



**CONTRACT FOR
STILL CREEK WASTEWATER TREATMENT IMPROVEMENTS**

Teal Services LLC

This Contract, dated _____, 2024, is between the **City of Bryan**, a Texas home-rule municipal corporation (City) and **Teal Services, LLC**, a Texas limited liability company (Contractor). City and Contractor, in consideration of the mutual covenants set forth herein, agree as follows:

1. Scope of Work

The work is generally described as Still Creek Wastewater Treatment Plant improvements in response to **RFB #24-041**, incorporated herein by reference. Contractor shall complete all work as indicated in the provisions and specifications in attached **Exhibit A**.

2. Payment

The City shall pay the Contractor according to the terms set forth in **Exhibit A** and the unit pricing sheet in **Exhibit B**. Except in the event of a duly authorized change order, approved by the City in writing, the total cost of all services provided under this Contract may not exceed **\$6,061,300**.

3. Time of Performance

A. The Contractor shall commence work under this Contract on the date specified in the work order of the City Engineer and fully complete all work hereunder within **656** days thereafter. The Contractor further agrees to pay as administrative costs the sum of **\$1000** for each consecutive calendar day used over and above the specified work time.

B. Time is an important and material consideration of this Contract. The Contractor shall be prepared to complete the work in an expedient and efficient manner in order to complete the work by the time specified in Section 3.A.

4. Performance Standards, Indemnification, and Release

A. As an experienced and qualified Contractor, the Contractor agrees that the services provided by the Contractor reflect the professional and industry standards, procedures, and performances. The Contractor agrees the selection and supervision of personnel, and the performance of services under this Contract, will be pursuant to the standard of performance in the profession. The Contractor agrees that the Contractor will exercise diligence and due care and

perform in a good and workmanlike manner all of the services pursuant to this Contract. Approval of the City shall not constitute, or be deemed, a release of the responsibility and liability of the Contractor, its employees, agents, or associates for the exercise of skill and diligence to promote the accuracy, competency and quality of the services provided, nor shall the City's approval be deemed to be the assumption of responsibility by the City for any defect or error in the aforesaid services provided by the Contractor, its employees, associates, agents, or subcontractors.

B. The Contractor shall promptly correct any defective work furnished by the Contractor at no cost to the City. The City's approval, acceptance, use of, or payment for, all or any part of the services hereunder itself shall in no way alter the Contractor's obligations or the City's rights hereunder.

C. In all activities or services performed hereunder, the Contractor is an independent contractor and not an agent or employee of the City. The Contractor and its employees are not the agents, servants, or employees of the City. As an independent contractor, the Contractor shall be responsible for the services and the final work product contemplated under this Contract. Except for materials furnished by the City, the Contractor shall supply all materials, equipment, and labor required for the services to be provided under this Contract. The Contractor shall have ultimate control over the execution of the services. The Contractor shall have the sole obligation to employ, direct, control, supervise, manage, discharge, and compensate all of its employees or subcontractors, and the City shall have no control of or supervision over the employees of the Contractor or any of the Contractor's subcontractors.

D. The Contractor must at all times exercise reasonable precautions on behalf of, and be solely responsible for, the safety of its officers, employees, agents, subcontractors, licensees, and other persons, as well as their personal property, while in the vicinity of the project or any of the work being done on or for the project. It is expressly understood and agreed that the City shall not be liable or responsible for the negligence of the Contractor, its officers, employees, agents, subcontractors, invitees, licensees, and other persons.

E. Responsibility for damage claims (indemnification): Contractor shall defend, indemnify and save harmless the City and all its officers, agents, and employees from all suits, actions, or claims of any character, name and description brought for or on account of any injuries or damages received or sustained by any person or persons or property resulting from the Contractor's negligent performance of the work, or by or on account of any claims or amounts recovered under the Workmen's Compensation Law or any other law, ordinance, order or decree, and his sureties shall be held until such suit or suits, action or actions, claim or claims for injury or damages as aforesaid shall have been settled and satisfactory evidence to the effect furnished the City. Contractor shall defend, indemnify and save harmless the City, its officers, agents and employees in accordance with this indemnification clause only for that portion of the damage caused by Contractor's negligence.

F. Release. The Contractor releases, relinquishes, and discharges the City, its officers, agents, and employees from all claims, demands, and causes of action of every kind and character, including the cost of defense thereof, for any injury to, sickness or death of

the Contractor or its employees and any loss or damage to any property of the Contractor or its employees that is caused by or alleged to be caused by, arises out of, or is in connection with the Contractor's negligent performance of the work. Both the City and the Contractor expressly intend that this release shall apply regardless of whether said claims, demands, and causes of action are covered, in whole or in part, by insurance.

5. Termination

A. The City may terminate this Contract at any time upon thirty (30)-calendar days' written notice. Upon the Contractor's receipt of such notice, the Contractor shall cease work immediately. The Contractor shall be compensated for the services satisfactorily performed prior to the termination date.

B. If, through any cause, the Contractor fails to fulfill its obligations under this Contract, or if the Contractor violates any of the agreements of this Contract, the City has the right to terminate this Contract by giving the Contractor five (5) calendar days' written notice. The Contractor will be compensated for the services satisfactorily performed before the termination date.

C. No term or provision of this Contract shall be construed to relieve the Contractor of liability to the City for damages sustained by the City because of any breach of contract by the Contractor. The City may withhold payments to the Contractor for the purpose of setoff until the exact amount of damages due the City from the Contractor is determined and paid.

6. Insurance Requirements

Contractor agrees to have and maintain the policies set forth in the insurance requirements attached as **Exhibit C**. All policies, endorsements, certificates, and/or binders shall be subject to approval by the City as to form and content. These requirements are subject to amendment or waiver only if so approved in writing by the City. A lapse in any required coverage shall be a breach of this Contract.

7. Governmental Contract Requirements

A. Contractor must submit a disclosure of interested parties to the City, as applicable under Section 2252.908 of the Texas Government Code, for any contract that requires approval by City Council, has a value of at least \$1 million, or is for services that would require a person to register as a lobbyist. The disclosure must be submitted at the time the Contractor submits the signed contract to the City and on a form prescribed by the Texas Ethics Commission.

B. Contractor verifies that it is not engaged in business with Iran, Sudan, or a foreign terrorist organization, as prohibited by Section 2252.152 of the Texas Government Code.

C. Contractor verifies, to the extent authorized by law and as applicable under Section 2271.002 of the Texas Government Code, that for any contract that has a value of \$100,000 or more, it does not, and will not for the duration of this Contract, boycott Israel.

8. Bond Requirement

For contracts over \$100,000.00, a Performance Bond and a Payment Bond in an amount of not less than 100% of the Contract price, conditioned upon faithful performance of the Contract and payment of all persons supplying labor and furnishing materials, shall be executed by the successful bidder and accompany this signed Contract.

9. Miscellaneous Terms

- A. This Contract has been made under and shall be governed by the laws of the State of Texas. The parties agree that performance and all matters related thereto shall be in Brazos County, Texas. Venue for any matter arising from this Contract shall be in the court of competent jurisdiction in Brazos County, Texas.
- B. Notices shall be mailed to the addresses designated herein or as may be designated in writing by the parties from time to time and shall be deemed received when sent postage prepaid U.S. Mail to the following addresses:

The City of Bryan
Attn: Mark Jurica
P.O. Box 1000
Bryan, Texas 77805

Teal Services LLC
Attn: Chad Smith
4144 FM 244
Anderson, Texas 77830
Email: chad@tealtexas.com

- C. No waiver by either party hereto of any term or condition of this Contract shall be deemed or construed to be a waiver of any other term or condition or subsequent waiver of the same term or condition.
- D. This Contract represents the entire and integrated agreement between the City and the Contractor and supersedes all prior negotiations, representations, or agreements, either written or oral. This Contract may only be amended by written instrument approved and executed by the parties.
- E. This Contract and all rights and obligations contained herein may not be assigned by the Contractor without the prior written approval of the City.
- F. The Contractor, its agents, employees, and subcontractors must comply with all applicable federal and state laws, the charter and ordinances of the City of Bryan, and with all applicable rules and regulations promulgated by local, state, and national boards, bureaus, and agencies. The Contractor must obtain all necessary permits and licenses required in completing the work and providing the services required by this Contract.
- G. Any provision or part of this Contract held to be void or unenforceable under law or regulation shall be deemed stricken, and all remaining provisions shall continue to be valid and binding upon City and Contractor, who agree that the Contract shall be reformed to replace such

stricken provision or part thereof with a valid and enforceable provision that comes as close as possible to expressing the intention of the stricken provision.

H. The exhibits attached to this Contract are incorporated herein and shall be considered a part of this Contract. In the event of a conflict between this Contract and any exhibits or attachments to this Contract, the provision of this Contract shall prevail.

I. The Contractor shall apply basic safeguarding requirements and procedures to protect the Contractor's information systems whenever the information systems store, process or transmit any information, not intended for public release, which is provided by or generated for the City. This requirement does not include information provided by the City to the public or simple transactional information, such as that necessary to process payments. These requirements and procedures shall include, at a minimum, the security control requirements "reflective of actions a prudent business person would employ" which are outlined in the Federal Acquisition Regulations FAR 52.204-21(b) and codified in the Code of Federal Regulations at 48 C.F.R. § 52.204-21(b) (2016). Contractor shall include the substance of this clause in subcontracts under this contract in which the subcontractor may have City contract information residing in or transiting through its information system.

J. The parties acknowledge that they have read, understood, and intend to be bound by the terms and conditions of this Contract.

[Remainder of Page Intentionally Left Blank – Signature Page Follows]

CITY OF BRYAN:

APPROVED AS TO FORM

Thomas A. Leeper, City Attorney

APPROVED

Bobby Gutierrez, Mayor

PREPARED AND RECOMMENDED

Mark Jurica, Treatment and Compliance Manager

ATTEST

Mary Lynne Stratta, City Secretary

PREPARED FOR PROCESSING

Jayson Barfknecht, P.E., Ph.D., Director of Public Works

Date: _____

APPROVED FOR COUNCIL

Kean Register, City Manager

(Contractor - Corporate Seal)

CONTRACTOR:

By: _____

Printed Name: Chad Smith

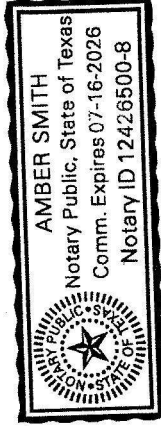
Title: Managing Member

Date: 7-16-2024

STATE OF TX §
COUNTY OF Grimes §
§

ACKNOWLEDGEMENT

This instrument was acknowledged before me on the 16 day of July, 2024,
by Chad Smith on behalf of Teal Services



Amber Smith
Notary Public in and for The State of Texas

CITY OF BRYAN:

APPROVED AS TO FORM

Thomas A. Leeper, City Attorney

APPROVED

Bobby Gutierrez, Mayor

PREPARED AND RECOMMENDED

Mark Jurica, Treatment and Compliance Manager

ATTEST

Mary Lynne Stratta, City Secretary

Date: _____

PREPARED FOR PROCESSING

Jayson Barfknecht, P.E., Ph.D., Director of Public Works

APPROVED FOR COUNCIL

Kean Register, City Manager

CONTRACTOR:

By: _____

Printed Name: _____

Title: _____

Date: _____

(Contractor - Corporate Seal)

STATE OF _____ §

§ ACKNOWLEDGEMENT

COUNTY OF _____ §

This instrument was acknowledged before me on the _____ day of _____, 20____,
by _____ on behalf of _____.

Notary Public in and for The State of Texas



CITY OF BRYAN
The Good Life, Texas Style™

CITY OF BRYAN, TEXAS

STILL CREEK WASTEWATER TREATMENT PLANT IMPROVEMENTS

PROJECT NO. 411-D4-2414

BID SET

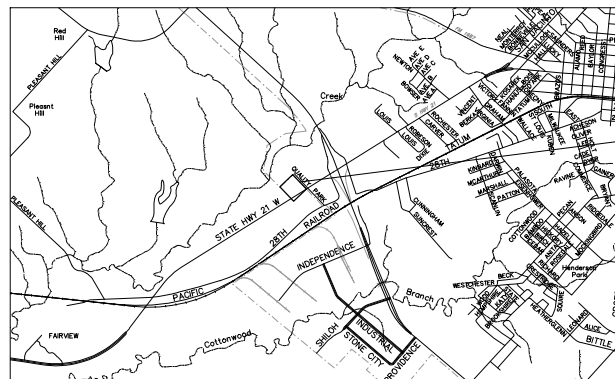
APRIL 2024

BRYAN CITY COUNCIL

- | | | |
|-------------------------|---|--------------------------|
| BOBBY GUTTUERREZ | - | MAYOR |
| PAUL TORRES | - | SINGLE MEMBER DISTRICT 1 |
| RAY ARRINGTON | - | SINGLE MEMBER DISTRICT 2 |
| JARED SALVATO | - | SINGLE MEMBER DISTRICT 3 |
| JAMES EDGE | - | SINGLE MEMBER DISTRICT 4 |
| MARCA EWERS - SHURTLEFF | - | SINGLE MEMBER DISTRICT 5 |
| KEVIN BORISKIE | - | AT LARGE, PLACE 6 |

CITY MANAGER
KEAN REGISTER

PUBLIC WORKS DIRECTOR
JAYSON BARFKNECHT, PH.D., P.E.



PROJECT LOCATION: 2028 QUALITY
PARK LANE, BRYAN, TEXAS

LOCATION PLAN

CITY OF BRYAN

DATE



AUSTIN, TEXAS
Transportation

PREPARED BY:



CDM Smith
TEXAS REGISTRATION NUMBER F-3043
8310-N CAPITAL OF TEXAS HWY, SUITE 250, AUSTIN, TEXAS 78731
AUSTIN, TEXAS 78759
(512) 346-1100

DATE

Water

Environment

Energy

Facilities

CO-ORDINATION

- 1 THE CONTRACTOR SHALL GIVE THE CITY A MINIMUM OF 72 HOURS NOTICE BEFORE BEGINNING CONSTRUCTION.
- 2 UPON THE COMPLETION OF THE PROPOSED IMPROVEMENTS AND PRIOR TO ACCEPTANCE BY THE OWNER, THE ENGINEER SHALL CERTIFY IN WRITING THAT THE PROPOSED IMPROVEMENTS WERE CONSTRUCTED IN CONFORMANCE WITH THE APPROVED PLANS.
- 3 PRIOR TO BEGINNING ANY CONSTRUCTION, THE CONTRACTOR SHALL VERIFY HORIZONTAL AND VERTICAL LOCATIONS OF ALL KNOWN EXISTING UTILITIES WHICH WILL EITHER BE CONNECTED TO, ADJACENT, OR CROSSED; IF THERE ARE ANY CONFLICTS BETWEEN PROPOSED AND EXISTING UTILITIES, OR IF THE EXISTING UTILITIES ARE IN ANY WAY DIFFERENT FROM WHAT IS SHOWN ON THE DRAWINGS, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE CITY BEFORE PROCEEDING WITH ANY CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE TO THE CITY, FOR THE CITY'S APPROVAL, A SOLUTION FOR RESOLVING SUCH CONFLICTS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL FITTINGS, ADAPTERS, ETC., AND RESOLVING ALL CONFLICTS AT HIS EXPENSE.
- 4 NO WORK SHALL BE PERFORMED ON SATURDAYS, SUNDAYS, OR CITY HOLIDAYS WITHOUT WRITTEN PERMISSION BY OWNER. THE SPECIFIED CONTRACT TIMES WERE ESTABLISHED ASSUMING NO WEEKEND OR HOLIDAY WORK. SATURDAYS, SUNDAYS AND HOLIDAYS WERE COUNTED IN DETERMINING THE NUMBER OF CONSECUTIVE WORKING DAYS USED TO COMPLETE PROJECT. WORKING HOURS ARE LIMITED TO 7:00 AM TO 6:00 PM MONDAY THROUGH FRIDAY.
- 5 CONTRACTOR SHALL PROVIDE "AS-BUILT" PLANS TO THE ENGINEER SO THAT THE REPRODUCIBLES OF THE ENGINEERING PLANS MAY BE CORRECTED TO REFLECT "RECORD DRAWINGS" CONDITIONS.
- 6 IN CASE OF CONFLICT BETWEEN PLANS AND/OR SPECIFICATIONS AND CITY OF BRYAN OR TCEQ REGULATIONS, THE REGULATIONS SHALL PREVAIL, UNLESS A VARIANCE HAS BEEN APPROVED.
- 7 CONTRACTOR SHALL MAINTAIN ACCESS TO EXISTING DRIVEWAYS AT ALL TIMES.
- 8 PROJECT INFORMATION:
OWNER: CITY OF BRYAN
PHONE: (979) 209-5900
ADDRESS: 2028 QUALITY PARK LANE, BRYAN, TX, 77803
OWNER'S REPRESENTATIVE RESPONSIBLE FOR PLAN ALTERATIONS:
CDM SMITH INC.
PHONE: (512) 346-1100
PERSON OR FIRM RESPONSIBLE FOR EROSION/SEDIMENTATION CONTROL MAINTENANCE:
CONTRACTOR
PHONE:
PERSON OR FIRM RESPONSIBLE FOR TREE/NATURAL AREA PROTECTION MAINTENANCE:
CONTRACTOR
PHONE:
- 11 THE CONTRACTOR SHALL OBTAIN ALL REQUIRED CONSTRUCTION PERMITS PRIOR TO COMMENCING WORK. NO SEPARATE PAYMENT.
- 12 CONTRACTOR AREAS FOR PARKING, LAYDOWN, AND TEMPORARY SPOIL STORAGE SHALL BE AS SHOWN IN THE DRAWINGS. CONTRACTOR TO RESTRICT HIS OPERATIONS TO THESE AREAS.
- 13 WATER FOR USE IN CONSTRUCTION SHALL BE FURNISHED BY THE CONTRACTOR.
- 14 THE CONTRACTOR SHALL COORDINATE ALL MATERIALS TESTS, TO BE CONDUCTED BY AN INDEPENDENT LABORATORY AT THE FREQUENCY AND LOCATIONS SPECIFIED. A COPY OF ALL TEST RESULTS SHALL BE FURNISHED TO THE OWNER'S REPRESENTATIVE, CITY OF AUSTIN, ENGINEER, AND THE CONTRACTOR, CONTACT THE OWNER 48 HOURS PRIOR TO DENSITY TESTING. FAILED TESTS SHALL BE REPEATED AT THE CONTRACTOR'S SOLE EXPENSE.
- 15 PRIOR TO BEGINNING CONSTRUCTION, THE OWNER OR HIS AUTHORIZED REPRESENTATIVE WILL CONVEENE A PRE-CONSTRUCTION CONFERENCE BETWEEN THE OWNER, ENGINEER, CONTRACTOR(S), AND ANY OTHER AFFECTED PARTIES.

ENVIRONMENTAL

- 1 ALL SITE WORK MUST COMPLY WITH ENVIRONMENTAL REQUIREMENTS AS SHOWN AND SPECIFIED IN THE EROSION AND SEDIMENTATION CONTROL DRAWINGS AND DETAILS, TREE PROTECTION NOTES AND DETAILS, AND SPECIFICATIONS.
- 2 ALL DISTURBED AREAS SHALL BE RESTORED AND CONTRACTOR SHALL REVEGETATE ALL EXPOSED CUT & FILL AREAS UPON COMPLETION OF CONSTRUCTION. THE SEEDING SHALL BE APPLIED AT THE SPECIFIED RATE OVER ALL AREAS DISTURBED BY THE CONTRACTOR. SOIL STABILIZATION OF DISTURBED AREAS SHALL PROVIDE PERMANENT SURFACE COVERAGE THAT MINIMIZES EROSION AND SEDIMENT TRANSPORT AWAY FROM THE SITE AND THAT MEETS THE APPROVAL OF THE ENGINEER.
- 3 NO TREES SHALL BE REMOVED WITHOUT THE ENGINEER'S APPROVAL. AS APPROPRIATE, THE ENGINEER MAY ELECT TO ALTER SITE IMPROVEMENTS SLIGHTLY TO AVOID DAMAGING EXISTING TREES.

CONTROL OF WORK

- 1 THE CONTRACTOR SHALL FIELD VERIFY ALL EXISTING FACILITIES (SIGNS, UTILITIES, STRUCTURES, ETC.). CARE SHALL BE TAKEN TO PROTECT EXISTING FACILITIES. ITEMS TO BE DISTURBED BY NEW WORK SHALL BE PROTECTED OR REPLACED.
- 2 NO BLASTING WILL BE ALLOWED.
- 3 NO BURNING OF TREES, BRUSH, RUBBISH, VEGETATION, OR OTHER OBJECTIONABLE MATTER WILL BE ALLOWED.
- 4 THE CONTRACTOR SHALL MAINTAIN ALL WORK AREAS FREE FROM DUST WHICH WOULD CAUSE A HAZARD OR NUISANCE TO OTHERS. SPRINKLING OR SIMILAR METHODS WILL BE PERMITTED TO CONTROL DUST. USE OF PETROLEUM PRODUCTS OR CHLORIDES IS PROHIBITED. SPRINKLING MUST BE REPEATED AS NEEDED TO KEEP THE DISTURBED AREA DAMP. DUST CONTROL SHALL BE PERFORMED AS THE WORK PROCEEDS WHENEVER A POTENTIAL FOR DUST NUISANCE OR HAZARD OCCURS.
- 5 ANY DAMAGE TO EXISTING STRUCTURES (IE, FENCES, WALLS, R.O.W. MONUMENTS, SIGNS, CULVERTS, AND CONCRETE APRONS, ETC) DURING CONSTRUCTION SHALL BE REPAIRED OR REPLACED AT CONTRACTOR'S EXPENSE. REPLACEMENT MATERIALS SHALL MATCH EXISTING. ALL REPAIRS MUST BE APPROVED BY OWNER OR OWNER REPRESENTATIVE.
- 6 TRACK EQUIPMENT WILL NOT BE ALLOWED ON PAVED ROADWAYS WITHOUT SUITABLE PROTECTION UNDER TRACKS.
- 7 ANY EXISTING PAVEMENT DAMAGED OR REMOVED DURING CONSTRUCTION SHALL BE REPLACED OR REPAIRED. DAMAGED PAVEMENT SHALL BE REPLACED UNDER PER DETAILS TO MATCH EXISTING CONDITIONS PRIOR TO CONSTRUCTION.
- 8 ALL FLEX BASE PLACED FOR REPAIR OF GRAVEL ROADS, DRIVEWAYS, ETC, SHALL BE COMPACTED TO 4" THICKNESS PER LIFT AT 95% MODIFIED PROCTOR DENSITY. FINISHED SURFACE SHALL MATCH EXISTING SURFACE.
- 9 THE CONTRACTOR SHALL LOCATE, PROTECT, AND MAINTAIN BENCHMARKS, MONUMENTS, AND CONTROL POINTS. REESTABLISH ANY DISTURBED ITEMS BY A TEXAS REGISTERED PUBLIC LAND SURVEYOR, AT NO ADDED COST TO OWNER.

SAFETY

- 1 ALL CONSTRUCTION OPERATIONS SHALL BE ACCOMPLISHED IN ACCORDANCE WITH APPLICABLE REGULATIONS OF THE U.S. OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA).
- 2 ELECTRICAL LINES ARE LOCATED CLOSE TO THE PROJECT. THE ATTENTION OF THE CONTRACTOR IS DIRECTED TO THE STATE LAW (VERNON'S ANNOTATED TEXAS STATUTES, ARTICLE 1436(G)) CONCERNING OPERATIONS IN THE VICINITY OF ELECTRICAL LINES & THE NEED FOR EFFECTIVE PRECAUTIONARY MEASURES. IT IS A VIOLATION OF OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) REGULATIONS TO OPERATE EQUIPMENT IN SUCH A MANNER THAT PERSONS OR EQUIPMENT COME WITHIN TEN FEET OF AN ENERGIZED ELECTRIC LINE. SUCH REGULATIONS ARE ENFORCED BY OSHA, FEDERAL LAWS, TEXAS CODE ANNOTATED 1990, HEALTH AND SAFETY CODES, SUBSECTION 752.001 ET SEQ. V.A.T.S. WAS ENACTED FOR THE PURPOSE OF ENSURING THE SAFETY OF PERSONS ENGAGED IN ACTIVITIES WITHIN PROXIMITY OF OVERHEAD LINES. THE LAW PROHIBITS ANY FUNCTION OR ACTIVITY WHERE IT IS POSSIBLE FOR THE PERSON PERFORMING SUCH ACTIVITY TO COME WITHIN SIX FEET OF AN OVERHEAD POWER LINE. THE LAW ALSO FORBIDS ANY PART OF ANY TOOL, EQUIPMENT, MACHINERY OR MATERIAL USED BY SUCH PERSON TO BE BROUGHT WITHIN SIX FEET OF ANY OVERHEAD LINE DURING THE PERFORMANCE OF SUCH ACTIVITY. IN ADDITION, THE LAW PROHIBITS OPERATION OF EQUIPMENT OR MACHINES WITHIN TEN FEET OF ANY OVERHEAD POWER LINE UNLESS CONTACT WITH SUCH LINE HAS BEEN EFFECTIVELY GUARDED AGAINST PURSUANT TO THE PROVISIONS OF THE LAW. VIOLATORS OF THE LAW ARE SUBJECT TO A FINE OR INCARCERATION OR BOTH, IN ADDITION TO CIVIL LIABILITY.

GENERAL CONSTRUCTION NOTES

- 1 IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE EXACT LOCATION OF ALL EXISTING UNDERGROUND UTILITIES. FURTHERMORE, THE CONTRACTOR SHALL CONTACT ALL UTILITY COMPANY REPRESENTATIVES A MINIMUM OF 48 HOURS IN ADVANCE OF ANY EXCAVATION.
A CONTACT TEXAS811 @ 811
B CONTACT ATMO5 @ 774-2506
C CONTACT OPTIMUM @ 817-694-9474
D CONTACT BTU @ 821-5770
E CONTACT MITCHELL GAS @ 779-4460
F CONTACT UPRR @ 1-800-336-9193
G CONTACT CITY OF BRYAN WATER SERVICES DEPARTMENT @ 209-5900
- 2 ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE SPECIFICATIONS ISSUED IN THIS BID PACKAGE. ALL PUBLIC UTILITIES AS DEFINED BY THE LOCATIONS OF PUBLIC UTILITY EASEMENTS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE 2012 B/C/S UNIFIED TECHNICAL SPECIFICATIONS. THE STANDARD SPECIFICATIONS AND DETAILS ARE AVAILABLE AT [HTTP://WWW.BCSUNITED.NET/](http://www.bcsunited.net/). THE CONTRACTOR SHALL KEEP A SET OF THE CURRENT SPECIFICATIONS AND DETAILS ON SITE AT ALL TIMES. ALL WORK SHALL BE INSPECTED BY THE STAFF OF THE CITY ENGINEER OF BRYAN. ALL WORK SHALL BE COORDINATED WITH THE CITY OF BRYAN CITY ENGINEER.
- 3 IN LIEU OF USING THE CONSTRUCTION MATERIALS INDICATED IN THESE PLANS, THE CONTRACTOR SHALL OBTAIN WRITTEN APPROVAL FROM THE ENGINEER FOR ANY SUBSTITUTION PRIOR TO CONSTRUCTION. REQUESTS FOR CHANGES SHOULD INCLUDE PRODUCT INFORMATION AND AN ENGINEER'S SEAL WHERE APPLICABLE. THE CONTRACTOR SHALL BE FINANCIALLY RESPONSIBLE FOR THE ENGINEER'S TIME SPENT REVIEWING CHANGES AND REDESIGNING BASED ON CONTRACTORS REQUESTS.
- 4 IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO COMPLY WITH ALL STATE AND FEDERAL REGULATIONS REGARDING CONSTRUCTION ACTIVITIES NEAR ENERGIZED OVERHEAD POWER LINES. ADDITIONALLY, THE CONTRACTOR SHALL COORDINATE ALL PROPOSED WORK AND PROCEDURES WITH THE BTU AND WHERE APPLICABLE, BRYAN RURAL ELECTRICAL DEPARTMENT AT THE CONTRACTORS EXPENSE.
- 5 ALL MATERIALS & LABOR NOT IDENTIFIED AS A SEPARATE BID ITEM SHALL BE CONSIDERED SUBSIDIARY TO THE ITEM IN WHICH IT IS USED. ALL MATERIALS AND EQUIPMENT SHALL BE BOTH FURNISHED AND INSTALLED UNLESS OTHERWISE NOTED.
- 6 THE CONTRACTOR MUST PROVIDE CONSTRUCTION STAKING FROM THE INFORMATION PROVIDED ON THESE PLANS. THE CONTRACTOR SHALL PROVIDE CUT-SHEETS FROM A REGISTERED SURVEYOR TO THE OWNER'S REPRESENTATIVE PRIOR TO THE CONSTRUCTION OF ANY FACILITY.
- 7 ALL SOIL EXPOSED BY CONSTRUCTION SHALL RECEIVE HYDROMULCH SEEDING EXCEPT WHERE THE LANDSCAPE PLAN SPECIFIES OTHERWISE.

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DATE: 2024/04/08 10:00:00
FILE: \\smb\csm\m002-2p\utility\constr_m01\2381\284648\04 Design Services ML_600\01 General\10 BIM_CADD\G002G.NLG.dwg
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REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: D. HERNANDEZ
DRAWN BY: D. GURAV
SHEET CHK'D BY: C. VARNON
CROSS CHK'D BY: A. WOELKE
APPROVED BY: C. VARNON
DATE: APRIL, 2024



CITY OF BRYAN, TEXAS
STILL CREEK WASTEWATER TREATMENT
PLANT IMPROVEMENTS

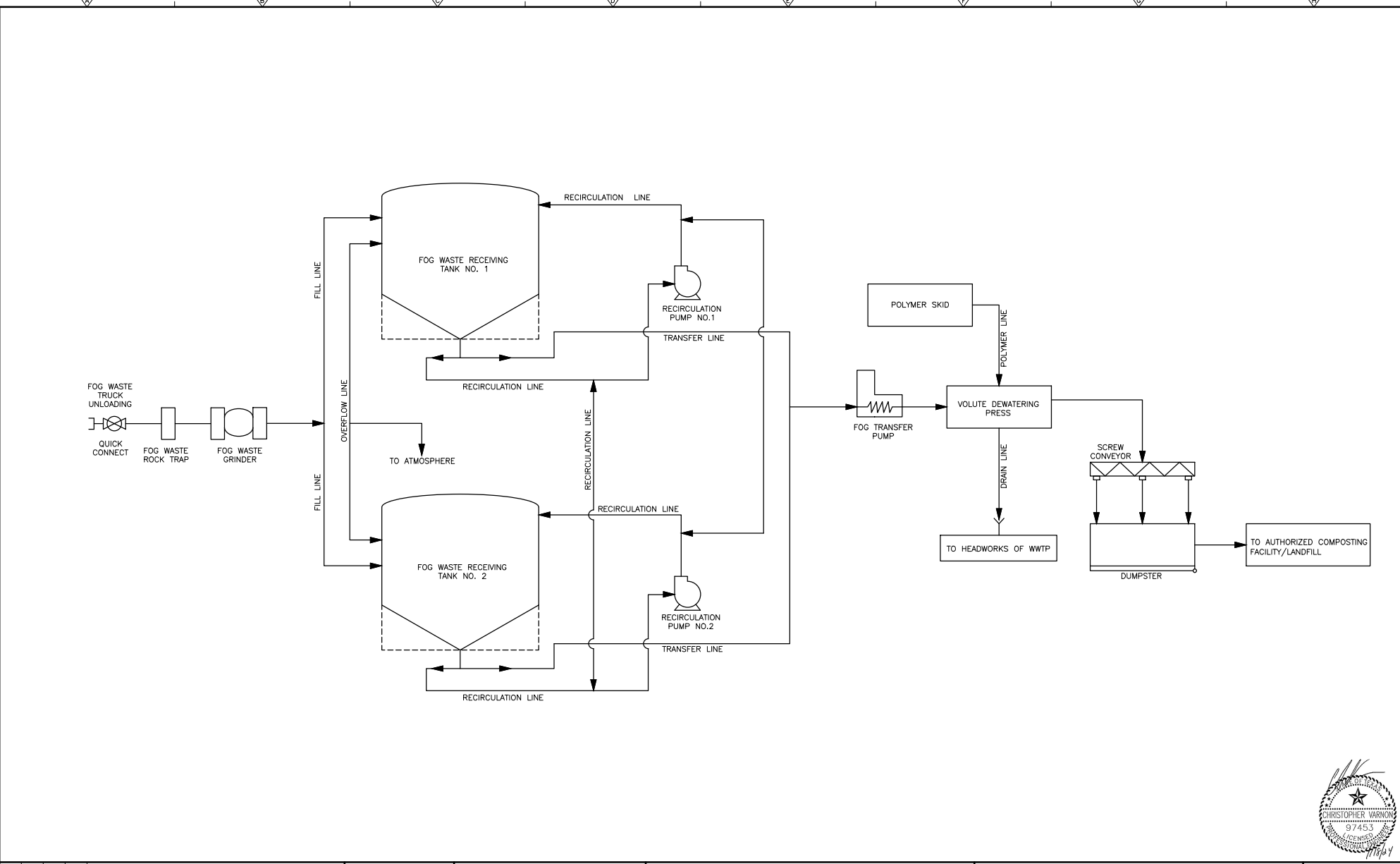
GENERAL NOTES

PROJECT NO. 2381-284648
FILE NAME: G002G.NLG.DWG
SHEET NO. G-2



100% SUBMITTAL

USER: [C:\MS-DOS 3.91] PROJECT: []
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 CDM Smith - ALL RIGHTS RESERVED. THESE DOCUMENTS AND DESIGN PROVIDED BY PROFESSIONAL SERVICE, INCORPORATED HEREIN, ARE THE PROPERTY OF CDM SMITH AND ARE NOT TO BE USED, IN WHOLE OR PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF CDM SMITH.



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DESIGNED BY: D. HERNANDEZ
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 CROSS CHK'D BY: A. WOELKE
 APPROVED BY: C. VARNON
 DATE: APRIL 2024



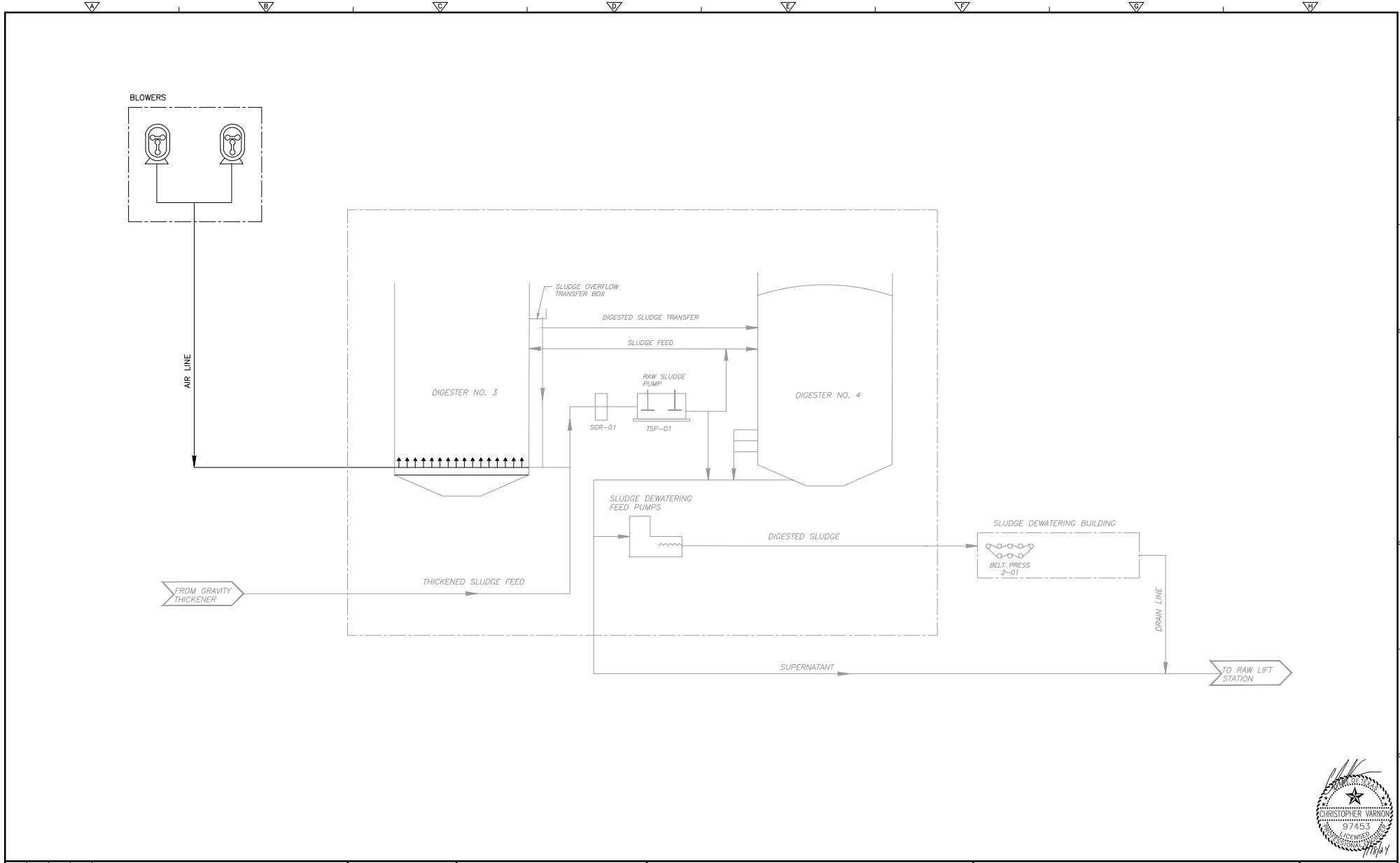
CITY OF BRYAN, TEXAS
 STILL CREEK WASTEWATER TREATMENT
 PLANT IMPROVEMENTS

PROCESS FLOW DIAGRAM
 GREASE FACILITY

PROJECT NO. 2381-284648
 FILE NAME: GO05GFFD.DWG
 SHEET NO. G-5



USER: C:\MS-DOS_2581\...
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 FILE: \\...
 PROJECT: STILL CREEK WASTEWATER TREATMENT PLANT IMPROVEMENTS - Page 801 of 1053



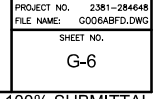
REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: H. KALE
 DRAWN BY: D. GURAV
 SHEET CHK'D BY: C. VARNON
 CROSS CHK'D BY: A. WOELKE
 APPROVED BY: C. VARNON
 DATE: APRIL 2024



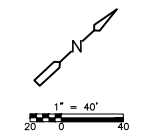
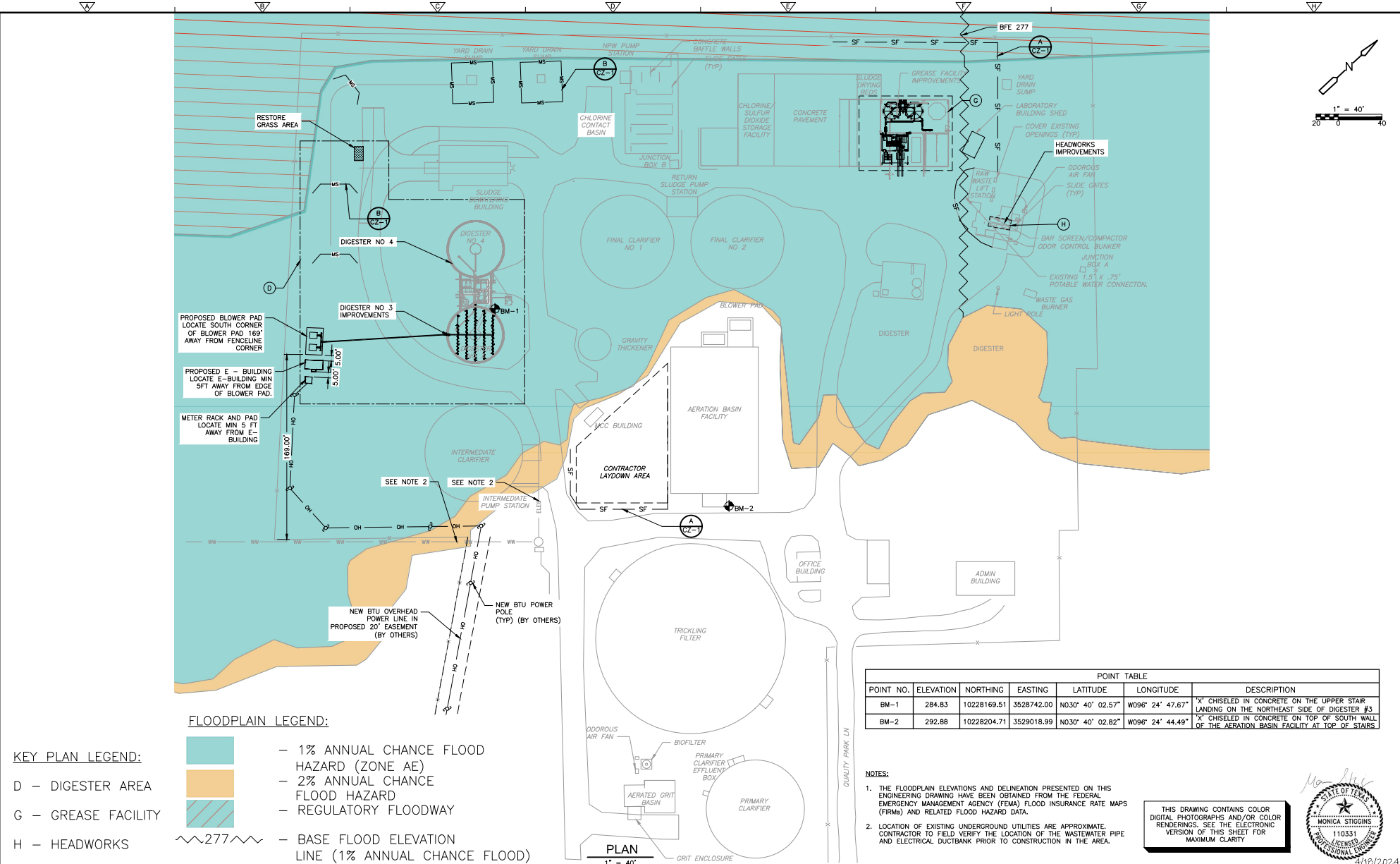
CITY OF BRYAN, TEXAS
 STILL CREEK WASTEWATER TREATMENT
 PLANT IMPROVEMENTS

PROJECT NO. 2381-284648
 FILE NAME: G068ABFD.DWG
 SHEET NO. G-6



100% SUBMITTAL

USFS - TEXAS - 2024 - PL-040 - PLAN - REVISED - 4/10/2024 - CD2PSP1.DWG - 2381284648 - 20240410 - BML_CADD_CD2PSP1.DWG
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FLOODPLAIN LEGEND:

- 1% ANNUAL CHANCE FLOOD HAZARD (ZONE AE)
- 2% ANNUAL CHANCE FLOOD HAZARD
- REGULATORY FLOODWAY
- BASE FLOOD ELEVATION LINE (1% ANNUAL CHANCE FLOOD)

KEY PLAN LEGEND:

- D - DIGESTER AREA
- G - GREASE FACILITY
- H - HEADWORKS

POINT TABLE						DESCRIPTION
POINT NO.	ELEVATION	NORTHING	EASTING	LATITUDE	LONGITUDE	
BM-1	284.83	10228169.51	3528742.00	N030° 40' 02.57"	W096° 24' 47.67"	'X' CHISEL IN CONCRETE ON THE UPPER STAIR LANDING ON THE NORTHEAST SIDE OF DIGESTER #3.
BM-2	292.88	10228204.71	3529018.99	N030° 40' 02.82"	W096° 24' 44.49"	'X' CHISEL IN CONCRETE ON TOP OF SOUTH WALL OF THE AERATION BASIN FACILITY AT TOP OF STAIRS.

- NOTES:**
1. THE FLOODPLAIN ELEVATIONS AND DELINEATION PRESENTED ON THIS ENGINEERING DRAWING HAVE BEEN OBTAINED FROM THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) FLOOD INSURANCE RATE MAPS (FIRMS) AND RELATED FLOOD HAZARD DATA.
 2. LOCATION OF EXISTING UNDERGROUND UTILITIES ARE APPROXIMATE. CONTRACTOR TO FIELD VERIFY THE LOCATION OF THE WASTEWATER PIPE AND ELECTRICAL DUCTBANK PRIOR TO CONSTRUCTION IN THE AREA.

THIS DRAWING CONTAINS COLOR DIGITAL PHOTOGRAPHS AND/OR COLOR RENDERINGS. SEE THE ELECTRONIC VERSION OF THIS SHEET FOR MAXIMUM CLARITY



DESIGNED BY: D. HERNANDEZ	DATE: APRIL 2024
DRAWN BY: D. DURAV	
SHEET CHK'D BY: C. VARNON	
CROSS CHK'D BY: A. WOELKE	
APPROVED BY: C. VARNON	

CDM Smith
 9430 Rosswood Blvd., Suite 9-200
 Austin, TX 78759
 Tel: (512) 346-1100
 TSP/E Firm Registration No. F-3043

CITY OF BRYAN, TEXAS	OVERALL SITE PLAN
STILL CREEK WASTEWATER TREATMENT PLANT IMPROVEMENTS	4/10/2024
PROJECT NO. 2381-284648	SHEET NO. C-2
FILE NAME: COD2PSP1.DWG	100% SUBMITTAL

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REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY:	D. HERNANDEZ
DRAWN BY: <td>D. GURAV</td>	D. GURAV
SHEET CHK'D BY: <td>C. VARNON</td>	C. VARNON
CROSS CHK'D BY: <td>A. WOELKE</td>	A. WOELKE
APPROVED BY: <td>C. VARNON</td>	C. VARNON
DATE: <td>APRIL, 2024</td>	APRIL, 2024

CDM Smith	
9130 Research Blvd, Suite 1400 Austin, TX 78758 Tel: (512) 348-1100 TSPE Firm Registration No. F-3043	

CITY OF BRYAN, TEXAS
STILL CREEK WASTEWATER TREATMENT PLANT IMPROVEMENTS

MODIFIED YARD PIPING AND GRADING PLANS

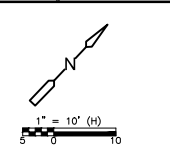
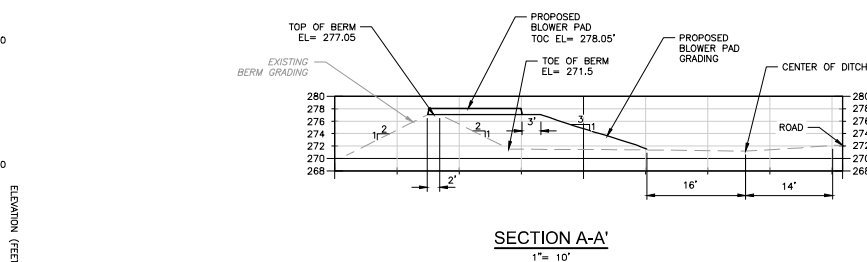
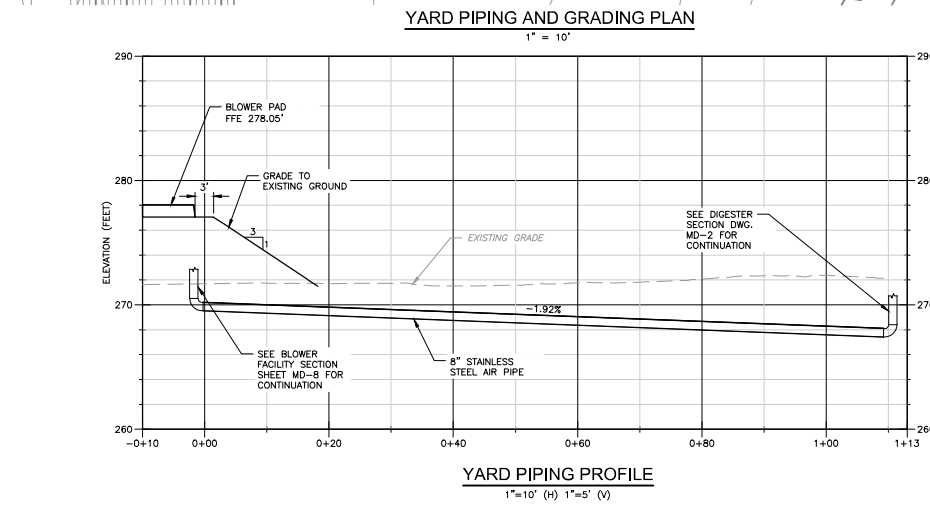
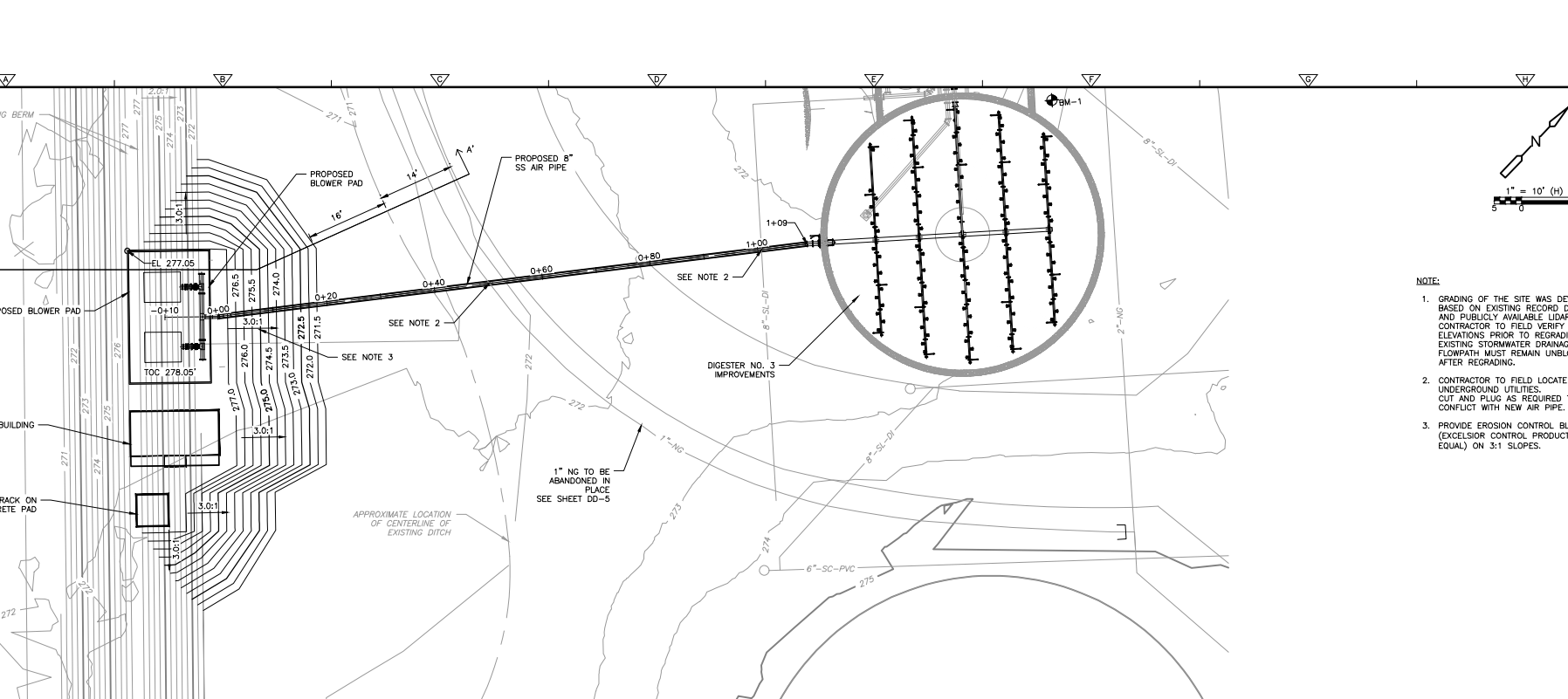
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SHEET NO. C-3

100% SUBMITTAL

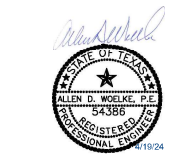
1. GRADING OF THE SITE WAS DEVELOPED BASED ON EXISTING RECORD DRAWINGS AND PUBLICLY AVAILABLE LIDAR DATA. CONTRACTOR TO FIELD VERIFY SITE ELEVATIONS PRIOR TO REGRADING. EXISTING STORMWATER DRAINAGE FLOWPATH MUST REMAIN UNBLOCKED AFTER REGRADING.

2. CONTRACTOR TO FIELD LOCATE EXISTING UNDERGROUND UTILITIES. CUT AND PLUG AS REQUIRED TO AVOID CONFLICT WITH NEW AIR PIPE.

3. PROVIDE EROSION CONTROL BLANKETS (EXCELSIOR CONTROL PRODUCTS OR EQUAL) ON 3:1 SLOPES.



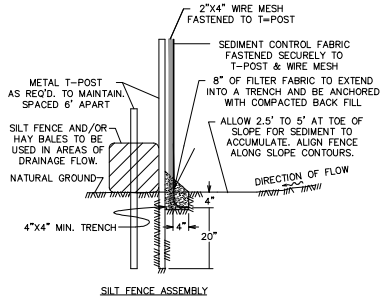
- NOTE:**
- GRADING OF THE SITE WAS DEVELOPED BASED ON EXISTING RECORD DRAWINGS AND PUBLICLY AVAILABLE LIDAR DATA. CONTRACTOR TO FIELD VERIFY SITE ELEVATIONS PRIOR TO REGRADING. EXISTING STORMWATER DRAINAGE FLOWPATH MUST REMAIN UNBLOCKED AFTER REGRADING.
 - CONTRACTOR TO FIELD LOCATE EXISTING UNDERGROUND UTILITIES. CUT AND PLUG AS REQUIRED TO AVOID CONFLICT WITH NEW AIR PIPE.
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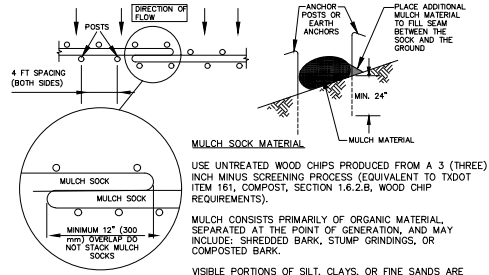
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SILT FENCE ASSEMBLY
 DETAIL A
 NTS



- NOTES:
- STEEL OR WOOD POSTS WHICH SUPPORT THE MULCH SOCK SHALL BE INSTALLED ON A SLIGHT ANGLE TOWARD THE ANTICIPATED RUNOFF SOURCE. POST MUST BE EMBEDDED A MINIMUM OF 600mm (24 inches). IF WOOD POSTS CANNOT ACHIEVE 600mm (24 inches) DEPTH, USE STEEL POSTS. EARTH ANCHORS ARE ALSO ACCEPTABLE.
 - THE TOE OF THE MULCH SOCK SHALL BE PLACED SO THAT THE MULCH SOCK IS FLAT AND PERPENDICULAR TO THE LINE OF FLOW. IN ORDER TO PREVENT WATER FROM FLOWING BETWEEN THE JOINTS OF ADJACENT ENDS OF MULCH SOCKS, LAP THE ENDS OF ADJACENT MULCH SOCKS A MINIMUM OF 300mm (12 inches).
 - MULCH MATERIAL MUST BE FREE OF REFUSE, PHYSICAL CONTAMINANTS, AND MATERIAL TOXIC TO PLANT GROWTH; IT IS NOT ACCEPTABLE FOR THE MULCH MATERIAL TO CONTAIN GROUND CONSTRUCTION DEBRIS, BIOSOLIDS, OR MANURE.
 - SOCK MATERIAL WILL BE 100% BIODEGRADABLE, PHOTODEGRADABLE, OR RECYCLABLE SUCH AS BURLAP, TWINE, UV PHOTODEGRADABLE PLASTIC, POLYESTER, OR ANY OTHER ACCEPTABLE MATERIAL.
 - MULCH SOCKS SHOULD BE USED AT THE BASE OF SLOPES NO STEEPER THAN 2:1.
 - ACCUMULATED SILT SHALL BE REMOVED WHEN IT REACHES A DEPTH OF 150mm (6 inches). THE SILT SHALL BE DISPOSED OF ON AN APPROVED SITE AND IN SUCH A MANNER THAT WILL NOT CONTRIBUTE TO ADDITIONAL SILTATION.

MULCH SOCK
 DETAIL B
 NTS

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: D. HERNANDEZ	<p> 9130 Research Blvd., Suite 1400 Austin, TX 78759 Tel: (512) 348-1100 TSP# E-11 Registration No. F-3043 </p>
DRAWN BY: D. GURAV	
SHEET CHK'D BY: C. VARNON	
CROSS CHK'D BY: A. WOELKE	
APPROVED BY: C. VARNON	
DATE: APRIL 2024	

CITY OF BRYAN, TEXAS
 STILL CREEK WASTEWATER TREATMENT
 PLANT IMPROVEMENTS

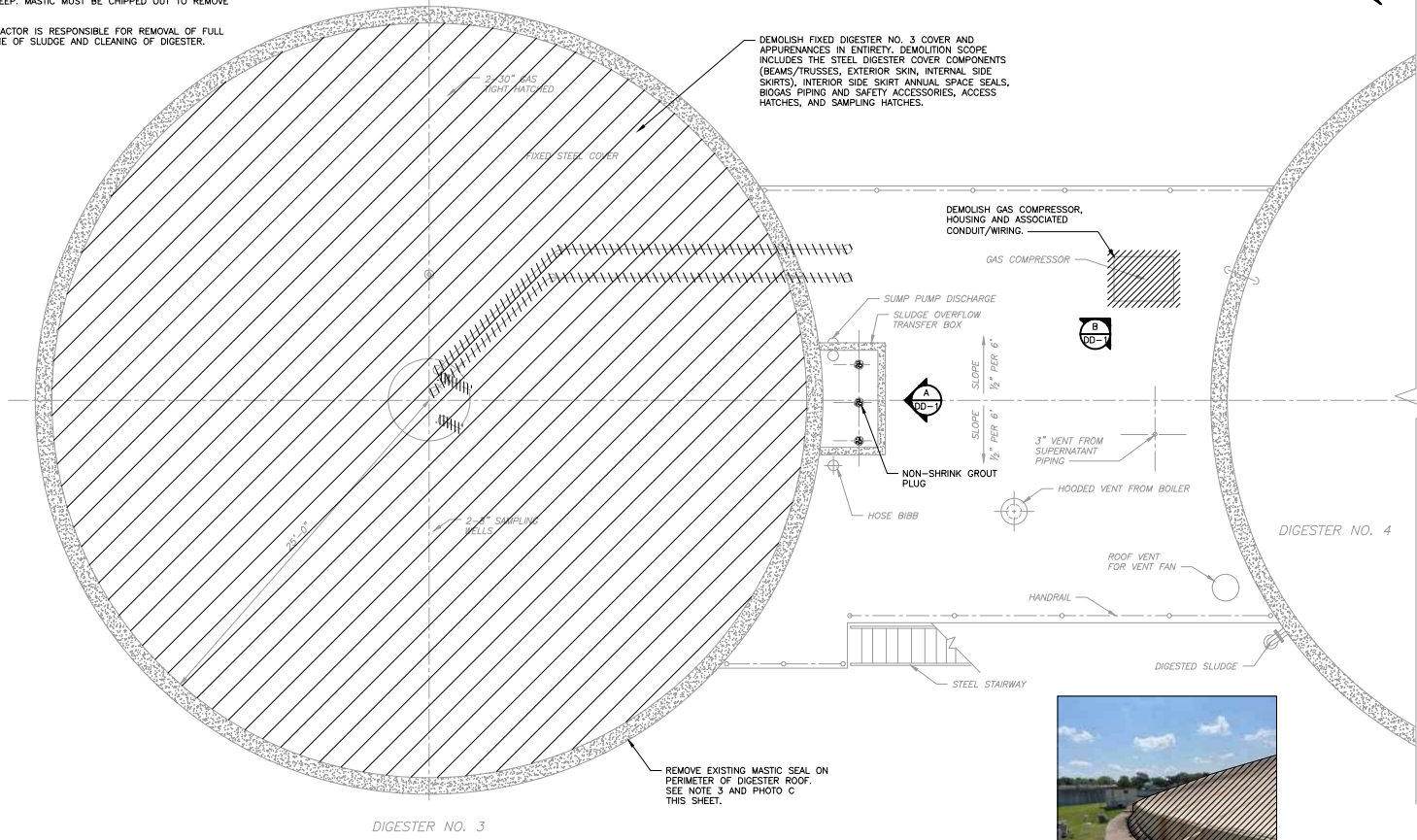
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 PROJECT NO. 2381-284648
 FILE NAME: CZ01D1D1.DWG
 SHEET NO.
 CZ-1



100% SUBMITTAL

NOTES:

1. CONTRACTOR SHALL MONITOR THE LOWER EXPLOSIVE LIMIT (LEL) AT ALL TIMES DURING DEMOLITION AND PROVIDE APPROPRIATE VENTILATION AS NEEDED
2. REFER TO SECTION 024119 FOR DEMOLITION REQUIREMENTS
3. DIGESTER ROOF IS SEALED WITH MASTIC THAT EXTENDS 4" DEEP. MASTIC MUST BE CHIPPED OUT TO REMOVE ROOF.
4. CONTRACTOR IS RESPONSIBLE FOR REMOVAL OF FULL VOLUME OF SLUDGE AND CLEANING OF DIGESTER.



ROOF PLAN
1/4" = 1'-0"

LEGEND

DEMOLITION AREA

THIS DRAWING CONTAINS COLOR DIGITAL PHOTOGRAPHS AND/OR COLOR RENDERINGS. SEE THE ELECTRONIC VERSION OF THIS SHEET FOR MAXIMUM CLARITY



PHOTO A
NTS



PHOTO B
NTS



PHOTO C
NTS

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 PLOT SHEET: 1 of 1
 PLOT STATUS: SUCCESS

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY:	D. HERNANDEZ
DRAWN BY:	G. KABIL
SHEET CHK'D BY:	G. VARNON
CROSS CHK'D BY:	A. WOELKE
APPROVED BY:	G. VARNON
DATE:	APRIL 2024

9430 Research Blvd., Suite 1400
Austin, TX 78759
Tel: (512) 348-1100
TSP# Firm Registration No. F-3043

CITY OF BRYAN, TEXAS
STILL CREEK WASTEWATER TREATMENT PLANT IMPROVEMENTS

DIGESTER ROOF DEMOLITION PLAN

PROJECT NO.	2381-284648
FILE NAME:	DD01DIPL.DWG
SHEET NO.	DD-1



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 AUTHOR: CDM SMITH - ALL RIGHTS RESERVED
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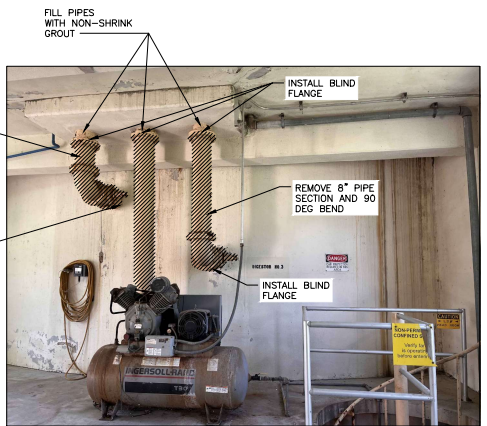
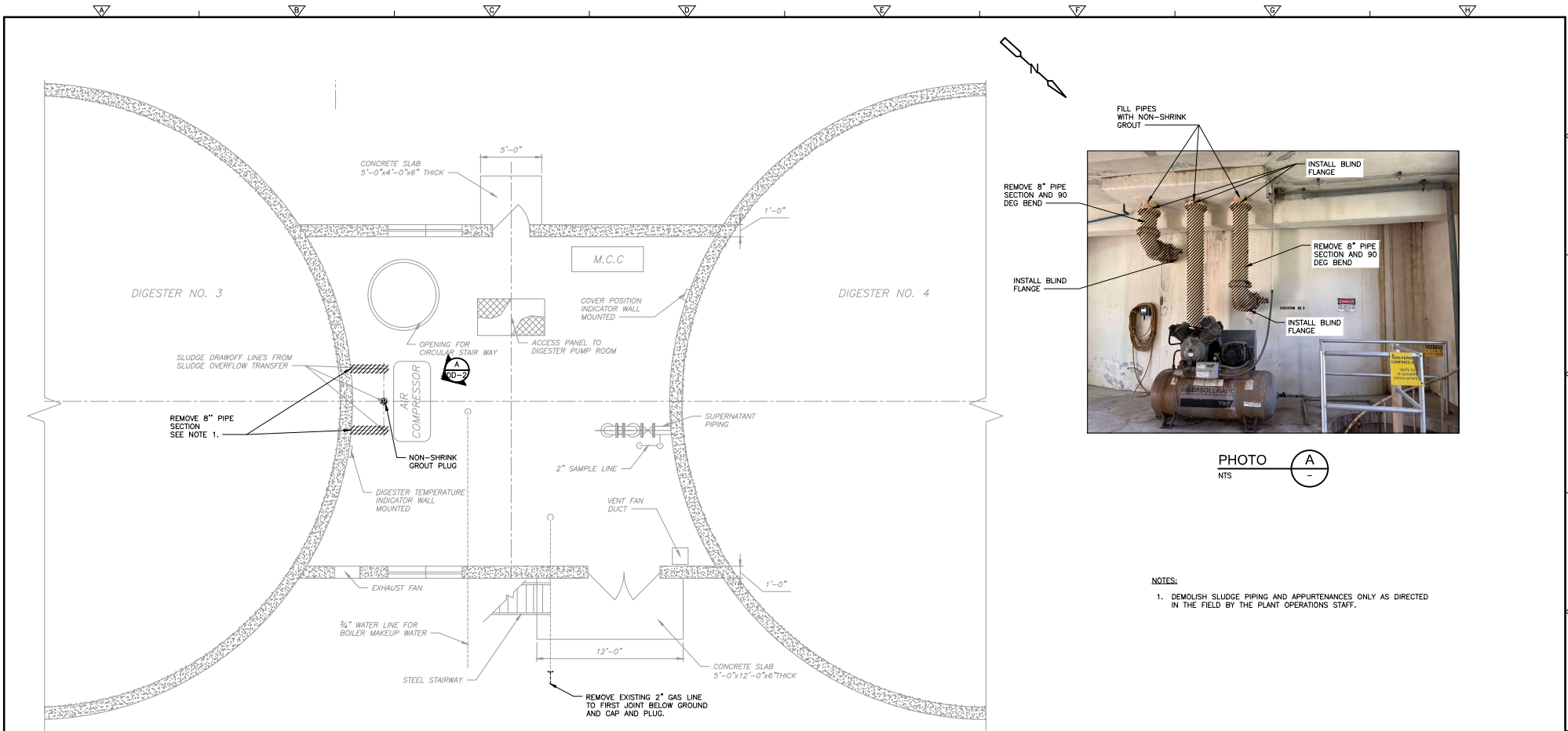


PHOTO A
NTS

NOTES:
 1. DEMOLISH SLUDGE PIPING AND APPURTENANCES ONLY AS DIRECTED IN THE FIELD BY THE PLANT OPERATIONS STAFF.

