SAVANNAH
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# TRAVIS FIELD WATER RECLAMATION FACILITY

PREPARED FOR:

## MAYOR AND ALDERMAN OF THE CITY OF SAVANNAH

MAYOR
EDDIE DELOACH

ALDERMAN

CAROLYN BELL — JOHN HALL
BRIAN FOSTER — JULIAN MILLER
VAN R. JOHNSON, II — DR. ESTELLA EDWARDS SHABAZZ
BILL DURRENCE — TONY THOMAS

CITY MANAGER
ROB HERNANDEZ

PUBLIC WORKS AND WATER RESOURCES DIRECTOR
JOHN SAWYER

CITY PROJECT NO. SW-524-10

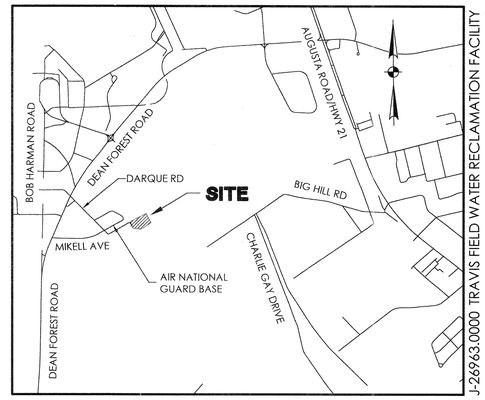
MAY 2019

J-26963.0000

PREPARED BY:

THOMAS & HUTTON

**BID SET - NOT FOR CONSTRUCTION**




VICINITY MAP
SCALE: 1" = 2000'

J-26963.0000 TRAVIS FIELD WATER RECLAMATION FACILITY
1-16-19

| REVISION HISTORY | | | |
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| 0 | ISSUED FOR BIDS | CDR | 5-1-19 |
| A | REVISIONS PER CITY OF SAVANNAH SPR COMMENTS | CDR | 2-18-19 |
| REV. NO. | REVISION | BY | DATE |

GEORGIA REGISTERED No. 26701 PROFESSIONAL ENGINEER FRED SORORIAN

**ENGINEER'S CERTIFICATION STATEMENT**

I certify that I have been in responsible charge of the design of this project in accordance with the rules of the Georgia State Board of Registration for Professional Engineers and Land Surveyors. I further certify, to the best of my knowledge and belief, that these plans and specifications were prepared in accordance with the current standard engineering practices and accurately reflect the Design Development Report (DDR) previously reviewed and concurred in by EPD. I further certify that the system as designed can reasonably be expected to consistently meet all currently applicable permit limits, conditions, and regulatory requirements, provided the facility is constructed as designed and properly operated and maintained.

Fred Sororian, PE

| SUBMITTAL HISTORY | |
|---|---|
| GEORGIA EPD SUBMITTAL | 1-16-19 |
| CITY OF SAVANNAH BUILDING PERMIT REVIEW | 1-21-19 |
| CITY OF SAVANNAH SITE PLAN REVIEW SUBMITTAL | 1-22-19 |
| GSWCC ES&PC SUBMITTAL | 1-28-19 |
| CITY OF SAVANNAH SITE PLAN REVIEW SUBMITTAL NO. 2 | 2-25-19 |
| CITY OF SAVANNAH BUILDING PERMIT SUBMITTAL NO. 2 | 3-4-19 |
| SAVANNAH-HILTON HEAD AIRPORT REVIEW | 3-5-19 |
| | |
| | |
| SUBMITTED TO | DATE |

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| P&ID SYMBOL | SYMBOLOGY | KUBOTA |
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GEORGIA REGISTERED PROFESSIONAL ENGINEER FRED SORRENSEN

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|---|---|---|---|
| 0 | ISSUED FOR BIDS | CDR | 5-01-19 |

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TRAVIS FIELD WATER RECLAMATION FACILITY

INDEX SHEET

| | |
|---|---|
| JOB NO: | J-26963.0000 |
| DATE: | 1-16-19 |
| DRAWN: | CDR |
| DESIGNED: | CDR |
| REVIEWED: | FS |
| APPROVED: | FS |
| SCALE: | NONE |

G0.1

STATE OF GEORGIA



PROJECT SITE

GRAPHIC SCALE

500 0 250 500 1000 2000.00

( IN FEET )
1 inch = 500 ft.

BID SET - NOT FOR CONSTRUCTION

| NO. | REVISIONS | BY | DATE |
|---|---|---|---|
| 0 | ISSUED FOR BIDS | CDR | 5-01-19 |


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TRAVIS FIELD WATER RECLAMATION FACILITY

VICINITY MAP

| | |
|---|---|
| JOB NO: | J-26963.0000 |
| DATE: | 1-16-19 |
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| DESIGNED: | CDR |
| REVIEWED: | FS |
| APPROVED: | FS |
| SCALE: | 1" = 500' |

G0.2

## GENERAL NOTES

1. ALL ELEVATIONS SHOWN ARE BASED ON NAVD88 VERTICAL DATUM.
2. THE EXISTING UNDERGROUND UTILITIES SHOWN HEREON ARE BASED UPON AVAILABLE INFORMATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE EXACT LOCATION OF ALL UTILITIES PRIOR TO BEGINNING DIGGING OPERATIONS. IF UTILITIES OTHER THAN THOSE SHOWN ARE ENCOUNTERED DURING CONSTRUCTION, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY AND TAKE STEPS TO PROTECT THE LINE(S) AND ENSURE CONTINUED SERVICE. DAMAGE CAUSED TO EXISTING UTILITIES BY THE CONTRACTOR SHALL BE REPAIRED AT THE EXPENSE OF THE CONTRACTOR. ADDITIONALLY, THE CONTRACTOR SHALL CONFIRM THE CONNECTION POINTS OF NEW UTILITIES PRIOR TO BEGINNING NEW CONSTRUCTION.
3. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL UNDERGROUND UTILITIES AND SHALL COORDINATE ALL WORK WITH THE OWNER AND UTILITY COMPANIES. CONTRACTOR SHALL VERIFY SIZE AND LOCATION OF ALL EXISTING UTILITIES. THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.
4. RESPONSIBILITY REGARDING EXISTING UTILITIES AND STRUCTURES: EXISTENCE AND LOCATION OF UNDERGROUND UTILITIES WILL BE INVESTIGATED AND VERIFIED IN THE FIELD BY THE CONTRACTOR BEFORE STARTING WORK. THE LOCATION OF ALL KNOWN INTERFERENCES BASED ON THE BEST INFORMATION AVAILABLE HAS BEEN SHOWN ON THE DRAWINGS, BUT THIS INFORMATION MAY NOT BE COMPLETE. EXCAVATION IN THE VICINITY OF EXISTING STRUCTURES AND UTILITIES TO REMAIN SHALL BE CAREFULLY DONE BY HAND. THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ANY DAMAGE TO AND FOR COORDINATING PROTECTION OF EXISTING UTILITIES AND STRUCTURES TO REMAIN. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING WITH THE UTILITY COMPANIES ANY RELOCATIONS, ADJUSTMENT, REPLACEMENT, OR PROTECTION OF UTILITY FACILITIES.
5. CONTRACTOR SHALL GRADE ALL AREAS TO DRAIN FOR POSITIVE FLOW PRIOR TO FINAL ACCEPTANCE.
6. CONTRACTOR SHALL MATCH ELEVATIONS WHEN CONNECTING TO EXISTING PAVEMENT.
7. FIGURE DIMENSIONS ON PLANS SHALL TAKE PRECEDENCE OVER SCALED DIMENSIONS. DETAIL PLANS SHALL TAKE PRECEDENCE OVER GENERAL PLANS. THE DEPTH AND LENGTH OF THE PIPE SHOWN ON THE PLANS IS THE MINIMUM REQUIRED. ADDITIONAL LENGTH REQUIRED FOR INCREASED DEPTH OR BENDING RADIUS TO ACCOMMODATE THE PIPE INSTALLATION WILL BE THE RESPONSIBILITY OF THE CONTRACTOR. NO INCREASE IN PIPE LENGTH WILL BE ACCEPTED.
8. OWNER & ENGINEER HAVE THE RIGHT TO REJECT DEFECTIVE MATERIALS.
9. CONTRACTOR AND SUBCONTRACTORS MUST HAVE NECESSARY CITY OF SAVANNAH LICENSES AS WELL AS ALL REQUIRED LOCAL, STATE, AND FEDERAL PERMITS.
10. REFER TO THE STORMWATER POLLUTION PREVENTION (ES&PC) PLAN SHEETS FOR INFORMATION ASSOCIATED WITH THE CONSTRUCTION GENERAL PERMIT REQUIREMENTS (STORMWATER).
11. DISTURBED AREAS NOT SODDED SHALL BE STABILIZED WITH PERMANENT VEGITATION. CONTRACTOR SHALL RESEED AREAS AS NECESSARY TO ACHIEVE COMPLETE GRASS COVER IN DISTURBED AREAS. FINAL PROJECT ACCEPTANCE BY OWNER WILL NOT OCCUR UNTIL DISTURBED AREAS ARE COMPLETELY STABILIZED.
12. CONTRACTOR TO DISPOSE OF EXCESS MATERIAL OFFSITE OR AT A LOCATION ACCEPTABLE TO THE OWNER BUT AT NO COST TO THE OWNER.
13. OMITTED
14. THE CONTRACTOR SHALL PROVIDE TEMPORARY DRIVEWAY AND PARKING ACCESS FOR ALL ADJACENT PROPERTY OWNERS DURING PERIODS WHEN CONSTRUCTION IN THE AREA IS NOT IN PROGRESS.
15. LOCATION OF PIPELINES ARE APPROXIMATE AND FIELD ADJUSTMENTS (HORIZONTALLY OR VERTICALLY) MAY BE REQUIRED TO ACCOMMODATE THE INSTALLATION AT NO ADDITIONAL COST TO THE OWNER.
16. ANY CONFLICTS BETWEEN DIVISIONS SHALL BE RESOLVED IN FAVOR OF THE MORE STRINGENT OR AS DETERMINED BY THE OWNER.
17. THE CONTRACT DOCUMENTS COMPRISE THE ENTIRE AGREEMENT BETWEEN OWNER AND CONTRACTOR CONCERNING THE WORK. THE DRAWINGS AND CONTRACT DOCUMENTS ARE COMPLIMENTARY; WHAT IS CALLED FOR BY ONE IS AS BINDING AS IF CALLED FOR BY ALL.
18. CONTRACTOR SHALL ERECT, AS NECESSARY, TEMPORARY FENCE TO MAINTAIN SECURITY AT ALL TIMES DURING CONSTRUCTION.
19. ACCESS TO THE SITE SHALL BE MAINTAINED AT ALL TIMES. DISRUPTIONS TO ACCESS SHALL BE COORDINATED WITH OWNER AND AIR NATIONAL GUARD.
20. SECURITY OF THE SITE SHALL BE THE CONTRACTOR'S RESPONSIBILITY DURING THE LIFE OF THE CONTRACT. COORDINATE SECURITY MEASURES WITH OWNER AND AIR NATIONAL GUARD (ADJACENT PROPERTY OWNER).
21. CONTRACTOR SHALL BE RESPONSIBLE FOR SECURING ALL REQUIRED BUILDING PERMITS AND PAYING ALL ASSOCIATED FEES.
22. TREE BARRICADES IN THE AREAS OF WORK SHALL BE INSTALLED BY THE CONTRACTOR PRIOR TO THE START OF CONSTRUCTION.
23. RECONSTRUCT ALL DITCHES AND CULVERTS TO ORIGINAL UNDISTURBED CONDITIONS. REPLACE ANY BROKEN CULVERTS AND REALIGN AS REQUIRED TO AVOID ANY CONFLICT WITH NEW PIPELINE.
24. TAKE CAUTION TO AVOID ANY IRRIGATION SYSTEM WHERE LOCATED ON PRIVATE PROPERTY OR IN PUBLIC R/W. DAMAGE DUE TO THE ACTION OF THE CONTRACTOR SHALL BE REPAIRED/ REPLACED BY CONTRACTOR.
25. SODDED AREAS SHALL BE RESTORED WITH SIMILAR SOD IN DISTURBED AREAS.
26. CONTRACTOR SHALL MAKE NECESSARY PROVISIONS TO SECURE POWER POLES DURING CONSTRUCTION AT NO COST TO THE OWNER.
27. CONTRACTOR SHALL USE CAUTION IN AREAS WITH EXISTING SEWER TO REMAIN. ANY DAMAGE TO SEWER SHALL BE REPAIRED AT NO COST TO THE OWNER.
28. CONTRACTOR SHALL RESTORE ALL LAY DOWN AREAS TO PRE-CONSTRUCTION CONDITION AT NO COST TO THE OWNER. RESTORATION TO INCLUDE RAKE/REMOVAL OF AGGREGATE, PLACEMENT OF TOPSOIL (MINIMUM OF 4" DEPTH), REGRADING AND RESEEDING.
29. CONTRACTOR SHALL DE-WATER TRENCHES IN ACCORDANCE WITH THE TECHNICAL SPECIFICATIONS AT NO ADDITIONAL COST TO THE OWNER.
30. CONNECTION TO EXISTING WATER MAINS, FORCE MAINS AND GRAVITY SEWER SYSTEMS SHALL NOT COMMENCE UNTIL VERIFICATION OF LOCATIONS, DIAMETER ELEVATION AND MATERIAL AS APPLICABLE HAS BEEN PERFORMED BY THE CONTRACTOR. THE ENGINEER'S ACCEPTANCE AND FIELD VERIFICATION SHALL BE MANDATORY PRIOR TO COMMENCING CONNECTION TO EXISTING WATER AND WASTEWATER FACILITIES.
31. THE CONTRACTOR SHALL BE REQUIRED TO VIDEO RECORD AND PHOTOGRAPH THE ENTIRE LIMITS OF CONSTRUCTION TO THOROUGHLY DOCUMENT PRE-CONSTRUCTION CONDITIONS OF ALL EXISTING FACILITIES, STRUCTURES, ABOVEGROUND UTILITIES, LANDSCAPING, HARDSCAPE AND APPURTENANCES WHICH ARE EITHER TO BE PROTECTED-IN-PLACE, REMOVED AND RESET, OR DEMOLISHED AND RECONSTRUCTED WITH NEW MATERIALS AND/OR FIXTURES. THE VIDEO SHALL BE PROVIDED TO THE ENGINEER PRIOR TO CONSTRUCTION AS SPECIFIED ELSEWHERE.
32. WHERE UNAUTHORIZED TREE REMOVAL OR DAMAGE OCCURS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR TREE REPLACEMENT, REPLANTING, MITIGATION AND/OR PENALTY PAYMENT, WHEREVER TREE REMOVAL OR DAMAGE EXCEEDS THAT INDICATED AND/OR AUTHORIZED DURING CONSTRUCTION.
33. CONTRACTOR IS RESPONSIBLE FOR RESETTING ANY PROPERTY CORNERS DISTURBED DURING CONSTRUCTION.
34. RECONSTRUCTION OF EXISTING LANDSCAPE/HARDSCAPE: (NOT USED)
35. CONTRACTOR SHALL COORDINATE ALL SITE ACCESS WITH AIR NATIONAL GUARD SECURITY.
36. IRRIGATION SYSTEM REQUIREMENT IS NOT INCLUDED IN PROJECT.

