



City of Bonner Springs

KANSAS

Monday, June 27, 2022

200 East Third Street, Bonner Springs, KS 66012
Bonner Springs City Hall
Council Chambers

WORKSHOP MEETING - 6:45 p.m.

REGULAR CITY COUNCIL MEETING - 7:30 p.m.

**We will follow safety precautions recommended by the Centers for Disease Control and Prevention,
the Kansas Department of Health and Environment, and local health officers.
Attendees are strongly encouraged to wear masks.**

WORKSHOP - 6:45 PM

1. Budget Workshop

Action

Staff will review Revenue Projections, Organizational & Department Expenses, Revenue Neutral Implications, and next steps in FY23 Budget development and approval.

Recommendation

Documents:

1. ASSESSED VALUE 2023
2. WyCo Valuations
3. JoCo Valuations
4. LvCo Valuations

CITY COUNCIL MEETING - 7:30 P.M.

PRESENTATIONS

1. Proclamation - Parks and Recreation Month

Action

Recommendation

Documents:

CITIZEN CONCERNS ABOUT ITEMS NOT ON TODAY'S AGENDA. (COPIES OF MATERIAL PRESENTED TO THE CITY COUNCIL MUST ALSO BE PROVIDED TO THE CITY CLERK.)

This item is for comments and questions from the audience about items that are not included on today's agenda.

CONSENT AGENDA

1. Minutes of the June 13, 2022 City Council Meeting

Action

Make a motion to approve the minutes as presented.

Recommendation

Documents:

1. 06132022 CCM Minutes

2. Claims for City Operations

Action

Make a motion to approve the Claims for City Operations.

Recommendation

Staff recommends approval.

Documents:

1. SUPPLEMENT CHECK RUN
2. SUPPLEMENT EXPENSE APPROVAL REPORT
3. MAIN CHECK REGISTER
4. MAIN EXPENSE APPROVAL REPORT

OLD BUSINESS

NEW BUSINESS

1. Wyandotte County Health Review of ARPA Funded Programs

Action

Informational Only

Recommendation

Documents:

2. Acquisition of Real Property

Action Make a motion to approve the acquisition of 11600 Kaw Drive for an amount not to exceed \$149,900 and authorize the City Manager to execute all required transaction paperwork for sale of the property to the City of Bonner Springs.

Recommendation Recommend approval

Documents:

3. American Rescue Plan Act (ARPA) Funds for the Water Treatment Plant Project

Action Make a motion to approve the use of the 2022 ARPA funds for the payment of a portion of the Water Treatment Plant Project.

Recommendation Recommend approval.

Documents:

4. KDHE Water Plant Loan Agreement Amendment Ordinance

Action Make a motion to adopt an ordinance approving the State Revolving Fund agreement amendment with the KDHE, increasing the loan amount from \$22 million to \$30 million for water treatment facilities and authorizing the Mayor to execute the agreement.

Recommendation Public Works Director Frank Abart recommends approval.

Documents:

1. KDHE Loan Agreement Amendment
2. KDHE Loan Agreement Ordinance

5. Water Treatment Facility Project

Action Make a motion to approve the contract with Burns McDonnell-CAS Constructors, LLC in the amount of \$29,187,812 and authorize the Mayor to execute all associated documents.

Recommendation The Public Works Director recommends approval.

Documents:

1. Bonner Springs WTP DB Contract 6_21_22 - Without Preliminary Drawings
2. 4.a Exhibit C - Bonner Springs WTP Complete Set_061522

6. North Park Restroom Purchase

Action Make a motion to approve the purchase of a pre-fabricated restroom through CXT, Inc., for the amount of \$74,005.

Recommendation The Recreation Manager recommends approval.

Documents:

1. Proposed NP RR
2. Board Resolutions
3. Comment and Review-Restroom 081721
4. CXT Contract 081721
5. Proof of Publication-Restroom 081721_0
6. Prop. Eval.-Restroom 081721
7. Prop. Opening Record-Restroom 081721

7. SFS Requests

Action Make a motion to approve or deny Agreement Amendment No. 6 providing additional funding to SFS Architecture in the amount of \$59,966 conditional on approval by the City Attorney.

Recommendation

Documents:

1. ltr.pederson. 05-13-2022 add services_R2
2. Allocation Letter - Bonner Springs GSC

3. CO Approved Requests
4. owner-arch AMENDMENT No 6

8. Public Use Request and Carnival Permit - Tiblow Days 2022

Action Make a motion to approve the public use request and carnival permit as presented.

Recommendation

Documents:

1. Public Use Request - Tiblow Days 2022

REPORTS

1. City Manager's Report

Action

Recommendation

Documents:

1. City Managers Update 6-24-22
2. InCode Building Permit Report
3. 6.22.22 Pending Project List
4. InCode Code Enforcement Report

2. City Council Items

Action

Recommendation

Documents:

Memorandum

Date: June 27, 2022
To: Mayor and City Council
From: Frank Abart

Subject: Water Treatment Facility Project

Recommendation: The Public Works Director recommends approval.

Action: Make a motion to approve the contract with Burns McDonnell-CAS Constructors, LLC in the amount of \$29,187,812 and authorize the Mayor to execute all associated documents.

Background: Goals: Replace Aging Water Facilities & Produce Soft Water

- Commencing in 2018, the City engaged Bartlett & West to provide an update to the City's Water Master Plan. The update consisted of review of existing water treatment, distribution, and capacity/supply currently provided by the City of Bonner Springs. Additionally, the updated Master Plan review of source options for water through both BPU and Water One. This process included review, input, and public engagement via online surveys, a Public Open House, and review/presentation at Planning Commission and City Council meetings. The updated Master Plan was formally approved by the City Council in 2019.
- In 2019, the City Council, following continued complications with the existing water plant, began the review of water plant alternatives. The study included a review softened water options with a new plant owned and operated by the City, as well as cost comparisons with wholesale purchasing via BPU (not softened) and WaterOne (softened). The study also researched funding mechanisms available to City. A public meeting workshop was held in June of 2020. At that time, City Council directed staff to pursue a project that would provide soft water and maintain the City's ability to produce water.
- In 2021, the City was awarded funding through the State Revolving Fund to finance the project.
- Detailed option reviews and evaluations took place in 2021 and 2022.
- Despite incredible economic pressures, completed a Phase I project plan that best meets the needs of the City in 2022
- Ready to consider a Design/Build Phase II Project Proposal

Discussion: Due to the pressing economic conditions and market volatility the contract pricing is subject to change in the event the Council determines a delay in approval is in the best interest of the City.

Financial Impact: The proposed project is intended to be funded by a State Revolving Fund (SRF) loan administered through Kansas Department of Health and Environment (KDHE).

The loan amount of \$30 million will utilize a fixed interest rate of 1.61% for a period of thirty (30) years.

The payments will be made twice per year at the amount of \$632,404.13 (\$1,264,808.26 annual payment). The first year with payment obligation is 2025.

The Financial Plan also includes use of the second ARPA payment of \$603,263.98 which was received on June 13, 2022.



STANDARD FORM OF AGREEMENT BETWEEN OWNER AND DESIGN-BUILDER - LUMP SUM

AS MODIFIED BY THE PARTIES

Document No. 525

Second Edition, 2010

© Design-Build Institute of America

Washington, DC



Standard Form of Agreement Between Owner and Design-Builder - Lump Sum

*This document has important legal consequences. Consultation with
an attorney is recommended with respect to its completion or modification.*

This **AGREEMENT** is made as of the _____ day of _____ in the year of 2022, by and between the following parties, for services in connection with the Project identified below.

OWNER:

(Name and address) City of Bonner Springs, Kansas
200 E. 3rd Street
Bonner Springs KS 66012

DESIGN-BUILDER:

(Name and address) Burns & McDonnell / CAS Constructors, Bonner Springs Joint Venture
9400 Ward Parkway
Kansas City, Missouri 64114

PROJECT:

Bonner Springs Water Supply and Treatment Project
Bonner Springs, Kansas

In consideration of the mutual covenants and obligations contained herein, Owner and Design-Builder agree as set forth herein.

Article 1

Scope of Work

1.1 Design-Builder shall perform or furnish all design and construction services, and provide all material, equipment, tools and labor, necessary to complete the Work described in the Contract Documents.

Article 2

Contract Documents

2.1 The Contract Documents are comprised of the following:

.1 All written modifications, amendments, minor changes and Change Orders to this Agreement issued in accordance with DBIA Document No. 535, *Standard Form of General Conditions of Contract Agreement Between Owner and Design-Builder* (2010 Edition) **Exhibit A** as modified by the Parties ("General Conditions of Contract");

.2 This Agreement

.3 Construction Documents prepared and approved in accordance with Section 2.4 of the General Conditions of Contract

.4 The Basis of Design Documents, including:

A. Exhibit B - Basis of Design Report

B. Exhibit C – Preliminary Drawings

C. Exhibit D - Work Description which includes Allowance Items

.5 **Exhibit E**- KDHE Contract Provisions (as required for SRF Projects)

.6 The Following, which may be delivered, prepared or issued after the effective date of this Agreement and are Attached as draft hereto:

A. Exhibit F- Performance and Payment Bonds and Kansas Statutory Bond.

Article 3

Interpretation and Intent

3.1 Design-Builder and Owner, prior to execution of the Agreement, shall carefully review all the Contract Documents, including the various documents comprising the Basis of Design Documents for any conflicts or ambiguities. Design-Builder and Owner will discuss and resolve any identified conflicts or ambiguities prior to execution of the Agreement.

3.2 The Contract Documents are intended to permit the parties to complete the Work and all obligations required by the Contract Documents within the Contract Time(s) for the Contract Price. The Contract Documents are intended to be complementary and interpreted in harmony so as to avoid conflict, with words and phrases interpreted in a manner consistent with construction and design industry standards. In the event inconsistencies, conflicts, or ambiguities between or among the Contract Documents are discovered after execution of the Agreement, Design-Builder and Owner shall attempt to resolve any ambiguity, conflict or inconsistency informally, recognizing that the Contract Documents shall take precedence in the order in which they are listed in Section 2.1 hereof. Conflicts existing within Section 2.1.4 shall be resolved by giving precedence first to the Work Description.

3.3 Terms, words and phrases used in the Contract Documents, including this Agreement, shall have the meanings given them in the General Conditions of Contract.

3.4 For any information, data, or specification provided or furnished by Owner: (a) Design-Builder is entitled to reasonably rely on the accuracy of the data information or specification provided or furnished and their compatibility with any design performance specifications; and (b) Design-Builder shall be entitled to an adjustment in its Contract Price and/or Contract Time(s) to the extent Design-Builder's cost and/or time of performance have been adversely impacted by such inaccurate design specification.

3.5 The Contract Documents form the entire agreement between Owner and Design-Builder and by incorporation herein are as fully binding on the parties as if repeated herein. No oral representations or other agreements have been made by the parties except as specifically stated in the Contract Documents.

3.6 In the event of some ambiguity in the Contract Documents, the parties shall be deemed to have jointly authored them and nothing shall be construed against or in favor of one party based on it being deemed the sole author.

Article 4

Ownership of Work Product

4.1 Work Product. All drawings, specifications and other documents and electronic data, including such documents identified in the General Conditions of Contract, furnished by Design-Builder to Owner under this Agreement ("Work Product") are deemed to be instruments of service and Design-Builder shall retain the ownership and property interests therein, including but not limited to any intellectual property rights, copyrights and/or patents, including any Architectural Works, subject to the provisions set forth in Sections 4.2 through 4.5 below.

4.2 Owner's Limited License Upon Project Completion and Payment in Full to Design Builder. Upon Owner's payment in full for all Work performed under the Contract Documents, Design-Builder shall grant Owner a limited license to use the Work Product in connection with Owner's occupancy of this Project only, conditioned on Owner's express understanding that its alteration of the Work Product without the involvement of Design-Builder is at Owner's sole risk and without liability or legal exposure to Design-Builder or anyone working by or through Design-Builder, including Design Consultants of any tier (collectively the "Indemnified Parties"), and on the Owner's obligation to provide the indemnity set forth in Section 4.5 herein. The Work Product cannot be used for other projects without Design-Builder's express written consent and appropriate compensation and agreement on terms of use and indemnity.

4.3 Owner's Limited License upon Owner's Termination for Convenience or Design-Builder's Election to Terminate. If Owner terminates this Agreement for its convenience as set forth in Article 8 hereof, or if Design-Builder elects to terminate this Agreement in accordance with Section 11.4 of the General

Conditions of Contract, Design-Builder shall, upon Owner's payment in full of the amounts due Design-Builder under the Contract Documents, grant Owner a limited license to use the Work Product to complete the Project and subsequently occupy the Project, and Owner shall thereafter have the same rights as set forth in Section 4.2 above, conditioned on the following:

.1 Use of the Work Product is at Owner's sole risk without liability or legal exposure to any Indemnified Party and on the Owner's obligation to provide the indemnity set forth in Section 4.5 herein.

4.4 Owner's Limited License upon Design-Builder's Default. If this Agreement is terminated due to Design-Builder's default pursuant to Section 11.2 of the General Conditions of Contract, then Design-Builder grants Owner a limited license to use the Work Product to complete the Project and subsequently occupy the Project, and Owner shall thereafter have the same rights and obligations as set forth in Section 4.2 above. Notwithstanding the preceding sentence, if it is ultimately determined that Design-Builder was not in default, Owner shall be deemed to have terminated the Agreement for convenience, and Design-Builder shall be entitled to the rights and remedies set forth in Section 4.3 above.

4.5 Owner's Indemnification for Use of Work Product. If Owner is required to indemnify any Indemnified Parties based on the use or alteration of the Work Product under any of the circumstances identified in this Article 4, Owner shall defend, indemnify and hold harmless the Indemnified Parties from and against any and all claims, damages, liabilities, losses and expenses, including attorneys' fees, arising out of or resulting from the use or alteration of the Work Product.

4.6 Submission or distribution to meet official regulatory requirements or for other purposes in connection with the Project is not to be construed as publication in derogation of the Design-Builder's rights.

4.7 The Owner shall not utilize the Documents, designs, or specifications furnished by Design-Builder to solicit bids or obtain negotiated prices from other contractors.

4.8 This Article 4 shall survive any termination of this Agreement by either Party.

Article 5

Contract Time

5.1 Date of Commencement. The parties agree that the Owner will issue a notice to proceed for the Work related to the wellfield and treatment facility site currently owned by the Owner no later than July 11, 2022. Work related to the wellfield and treatment facility site currently owned by the Owner shall commence within five (5) calendar days of Design-Builder's receipt of Owner's Notice to Proceed provided that KDHE's acceptance of the Basis of Design Report and any permits, regulatory approvals, property and easement acquisitions required to commence construction have been obtained by Owner("Date of Commencement"), unless the parties mutually agree otherwise in writing. Delay in any of the foregoing shall entitle the Design-Builder to an adjustment in Contract Time and Contract Price to the extent either is impacted.

Work related to the Lake of the Forest pipeline and booster pump station, outside of the treatment facility site, shall commence within one hundred (100) calendar days of Design-Builder's receipt of Owner's Notice to Proceed provided that KDHE's acceptance of the Basis of Design Report and any permits, regulatory approvals, property and easement acquisitions required to commence construction have been obtained by Owner("Date of Commencement"), unless the parties mutually agree otherwise in writing. Delay in any of the foregoing shall entitle the Design-Builder to an adjustment in Contract Time and Contract Price to the extent either is impacted.

5.2 Substantial Completion and Final Completion

.1 Substantial Completion of the entire Work shall be achieved no later than seven hundred eighty (780) calendar days after the Date of Commencement ("Scheduled Substantial Completion Date"). Substantial Completion shall be defined as set out in the General Conditions.

.2 Interim milestones and/or Substantial Completion of identified portions of the Work shall be achieved as follows:

None.

.3 Final Completion of the Work or identified portions of the Work shall be achieved as expeditiously as reasonably practicable. Final Completion is the date when all Work is complete pursuant to the definition of Final Completion set forth in Section 1.2.7 of the General Conditions of Contract.

.4 All of the dates set forth in this Article 5 ("Contract Time(s)") shall be subject to adjustment in accordance with the General Conditions of Contract.

.5 If the Design-Builder is delayed in the progress of this Project by acts or neglect by the Owner, its employees, separate contractors employed by Owner, or by its separate contractors or subcontractors employed by the tenant, governmental action, or by change orders in the Work not caused in any part by the fault, negligence or omissions of the Design-Builder; then the Contract Time for completion shall be extended, and the Contract Price shall be equitably adjusted by a written Change Order.

.6 Where the Design-Builder reasonably establishes that delays as set forth above or that are caused by shortage of labor, strikes, lockout, tornado, flood, wind damage, fire, unusual delay in transportation, adverse weather, explosion, sabotage, accidents, riots, civil commotion, acts of war, casualty, condemnation, epidemic, pandemic, public health emergency, supply chain disruption, acts, omissions, of failure to act by governmental entities or agencies, or other Force Majeure beyond the Design-Builder's reasonable control impact the cost and/or Contract Time, the Design-Builder shall be entitled to recover all extra costs and an appropriate extension of the Contract Time. Design-Builder shall provide written notice of the existence of such cause of delay, together with back-up documentation that verifies the impact.

.7 For purposes of determining weather delays, adverse weather days shall also include those days when site conditions are such that Work cannot be performed, or cannot be performed efficiently, due to adverse weather on the preceding day or days (including a weekend) which impact site conditions.

5.3 Time . Owner and Design-Builder mutually agree that time is material with respect to the dates and times set forth in the Contract Documents.

5.4 Liquidated Damages. Design-Builder understands that if Substantial Completion is not attained by the Scheduled Substantial Completion Date in Section 5.2.1, above, Owner will suffer damages which are difficult to determine and accurately specify. Design-Builder agrees that if Substantial Completion is not attained by the Scheduled Substantial Completion Date (the "LD Date"), Designer-Builder shall pay Owner One Thousand Six Hundred Dollars (\$1,600.00) as liquidated damages for each day that Substantial Completion extends beyond the LD Date.

5.5 Any liquidated damages assessed pursuant to this Agreement shall be in lieu of all liability for any and all extra costs, losses, expenses, claims, penalties and any other damages, whether special or consequential, and of whatsoever nature incurred by Owner which are occasioned by any delay in achieving Substantial Completion, Interim Milestone Dates or Final Completion.

.1 Owner and Design-Builder agree that the maximum aggregate liability Design-Builder has for any liquidated damages that may be assessed under this Agreement shall be One Hundred Sixty Thousand Dollars (\$160,000.00).

5.6 Early Completion Bonus. Not Used

5.7 In addition to Design-Builder's right to a time extension for those events set forth in Section 8.2.1 of the General Conditions of Contract, Design-Builder shall also be entitled to an appropriate adjustment of the Contract Price for those events set forth in Section 8.2.1 of the General Conditions of Contract.

Article 6

Contract Price

6.1 Contract Price. Owner shall pay Design-Builder in accordance with Article 6 of the General Conditions of Contract the sum of Twenty-Nine Million One Hundred Eighty-Seven Thousand Eight Hundred Twelve Dollars (\$ 29,187,812.00) ("Contract Price"), subject to adjustments made in accordance with the General Conditions of Contract. Unless otherwise provided in the Contract Documents, the Contract Price is deemed to include all sales, use, consumer and other taxes mandated by applicable Legal Requirements.

The Contract Price includes the Allowances set forth in Exhibit C Allowance Items.

6.2 Markups for Changes. If the Contract Price requires an adjustment due to changes in the Work, and the cost of such changes is determined under Sections 9.4.1.3 or 9.4.1.4 of the General Conditions of Contract, the following markups shall be allowed on such changes:

.1 For additive Change Orders, including additive Change Orders arising from both additive and deductive items, it is agreed that Design Builder shall receive a mark-up of not more than ten percent (10%) for overhead and not more than fifteen percent (15%) for profit on the additional costs incurred for that Change Order. In addition to mark-up for Fee, Design-Builder shall be entitled to mark-up for insurance and bond (if bonded Project) in an amount of two and one-half percent (2.5%). Neither Design-Builder's Fee nor insurance and bond shall be reduced due to deductive Change Orders issued by the Owner.

.2 For deductive Change Orders, including deductive Change Orders arising from both additive and deductive items, the deductive amounts shall include no additional reduction to account for Design-Builder's Fee or any other markup.

6.3 Allowance Items and Allowance Values

.1 Any and all Allowance Items, as well as their corresponding Allowance Values, are set forth in **Exhibit D - Work Description** which includes Allowance Items.

.2 Design-Build and Owner have worked together to review the Allowance Items and Allowance Values based on design information then available to determine that the Allowance Values constitute reasonable estimates for the Allowance Items. Design-Build and Owner will continue working closely together during the preparation of the design to develop Construction Documents consistent with the Allowance Values. Nothing herein is intended in any way to constitute a guarantee by Design-Build that the Allowance Item in question can be performed for the Allowance Value.

.3 No work shall be performed on any Allowance Item without Design-Build first obtaining in writing advanced authorization to proceed from Owner. Owner agrees that if Design-Build is not provided written authorization to proceed by the date set forth in the Project schedule, due to no fault of Design-Build, Design-Build may be entitled to an adjustment of the Contract Time(s) and Contract Price.

.4 The Allowance Value includes the direct cost of labor, materials, equipment, transportation, taxes, design fees, Design-Build's overall project management and general conditions costs, overhead, profit, bonds and insurance associated with the applicable Allowance Item.

.5 Whenever the cost for an Allowance Item, including both direct and indirect cost, is more than or less than the stated Allowance Value, the Contract Price shall be adjusted accordingly by Change Order. The amount of the Change Order shall reflect the difference between actual cost, both direct and indirect cost, incurred by Design-Build for the particular Allowance Item and the Allowance Value.

6.4 Performance Incentives Not Used

Article 7

Procedure for Payment

7.1 Progress Payments

.1 Design-Build shall submit to Owner on the first (1st) day of each month, beginning with the first month after the Date of Commencement, Design-Build's Application for Payment in accordance with Article 6 of the General Conditions of Contract.

.2 Owner shall make payment within thirty (30) days after Owner's receipt of each properly submitted and accurate Application for Payment in accordance with Article 6 of the General Conditions of Contract, but in each case less the total of payments previously made, and less amounts properly withheld under Section 6.3 of the General Conditions of Contract.

7.2 Retainage on Progress Payments

.1 Owner will retain five percent (5%) of each Application for Payment, exclusive of amounts paid for design services, provided, however, that when fifty percent (50%) of the construction Work has been completed by Design-Build and Design-Build is otherwise in compliance with its contractual obligations, Owner will not retain any additional retention amounts from Design-Build's subsequent Applications for Payment. Owner will also reasonably consider reducing retainage for Subcontractors completing their work early in the Project. No retention will be held on account of design or professional services.

.2 Within fifteen (15) days after Substantial Completion of the entire Work or, if applicable, any portion of the Work, pursuant to Section 6.6 of the General Conditions of Contract, Owner shall release to Design-Builder all retained amounts relating, as applicable, to the entire Work or completed portion of the Work, less an amount equal to (a) the reasonable value of all remaining or incomplete items of Work as noted in the Certificate of Substantial Completion and (b) all other amounts Owner is entitled to withhold pursuant to Section 6.3 of the General Conditions of Contract.

7.3 Final Payment. Design-Builder shall submit its Final Application for Payment to Owner in accordance with Section 6.7 of the General Conditions of Contract. Owner shall make payment on Design-Builder's properly submitted and accurate Final Application for Payment within thirty (30) days after Owner's receipt of the Final Application for Payment, provided that Design-Builder has satisfied the requirements for final payment set forth in Section 6.7.2 of the General Conditions of Contract.

7.4 Interest. Payments due and unpaid by Owner to Design-Builder, whether progress payments or final payment, shall bear interest commencing five (5) days after payment is due at the rate of one and one-half percent (1.5%) per month until paid. In any legal action or arbitration by Design-Builder to recover amounts due and not paid, Design-Builder shall be permitted to recover its attorney's fees and costs from Owner.

7.5 Record Keeping and Finance Controls. With respect to changes in the Work performed on a cost basis by Design-Builder pursuant to the Contract Documents, Design-Builder shall keep full and detailed accounts and exercise such controls as may be necessary for proper financial management, using accounting and control systems in accordance with generally accepted accounting principles and as may be provided in the Contract Documents. During the performance of the Work and for a period of three (3) years after Final Payment, Owner and Owner's accountants shall be afforded access to, and the right to audit from time to time, upon reasonable notice, Design-Builder's records, books, correspondence, receipts, subcontracts, purchase orders, vouchers, memoranda and other data relating to changes in the Work performed on a cost basis in accordance with the Contract Documents, all of which Design-Builder shall preserve for a period of one (1) years after Final Payment. Such inspection shall take place at Design-Builder's offices during normal business hours unless another location and time is agreed to by the parties. Any lump sum, hourly rates, multipliers or markups agreed to by the Owner and Design-Builder as part of this Agreement are only subject to audit to confirm that such lump sum, multiplier or markup has been charged in accordance with this Agreement, but the composition of such lump sum, multiplier or markup is not subject to audit. Such inspection shall take place at Design-Builder's offices during normal business hours unless another location and/or time is agreed by the parties.

Article 8

Termination for Convenience

8.1 Upon ten (10) days' written notice to Design-Builder, Owner may, for its convenience and without cause, elect to terminate this Agreement. In such event, Owner shall pay Design-Builder for the following:

.1 All Work executed and for loss, cost or expense in connection with the Work;

.2 The reasonable costs and expenses attributable to such termination, including demobilization costs and amounts due in settlement of terminated contracts with Subcontractors and Design Consultants; and the fair and reasonable sums for overhead and profit on the sum of items .1 and .2 above.

8.2 Not used

8.3 If Owner terminates this Agreement pursuant to Section 8.1 above and proceeds to design and construct the Project through its employees, agents or third parties, Owner's rights to use the Work Product shall be as set forth in Section 4.3 hereof. Such rights may not be transferred or assigned to others without Design-Builder's express written consent and such third parties' agreement to the terms of Article 4.

Article 9

Representative of the Parties

9.1 Owner's Representatives

.1 Owner designates the individual listed below as its Senior Representative ("Owner's Senior Representative"), which individual has the authority and responsibility for avoiding and resolving disputes under Section 10.2.3 of the General Conditions of Contract

Name: Frank Abart
Title: Public Works Director
Address: 200 E 3rd St.
Bonner Springs, KS 66012
Telephone No.: (913) 441-1961
E-mail.: fabart@bonnersprings.org

.2 Owner designates the individual listed below as its Owner's Representative, which individual has the authority and responsibility set forth in Section 3.4 of the General Conditions of Contract:

Name: Matt Beets
Title: Deputy Public Works Director
Address: 200 E 3rd St.
Bonner Springs, KS 66012
Telephone No.: (913) 441-1961
E-mail.: mbeets@bonnersprings.org

9.2 Design-Builder's Representatives

.1 Design-Builder designates the individual listed below as its Senior Representative ("Design-Builder's Senior Representative"), which individual has the authority and responsibility for avoiding and resolving disputes under Section 10.2.3 of the General Conditions of Contract:

Name: Travis Stryker
Title: JV Authorized Representative
Address: 9400 Ward Parkway
Kansas City, MO 64114
Telephone No.: (785) 270-1142
E-mail.: travis.stryker@casconstructors.com

.2 Design-Builder designates the individual listed below as its Design-Builder's Representative, which individual has the authority and responsibility set forth in Section 2.1.1 of the General Conditions of Contract:

Name: Darin Brickman
Title: JV Authorized Representative

Address: 9400 Ward Parkway
Kansas City, MO 64114
Telephone No.: (816) 822-3344
E-mail: dbrickman@burnsmcd.com

Article 10

Bonds and Insurance

10.1 Insurance. Design-Builder shall procure the insurance coverages set forth below and in accordance with Article 5 of the General Conditions of Contract.

TYPE:

1. Worker's Compensation Insurance

REQUIRED LIMITS:

Statutory Amount

2. Employer's Liability

\$1,000,000 policy limit
\$1,000,000 each accident
\$1,000,000 each employee by
disease

3. Commercial General Liability (CGL)

General Aggregate:	\$2,000,000
Completed Operations Aggregate:	\$2,000,000
Limit Per Occurrence:	\$2,000,000

4. Automobile Liability: (Hired, Owned and Non-owned Included)
Combined Single Limit per Accident

\$2,000,000

5. All-Risk Builder's Risk: Limits equal to the Completed Value of Project Work. This policy shall be in place during construction of the Work until Substantial Completion of the Work. Owner is responsible for deductible amounts.

6. Professional Liability

\$1,000,000 per claim and
in the annual aggregate.

10.2 Bonds. Design-Builder shall provide the following performance bond and labor and material payment bond.

Performance Bond.

☒ Required ☐ Not Required

Payment Bond and Kansas Statutory Bond.

☒ Required ☐ Not Required

Article 11

Other Provisions

11.1 Other provisions, if any, are as follows:

.1 Where this Agreement is entered into subsequent to the Design-Builder beginning performance of the Work for the Project including, preconstruction services provided under the Preliminary Design-Build Agreement, the parties acknowledge and agree that this Agreement is intended to and shall govern all Work provided by the Design-Builder for the Project, whether initiated or performed prior or subsequent to the execution of this Agreement, and that this Agreement is intended to and shall supersede and replace any and all prior agreements whether written or oral for the subject matter set forth in this Agreement.

11.2 Special Provisions

.1 Owner shall furnish the services of a land surveyor and a geotechnical engineer for design purposes and shall pass on the results of such services to Design-Builder at no added cost, upon which information Design-Builder and its Design Consultants are entitled to rely for completeness and accuracy. Design-Builder shall inform Owner of the number and location of necessary soil borings.

. 2 Owner acknowledges that if conditions at the site differ from those shown the survey and soils report, such costs shall be in addition to the Contract Price. The Contract Price premised on the assumption that the earthwork will not require rock removal or blasting, that the soil is suitable for use as-is without additional soil stabilization, flyash, geofabric membrane or surcharging. If such assumption proves to be incorrect based actual site conditions, the added cost shall be reimbursable as a Change Order.

Article 12

Limitation of Liability

12.1 Limitation. To the fullest extent permitted by law, and notwithstanding any other provision of this Agreement, the total liability, in the aggregate, of Design-Builder, its Design Consultants and Subcontractors, surety (if any) and their respective officers, directors, employees, and agents, and any of them, to Owner and anyone claiming by, through or under Owner, for any and all claims, losses, liabilities, costs, or damages whatsoever arising out of, resulting from or in any way related to the Project or this Agreement from any cause, including but not limited to the negligence, indemnity, professional errors or omissions, strict liability, breach of contract, or warranty (express or implied) shall not exceed the total compensation actually received by Design-Builder under this Agreement. The parties agree that specific consideration has been given by the Design-Builder for this limitation and that it is deemed adequate.

In executing this Agreement, Owner and Design-Builder each individually represents that it has the necessary financial resources to fulfill its obligations under this Agreement, and each has the necessary corporate approvals to execute this Agreement, and perform the services described herein.

OWNER:

City of Bonner Springs, Kansas

(Signature)

(Printed Name)

(Title)

Date: _____

DESIGN-BUILDER:

Burns & McDonnell / CAS Constructors, Bonner
Springs Joint Venture.

(Signature)

(Printed Name)

(Title)

Date: _____

Exhibit A

General Conditions, DBIA Doc. No. 535, as
modified by the Parties



STANDARD FORM OF GENERAL CONDITIONS OF CONTRACT BETWEEN OWNER AND DESIGN-BUILDER

AS MODIFIED BY THE PARTIES

Document No. 535

Second Edition, 2010

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Washington, DC



Standard Form of General Conditions of Contract Between Owner and Design-Builder

This document has important legal consequences. Consultation with an attorney is recommended with respect to its completion or modification.

Table of Contents

Article 1:	General
Article 2:	Design-Builder's Services and Responsibilities
Article 3:	Owner's Services and Responsibilities
Article 4:	Hazardous Conditions and Differing Site Conditions
Article 5:	Insurance and Bonds
Article 6:	Payment
Article 7:	Indemnification
Article 8:	Time
Article 9:	Changes to the Contract Price and Time
Article 10:	Contract Adjustments and Disputes
Article 11:	Stop Work and Termination for Cause
Article 12:	Electronic Data
Article 13:	Miscellaneous

Article 1

General

1.1 Mutual Obligations

.1 *Owner and Design-Builder* commit at all times to cooperate fully with each other, and proceed on the basis of trust and good faith, to permit each party to realize the benefits afforded under the Contract Documents.

1.2 Basic Definitions

.1 *Agreement* refers to the executed contract between Owner and Design-Builder under either DBIA Document No. 525, *Standard Form of Agreement Between Owner and Design-Builder Lump Sum* (2010 Edition), as modified by the parties.

.2 *Basis of Design Documents* are as follows: For DBIA Document No. 525, *Standard Form of Agreement Between Owner and Design-Builder, Lump Sum*, , the Basis of Design Documents are those documents specifically listed in the Agreement.

.3 *Construction Documents* are the documents, consisting of Drawings and Specifications, to be prepared, furnished, or assembled by the Design-Builder consistent with the Agreement.

.4 *Day or Days* shall mean calendar days unless otherwise specifically noted in the Contract Documents.

.5 *Design-Build Team* is comprised of the Design-Builder, the Design Consultant, and key Subcontractors identified by the Design-Builder.

.6 *Design Consultant* is a qualified, licensed design professional who may be an employee of Design-Builder, or who is retained by Design-Builder, or employed or retained by anyone under contract with Design-Builder, to furnish design services required under the Contract Documents. A Design Sub-Consultant is a qualified, licensed design professional who is not an employee of the Design Consultant, but is retained by the Design Consultant or employed or retained by any one under contract to Design Consultant, to furnish design services required under the Contract Documents. Owner recognizes that Design-Builder is an integrated company with in-house design capabilities and that the function of Design Consultant may be self-performed by Design-Builder.

.7 *Final Completion* is the date on which all Work is complete in accordance with the Contract Documents, including but not limited to, any items identified in the punch list prepared under Section 6.6.1 and the submission of all documents set forth in Section 6.7.2.

.8 *Force Majeure Events* are those events that are beyond the control of both Design-Builder and Owner, including the events of war, terrorism, vandalism, floods, labor disputes, earthquakes, epidemics, pandemics, public health emergency, quarantines, protest, civil unrest or disturbance, action or inaction by any governmental authority, disruption in supply chains, adverse weather conditions not reasonably anticipated, and other acts of God.

.9 *General Conditions of Contract* refer to this DBIA Document No. 535, *Standard Form of General Conditions of Contract Between Owner and Design-Builder* (2010 Edition), as modified by the parties.

.10 Not Used

.11 Not Used .

.12 *Hazardous Conditions* are any materials, wastes, substances and chemicals deemed to be hazardous under applicable Legal Requirements, or the handling, storage, remediation, or disposal of which are regulated by applicable Legal Requirements.

.13 *Legal Requirements* are all applicable federal, state and local laws, codes, ordinances, rules, regulations, orders and decrees of any government or quasi-government entity having jurisdiction over the Project or Site, the practices involved in the Project or Site, or any Work.

.14 *Owner's Project Criteria Not Used*

.15 *Site* is the land or premises on which the Project is located.

.16 *Subcontractor* is any person or entity retained by Design-Builder as an independent contractor to perform a portion of the Work and shall include materialmen and suppliers and shall not include the Design Consultants retained by the Design-Builder.

.17 *Sub-Subcontractor* is any person or entity retained by a Subcontractor as an independent contractor to perform any portion of a Subcontractor's Work and shall include materialmen and suppliers.

.18 *Substantial Completion* or Substantially Complete means the date on which the Work, or an agreed upon portion of the Work, is sufficiently complete in accordance with the Contract Documents so that Owner can use the Project or a portion thereof for its intended purposes.

.19 *Work* is comprised of all Design-Builder's design, construction and other services required by the Contract Documents, including procuring and furnishing all materials, equipment, services and labor reasonably inferable from the Contract Documents.

Article 2

Design-Builder's Services and Responsibilities

2.1 General Services

.1 Design-Builder's Representative shall be reasonably available to Owner and shall have the necessary experience required to supervise the Work. Design-Builder's Representative shall communicate regularly with Owner and shall be vested with the authority to act on behalf of Design-Builder. Design-Builder's Representative may be replaced only with the mutual agreement of Owner and Design-Builder, which shall not be unreasonably withheld by the Owner. It is understood and accepted that Design-Builder does not plan to have a full-time, on-site Superintendent or Project Manager until amount of Work on site warrants that level of presence on site.

.2 Design-Builder shall provide Owner with a monthly status report detailing the progress of the Work, including whether (i) the Work is proceeding according to schedule, (ii) discrepancies, conflicts, or ambiguities exist in the Contract Documents that require resolution, (iii) health and safety issues exist in connection with the Work; and (iv) other items that require resolution so as not to jeopardize Design-Builder's ability to complete the Work for the Contract Price and within the Contract Time(s).

.3 Unless a schedule for the execution of the Work has been attached to the Agreement as an exhibit at the time the Agreement is executed, Design-Builder shall prepare and submit, at least three (3) days prior to the meeting contemplated by Section 2.1.4 hereof, a schedule for the execution of the Work for Owner's review and response. The schedule shall indicate the dates for the start and completion of the various stages of Work, including the dates when Owner information and approvals are required to enable Design-Builder to achieve the Contract Time(s). The

schedule shall be revised as required by conditions and progress of the Work, but such revisions shall not relieve Design-Builder of its obligations to complete the Work within the Contract Time(s), as such dates may be adjusted in accordance with the Contract Documents. Owner's review of, and response to, the schedule shall not be construed as relieving Design-Builder of its complete and exclusive control over the means, methods, sequences and techniques for executing the Work.

.4 The parties will meet within seven (7) days after execution of the Agreement to discuss issues affecting the administration of the Work and to implement the necessary procedures, including those relating to submittals and payment, to facilitate the ability of the parties to perform their obligations under the Contract Documents.

2.2 Design Professional Services

.1 Design-Builder shall, consistent with applicable state licensing laws, provide through qualified, licensed design professionals employed by Design-Builder, or procured from qualified, independent licensed Design Consultants, the necessary design services, including architectural, engineering and other design professional services, for the preparation of the required drawings, specifications and other design submittals to permit Design-Builder to complete the Work consistent with the Contract Documents. Nothing in the Contract Documents is intended or deemed to create any legal or contractual relationship between Owner and any Design Consultant.

2.3 Standard of Care for Design Professional Services

.1 The standard of care for all design professional services performed to execute the Work shall be the care and skill ordinarily used by members of the design profession practicing under similar conditions at the same time and locality of the Project.

2.4 Design Development Services

.1 Design-Builder and Owner shall, consistent with any applicable provision of the Contract Documents, agree upon any interim design submissions that Owner may wish to review, which interim design submissions may include design criteria, drawings, diagrams and specifications setting forth the Project requirements. Interim design submissions shall be consistent with the Basis of Design Documents, as the Basis of Design Documents may have been changed through the design process set forth in this Section 2.4.1. On or about the time of the scheduled submissions, Design-Builder and Owner shall meet and confer about the submissions, with Design-Builder identifying during such meetings, among other things, the evolution of the design and any changes to the Basis of Design Documents, or, if applicable, previously submitted design submissions. Changes to the Basis of Design Documents, including those that are deemed minor changes under Section 9.3.1, shall be processed in accordance with Article 9. Minutes of the meetings, including a full listing of all changes, will be maintained by Design-Builder and provided to all attendees for review. Following the design review meeting, Owner shall review and approve the interim design submissions and meeting minutes in a time that is consistent with the turnaround times set forth in Design-Builder's schedule.

.2 Design-Builder shall submit to Owner Construction Documents setting forth in detail drawings and specifications describing the requirements for construction of the Work. The Construction Documents shall be consistent with the latest set of interim design submissions, as such submissions may have been modified in a design review meeting and recorded in the meetings minutes. The parties shall have a design review meeting to discuss, and Owner shall review and approve, the Construction Documents in accordance with the procedures set forth in Section 2.4.1 above. Design-Builder shall proceed with construction in accordance with the approved Construction Documents and shall submit one set of approved Construction Documents to Owner prior to commencement of construction.

.3 Owner's review and approval of interim design submissions, meeting minutes, and the Construction Documents is for the purpose of mutually establishing a conformed set of Contract

Documents compatible with the requirements of the Work. Neither Owner's review nor approval of any interim design submissions, meeting minutes, and Construction Documents shall be deemed to transfer any design liability from Design-Builder to Owner.

.4 To the extent not prohibited by the Contract Documents or Legal Requirements, Design-Builder may prepare interim design submissions and Construction Documents for a portion of the Work to permit construction to proceed on that portion of the Work prior to completion of the Construction Documents for the entire Work.

.5 Upon completion of the Design Development Phase, the Design-Builder shall provide the Owner with drawings, outline specifications and other documents for written acceptance by the Owner. Owner shall provide written approval and / or comments within ten (10) working days of the receipt of the same.

2.5 Legal Requirements

.1 Design-Builder shall perform the Work in accordance with all Legal Requirements and shall provide all notices applicable to the Work as required by the Legal Requirements.

.2 The Contract Price and/or Contract Time(s) shall be adjusted to compensate Design-Builder for the effects of any changes in the Legal Requirements enacted after the date of the Agreement affecting the performance of the Work, or if a Guaranteed Maximum Price is established after the date of the Agreement, the date the parties agree upon the Guaranteed Maximum Price. Such effects may include, without limitation, revisions Design-Builder is required to make to the Construction Documents because of changes in Legal Requirements.

2.6 Government Approvals and Permits

.1 Design Builder shall apply for and obtain a City of Bonner Springs Building Permit, any fees levied by the Owner to issue such permit shall be waived. The Design-Builder shall obtain and pay for the Stormwater Pollution Prevention Permit State of Kansas. Owner shall obtain and pay for all other necessary permits, approvals, licenses, government charges and inspection fees required for the prosecution of the Work by any government or quasi-government entity having jurisdiction over the Project.

.2 Design-Builder shall provide reasonable assistance to Owner in obtaining those permits, approvals and licenses that are Owner's responsibility.

2.7 Design-Builder's Construction Phase Services

.1 Unless otherwise provided in the Contract Documents to be the responsibility of Owner or a separate contractor, Design-Builder shall provide through itself or Subcontractors the necessary supervision, labor, inspection, testing, start-up, material, equipment, machinery, temporary utilities and other temporary facilities to permit Design-Builder to complete construction of the Project consistent with the Contract Documents. Owner shall provide temporary water and sanitary sewer service at no charge to Design Builder.

.2 Design-Builder shall perform all construction activities efficiently and with the requisite skill and competence to satisfy the requirements of the Contract Documents. Design-Builder shall at all times exercise complete and exclusive control over the means, methods, sequences and techniques of construction.

.3 Design-Builder shall employ only Subcontractors who are duly licensed (where applicable) and qualified to perform the Work consistent with the Contract Documents. Owner may reasonably object to Design-Builder's selection of any Subcontractor, provided that the Contract Price and/or Contract Time(s) shall be adjusted to the extent that Owner's decision impacts Design-Builder's cost and/or time of performance.

.4 Design-BUILDER assumes responsibility to Owner for the proper performance of the Work of Subcontractors and any negligent acts and omissions in connection with such performance. Nothing in the Contract Documents is intended or deemed to create any legal or contractual relationship between Owner and any Subcontractor or Sub-Subcontractor, including but not limited to any third-party beneficiary rights.

.5 Design-BUILDER shall coordinate the activities of all Subcontractors. If Owner performs other work on the Project or at the Site with separate contractors under Owner's control, Design-BUILDER agrees to reasonably cooperate with such separate contractors so that the Project can be completed in an orderly manner without unreasonable disruption. However, unless otherwise stated, Design-BUILDER is not responsible to schedule or coordinate Owner's separate contractors.

.6 Design-BUILDER shall keep the Site reasonably free from debris, trash and construction wastes to permit Design-BUILDER to perform its construction services efficiently, safely and without interfering with the use of adjacent land areas. Upon Substantial Completion of the Work, or a portion of the Work, Design-BUILDER shall remove all debris, trash, construction wastes, materials, equipment, machinery and tools arising from the Work or applicable portions thereof to permit Owner to occupy the Project or a portion of the Project for its intended use.

2.8 Design-BUILDER's Responsibility for Project Safety

.1 Design-BUILDER recognizes the importance of performing the Work in a safe manner so as to prevent damage, injury or loss to (i) all individuals at the Site, whether working or visiting, (ii) the Work, including materials and equipment incorporated into the Work or stored on-Site or off-Site, and (iii) all other property at the Site or adjacent thereto. Design-BUILDER assumes responsibility for implementing and monitoring all safety precautions and programs related to the performance of the Work. Design-BUILDER shall, prior to commencing construction, designate a Safety Representative with the necessary qualifications and experience to supervise the implementation and monitoring of all safety precautions and programs related to the Work. Unless otherwise required by the Contract Documents, Design-BUILDER's Safety Representative shall be an individual stationed at the Site who may have responsibilities on the Project in addition to safety. The Safety Representative shall make routine daily inspections of the Site and shall hold weekly safety meetings with Design-BUILDER's personnel, Subcontractors and others as applicable. The Safety Representative may be the Design-BUILDER's Superintendent or Project Manager.

.2 Design-BUILDER and Subcontractors shall comply with all Legal Requirements relating to safety, as well as any Owner-specific safety requirements set forth in the Contract Documents, provided that such Owner-specific requirements do not violate any applicable Legal Requirement. Design-BUILDER will immediately report in writing any safety-related injury, loss, damage or accident arising from the Work to Owner's Representative and, to the extent mandated by Legal Requirements, to all government or quasi-government authorities having jurisdiction over safety-related matters involving the Project or the Work.

.3 Design-BUILDER's responsibility for safety under this Section 2.8 is not intended in any way to relieve Subcontractors and Sub-Subcontractors of their own contractual and legal obligations and responsibility for (i) complying with all Legal Requirements, including those related to health and safety matters, and (ii) taking all necessary measures to implement and monitor all safety precautions and programs to guard against injuries, losses, damages or accidents resulting from their performance of the Work. Design-BUILDER is not responsible for any safety violations, acts or omissions of the Owner or its separate contractors, consultants and their subcontractors.

2.9 Design-BUILDER's Warranty

.1 For a period of one year following the date of Substantial Completion of the Work, Design-BUILDER warrants to Owner that the construction, including all materials and equipment furnished as part of the construction, shall be new unless otherwise specified in the Contract Documents, of good quality, in conformance with the Contract Documents and free of defects in materials and

workmanship. Design-Builder's warranty obligation excludes defects caused by abuse, alterations, or failure to maintain the Work in a commercially reasonable manner. Nothing in this warranty is intended to duplicate or limit any manufacturer's warranty which provides Owner with greater warranty rights than set forth in this Section 2.9 or the Contract Documents. Design-Builder will provide Owner with all manufacturers' warranties upon Substantial Completion.

.2 The Design-Builder agrees to assign to the Owner at the time of Final Completion of the Work the manufacturer's warranties relating to materials and labor used in the Work. Owner agrees to look solely to such manufacturer(s) for remedies for defects in equipment and material, and not to Design-Builder to the extent covered by an express or implied warranty. Design-Builder's sole obligation is to provide reasonable assistance to Owner in obtaining relief under such manufacturer's warranties.

.3 The warranties and remedies provided in this Section 2.9 are in lieu of all other warranties, express or implied, including but not limited to the implied warranties of merchantability and fitness for a particular purpose. All Design-Builder liability shall end upon expiration of the one-year warranty period, provided that Owner may continue to enforce any claim for which it has given notice prior to that date.

2.10 Correction of Defective Work

.1 To the extent not covered by a manufacturer's warranty under Section 2.9.2, Design-Builder agrees to correct any Work that is found to not be in conformance with the Contract Documents, including that part of the Work subject to Section 2.9 hereof, within a period of one year from the date of Substantial Completion of the Work or any portion of the Work, or within such longer period to the extent required by any specific warranty included in the Contract Documents.

.2 Design-Builder shall, within seven (7) days of receipt of written notice from Owner that the Work is not in conformance with the Contract Documents, take meaningful steps to commence correction of such nonconforming Work, including the correction, removal or replacement of the nonconforming Work and any damage caused to other parts of the Work affected by the nonconforming Work. If Design-Builder fails to commence the necessary steps within such seven (7) day period, Owner, in addition to any other remedies provided under the Contract Documents, may provide Design-Builder with written notice that Owner will commence correction of such nonconforming Work with its own forces. If Owner does perform such corrective Work, Design-Builder shall be responsible for all reasonable costs incurred by Owner in performing such correction. If the nonconforming Work creates an emergency requiring an immediate response, the seven (7) day period identified herein shall be deemed inapplicable.

Article 3

Owner's Services and Responsibilities

3.1 Duty to Cooperate

.1 Owner shall, throughout the performance of the Work, cooperate with Design-Builder and perform its responsibilities, obligations and services in a timely manner to facilitate Design-Builder's timely and efficient performance of the Work and so as not to delay or interfere with Design-Builder's performance of its obligations under the Contract Documents.

.2 Owner shall provide timely reviews and approvals of interim design submissions and Construction Documents consistent with the turnaround times set forth in Design-Builder's schedule.

.3 Owner shall give Design-Builder timely notice of any Work that Owner notices to be defective or not in compliance with the Contract Documents.

3.2 Furnishing of Services and Information

.1 Unless expressly stated to the contrary in the Contract Documents, Owner shall provide, at its own cost and expense, for Design-Builder's information and use the following, all of which Design-Builder is entitled to rely upon in performing the Work:

.1 Surveys describing the property, boundaries, topography and reference points for use during construction, including existing service and utility lines;

.2 Geotechnical studies describing subsurface conditions, and other surveys describing other latent or concealed physical conditions at the Site;

.3 Temporary and permanent easements, zoning, approvals, and other requirements and encumbrances affecting land use, or necessary to permit the proper design and construction of the Project and enable Design-Builder to perform the Work;

.4 A legal description of the Site;

.5 To the extent available, record drawings of any existing structures at the Site; and

.6 To the extent available, environmental studies, reports and impact statements describing the environmental conditions, including Hazardous Conditions, in existence at the Site.

.7 Information concerning both the quality and quantity of water produced from the existing and proposed source of water supply along with water quality characteristics, demand projections, high service pumping requirements and finished water quality needs.

.2 Owner is responsible for securing and executing all necessary agreements with adjacent land or property owners and utilities that are necessary to enable Design-Builder to perform the Work. Owner is further responsible for all costs, including attorneys' fees, incurred in securing these necessary agreements.

3.3 Financial Information

.1 At Design-Builder's request, Owner shall promptly furnish reasonable evidence satisfactory to Design-Builder that Owner has adequate funds available and committed to fulfill all of Owner's contractual obligations under the Contract Documents. If Owner fails to furnish such financial information in a timely manner, Design-Builder may stop Work under Section 11.3 hereof or exercise any other right permitted under the Contract Documents.

.2 Design-Builder shall cooperate with the reasonable requirements of Owner's lenders or other financial sources. Notwithstanding the preceding sentence, after execution of the Agreement Design-Builder shall have no obligation to execute for Owner or Owner's lenders or other financial sources any documents or agreements that require Design-Builder to assume obligations or responsibilities greater than those existing obligations Design-Builder has under the Contract Documents.

3.4 Owner's Representative

.1 Owner's Representative shall be responsible for providing Owner-supplied information and approvals in a timely manner to permit Design-Builder to fulfill its obligations under the Contract Documents. Owner's Representative shall also provide Design-Builder with prompt notice if it observes any failure on the part of Design-Builder to fulfill its contractual obligations, including any errors, omissions or defects in the performance of the Work. Owner's Representative shall communicate regularly with Design-Builder and shall be vested with the authority to act on behalf of Owner.

3.5 Government Approvals and Permits

.1 Owner shall obtain and pay for all necessary permits, approvals, licenses, government charges and inspection fees set forth in 2.6.1.

.2 Owner shall provide reasonable assistance to Design-Builder in obtaining those permits, approvals and licenses that are Design-Builder's responsibility.

3.6 Owner's Separate Contractors

.1 Owner is responsible for all work performed on the Project or at the Site by separate contractors under Owner's control. Owner shall contractually require its separate contractors to cooperate with, and coordinate their activities so as not to interfere with Design-Builder in order to enable Design-Builder to timely complete the Work consistent with the Contract Documents.

.2 Owner shall require its separate contractors to name Design-Builder as an additional insured on their general liability insurance and to waive rights of subrogation against Owner, Design-Builder and its Design Consultant, consistent with Section 5.3.5, below.

Article 4

Hazardous Conditions and Differing Site Conditions

4.1 Hazardous Conditions

.1 Unless otherwise expressly provided in the Contract Documents to be part of the Work, Design-Builder is not responsible for any Hazardous Conditions encountered at the Site. Upon encountering any Hazardous Conditions, Design-Builder will stop Work immediately in the affected area and duly notify Owner and, if required by Legal Requirements, all government or quasi-government entities with jurisdiction over the Project or Site.

.2 Upon receiving notice of the presence of suspected Hazardous Conditions, Owner shall take the necessary measures required to ensure that the Hazardous Conditions are remediated or rendered harmless. Such necessary measures shall include Owner retaining qualified independent experts and contractors to (i) ascertain whether Hazardous Conditions have actually been encountered, and, if they have been encountered, (ii) prescribe the remedial measures that Owner must take either to remove the Hazardous Conditions or render the Hazardous Conditions harmless, (iii) remove, abate and remediate such Hazardous Conditions. Design-Builder is entitled to rely on the information and work of Owner's separate experts and contractors as being complete and accurate.

.3 Design-Builder shall be obligated to resume Work at the affected area of the Project only after Owner's expert provides it with written certification that (i) the Hazardous Conditions have been removed or rendered harmless and (ii) all necessary approvals have been obtained from all

government and quasi-government entities having jurisdiction over the Project or Site.

.4 Design-Builder will be entitled, in accordance with these General Conditions of Contract, to an adjustment in its Contract Price and/or Contract Time(s) to the extent Design-Builder's cost and/or time of performance have been adversely impacted by the presence of Hazardous Conditions.

.5 To the fullest extent permitted by law, Owner shall indemnify, defend and hold harmless Design-Builder, Design Consultants, Subcontractors, anyone employed directly or indirectly by any of them, and their officers, directors, employees and agents, from and against any and all claims, losses, damages, liabilities and expenses, including attorneys' fees and expenses, arising out of or resulting from the presence, removal or remediation of Hazardous Conditions at the Site.

.6 Notwithstanding the preceding provisions of this Section 4.1, Owner is not responsible for Hazardous Conditions brought to the Site by Design-Builder, Subcontractors or anyone for whose acts they may be liable. To the fullest extent permitted by law, Design-Builder shall indemnify, defend and hold harmless Owner and Owner's officers, directors, employees and agents from and against all claims, losses, damages, liabilities and expenses, including attorneys' fees and expenses, arising out of or resulting from those Hazardous Conditions brought to the Site by Design-Builder, Subcontractors or anyone for whose acts they may be liable.

4.2 Differing Site Conditions

.1 Concealed or latent physical conditions or subsurface conditions at the Site that (i) materially differ from the conditions indicated in the Contract Documents, survey or geotechnical report or (ii) are of an unusual nature, differing materially from the conditions ordinarily encountered and generally recognized as inherent in the Work are collectively referred to herein as "Differing Site Conditions." If Design-Builder encounters a Differing Site Condition, Design-Builder will be entitled to an adjustment in the Contract Price and/or Contract Time(s) to the extent Design-Builder's cost and/or time of performance are adversely impacted by the Differing Site Condition.

.2 Upon encountering a Differing Site Condition, Design-Builder shall provide prompt written notice to Owner of such condition, which notice shall not be later than fourteen (14) days after such condition has been encountered. Design-Builder shall, to the extent reasonably possible, provide such notice before the Differing Site Condition has been substantially disturbed or altered.

.3 Design-Builder will take steps to minimize the spread of COVID 19 on the jobsite by following published guidelines of the Centers for Disease Control and Prevention (CDC) and OSHA in effect as of the date of execution of the Agreement. For any impacts to the Project or the Work due to the global outbreak and spread of COVID-19 ("coronavirus"), including without limitation, impacts caused by quarantines, actions by governmental entities, and labor force and supply chain disruptions, by Change Order, the Contract Time shall be extended appropriately, and the Contract Price will be adjusted to account for the additional costs incurred by Design-Builder as a result of such impacts.

Article 5

Insurance and Bonds

5.1 Design-Builder's Insurance Requirements

.1 Design-Builder is responsible for procuring and maintaining the insurance for the coverage amounts all as set forth in the Agreement. Coverage shall be secured from insurance companies authorized to do business in the state in which the Project is located, and with a minimum rating set forth in the Agreement.

.2 Design-Builders insurance shall specifically delete any design-build or similar exclusions that could compromise coverages because of the design-build delivery of the Project.

.3 Prior to commencing any construction services hereunder, Design-Builders shall provide Owner with certificates evidencing that (i) all insurance obligations required by the Contract Documents are in full force and in effect and will remain in effect for the duration required by the Contract Documents and (ii) no insurance coverage will be canceled, or renewal refused unless at least thirty (30) days prior written notice is given to Owner. If any of the foregoing insurance coverages are required to remain in force after final payment are reasonably available, an additional certificate evidencing continuation of such coverage shall be submitted with the Final Application for Payment.

.4 Nothing in this Agreement shall require the Design-Builders or its Design Consultants to name the Owner or others as additional insureds on any Professional Liability or Workers Compensation policies.

5.2 Owner's Liability Insurance

.1 Owner shall procure and maintain from insurance companies authorized to do business in the state in which the Project is located such liability insurance as set forth in the Agreement to protect Owner from claims which may arise from the performance of Owner's obligations under the Contract Documents or Owner's conduct during the course of the Project.

5.3 Owner's Existing Property Insurance

.1 Prior to Design-Builders commencing any Work, Owner shall procure and maintain from insurance companies authorized to do business in the state in which the Project is located property insurance for their existing property to the full insurable value of the existing property, including professional fees, overtime premiums and all other expenses incurred to replace or repair the insured property. Upon Substantial Completion, Owner shall procure and maintain property insurance for the full insurable value of the Project at the Site. The property insurance obtained by Owner shall be the broadest coverage commercially available, and shall include as additional insureds the interests of Owner, Design-Builders, Design Consultants and Subcontractors of any tier. Such insurance shall include but not be limited to the perils of fire and extended coverage, theft, vandalism, malicious mischief, collapse, flood, earthquake, windstorm, debris removal and other perils or causes of loss as called for in the Contract Documents. The property insurance shall include physical loss or damage to existing property and, upon Substantial Completion of the Project, the Project and the Work at the Site. The Owner is responsible for the payment of any deductibles under the insurance required by this Section 5.3.1

.2 Unless the Contract Documents provide otherwise, Owner shall procure and maintain boiler and machinery insurance that will include the interests of Owner, Design-Builders, Design Consultants, and Subcontractors of any tier. The Owner is responsible for the payment of any deductibles under the insurance required by this Section 5.3.2.

.3 Prior to Design-Builders commencing any Work, Owner shall provide Design-Builders with certificates evidencing that (i) all Owner's insurance obligations required by the Contract Documents are in full force and in effect and will remain in effect until Design-Builders has completed all of the Work and has received final payment from Owner and (ii) no insurance coverage will be canceled, renewal refused, or materially changed unless at least thirty (30) days prior written notice is given to Design-Builders. Owner's property insurance shall not lapse or be canceled if Owner occupies a portion of the Work pursuant to Section 6.6.3 hereof. Owner shall provide Design-Builders with the necessary endorsements from the insurance company prior to occupying a portion of the Work.

.4 Any loss covered under Owner's property insurance shall be adjusted with Owner and

Design-Builder and made payable to both of them as trustees for the insureds as their interests may appear, subject to any applicable mortgage clause. All insurance proceeds received as a result of any loss will be placed in a separate account and distributed in accordance with such agreement as the interested parties may reach. Any disagreement concerning the distribution of any proceeds will be resolved in accordance with Article 10 hereof.

.5 Owner and Design-Builder waive against each other and Owner's separate contractors, Design Consultants, Subcontractors, agents and employees of each and all of them, all damages covered by property insurance or that could be covered by property insurance, if self-insured, including deductibles, and including rights of subrogation, except such rights as they may have to the proceeds of such insurance. Design-Builder and Owner shall, where appropriate, require similar waivers of subrogation from Owner's separate contractors, Design Consultants and Subcontractors and shall require each of them to include similar waivers in their contracts. These waivers of subrogation shall not contain any restriction or limitation that will impair the full and complete extent of its applicability to any person or entity unless agreed to in writing prior to the execution of this Agreement.

5.4 Bonds and Other Performance Security

.1 Design-Builder shall obtain performance and labor and material payment bonds as set forth in the Agreement.

.2 All bonds furnished by Design-Builder shall be in a form satisfactory to Owner. The surety shall be a company qualified and registered to conduct business in the state in which the Project is located.

Article 6

Payment

6.1 Schedule of Values

.1 Unless required by the Owner upon execution of this Agreement, within twenty (20) days of execution of the Agreement, Design-Builder shall submit for Owner's review and approval a schedule of values for all of the Work. The Schedule of Values will (i) subdivide the Work into its respective parts, (ii) include values for all items comprising the Work and (iii) serve as the basis for monthly progress payments made to Design-Builder throughout the Work.

.2 The Owner will timely review and approve the schedule of values so as not to delay the submission of the Design-Builder's first application for payment. The Owner and Design-Builder shall timely resolve any differences so as not to delay the Design-Builder's submission of its first application for payment.

6.2 Monthly Progress Payments

.1 On or before the date established in the Agreement, Design-Builder shall submit for Owner's review and approval its Application for Payment requesting payment for all Work performed as of the date of the Application for Payment. The Application for Payment shall be accompanied by all supporting documentation required by the Contract Documents and/or established at the meeting required by Section 2.1.4 hereof.

.2 The Application for Payment may request payment for equipment and materials not yet incorporated into the Project, provided that (i) Owner is satisfied that the equipment and materials are suitably stored at either the Site or another acceptable location, (ii) the equipment and materials are protected by suitable insurance and (iii) upon payment, Owner will receive the equipment and

materials free and clear of all liens and encumbrances.

.3 All discounts offered by Subcontractor, Sub-Subcontractors and suppliers to Design-Builder for early payment shall accrue one hundred percent to Design-Builder to the extent Design-Builder advances payment. Unless Owner advances payment to Design-Builder specifically to receive the discount, Design-Builder may include in its Application for Payment the full undiscounted cost of the item for which payment is sought.

.4 The Application for Payment shall constitute Design-Builder's representation that the Work described herein has been performed consistent with the Contract Documents, has progressed to the point indicated in the Application for Payment, and that title to all Work will pass to Owner free and clear of all claims, liens, encumbrances, and security interests upon Design-Builder's receipt of payment

6.3 Withholding of Payments

.1 On or before the date established in the Agreement, Owner shall pay Design-Builder all amounts properly due. If Owner determines that Design-Builder is not entitled to all or part of an Application for Payment as a result of Design-Builder's failure to meet its obligations hereunder, it will notify Design-Builder in writing at least five (5) days prior to the date payment is due. The notice shall indicate the specific amounts Owner intends to withhold, the reasons and contractual basis for the withholding, and the specific measures Design-Builder must take to rectify Owner's concerns. Design-Builder and Owner will attempt to resolve Owner's concerns prior to the date payment is due. If the parties cannot resolve such concerns, Design-Builder may pursue its rights under the Contract Documents, including those under Article 10 hereof.

.2 Notwithstanding anything to the contrary in the Contract Documents, Owner shall pay Design-Builder all undisputed amounts in an Application for Payment within the times required by the Agreement.

6.4 Right to Stop Work and Interest

.1 If Owner fails to pay timely Design-Builder any amount that becomes due, Design-Builder, in addition to all other remedies provided in the Contract Documents, may stop Work pursuant to Section 11.3 hereof. All payments due and unpaid shall bear interest at the rate set forth in the Agreement.

6.5 Design-Builder's Payment Obligations

.1 Design-Builder will pay Design Consultants and Subcontractors, in accordance with its contractual obligations to such parties, all the amounts Design-Builder has received from Owner on account of their work. Design-Builder will impose similar requirements on Design Consultants and Subcontractors to pay those parties with whom they have contracted. Provided Owner makes all payments to Design-Builder when due, Design-Builder will indemnify and defend Owner against any claims for payment and mechanic's liens as set forth in Section 7.3 hereof.

6.6 Substantial Completion

.1 Design-Builder shall notify Owner when it believes the Work, or a portion of the Work, is Substantially Complete. Within five (5) days of Owner's receipt of Design-Builder's notice, Owner and Design-Builder will jointly inspect such Work to verify that it is Substantially Complete in accordance with the requirements of the Contract Documents. The Owner and Design-Builder shall prepare a written list (Punch List) of all incomplete items of Work existing at that time, including any deficiencies noted. If such Work is Substantially Complete, Owner shall prepare and issue a Certificate of Substantial Completion that will set forth (i) the date of Substantial Completion of the Work or portion thereof, (ii) the remaining items of Work that have to be completed before final payment, (iii) provisions (to the extent not already provided in the Contract Documents) establishing

Owner's and Design-Builder's responsibility for the Project's security, maintenance, utilities and insurance pending final payment, and (iv) an acknowledgment that warranties commence to run on the date of Substantial Completion, except as may otherwise be noted in the Certificate of Substantial Completion.

.2 Upon Substantial Completion of the entire Work or, if applicable, any portion of the Work, Owner shall release to Design-Builder all retained amounts relating, as applicable, to the entire Work or completed portion of the Work, less an amount equal to the reasonable value of all remaining or incomplete items of Work as noted in the Certificate of Substantial Completion.

.3 Owner, at its option, may use a portion of the Work which has been determined to be Substantially Complete, provided, however, that (i) a Certificate of Substantial Completion has been issued for the portion of Work addressing the items set forth in Section 6.6.1 above, (ii) Design-Builder and Owner have obtained the consent of their sureties and insurers, and to the extent applicable, the appropriate government authorities having jurisdiction over the Project, and (iii) Owner and Design-Builder agree that Owner's use or occupancy will not interfere with Design-Builder's completion of the remaining Work.

.4 If Owner occupies or attempts to use any portion of the Work prior to Substantial Completion, it agrees to it does so at its own risk and shall sign any reasonable release or indemnity agreement required by Design-Builder as a condition of such use or occupancy.

6.7 Final Payment

.1 After receipt of a Final Application for Payment from Design-Builder, Owner shall make final payment by the time required in the Agreement, provided that Design-Builder has achieved Final Completion.

.2 At the time of submission of its Final Application for Payment, Design-Builder shall provide the following information:

.1 an affidavit that there are no claims, obligations or liens outstanding or unsatisfied for labor, services, material, equipment, taxes or other items performed, furnished or incurred for or in connection with the Work which will in any way affect Owner's interests, or that any existing liens have been bonded by Design-Builder;

.2 a general release executed by Design-Builder waiving, upon receipt and bank clearance of final payment by Design-Builder, all claims, except those claims previously made in writing to Owner and remaining unsettled at the time of final payment;

.3 consent of Design-Builder's surety, if any, to final payment;

.4 all operating manuals, warranties and other deliverables required by the Contract Documents; and

.5 certificates of insurance confirming that required coverages will remain in effect consistent with the requirements of the Contract Documents.

.3 Upon making final payment, Owner waives all claims against Design-Builder except claims relating to (i) Design-Builder's failure to satisfy its payment obligations, if such failure affects Owner's interests, (ii) Design-Builder's failure to complete the Work consistent with the Contract Documents, including defects appearing after Substantial Completion and (iii) the terms of any special warranties required by the Contract Documents.

.4 Deficiencies in the Work discovered after Substantial Completion, whether or not such deficiencies would have been included on the Punch List if discovered earlier, shall be deemed warranty Work. Such deficiencies shall be corrected by Design-Builder under Sections 2.9 and 2.10 herein, and shall not be a reason to withhold final payment from Design Builder, provided, however, that Owner shall be entitled to withhold from the Final Payment the reasonable value of completion of such deficient work until such work is completed.

Article 7

Indemnification

7.1 Patent and Copyright Infringement

.1 Design-Builder shall defend any action or proceeding brought against Owner based on any claim that the Work, or any part thereof, or the operation or use of the Work or any part thereof, constitutes infringement of any United States patent or copyright, now or hereafter issued. Owner shall give prompt written notice to Design-Builder of any such action or proceeding and will reasonably provide authority, information and assistance in the defense of same. Design-Builder shall indemnify and hold harmless Owner from and against all damages and costs, including but not limited to attorneys' fees and expenses awarded against Owner or Design-Builder in any such action or proceeding. Design-Builder agrees to keep Owner informed of all developments in the defense of such actions.

.2 If Owner is enjoined from the operation or use of the Work, or any part thereof, as the result of any patent or copyright suit, claim, or proceeding, Design-Builder shall at its sole expense take reasonable steps to procure the right to operate or use the Work. If Design-Builder cannot so procure such right within a reasonable time, Design-Builder shall promptly, at Design-Builder's option and at Design-Builder's expense, (i) modify the Work so as to avoid infringement of any such patent or copyright or (ii) replace said Work with Work that does not infringe or violate any such patent or copyright.

.3 Sections 7.1.1 and 7.1.2 above shall not be applicable to any suit, claim or proceeding based on infringement or violation of a patent or copyright (i) relating solely to a particular process or product of a particular manufacturer specified by Owner and not offered or recommended by Design-Builder to Owner or (ii) arising from modifications to the Work by Owner or its agents after acceptance of the Work. If the suit, claim or proceeding is based upon events set forth in the preceding sentence, Owner shall defend, indemnify and hold harmless Design-Builder to the same extent Design-Builder is obligated to defend, indemnify and hold harmless Owner in Section 7.1.1 above.

.4 The obligations set forth in this Section 7.1 shall constitute the sole agreement between the parties relating to liability for infringement or violation of any patent or copyright.

7.2 Tax Claim Indemnification

.1 If, in accordance with Owner's direction, an exemption for all or part of the Work is claimed for taxes, Owner shall indemnify, defend and hold harmless Design-Builder from and against any liability, penalty, interest, fine, tax assessment, attorneys' fees or other expenses or costs incurred by Design-Builder as a result of any action taken by Design-Builder in accordance with Owner's directive. Owner shall furnish Design-Builder with any applicable tax exemption certificates necessary to obtain such exemption, upon which Design-Builder may rely.

7.3 Payment Claim Indemnification

.1 Providing that Owner is not in breach of its contractual obligation to make payments to

Design-Builder for the Work, Design-Builder shall indemnify, defend and hold harmless Owner from any claims or mechanic's liens brought against Owner or against the Project as a result of the failure of Design-Builder, or those for whose acts it is responsible, to pay for any services, materials, labor, equipment, taxes or other items or obligations furnished or incurred for or in connection with the Work. Within three (3) days of receiving written notice from Owner that such a claim or mechanic's lien has been filed, Design-Builder shall commence to take the steps necessary to discharge said claim or lien, including, if necessary, the furnishing of a mechanic's lien bond or Owner's indemnity bond. If Design-Builder fails to do so within ten (10) days after receipt of written notice from Owner to do so, Owner will have the right to discharge the claim or lien and hold Design-Builder liable for costs and expenses incurred, including attorneys' fees. However, in the event that a lien is a result of disputed sums, the Owner shall give the Design-Builder reasonable time and opportunity to negotiate settlement with its Subcontractor prior to the Owner taking steps to discharge the lien directly.

7.4 Design-Builder's General Indemnification

.1 Subject to Section 10.5 and any limitations in the Agreement, Design-Builder, to the fullest extent permitted by law, shall indemnify, hold harmless and defend Owner, its officers, directors, and employees from and against losses, damages, and expenses including reasonable attorneys' fees and expenses, for bodily injury, sickness or death, and property damage or destruction (other than to the Work itself) to the extent resulting from the negligent acts or omissions of Design-Builder, Design Consultants, Subcontractors, anyone employed directly or indirectly by any of them or anyone for whose acts any of them may be liable.

.2 If an employee of Design-Builder, Design Consultants, Subcontractors, anyone employed directly or indirectly by any of them or anyone for whose acts any of them may be liable has a claim against Owner, its officers, directors, employees, or agents, Design-Builder's indemnity obligation set forth in Section 7.4.1 above shall not be limited by any limitation on the amount of damages, compensation or benefits payable by or for Design-Builder, Design Consultants, Subcontractors, or other entity under any employee benefit acts, including workers' compensation or disability acts.

7.5 Owner's General Indemnification

.1 In addition to other specific indemnities elsewhere in this Agreement, Owner, to the fullest extent permitted by law, shall indemnify, hold harmless and defend Design-Builder and any of Design-Builder's officers, directors, and employees, from and against losses, damages, and expenses including reasonable attorneys' fees and expenses, for bodily injury, sickness or death, and property damage or destruction (other than to the Work itself) to the extent resulting from the negligent acts or omissions of Owner's separate contractors or anyone for whose acts any of them may be liable.

.2 If an employee of Owner or its separate contractors, anyone employed directly or indirectly by any of them or anyone for whose acts any of them may be liable has a claim against Design-Builder, its officers, directors, employees, or agents, Owner's indemnity obligation set forth in Section 7.5.1 above shall not be limited by any limitation on the amount of damages, compensation or benefits payable by or for Owner, Owner's separate contractors, or other entity under any employee benefit acts, including workers' compensation or disability acts.

Article 8

Time

8.1 Obligation to Achieve the Contract Times

.1 Design-Builder agrees that it will commence performance of the Work and achieve the Contract Time(s) in accordance with Article 5 of the Agreement.

8.2 Delays to the Work

.1 If Design-Builder is delayed in the performance of the Work due to acts, omissions, conditions, events, or circumstances beyond its control and due to no fault of its own or those for whom Design-Builder is responsible, the Contract Time(s) for performance shall be reasonably extended by Change Order. By way of example, events that will entitle Design-Builder to an extension of the Contract Time(s) include acts or omissions of Owner or anyone under Owner's control (including separate contractors), changes in the Work, Differing Site Conditions, Hazardous Conditions, and Force Majeure Events.

.2 In addition to Design-Builder's right to a time extension for those events set forth in Section 8.2.1 above, Design-Builder shall also be entitled to an appropriate adjustment of the Contract Price.

.3 For purposes of this Article 8, Force Majeure Events include not only adverse weather conditions, but the resulting impact on the Project after such weather condition ceases, such as mud, standing water, frozen soil or weather damage due to hail, high wind or other weather event.

Article 9

Changes to the Contract Price and Time

9.1 Change Orders

.1 A Change Order is a written instrument issued after execution of the Agreement signed by Owner and Design-Builder, stating their agreement upon all of the following:

- .1 The scope of the change in the Work;
- .2 The amount of the adjustment to the Contract Price; and
- .3 The extent of the adjustment to the Contract Time(s).

.2 All changes in the Work authorized by applicable Change Order shall be performed under the applicable conditions of the Contract Documents. Owner and Design-Builder shall negotiate in good faith and as expeditiously as possible the appropriate adjustments for such changes.

.3 If Owner requests a proposal for a change in the Work from Design-Builder and subsequently elects not to proceed with the change, a Change Order shall be issued to reimburse Design-Builder for reasonable costs incurred for estimating services, design services and services involved in the preparation of proposed revisions to the Contract Documents.

9.2 Work Change Directives

.1 A Work Change Directive is a written order prepared and signed by Owner, directing a change in the Work prior to agreement on an adjustment in the Contract Price and/or the Contract Time(s).

.2 Owner and Design-Builder shall negotiate in good faith and as expeditiously as possible the appropriate adjustments for the Work Change Directive. Upon reaching an agreement, the parties shall prepare and execute an appropriate Change Order reflecting the terms of the agreement.

9.3 Minor Changes in the Work

.1 Minor changes in the Work do not involve an adjustment in the Contract Price and/or Contract Time(s) and do not materially and adversely affect the Work, including the design, quality, performance and workmanship required by the Contract Documents. Design-Builder may make minor changes in the Work consistent with the intent of the Contract Documents, provided, however that Design-Builder shall promptly inform Owner, in writing, of any such changes and record such changes on the documents maintained by Design-Builder.

9.4 Contract Price Adjustments

.1 The increase or decrease in Contract Price resulting from a change in the Work shall be determined by one or more of the following methods:

.1 Unit prices set forth in the Agreement or as subsequently agreed to between the parties;

.2 A mutually accepted, lump sum, properly itemized and supported by sufficient substantiating data to permit evaluation by Owner;

.3 Costs, fees and any other markups set forth in the Agreement; and

.4 If an increase or decrease cannot be agreed to as set forth in items .1 through .3 above and Owner issues a Work Change Directive, the cost of the change of the Work shall be determined by the reasonable expense and savings in the performance of the Work resulting from the change, including a reasonable overhead and profit, as may be set forth in the Agreement.

.2 If unit prices are set forth in the Contract Documents or are subsequently agreed to by the parties, but application of such unit prices will cause substantial inequity to Owner or Design-Builder because of differences in the character or quantity of such unit items as originally contemplated, such unit prices shall be equitably adjusted.

.3 If Owner and Design-Builder disagree upon whether Design-Builder is entitled to be paid for any services required by Owner, or if there are any other disagreements over the scope of Work or proposed changes to the Work, Owner and Design-Builder shall resolve the disagreement pursuant to Article 10 hereof. As part of the negotiation process, Design-Builder shall furnish Owner with a good faith estimate of the costs to perform the disputed services in accordance with Owner's interpretations. If the parties are unable to agree and Owner expects Design-Builder to perform the services in accordance with Owner's interpretations, Design-Builder shall proceed to perform the disputed services, conditioned upon Owner issuing a written order to Design-Builder (i) directing Design-Builder to proceed and (ii) specifying Owner's interpretation of the services that are to be performed. If this occurs, Design-Builder shall be entitled to submit in its Applications for Payment an amount equal to fifty percent (50%) of its reasonable estimated direct cost to perform the services, and Owner agrees to pay such amounts, with the express understanding that (i) such payment by Owner does not prejudice Owner's right to argue that it has no responsibility to pay for

such services and (ii) receipt of such payment by Design-Builder does not prejudice Design-Builder's right to seek full payment of the disputed services if Owner's order is deemed to be a change to the Work.

9.5 Emergencies

.1 In any emergency affecting the safety of persons and/or property, Design-Builder shall act, at its discretion, to prevent threatened damage, injury or loss. Any change in the Contract Price and/or Contract Time(s) on account of emergency work shall be determined as provided in this Article 9.

9.6 Market Volatility / Delivery Delays

.1 If, during the performance of this contract, the price of materials and freight costs increases, through no fault of Design-Builder, the price shall be equitably adjusted by an amount reasonably necessary to cover any such increase. As used herein, a price increase shall mean any increase in price experienced by Design-Builder or subcontractor from the date of this contract until the time of delivery. Such price increases shall be documented through quotes, estimates, invoices, or receipts. Where the delivery of materials is delayed, through no fault of Design-Builder, as a result of a shortage or unavailability, Design-Builder shall be granted an extension of time, and for any additional costs or damages associated with such delay(s).

Article 10

Contract Adjustments and Disputes

10.1 Requests for Contract Adjustments and Relief

.1 If either Design-Builder or Owner believes that it is entitled to relief against the other for any event arising out of or related to the Work or Project, such party shall provide written notice to the other party of the basis for its claim for relief. Such notice shall, if possible, be made prior to incurring any cost or expense and in accordance with any specific notice requirements contained in applicable sections of these General Conditions of Contract. In the absence of any specific notice requirement, written notice shall be given within a reasonable time, after the occurrence giving rise to the claim for relief or after the claiming party reasonably should have recognized the event or condition giving rise to the request, whichever is later. Such notice shall include sufficient information to advise the other party of the circumstances giving rise to the claim for relief, the specific contractual adjustment or relief requested and the basis of such request.

10.2 Dispute Avoidance and Resolution

.1 The parties are fully committed to working with each other throughout the Project and agree to communicate regularly with each other at all times so as to avoid or minimize disputes or disagreements. If disputes or disagreements do arise, Design-Builder and Owner each commit to resolving such disputes or disagreements in an amicable, professional and expeditious manner so as to avoid unnecessary losses, delays and disruptions to the Work.

.2 Design-Builder and Owner will first attempt to resolve disputes or disagreements at the field level through discussions between Design-Builder's Representative and Owner's Representative which shall conclude within fourteen (14) days of the written notice provided for in Section 10.1.1 unless the Owner and Design-Builder mutually agree otherwise.

.3 If a dispute or disagreement cannot be resolved through Design-Builder's Representative and Owner's Representative, Design-Builder's Senior Representative and Owner's Senior Representative, upon the request of either party, shall meet as soon as conveniently possible, but

in no case later than thirty (30) days after such a request is made, to attempt to resolve such dispute or disagreement. Five (5) days prior to any meetings between the Senior Representatives, the parties will exchange relevant information that will assist the parties in resolving their dispute or disagreement.

.4 If after meeting the Senior Representatives determine that the dispute or disagreement cannot be resolved on terms satisfactory to both parties, the parties shall submit within thirty (30) days of the conclusion of the meeting of Senior Representatives the dispute or disagreement to non-binding mediation. The mediation shall be conducted by a mutually agreeable impartial mediator, or if the parties cannot so agree, a mediator designated by the American Arbitration Association ("AAA") pursuant to its Construction Industry Mediation Rules. The mediation will be governed by and conducted pursuant to a mediation agreement negotiated by the parties or, if the parties cannot so agree, by procedures established by the mediator. Unless otherwise mutually agreed by the Owner and Design-Builder and consistent with the mediator's schedule, the mediation shall commence within ninety (90) days of the submission of the dispute to mediation.

.5 In the event that a dispute arises between the parties is submitted to mediation under this Section, the parties agree to split the mediator's and any filing fees equally. The mediation shall be held in Kansas City, Kansas. In the event that it is necessary to file a lawsuit or demand arbitration in order to meet the requirements of a statute of limitations which is about to expire, the parties agree, nonetheless, to submit the dispute to mediation within thirty (30) days after the filing of such lawsuit or demand. Any agreements reached in mediation shall be enforceable as a settlement agreement.

10.3 Arbitration

.1 Any claims, disputes or controversies between the parties arising out of or relating to the Agreement, or the breach thereof, which have not been resolved in accordance with the procedures set forth in Section 10.2 above shall be decided by arbitration. The number of arbitrators shall be one (1) and the place of the arbitration shall be Kansas City, Kansas, unless the parties agree otherwise in writing.

.2 The award of the arbitrator(s) shall be final and binding upon the parties without the right of appeal to the courts. Judgment may be entered upon it in accordance with applicable law by any court having jurisdiction thereof.

.3 Design-Builder and Owner expressly agree that any arbitration pursuant to this Section 10.3 may be joined or consolidated with any arbitration involving any other person or entity (i) necessary to resolve the claim, dispute or controversy, or (ii) substantially involved in or affected by such claim, dispute or controversy. Both Design-Builder and Owner will include appropriate provisions in all contracts they execute with other parties in connection with the Project to require such joinder or consolidation.

.4 The prevailing party in any arbitration, or any other final, binding dispute proceeding upon which the parties may agree, shall be entitled to recover from the other party reasonable attorneys' fees and expenses incurred by the prevailing party. A "prevailing party" is one who wins more than 75% of what it claimed was owed, or one who defends more than 75% of the opposing party's claim.

10.4 Duty to Continue Performance

.1 Subject to 11.3 and 11.4, and unless provided to the contrary in the Contract Documents, Design-Builder shall continue to perform the Work and Owner shall continue to satisfy its payment obligations to Design-Builder, pending the final resolution of any dispute or disagreement between Design-Builder and Owner.

10.5 CONSEQUENTIAL DAMAGES

.1 NOTWITHSTANDING ANYTHING HEREIN TO THE CONTRARY (EXCEPT AS SET FORTH IN SECTION 10.5.2 BELOW), NEITHER DESIGN-BUILDER NOR OWNER SHALL BE LIABLE TO THE OTHER FOR ANY CONSEQUENTIAL LOSSES OR DAMAGES, WHETHER ARISING IN CONTRACT, WARRANTY, TORT (INCLUDING NEGLIGENCE), STRICT LIABILITY OR OTHERWISE, INCLUDING BUT NOT LIMITED TO LOSSES OF USE, ANTICIPATED PROFITS, BUSINESS, REPUTATION, INCREASED COST OF OPERATION, CUSTOMER COSTS, OR FINANCING.

.2 The consequential damages limitation set forth in Section 10.5.1 above is not intended to affect the payment of liquidated damages or lost early completion bonus, if any, set forth in Article 5 of the Agreement, which both parties recognize has been established, in part, to reimburse Owner or reward Design-Builder for some damages that might otherwise be deemed to be consequential.

10.6 COMMENCEMENT OF STATUTORY PERIOD

.1 Causes of action between the parties to this Agreement pertaining to acts or failures to act shall be deemed to have accrued and the applicable statutes of limitations shall commence to run not later than either the date of Substantial Completion, or the date of issuance of final payment (for acts or failures to act occurring after Substantial Completion).

Article 11

Stop Work and Termination for Cause

11.1 Owner's Right to Stop Work

.1 Owner may, without cause and for its convenience, order Design-Builder in writing to stop and suspend the Work. Such suspension shall not exceed sixty (60) consecutive days or aggregate more than ninety (90) days during the duration of the Project.

.2 Design-Builder is entitled to seek an adjustment of the Contract Price and/or Contract Time(s) if its cost or time to perform the Work has been adversely impacted by any suspension of stoppage of the Work by Owner.

11.2 Owner's Right to Perform and Terminate for Cause

.1 If Design-Builder persistently fails to (i) provide a sufficient number of skilled workers, (ii) supply the materials required by the Contract Documents, (iii) comply with applicable Legal Requirements, (iv) timely pay, without cause, Design Consultants or Subcontractors, (v) prosecute the Work with promptness and diligence to ensure that the Work is completed by the Contract Time(s), as such times may be adjusted, or (vi) perform material obligations under the Contract Documents, then Owner, in addition to any other rights and remedies provided in the Contract Documents or by law, shall have the rights set forth in Sections 11.2.2 and 11.2.3 below.

.2 Upon the occurrence of an event set forth in Section 11.2.1 above, Owner may provide written notice to Design-Builder that it intends to terminate the Agreement unless the problem cited is cured, or commenced to be cured, within seven (7) days of Design-Builder's receipt of such notice. If Design-Builder fails to cure, or reasonably commence to cure, such problem, then Owner may give a second written notice to Design-Builder of its intent to terminate within an additional seven (7) day period. If Design-Builder, within such second seven (7) day period, fails to cure, or reasonably commence to cure, such problem, then Owner may declare the Agreement terminated

for default by providing written notice to Design-Builder of such declaration.

.3 Upon declaring the Agreement terminated pursuant to Section 11.2.2 above, Owner may enter upon the premises and take possession, for the purpose of completing the Work, of all materials, equipment, scaffolds, tools, appliances and other items thereon, which have been purchased or provided for incorporation into the Work, all of which Design-Builder hereby transfers, assigns and sets over to Owner for such purpose, and to employ any person or persons to complete the Work and provide all of the required labor, services, materials, equipment and other items. In the event of such termination, Design-Builder shall not be entitled to receive any further payments under the Contract Documents until the Work shall be finally completed in accordance with the Contract Documents. At such time, if the unpaid balance of the Contract Price exceeds the cost and expense incurred by Owner in completing the Work, such excess shall be paid by Owner to Design-Builder. Notwithstanding the preceding sentence, if the Agreement establishes a Guaranteed Maximum Price, Design-Builder will only be entitled to be paid for Work performed prior to its default. If Owner's cost and expense of completing the Work exceeds the unpaid balance of the Contract Price, then Design-Builder shall be obligated to pay the difference to Owner. Such costs and expense shall include not only the cost of completing the Work, but also losses, damages, costs and expense, including attorneys' fees and expenses, incurred by Owner in connection with the procurement and defense of claims arising from Design-Builder's default, subject to the waiver of consequential damages set forth in Section 10.5 hereof.

.4 If Owner improperly terminates the Agreement for cause, the termination for cause will be converted to a termination for convenience in accordance with the provisions of Article 8 of the Agreement.

.5 Design-Builder shall not be liable for either design services or construction Work (including, but not limited to, equipment installation) that is incomplete due to a termination by Owner for cause or for convenience under this Agreement, including any errors, omissions or defects in such designs or Work which Design-Builder is prevented from correcting and completing due to any termination.

.6 Owner shall pay Design-Builder to make reasonably safe any incomplete Work or Site conditions left open due to any termination under this Agreement. Thereafter, Owner assumes full risk and control of the Site.

11.3 Design-Builder's Right to Stop Work

.1 Design-Builder may, in addition to any other rights afforded under the Contract Documents or at law, stop the Work for the following reasons:

.1 Owner's failure to provide financial assurances as required under Section 3.3 hereof; or

.2 Owner's failure to pay amounts properly due under Design-Builder's Application for Payment.

.2 Should any of the events set forth in Section 11.3.1 above occur, Design-Builder has the right to provide Owner with written notice that Design-Builder will stop the Work unless said event is cured within seven (7) days from Owner's receipt of Design-Builder's notice. If Owner does not cure the problem within such seven (7) day period, Design-Builder may stop the Work. In such case, Design-Builder shall be entitled to make a claim for adjustment to the Contract Price and Contract Time(s) to the extent it has been adversely impacted by such stoppage.

11.4 Design-Builder's Right to Terminate for Cause

.1 Design-Builder, in addition to any other rights and remedies provided in the Contract

Documents or by law, may terminate the Agreement for cause for the following reasons:

.1 The Work has been stopped for sixty (60) consecutive days, or more than ninety (90) days during the duration of the Project, because of court order, any government authority having jurisdiction over the Work, or orders by Owner under Section 11.1.1 hereof, provided that such stoppages are not due to the acts or omissions of Design-Builder or anyone for whose acts Design-Builder may be responsible.

.2 Owner's failure to provide Design-Builder with any information, permits or approvals that are Owner's responsibility under the Contract Documents which result in the Work being stopped for sixty (60) consecutive days, or more than ninety (90) days during the duration of the Project, even though Owner has not ordered Design-Builder in writing to stop and suspend the Work pursuant to Section 11.1.1 hereof.

.3 Owner's failure to cure the problems set forth in Section 11.3.1 above after Design-Builder has stopped the Work.

.2 Upon the occurrence of an event set forth in Section 11.4.1 above, Design-Builder may provide written notice to Owner that it intends to terminate the Agreement unless the problem cited is cured, or commenced to be cured, within seven (7) days of Owner's receipt of such notice. If Owner fails to cure, or reasonably commence to cure, such problem, then Design-Builder may give a second written notice to Owner of its intent to terminate within an additional seven (7) day period. If Owner, within such second seven (7) day period, fails to cure, or reasonably commence to cure, such problem, then Design-Builder may declare the Agreement terminated for default by providing written notice to Owner of such declaration. In such case, Design-Builder shall be entitled to recover in the same manner as if Owner had terminated the Agreement for its convenience under Article 8 of the Agreement.

11.5 Bankruptcy of Owner or Design-Builder

.1 If either Owner or Design-Builder institutes or has instituted against it a case under the United States Bankruptcy Code (such party being referred to as the "Bankrupt Party"), such event may impair or frustrate the Bankrupt Party's ability to perform its obligations under the Contract Documents. Accordingly, should such event occur:

.1 The Bankrupt Party, its trustee or other successor, shall furnish, upon request of the non-Bankrupt Party, adequate assurance of the ability of the Bankrupt Party to perform all future material obligations under the Contract Documents, which assurances shall be provided within ten (10) days after receiving notice of the request; and

.2 The Bankrupt Party shall file an appropriate action within the bankruptcy court to seek assumption or rejection of the Agreement within sixty (60) days of the institution of the bankruptcy filing and shall diligently prosecute such action.

If the Bankrupt Party fails to comply with its foregoing obligations, the non-Bankrupt Party shall be entitled to request the bankruptcy court to reject the Agreement, declare the Agreement terminated and pursue any other recourse available to the non-Bankrupt Party under this Article 11.

.2 The rights and remedies under Section 11.5.1 above shall not be deemed to limit the ability of the non-Bankrupt Party to seek any other rights and remedies provided by the Contract Documents or by law, including its ability to seek relief from any automatic stays under the United States Bankruptcy Code or the right of Design-Builder to stop Work under any applicable provision of these General Conditions of Contract.

Article 12

Electronic Data

12.1 Electronic Data. The parties recognize that Contract Documents, including drawings, specifications and three-dimensional modeling (such as Building Information Models) and other Work Product may be transmitted among Owner, Design-Builder and others in electronic media as an alternative to paper hard copies (collectively “Electronic Data”).

12.2 Transmission of Electronic Data

.1 Owner and Design-Builder shall agree upon the software and the format for the transmission of Electronic Data. Each party shall be responsible for securing the legal rights to access the agreed-upon format, including, if necessary, obtaining appropriately licensed copies of the applicable software or electronic program to display, interpret and/or generate the Electronic Data.

.2 Neither party makes any representations or warranties to the other with respect to the functionality of the software or computer program associated with the electronic transmission of Work Product. Unless specifically set forth in the Agreement, ownership of the Electronic Data does not include ownership of the software or computer program with which it is associated, transmitted, generated or interpreted.

.3 By transmitting Work Product in electronic form, the transmitting party does not transfer or assign its rights in the Work Product. The rights in the Electronic Data shall be as set forth in Article 4 of the Agreement. Under no circumstances shall the transfer of ownership of Electronic Data be deemed to be a sale by the transmitting party of tangible goods.

12.3 Electronic Data Protocol

.1 The parties acknowledge that Electronic Data may be altered or corrupted, intentionally or otherwise, due to occurrences beyond their reasonable control or knowledge, including but not limited to compatibility issues with user software, manipulation by the recipient, errors in transcription or transmission, machine error, environmental factors, and operator error. Consequently, the parties understand that there is some level of increased risk in the use of Electronic Data for the communication of design and construction information and, in consideration of this, agree, and shall require their independent contractors, Subcontractors and Design Consultants to agree, to the following protocols, terms and conditions set forth in this Section 12.3.

.2 Electronic Data will be transmitted in the format agreed upon in Section 12.2.1 above, including file conventions and document properties, unless prior arrangements are made in advance in writing.

.3 The Electronic Data represents the information at a particular point in time and is subject to change. Therefore, the parties shall agree upon protocols for notification by the author to the recipient of any changes which may thereafter be made to the Electronic Data, which protocol shall also address the duty, if any, to update such information, data or other information contained in the electronic media if such information changes prior to Final Completion of the Project.

.4 The transmitting party specifically disclaims all warranties, expressed or implied, including, but not limited to, implied warranties of merchantability and fitness for a particular purpose, with respect to the media transmitting the Electronic Data. However, transmission of the Electronic Data via electronic means shall not invalidate or negate any duties pursuant to the applicable standard of care with respect to the creation of the Electronic Data, unless such data is materially changed or altered after it is transmitted to the receiving party, and the transmitting party did not participate

in such change or alteration.

Article 13

Miscellaneous

13.1 Confidential Information

.1 Confidential Information is defined as information which is determined by the transmitting party to be of a confidential or proprietary nature and: (i) the transmitting party identifies as either confidential or proprietary; (ii) the transmitting party takes steps to maintain the confidential or proprietary nature of the information; and (iii) the document is not otherwise available in or considered to be in the public domain. The receiving party agrees to maintain the confidentiality of the Confidential Information and agrees to use the Confidential Information solely in connection with the Project.

13.2 Assignment

.1 Neither Design-Builder nor Owner shall, without the written consent of the other assign, transfer or sublet any portion or part of the Work or the obligations required by the Contract Documents.

13.3 Successorship

.1 Design-Builder and Owner intend that the provisions of the Contract Documents are binding upon the parties, their employees, agents, heirs, successors and assigns.

13.4 Governing Law

.1 The Agreement and all Contract Documents shall be governed by the laws of the place of the Project, without giving effect to its conflict of law principles. Arbitration shall be governed by the Federal Arbitration Act, 9 U.S.C. sec. 1, et seq.

13.5 Severability

.1 If any provision or any part of a provision of the Contract Documents shall be finally determined to be superseded, invalid, illegal, or otherwise unenforceable pursuant to any applicable Legal Requirements, such determination shall not impair or otherwise affect the validity, legality, or enforceability of the remaining provision or parts of the provision of the Contract Documents, which shall remain in full force and effect as if the unenforceable provision or part were deleted.

13.6 No Waiver

.1 The failure of either Design-Builder or Owner to insist, in any one or more instances, on the performance of any of the obligations required by the other under the Contract Documents shall not be construed as a waiver or relinquishment of such obligation or right with respect to future performance.

13.7 Headings

.1 The headings used in these General Conditions of Contract, or any other Contract

Document, are for ease of reference only and shall not in any way be construed to limit or alter the meaning of any provision.

13.8 Notice

.1 Whenever the Contract Documents require that notice be provided to the other party, notice will be deemed to have been validly given (i) if delivered in person to the individual intended to receive such notice, (ii) four (4) days after being sent by registered or certified mail, postage prepaid to the address indicated in the Agreement, or (iii) if transmitted by facsimile, by the time stated in a machine generated confirmation that notice was received at the facsimile number of the intended recipient.

13.9 Amendments

.1 The Contract Documents may not be changed, altered, or amended in any way except in writing signed by a duly authorized representative of each party.

Exhibit B

Basis of Design Report

Basis of Design Report



City of Bonner Springs
KANSAS

City of Bonner Springs, Kansas

Bonner Springs Water Supply and Treatment Project
Project No. 138337
KPWSLF Project No. 3067

Revision 1
6/15/2022

Basis of Design Report

prepared for

**City of Bonner Springs, Kansas
Bonner Springs Water Supply and Treatment Project
Bonner Springs, Kansas**

Project No. 138337

**Revision 1
6/15/2022**

prepared by

**Burns & McDonnell Engineering Company, Inc.
Kansas City, Missouri**

INDEX AND CERTIFICATION

City of Bonner Springs, Kansas Basis of Design Report Project No. 138337

Report Index

<u>Chapter Number</u>	<u>Chapter Title</u>	<u>Number of Pages</u>
1.0	Introduction	3
2.0	Source Water	7
3.0	Water Treatment Plant Preliminary Design	11
4.0	Lake of the Forest Pump Station	2
5.0	Waste Stream Management	1
6.0	Building Design Parameters	23
7.0	Regulatory Permitting	3
8.0	Site Work and Utilities	2
Appendix A	Well No. 7 Water Quality Sample Results	45
Appendix B	Well No. 8 Water Quality Sample Results	46
Appendix C	Chemical Feed Design Tables	7
Appendix D	Waste Stream Summary	9
Appendix E	FEMA FIRM Maps	2
Appendix F	Preliminary Drawings	49
Appendix G	Geotechnical Report	128

Certification

I hereby certify, as a Professional Engineer in the state of Kansas, that the information in this document was assembled under my direct personal charge. This report is not intended or represented to be suitable for reuse by the City of Bonner Springs, Kansas or others without specific verification or adaptation by the Engineer.



Dana Weir

Dana Lynne Weir, P.E., KS #26862

Date: 6/15/2022

Jun 20 2022 12:38 PM

TABLE OF CONTENTS

EXECUTIVE SUMMARY

Page No.

1.0	INTRODUCTION	1-1
1.1	Purpose.....	1-1
1.2	Project Background.....	1-1
1.3	Regulatory and Code Requirements	1-3
2.0	SOURCE WATER	2-1
2.1	Raw Water Characterization	2-1
2.1.1	Water Quality	2-1
2.2	Anticipated Well Yield and Water Rights	2-5
2.3	Well Design	2-6
3.0	WATER TREATMENT PLANT PRELIMINARY DESIGN	3-1
3.1	General.....	3-1
3.2	Process Selection Summary	3-1
3.3	Finished Water Quality Goals.....	3-1
3.4	Treatment Process Overview	3-1
3.5	Greensand Filtration.....	3-4
3.5.1	Backwash System	3-4
3.6	Nanofiltration Treatment System.....	3-5
3.7	Disinfection and Finished Water Clearwell	3-6
3.8	High Service Pump Station	3-8
3.9	Residuals Handling	3-8
3.10	Chemical Feed Systems	3-8
3.10.1	Sodium Hypochlorite	3-9
3.10.2	Antiscalant	3-9
3.10.3	Sodium Bisulfite	3-9
3.10.4	Sodium Hydroxide.....	3-10
3.10.5	Phosphate	3-10
3.10.6	Liquid Ammonium Sulfate	3-10
3.10.7	Fluoride	3-10
3.11	Occupancy Classifications for Chemical Rooms.....	3-11
4.0	LAKE OF THE FOREST BOOSTER PUMP STATION	4-1
4.1	Water Main and Booster Pump Station	4-1
5.0	WASTE STREAM MANAGEMENT	5-1
6.0	BUILDING DESIGN PARAMETERS	6-1
6.1.1	Operations Building.....	6-2

6.1.2	WTP Building	6-3
6.1.3	Lake of the Forest Booster Pump Station	6-4
6.1.4	Well Houses	6-4
6.2	Structural Design	6-4
6.2.1	Design Specifications and Criteria.....	6-4
6.2.2	Design Loads	6-5
6.2.3	Structural Materials.....	6-8
6.2.4	Geotechnical Criteria	6-8
6.3	Architectural Design	6-9
6.3.1	Operations Building.....	6-10
6.3.2	WTP Building	6-10
6.3.3	Well Houses	6-11
6.3.4	Lake of the Forest Booster Pump Station	6-11
6.4	Electrical Design.....	6-11
6.4.1	Applicable Electrical Standards.....	6-11
6.4.2	Power Distribution	6-11
6.4.3	Backup Power	6-12
6.4.4	General Electrical Design Criteria	6-13
6.4.5	Plant Control System and SCADA.....	6-20
6.4.6	SCADA and Networked Programmable Logic Controller (PLC) Design	6-21
6.4.7	System Controls Indicators and Displays	6-21
6.4.8	Communication with City Infrastructure	6-22
6.4.9	Instrumentation	6-22
7.0	SITE WORK AND UTILITIES.....	7-1
7.1	Demolition	7-1
7.2	Stormwater Management and Design.....	7-1
7.3	Sedimentation and Erosion Control.....	7-2
7.4	Fencing and Gates.....	7-2
7.5	Fire Protection.....	7-2
7.6	Sanitary Sewers.....	7-2
7.7	Backwash Waste Line.....	7-2
7.8	Finished Water Line.....	7-2
7.9	Driveways and Pavement.....	7-2
7.10	Parking	7-3
7.11	Seeding.....	7-3
7.12	Design Vehicle.....	7-3
7.13	Floodplains.....	7-3
8.0	REGULATORY PERMITTING	8-1
APPENDIX A - WELL NO. 7 WATER QUALITY SAMPLE RESULTS		
APPENDIX B – WELL NO. 8 WATER QUALITY SAMPLE RESULTS		
APPENDIX C – CHEMICAL FEED DESIGN TABLES		
APPENDIX D – WASTE STREAM SUMMARY		

APPENDIX E – FEMA FIRM MAPS
APPENDIX F – PRELIMINARY DRAWINGS
APPENDIX G – GEOTECHNICAL REPORT

LIST OF TABLES

	<u>Page No.</u>
Table 2-1: Summary of Raw Water Quality	2-5
Table 2-2: Summary of Water Rights	2-6
Table 2-3: Well Design Characteristics	2-7
Table 3-1: Treatment Plant Design Flow Rates	3-1
Table 3-2: Greensand Filtration Design Criteria	3-4
Table 3-3: Disinfection Design Criteria.....	3-7
Table 3-4: Water Stability Indices for Finished Water	3-8
Table 4-1: LOTF Booster Pump Station Design.....	4-2
Table 6-1: Ambient Design Conditions	6-1
Table 6-2: Chemical Storage Analysis	6-1
Table 6-3: Indoor Design Conditions	6-2
Table 6-4: Summary of Conductors.....	6-18
Table 8-1: Permitting Matrix	8-2

LIST OF FIGURES

	<u>Page No.</u>
Figure 1-1: General Site Limits	1-2
Figure 2-1: Well Locations	2-2
Figure 2-2: Well No. 7 Site Location.....	2-3
Figure 2-3: Well No. 8 Site Location.....	2-4
Figure 3-1: Process Flow Diagram	3-2
Figure 3-2: Solids Process Flow Diagram	3-3
Figure 4-1: Approximate Alignment of the Lake of the Forest Waterline	4-1

LIST OF ABBREVIATIONS

<u>Abbreviation</u>	<u>Term/Phrase/Name</u>
A	Ampere
AASHTO	American Association of State Highway and Transportation Officials
ACHR	Air Changes Per Hour
ACI	American Concrete Institute
AHU	Air Handling Unit
AISC	American Institute of Steel Construction
AML	Approved Manufacturers List
ANSI	American National Standards Institute
ASCE	American Society of Civil Engineers
ASHRAE	American Society of Heating, Refrigerating and Air-Conditioning Engineers
ATS	Automatic Transfer Switch
AV	Audiovisual
AWG	American Wire Gauge
AWS	American Welding Society
BODR	Basis of Design Report
Burns & McDonnell	Burns & McDonnell Engineering Company, Inc.
°C	Degrees Celcius
Caustic	Sodium hydroxide
CCTV	Closed-circuit Television
CFM	Cubic Feet per Minute
CIP	Clean-in-Place

<u>Abbreviation</u>	<u>Term/Phrase/Name</u>
City	City of Bonner Springs
CMU	Concrete Masonry Unit
CO2	Carbon Dioxide
CPT	Control Power Transformer
DBP	Disinfection Byproduct
Design-Builder	Burns & McDonnell Engineering Company, Inc. and CAS Constructors
DWR	Division of Water Resources
EMT	Electrical Metallic Tubing
EPA	Environmental Protection Agency
°F	Degrees Farenheit
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Maps
FRP	Fiberglass Reinforced Plastic
ft	Feet
g	Gram
gal	Gallon
gpm	Gallons per Minute
hp	Horsepower
Hypo	Sodium Hypochlorite
HZ	Hertz
IBC	International Building Code
IECC	International Energy Conservation Code

<u>Abbreviation</u>	<u>Term/Phrase/Name</u>
IEEE	Institute of Electrical and Electronics Engineers
IES	Illumination Engineering Society
IFC	International Fire Code
IFGC	International Fuel Gas Code
IMC	International Mechanical Code
in	Inch
IPC	International Plumbing Code
ISEA	International Safety Equipment Association
KAIC	Kilo Ampere Interrupting Capacity
KDHE	Kansas Department of Health and Environment
KS	Kansas
kV	Kilovolt
kVA	Kilovolt-ampere
kW	Kilowatt
L	Liter
LAS	Liquid Ammonium Sulfate
lb	Pound
LED	Light Emitting Diode
LOTF	Lake of the Forest
LV	Low Voltage
mA	Milliampere
MCC	Motor Control Center

<u>Abbreviation</u>	<u>Term/Phrase/Name</u>
MCL	Maximum Contaminant Limit
mg	Milligram
MGD	Million Gallons per Day
min	Minute
MOV	Metal Oxide Varistor
mph	Miles per Hour
NEC	National Electrical Code
NEMA	National Electrical Manufacturer's Association
NESC	National Electrical Safety Code
NF	Nanofiltration
NFPA	National Fire Protection Association
NOI	Notice of Intent
NPDES	National Pollutant Discharge Elimination System
NSF	National Science Foundation
NTU	Nephelometric Turbidity Unit
O&M	Operation and Maintenance
ORP	Oxygen Reduction Potential
P	Passenger
pcf	Pound per Cubic Foot
pci	Pound per Cubic Inch
PPE	Personal Protective Equipment
ppm	Part per Million

<u>Abbreviation</u>	<u>Term/Phrase/Name</u>
psf	Pound per Square Foot
psi	Pound per Square Inch
PVC	Polyvinyl Chloride
RAL	Rigid Aluminum
RGS	Rigid Galvanized Steel
RTRC	Rigid Fiberglass
scfm	Standard Cubic Feet per Minute
SF	Square Feet
SEI	Structural Engineering Institute
SMCL	Secondary Maximum Contaminant Limit
SU	Single Unit
SWPPP	Stormwater Pollution Prevention Permit
TDS	Total Dissolved Solids
TEFC	Totally Enclosed Fan Cooled
TMS	The Masonry Society
TOC	Total Organic Carbon
UL	Underwriters' Laboratories
UMC	Uniform Mechanical Code
UPC	Uniform Plumbing Code
USA	United States of America
V	Volt
VAC	Volts AC Power

<u>Abbreviation</u>	<u>Term/Phrase/Name</u>
VAV	Variable Air Volume
VFD	Variable Frequency Drive
WF	Wide Flange
WMO	World Meteorological Organization
WTP	Water Treatment Plant
Y	Admittance

1.0 INTRODUCTION

1.1 Purpose

This Basis of Design Report (BODR) has been prepared for the City of Bonner Springs (City) and Kansas Department of Health and Environment (KDHE) by Burns & McDonnell Engineering Company, Inc. (Burns & McDonnell) for review and approval. The BODR includes an evaluation of source water and preliminary process design considerations for the water treatment plant (WTP) including selection of a treatment system. The scope of the project (Project) includes the design and construction of a new two million gallons per day (MGD) WTP, two new groundwater wells (PWS Wells No. 7 and No. 8), an 8-inch waterline and booster pump station to serve the Lake of the Forest service area. Summaries of waste stream management, building design parameters, regulatory permitting discussion, and preliminary considerations for site work and utilities are also included.

1.2 Project Background

The City's existing WTP is located on Swingster Road, southeast of the intersection of Kansas Highway 7 and 32. The plant capacity is 1.44 million gallons per day (MGD) and treats and removes iron and manganese from well water using oxidation and pressure filters. The existing system does not incorporate any water softening or have redundancy in the treatment process to meet average day demands with one filter offline.

The City contracted with Burns & McDonnell Engineering Company, Inc. and CAS Constructors, LLC(Design-Builder) to provide design and construction phase services for the Project. An initial evaluation of lime softening and membrane softening was conducted to determine the best path forward for the City. Membrane softening was found to require less capital and associated operation and maintenance (O&M) costs; therefore, the City directed the Design-Builder to proceed with design of a membrane softening treatment process for their new WTP.

This development will take place in an approximately 6.25-acre area just east of the existing WTP. The site is constrained by Swingster Road to the north and the Kansas River to the south. The site design generally includes a WTP Building with an attached Operations Building, new well houses, as well as a clearwell and backwash waste pump holding tank and pump station. Figure 1-1 below shows the general extents of the proposed site.

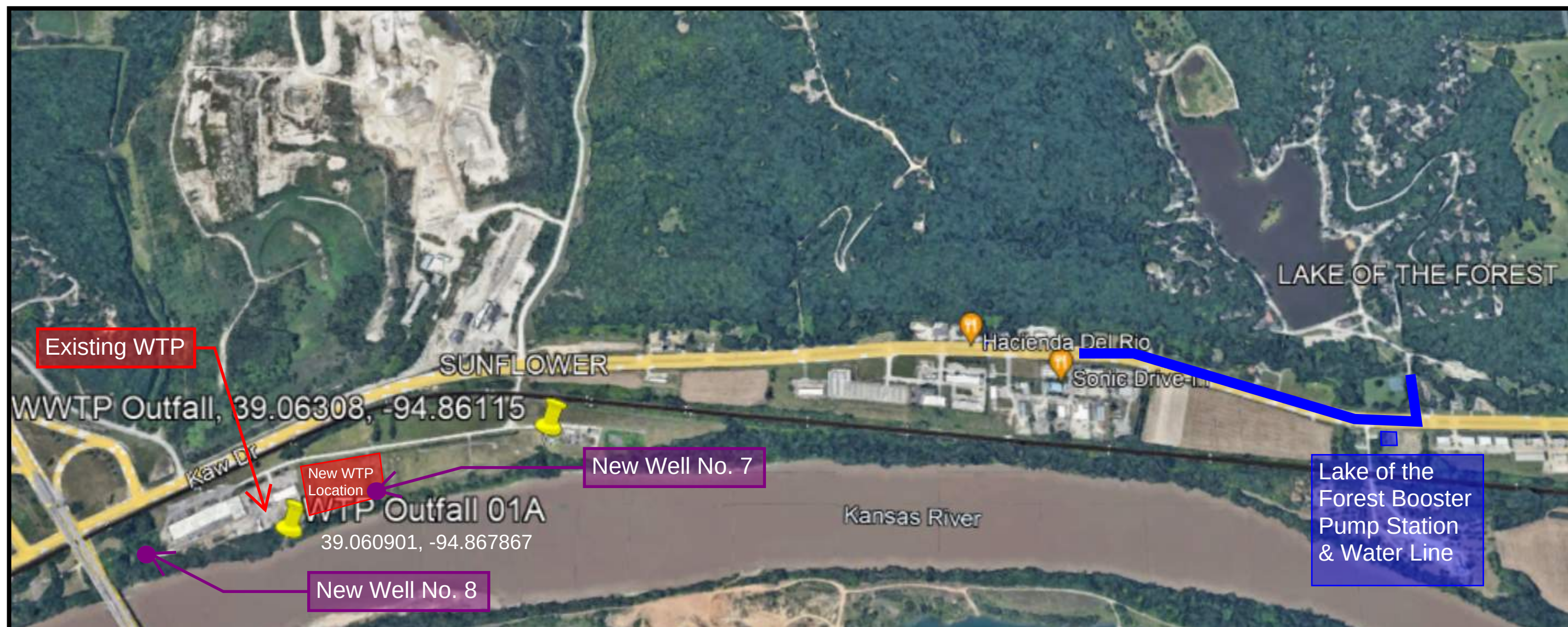


Figure 1-1: General Site Limits



1.3 Regulatory and Code Requirements

The Project will be designed to meet the following regulatory and code requirements:

- United States Environmental Protection Agency (EPA) Primary Drinking Water Standards;
- EPA Secondary Drinking Water Standards;
- KDHE's *Policies, General Considerations and Design Requirements for Public Water Supply Systems in Kansas (2008)*;
- NSF International (NSF);
- 2015 International Fire Code (IFC);
- 2015 International Plumbing Code (IPC);
- 2015 International Mechanical Code (IMC);
- 2015 International Building Code (IBC);
- 2015 International Energy Conservation Code (IECC);
- American Society of Civil Engineers (ASCE)/ Structural Engineering Institute (SEI) 7-10 Minimum Design Loads for Buildings and Other Structures;
- American National Standards Institute (ANSI)/American Institute of Steel Construction (AISC) 360-10 Specification for Structural Steel Buildings;
- American Concrete Institute (ACI) 318-11 Building Code Requirements for Structural Concrete and Commentary;
- ACI 350-06 Code Requirements for Environmental Engineering Concrete Structures and Commentary;
- The Masonry Society (TMS) 402-11/ACI 530-11/ASCE 5-11 Building Code Requirements and Specification for Masonry Structures; and
- 2009 ANSI/International Safety Equipment Association (ISEA) Z358.1 – American National Standard for Emergency Eyewash and Shower Equipment
- Occupational Safety and Health Administration (OSHA) Standards Manual
- Sheet Metal and Air Conditioning Contractor's National Association (SMACNA)
- American Society of Plumbing Engineers (ASPE) Handbooks
- American Society of Heating, Refrigerating, and Air Conditioning Engineers (ASHRAE) Handbooks and Standards

2.0 SOURCE WATER

Source water for the City's WTP is supplied by four (4) existing groundwater wells (No. 1, 2, 4, and 6) from the Kansas River Alluvial Aquifer. Two (2) new groundwater wells (No. 7 and 8) will be constructed to contribute to the plant's water supply; Well No. 8 will be completed as part of this Project, while Well No. 7 will be completed by the City at a future date. Well No. 5 was abandoned previously and while the screen for Well No. 3 collapsed in 2017 and will be properly abandoned as part of this Project. Figure 2-1 shows the extent of the entire well field, including the locations of the existing wells and new well sites.

2.1 Raw Water Characterization

The City's existing wells have been in operation for approximately 50 years, and the raw water is classified as groundwater for regulatory purposes. The wells are located on City owned property in the vicinity of the existing WTP encompassing an area of approximately 20 acres. Figure 2-2 and Figure 2-3 illustrate the site-specific locations for Well No. 7 and No. 8 respectively. The new well and existing locations are within 200 feet of the boundary of the 100-year floodplain. Depth to the top of the new and existing well screens are in excess of 60 feet and the existing wells have consistently produced water in accordance with a classification of groundwater.

The geology of the site generally consists of a 40-foot thick clay layer overlaying approximately 40 feet of sand. Depth to bedrock varies across the site and ranges from 80 to 85 feet. See Section 2.3 for further information regarding well design.

2.1.1 Water Quality

Raw water samples were collected by the City in January 2022. A summary of the raw water quality is provided in Table 2-1. Analytical results indicated that the water quality meets the EPA's primary maximum contaminant limits (MCLs). Secondary MCLs were exceeded for total dissolved solids (TDS), iron, and manganese.

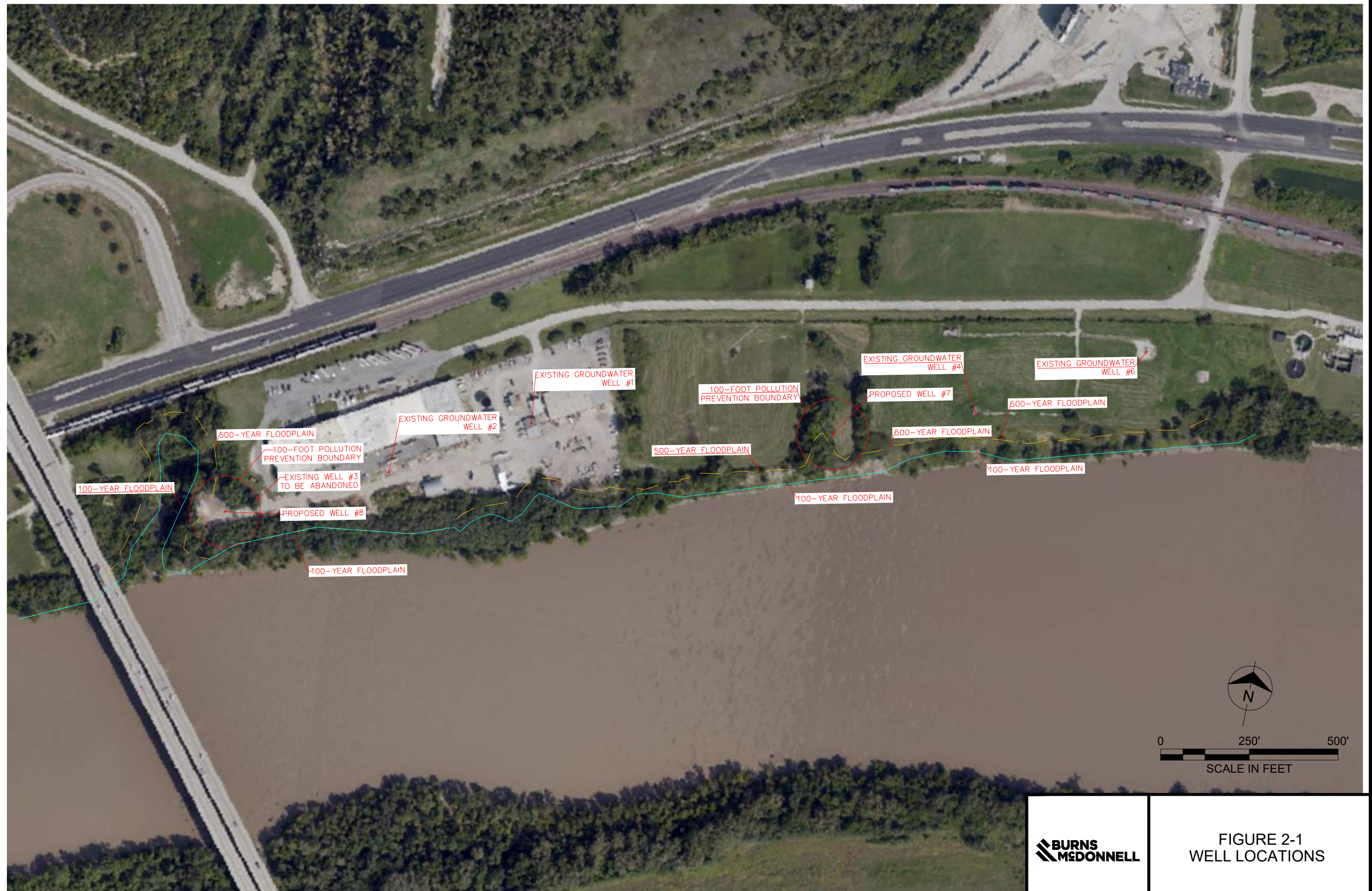
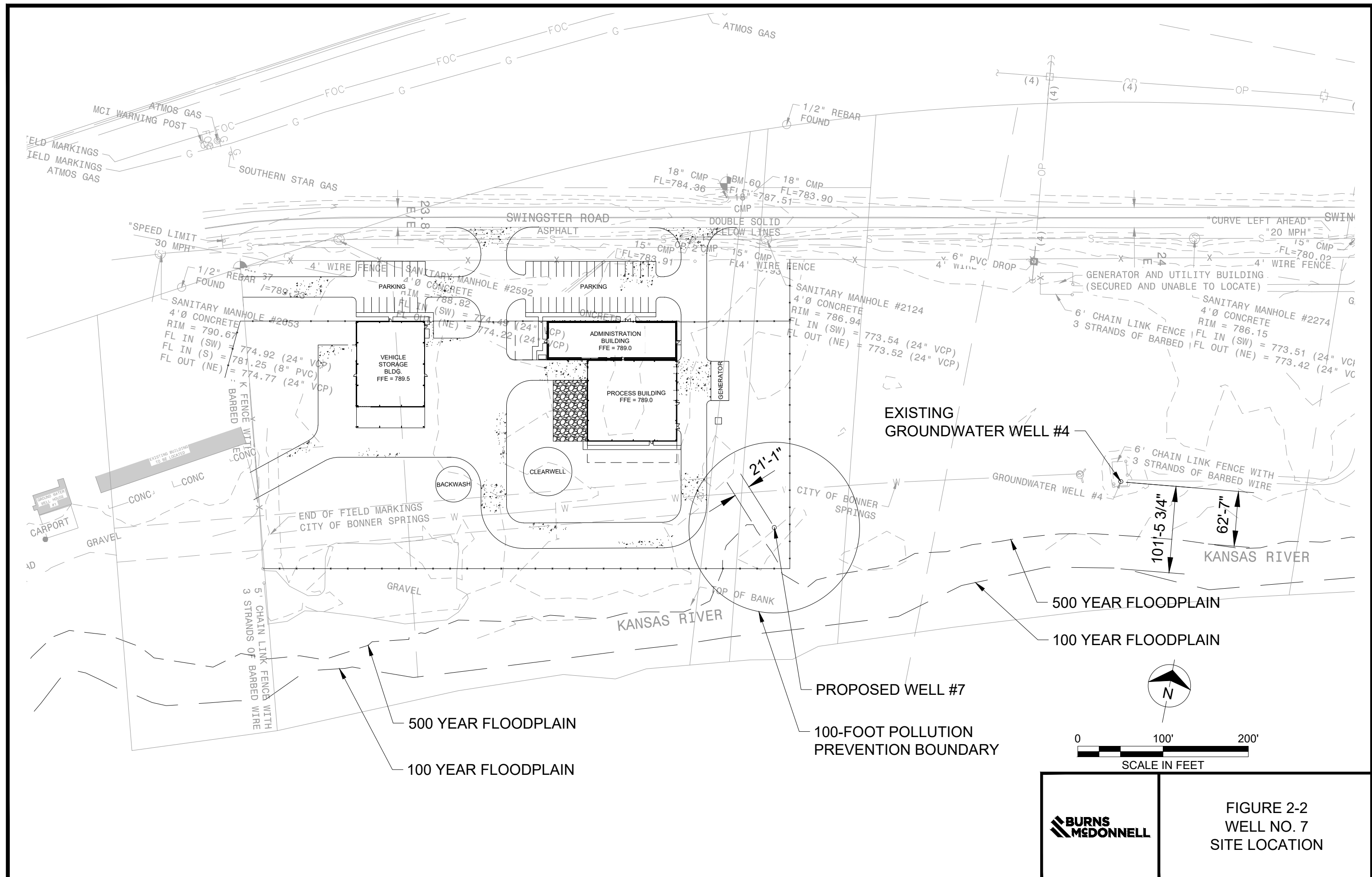


FIGURE 2-1
WELL LOCATIONS



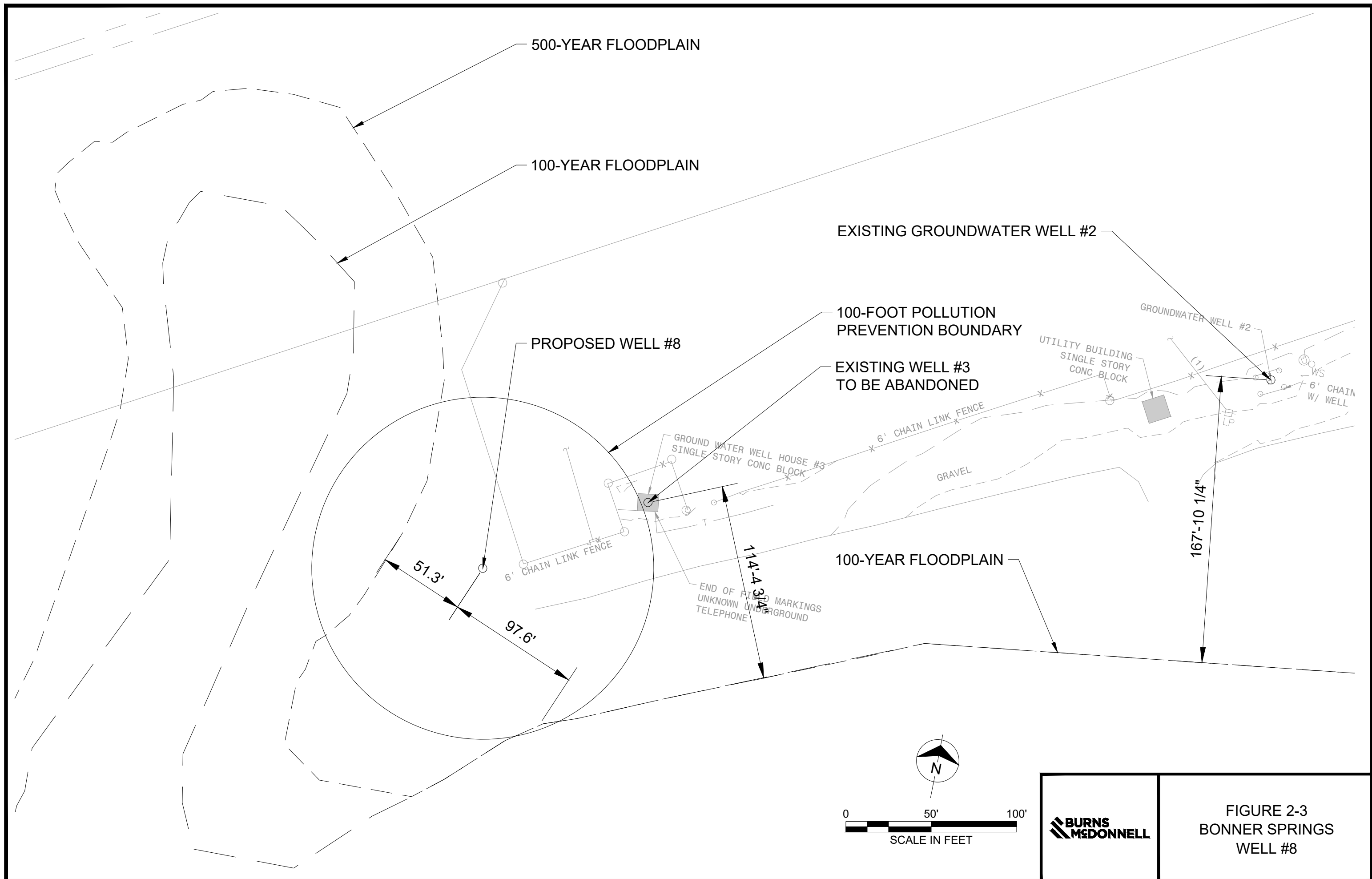


Table 2-1: Summary of Raw Water Quality

Parameter	MCL (SMCL)	5th Percentile	Average	95th Percentile
Calcium, mg/L	--	125	179	275
Iron, mg/L	(0.3)	0.12	2.98	11.5
Magnesium, mg/L	--	18.7	22.0	24.8
Manganese, mg/L	(0.05)	0.88	2.35	4.53
Barium, mg/L	2	0.14	0.31	0.73
Sodium, mg/L	--	38.2	62.3	79.0
Strontium, mg/L	--	0.74	0.83	0.92
Silica, mg/L	--	17.0	21.2	26.7
Turbidity, NTU	--	0.78	64.0	287
Total Alkalinity, mg/L	--	231	294	385
TDS, mg/L	(500)	599	866	1200
Chloride, mg/L	(250)	72.8	108	127
Fluoride, mg/L	4 (2)	ND	ND	ND
Sulfate, mg/L	(250)	89.6	250	417
Nitrogen, Ammonia, mg/L	--	ND	0.70	2.60
Nitrate, mg/L	10	0.16	0.20	0.28
TOC, mg/L	--	1.14	1.58	1.90
CO ₂ , mg/L	--	227	309	426
TSS, mg/L	--	10.0	17.6	36.2
pH	(6.5-8.5)	6.9	7.1	7.3

2.2 Anticipated Well Yield and Water Rights

A combination of flow from the existing four wells and two new wells will be utilized to meet finished water demand. A summary of the existing and applied for water rights is listed in Table 2-2.

Table 2-2: Summary of Water Rights

	Maximum Instantaneous Water Right	Average Annual Water Right	
	(gpm)	(MG/YR)	(gpm)
Well No. 1 (Existing)	345	170	323
Well No. 2 (Existing)	360	163	309
Well No. 4 (Existing)	240	75.9	144
Well No. 6 (Existing)	760	166	315
Well No. 7 (New) ²	700	183	350
Well No. 8 (New – Offset of Well No. 3) ³	460	96.21	182
Total Water Rights	2,865 gpm 4.12 MGD	854.11 MG/YR 2.34 MGD	1,723 gpm 2.48 MGD
Group Limitation of Water Rights for Annual Withdrawal	N/A	661 MG/YR 1.8 MGD	1,250 gpm 1.8 MGD

Notes:

- Existing assigned annual water rights to the City of Bonner Springs are 478 MG/YR (1.31 MGD).
- Water Rights for Well No. 7 are estimates based on the application submitted to the Division of Water Resources and are subject to the requirements of the perfection period.
- Water Rights for Well No. 8 are a transfer of the existing water rights assigned to Well No. 3. An application for additional water rights for Well No. 8 for a maximum instantaneous rate of 700 gpm and annual average right of 368 MG/YR will be submitted to DWR.

2.3 Well Design

The project includes the design and construction of two new wells, Well No. 7 and Well No. 8. Well No. 8 is an offset of the City's Well No. 3, which will be abandoned. The new wells will be constructed to meet the KDHE Public Water Supply regulations. The wells will be designed with enough open screen area to yield 700 gpm with a screen entrance velocity of less than 0.1 feet per second (fps) with a fifty percent blockage of the screen open area. This will minimize the introduction of oxygen into the water from turbulent flow, thus decreasing the potential for precipitation and bacterial growth and reducing operation and maintenance requirements and costs.

Well No. 7 design includes a 16-inch diameter screen and casing installed concentrically in a 28-inch diameter borehole. Well casing material will be carbon steel and the well screen will be wire-wrapped and constructed of Type 304 stainless steel. The well screen is to be 13 feet in length and will be set from 68 to 81 feet below grade. A filter pack and screen slot size appropriate for the formation material has been selected based on analysis of sieve samples collected during pilot hole drilling. A minimum of 20 feet of permanent steel surface casing will be cemented in place and the annulus between the surface casing and inner well casing will be filled with an approved KDHE annular seal. Well No. 7 will have a design capacity of 500 gpm.

Well No. 8 design includes a 30-inch diameter screen and casing installed concentrically in a 42-inch diameter borehole. Well casing material will be carbon steel and the well screen will be wire-wrapped and constructed of Type 304 stainless steel. Ten feet of screen will be set from 71 to 81 feet below grade. A filter pack and screen slot size appropriate for the formation material has been selected based on analysis of sieve samples collected during pilot hole drilling. A minimum of 20 feet of permanent steel surface casing will be cemented in place and the annulus between the surface casing and inner well casing will be filled with an approved KDHE annular seal. Well No. 8 will have a design capacity of 670 gpm. Table 2-3 further details the design criteria for Well Nos. 7 and 8.

Table 2-3: Well Design Characteristics

Well Designation	Unit	Design Criteria	
		Well No. 7	Well No. 8
Setback from 100-year Flood Elevation	ft	120	98
Setback from River (approximate)	ft	80	100
Depth to Top of Screen	ft bgs	68	71
Borehole Diameter	In	28	42
Screen Length	ft	13	10
Diameter	in	16	30
Pump Type	-	Vertical	Vertical
Estimated Maximum Well Yield	gpm	500	700
Rated Head	ft	350	350
Drive Type	-	VFD	VFD
Motor Size	hp	75	100

Each well will have a well house sized to accommodate the required equipment for operation, maintenance and control of each well. Each well house will be secured with lockable metal doors and will contain the following items, at a minimum:

- Vertical turbine well pump;
- Flow meter;
- Check valve;
- Testing tee;
- Manual isolation valve;
- Sample port;
- Pressure gauges;
- Air relief valves;
- Electrical gear;
- Heating and ventilation;
- Telemetry; and
- Site security.

Each well will have backup power provided by standby generators – see Section 6.4.3 for further information regarding backup power.

3.0 WATER TREATMENT PLANT PRELIMINARY DESIGN

3.1 General

The proposed Bonner Springs WTP is designed for an average day flow of 1.2 MGD and a peak flow of 2.0 MGD, expandable to treat a future average day flow of 1.8 MGD and a peak flow of 3.0 MGD. A summary of design flow rates is included in Table 3-1. Typical water losses for filter backwash and membrane reject water account for 0.39 MGD of additional raw water flow to achieve a total production rate of 2.0 MGD. This results in a maximum raw water flow of 2.39 MGD.

Table 3-1: Treatment Plant Design Flow Rates

Design Flow Rates	Flow (MGD)
Average Flow Rate	1.2
Peak Flow Rate	2.0
Future Peak Flow Rate	3.0

3.2 Process Selection Summary

Process selection for the Bonner Springs WTP included the evaluation and comparison of two primary treatment options: lime softening and membrane softening. After a full evaluation and comparison, the City decided to proceed with membrane softening due to its lower associated capital and operational costs.

3.3 Finished Water Quality Goals

The proposed facility will be designed to meet all EPA National Primary and Secondary Drinking Water Regulations applicable to public water supply systems treating groundwater source waters. The City's finished water goals include a total hardness goal of 150 milligrams per liter (mg/L) and a maximum turbidity goal of 0.1 Nephelometric Turbidity Unit (NTU). Goals for maximum iron and manganese concentrations are 0.3 mg/L and 0.05 mg/L, respectively.

3.4 Treatment Process Overview

The new facility will utilize the existing and new raw water wells, as discussed in Section 2.0. Raw water will be treated by greensand filters, cartridge filters, and nanofiltration (NF) membranes. Finished water will be disinfected and stored in a clearwell before it is sent to the distribution system via high service pumping. Process flow diagrams indicating major unit processes and chemical feed locations are shown in Figure 3-1 and Figure 3-2. Additional preliminary drawings are included in Appendix F.

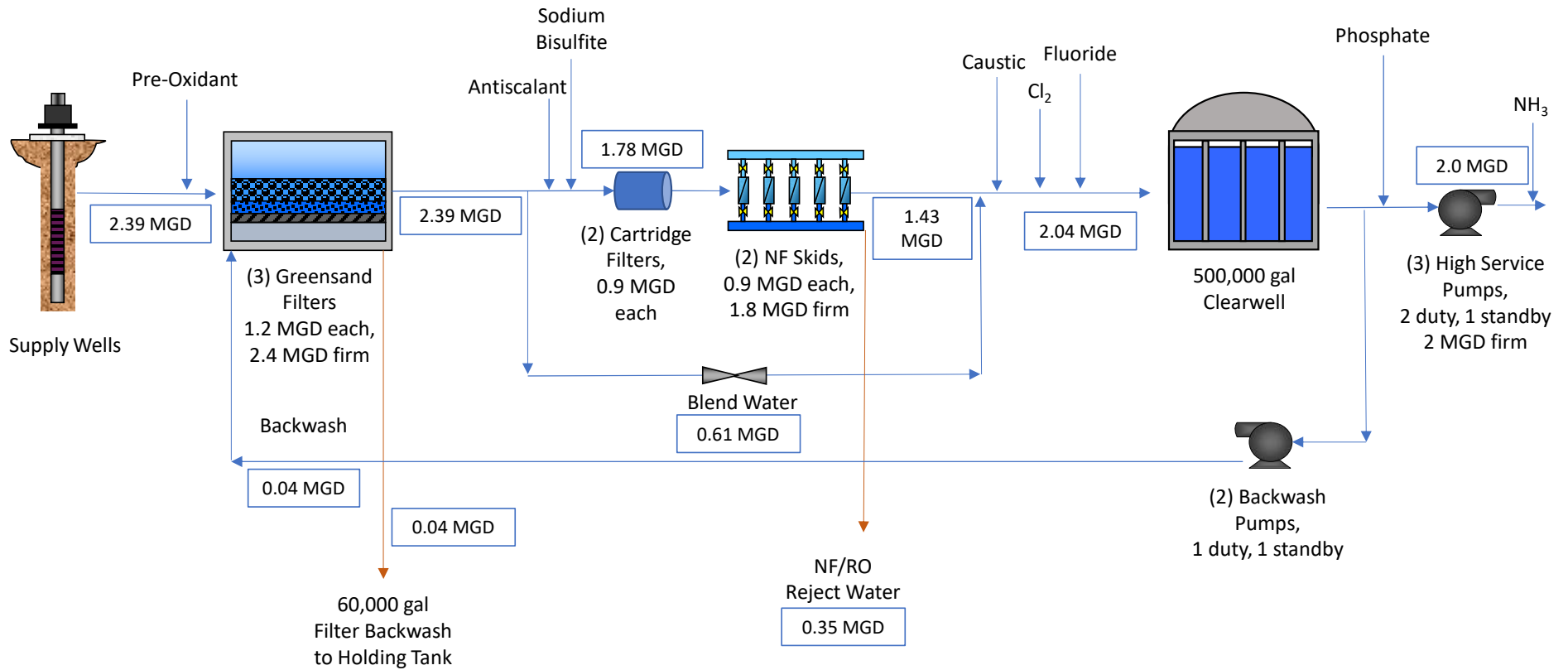


Figure 3-1
Process Flow Diagram



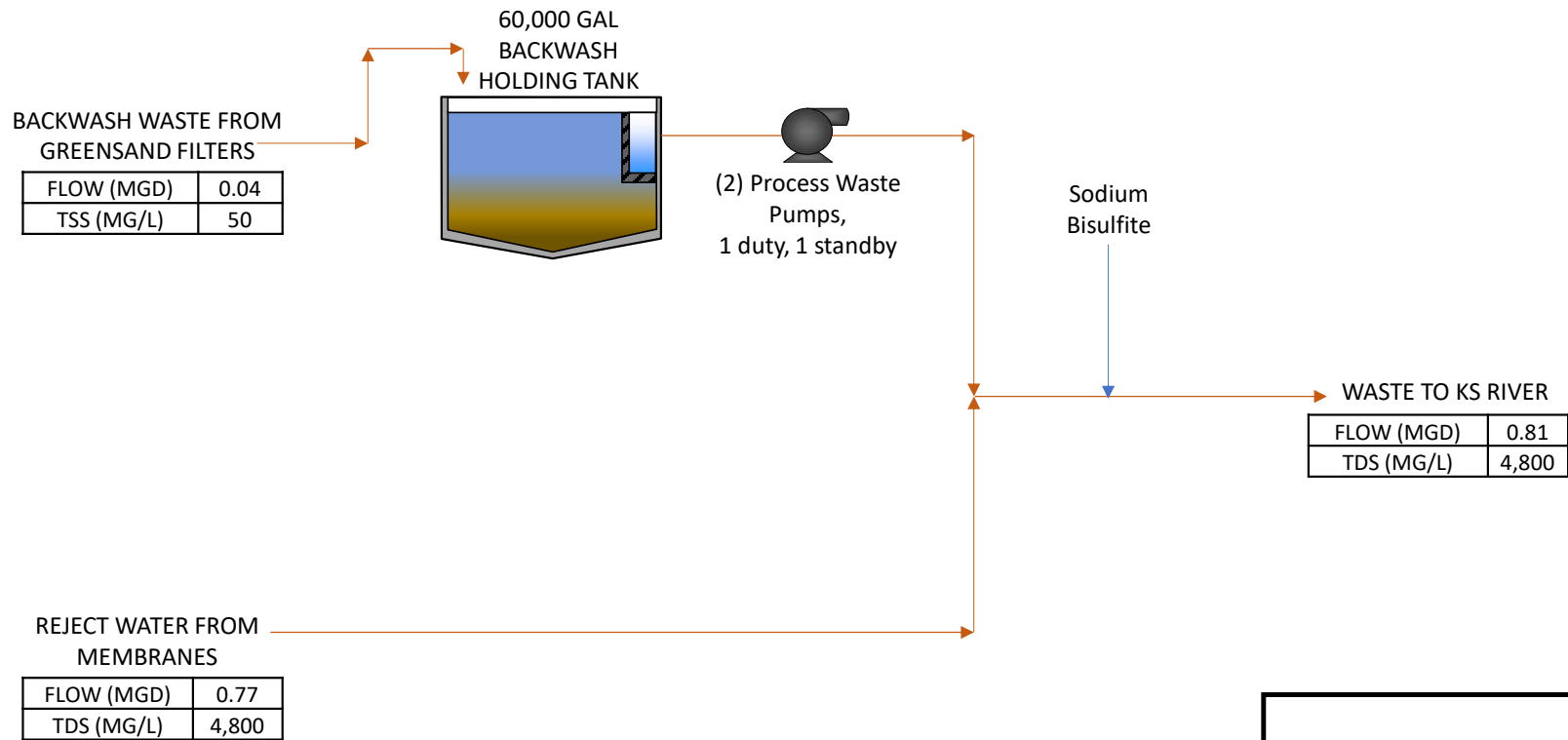


Figure 3-2
Waste Flow Diagram



3.5 Greensand Filtration

Raw water quality data indicates that raw water exceeds secondary MCLs of 0.3 mg/L for iron and 0.05 mg/L for manganese. To reduce the concentration of iron and manganese, a manganese dioxide coated media called GreensandPlus™ will be utilized to oxidize soluble iron and manganese. A design filtration loading rate of 3.0 gallons per minute per square foot (gpm/ft²) with one filter out of service was used to size the greensand pressure vessels. The greensand filtration system will consist of three (3) horizontally oriented filter vessels with two (2) cells per vessel. Space for a fourth vessel will be provided for future expansion to 3.0 MGD plant capacity. The vessels are designed so the maximum flow rate is achieved with one filter removed from service. Vessels, internal tank distributors, filter media, piping, valves, and instrumentation will be provided. Design criteria for the greensand filters is included in Table 3-2.

Table 3-2: Greensand Filtration Design Criteria

Parameter	Design Basis
Number of Units	3 (2 duty, 1 standby)
Loading Rate (gpm/ft ²)	3.0
Vessel Diameter (ft)	10
Vessel Length (ft)	26
Flow Rate per Vessel (gpm)	778
Surface Area per Cell (ft ²)	130
Backwash Rate (gpm/ft ²)	12.0
Air Scour (scfm/ft ²)	2.0

Sodium hypochlorite (hypo) will be dosed at 8.3 mg/L upstream of the greensand filters to oxidize iron and manganese and regenerate the media. This dose accounts for the free chlorine needed to breakpoint chlorinate the ammonia in the raw water and to maintain a 0.5 mg/L free chlorine residual in the filtrate.

3.5.1 Backwash System

The greensand filter backwash system will be capable of backwash with a concurrent air/water backwash as well as water only backwash. Air will be provided from an air blower. Finished water will be provided from the clearwell via two (2) 1,560 gpm horizontal end suction backwash pumps, one duty and one standby. These pumps will be housed in the WTP building. A 60,000-gallon cast-in-place concrete backwash holding tank will store the backwash waste prior to discharge to the Kansas River via two (2) 250-gpm submersible pumps. See Section 5.0 for further information regarding waste stream management.

3.6 Nanofiltration Treatment System

A split-stream treatment approach utilizing NF membranes will be used to reduce hardness and TDS in the finished water. It is estimated that 70 percent of the greensand filtrate flow will be directed through the NF system, and the remaining 30 percent will bypass NF and blend with the NF permeate before chemical dosing and entering the finished water clearwell. Based on raw water quality data and peak flow operations, the blending scenario will result in finished water meeting the City's hardness goal of 150 mg/L. The NF system will consist of a bypass to blend greensand filtrate with NF permeate. The NF will be a packaged system consisting of on-skid cartridge filters, feed pumps, and membranes, as well as a separate cleaning skid.

The NF system will consist of the following major components:

- Cartridge Filters
 - Cartridge filters will be installed on the NF skids upstream of the membranes to protect them from suspended solids. One (1) cartridge filter will be included on each NF skid, resulting in a total of two (2) cartridge filters. The rating of the cartridge filters is a maximum of 5 micron.
- NF High Pressure Feed Pumps
 - The system will be designed with a high-pressure pump dedicated to each NF train. The pumps will be located on skid and fitted with variable frequency drives (VFDs) to accommodate variations in water temperature and membrane fouling rate.
- NF Membrane Skids
 - Two (2) NF membrane skids will be provided. Space for a third skid will be provided for future expansion to 3.0 MGD plant capacity. The NF trains will include two (2) stages and will be designed for 80 percent recovery. Valves and instrumentation will be provided with the skids as a fully automated system.
- Clean-in-Place (CIP) and Permeate Flushing
 - A chemical cleaning system will be provided to accommodate long-term operation of the NF membranes within acceptable pressure and flow ranges. This system will include a tank, heater, recirculation pump, valves, and instrumentation. The system will also have the ability to flush the NF membranes with permeate upon shutdown of the NF skid.

A bypass of the NF system consisting of piping and control valves will also be included to accommodate blending of the greensand filtrate with NF permeate to achieve the desired finished water quality.

3.7 Disinfection and Finished Water Clearwell

Primary disinfection will be achieved with free chlorine while secondary disinfection will be achieved with combined chlorine (chloramines) to maintain existing practices and residual levels within the distribution system. Sodium hypochlorite (Hypo) will be injected prior to the finished water clearwell. Liquid ammonium sulfate (LAS) will be injected in the combined finished water after the high service pumps. Additional details on the dose and feed equipment for hypo and LAS are included in Section 3.10.

The finished water clearwell will have a storage capacity of 500,000 gallons. It will be above-grade, circular in shape, and constructed from pre-stressed concrete. The clearwell will provide finished water storage and contact time for the free chlorine to achieve primary disinfection. The tank inlet consists of a standpipe; as no additional baffling is to be provided, a baffling factor of 0.1 has been utilized.

The Bonner Springs WTP is designed based on the source water designation as groundwater and will require 4-log inactivation of viruses. For a worst case finished water condition, a maximum pH of 9 and a minimum temperature of 5°C, the contact time required for 4-log inactivation of viruses using free chlorine is 8 mg/L-min. This contact time will be achieved in two segments: first, in the pipe between the blended stream of NF permeate and GS filtrate and the clearwell, and second, in the clearwell itself. A baffling factor of 0.9 is used for the pipe segment and 0.1 is used for the unbaffled clearwell.

At current maximum day flows, the theoretical detention time is 173.6 minutes and the contact time is 17.4 minutes when the clearwell is full, resulting in a total possible CT achieved of 43.4 mg/L-min. With 2 mg/L-min of contact time achieved from the pipe segment, 6 mg/L-min is required in the clearwell to achieve the required contact time of 8 mg/L-min. The volume and water level listed in Table 3-3 represent the minimum volume and water level that must be maintained in the clearwell to meet disinfection requirements.

Table 3-3: Disinfection Design Criteria

Parameter	Free Chlorine Design Basis	
Treatment Conditions	Current Max Day	Future Max Day
Flow Rate, MGD	2	3
Water Temperature, °C	5	5
pH	9	9
Free Chlorine Residual, mg/L	2.5	2.5
Virus Inactivation Requirements		
Inactivation Required, log	4	4
Credit, GS/NF, log	0	0
Inactivation Remaining, log	4	4
CT Required for 1-log Virus, mg/L-min	8	8
Pipe Segment: Between NF / Filtrate Blend and Clearwell		
Pipe Diameter, in	16	16
Pipe Length, ft	150	150
Total Volume, gal	1,566	1,566
Theoretical Detention Time, min	0.54	0.36
Baffling Factor	0.9	0.9
Contact Time T10, min	0.49	0.33
CT Achieved, mg/L-min	2.0	1.3
Clearwell Segment		
CT Required from Clearwell (mg/L-min)	6.0	6.7
Contact Time T10, min	2.4	2.7
Theoretical Detention Time (min)	24.2	26.8
Clearwell Diameter (ft)	50	50
Minimum Clearwell Volume (gal)	69,600	115,700
Minimum Clearwell Water Level (ft)	4.7	7.9

Water will be pumped to the distribution system from the clearwell. Water stability is critical to producing a safe drinking water that doesn't create corrosion issues within the distribution system.

Primary corrosion control will consist of alkalinity and pH adjustments from dosing caustic prior to the clearwell. Additionally, the City will continue to utilize a zinc orthophosphate product as a corrosion inhibitor within the distribution system. For further information regarding phosphate use, refer to Section 3.10.5.

The Langelier Index and Calcium Carbonate Precipitation Potential (CCPP) ranges expected based on typical water finished water quality are provided in Table 3-4. As shown in Figure 3 1, phosphate will be dosed after the suction for the backwash supply pumps, but prior to the suction of the high service pumps to limit the potential for phosphate in the backwash waste stream.

Table 3-4: Water Stability Indices for Finished Water

Parameter	Value
pH	7.75-8.25
Total Alkalinity, mg/L as CaCO ₃	160-165
Langelier Index	0.32-0.84
CCPP, mg/L as CaCO ₃	9.7-18.4

3.8 High Service Pump Station

High service pumping will consist of three (3) variable speed 1.0-MGD horizontal split case pumps, two duty and one standby. Space for a fourth pump will be available for future expansion to 3.0 MGD plant capacity. The high service pumps will be housed in the WTP building.

3.9 Residuals Handling

Backwash waste from the greensand filters will be stored in a 60,000-gallon holding tank before discharging to the Kansas River via the waste pumps. Similarly, concentrate water from the NF membrane skids will be discharged to the river. No pumping is required for the concentrate water.

Sodium bisulfite will be injected into the combined backwash waste and NF membrane reject water to quench any residual chlorine prior to discharge to the river.

3.10 Chemical Feed Systems

The proposed treatment plant will utilize the following chemicals: hypo, antiscalant, sodium bisulfite, sodium hydroxide (caustic), phosphate, LAS, and fluoride. The 30-day storage requirements listed in the following sections are calculated based on average design dose and an average daily flow of 1.8 MGD to account for future expansion. All chemical feed systems will be capable of being manually fed or automatically controlled through the plant control system. Additional design parameters and details for each chemical and its feed system are included in Appendix C.

3.10.1 Sodium Hypochlorite

Hypo will be used both as a pre-oxidant prior to the greensand filters and for disinfection prior to the finished water clearwell. It will first be introduced to the raw water influent flow prior to the greensand filters. Hypo oxidizes iron and manganese in the raw water. Once oxidized, the iron and manganese precipitates and is then removed by greensand filtration. Additionally, hypo is used for regenerating the filter media by maintaining a chlorine residual through the media and assisting in the adsorption of dissolved iron and manganese. The design solution dose is 10.0 mg/L and will require approximately 9,037 gallons of on-site storage to meet 30-day storage requirements. This dose accounts for the free chlorine needed to breakpoint chlorinate the ammonia in the raw water and to maintain a 0.5 mg/L free chlorine residual in the filtrate.

Hypo used for disinfection will be dosed prior to the clearwell and maintain a residual concentration that can react with LAS to create monochloramines. This will serve as the residual disinfectant through the distribution system. At a design solution dose of 2.5 mg/L, approximately 1,927 gallons of on-site storage will be required to meet 30-day storage requirements. The total 30-day storage requirement for hypo is approximately 10,965 gallons. Two bulk storage tanks are recommended for operation and maintenance purposes. Two (2) 6,000-gallon indoor storage tanks will be utilized for hypo storage. A 600-gallon day tank will also be utilized for daily storage and dosing requirements.

3.10.2 Antiscalant

Antiscalant will be added to the NF influent and is used to inhibit and disperse scalants that may foul the NF membrane elements. The choice of antiscalant is heavily based on water quality as antiscalant limitations are typically the limiting factor when defining the NF system recovery. Based on an average daily flow and a design dose of 4 mg/L, approximately 164 gallons of storage will be required to meet 30-day storage requirements. Antiscalant will be stored in a 400-gallon tank that will serve as a virtual day tank with a scale to measure the amount of chemical used daily.

3.10.3 Sodium Bisulfite

The NF influent will be treated with sodium bisulfite to neutralize any chlorine residual that was not consumed during manganese oxidation in the greensand filters. Based on an average daily flow and a design dose of 0.73 mg/L, approximately 68 gallons of storage will be required to meet 30-day storage requirements.

Sodium bisulfite will also be used to neutralize chlorine residual in the process waste (combined backwash waste and NF reject water). At a design solution dose of 4.0 mg/L, approximately 160 gallons

of on-site storage will be required to meet 30-day storage requirements. The total 30-day storage requirement for sodium bisulfite is approximately 229 gallons. A 400-gallon tank will be used for storage and will serve as a virtual day tank with a scale to measure the amount of chemical used daily.

3.10.4 Sodium Hydroxide

A 25 percent caustic solution concentration will be added prior to the clearwell to boost the pH and stabilize the water. Based on the average daily flow and design dose of 15.0 mg/L, approximately 2,130 gallons of storage are needed to meet 30-day storage requirements. Caustic will be stored in a 3,000-gallon bulk tank and utilize a 200-gallon day tank for daily dosing.

3.10.5 Phosphate

The City currently utilizes a zinc orthophosphate product LPC-9 for corrosion control. The LPC-9 is a solution of 35-37 percent orthophosphate and 12-13 percent zinc. This corrosion inhibitor will continue to be dosed at the current rate in the new WTP. It will serve as a secondary corrosion control treatment to be dosed after the clearwell before the finished water goes to distribution.

Based on the average daily flow and design dose of 3.7 mg/L as PO₄, approximately 385 gallons of storage are needed to meet 30-day storage requirements. Phosphate will be stored in a 400-gallon tank that will serve as a virtual day tank with a scale to measure the amount of chemical used on a daily basis.

3.10.6 Liquid Ammonium Sulfate

The City is currently using chloramines as the residual disinfectant in the distribution system. LAS will be dosed after the high service pumps at the end of the treatment process to combine with the free chlorine and form chloramines in the distribution system for the desired chlorine residual. Chloramines are stable disinfectants that do not readily degrade and reduce the formation of disinfection byproducts (DBPs).

Based on the average daily flow and design dose of 1.25 mg/L, approximately 565 gallons of storage are needed to meet 30-day storage requirements. LAS will be stored in a 600-gallon tank that will serve as a virtual day tank with a scale to measure the amount of chemical used daily.

3.10.7 Fluoride

Fluoride will continue to be added to the finished water for public health benefit. To provide a safe and clean environment for WTP operators, a sodium fluoride upflow saturator system will be used. The sodium fluoride saturator consists of a 55-gallon saturator tank and a solution tank with overflow. Contact time is a minimum of two hours in the saturator tank to produce a four percent sodium fluoride solution concentration, which then overflows into the solution tank. The solution tank is provided with a mixer to

further dissolve any remaining sodium fluoride particles. The entire system is skid mounted with surrounding secondary containment. The water used for the saturator system will be softened to a hardness of approximately 25 mg/L.

Based on the average daily flow and design dose of 0.7 mg/L, approximately 697 pounds of dry storage are needed to meet 30-day storage requirements. Space will be allocated within the room for a single pallet of 50-lb bags, totaling approximately 2,000 pounds of sodium fluoride.

3.11 Occupancy Classifications for Chemical Rooms

According to the 2015 IBC occupancy classification varies according to the materials stored within a certain area and proper precautions must be taken. The chemicals at the treatment plant will be divided and stored as follows:

- North Chemical Room: Fluoride, LAS, Sodium Bisulfite, and Antiscalant
- South Chemical Room: Hypo, Caustic, and Phosphate

The North Chemical Room is an F-1 occupancy, and the South Chemical Room is an H-3 occupancy. Fire protection sprinklers are required for the South Chemical Room as the amount of hypo is over the exempt amount per the IFC (500 gallons). The Design-Build team will be seeking an exemption and sprinklers will likely not be a requirement for this specific application. A three-hour fire separation wall is required between the North and South Chemical Rooms.

4.0 LAKE OF THE FOREST BOOSTER PUMP STATION

The Lake of the Forest (LOTF) is a gated community just east of the City that is currently served by the Kansas City, Kansas Board of Public Utilities (BPU). As part of the Project, the City desires to provide softened water to the LOTF community and provide primary water service from its new WTP. In order for the City to provide water to the LOTF from the new WTP, an extension of approximately 3,000 linear feet of water main and a booster pump station is required. The City will retain its two interconnections with BPU at LOTF, and BPU has agreed to provide emergency fireflow supply to the LOTF community.

4.1 Water Main and Booster Pump Station

The LOTF booster pump station will be located on the south side of K-32 (Kaw Drive) at approximately 11115 Kaw Drive, Edwardsville, KS. The waterline will begin at a tie-in to an existing service near 11575 KS-32, Kansas City, KS. Approximately 3,000 feet of 8-inch waterline will run east along the south side of K-32, where it will tie into the booster pump station. From the pump station, the 8-inch will run east before crossing underneath K-32 where it will tie-in to the existing watermain at the northwest corner of 8th Street and K-32. The waterline crossing K-32 will be installed using trenchless technology to minimize disturbance to the existing area. Figure 4-1 shows the general extents of the proposed alignment.



Figure 4-1: Approximate Alignment of the Lake of the Forest Waterline

The site of the LOTF booster pump station is within the 500-year flood hazard area as shown by the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRM) included in Appendix E. The 100-year flood elevation in the area is approximately 770 with existing grade at the site approximately 775. The finished floor of the booster pump station is proposed to be approximately 777.5.

Water sales and meter data were reviewed to determine the size of the required booster pumps and is summarized in Table 4-1.

Table 4-1: LOTF Booster Pump Station Design

Parameter	Design Criteria
Average Day Demand	25 gpm
Peak Hourly Flow	100 gpm
Number of Pumps	3 (2 duty, 1 standby)
Pump Flow	50 gpm
Pump TDH	107
Motor Type	Variable Speed
Motor Size	5 hp, each

5.0 WASTE STREAM MANAGEMENT

The Waste Stream Summary is included in Appendix D. It was submitted to KDHE on March 17, 2022 and approved on April 6, 2022. The summary matrix includes waste streams generated from the new WTP and includes waste from greensand filters, NF membranes, the laboratory, process area, and domestic waste sources. The waste stream sources are listed below.

- Greensand filter backwash
- NF concentrate water
- NF CIP
- Laboratory (sinks, floor drains)
- Process area (floor drains, on-line analyzers)
- Process area chemical feed and storage
- Domestic waste (toilets, sinks, floor drains)

Greensand filter backwash and NF concentrate water is proposed to be discharged to the Kansas River. Waste discharged to the Kansas River is acceptable if National Pollutant Discharge Elimination System (NPDES) limits are met. The City and Design-Builder will continue to work with KDHE regarding the NPDES permit for the WTP discharge. Neutralized CIP waste from NF membranes is proposed to be disposed of via the sanitary sewer system as are laboratory, process area, and domestic wastes collected in sinks, floor drains, and toilets. Process area waste from chemical feed and storage is proposed to be contained on-site and disposed of off-site by a licensed transporter to a facility designed to accept and dispose of chemical waste.

6.0 BUILDING DESIGN PARAMETERS

The criteria utilized for the design will be as indicated in Table 6-1 through Table 6-3.

Table 6-1: Ambient Design Conditions

Nearest ASHRAE Weather Station:	New Century Aircenter, KS, USA
WMO Station Identifier:	724475
Elevation:	1087
Site Location:	
North Latitude, degrees	38.832° N
West Longitude, degrees	94.89° W
Ambient Temperatures:	
Winter, dry bulb, °F (99.6%)	4.3°F
Summer, dry bulb/wet bulb, °F (0.4%)	97.9/75.6°F

Table 6-2: Chemical Storage Analysis

Room Name	Chemical in Space	Conc. (%)	Amount (lbs or gallons or cubic feet)	IFC Exempt Amount (lbs or gal)	Over Exempt Amount (Y or N)
North Chemical Room	Vitec 7000 Antiscalant (Irritant)	100%	400 gal	IRR - N/A	N
	LAS (Irritant)	40% (liquid)	600 gal	IRR - N/A	N
	Sodium Bisulfite (Irritant)	38% (liquid)	400 gal	IRR - N/A	N
	Sodium Fluoride (Irritant & Highly Toxic)	Solid w/ saturator system	750 lbs dry storage (50 lb bags), 55-gal solution tank	HIGHLY TOX - 10 lbs	Y
South Chemical Room	Sodium Hypochlorite (Corrosive)	12.5% (liquid)	(2) 6,000-gal bulk tanks, 600-gal day tank	COR - 500 gal	Y
	Sodium Hydroxide (Corrosive & Toxic)	25% (liquid)	3,000-gal bulk tank, 250-gal day tank	COR - 500 gal, TOX - 500 lbs / 50 gal	Y
	Phosphate LPC9	36% as PO ₄ , 12.5% as Zn (liquid)	400 gal	COR - 500 gal, TOX - 500 lbs / 50 gal	Y

Table 6-3: Indoor Design Conditions

Area	Design Temps, °F				Ventilation Requirements	Cont/Int	Notes
	Summer	Summer Set Point	Winter	Winter Set Point			
WTP Building							
North Chemical Room	104	90	60	55	N/A	Int	2
South Chemical Room	104	90	60	55	1 CFM/SF Exhaust	Cont.	1,2
Process Room	104	90	60	55	N/A	Int	2
Compressor Room	104	90	60	55	N/A	Int	2
Electrical Room	80	75	60	55	0.06 CFM/SF	Cont.	3
Operations Building							
Offices/Conference Room/ Break Room/ Server/Control Rooms	72	72	68	68	0.06 CFM/SF + 5 CFM per person	Cont.	4
Lobby	72	72	68	68	0.06 CFM/SF + 7.5 CFM per person	Cont.	4
Restrooms/Shower/Lockers	72	72	68	68	Exhaust 50 CFM	Cont.	4
Storage/Custodial/ Mechanical Rooms	72	72	68	68	N/A	Int.	-
Corridors/Vestibules	72	72	68	68	0.06 CFM/SF	Cont.	4
Lab	72	72	68	68	0.18 CFM/SF + 10 CFM per person	Cont.	4
Well Building							
Well Room	104	90	50	45	N/A	Int.	2
LOTF Booster Pump Station							
Booster Station	104	90	50	45	N/A	Int.	-

Notes:

1. Ventilation is per 2015 IFC 5004.3.1
2. Ventilation system will be sized to remove excess heat during summer months.
3. Ventilation will be continuous to provide slight room pressurization.
4. Ventilation is required per 2019 ASHRAE 62.1.

