SET NO.

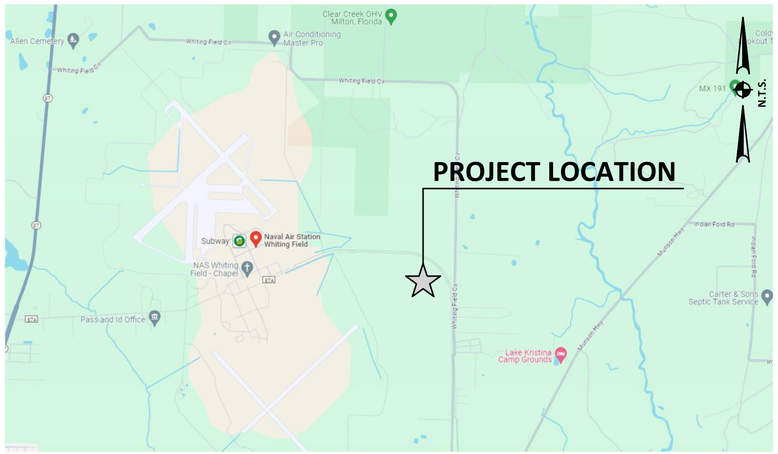
# WHITING AVIATION PARK
# FIRE FLOW EXPANSION - PHASE A
## PROJECT NO. 1202201

**ISSUED FOR BID: JUNE 2024**


## SANTA ROSA COUNTY, FLORIDA
## BOARD OF COUNTY COMMISSIONERS

| | |
|---|---|
| SAM PARKER | DISTRICT 1 - CHAIRMAN |
| KERRY SMITH | DISTRICT 2 - COMMISSIONER |
| JAMES CALKINS | DISTRICT 3 - VICE CHAIRMAN |
| RAY EDDINGTON | DISTRICT 4 - COMMISSIONER |
| COLTEN WRIGHT | DISTRICT 5 - COMMISSIONER |

## LOCATION MAP




## SHEETS INDEX



## PREPARED BY


VOLKERT
215 FAIRPOINT DRIVE
SUITE B
GULF BREEZE, FL 32561
WWW.VOLKERT.COM


THOMAS GREGORY BRYNER LICENSE No. 90078 STATE OF FLORIDA PROFESSIONAL ENGINEER 5-31-24

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PROJECT NO. 1202201
DRAWING NO. 1
SHEET NO. G-01

## NOTIFICATION REQUIREMENTS/CONTACTS

1. 24-HR EMERGENCY CONTACT: CITY OF MILTON PUBLIC WORKS DEPT.
   - OFFICE HOURS (7:30 AM - 4:30 PM, M - F): (850) 983-5400, EXT 1200
   - AFTER HOURS: (850) 983-5420

2. OWNER: SANTA ROSA COUNTY, FLORIDA
   6495 CAROLINE ST., SUITE C
   MILTON, FLORIDA 32570
   PHONE: (850) 981-2109

3. ENGINEER: VOLKERT, INC.
   215 FAIRPOINT DRIVE, SUITE B
   GULF BREEZE, FLORIDA 32561
   CONTACT: THOMAS BRYMER, PE, MS
   PHONE:(251) 342-1070

4. NOTIFY INSPECTIONS OF THE FOLLOWING AT THE INDICATED TIME INTERVAL. THE INSPECTION POINT OF CONTACT WILL BE PROVIDED AT THE PRE-CONSTRUCTION MEETING.
   - 24 HOURS PRIOR TO THE BEGINNING OF EACH PHASE OF CONSTRUCTION.
   - 7 DAYS PRIOR TO SHUT OFF OF SERVICES AND/OR WET CUT-INS. THIS ALSO REQUIRES A FOLLOW-UP NOTIFICATION TO INSPECTOR AND AFFECTED CUSTOMERS A MINIMUM OF 24 HOURS PRIOR TO INTERRUPTING SERVICE

5. THE CONTRACTOR SHALL VERIFY LOCATIONS OF EXISTING UTILITIES AND COORDINATE WITH THE APPLICABLE UTILITY COMPANIES A MINIMUM OF 72 HOURS PRIOR TO BEGINNING CONSTRUCTION IN AREAS WHERE THE UTILITIES ARE SHOWN OR ARE SUSPECTED TO BE. THE FOLLOWING LIST OF UTILITY COMPANIES IS NOT ALL INCLUSIVE AND IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO ENSURE THE APPROPRIATE UTILITY COMPANIES ARE NOTIFIED WHETHER OR NOT THEY ARE LISTED HEREIN:

   - SEWER/WATER: THE CITY OF MILTON
     6738 DIXON STREET
     MILTON, FLORIDA 32572
     (850) 983-5400

   - ELECTRIC: GULF POWER
     5120 DOGWOOD DRIVE
     MILTON, FLORIDA 32570
     (850) 549-1031

   - CABLE: MEDIACOM
     1616 NANTHALA DRIVE
     GULF BREEZE, FLORIDA 32563
     (850) 934-2564

   - TELEPHONE: AT&T FLORIDA
     6689 EAST MAGNOLIA STREET
     MILTON, FLORIDA 32570
     (850) 623-3654

   - GAS: CITY OF MILTON, GAS DEPT.
     5438 ALABAMA STREET
     MILTON, FLORIDA 32570
     (850) 983-5434

   - FIBER OPTIC: SOUTHERN LIGHT
     107 SAINT FRANCIS STREET
     SUITE 1800
     MOBILE, ALABAMA 36602
     (251) 662-1170

   - COMMUNICATIONS: LEVEL 3 COMMUNICATIONS
     1025 ELDORADO BOULEVARD
     BROOMFIELD, COLORADO 80021
     (720) 888-4988

   - MISCELLANEOUS: SUNSHINE STATE ONE-CALL
     7200 LAKE ELLENOR DRIVE
     SUITE 200
     ORLANDO, FLORIDA 32809
     (800) 432-4770

## UTILITY GENERAL NOTES

1. ALL CONSTRUCTION SHALL BE CONSTRUCTED IN STRICT ACCORDANCE WITH THE LATEST CITY OF MILTON PUBLIC WORKS MANUAL.

2. ALL CONSTRUCTION SHALL COMPLY WITH THE CONTRACT PLANS, SPECIFICATIONS, PERMIT REQUIREMENTS, AND ALL APPLICABLE FEDERAL, STATE, AND LOCAL CODES. NO ADDITIONAL PAYMENT WILL BE GIVEN FOR ANY COSTS INCURRED TO COMPLY WITH REQUIREMENTS SET BY THE AFOREMENTIONED ITEMS.

3. THE CONTRACTOR SHALL IMMEDIATELY INFORM THE OWNER OF ANY DISCREPANCIES OR ERRORS DISCOVERED IN THE CONTRACT DOCUMENTS. ANY DEVIATION FROM THE PLANS WITHOUT PRIOR CONSENT OF OWNER MAY BE CAUSE FOR THE WORK TO BE UNACCEPTABLE.

4. ALL NECESSARY LICENSES, BONDS, PERMITS, ETC. SHALL BE OBTAINED BY THE CONTRACTOR AT THE CONTRACTOR'S OWN EXPENSE.

5. A PRE-CONSTRUCTION MEETING SHALL BE HELD WITH SANTA ROSA COUNTY, ENGINEER, CONTRACTOR, AND DOT (IF APPLICABLE) PRIOR TO COMMENCING WORK.

## UTILITY GENERAL NOTES CONT'D

6. ALL CONSTRUCTION ACTIVITIES SHALL BE LIMITED TO PUBLIC RIGHT-OF-WAYS AND ACQUIRED EASEMENTS. WORK IS TO BE PERFORMED IN CONFORMITY WITH ALL APPLICABLE PERMITS, AGREEMENTS, AND EASEMENT STIPULATIONS. CONTRACTOR SHALL NOT ENTER OR OCCUPY ANY EASEMENT WITHOUT FIRST CONFIRMING WITH SANTA ROSA COUNTY THAT SUCH EASEMENT IS FULLY EXECUTED. CONTRACTOR SHALL NOT ENTER OR OCCUPY ANY LAND OUTSIDE OF THE EASEMENTS AND RIGHT-OF-WAYS. SHOULD THE CONTRACTOR DESIRE OR REQUIRE ADDITIONAL SPACE, THE CONTRACTOR MUST ARRANGE FOR SUCH A SPACE WITH THE EASEMENT OWNER AT THE CONTRACTOR'S EXPENSE. CONTRACTOR SHALL PROVIDE COPIES OF EASEMENT AGREEMENTS TO THE OWNER PRIOR TO WORK COMMENCING ON PRIVATE PROPERTY.

7. LAND DISTURBANCE SHALL BE LIMITED TO THOSE AREAS INDICATED ON THE PLANS FOR ACCESS, STAGING, AND UTILITY CONSTRUCTION.

8. ALL BUFFERS AND TREE SAVE AREAS ARE TO BE CLEARLY IDENTIFIED WITH TREE PROTECTIVE FENCING PRIOR TO COMMENCEMENT OF ANY LAND DISTURBANCE.

9. INSTALLATION OF EROSION CONTROL MEASURES AND PRACTICES SHALL TAKE PLACE PRIOR TO AND CONCURRENT WITH LAND DISTURBANCE ACTIVITIES. ALL EROSION CONTROL MEASURES SHALL BE MAINTAINED AT ALL TIMES AND SHALL BE INSPECTED REGULARLY. ADDITIONAL EROSION CONTROL MEASURES SHALL BE INSTALLED IF DEEMED NECESSARY BY THE OWNER. CONTRACTOR SHALL ALSO REMOVE TEMPORARY BMPS AT APPROPRIATE TIME.

10. DRAINAGE SYSTEMS SHALL BE MAINTAINED, KEPT FREE OF DEBRIS, AND IN GOOD OPERATING CONDITION AT ALL TIMES DURING CONSTRUCTION OF THIS PROJECT.

11. MONUMENTS OR LANDMARKS SHALL NOT BE DISTURBED OR REMOVED BY THE CONTRACTOR WITHOUT WRITTEN CONSENT OF THE OWNER. ANY MONUMENTS OR LANDMARKS REMOVED OR DAMAGED SHALL BE REPLACED BY A FLORIDA-LICENSED LAND SURVEYOR AT THE EXPENSE OF THE CONTRACTOR.

12. NO TRENCH SHALL BE OPENED MORE THAN 150 FEET AHEAD OF PIPE LAYING AND NO MORE THAN 500 FEET OF TRENCH MAY BE OPEN AT ANY ONE TIME. CLEANUP AND GRASSING SHALL FOLLOW A MAXIMUM OF 500 FEET BEHIND PIPE INSTALLATION. NO TRENCH IS TO BE LEFT OPEN OVERNIGHT WITHOUT THE WRITTEN APPROVAL BY THE OWNER.

13. CONTRACTOR SHALL FURNISH SUITABLE BORROW MATERIAL FOR THE PROJECT AND THE MATERIAL SHALL BE APPROVED BY THE OWNER PRIOR TO USE. ALL SPOIL MATERIALS, REFUSE, AND DEBRIS SHALL BE REMOVED FROM THE SITE BY THE CONTRACTOR AND LEGALLY DISPOSED OF AT AN APPROPRIATE OFF-SITE LOCATION. BURNING OF SPOIL MATERIAL, REFUSE, AND DEBRIS IS NOT PERMITTED.

14. FILL AREAS UNDER PAVED AREAS SHALL BE COMPACTED TO A MINIMUM OF 95% STANDARD PROCTOR AND FILL AREAS UNDER NON-PAVED AREAS SHALL BE COMPACTED TO A MINIMUM OF 85% STANDARD PROCTOR, UNLESS OTHERWISE NOTED IN THE PLANS AND SPECIFICATIONS OR DIRECTED BY THE ENGINEER.

15. CONTRACTOR IS TO ALLOW FULL ACCESS TO INSPECTION AND MATERIALS TESTING PERSONNEL. ANY FAILED MATERIALS TESTS SHALL REQUIRE THE CONTRACTOR TO REDO THE WORK UNTIL THE TEST IS PASSED. ADDITIONAL WORK AND TESTING CAUSED BY FAILED TESTS WILL BE PERFORMED AT THE EXPENSE OF THE CONTRACTOR.

16. ALL PROJECT SITE AREAS DISTURBED BY THE CONTRACTOR SHALL BE STABILIZED WITH PERMANENT GRASSING UNLESS OTHERWISE NOTED. PERMANENT GRASSING SHALL BE SOD UNLESS OTHERWISE SPECIFICALLY NOTED IN THE CONTRACT DOCUMENTS OR APPROVED BY THE OWNER. ANY AREAS OTSIDE THE PROJECT SITE AREA THAT ARE DISTURBED SHALL BE RESTORED AT THE EXPENSE OF THE CONTRACTOR.

17. THE CONTRACTOR SHALL RESTORE ALL DISTURBED GRAVEL, PAVED, OR CONCRETE ENTRANCES, DRIVEWAYS, AND APRONS TO PRE-CONSTRUCTION CONDITION OR BETTER AND IN ACCORDANCE WITH ALL APPLICABLE DOT STANDARDS AND REQUIREMENTS.

18. VEHICULAR AND PEDESTRIAN TRAFFIC ACCESS TO PUBLIC ROADWAYS, DRIVEWAYS, FIRE HYDRANTS, VALVES, ETC. SHALL BE MAINTAINED AT ALL TIMES FOR RESIDENTS, PROPERTY OWNERS, PEDESTRIANS, THE TRAVELING PUBLIC, TRASH PICKUP, MAIL AND PARCEL DELIVERY SERVICES, SCHOOL BUSES, AND EMERGENCY VEHICLES.

19. STREET INTERSECTIONS MAY NOT BE BLOCKED EXCEPT FOR ONE-HALF OF THE ROADWAY AT ANY GIVEN TIME. IF IT BECOMES NECESSARY TO CLOSE A PORTION OF THE ROAD, THE CONTRACTOR SHALL PROVIDE A TRAFFIC ROUTING/DETOUR PLAN FOR REVIEW AND APPROVAL PRIOR TO CLOSING THE ROAD.

20. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL NECESSARY FLAGMEN, SIGNAGE, BARRICADES, LIGHTS, AND OTHER TRAFFIC CONTROL DEVICES NECESSARY TO CONTROL TRAFFIC AND PROTECT THE PUBLIC. ALL TRAFFIC CONTROL MUST BE IN ACCORDANCE WITH THE MUTCD (LATEST EDITION) AND DOT STANDARDS. TRAFFIC CONTROL TO BE FURNISHED BY THE CONTRACTOR IN ACCORDANCE WITH THE SPECIFICATIONS.

21. CONTRACTOR SHALL PROVIDE PARKING WITHIN THE CONSTRUCTION LIMITS DETAILED AND SHALL PARK VEHICLES AND EQUIPMENT SO THAT THERE IS NO DISRUPTION TO TRAFFIC. NO PARKING ON PRIVATE PROPERTY WILL BE PERMITTED.

22. THE SIZE, TYPE, MATERIALS, AND LOCATIONS OF EXISTING UNDERGROUND UTILITIES SHOWN ON THE PLANS ARE BASED ON THE BEST AVAILABLE INFORMATION. SUBSURFACE UTILITY DATA SHOWN IS APPROXIMATE ONLY AND NO GUARANTEE IS MADE THAT ALL UTILITIES AND OTHER FEATURES ARE REPRESENTED ON THE PLANS ARE CORRECT. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO DETERMINE THE LOCATION AND SIZE OF ALL EXISTING UTILITIES PRIOR TO BEGINNING CONSTRUCTION.

## UTILITY GENERAL NOTES CONT'D

23. IF THE CONTRACTOR ENCOUNTERS SUBSURFACE CONDITIONS DIFFERENT FROM THOSE SHOWN ON THE PLANS, HE SHALL IMMEDIATELY NOTIFY THE OWNER AND ENGINEER. NO EXISTING UTILITY SHALL BE DISTURBED WITHOUT PROPER AUTHORITY AND THEN ONLY IN SUCH A MANNER AS PRESCRIBED AND APPROVED BY THE EXISTING UTILITY OWNER.

24. SHOULD IT BECOME NECESSARY TO DISTURB AN EXISTING UTILITY, THE CONTRACTOR IS TO NOTIFY THE OWNER AND THE OWNER OF THE UTILITY. WHEN NECESSARY, CONTRACTOR IS TO CEASE WORK UNTIL SATISFACTORY ARRANGEMENTS HAVE BEEN MADE WITH THE UTILITY OWNER TO PROPERLY CARE FOR AND RELOCATE THE UTILITY. NO CLAIMS FOR DAMAGES SHALL BE ALLOWED BY THE CONTRACTOR ON ACCOUNT OF ANY DELAY OCCASIONED THEREBY.

25. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT EXISTING UTILITIES FROM DAMAGE. ANY DAMAGE TO EXISTING UTILITIES CAUSED BY THE CONTRACTOR SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE. EITHER THE CONTRACTOR OR UTILITY OWNER WILL PERFORM THE REPAIR AT THE DISCRETION OF THE UTILITY OWNER. NO CLAIMS FOR DAMAGES SHALL BE ALLOWED BY THE CONTRACTOR ON ACCOUNT OF ANY DELAY OCCASIONED THEREBY.

26. THE CONTRACTOR SHALL PROVIDE ALL LABOR, TOOLS, MATERIALS, AND EQUIPMENT NECESSARY FOR THE COMPLETE INSTALLATION OF THE PROPOSED PIPELINES, TANKS, STRUCTURES, AND REQUIRED APPURTENANCES WHETHER OR NOT SUCH ITEMS ARE SHOWN OR CALLED OUT ON THE PLANS. THE CONTRACTOR IS ADVISED THAT FIELD ADJUSTMENTS MAY BE NECESSARY BASED ON ACTUAL SUBSURFACE CONDITIONS AND LOCATIONS OF EXISTING BURIED UTILITIES ENCOUNTERED DURING CONSTRUCTION. THE CONTRACTOR SHALL NOT RECEIVE ANY ADDITIONAL PAYMENT OR TIME EXTENSION FOR ITEMS NOT BEING SHOWN IN PLANS OR FOR FIELD ADJUSTMENTS MADE DUE TO ACTUAL SUBSURFACE CONDITIONS AND UTILITY LOCATION.