## UTILITY NOTES

1. THE CONTRACTOR IS REQUIRED TO "POT HOLE" EXISTING UTILITIES WELL AHEAD OF THE TRENCHING OPERATION TO VERIFY LOCATION, DEPTH AND POTENTIAL CONFLICTS. ABRUPT CHANGES IN THE PIPELINE GRADE/ALIGNMENT WILL NOT BE ALLOWED WITHOUT PRIOR OWNER ACCEPTANCE.
2. CONTRACTOR SHALL VISIT SITE PRIOR TO SUBMITTING BID.
3. CONTRACTOR SHALL TAKE NECESSARY PRECAUTIONS TO PROTECT THE EXISTING UTILITIES AND MAINTAIN UNINTERRUPTED SERVICE; ANY DAMAGE DONE TO THE UTILITIES TO REMAIN SHALL BE IMMEDIATELY REPAIRED AT CONTRACTOR'S EXPENSE.
4. THE CONTRACTOR SHALL VERIFY TYPE OF MATERIAL, OUTSIDE DIAMETER AND LOCATION OF ALL PIPES BEING CONNECTED TO, IN ORDER TO INSURE PROPER FITTINGS ARE AVAILABLE AND TO MINIMIZE OUT OF SERVICE TIME FOR CONNECTIONS.
5. ALL TEES, BENDS, PLUGS AND VALVES SHALL BE PROVIDED WITH MECHANICAL THRUST RESTRAINT AND RESTRAINED TO PROPER LENGTH. PLUGS INSTALLED ON ACTIVE WATER MAINS SHALL BE RESTRAINED. ENDS OF EXISTING LINES TO BE ABANDONED SHALL BE CAPPED WATER-TIGHT.
6. CONTRACTOR SHALL BE TRAINED AND LICENSED TO WORK ON AC PIPE.
7. OMITTED.
8. VALVE BOXES SHALL BE SET TO MATCH FINISHED GRADES AND SHALL NOT BE LOCATED IN CURB.
9. ALL DUCTILE IRON PIPE, VALVES, AND FITTINGS ARE TO BE POLYWRAPPED.
10. ALL MATERIALS AND WORKMANSHIP THAT RELATES TO THE WATER DISTRIBUTION SYSTEM AND SANITARY SEWER SYSTEM SHALL BE IN ACCORDANCE WITH THE CITY OF SAVANNAH WATER AND SEWER PLANNING AND ENGINEERING (WSPE) STANDARDS.
11. CONTRACTOR TO KEEP EXISTING SYSTEM ACTIVE UNTIL PROJECT ACCEPTANCE.
12. FIELD ADJUST PIPE DEPTH AND LOCATION TO AVOID EXISTING CONFLICTS WITH OTHER UTILITIES TO REMAIN.
13. AT A MINIMUM, THE FOLLOWING SYSTEM COMPONENTS SHALL NOT BE COVERED UP UNTIL THE COMPLETED PRODUCT IS REVIEWED BY THE CITY OF SAVANNAH WSPE, THE ENGINEER, OR ONE OF THEIR REPRESENTATIVES: VALVES, STUBOUTS, THRUST RESTRAINT FITTINGS, EXISTING UTILITY CROSSINGS, AND/OR CONNECTIONS TO EXISTING UTILITIES.
14. SHOULD PIPE AND FITTINGS BE NEEDED IN ADDITION TO THAT SHOWN ON THE DRAWINGS BECAUSE PIPELINE WAS NOT INSTALLED ACCORDING TO THE ALIGNMENT AND PROFILE SHOWN, THEN THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING THOSE NECESSARY MATERIALS AND PROVIDING THE EQUIPMENT AND LABOR TO INSTALL THEM TO MEET THE DESIGN INTENT AT NO ADDITIONAL COST TO THE OWNER. THIS INCLUDES CONNECTION TO EXISTING WATER MAINS.
15. CONTRACTOR SHALL WRAP DUCTILE IRON FITTINGS AND/OR PIPE WITH POLYWRAP AT NO ADDITIONAL COST TO THE OWNER.
16. SEPARATION OF WATER MAINS AND SANITARY SEWERS AS WELL AS WATER MAINS AND STORM DRAINAGE LINES MUST MEET REQUIREMENTS OF THE "TEN STATE STANDARDS". CONTRACTOR SHALL LAY NEW WATER LINE TO PROVIDE A MIN. OF 18" OF VERTICAL SEPARATION BETWEEN WATER LINE AND ANY SEWER LINE CROSSING.
17. ALL WET TAPS ON EXISTING LINES SHALL BE DONE PRIOR TO INSTALLING NEW LINE.
18. MINIMUM COVER FOR PIPE SIZES 12-INCHES AND SMALLER SHALL BE 3'-0", MINIMUM COVER FOR PIPE SIZES LARGER THAN 12-INCHES SHALL BE 4'-0" UNLESS OTHERWISE INDICATED OR DIRECTED BY THE ENGINEER. ALL PIPE SHALL BE PVC UNLESS OTHERWISE NOTED ON THE PLANS. EXCEPTIONS ARE WHEN CROSSING UNDER EXISTING STORM PIPE, WHERE THERE IS NOT 3 FEET OF COVER, OR WHERE CROSSING SEWER LINES REQUIRE DUCTILE IRON, AT THESE EXCEPTIONS DUCTILE IRON PIPE SHALL BE PROVIDED.
19. OMITTED.
20. JOINT RESTRAINTS FOR MJ FITTINGS SHALL BE EBAA SERIES 2000 PV (UNLESS NOTED OTHERWISE) OR EQUIVALENT ACCEPTED BY ENGINEER AND OWNER.
21. ALL BOLTS AND ALL THREADED RODS SHALL BE TYPE 316 STAINLESS STEEL. ALL NUTS SHALL BE TYPE 304 STAINLESS STEEL. ALL THREADS SHALL BE COATED WITH "NEVER SEEZE" OR EQUIVALENT ACCEPTED BY ENGINEER AND OWNER.
22. ALL FITTINGS TO BE MEGALUG.
23. OMITTED.
24. OMITTED.
25. NO FIRE HYDRANT SHALL BE CLOSER THAN 4 FEET TO LIGHT POLE OR OTHER VERTICAL OBSTRUCTION.
26. FIRE HYDRANTS SHALL BE SET A MINIMUM OF 5' AND MAXIMUM OF 10' FROM THE EDGE OF PAVING OR THE TRAVEL LANE. PUMPER CONNECTION SHALL FACE THE STREET. HOSE CONNECTIONS SHALL BE FREE FROM OBSTRUCTION. DO NOT BLOCK NUTS OR BOLTS WITH ANY ITEMS. SET HYDRANT BREAK AWAY 1" ABOVE FINISHED GRADE.
27. CONFIRM LOCATION OF FIRE HYDRANTS WITH CITY OF SAVANNAH BEFORE FINAL PLACEMENT.

THE PRICE OF FIRE HYDRANTS SHALL INCLUDE ALL WORK NECESSARY TO COMPLETE ITS INSTALLATION ACCORDING TO THE PLANS & SPECIFICATIONS

28. ALL SANITARY SEWER STRUCTURES SHALL RECEIVE COATING PER SPECIFICATION 33-30-00, WHERE APPLICABLE
29. OMITTED.
30. OMITTED.
31. OMITTED.
32. THE OWNER RESERVES THE RIGHT TO EFFECT ANY REQUIRED REPAIRS AND WARRANT FOR THE COLLECTION FOR ALL ASSOCIATED COSTS FROM THE CONTRACTOR WHERE NECESSITATED BY EMERGENCY CONDITIONS OR BY THE CONTRACTOR.
33. CONTRACTOR SHALL COORDINATE THE PROPOSED TIE-INS AND CUT-INS WITH THE OWNER AND THE ENGINEER. TWO WEEKS' NOTICE MUST BE GIVEN BY THE CONTRACTOR BEFORE STARTING THIS WORK (THIS WORK MAY NEED TO BE DONE AT NIGHT OR DURING PERIODS OF LOW FLOW).
34. ANY TIE-INS TO EXISTING LINES THAT WILL RESULT IN INTERRUPTION OF SERVICE TO ANY CUSTOMER MUST BE COORDINATED WITH THE OWNER AS TO ACCEPTABLE TIME AND DURATION OF INTERRUPTION. SCHEDULED INTERRUPTIONS OF SERVICE (TIE-INS, ABANDONMENTS, ETC.) REQUIRE 72 HOURS ADVANCE NOTICE.
35. ALL HORIZONTAL SEPARATION DIMENSIONS SHOWN BETWEEN WATER & SEWER MAINS, WATER & STORM MAINS, AND SEWER & STORM MAINS SHALL BE MEASURED FROM THE NEAREST EDGE OF EACH PIPELINE. MINIMUM SEPARATION BETWEEN WATER AND SEWER MAINS SHALL BE 10 FOOT HORIZONTAL AND 1.5 FOOT VERTICAL.
36. PRIOR TO CONNECTING TO ANY EXISTING SEWER LATERAL OR MAIN, IT SHALL BE CLOSED CIRCUIT TELEVISION INSPECTED BY CITY OF SAVANNAH TO VERIFY THE LINE IS IN GOOD WORKING CONDITION AND FREE OF ALL DEBRIS.
37. THE CONTRACTOR SHALL OBSERVE AND COMPLY WITH ALL FEDERAL, STATE, AND LOCAL LAWS, ORDINANCES, CODES, ORDERS, AND REGULATIONS WHICH IN ANY MANNER AFFECT THE CONDUCT OF THE WORK. SPECIFICALLY AS IT RELATES TO SEWAGE SPILLS, THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR PREVENTING SEWAGE SPILLS, FOR CONTAINING SEWAGE SPILLS, AND FOR RECOVERY AND LEGAL DISPOSAL OF ANY SPILLED SEWAGE, AND FOR ANY FINES, PENALTIES, CLAIMS AND LIABILITY ARISING FROM CAUSING A SEWAGE SPILL, AND FOR ANY VIOLATION OF ANY LAW, ORDINANCE, CODE, ORDER, OR REGULATION AS A RESULT OF THE SPILL(S).
38. FOR WORK INVOLVING CONNECTION TO EXISTING FACILITIES: PRIOR TO THE START OF CONSTRUCTION WHICH INVOLVES ANY EXISTING WASTEWATER FACILITIES, THE CONTRACTOR SHALL BE RESPONSIBLE FOR DEVELOPING AND SUBMITTING TO THE ENGINEER FOR REVIEW AND ACCEPTANCE, A WASTEWATER FLOW DIVERSION PLAN IN COMPLIANCE WITH THE UTILITIES' POLICY OF ZERO SPILLS AT LEAST FIFTEEN DAYS WORKING DAYS PRIOR TO IMPLEMENTATION OF THE PLAN. THE DIVERSION PLAN SHALL INCLUDE AN EMERGENCY RESPONSE PLAN INDICATING THE PROCEDURES, EQUIPMENT, AND ACTIVITIES THAT WILL BE IMPLEMENTED IN THE EVENT OF AN EMERGENCY SHUTDOWN OF FAILURE OF THE FLOW DIVERSION EQUIPMENT USED FOR CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR IMPLEMENTATION OF THE EMERGENCY PLAN.
39. FOR WORK WHERE BYPASS PUMPING MAY BE INVOLVED ADD: AT LEAST 15 WORKING DAYS PRIOR TO THE IMPLEMENTATION OF ANY FLOW DIVERSION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR DEVELOPING AND SUBMITTING TO THE ENGINEER, FOR REVIEW AND ACCEPTANCE, A WASTEWATER FLOW DIVERSION PLAN. THE CONTRACTOR'S WASTEWATER FLOW DIVERSION PLAN SHALL BE APPROVED BY THE UTILITY, BEFORE ANY FLOW CAN BE DIVERTED. THE DIVERSION PLAN SHALL INDICATE THE SEQUENCE OF DIVERSION OPERATIONS AND ALL OTHER OPERATIONS THE CONTRACTOR WILL ESTABLISH TO MAINTAIN WASTEWATER SERVICE DURING THE CONSTRUCTION PERIOD. THE DIVERSION PLAN SHALL INCLUDE A COMPREHENSIVE EMERGENCY RESPONSE PLAN, INCLUDING STANDBY REDUNDANT BY-PASS EQUIPMENT, IN THE EVENT OF AN EMERGENCY SHUTDOWN OF FAILURE OF THE FLOW DIVERSION EQUIPMENT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR IMPLEMENTATION OF THE EMERGENCY PLAN.

