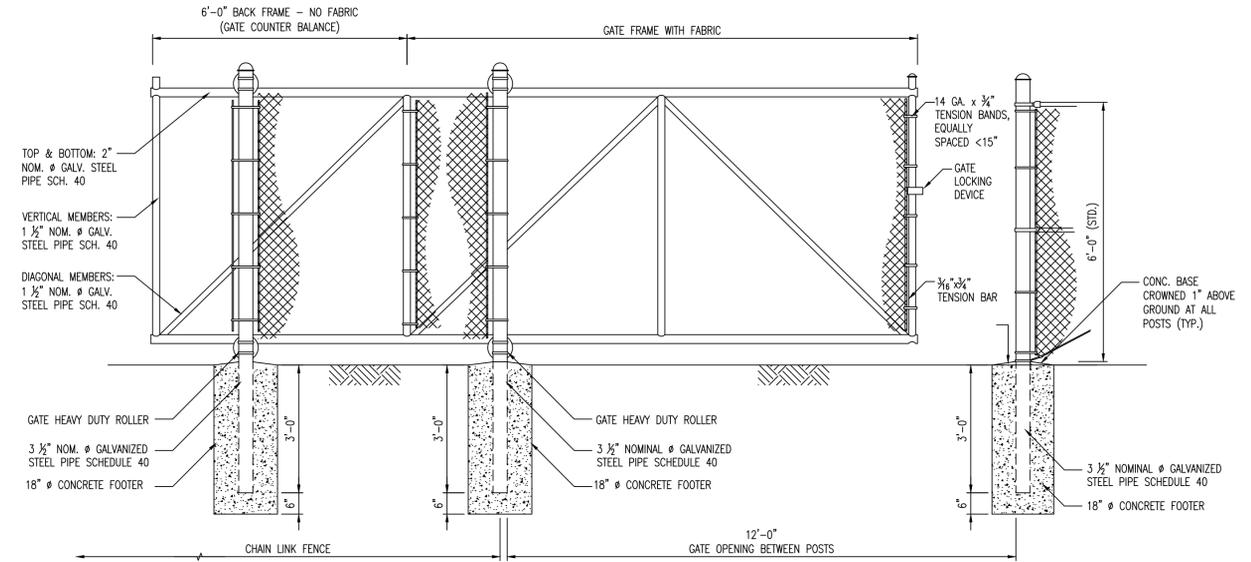
6' HIGH CHAIN LINK FENCE
N.T.S.

NOTES:

- 1- ALL TUBULAR MEMBERS SHALL COMPLY WITH "ASTM STANDARD A53-90B, PIPE, STEEL, BLACK AND HOT-DIPPED, ZINC COATED WELDED AND SEAMLESS", AND SHALL BE PLAIN-END STEEL PIPE, WITH ZINC COATING APPLIED INSIDE AND OUT BY THE HOT-DIP PROCESS. ZINC COATING SHALL NOT BE LESS THAN 1.8 OUNCES PER SQUARE FOOT OF PIPE AREA.
 - 2- CHAIN-LINK FENCE FABRIC SHALL MEET THE REQUIREMENTS OF ASTM STANDARD A392, "ZINC-COATED STEEL CHAIN LINK FENCE FABRIC". ZINC COATING OF FABRIC SHALL BE NOT LESS THAN 2 OUNCES PER SQUARE FOOT OF WIRE SURFACE (CLASS 2 COATING). FABRIC SHALL BE ONE-PIECE FABRIC WITH 2-INCH BY 2-INCH MESH OF No. 9 GAUGE WIRE.
 - 3- WHERE PERMITTED BY BUILDING AND ZONING CODES, THE FENCE SHALL HAVE SIX STRANDS OF BARBED WIRE MOUNTED ON "V" ARM POST TOP EXTENSIONS. BARBED WIRE SHALL MEET THE REQUIREMENTS OF ASTM STANDARD A121, LATEST EDITION, FOR WIRE GAGE No. 12 1/2 (2 STRANDS), WITH A MINIMUM ZINC COATING OF 0.5 OUNCE PER SQUARE FOOT OF WIRE SURFACE (CLASS 2 COATING). THE INDIVIDUAL BARB SHALL BE FOUR POINTS, TWISTED AROUND BOTH WIRES, WITH THE BARBS SPACED NO MORE THAN 5 INCHES APART.
 - 4- THE CONTRACTOR SHALL INSTALL ALL THE HARDWARE NECESSARY FOR A COMPLETE AND WORKING INSTALLATION, AND SHALL INCLUDE BUT NOT LIMITED TO: BRACE BANDS, BRACE BARS, POSTS CAPS, HINGES, CLAMPS, TURNBUCKLES, NUTS AND BOLTS. ALL REMAINING ACCESSORIES SHALL BE ZINC COATED IN ACCORDANCE WITH ASTM STANDARD A-153, "ZINC COATING (HOT DIP) ON IRON AND STEEL HARDWARE".
 - 5- THE REVIEW BY THE ENGINEER OF DRAWINGS, DATA AND SAMPLES SUBMITTED BY THE CONTRACTOR WILL COVER ONLY GENERAL CONFORMITY TO THE DRAWING AND SPECIFICATIONS. THE ENGINEER'S REVIEW WILL NOT CONSTITUTE AN APPROVAL OF DIMENSIONS, QUANTITIES, AND DETAILS OF THE MATERIAL, EQUIPMENT, DEVICE, OR ITEM SHOWN. THE REVIEW OF DRAWINGS AND SCHEDULES WILL BE GENERAL, AND SHALL NOT BE CONSTRUED:
- A) AS PERMITTING ANY DEPARTURE FROM THE CONTRACT REQUIREMENTS.
 - B) AS RELIEVING THE CONTRACTOR OF RESPONSIBILITY FOR ANY ERRORS, INCLUDING DETAILS, DIMENSIONS, AND MATERIALS.
 - C) AS APPROVING DEPARTURES FROM DETAILS FURNISHED BY THE ENGINEER, EXCEPT AS OTHERWISE PROVIDED HEREIN.
- 6- APPROVAL OF SHOP DRAWINGS SHALL NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY FOR DETAILS OF DESIGN, CORRECT DIMENSIONS FOR PROPER FITTING, CAPACITY, PERFORMANCE, CONSTRUCTION, OR ANY OTHER REQUIREMENT OF THE CONTRACT.
 - 7- SHOP DRAWINGS SHALL BE DATED AND SIGNED BY THE CONTRACTOR AND BY THE SUPPLIER BEFORE SUBMITTING TO THE ENGINEER. NON COMPLIANCE WILL CAUSE REJECTION WITHOUT REVIEWING.
 - 8- FIVE COPIES OF SHOP DRAWINGS ARE REQUIRED FOR WASH FILES IN ADDITION TO THE AMOUNT OF COPIES REQUIRED BY THE CONTRACTOR. NON COMPLIANCE WILL CAUSE REJECTION WITHOUT REVIEWING.
 - 9- ALL THE REQUIRED UNDERGROUND STRUCTURES FOR SUPPORT THE FENCE AND GATES MUST BE PLACED INSIDE THE PROPERTY.



6' HIGH BY 12' WIDE DOUBLE SWING GATE
N.T.S.



6' HIGH BY 12' WIDE SLIDE GATE
N.T.S.

FOR BIDDING



No.	REVISIONS	DATE	BY

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KHA PROJECT 043138041
DATE MAY 2020
SCALE AS SHOWN
DESIGNED BY MM
DRAWN BY MM
CHECKED BY GR