27. PIPELINE ROUTE STATIONING IS BASED ON PROPOSED PIPE CENTERLINE. PAYMENT FOR PIPELINES WILL BE BASED ON ACTUAL LENGTH OF PIPELINE INSTALLED, IN ACCORDANCE WITH THE SPECIFICATIONS.

28. A MINIMUM OF 10 FEET EDGE-TO-EDGE HORIZONTAL SEPARATION AND 1.5 FEET EDGE-TO-EDGE VERTICAL SEPARATION SHALL BE MAINTAINED BETWEEN WATER MAINS AND SEWER MAINS. WHEN CROSSING PIPES, THE PIPE JOINTS ARE TO BE PLACED AS FAR AWAY FROM EACH OTHER AS POSSIBLE. WHENEVER PRACTICAL, WATER MAINS SHALL CROSS ABOVE THE SEWER MAINS.

29. AT THE COMPLETION OF CONSTRUCTION, ALL VALVE BOXES, METERS, AND APPURTENANCES SHALL BE SET FOR PROPER FINISH GRADE. PRECAST STRUCTURES, MANHOLE FRAMES, AND COVERS ARE TO BE SET FLUSH WITH FINISHED GRADE UNLESS OTHERWISE INDICATED IN THE PLANS OR SPECIFICATIONS.

30. CONTRACTOR SHALL COORDINATE WITH THE UTILITY OWNER PRIOR TO ANY CONNECTIONS TO AN EXISTING UTILITY.

31. THE CONTRACTOR SHALL PROVIDE AND INSTALL ALL NECESSARY FITTINGS REGARDLESS IF THEY ARE SHOWN OR CALLED-OUT ON THE PLANS.

32. MEGA-LUG JOINT RESTRAINTS, OR ENGINEER-APPROVED EQUAL, SHALL BE USED FOR ALL NEW PIPING, ALL SIZES, THROUGHOUT THEIR ENTIRE LENGTH.

33. CONCRETE THRUST BLOCKS SHALL BE INSTALLED ON ALL NEW PRESSURE PIPE BENDS, TEES, TAPPING SLEEVES, AND DEAD ENDS.

34. ALL FITTINGS, RESTAINTS, THRUST BLOCKS, AND OTHER ASSOCIATED APPURTENANCES ARE INCIDENTIAL TO THE INSTALLATION OF THE PIPE, UNLESS A PAY ITEM IS LISTED.

## WATER NOTES

1. WATER MAINS SHALL BE INSTALLED IN ACCORDANCE WITH THE CITY OF MILTON'S PUBLIC WORKS MANUAL, LATEST EDITION.

2. WORK SHALL BE SEQUENCED IN SUCH A MANNER THAT INTERRUPTED WATER SERVICES SHALL BE RESTORED BEFORE THE WORK DAY IS COMPLETE.

3. THE PROPOSED WATER MAINS SHALL BE INSTALLED AT A MINIMUM COVER OF 30 INCHES UNLESS OTHERWISE SHOWN ON THE PLANS OR APPROVED BY THE ENGINEER.

4. ALL NEW WATER MAINS SHALL BE PRESSURE TESTED, DISINFECTED, AND ACCEPTED BY THE OWNER PRIOR TO BEING PLACED INTO SERVICE.

5. AIR RELIEF VALVES ARE TO BE PLACED AT ALL HIGH POINTS WHERE AIR CAN ACCUMULATE.

6. AUTOMATIC AIR RELIEF VALVES SHALL NOT BE INSTALLED WHERE FLOODING OF THE VALVE MANHOLE OR CHAMBER MAY OCCUR.

7. THE OPEN END OF THE AIR RELIEF PIPE FROM ALL AUTOMATIC AIR RELIEF VALVES SHALL EXTEND AT LEAST ONE (1) FOOT ABOVE GRADE AND WILL BE PROVIDED WITH A SCREENED, DOWNWARD-FACING ELBOW.

8. AT UTILITY CROSSINGS, ONE FULL LENGTH OF WATER MAIN PIPE SHALL BE CENTERED ABOVE OR BELOW THE OTHER PIPELINE SO THE WATER MAIN JOINTS WILL BE AS FAR AS POSSIBLE FROM THE OTHER PIPELINE OR THE PIPES SHALL BE ARRANGED SO THE WATER MAIN JOINTS ARE AT LEAST THREE (3) FEET FROM ALL JOINTS IN VACUUM-TYPE SANITARY SEWERS, STORM SEWERS, STORMWATER FORCE MAINS, OR PIPELINES CONVEYING RECLAIMED WATER NOT REGULATED UNDER PART III, CHAPTER 62-610, F.A.C.

9. LOCATIONS OF POTABLE WATER AND FIRE WATER STUBOUTS ARE APPROXIMATE. CONTRACTOR SHALL FIELD VERIFY LOCATIONS AND DEPTHS OF THESE STUBOUTS PRIOR TO COMMENCING CONSTRUCTION OF THE PROPOSED 16" FIRE WATER MAIN.

## PROJECT-SPECIFIC NOTES

1. THE FIRE PUMP HOUSE SHALL BE BY PREMIERFLOW,(TULSA, OK), OR ENGINEER-APPROVED EQUAL. SEE SPECIFICATION SECTION 11 2200 FOR ADDITIONAL DETAILS.

## ABBREVIATIONS

| | | |
|---|---|---|
| PVC | = | POLYVINYL CHLORIDE |
| DI | = | DUCTILE IRON |
| EX. | = | EXISTING |
| REQ'D | = | REQUIRED |
| WM | = | WATER MAIN |
| WL | = | WASTE LINE |
| SS | = | SANITARY GRAVITY SEWER |
| G | = | NATURAL GAS |
| STA. | = | STATION |
| TYP. | = | TYPICAL |
| HDD | = | HORIZONTAL DIRECTIONAL DRILL |

## SUMMARY OF QUANTITIES

| ITEM NO. | ITEM DESCRIPTION | UNIT | QTY. |
|---|---|---|---|
| 1 | SITE/CIVIL WORK, INCL. HEADWALL AND RIP RAP | LS | 1 |
| 2 | FIRE SERVICE PIPING, ALL TYPES AND SIZES | LF | 215 |
| 3 | DUCTILE IRON FITTINGS, ALL TYPES AND SIZES | LBS | 3800 |
| 4 | TAPPING VALVE AND SLEEVE | EA | 1 |
| 5 | FIRE SERVICE BOOSTER PUMP STATION INSTALLATION | LS | 1 |
| 6 | ELECTRICAL WORK | LS | 1 |
| 7 | NEW FENCING | LF | 180 |
| 8 | SITE DEMO | LS | 1 |

SANTA ROSA COUNTY FLORIDA

THOMAS GREGORY BRYMER LICENSE No. 90078 STATE OF FLORIDA PROFESSIONAL ENGINEER 5-31-24

| NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|

REVISIONS

WHITING AVIATION PARK
FIRE FLOW EXPANSION - PHASE A

PROJECT NOTES AND ABBREVIATIONS

VOLKERT
215 FAIRPOINT DRIVE
SUITE B
GULF BREEZE, FL 32561

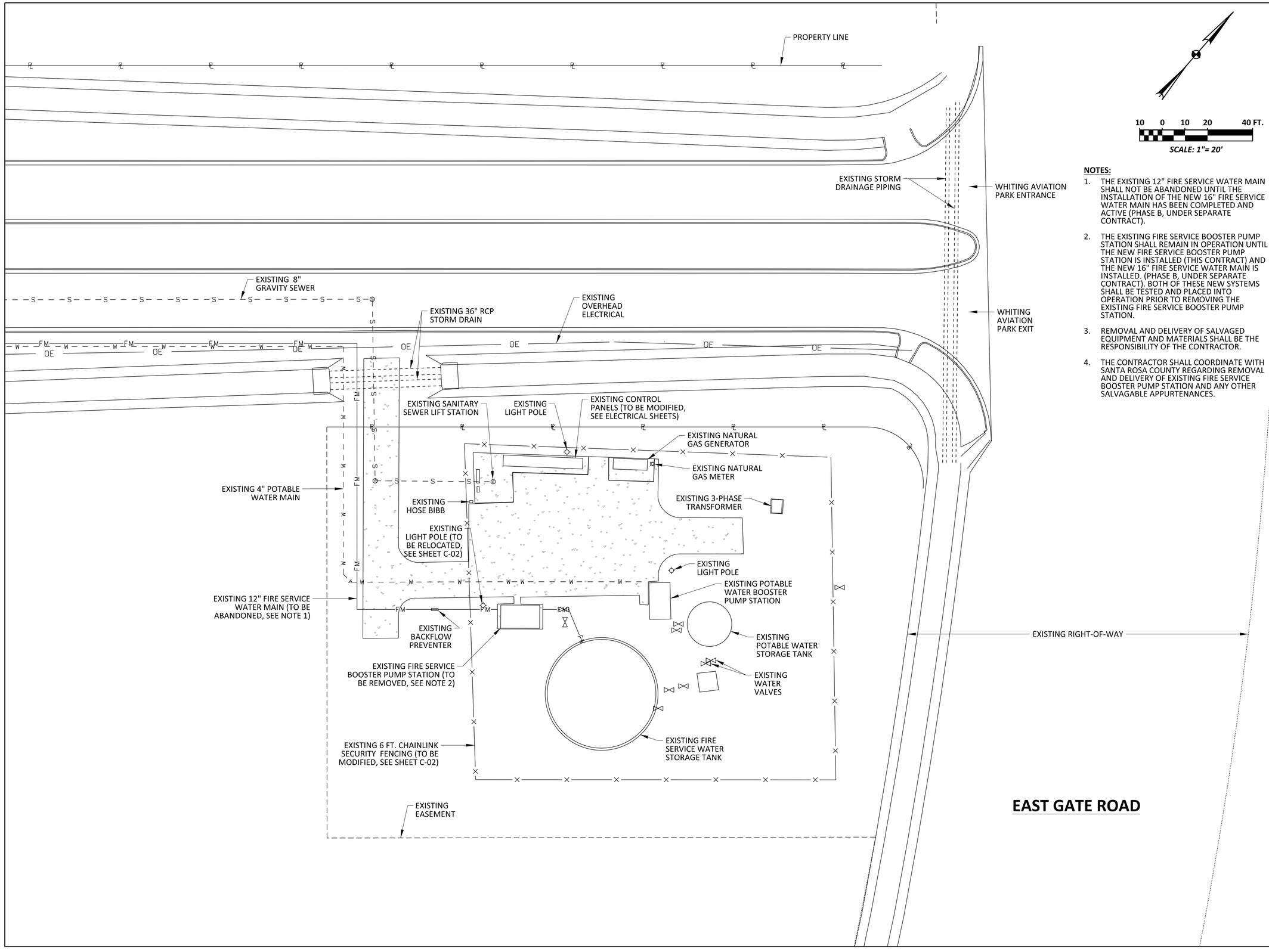
| DRAWN BY: | CHECKED BY: |
|---|---|
| T.B. | R.M. |
| DESIGNED BY: | CHECKED BY: |
| T.B. | R.M. |

VOLKERT PROJECT NO.: 1202201

DATE: MAY 2024

SHEET NUMBER

G-02




**NOTES:**

1. THE EXISTING 12" FIRE SERVICE WATER MAIN SHALL NOT BE ABANDONED UNTIL THE INSTALLATION OF THE NEW 16" FIRE SERVICE WATER MAIN HAS BEEN COMPLETED AND ACTIVE (PHASE B, UNDER SEPARATE CONTRACT).
2. THE EXISTING FIRE SERVICE BOOSTER PUMP STATION SHALL REMAIN IN OPERATION UNTIL THE NEW FIRE SERVICE BOOSTER PUMP STATION IS INSTALLED (THIS CONTRACT) AND THE NEW 16" FIRE SERVICE WATER MAIN IS INSTALLED. (PHASE B, UNDER SEPARATE CONTRACT). BOTH OF THESE NEW SYSTEMS SHALL BE TESTED AND PLACED INTO OPERATION PRIOR TO REMOVING THE EXISTING FIRE SERVICE BOOSTER PUMP STATION.
3. REMOVAL AND DELIVERY OF SALVAGED EQUIPMENT AND MATERIALS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
4. THE CONTRACTOR SHALL COORDINATE WITH SANTA ROSA COUNTY REGARDING REMOVAL AND DELIVERY OF EXISTING FIRE SERVICE BOOSTER PUMP STATION AND ANY OTHER SALVAGABLE APPURTENANCES.

SANTA ROSA COUNTY FLORIDA

THOMAS GREGORY BRYMER LICENSE No. 90078 STATE OF FLORIDA PROFESSIONAL ENGINEER 5-31-24

| NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|

REVISIONS

# WHITING AVIATION PARK FIRE FLOW EXPANSION - PHASE A

## EXISTING SITE PLAN

VOLKERT
215 FAIRPOINT DRIVE
SUITE B
GULF BREEZE, FL 32561

| DRAWN BY: | CHECKED BY: |
|---|---|
| T.B. | R.M. |
| DESIGNED BY: | CHECKED BY: |
| T.B. | R.M. |

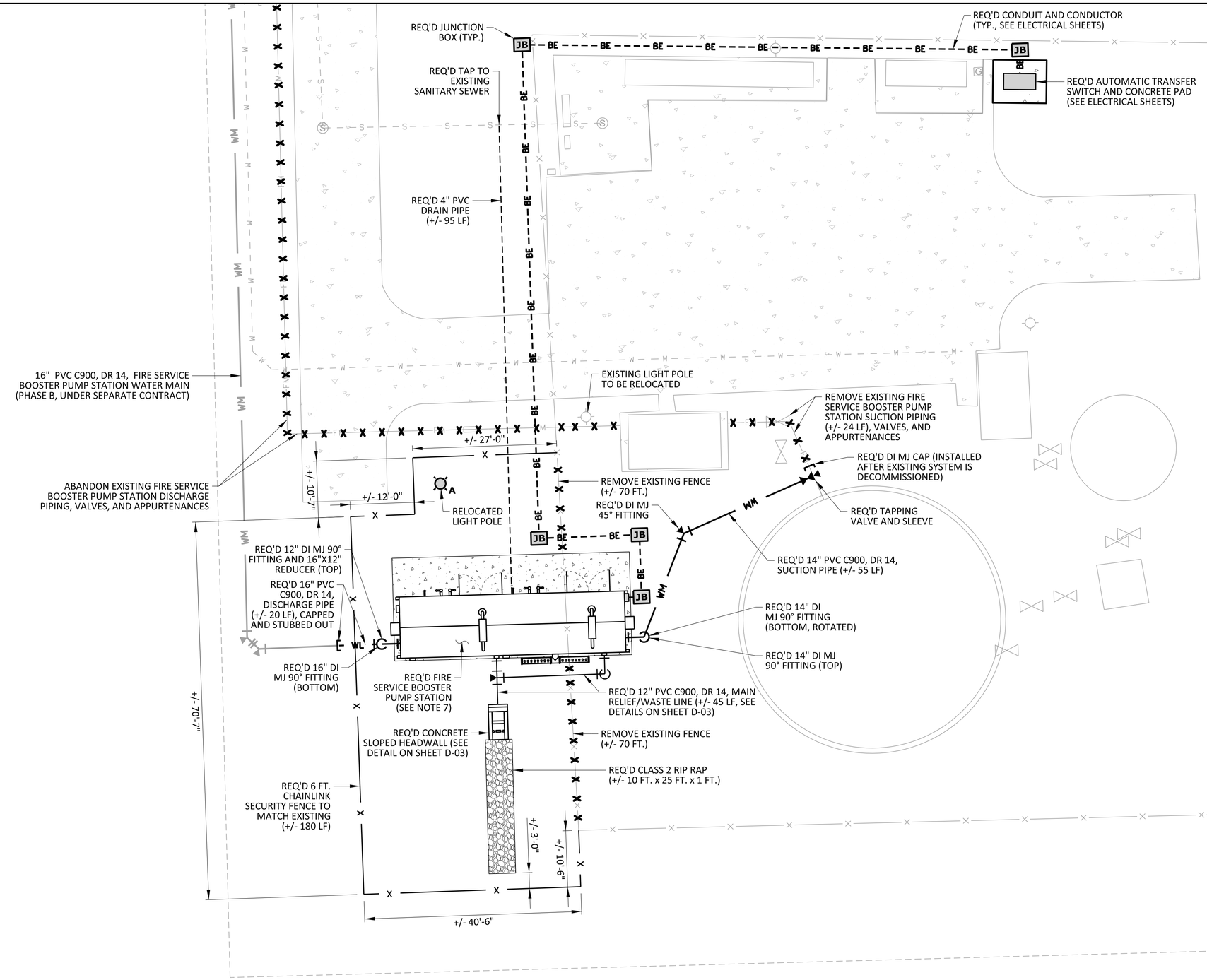
VOLKERT PROJECT NO.: 1202201

DATE: MAY 2024

SHEET NUMBER

C-01

SHEET 3 OF 15




**NOTES:**

1. THE EXISTING 12" FIRE SERVICE WATER MAIN SHALL NOT BE ABANDONED UNTIL AFTER THE INSTALLATION OF THE NEW 16" FIRE SERVICE WATER MAIN IS INSTALLED AND ACTIVE (PHASE B, UNDER SEPARATE CONTRACT).
2. THE EXISTING FIRE SERVICE BOOSTER PUMP STATION SHALL REMAIN IN OPERATION UNTIL THE NEW FIRE SERVICE BOOSTER PUMP STATION IS INSTALLED (THIS CONTRACT) AND THE NEW 16" FIRE SERVICE WATER MAIN IS INSTALLED (PHASE B, UNDER SEPARATE CONTRACT). BOTH OF THESE NEW SYSTEMS SHALL BE TESTED AND PLACED INTO OPERATION PRIOR TO REMOVING THE EXISTING FIRE SERVICE BOOSTER PUMP STATION.
3. REMOVAL AND DELIVERY OF SALVAGED EQUIPMENT AND MATERIALS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
4. THE CONTRACTOR SHALL COORDINATE WITH SANTA ROSA COUNTY REGARDING REMOVAL AND DELIVERY OF EXISTING FIRE SERVICE BOOSTER PUMP STATION AND ANY OTHER SALVAGABLE APPURTENANCES.
5. MEGA-LUG JOINT RESTRAINTS, OR ENGINEER APPROVED EQUAL, SHALL BE USED FOR ALL NEW PIPING, ALL SIZES, AT ALL JOINTS AND CONNECTIONS.
6. IN ADDITION TO JOINT RESTRAINTS, CONCRETE THRUST BLOCKS SHALL BE INSTALLED ON ALL NEW PIPE BENDS, TEES, TAPPING SLEEVES, AND DEAD ENDS.
7. THE NEW FIRE SERVICE BOOSTER PUMP STATION IS OWNER-FURNISHED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR TRANSPORTING THE STATION FROM SANTA ROSA COUNTY'S STORAGE LOCATION AND INSTALL ON-SITE, INCLUDING FOUNDATION AND ANY OTHER PERTINENT ITEMS OF WORK FOR A COMPLETE AND OPERATIONAL SYSTEM.
8. DUCTILE IRON FITTINGS SHALL BE C153 COMPACT FITTINGS, CL350.