- SPECIAL NOTE: LIFT STATION #40 - MAJOR CITY PUMPING STATION ON-SITE, LIFT STATION #40, TO BE INCORPORATED INTO THE WORK, SHALL REMAIN ON-LINE AT ALL TIMES. ANY PLANNED LIMITED DISRUPTION SHALL BE COORDINATED WITH CITY OF SAVANNAH CONVEYANCE DEPARTMENT.

BID SET - NOT FOR CONSTRUCTION

| NO. | ISSUED FOR BIDS / REVISIONS | BY | DATE |
|---|---|---|---|
| 0 | ISSUED FOR BIDS | CDR | 5-01-19 |

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SAVANNAH
savannahga.gov

TRAVIS FIELD WATER RECLAMATION FACILITY

GENERAL CIVIL NOTES

| | |
|---|---|
| JOB NO: | J-26963.0000 |
| DATE: | 1-16-19 |
| DRAWN: | CDR |
| DESIGNED: | CDR |
| REVIEWED: | FS |
| APPROVED: | FS |
| SCALE: | NONE |

G0.3

## NOTES:

1. THE TOPOGRAPHIC SURVEY INFORMATION WAS TAKEN FROM A SURVEY PREFORMED BY THOMAS & HUTTON ENGINEERING, CO. ON DECEMBER 15, 2017. JOB NUMBER 26963.0000.
2. THE VERTICAL ELEVATIONS ARE BASED FROM THE NORTH AMERICAN VERTICAL DATUM (NAVD) 1988.
3. BEARINGS AND COORDINATES ARE BASED ON GEORGIA STATE PLAN COORDINATE SYSTEM (NAD 83(, EAST ZONE.
4. ACCORDING TO F.I.R.M. MAP NO. 13051C, PANEL 0135G, REVISED AUGUST 05, 2013, A PORTION OF THE PROPERTY SHOWN ON THIS PLAT LIES IN FLOOD HAZARD ZONE AE, BASE FLOOD ELEVATION 11.0 AS SHOWN.
5. WETLANDS THAT MAY EXIST ARE UNDER THE JURISDICTION OF THE CORPS OF ENGINEERS AND/OR THE DEPARTMENT OF NATURAL RESOURCES. LOT OWNERS AND THE DEVELOPER ARE SUBJECT TO PENALTY BY LAW FOR DISTURBANCE TO THESE PROTECTED AREAS WITHOUT PROPER PERMIT AND APPROVAL.
6. THE POSITION OF UNDERGROUND UTILITIES SHOWN ON THIS DRAWING IS BASED UPON THE LOCATION OF SURFACE APPURTENANCES AND/OR SURFACE MARKINGS AND SHOULD BE CONSIDERED APPROXIMATE. THE EXACT LOCATION, SIZE, TYPE AND DEPTH OF UNDERGROUND UTILITIES SHOWN HEREON OR ANY OTHER UTILITIES THAT MAY EXIST, CAN ONLY BE DETERMINED VIA AN EXCAVATION OF THE UTILITY.
7. MAINTAIN, RELOCATE, OR REPLACE EXISTING SURVEY MONUMENTS, CONTROL POINTS, AND STAKES WHICH ARE DISTURBED OR DESTROYED. PERFORM THE WORK TO PRODUCE THE SAME LEVEL OF ACCURACY AS THE ORIGINAL MONUMENT(S) IN A TIMELY MANNER, AND AT THE CONTRACTOR'S EXPENSE.
8. CONTRACTOR SHALL VERIFY THE LOCATION OF EXISTING UNDERGROUND UTILITIES PRIOR TO CONSTRUCTION. CALL BEFORE YOU DIG: 811
9. CONTRACTOR SHALL LIMIT CLEARING AND GRUBBING TO PROJECT LIMITS. CONTRACTOR SHALL NOT DISTURB THE WETLANDS. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE OR UNAUTHORIZED CLEARING OUTSIDE OF THE PROJECT LIMITS.
10. ELEVATIONS GIVEN ARE TO FINISH GRADE UNLESS OTHERWISE SHOWN. SLOPE UNIFORMLY BETWEEN CONTOURS AND SPOT ELEVATIONS SHOWN.
11. CONTRACTOR SHALL NOT PROCEED WITH LAND CLEARING ACTIVITIES UNTIL ACCEPTANCE IS OBTAINED BY CITY OF SAVANNAH AND EROSION CONTROL AND TREE PROTECTION MEASURES ARE IN PLACE.
12. ALL STORM PIPE JOINTS SHALL BE WRAPPED IN FILTER FABRIC PER THE SPECIFICATIONS.
13. CONTRACTOR SHALL COORDINATE ALL SCADA AND FIBER WITH THE ENGINEER AND CITY OF SAVANNAH DEPARTMENT OF INFORMATION TECHNOLOGY.

## UTILITY SYMBOLS

| DESCRIPTION | EXISTING | PROPOSED |
|---|---|---|
| POWER LINE OVERHEAD | OHU | OHU |
| UNDERGROUND FIBER OPTIC CABLE | F F | F F |
| TELEPHONE LINE | T T T | T T T |
| POWER LINE UNDERGROUND | N/A | N/A |
| POWER POLE | | |
| LIGHT POLE | | |

## PAVEMENT SYMBOLS

| DESCRIPTION | EXISTING | PROPOSED |
|---|---|---|
| ASPHALT PAVEMENT | | |
| CONCRETE PAVEMENT | | |

## WATER SYMBOLS

| DESCRIPTION | EXISTING | PROPOSED |
|---|---|---|
| WATER LINE | 10"W | 14"W |
| WATER SERVICE W/ METER BOX | W | W |
| BACKFLOW PREVENTER | | |
| TAPPING SLEEVE AND VALVE | N/A | |
| WATER LINE BEND | N/A | |
| FIRE HYDRANT W/ 6" VALVE & BOX | | |
| YARD HYDRANT | N/A | |
| GATE VALVE AND BOX | | |
| TEE JOINT AND PLUG | N/A | |

## SANITARY SEWER & FORCE MAIN SYMBOLS

| DESCRIPTION | EXISTING | PROPOSED |
|---|---|---|
| SANITARY SEWER FORCE MAIN | 14"FM | 14"FM |
| SANITARY MANHOLE | | |
| GRAVITY SANITARY SEWER PIPE | 12"SS | |

## LINE TYPES

| DESCRIPTION | EXISTING | PROPOSED |
|---|---|---|
| RIGHT-OF-WAY (ROW) | | |
| ℄ ROAD | | |
| EASEMENT | | |
| CLEARING LIMITS | N/A | CL CL |
| FENCE LINE | X | X |
| WETLANDS LINE | W | N/A |

## DRAINAGE & TOPOGRAPHY SYMBOLS

| DESCRIPTION | EXISTING | PROPOSED |
|---|---|---|
| CURB INLET | N/A | |
| CULVERT | | |
| GRATE INLET | | |
| STORM MANHOLE (JUNCTION BOX) | N/A | |
| STORM PIPE | | |
| DITCH OR SWALE (UNPAVED) | | |
| CONTOUR | | |
| SPOT ELEVATION | X 17.28 SSMH | X 17.28 SSMH |

## CIVIL LEGEND:

1. EXISTING TOPOGRAPHY AND OTHER EXISTING SITE FEATURES ARE SHOWN SCREENED. SEE THE BOUNDARY & TOPOGRAPHIC SURVEY BY THOMAS & HUTTON FOR THE SURVEY LEGEND.
2. SEE EROSION & SEDIMENT CONTROL PLANS FOR THEIR CORRESPONDING LEGEND AND NOTES.

X 17.28 SSMH — SPOT ELEVATION

155 — CONTOUR LINE

DITCH

PROPERTY LINE

CENTER LINE, BUILDING, ROAD, ETC.

FUTURE INFRASTRUCTURE

CHAIN LINK FENCE

METAL FENCE

N 1000.00 E 1000.00 — COORDINATE LOCATION POINT

STRUCTURE OR FACILITY OUTLINE

GRAVEL SURFACING

ASPHALT CONCRETE PAVEMENT

CONCRETE PAVEMENT OR SIDEWALK

CONCRETE CURB

CONCRETE CURB & GUTTER

STORMWATER INLET

STORM PIPE & END SECTION

## ABBREVIATIONS

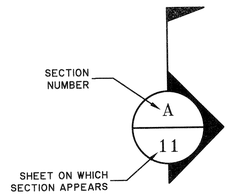
| | |
|---|---|
| BOC | BACK OF CURB |
| BM | BENCHMARK |
| BTTM | BOTTOM |
| CI | CAST IRON |
| ℄ | CENTER LINE |
| CL | CLEARING LIMITS |
| CMPA | CORRUGATED METAL PIPE ARCH |
| CMP | CORRUGATED METAL PIPE |
| CPP | CORRUGATED PLASTIC PIPE |
| DIA | DIAMETER |
| DOT | DEPARTMENT OF TRANSPORTATION |
| DI / DIP | DUCTILE IRON / DUCTILE IRON PIPE |
| EL | ELEVATION |
| EJ | EXPANSION JOINT |
| EOP | EDGE OF PAVEMENT |
| EW | EACH WAY |
| EXIST | EXISTING |
| FFE | FINISHED FLOOR ELEVATION |
| FIN | FINISHED |
| FM | FORCE MAIN (SANITARY SEWER) |
| FR. | FRAME |
| FG | FINISHED GRADE |
| GI | GRATE INLET |
| HWY | HIGHWAY |
| HDPE | HIGH DENSITY POLYETHYLENE |
| ID | INSIDE DIAMETER |
| IE | INVERT ELEVATION |
| LF | LINEAR FEET |
| IRRG | IRRIGATION |
| MAX. | MAXIMUM |
| MJ | MECHANICAL JOINT |
| MIN. | MINIMUM |
| NTS | NOT TO SCALE |
| NIC | NOT IN CONTRACT |
| OC | ON CENTER |
| OD | OUTSIDE DIAMETER |
| PEJ | PREMOLDED EXPANSION JOINT |
| PVC | POLYVINYL CHLORIDE |
| RAPP | RECYCLED ASPHALT |
| RCP | REINFORCED CONCRETE PIPE |
| RJ | RESTRAINED JOINT |
| ROW / R/W | RIGHT-OF-WAY |
| SF | SQUARE FEET |
| SS | SANITARY SEWER |
| SGD | SUBGRADE DRAIN |
| TOC | TOP OF CONCRETE |
| TC | TOP OF CURB |
| TG | TOP OF GRAVEL |
| TP | TOP OF PAVEMENT |
| TR | TOP OF ROCK |
| TS | TOP OF SIDEWALK |
| TW | TOP OF WALL |
| TOW | TOP OF WATER |
| TYP | TYPICAL |
| W | WATER |
| W/ | WITH |
| WV | WATER VALVE |
| ø | DIAMETER |