6.1.1 Operations Building

The Operations Building will be heated, cooled, and ventilated as listed in the table above by a variable air volume (VAV) system. The system will consist of a single, grade-mounted air handling unit (AHU) that will provide outside air to the space. The unit will include a VFD controlled fan motor for turndown capability, and an enthalpy-type economizer with powered relief fan for increased efficiency. The building will be split into zones for conditioning, with each zone being served by one or more VAV boxes with electric reheat. Each zone will be controlled by its own thermostat. In areas of high occupancy, carbon dioxide demand control ventilation sensors will be installed to provide additional outside air as required when the space is fully occupied.

The restrooms, locker room, and shower area will be served by exhaust fans to provide moisture and odor removal.

6.1.2 WTP Building

6.1.2.1 North Chemical Room

The North Chemical Room will be ventilated by an exhaust fan and intake air louver system controlled by a room thermostat. This ventilation will be sufficient to provide heat removal during the summer. Unit heaters will be provided to provide heating as needed in the winter for freeze protection.

6.1.2.2 South Chemical Room

The South Chemical Room will be continuously ventilated by a makeup air unit and exhaust fan system. The system shall provide supply air high in the room and exhaust within 1'-0" of the floor to account for chemical vapor density. The system shall be capable of providing continuous ventilation per code. The room will also be ventilated by an exhaust fan and intake air louver system controlled by a room thermostat to provide sufficient heat removal during the summer. The makeup air unit shall have a heating element to temper the supply air for freeze protection during the winter.

6.1.2.3 Process Room

The Process Room will be ventilated by an exhaust fan and intake air louver system controlled by a room thermostat. This ventilation will be sufficient to provide heat removal during the summer. Unit heaters will be provided for heating as needed in the winter for freeze protection.

6.1.2.4 Compressor Room

The Compressor Room will be ventilated by an exhaust fan and intake air louver system controlled by a room thermostat. This ventilation will be sufficient to provide heat removal during the summer. Unit heaters will be provided for heating as needed in the winter for freeze protection.

6.1.2.5 Electrical Room

The Electrical Room will be air conditioned by a packaged air conditioner controlled by a room thermostat. The unit will also have a heating element to temper the space during the winter to prevent condensation formation.

6.1.2.6 Plumbing System

Plant service water will be taken from the finished water coming off the high service pumps. Backflow preventers will be installed as required to prevent contamination of the main water supply. Hose bibbs and wall hydrants will be installed for washdown purposes. Floor drains will be installed as needed. Two (2) tank-style water heaters will be provided, one for the Operations Building, and one for the WTP Building.

The Operations Building water heater will serve the restrooms, sinks, and will be used in conjunction with a mixing valve to provide tepid water to the emergency shower/eyewash in the lab. The WTP Building water heater will be used in conjunction with mixing valves to provide tepid water to the emergency shower/eyewashes.

6.1.3 Lake of the Forest Booster Pump Station

The LOTF Booster Pump Station will be air conditioned by a packaged air conditioner controlled by a space thermostat. The unit will also have a heating element to temper the space during the winter to prevent condensation formation and provide freeze protection.

The booster pump station will also be provided with a portable dehumidification unit for moisture removal.

6.1.4 Well Houses

Each well house will be ventilated by an exhaust fan and intake air louver system controlled by respective room thermostats. This ventilation will be sufficient to provide heat removal during the summer. A unit heater will be provided for heating as needed in the winter for freeze protection. Additionally, floor drains will be provided in each well house to drain discharge from valves and pump seal water. The floor drains will be daylighted to grade a minimum of 20 feet from the well head.

6.2 Structural Design

6.2.1 Design Specifications and Criteria

The structural design of all structures shall be in accordance with the following:

- International Code Council:
 - 2015 International Building Code (2015 IBC).
- American Society of Civil Engineers:
 - ASCE/SEI 7: Minimum Design Loads and Associated Criteria for Buildings and Other Structures (ASCE 7).
- American Concrete Institute:
 - ACI 301: Specifications for Structural Concrete.
 - ACI 318: Building Code Requirements and Commentary for Reinforced Concrete.
 - ACI 350: Environmental Engineering Concrete Structures.
 - ACI 350.5: Specifications for Environmental Concrete Structures.
 - ACI 350.3: Seismic Design of Liquid-Containing Concrete Structures.

- ACI 350.4R-04: Design Considerations for Environmental Engineering Concrete Structures.
 - ACI 530: Building Code Requirements for Masonry Structures.
 - ACI 530.1: Specifications for Masonry Structures.
- American Institute of Steel Construction:
 - ANSI/AISC 360: Specification for Structural Steel Buildings.
 - AISC Steel Construction Manual, 13th Edition.
- American Welding Society:
 - AWS D1.1: Structural Welding Code – Steel
- The Aluminum Association:
 - ADM1: Aluminum Design Manual
- United States Army Corps of Engineers:
 - EM 1110-2-2100: Stability Analysis of Concrete Structures.
 - EM 1110-2-2104: Strength Design for Reinforced Concrete Hydraulic Structures.

6.2.2 Design Loads

6.2.2.1 Risk Category

Per 2015 IBC Table 1604.5, for Water Treatment Facilities for Potable Water, The Risk Category shall be III for the purposes of calculating design loads.

6.2.2.2 Dead Loads

Structures shall be designed to resist the effects of all dead loads, including:

- Weight of all structural members.
- Weight of materials of construction, including finishes and roofing materials.
- Weight of all fixed mechanical, electrical, and process equipment.
- Weight of piping and contents.
- Weight of cable tray, conduit, cables, and other similar conduit routing.

6.2.2.3 Live Loads

Live loads are produced by the use of the building or other structures. These include the weight of people, portable equipment, or parts of equipment which may be moved over or placed on floors during maintenance procedures. Additional live loads caused by reciprocating or rotating equipment shall also be considered.

Structures shall be designed to resist the effects of live loads as prescribed in the reference design standards. Live loads listed herein are considered as the minimum live loads to be used for design.

- Process, Pump, and Electrical Room Floor Slab: 250 pounds per square foot (psf) or point load equal to heaviest portion of disassembled equipment (not less than 3,000 lbs), whichever creates the most severe effect to supporting members.
- Ground Floor Slabs: 150 psf.
- Subject to Vehicle Traffic: 250 psf, HS-20 (AASHTO) vehicle loading, or actual vehicle loading, whichever produces the most severe effects on supporting members.
- Walkways, Stairs, and Landings: 100 psf or 300 lbs distributed over a 4 sq. inch area, whichever produced the most severe effects on supporting members.
- Elevated equipment platforms (non-egress): 60 psf.
- Building Roofs: 20 psf.

Load effects due to impact loading from rotating or reciprocating equipment shall be considered in the structural design. Impact factors shall be as prescribed in the reference design standards, or as recommended by the manufacturers.

6.2.2.4 Fluid Loads

Structures that are to contain fluid shall be designed to resist the effects caused by fluid pressure acting on a structural member. The structure containing fluid shall be designed assuming the fluid level inside the structure is at its maximum operating level. A fluid level associated with a surcharge or overflow condition shall be assumed to be the maximum operating level. Structures containing fluid will be designed for the following fluid pressures:

- Water: 62.4 pounds per cubic foot (pcf).

Structural members that shall resist the effects of fluid pressure will be designed without counter-acting loads, such as soil backfill or fluid pressures from adjacent cells.

Hydrodynamic forces shall be determined in accordance with the reference design standards. Where basins are open, the freeboard shall be provided to prevent overtopping of the basins where such an event can cause unacceptable damage to facilities and/or pose a safety hazard to plant personnel or the environment.

6.2.2.5 Soil Loads

Soil loads are presented in *Geotechnical Report – Water Treatment Plant Improvements*, dated June 7, 2021, prepared by Geotechnology. Refer to Appendix G for report. Soil loads include the following:

- Equivalent lateral earth pressure, which include the effects of groundwater pressure:
 - Active: 85 pcf.
 - At-Rest: 95 pcf.
 - Passive: 215 pcf.
- Lateral surcharge due to surface loading:
 - Active: 0.38 times the applied surface loading.
 - At-Rest: 0.55 times the applied surface loading.
- Groundwater levels and risk of hydrostatic uplift due to ground water.

Where groundwater is present causing hydrostatic uplift on buried structures that do not contain sufficient fluid or weight to offset uplift forces, the buried structures shall be designed to resist the effects of the hydrostatic uplift forces according to the referenced US Army Corps of Engineers standards.

6.2.2.6 Snow Loads

Snow loads shall be determined based on the following parameters:

- Ground Snow Load, p_g : 20 psf.
- Snow Exposure Factor, C_e : 0.9.
- Snow Load Importance Factor, I_s : 1.10.
- Thermal Factor, C_t : 1.0.

6.2.2.7 Wind Loads

Wind loads shall be determined based on the following parameters:

- Basic Wind Speed, V : 120 mph.
- Wind Exposure: C.
- Internal Pressure Coefficient: +/- 0.55.

6.2.2.8 Seismic Loads

Seismic loads shall be determined based on the following parameters:

- Seismic Importance Factor, I_E : 1.25.

- Mapped Spectral Response Acceleration Parameters:
 - Short-Period Mapped Spectral Acceleration, S_s : 0.112g
 - 1-Second Period Mapped Spectral Acceleration, S_1 : 0.062g
- Site Class: D.
- Spectral Response Acceleration Parameters:
 - Short-Period Design Spectral Acceleration, S_{Ds} : 0.119g
 - 1-Second Period Design Spectral Acceleration, S_{D1} : 0.099g
- Seismic Design Category: B.

6.2.3 Structural Materials

Structural materials shall have the following properties:

- Reinforced Concrete:
 - Minimum 28-day Compressive Design Strength:
 - 4,500 psi for all construction, unless noted otherwise.
 - 5,000 psi for all precast concrete structures.
 - 2,000 psi for concrete fill.
 - Reinforcement: ASTM A615 Grade 60 (60,000 psi yield strength).
- Reinforced Masonry:
 - Minimum Compressive Design Strength: 1,500 psi.
- Structural Steel:
 - Wide flange (WF) and tees cut from WF, ASTM A992, Grade 50.
 - Channels, angles, and plates, ASTM A36.
 - Rectangular and square tubing, ASTM A500, Grade B.
 - Pipe, ASTM A53, Grade B.
 - All exposed structural steel not indicated to be painted shall be galvanized.
- Stainless Steel:
 - Type 304 or 316 Stainless Steel.
- Aluminum:
 - Aluminum Association standard shapes, ASTM B308, Alloy 6061-T6
 - Sheet and plate, ASTM B209, Alloy 6061-T6.

6.2.4 Geotechnical Criteria

Geotechnical criteria are presented in *Geotechnical Report – Water Treatment Plant Improvements*, dated June 7, 2021, prepared by Geotechnology. Refer to Appendix G for report.

6.2.4.1 Shallow Foundations

The following structures are anticipated to bear on shallow spread foundations:

- Operations Building
- WTP Building
- Well houses
- Lake of the Forest Booster Pump Station

The spread foundations for these structures will be designed using the following design criteria:

- Maximum Net Allowable Bearing Pressure: 2,000 psf.
- Minimum Frost Depth: 36 inches.
- Minimum Footing Width:
 - Isolated Footings: 24 inches.
 - Continuous Footings: 18 inches.

The following structures are anticipated to bear on mat foundations:

- Backwash Holding Basin
- Clearwell

The mat foundations for these structures will be designed using the following design criteria:

- Soil Modulus of Subgrade Reaction: 40 pci
- Maximum Contact Pressure: 2,000 psf.
- Minimum Frost Depth: 36 inches.

Estimated settlement for foundations proportioned and constructed on engineered fill, or firm native clays:

- Total Settlement: 1-inch.
- Differential Settlement: 3/4-inch.

6.3 Architectural Design

Applicable Codes and standards:

- 2015 International Building Code
- 2015 International Mechanical Code
- 2015 International Fuel Gas Code
- 2015 International Fire Code
- 2015 International Plumbing Code
- 2015 International Energy Conservation Code

6.3.1 Operations Building

The Operations Building will be a pre-engineered metal building to house offices, meeting rooms, restrooms, lockers, break room, server room, storage for documents, laboratory, and a control room for both the water treatment and the wastewater treatment crews. The building will be divided, by walls and locked doors, between areas the public is allowed and areas only city employees will be allowed.

For the public areas, an entrance on the north side of the building is provided next to the parking. Inside the vestibule will be a window into an administration office, so the public may come to ask questions or pay bills in the future. This serves as a layer of security for the main entrance. Beyond the vestibule, a lobby with windows into the lab and windows into the hall leading to the WTP Building show the public the process of water treatment while keeping the areas secure. The lobby is adjacent to the administration/billing space, public restrooms, and a meeting/conference room. The meeting/conference room will include movable tables and chairs, with a storage closet for audiovisual (AV) and some room furniture when it is not in use. There will also be a small kitchenette in the meeting/conference room for any events that may be held in this room.

The private area, for city employees, can be accessed off the main lobby or the western entrance. These spaces include the laboratory and control room. There will be four total offices: two for individuals and two for teams. A server room, made of concrete masonry unit (CMU) walls, will store the servers and will have hardened walls in case of inclement weather. For storing city documents, a document storage room and file cabinets in the hallway will be provided. There will be a locker room with a single user restroom/shower room adjacent to the west entrance, and a breakroom for employees to eat and gather.

6.3.2 WTP Building

The WTP Building will be connected to the Operations Building by a door. It will be a large pre-engineered metal building to store greensand filters, nanofiltration equipment, chemicals, pumps, and electrical equipment. There will be two chemical rooms, a compressor room, an electrical room, and a large process area. All but the process area will be made of CMU walls. The compressor room and electrical room will have an interior roof above these walls. The chemical rooms will incorporate a fire rated gypsum board ceiling with a moisture-resistant coating to meet the 2 hour fire rating requirement. For any room that is conditioned, CMU with integral insulation will be provided to keep heating/cooling inside the room being conditioned. There will be walk doors, interior and exterior to each room, and overhead doors to the process area and both chemical rooms. Additionally, a monorail will align with the overhead door into the process area to move pumps into and out of the building.

6.3.3 Well Houses

The well houses will be small, double wythe masonry building with hollow core concrete roof to house any equipment associated with the well's function.

6.3.4 Lake of the Forest Booster Pump Station

The booster station at Lake of the Forest will be a small pre-assembled metal framed structure to house process and electrical equipment. It will have insulation to meet code required R-value minimums. It will have a double door to accommodate moving any equipment in or out. The building shell will include walls, roof, and floors with insulation, interior wall finish, and door.

6.4 Electrical Design

6.4.1 Applicable Electrical Standards

The electrical design will be in accordance with the following:

- National Fire Protection Association (NFPA) 70 – National Electrical Code (NEC), 2014 Edition
- National Electrical Safety Code (NESC, IEEE C2)
- Institute of Electrical and Electronics Engineers (IEEE)
- American National Standards Institute (ANSI)/ISA International (ISA)
- National Electrical Manufacturer's Association (NEMA)
- Underwriters' Laboratories (UL), LLC
- International Energy Conservation Code (IECC), 2012 Edition
- Approved Manufacturers List (AML)
- International Fire Code (IFC), 2015 Edition
- Illuminating Engineering Society of North America (IES)

6.4.2 Power Distribution

Primary power for the new treatment plant will come from a new 12.47kV utility service. This will be coordinated with Evergy, the electric utility. A new 12,480:480V utility transformer will be provided and installed by Evergy on the site. Anticipated size is 1000KVA. On the secondary side, current transformers for metering will be provided and installed by Evergy. This new 480V service will connect to a service entrance rated disconnect switch before proceeding to a bypass-isolation type automatic transfer switch (ATS-1). The ATS and utility disconnect switch will be installed outdoors.

Downstream of the ATS, the switchboard (SWBD)-1, located in the Electrical Room of the WTP Building, will distribute power to downstream loads including but not limited to the Vehicle Storage

Building, Well House No. 7, and all loads in the Operations Building and WTP building. SWBD-1 will be a combination switchboard with two sections MCC, which will contain the motor starters.

6.4.2.1 Operations Building

SWBD-1 will power loads in the Operations Building through a 30KVA transformer feeding a 208Y/120V lighting panel. Electrical loads in the space include lighting, heating and ventilation equipment, and other ancillary building loads.

6.4.2.2 WTP Building

SWBD-1 will power all process loads in and around the WTP Building. This includes Well No. 7, high service pumps, NF skids, greensand filters, backwash pumps, and process waste pumps. A 30KVA transformer feeding a 208Y/120V lighting panel will supply 120V to single phase loads.

6.4.2.3 Wells No. 7 and No. 8

Both well houses will have a low voltage transformer and small ancillary loads in addition to the well. Well No. 7 will be powered directly from SWBD-1 and Well No. 8 will be powered via an existing 500KVA pad mount transformer located to the west of Well No. 2.

6.4.3 Backup Power

6.4.3.1 Main Treatment Plant and Well No. 7

A 1000kW generator will provide backup power to the Operations Building, WTP Building, and Well No. 7. The engine package will consist of an engine-generator, control panel, sound attenuation, cooling system, and all required ancillary devices installed outside in a weatherproof enclosure. Backup power will connect to ATS-1 as the emergency source. The ATS will switch the power feed from normal (utility) source to emergency source during a utility power outage.

6.4.3.2 Well No. 8

A 150kW diesel generator will provide backup power to Well No 2 and Well No. 8. Like the 1000kW generator, the engine package will consist of an engine-generator, control panel, sound attenuation, cooling system, and all required ancillary devices installed outside in a weatherproof enclosure. The standby generator will connect to ATS-2 as the emergency source while the normal source of power is an existing 500KVA transformer. The ATS will switch the power feed from normal (utility) source to emergency source during a utility power outage.

6.4.3.3 Lake of the Forest Booster Pump Station

The existing 208V three-phase utility service that powers the LOTF wastewater lift station (Lift Station No. 6) will be used to power the new booster pump station. The existing transformer and diesel generator both have the capacity available to support the new booster pump station loads. Minor modifications must be made to the existing service to accommodate the new electrical loads. New conduit and conductors will be installed on the load side of the existing ATS for the new booster pump station. For the controls, a new CAT-6 Ethernet cable will be installed from the new booster pump station control panel to the existing N-Tron network switch in the lift station control panel. Through this Ethernet connection, the new booster pump station I/O will be integrated with the existing Mission Communications RTU.

6.4.4 General Electrical Design Criteria

6.4.4.1 Motor Control Centers

Power for process motors, packaged equipment, and facilities will be distributed through 480-volt MCCs. MCCs will be rated NEMA 1, 600VAC, 3 wire, 60HZ 65KAIC. The vertical section bus will be rated to a minimum of 400A and can be either copper or aluminum.

6.4.4.2 Switchboards and Panelboards

480V power distribution panels (panelboards or switchboards) will distribute power to loads without motor controls such as lighting, unit heaters, etc. or equipment provided with integral controls such as motor operated control valves and control panels.

Panelboards used for receptacles and low voltage power services will be 208Y/120 volts, 3-phase, 4-wire with solidly grounded neutral. Each panelboard will have a main circuit breaker. The panelboards will feed convenience receptacles, instruments, and small process and mechanical equipment only requiring 120V 1-phase, 208V 1-phase or 208V 3-phase. Panelboards will have bolt-on type circuit breakers. Panelboards will be designed with 25 percent spare breakers.

6.4.4.3 Low Voltage Dry Type Transformers

480V-280Y/120Vac dry type distribution transformers will be supplied near the 120/208V panelboards to step the voltage down.

6.4.4.4 Receptacles

Receptacles and miscellaneous 120/208-volt loads will be served from panelboards.

6.4.4.5 Electrical Systems Studies

The design and specification of the electrical equipment will be in concordance with the results of a short circuit study and load flow. An arc flash hazard analysis will also be conducted to determine the arc incident energy present at electrical equipment. As required by NFPA 70E-2018, the report should include the assumptions, methodology, and results for the arc flash hazard analysis.

6.4.4.5.1 Software

SKM Power*Tools® for Windows will be used for system studies.

6.4.4.5.2 Types of studies

The studies may include one or more of the following:

- Short Circuit Fault Study
- Device Duty
- Load Flow
- Motor Starting
- Protective device coordination
- Arc Flash Analysis

6.4.4.5.3 Fault Study

A fault study will be performed to determine the fault current ratings of the equipment and devices to safely operate through a fault or to disconnect the appropriate portions of the distribution unit from the fault.

6.4.4.5.4 Device Duty

A device duty study will be performed to evaluate and select the appropriate equipment and its ratings.

6.4.4.5.5 Load Flow

A load flow study will be performed to adequately size all equipment to safely support the load demand of the plant with 10 percent future capacity for additional growth.

6.4.4.5.6 Coordination Study

A coordination study will be performed to determine trip settings and coordination for protective relays or trip units associated with switchgear and feeder breakers and motors. The protection coordination and protective settings will be developed to reduce the available incident energy. The goal is to increase the safety, operation and maintenance of the electrical equipment. This goal includes reducing the personal protective equipment (PPE) requirements to Category 1 for most of the electrical equipment and to Category 2 when Category 1 can't be achieved per NFPA 70E table 120.7I(15)(c).

6.4.4.5.7 Arc Flash Analysis

An arc flash analysis will be performed to determine the incident energy levels for all electrical equipment above 50 volts. Arc flash labels will be the final deliverable of the arc flash analysis.

6.4.4.6 Grounding and Lightning Protection

Grounding will consist of a solidly grounded system for all the electrical equipment bonded to a counterpoise loop around the main building. All buildings and equipment will be interconnected. Ground grid will have a resistance to true earth of 5 ohms or less.

A lightning risk factor calculation will be completed for the project. If the calculated risk of a lightning strike is substantial, a lightning protection system meeting the requirements of NFPA 780, Standard for Lightning Protection Systems, will be provided for the appropriate building or structure.

6.4.4.6.1 Grounding Rods

Driven ground rod 3/4-inch x 10-foot copper, will be placed at building corners and at intervals of 120 feet or less around the perimeter of the building. Ground rods will be interconnected with 4/0 bare copper conductor. All connections will be exothermic type.

6.4.4.6.2 Grounding Wells

Round enclosure, with removable cover marked 'GROUND', and open bottom. A dedicated grounding test well will be located at the service entrance grounding electrode.

6.4.4.6.3 Building Structural Steel Columns

Structural columns will be connected to the ground loop with above ground 4/0 American Wire Gauge (AWG) risers, using exothermic welds. Columns of structural steel framed buildings are to be bonded to the grounding electrode system at the base of every corner and at sufficient intermediate columns such that resistance between any point on the steel frame and the grounding electrode system does not exceed 1-ohm. Connections to building columns must be made at visible locations above floor slab level.

6.4.4.6.4 Bonding of Grounding Electrodes

Bond grounding electrodes of other grounded systems to the grounding electrode system. Examples include closed-circuit television (CCTV) systems.

6.4.4.6.5 Equipment Grounding

Electrical equipment will be grounded via the equipment grounding conductor as part of the feeder cable.

Process vessels and tanks will be connected to the grounding electrode system with a separate ground conductor tied to building steel.

Above-grade connections to equipment, process vessels and tanks will be made with pressure-type connectors.

Grounding for control system equipment will be provided as recommended by the equipment manufacturer.

The cable trays will include a continuous green insulated grounding cable bonded to the cable tray every 50 feet and to the ground grid or structural steel every 200 feet.

A separate equipment grounding conductor will be run in each motor power cable for all motors. This grounding conductor will be terminated to a ground lug mounted inside the motor terminal box provided by the motor manufacturer.

6.4.4.6.6 Derived Systems

Secondary windings of transformers used to supply equipment, lighting, receptacles, or control power must be solidly grounded and the grounded conductor (neutral) bonded to effectively grounded building steel.

6.4.4.7 Lighting

All lighting fixtures will be light emitting diode (LED). Lighting levels in the facilities will be provided following the recommended levels as suggested in the Illumination Engineering Society (IES) handbook. Actual lighting levels will be further evaluated in detailed design.

6.4.4.7.1 Emergency Lighting

Emergency lighting will be incorporated into the general light fixtures by providing a built-in battery backup with 90 minutes of emergency level illumination. Specific areas could have dedicated emergency light fixtures if the area general illumination light fixtures cannot be provided with built-in battery backups.

6.4.4.8 Lockout Provisions

Circuit breakers or switches which feed other electrical distribution or utilization equipment will have provision for padlocking the breaker or switch in the OFF position. This includes breakers located in switchboards, MCCs, main distribution panels, power distribution panels, power panels, and lighting

panels. Refer to manufacturer of panels for acceptable removable lockout devices. For 120V/208V panels, an over the breaker lockout could be used as a lockout device.

6.4.4.9 Surge Suppression Devices

Surge suppression devices (SPDs) should be considered for each main distribution panel or main 480-volt switchgear. Design SPDs connected at SWBD-1 for ANSI category C. Use ANSI category B SPDs at power panels or distribution panels. For basic protection, metal oxide varistor (MOV) type SPDs are effective when applied within the proper voltage and surge ratings. Use SPDs complying with UL Standard 1449.

6.4.4.10 Wiring Methods

6.4.4.10.1 Cables

A summary of conductors for different applications is provided in Table 6-4 below.

Table 6-4: Summary of Conductors

Application	Insulation Rating	NEC Type	Description
Grounding	N/A	N/A	Annealed, coated, tin-coated copper
Unshielded Multi-Conductor Control	600V	TC	#14 AWG conductor, XLPE insulation (XHHW-2), overall PVC jacket
Shielded Instrument Cable	600V	TC	#18 AWG conductor, PVC insulation, overall nylon jacket
480V Power Cables	600V	XHHW-2	XLPE insulation, temperature rating of 90°C wet or dry
480V Service Entrance	600V	USE-2	XLPE insulation, temperature rating of 90°C wet or dry
Unshielded Multi-Conductor Power Cable	600V	TC	XLPE insulation (XHHW-2), overall PVC jacket, temperature rating of 90°C wet or dry, for cable tray applications
480V Shielded VFD Power Cable	600V/ (1000V UL)	TC	Multi-conductor XLPE insulation, XHHW-2 or RHW-2 conductor, temperature rating of 90°C wet or dry, symmetrical ground conductors, 100% cable shield
208V and 120V Small Power	600V	THHN/THWN-2	PVC insulation, overall nylon jacket, temperature rating of 75°C wet, 90° dry

In addition:

- Category 6: Unshielded, bonded pairs, #23 AWG solid conductors, polyolefin insulation, PVC jacket. Belden 7940A or equal.
- Fiber: Stranding as indicated, loose-tube, PVC jacket, water-blocked.
 - In-Plant: OM3 multi-mode, 50/125 µm.
 - Outside-Plant: OS2 single-mode, 9/125 µm.

Cable Terminations will be as follows:

- Motors: 1-hole compression lugs with motor splice kit (3M 5300-series or equal) except 2-hole compression lugs for #4/0 AWG and larger.
- Controls: Pre-insulated ferrules or ring lugs as required by device.
- Instruments: Pre-insulated ferrules or locking fork lugs to match device.
- Multi-mode Fiber: Field-installed duplex LC or SC connectors.
- Single-mode Fiber: Fusion-spliced pigtails with duplex LC or SC connectors.

6.4.4.10.2 Conduit, Cable Tray, and Enclosures

Specific types of raceways will be chosen for use in various locations in the facility based on various requirements including but not limited to moisture, temperature, corrosion, and cost.

- Non-hazardous, Non-corrosive, Indoor Spaces:
 - Conduit: Rigid Galvanized Steel (RGS) or Rigid Aluminum (RAL).
 - Supports: Galvanized or aluminum.
 - NEMA 1, 4, or 12 based on area.
- Corrosive, Indoor Spaces:
 - Conduit: PVC-coated Rigid Galvanized Steel (PVC-RGS).
 - Supports: FRP (Vinyl Ester Resin), PVC-coated, or Stainless Steel (hazard-dependent).
 - Enclosures: NEMA 4X Non-metallic.
- Outdoor Spaces (Above-Grade only):
 - Conduit: Rigid Aluminum (RAL).
 - Supports: Galvanized or aluminum.
 - Enclosures: NEMA 3R or NEMA 4X SS based on area.
- Outdoors, Below-Grade, Concrete Encased
 - Conduit Rigid Schedule 40 PVC.
- Outdoors, Direct Buried
 - Conduit: PVC Coated Rigid Steel or Rigid Schedule 40 PVC.

Flexible conduit will be used to connect vibrating equipment to the conduit system. Flexible conduit will be no more than 3 feet in length. Electrical metallic tubing (EMT) will only be used in concealed areas of control rooms, laboratories, offices, and restrooms for lighting and receptacle circuits. Minimum conduit size for the project is 3/4-inch.

The design basis will consist of full conduit design, but cable tray will be allowed in the process area, electrical room, and compressor room. It will be aluminum, Ladder-type with 9-inch rung and 6-inch rail. Install per NEMA VE-2. Contractor will be responsible for design and loading calculations should cable tray be used on the project in coordination with the Owner and the Engineer.

Hardware will be stainless steel except where stainless steel corrosives are present.

6.4.4.11 LV AC Variable Frequency Drives (VFDs)

Provide voltage, horsepower, input/output filters, and drive architecture as indicated. Provide with input circuit breaker, 120-Vac control power transformer (CPT), controls, and pilot devices as indicated.

Provide with minimum of six (6) digital inputs, relay outputs for “Run Status” and “Drive Fault”, 4-20mA analog speed feedback input, and 4-20mA analog speed command/setpoint output.

6.4.4.12 Motors

All motors furnished for the process equipment will be NEMA induction motors. Motors will be premium efficiency type have totally enclosed fan cooled (TEFC) enclosure unless other enclosure ratings are

appropriate for the environment in which they will be installed. Motors located in hazardous locations will have enclosures rated for Class I, Division 1 or 2, as required. Motors for use with VFDs will be inverter duty rated per NEMA MG-1 parts 30 and 31 and will be furnished with motor temperature switches. Motors ½ HP and larger will be rated 460 volts three phase. Motors less than ½ HP will be rated 120 volts single phase.

6.4.5 Plant Control System and SCADA

The PCS will operate as a standalone networked server: Allen Bradley PLCs with operator screens and alarms designed for operational awareness and supervisory control of equipment. Each PLC will be designed around standalone operation where if they were to lose network connection, they would continue to operate the equipment without interruption. The PCS will be segmented where SCADA networked servers and networked PLCs provide supervisory control from the server room while hardwired pushbuttons and switches are provided for direct control of the equipment locally.

6.4.5.1 SCADA Network Server Rack

A SCADA network server rack will be provided. This server rack will contain all vendor and network connections, Demilitarized Zone (DMZ), and redundancy. To integrate the SCADA network server rack into the design, the Design-Builder will coordinate the number and types of fiber interconnects or Ethernet network connections.

6.4.5.2 Human Machine Interfaces (HMI)

Facility processes will be monitored and controlled by operators from HMI workstations. HMIs and operator workstations will be connected to the network in the server room.

6.4.5.3 Software

The controller process logic and the OITs will be programmed through Rockwell software. The programming requirements including screen layout, navigation, trend display, equipment, process line and text status color requirements will be decided during SCADA workshop meetings with the Owner and Design-Builder. The software will include licensing and support for one year after startup of the system.

6.4.5.4 Historian

The historian workstation will be provided in the SCADA network server rack. All hardwired inputs into the PLCs will be configured in the plant historian. Soft points will also be configured and stored in the plant historian including flow totals, equipment run times, number of starts per hour and other I/O.

6.4.5.5 Device Level Ring (DLR) implementation

Allen Bradley PLCs will be connected to the SCADA network through a device level ring topology using network switches local to each PLC.

6.4.5.6 Cloud based SCADA System

A cloud-based SCADA solution provided by Primex or Design-Builder-approved equal is acceptable to the Owner. This solution will ease HVAC cooling requirements for the server room and allow the Historian to be cloud based, eliminating the need for most of the servers shown on the network diagrams. A final decision on direction will be made by the Owner and Design-Builder.

6.4.6 SCADA and Networked Programmable Logic Controller (PLC) Design

6.4.6.1 PLC Cabinets

The PLCs will be installed inside of a control cabinet labeled with a phenolic tag with a unique equipment tag number. The OIT will be mounted on the dead front cabinet door, with no other external controls or indicating lights. These cabinets will include power supplies with redundancy modules, surge protectors, UPS, control power transformers, PLC chassis, convenience receptacle and I/O cards as required for a complete system. Cabinets will include thermal management devices, fans, thermostats, filters and vents. Air conditioning units will be provided if necessary. Where required for control in hazardous locations, intrinsically safe barriers will be used. All I/O will be individually fused. Each cabinet will include alarms for: power supply, redundancy module, UPS Battery status, UPS output failure, UPS in bypass and high cabinet temperature alarms. Cabinets will be designed and built to meet UL508A.

6.4.6.2 Uninterruptible Power Systems

Uninterruptible power supplies (UPS) will be used to supply power to the PLCs, networking equipment and regulatory process instruments when utility power is momentarily interrupted. A bypass switch will be provided for ease of maintenance. UPS will be provided for each PLC cabinet and controller. Each control panel UPS will be sized to provide 60 minutes of run time for the entire cabinet including PLCs, OITs, field I/O, instruments, and network switches on loss of primary cabinet power.

6.4.7 System Controls Indicators and Displays

Through the project the Design-Builder will coordinate the controls and indicators throughout the system. All valve open close indicators, Local Control Panel (LCP) indicating lights and push buttons, MCC lights, push buttons and switches, graphic displays for equipment running and stopped, valve opened and closed indication will all be coordinated such that:

- Valve Opened = Green
- Valve Closed = Red
- Running (breaker closed) = Green
- Stopped (breaker tripped) = Red
- Manual = Red
- Automatic = Blue
- Control power available = White
- Alarm = Amber

6.4.8 Communication with City Infrastructure

The Operations Building will provide data across the City's fiber optic network for monitoring and not control through a firewall/VPN application.

6.4.9 Instrumentation

Instrumentation will be provided new, UL listed and calibrated with calibration stickers during startup. The types of instruments will be minimized to reduce the number of spare equipment needed for storage and to reduce the training requirements. Analog transmitters 4-20 mA with HART protocol will be the default process control instrumentation and LCD display indicators, except where use of switches is unavoidable. HART protocol is provided for the instruments for calibration purposes and will be available on the SCADA network.

- Magnetic Flow Meters: Remote aluminum NEMA 4X transmitter, local display, 120-Vac power supply, 4-20mA HART output, measurement + reference electrodes, flanged body, submergence rated where installed below-grade, 0.5 percent accuracy, grounding rings.
- Pressure Gages: Bourdon tube-type, 4.5" dial, 1 percent accuracy, 2-valve block and bleed manifold except provide compatible diaphragm seals for chemical lines.
- Rotameters: Range as required for analyzer equipment, integral SS needle valve, SS float, glass or polycarbonate wetted parts.
- Pressure Transmitters: Die-cast aluminum NEMA 4X housing, local display, 316L wetted parts, ½-inch NPT process connection, 0.075 percent accuracy, close-coupled mounting, 2-valve block and bleed manifold, 4-20mA HART output.
- Non-Contacting Level Transmitters: Radar or ultrasonic technology, PVDF or PTFE process connection material, 4-20mA output, loop powered, 0.2-inch accuracy, echo viewing and masking capability, remote display.
- Remote Displays: Die-cast aluminum NEMA 4X housing, backlit LCD display, loop powered, 4-20mA input, 0.75" character height.
- Analytical Monitoring:

- pH/Temperature Sensor: Digital with on-board calibration data, glass pH membrane with gel electrolyte, 0-14 pH range.
- Oxygen reduction potential (ORP) Sensor: Differential electrode technique design with built-in digital electronics using two measuring electrodes to compare the process value to a stable internal reference standard buffer solution. The standard electrode will have non-flowing and fouling-resistant characteristics. Reference electrode will be gel type, nonflowing silver chloride in saturated potassium chloride electrolyte.
 - Hach DSR5.
 - Engineer Approved Equal.
- Conductivity Sensor: A conductivity cell, cell mounting assembly, and monitoring transmitter. Cell constant and measuring range will be suitable for the application.
- Transmitters: To include a quantity of 4-20mA outputs and dry contact outputs as required for the project.
 - Hach SC200/SC4500/SC1000.
 - Engineer Approved Equal.
- Flow Cell: Low flow cell designed for provided sensors, no flow alarm relay output, rotameter with needle valve (integral or separate), panel-mount.
- Free/Total Chlorine Analyzer: Packaged colorimetric analyzer suitable for EPA reporting. Package to include reagent preparation/feed, sample conditioning, and analyzer/transmitter. Transmitter to include 4-20 mA output and a min. of two (2) dry contact outputs. Analyzer to perform self-test and auto-blanking between samples to compensate for varying sample quality, line voltage, and light source age. Package will be capable of self-cleaning and thirty (30) days unattended operation.
 - Hach CL17.
 - Engineer Approved Equal.
- Turbidity Sensor: Low range (0-100 NTU) turbidimeter using an approved EPA method.
 - Hach 1720E or Hach TU5300 (Process head, flow sensor, controller).
 - Engineer Approved Equal.
- Chemical Tote Scales (Weight Transmitters): NEMA 4X transmitter, 4-20mA output, local display, tare knob, 0.5 percent accuracy.

7.0 SITE WORK AND UTILITIES

The site for the new WTP is a mostly undeveloped site consisting of 6.25-acres that is City owned property. The existing WTP is to the west, Swingster Road is to the north, to the east are 2 wells and a generator with gravel road access, and to the south is the Kansas River. Additionally, the existing WWTP is approximately a quarter mile to the east and can also be access by Swingster Road. The site is fairly flat, with drainage on the north end of the site being directed to the roadside ditch along Swingster Road. Most of the existing drainage on site drains south towards the Kansas River, with two small ditches being located on the south end of the site to help promote this drainage to the river. There is a small portion on the east end of the site that continues to drain east until reaching an existing drainage swale that also outfalls to the Kansas River near an existing 15-inch outfall for the WWTP. Majority of the 6.25 acres will be disturbed for construction of the new WTP. Preliminary drawings are included in Appendix F.

7.1 Demolition

The existing site is undeveloped except for a couple access points from Swingster Road to the north, a concrete retaining wall, 4-foot perimeter fencing, and a gravel lot in the southwest corner of the site. Demolition will consist of removal of the 4-foot wire fence that falls within the limits of the new site, removal of the concrete retaining wall, and removal of the existing 15-inch CMP culverts that run beneath each entrance. These pipes will be replaced with new 18-inch RCP culverts underneath each of the two new access points. The gravel lot in the southwest corner of the site will also be removed and seeded.

Existing Well No. 3 will be capped in accordance with KDHE regulations

7.2 Stormwater Management and Design

A majority of the stormwater on site will be collected and conveyed to the south using a swale and piped conveyance to a new stormwater outfall that will tie into an existing drainage ditch that outfalls to the Kansas River. Riprap will be placed directly downstream of the outflow to dissipate flows before reaching the existing ditch. The proposed 18-inch outfall will need to be added to the City's existing MS4 permit. On the north end of the site, two new 18-inch culverts will be placed underneath the two access points off of Swingster Road to promote drainage along the existing roadside ditch. There will also be a small amount of drainage on the east end of the site that will continue to sheet flow to the east similar to the existing conditions of the site. Due to the size and nature of the project, a waiver request for stormwater quality and quantity management was submitted and approved by the City.

7.3 Sedimentation and Erosion Control

Temporary and permanent sediment and erosion control devices conforming to the APWA standards for the Kansas City Metropolitan Chapter Section 5100-Erosion and Sediment Control will be specified for the site. As part of the project, a SWPPP will be developed.

7.4 Fencing and Gates

Fencing will consist of a six-foot high chain link type fence. Fencing will encompass the expanded treatment plant area. The proposed fencing will tie into the existing plant fencing along the west edge of the site. Two (2) motor-operated sliding cantilever access gates will be constructed along the fence route at each driveway to allow vehicular access. The gates will be of similar construction as the fence.

7.5 Fire Protection

One (1) fire hydrant will be placed at the center of the site to meet the fire protection requirement.

7.6 Sanitary Sewers

Sanitary waste for the site will be piped to the existing sanitary sewer on the north end of the site. This existing sewer runs east along the south edge of Swingster Road to the nearby wastewater treatment plant.

7.7 Backwash Waste Line

The backwash waste for the site will be piped west from the backwash holding tank, where it will tie-in to the existing process waste line that discharges to the Kansas River. This existing outfall is included under a NPDES permit.

7.8 Finished Water Line

The finished water for the site will run west along the south side of Swingster Road where it will tie into an existing waterline just west of the existing WTP. This will be a 12-inch cement mortar lined ductile iron pipe.

7.9 Driveways and Pavement

The existing treatment plant has one driveway entrance on Swingster Road. The access driveway consists of an asphalt drive across the roadside ditch with an associated culvert. Two new entrances into the site are anticipated. Both proposed driveways will provide site access north off Swingster Road. These will provide dual direction flow to the new site. All driveways and roads will be 8-inch Portland Cement Concrete with reinforcement. APWA standards for the Kansas City Metropolitan Chapter Section 2300-Incidental Construction will be used for sidewalks to/from structure areas. No curb and gutter are anticipated.

7.10 Parking

There will be two new parking areas developed for the site. Both lots will consist of 8-inch Portland Cement Concrete. A larger parking lot containing approximately 33 total spaces, including two ADA spaces, will be constructed north of the Operations Building. The parking lots will be open to the public on the outside of the security fence.

7.11 Seeding

All areas disturbed by construction that are not to be paved will be seeded.

7.12 Design Vehicle

It is anticipated that delivery of bulk materials needed for the water treatment process will be made using intermediate semitrailers. The locations for bulk deliveries will be identified at the site. For each delivery location, a route will be established based on the turning characteristics of an American Association of State Highway and Transportation Officials (AASHTO) WB-40 Design Vehicle.

For areas that are beyond the limits of the bulk delivery routes, layout and design will be based on the turning characteristics of a Single Unit Truck (SU-40) or Passenger Vehicle (P) as appropriate.

7.13 Floodplains

The proposed WTP site is directly adjacent to the Kansas River and is not within the 100-year floodplain. The 500-year floodplain is mapped along the north bank of the Kansas River, which is along the south edge of the site, but no part of the new site development will be within this floodplain with the exception of a small section of perimeter fencing and the proposed outfall at the Kansas River.

The established floodplain extents and base flood elevations and the FEMA FIRMs will be used. The FIRMs for the project site are included in Appendix E.

8.0 REGULATORY PERMITTING

It is anticipated that several permits will be needed at different times throughout the project. This section documents the anticipated permits and which party has the responsibility for acquiring those permits.

The anticipated permits, with brief descriptions, are as follows:

- Project Authorization under the Construction Stormwater General Permit S-MCST-1703-1 will be required by KDHE. A Stormwater Pollution Prevention Plan (SWPPP) that includes an Erosion and Sediment Control Plan and construction stormwater Notice of Intent (NOI) will be submitted to KDHE a minimum of 60 days prior to the start of construction. A copy of the SWPPP and NOI will be present onsite during all phases of construction. CAS Constructors will hold the Notice of Intent (NOI).
- KDHE Public Water Supply Permit – the Design-Builder will work with the City in completing the Public Water Supply Permit Application prior to construction of the WTP, wells, LOTF booster pump station, and watermain extension.
- NPDES Permit - the Design-Builder will work with the City in applying for an NPDES permit for the discharge of WTP process wastes to the existing permitted outfall – see Section 5.0 for further information.
- Building Permits – as may be required by City of Bonner Springs prior to building any structures (these may include a City Building/Construction Permit and Earth Change Permit).
- Municipal Separate Storm Sewer System (MS4) Permit – the new stormwater outfall for the site will need to be incorporated into the City’s existing MS4 permit.
- Approval for a Change in Point of Diversion – will be required from the Kansas Department of Agriculture, Division of Water Resources.
- Right of Way Permits – as may be required for pipeline installation from KDOT and the City.
- Asbestos Demolition Notification Form (ET-ASB8) must be submitted to KDHE for the Project to be in compliance with state regulations for demolition of friable asbestos-containing materials. The form must be submitted by an asbestos contractor licensed in the state of Kansas. The form must be submitted to KDHE no less than 10 working days before the demolition project is scheduled to start.

Table 8-1 summarizes the anticipated permit, the permitting agency, and the party responsible for acquiring the permit for the project.

Table 8-1: Permitting Matrix

Permit	Permitting Agency	Responsibility
Stormwater Permit (SWPPP)	KDHE	Design-Builder
Public Water Supply Permit	KDHE	OWNER
NPDES Permit	KDHE	OWNER
Building Permits	City of Bonner Springs	Design-Builder
Municipal Separate Storm Sewer System (MS4) Permit	City of Bonner Springs	OWNER
KDOT Right-of-Way Permit	KDOT	Design-Builder
City of Bonner Springs Right-of-Way Permit	City of Bonner Springs	Design-Builder
Change in Point of Diversion	DWR	OWNER
Water Right Application (Well No. 7)	DWR	OWNER
Asbestos Demolition Notification Form	KDHE	Design-Builder

It is not anticipated that a Section 404 or 408 permit will be required from the US Army Corps of Engineers (USACE) for this project. A wetland delineation will be completed for the project area to confirm with the USACE that this project would not permanently impact any streams, wetlands, or Civil Works projects. To avoid impacts to protected species, tree clearing for the project would occur from October to March. Tree clearing activities would also not occur within 660 feet of any active bald eagle nests.

APPENDIX A - WELL NO. 7 WATER QUALITY SAMPLE RESULTS

April 06, 2022

Daniel Clement
Burns & McDonnell
800 E. 1st Street North
Suite 400
Wichita, KS 67202

RE: Project: Bonner Springs Wells, 138337
Pace Project No.: 35701862

Dear Daniel Clement:

Enclosed are the analytical results for sample(s) received by the laboratory on March 08, 2022. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Ormond Beach
- Pace Analytical Services - Greensburg

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jeff Baylor
jeff.baylor@pacelabs.com
(386)672-5668
Project Manager

Enclosures



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: Bonner Springs Wells, 138337
Pace Project No.: 35701862

Pace Analytical Services Pennsylvania

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
ANAB DOD-ELAP Rad Accreditation #: L2417
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 04222CA
Colorado Certification #: PA01547
Connecticut Certification #: PH-0694
Delaware Certification
EPA Region 4 DW Rad
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Guam Certification
Florida: Cert E871149 SEKS WET
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas/TNI Certification #: E-10358
Kentucky Certification #: KY90133
KY WW Permit #: KY0098221
KY WW Permit #: KY0000221
Louisiana DHH/TNI Certification #: LA180012
Louisiana DEQ/TNI Certification #: 4086
Maine Certification #: 2017020
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification #: 9991

Missouri Certification #: 235
Montana Certification #: Cert0082
Nebraska Certification #: NE-OS-29-14
Nevada Certification #: PA014572018-1
New Hampshire/TNI Certification #: 297617
New Jersey/TNI Certification #: PA051
New Mexico Certification #: PA01457
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Ohio EPA Rad Approval: #41249
Oregon/TNI Certification #: PA200002-010
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: 02867
Texas/TNI Certification #: T104704188-17-3
Utah/TNI Certification #: PA014572017-9
USDA Soil Permit #: P330-17-00091
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 460198
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C
Wisconsin Approve List for Rad
Wyoming Certification #: 8TMS-L

Pace Analytical Services Ormond Beach

8 East Tower Circle, Ormond Beach, FL 32174
Alaska DEC- CS/UST/LUST
Alabama Certification #: 41320
Colorado Certification: FL NELAC Reciprocity
Connecticut Certification #: PH-0216
Delaware Certification: FL NELAC Reciprocity
Florida Certification #: E83079
Georgia Certification #: 955
Guam Certification: FL NELAC Reciprocity
Hawaii Certification: FL NELAC Reciprocity
Illinois Certification #: 200068
Indiana Certification: FL NELAC Reciprocity
Kansas Certification #: E-10383
Kentucky Certification #: 90050
Louisiana Certification #: FL NELAC Reciprocity
Louisiana Environmental Certificate #: 05007
Maine Certification #: FL01264
Maryland Certification: #346
Michigan Certification #: 9911
Mississippi Certification: FL NELAC Reciprocity

Missouri Certification #: 236
Montana Certification #: Cert 0074
Nebraska Certification: NE-OS-28-14
New Hampshire Certification #: 2958
New Jersey Certification #: FL022
New York Certification #: 11608
North Carolina Environmental Certificate #: 667
North Carolina Certification #: 12710
North Dakota Certification #: R-216
Ohio DEP 87780
Oklahoma Certification #: D9947
Pennsylvania Certification #: 68-00547
Puerto Rico Certification #: FL01264
South Carolina Certification: #96042001
Tennessee Certification #: TN02974
Texas Certification: FL NELAC Reciprocity
US Virgin Islands Certification: FL NELAC Reciprocity
Virginia Environmental Certification #: 460165
West Virginia Certification #: 9962C
Wisconsin Certification #: 399079670

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CERTIFICATIONS

Project: Bonner Springs Wells, 138337

Pace Project No.: 35701862

Pace Analytical Services Ormond Beach

Wyoming (EPA Region 8): FL NELAC Reciprocity

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: Bonner Springs Wells, 138337

Pace Project No.: 35701862

Lab ID	Sample ID	Matrix	Date Collected	Date Received
35701862001	TW-3	Drinking Water	03/07/22 16:00	03/08/22 10:52

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: Bonner Springs Wells, 138337

Pace Project No.: 35701862

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
35701862001	TW-3	EPA 505	JPD	10	PASI-O
		EPA 515.3	LJM	7	PASI-O
		EPA 525.3	CTB	22	PASI-O
		EPA 531.2	TMM1	9	PASI-O
		EPA 200.7	EMG	11	PASI-O
		EPA 200.8	LEC	10	PASI-O
		EPA 245.1	SLG	1	PASI-O
		EPA 524.2	CLT	45	PASI-O
		SM 7500RnB-07	ERT	1	PASI-PA
		EPA 900.0	RJS	1	PASI-PA
		EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		EPA 180.1	KW1	1	PASI-O
		SM 2320B	RP	1	PASI-O
		SM 2510B	SWB	1	PASI-O
		SM 2540C	DDM	1	PASI-O
		SM 4500-H+B	MMK	1	PASI-O
		EPA 300.0	RRB	3	PASI-O
		EPA 353.2	KW1	3	PASI-O
		EPA 365.4	AVW	1	PASI-O
		SM 5310B	AGS	1	PASI-O

PASI-O = Pace Analytical Services - Ormond Beach

PASI-PA = Pace Analytical Services - Greensburg

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Bonner Springs Wells, 138337

Pace Project No.: 35701862

Sample: TW-3		Lab ID: 35701862001		Collected: 03/07/22 16:00		Received: 03/08/22 10:52		Matrix: Drinking Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
505 GCS PCB-TOX-TCH									
Analytical Method: EPA 505 Preparation Method: EPA 505									
Pace Analytical Services - Ormond Beach									
Chlordane (Technical)	ND	mg/L	0.00022	0.000038	1	03/15/22 04:28	03/16/22 00:10	57-74-9	
PCB-1016 (Aroclor 1016)	ND	mg/L	0.00011	0.000047	1	03/15/22 04:28	03/16/22 00:10	12674-11-2	
PCB-1221 (Aroclor 1221)	ND	mg/L	0.00011	0.000035	1	03/15/22 04:28	03/16/22 00:10	11104-28-2	
PCB-1232 (Aroclor 1232)	ND	mg/L	0.00011	0.000048	1	03/15/22 04:28	03/16/22 00:10	11141-16-5	
PCB-1242 (Aroclor 1242)	ND	mg/L	0.00011	0.000016	1	03/15/22 04:28	03/16/22 00:10	53469-21-9	
PCB-1248 (Aroclor 1248)	ND	mg/L	0.00011	0.000013	1	03/15/22 04:28	03/16/22 00:10	12672-29-6	
PCB-1254 (Aroclor 1254)	ND	mg/L	0.00011	0.000039	1	03/15/22 04:28	03/16/22 00:10	11097-69-1	
PCB-1260 (Aroclor 1260)	ND	mg/L	0.00011	0.000032	1	03/15/22 04:28	03/16/22 00:10	11096-82-5	
PCB, Total	ND	mg/L	0.00011	0.000048	1	03/15/22 04:28	03/16/22 00:10	1336-36-3	
Toxaphene	ND	mg/L	0.0011	0.00074	1	03/15/22 04:28	03/16/22 00:10	8001-35-2	
515.3 Chlorinated Herbicides									
Analytical Method: EPA 515.3 Preparation Method: EPA 515.3									
Pace Analytical Services - Ormond Beach									
2,4-D	ND	mg/L	0.00010	0.000096	1	03/15/22 16:35	03/16/22 11:55	94-75-7	
Dalapon	ND	mg/L	0.0010	0.00049	1	03/15/22 16:35	03/16/22 11:55	75-99-0	
Dinoseb	ND	mg/L	0.00020	0.00016	1	03/15/22 16:35	03/16/22 11:55	88-85-7	
Pentachlorophenol	ND	mg/L	0.000040	0.000014	1	03/15/22 16:35	03/16/22 11:55	87-86-5	
Picloram	0.000047J	mg/L	0.00010	0.000040	1	03/15/22 16:35	03/16/22 11:55	1918-02-1	
2,4,5-TP (Silvex)	ND	mg/L	0.00020	0.000053	1	03/15/22 16:35	03/16/22 11:55	93-72-1	
Surrogates									
2,4-DCAA (S)	93	%	70-130		1	03/15/22 16:35	03/16/22 11:55	19719-28-9	
525.3 Pesticides Semivolatiles									
Analytical Method: EPA 525.3 Preparation Method: EPA 525.3									
Pace Analytical Services - Ormond Beach									
Alachlor	ND	mg/L	0.00019	0.000029	1	03/09/22 09:27	03/10/22 20:42	15972-60-8	
Aldrin	ND	mg/L	0.000097	0.000024	1	03/09/22 09:27	03/10/22 20:42	309-00-2	
Atrazine	0.00044	mg/L	0.000097	0.000015	1	03/09/22 09:27	03/10/22 20:42	1912-24-9	
Benzo(a)pyrene	ND	mg/L	0.000097	0.000019	1	03/09/22 09:27	03/10/22 20:42	50-32-8	
gamma-BHC (Lindane)	ND	mg/L	0.000019	0.0000027	1	03/09/22 09:27	03/10/22 20:42	58-89-9	
Butachlor	ND	mg/L	0.000097	0.000020	1	03/09/22 09:27	03/10/22 20:42	23184-66-9	N2
Dieldrin	ND	mg/L	0.000097	0.000020	1	03/09/22 09:27	03/10/22 20:42	60-57-1	
Endrin	ND	mg/L	0.0000099	0.0000023	1	03/09/22 09:27	03/10/22 20:42	72-20-8	
bis(2-Ethylhexyl)adipate	ND	mg/L	0.0015	0.00036	1	03/09/22 09:27	03/10/22 20:42	103-23-1	
bis(2-Ethylhexyl)phthalate	ND	mg/L	0.0019	0.00047	1	03/09/22 09:27	03/10/22 20:42	117-81-7	
Heptachlor	ND	mg/L	0.000039	0.000014	1	03/09/22 09:27	03/10/22 20:42	76-44-8	
Heptachlor epoxide	ND	mg/L	0.000019	0.0000030	1	03/09/22 09:27	03/10/22 20:42	1024-57-3	
Hexachlorobenzene	ND	mg/L	0.000097	0.000015	1	03/09/22 09:27	03/10/22 20:42	118-74-1	
Hexachlorocyclopentadiene	ND	mg/L	0.000097	0.000024	1	03/09/22 09:27	03/10/22 20:42	77-47-4	
Methoxychlor	ND	mg/L	0.000097	0.000023	1	03/09/22 09:27	03/10/22 20:42	72-43-5	
Metolachlor	0.00018	mg/L	0.000097	0.000016	1	03/09/22 09:27	03/10/22 20:42	51218-45-2	
Metribuzin	0.00015J	mg/L	0.00029	0.00013	1	03/09/22 09:27	03/10/22 20:42	21087-64-9	
Propachlor	ND	mg/L	0.000097	0.000018	1	03/09/22 09:27	03/10/22 20:42	1918-16-7	
Simazine	ND	mg/L	0.00017	0.000040	1	03/09/22 09:27	03/10/22 20:42	122-34-9	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Bonner Springs Wells, 138337

Pace Project No.: 35701862

Sample: TW-3		Lab ID: 35701862001		Collected: 03/07/22 16:00		Received: 03/08/22 10:52		Matrix: Drinking Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
525.3 Pesticides Semivolatiles		Analytical Method: EPA 525.3 Preparation Method: EPA 525.3 Pace Analytical Services - Ormond Beach							
Surrogates									
1,3-Dimethyl-2-nitrobenzene(S)	88	%	70-130		1	03/09/22 09:27	03/10/22 20:42	81209	
Benzo(a)pyrene-d12 (S)	103	%	70-130		1	03/09/22 09:27	03/10/22 20:42		
Triphenylphosphate (S)	97	%	70-130		1	03/09/22 09:27	03/10/22 20:42	115-86-6	
531.2 HPLC Carbamates		Analytical Method: EPA 531.2 Pace Analytical Services - Ormond Beach							
Aldicarb	ND	mg/L	0.0020	0.00036	1		03/10/22 03:07	116-06-3	
Aldicarb sulfone	ND	mg/L	0.0020	0.00058	1		03/10/22 03:07	1646-88-4	
Aldicarb sulfoxide	ND	mg/L	0.0020	0.00047	1		03/10/22 03:07	1646-87-3	
Carbofuran	ND	mg/L	0.00090	0.00059	1		03/10/22 03:07	1563-66-2	
3-Hydroxycarbofuran	ND	mg/L	0.0020	0.00033	1		03/10/22 03:07	16655-82-6	
Methomyl	ND	mg/L	0.0020	0.00031	1		03/10/22 03:07	16752-77-5	
Oxamyl	ND	mg/L	0.0020	0.00046	1		03/10/22 03:07	23135-22-0	
Carbaryl	ND	mg/L	0.0020	0.00033	1		03/10/22 03:07	63-25-2	
Surrogates									
BDMC (S)	123	%	70-130		1		03/10/22 03:07		
200.7 MET ICP, Drinking Water		Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Ormond Beach							
Barium	0.31	mg/L	0.010	0.0062	1	03/10/22 07:27	03/16/22 14:34	7440-39-3	
Calcium	83.9	mg/L	0.50	0.20	1	03/10/22 07:27	03/16/22 14:34	7440-70-2	
Chromium	ND	mg/L	0.0050	0.0026	1	03/10/22 07:27	03/16/22 14:34	7440-47-3	
Magnesium	17.7	mg/L	0.50	0.16	1	03/10/22 07:27	03/16/22 14:34	7439-95-4	
Nickel	0.0038J	mg/L	0.0050	0.0020	1	03/10/22 07:27	03/16/22 14:34	7440-02-0	
Potassium	7.4	mg/L	1.0	0.58	1	03/10/22 07:27	03/16/22 14:34	7440-09-7	
Silica	13.4	mg/L	0.21	0.12	1	03/10/22 07:27	03/16/22 14:34	7631-86-9	
Silver	ND	mg/L	0.0050	0.0033	1	03/10/22 07:27	03/16/22 14:34	7440-22-4	
Sodium	48.5	mg/L	2.0	0.59	1	03/10/22 07:27	03/16/22 14:34	7440-23-5	
Tot Hardness asCaCO3 (SM 2340B	282	mg/L	3.3	1.2	1	03/10/22 07:27	03/16/22 14:34		
Zinc	ND	mg/L	0.020	0.0076	1	03/10/22 07:27	03/16/22 14:34	7440-66-6	
200.8 MET ICPMS Drinking Water		Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Ormond Beach							
Aluminum	ND	mg/L	0.010	0.0072	1	03/10/22 07:27	03/16/22 10:29	7429-90-5	
Antimony	ND	mg/L	0.0010	0.00083	1	03/10/22 07:27	03/16/22 10:29	7440-36-0	
Arsenic	0.0074	mg/L	0.0010	0.00050	1	03/10/22 07:27	03/16/22 10:29	7440-38-2	
Beryllium	ND	mg/L	0.00010	0.000070	1	03/10/22 07:27	03/16/22 10:29	7440-41-7	
Cadmium	0.00011J	mg/L	0.00020	0.000050	1	03/10/22 07:27	03/16/22 10:29	7440-43-9	
Copper	ND	mg/L	0.0010	0.00093	1	03/10/22 07:27	03/16/22 10:29	7440-50-8	
Lead	ND	mg/L	0.0010	0.00022	1	03/10/22 07:27	03/16/22 10:29	7439-92-1	
Selenium	ND	mg/L	0.0010	0.00083	1	03/10/22 07:27	03/16/22 10:29	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00021	1	03/10/22 07:27	03/16/22 10:29	7440-28-0	
Uranium	1.7	ug/L	1.0	0.19	1	03/10/22 07:27	03/16/22 10:29	7440-61-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Bonner Springs Wells, 138337

Pace Project No.: 35701862

Sample: TW-3		Lab ID: 35701862001		Collected: 03/07/22 16:00		Received: 03/08/22 10:52		Matrix: Drinking Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
245.1 Mercury									
Analytical Method: EPA 245.1 Preparation Method: EPA 245.1									
Pace Analytical Services - Ormond Beach									
Mercury	ND	ug/L	0.20	0.090	1	03/14/22 23:37	03/15/22 14:23	7439-97-6	
524.2 MSV									
Analytical Method: EPA 524.2									
Pace Analytical Services - Ormond Beach									
Benzene	ND	mg/L	0.00050	0.00040	1		03/21/22 15:15	71-43-2	
Bromobenzene	ND	mg/L	0.0010	0.00030	1		03/21/22 15:15	108-86-1	
Bromodichloromethane	ND	mg/L	0.0010	0.00037	1		03/21/22 15:15	75-27-4	
Bromoform	ND	mg/L	0.0010	0.00035	1		03/21/22 15:15	75-25-2	
Bromomethane	ND	mg/L	0.0010	0.00048	1		03/21/22 15:15	74-83-9	
Carbon tetrachloride	ND	mg/L	0.00050	0.00028	1		03/21/22 15:15	56-23-5	
Chlorobenzene	ND	mg/L	0.00050	0.00026	1		03/21/22 15:15	108-90-7	
Chloroethane	ND	mg/L	0.0010	0.00032	1		03/21/22 15:15	75-00-3	
Chloroform	0.00044J	mg/L	0.0010	0.00044	1		03/21/22 15:15	67-66-3	
Chloromethane	ND	mg/L	0.0020	0.0012	1		03/21/22 15:15	74-87-3	
2-Chlorotoluene	ND	mg/L	0.0010	0.00023	1		03/21/22 15:15	95-49-8	
4-Chlorotoluene	ND	mg/L	0.0010	0.00026	1		03/21/22 15:15	106-43-4	
Dibromochloromethane	ND	mg/L	0.0010	0.00047	1		03/21/22 15:15	124-48-1	
Dibromomethane	ND	mg/L	0.0010	0.00033	1		03/21/22 15:15	74-95-3	
1,2-Dichlorobenzene	ND	mg/L	0.00050	0.00026	1		03/21/22 15:15	95-50-1	F5
1,3-Dichlorobenzene	ND	mg/L	0.0010	0.00029	1		03/21/22 15:15	541-73-1	
1,4-Dichlorobenzene	ND	mg/L	0.00050	0.00030	1		03/21/22 15:15	106-46-7	F5
1,1-Dichloroethane	ND	mg/L	0.0010	0.00027	1		03/21/22 15:15	75-34-3	
1,2-Dichloroethane	ND	mg/L	0.00050	0.00030	1		03/21/22 15:15	107-06-2	
1,1-Dichloroethene	ND	mg/L	0.00050	0.00029	1		03/21/22 15:15	75-35-4	
cis-1,2-Dichloroethene	ND	mg/L	0.00050	0.00033	1		03/21/22 15:15	156-59-2	F5
trans-1,2-Dichloroethene	ND	mg/L	0.00050	0.00027	1		03/21/22 15:15	156-60-5	
1,2-Dichloropropane	ND	mg/L	0.00050	0.00044	1		03/21/22 15:15	78-87-5	
1,3-Dichloropropane	ND	mg/L	0.0010	0.00023	1		03/21/22 15:15	142-28-9	
2,2-Dichloropropane	ND	mg/L	0.0010	0.00049	1		03/21/22 15:15	594-20-7	
1,1-Dichloropropene	ND	mg/L	0.0010	0.00031	1		03/21/22 15:15	563-58-6	
cis-1,3-Dichloropropene	ND	mg/L	0.0010	0.00028	1		03/21/22 15:15	10061-01-5	
trans-1,3-Dichloropropene	ND	mg/L	0.0010	0.00026	1		03/21/22 15:15	10061-02-6	
Ethylbenzene	ND	mg/L	0.00050	0.00023	1		03/21/22 15:15	100-41-4	
Methylene Chloride	0.00062J	mg/L	0.0010	0.00044	1		03/21/22 15:15	75-09-2	
Styrene	ND	mg/L	0.00050	0.00020	1		03/21/22 15:15	100-42-5	
1,1,1,2-Tetrachloroethane	ND	mg/L	0.0010	0.00018	1		03/21/22 15:15	630-20-6	
1,1,2,2-Tetrachloroethane	ND	mg/L	0.0010	0.00027	1		03/21/22 15:15	79-34-5	
Tetrachloroethene	ND	mg/L	0.00050	0.00026	1		03/21/22 15:15	127-18-4	
Toluene	ND	mg/L	0.00050	0.00028	1		03/21/22 15:15	108-88-3	
1,2,4-Trichlorobenzene	ND	mg/L	0.00050	0.00035	1		03/21/22 15:15	120-82-1	F5
1,1,1-Trichloroethane	ND	mg/L	0.00050	0.00027	1		03/21/22 15:15	71-55-6	
1,1,2-Trichloroethane	ND	mg/L	0.00050	0.00028	1		03/21/22 15:15	79-00-5	
Trichloroethene	ND	mg/L	0.00050	0.00026	1		03/21/22 15:15	79-01-6	
1,2,3-Trichloropropane	ND	mg/L	0.0010	0.00023	1		03/21/22 15:15	96-18-4	
Vinyl chloride	ND	mg/L	0.00050	0.00012	1		03/21/22 15:15	75-01-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Bonner Springs Wells, 138337

Pace Project No.: 35701862

Sample: TW-3		Lab ID: 35701862001		Collected: 03/07/22 16:00		Received: 03/08/22 10:52		Matrix: Drinking Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
524.2 MSV									
Analytical Method: EPA 524.2									
Pace Analytical Services - Ormond Beach									
Xylene (Total)	ND	mg/L	0.0010	0.00011	1		03/21/22 15:15	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	98	%	70-130		1		03/21/22 15:15	460-00-4	
Toluene-d8 (S)	100	%	70-130		1		03/21/22 15:15	2037-26-5	
1,2-Dichlorobenzene-d4 (S)	104	%	70-130		1		03/21/22 15:15	2199-69-1	
180.1 Turbidity									
Analytical Method: EPA 180.1									
Pace Analytical Services - Ormond Beach									
Turbidity	1.1	NTU	0.20	0.20	1		03/08/22 18:58		
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Ormond Beach									
Alkalinity, Total as CaCO3	271	mg/L	5.0	5.0	1		03/12/22 22:24		
2510B Specific Conductance									
Analytical Method: SM 2510B									
Pace Analytical Services - Ormond Beach									
Specific Conductance @ 25C	1100	umhos/cm	2.0	2.0	1		03/10/22 15:46		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Ormond Beach									
Total Dissolved Solids	477	mg/L	5.0	5.0	1		03/14/22 10:55		
4500H+ pH, Electrometric									
Analytical Method: SM 4500-H+B									
Pace Analytical Services - Ormond Beach									
pH at 25 Degrees C	7.5	Std. Units	0.10	0.10	1		03/10/22 14:43		H6
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Ormond Beach									
Chloride	55.3	mg/L	25.0	12.5	5		03/25/22 22:56	16887-00-6	
Fluoride	0.30	mg/L	0.25	0.073	5		03/25/22 22:56	16984-48-8	
Sulfate	57.2	mg/L	25.0	12.5	5		03/25/22 22:56	14808-79-8	
353.2 Nitrogen, NO2/NO3 unpres									
Analytical Method: EPA 353.2									
Pace Analytical Services - Ormond Beach									
Nitrogen, NO2 plus NO3	ND	mg/L	0.050	0.015	1		03/08/22 16:34		
Nitrogen, Nitrate	ND	mg/L	0.050	0.025	1		03/08/22 16:34	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.050	0.025	1		03/08/22 16:34	14797-65-0	
365.4 Phosphorus, Total DW									
Analytical Method: EPA 365.4 Preparation Method: EPA 365.4									
Pace Analytical Services - Ormond Beach									
Phosphorus, Total (as P)	0.19	mg/L	0.10	0.070	1	03/13/22 12:32	03/16/22 08:37	7723-14-0	N2

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ANALYTICAL RESULTS

Project: Bonner Springs Wells, 138337

Pace Project No.: 35701862

Sample: TW-3		Lab ID: 35701862001		Collected: 03/07/22 16:00		Received: 03/08/22 10:52		Matrix: Drinking Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
5310B TOC Analytical Method: SM 5310B Pace Analytical Services - Ormond Beach									
Total Organic Carbon	2.5	mg/L	1.0	0.50	1		03/15/22 03:05	7440-44-0	

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QUALITY CONTROL DATA

Project: Bonner Springs Wells, 138337
Pace Project No.: 35701862

QC Batch:	806471	Analysis Method:	EPA 531.2
QC Batch Method:	EPA 531.2	Analysis Description:	531.2 HPLC Carbamate
		Laboratory:	Pace Analytical Services - Ormond Beach

Associated Lab Samples: 35701862001

METHOD BLANK: 4427855 Matrix: Water

Associated Lab Samples: 35701862001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
3-Hydroxycarbofuran	mg/L	ND	0.0020	0.00033	03/09/22 20:25	
Aldicarb	mg/L	ND	0.0020	0.00036	03/09/22 20:25	
Aldicarb sulfone	mg/L	ND	0.0020	0.00058	03/09/22 20:25	
Aldicarb sulfoxide	mg/L	ND	0.0020	0.00047	03/09/22 20:25	
Carbaryl	mg/L	ND	0.0020	0.00033	03/09/22 20:25	
Carbofuran	mg/L	ND	0.00090	0.00059	03/09/22 20:25	
Methomyl	mg/L	ND	0.0020	0.00031	03/09/22 20:25	
Oxamyl	mg/L	ND	0.0020	0.00046	03/09/22 20:25	
BDMC (S)	%	127	70-130		03/09/22 20:25	

LABORATORY CONTROL SAMPLE: 4427856

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
3-Hydroxycarbofuran	mg/L	0.01	0.012	121	70-130	
Aldicarb	mg/L	0.01	0.012	119	70-130	
Aldicarb sulfone	mg/L	0.01	0.013	126	70-130	
Aldicarb sulfoxide	mg/L	0.01	0.013	126	70-130	
Carbaryl	mg/L	0.01	0.012	121	70-130	
Carbofuran	mg/L	0.01	0.012	121	70-130	
Methomyl	mg/L	0.01	0.012	121	70-130	
Oxamyl	mg/L	0.01	0.012	120	70-130	
BDMC (S)	%			124	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4427857 4427858

Parameter	Units	MS		MSD		MS		MSD		% Rec Limits	Max		Qual
		35701758002	Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec	Result		RPD	RPD	
3-Hydroxycarbofuran	mg/L	0.33U ug/L	0.01	0.01	0.011	0.011	106	111	70-130	5	30		
Aldicarb	mg/L	0.36U ug/L	0.01	0.01	0.011	0.011	107	110	70-130	3	30		
Aldicarb sulfone	mg/L	0.58U ug/L	0.01	0.01	0.011	0.011	108	110	70-130	2	30		
Aldicarb sulfoxide	mg/L	0.87J ug/L	0.01	0.01	0.012	0.012	110	111	70-130	0	30		
Carbaryl	mg/L	0.33U ug/L	0.01	0.01	0.011	0.011	110	109	70-130	1	30		
Carbofuran	mg/L	0.59U ug/L	0.01	0.01	0.010	0.011	104	107	70-130	3	30		

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QUALITY CONTROL DATA

Project: Bonner Springs Wells, 138337

Pace Project No.: 35701862

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4427857 4427858												
Parameter	Units	35701758002	MS	MSD	MS	MSD	MS	MSD	% Rec	RPD	Max	Qual
		Result	Spike	Spike								
Methomyl	mg/L	0.31U ug/L	0.01	0.01	0.011	0.012	110	120	70-130	9	30	
Oxamyl	mg/L	0.46U ug/L	0.01	0.01	0.010	0.011	104	106	70-130	2	30	
BDMC (S)	%						104	112	70-130			

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Bonner Springs Wells, 138337
Pace Project No.: 35701862

QC Batch:	807215	Analysis Method:	EPA 245.1
QC Batch Method:	EPA 245.1	Analysis Description:	245.1 Mercury
		Laboratory:	Pace Analytical Services - Ormond Beach

Associated Lab Samples: 35701862001

METHOD BLANK: 4432420 Matrix: Water

Associated Lab Samples: 35701862001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	0.090	03/15/22 13:56	

LABORATORY CONTROL SAMPLE: 4432421

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	2	2.1	104	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4432422 4432423

Parameter	Units	92592713001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	ND	2	2	2.2	2.1	107	104	70-130	3	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4432424 4432425

Parameter	Units	92592698003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	ND	2	2	1.6	2.0	80	98	70-130	21	20	R1

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QUALITY CONTROL DATA

Project: Bonner Springs Wells, 138337
Pace Project No.: 35701862

QC Batch:	806579	Analysis Method:	EPA 200.7
QC Batch Method:	EPA 200.7	Analysis Description:	200.7 MET Drinking Water
		Laboratory:	Pace Analytical Services - Ormond Beach

Associated Lab Samples: 35701862001

METHOD BLANK: 4428512 Matrix: Water

Associated Lab Samples: 35701862001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Barium	mg/L	ND	0.010	0.0062	03/16/22 13:45	
Calcium	mg/L	ND	0.50	0.20	03/16/22 13:45	
Chromium	mg/L	ND	0.0050	0.0026	03/16/22 13:45	
Magnesium	mg/L	ND	0.50	0.16	03/16/22 13:45	
Nickel	mg/L	ND	0.0050	0.0020	03/16/22 13:45	
Potassium	mg/L	ND	1.0	0.58	03/16/22 13:45	
Silica	mg/L	ND	0.21	0.12	03/16/22 13:45	
Silver	mg/L	ND	0.0050	0.0033	03/16/22 13:45	
Sodium	mg/L	ND	2.0	0.59	03/16/22 13:45	
Tot Hardness asCaCO3 (SM 2340B	mg/L	ND	3.3	1.2	03/16/22 13:45	
Zinc	mg/L	ND	0.020	0.0076	03/16/22 13:45	

LABORATORY CONTROL SAMPLE: 4428513

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	mg/L	0.25	0.25	102	85-115	
Calcium	mg/L	12.5	12.7	102	85-115	
Chromium	mg/L	0.25	0.25	101	85-115	
Magnesium	mg/L	12.5	12.7	102	85-115	
Nickel	mg/L	0.25	0.25	102	85-115	
Potassium	mg/L	12.5	12.4	99	85-115	
Silica	mg/L	5.3	5.0	94	85-115	
Silver	mg/L	0.025	0.026	106	85-115	
Sodium	mg/L	12.5	12.6	101	85-115	
Tot Hardness asCaCO3 (SM 2340B	mg/L	82.7	84.0	102	85-115	
Zinc	mg/L	1.2	1.3	103	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4428514 4428515

Parameter	Units	35701098001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	mg/L	ND	0.25	0.25	0.27	0.26	105	103	70-130	2	20	
Calcium	mg/L	19.1	12.5	12.5	32.8	32.1	110	104	70-130	2	20	
Chromium	mg/L	ND	0.25	0.25	0.26	0.26	103	102	70-130	1	20	
Magnesium	mg/L	6.0	12.5	12.5	19.2	18.9	106	103	70-130	2	20	
Nickel	mg/L	ND	0.25	0.25	0.26	0.26	103	102	70-130	1	20	
Potassium	mg/L	4490 ug/L	12.5	12.5	18.0	17.7	108	105	70-130	2	20	

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QUALITY CONTROL DATA

Project: Bonner Springs Wells, 138337

Pace Project No.: 35701862

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:												4428514	4428515			
Parameter	Units	35701098001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual				
Silica	mg/L	29300 ug/L	5.3	5.3	36.0	35.2	124	111	70-130	2	20					
Silver	mg/L	ND	0.025	0.025	0.027	0.027	106	105	70-130	1	20					
Sodium	mg/L	25.0	12.5	12.5	39.4	38.5	115	108	70-130	2	20					
Tot Hardness asCaCO3 (SM 2340B	mg/L	72.5	82.7	82.7	161	158	107	103	70-130	2	20					
Zinc	mg/L	ND	1.2	1.2	1.3	1.3	105	104	70-130	1	20					

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4428516 4428517												
Parameter	Units	35701862001	MS	MSD	MS	MSD	MS	MSD	% Rec	RPD	Max	Qual
		Result	Spike	Spike								
Barium	mg/L	0.31	0.25	0.25	0.55	0.54	95	93	70-130	1	20	
Calcium	mg/L	83.9	12.5	12.5	94.6	93.7	85	78	70-130	1	20	
Chromium	mg/L	ND	0.25	0.25	0.24	0.24	95	95	70-130	0	20	
Magnesium	mg/L	17.7	12.5	12.5	29.5	29.1	95	92	70-130	1	20	
Nickel	mg/L	0.0038J	0.25	0.25	0.24	0.24	94	94	70-130	1	20	
Potassium	mg/L	7.4	12.5	12.5	20.0	19.8	101	100	70-130	1	20	
Silica	mg/L	13.4	5.3	5.3	18.3	18.1	92	89	70-130	1	20	
Silver	mg/L	ND	0.025	0.025	0.025	0.025	99	99	70-130	0	20	
Sodium	mg/L	48.5	12.5	12.5	60.9	60.3	99	94	70-130	1	20	
Tot Hardness asCaCO3 (SM 2340B	mg/L	282	82.7	82.7	358	354	91	87	70-130	1	20	
Zinc	mg/L	ND	1.2	1.2	1.2	1.2	95	95	70-130	0	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Bonner Springs Wells, 138337
Pace Project No.: 35701862

QC Batch:	806578	Analysis Method:	EPA 200.8
QC Batch Method:	EPA 200.8	Analysis Description:	200.8 MET Drinking Water
		Laboratory:	Pace Analytical Services - Ormond Beach

Associated Lab Samples: 35701862001

METHOD BLANK: 4428505 Matrix: Water

Associated Lab Samples: 35701862001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Aluminum	mg/L	ND	0.010	0.0072	03/11/22 15:21	
Antimony	mg/L	ND	0.0010	0.00083	03/11/22 15:21	
Arsenic	mg/L	ND	0.0010	0.00050	03/11/22 15:21	
Beryllium	mg/L	ND	0.00010	0.000070	03/11/22 15:21	
Cadmium	mg/L	ND	0.00020	0.000050	03/11/22 15:21	
Copper	mg/L	ND	0.0010	0.00093	03/11/22 15:21	
Lead	mg/L	ND	0.0010	0.00022	03/11/22 15:21	
Selenium	mg/L	ND	0.0010	0.00083	03/11/22 15:21	
Thallium	mg/L	ND	0.0010	0.00021	03/11/22 15:21	
Uranium	ug/L	ND	1.0	0.19	03/11/22 15:21	

LABORATORY CONTROL SAMPLE: 4428507

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	mg/L	0.5	0.53	107	85-115	
Antimony	mg/L	0.05	0.052	104	85-115	
Arsenic	mg/L	0.05	0.048	96	85-115	
Beryllium	mg/L	0.005	0.0051	102	85-115	
Cadmium	mg/L	0.005	0.0051	102	85-115	
Copper	mg/L	0.05	0.046	93	85-115	
Lead	mg/L	0.05	0.050	101	85-115	
Selenium	mg/L	0.05	0.050	99	85-115	
Thallium	mg/L	0.05	0.049	99	85-115	
Uranium	ug/L	50	47.6	95	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4428508 4428509

Parameter	Units	35698790020 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	mg/L	10.2 ug/L	0.5	0.5	0.49	0.49	96	96	70-130	0	20	
Antimony	mg/L	0.83U ug/L	0.05	0.05	0.052	0.052	103	103	70-130	0	20	
Arsenic	mg/L	0.77J ug/L	0.05	0.05	0.049	0.050	97	99	70-130	2	20	
Beryllium	mg/L	0.070U ug/L	0.005	0.005	0.0046	0.0046	92	92	70-130	0	20	
Cadmium	mg/L	0.16J ug/L	0.005	0.005	0.0050	0.0051	97	99	70-130	2	20	
Copper	mg/L	67.7 ug/L	0.05	0.05	0.11	0.12	86	97	70-130	5	20	
Lead	mg/L	3.4 ug/L	0.05	0.05	0.053	0.054	100	102	70-130	2	20	

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QUALITY CONTROL DATA

Project: Bonner Springs Wells, 138337

Pace Project No.: 35701862

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4428508 4428509												
		35698790020	MS Spike	MSD Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Selenium	mg/L	0.83U ug/L	0.05	0.05	0.047	0.048	94	96	70-130	2	20	
Thallium	mg/L	0.21U ug/L	0.05	0.05	0.049	0.050	98	99	70-130	2	20	
Uranium	ug/L	0.27J	50	50	49.4	50.4	98	100	70-130	2	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4428510 4428511												
Parameter	Units	35701768001	MS	MSD	MS	MSD	MS	MSD	% Rec	RPD	Max	Qual
		Result	Spike	Spike								
Aluminum	mg/L	7.2U ug/L	0.5	0.5	0.49	0.50	98	100	70-130	2	20	
Antimony	mg/L	0.83U ug/L	0.05	0.05	0.052	0.052	104	104	70-130	0	20	
Arsenic	mg/L	6.1 ug/L	0.05	0.05	0.056	0.056	101	100	70-130	1	20	
Beryllium	mg/L	0.070U ug/L	0.005	0.005	0.0046	0.0047	93	95	70-130	2	20	
Cadmium	mg/L	0.050U ug/L	0.005	0.005	0.0049	0.0049	98	97	70-130	1	20	
Copper	mg/L	0.93U ug/L	0.05	0.05	0.045	0.044	89	88	70-130	1	20	
Lead	mg/L	0.22U ug/L	0.05	0.05	0.051	0.050	101	100	70-130	1	20	
Selenium	mg/L	0.83U ug/L	0.05	0.05	0.049	0.048	97	96	70-130	1	20	
Thallium	mg/L	0.21U ug/L	0.05	0.05	0.050	0.050	99	99	70-130	0	20	
Uranium	ug/L	0.19U	50	50	50.7	50.4	101	101	70-130	1	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Bonner Springs Wells, 138337
Pace Project No.: 35701862

QC Batch:	809565	Analysis Method:	EPA 524.2
QC Batch Method:	EPA 524.2	Analysis Description:	524.2 MSV
		Laboratory:	Pace Analytical Services - Ormond Beach

Associated Lab Samples: 35701862001

METHOD BLANK: 4444766 Matrix: Water

Associated Lab Samples: 35701862001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	mg/L	ND	0.0010	0.00018	03/21/22 13:39	
1,1,1-Trichloroethane	mg/L	ND	0.00050	0.00027	03/21/22 13:39	
1,1,2,2-Tetrachloroethane	mg/L	ND	0.0010	0.00027	03/21/22 13:39	
1,1,2-Trichloroethane	mg/L	ND	0.00050	0.00028	03/21/22 13:39	
1,1-Dichloroethane	mg/L	ND	0.0010	0.00027	03/21/22 13:39	
1,1-Dichloroethene	mg/L	ND	0.00050	0.00029	03/21/22 13:39	
1,1-Dichloropropene	mg/L	ND	0.0010	0.00031	03/21/22 13:39	
1,2,3-Trichloropropane	mg/L	ND	0.0010	0.00023	03/21/22 13:39	
1,2,4-Trichlorobenzene	mg/L	ND	0.00050	0.00035	03/21/22 13:39	
1,2-Dichlorobenzene	mg/L	ND	0.00050	0.00026	03/21/22 13:39	
1,2-Dichloroethane	mg/L	ND	0.00050	0.00030	03/21/22 13:39	
1,2-Dichloropropane	mg/L	ND	0.00050	0.00044	03/21/22 13:39	
1,3-Dichlorobenzene	mg/L	ND	0.0010	0.00029	03/21/22 13:39	
1,3-Dichloropropane	mg/L	ND	0.0010	0.00023	03/21/22 13:39	
1,4-Dichlorobenzene	mg/L	ND	0.00050	0.00030	03/21/22 13:39	
2,2-Dichloropropane	mg/L	ND	0.0010	0.00049	03/21/22 13:39	
2-Chlorotoluene	mg/L	ND	0.0010	0.00023	03/21/22 13:39	
4-Chlorotoluene	mg/L	ND	0.0010	0.00026	03/21/22 13:39	
Benzene	mg/L	ND	0.00050	0.00040	03/21/22 13:39	
Bromobenzene	mg/L	ND	0.0010	0.00030	03/21/22 13:39	
Bromodichloromethane	mg/L	ND	0.0010	0.00037	03/21/22 13:39	
Bromoform	mg/L	ND	0.0010	0.00035	03/21/22 13:39	
Bromomethane	mg/L	ND	0.0010	0.00048	03/21/22 13:39	
Carbon tetrachloride	mg/L	ND	0.00050	0.00028	03/21/22 13:39	
Chlorobenzene	mg/L	ND	0.00050	0.00026	03/21/22 13:39	
Chloroethane	mg/L	ND	0.0010	0.00032	03/21/22 13:39	
Chloroform	mg/L	ND	0.0010	0.00044	03/21/22 13:39	
Chloromethane	mg/L	ND	0.0020	0.0012	03/21/22 13:39	
cis-1,2-Dichloroethene	mg/L	ND	0.00050	0.00033	03/21/22 13:39	
cis-1,3-Dichloropropene	mg/L	ND	0.0010	0.00028	03/21/22 13:39	
Dibromochloromethane	mg/L	ND	0.0010	0.00047	03/21/22 13:39	
Dibromomethane	mg/L	ND	0.0010	0.00033	03/21/22 13:39	
Ethylbenzene	mg/L	ND	0.00050	0.00023	03/21/22 13:39	
Methylene Chloride	mg/L	ND	0.0010	0.00044	03/21/22 13:39	
Styrene	mg/L	ND	0.00050	0.00020	03/21/22 13:39	
Tetrachloroethene	mg/L	ND	0.00050	0.00026	03/21/22 13:39	
Toluene	mg/L	ND	0.00050	0.00028	03/21/22 13:39	
trans-1,2-Dichloroethene	mg/L	ND	0.00050	0.00027	03/21/22 13:39	
trans-1,3-Dichloropropene	mg/L	ND	0.0010	0.00026	03/21/22 13:39	
Trichloroethene	mg/L	ND	0.00050	0.00026	03/21/22 13:39	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Bonner Springs Wells, 138337

Pace Project No.: 35701862

METHOD BLANK: 4444766

Matrix: Water

Associated Lab Samples: 35701862001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Vinyl chloride	mg/L	ND	0.00050	0.00012	03/21/22 13:39	
Xylene (Total)	mg/L	ND	0.0010	0.00011	03/21/22 13:39	
1,2-Dichlorobenzene-d4 (S)	%	106	70-130		03/21/22 13:39	
4-Bromofluorobenzene (S)	%	93	70-130		03/21/22 13:39	
Toluene-d8 (S)	%	102	70-130		03/21/22 13:39	

LABORATORY CONTROL SAMPLE & LCSD: 4444767

4444768

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,1,1,2-Tetrachloroethane	mg/L	0.02	0.017	0.017	83	85	70-130	2	20	
1,1,1-Trichloroethane	mg/L	0.02	0.018	0.018	89	91	70-130	2	20	
1,1,2,2-Tetrachloroethane	mg/L	0.02	0.018	0.019	92	94	70-130	2	20	
1,1,2-Trichloroethane	mg/L	0.02	0.017	0.018	87	88	70-130	0	20	
1,1-Dichloroethane	mg/L	0.02	0.021	0.018	103	89	70-130	15	20	
1,1-Dichloroethene	mg/L	0.02	0.018	0.018	90	90	70-130	0	20	
1,1-Dichloropropene	mg/L	0.02	0.018	0.019	90	93	70-130	4	20	
1,2,3-Trichloropropane	mg/L	0.02	0.017	0.017	86	87	70-130	0	20	
1,2,4-Trichlorobenzene	mg/L	0.02	0.016	0.016	81	82	70-130	2	20	
1,2-Dichlorobenzene	mg/L	0.02	0.018	0.018	89	91	70-130	2	20	
1,2-Dichloroethane	mg/L	0.02	0.018	0.018	89	91	70-130	2	20	
1,2-Dichloropropane	mg/L	0.02	0.019	0.019	94	95	70-130	1	20	
1,3-Dichlorobenzene	mg/L	0.02	0.018	0.018	89	90	70-130	1	20	
1,3-Dichloropropane	mg/L	0.02	0.017	0.018	87	88	70-130	1	20	
1,4-Dichlorobenzene	mg/L	0.02	0.017	0.017	86	87	70-130	2	20	
2,2-Dichloropropane	mg/L	0.02	0.018	0.018	90	88	70-130	3	20	
2-Chlorotoluene	mg/L	0.02	0.018	0.018	89	91	70-130	2	20	
4-Chlorotoluene	mg/L	0.02	0.018	0.018	91	92	70-130	1	20	
Benzene	mg/L	0.02	0.019	0.019	94	96	70-130	3	20	
Bromobenzene	mg/L	0.02	0.018	0.018	90	90	70-130	0	20	
Bromodichloromethane	mg/L	0.02	0.019	0.019	93	94	70-130	1	20	
Bromoform	mg/L	0.02	0.016	0.016	80	82	70-130	3	20	
Bromomethane	mg/L	0.02	0.014	0.016	72	79	70-130	9	20	
Carbon tetrachloride	mg/L	0.02	0.017	0.017	87	87	70-130	0	20	
Chlorobenzene	mg/L	0.02	0.017	0.017	85	86	70-130	1	20	
Chloroethane	mg/L	0.02	0.017	0.017	84	86	70-130	3	20	
Chloroform	mg/L	0.02	0.018	0.018	92	90	70-130	2	20	
Chloromethane	mg/L	0.02	0.015	0.016	76	79	70-130	4	20	
cis-1,2-Dichloroethene	mg/L	0.02	0.018	0.018	89	89	70-130	1	20	
cis-1,3-Dichloropropene	mg/L	0.02	0.019	0.020	97	99	70-130	2	20	
Dibromochloromethane	mg/L	0.02	0.017	0.017	84	86	70-130	2	20	
Dibromomethane	mg/L	0.02	0.018	0.018	91	92	70-130	1	20	
Ethylbenzene	mg/L	0.02	0.017	0.017	86	87	70-130	0	20	
Methylene Chloride	mg/L	0.02	0.019	0.019	96	95	70-130	1	20	
Styrene	mg/L	0.02	0.018	0.017	88	87	70-130	0	20	

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QUALITY CONTROL DATA

Project: Bonner Springs Wells, 138337

Pace Project No.: 35701862

LABORATORY CONTROL SAMPLE & LCSD: 4444767			4444768							
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Tetrachloroethene	mg/L	0.02	0.018	0.018	90	91	70-130	1	20	
Toluene	mg/L	0.02	0.017	0.017	84	87	70-130	4	20	
trans-1,2-Dichloroethene	mg/L	0.02	0.018	0.018	92	92	70-130	1	20	
trans-1,3-Dichloropropene	mg/L	0.02	0.017	0.018	87	88	70-130	1	20	
Trichloroethene	mg/L	0.02	0.019	0.019	96	95	70-130	1	20	
Vinyl chloride	mg/L	0.02	0.017	0.018	84	90	70-130	7	20	
Xylene (Total)	mg/L	0.06	0.052	0.052	87	87	70-130	1	20	
1,2-Dichlorobenzene-d4 (S)	%				98	99	70-130			
4-Bromofluorobenzene (S)	%				96	94	70-130			
Toluene-d8 (S)	%				102	102	70-130			

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QUALITY CONTROL DATA

Project: Bonner Springs Wells, 138337
Pace Project No.: 35701862

QC Batch:	807670	Analysis Method:	EPA 505
QC Batch Method:	EPA 505	Analysis Description:	505 GCS PCB-TOX-TCH
		Laboratory:	Pace Analytical Services - Ormond Beach

Associated Lab Samples: 35701862001

METHOD BLANK: 4435571 Matrix: Water

Associated Lab Samples: 35701862001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chlordane (Technical)	mg/L	ND	0.00020	0.000035	03/15/22 18:27	
PCB-1016 (Aroclor 1016)	mg/L	ND	0.00010	0.000043	03/15/22 18:27	
PCB-1221 (Aroclor 1221)	mg/L	ND	0.00010	0.000032	03/15/22 18:27	
PCB-1232 (Aroclor 1232)	mg/L	ND	0.00010	0.000044	03/15/22 18:27	
PCB-1242 (Aroclor 1242)	mg/L	ND	0.00010	0.000015	03/15/22 18:27	
PCB-1248 (Aroclor 1248)	mg/L	ND	0.00010	0.000012	03/15/22 18:27	
PCB-1254 (Aroclor 1254)	mg/L	ND	0.00010	0.000036	03/15/22 18:27	
PCB-1260 (Aroclor 1260)	mg/L	ND	0.00010	0.000029	03/15/22 18:27	
Toxaphene	mg/L	ND	0.0010	0.00068	03/15/22 18:27	

LABORATORY CONTROL SAMPLE: 4435572

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
PCB-1016 (Aroclor 1016)	mg/L	0.00071	0.00080	112	70-130	
PCB-1260 (Aroclor 1260)	mg/L	0.00072	0.00092	128	70-130	

LABORATORY CONTROL SAMPLE: 4435573

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
PCB-1016 (Aroclor 1016)	mg/L	0.000071	0.000078J	110	50-150	
PCB-1260 (Aroclor 1260)	mg/L	0.000072	0.000057J	80	50-150	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4435617 4435618

Parameter	Units	35702663001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
PCB-1016 (Aroclor 1016)	mg/L	0.047U ug/L	0.00078	0.00078	0.00081	0.00073	104	94	70-130	10	20	
PCB-1260 (Aroclor 1260)	mg/L	0.031U ug/L	0.00078	0.00079	0.00057	0.00056	73	72	70-130	1	20	

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QUALITY CONTROL DATA

Project: Bonner Springs Wells, 138337

Pace Project No.: 35701862

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4435619 4435620												
Parameter	Units	35702808001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
PCB-1016 (Aroclor 1016)	mg/L	ND	0.00076	0.00077	0.00083	0.00083	109	108	70-130	0	20	
PCB-1260 (Aroclor 1260)	mg/L	ND	0.00076	0.00077	0.00088	0.00088	115	113	70-130	0	20	

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QUALITY CONTROL DATA

Project: Bonner Springs Wells, 138337
Pace Project No.: 35701862

QC Batch:	807978	Analysis Method:	EPA 515.3
QC Batch Method:	EPA 515.3	Analysis Description:	5153 GCS Herbicides
		Laboratory:	Pace Analytical Services - Ormond Beach

Associated Lab Samples: 35701862001

METHOD BLANK: 4436791 Matrix: Water
Associated Lab Samples: 35701862001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
2,4,5-TP (Silvex)	mg/L	ND	0.00020	0.000053	03/16/22 06:58	
2,4-D	mg/L	ND	0.00010	0.000096	03/16/22 06:58	
Dalapon	mg/L	ND	0.0010	0.00049	03/16/22 06:58	
Dinoseb	mg/L	ND	0.00020	0.00016	03/16/22 06:58	
Pentachlorophenol	mg/L	ND	0.000040	0.000014	03/16/22 06:58	
Picloram	mg/L	ND	0.00010	0.000040	03/16/22 06:58	
2,4-DCAA (S)	%	88	70-130		03/16/22 06:58	

LABORATORY CONTROL SAMPLE: 4436792

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
2,4,5-TP (Silvex)	mg/L	0.0008	0.00074	92	70-130	
2,4-D	mg/L	0.0004	0.00032	81	70-130	
Dalapon	mg/L	0.004	0.0036	89	70-130	
Dinoseb	mg/L	0.0008	0.00072	90	70-130	
Pentachlorophenol	mg/L	0.00016	0.00013	83	70-130	
Picloram	mg/L	0.0004	0.00036	90	70-130	
2,4-DCAA (S)	%			91	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4436857 4436858

Parameter	Units	35701862001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
2,4,5-TP (Silvex)	mg/L	ND	0.0008	0.0008	0.00078	0.00080	97	100	70-130	3	40	
2,4-D	mg/L	ND	0.0004	0.0004	0.00035	0.00039	87	97	70-130	10	40	
Dalapon	mg/L	ND	0.004	0.004	0.0044	0.0049	111	122	70-130	9	40	
Dinoseb	mg/L	ND	0.0008	0.0008	0.00074	0.00077	92	96	70-130	4	40	
Pentachlorophenol	mg/L	ND	0.00016	0.00016	0.00013	0.00013	83	81	70-130	3	40	
Picloram	mg/L	0.000047J	0.0004	0.0004	0.00043	0.00045	96	100	70-130	4	40	
2,4-DCAA (S)	%						90	92	70-130			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4436859 4436860

Parameter	Units	35702192001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
2,4,5-TP (Silvex)	mg/L	ND	0.0008	0.0008	0.00079	0.00083	99	103	70-130	5	40	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Bonner Springs Wells, 138337

Pace Project No.: 35701862

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4436859 4436860												
Parameter	Units	35702192001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
2,4-D	mg/L	ND	0.0004	0.0004	0.00041	0.00045	102	112	70-130	9	40	
Dalapon	mg/L	ND	0.004	0.004	0.0052	0.0051	129	127	70-130	2	40	
Dinoseb	mg/L	ND	0.0008	0.0008	0.00074	0.00079	92	99	70-130	7	40	
Pentachlorophenol	mg/L	ND	0.00016	0.00016	0.00014	0.00014	86	90	70-130	4	40	
Picloram	mg/L	ND	0.0004	0.0004	0.00042	0.00040	105	100	70-130	5	40	
2,4-DCAA (S)	%						91	93	70-130			

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Bonner Springs Wells, 138337

Pace Project No.: 35701862

QC Batch:	806203	Analysis Method:	EPA 525.3
QC Batch Method:	EPA 525.3	Analysis Description:	525.3 Pesticides Semivolatiles
		Laboratory:	Pace Analytical Services - Ormond Beach

Associated Lab Samples: 35701862001

METHOD BLANK: 4426322 Matrix: Water

Associated Lab Samples: 35701862001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alachlor	mg/L	ND	0.00020	0.000030	03/10/22 15:31	
Aldrin	mg/L	ND	0.00010	0.000025	03/10/22 15:31	
Atrazine	mg/L	ND	0.00010	0.000015	03/10/22 15:31	
Benzo(a)pyrene	mg/L	ND	0.00010	0.000020	03/10/22 15:31	
bis(2-Ethylhexyl)adipate	mg/L	ND	0.0015	0.00037	03/10/22 15:31	
bis(2-Ethylhexyl)phthalate	mg/L	ND	0.0020	0.00048	03/10/22 15:31	
Butachlor	mg/L	ND	0.00010	0.000021	03/10/22 15:31	N2
Dieldrin	mg/L	ND	0.00010	0.000021	03/10/22 15:31	
Endrin	mg/L	ND	0.000010	0.0000024	03/10/22 15:31	
gamma-BHC (Lindane)	mg/L	ND	0.000020	0.0000028	03/10/22 15:31	
Heptachlor	mg/L	ND	0.000040	0.000014	03/10/22 15:31	
Heptachlor epoxide	mg/L	ND	0.000020	0.0000031	03/10/22 15:31	
Hexachlorobenzene	mg/L	ND	0.00010	0.000015	03/10/22 15:31	
Hexachlorocyclopentadiene	mg/L	ND	0.00010	0.000025	03/10/22 15:31	
Methoxychlor	mg/L	ND	0.00010	0.000024	03/10/22 15:31	
Metolachlor	mg/L	ND	0.00010	0.000016	03/10/22 15:31	
Metribuzin	mg/L	ND	0.00030	0.00013	03/10/22 15:31	
Propachlor	mg/L	ND	0.00010	0.000018	03/10/22 15:31	
Simazine	mg/L	ND	0.00018	0.000041	03/10/22 15:31	
1,3-Dimethyl-2-nitrobenzene(S)	%	87	70-130		03/10/22 15:31	
Benzo(a)pyrene-d12 (S)	%	99	70-130		03/10/22 15:31	
Triphenylphosphate (S)	%	93	70-130		03/10/22 15:31	

LABORATORY CONTROL SAMPLE: 4426323

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alachlor	mg/L	0.0008	0.00071	88	70-130	
Aldrin	mg/L	0.0004	0.00033	83	70-130	
Atrazine	mg/L	0.0004	0.00037	94	70-130	
Benzo(a)pyrene	mg/L	0.0004	0.00034	85	70-130	
bis(2-Ethylhexyl)adipate	mg/L	0.006	0.0052	87	70-130	
bis(2-Ethylhexyl)phthalate	mg/L	0.008	0.0069	87	70-130	
Butachlor	mg/L	0.0004	0.00036	91	70-130	N2
Dieldrin	mg/L	0.0004	0.00035	88	70-130	
Endrin	mg/L	0.00004	0.000038	94	70-130	
gamma-BHC (Lindane)	mg/L	0.00008	0.000069	86	70-130	
Heptachlor	mg/L	0.00016	0.00014	86	70-130	
Heptachlor epoxide	mg/L	0.00008	0.000072	90	70-130	
Hexachlorobenzene	mg/L	0.0004	0.00034	85	60-130	

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QUALITY CONTROL DATA

Project: Bonner Springs Wells, 138337

Pace Project No.: 35701862

LABORATORY CONTROL SAMPLE: 4426323

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Hexachlorocyclopentadiene	mg/L	0.0004	0.00026	65	60-130	
Methoxychlor	mg/L	0.0004	0.00035	88	70-130	
Metolachlor	mg/L	0.0004	0.00036	90	70-130	
Metribuzin	mg/L	0.0012	0.0011	92	70-130	
Propachlor	mg/L	0.0004	0.00036	89	70-130	
Simazine	mg/L	0.0007	0.00069	99	70-130	
1,3-Dimethyl-2-nitrobenzene(S)	%			93	70-130	
Benzo(a)pyrene-d12 (S)	%			89	70-130	
Triphenylphosphate (S)	%			94	70-130	

LABORATORY CONTROL SAMPLE: 4426324

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alachlor	mg/L	0.0002	0.00018J	89	50-150	
Aldrin	mg/L	0.0001	0.000091J	91	50-150	
Atrazine	mg/L	0.0001	0.000092J	92	50-150	
Benzo(a)pyrene	mg/L	0.0001	0.00010	103	50-150	
bis(2-Ethylhexyl)adipate	mg/L	0.0015	0.0013J	90	50-150	
bis(2-Ethylhexyl)phthalate	mg/L	0.002	0.0019J	93	50-150	
Butachlor	mg/L	0.0001	0.00011	107	50-150 N2	
Dieldrin	mg/L	0.0001	0.00010	102	50-150	
Endrin	mg/L	0.00001	0.0000087J	87	50-150	
gamma-BHC (Lindane)	mg/L	0.00002	0.000018J	92	50-150	
Heptachlor	mg/L	0.00004	0.000036J	91	50-150	
Heptachlor epoxide	mg/L	0.00002	0.000019J	94	50-150	
Hexachlorobenzene	mg/L	0.0001	0.000087J	87	50-150	
Hexachlorocyclopentadiene	mg/L	0.0001	0.000054J	54	50-150	
Methoxychlor	mg/L	0.0001	0.000092J	92	50-150	
Metolachlor	mg/L	0.0001	0.000098J	98	50-150	
Metribuzin	mg/L	0.0003	0.00039	129	50-150	
Propachlor	mg/L	0.0001	0.000094J	94	50-150	
Simazine	mg/L	0.00018	0.00017J	96	50-150	
1,3-Dimethyl-2-nitrobenzene(S)	%			86	70-130	
Benzo(a)pyrene-d12 (S)	%			102	70-130	
Triphenylphosphate (S)	%			95	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4426331 4426332

Parameter	Units	35701383001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alachlor	mg/L	ND	0.0015	0.0016	0.0013	0.0013	84	83	70-130	0	30	
Aldrin	mg/L	ND	0.00077	0.00078	0.00063	0.00063	81	81	70-130	1	30	
Atrazine	mg/L	ND	0.00077	0.00078	0.00066	0.00067	86	86	70-130	1	30	
Benzo(a)pyrene	mg/L	ND	0.00077	0.00078	0.00073	0.00072	94	93	70-130	1	30	

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QUALITY CONTROL DATA

Project: Bonner Springs Wells, 138337

Pace Project No.: 35701862

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4426331 4426332											
Parameter	Units	35701383001		MS		MSD		MS	MSD	% Rec	Max
		Result	Conc.	Spike	Conc.	Result	Conc.				
bis(2-Ethylhexyl)adipate	mg/L	ND	0.012	0.012	0.0093	0.0093		80	80	70-130	0 30
bis(2-Ethylhexyl)phthalate	mg/L	ND	0.015	0.016	0.012	0.012		79	79	70-130	0 30
Butachlor	mg/L	ND	0.00077	0.00078	0.00067	0.00068		87	87	70-130	0 30 N2
Dieldrin	mg/L	ND	0.00077	0.00078	0.00069	0.00070		89	90	70-130	1 30
Endrin	mg/L	ND	0.00077	0.00078	0.00064	0.00065		83	84	70-130	1 30
gamma-BHC (Lindane)	mg/L	ND	0.00015	0.00016	0.00013	0.00013		82	83	70-130	1 30
Heptachlor	mg/L	ND	0.00031	0.00031	0.00024	0.00025		78	79	70-130	2 30
Heptachlor epoxide	mg/L	ND	0.00015	0.00016	0.00012	0.00013		81	81	70-130	1 30
Hexachlorobenzene	mg/L	ND	0.00077	0.00078	0.00060	0.00060		77	78	60-130	1 30
Hexachlorocyclopentadiene	mg/L	ND	0.00077	0.00078	0.00046	0.00047		60	60	60-130	0 30
Methoxychlor	mg/L	ND	0.00077	0.00078	0.00066	0.00067		86	86	70-130	1 30
Metolachlor	mg/L	ND	0.00077	0.00078	0.00066	0.00068		86	87	70-130	2 30
Metribuzin	mg/L	ND	0.0023	0.0023	0.0021	0.0021		89	89	70-130	0 30
Propachlor	mg/L	ND	0.00077	0.00078	0.00064	0.00065		82	83	70-130	1 30
Simazine	mg/L	ND	0.0014	0.0014	0.0012	0.0012		90	91	70-130	1 30
1,3-Dimethyl-2-nitrobenzene(S)	%							88	88	70-130	
Benzo(a)pyrene-d12 (S)	%							101	101	70-130	
Triphenylphosphate (S)	%							95	96	70-130	

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QUALITY CONTROL DATA

Project: Bonner Springs Wells, 138337

Pace Project No.: 35701862

QC Batch: 806124

Analysis Method: EPA 180.1

QC Batch Method: EPA 180.1

Analysis Description: 180.1 Turbidity

Laboratory: Pace Analytical Services - Ormond Beach

Associated Lab Samples: 35701862001

METHOD BLANK: 4425846

Matrix: Water

Associated Lab Samples: 35701862001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Turbidity	NTU	ND	0.20	0.20	03/08/22 18:15	

LABORATORY CONTROL SAMPLE: 4425847

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Turbidity	NTU	20	18.0	90	90-110	

SAMPLE DUPLICATE: 4425848

Parameter	Units	35701709004 Result	Dup Result	RPD	Max RPD	Qualifiers
Turbidity	NTU	0.80	0.75	6	20	

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QUALITY CONTROL DATA

Project: Bonner Springs Wells, 138337

Pace Project No.: 35701862

QC Batch: 807328

Analysis Method: SM 2320B

QC Batch Method: SM 2320B

Analysis Description: 2320B Alkalinity

Laboratory: Pace Analytical Services - Ormond Beach

Associated Lab Samples: 35701862001

METHOD BLANK: 4433267

Matrix: Water

Associated Lab Samples: 35701862001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	ND	5.0	5.0	03/12/22 20:07	

LABORATORY CONTROL SAMPLE: 4433268

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	250	231	92	90-110	

SAMPLE DUPLICATE: 4433269

Parameter	Units	35702947003 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	298	286	4	20	

SAMPLE DUPLICATE: 4433270

Parameter	Units	35703187003 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	8.0	9.8	19	20	

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QUALITY CONTROL DATA

Project: Bonner Springs Wells, 138337

Pace Project No.: 35701862

QC Batch:	806731	Analysis Method:	SM 2510B
QC Batch Method:	SM 2510B	Analysis Description:	2510B Specific Conductance
		Laboratory:	Pace Analytical Services - Ormond Beach

Associated Lab Samples: 35701862001

METHOD BLANK: 4429199 Matrix: Water

Associated Lab Samples: 35701862001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Specific Conductance @ 25C	umhos/cm	ND	2.0	2.0	03/10/22 15:24	

LABORATORY CONTROL SAMPLE: 4429200

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Specific Conductance @ 25C	umhos/cm	1410	1350	95	95-105	

SAMPLE DUPLICATE: 4429201

Parameter	Units	35699610001 Result	Dup Result	RPD	Max RPD	Qualifiers
Specific Conductance @ 25C	umhos/cm	6780	6820	1	20	

SAMPLE DUPLICATE: 4429202

Parameter	Units	35700926001 Result	Dup Result	RPD	Max RPD	Qualifiers
Specific Conductance @ 25C	umhos/cm	790	788	0	20	

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QUALITY CONTROL DATA

Project: Bonner Springs Wells, 138337

Pace Project No.: 35701862

QC Batch:	807485	Analysis Method:	SM 2540C
QC Batch Method:	SM 2540C	Analysis Description:	2540C Total Dissolved Solids
		Laboratory:	Pace Analytical Services - Ormond Beach

Associated Lab Samples: 35701862001

METHOD BLANK: 4433564 Matrix: Water

Associated Lab Samples: 35701862001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	5.0	5.0	03/14/22 10:55	

LABORATORY CONTROL SAMPLE: 4433565

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	300	296	99	90-110	

SAMPLE DUPLICATE: 4433566

Parameter	Units	35701658002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	185	186	1	10	

SAMPLE DUPLICATE: 4433567

Parameter	Units	35701862001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	477	466	2	10	

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QUALITY CONTROL DATA

Project: Bonner Springs Wells, 138337

Pace Project No.: 35701862

QC Batch:	811086	Analysis Method:	EPA 300.0
QC Batch Method:	EPA 300.0	Analysis Description:	300.0 IC Anions
		Laboratory:	Pace Analytical Services - Ormond Beach

Associated Lab Samples: 35701862001

METHOD BLANK: 4453260 Matrix: Water

Associated Lab Samples: 35701862001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	5.0	2.5	03/26/22 11:06	
Fluoride	mg/L	ND	0.050	0.015	03/26/22 11:06	
Sulfate	mg/L	ND	5.0	2.5	03/26/22 11:06	

LABORATORY CONTROL SAMPLE: 4453261

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	48.0	96	90-110	
Fluoride	mg/L	5	4.9	97	90-110	
Sulfate	mg/L	50	47.6	95	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4454327 4454328

Parameter	Units	35704979001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	13.1	50	50	63.7	62.5	101	99	90-110	2	20	
Fluoride	mg/L	0.13	5	5	5.0	4.9	97	95	90-110	2	20	
Sulfate	mg/L	52.7	50	50	108	107	111	108	90-110	1	20	E,M1

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QUALITY CONTROL DATA

Project: Bonner Springs Wells, 138337

Pace Project No.: 35701862

QC Batch:	806089	Analysis Method:	EPA 353.2
QC Batch Method:	EPA 353.2	Analysis Description:	353.2 Nitrate + Nitrite, Unpres.
		Laboratory:	Pace Analytical Services - Ormond Beach

Associated Lab Samples: 35701862001

METHOD BLANK: 4425545 Matrix: Water

Associated Lab Samples: 35701862001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.050	0.025	03/08/22 16:11	
Nitrogen, Nitrite	mg/L	ND	0.050	0.025	03/08/22 16:11	
Nitrogen, NO2 plus NO3	mg/L	ND	0.050	0.015	03/08/22 16:11	

LABORATORY CONTROL SAMPLE: 4425546

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrite	mg/L	1	1.0	102	90-110	
Nitrogen, NO2 plus NO3	mg/L	2	2.0	101	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4425548 4425547

Parameter	Units	35701708006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Nitrogen, Nitrite	mg/L	0.46	1	1	1.5	1.4	100	99	90-110	0	20	
Nitrogen, NO2 plus NO3	mg/L	0.72	2	2	2.7	2.7	101	101	90-110	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4425550 4425549

Parameter	Units	35701598002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Nitrogen, Nitrite	mg/L	0.025U	1	1	1.0	1.1	102	106	90-110	3	20	
Nitrogen, NO2 plus NO3	mg/L	0.015U	2	2	1.9	2.0	97	100	90-110	4	20	

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QUALITY CONTROL DATA

Project: Bonner Springs Wells, 138337

Pace Project No.: 35701862

QC Batch:	807273	Analysis Method:	EPA 365.4
QC Batch Method:	EPA 365.4	Analysis Description:	365.4 Phosphorus
		Laboratory:	Pace Analytical Services - Ormond Beach

Associated Lab Samples: 35701862001

METHOD BLANK: 4432768 Matrix: Water

Associated Lab Samples: 35701862001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Phosphorus, Total (as P)	mg/L	ND	0.10	0.070	03/16/22 08:24	N2

LABORATORY CONTROL SAMPLE: 4432769

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Phosphorus, Total (as P)	mg/L	4	3.6	91	90-110	N2

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4432771 4432770

Parameter	Units	35701598001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Phosphorus, Total (as P)	mg/L	0.10	4	4	3.8	3.8	93	92	80-120	1	20	N2

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QUALITY CONTROL DATA

Project: Bonner Springs Wells, 138337
Pace Project No.: 35701862

QC Batch:	807529	Analysis Method:	SM 5310B
QC Batch Method:	SM 5310B	Analysis Description:	5310B TOC
		Laboratory:	Pace Analytical Services - Ormond Beach

Associated Lab Samples: 35701862001

METHOD BLANK: 4433744 Matrix: Water

Associated Lab Samples: 35701862001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Organic Carbon	mg/L	ND	1.0	0.50	03/14/22 20:44	

LABORATORY CONTROL SAMPLE: 4433745

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	20	19.2	96	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4433746 4433747

Parameter	Units	35702269001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Total Organic Carbon	mg/L	11.8	20	20	31.0	31.0	96	96	80-120	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4433748 4433749

Parameter	Units	35701531002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Total Organic Carbon	mg/L	2.1	20	20	20.7	20.9	93	94	80-120	1	20	

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REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Bonner Springs Wells, 138337

Pace Project No.: 35701862

Sample: TW-3		Lab ID: 35701862001	Collected: 03/07/22 16:00	Received: 03/08/22 10:52	Matrix: Drinking Water		
PWS:		Site ID:	Sample Type:				
Parameters	Method	Act ± Unc (MDC) Carr Trac		Units	Analyzed	CAS No.	Qual
Radon	Pace Analytical Services - Greensburg			pCi/L	03/12/22 01:38	10043-92-2	H1
	SM 7500RnB-07	325.8 ± 52.4 (65.6) C:NA T:NA					
Gross Alpha	Pace Analytical Services - Greensburg			pCi/L	03/21/22 18:30	12587-46-1	
	EPA 900.0	3.17 ± 1.78 (2.88) C:NA T:NA					
Radium-226	Pace Analytical Services - Greensburg			pCi/L	03/31/22 16:46	13982-63-3	
	EPA 903.1	0.572U ± 0.264 (0.572) C:NA T:97%					
Radium-228	Pace Analytical Services - Greensburg			pCi/L	03/30/22 15:09	15262-20-1	
	EPA 904.0	0.708U ± 0.341 (0.708) C:73% T:91%					
Total Radium	Pace Analytical Services - Greensburg			pCi/L	04/06/22 17:56	7440-14-4	
	Total Radium Calculation	1.28U ± 0.605 (1.28)					

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QUALITY CONTROL - RADIOCHEMISTRY

Project: Bonner Springs Wells, 138337

Pace Project No.: 35701862

QC Batch: 491903

Analysis Method: EPA 903.1

QC Batch Method: EPA 903.1

Analysis Description: 903.1 Radium-226

Laboratory: Pace Analytical Services - Greensburg

Associated Lab Samples: 35701862001

METHOD BLANK: 2379851

Matrix: Water

Associated Lab Samples: 35701862001

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.000 ± 0.319 (0.514) C:NA T:96%	pCi/L	03/31/22 16:46	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: Bonner Springs Wells, 138337

Pace Project No.: 35701862

QC Batch: 491904

Analysis Method: EPA 904.0

QC Batch Method: EPA 904.0

Analysis Description: 904.0 Radium 228

Laboratory: Pace Analytical Services - Greensburg

Associated Lab Samples: 35701862001

METHOD BLANK: 2379852

Matrix: Water

Associated Lab Samples: 35701862001

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.335 ± 0.354 (0.731) C:67% T:87%	pCi/L	03/30/22 11:57	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: Bonner Springs Wells, 138337

Pace Project No.: 35701862

QC Batch: 489829

Analysis Method: SM 7500RnB-07

QC Batch Method: SM 7500RnB-07

Analysis Description: 7500Rn B Radon

Laboratory: Pace Analytical Services - Greensburg

Associated Lab Samples: 35701862001

METHOD BLANK: 2369556

Matrix: Water

Associated Lab Samples: 35701862001

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radon	0.6 ± 16.9 (29.6) C:NA T:NA	pCi/L	03/12/22 01:04	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: Bonner Springs Wells, 138337

Pace Project No.: 35701862

QC Batch: 490181

Analysis Method: EPA 900.0

QC Batch Method: EPA 900.0

Analysis Description: 900.0 Gross Alpha/Beta

Laboratory: Pace Analytical Services - Greensburg

Associated Lab Samples: 35701862001

METHOD BLANK: 2371403

Matrix: Water

Associated Lab Samples: 35701862001

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Gross Alpha	0.117 ± 0.608 (1.61) C:NA T:NA	pCi/L	03/22/22 07:57	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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QUALIFIERS

Project: Bonner Springs Wells, 138337
Pace Project No.: 35701862

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.
 ND - Not Detected at or above adjusted reporting limit.
 TNTC - Too Numerous To Count
 J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.
 MDL - Adjusted Method Detection Limit.
 PQL - Practical Quantitation Limit.
 RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.
 S - Surrogate
 1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.
 Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.
 LCS(D) - Laboratory Control Sample (Duplicate)
 MS(D) - Matrix Spike (Duplicate)
 DUP - Sample Duplicate
 RPD - Relative Percent Difference
 NC - Not Calculable.
 SG - Silica Gel - Clean-Up
 U - Indicates the compound was analyzed for, but not detected.
 N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.
 Reported results are not rounded until the final step prior to reporting. Therefore, calculated parameters that are typically reported as "Total" may vary slightly from the sum of the reported component parameters.
 Act - Activity
 Unc - Uncertainty: SDWA = 1.96 sigma count uncertainty, all other matrices = Expanded Uncertainty (95% confidence interval).
 Gamma Spec = Expanded Uncertainty (95.4% Confidence Interval)
 (MDC) - Minimum Detectable Concentration
 Trac - Tracer Recovery (%)
 Carr - Carrier Recovery (%)
 Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.
 TNI - The NELAC Institute.

ANALYTE QUALIFIERS

E Analyte concentration exceeded the calibration range. The reported result is estimated.
 F5 The recovery of the analyte in the CRDL standard (also known as the reporting limit verification) did not meet the acceptance criteria.
 H1 Analysis conducted outside the EPA method holding time.
 H6 Analysis initiated outside of the 15 minute EPA required holding time.
 M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
 N2 The lab does not hold NELAC/TNI accreditation for this parameter but other accreditations/certifications may apply. A complete list of accreditations/certifications is available upon request.
 R1 RPD value was outside control limits.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Bonner Springs Wells, 138337

Pace Project No.: 35701862

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
35701862001	TW-3	EPA 505	807670	EPA 505	807736
35701862001	TW-3	EPA 515.3	807978	EPA 515.3	808099
35701862001	TW-3	EPA 525.3	806203	EPA 525.3	806728
35701862001	TW-3	EPA 531.2	806471		
35701862001	TW-3	EPA 200.7	806579	EPA 200.7	806751
35701862001	TW-3	EPA 200.8	806578	EPA 200.8	806750
35701862001	TW-3	EPA 245.1	807215	EPA 245.1	807404
35701862001	TW-3	EPA 524.2	809565		
35701862001	TW-3	SM 7500RnB-07	489829		
35701862001	TW-3	EPA 900.0	490181		
35701862001	TW-3	EPA 903.1	491903		
35701862001	TW-3	EPA 904.0	491904		
35701862001	TW-3	Total Radium Calculation	495619		
35701862001	TW-3	EPA 180.1	806124		
35701862001	TW-3	SM 2320B	807328		
35701862001	TW-3	SM 2510B	806731		
35701862001	TW-3	SM 2540C	807485		
35701862001	TW-3	SM 4500-H+B	806653		
35701862001	TW-3	EPA 300.0	811086		
35701862001	TW-3	EPA 353.2	806089		
35701862001	TW-3	EPA 365.4	807273	EPA 365.4	808170
35701862001	TW-3	SM 5310B	807529		

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately. The Chain-of-Custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at <https://info.pacelabs.com/hubfs/pas-standard-terms.pdf>.

Page: 1 of 12

Required Project Information:

Company:	Burns & McDonnell	Report To:	Daniel Clement	Attention:	
Address:	800 E. 1st Street North	Copy To:		Company Name:	
	Suite 400, Wichita, KS 67202			Address:	
Email:	danielclement@burnsmcd.com	Purchase Order #:		Pace Quote:	
Phone:		Project Name:	Bonner Springs Wells, 136337	Pace Project Manager:	jeff.baylor@pacelabs.com,
Fax:		Project #:		Pace Profile #:	17236 line 1
Requested Due Date:					vs
					Regulatory Agency
					State / Location
					vs

[illegible]

Section A		Section B		Section C	
Required Client Information:		Required Project Information:		Invoice Information:	
Company:	Burns & McDonnell	Report To:	Daniel Clement	Attention:	
Address:	800 E. 1st Street North	Copy To:		Company Name:	
	Suite 400, Wichita, KS 67202			Address:	
Email:		Purchase Order #:		Pace Quote:	
Phone:		Project Name:	Bonner Springs Wells, 138337	Pace Project Manager:	jeff.baylor@pacelabs.com,
Fax:		Project #:		Pace Profile #:	17236, line 1
Requested Due Date:					
				Regulatory Agency	
				State / Location	
				Ks	

[illegible]

Sample Condition Upon Receipt

WO#: 35701862

Project #
Project Manager:
Client:

PM: JSB Due Date: 03/29/22
CLIENT: BURNSMCD

R)

Pace

Date and Initials of person:

Examining contents:

Label:

Deliver:

pH:

Thermometer Used: T-392

Date: 3/8/22

Time: 10:59

Initials: CCJ

State of Origin:

☐ For WV projects, all containers verified to ≤6 °C

Cooler #1 Temp. °C 0.6 (Visual) +0.2 (Correction Factor) 0.8 (Actual)

Cooler #2 Temp. °C (Visual) (Correction Factor) (Actual)

Cooler #3 Temp. °C (Visual) (Correction Factor) (Actual)

Cooler #4 Temp. °C (Visual) (Correction Factor) (Actual)

Cooler #5 Temp. °C (Visual) (Correction Factor) (Actual)

Cooler #6 Temp. °C (Visual) (Correction Factor) (Actual)

Recheck for OOT °C (Visual) (Correction Factor) (Actual) Time: Initials:

Courier: ☒ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ Other

Shipping Method: ☐ First Overnight ☐ Priority Overnight ☒ Standard Overnight ☐ Ground ☐ International Priority

☐ Other

Billing: ☐ Recipient ☐ Sender ☐ Third Party ☐ Credit Card ☒ Unknown

Tracking # 5488 6904 7593

Custody Seal on Cooler/Box Present: ☐ Yes ☒ No Seals Intact: ☐ Yes ☒ No Ice: Wet Blue Melted None

Packing Material: ☒ Bubble Wrap ☒ Bubble Bags ☐ One ☐ Other

Samples shorted to lab (If Yes, complete) Shorted Date: Shorted Time: Qty:

Comments:

Chain of Custody Present	☒ Yes ☐ No ☐ N/A	
Chain of Custody Filled Out	☒ Yes ☐ No ☐ N/A	
Relinquished Signature & Sampler Name COC	☒ Yes ☐ No ☐ N/A	
Samples Arrived within Hold Time	☒ Yes ☐ No ☐ N/A	
Rush TAT requested on COC	☐ Yes ☒ No ☐ N/A	
Sufficient Volume	☒ Yes ☐ No ☐ N/A	
Correct Containers Used	☒ Yes ☐ No ☐ N/A	
Containers Intact	☒ Yes ☐ No ☐ N/A	
Sample Labels match COC (sample IDs & date/time of collection)	☒ Yes ☐ No ☐ N/A	
All containers needing acid/base preservation have been checked.	☒ Yes ☐ No ☐ N/A	
All Containers needing preservation are found to be in compliance with EPA recommendation:	☒ Yes ☐ No ☐ N/A	
Exceptions: Vials, Microbiology, O&G, PFAS		
Headspace in VOA Vials? (>6mm):	☐ Yes ☒ No ☐ N/A	
Trip Blank Present:	☐ Yes ☐ No ☒ N/A	

Preservation Information:

Preservative:

Lot #/Trace #:

Date: Time:

Initials:

Comments/ Resolution (use back for additional comments):

APPENDIX B – WELL NO. 8 WATER QUALITY SAMPLE RESULTS

March 29, 2022

Daniel Clement
Burns & McDonnell
800 E. 1st Street North
Suite 400
Wichita, KS 67202

RE: Project: Bonner Springs Wells, 138337
Pace Project No.: 35700926

Dear Daniel Clement:

Enclosed are the analytical results for sample(s) received by the laboratory on March 03, 2022. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Ormond Beach
- Pace Analytical Services - Greensburg

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jeff Baylor
jeff.baylor@pacelabs.com
(386)672-5668
Project Manager

Enclosures



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: Bonner Springs Wells, 138337
Pace Project No.: 35700926

Pace Analytical Services Pennsylvania

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
ANAB DOD-ELAP Rad Accreditation #: L2417
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 04222CA
Colorado Certification #: PA01547
Connecticut Certification #: PH-0694
Delaware Certification
EPA Region 4 DW Rad
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Florida: Cert E871149 SEKS WET
Guam Certification
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas/TNI Certification #: E-10358
Kentucky Certification #: KY90133
KY WW Permit #: KY0098221
KY WW Permit #: KY0000221
Louisiana DHH/TNI Certification #: LA180012
Louisiana DEQ/TNI Certification #: 4086
Maine Certification #: 2017020
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification #: 9991

Missouri Certification #: 235
Montana Certification #: Cert0082
Nebraska Certification #: NE-OS-29-14
Nevada Certification #: PA014572018-1
New Hampshire/TNI Certification #: 297617
New Jersey/TNI Certification #: PA051
New Mexico Certification #: PA01457
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Ohio EPA Rad Approval: #41249
Oregon/TNI Certification #: PA200002-010
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: 02867
Texas/TNI Certification #: T104704188-17-3
Utah/TNI Certification #: PA014572017-9
USDA Soil Permit #: P330-17-00091
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 460198
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C
Wisconsin Approve List for Rad
Wyoming Certification #: 8TMS-L

Pace Analytical Services Ormond Beach

8 East Tower Circle, Ormond Beach, FL 32174
Alaska DEC- CS/UST/LUST
Alabama Certification #: 41320
Colorado Certification: FL NELAC Reciprocity
Connecticut Certification #: PH-0216
Delaware Certification: FL NELAC Reciprocity
Florida Certification #: E83079
Georgia Certification #: 955
Guam Certification: FL NELAC Reciprocity
Hawaii Certification: FL NELAC Reciprocity
Illinois Certification #: 200068
Indiana Certification: FL NELAC Reciprocity
Kansas Certification #: E-10383
Kentucky Certification #: 90050
Louisiana Certification #: FL NELAC Reciprocity
Louisiana Environmental Certificate #: 05007
Maine Certification #: FL01264
Maryland Certification: #346
Michigan Certification #: 9911
Mississippi Certification: FL NELAC Reciprocity

Missouri Certification #: 236
Montana Certification #: Cert 0074
Nebraska Certification: NE-OS-28-14
New Hampshire Certification #: 2958
New Jersey Certification #: FL022
New York Certification #: 11608
North Carolina Environmental Certificate #: 667
North Carolina Certification #: 12710
North Dakota Certification #: R-216
Ohio DEP 87780
Oklahoma Certification #: D9947
Pennsylvania Certification #: 68-00547
Puerto Rico Certification #: FL01264
South Carolina Certification: #96042001
Tennessee Certification #: TN02974
Texas Certification: FL NELAC Reciprocity
US Virgin Islands Certification: FL NELAC Reciprocity
Virginia Environmental Certification #: 460165
West Virginia Certification #: 9962C
Wisconsin Certification #: 399079670

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CERTIFICATIONS

Project: Bonner Springs Wells, 138337

Pace Project No.: 35700926

Pace Analytical Services Ormond Beach

Wyoming (EPA Region 8): FL NELAC Reciprocity

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: Bonner Springs Wells, 138337

Pace Project No.: 35700926

Lab ID	Sample ID	Matrix	Date Collected	Date Received
35700926001	TW-1	Drinking Water	03/02/22 16:30	03/03/22 10:33
35700926002	Trip Blank	Drinking Water	03/02/22 00:01	03/03/22 10:33

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SAMPLE ANALYTE COUNT

Project: Bonner Springs Wells, 138337

Pace Project No.: 35700926

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
35700926001	TW-1	EPA 505	JPD	10	PASI-O
		EPA 515.3	SCL	7	PASI-O
		EPA 525.3	CTB	22	PASI-O
		EPA 531.2	TMM1	9	PASI-O
		EPA 200.7	EMG	11	PASI-O
		EPA 200.8	LEC	10	PASI-O
		EPA 245.1	SLG	1	PASI-O
		EPA 524.2	JLR	45	PASI-O
		SM 7500RnB-07	ERT	1	PASI-PA
		EPA 900.0	RJS	1	PASI-PA
		EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		EPA 180.1	KW1	1	PASI-O
		SM 2320B	MCD	1	PASI-O
		SM 2510B	SWB	1	PASI-O
		SM 2540C	RAK	1	PASI-O
		SM 4500-H+B	SRC	1	PASI-O
		EPA 300.0	RRB	3	PASI-O
		EPA 353.2	KW1	3	PASI-O
		EPA 365.4	AVW	1	PASI-O
		SM 5310B	AGS	1	PASI-O
35700926002	Trip Blank	EPA 524.2	JLR	45	PASI-O

PASI-O = Pace Analytical Services - Ormond Beach

PASI-PA = Pace Analytical Services - Greensburg

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Bonner Springs Wells, 138337

Pace Project No.: 35700926

Sample: TW-1		Lab ID: 35700926001		Collected: 03/02/22 16:30		Received: 03/03/22 10:33		Matrix: Drinking Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
505 GCS PCB-TOX-TCH Analytical Method: EPA 505 Preparation Method: EPA 505 Pace Analytical Services - Ormond Beach									
Chlordane (Technical)	ND	mg/L	0.00021	0.000036	1	03/09/22 19:38	03/10/22 05:05	57-74-9	
PCB-1016 (Aroclor 1016)	ND	mg/L	0.00010	0.000044	1	03/09/22 19:38	03/10/22 05:05	12674-11-2	
PCB-1221 (Aroclor 1221)	ND	mg/L	0.00010	0.000033	1	03/09/22 19:38	03/10/22 05:05	11104-28-2	
PCB-1232 (Aroclor 1232)	ND	mg/L	0.00010	0.000045	1	03/09/22 19:38	03/10/22 05:05	11141-16-5	
PCB-1242 (Aroclor 1242)	ND	mg/L	0.00010	0.000015	1	03/09/22 19:38	03/10/22 05:05	53469-21-9	
PCB-1248 (Aroclor 1248)	ND	mg/L	0.00010	0.000012	1	03/09/22 19:38	03/10/22 05:05	12672-29-6	
PCB-1254 (Aroclor 1254)	ND	mg/L	0.00010	0.000037	1	03/09/22 19:38	03/10/22 05:05	11097-69-1	
PCB-1260 (Aroclor 1260)	ND	mg/L	0.00010	0.000030	1	03/09/22 19:38	03/10/22 05:05	11096-82-5	
PCB, Total	ND	mg/L	0.00010	0.000045	1	03/09/22 19:38	03/10/22 05:05	1336-36-3	
Toxaphene	ND	mg/L	0.0010	0.00070	1	03/09/22 19:38	03/10/22 05:05	8001-35-2	
515.3 Chlorinated Herbicides Analytical Method: EPA 515.3 Preparation Method: EPA 515.3 Pace Analytical Services - Ormond Beach									
2,4-D	ND	mg/L	0.00010	0.000096	1	03/13/22 20:54	03/15/22 19:28	94-75-7	
Dalapon	ND	mg/L	0.0010	0.00049	1	03/13/22 20:54	03/15/22 19:28	75-99-0	
Dinoseb	ND	mg/L	0.00020	0.00016	1	03/13/22 20:54	03/15/22 19:28	88-85-7	
Pentachlorophenol	ND	mg/L	0.000040	0.000014	1	03/13/22 20:54	03/15/22 19:28	87-86-5	
Picloram	ND	mg/L	0.00010	0.000040	1	03/13/22 20:54	03/15/22 19:28	1918-02-1	
2,4,5-TP (Silvex)	ND	mg/L	0.00020	0.000053	1	03/13/22 20:54	03/15/22 19:28	93-72-1	
Surrogates									
2,4-DCAA (S)	78	%	70-130		1	03/13/22 20:54	03/15/22 19:28	19719-28-9	
525.3 Pesticides Semivolatiles Analytical Method: EPA 525.3 Preparation Method: EPA 525.3 Pace Analytical Services - Ormond Beach									
Alachlor	ND	mg/L	0.00019	0.000029	1	03/08/22 09:09	03/09/22 03:52	15972-60-8	
Aldrin	ND	mg/L	0.000097	0.000024	1	03/08/22 09:09	03/09/22 03:52	309-00-2	
Atrazine	0.000058J	mg/L	0.000097	0.000015	1	03/08/22 09:09	03/09/22 03:52	1912-24-9	
Benzo(a)pyrene	ND	mg/L	0.000097	0.000019	1	03/08/22 09:09	03/09/22 03:52	50-32-8	
gamma-BHC (Lindane)	ND	mg/L	0.000019	0.0000027	1	03/08/22 09:09	03/09/22 03:52	58-89-9	
Butachlor	ND	mg/L	0.000097	0.000020	1	03/08/22 09:09	03/09/22 03:52	23184-66-9	N2
Dieldrin	ND	mg/L	0.000097	0.000020	1	03/08/22 09:09	03/09/22 03:52	60-57-1	
Endrin	ND	mg/L	0.0000099	0.0000023	1	03/08/22 09:09	03/09/22 03:52	72-20-8	
bis(2-Ethylhexyl)adipate	ND	mg/L	0.0015	0.00036	1	03/08/22 09:09	03/09/22 03:52	103-23-1	
bis(2-Ethylhexyl)phthalate	ND	mg/L	0.0019	0.00046	1	03/08/22 09:09	03/09/22 03:52	117-81-7	
Heptachlor	ND	mg/L	0.000039	0.000014	1	03/08/22 09:09	03/09/22 03:52	76-44-8	
Heptachlor epoxide	ND	mg/L	0.000019	0.0000030	1	03/08/22 09:09	03/09/22 03:52	1024-57-3	
Hexachlorobenzene	ND	mg/L	0.000097	0.000015	1	03/08/22 09:09	03/09/22 03:52	118-74-1	
Hexachlorocyclopentadiene	ND	mg/L	0.000097	0.000024	1	03/08/22 09:09	03/09/22 03:52	77-47-4	
Methoxychlor	ND	mg/L	0.000097	0.000023	1	03/08/22 09:09	03/09/22 03:52	72-43-5	
Metolachlor	0.000028J	mg/L	0.000097	0.000015	1	03/08/22 09:09	03/09/22 03:52	51218-45-2	
Metribuzin	ND	mg/L	0.00029	0.00013	1	03/08/22 09:09	03/09/22 03:52	21087-64-9	
Propachlor	ND	mg/L	0.000097	0.000017	1	03/08/22 09:09	03/09/22 03:52	1918-16-7	
Simazine	ND	mg/L	0.00017	0.000040	1	03/08/22 09:09	03/09/22 03:52	122-34-9	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Bonner Springs Wells, 138337

Pace Project No.: 35700926

Sample: TW-1		Lab ID: 35700926001		Collected: 03/02/22 16:30		Received: 03/03/22 10:33		Matrix: Drinking Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
525.3 Pesticides Semivolatiles		Analytical Method: EPA 525.3 Preparation Method: EPA 525.3 Pace Analytical Services - Ormond Beach							
Surrogates									
1,3-Dimethyl-2-nitrobenzene(S)	84	%	70-130		1	03/08/22 09:09	03/09/22 03:52	81209	
Benzo(a)pyrene-d12 (S)	104	%	70-130		1	03/08/22 09:09	03/09/22 03:52		
Triphenylphosphate (S)	96	%	70-130		1	03/08/22 09:09	03/09/22 03:52	115-86-6	
531.2 HPLC Carbamates		Analytical Method: EPA 531.2 Pace Analytical Services - Ormond Beach							
Aldicarb	ND	mg/L	0.0020	0.00036	1		03/06/22 02:03	116-06-3	
Aldicarb sulfone	ND	mg/L	0.0020	0.00058	1		03/06/22 02:03	1646-88-4	
Aldicarb sulfoxide	ND	mg/L	0.0020	0.00047	1		03/06/22 02:03	1646-87-3	
Carbofuran	ND	mg/L	0.00090	0.00059	1		03/06/22 02:03	1563-66-2	
3-Hydroxycarbofuran	ND	mg/L	0.0020	0.00033	1		03/06/22 02:03	16655-82-6	
Methomyl	ND	mg/L	0.0020	0.00031	1		03/06/22 02:03	16752-77-5	
Oxamyl	ND	mg/L	0.0020	0.00046	1		03/06/22 02:03	23135-22-0	
Carbaryl	ND	mg/L	0.0020	0.00033	1		03/06/22 02:03	63-25-2	
Surrogates									
BDMC (S)	113	%	70-130		1		03/06/22 02:03		
200.7 MET ICP, Drinking Water		Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Ormond Beach							
Barium	0.32	mg/L	0.010	0.0062	1	03/05/22 01:25	03/06/22 14:31	7440-39-3	
Calcium	204	mg/L	2.5	1.0	5	03/05/22 01:25	03/07/22 12:13	7440-70-2	
Chromium	ND	mg/L	0.0050	0.0026	1	03/05/22 01:25	03/06/22 14:31	7440-47-3	
Magnesium	22.7	mg/L	0.50	0.16	1	03/05/22 01:25	03/06/22 14:31	7439-95-4	
Nickel	0.0053	mg/L	0.0050	0.0020	1	03/05/22 01:25	03/06/22 14:31	7440-02-0	
Potassium	6.6	mg/L	1.0	0.58	1	03/05/22 01:25	03/06/22 14:31	7440-09-7	
Silica	18.5	mg/L	0.21	0.12	1	03/05/22 01:25	03/06/22 14:31	7631-86-9	
Silver	ND	mg/L	0.0050	0.0033	1	03/05/22 01:25	03/06/22 14:31	7440-22-4	
Sodium	80.1	mg/L	2.0	0.59	1	03/05/22 01:25	03/06/22 14:31	7440-23-5	
Tot Hardness asCaCO3 (SM 2340B	603	mg/L	16.6	5.8	5	03/05/22 01:25	03/07/22 12:13		
Zinc	ND	mg/L	0.020	0.0076	1	03/05/22 01:25	03/06/22 14:31	7440-66-6	
200.8 MET ICPMS Drinking Water		Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Ormond Beach							
Aluminum	0.016J	mg/L	0.020	0.014	2	03/05/22 01:25	03/11/22 10:37	7429-90-5	
Antimony	ND	mg/L	0.0010	0.00083	1	03/05/22 01:25	03/09/22 17:32	7440-36-0	
Arsenic	0.0026	mg/L	0.0010	0.00050	1	03/05/22 01:25	03/09/22 17:32	7440-38-2	
Beryllium	ND	mg/L	0.00020	0.00014	2	03/05/22 01:25	03/11/22 10:37	7440-41-7	D3
Cadmium	0.00039J	mg/L	0.00040	0.00010	2	03/05/22 01:25	03/11/22 10:37	7440-43-9	D3
Copper	0.0012	mg/L	0.0010	0.00093	1	03/05/22 01:25	03/09/22 17:32	7440-50-8	
Lead	ND	mg/L	0.0010	0.00022	1	03/05/22 01:25	03/09/22 17:32	7439-92-1	
Selenium	0.0014	mg/L	0.0010	0.00083	1	03/05/22 01:25	03/09/22 17:32	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00021	1	03/05/22 01:25	03/09/22 17:32	7440-28-0	
Uranium	1.8	ug/L	1.0	0.19	1	03/05/22 01:25	03/09/22 17:32	7440-61-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Bonner Springs Wells, 138337

Pace Project No.: 35700926

Sample: TW-1		Lab ID: 35700926001		Collected: 03/02/22 16:30		Received: 03/03/22 10:33		Matrix: Drinking Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
245.1 Mercury									
Analytical Method: EPA 245.1 Preparation Method: EPA 245.1									
Pace Analytical Services - Ormond Beach									
Mercury	ND	ug/L	0.20	0.090	1	03/12/22 01:32	03/16/22 15:20	7439-97-6	
524.2 MSV									
Analytical Method: EPA 524.2									
Pace Analytical Services - Ormond Beach									
Benzene	ND	mg/L	0.00050	0.00040	1		03/15/22 08:05	71-43-2	
Bromobenzene	ND	mg/L	0.0010	0.00030	1		03/15/22 08:05	108-86-1	
Bromodichloromethane	ND	mg/L	0.0010	0.00037	1		03/15/22 08:05	75-27-4	
Bromoform	ND	mg/L	0.0010	0.00035	1		03/15/22 08:05	75-25-2	
Bromomethane	ND	mg/L	0.0010	0.00048	1		03/15/22 08:05	74-83-9	
Carbon tetrachloride	ND	mg/L	0.00050	0.00028	1		03/15/22 08:05	56-23-5	
Chlorobenzene	ND	mg/L	0.00050	0.00026	1		03/15/22 08:05	108-90-7	
Chloroethane	ND	mg/L	0.0010	0.00032	1		03/15/22 08:05	75-00-3	
Chloroform	ND	mg/L	0.0010	0.00044	1		03/15/22 08:05	67-66-3	
Chloromethane	ND	mg/L	0.0020	0.0012	1		03/15/22 08:05	74-87-3	
2-Chlorotoluene	ND	mg/L	0.0010	0.00023	1		03/15/22 08:05	95-49-8	
4-Chlorotoluene	ND	mg/L	0.0010	0.00026	1		03/15/22 08:05	106-43-4	
Dibromochloromethane	ND	mg/L	0.0010	0.00047	1		03/15/22 08:05	124-48-1	
Dibromomethane	ND	mg/L	0.0010	0.00033	1		03/15/22 08:05	74-95-3	
1,2-Dichlorobenzene	ND	mg/L	0.00050	0.00026	1		03/15/22 08:05	95-50-1	
1,3-Dichlorobenzene	ND	mg/L	0.0010	0.00029	1		03/15/22 08:05	541-73-1	
1,4-Dichlorobenzene	ND	mg/L	0.00050	0.00030	1		03/15/22 08:05	106-46-7	
1,1-Dichloroethane	ND	mg/L	0.0010	0.00027	1		03/15/22 08:05	75-34-3	
1,2-Dichloroethane	ND	mg/L	0.00050	0.00030	1		03/15/22 08:05	107-06-2	
1,1-Dichloroethene	ND	mg/L	0.00050	0.00029	1		03/15/22 08:05	75-35-4	
cis-1,2-Dichloroethene	ND	mg/L	0.00050	0.00033	1		03/15/22 08:05	156-59-2	
trans-1,2-Dichloroethene	ND	mg/L	0.00050	0.00027	1		03/15/22 08:05	156-60-5	
1,2-Dichloropropane	ND	mg/L	0.00050	0.00044	1		03/15/22 08:05	78-87-5	
1,3-Dichloropropane	ND	mg/L	0.0010	0.00023	1		03/15/22 08:05	142-28-9	
2,2-Dichloropropane	ND	mg/L	0.0010	0.00049	1		03/15/22 08:05	594-20-7	
1,1-Dichloropropene	ND	mg/L	0.0010	0.00031	1		03/15/22 08:05	563-58-6	
cis-1,3-Dichloropropene	ND	mg/L	0.0010	0.00028	1		03/15/22 08:05	10061-01-5	
trans-1,3-Dichloropropene	ND	mg/L	0.0010	0.00026	1		03/15/22 08:05	10061-02-6	
Ethylbenzene	ND	mg/L	0.00050	0.00023	1		03/15/22 08:05	100-41-4	
Methylene Chloride	ND	mg/L	0.0010	0.00044	1		03/15/22 08:05	75-09-2	
Styrene	ND	mg/L	0.00050	0.00020	1		03/15/22 08:05	100-42-5	
1,1,1,2-Tetrachloroethane	ND	mg/L	0.0010	0.00018	1		03/15/22 08:05	630-20-6	
1,1,1,2-Tetrachloroethane	ND	mg/L	0.0010	0.00027	1		03/15/22 08:05	79-34-5	
Tetrachloroethene	ND	mg/L	0.00050	0.00026	1		03/15/22 08:05	127-18-4	
Toluene	ND	mg/L	0.00050	0.00028	1		03/15/22 08:05	108-88-3	
1,2,4-Trichlorobenzene	ND	mg/L	0.00050	0.00035	1		03/15/22 08:05	120-82-1	
1,1,1-Trichloroethane	ND	mg/L	0.00050	0.00027	1		03/15/22 08:05	71-55-6	
1,1,2-Trichloroethane	ND	mg/L	0.00050	0.00028	1		03/15/22 08:05	79-00-5	
Trichloroethene	ND	mg/L	0.00050	0.00026	1		03/15/22 08:05	79-01-6	
1,2,3-Trichloropropane	ND	mg/L	0.0010	0.00023	1		03/15/22 08:05	96-18-4	
Vinyl chloride	ND	mg/L	0.00050	0.00012	1		03/15/22 08:05	75-01-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Bonner Springs Wells, 138337

Pace Project No.: 35700926

Sample: TW-1		Lab ID: 35700926001		Collected: 03/02/22 16:30		Received: 03/03/22 10:33		Matrix: Drinking Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
524.2 MSV									
Analytical Method: EPA 524.2									
Pace Analytical Services - Ormond Beach									
Xylene (Total)	ND	mg/L	0.0010	0.00011	1		03/15/22 08:05	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	98	%	70-130		1		03/15/22 08:05	460-00-4	
Toluene-d8 (S)	95	%	70-130		1		03/15/22 08:05	2037-26-5	
1,2-Dichlorobenzene-d4 (S)	102	%	70-130		1		03/15/22 08:05	2199-69-1	
180.1 Turbidity									
Analytical Method: EPA 180.1									
Pace Analytical Services - Ormond Beach									
Turbidity	1.7	NTU	0.20	0.20	1		03/04/22 13:16		
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Ormond Beach									
Alkalinity, Total as CaCO3	271	mg/L	5.0	5.0	1		03/05/22 20:46		
2510B Specific Conductance									
Analytical Method: SM 2510B									
Pace Analytical Services - Ormond Beach									
Specific Conductance @ 25C	790	umhos/cm	2.0	2.0	1		03/10/22 15:44		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Ormond Beach									
Total Dissolved Solids	890	mg/L	10.0	10.0	1		03/08/22 19:48		
4500H+ pH, Electrometric									
Analytical Method: SM 4500-H+B									
Pace Analytical Services - Ormond Beach									
pH at 25 Degrees C	7.4	Std. Units	0.10	0.10	1		03/05/22 07:57		H6
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Ormond Beach									
Chloride	188	mg/L	25.0	12.5	5		03/24/22 03:02	16887-00-6	
Fluoride	0.18J	mg/L	0.25	0.073	5		03/24/22 03:02	16984-48-8	
Sulfate	167	mg/L	25.0	12.5	5		03/24/22 03:02	14808-79-8	
353.2 Nitrogen, NO2/NO3 unpres									
Analytical Method: EPA 353.2									
Pace Analytical Services - Ormond Beach									
Nitrogen, NO2 plus NO3	0.17	mg/L	0.050	0.015	1		03/03/22 18:19		
Nitrogen, Nitrate	0.17	mg/L	0.050	0.025	1		03/03/22 18:19	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.050	0.025	1		03/03/22 18:19	14797-65-0	
365.4 Phosphorus, Total DW									
Analytical Method: EPA 365.4 Preparation Method: EPA 365.4									
Pace Analytical Services - Ormond Beach									
Phosphorus, Total (as P)	0.11	mg/L	0.10	0.070	1	03/13/22 12:32	03/16/22 08:36	7723-14-0	N2

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ANALYTICAL RESULTS

Project: Bonner Springs Wells, 138337

Pace Project No.: 35700926

Sample: TW-1		Lab ID: 35700926001		Collected: 03/02/22 16:30		Received: 03/03/22 10:33		Matrix: Drinking Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
5310B TOC Analytical Method: SM 5310B Pace Analytical Services - Ormond Beach									
Total Organic Carbon	1.1	mg/L	1.0	0.50	1		03/14/22 22:30	7440-44-0	

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ANALYTICAL RESULTS

Project: Bonner Springs Wells, 138337

Pace Project No.: 35700926

Sample: Trip Blank **Lab ID:** 35700926002 **Collected:** 03/02/22 00:01 **Received:** 03/03/22 10:33 **Matrix:** Drinking Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
524.2 MSV									
Analytical Method: EPA 524.2									
Pace Analytical Services - Ormond Beach									
Benzene	ND	mg/L	0.00050	0.00040	1		03/15/22 03:16	71-43-2	
Bromobenzene	ND	mg/L	0.0010	0.00030	1		03/15/22 03:16	108-86-1	
Bromodichloromethane	ND	mg/L	0.0010	0.00037	1		03/15/22 03:16	75-27-4	
Bromoform	ND	mg/L	0.0010	0.00035	1		03/15/22 03:16	75-25-2	
Bromomethane	ND	mg/L	0.0010	0.00048	1		03/15/22 03:16	74-83-9	
Carbon tetrachloride	ND	mg/L	0.00050	0.00028	1		03/15/22 03:16	56-23-5	
Chlorobenzene	ND	mg/L	0.00050	0.00026	1		03/15/22 03:16	108-90-7	
Chloroethane	ND	mg/L	0.0010	0.00032	1		03/15/22 03:16	75-00-3	
Chloroform	ND	mg/L	0.0010	0.00044	1		03/15/22 03:16	67-66-3	
Chloromethane	ND	mg/L	0.0020	0.0012	1		03/15/22 03:16	74-87-3	
2-Chlorotoluene	ND	mg/L	0.0010	0.00023	1		03/15/22 03:16	95-49-8	
4-Chlorotoluene	ND	mg/L	0.0010	0.00026	1		03/15/22 03:16	106-43-4	
Dibromochloromethane	ND	mg/L	0.0010	0.00047	1		03/15/22 03:16	124-48-1	
Dibromomethane	ND	mg/L	0.0010	0.00033	1		03/15/22 03:16	74-95-3	
1,2-Dichlorobenzene	ND	mg/L	0.00050	0.00026	1		03/15/22 03:16	95-50-1	
1,3-Dichlorobenzene	ND	mg/L	0.0010	0.00029	1		03/15/22 03:16	541-73-1	
1,4-Dichlorobenzene	ND	mg/L	0.00050	0.00030	1		03/15/22 03:16	106-46-7	
1,1-Dichloroethane	ND	mg/L	0.0010	0.00027	1		03/15/22 03:16	75-34-3	
1,2-Dichloroethane	ND	mg/L	0.00050	0.00030	1		03/15/22 03:16	107-06-2	
1,1-Dichloroethene	ND	mg/L	0.00050	0.00029	1		03/15/22 03:16	75-35-4	
cis-1,2-Dichloroethene	ND	mg/L	0.00050	0.00033	1		03/15/22 03:16	156-59-2	
trans-1,2-Dichloroethene	ND	mg/L	0.00050	0.00027	1		03/15/22 03:16	156-60-5	
1,2-Dichloropropane	ND	mg/L	0.00050	0.00044	1		03/15/22 03:16	78-87-5	
1,3-Dichloropropane	ND	mg/L	0.0010	0.00023	1		03/15/22 03:16	142-28-9	
2,2-Dichloropropane	ND	mg/L	0.0010	0.00049	1		03/15/22 03:16	594-20-7	
1,1-Dichloropropene	ND	mg/L	0.0010	0.00031	1		03/15/22 03:16	563-58-6	
cis-1,3-Dichloropropene	ND	mg/L	0.0010	0.00028	1		03/15/22 03:16	10061-01-5	
trans-1,3-Dichloropropene	ND	mg/L	0.0010	0.00026	1		03/15/22 03:16	10061-02-6	
Ethylbenzene	ND	mg/L	0.00050	0.00023	1		03/15/22 03:16	100-41-4	
Methylene Chloride	ND	mg/L	0.0010	0.00044	1		03/15/22 03:16	75-09-2	
Styrene	ND	mg/L	0.00050	0.00020	1		03/15/22 03:16	100-42-5	
1,1,1,2-Tetrachloroethane	ND	mg/L	0.0010	0.00018	1		03/15/22 03:16	630-20-6	
1,1,1,2,2-Tetrachloroethane	ND	mg/L	0.0010	0.00027	1		03/15/22 03:16	79-34-5	
Tetrachloroethene	ND	mg/L	0.00050	0.00026	1		03/15/22 03:16	127-18-4	
Toluene	ND	mg/L	0.00050	0.00028	1		03/15/22 03:16	108-88-3	
1,2,4-Trichlorobenzene	ND	mg/L	0.00050	0.00035	1		03/15/22 03:16	120-82-1	
1,1,1-Trichloroethane	ND	mg/L	0.00050	0.00027	1		03/15/22 03:16	71-55-6	
1,1,2-Trichloroethane	ND	mg/L	0.00050	0.00028	1		03/15/22 03:16	79-00-5	
Trichloroethene	ND	mg/L	0.00050	0.00026	1		03/15/22 03:16	79-01-6	
1,2,3-Trichloropropane	ND	mg/L	0.0010	0.00023	1		03/15/22 03:16	96-18-4	
Vinyl chloride	ND	mg/L	0.00050	0.00012	1		03/15/22 03:16	75-01-4	
Xylene (Total)	ND	mg/L	0.0010	0.00011	1		03/15/22 03:16	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	97	%	70-130		1		03/15/22 03:16	460-00-4	
Toluene-d8 (S)	95	%	70-130		1		03/15/22 03:16	2037-26-5	

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ANALYTICAL RESULTS

Project: Bonner Springs Wells, 138337

Pace Project No.: 35700926

Sample: Trip Blank		Lab ID: 35700926002		Collected: 03/02/22 00:01		Received: 03/03/22 10:33		Matrix: Drinking Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
524.2 MSV		Analytical Method: EPA 524.2 Pace Analytical Services - Ormond Beach							
Surrogates									
1,2-Dichlorobenzene-d4 (S)	104	%	70-130		1		03/15/22 03:16	2199-69-1	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Bonner Springs Wells, 138337

Pace Project No.: 35700926

QC Batch: 805424

Analysis Method: EPA 531.2

QC Batch Method: EPA 531.2

Analysis Description: 531.2 HPLC Carbamate

Laboratory: Pace Analytical Services - Ormond Beach

Associated Lab Samples: 35700926001

METHOD BLANK: 4422380

Matrix: Water

Associated Lab Samples: 35700926001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
3-Hydroxycarbofuran	mg/L	ND	0.0020	0.00033	03/05/22 18:37	
Aldicarb	mg/L	ND	0.0020	0.00036	03/05/22 18:37	
Aldicarb sulfone	mg/L	ND	0.0020	0.00058	03/05/22 18:37	
Aldicarb sulfoxide	mg/L	ND	0.0020	0.00047	03/05/22 18:37	
Carbaryl	mg/L	ND	0.0020	0.00033	03/05/22 18:37	
Carbofuran	mg/L	ND	0.00090	0.00059	03/05/22 18:37	
Methomyl	mg/L	ND	0.0020	0.00031	03/05/22 18:37	
Oxamyl	mg/L	ND	0.0020	0.00046	03/05/22 18:37	
BDMC (S)	%	114	70-130		03/05/22 18:37	

LABORATORY CONTROL SAMPLE: 4422381

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
3-Hydroxycarbofuran	mg/L	0.01	0.010	102	70-130	
Aldicarb	mg/L	0.01	0.010	100	70-130	
Aldicarb sulfone	mg/L	0.01	0.011	108	70-130	
Aldicarb sulfoxide	mg/L	0.01	0.011	106	70-130	
Carbaryl	mg/L	0.01	0.010	101	70-130	
Carbofuran	mg/L	0.01	0.010	100	70-130	
Methomyl	mg/L	0.01	0.010	101	70-130	
Oxamyl	mg/L	0.01	0.010	101	70-130	
BDMC (S)	%			102	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4422382 4422383

Parameter	Units	70205803001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
3-Hydroxycarbofuran	mg/L	<2.0 ug/L	0.01	0.01	0.011	0.011	107	108	70-130	0	30	
Aldicarb	mg/L	<2.0 ug/L	0.01	0.01	0.011	0.010	105	105	70-130	1	30	
Aldicarb sulfone	mg/L	<2.0 ug/L	0.01	0.01	0.011	0.011	108	109	70-130	1	30	
Aldicarb sulfoxide	mg/L	<2.0 ug/L	0.01	0.01	0.011	0.011	109	108	70-130	1	30	
Carbaryl	mg/L	<2.0 ug/L	0.01	0.01	0.010	0.010	105	103	70-130	1	30	
Carbofuran	mg/L	<0.90 ug/L	0.01	0.01	0.010	0.010	104	105	70-130	0	30	
Methomyl	mg/L	<2.0 ug/L	0.01	0.01	0.010	0.010	101	104	70-130	2	30	
Oxamyl	mg/L	<2.0 ug/L	0.01	0.01	0.010	0.010	103	103	70-130	0	30	
BDMC (S)	%						105	104	70-130			

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QUALITY CONTROL DATA

Project: Bonner Springs Wells, 138337
Pace Project No.: 35700926

QC Batch:	807203	Analysis Method:	EPA 245.1
QC Batch Method:	EPA 245.1	Analysis Description:	245.1 Mercury
		Laboratory:	Pace Analytical Services - Ormond Beach

Associated Lab Samples: 35700926001

METHOD BLANK: 4432376 Matrix: Water

Associated Lab Samples: 35700926001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	0.090	03/16/22 14:29	

LABORATORY CONTROL SAMPLE: 4432377

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	2	2.0	100	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4432378 4432379

Parameter	Units	35700600001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	0.000090 U mg/L	2	2	2.0	2.0	98	100	70-130	2	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4432380 4432381

Parameter	Units	35700788001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	<0.090	2	2	1.5	2.0	74	100	70-130	30	20 R1	

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QUALITY CONTROL DATA

Project: Bonner Springs Wells, 138337

Pace Project No.: 35700926

QC Batch:	805373	Analysis Method:	EPA 200.7
QC Batch Method:	EPA 200.7	Analysis Description:	200.7 MET Drinking Water
		Laboratory:	Pace Analytical Services - Ormond Beach

Associated Lab Samples: 35700926001

METHOD BLANK: 4422219 Matrix: Water

Associated Lab Samples: 35700926001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Barium	mg/L	ND	0.010	0.0062	03/06/22 13:04	
Calcium	mg/L	ND	0.50	0.20	03/06/22 13:04	
Chromium	mg/L	ND	0.0050	0.0026	03/06/22 13:04	
Magnesium	mg/L	ND	0.50	0.16	03/06/22 13:04	
Nickel	mg/L	ND	0.0050	0.0020	03/06/22 13:04	
Potassium	mg/L	ND	1.0	0.58	03/06/22 13:04	
Silica	mg/L	ND	0.21	0.12	03/06/22 13:04	
Silver	mg/L	ND	0.0050	0.0033	03/06/22 13:04	
Sodium	mg/L	ND	2.0	0.59	03/06/22 13:04	
Tot Hardness asCaCO3 (SM 2340B	mg/L	ND	3.3	1.2	03/06/22 13:04	
Zinc	mg/L	ND	0.020	0.0076	03/06/22 13:04	