NORTH BAY VILLAGE MAIN PUMP STATION IMPROVEMENTS

PREPARED FOR
NORTH BAY VILLAGE

NORTH BAY VILLAGE FLORIDA

LICENSED PROFESSIONAL

GARY R. RATAY

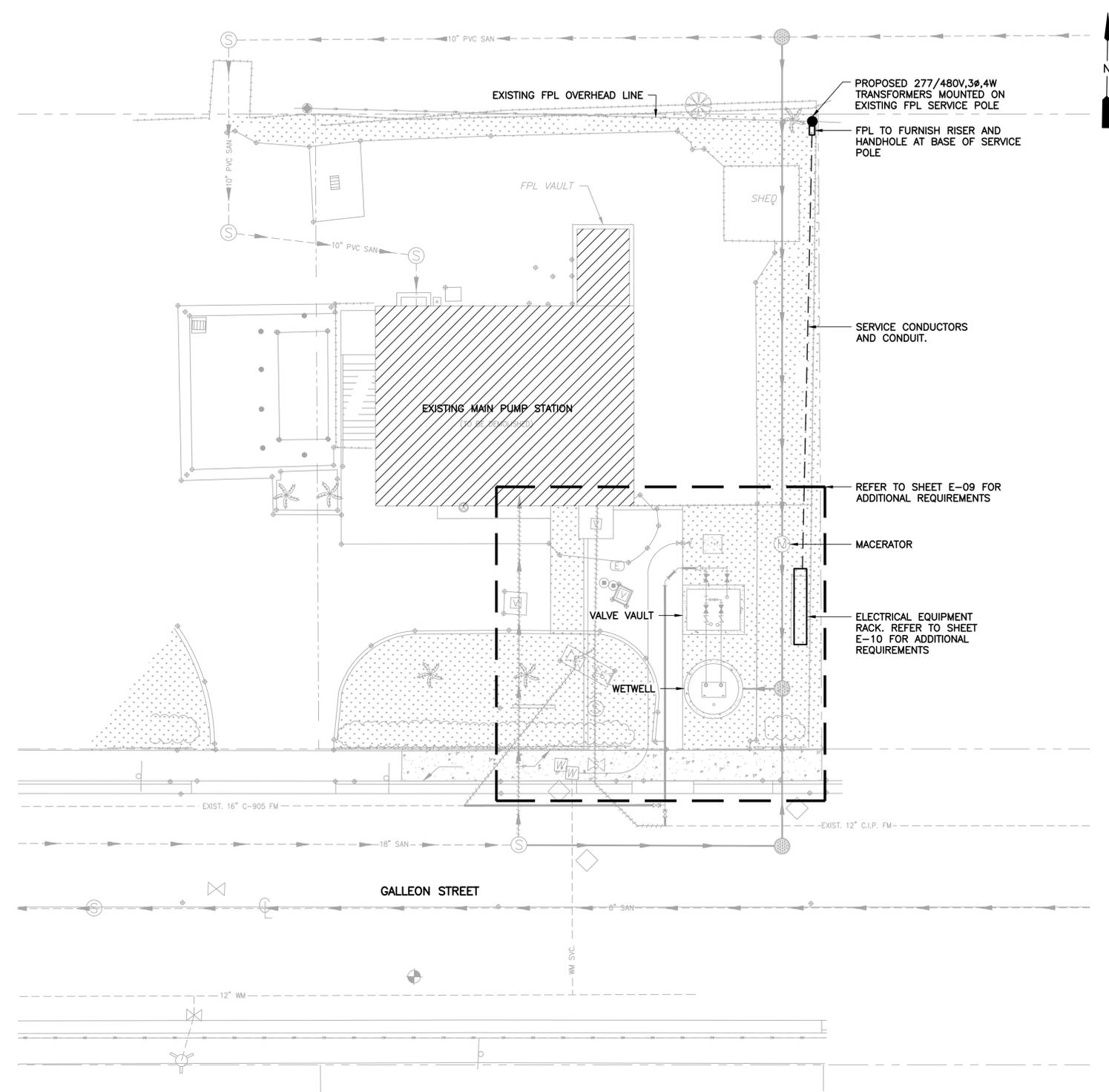
FLORIDA LICENSE NUMBER
46682

DATE: 05/13/20

CHAIN LINK FENCE AND GATE

SHEET NUMBER
C400.2

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ELECTRICAL SITE PLAN
SCALE: 1"=10'-0"
10 5 0 10'

LEGEND:

PLAN SYMBOLS

- (15) ELECTRIC A.C. MOTOR, NO. INDICATES HORSEPOWER.
- CONDUIT RUN EXPOSED. RUN PARALLEL OR PERPENDICULAR TO STRUCTURE OR WALL.
- - - CONDUIT CONCEALED IN OR BELOW FLOOR OR UNDERGROUND.
- #— HOME RUN TO PANELBOARD. NUMBER OF ARROWS INDICATE NUMBER OF CIRCUITS. HASH MARKS INDICATE NUMBER OF #12 AWG. CONDUCTORS. NO HASH MARKS INDICATE 2 #12 CONDUCTORS.
- (LE) LEVEL TRANSDUCER
- (LLS) LIQUID LEVEL SWITCH
- (TS) TEMPERATURE SWITCH
- (SF) SEAL FAIL
- ⊗ GROUND ROD
- TW ⊗ GROUND TEST WELL

ABBREVIATIONS

- A AMPERES
- AFG ABOVE FINISHED GRADE
- CP CONTROL PANEL
- CPT CONTROL POWER TRANSFORMER
- FPL FLORIDA POWER & LIGHT
- FVNR FULL VOLTAGE NON-REVERSING
- GND GROUND
- HP HORSEPOWER
- LIT LEVEL INDICATING TRANSMITTER
- MIN MINIMUM
- MSC MANUFACTURER SUPPLIED CABLE
- MTD MOUNTED
- N NEUTRAL
- NEC NATIONAL ELECTRICAL CODE
- NO NUMBER
- NTS NOT TO SCALE
- P POLE
- PSCP PUMP STATION CONTROL PANEL
- SPD SURGE PROTECTION DEVICE
- SS STAINLESS STEEL
- SSS SOLID STATE STARTER
- TYP TYPICAL
- V VOLTS
- VA VOLT AMPERES
- VFD VARIABLE FREQUENCY DRIVE
- W WIRE
- WP WEATHERPROOF
- w/ WITH
- φ PHASE

NOTES

1. ELECTRICAL CONTRACTOR SHALL SUPPLY AND INSTALL ALL NEW ELECTRICAL WORK INDICATED.
2. ELECTRICAL CONTRACTOR SHALL VISIT JOB SITE AND FAMILIARIZE HIMSELF WITH ALL CONDITIONS AFFECTING ELECTRICAL INSTALLATION AND MAKE PROVISIONS AS TO THE COST THEREOF. EXISTING CONDITIONS OF ELECTRICAL EQUIPMENT, LIGHT FIXTURES, ETC... THAT ARE PART OF THE FINAL SYSTEM SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO SUBMITTING HIS BID.
3. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE 2014 NATIONAL ELECTRICAL CODE, 2017 FLORIDA BUILDING, 2014 NATIONAL FIRE PROTECTION ASSOCIATION, AND SHALL COMPLY WITH ALL LOCAL RULES AND ORDINANCES.
4. MINIMUM WIRE SIZE SHALL BE #12 A.W.G. FOR POWER CIRCUITS.
5. IT IS NOT THE INTENT OF THESE PLANS TO SHOW EVERY MINOR DETAIL OF CONSTRUCTION. THE CONTRACTOR IS EXPECTED TO FURNISH AND INSTALL ALL ITEMS FOR A COMPLETE ELECTRICAL SYSTEM AND PROVIDE ALL REQUIREMENTS NECESSARY FOR THE EQUIPMENT TO BE PLACED IN PROPER WORKING ORDER.
6. ELECTRICAL SYSTEM SHALL BE COMPLETE AND EFFECTIVELY GROUNDED AS REQUIRED BY THE LATEST EDITION OF THE N.E.C. OR LOCAL CODES. ALL CONDUITS SHALL HAVE A BOND WIRE SIZED PER TABLE 250-122 OF THE NATIONAL ELECTRICAL CODE.
7. ALL MATERIALS SHALL BE NEW AND BEAR UNDERWRITERS' LABELS WHERE APPLICABLE.
8. ALL WORK SHALL BE PERFORMED BY A LICENSED ELECTRICAL CONTRACTOR IN A FIRST CLASS WORKMANLIKE MANNER. THE COMPLETED SYSTEM SHALL BE FULLY OPERATIVE AND ACCEPTED BY ENGINEER/OWNER.
9. CONTRACTOR SHALL GUARANTEE ALL MATERIALS AND WORKMANSHIP FREE FROM DEFECTS FOR A PERIOD OF NOT LESS THAN ONE YEAR FROM DATE OF ACCEPTANCE.
10. CORRECTION OF ANY DEFECTS SHALL BE COMPLETED WITHOUT ADDITIONAL CHARGE AND SHALL INCLUDE REPLACEMENT OR REPAIR OF ANY OTHER PHASE OF THE INSTALLATION WHICH MAY HAVE BEEN DAMAGED.
11. THE ELECTRICAL INSTALLATION SHALL MEET ALL STANDARD REQUIREMENTS OF FPL.
12. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CUTTING AND PATCHING REQUIRED OF HIS WORK.
13. ELECTRICAL CONTRACTOR SHALL LABEL ALL PANELS W/ TYPE WRITTEN DIRECTORIES.
14. ALL ELECTRICAL WIRING SHALL BE THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR.
15. DO NOT SCALE THE ELECTRICAL DRAWINGS. REFER TO THE MECHANICAL DRAWINGS & THE APPROVED MANUFACTURER'S SHOP DRAWINGS FOR THE EXACT LOCATION OF ALL EQUIPMENT.
16. *SLANTED AND SHADED TEXT* DENOTES EXISTING EQUIPMENT OR STRUCTURES. *NON-SLANTED TEXT* DENOTES NEW EQUIPMENT, STRUCTURES & WORK.
17. ALL CONTROL PANELS SHALL BE UL LISTED AND MEET THE REQUIREMENTS OF ARTICLE 409 OF THE NATIONAL ELECTRICAL CODE.