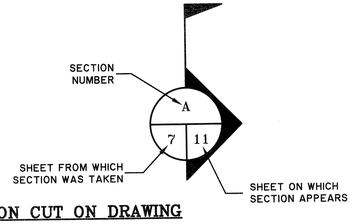
### CURVE DATA

| | |
|---|---|
| PC | POINT OF CURVE |
| PT | POINT OF TANGENCY |
| BVC | BEGINNING OF VERTICAL CURVE |
| EVC | ENDING OF VERTICAL CURVE |
| e | EXTERNAL DISTANCE |
| Δ | DELTA |
| T | TANGENT LENGTH |
| L | LENGTH OF CURVE |
| R | RADIUS |

NOTES:

1. CONTACT THE ENGINEER FOR ABBREVIATIONS NOT LISTED
2. THIS IS A STANDARD ABBREVIATION LIST, THEREFORE, SOME SYMBOLS OR ABBREVIATIONS MAY APPEAR ON THIS LIST AND NOT ON THE PLANS.
3. AC - ASBESTOS CEMENT / EFF EFFLUENT




SECTION CUT ON DRAWING

## MECHANICAL LEGEND AND NOTES:

### GENERAL PIPING NOTES:

1. LAY PIPE TO UNIFORM GRADE BETWEEN INDICATED ELEVATION POINTS.
2. SIZE OF FITTINGS SHOWN ON PLANS SHALL CORRESPOND TO ADJACENT STRAIGHT RUN OF PIPE, UNLESS OTHERWISE INDICATED. TYPE OF JOINT AND FITTING MATERIAL SHALL BE THE SAME AS SHOWN FOR ADJACENT STRAIGHT RUN OF PIPE, UNLESS OTHERWISE INDICATED.
3. LOCATION AND NUMBER OF PIPE HANGERS AND PIPE SUPPORTS SHOWN IS ONLY APPROXIMATE. FINAL SUPPORT REQUIREMENTS SHALL BE DETERMINED IN THE FIELD AND ACCEPTED BY THE ENGINEER PRIOR TO INSTALLATION. MAXIMUM SPACING SHALL BE AS SPECIFIED.
4. ALL JOINTS SHALL BE WATERTIGHT. STANDARD WALL PIPE DETAIL SHALL BE USED WHEREVER PIPING PASSES FROM A STRUCTURE TO BACKFILL.
5. ALL FLEXIBLE CONNECTORS OR FLANGED COUPLING ADAPTERS SHALL BE PROVIDED WITH THRUST TIES, UNLESS OTHERWISE NOTED. THRUST PROTECTION SHALL BE ADEQUATE FOR PRESSURES SPECIFIED.
6. ALL NEW BURIED PIPING SPECIFIED TO BE PRESSURE TESTED, EXCEPT FLANGED, WELDED, OR SCREWED PIPING, SHALL BE PROVIDED WITH THRUST RESTRAINT, AS SPECIFIED AT ALL DIRECTIONAL CHANGES AND DEAD ENDS, UNLESS OTHERWISE NOTED. ALL CONNECTIONS TO EXISTING PIPE SHALL BE MADE WITH MEGALUGS OR EQUIVALENT. ANY EXCEPTIONS SHALL BE BROUGHT TO THE ENGINEER'S ATTENTION BEFORE PROCEEDING.
7. NUMBER AND LOCATION OF UNIONS SHOWN ON PLANS IS ONLY APPROXIMATE. PROVIDE ALL UNIONS NECESSARY TO FACILITATE CONVENIENT REMOVAL OF VALVES AND MECHANICAL EQUIPMENT.
8. WHERE A FLANGED COUPLING ADAPTER IS SHOWN, A STANDARD FLANGE SHALL BE JOINED TO THE COUPLING ADAPTER.
9. CLEARANCE BETWEEN PIPES AT CROSSINGS SHALL CONFORM TO ALL STATE AND LOCAL REQUIREMENTS.

### NOTES:

1. EXISTING PIPE AND EQUIPMENT IS SHOWN LIGHT-LINED AND/OR SCREENED AND IS NOTED AS EXISTING. NEW PIPING AND EQUIPMENT IS SHOWN HEAVY-LINED.

BID SET - NOT FOR CONSTRUCTION

| NO. | ISSUED FOR BIDS / REVISIONS | BY | DATE |
|---|---|---|---|
| 0 | ISSUED FOR BIDS | CDR | 5-01-19 |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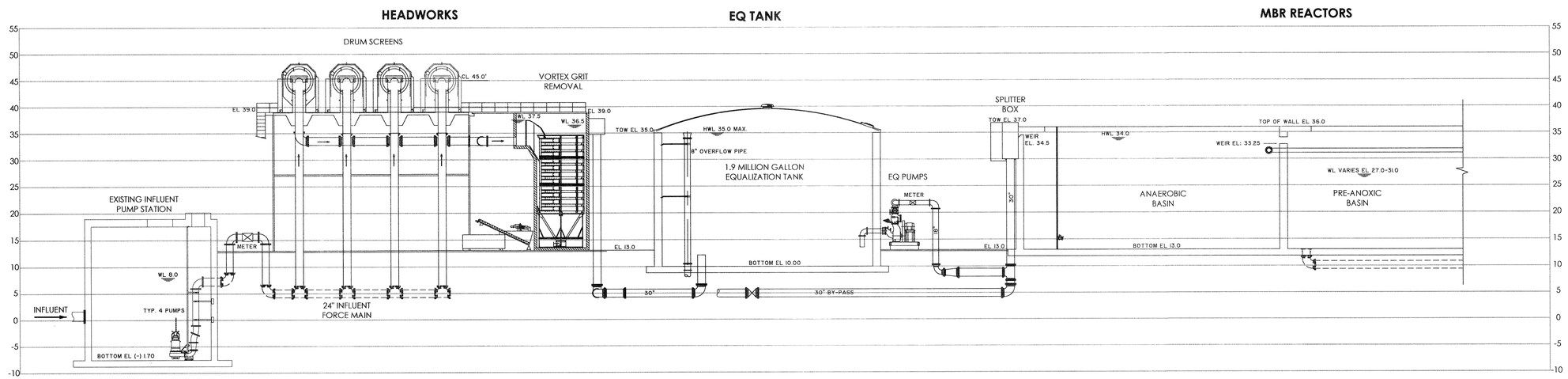
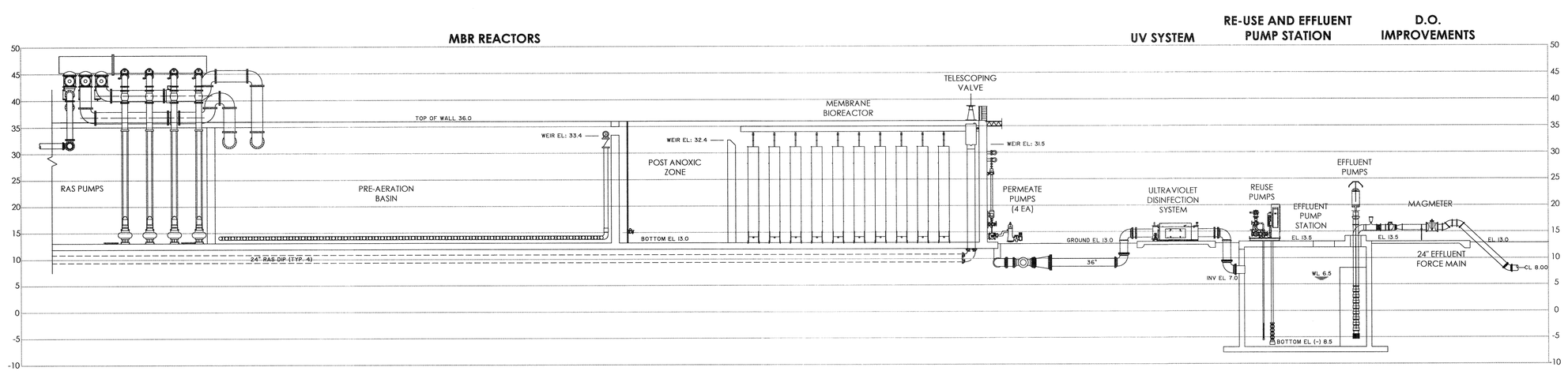
TRAVIS FIELD WATER RECLAMATION FACILITY

GENERAL CIVIL AND MECHANICAL NOTES & LEGENDS

| | |
|---|---|
| JOB NO: | J-26963.0000 |
| DATE: | 1-16-19 |
| DRAWN: | CDR |
| DESIGNED: | CDR |
| REVIEWED: | FS |
| APPROVED: | FS |
| SCALE: | NONE |

G0.4




# HYDRAULIC PROFILE

BID SET - NOT FOR CONSTRUCTION

| NO. | REVISIONS | BY | DATE |
|---|---|---|---|
| 0 | ISSUED FOR BIDS | CDR | 5-01-19 |

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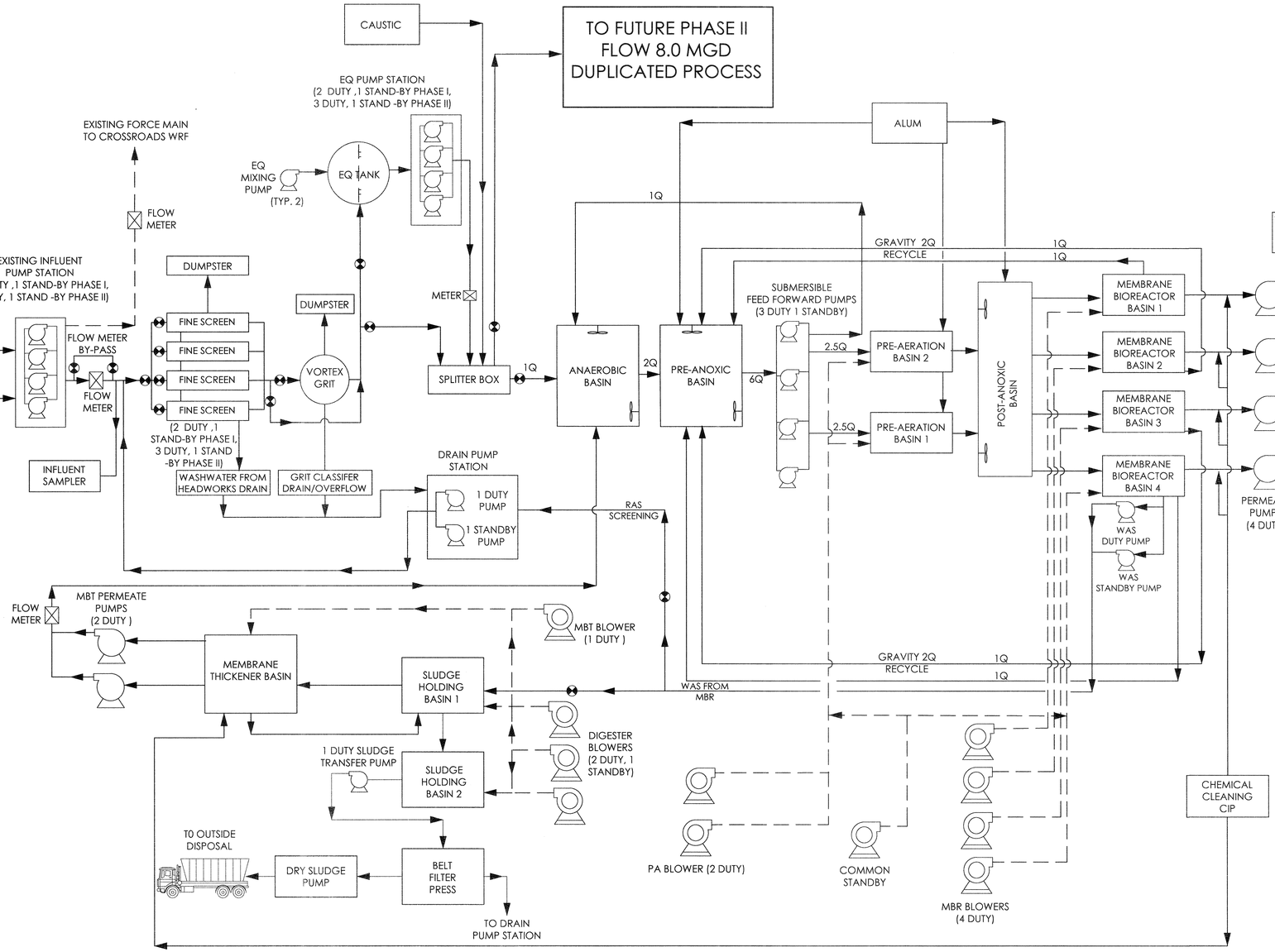
TRAVIS FIELD WATER RECLAMATION FACILITY

HYDRAULIC PROFILE

| | |
|---|---|
| JOB NO: | J-26963.0000 |
| DATE: | 1-16-19 |
| DRAWN: | CDR |
| DESIGNED: | CDR |
| REVIEWED: | FS |
| APPROVED: | FS |
| SCALE: | NONE |

G1.0




# PROCESS FLOW DIAGRAM

BID SET - NOT FOR CONSTRUCTION

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|---|---|---|---|
| 0 | ISSUED FOR BIDS | CDR | 5-01-19 |


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TRAVIS FIELD WATER RECLAMATION FACILITY