GROUND LEVEL
 PLAN
 1/4" = 1'-0"

LEGEND

DEMOLITION AREA

THIS DRAWING CONTAINS COLOR DIGITAL PHOTOGRAPHS AND/OR COLOR RENDERINGS. SEE THE ELECTRONIC VERSION OF THIS SHEET FOR MAXIMUM CLARITY

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: D. HERNANDEZ
 DRAWN BY: G. KABIL
 SHEET CHK'D BY: C. VARNON
 CROSS CHK'D BY: A. WOELKE
 APPROVED BY: C. VARNON
 DATE: APRIL 2024

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 Austin, TX 78759
 Tel: (512) 348-1100
 TSP# Firm Registration No. F-3043

CITY OF BRYAN, TEXAS

STILL CREEK WASTEWATER TREATMENT
 PLANT IMPROVEMENTS

DIGESTER GROUND LEVEL
 DEMOLITION PLAN

PROJECT NO. 2381-284648
 FILE NAME: DDO2DIP.DWG
 SHEET NO. DD-2



100% SUBMITTAL

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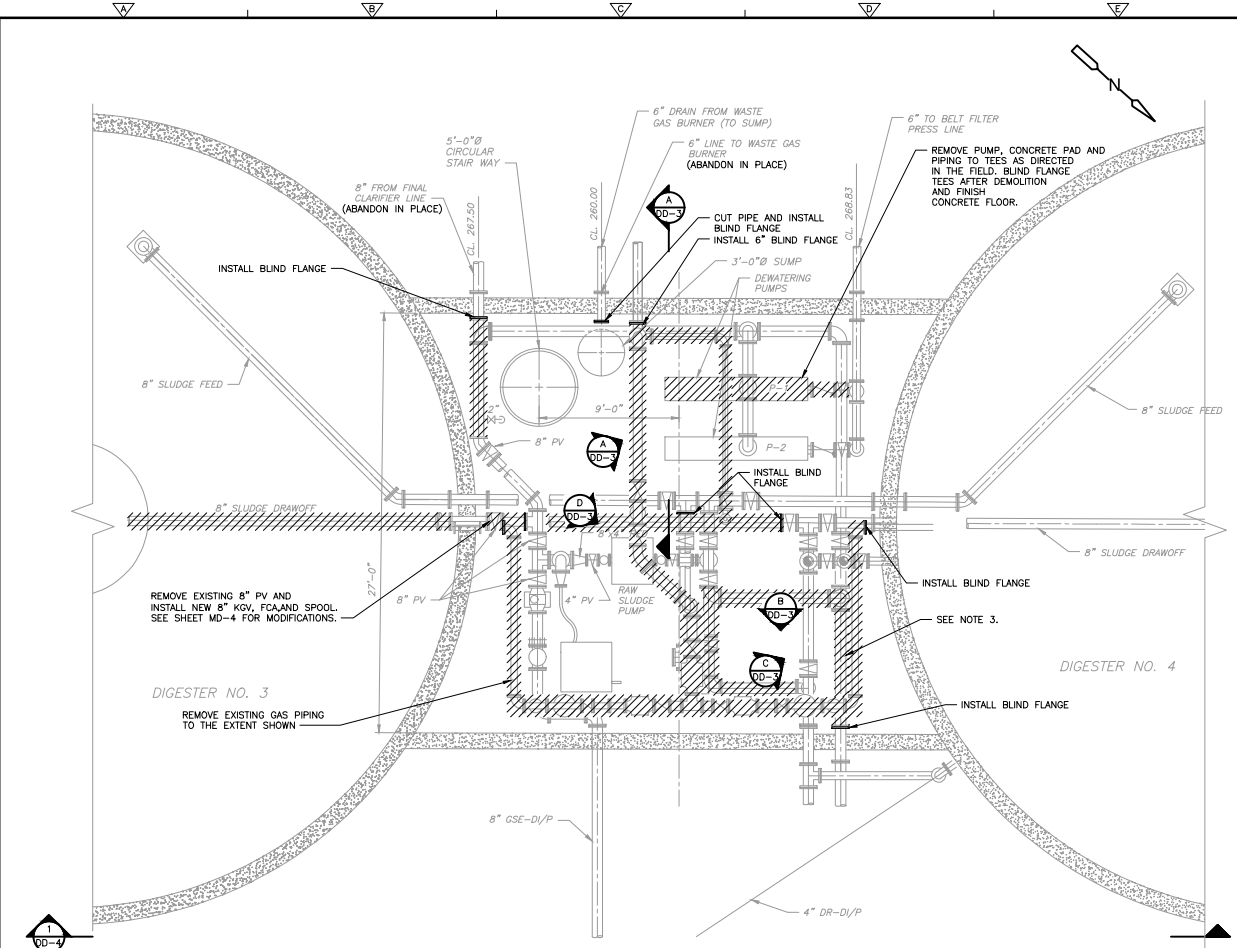


PHOTO A
NTS



PHOTO D
NTS

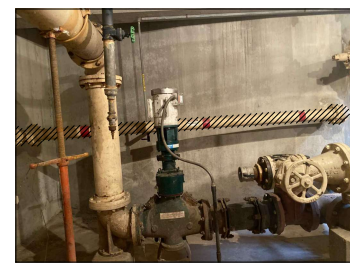


PHOTO B
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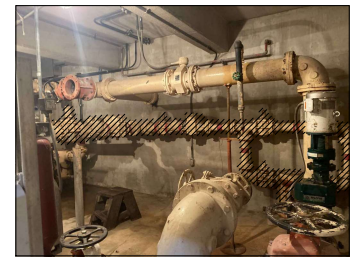
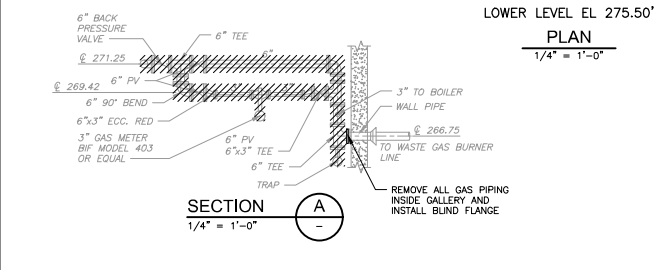


PHOTO C
NTS

- NOTES:
1. DEMOLISH ALL EXPOSED GAS PIPING IN THE PIPE GALLERY AND PROVIDE BLIND FLANGE AT THE WALL TO PLUG THE PIPE. THE GAS PIPING IS CLEARLY MARKED WITH A RED STRIPE.
 2. PRIOR TO COMMENCING DEMOLITION OF ANAEROBIC DIGESTER, COORDINATE WITH PLANT OPERATIONS STAFF TO ISOLATE THE CONNECTING INFLUENT SLUDGE PIPING.
 3. DEMOLISH SLUDGE PIPING AND APPURTENANCES ONLY AS DIRECTED IN THE FIELD BY THE PLANT OPERATIONS STAFF.

LEGEND
 DEMOLITION AREA

THIS DRAWING CONTAINS COLOR DIGITAL PHOTOGRAPHS AND/OR COLOR RENDERINGS. SEE THE ELECTRONIC VERSION OF THIS SHEET FOR MAXIMUM CLARITY



DESIGNED BY: D. HERNANDEZ	CDM Smith <small>3430 Research Blvd., Suite 1400 Austin, TX 78759 Tel: (512) 348-1100 TSP# Firm Registration No. F-3043</small>
DRAWN BY: G. KABIL	
SHEET CHK'D BY: C. VARNON	
CROSS CHK'D BY: A. WOELKE	
APPROVED BY: C. VARNON	
DATE: APRIL, 2024	

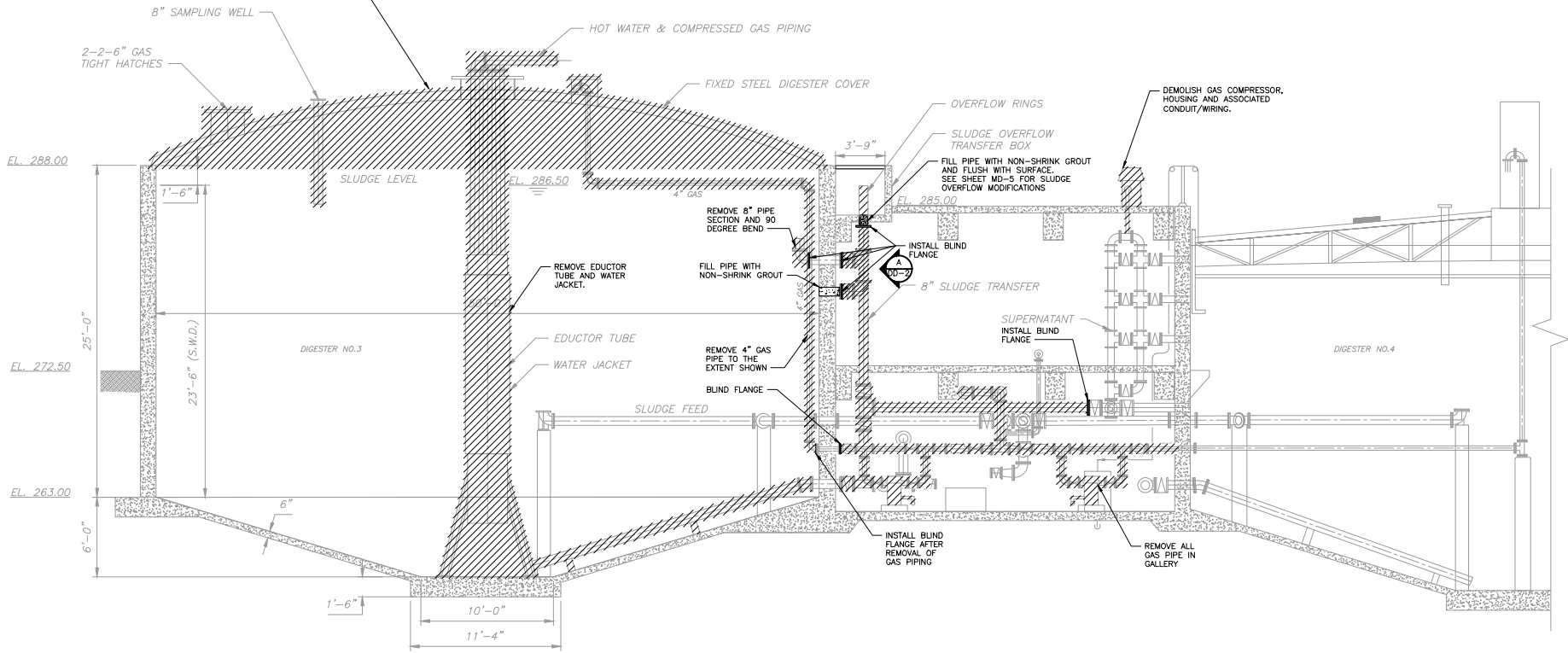
CITY OF BRYAN, TEXAS
STILL CREEK WASTEWATER TREATMENT PLANT IMPROVEMENTS

DIGESTER LOWER LEVEL DEMOLITION PLAN

PROJECT NO. 2381-284648
FILE NAME: DDO3DPL.DWG
SHEET NO. DD-3

100% SUBMITTAL

DEMOLISH FIXED DIGESTER NO. 3 COVER AND APPURTEANCES IN ENTIRETY. DEMOLITION SCOPE INCLUDES THE STEEL DIGESTER COVER COMPONENTS (BEAMS/TRUSSES, EXTERIOR SKIN, INTERNAL SIDE SKIRTS), INTERIOR SIDE SKIRT ANNUAL SPACE SEALS, BIGGAS PIPING AND SAFETY ACCESSORIES, ACCESS HATCHES, AND SAMPLING HATCHES.



SECTION 1
1/4" = 1'-0" DD-3

NOTES:

1. DEMOLISH ALL EXPOSED GAS PIPING IN THE PIPE GALLERY AND PROVIDE BLIND FLANGE AT THE WALL TO PLUG THE PIPE. THE GAS PIPING IS CLEARLY MARKED WITH A RED STRIPE.
2. PRIOR TO COMMENCING DEMOLITION OF DIGESTER, COORDINATE WITH PLANT OPERATIONS STAFF TO ISOLATE THE CONNECTING INFLUENT SLUDGE PIPING.
3. DEMOLISH SLUDGE PIPING AND ANY OTHER EQUIPMENT ONLY AS DIRECTED IN THE FIELD BY THE PLANT OPERATIONS STAFF.

LEGEND
 DEMOLITION AREA

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REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY:	D. HERNANDEZ
DRAWN BY:	G. KABIL
SHEET CHK'D BY:	C. VARNON
CROSS CHK'D BY:	A. WOELKE
APPROVED BY:	C. VARNON
DATE:	APRIL, 2024

9430 Research Blvd., Suite 1400
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Tel: (512) 348-1100
TSP# ERM Registration No. F-3043

CITY OF BRYAN, TEXAS
 STILL CREEK WASTEWATER TREATMENT
 PLANT IMPROVEMENTS

DIGESTER
 DEMOLITION SECTION I

PROJECT NO.	2381-284648
FILE NAME:	DD4DIP.DWG
SHEET NO.	DD-4



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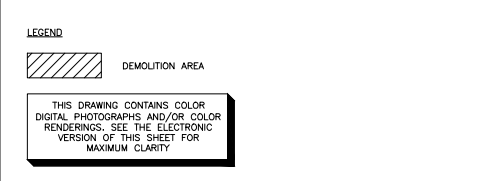
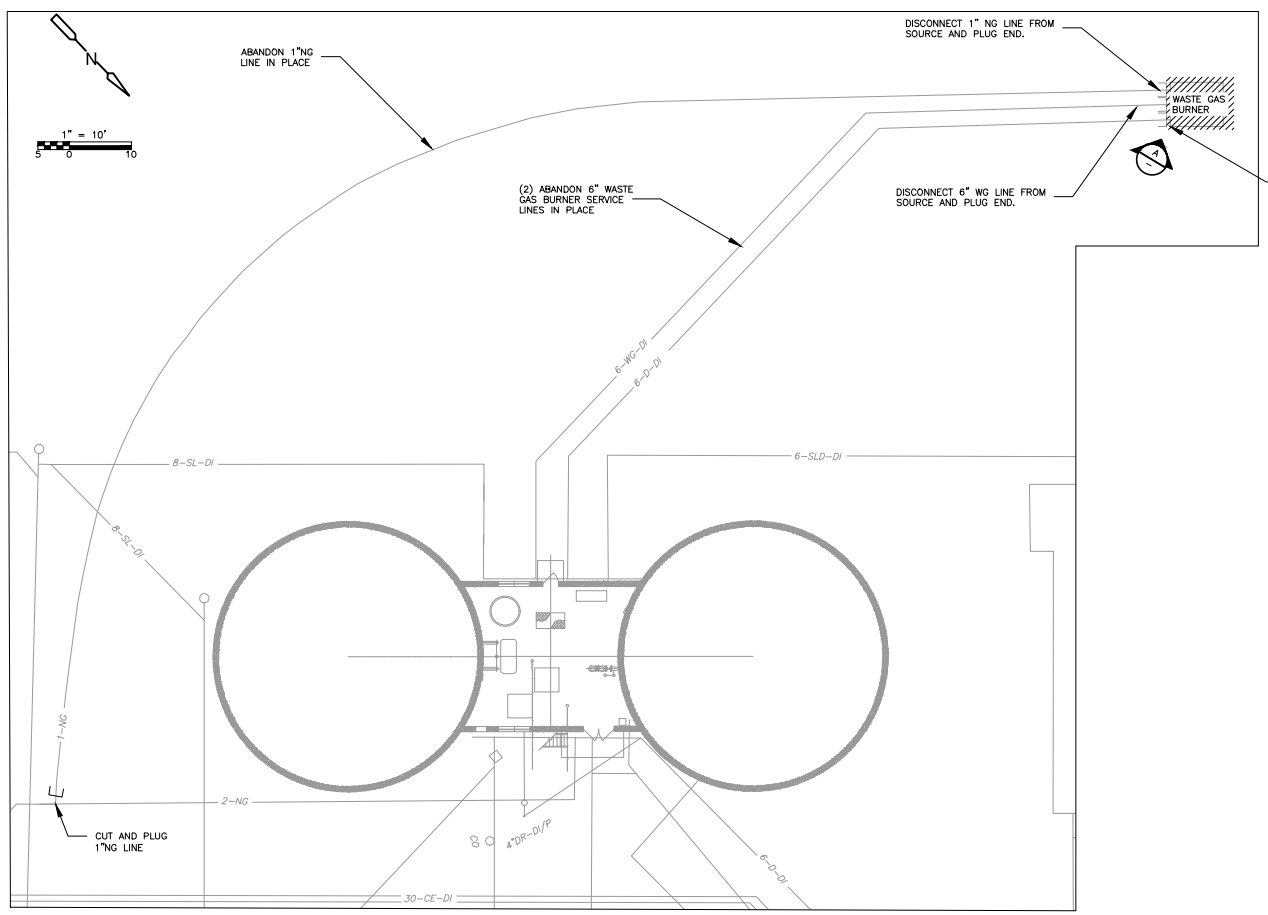


PHOTO
NTS

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REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: D. HERNANDEZ
 DRAWN BY: K. DEV
 SHEET CHK'D BY: G. VARNON
 CROSS CHK'D BY: A. WOELKE
 APPROVED BY: C. VARNON
 DATE: APRIL, 2024

CDM Smith
3430 Rosswood Blvd., Suite 1-200
 Austin, TX 78759
 Tel: (512) 348-1100
 TSP# Firm Registration No. F-3043

CITY OF BRYAN, TEXAS
**STILL CREEK WASTEWATER TREATMENT
 PLANT IMPROVEMENTS**

FLARE DEMOLITION PLAN

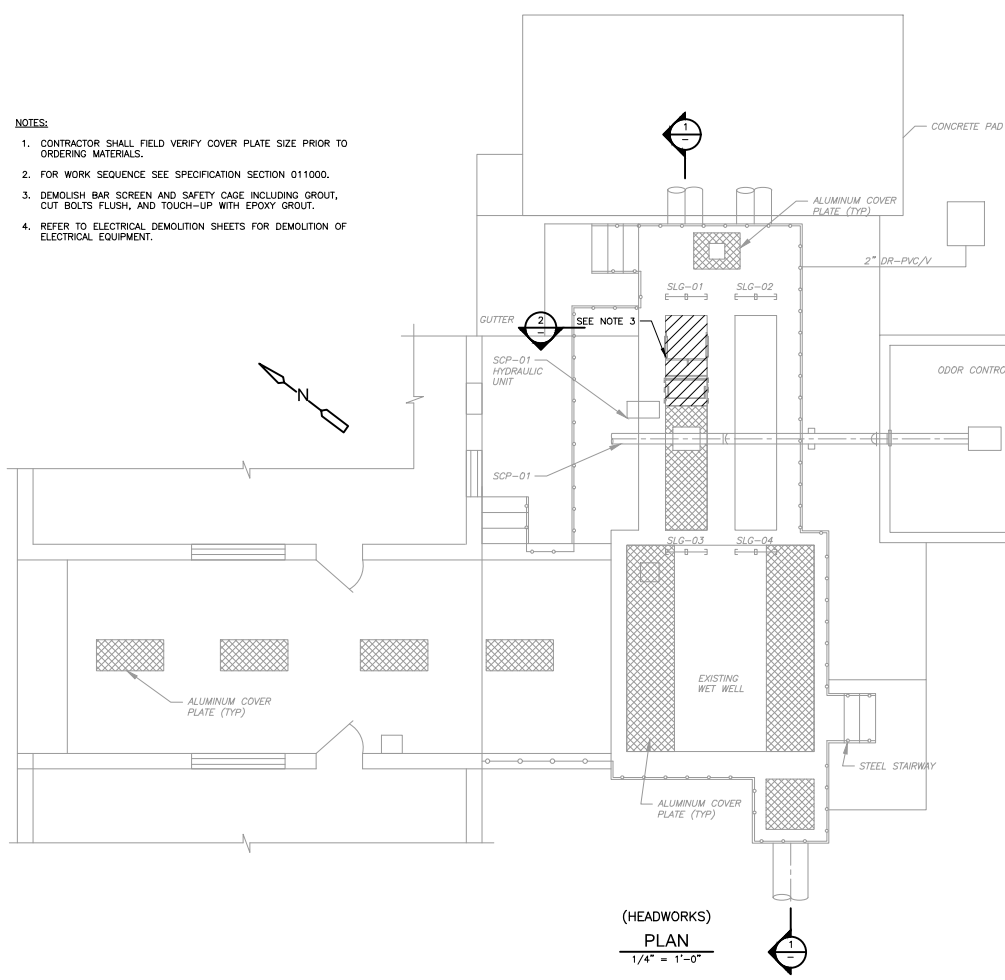
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 FILE NAME: DD05FL.DWG

SHEET NO.
DD-5

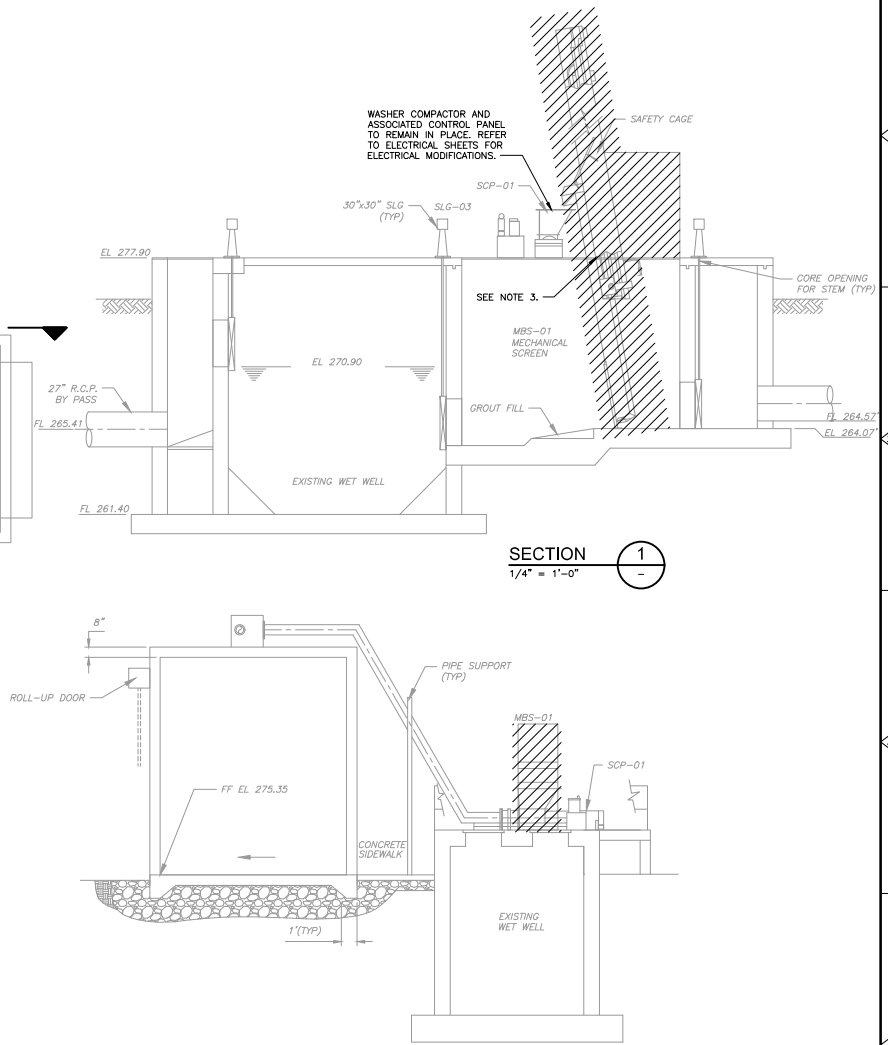
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 Path: \\cdm-smith-c02-pa-bentley.com\p-w\3281\284648\CA Design Services INU_60R\US Process Mechanical\10 BILL_CADD\DH-1.dwg
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- NOTES:**
1. CONTRACTOR SHALL FIELD VERIFY COVER PLATE SIZE PRIOR TO ORDERING MATERIALS.
 2. FOR WORK SEQUENCE SEE SPECIFICATION SECTION 011000.
 3. DEMOLISH BAR SCREEN AND SAFETY CAGE INCLUDING GROUT, CUT BOLTS FLUSH, AND TOUCH-UP WITH EPOXY GROUT.
 4. REFER TO ELECTRICAL DEMOLITION SHEETS FOR DEMOLITION OF ELECTRICAL EQUIPMENT.



(HEADWORKS)
PLAN
 1/4" = 1'-0"



SECTION 1
 1/4" = 1'-0"

SECTION 2
 1/4" = 1'-0"

LEGEND

DEMOLITION AREA

REV	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: D. HERNANDEZ
 DRAWN BY: P. VEERA
 SHEET CHK'D BY: C. VARNON
 CROSS CHK'D BY: A. WOELKE
 APPROVED BY: C. VARNON
 DATE: APRIL 2024

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 TSPCE Firm Registration No. F-53043

CITY OF BRYAN, TEXAS

**STILL CREEK WASTEWATER TREATMENT
 PLANT IMPROVEMENTS**

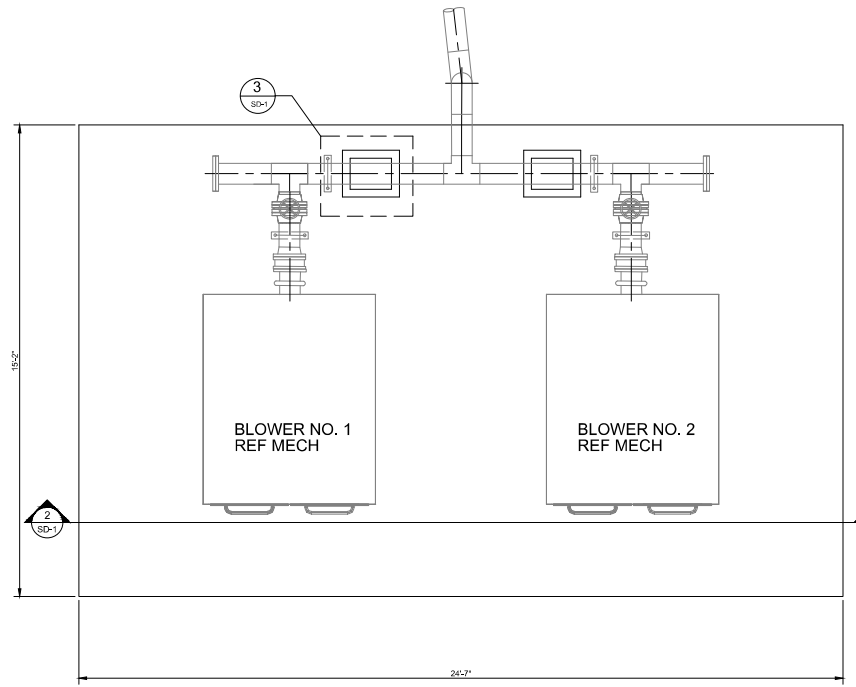
**HEADWORKS BAR SCREEN DEMOLITION
 PLAN AND SECTIONS**

PROJECT NO. 2381-284648
 FILE NAME: DH01.DWG
 SHEET NO. **DH-1**



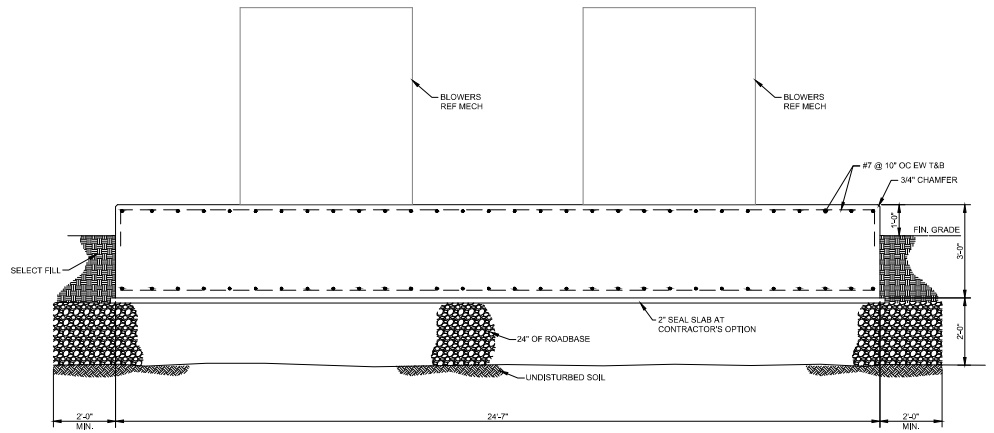
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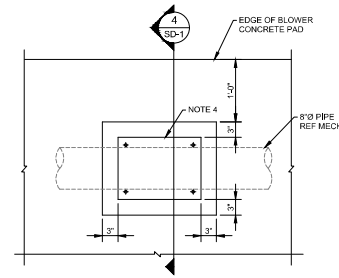


1 BLOWER FACILITY FOUNDATION PLAN
 SD-1 SCALE: 1/2"=1'-0"

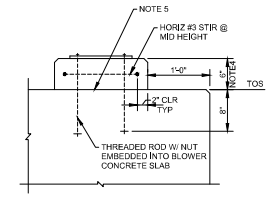
- SHEET NOTES:**
1. REFER TO CIVIL FOR ADDITIONAL LOCATION AND ELEVATION INFORMATION.
 2. REFER TO MECH FOR INFORMATION ON EQUIPMENT AND PIPING.
 3. ROADBASE SHALL BE INSTALLED WITH PROPER METHOD.
 4. REFER TO MECH FOR PIPE SUPPORT. ADJUST CONCRETE PAD TO FIT THE SELECTED SUPPORT.
 5. ROUGHEN SLAB SURFACE PRIOR TO POURING PIPE SUPPORT PAD.



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



3 PIPE SUPPORT PLAN
 SD-1 SCALE: 1"=1'-0"



4 SECTION
 SD-1 SCALE: 1"=1'-0"

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: K. HANKS
 DRAWN BY: F. SOLIS
 SHEET CHK'D BY: K. HANKS
 CROSS CHK'D BY:
 APPROVED BY:
 DATE: MARCH 2024



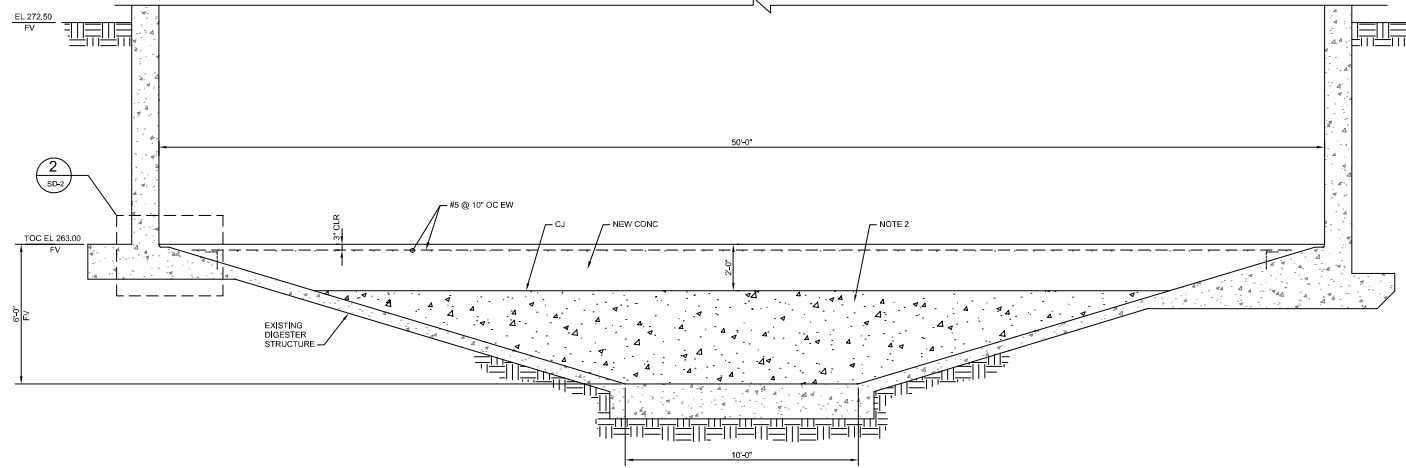
CITY OF BRYAN, TEXAS
STILL CREEK WASTEWATER TREATMENT PLANT IMPROVEMENTS

BLOWER FACILITY FOUNDATION PLAN AND SECTION
 SHEET NO. SD-1

PROJECT NO. 2381-284648
 FILE NAME: SD-1.DWG
 SHEET NO. SD-1

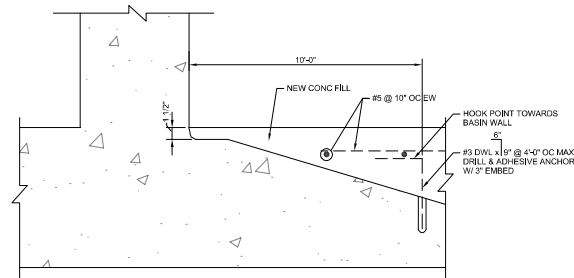


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1 SECTION
SCALE: 3/8"=1'-0"

SHEET NOTES:
 1. REFERENCE MECH FOR ADDITIONAL INFORMATION.
 2. THE LOWER PORTION OF THE BASIN MAY BE FILLED WITH FLOWABLE FILL TO THE LEVEL INDICATED ON THE DRAWING. LEAVE THE TOP OF THE LOWER CONCRETE ROUGH, UNFINISHED.



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



REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: K. HANKS
 DRAWN BY: F. SOLIS
 SHEET CHK'D BY: K. HANKS
 CROSS CHK'D BY:
 APPROVED BY:
 DATE: MARCH 2024

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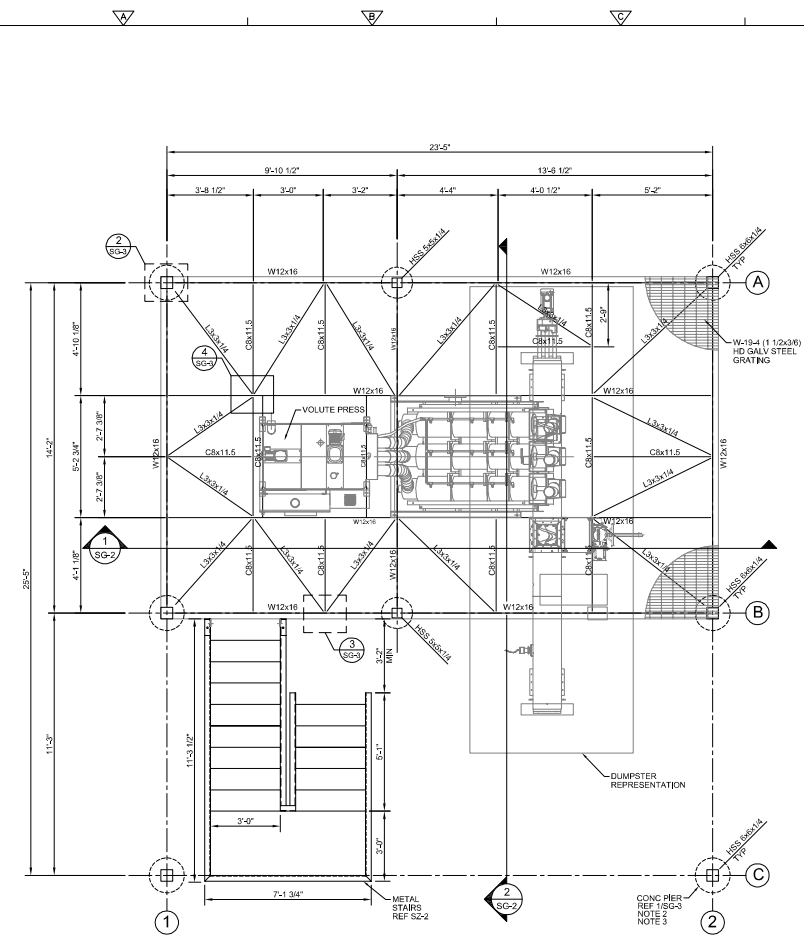
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CITY OF BRYAN, TEXAS
 STILL CREEK WASTEWATER TREATMENT
 PLANT IMPROVEMENTS

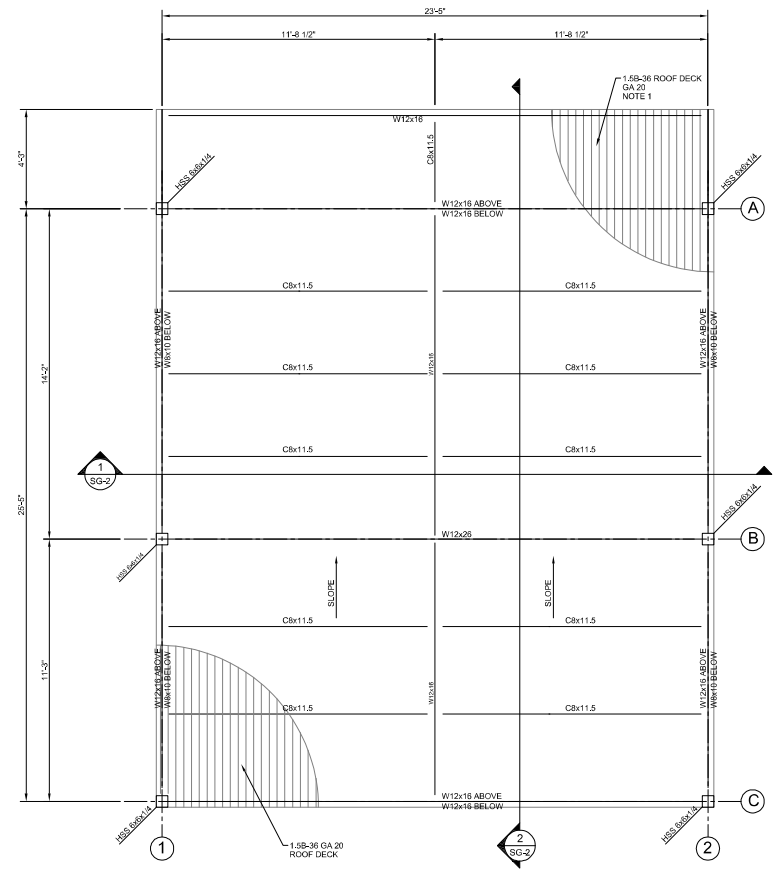
PROJECT NO. 2381-284648
 FILE NAME: SD-2.DWG
 SHEET NO.
SD-2

100% SUBMITTAL - FOR CONSTRUCTION

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1 GREASE FACILITY PLATFORM LEVEL PLAN
 SCALE: 3/8"=1'-0"



2 GREASE FACILITY CANOPY FRAMING PLAN
 SCALE: 3/8"=1'-0"

- SHEET NOTES**
- ATTACH ROOF DECK TO STEEL MEMBERS WITH #12 TEK SCREWS AT 24" PATTERN. ATTACH SIDE LAPS WITH 1 1/2" DIA SCREWS. REFE STEEL ROOF DECK NOTES ON SHEET Z-2.
 - REFER TO DG-1 FOR PLATFORM LOCATION AND DEMOLITION INFO.
 - CONTRACTOR SHALL DEMOLISH AS MUCH OF EXISTING CONCRETE SLAB REQUIRED TO ALLOW THE DRILLING & INSTALLATION OF PROPOSED PIERS. CONTRACTOR SHALL INSTALL NEW CONCRETE TO MATCH EXISTING AROUND EACH PIER. PROVIDE A 34"EJ MATERIAL AROUND EACH PIER.



REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: K. HANKS
 DRAWN BY: F. SOLIS
 SHEET CHK'D BY: K. HANKS
 CROSS CHK'D BY:
 APPROVED BY:
 DATE: MARCH 2024

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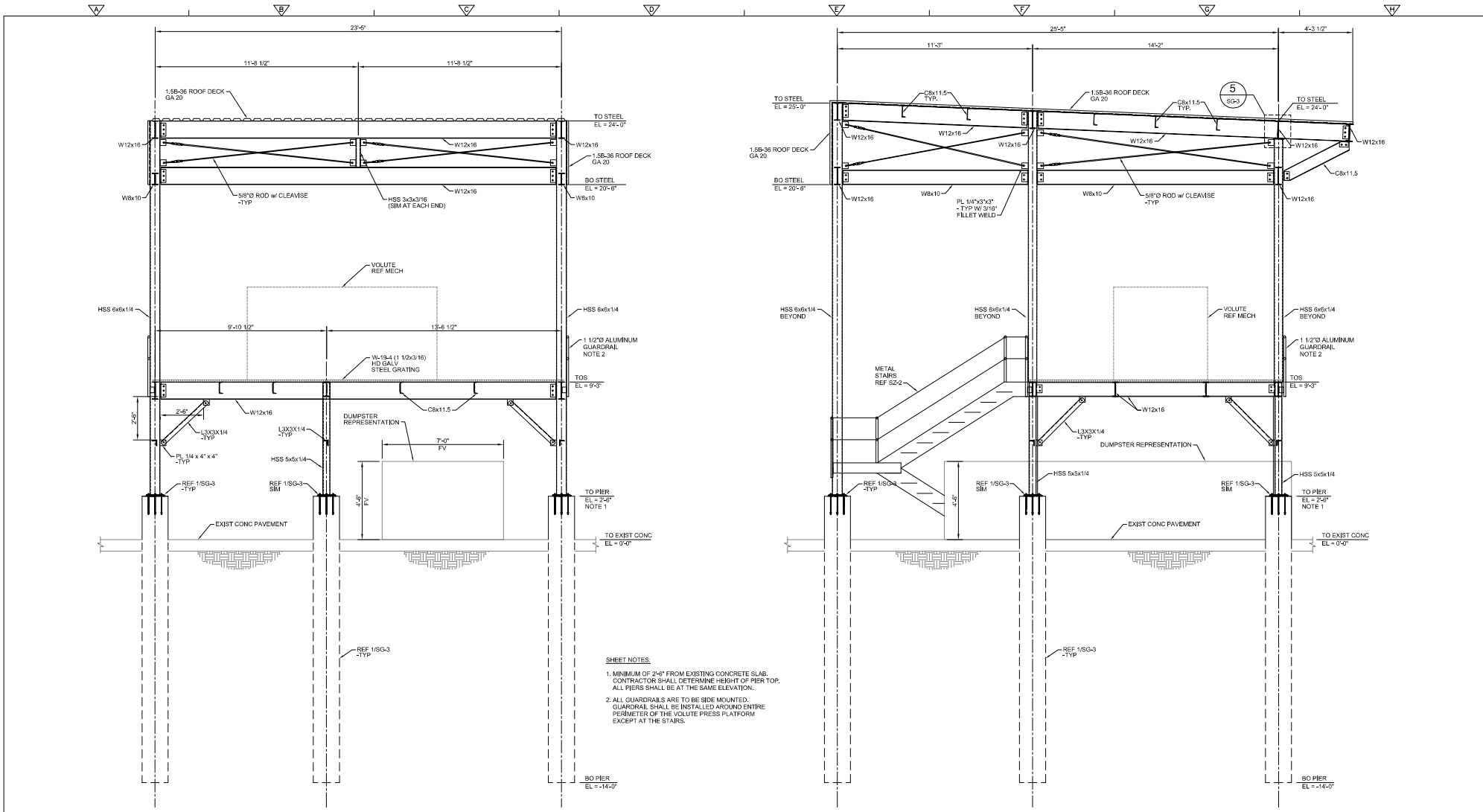
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CITY OF BRYAN, TEXAS
STILL CREEK WASTEWATER TREATMENT PLANT IMPROVEMENTS

GREASE FACILITY FOUNDATION AND CANOPY FRAMING PLAN
 PROJECT NO. 2381-284648
 FILE NAME: SG-1.DWG
 SHEET NO. SG-1

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1 SECTION
 SG-2 SCALE: 3/8"=1'-0"

2 SECTION
 SG-2 SCALE: 3/8"=1'-0"

SHEET NOTES
 1. MINIMUM OF 2'-0" FROM EXISTING CONCRETE SLAB. CONTRACTOR SHALL DETERMINE HEIGHT OF PIER TOP. ALL PIERS SHALL BE AT THE SAME ELEVATION.
 2. ALL GUARDRAILS ARE TO BE SIDE MOUNTED. GUARDRAIL SHALL BE INSTALLED AROUND ENTIRE PERIMETER OF THE VOLUTE PRESS PLATFORM EXCEPT AT THE STAIRS.

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: K. HANKS
 DRAWN BY: F. SOLIS
 SHEET CHK'D BY: K. HANKS
 CROSS CHK'D BY:
 APPROVED BY:
 DATE: MARCH 2024



CITY OF BRYAN, TEXAS
STILL CREEK WASTEWATER TREATMENT PLANT IMPROVEMENTS

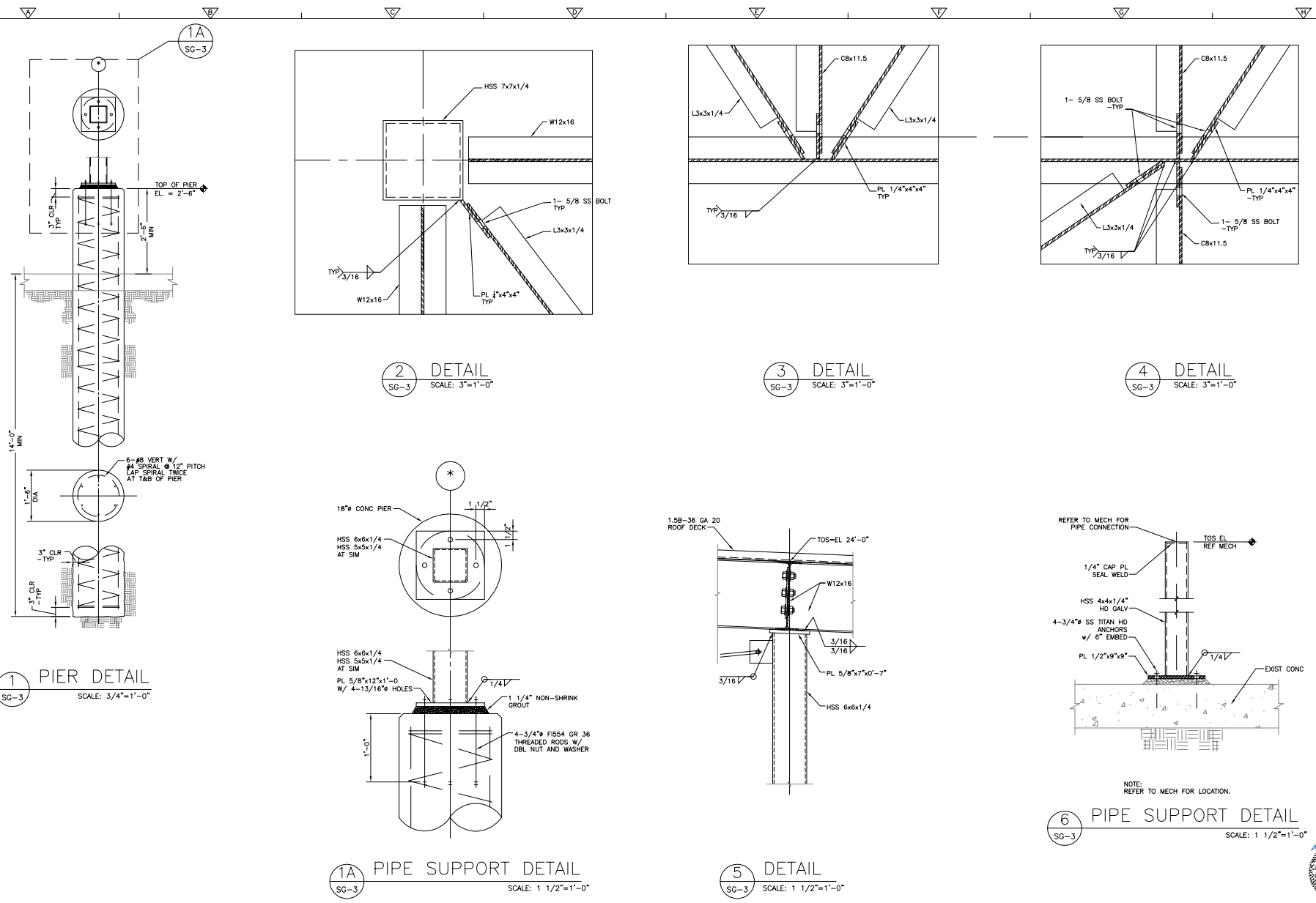
GREASE FACILITY SECTION
 SHEET NO. SG-2



PROJECT NO. 2381-284648
 FILE NAME: SG--2.DWG
 SHEET NO. SG-2

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REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: K. HANKS
 DRAWN BY: F. SOLIS
 SHEET CHK'D BY: K. HANKS
 CROSS CHK'D BY:
 APPROVED BY:
 DATE: MARCH 2024



CITY OF BRYAN, TEXAS
 STILL CREEK WASTEWATER TREATMENT PLANT IMPROVEMENTS

GREASE FACILITY DETAILS
 PROJECT NO. 2381-284648
 FILE NAME: SG-3.DWG
 SHEET NO. SG-3



100% SUBMITTAL

GENERAL NOTES

GENERAL

THESE GENERAL NOTES SHALL APPLY UNLESS OTHERWISE SPECIFICALLY NOTED ON PLANS AND DETAILS.

1. CONSTRUCTION WORKMANSHIP, AND MATERIALS SHALL COMPLY WITH THE 2021 INTERNATIONAL BUILDING CODE (IBC).
2. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND SHALL COORDINATE ALL STRUCTURAL PLANS AND DETAILS WITH ARCHITECTURAL, MECHANICAL, ELECTRICAL AND CIVIL DRAWINGS BEFORE STARTING WORK. IN CASE OF DISCREPANCY, THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF SAME IN A TIMELY MANNER.
3. COMPLETE SHOP DRAWINGS FOR THE STRUCTURAL WORK SHALL BE SUBMITTED FOR REVIEW PRIOR TO COMMENCEMENT OF CONSTRUCTION IN ACCORDANCE WITH THE SPECIFICATIONS. REVIEW OF SHOP DRAWINGS BY THE ARCHITECT/ENGINEER DOES NOT RELIEVE THE CONTRACTOR OF FULL RESPONSIBILITY FOR CORRECT FABRICATION AND CONSTRUCTION OF THE WORK.
4. THE STRUCTURAL DRAWINGS SHALL NOT BE SCALED FOR DETERMINATION OF QUANTITIES, LENGTHS, OR FIT OF MATERIALS.
5. PRINCIPAL OPENINGS ARE SHOWN ON THE STRUCTURAL DRAWINGS. THE CONTRACTOR SHALL REFER TO ARCHITECTURAL, MECHANICAL, ELECTRICAL, HVAC AND PLUMBING DRAWINGS FOR SLEEVES, CURBS, INSERTS AND SIMILAR DETAILS NOT SHOWN. SIZE AND LOCATION OF ALL OPENINGS SHALL BE VERIFIED BY THE CONTRACTOR, ANY DEVIATION FROM OPENINGS SHOWN ON THE STRUCTURAL DRAWINGS SHALL BE BROUGHT TO THE ARCHITECT/ENGINEERS ATTENTION PRIOR TO CONSTRUCTION.
6. THE STRUCTURAL DRAWINGS AND SPECIFICATIONS REPRESENT THE FINISHED STRUCTURE. THEY DO NOT INDICATE THE METHODS OF CONSTRUCTION UNLESS SO STATED OR NOTED. THE CONTRACTOR SHALL PROVIDE ALL MEASURES NECESSARY TO PROTECT THE WORKERS AND ALL OTHER PERSONS DURING CONSTRUCTION.
7. THE CONTRACTOR SHALL PROVIDE TEMPORARY EROSION BRACING AND SHORING OF ALL STRUCTURAL WORK AS REQUIRED FOR STABILITY OF THE STRUCTURE DURING ALL PHASES OF CONSTRUCTION. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE CONSTRUCTION MANAGER OF ANY CONDITION WHICH IN HIS OPINION, MIGHT ENDANGER THE STABILITY OF THE STRUCTURE OR CAUSE STRESS IN THE STRUCTURE.
8. CONSTRUCTION MATERIALS SHALL NOT BE STORED ON FLOORS OR ROOFS IN EXCESS OF THE DESIGN LIVE LOADS. IMPACT SHALL BE AVOIDED WHEN PLACING MATERIALS ON FLOORS OR ROOFS.

DESIGN CRITERIA

1. GRAVITY LOADS
STRUCTURE SELF-WEIGHT INCLUDED AS DEAD LOAD FOR ALL LOCATIONS.

LIVE LOADS:
MECHANICAL 100 PSF
GRATING 100 PSF
ROOF LIVE LOADS 20 PSF
VOLUITE OPERATING WEIGHT 650 LBS
2. WIND DESIGN DATA (IBC AND ASCE 7-10):
a) RISK CATEGORY II
b) BASIC WIND SPEED 112 MPH
c) EXPOSURE CATEGORY C
d) TOPOGRAPHIC FACTOR, K_z 1
e) ANALYSIS PROCEDURE = METHOD 1: SIMPLIFIED PROCEDURE
3. SEISMIC DESIGN DATA
a) DESIGN CRITERIA:
RISK CATEGORY II
IMPORTANCE FACTOR, I_e 1.25
MAPPED SPECTRAL RESPONSE ACCELERATION
1) SHORT PERIODS, S₁ 0.06
2) PERIODS OF 1SEC, S₁ 0.040

SITE CLASS D
DESIGN SPECTRAL RESPONSE ACCELERATION
1) SHORT PERIODS, S₁ 0.070
2) PERIODS OF 1SEC, S₁ 0.064

SEISMIC DESIGN CATEGORY A
1) RESPONSE MODIFICATION COEFFICIENT, R B
2) SEISMIC RESPONSE COEFFICIENT, C_s 0.01
3) DESIGN BASE SHEAR, V = C_sW 0.01W
b) RESISTING SYSTEM = BRACED FRAME
c) ANALYSIS PROCEDURE = EQUIVALENT LATERAL FORCE PROCEDURE
d) IBC AND ASCE 7-10 USED FOR EARTHQUAKE LOADING
e) LATERAL DESIGN CONTROLLED BY WIND
4. GROUND SNOW LOAD: 5 PSF

CONCRETE NOTES

1. ALL CONCRETE WORK SHALL CONFORM TO THE AMERICAN CONCRETE INSTITUTE (ACI) SPECIFICATION, ACI 309.1 BUILDING CODE REQUIREMENTS, ACI 318, LATEST EDITION, FOR BUILDING STRUCTURES.
2. ALL DETAILING, FABRICATION AND ERECTION OF REINFORCING BARS, UNLESS OTHERWISE NOTED, MUST FOLLOW THE ACI MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE, ACI 315, LATEST EDITION.
3. UNLESS SHOWN OTHERWISE IN THE SPECIFICATIONS, CONCRETE SHALL BE CONCRETE WITH 4000 PSI MINIMUM COMPRESSIVE STRENGTH 28 DAYS. ALSO REFER TO SPECIFICATIONS FOR ADDITIONAL CONCRETE MIX DESIGN REQUIREMENTS.
4. REINFORCING BARS SHALL BE NEW BILLET STEEL CONFORMING TO ASTM A615, GRADE 60.
5. STANDARD PROTECTIVE COVER OF REINFORCING BARS UNLESS OTHERWISE NOTED SHALL BE:

EXPOSED TO EARTH, WATER, OR WEATHER 2 IN
SLABS AND WALLS 2 IN
OTHER 3 IN
6. CONCRETE SLUMPS SHALL BE AS FOLLOWS:

CONCRETE CONTAINING HRWR 10" MAX
ALL OTHER CONCRETE 8" MAX, 2" MIN
7. ALL ACCESSORIES SHALL BE IN ACCORDANCE WITH THE ACI MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE, ACI 315, LATEST EDITION. ACCESSORIES FOR INTERIOR CONCRETE SURFACES EXPOSED TO VIEW SHALL HAVE PLASTIC COATED FEET. ACCESSORIES FOR CONCRETE SURFACES EXPOSED TO EARTH, WEATHER, WATER, OR HIGH HUMIDITY SHALL BE FABRICATED OF STAINLESS STEEL OR PLASTIC. PROVIDE BOLSTERS AT SUSPENDED SLABS, WALLS AND VEE BEAMS. PROVIDE STANDS AT ALL SLABS WITH TWO LAYERS OF REINFORCING. FOR SLAB-ON-GRADE REINFORCING, PROVIDE CHAIRS MANUFACTURED FROM HOT-DIPPED GALVANIZED STEEL, STAINLESS STEEL, PLASTIC, OR PRECAST CONCRETE BLOCKS OF EQUAL OR GREATER COMPRESSIVE STRENGTH AS THE CONCRETE BEING POURED.
8. MAINTAIN A MINIMUM OF ONE BAR DIAMETER (BUT NOT LESS THAN 1") BETWEEN ALL CONTINUOUS REINFORCING BARS ON ALL SLABS. MAINTAIN A MINIMUM OF 1.5" BETWEEN BARS IN COLUMNS, AND A MINIMUM OF 1.5 TIMES THE MAXIMUM COARSE AGGREGATE SIZE IN ALL CASES.
9. BARS SCHEDULED AND DETAILED "CONT" SHALL BE LAPPED ACCORDING TO STANDARD TENSION LAP LENGTHS TABLE UNLESS OTHERWISE NOTED. THE SPLICES SHALL OCCUR AT MIDSPAN FOR TOP BARS AND OVER THE SUPPORTS FOR BOTTOM BARS.
10. ANY PROPOSED PENETRATIONS NOT MEETING ALL OF THE BELOW CRITERIA SHALL NOT BE ALLOWED WITHOUT THE WRITTEN APPROVAL OF THE STRUCTURAL ENGINEER:

a) NO PENETRATIONS ARE TO BE LARGER THAN 2" (2 1/2" SLEEVE) IN DIAMETER FOR BEAMS LESS THAN 18" WIDE. NO PENETRATIONS ARE TO BE LARGER THAN 4" (5" SLEEVE) IN DIAMETER FOR BEAMS GREATER THAN 18" WIDE.
b) NO PENETRATIONS ARE TO BE CLOSER THAN 4" TO ANY EDGE OF BEAMS.
c) PENETRATIONS LARGER THAN 3/4" (1" SLEEVE) IN DIAMETER MUST BE IN THE MIDDLE THIRD OF THE BEAM SPAN.
d) ONLY ONE (1) VERTICAL PENETRATION MAY OCCUR ACROSS THE WIDTH OF A BEAM. MULTIPLE VERTICAL PENETRATIONS OCCURRING ALONG THE LENGTH OF A BEAM ARE TO BE SPACED A MINIMUM OF 6" ON CENTER AND HAVE AT LEAST ONE STIRRUP BETWEEN THEM.
e) ALL HORIZONTAL PENETRATIONS ARE TO BE IN THE MIDDLE THIRD OF THE BEAM OR ONE (1) DEPTH. MULTIPLE HORIZONTAL PENETRATIONS OCCURRING ALONG THE LENGTH OF A BEAM OR JOIST ARE TO BE SPACED A MINIMUM OF 6" ON CENTER AND HAVE AT LEAST ONE STIRRUP BETWEEN THEM.

11. SHOP DRAWINGS SHALL BE PREPARED FOR ALL REINFORCING STEEL AND SUBMITTED FOR REVIEW BY ENGINEER. ENGINEERS DRAWINGS SHALL NOT BE REPRODUCED AND USED AS SHOP DRAWINGS.
12. WELDING OF REINFORCING BARS SHALL NOT BE PERMITTED, UNLESS APPROVED BY ENGINEER.
13. DURING PLACEMENT OF CONCRETE, USE TREMIE OR OTHER MEANS TO LIMIT FREE FALL OF CONCRETE TO 5'-0".
14. VERTICAL REINFORCING, DOWEL, AND LAPS ARE OFFSET IN DETAILS FOR CLARITY. BARS SHOULD BE CONSIDERED TO BE IN THE SAME PLANE AT EXTERNAL FACE.
15. CONCRETE SHALL MEET THE REQUIREMENTS FOR THE FOLLOWING CLASS OF CONCRETE DEFINED BY THE PROJECT SPECIFICATIONS (0350).

16. CONCRETE PLACED BY PUMPING SHALL MEET THE FOLLOWING REQUIREMENTS:
a) COARSE AGGREGATE (AGG) SHALL BE GRADED FROM A MAXIMUM OF 1 1/2".
b) MAXIMUM ALLOWABLE INCREASE IN CEMENT FACTOR SHALL BE 12 BAGS PER CUBIC YARD OVER NORMAL MIX DESIGN.
c) MAXIMUM WATER CEMENT RATIO WILL CONFORM TO REQUIREMENTS STATED IN THE PROJECT SPECIFICATIONS. IF FAURE VARIABILITY IS REQUIRED, AN AMOUNT MAY BE USED.
d) MAXIMUM WEIGHT RATIO OF FINE AGGREGATES TO COARSE AGGREGATES (AGG) SHALL NOT EXCEED 1.0.
e) REFER TO ACI 301, LATEST EDITION, SECTION 800, FOR OTHER PUMPING REQUIREMENTS.
f) IN NO CASE SHALL CONCRETE BE PUMPED THROUGH AN ALUMINUM TUBE
17. NO HORIZONTAL JOINTS WILL BE PERMITTED IN SLABS OR BEAMS UNLESS SPECIFICALLY SHOWN ON DRAWINGS. CONTRACTOR MUST SUBMIT VARIANCE IN CONSTRUCTION JOINT LOCATIONS FOR REVIEW BY ENGINEER.
18. USE 3/4" CHAMFER ON ALL EXPOSED CONCRETE CORNERS.

SHOP DRAWING REVIEW AND SUBMITTALS NOTES

1. REFER TO PROJECT SPECIFICATIONS FOR SUBMITTAL REQUIREMENTS.

SHOP DRAWINGS AND SUBMITTALS WILL BE REVIEWED FOR THE LIMITED PURPOSE OF CHECKING FOR CONFORMANCE WITH INFORMATION GIVEN AND THE DESIGN CONCEPT EXPRESSED IN THE CONTRACT DOCUMENTS.

SUBMITTAL REVIEW WILL NOT BE CONDUCTED FOR THE PURPOSE OF DETERMINING THE ACCURACY AND COMPLETENESS OF OTHER DETAILED INFORMATION SUCH AS DIMENSIONS AND QUANTITIES, OR FOR SUBSTANTIATING INSTRUCTIONS FOR INSTALLATION OR PERFORMANCE OF EQUIPMENT OR SYSTEMS DESIGNED BY THE CONTRACTOR. ALL OF THIS REMAINS THE RESPONSIBILITY OF THE CONTRACTOR.

REVIEW SHALL NOT CONSTITUTE APPROVAL OF SAFETY PRECAUTIONS OR OF ANY CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES.

APPROVAL OF A SPECIFIC ITEM SHALL NOT INDICATE APPROVAL OF AN ASSEMBLY OF WHICH THE ITEM IS A COMPONENT.
2. SHOP DRAWINGS AND/OR PRODUCT DATA FOR THE FOLLOWING ITEMS ARE TO BE SUBMITTED TO THE STRUCTURAL ENGINEER FOR REVIEW AND APPROVAL:

A. REINFORCING STEEL
B. STRUCTURAL STEEL
C. METAL GRATING

SHOP DRAWINGS ARE TO BE DISTRIBUTED ONLY FROM RETURNED SUBMITTALS BEARING AN INITIALED REVIEW STAMP AND WORK ON THESE ITEMS SHALL NOT PROCEED UNLESS THE STAMP CLEARLY INDICATES THE DRAWING IS APPROVED OR "APPROVED AS NOTED".
3. SHOP DRAWINGS AND/OR PRODUCT DATA FOR THE FOLLOWING ITEMS ARE TO BE SUBMITTED TO THE STRUCTURAL ENGINEER FOR REVIEW. THE ENGINEER REVIEW WILL BE LIMITED TO CONFORMANCE WITH DESIGN AND PERFORMANCE CRITERIA SPECIFIED IN THE CONSTRUCTION DOCUMENTS AND THE INTERFACE BETWEEN THESE ITEMS/SYSTEMS AND THE BUILDING STRUCTURE. THIS REVIEW WILL CHECK THE COMPATIBILITY OF LOADS AND POSITIONS OF LOADS IMPARTED ONTO THE BUILDING STRUCTURE, AND COMPATIBILITY OF CONNECTIONS WITH THE BUILDING STRUCTURE. THE MANUFACTURER SUPPLIER AND ITS SPECIALTY STRUCTURAL ENGINEER RESPONSIBLE FOR THE DESIGN OF THE ITEM/SYSTEM WILL RETAIN ALL RIGHTS AND RESPONSIBILITIES FOR THE DESIGN OF THE PRODUCT AND THE CONNECTIONS TO THE BUILDING STRUCTURE.

A. CONCRETE MIXES
B. PRE-ENGINEERED PRECAST CONCRETE COMPONENTS
C. PRE-MANUFACTURED METAL STAIRS

NO WORK ON STRUCTURAL ELEMENTS SUPPORTING OR RELATED TO THESE ITEMS IS TO PROCEED UNLESS THE REVIEW CLEARLY INDICATES "REVIEWED" OR "REVIEWED, SEE COMMENTS" BY THE STRUCTURAL ENGINEER.
4. CONCRETE IS A PRE-ENGINEERED MATERIAL DESIGNED BY THE SUPPLIER TO MEET THE STRENGTH AND PERFORMANCE CRITERIA SPECIFIED IN THE CONTRACT DOCUMENTS. CONCRETE MIX DESIGNS SHALL BE IN CONFORMANCE WITH ACI 318-14 CHAPTER 8, AND SHALL BE SUBMITTED TO THE INDEPENDENT TESTING LAB WITH APPROPRIATE HISTORICAL TEST DATA AND ANALYSIS FOR REVIEW AND APPROVAL. SUBMIT MIX DESIGNS AND THE TESTING LAB REPORT TO THE ARCHITECT/ENGINEER FOR REVIEW.
5. GENERAL CONTRACTOR SHALL PRE-CHECK ALL SHOP DRAWINGS BEFORE SUBMISSION TO THE ENGINEER FOR REVIEW. ALL SUBMITTAL MATERIALS MUST BEAR AN INITIALED REVIEW STAMP OF THE GENERAL CONTRACTOR. SUBMITTALS WITHOUT THE REVIEW STAMP OF THE GENERAL CONTRACTOR WILL BE RETURNED WITHOUT REVIEW AND SHALL NOT BE CAUSE FOR CLAIMS OF DELAY.
6. REFER TO PROJECT SPECIFICATIONS FOR SUBMITTAL REQUIREMENTS.

GENERAL CONTRACTOR SHALL SCHEDULE SUBMITTALS SUFFICIENTLY IN ADVANCE OF THE DATE REQUIRED TO ALLOW REASONABLE TIME FOR DELIVERY, PROCESSING AND REVIEW BY THE DESIGN TEAM. THIS SHALL INCLUDE A MINIMUM OF TEN WORKING DAYS, EXCLUDING DELIVERY TIME, FOR ENGINEER'S PROCESSING AND REVIEW OF SHOP DRAWINGS, INCLUDE TIME FOR CONTRACTOR'S RESUBMISSION AND SUBSEQUENT REVIEW IF NECESSARY.

SHORTER REVIEW PERIODS WILL ONLY BE HONORED WITH PRIOR WRITTEN CONSENT FROM THE ENGINEER. THESE ACCELERATED SERVICES, AND APPROPRIATE COMPENSATION, MUST BE NEGOTIATED WITH THE ENGINEER IN ADVANCE.

TEN DAY REVIEW PERIODS CAN NOT BE HONORED WHEN LARGE QUANTITIES OF SHOP DRAWINGS ARE SUBMITTED AT ONE TIME, WHEN THIS HAPPENS, THE CONTRACTOR SHALL SUBMIT AN ITEMIZED LIST INDICATING PRIORITIES AND REASONABLE RETURN DATES.
7. THE USE OF REPRODUCTIONS OF THESE CONTRACT DRAWINGS, INCLUDING THE USE OF ELECTRONIC FILES, BY ANY CONTRACTOR, SUBCONTRACTOR, ERECTOR, FABRICATOR, OR MATERIAL SUPPLIER IN LIEU OF THE INDEPENDENT PREPARATION OF SHOP DRAWINGS, SIGNIFY HIS ACCEPTANCE OF ALL INFORMATION SHOWN HEREON AS CORRECT AND OBLIGATED HIMSELF TO ANY JOB EXPENSE, REAL OR IMPLIED, ARISING DUE TO ANY ERRORS THAT MAY OCCUR HEREON. SUCH USE OF REPRODUCTIONS OF THESE CONTRACT DOCUMENTS WILL NOT BE ALLOWED WITHOUT PRIOR CONSENT FROM THE ENGINEER.
8. WHEN USING ELECTRONIC FORMAT FOR SUBMITTALS, THE CONTRACTOR SHALL PROVIDE ONE PRINTED HARD COPY FOR ENGINEER REVIEW OR EXECUTE AN AGREEMENT FOR REIMBURSING THE ENGINEER FOR PRINTING COSTS FOR ONE COPY.