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KHA PROJECT	043138041
DATE	May 2020
SCALE	AS SHOWN
DESIGNED BY	SEB
DRAWN BY	SJL
CHECKED BY	SEB

NORTH BAY VILLAGE MAIN PUMP STATION IMPROVEMENTS
PREPARED FOR
NORTH BAY VILLAGE
NORTH BAY VILLAGE FLORIDA

LICENSED PROFESSIONAL	STEPHEN E. BAILEY
FLORIDA LICENSE NUMBER	42461
DATE:	05/14/20

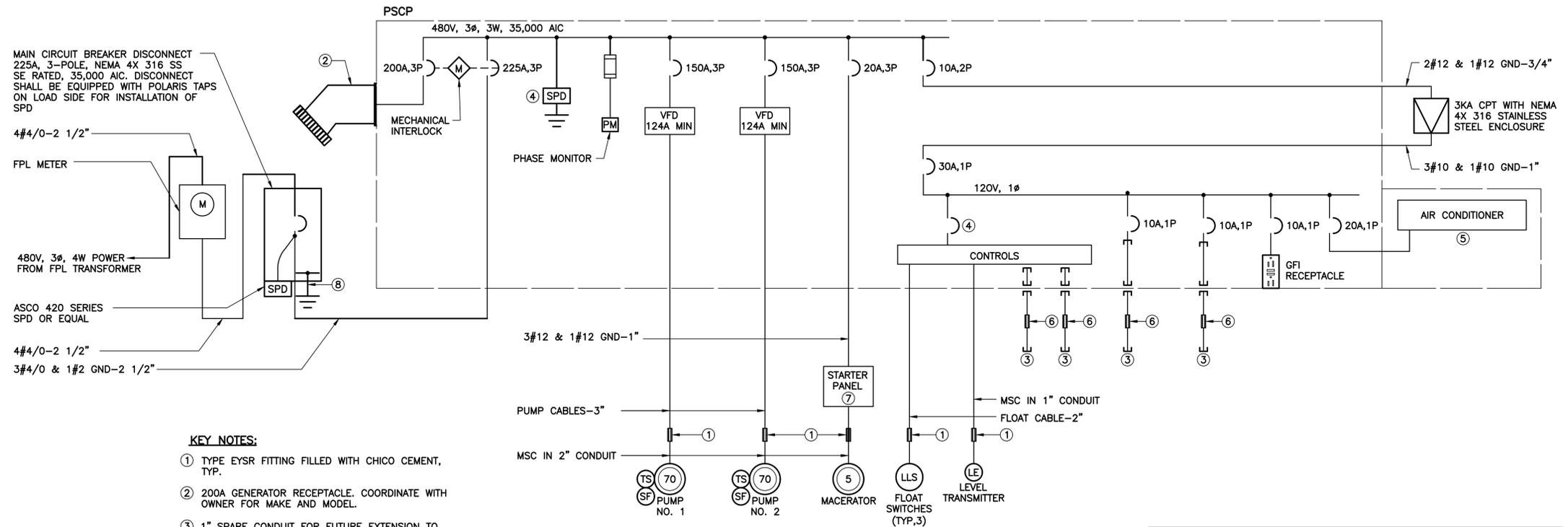
ELECTRICAL SITE PLAN, NOTES, SYMBOLS & ABBREVIATIONS

SHEET NUMBER	E-01
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- KEY NOTES:**
- ① TYPE EYSR FITTING FILLED WITH CHICO CEMENT, TYP.
 - ② 200A GENERATOR RECEPTACLE. COORDINATE WITH OWNER FOR MAKE AND MODEL.
 - ③ 1" SPARE CONDUIT FOR FUTURE EXTENSION TO VALVE BOX AND WETWELL.
 - ④ ASCO 430 SERIES.
 - ⑤ CONTROL PANEL CABINET SHALL BE AIR CONDITIONED. AIR CONDITIONER SHALL BE SIZED TO MAINTAIN PANEL TEMPERATURE AT 78°F WITH 1 PUMP OPERATING & 95°F AMBIENT. MINIMUM SIZE SHALL BE 12000 BTU.
 - ⑥ EMPTY EYSR FITTING.
 - ⑦ MACERATOR STARTER PANEL FURNISHED UNDER DIVISION 11.
 - ⑧ #2 BARE COPPER TO GROUND GRID

SINGLE LINE DIAGRAM

LOAD TABULATION		
SERVICE VOLTAGE: 480V, 3Ø		
DESCRIPTION	LOAD	AMPACITY
① SUBMERSIBLE PUMPS	2 @ 70 HP EACH	= 162.00 AMPS
MACERATOR	1 @ 5 HP	= 7.60 AMPS
MISCELLANEOUS	3 KVA	= 3.60 AMPS
CONNECTED LOAD		= 173.20 AMPS
② MINIMUM SERVICE ENTRANCE = 173.20 AMPS + (0.25)(81.00) = 193.45 AMPS		
NOTES:		
① AMPACITIES PER PUMP MFR. DATASHEETS.		
② SERVICE ENTRANCE MINIMUM SIZE AS PER ARTICLE 230 OF THE NATIONAL ELECTRICAL CODE		

No.	REVISIONS	DATE	BY

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KHA PROJECT	043138041
DATE	May 2020
SCALE	AS SHOWN
DESIGNED BY	SEB
DRAWN BY	SJL
CHECKED BY	SEB

NORTH BAY VILLAGE MAIN PUMP STATION IMPROVEMENTS

PREPARED FOR
NORTH BAY VILLAGE

NORTH BAY VILLAGE FLORIDA DATE: 05/14/20

LICENSED PROFESSIONAL	STEPHEN E. BAILEY
FLORIDA LICENSE NUMBER	42461

SINGLE LINE DIAGRAM

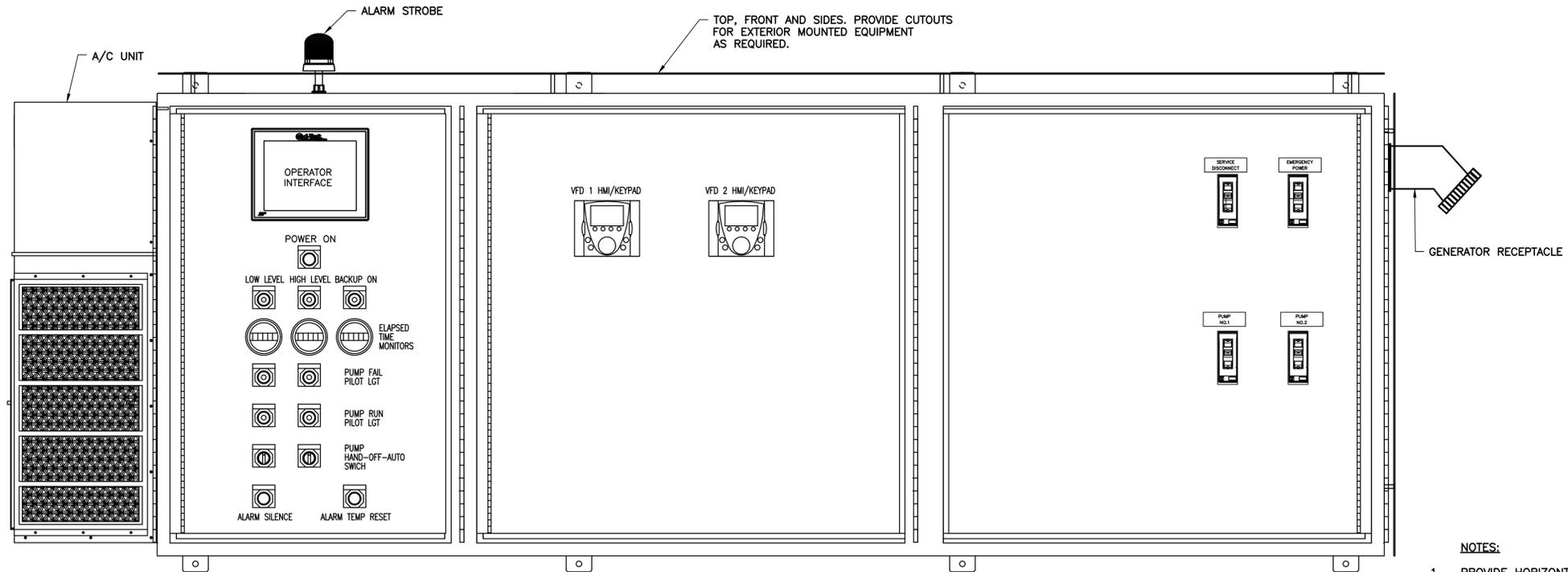
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SHEET NUMBER	E-02
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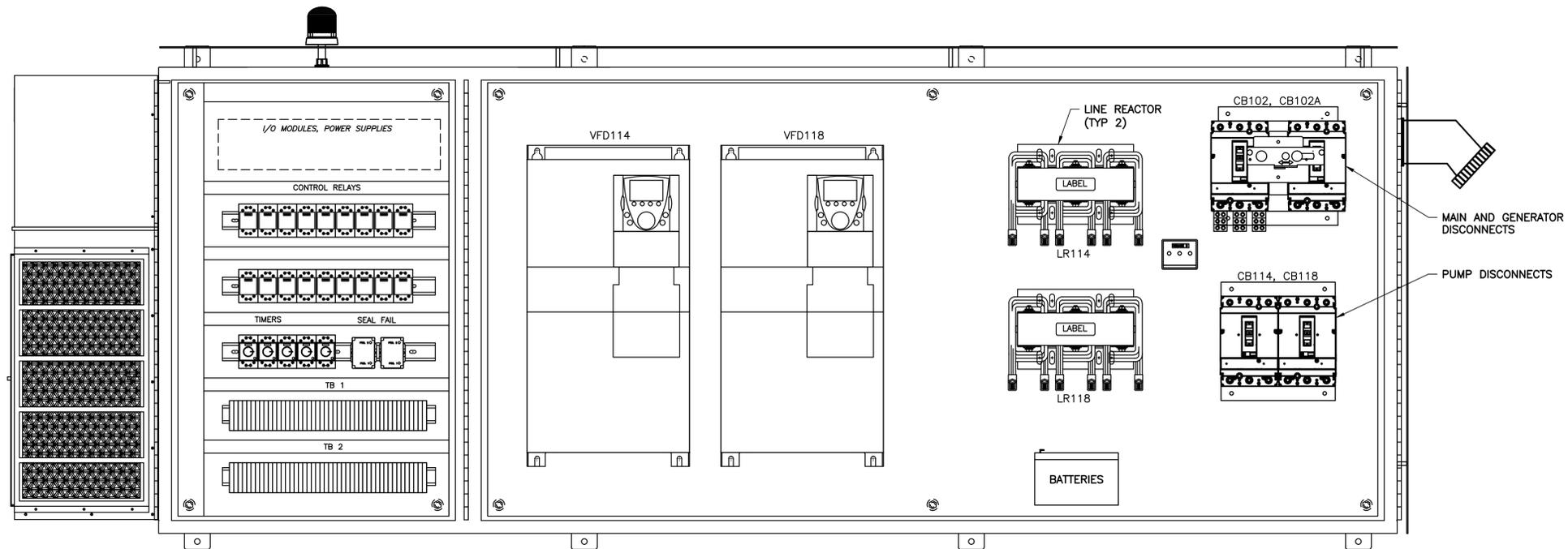
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INNER DOOR LAYOUT WITH OUTER DOORS REMOVED
N.T.S

NOTES:

1. PROVIDE HORIZONTAL CABINET ARRANGEMENT AS SHOWN. CABINET DIMENSIONS SHALL NOT EXCEED 36"H X 96"W X 24"D.
2. RELOCATE A/C UNIT AS DICTATED BY SITE AND INSTALLATION REQUIREMENTS.