SANTA ROSA COUNTY FLORIDA

THOMAS GREGORY BRYMER LICENSE No. 90078 STATE OF FLORIDA PROFESSIONAL ENGINEER 5-31-24

| NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | REVISIONS | |

**WHITING AVIATION PARK**
**FIRE FLOW EXPANSION - PHASE A**

**REQUIRED SITE PLAN**

VOLKERT
215 FAIRPOINT DRIVE
SUITE B
GULF BREEZE, FL 32561

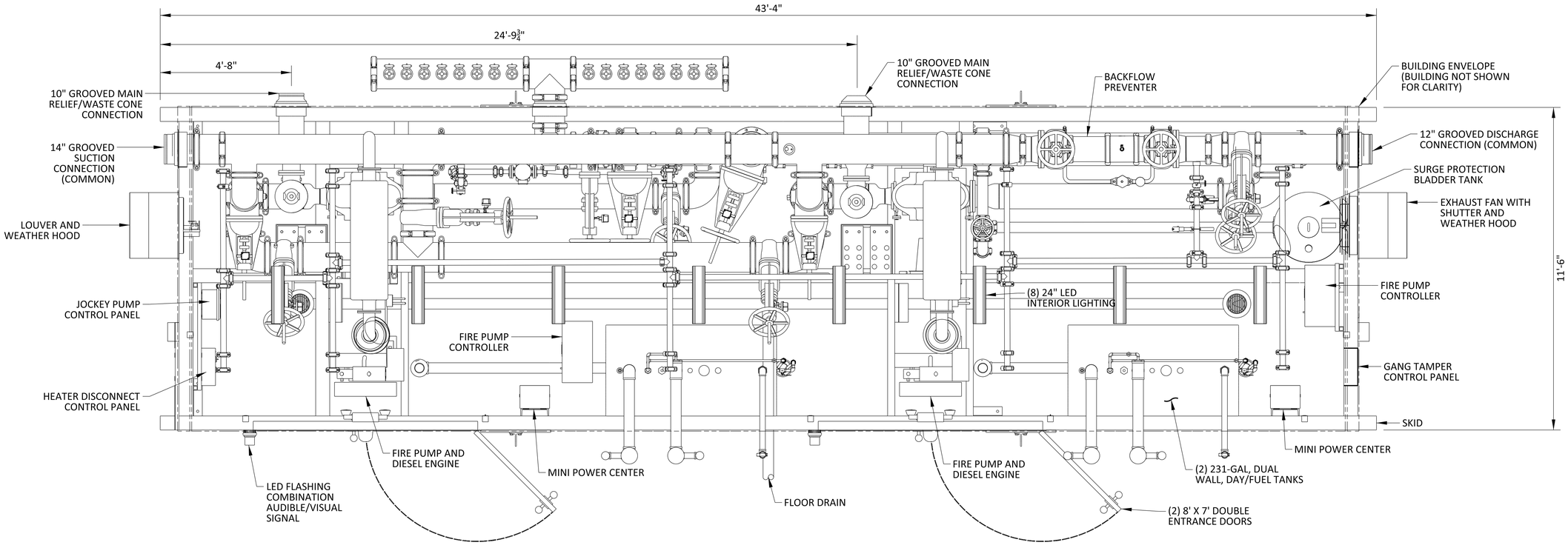
| DRAWN BY: | CHECKED BY: |
|---|---|
| T.B. | R.M. |
| DESIGNED BY: | CHECKED BY: |
| T.B. | R.M. |

VOLKERT PROJECT NO.: 1202201

DATE: MAY 2024

SHEET NUMBER

**C-02**




## FIRE SERVICE BOOSTER PUMP STATION

SCALE: 1/2" = 1'

| FIRE PUMP REQUIREMENTS (EACH PUMP) | | | |
|---|---|---|---|
| LOCATION | FLOW (GPM) | DISCHARGE PRESSURE (PSI) | TDH (FT.) |
| EXISTING UTILITY YARD | 2000 | 100 | 231 |

**NOTES:**

1. FIRE PUMP SYSTEM SHALL MEET ALL APPLICABLE CODES AND REQUIREMENTS, INCL. NFPA 20 - STANDARD FOR THE INSTALLATION OF STATIONARY PUMPS FOR FIRE PROTECTION.
2. HOUSING SHALL MEET ALL APPLICABLE BUILDING CODES AND REQUIREMENTS.
3. THIS DRAWING IS PROVIDED BY PREMIERFLOW (TULSA, OK) AND IS BASED ON SERIES PF-FIRE PF-2000/2000-D-H-FP. ACTUAL DIMENSIONS, PANEL LOCATIONS, CONNECTION POINTS, ETC. ARE DEPENDENT UPON PROCURED EQUIPMENT. THE CONTRACTOR SHALL CONFIRM ALL ASPECTS OF THEIR WORK AND SHALL INCLUDE ALL COSTS IN THEIR PROPOSAL TO TIE THE FIRE PUMP HOUSE INTO THE REQUIRED SYSTEM PIPING SHOWN ON THE DRAWINGS.
4. ALL INSTALLATIONS SHALL BE IN STRICT ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.
5. FIRE PUMP SYSTEM SHALL BE HYDRO TESTED, PER NFPA 20 REQUIREMENTS.
6. SKID SHALL BE FILLED WITH CONCRETE AND PUMP/ENGINE BASE SHALL BE FILLED WITH NON-FERROUS, NON-SHRINK GROUT. CONTRACTOR SHALL PROTECT ALL FLOOR DRAINS AND OTHER OPENINGS FROM BECOMING CLOGGED OR FILLED WITH CONCRETE/DEBRIS.
7. SEE SHEET S-01 FOR PUMP HOUSE FOUNDATION DETAILS.
8. PUMP HOUSE SHALL INCLUDE SURGE PROTECTION BLADDER TANK WHICH MEETS ASME BOILER AND PRESSURE VESSEL CODE. BLADDER SHALL BE HIGH PERFORMANCE, REPLACEABLE BUTYL WITH MINIMUM PRESSURE RATING OF 250 PSI.

1 0 1 2 4 FT.

*SCALE: 1/2"= 1'*

SANTA ROSA COUNTY FLORIDA

THOMAS GREGORY BRYMER LICENSE No. 90078 STATE OF FLORIDA PROFESSIONAL ENGINEER 5-31-24

| NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|

REVISIONS

**WHITING AVIATION PARK**
**FIRE FLOW EXPANSION - PHASE A**

**FIRE SERVICE BOOSTER PUMP STATION DETAILS**

VOLKERT
215 FAIRPOINT DRIVE
SUITE B
GULF BREEZE, FL 32561

| DRAWN BY: | CHECKED BY: |
|---|---|
| T.B. | R.M. |
| DESIGNED BY: | CHECKED BY: |
| T.B. | R.M. |

VOLKERT PROJECT NO.: 1202201

DATE: MAY 2024

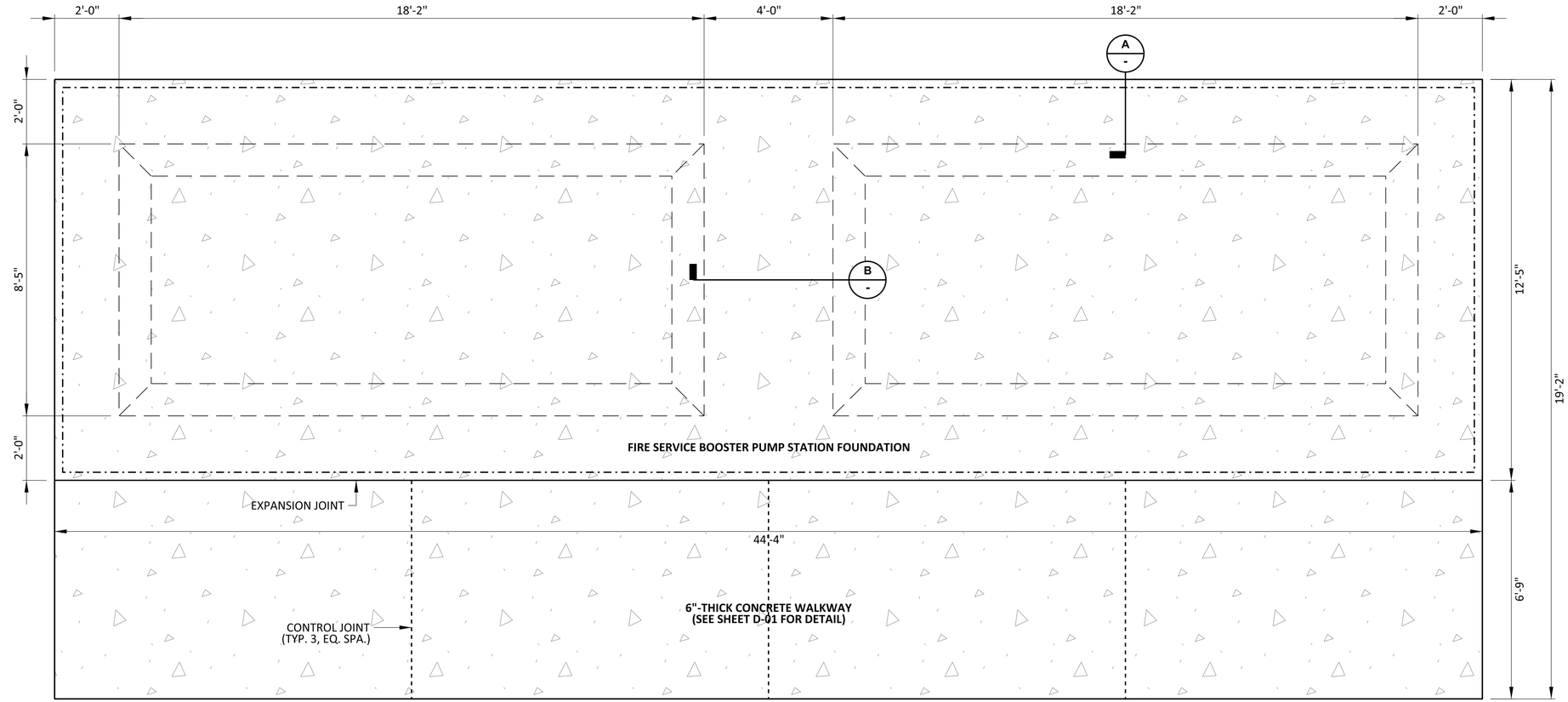
SHEET NUMBER

**M-01**

SHEET 5 OF 15

0 1 IN.

SCALE: AS NOTED

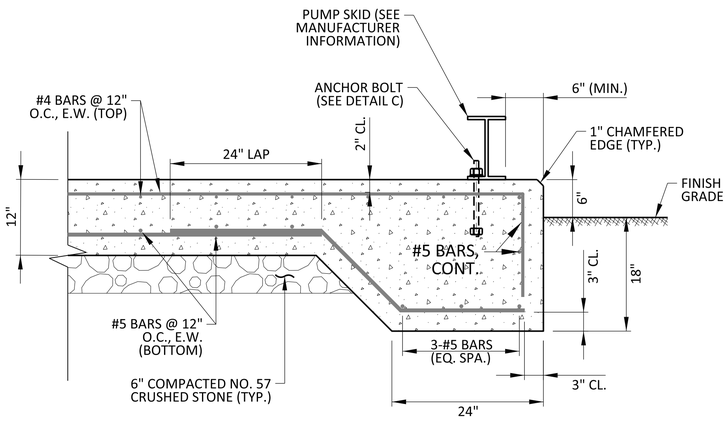



## FIRE SERVICE BOOSTER PUMP HOUSE FOUNDATION PLAN

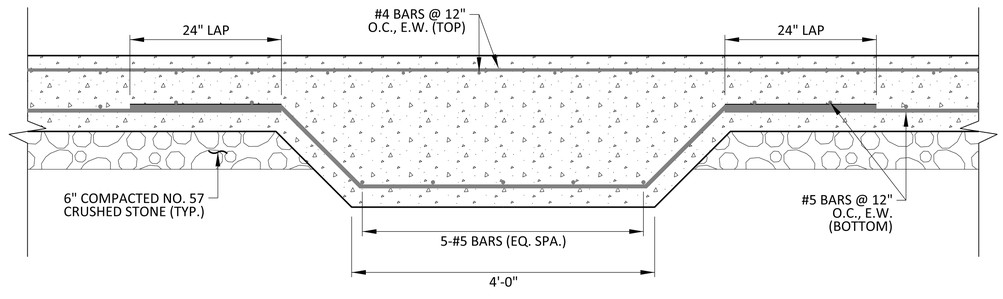
SCALE: 1/2" = 1'

**NOTES:**

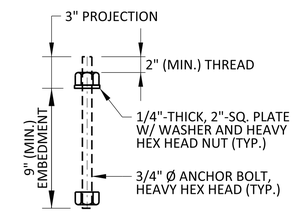
1. THE CONTACTOR SHALL CONFIRM ACTUAL SIZE OF PROCURED FIRE PUMP HOUSE AND ADJUST FOUNDATION DIMENSIONS ACCORDINGLY.
2. CONCRETE SHALL BE 3500 PSI (MIN.).
3. CONTRACTOR SHALL COORDINATE NUMBER AND LOCATION OF ANCHOR BOLTS WITH FIRE PUMP HOUSE MANUFACTURER.
4. CONTRACTOR SHALL INSTALL ANCHOR BOLTS IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.
5. SKID SHALL BE FILLED WITH CONCRETE AND PUMP/ENGINE BASE SHALL BE FILLED WITH NON-FERROUS, NON-SHRINK GROUT. CONTRACTOR SHALL PROTECT ALL FLOOR DRAINS OR OTHER OPENINGS FROM BECOMING CLOGGED OR FILLED WITH CONCRETE/DEBRIS.
6. OVERALL BOOSTER PUMP STATION FOUNDATION (EXCLUDING WALKWAY) SHALL BE 3" LONGER THAN STATION ON ALL SIDES.