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CITY OF BRYAN, TEXAS

STILL CREEK WASTEWATER TREATMENT PLANT IMPROVEMENTS

GENERAL NOTES SHEET 1 OF 1



PROJECT NO. 2381-284648
 FILE NAME: SZ-1.DWG
 SHEET NO. SZ-1

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GENERAL NOTES

POST-INSTALLED REBAR AND ANCHORS

THE BELOW PRODUCTS ARE THE DESIGN BASIS FOR THIS PROJECT. PRODUCT DIMENSIONS AND EMBEDMENT SHALL BE SHOWN IN THE DETAILS. INSTALL PRODUCTS IN ACCORDANCE WITH MANUFACTURER'S PRINTED INSTALLATION INSTRUCTIONS (MPI). CONTRACTOR SHALL CONTACT MANUFACTURER'S REPRESENTATIVE FOR PRODUCT INSTALLATION TRAINING AND SHALL SUBMIT LETTER TO THE ENGINEER. ~~OF-RECORD~~ (OR INDICATING TRAINING HAS TAKEN PLACE. REFER TO THE PROJECT BUILDING CODE AND/OR EVALUATION REPORT FOR SPECIAL INSPECTIONS AND PROOF LOAD REQUIREMENTS. SUBSTITUTION REQUESTS FOR PRODUCTS OTHER THAN THOSE LISTED BELOW MAY BE SUBMITTED BY THE CONTRACTOR TO THE EOR FOR REVIEW. SUBSTITUTIONS WILL ONLY BE CONSIDERED FOR PRODUCTS HAVING A RESEARCH REPORT RECOGNIZING THE PRODUCT FOR THE APPROPRIATE APPLICATION UNDER THE PROJECT BUILDING CODE. SUBSTITUTION REQUESTS SHALL INCLUDE CALCULATIONS THAT DEMONSTRATE THE SUBSTITUTED PRODUCT IS CAPABLE OF ACHIEVING THE EQUIVALENT PERFORMANCE VALUES OF THE DESIGN BASIS PRODUCT. UNLESS OTHERWISE NOTED ON THE PLANS, ANCHORS SHALL BE:

1. FOR ANCHORING INTO CONCRETE:
 - A. MECHANICAL ANCHORS SHALL HAVE BEEN TESTED IN ACCORDANCE WITH ACI 308.2 AND ICC-ES AC108 FOR CRACKED CONCRETE, PRE-APPROVED PRODUCTS INCLUDE:
 - I. SIMPSON STRONG-TIE "STRONG-BOLT 2" (ICC-ES ESR-9037)
 - II. SIMPSON STRONG-TIE "TITEN-40" (ICC-ES ESR-2713)
 - III. SIMPSON STRONG-TIE STAINLESS STEEL TITEN HD (DAP/MAJES ESR-493)
 - IV. H.L.T.I "KWB BOLT 12" (ICC-ES ESR-917)
 - V. DEWALT SCREW BOLT + (ICC-ES ESR-3889)
 - VI. DEWALT POWERSUD + S01 (ICC-ES ESR-2818)
 - VII. H.L.T.I "KWB BOLT 3" (ICC-ES ESR-2302)
 - B. ADHESIVE FOR REBAR AND ANCHORS SHALL HAVE BEEN TESTED IN ACCORDANCE WITH ACI 308.4 AND ICC-ES AC308 FOR CRACKED CONCRETE APPLICATIONS. DESIGN ADHESIVE BOND STRENGTH HAS BEEN BASED ON ACI 308.4 TEMPERATURE CATEGORY BRANGE A WITH INSTALLATIONS INTO DRY HOLES DRILLED USING CARBIDE DRILL BIT INTO CRACKED CONCRETE THAT HAS CURED FOR AT LEAST 21 DAYS. ADHESIVE ANCHORS REQUIRING CURED CONCRETE SHALL BE INSTALLED BY A CERTIFIED ADHESIVE ANCHOR INSTALLER PER ACI 308.4M D.9.2.2.17.8.2.2. INSTALLATIONS REQUIRING CERTIFIED INSTALLERS SHALL BE INSTALLED PER ACI 308.4M D.9.2.2.17.8.2.4. PRE-APPROVED PRODUCTS INCLUDE:
 - I. SIMPSON STRONG-TIE "A1-XP" w/ SPEED CLEAN DUX DUST EXTRACTION SYSTEM (DAP/MAJES ESR-260)
 - II. SIMPSON STRONG-TIE "SET-XP" w/ SPEED CLEAN DUX DUST EXTRACTION SYSTEM (ICC-ES ESR-2608)
 - III. SIMPSON STRONG-TIE "SET-40" (ICC-ES ESR-4057)
 - IV. H.L.T.I "HT-HY 200 SAFE SET SYSTEM w/ H.L.T.I "HT-Z-ROD" (ICC-ES ESR-9187)
 - V. H.L.T.I "HT-HY 200 SAFE SET SYSTEM w/ H.L.T.I HOLLOW DRILL BIT SYSTEM (ICC-ES ESR-9187)
 - VI. H.L.T.I "H-FIRE 500-1320" (ICC-ES ESR-23223814)
 - VII. DEWALT PURE 110+ EPOXY SYSTEM (ICC-ES ESR-3298)
 - VIII. DEWALT PURE 110+ EPOXY SYSTEM (ICC-ES ESR-3298) w/ DEWALT HOLLOW DUST X SYSTEM
 - IX. DEWALT AC208+ ACRYLIC ADHESIVE SYSTEM (ICC-ES ESR-4027)
 - X. DEWALT AC208+ ACRYLIC ADHESIVE SYSTEM (ICC-ES ESR-4027) w/ DEWALT HOLLOW DUST X SYSTEM

METAL STAIRS

1. METAL STAIRS ARE A PRE-ENGINEERED SYSTEM THAT SHALL BE DESIGNED AND ENGINEERED BY THE SUPPLIER. METAL STAIRS ARE DEFERRED SUBMITTAL AND TO BE HANDLED PER IRC 107.4.2. THE METAL STAIR SYSTEM INCLUDES ALL COMPONENTS OF THE STAIRS (TREADS, STRINGERS, LANDINGS, INTERMEDIATE AND AT FLOOR LEVEL), RAILINGS, ETC.) AND ALL SUPPORT/CONNECTION DEVICES (HANGERS, POSTS AND COLUMNS TO CARRY LANDING BEAMS OR HORIZONTAL FRAMING, CLIPS, ANCHORS, ETC.).
2. REFER TO DRAWINGS FOR MATERIALS CONFIGURATIONS, DIMENSIONS, DESIGNS, EXTENT AND FINISHES. COORDINATE FIT OF STAIR SYSTEM WITH THE ROUGH OPENINGS SHOWN ON THE STRUCTURAL DOCUMENTS.
3. THE STRUCTURAL DESIGN SHALL BE PERFORMED BY AN ENGINEER THAT IS LEGALLY LICENSED TO PRACTICE IN THE STATE OF TEXAS, AND WHO IS EXPERIENCED IN THE DESIGN OF METAL STAIRS AND HAND RAIL SYSTEMS. SUBMITTALS WHICH DO NOT BEAR THE SEAL AND SIGNATURE OF THE SPECIALTY ENGINEER AND THE ENGINEER'S COMPANY'S TEXAS F-NUMBER WILL BE RETURNED REJECTED.
4. THE STRUCTURAL DESIGN SHALL BE IN CONFORMANCE WITH THE LOCAL BUILDING CODE AS NOTED IN THE GENERAL NOTES FOR THIS PROJECT, WITH THE AISC SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS, AND WITH THE AISC CODE OF STANDARDS PRACTICE.
5. THE STAIR SYSTEM SHALL BE DESIGNED TO MEET THE FOLLOWING MINIMUM PERFORMANCE CRITERIA (REFER TO SPECIFICATIONS FOR ADDITIONAL, SPECIAL OR MORE RESTRICTIVE CRITERIA):
 - A. UNIFORM LIVE LOAD: _____ 100 psf
 - B. CONCENTRATED LIVE LOAD: _____ 300 pounds (OVER 4 SQ. IN.)
 - C. MAX. LIVE LOAD DEFLECTION: _____ L/80 or 1/4 INCH, WHICHEVER IS LESS.
 - D. MAX. TOTAL LOAD DEFLECTION: _____ L/80 or 1/4 INCH, WHICHEVER IS LESS.

6. ENGINEER'S REVIEW OF STAIR SHOP DRAWINGS WILL BE LIMITED TO THE INTERFACIAL AND BUILDING STRUCTURE. THIS REVIEW WILL CHECK THE COMPATIBILITY OF LOADS AND POSITIONS OF LOADS AND EMBEDMENT SHOWN ON THE BUILDING STRUCTURE, AND COMPATIBILITY OF THE CONNECTIONS WITH THE BUILDING STRUCTURE. THE STRUCTURAL ENGINEER RESPONSIBLE FOR THE DESIGN OF THE STAIR SYSTEM WILL RETAIN ALL RIGHTS AND RESPONSIBILITIES FOR THE DESIGN OF THE STAIRS AND THE CONNECTIONS TO THE BUILDING STRUCTURE. SHOP DRAWINGS SHALL CLEARLY IDENTIFY THE FOLLOWING:
 - A. PROJECT IDENTITY AND LOCATION
 - B. SUPPLIER/FABRICATOR IDENTITY AND ADDRESS
 - C. ENGINEERS IDENTITY AND ADDRESS
 - D. CONFORMANCE WITH THE APPLICABLE BUILDING CODES.
 - E. DESIGN LOADING CRITERIA.
 - F. DESIGN DEFLECTION CRITERIA.
 - G. CONNECTIONS TO THE STRUCTURE (CLEARLY IDENTIFIED AND DETAILED).
 - H. SHOP DRAWINGS SHALL BEAR THE SEAL AND SIGNATURE OF THE ENGINEER RESPONSIBLE AND THE COMPANY'S F-NUMBER FOR THE DESIGN OF THE STAIR SYSTEM, SUBMITTALS WHICH DO NOT BEAR THE SEAL AND SIGNATURE OF THE ENGINEER AND THE COMPANY'S F-NUMBER WILL BE RETURNED REJECTED.

STRUCTURAL STEEL NOTES

1. STRUCTURAL STEEL SHALL CONFORM TO AISC "SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS," ANSI/AISC 360, LATEST EDITION-16.
2. ALL W, S, I HOT-ROLLED STRUCTURAL SHAPES SHALL CONFORM TO ASTM A992, ALL OTHER STRUCTURAL STEEL SHALL CONFORM TO THE ASTM SPECIFICATION A36 UNLESS OTHERWISE SHOWN OR NOTED.
3. ALL HSS STRUCTURAL STEEL TUBING SHALL CONFORM TO ASTM SPECIFICATION A500, GRADE B. ALL STRUCTURAL STEEL PIPE (NON-HSS) SHALL CONFORM TO ASTM A, GRADE B.
4. ALL STAINLESS STEEL SHAPES SHALL CONFORM TO ASTM SPECIFICATION A316 AND/OR A419 TYPE 316, UNLESS OTHERWISE SHOWN OR NOTED. ALL STAINLESS STEEL PLATE, SHEET, OR STRIP SHALL CONFORM TO ASTM A566 OR A240.
5. ALL STRUCTURAL STEEL SHALL BE DESIGNED, FABRICATED AND ERECTED IN ACCORDANCE WITH THE LATEST SPECIFICATIONS OF THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION AND THE STEEL JOIST INSTITUTE.
6. BOLTS AND BOLTED CONNECTIONS SHALL CONFORM TO THE REQUIREMENTS OF THE "SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS," APPROVED BY THE RESEARCH COUNCIL ON STRUCTURAL CONNECTIONS, LATEST EDITION. CONNECTIONS SHALL BE BEARING TYPE UNLESS NOTED OTHERWISE IN DRAWINGS. ALL STRUCTURAL BOLTS SHALL CONFORM TO ASTM A325N UNLESS OTHERWISE SHOWN OR NOTED. DRAWINGS INDICATED WASHERS AT ALL BOLTED CONNECTIONS, INCLUDING ANCHOR BOLTS.
7. ALL STAINLESS STEEL BOLTS AND EXPANSION ANCHORS SHALL CONFORM TO ASTM F-563, TYPE 316 AND ALL NUTS SHALL CONFORM TO ASTM F-594, TYPE 316.
8. GALVANIZING OF STEEL MEMBERS SHALL CONFORM TO ASTM A1024M. ALL STEEL FRAMING THAT COMES IN CONTACT WITH PRESSURE TREATED WOOD SHALL BE COATED TO A 600 THICKNESS AND ALL BOLTS, HEADED STUDS AND CONNECTORS SHALL BE COATED TO A 6185 THICKNESS.
9. REFER TO MECHANICAL AND ELECTRICAL PLANS FOR VERIFICATION OF ALL BOLTS, BLOCKING ANCHORS, ETC. FOR THE ANCHORAGE OF THEIR RESPECTIVE ITEMS.
10. ALL BEAMS AND COLUMNS SHALL BE FULL LENGTH WITHOUT SPLICES UNLESS OTHERWISE INDICATED ON PLANS.
11. STRUCTURAL STEEL DETAILS AND CONNECTIONS SHALL CONFORM TO THE STANDARDS OF THE AISC.
12. ALL STEEL BEAMS SHALL BE ERECTED WITH NATURAL CAMBER UP.
13. ALL SHOP AND FIELD WELDS SHALL BE MADE BY WELDERS WHO HAVE BEEN QUALIFIED AND CERTIFIED TO MAKE THE REQUIRED WELDS WITHIN THE PREVIOUS SIX MONTHS IN ACCORDANCE WITH THE LATEST AMERICAN WELDING SOCIETY SPECIFICATIONS A1.9, D1.1. ELECTRODES FOR FIELD AND SHOP WELDS SHALL BE E70XX, UNLESS NOTED OTHERWISE.
14. FULL AND PARTIAL PENETRATION WELDS PERFORMED IN THE FIELD SHALL BE ULTRASONICALLY TESTED.
15. ERECTION CONNECTIONS SHALL BE PROVIDED IN ORDER TO PROPERLY ALIGN MEMBERS AND BE TRUE AND PLUMB WHEN WELDS ARE MADE.
16. DRAWINGS SHALL BE PREPARED FOR ALL STRUCTURAL STEEL AND SUBMITTED FOR REVIEW BY ENGINEER. ENGINEERING DRAWINGS SHALL NOT BE REPRODUCED AND USED AS SHOP DRAWINGS.
17. TEMPORARY SUPPORTS, SUCH AS TEMPORARY GLYS, BRACES, FALSEWORK, CRIBBING OR OTHER ELEMENTS REQUIRED FOR THE ERECTION OPERATION WILL BE DETERMINED, FURNISHED, AND INSTALLED BY THE ERECTOR. THESE TEMPORARY SUPPORTS SHALL BE CAPABLE OF SECURING THE STEEL FRAMING, OR ANY PARTIALLY ASSEMBLED STEEL FRAMING, AGAINST LOADS COMPARE IN INTENSITY TO THOSE FOR WHICH THE STRUCTURE WAS DESIGNED, RESULTING FROM WIND, SEISMIC FORCES AND ERECTION OPERATIONS.
18. THE LIFTING AND ERECTION OF PRE-ASSEMBLED ELEMENTS SUCH AS TRUSSES OR FABRICATED FRAMING ARE TO BE CONSIDERED SPECIAL ERECTION CONDITIONS. THE SELECTION OF LIFT POINTS AND ERECTION TECHNIQUES ARE THE RESPONSIBILITY OF THE CONTRACTOR. LOCATE AND PROVIDE SUFFICIENT LIFT POINTS TO PREVENT OVERSTRESS AND/OR DISTORTION OF ANY COMPONENTS WITHIN THE ASSEMBLY. PROVIDE TEMPORARY STRONG-BACKS, STIFFENERS AND/OR LIFTING DEVICES AS REQUIRED.

STEEL ROOF DECK NOTES

1. STEEL ROOF DECK SHALL BE FABRICATED FROM COLD ROLLED GALVANIZED STEEL SHEETS CONFORMING TO THE LATEST EDITION OF ASTM A583, STRUCTURAL STEEL (SS), GRADE 33. GALVANIZING ZINC COATING SHALL CONFORM TO ASTM A525, CLASS 60.
2. STEEL ROOF DECK SHALL BE PROVIDED CONTINUOUS OVER A MINIMUM OF 3 SPANS, UNLESS NOTED OTHERWISE.
3. INSTALL DECK UNITS OVER SUPPORTING FRAME WITH A MINIMUM END BEARING OF 1-1/2 INCHES. END JOINTS SHALL BE LAPPED 2 INCHES MINIMUM OR BUTTED OVER SUPPORTS (CONTRACTOR'S OPTION).
4. IMMEDIATELY AFTER PLACEMENT AND ALIGNMENT, ROOF DECK SHALL BE CONNECTED TO SUPPORTING MEMBERS IN ACCORDANCE WITH THE STEEL DECK INSTITUTE (SDI) PUBLICATION NO. 39, THE MANUFACTURER'S WRITTEN INSTRUCTIONS, AND APPROVED SHOP DRAWINGS.
5. ATTACH ROOF DECK TO STEEL MEMBERS WITH #12 TEK SCREWS AT 24" PATTERN. ATTACH SIDE LAPS WITH (1) #10 TEK SCREWS PER SPAN, OR APPROVED METHOD.

ABBREVIATIONS

ADH	ADHESIVE
ALUM	ALUMINUM
BLOC	BUILDING
BOI	BOTTOM
CONC	CONCRETE
CJ	CONSTRUCTION JOINT
FV	FIELD VERIFY
CONT	CONTINUOUS
DIAM. Ø	DIAMETER
DWL	DOVEL
EF	EACH FACE
EL	ELEVATION
EW	EACH WAY
FTG	FOOTING
HORZ	HORIZONTAL
KSI	KIPS PER SQUARE INCH
MAX	MAXIMUM
MFR	MANUFACTURER
MNS	MINIMUM
MISC	MISCELLANEOUS
NOT TO SCALE	NOT TO SCALE
OC	ON CENTER
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
REF	REFER, REFERENCE
REIN	REINFORCEMENT
SPEC	SPECIFICATION
SS	STAINLESS STEEL
STD	STANDARD
T&B	TOP AND BOTTOM
TCC	TOP OF CONCRETE
TGG	TOP OF GRATING
UNO	UNLESS NOTED OTHERWISE
VERT	VERTICAL
W/	WITH

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REV. NO.	DATE	DRWN	CHKD	REMARKS

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 PROJECT CHECKED BY: K. HANKS
 APPROVED BY: _____
 DATE: MARCH 2024



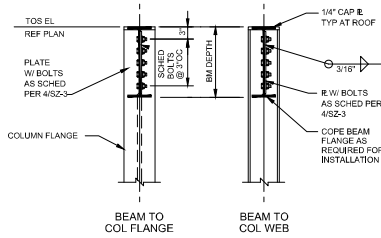
CITY OF BRYAN, TEXAS
 STILL CREEK WASTEWATER TREATMENT
 PLANT IMPROVEMENTS

GENERAL NOTES
 SHEET 2 OF 2

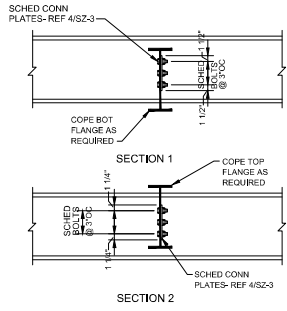
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 SHEET NO. SZ-2



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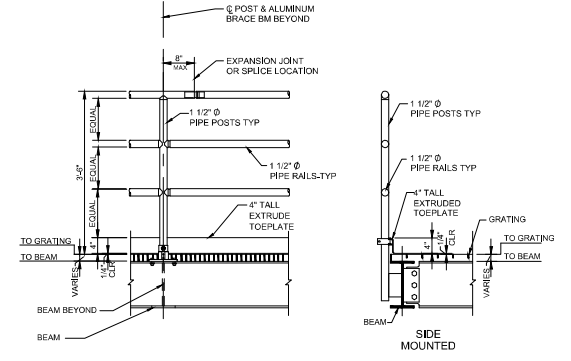
1
 TYPICAL STEEL BEAM TO WF COLUMN CONNECTION
 SZ-3 NO SCALE



2
 TYPICAL STEEL BEAM TO STEEL BEAM CONNECTION
 SZ-3 NO SCALE

BEAM-TO-COLUMN AND BEAM-TO-BEAM CONNECTION SCHEDULE		
BEAM DEPTH	FRAMING PLATE	BOLTS PER LEG
W8 x... W10 x...	PL 1/4 x 4 x 5 1/2"	2 - 3/4"Ø
W12 x...	PL 1/4 x 4 x 8 1/2"	3 - 3/4"Ø
W14 x...	PL 3/8 x 4 x 8 1/2"	3 - 3/4"Ø
W16 x...	PL 3/8 x 4 x 11 1/2"	4 - 3/4"Ø
W18 x...	PL 3/8 x 4 x 12 1/2"	5 - 3/4"Ø

3
 BEAM-TO-COLUMN AND BEAM-TO-BEAM CONNECTION SCHEDULE
 SZ-3 NO SCALE



4
 TYPICAL ALUMINUM BEAM MOUNTED GALV GUARDRAIL DETAILS
 SZ-3 NO SCALE

- GUARDRAIL NOTES:**
- SPACING OF POSTS FOR HORIZONTAL GUARDRAILS SHALL NOT EXCEED 5'-0". SPACING OF STAIR GUARDRAILS SUPPORTS, POSTS OR BRACKETS, SHALL NOT EXCEED 4'-0". RAILING SUPPORT SPACING SHALL NOT EXCEED DISTANCE REQUIRED TO RESIST DESIGN LOADS LISTED IN SPECIFICATION.
 - PROVIDE EXPANSION JOINT SPLICES IN RAILINGS AND TOE PLATES OVER EXPANSION JOINTS IN SUPPORT STRUCTURE. MAXIMUM SPACING OF EXPANSION JOINTS SHALL BE 20'-0". REFERENCE SPECIFICATION 05620 FOR ADDITIONAL EJ INFO.
 - LOCATE SPLICES AND EXPANSION JOINTS IN RAILS AND TOE BOARDS WITHIN 8" OF POSTS OR OTHER RAILING SUPPORTS.
 - COAT ALL AREAS OF RAILINGS IN CONTACT WITH CONCRETE, GROUT, MASONRY, WOOD OR DISSIMILAR METALS WITH A PROTECTIVE COATING PER SPEC.
 - LOCATIONS OF HOLES THRU BEAMS REQUIRED FOR ANCHORING GUARDRAILS MUST BE COORDINATED WITH RAILING SYSTEM MFR.
 - CMIT GUARDRAIL RETURN AT LOCATIONS WHERE IT OBSTRUCTS WALKWAY PATH AT BOTTOM OF STAIR.

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: K. HANKS
 DRAWN BY: F. BOJBE
 SHEET CHK'D BY: K. HANKS
 CROSS CHK'D BY:
 APPROVED BY:
 DATE: MARCH 2024



CITY OF BRYAN, TEXAS
 STILL CREEK WASTEWATER TREATMENT PLANT IMPROVEMENTS

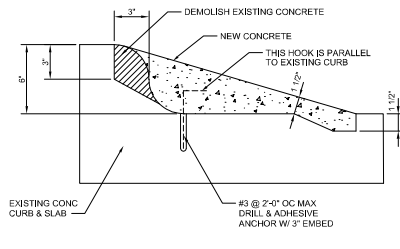
TYPICAL STRUCTURAL DETAILS
 SHEET 1 OF 2

PROJECT NO. 2381-284648
 FILE NAME: SZ-3.DWG
 SHEET NO. SZ-3



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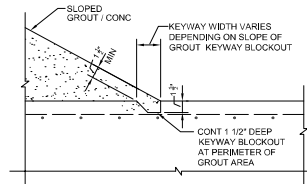


1 NEW CURB RAMP
NO SCALE

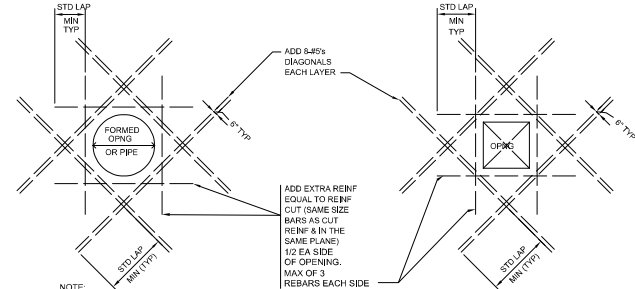
BAR SIZE	BAR POSITION	
	CASE 1	CASE 2
#3	18"	24"
#4	24"	32"
#5	30"	40"
#6	36"	48"
#7	54"	70"
#8	62"	80"
#9	70"	90"
#10	78"	102"
#11	88"	114"

CASE 1: HORIZONTAL BARS WITH LESS THAN 12" OF CONC BELOW BARS, AND ALL VERTICAL BARS.
 CASE 2: HORIZONTAL BARS W/ 12" OR MORE CONC BELOW BARS.
 NOTE: FOR CONCRETE $f_c = 4ksi$

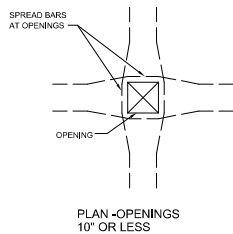
2 STANDARD LAP LENGTHS
NO SCALE



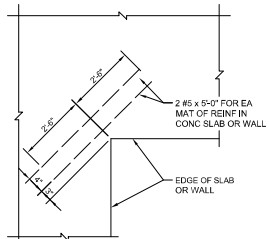
3 TYPICAL BLOCKOUT DETAIL AT SLOPED GROUT
NO SCALE



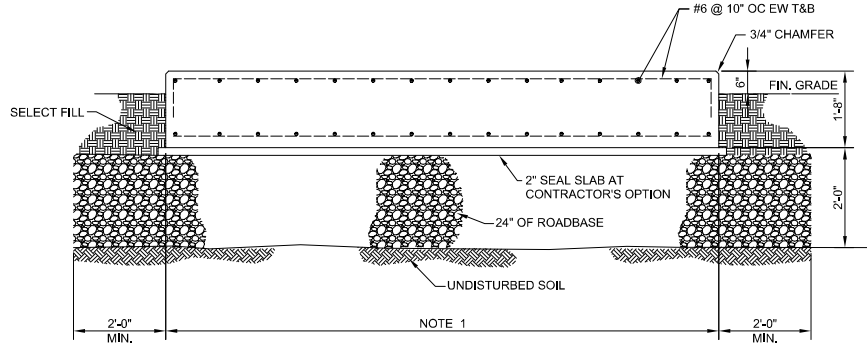
4 TYPICAL CONCRETE REINFORCEMENT AT WALL / SLAB PENETRATIONS
NO SCALE



5 TYPICAL CONCRETE REINFORCING AT SLAB SMALL OPENINGS
NO SCALE



6 TYPICAL CONCRETE RE-ENTRANT CORNER REINFORCEMENT DETAIL
NO SCALE



NOTES:
 1. COORDINATE WITH MECH FOR CONC PAD DIMENSIONS.

7 TYPICAL CONCRETE TRANSFORMER PAD
NO SCALE

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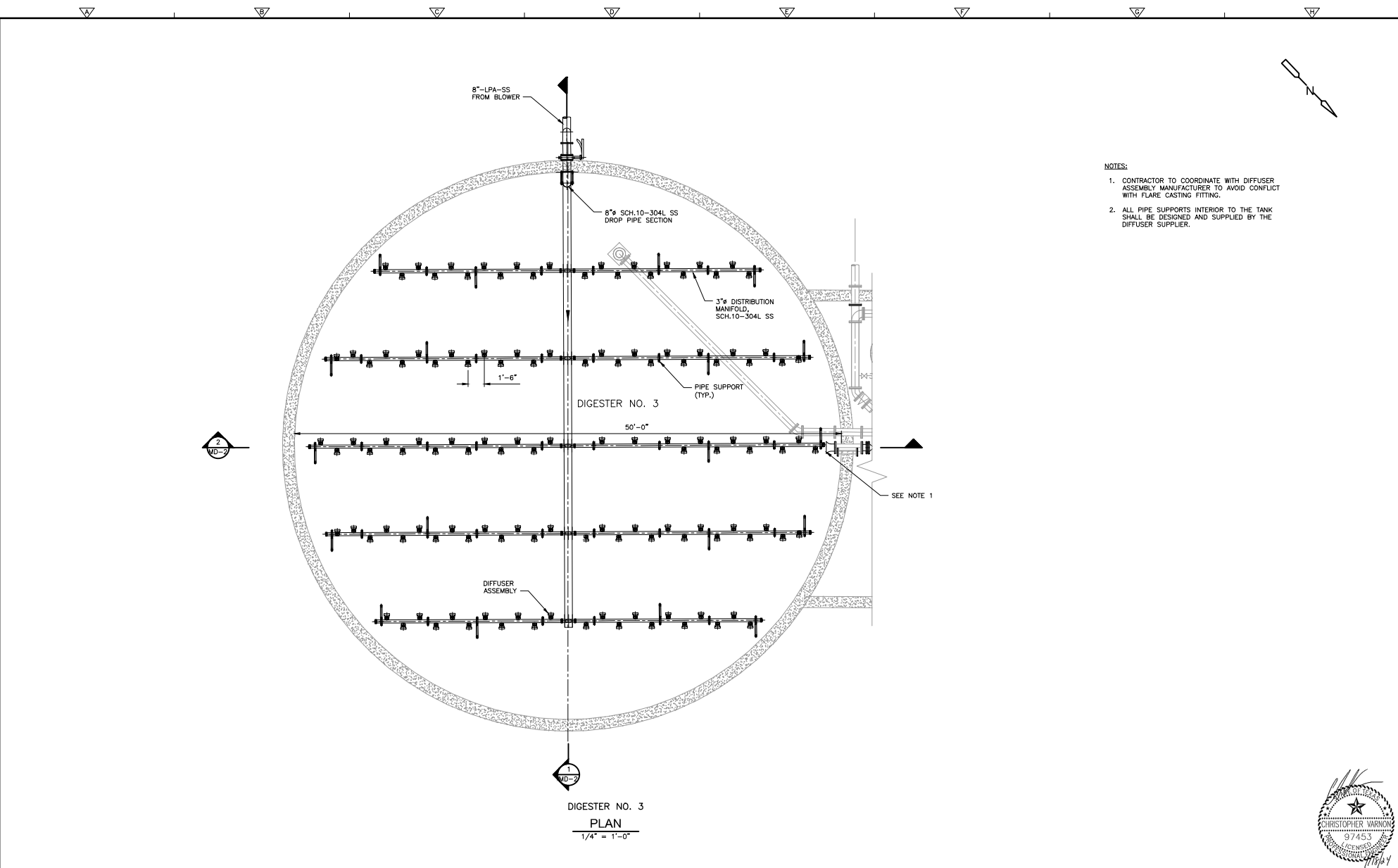
CITY OF BRYAN, TEXAS
 STILL CREEK WASTEWATER TREATMENT PLANT IMPROVEMENTS

PROJECT NO. 2381-284648
 FILE NAME: SZ-4-BWIG
 SHEET NO. SZ-4
 TYPICAL STRUCTURAL DETAILS SHEET 2 OF 2



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 PROJECT: STILL CREEK WASTEWATER TREATMENT PLANT IMPROVEMENTS - Page 004 of 1003



- NOTES:**
1. CONTRACTOR TO COORDINATE WITH DIFFUSER ASSEMBLY MANUFACTURER TO AVOID CONFLICT WITH FLARE CASTING FITTING.
 2. ALL PIPE SUPPORTS INTERIOR TO THE TANK SHALL BE DESIGNED AND SUPPLIED BY THE DIFFUSER SUPPLIER.

DIGESTER NO. 3
PLAN
 1/4" = 1'-0"



REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: H. KALE
 DRAWN BY: G. KABIL
 SHEET CHK'D BY: C. VARNON
 CROSS CHK'D BY: A. WOELKE
 APPROVED BY: C. VARNON
 DATE: APRIL, 2024



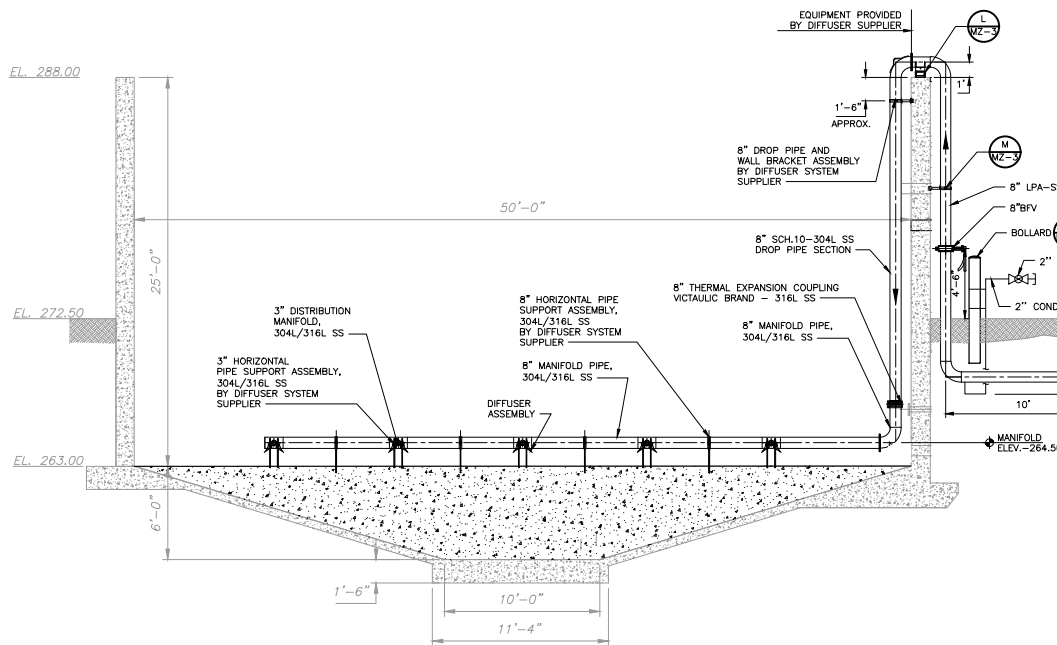
CITY OF BRYAN, TEXAS
**STILL CREEK WASTEWATER TREATMENT
 PLANT IMPROVEMENTS**

DIGESTER NO.3 PLAN

PROJECT NO. 2381-284648
FILE NAME: MDD1DIPL.DWG
SHEET NO. MD-1

100% SUBMITTAL

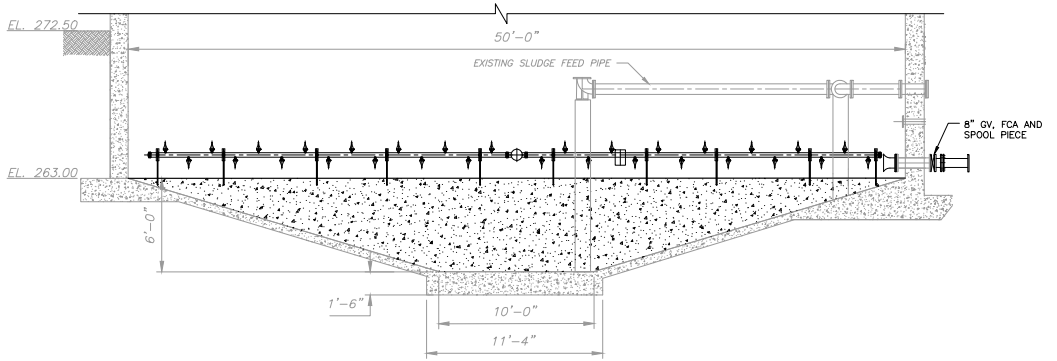
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NOTES:

1. 316SS PIPE STRAP (PIPING TECHNOLOGY AND PRODUCTS FIGURE HD-1 OR EQUAL) ANCHORED TO STANDARD 3' PRE-CAST WHEEL STOP (OLDCASTLE INFRASTRUCTURE MODEL 3675WS OR EQUAL).

SECTION 1
1/4" = 1'-0"
MD-1



SECTION 2
1/4" = 1'-0"
MD-1

DESIGNED BY: H. KALE
 DRAWN BY: G. KABIL
 SHEET CHK'D BY: C. VARNON
 CROSS CHK'D BY: A. WOELKE
 APPROVED BY: C. VARNON
 DATE: APRIL, 2024



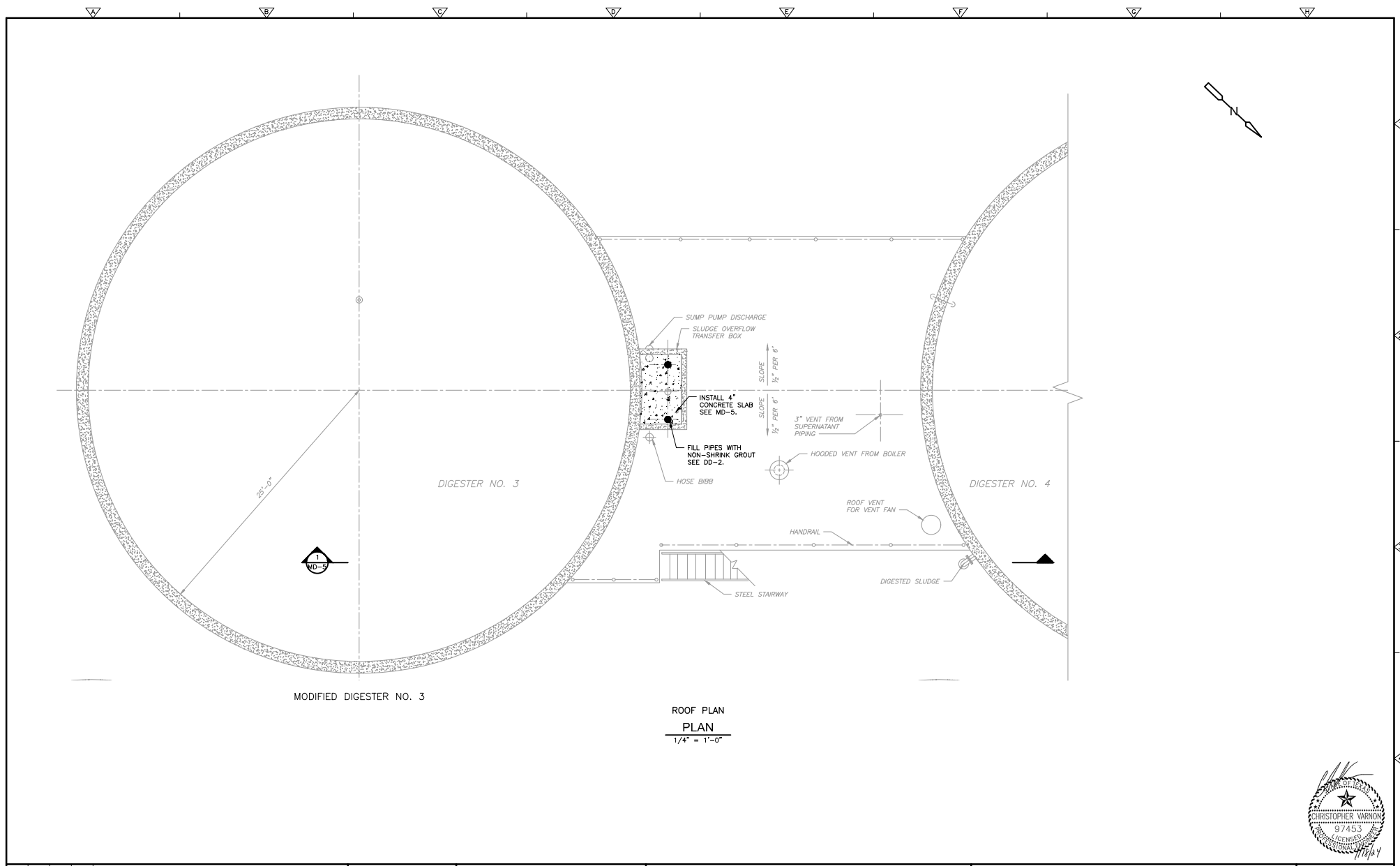
CITY OF BRYAN, TEXAS
 STILL CREEK WASTEWATER TREATMENT
 PLANT IMPROVEMENTS

PROJECT NO. 2381-284648
 FILE NAME: MD02DISC.DWG
 SHEET NO. MD-2



100% SUBMITTAL

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 Project: STILL CREEK WASTEWATER TREATMENT PLANT IMPROVEMENTS - Page 866 of 1063
 PROJECT: STILL CREEK WASTEWATER TREATMENT PLANT IMPROVEMENTS - Page 866 of 1063



ROOF PLAN
 PLAN
 1/4" = 1'-0"

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: D. HERNANDEZ
 DRAWN BY: P. VEERA
 SHEET CHK'D BY: C. VARNON
 CROSS CHK'D BY: A. WOELKE
 APPROVED BY: C. VARNON
 DATE: APRIL 2024



CITY OF BRYAN, TEXAS
 STILL CREEK WASTEWATER TREATMENT
 PLANT IMPROVEMENTS

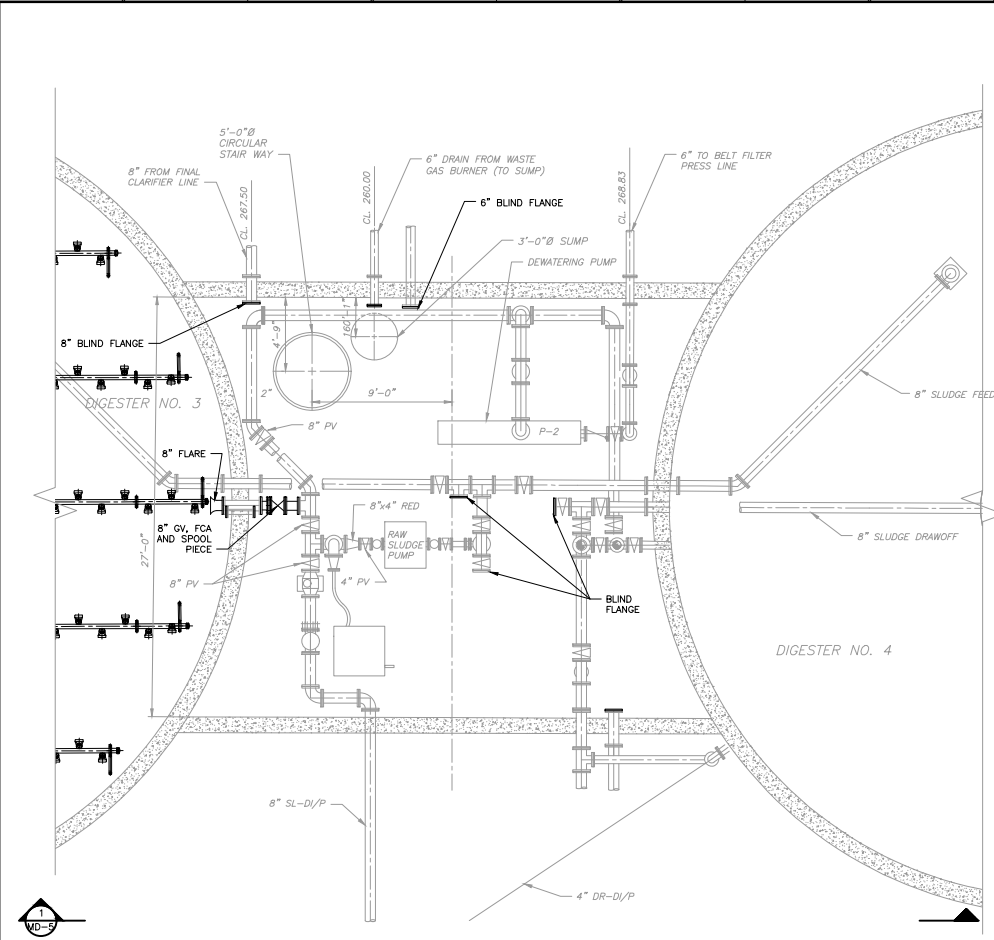
DIGESTER BUILDING ROOF PLAN
 MODIFICATION

PROJECT NO. 2381-284648
 FILE NAME: MD03DIRPL.DWG
 SHEET NO.
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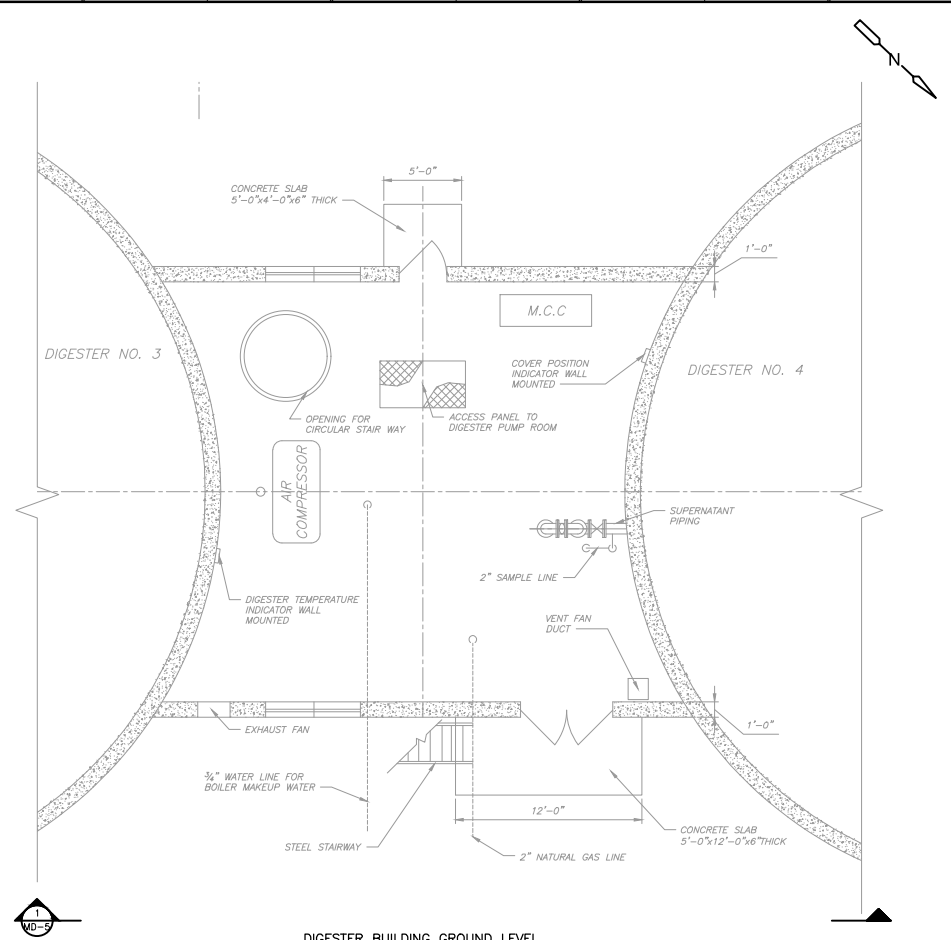


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DIGESTER BUILDING LOWER LEVEL EL. 275.50'
 PLAN
 1/4" = 1'-0"



DIGESTER BUILDING GROUND LEVEL
 PLAN
 1/4" = 1'-0"

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: D. HERNANDEZ
 DRAWN BY: P. VEERA
 SHEET CHK'D BY: C. VARNON
 CROSS CHK'D BY: A. WOLKE
 APPROVED BY: C. VARNON
 DATE: APRIL, 2024



CITY OF BRYAN, TEXAS
 STILL CREEK WASTEWATER TREATMENT
 PLANT IMPROVEMENTS

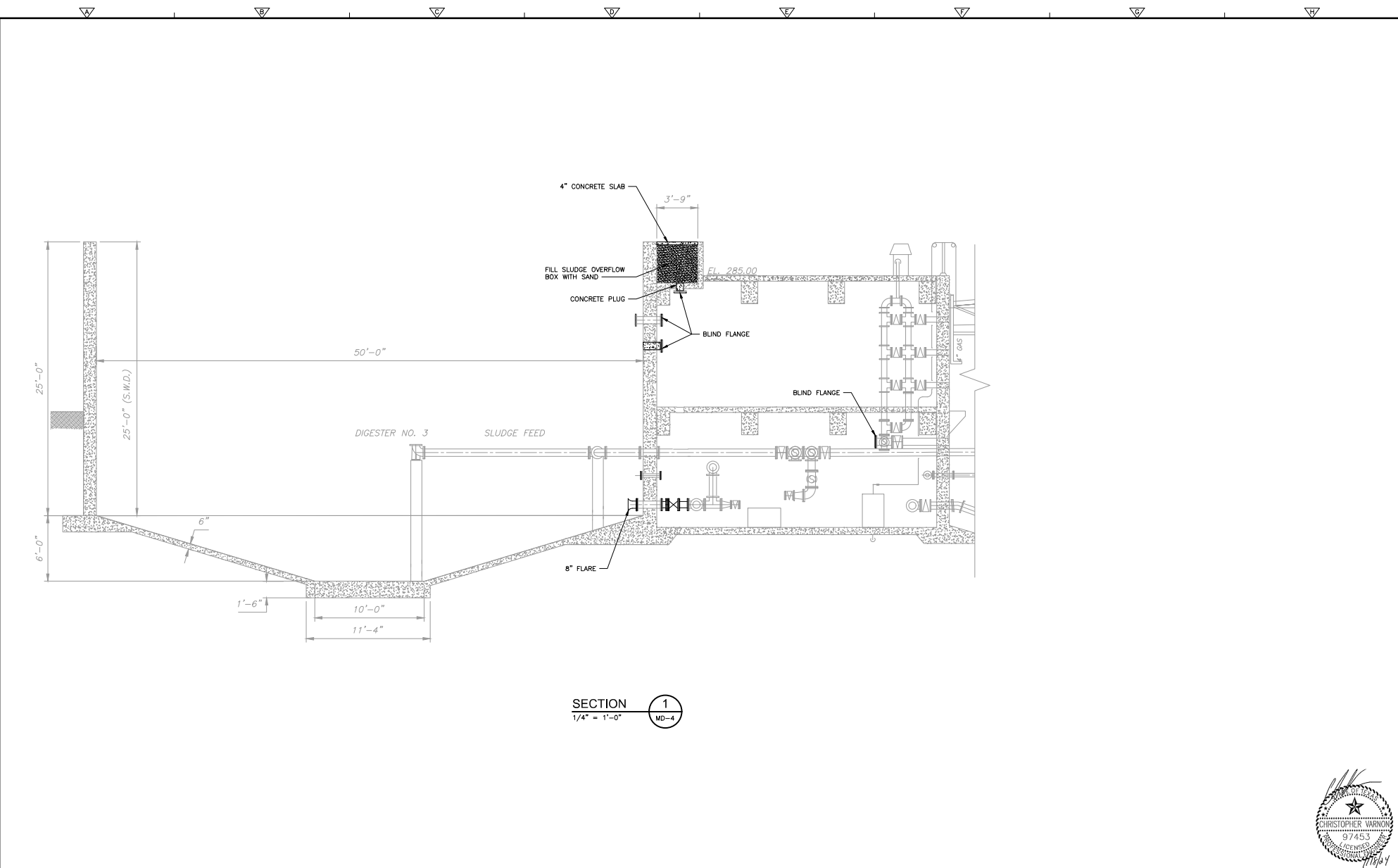
DIGESTER BUILDING
 GROUND AND LOWER LEVEL PLANS
 MODIFICATIONS

PROJECT NO. 2381-284648
 FILE NAME: MDO4DILPL.DWG
 SHEET NO. MD-4



100% SUBMITTAL

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SECTION 1
 1/4" = 1'-0" MD-4



REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: D. HERNANDEZ
 DRAWN BY: P. VEERA
 SHEET CHK'D BY: C. VARNON
 CROSS CHK'D BY: A. WOELKE
 APPROVED BY: C. VARNON
 DATE: APRIL 2024

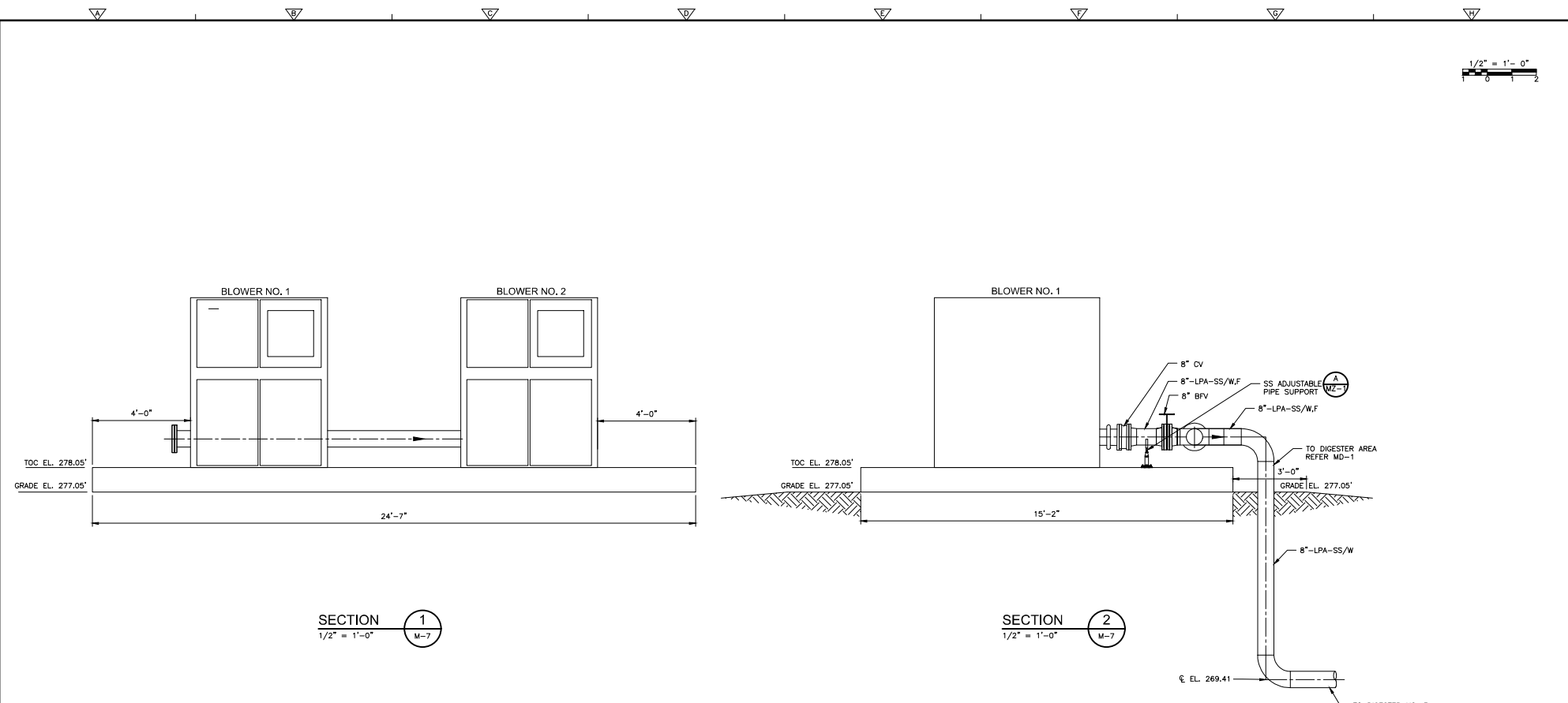
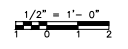


CITY OF BRYAN, TEXAS
 STILL CREEK WASTEWATER TREATMENT
 PLANT IMPROVEMENTS

DIGESTER BUILDING
 MODIFICATIONS - SECTION I

PROJECT NO. 2381-284648
 FILE NAME: MD05DISC.DWG
 SHEET NO. MD-5

100% SUBMITTAL



SECTION 1
1/2" = 1'-0"

SECTION 2
1/2" = 1'-0"

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REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: H.KALE
 DRAWN BY: S. RAJESH
 SHEET CHK'D BY: C. VARNON
 CROSS CHK'D BY: A. WOELKE
 APPROVED BY: C. VARNON
 DATE: APRIL 2024



CITY OF BRYAN, TEXAS
 STILL CREEK WASTEWATER TREATMENT
 PLANT IMPROVEMENTS

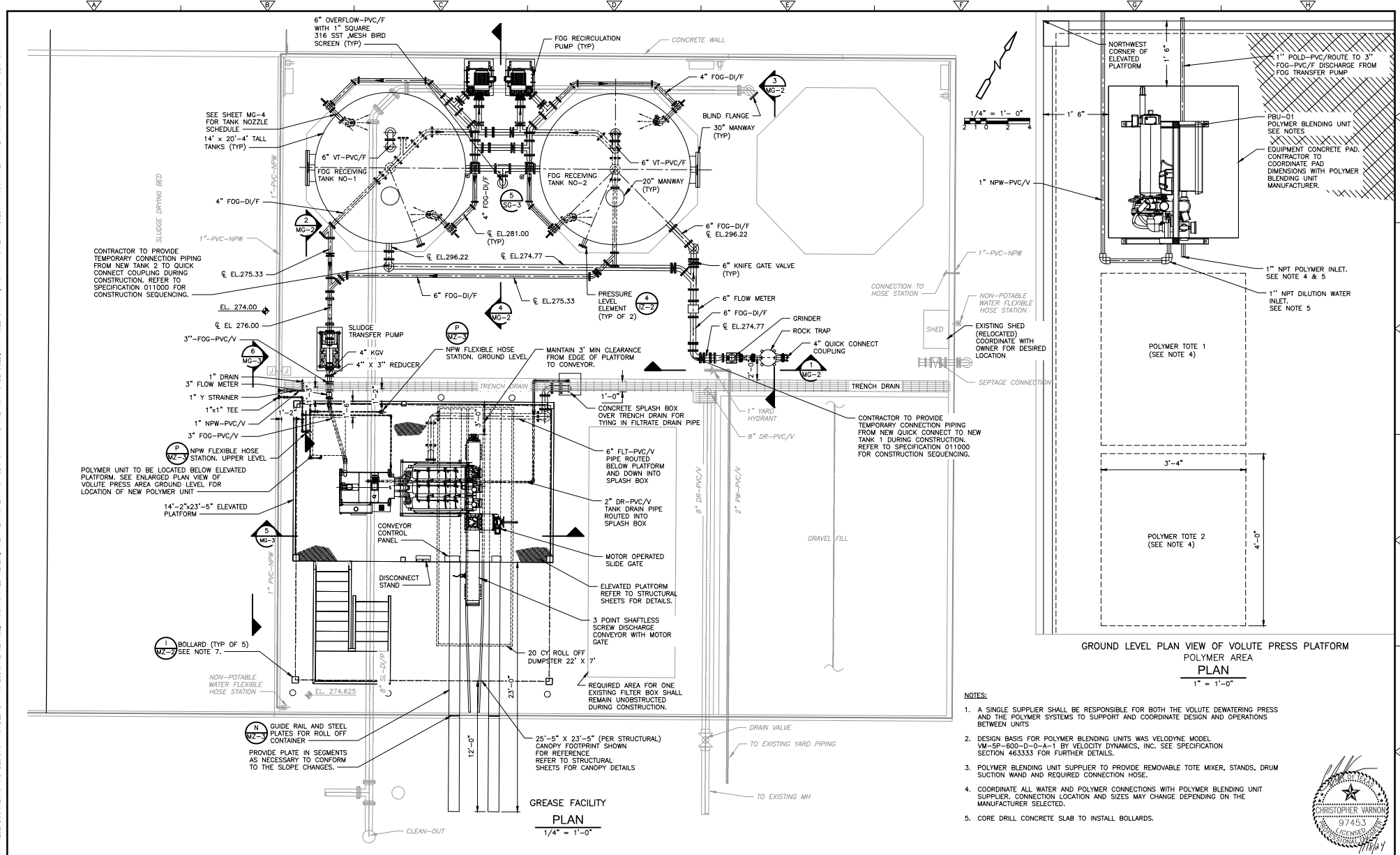
BLOWER FACILITY SECTION

PROJECT NO. 2381-284648
 FILE NAME: MD-8.DWG
 SHEET NO. MD-8



100% SUBMITTAL

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GROUND LEVEL PLAN VIEW OF VOLUTE PRESS PLATFORM
POLYMER AREA
PLAN
1" = 1'-0"

- NOTES:**
- A SINGLE SUPPLIER SHALL BE RESPONSIBLE FOR BOTH THE VOLUME DEWATERING PRESS AND THE POLYMER SYSTEMS TO SUPPORT AND COORDINATE DESIGN AND OPERATIONS BETWEEN UNITS.
 - DESIGN BASIS FOR POLYMER BLENDING UNITS WAS VELODYNE MODEL VM-SP-600-D-0-A-1 BY VELOCITY DYNAMICS, INC. SEE SPECIFICATION SECTION 463333 FOR FURTHER DETAILS.
 - POLYMER BLENDING UNIT SUPPLIER TO PROVIDE REMOVABLE TOTE MIXER, STANDS, DRUM SUCTION WAND AND REQUIRED CONNECTION HOSE.
 - COORDINATE ALL WATER AND POLYMER CONNECTIONS WITH POLYMER BLENDING UNIT SUPPLIER. CONNECTION LOCATION AND SIZES MAY CHANGE DEPENDING ON THE MANUFACTURER SELECTED.
 - CORE DRILL CONCRETE SLAB TO INSTALL BOLLARDS.



REV.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: D. HERNANDEZ
 DRAWN BY: P. VEERA
 SHEET CHK'D BY: C. VARNON
 CROSS CHK'D BY: A. WOELKE
 APPROVED BY: C. VARNON
 DATE: APRIL 2024

CDM Smith
 9430 Research Blvd., Suite 1-200
 Austin, TX 78759
 Tel: (512) 346-1100
 TSPC Firm Registration No. F-3043

CITY OF BRYAN, TEXAS

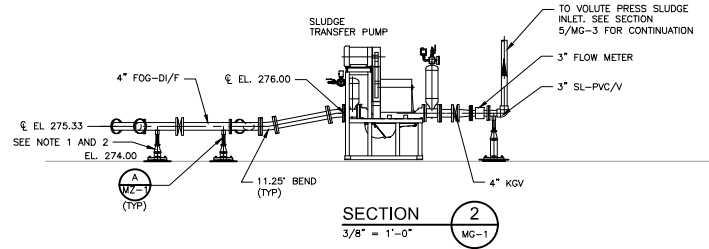
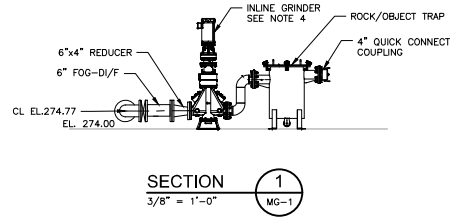
STILL CREEK WASTEWATER TREATMENT
PLANT IMPROVEMENTS

GREASE FACILITY PLAN

PROJECT NO. 2381-284648
FILE NAME: MG-1.DWG

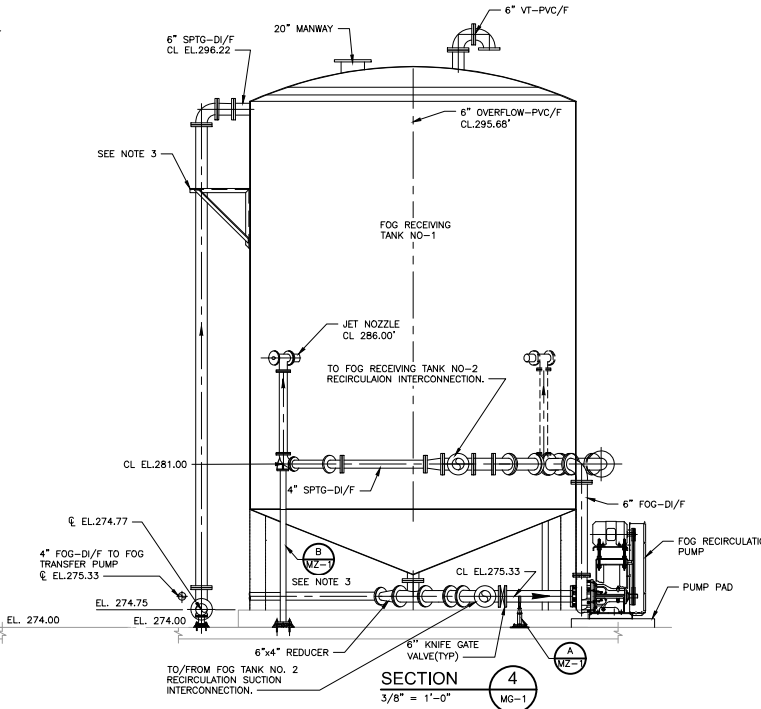
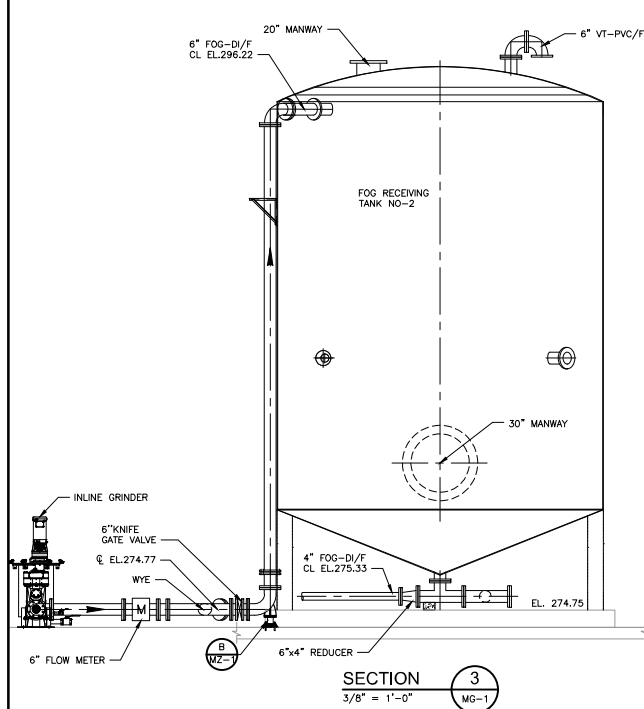
SHEET NO.
MG-1

100% SUBMITTAL



NOTES:

1. FIELD VERIFY CENTERLINE WITH PUMP DISCHARGE. USE BENDS OF 45 DEGREES OR LESS TO ADJUST CENTERLINE IF NECESSARY AT NO COST TO OWNER.
2. SUCTION AND DISCHARGE PIPE MUST BE SUPPORTED BY BOLTING RIGIDLY TO THE FLOOR.
3. ALL PIPE SUPPORTS IN THE GREASE FACILITY ARE SHOWN FOR REFERENCE PURPOSES ONLY. CONTRACTOR IS RESPONSIBLE FOR PIPE SUPPORT DESIGN IN ACCORDANCE WITH SPECIFICATION 400507. CONTRACTOR IS RESPONSIBLE FOR COORDINATION WITH TANK MANUFACTURER FOR PIPING SUPPORTS FROM NEW FRP TANKS.
4. DESIGN BASIS FOR GRINDER WAS MUFFIN MONSTER MODEL 30004T-1204 WITH HEAVY OBJECT TRAP MODEL GR51904-GA. REFER TO SPECIFICATION SECTION 462423. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY MODIFICATIONS TO PIPING CONFIGURATION FROM SECTION 1/MG-1 TO ACCOMMODATE ALTERNATIVE MANUFACTURER/MODEL.



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REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: D. HERNANDEZ
 DRAWN BY: P. VEERAMANI
 SHEET CHK'D BY: C. VARNON
 CROSS CHK'D BY: A. WOELKE
 APPROVED BY: C. VARNON
 DATE: APRIL 2024




9430 Research Blvd., Suite 1-200
 Austin, TX 78759
 Tel (512) 346-1100
 TSPS Firm Registration No. F-3043

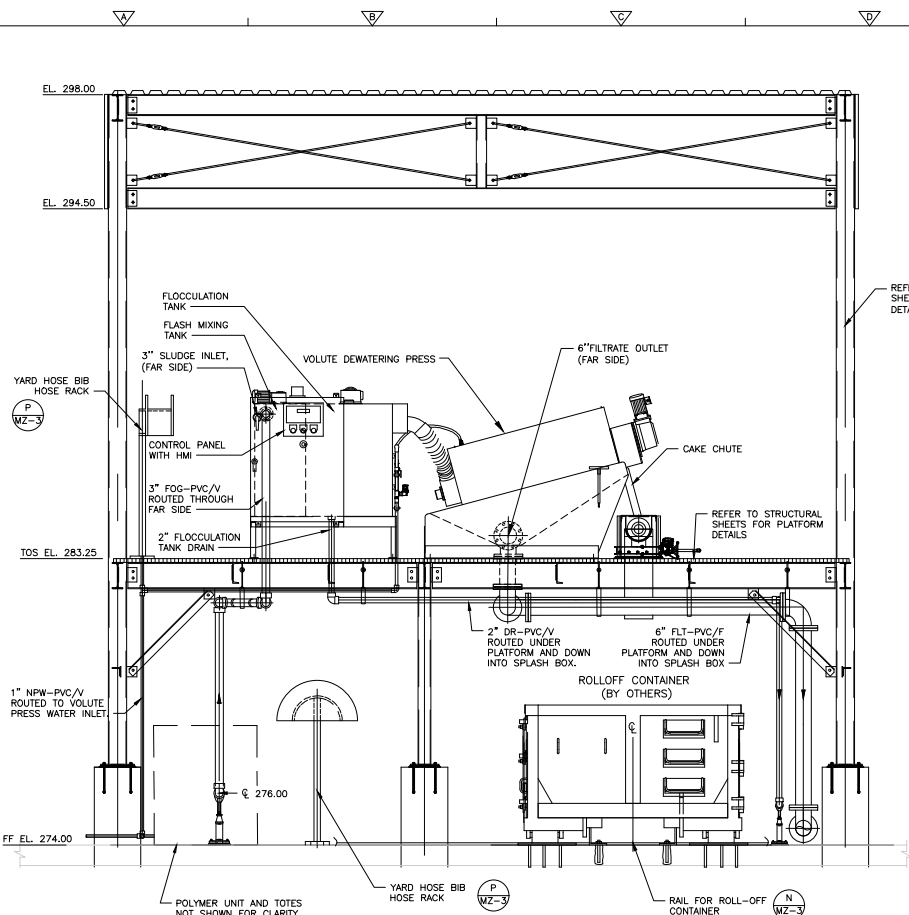
CITY OF BRYAN, TEXAS
STILL CREEK WASTEWATER TREATMENT PLANT IMPROVEMENTS

GREASE FACILITY SECTIONS I
MG-2

PROJECT NO. 2381-284648
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MG-2

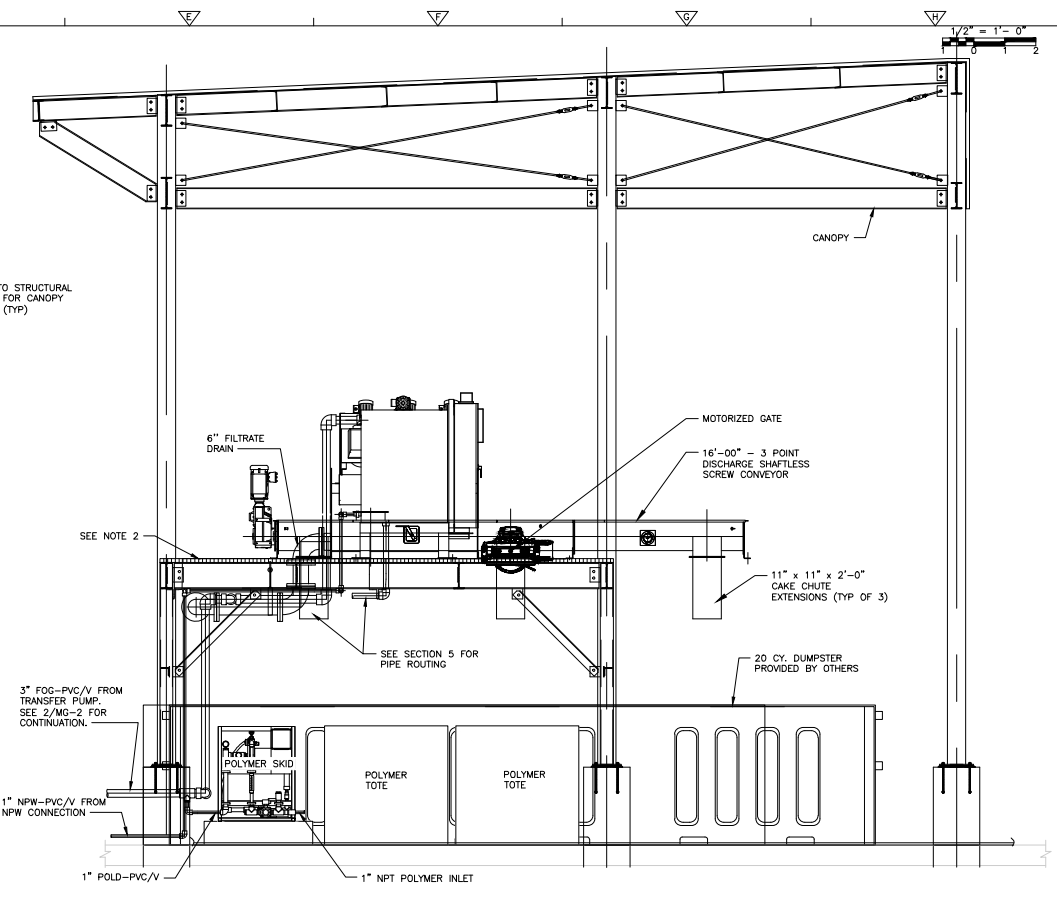


NOTE: UNLESS INDICATED OTHERWISE, REFER TO SPECIFICATIONS AND DRAWINGS FOR ALL MATERIALS AND METHODS OF CONSTRUCTION. THESE DOCUMENTS AND DESIGNS PROVIDED BY PROFESSIONAL SERVICE, INCORPORATED HEREBY, ARE THE PROPERTY OF CDM SMITH AND ARE NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF CDM SMITH.