BACK PANEL WITH DOORS REMOVED
VFD CABINET
N.T.S

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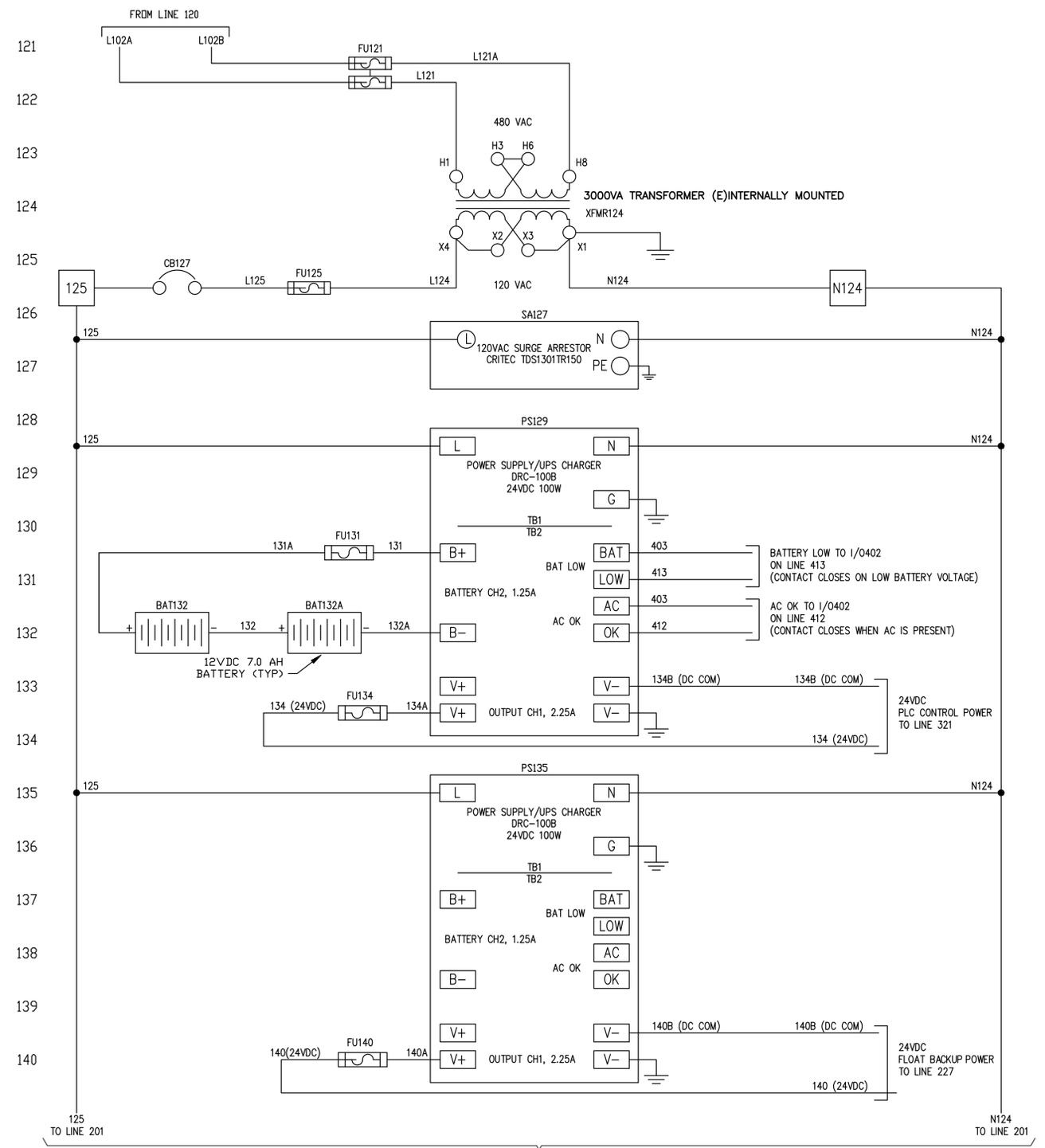
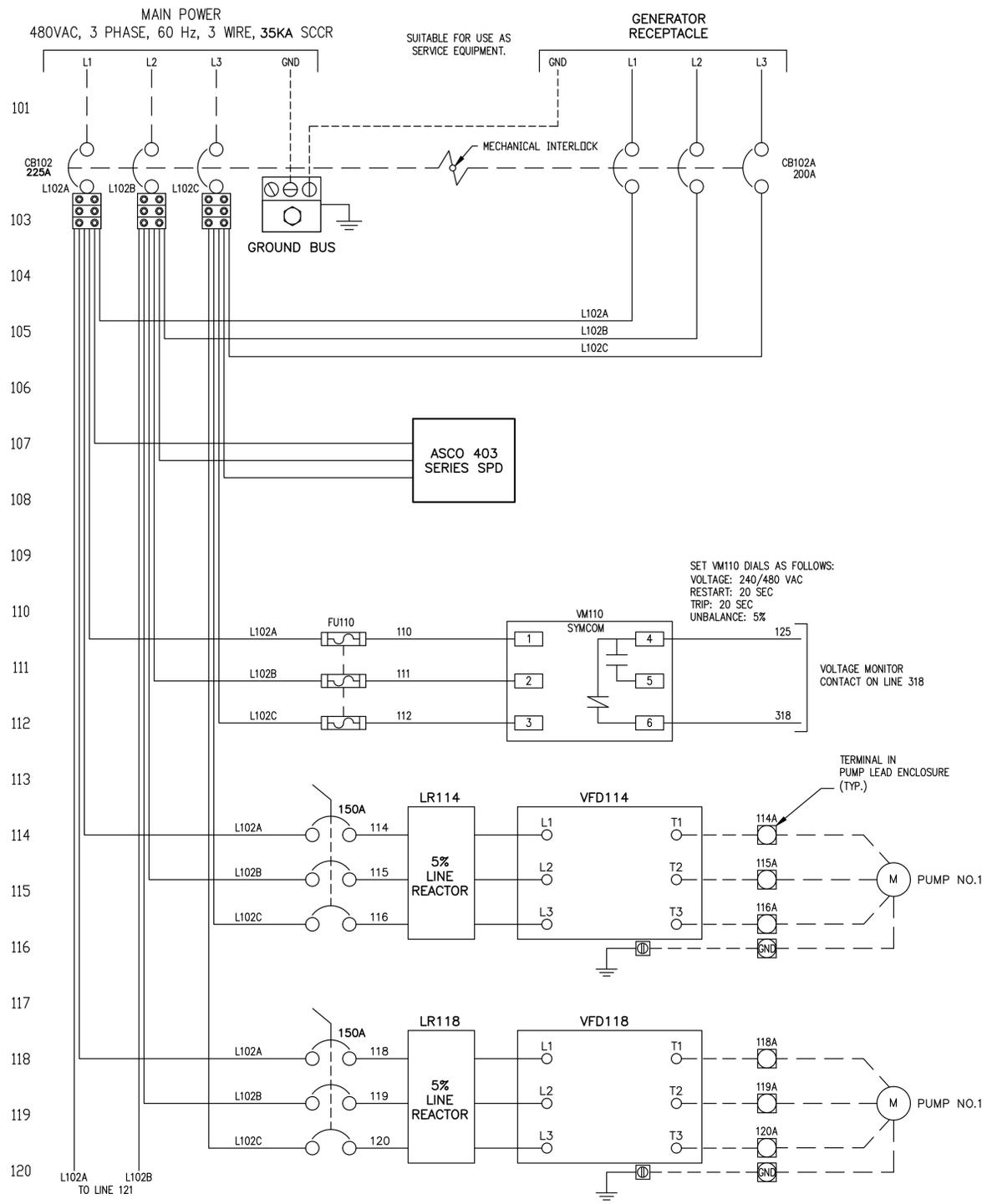
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PREPARED FOR
NORTH BAY VILLAGE
NORTH BAY VILLAGE FLORIDA

LICENSED PROFESSIONAL
STEPHEN E. BAILEY
FLORIDA LICENSE NUMBER
42461
DATE: 05/14/20

**CONTROL PANEL ENCLOSURE
DETAIL**

SHEET NUMBER
E-03

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SEE E-05 FOR CONTINUATION

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NORTH BAY VILLAGE FLORIDA DATE: 05/14/20