**A - DETAIL**
SCALE: 1" = 1'




**B - DETAIL**
SCALE: 1" = 1'




**C - DETAIL**
SCALE: 1" = 6"

SANTA ROSA COUNTY FLORIDA

THOMAS GREGORY BRYNES LICENSE No. 90078 STATE OF FLORIDA PROFESSIONAL ENGINEER 5-31-24

| NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|

REVISIONS

WHITING AVIATION PARK
FIRE FLOW EXPANSION - PHASE A

FIRE SERVICE BOOSTER PUMP STATION FOUNDATION

VOLKERT
215 FAIRPOINT DRIVE
SUITE B
GULF BREEZE, FL 32561

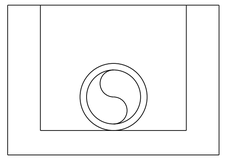
| DRAWN BY: | CHECKED BY: |
|---|---|
| T.B. | S.S. |
| DESIGNED BY: | CHECKED BY: |
| S.S. | T.B. |

VOLKERT PROJECT NO.: 1202201

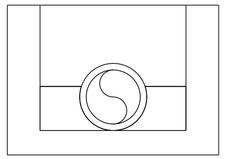
DATE: MAY 2024

SHEET NUMBER
S-01

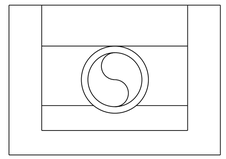
SHEET 6 OF 15



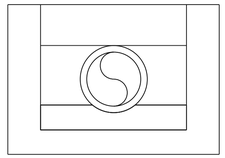
**TYPE 1**
FLAT-BOTTOM TRENCH, LOOSE EMBEDMENT
E = 50 PSI (340 kPa). K = 0.110



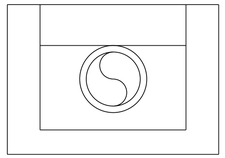
**TYPE 2**
CONSOLIDATED TO CENTERLINE OF PIPE.
FLAT-BOTTOM TRENCH, EMBEDMENT LIGHTLY
E = 200 PSI (1,380 kPa). K = 0.110



**TYPE 3**
PIPE BEDDED ON 4" (100 mm) MINIMUM
OF LOOSE SOIL. EMBEDMENT LIGHTLY
CONSOLIDATED TO TOP OF PIPE.
E = 400 PSI (2,760 kPa). K = 0.102



**TYPE 4**
PIPE BEDDED ON SAND, GRAVEL OR CRUSHED
STONE TO DEPTH OF 1/8 PIPE DIAMETER, 4"
(100 mm) MINIMUM. EMBEDMENT COMPACTED
TO TOP OF PIPE.(APPROXIMATELY 80% STANDARD
PROCTOR. AASHTO T-99 OR ASTM D 698)
E = 1,000 PSI (6,900 kPa). K = 0.096



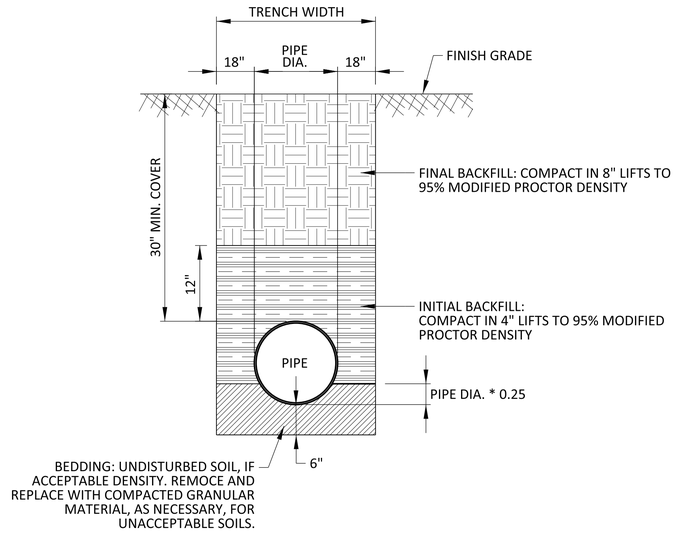
**TYPE 5**
PIPE ENBEDDED IN COMPACTED GRANULAR
MATERIAL TO CENTERLINE OF PIPE. COMPACTED
GRANULAR OR SELECT MATERIAL TO TOP OF PIPE.
(APPROXIMATELY 90% STANDARD PROCTOR.
AASHTO T-99 OR ASTM D 698)
E = 2,000 PSI (13,800 kPa). K = 0.083

**NOTES:**

1. REQUIRED EMBEDMENT TYPE WILL DEPEND ON THE PIPE'S DIMENSION RATIO, INTERNAL OPERATING PRESSURE, AND EXTERNAL LOAD AND SHALL BE SPECIFIED BY THE PURCHASER.
2. "FLAT-BOTTOM" IS DEFINED AS UNDISTURBED EARTH.
3. "LOOSE SOIL" OR "SELECT MATERIAL" IS DEFINED AS NATIVE SOIL EXCAVATED FROM THE TRENCH, FREE OF ROCKS, FOREIGN MATERIAL, AND FROZEN EARTH. A SOFT "LOOSE SOIL" BEDDIG WILL CONTOUR TO THE PIPE BOTTOM. CAUTION MUST BE EXERCISED TO ENSURE PROPER PLACEMENT OF EMBEDMENT MATERIAL UNDER THE HAUNCH OF THE PIPE.

## PIPE ENVELOPE REQUIREMENTS

SCALE: NOT TO SCALE



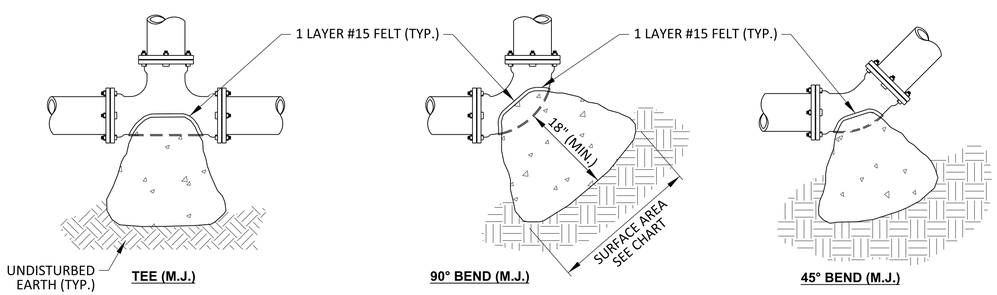

## TRENCH DETAIL

SCALE: NOT TO SCALE

| MINIMUM THRUST BLOCK DIMENSIONS SURFACE AREA AGAINST UNDISTURBED SOIL | | | | |
|---|---|---|---|---|
| FITTING / PIPE SIZE | DEAD END OR TEE | 90° BEND | 45° BEND | 22.5° BEND |
| 4" | 1' X 2' | 1.5' X 1.5' | 1' X 1.5' | 1' X 1' |
| 6" | 2' X 2' | 2.5' X 2.5' | 2' X 1.5' | 1' X 1.5' |
| 8" | 2.25' X 3' | 3' X 3' | 2' X 2.5' | 1.5' X 1.5' |
| 10" | 3.5' X 3' | 4' X 3.75' | 2.75' X 3' | 2' X 2' |
| 12" | 4' X 4' | 4' X 5' | 3' X 4' | 2' X 3' |
| 16" | 5' X 5.5' | 6' X 6.5' | 4' X 5' | 3' X 3.5' |

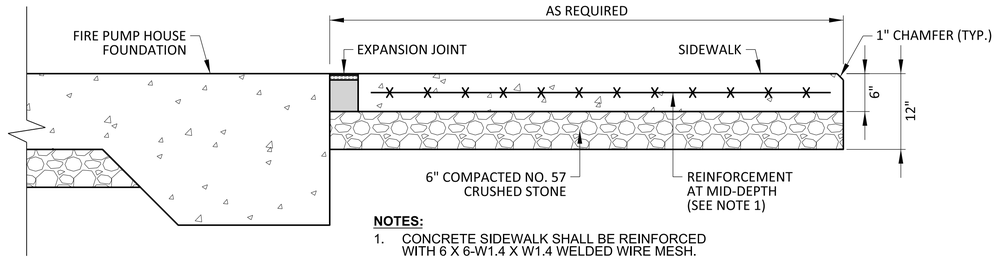
**NOTES:**

1. ONE LAYER OF #15 FELT TO BE USED TO PREVENT ADHESION OF CONCRETE TO FITTING.
2. ALL THRUST BLOCKS TO BE BACKED BY UNDISTURBED SOIL.
3. THRUST BLOCK DIMENSIONS BASED ON SM SOIL CLASSIFICATION.
4. CONCRETE SHALL BE 2500 PSI (MIN.)
5. JOINT RESTRAINTS ARE TO BE USED ON ALL FITTINGS. THRUST BLOCKS REQUIRED ON ALL 90° BENDS, 45° BENDS, 22.5° BENDS, TEES, TAPPING SLEEVES, AND DEAD ENDS.



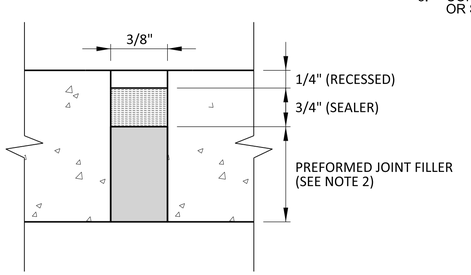

## THRUST BLOCK DETAILS

SCALE: NOT TO SCALE

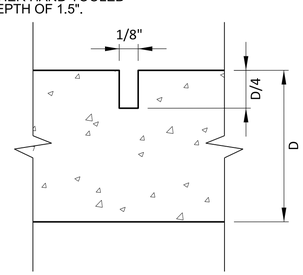



**NOTES:**

1. CONCRETE SIDEWALK SHALL BE REINFORCED WITH 6 X 6-W1.4 X W1.4 WELDED WIRE MESH.
2. PREFORMED JOINT FILLER SHALL MEET REQUIREMENTS OF FDOT STANDARD SPECIFICATION 932-1.1.
3. CONTROL JOINT SHALL BE EITHER HAND TOOLED OR SAW CUT TO A MINIMUM DEPTH OF 1.5".




**EXPANSION JOINT**




**CONTROL JOINT**

## CONCRETE SIDEWALK DETAIL

SCALE: NOT TO SCALE

SANTA ROSA COUNTY FLORIDA

THOMAS GREGORY BRYNES LICENSE No. 90078 STATE OF FLORIDA PROFESSIONAL ENGINEER 5-31-24

| NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|

REVISIONS

WHITING AVIATION PARK
FIRE FLOW EXPANSION - PHASE A

CONSTRUCTION DETAILS

VOLKERT
215 FAIRPOINT DRIVE
SUITE B
GULF BREEZE, FL 32561

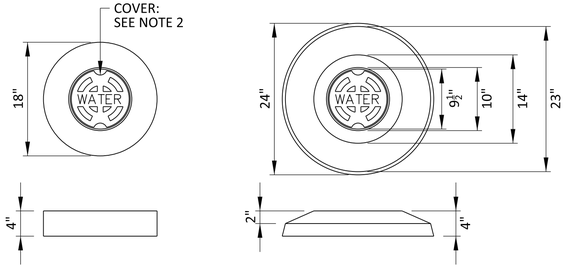
| DRAWN BY: | CHECKED BY: |
|---|---|
| T.B. | R.M. |
| DESIGNED BY: | CHECKED BY: |
| T.B. | R.M. |

VOLKERT PROJECT NO.: 1202201

DATE: MAY 2024

SHEET NUMBER

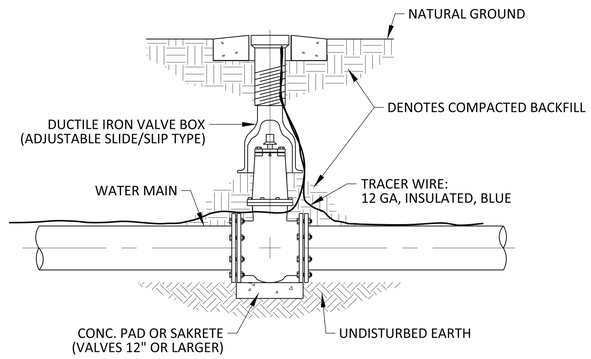
D-01




**CAST-IN-PLACE COLLAR** **24" PRECAST VALVE PAD**

**NOTES:**

1. VALVE AND BOOT SHALL BE DUCTILE IRON.
2. VALVE COVER SHALL BE MARKED "WATER".
3. VALVE BOX TOP SHALL BE FLUSH WITH FINISH GRADE OR ½" ABOVE NATURAL GROUND LEVEL.
4. GATE VALVE SHALL BE RESILIENT SEAT WITH MECHANICAL JOINT ENDS, OR ENGINEER-APPROVED EQUAL.
5. EARTH UNDER FLANGE OF VALVE BOX AND COLLAR TO BE FIRM AND WELL TAMPED TO ENSURE AGAINST VALVE BOX SETTLING.

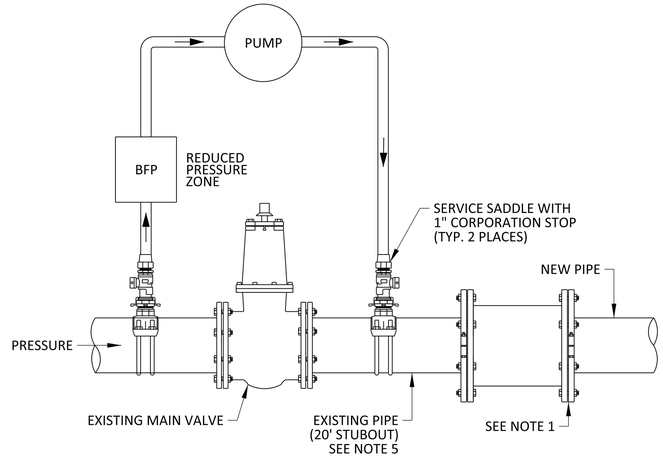



## GATE VALVE AND BOX INSTALLATION

SCALE: NOT TO SCALE

**NOTES:**

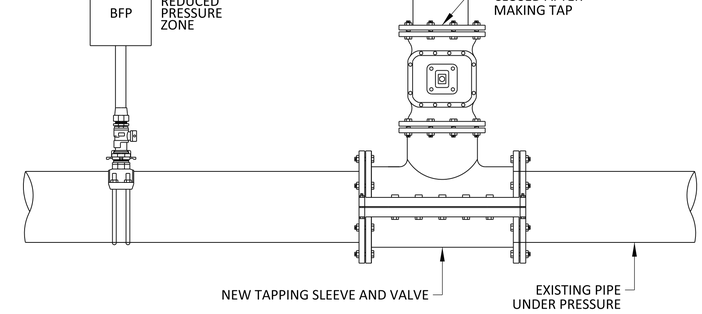
1. NEW PIPE SHALL BE CAPPED OR PLUGGED FOR PRESSURE TEST. ONCE TEST IS SATISFACTORILY COMPLETED, NEW MAIN IS TO BE CONNECTED TO EXISTING MAIN IN A MANNER ACCEPTABLE TO THE OWNER.
2. THE CONTRACTOR SHALL FLUSH LINE PRIOR TO STARTING THE CHLORINATION PROCEDURE. ALL FLUSHING SHALL BE DONE THROUGH THE EXISTING VALVE WITH ALL HYDRANTS AND SERVICE LINES OPEN. OWNER'S INSPECTOR SHALL BE THE ONLY PERSON ALLOWED TO OPERATE THE VALVE AND SHALL BE PRESENT DURING FLUSHING OPERATION. ONCE FLUSHING IS COMPLETE, THE INSPECTOR SHALL CLOSE THE VALVE.
3. ONCE SATISFACTORY BACTERIOLOGICAL SAMPLES ARE OBTAINED, THE CONTRACTOR SHALL CLOSE BOTH CORPORATION STOPS AND REMOVE SERVICE TUBING, PUMP, AND BACKFLOW PREVENTER. CAP CORPORATION STOPS WITH BRASS CAPS.
4. CONTRACTOR SHALL FURNISH ALL MATERIALS, EQUIPMENT, AND LABOR NECESSARY FOR FILLING, CHLORINATING, AND TESTING PROCEDURES. CONTRACTOR SHALL PROVIDE SAMPLING TAPS AT THOSE LOCATIONS APPROVED BY THE OWNER. THE OWNER SHALL COLLECT TEST SAMPLES.
5. IF 20' STUB-OUT IS NOT PRESENT, SPECIAL ARRANGEMENTS WILL HAVE TO BE MADE TO DEPRESSURIZE THE EXISTING MAIN TO MAKE CONNECTION TO THE EXISTING VALVE.




**TYPICAL CONNECTION FOR NEW LINE FILLING, PRESSURE TESTING, FLUSHING, AND CHLORINATION (EXISTING STUBOUT)**

**NOTES:**

1. NEW PIPE SHALL BE CAPPED OR PLUGGED FOR PRESSURE TEST. ONCE TEST IS SATISFACTORILY COMPLETED, NEW MAIN IS TO BE CONNECTED TO TAPPING VALVE. TAPPING VALVE IS TO REMAIN CLOSED.
2. THE CONTRACTOR SHALL FLUSH LINE PRIOR TO STARTING THE CHLORINATION PROCEDURE. ALL FLUSHING SHALL BE DONE THROUGH THE TAPPING VALVE WITH ALL HYDRANTS AND SERVICE LINES OPEN. OWNER'S INSPECTOR SHALL BE THE ONLY PERSON ALLOWED TO OPERATE THE VALVE AND SHALL BE PRESENT DURING FLUSHING OPERATION. ONCE FLUSHING IS COMPLETE, THE INSPECTOR SHALL CLOSE THE VALVE.
3. ONCE SATISFACTORY BACTERIOLOGICAL SAMPLES ARE OBTAINED, THE CONTRACTOR SHALL CLOSE BOTH CORPORATION STOPS AND REMOVE SERVICE TUBING, PUMP, AND BACKFLOW PREVENTER. CAP CORPORATION STOPS WITH BRASS CAPS.
4. CONTRACTOR SHALL FURNISH ALL MATERIALS, EQUIPMENT, AND LABOR NECESSARY FOR FILLING, CHLORINATING, AND TESTING PROCEDURES. CONTRACTOR SHALL PROVIDE SAMPLING TAPS AT THOSE LOCATIONS APPROVED BY THE OWNER. THE OWNER SHALL COLLECT TEST SAMPLES.