GREASE FACILITY SECTION
SECTION 5
 1/2" = 1'-0" MG-1

- NOTES:
- DESIGN BASIS FOR VOLUTE PRESS UNIT WAS PW TECH MODEL 303, REFER TO SPECIFICATION SECTION 467827. ALTERNATE MANUFACTURER WILL REQUIRE COORDINATION WITH STRUCTURAL ELEVATED PLATFORM DESIGN AND CONVEYOR.
 - RAILING PLATFORM IS NOT SHOWN FOR CLARITY. REFER TO STRUCTURAL SHEETS FOR PLATFORM DETAILS.



GREASE FACILITY SECTION
SECTION 6
 1/2" = 1'-0" MG-1

REV. NO.	DATE	DRWN	CHKD	REMARKS

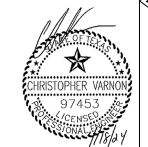
DESIGNED BY: D. HERNANDEZ
 DRAWN BY: P. VEERAMANI
 SHEET CHK'D BY: C. VARNON
 CROSS CHK'D BY: A. WOELKE
 APPROVED BY: C. VARNON
 DATE: APRIL 2024



CITY OF BRYAN, TEXAS
STILL CREEK WASTEWATER TREATMENT PLANT IMPROVEMENTS

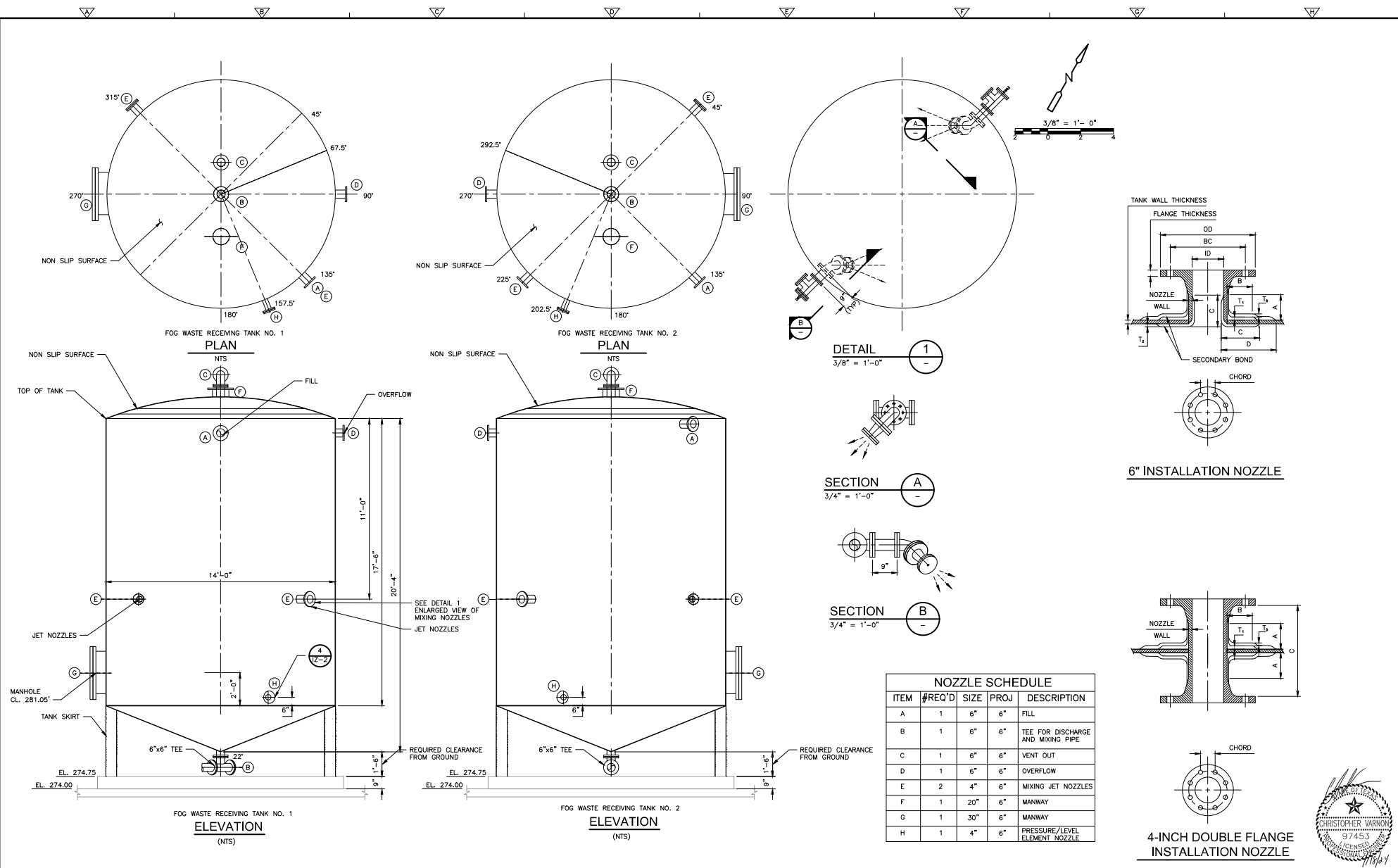
GREASE FACILITY SECTIONS II

PROJECT NO. 2381-284648
 FILE NAME: MG-3.DWG
 SHEET NO. MG-3



100% SUBMITTAL

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REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: D. HERNANDEZ
 DRAWN BY: P. VEERAMANI
 SHEET CHK'D BY: C. VARNON
 CROSS CHK'D BY: A. WOELKE
 APPROVED BY: C. VARNON
 DATE: APRIL, 2024

CDM Smith
 9430 Research Blvd., Suite 1400
 Austin, TX 78759
 Tel: (512) 348-1100
 TSP# E-11426
 Registration No. F-3043

CITY OF BRYAN, TEXAS
 STILL CREEK WASTEWATER TREATMENT PLANT IMPROVEMENTS

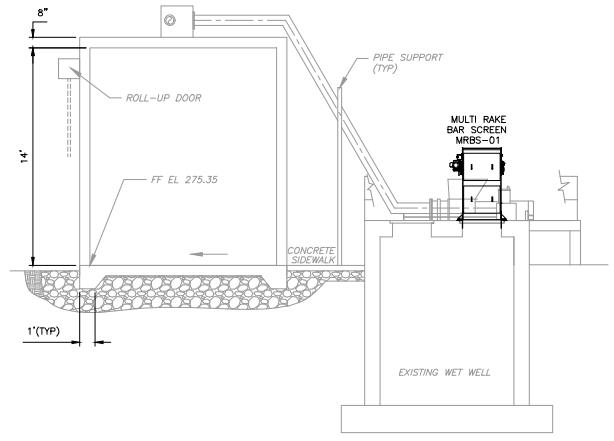
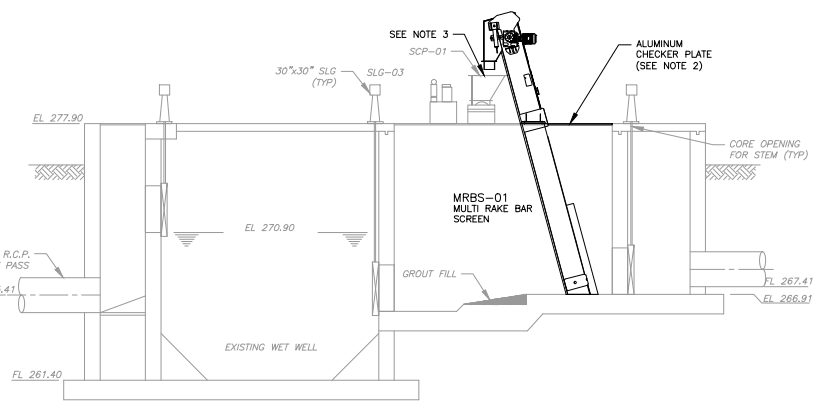
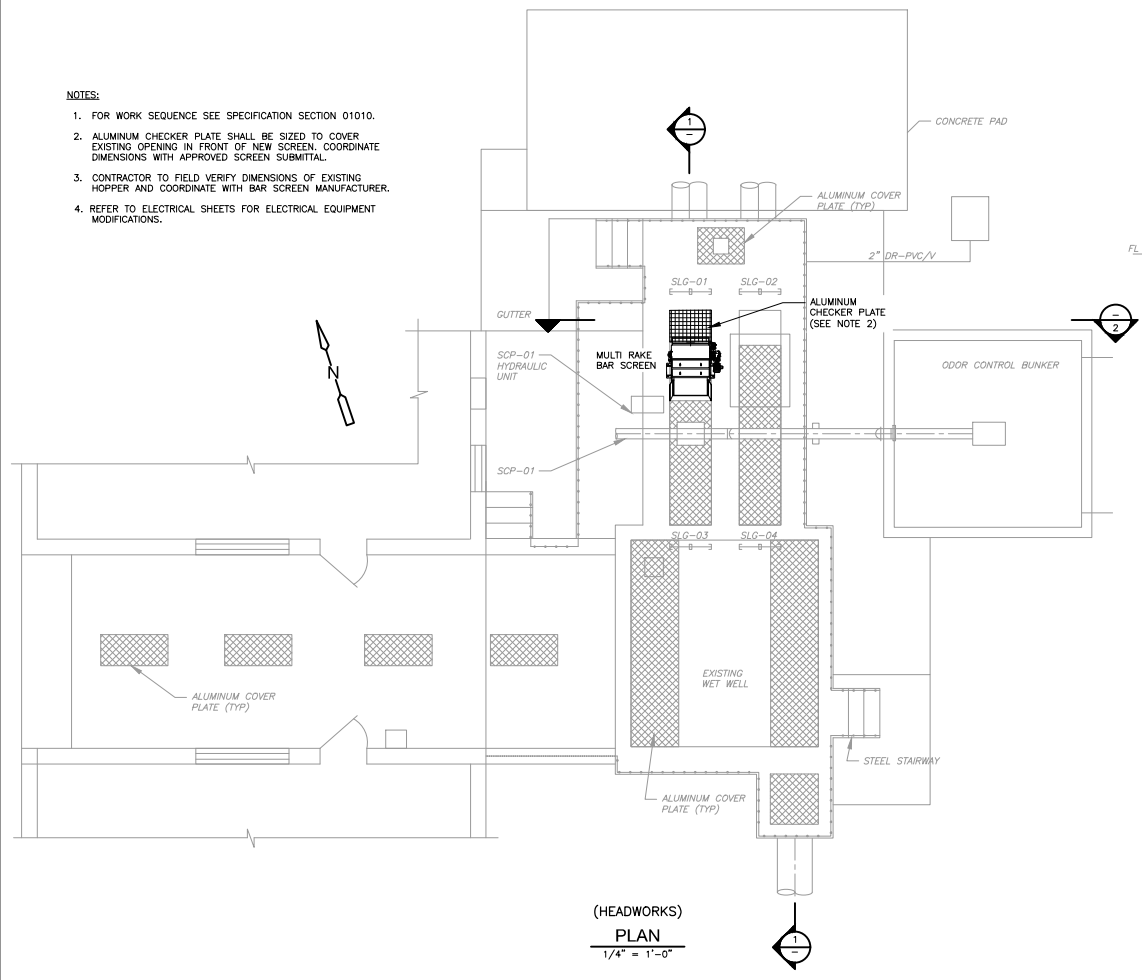
GREASE FACILITY SECTIONS III

PROJECT NO. 2381-284648
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 SHEET NO. MG-4

100% SUBMITTAL

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 Plot User: P. VEERA
 Plot Scale: 1/4" = 1'-0"
 Project: STILL CREEK WASTEWATER TREATMENT PLANT IMPROVEMENTS - Page 965 of 1053

- NOTES:**
- FOR WORK SEQUENCE SEE SPECIFICATION SECTION 01010.
 - ALUMINUM CHECKER PLATE SHALL BE SIZED TO COVER EXISTING OPENING IN FRONT OF NEW SCREEN. COORDINATE DIMENSIONS WITH APPROVED SCREEN SUBMITTAL.
 - CONTRACTOR TO FIELD VERIFY DIMENSIONS OF EXISTING HOPPER AND COORDINATE WITH BAR SCREEN MANUFACTURER.
 - REFER TO ELECTRICAL SHEETS FOR ELECTRICAL EQUIPMENT MODIFICATIONS.



REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: D. HERNANDEZ
 DRAWN BY: P. VEERA
 SHEET CHK'D BY: C. VARNON
 CROSS CHK'D BY: M. STIGGINS
 APPROVED BY: A. WOELKE
 DATE: APRIL 2024



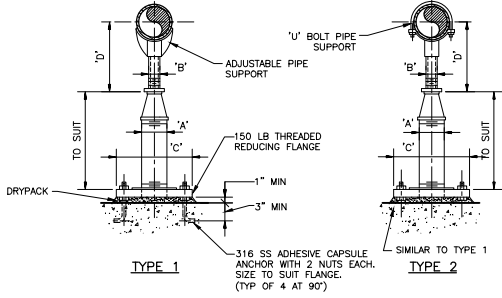
CITY OF BRYAN, TEXAS
STILL CREEK WASTEWATER TREATMENT PLANT IMPROVEMENTS

HEADWORKS MODIFICATION PLAN AND SECTIONS

PROJECT NO. 2381-284648
 FILE NAME: MH-1.DWG
 SHEET NO. MH-1

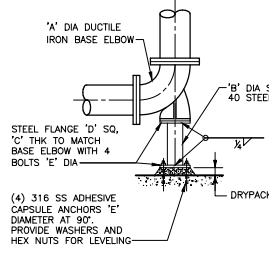
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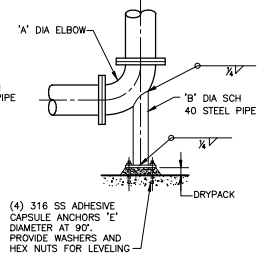


- NOTES:
- UNDER VALVES, METERS OR OTHER SPECIAL APPURTENANCES, A FABRICATED SUPPORT PIECE MAY BE UTILIZED AS ACCEPTABLE TO ENGINEER.
 - ALL PIPE AND SUPPORT MATERIALS INCLUDING ALL FASTENERS SHALL BE MANUFACTURED 316SS.

PIPE SIZE	A	B	C	D MIN	D MAX
2-1/2	2-1/2	1-1/2	9	8	11-1/2
3	2-1/2	1-1/2	9	8-1/4	11-3/4
3-7/12	2-1/2	1-1/2	9	8-1/2	12
4	3	2-1/2	9	10-1/4	14
6	3	2-1/2	9	11-5/8	15-1/4
8	3	2-1/2	9	13-5/8	16-1/2
10	3	2-1/2	9	14-5/8	18-1/4
12	3	2-1/2	9	15-5/8	19-3/4
14	4	3	11	18-7/8	20-3/4
16	4	3	11	19-7/8	22-1/4
18	6	3-1/2	13-1/2	21-1/4	24
20	6	3-1/2	13-1/2	23-1/4	25-1/2
24	6	4	13-1/2	26-1/2	28-1/4
30	6	4	13-1/2	29-5/8	31-1/2
32	6	4	13-1/2	30-5/8	32-3/4
36	6	4	13-1/2	32-5/8	34-3/4



DUCTILE IRON ELBOW



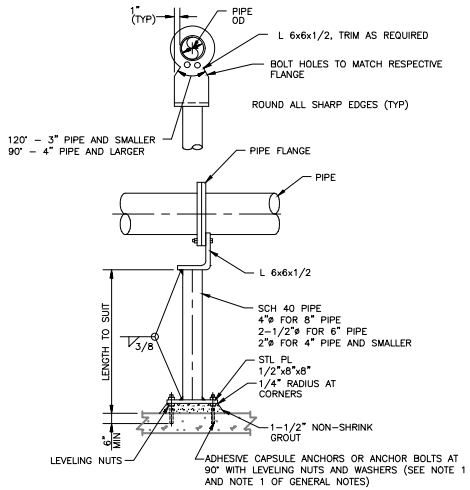
STEEL ELBOW

ELBOW 'A' DIA	'B' DIA	'C' THICK	'D' SQ	'E' DIA
4	2	3/8	6	5/8
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8	4	1/2	9	5/8
10	4	1/2	9	5/8
12	6	1/2	11	3/4
14	6	1/2	11	3/4
16	6	1/2	11	3/4
18	8	1/2	13-1/2	3/4
20	8	1/2	13-1/2	3/4
24	8	1/2	13-1/2	3/4
30	10	3/4	16	7/8
36	12	3/4	19	7/8
42	16	3/4	23-1/2	1
48	18	3/4	25	1-1/8

- NOTES:
- MATERIAL FINISH TO MATCH PIPE.
 - ALL PIPE AND SUPPORT MATERIALS INCLUDING ALL FASTENERS SHALL BE MANUFACTURED 316SS.

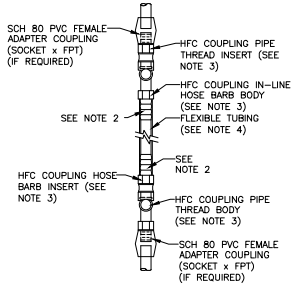
PIPE SUPPORT
DETAIL
A
NTS

ELBOW SUPPORT
DETAIL
B
NTS



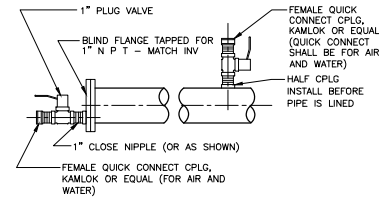
PIPE FLANGE SUPPORT
DETAIL
C
NTS

- NOTES:
- MATERIALS OF CONSTRUCTION SHALL BE AS SPECIFIED IN THE AREA CLASSIFICATION AND MATERIALS SCHEDULE SHOWN ON SHEET G-15.
 - REFER TO GENERAL NOTES ON SHEET MZ-1 AND SECTION 400507 FOR SPECIAL PIPE SUPPORT REQUIREMENTS.



- NOTES:
- SIZES OF FLEXIBLE HOSE AND QUICK DISCONNECT FITTINGS SHALL BE AS SHOWN ON DRAWINGS.
 - PROVIDE TYPE 304 SST HOSE CLAMPS OVER FLEXIBLE HOSE TO SECURE TO HOSE BARB INSERT ON QUICK DISCONNECTS.
 - ALL QUICK DISCONNECT COUPLINGS SHALL BE HIGH FLOW COUPLINGS (HFC), DOUBLE SHUT-OFF TYPE AS MANUFACTURED BY COLDER PRODUCTS, ST. PAUL, MN. MATERIALS OF CONSTRUCTION SHALL BE COMPATIBLE WITH PROCESS FLUID AND APPLICATION PRESSURE. QUICK DISCONNECT COUPLINGS FOR INSTRUMENTS (I.E. TURBIDIMETERS, CHLORINE ANALYZERS, ETC.) SHALL BE SINGLE SHUT-OFF TYPE.
 - FLEXIBLE TUBING SHALL BE SUITABLE FOR APPLICATION PRESSURE AND BE COMPATIBLE WITH PROCESS FLUID.

FLEXIBLE HOSE WITH QUICK DISCONNECTS
DETAIL
D
NTS



FLUSHING COCK
DETAIL
E
NTS

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: D. HERNANDEZ
 DRAWN BY: K. DEV
 SHEET CHK'D BY: C. VARNON
 CROSS CHK'D BY: A. WOELKE
 APPROVED BY: C. VARNON
 DATE: APRIL, 2024

9130 Research Blvd., Suite 1400
 Austin, TX 78759
 Tel: (512) 348-1100
 TSP# Firm Registration No. F-3043

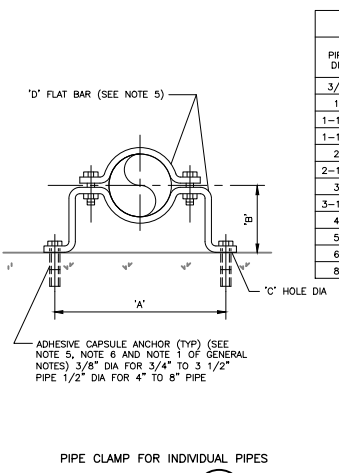
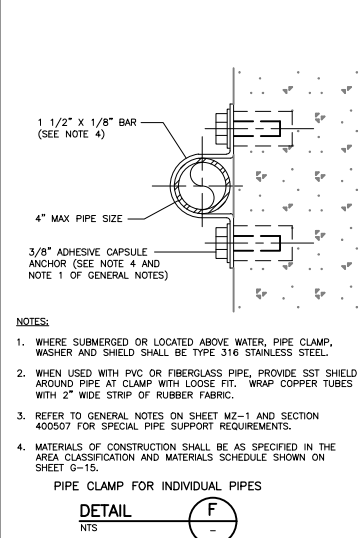
CITY OF BRYAN, TEXAS
 STILL CREEK WASTEWATER TREATMENT
 PLANT IMPROVEMENTS

MECHANICAL DETAILS I
 SHEET NO. MZ-1

PROJECT NO. 2381-284648
 FILE NAME: MZ-1.DWG
 SHEET NO. 97453



REVISIONS: 01/24, 02/24, 03/24, 04/24, 05/24, 06/24, 07/24, 08/24, 09/24, 10/24, 11/24, 12/24
 DRAWN BY: K. DEV
 CHECKED BY: C. VARNON
 DATE: 2/19/2024
 PROJECT: STILL CREEK WASTEWATER TREATMENT PLANT IMPROVEMENTS - PAGE 967 OF 1083
 3130 Research Blvd., Suite 1400, Austin, TX 78759
 Tel: (512) 348-1100
 TSP# Firm Registration No. F-3043

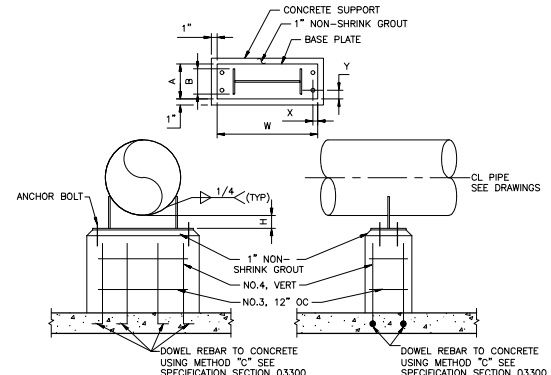


DIMENSIONS IN INCHES

PIPE DIA	'a'	'b' SEE NOTE 3 BELOW	'c' HOLE DIA	'd' FLAT BAR SIZE	LOAD RATING LBS*
3/4	5-15/16	2-1/2	7/16	3/16 X 1-1/4	300
1	6-1/4	2-5/8	7/16	3/16 X 1-1/4	300
1-1/4	6-11/16	2-3/4	7/16	3/16 X 1-1/4	300
1-1/2	6-15/16	3	7/16	3/16 X 1-1/4	300
2	8-5/16	3-3/16	7/16	1/4 X 1-1/4	500
2-1/2	8-7/8	3-7/16	7/16	1/4 X 1-1/4	500
3	9-1/8	3-3/4	7/16	1/4 X 1-1/4	500
3-1/2	10-1/16	4	7/16	1/4 X 1-1/4	500
4	10-9/16	4-1/4	9/16	1/4 X 1-1/2	600
5	11-3/4	4-3/4	9/16	1/4 X 1-1/2	600
6	14-3/8	5-5/16	9/16	3/8 X 1-1/2	850
8	16-5/8	6-5/16	9/16	3/8 X 1-1/2	850

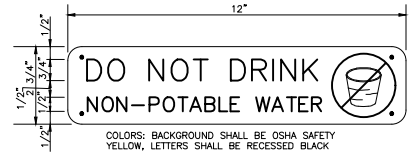
* SAFETY FACTOR OF 5

- NOTES:
- WHERE SUBMERGED OR LOCATED ABOVE WATER, PIPE CLAMP, WASHER AND SHIELD SHALL BE TYPE 316 SST.
 - WHEN USED WITH PVC OR FIBERGLASS PIPE, PROVIDE SST SHIELD AROUND PIPE AT CLAMP, WITH LOOSE FIT. WRAP COPPER TUBES WITH 2" STRIP OF RUBBER FABRIC.
 - FOR FLANGED PIPING INCREASE 'b' DIMENSION AS REQUIRED.
 - 'b' DIMENSION SHALL INCREASE AS SHOWN ON DRAWINGS.
 - REFER TO GENERAL NOTES ON SHEET MZ-1 AND SECTION 400507 FOR SPECIAL PIPE SUPPORT REQUIREMENTS.
 - MATERIALS OF CONSTRUCTION SHALL BE AS SPECIFIED IN THE AREA CLASSIFICATION AND MATERIALS SCHEDULE SHOWN ON SHEET G-15.
 - WITHIN TEMPORARY CONTAINMENT AREA, ADHESIVE CAPSULE ANCHORS TO BE BOLTED INTO CONCRETE BLOCKS THAT REST ON TOP OF THE POLYUREA CONTAINMENT LINER. CONCRETE BLOCKS AND ADHESIVE ANCHORS SHOULD BE INSTALLED TO NOT PENETRATE THE POLYUREA CONTAINMENT LINER. DIMENSIONS OF CONCRETE BLOCK WILL VARY BASED ON PIPE DIA.

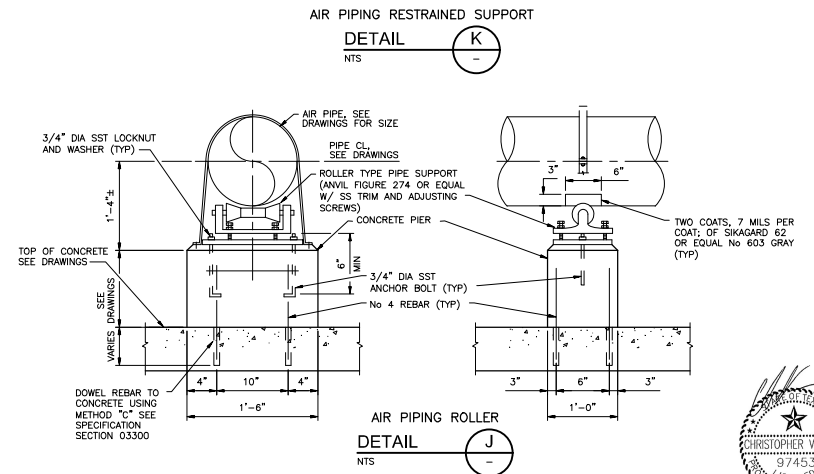
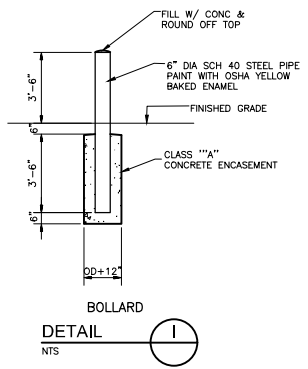


NOMINAL PIPE SIZE	30"	24"	18/16"	12"	10"	8"	6"
TYPE OF PIPE	SST	SST	SST	SST	SST	SST	SST
SUPPORT MATERIAL THICKNESS (ALL)	0.375"	0.375"	0.375"	0.375"	0.375"	0.375"	0.375"
SUPPORT MATERIAL	SST	SST	SST	SST	SST	SST	SST
DIMENSION (X)	1.50"	1.50"	1.50"	1.50"	1.50"	1.50"	1.50"
DIMENSION (Y)	2.25"	2.25"	2.25"	2.25"	2.25"	2.25"	2.25"
DIMENSION (W)	30.00"	24.00"	22.50"	18.50"	16.25"	14.50"	11.25"
DIMENSION (A)	8"	8"	8"	8"	8"	8"	8"
DIMENSION (B)	6"	6"	6"	6"	6"	6"	6"
DIMENSION (H)	3"	3"	3"	3"	3"	3"	3"
ANCHOR BOLT HOLE DIA	1"	1"	1"	1"	1"	1"	1"
ANCHOR BOLT SIZE	0.750"	0.750"	0.750"	0.750"	0.750"	0.750"	0.750"

CONTRACTOR TO VERIFY ELEVATIONS BEFORE PRODUCTION



- NOTES:
- FURNISH AND INSTALL THE ABOVE SIGN ABOVE ALL NEW NON-POTABLE AND PLANT WATER HOSE BIBB AND HYDRANT STATIONS WHETHER SHOWN ON DRAWINGS OR NOT. ATTACH THE SIGN TO THE STRUCTURE, GUARDRAIL OR POST WITH STAINLESS STEEL HARDWARE AND MOUNTING BRACKET.
 - FURNISH ONE SIGN AND RECEIVE APPROVAL FROM OWNER PRIOR TO ORDERING REMAINDER OF SIGNS.

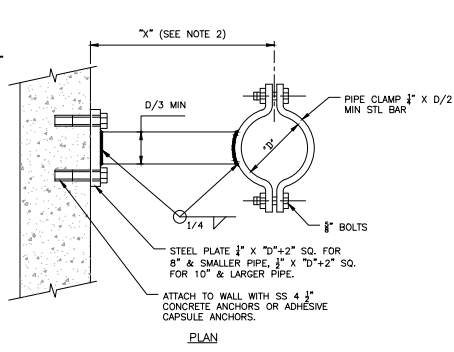
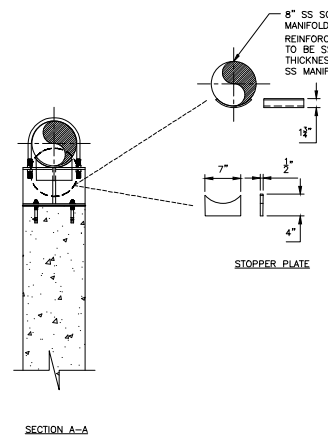
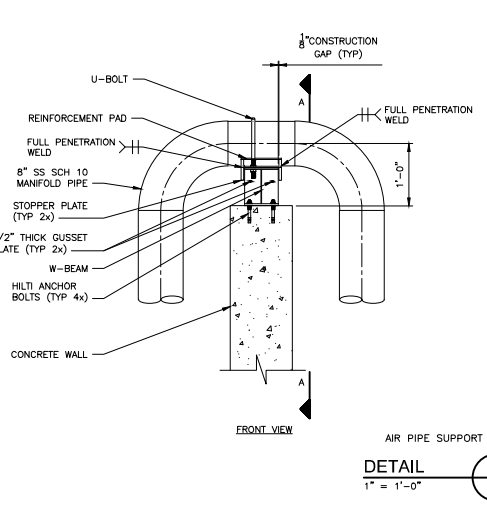


REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: D. HERNANDEZ DRAWN BY: K. DEV SHEET CHK'D BY: C. VARNON CROSS CHK'D BY: A. WOELKE APPROVED BY: C. VARNON DATE: APRIL 2024	CDM Smith 3130 Research Blvd., Suite 1400 Austin, TX 78759 Tel: (512) 348-1100 TSP# Firm Registration No. F-3043	CITY OF BRYAN, TEXAS STILL CREEK WASTEWATER TREATMENT PLANT IMPROVEMENTS	MECHANICAL DETAILS II	PROJECT NO. 2381-284648 FILE NAME: MZ-2.DWG SHEET NO. MZ-2
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100% SUBMITTAL - NOT FOR CONSTRUCTION

USE: [CHAS-2124, REV. 11/20/2013] DRAWN BY: [C. VARNON] PROJECT NO.: 2381-284648
 DATE: [04/20/24] DESIGNED BY: [H. KALE] SHEET NO.: [MZ-3] FILE NAME: [MZ-3.DWG]
 CHECKED BY: [S. RAJESH] CROSS CHECKED BY: [A. WOELKE] PROJECT: [STILL CREEK WASTEWATER TREATMENT PLANT IMPROVEMENTS - PAGE 968 OF 1053]
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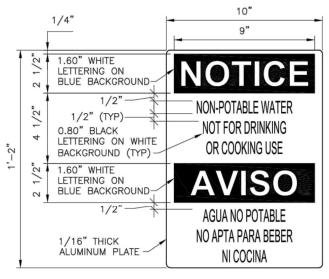


NOTES:

- SWAY BRACE SHALL NOT SUPPORT VERTICAL LOADS.
- FOR USE WHEN "X" IS GREATER THAN 12".
- SWAY BRACES SHALL BE HOT DIP GALVANIZED AFTER FABRICATION, WHERE SUBMERGED OR LOCATED ON OR ABOVE TOP OF WALL OF HYDRAULIC STRUCTURE, ASSEMBLY SHALL BE FABRICATED FROM TYPE 316L SS.
- PIPE CLAMP TO INCLUDE A 1/8" GAP ALL AROUND THE PIPE.

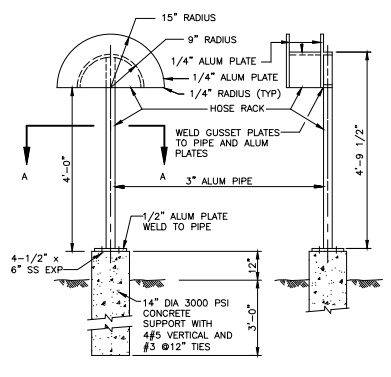
NOTES:

- ROLL-OFF GUIDES SHALL BE VERIFIED BY OWNER'S ROLL-OFF CONTAINER PROVIDER.
- ROLL-OFF GUIDE HEIGHT SHALL BE FIELD DETERMINED AND COORDINATED WITH OWNER SUPPLIED CONTAINERS.
- CONTAINER DIMENSIONS BASED ON 20 CUBIC YARDS CAPACITY.



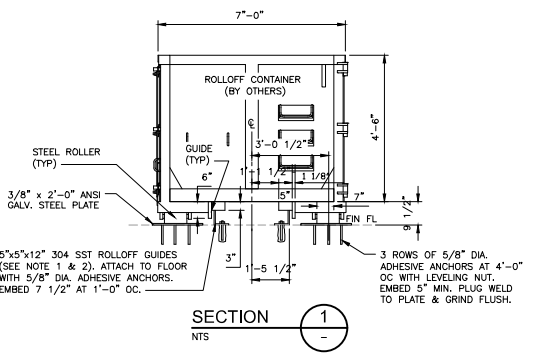
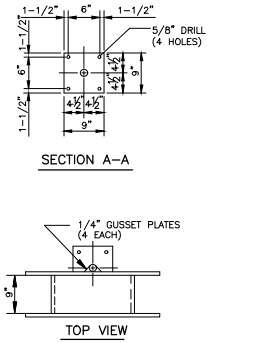
NOTES:

- FURNISH AND INSTALL THE ABOVE SIGN ON ALL PROCESS WATER (PW) LINE HOSE STATIONS. ATTACH THE SIGN TO THE STRUCTURE, GUARDRAIL OR POST WITH STAINLESS STEEL HARDWARE AND MOUNTING BRACKET.
- FURNISH ONE SIGN AND RECEIVE APPROVAL FROM OWNER PRIOR TO ORDERING REMAINDER OF SIGNS.
- SIGN SHALL BE ALUMINUM BACKED AND SHALL BE AS MANUFACTURED BY BRADY WORLDWIDE, INC OR EQUAL.



NOTE:

- FURNISH 100' OF 3/4" ID RUBBER HOSE AT EACH YARD HOSE STATION. HOSE SHALL BE DESIGNED FOR 150 PSI WORKING PRESSURE AND SHALL HAVE TWO CORDS OF TIGHTLY BRAIDED REINFORCING AND FLEXIBLE NEOPRENE EXTERIOR THAT RESISTS OIL, GREASE, ABRASION AND SEVERE WEATHER CONDITIONS FOR INDUSTRIAL USE. BOTH ENDS OF HOSE SHALL BE THREADED, ONE END MALE, ONE END FEMALE. PROVIDE A TYPICAL RUBBER COVERED SPRAY NOZZLE WITH SWIVEL TYPE ADAPTERS, OR EQUAL, LEVER ACTION, RATED AT 150 PSI.



REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY:	H. KALE
DRAWN BY:	S. RAJESH
SHEET CHK'D BY:	C. VARNON
CROSS CHK'D BY:	A. WOELKE
APPROVED BY:	C. VARNON
DATE:	APRIL, 2024



CITY OF BRYAN, TEXAS
STILL CREEK WASTEWATER TREATMENT PLANT IMPROVEMENTS

MECHANICAL DETAILS III

PROJECT NO.	2381-284648
FILE NAME:	MZ-3.DWG
SHEET NO.	MZ-3



SYMBOLS	DESCRIPTION
	MEDIUM VOLTAGE DRAWOUT TYPE POWER CIRCUIT BREAKER CS-CONTROL SWITCH
	LOW VOLTAGE CIRCUIT BREAKER, 3 POLE UNLESS OTHERWISE NOTED, LSJK IF NOTED MCP IF NOTED ERMS IF NOTED
	COMBINATION MOTOR CIRCUIT PROTECTOR AND MAGNETIC MOTOR STARTER, FULL VOLTAGE NON-REVERSING UNLESS OTHERWISE NOTED. * FVR-FULL VOLTAGE REVERSING * RVR-REDUCED VOLTAGE NON-REVERSING * 2S-TWO SPEED, ONE WINDING * 2S2V-TWO SPEED, TWO WINDING
	NON-FUSIBLE DISCONNECT SWITCH, 600 VOLT, 3 POLE * AMPERE RATING NOTED IF OTHER THAN 30A
	FUSIBLE DISCONNECT SWITCH, 600 VOLT, 3 POLE, AMPERE RATING AND FUSE SIZE AS NOTED. * AMPERE RATING NOTED IF OTHER THAN 30A * FUSE RATING
	MOTOR ISOLATION SWITCH, HORSEPOWER RATED
	MEDIUM VOLTAGE VACUUM FAULT INTERRUPTER AND LOAD BREAK SWITCH, AMPERE RATING AS NOTED.
	DRAWOUT TYPE EQUIPMENT OR DEVICE
	MEDIUM VOLTAGE CABLE TERMINATION
	MEDIUM VOLTAGE AIR INTERRUPTER SWITCH
	MEDIUM VOLTAGE FUSED AIR INTERRUPTER SWITCH
	MEDIUM VOLTAGE FUSED MOTOR CONTROLLER
	TRANSFORMER, RATINGS AND CONNECTIONS AS NOTED, UNLESS OTHERWISE NOTED ON THE SINGLE LINE DIAGRAMS ALL DRY TYPE TRANSFORMERS SERVING ADMINISTRATIVE AND LABORATORY SPACES SHALL HAVE A K FACTOR OF 13. ALL OTHER DRY TYPE TRANSFORMERS SHALL HAVE A K-4 RATING. ISOLATION TRANSFORMERS SHALL HAVE A K-20 RATING
	CURRENT TRANSFORMER: * QUANTITY A= PRIMARY AMPERES
	POTENTIAL TRANSFORMER: * QUANTITY PV= PRIMARY VOLTAGE SV= SECONDARY VOLTAGE
	GENERATOR, RATINGS AND CONNECTIONS AS NOTED
	TRANSFER SWITCH AUTOMATIC TRANSFER SWITCH (EG ATS-1) MANUAL TRANSFER SWITCH (EG MTS-1) * "N" INDICATES NORMAL SOURCE * "S" INDICATES STANDBY SOURCE * "C" INDICATES CONTINUOUS CURRENT RATING
	VARIABLE SPEED DRIVE CONTROLLER * D.C.-D.C. DRIVE CONTROLLER * SCR= SILICON CONTROLLED RECTIFIER * VFD= VARIABLE FREQUENCY DRIVE * AFD= ADJUSTABLE FREQUENCY DRIVE
	VACUUM CONTACTOR
	UNIT HEATER - ELECTRIC HEATING COIL AND FAN
	UNIT HEATER - STEAM OR WATER HEATING COIL AND FAN
	MOTOR, NUMERAL INDICATES HORSEPOWER

SYMBOLS	DESCRIPTION																
	SURGE PROTECTION DEVICE																
	VOLTMETER (WITH SWITCH IF 3-PHASE)																
	AMMETER (WITH SWITCH IF 3-PHASE)																
	METER * WM- WATTMETER * WHA- WATTHOUR METER * WHDA- WATTHOUR DEMAND METER * WHDR- WATTHOUR DEMAND RECORDER * PF- POWER FACTOR METER * RT- RUNNING TIME METER * TRANSDUCER * AC- CURRENT TRANSDUCER * WA- WATT TRANSDUCER																
	RELAY, NO. AS INDICATED 2S- SYNCHRONISM CHECK RELAY 27- UNDER VOLTAGE RELAY 3B- BEARING PROTECTIVE DEVICE 4L- LOSS OF EXCITATION RELAY 4R- RUNNING CONTACTOR/PILOT RELAY 4S- REVERSE PHASE/PHASE BALANCE/CURRENT RELAY 4T- PHASE SEQUENCE VOLTAGE RELAY 4M- MACHINE OR TRANSFORMER THERMAL RELAY 50- INSTANTANEOUS OVERCURRENT RELAY 51- TIME OVER CURRENT RELAY 51G- TIME OVERCURRENT RELAY GROUNDING RESISTOR TYPE 51N- TIME OVERCURRENT RELAY, RESIDUAL TYPE 51V- TIME OVERCURRENT RELAY WITH VOLTAGE RESTRAINT 60- NEGATIVE SEQUENCE VOLTAGE RELAY 62- TIME DELAY RELAY 63- OVER PRESSURE RELAY 67- AC DIRECTIONAL OVERCURRENT RELAY 83- AUTOMATIC SELECTIVE CONTROL OR TRANSFER RELAY 86- LOCKING-OUT RELAY 87- DIFFERENTIAL PROTECTIVE RELAY B- SUFFIX INDICATES "BUS" G- SUFFIX INDICATES "GENERATOR" GF- GROUND FAULT SH- SHUNT TRIP T- SUFFIX INDICATES "TRANSFORMER" X- SUFFIX INDICATES "AUXILIARY"																
	SPECIAL CAPACITOR * SC- SURGE CAPACITOR * PF- POWER FACTOR CORRECTION CAPACITOR INCLUDING INDUCTIVE LINK AS NEEDED																
	PUSH BUTTON, MOMENTARY CONTACT, SPRING RETURN, NORMALLY CLOSED																
	PUSH BUTTON, MOMENTARY CONTACT, SPRING RETURN, NORMALLY OPEN																
	EMERGENCY STOP PUSH BUTTON WITH RED MUSHROOM HEAD OPERATOR (MAINTAINED CONTACT)																
	STOP PUSH BUTTON WITH RED HEAD OPERATOR (MAINTAINED CONTACT) WITH LOCKABLE OPTION * E- STOP * STOP																
	START-STOP PUSH BUTTON CONTROL STATION (MOMENTARY CONTACT) "L" DENOTES LOCKOUT TYPE																
	START-STOP PUSH BUTTON CONTROL STATION, MAINTAINED CONTACT WITH LOCKOUT DEVICE ON STOP																
	OFF-ON SELECTOR SWITCH																
	3 POSITION SELECTOR SWITCH, MAINTAINED CONTACT O-OPEN X-CLOSED	POSITION	TOP CONTACT	MIDDLE CONTACT	BOTTOM CONTACT	A	X	O	O	B	O	O	O	C	O	O	X
POSITION	TOP CONTACT	MIDDLE CONTACT	BOTTOM CONTACT														
A	X	O	O														
B	O	O	O														
C	O	O	X														
	* NAMEPLATE (A/B/C) H0A- HAND/OFF/AUTO H0R- HAND/OFF/REMOTE L0R- LOCAL/OFF/REMOTE RSL- RAISE/STOP/LOWER T0A- TEST/OFF/AUTO																
	NOTE: 2 POSITION MULTI-CONTACT SWITCH FOLLOWS SAME CONVENTION																
	MOTOR STARTER COIL, NUMBER AS INDICATED																
	CONTROL RELAY COIL, NUMBER AS INDICATED																

SYMBOLS	DESCRIPTION
	PILOT LIGHT, COLOR AS NOTED * R- RED * G- GREEN * B- BLUE * W- WHITE * A- AMBER
	PILOT LIGHT, PUSH-TO-TEST TYPE, COLOR AS NOTED ABOVE.
	TIME DELAY RELAY RANGE AS NOTED SET POINT AS NOTED
	TDD- TIME DELAY AFTER DE-ENERGIZATION-OFF DELAY TOD- TIME DELAY AFTER ENERGIZATION-ON DELAY
	NO- NORMALLY OPEN, TIMED CLOSING WHEN ENERGIZED
	NC- NORMALLY CLOSED, TIMED OPENING WHEN ENERGIZED
	NO- NORMALLY OPEN, TIMED OPENING WHEN DE-ENERGIZED
	NC- NORMALLY CLOSED, TIMED CLOSING WHEN DE-ENERGIZED
	FIELD INSTRUMENT, TAG NO. OR LOOP # AS INDICATED INDICATES INSTRUMENT TYPE DEFINED ON LOOP SHEETS #B- INDICATES LOOP NO.
	LIQUID LEVEL (FLOAT) SWITCH NORMALLY OPEN, CLOSURES ON RISING LEVEL
	NORMALLY CLOSED, OPENS ON RISING LEVEL
	NORMALLY OPEN, CLOSURES ON DROPPING LEVEL
	NORMALLY CLOSED, OPENS ON DROPPING LEVEL
	PRESSURE OR VACUUM SWITCH NORMALLY OPEN, CLOSURES ON RISING PRESSURE
	NORMALLY CLOSED, OPENS ON RISING PRESSURE
	NORMALLY OPEN, CLOSURES ON DROPPING PRESSURE
	NORMALLY CLOSED, OPENS ON DROPPING PRESSURE
	TEMPERATURE SWITCH OR THERMOSTAT NORMALLY OPEN, CLOSURES ON RISING TEMPERATURE
	NORMALLY CLOSED, OPENS ON RISING TEMPERATURE
	NORMALLY OPEN, CLOSURES ON DROPPING TEMPERATURE
	NORMALLY CLOSED, OPENS ON DROPPING TEMPERATURE
	FLOW SWITCH (AIR, WATER, ETC.) NORMALLY OPEN, CLOSURES ON INCREASED FLOW
	NORMALLY OPEN, CLOSURES ON INCREASED FLOW
	NORMALLY CLOSED, OPENS ON INCREASED FLOW
	NORMALLY OPEN, CLOSURES ON DROPPING FLOW
	NORMALLY CLOSED - HELD OPEN
	TORQUE SWITCH NORMALLY CLOSED, OPENS ON HIGH TORQUE
	CONDUCTORS OR CONDUITS CROSSING PATHS BUT NOT CONNECTED
	CONDUCTORS ELECTRICALLY CONNECTED

SYMBOLS	DESCRIPTION
	LIGHTNING ARRESTER/SURGE CAPACITOR
	GROUND ROD
	GROUND ROD WELL
	FUSE, AMPERE RATING AS NOTED
	HEATER
	INDUCTOR
	TACHOMETER GENERATOR
	CONTACT, NORMALLY OPEN (NO)
	CONTACT, NORMALLY CLOSED (NC)
	OVERLOAD RELAY HEATER
	KEY INTERLOCK
	TERMINAL OR TEST BLOCK
	RESISTANCE TEMPERATURE DETECTOR
	VIBRATION DETECTOR
	DAMPENER MOTOR
	ELAPSED TIME METER
	MOTOR OPERATED VALVE
	PUSH-BUTTON STATION, REFER TO ELECTRICAL SCHEMATIC FOR NUMBER OF DEVICES.
	JUNCTION BOX
	POWER JUNCTION BOX
	4-20mA SIGNAL JUNCTION BOX
	CONTROL JUNCTION BOX
	PULL BOX
	TERMINATION CABINET
	REMOTE DEVICES
	MOV WITHOUT INTEGRATED DISCONNECT
	MOV WITH INTEGRATED DISCONNECT
	INDICATES LIMITS OF EQUIPMENT OR WIRING ENCLOSURE

GENERAL NOTE
THIS IS A STANDARD LEGEND.
SOME SYMBOLS MAY NOT
APPEAR ON THE DRAWINGS.

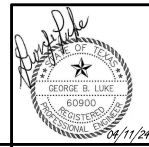
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 BRYAN STILL CREEK WASTEWATER TREATMENT PLANT IMPROVEMENTS - PAGE 802 OF 1053

DESIGNED BY: J.FELGER	DRAWN BY: J.MEAM	SHEET CHK'D BY: GLUIKE	CROSS CHK'D BY: GLUIKE	APPROVED BY: GLUIKE	DATE: APRIL 2024

BRYAN STILL CREEK
 WASTEWATER TREATMENT PLANT
 IMPROVEMENTS

PROJECT NO. 2381-284648
 FILE NAME: E-1.DWG
 SHEET NO.
 E-1

ELECTRICAL
 LEGEND & SYMBOLS - I



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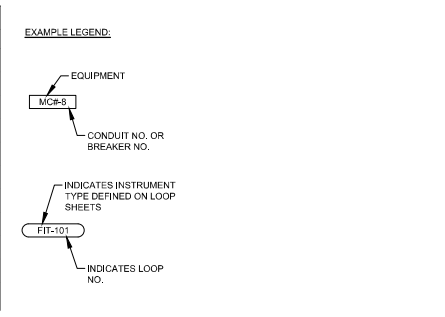
SYMBOLS	DESCRIPTION
	REFER TO LIGHT FIXTURE SCHEDULE FOR TYPE FIXTURE: "A"- FIXTURE TYPE "b"- CONTROLLED BY SWITCH "Y" "LA-3"- CIRCUIT 3 FROM PANEL LA
	REFER TO LIGHT FIXTURE SCHEDULE FOR TYPE FIXTURE, NOTATIONS SAME AS ABOVE
	INDICATES LIGHT FIXTURES WHICH ARE NONSWITCHED, NOTATIONS SAME AS ABOVE "NS"- NONSWITCHED
	WALL MOUNTED LIGHTING FIXTURE, NOTATIONS SAME AS ABOVE
	POLE MOUNTED LIGHTING FIXTURE, NOTATIONS SAME AS ABOVE
	EMERGENCY LIGHTING BATTERY UNIT WITH TWO LAMP HEADS, NOTATIONS SAME AS ABOVE
	REMOTE EMERGENCY ADJUSTABLE WALL LIGHTING FIXTURE WITH TWO LAMP HEADS, NOTATIONS SAME AS ABOVE
	CEILING MOUNTED EXIT SIGN, NOTATIONS SAME AS ABOVE
	WALL OUTLET EXIT SIGN, ARROW INDICATES DIRECTION OF EGRESS, NOTATIONS SAME AS ABOVE
	CONDUIT, EXPOSED/SURFACE MOUNTED
	CONDUIT OR DUCT/BANK, CONCEALED
	CONDUIT, EXPOSED/SURFACE MOUNTED, TURNING UP
	CONDUIT, EXPOSED/SURFACE MOUNTED, TURNING DOWN
	CONDUIT STUBBED OUT AND CAPPED
	DENOTES A QUANTITY OF 2 SETS OF THREE (3) NO.3/0 AWG CONDUCTORS AND 1 NO. AWG GROUND CONDUCTOR EACH INSTALLED IN 3" CONDUIT.
	DENOTES A QUANTITY OF TWO INSTRUMENT CABLES, EACH CONSISTS OF TWO NO. 16 AWG CONDUCTORS TWISTED TOGETHER AND COVERED WITH A METALLIC SHIELD AND AN OVERALL PROTECTIVE JACKET. REFER TO THE SPECIFICATIONS FOR THE EXACT CABLE TO BE PROVIDED.
	DENOTES A QUANTITY OF THREE 4-INCH CONDUITS.
	FLEXIBLE METAL CONDUIT "WHIP" #1212 @120, 3/4" UNLESS OTHERWISE NOTED FOR RECESSED LIGHTING FIXTURES AND LIQUID TIGHT MOTOR CONNECTIONS
	HOMERUN, CIRCUITS 1 AND 3 RUN TO PANEL LP-1
	SINGLE POLE SWITCH "b"- INDICATES SWITCH LEG SHALL CONTROL LIGHT FIXTURES WITH "b" DESIGNATION
	MULTI POLE SWITCH "b"- INDICATES NUMBER OF POLE "b"- NOTATIONS SAME AS ABOVE
	SINGLE POLE SWITCH AND PILOT LIGHT, "b"- NOTATIONS SAME AS ABOVE
	DIMMER LIGHTING CONTROL SWITCH, "b"- NOTATIONS SAME AS ABOVE
	TIME SWITCH, "b"- NOTATIONS SAME AS ABOVE
	MANUAL MOTOR STARTER /DISCONNECT
	SINGLE POLE SWITCH WITH OCCUPANCY SENSOR
	SINGLE POLE DIMMER SWITCH
	SWITCH ENCLOSURE "X"- NOTATIONS SAME AS ABOVE "b"- NOTATIONS SAME AS ABOVE "XX"- INDICATES ENCLOSURE TYPE
	LIGHTING CONTACTOR WITH NUMBER OF POLES AS INDICATED

SYMBOLS	DESCRIPTION
	LIGHTING PANELBOARD (TYPICAL 120V/240V OR 120V/208V)
	DISTRIBUTION PANELBOARD (TYPICAL 277V/480V)
	DUPLEX RECEPTACLE, 20A, 120V, 2P, 3W; * GFI- GROUND FAULT INTERRUPTER TYPE WP- WEATHERPROOF "LA-3"- CIRCUIT 3 FROM PANEL LA
	RED FACE ISOLATED GROUND DUPLEX, 15A
	20A, 240V, 2P, 3W, RECEPTACLE
	CLASS 1, DIVISION 1, RATED TWIST LOCK RECEPTACLE, VOLTAGE AND AMPERAGE RATINGS AS NOTED
	SINGLE FACE, SINGLE GANG PEDESTAL WITH 20A, 120V, 2P, 3W DUPLEX RECEPTACLE, FURNISHED AND INSTALLED UNDER DIVISION 16 UNLESS OTHERWISE NOTED. "D" DENOTES FURNISHED UNDER OTHER DIVISIONS OF THE SPECIFICATIONS BUT INSTALLED UNDER DIVISION 16
	DOUBLE FACE, SINGLE GANG PEDESTAL WITH 20A, 120V, 2P, 3W DUPLEX RECEPTACLE AND 20A, 240V, 2P, 3W SINGLE RECEPTACLE, FURNISHED AND INSTALLED UNDER DIVISION 16 UNLESS OTHERWISE NOTED. "D" DENOTES FURNISHED UNDER OTHER DIVISIONS OF THE SPECIFICATIONS BUT INSTALLED UNDER DIVISION 16
	DOUBLE RECEPTACLE, 20A, 120V, 2P, 3W MOUNTED IN BOX CURB FURNISHED UNDER OTHER DIVISIONS OF THE SPECIFICATIONS BUT INSTALLED UNDER DIVISION 16
	SINGLE GANG 20A, 120V, 2P, 3W RECEPTACLE
	QUAD RECEPTACLE
	OCCUPANCY SENSOR CAPABLE OF VACANCY
	PHOTOCELL

TAGGING		
EQUIPMENT	EQUIPMENT TAG	CONDUIT TAG
MOTOR CONTROL CENTER	MCC-1	MC1-XX
SWITCHBOARD	SWBD-1	SB1-XX
SWITCHGEAR	SWGR-1	SG1-XX
PROGRAMMABLE LOGIC CABINET	PLC-1	PL1-XX
VARIABLE FREQUENCY DRIVE	VFD-1	VF1-P
LOW VOLTAGE TRANSFORMER	TX-LX OR TX-HX	TXLX-P OR TXHX-P
SERVICE TRANSFORMER	TX-1	TX1-P
GENERATOR	GEN-1	GN1-X
LIGHTING/POWER PANELBOARD	LP/PP-XX	XX-XX
AUTOMATIC TRANSFER SWITCH	ATS-1	AT1-XX

TYPICAL TAG FOR CONDUIT FROM THIS EQUIPMENT TO DOWN STREAM LOAD FOR EXAMPLE.

SYMBOLS	DESCRIPTION
COMMUNICATIONS SYSTEMS	
	TELEPHONE OUTLET
	DATA OUTLET
	DATA INPUT/OUTPUT CABLE OUTLET. "P" DENOTES PROCESS COMPUTER SYSTEM
	VOICE/DATA OUTLET
	PAGING SPEAKER HORN
	PAGING SPEAKER BI-DIRECTIONAL
	PAGING SPEAKER, CEILING MOUNTED TYPE
	PAGING SPEAKER, WALL MOUNTED TYPE
SECURITY SYSTEMS	
	SECURITY ALARM PANEL
	SECURITY ALARM DOOR SWITCH
	SECURITY ALARM KEY PAD
	SECURITY SYSTEM CARD ACCESS READER
	SECURITY ALARM WINDOW SWITCH
	SECURITY ALARM MOTION DETECTOR
	SECURITY CAMERA * CCTV- CLOSED CIRCUIT TV CAMERA PTZ- PAN, TILT, ZOOM CAMERA LENS CONTROLS
	GLASS BREAK DETECTOR
	ACCESS CONTROL PANEL
FIRE ALARM SYSTEMS	
	FIRE ALARM CONTROL PANEL
	SMOKE DETECTOR * D- DENOTES DUCT SMOKE DETECTOR R- DENOTES FIXED TEMPERATURE RATE-OF-RISE TYPE.
	FIRE ALARM MANUAL PULL STATION, MOUNT AT 4'-0"
	ALARM HORN, MOUNT AT 7'-6" * F- DENOTES FIRE ALARM
	ALARM STROBE, MOUNT AT 6'-6" * F- DENOTES FIRE ALARM
	ALARM HORN AND STROBE LIGHT COMBINATION, MOUNT AT 8'-6" * F- DENOTES FIRE ALARM



ABBREVIATIONS	ABBREVIATIONS
AC	ALTERNATING CURRENT
AFD	ADJUSTABLE FREQUENCY DRIVE
AF	ABOVE FINISHED FLOOR
AG	ABOVE GRADE
ALUM	ALUMINUM
AMP/A	AMPERE
ATS	AUTOMATIC TRANSFER SWITCH
AUTO	AUTOMATIC
AUX	AUXILIARY
AWG	AMERICAN WIRE GAUGE
C	CONDUIT
CB	CIRCUIT BREAKER
CKT	CIRCUIT
CLF	CURRENT LIMITING FUSE
CP	CONTROL PANEL
CPT	CONTROL POWER TRANSFORMER
CR	CONTROL RELAY
CS	CONTROL SWITCH
CT	CURRENT TRANSFORMER
CU	COPPER
DC	DIRECT CURRENT
DI	DOOR INTERLOCK
DN	DOWN
DWG	DRAWING
EMH	ELECTRICAL HANDHOLE
EC	EMPTY CONDUIT
ELEC	ELECTRICAL
ELEV	ELEVATION
EM	EMERGENCY
EMH	ELECTRICAL MANHOLE
EO	ELECTRICALLY OPERATED
ERMS	ENERGY-REDUCING
FS	MAINTENANCE SWITCH
FSD	FURNISHED BY OTHERS
FO	FIBER OPTIC
FRP	FIBERGLASS REINFORCED POLYESTER
FU	FUSE
GCP	GENERATOR CONTROL PANEL
GEN	GENERATOR
G.GRD	GROUND
GI	GROUND FAULT INTERRUPTER
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GO	GATE OPERATOR
GRS	GALVANIZED RIGID STEEL
HH	HANDHOLE
HT	HEIGHT
HTP	HEAT TRACE PANEL
HZ	HERTZ
IMH	INSTRUMENT MAN HOLE
INST	INSTRUMENT
LA	LIGHTING ARRESTER
LC	LIGHTING CONTACTOR
LCB	LOCAL CONTROL PANEL
LQTS	LIGHTS
LP	LIGHTING PANEL
	CONTINUED ABOVE RIGHT
LSIG	LONG TIME SHORT TIME INSTANTANEOUS-GROUND FAULT FEATURE INCLUDED
MCC	MOTOR CONTROL CENTER
MCP	MOTOR CIRCUIT PROTECTOR
MFR	MANUFACTURER
MH	MANHOLE
MO	MANHOLES ONLY
MTG	MOUNTING
MTD	MOUNTED
MTS	MANUAL TRANSFER SWITCH
NC	NORMALLY CLOSED
NO	NORMALLY OPEN OR NUMBER
NFS	NOT TO SCALE
OL	OVERLOAD
OLX	OVERLOAD CONTROL RELAY
PB	PUSHBUTTON OR PULL BOX
PC	PUMP CONTROL CONSOLE
FFR	PHASE PROTECTIVE RELAY
FFR	PHASE FAILURE RELAY
PH	PHASE
PAN/BD	PANELBOARD
FR	PAIR
PT	POTENTIAL TRANSFORMER
PIT	PUSH TO TEST TYPE
PVC	POLYVINYL CHLORIDE
QTY	QUANTITY
RCF	RELAY CONTROL PANEL
RECP	RECEPTACLES
RVSS	REDUCED VOLTAGE SOFT STARTER
SC	SURGE CAPACITOR
SCH	SCHEMATIC
SCCR	SHORT CIRCUIT CURRENT RATING
SEC	SECONDARY OR SECONDARY
SH	SHIELDED OR SHEET
SHT	SHEET
SN	SOLID NEUTRAL
SS	STAINLESS STEEL
STARTER	STARTER
SV	SOLENOID VALVE
SW	SWITCH
SWBD	SWITCHBOARD
SWGR	SWITCHGEAR
TC	TERMINATION CABINET
TEL	TELEPHONE
TO	TIME DELAY ON OPENING
TS	TEMPERATURE SWITCH
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSOR
TSW	TWISTED SHIELDED WIRE
TYP	TYPICAL
UG	UNDERGROUND
V	VOLTS
VFD	VARIABLE FREQUENCY DRIVE
VO	VALVE OPERATOR
W	WIRE
WP	WEATHERPROOF
XP	EXPLOSION PROOF
XFMR	TRANSFORMER

GENERAL NOTE
THIS IS A STANDARD LEGEND. SOME SYMBOLS MAY NOT APPEAR ON THE DRAWINGS.

REV. NO.	DATE	DRWN	CHKD	REMARKS

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BRYAN STILL CREEK
WASTEWATER TREATMENT PLANT IMPROVEMENTS

ELECTRICAL LEGEND & SYMBOLS - II

PROJECT NO. 2381-284648
 FILE NAME: E-2.DWG
 SHEET NO. E-2



ELECTRICAL GENERAL NOTES

- THE NOTES CONTAINED ON THIS SHEET ARE PROVIDED FOR THE CONVENIENCE OF THE CONTRACTOR WHEN WORKING IN THE FIELD, AND CONTAIN EXCERPTS FROM THE SPECIFICATION SECTIONS. HOWEVER THE CONTRACTOR IS HEREBY ADVISED THAT THE CONTRACT DOCUMENTS CONSIST OF BOTH THE DRAWINGS AND THE SPECIFICATIONS, AND THAT THE CONTRACTOR MUST COMPLY FULLY WITH BOTH THE BOUND DRAWINGS AND THE BOUND SPECIFICATIONS.
- ALL EQUIPMENT WIRING, RACEWAYS, ETC. SHALL BE INSTALLED AND GROUNDED IN ACCORDANCE WITH THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE, LOCAL CODES, AND INDUSTRY STANDARDS (IE. UL, NEMA, IEEE, ANSI, ETC.), THE DRAWING NOTES AND DETAILS SHALL BE COMPLIED WITH IN ADDITION TO THE REQUIREMENTS IN THE SPECIFICATIONS. REFER TO EACH SPECIFICATION SECTION FOR SPECIFIC REQUIREMENTS.
- ALL RACEWAY INSTALLATIONS SHALL BE INSTALLED IN A MANNER TO PREVENT CONFLICTS WITH EQUIPMENT AND STRUCTURAL CONDITIONS. ALL EXPOSED RACEWAY SHALL BE INSTALLED AS PER ANSI/NECA 1 PARALLEL TO BEAMS, CEILINGS, FLOORS AND WALLS. SEE SPECIFICATION ON RACEWAYS FOR ADDITIONAL REQUIREMENTS.
- CONDUITS SHALL BE TERMINATED IN A NEAT MANNER AND STRICTLY IN ACCORDANCE WITH THE SPECIFICATIONS AND DRAWING DETAILS.
- CONDUITS TERMINATED INTO ENCLOSURES SHALL BE PERPENDICULAR TO THE WALLS OF THE ENCLOSURE. THE USE OF SHORT SEALTIGHT ELBOW FITTINGS FOR SUCH TERMINATIONS IS NOT PERMITTED.
- ALL RACEWAY INSTALLATIONS, CROSSING EXPANSION JOINTS OR TRANSITIONS FROM BELOW GRADE TO EXPOSED ABOVE GRADE, SHALL HAVE EXPANSION OR EXPANSION/DEFLECTION TYPE FITTINGS AS SPECIFIED FOR THE APPLICATION. SEE THE DRAWINGS AND THE SPECIFICATION ON RACEWAYS FOR THE EXACT TYPE OF FITTING TO BE USED.
- NO CONDUIT SMALLER THAN 3/4", NOR WIRE SMALLER THAN NO. 12 AWG, SHALL BE USED UNLESS SPECIFICALLY NOTED.
- ALL UNDERGROUND SINGLE CONDUITS AND DUCTBANKS OF MULTIPLE CONDUITS SHALL BE RIGID PVC CONDUIT ENCASED IN REINFORCED RED CONCRETE. CONCRETE DYED RED BEFORE PLACEMENT. MINIMUM SIZE IS 2 INCH. FIELD VERIFY THE ROUTING OF ALL EXISTING UNDERGROUND CONDUIT AND DUCTBANKS. COORDINATE ROUTING OF NEW CONDUIT AND DUCTBANKS TO AVOID INTERFERENCE WITH EXISTING CONDUIT, DUCTBANKS, AND OTHER UNDERGROUND UTILITIES.
- ALL CHANGES OF DIRECTION GREATER THAN 20 DEGREES IN UNDERGROUND SINGLE, OR DUCTBANKS OF MULTIPLE CONDUITS, SHALL BE ACCOMPLISHED USING PVC COATED RIGID ALUMINUM LONG RADIUS BENDS. BENDS OF PVC CONDUIT GREATER THAN 20 DEGREES, OR THE USE OF FLEXIBLE CONDUIT OF ANY TYPE, WILL NOT BE PERMITTED. SEE THE SPECIFICATIONS FOR MORE REQUIREMENTS.
- LIQUID TIGHT FLEXIBLE ALUMINUM CONDUIT SHALL BE USED FOR THE PRIMARY AND SECONDARY OF TRANSFORMERS, GENERATOR TERMINATIONS AND OTHER EQUIPMENT WHERE VIBRATION IS PRESENT. USE IN OTHER LOCATIONS IS NOT PERMITTED. EXCEPT FOR CONNECTIONS TO INSTRUMENTATION TRANSMITTERS, WHERE MULTIPLE PENETRATIONS ARE REQUIRED, LIQUID TIGHT FLEXIBLE ALUMINUM CONDUIT SHALL HAVE A MAXIMUM LENGTH NOT GREATER THAN THAT OF A FACTORY MANUFACTURED LONG RADIUS ELBOW OF THE CONDUIT SIZE BEING USED. THE MAXIMUM BENDING RADIUS SHALL NOT BE LESS THAN THAT SHOWN IN THE NEC CHAPTER 9, TABLE 2, "OTHER BENDS". BX OR AC TYPE PREFABRICATED CABLES WILL NOT BE PERMITTED.
- THE WIRING DIAGRAMS, BLOCK DIAGRAMS, QUANTITY/SIZES OF WIRES/CONDUITS REPRESENT A SUGGESTED ARRANGEMENT BASED UPON SELECTED STANDARD COMPONENTS OF ELECTRICAL EQUIPMENT. MODIFICATIONS ACCEPTABLE TO THE ENGINEER MAY BE MADE BY THE CONTRACTOR TO ACCOMMODATE EQUIPMENT ACTUALLY APPROVED. ALL MODIFICATIONS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL. THE BASIC SEQUENCE AND METHOD OF CONTROL MUST BE MAINTAINED AS INDICATED ON THE DRAWINGS AND/OR SPECIFIED.
- ALL JUNCTION BOXES, PULL BOXES AND TERMINATION BOXES IN NEMA 12 AREAS SHALL BE ALUMINUM FOR NEMA 4X AREAS SEE SPECIFICATIONS FOR BOX DETAILS AND SPECIFICATIONS.
- SEAL ALL RACEWAYS ENTERING JUNCTION BOXES OR CONTROL PANELS CONTAINING ELECTRICAL OR INSTRUMENTATION EQUIPMENT WITH WATERTIGHT SEALANT. REFER TO THE SPECIFICATIONS FOR DETAILS.
- ALL EQUIPMENT AND ELECTRICAL EQUIPMENT ENCLOSURE LOCATIONS, OR TERMINAL BOX LOCATIONS, ARE APPROXIMATE. THE EXACT LOCATIONS SHALL BE COORDINATED WITH AND APPROVED BY THE OWNER/ENGINEER, DURING CONSTRUCTION, AT NO ADDITIONAL COST TO THE OWNER.
- ALL EQUIPMENT AND ELECTRICAL EQUIPMENT ENCLOSURES DIMENSIONS ARE APPROXIMATE. ALL EQUIPMENT AND ELECTRICAL EQUIPMENT ENCLOSURES OR TERMINAL BOX DIMENSIONS SHALL BE VERIFIED WITH THE EQUIPMENT SUPPLIER. ALLOW FOR LOCATION CHANGES AND INCLUDE IN THE CONTRACT PRICE. THE EXACT LOCATIONS OF ALL ELECTRICAL EQUIPMENT AND ROUTINGS OF ALL CABLES AND CONDUITS SHALL BE COORDINATED WITH AND APPROVED BY THE OWNER/ENGINEER DURING CONSTRUCTION.
- CORING OF AN EXISTING STRUCTURE SHALL BE COORDINATED WITH AND APPROVED BY THE OWNER/ENGINEER. CORING THROUGH STRUCTURAL BEAMS IS STRICTLY PROHIBITED WITHOUT PRIOR WRITTEN APPROVAL FROM THE OWNER/ENGINEER.
- THE LOCATION OF ALL ELECTRICAL EQUIPMENT AND ROUTING OF CABLES AND CONDUITS SHALL BE COORDINATED WITH AND APPROVED BY THE OWNER.
- THE DUCTBANK ROUTING AS SHOWN ON THE DRAWING IS APPROXIMATE. FIELD VERIFY THE EXACT DUCTBANK ROUTING, CABLE LENGTH AND CONDUIT LENGTH.
- PROVIDE CONDUIT SEALS FOR CONDUIT PENETRATIONS AS PER NEC AND NFPA820.
- COORDINATE ALL WORK WITH THE OWNER.