LABORATORY CONTROL SAMPLE: 4422220

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	mg/L	0.25	0.27	107	85-115	
Calcium	mg/L	12.5	13.4	107	85-115	
Chromium	mg/L	0.25	0.27	107	85-115	
Magnesium	mg/L	12.5	13.3	106	85-115	
Nickel	mg/L	0.25	0.27	108	85-115	
Potassium	mg/L	12.5	13.0	104	85-115	
Silica	mg/L	5.3	5.4	101	85-115	
Silver	mg/L	0.025	0.027	108	85-115	
Sodium	mg/L	12.5	13.3	107	85-115	
Tot Hardness asCaCO3 (SM 2340B	mg/L	82.7	88.1	107	85-115	
Zinc	mg/L	1.2	1.4	109	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4422221 4422222

Parameter	Units	30465204001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	mg/L	0.14	0.25	0.25	0.41	0.41	106	109	70-130	2	20	
Calcium	mg/L	27.6	12.5	12.5	40.6	41.6	104	112	70-130	2	20	
Chromium	mg/L	ND	0.25	0.25	0.27	0.27	106	108	70-130	2	20	
Magnesium	mg/L	6.0	12.5	12.5	19.1	19.4	105	107	70-130	2	20	
Nickel	mg/L	ND	0.25	0.25	0.27	0.28	109	111	70-130	2	20	
Potassium	mg/L	2.0	12.5	12.5	15.4	15.7	107	109	70-130	2	20	

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QUALITY CONTROL DATA

Project: Bonner Springs Wells, 138337

Pace Project No.: 35700926

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4422221 4422222												
Parameter	Units	30465204001	MS	MSD	MS	MSD	MS	MSD	% Rec	RPD	Max	Qual
		Result	Spike	Spike								
Silica	mg/L	5.9	5.3	5.3	11.5	11.7	104	109	70-130	2	20	
Silver	mg/L	ND	0.025	0.025	0.027	0.028	107	109	70-130	2	20	
Sodium	mg/L	14.5	12.5	12.5	27.9	28.5	108	113	70-130	2	20	
Tot Hardness asCaCO3 (SM 2340B	mg/L	93.7	82.7	82.7	180	184	104	109	70-130	2	20	
Zinc	mg/L	ND	1.2	1.2	1.3	1.4	107	109	70-130	2	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4422223 4422224												
Parameter	Units	35700772001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	mg/L	<0.0062	0.25	0.25	0.27	0.27	107	107	70-130	0	20	
Calcium	mg/L	<0.20	12.5	12.5	13.4	13.3	107	107	70-130	0	20	
Chromium	mg/L	<0.0026	0.25	0.25	0.27	0.27	107	106	70-130	1	20	
Magnesium	mg/L	<0.16	12.5	12.5	13.3	13.3	107	106	70-130	1	20	
Nickel	mg/L	<0.0020	0.25	0.25	0.27	0.27	108	108	70-130	1	20	
Potassium	mg/L	<0.58	12.5	12.5	13.0	13.0	104	104	70-130	0	20	
Silica	mg/L	<0.12	5.3	5.3	5.4	5.4	102	100	70-130	1	20	
Silver	mg/L	<0.0033	0.025	0.025	0.027	0.027	106	106	70-130	0	20	
Sodium	mg/L	<0.59	12.5	12.5	13.4	13.3	107	106	70-130	0	20	
Tot Hardness asCaCO3 (SM 2340B	mg/L	<1.2	82.7	82.7	88.4	87.9	107	106	70-130	1	20	
Zinc	mg/L	<0.0076	1.2	1.2	1.4	1.4	109	108	70-130	1	20	

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QUALITY CONTROL DATA

Project: Bonner Springs Wells, 138337
Pace Project No.: 35700926

QC Batch:	805374	Analysis Method:	EPA 200.8
QC Batch Method:	EPA 200.8	Analysis Description:	200.8 MET Drinking Water
		Laboratory:	Pace Analytical Services - Ormond Beach

Associated Lab Samples: 35700926001

METHOD BLANK: 4422225 Matrix: Water

Associated Lab Samples: 35700926001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Aluminum	mg/L	ND	0.010	0.0072	03/11/22 15:39	
Antimony	mg/L	ND	0.0010	0.00083	03/11/22 15:39	
Arsenic	mg/L	ND	0.0010	0.00050	03/11/22 15:39	
Beryllium	mg/L	ND	0.00010	0.000070	03/11/22 15:39	
Cadmium	mg/L	ND	0.00020	0.000050	03/11/22 15:39	
Copper	mg/L	ND	0.0010	0.00093	03/11/22 15:39	
Lead	mg/L	ND	0.0010	0.00022	03/11/22 15:39	
Selenium	mg/L	ND	0.0010	0.00083	03/11/22 15:39	
Thallium	mg/L	ND	0.0010	0.00021	03/11/22 15:39	
Uranium	ug/L	ND	1.0	0.19	03/11/22 15:39	

LABORATORY CONTROL SAMPLE: 4422226

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	mg/L	0.5	0.52	103	85-115	
Antimony	mg/L	0.05	0.051	103	85-115	
Arsenic	mg/L	0.05	0.048	95	85-115	
Beryllium	mg/L	0.005	0.0051	102	85-115	
Cadmium	mg/L	0.005	0.0050	100	85-115	
Copper	mg/L	0.05	0.046	91	85-115	
Lead	mg/L	0.05	0.050	100	85-115	
Selenium	mg/L	0.05	0.049	98	85-115	
Thallium	mg/L	0.05	0.049	99	85-115	
Uranium	ug/L	50	46.8	94	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4422227 4422228

Parameter	Units	35700411002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	mg/L	0.0072U	0.5	0.5	0.53	0.53	105	105	70-130	0	20	
Antimony	mg/L	0.0010	0.05	0.05	0.052	0.053	103	103	70-130	1	20	
Arsenic	mg/L	0.016	0.05	0.05	0.066	0.067	100	101	70-130	0	20	
Beryllium	mg/L	0.000070 U	0.005	0.005	0.0051	0.0052	102	105	70-130	3	20	
Cadmium	mg/L	0.000050 U	0.005	0.005	0.0047	0.0047	94	94	70-130	0	20	
Copper	mg/L	0.0014	0.05	0.05	0.050	0.050	97	98	70-130	1	20	
Lead	mg/L	0.00022U	0.05	0.05	0.052	0.051	103	102	70-130	1	20	

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QUALITY CONTROL DATA

Project: Bonner Springs Wells, 138337

Pace Project No.: 35700926

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4422227 4422228												
Parameter	Units	35700411002	MS	MSD	MS	MSD	MS	MSD	% Rec	RPD	Max	Qual
		Result	Spike	Spike								
Selenium	mg/L	0.00083U	0.05	0.05	0.049	0.049	98	97	70-130	0	20	
Thallium	mg/L	0.00025J	0.05	0.05	0.052	0.051	103	102	70-130	0	20	
Uranium	ug/L	0.015	50	50	65.8	65.4	102	101	70-130	1	20	
		mg/L										

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4422229					4422230							
Parameter	Units	35700897005	MS	MSD	MS	MSD	MS	MSD	% Rec	RPD	Max	Qual
		Result	Spike	Spike								
Aluminum	mg/L	113 ug/L	0.5	0.5	0.66	0.66	109	109	70-130	0	20	IR
Antimony	mg/L	ND	0.05	0.05	0.053	0.053	105	105	70-130	1	20	
Arsenic	mg/L	1.1 ug/L	0.05	0.05	0.052	0.052	102	101	70-130	1	20	
Beryllium	mg/L	ND	0.005	0.005	0.0047	0.0047	94	93	70-130	1	20	IR
Cadmium	mg/L	ND	0.005	0.005	0.0049	0.0049	98	98	70-130	0	20	
Copper	mg/L	0.0023	0.05	0.05	0.053	0.053	102	101	70-130	1	20	
Lead	mg/L	ND	0.05	0.05	0.053	0.053	105	105	70-130	0	20	
Selenium	mg/L	ND	0.05	0.05	0.048	0.048	96	96	70-130	0	20	
Thallium	mg/L	ND	0.05	0.05	0.053	0.052	105	103	70-130	2	20	
Uranium	ug/L	ND	50	50	51.2	51.6	101	102	70-130	1	20	

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QUALITY CONTROL DATA

Project: Bonner Springs Wells, 138337

Pace Project No.: 35700926

QC Batch: 807671

Analysis Method: EPA 524.2

QC Batch Method: EPA 524.2

Analysis Description: 524.2 MSV

Laboratory: Pace Analytical Services - Ormond Beach

Associated Lab Samples: 35700926001, 35700926002

METHOD BLANK: 4435577

Matrix: Water

Associated Lab Samples: 35700926001, 35700926002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	mg/L	ND	0.0010	0.00018	03/15/22 00:27	
1,1,1-Trichloroethane	mg/L	ND	0.00050	0.00027	03/15/22 00:27	
1,1,2,2-Tetrachloroethane	mg/L	ND	0.0010	0.00027	03/15/22 00:27	
1,1,2-Trichloroethane	mg/L	ND	0.00050	0.00028	03/15/22 00:27	
1,1-Dichloroethane	mg/L	ND	0.0010	0.00027	03/15/22 00:27	
1,1-Dichloroethene	mg/L	ND	0.00050	0.00029	03/15/22 00:27	
1,1-Dichloropropene	mg/L	ND	0.0010	0.00031	03/15/22 00:27	
1,2,3-Trichloropropane	mg/L	ND	0.0010	0.00023	03/15/22 00:27	
1,2,4-Trichlorobenzene	mg/L	ND	0.00050	0.00035	03/15/22 00:27	
1,2-Dichlorobenzene	mg/L	ND	0.00050	0.00026	03/15/22 00:27	
1,2-Dichloroethane	mg/L	ND	0.00050	0.00030	03/15/22 00:27	
1,2-Dichloropropane	mg/L	ND	0.00050	0.00044	03/15/22 00:27	
1,3-Dichlorobenzene	mg/L	ND	0.0010	0.00029	03/15/22 00:27	
1,3-Dichloropropane	mg/L	ND	0.0010	0.00023	03/15/22 00:27	
1,4-Dichlorobenzene	mg/L	ND	0.00050	0.00030	03/15/22 00:27	
2,2-Dichloropropane	mg/L	ND	0.0010	0.00049	03/15/22 00:27	
2-Chlorotoluene	mg/L	ND	0.0010	0.00023	03/15/22 00:27	
4-Chlorotoluene	mg/L	ND	0.0010	0.00026	03/15/22 00:27	
Benzene	mg/L	ND	0.00050	0.00040	03/15/22 00:27	
Bromobenzene	mg/L	ND	0.0010	0.00030	03/15/22 00:27	
Bromodichloromethane	mg/L	ND	0.0010	0.00037	03/15/22 00:27	
Bromoform	mg/L	ND	0.0010	0.00035	03/15/22 00:27	
Bromomethane	mg/L	ND	0.0010	0.00048	03/15/22 00:27	
Carbon tetrachloride	mg/L	ND	0.00050	0.00028	03/15/22 00:27	
Chlorobenzene	mg/L	ND	0.00050	0.00026	03/15/22 00:27	
Chloroethane	mg/L	ND	0.0010	0.00032	03/15/22 00:27	
Chloroform	mg/L	ND	0.0010	0.00044	03/15/22 00:27	
Chloromethane	mg/L	ND	0.0020	0.0012	03/15/22 00:27	
cis-1,2-Dichloroethene	mg/L	ND	0.00050	0.00033	03/15/22 00:27	
cis-1,3-Dichloropropene	mg/L	ND	0.0010	0.00028	03/15/22 00:27	
Dibromochloromethane	mg/L	ND	0.0010	0.00047	03/15/22 00:27	
Dibromomethane	mg/L	ND	0.0010	0.00033	03/15/22 00:27	
Ethylbenzene	mg/L	ND	0.00050	0.00023	03/15/22 00:27	
Methylene Chloride	mg/L	ND	0.0010	0.00044	03/15/22 00:27	
Styrene	mg/L	ND	0.00050	0.00020	03/15/22 00:27	
Tetrachloroethene	mg/L	ND	0.00050	0.00026	03/15/22 00:27	
Toluene	mg/L	ND	0.00050	0.00028	03/15/22 00:27	
trans-1,2-Dichloroethene	mg/L	ND	0.00050	0.00027	03/15/22 00:27	
trans-1,3-Dichloropropene	mg/L	ND	0.0010	0.00026	03/15/22 00:27	
Trichloroethene	mg/L	ND	0.00050	0.00026	03/15/22 00:27	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Bonner Springs Wells, 138337

Pace Project No.: 35700926

METHOD BLANK: 4435577

Matrix: Water

Associated Lab Samples: 35700926001, 35700926002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Vinyl chloride	mg/L	ND	0.00050	0.00012	03/15/22 00:27	
Xylene (Total)	mg/L	ND	0.0010	0.00011	03/15/22 00:27	
1,2-Dichlorobenzene-d4 (S)	%	103	70-130		03/15/22 00:27	
4-Bromofluorobenzene (S)	%	96	70-130		03/15/22 00:27	
Toluene-d8 (S)	%	100	70-130		03/15/22 00:27	

LABORATORY CONTROL SAMPLE & LCSD: 4435578

4435579

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,1,1,2-Tetrachloroethane	mg/L	0.01	0.010	0.0099	102	99	70-130	3	20	
1,1,1-Trichloroethane	mg/L	0.01	0.0099	0.0098	99	98	70-130	1	20	
1,1,2,2-Tetrachloroethane	mg/L	0.01	0.011	0.010	106	105	70-130	2	20	
1,1,2-Trichloroethane	mg/L	0.01	0.0099	0.010	99	101	70-130	2	20	
1,1-Dichloroethane	mg/L	0.01	0.011	0.010	113	101	70-130	11	20	
1,1-Dichloroethene	mg/L	0.01	0.0083	0.0083	83	83	70-130	1	20	
1,1-Dichloropropene	mg/L	0.01	0.0097	0.0094	97	94	70-130	4	20	
1,2,3-Trichloropropane	mg/L	0.01	0.010	0.010	101	100	70-130	1	20	
1,2,4-Trichlorobenzene	mg/L	0.01	0.010	0.0099	100	99	70-130	0	20	
1,2-Dichlorobenzene	mg/L	0.01	0.010	0.0099	101	99	70-130	2	20	
1,2-Dichloroethane	mg/L	0.01	0.010	0.010	101	100	70-130	0	20	
1,2-Dichloropropane	mg/L	0.01	0.010	0.010	100	102	70-130	2	20	
1,3-Dichlorobenzene	mg/L	0.01	0.011	0.010	107	103	70-130	4	20	
1,3-Dichloropropane	mg/L	0.01	0.010	0.010	104	102	70-130	2	20	
1,4-Dichlorobenzene	mg/L	0.01	0.010	0.0099	104	99	70-130	5	20	
2,2-Dichloropropane	mg/L	0.01	0.010	0.0092	104	92	70-130	11	20	
2-Chlorotoluene	mg/L	0.01	0.011	0.010	107	101	70-130	5	20	
4-Chlorotoluene	mg/L	0.01	0.011	0.0098	110	98	70-130	12	20	
Benzene	mg/L	0.01	0.010	0.0098	100	98	70-130	3	20	
Bromobenzene	mg/L	0.01	0.011	0.010	106	101	70-130	5	20	
Bromodichloromethane	mg/L	0.01	0.010	0.0099	102	99	70-130	4	20	
Bromoform	mg/L	0.01	0.010	0.0098	102	98	70-130	4	20	
Bromomethane	mg/L	0.01	0.011	0.010	113	101	70-130	11	20	
Carbon tetrachloride	mg/L	0.01	0.0098	0.0096	98	96	70-130	2	20	
Chlorobenzene	mg/L	0.01	0.011	0.010	107	103	70-130	3	20	
Chloroethane	mg/L	0.01	0.0097	0.0091	97	91	70-130	6	20	
Chloroform	mg/L	0.01	0.010	0.0098	102	98	70-130	4	20	
Chloromethane	mg/L	0.01	0.0095	0.0090	95	90	70-130	6	20	
cis-1,2-Dichloroethene	mg/L	0.01	0.0096	0.0089	96	89	70-130	8	20	
cis-1,3-Dichloropropene	mg/L	0.01	0.0098	0.010	98	100	70-130	2	20	
Dibromochloromethane	mg/L	0.01	0.010	0.0099	102	99	70-130	3	20	
Dibromomethane	mg/L	0.01	0.010	0.0098	105	98	70-130	6	20	
Ethylbenzene	mg/L	0.01	0.011	0.010	105	102	70-130	3	20	
Methylene Chloride	mg/L	0.01	0.010	0.0095	102	95	70-130	8	20	
Styrene	mg/L	0.01	0.011	0.010	105	102	70-130	3	20	

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QUALITY CONTROL DATA

Project: Bonner Springs Wells, 138337

Pace Project No.: 35700926

LABORATORY CONTROL SAMPLE & LCSD: 4435578			4435579							
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Tetrachloroethene	mg/L	0.01	0.011	0.010	108	105	70-130	3	20	
Toluene	mg/L	0.01	0.010	0.010	104	104	70-130	0	20	
trans-1,2-Dichloroethene	mg/L	0.01	0.0095	0.0090	95	90	70-130	5	20	
trans-1,3-Dichloropropene	mg/L	0.01	0.010	0.010	102	102	70-130	0	20	
Trichloroethene	mg/L	0.01	0.010	0.010	101	101	70-130	0	20	
Vinyl chloride	mg/L	0.01	0.010	0.010	101	101	70-130	0	20	
Xylene (Total)	mg/L	0.03	0.032	0.030	105	101	70-130	4	20	
1,2-Dichlorobenzene-d4 (S)	%				98	99	70-130			
4-Bromofluorobenzene (S)	%				99	100	70-130			
Toluene-d8 (S)	%				98	99	70-130			

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QUALITY CONTROL DATA

Project: Bonner Springs Wells, 138337

Pace Project No.: 35700926

QC Batch: 806283

Analysis Method: EPA 505

QC Batch Method: EPA 505

Analysis Description: 505 GCS PCB-TOX-TCH

Laboratory: Pace Analytical Services - Ormond Beach

Associated Lab Samples: 35700926001

METHOD BLANK: 4426741

Matrix: Water

Associated Lab Samples: 35700926001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chlordane (Technical)	mg/L	ND	0.00020	0.000035	03/09/22 23:40	
PCB-1016 (Aroclor 1016)	mg/L	ND	0.00010	0.000043	03/09/22 23:40	
PCB-1221 (Aroclor 1221)	mg/L	ND	0.00010	0.000032	03/09/22 23:40	
PCB-1232 (Aroclor 1232)	mg/L	ND	0.00010	0.000044	03/09/22 23:40	
PCB-1242 (Aroclor 1242)	mg/L	ND	0.00010	0.000015	03/09/22 23:40	
PCB-1248 (Aroclor 1248)	mg/L	ND	0.00010	0.000012	03/09/22 23:40	
PCB-1254 (Aroclor 1254)	mg/L	ND	0.00010	0.000036	03/09/22 23:40	
PCB-1260 (Aroclor 1260)	mg/L	ND	0.00010	0.000029	03/09/22 23:40	
Toxaphene	mg/L	ND	0.0010	0.00068	03/09/22 23:40	

LABORATORY CONTROL SAMPLE: 4426742

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
PCB-1016 (Aroclor 1016)	mg/L	0.00071	0.00081	113	70-130	
PCB-1260 (Aroclor 1260)	mg/L	0.00072	0.00062	86	70-130	

LABORATORY CONTROL SAMPLE: 4426743

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
PCB-1016 (Aroclor 1016)	mg/L	0.000071	0.000068J	96	50-150	
PCB-1260 (Aroclor 1260)	mg/L	0.000072	0.000099J	138	50-150	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4428186 4428187

Parameter	Units	35699515001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
PCB-1016 (Aroclor 1016)	mg/L	0.044U ug/L	0.00074	0.00072	0.00086	0.00068	117	95	70-130	23	20	R1
PCB-1260 (Aroclor 1260)	mg/L	0.030U ug/L	0.00074	0.00072	0.00049	0.00043	67	60	70-130	13	20	M1

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QUALITY CONTROL DATA

Project: Bonner Springs Wells, 138337

Pace Project No.: 35700926

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4428188 4428189												
Parameter	Units	35699526001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
PCB-1016 (Aroclor 1016)	mg/L	0.044U ug/L	0.00074	0.00073	0.00062	0.00059	84	81	70-130	5	20	
PCB-1260 (Aroclor 1260)	mg/L	0.030U ug/L	0.00074	0.00073	0.00043	0.00038	58	52	70-130	11	20	M1

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QUALITY CONTROL DATA

Project: Bonner Springs Wells, 138337
Pace Project No.: 35700926

QC Batch:	807376	Analysis Method:	EPA 515.3
QC Batch Method:	EPA 515.3	Analysis Description:	5153 GCS Herbicides
		Laboratory:	Pace Analytical Services - Ormond Beach

Associated Lab Samples: 35700926001

METHOD BLANK: 4433361 Matrix: Water

Associated Lab Samples: 35700926001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
2,4,5-TP (Silvex)	mg/L	ND	0.00020	0.000053	03/15/22 12:31	
2,4-D	mg/L	ND	0.00010	0.000096	03/15/22 12:31	
Dalapon	mg/L	ND	0.0010	0.00049	03/15/22 12:31	
Dinoseb	mg/L	ND	0.00020	0.00016	03/15/22 12:31	
Pentachlorophenol	mg/L	ND	0.000040	0.000014	03/15/22 12:31	
Picloram	mg/L	ND	0.00010	0.000040	03/15/22 12:31	
2,4-DCAA (S)	%	85	70-130		03/15/22 12:31	

LABORATORY CONTROL SAMPLE: 4433362

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
2,4,5-TP (Silvex)	mg/L	0.0008	0.00083	104	70-130	
2,4-D	mg/L	0.0004	0.00040	101	70-130	
Dalapon	mg/L	0.004	0.0040	99	70-130	
Dinoseb	mg/L	0.0008	0.00082	103	70-130	
Pentachlorophenol	mg/L	0.00016	0.00015	94	70-130	
Picloram	mg/L	0.0004	0.00044	110	70-130	
2,4-DCAA (S)	%			77	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4433363 4433364

Parameter	Units	35700399001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
2,4,5-TP (Silvex)	mg/L	0.053U ug/L	0.0008	0.0008	0.00076	0.00076	95	95	70-130	0	40	
2,4-D	mg/L	0.096U ug/L	0.0004	0.0004	0.00045	0.00052	114	130	70-130	13	40	
Dalapon	mg/L	0.49U ug/L	0.004	0.004	0.0041	0.0043	103	106	70-130	3	40	
Dinoseb	mg/L	0.16U ug/L	0.0008	0.0008	0.00071	0.00070	89	87	70-130	3	40	
Pentachlorophenol	mg/L	0.014U ug/L	0.00016	0.00016	0.00013	0.00014	83	86	70-130	3	40	
Picloram	mg/L	0.040U ug/L	0.0004	0.0004	0.00048	0.00050	120	124	70-130	4	40	
2,4-DCAA (S)	%						84	82	70-130			

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QUALITY CONTROL DATA

Project: Bonner Springs Wells, 138337

Pace Project No.: 35700926

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:			4433365		4433366							
Parameter	Units	35700700002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
2,4,5-TP (Silvex)	mg/L	0.053U ug/L	0.0008	0.0008	0.00089	0.00080	111	101	70-130	10	40	
2,4-D	mg/L	0.096U ug/L	0.0004	0.0004	0.00047	0.00041	118	103	70-130	14	40	
Dalapon	mg/L	0.49U ug/L	0.004	0.004	0.0042	0.0036	104	91	70-130	13	40	
Dinoseb	mg/L	0.16U ug/L	0.0008	0.0008	0.00083	0.00075	103	93	70-130	10	40	
Pentachlorophenol	mg/L	0.014U ug/L	0.00016	0.00016	0.00015	0.00014	95	86	70-130	10	40	
Picloram	mg/L	0.040U ug/L	0.0004	0.0004	0.00049	0.00041	123	104	70-130	17	40	
2,4-DCAA (S)	%						85	82	70-130			

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QUALITY CONTROL DATA

Project: Bonner Springs Wells, 138337
Pace Project No.: 35700926

QC Batch:	805864	Analysis Method:	EPA 525.3
QC Batch Method:	EPA 525.3	Analysis Description:	525.3 Pesticides Semivolatiles
		Laboratory:	Pace Analytical Services - Ormond Beach

Associated Lab Samples: 35700926001

METHOD BLANK: 4424389 Matrix: Water

Associated Lab Samples: 35700926001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alachlor	mg/L	ND	0.00020	0.000030	03/08/22 17:56	
Aldrin	mg/L	ND	0.00010	0.000025	03/08/22 17:56	
Atrazine	mg/L	ND	0.00010	0.000015	03/08/22 17:56	
Benzo(a)pyrene	mg/L	ND	0.00010	0.000020	03/08/22 17:56	
bis(2-Ethylhexyl)adipate	mg/L	ND	0.0015	0.00037	03/08/22 17:56	
bis(2-Ethylhexyl)phthalate	mg/L	ND	0.0020	0.00048	03/08/22 17:56	
Butachlor	mg/L	ND	0.00010	0.000021	03/08/22 17:56	N2
Dieldrin	mg/L	ND	0.00010	0.000021	03/08/22 17:56	
Endrin	mg/L	ND	0.000010	0.0000024	03/08/22 17:56	
gamma-BHC (Lindane)	mg/L	ND	0.000020	0.0000028	03/08/22 17:56	
Heptachlor	mg/L	ND	0.000040	0.000014	03/08/22 17:56	
Heptachlor epoxide	mg/L	ND	0.000020	0.0000031	03/08/22 17:56	
Hexachlorobenzene	mg/L	ND	0.00010	0.000015	03/08/22 17:56	
Hexachlorocyclopentadiene	mg/L	ND	0.00010	0.000025	03/08/22 17:56	
Methoxychlor	mg/L	ND	0.00010	0.000024	03/08/22 17:56	
Metolachlor	mg/L	ND	0.00010	0.000016	03/08/22 17:56	
Metribuzin	mg/L	ND	0.00030	0.00013	03/08/22 17:56	
Propachlor	mg/L	ND	0.00010	0.000018	03/08/22 17:56	
Simazine	mg/L	ND	0.00018	0.000041	03/08/22 17:56	
1,3-Dimethyl-2-nitrobenzene(S)	%	82	70-130		03/08/22 17:56	
Benzo(a)pyrene-d12 (S)	%	99	70-130		03/08/22 17:56	
Triphenylphosphate (S)	%	91	70-130		03/08/22 17:56	

LABORATORY CONTROL SAMPLE: 4424390

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alachlor	mg/L	0.0008	0.00070	87	70-130	
Aldrin	mg/L	0.0004	0.00032	79	70-130	
Atrazine	mg/L	0.0004	0.00035	88	70-130	
Benzo(a)pyrene	mg/L	0.0004	0.00040	99	70-130	
bis(2-Ethylhexyl)adipate	mg/L	0.006	0.0049	82	70-130	
bis(2-Ethylhexyl)phthalate	mg/L	0.008	0.0071	89	70-130	
Butachlor	mg/L	0.0004	0.00037	92	70-130	N2
Dieldrin	mg/L	0.0004	0.00035	89	70-130	
Endrin	mg/L	0.00004	0.000034	86	70-130	
gamma-BHC (Lindane)	mg/L	0.00008	0.000072	91	70-130	
Heptachlor	mg/L	0.00016	0.00013	84	70-130	
Heptachlor epoxide	mg/L	0.00008	0.000071	89	70-130	
Hexachlorobenzene	mg/L	0.0004	0.00033	82	60-130	

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QUALITY CONTROL DATA

Project: Bonner Springs Wells, 138337

Pace Project No.: 35700926

LABORATORY CONTROL SAMPLE: 4424390

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Hexachlorocyclopentadiene	mg/L	0.0004	0.00027	68	60-130	
Methoxychlor	mg/L	0.0004	0.00036	91	70-130	
Metolachlor	mg/L	0.0004	0.00037	92	70-130	
Metribuzin	mg/L	0.0012	0.0011	90	70-130	
Propachlor	mg/L	0.0004	0.00035	87	70-130	
Simazine	mg/L	0.0007	0.00060	86	70-130	
1,3-Dimethyl-2-nitrobenzene(S)	%			83	70-130	
Benzo(a)pyrene-d12 (S)	%			101	70-130	
Triphenylphosphate (S)	%			94	70-130	

LABORATORY CONTROL SAMPLE: 4424391

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alachlor	mg/L	0.0002	0.00019J	95	50-150	
Aldrin	mg/L	0.0001	0.000091J	91	50-150	
Atrazine	mg/L	0.0001	0.000096J	96	50-150	
Benzo(a)pyrene	mg/L	0.0001	0.00010	104	50-150	
bis(2-Ethylhexyl)adipate	mg/L	0.0015	0.0013J	86	50-150	
bis(2-Ethylhexyl)phthalate	mg/L	0.002	0.0019J	95	50-150	
Butachlor	mg/L	0.0001	0.00011	113	50-150	N2
Dieldrin	mg/L	0.0001	0.00010	102	50-150	
Endrin	mg/L	0.00001	0.0000099J	99	50-150	
gamma-BHC (Lindane)	mg/L	0.00002	0.000020J	99	50-150	
Heptachlor	mg/L	0.00004	0.000038J	95	50-150	
Heptachlor epoxide	mg/L	0.00002	0.000021	103	50-150	
Hexachlorobenzene	mg/L	0.0001	0.000090J	90	50-150	
Hexachlorocyclopentadiene	mg/L	0.0001	0.000064J	64	50-150	
Methoxychlor	mg/L	0.0001	0.000098J	98	50-150	
Metolachlor	mg/L	0.0001	0.00010	105	50-150	
Metribuzin	mg/L	0.0003	0.00038	126	50-150	
Propachlor	mg/L	0.0001	0.000099J	99	50-150	
Simazine	mg/L	0.00018	0.00017J	94	50-150	
1,3-Dimethyl-2-nitrobenzene(S)	%			83	70-130	
Benzo(a)pyrene-d12 (S)	%			100	70-130	
Triphenylphosphate (S)	%			94	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4424392 4424393

Parameter	Units	35701229001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alachlor	mg/L	ND	0.00019	0.00019	0.00018J	0.00018J	90	94	70-130		30	
Aldrin	mg/L	ND	0.000097	0.000097	0.000083J	0.000086J	85	89	70-130		30	

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QUALITY CONTROL DATA

Project: Bonner Springs Wells, 138337

Pace Project No.: 35700926

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:			4424392		4424393							
		35701229001	MS	MSD								
Parameter	Units	Result	Spike Conc.	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Atrazine	mg/L	ND	0.000097	0.000097	0.000092 J	0.000093 J	94	96	70-130		30	
Benzo(a)pyrene	mg/L	ND	0.000097	0.000097	0.000010	0.000010	104	104	70-130	0	30	
bis(2-Ethylhexyl)adipate	mg/L	ND	0.0015	0.0015	0.0012J	0.0012J	81	83	70-130		30	
bis(2-Ethylhexyl)phthalate	mg/L	ND	0.0019	0.0019	0.0018J	0.0018J	87	85	70-130		30	
Butachlor	mg/L	ND	0.000097	0.000097	0.000011	0.000011	112	113	70-130	1	30	N2
Dieldrin	mg/L	ND	0.000097	0.000097	0.000090 J	0.000098	93	101	70-130		30	
Endrin	mg/L	ND	0.000009	0.000009	0.000009 4J	0.000009 5J	97	98	70-130		30	
gamma-BHC (Lindane)	mg/L	ND	0.000019	0.000019	0.000018 J	0.000020	94	100	70-130		30	
Heptachlor	mg/L	ND	0.000039	0.000039	0.000037 J	0.000039 J	96	99	70-130		30	
Heptachlor epoxide	mg/L	ND	0.000019	0.000019	0.000020	0.000020	101	102	70-130	0	30	
Hexachlorobenzene	mg/L	ND	0.000097	0.000097	0.000088 J	0.000089 J	90	92	60-130		30	
Hexachlorocyclopentadiene	mg/L	ND	0.000097	0.000097	0.000063 J	0.000069 J	65	71	60-130		30	
Methoxychlor	mg/L	ND	0.000097	0.000097	0.000097 J	0.000098	100	101	70-130		30	
Metolachlor	mg/L	ND	0.000097	0.000097	0.000010	0.000010	103	105	70-130	1	30	
Metribuzin	mg/L	ND	0.000029	0.000029	0.000036	0.000037	122	126	70-130	3	30	
Propachlor	mg/L	ND	0.000097	0.000097	0.000092 J	0.000097 J	95	100	70-130		30	
Simazine	mg/L	ND	0.000017	0.000017	0.000016J	0.000016J	93	94	70-130		30	
1,3-Dimethyl-2-nitrobenzene(S)	%						80	83	70-130			
Benzo(a)pyrene-d12 (S)	%						100	100	70-130			
Triphenylphosphate (S)	%						95	92	70-130			

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Bonner Springs Wells, 138337

Pace Project No.: 35700926

QC Batch: 805243

Analysis Method: EPA 180.1

QC Batch Method: EPA 180.1

Analysis Description: 180.1 Turbidity

Laboratory: Pace Analytical Services - Ormond Beach

Associated Lab Samples: 35700926001

METHOD BLANK: 4421254

Matrix: Water

Associated Lab Samples: 35700926001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Turbidity	NTU	ND	0.20	0.20	03/04/22 13:07	

LABORATORY CONTROL SAMPLE: 4421255

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Turbidity	NTU	20	18.0	90	90-110	

SAMPLE DUPLICATE: 4421256

Parameter	Units	35700926001 Result	Dup Result	RPD	Max RPD	Qualifiers
Turbidity	NTU	1.7	1.6	6	20	

SAMPLE DUPLICATE: 4421257

Parameter	Units	35700917003 Result	Dup Result	RPD	Max RPD	Qualifiers
Turbidity	NTU	3.7	3.6	3	20	

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QUALITY CONTROL DATA

Project: Bonner Springs Wells, 138337

Pace Project No.: 35700926

QC Batch: 805455

Analysis Method: SM 2320B

QC Batch Method: SM 2320B

Analysis Description: 2320B Alkalinity

Laboratory: Pace Analytical Services - Ormond Beach

Associated Lab Samples: 35700926001

METHOD BLANK: 4422592

Matrix: Water

Associated Lab Samples: 35700926001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	ND	5.0	5.0	03/05/22 19:57	

LABORATORY CONTROL SAMPLE: 4422593

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	250	239	96	90-110	

SAMPLE DUPLICATE: 4422594

Parameter	Units	35701067001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	256	246	4	20	

SAMPLE DUPLICATE: 4422595

Parameter	Units	35701115005 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	9.3	9.5	1	20	

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QUALITY CONTROL DATA

Project: Bonner Springs Wells, 138337

Pace Project No.: 35700926

QC Batch:	806731	Analysis Method:	SM 2510B
QC Batch Method:	SM 2510B	Analysis Description:	2510B Specific Conductance
		Laboratory:	Pace Analytical Services - Ormond Beach

Associated Lab Samples: 35700926001

METHOD BLANK: 4429199 Matrix: Water

Associated Lab Samples: 35700926001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Specific Conductance @ 25C	umhos/cm	ND	2.0	2.0	03/10/22 15:24	

LABORATORY CONTROL SAMPLE: 4429200

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Specific Conductance @ 25C	umhos/cm	1410	1350	95	95-105	

SAMPLE DUPLICATE: 4429201

Parameter	Units	35699610001 Result	Dup Result	RPD	Max RPD	Qualifiers
Specific Conductance @ 25C	umhos/cm	6780	6820	1	20	

SAMPLE DUPLICATE: 4429202

Parameter	Units	35700926001 Result	Dup Result	RPD	Max RPD	Qualifiers
Specific Conductance @ 25C	umhos/cm	790	788	0	20	

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QUALITY CONTROL DATA

Project: Bonner Springs Wells, 138337

Pace Project No.: 35700926

QC Batch: 806012

Analysis Method: SM 2540C

QC Batch Method: SM 2540C

Analysis Description: 2540C Total Dissolved Solids

Laboratory: Pace Analytical Services - Ormond Beach

Associated Lab Samples: 35700926001

METHOD BLANK: 4425147

Matrix: Water

Associated Lab Samples: 35700926001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	5.0	5.0	03/08/22 19:48	

LABORATORY CONTROL SAMPLE: 4425148

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	300	294	98	90-110	

SAMPLE DUPLICATE: 4425150

Parameter	Units	35700852004 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	886	888	0	10	

SAMPLE DUPLICATE: 4425155

Parameter	Units	35700918005 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	29.0	23.0	23	10 D6	

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QUALITY CONTROL DATA

Project: Bonner Springs Wells, 138337

Pace Project No.: 35700926

QC Batch:	810407	Analysis Method:	EPA 300.0
QC Batch Method:	EPA 300.0	Analysis Description:	300.0 IC Anions
		Laboratory:	Pace Analytical Services - Ormond Beach

Associated Lab Samples: 35700926001

METHOD BLANK: 4449547 Matrix: Water

Associated Lab Samples: 35700926001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	5.0	2.5	03/23/22 22:14	
Fluoride	mg/L	ND	0.050	0.015	03/23/22 22:14	
Sulfate	mg/L	ND	5.0	2.5	03/23/22 22:14	

LABORATORY CONTROL SAMPLE: 4449548

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	48.5	97	90-110	
Fluoride	mg/L	5	4.9	98	90-110	
Sulfate	mg/L	50	48.0	96	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4451790 4451791

Parameter	Units	35700772001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	<2.5	50	50	48.6	48.6	93	93	90-110	0	20	
Fluoride	mg/L	<0.015	5	5	4.9	4.9	98	98	90-110	0	20	
Sulfate	mg/L	<2.5	50	50	48.0	48.1	93	93	90-110	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4451792 4451793

Parameter	Units	50311221001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	3.3J	50	50	50.3	50.3	94	94	90-110	0	20	
Fluoride	mg/L	0.21	5	5	5.1	5.1	97	97	90-110	0	20	
Sulfate	mg/L	6.7	50	50	54.2	54.1	95	95	90-110	0	20	

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QUALITY CONTROL DATA

Project: Bonner Springs Wells, 138337
Pace Project No.: 35700926

QC Batch:	805011	Analysis Method:	EPA 353.2
QC Batch Method:	EPA 353.2	Analysis Description:	353.2 Nitrate + Nitrite, Unpres.
		Laboratory:	Pace Analytical Services - Ormond Beach

Associated Lab Samples: 35700926001

METHOD BLANK: 4419797 Matrix: Water
Associated Lab Samples: 35700926001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.050	0.025	03/03/22 17:51	
Nitrogen, Nitrite	mg/L	ND	0.050	0.025	03/03/22 17:51	
Nitrogen, NO2 plus NO3	mg/L	ND	0.050	0.015	03/03/22 17:51	

LABORATORY CONTROL SAMPLE: 4419798

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrite	mg/L	1	1.0	103	90-110	
Nitrogen, NO2 plus NO3	mg/L	2	2.0	102	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4419800 4419799

Parameter	Units	35700688002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Nitrogen, Nitrite	mg/L	0.025U	1	1	1.0	1.0	103	104	90-110	1	20	
Nitrogen, NO2 plus NO3	mg/L	0.015U	2	2	2.1	2.1	103	104	90-110	1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4419834 4419833

Parameter	Units	35700788001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Nitrogen, Nitrite	mg/L	<0.025	1	1	1.1	1.0	105	104	90-110	1	20	
Nitrogen, NO2 plus NO3	mg/L	1.5	2	2	3.5	3.5	95	95	90-110	0	20	

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QUALITY CONTROL DATA

Project: Bonner Springs Wells, 138337

Pace Project No.: 35700926

QC Batch: 807273

Analysis Method: EPA 365.4

QC Batch Method: EPA 365.4

Analysis Description: 365.4 Phosphorus

Laboratory: Pace Analytical Services - Ormond Beach

Associated Lab Samples: 35700926001

METHOD BLANK: 4432768

Matrix: Water

Associated Lab Samples: 35700926001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Phosphorus, Total (as P)	mg/L	ND	0.10	0.070	03/16/22 08:24	N2

LABORATORY CONTROL SAMPLE: 4432769

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Phosphorus, Total (as P)	mg/L	4	3.6	91	90-110	N2

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4432771 4432770

Parameter	Units	35701598001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Phosphorus, Total (as P)	mg/L	0.10	4	4	3.8	3.8	93	92	80-120	1	20	N2

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QUALITY CONTROL DATA

Project: Bonner Springs Wells, 138337

Pace Project No.: 35700926

QC Batch: 807529

Analysis Method: SM 5310B

QC Batch Method: SM 5310B

Analysis Description: 5310B TOC

Laboratory: Pace Analytical Services - Ormond Beach

Associated Lab Samples: 35700926001

METHOD BLANK: 4433744

Matrix: Water

Associated Lab Samples: 35700926001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Organic Carbon	mg/L	ND	1.0	0.50	03/14/22 20:44	

LABORATORY CONTROL SAMPLE: 4433745

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	20	19.2	96	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4433746 4433747

Parameter	Units	35702269001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Total Organic Carbon	mg/L	11.8	20	20	31.0	31.0	96	96	80-120	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4433748 4433749

Parameter	Units	35701531002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Total Organic Carbon	mg/L	2.1	20	20	20.7	20.9	93	94	80-120	1	20	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Bonner Springs Wells, 138337

Pace Project No.: 35700926

Sample: TW-1		Lab ID: 35700926001	Collected: 03/02/22 16:30	Received: 03/03/22 10:33	Matrix: Drinking Water		
PWS:		Site ID:	Sample Type:				
Parameters	Method	Act ± Unc (MDC) Carr Trac		Units	Analyzed	CAS No.	Qual
Radon	Pace Analytical Services - Greensburg			pCi/L	03/09/22 15:41	10043-92-2	H3
	SM 7500RnB-07	314.4 ± 76.8 (109) C:NA T:NA					
Gross Alpha	Pace Analytical Services - Greensburg			pCi/L	03/17/22 19:00	12587-46-1	
	EPA 900.0	3.39 ± 1.70 (2.70) C:NA T:NA					
Radium-226	Pace Analytical Services - Greensburg			pCi/L	03/25/22 14:23	13982-63-3	
	EPA 903.1	0.806U ± 0.464 (0.806) C:NA T:102%					
Radium-228	Pace Analytical Services - Greensburg			pCi/L	03/23/22 11:26	15262-20-1	
	EPA 904.0	0.682 ± 0.351 (0.662) C:69% T:96%					
Total Radium	Pace Analytical Services - Greensburg			pCi/L	03/28/22 18:19	7440-14-4	
	Total Radium Calculation	1.47U ± 0.815 (1.47)					

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QUALITY CONTROL - RADIOCHEMISTRY

Project: Bonner Springs Wells, 138337

Pace Project No.: 35700926

QC Batch: 488768

Analysis Method: EPA 900.0

QC Batch Method: EPA 900.0

Analysis Description: 900.0 Gross Alpha/Beta

Laboratory: Pace Analytical Services - Greensburg

Associated Lab Samples: 35700926001

METHOD BLANK: 2363864

Matrix: Water

Associated Lab Samples: 35700926001

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Gross Alpha	0.427 ± 0.612 (1.30) C:NA T:NA	pCi/L	03/18/22 08:06	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: Bonner Springs Wells, 138337

Pace Project No.: 35700926

QC Batch:	489955	Analysis Method:	EPA 904.0
QC Batch Method:	EPA 904.0	Analysis Description:	904.0 Radium 228
		Laboratory:	Pace Analytical Services - Greensburg

Associated Lab Samples: 35700926001

METHOD BLANK: 2370532 Matrix: Water

Associated Lab Samples: 35700926001

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.0649 ± 0.232 (0.526) C:85% T:97%	pCi/L	03/23/22 11:23	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: Bonner Springs Wells, 138337

Pace Project No.: 35700926

QC Batch: 489954

Analysis Method: EPA 903.1

QC Batch Method: EPA 903.1

Analysis Description: 903.1 Radium-226

Laboratory: Pace Analytical Services - Greensburg

Associated Lab Samples: 35700926001

METHOD BLANK: 2370531

Matrix: Water

Associated Lab Samples: 35700926001

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.250 ± 0.491 (0.882) C:NA T:91%	pCi/L	03/25/22 13:46	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: Bonner Springs Wells, 138337

Pace Project No.: 35700926

QC Batch: 488612

Analysis Method: SM 7500RnB-07

QC Batch Method: SM 7500RnB-07

Analysis Description: 7500Rn B Radon

Laboratory: Pace Analytical Services - Greensburg

Associated Lab Samples: 35700926001

METHOD BLANK: 2363002

Matrix: Water

Associated Lab Samples: 35700926001

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radon	1.0 ± 17.6 (30.7) C:NA T:NA	pCi/L	03/09/22 11:42	

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QUALIFIERS

Project: Bonner Springs Wells, 138337
Pace Project No.: 35700926

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.
ND - Not Detected at or above adjusted reporting limit.
TNTC - Too Numerous To Count
J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.
MDL - Adjusted Method Detection Limit.
PQL - Practical Quantitation Limit.
RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.
S - Surrogate
1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.
Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.
LCS(D) - Laboratory Control Sample (Duplicate)
MS(D) - Matrix Spike (Duplicate)
DUP - Sample Duplicate
RPD - Relative Percent Difference
NC - Not Calculable.
SG - Silica Gel - Clean-Up
U - Indicates the compound was analyzed for, but not detected.
N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.
Reported results are not rounded until the final step prior to reporting. Therefore, calculated parameters that are typically reported as "Total" may vary slightly from the sum of the reported component parameters.
Act - Activity
Unc - Uncertainty: SDWA = 1.96 sigma count uncertainty, all other matrices = Expanded Uncertainty (95% confidence interval).
Gamma Spec = Expanded Uncertainty (95.4% Confidence Interval)
(MDC) - Minimum Detectable Concentration
Trac - Tracer Recovery (%)
Carr - Carrier Recovery (%)
Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.
TNI - The NELAC Institute.

ANALYTE QUALIFIERS

D3 Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.
D6 The precision between the sample and sample duplicate exceeded laboratory control limits.
H3 Sample was received or analysis requested beyond the recognized method holding time.
H6 Analysis initiated outside of the 15 minute EPA required holding time.
IR The internal standard recovery associated with this result exceeds the upper control limit. The reported result should be considered an estimated value.
M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
N2 The lab does not hold NELAC/TNI accreditation for this parameter but other accreditations/certifications may apply. A complete list of accreditations/certifications is available upon request.
R1 RPD value was outside control limits.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Bonner Springs Wells, 138337

Pace Project No.: 35700926

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
35700926001	TW-1	EPA 505	806283	EPA 505	806526
35700926001	TW-1	EPA 515.3	807376	EPA 515.3	807551
35700926001	TW-1	EPA 525.3	805864	EPA 525.3	806141
35700926001	TW-1	EPA 531.2	805424		
35700926001	TW-1	EPA 200.7	805373	EPA 200.7	805397
35700926001	TW-1	EPA 200.8	805374	EPA 200.8	805398
35700926001	TW-1	EPA 245.1	807203	EPA 245.1	807222
35700926001	TW-1	EPA 524.2	807671		
35700926002	Trip Blank	EPA 524.2	807671		
35700926001	TW-1	SM 7500RnB-07	488612		
35700926001	TW-1	EPA 900.0	488768		
35700926001	TW-1	EPA 903.1	489954		
35700926001	TW-1	EPA 904.0	489955		
35700926001	TW-1	Total Radium Calculation	493422		
35700926001	TW-1	EPA 180.1	805243		
35700926001	TW-1	SM 2320B	805455		
35700926001	TW-1	SM 2510B	806731		
35700926001	TW-1	SM 2540C	806012		
35700926001	TW-1	SM 4500-H+B	805381		
35700926001	TW-1	EPA 300.0	810407		
35700926001	TW-1	EPA 353.2	805011		
35700926001	TW-1	EPA 365.4	807273	EPA 365.4	808170
35700926001	TW-1	SM 5310B	807529		

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WO# : 35700926



35700926

CHAIN-OF-CUSTODY / Analytical Request Document

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Section B		Section C	
Required Client Information:		Required Project Information:	
Company:	Burns & McDormell	Report To:	Daniel Clement
Address:	800 E. 1st Street North	Copy To:	
Suite:	400, Wichita, KS 67202	Purchase Order #:	
Email:	danielclement@burnsmcd.com	Project Name:	Bonner Springs Wells, 138337
Phone:		Project #:	
Fax:		Requested Due Date:	
Invoice Information:		Attention:	
Company Name:		Company Name:	
Address:		Address:	
Pace Quote:		Pace Quote:	
Pace Project Manager:		Pace Project Manager:	
Pace Profile #:		Pace Profile #:	
Regulatory Agency:		Regulatory Agency:	
State / Location:		State / Location:	
KS		KS	

ITEM #	MATRIX	CODE	COLLECTED		DATE	TIME	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	TEMP in C	Received on	Ice (Y/N)	Sealed (Y/N)	Custody (Y/N)	Cooler (Y/N)	Samples Intact (Y/N)
			START	END														
1	Drinking Water	DW			3/16/22	1630	3/16/22	1630	Dux	3/16/22	1600	4	4	Y	Y	Y	Y	Y
2	Water	WT																
3	Waste Water	WW																
4	Product	P																
5	Oil	OL																
6	Soil/Solid	SS																
7	Wipe	WP																
8	Air	AR																
9	Other	OT																
10	Tissue	TS																
11																		
12																		
ADDITIONAL COMMENTS																		
RELINQUISHED BY / AFFILIATION																		
DATE																		
TIME																		
ACCEPTED BY / AFFILIATION																		
DATE																		
TIME																		
TEMP in C																		
Received on																		
Ice (Y/N)																		
Sealed (Y/N)																		
Custody (Y/N)																		
Cooler (Y/N)																		
Samples Intact (Y/N)																		



CHAIN-OF-CUSTODY / Analytical Request Document

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Section A		Section B		Section C	
Required Client Information: Company: Burns & McDonnell Address: 800 E. 1st Street North Suite 400, Wichita, KS 67202 Email: Phone: Fax: Requested Due Date:		Required Project Information: Report To: Daniel Clement Copy To: Suite 400, Wichita, KS 67202 Purchase Order #: Project Name: Bomber Springs Wells, 138337 Project #: Requested Due Date:		Invoice Information: Attention: Company Name: Address: Pace Quote: Pace Project Manager: jeff.baylor@pacelabs.com Pace Profile #: 17236, line 1 State / Location: KS Regulatory Agency:	
Page: 2		Of: 2			

ITEM #	MATRIX	CODE	COLLECTED		DATE	TIME	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	TEMP in C	Received on	Ice (Y/N)	Custody (Y/N)	Sealed (Y/N)	Samples Intact (Y/N)
			START	END													
13	MATRIX	DW															
14	Drinking Water	DW															
15	Water	WT															
16	Waste Water	WW															
17	Product	P															
18	Solid	SL															
19	Oil	OL															
20	Wipe	WP															
21	Air	AR															
22	Other	OT															
23	Tissue	TS															
24																	

WO#: 35700926

CUR)



Project #
Project Manager:
Client:

PM: JSB Due Date: 03/24/22
CLIENT: BURNSMCD

Date and Initials of person:
Examining contents:
Label:
Deliver: LDF
pH:

Thermometer Used: 7-394

Date: 3-3-22

Time: 10:58

Initials: CCJ

State of Origin:

☐ For WV projects, all containers verified to $\leq 6^{\circ}\text{C}$

Cooler #1 Temp. $^{\circ}\text{C}$ 3.0 (Visual) -0.2 (Correction Factor) 2.8 (Actual)

Cooler #2 Temp. $^{\circ}\text{C}$ (Visual) (Correction Factor) (Actual)

Cooler #3 Temp. $^{\circ}\text{C}$ (Visual) (Correction Factor) (Actual)

Cooler #4 Temp. $^{\circ}\text{C}$ (Visual) (Correction Factor) (Actual)

Cooler #5 Temp. $^{\circ}\text{C}$ (Visual) (Correction Factor) (Actual)

Cooler #6 Temp. $^{\circ}\text{C}$ (Visual) (Correction Factor) (Actual)

☐ Samples on ice, cooling process has begun

☐ Samples on ice, cooling process has begun

☐ Samples on ice, cooling process has begun

☐ Samples on ice, cooling process has begun

☐ Samples on ice, cooling process has begun

☐ Samples on ice, cooling process has begun

Recheck for OOT $^{\circ}\text{C}$ (Visual) (Correction Factor) (Actual) Time: Initials:

Courier: ☒ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ Other

Shipping Method: ☐ First Overnight ☐ Priority Overnight ☒ Standard Overnight ☐ Ground ☐ International Priority
☐ Other

Billing: ☐ Recipient ☐ Sender ☐ Third Party ☐ Credit Card ☒ Unknown

Tracking # 5488 6904 7608

Custody Seal on Cooler/Box Present: ☐ Yes ☐ No Seals intact: ☐ Yes ☐ No Ice: Wet Blue Melted None

Packing Material: ☒ Bubble Wrap ☐ Bubble Bags ☐ one ☐ Other

Samples shorted to lab (If Yes, complete) Shorted Date: Shorted Time: Qty:

Comments:

Chain of Custody Present	☒ Yes ☐ No ☐ N/A	Preservation Information: Preservative: Lot #/Trace #: Date: Time: Initials:
Chain of Custody Filled Out	☒ Yes ☐ No ☐ N/A	
Relinquished Signature & Sampler Name COC	☒ Yes ☐ No ☐ N/A	
Samples Arrived within Hold Time	☒ Yes ☐ No ☐ N/A	
Rush TAT requested on COC	☐ Yes ☒ No ☐ N/A	
Sufficient Volume	☒ Yes ☐ No ☐ N/A	
Correct Containers Used	☒ Yes ☐ No ☐ N/A	
Containers Intact	☒ Yes ☐ No ☐ N/A	
Sample Labels match COC (sample IDs & date/time of collection)	☒ Yes ☐ No ☐ N/A	
All containers needing acid/base preservation have been checked.	☒ Yes ☐ No ☐ N/A	
All Containers needing preservation are found to be in compliance with EPA recommendation:	☒ Yes ☐ No ☐ N/A	
Exceptions: Vials, Microbiology, O&G, PFAS		
Headspace in VOA Vials? (>6mm):	☐ Yes ☒ No ☐ N/A	
Trip Blank Present:	☒ Yes ☐ No ☐ N/A	

Comments/ Resolution (use back for additional comments):

APPENDIX C – CHEMICAL FEED DESIGN TABLES

Sodium Hypochlorite Chemical Feed System - Bonner Springs WTP

Parameter	Units	Value	
General Information			
Chemical	---	Sodium Hypochlorite	
Solution Concentration	%wt	12.5	
Specific Gravity	g/mL	1.2	
Feed Rate		Oxidation (Pre-Filter)	Disinfection (Post-Filter)
Max Daily Flow	MGD	2.34	2.00
Average Daily Flow	MGD	2.11	1.80
Minimum Daily Flow	MGD	1.17	1.00
Max Chemical Feed Rate (as Cl2)	mg/L	16.7	4.0
Design Chemical Feed Rate (as Cl ₂)	mg/L	10.0	2.5
Min Chemical Feed Rate (as Cl2)	mg/L	5.3	2.0
Max Solution Feed Rate	gpd	557.9	114.2
Design Solution Feed Rate	gpd	301.2	64.2
Minimum Solution Feed Rate	gpd	88.1	28.6
Storage			
30-day Storage Volume	gal	10,965	
Storage Type	---	Indoor Bulk Tank	
Number of Storage Containers	---	2	
Total Storage Volume	gal	12,000	
Containment Type	---	Double-Walled Tanks	
Daily Storage Volume	gal	405	
Day Tank Volume	gal	600	
Feed Equipment		Oxidation (Pre-Filter)	Disinfection (Post-Filter)
Feed Pump Output Range	gph	3.67-23.25	1.18-4.76
	gpd	88.1-558	28.5-114.3
Feed Pump Type	---	Peristaltic	Peristaltic
Number of Feed Pumps	---	2 (1 duty, 1 standby)	2 (1 duty, 1 standby)
Number of Injection Locations	---	1	1
Transfer Equipment			
Transfer Pump Output (minimum)	gpm	40.0	
Transfer Pump Type	---	TBD	
Number of Transfer Pumps	---	1	

Notes:

- 1 Transfer pump sized to fill day tank in 15 minutes.
- 2 Containment provided on pump skids.
- 3 Weight scale provided for day tank.
- 4 Continuous ventilation of 1 cfm/sf required.
- 5 Sprinklers required.
- 6 Emergency shower and eyewash required within storage room.
- 7 This room can be conditioned to maintain 70 F in order to inhibit NaOCl degradation.
- 8 Daily storage volume based on 30-hour storage volume at average daily flow and design feed rate.
Tank size rounded up to nominal capacity.

Antiscalant Chemical Feed System - Bonner Springs WTP

Parameter	Units	Value
General Information		
Chemical	---	Antiscalant
Solution Concentration	%wt	1.00
Specific Gravity	g/mL	1.15
Max Daily Flow	MGD	1.74
Average Daily Flow	MGD	1.57
Minimum Daily Flow	MGD	0.87
Max Chemical Feed Rate (neat)	mg/L	5.0
Design Chemical Feed Rate (neat)	mg/L	4.0
Min Chemical Feed Rate (neat)	mg/L	2.0
Max Solution Dose Feed Rate	gpd	7.6
Design Solution Feed Rate	gpd	5.5
Minimum Solution Feed Rate	gpd	1.5
Storage		
30-day Storage Volume	gal	164
Storage Type	---	Indoor Bulk Tank
Number of Storage Containers	---	1
Total Storage Volume	gal	400
Containment Type	---	Double-Walled Tank
24-hour Storage Volume	gal	n/a
Day Tank Volume	gal	Virtual Day Tank
Feed Equipment		
Feed Pump Output Range	gph	0.06-0.32
	gpd	1.5-7.6
Feed Pump Type	---	Peristaltic
Number of Feed Pumps	---	2 (1 duty, 1 standby)
Number of Injection Locations	---	1
Transfer Equipment		
Transfer Pump Output (minimum)	gpm	n/a
Transfer Pump Type	---	n/a
Number of Transfer Pumps	---	n/a

Notes:

- 1 Virtual day tank to be implemented with flow metering of the pumps.
- 2 Flow feedback from pump and flow totalizer to be used to determine daily chemical use.
- 3 Pump calibration column to be provided on metering skid. Pump calibration curve to be used.
- 4 Emergency shower and eyewash required within storage room.

Sodium Bisulfite Chemical Feed System - Bonner Springs WTP

Parameter	Units	Value	
General Information			
Chemical	---	Sodium Bisulfite (NaHSO3)	
Solution Concentration	%wt	38.0	
Specific Gravity	g/mL	1.3	
Feed Rate		Membranes	Process Waste
Max Daily Flow	MGD	1.740	0.700
Average Daily Flow	MGD	1.570	0.670
Minimum Daily Flow	MGD	0.870	0.170
Max Chemical Feed Rate (as NaHSO ₃)	mg/L	1.47	6.46
Design Chemical Feed Rate (as NaHSO ₃)	mg/L	0.73	4.04
Min Chemical Feed Rate (as NaHSO ₃)	mg/L	0.29	3.23
Max Solution Feed Rate	gpd	5.0	8.9
Design Solution Feed Rate	gpd	2.3	5.3
Minimum Solution Feed Rate	gpd	0.5	1.1
Storage			
30-day Storage Volume	gal	229	
Storage Type	---	Indoor Bulk Tank	
Number of Storage Containers	---	1	
Total Storage Volume	gal	400	
Containment Type	---	Double-Walled Tank	
24-hour Storage Volume	gal	n/a	
Day Tank Volume	gal	Virtual Day Tank	
Feed Equipment			
Feed Pump Output Range	gph	0.06-0.59	
	gpd	1.5-14	
Feed Pump Type	---	Peristaltic	
Number of Feed Pumps	---	3 (2 duty, 1 standby)	
Number of Injection Locations	---	2	
Transfer Equipment			
Transfer Pump Output (minimum)	gpm	n/a	
Transfer Pump Type	---	n/a	
Number of Transfer Pumps	---	n/a	

Notes:

- 1 Virtual day tank to be implemented with flow metering of the pumps.
- 2 Flow feedback from pump and flow totalizer to be used to determine daily chemical use.
- 3 Pump calibration column to be provided on metering skid. Pump calibration curve to be used.
- 4 Emergency shower and eyewash required within storage room.

Caustic Chemical Feed System - Bonner Springs WTP

Parameter	Units	Value
General Information		
Chemical	---	Caustic (NaOH)
Solution Concentration	%wt	25.0
Specific Gravity	g/mL	1.5
Max Daily Flow	MGD	2.00
Average Daily Flow	MGD	1.80
Minimum Daily Flow	MGD	1.00
Max Chemical Feed Rate (as NaOH)	mg/L	20.0
Design Chemical Feed Rate (as NaOH)	mg/L	15.0
Min Chemical Feed Rate (as NaOH)	mg/L	10.0
Max Solution Feed Rate	gpd	105.2
Design Solution Feed Rate	gpd	71.0
Minimum Solution Feed Rate	gpd	26.3
Storage		
30-day Storage Volume	gal	2,130
Storage Type	---	Indoor Bulk Tank
Number of Storage Containers	---	1
Total Storage Volume	gal	3,000
Containment Type	---	Double-Walled Tank
Maximum 24-hour Storage Volume	gal	105.2
Day Tank Volume	gal	250
Feed Equipment		
Feed Pump Output Range	gph	1.09-4.39
	gpd	26.2-105.2
Feed Pump Type	---	Peristaltic
Number of Feed Pumps	---	2 (1 duty, 1 standby)
Number of Injection Locations	---	1
Transfer Equipment		
Transfer Pump Output (minimum)	gpm	16.7
Transfer Pump Type	---	TBD
Number of Transfer Pumps	---	1

Notes:

- 1 Transfer pump sized to fill day tank in 15 minutes.
- 2 Containment provided on pump skids.
- 3 Weight scale provided for day tank.
- 4 Continuous ventilation of 1 cfm/sf required.
- 5 Sprinklers required.
- 6 Emergency shower and eyewash required within storage room.
- 7 Room can be heated to maintain 60 F in order to maintain NaOH viscosity and prevent crystallization. Additionally during the winter months when demand is reduced, a 25% solution can be purchased.

Fluoride Chemical Feed System - Bonner Springs WTP

Parameter	Units	Value
General Information		
Chemical	---	Sodium Fluoride (dry)
Solution Concentration	%wt	4
Specific Gravity	g/mL	1.05
Max Daily Flow	MGD	2.00
Average Daily Flow	MGD	1.80
Minimum Daily Flow	MGD	1.00
Design Chemical Feed Rate (as F)	mg/L	0.7
Max Solution Feed Rate	gpd	101.9
Design Solution Feed Rate	gpd	64.2
Minimum Solution Feed Rate	gpd	25.5
Storage		
30-day Storage Volume (dry)	lb	697
Storage Type	---	50-lb Bag
Number of Storage Containers	---	1 Pallet (40 bags)
Total Dry Storage	lb	2,000
Containment Type	---	Self-Contained Skid
24-hour Storage Volume	gal	N/A
Solution Tank Volume	gal	55
Feed Equipment		
Feed Pump Output Range	gph	1.06-4.25
	gpd	25.4-101.9
Feed Pump Type	---	Peristaltic
Number of Feed Pumps	---	1 duty
Number of Injection Locations	---	1
Transfer Equipment		
Transfer Pump Output Range	gph	n/a
Transfer Pump Type	---	n/a
Number of Transfer Pumps	---	n/a

Notes:

- 1 Fluoride feed system is to be an upflow saturator batch type system with one 55 gal saturator tank and one 55 gal solution tank. Containment provided on skid. Metering pump to include flow totalizer.
- 2 Solution concentration is 4% sodium fluoride, 2% fluoride.
- 3 Softened water system is provided for treatment of supply water.
- 4 Continuous ventilation of 1 cfm/sf required. Sprinklers required.
- 5 Emergency shower and eyewash required within storage room.
- 6 Fluoride feed system must be installed so that it cannot operate unless water is being produced and this is being provided.
- 7 Fluoride injection point should be located where all water to be treated passes and this is being provided.
- 8 Anti-siphon devices will be provided to prevent accidental feed.
- 9 Backflow prevention will be provided on supply water.

Phosphate Chemical Feed System - Bonner Springs WTP

Parameter	Units	Value
General Information		
Chemical	---	Phosphate
Solution Concentration (as Zn)	%wt	12.5
Solution Concentration (as PO4)	%wt	36.0
Specific Gravity	g/mL	1.58
Max Daily Flow	MGD	2.00
Average Daily Flow	MGD	1.80
Minimum Daily Flow	MGD	1.00
Design Chemical Feed Rate (as PO4)	mg/L	3.7
Max Solution Feed Rate	gpd	14.3
Design Solution Feed Rate	gpd	12.8
Minimum Solution Feed Rate	gpd	7.1
Storage		
30-day Storage Volume	gal	385
Storage Type	---	Indoor Bulk Tank
Number of Storage Containers	---	1
Total Storage Volume	gal	400
Containment Type	---	Double-Walled Tank
24-hour Storage Volume	gal	N/A
Virtual Day Tank Volume	gal	N/A
Feed Equipment		
Feed Pump Output Range	gph	0.29-0.6
	gpd	7.1-14.3
Feed Pump Type	---	Peristaltic
Number of Feed Pumps	---	2 (1 duty, 1 standby)
Number of Injection Locations	---	1
Transfer Equipment		
Transfer Pump Output (minimum)	gpm	n/a
Transfer Pump Type	---	n/a
Number of Transfer Pumps	---	n/a

Notes:

- 1 Virtual day tank to be implemented with flow metering of the pumps.
- 2 Flow feedback from pump and flow totalizer to be used to determine daily chemical use.
- 3 Pump calibration column to be provided on metering skid. Pump calibration curve to be used.
- 4 Emergency shower and eyewash required within storage room.

Liquid Ammonium Sulfate Chemical Feed System - Bonner Springs WTP

Parameter	Units	Value
General Information		
Chemical	---	Liquid Ammonium Sulfate
Solution Concentration	%wt	38.0
Specific Gravity	g/mL	1.2
Max Daily Flow	MGD	2.00
Average Daily Flow	MGD	1.80
Minimum Daily Flow	MGD	1.00
Max Free Chlorine Residual	mg/L as Cl ₂	4.00
Design Free Chlorine Residual	mg/L as Cl ₂	2.50
Min Free Chlorine Residual	mg/L as Cl ₂	2.00
Chlorine:Ammonia	mg Cl ₂ :mg NH ₃	2
Max Chemical Feed Rate (as NH ₃)	mg/L	2.0
Design Chemical Feed Rate (as NH ₃)	mg/L	1.25
Min Chemical Feed Rate (as NH ₃)	mg/L	1.0
Max Solution Feed Rate	gpd	33.5
Design Solution Feed Rate	gpd	18.8
Minimum Solution Feed Rate	gpd	8.4
Storage		
30-day Storage Volume	gal	565
Storage Type	---	Indoor Bulk Tank
Number of Storage Containers	---	1
Total Storage Volume	gal	600
Containment Type	---	Double-Walled Tank
24-hour Storage Volume	gal	N/A
Virtual Day Tank Volume	gal	N/A
Feed Equipment		
Feed Pump Output Range	gph	0.34-1.4
	gpd	8.3-33.5
Feed Pump Type	---	Peristaltic
Number of Feed Pumps	---	2 (1 duty, 1 standby)
Number of Injection Locations	---	1
Transfer Equipment		
Transfer Pump Output (minimum)	gpm	n/a
Transfer Pump Type	---	n/a
Number of Transfer Pumps	---	n/a

Notes:

- 1 Virtual day tank to be implemented with flow metering of the pumps.
- 2 Flow feedback from pump and flow totalizer to be used to determine daily chemical use.
- 3 Pump calibration column to be provided on metering skid. Pump calibration curve to be used.
- 4 Emergency shower and eyewash required within storage room.

APPENDIX D – WASTE STREAM SUMMARY

Weir, Dana

From: Dan Clair [KDHE] <Dan.Clair@ks.gov>
Sent: Wednesday, April 6, 2022 5:12 PM
To: Weir, Dana
Cc: Frank Abart (fabart@bonnersprings.org); Todd E. Stephenson; Ben Haring [KDHE]; Edward Darbro [KDHE]; Cathy Tucker-Vogel [KDHE]
Subject: Bonner Springs - New WTP & Sources of Supply Formal WSSR 03 17 2022 on 03 22 2022 Final
Attachments: h Bonner Springs WTP WSSR 03 17 2022 on 03 22 2022 Final opt.pdf

Hi Dana,

Please note that systems have asked for more transparency to better follow along with the reviews of their submittals. To accommodate the request, administrative/system contacts are being directly included in review emails.

An agreed upon accepted consensus outcome pertaining to the environmentally responsible disposal of this project's waste streams based on the March 17, 2022 submittal received on March 22, 2022 has been reached.

This formal waste stream summary review was for the City of Bonner Springs' new WTP and two new groundwater (GW) sources of supply (Figure 1). Additionally a booster pump station and transmission line will be constructed to serve the Lake of the Forrest service area. The new WTP and sources of supply will be sited near the existing WTP on Swingster Road. The booster pump station and transmission line for the residential service area will be constructed further to the east along Swingster Road. Please note that the locations of the two new GW sources of supply shown in the attached submittal for this review are proposed; the well locations not being approved in this review as being final.

The treatment sequence for the new WTP will consist of greensand filtration to remove iron and manganese, nanofiltration (NF) for softening, chlorination for disinfection. Chemical storage and feed systems and finished water storage will also be constructed as part of the project. As part of ensuring continued WTP operations, backup power generation will be included in the project. The City's current practice of using zinc orthophosphate for corrosion control will carry over to the new WTP. The process flow diagram for the new treatment sequence is presented in Figure 2.

Waste streams are summarized in Table 1, while anticipated concentrations and mass loadings for the combined discharge waste stream from the new WTP, greensand filter backwash water and NF reject water, are summarized in Table 2. The combined major waste streams will be discharged to the Kansas River by way of a new NPDES permit for the existing WTP's outfall on the Kansas River.

As also illustrated in Table 2, the minor process and domestic waste streams will be directed to the City's nearby WWTF. This facility has an existing NPDES permitted outfall to the Kansas River.

Once this project has been completed and the new WTP placed into operation, the existing WTP and related out of service facilities will be permanently removed from operation.

Please keep WaterOne fully informed of the intentions and plans for this project. Otherwise, the impacts that this new facility will have on their operations will be indiscernible from the noise in the data.

Please note that construction projects that will disturb one or more acres of land are required to secure, prior to the start of construction, authorization to discharge stormwater runoff under a construction stormwater general permit. Information regarding this authorization can be found on the Construction Stormwater Program web site: <http://www.kdheks.gov/stormwater>.

Please note that any changes in the project, e.g., treatment, waste streams, storage, distribution and pumping, siting/land acquisition, for example, will necessitate revisiting the formal waste stream summary review and disposal method consensus process with a submittal revised accordingly.

Please be sure to incorporate the agreed upon consensus outcome from the formal waste stream summary review and disposal method consensus process in all project related documents from here forward – this cover email and its attached submittal together. Where a report, memorandum or the like is to be prepared and issued, a copy of this cover email and its attached companion final document that was submitted for the formal waste stream summary review and disposal method consensus process are to also be included by way of a separate appendix.

Lastly, we respectfully clarify that this correspondence does not in any manner convey immediate KDHE approval to initiate disposal of waste generated by this project. All approvals and permits relevant to this project must be properly secured prior to initiating the disposal of waste generated by this project. And the responsibility for doing so rests solely with the City of Bonner Springs and their consultant.

Thank you.

Be safe. Wash your hands. Maintain 6 feet. Self-isolate. Stay healthy.

Dan Clair, MS, PE
Chief, Engineering and Permits Unit
Bureau of Water/Public Water Supply
1000 SW Jackson St, Suite 420
Topeka, KS 66612
Phone: 785.296.5516
Fax: 785.559.4258
email: dan.clair@ks.gov *new email address...*

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Memorandum



Date: March 17, 2022

To: Dan Clair, PE, KDHE

From: Dana Weir, PE

Subject: Bonner Springs New WTP, Wells and Booster Pump Station/Waterline Waste Stream Summary
KPWSLF Project No. 3067

RECEIVED

MAR 22 2022

BUREAU OF WATER

The City of Bonner Springs proposes to construct a new water treatment plant (WTP) to replace the existing WTP. The project includes the design and construction of a new 2 MGD WTP, two new groundwater wells (PWS Wells No. 7 and No. 8), and an 8-inch waterline and booster pump station to serve the Lake of the Forest service area. The permitted outfalls for the existing WTP (NPDES Permit I-KS06-PO07) and WWTP (NPDES Permit M-KD06-OO02) and location of the existing WTP and WWTP are shown in Figure 1. The new WTP will be located between the City's existing WTP and WWTP, on the south side of Swingster Road.

Process selection for the new facility included the evaluation and comparison of two primary treatment options: lime softening and membrane softening. After a full analysis, the City of Bonner Springs decided to proceed with the membrane softening option due to its lower associated capital and operational costs.

The new 2 MGD water treatment facility will utilize membrane softening to achieve a finished water hardness of less than 150 mg/L as CaCO_3 . Attached is a process flow diagram (Figure 2) that includes details on treatment processes, chemical injections, and waste stream details. The new WTP will include the following facilities:

- Process Building that includes greensand filters, cartridge filters, nanofiltration membranes, high service pumping, chemical storage and feed equipment, blower for greensand backwash, a laboratory, an electrical room, and associated instrumentation;
- Administration Building that includes offices, meeting rooms and restrooms/locker rooms, control room, and server room;
- Vehicle Storage Building;
- Backwash holding tank for greensand filter backwash waste;
- Finished water clearwell; and
- Emergency power generator.

Chemicals to be utilized at the new facility include sodium hypochlorite (hypo), antiscalant, sodium bisulfite, sodium hydroxide (caustic), zinc orthophosphate, liquid ammonium sulfate (LAS), and fluoride. All chemical feed systems will be capable of being manually fed or automatically controlled through the plant control system. Hypo will be used both as a pre-oxidant prior to the greensand filters and for disinfection prior to the clearwell. Sodium bisulfite will be added to the filtrate to neutralize any chlorine residual that was not consumed during pre-



Figure 1: Site Aerial

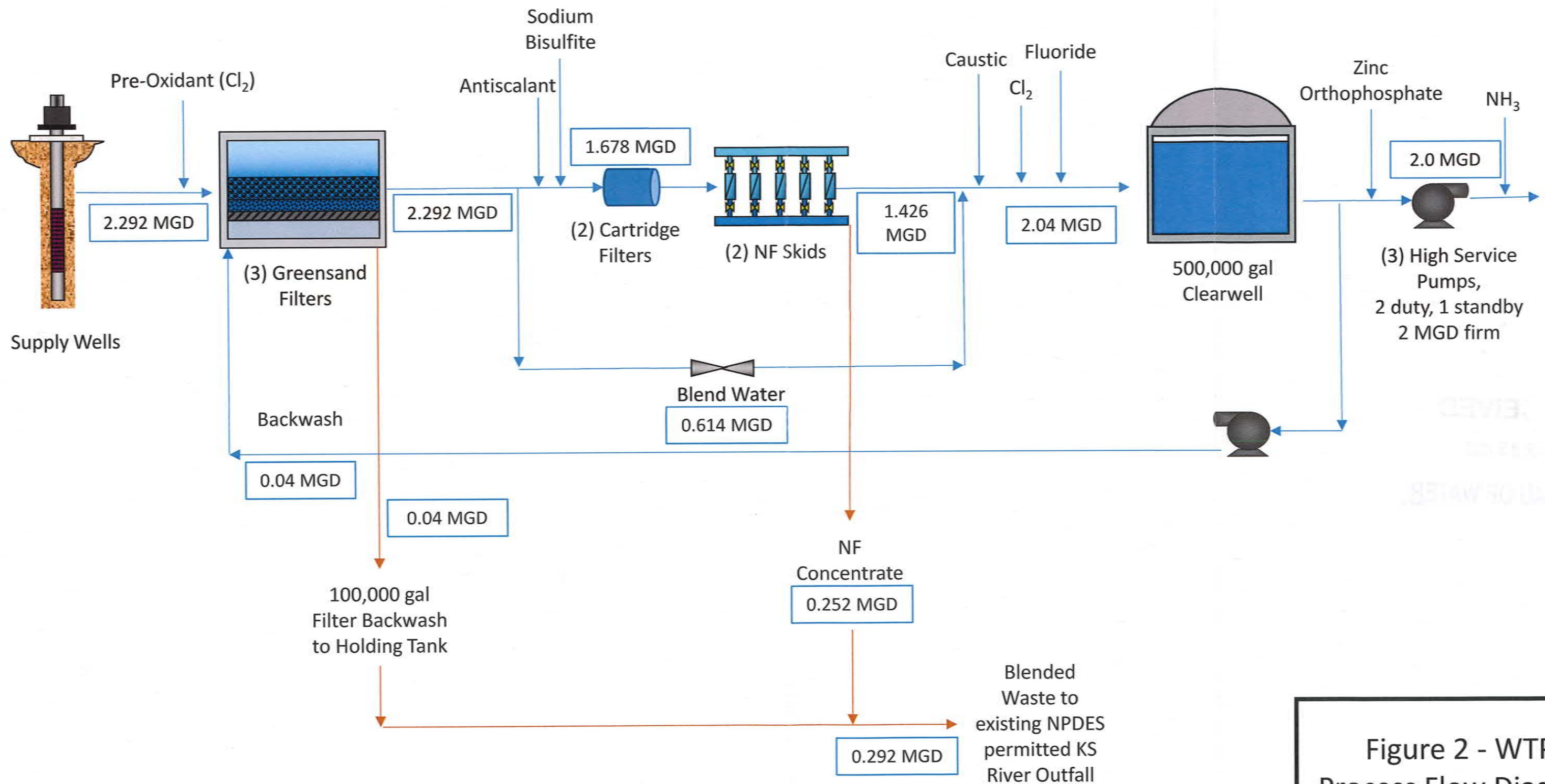


Figure 2 - WTP
Process Flow Diagram



Note: Flows indicated are for Maximum Day Production of 2.0 MGD

March 17, 2022

Page 2

oxidation in the greensand filters. Antiscalant in the nanofiltration feed stream will inhibit and disperse scalants that may form. Caustic will be added prior to the clearwell to boost the pH and stabilize the water. The City is currently utilizing a zinc orthophosphate product as a corrosion inhibitor in the distribution system; the new WTP will continue to utilize the current zinc orthophosphate at similar dosage. LAS will be added after the second chlorine injection to form chloramines for disinfection and residual in the distribution system. Finally, fluoride will be added to the finished water due to its public health benefits. Storage capacities for each chemical will be based on 30 days at an average daily flow of 1.2 MGD.

The nanofiltration membrane system will be designed as a one pass, two stage system with a recovery of 85 percent. The system will be designed and selected using IMSDesign Cloud, a membrane projection software created by HydraNautics. The software projects flows and concentrations of permeate and concentrate streams based on raw water quality. IMSDesign Cloud models the anticipated membrane performance using raw water quality data, therefore piloting will not be performed for this project.

Waste streams from the proposed WTP are summarized in Table 1. Table 2 details the anticipated concentrations and mass loadings of various parameters in the Greensand Backwash Waste, RO Concentrate, and the Blended Waste Stream for discharge to the Kansas River. It is understood that the waste streams discharged to the Kansas River will be subject to limits of a KDHE-provided NPDES permit for the new water treatment plant's discharge at the existing water treatment plant's existing outfall. Routine monitoring and sampling will be performed to ensure compliance with the issued permit.

Please review and provide feedback as necessary. A full basis of design report will be submitted for your review and approval following the review of this waste stream summary. If you have any questions, please contact me at dweir@burnsmcd.com or 816-782-6623.

Thank you,



Dana Weir, PE



DLW/dlw

Mar 17 2022 7:00 PM

Attachments

Figure 1 – Site Aerial

Figure 2 – WTP Process Flow Diagram

Table 1 – Summary of Waste Streams

Table 2 – Waste Stream Load Projections

Table 1: Summary of Waste Streams

No.	Source	Waste Stream	Disposal Method	Waste Stream Quantity / Water Quality
1	Nanofiltration Membranes	Concentrate Water	Discharge to KS River via Blend with GS BW Waste	252,000 gal/day @85% recovery Design based on 2 MGD of Maximum Day of finished water (1.4 MGD of permeate), See Table 2 for NF Concentrate Water Quality
2	Greensand Filters	Filter Backwash	Discharge to KS River via Blend with NF Concentrate	40,000 gal/day Maximum Day, See Table 2 for Greensand Backwash Waste Water Quality
3	Items 1 & 2	NF Concentrate / GS BW Waste Blend	Discharge to KS River	292,000 gal/day Maximum Day, See Table 2 for Blended Waste Stream Water Quality
4	Nanofiltration Membranes	Clean-in-Place	Sanitary Sewer	4 cleanings per year @10,000 gal each = 40,000 gal/yr; TDS =< 2%; waste is neutralized
5	Laboratory	Sinks, Floor Drains	Sanitary Sewer	40 gal/day = 280 gal/week
6	Process Building	Floor Drains, On-Line Analyzers, etc.	Sanitary Sewer	~2,000 mL/min for analyzers = 5,300 gal/week
7	Process Building	Chemical Feed / Storage	Contained on site, Off-site disposal	Licensed transporter to transport to facility licensed to accept/dispose of waste
8	Domestic Waste	Sinks, Toilets, and Related Floor Drains	Sanitary Sewer	~40 gal/day = ~280 gal/week - No change from current operations

Table 2 - Waste Stream Load Projections

Parameter	Units	Average Day Conditions	Max Day Conditions
Raw Water			
Flow	MGD	1.2	2.28
Fe Conc	mg/L	0.1	1
Mn Conc	mg/L	1	2.5
Fe Mass	lbs/day	1.0	19.0
Mn Mass	lbs/day	10.0	47.5
Greensand Backwash Waste Water			
Flow	MGD	0.02	0.04
Fe Conc	mg/L	5.9	55.9
Mn Conc	mg/L	58.8	139.7
TSS Conc	mg/L	50	75.0
Fe Mass	lbs/day	1.0	18.6
Mn Mass	lbs/day	9.8	46.6
TSS Mass	lbs/day	8.3	25.0
NF Concentrate			
Flow	MGD	0.13	0.252
TDS Conc	mg/L	4,275	4,410
Ca Con	mg/L	720	740
Mg Conc	mg/L	120	122
Chloride Conc	mg/L	465	500
Nitratre Conc	mg/L	0.9	1.2
TDS Mass	lbs/day	4,504	9,268
Ca Mass	lbs/day	759	1,555
Mg Mass	lbs/day	126	256
Chloride Mass	lbs/day	490	1,051
Nitrate Mass	lbs/day	0.9	2.5
Blended Waste Stream			
Flow	MGD	0.16	0.292
Fe Conc	mg/L	0.7	7.7
Mn Conc	mg/L	7.4	19.1
TSS Conc	mg/L	6.3	10.3
TDS Conc	mg/L	3,375	3,806
Ca Con	mg/L	568	639
Mg Conc	mg/L	95	105
Chloride Conc	mg/L	367	432
Nitratre Conc	mg/L	0.7	1.0
Fe Mass	lbs/day	1.0	18.6
Mn Mass	lbs/day	9.8	46.6
TSS Mass	lbs/day	8.3	25.0
TDS Mass	lbs/day	4,504	9,268
Ca Mass	lbs/day	759	1,555
Mg Mass	lbs/day	126	256
Chloride Mass	lbs/day	490	1,051
Nitrate Mass	lbs/day	0.9	2.5
pH	s.u.	7.0-8.5	7.0-8.5

Memorandum (cont'd)



March 17, 2022

Page 3

cc: Frank Abart, City of Bonner Springs
Charles Staples, City of Bonner Springs
Matt Beets, City of Bonner Springs
David Hamby, BG Consultants
John Mitchell, Burns & McDonnell
Jake White, Burns & McDonnell

APPENDIX E – FEMA FIRM MAPS

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The community map repository should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where **Base Flood Elevations (BFEs)** and/or **floodways** have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Coastal Base Flood Elevations (BFEs) shown on this map apply only landward of 0.0' North American Vertical Datum of 1988 (NAVD 88). Users of this FIRM should be aware that coastal flood elevations are also provided in the Summary of Stillwater Elevations table in the Flood Insurance Study report for this jurisdiction. Elevations shown in the Summary of Stillwater Elevations table should be used for construction and/or floodplain management purposes when they are higher than the elevations shown on this FIRM.

Boundaries of the **floodways** were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by **flood control structures**. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures for this jurisdiction.

The **projection** used in the preparation of this map was State Plane Kansas North FIPS 1501. The **horizontal datum** was NAD83, GRS1980 spheroid. Differences in datum, spheroid, projection or State Plane zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same **vertical datum**. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at <http://www.ngs.noaa.gov/> or contact the National Geodetic Survey at the following address:

NGS Information Services
NOAA, NNGS12
National Geodetic Survey
SSMC-3, #202
1315 East-West Highway
Silver Spring, Maryland 20910-3282
(301) 713-3242

To obtain current elevation, description, and/or location information for **bench marks** shown on this map, please contact the Information Services Branch of the National Geodetic Survey at (301) 713-3242 or visit its website at <http://www.ngs.noaa.gov/>.

Base map information shown on this FIRM was provided in digital format by the Data Access and Support Center of the State of Kansas. This information was compiled from 1-meter Ground Sample Distance orthophotos dated 2002.

This map reflects more detailed and up-to-date **stream channel configurations** than those shown on the previous FIRM for this jurisdiction. The floodplains and floodways that were transferred from the previous FIRM may have been adjusted to conform to these new stream channel configurations. As a result, the Flood Profiles and Floodway Data tables in the *Flood Insurance Study report* (which contains *authoritative hydraulic data*) may reflect stream channel distances that differ from what is shown on this map.

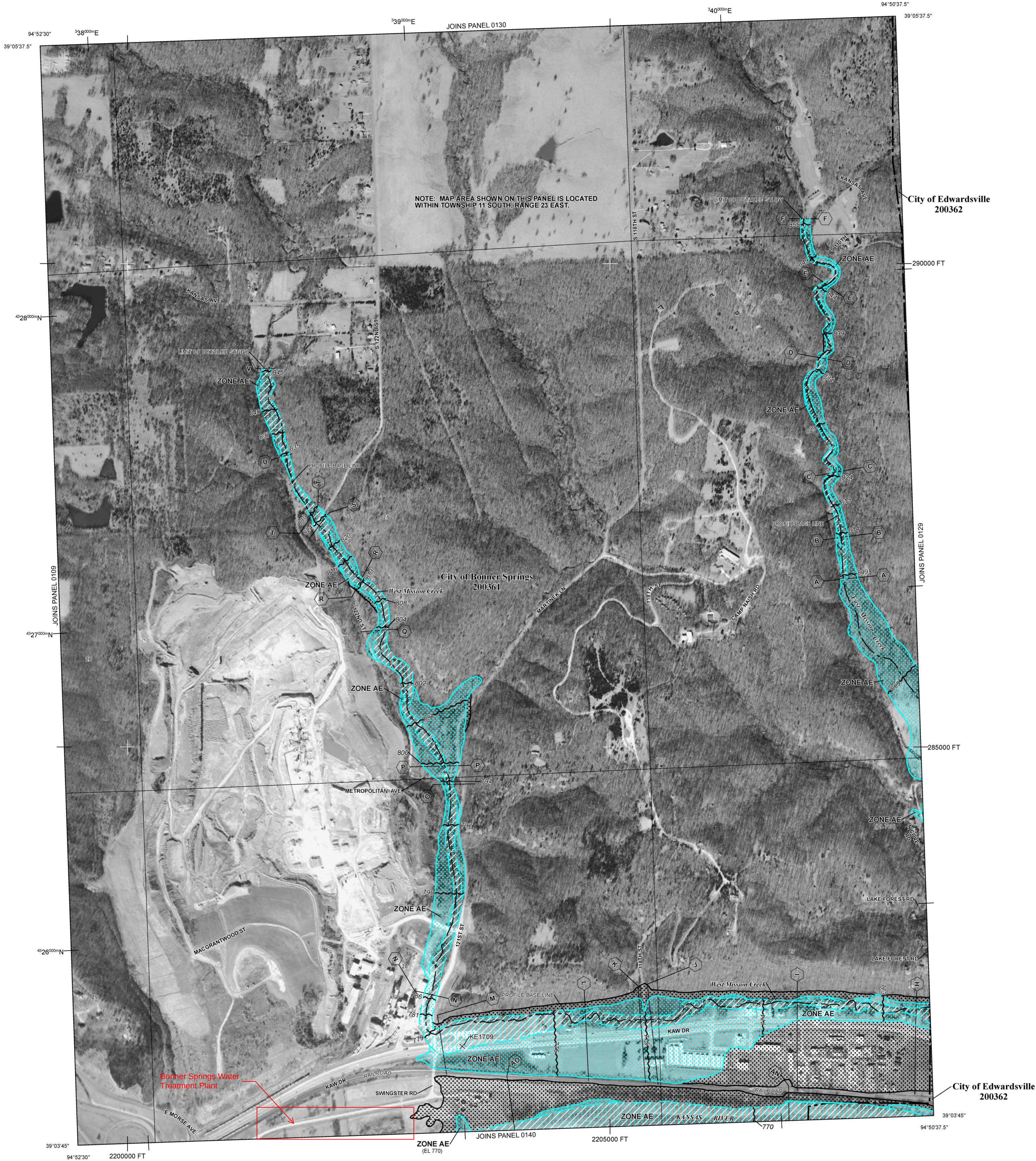
Corporate limits shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

Please refer to the separately printed **Map Index** for an overview map of the county showing the layout of map panels; community map repository addresses; and a Listing of Communities table containing National Flood Insurance Program dates for each community as well as a listing of the panels on which each community is located.

Contact the **FEMA Map Service Center** at 1-800-358-9616 for information on available products associated with this FIRM. Available products may include previously issued Letters of Map Change, a *Flood Insurance Study report*, and/or digital versions of this map. The FEMA Map Service Center may also be reached by Fax at 1-800-358-9620 and its website at <http://msc.fema.gov/>.

If you have **questions about this map** or questions concerning the National Flood Insurance Program in general, please call 1-877-FEMA MAP (1-877-336-2627) or visit the FEMA website at <http://www.fema.gov/business/info/>.

The "profile base lines" depicted on this map represent the hydraulic modeling baselines that match the flood profiles in the FIS report. As a result of improved topographic data, the "profile base line", in some cases, may deviate significantly from the channel centerline or appear outside the SFHA.



LEGEND

SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

- ZONE A** No Base Flood Elevations determined.
- ZONE AE** Base Flood Elevations determined.
- ZONE AH** Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
- ZONE AO** Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
- ZONE AR** Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
- ZONE A99** Areas to be protected from 1% annual chance flood event by a Federal flood protection system under construction; no Base Flood Elevations determined.
- ZONE V** Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
- ZONE VE** Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

ZONE X Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

ZONE X Areas determined to be outside the 0.2% annual chance floodplain.

ZONE D Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

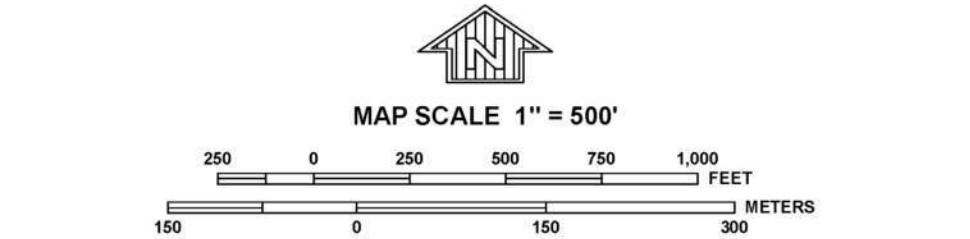
- 1% annual chance floodplain boundary
- 0.2% annual chance floodplain boundary
- Floodway boundary
- Zone D boundary
- CBRS and OPA boundary
- Boundary dividing Special Flood Hazard Area Zones and boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths, or flood velocities
- Base Flood Elevation line and value; elevation in feet*
- Base Flood Elevation value where uniform within zone; elevation in feet*

* Referenced to the North American Vertical Datum of 1988

- Cross section line**
- Transect line**
- Geographic coordinates referenced to the North American Datum of 1983 (NAD 83), Western Hemisphere
- 1000-meter Universal Transverse Mercator grid ticks, zone 15
- 5000-foot grid values: Kansas State Plane coordinate system, North Zone (FIPSZONE = 1501), Lambert projection
- Bench mark (see explanation in Notes to Users section of this FIRM panel)
- MAP REPOSITORIES**
- Refer to Map Repositories list on Map Index
- EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP**
- September 2, 2011
- EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL**

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.



NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0128D

FIRM
FLOOD INSURANCE RATE MAP
WYANDOTTE COUNTY,
KANSAS
AND INCORPORATED AREAS

PANEL 128 OF 210
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:			
COMMUNITY	NUMBER	PANEL	SUFFIX
BONNER SPRINGS, CITY OF	200361	0128	D
EDWARDSVILLE, CITY OF	200362	0128	D

Notice to User: The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject community.

MAP NUMBER
20209C0128D
EFFECTIVE DATE
SEPTEMBER 2, 2011

Federal Emergency Management Agency

APPENDIX F – PRELIMINARY DRAWINGS

Excluded - See Exhibit B for Preliminary Drawings

APPENDIX G – GEOTECHNICAL REPORT



GEOTECHNICAL EXPLORATION WATER TREATMENT PLANT IMPROVEMENTS BONNER SPRINGS, KANSAS

Prepared for:

**BLACK & VEATCH CORPORATION/
CROSSLAND HEAVY CONTRACTORS
KANSAS CITY, MISSOURI**

Prepared by:

**GEOTECHNOLOGY, INC.
OVERLAND PARK, KANSAS**

Date:

JUNE 7, 2021

Geotechnology Project No.:

J035801.02

**SAFETY
QUALITY
INTEGRITY
PARTNERSHIP
OPPORTUNITY
RESPONSIVENESS**



June 7, 2021

Mr. Jim Winger, P.E.
Black & Veatch Corporation/Crossland Heavy Contractors
8400 Ward Parkway
Kansas City, Missouri 64114

Re: Geotechnical Exploration
Water Treatment Plant Improvements
Bonner Springs, Kansas
Geotechnology Project No. J035801.02

Dear Mr. Winger:

Presented in this report are the results of the geotechnical exploration completed for the referenced project. This report includes our project understanding, observed site conditions, conclusions and/or recommendations, and support data as given in the Table of Contents.

We appreciate the opportunity to provide geotechnical services for this project. If you have questions regarding this report, or if we may be of additional service to you, please contact the undersigned.

Respectfully submitted,

GEOTECHNOLOGY, INC.



Sheryl D. Gallagher, P.E.,
Principal Engineer

SDG/MHM/JAW:sdg/mhm/ljd

Copies: PDF



TABLE OF CONTENTS

	<u>Page</u>
1.0 Introduction	1
2.0 Project Information	1
3.0 Site Conditions	2
4.0 Current Geotechnical Exploration.....	2
5.0 Previous Exploration	3
6.0 Laboratory Testing	4
7.0 Subsurface Conditions	4
7.1 Stratigraphy.....	5
7.2 Groundwater	7
8.0 Conclusions and Recommendations	8
8.1 Features Impacting the Project.....	8
8.2 Site Grading	9
8.3 Shallow Foundations	11
8.4 Trenchless Excavation	13
8.5 Temporary Shoring.....	13
8.6 Temporary Excavations.....	14
8.7 Dewatering	14
8.8 Seismicity	14
8.9 Lateral Earth Pressures.....	15
8.10 Floor Slabs	16
8.11 Corrosivity	16
9.0 Recommended Additional Services.....	16
10.0 Limitations	17

APPENDICES

Appendix A - Important Information about This Geotechnical-Engineering Report
Appendix B - Site Location and Topography – Figure 1
Aerial Photograph of Project Area and Boring Locations – Figure 2
Aerial Photograph of Detail Area 1, Boring and CPT Sounding Locations – Figure 3
Aerial Photograph of Detail Area 2, Boring, CPT Sounding and Resistivity Array
Locations – Figure 4
Aerial Photograph of Detail Area 3 and Boring Locations – Figure 5
Appendix C - Logs of Previous Boring B-1 and Current Borings B-2 through -9 and -5A
Boring Log: Terms and Symbols
Rock Core: Terms and Symbols
Appendix D - Piezometer Installation Records
Appendix E - Logs of CPT Soundings
Appendix F - Field Resistivity Results
Appendix G - Grain Size Distribution Results
Appendix H - Rock Core Photographs
Appendix I - CPT Shear Wave Data
Appendix J - Corrosivity Test Results

**GEOTECHNICAL EXPLORATION
WATER TREATMENT PLANT IMPROVEMENTS
BONNER SPRINGS, KANSAS
JUNE 7, 2021 | GEOTECHNOLOGY PROJECT NO. J035801.02**

1.0 INTRODUCTION

Geotechnology, Inc. (Geotechnology) prepared this geotechnical exploration report for the Design Builder (Black & Veatch/Crossland) for the improvements at the Bonner Springs water treatment plant. The services documented in this report were provided in general accordance with the scope of services described in Geotechnology's revised Proposal P035801.02 dated March 8, 2021. A representative of the Design Builder authorized our services.

The purposes of the geotechnical exploration were to evaluate the general subsurface profile and the engineering properties of the soil at the site, and to develop recommendations for the geotechnical aspects of the design and construction of the project as defined in our proposal. Our scope of services included geotechnical borings, cone penetration tests (CPT), coring one boring, installation of piezometers, professional logging, field resistivity testing, laboratory testing, engineering analyses, and reporting.

2.0 PROJECT INFORMATION

The project consists of the construction of influent and effluent meter vaults, aerator and splitter box, SCB effluent valve vault, solids contact and recarbonation basins, operations building, vehicle storage building, treated water reservoir, backwash pump station, lime/soda ash storage and feed system, CO₂ bulk tank pad, generator equipment pad, two well houses and a transmission line for the City of Bonner Springs (City). Further information regarding each structure is presented in Table 1. Final grades are planned near existing grade.

Table 1. Summary of Structures

Structure	Depth Below Grade (ft)	Dimensions (ft)	Load (pounds)	Contact Pressure (psf)
Influent Meter Vault	7	10 by 12	87,770	731
Aerator and Splitter Box	3	21 by 25.7	1,197,064	2,218
Solids Contact Basins	3	46 (diameter)	2,690,659 (each)	1,620
SCB Effluent Valve Vault	7	7.7 by 5	9,218	240
Recarbonation Basin	9	24.7 by 17	886,914	2,112
Operations Building Slab	0	132 by 110	2,734,776	188
Operations Spread Footings	3	Various	53,000 (maximum)	Various
Operations Strip Footings	3	To Be Determined	1,200 per lineal ft	800
Treated Water Reservoir	25.5	53.7 by 49.7	5,749,494	2,154
Effluent Meter Vault	7	15 by 9	98,567	730



Table 1. Summary of Structures (continued)

Structure	Depth Below Grade (ft)	Dimensions (ft)	Load (pounds)	Contact Pressure (psf)
Backwash Return Pump Station	26	27 (diameter)	1,484,350	2,593
Vehicle Storage Slab	0	80 by 100	1,160,000	1,450
Vehicle Storage Building Spread Footings	3	Various	29,400 (maximum)	Various
Vehicle Storage Building Strip Footings	3	To Be Determined	1,100 per lineal ft	733
Lime/Soda Ash Storage and Feed System	3	25 by 65	1,397,920	860
CO2 Bulk Tank Pad	3	25 by 14	73,946	211
Generator Equipment Pad	3	46 by 21	185,570	192
Well Houses No. 7 and 8	3	8 by 16	40,888 (each)	320
Lime Residuals Treatment Facility	25	375 by 140	n/a	n/a
PVC Pipe Transmission Main	3	8-inch diameter, 3,500 lineal feet	n/a	n/a
Booster Pump Station	10	10 (diameter)	not provided	

3.0 SITE CONDITIONS

The treatment plant site is located south of K-32 and east of K-7 (Kaw Drive) in Bonner Springs, Kansas. The proposed transmission main extension is along the south side of K-7 and will turn north along the east side of the tennis courts for Lake of the Forest. Currently, the plant site is generally grass covered and is relatively flat, with approximately 2 feet of relief down to the south. The site location and topography of the area per the 2018 U.S.G.S. topographic maps are shown on Figure 1 included in Appendix B.

4.0 CURRENT GEOTECHNICAL EXPLORATION

The geotechnical exploration consisted of a combination of borings and CPT soundings at approximately the locations shown on Figures 2 through 5 included in Appendix B. The borings and CPTs were located in the field using a hand held, consumer-grade GPS unit at the latitude and longitude coordinates provided by the Design Builder. Surface elevations at the exploration locations were determined using Google Earth software. We recommend a professional surveyor determine precise boring and CPT locations and elevations. Further discussion for each method is below.

Borings. The current geotechnical exploration included drilling a total of nine borings (designated as Borings B-2 through -9 and -5A). Each boring was drilled to predetermined depths ranging from 15 to 50 feet or refusal material. Following auger refusal Boring B-2 was extended 10 feet into rock using NQ2 wire-line rock core techniques. The boring logs are included in Appendix C.

The borings were drilled using an ATV-mounted Diedrich D-50 rotary drill rig equipped with 4-inch flight and 3 3/4-inch hollow stem augers and rotary wash drilling tools. Standard Penetration Tests (SPTs) were performed using an automatic hammer. Split-spoon and Shelby



tube samples were obtained at the depths indicated on the boring logs. An explanation of the terms and symbols used on the boring logs is included in Appendix C.

Piezometers were installed in Borings B-2, -3 and -7. The 1-inch diameter piezometers were screened to a depth of approximately 7 feet and the well registration forms are included in Appendix D. The remaining boreholes were backfilled with auger cuttings.

Unless noted on the boring logs, the lines designating the changes between various strata represent approximate boundaries. The transition between materials could be gradual or could occur between recovered samples. The stratification given on the logs, or described herein, is for use by Geotechnology in its analyses and should not be used as the basis of design or construction cost estimates without realizing that there can be variation from that shown or described.

The boring logs and related information depict subsurface conditions only at the specific locations and time where sampling was conducted. The passage of time could result in changes in conditions, interpreted to exist, at or between the locations where sampling was conducted.

Cone Penetration Testing. The overburden in CPT-1 through -14 was explored using CPT equipment and a 20-ton track rig (both manufactured by Vertek). The CPT soundings were generally terminated at predetermined depths of 35 to 50 feet. CPT-2, -13 and -14 were terminated at cone refusal at depths of 83 feet, 77 feet and 65 feet, respectively. Each CPT hole was backfilled with granular bentonite. Logs of the CPT soundings are given in Appendix E.

Field Resistivity Testing. Electrical resistivity surveying is a surface geophysical technique where the apparent resistivity of the subsurface is determined by inducing current into the subsurface with two current electrodes and measuring the resulting ground voltage using two potential electrodes. The Wenner resistivity method involves placing the electrodes on a straight survey line. The two potential electrodes are placed between the two current electrodes. For each measurement the electrode A-spacing is the same between the current and potential electrodes. As the A-spacing is increased, the electrical field and resulting measurements attain greater depths.

Wenner resistivity surveys were performed using a Tinker and Rasor resistivity meter. Surveys were collected near Borings B-2 and -5 and these locations are shown on Figure 4. At each survey location A-spacings of 2.5, 5, 10, 15 and 25 feet were used to collect the data. Results of resistivity testing are presented in Appendix F.

5.0 PREVIOUS EXPLORATION

Geotechnology performed a preliminary geotechnical exploration at the site in 2020. Geotechnology's scope of service included drilling one boring (designated as Boring B-1), laboratory testing, engineering analyses and preparation of a preliminary report¹ for the proposed facility improvements. The stratigraphy at the boring location generally consisted of medium stiff and stiff fat clay to a depth of approximately 42 feet underlain by medium dense and dense sand

¹ Preliminary Geotechnical Exploration, Water Supply and Treatment Plant Study, 12401 Kaw Drive, Bonner Springs, Kansas. Prepared for Black & Veatch Corporation by Geotechnology, Inc. Geotechnology Project No. J035801.01; Report dated April 29, 2020.



to the depth explored (84 feet). The boring was terminated at sampler refusal. Since rock coring was not performed the nature of the sampler refusal material was not determined. The approximate location of Boring B-1 is shown on Figures 2 and 4. The log of Boring B-1 is included in Appendix C.

6.0 LABORATORY TESTING

Laboratory testing was performed on selected samples to estimate engineering and index properties. Laboratory testing included various combinations of the following: moisture content, Atterberg limits, dry unit weight (soil), unconfined compression (soil), unconsolidated-undrained triaxial shear strength, and grain size distribution. The results of the laboratory tests are generally presented on the boring logs. Grain size distribution results are presented in Appendix G.

7.0 SUBSURFACE CONDITIONS

A summary of the exploration locations relative to the planned structures is given in Table 2. A general description of the stratigraphy at each structure follows. However, the boring and CPT sounding logs should be reviewed for additional information regarding the stratigraphy at each structure location.

Table 2. Structure and Corresponding Boring Information

Structure	Exploration Location	Surface Elevation	Depth of Exploration
Lime Residuals Treatment Facility	B-3	788	Terminated in clay at 35 feet
	CPT-9	788	Terminated in clay at 35 feet
	CPT-10	788	Terminated in clay at 35 feet
	CPT-11	788	Terminated in clay at 35 feet
	CPT-12	788	Terminated in clay at 35 feet
Vehicle Storage Building	CPT-6	789	Terminated in sand at 45 feet
	CPT-7	789	Terminated in sand at 45 feet
	CPT-8	789	Terminated in sand at 50 feet
Operations Building	CPT-5	788	Terminated in sand at 50 feet
	B-5A	789	Terminated in sand at 60 feet
Lime/Soda Ash Storage and Feed Systems	CPT-1	788	Terminated in sand at 45 feet
	B-1	789	Terminated at split-spoon refusal at 84 feet
Solids Contact Basin	CPT-3	788	Terminated in sand at 45 feet
Backwash Pump Station and Backup Generator	CPT-13	789	Terminated at cone refusal at 77 feet
	B-5	788	Terminated at roller bit refusal at 82 feet
CO2 Bulk Tank and	CPT-3	788	Terminated in sand at 45 feet
	CPT-4	788	Terminated in sand at 50 feet
Recarbonation Basin	CPT-3	788	Terminated in sand at 45 feet
Groundwater Well No. 3	B-4	797	Terminated at roller bit refusal at 87 feet
	CPT-14	797	Terminated at cone refusal at 65 feet
Transmission Main	B-6	775	Terminated in clay at 15 feet
	B-7	773	Terminated in clay at 30 feet
	B-8	769	Terminated in sand at 30 feet
	B-9	762	Terminated in sand at 30 feet



7.1 Stratigraphy

Lime Residuals Treatment Facility (Boring B-3 and CPT-9 through -12). At Boring B-3 the stratigraphy generally consists of brown and gray, medium stiff and stiff, lean and fat clay to the 35-foot depth of exploration. Based on CPT soil behavior types, the stratigraphy at CPT-9 through -12 generally consists of very loose to loose, silty sand to sandy silt to approximate depths of 1 to 2 feet underlain by medium stiff and stiff, clay and silty clay to the 35-foot depth of exploration.

Vehicle Storage Building (CPT-6 through -8). Based on CPT soil behavior types, CPT-6 is surfaced with approximately 2 feet of very dense/stiff soil, and CPT-7 and -8 are surfaced with approximately 2 feet of very loose to loose, silty sand to sandy silt. Below these surficial layers the stratigraphy generally consists of medium stiff and stiff, clay and silty clay to depths of 38 feet to 42 feet underlain by medium dense to very dense, sand and silty sand to the depths explored (45 and 50 feet).

Operations Building (CPT-5 and Boring B-5A). Based on CPT soil behavior types, CPT-5 is surfaced with approximately 1 foot of very loose to loose, silty sand to sandy silt. Below this surficial material, the stratigraphy generally consists of medium stiff and stiff, clay and silty clay to a depth of approximately 45 feet underlain by dense and very dense sand to silty sand to the 50-foot depth of exploration. Below the topsoil at Boring B-5A, the stratigraphy generally consists of soft and medium stiff, brown and gray, lean and fat clay to a depth of approximately 44 feet underlain by medium dense and dense sand to the 60-foot depth of exploration.

Lime/Soda Ash Storage and Feed Systems (CPT-1 and Boring B-1). Based on CPT soil behavior types, the stratigraphy at CPT-1 consists of approximately 2 feet of very loose to loose, silty sand to sandy silt underlain by medium stiff and stiff, clay and silty clay to a depth of approximately 43 feet underlain, in turn, by very dense sand to silty sand to the 45-foot depth of exploration.

Fill comprised of brown fat clay with asphalt fragments occurs to a depth of approximately 12 inches at Boring B-1. Below the fill, the stratigraphy generally consists of medium stiff and stiff, brown, fat clay to a depth of approximately 42 feet underlain by medium dense and dense sand to a depth of approximately 83.5 feet. Boring B-1 was terminated at split-spoon sampler refusal on shale or a boulder at a depth of approximately 84 feet. Since rock coring was not performed the nature of the refusal material was not determined.

Solids Contact Basin and Recarbonation Basin (CPT-3). Based on CPT soil behavior types, the stratigraphy at CPT-3 consists of very loose to loose, silty sand to sandy silt to a depth of approximately 2 feet underlain by medium stiff and stiff, clay and silty clay to a depth of approximately 42 feet underlain, in turn, by dense to very dense sand to silty sand to the 45-foot depth of exploration.

Backwash Return Pump Station and Backup Generator (CPT-13 and Boring B-5). Based on CPT soil behavior types, the stratigraphy at CPT-13 consists of very dense/stiff soil to a depth of approximately 12 inches underlain by medium stiff to stiff clay and silty clay to a depth of approximately 44 feet underlain, in turn, by dense to very dense sand to silty sand to the 77-foot depth of exploration.



At Boring B-5 fill occurs to a depth of approximately 3.5 feet. The sampled fill included brown, lean clay and limestone gravel. Below the fill the stratigraphy generally consists of medium stiff, brown and gray, lean and fat clay to a depth of approximately 44 feet underlain, in turn, by dense to medium dense sand to the 82-foot roller bit refusal depth. Since rock coring was not performed the nature of the refusal material was not determined.

CO2 Bulk Tank (CPT-3 and -4). Based on CPT soil behavior types, CPT-3 and -4 are surfaced with approximately 2 feet of very loose to loose silty sand to sandy silt. Below these surficial materials the stratigraphy generally consists of medium stiff and stiff clay and silty clay to a depth of approximately 42 feet underlain, in turn, by dense to very dense sand to silty sand to the depths explored (45 feet and 50 feet, respectively).

Groundwater Well #3 (Boring B-4 and CPT-14). Boring B-4 is surfaced with approximately 4 inches of gravel. Below the gravel the stratigraphy generally consists of soft and medium stiff, brown and gray, lean and fat clay to a depth of approximately 47 feet. Below the clay, dense and medium dense sand occurs to the 87-foot roller bit refusal depth. Since rock coring was not performed the nature of the refusal material was not determined.

Based on CPT soil behavior types, the stratigraphy at CPT-14 generally consists of very loose to loose, sand, silty sand and sandy silt to a depth of approximately 3 feet underlain by stiff to soft clay and silty clay to a depth of approximately 49 feet underlain, in turn, by dense to very dense sand to silty sand to the 65-foot depth of cone refusal.

Transmission Main (Borings B-6 through -9). Boring B-9 was surfaced with fill consisting of asphalt millings with clay. The remaining borings were surfaced with approximately 3 inches of topsoil. The borings extended into fine-grained soils consisting of medium stiff to soft silt, and lean and fat clay. Borings B-6 and -7 terminated in the clay at depths of 15 and 30 feet, respectively. Occasional stratum of very loose to medium dense sand was encountered in Borings B-8 and -9, which the borings terminated in at a depth of 30 feet.

Boring B-2 and CPT-2. Based on CPT soil behavior types, CPT-2 is surface with approximately 2 feet of medium dense to loose, silty sand to sandy silt. Below this surficial material, the stratigraphy generally consists medium stiff and stiff, clay and silty clay to a depth of approximately 46 feet underlain, in turn, by medium dense to very dense sand to silty sand to the 83-foot depth of cone refusal.

Boring B-2 is surfaced with approximately 6 inches of asphalt millings. Below the millings, the stratigraphy generally consists of brown, soft to medium stiff, lean and fat clay to a depth of approximately 39 feet underlain, in turn, by stiff to medium stiff, brown and tan silt to a depth of approximately 48.5 feet. Below the silt, medium dense to dense sands occurs to the 83.5-foot depth of auger refusal. The recovered rock core consisted of gray, slightly weathered, moderately hard limestone. The rock core recovery values were 100 percent, and the corresponding rock quality designation (RQD²) values ranged from zero to 100 percent. The rock core photographs are presented in Appendix H.

² Rock quality designation is the ratio of the sum of the pieces of core measuring 4 inches or longer to the total length of the cored interval, expressed as a percentage.



7.2 Groundwater

The groundwater level at each boring and CPT location, if encountered during exploration, is presented in Table 3. Groundwater readings at the piezometers are presented in Table 4. Reportedly, the 100-year flood level at the site is El 771 and the 500-year flood level is El 782.

Groundwater levels at the boring locations might not have stabilized, particularly in low permeable soil, prior to backfilling and/or commencement of rotary wash drilling techniques. Rotary wash techniques include the introduction of water into the borehole which masks the presence of groundwater. Groundwater levels might vary substantially over time due to the effects of seasonal variation in precipitation, recharge, the level of nearby Kansas River, Lake of the Forest and/or creeks, or other factors not evident at the time of exploration. Therefore, groundwater levels during construction or at other times in the life of the structures might be higher or lower than the levels indicated herein. Water might be trapped in permeable pockets of fill and in utility trenches.

Table 3. Summary of Groundwater Data During Exploration

Exploration Location	Surface Elevation (Ft)	Date	Approximate Groundwater Level	
			Depth (ft)	Elevation (ft)
B-1	789	April 2020	Not Encountered	
B-2	789	March 2021	Not Encountered	
B-3	788			
B-4	797	April 2021	Not Encountered	
B-5	788			
B-5A	789	March 2021	38	751
B-6	775	May 2021	Not Encountered	
B-7	773		29	744
B-8	769	April 2021	20	749
B-9	762		25	737
CPT-1	788	March 2021	Not Encountered	
CPT-2	789		50	739
CPT-3	788		Not Encountered	
CPT-4	788			
CPT-5	788			
CPT-6	789			
CPT-7	789			
CPT-8	789			
CPT-9	788			
CPT-10	788			
CPT-11	788			
CPT-12	788			
CPT-13	789	April 2021	45	744
CPT-14	797		50	747



Table 4. Piezometer Readings

Piezometer (installation date)	Surface Elevation (ft)	Groundwater Level			
		4/26/21		5/21/21	
		Depth (ft)	Elevation (ft)	Depth (ft)	Elevation (ft)
B-2 (3/19/21)	789	47	742	45.33	743.67
B-3 (3/16/21)	788	Dry	n/a	Dry	n/a
B-7 (5/6/21)	773	Not Yet Installed	n/a	7	767

8.0 CONCLUSIONS AND RECOMMENDATIONS

Geotechnology should be allowed to review final layout, grading and foundation plans to verify that our recommendations have been correctly implemented and are applicable for the final design. Geotechnical features that will influence site development include the presence of soft soils, fill, fat clay, groundwater in the jack pits, and easily disturbed soils.

8.1 Features Impacting the Project

Soft Soils. Soft soils are expected at the booster pump station bearing elevation. The soil soils extended to boring termination. The soft soils at this location should be undercut a depth of 3 feet and backfilled with clean open graded crushed rock with a maximum particle size of 3-inches. The crushed rock must be wrapped in filter fabric such as Mirafi 140N or equivalent to prevent the migration of fines.

Fill. Fill was encountered to approximate depths of 1 to 3.5 feet at Borings B-1, -5 and -9. Fill might extend to greater depths in unexplored locations. The presence of fill complicates the project. If fill placement observation and testing records are not available, the fill should be considered uncontrolled and potentially compressible. The risks associated with supporting foundations and floor slabs on uncontrolled fill include total and differential settlement in excess of tolerable limits. Differential settlement can lead to cosmetic and structural distress, including substantial cracking in walls and floor slabs. In the absence of placement records, fill within structure areas should be removed and replaced with engineered fill.

Fat Clay. Fat clay occurs to various depths and intervals at Borings B-1 through -5, -5A, -8 and -9. These soils, commonly referred to as “expansive” or “swelling” soils, expand or swell as their moisture contents increase. However, these soils also “contract” or “shrink” as their moisture contents decrease. Floor slabs supported on expansive soils can move upward and downward, and such movements can result in distortion, cracking, and structural damage.

Contingencies for remediation of fat clay should be included where fat clay is encountered during construction. To reduce the potential impact of shrink/swell movements on the floor slab, fat clays encountered within 2 feet of the floor slab subgrade must be remediated as discussed herein. Additional recommendations regarding the remediation of fat clay are presented herein.

Groundwater in Jack Pits. Groundwater could be encountered in jacking pits if excavation depths approach 20 feet, particularly if elevated groundwater conditions prevail during construction. If elevated conditions are encountered during construction, dewatering should be provided to maintain groundwater at least 36 inches below the bottom of excavations in silt and clay soils to maintain a relatively stable base for construction. Sump/pump pits can sometimes be used to



control groundwater in excavations in fine-grained soil. Surface drainage should be controlled to prevent flow of surface water into the excavations. If sumps cannot control the groundwater seepage, Geotechnology should be contacted to review the method of dewatering proposed by the Design Builder.

Easily Disturbed Soils. Silty and/or saturated soils occur in the borings. These soils are easily disturbed, and subgrades comprised of these soils could deteriorate under foot traffic. Such soils could be encountered at the excavation bottom for the backwash pump station, the lime residuals treatment facility and the booster pump station. We recommend that foundations bearing deeper than 8 feet be protected by a 3-inch-thick concrete mud mat to maintain the integrity of the subgrade.

8.2 Site Grading

Site Preparation. The fill, gravel and topsoil should be stripped. Topsoil may be reused in landscape areas or properly disposed. The fill and gravel may be reused as engineered fill. The exposed subgrade should be proofrolled prior to the placement of engineered fill. Soft soils and soft areas that develop or are exposed should be overexcavated and backfilled with soil fill or crushed rock compacted to the densities specified in subsequent paragraphs.

Remediation of Fat Clay. Where encountered, fat clay within 2 feet of floor slab subgrade must be excavated and replaced with low volume change material as discussed herein. Modification by the incorporation of hydrated lime Type C Fly ash, cement, cement kiln dust (CKD) or lime kiln dust (LKD) is not expected to be an economical option. Contingency should be carried in the project budget for areas requiring remediation.

If overexcavation is required, the area can be backfilled with low plasticity soil (liquid limit less than 45 percent) or well-graded granular crushed rock with a 1-inch maximum particle size (KDOT AB-3 or equivalent). The backfill should be placed and compacted as specified in Table 5.

The methods of remediation suggested above are based on generally accepted standards in the local engineering community. Clay properties, including plasticity, moisture content, density, swell pressure, and mineralogy are extremely variable and could, in some instances, be conducive to more severe swell pressures and volume change potential than can be mitigated by nominal treatment. Consequently, when constructing in an area where fat clay is present, the owner should recognize that there is an inherent risk of distress associated with shrink or swell of the soil, even with treatment of the subgrade soil.

Suitable Fill Materials. The excavated materials are expected to include previously placed fill material consisting of lean clay with various construction debris. The existing fill may be reused for engineered fill, provided deleterious materials are removed and large boulders are broken down to 4 inches or smaller. Imported or site materials may require moisture conditioning. Imported fill should consist of lean, fine-grained soil (liquid limit less than 45) or well-graded crushed limestone with a 1-inch maximum particle size. Acceptable fill soils include non-organic materials designated as CL, CL-ML and GW in accordance with ASTM D 2487. Frozen soils should not be used for fill or backfill.



Fill and Backfill Placement. Fill or backfill should be placed in uniform lifts and compacted. The loose lift thickness should not exceed 8 inches. The fill should be systematically compacted to the levels given in Table 5. The soil should be placed at moisture contents compatible with the required unit weight. Depending on the soil moisture at the time of construction, aeration or wetting might be required to achieve compaction. Deleterious material should not be included in fill, and the fill should not be placed on soft materials or frozen ground.

Table 5. Compaction Summary

Category	Minimum Compaction ^a
Fine-Grained Soil	95% ^b
Well-Graded Crushed Limestone	98%

^aMeasured as a percent of the maximum dry density as determined by the standard Proctor test (ASTM D 698, AASHTO T99).

^bMoisture content within minus 3 to plus 2 percent of the optimum moisture content.

Trench Backfill. Settlement of trench backfill can result in unsightly depressions and localized failures. The magnitude of settlement can be substantially reduced by mechanical compaction of the trench backfill to the levels given in Table 5. Clean rock should not be used for trench backfill. Clean rock can collect water which can soften the underlying fine-grained soils or, in the presence of expansive soils, promote slab heaving, or result in the migration of fines and loss of subgrade support.

Subgrade Protection. Drainage of the construction areas should be provided to protect foundation excavations from the detrimental effects of weather during construction. Foundation excavations should be kept free of standing water. Concrete should be placed in foundation excavations the same day they are completed. If concrete cannot be placed in foundation excavations the same day they are completed, then a “mud mat” consisting of 3 inches of lean concrete can be placed to protect the subgrade from deterioration.

Subgrades will be exposed to weather and disturbances from installation of utilities and normal construction traffic. Disturbed areas can be repaired in summer and fall months by reworking of the upper soils. More effort will be required in the wetter winter and spring seasons. We recommend routing construction traffic away from prepared subgrades.

Collection and Disposal of Site Water. Handling of the site water is important in the successful performance of foundations. Water from surface runoff, downspouts, and subsurface drains should be collected and discharged through a drainage system. Additionally, final grades should be sloped away from structure foundations.

Control of surface runoff should be maintained in compliance with the rules and regulations set forth in the Federal Water Pollution Control Act. Additionally, permits related to site grading activities and control of storm water during construction activities should be obtained from the applicable governmental jurisdiction(s).



8.3 Shallow Foundations

Foundation recommendations for each structure are presented in Table 6. Further information regarding footing and mat foundations are discussed in the following sections.

Table 6. Structure Foundation Recommendations

Structure	Recommended Foundation
Influent Meter Vault	Mat
Aerator and Splitter Box	Footings
Solids Contact Basins	Footings
SCB Effluent Valve Vault	Mat
Recarbonation Basin	Mat
Operations Building	Footings
Treated Water Reservoir	Mat
Effluent Meter Vault	Mat
Backwash Return Pump Station	Mat
Vehicle Storage Building	Footings
Lime/Soda Ash Storage and Feed System	Footings
CO2 Bulk Tank Pad	Footings
Generator Equipment Pad	Footings
Booster Pump Station	Mat
Well Houses No. 7 and 8	Footings

Strip and Spread Footings. Soft soils should be removed and replaced. Strip and spread footings can be proportioned for net allowable bearing pressures of 2,000 and 2,500 psf, respectively, provided they bear on engineered fill or firm clay. The minimum lateral dimensions for strip and spread footings should be 18 and 24 inches, respectively. Exterior footings and footings in unheated areas bearing on native soil or engineered fill should be embedded 36 inches below the lowest adjacent exterior grade to provide protection from seasonal moisture variations and frost penetration.

Mat Foundations. Mat foundations underlain by firm native soil and/or engineered fill may be designed for a vertical modulus of subgrade reaction value of 40 pounds per cubic inch (pci); the resulting contact pressure should be limited to 2,500 psf except at the backwash pump station and booster pump station. The backwash pump station, which will bear below a depth of approximately 27 feet and has an estimated bearing pressure of 2,600 psf, may be designed for a contact pressure of 2,600 psf. The booster pump station contact pressure should be limited to 1,500 psf due to the expected soft soils.

As a measure to provide protection from seasonal moisture variations and frost penetration, mat foundations should bear at least 36 inches below grade if supported on fine-grained soil. Alternatively, the edges of the mat can be turned down and embedded to a depth of 36 inches.

Settlement. Shallow-bearing foundations, proportioned and constructed on engineered fill, or firm native clays, could settle approximately 1 inch. Differential settlement between adjacent footings could be approximately 3/4 to 1 inch. Estimated settlement values contained in this report are based on our experience with projects of a similar nature. Consolidation tests were not performed.



Shallow Foundation Construction Considerations. Foundation excavations should be free of water, loose materials, and soft soil prior to placing concrete. Should the bearing soils become dry, disturbed, saturated or frozen, the affected soil should be removed prior to placing concrete.

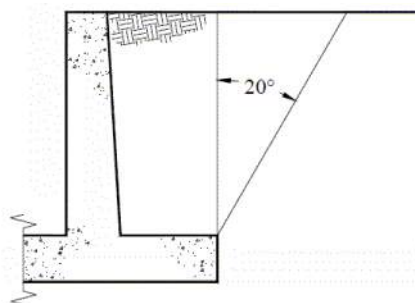
If unsuitable soils are encountered in foundation excavations, the excavations should be deepened to suitable soils and the overexcavation backfilled with concrete. The overexcavation could also be backfilled with compacted soil or well-graded crushed rock, provided the overexcavation extends a distance H beyond each edge of the footing, where H is the overexcavation depth beneath the bottom of the foundation.

Lateral loads may be resisted by friction at the base of the foundation and by passive resistance of soil in front of the foundation element. Excavation adjacent to the foundations should be prohibited if passive resistance of the soil is considered. Passive resistance in the top 3 feet of soil adjacent to the foundation should be ignored due to frost considerations. Allowable passive resistance, if required, can be computed assuming an equivalent fluid pressure of 125 pcf for soil. Ultimate resistance to sliding can be computed assuming a coefficient of friction of 0.3 for clay. A minimum factor of safety of 1.5 should be applied to compute allowable sliding resistance. However, the allowable sliding resistance should be limited to 500 psf.

Buoyancy. Groundwater was encountered as shallow as 38 feet (El 751) at the water treatment plant site. This elevation, however, is based on limited observation. Buoyancy considerations using established groundwater data, such as the 100-year or 500-year flood elevations, would be more prudent.

Extending mat foundations horizontally creates an extension outside the walls of the structure and adds additional resistance to the buoyant force. The additional resistance comes from the additional weight of the soil resting on the lateral extensions. The size of the extensions can be designed as large and as wide as needed. When concrete is placed for these extensions, mechanical connections must be designed to resist the vertical shear forces. If possible, extensions should be monolithically poured with the structure.

A moist weight of 120 pcf and a buoyant weight of 63 pcf may be used to determine the weight of soil above the extensions to resist buoyant forces. Soil arching may be taken into consideration when determining the soil weight; i.e., the volume of soil used to resist buoyancy may include a wedge of material within a line that extends from the edge of the extension up and away from the edge at an angle of 20 degrees from the vertical to the ground surface (see following figure).





8.4 Trenchless Excavation

Trenchless excavation methods such as pipe jacking are anticipated for installation of the transmission main crossing K-32 and the creek by Lake of the Forrest. Access pits are required at the jacking and receiving ends of jacked pipes. Soft soils are present which could cause alignment issues during jacking. Groundwater was encountered at 20 feet and below. The Design Builder should be prepared to manage groundwater seepage, if encountered, during jacking operations.

Presented in Table 7 are soil parameters for the generalized soil profile for the transmission main. Soil parameters are provided for both undrained conditions (short term) and drained conditions (long-term). Short-term and long-term conditions should be used where excavations will be open for less than a week, and longer than a week, respectively.

Table 7. Generalized Soil Parameters

Soil Type	Depth (ft)	Y _{total} (pcf)	Short-Term		Long-Term	
			ϕ (degrees)	c (psf)	ϕ' (degrees)	c' (psf)
Medium Stiff Clay (CL or CH)	0 – 30	120	0	550	25	0
Soft Silt (ML)	0 – 20	115	0	400	28	0

8.5 Temporary Shoring

Due to the proximity of adjacent roadways and utilities, excavated temporary slopes might not be feasible at all locations, and temporary shoring systems might be required. While many different temporary shoring types and configurations can be used, the more common types that are applicable to this site are trench boxes, soldier piles and lagging. Brief discussions of potential temporary shoring methods are presented herein. Other methods of temporary shoring, however, may also be considered. Temporary shoring installed adjacent to structures sensitive to movement should be designed for at-rest lateral earth pressures. Temporary shoring permitted to tilt out approximately 0.5 percent of the depth of the excavation may be designed for active lateral earth pressures.

Soldier Piles and Lagging. Construction of soldier piles involves placing steel H-piles in predrilled holes that are subsequently backfilled with flowable fill or lean concrete. As the excavation proceeds downward, timber lagging or steel sheeting is installed between the exposed H-piles to restrain the exposed cohesive soil. Voids between the timber lagging or steel sheeting should be filled.

Trench Boxes. Trench boxes are steel or aluminum structures used for protecting personnel performing duties within a trench. Trench boxes are customarily constructed with sidewalls of varying thicknesses and are held apart by internal steel or aluminum bracing. Since voids typically occur between the sidewalls of the trench box and the edge of the excavation, this type of temporary shoring system is not recommended for excavations adjacent to structures sensitive to movement.



Geotechnology can prepare design documents for temporary shoring systems, if requested. The Design Builder should be responsible for installing and monitoring the shoring system. Project specifications should indicate tolerances or wall movement and require that the wall be designed in accordance with OSHA requirements. Appropriate factors of safety should be applied.

8.6 Temporary Excavations

Temporary excavation slopes should be consistent with safety regulations. Worker safety and classification of soil type is the responsibility of the Design Builder. The materials encountered during excavations for the proposed project are anticipated to consist of stiff to soft fine-grained soil. Excavations in fine-grained soil can generally be classified as OSHA Type B and OSHA Type C soil. Excavations in Type B materials may be constructed at 1V:1H or flatter, in and/or terminating in Type C soil, and excavations that extend below the groundwater surface should be sloped at 1V:1.5H or flatter. Benched excavations in OSHA Type C soil and benched excavations below groundwater, regardless of the soil type, are not permitted.

The Design Builder should be aware that excavation depths and inclinations (including adjacent existing slopes) should not exceed those specified in local, state or federal safety regulations, e.g., OSHA Health and Safety Standards for Excavations, 29 CFR, or successor regulations. Such regulations are strictly enforced and, if not followed, the Design Builder, or earthwork or utility subcontractors could be subjected to substantial penalties. Construction site safety is the sole responsibility of the Design Builder, who shall also be solely responsible for the means, methods and sequencing of construction operations.

Temporary slopes left open might undergo sloughing and result in an unstable situation. The Design Builder should evaluate stability and failure consequences before open cut slopes are made. Minor sloughing of open face slopes might occur. If the slope is expected to remain open for an extended time, an impermeable membrane covering the slopes could be considered as a means to reduce the potential for slope degradation and instability.

It is important to note that soils encountered in the construction excavations might vary across the sites, and that even if the OSHA criteria are used, there is a potential for slope failure. If different subsurface conditions are encountered at the time of construction, we recommend that Geotechnology be contacted to evaluate the conditions.

8.7 Dewatering

Surface drainage should be controlled to prevent flow of surface water into the excavations. Seepage forces might increase risk of instability of excavations. It is anticipated that groundwater into excavations can be controlled by use of sumps and pumps. If sumps cannot control the groundwater seepage, Geotechnology should be contacted to review the method of dewatering proposed by the Design Builder.

8.8 Seismicity

Per the general procedures of Section 1613 of the 2015 edition of the International Building Code (IBC), the soil profile at the project site can be defined as Class D (Stiff Soil). Based on the web application *Seismic Design Maps* prepared by the Structural Engineers Association of California (SEAOC) and the California's Office of Statewide Health Planning and Development (OSHPD) using the latitude and longitude coordinates of the project site, the mapped maximum considered



earthquake spectral response acceleration is approximately 11.2 percent gravity (0.112 g) at short periods (S_s) and 6.2 percent gravity (0.062 g) at 1-second periods (S_1).

Based on the results of the CPT results, the project site has a calculated average shear wave velocity (V_{s100}) of approximately 827 to 914 feet per second (fps) to a depth of 100 feet. Plots of the seismic shear wave measurements are presented as Appendix I.

Based on the exploration data, the site stratigraphy at the plant generally consists of 42 to 49 feet of fine-grained soil underlain by medium dense to very dense sands to the top of limestone. The site soils are not considered susceptible to liquefaction during the design seismic event.

8.9 Lateral Earth Pressures

Retaining walls and below-grade walls should be designed to withstand lateral earth pressures caused by adjacent soil and surcharge load. Design lateral pressures from surcharge loads should be added to the lateral earth pressure load. Lateral earth pressures can vary with wall restraint conditions, type of backfill and method of backfill compaction.

Drained and undrained design values are provided in Tables 8 and 9, respectively, for lateral loads on below-grade walls and retaining walls. If tilting or deflection is not tolerable, at-rest earth pressures should be assumed. Passive resistance should be ignored in the upper 36 inches below proposed grade due to seasonal variations in moisture and frost penetration.

Table 8. Lateral Earth Pressures for Horizontal Ground Surfaces – Drained Condition

Description of Backfill	Design Soil Lateral Load (psf per foot of depth)		
	At-rest	Active	Passive
Inorganic Lean Clay (CL)	$65h + 0.55q$	$45h + 0.38q$	$320h + 2.7q$
Well-Graded Crushed Stone (GW)	$56h + 0.40q$	$35h + 0.25q$	$560h + 4.0q$

Table 9. Lateral Earth Pressures for Horizontal Ground Surfaces – Undrained Condition

Description of Backfill	Design Soil Lateral Load (psf per foot of depth)		
	At-rest	Active	Passive
Inorganic Lean Clay (CL)	$95h + 0.55q$	$85h + 0.38q$	$215h + 2.7q$
Well-Graded Crushed Stone (GW)	$95h + 0.40q$	$85h + 0.25q$	$375h + 4.0q$

Where:

h = depth below adjacent grade, feet
 q = surcharge load, psf

The values given in Table 8 assume that hydrostatic pressures will not develop behind the walls and that the wall backfill will be compacted as previously recommended. Therefore, the walls should be provided with a drain system to allow for dissipation of water pressures from behind the wall. The values provided in Table 9 should be used for undrained walls that might be subjected to additional pressures from groundwater, perched water, or surface water infiltration and also assume the wall backfill will be compacted as previously recommended.



If the structures are not designed to resist hydrostatic forces, backfill behind the walls should include a clean, granular material that should be positively drained to prevent buildup of static water level/hydrostatic pressures against walls. “Clean” indicates less than 2 percent finer than the No. 200 sieve. Clean material should be wrapped with a geotextile such as Mirafi 140N and capped with 2 feet of lean clay. The thickness of the backfill zone should be at least 24 inches behind the base of the wall to allow drainage. A drain system should be installed around the perimeter of the walls. The perimeter drain system should consist of a 4-inch PVC or equivalent pipe with 1/4-inch perforations. Drainage should be either to a sump pump or by gravity. The pipe should be placed with the perforations down and enveloped with an open-graded gravel (ASTM C 33 Size No. 57). The gravel should be surrounded with Mirafi 140N filter cloth or equivalent.

For the equations in Tables 8 and 9 to be valid for crushed stone backfill, the backfill should be placed in a wedge extending upward and away from the edge of the footings at an angle ‘ ρ ’ of 45 degrees or flatter. If crushed stone is to be placed within a wedge at an angle ‘ ρ ’ of more than 45 degrees from the edge of the footings, the values for lean clay soil provided in Tables 8 and 9 should be used.

8.10 Floor Slabs

Existing fill should be remediated as previously discussed. Floor slabs can be designed using a vertical subgrade modulus of 100 pci. Floor slabs should be underlain by a 4- to 6-inch layer of compacted well-graded crushed rock. A 15-mil or thicker plastic vapor barrier can be placed below the floor in interior finished areas to reduce the potential for moisture permeation through the slab and for mold growth within the building. Floor slabs should be structurally separated from walls, columns, footings and penetrations to allow independent movement of the floor. Alternatively, floor slabs that are not structurally independent should be designed to allow for differential movements that normally occur between the floor slabs, columns, and foundation walls.

8.11 Corrosivity

Corrosion Potential. The Ductile Iron Pipe Research Association (DIPRA) 10-points corrosion potential evaluation system was used to assess the corrosion potential of the soils at the site. The evaluation procedure requires the following analytical tests: soil resistivity, pH, oxidation-reduction potential, sulfides, and moisture. For a given soil sample, each parameter is evaluated and assigned points for all five areas. The points are totaled and if the sum is 10 or more, the soil is considered potentially corrosive to iron pipe, which would warrant protective measures. The DIPRA point totals for the tested samples were less than 10. Consequently, protective measures such as cathodic protection or a proprietary coating for buried metal features are not warranted.

Cement. Table 2-2 in Design and Control of Concrete Mixtures, 13th Edition, issued by the Portland Cement Association, was reviewed for the potential of sulfate exposure. Based on Table 2-2 and the sulfate test results presented in Appendix J, the concrete will be exposed to negligible sulfate condition; consequently, Type I cement can be used.

9.0 RECOMMENDED ADDITIONAL SERVICES

The conclusions and recommendations given in this report are based on: Geotechnology’s understanding of the proposed design and construction, as outlined in this report, site observations, interpretation of the exploration data, and our experience. We recommend that a



qualified geotechnical engineer be included in the final design and construction process and be retained to review the project plans and specifications to confirm that the recommendations given in this report have been correctly implemented. We recommend that a qualified geotechnical engineer be retained to participate in prebid and preconstruction conferences to reduce the risk of misinterpretation of the conclusions and recommendations in this report relative to the proposed construction of the subject project.

Since actual subsurface conditions between boring locations may vary from those encountered in the borings, our design recommendations are subject to adjustment in the field based on the subsurface conditions encountered during construction. Therefore, we recommend that a geotechnical engineer be retained to provide construction observation services as a continuation of the design process to confirm the recommendations in this report and to revise them accordingly to accommodate differing subsurface conditions. Construction observation is intended to enhance compliance with project plans and specifications. It is not insurance, nor does it constitute a warranty or guarantee of any type. Regardless of construction observation, the Design Builder, suppliers, and others are solely responsible for the quality of their work and for adhering to plans and specifications.

10.0 LIMITATIONS

This report has been prepared on behalf of, and for the exclusive use of, the client for specific application to the named project as described herein. If this report is provided to other parties, it should be provided in its entirety with all supplementary information. In addition, the client should make it clear that the information is provided for factual data only, and not as a warranty of subsurface conditions presented in this report.

Geotechnology has attempted to conduct the services reported herein in a manner consistent with that level of care and skill ordinarily exercised by members of the profession currently practicing in the same locality and under similar conditions. The recommendations and conclusions contained in this report are professional opinions. The report is not a bidding document and should not be used for that purpose.

Our scope of service for this phase of the project did not include any environmental assessment or investigation for the presence or absence of wetlands or hazardous or toxic materials in the soil, surface water, groundwater, or air, on or below or around this site. Any statements in this report or on the boring logs regarding odors noted or unusual or suspicious items or conditions observed are strictly for the information of our client. Our scope of service did not include an assessment of the effects of flooding and erosion of creeks or rivers adjacent to or on the project site.

Our scope did not include: any services to investigate or detect the presence of mold or any other biological contaminants (such as spores, fungus, bacteria, viruses, and the by-products of such organisms) on and around the site; or any services, designed or intended, to prevent or lower the risk of the occurrence of an infestation of mold or other biological contaminants.

The analyses, conclusions, and recommendations contained in this report are based on the data obtained from the subsurface exploration. The field exploration methods used indicate subsurface conditions only at the specific locations where samples were obtained, only at the time they were



obtained, and only to the depths penetrated. Consequently, subsurface conditions may vary gradually, abruptly, and/or nonlinearly between sample locations and/or intervals.

The conclusions or recommendations presented in this report should not be used without Geotechnology's review and assessment if the nature, design, or location of the facilities is changed, if there is a substantial lapse in time between the submittal of this report and the start of work at the site, or if there is a substantial interruption or delay during work at the site. If changes are contemplated or delays occur, Geotechnology must be allowed to review them to assess their impact on the findings, conclusions, and/or design recommendations given in this report. Geotechnology will not be responsible for any claims, damages, or liability associated with any other party's interpretations of the subsurface data or with reuse of the subsurface data or engineering analyses in this report.

The recommendations included in this report have been based in part on assumptions about variations in site stratigraphy that may be evaluated further during earthwork and foundation construction. A geotechnical engineer should be retained to perform construction observation and continue its geotechnical engineering service using observational methods. Geotechnology cannot assume liability for the adequacy of its recommendations when they are used in the field without Geotechnology being retained to observe construction.

A copy of "Important Information about This Geotechnical-Engineering Report" that is published by the Geotechnical Business Council (GBC) of the Geoprofessional Business Association (GBA) is included in Appendix A for your review. The publication discusses some other limitations, as well as ways to manage risk associated with subsurface conditions.

APPENDIX A

Important Information about This Geotechnical-Engineering Report

Important Information about This Geotechnical-Engineering Report

Subsurface problems are a principal cause of construction delays, cost overruns, claims, and disputes.

While you cannot eliminate all such risks, you can manage them. The following information is provided to help.

Geotechnical Services Are Performed for Specific Purposes, Persons, and Projects

Geotechnical engineers structure their services to meet the specific needs of their clients. A geotechnical-engineering study conducted for a civil engineer may not fulfill the needs of a constructor — a construction contractor — or even another civil engineer. Because each geotechnical-engineering study is unique, each geotechnical-engineering report is unique, prepared *solely* for the client. No one except you should rely on this geotechnical-engineering report without first conferring with the geotechnical engineer who prepared it. *And no one — not even you — should apply this report for any purpose or project except the one originally contemplated.*

Read the Full Report

Serious problems have occurred because those relying on a geotechnical-engineering report did not read it all. Do not rely on an executive summary. Do not read selected elements only.

Geotechnical Engineers Base Each Report on a Unique Set of Project-Specific Factors

Geotechnical engineers consider many unique, project-specific factors when establishing the scope of a study. Typical factors include: the client's goals, objectives, and risk-management preferences; the general nature of the structure involved, its size, and configuration; the location of the structure on the site; and other planned or existing site improvements, such as access roads, parking lots, and underground utilities. Unless the geotechnical engineer who conducted the study specifically indicates otherwise, do not rely on a geotechnical-engineering report that was:

- not prepared for you;
- not prepared for your project;
- not prepared for the specific site explored; or
- completed before important project changes were made.

Typical changes that can erode the reliability of an existing geotechnical-engineering report include those that affect:

- the function of the proposed structure, as when it's changed from a parking garage to an office building, or from a light-industrial plant to a refrigerated warehouse;
- the elevation, configuration, location, orientation, or weight of the proposed structure;
- the composition of the design team; or
- project ownership.

As a general rule, *always* inform your geotechnical engineer of project changes—even minor ones—and request an

assessment of their impact. *Geotechnical engineers cannot accept responsibility or liability for problems that occur because their reports do not consider developments of which they were not informed.*

Subsurface Conditions Can Change

A geotechnical-engineering report is based on conditions that existed at the time the geotechnical engineer performed the study. *Do not rely on a geotechnical-engineering report whose adequacy may have been affected by:* the passage of time; man-made events, such as construction on or adjacent to the site; or natural events, such as floods, droughts, earthquakes, or groundwater fluctuations. *Contact the geotechnical engineer before applying this report to determine if it is still reliable.* A minor amount of additional testing or analysis could prevent major problems.

Most Geotechnical Findings Are Professional Opinions

Site exploration identifies subsurface conditions only at those points where subsurface tests are conducted or samples are taken. Geotechnical engineers review field and laboratory data and then apply their professional judgment to render an opinion about subsurface conditions throughout the site. Actual subsurface conditions may differ — sometimes significantly — from those indicated in your report. Retaining the geotechnical engineer who developed your report to provide geotechnical-construction observation is the most effective method of managing the risks associated with unanticipated conditions.

A Report's Recommendations Are Not Final

Do not overrely on the confirmation-dependent recommendations included in your report. *Confirmation-dependent recommendations are not final*, because geotechnical engineers develop them principally from judgment and opinion. Geotechnical engineers can finalize their recommendations *only* by observing actual subsurface conditions revealed during construction. *The geotechnical engineer who developed your report cannot assume responsibility or liability for the report's confirmation-dependent recommendations if that engineer does not perform the geotechnical-construction observation required to confirm the recommendations' applicability.*

A Geotechnical-Engineering Report Is Subject to Misinterpretation

Other design-team members' misinterpretation of geotechnical-engineering reports has resulted in costly

problems. Confront that risk by having your geotechnical engineer confer with appropriate members of the design team after submitting the report. Also retain your geotechnical engineer to review pertinent elements of the design team's plans and specifications. Constructors can also misinterpret a geotechnical-engineering report. Confront that risk by having your geotechnical engineer participate in prebid and preconstruction conferences, and by providing geotechnical construction observation.

Do Not Redraw the Engineer's Logs

Geotechnical engineers prepare final boring and testing logs based upon their interpretation of field logs and laboratory data. To prevent errors or omissions, the logs included in a geotechnical-engineering report should *never* be redrawn for inclusion in architectural or other design drawings. Only photographic or electronic reproduction is acceptable, *but recognize that separating logs from the report can elevate risk.*

Give Constructors a Complete Report and Guidance

Some owners and design professionals mistakenly believe they can make constructors liable for unanticipated subsurface conditions by limiting what they provide for bid preparation. To help prevent costly problems, give constructors the complete geotechnical-engineering report, *but* preface it with a clearly written letter of transmittal. In that letter, advise constructors that the report was not prepared for purposes of bid development and that the report's accuracy is limited; encourage them to confer with the geotechnical engineer who prepared the report (a modest fee may be required) and/or to conduct additional study to obtain the specific types of information they need or prefer. A prebid conference can also be valuable. *Be sure constructors have sufficient time* to perform additional study. Only then might you be in a position to give constructors the best information available to you, while requiring them to at least share some of the financial responsibilities stemming from unanticipated conditions.

Read Responsibility Provisions Closely

Some clients, design professionals, and constructors fail to recognize that geotechnical engineering is far less exact than other engineering disciplines. This lack of understanding has created unrealistic expectations that have led to disappointments, claims, and disputes. To help reduce the risk of such outcomes, geotechnical engineers commonly include a variety of explanatory provisions in their reports. Sometimes labeled "limitations," many of these provisions indicate where geotechnical engineers' responsibilities begin and end, to help

others recognize their own responsibilities and risks. *Read these provisions closely.* Ask questions. Your geotechnical engineer should respond fully and frankly.

Environmental Concerns Are Not Covered

The equipment, techniques, and personnel used to perform an *environmental* study differ significantly from those used to perform a *geotechnical* study. For that reason, a geotechnical-engineering report does not usually relate any environmental findings, conclusions, or recommendations; e.g., about the likelihood of encountering underground storage tanks or regulated contaminants. *Unanticipated environmental problems have led to numerous project failures.* If you have not yet obtained your own environmental information, ask your geotechnical consultant for risk-management guidance. *Do not rely on an environmental report prepared for someone else.*

Obtain Professional Assistance To Deal with Mold

Diverse strategies can be applied during building design, construction, operation, and maintenance to prevent significant amounts of mold from growing on indoor surfaces. To be effective, all such strategies should be devised for the *express purpose* of mold prevention, integrated into a comprehensive plan, and executed with diligent oversight by a professional mold-prevention consultant. Because just a small amount of water or moisture can lead to the development of severe mold infestations, many mold- prevention strategies focus on keeping building surfaces dry. While groundwater, water infiltration, and similar issues may have been addressed as part of the geotechnical- engineering study whose findings are conveyed in this report, the geotechnical engineer in charge of this project is not a mold prevention consultant; *none of the services performed in connection with the geotechnical engineer's study were designed or conducted for the purpose of mold prevention. Proper implementation of the recommendations conveyed in this report will not of itself be sufficient to prevent mold from growing in or on the structure involved.*

Rely, on Your GBC-Member Geotechnical Engineer for Additional Assistance

Membership in the Geotechnical Business Council of the Geoprofessional Business Association exposes geotechnical engineers to a wide array of risk-confrontation techniques that can be of genuine benefit for everyone involved with a construction project. Confer with you GBC-Member geotechnical engineer for more information.



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APPENDIX B

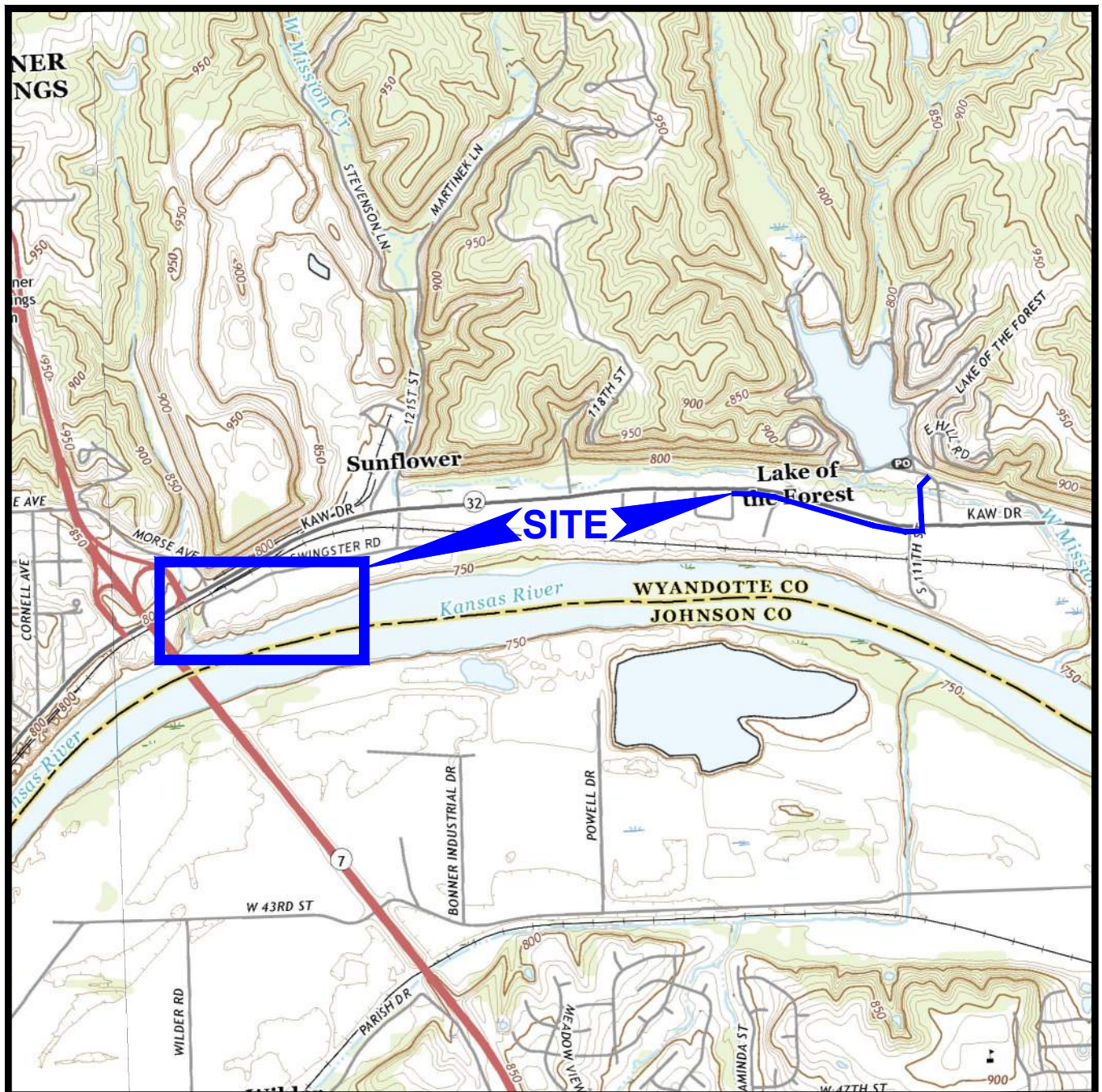
Site Location and Topography – Figure 1

Aerial Photograph of Project Area and Boring Locations – Figure 2

Aerial Photograph of Detail Area 1, Boring and CPT Sounding Locations – Figure 3

Aerial Photograph of Detail Area 2, Boring, CPT Sounding and Resistivity Array Locations – Figure 4

Aerial Photograph of Detail Area 3 and Boring Locations – Figure 5



NOTES

1. Plan adapted from 7.5 minute U.S.G.S. maps for Edwardsville and Bonner Springs, Kansas quadrangles, last revised in 2018.

0 2,000 4,000



SCALE IN FEET

Drawn By: WAH	Ck'd By: SDG	App'vd By: JAW
Date: 4-28-21	Date: 5-18-21	Date: 6-4-2021



GEOTECHNOLOGY
FROM THE GROUND UP

Water Treatment Plant Improvements
Bonner Springs, Kansas

SITE LOCATION AND TOPOGRAPHY

Project Number
J035801.02

FIGURE 1



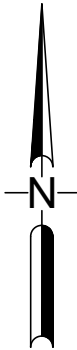


NOTES

1. Plan adapted from a February 20, 2020 aerial photograph courtesy of Google Earth and an undated, untitled drawing supplied by the client.
2. Borings were located in the field with reference to site features and are shown approximate only.
3. See Detail Area 1 and Detail Area 2 on Figure 3 and Figure 4 respectively for CPT sounding locations.

LEGEND

- Boring Location
- Previous Boring Location



Drawn By: WAH	Ck'd By: SDG	App'd By: JAW
Date: 6-2-21	Date: 5-18-21	Date: 6-4-21
Water Treatment Plant Improvements Bonner Springs, Kansas		
AERIAL PHOTOGRAPH OF PROJECT AREA AND BORING LOCATIONS		
Project Number J035801.02		FIGURE 2

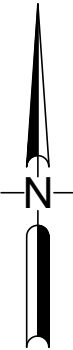


NOTES

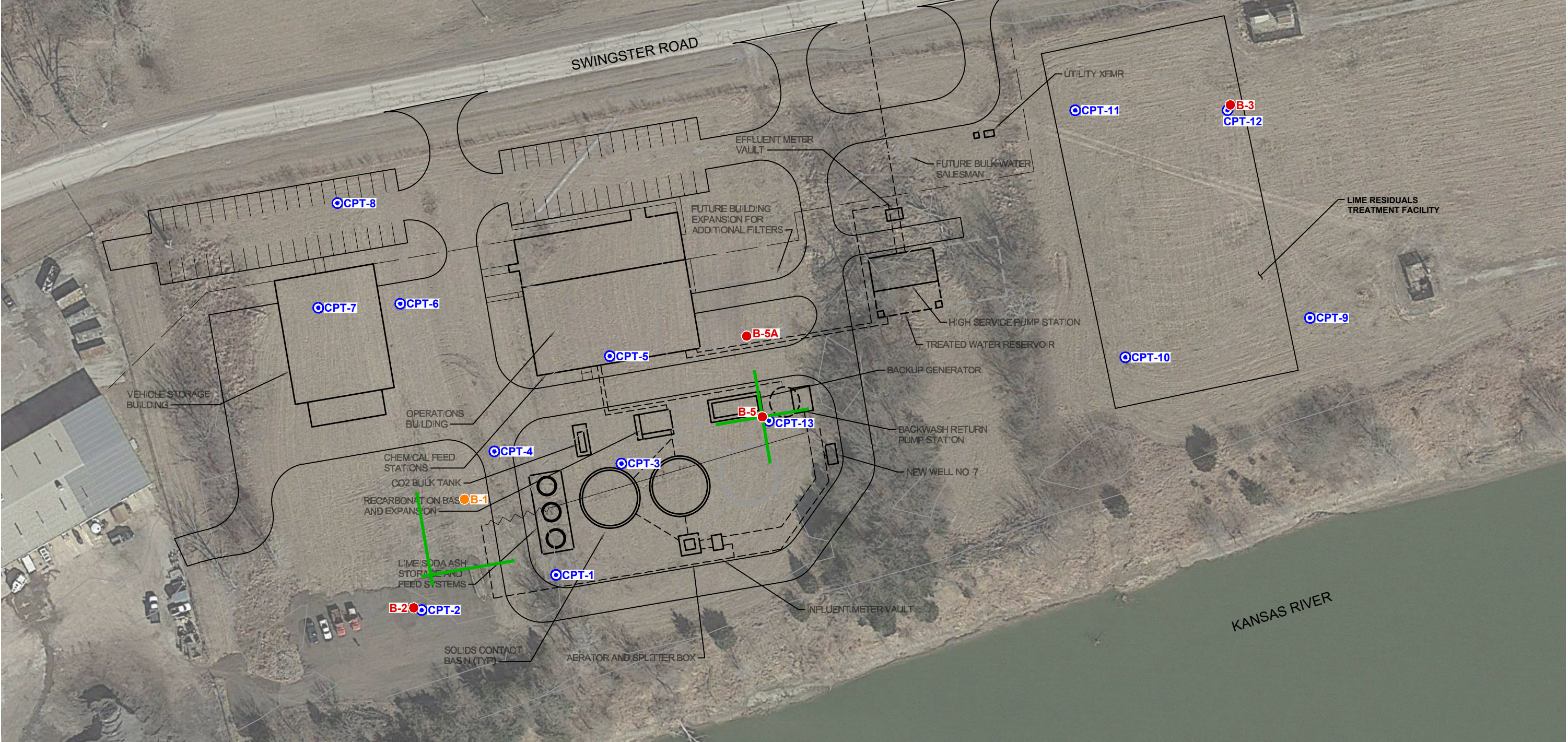
- 1. Plan adapted from a February 20, 2020 aerial photograph courtesy of Google Earth and a drawing dated April 30, 2021, titled "Overall Site Plan", supplied by the client.
- 2. Borings and CPT soundings were located in the field with reference to site features and are shown approximate only.

LEGEND

- Boring Location
- CPT Sounding Location



Drawn By: WAH	Ck'd By: SDG	App'vd By: JAW
Date: 6-2-21	Date: 5-18-21	Date: 6-4-21
Water Treatment Plant Improvements Bonner Springs, Kansas		
AERIAL PHOTOGRAPH OF DETAIL AREA 1, BORING AND CPT SOUNDING LOCATIONS		
Project Number J035801.02		FIGURE 3

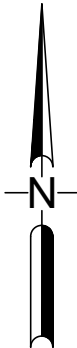
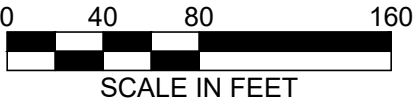


NOTES

- 1. Plan adapted from a February 20, 2020 aerial photograph courtesy of Google Earth and a drawing dated April 30, 2021, titled "Overall Site Plan", supplied by the client.
- 2. Borings ,CPT soundings and resitivity arrays were located in the field with reference to site features and are shown approximate only.

LEGEND

- Boring Location
- ⊙ CPT Sounding Location
- Previous Boring Location
- + Resistivity Array



Drawn By: WAH	Ck'd By: SDG	App'vd By: JAW
Date: 5-7-21	Date: 5-18-21	Date: 6-4-21
		
Water Treatment Plant Improvements Bonner Springs, Kansas		
AERIAL PHOTOGRAPH OF DETAIL AREA 2, BORING, CPT SOUNDING AND RESISTIVITY ARRAY LOCATIONS		
Project Number J035801.02		FIGURE 4

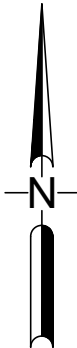
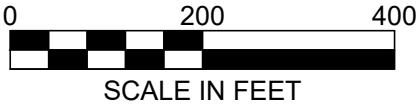


NOTES

- 1. Plan adapted from a February 20, 2020 aerial photograph courtesy of Google Earth and a drawing dated April 30, 2021, titled "Overall Site Plan", supplied by the client.
- 2. Borings were located in the field with reference to site features and are shown approximate only.

LEGEND

● Boring Location



Drawn By: WAH	Ck'd By: SDG	App'vd By: JAW
Date: 6-2-21	Date: 5-18-21	Date: 6-4-21
		
Water Treatment Plant Improvements Bonner Springs, Kansas		
AERIAL PHOTOGRAPH OF DETAIL AREA 3 AND BORING LOCATIONS		
Project Number J035801.02		FIGURE 5

APPENDIX C

Logs of Previous Boring B-1 and Current Borings B-2 through -9 and -5A
Boring Log: Terms and Symbols
Rock Core: Terms and Symbols

NOTE: STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARIES BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL. GRAPHIC LOG FOR ILLUSTRATION PURPOSES ONLY.