**TYPICAL CONNECTION FOR NEW LINE FILLING, PRESSURE TESTING, FLUSHING, AND CHLORINATION (TAPPING SLEEVE AND VALVE)**

**NOTES:**

1. DISINFECTION SHOULD CONFORM TO THE CURRENT VERSION OF AWWA STANDARD C-651.
2. CALCIUM HYPOCHLORITE (HTH) WITH 65% AVAILABLE CHLORINE, BY WEIGHT.
3. FORMULAS ARE AS FOLLOWS:

   CL2 REQUIRED FOR DISINFECTION (OZ) = VOLUME (MG) X CL2 DOSAGE (PPM) X (8.34 LB/GAL) X (16 OZ/LB)

   CALCIUM HYPOCHLORITE REQUIRED FOR DISINFECTION (OZ) = CL2 REQUIRED FOR DISINFECTION (OZ) / (% AVAILABLE CL2 / 100

| PIPE SIZE | GALLONS PER 100' | CHLORINE REQUIRED PER 100' FOR 25 PPM | HTH REQUIRED PER 100' FOR 25 PPM | CHLORINE REQUIRED PER 100' FOR 50 PPM | HTH REQUIRED PER 100' FOR 50 PPM |
|---|---|---|---|---|---|
| 4" | 65.3 | 0.22 OZ. | 0.34 OZ. | 0.44 OZ. | 0.67 OZ. |
| 12" | 587.5 | 1.96 OZ. | 3.02 OZ | 3.92 OZ. | 6.03 OZ. |

**CHLORINE AND CALCIUM HYPOCHLORITE REQUIRED FOR DISINFECTION**

## TYPICAL DISINFECTION AND CHLORINATION

SCALE: NOT TO SCALE

SANTA ROSA COUNTY FLORIDA

THOMAS GREGORY BRYNES LICENSE No. 90078 STATE OF FLORIDA PROFESSIONAL ENGINEER 5-31-24

| NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|

REVISIONS

WHITING AVIATION PARK
FIRE FLOW EXPANSION - PHASE A

CONSTRUCTION DETAILS

VOLKERT
215 FAIRPOINT DRIVE
SUITE B
GULF BREEZE, FL 32561

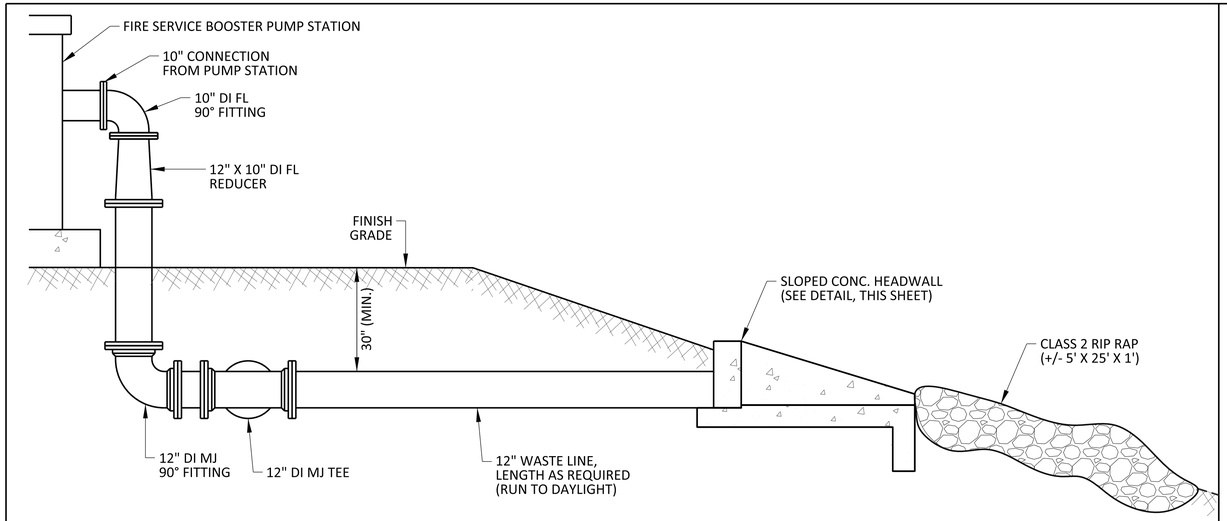
| DRAWN BY: | CHECKED BY: |
|---|---|
| T.B. | R.M. |
| DESIGNED BY: | CHECKED BY: |
| T.B. | R.M. |

VOLKERT PROJECT NO.: 1202201

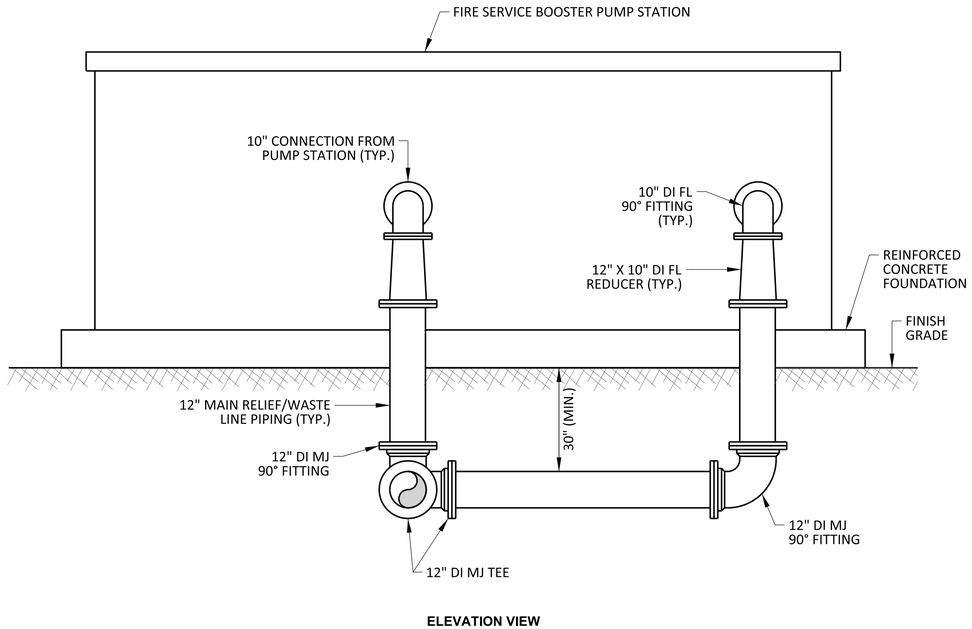
DATE: MAY 2024

SHEET NUMBER

D-02



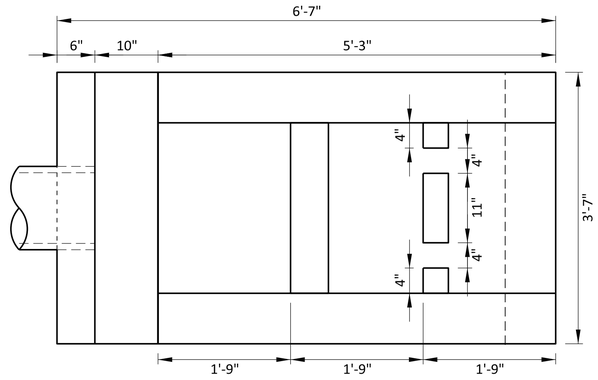

**SECTION VIEW**



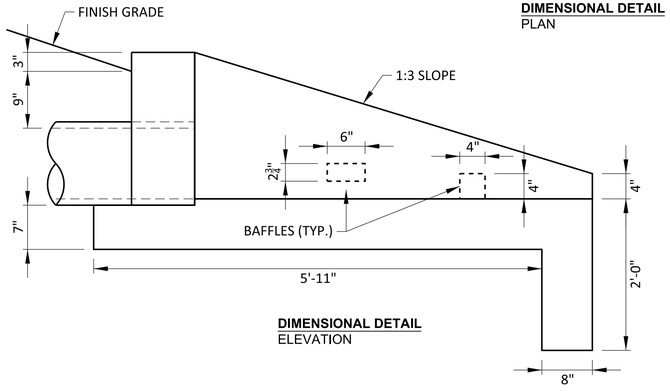

**ELEVATION VIEW**

# FIRE PUMP HOUSE MAIN RELIEF/WASTE CONE CONNECTION ASSEMBLY (TYP.)

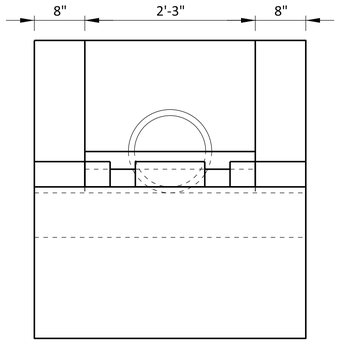
SCALE: NOT TO SCALE



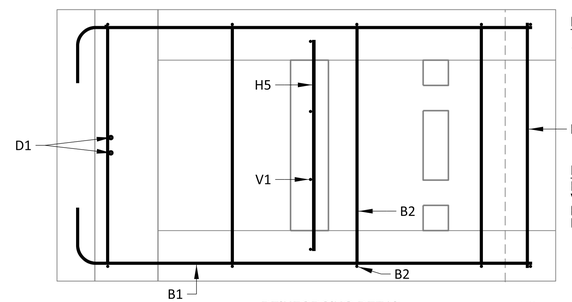

**DIMENSIONAL DETAIL**
PLAN




**DIMENSIONAL DETAIL**
ELEVATION




**DIMENSIONAL DETAIL**
BACKWALL SECTION

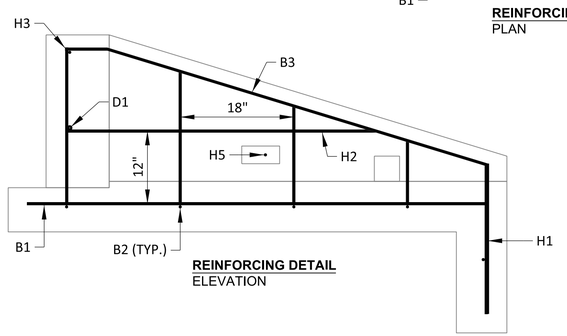



**NOTES:**

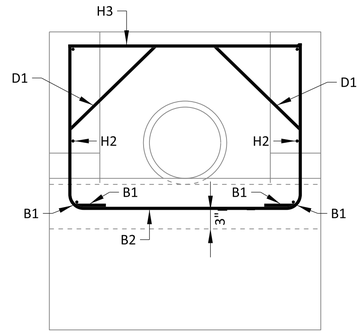
1. ALL BARS SHALL BE #4 WITH 2" CLEARANCE UNLESS NOTED OTHERWISE.

**LEGEND:**
H = HORIZONTAL BARS
V = VERTICAL BARS
B = BENT BARS
D = DOWEL OR DIAGONAL BARS

**REINFORCING DETAIL**
PLAN




**REINFORCING DETAIL**
ELEVATION




**REINFORCING DETAIL**
BACKWALL SECTION

# CONCRETE SLOPED HEADWALL DETAILS

SCALE: NOT TO SCALE

SANTA ROSA COUNTY FLORIDA

THOMAS GREGORY BRYNES LICENSE No. 90078 STATE OF FLORIDA PROFESSIONAL ENGINEER 5-31-24

| NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | REVISIONS | |

**WHITING AVIATION PARK**
**FIRE FLOW EXPANSION - PHASE A**

**CONSTRUCTION DETAILS**

VOLKERT
215 FAIRPOINT DRIVE
SUITE B
GULF BREEZE, FL 32561

| DRAWN BY: | CHECKED BY: |
|---|---|
| T.B. | R.M. |
| DESIGNED BY: | CHECKED BY: |
| T.B. | R.M. |

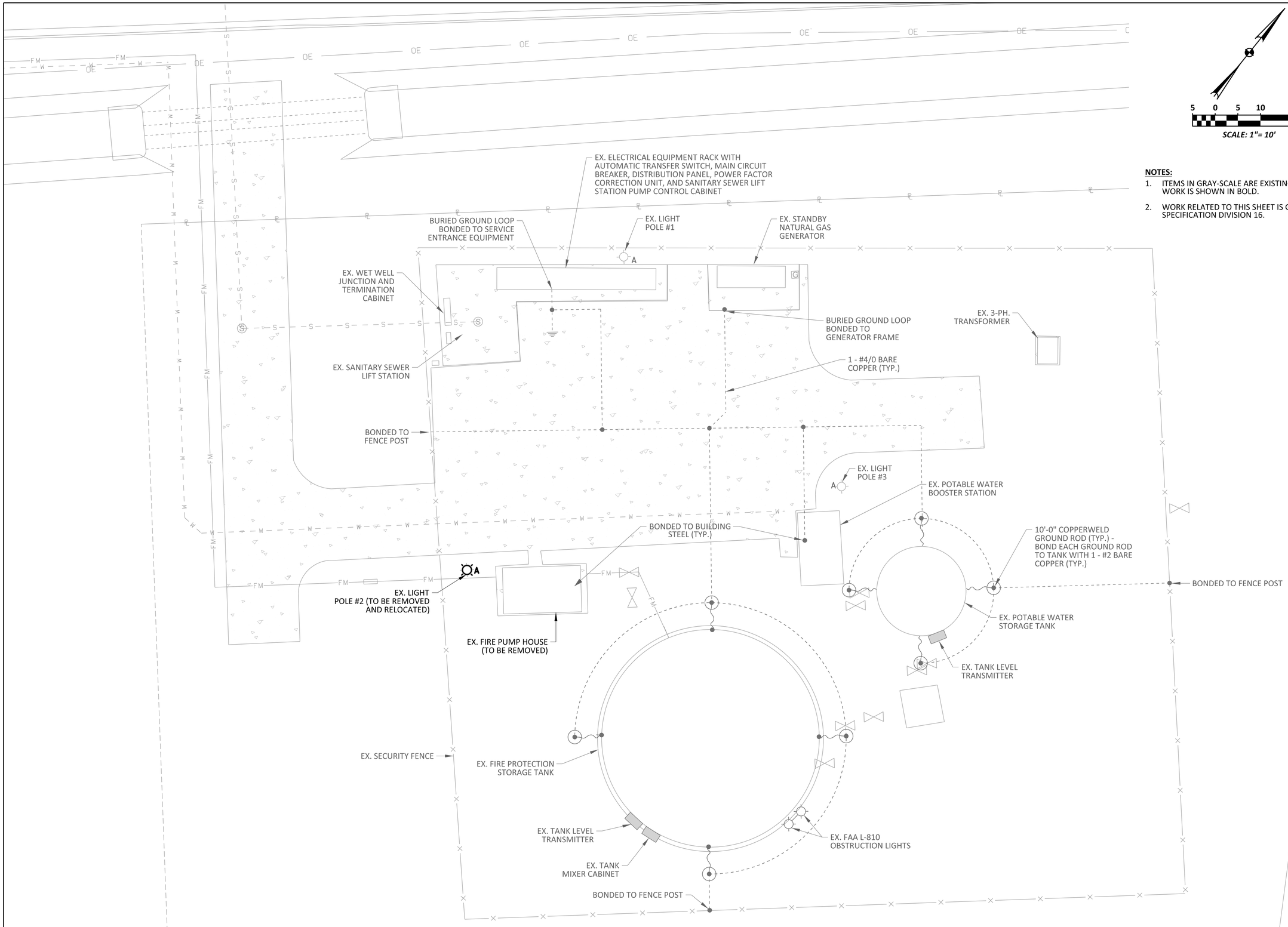
VOLKERT PROJECT NO.: 1202201

DATE: MAY 2024

SHEET NUMBER

**D-03**

SHEET 9 OF 15




**NOTES:**

1. ITEMS IN GRAY-SCALE ARE EXISTING. REQUIRED WORK IS SHOWN IN BOLD.
2. WORK RELATED TO THIS SHEET IS GOVERNED BY SPECIFICATION DIVISION 16.