- LOCATE ALL UNDERGROUND UTILITIES BEFORE DIGGING. COORDINATE THE EFFORT WITH THE OWNER.
- ALL SLOTTED CHANNEL, SLOTTED CHANNEL SUPPORT MATERIAL, WASHERS, SCREWS, NUTS, CONDUIT CLAMPS, ALL THREAD SPRING NUTS AND MISC. MOUNTING HARDWARE SHALL BE 316 STAINLESS STEEL.
- LIGHTING FIXTURES SHALL BE MOUNTED ACCORDING TO THE MOUNTING HEIGHT GIVEN ON THE DRAWINGS. THE MOUNTING HEIGHT SHALL BE MEASURED FROM THE BOTTOM OF THE LIGHTING FIXTURE TO THE FINISHED FLOOR.
- CONDUIT AND WIRE FOR THE HVAC EQUIPMENT AND MISCELLANEOUS DEVICES SHALL BE:
 - 3/4" (MIN) RIGID ALUMINUM.
 - NO.14 XH-W CU. WIRE XHHW (MIN).
 - IN ACCORDANCE WITH ALL ELECTRICAL AND HVAC SPECIFICATIONS REQUIREMENTS.
- INSTALL ALL CONDUITS AND WIRES SHOWN ON THE INTERFACE DIAGRAM SHALL BE INSTALLED BY THE CONTRACTOR. GROUPING OF CONDUIT AND WIRE MAY BE CHANGED, IF APPROVED BY THE ENGINEER AND OWNER.
- ALL CONDULETS SHALL BE FORM 7 AND SHALL HAVE 316 SS CLAMP COVERS WITH 316 SS CLAMPS AND SCREWS. SCREW DOWN COVERS ARE UNACCEPTABLE. REFER TO THE SPECIFICATIONS FOR MORE INFORMATION.
- ALL BARE COPPER GROUNDING CONDUCTORS SHALL BE TINNED. ALL GROUND RODS SHALL BE 3/4" BY 10' LONG. ALL EXPOSED COPPER GROUND CABLES SHALL BE GREEN INSULATED CONDUCTORS. PROVIDE XHHW INSULATION.
- WHERE NOTES ON THE DRAWING INDICATE THAT THE CONTRACTOR SHALL FIELD-VERIFY, THE INTENT IS FOR THE CONTRACTOR TO INVESTIGATE TO THE EXTENT NECESSARY TO PROVIDE THE WORK AND MATERIALS PRIOR TO BIDDING AND INCLUDE ALL COSTS IN THE BID PRICE. THE CONTRACT PRICE SHALL NOT BE INCREASED WHEN THE CONTRACTOR HAS NOT INVESTIGATED PER THE NOTES DIRECTING THAT BE DONE.

TYPICAL ENCLOSURE TYPES BY AREA TYPE

NON-HAZARDOUS AREAS	BOXES & ENCLOSURES					CONDUIT
	1	3R	4X	4X*	12	
OUTDOOR: GENERAL AREAS	X	X				RIGID ALUMINUM
OUTDOOR: CHEMICAL AREAS				X		SCHEDULE 80 PVC
INDOOR: CHEMICAL ROOM				X		SCHEDULE 80 PVC
INDOOR: CONDITIONED SPACE				X		RIGID ALUMINUM
INDOOR: NON-CONDITIONED SHOP SPACE				X		RIGID ALUMINUM
INDOOR: NON-CONDITIONED PROCESS AREA			X			RIGID ALUMINUM
INDOOR: ADMIN BUILDING	X					EMT/RIGID ALUMINUM
CLASS 1, DIVISION 1	REFER TO NEC, NFPA-820, AND CONTRACT CONSTRUCTION SPECIFICATIONS					
CLASS 1, DIVISION 2	REFER TO NEC, NFPA-820, AND CONTRACT CONSTRUCTION SPECIFICATIONS					
GENERAL NOTES:						
<ul style="list-style-type: none"> EQUIPMENT SUCH AS MOTOR CONTROL CENTER, SWITCHGEAR, VFDs, AND OTHER STAND-ALONE MOTOR STARTERS ARE AS SHOWN ON DRAWINGS. NEMA 1 ENCLOSURES ARE TO BE NEMA 1 GASKETED. NEMA 4X* ENCLOSURES ARE TO BE NON-METALLIC (ie PVC) NEMA 4X CONDUIT INSIDE ADMIN BUILDING LOCATION IS TO BE EMT IF CONCEALED IN DRY WALL (AKA SHEET ROCK WALL); OTHERWISE RIGID ALUMINUM. USE OF NEMA 3R OR 4X IN OUTDOOR GENERAL AREAS IS AS SHOWN ON DRAWINGS. 						

CONDUIT TYPE	LOCATION
RIGID GALVANIZED CONDUIT	NOT ACCEPTABLE FOR USE ON THIS PROJECT EXCEPT FOR THE UTILITY COMPANY'S CONDUCTORS. ALL UTILITY COMPANY'S DUCTS SHALL BE AS SPECIFIED BY UTILITY COMPANY.
PVC COATED ALUMINUM CONDUIT	ALL EMBEDDED CONDUIT BENDS, UNDERGROUND DUCTBANK OF MORE THAN 20 DEGREES, AND ALL CONDUIT STUB-UPS TO A MINIMUM OF 6" ABOVE FINISHED FLOOR OR GRADE AND IN CHLORINE AND CAUSTIC ROOMS.
LIQUID TIGHT FLEXIBLE ALUMINUM CONDUIT	RACEWAY CONNECTION TO VIBRATING EQUIPMENT ONLY, IN ALL AREAS LIMITED TO 58" UNLESS APPROVED BY OWNER AND ENGINEER.
RIGID NON-METALLIC, SCHEDULE 40 PVC CONDUIT	UNDERGROUND ENCASED IN RED DYE REINFORCED CONCRETE. (AS WHERE SPECIFIED)
RIGID NON-METALLIC, SCHEDULE 80 PVC CONDUIT	FOR USE IN CHLORINE AND CAUSTIC ROOMS, AND UNDERGROUND, ENCASED IN RED DYED REINFORCED CONCRETE. (AS WHERE SPECIFIED)
FLEXIBLE ALUMINUM CONDUIT	FIGTURE WHIP CONNECTION TO LIGHTING FIXTURES IN NEMA 12 AREAS (MAXIMUM 3-FT). BX OR AC TYPE PREFABRICATED CABLES ARE NOT PERMITTED.
ALUMINUM RIGID METAL CONDUIT	ALL ABOVE GRADE AREAS, EXCEPT FOR CONCRETE EMBEDDED AND THOSE AREAS ALREADY DESCRIBED IN THIS TABLE
ELECTRIC METALLIC TUBING (EMT) CONDUIT	FOR USE ONLY ON CONCEALED, ABOVE GROUND, INTERIOR ELECTRICAL WIRING IN AIR-CONDITIONED ADMINISTRATIVE BUILDINGS REMOVE TO THE PROCESS AREA, AND CLEARLY DEFINED AS SUCH ON THE DRAWINGS OR IN THE SPECIFICATIONS.

DEMOLITION NOTES

- COORDINATE THE DEMOLITION OF ELECTRICAL CONDUIT, WIRE, EQUIPMENT AND DEVICES WITH THE GENERAL DEMOLITION AND SCHEDULE. THE DRAWINGS ARE INTENDED TO CONVEY THE GENERAL NATURE AND SCOPE OF THE DEMOLITION WORK. EVERY ITEM TO BE DEMOLISHED MAY NOT BE SHOWN. FIELD VERIFY, AND INCLUDE ALL DEMOLITION WORK IN THE CONTRACT PRICE.
- PROVIDE TEMPORARY WIRE AND CONDUIT FOR THE EQUIPMENT WHICH MAY BE AFFECTED BY THE DEMOLITION BUT TO REMAIN IN SERVICE.
- RELOCATE AND RECONNECT POWER AND CONTROL RACEWAYS AND CONDUCTORS TO EQUIPMENT AFFECTED BY DEMOLITION WORK.
- ALL CONDUCTORS BEING DEMOLISHED SHALL BE DISCONNECTED AND REMOVED FROM THE LOAD TO THE SOURCE. SURFACE MOUNTED CONDUITS AND MOUNTING HARDWARE SHALL BE REMOVED. UNDERGROUND CONDUITS WHICH ARE NOT BEING REMOVED OR OTHERWISE NOT BEING UNUSABLE SHALL BE CAPPED AND TAGGED AS SPARE, WITH INFORMATION CLEARLY INDICATING THE LOCATION OF THE OTHER END.
- ALL SURFACES WHERE DEMOLISHED EQUIPMENT OR CONDUIT IS REMOVED SHALL BE CLEANED, PATCHED AND PAINTED TO MATCH THE SURROUNDING SURFACE.
- CHECK THE FUNCTION OF EACH CONDUCTOR BEFORE REMOVING OR DISCONNECTING.
- IF A CONDUCTOR WHICH HAS TO STAY IN SERVICE (NOT BEING DEMOLISHED) IS INSTALLED IN A COMMON CONDUIT WITH CONDUCTORS WHICH ARE BEING DEMOLISHED, THE CONTRACTOR SHALL REMOVE ALL CONDUCTORS FROM THE CONDUIT. PROVIDE NEW CONDUCTORS WHICH ARE REPLACEMENTS FOR THE CONDUCTORS THAT ARE TO REMAIN IN SERVICE AND RE-INSTALL THE NEW CONDUCTORS. AFTER THE CONDUCTORS ARE PULLED, MEGGER OR VFL TEST EACH CONDUCTOR, CONNECT BOTH ENDS OF THE NEW CONDUCTORS AND TEST THE SYSTEM FOR PROPER FUNCTION. DO NOT RE-PULL USED CONDUCTORS UNLESS SPECIFIED.
- WHERE EQUIPMENT IS BEING RE-FED FROM A NEW SOURCE, EXISTING CONDUIT MAY BE REUSED ONLY IF THE CONDUIT AND FITTINGS ARE OF THE TYPE SPECIFIED FOR NEW WORK ON THIS CONTRACT. IF NOT, THE CONDUIT AND CONDUCTORS SHALL BE REPLACED WITH NEW MATERIAL MEETING THE SPECIFICATIONS, AT NO ADDITIONAL COST TO THE OWNER.
- THE CONTRACTOR SHALL COORDINATE WITH THE OWNER/ENGINEER TO FLAG EXISTING UNDERGROUND CONDUITS BEFORE DIGGING.
- THE OWNER HAS THE RIGHT OF FIRST REFUSAL TO THE EQUIPMENT BEING REMOVED. THE CONTRACTOR SHALL DELIVER THE EQUIPMENT WHICH THE OWNER WISHES TO KEEP AT A LOCATION DESIGNATED BY THE OWNER. SEE SPECIFICATIONS.
- DO NOT MAKE ANY MODIFICATIONS TO THE EXISTING ELECTRICAL EQUIPMENT UNTIL THE FOLLOWING HAS BEEN DONE:
 - THE OWNER/CONTRACTOR SHALL WITNESS AND RECORD THE CONDITION OF THE EXISTING EQUIPMENT. THE CONTRACTOR SHALL NOTE DOWN ANY DEFECTS OR DEFICIENCIES.
 - THE OWNER SHALL OPERATE THE EQUIPMENT TO DEMONSTRATE THE CURRENT CONDITIONS. THE CONTRACTOR SHALL NOTE DOWN ANY DEFECTS OR DEFICIENCIES.
 - A WRITTEN AND PHOTOGRAPHIC RECORD OF THE OPERATION AND EXISTING CONDITION SHALL BE KEPT IN A THREE RING BINDER AT THE OWNER/CONTRACTOR TRAILER. IN FORM OF PICTURES AND INFORMATION.
 - A FORM SHALL BE GENERATED BY THE CONTRACTOR TO RECORD THE OBSERVATIONS. BOTH PARTIES SHALL SIGN ON THE FORM.
 - REPLACE ALL MATERIAL OR EQUIPMENT DAMAGED DURING THE COURSE OF WORK.
 - AFTER THE CHANGES ARE MADE, THE EQUIPMENT SHALL BE INSPECTED AND RE-TESTED TO DEMONSTRATE THAT IT FUNCTIONS CORRECTLY.
- NO PORTION OF EXISTING CONDUCTORS SHALL BE SPLICED TO NEW CONDUCTORS FOR RE-USE WITHOUT SPECIFIC APPROVAL FROM THE OWNER/ENGINEER ON A CASE-BY-CASE BASIS.

MCC, CONTROL PANELS, PANELBOARDS

THESE NOTES APPLY TO CONTROL PANELS, MCC ETC WHICH HAS TO BE REFURBISHED, MODIFIED, DISCONNECTED & RECONNECTED OR REWORKED.

THE CONTRACTOR SHALL NOT MAKE ANY MODIFICATION UNTIL THE FOLLOWING HAS BEEN DONE:

- THE OWNER/CONTRACTOR SHALL WITNESS THE CONDITION OF THE EXISTING EQUIPMENT. THE CONTRACTOR SHALL NOTE DOWN ANY DEFECTS OR DEFICIENCY.
- THE OWNER SHALL OPERATE THE EQUIPMENT TO DEMONSTRATE THE CURRENT CONDITIONS. THE CONTRACTOR SHALL NOTE DOWN ANY DEFECTS OR DEFICIENCIES.
- A RECORD OF THE OPERATION AND EXISTING CONDITION SHALL BE KEPT IN A THREE RING BINDER AT THE OWNER/CONTRACTOR TRAILER. IN FORM OF PICTURES AND INFORMATION.
- A FORM SHALL BE GENERATED BY THE CONTRACTOR TO RECORD THE OBSERVATIONS. BOTH PARTIES SHALL SIGN ON THE FORM.
- REPLACE ALL MATERIAL OR EQUIPMENT DAMAGED DURING THE COURSE OF WORK.
- AFTER THE CHANGES ARE MADE, THE EQUIPMENT SHALL BE INSPECTED AND RE-TESTED TO DEMONSTRATE THAT IT FUNCTIONS CORRECTLY.



REV. NO.	DATE	DRWN	CHKD	REMARKS

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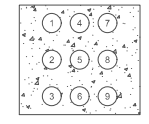
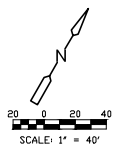
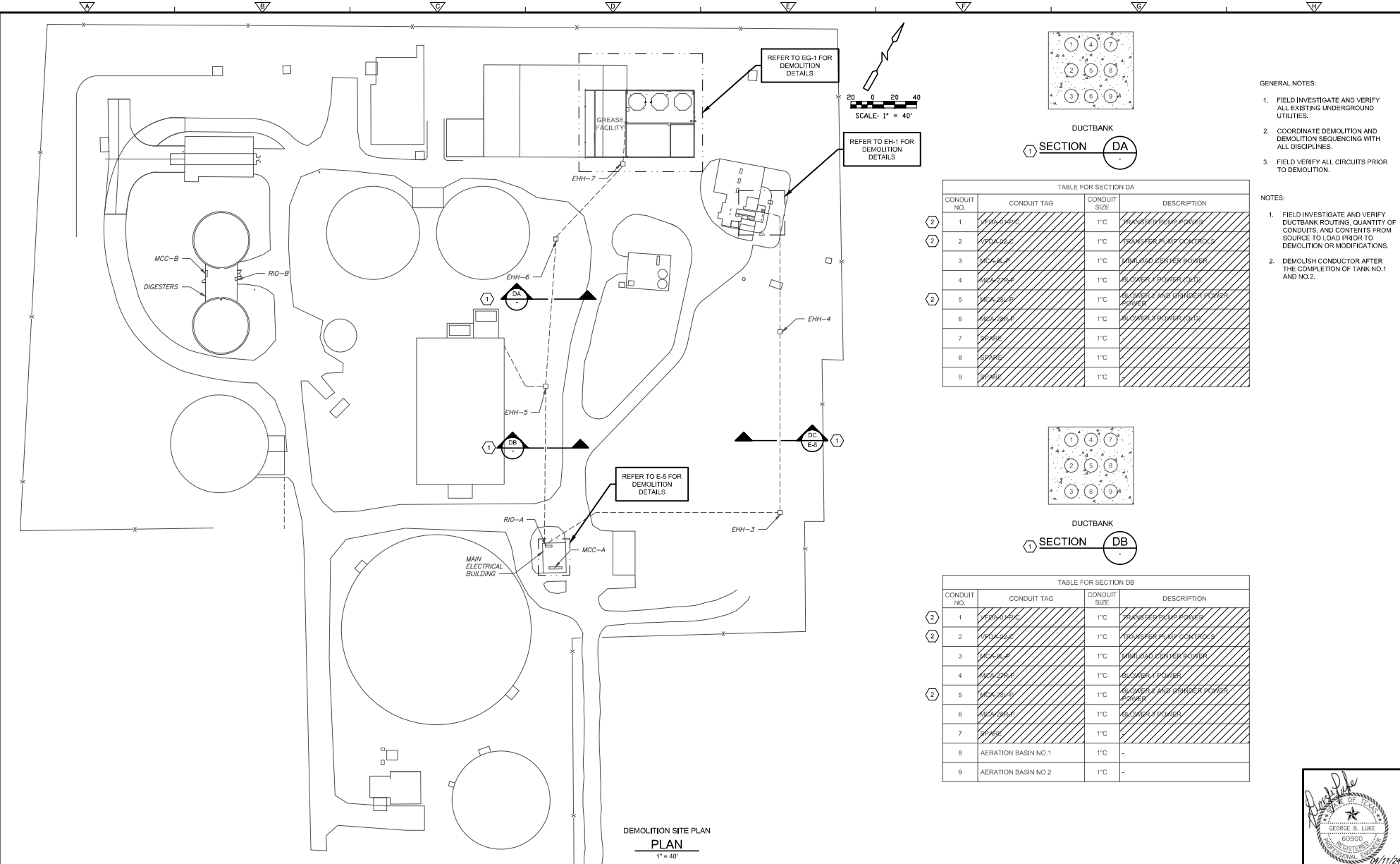
BRYAN STILL CREEK
WASTEWATER TREATMENT PLANT IMPROVEMENTS

ELECTRICAL GENERAL NOTES

PROJECT NO. 2381-284648
 FILE NAME: E-3.DWG
 SHEET NO.
E-3

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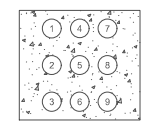
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DUCTBANK
SECTION DA

TABLE FOR SECTION DA

CONDUIT NO.	CONDUIT TAG	CONDUIT SIZE	DESCRIPTION
② 1	WPS-1000	1" C	TRANSFER PUMP POWER
② 2	WPS-1000	1" C	TRANSFER PUMP CONTROLS
3	WPS-1000	1" C	MINI-LAD WATER PUMP
4	WPS-1000	1" C	SLURRY PUMP POWER
② 5	MCC-2000	1" C	SLURRY PUMP TRANSFER PUMP POWER
6	MCC-2000	1" C	SLURRY PUMP HOLD
7	SP-100	1" C	SP-100
8	SP-100	1" C	SP-100
9	SP-100	1" C	SP-100



DUCTBANK
SECTION DB

TABLE FOR SECTION DB

CONDUIT NO.	CONDUIT TAG	CONDUIT SIZE	DESCRIPTION
② 1	WPS-1000	1" C	TRANSFER PUMP POWER
② 2	WPS-1000	1" C	TRANSFER PUMP CONTROLS
3	WPS-1000	1" C	MINI-LAD WATER PUMP
4	WPS-1000	1" C	SLURRY PUMP POWER
② 5	MCC-2000	1" C	SLURRY PUMP TRANSFER PUMP POWER
6	MCC-2000	1" C	SLURRY PUMP POWER
7	SP-100	1" C	SP-100
8	AERATION BASIN NO.1	1" C	-
9	AERATION BASIN NO.2	1" C	-

- GENERAL NOTES:
- FIELD INVESTIGATE AND VERIFY ALL EXISTING UNDERGROUND UTILITIES.
 - COORDINATE DEMOLITION AND DEMOLITION SEQUENCING WITH ALL DISCIPLINES.
 - FIELD VERIFY ALL CIRCUITS PRIOR TO DEMOLITION.
- NOTES:
- FIELD INVESTIGATE AND VERIFY DUCTBANK ROUTING, QUANTITY OF CONDUITS, AND CONTENTS FROM SOURCE TO LOAD PRIOR TO DEMOLITION OR MODIFICATIONS.
 - DEMOLISH CONDUCTOR AFTER THE COMPLETION OF TANK NO.1 AND NO.2.

DEMOLITION SITE PLAN
PLAN
1" = 40'

REV. NO.	DATE	DRWN	CHKD	REMARKS

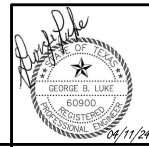
DESIGNED BY: J.FELGER
 DRAWN BY: J.MEAM
 SHEET CHK'D BY: G.LUKE
 CROSS CHK'D BY: G.LUKE
 APPROVED BY: G.LUKE
 DATE: APRIL 2024



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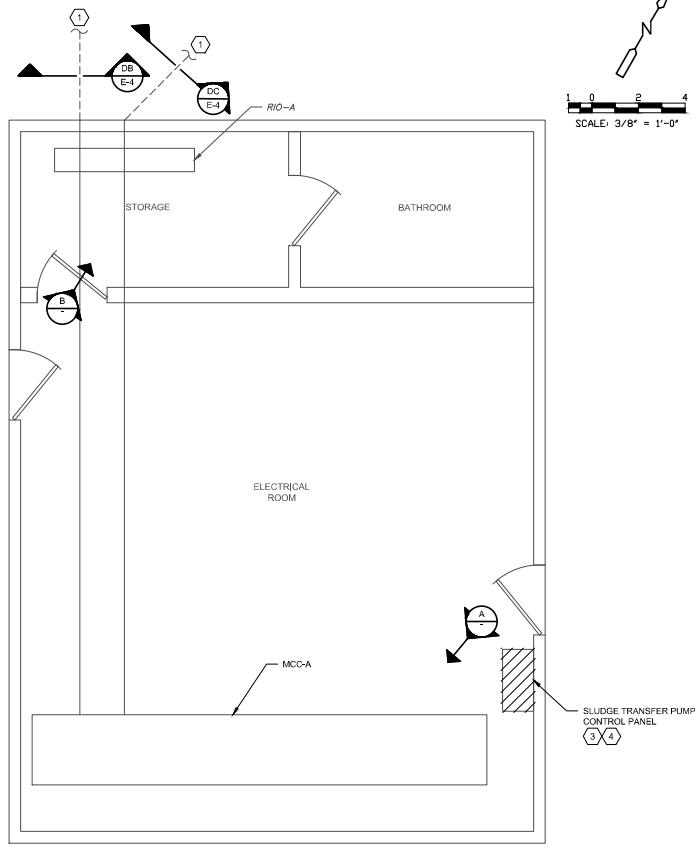
BRYAN STILL CREEK
 WASTEWATER TREATMENT PLANT
 IMPROVEMENTS

ELECTRICAL
 SITE PLAN-OVERALL DEMOLITION

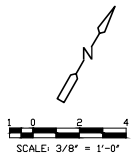


PROJECT NO. 2381-284648
 FILE NAME: E-4.DWG
 SHEET NO.
 E-4

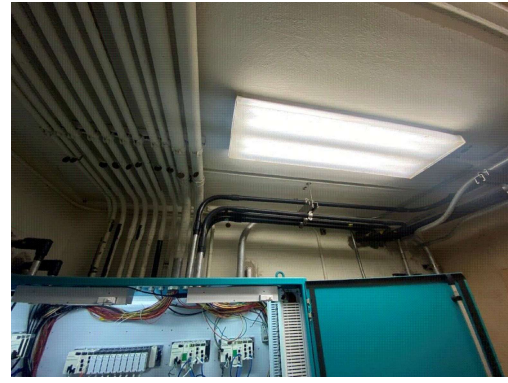
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**ELECTRICAL ROOM
DEMOLITION
PLAN**
 3/8"=1'-0"



MCC-A
PHOTOGRAPH A



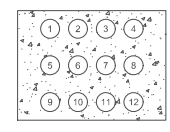
EXISTING CONDUIT ROUTING
PHOTOGRAPH B

GENERAL NOTES:

1. FIELD INVESTIGATE AND VERIFY EXISTING ELECTRICAL ROUTING AND EQUIPMENT LOCATIONS.
2. COORDINATE DEMOLITION SEQUENCING WITH OTHER DISCIPLINES.

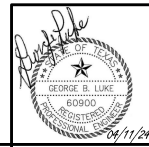
NOTES:

1. REFER TO 10-DE-01 FOR CONTINUATION.
2. FIELD INVESTIGATE AND VERIFY DUCTBANK ROUTING, QUANTITY OF CONDUITS, AND CONTENTS FROM SOURCE TO LOAD PRIOR TO DEMOLITION OR MODIFICATIONS.
3. DEMOLISH CONTROL PANEL AND ALL ASSOCIATED WIRE AND EXPOSED RACEWAY. PREPARE CONCEALED RACEWAY FOR REUSE.
4. DEMOLITION OF TRANSFER MOTOR AND TRANSFER MOTOR VFD SHALL HAPPEN AFTER THE COMPLETION OF TANK NO.1 AND NO.2.



DUCTBANK
SECTION DC
 DC E-4

TABLE FOR SECTION DC			
CONDUIT NO.	CONDUIT TAG	CONDUIT SIZE	DESCRIPTION
1	I/O-A-103-C	1" C	-
2	MCA-13L-P	1" C	-
3	SPARE	1" C	-
4	SPARE	1" C	-
5	MCA-10L-P	1" C	-
6	SPARE	1" C	TRANSFER MOTOR CONTROL SIGNAL
7	SPARE	1" C	TRANSFER MOTOR CONTROL SIGNAL
8	SPARE	1" C	-
9	MCA-17R-P	1" C	-
10	MCA-17L-P	1" C	SCREEN COMPACTOR CONTROL PANEL POWER
11	MCA-16R-P	1" C	TRANSFER MOTOR CONTROL SIGNAL
12	MCA-15L-P	1" C	-



REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY:	J.FELGER
DRAWN BY:	J.MEAM
SHEET CHK'D BY:	GLUIKE
CROSS CHK'D BY:	GLUIKE
APPROVED BY:	GLUIKE
DATE:	APRIL 2024



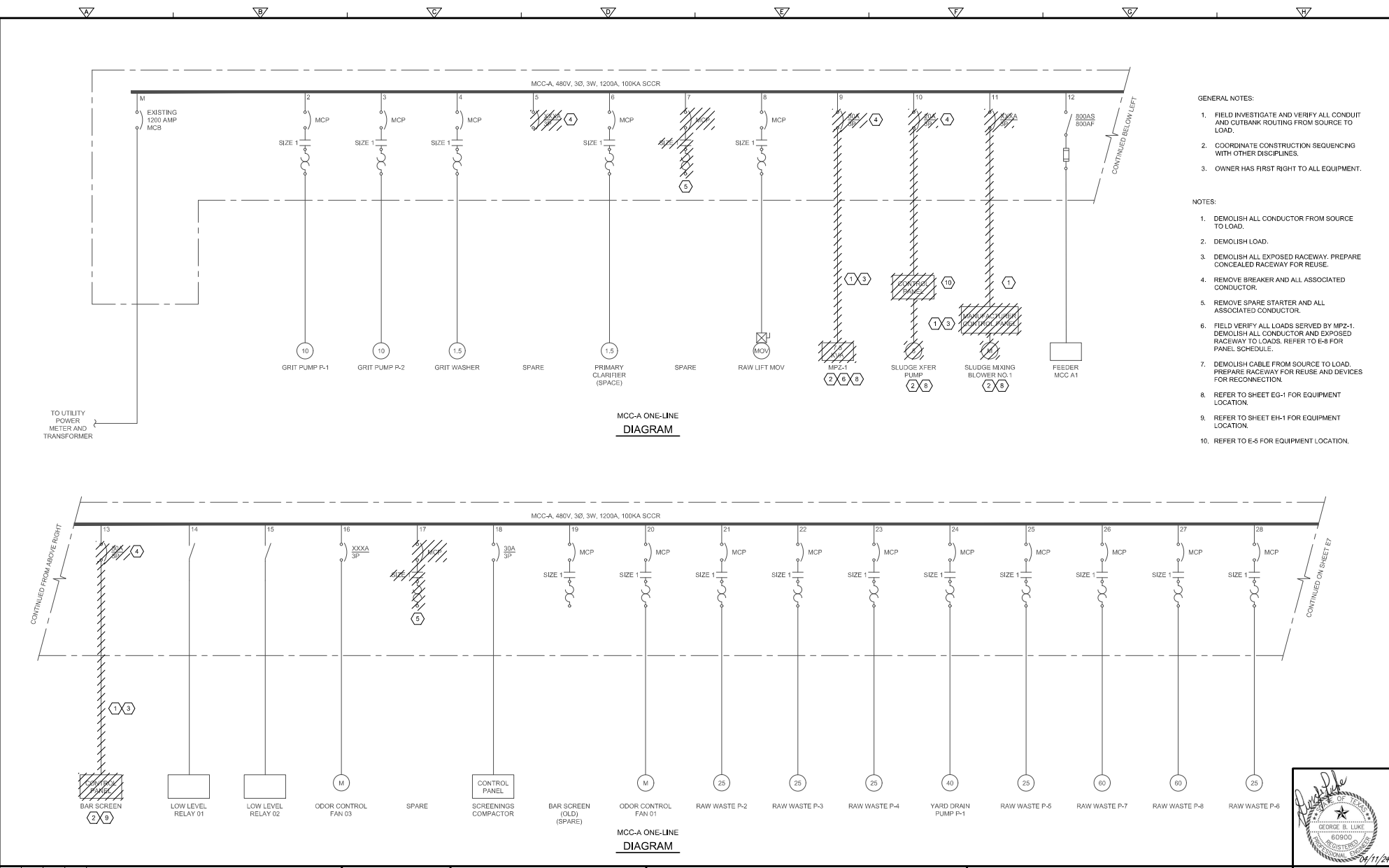
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BRYAN STILL CREEK
**WASTEWATER TREATMENT PLANT
IMPROVEMENTS**

**ELECTRICAL
ELETRICAL ROOM DEMOLITION**

PROJECT NO. 2381-284648
FILE NAME: E-S.DWG
SHEET NO. E-5

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- GENERAL NOTES:**
1. FIELD INVESTIGATE AND VERIFY ALL CONDUIT AND CUTBANK ROUTING FROM SOURCE TO LOAD.
 2. COORDINATE CONSTRUCTION SEQUENCING WITH OTHER DISCIPLINES.
 3. OWNER HAS FIRST RIGHT TO ALL EQUIPMENT.
- NOTES:**
1. DEMOLISH ALL CONDUCTOR FROM SOURCE TO LOAD.
 2. DEMOLISH LOAD.
 3. DEMOLISH ALL EXPOSED RACEWAY. PREPARE CONCEALED RACEWAY FOR REUSE.
 4. REMOVE BREAKER AND ALL ASSOCIATED CONDUCTOR.
 5. REMOVE SPARE STARTER AND ALL ASSOCIATED CONDUCTOR.
 6. FIELD VERIFY ALL LOADS SERVED BY MPZ-1. DEMOLISH ALL CONDUCTOR AND EXPOSED RACEWAY TO LOADS. REFER TO E-8 FOR PANEL SCHEDULE.
 7. DEMOLISH CABLE FROM SOURCE TO LOAD. PREPARE RACEWAY FOR REUSE AND DEVICES FOR RECONNECTION.
 8. REFER TO SHEET EG-1 FOR EQUIPMENT LOCATION.
 9. REFER TO SHEET EH-1 FOR EQUIPMENT LOCATION.
 10. REFER TO E-5 FOR EQUIPMENT LOCATION.

REV. NO.	DATE	DRWN	CHKD	REMARKS

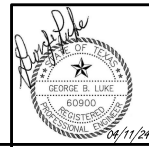
DESIGNED BY: J.FELGER
 DRAWN BY: J.MEAM
 SHEET CHK'D BY: G.LUKE
 CROSS CHK'D BY: G.LUKE
 APPROVED BY: G.LUKE
 DATE: APRIL 2024



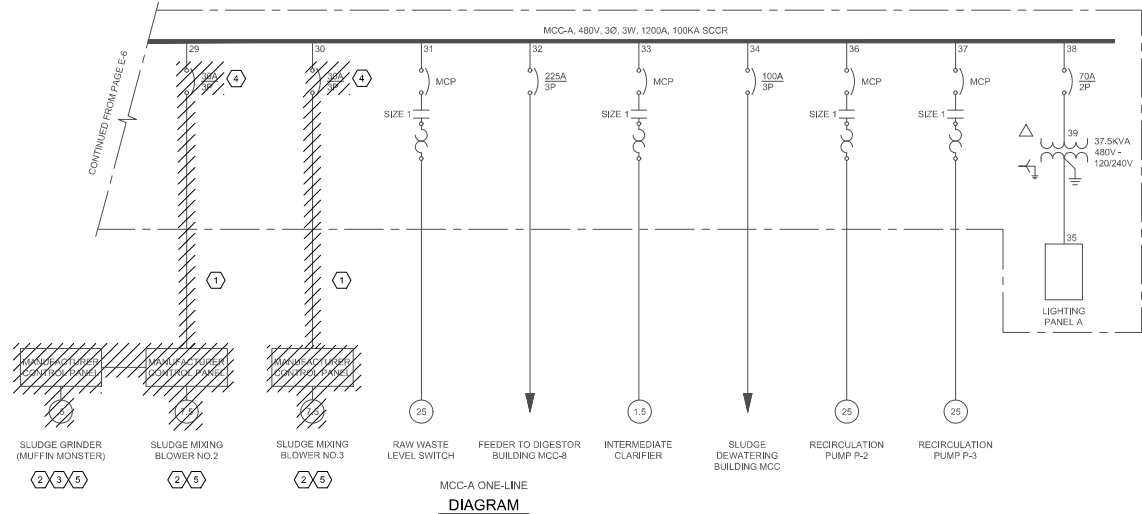
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BRYAN STILL CREEK
 WASTEWATER TREATMENT PLANT
 IMPROVEMENTS

PROJECT NO. 2381-284648
 FILE NAME: E-8.DWG
 SHEET NO.
E-6



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GENERAL NOTES:

1. FIELD INVESTIGATE AND VERIFY ALL CONDUIT AND CUTBANK ROUTING FROM SOURCE TO LOAD.
2. COORDINATE CONSTRUCTION SEQUENCING WITH OTHER DISCIPLINES.
3. OWNER HAS FIRST RIGHT TO ALL EQUIPMENT.

NOTES:

1. DEMOLISH ALL CONDUCTOR FROM SOURCE TO LOAD. DEMOLISH ALL EXPOSED RACEWAY.
2. DEMOLISH LOAD.
3. PROVIDE #12, #12G, 34°C TEMPORARY CIRCUIT FOR SLUDGE GRINDER DURING TANK NO.1 AND NO.2 CONSTRUCTION.
4. REMOVE BREAKER AND ALL ASSOCIATED CONDUCTOR.
5. REFER TO SHEET EG-1 FOR EQUIPMENT LOCATION.

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: J.FELGER
 DRAWN BY: J.MEAM
 SHEET CHK'D BY: G.LUKE
 CROSS CHK'D BY: G.LUKE
 APPROVED BY: G.LUKE
 DATE: APRIL, 2024



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**BRYAN STILL CREEK
 WASTEWATER TREATMENT PLANT
 IMPROVEMENTS**

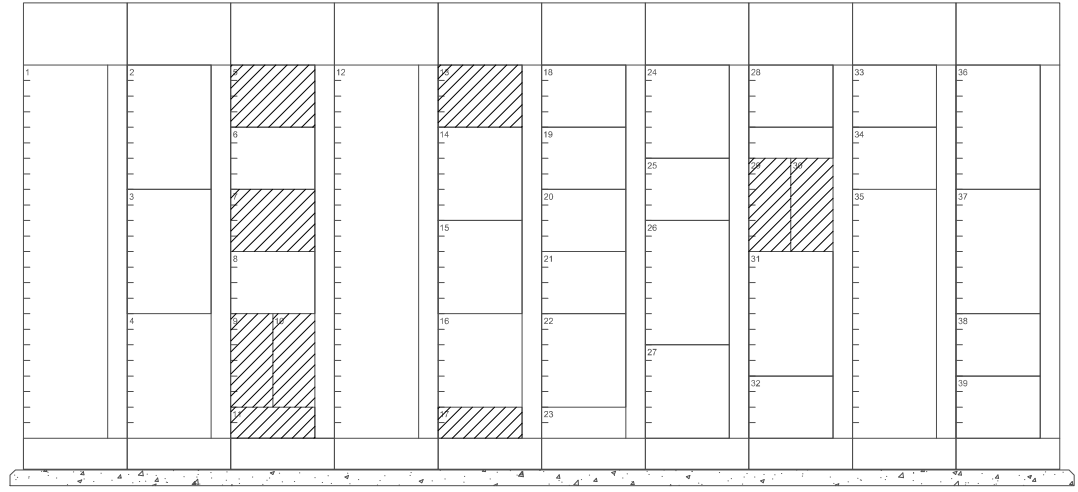
**ELECTRICAL
 ONE LINE DIAGRAM DEMOLITION - II
 AND RISER DIAGRAM**



PROJECT NO. 2381-284648
 FILE NAME: E-7.DWG
 SHEET NO.
E-7

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- GENERAL NOTES:
1. FIELD INVESTIGATE AND VERIFY ALL CIRCUITS BEFORE ANY DEMOLITION WORK BEGINS.
 2. COORDINATE CONSTRUCTION SEQUENCING WITH OTHER DISCIPLINES.

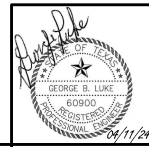


MCC-A
ELEVATION
NOT TO SCALE

CABLE IDENTIFICATION				BUS TYPE / SUSPENDED CARRIER		MARKING		SER. TYPE	
REQUIRE: PROTECTIVE HOUSING				BLUE POLYESTER / GEL		MARKING: MIN.		SER. TYPE: Z	
MOUNTING SURFACE: HEMLOCK				TRUSS TYPE		LOCATION: ESCAPE ROUTE			
CCT	BANK	TYPE	CONTR.	LOUIS	LOUIS	CONTR.	TYPE	TYPE	TYPE
3	301	12	301	301	301	301	301	301	301
3	301	12	301	301	301	301	301	301	301
3	301	12	301	301	301	301	301	301	301
3	301	12	301	301	301	301	301	301	301

DEMOLISH SIZE SHOWS THE MINIMUM SIZE REQUIRED FOR INDIVIDUAL CIRCUITS. MULTIPLE CIRCUITS MAY BE COMBINED IN A SINGLE CARRIER FOR FIELD ROUTING PROVIDED THE MAXIMUM CARRIER DIMENSIONS ARE NOT EXCEEDED.

EACH SINGLE PHASE 120V CIRCUIT SHALL HAVE A SEPARATE NEUTRAL WIRE.



REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: J.FELGER
 DRAWN BY: J.MEAM
 SHEET CHK'D BY: GLUIKE
 CROSS CHK'D BY: GLUIKE
 APPROVED BY: GLUIKE
 DATE: APRIL 2024



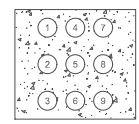
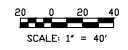
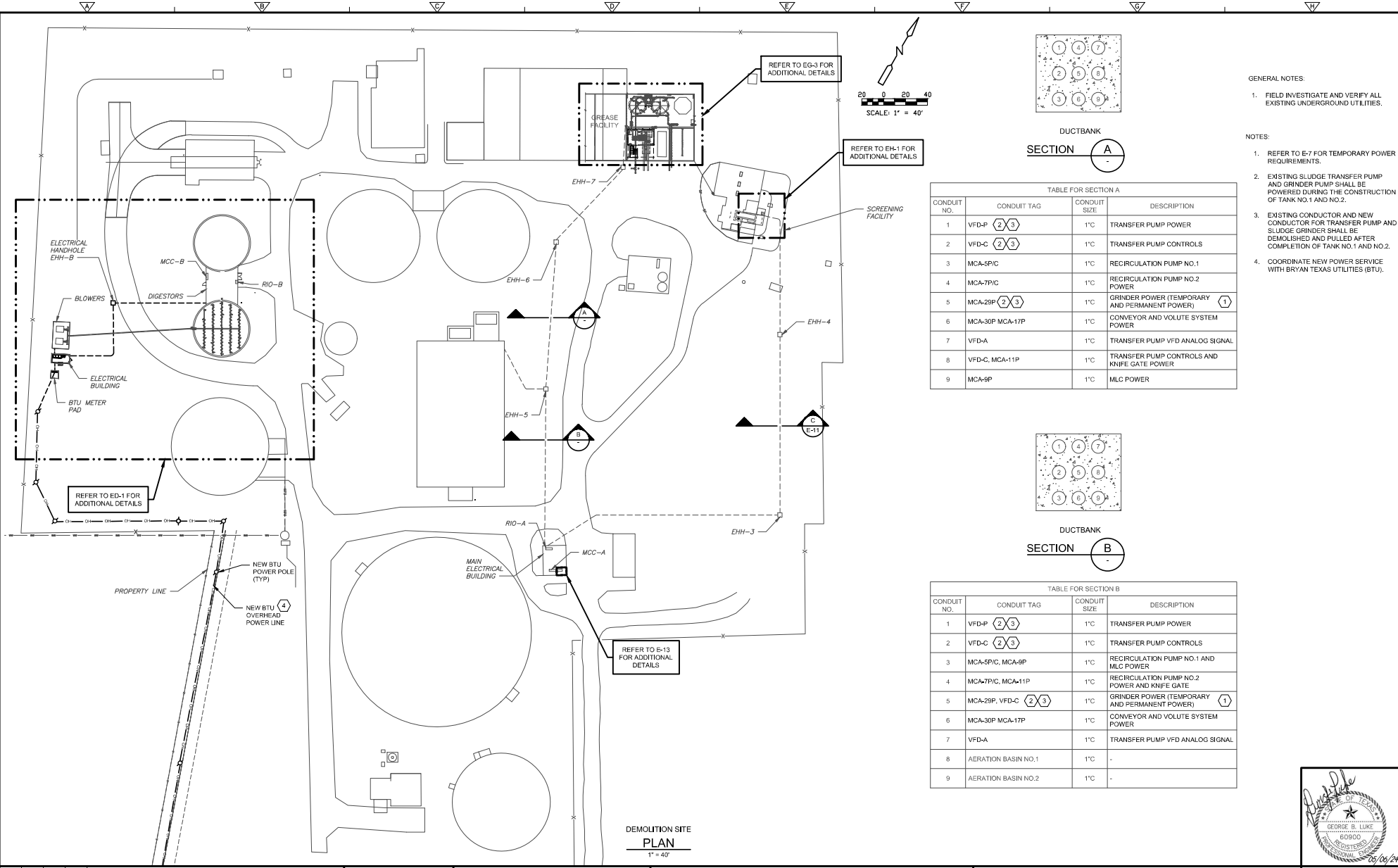
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BRYAN STILL CREEK
 WASTEWATER TREATMENT PLANT
 IMPROVEMENTS

ELECTRICAL
 MCC-A ELEVATION DEMOLITION

PROJECT NO. 2381-284648
 FILE NAME: E-8.DWG
 SHEET NO.
 E-8

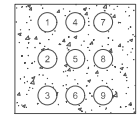
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DUCTBANK
SECTION A

TABLE FOR SECTION A

CONDUIT NO.	CONDUIT TAG	CONDUIT SIZE	DESCRIPTION
1	VFD-P (2) (3)	1"	TRANSFER PUMP POWER
2	VFD-C (2) (3)	1"	TRANSFER PUMP CONTROLS
3	MCA-5P/C	1"	RECIRCULATION PUMP NO.1
4	MCA-7P/C	1"	RECIRCULATION PUMP NO.2 POWER
5	MCA-29P (2) (3)	1"	GRINDER POWER (TEMPORARY AND PERMANENT POWER) (1)
6	MCA-30P MCA-17P	1"	CONVEYOR AND VOLUTE SYSTEM POWER
7	VFD-A	1"	TRANSFER PUMP VFD ANALOG SIGNAL
8	VFD-C, MCA-11P	1"	TRANSFER PUMP CONTROLS AND KNIFE GATE POWER
9	MCA-9P	1"	MLC POWER



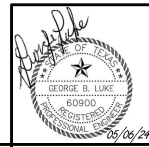
DUCTBANK
SECTION B

TABLE FOR SECTION B

CONDUIT NO.	CONDUIT TAG	CONDUIT SIZE	DESCRIPTION
1	VFD-P (2) (3)	1"	TRANSFER PUMP POWER
2	VFD-C (2) (3)	1"	TRANSFER PUMP CONTROLS
3	MCA-5P/C, MCA-9P	1"	RECIRCULATION PUMP NO.1 AND MLC POWER
4	MCA-7P/C, MCA-11P	1"	RECIRCULATION PUMP NO.2 POWER AND KNIFE GATE
5	MCA-29P, VFD-C (2) (3)	1"	GRINDER POWER (TEMPORARY AND PERMANENT POWER) (1)
6	MCA-30P MCA-17P	1"	CONVEYOR AND VOLUTE SYSTEM POWER
7	VFD-A	1"	TRANSFER PUMP VFD ANALOG SIGNAL
8	AERATION BASIN NO.1	1"	-
9	AERATION BASIN NO.2	1"	-

- GENERAL NOTES:
1. FIELD INVESTIGATE AND VERIFY ALL EXISTING UNDERGROUND UTILITIES.
- NOTES:
1. REFER TO E-7 FOR TEMPORARY POWER REQUIREMENTS.
 2. EXISTING SLUDGE TRANSFER PUMP AND GRINDER PUMP SHALL BE POWERED DURING THE CONSTRUCTION OF TANK NO.1 AND NO.2.
 3. EXISTING CONDUCTOR AND NEW CONDUCTOR FOR TRANSFER PUMP AND SLUDGE GRINDER SHALL BE DEMOLISHED AND PULLED AFTER COMPLETION OF TANK NO.1 AND NO.2.
 4. COORDINATE NEW POWER SERVICE WITH BRYAN TEXAS UTILITIES (BTU).

DEMOLITION SITE
PLAN
1" = 40'



REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: J.FELGER
 DRAWN BY: J.MEAM
 SHEET CHK'D BY: G.LUKE
 CROSS CHK'D BY: G.LUKE
 APPROVED BY: G.LUKE
 DATE: APRIL 2024

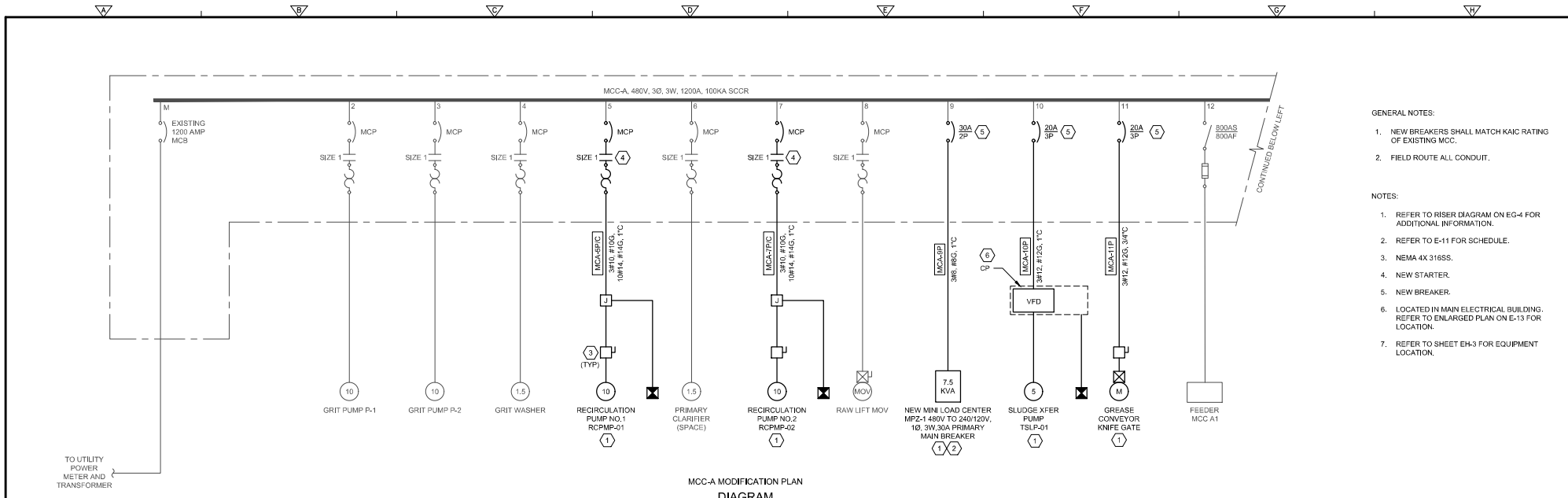


BRYAN STILL CREEK
 WASTEWATER TREATMENT PLANT
 IMPROVEMENTS

ELECTRICAL
 SITE PLAN - OVERALL MODIFIED

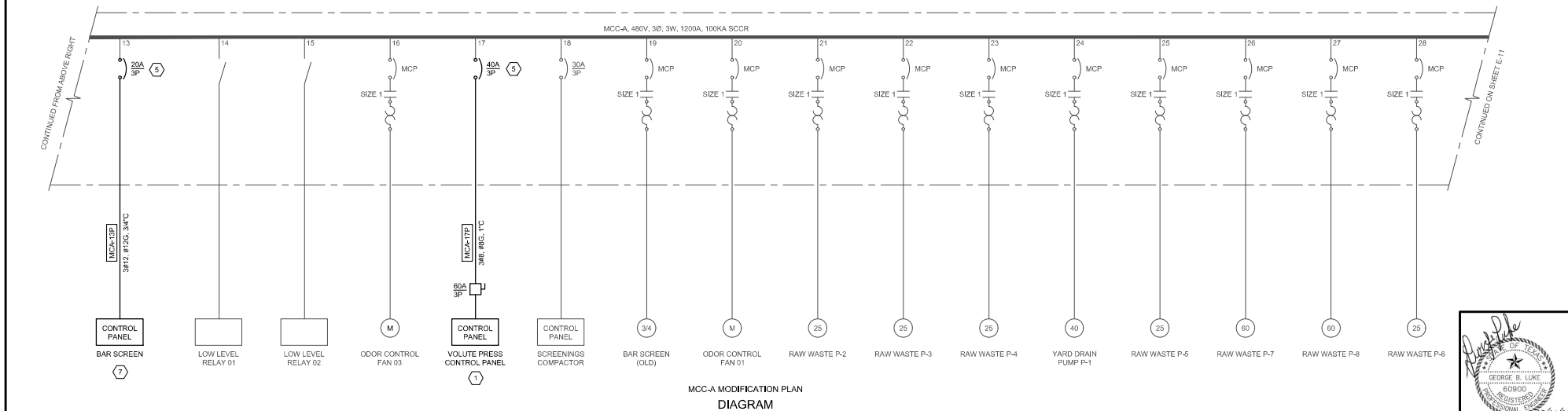
PROJECT NO. 2381-284648
 FILE NAME: E-9.DWG
 SHEET NO.
 E-9

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MCC-A MODIFICATION PLAN
DIAGRAM

- GENERAL NOTES:**
- NEW BREAKERS SHALL MATCH KAIC RATING OF EXISTING MCC.
 - FIELD ROUTE ALL CONDUIT.
- NOTES:**
- REFER TO RISER DIAGRAM ON EG-4 FOR ADDITIONAL INFORMATION.
 - REFER TO E-11 FOR SCHEDULE.
 - NEMA 4X 316SS.
 - NEW STARTER.
 - NEW BREAKER.
 - LOCATED IN MAIN ELECTRICAL BUILDING. REFER TO ENLARGED PLAN ON E-13 FOR LOCATION.
 - REFER TO SHEET EH-3 FOR EQUIPMENT LOCATION.



MCC-A MODIFICATION PLAN
DIAGRAM

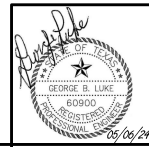
REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: J.FELGER
 DRAWN BY: J.MEAM
 SHEET CHK'D BY: G.LUKE
 CROSS CHK'D BY: G.LUKE
 APPROVED BY: G.LUKE
 DATE: APRIL, 2024



BRYAN STILL CREEK
 WASTEWATER TREATMENT PLANT
 IMPROVEMENTS

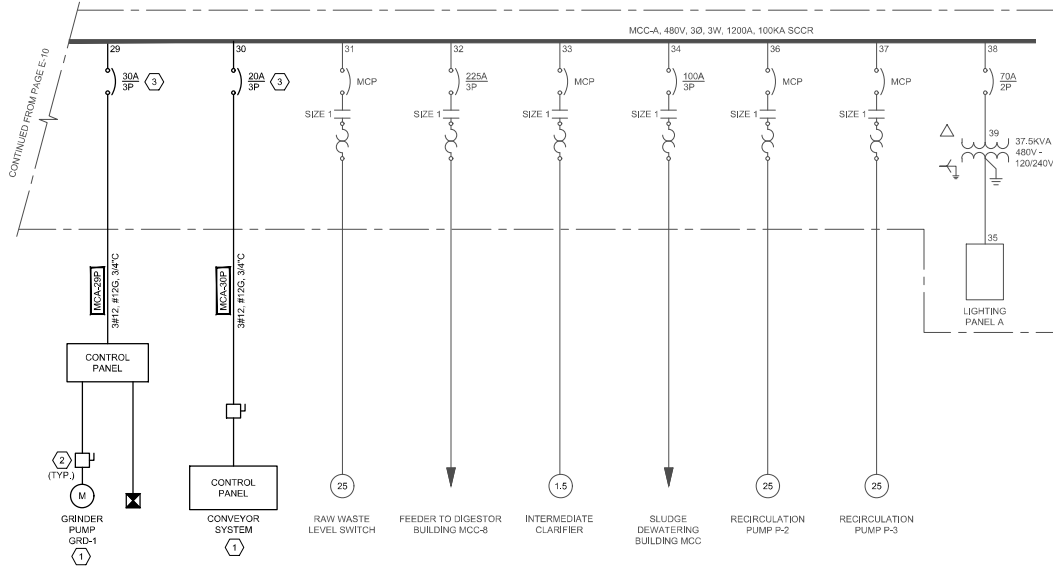
ELECTRICAL
 ONE LINE DIAGRAM MODIFICATION - I



PROJECT NO. 2381-284648
 FILE NAME: E-10.DWG
 SHEET NO.
 E-10

100% SUBMITTAL

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- GENERAL NOTES:**
- NEW BREAKERS SHALL MATCH KAIC RATING OF EXISTING MCC.
 - FILED ROUTE ALL CONDUIT.
- NOTES:**
- REFER TO RISER DIAGRAM ON EG-4 FOR ADDITIONAL INFORMATION.
 - DISCONNECT SHALL BE NEMA 4X 316SS.
 - NEW BREAKER.

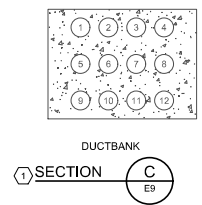


TABLE FOR SECTION B			
CONDUIT NO.	CONDUIT TAG	CONDUIT SIZE	DESCRIPTION
1	I/O-A-103-C	1" C	-
2	MCA-13L-P	1" C	-
3	USED	1" C	-
4	USED	1" C	-
5	MCA-10L-P	1" C	-
6	PL-100	1" C	HEADWORKS ANALOG SIGNAL
7	PL-101	1" C	HEADWORKS DIGITAL SIGNAL
8	SPARE	1" C	-
9	MCA-17R-P	1" C	-
10	MCA-17L-P	1" C	SCREEN COMPACTOR CONTROL PANEL POWER
11	MCA-13P	1" C	BAR SCREEN PANEL POWER
12	MCA-15L-P	1" C	-

PANELBOARD: MINILOAD CENTER MPZ-1				MAIN BREAKER				LOCATION: EQUIPMENT RACK							
VOLTAGE: 120/240 V, 1PH, 3W				TYPE: CB				ENCLOSURE: NEMA 3RX / 318SS							
WITHSTAND RATING: 22 KA				RATING: 30 A				BUS SIZE: 60 A							
MOUNTING: OUTDOOR				BUS TYPE: TIN-PLATED COPPER				SPD: TYPE 2, INTEGRATED							
NOTES	CKT NO	BRKR AMPS / POLES	WIRE SIZE	COND SIZE	DESCRIPTION	L1 (VA)	L2 (VA)	L1 (VA)	L2 (VA)	DESCRIPTION	COND SIZE	WIRE SIZE	BRKR AMPS / POLES	CKT NO	NOTES
	2	1	20/1	12 3/4"	GREASE AREA RECEPTACLES	720		360		VOLUTE AREA RECEPTACLES	3/4"	12	20/1	2	2
	3	20/1	12 3/4"		SITE LIGHTS		150		80	VOLUTE AREA LIGHTS	3/4"	12	20/1	4	
	5	20/1	12 3/4"		POLYMER SKID	1000		120		GREASE FIT NO.1	3/4"	12	20/1	6	
	7	20/1	12 3/4"		PRESSURE TRANSMITTER PIT-300		120		120	GREASE FIT NO.2	3/4"	12	20/1	8	
	9	20/1	12 3/4"		PRESSURE TRANSMITTER PIT-305	120		180		POLYMER AREA RECEPTACLES	3/4"	12	20/1	10	2
	11	13	20/2	12 3/4"	240V RECEPTACLE		840		80	POLYMER AREA LIGHTS	3/4"	12	20/1	12	
	15	20/1			SPARE	840				SPARE	3/4"	12	20/1	14	
	17				SPACE					SPACE	3/4"	12	20/1	16	
					SPACE					SPACE	3/4"	12	20/1	18	
					SUBTOTAL VA BY PHASE	2680	1110	660	280						
					TOTAL VA BY PHASE	3340	1390								
					TOTAL VA	4790									
					L-L VOLTAGE	240									
					TOTAL AMPS (AVERAGE PER LEG)	19.7									

GENERAL NOTES:

- CONDUIT SIZE SHOWN IS THE MINIMUM SIZE REQUIRED FOR INDIVIDUAL CIRCUITS. MULTIPLE CIRCUIT MAY BE COMBINED IN A SINGLE CONDUIT FOR FIELD ROUTING PROVIDED NEC MAXIMUM CONDUIT FILL NOT EXCEEDED.
- EACH SINGLE PHASE 120V CIRCUIT SHALL HAVE A SEPARATE NEUTRAL WIRE.

KEYED NOTES:

- 30 mA GFCI CIRCUIT BREAKER FOR EQUIPMENT PROTECTION ONLY (HEAT TRACE)
- 5 mA GFCI CIRCUIT BREAKER
-
-
-
-

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: J.FELGER
 DRAWN BY: J.MEAM
 SHEET CHK'D BY: G.LUKE
 CROSS CHK'D BY: G.LUKE
 APPROVED BY: G.LUKE
 DATE: APRIL, 2024

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 Tel: (214) 348-3000
 TBEPE Firm Registration No. F-3043

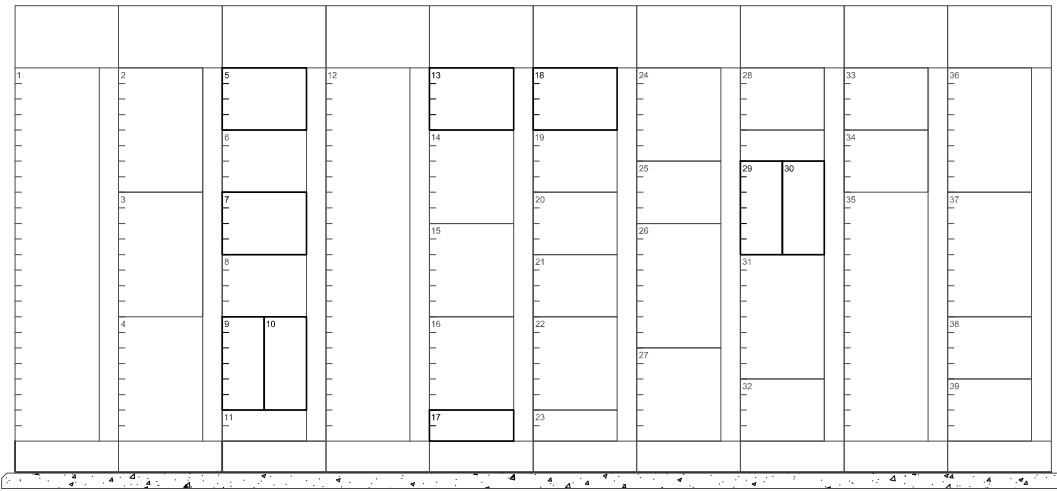
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BRYAN STILL CREEK
 WASTEWATER TREATMENT PLANT
 IMPROVEMENTS

ELECTRICAL
 ONE LINE DIAGRAM MODIFICATION- II



PROJECT NO. 2381-284648	SHEET NO. E-11
FILE NAME: E-11.DWG	



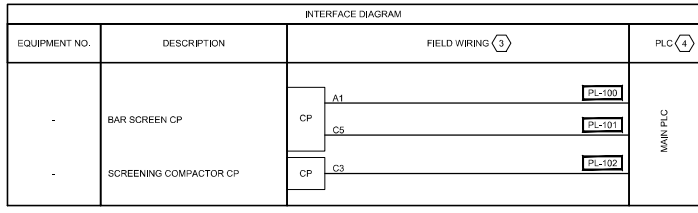
MCC-A
ELEVATION
NOT TO SCALE

- NOTES:
1. THE CONDUIT SIZE AS SHOWN ARE MINIMUM.
 2. THE SIZES SHOWN ARE MINIMUM.
 3. INSTALL ALL CONDUITS AS INDICATED WHETHER SHOWN ON PLAN OR NOT.
 4. TERMINATE ALL WIRES ON TERMINAL BLOCKS. THERE SHALL BE NO LOOSE WIRES.
 5. ALL CAT-6 CABLE SHALL BE ROUTED IN CONDUIT ONLY.
 6. MANUFACTURER CABLE IN 1" MINIMUM.

CONTROL & INSTRUMENTATION WIRE/CONDUIT SCHEDULE			
C1	2#14, #14G, 3/4"C	A1	1-1P#16 TSP, #14G, 3/4"C
C2	4#14, #14G, 3/4"C	A2	2-1P#16 TSP, #14G, 3/4"C
C3	6#14, #14G, 1"C	A3	3-1P#16 TSP, #14G, 3/4"C
C4	8#14, #14G, 1"C	A4	4-1P#16 TSP, #14G, 1"C
C5	10#14, #14G, 1"C	A5	5-1P#16 TSP, #14G, 1"C
C6	12#14, #14G, 1-1/4"C	A6	6-1P#16 TSP, #14G, 1-1/2"C
C7	14#14, #14G, 1-1/4"C	A7	7-1P#16 TSP, #14G, 2"C
C8	16#14, #14G, 1-1/4"C	A8	8-1P#16 TSP, #14G, 2"C
C9	18#14, #14G, 1-1/4"C	A9	9-1P#16 TSP, #14G, 2"C
C10	20#14, #14G, 1-1/4"C	A10	10-1P#16 TSP, #14G, 2"C
C11	22#14, #14G, 1-1/4"C	A11	11-1P#16 TSP, #14G, 2"C
C12	24#14, #14G, 1-1/4"C	M1	1-CAT-5e, #14G, 1"C
C14	28#14, #14G, 1-1/4"C	M2	2-CAT-5e, #14G, 1-1/2"C
C30	60#14, #14G, 3-1/2"C	M3	3-CAT-5e, #14G, 2"C
C37	74#14, #14G, 4"C	M4	4-CAT-5e, #14G, 2"C

CONTROL & INSTRUMENTATION WIRE/CONDUIT TABLE NOTES:

- 1) NOT ALL POSSIBLE COMBINATIONS ARE LISTED. INCLUDE A SEPARATE GROUND WIRE IN EACH CONDUIT RUN.
REPRESENTS PAIR OF WIRE
EXAMPLE C10 = 20#14 WIRES
EXAMPLE C20 = 40#14 WIRES
C# = CONTROL
- 2) ANALOG CABLES ARE INTENDED TO BE INDIVIDUALLY INSULATED TWISTED SHIELDED PAIRS UNLESS OTHERWISE NOTED ON THE DRAWING.