Surface Elevation <u>789</u> Datum <u>WGS84</u>		Completion Date: <u>4/2/20</u>		GRAPHIC LOG DRY UNIT WEIGHT (pcf) SPT BLOW COUNTS CORE RECOVERY/RQD		SAMPLES		SHEAR STRENGTH, tsf Δ - UU/2 ○ - QU/2 □ - PP/2 0.5 1.0 1.5 2.0 2.5			
DEPTH IN FEET		DESCRIPTION OF MATERIAL						STANDARD PENETRATION RESISTANCE (ASTM D 1586) ▲ N-VALUE (BLOWS PER FOOT)			
								WATER CONTENT, % PL 10 20 30 40 50 LL			
		FILL - dark brown, fat clay, with asphalt fragments									
		CLAY - dark brown to brown, fat, medium stiff to stiff - (CH)				1-2-4		SS1	▲		
5						97		ST2	○		
						2-2-4		SS3	▲		
						88		ST4	○		
10						96		ST5	○		
						85		ST6	○		
						1-1-3		SS7	▲		
15											
		Backwash Pump Station Bottom Slab El 760.67		2-3-5		SS8	▲				
				3-5-6		SS9	▲				
				2-3-5		SS10	▲				
20				5-9-12		SS11	▲				
		SAND - light brown to brown, fine to coarse, medium dense and dense, trace silt - SP									
25		brown and gray									
30											
35											
40											

GROUNDWATER DATA

☒ FREE WATER NOT ENCOUNTERED DURING DRILLING

DRILLING DATA

☐ AUGER 3 3/4" HOLLOW STEM WASHBORING FROM 45 FEET

DJT DRILLER RFJ LOGGER

CME 55 trk DRILL RIG

HAMMER TYPE Auto

Drawn by: RFJ Date: 4/2/20 Check by: SDG Date: 4/16/20 App'd by: MHM Date: 6/3/21

GEOTECHNOLOGY
FROM THE GROUND UP

**Water Supply and Treatment Plant Study
Bonner Springs, Kansas**

LOG OF BORING: B-1

Project No. J035801.01

REMARKS:

NOTE: STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARIES BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL. GRAPHIC LOG FOR ILLUSTRATION PURPOSES ONLY.

Surface Elevation <u>789</u>		Completion Date: <u>4/2/20</u>		GRAPHIC LOG DRY UNIT WEIGHT (pcf) SPT BLOW COUNTS CORE RECOVERY/RQD		SAMPLES		Shear Strength, tsf Δ - UU/2 ○ - QU/2 □ - PP/2 0.5 1.0 1.5 2.0 2.5		
Datum <u>WGS84</u>		STANDARD PENETRATION RESISTANCE (ASTM D 1586) ▲ N-VALUE (BLOWS PER FOOT)								
		WATER CONTENT, % PL 10 20 30 40 50 LL								
DEPTH IN FEET	DESCRIPTION OF MATERIAL									
	SAND - light brown to brown, fine to coarse, medium dense and dense, trace silt - SP (<i>continued</i>)									
50										
55										
60										
	some gravel									
65										
70										
75										
	SHALE or BOULDER (no sample recovery) Boring terminated at sampler refusal at 83.8 feet.									
80										
85										

GROUNDWATER DATA

☒ FREE WATER NOT ENCOUNTERED DURING DRILLING

DRILLING DATA

___ AUGER 3 3/4" HOLLOW STEM
WASHBORING FROM 45 FEET
DJT DRILLER RFJ LOGGER
CME 55 trk DRILL RIG
HAMMER TYPE Auto

REMARKS:

Drawn by: RFJ	Check by: SDG	App'vd by: MHM
Date: 4/2/20	Date: 4/16/20	Date: 6/3/21



**Water Supply and
Treatment Plant Study
Bonner Springs, Kansas**

**CONTINUATION OF
LOG OF BORING: B-1**

Project No. J035801.01

NOTE: STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARIES BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL. GRAPHIC LOG FOR ILLUSTRATION PURPOSES ONLY.

Surface Elevation <u>789</u>		Completion Date: <u>3/18/21</u>		GRAPHIC LOG DRY UNIT WEIGHT (pcf) SPT BLOW COUNTS CORE RECOVERY/RQD		SHEAR STRENGTH, tsf Δ - UU/2 ○ - QU/2 □ - PP/2 0,5 1,0 1,5 2,0 2,5	
Datum <u>WGS84</u>		SAMPLES PL ----- LL 10 20 30 40 50				STANDARD PENETRATION RESISTANCE (ASTM D 1586) ▲ N-VALUE (BLOWS PER FOOT)	
DESCRIPTION OF MATERIAL						WATER CONTENT, %	
DEPTH IN FEET		GRAPHIC LOG	DRY UNIT WEIGHT (pcf) SPT BLOW COUNTS CORE RECOVERY/RQD	SAMPLES			
	ASPHALT MILLINGS						
	CLAY - dark brown to brown, medium stiff to stiff, lean - (CL)		2-2-3	SS1			
5			102	ST2			
			2-4-5	SS3			
10	CLAY - brown, soft, fat - (CH)		89	ST4			87 >>
15	CLAY - brown, soft to medium stiff, lean, trace sand - (CL)		97	ST5			
20			92	ST6			
25			95	ST7			
30			2-2-2	SS8			
35			3-5-7	SS9			
40	SILT - brown and tan, stiff to medium stiff with occasional sand seams - ML		3-4-5	SS10			
45			4-3-2	SS11			
			17-21-23	SS12			

GROUNDWATER DATA

X FREE WATER NOT ENCOUNTERED DURING DRILLING

DRILLING DATA

 AUGER 4 1/4" HOLLOW STEM
 WASHBORING FROM 40 FEET
RRM DRILLER KJP LOGGER
Diedrich D50 DRILL RIG
 HAMMER TYPE Auto

Drawn by: KJP
Date: 3/18/21

Check by: SDG
Date: 4/2/21

App'vd by: MHM
Date: 6/4/21

REMARKS: 1-inch piezometer installed.

**WTP Improvements
Bonner Springs, Kansas**

LOG OF BORING: B-2

Project No. J035801.02

NOTE: STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARIES BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL. GRAPHIC LOG FOR ILLUSTRATION PURPOSES ONLY.

Surface Elevation <u>789</u> Datum <u>WGS84</u>		Completion Date: <u>3/18/21</u>		GRAPHIC LOG	DRY UNIT WEIGHT (pcf) SPT BLOW COUNTS CORE RECOVERY/RQD	SAMPLES	SHEAR STRENGTH, tsf		
Δ - UU/2 $\bigcirc$ - QU/2 $\square$ - PP/2 0,5 1,0 1,5 2,0 2,5									
STANDARD PENETRATION RESISTANCE									
(ASTM D 1586) $\blacktriangle$ N-VALUE (BLOWS PER FOOT) WATER CONTENT, % PL ----- LL 10 20 30 40 50									
DEPTH IN FEET	DESCRIPTION OF MATERIAL								
	SAND - brown, poorly graded, medium dense to dense, trace gravel - SP <i>(continued)</i>								
55									
	SAND - brown, poorly graded, loose to medium dense, trace silt - SP-SM								
60									
	SAND - brown, poorly graded with silt and trace gravel - SM								
65									
	SAND - brown, poorly graded with silt and trace gravel - SM								
70									
	SAND - brown, poorly graded with silt and trace gravel - SM								
75									
	LIMESTONE - gray, slightly weathered, moderately hard								
80									
	LIMESTONE - gray, slightly weathered, moderately hard								
85									
	LIMESTONE - gray, slightly weathered, moderately hard								
90									
	Boring terminated at 93.5 feet								
95									

GROUNDWATER DATA

X FREE WATER NOT ENCOUNTERED DURING DRILLING

DRILLING DATA

 AUGER 4 1/4" HOLLOW STEM
 WASHBORING FROM 40 FEET
RRM DRILLER KJP LOGGER
Diedrich D50 DRILL RIG
 HAMMER TYPE Auto

Drawn by: KJP
Date: 3/18/21

Check by: SDG
Date: 4/2/21

App'vd by: MHM
Date: 6/4/21

REMARKS: 1-inch piezometer installed.

WTP Improvements
Bonner Springs, Kansas

CONTINUATION OF
LOG OF BORING: B-2

Project No. J035801.02

NOTE: STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARIES BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL. GRAPHIC LOG FOR ILLUSTRATION PURPOSES ONLY.

Surface Elevation <u>788</u>		Completion Date: <u>3/16/21</u>		GRAPHIC LOG DRY UNIT WEIGHT (pcf) SPT BLOW COUNTS CORE RECOVERY/RQD		SAMPLES		SHEAR STRENGTH, tsf Δ - UU/2 ○ - QU/2 □ - PP/2 0,5 1,0 1,5 2,0 2,5			
Datum <u>WGS84</u>		DESCRIPTION OF MATERIAL				STANDARD PENETRATION RESISTANCE (ASTM D 1586) ▲ N-VALUE (BLOWS PER FOOT)			WATER CONTENT, % PL 10 20 30 40 50 LL		
DEPTH IN FEET											
5		TOPSOIL CLAY - dark brown to brown gray and orange-brown, medium stiff fat - (CH)		1-2-3		SS1					
10				103		ST2					
15				101		ST3					
20		CLAY - brown, medium stiff to soft, lean - CL brown-gray and brown		1-2-3		SS4					
25				1-2-4		SS5					
30				2-3-5		SS6					
35		CLAY - mottled brown and gray, stiff, fat - CH Boring terminated at 35 feet		2-2-3		SS7		-Lime Residuals Treatment Facility Bottom-El 762-			
40				1-1-2		SS8					
45				3-4-6		SS9					
50											
55											
60											
65											
70											
75											
80											
85											
90											
95											
100											

GROUNDWATER DATA

X FREE WATER NOT ENCOUNTERED DURING DRILLING

DRILLING DATA

 AUGER 3 3/4" HOLLOW STEM
 WASHBORING FROM FEET
RRM DRILLER ALY LOGGER
Diedrich D50 DRILL RIG
 HAMMER TYPE Auto

Drawn by: KJP
Date: 3/17/21

Check by: SDG
Date: 4/2/21

App'vd by: MHM
Date: 6/4/21

REMARKS: 1-inch piezometer installed.

WTP Improvements
Bonner Springs, Kansas

LOG OF BORING: B-3

Project No. J035801.02

Surface Elevation <u>797</u>		Completion Date: <u>4/27/21</u>				SHEAR STRENGTH, tsf			
Datum <u>WGS84</u>						Δ - UU/2 $\circ$ - QU/2 $\square$ - PP/2			
						0.5 1.0 1.5 2.0 2.5			
						STANDARD PENETRATION RESISTANCE			
						(ASTM D 1586)			
						$\blacktriangle$ N-VALUE (BLOWS PER FOOT)			
						WATER CONTENT, %			
						PL 10 20 30 40 50 LL			
DEPTH IN FEET	DESCRIPTION OF MATERIAL			GRAPHIC LOG	DRY UNIT WEIGHT (pcf) SPT BLOW COUNTS CORE RECOVERY/RQD	SAMPLES			
GRAVEL - approximately 4 inches									
CLAY - brown, soft to medium stiff, fat - CH			3-2-2	SS1	$\blacktriangle$	$\bullet$			
trace sand			1-2-3	SS2	$\blacktriangle$	$\bullet$			
5				2-2-4	SS3	$\blacktriangle$	$\bullet$		
			1-2-3	SS4	$\blacktriangle$	$\bullet$			
10	CLAY - brown, medium stiff to soft, silty, lean, trace sand - CL								
			2-2-2	SS5	$\blacktriangle$	$\bullet$			
15				1-1-2	SS6	$\blacktriangle$	$\bullet$		
20	CLAY - brown-gray, medium stiff, fat - CH			2-2-3	SS7	$\blacktriangle$	$\bullet$		
25	CLAY - brown, soft, lean, trace sand - CL			0-2-2	SS8	$\blacktriangle$	$\bullet$		
30	CLAY - brown-gray grading to gray, soft to medium stiff, fat - CH			0-1-2	SS9	$\blacktriangle$	$\bullet$		
35				0-2-3	SS10	$\blacktriangle$	$\bullet$		
40				1-3-3	SS11	$\blacktriangle$	$\bullet$		
45	SAND - tan, dense, coarse to fine, poorly graded - (SP)			8-20-24	SS12			$\blacktriangle$	
GROUNDWATER DATA				DRILLING DATA				Drawn by: ALY Date: 4/28/21	
X FREE WATER NOT ENCOUNTERED DURING DRILLING				AUGER 3 3/4" HOLLOW STEM WASHBORING FROM 50 FEET				Check by: SDG Date: 5/7/21	
				RRM DRILLER ALY LOGGER				App'vd by: MHM Date: 6/4/21	
				Diedrich D50 DRILL RIG				GEOTECHNOLOGY INC FROM THE GROUND UP	
				HAMMER TYPE Auto					
REMARKS:				LOG OF BORING: B-4				WTP Improvements Bonner Springs, Kansas	
								Project No. J035801.02	

[illegible]

NOTE: STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARIES BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL. GRAPHIC LOG FOR ILLUSTRATION PURPOSES ONLY.

Surface Elevation <u>788</u>		Completion Date: <u>4/26/21</u>		GRAPHIC LOG DRY UNIT WEIGHT (pcf) SPT BLOW COUNTS CORE RECOVERY/RQD		SAMPLES		SHEAR STRENGTH, tsf Δ - UU/2 ○ - QU/2 □ - PP/2 0,5 1,0 1,5 2,0 2,5					
Datum <u>WGS84</u>		DESCRIPTION OF MATERIAL				STANDARD PENETRATION RESISTANCE (ASTM D 1586) ▲ N-VALUE (BLOWS PER FOOT)				WATER CONTENT, % PL -----●----- LL 10 20 30 40 50			
DEPTH IN FEET													
5		CLAY - brown, medium stiff, fat - CH		2-2-3		SS2		▲					
10		CLAY - brown, soft to medium stiff, lean - CL		1-3-3		SS3		▲					
15				2-2-3		SS4		▲					
20				2-2-4		SS5		▲					
25				0-1-2		SS6		▲					
30		CLAY - brown, medium stiff to stiff, fat - CH		2-2-3		SS7		▲					
35		CLAY - gray-brown, medium stiff, lean - CL		2-2-4		SS8		▲					
40				2-4-5		SS9		▲					
45				2-2-3		SS10		▲					
		SAND - tan, dense, coarse to fine, poorly graded, trace gravel, with silt - (SP-SM)		9-19-25		SS11		▲					
				19-21-22		SS12		▲					

GROUNDWATER DATA

X FREE WATER NOT ENCOUNTERED DURING DRILLING

DRILLING DATA

 AUGER 3 3/4" HOLLOW STEM
 WASHBORING FROM 45 FEET
RRM DRILLER ALY LOGGER
Diedrich D50 DRILL RIG
 HAMMER TYPE Auto

Drawn by: ALY
Date: 4/28/21

Check by: SDG
Date: 5/7/21

App'vd by: MHM
Date: 6/4/21

**WTP Improvements
Bonner Springs, Kansas**

LOG OF BORING: B-5

Project No. J035801.02

REMARKS:

NOTE: STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARIES BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL. GRAPHIC LOG FOR ILLUSTRATION PURPOSES ONLY.

Surface Elevation <u>788</u> Datum <u>WGS84</u>		Completion Date: <u>4/26/21</u>		GRAPHIC LOG DRY UNIT WEIGHT (pcf) SPT BLOW COUNTS CORE RECOVERY/RQD		SAMPLES		SHEAR STRENGTH, tsf Δ - UU/2 ○ - QU/2 □ - PP/2 0,5 1,0 1,5 2,0 2,5		
DEPTH IN FEET		DESCRIPTION OF MATERIAL						STANDARD PENETRATION RESISTANCE (ASTM D 1586) ▲ N-VALUE (BLOWS PER FOOT)		
								WATER CONTENT, % PL -----●----- LL 10 20 30 40 50		
55	SAND - tan, dense, coarse to fine, poorly graded, trace gravel, with silt - (SP-SM) <i>(continued)</i>		12-17-23	SS13						
60			SAND - tan, dense to loose, coarse to fine, poorly graded, trace sand - (SP) with gravel					15-12-12	SS14	
65					3-3-3	SS15				
70			SAND - tan, medium dense to dense, coarse to fine, poorly graded with silt - (SP-SM)		8-9-12	SS16				
75					9-9-9	SS17				
80			Boring terminated at 82 feet at roller bit refusal.		19-19-13	SS18				
85										
90										
95										

GROUNDWATER DATA ☒ FREE WATER NOT ENCOUNTERED DURING DRILLING		DRILLING DATA ☐ AUGER <u>3 3/4"</u> HOLLOW STEM WASHBORING FROM <u>45</u> FEET ☐ RRM DRILLER <u>ALY</u> LOGGER <u>Diedrich D50</u> DRILL RIG HAMMER TYPE <u>Auto</u>		Drawn by: <u>ALY</u> Date: <u>4/28/21</u>	Check by: <u>SDG</u> Date: <u>5/7/21</u>	App'vd by: <u>MHM</u> Date: <u>6/4/21</u>
WTP Improvements Bonner Springs, Kansas						
CONTINUATION OF LOG OF BORING: B-5						
Project No. <u>J035801.02</u>						

REMARKS:

NOTE: STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARIES BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL. GRAPHIC LOG FOR ILLUSTRATION PURPOSES ONLY.

Surface Elevation <u>789</u> Datum <u>WGS84</u>		Completion Date: <u>3/16/21</u>		GRAPHIC LOG DRY UNIT WEIGHT (pcf) SPT BLOW COUNTS CORE RECOVERY/RQD		SAMPLES		SHEAR STRENGTH, tsf Δ - UU/2 ○ - QU/2 □ - PP/2 0,5 1,0 1,5 2,0 2,5		
DEPTH IN FEET		DESCRIPTION OF MATERIAL						STANDARD PENETRATION RESISTANCE (ASTM D 1586) ▲ N-VALUE (BLOWS PER FOOT)		
								WATER CONTENT, % PL ----- LL 10 20 30 40 50		
TOPSOIL										
CLAY - dark brown black, soft, lean - CL				0-1-3		SS1		▲ ●		
CLAY - dark brown to brown-gray and brown, medium stiff, fat - CH				1-1-1		SS2		▲ ●		
5				1-2-4		SS3		▲ ●		
				2-2-4		SS4		▲ ●		
				1-4-4		SS5		▲ ●		
				2-2-3		SS6		▲ ●		
CLAY - brown, medium stiff, lean - CL				1-3-3		SS7		▲ ●		
CLAY - brown to dark brown, medium stiff to stiff, fat - CH				2-3-3		SS8		▲ ●		
30				2-4-5		SS9		▲ ●		
				1-2-2		SS10		▲ ●		
CLAY - light brown, soft, lean - CL				9-12-13		SS11		▲		
SAND - brown and orange-brown, medium dense to dense, medium to fine, trace silt - SP-SM				17-20-23		SS12		▲		
45										

GROUNDWATER DATA

ENCOUNTERED AT 38 FEET ∇

DRILLING DATA

___ AUGER 3 3/4" HOLLOW STEM
 WASHBORING FROM ___ FEET
RRM DRILLER ALY LOGGER
Diedrich D50 DRILL RIG
 HAMMER TYPE Auto

Drawn by: KJP
Date: 3/17/21

Check by: SDG
Date: 5/12/21

App'vd by: MHM
Date: 6/4/21

REMARKS:

**WTP Improvements
Bonner Springs, Kansas**

LOG OF BORING: B-5A

Project No. J035801.02

NOTE: STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARIES BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL. GRAPHIC LOG FOR ILLUSTRATION PURPOSES ONLY.

Surface Elevation <u>789</u> Datum <u>WGS84</u>		Completion Date: <u>3/16/21</u>		GRAPHIC LOG DRY UNIT WEIGHT (pcf) SPT BLOW COUNTS CORE RECOVERY/RQD		SAMPLES		SHEAR STRENGTH, tsf Δ - UU/2 ○ - QU/2 □ - PP/2 0,5 1,0 1,5 2,0 2,5		
DEPTH IN FEET		DESCRIPTION OF MATERIAL						STANDARD PENETRATION RESISTANCE (ASTM D 1586) ▲ N-VALUE (BLOWS PER FOOT)		
								WATER CONTENT, % PL -----●----- LL 10 20 30 40 50		
		SAND - brown and orange-brown, medium dense to dense, medium to fine, trace silt - SP-SM (<i>continued</i>)								
55		SAND - brown, loose to medium dense, medium to fine - SP		3-1-1 SS13 ▲						
60		Boring terminated at 60 feet		12-11-13 SS14 ▲						
65										
70										
75										
80										
85										
90										
95										

GROUNDWATER DATA

ENCOUNTERED AT 38 FEET ∇

REMARKS:

DRILLING DATA

___ AUGER 3 3/4" HOLLOW STEM
 WASHBORING FROM ___ FEET
RRM DRILLER ALY LOGGER
Diedrich D50 DRILL RIG
 HAMMER TYPE Auto

Drawn by: KJP Date: 3/17/21	Check by: SDG Date: 5/12/21	App'vd by: MHM Date: 6/4/21
 GEOTECHNOLOGY FROM THE GROUND UP		
WTP Improvements Bonner Springs, Kansas		
CONTINUATION OF LOG OF BORING: B-5A		
Project No. J035801.02		

NOTE: STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARIES BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL. GRAPHIC LOG FOR ILLUSTRATION PURPOSES ONLY.

Surface Elevation <u>775</u>		Completion Date: <u>5/6/21</u>		GRAPHIC LOG	DRY UNIT WEIGHT (pcf) SPT BLOW COUNTS CORE RECOVERY/RQD	SAMPLES	SHEAR STRENGTH, tsf Δ - UU/2 $\circ$ - QU/2 $\square$ - PP/2 0,5 1,0 1,5 2,0 2,5						
Datum <u>WGS84</u>		STANDARD PENETRATION RESISTANCE (ASTM D 1586) $\blacktriangle$ N-VALUE (BLOWS PER FOOT)											
DEPTH IN FEET		DESCRIPTION OF MATERIAL					WATER CONTENT, % PL ----- LL 10 20 30 40 50						
TOPSOIL					2-2-1	SS1							
CLAY - dark brown, soft, lean - CL													
SILT - brown, medium stiff - ML										2-3-4	SS2		
CLAY - brown, soft to medium stiff, lean - CL												0-0-1	SS3
sandy				0-2-2	SS5								
Boring terminated at 15 feet.													

GROUNDWATER DATA

☒ FREE WATER NOT ENCOUNTERED DURING DRILLING

DRILLING DATA

4" AUGER HOLLOW STEM
WASHBORING FROM FEET
RRM DRILLER ALY LOGGER
Diedrich D50 DRILL RIG
HAMMER TYPE Auto

Drawn by: SDG Check by: FC App'vd by: MHM
Date: 5/12/21 Date: 5/17/21 Date: 6/4/21

GEOTECHNOLOGY
FROM THE GROUND UP

WTP Improvements
Bonner Springs, Kansas

LOG OF BORING: B-6

Project No. J035801.02

REMARKS:

[illegible]

NOTE: STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARIES BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL. GRAPHIC LOG FOR ILLUSTRATION PURPOSES ONLY.

Surface Elevation <u>769</u>		Completion Date: <u>4/26/21</u>		GRAPHIC LOG DRY UNIT WEIGHT (pcf) SPT BLOW COUNTS CORE RECOVERY/RQD		SHEAR STRENGTH, tsf Δ - UU/2 ○ - QU/2 □ - PP/2 0,5 1,0 1,5 2,0 2,5	
Datum <u>WGS84</u>		SAMPLES PL ----- LL 10 20 30 40 50				STANDARD PENETRATION RESISTANCE (ASTM D 1586) ▲ N-VALUE (BLOWS PER FOOT)	
DESCRIPTION OF MATERIAL						WATER CONTENT, %	
DEPTH IN FEET							
	TOPSOIL: 3 inches						
	CLAY - light brown, soft to medium stiff, lean - CL	1-2-1	SS1	▲			
		1-3-2	SS2	▲			
5	SAND - light brown very loose, medium to fine, silty - SM						
	SILT - light brown, some black, soft, some sand - ML	1-1-1	SS3	▲			
	CLAY - light brown, medium stiff to very soft, lean - (CL)	88	ST4	▲			
10							
		1-0-1	SS5	▲			
15							
		0-1-1	SS6	▲			
20							
	CLAY - dark gray, very soft, fat - CH	0-0-1	SS7	▲			
25							
	SAND - gray-brown, medium dense, medium to fine, silty - SM	4-7-6	SS8	▲			
30	Boring terminated at 30 feet.						
35							
40							
45							

GROUNDWATER DATA

ENCOUNTERED AT 20 FEET ∇

DRILLING DATA

___ AUGER 3 3/4" HOLLOW STEM
 WASHBORING FROM ___ FEET
RRM DRILLER ALY LOGGER
Diedrich D50 DRILL RIG
 HAMMER TYPE Auto

Drawn by: ALY Check by: SDG App'vd by: MHM
 Date: 4/28/21 Date: 5/12/21 Date: 6/4/21

GEOTECHNOLOGY
FROM THE GROUND UP

WTP Improvements
Bonner Springs, Kansas

LOG OF BORING: B-8

Project No. J035801.02

REMARKS:

BORING LOG: TERMS AND SYMBOLS

GENERAL NOTES

- Information on each boring log is a compilation of subsurface conditions based on soil or rock classifications obtained from the field as well as from laboratory testing of samples. The strata lines on the logs may be approximate or the transition between the strata may be gradual rather than distinct. Water level measurements refer only to those observed at the times and places indicated, and may vary with time, geologic condition or construction activity.
- Relative composition and Unified Soil Classification designations are based on visual estimates and are approximate only. If laboratory tests were performed to classify the soil, the unified designation is shown in parenthesis.
- Value given in Unit Dry Weight/SPT Column is either a unit dry weight in pounds per cubic foot, if adjacent to a ST sample designation, or blows per 6-inch increment if adjacent to a SS sample designation.

ABBREVIATIONS

UU/2 Shear Strength from Unconsolidated – Undrained Triaxial Test (ASTM D2850)
 QU/2 Shear Strength from Unconfined Compression Test (ASTM D2166)
 SV Shear Strength from Field Vane (ASTM D2573)
 PL Plastic Limit (ASTM D4318)
 LL Liquid Limit (ASTM D4318)

LEGEND

CS	Continuous Sampler
GB	Grab Sample Taken From Auger Cuttings or Wash Water Return
NX 100 42	NX Rock Core with Percent Recovery/R.Q.D. Given In Adjacent Column
PST	Three Inch Diameter Piston Tube Sample
SS	Split Spoon Sample (Standard Penetration Test)
ST	Three Inch Diameter Shelby Tube Sample
*	Sample Not Recovered
SV	Field Vane Test

SPLIT – BARREL SAMPLER DRIVING RECORD

Blow per Foot (N-Value)

25.....25 blows drove sampler 12 inches after initial 6 inches of seating.
 75/10".....75 blows drove sampler 10 inches after initial 6 inches of seating.
 50/S3".....50 blows drove sampler 3 inches during initial 6 inch seating interval.

NOTES: 1. To avoid damage to sampling tools, driving is limited to 50 blows during any six inch interval.
 2. N-Value (Blow Count) is the standard penetration resistance based on the total number of blows, using a 140-lb hammer with 30-inch free fall, required to drive a split spoon the last two of three, 6-inch drive increments. (Example: 4/7/9, N = 7 + 9 = 16). Values are shown as a summation on grid plot and may be shown as 4/7/9 in Unit Dry Weight – SPT column.

RELATIVE COMPOSITION

Trace.....0-10 %
 With/Some.....11-35 %
 Soil modifier such..... > 35 %
 As silty, clayey, sandy, etc.

DENSITY OF GRANULAR SOILS

Descriptive Term: **N—Value**
 Very Loose.....0 - 4
 Loose.....5 - 10
 Medium Dense.....11 - 30
 Dense.....31 - 50
 Very Dense.....> 50

STRENGTH OF COHESIVE SOILS

Consistency	Undrained Shear Strength Tons Per Sq. Ft.	Field Test	Approximate N-Value Range
Very Soft.....	less than 0.12	Thumb will penetrate soil more than 1" ..	0 - 1
Soft.....	0.13 to 0.25	Thumb will penetrate soil about 1"	2 - 4
Medium Stiff.....	0.26 to 0.50	Thumb will penetrate soil about ¼"	5 - 8
Stiff.....	0.51 to 1.00	Thumb hardly indents soil.....	9 - 15
Very Stiff.....	1.01 to 2.00	Thumb will not indent soil, but readily indented with thumbnail.....	16 - 30
Hard.....	greater than 2.00.....	Thumbnail will not indent soil.....	> 30

SOIL GRAIN SIZE

U.S. STANDARD SIEVE

12"	3"	¾"	4	10	40	200		
BOULDERS	COBBLES	GRAVEL		SAND			SILT	CLAY
		COARSE	FINE	COARSE	MEDIUM	FINE		
300	76.2	19.1	4.76	2.00	0.42	0.074	0.002	
SOIL GRAIN SIZE IN MILLIMETERS								

SOIL STRUCTURE

Calcareous – Having appreciable quantities of carbonate.
Fissured – Containing shrinkage or relief cracks, often filled with sand or silt; usually more or less vertical.
Slickensided – Having planes of weakness that appear slick and glossy. The degree of slickensidedness depends upon the spacing of slickensides and the ease of breaking along those planes.
Layer -- Inclusion greater than 3 inches thick.
Seam – Inclusion 1/8 inch to 3 inches thick extending through the sample

Parting – Inclusion less than 1/8 inch thick.
Pocket – Inclusion of material of different texture that is smaller than the diameter of the sample.
Interlayered – Soil samples composed of alternating layers of different soil types.
Intermixed – Soil samples composed of pockets of different soil types and a layered or laminated structure is not evident.
Laminated – Soil sample composed of alternating partings or seams of different soil type.

UNIFIED SOIL CLASSIFICATION SYSTEM

MAJOR DIVISIONS			SYM BOL	DESCRIPTION	PLASTICITY CHART	
Coarse-Grained Soils (More than 50% Larger than No 200 Sieve Size)	Gravel and Gravelly Soils	Clean Gravels Little or no Fines	GW	Well-Graded Gravel, Gravel-Sand Mixture	PLASTICITY INDEX (PI) Liquid Limit (LL) RELATIVE PLASTICITY Nonplastic Trace Plasticity Medium Plastic Highly Plastic Cannot Roll Into Ball Barely Roll Into Ball Can be Rolled Into Ball No Rupture by Kneading	
		Gravels with Appreciable Fines	GP	Poorly -Graded Gravel, Gravel-Sand Mixture		
			GM	Silty Gravel, Gravel-Sand-Silt Mixture		
	Sand and Sandy Soils	Clean Sands Little or no Fines	SW	Clayey-Gravel, Gravel-Sand-Clay Mixture		
		Sands with Appreciable Fines	SP			
			SM			
Fine-Grained Soils (More than 50% Smaller than No 200 Sieve Size)	Silts and Clays	Liquid Limit Less Than 50	SC	Well-Graded Sand, Gravelly Sand		
			CL-ML	Poorly Graded Sand, Gravelly Sand		
			OL & ML	Silty Sand, Sand-Silt Mixture		
	Silts and Clays	Liquid Limit More Than 50	CL	Clayey Sand, Sand-Clay Mixture		
			ML	Silt, Clayey Silt, Silty or Clayey Very Fine Sand, Slight Plasticity		
			CL	Clay, Sandy Clay, Silty Clay, Low to Medium Plasticity		
			OL	Organic Silts, or Silty Clays of Low Plasticity		
			MH	Silt, Fine Sandy or Silt Soil with High Plasticity		
			CH	Clay, High Plasticity		
			OH	Organic Clay of Medium to High Plasticity		
PT			Peat, Humus, Swamp Soil			

VISUAL DESCRIPTION CRITERIA*

TABLE 1: CRITERIA FOR DESCRIBING ANGULARITY OF COARSE-GRAINED PARTICLES

Description	Criteria
Angular	Particles have sharp edges and relatively plane sides with unpolished surfaces
Subangular	Particles are similar to angular description but have rounded edges
Subrounded	Particles have nearly plane sides but have well-rounded corners and edges
Rounded	Particles have smoothly curved sides and no edges

TABLE 2: CRITERIA FOR DESCRIBING PARTICLE SHAPE

Description	Criteria
Flat	Particles with width/thickness X3
Elongated	Particles with length/width X3
Flat and Elongated	Particles meet criteria for both flat and elongated

TABLE 3: CRITERIA FOR DESCRIBING MOISTURE CONDITION

Description	Criteria
Dry	Absence of moisture, dusty, dry to the touch
Moist	Damp, but no visible water
Wet	Visible free water, usually soil is below the water table

TABLE 4: CRITERIA FOR DESCRIBING REACTION WITH HCL

Description	Criteria
None	No visible reaction
Weak	Some reaction, with bubbles forming slowly
Strong	Violent reaction, with bubbles forming rapidly

TABLE 6: CRITERIA FOR DESCRIBING CEMENTATION

Description	Criteria
Weak	Crumbles or breaks with handling or little finger pressure
Moderate	Crumbles or breaks with considerable finger pressure
Strong	Will not crumble or break with finger pressure

*NOTES: 1. Tables adapted from ASTM D2488 "Description and Identification of Soils" (Visual-Manual Procedure)
2. Tables 5, 7 and 11 incorporated into other information on this plate.

TABLE 8: CRITERIA FOR DESCRIBING DRY STRENGTH

Description	Criteria
None	The dry specimen crumbles into powder with mere pressure of handling
Low	The dry specimen crumbles into powder with some finger pressure
Medium	The dry specimen breaks into pieces or crumbles with considerable finger pressure
High	The dry specimen cannot be broken with finger pressure. Specimen will break into pieces between thumb and a hard surface.
Very High	The dry specimen cannot be broken between the thumb and a hard surface

TABLE 9: CRITERIA FOR DESCRIBING DILATANCY

Description	Criteria
None	No visible change in the specimen
Slow	Water appears slowly on the surface of the specimen during shaking and does not disappear or disappears slowly upon squeezing.
Rapid	Water appears quickly on the surface of the specimen during shaking and disappears quickly upon squeezing.

TABLE 10: CRITERIA FOR DESCRIBING TOUGHNESS

Description	Criteria
Low	Only slight pressure is required to roll the thread near the plastic limit. The thread and the lump are weak and soft.
Medium	Medium pressure is required to roll the thread to near the plastic limit. The thread and the lump have medium stiffness
High	Considerable pressure is required to roll the thread to near the plastic limit. The thread and the lump have very high stiffness

TABLE 12: IDENTIFICATION OF INORGANIC FINE-GRAINED SOILS FROM MANUAL TESTS

Soil Symbol	Dry Strength	Dilatancy	Toughness
ML	None to low	Slow to rapid	Low or thread cannot be formed
CL	Medium to high	None to slow	Medium
MH	Low to medium	None to slow	Low to medium
CH	High to very high	none	High

ROCK: TERMS AND SYMBOLS

Field descriptions can include the following:

TERM

Hardness
Color
Crystallinity
Bedding
Weathering
Fabric (if applicable)
Jointing (including filling)
Voids
RQD
Sorting Criteria
Angularity Criteria

REFERENCE

Table 1
(1)
Table 2
Table 3
Table 4
Table 5
Table 6
Table 7
Table 8
Figure 1
Figure 2

TABLE 1: ROCK HARDNESS

DESCRIPTION	CRITERIA
Very Soft	- Easily indented with the thumb
Soft	- Able to be scratched with a fingernail
Moderately Hard	- Easily scratched with a knife; Cannot be scratched with the fingernail
Hard	- Difficult to scratch with a knife
Very Hard	- Cannot be scratched with a knife

TABLE 2: ROCK CRYSTALLINITY

DESCRIPTION	CRITERIA
Aphanitic (Micritic)	- Crystals cannot be distinguished with the naked eye
Very Finely Crystalline	- Crystals are barely discernable with the naked eye
Finely Crystalline	- Crystals are easily discernable with the naked eye
Medium Crystalline	- Crystals are medium size; up to 1/8" in diameter
Coarsely Crystalline	- Crystals are 1/8" to 1/4" in diameter
Very Coarsely Crystalline	- Crystals are larger than 1/4" in diameter

TABLE 3: ROCK MASS BEDDING

DESCRIPTION	CRITERIA
Parting	- Less than 0.02 foot (<0.60 cm)
Band	- 0.02 to 0.2 foot (0.60 to 6.1 cm)
Thin Bed	- 0.2 to 0.5 foot (6.1 to 15.2 cm)
Medium Bed	- 0.5 to 1.0 foot (15.2 to 30.5 cm)
Thick Bed	- 1.0 to 2.0 feet (30.5 to 61.0 cm)
Massive	- Greater than 2.0 feet (>61.0 cm)

TABLE 4: ROCK WEATHERING

DESCRIPTION	CRITERIA
Fresh	- No visible signs of decomposition or discoloration
Slightly Weathered	- Slight discoloration inward from open fractures
Moderately Weathered	- Discoloration throughout, slight loss of strength, texture intact
Highly Weathered	- Specimens can be broken by hand, texture indistinct, fabric intact
Completely Weathered	- Specimens easily crumbled, minerals decomposed to soil
Residual Soil	- Advanced state of decomposition resulting in plastic soil

TABLE 5: ROCK FABRIC

DESCRIPTION	CRITERIA
Equigranular	- Grains essentially of equal size
Porphyritic	- Mixed coarse and fine grains
Amorphous	- No definite crystal form (Glass)
Platy	- Schistose or foliated, planar

TABLE 6: ROCK JOINTING

DESCRIPTION	CRITERIA
Very Wide	>3.25 ft. (>3 m)
Wide	1.1 – 3.25 ft. (1-3 m)
Moderately Wide	0.3 – 1.1 ft. (0.3 – 1 m)
Close	0.05 – 0.3 ft. (0.05 – 0.3 m)
Very Close	<0.05 ft. (<0.05 m)

TABLE 7: ROCK VOIDS

DESCRIPTION	CRITERIA
Dense	- Usually not discernable with the naked eye
Pit (Pitted)	- Discernable to 1/4"
Vug (Vuggy)	- 1/4" to diameter of the core
Cavity	- Larger than 6" in diameter

ROCK 8: ROCK QUALITY

PERCENT RQD	QUALITY
90 to 100	Excellent
75 to 90	Good
50 to 75	Fair
25 to 50	Poor
0 to 25	Very Poor

FIGURE 1: Sorting Criteria

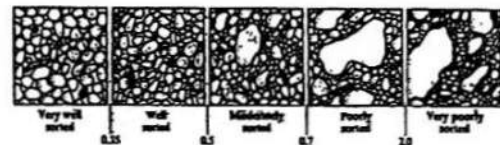
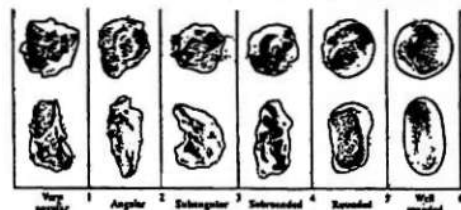


FIGURE 2: Angularity Criteria



TYPE SPECIFIC CHARACTERISTICS

CHARACTERISTICS OF DETRITAL SEDIMENTARY ROCKS		CHARACTERISTICS OF NON-DETRITAL SEDIMENTARY ROCKS	
ROCK TYPE	CHARACTERISTICS	ROCK TYPE	CHARACTERISTICS
	COARSE-GRAINED		CALCAREOUS PRECIPITATES
Conglomerates	- Rounded fragments of any type rock; cementing agent chiefly silica, but iron, clay, and calcareous material also common/	Limestone	- Contains more than 50% calcium carbonate. The calcite can be precipitated chemically, organically, or it may be detrital in origin. Reacts violently with dilute HCL.
Breccia	- Angular fragments of any type rock; resulting from glaciation, rock falls, cave collapse, and/or fault movements.	Coquina	- Weak porous rock consisting of lightly cemented shells and shell fragments.
	MEDIUM-GRAINED	Chalk	- Soft, porous, and fine-textured; composed of shells of microscopic organisms; usually white.
Sandstones	- Predominantly quartz grains cemented by silica, iron, clay or carbonate material. Color depends on cementing agent; porous and pervious; hard and generally thickly bedded.	Dolomite	- Harder and heavier than limestone. Forms by alteration of limestone or by direct precipitation from sea water. Reacts with dilute HCL only when powdered; hardness >5.
Arkose	- Similar to sandstone but at least 25% feldspar.	Gypsum	- An evaporate, commonly massive, white and soft.
Graywacke	- Angular particles of a variety of minerals in a clay matrix; indurated, impure sandstone.	Anhydrite	- An evaporate, harder than gypsum; normally white with a pearly luster and splintery fracture.
	FINE-GRAINED	Halite	- An evaporate; a crystalline aggregate of salt.
Siltstone	- Composition similar to sandstone but at least 50% of grains 0.002 – 0.02mm in size. Rarely forms thick beds, but often hard.		ORGANIC ORIGIN
Shale	- Predominant particles, <0.002mm; a well defined fissile fabric. Commonly interbedded with sandstone and relatively soft.	Coal	- Composed of highly altered plant remains and varying amounts of clay, generally black.
Argillites	- Hard, indurated shales devoid of fissility.		BIOGENIC AND CHEMICAL ORIGIN
Clay Shale	- Moderately indurated shales.	Chert	- Formed by silica deposited from solution in water. May occur as nodules or relatively thick beds; hardness of 7.
Claystone	- Clay-size particles compacted into rock without a fissile structure (stiff to hard consistency).	Diatomite	- Soft, white, very light, porous rock.
CHARACTERISTICS OF IGNEOUS ROCKS		CHARACTERISTICS OF METAMORPHIC ROCKS	
ROCK TYPE	CHARACTERISTICS	ROCK TYPE	CHARACTERISTICS
	COARSE TO MEDIUM GRAINED		FOLIATED FABRIC
Pegmatite	- Chiefly quartz and feldspar, occurring separately as large grains; abundant as dikes in granite.	Gneiss	- Coarse-grained rock with imperfect foliation resulting in slabbing. Chief minerals are quartz and feldspar.
Granite	- Most common igneous rock; normally equigranular and light in color; chiefly quartz and feldspar.	Schist	- Fine-grained rock with a well-developed foliation. Mainly consists of platy minerals and commonly garnet.
Syenite	- Light colored rock similar to granite but contains no quartz; almost entirely feldspar.	Amphibolite	- Consists largely of amphibole with a schist-like foliation. Commonly hard and very dense.
Diorite	- Equigranular and gray to dark gray; composed of plagioclase feldspar and at least one ferromagnesian mineral.	Phyllite	- Soft, with a satin luster and extremely fine schistosity; very unstable cut slopes.
Gabbro	- Dark colored rock composed of ferromagnesian minerals and plagioclase feldspar.	Slate	- Extremely fine-grained (micritic) with a very well-defined cleavage; generally hard.
Peridotite	- Dark colored rock composed almost entirely of ferromagnesian minerals, readily altered.		MASSIVE FABRIC
Dunite	- Very dark green; major constituent is olivine. Readily alters to serpentine.	Meta-conglomerate	- Similar to conglomerate in appearance but has been fused and deformed by heat and pressure.
Dolerite	- Dark colored rock, intermediate in grain size.	Quartzite	- Extensively altered sandstone; individual sand grains have been fused together.
	FINE-GRAINED	Serpentine	- A green, soft, compact rock with a waxy luster and splintery fracture.
Andesite	- Generally dark gray, green or red, fine-grained rock; occasionally porphyritic.	Soapstone	- Derived from talc; generally green in color and easily cut with a sharp knife; resists the action of heat and acids.
Basalt	- Most abundant extrusive rock; variable colors; fine-grained with a dense structure.	Hornfels	- Rocks baked by contact metamorphism into a hard aphanitic material, with conchoidal fracture and generally dark gray to black in color.
Rhyolite	- Microcrystalline equivalent of granite; usually white, gray or pink with a few phenocrysts.	Migmatite	- A complex intermixture of metamorphic and granular igneous rocks formed by injection of granite magma into foliated rocks.
Felsite	- A finely-crystalline variety of quartz-porphry.		
	GLASSY ROCKS	Mylonites	- Produced by intense metamorphism; variable fabric due to deformation of original minerals. Common along the base of overthrust sheets.
Obsidian	- Solid natural glass devoid of all crystal form.		
Pumice	- Extremely vesicular glass; sponge structure.		
Scoria	- Rock which has equal void space and solid mass.		

GEOLOGIC DEFINITIONS

ARENACEOUS – A term applied to rocks that have been derived from sand or contain abundant, >30% , sand in composition.

ARGILLACEOUS – A term applied to all rock or substances composed of clay minerals or having a notable portion, >30%, clay in composition.

BRECCIATED – A rock texture with is composed of angular fragments which corresponds in size to gravel and/or pebbles.

CONGLOMERITIC – A rock texture which is composed of rounded fragments which correspond in size to gravel and/or pebbles.

FABRIC – That factor of the texture of a crystalline rock which depends on the relative sizes, shapes, and arrangements of the component crystals.

FISSILITY – A property of splitting along closely spaced parallel planes.

LOOLITIC – A spherical or ellipsoidal texture, 0.25 – 2.0mm in diameter, with a concentric or radial structure.

PHANERITIC – A textural term applied to those igneous rocks in which all the grains are essentially the same size.

PORPHYRITIC- A textural term applied to those igneous rocks which have larger crystals set in a fine matrix.

SLICKENSIDE – A polished or striated surface on or within a rock or compact soil.

STYLOLITE – A term applied to parts of certain limestones which have a columnlike development that is grooved, sutured, or striated and irregular

Note: Tables, Figures and data adapted from: "Geotechnical Engineering Investigation Manual", Roy E. Hunt, McGraw-Hill Book Co., New York, NY, 1984., "Petrology Igneous, Sedimentary, and Metamorphic", Harvey Blatt & Ernest G. Ehlers, W. H. Freeman & co., San Francisco, CA, 1982., and the U.S. Army Corps of Engineers.

APPENDIX D

Piezometer Installation Records

WATER WELL RECORD Form WWC-5

☒ Original Record ☐ Correction ☐ Change in Well Use

Division of Water
Resources App. No.

MW - B2

Well ID

1 LOCATION OF WATER WELL: County: Wyandotte		Fraction SW ¼ NE ¼ SE ¼ NW ¼		Section Number 28		Township Number T 11 S		Range Number R 23 ☒ E ☐ W																																																																			
2 WELL OWNER: Last Name: _____ First: _____ Business: City of Bonnor Springs Address: 12401 Kaw Drive Address: _____ City: Bonnor Springs State: Kansas ZIP: 66012				Street or Rural Address where well is located (if unknown, distance and direction from nearest town or intersection): If at owner's address, check here: ☐ 8/10ths of a Mile directly East from the Bonnor Springs Nursing & Rehabilitation Center																																																																							
3 LOCATE WELL WITH "X" IN SECTION BOX: N <table border="1" style="margin: auto;"> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td>X</td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> </table> W E S 1 mile								X						4 DEPTH OF COMPLETED WELL:93.5..... ft. Depth(s) Groundwater Encountered: 1) ft. 2) ft. 3) ft., or 4) ☒ Dry Well WELL'S STATIC WATER LEVEL: ft. ☐ below land surface, measured on (mo-day-yr)..... ☐ above land surface, measured on (mo-day-yr)..... Pump test data: Well water was ft. after..... hours pumping gpm Well water was ft. after..... hours pumping gpm Estimated Yield: gpm Bore Hole Diameter:8..... in. to83..... ft. and3..... in. to93..... ft.				5 Latitude:39.067437.....(decimal degrees) Longitude:94.864720.....(decimal degrees) Datum: ☒ WGS 84 ☐ NAD 83 ☐ NAD 27 Source for Latitude/Longitude: ☐ GPS (unit make/model:) (WAAS enabled? ☐ Yes ☐ No) ☐ Land Survey ☐ Topographic Map ☐ Online Mapper: 6 Elevation:ft. ☐ Ground Level ☐ TOC Source: ☐ Land Survey ☐ GPS ☐ Topographic Map ☐ Other																																																									
		X																																																																									
7 WELL WATER TO BE USED AS: 1. Domestic: ☐ Household ☐ Lawn & Garden ☐ Livestock 2. ☐ Irrigation 3. ☐ Feedlot 4. ☐ Industrial 5. ☐ Public Water Supply: well ID 6. ☐ Dewatering: how many wells? 7. ☐ Aquifer Recharge: well ID 8. ☒ Monitoring: well ID MW - B2 9. Environmental Remediation: well ID ☐ Air Sparge ☐ Soil Vapor Extraction ☐ Recovery ☐ Injection 10. ☐ Oil Field Water Supply: lease 11. Test Hole: well ID ☐ Cased ☐ Uncased ☐ Geotechnical 12. Geothermal: how many bores? a) Closed Loop ☐ Horizontal ☐ Vertical b) Open Loop ☐ Surface Discharge ☐ Inj. of Water 13. ☐ Other (specify):																																																																											
Was a chemical/bacteriological sample submitted to KDHE? ☐ Yes ☒ No If yes, date sample was submitted: Water well disinfected? ☐ Yes ☒ No																																																																											
8 TYPE OF CASING USED: ☐ Steel ☒ PVC ☐ Other CASING JOINTS: ☐ Glued ☐ Clamped ☐ Welded ☒ Threaded Casing diameter1..... in. to93..... ft., Diameter in. to ft., Diameter in. to ft. Casing height above land surface2..... in. Weight lbs./ft. Wall thickness or gauge No. 40..... TYPE OF SCREEN OR PERFORATION MATERIAL: ☐ Steel ☐ Stainless Steel ☒ PVC ☐ Other (Specify) ☐ Brass ☐ Galvanized Steel ☐ None used (open hole) SCREEN OR PERFORATION OPENINGS ARE: ☒ Continuous Slot ☐ Mill Slot ☐ Gauze Wrapped ☐ Torch Cut ☐ Drilled Holes ☐ Other (Specify) ☐ Louvered Shutter ☐ Key Punched ☐ Wire Wrapped ☐ Saw Cut ☐ None (Open Hole) SCREEN-PERFORATED INTERVALS: From8..... ft. to93..... ft., From ft. to ft., From ft. to ft. GRAVEL PACK INTERVALS: From3..... ft. to93..... ft., From ft. to ft., From ft. to ft.																																																																											
9 GROUT MATERIAL: ☐ Neat cement ☐ Cement grout ☒ Bentonite ☐ Other Grout Intervals: From0..... ft. to3..... ft., From ft. to ft., From ft. to ft. Nearest source of possible contamination: ☒ No potential source of contamination within 200 ft. ☐ Septic Tank ☐ Lateral Lines ☐ Pit Privy ☐ Livestock Pens ☐ Insecticide Storage ☐ Sewer Lines ☐ Cess Pool ☐ Sewage Lagoon ☐ Fuel Storage ☐ Abandoned Water Well ☐ Watertight Sewer Lines ☐ Seepage Pit ☐ Feedyard ☐ Fertilizer Storage ☐ Oil Well/Gas Well ☐ Other (Specify) Direction from well? Distance from well? ft.																																																																											
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11 CONTRACTOR'S OR LANDOWNER'S CERTIFICATION: This water well was ☒ constructed, ☐ reconstructed, or ☐ plugged under my jurisdiction and was completed on (mo-day-year) 03/19/2021..... and this record is true to the best of my knowledge and belief. Kansas Water Well Contractor's License No. 529..... This Water Well Record was completed on (mo-day-year) 05/26/2021..... under the business name of Geotechnology Exploration, LLC..... Send one copy to WATER WELL OWNER and retain one for your records. Fee of \$5.00 for each constructed well. KS Department of Health and Environment, Bureau of Water, Geology Section, 1000 SW Jackson St., Suite 420, Topeka, Kansas 66612-1367. Telephone 785-296-3565. Visit us at http://www.kdheks.gov/waterwell/index.html KSA 82a-1212																																																																											

☒ Original Record ☐ Correction ☐ Change in Well Use

Well ID

Page 283 of 621

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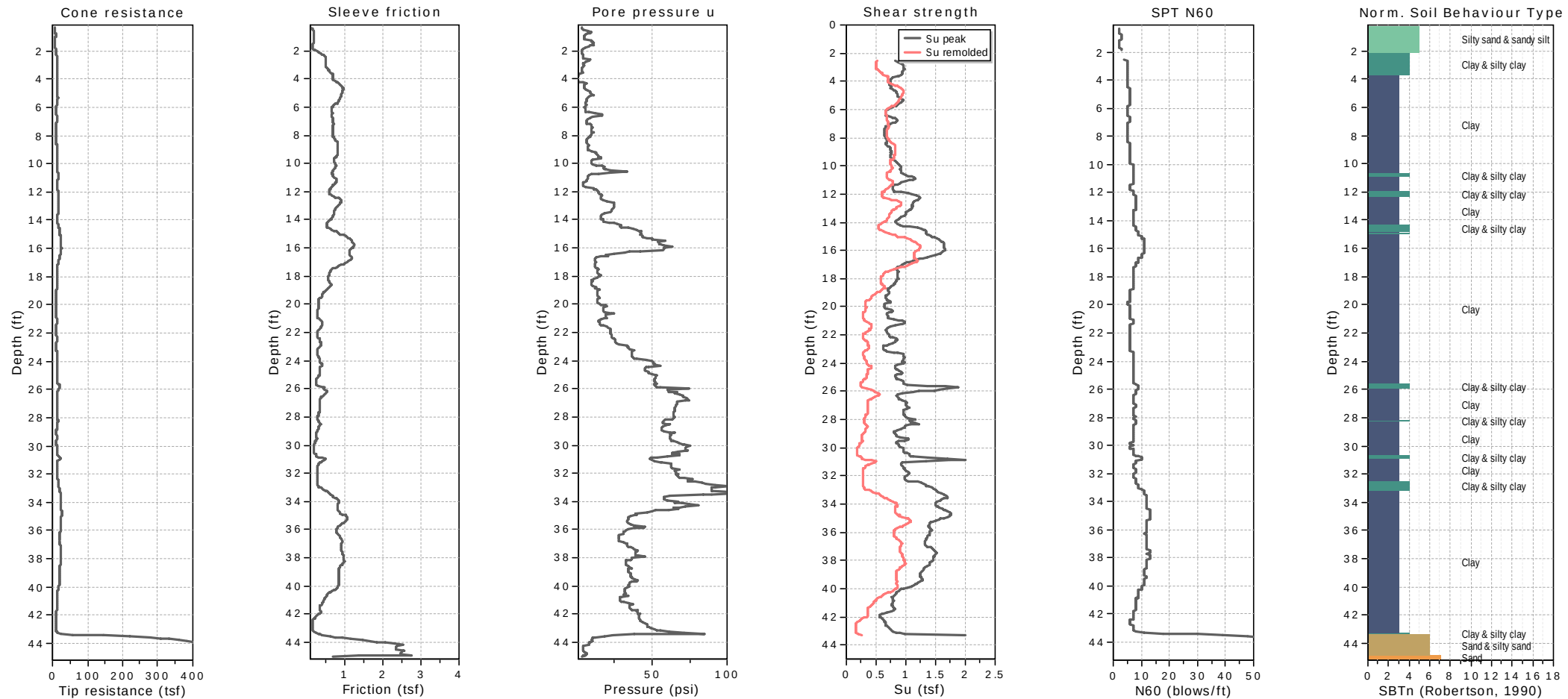
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Well ID

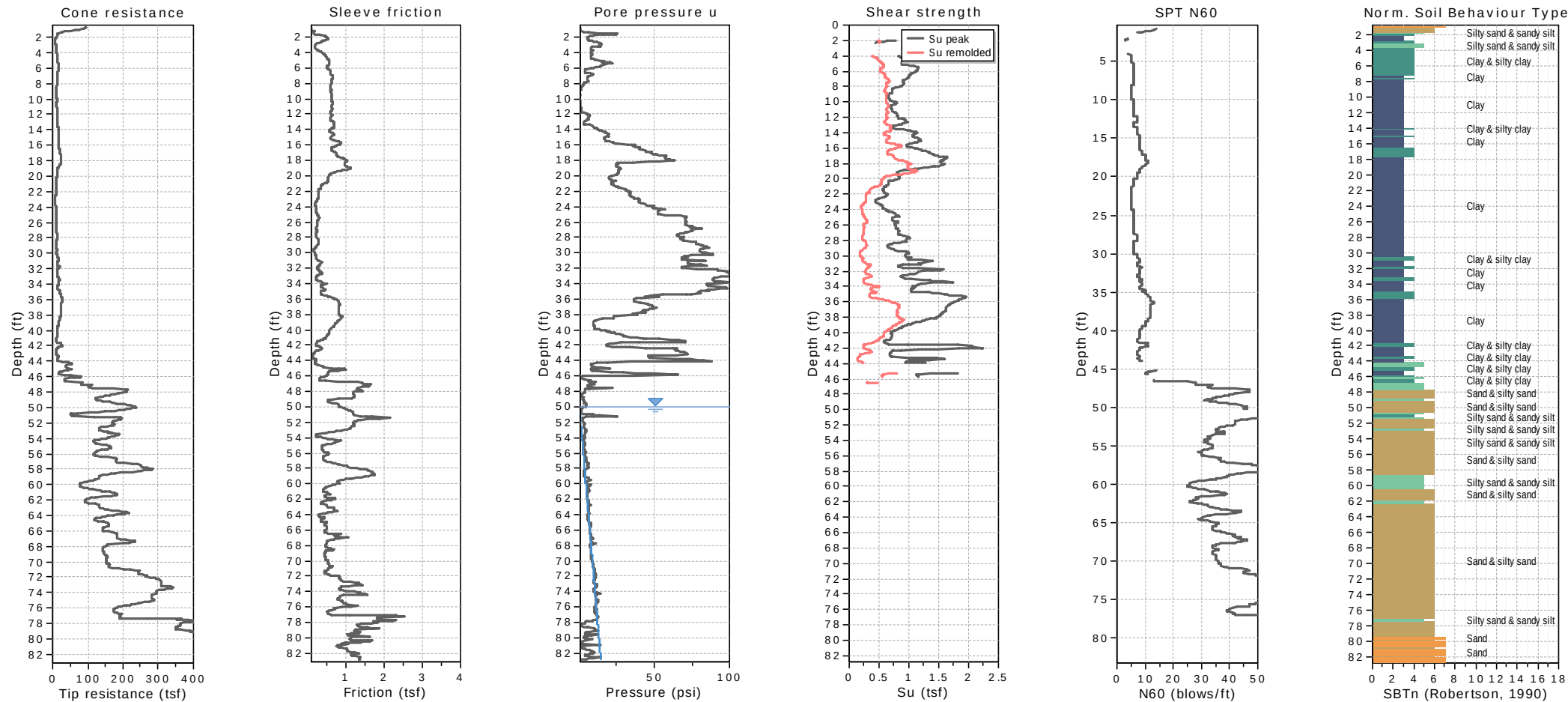
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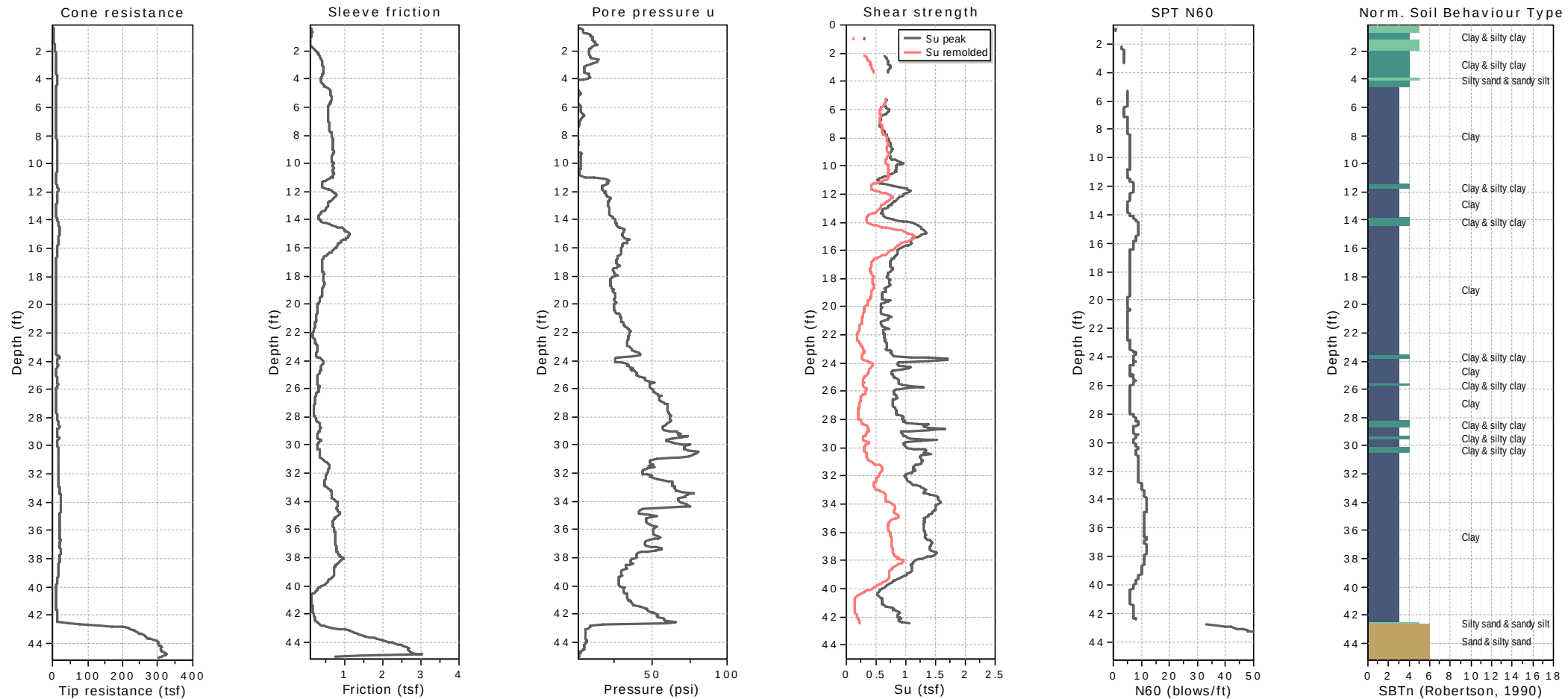
APPENDIX E

Logs of CPT Soundings

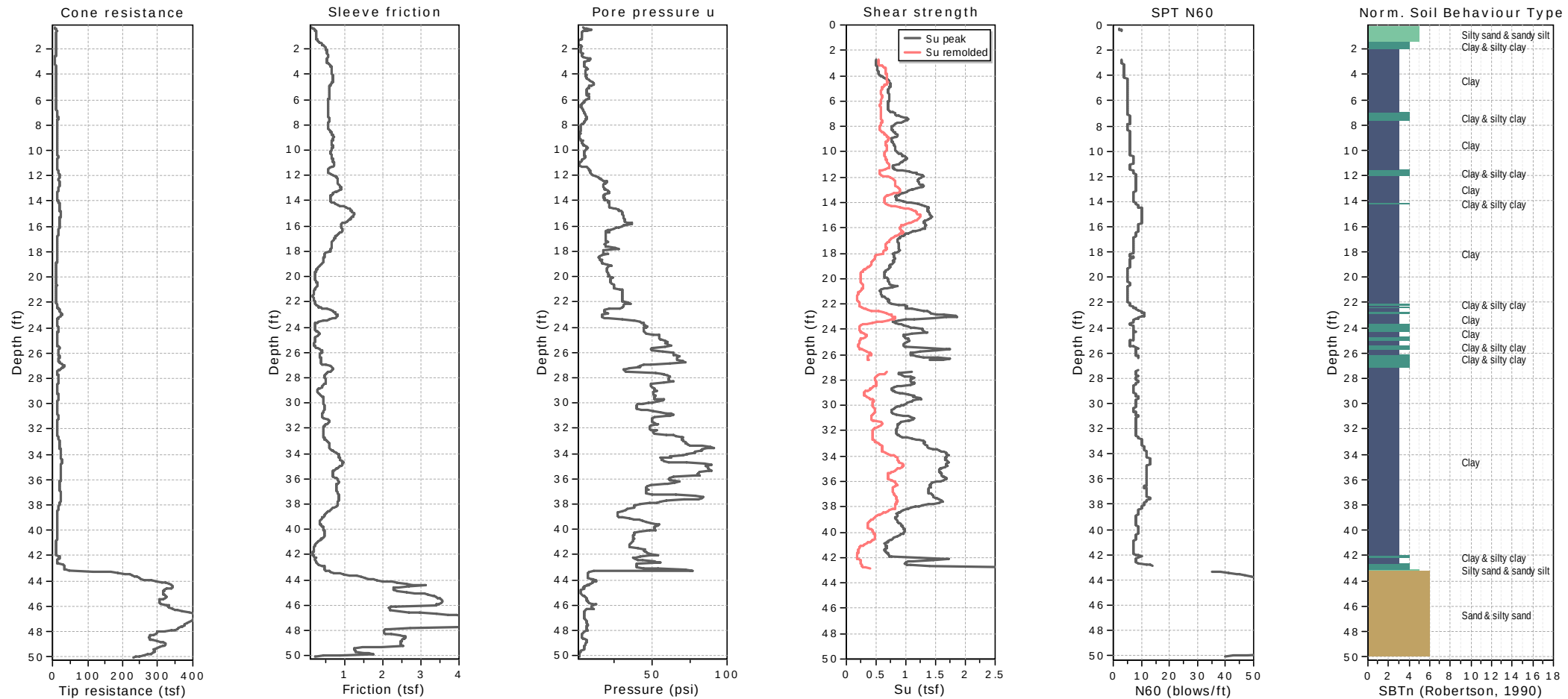


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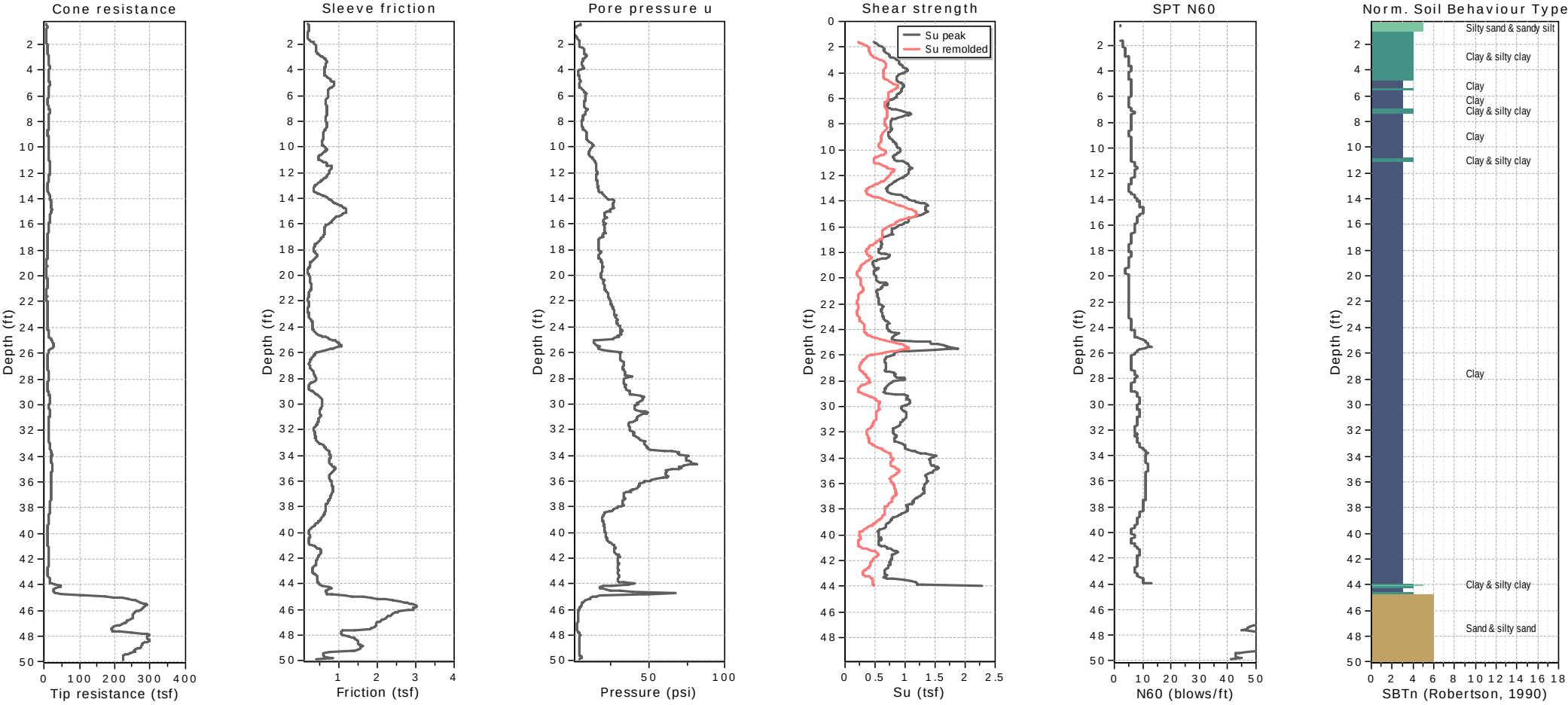


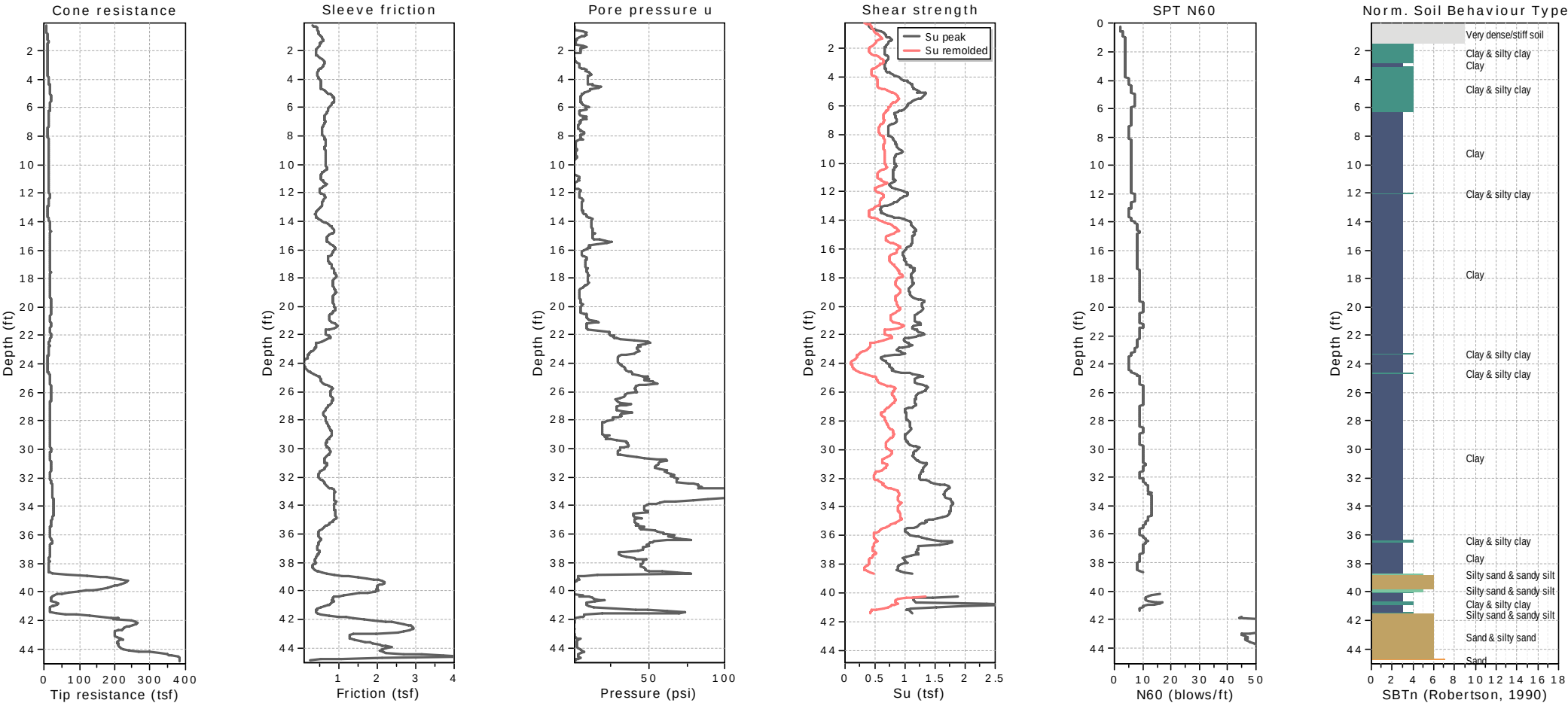


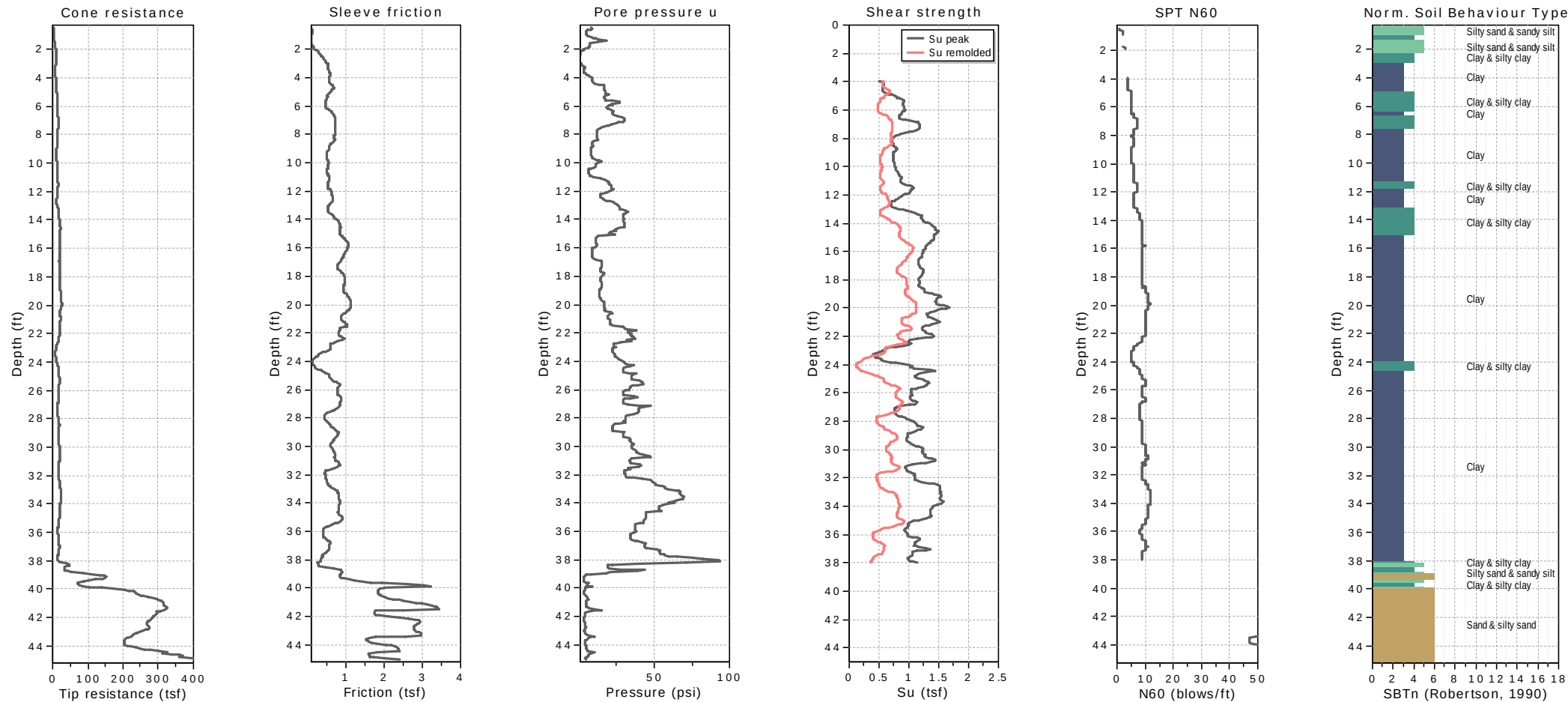
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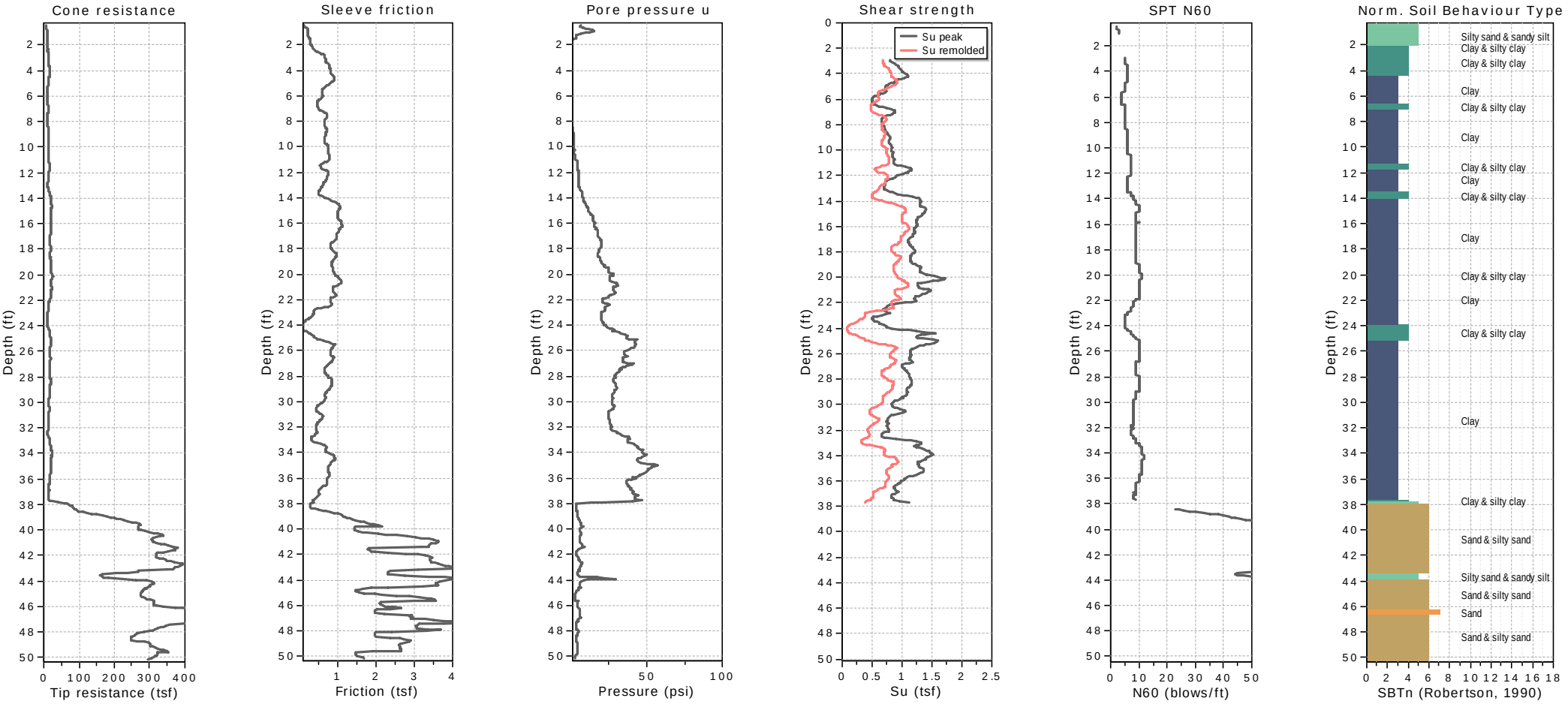


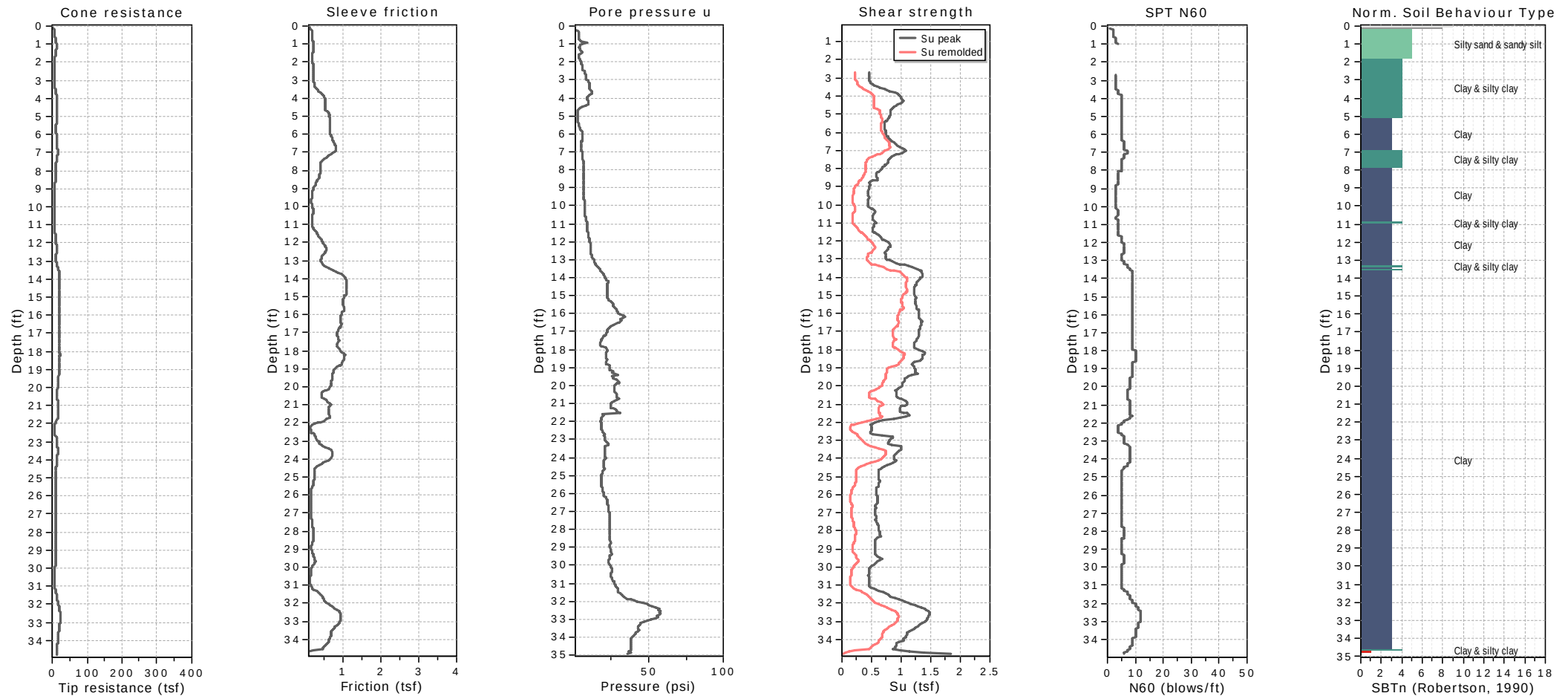
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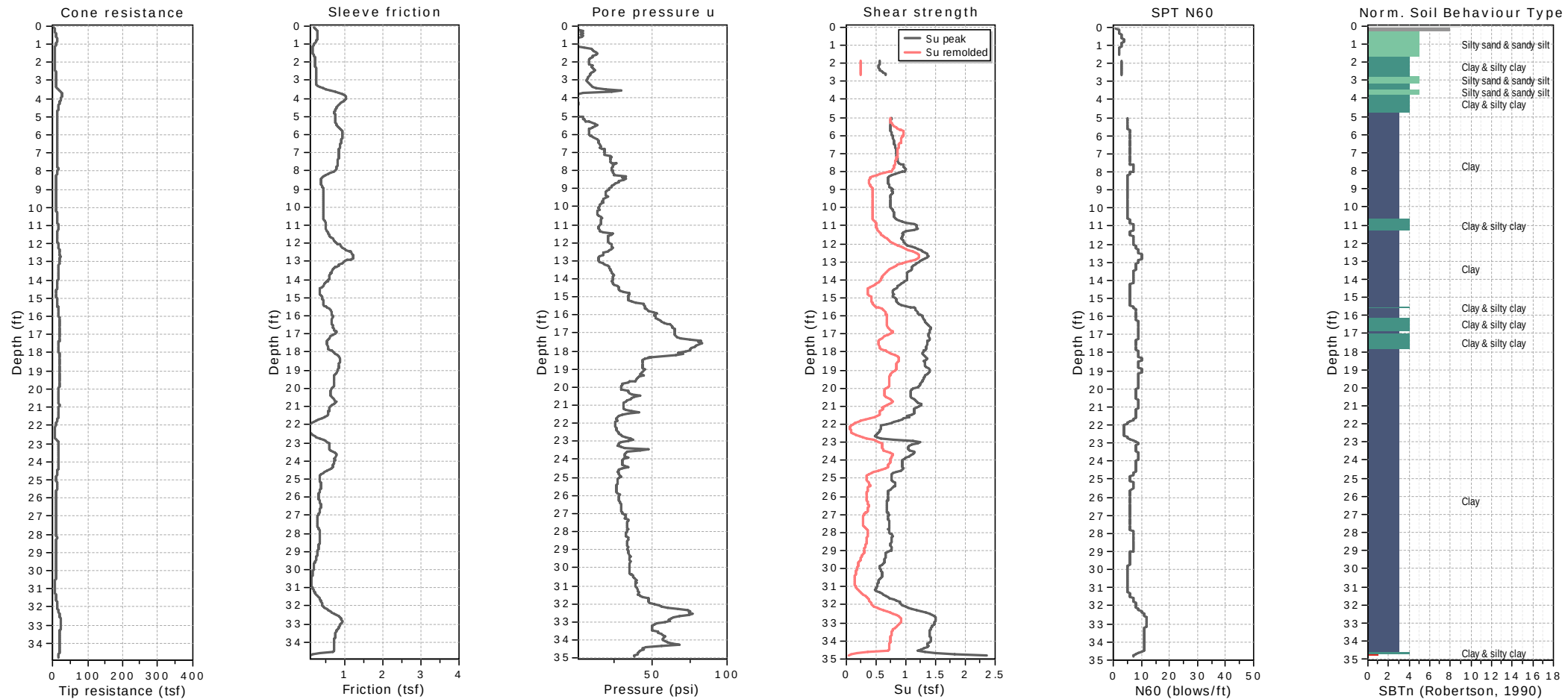




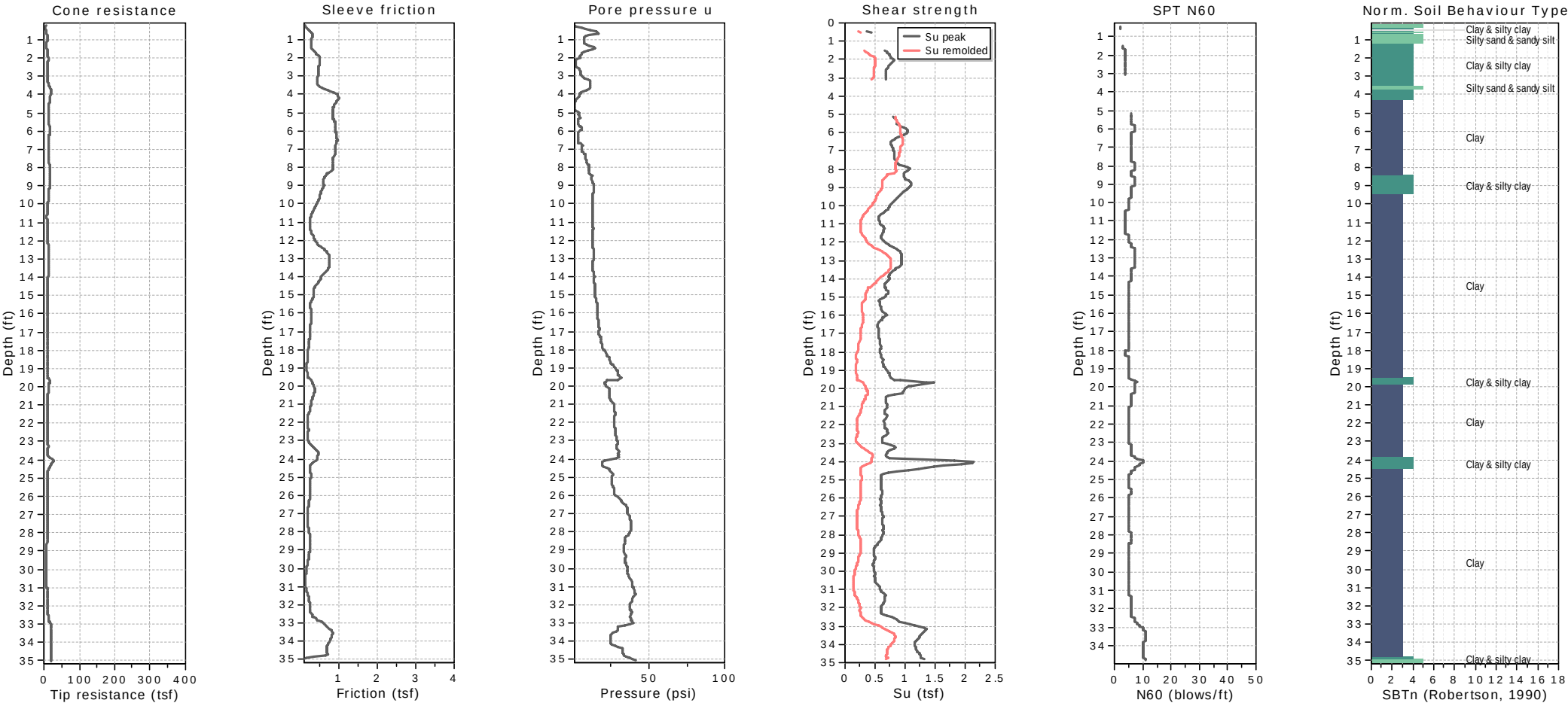


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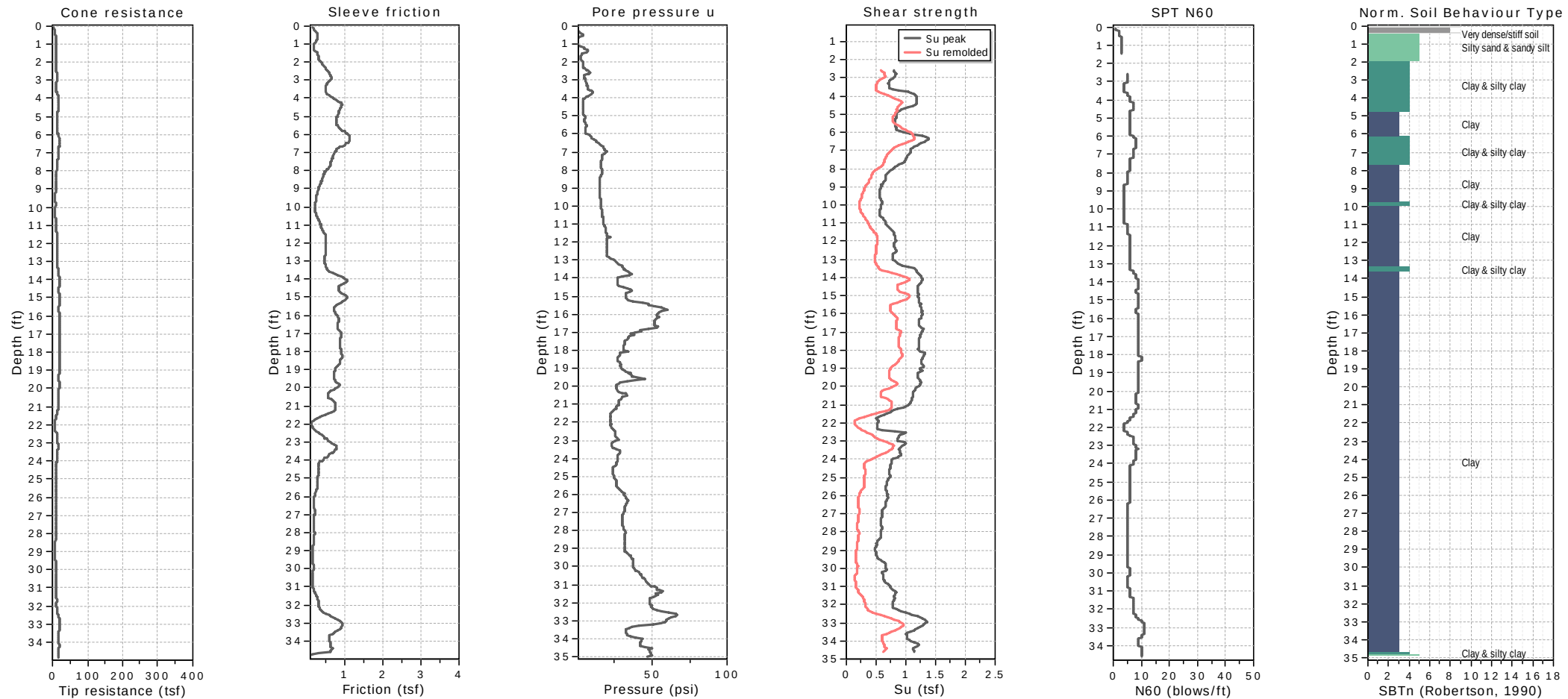
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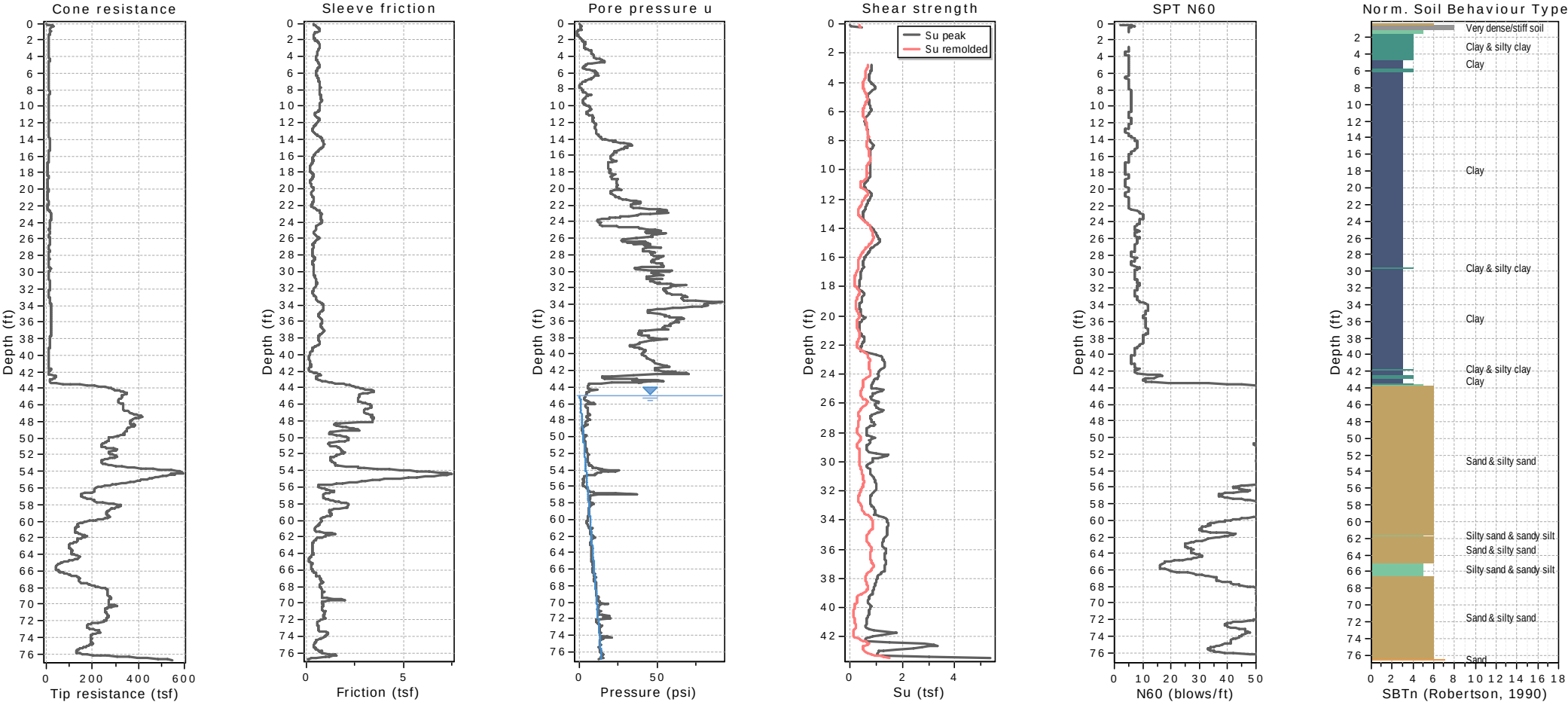
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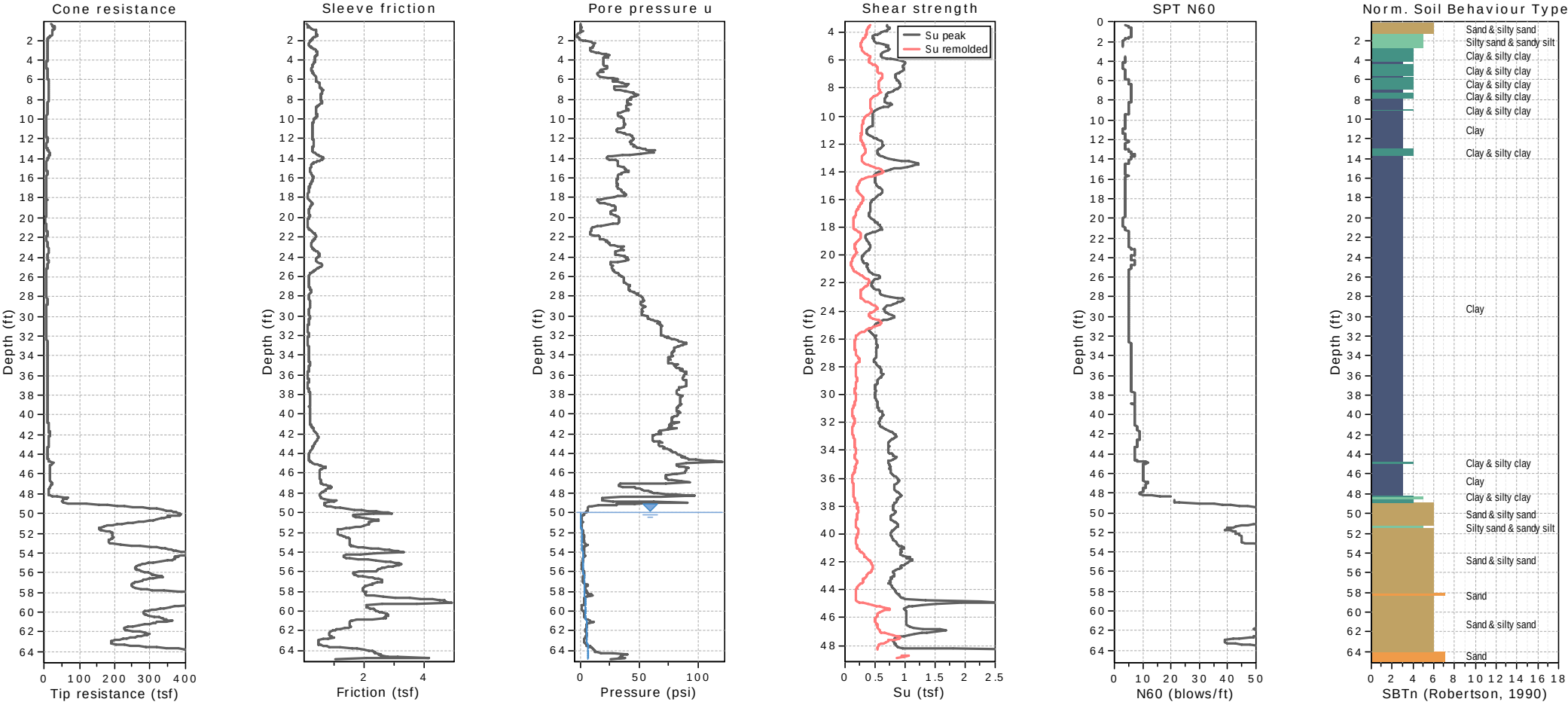


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Presented below is a list of formulas used for the estimation of various soil properties. The formulas are presented in SI unit system and assume that all components are expressed in the same units.

:: Unit Weight, g (kN/m³) ::

$$g = g_w \cdot \left(0.27 \cdot \log(R_f) + 0.36 \cdot \log\left(\frac{q_t}{p_a}\right) + 1.236 \right)$$

where g_w = water unit weight

:: Permeability, k (m/s) ::

$$I_c < 3.27 \text{ and } I_c > 1.00 \text{ then } k = 10^{0.952 - 3.04 \cdot I_c}$$

$$I_c \leq 4.00 \text{ and } I_c > 3.27 \text{ then } k = 10^{-4.52 - 1.37 \cdot I_c}$$

:: N_{SPT} (blows per 30 cm) ::

$$N_{60} = \left(\frac{q_c}{p_a} \right) \cdot \frac{1}{10^{1.1268 - 0.2817 \cdot I_c}}$$

$$N_{1(60)} = Q_{tn} \cdot \frac{1}{10^{1.1268 - 0.2817 \cdot I_c}}$$

:: Young's Modulus, E_s (MPa) ::

$$(q_t - \sigma_v) \cdot 0.015 \cdot 10^{0.55 \cdot I_c + 1.68}$$

(applicable only to $I_c < I_{c_cutoff}$)

:: Relative Density, Dr (%) ::

$$100 \cdot \sqrt{\frac{Q_{tn}}{k_{DR}}} \quad \text{(applicable only to SBT}_n\text{: 5, 6, 7 and 8 or } I_c < I_{c_cutoff}\text{)}$$

:: State Parameter, ψ ::

$$\psi = 0.56 - 0.33 \cdot \log(Q_{tn,cs})$$

:: Drained Friction Angle, ϕ (°) ::

$$\phi = \phi'_{cv} + 15.94 \cdot \log(Q_{tn,cs}) - 26.88$$

(applicable only to SBT_n: 5, 6, 7 and 8 or $I_c < I_{c_cutoff}$)

:: 1-D constrained modulus, M (MPa) ::

If $I_c > 2.20$

$\alpha = 14$ for $Q_{tn} > 14$

$\alpha = Q_{tn}$ for $Q_{tn} \leq 14$

$$M_{CPT} = \alpha \cdot (q_t - \sigma_v)$$

If $I_c \geq 2.20$

$$M_{CPT} = 0.03 \cdot (q_t - \sigma_v) \cdot 10^{0.55 \cdot I_c + 1.68}$$

:: Small strain shear Modulus, G_0 (MPa) ::

$$G_0 = (q_t - \sigma_v) \cdot 0.0188 \cdot 10^{0.55 \cdot I_c + 1.68}$$

:: Shear Wave Velocity, V_s (m/s) ::

$$V_s = \left(\frac{G_0}{\rho} \right)^{0.50}$$

:: Undrained peak shear strength, S_u (kPa) ::

$$N_{kt} = 10.50 + 7 \cdot \log(F_r) \text{ or user defined}$$

$$S_u = \frac{(q_t - \sigma_v)}{N_{kt}}$$

(applicable only to SBT_n: 1, 2, 3, 4 and 9 or $I_c > I_{c_cutoff}$)

:: Remolded undrained shear strength, $S_u(rem)$ (kPa) ::

$$S_{u(rem)} = f_s \quad \text{(applicable only to SBT}_n\text{: 1, 2, 3, 4 and 9 or } I_c > I_{c_cutoff}\text{)}$$

:: Overconsolidation Ratio, OCR ::

$$k_{OCR} = \left[\frac{Q_{tn}^{0.20}}{0.25 \cdot (10.50 + 7 \cdot \log(F_r))} \right]^{1.25} \text{ or user defined}$$

$$OCR = k_{OCR} \cdot Q_{tn}$$

(applicable only to SBT_n: 1, 2, 3, 4 and 9 or $I_c > I_{c_cutoff}$)

:: In situ Stress Ratio, K_0 ::

$$K_0 = (1 - \sin \phi') \cdot OCR^{\sin \phi'}$$

(applicable only to SBT_n: 1, 2, 3, 4 and 9 or $I_c > I_{c_cutoff}$)

:: Soil Sensitivity, S_t ::

$$S_t = \frac{N_s}{F_r}$$

(applicable only to SBT_n: 1, 2, 3, 4 and 9 or $I_c > I_{c_cutoff}$)

:: Peak Friction Angle, ϕ' (°) ::

$$\phi' = 29.5^\circ \cdot B_q^{0.121} \cdot (0.256 + 0.336 \cdot B_q + \log Q_t)$$

(applicable for $0.10 < B_q < 1.00$)

References

- Robertson, P.K., Cabal K.L., Guide to Cone Penetration Testing for Geotechnical Engineering, Gregg Drilling & Testing, Inc., 5th Edition, November 2012
- Robertson, P.K., Interpretation of Cone Penetration Tests - a unified approach., Can. Geotech. J. 46(11): 1337–1355 (2009)

APPENDIX F

Field Resistivity Results

ELECTRICAL EARTH RESISTIVITY SURVEY

Line 1 (N-S at B-2)

Test Number/ Remarks	Pin Spacing (feet)	Meter Multiplier	Meter Reading	Apparent Resistivity (OHM-cm)
1	2.5	1	3.0	1,436
2	5	1	1.6	1,532
3	10	1	0.5	958
4	15	1	0.4	1,149
5	25	1	0.2	958

Line 2 (E-W at B-2)

Test Number/ Remarks	Pin Spacing (feet)	Meter Multiplier	Meter Reading	Apparent Resistivity (OHM-cm)
6	2.5	1	2.5	1,197
7	5	1	0.9	862
8	10	1	0.4	766
9	15	1	0.3	862
10	25	1	0.3	1,436

Line 3 (N-S at B-5)

Test Number/ Remarks	Pin Spacing (feet)	Meter Multiplier	Meter Reading	Apparent Resistivity (OHM-cm)
11	2.5	1	31.0	14,841
12	5	1	0.2	192
13	10	1	9.0	17,235
14	15	1000	0.001	2,873
15	25	1000	0.002	9,575

Line 4 (E-W at B-5)

Test Number/ Remarks	Pin Spacing (feet)	Meter Multiplier	Meter Reading	Apparent Resistivity (OHM-cm)
16	2.5	1000	0.005	2,500
17	5	1	2.1	2,011
18	10	1	0.9	1,724
19	15	1	0.6	1,724
20	25	1	0.2	958

Test Date: May 11, 2021

By: KJP

Checked By: SDG

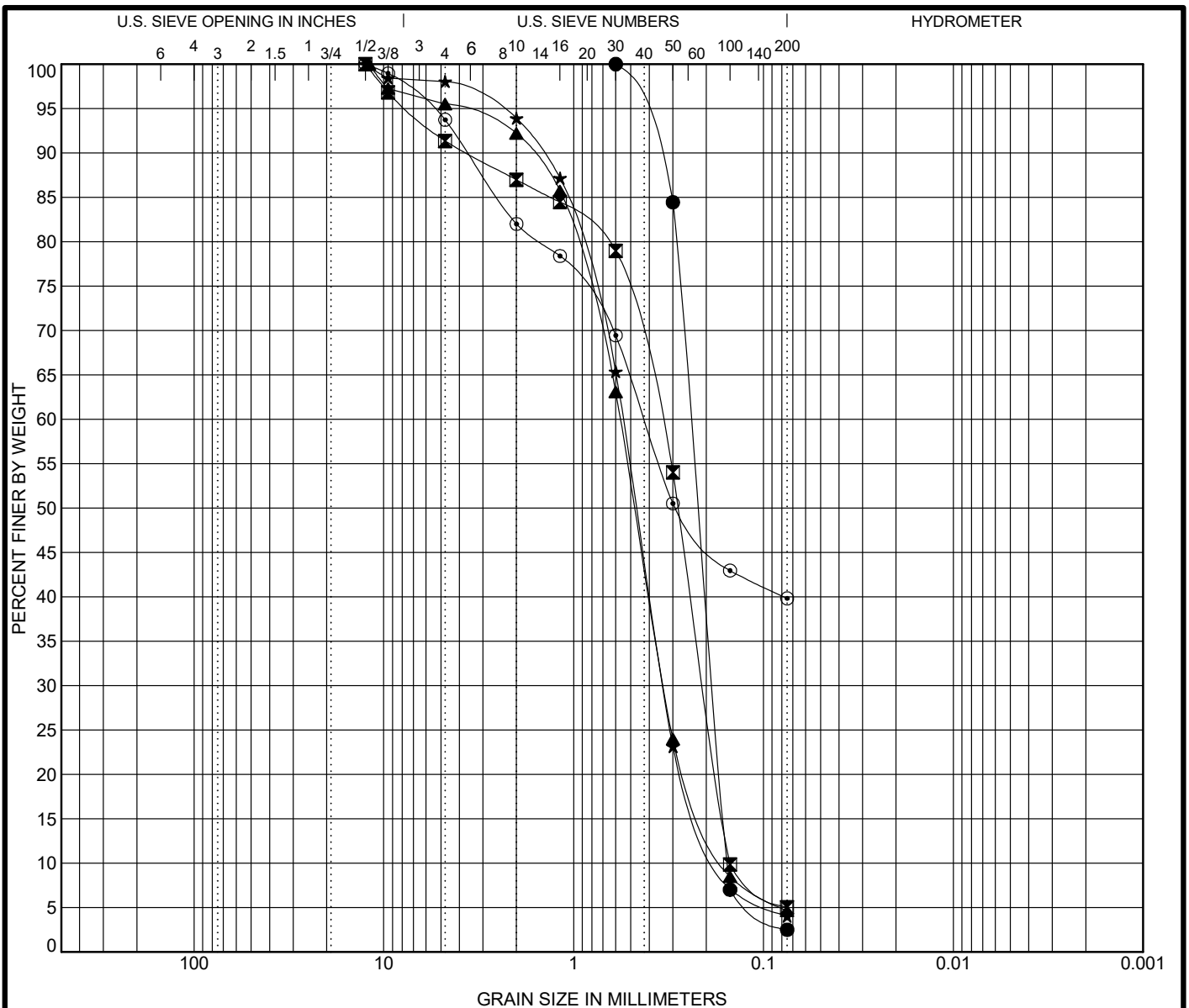
Instrument: Tinker & Rasor SR-2

Precipitation in Last 24 Hours: None

Weather: Sunny, winds approximately 10-20 mph, approximately 70 degrees Fahrenheit

APPENDIX G

Grain Size Distribution Results



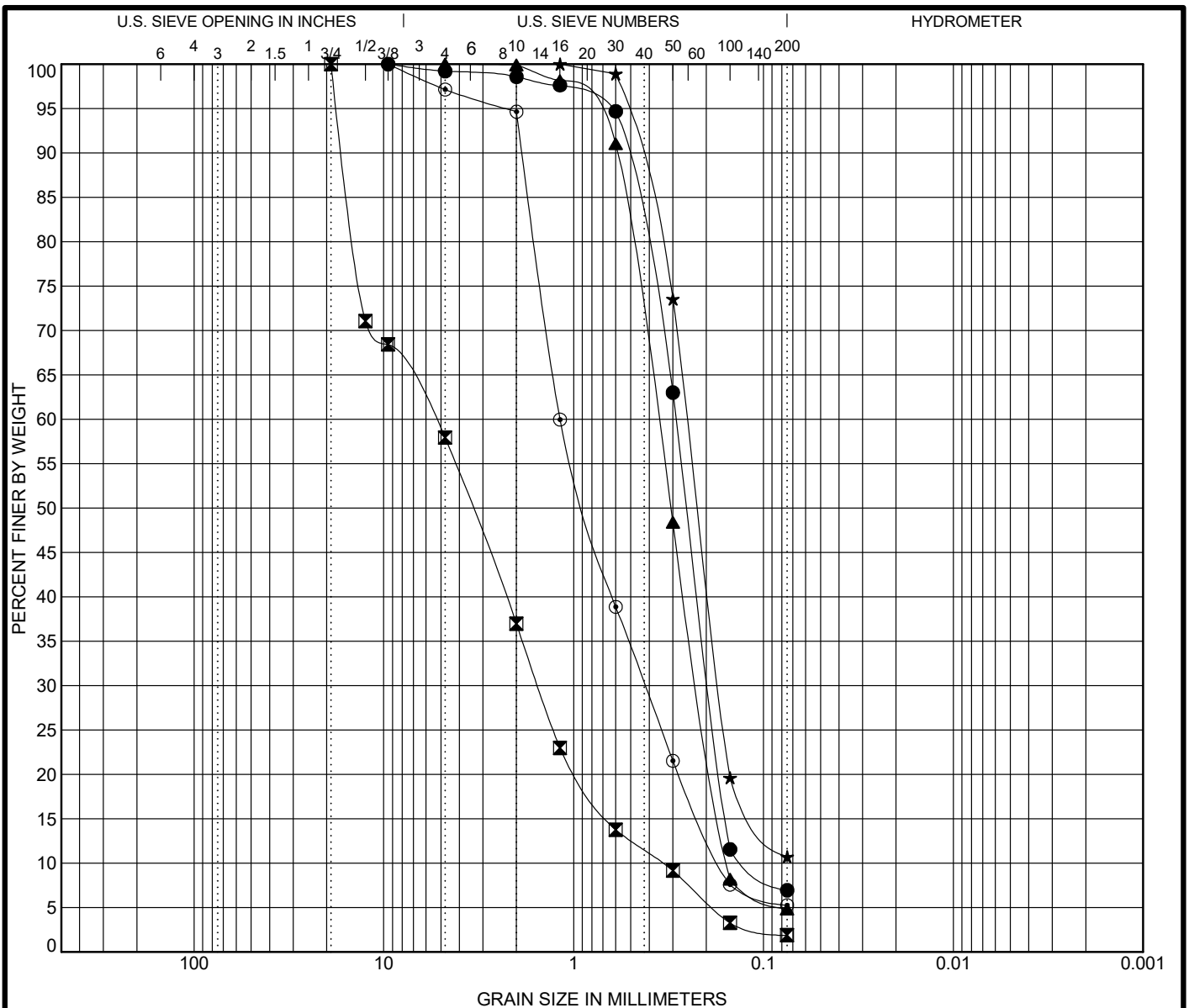
COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Specimen Identification			Classification			LL	PL	PI	Cc	Cu
●	B-4	at 48.5'	POORLY GRADED SAND(SP)						0.91	1.56
⊠	B-4	at 58.5'	POORLY GRADED SAND WITH SILT(SP-SM)						0.80	2.36
▲	B-4	at 63.5'	POORLY GRADED SAND(SP)						1.22	3.54
★	B-4	at 68.5'	POORLY GRADED SAND(SP)						1.21	3.23
⊙	B-4	at 73.5'	CLAYEY SAND(SC)							
Specimen Identification			2.00mm	0.425mm	0.075mm	0.02mm	0.002mm	0.001mm	%Silt	%Clay
●	B-4	at 48.5'		92.3	2.5				2.5	
⊠	B-4	at 58.5'	87.0	66.5	5.0				5.0	
▲	B-4	at 63.5'	92.2	43.6	4.6				4.6	
★	B-4	at 68.5'	93.9	44.4	4.0				4.0	
⊙	B-4	at 73.5'	82.0	60.0	39.8				39.8	



GRAIN SIZE DISTRIBUTION

WTP Improvements
Bonner Springs, Kansas
J035801.02



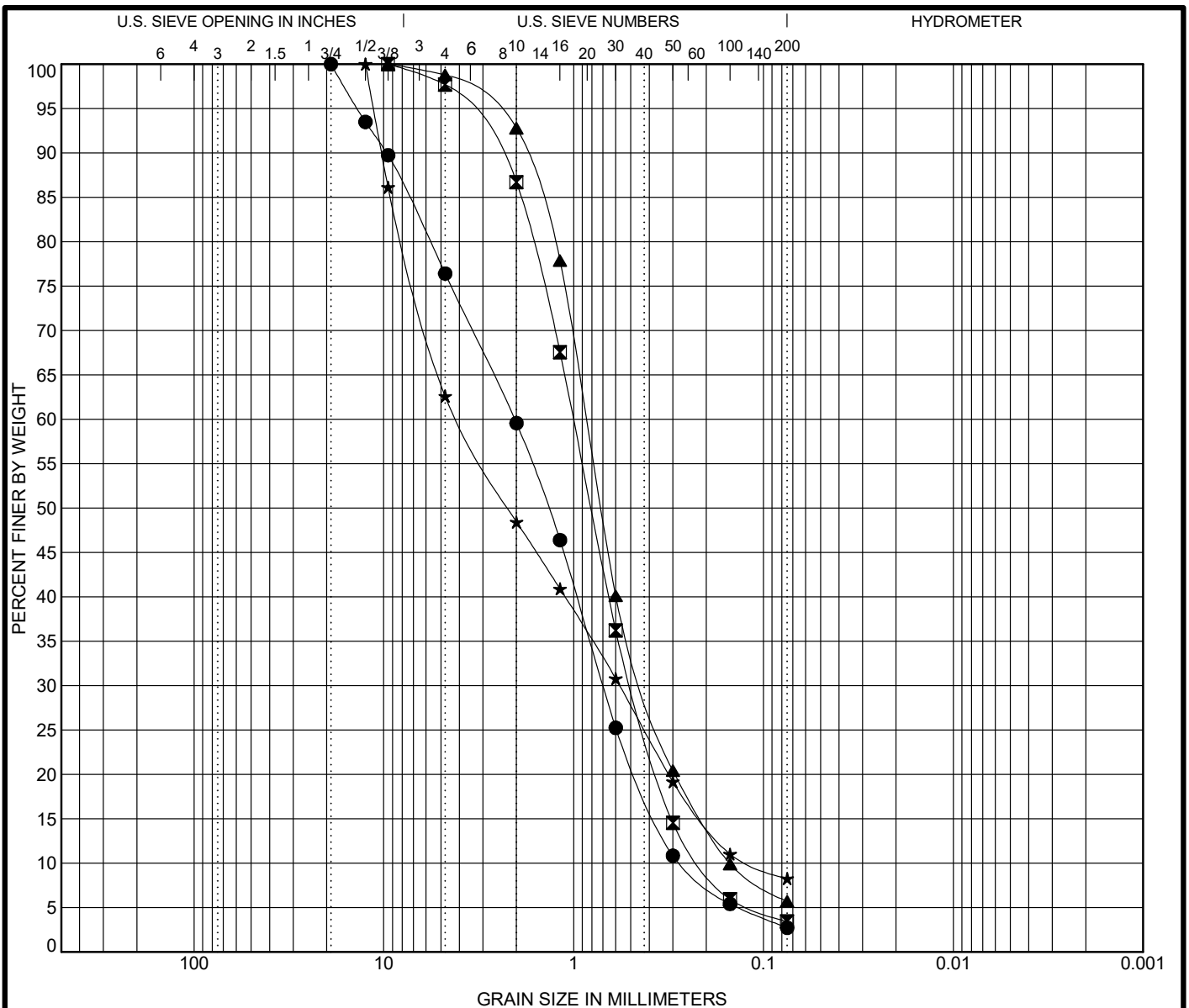
COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Specimen Identification			Classification			LL	PL	PI	Cc	Cu
●	B-4	at 78.5'	POORLY GRADED SAND WITH SILT(SP-SM)						1.08	2.42
⊠	B-4	at 83.5'	WELL-GRADED SAND with GRAVEL(SW)						1.27	15.96
▲	B-5	at 58.5'	POORLY GRADED SAND(SP)						0.85	2.34
★	B-5	at 43.5'	POORLY GRADED SAND WITH SILT(SP-SM)						1.64	3.56
○	B-5	at 53.5'	POORLY GRADED SAND WITH SILT(SP-SM)						0.89	6.98
Specimen Identification			2.00mm	0.425mm	0.075mm	0.02mm	0.002mm	0.001mm	%Silt	%Clay
●	B-4	at 78.5'	98.6	78.9	6.9				6.9	
⊠	B-4	at 83.5'	37.0	11.5	1.9				1.9	
▲	B-5	at 58.5'	99.9	69.8	4.8				4.8	
★	B-5	at 43.5'		86.3	10.7				10.7	
○	B-5	at 53.5'	94.6	30.2	5.3				5.3	



GRAIN SIZE DISTRIBUTION

WTP Improvements
Bonner Springs, Kansas
J035801.02



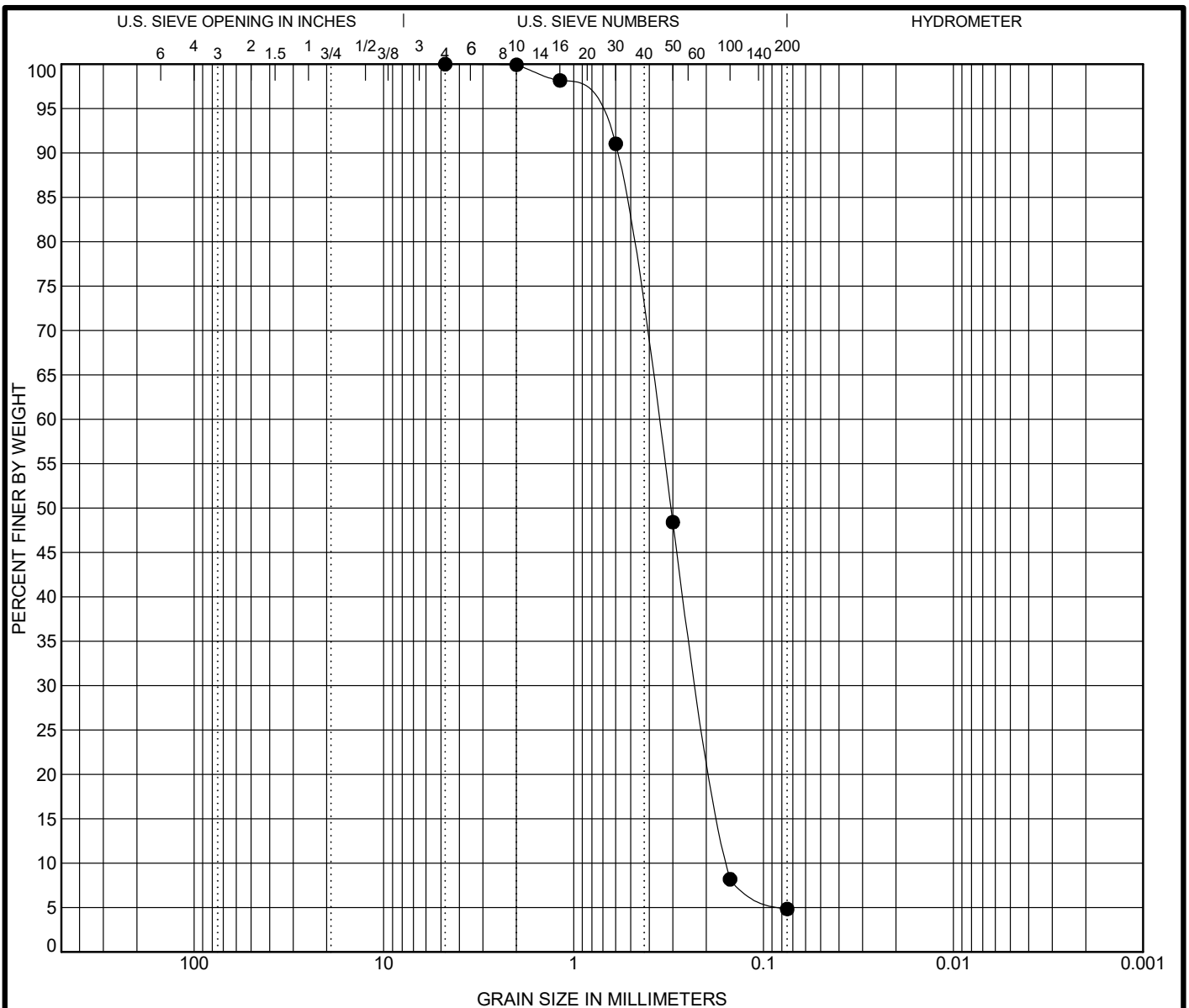
COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Specimen Identification			Classification			LL	PL	PI	Cc	Cu
●	B-5	at 63.5'	POORLY GRADED SAND with GRAVEL(SP)						0.89	7.59
⊠	B-5	at 68.5'	POORLY GRADED SAND(SP)						1.16	4.82
▲	B-5	at 73.5'	POORLY GRADED SAND WITH SILT(SP-SM)						1.37	5.68
★	B-5	at 78.5'	POORLY GRADED SAND WITH SILT(SP-SM)						0.70	34.92
Specimen Identification			2.00mm	0.425mm	0.075mm	0.02mm	0.002mm	0.001mm	%Silt	%Clay
●	B-5	at 63.5'	59.6	18.1	2.7				2.7	
⊠	B-5	at 68.5'	86.7	25.4	3.4				3.4	
▲	B-5	at 73.5'	92.8	30.3	5.7				5.7	
★	B-5	at 78.5'	48.4	25.0	8.3				8.3	



GRAIN SIZE DISTRIBUTION

WTP Improvements
Bonner Springs, Kansas
J035801.02



Bonner Springs WTP Improvements
J035801.02

Boring B-4 Sample Depth (feet)							
Sieve Size (mm)	Percent Finer						
	48.5	58.5	63.5	68.5	73.5	78.5	83.5
19							100
12.5		100	100	100	100		71.06514
9.5		96.82366	97.25305	98.43321	98.95434	100	68.40928
4.75		91.34721	95.495	98.04152	81.9914	99.20597	57.92564
2		86.96605	92.19866	93.88954	78.38969	98.57075	36.95834
1.18		84.44688	85.71586	87.15237	69.44347	97.61791	22.98015
0.6	100	78.97043	63.08098	65.37407	50.5054	94.68001	13.75454
0.3	84.4418	53.99781	23.9644	23.14924	42.95341	62.99825	9.141739
0.15	7.007126	9.857613	8.471597	7.089698	42.95341	11.54518	3.270897
0.075	7.007126	5.038335	4.625865	4.034469	39.81643	6.939813	1.873078

Bonner Springs WTP Improvements
J035801.02

Boring B-5 Sample Depth (feet)							
Sieve Size (mm)	Percent Finer						
	43.5	53.5	58.5	63.5	68.5	73.5	78.5
19				100			
12.5				93.48908			100
9.5		100		89.73573	100	100	86.12309
4.75		97.13979	100	76.40751	97.69585	98.7814	62.6029
2		94.63711	99.91505	59.55573	86.69878	92.78215	48.41239
1.18	100	59.9571	98.15951	46.3807	67.53247	77.87776	40.88593
0.6	98.91369	38.86307	91.02407	25.23937	36.21701	40.10124	30.77225
0.3	73.53348	21.52306	48.40019	10.83876	14.53708	20.4162	19.16895
0.15	19.61288	7.579549	8.183105	5.40023	5.94889	9.91751	11.01529
0.075	10.72487	5.255631	4.82303	2.719265	3.435274	5.699287	8.271266

APPENDIX H

Rock Core Photographs

Boring B-2

Bonner Springs WTP Improvements

J035801.02

Top Run 1

Top Run 2



<u>Run No.</u>	<u>Depth (ft)</u>	<u>Recovery (%)</u>	<u>RQD (%)</u>
1	83.5 – 85.5	100	0
2	85.5 – 90.5	100	27

Boring B-2

Bonner Springs WTP Improvements

J035801.02

Top Run 3

Bottom Run 3

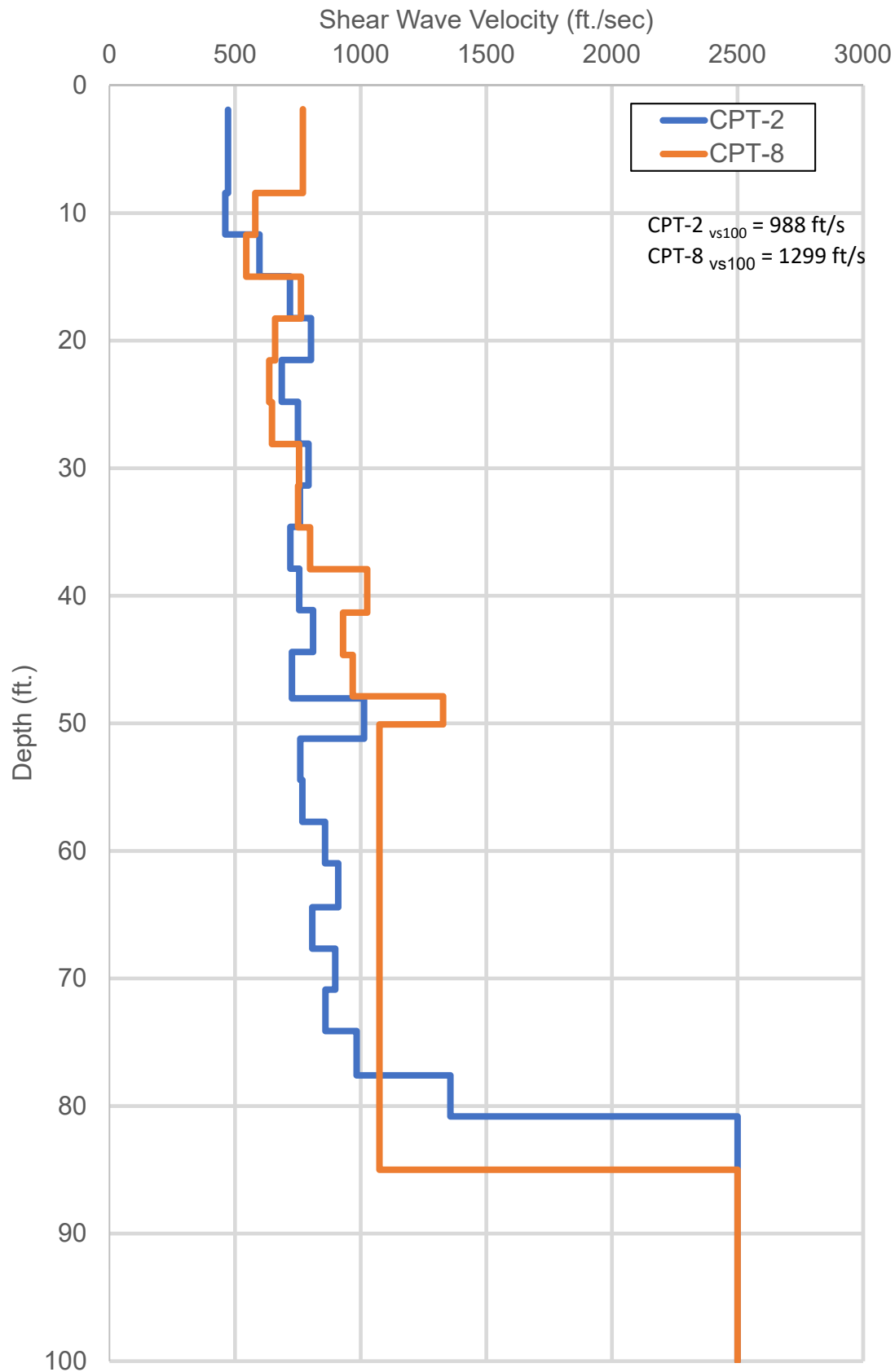


<u>Run No.</u>	<u>Depth (ft)</u>	<u>Recovery (%)</u>	<u>RQD (%)</u>
3	90.5 – 93.5	100	100

APPENDIX I

CPT Shear Wave Data

Shear Wave Velocity vs. Depth



APPENDIX J

Corrosivity Test Results

April 13, 2021

Sheryl Gallagher
Geotechnology Inc
5055 Antioch Rd
Overland Park, KS 66214

RE: Project: BONNER SPRINGS WWTP
Pace Project No.: 60365190

Dear Sheryl Gallagher:

Enclosed are the analytical results for sample(s) received by the laboratory on April 01, 2021. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace National - Mt. Juliet
- Pace Analytical Services - Kansas City

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Angie Brown
angie.brown@pacelabs.com
1(913)563-1402
Project Manager

Enclosures

cc: Angie Coates, GEOTECHNOLOGY, INC.



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: BONNER SPRINGS WWTP
Pace Project No.: 60365190

Pace Analytical Services Kansas

9608 Loiret Boulevard, Lenexa, KS 66219
Missouri Inorganic Drinking Water Certification #: 10090
Arkansas Drinking Water
Arkansas Certification #: 20-020-0
Arkansas Drinking Water
Illinois Certification #: 200030
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055

Nevada Certification #: KS000212020-2
Oklahoma Certification #: 9205/9935
Florida: Cert E871149 SEKS WET
Texas Certification #: T104704407-19-12
Utah Certification #: KS000212019-9
Illinois Certification #: 004592
Kansas Field Laboratory Accreditation: # E-92587
Missouri SEKS Micro Certification: 10070

Pace Analytical Services National

12065 Lebanon Road, Mt. Juliet, TN 37122
Alabama Certification #: 40660
Alaska Certification 17-026
Arizona Certification #: AZ0612
Arkansas Certification #: 88-0469
California Certification #: 2932
Canada Certification #: 1461.01
Colorado Certification #: TN00003
Connecticut Certification #: PH-0197
DOD Certification: #1461.01
EPA# TN00003
Florida Certification #: E87487
Georgia DW Certification #: 923
Georgia Certification: NELAP
Idaho Certification #: TN00003
Illinois Certification #: 200008
Indiana Certification #: C-TN-01
Iowa Certification #: 364
Kansas Certification #: E-10277
Kentucky UST Certification #: 16
Kentucky Certification #: 90010
Louisiana Certification #: AI30792
Louisiana DW Certification #: LA180010
Maine Certification #: TN0002
Maryland Certification #: 324
Massachusetts Certification #: M-TN003
Michigan Certification #: 9958
Minnesota Certification #: 047-999-395
Mississippi Certification #: TN00003
Missouri Certification #: 340
Montana Certification #: CERT0086
Nebraska Certification #: NE-OS-15-05

Nevada Certification #: TN-03-2002-34
New Hampshire Certification #: 2975
New Jersey Certification #: TN002
New Mexico DW Certification
New York Certification #: 11742
North Carolina Aquatic Toxicity Certification #: 41
North Carolina Drinking Water Certification #: 21704
North Carolina Environmental Certificate #: 375
North Dakota Certification #: R-140
Ohio VAP Certification #: CL0069
Oklahoma Certification #: 9915
Oregon Certification #: TN200002
Pennsylvania Certification #: 68-02979
Rhode Island Certification #: LA000356
South Carolina Certification #: 84004
South Dakota Certification
Tennessee DW/Chem/Micro Certification #: 2006
Texas Certification #: T 104704245-17-14
Texas Mold Certification #: LAB0152
USDA Soil Permit #: P330-15-00234
Utah Certification #: TN00003
Vermont Dept. of Health: ID# VT-2006
Virginia Certification #: VT2006
Virginia Certification #: 460132
Washington Certification #: C847
West Virginia Certification #: 233
Wisconsin Certification #: 998093910
Wyoming UST Certification #: via A2LA 2926.01
A2LA-ISO 17025 Certification #: 1461.01
A2LA-ISO 17025 Certification #: 1461.02
AIHA-LAP/LLC EMLAP Certification #:100789

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: BONNER SPRINGS WWTP

Pace Project No.: 60365190

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60365190001	B-3 SS-1 1'-2.5'	Solid	03/29/21 10:00	04/01/21 09:26
60365190002	B-2 ST-4 8'-10'	Solid	03/29/21 11:13	04/01/21 09:26

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SAMPLE ANALYTE COUNT

Project: BONNER SPRINGS WWTP

Pace Project No.: 60365190

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60365190001	B-3 SS-1 1'-2.5'	ASTM D2974	DWC	1	PASI-K
		SM 2540G	KDW	1	PAN
		EPA 9030B	LDT	1	PAN
		EPA 9045	AJS	1	PASI-K
		SM 2580B	JDS	1	PASI-K
		EPA 120.1 Resistivity	AJS	1	PASI-K
		EPA 9056	CRN2	2	PASI-K
60365190002	B-2 ST-4 8'-10'	ASTM D2974	DWC	1	PASI-K
		SM 2540G	KDW	1	PAN
		EPA 9030B	LDT	1	PAN
		EPA 9045	AJS	1	PASI-K
		SM 2580B	JDS	1	PASI-K
		EPA 120.1 Resistivity	AJS	1	PASI-K
		EPA 9056	CRN2	2	PASI-K

PAN = Pace National - Mt. Juliet

PASI-K = Pace Analytical Services - Kansas City

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BONNER SPRINGS WWTP

Pace Project No.: 60365190

Sample: B-3 SS-1 1'-2.5' **Lab ID: 60365190001** Collected: 03/29/21 10:00 Received: 04/01/21 09:26 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture								
Analytical Method: ASTM D2974 Pace Analytical Services - Kansas City								
Percent Moisture	21.1	%	0.50	1		04/01/21 15:45		
Total Solids 2540 G-2011								
Analytical Method: SM 2540G Preparation Method: SM 2540 G Pace National - Mt. Juliet								
Total Solids	80.7	%		1	04/10/21 11:28	04/10/21 11:35		
Wet Chemistry 9030B								
Analytical Method: EPA 9030B Preparation Method: 9030B Pace National - Mt. Juliet								
Sulfide	ND	mg/kg	31.0	1	04/05/21 10:13	04/05/21 12:04	18496-25-8	
9045 pH Soil								
Analytical Method: EPA 9045 Pace Analytical Services - Kansas City								
pH at 25 Degrees C	7.8	Std. Units	0.10	1		04/02/21 14:16		
Oxidation/Reduction Potential								
Analytical Method: SM 2580B Pace Analytical Services - Kansas City								
Oxidation/Reduction Potential	191.0	mV	1.0	1		04/05/21 12:45		
Resistivity								
Analytical Method: EPA 120.1 Resistivity Pace Analytical Services - Kansas City								
Resistivity	3570	ohms-cm	100	1		04/12/21 14:58		
9056 IC Anions								
Analytical Method: EPA 9056 Preparation Method: EPA 9056 Pace Analytical Services - Kansas City								
Chloride	ND	mg/kg	98.0	10	04/13/21 07:05	04/13/21 09:38	16887-00-6	
Sulfate	ND	mg/kg	98.0	10	04/13/21 07:05	04/13/21 09:38	14808-79-8	M1

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BONNER SPRINGS WWTP

Pace Project No.: 60365190

Sample: B-2 ST-4 8'-10' **Lab ID: 60365190002** Collected: 03/29/21 11:13 Received: 04/01/21 09:26 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture								
Analytical Method: ASTM D2974 Pace Analytical Services - Kansas City								
Percent Moisture	27.2	%	0.50	1		04/01/21 15:45		
Total Solids 2540 G-2011								
Analytical Method: SM 2540G Preparation Method: SM 2540 G Pace National - Mt. Juliet								
Total Solids	73.8	%		1	04/10/21 11:28	04/10/21 11:35		
Wet Chemistry 9030B								
Analytical Method: EPA 9030B Preparation Method: 9030B Pace National - Mt. Juliet								
Sulfide	ND	mg/kg	33.9	1	04/05/21 10:13	04/05/21 12:04	18496-25-8	
9045 pH Soil								
Analytical Method: EPA 9045 Pace Analytical Services - Kansas City								
pH at 25 Degrees C	7.8	Std. Units	0.10	1		04/02/21 14:18		
Oxidation/Reduction Potential								
Analytical Method: SM 2580B Pace Analytical Services - Kansas City								
Oxidation/Reduction Potential	191.0	mV	1.0	1		04/05/21 12:46		
Resistivity								
Analytical Method: EPA 120.1 Resistivity Pace Analytical Services - Kansas City								
Resistivity	5550	ohms-cm	100	1		04/12/21 14:59		
9056 IC Anions								
Analytical Method: EPA 9056 Preparation Method: EPA 9056 Pace Analytical Services - Kansas City								
Chloride	ND	mg/kg	99.4	10	04/13/21 07:05	04/13/21 10:25	16887-00-6	
Sulfate	ND	mg/kg	99.4	10	04/13/21 07:05	04/13/21 10:25	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BONNER SPRINGS WWTP

Pace Project No.: 60365190

QC Batch: 712206

Analysis Method: ASTM D2974

QC Batch Method: ASTM D2974

Analysis Description: Dry Weight/Percent Moisture

Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60365190001, 60365190002

METHOD BLANK: 2865837

Matrix: Solid

Associated Lab Samples: 60365190001, 60365190002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Percent Moisture	%	ND	0.50	04/01/21 15:44	

SAMPLE DUPLICATE: 2865838

Parameter	Units	60365130002 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	16.0	15.6	2	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BONNER SPRINGS WWTP

Pace Project No.: 60365190

QC Batch: 1648784

Analysis Method: SM 2540G

QC Batch Method: SM 2540 G

Analysis Description: Total Solids 2540 G-2011

Laboratory: Pace National - Mt. Juliet

Associated Lab Samples: 60365190001, 60365190002

METHOD BLANK: R3640724-1

Matrix: Solid

Associated Lab Samples: 60365190001, 60365190002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Solids	%	ND		04/10/21 11:35	

LABORATORY CONTROL SAMPLE: R3640724-2

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Solids	%	50.0	50.0	100	85.0-115	

SAMPLE DUPLICATE: R3640724-3

Parameter	Units	L1331672-03 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Solids	%	99.7	99.7	0.00261	10	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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QUALITY CONTROL DATA

Project: BONNER SPRINGS WWTP

Pace Project No.: 60365190

QC Batch: 1648285

Analysis Method: EPA 9030B

QC Batch Method: 9030B

Analysis Description: Wet Chemistry 9030B

Laboratory: Pace National - Mt. Juliet

Associated Lab Samples: 60365190001, 60365190002

METHOD BLANK: R3639757-1

Matrix: Solid

Associated Lab Samples: 60365190001, 60365190002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfide	mg/kg	ND	25.0	04/05/21 12:04	

LABORATORY CONTROL SAMPLE: R3639757-2

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/kg	100	83.7	83.7	70.0-130	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BONNER SPRINGS WWTP

Pace Project No.: 60365190

QC Batch: 712424

Analysis Method: EPA 9045

QC Batch Method: EPA 9045

Analysis Description: 9045 pH

Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60365190001, 60365190002

SAMPLE DUPLICATE: 2866854

Parameter	Units	60364151001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	6.7	6.7	0	3	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BONNER SPRINGS WWTP

Pace Project No.: 60365190

QC Batch: 712657

Analysis Method: SM 2580B

QC Batch Method: SM 2580B

Analysis Description: Oxidation/Reduction Potential

Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60365190001, 60365190002

SAMPLE DUPLICATE: 2867791

Parameter	Units	92529725001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oxidation/Reduction Potential	mV	174.3	174.3			

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BONNER SPRINGS WWTP

Pace Project No.: 60365190

QC Batch:	714169	Analysis Method:	EPA 9056
QC Batch Method:	EPA 9056	Analysis Description:	9056 IC Anions
		Laboratory:	Pace Analytical Services - Kansas City

Associated Lab Samples: 60365190001, 60365190002

METHOD BLANK: 2873441 Matrix: Solid

Associated Lab Samples: 60365190001, 60365190002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/kg	ND	100	04/13/21 09:06	
Sulfate	mg/kg	ND	100	04/13/21 09:06	

LABORATORY CONTROL SAMPLE: 2873442

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/kg	500	480	96	80-120	
Sulfate	mg/kg	500	499	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2873443 2873444

Parameter	Units	60365190001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/kg	ND	607	607	683	726	101	108	80-120	6	15	
Sulfate	mg/kg	ND	607	607	737	792	114	123	80-120	7	15 M1	

SAMPLE DUPLICATE: 2873445

Parameter	Units	60365190002 Result	Dup Result	RPD	Max RPD	Qualifiers
Chloride	mg/kg	ND	73.8J		15	
Sulfate	mg/kg	ND	ND		15	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: BONNER SPRINGS WWTP

Pace Project No.: 60365190

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BONNER SPRINGS WWTP

Pace Project No.: 60365190

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60365190001	B-3 SS-1 1'-2.5'	ASTM D2974	712206		
60365190002	B-2 ST-4 8'-10'	ASTM D2974	712206		
60365190001	B-3 SS-1 1'-2.5'	SM 2540 G	1648784	SM 2540G	1648784
60365190002	B-2 ST-4 8'-10'	SM 2540 G	1648784	SM 2540G	1648784
60365190001	B-3 SS-1 1'-2.5'	9030B	1648285	EPA 9030B	1648285
60365190002	B-2 ST-4 8'-10'	9030B	1648285	EPA 9030B	1648285
60365190001	B-3 SS-1 1'-2.5'	EPA 9045	712424		
60365190002	B-2 ST-4 8'-10'	EPA 9045	712424		
60365190001	B-3 SS-1 1'-2.5'	SM 2580B	712657		
60365190002	B-2 ST-4 8'-10'	SM 2580B	712657		
60365190001	B-3 SS-1 1'-2.5'	EPA 120.1 Resistivity	713983		
60365190002	B-2 ST-4 8'-10'	EPA 120.1 Resistivity	713983		
60365190001	B-3 SS-1 1'-2.5'	EPA 9056	714169	EPA 9056	714280
60365190002	B-2 ST-4 8'-10'	EPA 9056	714169	EPA 9056	714280

REPORT OF LABORATORY ANALYSIS

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Sample Condition Upon Receipt

WO#: 60365190



Client Name: Geotechnology

Courier: FedEx ☐ UPS ☐ VIA ☐ Clay ☐ PEX ☐ ECI ☐ Pace ☐ Xroads ☐ Client ☒ Other ☐

Tracking #: _____ Pace Shipping Label Used? Yes ☐ No ☒

Custody Seal on Cooler/Box Present: Yes ☐ No ☒ Seals intact: Yes ☐ No ☒

Packing Material: Bubble Wrap ☐ Bubble Bags ☐ Foam ☐ None ☒ Other ☐

Thermometer Used: T298 Type of Ice: Wet ☐ Blue ☒ None ☐

Cooler Temperature (°C): As-read 5.4 Corr. Factor 0.0 Corrected 5.4

Date and initials of person examining contents: 4/17/2012

Temperature should be above freezing to 6°C

Chain of Custody present:	☒ Yes ☐ No ☐ N/A	
Chain of Custody relinquished:	☒ Yes ☐ No ☐ N/A	
Samples arrived within holding time:	☒ Yes ☐ No ☐ N/A	
Short Hold Time analyses (<72hr):	☐ Yes ☒ No ☐ N/A	
Rush Turn Around Time requested:	☐ Yes ☒ No ☐ N/A	
Sufficient volume:	☒ Yes ☐ No ☐ N/A	
Correct containers used:	☒ Yes ☐ No ☐ N/A	
Pace containers used:	☐ Yes ☒ No ☐ N/A	
Containers intact:	☒ Yes ☐ No ☐ N/A	
Unpreserved 5035A / TX1005/1006 soils frozen in 48hrs?	☐ Yes ☐ No ☒ N/A	
Filtered volume received for dissolved tests?	☐ Yes ☐ No ☒ N/A	
Sample labels match COC: Date / time / ID / analyses	☒ Yes ☐ No ☐ N/A	
Samples contain multiple phases? Matrix: <u>SL</u>	☐ Yes ☒ No ☐ N/A	
Containers requiring pH preservation in compliance? (HNO ₃ , H ₂ SO ₄ , HCl<2; NaOH>9 Sulfide, NaOH>10 Cyanide) (Exceptions: VOA, Micro, O&G, KS TPH, OK-DRO) LOT#	☐ Yes ☐ No ☒ N/A	List sample IDs, volumes, lot #'s of preservative and the date/time added.
Cyanide water sample checks:		
Lead acetate strip turns dark? (Record only)	☐ Yes ☐ No	
Potassium iodide test strip turns blue/purple? (Preserve)	☐ Yes ☐ No	
Trip Blank present:	☐ Yes ☐ No ☒ N/A	
Headspace in VOA vials (>6mm):	☐ Yes ☐ No ☒ N/A	
Samples from USDA Regulated Area: State: <u>KS</u>	☐ Yes ☒ No ☐ N/A	
Additional labels attached to 5035A / TX1005 vials in the field?	☐ Yes ☐ No ☒ N/A	

Client Notification/ Resolution: Copy COC to Client? Y / ☒ N Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____

Date: _____

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company: <u>Geotechnology</u>		Report To: <u>Soalagharegeotechnology.com Dana Casey</u>		Attention: <u>Dana Casey</u>	
Address: <u>5055 Antioch Rd</u>		Copy To: <u>acabates@geotechnology.com</u>		Company Name: <u>Geotechnology</u>	
City: <u>Overland Park, KS 66203</u>		Purchase Order No.: <u></u>		Address: <u>11018 Lackland Rd</u>	
Email: <u>Sheryl Gallagher</u>		Project Name: <u>Bonner Springs WWTP</u>		Pace Quote Reference: <u>St. Louis, MO 63146</u>	
Phone: <u>913-488-1901</u>		Project Number: <u>JD35801.02</u>		Pace Project Manager: <u></u>	
Requested Due Date/TAT: <u></u>		Matrix Code: <u></u>		Pace Profile #: <u></u>	
Matrix Codes MATRIX / CODE Drinking Water DW Waste Water WT Product Water PW Soil/Solid P Oil OL Wipe WIP Air AR Tissue TS Other OT		COLLECTED COMPOSITE START COMPOSITE END/GRAB DATE TIME DATE TIME		Preservatives Unpreserved H ₂ SO ₄ HNO ₃ HCl NaOH Na ₂ S ₂ O ₃ Methanol Other	
SAMPLE ID (A-Z, 0-9 /, -) Sample IDs MUST BE UNIQUE		SAMPLE TYPE (G=GRAB C=COMP)		# OF CONTAINERS	
1 B-3 SS-1 1'-2.5'		G/3/29 10:00		Analysis Test ↑	
2				PH	
3 B-2 ST-4 8'-10'		G/3/29 11:13		SULFATES	
4				CHLORIDE	
5				SULFIDES	
6				OXIDIZING	
7				RESISTIVITY	
8					
9					
10					
11					
12					

Section D Requested Client Information		Requested Analysis Filtered (Y/N)		Requested Analysis Filtered (Y/N)	
Matrix Code (see valid codes to left)		SAMPLE TEMP AT COLLECTION		Residual Chlorine (Y/N)	
RELINQUISHED BY / AFFILIATION		DATE		DATE	
TIME		TIME		TIME	
ACCEPTED BY / AFFILIATION		DATE		DATE	
TIME		TIME		TIME	
RECEIVED BY / AFFILIATION		DATE		DATE	
TIME		TIME		TIME	
SAMPLER NAME AND SIGNATURE		SAMPLER NAME AND SIGNATURE		SAMPLER NAME AND SIGNATURE	
PRINT Name of SAMPLER: <u>Angela D. Coates</u>		PRINT Name of SAMPLER: <u>Angela D. Coates</u>		PRINT Name of SAMPLER: <u>Angela D. Coates</u>	
SIGNATURE of SAMPLER: <u>Angela D. Coates</u>		SIGNATURE of SAMPLER: <u>Angela D. Coates</u>		SIGNATURE of SAMPLER: <u>Angela D. Coates</u>	
DATE Signed (MM/DD/YY): <u>3/29/2021</u>		DATE Signed (MM/DD/YY): <u>3/29/2021</u>		DATE Signed (MM/DD/YY): <u>3/29/2021</u>	
Temp in °C		Received on		Custody	
5.4		4/1/21		Sealed Cooler	
N		0924		N	
Y				Y	

Internal Transfer Chain of Custody



☐ Samples Pre-Logged into eCOC.

Cert. Needed: ☐ Yes ☒ No

Workorder: 60365190

Workorder Name: BONNER SPRINGS WWTP

Owner Received Date: 4/1/2021 Results Requested By: 4/13/2021

[illegible]

***In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC document.

This chain of custody is considered complete as is since this information is available in the owner laboratory.

$$2.271 = 2.1$$

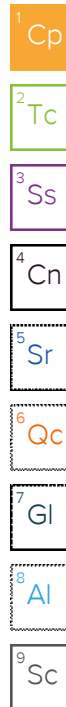
Sample Receipt Checklist:

COC Seal Present/Intact:	<u>Y</u> N	If Applicable	
COC Signed/Accurate:	<u>Y</u> N	VOA Zero Headspace:	<u>Y</u> N
Bottles arrive intact:	<u>Y</u> N	Pres. Correct/Check:	<u>Y</u> N
Correct bottles used:	<u>Y</u> N		
Sufficient volume sent:	<u>Y</u> N		
RAL Screen <0.5 mR/hr:	<u>Y</u> N		

April 12, 2021

Pace Analytical - Lenexa, KS

Sample Delivery Group: L1334003
Samples Received: 04/03/2021
Project Number: 60365190
Description: BONNER SPRINGS WWTP
Site: 001
Report To: Angie Brown
9608 Loiret Boulevard
Lenexa, KS 66219



Entire Report Reviewed By:



Nancy McLain
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.

Pace Analytical National

12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 www.pacenational.com

Page 18 of 28

ACCOUNT:
Pace Analytical - Lenexa, KS

PROJECT:
60365190

SDG:
L1334003

DATE/TIME:
04/12/21 14:11

PAGE:
Page 332 of 621
1 of 11

TABLE OF CONTENTS

Cp: Cover Page	1	¹ Cp
Tc: Table of Contents	2	
Ss: Sample Summary	3	² Tc
Cn: Case Narrative	4	
Sr: Sample Results	5	³ Ss
B-3 SS-1 1-2.5 L1334003-01	5	
B-2 ST-4 8-10 L1334003-02	6	⁴ Cn
Qc: Quality Control Summary	7	⁵ Sr
Total Solids by Method 2540 G-2011	7	
Wet Chemistry by Method 9030B	8	⁶ Qc
Gl: Glossary of Terms	9	⁷ Gl
Al: Accreditations & Locations	10	⁸ Al
Sc: Sample Chain of Custody	11	⁹ Sc

SAMPLE SUMMARY

B-3 SS-1 1-2.5 L1334003-01 Solid

Collected by

Collected date/time

Received date/time

03/29/21 10:00

04/03/21 09:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1648784	1	04/10/21 11:28	04/10/21 11:35	KDW	Mt. Juliet, TN
Wet Chemistry by Method 9030B	WG1648285	1	04/05/21 10:13	04/05/21 12:04	LDT	Mt. Juliet, TN

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

B-2 ST-4 8-10 L1334003-02 Solid

Collected by

Collected date/time

Received date/time

03/29/21 11:13

04/03/21 09:45

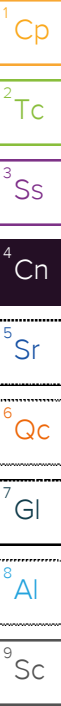
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1648784	1	04/10/21 11:28	04/10/21 11:35	KDW	Mt. Juliet, TN
Wet Chemistry by Method 9030B	WG1648285	1	04/05/21 10:13	04/05/21 12:04	LDT	Mt. Juliet, TN

CASE NARRATIVE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



Nancy McLain
Project Manager



Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	80.7		1	04/10/2021 11:35	WG1648784

Wet Chemistry by Method 9030B

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Sulfide	U		9.46	31.0	1	04/05/2021 12:04	WG1648285

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	73.8		1	04/10/2021 11:35	WG1648784

Wet Chemistry by Method 9030B

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis date / time	Batch
Sulfide	U		10.3	33.9	1	04/05/2021 12:04	WG1648285

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R3640724-1 04/10/21 11:35

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
Total Solids	0.000			

L1331672-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1331672-03 04/10/21 11:35 • (DUP) R3640724-3 04/10/21 11:35

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Total Solids	99.7	99.7	1	0.00261		10

Laboratory Control Sample (LCS)

(LCS) R3640724-2 04/10/21 11:35

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Total Solids	50.0	50.0	100	85.0-115	

1
Cp

2
Tc

3
Ss

4
Cn

5
Sr

6
Qc

7
Gl

8
Al

9
Sc

Method Blank (MB)

(MB) R3639757-1 04/05/21 12:04

	MB Result	<u>MB Qualifier</u>	MB MDL	MB RDL
Analyte	mg/kg		mg/kg	mg/kg
Sulfide	U		7.63	25.0

Laboratory Control Sample (LCS)

(LCS) R3639757-2 04/05/21 12:04

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	<u>LCS Qualifier</u>
Analyte	mg/kg	mg/kg	%	%	
Sulfide	100	83.7	83.7	70.0-130	

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

GLOSSARY OF TERMS

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

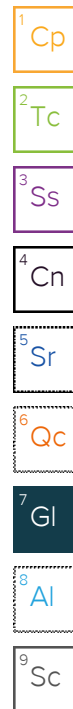
Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

(dry)	Results are reported based on the dry weight of the sample. [this will only be present on a dry report basis for soils].
MDL	Method Detection Limit.
MDL (dry)	Method Detection Limit.
RDL	Reported Detection Limit.
RDL (dry)	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier Description

The remainder of this page intentionally left blank, there are no qualifiers applied to this SDG.



ACCREDITATIONS & LOCATIONS

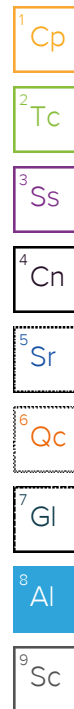
Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey--NELAP	TN002
California	2932	New Mexico ¹	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina ¹	DW21704
Georgia	NELAP	North Carolina ³	41
Georgia ¹	923	North Dakota	R-140
Idaho	TN00003	Ohio--VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky ^{1,6}	KY90010	South Carolina	84004002
Kentucky ²	16	South Dakota	n/a
Louisiana	AI30792	Tennessee ^{1,4}	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas ⁵	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA -- ISO 17025	1461.01	AIHA-LAP, LLC EMLAP	100789
A2LA -- ISO 17025 ⁵	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA--Crypto	TN00003		

¹ Drinking Water ² Underground Storage Tanks ³ Aquatic Toxicity ⁴ Chemical/Microbiological ⁵ Mold ⁶ Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.



Internal Transfer Chain of Custody

☐ Samples Pre-Logged into eCOC.

Cert. Needed: ☐ Yes ☒ No

Workorder: 60365190

Workorder Name: BONNER SPRINGS WWTP

Owner Received Date: 4/1/2021 Results Requested By: 4/13/2021

[illegible]

***In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC document.

This chain of custody is considered complete as is since this information is available in the owner laboratory.

$$K3KH$$

$$2.271 = 2.1$$

Sample Receipt Checklist:

COC Seal Present/Intact:	<u>Y</u> N	If Applicable	
COC Signed/Accurate:	<u>Y</u> N	VOA Zero Headspace:	<u>Y</u> N
Bottles arrive intact:	<u>Y</u> N	Pres. Correct/Check:	<u>Y</u> N
Correct bottles used:	<u>Y</u> N		
Sufficient volume sent:	<u>Y</u> N		
RAD Screen <0.5 mR/hr:	<u>Y</u> N		

May 20, 2021

Matt McQuality
GEOTECHNOLOGY, INC.
5055 Antioch Road
Shawnee, KS 66203

RE: Project: BONNER SPRINGS WWTP
Pace Project No.: 60369303

Dear Matt McQuality:

Enclosed are the analytical results for sample(s) received by the laboratory on May 13, 2021. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Kansas City
- Pace Analytical Services - New Orleans

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Angie Brown
angie.brown@pacelabs.com
1(913)563-1402
Project Manager

Enclosures

cc: Angie Coates, GEOTECHNOLOGY, INC.



REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

CERTIFICATIONS

Project: BONNER SPRINGS WWTP

Pace Project No.: 60369303

Pace Analytical Services New Orleans

California Env. Lab Accreditation Program Branch:
11277CA

Florida Department of Health (NELAC): E87595

Illinois Environmental Protection Agency: 0025721

Kansas Department of Health and Environment (NELAC):
E-10266

Louisiana Dept. of Environmental Quality (NELAC/LELAP):
02006

Texas Commission on Env. Quality (NELAC):
T104704405-09-TX

U.S. Dept. of Agriculture Foreign Soil Import: P330-10-
00119

Pace Analytical Services Kansas

9608 Loiret Boulevard, Lenexa, KS 66219

Missouri Inorganic Drinking Water Certification #: 10090

Arkansas Drinking Water

Arkansas Certification #: 20-020-0

Arkansas Drinking Water

Illinois Certification #: 200030

Iowa Certification #: 118

Kansas/NELAP Certification #: E-10116

Louisiana Certification #: 03055

Nevada Certification #: KS000212020-2

Oklahoma Certification #: 9205/9935

Florida: Cert E871149 SEKS WET

Texas Certification #: T104704407-19-12

Utah Certification #: KS000212019-9

Illinois Certification #: 004592

Kansas Field Laboratory Accreditation: # E-92587

Missouri SEKS Micro Certification: 10070

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: BONNER SPRINGS WWTP

Pace Project No.: 60369303

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60369303001	B-6 SS-2 (3.5'-5')	Solid	05/10/21 09:11	05/13/21 11:30
60369303002	B-7 SS-2 (3.5'-5')	Solid	05/10/21 11:34	05/13/21 11:30

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: BONNER SPRINGS WWTP

Pace Project No.: 60369303

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60369303001	B-6 SS-2 (3.5'-5')	EPA 9034	LJL	1	PASI-N
		EPA 9045	BLA	1	PASI-K
		SM 2580B	JDS	1	PASI-K
		EPA 120.1 Resistivity	BLA	1	PASI-K
		EPA 9056	VRP	2	PASI-K
60369303002	B-7 SS-2 (3.5'-5')	EPA 9034	LJL	1	PASI-N
		EPA 9045	BLA	1	PASI-K
		SM 2580B	JDS	1	PASI-K
		EPA 120.1 Resistivity	BLA	1	PASI-K
		EPA 9056	VRP	2	PASI-K

PASI-K = Pace Analytical Services - Kansas City

PASI-N = Pace Analytical Services - New Orleans

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BONNER SPRINGS WWTP

Pace Project No.: 60369303

Sample: B-6 SS-2 (3.5'-5') **Lab ID: 60369303001** Collected: 05/10/21 09:11 Received: 05/13/21 11:30 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
9034 Sulfide, Titration								
Analytical Method: EPA 9034 Preparation Method: EPA 9030B Pace Analytical Services - New Orleans								
Sulfide	ND	mg/kg	50.0	1	05/17/21 09:47	05/17/21 12:00		
9045 pH Soil								
Analytical Method: EPA 9045 Pace Analytical Services - Kansas City								
pH at 25 Degrees C	7.1	Std. Units	0.10	1		05/19/21 12:49		
Oxidation/Reduction Potential								
Analytical Method: SM 2580B Pace Analytical Services - Kansas City								
Oxidation/Reduction Potential	145.9	mV	1.0	1		05/18/21 15:22		
Resistivity								
Analytical Method: EPA 120.1 Resistivity Pace Analytical Services - Kansas City								
Resistivity	5380	ohms-cm	100	1		05/19/21 13:14		
9056 IC Anions								
Analytical Method: EPA 9056 Preparation Method: EPA 9056 Pace Analytical Services - Kansas City								
Chloride	ND	mg/kg	101	10	05/18/21 12:00	05/19/21 07:09	16887-00-6	
Sulfate	ND	mg/kg	101	10	05/18/21 12:00	05/19/21 07:09	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BONNER SPRINGS WWTP

Pace Project No.: 60369303

Sample: B-7 SS-2 (3.5'-5') **Lab ID: 60369303002** Collected: 05/10/21 11:34 Received: 05/13/21 11:30 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
9034 Sulfide, Titration								
Analytical Method: EPA 9034 Preparation Method: EPA 9030B Pace Analytical Services - New Orleans								
Sulfide	ND	mg/kg	50.0	1	05/17/21 09:47	05/17/21 12:00		
9045 pH Soil								
Analytical Method: EPA 9045 Pace Analytical Services - Kansas City								
pH at 25 Degrees C	8.4	Std. Units	0.10	1		05/19/21 12:55		
Oxidation/Reduction Potential								
Analytical Method: SM 2580B Pace Analytical Services - Kansas City								
Oxidation/Reduction Potential	134.3	mV	1.0	1		05/18/21 15:24		
Resistivity								
Analytical Method: EPA 120.1 Resistivity Pace Analytical Services - Kansas City								
Resistivity	1890	ohms-cm	100	1		05/19/21 13:15		
9056 IC Anions								
Analytical Method: EPA 9056 Preparation Method: EPA 9056 Pace Analytical Services - Kansas City								
Chloride	ND	mg/kg	99.6	10	05/18/21 12:00	05/19/21 14:37	16887-00-6	
Sulfate	ND	mg/kg	99.6	10	05/18/21 12:00	05/19/21 14:37	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BONNER SPRINGS WWTP

Pace Project No.: 60369303

QC Batch: 225263

Analysis Method: EPA 9034

QC Batch Method: EPA 9030B

Analysis Description: 9034 Sulfide Solid

Laboratory: Pace Analytical Services - New Orleans

Associated Lab Samples: 60369303001, 60369303002

METHOD BLANK: 1058498

Matrix: Solid

Associated Lab Samples: 60369303001, 60369303002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfide	mg/kg	ND	50.0	05/17/21 12:00	

LABORATORY CONTROL SAMPLE: 1058499

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/kg	1000	882	88	80-120	

MATRIX SPIKE SAMPLE: 1058501

Parameter	Units	60369303001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/kg	ND	1000	882	84	75-125	

SAMPLE DUPLICATE: 1058500

Parameter	Units	60369303001 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfide	mg/kg	ND	ND		20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BONNER SPRINGS WWTP

Pace Project No.: 60369303

QC Batch: 721214

Analysis Method: EPA 9045

QC Batch Method: EPA 9045

Analysis Description: 9045 pH

Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60369303001, 60369303002

SAMPLE DUPLICATE: 2899863

Parameter	Units	60369303001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.1	7.1	0	3	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BONNER SPRINGS WWTP

Pace Project No.: 60369303

QC Batch: 721046

Analysis Method: SM 2580B

QC Batch Method: SM 2580B

Analysis Description: Oxidation/Reduction Potential

Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60369303001, 60369303002

SAMPLE DUPLICATE: 2899186

Parameter	Units	60368942005 Result	Dup Result	RPD	Max RPD	Qualifiers
Oxidation/Reduction Potential	mV	134.6	134.6			

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BONNER SPRINGS WWTP

Pace Project No.: 60369303

QC Batch: 721032

Analysis Method: EPA 9056

QC Batch Method: EPA 9056

Analysis Description: 9056 IC Anions

Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60369303001, 60369303002

METHOD BLANK: 2899014

Matrix: Solid

Associated Lab Samples: 60369303001, 60369303002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/kg	ND	100	05/19/21 01:36	
Sulfate	mg/kg	ND	100	05/19/21 01:36	

LABORATORY CONTROL SAMPLE: 2899015

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/kg	500	477	95	80-120	
Sulfate	mg/kg	500	482	96	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2899017 2899018

Parameter	Units	60368820001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/kg	11000	2360	2170	17300	15900	264	224	80-120	8	15	M1
Sulfate	mg/kg	23500	2360	2170	24700	22800	51	-34	80-120	8	15	M1

SAMPLE DUPLICATE: 2899016

Parameter	Units	60368820001 Result	Dup Result	RPD	Max RPD	Qualifiers
Chloride	mg/kg	11000	11300	2	15	
Sulfate	mg/kg	23500	24100	2	15	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: BONNER SPRINGS WWTP

Pace Project No.: 60369303

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BONNER SPRINGS WWTP

Pace Project No.: 60369303

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60369303001	B-6 SS-2 (3.5'-5')	EPA 9030B	225263	EPA 9034	225273
60369303002	B-7 SS-2 (3.5'-5')	EPA 9030B	225263	EPA 9034	225273
60369303001	B-6 SS-2 (3.5'-5')	EPA 9045	721214		
60369303002	B-7 SS-2 (3.5'-5')	EPA 9045	721214		
60369303001	B-6 SS-2 (3.5'-5')	SM 2580B	721046		
60369303002	B-7 SS-2 (3.5'-5')	SM 2580B	721046		
60369303001	B-6 SS-2 (3.5'-5')	EPA 120.1 Resistivity	721215		
60369303002	B-7 SS-2 (3.5'-5')	EPA 120.1 Resistivity	721215		
60369303001	B-6 SS-2 (3.5'-5')	EPA 9056	721032	EPA 9056	721329
60369303002	B-7 SS-2 (3.5'-5')	EPA 9056	721032	EPA 9056	721329

REPORT OF LABORATORY ANALYSIS

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**Sample Condition Upon Receipt****WO# : 60369303**Client Name: GeotechCourier: FedEx ☐ UPS ☐ VIA ☐ Clay ☐ PEX ☐ ECI ☐ Pace ☐ Xroads ☐ Client ☒ Other ☐Tracking #: _____ Pace Shipping Label Used? Yes ☐ No ☒Custody Seal on Cooler/Box Present: Yes ☐ No ☒ Seals intact: Yes ☐ No ☒Packing Material: Bubble Wrap ☐ Bubble Bags ☐ Foam ☐ None ☒ Other ☐Thermometer Used: T-298 Type of Ice: Wet Blue ☐ None ☐Cooler Temperature (°C): As-read 5.3 Corr. Factor 0.0 Corrected 5.3Date and initials of person
examining contents:

Temperature should be above freezing to 6°C

Chain of Custody present:	☒ Yes ☐ No ☐ N/A	
Chain of Custody relinquished:	☒ Yes ☐ No ☐ N/A	
Samples arrived within holding time:	☒ Yes ☐ No ☐ N/A	
Short Hold Time analyses (<72hr):	☐ Yes ☒ No ☐ N/A	
Rush Turn Around Time requested:	☐ Yes ☒ No ☐ N/A	
Sufficient volume:	☒ Yes ☐ No ☐ N/A	
Correct containers used:	☐ Yes ☒ No ☐ N/A	
Pace containers used:	☐ Yes ☒ No ☐ N/A	
Containers intact:	☒ Yes ☐ No ☐ N/A	
Unpreserved 5035A / TX1005/1006 soils frozen in 48hrs?	☐ Yes ☐ No ☒ N/A	
Filtered volume received for dissolved tests?	☐ Yes ☐ No ☒ N/A	
Sample labels match COC: Date / time / ID / analyses	☒ Yes ☐ No ☐ N/A	
Samples contain multiple phases? Matrix: <u>SL</u>	☒ Yes ☐ No ☐ N/A	
Containers requiring pH preservation in compliance? (HNO ₃ , H ₂ SO ₄ , HCl<2; NaOH>9 Sulfide, NaOH>10 Cyanide) (Exceptions: VOA, Micro, O&G, KS TPH, OK-DRO) LOT#	☐ Yes ☒ No ☐ N/A	List sample IDs, volumes, lot #'s of preservative and the date/time added.
Cyanide water sample checks:		
Lead acetate strip turns dark? (Record only)	☐ Yes ☐ No	
Potassium iodide test strip turns blue/purple? (Preserve)	☐ Yes ☐ No	
Trip Blank present:	☐ Yes ☐ No ☒ N/A	
Headspace in VOA vials (>6mm):	☐ Yes ☐ No ☒ N/A	
Samples from USDA Regulated Area: State:	☐ Yes ☒ No ☐ N/A	
Additional labels attached to 5035A / TX1005 vials in the field?	☐ Yes ☐ No ☒ N/A	

Client Notification/ Resolution:

Copy COC to Client? Y / N

Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____

Date: _____

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.



Section A Required Client Information: Company: <u>Geotechnology Inc.</u> Address: <u>5055 Antioch Road</u> <u>Overland Park, KS 66203</u> Email To: <u>Sheryl Gallagher</u> Phone: <u>913-438-1923</u> Requested Due Date/TAT: _____		Section B Required Project Information: Report To: <u>Spallagheregeotechnology.com</u> Copy To: <u>Angela D. Coates</u> Address: <u>Geotechnology.com</u> <u>11816 Lackland Rd Ste 50</u> Purchase Order No.: _____ Project Name: <u>Bonner Springs WWTP</u> Project Number: <u>JB35801.01</u>		Section C Invoice Information: Attention: <u>Dana Casey</u> Company Name: <u>Geotechnology.com</u> Address: <u>11816 Lackland Rd Ste 50</u> Pace Quote Reference: _____ Pace Project Manager: _____ Pace Profile #: _____	
Regulatory Agency NPDES ☐ GROUND WATER ☐ RCRA ☐ UST ☐ OTHER ☐		Site Location STATE: _____		Page: _____ of _____ 1370697	

ITEM #	Section D Required Client Information	Matrix Codes MATRIX / CODE Drinking Water DW Water WT Waste Water WW Product P Soil/Solid SL Oil OL Wipe WP Air AR Tissue TS Other OT	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED				SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives										Analysis Test ↑ Y / N ↓	SULFATES X SULFIDES X CHLORIDES X OXIDATION PEAK X RESISTIVITY	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
				COMPOSITE START	COMPOSITE END/GRAB	DATE	TIME			Unpreserved	H ₂ SO ₄	HNO ₃	HCl	NaOH	Na ₂ O ₃	Methanol	Other																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
1	B-6 SS-2 (3.5'-5')		SL G	9/10/21		9:11																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												

ADDITIONAL COMMENTS <u>Angela D. Coates</u>		RELINQUISHED BY / AFFILIATION <u>Angela D. Coates</u>	DATE <u>5/12/21</u>	TIME <u>5:13</u>	ACCEPTED BY / AFFILIATION <u>Angela D. Coates</u>	DATE <u>5/13</u>	TIME <u>5:37</u>	SAMPLE CONDITIONS Ice (Y/N) ☐ Sealed Cooler (Y/N) ☐ Custody (Y/N) ☐ Received on (Y/N) ☐ Temp in °C _____
SAMPLER NAME AND SIGNATURE PRINT Name of SAMPLER: <u>Angela D. Coates</u> SIGNATURE of SAMPLER: <u>Angela D. Coates</u>								
DATE Signed (MM/DD/YY): <u>5/10/21</u>								

Internal Transfer Chain of Custody



☐ Samples Pre-Logged into eCOC.

Cert. Needed: ☒ Yes ☐ No

Owner Received Date: 5/13/2021 Results Requested By: 5/25/2021



Workorder: 60369303 Workorder Name: BONNER SPRINGS WWTP

Report To Subcontract To

Angie Brown
Pace Analytical Kansas
9608 Loiret Blvd.
Lenexa, KS 66219
Phone 1(913)563-1402

Pace Analytical New Orleans
1000 Riverbend Blvd
Suite F
St Rose, LA 70087
Phone (504)469-0333

Requested Analysis

WO#: 20199690



Suitcase

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers		LAB USE ONLY
						Unpreserved		
1	B-6 SS-2 (3'5'-5')	PS	5/10/2021 09:11	60369303001	Solid	1		
2	B-7 SS-2 (3'5'-5')	PS	5/10/2021 11:34	60369303002	Solid	1		
3								
4								
5								

Comments

Transfers	Released By	Date/Time	Received By	Date/Time	Received on Ice	Y or N	Samples Intact	Y or N
1	Mary / PHAE	5/14/21 1800	Ted Cos	5/15/21 0835				
2								
3								

SHORT HOLD

Cooler Temperature on Receipt 26°C Custody Seal Y or N Received on Ice Y or N Samples Intact Y or N

***In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC document.

This chain of custody is considered complete as is since this information is available in the owner laboratory.



1000 Riverbend Blvd., Suite F
St. Rose, LA 70087

Sample Condition Upon Re Proje

WO# : 20199690

PM: CAL

Due Date: 05/25/21

CLIENT: PASI-KANS

Courier: ☐ Pace Courier ☐ Hired Courier ☒ Fed X ☐ UPS ☐ DHL ☐ USPS ☐ Customer ☐ Other

Custody Seal on Cooler/Box Present: [see COC]

Custody Seals intact: ☒ Yes ☐ No

Thermometer Used: ☒ Therm Fisher IR 7
☐ Therm Fisher IR 10

Type of Ice: Wet Blue None

Samples on ice: [see COC]

Cooler Temperature: [see COC]

Temp should be above freezing to 6°C

Date and Initials of person examining contents: 5/15/2021 JWS

Temp must be measured from Temperature blank when present

Comments:

Temperature Blank Present?"	☒ Yes ☐ No ☐ N/A	1
Chain of Custody Present:	☒ Yes ☐ No ☐ N/A	2
Chain of Custody Complete:	☒ Yes ☐ No ☐ N/A	3
Chain of Custody Relinquished:	☒ Yes ☐ No ☐ N/A	4
Sampler Name & Signature on COC:	☐ Yes ☒ No ☐ N/A	5
Samples Arrived within Hold Time:	☒ Yes ☐ No ☐ N/A	6
Sufficient Volume:	☒ Yes ☐ No ☐ N/A	7
Correct Containers Used:	☒ Yes ☐ No ☐ N/A	8
Filtered vol. Rec. for Diss. tests	☐ Yes ☐ No ☒ N/A	9
Sample Labels match COC:	☒ Yes ☐ No ☐ N/A	10
All containers received within manufacture's precautionary and/or expiration dates.	☒ Yes ☐ No ☐ N/A	11
All containers needing chemical preservation have been checked (except VOA, coliform, & O&G).	☐ Yes ☐ No ☒ N/A	12
All containers preservation checked found to be in compliance with EPA recommendation.	☐ Yes ☐ No ☒ N/A	13
Headspace in VOA Vials (>6mm):	☐ Yes ☐ No ☒ N/A	14
Trip Blank Present:	☐ Yes ☒ No	15

Client Notification/ Resolution:

Person Contacted: _____

Date/Time: _____

Comments/ Resolution: _____



CREATE AMAZING.

Burns & McDonnell World Headquarters
9400 Ward Parkway
Kansas City, MO 64114
O 816-333-9400
F 816-333-3690
www.burnsmcd.com

Exhibit C

Preliminary Drawings

Exhibit D

Work Description
which includes Allowance Items

Design / Build Firm: Burns & McDonnell / CAS Constructors Bonner Springs WTP Joint Venture

Project: Bonner Springs Water Treatment Plant
City of Bonner Springs, KS

WORK DESCRIPTION

This Work Description is not intended to be comprehensive. This Work Description identifies major definable components of the Project as they can be defined at the time that the contract was prepared. The final Project will provide a complete and workable facility that meets the performance requirements identified for the Project. In addition to the major components called out herein, the Project includes all associated, ancillary, and connecting components and features required to achieve the documented performance requirements, whether or not these items are specifically called out in this Work Description.

010000 GENERAL CONDITIONS

All Supervision, Administrative Costs, and Temporary Facilities

No Sales Tax included for items that are exempt, Owner to provide Exemption Certificate for the project

No building permits fees included. Permits will be obtained as required, but no fees will be charged for the plan review or the permits.

No cost for water consumption during construction

Builders risk insurance is included

Design and construction administration fees are included for the duration of the schedule.

Performance & Payment Bonds for the total value of the project

Startup / Testing – Owner to provide any necessary chemicals necessary for startup/testing, except for chemicals necessary for initial disinfection purposes

O&M's supplied by equipment suppliers shall be turned over to the Owner. All O&M manuals will be provided in paper (2 sets) and electronic PDF form

In the event that there are discrepancies between this and any other contract document, this document shall govern

This project is under current prevailing wage for Wyandotte County, KS dated 06/17/2022

This project is in compliance with all KDHE guidelines for SRF funded projects, except Build American, Buy America (BABA).

This agreement excludes any and all time delays and cost increases arising from or related to the COVID-19 virus, future pandemics, or epidemics, and any government or other third party action in response thereto.

010100 SPECIAL SITE CONDITIONS

No hazardous or special waste are known of at this time or anticipated to be encountered in the course of this project, except as noted in the allowances. If encountered, Design/Builder to stop work, Owner to provide abatement and disposal of any hazardous or special wastes prior to Design/Builder continuing work.

REV 7

No provisions for extensive groundwater should it be encountered. Normal surface water will be handled by small localized pumps.

010150 OWNER FURNISHED ITEMS

Water at project site at no additional cost to Design/Builder

Operation and maintenance of existing facilities during construction

Access to project sites as needed to perform work.

Shut down of wellfield and plant flows as coordinated with Design/Builder to accomplish project scope.

Land acquisition, easements, or Right-of-Way as required

Upgrades to utility services from provider to their respective meter as required

Internet and telephone service provider to inside of administration building

Chemicals as required for startup and testing except for as required for initial disinfection during start up

Water Meter to service Main Treatment Building

Furnishings – including any white/display boards, sliding doors, A/V equipment, Office Room

Furniture, Conference Room Tables & Chairs, Break Room Tables & Chairs, Refrigerators, appliances, etc.

Final Seeding / Landscaping

015000 CONSTRUCTION EQUIPMENT

All construction equipment necessary to complete the work is included.

015500 ALLOWANCE ITEMS and ALLOWANCE VALUES – (these are included in the lump sum price)

Allowance items are included in the lump sum price. Decisions will be made by the Owner for their use. In the event that the decisions made are in excess of the amounts listed, the Owner shall pay such additional cost. In the event that the decisions made are less than the amounts listed, the Owner shall be entitled to the amounts remaining.

1. \$ 49,644.00 Testing Lab Services – includes any testing by an independent lab for water quality, soil, concrete, and/or asphalt testing
2. \$ 1,482,033.00 Lake of the Forest Pipeline & Booster Pump Station – includes the watermain tying the Lake of the Forest water distribution system into the current Bonner Springs, KS water distribution system. The allowance includes the construction of a new hydraulic actuated valve with vault at the north side of the Lake of the Forest neighborhood for connection to the BPU Water District with automatic flushing assembly for connection to existing fire hydrant, rework of the south connection to the BPU Water District with buried manual valve, the new watermain, booster pump station, and all other associated work. Work under this allowance will be in accordance with the divisions listed in this document unless noted otherwise. Booster pump station to be a packaged station with three (3) 50 gpm pumps with variable frequency drives and packaged control system to supply constant pressure to the Lake of the Forest neighborhood; pump station also to be supplied with ~260 gallon hydropneumatics tank.
3. \$129,332.00 High Service Pumps – includes three 694 gpm high service pumps in the main process building of the treatment plant. Electrical design includes 75 HP variable frequency drives for each pump unit.

REV 7

4. \$ 83,154.00 Laboratory Casework & Equipment – includes any requested Cabinets, Counter Top / Backsplash, Lab Window Sills, Fume Hood, and Laboratory Equipment.
5. \$750,000.00 Market Volatility and Delivery Delays - If, during the performance of this contract, the price of materials and freight costs increases, through no fault of Design-Builder, the price shall be equitably adjusted by an amount reasonably necessary to cover any such increase. As used herein, a price increase shall mean any increase in price experienced by Design-Builder or subcontractor from the date of this contract until the time of delivery. Such price increases shall be documented through quotes, invoices, or receipts. Where the delivery of materials is delayed, through no fault of Design-Builder, as a result of a shortage or unavailability, Design-Builder shall be granted an extension of time, and for any additional costs or damages associated with such delay(s).

020500 DEMOLITION - GENERAL

When tying into existing lines for new connections, abandoned pipe shall be cut and plugged with concrete

Decommission and cap existing well #3

Demolish existing culverts on Swingster Rd

Demolish existing barbwire fencing

021000 WELL DEVELOPMENT

Well #8

Design Pumping Rate: 700 GPM

Borehole Dia: 42in

Well Casing Dia: 30in

Approximate depth: 81 ft

Well Screen Length: 13 ft

Vertical Turbine Pump:

ACCEPTABLE EQUIPMENT MANUFACTURERS:

Layne

Bowler

Christensen

Well #8

Vertical Turbine Well Pump – One (1) Ea.

Capacity: 700 GPM

Design Head: 350 ft

Max Horsepower: 100 HP

Spare Parts: None

022000 SITE CLEARING / GRUBBING

Site to be stripped and stockpiled as required; all materials to be utilized or wasted on site

Remove trees & brush as required to install culvert and drainage ditch at south side of site

022500 SITE EXCAVATION / BACKFILL

Excavation shall be as necessary to construct structures in accordance with the drawings

Spoils will be wasted on site

Positive Drainage away from structures

REV 7

022600 STRUCTURAL EXCAVATION/BACKFILL

Soils under structures shall be over-excavated by 2'0" and backfilled with low volume change material to 95% Standard Proctor
Site grading to 90%, and backfilling of Structures to 95%; Roadways to 95%
Backfill around structure walls will be completed with excavated soils

022750 TRENCH EXCAVATION/BACKFILL

Pipe bedding shall be in accordance with APWA KC Metro Chapter Specification 2100 – Clearing & Grading Revision May 2019
Backfill around pipe to 95%; Above pipe – 2' to 90%; except in Roadways
6" clear concrete encasement for all piping below structures & roadways
Concrete encasement shall be reinforced under roadways

022800 AGGREGATE

6" clean aggregate base below all basin and building slabs
6" AB-3 aggregate base below all roads

023000 SEEDING

Final Seeding provided by City
Topsoil will be stockpiled at beginning of project and re-spread at the end
All topsoil to be wasted on site

025000 PAVING

8" Reinforced concrete paving as indicated on the drawings
Within the existing water treatment plant site, where roadways are removed for piping tie-in work shall be replaced with 8" compacted ¾" gravel
Replacement of asphalt entrance to the existing public works building/treatment plant where it is crossed by the 12" finished water line
Two (2) new site entrances off of Swingster Rd
Pavement/Parking stall markings and signs including required ADA
Vehicle Stop blocks as required

025020 SIDEWALKS

Grade, Form, Pour, Finish, Strip 5'x4" Sidewalks

025030 FENCING & GATES

6' High chain link fence with limits defined on the drawings
Two (2) Pedestrian gates with access control
Two (2) 30'0 sliding electric vehicle gates with access control

031000 FORMWORK

Exterior Form -
Fill any repairable honeycomb; patch all tie holes
No architectural or rubbed finish; no grout finish

REV 7

No Paint

Joints to be noticeable, but not protruding

Chamfer tops of all walls

031500 CONCRETE ACCESSORIES

Vapor Barrier under Main Treatment Building

PVC water stop at all wall/floor joints for water bearing structures

Expansion and contraction/control joints as required

032000 REINFORCING

ASTM A615 Grade 60 - No Epoxy

033000 CONCRETE

ASTM C 150 Type I/II or II cement – 1” nominal maximum aggregate

Class A – 2500psi – for fill and encasement

Class B – 4000psi – for site civil and structural in non-water bearing structures

Class D – 4500psi – for structural concrete for water bearing structures

Class E – 5000psi – for pre-stress and pre-cast concrete

All concrete supplied for the project will meet the latest applicable code

All ready mix is KCMMB mix

033500 CONCRETE FINISH

Steel trowel all floor finish in buildings

Float finish for all water structures

Light broom finish on all exterior concrete slabs

No coatings on the interior or exterior of the tanks or basins

034000 PRECAST CONCRETE MANHOLES / STRUCTURES

Manholes and Meter/Valve Vaults will be standard precast structures with cast bottom, sump, and lid with integral hatch or manway

035000 STRUCTURAL PRECAST CONCRETE

8” Hollow core planks for ceiling on the electrical & compressor/blower room and the server/electrical rooms in the Main Treatment building

8” Hollow core planks for roof structure on Well House #8

No concrete or grout topping for hollow core

042000 MASONRY

Main Treatment Building

12” Lightweight CMU for chemical storage, electrical, and compressor/blower rooms in the process area.

8” Lightweight CMU for electrical and server rooms in the Admin space

Well House # 8

8” Lightweight CMU

4” Modular Brick

REV 7

2" Rigid Insulation
Bond Beams as required
Reinforcing as required

055000 MISCELLANEOUS METALS

All Handrails – aluminum, mechanical assembly, 2 rails with toe kickplate
All Grating – aluminum grating
All Stairs – galvanized with aluminum grate treads and 2 rail handrail
Pipe Bollards at OH Doors interior and exterior
Grating with edge supports over pipe trenches
Pipe Supports as required to adequately support piping
Structural pipe rack over the NF Skids to adequately support piping
Ladder to access electrical/compressor room roof area
Removable handrailing at Electrical/compressor room roof access door
Aluminum access hatches on buried valve & meter vaults
Manhole steps on buried valve & meter vaults

061000 ROUGH CARPENTRY

In-wall blocking necessary for mounting of cabinets, accessories, and toilet partitions

062000 FINISH CARPENTRY

Breakroom and conference room cabinets in the Admin space. Upper and lower cabinets with countertop as shown
Restroom vanities as shown
Cabinets are to be PLAM with solid surface countertops

072000 INSULATION

3-1/2" rockwool batt in metal stud walls for sound insulation purposes. Insulation shall be located in the following divider walls:

- Room 103/106 & 108
- Room 108 & 109
- Room 109 & 112
- Room 112 & 114
- Rooms 105/104 & 107
- Room 113 & 118
- Room 121/117/120 & 122

079000 JOINT SEALANTS

Doors/Windows/Louvers/Construction Joints in masonry and concrete
Fire Safing in Administration area corridors and around meeting rooms and top of masonry walls in chemical rooms

079200 ROOFING

Well House #8
TPO Membrane Roofing
Tapered Insulation

REV 7

Scupper & Downspout: One (1) ea per building

081000 DOORS / FRAMES / HARDWARE

Standard Hollow metal Doors & Frames – all doors in the process area of the Main Treatment Building and Well House #8 unless listed otherwise

3'0"x7'0" 1-3/4" thick with standard frame

6'0"x7'0" 1-3/4" thick with standard frame

Door 128B - 6'0"x7'0" 1-3/4" thick with 2'0 tall removable transom & mullion same type as door

FRP Doors & Frames – doors into chemical Rooms 125 & 126

3'0"x7'0" 1-3/4" thick with standard frame

Wood Veneer Doors & Hollow Metal Frames – all interior doors in the admin space unless listed otherwise

3'0"x7'0" 1-3/4" thick with standard frame

6'0"x7'0" 1-3/4" thick with standard frame

Aluminum Storefront Doors and sidelights – Doors 101, 102, 116, 117

3'0"x7'0" 1-3/4" thick

6'0"x7'0" 1-3/4" thick

Standard Door hardware; includes hinges, closers, locksets, astragals, panic devices as required by code for egress and sensitive to environment

Card reader access as shown on the drawings

085000 WINDOWS

Aluminum clad casement windows

Windows are fixed, non-operatable, unless noted

Vision Glass as scheduled

085000 GLAZING

As required for door vision / sidelight panels

089000 OVERHEAD DOOR

Main Treatment Building – Overhead Coiling Doors. insulated, powder coated steel

Doors 124D & 126B – 12'0 x 12'0

Door 125C – 8'0 x 10'0

092500 GYPSUM DRYWALL / ACOUSTICAL CEILING

Gypsum Drywall Partitions

Standard 3-5/8" 20ga metal framing

5/8" Std gyp board

5/8" Fire code gyp board at interior walls for meeting room

5/8" Mold/Moisture Resistant gyp board at wet locations

Gypsum Ceilings

Ceiling Height: 10'0 AFF

5/8" Fire code gyp board ceiling in the following rooms:

Electrical (Rm 110)

Server (Rm 111)

REV 7

Control (Rm 113)

5/8" Mold/Moisture Resistant gyp board ceiling in the following rooms:

Locker Room (Rm 102)

Mechanical (Rm 105)

RR/Shower (Rm 104)

Men's Restroom (Rm 119)

Women's Restroom (Rm 120)

2-Hr Fire rated ceiling in the following rooms:

Chem Storage (Rm 125)

Chem Storage (Rm 126)

Acoustical Ceiling Tiles

Ceiling Height: 10'0 AFF

All areas of the Admin space unless notes otherwise.

Standard grade 2'x2' drop-in panel acoustical ceiling

096500 FLOORING

Resinous Epoxy Flooring & Base in the following rooms:

Lab (Rm 114)

Carpet tile flooring with 4" rubber base in the following rooms:

Utility Manager Office (Rm 109)

Admin & Closet (Rm 121 & 121B)

Meeting/Conference Room (Rm 122 & 123)

Porcelain Tile flooring with 4" porcelain tile base in the following rooms:

RR/Shower (Rm 104)

Men's Restroom (Rm 119)

Women's Restroom (Rm 120)

Porcelain Tile wainscoat in the following rooms:

RR/Shower (Rm 104)

Men's Restroom (Rm 119)

Women's Restroom (Rm 120)

Luxury Vinyl Tile Flooring with 4" Rubber Base in all areas of the admin space unless noted otherwise

Sealed Concrete Floorings in the process areas of the Main Treatment building

099000 PAINTING

Color coded painting of exposed-to-view piping except the following items:

PVC Piping

Stainless Steel Piping

Copper Piping (Water & Pneumatic Air)

All exposed process piping to have color coded labels and directional arrows

Interior finish on gyp walls & ceilings

Hollow metal doors & frames

CMU Partitions

Coating in the following chemical containment areas

Sodium Hypo Bulk storage tank pit

REV 7

105000 SPECIALTIES

Signage:

- Room Signs
- Chemical warning signs
- Site Directional Signage
- Aluminum Building Identification letters
- Building Plaque

Toilet Accessories

- Toilet Partitions – HC / Std - Floor Mounted, headrail braced, plastic laminate
- Urinal Screen - wall mounted, plastic laminate
- Soap Dispensers
- Paper Towel / Trash Receptacle
- Shower Curtains
- Grab Bars
- Napkin Disposal
- Toilet Paper Dispensers

Approved fire extinguishers with wall brackets - 10 lb. ABC Units for all buildings as required.

Clean agent Units for Electrical Rooms

(14) 24"x24"x72" Lockers

Roller Window Shades for exterior windows in the Administration area

115300 LABORATORY CASEWORK / EQUIPMENT

Included as part of the allowances

120000 FURNISHINGS

Provided by City

133400 PRE-ENGINEERED METAL BUILDING

Main Treatment Building

Administration Area 152'0 x 45'0

Eave Ht: 14'0

Monoslope: ½":12"

Process Area: 95'0 x 104'8

Eave Ht: 20'0

Monoslope: ½":12"

Hot dipped galvanized primary and secondary framing

Roof system: 24ga SS360 standing seam metal roofing, galvalume finish

Roof Insulation: R-30, two layer, "simple saver" roof insulation by Thermal Design

Exterior wall panels: 24ga 2.5" insulated metal wall panels, striated 40" wide by Truecore

Interior wall panels: 26ga 2.5" insulated metal wall panels, striated 40" wide by Truecore

Canopy structures over three exterior entrances to Admin area

140000 MONORAIL / HOIST

One (1) Monorail hoist over the high service / backwash pumps

Capacity: 1 Ton

REV 7

Vertical Lift: 20'0
Hoist Type: manual hand chain
Trolley Type: hand geared
Monorail length: 45'0

210000 FIRE SUPPRESSION

No Fire suppression / sprinkler systems have been included

220000 PLUMBING

Materials:

Natural Gas Piping: black steel
Drainage piping (under/above slab): Sch 40 PVC
Potable / Non-Potable Water: Copper

Admin Area Fixtures:

Reduced pressure backflow preventor – 1ea
Freeze proof wall hydrants – 2ea
Laboratory Emergency Eyewash/Shower with mixing valve – 1ea
Tank-stylewater heater – 1ea
Restroom Lavatory and faucet – 5ea
Water Closets – 7ea
Urinals – 2ea
Mop Sink and faucet – 1ea
Standing Shower and faucet – 1ea
Kitchen sink and faucet – 2ea
Water Fountains – 2ea

Process Area Fixtures

Reduced pressure backflow preventor – 1ea
Hose Bibbs – 6ea
Freeze proof Wall Hydrants – 2ea
Tank-style water heater– 1ea
Recirculation Pump – 1ea
Emergency eyewash/shower with mixing valve – 3ea (2ea interior / 1ea Exterior)

230000 HVAC

Materials:

Ductwork: galvanized steel
Ductwork in chemical rooms: aluminum
Ductwork insulation: flexible elastomeric (external wrap)

Equipment:

Main Treatment Building
Administration area
Exhaust Fans with control dampers – 2ea
Air Handling Unit: 20 ton cooling capacity, 300 MBH heating – 1ea
VAV boxes, 0-2,000 CFM capacity with electric reheat – 15ea
Thermostats: 11ea
CO2 Demand Control Ventilation system

REV 7

Process Area

- Exhaust Fans – 4ea
- Intake Air Louver – 4ea
- Control Dampers – 12ea
- Thermostat – 1ea
- Natural gas fired unit heaters – 8ea

North Chemical Room

- Exhaust Fans – 1ea
- Intake Air Louver – 1ea
- Control Dampers – 2ea
- Thermostat – 1ea
- Natural gas fired unit heater – 2ea

South Chemical Room

- Makeup Air unit with gas fired heating – 1ea
- Exhaust fans – 1ea

Compressor Room

- Exhaust Fan – 1ea
- Intake air louver – 1ea
- Control Dampers – 2ea
- Thermostat – 1ea
- Natural Gas Fired Unit Heaters – 1ea

Electrical Room

- Air Handling Unit: 10 ton with electric heating – 1ea
- Thermostat – 1ea

Well House #8

- BARD Wall Mounted Heated and Cooling Unit: 1 ton – 1 per Well House
- Exhaust Fans – 1 per Well House
- Intake Air Louver – 1 per Well House
- Thermostat – 1 per Well House

All appropriate ductwork, controls, and monitoring as required

250000 INSTRUMENTATION AND CONTROLS

Field equipment not included as part of process equipment packages:

Flow Meters

- Three (3) 6” Magmeters
- One (1) 8” Magmeter
- Two (2) 12” Magmeters

Five (5) Pressure Transmitters

- One (1) Differential Pressure Transmitter

- Four (4) Non-Contact Radar Level Transmitters with Remote Display

- Three (3) Submersible Level Transducer with Remote Display

- Three (3) Float Level Switches

- Three (3) pH/Temperature Analyzer with Sensor

- Five (5) Chlorine Analyzers

- Two (2) Low Range Turbidity Analyzers

- One (1) ORP Analyzer

REV 7

- One (1) Conductivity Analyzer
- Server Room Network Cabinet
 - Free Standing Painted Steel Network Cabinet
 - Plant Control System HMI Network Components:
 - Two (2) SCADA Servers
 - One (1) Camera Server
 - One (1) SCADA Firewall
 - One (1) Enterprise Firewall
 - Two (2) Ethernet Switches
 - One (1) Enterprise Ethernet switch
 - One (1) Rack Mounted Fiber Optic Patch Panel
 - One (1) Rack Mounted Copper Patch Panel
 - One (1) UPS
- Five (5) HMI Operator workstations with 24" Monitors
- One (1) Remote Access Laptop
- Main WTP PLC Control Panel
 - NEMA 12 Free Standing Painted Steel Enclosure
 - Allen Bradley Control Logix PLC
 - Two (2) Power Supplies
 - One (1) UPS
 - One (1) Ethernet Switch
 - 15" Industrial Operator Interface Terminal
- Well House #8 PLC Control Panel
 - NEMA 4X Enclosure
 - Allen Bradley Micro Logix PLC
 - Two (2) Power Supplies
 - One (1) UPS
- Well House # 4/6
 - One (1) Fiber Patch Panel
 - One (1) Ethernet Switch
- Well House # 2
 - One (1) Fiber Patch Panel
 - One (1) Ethernet Switch
- PLC / HMI / Reports Programming Development, Testing, Startup, Training
- Controls Startup, Configuration, Testing, Training, O&M Manuals

260000 ELECTRICAL

- All work to be completed per National Electric Code
- New utility service including transformer by others
- Trench, excavation, unreinforced duct bank, ductbank will be reinforced within 10' of structures and under roadways, marker tape, and backfill for electrical conduits
- Handholes located at major underground conduit direction changes
- Includes install of instruments
- Includes fiber optic cabling from Wells #1,2,4,6,8 to the new treatment plant
- Includes electrical gear as shown on one-line
- Includes local disconnect switches for new process equipment as shown on one-line

REV 7

Includes LED lighting for building interior and exterior mounted wall packs
Includes one (1) ea. Site light pole located by the clearwell
Includes one (1) 1,000 KW Standby Generator with Automatic Transfer switch for main treatment building
Includes one (1) 250 KW Standby Generator with Automatic Transfer switch for new Well House #8 and existing Well #2
Includes grounding and lightning protection
General Material Uses and Types:
All copper wiring shall be XHHW
Conduit in non-corrosive indoor environments shall be rigid steel
Conduit in exterior exposed locations shall be PVC coated rigid steel
Conduit in corrosive locations shall be PVC coated rigid steel
Underground conduit shall be PVC Sch 40 w/ PVC coated risers

280000 SECURITY, SAFETY, & DATA

Fire Alarm System with auto-caller in Main Treatment Building

Manual Pull Stations: Seventeen (17) Ea
Fire/Smoke Detectors: Sixty (60) Ea
Fire Heat Detectors: Twelve (12) Ea
Fire Alarm Horn Strobe: Forty Six (46) Ea
Fire Alarm Strobe Only: Thirteen (13) Ea
Exterior Fire Horn/Strobe: Two (2) Ea

Networking & Data Systems in the Main Treatment Building

Fifty Seven (57) Data Drops
Floor Mounted Network Equipment Rack in Main Treatment Building
Patch Panels: Three (3) Ea
Fiber Switch: One (1)

Access Control

Altronix T2Mk77F16 Access Control System in Main Treatment Building

Door Card Readers: Ten (10) Ea
Motion Sensors: Six (6) Ea

Intrusion Detection System

DMP Intrusion Detection Panels, with cell backup and battery backup: One(1) Ea.
Wired Keypads: Three (3) Ea
Door Contacts: Ten (10) Ea
Overhead Door Contacts: Three (3) Ea

Video Surveillance System

Avigilon Network Video Recorder System which includes:
Network switch
Battery Backup
Avigilon Cameras: Seven (7) Ea

400000 PIPING

Above grade process piping

REV 7

Pipe: Ductile Iron Class 53 AWWA 151, C110/C115 Flanges, Cement Lined
Fittings: Ductile Iron Class 53 AWWA 151, C110/C115 Flanges, Cement Lined
NF Clean-in-place and Concentrate Piping:
Pipe & Fittings: Sch 80 PVC, Solvent Joint
Interior Blower Piping:
Pipe & Fittings: 304SS, Sch 10
Interior Chemical Feed Piping
Pipe & Fittings: Sch 80 PVC, Solvent Joint
Alt Pipe: PEX Tubing
Pneumatic Valve Piping
Pipe & Fittings: Type L Copper
Final Connection to valve: flexible tubing
Buried process piping:
Pipe: Ductile Iron, Class 150, Cement Lined, Asphaltic seal coat exterior
Alt Pipe: C900 PVC Pressure Class DR 21 or 41 to meet pipe pressure requirements as noted on Contract Drawings
Fittings: Ductile Iron, Class 150, Mechanical Joint, Cement Lined
Buried Building Water Service:
Pipe & Fittings: Sch 80 PVC, Solvent Joint
Buried Sanitary Sewer
Pipe & Fittings: PVC SDR 35, Push Joint
Alt Pipe & Fittings: PVC Sch 80, Solvent Joint
Buried Chemical Piping
Carrier Pipe & Fittings: Sch 80 PVC, Solvent Joint
Chemical Pipe & Fittings: PEX

401110 PIPE SUPPORTS

Structural steel pipe rack as shown on contract drawings
Hangers and pedestals as required for adequate support

401130 VALVES

Valves shall be as detailed on the valve schedule for type and duty service and shall have handwheel operators unless noted differently.

331220 HORIZONTAL END SUCTION PUMPS (BACKWASH)

EQUIPMENT MANUFACTURER: Pentair Aurora

Two (2) Horizontal End Suction Pumps

Capacity: 1,560 GPM

Design Head: 24 ft

Max Horsepower: 20 HP

Spare Parts:

Mechanical Seals – 1 set

Pump and motor bearings – 1 set

Shaft Sleeves – 1 set

Impeller rings and casing rings – 1 set

Startup: One (1) trip for startup and instruction services totaling three (3) days onsite

REV 7

331240 HORIZONTAL SPLIT CASE PUMPS (HIGH SERVICE) (ALLOWANCE)

Included as part of the allowances

333222 SUBMERSIBLE PUMPS

EQUIPMENT MANUFACTURER: Flygt

Two (2) Submersible Pumps

Capacity: 250 GPM

Design Head: 20 ft

Max Horsepower: 5 HP

Accessories:

Pump Discharge base elbow

Guide Rails, 316SS

Lifting chain

Cable Holder

Spare Parts:

Bearings – 1 complete set

Wear parts – 1 complete set

Startup: One (1) trip for startup and instruction services totaling two (2) days onsite

431100 AIR COMPRESSOR

Single tank sized as required

Dual Compressor

Integrated Controls

Air Dryer

Pre and Post Filters as required

Automatic drain valve

460714 NANOFILTRATION (NF) SYSTEM

EQUIPMENT MANUFACTURER: H2O Innovations

NF System:

Number of NF Trains: 2ea

Number of Stages per NF Train: 2

System Capacity: 487 gpm permeate, each

Recovery: 80%

NF system shall consist of the following:

NF system Membrane Pressure Vessels with feed pumps and integral VFDs

Pump Quantity per Skid: 1ea

Pump Manufacturer: Grundfos

NF Skid cartridge filters

Clean-in-place (CIP) system and tank

CIP Pumps: 1ea

Pump Manufacturer: Grundfos

CIP cartridge filters: 1ea

PLC Panel: 1 per skid (2 NF and 1 CIP)

NEMA 4X Enclosure

REV 7

Allen Bradley Compact Logix PLC

Instrumentation as required

Spare Parts:

Any specialized tools required for NF System Maintenance

Brine Seals: Thirty (30) ea

Membrane Elements: Five (5) ea.

Product Water Tube (PWT) Adaptor Seals: Six (6) Ea.

PWT Adaptors with Seals: Six (6) Ea.

Head Seals: Six (6) Ea.

Head Retaining Rings: Six (6) Ea.

PWT Shims: Six (6) Ea.

Complete Head Assemblies: Two (2) Ea.

Cartridge Filter Vessel Cover: One (1) Ea.

Cartridge Filters: One (1) Ea. per vessel

O-Ring for each Cartridge Filter Vessel: One (1) Ea.

Manual SDI Test Apparatus: One (1) Ea.

Pressure vessel probing apparatus: One (1) Ea.

Pump Repair Kits: One (1) Ea. per pump type

Pump Shaft Sleeve: One (1) Ea. per pump type

Pump Mechanical Seal: One (1) Ea. per pump type

Startup: Three (3) trip for startup and instruction services totaling twenty Five (25) days onsite

4600715 GREENSAND PLUS HORIZONTAL PRESSURE FILTERS

EQUIPMENT MANUFACTURER: TONKA

Net Treatment Capacity with one filter out of service: 1,600 GPM

Horizontal Pressure Vessels: 3ea, 10' diameter, 28' long

Inlet Distributors / Waste Collectors

Underdrain Distributors

Media:

Support Gravel: 16in

GreensandPlus Filtration Media: 18in

Anthracite: 18in

Control & Isolation Valves

Valves shall be as detailed on the Process and Instrumentation Diagrams for type and duty service and shall have handwheel operators unless noted differently.

Automated Valve Actuator type: Pneumatic

Instrumentation as required:

Main PLC Control Panel: 1ea

NEMA 4X Enclosure

Allen Bradley Compact Logix PLC

Positive Displacement Blower: 1ea

Spare Parts:

Gasket Kits for greensand manways: 1 set per pressure vessel

Blower Inlet Filter: 2 Sets

Blower Bearings: 2 sets

Blower Check Valve: 1 ea.

REV 7

Blower Replacement Belts: 1 set
Startup: Three (3) trip for startup and instruction services totaling twenty two (22) days onsite

463301 CHEMICAL FEED SYSEMS

EQUIPMENT MANUFACTURER: Blue-White

Chemical Skids for Sodium Hypochlorite (pre-filter skid and post-filter skid), Antiscalant, Caustic, and Phosphate shall include the following components: (5 Skids total)

Chemical Feed Pumps: Two (2) Ea.

Calibration Column: One (1) Ea.

Pressure Relief Valves: Two (2) Ea.

Cone Check Valves: Two (2) Ea.

Pressure Gauges: Two (2) Ea.

Local skid-mounted Control Panel and termination enclosure

All necessary piping, valves, fittings, and connections

Chemical Skid for Liquid Ammonium Sulfate shall include the following components:

Chemical Feed Pumps: Two (2) Ea.

Calibration Column: One (1) Ea.

Pressure Relief Valves: Two (2) Ea.

Backpressure Valves: Two (2) Ea.

Pressure Gauges: Two (2) Ea.

Local skid-mounted Control Panel and termination enclosure

All necessary piping, valves, fittings, and connections

Chemical Skid for Sodium Bisulfite shall include the following components:

Chemical Feed Pumps: Three (3) Ea.

Calibration Column: One (1) Ea.

Pressure Relief Valves: Three (3) Ea.

Backpressure Valves: Three (3) Ea.

Pressure Gauges: Three (3) Ea.

Local skid-mounted Control Panel and termination enclosure

All necessary piping, valves, fittings, and connections

Chemical Skid Capacities:

Sodium Hypochlorite (pre-filter): 34.9 GPH @ 125 PSI

Sodium Hypochlorite (post-filter): 7.14 GPH @ 40 PSI

Antiscalant: 0.48 GPH @ 100 PSI

Sodium Bisulfite: 0.78 GPH @ 100 PSI

Caustic: 6.57 GPH @ 40 PSI

Liquid Ammonium Sulfate: 2.10 GPH @ 125 PSI

Phosphate: 0.90 GPH @ 20 PSI

Chemical Meter Pump Type: Case-drive Peristaltic Tube Pumps

Chemical Transfer Pumps: Two (2) Ea.

Pump Type: Magnetic Drive-operated

Capacity:

Sodium Hypochlorite: 40.0 GPM

Caustic: 16.7 GPM

Spare Parts:

One set of spare parts for each different item per the manufacturer's recommendations

REV 7

Startup: One (1) trip for startup and instruction services totaling four (4) days onsite

463302 CHEMICAL STORAGE TANKS AND SCALES

EQUIPMENT MANUFACTURER: PolyProcessing

Double Wall construction tanks to include leak level switches

All tanks to include Identification Label

Sodium Hypochlorite:

Bulk Tanks: 6,000 Gal – Two (2) Ea.

Single Wall Construction

XLPE

Tank Connections: Per the Process and Instrumentation Diagrams

24" Manway

Day Tank: 600 Gal – One (1) Ea.

Double Wall Construction

XLPE

Tank Connections: Per the Process and Instrumentation Diagrams

Antiscalant

Bulk Tank: 400 Gal – One (1) Ea.

Double Wall Construction

XLPE

Tank Connections: Per the Process and Instrumentation Diagrams

Sodium Bisulfite

Bulk Tank: 400 Gal – One (1) Ea.

Double Wall Construction

XLPE

Tank Connections: Per the Process and Instrumentation Diagrams

Caustic

Bulk Tank: 3,000 Gal – One (1) Ea.

Double Wall Construction

XLPE

Tank Connections: Per the Process and Instrumentation Diagrams

24" Manway

Day Tank: 250 Gal – One (1) Ea.

Double Wall Construction

XLPE

Tank Connections: Per the Process and Instrumentation Diagrams

Phosphate

Bulk Tank: 400 Gal – One (1) Ea.

Double Wall Construction

XLPE

Tank Connections: Per the Process and Instrumentation Diagrams

Liquid Ammonium Sulfate

Bulk Tank: 600 Gal – One (1) Ea.

Double Wall Construction

XLPE

Tank Connections: Per the Process and Instrumentation Diagrams

REV 7

Tank Scales:

EQUIPMENT MANUFACTURER: Scaletron

Each scale to include 4-load cell system and Solo G2 Transmitter

Sodium Hypochlorite: 72" Scale – One (1) Ea.

Antiscalant: 50" Scale – One (1) Ea.

Sodium Bisulfite: 50" Scale – One (1) Ea.

Caustic: 50" Scale – One (1) Ea.

Phosphate: 50" Scale – One (1) Ea.

Liquid Ammonium Sulfate: 72" Scale – One (1) Ea.

Spare Parts: None

Startup: One (1) trip for startup and instruction services totaling two (2) days onsite

463601 SODIUM FLUORIDE SATURATOR & FEED SYSTEM

EQUIPMENT MANUFACTURER: Integrity Municipal Systems

System Design Criteria

Water Flow Rate: 0.4-3.0 MGD

Design Water Flow Rate: 1.8 MGD

Saturated Sodium Fluoride Solution: 4.0 %

Sodium Fluoride Solution Feed Rate: 2.7 GPH

System shall include:

Upflow Fluoride Saturator Tank: 55 Gal

Sodium Fluoride Solution Storage Tank: 55 Gal

Chemical Metering Pump

Pump Manuf.: Watson Marlow

Water Feed System

Control Panel

FRP Containment Structure

Spare Parts: None

Startup: One (1) trip for startup and instruction services totaling two (2) days onsite

434163 CLEARWELL

500,000 Gal capacity wire-wound, prestressed concrete tank

AWWA D110 Type 2 prestressed, wirewound

Side water Depth: 35'0

Concrete Dome Roof

One (1) 4'0 x 4'0 Roof Access Hatch

One (1) 24" Dia 204 Stainless Steel Wall Manway

One (1) FRP interior ladder with safety climb device for dome hatch

One (1) Exterior aluminum access ladder for wall manway

16" Dia concrete encased ductile iron pipe inlet riser

8" Ductile iron overflow pipe

Exterior coating: standard exterior above grade architectural decorative coating system with a smooth finish

Exhibit E

KDHE SRF Contract Provisions

KDHE SRF CONTRACT PROVISIONS

KDHE SRF Forms and Certifications (Must be submitted with Bids)

STATE OF KANSAS
ACT AGAINST DISCRIMINATION
CONTRACT PROVISION CERTIFICATION FORM

During the performance of this contract, the contractor agrees as follows:

- (1) The contractor shall observe the provisions of the Kansas Act Against Discrimination and shall not discriminate against any person in the performance of work under the present contract because of race, religion, color, sex, disability, national origin, or ancestry;
- (2) In all solicitations or advertisements for employees, the contractor shall include the phrase "equal opportunity employer" or a similar phrase to be approved by the Commission;
- (3) If the contractor fails to comply with the manner in which the contractor reports to the Commission in accordance with the provisions of K.S.A.44-1031 and amendments thereto, the contractor shall be deemed to have breached the present contract and it may be cancelled, terminated, or suspended, in whole or in part, by the contracting agency;
- (4) If the contractor is found guilty of a violation of the Kansas Act Against Discrimination under a decision or order of the Commission which has become final, the contractor shall be deemed to have breached the present contract and it may be cancelled, terminated or suspended, in whole, or in part, by the contracting agency;
- (5) The contractor shall include the provisions of (1) through (4) in every applicable subcontract or purchase order so that such provisions will be binding upon such subcontractor or vendor.

PROJECT/CONTRACT NAME AND NO.

MUNICIPALITY Bonner Springs, KS

CONTRACTOR'S
SIGNATURE _____



TITLE JV Authorized Representative

KPWSLF NO. 3067

DATE 6/21/2022

3067
KDHE PROJECT #

CERTIFICATION REGARDING LOBBYING

CERTIFICATION FOR CONTRACTS, GRANTS, LOANS AND COOPERATIVE AGREEMENTS

The undersigned certifies, to the best of his or her knowledge and belief, that:

(1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

(2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

(3) The undersigned shall require that the language of this certification be included in the award documents for all sub-awards at all tiers (including sub-contracts, sub-grants, and contracts under grants, loans, and cooperative agreements) and that all sub-recipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, title 31 U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

Travis Stryker, JV Authorized Representative

Typed Name & Title of Authorized Representative

 6/21/2022
Signature and Date of Authorized Representative

American Iron and Steel Certification

1. Identification of American-made Iron and Steel Products: The Bidder certifies that this bid reflects the Bidder's best, good faith effort to identify domestic sources of iron and steel products for every component contained in the bid solicitation where such American-made components are required. The term "iron and steel products" means the following products made primarily of iron or steel - lined or unlined pipes and fittings, manhole covers and other municipal castings, hydrants, tanks, flanges, pipe clamps and restraints, valves, structural steel, reinforced precast concrete, and construction materials.
2. Verification of U.S. Production: If this bid is accepted, the Bidder agrees that it will provide, to the Owner, reasonable, sufficient, and timely verification of the U.S. production of each Iron and Steel Product incorporated into the project.
3. Documentation Regarding Non-American-made Iron and Steel: The Bidder certifies that for any Iron or Steel Product that is not American-made but was incorporated in the development of this bid, is allowed by waiver of the U.S. Environmental Protection Agency and such waiver is attached to this certification.



Signature

6/21/2022

Date

Travis Stryker, JV Authorized Representative

Name and Title of Signer (Please Print)

Q & A's, Waiver request instructions, and a list of approved waivers can be found at
http://water.epa.gov/grants_funding/aisrequirement.cfm

KDHE SRF Provisions

Contract Provisions for Equal Opportunity

1. The contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. The contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, color, religion, sex or national origin. Such action shall include, but not be limited to the following: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided by the contracting officer setting forth the provisions of this nondiscrimination clause.
2. The contractor will, in all solicitations or advancements for employees placed by or on behalf of the contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex or national origin.
3. The contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice, to be provided by the agency contracting officer, advising the labor union or workers' representative of the contractor's commitments under Section 202 of Executive Order No. 11246 of September 24, 1965, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.
4. The contractor will comply with all provisions of Executive Order No. 11246 of Sept. 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor.
5. The contractor will furnish all information and reports required by Executive Order No. 11246 of September 24, 1965, and by the rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts by the contracting agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.
6. In the event of the contractor's noncompliance with the nondiscrimination clauses of this contract or with any of such rules, regulations, or orders, this contract may be cancelled, terminated, or suspended in whole or in part and the contractor may be declared ineligible for further Government contracts in accordance with procedures authorized in Executive Order No. 11246 of Sept. 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order No. 11246 of September 24, 1965, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.
7. The contractor will include the provisions of paragraphs (1) through (7) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to Section 204 of Executive Order No. 11246 of September 24, 1965, so that such provisions will be binding upon each subcontractor or vendor. The contractor will take such action with respect to any subcontract or purchase order as may be directed by the Secretary of Labor as a means of enforcing such provisions including sanctions for noncompliance: Provided, however, that in the event the contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction, the contractor may request the United States to enter into such litigation to protect the interests of the United States." [Sec. 202 amended by EO 11375 of Oct. 13, 1967, 32 FR 14303, 3 CFR, 1966-1970 Comp., p. 684, EO 12086 of Oct. 5, 1978, 43 FR 46501, 3 CFR, 1978 Comp., p. 230]

Equal Employment Opportunity is **THE LAW**

Private Employers, State and Local Governments, Educational Institutions, Employment Agencies and Labor Organizations

Applicants to and employees of most private employers, state and local governments, educational institutions, employment agencies and labor organizations are protected under Federal law from discrimination on the following bases:

RACE, COLOR, RELIGION, SEX, NATIONAL ORIGIN

Title VII of the Civil Rights Act of 1964, as amended, protects applicants and employees from discrimination in hiring, promotion, discharge, pay, fringe benefits, job training, classification, referral, and other aspects of employment, on the basis of race, color, religion, sex (including pregnancy), or national origin. Religious discrimination includes failing to reasonably accommodate an employee's religious practices where the accommodation does not impose undue hardship.

DISABILITY

Title I and Title V of the Americans with Disabilities Act of 1990, as amended, protect qualified individuals from discrimination on the basis of disability in hiring, promotion, discharge, pay, fringe benefits, job training, classification, referral, and other aspects of employment. Disability discrimination includes not making reasonable accommodation to the known physical or mental limitations of an otherwise qualified individual with a disability who is an applicant or employee, barring undue hardship.

AGE

The Age Discrimination in Employment Act of 1967, as amended, protects applicants and employees 40 years of age or older from discrimination based on age in hiring, promotion, discharge, pay, fringe benefits, job training, classification, referral, and other aspects of employment.

SEX (WAGES)

In addition to sex discrimination prohibited by Title VII of the Civil Rights Act, as amended, the Equal Pay Act of 1963, as amended, prohibits sex discrimination in the payment of wages to women and men performing substantially equal work, in jobs that require equal skill, effort, and responsibility, under similar working conditions, in the same establishment.

GENETICS

Title II of the Genetic Information Nondiscrimination Act of 2008 protects applicants and employees from discrimination based on genetic information in hiring, promotion, discharge, pay, fringe benefits, job training, classification, referral, and other aspects of employment. GINA also restricts employers' acquisition of genetic information and strictly limits disclosure of genetic information. Genetic information includes information about genetic tests of applicants, employees, or their family members; the manifestation of diseases or disorders in family members (family medical history); and requests for or receipt of genetic services by applicants, employees, or their family members.

RETALIATION

All of these Federal laws prohibit covered entities from retaliating against a person who files a charge of discrimination, participates in a discrimination proceeding, or otherwise opposes an unlawful employment practice.

WHAT TO DO IF YOU BELIEVE DISCRIMINATION HAS OCCURRED

There are strict time limits for filing charges of employment discrimination. To preserve the ability of EEOC to act on your behalf and to protect your right to file a private lawsuit, should you ultimately need to, you should contact EEOC promptly when discrimination is suspected:

The U.S. Equal Employment Opportunity Commission (EEOC), 1-800-669-4000 (toll-free) or 1-800-669-6820 (toll-free TTY number for individuals with hearing impairments). EEOC field office information is available at www.eeoc.gov or in most telephone directories in the U.S. Government or Federal Government section. Additional information about EEOC, including information about charge filing, is available at www.eeoc.gov.

Employers Holding Federal Contracts or Subcontracts

Applicants to and employees of companies with a Federal government contract or subcontract are protected under Federal law from discrimination on the following bases:

RACE, COLOR, RELIGION, SEX, NATIONAL ORIGIN

Executive Order 11246, as amended, prohibits job discrimination on the basis of race, color, religion, sex or national origin, and requires affirmative action to ensure equality of opportunity in all aspects of employment.

INDIVIDUALS WITH DISABILITIES

Section 503 of the Rehabilitation Act of 1973, as amended, protects qualified individuals from discrimination on the basis of disability in hiring, promotion, discharge, pay, fringe benefits, job training, classification, referral, and other aspects of employment. Disability discrimination includes not making reasonable accommodation to the known physical or mental limitations of an otherwise qualified individual with a disability who is an applicant or employee, barring undue hardship. Section 503 also requires that Federal contractors take affirmative action to employ and advance in employment qualified individuals with disabilities at all levels of employment, including the executive level.

DISABLED, RECENTLY SEPARATED, OTHER PROTECTED, AND ARMED FORCES SERVICE MEDAL VETERANS

The Vietnam Era Veterans' Readjustment Assistance Act of 1974, as amended, 38 U.S.C. 4212, prohibits job discrimination and requires affirmative action to employ and advance in employment disabled veterans, recently separated veterans (within

three years of discharge or release from active duty), other protected veterans (veterans who served during a war or in a campaign or expedition for which a campaign badge has been authorized), and Armed Forces service medal veterans (veterans who, while on active duty, participated in a U.S. military operation for which an Armed Forces service medal was awarded).

RETALIATION

Retaliation is prohibited against a person who files a complaint of discrimination, participates in an OFCCP proceeding, or otherwise opposes discrimination under these Federal laws.

Any person who believes a contractor has violated its nondiscrimination or affirmative action obligations under the authorities above should contact immediately:

The Office of Federal Contract Compliance Programs (OFCCP), U.S. Department of Labor, 200 Constitution Avenue, N.W., Washington, D.C. 20210, 1-800-397-6251 (toll-free) or (202) 693-1337 (TTY). OFCCP may also be contacted by e-mail at OFCCP-Public@dol.gov, or by calling an OFCCP regional or district office, listed in most telephone directories under U.S. Government, Department of Labor.

Programs or Activities Receiving Federal Financial Assistance

RACE, COLOR, NATIONAL ORIGIN, SEX

In addition to the protections of Title VII of the Civil Rights Act of 1964, as amended, Title VI of the Civil Rights Act of 1964, as amended, prohibits discrimination on the basis of race, color or national origin in programs or activities receiving Federal financial assistance. Employment discrimination is covered by Title VI if the primary objective of the financial assistance is provision of employment, or where employment discrimination causes or may cause discrimination in providing services under such programs. Title IX of the Education Amendments of 1972 prohibits employment discrimination on the basis of sex in educational programs or activities which receive Federal financial assistance.

INDIVIDUALS WITH DISABILITIES

Section 504 of the Rehabilitation Act of 1973, as amended, prohibits employment discrimination on the basis of disability in any program or activity which receives Federal financial assistance. Discrimination is prohibited in all aspects of employment against persons with disabilities who, with or without reasonable accommodation, can perform the essential functions of the job.

If you believe you have been discriminated against in a program of any institution which receives Federal financial assistance, you should immediately contact the Federal agency providing such assistance.

Contract Provisions for the Kansas Act Against Discrimination

(a) Except as provided by subsection (c), every contractor for or on behalf of the State and any county or municipality or other political subdivision of the State, or any agency of or authority created by any of the foregoing, for the construction, alteration, or repair of any public building or public work or for the acquisition of materials, equipment, supplies, or services shall contain provisions by which the contractor agrees that:

- (1) The contractor shall observe the provisions of the Kansas Act Against Discrimination and shall not discriminate against any person in the performance of work under the present contract because of race, religion, color, sex, disability, national origin, or ancestry;
- (2) In all solicitations or advertisements for employees, the contractor shall include the phrase "equal opportunity employer" or a similar phrase to be approved by the Commission;
- (3) If the contractor fails to comply with the manner in which the contractor reports to the Commission in accordance with the provisions of K.S.A.44-1031 and amendments thereto, the contractor shall be deemed to have breached the present contract and it may be cancelled, terminated, or suspended, in whole or in part, by the contracting agency;
- (4) If the contractor is found guilty of a violation of the Kansas Act Against Discrimination under a decision or order of the Commission which has become final, the contractor shall be deemed to have breached the present contract and it may be cancelled, terminated or suspended, in whole, or in part, by the contracting agency;
- (5) The contractor shall include the provisions of subsections (a)(1) through (4) in every subcontract or purchase order so that such provisions will be binding upon such subcontractor or vendor.

(b) The Kansas Human Rights Commission shall not be prevented hereby from requiring reports of contractors found to be not in compliance with the Kansas Act Against Discrimination.

(c) The provisions of this section shall not apply to a contract entered into by a contractor:

- (1) Who employs fewer than four employees during the term of such contract; or
- (2) Whose contracts with the governmental entity letting such contract cumulatively total \$5,000 or less during the fiscal year of such governmental entity.

Contract Provisions for right of entry by KDHE

The Contractor shall secure the right of entry to the project site for representatives of the Kansas Department of Health and Environment, so they may have access to the work whenever it is in preparation or progress and also to any books, documents, papers and records of the Contractor which are directly pertinent to that specific contract for the purpose of making audit, examinations, excerpts and transcriptions. Proper facilities and safe conditions must be provided for access and inspections, including advice regarding site safety procedures and programs to allow compliance.

Contract Provisions for Historical and Archeological Deposits

If during the course of construction evidence of deposits of historical or archeological interest is found, the contractor shall cease operations affecting the find and shall notify the owner who shall notify the Kansas Department of Health and Environment and the Executive Director, Kansas State Historical Society, 6425 SW 6th Street, Topeka, Kansas 66615. No further disturbance of the deposits shall ensue until the contractor has

been notified by the owner that he may proceed. The owner will issue a notice to proceed only after the State official has surveyed the find and made a determination to Kansas Department of Health and Environment and the owner. Compensation to the contractor, if any, for lost time or changes in construction to avoid the find, shall be determined in accordance with changed conditions or change order provisions of the specifications.

Contract Provisions for NPDES General Permit Coverage for Discharges of Stormwater Runoff from Construction Activities

The owner or Contractor must obtain, prior to construction, permit coverage from KDHE to discharge stormwater runoff associated with construction activity for most any project which disturbs one acre or more of soils. A Notice of Intent form (NOI) must be submitted to KDHE 60 days before the start of construction and a permit determination from KDHE must be made before construction can begin. The Kansas construction stormwater general permit, a Notice of Intent (application form), a frequently asked questions file, and supplemental materials are available on-line on the KDHE Stormwater Web Page at www.kdhe.state.ks.us/stormwater.

Contract Provisions for Restrictions on Lobbying

The Contractor agrees to comply with Title 40 CRF Part 34, New Restrictions on Lobbying. **A Certification form must be submitted with the bid documents.**

Contract Provisions for the Trafficking Victims Protection Act of 2000

The Contractor, its employees, sub-contractors, and sub-contractors employees under any KPWSLF Loan Agreement, may not engage in severe forms of trafficking in persons during the period of time that the award is in effect; procure a commercial sex act during the period of time that the award is in effect; or use forced labor in the performance of the award or sub-awards under the award.

Contract Provisions for Suspension and Debarment

The Contractor certifies that it is not suspended or debarred from participating in federal assistance and benefit programs and further agrees to fully comply with Subpart C of 2 CFR Part 180 and 2 CFR Part 1532, entitled "Responsibilities of Participants Regarding Transactions." The Contractor must ensure that any lower tier covered transaction, as described in Subpart B of 2 CFR Part 180 and 2 CFR Part 1532, entitled "Covered Transactions," includes a term or condition requiring compliance with Subpart C. The Contractor agrees that failing to disclose the required information in 2 CFR 180.335 may result in the delay or negation of this assistance agreement, or pursuance of legal remedies, including suspension and debarment.

Contract Provisions for Non Discrimination

The contractor must comply with Title VI of the Civil Rights Act of 1964, Section 504 of the Rehabilitation Act of 1973, Title IX of the Education Amendments of 1972, the Age Discrimination Act of 1975, and a variety of program-specific statutes with nondiscrimination requirements.

Other civil rights laws may impose additional requirements on the contractor. These laws include, but are not limited to, Title VII of the Civil Rights Act of 1964 (prohibiting race, color, national origin, religion, and sex discrimination in employment), the Americans with Disabilities Act (prohibiting disability discrimination in employment and in services provided by State and local governments, businesses, and non-profit agencies), and the Fair Housing Act (prohibiting race, color, national origin, age, family status, and disability discrimination in housing), as well as any other applicable civil rights laws.

Contract Provisions for Non Segregated Facilities

The contractor must ensure that facilities provided for employees are provided in such a manner that segregation on the basis of race, color, religion, sex or national origin cannot result. The contractor may neither require such segregated use by written or oral policies nor tolerate such use by employee custom. The contractor's obligation extends further to ensuring that its employees are not assigned to perform their services at any location, under the contractor's control, where the facilities are segregated. This obligation extends to all contracts containing the equal opportunity clause regardless of the amount of the contract. The term "facilities," as used in this section, means waiting rooms, work areas, restaurants and other eating areas, time clocks, restrooms, wash rooms, locker rooms, and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing provided for employees; *Provided*, That separate or single-user restrooms and necessary dressing or sleeping areas shall be provided to assure privacy between the sexes.

Contract Provisions for American Iron and Steel

All of the iron and steel products used in the project must be produced in the United States. The term "iron and steel products" means the following products made primarily of iron or steel - lined or unlined pipes and fittings, manhole covers and other municipal castings, hydrants, tanks, flanges, pipe clamps and restraints, valves, structural steel, reinforced precast concrete, and construction materials. **A Certification form must be submitted with the bid documents.**

The following definitions apply to this provision.

Municipal castings are cast iron or steel infrastructure products that are melted and cast. They typically provide access, protection, or housing for components incorporated into utility owned drinking water, storm water, wastewater, and surface infrastructure. They are typically made of grey or ductile iron, or steel. Examples of municipal castings are access hatches, ballast screen, benches (Iron or Steel), bollards, cast bases, cast iron hinged hatches, square and rectangular; cast iron riser rings, catch basin inlet, cleanout/monument boxes, construction covers and frames, curb and corner guards, curb openings, detectable warning plates, downspout shoes (boot, inlet), drainage grates, frames and curb inlets, inlets; junction boxes, lampposts, manhole covers, rings and frames, and risers.

Construction materials are those articles, materials, or supplies made primarily of iron and steel, that are permanently incorporated into the project, not including mechanical and/or electrical components, equipment and systems. Some of these products may overlap with what is also considered "structural steel". This includes, but is not limited to, the following products: wire rod, bar, angles, concrete reinforcing bar, wire, wire cloth, wire rope and cables, tubing, framing, joists, trusses, fasteners (i.e., nuts and bolts), welding rods, decking, grating, railings, stairs, access ramps, fire escapes, ladders, wall panels, dome structures, roofing, ductwork, surface drains, cable hanging systems, manhole steps, fencing and fence tubing, guardrails, doors, and stationary screens.

Mechanical and electrical components, equipment and systems are NOT considered construction materials. Mechanical equipment is typically that which has motorized parts and/or is powered by a motor. Electrical equipment is typically any machine powered by electricity and includes components that are part of the electrical distribution system. The following examples (including their appurtenances necessary for their intended use and operation) are NOT considered construction materials: pumps, motors, gear reducers, drives (including variable frequency drives (VFDs)), electric/pneumatic/manual accessories used to operate valves (such as electric valve actuators), mixers, gates, motorized screens (such as traveling screens), blowers/aeration equipment, compressors, meters, sensors, controls and switches, supervisory control and data acquisition (SCADA), membrane bioreactor systems, membrane filtration systems, filters, clarifiers and clarifier mechanisms, rakes, grinders, disinfection systems, presses (including belt presses), conveyors, cranes, HVAC (excluding ductwork), water heaters, heat exchangers, generators, cabinetry and housings

(such as electrical boxes/enclosures), lighting fixtures, electrical conduit, emergency life systems, metal office furniture, shelving, laboratory equipment, analytical instrumentation, and dewatering equipment.

Noncompliance with this provision is only allowed through a waiver issued by the U.S. Environmental Protection Agency. Q&A documents, waiver request instructions, and a list of proposed and approved waivers can be found at http://water.epa.gov/grants_funding/aisrequirement.cfm .

Davis Bacon Wage Rate Contract Provisions

(1) Minimum wages.

(i) All laborers and mechanics employed or working upon the site of the work (or under the United States Housing Act of 1937 or under the Housing Act of 1949 in the construction or development of the project), will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph (a)(1)(iv) of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in § 5.5 (a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided, that the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under paragraph (a)(1)(ii) of this section) and the Davis-Bacon poster

(WH-1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

Loan Recipients may obtain wage determinations from the U.S. Department of Labor's web site, www.wdol.gov.

(ii)(A) The Loan Recipient(s), on behalf of EPA, shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The EPA award official shall coordinate with the Department of Labor Wage and Hour Division to approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

(1) The work to be performed by the classification requested is not performed by a classification in the wage determination; and

(2) The classification is utilized in the area by the construction industry; and

(3) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(B) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the Loan Recipient(s) agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the Loan Recipient(s) to the State award official. The State award official will transmit the report, to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, DC 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the State award official or will notify the State award official within the 30-day period that additional time is necessary.

(C) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the and the Loan Recipient(s) do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the award official shall refer the questions, including the views of all interested parties and the recommendation of the State award official, to the Administrator for determination. The Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer award official or will notify the contracting officer award official within the 30-day period that additional time is necessary.

(D) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs (a)(1)(ii)(B) or (C) of this section, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

(iii) Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

(iv) If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, Provided, That the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

(2) Withholding.

The Loan Recipient(s) shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld from the contractor under this contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work (or under the United States Housing Act of 1937 or under the Housing Act of 1949 in the construction or development of the project), all or part of the wages required by the contract, the (Agency) may, after written notice to the contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

(3) Payrolls and basic records.

(i) Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work (or under the United States Housing Act of 1937, or under the Housing Act of 1949, in the construction or development of the project). Such records shall contain the name, address, and social security

number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5 (a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

(ii)(A) The contractor shall submit weekly, for each week in which any contract work is performed, a copy of all payrolls to the Loan Recipient, that is, the entity that receives the sub-grant or loan from the State capitalization grant recipient. Such documentation shall be available on request of the State recipient or EPA. As to each payroll copy received, the Loan Recipient shall provide written confirmation in a form satisfactory to the State indicating whether or not the project is in compliance with the requirements of 29 CFR 5.5(a)(1) based on the most recent payroll copies for the specified week. The payrolls shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on the weekly payrolls.

Instead the payrolls shall only need to include an individually identifying number for each employee (e.g., the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division Web site at <http://www.dol.gov/esa/whd/forms/wh347instr.htm> or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to the Loan Recipient (s) for transmission to the State or EPA if requested by EPA, the State, the contractor, or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to the Loan Recipient (s).

(B) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

(1) That the payroll for the payroll period contains the information required to be provided under § 5.5 (a)(3)(ii) of Regulations, 29 CFR part 5, the appropriate information is being maintained under § 5.5 (a)(3)(i) of Regulations, 29 CFR part 5, and that such information is correct and complete;

(2) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in Regulations, 29 CFR part 3;

(3) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(C) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph (a)(3)(ii)(B) of this section.

(D) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under section 1001 of title 18 and section 231 of title 31 of the United States Code.

(iii) The contractor or subcontractor shall make the records required under paragraph (a)(3)(i) of this section available for inspection, copying, or transcription by authorized representatives of the State, EPA or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the Federal agency or State may, after written notice to the contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

(4) Apprentices and trainees--

(i) Apprentices. Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice. The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed. Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination. In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(ii) Trainees. Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration. The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage

determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(iii) Equal employment opportunity. The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR part 30.

(5) Compliance with Copeland Act requirements. The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract.

(6) Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses contained in 29 CFR 5.5(a)(1) through (10) and such other clauses as the EPA determines may be appropriate, and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR 5.5.

(7) Contract termination: debarment. A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

(8) Compliance with Davis-Bacon and Related Act requirements. All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract.

(9) Disputes concerning labor standards. Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and Loan Recipient(s), State, EPA, the U.S. Department of Labor, or the employees or their representatives.

(10) Certification of eligibility.

(i) By entering into this contract, the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

(ii) No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

(iii) The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

(11) Contract Provision for Contracts in Excess of \$100,000.

(a) The following provisions apply to all contracts that are in excess of \$100,000. As used in these provisions, the terms laborers and mechanics include watchmen and guards.

(1) Overtime requirements. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

(2) Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in paragraph (a)(1) of this section the contractor and any subcontractor responsible therefore shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (a)(1) of this section, in the sum of \$10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (a)(1) of this section.

(3) Withholding for unpaid wages and liquidated damages. The municipality, upon written request of the EPA Award Official or an authorized representative of the Department of Labor, shall withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (b)(2) of this section.

(4) Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraph (a)(1) through (4) of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (a)(1) through (4) of this section.

(b) In addition to the clauses contained in (a)(3), above, in any contract subject only to the Contract Work Hours and Safety Standards Act and not to any of the other statutes cited in 29 CFR 5.1, the contractor or subcontractor shall maintain payrolls and basic payroll records during the course of the work and shall preserve them for a period of three years from the completion of the contract for all laborers and mechanics, including guards and watchmen, working on the contract. Such records shall contain the name and address of each such employee, social security number, correct classifications, hourly rates of wages paid, daily and weekly number of hours worked, deductions made, and actual wages paid. Further, the records to be maintained under this paragraph shall be made available by the contractor or subcontractor for inspection, copying, or transcription by authorized representatives of the (write the name of agency) and the Department of Labor, and the contractor or subcontractor will permit such representatives to interview employees during working hours on the job.

Disadvantaged Business Enterprise Contract Provisions

The contractor shall not discriminate on the basis of race, color, national origin or sex in the performance of this contract. The contractor shall carry out applicable requirements of 40 CFR part 33 in the award and administration of contracts awarded under EPA financial assistance agreements. Failure by the contractor to carry out these requirements is a material breach of this contract which may result in the termination of this contract or other legally available remedies.

A Disadvantaged Business Enterprise (DBE) includes Women's Business Enterprises, (WBE) Minority Business Enterprises (MBE), a Small Business Enterprises (SBE); a Small Business in Rural Area (SBRA); a Labor Surplus Area Firm (LSAF); or a Historically Underutilized Business (HUB) Zone Small Business Concern or a concern under a successor program.

The contractor must also adopt a fair share objective of awarding 4.1/% of the contract amount to Minority Business Enterprises (MBE's) and 6.9% of the contract amount to Women's Business Enterprises (WBE's). This fair share objective is not a quota and the contractor cannot be penalized for failure to meet this objective.

The contractor is required to make the Good Faith Efforts and apply the administrative requirements listed below for any subcontracts.

Good Faith Efforts

1. Ensure DBEs are made aware of subcontracting opportunities to the fullest extent practicable through outreach and recruitment activities.

This step may include sending letters or making other personal contacts with DBEs. DBEs should be contacted when other potential subcontractors/suppliers are contacted, within reasonable time (i.e. minimum of fifteen days) prior to bid submission or closing date for receipt of initial offers. Those letters or other contacts should communicate the following:

- i. Specific description of the work to be subcontracted or supplies to be purchased;
 - ii. How and where to obtain a copy of plans and specifications or other detailed information needed to prepare a detailed price quotation;
 - iii. Date the quotation is due to the prime contractor;
 - iv. Name, address, and phone number of the person in the prime contractor's firm whom the prospective DBE subcontractor/supplier should contact for additional information.
2. Make information on forthcoming opportunities available to DBEs and arrange time frames for contracts and establish delivery schedules, where the requirements permit, in a way that encourages and facilitates participation by DBEs in the competitive process. This includes, whenever possible, posting solicitations for bids or proposals for a minimum of 30 calendar days before the bid or proposal closing date.

3. Consider in the contracting process whether firms competing for large contracts could subcontract with DBEs.
4. Encourage contracting with a consortium of DBEs when a contract is too large for one of these firms to handle individually.
5. Use the services and assistance of the SBA and the Minority Business Development Agency of the Department of Commerce.

DBE Administrative Requirements

The contractor:

1. Must pay its subcontractor for satisfactory performance not more than 30 days from the prime contractor's receipt of payment.
2. Must notify KDHE in writing prior to termination of a DBE subcontractor for convenience.
3. Must employ the good faith efforts when soliciting a replacement subcontractor, if the original subcontractor fails to complete work for any reason.

Determination of Compliance

If Prime contractors award any subcontracts, they must demonstrate compliance with DBE requirements in order to be deemed responsive prior to contract award. Demonstration of compliance shall include a list of DBE subcontractors contacted and the method used to contact them (the attached Demonstration of Compliance with DBE Good Faith Efforts Worksheet can be used for this purpose).

EMPLOYEE RIGHTS

UNDER THE DAVIS-BACON ACT

FOR LABORERS AND MECHANICS EMPLOYED ON FEDERAL OR FEDERALLY ASSISTED CONSTRUCTION PROJECTS

**PREVAILING
WAGES**

You must be paid not less than the wage rate listed in the Davis-Bacon Wage Decision posted with this Notice for the work you perform.

OVERTIME

You must be paid not less than one and one-half times your basic rate of pay for all hours worked over 40 in a work week. There are few exceptions.

ENFORCEMENT

Contract payments can be withheld to ensure workers receive wages and overtime pay due, and liquidated damages may apply if overtime pay requirements are not met. Davis-Bacon contract clauses allow contract termination and debarment of contractors from future federal contracts for up to three years. A contractor who falsifies certified payroll records or induces wage kickbacks may be subject to civil or criminal prosecution, fines and/or imprisonment.

APPRENTICES

Apprentice rates apply only to apprentices properly registered under approved Federal or State apprenticeship programs.

PROPER PAY

If you do not receive proper pay, or require further information on the applicable wages, contact the Contracting Officer listed below:

or contact the U.S. Department of Labor’s Wage and Hour Division.



WAGE AND HOUR DIVISION
UNITED STATES DEPARTMENT OF LABOR

1-866-487-9243
TTY: 1-877-889-5627
www.dol.gov/whd



REQUEST FOR AUTHORIZATION OF ADDITIONAL CLASSIFICATION AND RATE

CHECK APPROPRIATE BOX

☐ SERVICE CONTRACT☐ CONSTRUCTION CONTRACTOMB No.: **9000-0089**
Expires: **04/30/2005**

Public reporting burden for this collection of information is estimated to average 15 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to the FAR Secretariat (MVP), Office of Acquisition Policy, GSA, Washington, DC 20405; and to the Office of Management and Budget, Paperwork Reduction Project (9000-0089), Washington, DC 20503.

INSTRUCTIONS: THE CONTRACTOR SHALL COMPLETE ITEMS 3 THROUGH 16, KEEP A PENDING COPY, AND SUBMIT THE REQUEST, IN QUADRUPPLICATE, TO THE CONTRACTING OFFICER.

1. TO: ADMINISTRATOR, Employment Standards Administration WAGE AND HOUR DIVISION U.S. DEPARTMENT OF LABOR WASHINGTON, D.C. 20210			2. FROM: (REPORTING OFFICE)	
3. CONTRACTOR				4. DATE OF REQUEST
5. CONTRACT NUMBER	6. DATE BID OPENED (SEALED BIDDING)	7. DATE OF AWARD	8. DATE CONTRACT WORK STARTED	9. DATE OPTION EXERCISED (IF APPLICABLE) (SCA ONLY)
10. SUBCONTRACTOR (IF ANY)				

11. PROJECT AND DESCRIPTION OF WORK (ATTACH ADDITIONAL SHEET IF NEEDED)

12. LOCATION (CITY, COUNTY AND STATE)

13. IN ORDER TO COMPLETE THE WORK PROVIDED FOR UNDER THE ABOVE CONTRACT, IT IS NECESSARY TO ESTABLISH THE FOLLOWING RATE(S) FOR THE INDICATED CLASSIFICATION(S) NOT INCLUDED IN THE DEPARTMENT OF LABOR DETERMINATION

NUMBER: _____

DATED: _____

a. LIST IN ORDER: PROPOSED CLASSIFICATION TITLE(S); JOB DESCRIPTION(S); DUTIES; AND RATIONALE FOR PROPOSED CLASSIFICATIONS (SCA ONLY)	b. WAGE RATE(S)	c. FRINGE BENEFITS PAYMENTS
(Use reverse or attach additional sheets, if necessary)		

14. SIGNATURE AND TITLE OF SUBCONTRACTOR REPRESENTATIVE (IF ANY)	15. SIGNATURE AND TITLE OF PRIME CONTRACTOR REPRESENTATIVE	
16. SIGNATURE OF EMPLOYEE OR REPRESENTATIVE	TITLE	CHECK APPROPRIATE BOX-REFERENCING BLOCK 13. ☐ AGREE ☐ DISAGREE

TO BE COMPLETED BY CONTRACTING OFFICER (CHECK AS APPROPRIATE - SEE FAR 22.1019 (SCA) OR FAR 22.406-3 (DBA))

- ☐ THE INTERESTED PARTIES AGREE AND THE CONTRACTING OFFICER RECOMMENDS APPROVAL BY THE WAGE AND HOUR DIVISION. AVAILABLE INFORMATION AND RECOMMENDATIONS ARE ATTACHED.
- ☐ THE INTERESTED PARTIES CANNOT AGREE ON THE PROPOSED CLASSIFICATION AND WAGE RATE. A DETERMINATION OF THE QUESTION BY THE WAGE AND HOUR DIVISION IS THEREFORE REQUESTED. AVAILABLE INFORMATION AND RECOMMENDATIONS ARE ATTACHED.

(Send copies 1, 2, and 3 to Department of Labor)

SIGNATURE OF CONTRACTING OFFICER OR REPRESENTATIVE	TITLE AND COMMERCIAL TELEPHONE NO.	DATE SUBMITTED
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PAYROLL
(For Contractor's Optional Use; See Instructions at www.dol.gov/esa/whd/forms/wh347instr.htm)



Persons are not required to respond to the collection of information unless it displays a currently valid OMB control number.

Rev. Dec. 2008

OMB No.: 1215-0149
Expires: 12/31/2011

NAME OF CONTRACTOR ☐				OR SUBCONTRACTOR ☐				ADDRESS														
PAYROLL NO.				FOR WEEK ENDING				PROJECT AND LOCATION										PROJECT OR CONTRACT NO.				
(1)		(2)	(3)	(4) DAY AND DATE								(5)	(6)	(7)	(8) DEDUCTIONS						(9)	
NAME AND INDIVIDUAL IDENTIFYING NUMBER (e.g., LAST FOUR DIGITS OF SOCIAL SECURITY NUMBER) OF WORKER		NO. OF WITHHOLDING EXEMPTIONS	WORK CLASSIFICATION	OT OR ST									TOTAL HOURS	RATE OF PAY	GROSS AMOUNT EARNED	FICA	WITH- HOLDING TAX			OTHER	TOTAL DEDUCTIONS	NET WAGES PAID FOR WEEK
					HOURS WORKED EACH DAY																	
				O																		
				S																		
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While completion of Form WH-347 is optional, it is mandatory for covered contractors and subcontractors performing work on Federally financed or assisted construction contracts to respond to the information collection contained in 29 C.F.R. §§ 3.3, 5.5(a). The Copeland Act (40 U.S.C. § 3145) contractors and subcontractors performing work on Federally financed or assisted construction contracts to "furnish weekly a statement with respect to the wages paid each employee during the preceding week." U.S. Department of Labor (DOL) regulations at 29 C.F.R. § 5.5(a)(3)(ii) require contractors to submit weekly a copy of all payrolls to the Federal agency contracting for or financing the construction project, accompanied by a signed "Statement of Compliance" indicating that the payrolls are correct and complete and that each laborer or mechanic has been paid not less than the proper Davis-Bacon prevailing wage rate for the work performed. DOL and federal contracting agencies receiving this information review the information to determine that employees have received legally required wages and fringe benefits.

Public Burden Statement

We estimate that it will take an average of 55 minutes to complete this collection, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. If you have any comments regarding these estimates or any other aspect of this collection, including suggestions for reducing this burden, send them to the Administrator, Wage and Hour Division, ESA, U.S. Department of Labor, Room S3502, 200 Constitution Avenue, N.W. Washington, D.C. 20210

Date _____

I, _____
(Name of Signatory Party) (Title)

do hereby state:

(1) That I pay or supervise the payment of the persons employed by _____ on the _____
(Contractor or Subcontractor)
_____ ; that during the payroll period commencing on the _____
(Building or Work)
_____ day of _____, _____, and ending the _____ day of _____, _____,
all persons employed on said project have been paid the full weekly wages earned, that no rebates have
been or will be made either directly or indirectly to or on behalf of said _____
_____ from the full
(Contractor or Subcontractor)
weekly wages earned by any person and that no deductions have been made either directly or indirectly
from the full wages earned by any person, other than permissible deductions as defined in Regulations, Part
3 (29 C.F.R. Subtitle A), issued by the Secretary of Labor under the Copeland Act, as amended (48 Stat. 948,
63 Stat. 108, 72 Stat. 967; 76 Stat. 357; 40 U.S.C. § 3145), and described below:

(2) That any payrolls otherwise under this contract required to be submitted for the above period are
correct and complete; that the wage rates for laborers or mechanics contained therein are not less than the
applicable wage rates contained in any wage determination incorporated into the contract; that the
classifications set forth therein for each laborer or mechanic conform with the work he performed.

(3) That any apprentices employed in the above period are duly registered in a bona fide
apprenticeship program registered with a State apprenticeship agency recognized by the Bureau of
Apprenticeship and Training, United States Department of Labor, or if no such recognized agency exists in a
State, are registered with the Bureau of Apprenticeship and Training, United States Department of Labor.

(4) That:
(a) WHERE FRINGE BENEFITS ARE PAID TO APPROVED PLANS, FUNDS, OR PROGRAMS
☐ — in addition to the basic hourly wage rates paid to each laborer or mechanic listed in
the above referenced payroll, payments of fringe benefits as listed in the contract
have been or will be made to appropriate programs for the benefit of such
employees, except as noted in section 4(c) below.

(b) WHERE FRINGE BENEFITS ARE PAID IN CASH

☐ — Each laborer or mechanic listed in the above referenced payroll has been paid,
as indicated on the payroll, an amount not less than the sum of the applicable
basic hourly wage rate plus the amount of the required fringe benefits as listed
in the contract, except as noted in section 4(c) below.

(c) EXCEPTIONS

EXCEPTION (CRAFT)	EXPLANATION

REMARKS:

NAME AND TITLE	SIGNATURE

THE WILLFUL FALSIFICATION OF ANY OF THE ABOVE STATEMENTS MAY SUBJECT THE CONTRACTOR OR
SUBCONTRACTOR TO CIVIL OR CRIMINAL PROSECUTION. SEE SECTION 1001 OF TITLE 18 AND SECTION 231 OF TITLE
31 OF THE UNITED STATES CODE.

WAGE RATE DETERMINATION

The wage rate determination found on the following pages must be utilized for the duration of the contract. Each class of workers (including workers in subcontracts) must be paid at least the indicated hourly rate and fringe for such class. If worker compensation includes fringe benefits recognized by the U.S. Department of Labor, then verification of payment of these benefits must be made to the Municipality (Owner) with the first submitted payroll report. If worker compensation does not include fringe benefits then workers must be paid the indicated fringe rate in cash.

If a particular class of worker is not listed on the wage rate determination, but is utilized for the project, Standard Form 1444 must be completed by the contractor and submitted to the Municipality (Owner). The U.S. Department of Labor will determine if the wage rate indicated on the submitted Standard Form 1444 is acceptable.

Workers must be paid weekly. Any worker who works more than 40 hours a week must be paid one and one-half times the base pay plus all fringe benefits. Weekly payroll reports shall be submitted to the Municipality (Owner) for every week until the job is complete even if no work is performed.

The Contractor is responsible for all subcontractor compliance and reporting.

"General Decision Number: KS20220060 06/17/2022

Superseded General Decision Number: KS20210060

State: Kansas

Construction Type: Building

Counties: Franklin, Miami and Wyandotte Counties in Kansas.

BUILDING CONSTRUCTION PROJECTS (does not include single family homes or apartments up to and including 4 stories).

Note: Contracts subject to the Davis-Bacon Act are generally required to pay at least the applicable minimum wage rate required under Executive Order 14026 or Executive Order 13658. Please note that these Executive Orders apply to covered contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but do not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(2)-(60).

If the contract is entered into on or after January 30, 2022, or the contract is renewed or extended (e.g., an option is exercised) on or after January 30, 2022:	. Executive Order 14026 generally applies to the contract. . The contractor must pay all covered workers at least \$15.00 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in 2022.
If the contract was awarded on or between January 1, 2015 and January 29, 2022, and the contract is not renewed or extended on or after January 30, 2022:	. Executive Order 13658 generally applies to the contract. . The contractor must pay all covered workers at least \$11.25 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on that contract in 2022.

The applicable Executive Order minimum wage rate will be adjusted annually. If this contract is covered by one of the Executive Orders and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must still submit a conformance request.

Additional information on contractor requirements and worker protections under the Executive Orders is available at <https://www.dol.gov/agencies/whd/government-contracts>.

Modification Number	Publication Date
0	01/07/2022
1	02/18/2022
2	02/25/2022
3	04/08/2022
4	04/15/2022
5	06/17/2022

ASBE0027-005 10/01/2021

	Rates	Fringes
ASBESTOS WORKER/HEAT & FROST INSULATOR (MECHANICAL (Duct, Pipe & Mechanical System Insulation)).....	\$ 37.80	28.57

BRKS0015-011 06/01/2020		

	Rates	Fringes
TILE SETTER.....	\$ 36.79	15.78

BRKS0015-012 04/01/2020		

	Rates	Fringes
BRICKLAYER.....	\$ 36.83	19.65

BRKS0015-014 06/01/2020		

	Rates	Fringes
TILE FINISHER.....	\$ 17.99	.91

CARP0315-003 05/01/2021		

	Rates	Fringes
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CARPENTER (Acoustical Ceiling
Installation Only).....\$ 41.37 18.90

CARP0315-004 05/01/2021

Rates Fringes

CARPENTER (Excludes
Acoustical Ceiling
Installation, Drywall Hanging
and Floor Laying Carpet).....\$ 41.37 18.90

CARP1181-001 05/01/2015

Rates Fringes

CARPENTER (Floor
Laying-Carpet Only).....\$ 34.32 15.75

ELEC0124-010 11/25/2019

Rates Fringes

ELECTRICIAN (Low Voltage
Wiring Only).....\$ 37.61 22.60

ELEC0124-011 09/28/2021

Rates Fringes

ELECTRICIAN (Excludes Low
Voltage Wiring).....\$ 41.79 23.67

ELEV0012-004 01/01/2021

Rates Fringes

ELEVATOR MECHANIC.....\$ 51.68 35.825+a+b

a. VACATION PAY: 6% for 6 months to 5 years service; 8%
with 5 or more years of service.

b. PAID HOLIDAYS: Memorial Day, Independence Day, Labor
Day, Thanksgiving Day and Friday after, and Christmas Day.

ENGI0101-042 04/01/2019

Rates Fringes

POWER EQUIPMENT OPERATOR:

Backhoe/Excavator/Trackhoe..\$	38.48	18.67
Bobcat/Skid Steer/Skid		
Loader.....\$	38.48	18.67
Crane.....\$	39.29	18.67
Forklift.....\$	37.14	18.67
Grader/Blade.....\$	39.29	18.67
Oiler.....\$	32.93	18.67
Paver (Asphalt, Aggregate, and Concrete).....\$	38.48	18.67

IRON0010-032 04/01/2021

Rates	Fringes
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IRONWORKER (Ornamental, Reinforcing and Structural).....\$	34.50	31.99
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LAB01290-011 04/01/2019

Rates	Fringes
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Laborers: (Asphalt, Includes Raker, Shoveler, Spreader and Distributor).....\$	31.99	16.03
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LAB01290-012 04/01/2022

Rates	Fringes
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LABORER Common or General.....\$	30.70	18.05
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LAB01290-013 04/01/2022

Rates	Fringes
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LABORER Mason Tender - Brick.....\$	31.10	18.05
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PAIN0558-006 04/01/2020

Rates	Fringes
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GLAZIER.....\$	35.70	13.30
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PAIN2012-008 04/01/2020

Rates	Fringes
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PAINTER (Brush, Roller, and Spray).....	\$ 32.91	17.86
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PAIN2012-010 04/01/2020

Rates	Fringes
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PAINTER (Drywall Finishing/Taping).....	\$ 32.69	17.86
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PLAS0518-009 04/01/2022

Rates	Fringes
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CEMENT MASON/CONCRETE FINISHER...	\$ 34.93	20.50
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* PLUM0008-020 06/01/2022

Rates	Fringes
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PLUMBER.....	\$ 51.28	23.29
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PLUM0533-013 06/01/2021

Rates	Fringes
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PIPEFITTER (Including HVAC Pipe, Unit, and Installation of HVAC Electrical/Temperature Controls).....	\$ 49.98	22.95
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* ROOF0020-021 06/01/2022

Rates	Fringes
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ROOFER.....	\$ 36.75	20.99
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SHEE0002-011 07/01/2019

Rates	Fringes
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SHEET METAL WORKER (HVAC Duct Installation Only).....	\$ 43.89	23.50
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SHEE0002-012 07/01/2021

Rates	Fringes
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SHEET METAL WORKER (Excludes HVAC Duct Installation).....	\$ 47.19	24.44
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TEAM0541-010 04/01/2020

	Rates	Fringes
TRUCK DRIVER (Lowboy Truck).....	\$ 34.29	15.25

TEAM0541-011 04/01/2020

	Rates	Fringes
TRUCK DRIVER (Semi-Trailer Truck).....	\$ 34.29	15.25

* SUKS2015-029 07/08/2015

	Rates	Fringes
CARPENTER (Drywall Hanging Only).....	\$ 30.00	1.62
LABORER: Concrete Saw (Hand Held/Walk Behind).....	\$ 31.51	11.60
LABORER: Landscape.....	\$ 12.48 **	0.00
LABORER: Mason Tender - Cement/Concrete.....	\$ 17.86	1.01
OPERATOR: Bulldozer.....	\$ 33.12	13.96
OPERATOR: Loader.....	\$ 30.35	12.04
OPERATOR: Roller.....	\$ 32.68	13.57
PLASTERER.....	\$ 29.85	13.29
SPRINKLER FITTER (Fire Sprinklers).....	\$ 26.68	11.61
TRUCK DRIVER: Dump (All Types)...	\$ 27.29	10.71

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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** Workers in this classification may be entitled to a higher minimum wage under Executive Order 14026 (\$15.00) or 13658 (\$11.25). Please see the Note at the top of the wage determination for more information.

Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at <https://www.dol.gov/agencies/whd/government-contracts>.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of ""identifiers"" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than ""SU"" or ""UAVG"" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this

classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under the "SU" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

- * an existing published wage determination
- * a survey underlying a wage determination
- * a Wage and Hour Division letter setting forth a position on a wage determination matter
- * a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour National Office because National Office has responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

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END OF GENERAL DECISIO"

"General Decision Number: KS20220032 06/17/2022

Superseded General Decision Number: KS20210032

State: Kansas

Construction Type: Heavy

County: Wyandotte County in Kansas.

HEAVY CONSTRUCTION PROJECTS (including sewer/water construction).

Note: Contracts subject to the Davis-Bacon Act are generally required to pay at least the applicable minimum wage rate required under Executive Order 14026 or Executive Order 13658. Please note that these Executive Orders apply to covered contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but do not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(2)-(60).

If the contract is entered into on or after January 30, 2022, or the contract is renewed or extended (e.g., an option is exercised) on or after January 30, 2022:	. Executive Order 14026 generally applies to the contract. . The contractor must pay all covered workers at least \$15.00 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in 2022.
If the contract was awarded on or between January 1, 2015 and January 29, 2022, and the contract is not renewed or extended on or after January 30, 2022:	. Executive Order 13658 generally applies to the contract. . The contractor must pay all covered workers at least \$11.25 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on that contract in 2022.

The applicable Executive Order minimum wage rate will be

adjusted annually. If this contract is covered by one of the Executive Orders and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must still submit a conformance request.

Additional information on contractor requirements and worker protections under the Executive Orders is available at <https://www.dol.gov/agencies/whd/government-contracts>.

Modification Number	Publication Date
0	01/07/2022
1	02/25/2022
2	04/08/2022
3	04/22/2022
4	06/17/2022

CARP0315-001 05/01/2021

	Rates	Fringes
CARPENTER.....	\$ 41.37	18.90

ELEC0124-009 08/30/2021

	Rates	Fringes
ELECTRICIAN.....	\$ 43.29	23.97

ENGI0101-038 04/01/2022

	Rates	Fringes
POWER EQUIPMENT OPERATOR Backhoe/Excavator/Trackhoe..	\$ 38.42	20.44

IRON0010-016 04/01/2021

	Rates	Fringes
IRONWORKER (REINFORCING AND STRUCTURAL).....	\$ 34.50	31.99

LAB01290-004 04/01/2022

	Rates	Fringes
LABORER Asphalt, Includes Raker,		

Shoveler, Spreader and Distributor.....	\$ 33.05	16.81
Form Work Only.....	\$ 34.26	16.81

LAB01290-009 04/01/2017

	Rates	Fringes
LABORER (Common or General).....	\$ 29.58	15.23

PAIN2012-006 05/01/2012

	Rates	Fringes
PAINTER (Spray Only).....	\$ 22.93	11.51

PLAS0518-008 04/01/2022

	Rates	Fringes
CEMENT MASON/CONCRETE FINISHER....	\$ 35.12	18.30

* PLUM0008-019 06/01/2022

	Rates	Fringes
PLUMBER.....	\$ 51.28	23.29

TEAM0541-003 04/01/2022

	Rates	Fringes
TRUCK DRIVER (1) Dump Truck and Lowboy Truck.....	\$ 34.14	16.75

SUKS2014-017 07/09/2014

	Rates	Fringes
OPERATOR: Crane.....	\$ 37.05	13.71
OPERATOR: Loader.....	\$ 32.33	13.88

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at <https://www.dol.gov/agencies/whd/government-contracts>.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of ""identifiers"" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than ""SU"" or ""UAVG"" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the

most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under the ""SU"" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

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Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

- * an existing published wage determination
- * a survey underlying a wage determination
- * a Wage and Hour Division letter setting forth a position on a wage determination matter
- * a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour National Office because National Office has responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
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2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

=====

END OF GENERAL DECISIO"

Exhibit F

Performance and Payment Bonds
(signed version to be included after execution
of Agreement)

Bond No.

Document A312™ – 2010

Conforms with The American Institute of Architects AIA Document 312

Performance Bond

CONTRACTOR:

(Name, legal status and address)

SURETY:

(Name, legal status and principal place of business)

Mailing Address for Notices

OWNER:

(Name, legal status and address)

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

Any singular reference to Contractor, Surety, Owner or other party shall be considered plural where applicable.

CONSTRUCTION CONTRACT

Date:

Amount: \$

Description:

(Name and location)

BOND

Date:

(Not earlier than Construction Contract Date)

Amount: \$

Modifications to this Bond:

☒ None

☐ See Section 16

CONTRACTOR AS PRINCIPAL

Company: *(Corporate Seal)*

SURETY

Company: *(Corporate Seal)*

Signature: _____

Name
and Title:

Signature: _____

Name
and Title: Attorney-in-Fact

Surety Phone No.

(Any additional signatures appear on the last page of this Performance Bond.)

(FOR INFORMATION ONLY — Name, address and telephone)

AGENT or BROKER:

OWNER'S REPRESENTATIVE:

(Architect, Engineer or other party:)

§ 1 The Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to the Owner for the performance of the Construction Contract, which is incorporated herein by reference.

§ 2 If the Contractor performs the Construction Contract, the Surety and the Contractor shall have no obligation under this Bond, except when applicable to participate in a conference as provided in Section 3.

§ 3 If there is no Owner Default under the Construction Contract, the Surety's obligation under this Bond shall arise after

- .1 the Owner first provides notice to the Contractor and the Surety that the Owner is considering declaring a Contractor Default. Such notice shall indicate whether the Owner is requesting a conference among the Owner, Contractor and Surety to discuss the Contractor's performance. If the Owner does not request a conference, the Surety may, within five (5) business days after receipt of the Owner's notice, request such a conference. If the Surety timely requests a conference, the Owner shall attend. Unless the Owner agrees otherwise, any conference requested under this Section 3.1 shall be held within ten (10) business days of the Surety's receipt of the Owner's notice. If the Owner, the Contractor and the Surety agree, the Contractor shall be allowed a reasonable time to perform the Construction Contract, but such an agreement shall not waive the Owner's right, if any, subsequently to declare a Contractor Default;
- .2 the Owner declares a Contractor Default, terminates the Construction Contract and notifies the Surety; and
- .3 the Owner has agreed to pay the Balance of the Contract Price in accordance with the terms of the Construction Contract to the Surety or to a contractor selected to perform the Construction Contract.

§ 4 Failure on the part of the Owner to comply with the notice requirement in Section 3.1 shall not constitute a failure to comply with a condition precedent to the Surety's obligations, or release the Surety from its obligations, except to the extent the Surety demonstrates actual prejudice.

§ 5 When the Owner has satisfied the conditions of Section 3, the Surety shall promptly and at the Surety's expense take one of the following actions:

§ 5.1 Arrange for the Contractor, with the consent of the Owner, to perform and complete the Construction Contract;

§ 5.2 Undertake to perform and complete the Construction Contract itself, through its agents or independent contractors;

§ 5.3 Obtain bids or negotiated proposals from qualified contractors acceptable to the Owner for a contract for performance and completion of the Construction Contract, arrange for a contract to be prepared for execution by the Owner and a contractor selected with the Owner's concurrence, to be secured with performance and payment bonds executed by a qualified surety equivalent to the bonds issued on the Construction Contract, and pay to the Owner the amount of damages as described in Section 7 in excess of the Balance of the Contract Price incurred by the Owner as a result of the Contractor Default; or

§ 5.4 Waive its right to perform and complete, arrange for completion, or obtain a new contractor and with reasonable promptness under the circumstances:

- .1 After investigation, determine the amount for which it may be liable to the Owner and, as soon as practicable after the amount is determined, make payment to the Owner; or
- .2 Deny liability in whole or in part and notify the Owner, citing the reasons for denial.

§ 6 If the Surety does not proceed as provided in Section 5 with reasonable promptness, the Surety shall be deemed to be in default on this Bond seven days after receipt of an additional written notice from the Owner to the Surety demanding that the Surety perform its obligations under this Bond, and the Owner shall be entitled to enforce any remedy available to the Owner. If the Surety proceeds as provided in Section 5.4, and the Owner refuses the payment or the Surety has denied liability, in whole or in part, without further notice the Owner shall be entitled to enforce any remedy available to the Owner.

§ 7 If the Surety elects to act under Section 5.1, 5.2 or 5.3, then the responsibilities of the Surety to the Owner shall not be greater than those of the Contractor under the Construction Contract, and the responsibilities of the Owner to the Surety shall not be greater than those of the Owner under the Construction Contract. Subject to the commitment by the Owner to pay the Balance of the Contract Price, the Surety is obligated, without duplication, for

- .1 the responsibilities of the Contractor for correction of defective work and completion of the Construction Contract;
- .2 additional legal, design professional and delay costs resulting from the Contractor's Default, and resulting from the actions or failure to act of the Surety under Section 5; and
- .3 liquidated damages, or if no liquidated damages are specified in the Construction Contract, actual damages caused by delayed performance or non-performance of the Contractor.

§ 8 If the Surety elects to act under Section 5.1, 5.3 or 5.4, the Surety's liability is limited to the amount of this Bond.

§ 9 The Surety shall not be liable to the Owner or others for obligations of the Contractor that are unrelated to the Construction Contract, and the Balance of the Contract Price shall not be reduced or set off on account of any such unrelated obligations. No right of action shall accrue on this Bond to any person or entity other than the Owner or its heirs, executors, administrators, successors and assigns.

§ 10 The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders and other obligations.

§ 11 Any proceeding, legal or equitable, under this Bond may be instituted in any court of competent jurisdiction in the location in which the work or part of the work is located and shall be instituted within two years after a declaration of Contractor Default or within two years after the Contractor ceased working or within two years after the Surety refuses or fails to perform its obligations under this Bond, whichever occurs first. If the provisions of this Paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.

§ 12 Notice to the Surety, the Owner or the Contractor shall be mailed or delivered to the address shown on the page on which their signature appears.

§ 13 When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

§ 14 Definitions

§ 14.1 Balance of the Contract Price. The total amount payable by the Owner to the Contractor under the Construction Contract after all proper adjustments have been made, including allowance to the Contractor of any amounts received or to be received by the Owner in settlement of insurance or other claims for damages to which the Contractor is entitled, reduced by all valid and proper payments made to or on behalf of the Contractor under the Construction Contract.

§ 14.2 Construction Contract. The agreement between the Owner and Contractor identified on the cover page, including all Contract Documents and changes made to the agreement and the Contract Documents.

§ 14.3 Contractor Default. Failure of the Contractor, which has not been remedied or waived, to perform or otherwise to comply with a material term of the Construction Contract.

§ 14.4 Owner Default. Failure of the Owner, which has not been remedied or waived, to pay the Contractor as required under the Construction Contract or to perform and complete or comply with the other material terms of the Construction Contract.

§ 14.5 Contract Documents. All the documents that comprise the agreement between the Owner and Contractor.

§ 15 If this Bond is issued for an agreement between a Contractor and subcontractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

§ 16 Modifications to this bond are as follows:

(Space is provided below for additional signatures of added parties, other than those appearing on the cover page.)

CONTRACTOR AS PRINCIPAL
Company: _____
(Corporate Seal)

SURETY
Company: _____
(Corporate Seal)

Signature: _____
Name and Title: _____
Address _____

Signature: _____
Name and Title: _____
Address _____

Bond No.

Document A312™ – 2010

Conforms with The American Institute of Architects AIA Document 312

Payment Bond

CONTRACTOR:
(Name, legal status and address)

SURETY:
(Name, legal status and principal place of business)

Mailing Address for Notices

OWNER:
(Name, legal status and address)

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

Any singular reference to Contractor, Surety, Owner or other party shall be considered plural where applicable.

CONSTRUCTION CONTRACT

Date:

Amount: \$

Description:
(Name and location)

BOND

Date:

(Not earlier than Construction Contract Date)

Amount: \$

Modifications to this Bond: ☒ None ☐ See Section 18

CONTRACTOR AS PRINCIPAL
Company: (Corporate Seal)

SURETY
Company: (Corporate Seal)

Signature: _____ Signature: _____

Name
and Title:

Name
and Title: Attorney-in-Fact

Surety Phone No.

(Any additional signatures appear on the last page of this Payment Bond.)

(FOR INFORMATION ONLY — Name, address and telephone)

AGENT or BROKER:

OWNER'S REPRESENTATIVE:
(Architect, Engineer or other party:)

§ 1 The Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to the Owner to pay for labor, materials and equipment furnished for use in the performance of the Construction Contract, which is incorporated herein by reference, subject to the following terms.

§ 2 If the Contractor promptly makes payment of all sums due to Claimants, and defends, indemnifies and holds harmless the Owner from claims, demands, liens or suits by any person or entity seeking payment for labor, materials or equipment furnished for use in the performance of the Construction Contract, then the Surety and the Contractor shall have no obligation under this Bond.

§ 3 If there is no Owner Default under the Construction Contract, the Surety's obligation to the Owner under this Bond shall arise after the Owner has promptly notified the Contractor and the Surety (at the address described in Section 13) of claims, demands, liens or suits against the Owner or the Owner's property by any person or entity seeking payment for labor, materials or equipment furnished for use in the performance of the Construction Contract and tendered defense of such claims, demands, liens or suits to the Contractor and the Surety.

§ 4 When the Owner has satisfied the conditions in Section 3, the Surety shall promptly and at the Surety's expense defend, indemnify and hold harmless the Owner against a duly tendered claim, demand, lien or suit.

§ 5 The Surety's obligations to a Claimant under this Bond shall arise after the following:

§ 5.1 Claimants, who do not have a direct contract with the Contractor,

- .1 have furnished a written notice of non-payment to the Contractor, stating with substantial accuracy the amount claimed and the name of the party to whom the materials were, or equipment was, furnished or supplied or for whom the labor was done or performed, within ninety (90) days after having last performed labor or last furnished materials or equipment included in the Claim; and
- .2 have sent a Claim to the Surety (at the address described in Section 13).

§ 5.2 Claimants, who are employed by or have a direct contract with the Contractor, have sent a Claim to the Surety (at the address described in Section 13).

§ 6 If a notice of non-payment required by Section 5.1.1 is given by the Owner to the Contractor, that is sufficient to satisfy a Claimant's obligation to furnish a written notice of non-payment under Section 5.1.1.

§ 7 When a Claimant has satisfied the conditions of Sections 5.1 or 5.2, whichever is applicable, the Surety shall promptly and at the Surety's expense take the following actions:

§ 7.1 Send an answer to the Claimant, with a copy to the Owner, within sixty (60) days after receipt of the Claim, stating the amounts that are undisputed and the basis for challenging any amounts that are disputed; and

§ 7.2 Pay or arrange for payment of any undisputed amounts.

§ 7.3 The Surety's failure to discharge its obligations under Section 7.1 or Section 7.2 shall not be deemed to constitute a waiver of defenses the Surety or Contractor may have or acquire as to a Claim, except as to undisputed amounts for which the Surety and Claimant have reached agreement. If, however, the Surety fails to discharge its obligations under Section 7.1 or Section 7.2, the Surety shall indemnify the Claimant for the reasonable attorney's fees the Claimant incurs thereafter to recover any sums found to be due and owing to the Claimant.

§ 8 The Surety's total obligation shall not exceed the amount of this Bond, plus the amount of reasonable attorney's fees provided under Section 7.3, and the amount of this Bond shall be credited for any payments made in good faith by the Surety.

§ 9 Amounts owed by the Owner to the Contractor under the Construction Contract shall be used for the performance of the Construction Contract and to satisfy claims, if any, under any construction performance bond. By the Contractor furnishing and the Owner accepting this Bond, they agree that all funds earned by the Contractor in the performance of the Construction Contract are dedicated to satisfy obligations of the Contractor and Surety under this Bond, subject to the Owner's priority to use the funds for the completion of the work.

§ 10 The Surety shall not be liable to the Owner, Claimants or others for obligations of the Contractor that are unrelated to the Construction Contract. The Owner shall not be liable for the payment of any costs or expenses of any Claimant under this Bond, and shall have under this Bond no obligation to make payments to, or give notice on behalf of, Claimants or otherwise have any obligations to Claimants under this Bond.

§ 11 The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders and other obligations.

§ 12 No suit or action shall be commenced by a Claimant under this Bond other than in a court of competent jurisdiction in the state in which the project that is the subject of the Construction Contract is located or after the expiration of one year from the date (1) on which the Claimant sent a Claim to the Surety pursuant to Section 5.1.2 or 5.2, or (2) on which the last labor or service was performed by anyone or the last materials or equipment were furnished by anyone under the Construction Contract, whichever of (1) or (2) first occurs. If the provisions of this Paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.

§ 13 Notice and Claims to the Surety, the Owner or the Contractor shall be mailed or delivered to the address shown on the page on which their signature appears. Actual receipt of notice or Claims, however accomplished, shall be sufficient compliance as of the date received.

§ 14 When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

§ 15 Upon request by any person or entity appearing to be a potential beneficiary of this Bond, the Contractor and Owner shall promptly furnish a copy of this Bond or shall permit a copy to be made.

§ 16 Definitions

§ 16.1 Claim. A written statement by the Claimant including at a minimum:

- .1 the name of the Claimant;
- .2 the name of the person for whom the labor was done, or materials or equipment furnished;
- .3 a copy of the agreement or purchase order pursuant to which labor, materials or equipment was furnished for use in the performance of the Construction Contract;
- .4 a brief description of the labor, materials or equipment furnished;
- .5 the date on which the Claimant last performed labor or last furnished materials or equipment for use in the performance of the Construction Contract;
- .6 the total amount earned by the Claimant for labor, materials or equipment furnished as of the date of the Claim;
- .7 the total amount of previous payments received by the Claimant; and
- .8 the total amount due and unpaid to the Claimant for labor, materials or equipment furnished as of the date of the Claim.

§ 16.2 Claimant. An individual or entity having a direct contract with the Contractor or with a subcontractor of the Contractor to furnish labor, materials or equipment for use in the performance of the Construction Contract. The term Claimant also includes any individual or entity that has rightfully asserted a claim under an applicable mechanic's lien or similar statute against the real property upon which the Project is located. The intent of this Bond shall be to include without limitation in the terms "labor, materials or equipment" that part of water, gas, power, light, heat, oil, gasoline, telephone service or rental equipment used in the Construction Contract, architectural and engineering services required for performance of the work of the Contractor and the Contractor's subcontractors, and all other items for which a mechanic's lien may be asserted in the jurisdiction where the labor, materials or equipment were furnished.

§ 16.3 Construction Contract. The agreement between the Owner and Contractor identified on the cover page, including all Contract Documents and all changes made to the agreement and the Contract Documents.

§ 16.4 Owner Default. Failure of the Owner, which has not been remedied or waived, to pay the Contractor as required under the Construction Contract or to perform and complete or comply with the other material terms of the Construction Contract.

§ 16.5 Contract Documents. All the documents that comprise the agreement between the Owner and Contractor.

§ 17 If this Bond is issued for an agreement between a Contractor and subcontractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

§ 18 Modifications to this bond are as follows:

(Space is provided below for additional signatures of added parties, other than those appearing on the cover page.)

CONTRACTOR AS PRINCIPAL
Company: _____
(Corporate Seal)

SURETY
Company: _____
(Corporate Seal)

Signature: _____
Name and Title: _____
Address _____

Signature: _____
Name and Title: _____
Address _____

GENERAL NOTES:

1. THESE NOTES APPLY TO ONLY CIVIL DRAWINGS.
2. ALL DIMENSIONS ARE INDICATED IN FEET (FT) UNLESS NOTED OTHERWISE.
3. FINISH GRADES SHOWN ON THESE DRAWINGS REFER TO TOP OF TOPSOIL, FOUNDATION, OR PAVEMENT. ALLOW FOR THICKNESS OF TOPSOIL, CONCRETE, ROCK, ETC. WHEN ESTABLISHING SUBGRADE ELEVATIONS.
4. DESIGN BUILDER SHALL NOTIFY THE UTILITY LOCATOR A MINIMUM OF 72 HOURS PRIOR TO ANY EXCAVATION ACTIVITIES.
5. THE DESIGN BUILDER SHALL COMPLY WITH ALL TERMS AND CONDITIONS SET FORTH IN THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT ESTABLISHED FOR THE SITE AT ALL TIMES.
6. THE DESIGN BUILDER SHALL BE RESPONSIBLE FOR MAINTAINING ALL BEST MANAGEMENT PRACTICES (BMPS) OF THE SWPPP FOR THE CONSTRUCTION ACTIVITIES ASSOCIATED WITH THIS PROJECT.
7. ALL CUT OR FILL SLOPES SHALL BE 3:1 UNLESS NOTED OTHERWISE.
8. PROVIDE UNIFORM SLOPE BETWEEN INDICATED ELEVATIONS SO THAT ALL AREAS SLOPE TO DRAIN AND NO STORM WATER IS PONDED ON SITE BOTH DURING AND AFTER CONSTRUCTION.
9. DESIGN BUILDER SHALL STRIP AND STOCKPILE TOPSOIL PRIOR TO PLACEMENT OF FILL. ALL TOPSOIL STOCKPILED ON SITE SHALL BE STOCKPILED AT A LOCATION APPROVED BY THE OWNER.
10. THE DESIGN BUILDER SHALL RESTORE, TOPSOIL AND SEED ALL AREAS DISTURBED DURING CONSTRUCTION UNLESS DESIGNATED TO RECEIVE OTHER SURFACING.
11. ALL FLOW LINES TO REMAIN THAT ARE DISTURBED BY CONSTRUCTION ACTIVITIES SHALL BE REPAIRED TO MATCH FLOW LINES PRIOR TO DISTURBANCE.
12. DESIGN BUILDER SHALL REPAIR PAVEMENT, CURBS, SIDEWALKS, DRIVEWAYS, AND ANY OTHER STRUCTURES DAMAGED DURING CONSTRUCTION TO ORIGINAL OR BETTER CONDITION.
13. DESIGN BUILDER SHALL CONFINE GRADING AND CONSTRUCTION ACTIVITIES TO OWNER'S PROPERTY.
14. EXISTING FILL SHALL BE OVER EXCAVATED AND REPLACED WITH STRUCTURAL BACKFILL BENEATH PROPOSED STRUCTURES. SEE STRUCTURAL DRAWINGS FOR DETAILS.
15. COMPACTED SUBGRADE SHALL EXTEND THE FULL WIDTH OF THE PAVEMENT SURFACING, PLUS 2 FEET IN EACH DIRECTION.
16. ALL BURIED STORMWATER PIPING SHALL BE RCP UNLESS OTHERWISE NOTED.
17. CLEARING AND GRUBBING SHALL ONLY TAKE PLACE BETWEEN THE MONTHS OF OCTOBER AND MARCH.

SITE PREPARATION AND EARTHWORK NOTES

1. ALL EARTHWORK ACTIVITY SHALL FOLLOW THE DESIGN RECOMMENDATIONS AND CONSTRUCTION GUIDELINES IN THE GEOTECHNICAL ENGINEERING REPORT FOR THE PROJECT SITE, UNLESS NOTED OTHERWISE.
2. MATERIALS

A. SUITABLE MATERIALS FOR USE IN EMBANKMENT AND FILL INCLUDE MATERIAL THAT IS FREE OF DEBRIS, ROOTS, ORGANIC MATTER, FROZEN MATTER, AND WHICH IS FREE OF STONE HAVING ANY DIMENSION GREATER THAN 2 INCHES IN AREAS REQUIRING A HIGH DEGREE OF COMPACTION, OR 4 INCHES IN OTHER EMBANKMENT AND FILL AREAS. SUITABLE MATERIALS ARE DEFINED AS THOSE SOILS CLASSIFIED BY ASTM D 2487 AS CL, CL-ML, AND GW.

B. UNSUITABLE MATERIALS FOR USE IN EMBANKMENT AND FILL INCLUDE ALL MATERIAL THAT CONTAINS DEBRIS, ROOTS, ORGANIC MATTER, FROZEN MATTER, SHALE PARTICLES, OR MATERIAL CONTAINING GRAVEL OR STONE WITH ANY DIMENSION GREATER THAN 2 INCHES IN AREAS REQUIRING HIGH COMPACTION OR 4 INCHES IN OTHER EMBANKMENT AND FILL AREAS, SOILS CLASSIFIED BY ASTM D 2487 AS ML, MH, OL, OH AND PT OR OTHER MATERIALS THAT ARE DETERMINED BY ENGINEER AS TOO WET OR OTHERWISE UNSUITABLE FOR PROVIDING A STABLE SUBGRADE OR STABLE FOUNDATION FOR STRUCTURES.
3. EARTHWORK AND GRADING

A. ELEVATIONS SHOWN ARE FINISHED GRADE. FINISHED GRADE SHALL BE WITHIN +/- 0.1 FOOT FOR ALL AREAS.

B. SUBGRADE IN FILL AREAS SHALL BE PROOF ROLLED WITH A LOADED TANDEM AXLE DUMP TRUCK OR EQUIVALENT OR PASS COMPACTION TESTING. ANY SOFT SPOT OR UNSUITABLE AREAS SHOULD BE COMPACTED OR REMOVED AND REPLACED WITH SUITABLE FILL MATERIAL SIMILAR IN COMPOSITION TO THE SURROUNDING ACCEPTABLE SOILS.

C. IN FILL AREAS, THE TOP 8" OF EXISTING GROUND SURFACE SHOULD BE SCARIFIED, MOISTURE CONDITIONED AND RE-COMPACTED OVER THE ENTIRE AREA PLUS 2 FEET BEYOND THE LIMITS OF EMBANKMENT. WHERE WET SOIL OR WATER IS PRESENT, CLEAN MATERIALS SUCH AS CRUSHED CONCRETE OR GRAVEL MAY BE USED.

- D. ALL COHESIVE FILL MATERIAL SHOULD BE IN LIFTS OF 8" OR LESS IN LOOSE THICKNESS. COMPACT TO AT LEAST 95% OF THE MAXIMUM DRY DENSITY FOR STANDARD PROCTOR (ASTM D698). LEAN, FINE-GRAINED SOIL WITH LIQUID LIMIT < 45% AND HAVE A MOISTURE CONTENT BETWEEN +2% AND -3% OF OPTIMUM AT TIME OF COMPACTION .
- E. ALL COHESIONLESS FILL SHALL BE IN LIFTS OF 12" OR LESS IN LOOSE THICKNESS. COMPACT BY USE OF VIBRATORY ROLLERS TO MINIMUM OF 75% RELATIVE DENSITY (ASTM D4253 AND ASTM D4254). COHESIONLESS FILL IS DEFINED AS MATERIAL WITH LESS THAN 10% PASSING THE NO. 200 SIEVE AND THE MOISTURE-DENSITY CURVE INDICATES ONLY SLIGHT SENSITIVITY TO CHANGING MOISTURE CONTENT.
- F. FINAL GRADE SHALL HAVE A POSITIVE SLOPE AWAY FROM FOUNDATION WALLS ON ALL SIDES. FIELD GRADE AROUND STRUCTURES ON THE HIGH SIDE TO PROMOTE DRAINAGE AROUND THE STRUCTURE. A MINIMUM SLOPE OF 2% IS RECOMMENDED FOR ALL AREAS TO BE SEEDED.
- G. FINISHED GRADES SHALL BE MAINTAINED UNTIL SEEDING, SURFACING OR CONSTRUCTION OF STRUCTURES IS COMPLETED. SEED ALL DISTURBED AREAS EXCEPT AREAS TO RECEIVE OTHER SURFACING.
- H. IN-PLACE COMPACTION TESTING TO BE COMPLETED TO DETERMINE DENSITY AND MOISTURE CONTENT AS FOLLOWS:

I. AT LEAST ONCE EVERY 1,000 CUBIC YARDS OF MATERIAL PLACED IN MASS FILL.

II. AT LEAST ONE TEST FOR EVERY 2,500 SQUARE FEET OF SUBGRADE FOR DRIVES AND ROADS.

III. AT LEAST ONCE EVERY 200 CUBIC YARDS OF MATERIAL PLACED IN TRENCHES OR SURROUNDING STRUCTURES.

IV. AT LEAST ONE TEST PER LIFT OF COMPACTED FILL FOR DRIVES/ROADS.

4. SEEDING

A. SEEDING SHALL BE COMPLETED IN ACCORDANCE WITH THE KANSAS CITY METROPOLITAN CHAPTER OF THE AMERICAN PUBLIC WORKS ASSOCIATION SECTION 2400-SEEDING, SODDING, AND OVER SEEDING.

ABBREVIATIONS:

A	ASPHALT
BM	BENCH MARK
BOL	BEGINNING OF LINE
C	CONCRETE
CIP	CAST IRON PIPE
CL	CENTERLINE
CL EL	CENTERLINE ELEVATION
CLF	CHAIN LINK FENCE
CLR	CLEARANCE
CMP	CORRUGATED METAL PIPE
CW	CONC. WALK
D	DEFLECTION
DIP	DUCTILE IRON PIPE
EL	ELEVATION
EOL	END OF LINE
FFE	FINISHED FLOOR ELEVATION
FH	FIRE HYDRANT
FL	FLOW LINE
FND	FOUND
G	GRASS
GRVL	GRAVEL
HDPE	HIGH DENSITY POLYETHYLENE PIPE
LF	LINEAR FEET
LT	LEFT
MIN	MINIMUM
OH	OVERHEAD
PE	POLYETHYLENE
PI	POINT OF INTERSECTION
PVC	POLYVINYL CHLORIDE
PVI	POINT OF VERTICAL INTERSECTION
PVMT	PAVEMENT
RCP	REINFORCED CONCRETE PIPE
RT	RIGHT
R/W	RIGHT-OF-WAY
SEP	SEPARATION
STA	STATION
TOP	TOP OF PIPE ELEVATION
TOS	TOP OF SLAB
TYP	TYPICAL
UNK	UNKNOWN
W/	WITH

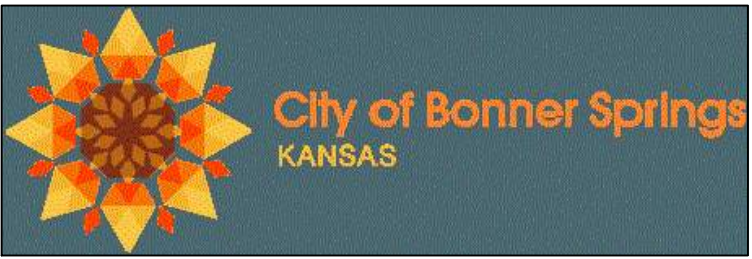
PRELIMINARY - NOT FOR CONSTRUCTION



9400 WARD PARKWAY
KANSAS CITY, MO 64114
816-333-9400
Burns & McDonnell Engineering Co, Inc.
LICENSEE NO. E-65



date	detailed
JANUARY 2, 2022	C. JONES
designed	checked
T. SMITH	



Wyandotte County, Kansas

WATER TREATMENT PLANT DESIGN
CIVIL
GENERAL NOTES, LEGEND
AND ABBREVIATIONS

project	contract
138337	
drawing	rev.
C001	B
sheet	of sheets
file C001.dwg	

Millimeters

Scale For Microfinning

Inches

EXISTING	LEGEND	NEW
	MAJOR CONTOUR	785
	MINOR CONTOUR	784
	FENCE	
	SPOT ELEVATION	EL. 1093.50
	NORTH/EAST	N. 696458.79 E. 637604.35
	STORM PIPE	
	CONCRETE	
	GRAVEL	
	RIP RAP	
	FIRE HYDRANT	
	YARD HYDRANT	
	HIGH POINT	

EXISTING	LEGEND CONT.
	DEADMAN ANCHOR
	BREAKER BOX
	LIGHT POLE
	SPEAKER BOX
	OVERHEAD UTILITY - # LINES
	AIR CONDITIONING UNIT
	ELECTRIC PEDESTAL
	ELECTRIC METER
	UNDERGROUND ELECTRIC LINE
	ELECTRIC TRANSFORMER
	CABLE TV PEDESTAL
	UNDERGROUND CABLE TV
	WATER LINE
	SANITARY SEWER LINE
	WATER METER

EXISTING	LEGEND CONT.
	TELEPHONE PEDESTAL
	UNDERGROUND TELEPHONE LINE
	FIBER OPTIC CABLE SIGN
	UNDERGROUND FIBER OPTIC CABLE
	FLAG POLE
	EXISTING ANTENNA
	VENT PIPE
	GATE POST
	FENCE POST
	WIRE FENCE
BM-67 ELEV=789.23	BENCH MARK
	CONTROL POINT

A

B

C

D

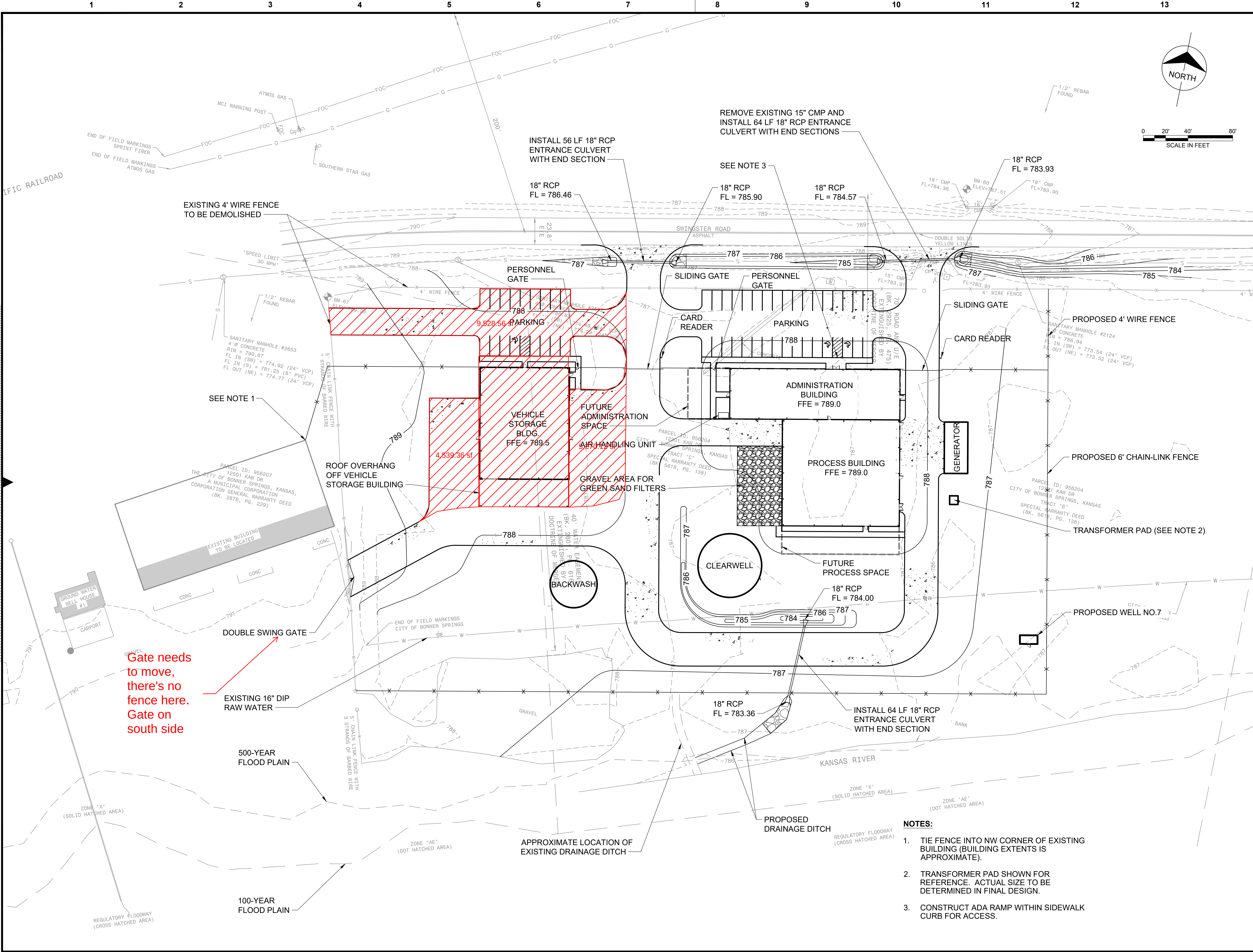
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F

G

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I



no.	date	by	ckd	description
B	4/20/22	TQS	JLG	ISSUED FOR REVIEW



PRELIMINARY - NOT FOR CONSTRUCTION

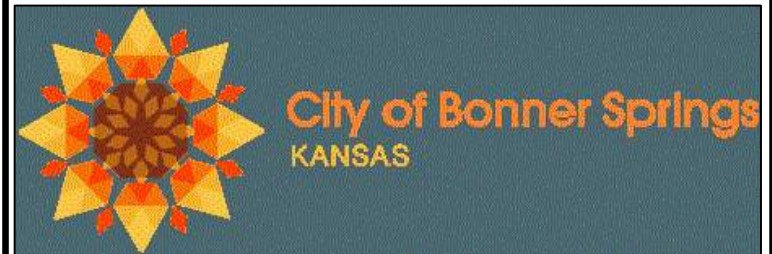


**BURNS
& MCDONNELL**
9400 WARD PARKWAY
KANSAS CITY, MO 64114
816-333-9400
Burns & McDonnell Engineering Co, Inc.
LICENSEE NO. E-65



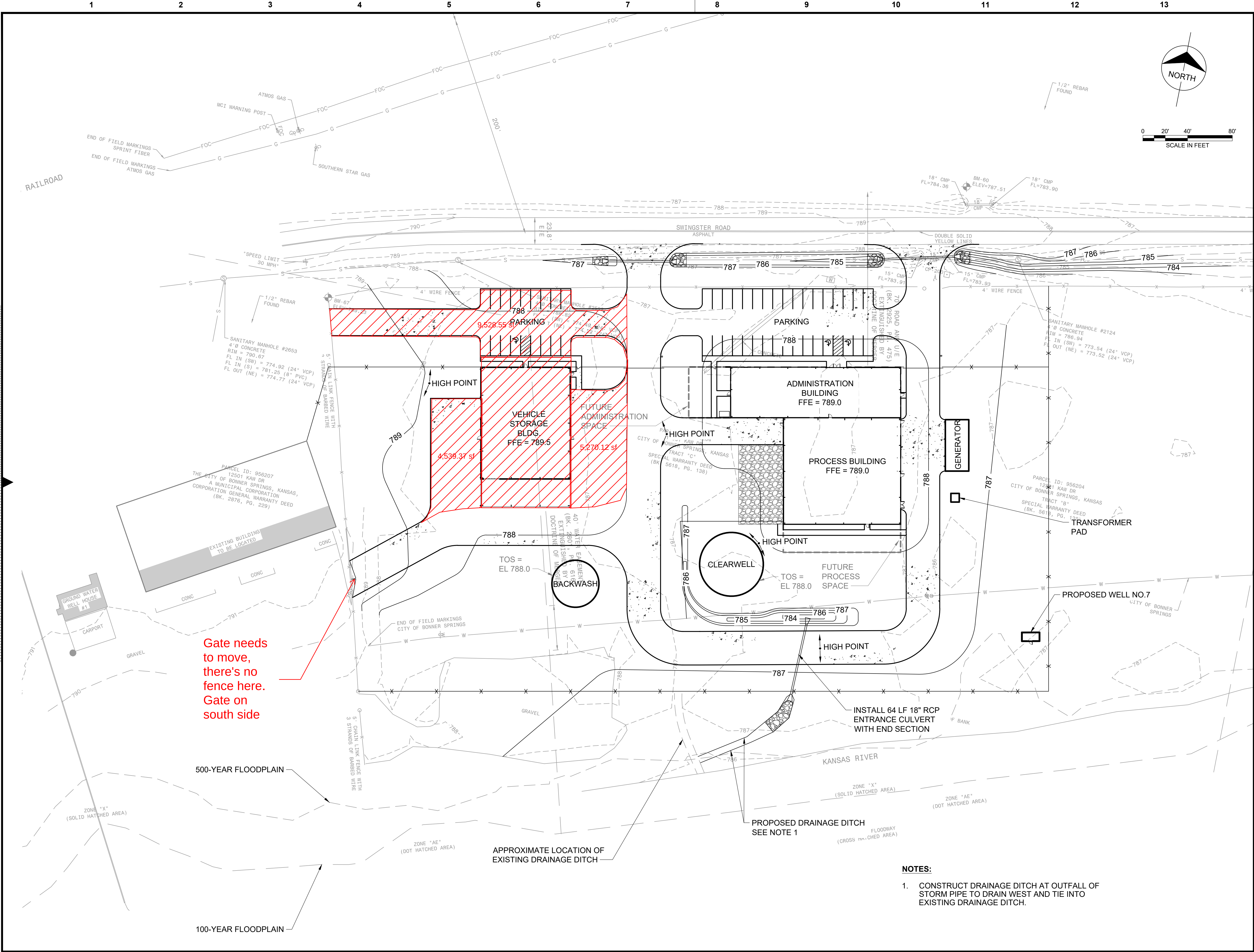
CASCONSTRUCTORSLLC
AN ALBERICI ENTERPRISE

date	JANUARY 2, 2022	detailed	C. JONES
designed	T. SMITH	checked	

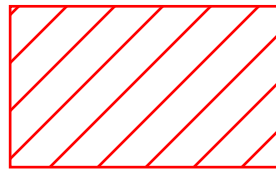


Wyandotte County, Kansas	
WATER TREATMENT PLANT DESIGN	
OVERALL SITE PLAN	
project	contract
138337	
drawing	rev.
C003	B
sheet	of sheets
file C003.dwg	

- NOTES:**
- TIE FENCE INTO NW CORNER OF EXISTING BUILDING (BUILDING EXTENTS IS APPROXIMATE).
 - TRANSFORMER PAD SHOWN FOR REFERENCE. ACTUAL SIZE TO BE DETERMINED IN FINAL DESIGN.
 - CONSTRUCT ADA RAMP WITHIN SIDEWALK CURB FOR ACCESS.



no.	date	by	ckd	description
B	4/20/22	TQS	JLG	ISSUED FOR REVIEW

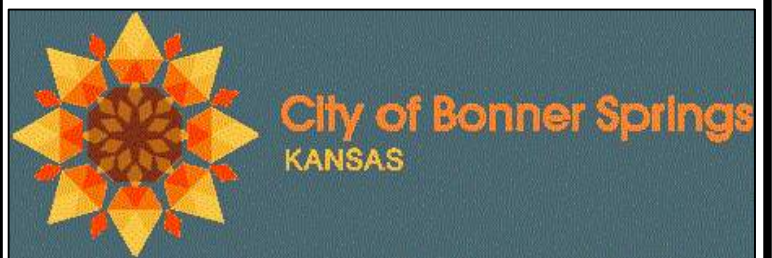
 Pavement/Vehicle Storage Building not included in contract

PRELIMINARY - NOT FOR CONSTRUCTION

**BURNS
McDONNELL**
9400 WARD PARKWAY
KANSAS CITY, MO 64114
816-333-9400
Burns & McDonnell Engineering Co, Inc.
LICENSEE NO. E-65

CASCONSTRUCTORSLLC
AN ALBERICI ENTERPRISE

date	JANUARY 2, 2022	detailed	C. JONES
designed	T. SMITH	checked	



Wyandotte County, Kansas

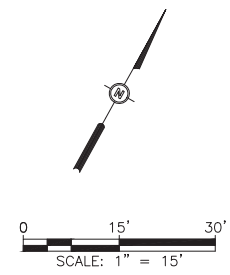
WATER TREATMENT PLANT DESIGN

OVERALL GRADING PLAN

project	138337	contract	
drawing	C004	rev.	B
sheet	of	sheets	
file	C004.dwg		

NOTES:

1. CONSTRUCT DRAINAGE DITCH AT OUTFALL OF STORM PIPE TO DRAIN WEST AND TIE INTO EXISTING DRAINAGE DITCH.



1. CUT AND REPLACE IN KIND DRIVE AND OTHER SURFACES DISTURBED BY TRENCHING.
2. ALL NEW BURIED PIPING SHALL EITHER BE RESTRAINED, OR THRUST BLOCKS SHALL BE INSTALLED AT ALL FITTINGS.