PROCESS FLOW DIAGRAM

| | |
|---|---|
| JOB NO: | J-26963.0000 |
| DATE: | 1-16-19 |
| DRAWN: | CDR |
| DESIGNED: | CDR |
| REVIEWED: | FS |
| APPROVED: | FS |
| SCALE: | NONE |

G1.1

NOTES:
1. ALL PROCESS PIPING SHALL BE R.J. PROTECTO 401 D.I.P. (U.O.N.)
2. ALL INTERIOR AND EXTERIOR DRAIN MANHOLE SHALL BE COATED WITH 3.5 MIL OF CONSEAL CS-55
3. ALL PIPING REGARDLESS OF SIZE SHALL HAVE S.S. BOLTS AND WASHERS TO INCLUDE BELOW GROUND AND ABOVE GROUND
4. ALL POTABLE WATER LINES SHALL BE BLUE R.J. PVC C900, DR-18 (U.O.N.)
5. ALL REUSE WATER LINES HALL BE PURPLE PVC C900, DR-18 (U.O.N.)
6. ALL DRAIN LINES SHALL BE GREEN PVC C-900 SDR-26 (U.O.N.)
7. ALL DRAIN LINES UNDER CONCRETE STRUCTURE SHALL BE D.I. WITH PROTECTO 401 AND SHALL BE TESTED BEFORE CONCRETE IS POURED
8. ALL EXPOSED REUSE WATER SHALL BE STAINLESS STEEL
9. ALL EXPOSED PIPING LESS THAN 4" SHALL BE FREEZE PROTECTED
10. ALL EXPOSED AIR PIPING SHALL BE 304 S.S. (U.O.N.)
11. AT THE END OF ALL CONSTRUCTION ACTIVITIES, REMOVE ALL EXISTING FENCE AND REPLACE WITH NEW 8' FENCE

PHASE II ADDITIONAL 4.0 MGD
PHASE I 4.0 MGD
INFLUENT PUMP STATION
EXISTING GENERATOR ON PAD
EXISTING MCC ROOM
EXISTING MANHOLE
FUTURE ODOR CONTROL LOCATION
I.9 MILLION GALLON EQUALIZATION BASIN
FUTURE PHASE II
DIGESTER - 2
DIGESTER - 1
ANAEROBIC
PRE-ANOXIC
PRE-AERATION
POST-ANOXIC
MBR
MBT
CAUSTIC/ALUM SYSTEM
MCC ROOM
FUTURE PHASE II PAD
PHASE I PAD
TRANSFORMER PADS
EMERGENCY GENERATOR
PROPERTY BOUNDARY
PENDING FEMA FLOOD ZONE LINE
BENCHMARK RR SPIKE IN PP ELEV. 12.23 (NAVD 1988)

N: 769,999.51 E: 959,431.20
N: 770,182.16 E: 959,753.56
N: 769,885.95 E: 959,322.40
N: 769,867.31 E: 959,329.65
N: 769,810.17 E: 959,349.25
N: 769,795.29 E: 959,397.42
N: 769,771.98 E: 959,390.57
N: 769,761.81 E: 959,387.36
N: 769,701.32 E: 959,606.80
N: 769,862.50 E: 959,924.52

APPROXIMATE EXISTING TREELINE CONTRACTOR TO REMOVE THE TREES/SHRUBS TO PROPOSED FENCE LINE (TYP.)
SEE DETAIL 4 ON SHEET G1.4
30"ø D.I. PIPE TO MBR
30"ø D.I. PIPE FROM SPLITTER BOX TO FUTURE MBR
30"ø PLUG FOR FUTURE PHASE II
30" X 18" D.I.R.J. TEE
SPLITTER BOX
30"ø 45° D.I.R.J. BEND ● EL: 4.81
30"ø 45° D.I.R.J. BEND ● EL: 4.68'
30"ø 90° D.I.R.J. VERTICAL BEND
TAP 3" CAUSTIC CONDUIT LINE TO 30" D.I. PIPE
3" LONG RADIUS 90° HDPE BEND
1" CAUSTIC LINE WITHIN 3" HDPE CONDUIT
18"ø 45° D.I.R.J. BEND
SEE SHEET M9.0 FOR CAUSTIC/ALUM PROCESS PIPING
SCH. 80 PVC 1" 90° BEND
1" ALUM PRE-ANOXIC TANK INLET WITH VALVE
8" D.I.R.J. WYE
SCH. 80 PVC 1" CROSS
1" ALUM PRE-AERATION TANK INLET WITH VALVE
SCH. 80 PVC 1" ALUM LINE
SCH. 80 PVC 1" TEE CAPPED FOR FUTURE PHASE II (TYP. 3)
SCH. 80 PVC 1" 90° BEND
1" ALUM POST-ANOXIC ZONE TANK INLET WITH VALVE
6" D.I. FEED SLUDGE LINE
6" 45° D.I.R.J. BEND
6" D.I.R.J. WYE AND CLEANOUT
SEE SHEET M5.2 FOR SLUDGE PUMP PIPING
CONNECT 24"ø FORCE MAIN TO EXISTING PUMP STATION
24"ø FORCE MAIN BYPASS LINE
EXISTING WATER MAIN
24"ø PLUG VALVE IN 6' MANHOLE VALVE NO. - V106
INSTALL TEE ON 24"ø FORCE MAIN
INSTALL 24" D.I. TEE ON EXISTING 24"ø FORCE MAIN
PROPOSED ELECTRIC 20 FT WIDE ACCESS GATE
PROPOSED MANUAL 14 FT WIDE ACCESS GATE
SEE SHEET G1.4 FOR INFLUENT FLOW METER PIPING
SEE SHEET M3.5 FOR EQ PUMP PIPING
SEE SHEET M3.0 EQ PROCESS PIPING
24"ø 45° D.I.R.J. BEND
24"ø D.I. INFLUENT FORCE MAIN TO HEADWORKS
30" MOTORIZED PLUG VALVE IN 8' MANHOLE VALVE NO. - V107
30" MOTORIZED PLUG VALVE IN 8' MANHOLE VALVE NO. - V108
30"ø 45° D.I.R.J. BEND ● EL: 4.93'
30"ø D.I. BYPASS
30"ø D.I. PIPE TO EQUALIZATION BASIN
30"ø D.I.R.J. WYE
30"ø 90° D.I.R.J. BEND
PROPOSED 8' CHAIN LINK FENCE
SEE SHEET M7.0 FOR EFFLUENT PS PROCESS PIPING
SEE SHEET M4.0A AND M4.0B FOR MBR SYSTEM
SEE SHEET M6.0 FOR EFFLUENT UV SYSTEM PROCESS PIPING
SEE SHEET M2.0A AND M2.0B FOR HEADWORKS PROCESS PIPING
SEE SHEET M8.0 D.O. PROCESS PIPING
SEE SHEET M5.0 FOR SLUDGE DEWATERING SYSTEM PROCESS PIPING
24" X 24" D.I.R.J. WYE
24" X 14" D.I.R.J. REDUCER
14" GATE VALVE IN MANHOLE
24" 45° D.I.R.J. BEND
24" GATE VALVE IN MANHOLE
24" D.I.R.J. CAP FOR FUTURE CONNECTION
CONNECT PROPOSED 14-INCH FORCE MAIN TO EXISTING 14-INCH FORCE MAIN
EXISTING 8' CHAIN LINK FENCE
APPROXIMATE EXISTING TREELINE CONTRACTOR TO REMOVE THE TREES/SHRUBS FOR INSTALLATION OF 24" FORCE MAIN

GRAPHIC SCALE
20 0 10 20 40 80
( IN FEET )
1 inch = 20 ft.

BID SET - NOT FOR CONSTRUCTION

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TRAVIS FIELD WATER RECLAMATION FACILITY

PROPOSED SITE PLANT PROCESS PIPING

| | |
|---|---|
| JOB NO: | J-26963.0000 |
| DATE: | 1-16-19 |
| DRAWN: | CDR |
| DESIGNED: | CDR |
| REVIEWED: | FS |
| APPROVED: | FS |
| SCALE: | 1" = 20' |

G1.2

NOTES:
1. ALL PROCESS PIPING SHALL BE R.J. PROTECTO 401 D.I.P. (U.O.N.)
2. ALL INTERIOR AND EXTERIOR DRAIN MANHOLE SHALL BE COATED WITH 3.5 MIL OF CONSEAL CS-55
3. ALL PIPING REGARDLESS OF SIZE SHALL HAVE S.S. BOLTS AND WASHERS TO INCLUDE BELOW GROUND AND ABOVE GROUND
4. ALL POTABLE WATER LINES SHALL BE BLUE R.J. PVC C900, DR-18 (U.O.N.)
5. ALL REUSE WATER LINES HALL BE PURPLE PVC C900, DR-18 (U.O.N.)
6. ALL DRAIN LINES SHALL BE GREEN PVC C-900 SDR-26 (U.O.N.)
7. ALL DRAIN LINES UNDER CONCRETE STRUCTURE SHALL BE D.I. WITH PROTECTO 401 AND SHALL BE TESTED BEFORE CONCRETE IS POURED
8. ALL EXPOSED REUSE WATER SHALL BE STAINLESS STEEL
9. ALL EXPOSED PIPING LESS THAN 4" SHALL BE FREEZE PROTECTED
10. ALL EXPOSED AIR PIPING SHALL BE 304 S.S. (U.O.N.)
11. AT THE END OF ALL CONSTRUCTION ACTIVITIES, REMOVE ALL EXISTING FENCE AND REPLACE WITH NEW 8' FENCE