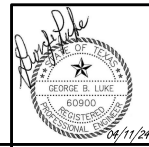
DESIGNED BY: J.FELGER
 DRAWN BY: J.MEAM
 SHEET CHK'D BY: G.LUKE
 CROSS CHK'D BY: G.LUKE
 APPROVED BY: G.LUKE
 DATE: APRIL, 2024



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BRYAN STILL CREEK
 WASTEWATER TREATMENT PLANT
 IMPROVEMENTS

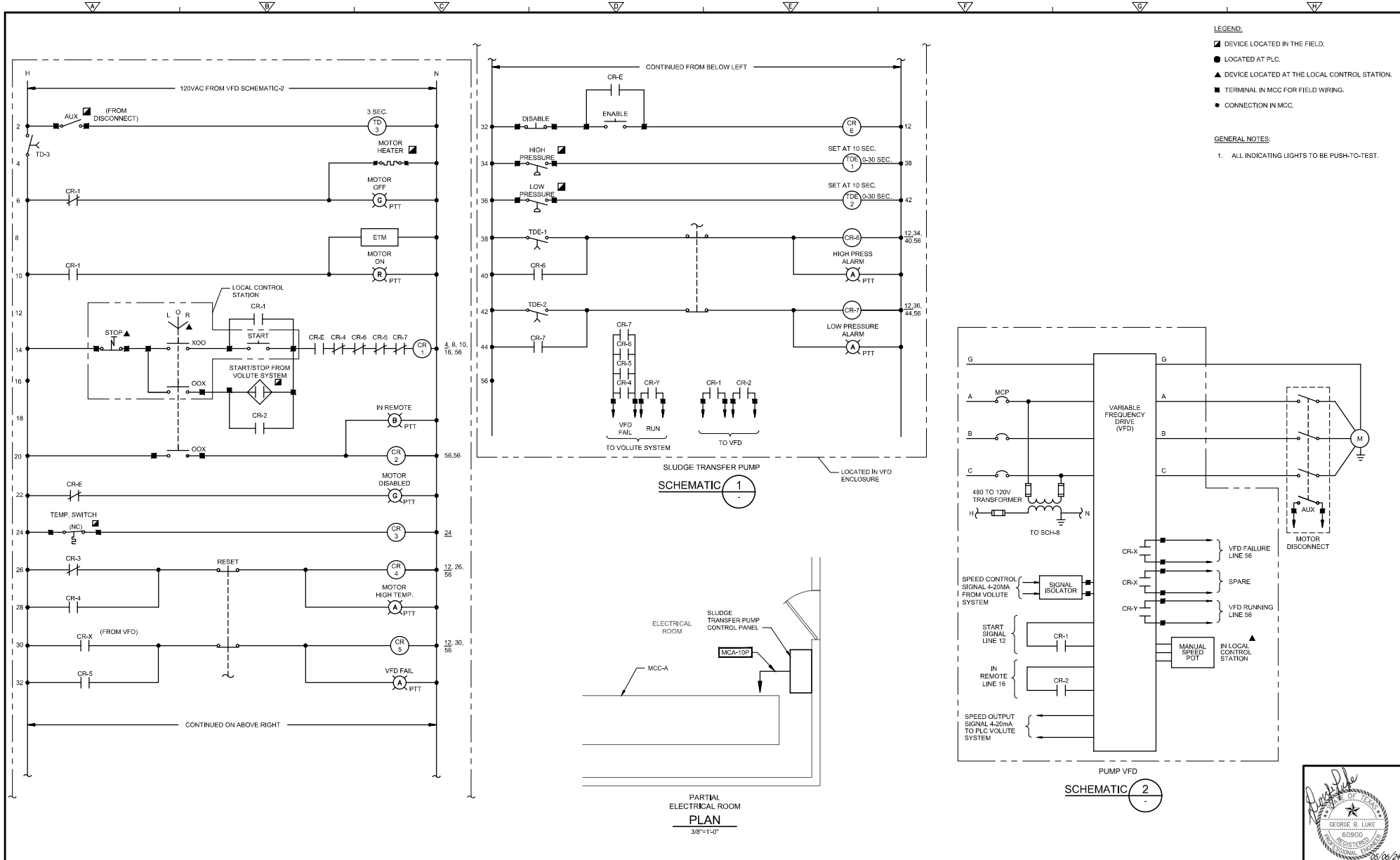
ELECTRICAL
 MCC-A ELEVATION MODIFICATION



PROJECT NO. 2381-284648
 FILE NAME: E-12.DWG
 SHEET NO.
 E-12

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- LEGEND:**
- DEVICE LOCATED IN THE FIELD.
 - LOCATED AT PLC.
 - ▲ DEVICE LOCATED AT THE LOCAL CONTROL STATION.
 - TERMINAL IN MCC FOR FIELD WIRING.
 - CONNECTION IN MCC.
- GENERAL NOTES:**
- ALL INDICATING LIGHTS TO BE PUSH-TO-TEST.

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY:	J.FELGER
DRAWN BY:	J.MEAM
SHEET CHK'D BY:	GLUKE
CROSS CHK'D BY:	GLUKE
APPROVED BY:	GLUKE
DATE:	APRIL 2024

CDM Smith

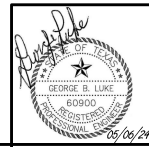
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BRYAN STILL CREEK
WASTEWATER TREATMENT PLANT
IMPROVEMENTS

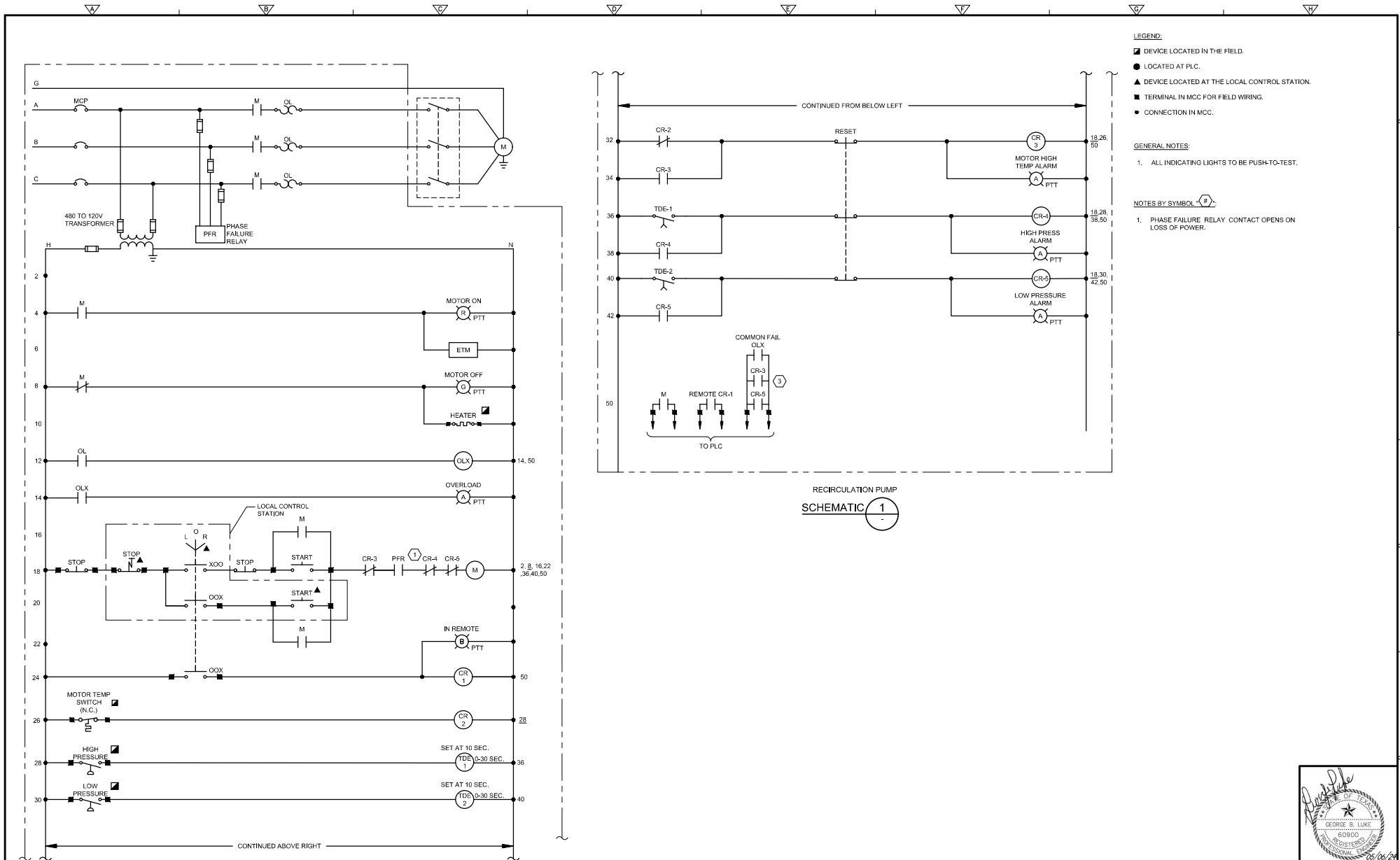
**ELECTRICAL
GREASE SCHEMATIC - I**

PROJECT NO. 2381-284648	FILE NAME: E-13.DWG
SHEET NO. E-13	



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 BRYAN STILL CREEK WASTEWATER TREATMENT PLANT IMPROVEMENTS - Page 867 of 1053



RECIRCULATION PUMP
SCHEMATIC 1

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: J.FELGER
 DRAWN BY: J.MEAM
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 CROSS CHK'D BY: G.LUKE
 APPROVED BY: G.LUKE
 DATE: APRIL 2024

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BRYAN STILL CREEK
 WASTEWATER TREATMENT PLANT
 IMPROVEMENTS

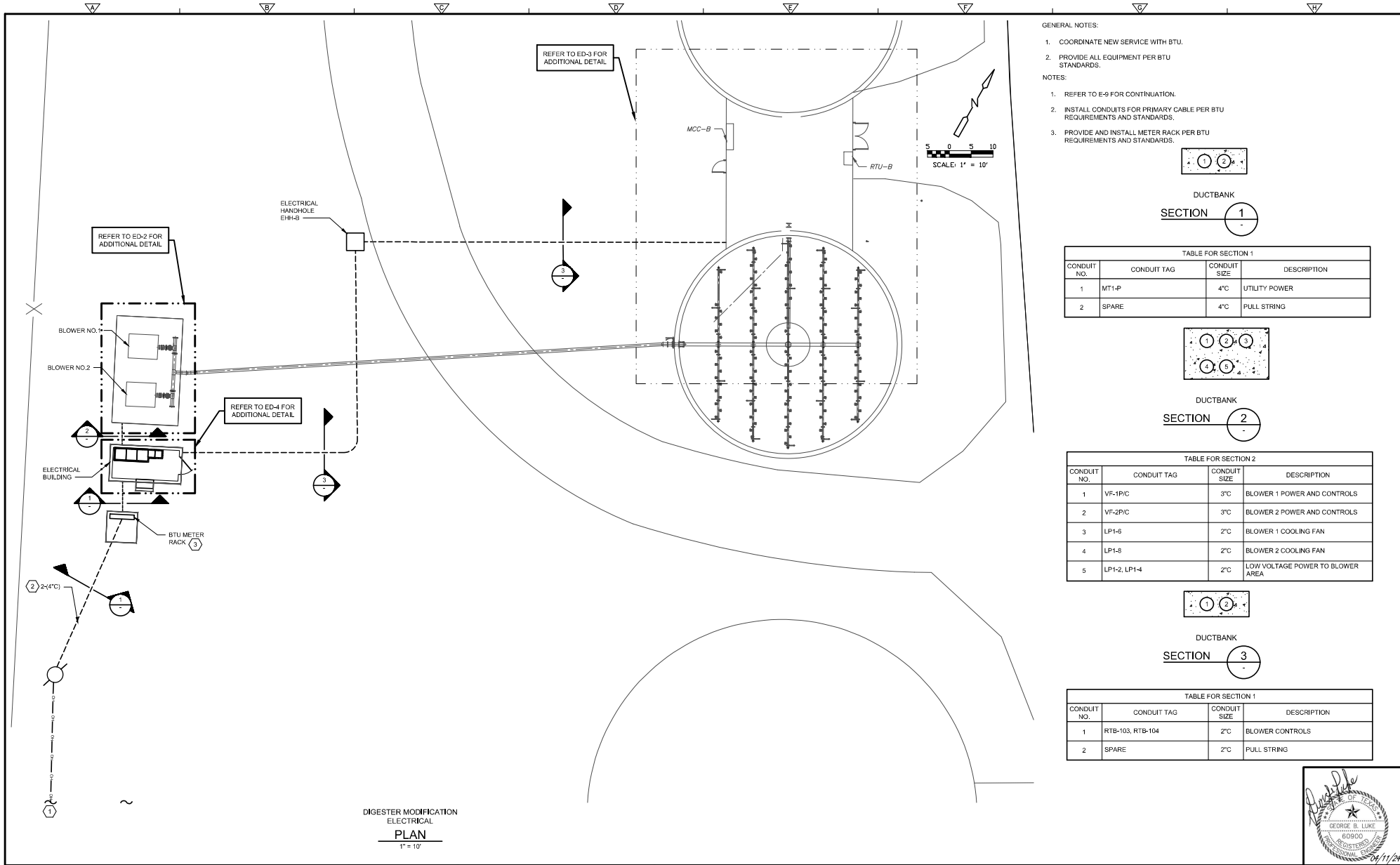
ELECTRICAL
 GREASE SCHEMATIC - II



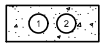
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 FILE NAME: E-14.DWG
 SHEET NO.
 E-14

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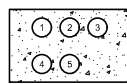


- GENERAL NOTES:
- COORDINATE NEW SERVICE WITH BTU.
 - PROVIDE ALL EQUIPMENT PER BTU STANDARDS.
- NOTES:
- REFER TO E-9 FOR CONTINUATION.
 - INSTALL CONDUITS FOR PRIMARY CABLE PER BTU REQUIREMENTS AND STANDARDS.
 - PROVIDE AND INSTALL METER RACK PER BTU REQUIREMENTS AND STANDARDS.



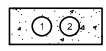
DUCTBANK
SECTION 1

TABLE FOR SECTION 1			
CONDUIT NO.	CONDUIT TAG	CONDUIT SIZE	DESCRIPTION
1	MT1-P	4" C	UTILITY POWER
2	SPARE	4" C	PULL STRING



DUCTBANK
SECTION 2

TABLE FOR SECTION 2			
CONDUIT NO.	CONDUIT TAG	CONDUIT SIZE	DESCRIPTION
1	VF-1P/C	3" C	BLOWER 1 POWER AND CONTROLS
2	VF-2P/C	3" C	BLOWER 2 POWER AND CONTROLS
3	LP1-S	2" C	BLOWER 1 COOLING FAN
4	LP1-S	2" C	BLOWER 2 COOLING FAN
5	LP1-2, LP1-4	2" C	LOW VOLTAGE POWER TO BLOWER AREA



DUCTBANK
SECTION 3

TABLE FOR SECTION 1			
CONDUIT NO.	CONDUIT TAG	CONDUIT SIZE	DESCRIPTION
1	RTB-103, RTB-104	2" C	BLOWER CONTROLS
2	SPARE	2" C	PULL STRING

DIGESTER MODIFICATION
ELECTRICAL
PLAN
1" = 10'

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: J.FELGER
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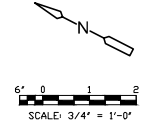
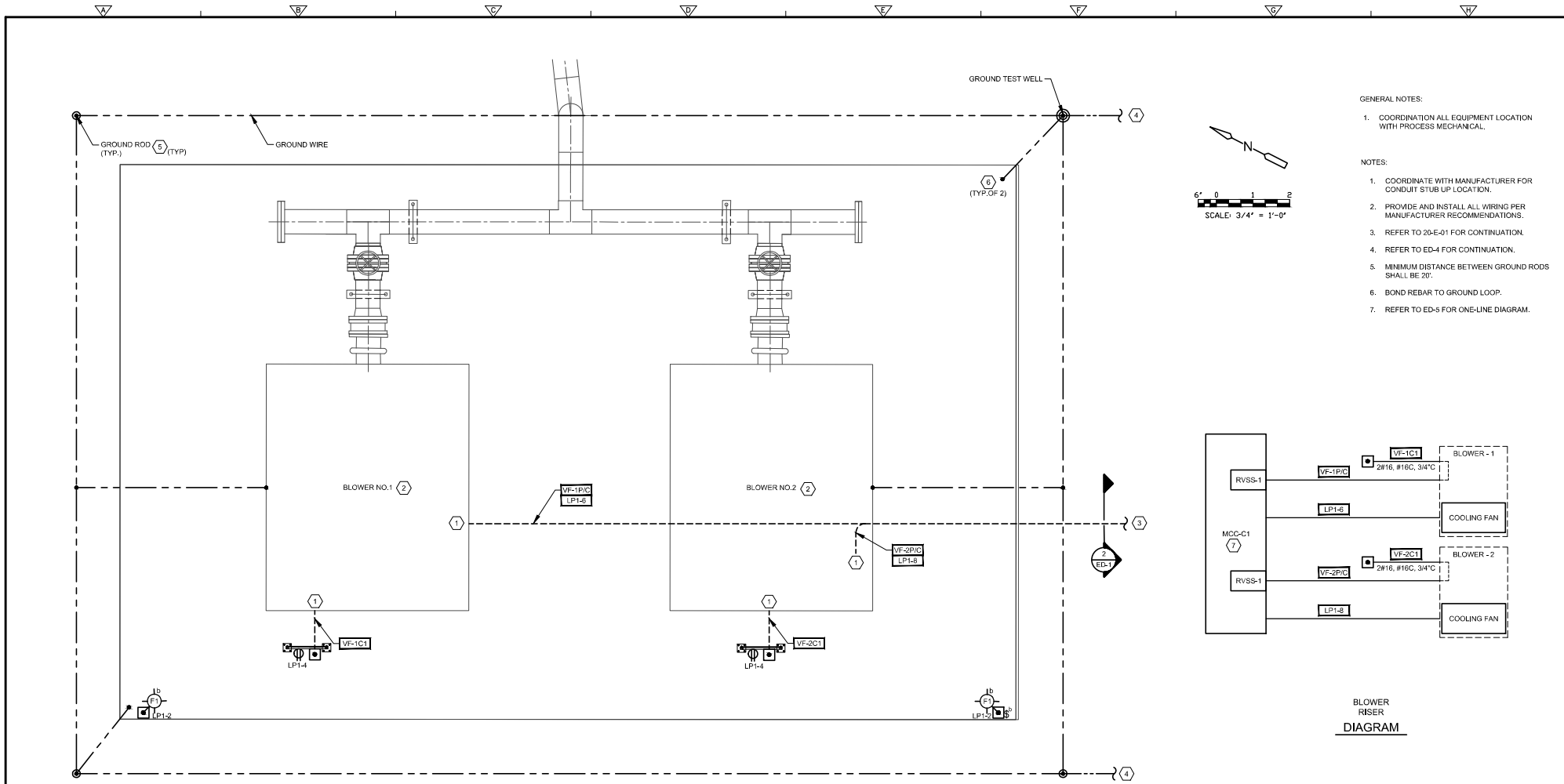
BRYAN STILL CREEK
 WASTEWATER TREATMENT PLANT
 IMPROVEMENTS

ELECTRICAL
 BLOWER MODIFICATION PLAN

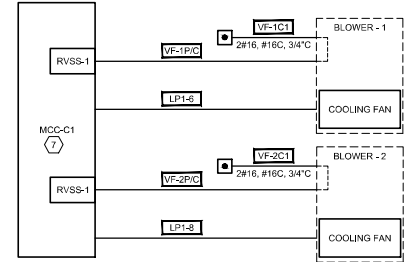


PROJECT NO. 2381-284648
 FILE NAME: ED-1.DWG
 SHEET NO.
 ED-1

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- GENERAL NOTES:**
- COORDINATE ALL EQUIPMENT LOCATION WITH PROCESS MECHANICAL.
- NOTES:**
- COORDINATE WITH MANUFACTURER FOR CONDUIT STUB UP LOCATION.
 - PROVIDE AND INSTALL ALL WIRING PER MANUFACTURER RECOMMENDATIONS.
 - REFER TO 20-E-01 FOR CONTINUATION.
 - REFER TO ED-4 FOR CONTINUATION.
 - MINIMUM DISTANCE BETWEEN GROUND RODS SHALL BE 20'.
 - BOND REBAR TO GROUND LOOP.
 - REFER TO ED-5 FOR ONE-LINE DIAGRAM.



BLOWER RISER DIAGRAM

ENLARGE BLOWER PLAN
3/4" = 1'-0"

REV. NO.	DATE	DRWN	CHKD	REMARKS

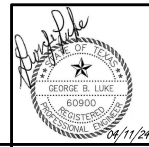
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 IMPROVEMENTS

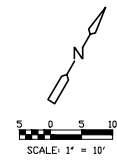
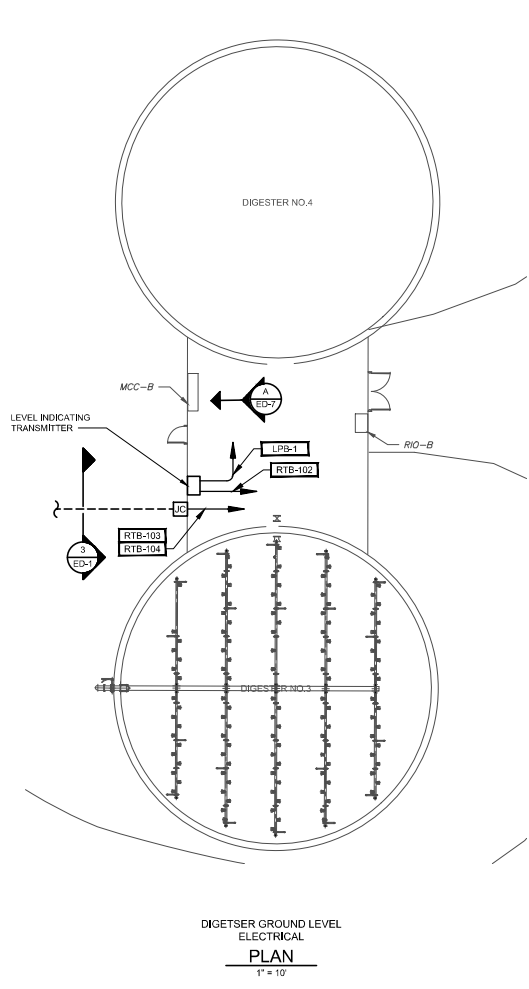
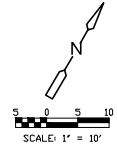
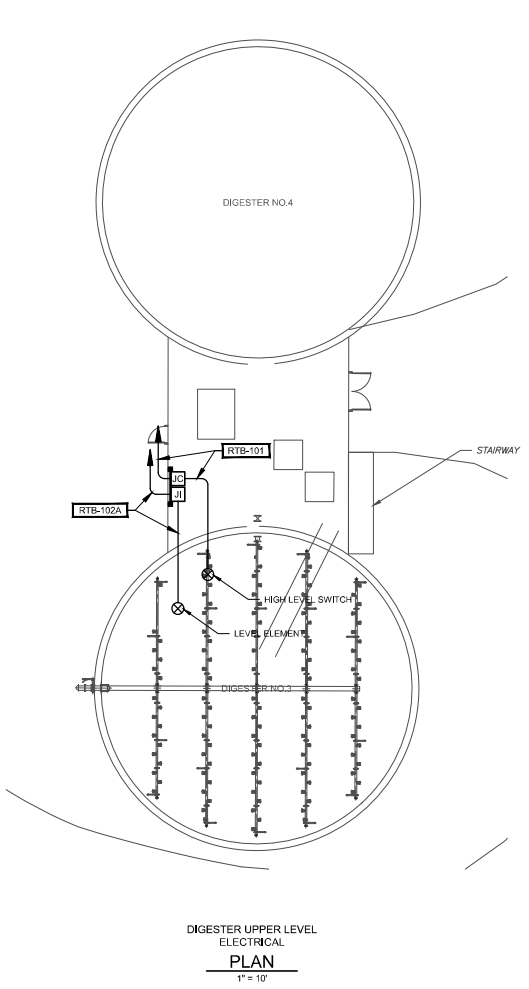
ELECTRICAL
 BLOWER ENLARGER PLAN
 AND RISER DIAGRAM



PROJECT NO. 2381-284648
 FILE NAME: ED-2.DWG
 SHEET NO.
 ED-2

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A B C D E F G H



- GENERAL NOTES:
1. REFER TO ED-7 FOR PANELBOARD SCHEDULE.
 2. REFER TO G-7 FOR AREA CLASSIFICATIONS.
 3. EXPLOSION PROOF SEALS ARE NOT SHOWN ON THIS DRAWING. PROVIDE AND INSTALL EXPLOSION PROOF SEALS AND FITTINGS AS REQUIRED PER NFPA 620 AND NEC.

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: J.FELGER
 DRAWN BY: J.MEAM
 SHEET CHK'D BY: G.LUKE
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 APPROVED BY: G.LUKE
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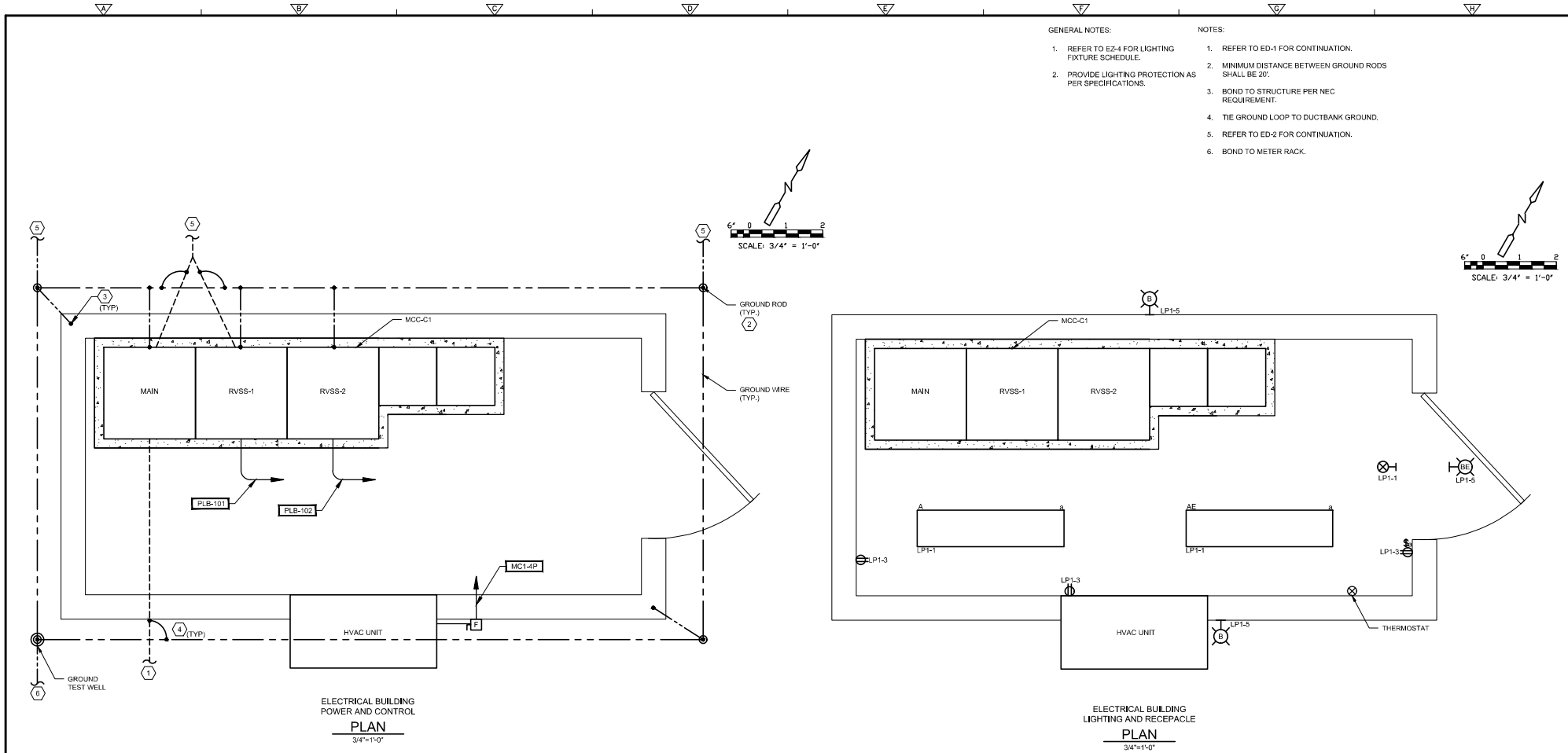
ELECTRICAL
 DIGESTER ENLARGED PLAN



PROJECT NO. 2381-284648
 FILE NAME: ED-3.DWG
 SHEET NO.
ED-3

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GENERAL NOTES:

- REFER TO E2-4 FOR LIGHTING FIXTURE SCHEDULE.
- PROVIDE LIGHTING PROTECTION AS PER SPECIFICATIONS.

NOTES:

- REFER TO ED-1 FOR CONTINUATION.
- MINIMUM DISTANCE BETWEEN GROUND RODS SHALL BE 20'.
- BOND TO STRUCTURE PER NEC REQUIREMENT.
- TIE GROUND LOOP TO DUCTBANK GROUND.
- REFER TO ED-2 FOR CONTINUATION.
- BOND TO METER RACK.

ELECTRICAL BUILDING
POWER AND CONTROL
PLAN
3/4"=1'-0"

ELECTRICAL BUILDING
LIGHTING AND RECEPTACLE
PLAN
3/4"=1'-0"

REV. NO.	DATE	DRWN	CHKD	REMARKS

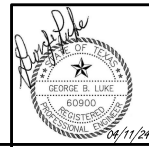
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BRYAN STILL CREEK
 WASTEWATER TREATMENT PLANT
 IMPROVEMENTS

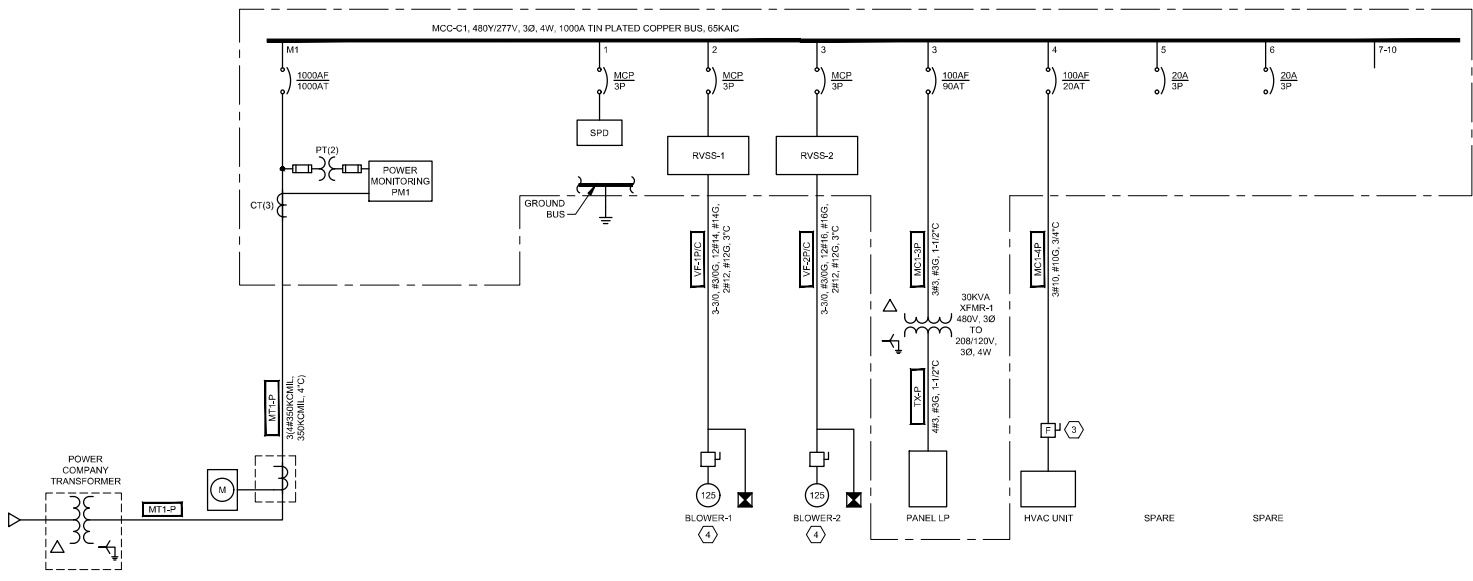
ELECTRICAL
 BUILDING POWER AND
 CONTROL PLANS



PROJECT NO. 2381-284648
 FILE NAME: ED-4.DWG
 SHEET NO.
ED-4

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A B C D E F G H



- NOTES:
1. MANUFACTURER SHALL SIZE THE BREAKER.
 2. COORDINATE INSTALLATION REQUIREMENTS WITH BTU. INSTALL CONDUIT FOR PRIMARY CABLE IN DUCT/BANK MEETING BTU REQUIREMENTS TO THE TWO SERVICE POLES.
 3. COORDINATE FUSE SIZE WITH PROVIDED HVAC EQUIPMENT.
 4. REFER TO ED-8 FOR SCHEMATIC.

MCC-C1 ONE-LINE
DIAGRAM

PANELBOARD: PANEL LP-1				MAIN BREAKER			LOCATION: INSIDE MCC-C1										
VOLTAGE: 208Y/120 V, 3PH, 4W				TYPE: CB			ENCLOSURE: NEMA 1/1A										
WITHSTAND RATING: 22 KA				RATING: 80 A			BUS SIZE: 100 A										
MOUNTING: INTEGRAL							BUS TYPE: TIN-PLATED COPPER										
							SPD: TYPE 2, INTEGRATED										
NOTES	CKT NO	BRKR AMPS POLES	WIRE SIZE	COND SIZE	DESCRIPTION	PHASE A (VA)	PHASE B (VA)	PHASE C (VA)	PHASE A (VA)	PHASE B (VA)	PHASE C (VA)	DESCRIPTION	COND SIZE	WIRE SIZE	BRKR AMPS POLES	CKT NO	NOTES
	1	20/1	12	3/4"	ELECTRICAL BUILDING LIGHTING							BLOWER AREA LIGHTING	3/4"	12	20/1	2	
	3	20/1	12	3/4"	ELECTRICAL BUILDING RECEPTACLES							BLOWER AREA RECEPTACLE	3/4"	12	20/1	4	2
	5	20/1	12	3/4"	ELECTRICAL BUILDING OUTDOOR LIGHTING							BLOWER NO.1 VENT FAN	3/4"	12	20/1	6	
	7	20/1	12	3/4"	ELECTRICAL BUILDING OUTDOOR RECEPTACLES							BLOWER NO.2 VENT FAN	3/4"	12	20/1	8	
	9	20/1			SPARE							SPARE			20/1	10	
	11	20/1			SPARE							SPARE			20/1	12	
	13	20/1			SPARE							SPARE			20/1	14	
	15	20/1			SPARE							SPARE			20/1	16	
	17	20/1			SPARE							SPARE			20/1	18	
	19	20/1			SPARE							SPARE			20/1	20	
	21	20/1			SPARE							SPARE			20/1	22	
	23				SPACE							SPACE				24	
	25				SPACE							SPACE				26	
	27				SPACE							SPACE				28	
	29				SPACE							SPACE				30	
SUBTOTAL VA BY PHASE						0	0	0	0	0	0						
TOTAL VA BY PHASE						0	0	0									
TOTAL VA						0											
L-L VOLTAGE						208											
TOTAL AMPS (AVERAGE PER PHASE)						0.0											

GENERAL NOTES:
 * CONDUIT SIZE SHOWN IS THE MINIMUM SIZE REQUIRED FOR INDIVIDUAL CIRCUITS. MULTIPLE CIRCUITS MAY BE COMBINED IN A SINGLE CONDUIT FOR FIELD ROUTING PROVIDED NEC MAXIMUM CONDUIT FILL IS NOT EXCEEDED.
 * EACH SINGLE PHASE 120V CIRCUIT SHALL HAVE A SEPARATE NEUTRAL WIRE.

KEYED NOTES:
 1. 30 mA GFCI CIRCUIT BREAKER FOR EQUIPMENT PROTECTION ONLY (HEAT TRACE)
 2. 5 mA GFCI CIRCUIT BREAKER
 3.
 4.
 5.
 6.

REV. NO.	DATE	DRWN	CHKD	REMARKS

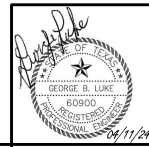
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 CROSS CHK'D BY: G.LUKE
 APPROVED BY: G.LUKE
 DATE: APRIL 2024

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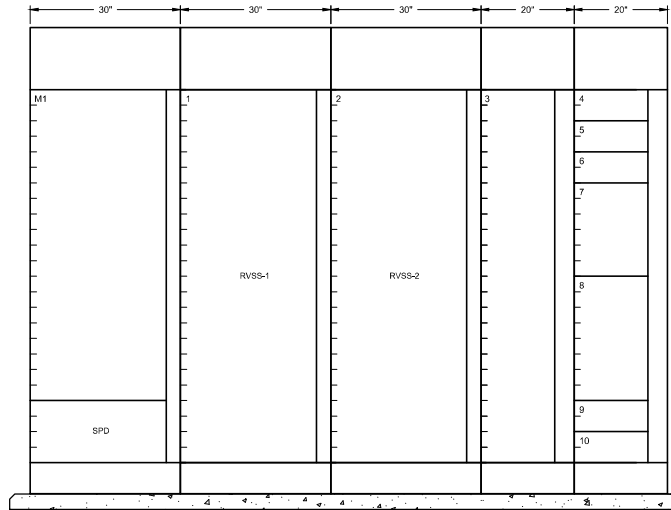
BRYAN STILL CREEK
 WASTEWATER TREATMENT PLANT
 IMPROVEMENTS

ELECTRICAL
 MCC-C1 ONE-LINE SCHEDULE
 AND PANEL SCHEDULING



PROJECT NO. 2381-284648
 FILE NAME: ED-S.DWG
 SHEET NO.
 ED-5

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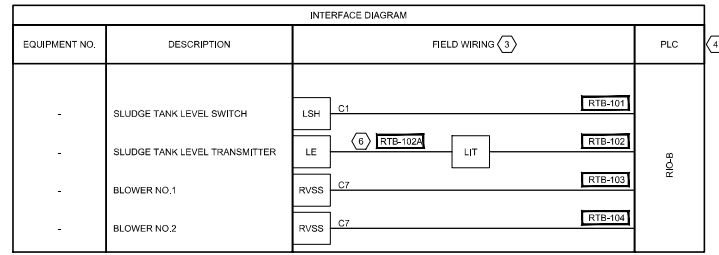


MCC-C1
ELEVATION
NOT TO SCALE

- NOTES:
1. THE CONDUIT SIZE AS SHOWN ARE MINIMUM.
 2. THE SIZES SHOWN ARE MINIMUM.
 3. INSTALL ALL CONDUITS AS INDICATED WHETHER SHOWN ON PLAN OR NOT.
 4. TERMINATE ALL WIRES ON TERMINAL BLOCKS, THERE SHALL BE NO LOOSE WIRES.
 5. ALL CAT-6 CABLE SHALL BE ROUTED IN CONDUIT ONLY.
 6. MANUFACTURER CABLE IN 1" MINIMUM.

CONTROL & INSTRUMENTATION WIRE/CONDUIT SCHEDULE (1)(2)(5)			
C1	2#14, #14G, 3/4" C	A1	1-1P#16 TSP, #14G, 3/4" C
C2	4#14, #14G, 3/4" C	A2	2-1P#16 TSP, #14G, 3/4" C
C3	6#14, #14G, 1" C	A3	3-1P#16 TSP, #14G, 3/4" C
C4	8#14, #14G, 1" C	A4	4-1P#16 TSP, #14G, 1" C
C5	10#14, #14G, 1" C	A5	5-1P#16 TSP, #14G, 1" C
C6	12#14, #14G, 1-1/4" C	A6	6-1P#16 TSP, #14G, 1-1/2" C
C7	14#14, #14G, 1-1/4" C	A7	7-1P#16 TSP, #14G, 2" C
C8	16#14, #14G, 1-1/4" C	A8	8-1P#16 TSP, #14G, 2" C
C9	18#14, #14G, 1-1/4" C	A9	9-1P#16 TSP, #14G, 2" C
C10	20#14, #14G, 1-1/4" C	A10	10-1P#16 TSP, #14G, 2" C
C11	22#14, #14G, 1-1/4" C	A11	11-1P#16 TSP, #14G, 2" C
C12	24#14, #14G, 1-1/4" C	M1	1-CAT-5e, #14G, 1" C
C14	28#14, #14G, 1-1/4" C	M2	2-CAT-5e, #14G, 1-1/2" C
C30	60#14, #14G, 3-1/2" C	M3	3-CAT-5e, #14G, 2" C
C37	74#14, #14G, 4" C	M4	4-CAT-5e, #14G, 2" C

- CONTROL & INSTRUMENTATION WIRE/CONDUIT TABLE NOTES:
- 1) NOT ALL POSSIBLE COMBINATIONS ARE LISTED. INCLUDE A SEPARATE GROUND WIRE IN EACH CONDUIT RUN.
 - 2) ANALOG CABLES ARE INTENDED TO BE INDIVIDUALLY INSULATED TWISTED SHIELDED PAIRS UNLESS OTHERWISE NOTED ON THE DRAWING.
- # REPRESENTS PAIR OF WIRE
 EXAMPLE C10 = 20#14 WIRES
 EXAMPLE C20 = 40#14 WIRES
- C₂₀ / C₂₀ - CONTROL



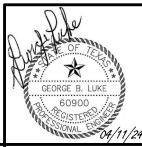
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 APPROVED BY: G.LUKE
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BRYAN STILL CREEK
 WASTEWATER TREATMENT PLANT
 IMPROVEMENTS

ELECTRICAL
 MCC-C1 ELEVATION AND INTERFACE DIAGRAM



PROJECT NO. 2381-284648
 FILE NAME: ED-8.DWG

SHEET NO.
 ED-6

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A
B
C
D
E
F
G
H

- GENERAL NOTES:
- FIELD VERIFY EXISTING EQUIPMENT LAYOUT AND LOCATIONS.
- NOTES:
- REFER TO LP-C LIGHTING PANEL SCHEDULE FOR PANEL SCHEDULE.
 - UTILIZE SPARE BREAKER IN PANELBOARD.



A MCC-B
 PHOTOGRAPH A
 ED-3

PANELBOARD: LP-B				BUS TYPE: TIN PLATTED COPPER		MAINS: XXX		SPD: TYPE 2	
SERVICE: 208Y/120V, 3Ø, 4W				BUS RATING: 100A		LOCATION: INSIDE MCC B			
MOUNTING: SURFACE - NEMA 12				FEED: TOP					
CKT NO.	BRKR SIZE	WIRE SIZE	COND. SIZE	LOAD	LOAD	COND. SIZE	WIRE SIZE	BRKR SIZE	CKT NO.
1	15/1	12	3/4"	SLUDGE TANK LEVEL (2)	SPARE	-	-	15/1	2
3	15/1	-	-	SPARE	SPARE	-	-	15/1	4
5	20/1	-	-	RECEPTACLES	RECEPTACLES	-	-	20/1	6
7	20/1	-	-	DIGESTER LIGHTS	DIGESTER LIGHTS	-	-	15/1	8
9	20/1	-	-	DIGESTER LIGHTS	CHLORINATOR BUILDING	-	-	15/1	10
11	20/1	-	-	DIGESTER RECEPTACLES	-	-	-	70/1	12
13	15/1	-	-	RECEPTACLES	FLOOD LIGHTS	-	-	15/1	14
15	15/1	-	-	FLOOD LIGHTS	FLOOD LIGHTS	-	-	15/1	16
17	15/2	-	-	SUMP PUMP	VENT FAN	-	-	15/1	18
19	-	-	-	-	EXHAUST FAN	-	-	15/1	20
21	15/1	-	-	GAS BURN IGNITION	BOILER CONTROL PANEL	-	-	30/1	22
23	15/1	-	-	FLOAT TRANSMITTER	DRIP TRAP HEATER	-	-	15/1	24

• CONDUIT SIZE SHOWN IS THE MINIMUM SIZE REQUIRED FOR INDIVIDUAL CIRCUITS. MULTIPLE CIRCUITS MAY BE COMBINED IN A SINGLE CONDUIT FOR FIELD ROUTING PROVIDED NEC MAXIMUM CONDUIT FILL IS NOT EXCEEDED.
 • EACH SINGLE PHASE 120V CIRCUIT SHALL HAVE A SEPARATE NEUTRAL WIRE.

REV. NO.	DATE	DRWN	CHKD	REMARKS

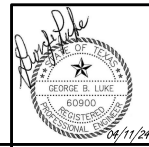
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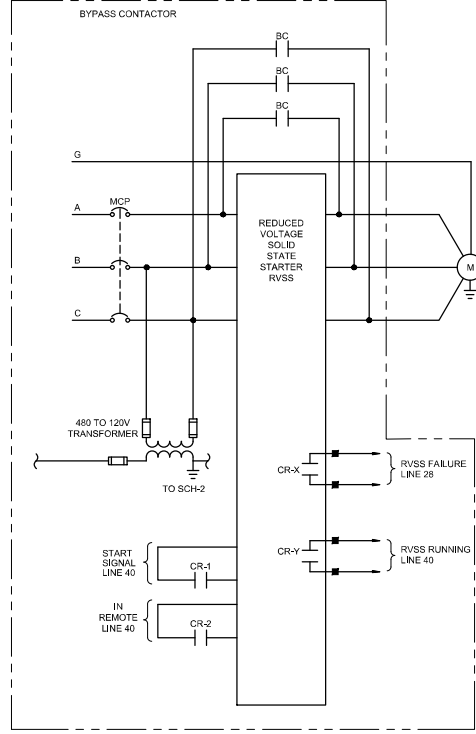
BRYAN STILL CREEK
 WASTEWATER TREATMENT PLANT
 IMPROVEMENTS

ELECTRICAL
 DIGESTER DETAILS

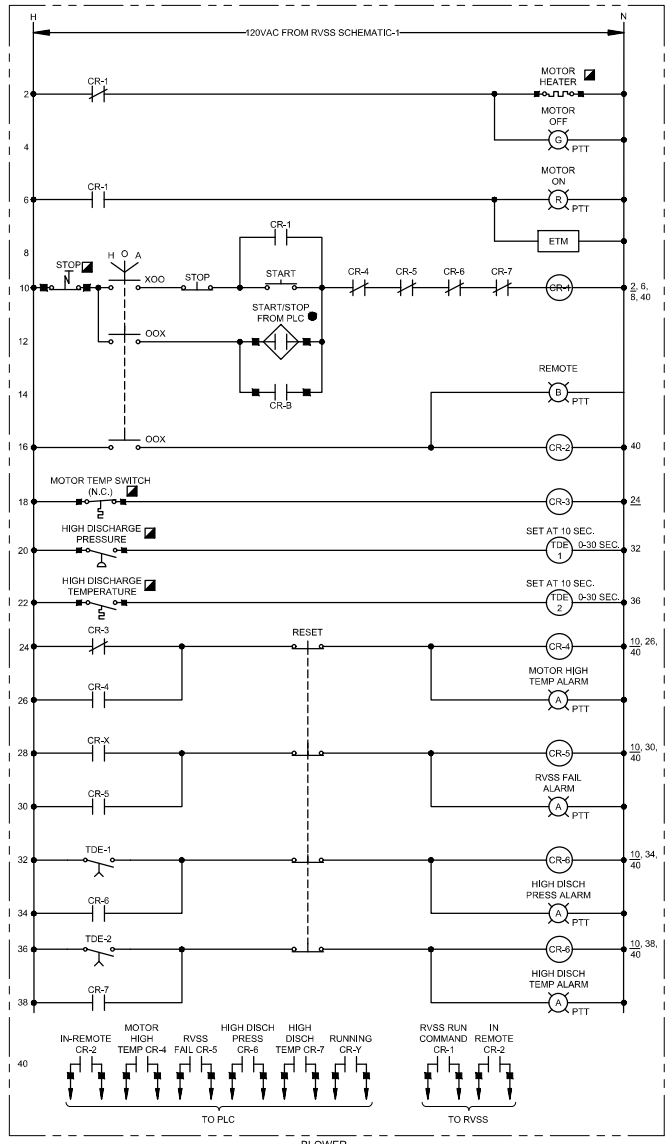


PROJECT NO. 2381-284648
 FILE NAME: ED-7.DWG
 SHEET NO.
ED-7

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BLOWER
SCHEMATIC 1



BLOWER
SCHEMATIC 2

- LEGEND**
- ▣ DEVICE LOCATED IN THE FIELD.
 - LOCATED AT PLC.
 - ▲ DEVICE LOCATED AT THE LOCAL CONTROL STATION.
 - TERMINAL IN MCC FOR FIELD WIRING.
 - CONNECTION IN MCC.
- GENERAL NOTES**
- ALL INDICATING LIGHTS TO BE PUSH-TO-TEST.

REV. NO.	DATE	DRWN	CHKD	REMARKS

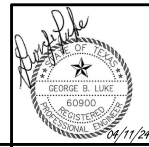
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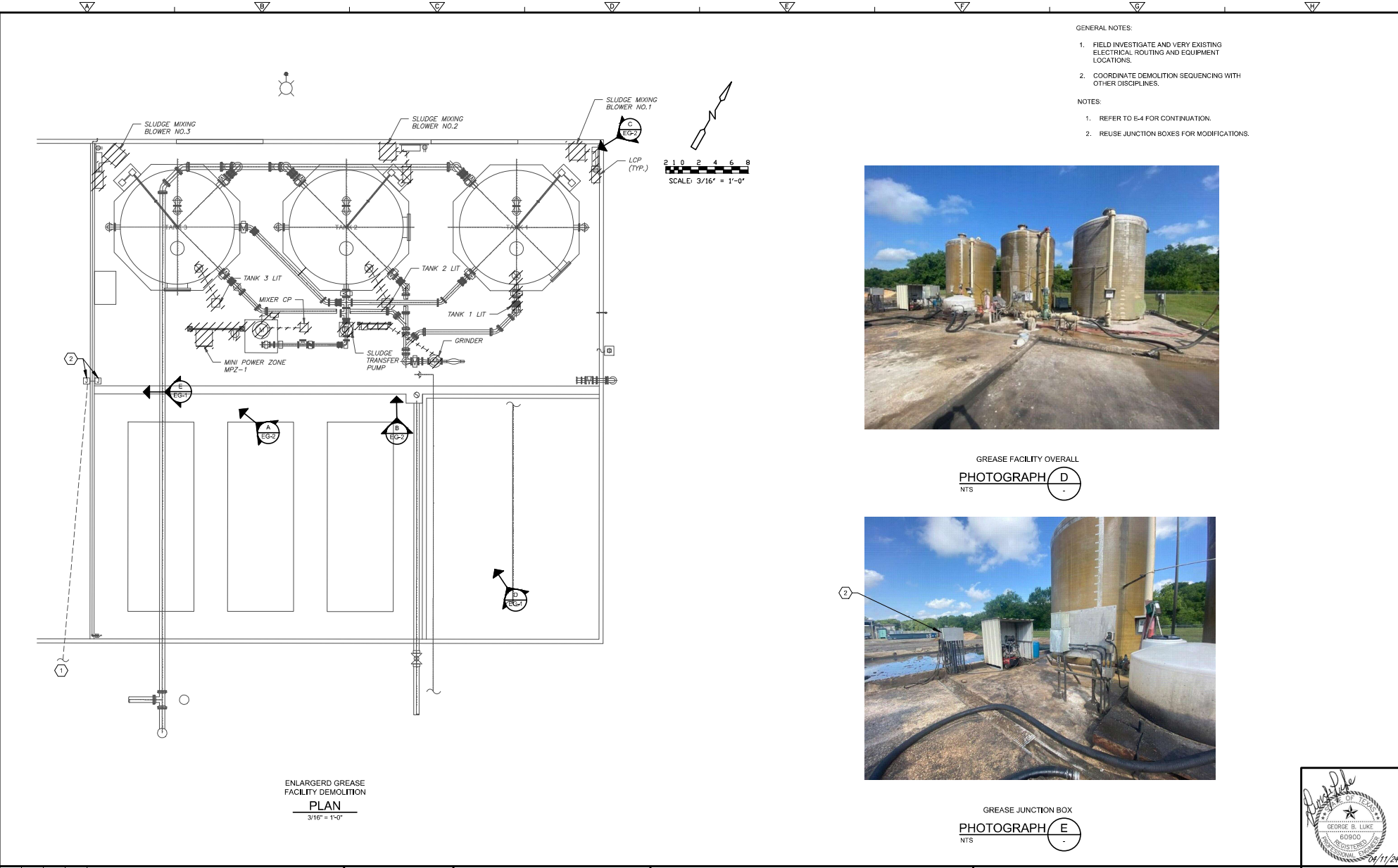
BRYAN STILL CREEK
 WASTEWATER TREATMENT PLANT
 IMPROVEMENTS

ELECTRICAL
 BLOWER SCHEMATIC

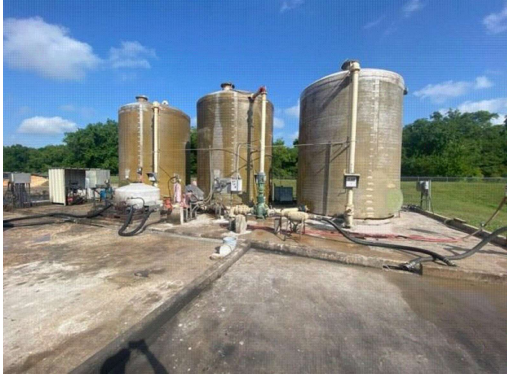


PROJECT NO. 2381-284648
FILE NAME: ED-8.DWG
SHEET NO. ED-8

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- GENERAL NOTES:
1. FIELD INVESTIGATE AND VERIFY EXISTING ELECTRICAL ROUTING AND EQUIPMENT LOCATIONS.
 2. COORDINATE DEMOLITION SEQUENCING WITH OTHER DISCIPLINES.
- NOTES:
1. REFER TO E-4 FOR CONTINUATION.
 2. REUSE JUNCTION BOXES FOR MODIFICATIONS.

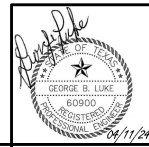


GREASE FACILITY OVERALL
 PHOTOGRAPH D
 NTS



GREASE JUNCTION BOX
 PHOTOGRAPH E
 NTS

ENLARGED GREASE FACILITY DEMOLITION
 PLAN
 3/16" = 1'-0"



REV. NO.	DATE	DRWN	CHKD	REMARKS

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BRYAN STILL CREEK
 WASTEWATER TREATMENT PLANT
 IMPROVEMENTS

ELECTRICAL
 GREASE FACILITY DEMOLITION

PROJECT NO. 2381-284648
FILE NAME: EG-1.DWG
SHEET NO. EG-1

A B C D E F G H

NOTES:
1. DEMOLISH EQUIPMENT.



GREASE FACILITY DEMOLITION
PHOTOGRAPH A
NTS (10-DE-02)



GREASE FACILITY DEMOLITION
PHOTOGRAPH B
NTS (10-DE-02)



GREASE FACILITY DEMOLITION
PHOTOGRAPH C
NTS (10-DE-02)

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BRYAN STILL CREEK
 WASTEWATER TREATMENT PLANT
 IMPROVEMENTS

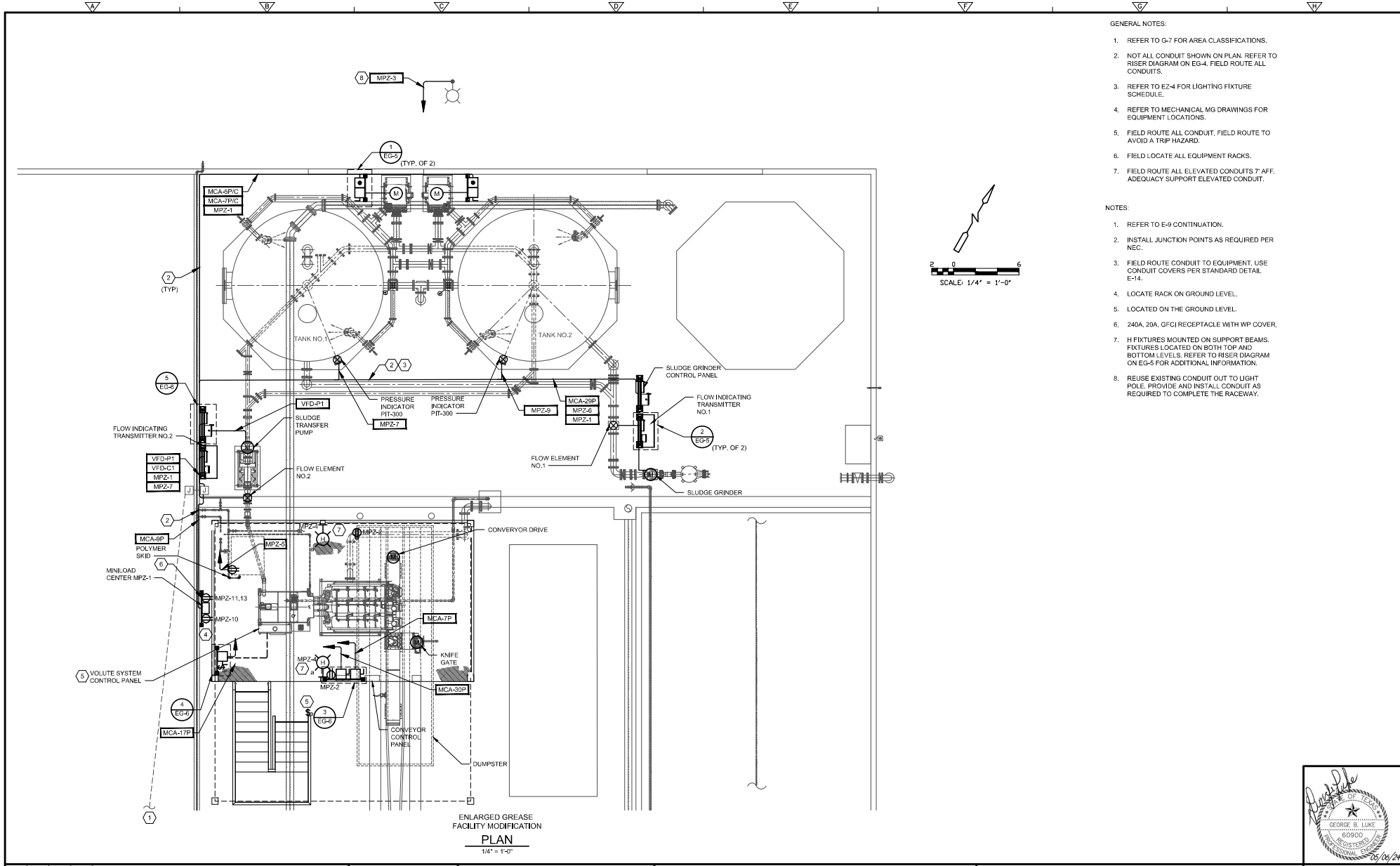
ELECTRICAL
 GREASE AREA PHOTOS
 AND DEMOLITION RISER

PROFESSIONAL SEAL OF TEXAS
 GEORGE B. LUKE
 60900
 SYSTEMS
 04/11/24

PROJECT NO. 2381-284648
 FILE NAME: EG-2.DWG
 SHEET NO.
EG-2

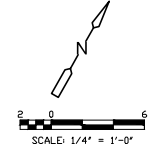
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- GENERAL NOTES:
- REFER TO G-7 FOR AREA CLASSIFICATIONS.
 - NOT ALL CONDUIT SHOWN ON PLAN. REFER TO RISER DIAGRAM ON EG-4. FIELD ROUTE ALL CONDUITS.
 - REFER TO E-24 FOR LIGHTING FIXTURE SCHEDULE.
 - REFER TO MECHANICAL MG DRAWINGS FOR EQUIPMENT LOCATIONS.
 - FIELD ROUTE ALL CONDUIT. FIELD ROUTE TO AVOID A TRIP HAZARD.
 - FIELD LOCATE ALL EQUIPMENT RACKS.
 - FIELD ROUTE ALL ELEVATED CONDUITS 7' AFF. ADEQUACY SUPPORT ELEVATED CONDUIT.

- NOTES:
- REFER TO E-9 CONTINUATION.
 - INSTALL JUNCTION POINTS AS REQUIRED PER NEC.
 - FIELD ROUTE CONDUIT TO EQUIPMENT. USE CONDUIT COVERS PER STANDARD DETAIL E-14.
 - LOCATE RACK ON GROUND LEVEL.
 - LOCATED ON THE GROUND LEVEL.
 - 240A, 20A, GFCI RECEPTACLE WITH WP COVER.
 - H FIXTURES MOUNTED ON SUPPORT BEAMS. FIXTURES LOCATED ON BOTH TOP AND BOTTOM LEVELS. REFER TO RISER DIAGRAM ON EG-5 FOR ADDITIONAL INFORMATION.
 - REUSE EXISTING CONDUIT OUT TO LIGHT POLE. PROVIDE AND INSTALL CONDUIT AS REQUIRED TO COMPLETE THE RACEWAY.



ENLARGED GREASE FACILITY FACILITY MODIFICATION
PLAN
 1/4" = 1'-0"

REV. NO.	DATE	DRWN	CHKD	REMARKS

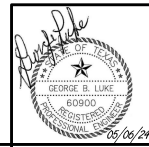
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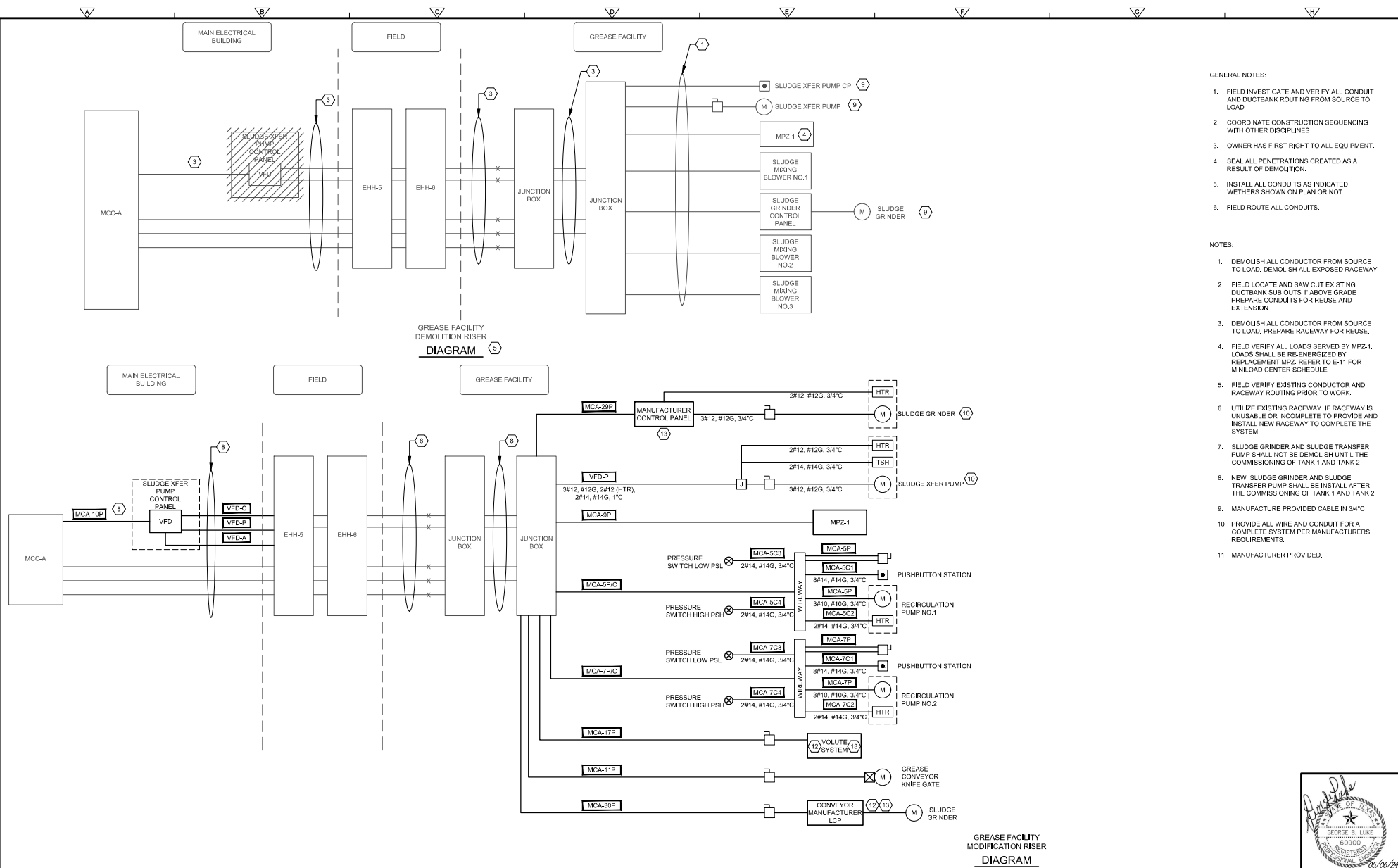
BRYAN STILL CREEK
WASTEWATER TREATMENT PLANT IMPROVEMENTS

ELECTRICAL
GREASE FACILITY - MODIFICATION



PROJECT NO. 2381-284648
 FILE NAME: EG-3.DWG
 SHEET NO.
EG-3

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- GENERAL NOTES:**
1. FIELD INVESTIGATE AND VERIFY ALL CONDUIT AND DUCTBANK ROUTING FROM SOURCE TO LOAD.
 2. COORDINATE CONSTRUCTION SEQUENCING WITH OTHER DISCIPLINES.
 3. OWNER HAS FIRST RIGHT TO ALL EQUIPMENT.
 4. SEAL ALL PENETRATIONS CREATED AS A RESULT OF DEMOLITION.
 5. INSTALL ALL CONDUITS AS INDICATED WETHERS SHOWN ON PLAN OR NOT.
 6. FIELD ROUTE ALL CONDUITS.

- NOTES:**
1. DEMOLISH ALL CONDUCTOR FROM SOURCE TO LOAD. DEMOLISH ALL EXPOSED RACEWAY.
 2. FIELD LOCATE AND SAW CUT EXISTING DUCTBANK SUB OUTS 1' ABOVE GRADE. PREPARE CONDUITS FOR REUSE AND EXTENSION.
 3. DEMOLISH ALL CONDUCTOR FROM SOURCE TO LOAD. PREPARE RACEWAYS FOR REUSE.
 4. FIELD VERIFY ALL LOADS SERVED BY MPZ-1. LOADS SHALL BE RE-ENERGIZED BY REPLACEMENT MPZ. REFER TO E-11 FOR MNL LOAD CENTER SCHEDULE.
 5. FIELD VERIFY EXISTING CONDUCTOR AND RACEWAY ROUTING PRIOR TO WORK.
 6. UTILIZE EXISTING RACEWAY, IF RACEWAY IS UNUSABLE OR INCOMPLETE TO PROVIDE AND INSTALL NEW RACEWAY TO COMPLETE THE SYSTEM.
 7. SLUDGE GRINDER AND SLUDGE TRANSFER PUMP SHALL NOT BE DEMOLISH UNTIL THE COMMISSIONING OF TANK 1 AND TANK 2.
 8. NEW SLUDGE GRINDER AND SLUDGE TRANSFER PUMP SHALL BE INSTALL AFTER THE COMMISSIONING OF TANK 1 AND TANK 2.
 9. MANUFACTURE PROVIDED CABLE IN 3/4\"/>
 - 10. PROVIDE ALL WIRE AND CONDUIT FOR A COMPLETE SYSTEM PER MANUFACTURERS REQUIREMENTS.
 - 11. MANUFACTURE PROVIDED.

GREASE FACILITY DEMOLITION RISER DIAGRAM

GREASE FACILITY MODIFICATION RISER DIAGRAM

REV. NO.	DATE	DRWN	CHKD	REMARKS

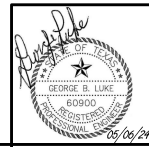
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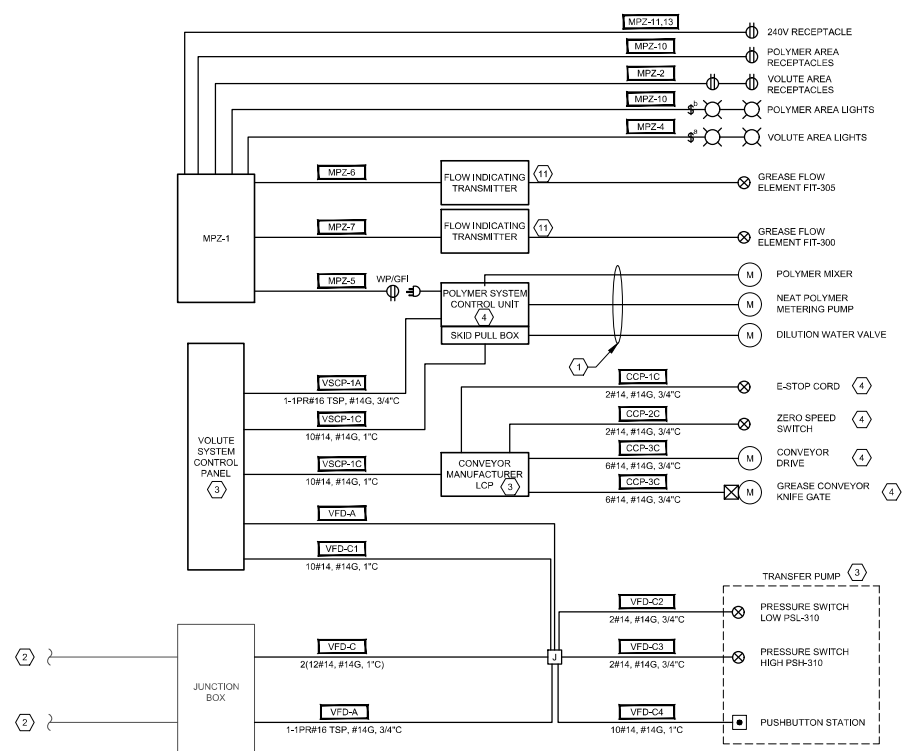
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BRYAN STILL CREEK
 WASTEWATER TREATMENT PLANT
 IMPROVEMENTS

ELECTRICAL
 GREASE FACILITY
 RISER DIAGRAM - I



PROJECT NO. 2381-284648
 FILE NAME: EG-4.DWG
 SHEET NO. EG-4



GREASE CONTROL
RISER DIAGRAM
DIAGRAM

- GENERAL NOTES:
1. FIELD INVESTIGATE AND VERIFY EQUIPMENT LOCATIONS.
 2. COORDINATE CONSTRUCTION SEQUENCING WITH OTHER DISCIPLINES.
 3. INSTALL ALL CONDUITS AS INDICATED WETHERS SHOWN ON PLAN OR NOT.
 4. FIELD ROUTE ALL CONDUITS.
- NOTES:
1. MANUFACTURER PROVIDED CABLE IN 3/4" C.
 2. REFER TO EG-4 FOR CONTINUATION.
 3. PROVIDE ALL WIRE AND CONDUIT FOR A COMPLETE SYSTEM PER MANUFACTURER REQUIREMENTS.
 4. COORDINATE EQUIPMENT LOCATION SWITCH VENDOR, FIELD ROUTE WIRE AND CONDUIT TO PROVIDE A COMPLETE SYSTEM.