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FLORIDA LICENSE NUMBER
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CONTROL PANEL ELEMENTARY DIAGRAM - SHEET 1

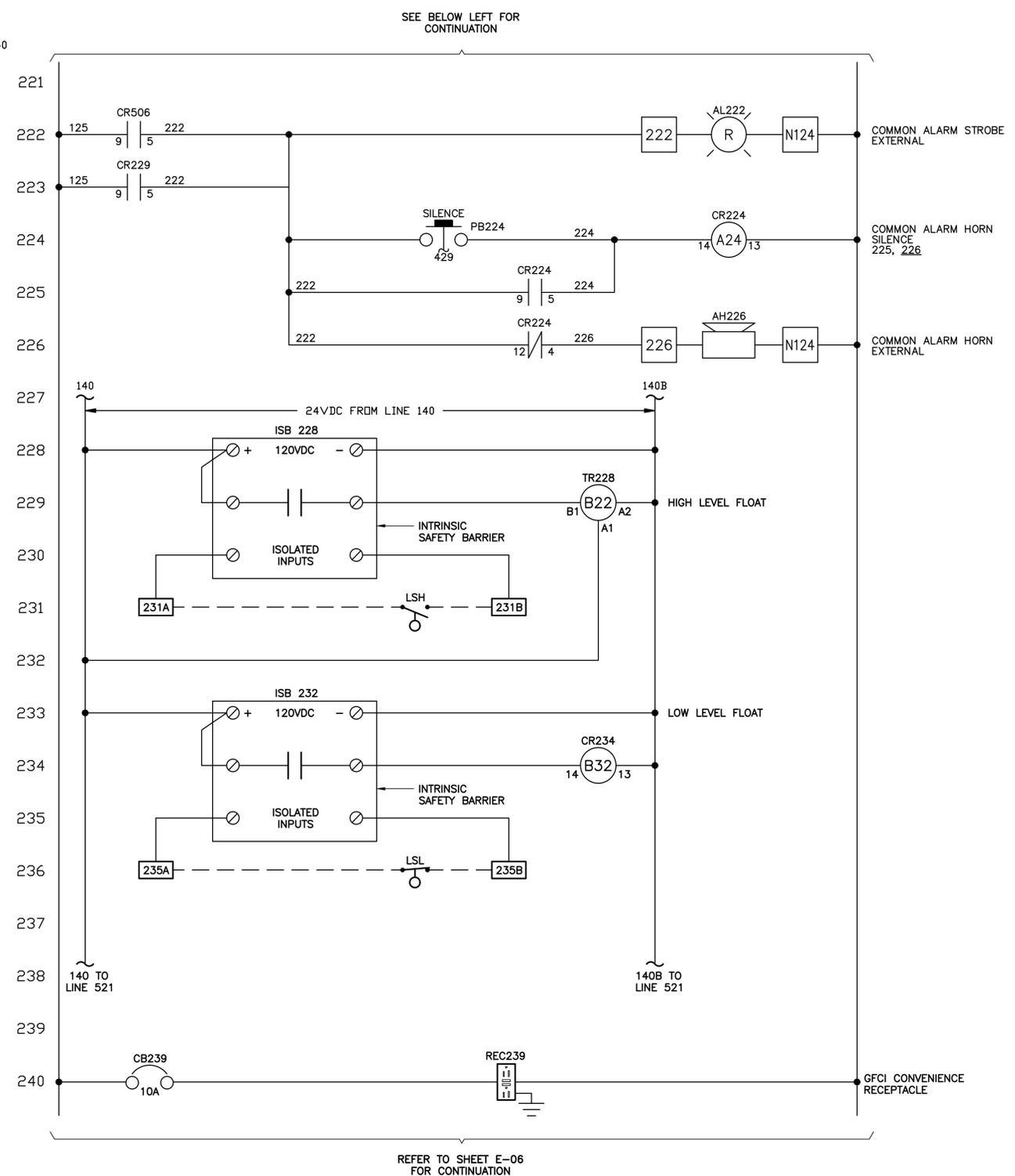
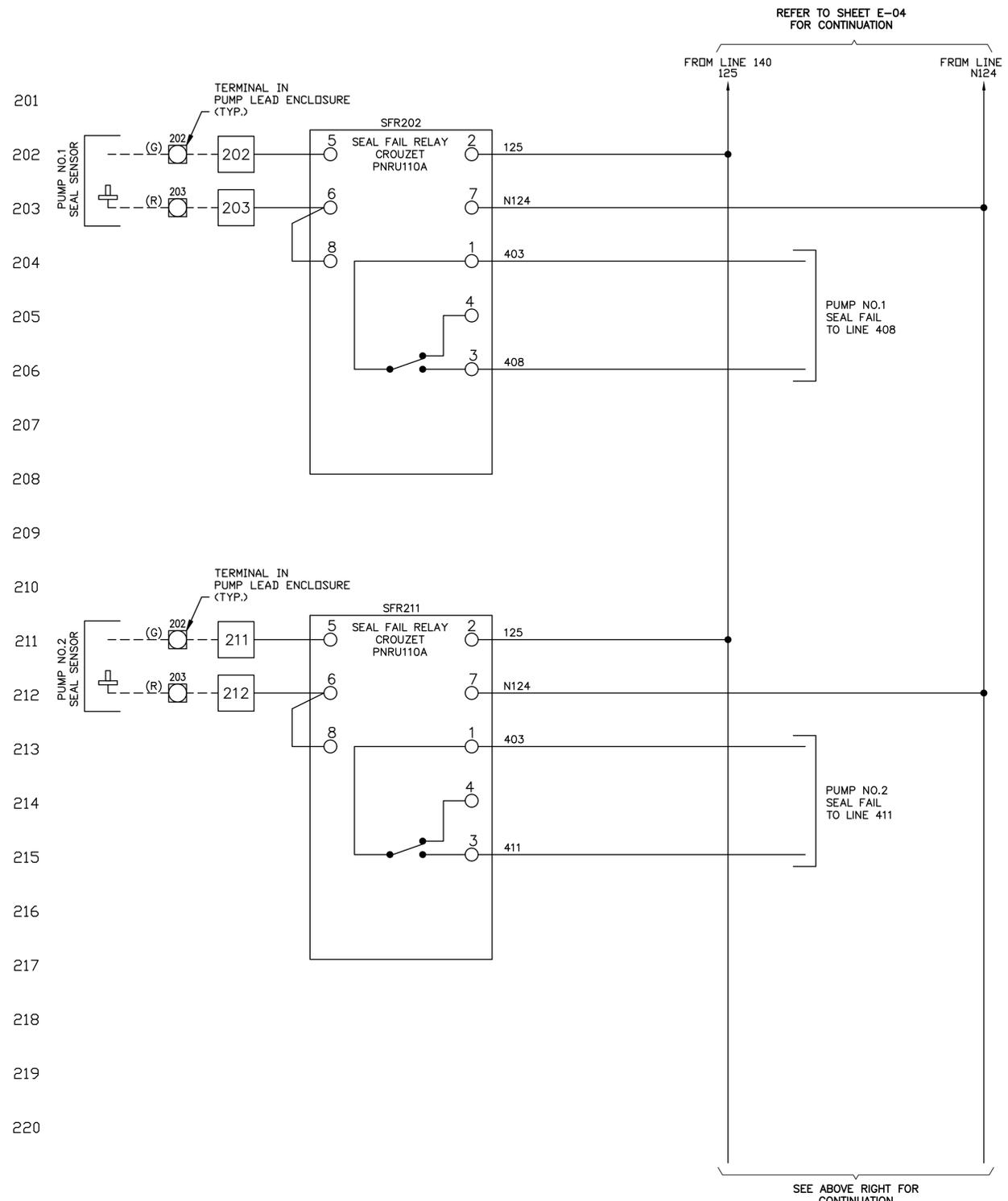
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E-04