INFLUENT PUMP STATION
EXISTING GENERATOR ON PAD
EXISTING MCC ROOM
EXISTING MANHOLE FR EL: 14.70 INV: 5.70
EXISTING 6" GATE VALVE
CONNECT TO EXISTING 6"ø WATER MAIN. CLOSE EXISTING 6" GATE VALVE, CUT EXISTING WATER MAIN AND CONNECT TO PROPOSED WATER MAIN WITH 45° BEND. CONNECTION TO EXISTING WATER MAIN SHALL NOT OCCUR UNTIL ALL PROPOSED WATER MAIN PIPING IS INSTALLED.
(2) 6"ø 45° D.I.R.J. BEND
6" GATE VALVE IN 4'ø MANHOLE VALVE NO. V312
FUTURE ODOR CONTROL LOCATION
EXISTING FLOW METER
REMOVE ±60 LF EXISTING 6" WATER MAIN ONCE CONNECTION TO NEW WATER MAIN IS COMPLETE AND COMPLETELY IN SERVICE
6" WATER METER IN BOX (SEE DETAIL ON SHEET M11.4)
6" RPZ BACKFLOW PREVENTER
REMOVE EXISTING RPZ BACKFLOW PREVENTER
CONNECT EXISTING SERVICE LINE TO THE NEW PROPOSED 6-INCH WATER MAIN. CONTRACTOR TO INSTALL 1" SADDLE TAP & VALVE IN VALVE BOX
BENCHMARK RR SPIKE IN PP ELEV. 12.23 (NAVD 1988)
PENDING FEMA FLOOD ZONE LINE
6"ø POTABLE WATER MAIN PVC DR18, C-900
SEE SHEET M3.0 FOR EQ UTILITY PIPING
1.9 MILLION GALLON EQUALIZATION BASIN
6"ø 22.5° D.I.R.J. BEND
SEE SHEET M2.0A AND M2.0B FOR HEADWORKS UTILITY PIPING
10" PLUG VALVE IN MANHOLE (VALVE NO. - V808)
10" 22.5° D.I.R.J. BEND
6"ø D.I.P. DRAIN
8" D.I.P. OVERFLOW WITH 8" PLUG VALVE
8"ø D.I.R.J. WYE
4" CLEAN OUT
8" X 8" D.I.R.J. WYE
2" TAP TO 6" REUSE MAIN AND 1" HOSE BIB WITH 1" SCH. 40 S.S RISER
6"ø D.I.R.J. TEE WITH 20 LF D.I.P. AND 6" D.I.R.J. CAP FOR FUTURE PHASE II
SMH #7 (PHASE II)
FR: 13.00
INV. IN: 6.50 (NE)
INV. OUT: 6.40 (NW)
SEE DETAIL 5 ON SHEET G1.4
SMH #12
REPLACE EXISTING MANHOLE AND RECONNECT ALL EXISTING PIPING TO REMAIN
FR: 14.51
INV. IN: 4.44 (E)
YARD HYDRANT
EXISTING MANHOLE
PHASE I DRAINAGE
PHASE II DRAINAGE
32 LF 12" D.I. @ 0.22%
SMH #11
FR: 13.50
INV. IN: 4.61 (NE)
INV. IN: 13.73 (S)
INV. OUT: 4.51 (W)
8" X 4" D.I.R.J. WYE
12" D.I.R.J. CAP FOR FUTURE PHASE
10 LF 12" PVC SDR-26 @ 0.24%
6" X 4" D.I.R.J. WYE
4" CLEAN OUT
4" CLEAN OUT
8" X 8" D.I.R.J. WYE
(4) 6"ø 45° D.I.R.J. VERTICAL BEND WITH MIN. 18" VERTICAL SEPARATION FROM STORM PIPE
SMH #1
FR: 13.00
INV. IN: 9.14 (S)
INV. OUT: 9.04 (NE)
6"ø 45° D.I.R.J. BEND
6"ø D.I.R.J. WYE
6"X6"ø D.I.R.J. TEE
6" GATE VALVE IN MANHOLE (VALVE NO. - V908)
229 LF OF 8" PVC SDR-26 @ 0.40%
6"X4" D.I.R.J. TEE
4" GATE VALVE IN MANHOLE (VALVE NO. - V909)
4" GATE VALVE IN MANHOLE (VALVE NO. - V910)
(2) 4"ø 45° D.I.R.J. BEND
6"X4" ø D.I.R.J. REDUCER
4"ø REUSE D.I MAIN
6"ø REUSE FORCE MAIN PVC DR18, C-900
36" D.I. PIPE TO UV SYSTEM
FUTURE PHASE II PAD
PHASE I PAD
TRANSFORMER PADS
EMERGENCY GENERATOR
40'
60'
2" TAPPING SADDLE AND 2" BALL VALVE IN BOX TO 6" REUSE MAIN AND 1" HOSE BIB WITH 1" SCH. 40 S.S RISER
SEE SHEET M8.0 FOR EFFLUENT UV DISINFECTION
SEE SHEET M7.0 FOR EFFLUENT PS UTILITY PIPING
SEE SHEET M5.0 FOR SLUDGE DEWATERING SYSTEM
2" TAPPING SADDLE AND 2" BALL VALVE IN BOX TO 6" REUSE MAIN AND 1" HOSE BIB WITH 1" SCH.40 S.S RISER
END OF PHASE I PIPING
PROPERTY BOUNDARY
FLOOD ZONE LINE
6"x4" D.I.R.J. TEE
4" GATE VALVE IN MANHOLE (VALVE NO. - V903)
DRAIN PUMP STATION SEE SHEET M10.0
FR: 13.0
INV. IN: 4.52 (SE)
SMH #7
FR: 13.50
INV. IN: 4.64 (SE)
INV. IN: 5.50 (W)
INV. IN: 6.00 (SW)
INV. OUT: 4.54 (NW)
6"ø 45° D.I.R.J. BEND
4" 90° D.I.R.J. BEND 4"X4" D.I. FL TEE
2" CAPPED S.S TEE FOR PHASE II
SPLITTER BOX
SMH #10 (PHASE II)
FR: 13.00
INV. IN: 4.79 (SE)
INV. IN: 5.22 (NE)
INV. OUT: 4.69 (SW)
HANDRAIL MOUNTED HOSE STATION AND 1" HOSE BIB (SEE DETAIL)
ANAEROBIC
8" PLUG VALVE IN 4' MANHOLE (TYP.) VALVE NO. - VA01
4'-10"
19 LF 24" D.I. @ 0.10%
24"ø FLANGE AND FLARE 90° BEND @ TOP OF PIPE EL: 31.25 (SEE SHEET G1.4, DETAIL 3)
25 LF 12" D.I. @ 0.22%
PRE-ANOXIC
8"X8" D.I.R.J. WYE (TYP.)
2" S.S. PIPING
(2) 8"ø 45° D.I.R.J. VERTICAL BENDS
(2) 8"ø 45° D.I.R.J. VERTICAL BEND (TY.P)
INV EL: 5.36
VA02
VA03
8"X8" D.I.R.J. WYE
INV EL: 5.66
8" D.I. DRAIN LINE (TYP.)
PRE-AERATION
4'-0" (TYP.)
VALVE MANHOLE (TYP.)
VA04
VA05
VA06
INV EL: 5.65
INV EL: 5.65
INV EL: 5.51
SMH #9 (PHASE II)
FR: 13.00
INV. IN: 5.02 (SE)
INV. IN: 5.36 (E)
INV. OUT: 4.92 (NW)
HANDRAIL MOUNTED HOSE STATION AND 1" HOSE BIB (SEE DETAIL)
POST-ANOXIC
SMH #8 (PHASE II)
FR: 13.00
INV. IN: 6.25 (SE)
INV. IN: 5.19 (E)
INV. OUT: 5.09 (NW)
4'-0" (TYP.)
4"X2" S.S. REDUCER
(2) 2" 90° S.S. BEND
MBR
8"ø D.I.R.J. WYE (TYP.)
VA07
INV EL: 5.45
INV EL: 5.64
INV EL: 5.51
4'-0" (TYP.)
INV EL: 5.35
VA11
VA08
VA09
VA10
INV EL: 5.61
INV EL: 5.68
YARD HYDRANT
8"X4" D.I. VERTICAL TEE TO DRAIN LINE
8"X6" D.I.R.J. WYE
8"ø 45° D.I.R.J. BEND
8"ø D.I.R.J. TEE TO DRAIN (TYP.)
VA12
8"ø 45° D.I.R.J. BEND (TYP.)
V9II
6"X6" D.I.R.J. TEE (2) 6"X4" D.I.R.J. REDUCERS
8"X4" D.I.R.J. WYE
CAP 8" DRAIN LINE
30" X 30" D.I.R.J. TEE
8"ø D.I.R.J. CROSS (TYP.)
MCC ROOM
30" D.I.R.J. CAP FOR FUTURE PHASE
8"ø D.I.R.J. TEE TO DRAIN (TYP.)
6"X6"ø D.I.R.J. WYE (TYP 5.)
SEE M4.4 FOR WATER CONT.
36" X 30" D.I.R.J. REDUCER
30" X 12" D.I.R.J. WYE (TYP.OF 4)
(2) 6"ø 45° D.I.R.J. BEND (TYP.4)
30" D.I.R.J. CAP
(2) 8"ø 45° D.I.R.J. VERTICAL BENDS (TYP.)
6"X4" TEE AND 4" GATE VALVE IN MANHOLE FOR WATER LATERAL (SEE SHEET P10.3)
HYDRANT ASSEMBLY
6"x4" D.I.R.J. TEE 4" GATE VALVE IN MANHOLE (VALVE NO. - V907)
12" 90° D.I.R.J. VERTICAL BEND (TYP. 4) SEE SHEET M4.2 FOR BEND CONNECTION AND EQUIPMENT
6"ø 45° D.I.R.J. BEND
6"X4" D.I.R.J. REDUCER
4" GATE VALVE IN MANHOLE (VALVE NO. - V906)
2" BALL VALVE IN BOX
SMH #2
FR: 13.25
INV. IN: 8.12 (SW)
INV. IN: 9.20 (SE)
INV. OUT: 6.00 (NW)
(2) 10" 45° D.I.R.J. BEND
(4) 6"ø 45° D.I.R.J. VERTICAL BEND WITH MIN. 18" VERTICAL SEPARATION FROM STORM PIPE
10"ø D.I. FORCE MAIN
(2) 10" 45° D.I.R.J. BEND
YARD HYDRANT
6"x4" D.I.R.J. TEE 4" GATE VALVE IN MANHOLE VALVE NO. - V904
2" 45° BENDS
2" POTABLE WATER
SMH #6
FR: 13.00
INV. IN: 4.79 (SE)
INV. IN: 5.24 (S)
INV. IN: 6.70 (N)
INV. OUT: 4.69 (NW)
54 LF 12" PVC SDR-26 @ 0.23%
SMH #5
FR: 12.50
INV. IN: 5.01 (SE)
INV. IN: 5.34 (S)
INV. IN: 5.50 (SW)
INV. OUT: 4.91 (NW)
8"ø D.I.R.J. WYE (TYP.)
28 LF 12" PVC SDR-26 @ 0.22%
SMH #4
FR: 12.60
INV. IN: 5.48 (SE)
INV. IN: 5.17 (S)
INV. OUT: 5.07 (NW)
54 LF 12" PVC SDR-26 @ 0.22%
6"x6" D.I.R.J. TEE 6" GATE VALVE IN MANHOLE VALVE NO. - V905
SMH #3
FR: 12.00
INV. IN: 5.80 (SE)
INV. IN: 5.80 (SW)
INV. OUT: 5.60 (NW)
43 LF 12" PVC SDR-26 @ 0.46%
(4) 4"ø 45° D.I.R.J. VERTICAL BEND WITH MIN. 18" VERTICAL SEPARATION FROM STORM PIPE
(4) 6"ø 45° D.I.R.J. VERTICAL BEND WITH MIN. 18" VERTICAL SEPARATION FROM STORM PIPE
6"ø 45° D.I.R.J. BEND
6"ø 45° D.I.R.J. BEND
6" 90° D.I.R.J. BEND
6"x4" D.I.R.J. REDUCER
4" GATE VALVE IN MANHOLE (VALVE NO. - V906)
2" BALL VALVE IN BOX
SMH #2
FR: 13.25
INV. IN: 8.12 (SW)
INV. IN: 9.20 (SE)
INV. OUT: 6.00 (NW)
(2) 10" 45° D.I.R.J. BEND
PROPERTY BOUNDARY
PENDING FEMA FLOOD ZONE LINE
CAUSTIC/ALUM SYSTEM
DIGESTER - 2
DIGESTER - 1
14'
GRAPHIC SCALE
20 0 10 20 40 80.000
( IN FEET )
1 inch = 20 ft.

BID SET - NOT FOR CONSTRUCTION

| NO. | REVISIONS | BY | DATE |
|---|---|---|---|
| 0 | ISSUED FOR BIDS | CDR | 5-01-19 |


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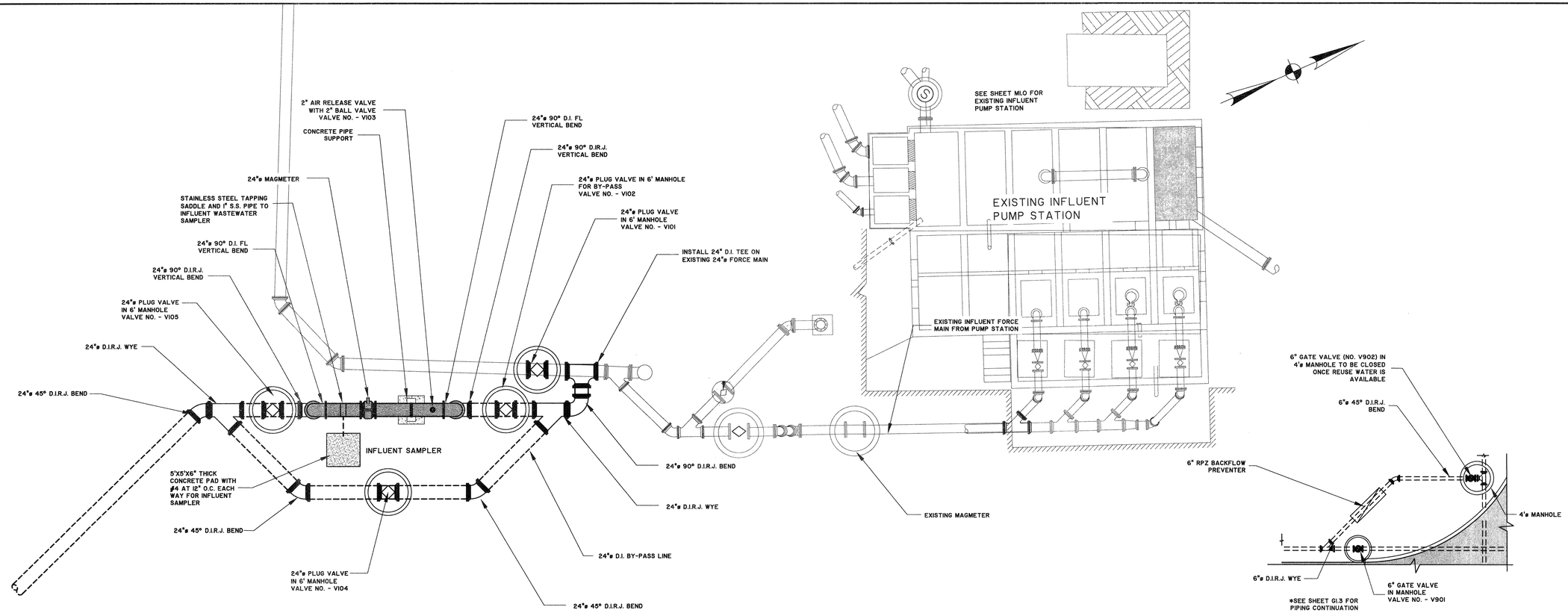
SAVANNAH
AUTHORITY