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 BRYAN STILL CREEK WASTEWATER TREATMENT PLANT IMPROVEMENTS - PAGE 805 OF 1053

REV. NO.	DATE	DRWN	CHKD	REMARKS

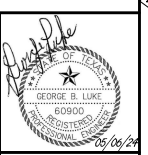
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BRYAN STILL CREEK
 WASTEWATER TREATMENT PLANT
 IMPROVEMENTS

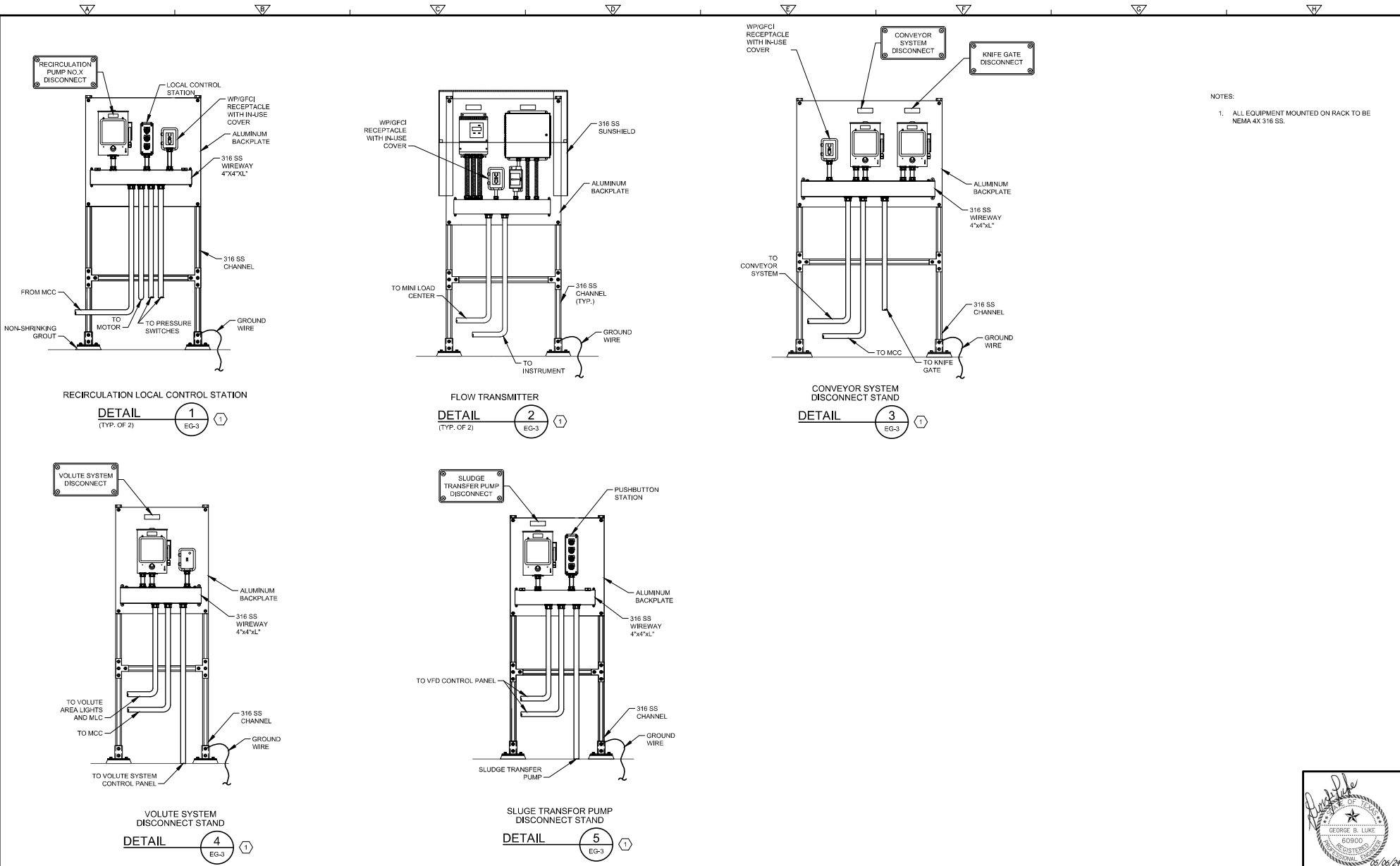
ELECTRICAL
 GREASE FACILITY
 RISER DIAGRAM - II



PROJECT NO. 2381-284648
 FILE NAME: EG-S.DWG
 SHEET NO.
 EG-5

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NOTES:
1. ALL EQUIPMENT MOUNTED ON RACK TO BE NEMA 4X 316 SS.

REV. NO.	DATE	DRWN	CHKD	REMARKS

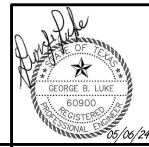
DESIGNED BY: J.FELGER
 DRAWN BY: J.MEAM
 SHEET CHK'D BY: G.LUKE
 CROSS CHK'D BY: G.LUKE
 APPROVED BY: G.LUKE
 DATE: APRIL 2024



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BRYAN STILL CREEK
 WASTEWATER TREATMENT PLANT
 IMPROVEMENTS

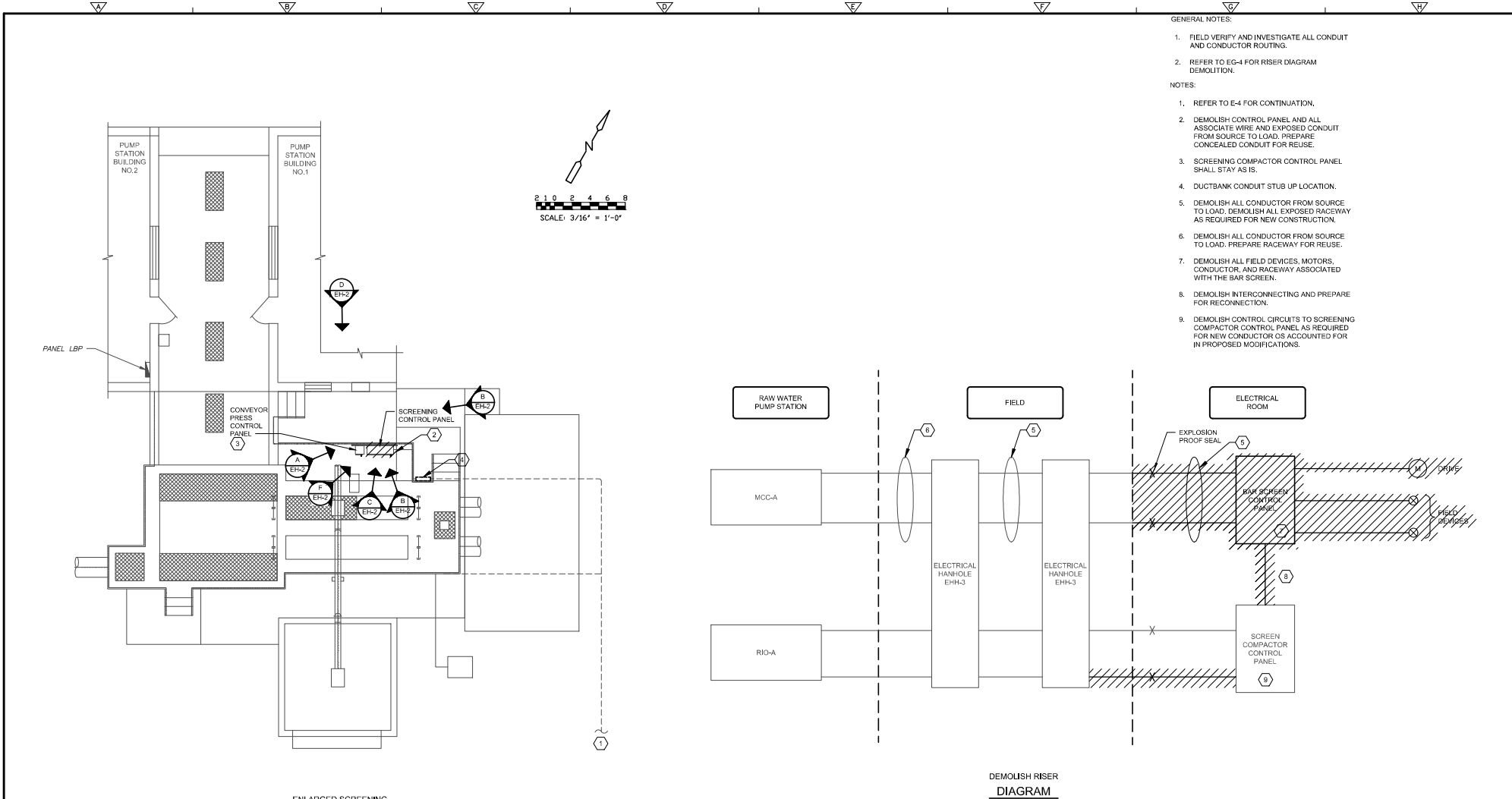
ELECTRICAL
 GREASE FACILITY DETAILS



PROJECT NO. 2381-284648
 FILE NAME: EG-8.DWG
 SHEET NO.
 EG-6

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- GENERAL NOTES:
1. FIELD VERIFY AND INVESTIGATE ALL CONDUIT AND CONDUCTOR ROUTINGS.
 2. REFER TO EG-4 FOR RISER DIAGRAM DEMOLITION.
- NOTES:
1. REFER TO E-4 FOR CONTINUATION.
 2. DEMOLISH CONTROL PANEL AND ALL ASSOCIATE WIRE AND EXPOSED CONDUIT FROM SOURCE TO LOAD. PREPARE CONCEALED CONDUIT FOR REUSE.
 3. SCREENING COMPACTOR CONTROL PANEL SHALL STAY AS IS.
 4. DUCTBANK CONDUIT STUB UP LOCATION.
 5. DEMOLISH ALL CONDUCTOR FROM SOURCE TO LOAD. DEMOLISH ALL EXPOSED RACEWAY AS REQUIRED FOR NEW CONSTRUCTION.
 6. DEMOLISH ALL CONDUCTOR FROM SOURCE TO LOAD. PREPARE RACEWAY FOR REUSE.
 7. DEMOLISH ALL FIELD DEVICES, MOTORS, CONDUCTOR, AND RACEWAY ASSOCIATED WITH THE BAR SCREEN.
 8. DEMOLISH INTERCONNECTING AND PREPARE FOR RECONNECTION.
 9. DEMOLISH CONTROL CIRCUITS TO SCREENING COMPACTOR CONTROL PANEL AS REQUIRED FOR NEW CONDUCTORS OR ACCOUNTED FOR IN PROPOSED MODIFICATIONS.

ENLARGED SCREENING FACILITY DEMOLITION
PLAN
 3/16" = 1'-0"

DEMOLISH RISER
DIAGRAM

REV. NO.	DATE	DRWN	CHKD	REMARKS

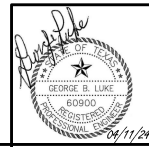
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 DATE: APRIL 2024

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BRYAN STILL CREEK
 WASTEWATER TREATMENT PLANT
 IMPROVEMENTS

ELECTRICAL
 SCREENING FACILITY DEMOLITION PLAN



PROJECT NO. 2381-284648
 FILE NAME: EH-1.DWG
 SHEET NO.
EH-1

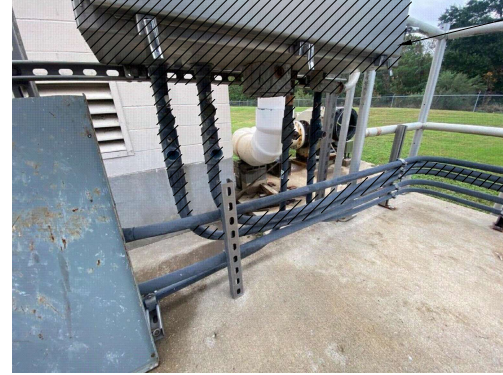
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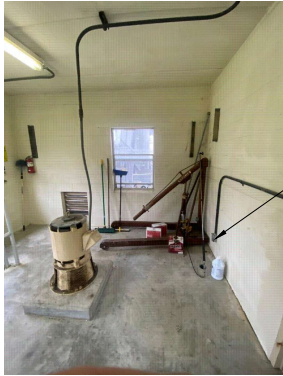
SCREENING FACILITY
DEMOLITION PHOTO 1
PHOTOGRAPH A
EH-1



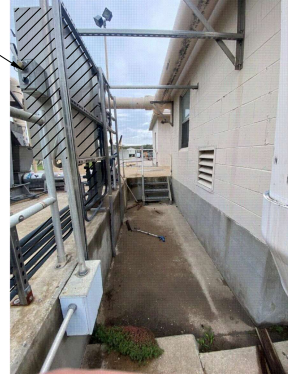
SCREENING FACILITY
DEMOLITION PHOTO 2
PHOTOGRAPH B
EH-1



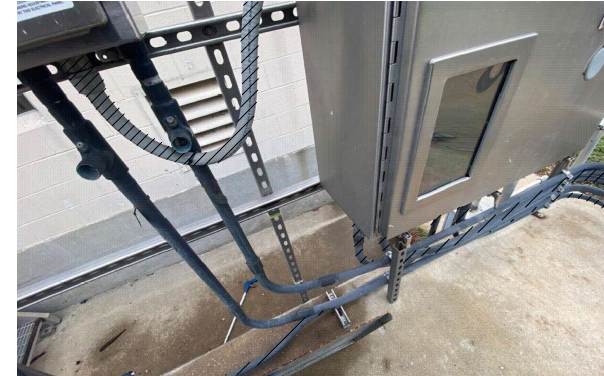
SCREENING FACILITY
DEMOLITION PHOTO 3
PHOTOGRAPH C
EH-1



PUMP STATION BUILDING
NO. 1 INTERNAL PHOTO
PHOTOGRAPH D
EH-1



WALKWAY BETWEEN RACK
AND BUILDING NO. 1 PHOTO
PHOTOGRAPH E
EH-1



SCREENING FACILITY
DEMOLITION PHOTO 4
PHOTOGRAPH F
EH-1

GENERAL NOTES:

1. FIELD VERIFY AND INVESTIGATE ALL CONDUIT AND CONDUCTOR ROUTING.

NOTES:

1. THE METAL RACK SHALL REMAIN UNMOVED AND UNHARMED.
2. DEMOLISH CONTROL PANEL AND ALL ASSOCIATE WIRE AND EXPOSED CONDUIT FROM SOURCE TO LOAD. PREPARE CONCEALED CONDUIT FOR REUSE.
3. CONVEYOR PRESS CONTROL PANEL SHALL STAY AS IS.
4. RELOCATED RECEPTACLE AS REQUIRED FOR NEW PANEL LOCATION SHOWN ON EH-3.

REV. NO.	DATE	DRWN	CHKD	REMARKS

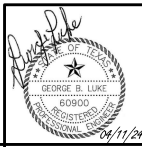
DESIGNED BY: J.FELGER
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 SHEET CHK'D BY: G.LUKE
 CROSS CHK'D BY: G.LUKE
 APPROVED BY: G.LUKE
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BRYAN STILL CREEK
 WASTEWATER TREATMENT PLANT
 IMPROVEMENTS

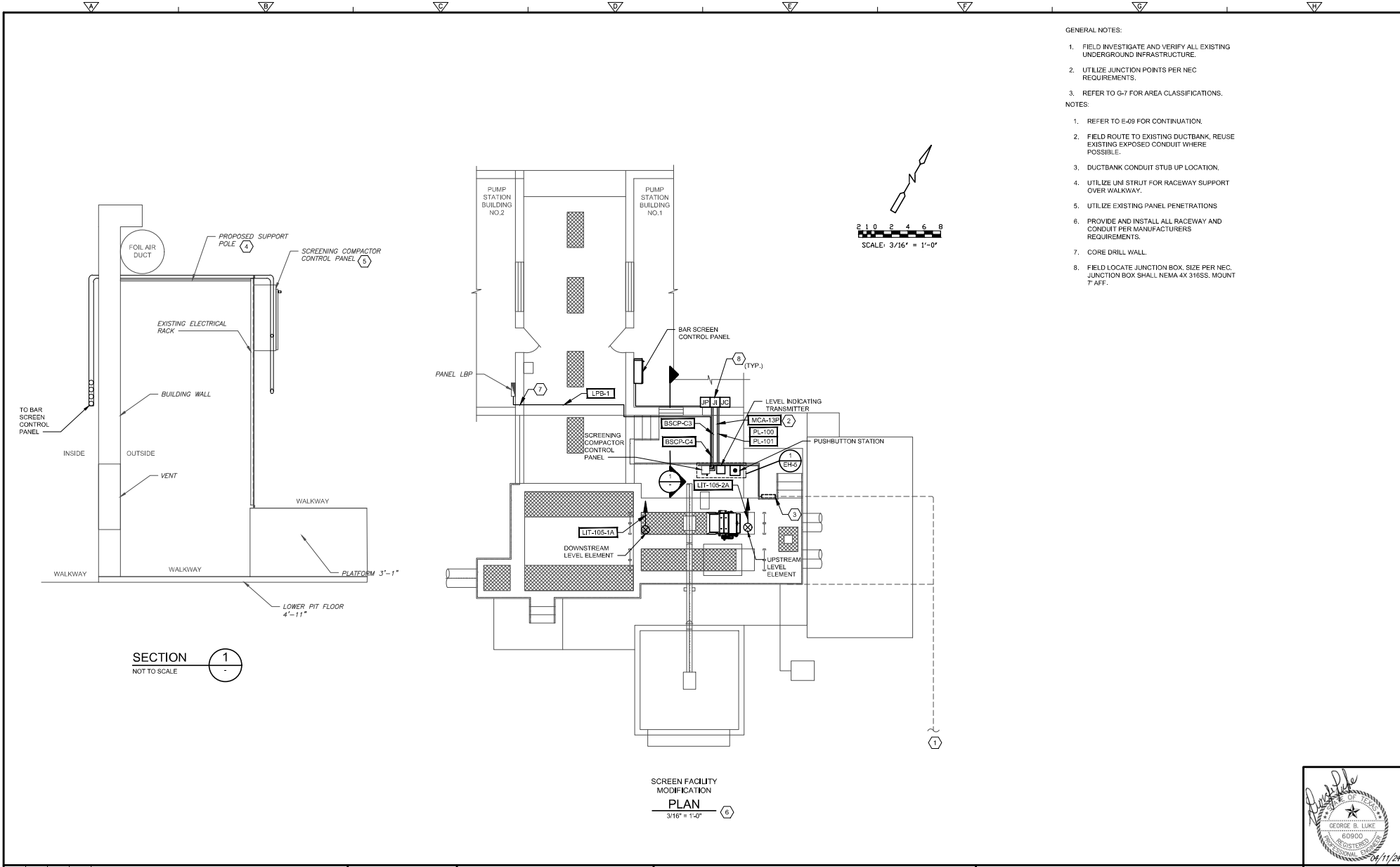
ELECTRICAL
 SCREENING FACILITY DEMOLITION PHOTOS



PROJECT NO. 2381-284648
 FILE NAME: EH-2.DWG

SHEET NO.
 EH-2

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- GENERAL NOTES:
1. FIELD INVESTIGATE AND VERIFY ALL EXISTING UNDERGROUND INFRASTRUCTURE.
 2. UTILIZE JUNCTION POINTS PER NEC REQUIREMENTS.
 3. REFER TO G-7 FOR AREA CLASSIFICATIONS.
- NOTES:
1. REFER TO E-09 FOR CONTINUATION.
 2. FIELD ROUTE TO EXISTING DUCTBANK, REUSE EXISTING EXPOSED CONDUIT WHERE POSSIBLE.
 3. DUCTBANK CONDUIT STUB UP LOCATION.
 4. UTILIZE UNI STRUT FOR RACEWAY SUPPORT OVER WALKWAY.
 5. UTILIZE EXISTING PANEL PENETRATIONS
 6. PROVIDE AND INSTALL ALL RACEWAY AND CONDUIT PER MANUFACTURERS REQUIREMENTS.
 7. CORE DRILL WALL.
 8. FIELD LOCATE JUNCTION BOX, SIZE PER NEC, JUNCTION BOX SHALL NEMA 4X 316SS, MOUNT 7' AFF.

REV. NO.	DATE	DRWN	CHKD	REMARKS

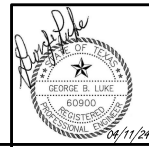
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 APPROVED BY: G.LUKE
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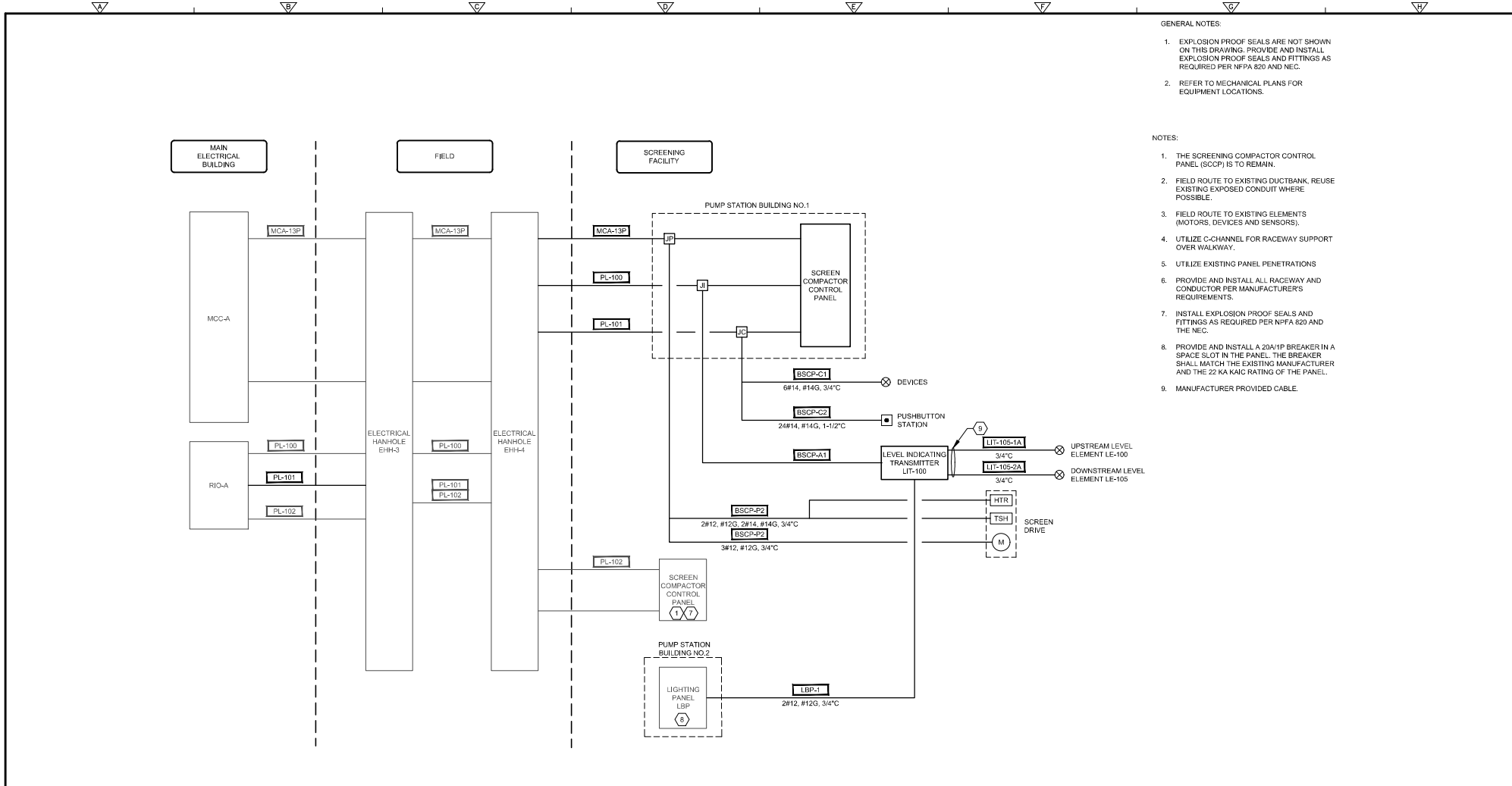
BRYAN STILL CREEK
 WASTEWATER TREATMENT PLANT
 IMPROVEMENTS

ELECTRICAL
 SCREENING FACILITY MODIFICATION



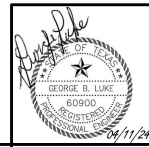
PROJECT NO. 2381-284648
 FILE NAME: EH-3.DWG
 SHEET NO.
EH-3

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- GENERAL NOTES:
- EXPLOSION PROOF SEALS ARE NOT SHOWN ON THIS DRAWING. PROVIDE AND INSTALL EXPLOSION PROOF SEALS AND FITTINGS AS REQUIRED PER NFPA 820 AND NEC.
 - REFER TO MECHANICAL PLANS FOR EQUIPMENT LOCATIONS.
- NOTES:
- THE SCREENING COMPACTOR CONTROL PANEL (SCCP) IS TO REMAIN.
 - FIELD ROUTE TO EXISTING DUCTBANK, REUSE EXISTING EXPOSED CONDUIT WHERE POSSIBLE.
 - FIELD ROUTE TO EXISTING ELEMENTS (MOTORS, DEVICES AND SENSORS).
 - UTILIZE C-CHANNEL FOR RACEWAY SUPPORT OVER WALKWAY.
 - UTILIZE EXISTING PANEL PENETRATIONS
 - PROVIDE AND INSTALL ALL RACEWAY AND CONDUIT PER MANUFACTURER'S REQUIREMENTS.
 - INSTALL EXPLOSION PROOF SEALS AND FITTINGS AS REQUIRED PER NFPA 820 AND THE NEC.
 - PROVIDE AND INSTALL A 20A/1P BREAKER IN A SPACE SLOT IN THE PANEL. THE BREAKER SHALL MATCH THE EXISTING MANUFACTURER AND THE 22 KA RATED OF THE PANEL.
 - MANUFACTURER PROVIDED CABLE.

HEADWORKS RISER
DIAGRAM



REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: J.FELGER
 DRAWN BY: J.MEAM
 SHEET CHK'D BY: G.LUKE
 CROSS CHK'D BY: G.LUKE
 APPROVED BY: G.LUKE
 DATE: APRIL, 2024

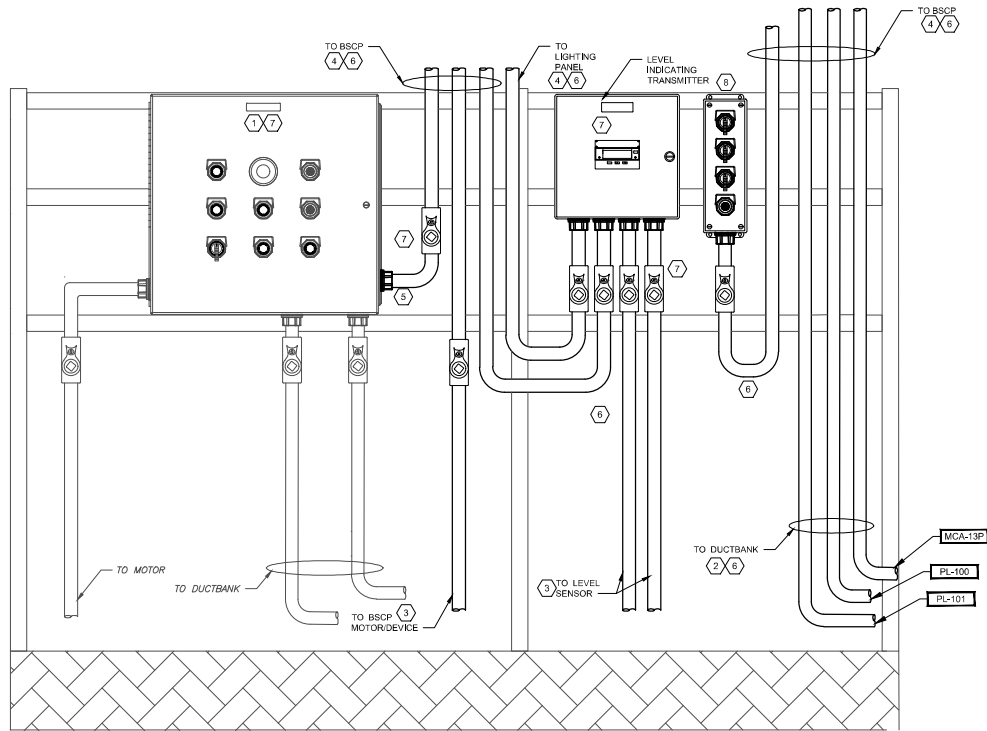


BRYAN STILL CREEK
 WASTEWATER TREATMENT PLANT
 IMPROVEMENTS

ELECTRICAL
 SCREENING FACILITY DETAILS
 HEADWORKS RISER DIAGRAM

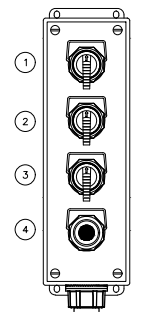
PROJECT NO. 2381-284648
 FILE NAME: EH-4.DWG
 SHEET NO.
 EH-4

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GENERAL NOTES:

- NOT ALL EXISTING CONDUIT SHOW FOR CLARITY.
- THE SCREENING COMPACTOR CONTROL PANEL (SCCP) IS TO REMAIN EXISTING AND UNMOVED.
- FIELD ROUTE TO EXISTING DUCTBANK REUSE EXISTING EXPOSED CONDUIT WHERE POSSIBLE.
- FIELD ROUTE TO EXISTING ELEMENTS (MOTORS, DEVICES AND SENSORS)
- UTILIZE C-CHANNEL FOR RACEWAY SUPPORT OVER WALKWAY.
- UTILIZE EXISTING PANEL PENETRATIONS.
- PROVIDE AND INSTALL ALL RACEWAY AND CONDUCTOR PER MANUFACTURER'S REQUIREMENTS.
- INSURE THAT THE PANELS AND IMMEDIATE CONDUITS ARE BLAST RESISTANT (EXPLOSION PROOF).
- PROVIDE PUSHBUTTON STATION SUITABLE FOR A CLASS I DIV 2 LOCATION. REFER TO ENLARGED DETAIL FOR ADDITIONAL INFORMATION.



NO.	LABEL FOR PUSHBUTTONS
1	FORWARD/REVERSE TWO POSITION SWITCH
2	RUN STOP TWO POSITION SWITCH
3	HO/A THREE POSITION SWITCH
4	E STOP PUSHBUTTON

ENLARGED PUSHBUTTON
DETAIL 2
NOT TO SCALE

RACK
DETAIL 1
NOT TO SCALE

REV. NO.	DATE	DRWN	CHKD	REMARKS

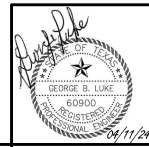
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 APPROVED BY: G.LUKE
 DATE: APRIL 2024



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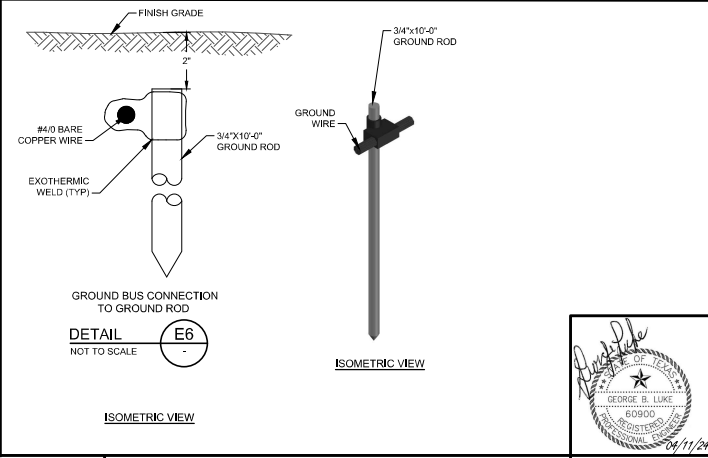
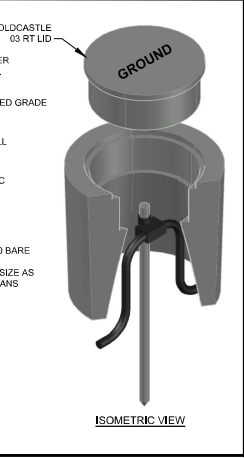
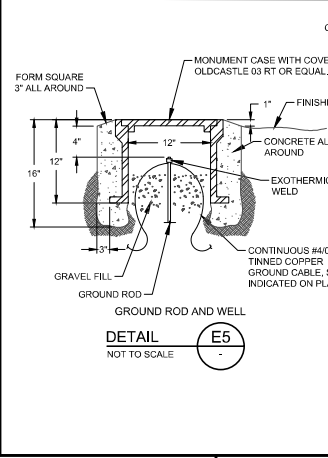
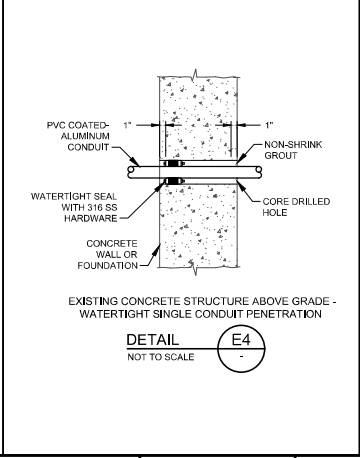
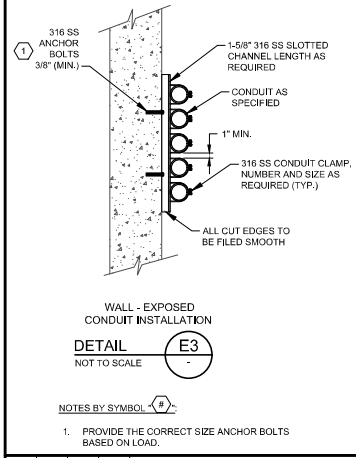
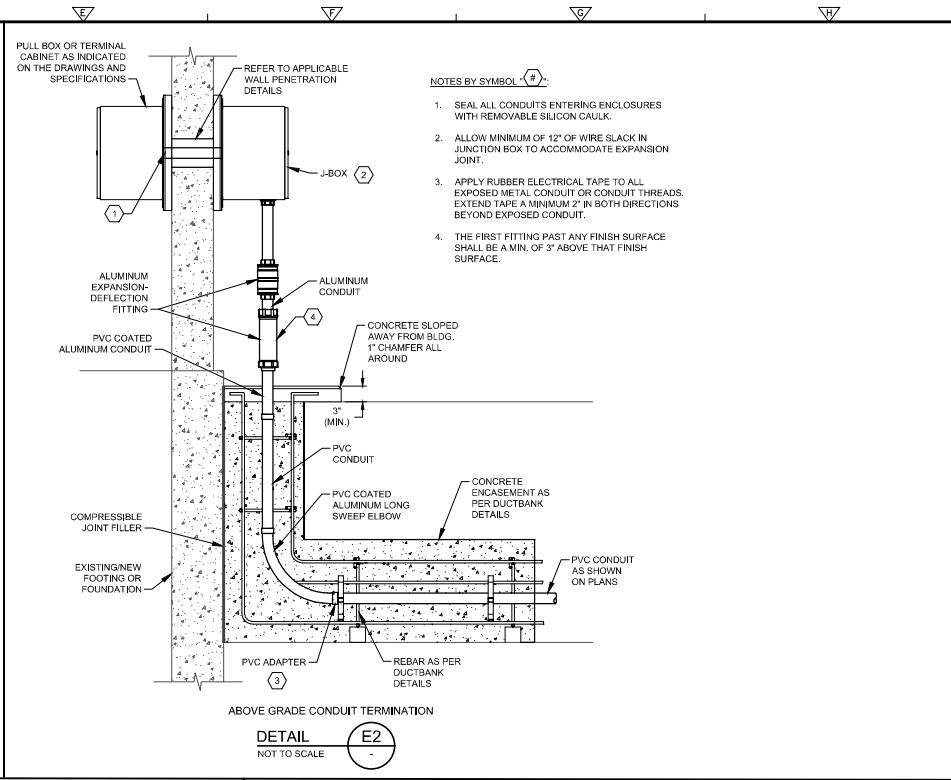
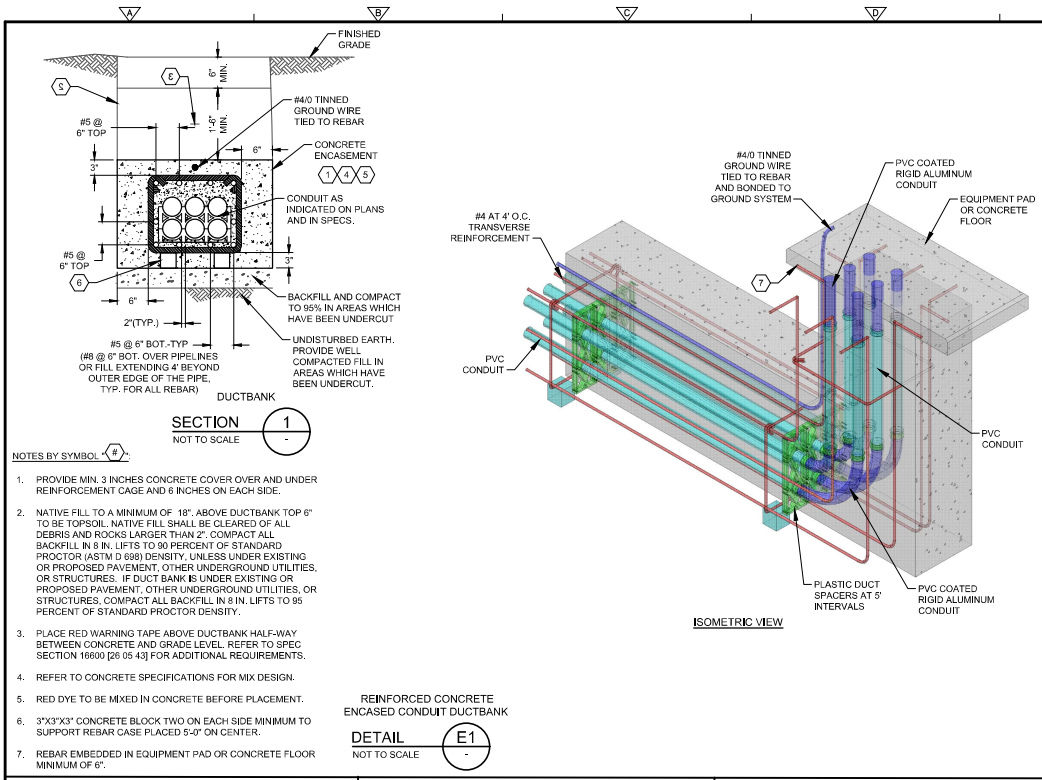
BRYAN STILL CREEK
 WASTEWATER TREATMENT PLANT
 IMPROVEMENTS

ELECTRICAL
 SCREENING FACILITY
 RACK DETAILS



PROJECT NO. 2381-284648
 FILE NAME: EH-5.DWG
 SHEET NO.
 EH-5

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REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY:	J.FELGER
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CROSS CHK'D BY:	GLUKE
APPROVED BY:	GLUKE
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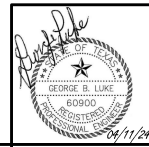
BRYAN STILL CREEK
WASTEWATER TREATMENT PLANT IMPROVEMENTS

ELECTRICAL STANDARD DETAILS - I

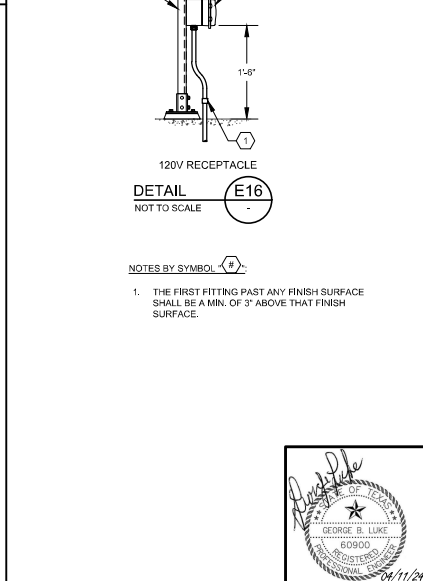
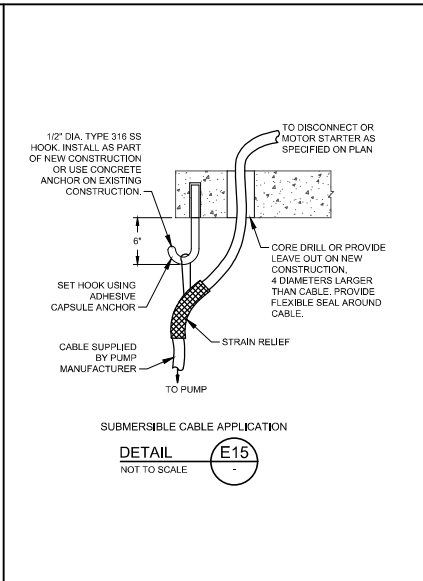
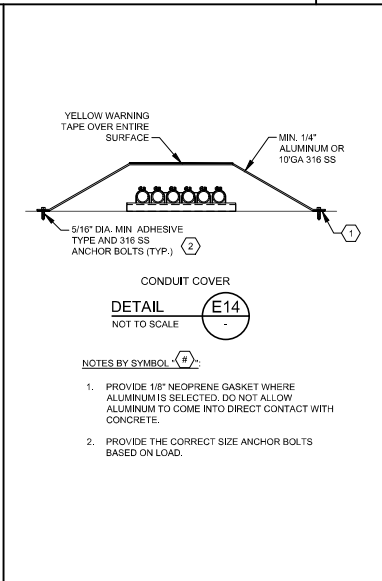
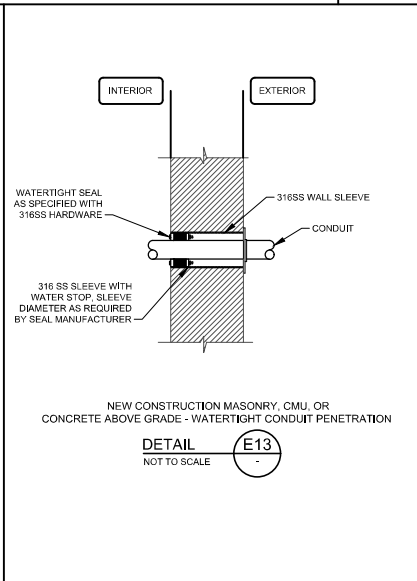
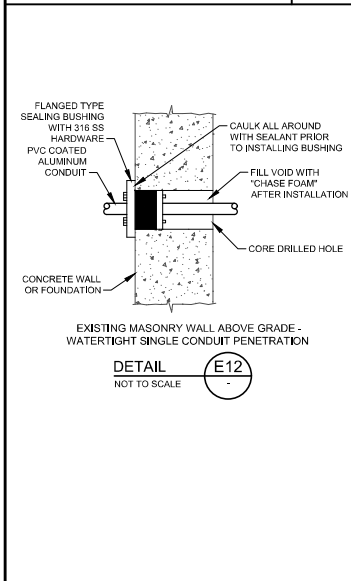
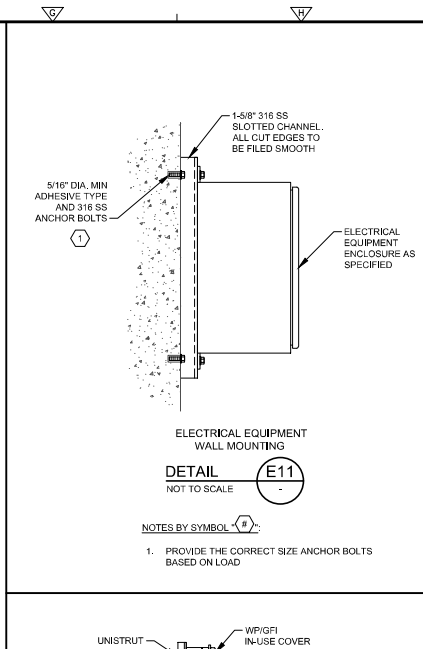
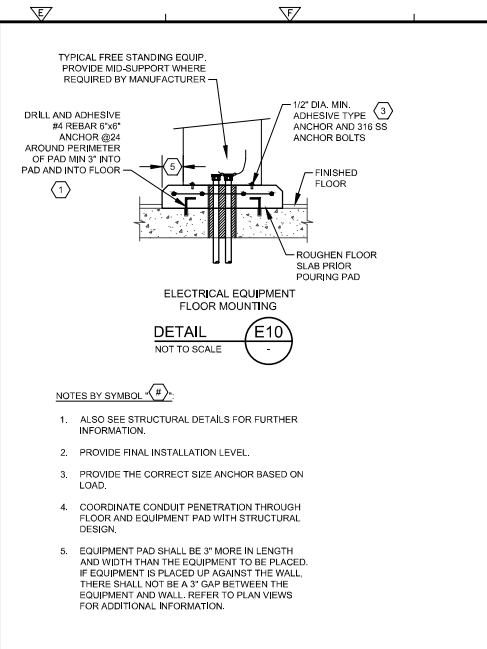
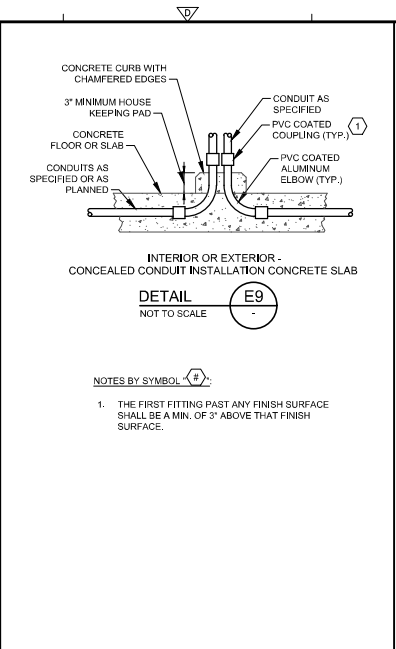
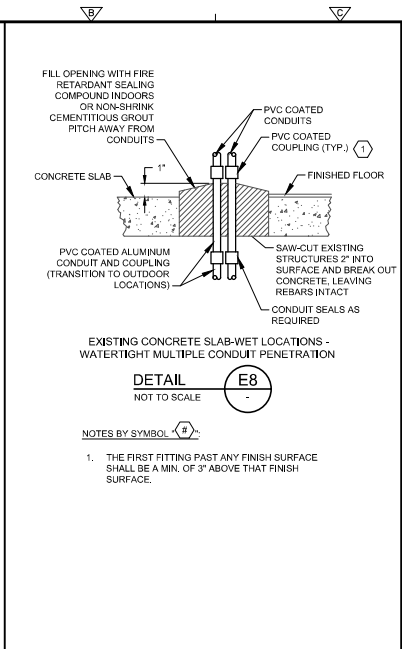
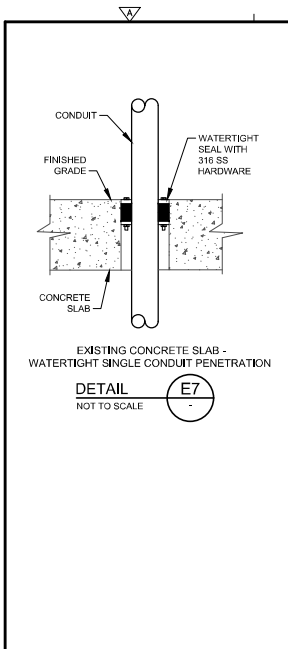
PROJECT NO. 2381-284648
FILE NAME: E2-1.DWG

SHEET NO.
EZ-1

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REV. NO.	DATE	DRWN	CHKD	REMARKS

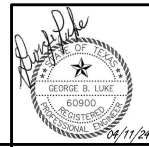
DESIGNED BY: J.FELGER
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 CROSS CHK'D BY: GLUKE
 APPROVED BY: GLUKE
 DATE: APRIL 2024

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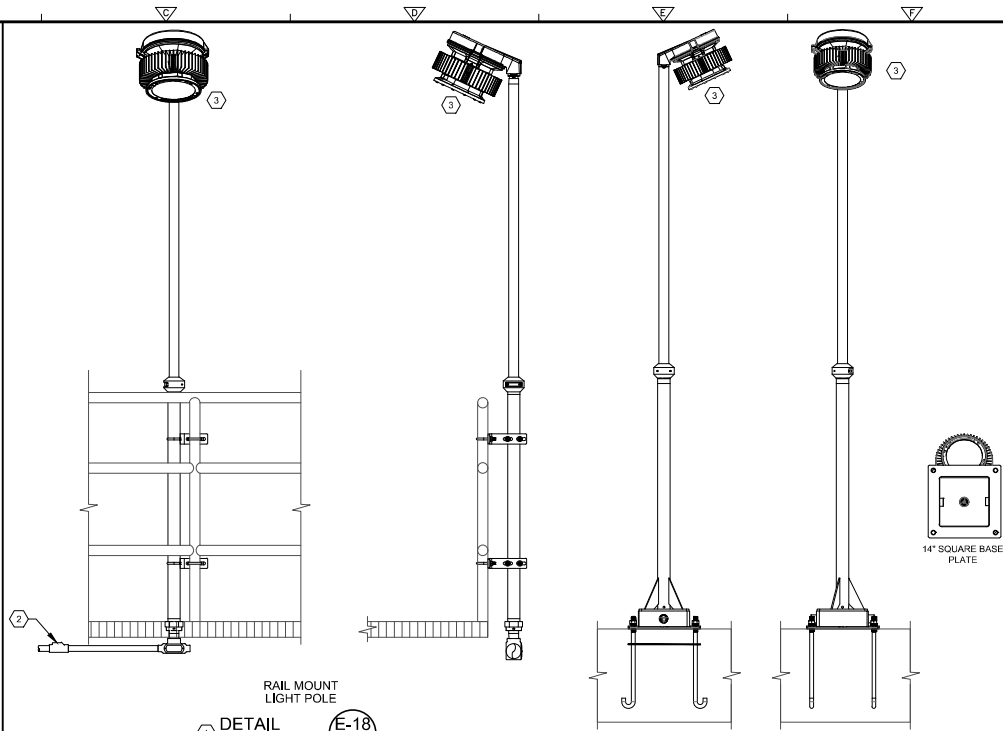
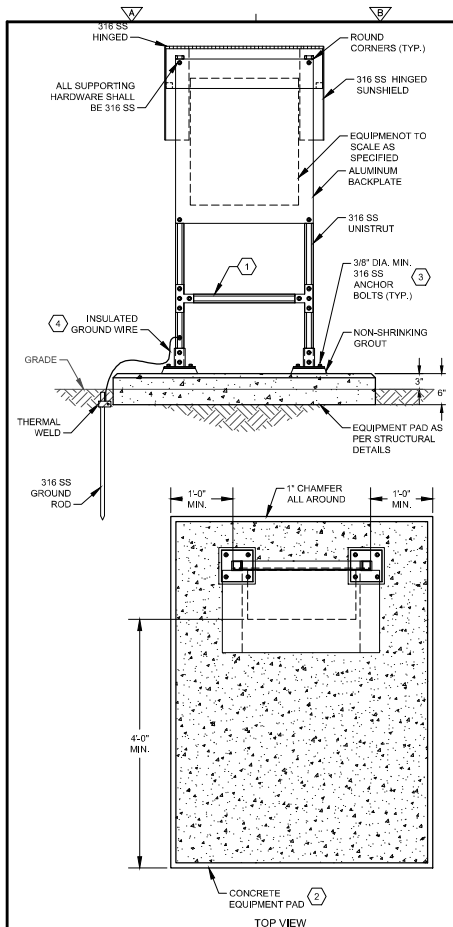
BRYAN STILL CREEK
 WASTEWATER TREATMENT PLANT
 IMPROVEMENTS

ELECTRICAL
 STANDARD DETAILS - II



PROJECT NO. 2381-284648
 FILE NAME: E2-2.DWG
 SHEET NO.
 EZ-2

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- NOTES:
- POLE HEIGHT SHALL BE LIMITED TO A MAXIMUM OF 108' OR AS RECOMMENDED BY THE MANUFACTURER.
 - ADD A SEAL OUTSIDE THE HAZARDOUS LOCATION BOUNDARY WHERE THE POLE IS SHOWN BY A CLASSIFIED AREA.
 - LIGHT FIXTURE ORIENTATION DRAWN FOR REFERENCE ONLY. REFER TO LIGHT FIXTURE SCHEDULE FOR ORIENTATION DETAIL.

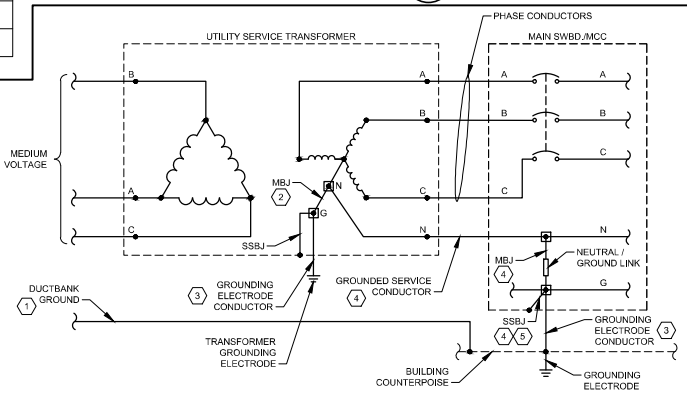
RAIL MOUNT LIGHT POLE
 1 DETAIL E-18
 NOT TO SCALE

CROUSE HINDS FITTINGS OR EQUAL		
ITEM NO.	SIZE	MANUFACTURER CATALOG NO.
A	1-1/2" T	T57
B	1-1/2" TO 3/4"	RES2
C	1-1/2" COVER	570G

BASE MOUNT LIGHT POLE SIDE VIEW
 1 DETAIL A
 NOT TO SCALE

- NOTES BY SYMBOL (A):
- INSTALL STRUT CHANNEL AS REQUIRED TO PROVIDE FOR RIGIDITY.
 - PROVIDE CONCRETE PAD IN UNPAVED AREAS. SEE STRUCTURAL PLANS FOR DETAILS.
 - PROVIDE THE CORRECT SIZE ANCHOR BOLTS ON LOAD. (TYPICAL)
 - SECURE GROUND WIRE TO EQUIPMENT RACK LEG. BOLT GROUND WIRE TO BACKPLATE WITH APPROVED GROUND LUGS.

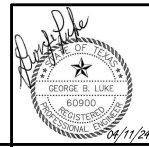
OUTDOOR MOUNTED EQUIPMENT (UNPAVED AREA)
 DETAIL E17
 NOT TO SCALE



- LEGEND:
- MBJ: MAIN BONDING JUMPER.
 - SSBJ: SYSTEM BONDING JUMPER.
 - SSBJ: SUPPLY SIDE BONDING JUMPER.

- NOTES BY SYMBOL (A):
- DO NOT CONNECT DUCTBANK GROUND TO TRANSFORMER ENCLOSURE, TRANSFORMER GROUNDING ELECTRODE OR TRANSFORMER NEUTRAL.
 - NEC ART. 250.24(A)(2)
 - NEC ART. 250.66
 - NEC TABLE 250.102(C)(1)
 - NEC ART. 250.30(A)(2)

UTILITY SERVICE ENTRANCE WIRING
 SCHEMATIC E-19
 NOT TO SCALE



REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: J.FELGER
 DRAWN BY: J.MEAM
 SHEET CHK'D BY: GLUIKE
 CROSS CHK'D BY: GLUIKE
 APPROVED BY: GLUIKE
 DATE: APRIL, 2024



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BRYAN STILL CREEK
 WASTEWATER TREATMENT PLANT
 IMPROVEMENTS

ELECTRICAL
 STANDARD DETAILS - III
 PROJECT NO. 2381-284648
 FILE NAME: EZ-3.DWG
 SHEET NO.
 EZ-3

PROJECT NO. 2381-284648
 FILE NAME: EZ-3.DWG
 SHEET NO.
 EZ-3

100% SUBMITTAL

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LIGHTING FIXTURE SCHEDULE					
TYPE	DESCRIPTION	MANUFACTURER/CATALOG NO.	INPUT WATTS	LAMP TYPE	MOUNTING
A	6' LED SUSPENDED FIXTURE WITH DIFFUSERS OVER LEDS, PROVIDE ON BOARD DRIVER FOR 5000 LUMEN OUTPUT (120V).	FIXTURE: LITHONIA CLX-L96-10000-MDD-MVOLT-40K-80CRI	71	LEDS INCLUDED	PENDANT MOUNT FLUSH WITH CABLE TRAY
AE	SAME AS TYPE "A" EXCEPT INCLUDES EMERGENCY BATTERY PACK (120V).	FIXTURE: LITHONIA CLX-L96-10000-MDD-120/277-40K-80CRI-BSL722	71	LEDS INCLUDED	PENDANT MOUNT FLUSH WITH CABLE TRAY
B	WALL MOUNTED LUMINAIRE WITH 10 LEDS AND 530mA DRIVER, PROVIDE OPTIC WITH FORWARD THROW AND PHOTOCCELL (120V).	FIXTURE: LITHONIA DSXW1 LED 10C 530 40K T3M 120 PE DBLBXD	19	LEDS INCLUDED	WALL MOUNT AT 9'-0" AFF
BE	SAME AS TYPE "B" EXCEPT INCLUDE AN EMERGENCY BATTERY PACK (120V) PROVIDE SEPARATE PHOTOCCELL FOR TYPE "BE"	FIXTURE: LITHONIA DSXW1 LED 10C 530 40K T3M 120 PE E20WC DBLBXD	19	LEDS INCLUDED	WALL MOUNT AT 9'-0" AFF
F	STANCHION MOUNT LED FIXTURE WITH AN ADJUSTABLE SLIPFITTER 30 DEGREES FROM 0 DEGREE MOUNTED ON A TELESCOPIC POLE. PROVIDE POLE AND ALL NECESSARY ACCESSORIES FOR A COMPLETE INSTALLATION. THE LIGHT FIXTURE IS 1866 RATED.	FIXTURE: LITHONIA DSXF1 LED P1 40K WFR MVOLT IS DBLBXD POLE: COURSE-HINDS V65-H-A-T57-SA	21	LEDS INCLUDED	POLE MOUNT 10'-0" ABOVE THE WALKWAY
F1	SAME AS TYPE "F" EXCEPT POLE MOUNTED ON BASE PLATE.	FIXTURE: LITHONIA DSXF1 LED P1 40K WFR MVOLT IS PE DBLBXD POLE: COURSE-HINDS V65-H-A-T57-SA	21	LEDS INCLUDED	POLE MOUNT 10'-0" ABOVE THE WALKWAY
H	LED WALL PACK INCLUDING A BOROCALCATE GLASS WITH 1000MA DRIVER, LED ENGINE AND DRIVER (120V) AND WIRE GUARD, (120V)	FIXTURE: LITHONIA TWH LED 20C 1000 40K T3M MVOLT WG DNAXD	39	LEDS INCLUDED	SURFACE MOUNT AT 8' AFF
X	LED EXIT LIGHT WITH RED LETTERS, SINGLE FACE AND NICKLE-CADIMUM BATTERY BACK-UP (120V)	FIXTURE: KENALL METDU-MW-R-DT-EL	5	LEDS INCLUDED	WALL MOUNT AT 6" ABOVE DOOR

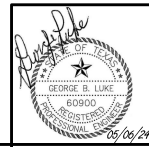
REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: J.FELGER
 DRAWN BY: J.MEAM
 SHEET CHK'D BY: G.LUKE
 CROSS CHK'D BY: G.LUKE
 APPROVED BY: G.LUKE
 DATE: APRIL 2024



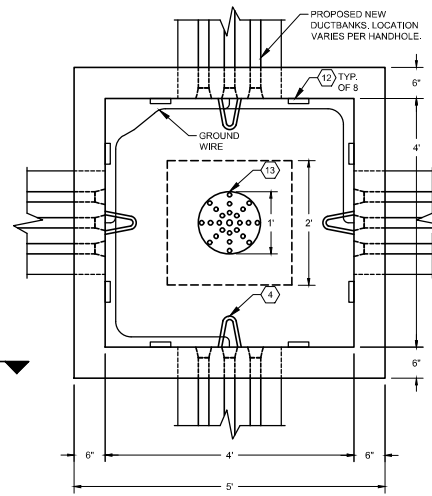
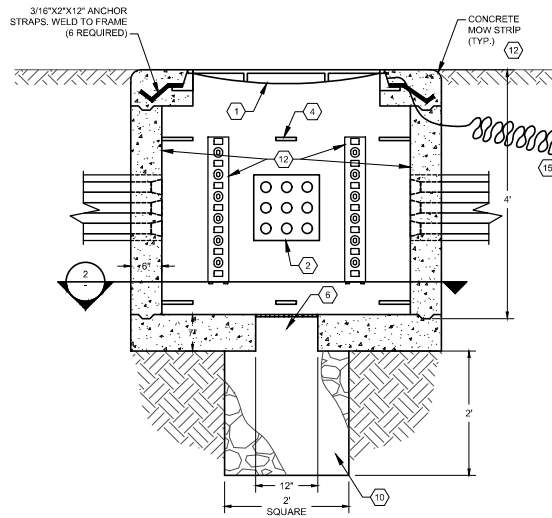
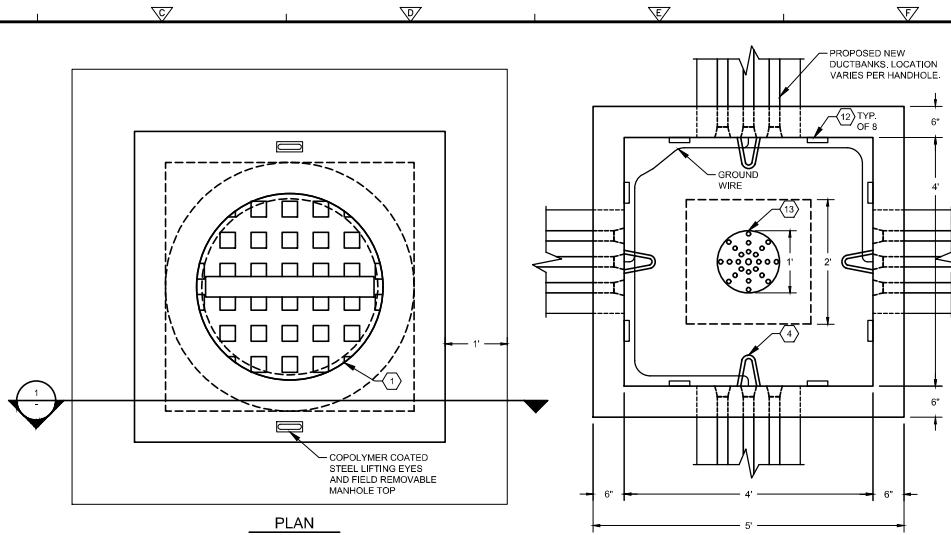
BRYAN STILL CREEK
 WASTEWATER TREATMENT PLANT
 IMPROVEMENTS

ELECTRICAL
 STANDARD DETAILS - IV



PROJECT NO. 2381-284648
 FILE NAME: EZ4.DWG
 SHEET NO.
 EZ4

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SECTION 2
NTS

- NOTES BY SYMBOL:**
- HANDHOLE COVER SHALL BE AS SPECIFIED, AND SHALL BE STAMPED ELECTRICAL OR COMMUNICATION AS REQUIRED BY CONTRACTOR.
 - ALL CONDUITS SHALL BE TERMINATED IN HANDHOLE WITH BELL ENDS AND CENTER ON THE ENTERING WALL.
 - REFER TO RELATED SPECIFICATIONS AND DETAILS REGARDING GROUNDING.
 - PROVIDE PULLING IRONS AS SPECIFIED.
 - #4/0 BARE STRANDED COPPER CONDUCTOR TO MAIN GROUND GRID.
 - HANDHOLES SHALL BE EQUIPPED WITH 12" SUMP OPENING.
 - HANDHOLE EXTENSIONS SHALL BE USED WHENEVER BOX IS BELOW EXISTING GRADE.
 - ANCHORS SHALL BE 316 SS OR FIBERGLASS AS SPECIFIED.
 - HANDHOLES SHALL BE FLUSH WITH THE PAVEMENT WHEN INSTALLED IN ROADWAYS.
 - TO BE FILLED WITH PEA GRAVEL.
 - HANDHOLE SHALL BE 12" ABOVE GRADE WHEN LOCATED IN GRASSY AREAS, CONTRACTOR SHALL PROVIDE A 12" MOW STRIP 6" TALL AROUND HANDHOLE.
 - MOUNTING RACKS SHALL BE AS SPECIFIED.
 - SHALL BE PLASTIC GRATE.
 - HANDHOLES SHALL BE EQUIPPED WITH SUMP.
 - REFER TO SPECIFICATION 16600 "UNDERGROUND SYSTEM" FOR ADDITIONAL INFORMATION.
 - FASTEN A 4/0 GREEN INSULATED GROUND CABLE TO MANHOLE RING AND EXTEND OUT OF CONCRETE, LEAVING 4' COILED SPARE CABLE.