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STEPHEN E. BAILEY

FLORIDA LICENSE NUMBER
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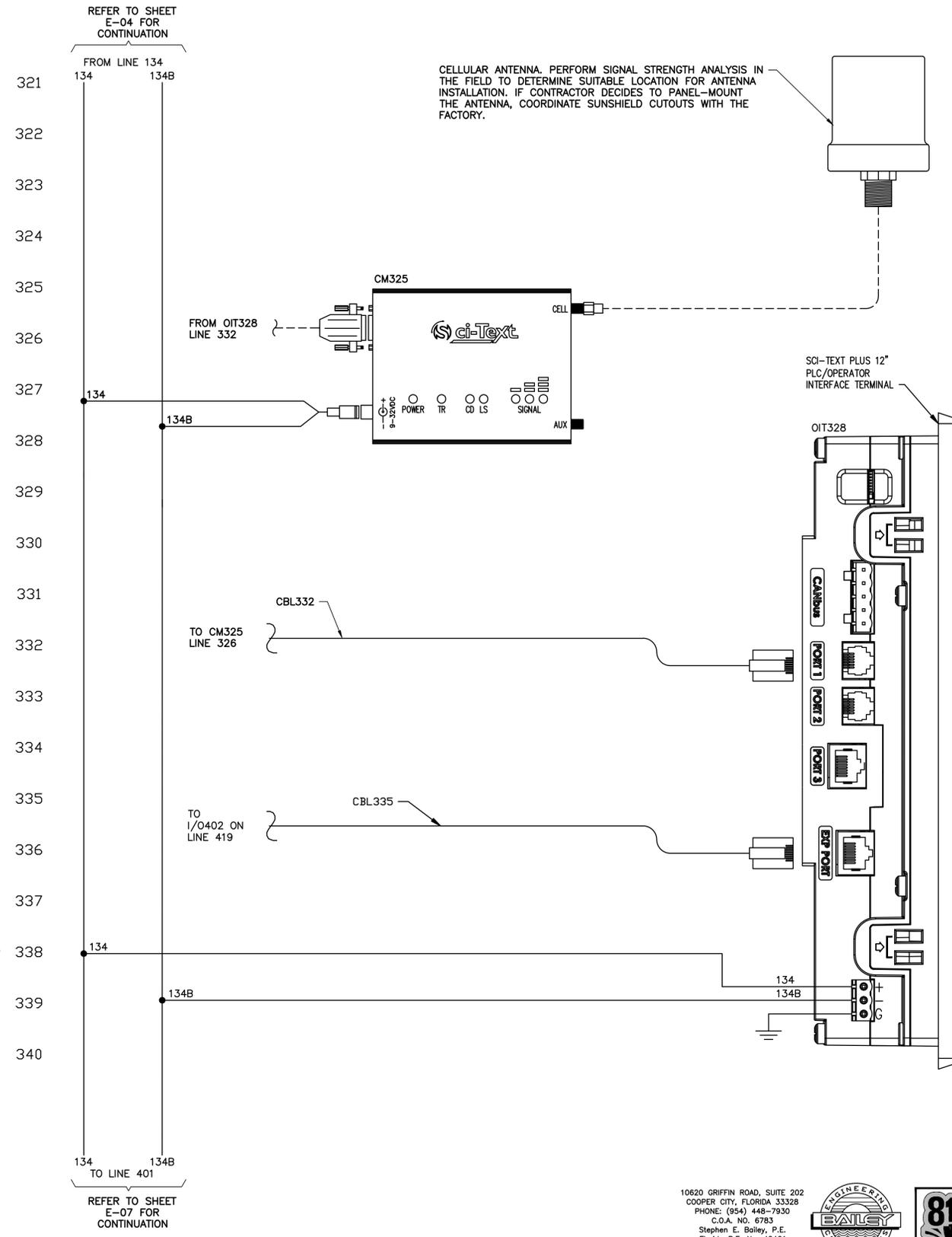
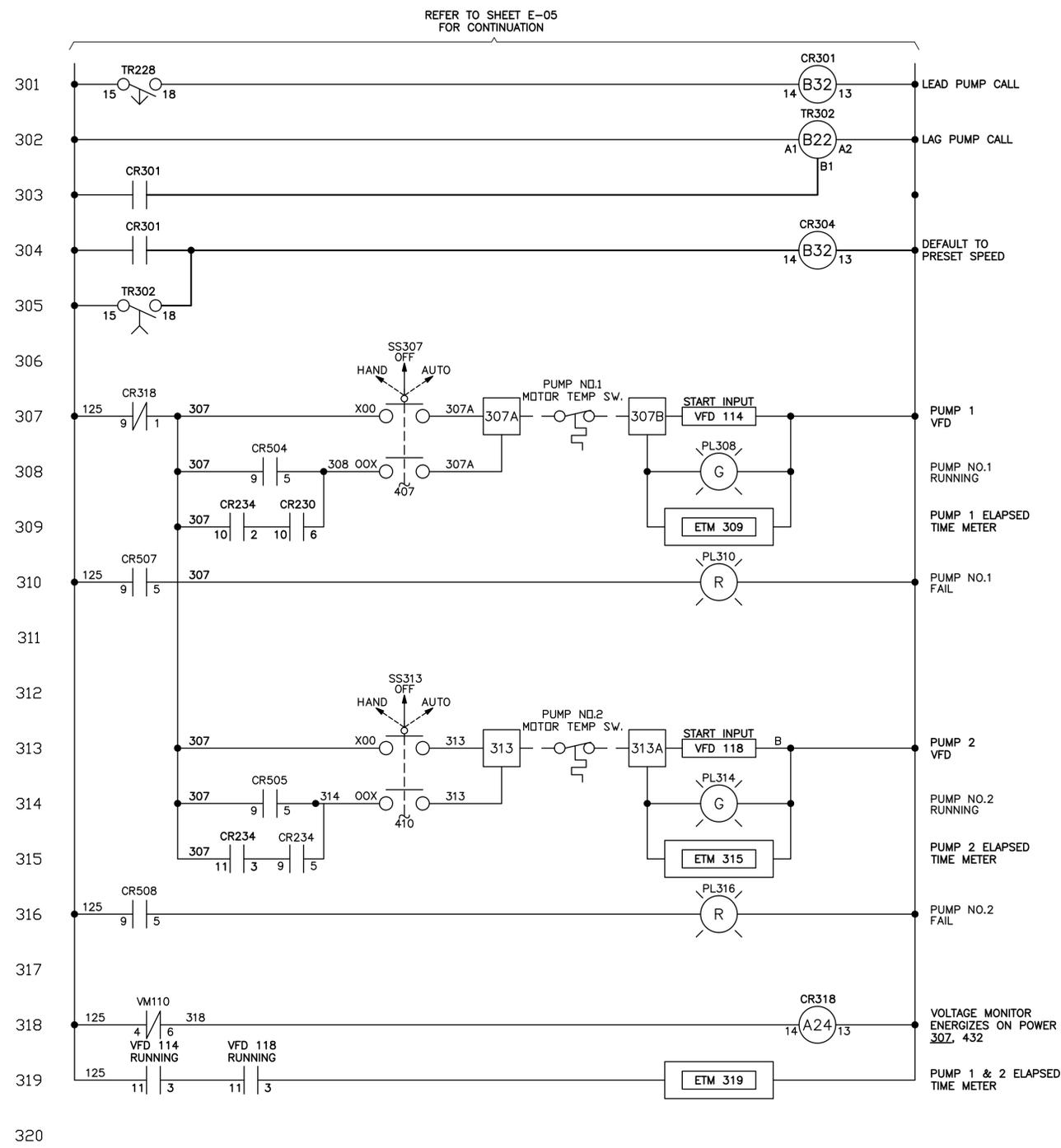
CONTROL PANEL ELEMENTARY DIAGRAM - SHEET 2

SHEET NUMBER

E-05

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CONTROL PANEL ELEMENTARY DIAGRAM - SHEET 3

SHEET NUMBER
E-06

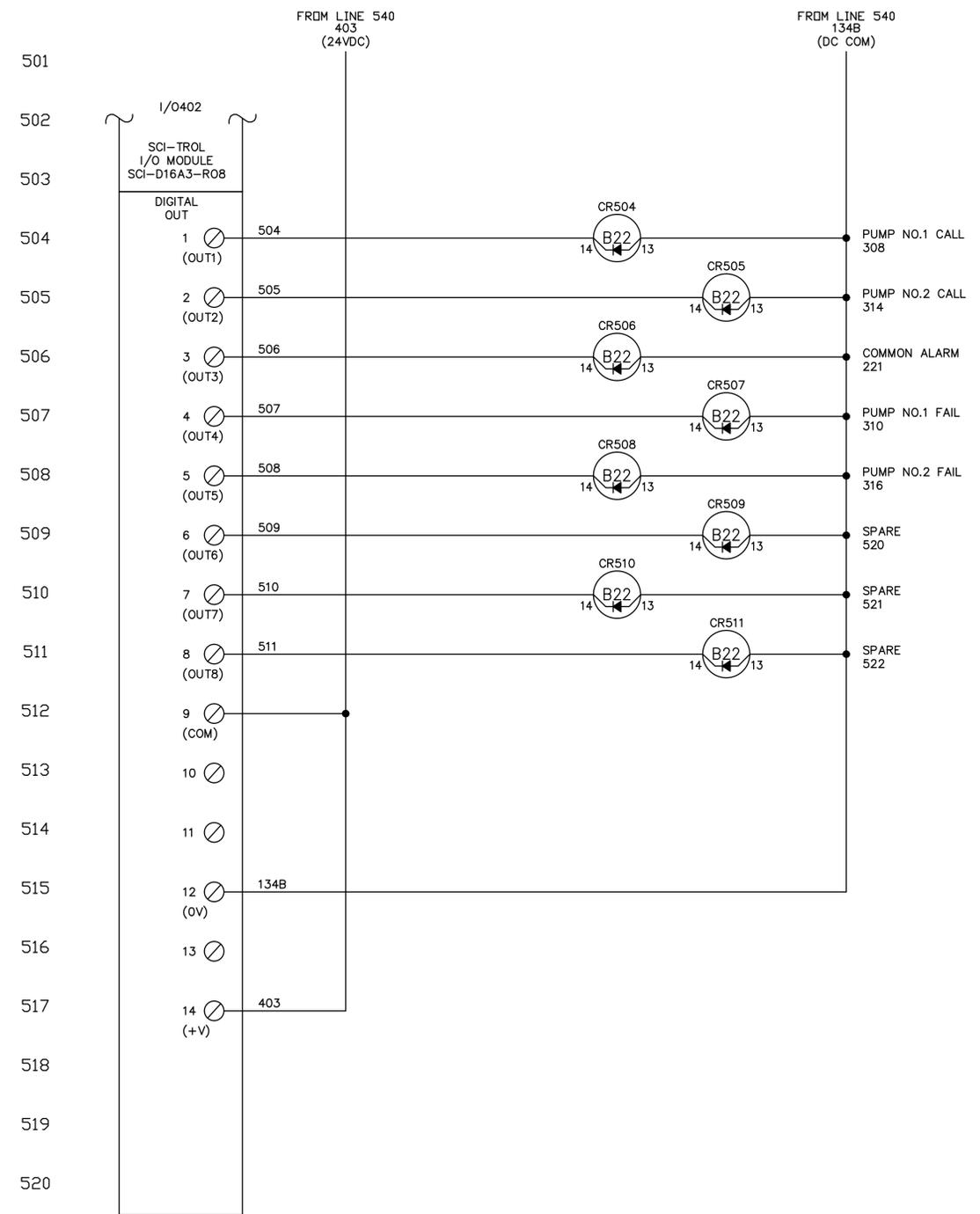
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REFER TO SHEET E-07 FOR CONTINUATION