TRAVIS FIELD WATER RECLAMATION FACILITY

PLANT UTILITY PIPING PLAN

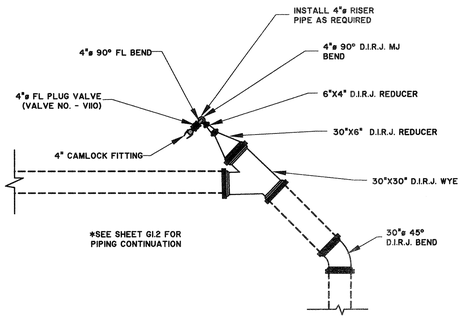
| | |
|---|---|
| JOB NO: | J-26963.0000 |
| DATE: | 1-16-19 |
| DRAWN: | CDR |
| DESIGNED: | CDR |
| REVIEWED: | FS |
| APPROVED: | FS |
| SCALE: | 1" = 20' |

G1.3

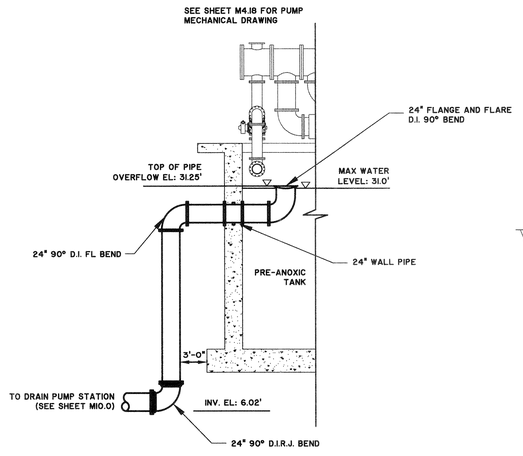



1 G1.4 **INFLUENT FLOW METER PLAN VIEW**
SCALE: 1/8"=1'-0"

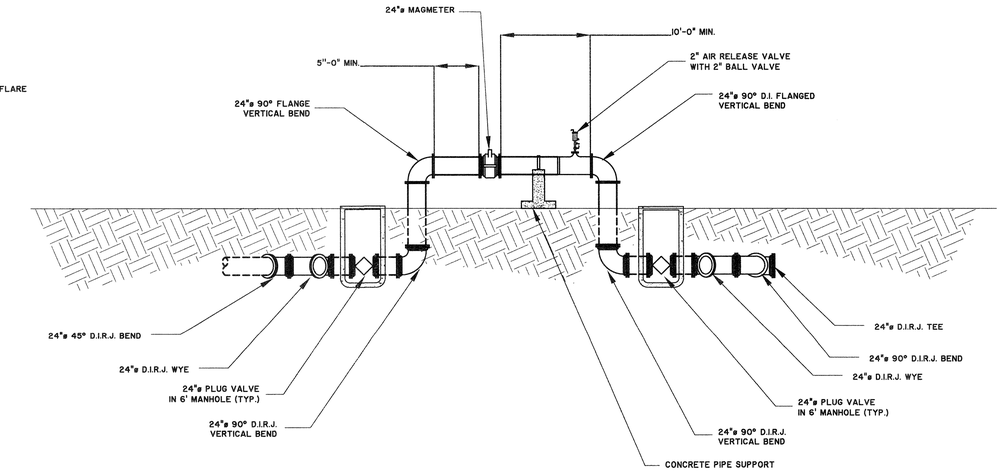
5 G1.4 **POTABLE/REUSE PIPING DETAIL**
SCALE: 1/8"=1'-0"




4 G1.4 **PROCESS PIPING DETAIL**
SCALE: 1/8"=1'-0"




3 G1.4 **PRE-ANOXIC OVERFLOW PIPE**
SCALE: 1/8"=1'-0"




2 G1.4 **INFLUENT FLOW METER SECTION**
SCALE: 1/8"=1'-0"

GEORGIA REGISTERED PROFESSIONAL ENGINEER FRED SORGHUS

BID SET - NOT FOR CONSTRUCTION

| NO | REVISIONS | BY | DATE |
|---|---|---|---|
| 0 | ISSUED FOR BIDS | CDR | 5-01-19 |

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TRAVIS FIELD WATER RECLAMATION FACILITY

**PROCESS AND UTILITY PIPING DETAILS**

| | |
|---|---|
| JOB NO: | J-26963.0000 |
| DATE: | 1-16-19 |
| DRAWN: | CDR |
| DESIGNED: | CDR |
| REVIEWED: | FS |
| APPROVED: | FS |
| SCALE: | 1/8"=1'-0" |

**G1.4**

# CONTRACTOR PROVIDED VALVES AND GATES

| VALVE SCHEDULE | | | | | | |
|---|---|---|---|---|---|---|
| VALVE NO. | DESCRIPTION | SIZE | TYPE | OPERATION TYPE | SHEET NO. | NORMAL OPERATING POSITION |
| | **PLANT PROCESS** | | | | | |
| V101 | PLANT BYPASS ISOLATION | 24" | PLUG VALVE | MANUAL | G1.4 | CLOSED |
| V102 | MAGNETIC FLOW METER ISOLATION | 24" | PLUG VALVE | MANUAL | G1.4 | OPEN |
| V103 | AIR RELEASE | 2" | ARV | MANUAL | G1.4 | OPEN |
| V104 | FLOW METER BYPASS ISOLATION | 24" | PLUG VALVE | MANUAL | G1.4 | CLOSED |
| V105 | MAGNETIC FLOW METER ISOLATION | 24" | PLUG VALVE | MANUAL | G1.4 | OPEN |
| V106 | INFLUENT FM CONNECTION/ PLANT BYPASS ISOLATION | 24" | PLUG VALVE | MANUAL | G1.2 | CLOSED |
| V107 | EQ TANK | 30" | PLUG VALVE | MOTORIZED | G1.2 | VARIABLE |
| V108 | EQ TANK BY-PASS | 30" | PLUG VALVE | MOTORIZED | G1.2 | VARIABLE |
| V109 | ISOLATION FOR CAMLOCK CONNECTION | 4" | PLUG VALVE | MANUAL | G1.4 | CLOSED |
| V110 | ISOLATION FOR CAMLOCK CONNECTION | 4" | PLUG VALVE | MANUAL | G1.4 | CLOSED |
| | **HEADWORKS** | | | | | |
| V201 | ISOLATION | 24" | PLUG VALVE | MOTOR CONTROLLED | M2.0B | OPEN |
| V202 | ISOLATION | 24" | PLUG VALVE | MOTOR CONTROLLED | M2.0B | OPEN |
| V203 | ISOLATION | 24" | PLUG VALVE | MOTOR CONTROLLED | M2.0B | OPEN |
| V204 | ISOLATION | 24" | PLUG VALVE | MOTOR CONTROLLED | M2.0B | OPEN |
| V205 | HEADWORKS - BY-PASS | 30" | KNIFE GV | MOTORIZED VALVE | M2.0A | CLOSED |
| V206 | HEADWORKS - BY-PASS | 30" | KNIFE GV | MOTORIZED VALVE | M2.0A | OPEN |
| V207 | HEADWORKS/AIR RELEASE | 2" | ARV | MANUAL | M2.2 | OPEN |
| V208 | GRIT PUMP ISOLATION | 6" | PLUG VALVE | MANUAL | M2.A | OPEN |
| | **EQUALIZATION TANK** | | | | | |
| V301 | PUMP ISOLATION | 16" | PLUG VALVE | MANUAL | M3.5 | OPEN |
| V302 | PUMP ISOLATION | 16" | PLUG VALVE | MANUAL | M3.5 | OPEN |
| V303 | PUMP ISOLATION | 16" | PLUG VALVE | MANUAL | M3.5 | OPEN |
| V304 | PUMP ISOLATION | 16" | PLUG VALVE | MANUAL | M3.5 | OPEN |
| V305 | BACKFLOW PREVENTION | 12" | CHECK VALVE | MANUAL | M3.5 | OPEN |
| V306 | BACKFLOW PREVENTION | 12" | CHECK VALVE | MANUAL | M3.5 | OPEN |
| V307 | BACKFLOW PREVENTION | 12" | CHECK VALVE | MANUAL | M3.5 | OPEN |
| V308 | BACKFLOW PREVENTION | 12" | CHECK VALVE | MANUAL | M3.5 | OPEN |
| V309 | PUMP ISOLATION | 12" | PLUG VALVE | MANUAL | M3.5 | OPEN |
| V310 | PUMP ISOLATION | 12" | PLUG VALVE | MANUAL | M3.5 | OPEN |
| V311 | PUMP ISOLATION | 12" | PLUG VALVE | MANUAL | M3.5 | OPEN |
| V312 | PUMP ISOLATION | 12" | PLUG VALVE | MANUAL | M3.5 | OPEN |
| V313 | AIR RELEASE | 2" | ARV | MANUAL | M3.5 | OPEN |
| V314 | TANK DRAIN ISOLATION | 8" | PLUG VALVE | MANUAL | M3.5 | OPEN |
| | **SLUDGE DEWATERING SYSTEM** | | | | | |
| V401 | SLUDGE FEED PUMP ISOLATION | 8" | PLUG VALVE | MANUAL | M5.2 | OPEN |
| V402 | BY-PASS ISOLATION | 8" | PLUG VALVE | MANUAL | M5.2 | OPEN |
| V403 | BY-PASS ISOLATION | 4" | PLUG VALVE | MANUAL | M5.2 | CLOSED |
| V404 | BACKFLOW PREVENTER ISOLATION | 2" | GATE VALVE | MANUAL | M5.0 | OPEN |
| V405 | BACKFLOW PREVENTER ISOLATION | 2" | GATE VALVE | MANUAL | M5.0 | OPEN |
| V406 | POLYMER MIXING ISOLATION | 6" | BALL VALVE | MANUAL | M5.1 | OPEN |
| V407 | POLYMER MIXING ISOLATION | 6" | BALL CHECK VALVE | MANUAL | M5.1 | OPEN |
| V408 | PUMP/TANK ISOLATION | 1" | BALL VALVE | MANUAL | M5.0 | OPEN |
| V409 | PUMP/TANK ISOLATION | 1" | BALL VALVE | MANUAL | M5.0 | OPEN |
| V410 | PUMP/TANK ISOLATION | 1" | BALL VALVE | MANUAL | M5.0 | OPEN |

| VALVE SCHEDULE | | | | | | |
|---|---|---|---|---|---|---|
| VALVE NO. | DESCRIPTION | SIZE | TYPE | OPERATION TYPE | SHEET NO. | NORMAL OPERATING POSITION |
| | **UV DISINFECTION SYSTEM** | | | | | |
| V501 | SYSTEM ISOLATION | 24" | BUTTERFLY | MANUAL | M6.0 | OPEN |
| V502 | SYSTEM ISOLATION | 24" | BUTTERFLY | MANUAL | M6.0 | OPEN |
| V503 | FUTURE SYSTEM ISOLATION | 24" | BUTTERFLY | MANUAL | M6.0 | OPEN |
| V504 | AIR RELEASE (TEMPORARY) | 2" | ARV | MANUAL | M6.0 | OPEN |
| V505 | SYSTEM ISOLATION | 24" | BUTTERFLY | MANUAL | M6.0 | OPEN |
| V506 | SYSTEM ISOLATION | 24" | BUTTERFLY | MANUAL | M6.0 | OPEN |
| V507 | FUTURE SYSTEM ISOLATION | 24" | BUTTERFLY | MANUAL | M6.0 | OPEN |
| V508 | AIR RELEASE (TEMPORARY) | 2" | ARV | MANUAL | M6.0 | OPEN |
| | **EFFLUENT PUMP STATION** | | | | | |
| V601 | AIR RELEASE | 2" | ARV | MANUAL | M7.0 | OPEN |
| V602 | AIR RELEASE | 2" | ARV | MANUAL | M7.0 | OPEN |
| V603 | AIR RELEASE | 2" | ARV | MANUAL | M7.0 | OPEN |
| V604 | FOR FUTURE EFFLUENT PUMP | 2" | ARV | MANUAL | M7.0 | OPEN |
| V605 | EFFLUENT PUMP | 14" | PRESSURE SUSTAINING | MANUAL | M7.0 | OPEN |
| V606 | EFFLUENT PUMP | 14" | PRESSURE SUSTAINING | MANUAL | M7.0 | OPEN |
| V607 | EFFLUENT PUMP | 14" | PRESSURE SUSTAINING | MANUAL | M7.0 | OPEN |
| V608 | FOR FUTURE EFFLUENT PUMP | 14" | PRESSURE SUSTAINING | MANUAL | M7.0 | OPEN |
| V609 | EFFLUENT PUMP ISOLATION | 14" | BUTTERFLY VALVE | MANUAL | M7.0 | OPEN |
| V610 | EFFLUENT PUMP ISOLATION | 14" | BUTTERFLY VALVE | MANUAL | M7.0 | OPEN |
| V611 | EFFLUENT PUMP ISOLATION | 14" | BUTTERFLY VALVE | MANUAL | M7.0 | OPEN |
| V612 | FOR FUTURE EFFLUENT PUMP | 14" | BUTTERFLY VALVE | MANUAL | M7.0 | OPEN |
| V613 | AIR RELEASE FOR MAGMETER | 2" | ARV | MANUAL | M7.0 | OPEN |
| | **DISSOLVED OXYGEN SYSTEM** | | | | | |
| V701 | PUMP ISOLATION | 6" | BUTTERFLY VALVE | MANUAL | M8.0 | OPEN |
| V702 | PUMP ISOLATION | 6" | BUTTERFLY VALVE | MANUAL | M8.0 | OPEN |
| V703 | BACK FLOW PREVENTION | 6" | CHECK VALVE | MANUAL | M8.0 | OPEN |
| V704 | BACK FLOW PREVENTION | 6" | CHECK VALVE | MANUAL | M8.0 | OPEN |
| V705 | PUMP ISOLATION | 8" | BUTTERFLY VALVE | MANUAL | M8.0 | OPEN |
| V706 | PUMP ISOLATION | 8" | BUTTERFLY VALVE | MANUAL | M8.0 | OPEN |
| V707 | SPEECE CONE ISOLATION | 6" | BUTTERFLY VALVE | MANUAL | M8.0 | OPEN |
| | **DRAIN PUMP STATION** | | | | | |
| V801 | BACK FLOW PREVENTION | 10" | CHECK VALVE | MANUAL | M10.0 | OPEN |
| V802 | BACK FLOW PREVENTION | 10" | CHECK VALVE | MANUAL | M10.0 | OPEN |
| V803 | PUMP ISOLATION | 10" | PLUG VALVE | MANUAL | M10.0 | OPEN |
| V804 | PUMP ISOLATION | 10" | PLUG VALVE | MANUAL | M10.0 | OPEN |
| V805 | AIR RELEASE | 2" | ARV | MANUAL | M10.0 | OPEN |
| V806 | AIR RELEASE | 2" | ARV | MANUAL | M10.0 | OPEN |
| V807 | BY-PASS ISOLATION | 8" | PLUG VALVE | MANUAL | M10.0 | CLOSED |
| V808 | FORCE MAIN ISOLATION | 10" | PLUG VALVE | MANUAL | G1.4 | OPEN |