SECTION 1
NTS

ELECTRICAL HANDHOLE (EMH)

DETAIL A
NTS

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 CROSS CHK'D BY: G.LUKE
 APPROVED BY: G.LUKE
 DATE: APRIL 2024



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BRYAN STILL CREEK
 WASTEWATER TREATMENT PLANT
 IMPROVEMENTS

ELECTRICAL
 STANDARD DETAILS - V



PROJECT NO. 2381-284648
 FILE NAME: EZ-S.DWG

SHEET NO.
 EZ-5

REV. NO.	DATE	DRWN	CHKD	REMARKS

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PRIMARY FLOW ELEMENTS		VALVES		PUMPS, BLOWERS AND MISC EQUIPMENT		CONTROL ENCLOSURE, INSTRUMENTS AND SCADA		CONTROL ENCLOSURE, INSTRUMENTS AND SCADA	
	MAGNETIC FLOW METER		SOLENOID ACTUATED VALVE		MIXER/FLOCCULATOR/AERATOR		DIGITAL/ANALOG INSTRUMENT AAA ISA TAG (REFER TO TABLE) BBB LOOP NUMBER CCC LOOP NUMBER SUB D DIVISION NUMBER (BOTTOM LEFT OR RIGHT) P POWER REQUIREMENT XXX DESCRIPTION (USED ON PANEL INSTRUMENTS) YY CHEMICAL ZZZ LOCATION		DIGITAL/ANALOG INSTRUMENT -LOCATED IN THE FIELD -NOT INSIDE OF PANEL -VISIBLE AT FIELD LOCATION -NORMALLY OPERATOR ACCESSIBLE
	ULTRASONIC DOPPLER FLOW METER		AIR CYLINDER		VERTICAL PUMP-1 USED WHEN DISCHARGE LINE IS IN WETWELL		DIGITAL/ANALOG INSTRUMENT -LOCATED IN THE FIELD -NOT INSIDE OF PANEL -VISIBLE AT FIELD LOCATION -NORMALLY OPERATOR ACCESSIBLE		DIGITAL/ANALOG INSTRUMENT -LOCATED IN THE FIELD -NOT INSIDE OF PANEL -VISIBLE AT FIELD LOCATION -NORMALLY OPERATOR ACCESSIBLE
	ULTRASONIC TIME TRANSIT FLOW METER		OIL CYLINDER		VERTICAL PUMP-2 USED WHEN DISCHARGE LINE IS EXPOSED.		DIGITAL/ANALOG INSTRUMENT -LOCATED INSIDE PANEL -NOT VISIBLE TO OPERATOR -NORMALLY NOT ACCESSIBLE		DIGITAL/ANALOG INSTRUMENT -LOCATED INSIDE PANEL -NOT VISIBLE TO OPERATOR -NORMALLY NOT ACCESSIBLE
	VORTEX FLOW METER		HYDRAULIC CYLINDER		VERTICAL PUMP SHAFT USED WHEN INTAKE OF PUMP IS ENCASED.		DISPLAY (INDICATION/CONTROLLER) AAA ISA TAG (REFER TO TABLE) BBB LOOP NUMBER CCC LOOP NUMBER SUB XXX DESCRIPTION		DISPLAY (INDICATION/CONTROLLER) -LOCATED IN THE FIELD -NOT VISIBLE OF PANEL -VISIBLE AT FIELD LOCATION -NORMALLY OPERATOR ACCESSIBLE
	VENTURI TUBE		ELECTRIC MOTOR		SUBMERSIBLE MIXER		DISPLAY (INDICATION/CONTROLLER) -LOCATED ON PANEL -VISIBLE TO OPERATOR -NORMALLY OPERATOR ACCESSIBLE		DISPLAY (INDICATION/CONTROLLER) -LOCATED ON PANEL -VISIBLE TO OPERATOR -NORMALLY OPERATOR ACCESSIBLE
	TURBINE OR PROPELLER TYPE METER		SOLENOID VALVE		HEAT EXCHANGER		DISPLAY (INDICATION/CONTROLLER) -LOCATED INSIDE PANEL -NOT VISIBLE TO OPERATOR -NORMALLY NOT ACCESSIBLE		DISPLAY (INDICATION/CONTROLLER) -LOCATED INSIDE PANEL -NOT VISIBLE TO OPERATOR -NORMALLY NOT ACCESSIBLE
	ROTAMETER		MANUAL VALVE		FEED PUMP		INTERLOCKING RELAY		DIGITAL INPUT
	PITOT TUBE		MISC PROCESS SYMBOLS		BLOWER		DIGITAL OUTPUT		ANALOG INPUT
	WEIR FLOW METER		ANNULAR TYPE SEAL		SILENCER		ANALOG OUTPUT		SURGE SUPPRESSOR
	PARSHALL FLUME OR TRAPEZOIDAL FLUME		CHEMICAL INJECTION POINT		PERISTALTIC METERING PUMP		SIGNAL CONVERTER/ISOLATOR * *- (INPUT/OUTPUT) * DEFINED AS FOLLOWS: E - VOLTAGE I - CURRENT P - PNEUMATIC PD - PULSE DURATION H - HYDRAULIC O - ELECTROMAGNETIC, SONIC R - RESISTANCE (ELECTRIC)		OPTO ISOLATOR
	ORIFICE PLATE		WYE STRAINER		ROCK TRAP				
	THERMAL MASS FLOWMETER		DRAIN		PULSATION DAMPENER				
	PRIMARY LEVEL ELEMENTS		NORMAL OPERATING LEVEL						
	ULTRASONIC LEVEL TRANSDUCER		UV CHAMBER						
	RADAR LEVEL TRANSDUCER		FLOW STRAIGHTENER						
	PRIMARY ELEMENT PRESSURE PROBE LEVEL TRANSMITTER		LOAD CELL						
	BUBBLER LEVEL TUBE ELEMENT		SPRAY NOZZLE						
	CONDUCTIVE LEVEL PROBE		BLIND FLANGE						
	FLOAT SWITCH		FLANGE						
	VALVES		DIAPHRAGM SEAL						
	VALVE - OTHER IN-LINE TYPE NOT OTHERWISE IDENTIFIED		PRESSURE RELIEF (OUT)						
	KNIFE GATE VALVE		VACUUM RELIEF (IN)						
	THREE-WAY VALVE		GATES						
	BALL VALVE		SLUICE/SLIDE GATE						
	GLOBE VALVE		FLOW CONTROL GATE						
	PINCH VALVE		MOTORS						
	GATE VALVE		VARIABLE SPEED MOTOR						
	NEEDLE VALVE		CONSTANT SPEED MOTOR						
	BUTTERFLY VALVE		PUMPS, BLOWERS AND MISC EQUIPMENT						
	CHECK VALVE WITH FLOW DIRECTION		CENTRIFUGAL BLOWER						
	PLUG VALVE		CENTRIFUGAL PUMP						
	PRESSURE-REDUCING REGULATOR INTERNAL PRESSURE TAP		DIAPHRAGM PUMP AND MOTOR						
	BACK PRESSURE REGULATOR INTERNAL PRESSURE TAP		PROGRESSIVE CAVITY PUMP						
	PRESSURE-REDUCING REGULATOR EXTERNAL PRESSURE TAP		SUBMERSIBLE PUMP						
	BACK PRESSURE REGULATOR EXTERNAL PRESSURE TAP								

FUNCTION SYMBOLS AND ABBREVIATIONS		
	FUNCTION SYMBOL	ABBREVIATION
	PROPORTIONAL GAIN OR ATTENUATE (INPUT/OUTPUT)	K
	REVERSE PROPORTIONAL GAIN OR ATTENUATE (INPUT/OUTPUT)	-K
	SUMMING	Σ
	AVERAGING	∫
	SUBTRACTING	Δ
	EXTRACT SQUARE ROOT	√
	DIVIDE	÷
	MULTIPLY	X
	INTEGRATE	∫
	BIAS POSITIVE	+
	BIAS NEGATIVE	-
	NONLINEAR OR UNSPECIFIED FUNCTION	F(x)
	HIGH SELECT	>
	LOW SELECT	<
	HIGH LIMIT	!
	LOW LIMIT	!

- GENERAL NOTES:**
- THIS IS A GENERAL LEGEND SHEET, SOME SYMBOLS AND ABBREVIATIONS MAY NOT APPLY TO THIS SPECIFIC PROJECT.
 - THIS LEGEND APPLIES TO INSTRUMENTATION DIAGRAMS ONLY AND MAY DIFFER FROM LEGENDS FOR OTHER SHEETS.
 - IN GENERAL THIS LEGEND SHEET AND THE INSTRUMENTATION DIAGRAMS ARE BASED ON INTERNATIONAL SOCIETY OF AUTOMATION STANDARDS FOR PRACTICES FOR INSTRUMENTATION, STANDARD SIS. SOME MODIFICATIONS, ADDITIONS AND ALTERATIONS HAVE BEEN MADE AS REQUIRED TO ACCOMMODATE THE PROJECT REQUIREMENTS.
 - SOME PROCESS ITEMS, SUCH AS EQUIPMENT ISOLATION VALVES, BYPASS LINES, ETC., WHICH ARE NOT CRITICAL FOR AN UNDERSTANDING OF THE INSTRUMENTATION AND CONTROL FUNCTIONS ARE NOT SHOWN ON THE INSTRUMENTATION SHEETS.
 - SEE ELECTRICAL SHEETS AND SPECIFICATIONS FOR ADDITIONAL CONTROL AND INTERLOCK REQUIREMENTS FOR EQUIPMENT NOT SHOWN OR NOT PROVIDED BY THE INSTRUMENTATION SUPPLIER.
 - IN THE EVENT OF DISCREPANCY BETWEEN THE PROCESS & INSTRUMENTATION DIAGRAMS AND THE LOOP DIAGRAMS, THE INFORMATION FROM THE LOOP DIAGRAMS SHALL BE USED.

HAND SWITCH ABBREVIATIONS:

HOA	HAND/OFF/AUTO
HOR	HAND/OFF/REMOTE
LCC	LOCAL/OFF/COMPUTER
LOR	LOCAL/OFF/REMOTE
LOS	LOCKOUT STOP
OSC	OPEN/STOP/CLOSE
RSL	RAISE/STOP/LOWER
L/C	LOCAL/COMPUTER
L/R	LOCAL/REMOTE
O/C	OPEN/CLOSE
S/S	START/STOP
A/M	AUTO/MANUAL
H/C	HAND/COMPUTER
PB	PUSHBUTTON

REV. NO.	DATE	DRWN	CHKD	REMARKS

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BRYAN STILL CREEK
 WASTEWATER TREATMENT PLANT
 IMPROVEMENTS

**INSTRUMENTATION
 LEGEND & SYMBOLS - I**

PROJECT NO. 2381-284648
 FILE NAME: I-1.DWG

SHEET NO.
 I-1



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LINE SYMBOLS	
	MAJOR PROCESS LINE
	MINOR PROCESS LINE
	FUTURE PROCESS LINE
	EXISTING PROCESS LINE
	HARDWIRED SIGNAL
	SOFT LINK
	HYDRAULIC LINK
	PNEUMATIC LINK
	CAPILLARY TUBE OR FILLED SYSTEM SIGNAL
	ELECTROMAGNET OR SONIC SIGNAL (GUIDED)
	(USED WHEN REFERRING TO A SHEET IN THE DESIGN SET) DESCRIPTION - WHERE FLOW IS GOING SHEET# - WHAT SHEET PROCESS CONTINUES ON X - USED WHEN TWO OR MORE ARROWS ARE REFERRING TO THE SAME SHEET. Y - USED WHEN TWO OR MORE ARROWS ARE REFERRING TO A SHEET NOT IN THE DESIGN SET
	(USED WHEN REFERRING TO A SHEET NOT IN THE DESIGN SET) DESCRIPTION - WHERE FLOW IS GOING
	CAT-5e ETHERNET CABLE
	CAT-6 ETHERNET CABLE
	MODBUS PLUS CABLE
	RS-485 CABLE
	RS-232 CABLE
	POWER OVER ETHERNET CABLE
	T1 LINE
	SINGLE MODE FIBER OPTIC CABLE
	MULTIMODE FIBER OPTIC CABLE
	SIGNAL CROSSING
	PROCESS LINE CROSSING
	PROCESS LINE/ HARDWIRED SIGNAL CROSSING

EQUIPMENT/POP TAGGING	
	EQUIPMENT TAG USED TO IDENTIFY NON-INSTRUMENT EQUIPMENT
	LOOP TAG USED TO TIE THE PROCESS FLOW DIAGRAM TO A LOOP DIAGRAM
STANDARD VALVE AND PIPING USAGE	
	BLOCK/BLEED VALVE ARRANGEMENT
	INSTRUMENTS WITH VALVE ONLY
	INSTRUMENTS WITH DIAPHRAGM SEAL
	INSTRUMENTS WITH ANNULAR SEAL
PANEL DETAIL SYMBOLS	
	INDICATING LIGHT -R RED (ACTIVE EQUIPMENT) -G GREEN (EQUIPMENT OFF) -W WHITE (POWER) -B BLUE (CONDITION IE BACKWASH IN PROGRESS) -A AMBER (ALARM CONDITION)
	SWITCH -L/R (LOCAL - REMOTE) -L/O/A (LOCAL - OFF - AUTO) -L/O/R (LOCAL - OFF - REMOTE) -H/O/A (HAND - OFF - AUTO) -H/O/R (HAND - OFF - REMOTE)
	PUSHBUTTON
	PUSHBUTTON
	HORN
	BEACON
	OPERATOR INTERFACE TERMINAL
SECURITY SYSTEM SYMBOLS	
	FIXED SURVEILLANCE CAMERA
	PAN/TILT/ZOOM SURVEILLANCE CAMERA

GENERAL ABBREVIATIONS	
AI	ANALOG INPUT
AL	ALARM PILOT LIGHT
AO	ANALOG OUTPUT
AS	AIR SUPPLY
ASP	APPLICATION SERVICE PROVIDER
BFV	BUTTERFLY VALVE
CCTV	CLOSED CIRCUIT TELEVISION
CH4	METHANE
CL2	CHLORINE
COND	CONDUCTIVITY
COMP	COMPUTER
CP	CONTROL PANEL
CPU	CENTRAL PROCESSING UNIT
CRC	CONTROL ROOM CONSOLE
CTU	CENTRAL TELEMETRY UNIT
DCU	DISTRIBUTED CONTROL UNIT
DI	DIGITAL OR DISCRETE INPUT
DO	DISSOLVED OXYGEN OR DIGITAL OUTPUT
DPU	DISTRIBUTED PROCESSING UNIT
EPP	ETHERNET PATCH PANEL
ES	EMERGENCY STOP
ESW	ETHERNET SWITCH
ETM	ELAPSED TIME METER
FC	FAIL CLOSED
FCP	FIELD CONTROL PANEL
FCS	FILTER CONTROL STATION
FCV	FLOW CONTROL VALVE
FLP	FAIL LAST POSITION
FO	FAIL OPEN
FOPP	FIBER OPTIC PATCH PANEL
FPR	FEEDER PROTECTION RELAY
H2S	HYDROGEN SULFIDE
HMI	HUMAN MACHINE INTERFACE
JB	JUNCTION BOX
IO	INPUT/OUTPUT
IR	INFRARED
IAS	LIQUID AMMONIA SULFATE
LCP	LOCAL CONTROL PANEL
LCS	LOCAL CONTROL STATION
LCV	LOCAL CONTROL VALVE
LTS	LOCAL TERMINAL SYSTEM
MC	MOTOR CONTROLLER
NaOCl	SODIUM HYPOCHLORIDE
NC	NORMALLY CLOSED
NH3	AMMONIA
NIM	NETWORK INTERFACE MODULE
NO	NORMALLY OPEN
MCC	MOTOR CONTROL CENTER
MM	MULTIMODE FIBER OPTIC CABLE
MPLC	SYSTEM MANUFACTURER-PROVIDED PLC
MPR	MOTOR PROTECTION RELAY
OIT	OPERATIONS INTERFACE TERMINAL
OV	OVERLOAD
OWS	OPERATOR WORKSTATION
PB	PUSH BUTTON
PCSI	PROCESS CONTROL SYSTEM INTEGRATOR
pH	HYDROGEN ION
PLC	PROGRAMMABLE LOGIC CONTROLLER
PMCS	PROCESS MONITORING CONTROL SYSTEM
POLY	POLYMER
PQM	POWER QUALITY METER
PS	POWER SUPPLY
PSU	POWER SUPPLY UNIT
PI	PINCH VALVE
RBC	REMOTE BASE CONTROLLER
RIO	REMOTE INPUT OUTPUT
LAL	LEVEL ALARM LOW
LAH	LEVEL ALARM HIGH
PII	PRESSURE INDICATING TRANSMITTER
PE	PRESSURE ELEMENT
PI	PRESSURE INDICATION
PSH	PRESSURE SWITCH HIGH
PSL	PRESSURE SWITCH LOW
TC	TERMINATION CABINET
TURB	TURBIDITY
VIB	VIBRATION
VFD	VARIABLE FREQUENCY DRIVE
VLV	VALVE

MEANINGS OF IDENTIFICATION LETTERS				
THIS TABLE APPLIES ONLY TO THE FUNCTIONAL IDENTIFICATION OF INSTRUMENTS.				
FIRST LETTER		SUCCEEDING LETTERS		
MEASURED OR INITIATING VARIABLE	MODIFIER	READOUT OR PASSIVE FUNCTION	OUTPUT FUNCTION	MODIFIER
A	ANALYSIS/ANALYTICAL	ALARM		
B	BURNER, COMBUSTION			
C	CONDUCTIVITY		CONTROL	
D	DENSITY (MASS) OR SPECIFIC GRAVITY	DIFFERENTIAL		
E	VOLTAGE (EMF)		PRIMARY ELEMENT	
F	FLOW RATE	RATIO (FRACTION)		
G	GAUGING (DIMENSIONAL)		GLASS VIEWING DEVICE	
H	HAND			HIGH OR OPEN
I	CURRENT (ELECTRICAL)		INDICATE	
J	POWER	SCAN		
K	TIME OR TIME SCHEDULE			CONTROL STATION
L	LEVEL		LIGHT (PILOT)	LOW OR CLOSED
M	MOISTURE OR HUMIDITY			MIDDLE OR INTERMEDIATE
N	USERS CHOICE		USERS CHOICE	USERS CHOICE
O	USERS CHOICE		ORIFICE (RESTRICTION)	
P	PRESSURE OR VACUUM		POINT (TEST CONNECTION)	
Q	QUANTITY	INTEGRATE OR TOTALIZE		
R	RADIATION		RECORD	
S	SPEED OR FREQUENCY	SAFETY		SWITCH
T	TEMPERATURE			TRANSMIT
U	MULTIVARIABLE		MULTIFUNCTION	MULTIFUNCTION
V	VIBRATION			VALVE, DAMPER OR LOUVER
W	WEIGHT OR FORCE		WELL	UNCLASSIFIED
X	UNCLASSIFIED	X AXIS	UNCLASSIFIED	UNCLASSIFIED
Y	EVENT, STATE	Y AXIS		RELAY, COMPUTE, CONVERT
Z	POSITION, DIMENSION	Z AXIS		DRIVE, ACTUATE OR UNCLASSIFIED CONTROL ELEMENT

COMMON HMI INSTRUMENT ISA TAGGING	
ABBREVIATION	MEANING
AIT	ANALYTICAL INDICATING TRANSMITTER
AE	ANALYTICAL ELEMENT
AI	CHEMICAL RESIDUAL INDICATION
FI	FLOW INDICATING TRANSMITTER
FE	FLOW ELEMENT
FI	FLOW INDICATION
HS	HAND SWITCH
JAL	POWER ALARM LOW
II	CURRENT INDICATION
LIT	LEVEL INDICATING TRANSMITTER
LE	LEVEL ELEMENT
LI	LEVEL INDICATION
LSH	LEVEL SWITCH HIGH
LSL	LEVEL SWITCH LOW
LAL	LEVEL ALARM LOW
LAH	LEVEL ALARM HIGH
PII	PRESSURE INDICATING TRANSMITTER
PE	PRESSURE ELEMENT
PI	PRESSURE INDICATION
PSH	PRESSURE SWITCH HIGH
PSL	PRESSURE SWITCH LOW

COMMON HMI INSTRUMENT ISA TAGGING	
ABBREVIATION	MEANING
SI	SPEED INDICATION
SIC	SPEED INDICATING CONTROLLER
TIT	TEMPERATURE INDICATING TRANSMITTER
TE	TEMPERATURE ELEMENT
TI	TEMPERATURE INDICATION
TSH	TEMPERATURE SWITCH HIGH
WIT	WEIGHT INDICATING TRANSMITTER
WE	WEIGHT ELEMENT
WI	WEIGHT INDICATION
YL	MISC. EVENT LIGHT (IN REMOTE)
ZCH	OPEN GATE/VALVE
ZCL	CLOSE GATE/VALVE
ZSH	POSITION SWITCH HIGH
ZSL	POSITION SWITCH LOW
ZLH	VALVE/GATE OPEN
ZLL	VALVE/GATE CLOSED
ZIT	POSITION INDICATING TRANSMITTER

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY:	W. NILSSON
DRAWN BY:	H. ORSIC
SHEET CHK'D BY:	B. BANGS
CROSS CHK'D BY:	J. FELGER
APPROVED BY:	G. LUKE
DATE:	APRIL 2024

CDM Smith
 12400 Coit Road, Suite 400
 Dallas, TX 75251
 Tel: (214) 248-2800
 TBE Firm Registration No. F-3043

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 Texas Registration No. F-2993
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 Fax: (214) 342-7401
 Email: info@gai.com

BRYAN STILL CREEK
 WASTEWATER TREATMENT PLANT
 IMPROVEMENTS

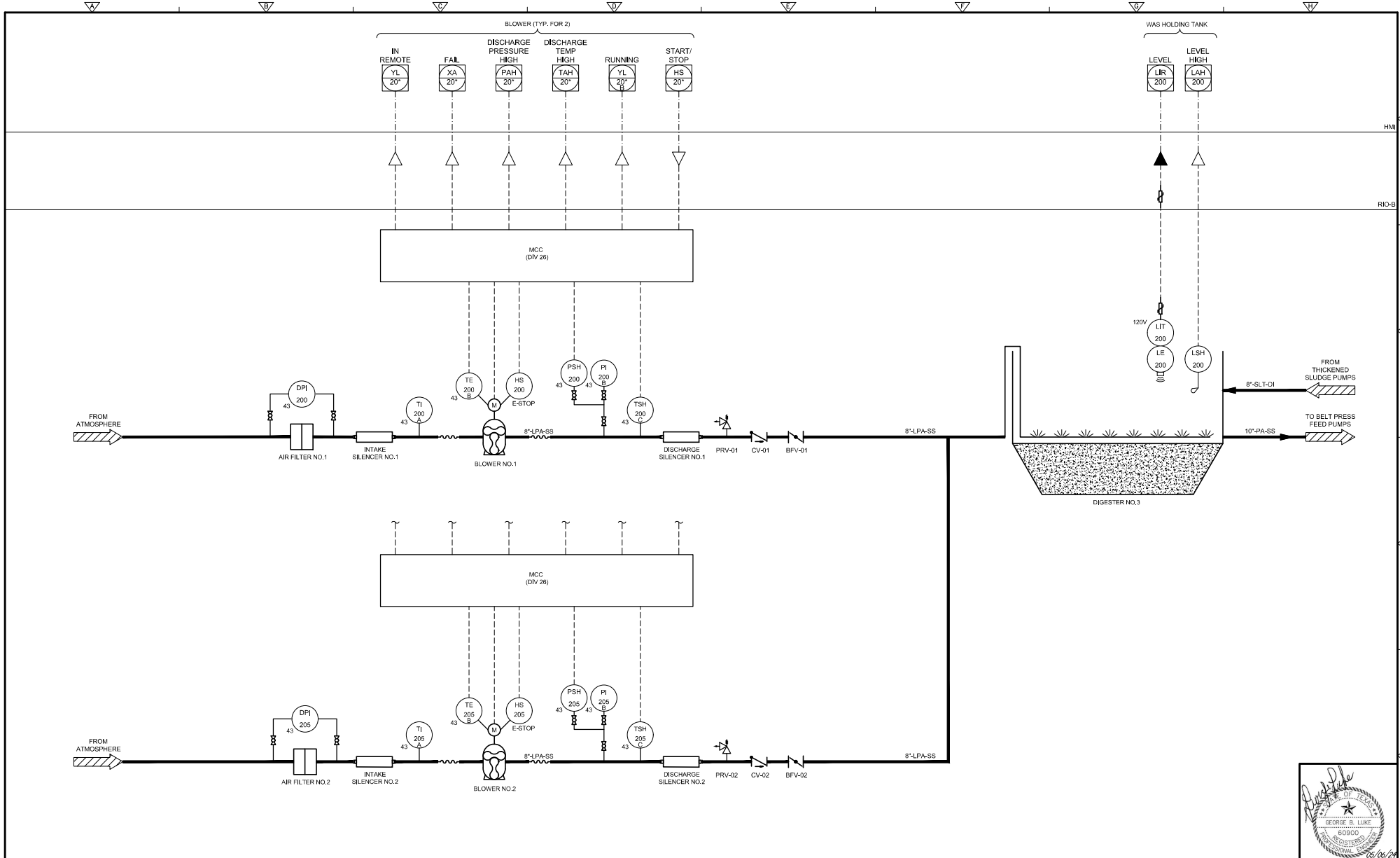
INSTRUMENTATION
 LEGEND & SYMBOLS - II



PROJECT NO.	2381-284648
FILE NAME:	I-2.DWG
SHEET NO.	I-2

100% SUBMITTAL

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REV. NO.	DATE	DRWN	CHKD	REMARKS

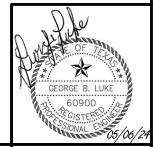
DESIGNED BY: W. NILSSON
 DRAWN BY: H. ORJC
 SHEET CHK'D BY: B. DAMG
 CROSS CHK'D BY: J. FELGER
 APPROVED BY: G. LIKE
 DATE: MAY 2024



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 Fax: (214) 348-7123
 Email: g.luke@curcija.com

BRYAN STILL CREEK
 WASTEWATER TREATMENT PLANT
 IMPROVEMENTS

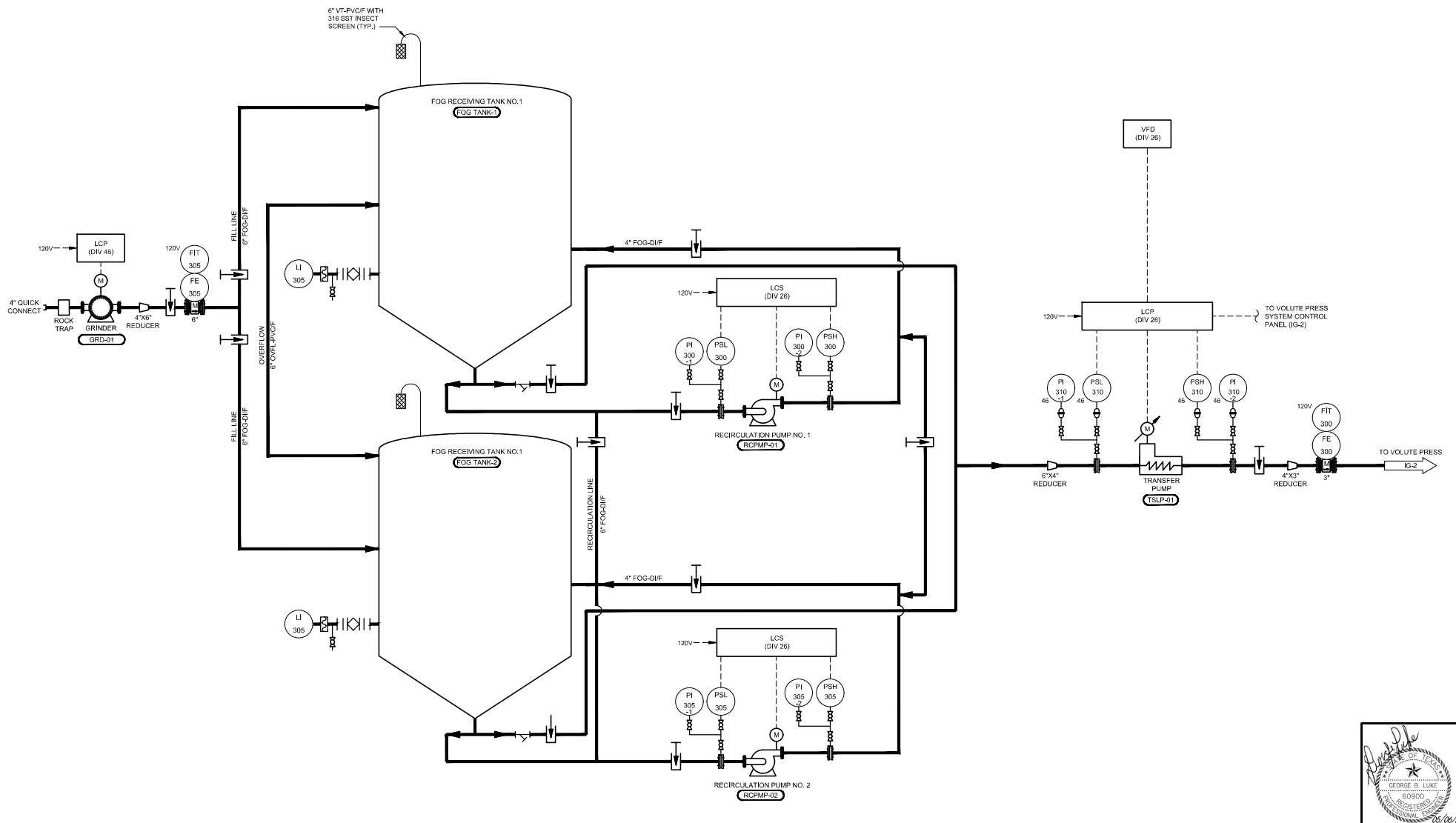
INSTRUMENTATION
 BLOWERS AND DIGESTER NO. 3
 PIPING & INSTRUMENTATION DIAGRAM



PROJECT NO. 2381-284648
 FILE NAME: ID-1.DWG
 SHEET NO.
 ID-1

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NOTES:
 1. NO EQUIPMENT SHOWN HERE IS MONITORED BY THE PLANT CONTROL SYSTEM.



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REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: W. NILSSON
 DRAWN BY: H. ORJC
 SHEET CHK'D BY: B. DAMS
 CROSS CHK'D BY: J. FELGER
 APPROVED BY: G. LIUKE
 DATE: MAY 2024



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BRYAN STILL CREEK
 WASTEWATER TREATMENT PLANT
 IMPROVEMENTS

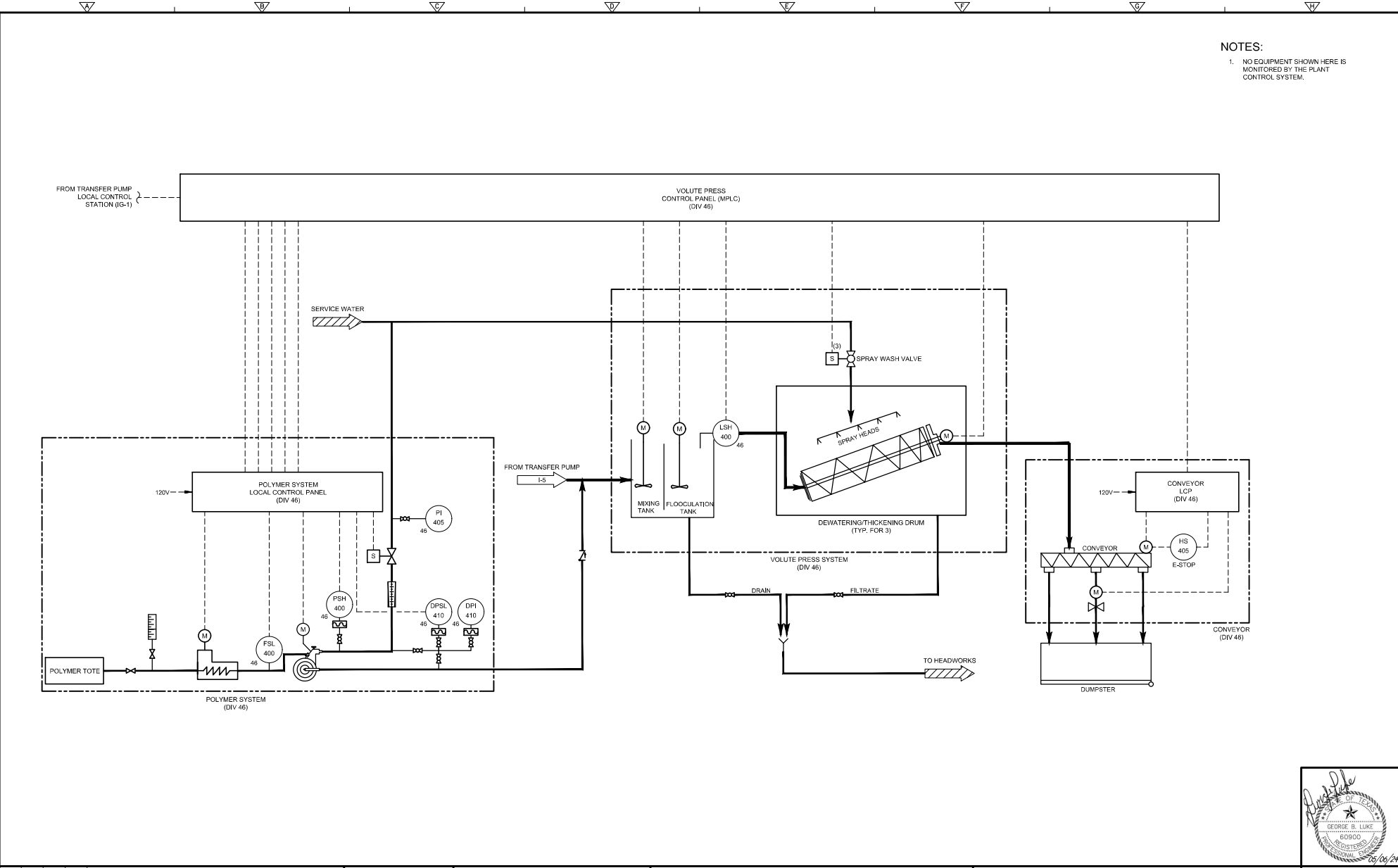
INSTRUMENTATION
 GREASE FACILITY
 PIPING & INSTRUMENTATION DIAGRAM

PROJECT NO. 2381-284648
 FILE NAME: IG-1.DWG
 SHEET NO.
IG-1



100% SUBMITTAL

NOTES:
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 BRYAN STILL CREEK WASTEWATER TREATMENT PLANT IMPROVEMENTS - Page 911 of 1083

REV. NO.	DATE	DRWN	CHKD	REMARKS

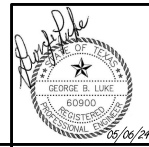
DESIGNED BY: W. NILSSON
 DRAWN BY: H. ORC
 SHEET CHK'D BY: B. DAMG
 CROSS CHK'D BY: J. FELGER
 APPROVED BY: G. LIKE
 DATE: MAY 2024



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 Gurupa & Associates, Inc.
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 Tel: (974) 348-2800
 TSP# Firm Registration No. F-3043

BRYAN STILL CREEK
 WASTEWATER TREATMENT PLANT
 IMPROVEMENTS

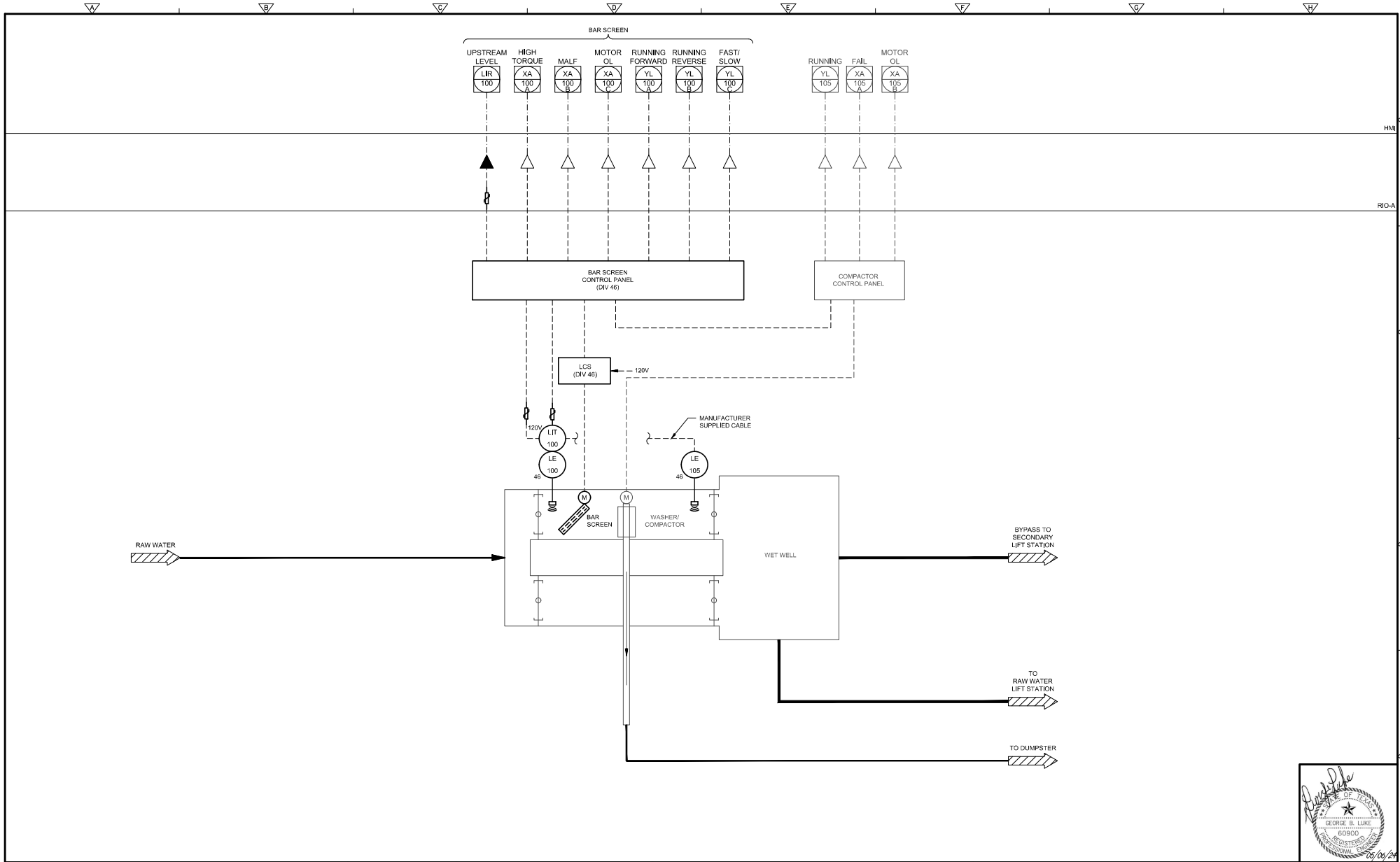
INSTRUMENTATION
 VOLUTE PRESS SYSTEM
 PIPING AND INSTRUMENTATION DIAGRAM



PROJECT NO. 2381-284648
 FILE NAME: IG-2.DWG
 SHEET NO.
 IG-2

100% SUBMITTAL

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REV. NO.	DATE	DRWN	CHKD	REMARKS

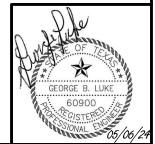
DESIGNED BY: W. NILSSON
 DRAWN BY: H. ORJC
 SHEET CHK'D BY: B. DAMS
 CROSS CHK'D BY: J. FELGER
 APPROVED BY: G. LIKE
 DATE: MAY 2024

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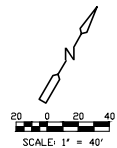
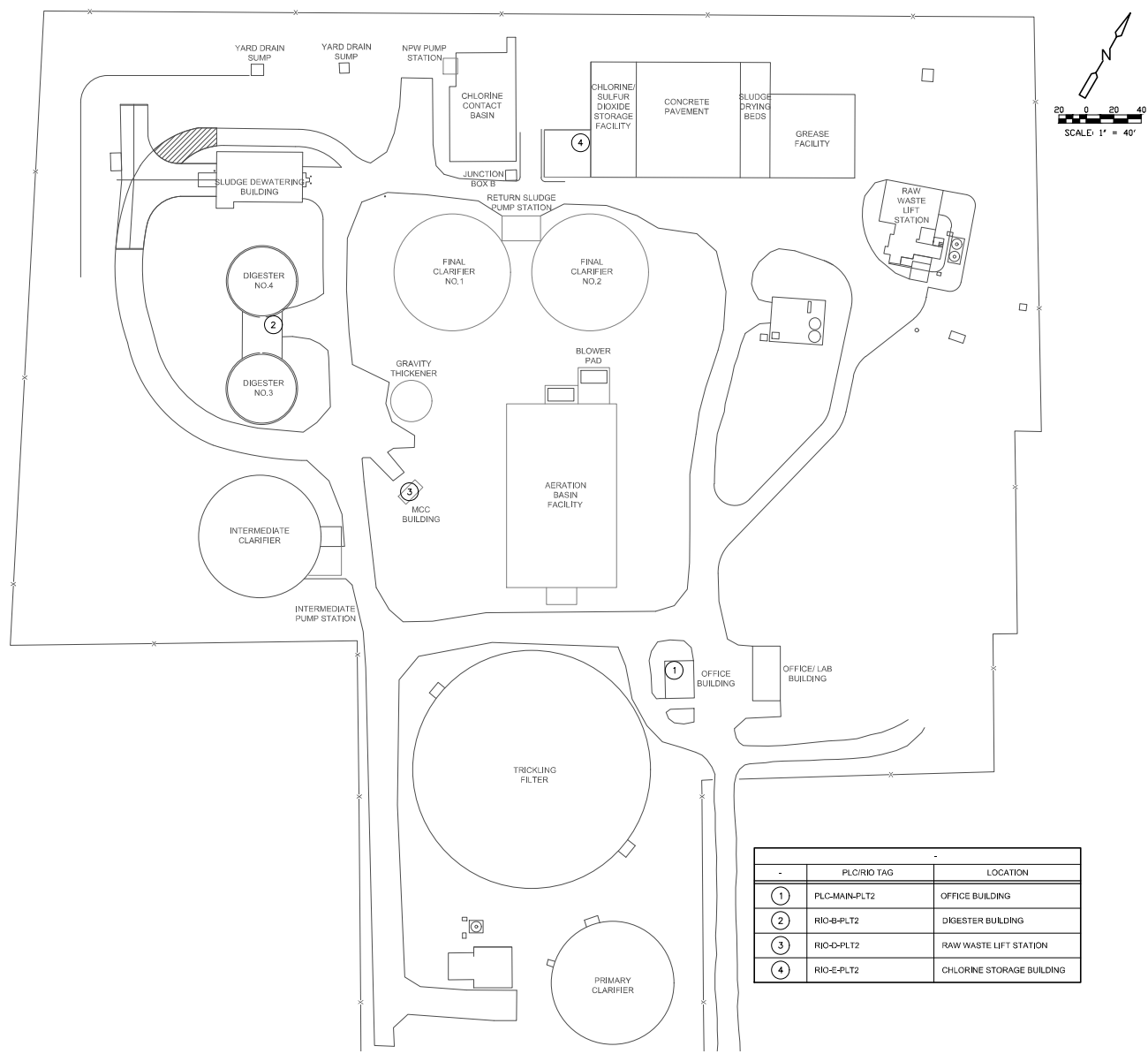
BRYAN STILL CREEK
 WASTEWATER TREATMENT PLANT
 IMPROVEMENTS

INSTRUMENTATION
 HEADWORKS
 PIPING & INSTRUMENTATION DIAGRAM

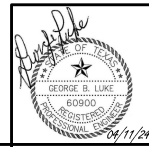


PROJECT NO. 2381-284648
 FILE NAME: IH-1.DWG
 SHEET NO.
IH-1

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	PLC/RIO TAG	LOCATION
①	PLC-MAIN-PLT2	OFFICE BUILDING
②	RIO-B-PLT2	DIGESTER BUILDING
③	RIO-D-PLT2	RAW WASTE LIFT STATION
④	RIO-E-PLT2	CHLORINE STORAGE BUILDING



REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: W. NILSSON
 DRAWN BY: H. ORSC
 SHEET CHK'D BY: B. BANGS
 CROSS CHK'D BY: J. FELGER
 APPROVED BY: G. LUKE
 DATE: APRIL, 2024

12403 Coit Road, Suite 400
 Dallas, TX 75251
 Tel: (214) 348-3800
 TBEPE Firm Registration No. F-3043

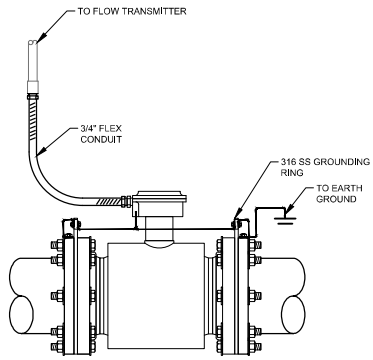
BRYAN STILL CREEK
WASTEWATER TREATMENT PLANT
IMPROVEMENTS

INSTRUMENTATION
EXISTING PLC AND RIO LOCATION PLAN

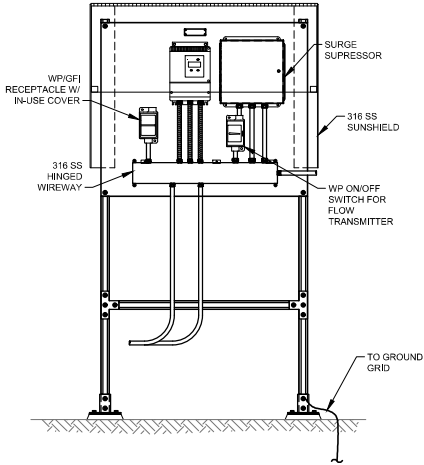
PROJECT NO. 2381-284648
FILE NAME: IZ-1.DWG
SHEET NO. IZ-1

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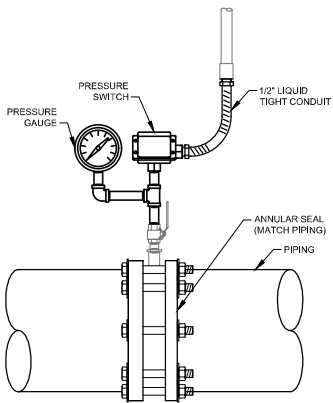
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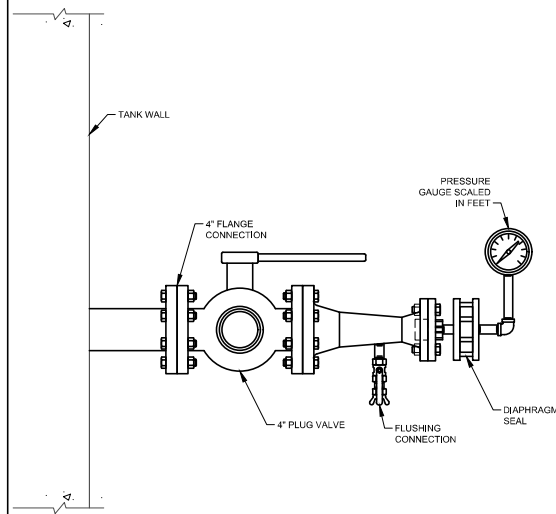
ELECTROMAGNETIC FLOW METER TUBE
 AND TRANSMITTER
 DETAIL 1
 SCALE: NTS



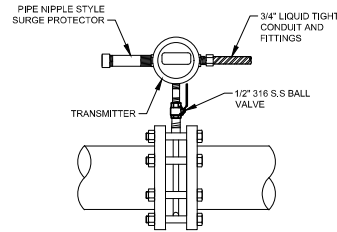
FLOAT LEVEL SWITCH
 DETAIL 2
 SCALE: NTS



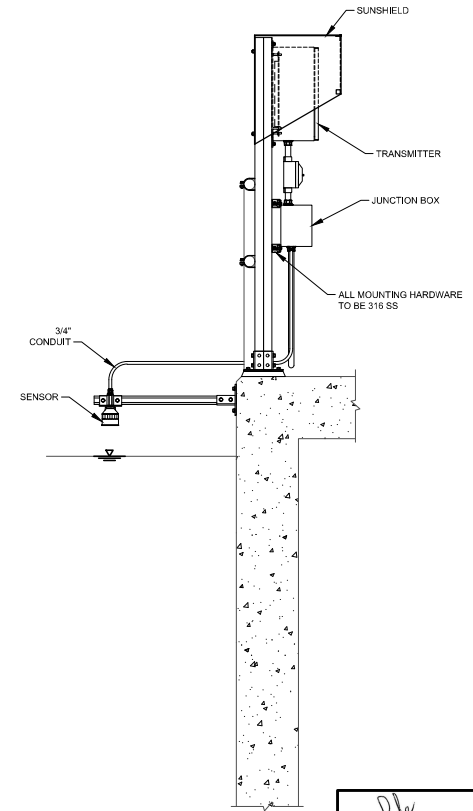
PRESSURE GAUGE AND SWITCH
 DETAIL 3
 SCALE: NTS



FOG TANK LEVEL GAUGE
 DETAIL 4
 SCALE: NTS



PRESSURE SENSING LEVEL TRANSMITTER
 DETAIL 5
 SCALE: NTS



ULTRASONIC LEVEL INSTRUMENT
 DETAIL 6
 SCALE: NTS



REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: W. NILSSON
 DRAWN BY: H. ORJC
 SHEET CHK'D BY: B. DAMG
 CROSS CHK'D BY: J. FELGER
 APPROVED BY: G. LIJKE
 DATE: MAY 2024

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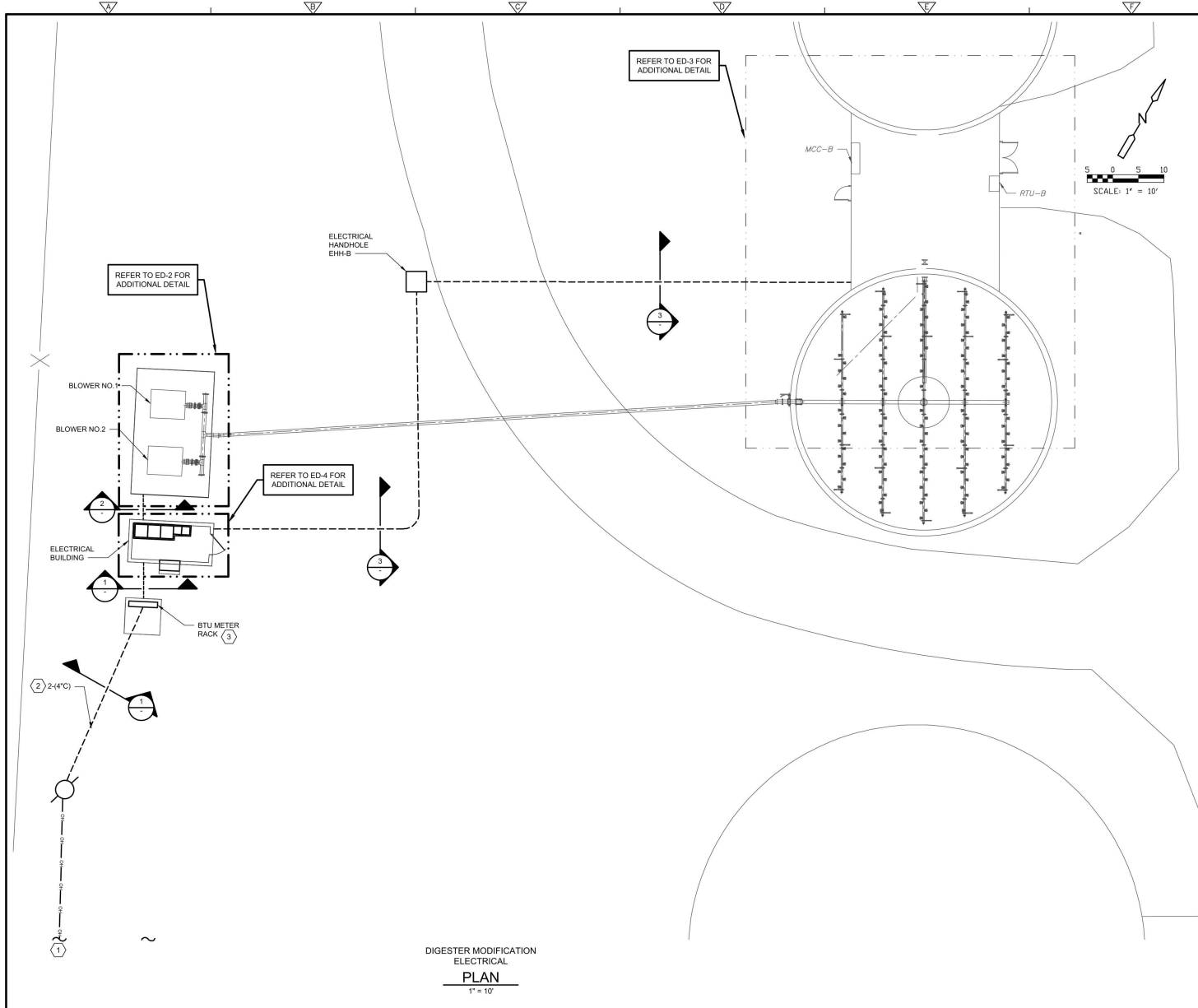
BRYAN STILL CREEK
 WASTEWATER TREATMENT PLANT
 IMPROVEMENTS

INSTRUMENTATION
 INSTRUMENT INSTALLATION DETAILS

PROJECT NO. 2381-284648
 FILE NAME: IZ-2.DWG
 SHEET NO.
 IZ-2

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GENERAL NOTES:

1. COORDINATE NEW SERVICE WITH BTU.
2. PROVIDE ALL EQUIPMENT PER BTU STANDARDS.

NOTES:

1. REFER TO E-9 FOR CONTINUATION.
2. INSTALL CONDUITS FOR PRIMARY CABLE PER BTU REQUIREMENTS AND STANDARDS.
3. PROVIDE AND INSTALL METER RACK PER BTU REQUIREMENTS AND STANDARDS.

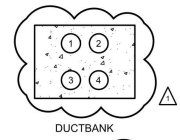


TABLE FOR SECTION 1

CONDUIT NO.	CONDUIT TAG	CONDUIT SIZE	DESCRIPTION
1-3	MT1-P	4" C	UTILITY POWER
4	SPARE	4" C	PULL STRING

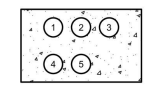


TABLE FOR SECTION 2

CONDUIT NO.	CONDUIT TAG	CONDUIT SIZE	DESCRIPTION
1	VF-1P/C	3" C	BLOWER 1 POWER AND CONTROLS
2	VF-2P/C	3" C	BLOWER 2 POWER AND CONTROLS
3	LP1-6	2" C	BLOWER 1 COOLING FAN
4	LP1-8	2" C	BLOWER 2 COOLING FAN
5	LP1-2, LP1-4	2" C	LOW VOLTAGE POWER TO BLOWER AREA

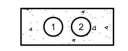
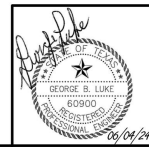


TABLE FOR SECTION 1

CONDUIT NO.	CONDUIT TAG	CONDUIT SIZE	DESCRIPTION
1	RTB-103, RTB-104	2" C	BLOWER CONTROLS
2	SPARE	2" C	PULL STRING



REV. NO.	DATE	DRWN	CHKD	REMARKS
1	06/04/24	JH	JF	ADDENDUM NO.3

DESIGNED BY: J.FELGER
 DRAWN BY: J.MEAM
 SHEET CHK'D BY: G.LUKE
 CROSS CHK'D BY: G.LUKE
 APPROVED BY: G.LUKE
 DATE: APRIL 2024

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 TBE Firm Registration No. F-3043

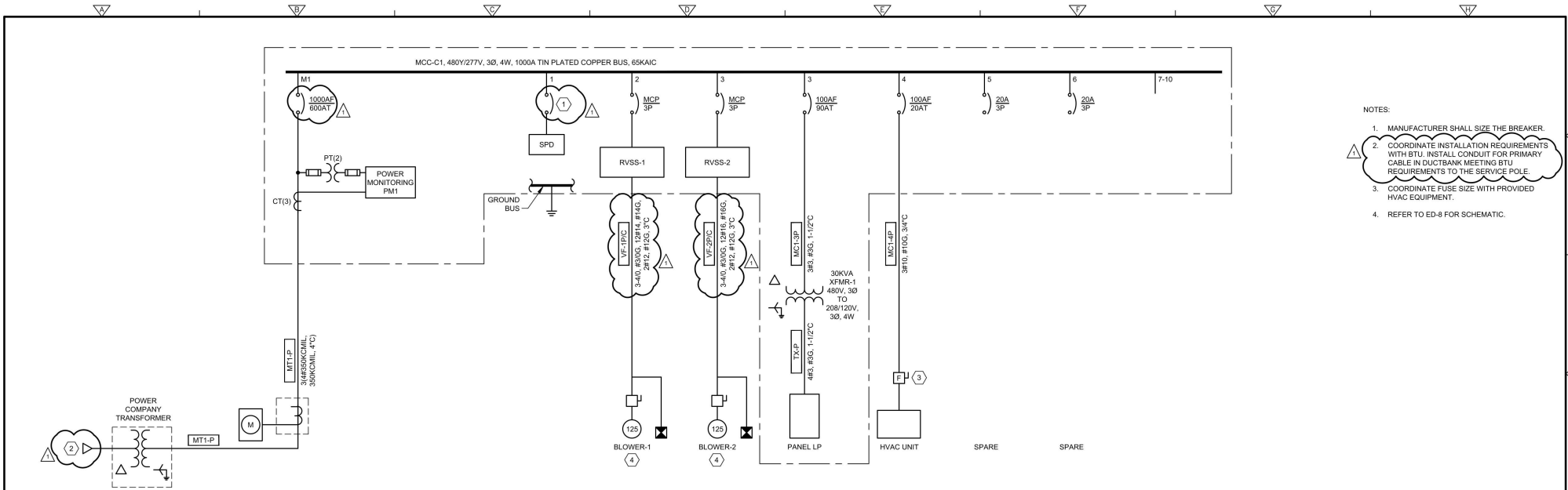
GAI
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BRYAN STILL CREEK
 WASTEWATER TREATMENT PLANT
 IMPROVEMENTS

ELECTRICAL
 BLOWER MODIFICATION PLAN

PROJECT NO. 2381-284648
 FILE NAME: ED-1.DWG
 SHEET NO.
ED-1

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- NOTES:
1. MANUFACTURER SHALL SIZE THE BREAKER.
 2. COORDINATE INSTALLATION REQUIREMENTS WITH BTU. INSTALL CONDUIT FOR PRIMARY CABLE IN OUTRACK MEETING BTU REQUIREMENTS TO THE SERVICE POLE.
 3. COORDINATE FUSE SIZE WITH PROVIDED HVAC EQUIPMENT.
 4. REFER TO ED-8 FOR SCHEMATIC.

MCC-C1 ONE-LINE
DIAGRAM

PANELBOARD: PANEL LP-1				MAIN BREAKER			LOCATION: INSIDE MCC-C1										
VOLTAGE: 208Y/120 V, 3PH, 4W				TYPE: CB			ENCLOSURE: NEMA 1/1A										
WITHSTAND RATING: 22 KA				RATING: 80 A			BUS SIZE: 100 A										
MOUNTING: INTEGRAL							BUS TYPE: TIN-PLATED COPPER										
							SPD: TYPE 2, INTEGRATED										
NOTES	CKT NO	BRKR AMPS/POLES	WIRE SIZE	COND SIZE	DESCRIPTION	PHASE A (VA)	PHASE B (VA)	PHASE C (VA)	PHASE A (VA)	PHASE B (VA)	PHASE C (VA)	DESCRIPTION	COND SIZE	WIRE SIZE	BRKR AMPS/POLES	CKT NO	NOTES
	1	20/1	12	3/4"	ELECTRICAL BUILDING LIGHTING							BLOWER AREA LIGHTING	3/4"	12	20/1	2	
	3	20/1	12	3/4"	ELECTRICAL BUILDING RECEPTACLES							BLOWER AREA RECEPTACLE	3/4"	12	20/1	4	2
	5	20/1	12	3/4"	ELECTRICAL BUILDING OUTDOOR LIGHTING							BLOWER NO.1 VENT FAN	3/4"	12	20/1	6	
	7	20/1	12	3/4"	ELECTRICAL BUILDING OUTDOOR RECEPTACLES							BLOWER NO.2 VENT FAN	3/4"	12	20/1	8	
	9	20/1			SPARE							SPARE			20/1	10	
	11	20/1			SPARE							SPARE			20/1	12	
	13	20/1			SPARE							SPARE			20/1	14	
	15	20/1			SPARE							SPARE			20/1	16	
	17	20/1			SPARE							SPARE			20/1	18	
	19	20/1			SPARE							SPARE			20/1	20	
	21	20/1			SPARE							SPARE			20/1	22	
	23				SPACE							SPACE				24	
	25				SPACE							SPACE				26	
	27				SPACE							SPACE				28	
	29				SPACE							SPACE				30	
SUBTOTAL VA BY PHASE						0	0	0	0	0	0						
TOTAL VA BY PHASE						0	0	0									
TOTAL VA						0											
LL VOLTAGE						208											
TOTAL AMPS (AVERAGE PER PHASE)						0.0											

GENERAL NOTES:

- * CONDUIT SIZE SHOWN IS THE MINIMUM SIZE REQUIRED FOR INDIVIDUAL CIRCUITS. MULTIPLE CIRCUITS MAY BE COMBINED IN A SINGLE CONDUIT FOR FIELD ROUTING PROVIDED NEC MAXIMUM CONDUIT FILL IS NOT EXCEEDED.
- * EACH SINGLE PHASE 120V CIRCUIT SHALL HAVE A SEPARATE NEUTRAL WIRE.

KEYED NOTES:

1. 30 mA GFCI CIRCUIT BREAKER FOR EQUIPMENT PROTECTION ONLY (HEAT TRACE)
2. 5 mA GFCI CIRCUIT BREAKER
- 3.
- 4.
- 5.
- 6.

DESIGNED BY:	J.FELGER
DRAWN BY:	J.MEAM
SHEET CHK'D BY:	G.LUKE
CROSS CHK'D BY:	G.LUKE
APPROVED BY:	G.LUKE
DATE:	APRIL, 2024

CDM Smith

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TBEF Firm Registration No. F-3043

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BRYAN STILL CREEK
WASTEWATER TREATMENT PLANT
IMPROVEMENTS

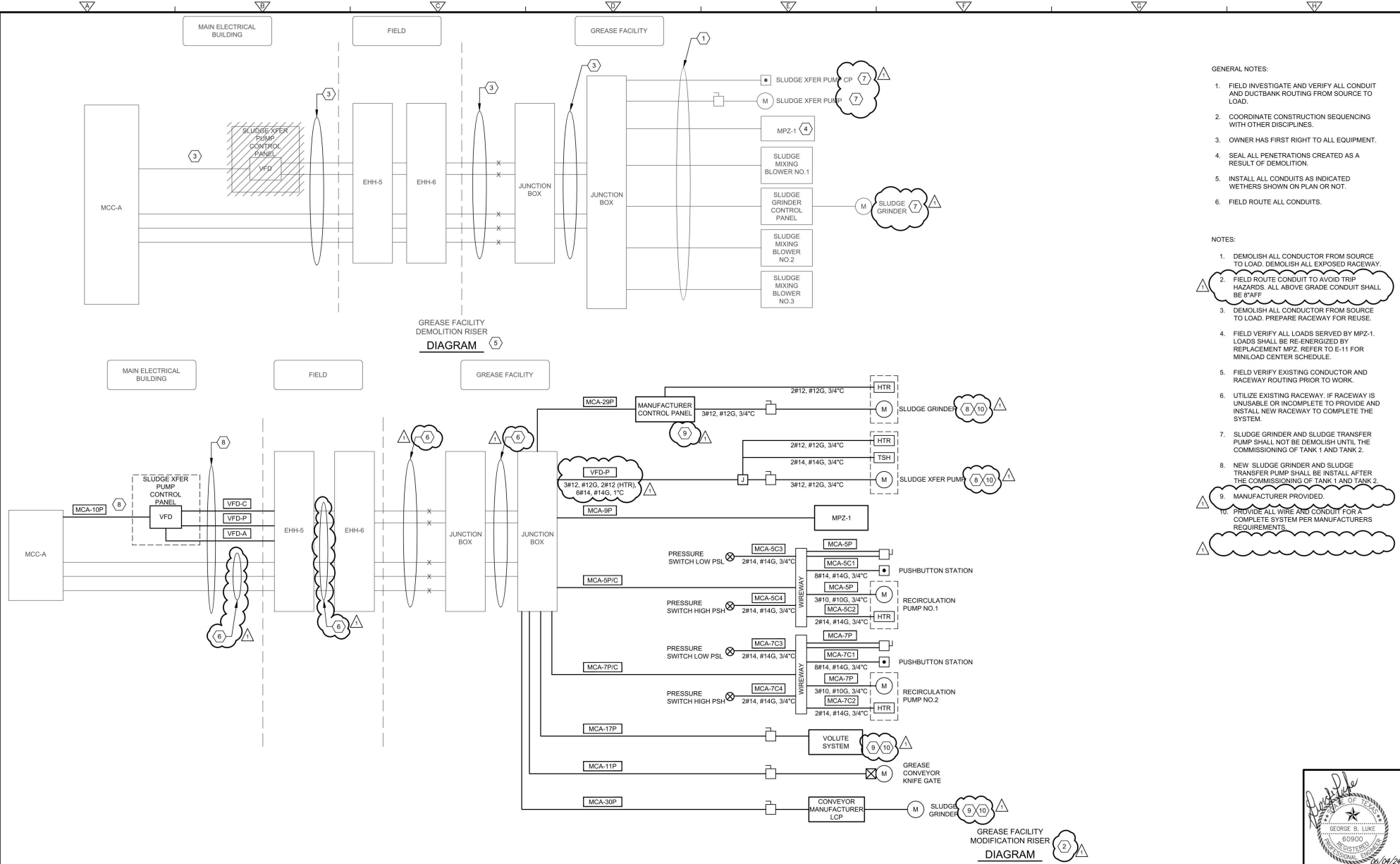
ELECTRICAL
MCC-C1 ONE-LINE MODIFICATION
AND PANEL SCHEDULE

PROJECT NO. 2381-284648
FILE NAME: ED-5.DWG
SHEET NO.
ED-5



06/04/24

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- GENERAL NOTES:**
- FIELD INVESTIGATE AND VERIFY ALL CONDUIT AND DUCTBANK ROUTING FROM SOURCE TO LOAD.
 - COORDINATE CONSTRUCTION SEQUENCING WITH OTHER DISCIPLINES.
 - OWNER HAS FIRST RIGHT TO ALL EQUIPMENT.
 - SEAL ALL PENETRATIONS CREATED AS A RESULT OF DEMOLITION.
 - INSTALL ALL CONDUITS AS INDICATED WETHERS SHOWN ON PLAN OR NOT.
 - FIELD ROUTE ALL CONDUITS.
- NOTES:**
- DEMOLISH ALL CONDUCTOR FROM SOURCE TO LOAD. DEMOLISH ALL EXPOSED RACEWAY.
 - FIELD ROUTE CONDUIT TO AVOID TRIP HAZARDS. ALL ABOVE GRADE CONDUIT SHALL BE 8" AFF.
 - DEMOLISH ALL CONDUCTOR FROM SOURCE TO LOAD. PREPARE RACEWAY FOR REUSE.
 - FIELD VERIFY ALL LOADS SERVED BY MPZ-1. LOADS SHALL BE RE-ENERGIZED BY REPLACEMENT MPZ. REFER TO E-11 FOR MIN/LOAD CENTER SCHEDULE.
 - FIELD VERIFY EXISTING CONDUCTOR AND RACEWAY ROUTING PRIOR TO WORK.
 - UTILIZE EXISTING RACEWAY IF RACEWAY IS UNUSABLE OR INCOMPLETE TO PROVIDE AND INSTALL NEW RACEWAY TO COMPLETE THE SYSTEM.
 - SLUDGE GRINDER AND SLUDGE TRANSFER PUMP SHALL NOT BE DEMOLISH UNTIL THE COMMISSIONING OF TANK 1 AND TANK 2.
 - NEW SLUDGE GRINDER AND SLUDGE TRANSFER PUMP SHALL BE INSTALL AFTER THE COMMISSIONING OF TANK 1 AND TANK 2.
 - MANUFACTURER PROVIDED.
 - PROVIDE ALL WIRE AND CONDUIT FOR A COMPLETE SYSTEM PER MANUFACTURERS REQUIREMENTS.

REV. NO.	DATE	DRWN	CHKD	REMARKS
1	06/04/24	JH	JF	ADDENDUM NO.3

DESIGNED BY: J.FELGER
 DRAWN BY: J.MEAM
 SHEET CHK'D BY: G.LUKE
 CROSS CHK'D BY: G.LUKE
 APPROVED BY: G.LUKE
 DATE: APRIL, 2024

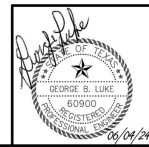
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 TBE Firm Registration No. F-3043

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 email: gai@georgeandassociates.com

BRYAN STILL CREEK
WASTEWATER TREATMENT PLANT
IMPROVEMENTS

ELECTRICAL
GREASE FACILITY
RISER DIAGRAM - I

PROJECT NO. 2381-284648
 FILE NAME: EG-4.DWG
 SHEET NO. EG-4





11490 Westheimer Rd., Suite 700
Houston, Texas 77077
tel: 713-423-7300
fax: 281-589-8295

June 27, 2024

Mr. Mark Jurica
Treatment and Compliance Manager
City of Bryan
205 E. 28th Street
Bryan, TX 77803

Subject: Still Creek Wastewater Treatment Plant (WWTP) Improvements Project
Recommendation of Award

Dear Mr. Jurica:

CDM Smith has completed the review of the public bids for construction of the Still Creek WWTP Improvements Project. On June 19th, 2024, a single Bid was received and opened by the City of Bryan for the subject project.

- Teal Services LLC. Total Base Bid Amount was **\$6,061,300.00**
- The Engineer's Opinion of Probable Construction Cost was **\$5,711,000**

The bidder supplied a bid bond or security in the amount of 5 percent of the Total Base Bid Amount, which was retained by City staff at the bid opening. The bidder acknowledged receipt of Addenda Nos. 1-4.

Teal Construction Company provided the following information as required by the Bid Documents:

- Bid Form per Section 00300, Addendum No. 4
- Bid Security per Section 00300
- Statement of Bidders Experience per Section 00400

CDM Smith reviewed the documentation submitted by Teal Services LLC. and finds them to be a qualified bidder to perform the work as outlined in the contract documents. While their largest reference project is less than the total value of this contract, there are three major elements to this project and taken individually, each one is of similar size and scope as the work included in the reference projects. Teal Services LLC is planning to use Subcontractors to perform portions of the work on this project that successfully executed work of similar scope on a previous improvements project at the Burton Creek WWTP. Therefore, CDM Smith recommends that the subject contract be awarded to Teal Services LLC. in the amount of **\$6,061,300.00**.





Mr. Mark Jurica
June 27, 2024
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Should you have any questions or require additional information, please contact me at any time.

Very truly yours,

A handwritten signature in black ink, appearing to read "Monica Stiggins".

Monica Stiggins, P.E.
Project Manager
CDM Smith Inc.
TBPE Firm Registration No. F-3043