8-inch
Finished Water (FW)

- 1 WELD PATCH OVER HOLE IN 8" EXISTING STEEL PIPE. SEE DETAIL 2 / C04.
- 2 CONNECT TO EXISTING PIPE. SEE DETAIL 6 / C05.
- 3 CONNECT TO EXISTING MANHOLE. SEE DETAIL 1 / C05
- 4 INSTALL BACKFLOW PREVENTOR. SEE DETAIL 7 / C04.
- 5 CONNECTION FOR PLANT WATER SUPPLY TO SODIUM BISULFITE FEED. SEE DETAIL 8 / C04.
- 6 SODIUM BISULFITE FEED POINT. SEE DETAIL 6 / C04.
- 7 APPROXIMATE LOCATION FOR SODIUM BISULFITE FEED SYSTEM. SEE DETAIL 1 / D06
- 8 CONNECTION POINT FOR 2" LINE FOR YARD HYDRANT. SEE DETAIL 3 & 4 / C05.
- 9 INSTALL 2" FLUSH HYDRANT. SEE DETAIL 2 / C05.
- 10 INSTALL 2" TRW TO CLEAR OTHER PIPES BY 12" MIN CLEARANCE.
- 11 CONNECT TO EXISTING PIPE. SEE DETAIL 5 / C05

-  Pipe to be abandoned in place - all ends to be cut and slugged with concrete
-  Demo entirely, restore to grade rated for traffic

2-inch supply to
Public Works

- mh ~~on~~ bypass

- Cut and cap existing raw water feed to WTP - will field confirm tie-in locations of all wells

All raw water to feed through existing 16-inch to new WTP

BARTLETT & WEST

2700 WESTOWN PARKWAY - WEST DES MOINES IA 50266
PHONE 515-440-2856- FAX 515-440-2858
WWW.EARTHWEST.COM

FILTER BACKWASH TANK SITE PIPING PLAN

CITY OF BONNER SPRINGS
WATER TREATMENT PLANT

SIGNED BY:	BLH
DRAWN BY:	KAK
APPROVED BY:	BLH
SIGN PROJ:	17928.003
ELIMINARY REVIEW	10/25/13
DATE:	AS NOTED
DATE:	MAY 2014
DRAWING NO:	C03
EET NO:	

CURRENT WATERLINE ALIGNMENT

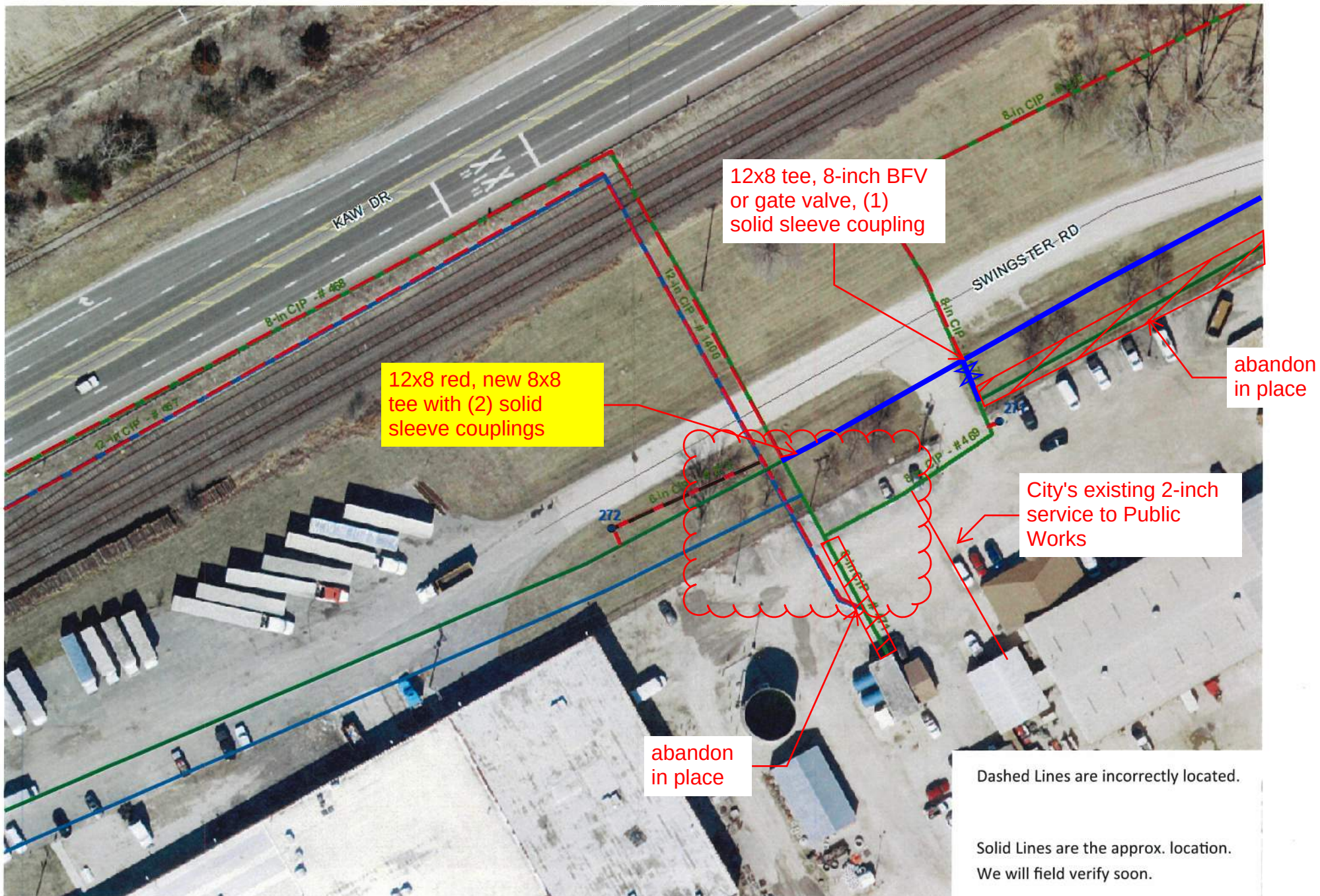
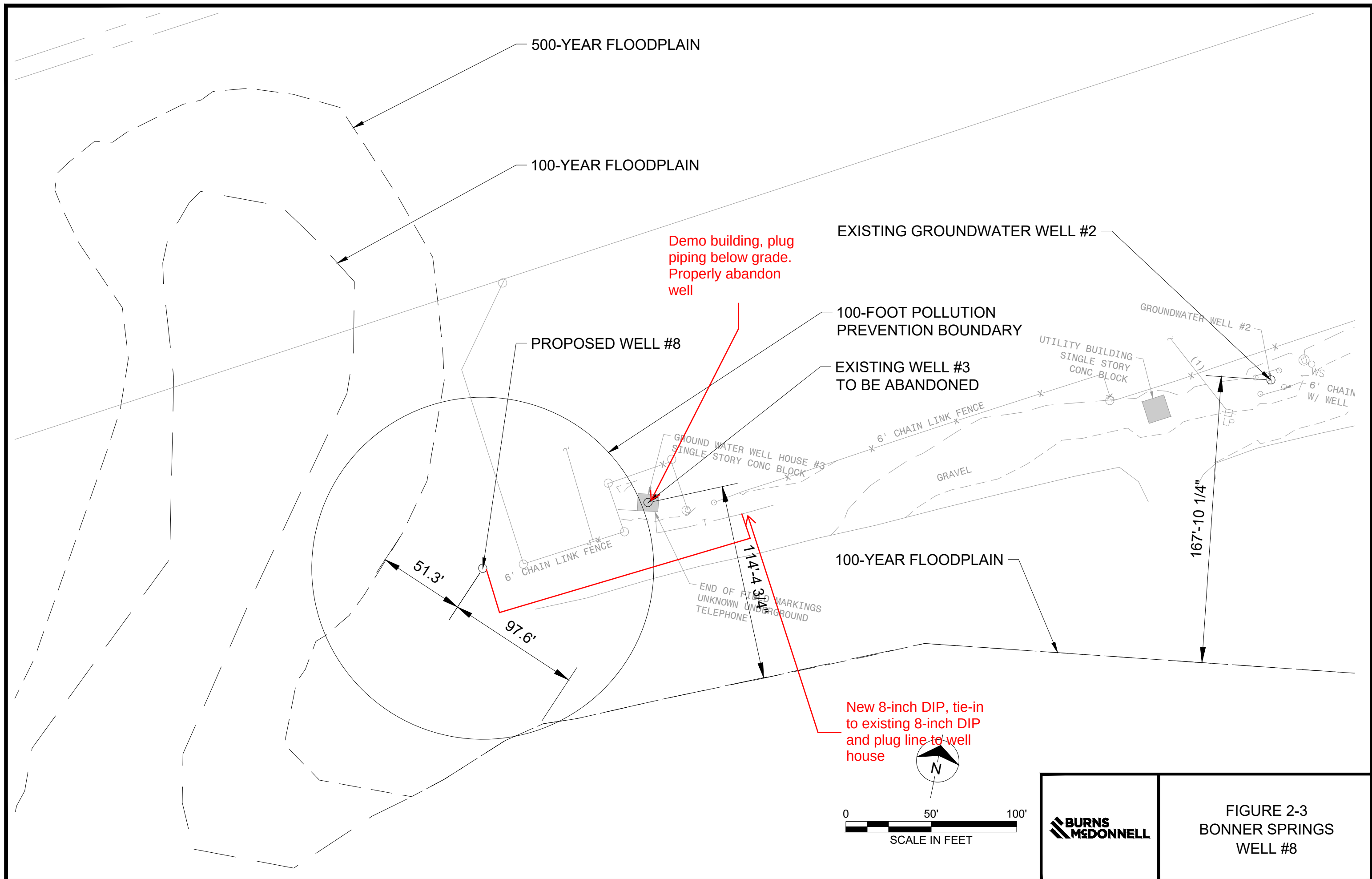
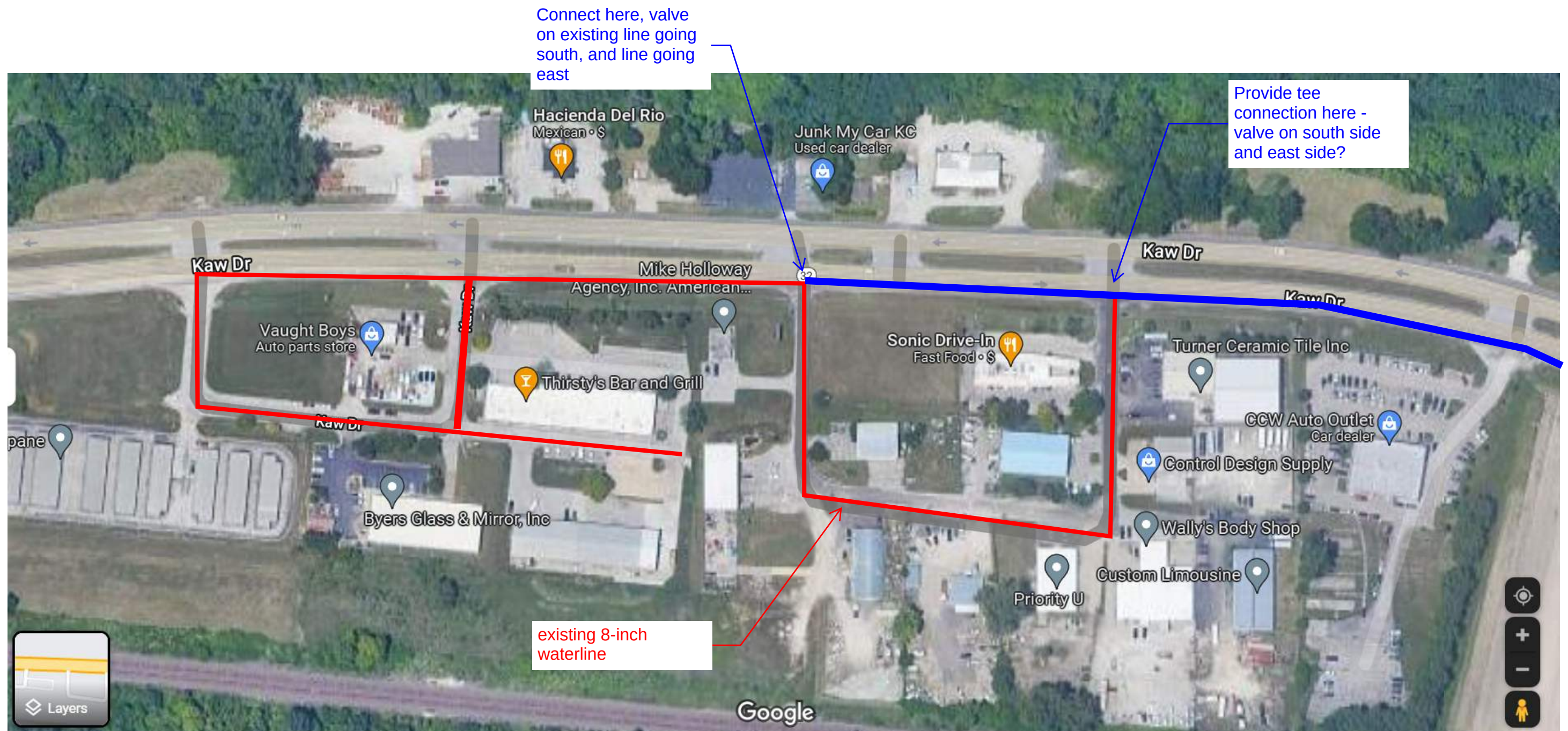


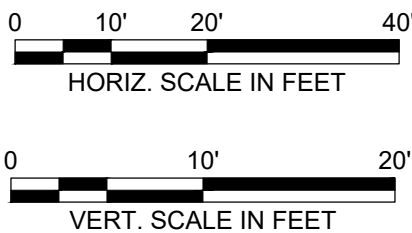
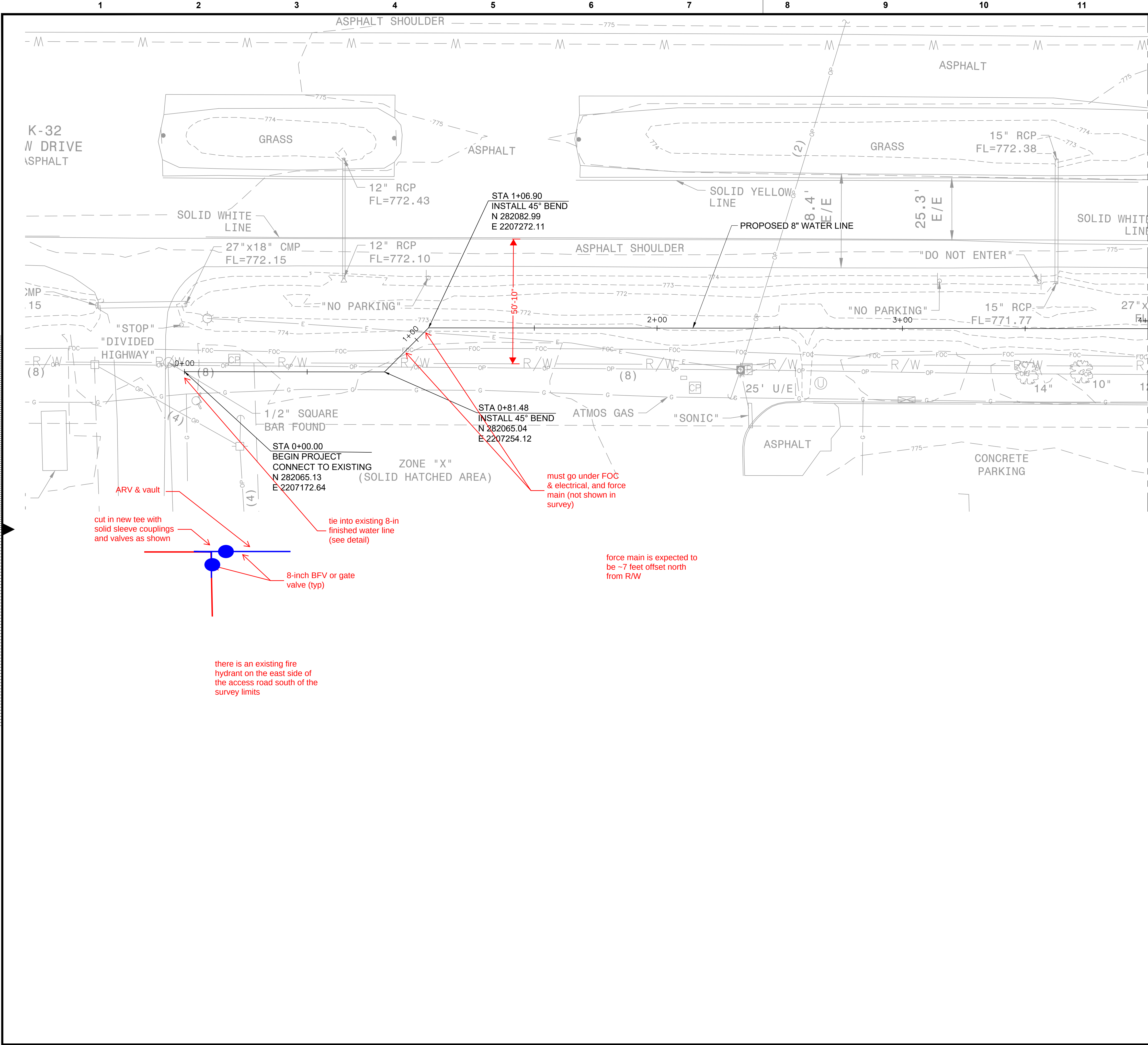


FIGURE 2-1
WELL LOCATIONS



Page 443 of 621





no.	date	by	ckd	description
A	04/27/22	CRJ	JLG	ISSUED FOR REVIEW

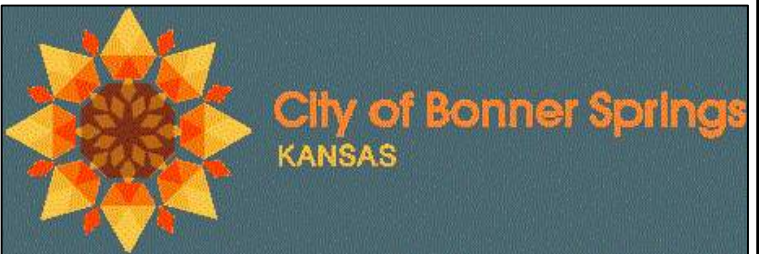
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LICENSEE NO. E-65



date FEBRUARY 9, 2022	detailed C. JONES
designed T. SMITH	checked

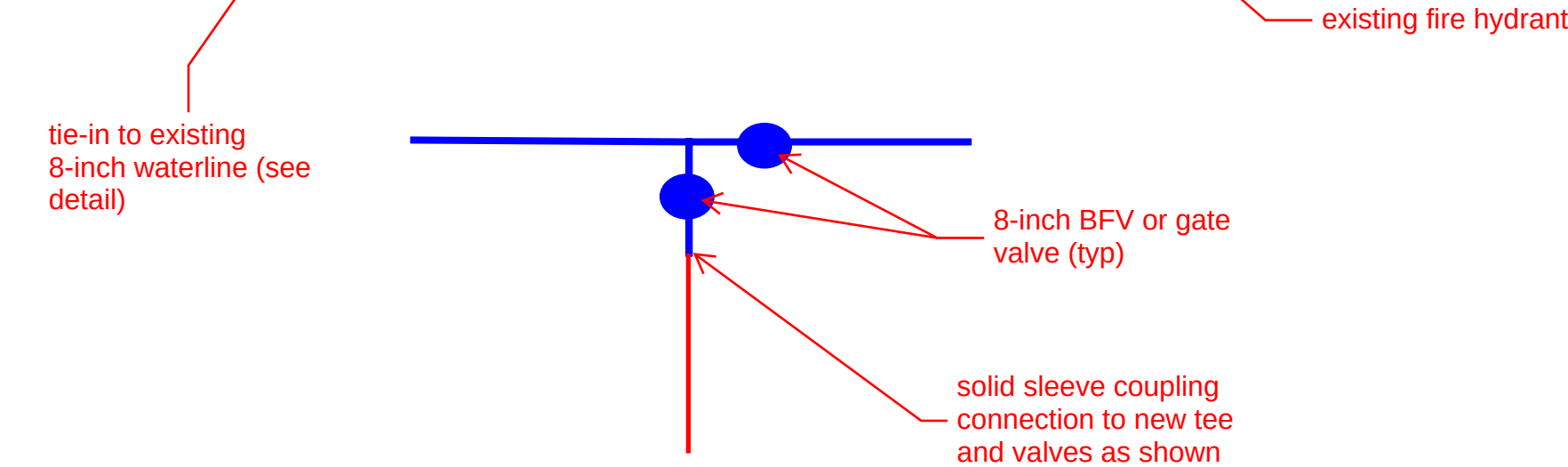
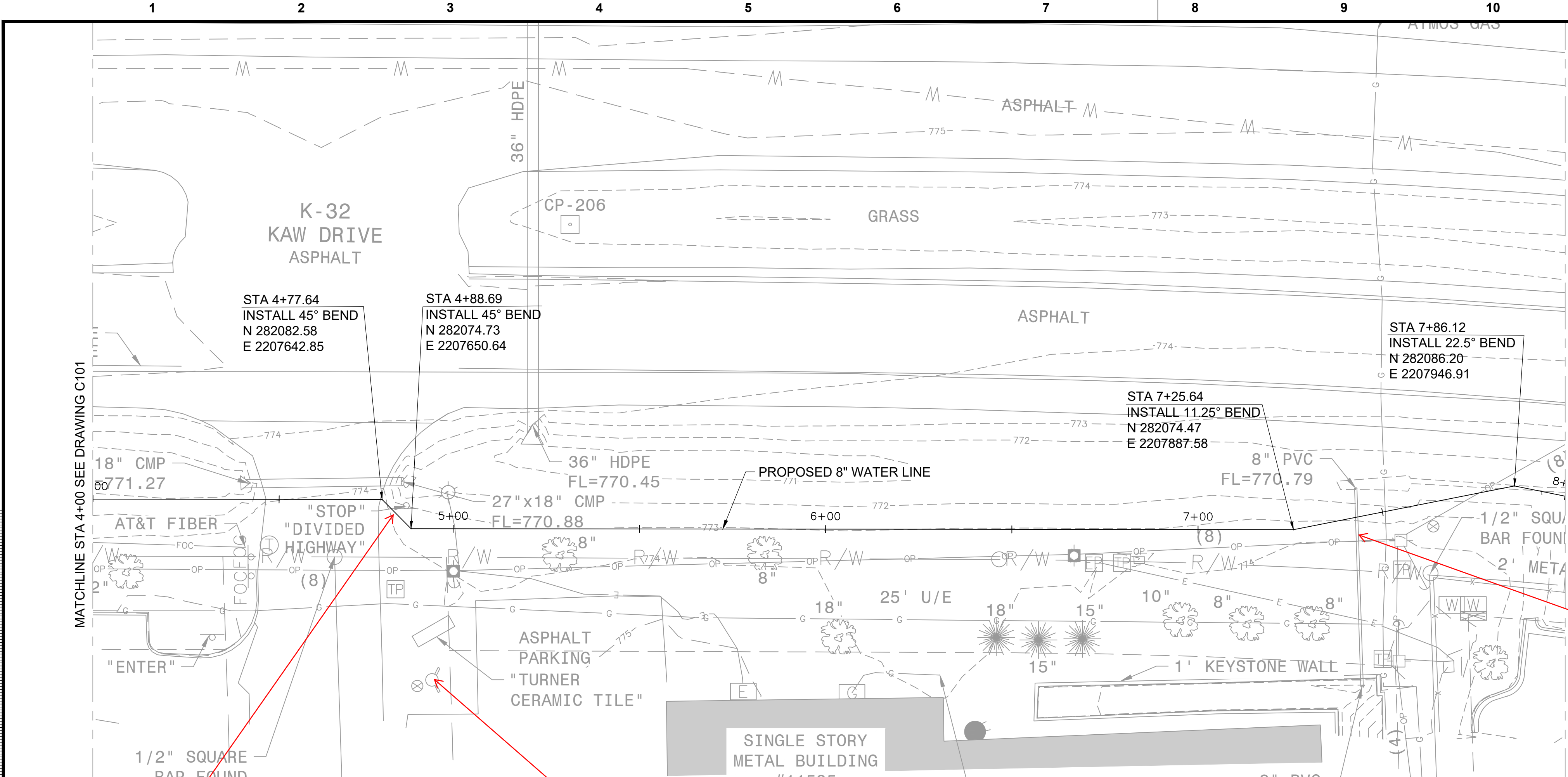


Wyandotte County, Kansas

WATER TREATMENT PLANT DESIGN

PLAN AND PROFILE
STA 0+00 TO STA 4+00

project 138337	contract
drawing C101	rev. A
sheet of	sheets
file	



force main is expected to be ~7 feet offset north from R/W

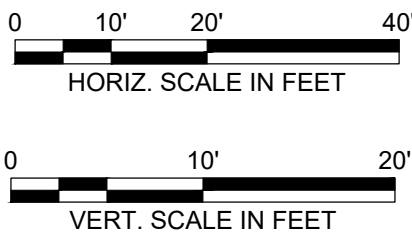
cross under 8-inch storm & gas lines



Millimeters

Scale For Microfining

Inches



no.	date	by	ckd	description
A	04/27/22	CRJ	JLG	ISSUED FOR REVIEW

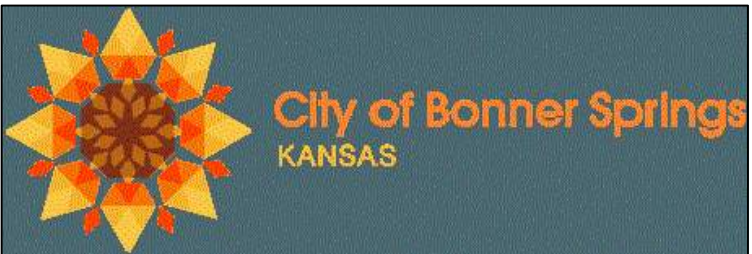
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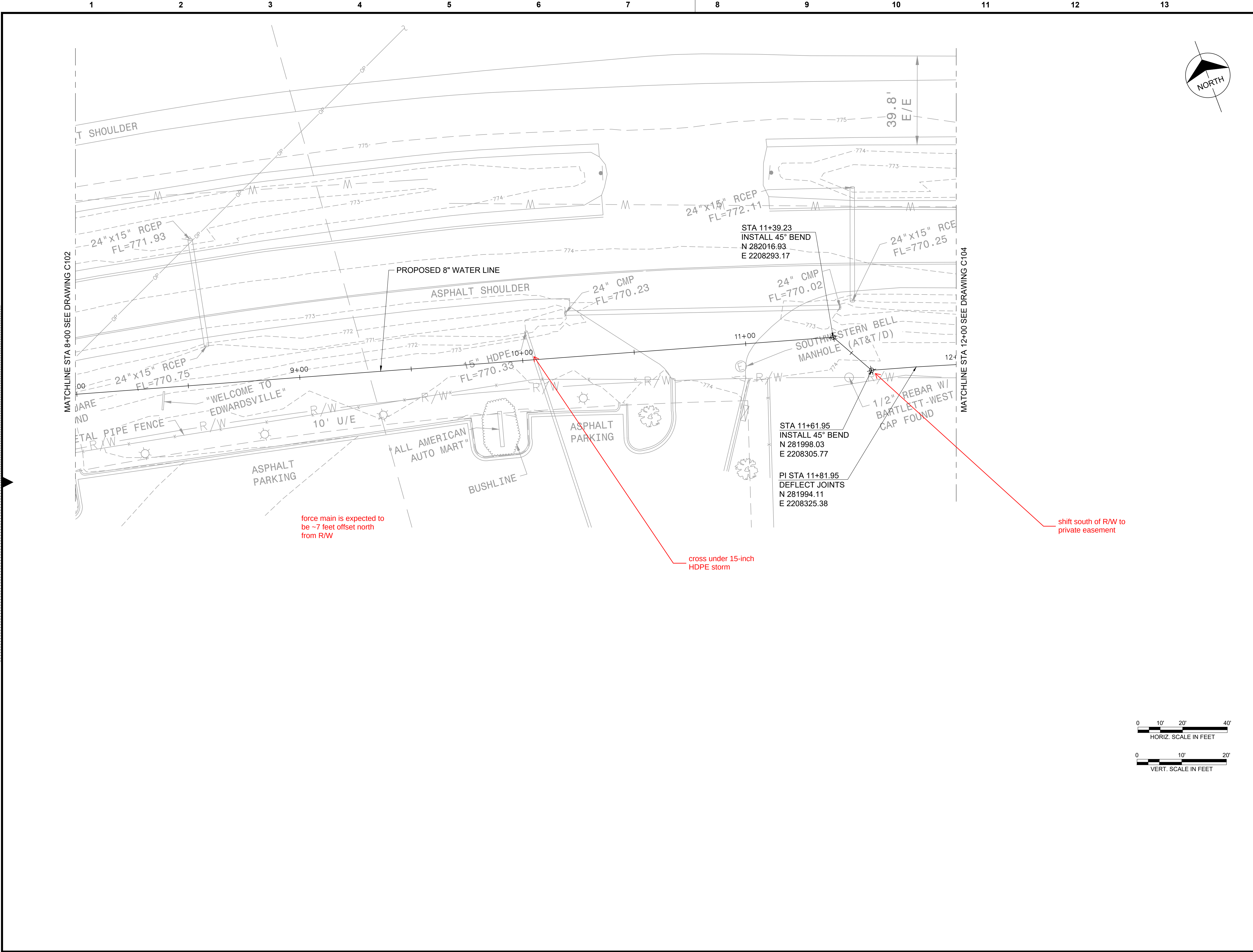
date FEBRUARY 9, 2022	detailed C. JONES
designed T. SMITH	checked



Wyandotte County, Kansas

WATER TREATMENT PLANT DESIGN
PLAN AND PROFILE
STA 4+00 TO STA 8+00

project 138337	contract
drawing C102	rev. A
sheet 138337-C102.dwg	of sheets



no.	date	by	ckd	description
A	04/27/22	CRJ	JLG	ISSUED FOR REVIEW

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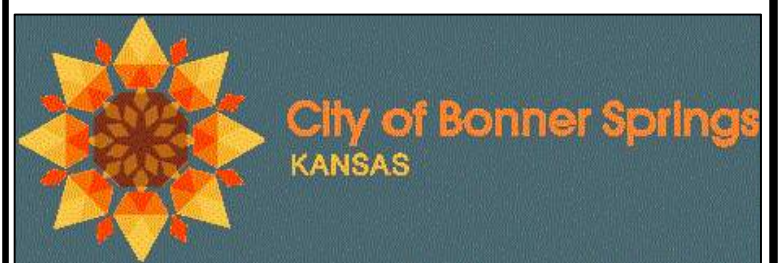


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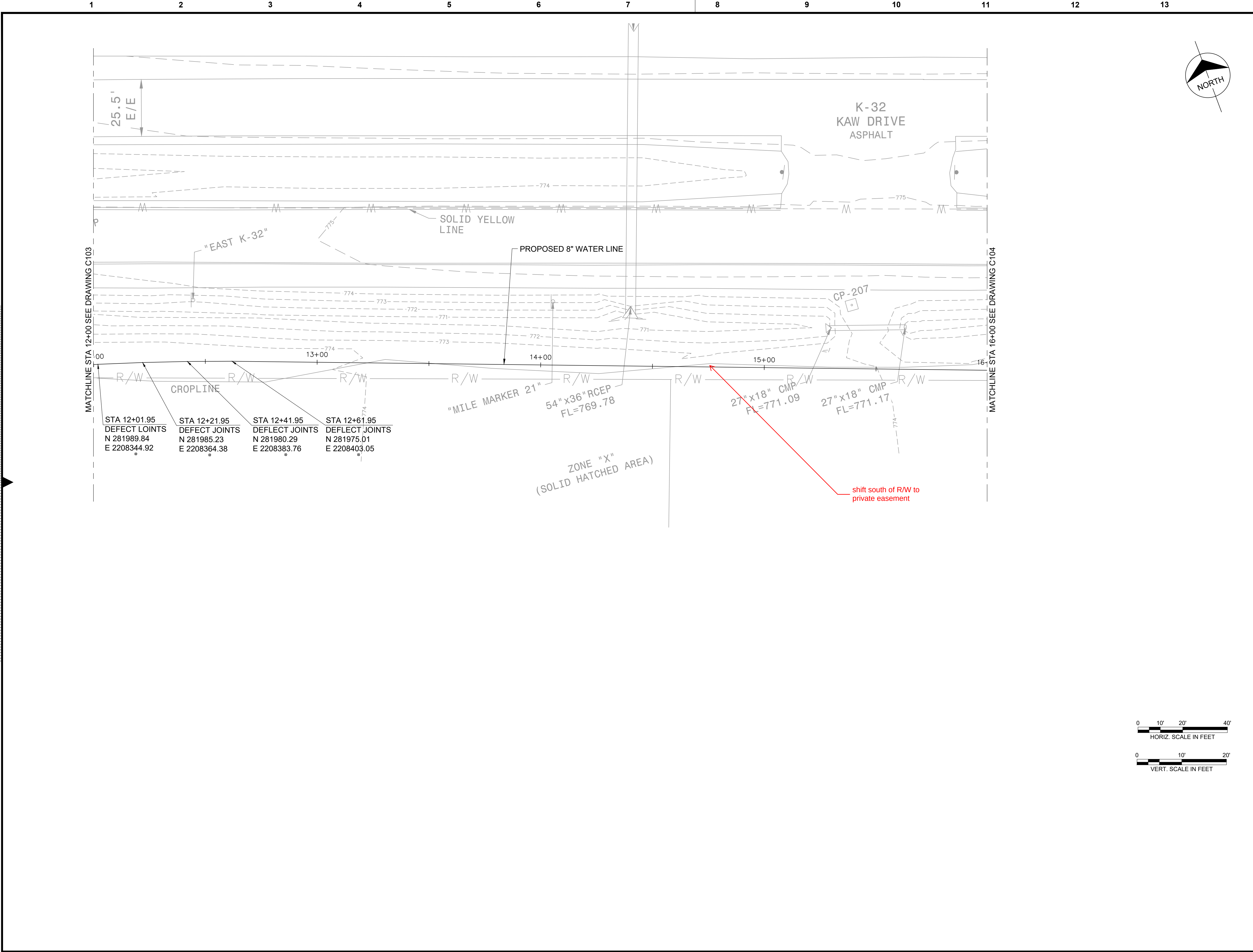
date FEBRUARY 9, 2022	detailed C. JONES
designed T. SMITH	checked



Wyandotte County, Kansas

WATER TREATMENT PLANT DESIGN
PLAN AND PROFILE
STA 8+00 TO STA 12+00

project 138337	contract
drawing C103	rev. A
sheet file 138337-C103.dwg	of sheets



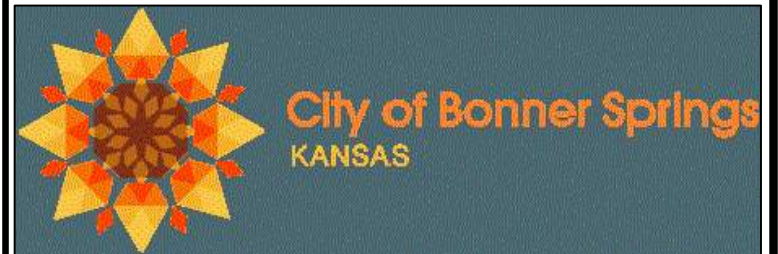
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A	04/27/22	CRJ	JLG	ISSUED FOR REVIEW

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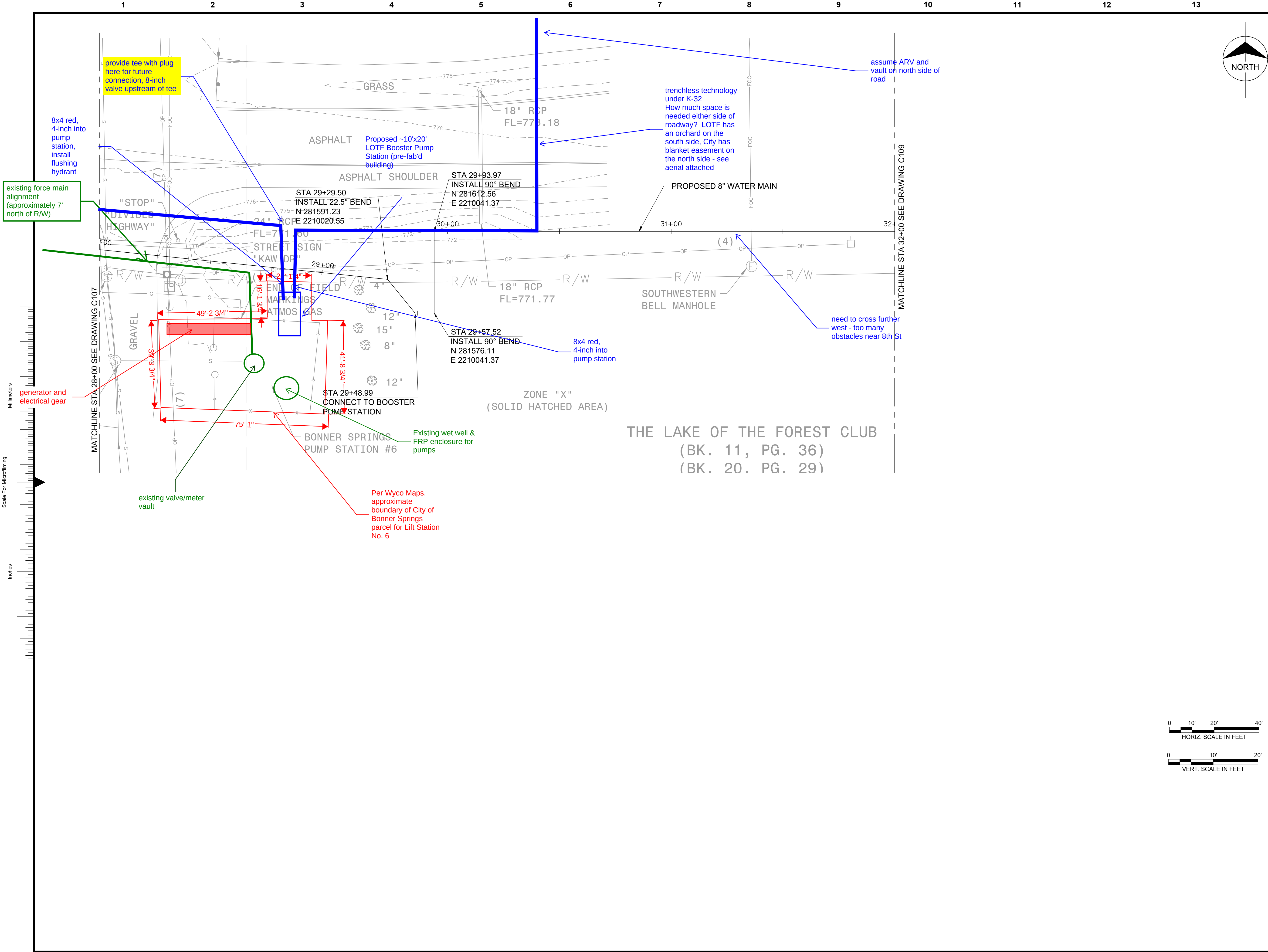
date FEBRUARY 9, 2022	detailed C. JONES
designed T. SMITH	checked


City of Bonner Springs
KANSAS

Wyandotte County, Kansas

WATER TREATMENT PLANT DESIGN
PLAN AND PROFILE
STA 12+00 TO STA 16+00

project 138337	contract
drawing C104	rev. A
sheet	of sheets
file 138337-C104.dwg	



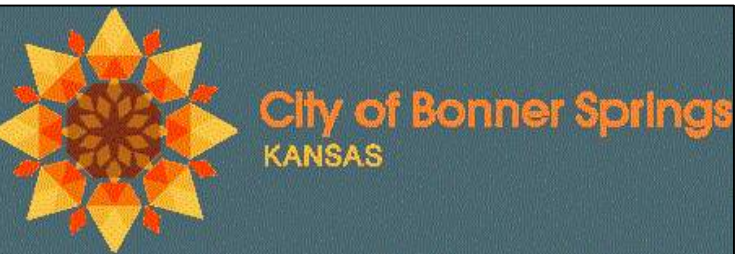
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A	04/27/22	CRJ	JLG	ISSUED FOR REVIEW

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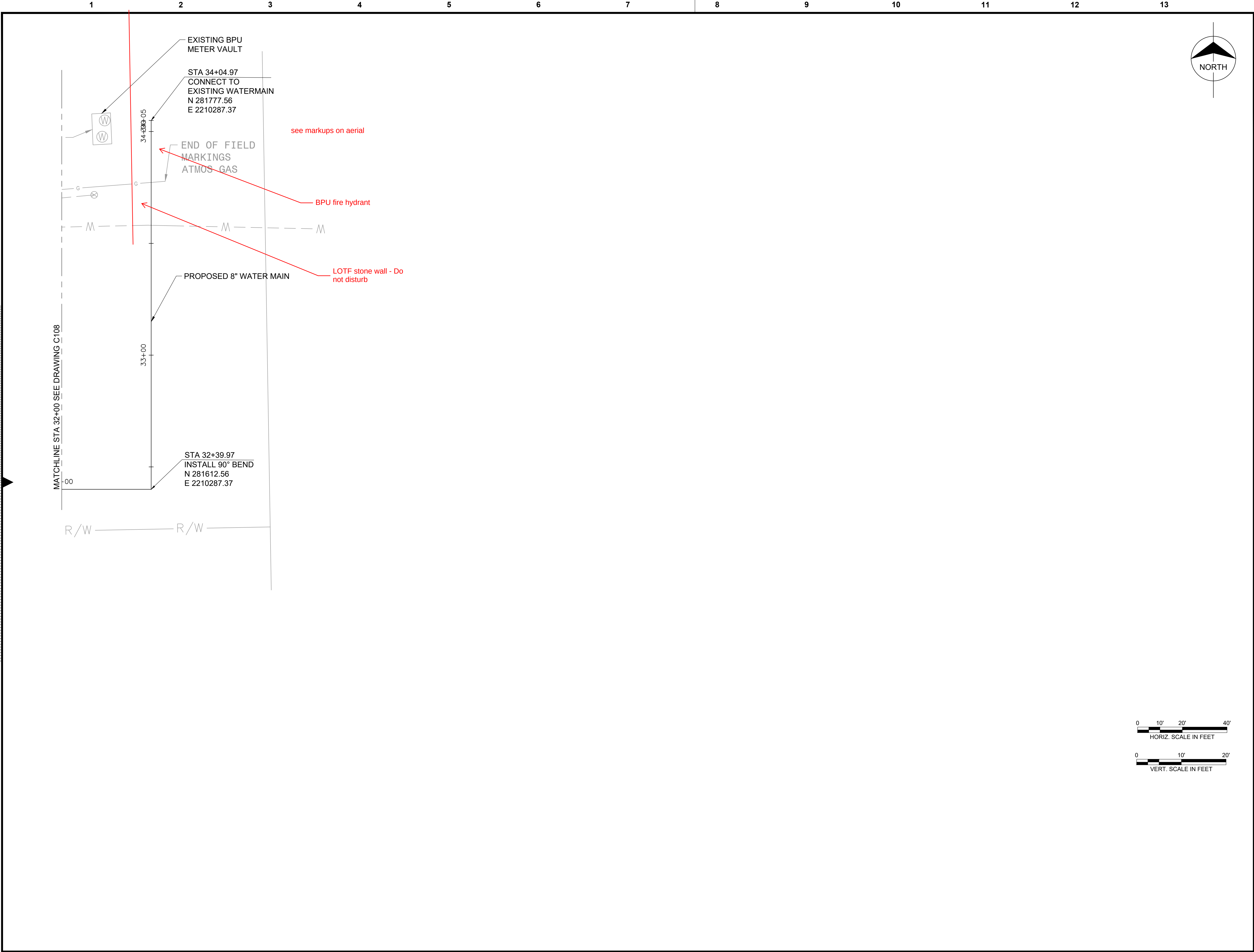
date FEBRUARY 9, 2022	detailed C. JONES
designed T. SMITH	checked


City of Bonner Springs
KANSAS

Wyandotte County, Kansas

WATER TREATMENT PLANT DESIGN
PLAN AND PROFILE
STA 28+00 TO STA 32+00

project 138337	contract
drawing C108	rev. A
sheet file 138337-C108.dwg	of sheets



no.	date	by	ckd	description
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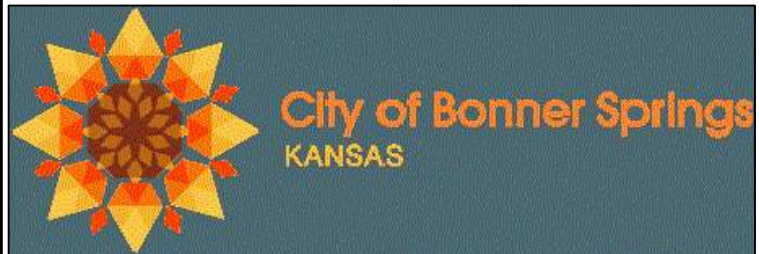
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KANSAS CITY, MO 64114
816-333-9400
Burns & McDonnell Engineering Co, Inc.
LICENSEE NO. E-65



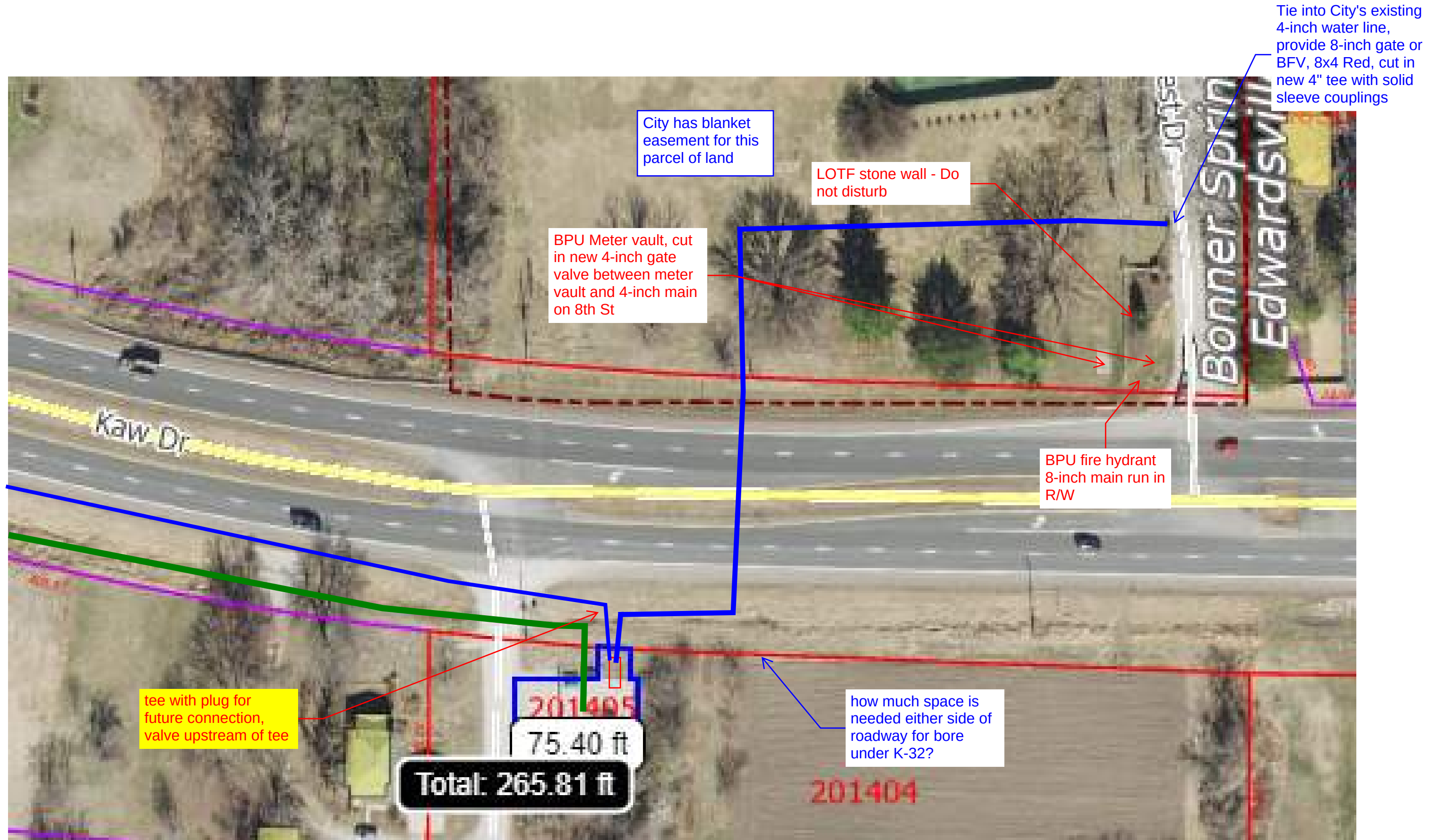
date FEBRUARY 9, 2022	detailed C. JONES
designed T. SMITH	checked



Wyandotte County, Kansas

WATER TREATMENT PLANT DESIGN
PLAN AND PROFILE
STA 32+00 TO STA 34+05±

project 138337	contract
drawing C109	rev. A
sheet	of sheets
file	138337-C109.dwg





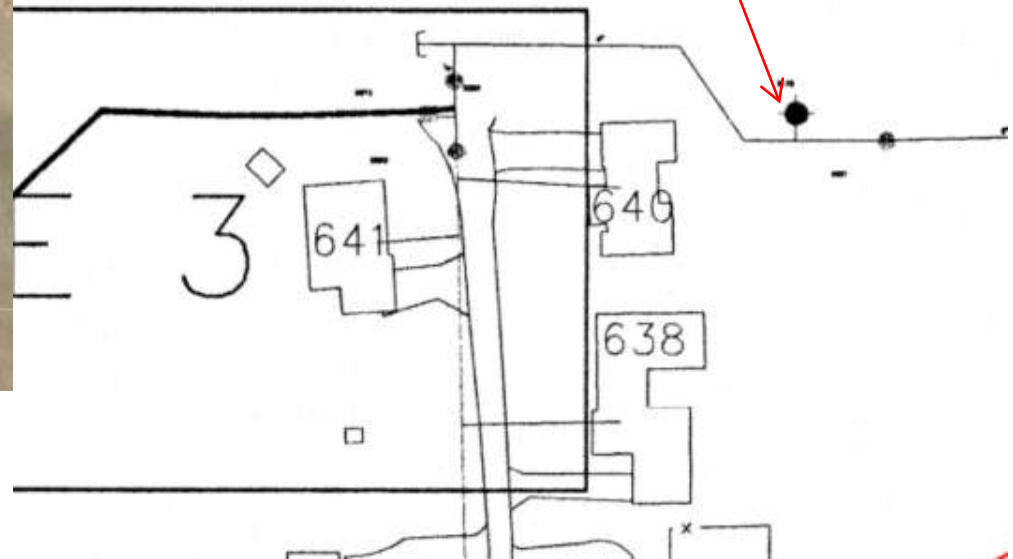
cut in a hydraulic valve in pre-cast vault 8'x8' with 8-inch BFV bypass around hydraulic valve inside vault. Buried 8" BFV or gate valve as isolation downstream of new vault

assume there is a normally closed valve cut in here? only appears to be a valve for isolation of the fire hydrant

presumed existing 8-inch line

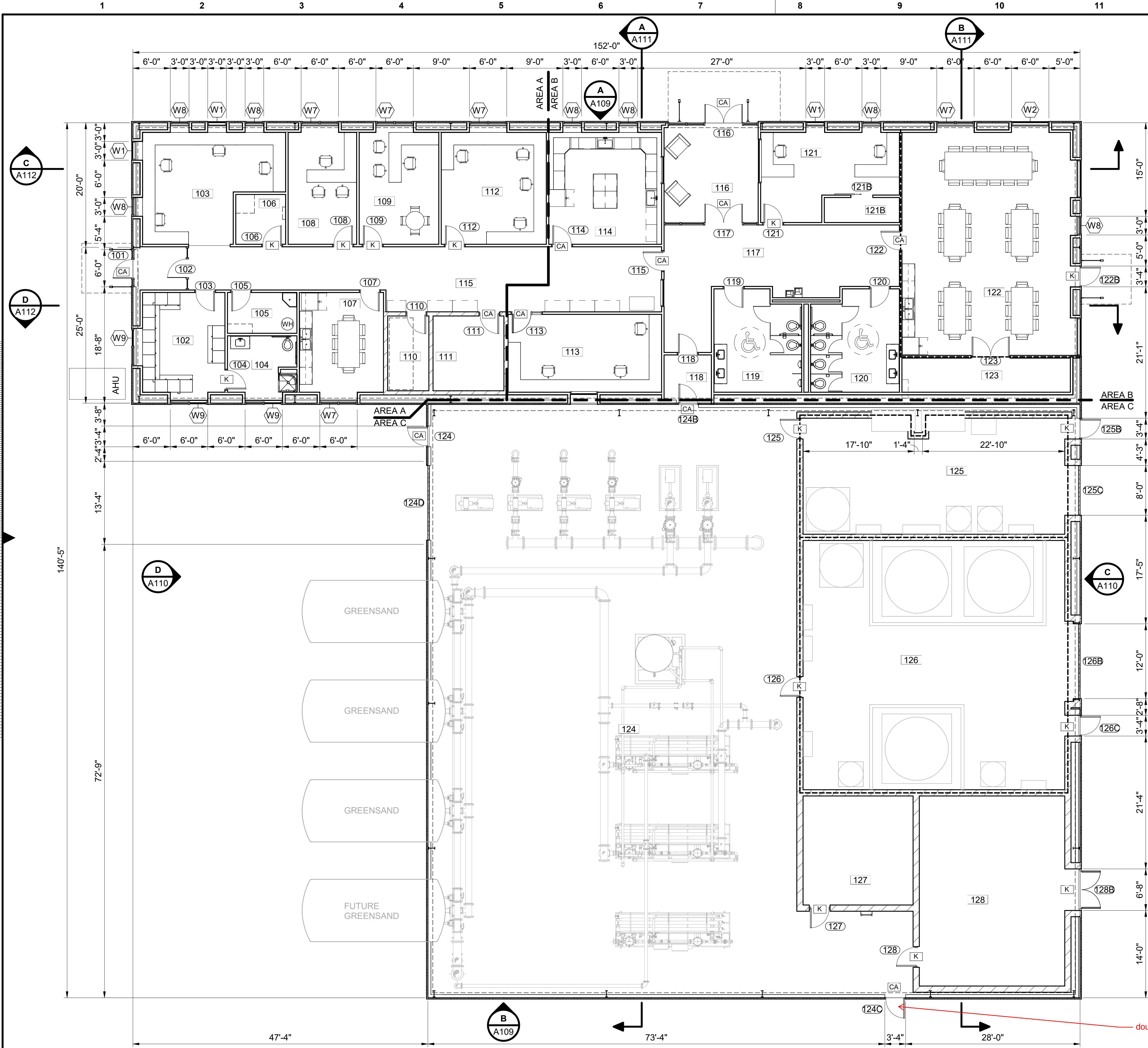
Fire hydrant

meter vault



1	2	3	4	5	6	7	8	9	10	11	12	13																
CALL OUT IDENTIFICATION				PLAN LEGEND		MATERIAL SYMBOLS		ABBREVIATIONS					no. date by ckd description															
SECTION, DETAIL, AND ELEVATION SYMBOL IDENTIFIERS:				PLAN LEGEND:																								
LETTER OR NUMBER DESIGNATOR ONE OR TWO CHARACTER DISCIPLINE DESIGNATOR (MAY NOT BE PRESENT IF CALLOUT AND TITLE ARE ON DRAWINGS WITHIN THE SAME DISCIPLINE) DRAWING SEQUENCE NUMBER INDICATES WHERE TITLE IS LOCATED (MAY NOT BE PRESENT IF CALLOUT AND TITLE ARE ON THE SAME DRAWING) WALL SECTION CALLOUT EXAMPLE: LETTER OR NUMBER INDICATES DETAIL SHEET NUMBER WHERE SECTION IS DRAWN BUILDING SECTION CALLOUT EXAMPLE: LETTER OR NUMBER INDICATES DETAIL SHEET NUMBER WHERE SECTION IS DRAWN DETAIL CALLOUT EXAMPLE: LETTER OR NUMBER INDICATES DETAIL SHEET NUMBER WHERE DETAIL IS DRAWN ELEVATION CALLOUT EXAMPLE: INTERIOR EXTERIOR SECTION, DETAIL, AND ELEVATION TITLE EXAMPLE: THE WORD "SECTION" MAY BE REPLACED WITH "ELEVATION" OR "DETAIL" SECTION TITLE SCALE IN FEET NORTH ARROW EXAMPLE:				EXISTING DOOR NEW DOOR EXISTING WALL NEW WALL (RE: PARTITION TYPE) ROOM NAME ROOM NAME ROOM NUMBER DOOR NUMBER WINDOW WALL TYPE LOUVER TAG GRID BUBBLE AND LINE TOILET ACCESSORY TAG 1' - 0" A.F.F. CEILING HEIGHT TAG COMMON PATH OF TRAVEL TRAVEL DISTANCE EGRESS PATH COMMON PATH TERMINATION POINT DEMOLITION/EXISTING PLAN LEGEND EXISTING DOOR DOOR TO BE REMOVED EXISTING WALL WALL TO BE REMOVED		UNDISTURBED EARTH COMPACTED FILL GRAVEL GRASS FACE BRICK SPLIT FACE CONCRETE MASONRY VENEER (ELEVATION) CONCRETE MASONRY UNIT (PLAN) CONCRETE MASONRY UNIT (ELEVATION) CONCRETE RIGID INSULATION PLYWOOD GROUT OR GYPSUM BOARD SAND, PLASTER, OR PORTLAND CEMENT STEEL OR FERROUS METALS ALUMINUM OR NON-FERROUS METALS FINISHED WOOD GLUED-LAMINATED WOOD PLASTIC LAMINATE BATT INSULATION METAL STUD WALL BACKER ROD AND SEALANT DIMENSION LUMBER		A/E ARCHITECT/ENGINEER ACOUST ACOUSTICAL ADJ ADJACENT, ADJUSTABLE AFF ABOVE FINISH FLOOR AHJ AUTHORITY HAVING JURISDICTION ALT ALTERNATE ALUM ALUMINUM APPROX APPROXIMATE ARCH ARCHITECTURE, ARCHITECT -A- BD BOARD BITUM BITUMINOUS BLDG BUILDING BLKG BLOCKING BO BOTTOM OF, AS IN "BO STEEL" BETWEEN -B- CAB CABINET CCTV CLOSED CIRCUIT TELEVISION CID COMPREHENSIVE INTERIOR DESIGN CJ CONTROL JOINT, CONSTRUCTION JOINT CL CENTER LINE CLG CEILING CLR CLEAR CMU CONCRETE MASONRY UNIT CO CLEANOUT COL COLUMN COMM COMMUNICATION CONC CONCRETE CONSTR CONSTRUCTION CONT CONTINUOUS CONTR CONTRACT, CONTRACTOR COORD COORDINATE CORR CORRUGATED OR CORRIDOR CU CUBIC °C CELSIUS -D- DBL DOUBLE DEMO DEMOLITION DESCR DESCRIPTION DET DETAIL DIA DIAMETER DIAG DIAGONAL DIM DIMENSION DN DOWN DR DOOR DS DOWNSPOUT DWG DRAWING -E- E EAST EA EACH EEW EMERGENCY EYEWASH EEWS EMERGENCY EYEWASH & SHOWER EF EXHAUST FAN EJ EXPANSION JOINT EL ELEVATION, AS IN HEIGHT ELAST ELASTOMERIC ELEC ELECTRIC / ELECTRICAL ELEV ELEVATOR, OR ELEVATION AS IN NORTH ELEV EQ EQUAL EQUIP EQUIPMENT ETC AND SO FORTH (ETCETERA) EW EACH WAY EWC ELECTRIC WATER COOLER EXH EXHAUST EXIST EXISTING EXP EXPANSION EXT EXTERIOR -F- FD FLOOR DRAIN FDN FOUNDATION FE FIRE EXTINGUISHER WITH WALL BRACKET FEC FIRE EXTINGUISHER CABINET FF FINISH FLOOR FF&E FURNITURE, FIXTURES & EQUIPMENT FHC FIRE HOSE CABINET (WITH EXTINGUISHER & BRACKET) FHR FIRE HOSE REEL (WITH EXTINGUISHER & BRACKET) FIN FINISHED, FINISH FLR FLOOR FT FEET / FOOT FV FIELD VERIFY °F FAHRENHEIT -G- GA GAUGE GALV GALVANIZED GL GIRT LINE GRTG GRATING GYP GYPSUM GYP BD GYPSUM BOARD -H- H HIGH HD HAND HDWR HARDWARE HM HOLLOW METAL HORIZ HORIZONTAL HT HEIGHT HVAC HEATING, VENTILATION & AIR CONDITIONING -I- ID INSIDE DIAMETER IN INCH INSUL INSULATION INT INTERIOR -J- JAN JANITOR'S CLOSET -L- L LEFT, LONG, LENGTH LAB LABORATORY LAT LATITUDE LAV LAVATORY LB or # POUND LH LEFT HAND LONG LONGITUDE LVR LOUVER -M- M METER MACH MACHINE MAINT MAINTENANCE MAS MASONRY MATL MATERIAL MAX MAXIMUM MECH MECHANICAL MFR MANUFACTURER MIN MINIMUM MISC MISCELLANEOUS MJ MOVEMENT JOINT MM MILLIMETER MO MASONRY OPENING MTD MOUNTED MTL METAL -N- N NORTH N/A NOT APPLICABLE NIC NOT IN CONTRACT NO NUMBER NOM NOMINAL NTP NOTICE TO PROCEED NTS NOT TO SCALE -O- OC ON CENTER OD OUTSIDE DIAMETER OFF OFFICE OPNG OPENING OPP OPPOSITE -P- PA PUBLIC ADDRESS PEMB PRE-ENGINEERED METAL BUILDING PERIM PERIMETER PKG PACKAGE PL PLATE PLMB PLUMBING PLYWD PLYWOOD PROJ PROJECT PSF POUNDS PER SQUARE FOOT PSI POUNDS PER SQUARE INCH PVC POLYVINYL CHLORIDE -R- R RADIUS R/A RETURN AIR RCP REFLECTIVE CEILING PLAN RD ROOF DRAIN RECP RECEPTACLE REFER REFERENCE REINF REINFORCED REQ'D REQUIRED REV REVISION RH RIGHT HAND RO ROUGH OPENING -S- S SOUTH SA SUPPLY AIR SCHED SCHEDULE SECT SECTION SF SQUARE FOOT SID STRUCTURAL INTERIOR DESIGN SIM SIMILAR SPEC SPECIFICATION SQ SQUARE, AS IN "SQ FT" STC SOUND TRANSMISSION COEFFICIENT STD STANDARD STOR STORAGE STRUCT STRUCTURAL SUPP SUPPORT SUSP SUSPENDED SYS SYSTEM -T- TD TRENCH DRAIN TECH TECHNICAL THRU THROUGH TLT TOILET TO TOP OF, AS IN "TO STEEL" TOR TOP OF ROOF TYP TYPICAL -U- UL UNDERWRITERS LABORATORY UNO UNLESS NOTED OTHERWISE UTIL UTILITY -V- VENT VENTILATE, VENTILATOR VERT VERTICAL VJ VENEER JOINT VOL VOLUME -W- W WEST, WIDTH W/ WITH W/O WITHOUT WC WATER CLOSET WD WOOD WH WATER HEATER WT WEIGHT																				
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BURNS MEDONNELL 9400 WARD PARKWAY KANSAS CITY, MO 64114 816-333-9400 LICENSE NO. E-65 CASCONSTRUCTORSLLC AN ALBERICI ENTERPRISE																												
<table><tr><td>date</td><td>JANUARY 19, 2022</td><td>detailed</td><td>R. GUIN</td></tr><tr><td>designed</td><td>J. LAUGHRIDGE</td><td>checked</td><td>R. LANG</td></tr></table>													date	JANUARY 19, 2022	detailed	R. GUIN	designed	J. LAUGHRIDGE	checked	R. LANG								
date	JANUARY 19, 2022	detailed	R. GUIN																									
designed	J. LAUGHRIDGE	checked	R. LANG																									
City of Bonner Springs KANSAS BONNER SPRINGS, KANSAS																												
WTP ARCHITECTURAL LEGEND & ABBREVIATIONS <table><tr><td>project</td><td>138337</td><td>contract</td><td></td></tr><tr><td>drawing</td><td>A001</td><td>rev.</td><td></td></tr><tr><td>sheet</td><td>of</td><td></td><td></td></tr><tr><td>file</td><td></td><td></td><td></td></tr></table>													project	138337	contract		drawing	A001	rev.		sheet	of			file			
project	138337	contract																										
drawing	A001	rev.																										
sheet	of																											
file																												

ARCHITECTURAL GENERAL NOTES												no.	date	by	ckd	description					
1. ALL WORK SHALL COMPLY WITH AND CONTRACTOR SHALL INCLUDE ALL WORK REQUIRED TO COMPLY WITH ALL APPLICABLE CODES AND STANDARDS OR AS REQUIRED BY THE AUTHORITY HAVING JURISDICTION. 2. DIMENSIONS SHALL GOVERN. DETAILS SHALL GOVERN OVER PLANS AND ELEVATIONS. LARGE SCALE DETAILS OR PLANS SHALL GOVERN OVER SMALL SCALE DETAILS OR PLANS. DO NOT SCALE DRAWINGS. 3. ALL FLOORS SHALL BE INSPECTED FOR DAMAGE, WARPING OR OTHER NOTICEABLE DEVIATIONS AND PATCHED AND LEVELED PRIOR TO COVERING WITH FLOOR FINISHES, INSTALLATION OF ACCESS FLOOR SYSTEM, OR ERECTION AND INSTALLATION OF COLD-FORMED FRAMING. 4. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL MANUFACTURER'S RECOMMENDED MAINTENANCE PROCEDURES AND SCHEDULES. 5. ANY MANUFACTURER'S OR BRAND NAME PRODUCTS INDICATED OR SPECIFIED ARE DONE SO TO ESTABLISH A MINIMUM LEVEL OF QUALITY. 6. ALL CONSTRUCTION SHALL MEET OR EXCEED LOCAL INDUSTRY STANDARDS. DETAILS ARE PROVIDED TO INDICATE MINIMUM QUALITY AND TO GIVE STANDARDS OF CONSTRUCTION. IF A CONDITION IS NOT SPECIFICALLY DETAILED, SUBMIT A SIMILAR DETAIL FOR GUIDE AND APPROVAL. 7. THE LETTERS I, O, AND Q ARE NOT USED TO INDICATE DETAILS, SECTIONS OR ELEVATIONS. 8. PROVIDE PRESERVATIVE-TREATED WOOD AT ALL LOCATIONS WHERE WOOD IS IN DIRECT CONTACT WITH CONCRETE OR MASONRY. 9. PROVIDE 3/4" FIRE-RETARDANT TREATED PLYWOOD BACKING AT ALL ELECTRICAL, PHONE, AND SECURITY SYSTEM PANELS. 10. PROVIDE FIRE-RESISTANT TREATED WOOD BLOCKING FOR SECURE ANCHORAGE OF ALL SHELVES, RUNNING TRIM, RAILINGS, SUSPENDED ITEMS, DOOR-STOPS, HARDWARE, SPECIALTIES, ACCESSORIES, FIXTURES, OR EQUIPMENT. 11. PAINT, STAIN, OR COAT ALL EXPOSED SURFACES OF CONSTRUCTION UNLESS NOTED OTHERWISE OR IF SURFACES ARE PRE-FINISHED. 12. ALL OPENING DIMENSIONS ARE NOMINAL. THE CONTRACTOR SHALL FIELD MEASURE ALL OPENINGS AND COORDINATE WITH THE APPROPRIATE SUPPLIER FOR ALL DOORS AND WINDOWS. 13. ALL CONDUITS, PLUMBING, PIPING, DUCTWORK, AND OTHER EQUIPMENT EXPOSED TO VIEW SHALL BE LOCATED PARALLEL OR PERPENDICULAR TO THE STRUCTURAL FRAMING SYSTEM. 14. PROVIDE GALVANIC PROTECTION BETWEEN DISSIMILAR MATERIALS, WHERE REQUIRED. 15. ARCHITECTURAL DETAILS ARE APPLICABLE WHERE INDICATED BY SECTION CUT, BY NOTE, OR BY DETAIL TITLE. INCORPORATE SIMILAR DETAILS AT SIMILAR CONDITIONS UNLESS NOTED OTHERWISE. THE CONTRACTOR MAY REQUEST A CLARIFICATION IF REQUIRED, OTHERWISE THE MORE STRINGENT REQUIREMENTS SHALL CONTROL. 16. PROVIDE FIRE-STOPPING SYSTEMS AT TOP OF AND AT ALL PENETRATIONS THROUGH FIRE-RATED PARTITIONS. 17. SEAL ALL EXTERIOR BUILDING JOINTS AT BOTH THE EXTERIOR AND INTERIOR SURFACES AGAINST MOISTURE AND AIR INFILTRATION. 18. SEAL AROUND ALL DOOR AND WINDOW FRAMES, WALL-MOUNTED FIXTURES AND EQUIPMENT TO ADJACENT WALL SURFACES. 19. THE CONTRACTOR SHALL REVIEW THE DIMENSIONS OF ALL EQUIPMENT IN THE PROJECT REGARDLESS OF THE SOURCE AND COORDINATE ACCESS TO THE SPACE AND VERIFY CLEAR FLOOR SPACE IS PROVIDED AS REQUIRED TO ENSURE EASE OF INSTALLATION. 20. ALL WORK MUST BE OF GOOD QUALITY, FREE FROM DEFECTS, AND IN ACCORDANCE WITH THE REQUIREMENTS OF THE CONTRACT DOCUMENTS. 21. THE CONTRACTOR IS RESPONSIBLE FOR THE COORDINATION OF ALL PENETRATIONS IN THE STRUCTURE FOR THE PROPER INSTALLATION OF THE WORK. REFER TO STRUCTURAL DRAWINGS FOR REINFORCING REQUIRED AT PENETRATIONS IN STEEL, CONCRETE OR MASONRY. 22. THE CONTRACTOR SHALL PROVIDE ACCESS DOORS OR PANELS AS REQUIRED FOR SERVICING OF PIPING, DUCTWORK, CABLE TRAYS, FIRE DAMPERS AND SIMILAR APPLICATIONS. ALL PROPOSED ACCESS DOOR LOCATIONS TO BE SUBMITTED FOR APPROVAL PRIOR TO INSTALLATION. 23. PROVIDE ALL HVAC, PLUMBING, GAS OR ELECTRIC SERVICE CONNECTIONS TO FIXTURES, SIGNAGE, OR EQUIPMENT INDICATED (WHETHER UNITS ARE INSTALLED BY CONTRACTOR OR BY OTHERS). 24. BRACE SUSPENDED ITEMS, ETC. ONLY TO STRUCTURAL ELEMENTS ABOVE. DO NOT ANCHOR TO ROOF DECK, PLUMBING / PIPES, DUCTWORK, ELECTRICAL CONDUIT OR SIMILAR ELEMENTS. 25. EXTEND ALL PAINT COMPLETELY INTO RECESSES AND BEHIND ALL EQUIPMENT. 26. ALL MATERIALS USED FOR CONSTRUCTION SHALL BE NEW AND UNDAMAGED. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR ALL WORK SHOWN. 27. THE CONTRACTOR SHALL BECOME FULLY ACQUAINTED WITH CONDITIONS RELATED TO THE WORK. ANY DISCREPANCIES BETWEEN THE DRAWINGS AND THE ACTUAL CONDITIONS SHALL BE REPORTED TO THE DESIGN PROFESSIONALS FOR RESOLUTION PRIOR TO PROCEEDING WITH THE WORK. 28. DRAWINGS CONTAINED IN THIS SET SHALL NOT BE REPRODUCED FOR SHOP DRAWINGS. COPIES OF THESE DRAWINGS SUBMITTED AS SHOP DRAWINGS WILL BE REJECTED AND RETURNED TO THE CONTRACTOR. 29. EACH INSTALLER MUST EXAMINE SUBSTRATE AND/OR CONDITIONS UNDER WHICH THE WORK WILL BE INSTALLED AND REPORT TO THE CONTRACTOR IN WRITING ANY CONDITIONS DETRIMENTAL TO THE PROPER AND TIMELY EXECUTION OF THE INSTALLERS WORK. DO NOT PROCEED UNTIL UNSATISFACTORY CONDITIONS ARE CORRECTED. INSTALLATION SHALL CONSTITUTE ACCEPTANCE OF THE SUBSTRATE AND/OR CONDITIONS. 30. "TYPICAL" (TYP) AS USED IN THESE DOCUMENTS SHALL MEAN THAT THE CONDITIONS OR DIMENSION IS THE SAME OR REPRESENTATIVE FOR SIMILAR CONDITIONS THROUGHOUT. 31. VENEER JOINTS (VJ) SHALL BE INSTALLED AT ALL PARTITIONS.VJ AT CONCRETE MASONRY UNIT PARTITIONS SHALL BE MAXIMUM 20'-0" O.C., UNLESS OTHERWISE NOTED ON DRAWINGS. REFER TO ELEVATION DRAWINGS FOR EXTERIOR VENEER JOINT LOCATIONS. REVIEW VJ LOCATIONS WITH ARCHITECT PRIOR TO INSTALLATION. 32. NON-BEARING PARTITIONS SHALL BE ISOLATED FROM THE BUILDING STRUCTURE TO PREVENT TRANSFER OF BUILDING LOADS FROM THE STRUCTURE TO THE PARTITIONS. 33. PRIOR TO BEGINNING ANY WORK, NOTIFY OWNER OF ANY EXISTING MATERIALS OBSERVED TO POSSIBLY CONTAIN ASBESTOS. 34. REMOVE ABANDONED PIPE, DUCTS, CONDUITS, AND EQUIPMEN BACK TO THE SOURCE OF SUPPLY WHERE POSSIBLE. WHERE NOT POSSIBLE CAP, STUB, AND TAG WITH IDENTIFICATION. PATCH HOLES LEFT BY REMOVAL USING MATERIALS SPECIFIED FOR NEW CONSTRUCTION. 35. REMOVE EXISTING WORK AS INDICATED AND AS REQUIRED TO ACCOMPLISH NEW WORK. 36. WHERE EXISTING FINISHED SURFACES ARE CUT SO THAT A SMOOTH TRANSITION WITH NEW WORK IS NOT POSSIBLE, TERMINATE EXISTING SURFACE ALONG A STRAIGHT LINE AT A NATURAL LINE OF DIVISION AND MAKE RECOMMENDATION TO ARCHITECT. 37. PROTECT EXISTING WORK TO REMAIN. PERFORM CUTTING TO ACCOMPLISH REMOVALS NEATLY AND AS SPECIFIED FOR CUTTING NEW WORK. REPAIR ADJACENT CONSTRUCTION AND FINISH DAMAGED DURING REMOVAL WORK. PATCH AS SPECIFIED FOR PATCHING NEW WORK. 38. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE EXTENT, NATURE, AND SCOPE OF WORK DESCRIBED IN THE CONTRACT DOCUMENTS AND COORDINATING WITH THE OWNER OR HIS/HER REPRESENTATIVE THE INTERFACING OF THE EXISTING BUILDING AND THE WORK SHOWN AND DESCRIBED IN THESE CONTRACT DOCUMENTS. 39. ALL "EXISTING" INFORMATION ON THE CONTRACT DOCUMENTS HAS BEEN OBTAINED OR FROM FIELD INVESTIGATION AND SUCH "EXISTING" INFORMATION SHALL BE FIELD VERIFIED BY ALL CONTRACTORS. 40. THE CONTRACTOR SHALL COORDINATE WITH THE OWNER FOR DESIGNATED CONSTRUCTION STAGING LOCATIONS, STORAGE AREAS, AND CONSTRUCTION SEQUENCING. 41. THE PREMISES WILL BE OCCUPIED AT ALL TIMES DURING THE CONSTRUCTION SCHEDULE. THE CONTRACTOR SHALL COORDINATE WITH THE OWNER REGARDING ALL INTERRUPTIONS OF UTILITIES, TEMPORARY EXITS, DUST PARTITIONS, DELIVERIES, AND ALL OTHER JOB REQUIREMENTS.																					
												PRELIMINARY - NOT FOR CONSTRUCTION									
												BURNS MCDONNELL 9400 WARD PARKWAY KANSAS CITY, MO 64114 816-333-9400 LICENSE NO. E-65									
												date		detailed							
												JANUARY 19, 2022		R. GUIN							
												designed		checked							
												J. LAUGHRIDGE		R. LANG							
												City of Bonner Springs KANSAS									
												BONNER SPRINGS, KANSAS									
												WTP ARCHITECTURAL GENERAL NOTES									
												project		contract							
												138337									
												drawing		rev.							
												A002		-							
												sheet		of							
												file									



[CA] CARD ACCESS READER

[K] KEYED DOOR

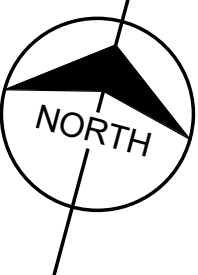
FIRE BARRIER SEPARATION LEGEND:

--- 2 HR FIRE RATED WALL

GENERAL NOTES:

1. EXTERIOR WALL PANELS: AWIP
INSULATED METAL PANELS ST40 2.5 INCH
2. ROOF: GAURDIAN ENERGY SAVER SYSTEM
FP R-30 1/2" DOUBLE LAYER (R-19+R-11)

OVERALL FLOOR PLAN
0 4' 8' 16'
SCALE IN FEET



**PRELIMINARY - NOT
FOR CONSTRUCTION**

**BURNS
McDONNELL**

9400 WARD PARKWAY
KANSAS CITY, MO 64114
816-333-9400
Burns & McDonnell Engineering Co, Inc.
LICENSE NO. E-65

CASCONSTRUCTORSLLC
AN ALBERICI ENTERPRISE

date
JANUARY 20, 2022

detailed
R. GUIN

designed
J. LAUGHRIDGE

checked
R. LANG



BONNER SPRINGS, KANSAS

**WTP
OPERATIONS BUILDING
FLOOR PLAN**

project

138337

contract

drawing

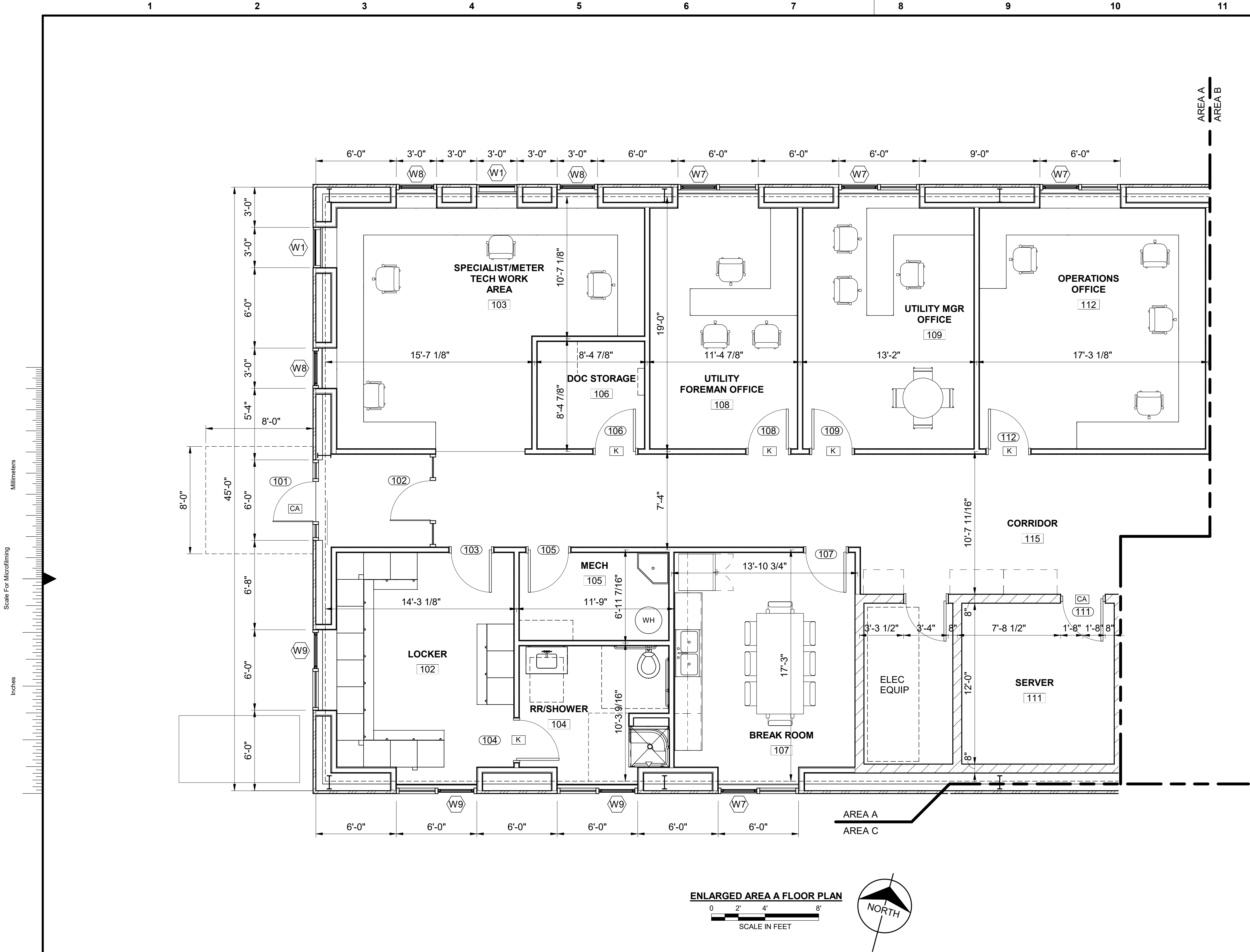
A101

rev.

sheet

of

file



CA CARD ACCESS READER

K KEYED DOOR

no.	date	by	ckd	description
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PRELIMINARY - NOT
FOR CONSTRUCTION



9400 WARD PARKWAY
KANSAS CITY, MO 64114
816-333-9400
LICENSE NO. E-65

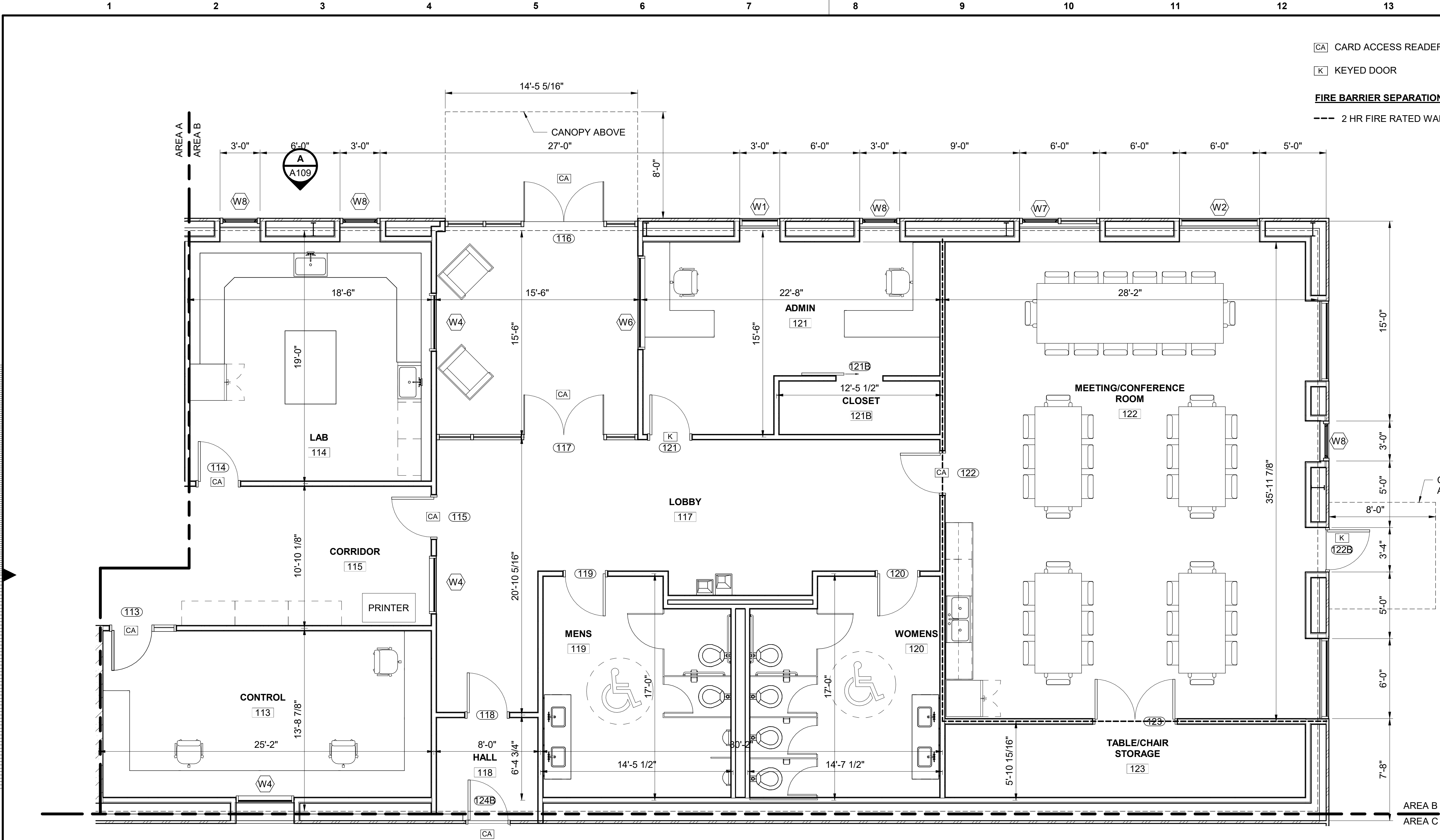
CASCONSTRUCTORSLLC
AN ALBERICI ENTERPRISE

date JANUARY 25, 2022	detailed R. GUIN
designed J. LAUGHRIDGE	checked R. LANG

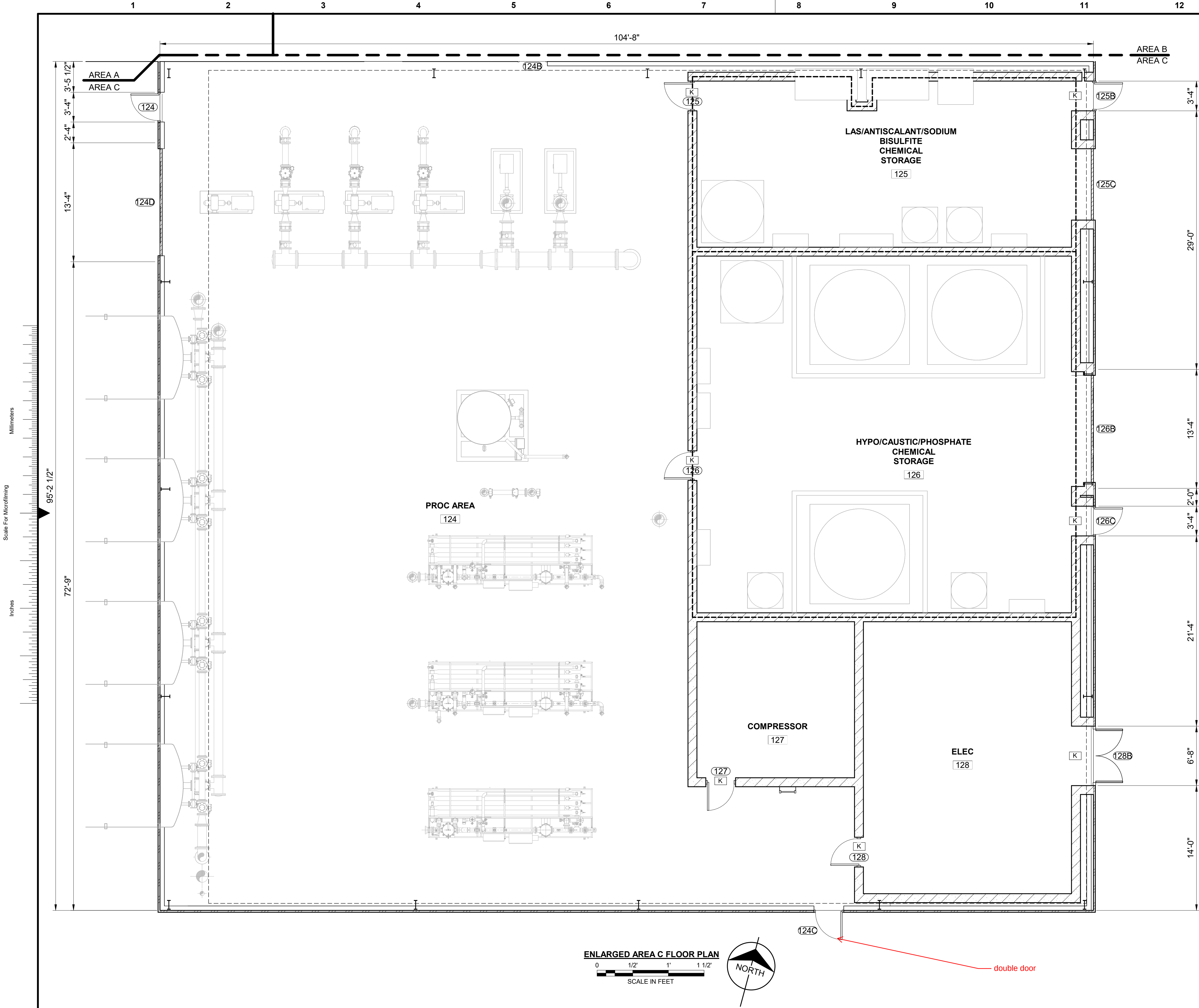


BONNER SPRINGS, KANSAS

WTP OPERATIONS BUILDING ENLARGED FLOOR PLAN AREA A	
project 138337	contract
drawing A102	rev.
sheet	of
file	



no.	date	by	ckd	description
PRELIMINARY - NOT FOR CONSTRUCTION				
BURNS MCDONNELL 9400 WARD PARKWAY KANSAS CITY, MO 64114 816-333-9400 Burns & McDonnell Engineering Co, Inc. LICENSE NO. E-65				
CASCONSTRUCTORSLLC AN ALBERICI ENTERPRISE				
date	JANUARY 25, 2022	detailed	R. GUIN	
designed	J. LAUGHRIDGE	checked	R. LANG	
 BONNER SPRINGS, KANSAS				
WTP OPERATIONS BUILDING ENLARGED FLOOR PLAN AREA B				
project	138337	contract		
drawing	A103		rev.	
sheet	of			
file				



no.	date	by	ckd	description
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PRELIMINARY - NOT
FOR CONSTRUCTION



9400 WARD PARKWAY
KANSAS CITY, MO 64114
816-333-9400
Burns & McDonnell Engineering Co, Inc.
LICENSE NO. E-65



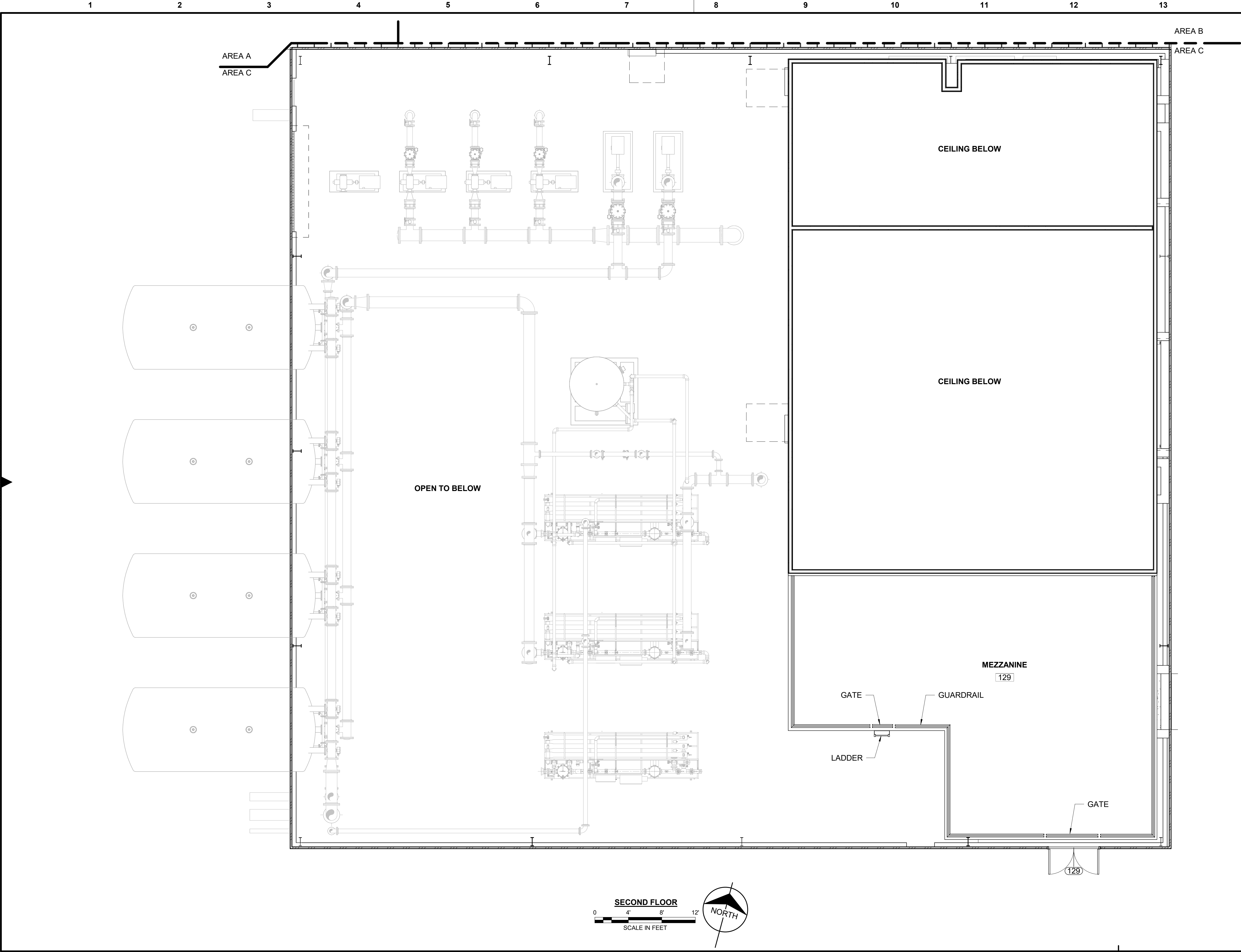
date JANUARY 25, 2022	detailed R. GUIN
designed J. LAUGHRIDGE	checked R. LANG



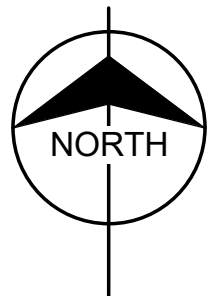
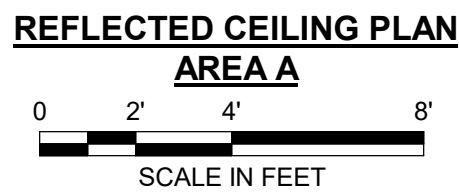
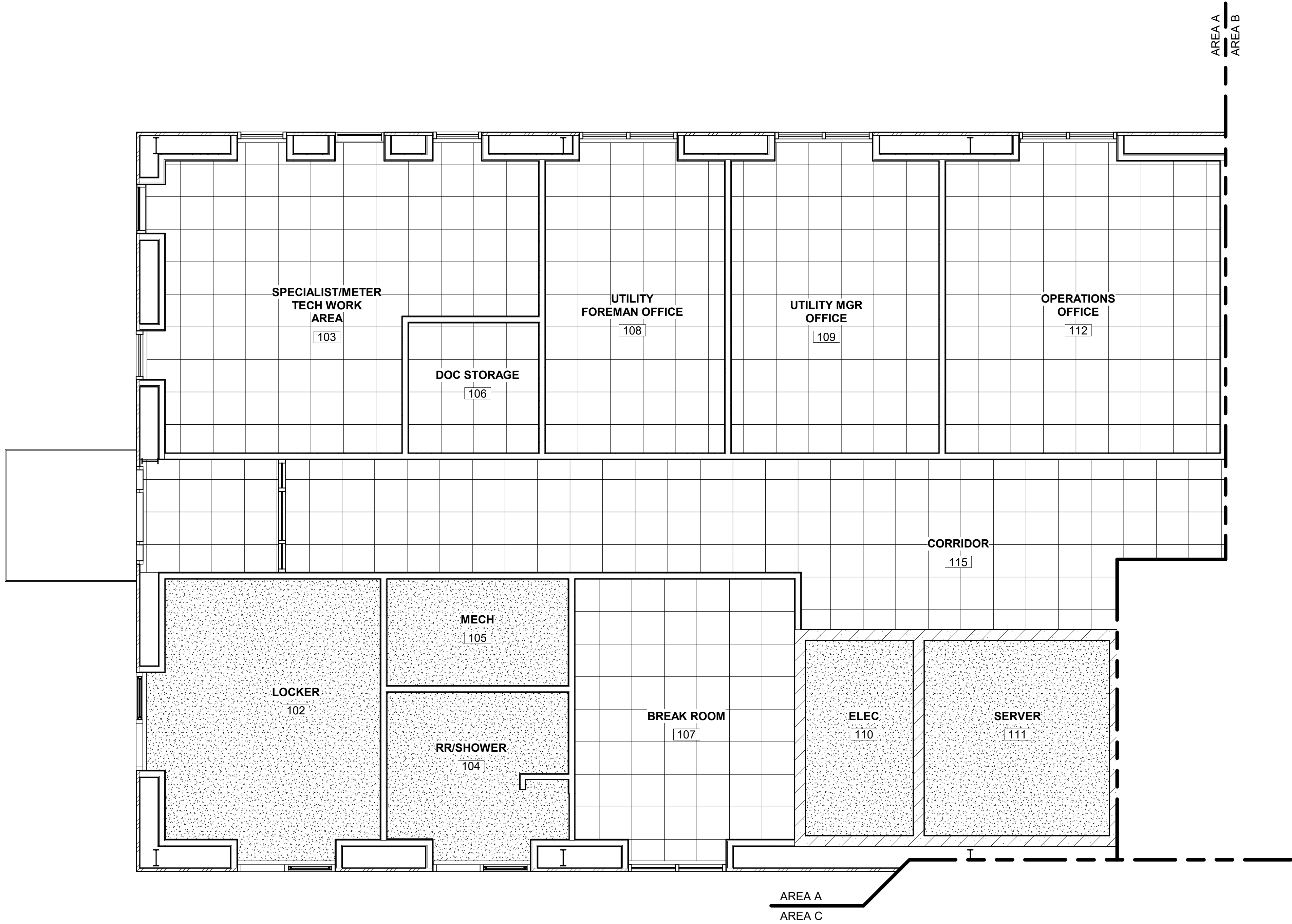
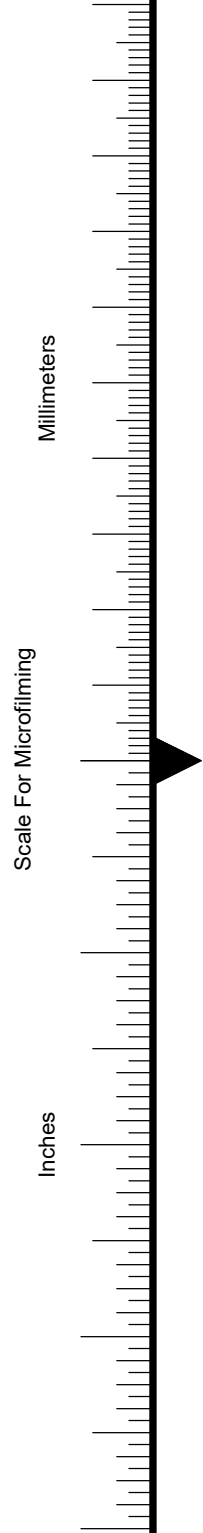
BONNER SPRINGS, KANSAS

WTP
OPERATIONS BUILDING
ENLARGED FLOOR PLAN
AREA C

project 138337	contract
drawing A104	rev.
sheet	of
file	



no.	date	by	ckd	description
PRELIMINARY - NOT FOR CONSTRUCTION				
BURNS MCDONNELL 9400 WARD PARKWAY KANSAS CITY, MO 64114 816-333-9400 Burns & McDonnell Engineering Co, Inc. LICENSE NO. E-65 CASCONSTRUCTORSLLC AN ALBERICI ENTERPRISE				
date	MAY 2, 2022	detailed	B. MADDOX	
designed	J. LAUGHRIDGE	checked	R. LANG	
City of Bonner Springs KANSAS BONNER SPRINGS, KANSAS WTP OPERATIONS BUILDING SECOND FLOOR AREA C project 138337 contract drawing A105 of rev. sheet file				



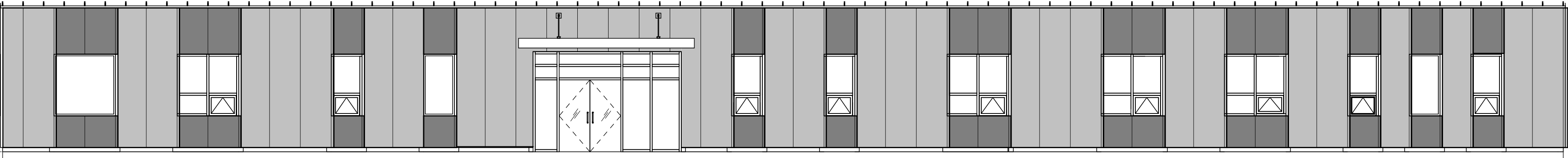
- CEILING PLAN LEGEND:
- ACOUSTIC CEILING TILE
 - MOISTURE RESISTANT GYP BD
 - OPEN TO STRUCTURE

no.	date	by	ckd	description
PRELIMINARY - NOT FOR CONSTRUCTION				
 9400 WARD PARKWAY KANSAS CITY, MO 64114 816-333-9400 LICENSE NO. E-65 CASCONSTRUCTORSLLC AN ALBERICI ENTERPRISE				
date	APRIL 29, 2022	detailed	B. MADDOX	
designed	J. LAUGHRIDGE	checked	R. LANG	
 City of Bonner Springs KANSAS BONNER SPRINGS, KANSAS				
WTP OPERATIONS BUILDING REFLECTED CEILING PLAN AREA A				
project	138337	contract		
drawing	A106		rev.	
sheet	of			
file				

Millimeters
Inches
Scale For Microfilming

ADMIN EAVE
14'-0"

FIN FL
0"



ELEVATION

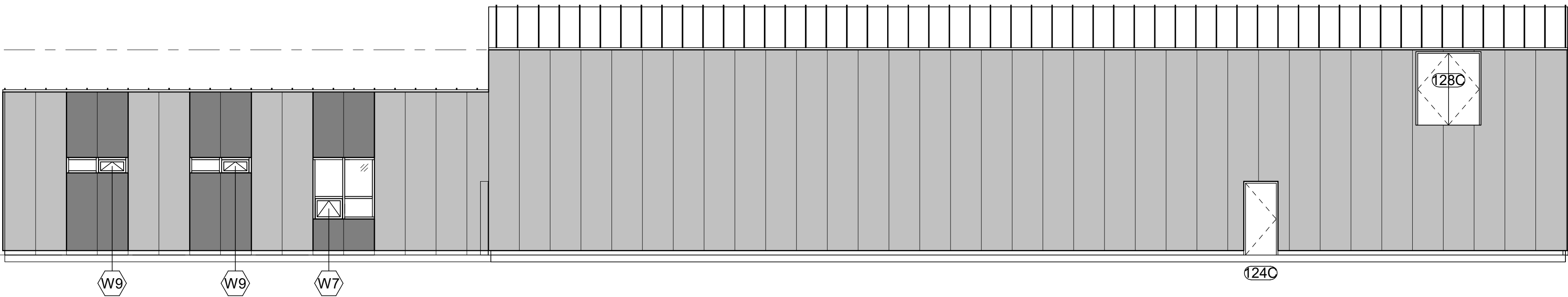
NORTH



A
A101

PROC EAVE
20'-0"

FIN FL
0"



ELEVATION

SOUTH



B
A101

no.	date	by	ckd	description
-----	------	----	-----	-------------

PRELIMINARY - NOT
FOR CONSTRUCTION

**BURNS
McDONNELL**

9400 WARD PARKWAY
KANSAS CITY, MO 64114
816-333-9400
Burns & McDonnell Engineering Co, Inc.
LICENSE NO. E-65

CASCONSTRUCTORSLLC
AN ALBERICI ENTERPRISE

date JANUARY 24, 2022	detailed R. GUIN
designed J. LAUGHRIDGE	checked R. LANG

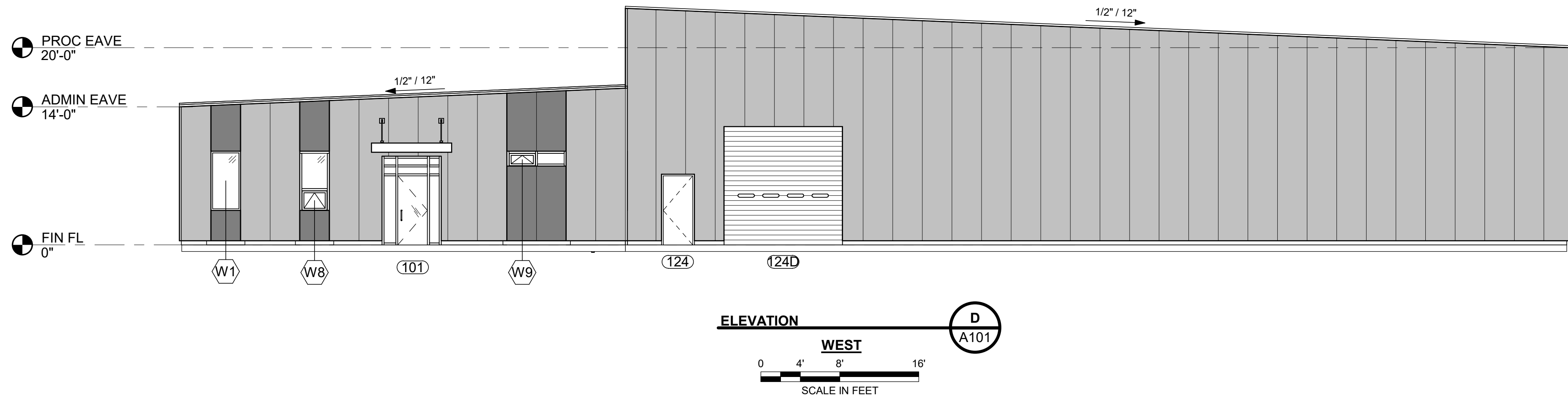
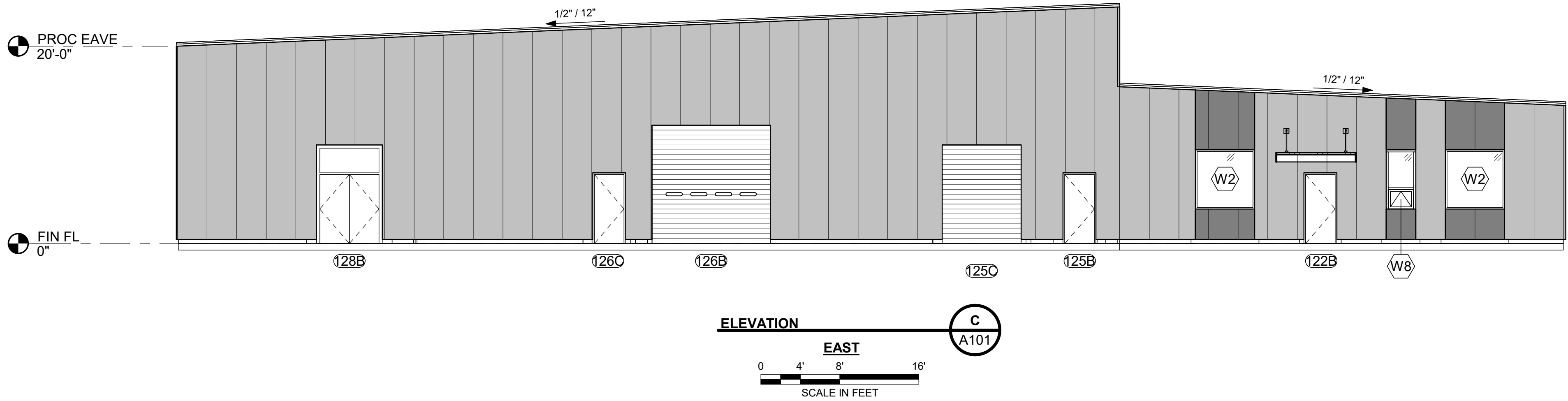


BONNER SPRINGS, KANSAS

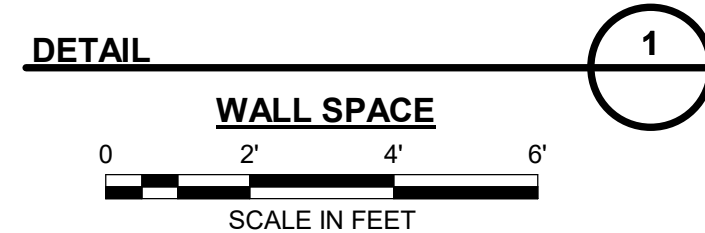
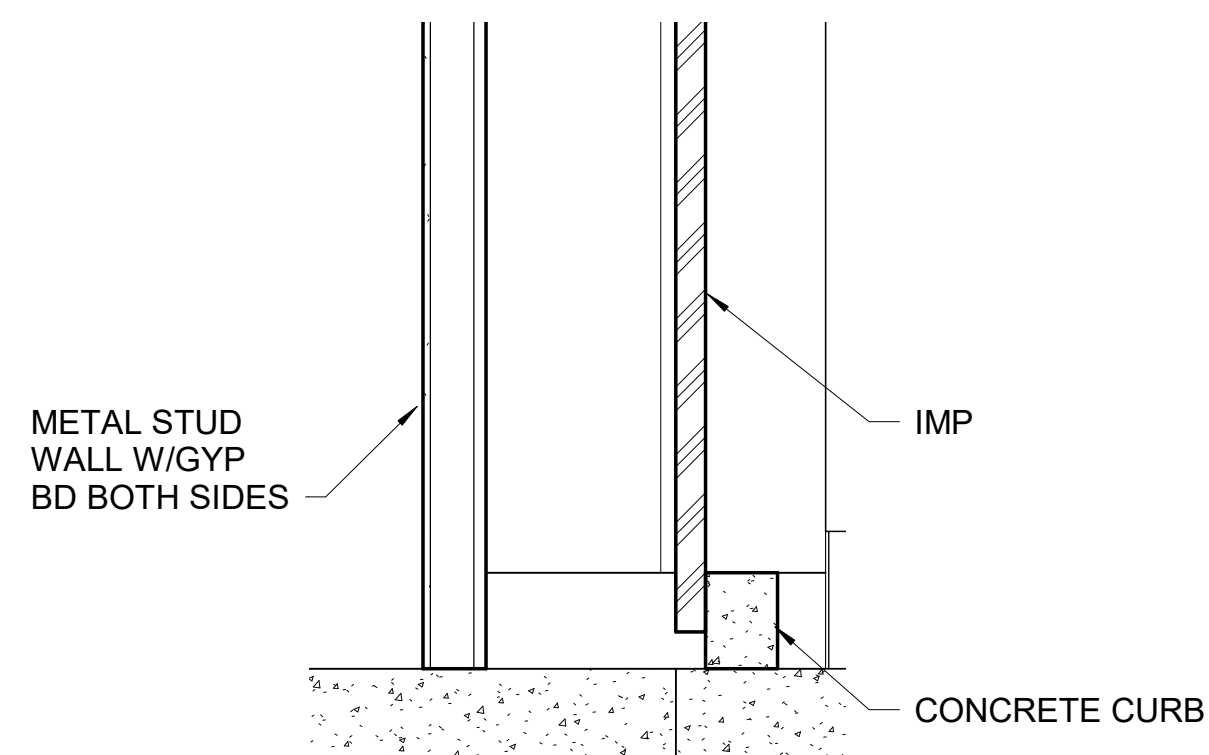
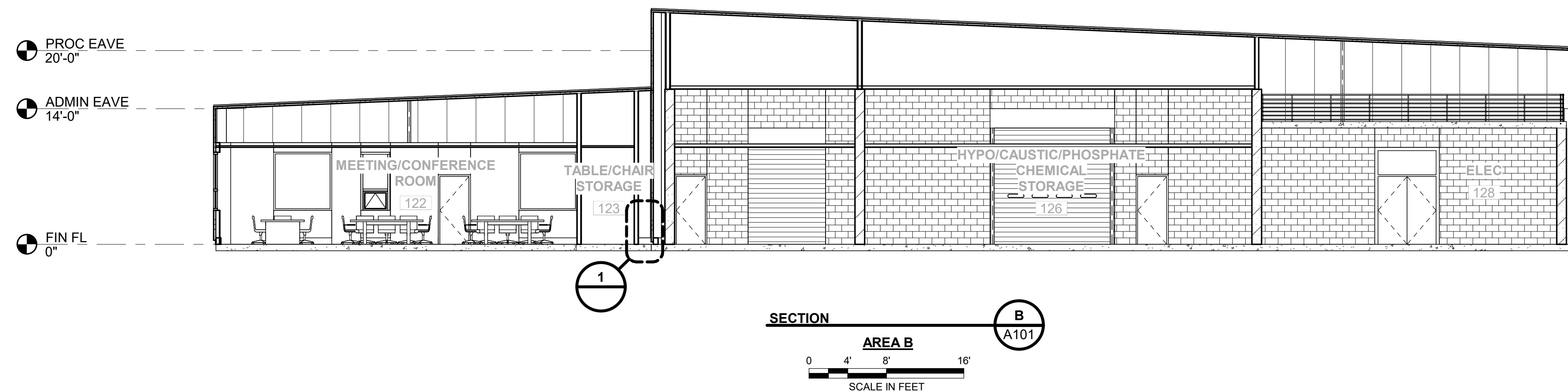
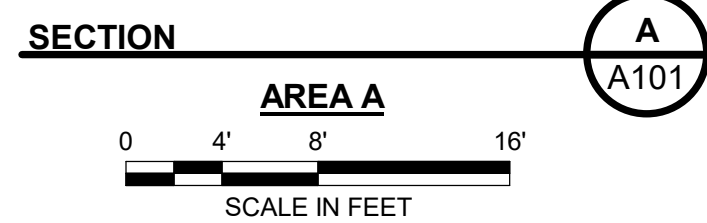
WTP
OPERATIONS BUILDING
NORTH AND SOUTH ELEVATIONS

project 138337	contract
drawing A109	rev. -
sheet	of
file	

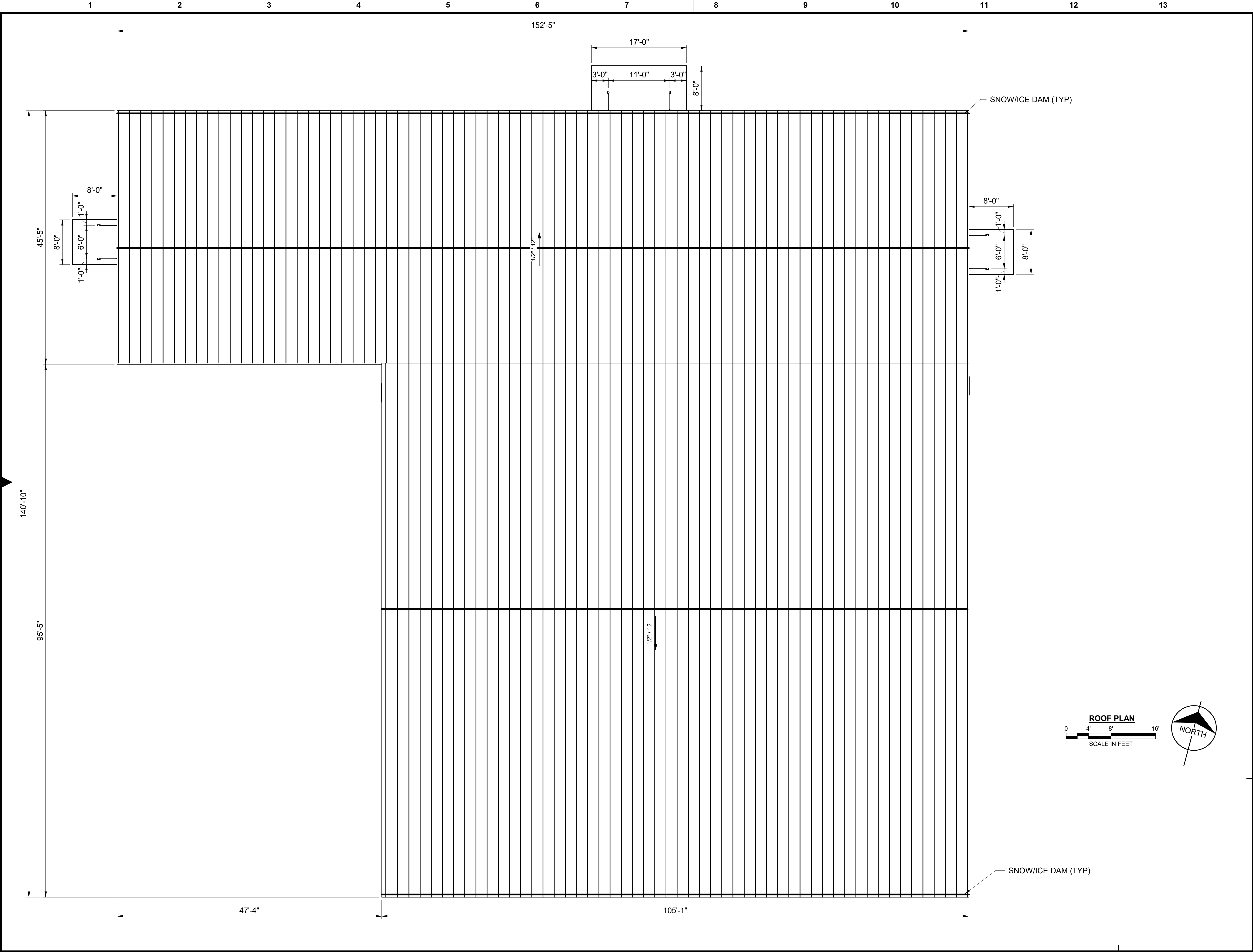
Millimeters
Inches
Scale For Microfilming



no.	date	by	ckd	description
PRELIMINARY - NOT FOR CONSTRUCTION				
BURNS MCDONNELL 9400 WARD PARKWAY KANSAS CITY, MO 64114 816-333-9400 Burns & McDonnell Engineering Co, Inc. LICENSE NO. E-65 CASCONSTRUCTORSLLC AN ALBERICI ENTERPRISE				
date	JANUARY 24, 2022	detailed	R. GUIN	
designed	J. LAUGHRIDGE	checked	R. LANG	
City of Bonner Springs KANSAS BONNER SPRINGS, KANSAS WTP OPERATIONS BUILDING EAST AND WEST BUILDING ELEVATIONS				
project	138337	contract		
drawing	A110	rev.	-	
sheet	of			
file				



of



no.	date	by	ckd	description
PRELIMINARY - NOT FOR CONSTRUCTION				
 9400 WARD PARKWAY KANSAS CITY, MO 64114 816-333-9400 Burns & McDonnell Engineering Co, Inc. LICENSE NO. E-65  CASCONSTRUCTORSLLC AN ALBERICI ENTERPRISE				
date	JANUARY 24, 2022	detailed	R. GUIN	
designed	J. LAUGHRIDGE	checked	R. LANG	
 CITY OF BONNER SPRINGS KANSAS BONNER SPRINGS, KANSAS				
WTP OPERATIONS BUILDING ROOF PLAN				
project	138337	contract		
drawing	A113	rev.		
sheet	of			
file				

Millimeters

Inches

Scale For Microfilming

DOOR SCHEDULE														
DOOR NUMBER	DOOR			TYPE	MATERIAL	FINISH	FRAME			DETAIL			HARDWARE SET	REMARKS
	ACCESS	WIDTH	HEIGHT				TYPE	MATERIA L	FINISH	HEAD	JAMB	SILL		
101	CARD READER ACCESS	3'-0"	7'-0"	G			F5							
102	KEYED DOOR	3'-0"	7'-0"	G			F5							
103		3'-0"	7'-0"	F			F1	-						
104	KEYED DOOR	3'-0"	7'-0"	F			F1	-						
105		3'-0"	7'-0"	F			F1	-						
106	KEYED DOOR	3'-0"	7'-0"	F			F1	-						
107		3'-0"	7'-0"	HG			F1	-						
108	KEYED DOOR	3'-0"	7'-0"	HG			F1	-						
109	KEYED DOOR	3'-0"	7'-0"	HG			F1	-						
110		3'-0"	7'-0"	HG			F1	-						
111	CARD READER ACCESS	3'-0"	7'-0"	F			F1	-						
112	KEYED DOOR	3'-0"	7'-0"	HG			F1	-						
113	CARD READER ACCESS	3'-0"	7'-0"	F			F4	-						
114	CARD READER ACCESS	3'-0"	7'-0"	HG			F1	-						
115	CARD READER ACCESS	3'-0"	7'-0"	F			F1	-						
116	CARD READER ACCESS	6'-0"	7'-0"	FG			F2							
117		6'-0"	7'-0"	FG			F2							
118		3'-0"	7'-0"	HG			F1	-						
119		3'-0"	7'-0"	F			F1	-						
120		3'-0"	7'-0"	F			F1	-						
121	KEYED DOOR	3'-0"	7'-0"	HG			F1	-						
121B		3'-0"	7'-0"	FS			F1	-						
122	CARD READER ACCESS	3'-0"	7'-0"	HG			F1	-						
122B	KEYED DOOR	3'-0"	7'-0"	F			F1	-						
123		6'-0"	7'-0"	F			F2	-						
124	CARD READER ACCESS	3'-0"	7'-0"	F			F1	-						
124B	CARD READER ACCESS	3'-0"	7'-0"	HG			F1	-						
124C	CARD READER ACCESS	3'-0"	7'-0"	F			F1	-						
124D		12'-0"	12'-0"	OHC			F2							
125	KEYED DOOR	3'-0"	7'-0"	F			F1	-						
125B	KEYED DOOR	3'-0"	7'-0"	F			F1	-						
125C		8'-0"	10'-0"	OHC			F2							
126	KEYED DOOR	3'-0"	7'-0"	F			F1	-						
126B		12'-0"	12'-0"	OHC			F2							
126C	KEYED DOOR	3'-0"	7'-0"	F			F1	-						
127	KEYED DOOR	3'-0"	7'-0"	F			F1	-						
128	KEYED DOOR	3'-0"	7'-0"	F			F1	-						
128B	KEYED DOOR	6'-0"	7'-0"	F			F3	-						
129		6'-0"	7'-0"	F			F2	-						

ROOM FINISH SCHEDULE									
ROOM NUMBER	ROOM NAME	FLOOR	BASE MATERIAL	NORTH WALL	EAST WALL	SOUTH WALL	WEST WALL	CEILING	REMARKS
102	LOCKER	13	23	32	32	32	32	41	
103	SPECIALIST/METER TECH WORK AREA	13	21	31	31	31	31	42	
104	RR/SHOWER	12	23	32	32	32	32	41	
105	MECH	10	20	31	31	31	31	42	
106	DOC STORAGE	13	21	31	31	31	31	42	
107	BREAK ROOM	13	21	31	31	31	31	42	
108	UTILITY FOREMAN OFFICE	14	21	31	31	31	31	42	
109	UTILITY MGR OFFICE	14	21	31	31	31	31	42	
110	ELEC	13	21	33	33	33	33	42	
111	SERVER	14	21	33	33	33	33	42	
112	OPERATIONS OFFICE	13	21	31	31	31	31	42	
113	CONTROL	13	21	31	31	31	31	42	
114	LAB	11	22	31	31	31	31	41	
115	CORRIDOR	13	21	31	31	31	31	43	
116	VEST	13	21	34	31	34	31	43	
117	LOBBY	13	21	31	31	31	31	42	
118	HALL	13	21	31	31	31	31	42	
119	MENS	12	23	32	32	32	32	41	
120	WOMENS	12	23	32	32	32	32	41	
121	ADMIN	14	21	31	31	31	31	42	
121B	CLOSET	14	21	31	31	31	31	42	
122	MEETING/CONFERENCE ROOM	14	21	31	31	31	31	42	
123	TABLE/CHAIR STORAGE	14	20	31	31	31	31	42	
124	PROC AREA	10	20	33	31	31	31	40	
125	LAS/ANTISCALANT/SODIUM BISULFITE CHEMICAL STORAGE	10	20	33	33	33	33	40	
126	HYPO/CAUSTIC/PHOSPHATE CHEMICAL STORAGE	10	20	33	33	33	33	40	
127	COMPRESSOR	10	20	33	33	33	33	40	
128	ELEC	10	20	33	33	33	33	40	
129	MEZZANINE								

ROOM FINISH LEGEND:

FLOOR
10 -SEALED CONCRETE
11 -RESINOUS FLOORING
12 -PORCELAIN TILE (REF ENLARGED RR PLAN FOR TILE)
13 -LVT
14 -CARPET

BASE

20 -NO BASE
21 -4" RUBBER BASE
22 -4" RESINOUS COVEBASE OVER 5/8" CEMENT BOARD
23 -6" X 12" PORCELAIN TILE COVEBASE (REF RR ELEVATIONS FOR TILE)

WALLS

30 -INSULATED METAL PANEL
31 -PAINTED GYP BD (MOISTURE RESISTANT GYP BD IN LAB)
32 -MOISTURE RESISTANT GYP BD/PORCELAIN WALL TILE UP TO 5'-4" AFF (REF RR ELEVATIONS FOR TILE)
33 -PAINTED CMU
34 -STOREFRONT

CEILING

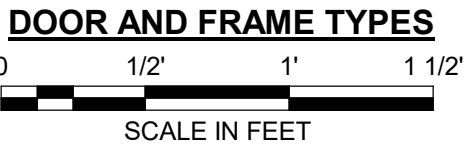
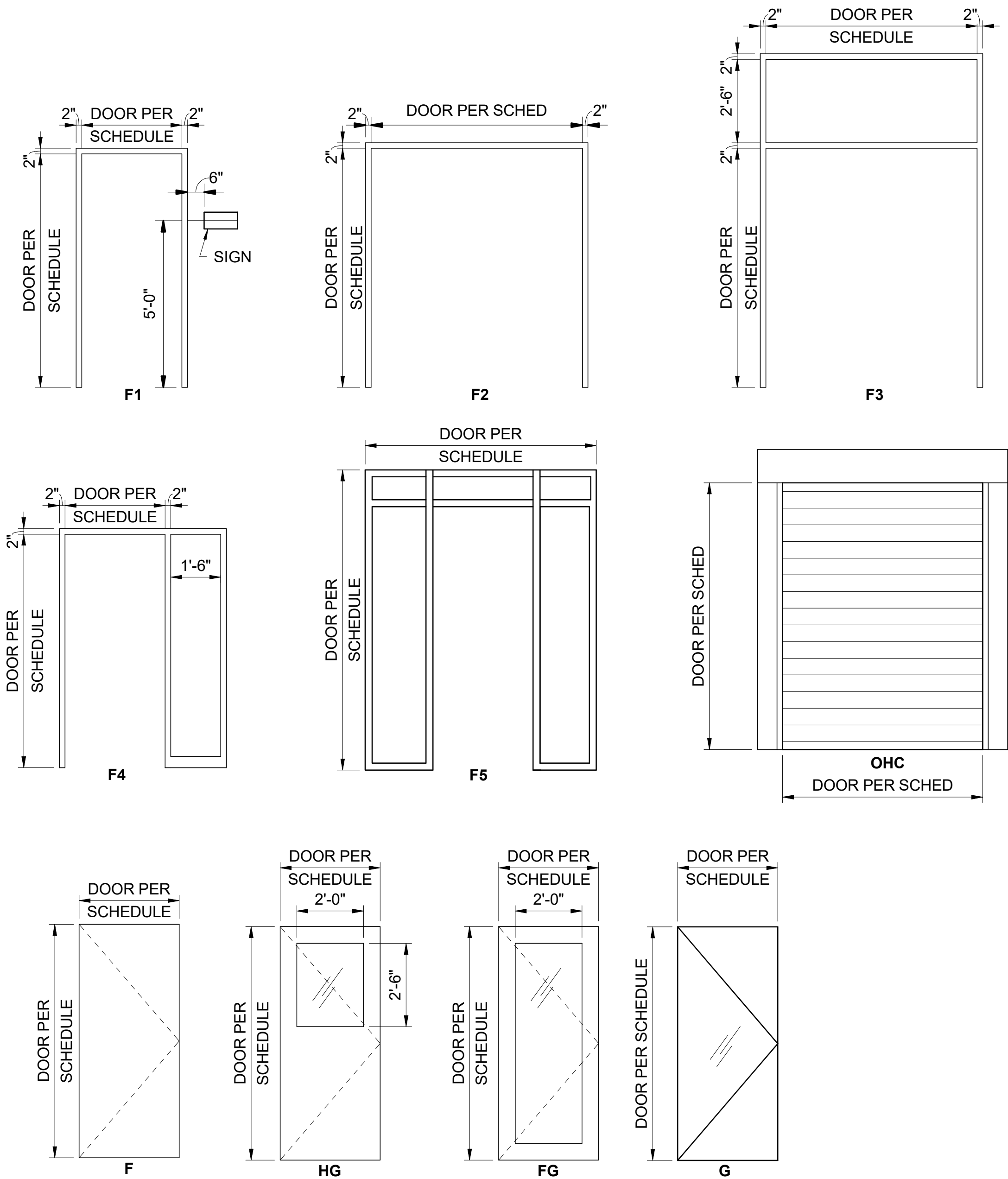
40 -NO FINISH
41 -MOISTURE RESISTANT GYP BD
42 -ACOUSTICAL CEILING TILE
43 -GYP BD

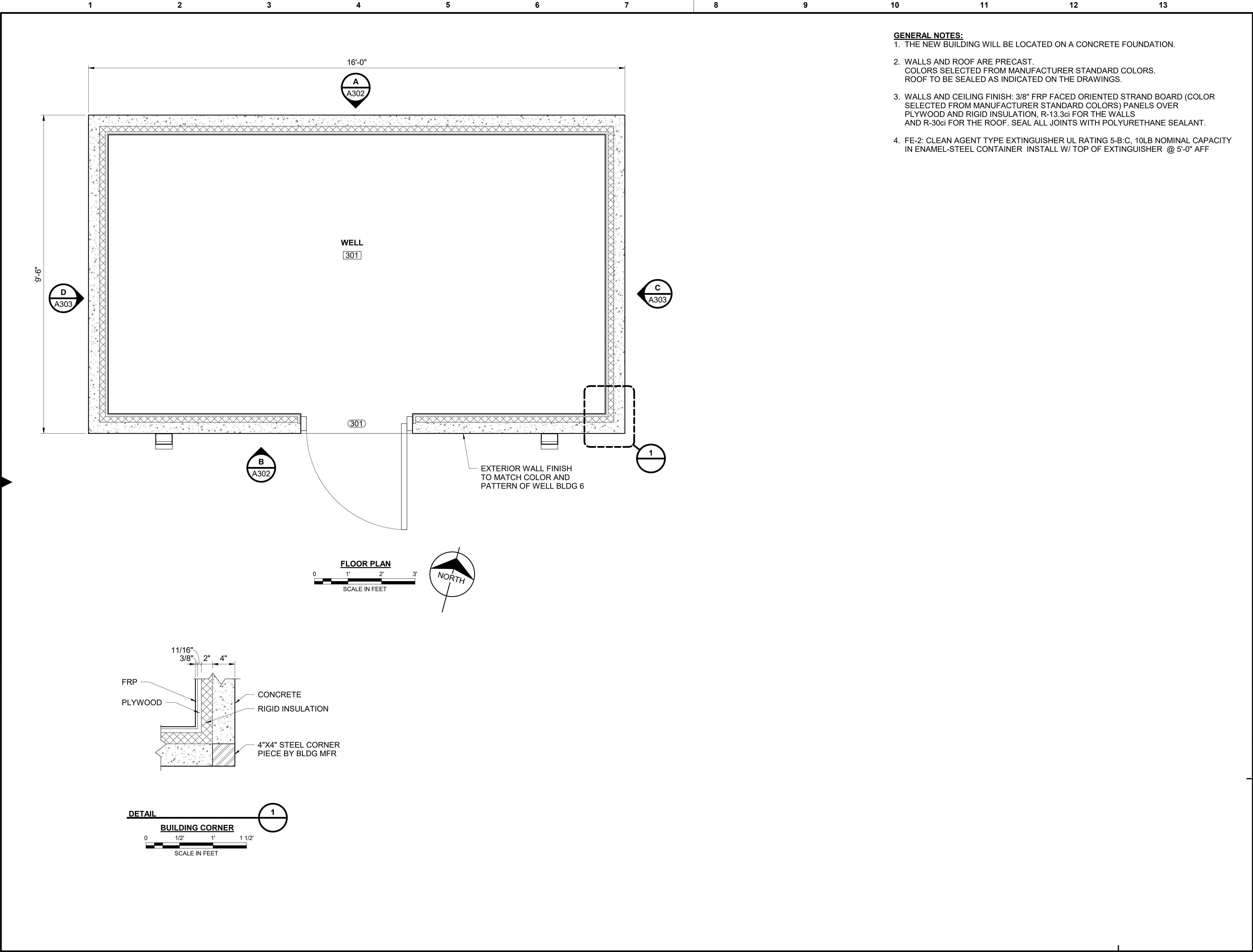
WINDOW SCHEDULE									
QUANTITY	TYPE	SIZE		STILL HEIGHT	HEAD HEIGHT	DETAIL ON ???			REMARKS
		WIDTH	HEIGHT			HEAD	JAMB	SILL	
3	W1	3'-0"	6'-0"	3'-6"	9'-6"				1, 2, 3
3	W2	6'-0"	6'-0"	3'-6"	9'-6"				<varies>
3	W4	4'-4"	3'-4"	3'-6"	6'-10"				1,3
1	W6	7'-0"	7'-0"	3'-6"	10'-6"				1, 3
5	W7	2'-8 1/4"	<varies>	3'-6"	9'-6"				1, 3
7	W8	2'-7"	2'-0"	3'-6"	9'-6"				1, 3
3	W9	2'-8 1/4"	1'-3 1/2"	8'-0"	9'-6"				1, 3

REMARKS:

1. PERFORATED WINDOW SHADE
2. BLACKOUT/PERFORATED DOUBLE ROLLER WINDOW SHADE IN MEETING ROOM, OFFICES, ADMIN, AND METER TECH WORK AREA ONLY
3. 1" SEALED INSULATED GLASS UNITS, FABRICATED UNITS W/ A PERMANENT HERMETICALLY SEALED, DRY AIR OR GAS-FILLED SPACE. VISIBLE LIGHT TRANSMITTANCE OF 44%. MINIMUM U-VALUE OF 0.35. SOLAR HEAT GAIN GAIN COEFFICIENT (SHGC) OF 0.40. 1/4" LAMINATED GLASS EACH SIDE W/ 1/2" AIR SPACE. INBOARD LITE BEING CLEAR GLASS AND OUTBOARD LITE BEING PPG SOLAR GRAY TINTED GLASS. VITRO ARCHITECTURAL GLASS OR ENGINEER APPROVED EQUAL

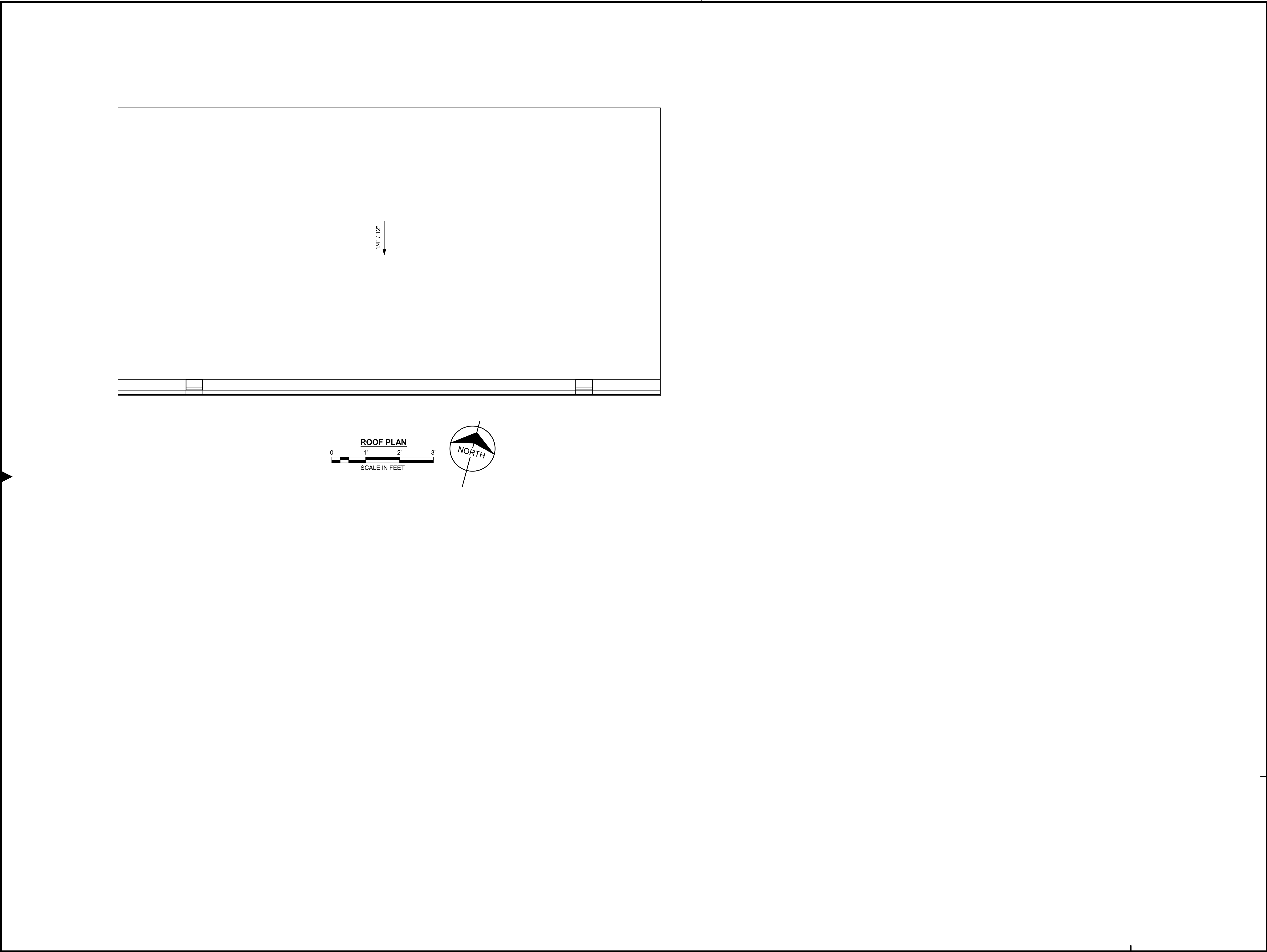
LOUVER SCHEDULE										
QUANTITY	TYPE	SIZE		HEAD HEIGHT	SILL HEIGHT	DETAILS			REMARKS	REVISION
		WIDTH	HEIGHT			HEAD	JAMB	SILL		



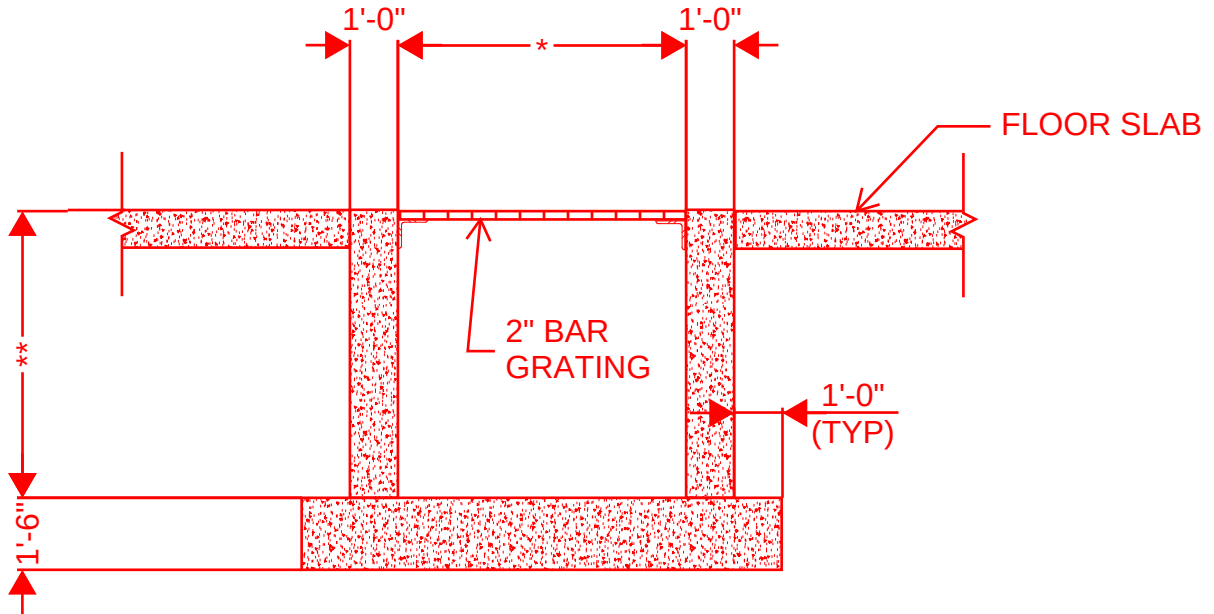


- GENERAL NOTES:**
1. THE NEW BUILDING WILL BE LOCATED ON A CONCRETE FOUNDATION.
 2. WALLS AND ROOF ARE PRECAST. COLORS SELECTED FROM MANUFACTURER STANDARD COLORS. ROOF TO BE SEALED AS INDICATED ON THE DRAWINGS.
 3. WALLS AND CEILING FINISH: 3/8" FRP FACED ORIENTED STRAND BOARD (COLOR SELECTED FROM MANUFACTURER STANDARD COLORS) PANELS OVER PLYWOOD AND RIGID INSULATION, R-13.3ci FOR THE WALLS AND R-30ci FOR THE ROOF. SEAL ALL JOINTS WITH POLYURETHANE SEALANT.
 4. FE-2: CLEAN AGENT TYPE EXTINGUISHER UL RATING 5-B:C, 10LB NOMINAL CAPACITY IN ENAMEL-STEEL CONTAINER INSTALL W/ TOP OF EXTINGUISHER @ 5'-0" AFF

no.	date	by	ckd	description
PRELIMINARY - NOT FOR CONSTRUCTION				
 9400 WARD PARKWAY KANSAS CITY, MO 64114 816-333-9400 LICENSE NO. E-65				
date JANUARY 19, 2022		detailed R. GUIN		
designed J. LAUGHRIDGE		checked R. LANG		
 BONNER SPRINGS, KANSAS				
WELL BUILDINGS 1 AND 2 WELL BUILDING FLOOR PLAN				
project 138337		contract		
drawing A301		rev. —		
sheet		of		
file				



no.	date	by	ckd	description
PRELIMINARY - NOT FOR CONSTRUCTION				
 9400 WARD PARKWAY KANSAS CITY, MO 64114 816-333-9400 LICENSE NO. E-65				
date JANUARY 24, 2022		detailed R. GUIN		
designed J. LAUGHRIDGE		checked R. LANG		
 BONNER SPRINGS, KANSAS				
WELL BUILDINGS 1 AND 2 WELL BUILDING ROOF PLAN				
project 138337		contract		
drawing A304		rev. —		
sheet		of		
file				

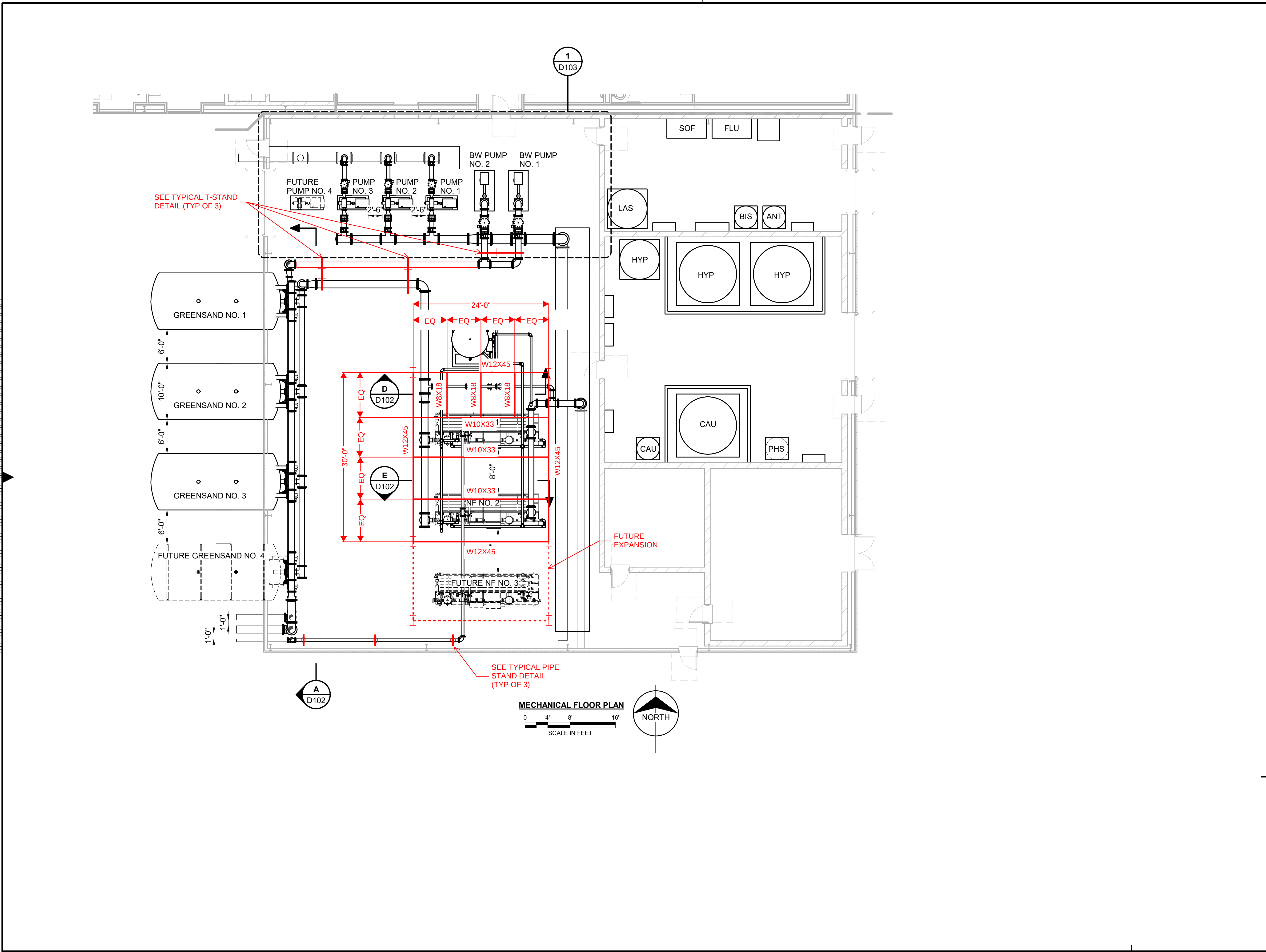


NOTES:

- * - 5'-0" AT E/W TRENCH AND 6'-0" AT N/S TRENCH.
- ** - 4'-0" AT E/W TRENCH AND 6'-0" AT N/S TRENCH.

TYPICAL PIPE TRENCH SECTION
 NOT TO SCALE

**PRELIMINARY - NOT
 FOR CONSTRUCTION**



Millimeters

Scale For Microfilming

Inches

no.	date	by	ckd	description
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PRELIMINARY - NOT FOR CONSTRUCTION

BURNS MEDONNELL
9400 WARD PARKWAY
KANSAS CITY, MO 64114
816-333-9400
LICENSE NO. E-65

CASCONSTRUCTORSLLC
AN ALBERICI ENTERPRISE

date FEBRUARY 23, 2022	detailed B. FIFIELD
designed A. BARGE	checked

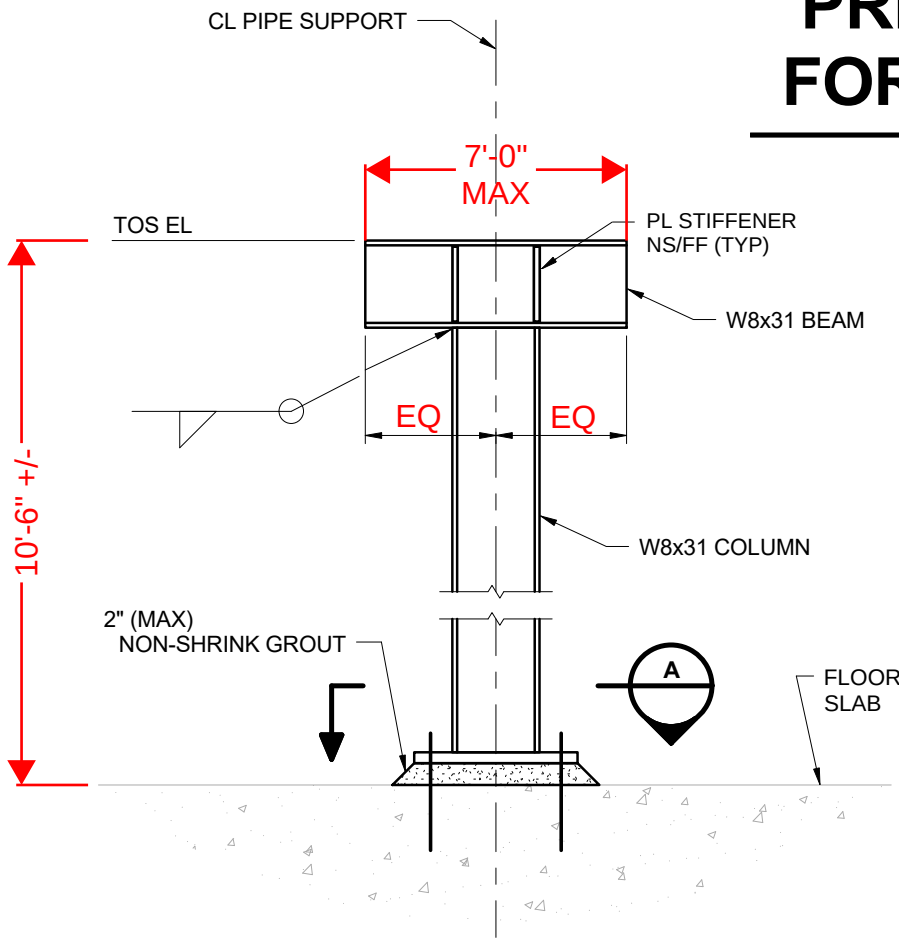


BONNER SPRINGS, KANSAS

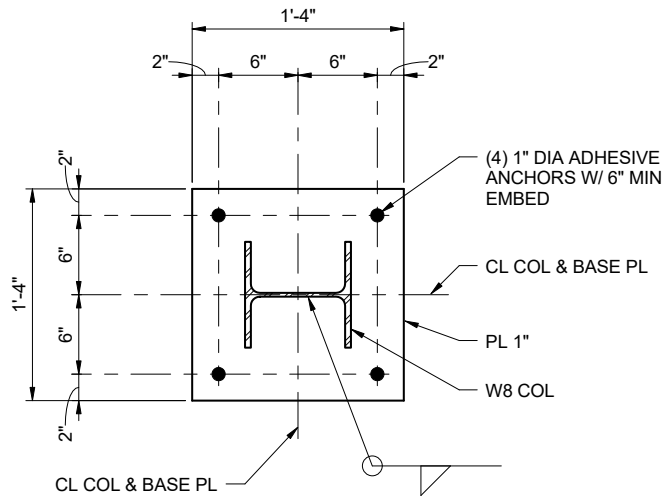
WTP
PROCESS BUILDING FLOOR PLAN

project 138337	contract
drawing D101	rev. -
sheet	of
file	

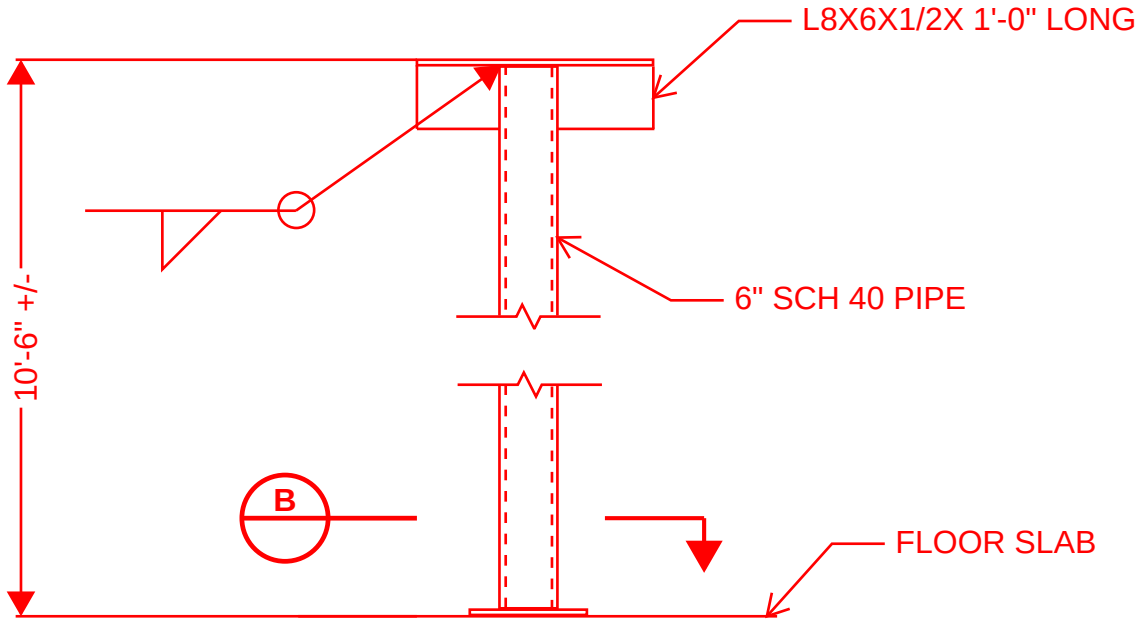
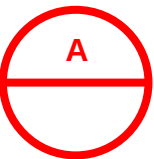
PRELIMINARY - NOT FOR CONSTRUCTION



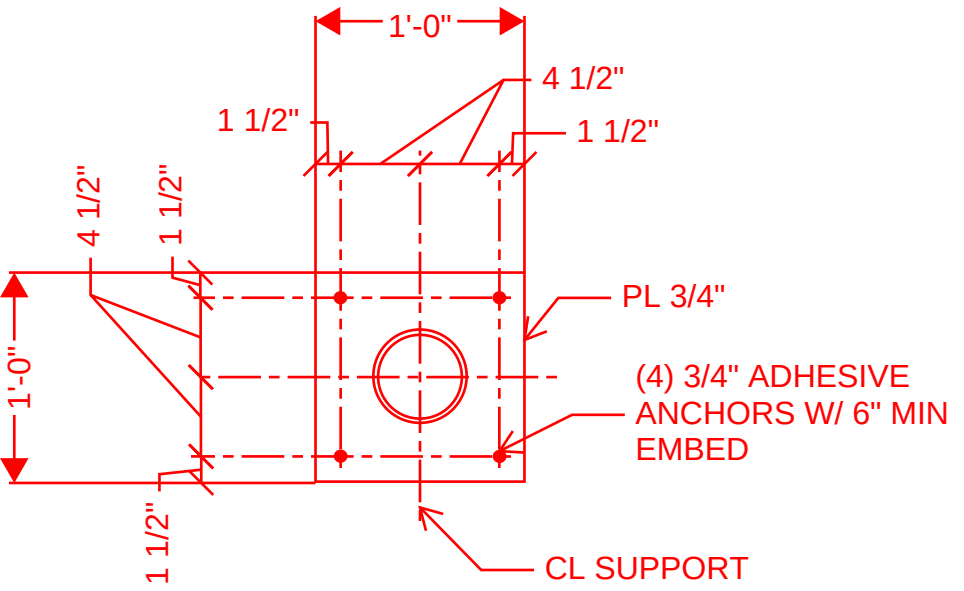
TYPICAL T-STAND DETAIL
NOT TO SCALE



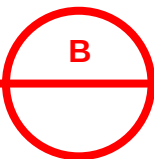
SECTION

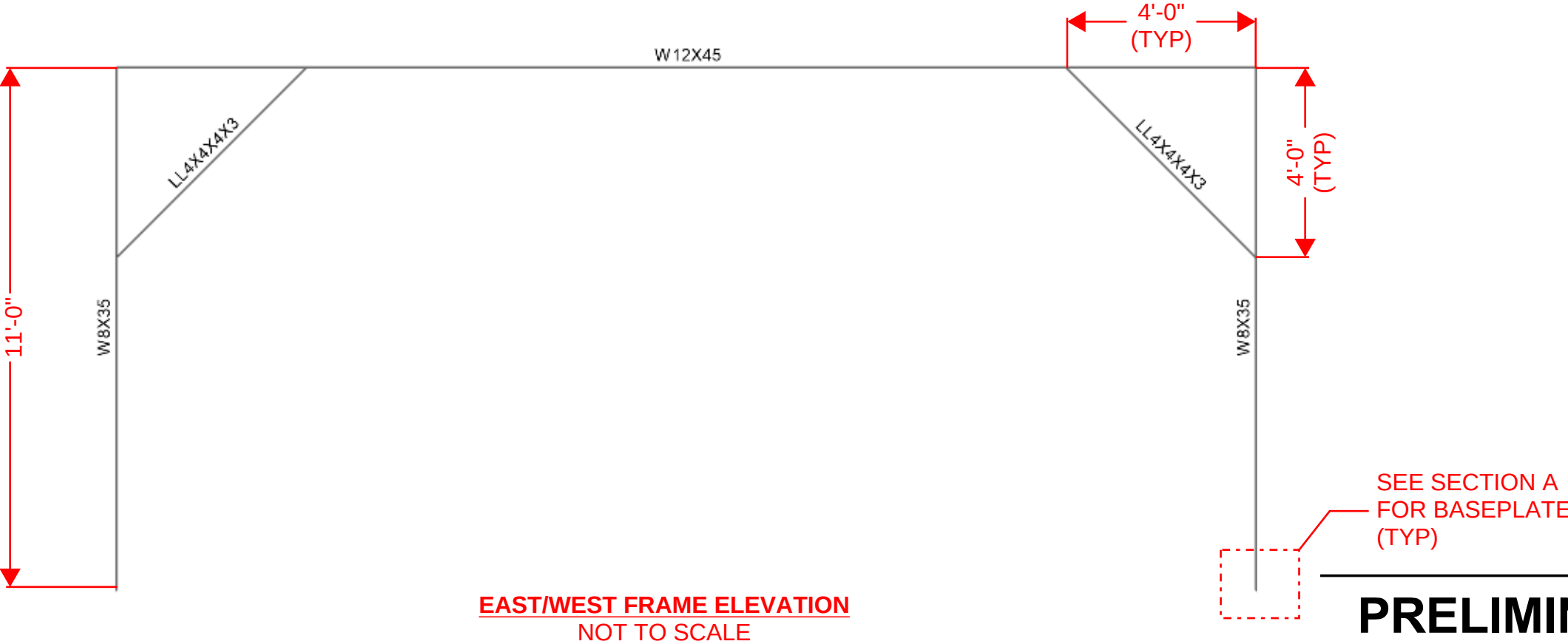
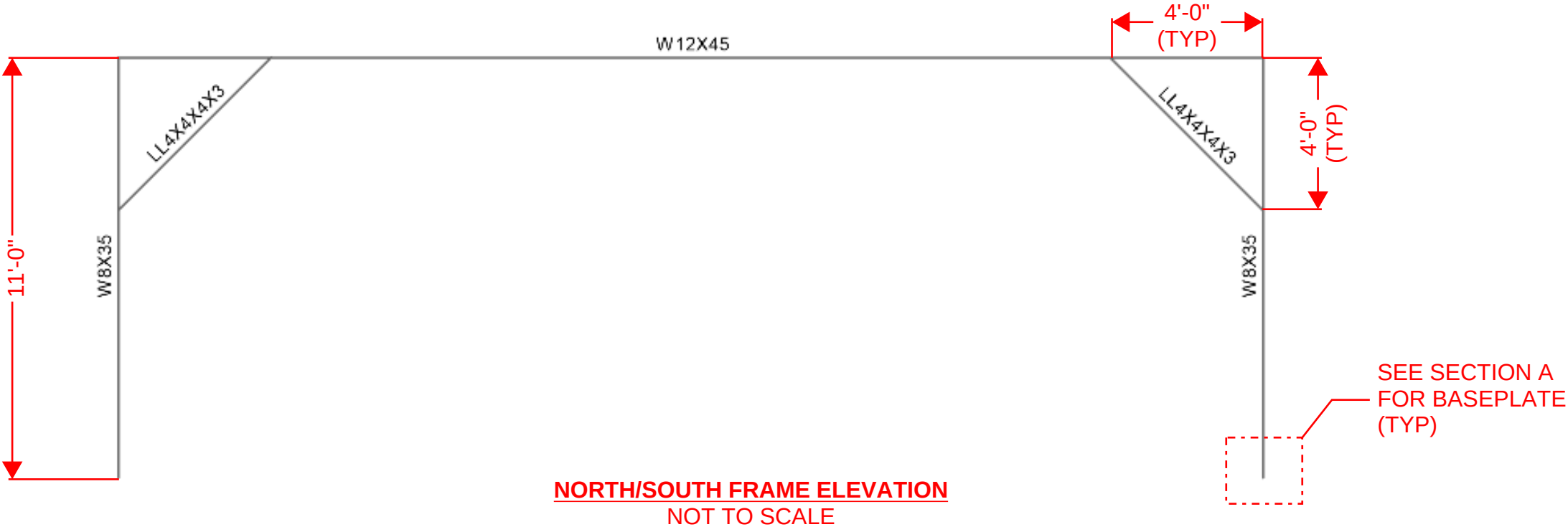


TYPICAL PIPE STAND DETAIL
NOT TO SCALE

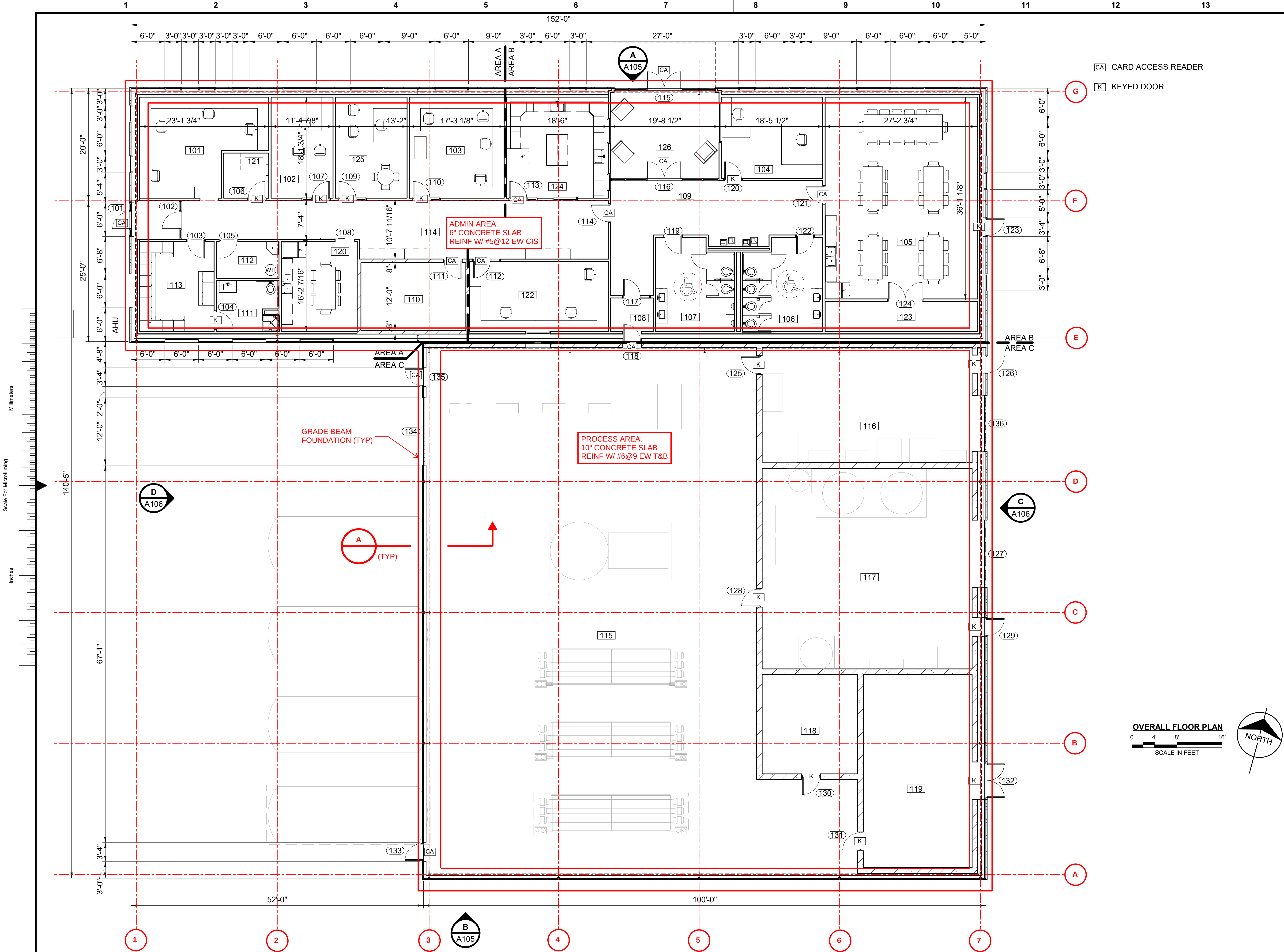


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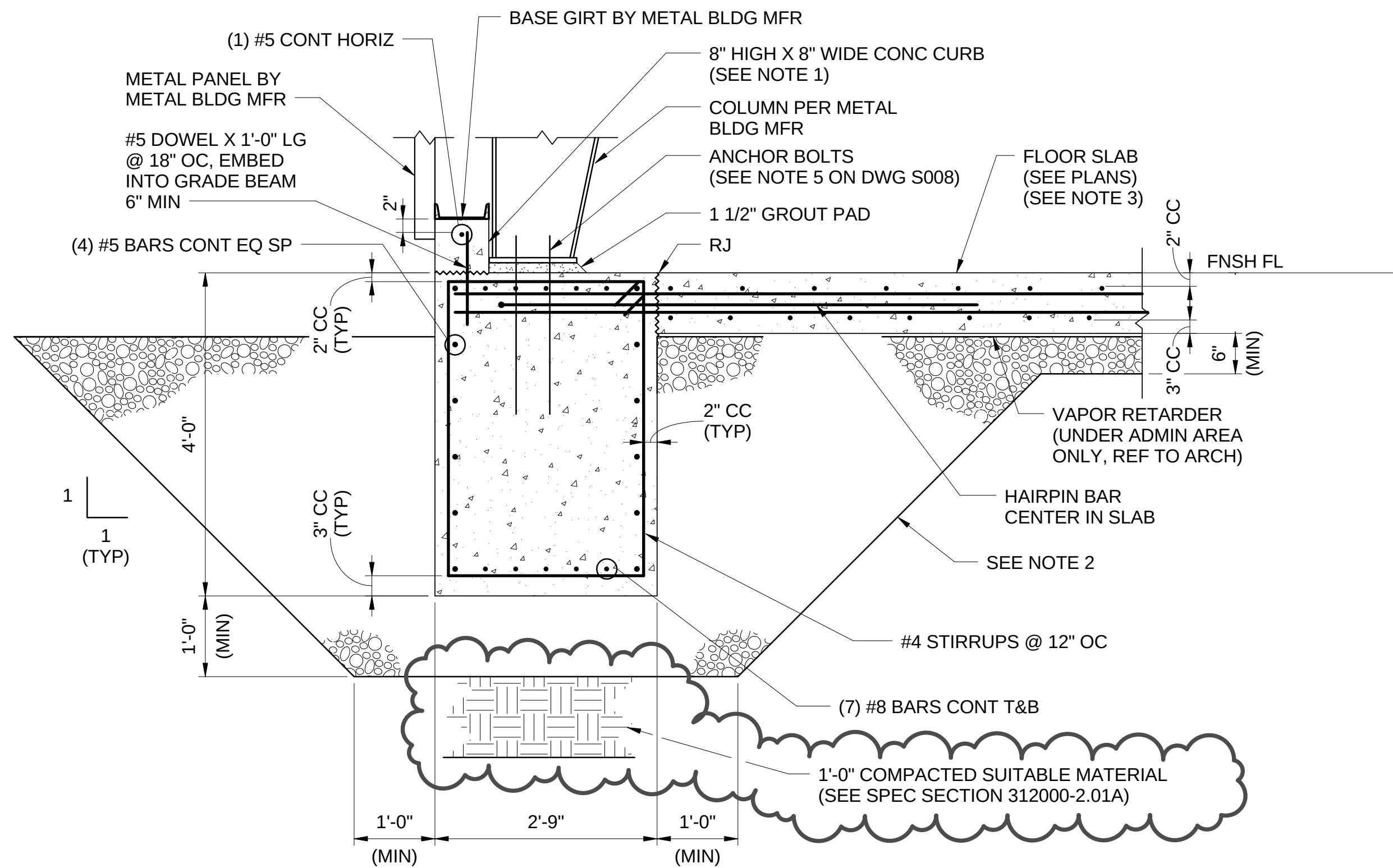




**PRELIMINARY - NOT
FOR CONSTRUCTION**

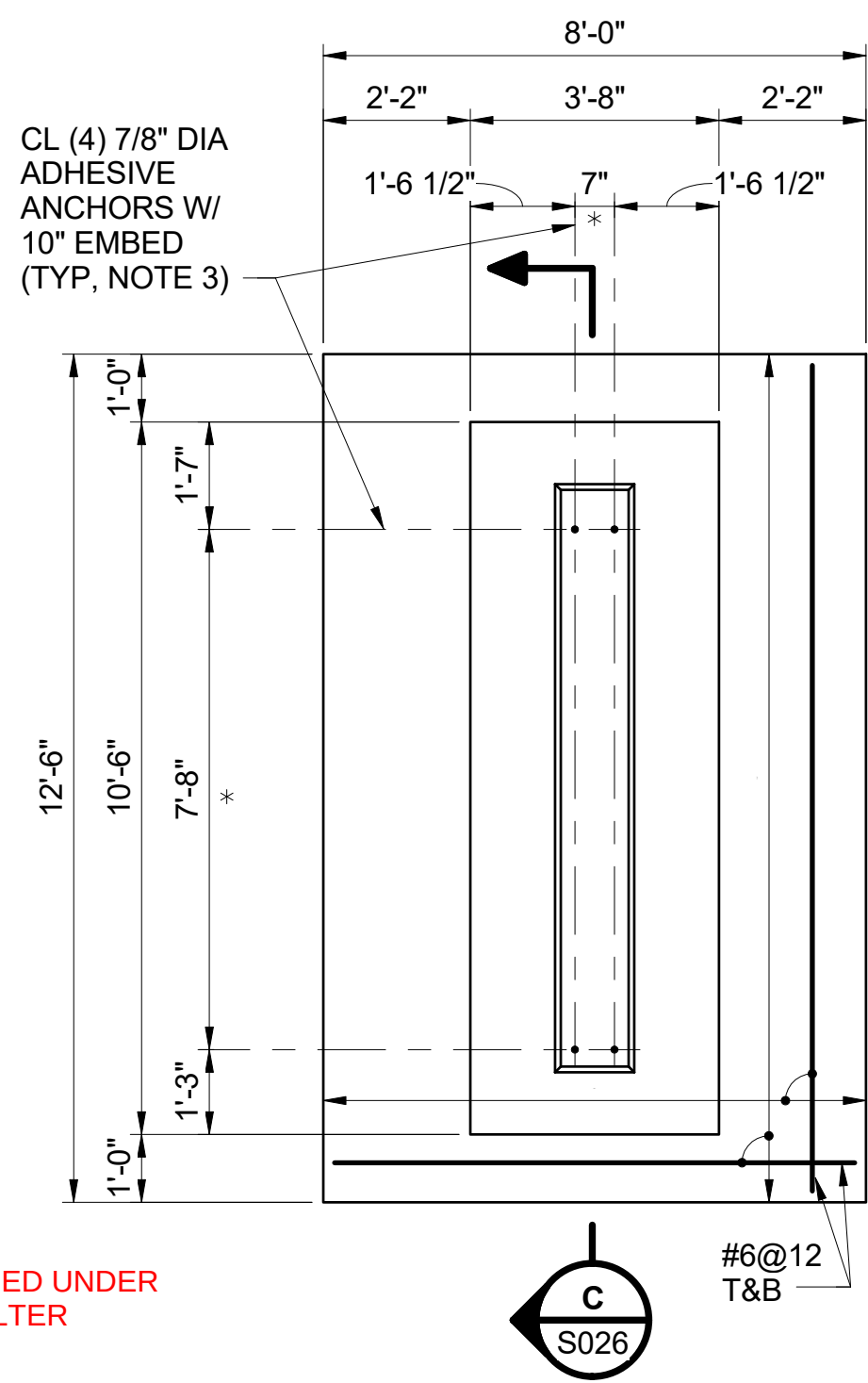
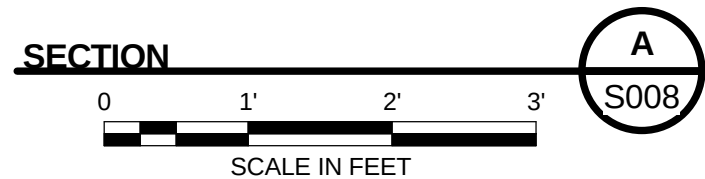


no.	date	by	ckd	description
PRELIMINARY - NOT FOR CONSTRUCTION BURNS MCDONNELL 9400 WARD PARKWAY KANSAS CITY, MO 64114 816-333-9400 LICENSE NO. E-65 CASCONSTRUCTORSLLC AN ALBERICI ENTERPRISE				
date JANUARY 20, 2022		detailed R. GUIN		
designed J. LAUGHRIDGE		checked R. LANG		
City of Bonner Springs KANSAS BONNER SPRINGS, KANSAS				
WTP OPERATIONS BUILDING FLOOR PLAN				
project 138337		contract		
drawing A101		rev.		
sheet of		file		

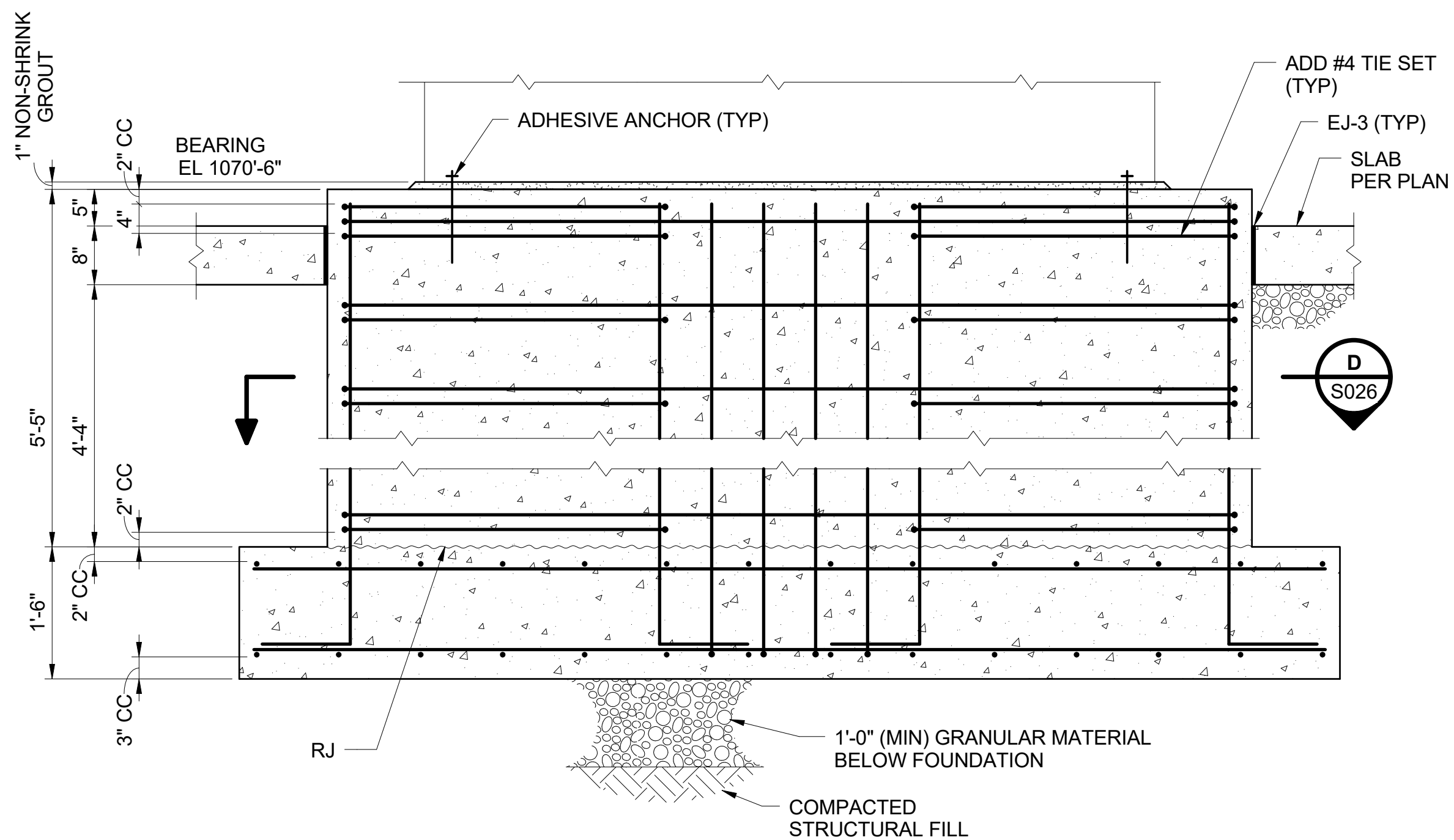
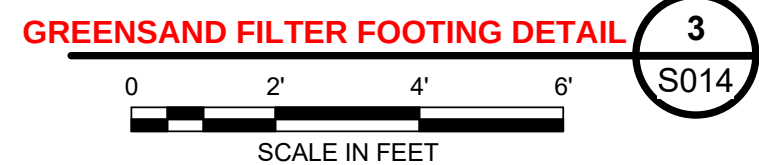


NOTES:

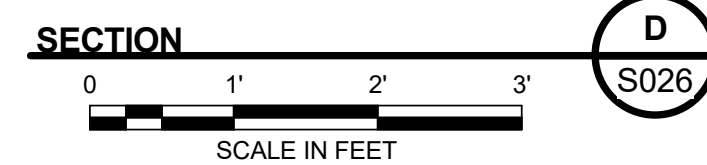
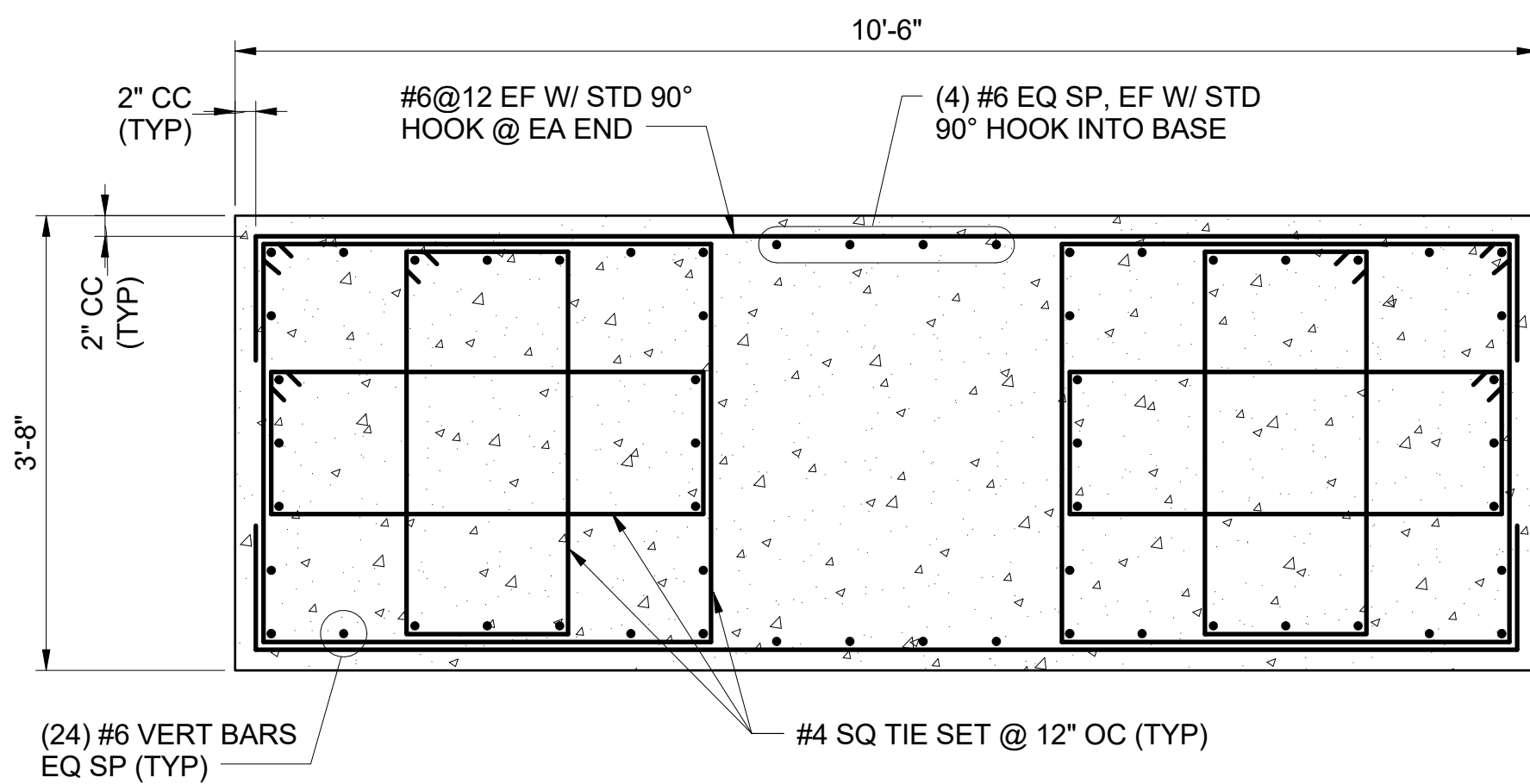
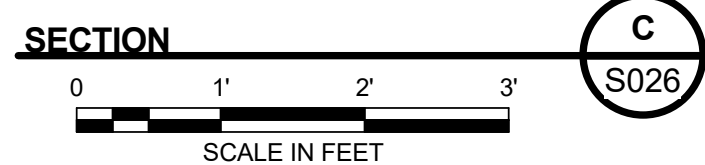
1. STOP CURB AT DOORWAYS.
2. BASE MATERIAL SHALL CONFORM TO OKLAHOMA DOT TYPE A.
3. EXTEND SLAB REINFORCEMENT INTO GRADE BEAM 2" CLEAR FROM OUTSIDE FACE.
4. REINFORCE GRADE BEAM CORNERS PER DETAIL ON THIS DRAWING.
5. CONSTRUCTION JOINTS IN GRADE BEAM CAN BE ADDED AT CONTRACTOR'S OPTION. USE DETAIL CJ-16 ON DRAWING S003.