| VALVE SCHEDULE | | | | | | |
|---|---|---|---|---|---|---|
| VALVE NO. | DESCRIPTION | SIZE | TYPE | OPERATION TYPE | SHEET NO. | NORMAL OPERATING POSITION |
| | **POTABLE WATER AND REUSE SYSTEM** | | | | | |
| V901 | POTABLE WATER ISOLATION VALVE | 6" | GATE VALVE | MANUAL | G1.4 | OPEN |
| V902 | POTABLE/REUSE WATER ISOLATION VALVE | 6" | GATE VALVE | MANUAL | G1.4 | CLOSED |
| V903 | MBR HOSE BIB PIPE ISOLATION | 4" | GATE VALVE | MANUAL | G1.3 | OPEN |
| V904 | ISOLATION FOR CAUSTIC/ALUM CHEMICAL SYSTEM | 4" | GATE VALVE | MANUAL | G1.3 | OPEN |
| V905 | MBR BUILDING ISOLATION | 6" | GATE VALVE | MANUAL | G1.3 | OPEN |
| V906 | ISOLATION FOR POTABLE WATER TO SLUDGE DEWATERING BUILDING | 4" | GATE VALVE | MANUAL | G1.3 | OPEN |
| V907 | ISOLATION FOR BOOSTER PUMP AT SLUDGE DEWATERING BUILDING | 4" | GATE VALVE | MANUAL | G1.3 | OPEN |
| V908 | ISOLATION FOR REUSE WATER SYSTEM | 4" | GATE VALVE | MANUAL | G1.3 | OPEN |
| V909 | ISOLATION FOR HEADWORKS REUSE | 4" | GATE VALVE | MANUAL | G1.3 | OPEN |
| V910 | ISOLATION FOR HEADWORKS REUSE | 4" | GATE VALVE | MANUAL | G1.3 | OPEN |
| V911 | MBR BUILDING CIP TANK ISOLATION | 4" | GATE VALVE | MANUAL | G1.3 | OPEN |
| V912 | POTABLE WATER ISOLATION VALVE | 6" | GATE VALVE | MANUAL | G1.4 | OPEN |
| | **MBR PHASE I DRAINAGE VALVES** | | | | | |
| VA01 | ISOLATION FOR ANAEROBIC TANK DRAIN | 8" | PLUG VALVE | MANUAL | G1.3 | OPEN |
| VA02 | ISOLATION FOR PRE-ANOXIC TANK DRAIN | 8" | PLUG VALVE | MANUAL | G1.3 | OPEN |
| VA03 | ISOLATION FOR DIGESTER-2 TANK DRAIN | 8" | PLUG VALVE | MANUAL | G1.3 | OPEN |
| VA04 | ISOLATION FOR PRE-AERATION TANK-1 DRAIN | 8" | PLUG VALVE | MANUAL | G1.3 | OPEN |
| VA05 | ISOLATION FOR PRE-AERATION TANK-2 DRAIN | 8" | PLUG VALVE | MANUAL | G1.3 | OPEN |
| VA06 | ISOLATION FOR POST ANOXIC DRAIN | 8" | PLUG VALVE | MANUAL | G1.3 | OPEN |
| VA07 | ISOLATION FOR MBR-1 DRAIN | 8" | PLUG VALVE | MANUAL | G1.3 | OPEN |
| VA08 | ISOLATION FOR DIGESTER-1 TANK DRAIN | 8" | PLUG VALVE | MANUAL | G1.3 | OPEN |
| VA09 | ISOLATION FOR MBR-2 DRAIN | 8" | PLUG VALVE | MANUAL | G1.3 | OPEN |
| VA10 | ISOLATION FOR MBR-3 DRAIN | 8" | PLUG VALVE | MANUAL | G1.3 | OPEN |
| VA11 | ISOLATION FOR MBR-4 DRAIN | 8" | PLUG VALVE | MANUAL | G1.3 | OPEN |
| VA12 | ISOLATION FOR MBT DRAIN | 8" | PLUG VALVE | MANUAL | G1.3 | OPEN |
| | **MBR SYSTEM** | | | | | |
| W101 | RAS PUMP RETURN | 24" | TELESCOPING | MANUAL | M4.1 | OPEN |
| W102 | RAS PUMP RETURN | 24" | TELESCOPING | MANUAL | M4.1 | OPEN |
| W103 | RAS PUMP RETURN | 24" | TELESCOPING | MANUAL | M4.1 | OPEN |
| W104 | RAS PUMP RETURN | 24" | TELESCOPING | MANUAL | M4.1 | OPEN |
| W104A | RAS - FF FLOW | 24" | PLUG VALVE | MANUAL | M4.1B | VARIABLE |
| W104B | RAS - FF FLOW | 24" | PLUG VALVE | MANUAL | M4.1B | VARIABLE |
| W104C | RAS - FF FLOW | 14" | PLUG VALVE | MANUAL | M4.1B | VARIABLE |
| W105 | MBR WEIR | 5' | WEIR GATE | MANUAL | M4.1 | OPEN |
| W106 | MBR WEIR | 5' | WEIR GATE | MANUAL | M4.1 | OPEN |
| W107 | MBR WEIR | 5' | WEIR GATE | MANUAL | M4.1 | OPEN |
| W108 | MBR WEIR | 5' | WEIR GATE | MANUAL | M4.1 | OPEN |
| W109 | SPLITTER BOX | 5'-0" x 2'-0" | SLUICE GATE | MANUAL | M4.1 | OPEN |
| W110 | SPLITTER BOX | 5'-0" x 2'-0" | SLUICE GATE | MANUAL | M4.1 | OPEN (PHASE II) |

BID SET - NOT FOR CONSTRUCTION

| NO. | REVISIONS | BY | DATE |
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| 0 | ISSUED FOR BIDS | CDR | 5-01-19 |

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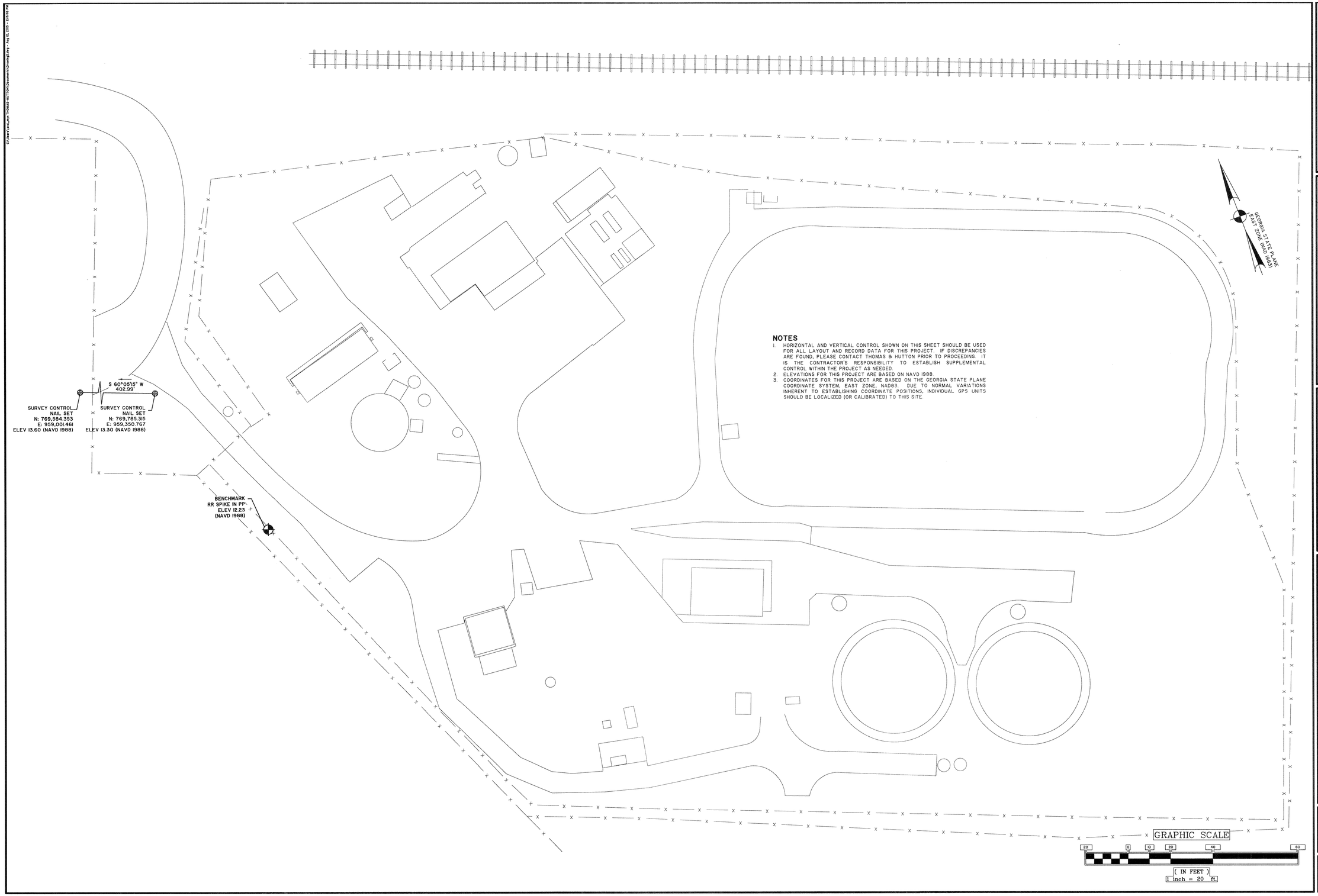
TRAVIS FIELD WATER RECLAMATION FACILITY

**VALVE & GATE SCHEDULE**

| | |
|---|---|
| JOB NO: | J-26963.0000 |
| DATE: | 1-16-19 |
| DRAWN: | CDR |
| DESIGNED: | CDR |
| REVIEWED: | FS |
| APPROVED: | FS |
| SCALE: | 1" = 36.215' |

**G1.5**




## NOTES

1. HORIZONTAL AND VERTICAL CONTROL SHOWN ON THIS SHEET SHOULD BE USED FOR ALL LAYOUT AND RECORD DATA FOR THIS PROJECT. IF DISCREPANCIES ARE FOUND, PLEASE CONTACT THOMAS & HUTTON PRIOR TO PROCEEDING. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ESTABLISH SUPPLEMENTAL CONTROL WITHIN THE PROJECT AS NEEDED.
2. ELEVATIONS FOR THIS PROJECT ARE BASED ON NAVD 1988.
3. COORDINATES FOR THIS PROJECT ARE BASED ON THE GEORGIA STATE PLANE COORDINATE SYSTEM, EAST ZONE, NAD83. DUE TO NORMAL VARIATIONS INHERENT TO ESTABLISHING COORDINATE POSITIONS, INDIVIDUAL GPS UNITS SHOULD BE LOCALIZED (OR CALIBRATED) TO THIS SITE.

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# SURVEY CONTROL SHEET

| | |
|---|---|
| JOB NO: | J-26963.0000 |
| DATE: | 1-16-19 |
| DRAWN: | |
| DESIGNED: | ---- |
| REVIEWED: | ---- |
| APPROVED: | ---- |
| SCALE: | 1" = 20' |

V1.0