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NORTH BAY VILLAGE MAIN PUMP STATION IMPROVEMENTS

PREPARED FOR
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NORTH BAY VILLAGE FLORIDA

LICENSED PROFESSIONAL

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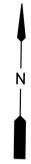
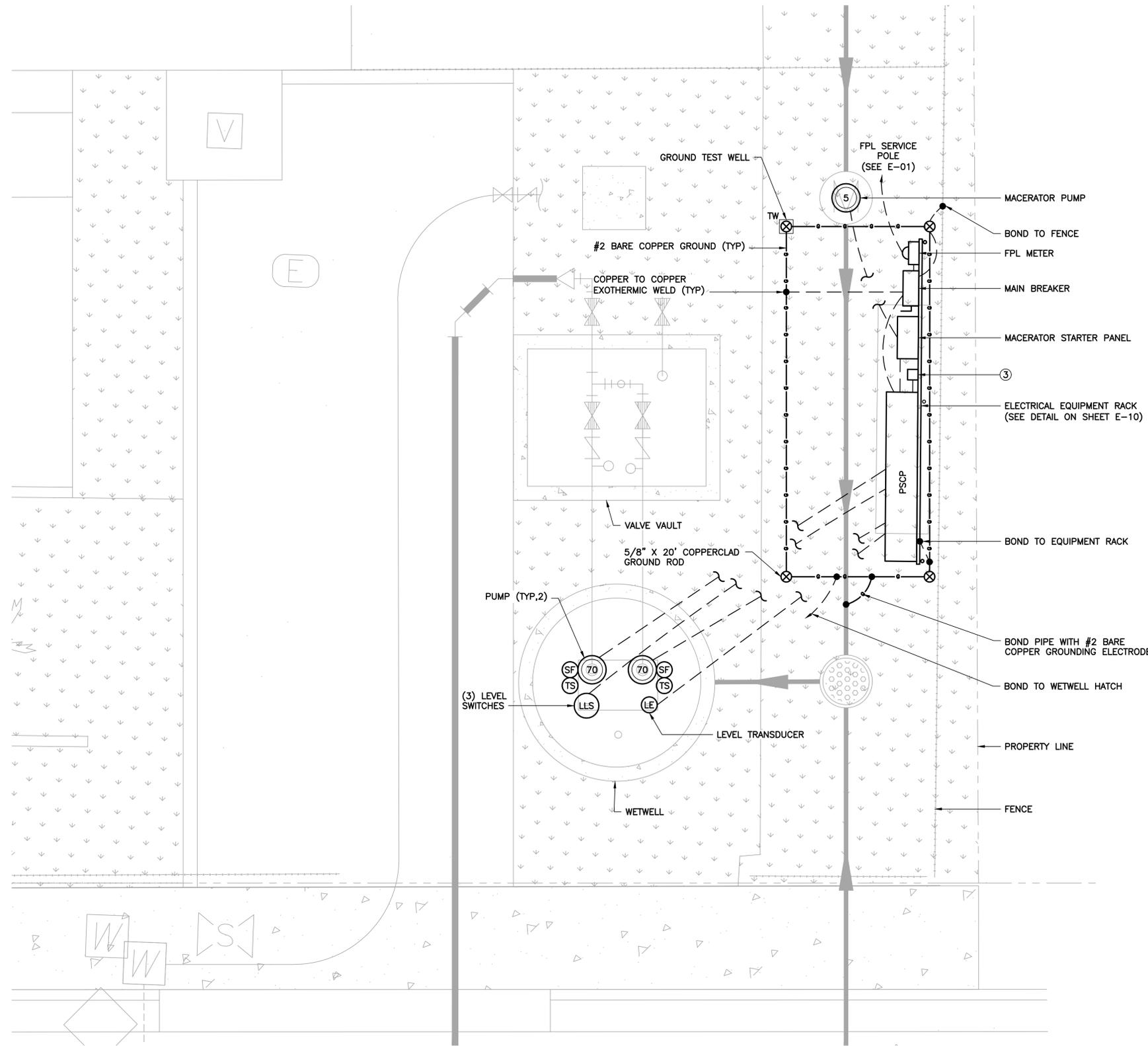
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CONTROL PANEL ELEMENTARY DIAGRAM - SHEET 5

SHEET NUMBER

E-08

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- NOTES:**
- ① REFER TO DETAILS FOR HAZARDOUS CLASSIFICATIONS. USE APPROPRIATE MATERIALS AND WIRING METHODS.
 - ② BONDING CONNECTIONS BETWEEN ELECTRODE, REBAR AND PIPING SHALL BE EXOTHERMIC.
 - ③ CPT.

PUMP STATION ELECTRICAL PLAN VIEW

SCALE: 3/8"=1'-0"
 12" 0 1 2 4'

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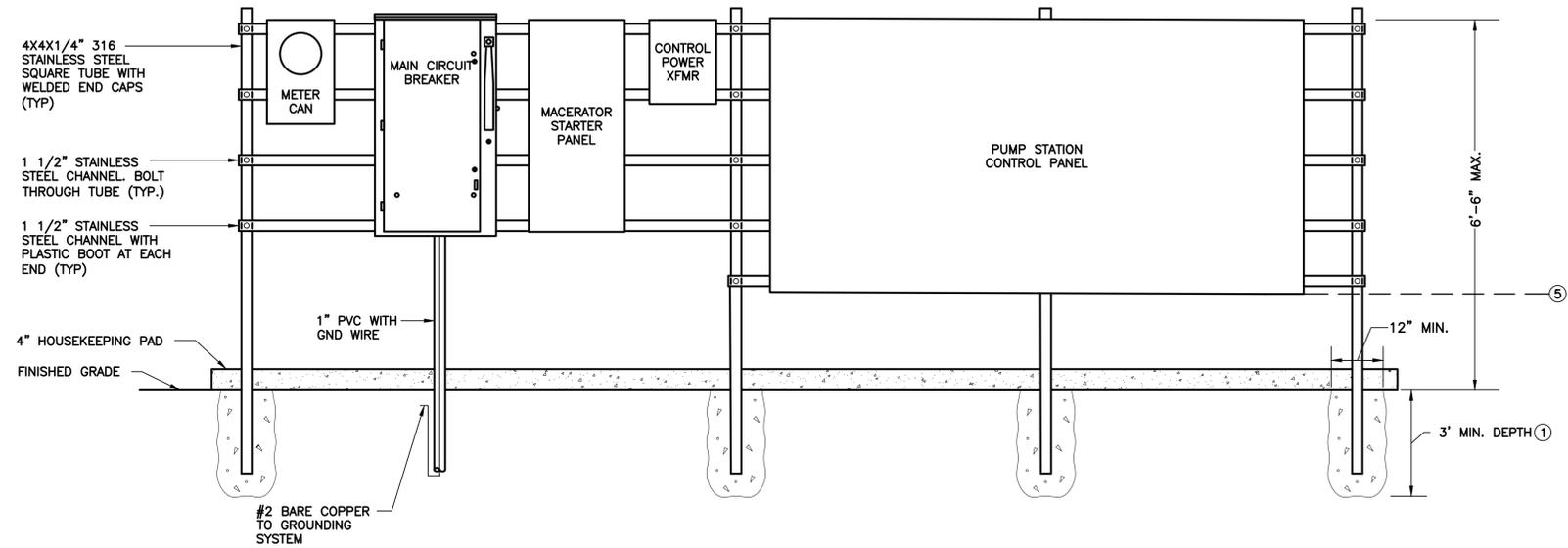
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LIFT STATION ELECTRICAL PLAN VIEW

SHEET NUMBER
E-09

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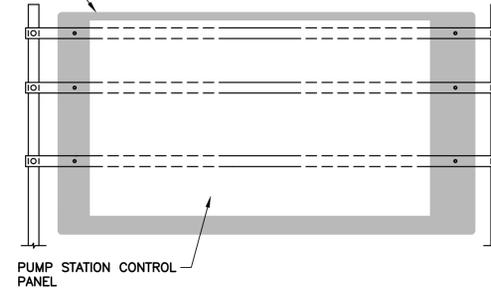
NOTES:

- ① DEPTH AS REQUIRED TO MEET FLORIDA BUILDING CODE WIND LOAD REQUIREMENTS. CONTRACTOR SHALL SUBMIT SIGNED AND SEALED WIND LOAD CALCULATIONS FROM A STRUCTURAL ENGINEER LICENSED IN THE STATE OF FLORIDA.
- ② ALL HARDWARE SHALL BE 316 STAINLESS STEEL UNLESS OTHERWISE NOTED.
- ③ REAR SUNSHIELDS ARE REQUIRED FOR ALL ELECTRICAL EQUIPMENT RACKS. SEE TYPICAL EQUIPMENT RACK REAR SUNSHIELD DETAIL BELOW.
- ④ REFER TO SINGLE LINE DIAGRAM FOR WIRING AND RACEWAY REQUIREMENTS.
- ⑤ BASE FLOOD ELEVATION IS 9'-0" NGVD 29, FLOOD ZONE AE. INSTALL ALL ELECTRICAL EQUIPMENT 12" MINIMUM CLEAR OF BASE FLOOD ELEVATION.