SANTA ROSA COUNTY FLORIDA

KENNETH W. POWELL LICENSE No. 78151 STATE OF FLORIDA PROFESSIONAL ENGINEER

| NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | REVISIONS | |

**WHITING AVIATION PARK**
**FIRE FLOW EXPANSION - PHASE A**

**EXISTING ELECTRICAL SITE PLAN**

VOLKERT
215 FAIRPOINT DRIVE
SUITE B
GULF BREEZE, FL 32561

| DRAWN BY: | CHECKED BY: |
|---|---|
| T.B. | R.M. |
| DESIGNED BY: | CHECKED BY: |
| K.P. | R.M. |

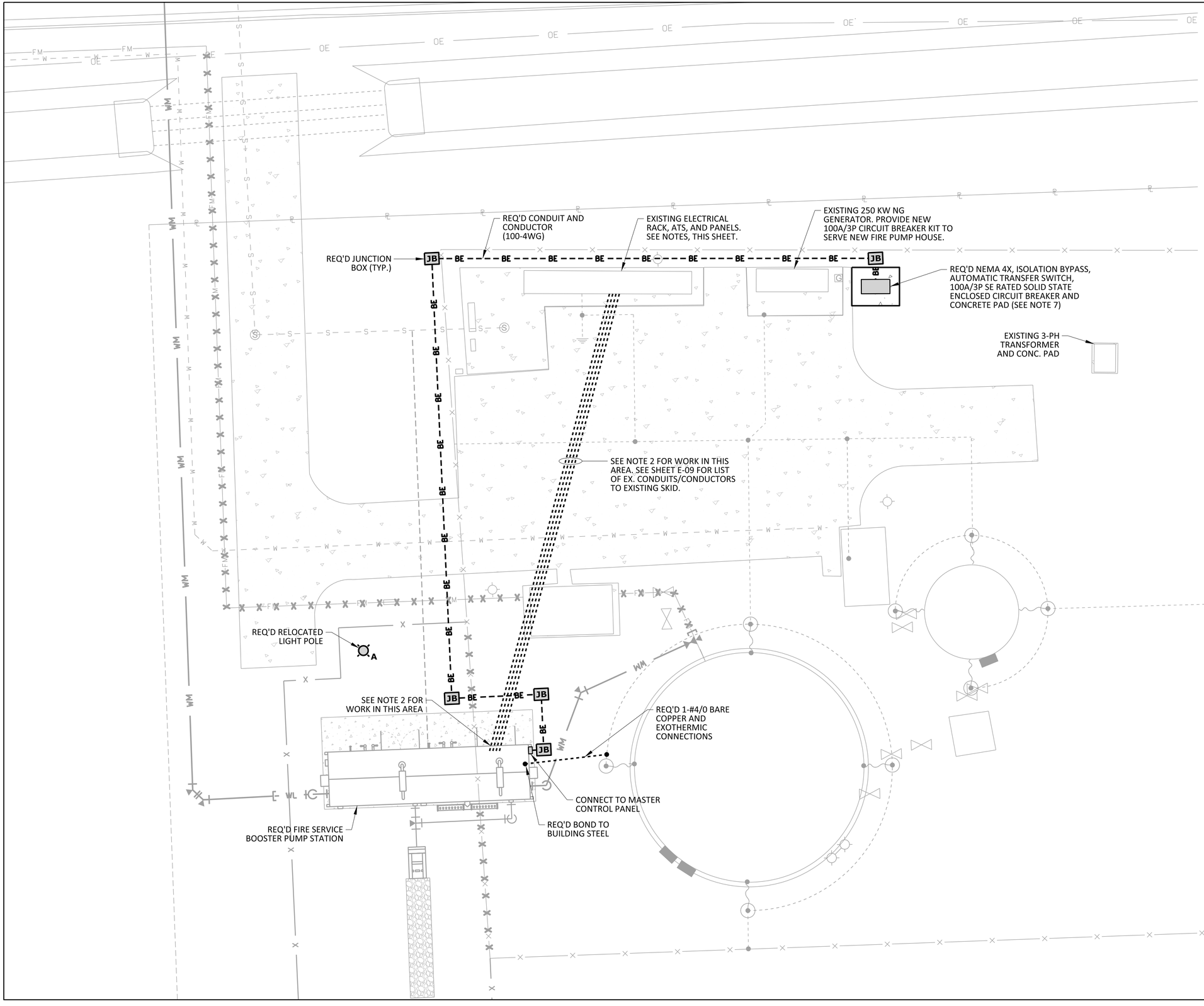
VOLKERT PROJECT NO.: 1202201

DATE: MAY 2024

SHEET NUMBER

**E-01**

SHEET 10 OF 15




**NOTES:**

1. LIGHT POLE DETAILS ON SHEET E-07.
2. CONTRACTOR SHALL EXCAVATE EXISTING CONTROL AND MONITORING CIRCUITS ASSOCIATED WITH FIRE PROTECTION BOOSTER STATION. REUSE EXISTING CONDUITS TO EXTENT POSSIBLE AND PULL NEW CONDUCTORS/CABLES AS REQUIRED TO MAKE CONNECTIONS TO MATCH EXISTING SYSTEM FUNCTIONALITY. PROVIDE JUNCTION BOX(ES) TO FACILITATE RECONNECTIONS.
3. REMOVE EXISTING POWER CONDUCTORS BETWEEN PANEL "HA" AND FIRE PUMP HOUSE. ABANDON CONDUIT IN PLACE AND MARK EXISTING 100A/3P BREAKER AS "SPARE".
4. NOT ALL EXISTING CONDUITS ARE SHOWN. CONTRACTOR SHALL TAKE CARE NOT TO DAMAGE EXISTING CONDUITS. ANY DAMAGE TO EXISTING CONDUITS OR EQUIPMENT SHALL BE REPAIRED/REPLACED AT NO ADDITIONAL COST.
5. WORK RELATED TO THIS SHEET IS GOVERNED BY SPECIFICATION DIVISION 16.
6. COORDINATE WITH FP&L AS FOR CONNECTIONS TO EXISTING UTILITY TRANSFORMER. PROVIDE 4"C BETWEEN TRANSFORMER AND NEW ENCLOSED BREAKER.
7. INSTALL OWNER-PROVIDED AUTOMATIC TRANSFER SWITCH. ALL OTHER REQUIRED MATERIALS SHALL BE CONTRACTOR FURNISHED AND INSTALLED.
8. CONTRACTOR SHALL COORDINATE WITH AVS SYSTEMS TO FURNISH AND INSTALL ALL NECESSARY HARDWARE, SOFTWARE, TELEMETRY, AND PROGRAMMING FOR REQUIRED ALARM MONITORING FOR SANTA ROSA COUNTY. CONTACT CHRIS SHRIVER AT (850) 484-8882.