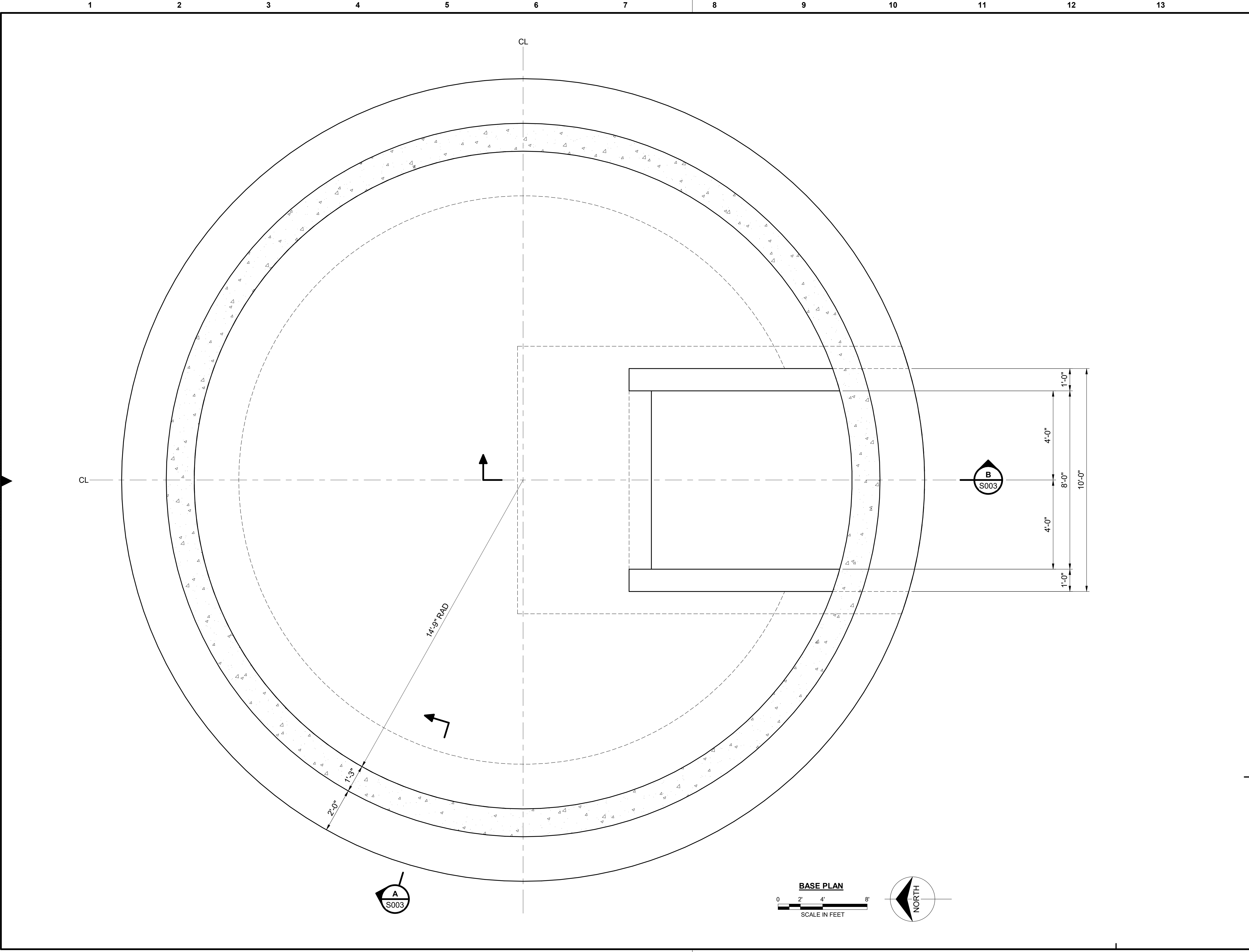
NOTE:
(2) FOOTINGS REQUIRED UNDER EACH GREENSAND FILTER VESSEL



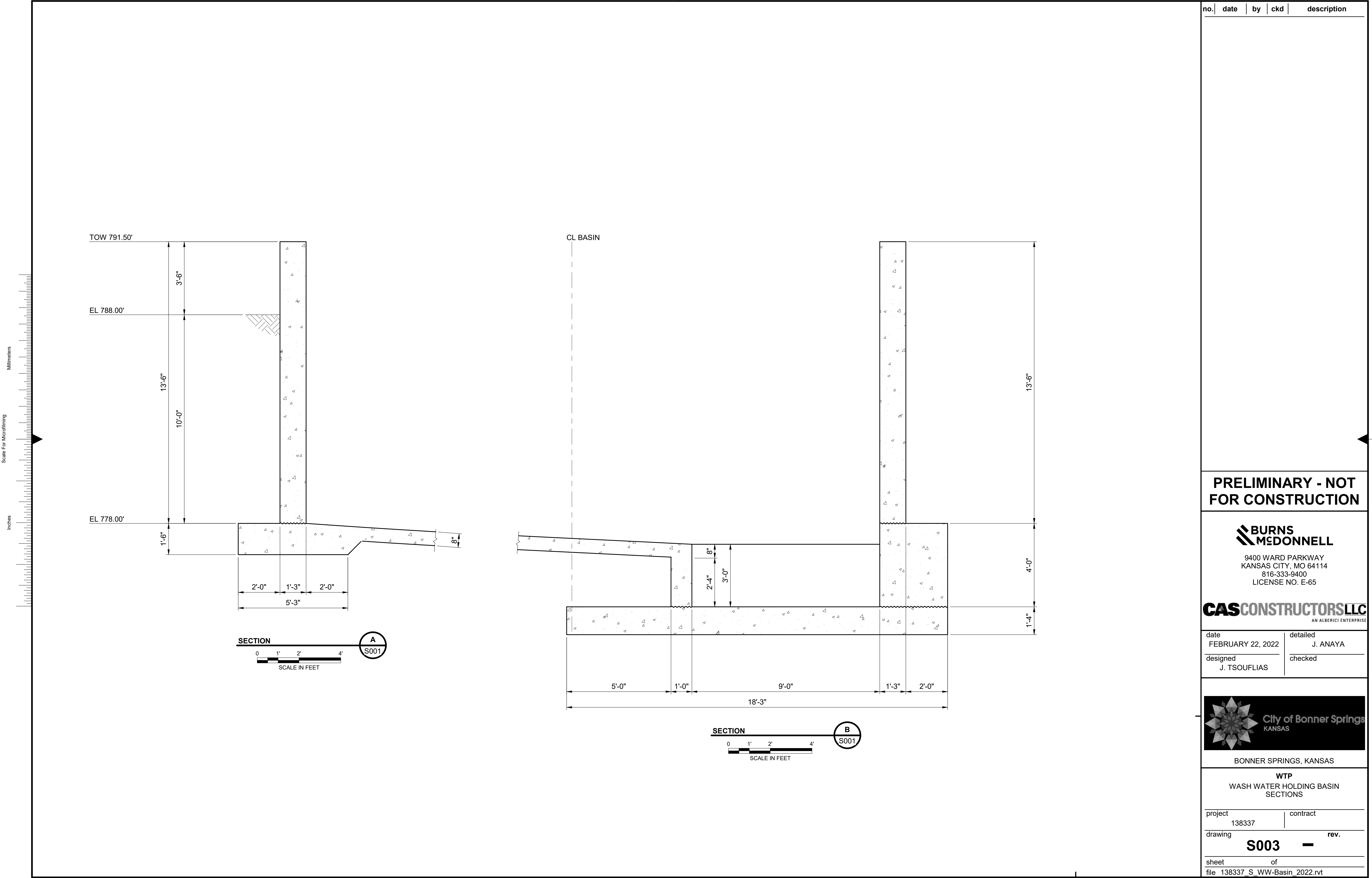
NOTE:
ALL VERTICAL DOWELS NOT SHOWN FOR CLARITY.



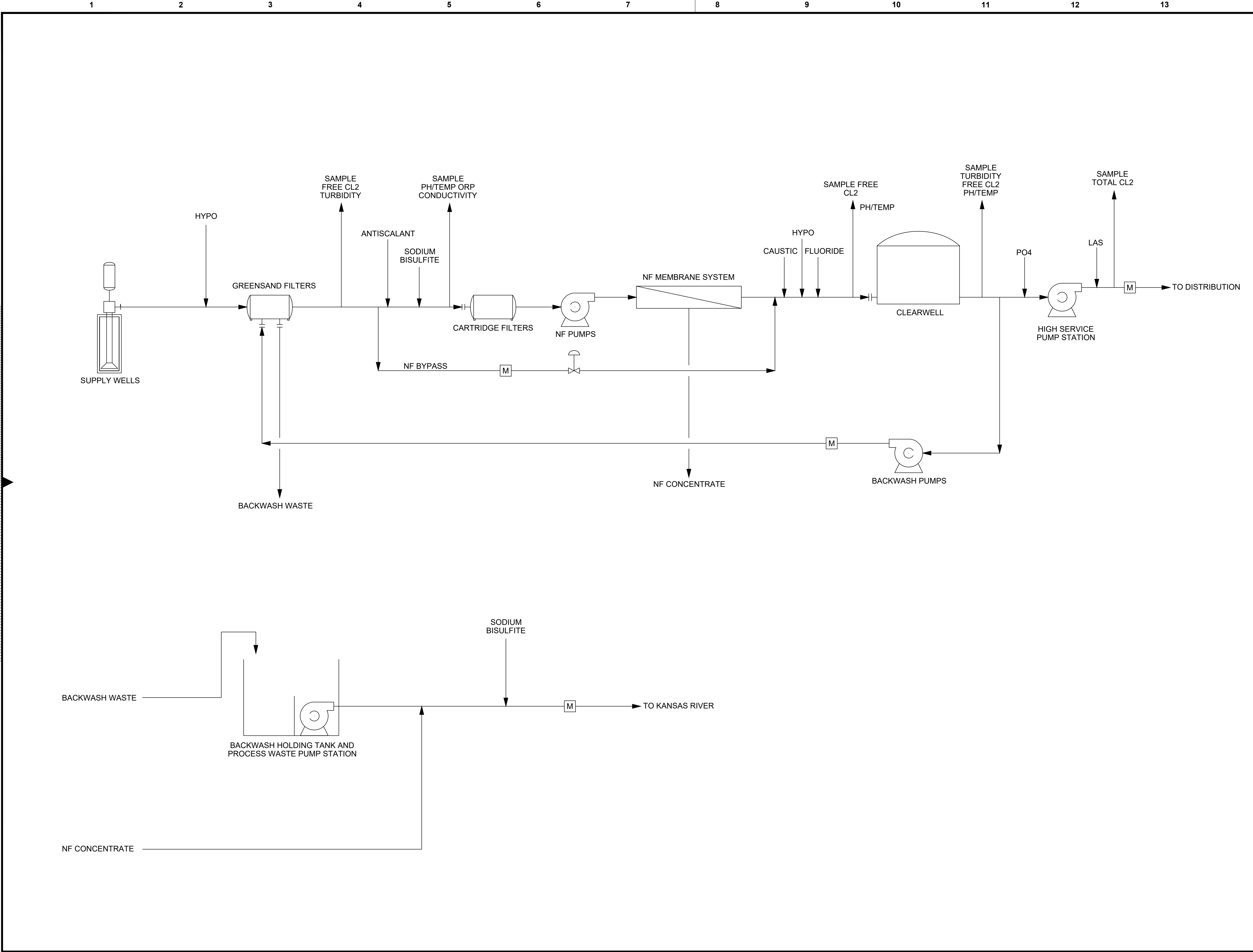
PRELIMINARY - NOT FOR CONSTRUCTION



no.	date	by	ckd	description
BURNS MCDONNELL 9400 WARD PARKWAY KANSAS CITY, MO 64114 816-333-9400 LICENSE NO. E-65				
CASCONSTRUCTORSLLC AN ALBERICI ENTERPRISE				
date FEBRUARY 22, 2022		detailed J. ANAYA		
designed J. TSOUFLIAS		checked		
City of Bonner Springs KANSAS BONNER SPRINGS, KANSAS				
WTP WASH WATER HOLDING BASIN BASE PLAN				
project 138337		contract		
drawing		rev.		
sheet		of		
file 138337 S_WW-Basin_2022.rvt				



no.	date	by	ckd	description
PRELIMINARY - NOT FOR CONSTRUCTION				
BURNS MCDONNELL 9400 WARD PARKWAY KANSAS CITY, MO 64114 816-333-9400 LICENSE NO. E-65 CASCONSTRUCTORSLLC AN ALBERICI ENTERPRISE				
date FEBRUARY 22, 2022		detailed J. ANAYA		
designed J. TSOUFLIAS		checked		
City of Bonner Springs KANSAS BONNER SPRINGS, KANSAS				
WTP WASH WATER HOLDING BASIN SECTIONS				
project 138337		contract		
drawing		rev.		
sheet		of		
file 138337_S_WW-Basin_2022.rvt				



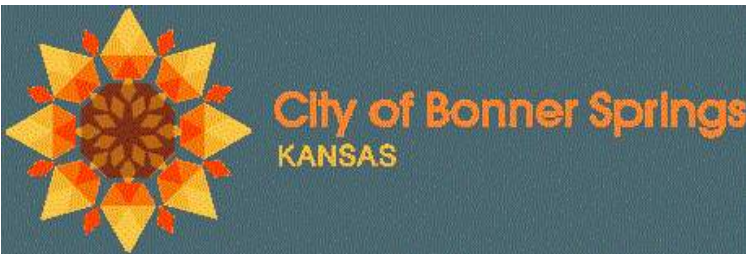
no.	date	by	ckd	description
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PRELIMINARY - NOT FOR CONSTRUCTION



**BURNS
MCDONNELL**
9400 WARD PARKWAY
KANSAS CITY, MO 64114
816-333-9400
Burns & McDonnell Engineering Co., Inc.
LICENSEE NO. E-65

date	JANUARY 27, 2022	detailed	N. BENNETT
designed	J. WARREN	checked	

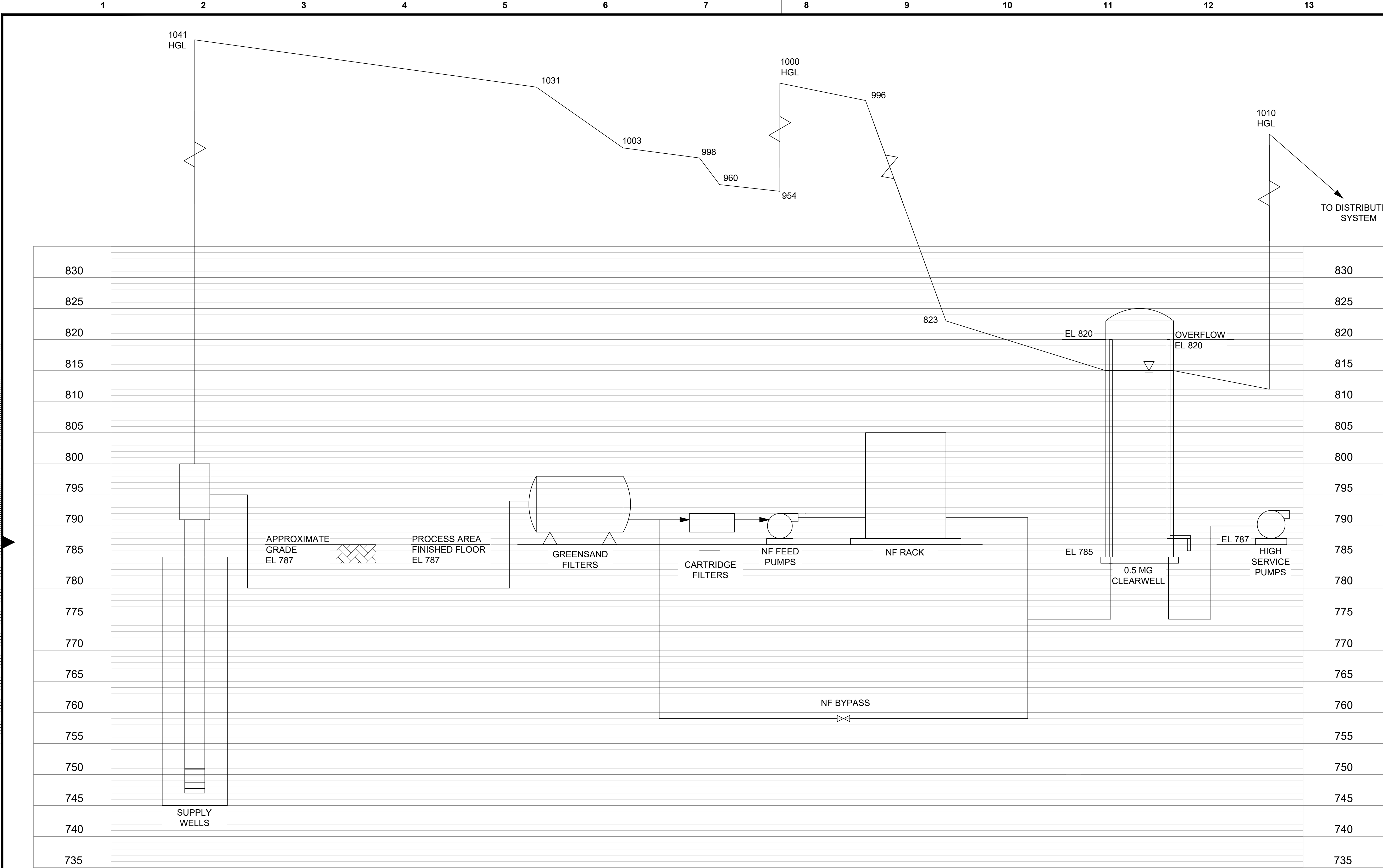


City of Bonner Springs
KANSAS

Wyandotte County, Kansas

WATER TREATMENT PLAN DESIGN
PROCESS FLOW
DIAGRAM

project	138337	contract	CONTRACT
drawing	D001	rev.	—
sheet	of	sheets	
file 138337_D001.DWG			



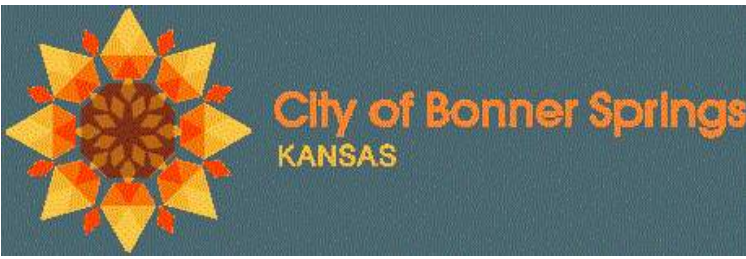
no.	date	by	ckd	description
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**PRELIMINARY - NOT
FOR CONSTRUCTION**



9400 WARD PARKWAY
KANSAS CITY, MO 64114
816-333-9400
Burns & McDonnell Engineering Co., Inc.
LICENSEE NO. E-65

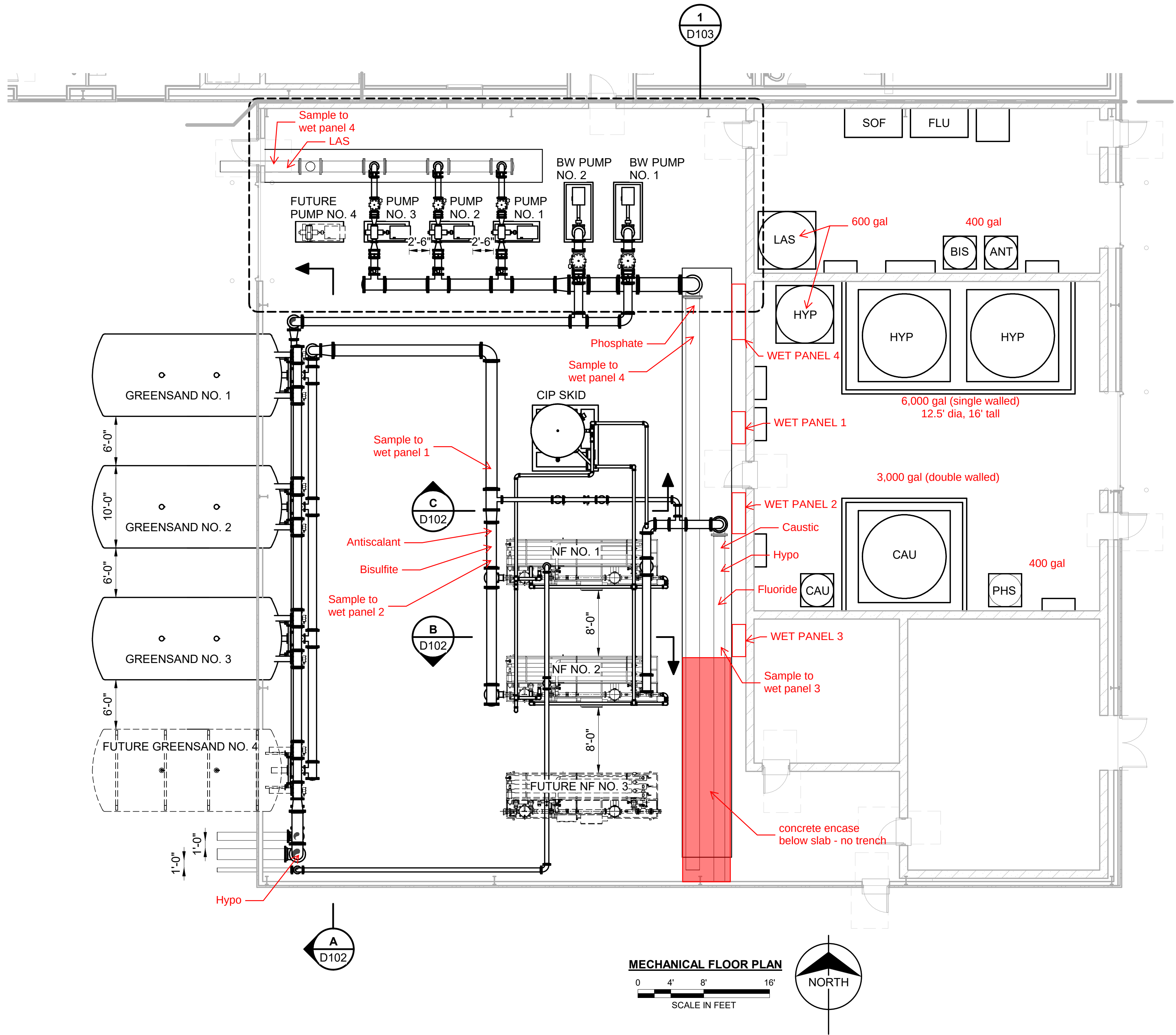
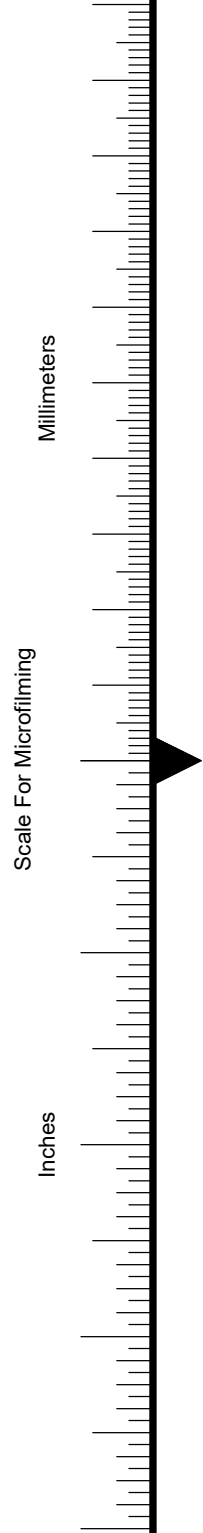
date	JANUARY 27, 2022	detailed	N. BENNETT
designed	J. WARREN	checked	



Wyandotte County, Kansas

WATER TREATMENT PLAN DESIGN
HYDRAULIC PROFILE

project	138337	contract	
drawing	D002	rev.	REV
sheet	of	sheets	
file 138337_D002.DWG			



no.	date	by	ckd	description
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**PRELIMINARY - NOT
FOR CONSTRUCTION**



9400 WARD PARKWAY
KANSAS CITY, MO 64114
816-333-9400
LICENSE NO. E-65



date	FEBRUARY 23, 2022
designed	A. BARGE

detailed	B. FIFIELD
checked	



BONNER SPRINGS, KANSAS

WTP
PROCESS BUILDING FLOOR PLAN

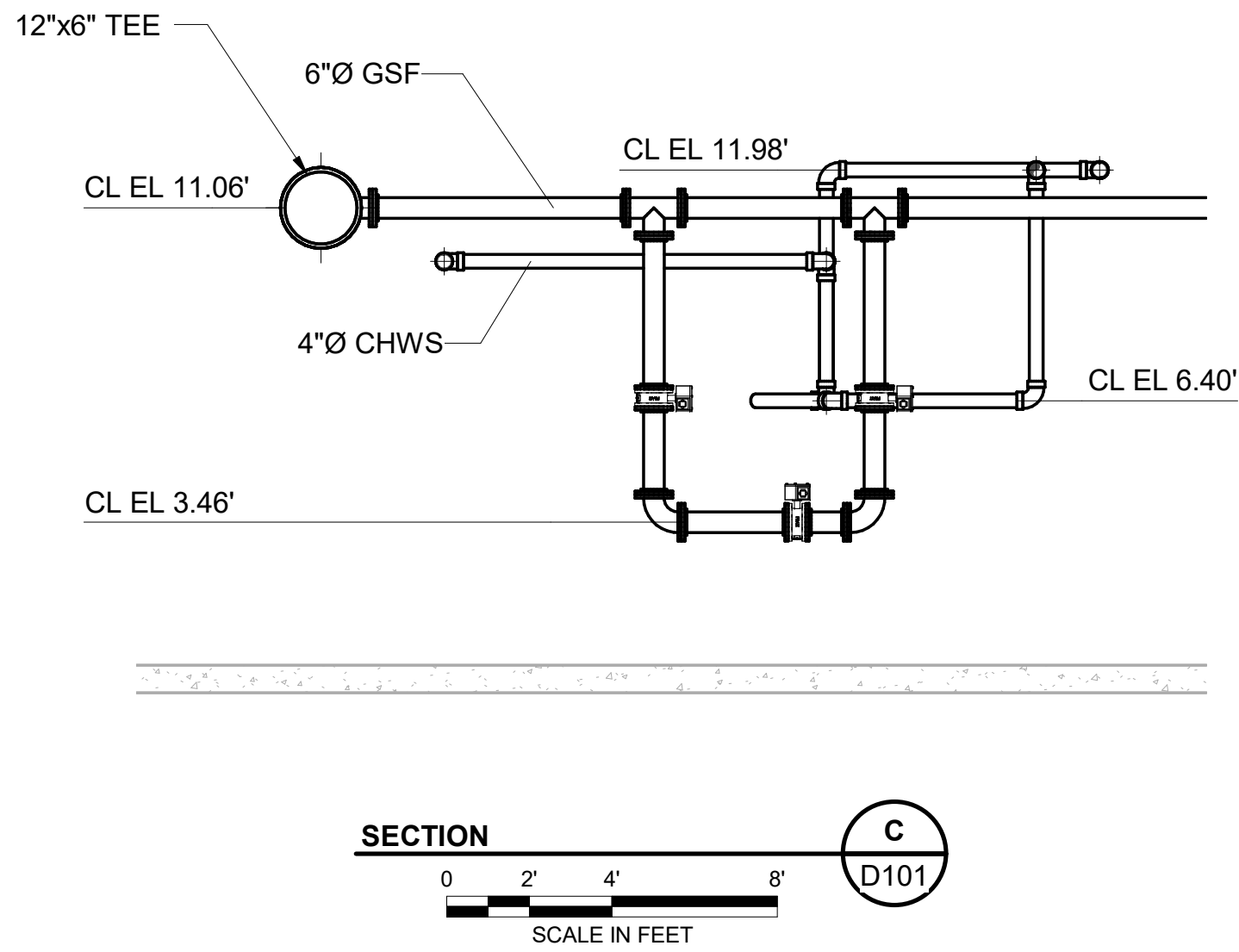
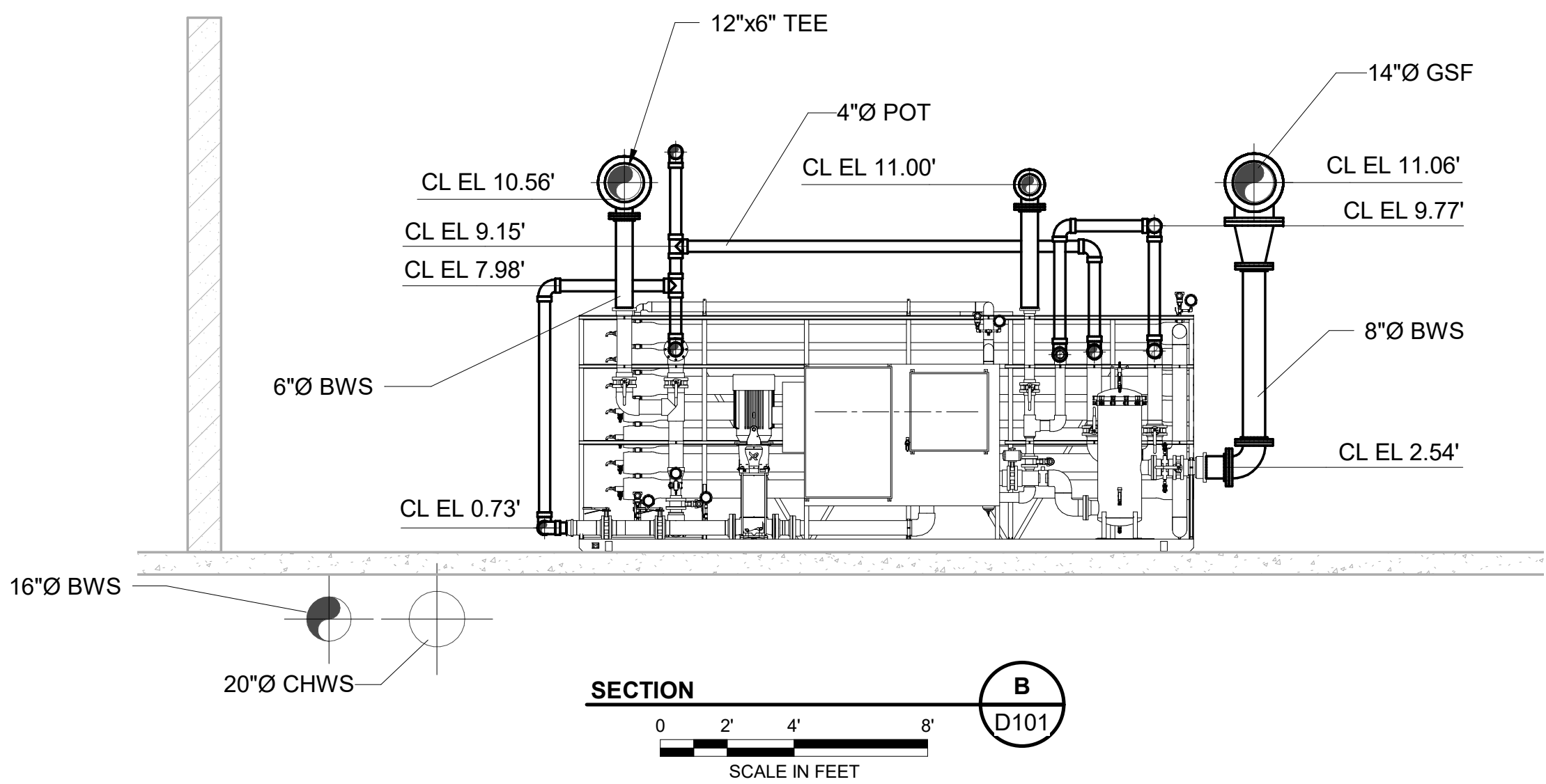
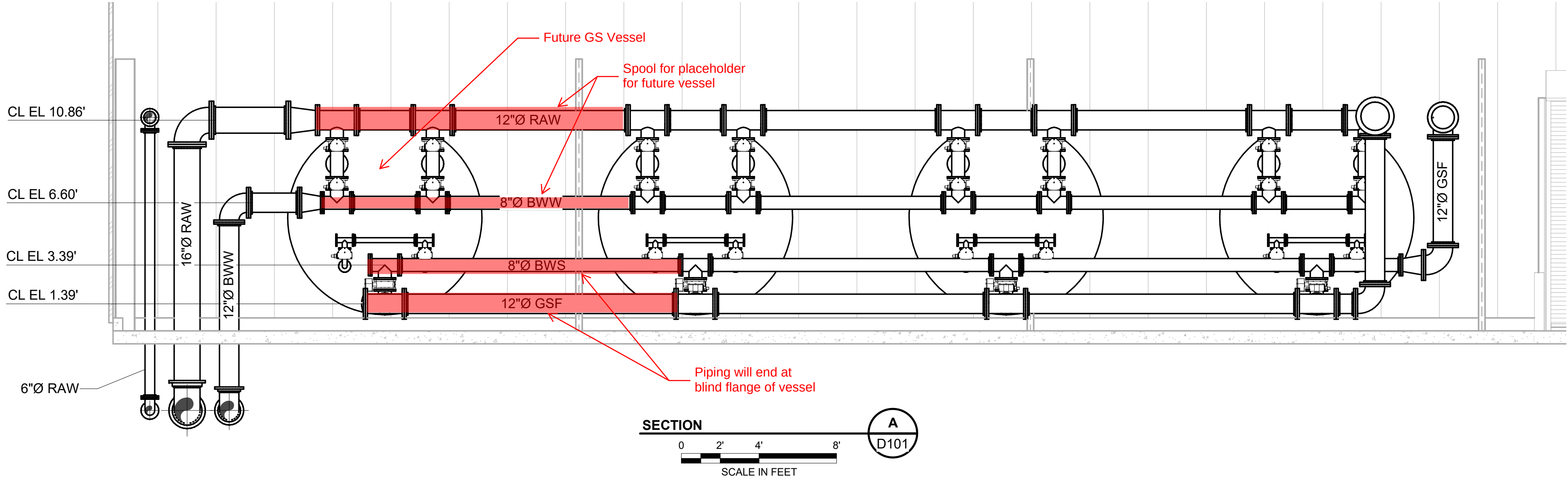
project	138337
drawing	

contract	
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D101

rev.

sheet	of
file	



no.	date	by	ckd	description
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PRELIMINARY - NOT
FOR CONSTRUCTION



9400 WARD PARKWAY
KANSAS CITY, MO 64114
816-333-9400
LICENSE NO. E-65

CASCONSTRUCTORSLLC
AN ALBERICI ENTERPRISE

date MARCH 25, 2022	detailed B. FIFIELD
designed J. WARREN	checked



BONNER SPRINGS, KANSAS

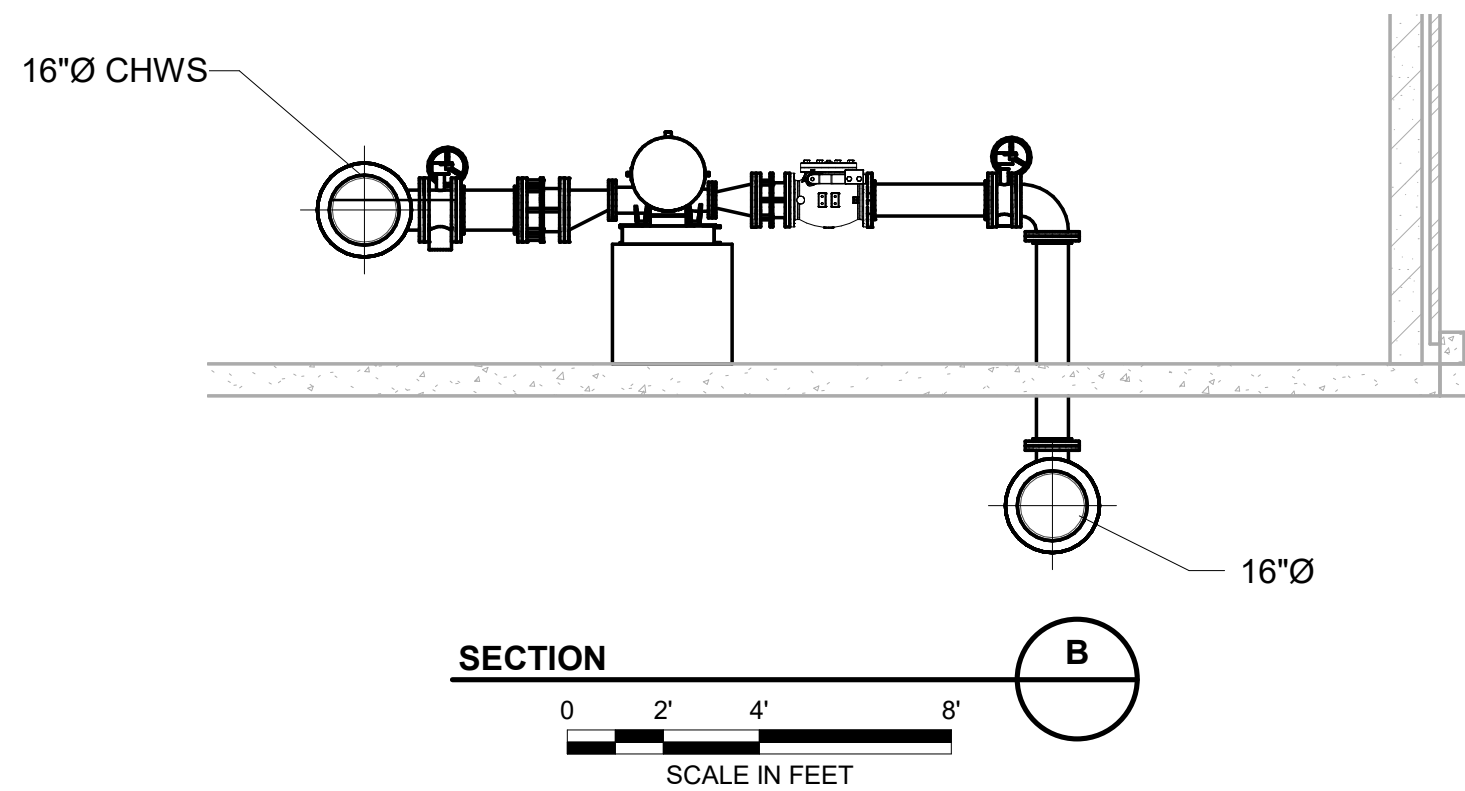
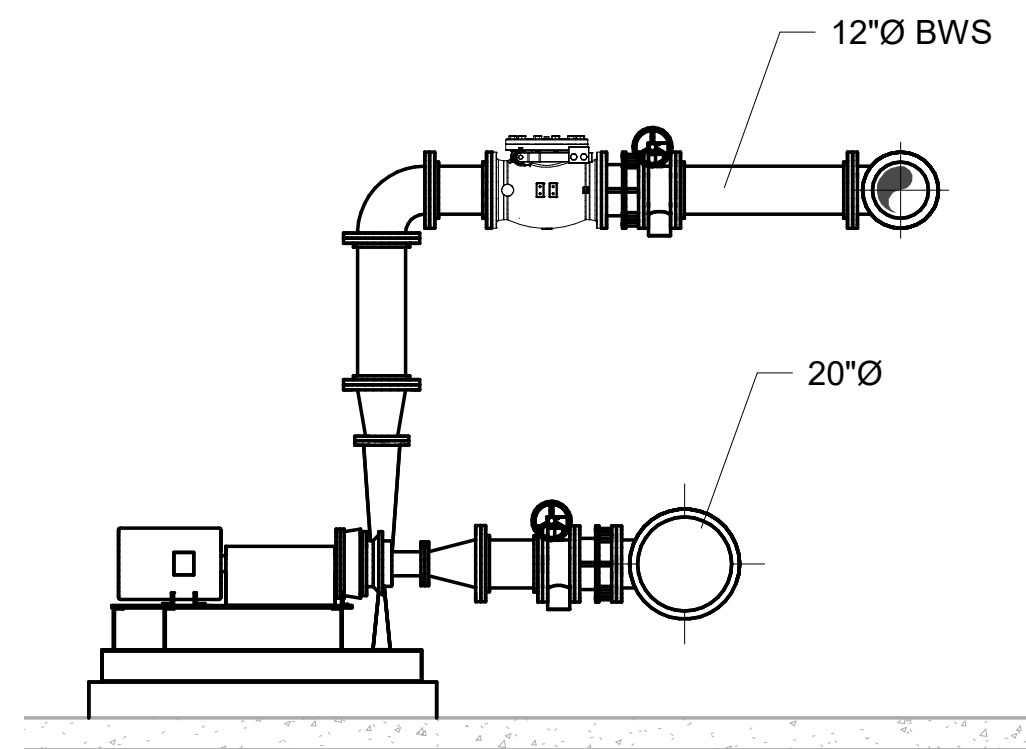
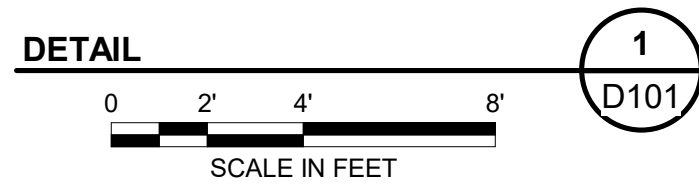
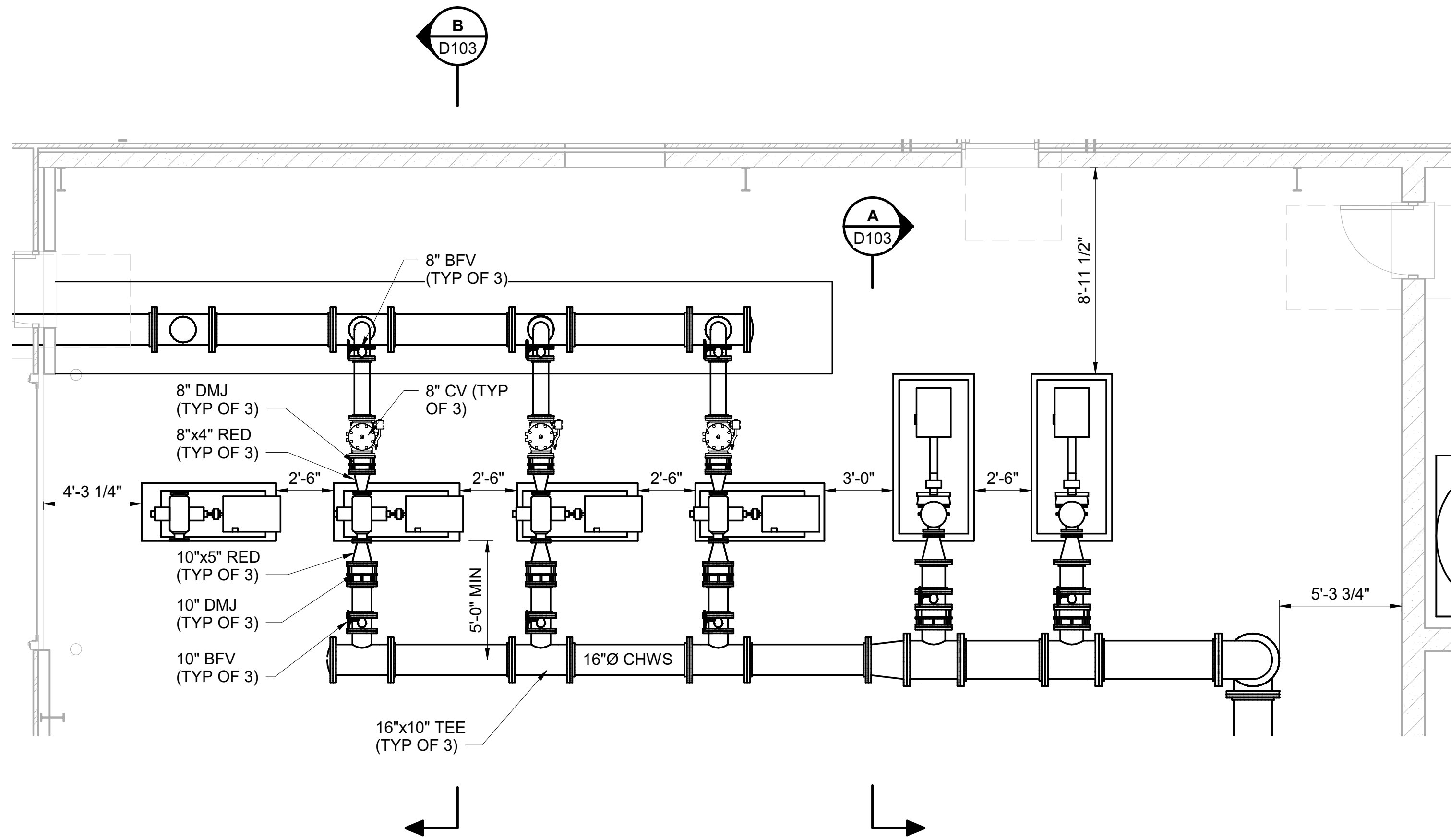
WTP
PROCESS BUILDING SECTIONS

project 138337	contract
drawing D102	rev. -
sheet	of
file	

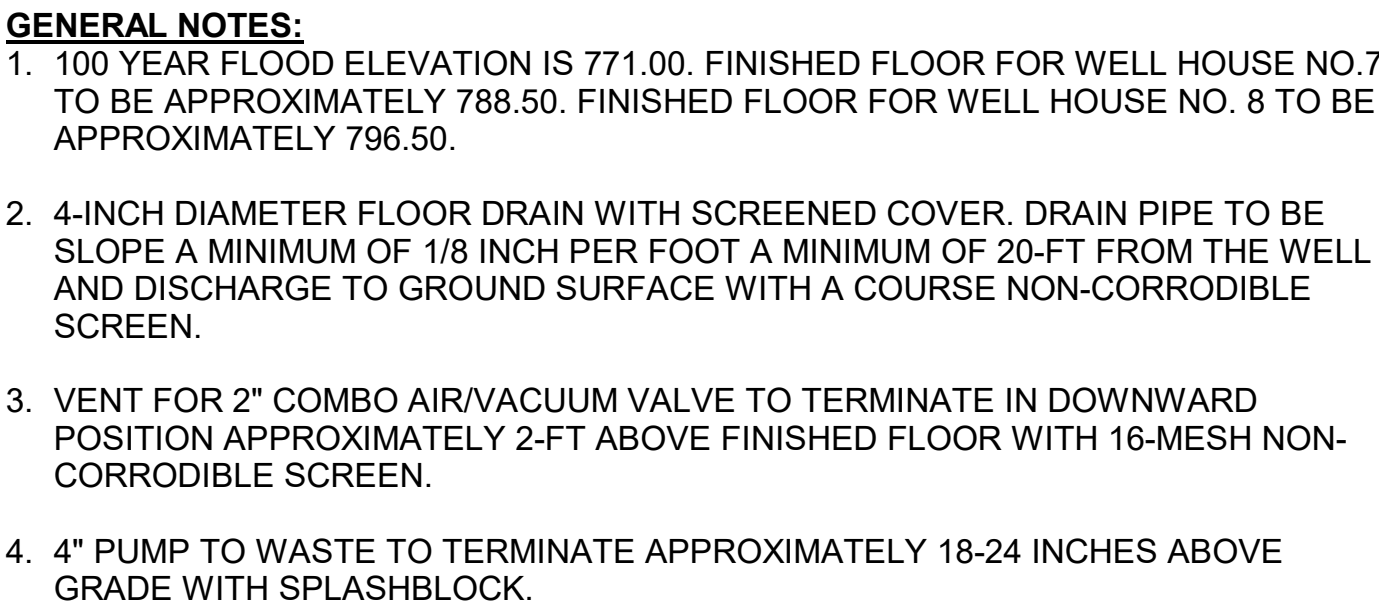
Scale For Microfilming

Inches

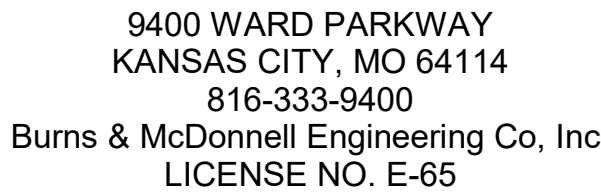
Millimeters



no.	date	by	ckd	description
PRELIMINARY - NOT FOR CONSTRUCTION				
 9400 WARD PARKWAY KANSAS CITY, MO 64114 816-333-9400 LICENSE NO. E-65 CASCONSTRUCTORSLLC AN ALBERICI ENTERPRISE				
date APRIL 6, 2022		detailed N. BENNETT		
designed J. WARREN		checked		
 City of Bonner Springs KANSAS BONNER SPRINGS, KANSAS				
WTP PROCESS ENLARGED VIEW				
project 138337		contract		
drawing D103		rev. -		
sheet of				
file				



**PRELIMINARY - NOT
FOR CONSTRUCTION**



CASCONSTRUCTORS LLC
AN ALBERICI ENTERPRISE

date MARCH, 30, 2022	detailed N. BENNETT
designed D. WEIR	checked

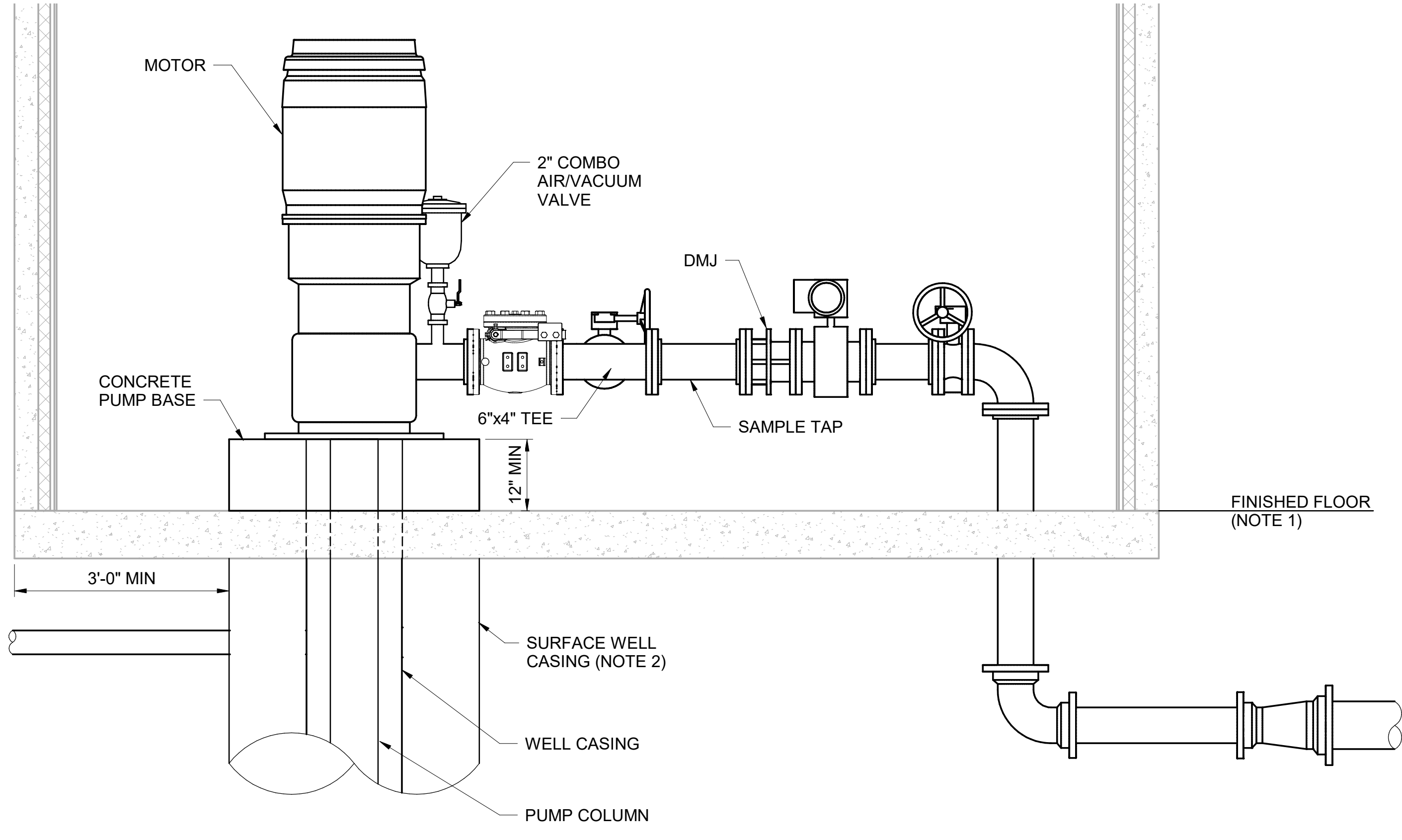


BONNER SPRINGS, KANSAS

WELL BUILDINGS 1 AND 2

WELL BUILDING PROCESS FLOOR PLAN

project	contract
138337	
drawing	rev.
D301	—
sheet	of
file	



- GENERAL NOTES:**
1. FINISHED FLOOR FOR WELL HOUSE NO.7 TO BE APPROXIMATELY 788.50. FINISHED FLOOR FOR WELL HOUSE NO.8 TO BE APPROXIMATELY 796.50. 100-YEAR FLOOD ELEVATION IS 771.00.
 2. WELL NO. 7 STEEL SURFACE CASING TO BE 42" DIAMETER. WELL NO. 8 STEEL SURFACE CASING TO BE 48" DIAMETER. STEEL SURFACE CASING TO EXTEND A MINIMUM OF 12-INCHES ABOVE FINISHED FLOOR.

no.	date	by	ckd	description
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PRELIMINARY - NOT
FOR CONSTRUCTION



9400 WARD PARKWAY
KANSAS CITY, MO 64114
816-333-9400
Burns & McDonnell Engineering Co, Inc.
LICENSE NO. E-65



date MARCH 30, 2022	detailed N.BENNETT
designed D. WEIR	checked



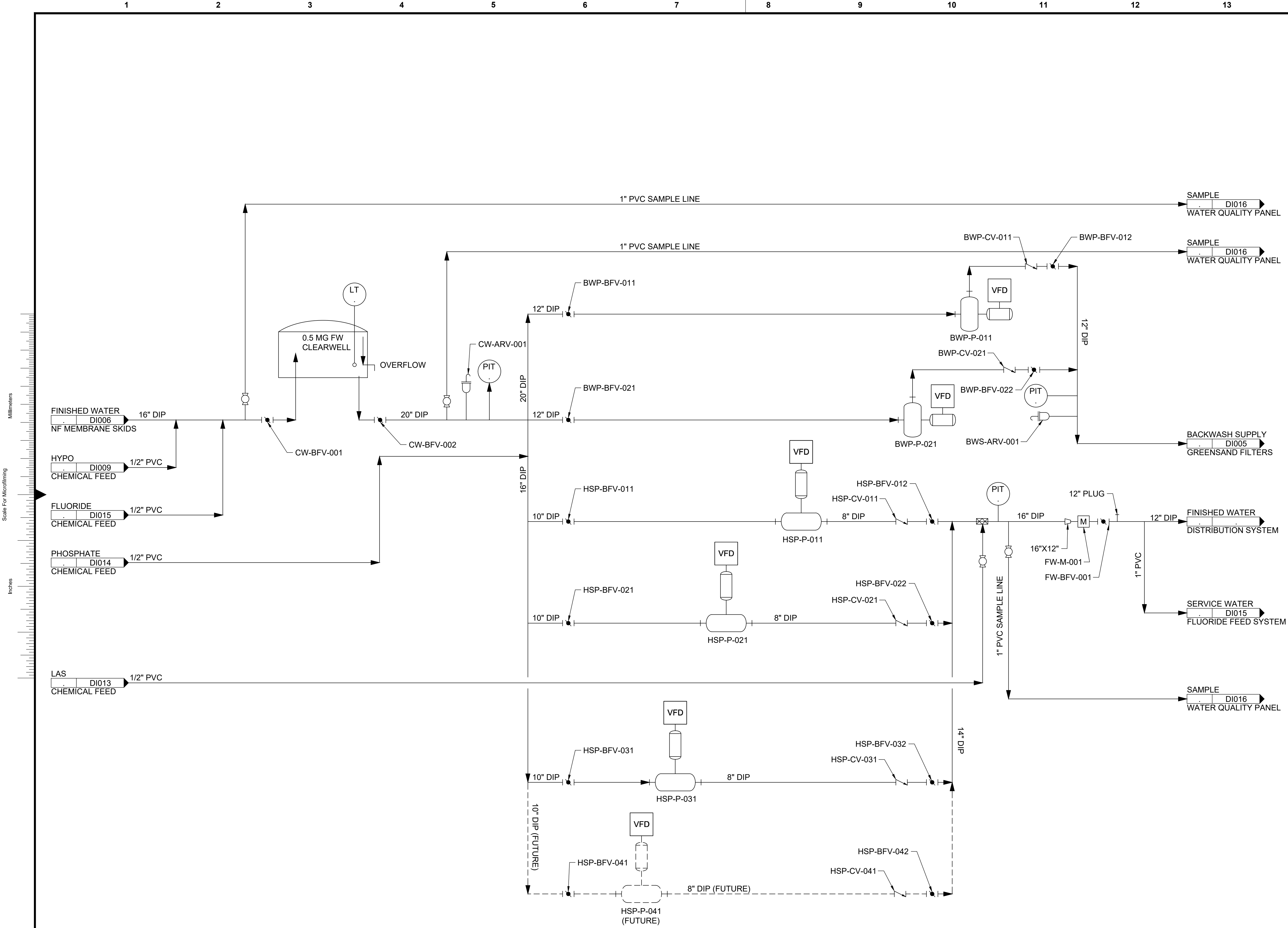
BONNER SPRINGS, KANSAS

WELL BUILDINGS 1 AND 2
WELL BUILDING SECTION

project 138337	contract
drawing D302	rev. -
sheet	of
file	

1		2		3		4		5		6		7		8		9		10		11		12		13																																																																																																																																																																																																																																																																																																																																																																	
ABBREVIATIONS <table><tr><th>ABBR.</th><th>DEFINITION</th><th>ABBR.</th><th>DEFINITION</th></tr><tr><td>AI</td><td>AERATOR INFLUENT</td><td>NG</td><td>NATURAL GAS</td></tr><tr><td>AL</td><td>ALUMINUM</td><td>NPW</td><td>NON-POTABLE WATER</td></tr><tr><td>BRN</td><td>BRINE</td><td>OF</td><td>OVERFLOW</td></tr><tr><td>BWA</td><td>BACKWASH AIR</td><td>OPH</td><td>ORTHOPHOSPHATE</td></tr><tr><td>BWS</td><td>BACKWASH SUPPLY</td><td>POL</td><td>POLYMER</td></tr><tr><td>BWW</td><td>BACKWASH WASTE</td><td>PPH</td><td>POLYPHOSPHATE</td></tr><tr><td>BWWR</td><td>BACKWASH WASTE RECYCLE</td><td>PVC</td><td>POLYVINYL CHLORIDE</td></tr><tr><td>CA</td><td>CONTROL AIR</td><td>PW</td><td>POTABLE WATER</td></tr><tr><td>CLGP</td><td>CHLORINE GAS PRESSURE</td><td>PWC</td><td>POTABLE WATER - COLD</td></tr><tr><td>CLGV</td><td>CHLORINE GAS VACUUM</td><td>PWH</td><td>POTABLE WATER - HOT</td></tr><tr><td>CLL</td><td>CHLORINE LIQUID</td><td>PWHR</td><td>POTABLE WATER - HOT RECYCLE</td></tr><tr><td>CLS</td><td>CHLORINE SOLUTION</td><td>RD</td><td>ROOF DRAIN</td></tr><tr><td>CO</td><td>CLEANOUT</td><td>RL</td><td>REFRIGERANT LIQUID</td></tr><tr><td>CO2</td><td>CARBON DIOXIDE SOLUTION</td><td>RS</td><td>REFRIGERANT SUCTION</td></tr><tr><td>CO2G</td><td>CARBON DIOXIDE GAS</td><td>RW</td><td>RAW WATER</td></tr><tr><td>CPVC</td><td>CHLORINATED POLYVINYL CHLORIDE</td><td>SA</td><td>SAMPLE</td></tr><tr><td>CS</td><td>CARBON STEEL</td><td>SAN</td><td>SANITARY SEWER</td></tr><tr><td>CSW</td><td>CHENEY RESERVOIR SURFACE RAW WATER</td><td>SANF</td><td>SANITARY SEWER FORCEMAIN</td></tr><tr><td>CU</td><td>COPPER</td><td>SCB</td><td>SOLIDS CONTACT BLOWDOWN</td></tr><tr><td>CVT</td><td>CULVERT</td><td>SCI</td><td>SOLIDS CONTACT BASIN INFLUENT</td></tr><tr><td>DIP</td><td>DUCTILE IRON PIPE</td><td>SDA</td><td>SODA ASH</td></tr><tr><td>DR</td><td>DRAIN</td><td>SH</td><td>SODIUM HYDROXIDE/CAUSTIC</td></tr><tr><td>DRC</td><td>DRAIN - CHEMICAL</td><td>SOF</td><td>SOFTENED WATER</td></tr><tr><td>EBWF</td><td>EQUUS BEDS WELLFIELD</td><td>SPM</td><td>SODIUM PERMANGANATE</td></tr><tr><td>FAP</td><td>FILTER AID POLYMER</td><td>SST</td><td>STAINLESS STEEL</td></tr><tr><td>FCV</td><td>FLOW CONTROL VALVE</td><td>STM</td><td>STORM WATER</td></tr><tr><td>FD</td><td>FOUNDATION DRAIN</td><td>SU</td><td>SUMP PUMP DISCHARGE</td></tr><tr><td>FE</td><td>FILTER EFFLUENT</td><td>SW</td><td>SURFACE WATER</td></tr><tr><td>FI</td><td>FILTER INFLUENT</td><td>SWTP</td><td>SURFACE WATER TREATMENT PLANT</td></tr><tr><td>FIN</td><td>FINISHED WATER - LOW SERVICE</td><td>TW</td><td>TEPID WATER</td></tr><tr><td>FPR</td><td>FIRE PROTECTION WATER</td><td>TWR</td><td>TEPID WATER RECIRCULATION</td></tr><tr><td>FRP</td><td>FIBERGLASS REINFORCED PLASTIC</td><td>VC</td><td>VENT - CHEMICAL</td></tr><tr><td>FS</td><td>FERRIC SULFATE</td><td>VT</td><td>VENT EQUUS BEDS WELL FIELD</td></tr><tr><td>FTW</td><td>FILTER TO WASTE</td><td>WFW</td><td>RAW WATER</td></tr><tr><td>FWHS</td><td>FINISHED WATER - 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NOT FOR CONSTRUCTION BURNS McDONNELL 9400 WARD PARKWAY KANSAS CITY, MO 64114 816-333-9400 Burns & McDonnell Engineering Co, Inc. LICENSEE NO. E-65 CASCONSTRUCTORSLLC AN ALBERICI ENTERPRISE <table><tr><td>date</td><td>designed</td><td>detailed</td></tr><tr><td>FEBRUARY 14, 2022</td><td>J. WARREN</td><td>N. BENNETT</td></tr><tr><td></td><td>checked</td><td></td></tr></table> City of Bonner Springs KANSAS Wyandotte County, Kansas WATER TREATMENT PLAN DESIGN PROCESS & INSTRUMENTATION LEGEND SHEET 1 <table><tr><td>project</td><td>contract</td></tr><tr><td>138337</td><td></td></tr><tr><td>drawing</td><td>rev.</td></tr><tr><td>D1001</td><td>-</td></tr><tr><td>sheet</td><td>of</td><td>sheets</td></tr><tr><td>file</td><td>138337_D1001.DWG</td><td></td></tr></table>																									ABBR.	DEFINITION	ABBR.	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Millimeters Scale For Microfining Inches MISCELLANEOUS SYMBOLS PIPING TIE-IN POINT ANNULAR SEAL/DIAPHRAGM CHEMICAL SEAL/DIAPHRAGM PILOT LIGHT OR GAUGE GLASS ILLUMINATOR DUAL FUNCTION OR INSTRUMENTS SHARING COMMON HOUSING UNDEFINED INTERLOCK LOGIC INSTRUMENT WITH LONG TAG NUMBER CONTROL VALVE ACTUATOR SYMBOLS T MANUAL OPERATOR DIAPHRAGM PRESSURE BALANCED DIAPHRAGM HANDWHEEL - USED WITH ANY ACTUATOR CYLINDER/PISTON MOTOR OPERATED ELECTRO-HYDRAULIC SINGLE SOLENOID SINGLE SOLENOID WITH REMOTE RESET SINGLE SOLENOID WITH MANUAL RESET TYPICAL CONTROL VALVE WITH POSITIONER AND SOLENOID PNEUMATIC (CHLORINE ANGLE VALVE EMERGENCY CLOSURE SERVICE) PRIMARY ELEMENT SYMBOLS (LEVEL) ULTRASONIC RADAR FLOAT LEVEL SWITCH		PRIMARY ELEMENT SYMBOLS (FLOW) GENERAL ELEMENT SYMBOL WHERE XX = FS, FG, FE, FT ... IN-LINE FLOW ELEMENT WITH INTEGRAL TRANSMITTER XXXX = MASS, CORIOLIS, THERMAL, INT. ORIFICE ... IN-LINE FLOW ELEMENT WITH SEPARATE TRANSMITTER XX = MASS, CORIOLIS, THERMAL... ORIFICE "M" MAGNETIC (INSERTION) "TM" THERMAL MASS (INSERTION) "M" MAGNETIC (INLINE) "TM" THERMAL MASS (INLINE) TURBINE OR PROPELLER ULTRASONIC VORTEX PITOT TUBE AVERAGING PITOT TUBE FLOW NOZZLE VENTURI WEDGE METER FLUME WEIR POSITIVE DISPLACEMENT ORIFICE IN QUICK CHANGE FITTING TARGET ROTAMETER (OR PURGE) (SHOWN WITH OPTIONAL INTEGRAL VALVE) FLOW SWITCH * = H/L FLOW GLASS FLOW CONDITIONING DEVICES (e.g., STRAIGHTENING VANES) RESTRICTION ORIFICE		SELF-ACTUATED DEVICES RUPTURE DISC OR SAFETY HEAD FOR PRESSURE RELIEF (EXPLOSION PANEL) RUPTURE DISC OR SAFETY HEAD FOR VACUUM RELIEF (EXPLOSION PANEL) PRESSURE RELIEF OR SAFETY VALVE VACUUM RELIEF VALVE PRESSURE AND VACUUM RELIEF VALVE OR CONSERVATION VENT BUCKLING PIN RELIEF VALVE PILOT OPERATED RELIEF VALVE WITH REMOTE SENSOR (USE APPROPRIATE RELIEF VALVE SYMBOL) PRESSURE REDUCING REGULATOR (SELF-CONTAINED) BACK PRESSURE REGULATOR (SELF-CONTAINED) BACK PRESSURE REGULATOR W/ EXTERNAL TAP PRESSURE REDUCING REGULATOR W/ EXTERNAL TAP DIFFERENTIAL PRESSURE REDUCING REGULATOR TEMPERATURE REGULATOR FILLED SYSTEM TYPE		EQUIPMENT SYMBOLS HORIZONTAL CENTRIFUGAL PUMP POSITIVE DISPLACEMENT PUMP VERTICAL INLINE PUMP LIQUID RING VACUUM PUMP CENTRIFUGAL SUMP PUMP VERTICAL CAN PUMP PROGRESSIVE CAVITY PUMP SCREW PUMP SUBMERSIBLE PUMP PERISTALTIC PUMP POSITIVE DISPLACEMENT BLOWER		GENERAL NOTES: 1. FLOW ASSUMED LEFT TO RIGHT AS SHOWN. 2. MULTIPLE LOCATIONS OF THE SAME TYPE CAN BE DISTINGUISHED BY ADDING A LABEL OR NOTE. EXHAUST FAN CENTRIFUGAL BLOWER CENTRIFUGAL COMPRESSOR RECIPROCATING BLOWER SCREW COMPRESSOR ELECTRIC MOTOR TURBINE DRIVER DIESEL ENGINE AGITATOR / MIXER		no. date by ckd description PRELIMINARY - NOT FOR CONSTRUCTION 9400 WARD PARKWAY KANSAS CITY, MO 64114 816-333-9400 Burns & McDonnell Engineering Co, Inc. LICENSEE NO. E-65 CASCONSTRUCTORSLLC AN ALBERICI ENTERPRISE date FEBRUARY 14, 2022 designed J. WARREN detailed N. BENNETT checked City of Bonner Springs KANSAS Wyandotte County, Kansas WATER TREATMENT PLAN DESIGN PROCESS & INSTRUMENTATION LEGEND SHEET 2 project 138337 contract drawing D1002 sheet of sheets rev. — file 138337_D1002.DWG		



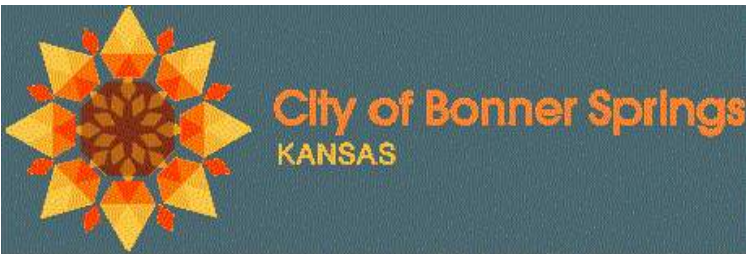
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FOR CONSTRUCTION**



9400 WARD PARKWAY
KANSAS CITY, MO 64114
816-333-9400
Burns & McDonnell Engineering Co, Inc.
LICENSEE NO. E-65

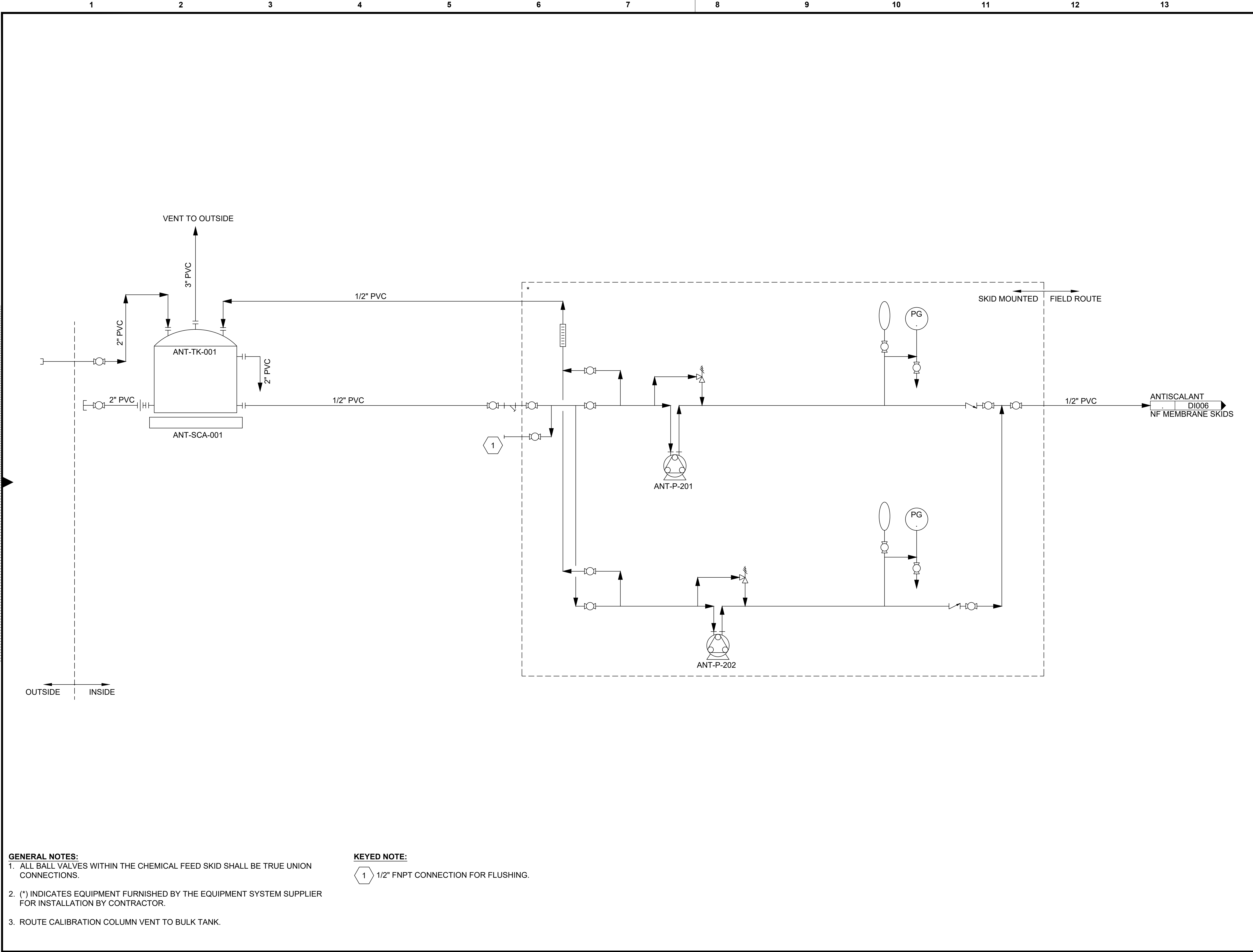
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JANUARY 27, 2022	J. WARREN	B. FIFIELD
		checked



Wyandotte County, Kansas

WATER TREATMENT PLAN DESIGN
FINISHED WATER P&ID

project	contract
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drawing	rev.
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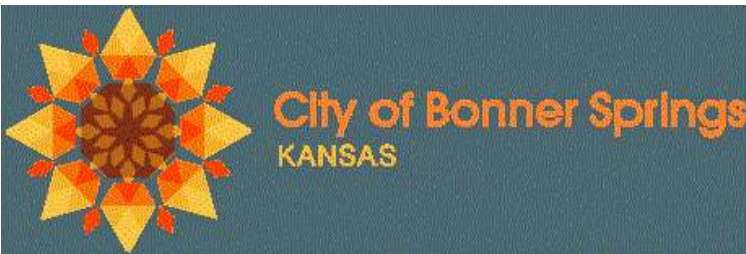


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KANSAS CITY, MO 64114
816-333-9400
Burns & McDonnell Engineering Co, Inc.
LICENSEE NO. E-65

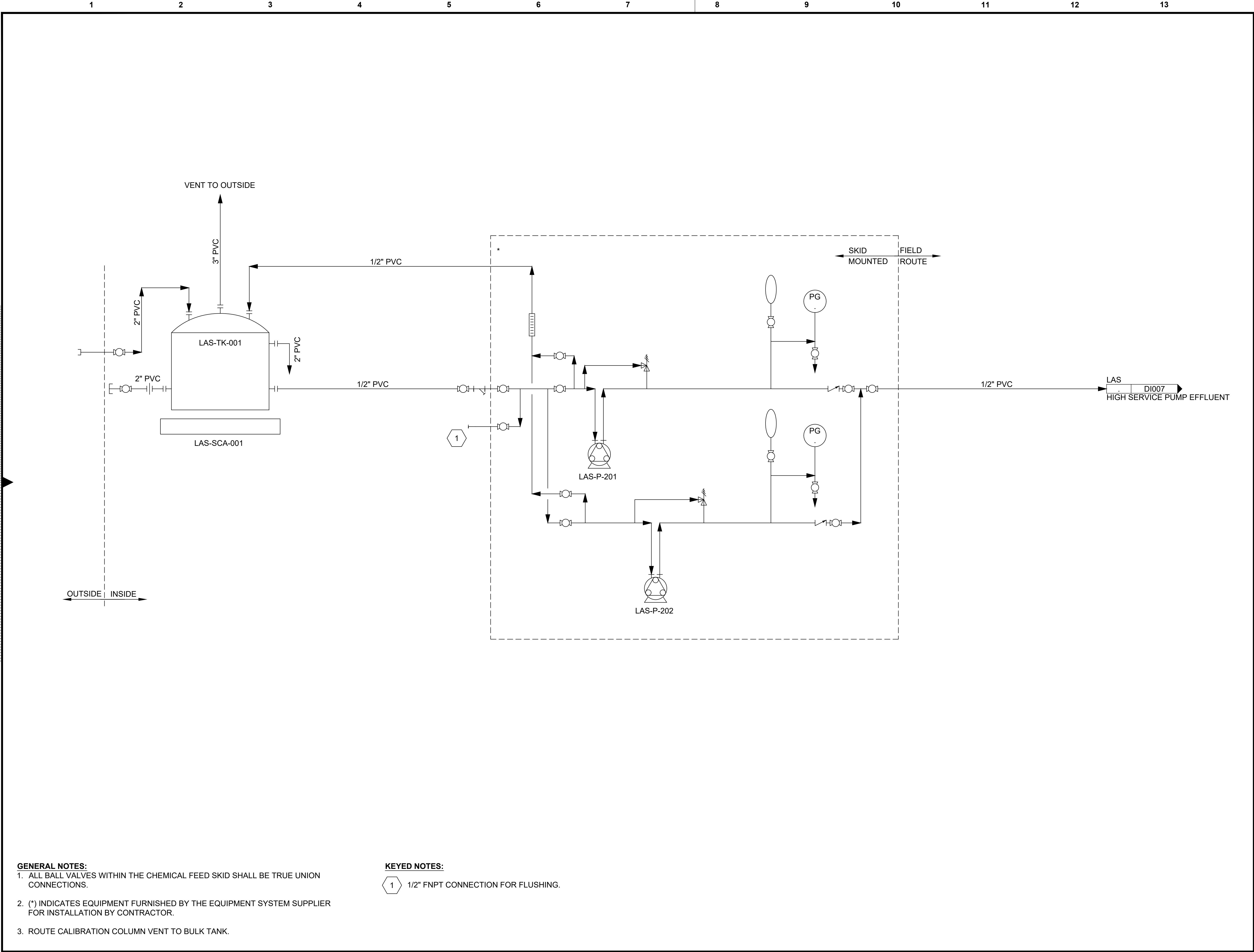
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Wyandotte County, Kansas

WATER TREATMENT PLAN DESIGN
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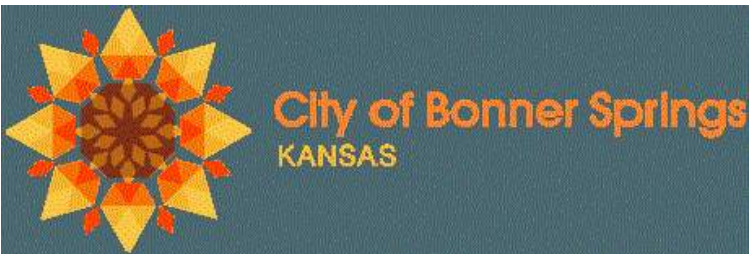


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KANSAS CITY, MO 64114
816-333-9400
Burns & McDonnell Engineering Co, Inc.
LICENSEE NO. E-65

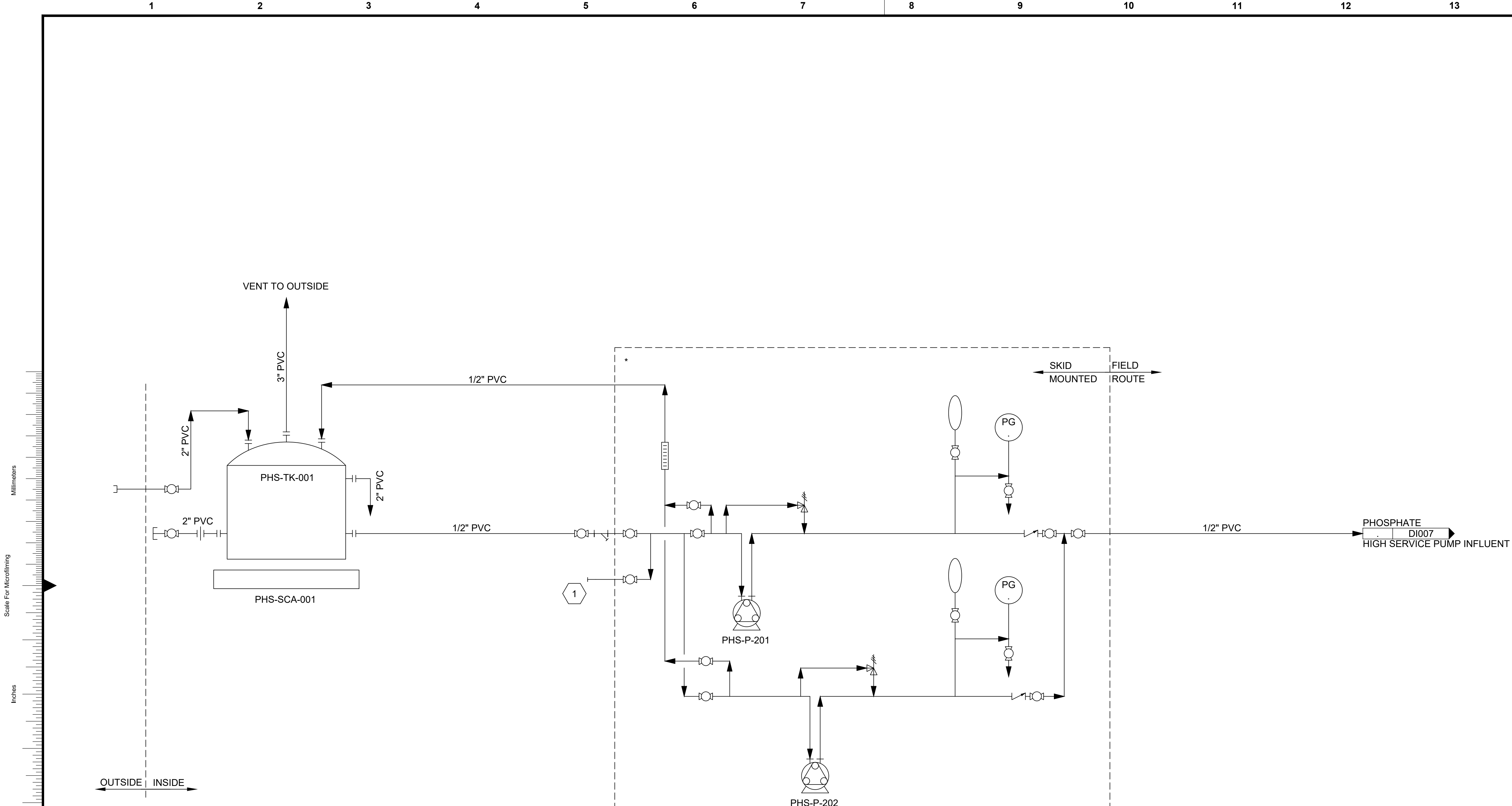
date	JANUARY 28, 2022	detailed	N. BENNETT
designed	J. WARREN	checked	



Wyandotte County, Kansas

WATER TREATMENT PLAN DESIGN
LAS FEED
SYSTEM P&ID

project	138337	contract	CONTRACT
drawing	DI013	rev.	REV
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file	138337_DI013.DWG		



GENERAL NOTES:

1. ALL BALL VALVES WITHIN THE CHEMICAL FEED SKID SHALL BE TRUE UNION CONNECTIONS.
2. (*) INDICATES EQUIPMENT FURNISHED BY THE EQUIPMENT SYSTEM SUPPLIER FOR INSTALLATION BY CONTRACTOR.
3. ROUTE CALIBRATION COLUMN VENT TO BULK TANK.

KEYED NOTES:

- 1 1/2" FNPT CONNECTION FOR FLUSHING.

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PRELIMINARY - NOT
FOR CONSTRUCTION



9400 WARD PARKWAY
KANSAS CITY, MO 64114
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Burns & McDonnell Engineering Co, Inc.
LICENSEE NO. E-65

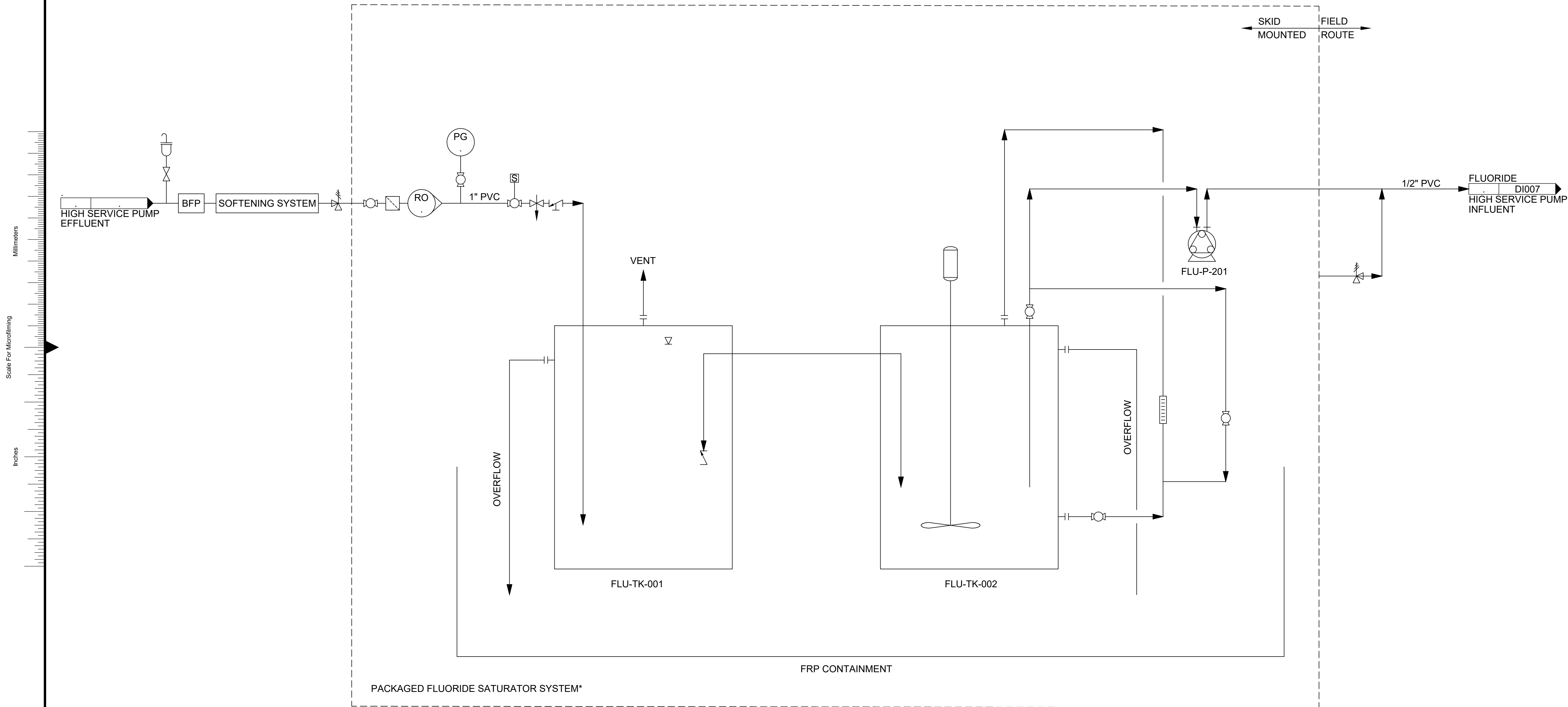
date	JANUARY 28, 2022	detailed	N. BENNETT
designed	J. WARREN	checked	



Wyandotte County, Kansas

WATER TREATMENT PLAN DESIGN
PHOSPHATE FEED
SYSTEM P&ID

project	138337	contract	CONTRACT
drawing	DI014	rev.	REV
sheet	of	sheets	
file 138337_DI014.DWG			



GENERAL NOTES:

1. (*) INDICATES EQUIPMENT FURNISHED BY THE EQUIPMENT SYSTEM SUPPLIER FOR INSTALLATION BY CONTRACTOR.

- ## 2. ROUTE CALIBRATION COLUMN VENT TO SOLUTION TANK.

KEYED NOTES:

- 1 1/2" FNPT CONNECTION FOR FLUSHING.

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FOR CONSTRUCTION**



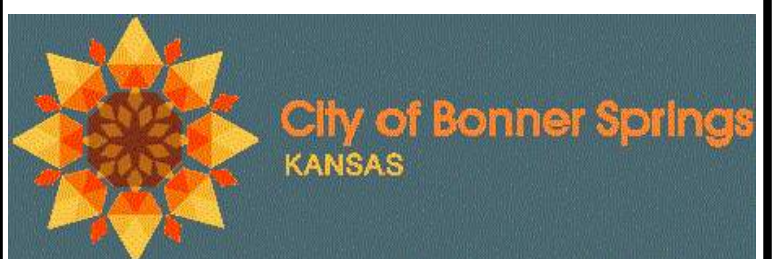
9400 WARD PARKWAY
KANSAS CITY, MO 64114
816-333-9400
Burns & McDonnell Engineering Co, Inc.
LICENSEE NO. E-65

date	JANUARY 28, 2022
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detailed
N. BENNETT

designed
J. WARREN

checked



Wyandotte County, Kansas

WATER TREATMENT PLAN DESIGN

project	138337
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contract

CONTRACT

drawing rev.

DI015 - REV

sheet of sheets

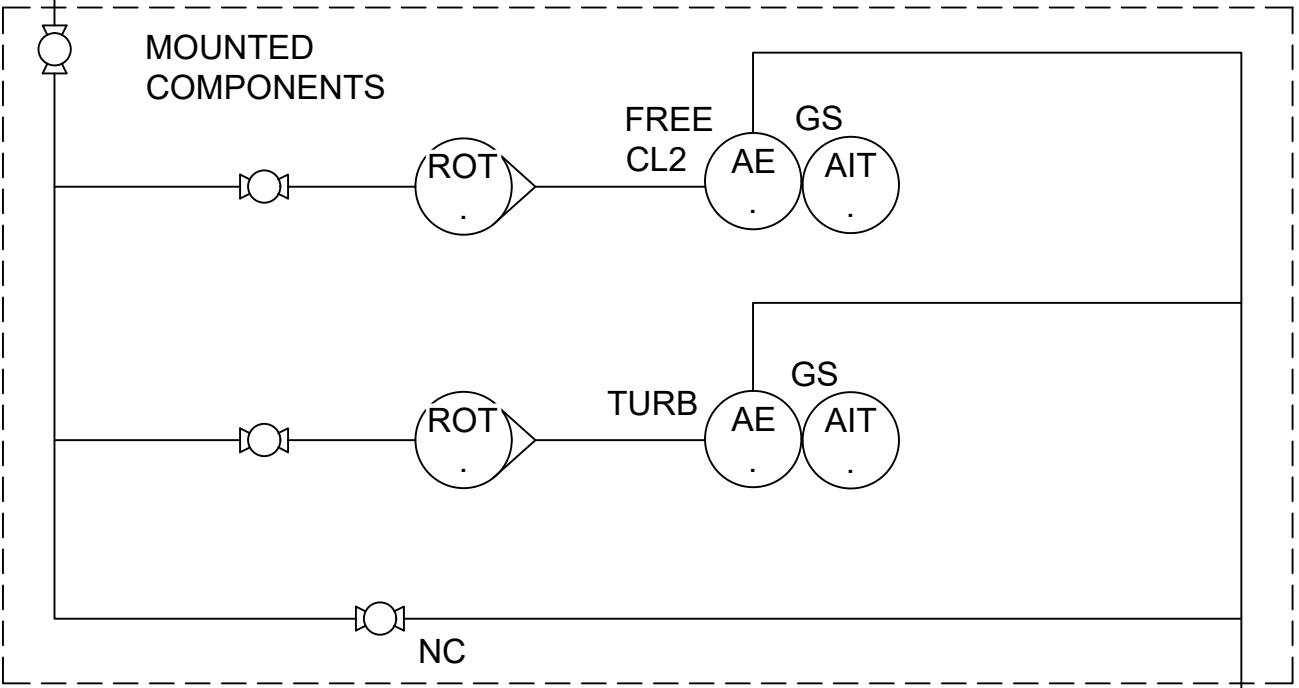
file 138337_DI015.DWG

Millimeters
Scale For Microfinning
Inches

SAMPLE
DI006 1" PVC
NF MEMBRANE INFLUENT

SAMPLE
DI007 1" PVC
CLEARWELL EFFLUENT

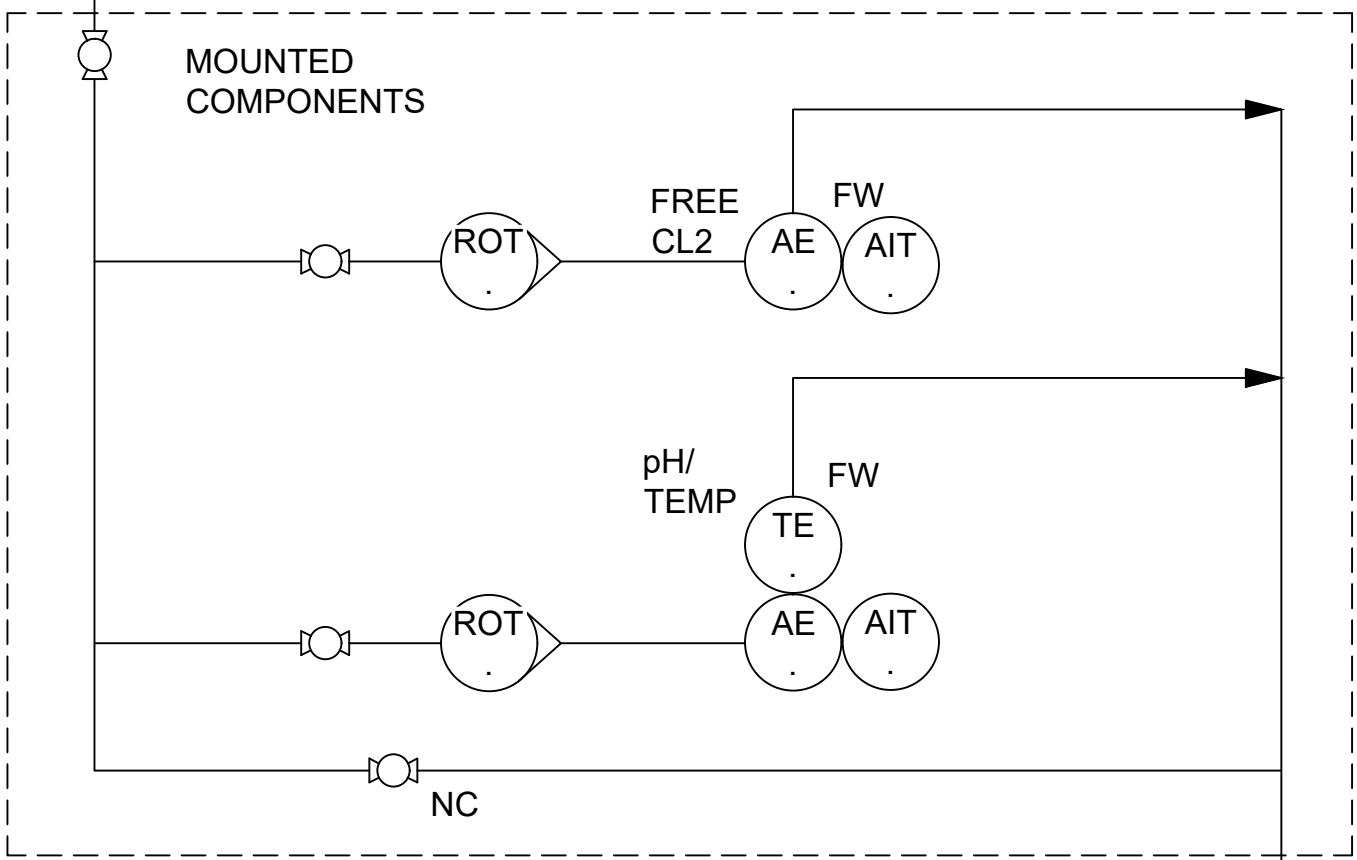
SAMPLE
DI005 1" PVC
GREENSAND FILTERS EFFLUENT



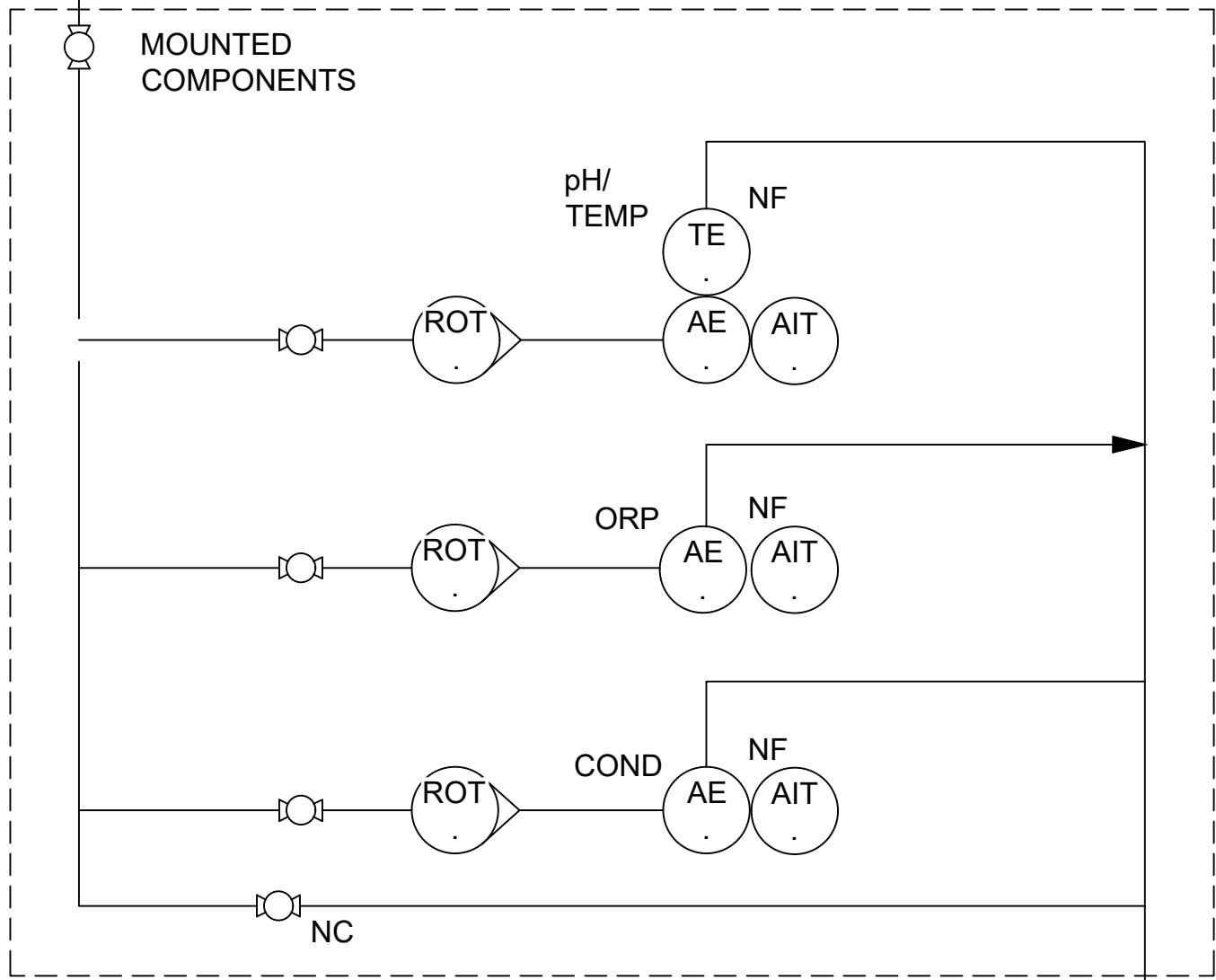
WET PANEL 1

SAMPLE
DI007 1" PVC
HIGH SERVICE PUMP DISCHARGE

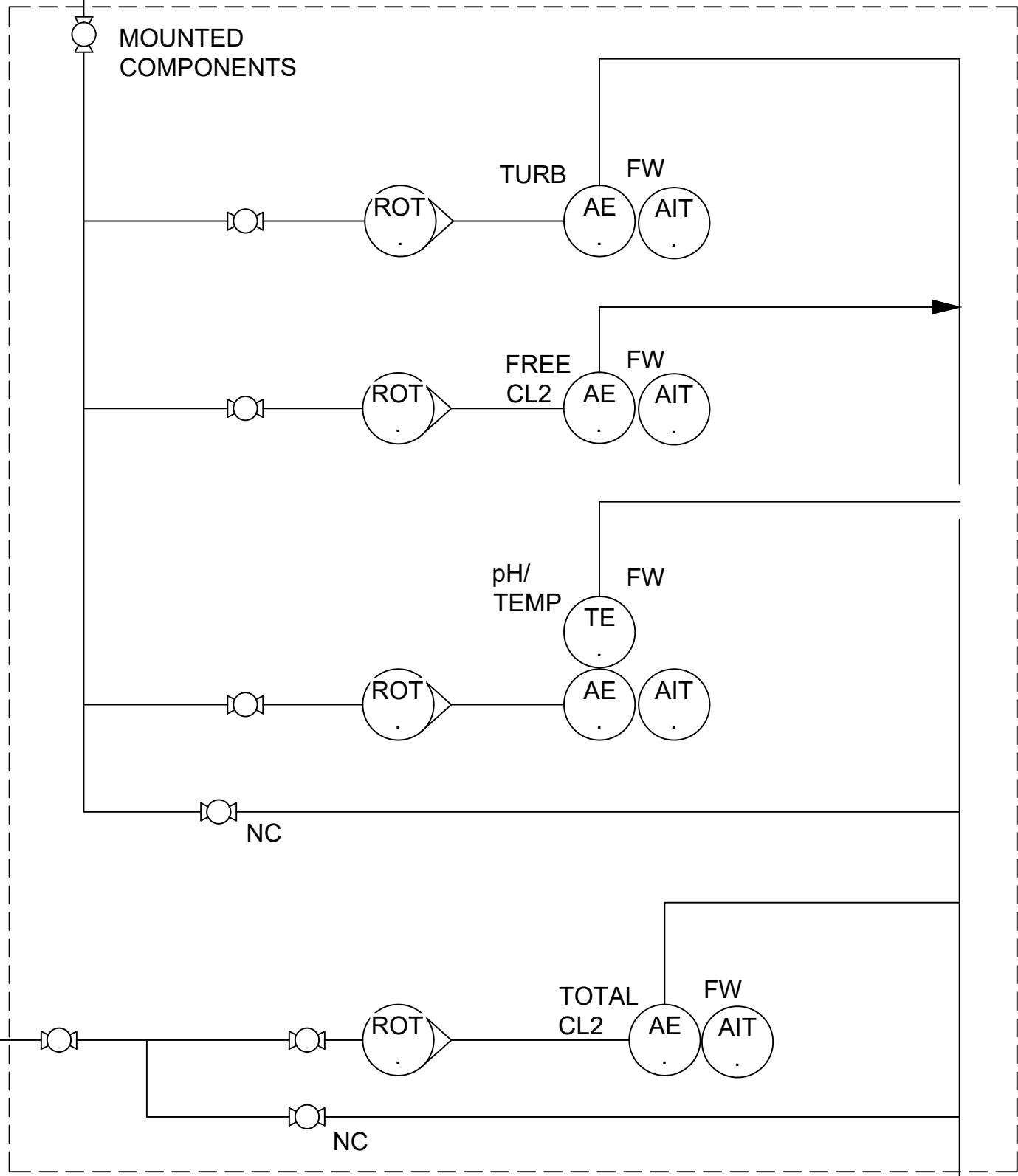
SAMPLE
DI007 1" PVC
CLEARWELL INFLUENT



WET PANEL 3



WET PANEL 2



WET PANEL 4

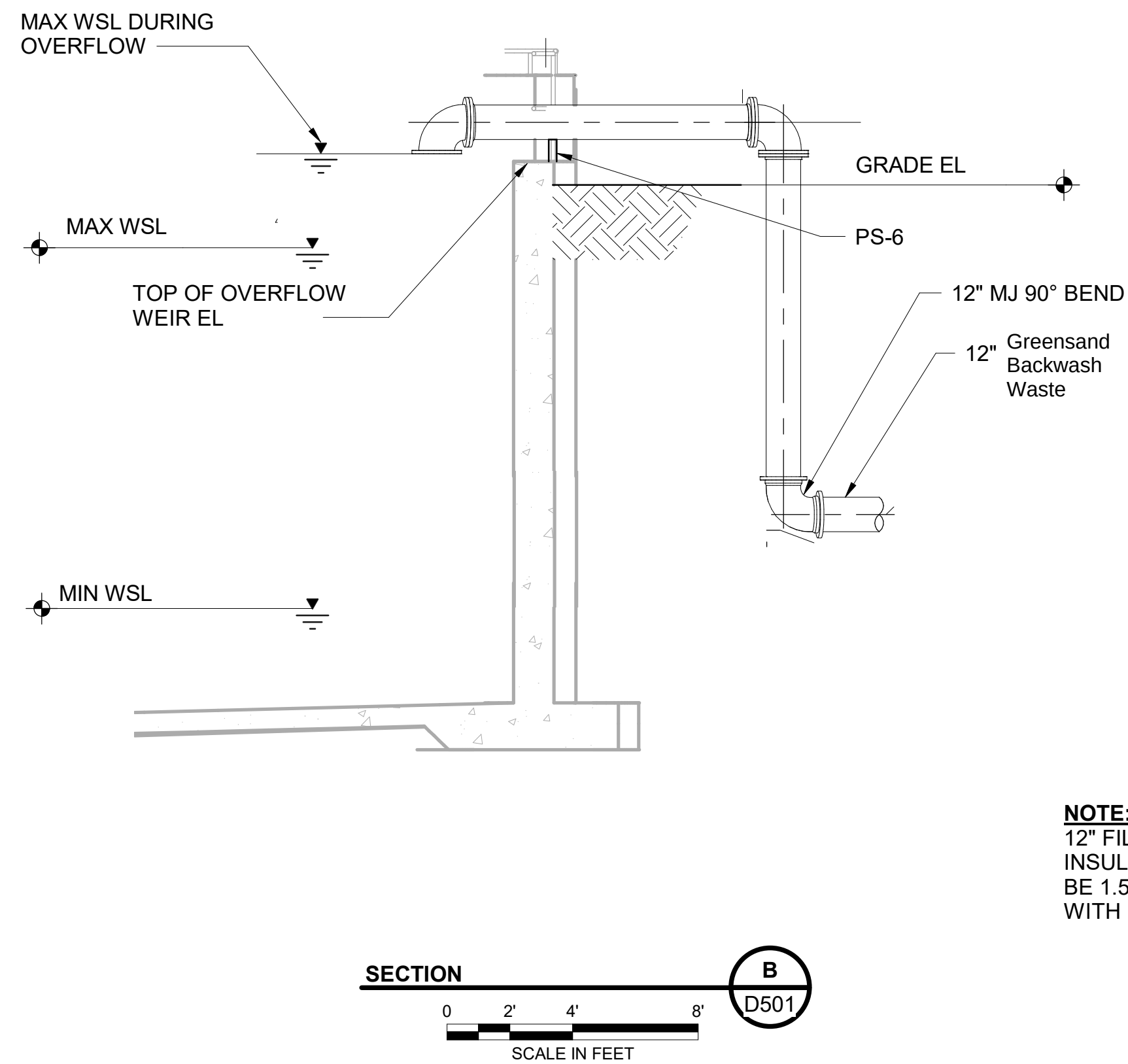
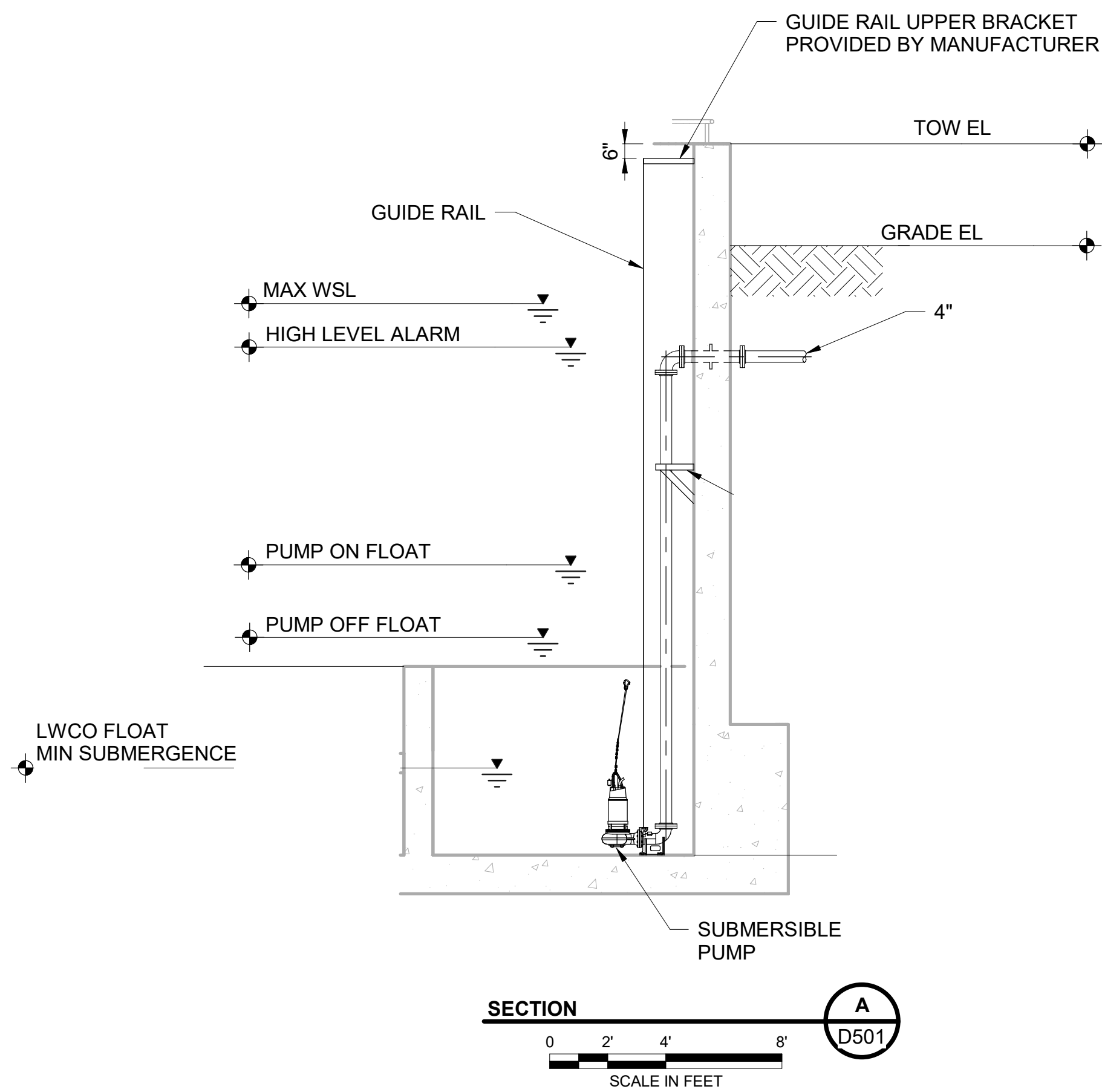
GENERAL NOTES:

- ALL INSTRUMENTATION SHALL BE MOUNTED ON AN ALUMINUM, STAINLESS STEEL, OR FRP MOUNTING PLATE SUPPORTED FROM THE FLOOR BY STAINLESS STEEL UNISTRUT.
- ALL PIPING, VALVES, AND ACCESSORIES MAY NOT BE SHOWN. COORDINATE WITH MANUFACTURER AND ENGINEER TO FURNISH AND INSTALL ALL ACCESSORIES REQUIRED FOR A COMPLETE AND WORKING SYSTEM.
- ROUTE SCHEDULE 80 PVC DRAIN LINES TO FLOOR DRAIN. PROVIDE AIR GAPS FOR ALL DRAINS AS RECOMMENDED BY MANUFACTURER AND ENGINEER.

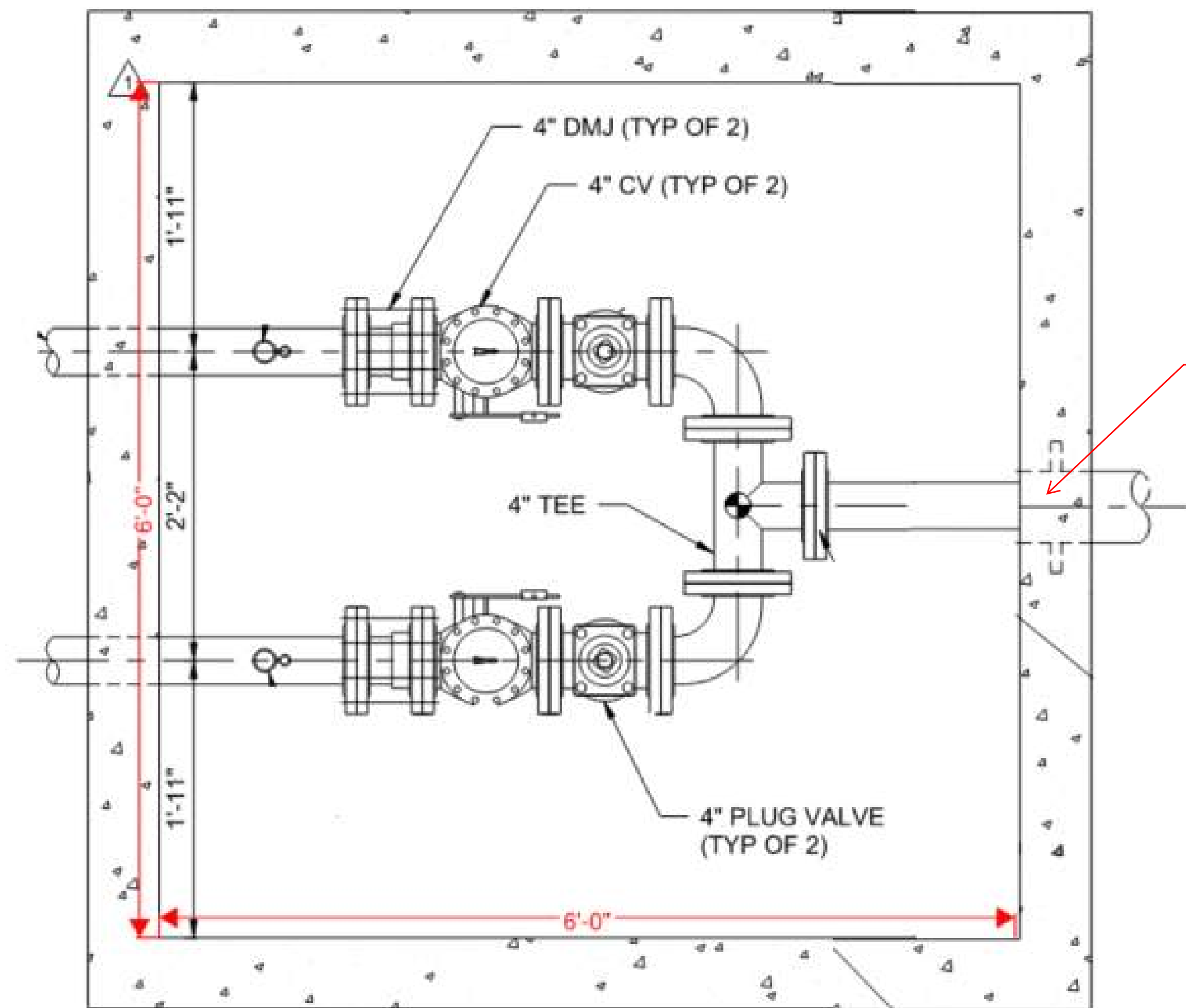
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COPYRIGHT © 2019 BURNS & MCDONNELL ENGINEERING COMPANY, INC.

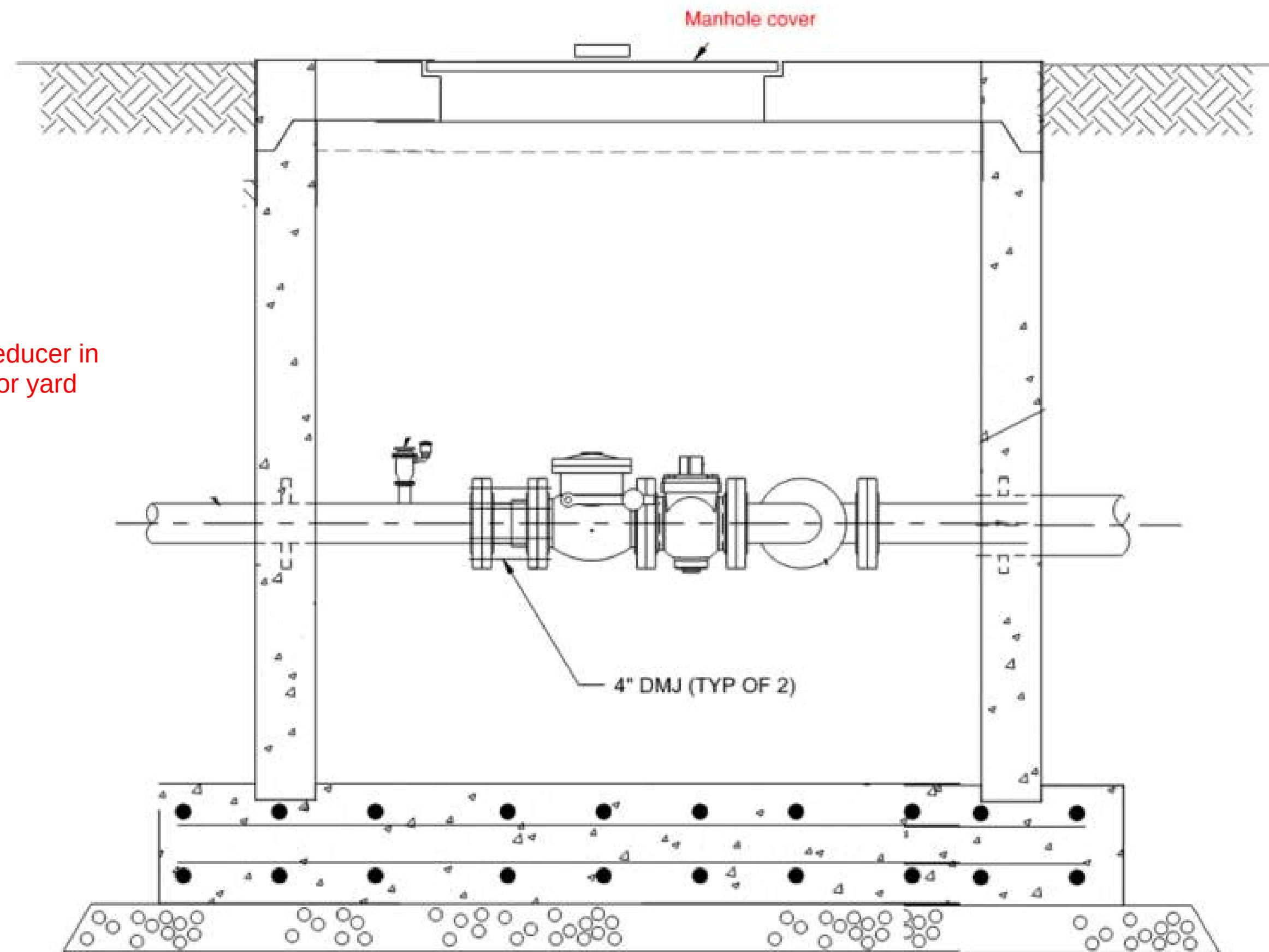
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NOTE:
12" FILTER-TO-WASTE TO BE HEAT TRACED TO 3' BELOW GRADE. INSULATE 12" FILTER-TO-WASTE FROM GRADE. INSULATION TO BE 1.5-INCH THICK FIBERGLASS TYPE. PROTECT INSULATION WITH EMBOSSED ALUMINUM JACKET.



6x4 reducer in vault or yard



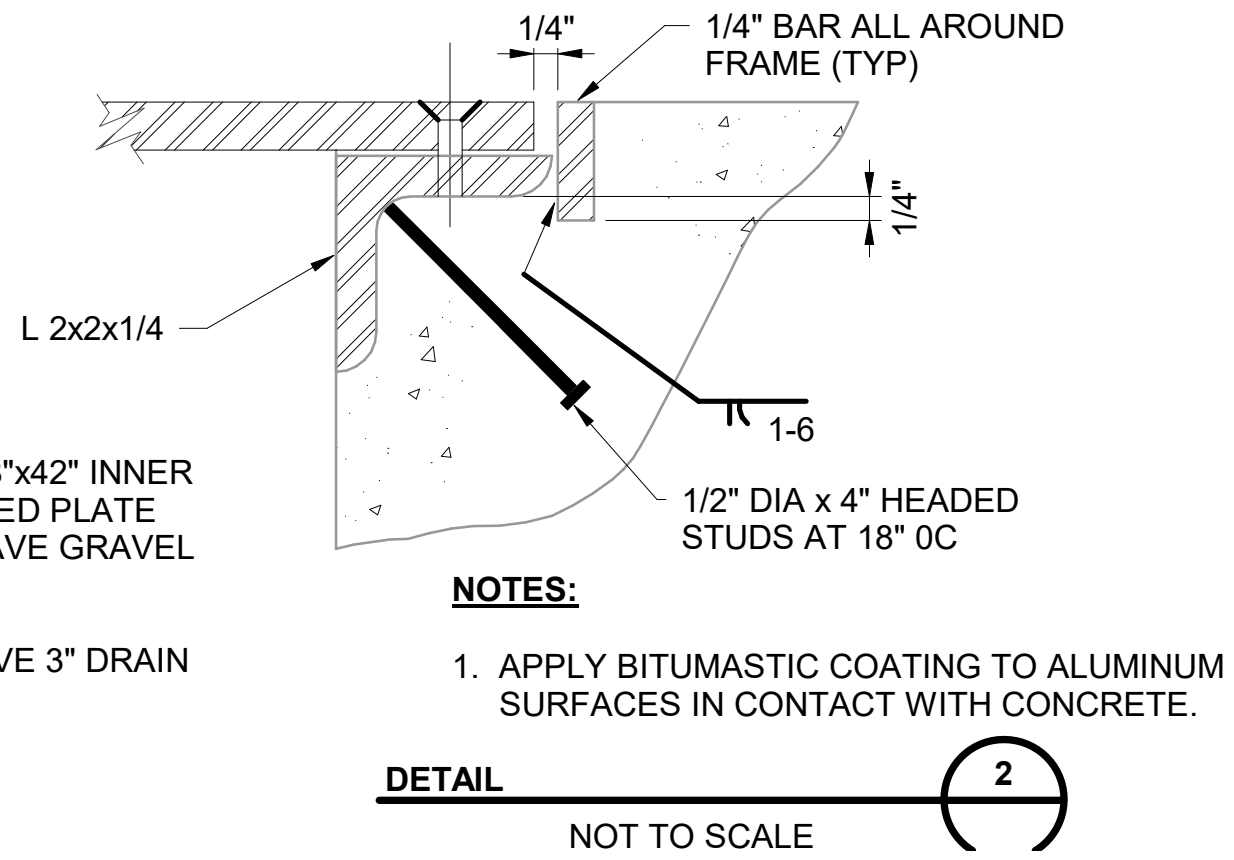
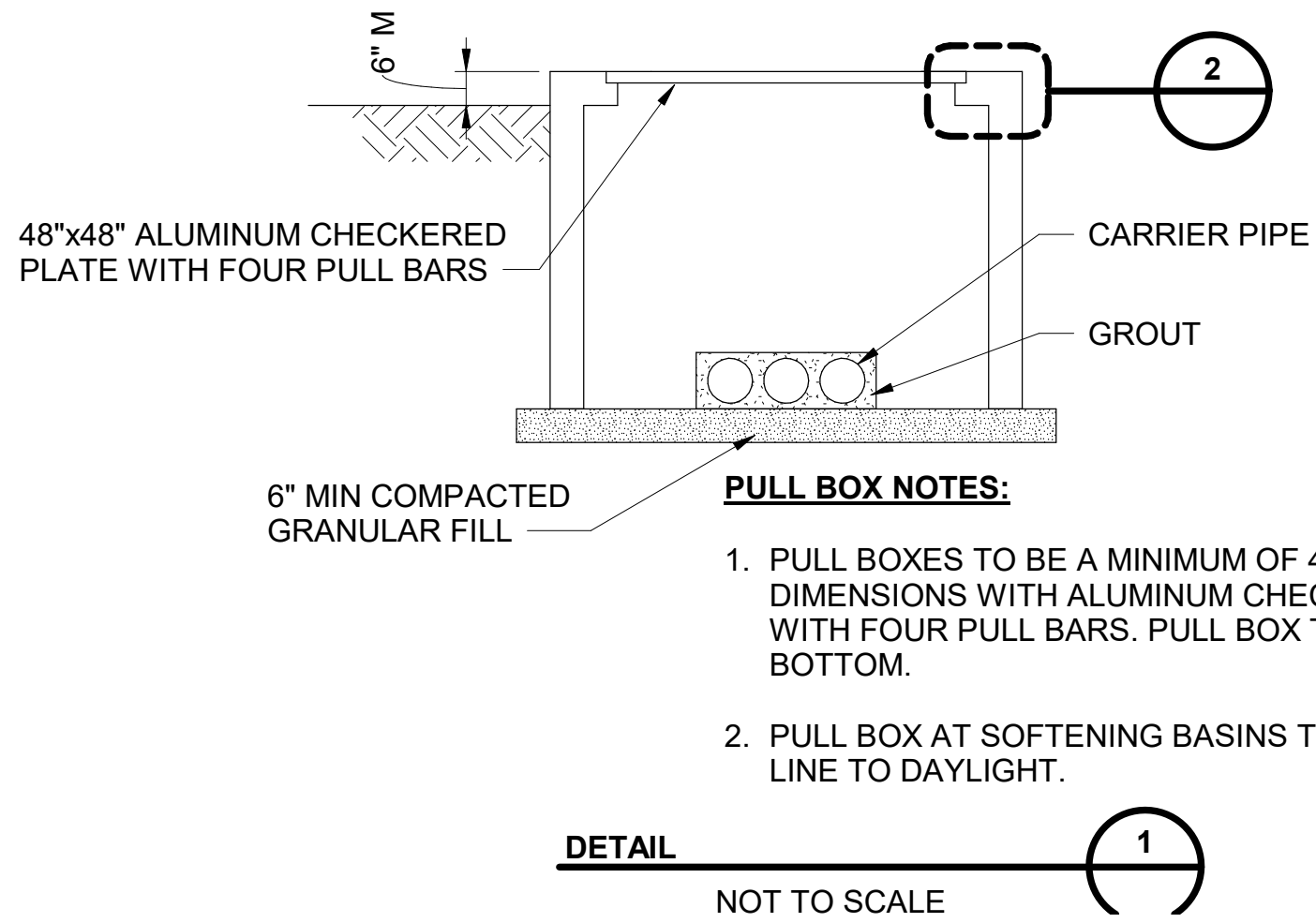
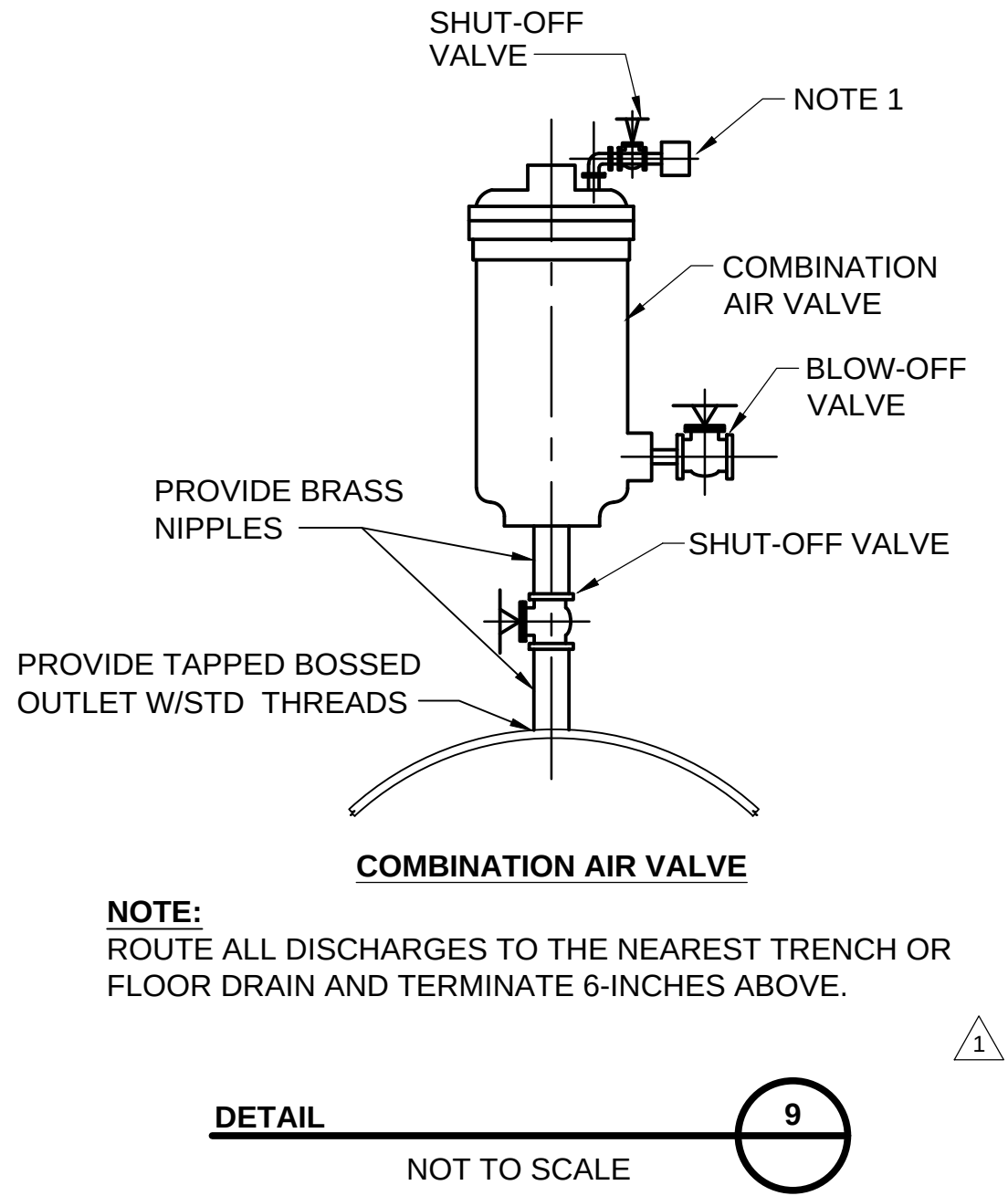
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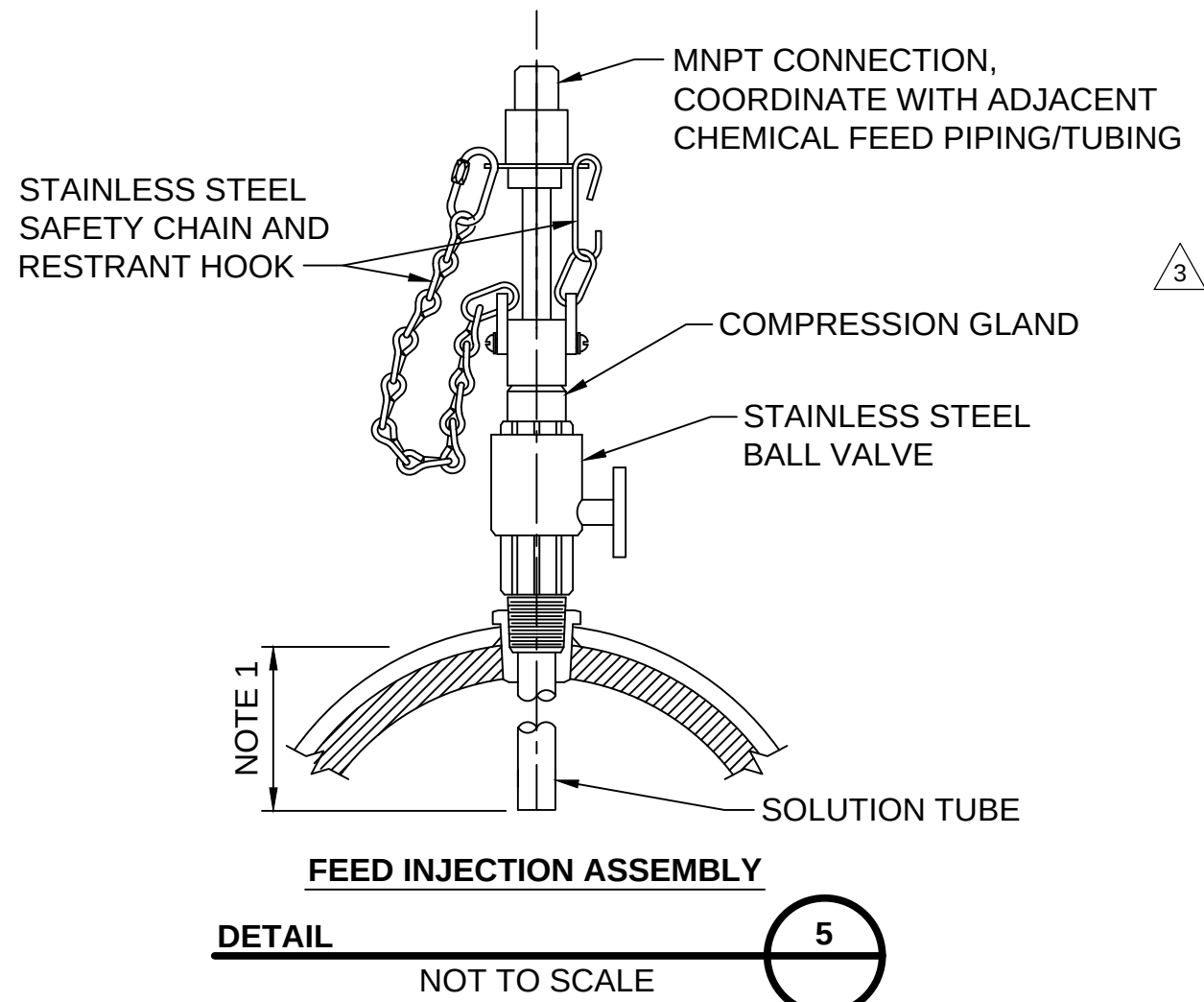
9400 WARD PARKWAY
KANSAS CITY, MO 64114
816-333-9400
BMCD LICENSE NO. E-65

CASCONSTRUCTORSLLC
AN ALBERICI ENTERPRISE

Backwash Waste Pump Station Details



Chemical Feed Pull Box
(Yard - if needed)



- NOTES:**
1. INJECTION ASSEMBLY SHALL BE SAF-T-FLO MODEL (AS INDICATED IN INJECTION ASSEMBLY TABLE) OR ENGINEER APPROVED EQUAL, RATED TO 150 PSI WORKING PRESSURE.
 2. SOLUTION TUBE SHALL EXTEND A MINIMUM OF 1/3 OF THE PIPE DIAMETER REFER TO INJECTION ASSEMBLY TABLE FOR SOLUTION TUBE LENGTHS.
 3. DESIGN-BUILDER SHALL VERIFY NPT OUTLET SIZE WITH MANUFACTURER AND ADJUST AS REQUIRED.
 4. MATERIALS SHALL BE SUITABLE FOR CHEMICAL AND COMPATIBLE WITH POTABLE WATER SUPPLY APPLICATIONS. WETTED MATERIALS TO BE NSF 61 CERTIFIED.
 5. ORIENTATION OF INJECTION ASSEMBLY AND PIPE TAP AS INDICATED ON PLAN DRAWINGS AT CHEMICAL INJECTION LOCATION. ADDITIONAL VALVES OR ACCESSORIES IDENTIFIED ON P&IDS.

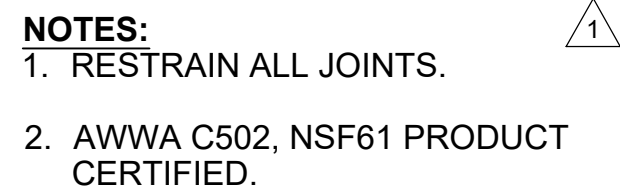
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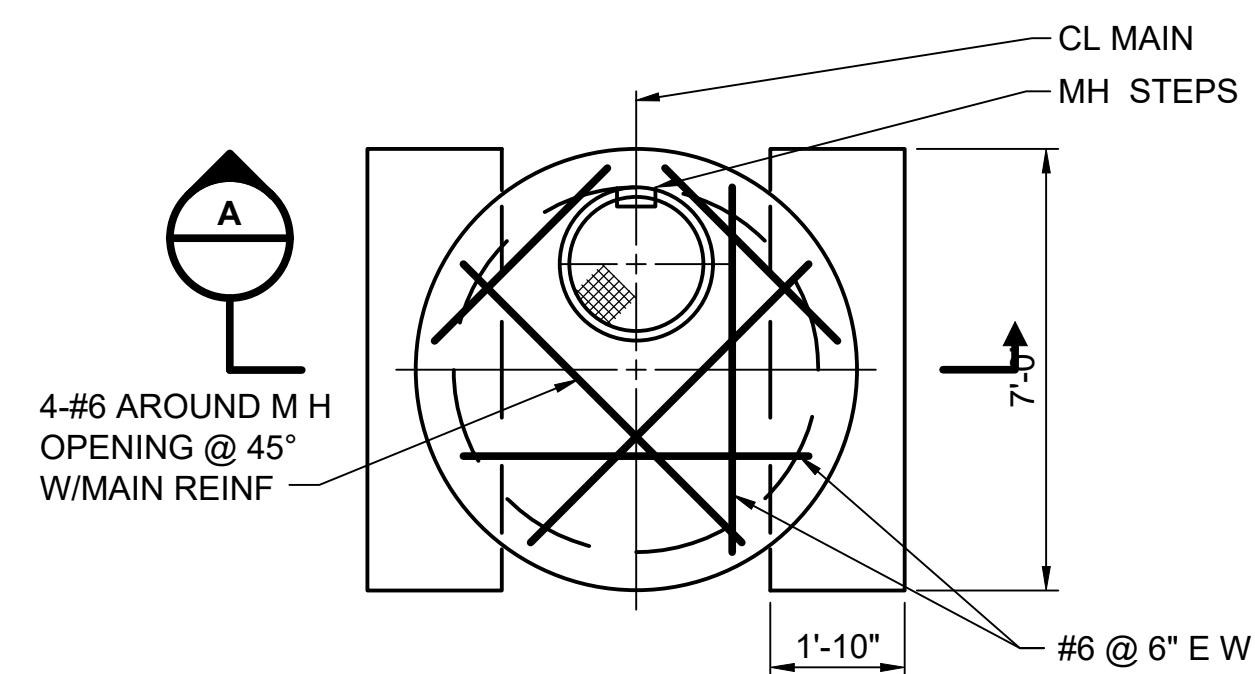
**Miscellaneous
Process Details**



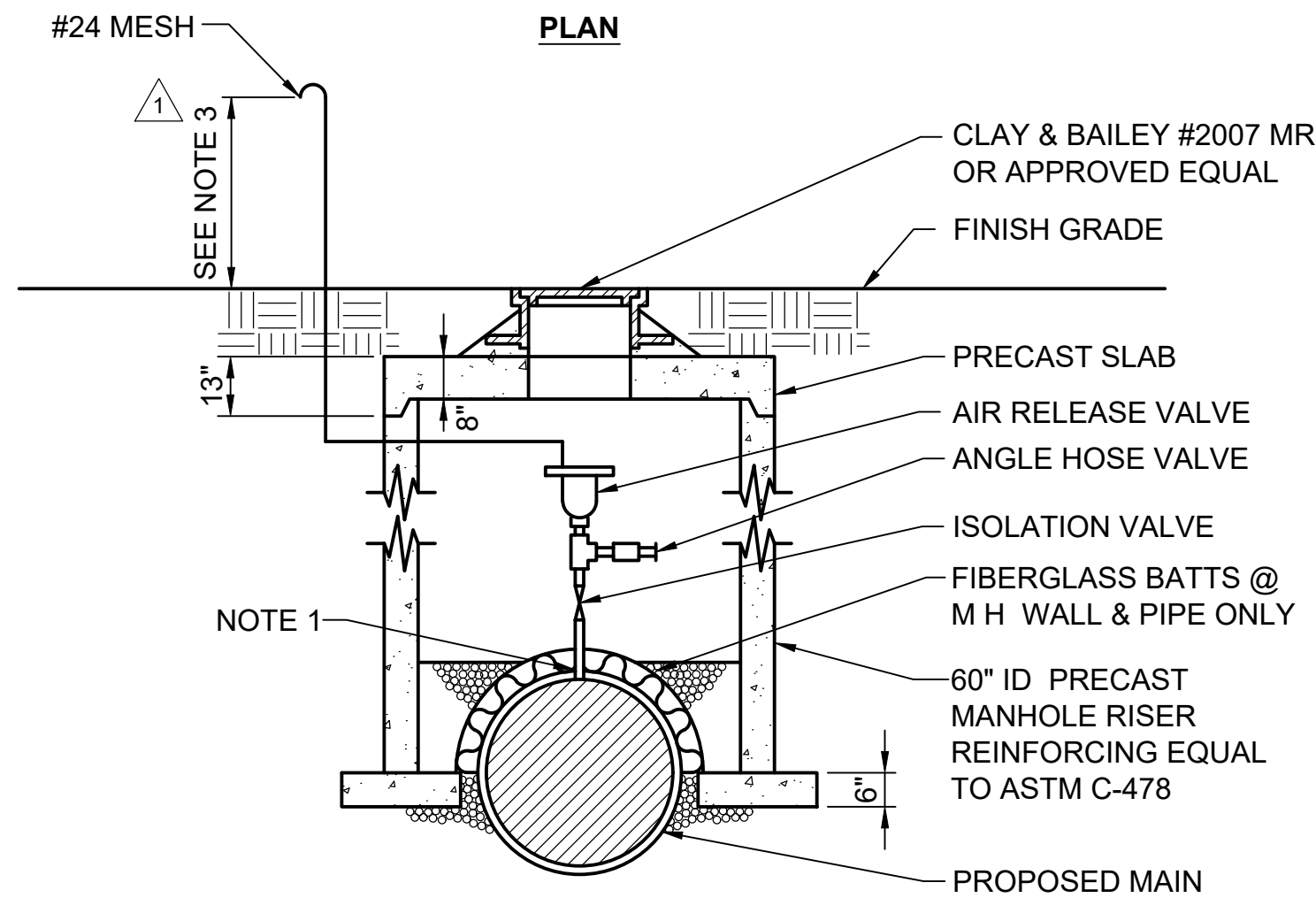
DETAIL 8

**FIRE HYDRANT &
ISOLATION VALVE**

NOT TO SCALE



PLAN

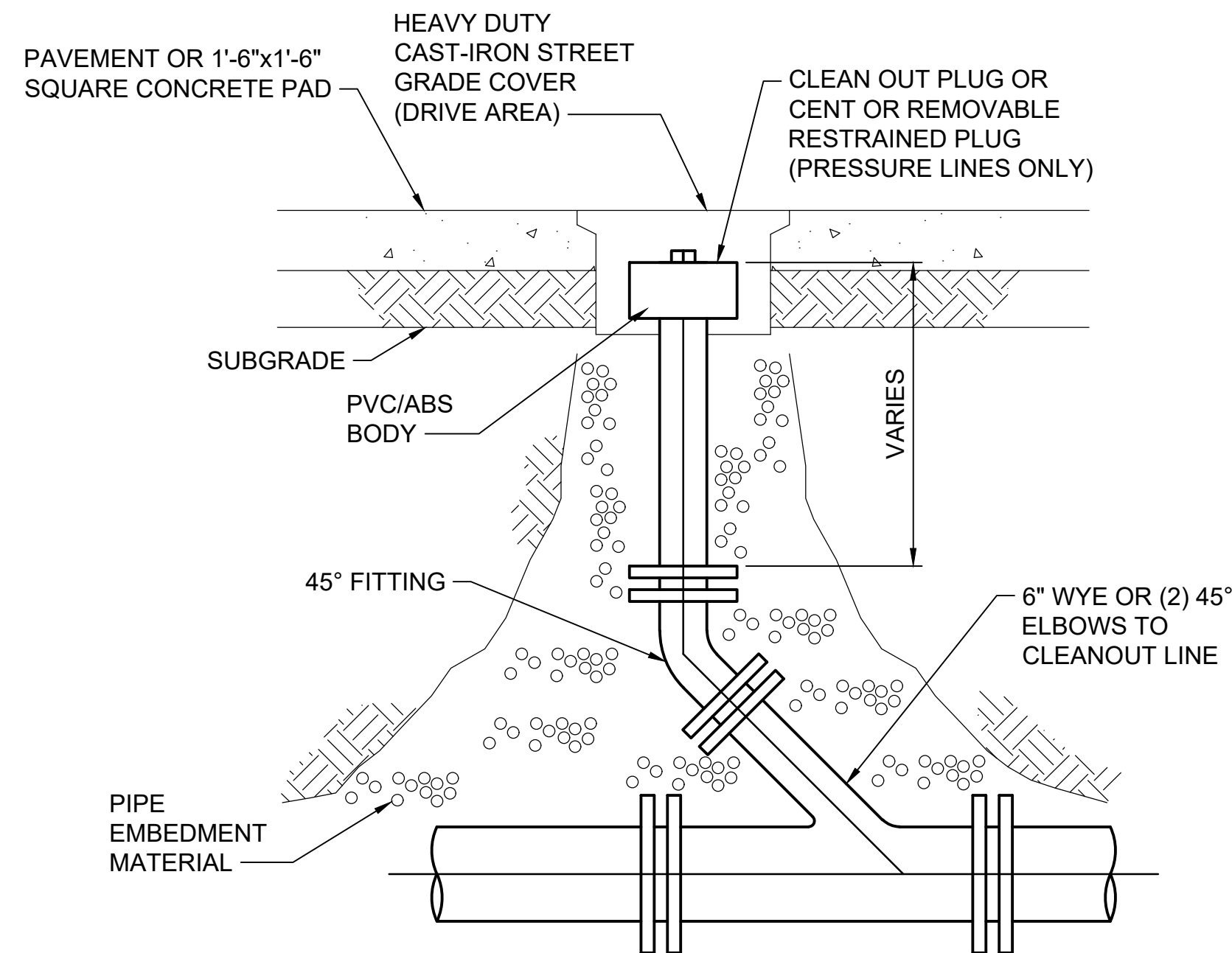


SECTION A
NOT TO SCALE

NOTE:

1. PROVIDE TAPPING SADDLE SIZE AND MATERIAL AS APPROPRIATE, VARIES BY LOCATION.
2. COORDINATE VALVE SIZES WITH AIR RELEASE VALVE SIZE.
3. ARV DISCHARGE ELEVATION TO BE AS INDICATED ON THE PLAN DRAWINGS, BUT NOT LESS THAN 3' ABOVE GRADE.
4. ARV DISCHARGE PIPING TO BE 2" SCH 80 PVC BELOW GRADE OR BLACK STEEL PIPE ABOVE GRADE. (1) (2)

AIR RELEASE VALVE DETAIL
NOT TO SCALE



CLEANOUT DETAIL
NOT TO SCALE

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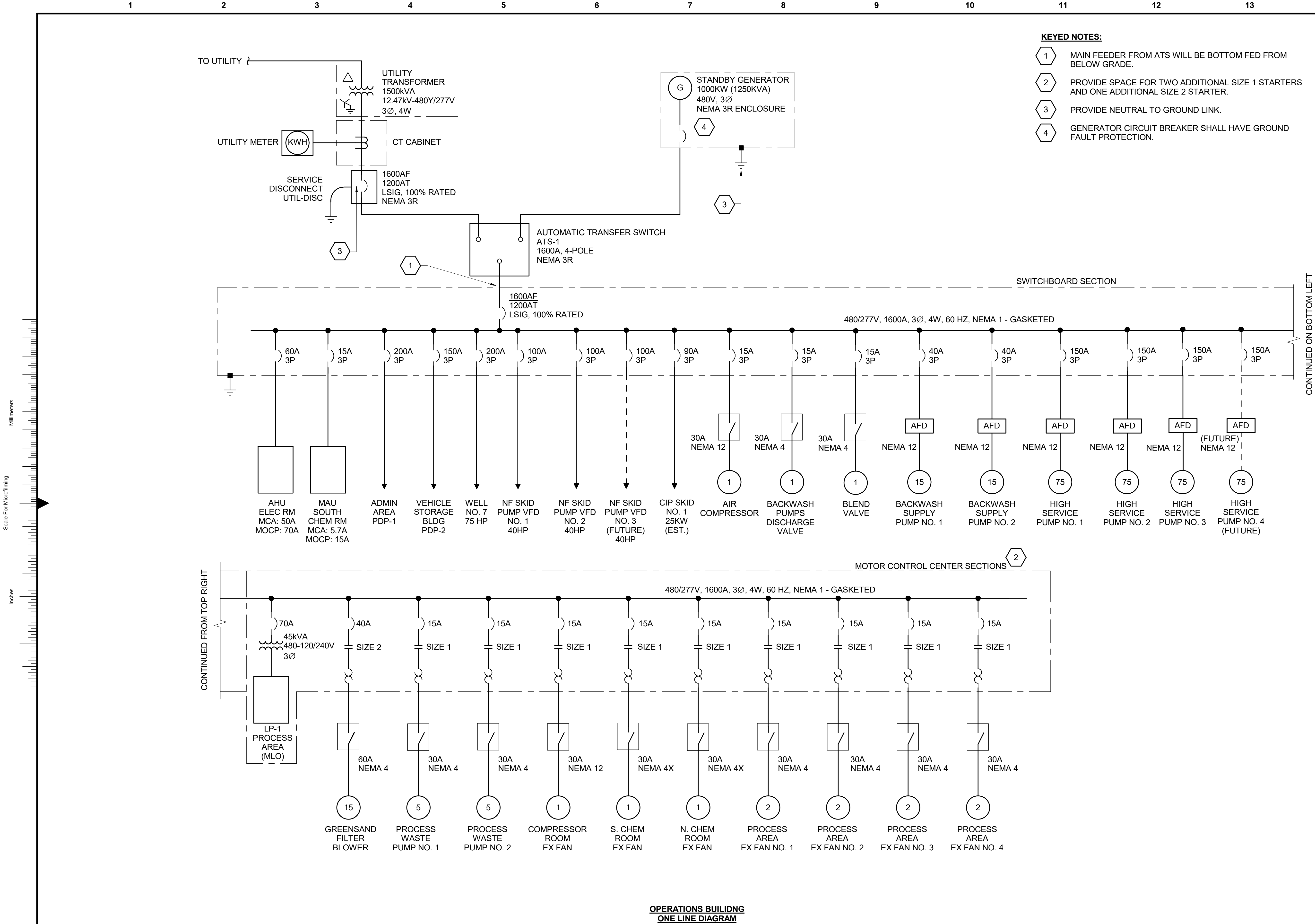


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LICENSE NO. E-65



Miscellaneous Civil Pipe Details

ONE-LINE AND CONTROL DIAGRAMS					PLANS					TAG DESIGNATION SCHEMES					no.	date	by	ckd	description
LINES AND TERMINALS		LOADS/SOURCES			LINES		LIGHTING			LUMINAIRE TAG SCHEME									
</																			



no.	date	by	ckd	description
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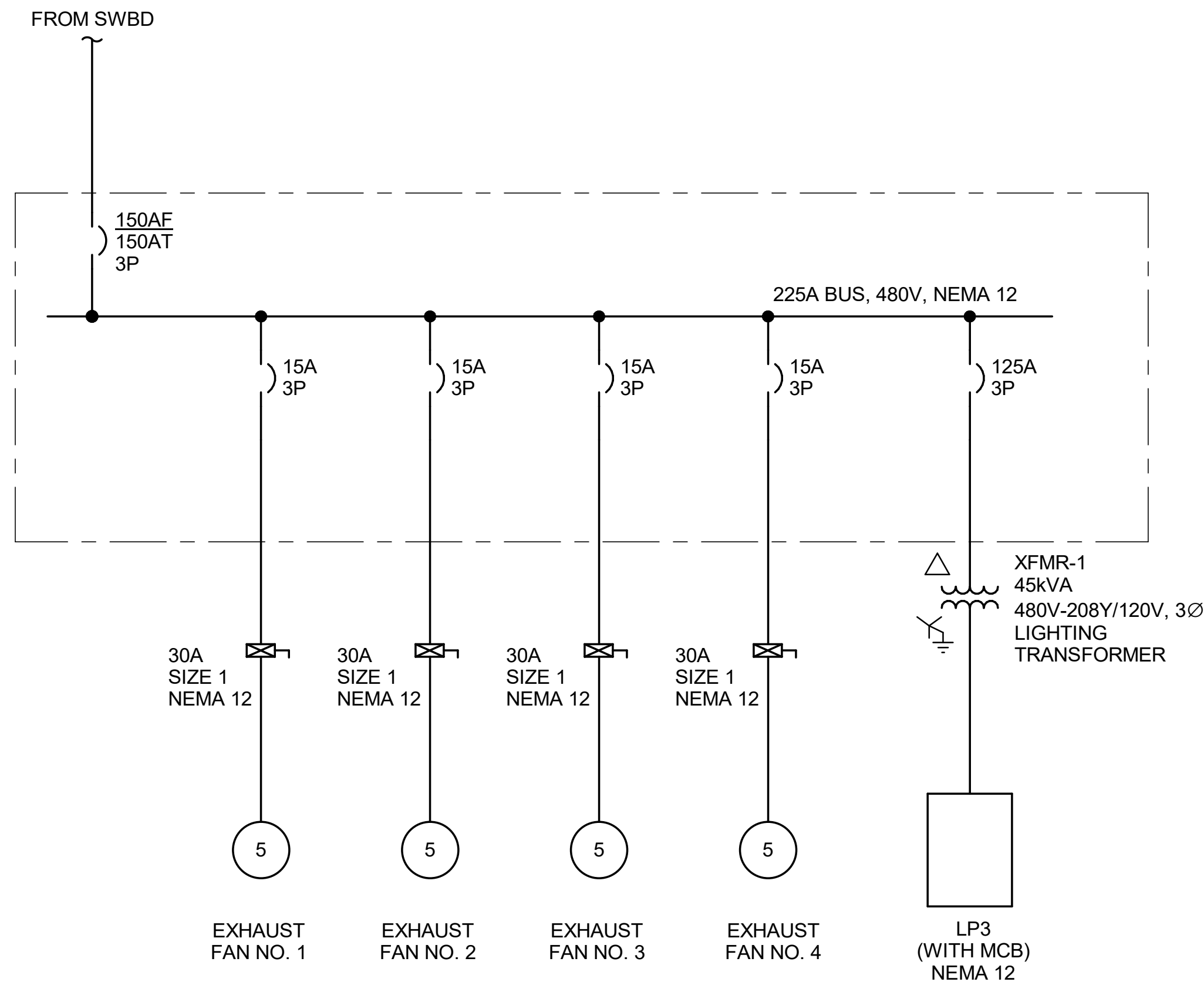
CASCONSTRUCTORSLLC
AN ALBERICI ENTERPRISE

date APRIL 28, 2022	detailed A. ZUBECK
designed A. KINEL	checked


BONNER SPRINGS, KANSAS

WTP
OPERATIONS BUILDING
ONE-LINE DIAGRAM

project 138337	contract
drawing E002	rev. -
sheet	of
file	



VEHICLE STORAGE BUILDING
PDP-2 ONE LINE DIAGRAM

no.	date	by	ckd	description
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date APRIL 28, 2022	detailed A. ZUBECK
designed A. KINEL	checked

designed A. KINEL	checked
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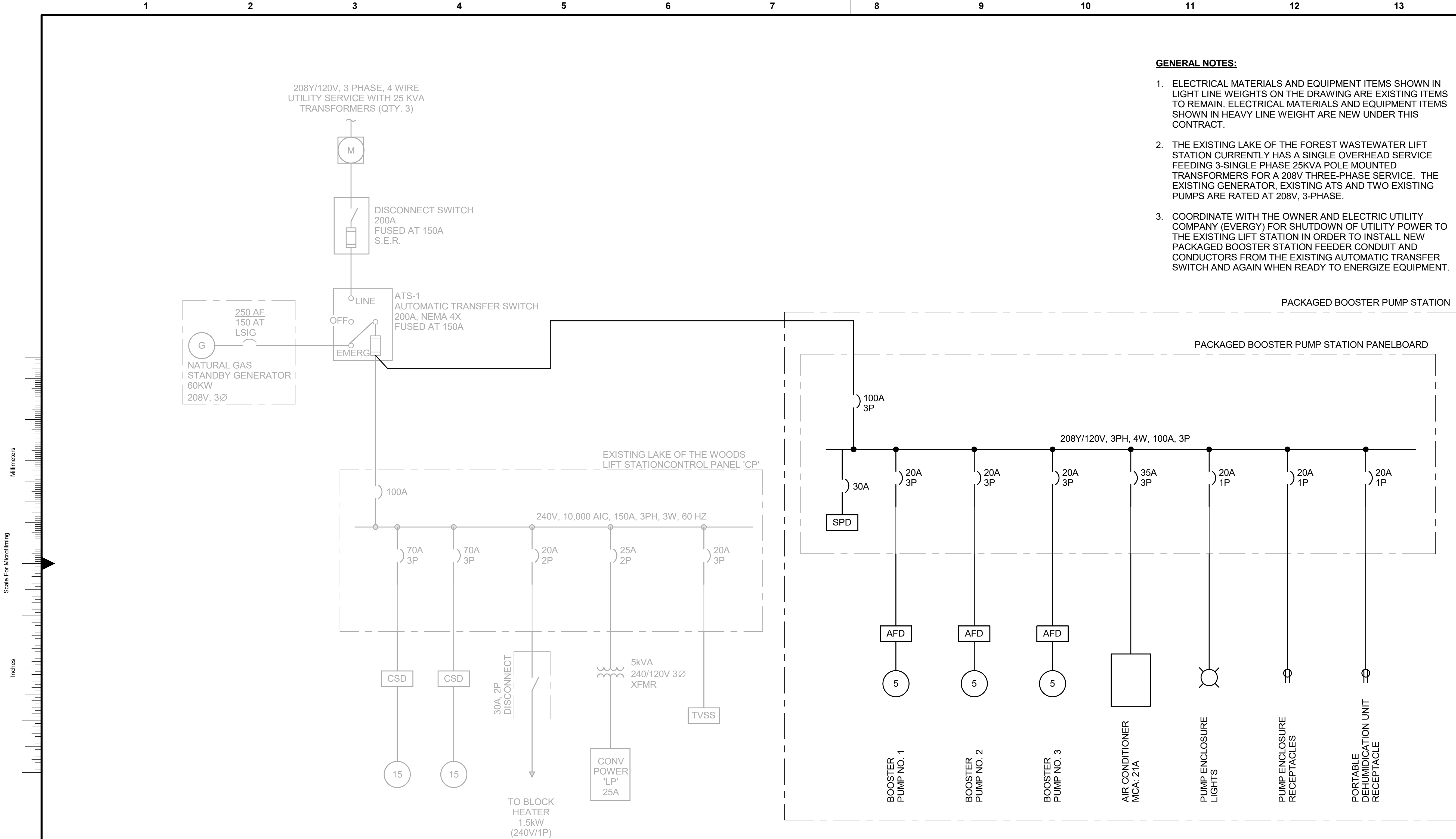
BONNER SPRINGS, KANSAS

WTP
VEHICLE STORAGE BUILDING
PDP ONE-LINE DIAGRAM

project	contract
138337	
drawing	rev.
E003	—
sheet	of
file	

drawing		rev.
E003 —		
sheet	of	
file		

sheet	of
file	



WTP LOTF ONE LINE DIAGRAM

- GENERAL NOTES:**
- ELECTRICAL MATERIALS AND EQUIPMENT ITEMS SHOWN IN LIGHT LINE WEIGHTS ON THE DRAWING ARE EXISTING ITEMS TO REMAIN. ELECTRICAL MATERIALS AND EQUIPMENT ITEMS SHOWN IN HEAVY LINE WEIGHT ARE NEW UNDER THIS CONTRACT.
 - THE EXISTING LAKE OF THE FOREST WASTEWATER LIFT STATION CURRENTLY HAS A SINGLE OVERHEAD SERVICE FEEDING 3-SINGLE PHASE 25KVA POLE MOUNTED TRANSFORMERS FOR A 208V THREE-PHASE SERVICE. THE EXISTING GENERATOR, EXISTING ATS AND TWO EXISTING PUMPS ARE RATED AT 208V, 3-PHASE.
 - COORDINATE WITH THE OWNER AND ELECTRIC UTILITY COMPANY (EVERGY) FOR SHUTDOWN OF UTILITY POWER TO THE EXISTING LIFT STATION IN ORDER TO INSTALL NEW PACKAGED BOOSTER STATION FEEDER CONDUIT AND CONDUCTORS FROM THE EXISTING AUTOMATIC TRANSFER SWITCH AND AGAIN WHEN READY TO ENERGIZE EQUIPMENT.