ELECTRICAL EQUIPMENT RACK FRONT VIEW ELEVATION

N.T.S.

CUSTOM FABRICATED ALUMINUM SUNSHIELD WITH BURR FREE EDGES, MOUNT SUNSHIELD TO REAR OF UNI-STRUT WITH SS BOLTS, SCREWS AND WASHERS



TYPICAL EQUIPMENT RACK REAR SUNSHIELD

SCALE: N.T.S.

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NORTH BAY VILLAGE MAIN PUMP STATION IMPROVEMENTS

PREPARED FOR
NORTH BAY VILLAGE

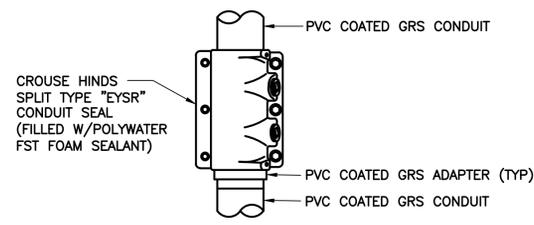
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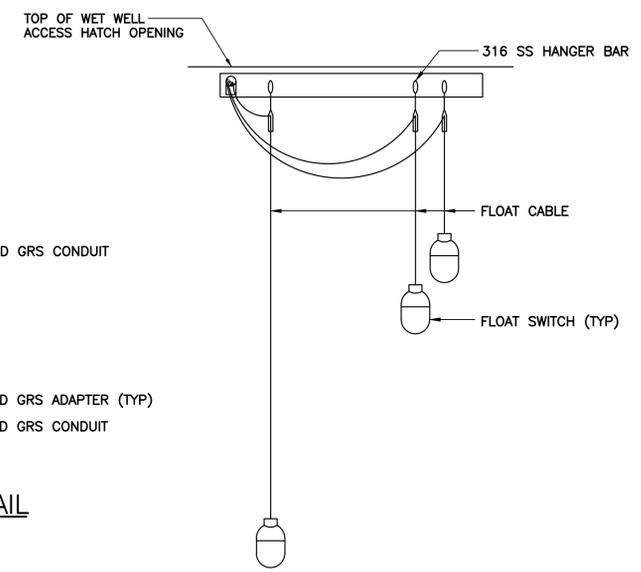
ELECTRICAL DETAILS-1

SHEET NUMBER	E-10
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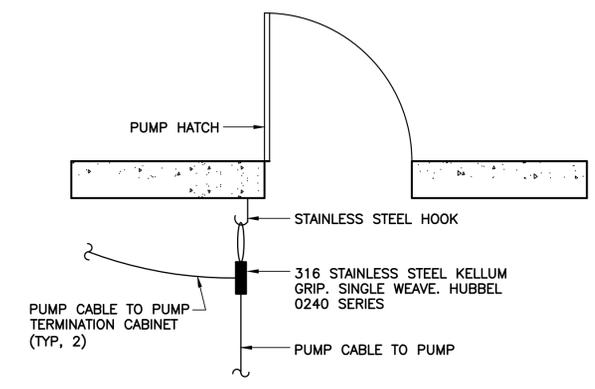
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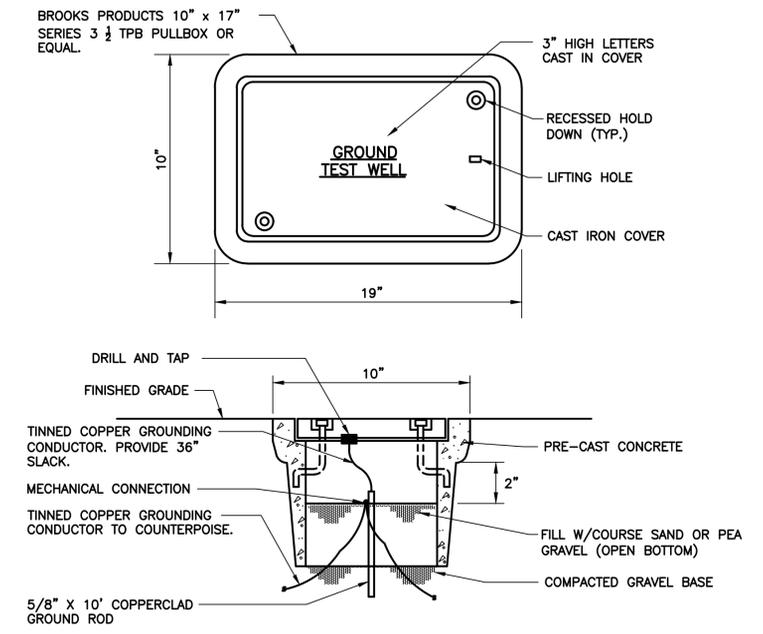
SEAL-OFF FITTING DETAIL
N.T.S.



TYPICAL LEVEL SWITCH MOUNTING DETAIL
N.T.S.

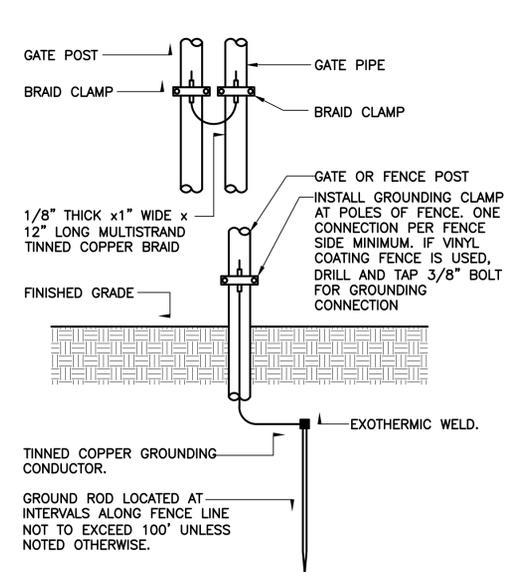


TYPICAL PUMP CABLE MOUNTING DETAIL
N.T.S.

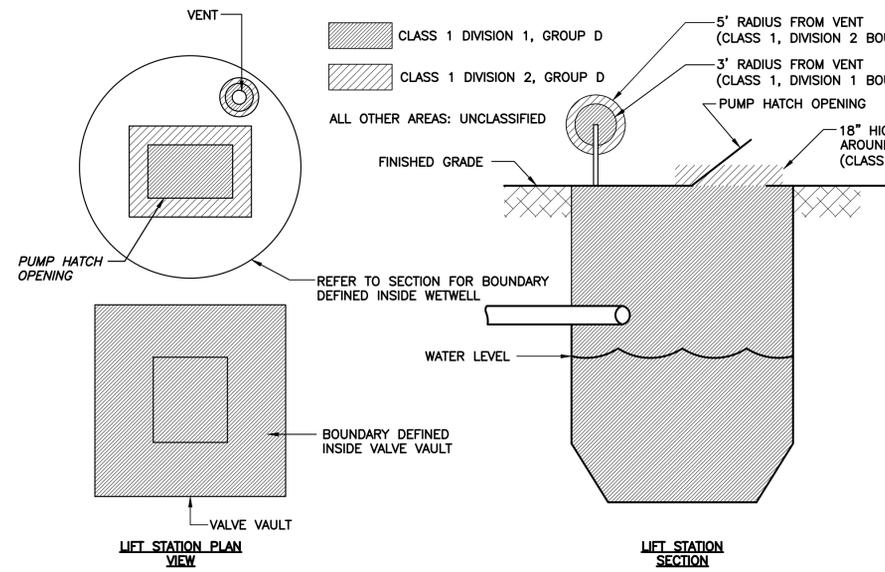


NOTES:
1. TEST WELL AND COVER SHALL BE H-20 RATED.

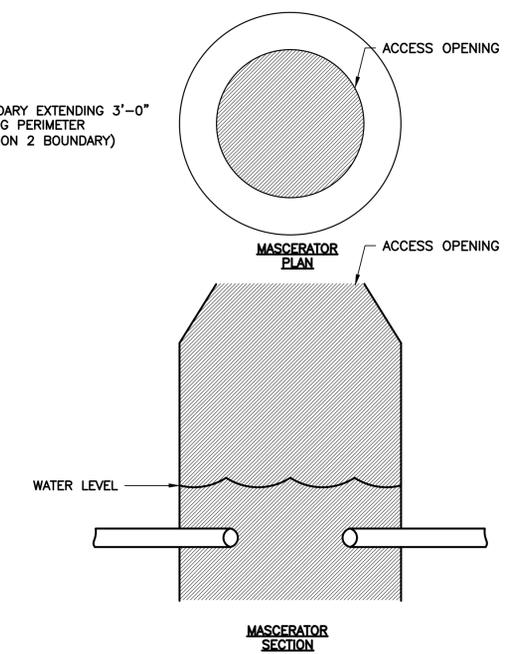
TYPICAL GROUND TEST WELL
N.T.S.



TYPICAL GATE OR FENCE POST GROUNDING
N.T.S.



HAZARDOUS AREA CLASSIFICATION
N.T.S.



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ELECTRICAL DETAILS - 2

SHEET NUMBER	E-11
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