SANTA ROSA COUNTY FLORIDA

KENNETH W. POWELL LICENSE No. 78952 STATE OF FLORIDA PROFESSIONAL ENGINEER

| NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|

REVISIONS

**WHITING AVIATION PARK**
**FIRE FLOW EXPANSION - PHASE A**

**REQUIRED ELECTRICAL SITE PLAN**

VOLKERT
215 FAIRPOINT DRIVE
SUITE B
GULF BREEZE, FL 32561

| DRAWN BY: | CHECKED BY: |
|---|---|
| T.B. | R.M. |
| DESIGNED BY: | CHECKED BY: |
| K.P. | R.M. |

VOLKERT PROJECT NO.: 1202201

DATE: MAY 2024

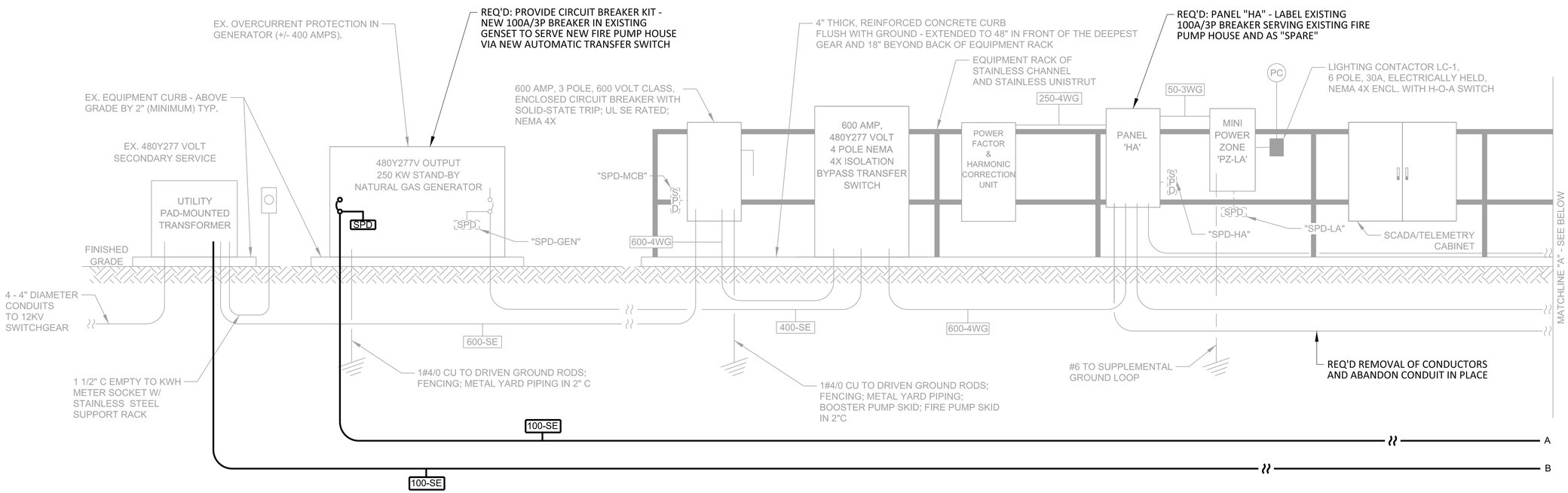
SHEET NUMBER

**E-02**

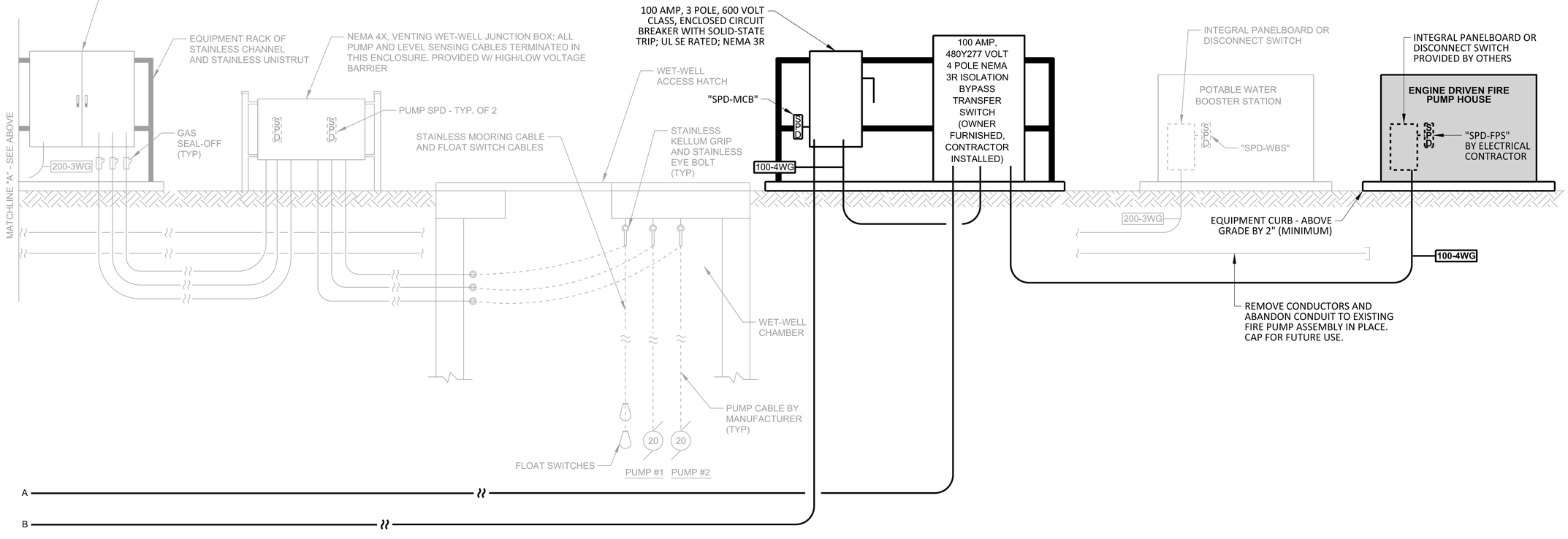
SHEET 11 OF 15

**NOTES:**

1. ITEMS IN GRAY-SCALE ARE EXISTING. REQUIRED WORK IS SHOWN IN BOLD.




**ENCLOSED BREAKER, ATS AND RACK SHOWN HERE FOR CLARITY - FIELD INSTALL NEXT TO EXISTING GENERATOR**




SANTA ROSA COUNTY FLORIDA

KENNETH W. POWELL LICENSE No. 78561 STATE OF FLORIDA PROFESSIONAL ENGINEER

| NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | REVISIONS | |

**WHITING AVIATION PARK**
**FIRE FLOW EXPANSION - PHASE A**

**ELECTRICAL ONE-LINE DIAGRAM**


VOLKERT
215 FAIRPOINT DRIVE
SUITE B
GULF BREEZE, FL 32561


| DRAWN BY: | CHECKED BY: |
|---|---|
| T.B. | R.M. |
| DESIGNED BY: | CHECKED BY: |
| K.P. | R.M. |

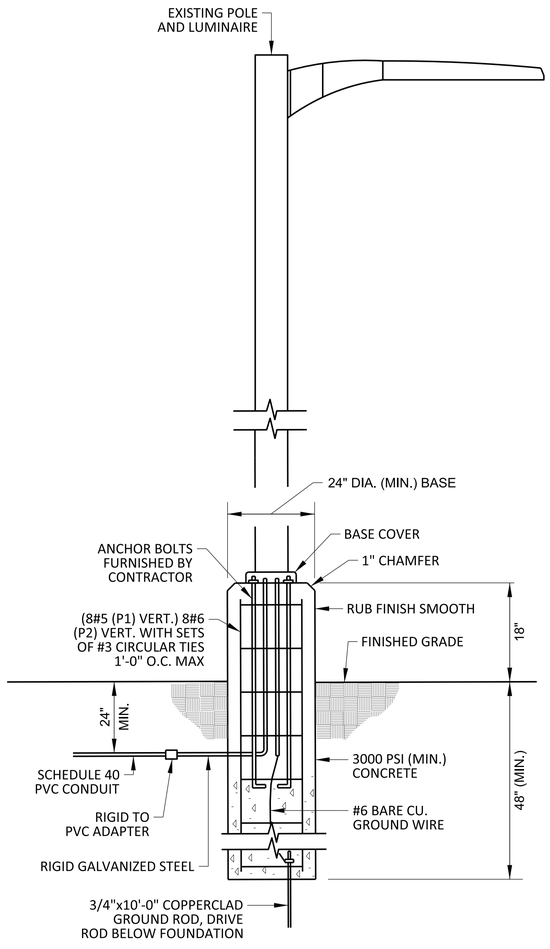
VOLKERT PROJECT NO.: 1202201

DATE: MAY 2024

SHEET NUMBER

**E-03**

SHEET 12 OF 15




**NOTES:**

1. PROVIDE NEW FOUNDATION FOR POLE RELOCATION.

## LIGHTING POLE DETAIL

SCALE: NOT TO SCALE

# WIRING SCHEDULE - COPPER

| AMPS | (2WG) | (3WG) | (4WG) | SE | 4W-(IG) | (5WG) | 5W-(IG) |
|---|---|---|---|---|---|---|---|
| | 1Ø, 2 WIRE, GROUND | 1Ø, 3 WIRE, GROUND OR 3Ø, 3 WIRE, GROUND | 3Ø, 4 WIRE, GROUND | 3Ø, 4 WIRE, SERVICE | ISOLATED GROUND | 3Ø, 5 WIRE, GROUND, 200% NEUTRAL | ISOLATED GROUND |
| **20** | (2#12 & 1#12 G) 3/4"C | (3#12 & 1#12 G) 3/4"C | (4#12 & 1#12 G) 3/4"C | | 1#12 IG, 3/4" C | (5#12 & 1#12 G) 3/4"C | 1#12 IG, 3/4" C |
| **30** | (2#10 & 1#10 G) 3/4"C | (3#10 & 1#10 G) 3/4"C | (4#10 & 1#10 G) 3/4"C | | 1#10 IG, 3/4" C | (5#10 & 1#10 G) 3/4"C | 1#10 IG, 3/4" C |
| **40** | (2#8 & 1#10 G) 3/4"C | (3#8 & 1#10 G) 3/4"C | (4#8 & 1#10 G) 1"C | | 1#10 IG, 1" C | (5#8 & 1 #10 G) 1"C | 1#10 IG, 1" C |
| **50** | (2#6 & 1#10 G) 3/4"C | (3#6 & 1#10 G) 1"C | (4#6 & 1#10 G) 1"C | | 1#10 IG, 1" C | (5#6 & 1#10 G) 1"C | 1#10 IG, 1 1/4" C |
| **60** | (2#4 & 1#10 G) 1"C | (3#4 & 1#10 G) 1"C | (4#4 & 1#10 G) 1 1/4"C | | 1#10 IG, 1 1/4" C | (5#4 & 1#10 G) 1 1/4"C | 1#10 IG, 1 1/4" C |
| **70** | (2#4 & 1#8 G) 1"C | (3#4 & 1#8 G) 1 1/4"C | (4#4 & 1#8 G) 1 1/4"C | | 1#8 IG, 1 1/4" C | (5#4 & 1#8 G) 1 1/4"C | 1#8 IG, 1 1/4" C |
| **80** | (2#2 & 1#8 G) 1"C | (3#2 & 1#8 G) 1 1/4"C | (4#2 & 1#8 G) 1 1/2"C | | 1#8 IG, 1 1/2" C | (5#2 & 1#8 G) 1 1/2"C | 1#8 IG, 1 1/2" C |
| **90** | (2#2 & 1#8 G) 1"C | (3#2 & 1#8 G) 1 1/4"C | (4#2 & 1#8 G) 1 1/2"C | | 1#8 IG, 1 1/2" C | (5#2 & 1#8 G) 1 1/2"C | 1#8 IG, 1 1/2" C |
| **100** | (2#1 & 1#8 G) 1 1/4"C | (3#1 & 1#8 G) 1 1/2"C | (4#1 & 1#8 G) 1 1/2"C | (4#1) 1 1/2"C | 1#8 IG, 2" C | (5#1 & 1#8 G) 2"C | 1#8 IG, 2" C |
| **110** | (2#1 & 1#6 G) 1 1/4"C | (3#1 & 1#6 G) 1 1/2"C | (4#1 & 1#6 G) 1 1/2"C | (4#1) 1 1/2"C | 1#6 IG, 2" C | (5#1 & 1#6 G) 2"C | 1#6 IG, 2" C |
| **125** | (2#1 & 1#6 G) 1 1/4"C | (3#1 & 1#6 G) 1 1/2"C | (4#1 & 1#6 G) 1 1/2"C | (4#1) 1 1/2"C | 1#6 IG, 2" C | (5#1/0 & 1#4 G) 2"C | 1#4 IG, 2" C |
| **150** | (2#1/0 & 1#6 G) 1 1/4"C | (3#1/0 & 1#6 G) 1 1/2"C | (4#1/0 & 1#6 G) 2"C | (4#1/0) 2"C | 1#6 IG, 2" C | (5#2/0 & 1#4 G) 2 1/2"C | 1#4 IG, 2 1/2" C |
| **175** | (2#2/0 & 1#6 G) 1 1/2"C | (3#2/0 & 1#6 G) 2"C | (4#2/0 & 1#6 G) 2"C | (4#2/0) 2"C | 1#6 IG, 2" C | (5#3/0 & 1#4 G) 2 1/2"C | 1#4 IG, 2 1/2" C |
| **200** | (2#3/0 & 1#6 G) 1 1/2"C | (3#3/0 & 1#6 G) 2"C | (4#3/0 & 1#6 G) 2"C | (4#3/0) 2"C | 1#6 IG, 2 1/2" C | (5#4/0 & 1#4 G) 3"C | 1#4 IG, 3" C |
| **225** | (2#4/0 & 1#4 G) 2"C | (3#4/0 & 1#4 G) 2"C | (4#4/0 & 1#4 G) 2 1/2"C | (4#4/0 & 1#4 G) 2 1/2"C | 1#4 IG, 2 1/2" C | (5-250 KCMIL & 1#3 G) 3"C | 1#3 IG, 3" C |
| **250** | (2-250 KCMIL & 1#4 G) 2"C | (3-250 KCMIL & 1#4 G) 2 1/2"C | (4-250 KCMIL & 1#4 G) 3"C | (4-250 KCMIL & 1#4 G) 3"C | 1#4 IG, 3" C | (5-300 KCMIL & 1#3 G) 3"C | 1#3 IG, 3" C |
| **300** | (2-350 KCMIL & 1#4 G) 2"C | (3-350 KCMIL & 1#4 G) 3"C | (4-350 KCMIL & 1#4 G) 3"C | (4-350 KCMIL & 1#4 G) 3"C | 1#4 IG, 3" C | (5-400 KCMIL & 1#3 G) 3 1/2"C | 1#3 IG, 3 1/2" C |
| **380** | (2-500 KCMIL & 1#3 G) 2 1/2"C | (3-500 KCMIL & 1#3 G) 3"C | (4-500 KCMIL & 1#3 G) 3 1/2"C | (4-500 KCMIL) 3 1/2"C | 1#3 IG, 3 1/2" C | 2[(5#4/0 & 1#3 G) 3"C] | 1#3 IG, 3" C |
| **400** | 2[(2#3/0 & 1#3 G) 1 1/2"C] | 2[(3#3/0 & 1#3 G) 2"C] | 2[(4#3/0 & 1#3 G) 2 1/2"C] | 2[(4#3/0) 2 1/2"C] | 1#3 IG, 3 1/2" C | 2[(5#4/0 & 1#2 G) 3"C] | 1#2 IG, 3" C |
| **450** | 2[(2#4/0 & 1#2 G) 2"C] | 2[(3#4/0 & 1#2 G) 2"C] | 2[(4#4/0 & 1#2 G) 2 1/2"C] | 2[(4#4/0) 2 1/2"C] | | 2[(5-250 KCMIL & 1#1 G) 3"C] | |
| **500** | 2[(2-250 KCMIL & 1#2 G) 2"C] | 2[(3-250 KCMIL & 1#2 G) 2 1/2"C] | 2[(4-250 KCMIL & 1#2 G) 3"C] | 2[(4-250 KCMIL) 3"C] | | 2[(5-300 KCMIL & 1#1 G) 3"C] | |
| **600** | 2[(2-350 KCMIL & 1#1 G) 2 1/2"C] | 2[(3-350 KCMIL & 1#1 G) 3"C] | 2[(4-350 KCMIL & 1#1 G) 3"C] | 2[(4-350 KCMIL) 3"C] | | 2[(5-400 KCMIL & 1#1/0 G) 3 1/2"C] | |
| **700** | 2[(2-500 KCMIL & 1#1/0 G) 2 1/2"C] | 2[(3-500 KCMIL & 1#1/0 G) 3"C] | 2[(4-500 KCMIL & 1#1/0 G) 3 1/2"C] | 2[(4-500 KCMIL) 3 1/2"C] | | 3[(5-300 KCMIL & 1#1/0 G) 3"C] | |
| **760** | 2[(2-500 KCMIL & 1#1/0 G) 2 1/2"C] | 2[(3-500 KCMIL & 1#1/0 G) 3"C] | 2[(4-500 KCMIL & 1#1/0 G) 3 1/2"C] | 2[(4-500 KCMIL) 3 1/2"C] | | 3[(5-300 KCMIL & 1#1/0 G) 3"C] | |
| **800** | 3[(2-300 KCMIL & 1#1/0 G) 2"C] | 3[(3-300 KCMIL & 1#1/0 G) 2 1/2"C] | 3[(4-300 KCMIL & 1#1/0 G) 3"C] | 3[(4-300 KCMIL) 3"C] | | 3[(5-350 KCMIL & 1#2/0 G ) 3 1/2"C] | |
| **1000** | 3[(2-400 KCMIL & 1#2/0 G) 2 1/2"C] | 3[(3-400 KCMIL & 1#2/0 G) 3"C] | 3[(4-400 KCMIL & 1#2/0 G) 3"C] | 3[(4-400 KCMIL) 3"C] | | 3[(5-500 KCMIL & 1#3/0 G) 4"C] | |
| **1200** | 4[(2-350 KCMIL & 1#3/0 G) 2 1/2"C] | 4[(3-350 KCMIL & 1#3/0 G) 3"C] | 4[(4-350 KCMIL & 1#3/0 G) 3"C] | 4[(4-350 KCMIL) 3"C] | | | |
| **1600** | 5[(2-400 KCMIL & 1#4/0 G) 2 1/2"C] | 5[(3-400 KCMIL & 1#4/0 G) 3"C] | 5[(4-400 KCMIL & 1#4/0 G) 3 1/2"C] | 5[(4-400 KCMIL) 3 1/2"C] | | | |
| **2000** | 6[(2-400 KCMIL & 1-250 KCMIL G) 2 1/2"C] | 6[(3-400 KCMIL & 1-250 KCMIL G) 3"C] | 6[(4-400 KCMIL & 1-250 KCMIL G) 3 1/2"C] | 6[(4-400 KCMIL) 3 1/2"C] | | | |
| **2500** | 7[(2-500 KCMIL & 1-350 KCMIL G) 3"C] | 7[(3-500 KCMIL & 1-350 KCMIL G) 3 1/2"C] | 7[(4-500 KCMIL & 1-350 KCMIL G) 3 1/2"C] | 7[(4-500 KCMIL) 3 1/2"C] | | | |
| **3000** | 8[(2-500 KCMIL & 1-400 KCMIL G) 3"C] | 8[(3-500 KCMIL & 1-400 KCMIL G) 3 1/2"C] | 8[(4-500 KCMIL & 1-400 KCMIL G) 3 1/2"C] | 8[(4-500 KCMIL) 3 1/2"C] | | | |
| **3500** | 10[(2-500 KCMIL & 1-500 KCMIL G) 3"C] | 10[(3-500 KCMIL & 1-500 KCMIL G) 3 1/2"C] | 10[(4-500 KCMIL & 1-500 KCMIL G) 4"C] | 10[(4-500 KCMIL) 4"C] | | | |
| **4000** | 11[(2-500 KCMIL & 1-500 KCMIL G) 3"C] | 11[(3-500 KCMIL & 1-500 KCMIL G) 3 1/2"C] | 11[(4-500 KCMIL & 1-500 KCMIL G) 4"C] | 11[(4-500 KCMIL) 4"C] | | | |

CONDUCTOR SIZES ARE BASED ON 60° TERMINATIONS LESS THAN 100A AND 75° TERMINATIONS GREATER THAN 100A PER NEC 110.14
ADJUSTMENT FACTORS ARE BASED ON 90° TEMPERATURE RATINGS PER NEC 110.14
CONDUIT SIZES ARE BASED ON NEC CH.9 TABLE 4 (RNC SCHED 80) FOR WORST CASE AND TABLE 5 (THHN INSULATION).

SANTA ROSA COUNTY FLORIDA

KENNETH W. POWELL LICENSE No. 78952 STATE OF FLORIDA PROFESSIONAL ENGINEER

REVISIONS

| NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|

WHITING AVIATION PARK
FIRE FLOW EXPANSION - PHASE A

ELECTRICAL DETAILS AND SCHEDULES

VOLKERT
215 FAIRPOINT DRIVE
SUITE B
GULF BREEZE, FL 32561

| DRAWN BY: | CHECKED BY: |
|---|---|
| T.B. | R.M. |
| DESIGNED BY: | CHECKED BY: |
| K.P. | R.M. |

VOLKERT PROJECT NO.: 1202201

DATE: MAY 2024

SHEET NUMBER

E-04

SHEET 13 OF 15

| | |
|---|---|
| **PANEL:** | HA |
| **LOCATION:** | MAIN ELECTRICAL RACK |
| **MOUNTING:** | SURFACE |

| | |
|---|---|
| **VOLTAGE:** | 277/480V, 3PH, 4W |
| **MINIMUM BUS:** | 600 |
| **MAIN:** | MLO |
| **MINIMUM AIC:** | 42000 |

| NO. | LOAD A | LOAD B | LOAD C | TYPE | LOAD DESCRIPTION | BREAKER POLE | BREAKER TRIP | BUS A | BUS B | BUS C | BREAKER TRIP | BREAKER POLE | TYPE | LOAD DESCRIPTION | LOAD A | LOAD B | LOAD C | NO. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 26700 | | | E | SEWAGE LIFT STATION | 3 | 200 | + | | | 30 | 3 | E | SPD-HA | 200 | | | 2 |
| 3 | | 26700 | | E | | | | | + | | | | E | | | 200 | | 4 |
| 5 | | | 26700 | E | | | | | | + | | | E | | | | 200 | 6 |
| 7 | 6500 | | | E | PANEL 'PZ-LA' | 3 | 50 | + | | | 100 | 3 | E | SPARE | | | | 8 |
| 9 | | 6650 | | E | | | | | + | | | | E | | | | | 10 |
| 11 | | | 3800 | E | | | | | | + | | | E | | | | | 12 |
| 13 | 750 | | | E | PF/HARMONIC CORRECTION | 3 | 250 | + | | | 200 | 3 | E | WATER BOOSTER STATION | 24500 | | | 14 |
| 15 | | 750 | | E | | | | | + | | | | E | | | 24500 | | 16 |
| 17 | | | 750 | E | | | | | | + | | | E | | | | 24500 | 18 |
| 19 | | | | | SPARE | 1 | 20 | + | | | 100 | 3 | | SPARE | | | | 20 |
| 21 | | | | | SPARE | 1 | 20 | | + | | | | | | | | | 22 |
| 23 | | | | | SPARE | 1 | 20 | | | + | | | | | | | | 24 |
| 25 | | | | | SPARE | 1 | 20 | + | | | 20 | 3 | | SPARE | | | | 26 |
| 27 | | | | | SPARE | 1 | 20 | | + | | | | | | | | | 28 |
| 29 | | | | | SPARE | 1 | 20 | | | + | | | | | | | | 30 |
| 31 | | | | | SPARE | 3 | 30 | + | | | 40 | 3 | | SPARE | | | | 32 |
| 33 | | | | | | | | | + | | | | | | | | | 34 |
| 35 | | | | | | | | | | + | | | | | | | | 36 |
| 37 | | | | | SPARE | 3 | 30 | + | | | 40 | 3 | | SPARE | | | | 38 |
| 39 | | | | | | | | | + | | | | | | | | | 40 |
| 41 | | | | | | | | | | + | | | | | | | | 42 |

| LOAD TYPE | PANEL TOTAL | FEED THRU TOTAL | SUBFEED TOTAL | FEEDER SUBTOTAL | DEMAND | FEEDER TOTAL |
|---|---|---|---|---|---|---|
| **(L)** LIGHTING | 0 | | | 0 | 125% | 0 |
| **(R)** RECEPTACLES | 0 | | | 0 | NEC 220 | 0 |
| **(LM)** LARGEST MOTOR | 0 | | | 0 | 25% | 0 |
| **(M)** MOTORS (ALL) | 0 | | | 0 | 100% | 0 |
| **(E)** EQUIPMENT | **165950** | | **165950** | **165950** | 100% | **165950** |
| **(A)** APPLIANCES | 0 | | | 0 | 0 | 0 |
| | | | | PANEL TOTAL (KVA): | | **165.9** |
| | | | | PANEL TOTAL (A): | | **199.7** |

**GENERAL NOTES:**

A. PROVIDE NEMA 4X ENCLOSURE
B. ALL FEEDER BREAKERS SHALL BE EQUIPPED WITH SOLID-STATE TRIP UNIT.
C.
D.

**SPECIFIC NOTES:**

(1)
(2)
(3)
(4)
(5)

## MODIFICATIONS TO EXISTING PANEL "HA"

| | |
|---|---|
| **PANEL:** | POWER ZONE PZ-LA |
| **LOCATION:** | MAIN ELECTRICAL RACK |
| **MOUNTING:** | SURFACE |

| | |
|---|---|
| **PRIMARY VOLTAGE:** | 480V, 3PH, 3W |
| **SECONARY VOLTAGE:** | 120/208V, 3PH, 4W |
| **MAIN OCP: MIN BUS:** | 100/3 CB |
| **MINIMUM AIC:** | 10000 |

| NO. | LOAD A | LOAD B | LOAD C | TYPE | LOAD DESCRIPTION | BREAKER POL | BREAKER TRIP | BUS A | BUS B | BUS C | BREAKER TRIP | BREAKER POLE | TYPE | LOAD DESCRIPTION | LOAD A | LOAD B | LOAD C | NO. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 400 | | | R | REC - GEN PURPOSE #1 | 1 | 20 | + | | | 30 | 3 | E | SPD-LA | 200 | | | 2 |
| 3 | | 400 | | R | REC - GEN PURPOSE #2 | 1 | 20 | | + | | | | E | | | 200 | | 4 |
| 5 | | | 500 | E | TANK 1 LEVEL TRANSDUCER | 1 | 20 | | | + | | | E | | | | 200 | 6 |
| 7 | 500 | | | E | TANK 2 LEVEL TRANSDUCER | 1 | 20 | + | | | 20 | 1 | L | LGT - SITE AND AREA | 500 | | | 8 |
| 9 | | 1600 | | E | TANK MIXER | 1 | 30 | | + | | 20 | 1 | L | LGT - SITE AND AREA | | 750 | | 10 |
| 11 | | | 1150 | | SCADA/TELEMETRY PANEL | 1 | 20 | | | + | 20 | 1 | L | LGT - ENTRANCE SIGN | | | 750 | 12 |
| 13 | 500 | | | | AVIATION BEACON | 1 | 20 | + | | | 50 | 3 | E | PANEL 'G' IN GENERATOR | 3000 | | | 14 |
| 15 | | 0 | | | SPARE | 1 | 20 | | + | | | | | | | 3000 | | 16 |
| 17 | | | 0 | | SPARE | 1 | 20 | | | + | | | | | | | 1200 | 18 |
| 19 | 0 | | | | SPARE | 1 | 20 | + | | | 20 | 1 | | PF CORRECTION UNIT | 1400 | | | 20 |
| 21 | | 0 | | | SPARE | 1 | 20 | | + | | 20 | 1 | | PF CORRECTION UNIT | | 700 | | 22 |
| 23 | | | 0 | | SPARE | 1 | 20 | | | + | 20 | 1 | | SPARE | | | 0 | 24 |

| LOAD TYPE | PANEL TOTAL | FEED THRU TOTAL | SUBFEED TOTAL | FEEDER SUBTOTAL | DEMAND | FEEDER TOTAL |
|---|---|---|---|---|---|---|
| **(L)** LIGHTING | 2000 | | | 2000 | 125% | 2500 |
| **(R)** RECEPTACLES | 800 | | | 800 | NEC 220 | 800 |
| **(LM)** LARGEST MOTOR | 0 | | | 0 | 25% | 0 |
| **(M)** MOTORS (ALL) | 0 | | | 0 | 100% | 0 |
| **(E)** EQUIPMENT | 6200 | | | 6200 | 100% | 6200 |
| **(A)** APPLIANCES | 0 | | | 0 | 0 | 0 |
| | | | | PANEL TOTAL (KVA): | | **16.9** |
| | | | | PANEL TOTAL (A): | | **20.7** |

**GENERAL NOTES:**

A. PROVIDE NEMA 4X ENCLOSURE
B. PROVIDE INTEGRAL 30KVA TRANSFORMER
C. PROVIDE GFIC TRIP CIRCUIT 1;AND 3
D. PROVIDE BREAKER HANDLE LOCK CIRCUIT 5; AND 7
E.

**SPECIFIC NOTES:**

(1)
(2)
(3)
(4)
(5)

## SCHEDULE FOR EXISTING "PZ-LA"

SHOWN FOR REFERENCE ONLY

## SCHEDULE OF SURGE PROTECTION DEVICES (SPD) FOR POWER DISTRIBUTION

| LOCATION | RATING IN AMPS OF CONNECTED BUSS OR MAIN CIRCUIT BREAKER | VOLTAGE | SPD DESIGNATION | SURGE SUPRESSION, INCORPORATED SPD/TVSS MODEL NUMBER | PEAK SURGE CURRENT PER PHASE (kA) | WARRANTY DETAILS (NO EXCEPTIONS) | REMOTE INDICATOR LIGHT KIT | RESPONSIBLE PURCHASING AND INSTALLING PARTY (NO EXCEPTIONS) | FREQUENCY RESPONSIVE CIRCUITRY | ENCLOSURE RATING (NEMA #) | SPD MOUNTED INTEGRAL TO PANELBOARD / SWITCHBOARD / MCC / CABINET / LIGHT POLE |
|---|---|---|---|---|---|---|---|---|---|---|---|
| GENERATOR MAIN CIRCUIT BREAKER #2 AT EXISTING SITE | 100 | 277/480Y 3PH/4W | 'SPD-GEN 2' | CDLA3Y2-LP-21 | 180 | 25-YEAR REPLACEMENT - EXCLUDING INSTALLATION | NO | ELECTRICAL CONTRACTOR | YES | 1 | YES |
| FIRE SERVICE BOOSTER PUMP STATION | 100 | 277/480Y 3PH/4W | 'SPD-FPS' | CDLA3YE230-21 | 180 | 25-YEAR REPLACEMENT - EXCLUDING INSTALLATION | YES | ELECTRICAL CONTRACTOR | YES | 1 | NO |

## REQUIRED SURGE PROTECTION DEVICE (SPD) SCHEDULE

SANTA ROSA COUNTY FLORIDA

KENNETH W. POWELL LICENSE No. 78512 STATE OF FLORIDA PROFESSIONAL ENGINEER

| NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | REVISIONS | |

WHITING AVIATION PARK
FIRE FLOW EXPANSION - PHASE A

ELECTRICAL DETAILS AND SCHEDULES

VOLKERT
215 FAIRPOINT DRIVE
SUITE B
GULF BREEZE, FL 32561

| DRAWN BY: | CHECKED BY: |
|---|---|
| T.B. | R.M. |
| DESIGNED BY: | CHECKED BY: |
| K.P. | R.M. |

VOLKERT PROJECT NO.: 1202201
DATE: MAY 2024

SHEET NUMBER
E-05
SHEET 14 OF 15

# INSTRUMENTATION AND BRANCH CIRCUIT WIRE AND CONDUIT SCHEDULE FOR EXISTING UTILITY SITE

| TAG | CONDUIT SIZE | CIRCUIT TYPE | ROUTING | WIRING | FROM | TO | NOTES |
|---|---|---|---|---|---|---|---|
| 1 | 1" | DATA | AS REQUIRED/ UNDER GRADE | 3#12 + 1#12EG | BYPASS ISOLATION TRANSFER SWITCH | WASTEWATER LIFT STATION PUMP CONTROL CABINET | PROVIDE FLEX CONDUIT CONNECTION AS REQUIRED. PROVIDE STATION ON STANDBY POWER STATUS CONDITION |
| 2 | 1" | DATA | AS REQUIRED/ UNDER GRADE | 3#12 + 1#12EG | BYPASS ISOLATION TRANSFER SWITCH | DOMESTIC WATER BOOSTER PUMP STATION PUMP CONTROL CABINET | PROVIDE FLEX CONDUIT CONNECTION AS REQUIRED. PROVIDE STATION ON STANDBY POWER STATUS CONDITION |
| 3 | 1.1/4" | POWER | AS REQUIRED/ UNDER GRADE | 3#6 + 1#6N + 1#8EG | PANEL PZLA | GENERATOR ENCLOSURE - INTERNAL PANELBOARD | PROVIDE FLEX CONDUIT CONNECTION AS REQUIRED |
| **4** | **1.1/4"** | **DATA** | **AS REQUIRED/ UNDER GRADE** | **19#12 + 1#12EG** | **GENERATOR ENCLOSURE - INTERNAL CONTROL CABINET** | **SCADA CABINET** | **PROVIDE FLEX CONDUIT CONNECTION AS REQUIRED** |
| **5** | **1.1/4"** | **DATA** | **AS REQUIRED/ UNDER GRADE** | **TWO CAT 6 ETHERNET CABLES** | **GENERATOR ENCLOSURE - INTERNAL CONTROL CABINET** | **SCADA CABINET** | **PROVIDE FLEX CONDUIT CONNECTION AS REQUIRED** |
| 6 | 1.1/4" | DATA | SURFACE/EXPOSED | 11#12 + 1#12EG | WASTEWATER LIFT STATION PUMP CONTROL CABINET | SCADA CABINET | PROVIDE FLEX CONDUIT CONNECTION AS REQUIRED |
| 7 | 1.1/4" | DATA | SURFACE/EXPOSED | TWO CAT 6 ETHERNET CABLES | WASTEWATER LIFT STATION PUMP CONTROL CABINET | SCADA CABINET | PROVIDE FLEX CONDUIT CONNECTION AS REQUIRED |
| 8 | 1.1/2" | POWER | AS REQUIRED/ UNDER GRADE | 3#6 + 1#8EG | WASTEWATER LIFT STATION PUMP CONTROL CABINET | WET WELL JUNCTION/TERMINATION BOX - PUMP MOTOR #1 POWER | PROVIDE FLEX CONDUIT CONNECTION AS REQUIRED. CONNECT SPD IN WETWELL JUNCTION BOX. |
| 9 | 1.1/2" | POWER | AS REQUIRED/ UNDER GRADE | 3#6 + 1#8EG | WASTEWATER LIFT STATION PUMP CONTROL CABINET | WET WELL JUNCTION/TERMINATION BOX - PUMP MOTOR #2 POWER | PROVIDE FLEX CONDUIT CONNECTION AS REQUIRED. CONNECT SPD IN WETWELL JUNCTION BOX. |
| 10 | 1" | DATA | AS REQUIRED/ UNDER GRADE | 5#12 + 1#12EG | WASTEWATER LIFT STATION PUMP CONTROL CABINET | WET WELL JUNCTION/TERMINATION BOX - PUMP MOTOR #1 FAIL SAFE RELAYS | PROVIDE FLEX CONDUIT CONNECTION AS REQUIRED |
| 11 | 1" | DATA | AS REQUIRED/ UNDER GRADE | 5#12 + 1#12EG | WASTEWATER LIFT STATION PUMP CONTROL CABINET | WET WELL JUNCTION/TERMINATION BOX - PUMP MOTOR #2 FAIL SAFE RELAYS | PROVIDE FLEX CONDUIT CONNECTION AS REQUIRED |
| 12 | 1" | DATA | AS REQUIRED/ UNDER GRADE | 7#12 + 1#12EG | WASTEWATER LIFT STATION PUMP CONTROL CABINET | WET WELL JUNCTION/TERMINATION BOX - FLOAT SWITCHES | PROVIDE FLEX CONDUIT CONNECTION AS REQUIRED |
| 13 | 1" | DATA | AS REQUIRED/ UNDER GRADE | 5#12 + 1#12EG | BYPASS ISOLATION TRANSFER SWITCH | GENERATOR ENCLOSURE - INTERNAL CONTROL CABINET | PROVIDE FLEX CONDUIT CONNECTION AS REQUIRED. GENERATOR START SIGNALS. |
| 14 | 3/4" | POWER | SURFACE/EXPOSED | 3#12 + 1#12EG | PANEL PZLA | SCADA CABINET | PROVIDE FLEX CONDUIT CONNECTION AS REQUIRED |
| 15 | 1" | DATA | AS REQUIRED/ UNDER GRADE | TWO BELDEN 8719 TWIST SHIELD PAIRS | DOMESTIC WATER BOOSTER PUMP STATION PUMP CONTROL CABINET | TANK 1 - LEVEL TRANSMITTER INDICATOR CABINET | PROVIDE FLEX CONDUIT CONNECTION AS REQUIRED |
| 16 | 1" | DATA | AS REQUIRED/ UNDER GRADE | 5#12 + 1#12EG | DOMESTIC WATER BOOSTER PUMP STATION PUMP CONTROL CABINET | TANK 1 - LOW AND HIGH LEVEL FLOAT SWITCHES | PROVIDE FLEX CONDUIT CONNECTION AS REQUIRED |
| 17 | 1.1/4" | DATA | AS REQUIRED/ UNDER GRADE | 11#12 + 1#12EG | DOMESTIC WATER BOOSTER PUMP STATION PUMP CONTROL CABINET | SCADA CABINET | PROVIDE FLEX CONDUIT CONNECTION AS REQUIRED |
| 18 | 1.1/4" | DATA | AS REQUIRED/ UNDER GRADE | TWO CAT 6 ETHERNET CABLES | DOMESTIC WATER BOOSTER PUMP STATION PUMP CONTROL CABINET | SCADA CABINET | PROVIDE FLEX CONDUIT CONNECTION AS REQUIRED |
| **19** | **1"** | **POWER** | **AS REQUIRED/ UNDER GRADE** | **2#10 + 1#10EG** | **LIGHTING CONTACTOR 'LC1'** | **SITE LIGHTING POLE 1** | **PROVIDE FLEX CONDUIT CONNECTION AS REQUIRED; INSTALL SPD IN POLE BASE** |
| 20 | 1" | POWER | AS REQUIRED/ UNDER GRADE | 2#10 + 1#10EG | LIGHTING CONTACTOR 'LC1' | SITE LIGHTING POLE 2 | PROVIDE FLEX CONDUIT CONNECTION AS REQUIRED; INSTALL SPD IN POLE BASE |
| 21 | 1" | POWER | AS REQUIRED/ UNDER GRADE | 2#8 + 1#10EG | LIGHTING CONTACTOR 'LC1' | SIGNAGE LIGHTING CIRCUIT TO EACH FIXTURE | PROVIDE FLEX CONDUIT CONNECTION AS REQUIRED; INSTALL SPD AT LOCAL FIXTURE JUNCTION BOX. |
| 22 | 1.1/4" | POWER | SURFACE/EXPOSED | 3#8 + 1#8N + 1#8EG | PANEL PZLA | LIGHTING CONTACTOR 'LC1' | PROVIDE FLEX CONDUIT CONNECTION AS REQUIRED |
| 23 | 3/4" | DATA | SURFACE/EXPOSED | 5#14 + 1#12EG | LIGHTING CONTACTOR 'LC1' | EQUIPMENT RACK MOUNTED PHOTOCELL | POINT PHOTOCELL NORTH AND AWAY FROM EXTERIOR LIGHTING FIXTURES |
| 24 | 1" | POWER | AS REQUIRED/ UNDER GRADE | 2#10 + 1#10EG | SITE LIGHTING POLE 2 | SITE LIGHTING POLE 3 | PROVIDE FLEX CONDUIT CONNECTION AS REQUIRED; INSTALL SPD IN POLE BASE |
| 25 | 3/4" | 3/4" | SURFACE/EXPOSED | 3#12 + 1#12EG | PANEL PZLA | RACK MOUNTED GENERAL PURPOSE GFIC RECEPTACLE #1 | PROVIDE FLEX CONDUIT CONNECTION AS REQUIRED |
| 26 | 3/4" | 3/4" | SURFACE/EXPOSED | 3#12 + 1#12EG | PANEL PZLA | RACK MOUNTED GENERAL PURPOSE GFIC RECEPTACLE #2 | PROVIDE FLEX CONDUIT CONNECTION AS REQUIRED |
| 27 | 2-2" | DATA | AS REQUIRED/ UNDER GRADE | EMPTY - FOR FUTURE USE - COPPER OR FIBER NETWORK SERVICE | NEAREST POWER COMPANY RISER POLE TO SITE | MAIN EQUIPMENT RACK NEAR SCADA CABINET - STUB UP 6" ABOVE FINISHED GRADE AND CAP | PROVIDE FLEX CONDUIT CONNECTION AS REQUIRED |
| 28 | 2-1" | SPARE | AS REQUIRED/ UNDER GRADE | EMPTY - FOR FUTURE USE | DOMESTIC WATER BOOSTER PUMP STATION PUMP CONTROL CABINET | SCADA CABINET | PROVIDE FLEX CONDUIT CONNECTION AS REQUIRED |
| 29 | 1.1/4" | DATA | SURFACE/EXPOSED | FOUR BELDEN 8719 TWIST SHIELD PAIRS | DOMESTIC WATER BOOSTER PUMP STATION PUMP CONTROL CABINET | SCADA CABINET | PROVIDE FLEX CONDUIT CONNECTION AS REQUIRED. FLOW SIGNAL TO TELEMETRY. |
| **30** | **1.1/4"** | **DATA** | **SURFACE/EXPOSED** | **FOUR BELDEN 8719 TWIST SHIELD PAIRS** | **FIRE PROTECTION PUMP STATION - CONTROL CABINET** | **SCADA CABINET** | **PROVIDE FLEX CONDUIT CONNECTION AS REQUIRED. FLOW SIGNAL TO TELEMETRY.** |
| **31** | **1"** | **DATA** | **SURFACE/EXPOSED** | **TWO BELDEN 8719 TWIST SHIELD PAIRS** | **FIRE PROTECTION PUMP STATION - CONTROL CABINET** | **TANK 2 - LEVEL TRANSMITTER INDICATOR CABINET** | **PROVIDE FLEX CONDUIT CONNECTION AS REQUIRED** |
| **32** | **1"** | **DATA** | **SURFACE/EXPOSED** | **5#12 + 1#12EG** | **FIRE PROTECTION PUMP STATION - CONTROL CABINET** | **TANK 2 - LOW AND HIGH LEVEL FLOAT SWITCHES** | **PROVIDE FLEX CONDUIT CONNECTION AS REQUIRED** |
| 33 | 2-1" | SPARE | AS REQUIRED/ UNDER GRADE | EMPTY - FOR FUTURE USE | FIRE PROTECTION PUMP STATION - CONTROL CABINET | SCADA CABINET | PROVIDE FLEX CONDUIT CONNECTION AS REQUIRED |
| **34** | **1"** | **DATA** | **AS REQUIRED/ UNDER GRADE** | **3#12 + 1#12EG** | **BYPASS ISOLATION TRANSFER SWITCH** | **FIRE PROTECTION PUMP STATION - CONTROL CABINET** | **PROVIDE FLEX CONDUIT CONNECTION AS REQUIRED. PROVIDE STATION ON STANDBY POWER STATUS CONDITION** |
| **35** | **1.1/4"** | **DATA** | **AS REQUIRED/ UNDER GRADE** | **11#12 + 1#12EG** | **FIRE PROTECTION PUMP STATION - CONTROL CABINET** | **SCADA CABINET** | **PROVIDE FLEX CONDUIT CONNECTION AS REQUIRED** |
| **36** | **1.1/4"** | **DATA** | **AS REQUIRED/ UNDER GRADE** | **TWO CAT 6 ETHERNET CABLES** | **FIRE PROTECTION PUMP STATION - CONTROL CABINET** | **SCADA CABINET** | **PROVIDE FLEX CONDUIT CONNECTION AS REQUIRED** |
| 37 | 1" | POWER | AS REQUIRED/ UNDER GRADE | 2#12 + 1#10EG | PANEL PZLA | TANK 1 - LEVEL TRANSMITTER INDICATOR CABINET | PROVIDE FLEX CONDUIT CONNECTION AS REQUIRED |
| 38 | 1" | POWER | AS REQUIRED/ UNDER GRADE | 2#12 + 1#10EG | PANEL PZLA | TANK 2 - LEVEL TRANSMITTER INDICATOR CABINET | PROVIDE FLEX CONDUIT CONNECTION AS REQUIRED |
| 38 | 1" | POWER | AS REQUIRED/ UNDER GRADE | 2#10 + 1#10EG | PANEL PZLA | TANK 2 MIXER CONTROL CABINET | PROVIDE FLEX CONDUIT CONNECTION AS REQUIRED |
| 39 | 1" | POWER | AS REQUIRED/ UNDER GRADE | 2#10 + 1#10EG | PANEL PZLA | TANK 2 AVIATION BEACON CONTROL CABINET AND WIRING UP TO BEACON FIXTURE. | PROVIDE FLEX CONDUIT CONNECTION AS REQUIRED |
| 40 | 1" | POWER | SURFACE/EXPOSED | 2#10 + 1#10EG | TANK 2 MIXER CONTROL CABINET | MIXXER MOTOR | PROVIDE FLEX CONDUIT CONNECTION AS REQUIRED. ROUTE 1"C WITH 2#10 + 1#10EG UP TANK TO MIXER MOTOR. |
| 41 | 1" | DATA | AS REQUIRED/ UNDER GRADE | 5#12 + 1#12EG | TANK 2 MIXER CONTROL CABINET | SCADA CABINET | PROVIDE FLEX CONDUIT CONNECTION AS REQUIRED |
| 42 | 1" | DATA | AS REQUIRED/ UNDER GRADE | TWO BELDEN 8719 TWIST SHIELD PAIRS | TANK 2 MIXER CONTROL CABINET | SCADA CABINET | PROVIDE FLEX CONDUIT CONNECTION AS REQUIRED |
| 43 | 1" | DATA | SURFACE/EXPOSED | CABLE PROVIDED WITH SIEMENS TRANSDUCER | TANK 1 - LEVEL TRANSMITTER INDICATOR CABINET | TANK 1 - ULTRASONIC TRANSDUCER HEAD | PROVIDE FLEX CONDUIT CONNECTION AS REQUIRED |
| 44 | 1" | DATA | SURFACE/EXPOSED | CABLE PROVIDED WITH SIEMENS TRANSDUCER | TANK 2 - LEVEL TRANSMITTER INDICATOR CABINET | TANK 2 - ULTRASONIC TRANSDUCER HEAD | PROVIDE FLEX CONDUIT CONNECTION AS REQUIRED |
| 45 | 3/4" | POWER | SURFACE/EXPOSED | 2#12 + 1#10EG | PANEL PZLA | PF CORRECTION UNIT HVAC | PROVIDE FLEX CONDUIT CONNECTION AS REQUIRED |
| 46 | 3/4" | POWER | SURFACE/EXPOSED | 2#12 + 1#10EG | PANEL PZLA | PF CORRECTION UNIT | PROVIDE FLEX CONDUIT CONNECTION AS REQUIRED |

**NOTES:**

1. TAGS #4 AND #5 - PROVIDE NEW SETS OF CONDUITS/CONDUCTORS AS REQUIRED BETWEEN EXISTING GENERATOR CONTROL CABINET AND SCADA FOR MONITORINNG OF NEW TRANSFER SWITCH.
2. TAG# 19 - ADD NEW CONDUIT/CONDUCTORS SHOWN AS BETWEEN NEW TRANSFER SWITCH AND EXISTING GENERATOR.
3. CONDUCTORS FOR TAG NUMBERS 30 - 32 AND TAG NUMBERS 35 - 36 SHALL BE REPLACED IN-KIND THROUGH EXISTING CONDUITS (IF REQUIRED TO AVOID SPLICING FOR CONNECTIONS TO NEW EQUIPMENT).
4. TAG# 34 - REMOVE EXISTING CIRCUIT - PROVIDE NEW CONDUIT/CONDUCTORS AS REQUIRED TO TIE IN NEW TRANSFER SWITCH TO NEW FIRE PUMP CONTROL CABINET.

SANTA ROSA COUNTY FLORIDA

KENNETH W. POWELL LICENSE No. 78952 STATE OF FLORIDA PROFESSIONAL ENGINEER

| NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | REVISIONS | |

WHITING AVIATION PARK
FIRE FLOW EXPANSION - PHASE A

ELECTRICAL DETAILS AND SCHEDULES

VOLKERT
215 FAIRPOINT DRIVE
SUITE B
GULF BREEZE, FL 32561

| DRAWN BY: | CHECKED BY: |
|---|---|
| T.B. | R.M. |
| DESIGNED BY: | CHECKED BY: |
| K.P. | R.M. |

VOLKERT PROJECT NO.: 1202201

DATE: MAY 2024

SHEET NUMBER

E-06