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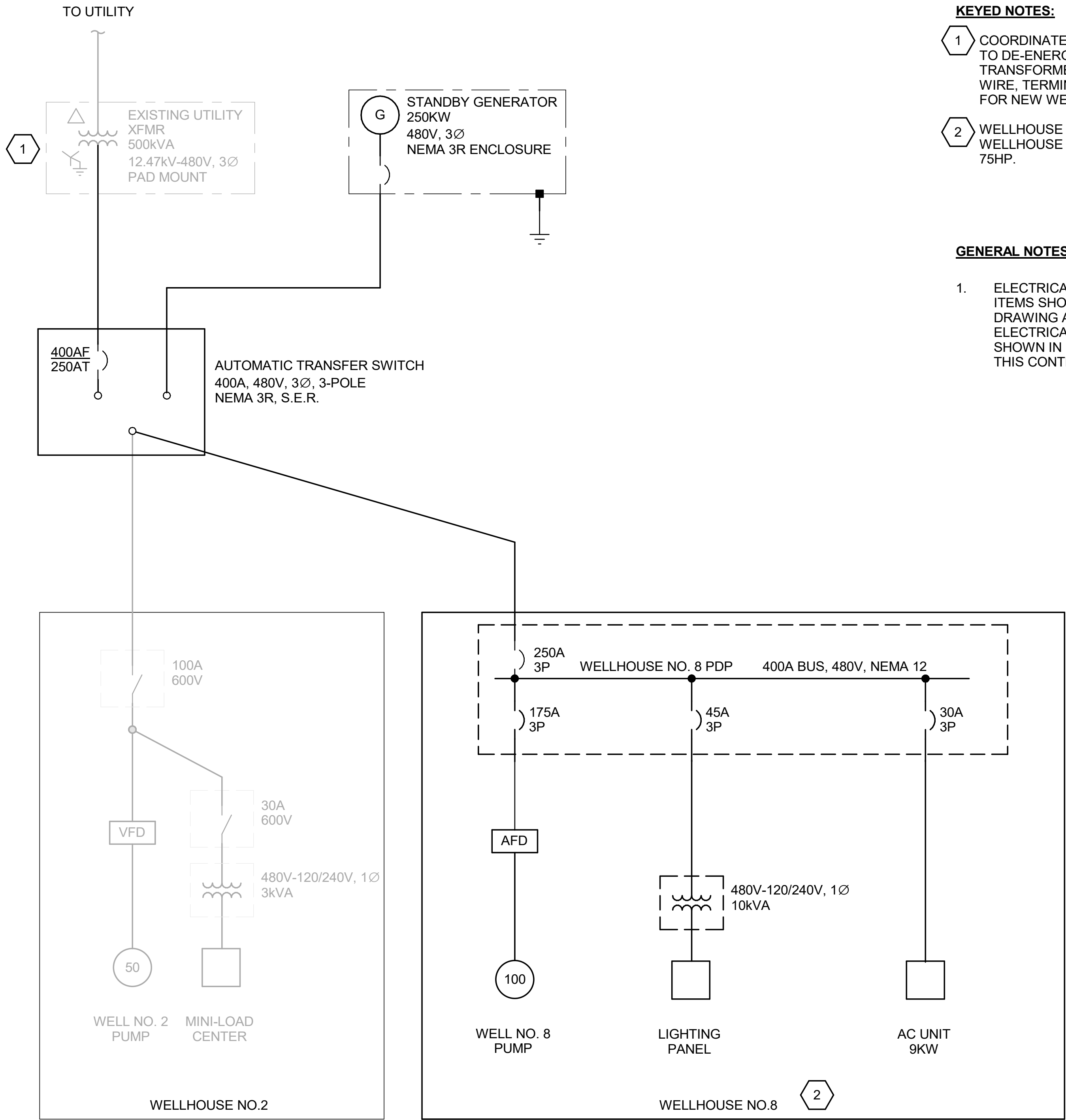
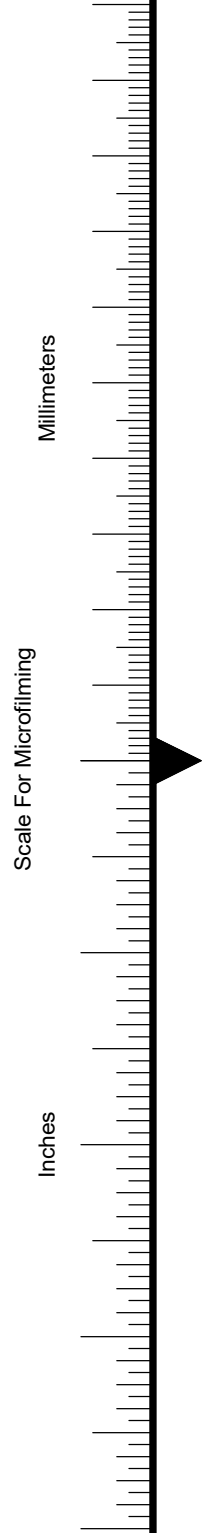
date APRIL 28, 2022	detailed A. ZUBECK
designed A. KINEL	checked



BONNER SPRINGS, KANSAS

WTP
ELECTRICAL LOTF ONE LINE DIAGRAM

project 138337	contract
drawing E004	rev. —
sheet of	file



KEYED NOTES:

- 1 COORDINATE WITH OWNER AND EVERGY TO DE-ENERGIZE THE EXISTING 500KVA TRANSFORMER IN ORDER TO INSTALL NEW WIRE, TERMINALS, LUGS, AND CONDUIT FOR NEW WELLHOUSE NO. 8.
- 2 WELLHOUSE NO. 7 DESIGN IS SIMILAR TO WELLHOUSE NO. 8 DESIGN. WELL NO. 7 IS 75HP.

GENERAL NOTES:

1. ELECTRICAL MATERIALS AND EQUIPMENT ITEMS SHOWN IN LIGHT LINE WEIGHTS ON THE DRAWING ARE EXISTING ITEMS TO REMAIN. ELECTRICAL MATERIALS AND EQUIPMENT ITEMS SHOWN IN HEAVY LINE WEIGHTS ARE NEW UNDER THIS CONTRACT.

WTP WELLS ONE LINE DIAGRAM

no.	date	by	ckd	description
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PRELIMINARY - NOT FOR CONSTRUCTION

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LICENSE NO. E-65

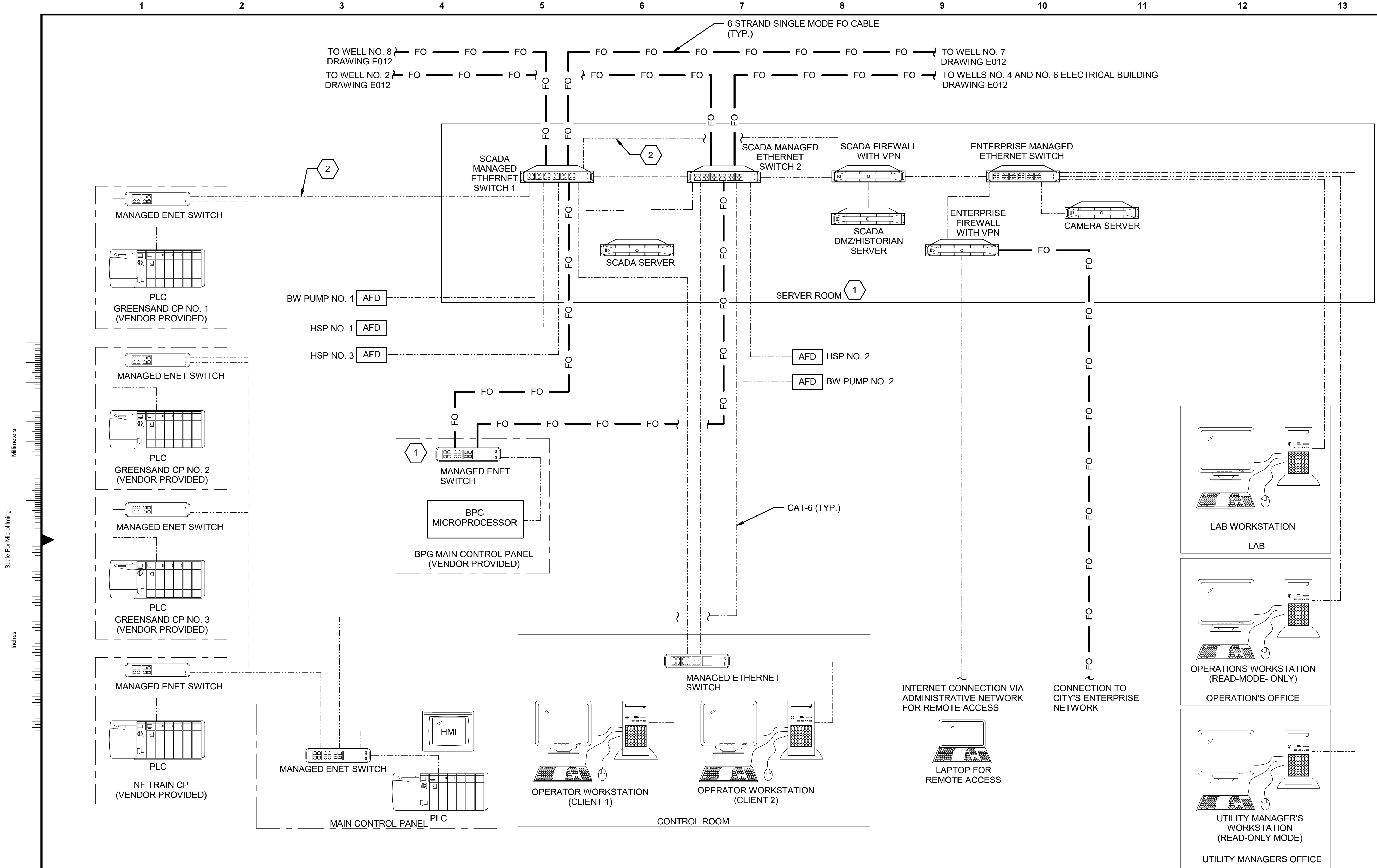
CASCONSTRUCTORSLLC
AN ALBERICI ENTERPRISE

date APRIL 28, 2022	detailed A. ZUBECK
designed A. KINEL	checked

BONNER SPRINGS, KANSAS

WTP
WELL ONE LINE DIAGRAM

project 138337	contract
drawing E005	rev. —
sheet	of
file	



KEYED NOTES:

- 1 PROVIDE AND INSTALL FIBER OPTIC PATCH PANELS AND FO PATCH CABLES. TERMINATE SINGLE MODE FO CABLE AT FIBER OPTIC PATCH PANELS.
- 2 PROVIDE MANAGED ETHERNET SWITCHES CAPABLE OF PROVIDING A ETHERNET/IP DEVICE LEVEL RING (DLR). RINGS TO WELLS ARE STANDARD RING NETWORKS.

no.	date	by	ckd	description
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Page 1

**PRELIMINARY - NOT
FOR CONSTRUCTION**



9400 WARD PARKWAY
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816-333-9400
LICENSE NO. E-65

CAS CONSTRUCTORS LLC
AN ALBERICI ENTERPRISE

date APRIL 28, 2022	detailed A. ZUBECK
designed A. KINEL	checked



BONNER SPRINGS, KANSAS

WTP
NETWORK DIAGRAM

project	contract
138337	
drawing	rev.
E011	—
sheet	of
file	

Memorandum

Date: June 27, 2022
To: Mayor and City Council
From: Justine Spease

Subject: North Park Restroom Purchase

Recommendation: The Recreation Manager recommends approval.

Action: Make a motion to approve the purchase of a pre-fabricated restroom through CXT, Inc., for the amount of \$74,005.

Background: The budget for this project was approved for use in 2020, then due to COVID-19, the project was pushed back to 2022. Staff researched many different options for the installation of a restroom in North Park and deemed that a flush-style, pre-fabricated restroom would be the best option for the funds available.

Discussion: The Sourcewell contract with the proposed restroom manufacturer, CXT, is effective from October 15, 2021 - October 15, 2025. This contract was found through the Kansas City Regional Purchasing Cooperative website. As this purchase is not part of a Federal or FEMA grant, Section 21 of the cooperative purchasing contract does not apply.

Wilson Co. prepared a bid package and engineering design for the installation of the restroom just west of the existing shelter at North Park. The project is estimated to be completed by the end of this fall.

Financial Impact: Of the \$200,000 budgeted for use on this project, the pre-fabricated restroom will total \$74,005 after shipping. This leaves \$125,087 for remaining engineering services and installation of the structure. \$908 has already been paid to the engineers for their services, which were estimated at \$4,000. The engineers estimate bids for installation will come in close to \$70,000.



CXT® Precast Concrete Products manufactures restroom, shower and concession buildings in multiple designs, textures and colors. The roof and walls are fabricated with high strength precast concrete to meet all local building codes and textured to match local architectural details. All CXT buildings are designed to meet A.D.A. and to withstand heavy snow, high wind and category E seismic loads. All concrete construction also makes the buildings easy to maintain and withstand the rigors of vandalism. The buildings are prefabricated and delivered complete and ready-to-use, including plumbing and electrical where applicable. With thousands of satisfied customers nationwide, CXT is the leader in prefabricated concrete restrooms.

1. ORDERING ADDRESS(ES): CXT Precast Concrete Products, 606 N. Pines Road, Suite 202, Spokane Valley, WA 99206

2. ORDERING PROCEDURES: Fax 509-928-8270

3. PAYMENT ADDRESS(ES):

Remitting by check:

CXT, Inc., PO Box 643343, Pittsburgh, PA 15264-3343

Remitting by ACH or wire transfer:

Beneficiary: CXT, Inc.

Beneficiary Bank: PNC Bank, Pittsburgh, PA

Account: 1019282233 ABA/Routing: 043000096

Email remittance details to AR@lbfoster.com

4. WARRANTY PROVISIONS: CXT provides a one (1) year warranty. The warranty is valid only when concrete is used within the specified loadings. Furthermore, said warranty includes only the related material necessary for the construction and fabrication of said concrete components. All other non-concrete components will carry a one (1) year warranty. CXT warrants that all goods sold pursuant hereto will, when delivered, conform to specifications set forth above. Goods shall be deemed accepted and meeting specifications unless notice identifying the nature of any non-conformity is provided to CXT in writing within the specified warranty. CXT, at its option, will repair or replace the goods or issue credit for the customer provided CXT is first given the opportunity to inspect such goods. It is specifically understood that CXT's obligation hereunder is for credit, repair or replacement only, F.O.B. CXT's manufacturing plants, and does not include shipping, handling, installation or other incidental or consequential costs unless otherwise agreed to in writing by CXT.

This warranty shall not apply to:

1. Any goods which have been repaired or altered without CXT's express written consent, in such a way as in the reasonable judgment of CXT, to adversely affect the stability or reliability thereof;

2. To any goods which have been subject to misuse, negligence, acts of God or accidents; or

3. To any goods which have not been installed to manufacturer's specifications and guidelines, improperly maintained, or used outside of the specifications for which such goods were designed.

5. TERMS AND CONDITIONS OF INSTALLATION (IF APPLICABLE): All prices subject to the "Conditions of Sale" listed on the CXT quotation form.

Customers are responsible for marking exact location building is to be set; providing clear and level site, free of overhead and/or underground obstructions; and providing site accessible to normal highway trucks and sufficient area for the crane to install and other equipment to perform the contract requirements. Customer shall provide notice in writing of low bridges, roadway width or grade, unimproved roads or any other possible obstacles to access. CXT reserves the right to charge the customer for additional costs incurred for special equipment required to perform

delivery and installation. Customers will negotiate installation on a project-by-project basis, which shall be priced as separate line items. For more information regarding installation and truck turning radius guidelines please see our website at <http://www.cxtinc.com>.

In the event delivery of the building/s ordered is/are not completed within 30 days of the agreed to schedule through no fault of CXT, an invoice for the full contract value (excluding shipping and installation costs) will be submitted for payment. Delivery and installation charges will be invoiced at the time of delivery and installation.

Should the delivery and installation costs increase due to changes in the delivery period, this increase will be added to the price originally quoted, and will be subject to the contract payment terms.

In the event that the delivery is delayed more than 90 days after the agreed to schedule and through no fault of CXT, then in addition to the remedies above, a storage fee of 1-½% of contract price per month or any part of any month will be charged.

****Customer is responsible for all local permits and fees.**

6. DELIVERY CHARGE: All prices F.O.B. origin prepaid and added to invoice. CXT operates three (3) manufacturing plants in the United States and will deliver from the closest location on our carriers.

7. PAYMENT TERMS: Payment to CXT by the purchaser shall be made net 30 days after submission of the invoice to the purchaser on approved credit. Interest at a rate equal to the lower of (i) the highest rate permitted by law; or (ii) 1.5% per month will be charged monthly on all unpaid invoices beginning with the 35th day (includes five (5) day grace period) from the date of the invoice. Under no circumstance can retention be taken. If CXT initiates legal proceeding to collect any unpaid amount, purchaser shall be liable for all of CXT's costs, expenses and attorneys' fees and costs of any appeal.

8. LIMITATION OF REMEDIES: In the event of any breach of any obligations hereunder; breach of any warranty regarding the goods, or any negligent act or omission of any party, the parties agree to submit all claims to binding arbitration. Any settlement reached shall include all reasonable costs including attorney fees. In no event shall CXT be subject to or liable for any incidental or consequential damages. Without limitation on the foregoing, in no event shall CXT be liable for damages in excess of the purchase price of the goods herein offered.

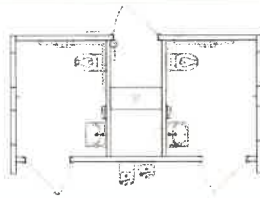
9. DELIVERY INFORMATION: All prices F.O.B. origin prepaid and added to invoice. CXT operates three (3) manufacturing plants in the United States and will deliver from the closest location on our carriers. Use the information below to determine the origin:

- F.O.B. 6701 E. Flamingo Avenue, Building 300, Nampa, ID 83687 applies to: AK, CA, HI, ID, MT, ND, NV, OR, SD, UT, WA, WY.

- F.O.B. 901 North Highway 77, Hillsboro, TX 76645 applies to AR, AZ, CO, IA, KS, LA, MN, MO, MS, NE, NM, OK, TX.

- F.O.B. 362 Waverly Road, Williamstown, WV 26183 applies to AL, CT, DE, FL, GA, IL, IN, KY, MA, MD, ME, MI, NC, NH, NJ, NY, OH, PA, PR, RI, SC, TN, VA, VT, WI, WV.

- Prices exclude all federal/state/local taxes. Tax will be charged where applicable if customer is unable to provide proof of exemption.



Cortez with chase restroom building. Standard features include simulated barnwood texture walls, simulated cedar shake textured roof, vitreous china fixtures, interior and exterior lights, off loaded and set up at site.

Cortez 10' 3" x 17'

*Base Price \$ 53,955.00

Optional Sections:

Restroom* \$53,955 Qty: = \$0.00	Shower* \$65,250 Qty: = \$0.00
Family Assist Shower/Restroom Combo* \$62,955 Qty: = \$0.00	Storage \$49,950 Qty: = \$0.00
Concession* \$62,550 Qty: = \$0.00	
*Includes 4-gallon water heater.	
Total Optional Sections	
0.00	

Added Cost Options:

		Price Per Unit		
Final Connection to Utilities		\$	3,500.00	☒
				3,500.00
(per section)	Optional Wall Texture -choose one	☒ Split Face Block (\$4,000)	☒ Struck Trowel (\$4,000)	☒ Stone (\$5,000)
	Reset Wall Texture			0.00
(per section)	Optional Roof Texture -choose one	☐ Delta Rib	\$	4,000.00
				0.00
Insulation / Heaters		\$	19,500.00	☐
				0.00
Stainless Steel Water Closet (each)		Qty:	\$	1,500.00
				☐
Stainless Steel Lavatory (each)		Qty:	\$	1,100.00
				☐
Electric Hand Dryer (each)		Qty: 2	\$	700.00
				☒
				1,400.00
Electronic Flush Valves (each)		Qty:	\$	750.00
				☐
Electronic Lavatory Faucets (each)		Qty:	\$	750.00
				☐
Exterior Mounted ADA Drinking Fountain (each)		Qty:	\$	4,500.00
				☐
Optional Door Closure (each)		Qty: 2	\$	450.00
				☒
				900.00
Skylight in Restroom (each)		Qty:	\$	950.00
				☐
Marine Grade Skylight in Restroom (each)		Qty:	\$	2,450.00
				☐
Marine Package for Extra Corrosion Resistance (per section)			\$	2,450.00
				☐
				0.00
Fiberglass Entry and Chase Doors and Frames		Qty:	\$	1,000.00
				☐
				0.00
Tile Floor in Restroom (per section)			\$	4,500.00
				☐
				0.00
2K Anti-Graffiti Coating (per section)			\$	3,500.00
				☒
				3,500.00
Timed Electric Lock System (2 doors - does not include chase door)		Qty: 2	\$	600.00
				☒
				1,200.00
Exterior Frostproof Hose Bib with Box (each)		Qty:	\$	500.00
				☐
				0.00
Paper Towel Dispenser (each)		Qty:	\$	200.00
				☐
				0.00
Toilet Seat Cover Dispenser (each)		Qty:	\$	100.00
				☐
				0.00
Sanitary Napkin Disposal (each)		Qty:	\$	75.00
				☐
				0.00
Baby Changing Station (each)		Qty: 2	\$	675.00
				☒
				1,350.00
CXT Wastebasket (each)		Qty:	\$	150.00
				☐
				0.00
Total Cost of Selected Accessories from Accessories Price List:			\$	11,850.00

Custom Options:

	\$
Engineering and State Fees:	\$ 3,000.00
Estimated One-Way Transportation Costs to Site (quote):	\$ 5,200.00
Estimated Tax:	\$
Total Cost per Unit Placed at Job Site:	\$ 74,005.00

Estimated monthly payment on 5 year lease \$1,487.50

Disclaimer: Please call to confirm selected sections are compatible.

This price quote is good for 60 days from date below, and is accurate and complete.

Rich Edwards

Digitally signed
by Rich Edwards
Date:
2022.02.28
08:57:31 -06'00'

CXT Sales Representative

Date



I accept this quote. Please process this order.

Company Name

Customer

Date

OPTIONS

Exterior Color Options:

(For single color mark an X or for two tone combinations use W = Walls / R = Roof.)

☐ Amber Rose	☐ Liberty Tan	☐ Berry Mauve	☐ Sage Green
☐ Toasted Almond	☐ Oatmeal Buff	☐ Buckskin	☐ Rosewood
☐ Sun Bronze	☐ Golden Beige	☐ Mocha Carmel	☐ Malibu Taupe
☒ W Sand Beige	☐ Natural Honey	☐ Salsa Red	☐ Java Brown
☐ Pueblo Gold	☐ Cappuccino Cream	☐ Coca Milk	☐ Raven Black
☐ Granite Rock	☐ Georgia Brick	☐ Western Wheat	☐ Nuss Brown
☐ Rich Earth	☐ Charcoal Grey	☐ Hunter Green	☒ R Evergreen

Special roof color # _____

Special wall color # _____

Special trim color # _____

(Sage green, hunter and evergreen colors are not available in colored through concrete.)

Rock Color Options:

☐ Basalt ☐ Mountain Blend ☐ Natural Grey ☒ Romana

Roof Texture Options:

☒ Cedar Shake ☐ Ribbed Metal

Wall Texture Options:

(For single texture mark an X or for different top and bottom textures use T = Top / B = Bottom.)

Barnwood	Horizontal Lap	} Can only be used as bottom texture.
Split Face Block	T Board & Batt	
Stucco/Skip Trowel	Brick	
		B Napa Valley Rock
		River Rock
		Flagstone

(Textures not included in CXT's quote are additional cost.)

Door Opener Options:

☐ Non-locking ADA Handle ☐ Pull Handle/Push Plate
☒ Privacy ADA Latch

Deadbolt Options:

☒ CXT Supplied ☐ Customer Supplied: _____
 Type & Part Number

Accessible Signage Options:

☐ Men ☐ Women ☒ Unisex

Paper Holder Options:

☐ 2-Roll Stainless Steel ☒ 3-Roll Stainless Steel

Notes:



**SOURCEWELL
STATE OF MINNESOTA**

Member Thomas moved the adoption of the following Resolution:

RESOLUTION TO APPROVE SOLICITATION AND/OR RE-SOLICITATION OF CATEGORIES

Resolution No. 2021-11

WHEREAS, Sourcewell desires to issue a solicitation, and is seeking permission from the Board to issue a solicitation, for the categories listed on Appendix A, which is attached and incorporated.

WHEREAS, through the Sourcewell Procurement Policy, the Board designated the Chief Procurement Officer to administer Sourcewell's cooperative purchasing and contracting program; and

WHEREAS, the Chief Procurement Officer recommends approval of categories detailed above.

NOW THEREFORE BE IT RESOLVED that the Board of Directors hereby approves the solicitation of categories.

The motion for the adoption of the foregoing resolution was duly seconded by Member Thiel

and the following voted in favor: (list names here)

wilson, Zylka, Veronen, Nagel, Thomas, Thiel, Arts and Kircher

and the following voted against: (list names here or "NONE")

None

whereupon said resolution was declared duly passed and adopted.

ATTEST:

DocuSigned by:

Sara Nagel

CF62F09F8AFC4BB...

Clerk to the Board of Directors

APPENDIX A

SOURCEWELL PROCUREMENT DEPARTMENT
BOARD ITEMS - May 2021

CONSENT AGENDA ITEMS

Requesting Board permission to Solicit the following categories:

Requesting Board permission to Re-Solicit the following categories:

Tires and Related Equipment, Supplies, and Services
Restrooms and Related Solutions
 Roadway Construction Equipment

NEW CONTRACTS

Supplier Name	Contract Number	Solicitation Title
Epson America, Inc.	030321-EPS	"Copiers, Printers, and Multi-Function Devices with Related Supplies, Accessories and Services"
HP, Inc.	030321-HPC	"Copiers, Printers, and Multi-Function Devices with Related Supplies, Accessories and Services"
Konica Minolta Business Solutions USA, Inc.	030321-KON	"Copiers, Printers, and Multi-Function Devices with Related Supplies, Accessories and Services"
Ricoh USA, Inc.	030321-RCH	"Copiers, Printers, and Multi-Function Devices with Related Supplies, Accessories and Services"
Sharp Electronics Corporation	030321-SEC	"Copiers, Printers, and Multi-Function Devices with Related Supplies, Accessories and Services"
Toshiba America Business Solutions, Inc.	030321-TOS	"Copiers, Printers, and Multi-Function Devices with Related Supplies, Accessories and Services"
Xerox Corporation	030321-XOX	"Copiers, Printers, and Multi-Function Devices with Related Supplies, Accessories and Services"
Convergint Technologies, LLC	030421-CTL	"Facility Security Systems, Equipment, and Software with Related Services"
Johnson Controls Fire Protection, LP	030421-JHN	"Facility Security Systems, Equipment, and Software with Related Services"
Siemens Industry, Inc.	030421-SIE	"Facility Security Systems, Equipment, and Software with Related Services"
Stanley Convergent Security Solutions, Tyco Integrated Fire and Security dba Johnson Controls	030421-SCS	"Facility Security Systems, Equipment, and Software with Related Services"
	030421-TIS	"Facility Security Systems, Equipment, and Software with Related Services"
Ariens Company	031121-ACO	"Grounds Maintenance Equipment, Attachments, and Accessories with Related Services"
Bobcat Company	031121-CEC	"Grounds Maintenance Equipment, Attachments, and Accessories with Related Services"
Cub Cadet	031121-MTD	"Grounds Maintenance Equipment, Attachments, and Accessories with Related Services"
Deere & Company	031121-DAC	"Grounds Maintenance Equipment, Attachments, and Accessories with Related Services"
Generac Power Systems	031121-GNR	"Grounds Maintenance Equipment, Attachments, and Accessories with Related Services"
Husqvarna Professional Products	031121-HSQ	"Grounds Maintenance Equipment, Attachments, and Accessories with Related Services"
Hustler Turf Equipment Inc.	031121-THE	"Grounds Maintenance Equipment, Attachments, and Accessories with Related Services"
Kubota Tractor Corporation	031121-KBA	"Grounds Maintenance Equipment, Attachments, and Accessories with Related Services"
Old Dominion Brush Company	031121-ODB	"Grounds Maintenance Equipment, Attachments, and Accessories with Related Services"
Scag Power Equipment Inc.	031121-SCG	"Grounds Maintenance Equipment, Attachments, and Accessories with Related Services"
The Toro Company	031121-TTC	"Grounds Maintenance Equipment, Attachments, and Accessories with Related Services"
Woods Equipment Company	031121-WDE	"Grounds Maintenance Equipment, Attachments, and Accessories with Related Services"
Morbark, LLC	031721-MBI	"Tree Maintenance Equipment, Attachments and Accessories"
Vermeer Corporation	031721-VRM	"Tree Maintenance Equipment, Attachments and Accessories"

CONTRACT EXTENSIONS		
Supplier Name	Contract Number	Solicitation Title
Carrier Corporation	030817-CAR	"HVAC Systems, Installation and Service with Related Products and Supplies"
Crafco, Inc.	052417-CFC	"Roadway Maintenance Equipment with Related Accessories, Attachments, Materials and Supplies"
NEW ezIQC CONTRACTS		
Company Name	Contract Number	State - Region - Type of Work
ezIQC RENEWALS		
Company Name	Contract Number	
Brown & Root	GA-A01-040820-KBR	
Greene & Burdette Property Management, LLC	GA-A02-040820-GBP	
HITT Contracting, Inc.	GA-A03-040820-HCI	
Striker Contracting, LLC	GA-A04-040820-SCL	
Crown Retail Services, Inc.	GA-A05-040820-CRS	
Albion Scaccia Enterprises, LLC	GA-A06-040820-ALB	
Paryani Construction	GA-A07-040820-PAR	
HCR Construction, Inc.	GA-A08-040820-HCR	
Lichty Commercial Construction, Inc.	GA-A09-040820-LIY	
Place Services, Inc.	GA-A10-040820-PLA	
Greene & Burdette Property Management, LLC	GA-B02-040820-GBP	
Crown Retail Services, Inc.	GA-B03-040820-CRS	
HITT Contracting, Inc.	GA-B04-040820-HCI	
Albion Scaccia Enterprises, LLC	GA-B05-040820-ALB	
Centennial Contractors Enterprises, Inc.	GA-B06-040820-CCE	
Darsey Construction, LLC	GA-B07-040820-DAR	
Place Services, Inc.	GA-B08-040820-PLA	
Ujamaa Construction	GA-B10-040820-UJA	
Darsey Constructionm LLC	GA-C01-040820-DAR	
Greene & Burdette Property Management, LLC	GA-C02-040820-GBP	
Albion Scaccia Enterprises, LLC	GA-C03-040820-ALB	
HITT Contracting, Inc.	GA-C04-040820-HCI	
Place Services, Inc.	GA-C05-040820-PLA	
Centennial Contractors Enterprises, Inc.	GA-C06-040820-CCE	
Engineering Design Technologies, Inc.	GA-C07-040820-EDT	
Ujamaa Construction	GA-C08-040820-UJA	
Jewel of the South	GA-C10-040820-JOS	
Darsey Constructionm LLC	GA-D02-040820-DAR	
Greene & Burdette Property	GA-D03-040820-GBP	
Lynn Construction Contracting, Inc.	GA-D04-040820-LYN	
Albion Scaccia Enterprises, LLC	GA-D05-040820-ALB	
HITT Contracting, Inc.	GA-D06-040820-HCI	
Place Services, Inc.	GA-D07-040820-PLA	
Centennial Contractors Enterprises, Inc.	GA-D08-040820-CCE	
Engineering Design Technologies, Inc.	GA-D09-040820-EDT	
Ujamaa Construction	GA-D10-040820-UJA	
F.H. Paschen, S.N. Nielsen & Associates,	GA-ST01-040820-FHP	
Prime Contractors, Inc.	GA-ST02-040820-PCI	
JOC Construction	GA-ST03-040820-LRI	
Bayne Development Group	GA-ST04-040820-BDG	
Huper Optik USA, LP	GA-ST05-040820-HOP	
Ward Humphrey, Inc.	GA-ST06-040820-WHI	
Johnson-Laux Construction, LLC	GA-ST07-040820-JLC	
Osprey Management, LLC	GA-ST08-040820-OML	
Astra Construction Services, LLC	GA-ST09-040820-ACS	
Rubio and Son Interiors, Inc.	GA-ST10-040820-RSI	
LEE Construction Group, Inc.	FL-NEA-GC01-041019-LCI	

FHP Tectonics Corp.	FL-NEA-GC02-041019-FTC	
Epic Construction, Inc.	FL-NEA-GC03-041019-ECI	
Johnson-Laux Construction, LLC	FL-NEA-GC04-041019-JLC	
Charles Perry Partners, Inc.	FL-NEA-GC05-041019-CPP	
Astra Construction Services, LLC	FL-NEA-GC06-041019-ACS	
David Mancini & Sons, Inc.	FL-NEA-GC07-041019-DMS	
Lanzo Construction Co., Florida	FL-NEA-P01-041019-LCC	
Advanced Roofing, Inc.	FL-NEA-R01-041019-ADR	
EnviroWaste Services Group, Inc.	FL-NEA-UG1-041019-EWS	
Southern Underground Industries, Inc.	FL-NEA-UG2-041019-SUI	
LEE Construction Group, Inc.	FL-NWA-GC01-041019-LCI	
Astra Construction Services, LLC	FL-NWA-GC02-041019-ACS	
Johnson-Laux Construction, LLC	FL-NWA-GC03-041019-JLC	
OmniCon Corp	FL-NWA-GC04-041019-OMN	
Lanzo Construction Co., Florida	FL-NWA-P01-041019-LCC	
EnviroWaste Services Group, Inc.	FL-NWA-UG1-041019-EWS	
Southern Underground Industries, Inc.	FL-NWA-UG2-041019-SUI	
Advanced Roofing, Inc.	FL-NWA-R01-041019-ADR	
Harbour Construction, Inc.	FL-SEA-GC01-041019-HBC	
Shiff Construction & Development, Inc.	FL-SEA-GC02-041019-SCD	
d2 Construction, Inc.	FL-SEA-GC03-041019-DTC	
Team Contracting, Inc.	FL-SEA-GC04-041019-TCI	
BDI Construction Company	FL-SEA-GC05-041019-BDI	
Danz Contracting, LLC	FL-SEA-GC06-041019-DCL	
LEE Construction Group, Inc.	FL-SEA-GC07-041019-LCI	
FHP Tectonics Corp.	FL-SEA-GC08-041019-FTC	
Metro Express, Inc.	FL-SEA-P01-041019-MEI	
Lanzo Construction Co., Florida	FL-SEA-P02-041019-LCC	
Advanced Roofing, Inc.	FL-SEA-R01-041019-ADR	
EnviroWaste Services Group, Inc.	FL-SEA-UG1-041019-EWS	
Metro Express, Inc.	FL-SEA-UG2-041019-MEI	
BDI Construction Company	FL-WCA-GC01-041019-BDI	
LEE Construction Group, Inc.	FL-WCA-GC02-041019-LCI	
Epic Construction, Inc.	FL-WCA-GC03-041019-ECI	
Johnson-Laux Construction, LLC	FL-WCA-GC04-041019-JLC	
Charles Perry Partners, Inc.	FL-WCA-GC05-041019-CPP	
Caladesi Construction Co.	FL-WCA-GC06-041019-CAL	
Astra Construction Services, LLC	FL-WCA-GC07-041019-ACS	
Shiff Construction & Development, Inc.	FL-WCA-GC08-041019-SCD	
Caladesi Construction Co.	FL-WCA-P01-041019-CAL	
Lanzo Construction Co., Florida	FL-WCA-P02-041019-LCC	
Advanced Roofing, Inc.	FL-WCA-R01-041019-ADR	
EnviroWaste Services Group, Inc.	FL-WCA-UG1-041019-EWS	
Southern Underground Industries, Inc.	FL-WCA-UG2-041019-SUI	
ezIQc CONTRACT EXTENSIONS		
Company Name	Contract Number	

**SOURCEWELL
STATE OF MINNESOTA**



Member Kircher moved the adoption of the following Resolution:

RESOLUTION TO RATIFY COOPERATIVE CONTRACTING AWARDS

11/16/2021

Resolution No. 2021-27

WHEREAS, the Sourcewell Board of Directors previously authorized the solicitations for the cooperative categories listed on Appendix A, which is attached and incorporated; and

WHEREAS, Sourcewell issued the cooperative contracting solicitations for the authorized categories; and

WHEREAS, through the Sourcewell Procurement Policy, the Board designated the Chief Procurement Officer to administer Sourcewell's cooperative purchasing and contracting program and to award all competitively solicited contracts, without limitation; and

WHEREAS, the Chief Procurement Officer made the awards listed based on the results of the competitive solicitation process; and

WHEREAS, the Board acknowledges that the awards made by the Chief Procurement Officer are valid and binding; however, based upon some members' legal requirements the Chief Procurement Official is required to seek subsequent Board ratification of all cooperative purchasing awards.

NOW THEREFORE BE IT RESOLVED by the Board of Directors ratifies the cooperative contracting awards made by the Chief Procurement Officer listed on Appendix A.

The motion for the adoption of the foregoing resolution was duly seconded by Member Nagel
and the following voted in favor: (list names here)
Wilson, Zylka, Nagel, Thomas, Arts, Kircher
and the following voted against: (list names here or "NONE")
None
whereupon said resolution was declared duly passed and adopted.

ATTEST:

DocuSigned by:

Sara Nagel

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Clerk to the Board of Directors

APPENDIX A

SOURCEWELL PROCUREMENT DEPARTMENT
BOARD ITEMS - November 2021
CONSENT AGENDA ITEMS
Requesting Board permission to Solicit the following categories:

Requesting Board permission to Re-Solicit the following categories:

 Fleet Management Services
 Medical Supply Catalog Solutions

NEW CONTRACTS

Supplier Name	Contract Number	Solicitation Title
Active Deployment Systems, Inc.	081721-ADP	"Restroom and Shower Facility Solutions"
Comac Corp./Niu Toilet	081721-NIU	"Restroom and Shower Facility Solutions"
CXT, Inc.	081721-CXT	"Restroom and Shower Facility Solutions"
Public Restroom Company	081721-PRM	"Restroom and Shower Facility Solutions"
Romtec, Inc.	081721-RMT	"Restroom and Shower Facility Solutions"
Michelin North America, Inc.	082521-MLN	"Tires with Related Equipment and Supplies"
United Parcel Service, Inc.	090121-UPS	"Express Courier and Ground Delivery Logistics Services"
National Auto Fleet Group	091521-NAF	"Automobiles, SUVs, Vans, and Light Trucks with Related Equipment and Accessories"

CONTRACT EXTENSIONS

Supplier Name	Contract Number	Solicitation Title
The Goodyear Tire & Rubber Company	102517-GTC	"Tires and Related Equipment, Supplies and Services"

NEW ezIQC CONTRACTS

Company Name	Contract Number	State - Region - Type of Work
Foti Contracting LLC	OH-R1-GC01-102021-FCL	State of Ohio - Region 1 - General Contracting
F.H. Paschen	OH-R1-GC02-102021-FHP	State of Ohio - Region 1 - General Contracting
Place Services, Inc.	OH-R1-GC03-102021-PLA	State of Ohio - Region 1 - General Contracting
Centennial Contractors Enterprises	OH-R1-GC04-102021-CCE	State of Ohio - Region 1 - General Contracting
Johnson-Laue Construction Ohio, LLC	OH-R1-GC05-102021-JLC	State of Ohio - Region 1 - General Contracting
The Lusk Group	OH-R1-GC06-102021-LUS	State of Ohio - Region 1 - General Contracting
The K Company, Inc.	OH-R1-HVAC01-102021-TKC	State of Ohio - Region 1 - HVAC/Mechanical
Air Force One	OH-R1-HVAC02-102021-AFO	State of Ohio - Region 1 - HVAC/Mechanical
Place Services, Inc.	OH-R1-E01-102021-PLA	State of Ohio - Region 1 - Electrical
The Lusk Group	OH-R1-E02-102021-LUS	State of Ohio - Region 1 - Electrical
The Lusk Group	OH-R1-RW01-102021-LUS	State of Ohio - Region 1 - Roofing/Waterproofing
The Lusk Group	OH-R1-PA01-102021-LUS	State of Ohio - Region 1 - Paving/Asphalt
The Lusk Group	OH-R1-C01-102021-LUS	State of Ohio - Region 1 - Concrete
The Lusk Group	OH-R1-CC01-102021-LUS	State of Ohio - Region 1 - Civil Contracting
Foti Contracting LLC	OH-R2-GC01-102021-FCL	State of Ohio - Region 2 - General Contracting
Centennial Contractors Enterprises	OH-R2-GC02-102021-CCE	State of Ohio - Region 2 - General Contracting
F.H. Paschen	OH-R2-GC03-102021-FHP	State of Ohio - Region 2 - General Contracting
Place Services, Inc.	OH-R2-GC04-102021-PLA	State of Ohio - Region 2 - General Contracting
Johnson-Laue Construction Ohio, LLC	OH-R2-GC05-102021-JLC	State of Ohio - Region 2 - General Contracting
Genesis 1 Construction	OH-R2-GC06-102021-GNS	State of Ohio - Region 2 - General Contracting
The Lusk Group	OH-R2-GC07-102021-LUS	State of Ohio - Region 2 - General Contracting
Regency Construction Services, Inc.	OH-R2-GC08-102021-REG	State of Ohio - Region 2 - General Contracting
The K Company, Inc.	OH-R2-HVAC01-102021-TKC	State of Ohio - Region 2 - HVAC/Mechanical
Air Force One	OH-R2-HVAC02-102021-AFO	State of Ohio - Region 2 - HVAC/Mechanical
Place Services, Inc.	OH-R2-E01-102021-PLA	State of Ohio - Region 2 - Electrical
G & B Electric Co	OH-R2-E02-102021-GBE	State of Ohio - Region 2 - Electrical
The Lusk Group	OH-R2-RW01-102021-LUS	State of Ohio - Region 2 - Roofing/Waterproofing
The Lusk Group	OH-R2-PA01-102021-LUS	State of Ohio - Region 2 - Paving/Asphalt
The Lusk Group	OH-R2-C01-102021-LUS	State of Ohio - Region 2 - Concrete
The Lusk Group	OH-R2-CC01-102021-LUS	State of Ohio - Region 2 - Civil Contracting
Foti Contracting LLC	OH-R3-GC01-102021-FCL	State of Ohio - Region 3 - General Contracting

APPENDIX A Continued

Centennial Contractors Enterprises	OH-R3-GC02-102021-CCE	State of Ohio - Region 3 - General Contracting
F.H. Paschen	OH-R3-GC03-102021-FHP	State of Ohio - Region 3 - General Contracting
Place Services, Inc.	OH-R3-GC04-102021-PLA	State of Ohio - Region 3 - General Contracting
The Lusk Group	OH-R3-GC05-102021-LUS	State of Ohio - Region 3 - General Contracting
Johnson-Laux Construction Ohio, LLC	OH-R3-GC06-102021-JLC	State of Ohio - Region 3 - General Contracting
The K Company, Inc.	OH-R3-HVAC01-102021-TKC	State of Ohio - Region 3 - HVAC/Mechanical
Air Force One	OH-R3-HVAC02-102021-AFO	State of Ohio - Region 3 - HVAC/Mechanical
Place Services, Inc.	OH-R3-E01-102021-PLA	State of Ohio - Region 3 - Electrical
The Lusk Group	OH-R3-E02-102021-LUS	State of Ohio - Region 3 - Electrical
The Lusk Group	OH-R3-RW01-102021-LUS	State of Ohio - Region 3 - Roofing/Waterproofing
The Lusk Group	OH-R3-PA01-102021-LUS	State of Ohio - Region 3 - Paving/Asphalt
The Lusk Group	OH-R3-C01-102021-LUS	State of Ohio - Region 3 - Concrete
The Lusk Group	OH-R3-CC01-102021-LUS	State of Ohio - Region 3 - Civil Contracting
Foti Contracting LLC	OH-R4-GC01-102021-FCL	State of Ohio - Region 4 - General Contracting
Centennial Contractors Enterprises	OH-R4-GC02-102021-CCE	State of Ohio - Region 4 - General Contracting
F.H. Paschen	OH-R4-GC03-102021-FHP	State of Ohio - Region 4 - General Contracting
Place Services, Inc.	OH-R4-GC04-102021-PLA	State of Ohio - Region 4 - General Contracting
Universal Contracting Corporation	OH-R4-GC05-102021-UCC	State of Ohio - Region 4 - General Contracting
Johnson-Laux Construction Ohio, LLC	OH-R4-GC06-102021-JLC	State of Ohio - Region 4 - General Contracting
Hudawn Facility Solutions	OH-R4-GC07-102021-HFS	State of Ohio - Region 4 - General Contracting
Triton Services, Inc.	OH-R4-GC08-102021-TRS	State of Ohio - Region 4 - General Contracting
The K Company, Inc.	OH-R4-HVAC01-102021-TKC	State of Ohio - Region 4 - HVAC/Mechanical
Air Force One	OH-R4-HVAC02-102021-AFO	State of Ohio - Region 4 - HVAC/Mechanical
Place Services, Inc.	OH-R4-E01-102021-PLA	State of Ohio - Region 4 - Electrical
The Lusk Group	OH-R4-E02-102021-LUS	State of Ohio - Region 4 - Electrical
The Lusk Group	OH-R4-RW01-102021-LUS	State of Ohio - Region 4 - Roofing/Waterproofing
The Lusk Group	OH-R4-PA01-102021-LUS	State of Ohio - Region 4 - Paving/Asphalt
The Lusk Group	OH-R4-C01-102021-LUS	State of Ohio - Region 4 - Concrete
The Lusk Group	OH-R4-CC01-102021-LUS	State of Ohio - Region 4 - Civil Contracting
Foti Contracting LLC	OH-R5-GC01-102021-FCL	State of Ohio - Region 5 - General Contracting
F.H. Paschen	OH-R5-GC02-102021-FHP	State of Ohio - Region 5 - General Contracting
Place Services, Inc.	OH-R5-GC03-102021-PLA	State of Ohio - Region 5 - General Contracting
Johnson-Laux Construction Ohio, LLC	OH-R5-GC04-102021-JLC	State of Ohio - Region 5 - General Contracting
The Lusk Group	OH-R5-GC05-102021-LUS	State of Ohio - Region 5 - General Contracting
The K Company, Inc.	OH-R5-HVAC01-102021-TKC	State of Ohio - Region 5 - HVAC/Mechanical
Air Force One	OH-R5-HVAC02-102021-AFO	State of Ohio - Region 5 - HVAC/Mechanical
Place Services, Inc.	OH-R5-E02-102021-LUS	State of Ohio - Region 5 - Electrical
The Lusk Group	OH-R5-RW01-102021-LUS	State of Ohio - Region 5 - Roofing/Waterproofing
The Lusk Group	OH-R5-PA01-102021-LUS	State of Ohio - Region 5 - Paving/Asphalt
The Lusk Group	OH-R5-C01-102021-LUS	State of Ohio - Region 5 - Concrete
The Lusk Group	OH-R5-CC01-102021-LUS	State of Ohio - Region 5 - Civil Contracting
McDaniel's Construction Corp., Inc.	OH-MBE-R3-GC01-102021-MCC	State of Ohio - MBE Set Aside - Region 3 - General Contracting
McDaniel's Construction Corp., Inc.	OH-MBE-R3-CC01-102021-MCC	State of Ohio - MBE Set Aside - Region 3 - Civil Contracting
McDaniel's Construction Corp., Inc.	OH-MBE-R4-GC01-102021-MCC	State of Ohio - MBE Set Aside - Region 4 - General Contracting
McDaniel's Construction Corp., Inc.	OH-MBE-R4-CC01-102021-MCC	State of Ohio - MBE Set Aside - Region 4 - Civil Contracting
McDaniel's Construction Corp., Inc.	OH-MBE-R5-GC01-102021-MCC	State of Ohio - MBE Set Aside - Region 5 - General Contracting
McDaniel's Construction Corp., Inc.	OH-MBE-R5-CC01-102021-MCC	State of Ohio - MBE Set Aside - Region 5 - Civil Contracting

eziQC RENEWALS

Company Name	Contract Number	
Sunland Asphalt, Inc.	CO-NW-PAV02-090920-SAC	
RoofConnect Logistics, Inc.	CO-NE-RW01-090920-RCL	
JOC Construction	CO-SW-GC01-090920-LRI	
JOC Construction	CO-NW-GC01-090920-LRI	
Happel & Associates, Inc.	CO-NW-GC02-090920-HAI	
Happel & Associates, Inc.	CO-SE-GC02-090920-HAI	
Happel & Associates, Inc.	CO-SW-GC02-090920-HAI	
ATI Restoration, LLC	CO-NE-GC05-090920-ATI	
RoofConnect Logistics, Inc.	CO-SE-RW01-090920-RCL	

APPENDIX A Continued

JOC Construction	CO-SE-GC01-090920-LRI	
PaveConnect Logistics, LLC	CO-NW-PAV01-090920-PCL	
RoofConnect Logistics, Inc.	CO-NW-RW01-090920-RCL	
JOC Construction	CO-NE-GC01-090920-LRI	
PaveConnect Logistics, LLC	CO-NE-PAV02-090920-PCL	
PaveConnect Logistics, LLC	CO-SE-PAV01-090920-PCL	
Facilities Contracting, Inc.	CO-NE-GC04-090920-FCI	
Sunland Asphalt, Inc.	CO-NE-PAV01-090920-SAC	
Sunland Asphalt, Inc.	CO-SE-PAV02-090920-SAC	
RoofConnect Logistics, Inc.	CO-SW-RW01-090920-RCL	
Sunland Asphalt, Inc.	CO-SW-PAV02-090920-SAC	
PaveConnect Logistics, LLC	CO-SW-PAV01-090920-PCL	
Happel & Associates, Inc.	CO-NE-GC03-090920-HAI	
Paige Industrial Services, Inc.	WA-DC-M03-100120-PAI	
Paige Industrial Services, Inc.	WA-DC-P03-100120-PAI	
Vigil Contracting, Inc.	WA-DC-E01-100120-VGL	
HITT Contracting, Inc.	WA-DC-GC05-100120-HCI	
Centennial Contractors Enterprises, Inc.	WA-DC-GC02-100120-CCE	
Paige Industrial Services, Inc.	WA-DC-E02-100120-PAI	
Vigil Contracting, Inc.	WA-DC-P01-100120-VGL	
Adrian L. Merton, Inc.	WA-DC-M02-100120-ALM	
Adrian L. Merton, Inc.	WA-DC-P02-100120-ALM	
The Matthews Group	WA-DC-GC01-100120-TMG	
Vigil Contracting, Inc.	WA-DC-M01-100120-VGL	
F.H. Paschen, S.N. Nielsen & Associates, LLC	WA-DC-GC06-100120-FHP	
Vigil Contracting, Inc.	WA-DC-GC04-100120-VGL	
Tri-State General Contracting Group, Inc.	TX-PH-GC-101619-JRT	
F.H. Paschen, S.N. Nielsen & Associates, LLC	TX-PH-GC-101619-FHP	
SDB, Inc.	TX-PH-GC-101619-SDB	
Dallas Harmony Construction, LLC.	TX-NT-P-101619-DHC	
G2 General Contractors	TX-NT-RC-101619-GGC	
Teinert Construction	TX-NT-GC-101619-TCB	
SDB, Inc.	TX-NT-GC-101619-SDB	
CORE Construction Services of Texas, Inc.	TX-NT-F-101619-CCT	
Dallas Harmony Construction, LLC	TX-NT-GC-101619-DHC	
Dallas Harmony Construction, LLC	TX-NT-F-101619-DHC	
Teinert Construction	TX-PH-GC-101619-TCB	
Lee Construction and Maintenance Company	TX-NT-GC-101619-LCM	
CORE Construction Services of Texas, Inc.	TX-PH-GC-101619-CCT	
CORE Construction Services of Texas, Inc.	TX-PH-APC-101619-CCT	
CORE Construction Services of Texas, Inc.	TX-PH-F-101619-CCT	
G2 General Contractors	TX-NT-GC-101619-GGC	
CORE Construction Services of Texas, Inc.	TX-NT-APC-101619-CCT	
CORE Construction Services of Texas, Inc.	TX-NT-P-101619-CCT	
WR Construction, Inc.	TX-PH-GC-101619-WRC	
Henthorn Commercial Construction, LLC	TX-NT-GC-101619-HCL	
Lee Construction and Maintenance Company	TX-NT-F-101619-LCM	
G2 General Contractors	TX-NT-APC-101619-GGC	
G2 General Contractors	TX-NT-W-101619-GGC	
Dallas Harmony Construction, LLC	TX-NT-APC-101619-DHC	
Gomez Floor Covering, Inc. dba GFC Contracting	TX-NT-P-101619-GFC	
Lee Construction and Maintenance Company	TX-NT-EC-101619-LCM	
Lee Construction and Maintenance Company	TX-NT-P-101619-LCM	
G2 General Contractors	TX-NT-P-101619-GGC	
Centennial Contractors Enterprises, Inc.	TX-NT-GC-101619-CCE	
Freedom Construction-a series of tFg Companies, LLC	TX-NT-GC-101619-FRC	
Gomez Floor Covering, Inc. dba GFC Contracting	TX-NT-F-101619-GFC	
F.H. Paschen, S.N. Nielsen & Associates, LLC	TX-NT-GC-101619-FHP	
CORE Construction Services of Texas, Inc.	TX-NT-GC-101619-CCT	
CORE Construction Services of Texas, Inc.	TX-PH-P-101619-CCT	
Henthorn Commercial Construction, LLC	TX-PH-GC-101619-HCL	
Nouveau Construction and Technology Services, LP	TX-NT-GC-101619-NCT	
Platinum Roofing, Inc.	MO-KC-R01-111319-PLR	
BKM Construction, LLC	KS-W-GC01-111319-BKM	
Straub Construction Company, Inc.	MO-KC-GC04-111319-STC	

RoofConnect Logistics, Inc.	MO-KC-R02-111319-RCL	
Platinum Roofing, Inc.	KS-E-R01-111319-PLR	
RoofConnect Logistics, Inc.	KS-W-R02-111319-RCL	
BKM Construction, LLC	KS-E-GC02-111319-BKM	
Straub Construction Company, Inc.	KS-E-GC01-111319-STC	
MTS Contracting, Inc.	KS-E-GC03-111319-MTS	
BKM Construction, LLC	MO-KC-GC02-111319-BKM	
Julius Kaaz Construction Company, Inc.	MO-KC-P01-111319-JKC	
RoofConnect Logistics, Inc.	KS-E-R02-111319-RCL	
Julius Kaaz Construction Company, Inc.	MO-KC-GC01-111319-JKC	
MTS Contracting, Inc.	MO-KC-GC03-111319-MTS	
Platinum Roofing, Inc.	KS-W-R01-111319-PLR	



COMMENT AND REVIEW
to the
REQUEST FOR PROPOSAL (RFP) #081721
Entitled

Restroom and Shower Facility Solutions

The following advertisement was placed June 29, 2021 in *USA Today*, in South Carolina's *The State*, in *The Oklahoman* and on the Sourcewell website www.sourcewell-mn.gov, Sourcewell Procurement Portal <https://proportal.sourcewell-mn.gov>, Biddingo, Merx, The New York State Contract Reporter www.nyscr.ny.gov, PublicPurchase.com, and June 30, 2021 in Oregon's *Daily Journal of Commerce*:

Sourcewell, a State of Minnesota local government unit and service cooperative, is requesting proposals for Restroom and Shower Facility Solutions to result in a contracting solution for use by its Participating Entities. Sourcewell Participating Entities include thousands of governmental, higher education, K-12 education, nonprofit, tribal government, and other public agencies located in the United States and Canada. A full copy of the Request for Proposals can be found on the Sourcewell Procurement Portal [<https://proportal.sourcewell-mn.gov>]. Only proposals submitted through the Sourcewell Procurement Portal will be considered. Proposals are due no later than August 17, 2021, at 4:30 p.m. Central Time, and late proposals will not be considered.

The solicitation process was conducted through the Sourcewell Procurement Portal. The following parties expressed interest in the solicitation by registering for this opportunity within the portal:

8540527 Canada, Inc.	Intelligent Conservation Systems, Inc.
Active Deployment Systems, Inc.	Nudigz Contractors, Ltd.
Apple Specialties	Plumbing & Heating Wholesale
Broad Valley Redimix, LTD.	Preeminent Construction, Inc.
BTI, Inc.	Public Restroom Company
C. W. Nowlin Enterprises, LLC	Regina Construction Association
ConstructConnect	Restroom Facilities, Ltd.
Construction Industry Center	Robinson Supply
CXT, Inc.	Romtec, Inc.
D2S Contractor, Inc.	SNTZR, INC.
Goto Agencies, LTD	Straight Flush Drain Solutions
Green Flush Technologies, LLC	United Site Services
Hunter Kneppshield Company, Inc.	Universal Building Contractors
Integral Contracting, LLC	

All Proposals remained sealed within the Sourcewell Procurement Portal until the scheduled due date and time. Proposals were electronically opened, and the list of all Proposers was made publicly available on the Sourcewell Procurement Portal, on August 17, 2021, at 4:40:13 pm CT. Proposals were received from the following:

8540527 Canada, Inc., dba Comac Corporation and Niu Toilet
Active Deployment Systems, Inc.
CXT, Inc.
Green Flush Technologies, LLC
Public Restroom Company
Romtec, Inc.
United Site Services

Proposals were reviewed by the Proposal Evaluation Committee:

Kim Austin, MBA, CPPB, Procurement Lead Analyst
Stephanie Haataja, CPIM, Procurement Analyst
Michael Munoz, CPPB, Procurement Analyst
Nick Scholer, Procurement Analyst

The findings of the Proposal Evaluation Committee are summarized as follows:

The Proposal Evaluation Committee applied the Sourcewell RFP evaluation criteria and determined that all proposal responses met the scope and mandatory submittal requirements and were evaluated.

8540527 Canada, Inc., dba Comac Corporation and Niu Toilet, is offering environment friendly, high-tech portable washrooms, trailer toilets, portable shower stalls, and permanent fixed washroom structures. Features include customization options, remote monitoring, and the latest developments in technology and sanitization. They have a sales force in the United States and Canada that can serve Sourcewell Participating Entities. Comac/Niu Toilet is offering a competitive discount and financing options are available.

Active Deployment Systems, Inc., specializes in rapid response and emergency management. They offer turn-key solutions for mobile, self-contained restrooms and shower trailers. Their sales and service can reach throughout the United States and Canada. Active Deployment Systems is offering a significant discount to Sourcewell Participating Entities with volume discounts available.

CXT, Inc., offers precast concrete restrooms, showers, and utility buildings in a variety of sizes and designs. Their waterless vault, flush, shower and utility units can withstand hurricanes, floods, and earthquakes. CXT will sell direct to Sourcewell Participating Entities throughout the United States and Canada with their in-house sales associates. CXT provides a solid discount from MSRP, and financing is available.

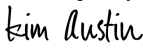
Public Restroom Company is a design, build, and installation firm offering turn-key prefabricated restrooms, changing rooms, combination restroom and shower buildings and other related buildings. They have a direct sales force and installation and support staff to serve Sourcewell Participating Entities. Public Restroom Company pricing reflects a competitive discount off MSRP, and tiered rebates are available.

Romtec, Inc., manufactures, supplies, and installs turnkey pre-engineered restrooms, waterless vault restrooms, and shower buildings for many types of recreation areas, parks, and campgrounds. These products are made available to Sourcewell Participating Entities across the United States with a team of engineers and architects licensed in all 50 states. Romtec, Inc. is a certified small business and HUBZone enterprise with the Small Business Administration. Standard governmental pricing is provided for all products and services on contract.

For these reasons, the Sourcewell Proposal Evaluation Committee recommends award of Sourcewell Contract #081721 to:

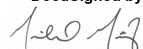
- | | |
|--|-------------|
| 8540527 Canada, Inc., dba Comac Corporation and Niu Toilet | #081721-NIU |
| Active Deployment Systems, Inc. | #081721-ADP |
| CXT, Inc. | #081721-CXT |
| Public Restroom Company | #081721-PRM |
| Romtec, Inc. | #081721-RMT |

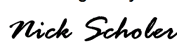
The preceding recommendations were approved on October 13, 2021.

DocuSigned by:

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Kim Austin, MBA, CPPB, Procurement Lead Analyst

DocuSigned by:

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Stephanie Haataja, CPIM, Procurement Analyst

DocuSigned by:

0B0204E40D3E445...
Michael Munoz, CPPB, Procurement Analyst

DocuSigned by:

4513A60DCA01467...
Nick Scholer, Procurement Analyst

STATEMENT OF COMPLIANCE

As Chief Procurement Officer for Sourcewell, I have reviewed the recommendation of the Evaluation Committee and the accompanying support materials documenting the process followed for **RFP #081721 for Restroom and Shower Facility Solutions**.

The committee accepted, deemed responsive, evaluated, and recommended proposals for award. Under authority granted to the Chief Procurement Officer in Sourcewell's bylaws, the recommendations set forth above are approved.

I hereby certify:

1. Sourcewell is a government agency, created and authorized by Minnesota law to provide cooperative procurement contracts.
2. The procurement process and resulting contracts have been awarded in compliance with the laws of the State of Minnesota (Minnesota Statutes Chapter 471 and Minnesota Statutes Section 123A.21), and in conformity to Sourcewell's Procurement Policy.

DocuSigned by:


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Jeremy Schwartz, CSSBB, CPPO
Chief Procurement Officer

**Solicitation Number: RFP 081721****CONTRACT**

This Contract is between Sourcewell, 202 12th Street Northeast, P.O. Box 219, Staples, MN 56479 (Sourcewell) and CXT Incorporated, 606 N. Pines Road, Suite 202, Spokane Valley, WA 99206 (Supplier).

Sourcewell is a State of Minnesota local government unit and service cooperative created under the laws of the State of Minnesota (Minnesota Statutes Section 123A.21) that offers cooperative procurement solutions to government entities. Participation is open to eligible federal, state/province, and municipal governmental entities, higher education, K-12 education, nonprofit, tribal government, and other public entities located in the United States and Canada. Sourcewell issued a public solicitation for Restroom and Shower Facility Solutions from which Supplier was awarded a contract.

Supplier desires to contract with Sourcewell to provide equipment, products, or services to Sourcewell and the entities that access Sourcewell's cooperative purchasing contracts (Participating Entities).

1. TERM OF CONTRACT

- A. **EFFECTIVE DATE.** This Contract is effective upon the date of the final signature below.
- B. **EXPIRATION DATE AND EXTENSION.** This Contract expires October 15, 2025, unless it is cancelled sooner pursuant to Article 22. This Contract may be extended one additional year upon the request of Sourcewell and written agreement by Supplier.
- C. **SURVIVAL OF TERMS.** Notwithstanding any expiration or termination of this Contract, all payment obligations incurred prior to expiration or termination will survive, as will the following: Articles 11 through 14 survive the expiration or cancellation of this Contract. All other rights will cease upon expiration or termination of this Contract.

2. EQUIPMENT, PRODUCTS, OR SERVICES

- A. **EQUIPMENT, PRODUCTS, OR SERVICES.** Supplier will provide the Equipment, Products, or Services as stated in its Proposal submitted under the Solicitation Number listed above.

Supplier's Equipment, Products, or Services Proposal (Proposal) is attached and incorporated into this Contract.

All Equipment and Products provided under this Contract must be new and the current model. Supplier may offer close-out or refurbished Equipment or Products if they are clearly indicated in Supplier's product and pricing list. Unless agreed to by the Participating Entities in advance, Equipment or Products must be delivered as operational to the Participating Entity's site.

This Contract offers an indefinite quantity of sales, and while substantial volume is anticipated, sales and sales volume are not guaranteed.

B. **WARRANTY.** Supplier warrants that all Equipment, Products, and Services furnished are free from liens and encumbrances, and are free from defects in design, materials, and workmanship. In addition, Supplier warrants the Equipment, Products, and Services are suitable for and will perform in accordance with the ordinary use for which they are intended. Supplier's dealers and distributors must agree to assist the Participating Entity in reaching a resolution in any dispute over warranty terms with the manufacturer. Any manufacturer's warranty that extends beyond the expiration of the Supplier's warranty will be passed on to the Participating Entity.

C. **DEALERS, DISTRIBUTORS, AND/OR RESELLERS.** Upon Contract execution and throughout the Contract term, Supplier must provide to Sourcewell a current means to validate or authenticate Supplier's authorized dealers, distributors, or resellers relative to the Equipment, Products, and Services offered under this Contract, which will be incorporated into this Contract by reference. It is the Supplier's responsibility to ensure Sourcewell receives the most current information.

3. PRICING

All Equipment, Products, or Services under this Contract will be priced at or below the price stated in Supplier's Proposal.

When providing pricing quotes to Participating Entities, all pricing quoted must reflect a Participating Entity's total cost of acquisition. This means that the quoted cost is for delivered Equipment, Products, and Services that are operational for their intended purpose, and includes all costs to the Participating Entity's requested delivery location.

Regardless of the payment method chosen by the Participating Entity, the total cost associated with any purchase option of the Equipment, Products, or Services must always be disclosed in the pricing quote to the applicable Participating Entity at the time of purchase.

A. **SHIPPING AND SHIPPING COSTS.** All delivered Equipment and Products must be properly packaged. Damaged Equipment and Products may be rejected. If the damage is not readily apparent at the time of delivery, Supplier must permit the Equipment and Products to be

returned within a reasonable time at no cost to Sourcewell or its Participating Entities. Participating Entities reserve the right to inspect the Equipment and Products at a reasonable time after delivery where circumstances or conditions prevent effective inspection of the Equipment and Products at the time of delivery. In the event of the delivery of nonconforming Equipment and Products, the Participating Entity will notify the Supplier as soon as possible and the Supplier will replace nonconforming Equipment and Products with conforming Equipment and Products that are acceptable to the Participating Entity.

Supplier must arrange for and pay for the return shipment on Equipment and Products that arrive in a defective or inoperable condition.

Sourcewell may declare the Supplier in breach of this Contract if the Supplier intentionally delivers substandard or inferior Equipment or Products.

B. SALES TAX. Each Participating Entity is responsible for supplying the Supplier with valid tax-exemption certification(s). When ordering, a Participating Entity must indicate if it is a tax-exempt entity.

C. HOT LIST PRICING. At any time during this Contract, Supplier may offer a specific selection of Equipment, Products, or Services at discounts greater than those listed in the Contract. When Supplier determines it will offer Hot List Pricing, it must be submitted electronically to Sourcewell in a line-item format. Equipment, Products, or Services may be added or removed from the Hot List at any time through a Sourcewell Price and Product Change Form as defined in Article 4 below.

Hot List program and pricing may also be used to discount and liquidate close-out and discontinued Equipment and Products as long as those close-out and discontinued items are clearly identified as such. Current ordering process and administrative fees apply. Hot List Pricing must be published and made available to all Participating Entities.

4. PRODUCT AND PRICING CHANGE REQUESTS

Supplier may request Equipment, Product, or Service changes, additions, or deletions at any time. All requests must be made in writing by submitting a signed Sourcewell Price and Product Change Request Form to the assigned Sourcewell Supplier Development Administrator. This approved form is available from the assigned Sourcewell Supplier Development Administrator. At a minimum, the request must:

- Identify the applicable Sourcewell contract number;
- Clearly specify the requested change;
- Provide sufficient detail to justify the requested change;

- Individually list all Equipment, Products, or Services affected by the requested change, along with the requested change (e.g., addition, deletion, price change); and
- Include a complete restatement of pricing documentation in Microsoft Excel with the effective date of the modified pricing, or product addition or deletion. The new pricing restatement must include all Equipment, Products, and Services offered, even for those items where pricing remains unchanged.

A fully executed Sourcewell Price and Product Change Request Form will become an amendment to this Contract and will be incorporated by reference.

5. PARTICIPATION, CONTRACT ACCESS, AND PARTICIPATING ENTITY REQUIREMENTS

A. PARTICIPATION. Sourcewell's cooperative contracts are available and open to public and nonprofit entities across the United States and Canada; such as federal, state/province, municipal, K-12 and higher education, tribal government, and other public entities.

The benefits of this Contract should be available to all Participating Entities that can legally access the Equipment, Products, or Services under this Contract. A Participating Entity's authority to access this Contract is determined through its cooperative purchasing, interlocal, or joint powers laws. Any entity accessing benefits of this Contract will be considered a Service Member of Sourcewell during such time of access. Supplier understands that a Participating Entity's use of this Contract is at the Participating Entity's sole convenience and Participating Entities reserve the right to obtain like Equipment, Products, or Services from any other source.

Supplier is responsible for familiarizing its sales and service forces with Sourcewell contract use eligibility requirements and documentation and will encourage potential participating entities to join Sourcewell. Sourcewell reserves the right to add and remove Participating Entities to its roster during the term of this Contract.

B. PUBLIC FACILITIES. Supplier's employees may be required to perform work at government-owned facilities, including schools. Supplier's employees and agents must conduct themselves in a professional manner while on the premises, and in accordance with Participating Entity policies and procedures, and all applicable laws.

6. PARTICIPATING ENTITY USE AND PURCHASING

A. ORDERS AND PAYMENT. To access the contracted Equipment, Products, or Services under this Contract, a Participating Entity must clearly indicate to Supplier that it intends to access this Contract; however, order flow and procedure will be developed jointly between Sourcewell and Supplier. Typically, a Participating Entity will issue an order directly to Supplier or its authorized subsidiary, distributor, dealer, or reseller. If a Participating Entity issues a purchase order, it may use its own forms, but the purchase order should clearly note the applicable Sourcewell

contract number. All Participating Entity orders under this Contract must be issued prior to expiration or cancellation of this Contract; however, Supplier performance, Participating Entity payment obligations, and any applicable warranty periods or other Supplier or Participating Entity obligations may extend beyond the term of this Contract.

Supplier's acceptable forms of payment are included in its attached Proposal. Participating Entities will be solely responsible for payment and Sourcewell will have no liability for any unpaid invoice of any Participating Entity.

B. ADDITIONAL TERMS AND CONDITIONS/PARTICIPATING ADDENDUM. Additional terms and conditions to a purchase order, or other required transaction documentation, may be negotiated between a Participating Entity and Supplier, such as job or industry-specific requirements, legal requirements (e.g., affirmative action or immigration status requirements), or specific local policy requirements. Some Participating Entities may require the use of a Participating Addendum; the terms of which will be negotiated directly between the Participating Entity and the Supplier. Any negotiated additional terms and conditions must never be less favorable to the Participating Entity than what is contained in this Contract.

C. SPECIALIZED SERVICE REQUIREMENTS. In the event that the Participating Entity requires service or specialized performance requirements not addressed in this Contract (such as e-commerce specifications, specialized delivery requirements, or other specifications and requirements), the Participating Entity and the Supplier may enter into a separate, standalone agreement, apart from this Contract. Sourcewell, including its agents and employees, will not be made a party to a claim for breach of such agreement.

D. TERMINATION OF ORDERS. Participating Entities may terminate an order, in whole or in part, immediately upon notice to Supplier in the event of any of the following events:

1. The Participating Entity fails to receive funding or appropriation from its governing body at levels sufficient to pay for the equipment, products, or services to be purchased; or
2. Federal, state, or provincial laws or regulations prohibit the purchase or change the Participating Entity's requirements.

E. GOVERNING LAW AND VENUE. The governing law and venue for any action related to a Participating Entity's order will be determined by the Participating Entity making the purchase.

7. CUSTOMER SERVICE

A. PRIMARY ACCOUNT REPRESENTATIVE. Supplier will assign an Account Representative to Sourcewell for this Contract and must provide prompt notice to Sourcewell if that person is changed. The Account Representative will be responsible for:

- Maintenance and management of this Contract;
- Timely response to all Sourcewell and Participating Entity inquiries; and
- Business reviews to Sourcewell and Participating Entities, if applicable.

B. BUSINESS REVIEWS. Supplier must perform a minimum of one business review with Sourcewell per contract year. The business review will cover sales to Participating Entities, pricing and contract terms, administrative fees, sales data reports, supply issues, customer issues, and any other necessary information.

8. REPORT ON CONTRACT SALES ACTIVITY AND ADMINISTRATIVE FEE PAYMENT

A. CONTRACT SALES ACTIVITY REPORT. Each calendar quarter, Supplier must provide a contract sales activity report (Report) to the Sourcewell Supplier Development Administrator assigned to this Contract. Reports are due no later than 45 days after the end of each calendar quarter. A Report must be provided regardless of the number or amount of sales during that quarter (i.e., if there are no sales, Supplier must submit a report indicating no sales were made).

The Report must contain the following fields:

- Participating Entity Name (e.g., City of Staples Highway Department);
- Participating Entity Physical Street Address;
- Participating Entity City;
- Participating Entity State/Province;
- Participating Entity Zip/Postal Code;
- Participating Entity Contact Name;
- Participating Entity Contact Email Address;
- Participating Entity Contact Telephone Number;
- Sourcewell Assigned Entity/Participating Entity Number;
- Item Purchased Description;
- Item Purchased Price;
- Sourcewell Administrative Fee Applied; and
- Date Purchase was invoiced/sale was recognized as revenue by Supplier.

B. ADMINISTRATIVE FEE. In consideration for the support and services provided by Sourcewell, the Supplier will pay an administrative fee to Sourcewell on all Equipment, Products, and Services provided to Participating Entities. The Administrative Fee must be included in, and not added to, the pricing. Supplier may not charge Participating Entities more than the contracted price to offset the Administrative Fee.

The Supplier will submit payment to Sourcewell for the percentage of administrative fee stated in the Proposal multiplied by the total sales of all Equipment, Products, and Services purchased

by Participating Entities under this Contract during each calendar quarter. Payments should note the Supplier's name and Sourcewell-assigned contract number in the memo; and must be mailed to the address above "Attn: Accounts Receivable" or remitted electronically to Sourcewell's banking institution per Sourcewell's Finance department instructions. Payments must be received no later than 45 calendar days after the end of each calendar quarter.

Supplier agrees to cooperate with Sourcewell in auditing transactions under this Contract to ensure that the administrative fee is paid on all items purchased under this Contract.

In the event the Supplier is delinquent in any undisputed administrative fees, Sourcewell reserves the right to cancel this Contract and reject any proposal submitted by the Supplier in any subsequent solicitation. In the event this Contract is cancelled by either party prior to the Contract's expiration date, the administrative fee payment will be due no more than 30 days from the cancellation date.

9. AUTHORIZED REPRESENTATIVE

Sourcewell's Authorized Representative is its Chief Procurement Officer.

Supplier's Authorized Representative is the person named in the Supplier's Proposal. If Supplier's Authorized Representative changes at any time during this Contract, Supplier must promptly notify Sourcewell in writing.

10. AUDIT, ASSIGNMENT, AMENDMENTS, WAIVER, AND CONTRACT COMPLETE

A. **AUDIT.** Pursuant to Minnesota Statutes Section 16C.05, subdivision 5, the books, records, documents, and accounting procedures and practices relevant to this Agreement are subject to examination by Sourcewell or the Minnesota State Auditor for a minimum of six years from the end of this Contract. This clause extends to Participating Entities as it relates to business conducted by that Participating Entity under this Contract.

B. **ASSIGNMENT.** Neither party may assign or otherwise transfer its rights or obligations under this Contract without the prior written consent of the other party and a fully executed assignment agreement. Such consent will not be unreasonably withheld. Any prohibited assignment will be invalid.

C. **AMENDMENTS.** Any amendment to this Contract must be in writing and will not be effective until it has been duly executed by the parties.

D. **WAIVER.** Failure by either party to take action or assert any right under this Contract will not be deemed a waiver of such right in the event of the continuation or repetition of the circumstances giving rise to such right. Any such waiver must be in writing and signed by the parties.

E. **CONTRACT COMPLETE.** This Contract represents the complete agreement between the parties. No other understanding regarding this Contract, whether written or oral, may be used to bind either party. For any conflict between the attached Proposal and the terms set out in Articles 1-22 of this Contract, the terms of Articles 1-22 will govern.

F. **RELATIONSHIP OF THE PARTIES.** The relationship of the parties is one of independent contractors, each free to exercise judgment and discretion with regard to the conduct of their respective businesses. This Contract does not create a partnership, joint venture, or any other relationship such as master-servant, or principal-agent.

11. INDEMNITY AND HOLD HARMLESS

Supplier must indemnify, defend, save, and hold Sourcewell and its Participating Entities, including their agents and employees, harmless from any claims or causes of action, including attorneys' fees incurred by Sourcewell or its Participating Entities, arising out of any act or omission in the performance of this Contract by the Supplier or its agents or employees; this indemnification includes injury or death to person(s) or property alleged to have been caused by some defect in the Equipment, Products, or Services under this Contract to the extent the Equipment, Product, or Service has been used according to its specifications. Sourcewell's responsibility will be governed by the State of Minnesota's Tort Liability Act (Minnesota Statutes Chapter 466) and other applicable law.

12. GOVERNMENT DATA PRACTICES

Supplier and Sourcewell must comply with the Minnesota Government Data Practices Act, Minnesota Statutes Chapter 13, as it applies to all data provided by or provided to Sourcewell under this Contract and as it applies to all data created, collected, received, stored, used, maintained, or disseminated by the Supplier under this Contract.

13. INTELLECTUAL PROPERTY, PUBLICITY, MARKETING, AND ENDORSEMENT

A. INTELLECTUAL PROPERTY

1. *Grant of License.* During the term of this Contract:
 - a. Sourcewell grants to Supplier a royalty-free, worldwide, non-exclusive right and license to use the trademark(s) provided to Supplier by Sourcewell in advertising and promotional materials for the purpose of marketing Sourcewell's relationship with Supplier.
 - b. Supplier grants to Sourcewell a royalty-free, worldwide, non-exclusive right and license to use Supplier's trademarks in advertising and promotional materials for the purpose of marketing Supplier's relationship with Sourcewell.
2. *Limited Right of Sublicense.* The right and license granted herein includes a limited right of each party to grant sublicenses to their respective subsidiaries, distributors, dealers,

resellers, marketing representatives, and agents (collectively “Permitted Sublicensees”) in advertising and promotional materials for the purpose of marketing the Parties’ relationship to Participating Entities. Any sublicense granted will be subject to the terms and conditions of this Article. Each party will be responsible for any breach of this Article by any of their respective sublicensees.

3. *Use; Quality Control.*

- a. Neither party may alter the other party’s trademarks from the form provided and must comply with removal requests as to specific uses of its trademarks or logos.
- b. Each party agrees to use, and to cause its Permitted Sublicensees to use, the other party’s trademarks only in good faith and in a dignified manner consistent with such party’s use of the trademarks. Upon written notice to the breaching party, the breaching party has 30 days of the date of the written notice to cure the breach or the license will be terminated.

4. As applicable, Supplier agrees to indemnify and hold harmless Sourcewell and its Participating Entities against any and all suits, claims, judgments, and costs instituted or recovered against Sourcewell or Participating Entities by any person on account of the use of any Equipment or Products by Sourcewell or its Participating Entities supplied by Supplier in violation of applicable patent or copyright laws.

5. **Termination.** Upon the termination of this Contract for any reason, each party, including Permitted Sublicensees, will have 30 days to remove all Trademarks from signage, websites, and the like bearing the other party’s name or logo (excepting Sourcewell’s pre-printed catalog of suppliers which may be used until the next printing). Supplier must return all marketing and promotional materials, including signage, provided by Sourcewell, or dispose of it according to Sourcewell’s written directions.

B. **PUBLICITY.** Any publicity regarding the subject matter of this Contract must not be released without prior written approval from the Authorized Representatives. Publicity includes notices, informational pamphlets, press releases, research, reports, signs, and similar public notices prepared by or for the Supplier individually or jointly with others, or any subcontractors, with respect to the program, publications, or services provided resulting from this Contract.

C. **MARKETING.** Any direct advertising, marketing, or offers with Participating Entities must be approved by Sourcewell. Send all approval requests to the Sourcewell Supplier Development Administrator assigned to this Contract.

D. **ENDORSEMENT.** The Supplier must not claim that Sourcewell endorses its Equipment, Products, or Services.

14. GOVERNING LAW, JURISDICTION, AND VENUE

The substantive and procedural laws of the State of Minnesota will govern this Contract. Venue for all legal proceedings arising out of this Contract, or its breach, must be in the appropriate state court in Todd County, Minnesota or federal court in Fergus Falls, Minnesota.

15. FORCE MAJEURE

Neither party to this Contract will be held responsible for delay or default caused by acts of God or other conditions that are beyond that party's reasonable control. A party defaulting under this provision must provide the other party prompt written notice of the default.

16. SEVERABILITY

If any provision of this Contract is found by a court of competent jurisdiction to be illegal, unenforceable, or void then both parties will be relieved from all obligations arising from that provision. If the remainder of this Contract is capable of being performed, it will not be affected by such determination or finding and must be fully performed.

17. PERFORMANCE, DEFAULT, AND REMEDIES

A. **PERFORMANCE.** During the term of this Contract, the parties will monitor performance and address unresolved contract issues as follows:

1. *Notification.* The parties must promptly notify each other of any known dispute and work in good faith to resolve such dispute within a reasonable period of time. If necessary, Sourcewell and the Supplier will jointly develop a short briefing document that describes the issue(s), relevant impact, and positions of both parties.
2. *Escalation.* If parties are unable to resolve the issue in a timely manner, as specified above, either Sourcewell or Supplier may escalate the resolution of the issue to a higher level of management. The Supplier will have 30 calendar days to cure an outstanding issue.
3. *Performance while Dispute is Pending.* Notwithstanding the existence of a dispute, the Supplier must continue without delay to carry out all of its responsibilities under the Contract that are not affected by the dispute. If the Supplier fails to continue without delay to perform its responsibilities under the Contract, in the accomplishment of all undisputed work, the Supplier will bear any additional costs incurred by Sourcewell and/or its Participating Entities as a result of such failure to proceed.

B. **DEFAULT AND REMEDIES.** Either of the following constitutes cause to declare this Contract, or any Participating Entity order under this Contract, in default:

1. Nonperformance of contractual requirements, or
2. A material breach of any term or condition of this Contract.

The party claiming default must provide written notice of the default, with 30 calendar days to cure the default. Time allowed for cure will not diminish or eliminate any liability for liquidated or other damages. If the default remains after the opportunity for cure, the non-defaulting party may:

- Exercise any remedy provided by law or equity, or
- Terminate the Contract or any portion thereof, including any orders issued against the Contract.

18. INSURANCE

A. REQUIREMENTS. At its own expense, Supplier must maintain insurance policy(ies) in effect at all times during the performance of this Contract with insurance company(ies) licensed or authorized to do business in the State of Minnesota having an "AM BEST" rating of A- or better, with coverage and limits of insurance not less than the following:

1. *Workers' Compensation and Employer's Liability.*

Workers' Compensation: As required by any applicable law or regulation.

Employer's Liability Insurance: must be provided in amounts not less than listed below:

Minimum limits:

\$500,000 each accident for bodily injury by accident

\$500,000 policy limit for bodily injury by disease

\$500,000 each employee for bodily injury by disease

2. *Commercial General Liability Insurance.* Supplier will maintain insurance covering its operations, with coverage on an occurrence basis, and must be subject to terms no less broad than the Insurance Services Office ("ISO") Commercial General Liability Form CG0001 (2001 or newer edition), or equivalent. At a minimum, coverage must include liability arising from premises, operations, bodily injury and property damage, independent contractors, products-completed operations including construction defect, contractual liability, blanket contractual liability, and personal injury and advertising injury. All required limits, terms and conditions of coverage must be maintained during the term of this Contract.

Minimum Limits:

\$1,000,000 each occurrence Bodily Injury and Property Damage

\$1,000,000 Personal and Advertising Injury

\$2,000,000 aggregate for Products-Completed operations

\$2,000,000 general aggregate

3. *Commercial Automobile Liability Insurance.* During the term of this Contract, Supplier will maintain insurance covering all owned, hired, and non-owned automobiles in limits of liability not less than indicated below. The coverage must be subject to terms

no less broad than ISO Business Auto Coverage Form CA 0001 (2010 edition or newer), or equivalent.

Minimum Limits:

\$1,000,000 each accident, combined single limit

4. *Umbrella Insurance*. During the term of this Contract, Supplier will maintain umbrella coverage over Employer's Liability, Commercial General Liability, and Commercial Automobile.

Minimum Limits:

\$2,000,000

5. *Network Security and Privacy Liability Insurance*. During the term of this Contract, Supplier will maintain coverage for network security and privacy liability. The coverage may be endorsed on another form of liability coverage or written on a standalone policy. The insurance must cover claims which may arise from failure of Supplier's security resulting in, but not limited to, computer attacks, unauthorized access, disclosure of not public data – including but not limited to, confidential or private information, transmission of a computer virus, or denial of service.

Minimum limits:

\$2,000,000 per occurrence

\$2,000,000 annual aggregate

Failure of Supplier to maintain the required insurance will constitute a material breach entitling Sourcewell to immediately terminate this Contract for default.

B. CERTIFICATES OF INSURANCE. Prior to commencing under this Contract, Supplier must furnish to Sourcewell a certificate of insurance, as evidence of the insurance required under this Contract. Prior to expiration of the policy(ies), renewal certificates must be mailed to Sourcewell, 202 12th Street Northeast, P.O. Box 219, Staples, MN 56479 or sent to the Sourcewell Supplier Development Administrator assigned to this Contract. The certificates must be signed by a person authorized by the insurer(s) to bind coverage on their behalf.

Failure to request certificates of insurance by Sourcewell, or failure of Supplier to provide certificates of insurance, in no way limits or relieves Supplier of its duties and responsibilities in this Contract.

C. ADDITIONAL INSURED ENDORSEMENT AND PRIMARY AND NON-CONTRIBUTORY INSURANCE CLAUSE. Supplier agrees to list Sourcewell and its Participating Entities, including their officers, agents, and employees, as an additional insured under the Supplier's commercial general liability insurance policy with respect to liability arising out of activities, "operations," or "work" performed by or on behalf of Supplier, and products and completed operations of Supplier. The policy provision(s) or endorsement(s) must further provide that coverage is

primary and not excess over or contributory with any other valid, applicable, and collectible insurance or self-insurance in force for the additional insureds.

D. **WAIVER OF SUBROGATION.** Supplier waives and must require (by endorsement or otherwise) all its insurers to waive subrogation rights against Sourcewell and other additional insureds for losses paid under the insurance policies required by this Contract or other insurance applicable to the Supplier or its subcontractors. The waiver must apply to all deductibles and/or self-insured retentions applicable to the required or any other insurance maintained by the Supplier or its subcontractors. Where permitted by law, Supplier must require similar written express waivers of subrogation and insurance clauses from each of its subcontractors.

E. **UMBRELLA/EXCESS LIABILITY/SELF-INSURED RETENTION.** The limits required by this Contract can be met by either providing a primary policy or in combination with umbrella/excess liability policy(ies), or self-insured retention.

19. COMPLIANCE

A. **LAWS AND REGULATIONS.** All Equipment, Products, or Services provided under this Contract must comply fully with applicable federal laws and regulations, and with the laws in the states and provinces in which the Equipment, Products, or Services are sold.

B. **LICENSES.** Supplier must maintain a valid and current status on all required federal, state/provincial, and local licenses, bonds, and permits required for the operation of the business that the Supplier conducts with Sourcewell and Participating Entities.

20. BANKRUPTCY, DEBARMENT, OR SUSPENSION CERTIFICATION

Supplier certifies and warrants that it is not in bankruptcy or that it has previously disclosed in writing certain information to Sourcewell related to bankruptcy actions. If at any time during this Contract Supplier declares bankruptcy, Supplier must immediately notify Sourcewell in writing.

Supplier certifies and warrants that neither it nor its principals are presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from programs operated by the State of Minnesota; the United States federal government or the Canadian government, as applicable; or any Participating Entity. Supplier certifies and warrants that neither it nor its principals have been convicted of a criminal offense related to the subject matter of this Contract. Supplier further warrants that it will provide immediate written notice to Sourcewell if this certification changes at any time.

21. PROVISIONS FOR NON-UNITED STATES FEDERAL ENTITY PROCUREMENTS UNDER UNITED STATES FEDERAL AWARDS OR OTHER AWARDS

Participating Entities that use United States federal grant or FEMA funds to purchase goods or services from this Contract may be subject to additional requirements including the procurement standards of the Uniform Administrative Requirements, Cost Principles and Audit Requirements for Federal Awards, 2 C.F.R. § 200. Participating Entities may have additional requirements based on specific funding source terms or conditions. Within this Article, all references to “federal” should be interpreted to mean the United States federal government. The following list only applies when a Participating Entity accesses Supplier’s Equipment, Products, or Services with United States federal funds.

A. **EQUAL EMPLOYMENT OPPORTUNITY.** Except as otherwise provided under 41 C.F.R. § 60, all contracts that meet the definition of “federally assisted construction contract” in 41 C.F.R. § 60-1.3 must include the equal opportunity clause provided under 41 C.F.R. §60-1.4(b), in accordance with Executive Order 11246, “Equal Employment Opportunity” (30 FR 12319, 12935, 3 C.F.R. §, 1964-1965 Comp., p. 339), as amended by Executive Order 11375, “Amending Executive Order 11246 Relating to Equal Employment Opportunity,” and implementing regulations at 41 C.F.R. § 60, “Office of Federal Contract Compliance Programs, Equal Employment Opportunity, Department of Labor.” The equal opportunity clause is incorporated herein by reference.

B. **DAVIS-BACON ACT, AS AMENDED (40 U.S.C. § 3141-3148).** When required by federal program legislation, all prime construction contracts in excess of \$2,000 awarded by non-federal entities must include a provision for compliance with the Davis-Bacon Act (40 U.S.C. § 3141-3144, and 3146-3148) as supplemented by Department of Labor regulations (29 C.F.R. § 5, “Labor Standards Provisions Applicable to Contracts Covering Federally Financed and Assisted Construction”). In accordance with the statute, contractors must be required to pay wages to laborers and mechanics at a rate not less than the prevailing wages specified in a wage determination made by the Secretary of Labor. In addition, contractors must be required to pay wages not less than once a week. The non-federal entity must place a copy of the current prevailing wage determination issued by the Department of Labor in each solicitation. The decision to award a contract or subcontract must be conditioned upon the acceptance of the wage determination. The non-federal entity must report all suspected or reported violations to the federal awarding agency. The contracts must also include a provision for compliance with the Copeland “Anti-Kickback” Act (40 U.S.C. § 3145), as supplemented by Department of Labor regulations (29 C.F.R. § 3, “Contractors and Subcontractors on Public Building or Public Work Financed in Whole or in Part by Loans or Grants from the United States”). The Act provides that each contractor or subrecipient must be prohibited from inducing, by any means, any person employed in the construction, completion, or repair of public work, to give up any part of the compensation to which he or she is otherwise entitled. The non-federal entity must report all suspected or reported violations to the federal awarding agency. Supplier must be in compliance with all applicable Davis-Bacon Act provisions.

C. **CONTRACT WORK HOURS AND SAFETY STANDARDS ACT (40 U.S.C. § 3701-3708).** Where applicable, all contracts awarded by the non-federal entity in excess of \$100,000 that involve the employment of mechanics or laborers must include a provision for compliance with 40 U.S.C. §§ 3702 and 3704, as supplemented by Department of Labor regulations (29 C.F.R. § 5). Under 40 U.S.C. § 3702 of the Act, each contractor must be required to compute the wages of every mechanic and laborer on the basis of a standard work week of 40 hours. Work in excess of the standard work week is permissible provided that the worker is compensated at a rate of not less than one and a half times the basic rate of pay for all hours worked in excess of 40 hours in the work week. The requirements of 40 U.S.C. § 3704 are applicable to construction work and provide that no laborer or mechanic must be required to work in surroundings or under working conditions which are unsanitary, hazardous or dangerous. These requirements do not apply to the purchases of supplies or materials or articles ordinarily available on the open market, or contracts for transportation or transmission of intelligence. This provision is hereby incorporated by reference into this Contract. Supplier certifies that during the term of an award for all contracts by Sourcewell resulting from this procurement process, Supplier must comply with applicable requirements as referenced above.

D. **RIGHTS TO INVENTIONS MADE UNDER A CONTRACT OR AGREEMENT.** If the federal award meets the definition of “funding agreement” under 37 C.F.R. § 401.2(a) and the recipient or subrecipient wishes to enter into a contract with a small business firm or nonprofit organization regarding the substitution of parties, assignment or performance of experimental, developmental, or research work under that “funding agreement,” the recipient or subrecipient must comply with the requirements of 37 C.F.R. § 401, “Rights to Inventions Made by Nonprofit Organizations and Small Business Firms Under Government Grants, Contracts and Cooperative Agreements,” and any implementing regulations issued by the awarding agency. Supplier certifies that during the term of an award for all contracts by Sourcewell resulting from this procurement process, Supplier must comply with applicable requirements as referenced above.

E. **CLEAN AIR ACT (42 U.S.C. § 7401-7671Q.) AND THE FEDERAL WATER POLLUTION CONTROL ACT (33 U.S.C. § 1251-1387).** Contracts and subgrants of amounts in excess of \$150,000 require the non-federal award to agree to comply with all applicable standards, orders or regulations issued pursuant to the Clean Air Act (42 U.S.C. § 7401- 7671q) and the Federal Water Pollution Control Act as amended (33 U.S.C. § 1251- 1387). Violations must be reported to the Federal awarding agency and the Regional Office of the Environmental Protection Agency (EPA). Supplier certifies that during the term of this Contract will comply with applicable requirements as referenced above.

F. **DEBARMENT AND SUSPENSION (EXECUTIVE ORDERS 12549 AND 12689).** A contract award (see 2 C.F.R. § 180.220) must not be made to parties listed on the government wide exclusions in the System for Award Management (SAM), in accordance with the OMB guidelines at 2 C.F.R. § 180 that implement Executive Orders 12549 (3 C.F.R. § 1986 Comp., p. 189) and 12689 (3 C.F.R. § 1989 Comp., p. 235), “Debarment and Suspension.” SAM Exclusions contains the names

of parties debarred, suspended, or otherwise excluded by agencies, as well as parties declared ineligible under statutory or regulatory authority other than Executive Order 12549. Supplier certifies that neither it nor its principals are presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation by any federal department or agency.

G. BYRD ANTI-LOBBYING AMENDMENT, AS AMENDED (31 U.S.C. § 1352). Suppliers must file any required certifications. Suppliers must not have used federal appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee of any agency, a member of Congress, officer or employee of Congress, or an employee of a member of Congress in connection with obtaining any federal contract, grant, or any other award covered by 31 U.S.C. § 1352. Suppliers must disclose any lobbying with non-federal funds that takes place in connection with obtaining any federal award. Such disclosures are forwarded from tier to tier up to the non-federal award. Suppliers must file all certifications and disclosures required by, and otherwise comply with, the Byrd Anti-Lobbying Amendment (31 U.S.C. § 1352).

H. RECORD RETENTION REQUIREMENTS. To the extent applicable, Supplier must comply with the record retention requirements detailed in 2 C.F.R. § 200.333. The Supplier further certifies that it will retain all records as required by 2 C.F.R. § 200.333 for a period of 3 years after grantees or subgrantees submit final expenditure reports or quarterly or annual financial reports, as applicable, and all other pending matters are closed.

I. ENERGY POLICY AND CONSERVATION ACT COMPLIANCE. To the extent applicable, Supplier must comply with the mandatory standards and policies relating to energy efficiency which are contained in the state energy conservation plan issued in compliance with the Energy Policy and Conservation Act.

J. BUY AMERICAN PROVISIONS COMPLIANCE. To the extent applicable, Supplier must comply with all applicable provisions of the Buy American Act. Purchases made in accordance with the Buy American Act must follow the applicable procurement rules calling for free and open competition.

K. ACCESS TO RECORDS (2 C.F.R. § 200.336). Supplier agrees that duly authorized representatives of a federal agency must have access to any books, documents, papers and records of Supplier that are directly pertinent to Supplier's discharge of its obligations under this Contract for the purpose of making audits, examinations, excerpts, and transcriptions. The right also includes timely and reasonable access to Supplier's personnel for the purpose of interview and discussion relating to such documents.

L. PROCUREMENT OF RECOVERED MATERIALS (2 C.F.R. § 200.322). A non-federal entity that is a state agency or agency of a political subdivision of a state and its contractors must comply with Section 6002 of the Solid Waste Disposal Act, as amended by the Resource Conservation

and Recovery Act. The requirements of Section 6002 include procuring only items designated in guidelines of the Environmental Protection Agency (EPA) at 40 C.F.R. § 247 that contain the highest percentage of recovered materials practicable, consistent with maintaining a satisfactory level of competition, where the purchase price of the item exceeds \$10,000 or the value of the quantity acquired during the preceding fiscal year exceeded \$10,000; procuring solid waste management services in a manner that maximizes energy and resource recovery; and establishing an affirmative procurement program for procurement of recovered materials identified in the EPA guidelines.

M. FEDERAL SEAL(S), LOGOS, AND FLAGS. The Supplier not use the seal(s), logos, crests, or reproductions of flags or likenesses of Federal agency officials without specific pre-approval.

N. NO OBLIGATION BY FEDERAL GOVERNMENT. The U.S. federal government is not a party to this Contract or any purchase by an Participating Entity and is not subject to any obligations or liabilities to the Participating Entity, Supplier, or any other party pertaining to any matter resulting from the Contract or any purchase by an authorized user.

O. PROGRAM FRAUD AND FALSE OR FRAUDULENT STATEMENTS OR RELATED ACTS. The Contractor acknowledges that 31 U.S.C. 38 (Administrative Remedies for False Claims and Statements) applies to the Supplier's actions pertaining to this Contract or any purchase by a Participating Entity.

P. FEDERAL DEBT. The Supplier certifies that it is non-delinquent in its repayment of any federal debt. Examples of relevant debt include delinquent payroll and other taxes, audit disallowance, and benefit overpayments.

Q. CONFLICTS OF INTEREST. The Supplier must notify the U.S. Office of General Services, Sourcewell, and Participating Entity as soon as possible if this Contract or any aspect related to the anticipated work under this Contract raises an actual or potential conflict of interest (as described in 2 C.F.R. Part 200). The Supplier must explain the actual or potential conflict in writing in sufficient detail so that the U.S. Office of General Services, Sourcewell, and Participating Entity are able to assess the actual or potential conflict; and provide any additional information as necessary or requested.

R. U.S. EXECUTIVE ORDER 13224. The Supplier, and its subcontractors, must comply with U.S. Executive Order 13224 and U.S. Laws that prohibit transactions with and provision of resources and support to individuals and organizations associated with terrorism.

S. PROHIBITION ON CERTAIN TELECOMMUNICATIONS AND VIDEO SURVEILLANCE SERVICES OR EQUIPMENT. To the extent applicable, Supplier certifies that during the term of this Contract it will comply with applicable requirements of 2 C.F.R. § 200.216.

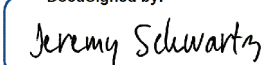
T. DOMESTIC PREFERENCES FOR PROCUREMENTS. To the extent applicable, Supplier certifies that during the term of this Contract will comply with applicable requirements of 2 C.F.R. § 200.322.

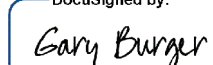
22. CANCELLATION

Sourcewell or Supplier may cancel this Contract at any time, with or without cause, upon 60 days' written notice to the other party. However, Sourcewell may cancel this Contract immediately upon discovery of a material defect in any certification made in Supplier's Proposal. Cancellation of this Contract does not relieve either party of financial, product, or service obligations incurred or accrued prior to cancellation.

Sourcewell

CXT Incorporated

DocuSigned by:

By: C0FD2A139D06489...
Jeremy Schwartz
Title: Chief Procurement Officer
10/13/2021 | 1:44 PM CDT
Date: _____

DocuSigned by:

By: 5464A28DD55E4E9...
Gary Burger
Title: Director of Commercial Operations
10/13/2021 | 1:04 PM CDT
Date: _____

Approved:

DocuSigned by:

By: 7E42B8F817A64CC...
Chad Coauette
Title: Executive Director/CEO
10/13/2021 | 1:49 PM CDT
Date: _____

RFP 081721 - Restroom and Shower Facility Solutions

Vendor Details

Company Name: CXT Inc

Does your company conduct business under any other name? If yes, please state: Texas

Address: 606 N Pines Rd
Suite 202
Spokane Valley, WA 99206

Contact: Gary Burger

Email: gburger@lbfoster.com

Phone: 254-717-0912

Fax: 509-928-8270

HST#: 91-1498650

Submission Details

Created On: Thursday August 05, 2021 08:25:50

Submitted On: Monday August 16, 2021 17:40:42

Submitted By: Gary Burger

Email: gburger@lbfoster.com

Transaction #: e2e4d01f-edb9-43db-94e2-bfb8f254c124

Submitter's IP Address: 99.14.154.122

Specifications

Table 1: Proposer Identity & Authorized Representatives

General Instructions (applies to all Tables) Sourcewell prefers a brief but thorough response to each question. Do not merely attach additional documents to your response without also providing a substantive response. Do not leave answers blank; respond "N/A" if the question does not apply to you (preferably with an explanation).

Line Item	Question	Response *	
1	Proposer Legal Name (one legal entity only): (In the event of award, will execute the resulting contract as "Supplier")	CXT Incorporated	*
2	Identify all subsidiary entities of the Proposer whose equipment, products, or services are included in the Proposal.	NA	*
3	Identify all applicable assumed names or DBA names of the Proposer or Proposer's subsidiaries in Line 1 or Line 2 above.	NA	*
4	Proposer Physical Address:	606 N. Pines Rd Suite 202 Spokane Valley, WA 99206	*
5	Proposer website address (or addresses):	www.cxtinc.com	*
6	Proposer's Authorized Representative (name, title, address, email address & phone) (The representative must have authority to sign the "Proposer's Assurance of Compliance" on behalf of the Proposer and, in the event of award, will be expected to execute the resulting contract):	Gary Burger, Director of Commercial Operations, 606 N Pines Rd Suite 202, Spokane Valley WA 99206, gburger@lbfoster.com, 254-717-0912	*
7	Proposer's primary contact for this proposal (name, title, address, email address & phone):	Gary Burger, Director of Commercial Operations, 606 N Pines Rd Suite 202, Spokane Valley WA 99206, gburger@lbfoster.com, 254-717-0912	*
8	Proposer's other contacts for this proposal, if any (name, title, address, email address & phone):	NA	

Table 2: Company Information and Financial Strength

Line Item	Question	Response *	
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9	Provide a brief history of your company, including your company's core values, business philosophy, and industry longevity related to the requested equipment, products or services.	L.B. Foster Company Lee B. Foster was only 20 years old when he founded the company in 1902 that bears his name. L.B. Foster Company has grown for more than a century to become a leader in the manufacture, fabrication and distribution of infrastructure products and materials. Foster began the company to service a transportation need he recognized while growing up around his father's oil business in Titusville, Pennsylvania. Lee saw that his father received many inquiries from mines, logging camps, and quarries about the availability of relay (used) train rail. Because no truck transportation existed at the time, permanent and temporary rail spurs were the only means for transporting heavy materials to and from jobsites near and far. New rail was costly, and Foster saw an opportunity to resell rail that had been retrieved from abandoned and replaced railroads and urban transit systems. To encourage the sale of used material, Lee Foster initiated a guarantee that set his firm apart from others and contributed greatly to his success: "If the material is not up to the standard represented, ship it back and we will pay the freight both ways." This dedication to customer satisfaction became a core company value and remains today at the forefront of the L.B. Foster customer service policy. In addition to transportation products, L.B. Foster Company began to focus on other infrastructure-related industries for new expansion. Today the company markets its products to businesses involved in transportation, construction, energy, utility, recreation, and agriculture. In 1999 the company acquired CXT Incorporated, a leading manufacturer of engineered concrete products for railroad and recreation markets. This acquisition positioned L.B. Foster to better serve customers with a comprehensive line of mainline, transit and industrial rail products. The purchase of CXT also expanded the company into the production of recreational and multi-purpose precast concrete buildings. CXT Incorporated CXT® was started in 1987 as a joint venture of Costain and Con-Force to build concrete railroad ties (CXT stands for concrete crossing ties) in the U.S. for the Burlington Northern railroad. The company was placed in Spokane, Washington due to its proximity to high quality aggregates, and both Burlington Northern and Union Pacific rail lines. In 1991 CXT management created an ESOP to buy the business from the two companies. CXT Concrete Buildings was started in July 1992 as CXT's third division, (the others were the Concrete Railroad Ties and the Paver and Segmental Retaining Wall Divisions). The initial order was for 11 single vault waterless restrooms with the Idaho Panhandle National Forest. In 1999, CXT was purchased by L.B. Foster Company and became a wholly owned subsidiary of L.B. Foster. In 2001, CXT expanded into its second 120,000 square foot manufacturing facility in Hillsboro Texas. The plant serves the southern and central U.S. In 2013 CXT was awarded its first Sourcwell contract. The contract has grown each year and expanded its sales in all markets. Many of our customers were first time Sourcwell users and we are proud that we helped expand the Sourcwell Cooperative contract purchasing membership. In 2014 L.B. Foster acquired Carr Concrete a leading manufacturer of engineered concrete products in the eastern U.S. Carr Concrete became a division of CXT. The acquisition positioned CXT to better serve customer in the eastern U.S. with a 130,000 sq.ft. of production based in Waverly, West Virginia. In 2019 The Spokane, Washington operations were moved to Nampa, Idaho. The new 79,000 square feet will centralize manufacturing to CXT's existing and prospective customer base. In 2020 L.B. Foster acquired LarKen Precast who manufactures standard and custom engineered precast concrete products. Larken is a well-known manufacturer in the Boise, Idaho area that distributes their products primarily for state and municipal wastewater, irrigation and electrical applications servicing the southwest and central Idaho, as well as eastern Oregon regions. LarKen Precast became a division of CXT. Our all concrete design withstands hurricanes, earthquakes, heavy snow loads and the worst that vandals can bring. The buildings come in a variety of styles to meet the needs of city, county, state, education, and federal customers. In the last 20+ years CXT has produced and shipped over 25,000 units nationally and internationally
10	What are your company's expectations in the event of an award?	CXT expects to continue to expand its sales using Sourcwell contract. CXT is a proud member and used our direct sales force to help promote the benefits of the cooperative purchasing approach for all products available on Sourcwell contract. At our current growth rate we expect Sourcwell to be 25% of our overall sales (\$4M sold through Sourcwell per quarter) and if awarded again we expect that to continue to grow to 30% of overall sales.
11	Demonstrate your financial strength and stability with meaningful data. This could include such items as financial statements, SEC filings, credit and bond ratings, letters of credit, and detailed reference letters. Upload supporting documents (as applicable) in the document upload section of your response.	See attached financial statements for L.B. Foster Company (file 2020-LBFosterAnnualReport.pdf). L.B. Foster is a publicly traded company at FSTR on Nasdaq. CXT is a wholly owned subsidiary of LB Foster and falls under LB Foster Infrastructure group. LB Foster continues to have strong financial results even during these difficult times. LB Foster is positioned to continue to grow. CXT is a vital division of LB Foster and a major focus for growth in the future.
12	What is your US market share for the solutions that you are proposing?	Market share is very difficult to measure in our industry. (no consolidated information exists). We have done internal studies that have found the North American market to be around \$100m in 2016, with our 2016 sales at \$40m. That would put our market share at approximately 40%. Currently we expect to reach \$64M in 2021, but also think the market has grown and our share doesn't exceed 50%.
13	What is your Canadian market share for the solutions that you are proposing?	No data exists for the Canadian market that we are aware of. We sold \$500,000 in 2020.
14	Has your business ever petitioned for bankruptcy protection? If so, explain in detail.	NO

15	How is your organization best described: is it a manufacturer, a distributor/dealer/reseller, or a service provider? Answer whichever question (either a) or b) just below) best applies to your organization. a) If your company is best described as a distributor/dealer/reseller (or similar entity), provide your written authorization to act as a distributor/dealer/reseller for the manufacturer of the products proposed in this RFP. If applicable, is your dealer network independent or company owned? b) If your company is best described as a manufacturer or service provider, describe your relationship with your sales and service force and with your dealer network in delivering the products and services proposed in this RFP. Are these individuals your employees, or the employees of a third party?	CXT is a manufacturer with a sales force that sells directly to the end users. The sales force are employees of CXT. Each current sales employee has gone through Sourcewell University. This direct sales to end user model fits extremely well with the Sourcewell contract. The Sourcewell member deals directly with CXT and had no middle man in regards to sales, service, or warranty.	*
16	If applicable, provide a detailed explanation outlining the licenses and certifications that are both required to be held, and actually held, by your organization (including third parties and subcontractors that you use) in pursuit of the business contemplated by this RFP.	CXT holds several dozen licenses, certifications, and certificates. Of these, most concern the manufacture of CXT's concrete building line and are specifically aimed at the manufacturing process. The most important of these are the following: PCI certified, ISO 9001 certified and IAS compliant.	*
17	Provide all "Suspension or Debarment" information that has applied to your organization during the past ten years.	Neither CXT nor L.B. Foster has been suspended or disbarred.	*

Table 3: Industry Recognition & Marketplace Success

Line Item	Question	Response *	
18	Describe any relevant industry awards or recognition that your company has received in the past five years	2013 Best plant finalist – Industry Week Magazine; 2014 Best Plant Award – Industry Week Magazine; 2016, ISO 9001, ISO 14001 and OSHA 18001 certified.	*
19	What percentage of your sales are to the governmental sector in the past three years	2020 94% 2019 93% 2018 94%	*
20	What percentage of your sales are to the education sector in the past three years	2020 1% 2019 <1% 2018 1%	*
21	List any state, provincial, or cooperative purchasing contracts that you hold. What is the annual sales volume for each of these contracts over the past three years?	CXT holds contracts in the following five states for some or all of our product line being submitted in this proposal: Kansas, Missouri, Oregon, Pennsylvania, Washington. We hold no other Coop contracts. The goal is to eliminate these state contracts and use Sourcewell. 2019 2018 2017 Kansas \$100,000 \$100,000 \$100,000 Missouri \$200,000 \$220,000 \$1,000,000 Oregon \$1,700,000 \$1,800,000 \$1,700,000 Pennsylvania \$1,200,000 \$200,000 \$200,000 Washington \$2,000,000 \$1,500,000 \$2,300,000 Utah \$1,000,000 \$800,000 \$1,000,000	*
22	List any GSA contracts or Standing Offers and Supply Arrangements (SOSA) that you hold. What is the annual sales volume for each of these contracts over the past three years?	CXT holds GSA contract GS07F0602N 2019 2018 2017 Total Sales \$2,500,000 \$5,000,000 \$2,400,000	*

Table 4: References/Testimonials

Line Item 23. Supply reference information from three customers who are eligible to be Sourcewell participating entities.

Entity Name *	Contact Name *	Phone Number *	
PA COSTARS	Kathy Garman	714-346-4056	*
State of Washington	Leslie Edwards	360-407-8416	*
State of Utah	Garret K. Johnston	801-957-7135	*

Table 5: Top Five Government or Education Customers

Line Item 24. Provide a list of your top five government, education, or non-profit customers (entity name is optional), including entity type, the state or province the entity is located in, scope of the project(s), size of transaction(s), and dollar volumes from the past three years.

Entity Name	Entity Type *	State / Province *	Scope of Work *	Size of Transactions *	Dollar Volume Past Three Years *	
United States Army Corps of Engineers (includes all regions and districts covering the US, including District of Columbia DC)	Government	District of Columbia - DC	Includes purchase of products from our "standard" line of buildings including site work.	\$20,000 - \$1,000,000	2020 \$3,000,000 2019 \$2,900,000 2018 \$1,800,000	*
National Forest Service (includes all regions and districts covering the US, including the District of Columbia DC)	Government	District of Columbia - DC	Includes purchase of products from our "standard" line of buildings including site work.	\$20,000-\$500,000	2020 \$1,000,000 2019 \$800,000 2018 \$2,100,000	*
Utah State Parks	Government	Utah - UT	Includes purchase of products from our "standard" line of buildings including site work.	\$40,000-\$1,000,000	2020 \$2,000,000 2019 \$1,000,000 2018 \$800,000	*
State of Washington	Government	Washington - WA	Includes purchase of products from our "standard" line of buildings including site work.	\$20,000-\$200,000	2020 \$1,000,000 2019 \$2,000,000 2018 \$1,800,000	*
State of Oregon	Government	Washington - WA	Includes purchase of products from our "standard" line of buildings including site work.	\$20,000-\$300,000	2020 \$1,000,000 2019 \$1,700,000 2018 \$1,800,000	*

Table 6: Ability to Sell and Deliver Service

Describe your company's capability to meet the needs of Sourcewell participating entities across the US and Canada, as applicable. Your response should address in detail at least the following areas: locations of your network of sales and service providers, the number of workers (full-time equivalents) involved in each sector, whether these workers are your direct employees (or employees of a third party), and any overlap between the sales and service functions.

Line Item	Question	Response *	
25	Sales force.	CXT has seven dedicated outside sales managers. Each sales manager is responsible for sales, marketing, and sales service in their respective geographic region. In addition to the outside sales force, we employ three dedicated inside sales professionals, a logistics department, warranty department, engineering department and scheduling department. These departments, including sales, report to a Director of Commercial Operations. Each sales member has gone through Sourcewell training. The Sourcewell member is directly dealing with a CXT (employee) on all transactions.	*
26	Dealer network or other distribution methods.	CXT does not utilize a dealer network. Sourcewell members get direct from the factory pricing.	*
27	Service force.	CXT has a comprehensive and formal service force to handle all our customers' needs post sale. To install our buildings properly, we use CXT certified, independently owned installation crews (eight national and one international). These crews are responsible for the installation, troubleshooting and immediate warranty work on all buildings placed. Each installation crew is trained by CXT via required on-site training sessions held once a year. In addition to our install crews, we utilize a toll-free number for service related questions, web based replacement parts ordering system and CXT employed and dedicated warranty department with three full time employees to handle any and all post sales needs or situations. Sourcewell members deal directly with CXT.	*
28	Describe the ordering process. If orders will be handled by distributors, dealers or others, explain the respective roles of the Proposer and others.	All orders are managed, processed, and executed by CXT. Order process: Order documents received (signed quote or PO, building worksheet, install questionnaire); order processed at CXT (PO verified, drawings generated, questions generated to customer); drawings completed by CXT and returned to customer for approval; customer approves drawings then CXT generates manufacturing instructions; building is then scheduled for production and delivery.	*
29	Describe in detail the process and procedure of your customer service program, if applicable. Include your response-time capabilities and commitments, as well as any incentives that help your providers meet your stated service goals or promises.	CXT operates and manages a very comprehensive customer service program. This starts with the initial call for questions regarding our products and does not end. Since a majority of our customers are repeat customers, service is extremely important to our business. CXT's service program consists of handling our prospect or customers service needs quickly (within hours not days) and concisely. CXT accomplishes this by using our entire inside and outside sales staff, warranty department and CXT certified installation crews to answer, troubleshoot and fix any and all service related questions. We also utilize web-based videos and FAQ's on our website that give quick answers to everyday questions and issues our customers encounter on a daily basis.	*
30	Describe your ability and willingness to provide your products and services to Sourcewell participating entities in the United States.	CXT has three plants nationwide, Nampa ID, Hillsboro TX, and Waverly WV that service the entire US will keeping the cost of delivery to a minimum. There are no geographical sites or market segments in the United States that we will not be servicing via the Sourcewell contract.	*
31	Describe your ability and willingness to provide your products and services to Sourcewell participating entities in Canada.	CXT plants can provide products into all of Canada. There are no geographical sites or market segments in Canada that we will not be servicing via the Sourcewell contract.	*
32	Identify any geographic areas of the United States or Canada that you will NOT be fully serving through the proposed contract.	NA	*
33	Identify any Sourcewell participating entity sectors (i.e., government, education, not-for-profit) that you will NOT be fully serving through the proposed contract. Explain in detail. For example, does your company have only a regional presence, or do other cooperative purchasing contracts limit your ability to promote another contract?	NA	*
34	Define any specific contract requirements or restrictions that would apply to our participating entities in Hawaii and Alaska and in US Territories.	CXT has no offshore contract requirements, apart from shipping costs. We actively sell our products to Alaska, Hawaii, Japan, Canada, and Mexico (to name a few offshore markets). Since all of our products are FOB plant and shipping is a per project priced item, the shipping program to offshore locations would be no different apart from the expense.	*

Table 7: Marketing Plan

Line Item	Question	Response *
35	Describe your marketing strategy for promoting this contract opportunity. Upload representative samples of your marketing materials (if applicable) in the document upload section of your response.	CXT utilizes a direct to member sales strategy. Our direct sales approach allows the members to deal exclusively with CXT. This also allows us to lead every contact with Sourcewell contract information. Each piece of literature, web site, even email signatures will identify Sourcewell by use of logo, and contract number. Each sales call (150+ per month) will discuss the advantage of Sourcewell and cooperative purchasing. All trade shows (30+ per year) will have Sourcewell banners and membership information. All advertising will have Sourcewell logo and contract information. CXT will continue to drive every order toward usage of the Sourcewell contract and deliver the message of the advantages that using Sourcewell offers.
36	Describe your use of technology and digital data (e.g., social media, metadata usage) to enhance marketing effectiveness.	CXT uses our web site www.cxtinc.com to generate and track lists of possible customers and tailor that list to drill down what exactly our customers are looking for. CXT uses broadcast email that contain the Sourcewell logo and contract information to generate leads and interest. More and more customers are using the internet to do their research, and this is no different for the parks and recreation concrete building industry. Our web site allows members to easily download drawings, specifications and request a quote for a unit. CXT uses Google AdWords to generate top search and optimizes its search through meta tags.
37	In your view, what is Sourcewell's role in promoting contracts arising out of this RFP? How will you integrate a Sourcewell-awarded contract into your sales process?	Sourcewell has been a great partner in our marketing. CXT uses Sourcewell logo and contract information in all marketing. This has attracted members to contact CXT for information. Our Sourcewell contract manager has done an excellent job talking potential customers through the Sourcewell process and how cooperative purchasing works and can benefit them. The Sourcewell web site does a great job explaining the process to potential customers. Sourcewell member list is used by our sales force to cross reference current members with prospects that we are working with. If they are not a member we show the how easy it is to become a member and how easy it is to contact Sourcewell for more information.
38	Are your products or services available through an e-procurement ordering process? If so, describe your e-procurement system and how governmental and educational customers have used it.	CXT does utilize an E-procurement ordering process right now for our parts and is creating a configurator for our web site that will build out and provide a drawing of the building they are looking for. We discuss yearly, the possibility of an E-procurement program for ordering our buildings, but with all the possible components that go into one of our buildings and the large dollar component to buying a building, our customers still need a quote and have to generate a PO for purchasing a unit. The Sourcewell contract has made purchasing easy, so with our product, we do not feel that the customer would benefit from E-procurement at this time. But, as stated we look at changing every year.

Table 8: Value-Added Attributes

Line Item	Question	Response *
39	Describe any product, equipment, maintenance, or operator training programs that you offer to Sourcewell participating entities. Include details, such as whether training is standard or optional, who provides training, and any costs that apply.	CXT does offer training for our customers and we do it using several different avenues. First, we use our web site as a first line of product training. On our site, we offer all of our standard building cut sheets, drawings and specifications for reference, tutorial videos to see installation of our products, worksheets to determine trucking requirements, troubleshooting videos for common problems and maintenance manuals both online and delivered with each building. CXT offers onsite training for our customers to go over our product line, project needs and building maintenance suggestions at no charge. Customer's are followed up with a survey after delivery to determine their overall satisfaction. 90% of our orders are from returning customers and having Sourcewell makes that return buy easier.
40	Describe any technological advances that your proposed products or services offer.	CXT is the leader in the concrete building market which is due in large part to our continuing success in using technological advances in the manufacturing process of our buildings. Over the last 25 years, we have honed our skill at manufacturing the highest quality product on the market. Just a few of the ways we have accomplished this is the addition of LED lighting on the interior and exterior of all buildings as a standard for all Sourcewell customers. All plumbing fixtures are the latest in low flow high efficiency flushing. We have also evolved many of our offerings floor plans to meet the ever-changing market place to meet ADA and gender specific requirements. And due to the pandemic we offer units that easily allow for use without a concern for social distancing, and are easy to sanitize. Our designs and innovations have largely been driven by listening to Sourcewell members needs.
41	Describe any "green" initiatives that relate to your company or to your products or services, and include a list of the certifying agency for each.	CXT has continued to provide the "greenest" building on the market. Our product uses the latest in lighting, plumbing and materials. The buildings provide LEED credits for our customers' projects allowing them to meet top energy, water, and efficiency standards
42	Identify any third-party issued eco-labels, ratings or certifications that your company has received for the equipment or products included in your Proposal related to energy efficiency or conservation, life-cycle design (cradle-to-cradle), or other green/sustainability factors.	Nothing specific, but all of our fixtures are the latest in low water volume, and minimum electrical use on the market that meets building codes.
43	Describe any Women or Minority Business Entity (WMBE), Small Business Entity (SBE), or veteran owned business certifications that your company or hub partners have obtained. Upload documentation of certification (as applicable) in the document upload section of your response.	CXT is a wholly owned subsidiary of LB Foster Co. Unfortunately, we do not qualify for any small business, women or minority owned designations. CXT does utilize as many small businesses as possible for its vendor program. Over 60% of our companies spend is directed to SBE's and all certified installers are SBE's with Veteran owned, and Women owned.
44	What unique attributes does your company, your products, or your services offer to Sourcewell participating entities? What makes your proposed solutions unique in your industry as it applies to Sourcewell participating entities?	At CXT there are many ways that separate our business from our competitions starting with our indoor assembly line manufacturing process to the buildings themselves using all concrete designs that will not rot, rust, warp or burn. Although these and many of the attributes discussed earlier give our product the edge in the marketplace, CXT's major difference from the competition is our commitment to the product and the staff. CXT makes concrete buildings at our three manufacturing facilities and run 365 days of the year. This commitment and the people who work to keep the plants running are what separate us from the rest. CXT has provided Sourcewell members the highest quality buildings and service for the last four years and hope to continue to provide this to Sourcewell members in the future.

Table 9A: Warranty

Describe in detail your manufacturer warranty program, including conditions and requirements to qualify, claims procedure, and overall structure. You may upload representative samples of your warranty materials (if applicable) in the document upload section of your response in addition to responding to the questions below.

Line Item	Question	Response *	
45	Do your warranties cover all products, parts, and labor?	YES. CXT provides a one (1) year warranty, on the building and all of the components. If a manufactured component has a longer warranty, (ex our interior LED lights have a lifetime vandalism warranty) that warranty is passed on and honored for the customer.	*
46	Do your warranties impose usage restrictions or other limitations that adversely affect coverage?	Warranty is for standard use and design loads. We do not warranty against vandalism and acts of God.	*
47	Do your warranties cover the expense of technicians' travel time and mileage to perform warranty repairs?	Warranty covers repair or replacement of all items which includes all costs to perform work related to warranty.	*
48	Are there any geographic regions of the United States or Canada (as applicable) for which you cannot provide a certified technician to perform warranty repairs? How will Sourcewell participating entities in these regions be provided service for warranty repair?	NO, all regions are covered.	*
49	Will you cover warranty service for items made by other manufacturers that are part of your proposal, or are these warranties issues typically passed on to the original equipment manufacturer?	All other non-concrete components will carry a one (1) year warranty. Any component that carries a longer manufacturing warranty will be passed on to the customer and honored.	*
50	What are your proposed exchange and return programs and policies?	CXT will repair or replace all items.	*
51	Describe any service contract options for the items included in your proposal.	CXT has no service contracts available. The product is extremely durable and requires minimal maintenance.	*

Table 9B: Performance Standards or Guarantees

Describe in detail your performance standards or guarantees, including conditions and requirements to qualify, claims procedure, and overall structure. You may upload representative samples of your performance materials (if applicable) in the document upload section of your response in addition to responding to the questions below.

Line Item	Question	Response *	
52	Describe any performance standards or guarantees that apply to your services	All buildings meet ADA, and all local building codes and design criteria. All buildings are required to meet local code inspections.	*
53	Describe any service standards or guarantees that apply to your services (policies, metrics, KPIs, etc.)	Our internal metric is customer satisfaction. And we survey to insure that customer is 100% satisfied with the building.	*

Table 10: Payment Terms and Financing Options

Line Item	Question	Response *	
54	Describe your payment terms and accepted payment methods?	Net 30 days after submission of the invoice to the purchaser on approved credit. Wire transfer and check.	*
55	Describe any leasing or financing options available for use by educational or governmental entities.	We offer a leasing solution through NCL Government Capital.	*
56	Describe any standard transaction documents that you propose to use in connection with an awarded contract (order forms, terms and conditions, service level agreements, etc.). Upload a sample of each (as applicable) in the document upload section of your response.	Order process: Order documents received (signed quote or PO, building worksheet, install questionnaire); order processed at CXT (PO verified, drawings generated, questions generated to customer); drawings completed by CXT and returned to customer for approval; customer approves drawings then CXT generates manufacturing instructions; building is then scheduled for production and delivery.	*
57	Do you accept the P-card procurement and payment process? If so, is there any additional cost to Sourcewell participating entities for using this process?	No, not at this time.	*

Table 11: Pricing and Delivery

Provide detailed pricing information in the questions that follow below. Keep in mind that reasonable price and product adjustments can be made during the term of an awarded Contract as described in the RFP, the template Contract, and the Sourcwell Price and Product Change Request Form.

Line Item	Question	Response *	
58	Describe your pricing model (e.g., line-item discounts or product-category discounts). Provide detailed pricing data (including standard or list pricing and the Sourcwell discounted price) on all of the items that you want Sourcwell to consider as part of your RFP response. If applicable, provide a SKU for each item in your proposal. Upload your pricing materials (if applicable) in the document upload section of your response.	Our price on our Sourcwell work sheets are the discounted price for members. See file SourcwellPriceSheets.zip Pricing of the building and all options are easily clicked on and added up on our price sheets. The sheets are sent to members with the freight and any optional items requested. The pricing includes the offloading and set up at site. Members have a place to add there member number and a estimated lease rate from NCL is shown. Open market items are also listed in a separate area, along with freight for complete cost clarity.	*
59	Quantify the pricing discount represented by the pricing proposal in this response. For example, if the pricing in your response represents a percentage discount from MSRP or list, state the percentage or percentage range.	CXT is offering a 10% discount off of buildings on our Commercial building price list. It represents our best discount offered. The pricing is the same that is currently offered to Sourcwell members.	*
60	Describe any quantity or volume discounts or rebate programs that you offer.	The Sourcwell discount is the best offered. CXT will negotiate with Members on large orders on a case by case basis.	*
61	Propose a method of facilitating "sourced" products or related services, which may be referred to as "open market" items or "nonstandard options". For example, you may supply such items "at cost" or "at cost plus a percentage," or you may supply a quote for each such request.	Our price sheets identify all "open market" custom option items requested by the member. They will be priced at cost plus 30% for Members. Standard non-member pricing is cost plus 40%.	*
62	Identify any element of the total cost of acquisition that is NOT included in the pricing submitted with your response. This includes all additional charges associated with a purchase that are not directly identified as freight or shipping charges. For example, list costs for items like pre-delivery inspection, installation, set up, mandatory training, or initial inspection. Identify any parties that impose such costs and their relationship to the Proposer.	Cost of any PE stamped drawings and state inspection fee's that are required will be added as a line item on all price sheets for complete clarity. All required taxes are not include.	*
63	If freight, delivery, or shipping is an additional cost to the Sourcwell participating entity, describe in detail the complete freight, shipping, and delivery program.	Freight is FOB plant pre-paid and add. A line item is included on all Sourcwell price sheets for complete clarity. All building prices include the offload and setting of the building at site.	*
64	Specifically describe freight, shipping, and delivery terms or programs available for Alaska, Hawaii, Canada, or any offshore delivery.	Since all of our products are FOB plant and shipping is a per project priced item, the shipping program to offshore locations would be no different apart from the expense.	*
65	Describe any unique distribution and/or delivery methods or options offered in your proposal.	All building pricing includes the cost of the crane to offload and set the building at site for Sourcwell members.	*

Table 12: Pricing Offered

Line Item	The Pricing Offered in this Proposal is: *	Comments
66	c. better than the Proposer typically offers to GPOs, cooperative procurement organizations, or state purchasing departments.	Sourcwell will be the best available price for Members.

Table 13: Audit and Administrative Fee

Line Item	Question	Response *	
67	Specifically describe any self-audit process or program that you plan to employ to verify compliance with your proposed Contract with Sourcwell. This process includes ensuring that Sourcwell participating entities obtain the proper pricing, that the Vendor reports all sales under the Contract each quarter, and that the Vendor remits the proper administrative fee to Sourcwell. Provide sufficient detail to support your ability to report quarterly sales to Sourcwell as described in the Contract template.	All entities orders are checked to insure that they are Members prior to price offer. If not the entities are asked to join. All orders are checked to insure that the ordering entity is a member and has provided Sourcwell Membership details. CXT has designated Sourcwell price sheets that must come in on all Sourcwell orders. From there, all orders then follow our ISO 9001 process to insure they are tracked and entered with the membership information. All membership information is part of the entities account information and segregated in our system and tracked. Every quarter a report is pulled of the invoiced orders that are tracked and sent to Sourcwell.	*
68	If you are awarded a contract, provide a few examples of internal metrics that will be tracked to measure whether you are having success with the contract.	Sourcwell orders are measured as a percentage of total sales each month/QTR and year, with a current goal to meet 25% of all sales running though Sourcwell.	*
69	Identify a proposed administrative fee that you will pay to Sourcwell for facilitating, managing, and promoting the Sourcwell Contract in the event that you are awarded a Contract. This fee is typically calculated as a percentage of Vendor's sales under the Contract or as a per-unit fee; it is not a line-item addition to the Member's cost of goods. (See the RFP and template Contract for additional details.)	2%. Equal to our current fee.	*

Table 14A: Depth and Breadth of Offered Equipment Products and Services

Line Item	Question	Response *
70	Provide a detailed description of the equipment, products, and services that you are offering in your proposal.	CXT offers a full line of precast concrete restroom, shower, concession, and utility buildings. The units come in multiple sizes and designs that offer the users a low cost, easy to maintain building, that ships ready to use and installs in hours not days. Our buildings include all concrete designs and withstand hurricanes, floods, earthquakes, and the extremes of vandals. The buildings meet all codes, including ADA, and current electric and plumbing codes. Included on the Sourcewell pricing are 6 waterless vault style, 9 flush style, 4 shower units, 4 concession units, and 2 utility units. We also offer a customizable unit that allows members to mix and match of create a floor plan that works for them. See worksheets for a description of each unit offered.
71	Within this RFP category there may be subcategories of solutions. List subcategory titles that best describe your products and services.	Waterless and water style units. Storage, concession, and utility (pump house, telecommunication) use.

Table 14B: Depth and Breadth of Offered Equipment Products and Services

Indicate below if the listed types or classes of equipment, products, and services are offered within your proposal. Provide additional comments in the text box provided, as necessary.

Line Item	Category or Type	Offered *	Comments
72	Flush, waterless (vault), or compostable toilets and restrooms	☒ Yes ☐ No	Full line of Flush, and vault restrooms. Ability to mix or match units to meet members requirements.
73	Showers and changing rooms	☒ Yes ☐ No	Full line of Showers changing rooms. Ability to mix or match units to meet members requirements.
74	Combination restroom, shower, changing room, and ancillary or accessory use structures or facilities	☒ Yes ☐ No	Full line of units offered. Floor plants can be mixed or matched to meet Members needs.
75	Equipment, products, accessories, and supplies related to the solutions in lines 72 - 74 above.	☒ Yes ☐ No	Full line of Parts and accessories, plus the ability to pick unique fixtures to meet Members needs.
76	Related services - design-build services, site assessment, site preparation, customization, delivery, assembly, installation, maintenance or repair, and warranty programs.	☒ Yes ☐ No	Units can be "customized" while still being able to purchase off of Sourcewell. Floor plans can be altered to meet Member needs. Sourcewell pricing includes the delivery, offload, site prep and installation at site. Site evaluation is free. All units are fully warranted by CXT and we handle all of the repairs.

Table 15: Industry Specific Questions

Line Item	Question	Response *
77	Describe the installation process for your products and identify how installation is managed in the order process, if applicable.	Installation is included in the price of each building. CXT contracts the crane and has certified dedicated crews that perform the work. When ordered the Sourcewell member is asked for a date they would like to see the building delivered. From there, we work to produce, ship, and offload to meet that schedule. Roughly 2-4 weeks prior to the date of delivery, CXT confirms the site/member is ready to receive the building. A specific date and time are set for the delivery of the building and the trucking, crane, and installation crew are scheduled. On the date scheduled the crew offloads, and sets the building on the customer site. Once set, the crew will insure that all items are complete and the building is ready to use. At that point the crew have a walk through with the member representative and a signoff is given. Sourcewell members have a line item option of having CXT connect to site utilities', or perform that themselves on the flush, shower and concession room buildings. CXT can also perform the site pad and stub up work on these types of buildings for members. On vault restroom buildings, Sourcewell members have the line item of CXT doing the earthwork - digging, backfilling, compacting the hole for the vaults of the vault restrooms. The goal is to have a building set and ready to use in a very short period of time to help eliminate extensive site supervision time by the member. Also to give the member whatever level of service they need to get the building in to meet their budgets. Depending on size of the building, typically CXT can have the building ready to use in as little as 4 hours, and not longer than 3 days on large multi-section buildings.
78	Describe applicable vandalism resistance or vandalism abatement measures or attributes incorporated in the design or manufacture of your products.	CXT has all concrete construction. The building cannot rot, rust, burn down, and insects can't eat it. Siding and roofing will never need to be replaced. The walls and roof are cast in textured to match a wide option of simulated textures, including wood, block, brick and stone and give the appearance the member is looking for without the worry of replacing exterior finishes. All plumbing fixtures are wall mounted and valve and pipes are placed in chase area, not exposed to the public to keep them from being broken/vandalized. Stainless steel fixtures are available as an option for plumbing. And interior LED lights come with a lifetime warranty protection from vandalism. Every design CXT has is designed for durability, vandal resistance and low maintenance by the member.

Table 16: Exceptions to Terms, Conditions, or Specifications Form

Line Item 79. NOTICE: To identify any exception, or to request any modification, to the Sourcewell template Contract terms, conditions, or specifications, a Proposer must submit the exception or requested modification on the **Exceptions to Terms, Conditions, or Specifications Form** immediately below. The contract section, the specific text addressed by the exception or requested modification, and the proposed modification must be identified in detail. Proposer's exceptions and proposed modifications are subject to review and approval of Sourcewell and will not automatically be included in the contract.

Contract Section	Term, Condition, or Specification	Exception or Proposed Modification

Documents

Ensure your submission document(s) conforms to the following:

1. Documents in PDF format are preferred. Documents in Word, Excel, or compatible formats may also be provided.
 2. Documents should NOT have a security password, as Sourcewell may not be able to open the file. It is your sole responsibility to ensure that the uploaded document(s) are not either defective, corrupted or blank and that the documents can be opened and viewed by Sourcewell.
 3. Sourcewell may reject any response where any document(s) cannot be opened and viewed by Sourcewell.
 4. If you need to upload more than one (1) document for a single item, you should combine the documents into one zipped file. If the zipped file contains more than one (1) document, ensure each document is named, in relation to the submission format item responding to. For example, if responding to the Marketing Plan category save the document as "Marketing Plan."
- [Pricing](#) - Sourcewell Price Sheets.zip - Monday August 16, 2021 17:32:41
 - [Financial Strength and Stability](#) - 2020 LBFoster Report.pdf - Tuesday August 10, 2021 11:04:14
 - [Marketing Plan/Samples](#) - Ad-Brochure-LEED.zip - Tuesday August 10, 2021 11:08:27
 - WMBE/MBE/SBE or Related Certificates (optional)
 - [Warranty Information](#) - CXT Warranty.docx - Tuesday August 10, 2021 16:25:55
 - [Standard Transaction Document Samples](#) - CXT-InstallQuestionnaire-v3.pdf - Friday August 13, 2021 11:21:57
 - Upload Additional Document (optional)

Addenda, Terms and Conditions**PROPOSER AFFIDAVIT AND ASSURANCE OF COMPLIANCE**

I certify that I am the authorized representative of the Proposer submitting the foregoing Proposal with the legal authority to bind the Proposer to this Affidavit and Assurance of Compliance:

1. The Proposer is submitting this Proposal under its full and complete legal name, and the Proposer legally exists in good standing in the jurisdiction of its residence.
2. The Proposer warrants that the information provided in this Proposal is true, correct, and reliable for purposes of evaluation for contract award.
3. The Proposer, including any person assisting with the creation of this Proposal, has arrived at this Proposal independently and the Proposal has been created without colluding with any other person, company, or parties that have or will submit a proposal under this solicitation; and the Proposal has in all respects been created fairly without any fraud or dishonesty. The Proposer has not directly or indirectly entered into any agreement or arrangement with any person or business in an effort to influence any part of this solicitation or operations of a resulting contract; and the Proposer has not taken any action in restraint of free trade or competitiveness in connection with this solicitation. Additionally, if Proposer has worked with a consultant on the Proposal, the consultant (an individual or a company) has not assisted any other entity that has submitted or will submit a proposal for this solicitation.
4. To the best of its knowledge and belief, and except as otherwise disclosed in the Proposal, there are no relevant facts or circumstances which could give rise to an organizational conflict of interest. An organizational conflict of interest exists when a vendor has an unfair competitive advantage or the vendor's objectivity in performing the contract is, or might be, impaired.
5. The contents of the Proposal have not been communicated by the Proposer or its employees or agents to any person not an employee or legally authorized agent of the Proposer and will not be communicated to any such persons prior to Due Date of this solicitation.
6. If awarded a contract, the Proposer will provide to Sourcewell Participating Entities the equipment, products, and services in accordance with the terms, conditions, and scope of a resulting contract.
7. The Proposer possesses, or will possess before delivering any equipment, products, or services, all applicable licenses or certifications necessary to deliver such equipment, products, or services under any resulting contract.
8. The Proposer agrees to deliver equipment, products, and services through valid contracts, purchase orders, or means that are acceptable to Sourcewell Members. Unless otherwise agreed to, the Proposer must provide only new and first-quality products and related services to Sourcewell Members under an awarded Contract.
9. The Proposer will comply with all applicable provisions of federal, state, and local laws, regulations, rules, and orders.
10. The Proposer understands that Sourcewell will reject RFP proposals that are marked "confidential" (or "nonpublic," etc.), either substantially or in their entirety. Under Minnesota Statutes Section 13.591, subdivision 4, all proposals are considered nonpublic data until the evaluation is complete and a Contract is awarded. At that point, proposals become public data. Minnesota Statutes Section 13.37 permits only certain narrowly defined data to be considered a "trade secret," and thus nonpublic data under Minnesota's Data Practices Act.
11. Proposer its employees, agents, and subcontractors are not:
 1. Included on the "Specially Designated Nationals and Blocked Persons" list maintained by the Office of Foreign Assets Control of the United States Department of the Treasury found at: <https://www.treasury.gov/ofac/downloads/sdnlist.pdf>;
 2. Included on the government-wide exclusions lists in the United States System for Award Management found at: <https://sam.gov/SAM/>; or
 3. Presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from programs operated by the State of Minnesota; the United States federal government or the Canadian government, as applicable; or any Participating Entity. Vendor certifies and warrants that neither it nor its principals have been convicted of a criminal offense related to the subject matter of this solicitation.

☒ By checking this box I acknowledge that I am bound by the terms of the Proposer's Affidavit, have the legal authority to submit this Proposal on behalf of the Proposer, and that this electronic acknowledgment has the same legal effect, validity, and enforceability as if I had hand signed the Proposal. This signature will not be denied such legal effect, validity, or enforceability solely because an electronic signature or electronic record was used in its formation. - Gary Burger, Director Of Commercial Operations, LB Foster / CXT Inc

The Proposer declares that there is an actual or potential Conflict of Interest relating to the preparation of its submission, and/or the Proposer foresees an actual or potential Conflict of Interest in performing the contractual obligations contemplated in the bid.

☒ Yes ☐ No

The Bidder acknowledges and agrees that the addendum/addenda below form part of the Bid Document.

Check the box in the column "I have reviewed this addendum" below to acknowledge each of the addenda.

File Name	I have reviewed the below addendum and attachments (if applicable)	Pages
Addendum_1_Restroom_and_Shower_Facilities_RFP_081721 Thu August 5 2021 02:29 PM	☒	2



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Contracting Opportunity

* * * This ad has not been published. It has been reviewed and pending publication. * * *

Title: Restroom and Shower Facility Solutions

Agency: Sourcewell

Division: Procurement Department

Contract Number: 081721

Contract Term: 4 years, with potential 1 year extension

Date of Issue: 06/29/2021

Due Date/Time: 08/17/2021 4:30 PM
Central Time

County(ies): All NYS counties

Classification: Construction Vertical: Building Construction; Rehabilitation & New Construction -
Commodities

Opportunity Type: General

Entered By: Chris Robinson

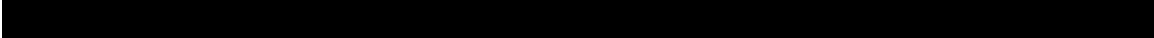
Description: Sourcewell, a State of Minnesota local government unit and service cooperative, is requesting proposals for **Restroom and Shower Facility Solutions** to result in a contracting solution for use by its Participating Entities. Sourcewell Participating Entities include thousands of governmental, higher education, K-12 education, nonprofit, tribal government, and other public agencies located in the United States and Canada. A full copy of the Request for Proposals can be found on the Sourcewell Procurement Portal <https://proportal.sourcewell-mn.gov>. Only proposals submitted through the Sourcewell Procurement Portal will be considered. Proposals are due no later than August 17, 2021, at 4:30 p.m. Central Time, and late proposals will not be considered.

Service-Disabled Veteran-Owned Set Aside: No

Contact Information

Primary contact: Sourcewell
Procurement Department
Chris Robinson
Procurement Manager
202 12th Street NE
P.O. Box 219
Staples, MN 56479
United States
Ph: 218-895-4168
rfp@sourcewell-mn.gov

Submit to contact: Sourcewell
Procurement Department
Chris Robinson
Procurement Manager
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Staples, MN 56479
United States
Ph: 218-895-4168
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AFFIDAVIT OF PUBLICATION



DJC OREGON

11 NE Martin Luther King Jr. Blvd. Suite 201 / Portland, OR 97232-3579
(503) 226-1311

STATE OF OREGON, COUNTY OF MULTNOMAH--ss.

I, **Nick Bjork**, being first duly sworn, depose and say that I am a **Publisher** of the **Daily Journal of Commerce**, a newspaper of general circulation in the counties of CLACKAMAS, MULTNOMAH, and WASHINGTON as defined by ORS 193.010 and 193.020; published at Portland in the aforesaid County and State; that I know from my personal knowledge that the Goods and Services notice described as

Case Number: NOT PROVIDED

RESTROOM AND SHOWER FACILITY SOLUTIONS

Sourcewell; Bid Location Staples, MN, Todd County; Due 08/17/2021 at 04:30 PM

a printed copy of which is hereto annexed, was published in the entire issue of said newspaper for 1 time(s) in the following issues:

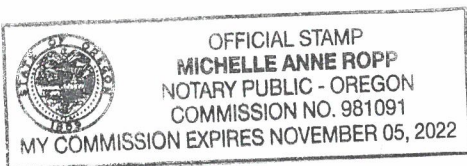
6/30/2021

State of Oregon
County of Multnomah

SIGNED OR ATTESTED BEFORE ME
ON THE 30th DAY OF June, 2021

Nick Bjork

Notary Public-State of Oregon



**SOURCEWELL
RESTROOM AND SHOWER
FACILITY SOLUTIONS**
Proposals due 4:30 pm,
August 17, 2021
REQUEST FOR PROPOSALS
Sourcewell, a State of Minnesota local government unit and service cooperative, is requesting proposals for Restroom and Shower Facility Solutions to result in a contracting solution for use by its Participating Entities. Sourcewell Participating Entities include thousands of governmental, higher education, K-12 education, nonprofit, tribal government, and other public agencies located in the United States and Canada. A full copy of the Request for Proposals can be found on the Sourcewell Procurement Portal (<https://portal.sourcewell-mn.gov>). Only proposals submitted through the Sourcewell Procurement Portal will be considered. Proposals are due no later than August 17, 2021, at 4:30 p.m. Central Time, and late proposals will not be considered.
Published Jun. 30, 2021. 12014692

Carol Jackson
Sourcewell
202 12th St NE
Staples, MN 56479-2438

Order No.: 12014692
Client Reference No:



Beaufort Gazette
Belleville News-Democrat
Bellingham Herald
Bradenton Herald
Centre Daily Times
Charlotte Observer
Columbus Ledger-Enquirer
Fresno Bee

The Herald - Rock Hill
Herald Sun - Durham
Idaho Statesman
Island Packet
Kansas City Star
Lexington Herald-Leader
Merced Sun-Star
Miami Herald

el Nuevo Herald - Miami
Modesto Bee
Raleigh News & Observer
The Olympian
Sacramento Bee
Fort Worth Star-Telegram
The State - Columbia
Sun Herald - Biloxi

Sun News - Myrtle Beach
The News Tribune Tacoma
The Telegraph - Macon
San Luis Obispo Tribune
Tri-City Herald
Wichita Eagle

AFFIDAVIT OF PUBLICATION

Account #	Order Number	Identification	Order PO	Amount	Cols	Depth
34474	89111	Print Legal Ad - IPL0029925		\$126.85	1	1.77

Attention: Carol Jackson

SOURCEWELL
PO BOX 219
STAPLES, MN 56479

REQUEST FOR PROPOSALS

Sourcewell, a State of Minnesota local government unit and service cooperative, is requesting proposals for **Restroom and Shower Facility Solutions** to result in a contracting solution for use by its Participating Entities. Sourcewell Participating Entities include thousands of governmental, higher education, K-12 education, nonprofit, tribal government, and other public agencies located in the United States and Canada. A full copy of the Request for Proposals can be found on the Sourcewell Procurement Portal [<https://portal.sourcewell-mn.gov>]. Only proposals submitted through the Sourcewell Procurement Portal will be considered. Proposals are due no later than August 17, 2021, at 4:30 p.m. Central Time, and late proposals will not be considered.
IPL0029925
Jun 29 2021

State of South Carolina

County of Richland

I, Tara Pennington, makes oath that the advertisement, was published in The State, a newspaper published in the City of Columbia, State and County aforesaid, in the issue(s) of

No. of Insertions: 1

Beginning Issue of: 06/29/2021

Ending Issue of: 06/29/2021

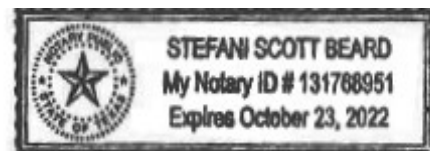
Tara Pennington

Tara Pennington

Sworn to and subscribed before me this 1st day of July in the year of 2021

Stefani Beard

Notary Public in and for the state of Texas, residing in Dallas County



Errors- the liability of the publisher on account of errors in or omissions from any advertisement will in no way exceed the amount of the charge for the space occupied by the item in error, and then only for the first incorrect insertion.

Extra charge for lost or duplicate affidavits.
Legal document please do not destroy!

Sourcewell, a State of Minnesota local government unit and service cooperative, is requesting proposals for **Restroom and Shower Facility Solutions** to result in a contracting solution for use by its Participating Entities.

Sourcewell Participating Entities include thousands of governmental, higher education, K-12 education, nonprofit, tribal government, and other public agencies located in the United States and Canada.

A full copy of the Request for Proposals can be found on the Sourcewell Procurement Portal [<https://portal.sourcewell-mn.gov>].

Only proposals submitted through the Sourcewell Procurement Portal will be considered. Proposals are due no later than August 17, 2021, at 4:30 p.m. Central Time, and late proposals will not be considered.

OC-000647487-01

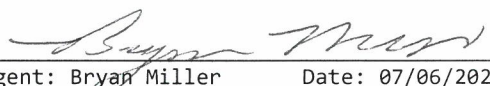
STATE OF OKLAHOMA, } SS.
COUNTY OF OKLAHOMA }

Affidavit of Publication

Bryan Miller, of lawful age, being first duly sworn, upon oath deposes and says that she/he is the Classified Legal Notice Admin, of GateHouse Media Oklahoma Holdings, Inc, a corporation, which is the publisher of *The Oklahoman* which is a daily newspaper of general circulation in the State of Oklahoma, and which is a daily newspaper published in Oklahoma County and having paid general circulation therein; that said newspaper has been continuously and uninterruptedly published in said county and state for a period of more than one hundred and four consecutive weeks next prior to the first publication of the notice attached hereto, and that said notice was published in the following issues of said newspaper, namely:

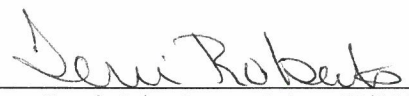
**SOURCEWELL
103734**

<u>AdNumber</u>	<u>Publication</u>	<u>Page</u>	<u>Date</u>
0000647487-01	OC- The Oklahoman	B11	06/29/2021
0000647487-01	OC- The Oklahoman	B9	07/06/2021


Agent: Bryan Miller

Date: 07/06/2021

Subscribed and sworn to be me before this date : 07/06/2021


Notary: Terri Roberts

Date: 07/06/2021



FOR THE RECORD

All times ET

NBA

Playoffs
CONFERENCE FINALS
(Best-of-7; x-if necessary)
Eastern Conference
Milwaukee 2, Atlanta 1
June 23: Atlanta 116, Milwaukee 113
June 25: Milwaukee 125, Atlanta 91
Sunday: Milwaukee 113, Atlanta 102
Tuesday: Milwaukee at Atlanta, 8:30 p.m.
Thursday: Atlanta at Milwaukee, 8:30 p.m.
x-Saturday: Milwaukee at Atlanta, 8:30 p.m.
x-July 5: Atlanta at Milwaukee, 8:30 p.m.
Western Conference
Phoenix 3, L.A. Clippers 1
June 20: Phoenix 120, L.A. Clippers 114
June 22: Phoenix 104, L.A. Clippers 103
June 24: L.A. Clippers 106, Phoenix 92
June 26: Phoenix 84, L.A. Clippers 80
Monday: L.A. Clippers at Phoenix
x-June 30: Phoenix at L.A. Clippers, 9 p.m.
x-July 2: L.A. Clippers at Phoenix, 9 p.m.

NHL

Stanley Cup Playoff
FINALS
(Best-of-7; x-if necessary)
Tampa Bay vs. Montreal
Tuesday: Montreal at Tampa Bay, 8 p.m.
Wednesday: Montreal at Tampa Bay, 8 p.m.
Friday: Tampa Bay at Montreal, 8 p.m.
July 5: Tampa Bay at Montreal, 8 p.m.
x-July 7: Montreal at Tampa Bay, TBA
x-July 9: Tampa Bay at Montreal, TBA
x-July 11: Montreal at Tampa Bay, TBA

MLB

AMERICAN LEAGUE				
East Division				
	W	L	Pct	GB
Boston	47	31	.603	—
Tampa Bay	47	32	.595	½
Toronto	40	36	.526	6
New York	40	37	.519	6½
Baltimore	24	54	.308	23

Central Division				
	W	L	Pct	GB
Chicago	45	32	.584	—
Cleveland	41	33	.554	2½
Detroit	34	44	.436	11½
Kansas City	33	43	.434	11½
Minnesota	33	43	.434	11½

West Division				
	W	L	Pct	GB
Houston	48	30	.615	—
Oakland	47	33	.588	2
Seattle	41	38	.519	7½
Los Angeles	37	40	.481	10½
Texas	30	48	.385	18

Sunday's Games
Boston 9, N.Y. Yankees 2
Toronto 5, Baltimore 2
L.A. Angels 6, Tampa Bay 4
Detroit 2, Houston 1, 10 innings
Minnesota 8, Cleveland 2
Texas 4, Kansas City 1
Seattle 3, Chicago White Sox 2, 1st game
Oakland 6, San Francisco 2
Chicago White Sox 7, Seattle 5, 7 innings, 2nd
Monday's Games
L.A. Angels at N.Y. Yankees
Detroit at Cleveland
Kansas City at Houston
Baltimore at Boston
Minnesota at Chicago White Sox
Tuesday's Games
L.A. Angels (Heaney 4-5) at N.Y. Yankees (Tallion 2-4), 7:05 p.m.
Tampa Bay (Hill 6-2) at Washington (Ross 4-7), 7:05 p.m.
Seattle (Flexen 6-3) at Toronto (Ray 5-3), 7:07
Detroit (Ureña 2-8) at Cleveland (Mejia 1-2), 7:10 p.m.
Kansas City (Keller 6-8) at Boston (Pivetta 6-3), 7:10 p.m.
Baltimore at Houston (Urquidy 6-3), 8:10 p.m.
Minnesota (Ober 0-0) at Chicago White Sox (Cease 6-3), 8:10 p.m.
Texas (Foltynewicz 1-7) at Oakland (Karpelien 4-1), 9:40 p.m.

Wednesday's Games
Tampa Bay at Washington, 4:05 p.m.
L.A. Angels at N.Y. Yankees, 7:05 p.m.
Seattle at Toronto, 7:07 p.m.
Detroit at Cleveland, 7:10 p.m.
Kansas City at Boston, 7:10 p.m.
Baltimore at Houston, 8:10 p.m.
Minnesota at Chicago White Sox, 8:10 p.m.
Texas at Oakland, 9:40 p.m.

NATIONAL LEAGUE				
East Division				
	W	L	Pct	GB
New York	40	33	.548	—
Washington	37	38	.493	4
Atlanta	37	40	.481	5
Philadelphia	36	39	.480	5
Miami	33	44	.429	9

Central Division				
	W	L	Pct	GB
Milwaukee	45	33	.577	—
Chicago	42	36	.538	3
Cincinnati	38	38	.500	6
St. Louis	37	41	.474	8
Pittsburgh	29	47	.382	15

West Division				
	W	L	Pct	GB
San Francisco	50	27	.649	—
Los Angeles	47	31	.603	3½
San Diego	47	33	.588	4½
Colorado	31	47	.397	19½
Arizona	22	57	.278	29

Sunday's Games
Washington 5, Miami 1
Atlanta 4, Cincinnati 0
Philadelphia 4, N.Y. Mets 2
Pittsburgh 7, St. Louis 2
Milwaukee 5, Colorado 0
Oakland 6, San Francisco 2
San Diego 5, Arizona 4
L.A. Dodgers 7, Chicago Cubs 1
Monday's Games
Pittsburgh at Colorado
Philadelphia at Cincinnati
N.Y. Mets at Washington
Chicago Cubs at Milwaukee
Arizona at St. Louis
San Francisco at L.A. Dodgers
Tuesday's Games
Miami (Rogers 7-4) at Philadelphia (Velasquez 2-2), 7:05 p.m.
Tampa Bay (Hill 6-2) at Washington (Ross 4-7), 7:05 p.m.
San Diego (Snell 3-3) at Cincinnati (Santillan 1-1), 7:10 p.m.
N.Y. Mets (Megill 0-0) at Atlanta (Morton 7-3), 7:20 p.m.
Chicago Cubs (Davies 5-4) at Milwaukee

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Sports Betting Line				
MLB				
Tuesday				
National League				
LINE				
FAVORITE				
Miami	-123	PHILADELPHIA	+108	
San Diego	-159	CINCINNATI	+144	
ATLANTA	-156	Mets	+141	
MILWAUKEE	-195	Chicago Cubs	+175	
ST. LOUIS	-153	Arizona	+143	
COLORADO	-160	Pittsburgh	+150	
DODGERS	-145	San Francisco	+135	

American League				
LINE				
FAVORITE				
YANKEES	-153	Angels	+143	
TORONTO	-176	Seattle	+158	
BOSTON	-172	Kansas City	+157	
CLEVELAND	-172	Detroit	+157	
HOUSTON	-250	Baltimore	+185	

Interleague				
CHI. WHITE SOX	-135	Minnesota	+120	
OAKLAND	-176	Texas	+158	
Tampa Bay	-114	WASHINGTON	+104	

NBA				
Tuesday				
FAVORITE				
Milwaukee	-7	(219)	ATLANTA	

Odds are subject to change. BetMGM.com does not offer lines for New Jersey-based college sports teams. Gannett may earn revenue from audience referrals to betting services. Newsrooms are independent of this relationship and there is no influence on news coverage.

At Seville, Spain
Belgium 1, Portugal 0
Monday's Games
At Copenhagen
Croatia 3, Spain 5
At Bucharest, Romania
France 3, Switzerland 3, Switzerland wins 5-4 on penalty kicks
Tuesday's Games
At London
England vs. Germany, noon
At Glasgow, Scotland
Sweden vs. Ukraine, 3 p.m.

TENNIS

Wimbledon
All England Lawn Tennis and Croquet Club, London
Surface: Grass
Men's Singles - First Round
Novak Djokovic (1), Serbia, def. Jack Draper, Britain, 4-6, 6-1, 6-2, 6-2; Frances Tiafoe, United States, def. Stefanos Tsitsipas (3), Greece, 6-4, 6-4, 6-3; Jiri Vesely, Czech Republic, def. Yannick Hanfmann, Germany, 6-1, 7-5, 7-6 (5); Miomir Kecmanovic, Serbia, def. Facundo Bagnis, Argentina, 6-4, 3-6, 6-3, 7-6 (1); Kevin Anderson, South Africa, def. Marcelo Tomas Barrios Vera, Chile, 6-7 (4), 6-4, 6-4, 7-6 (4); Roberto Bautista Agut (8), Spain, def. John Millman, Australia, 6-2, 3-6, 6-3, 7-6 (4); Andreas Seppi, Italy, def. Joao Sousa, Portugal, 4-6, 6-4, 7-5, 6-2; Marton Fucsovics, Hungary, def. Janik Sinner (19), Italy, 5-7, 6-3, 7-5, 6-3; Andrey Rublev (5), Russia, def. Federico Delbonis, Argentina, 4-6, 6-4, 6-1, 6-2; Denis Kudla, United States, def. Alejandro Davidovich Fokina (30), Spain, 5-7, 4-6, 7-6 (4), 6-3, 6-3; Dominik Koepfer, Germany, def. Reilly Opelka (27), United States, 6-4, 7-6 (3), 6-2; Karen Khachanov (25), Russia, def. Mackenzie McDonald, United States, 3-6, 6-3, 6-4, 7-6 (3); Vasek Pospisil, Canada, def. Roberto Carballes Baena, Spain, 6-3, 6-3, 6-3; Liam Broady, Britain, def. Marco Cecchinato, Italy, 6-3, 6-4, 6-0; Pedro Martinez, Spain, def. Stefano Travaglia, Italy, 6-3, 2-6, 6-4, 6-4; Andy Murray, Britain, def. Nikoloz Basilashvili (24), Georgia, 6-4, 6-3, 5-7, 6-3.
Women's Singles - First Round
Aryna Sabalenka (2), Belarus, def. Monica Niculescu, Romania, 6-1, 6-4; Garbine Muguruza (11), Spain, def. Fiona Ferro, France, 6-0, 6-3; Laura Siegemund, Germany, 6-1, 6-3; Lesley Pattinama Kerkhove, Netherlands, def. Svetlana Kuznetsova, Russia, 6-3, 6-3; Maria Camila Osorio Serrano, Colombia, def. Anna Kalininskaya, Russia, 1-6, 6-0, 6-4; Sloane Stephens, United States, def. Petra Kvitova (10), Czech Republic, 6-3, 4-6, 6-2; Danielle Collins, United States, def. Polona Hercog, Slovenia, 4-6, 6-3, 6-2; Sofia Kenin (4), United States, def. Xinyu Wang, China, 6-4, 6-2; Katie Boulter, Britain, def. Danielle Lao, United States, 6-7 (6), 6-3, 6-4; Viktorija Golubic, Switzerland, def. Veronika Kudermetova (29), Russia, 3-6, 6-1, 11-9; Iga Swiatek (7), Poland, def. Hsieh Su-wei, Taiwan, 6-4, 6-4; Irina-Camelia Begu, Romania, def. Katie Volynets, United States, 6-4, 7-5; Elena Rybakina (18), Kazakhstan, def. Kristina Mladenovic, France, 6-4, 6-0; Kristie Ahn, United States, def. Heather Watson, Britain, 2-6, 7-6 (3), 8-6.

MLS				
EASTERN				
	W	L	T	Pts
New England	7	2	23	18
Orlando City	6	1	3	19
Philadelphia	5	2	4	19
N.Y. City FC	5	3	2	18
Columbus	4	3	3	15
Nashville	4	3	1	13
New York	3	1	6	13
D.C. United	4	5	1	13
CF Montreal	3	3	4	13
Atlanta	2	2	6	12
Cincinnati	3	5	1	10
Inter Miami CF	2	6	2	8
Toronto FC	1	7	2	5
Chicago	1	7	2	5

SOCCER

WESTERN				
	W	L	T	Pts
Seattle	7	0	4	25
Sporting KC	7	3	2	23
LA Galaxy	7	3	0	21
Colorado	5	3	1	16
Minnesota United	4	4	2	14
Portland	3	3	5	13
Real Salt Lake	3	2	4	13
Los Angeles FC	3	4	3	12
San Jose	3	7	1	10
FC Dallas	2	4	4	10
Austin FC	2	5	4	10
Vancouver	2	6	2	8

NOTE: Three points for win, one point for tie.
Sunday's Games
New York City FC 2, D.C. United 1
Columbus 0, Austin FC 0, tie
FC Dallas 2, New England 1
Thursday's Game
Portland at Austin FC, 9:30 p.m.

NWSL

PUBLIC NOTICE				
Request for Proposal (RFP)				
E&I Cooperative Services, Inc. invites the submission of sealed proposals for:				
E100080-2021RFP IPV4 Brokering Services				
Proposals are due by 4:00 PM ET on Thursday, August 12, 2021.				
Respondents must submit their RFP response using E&I's Electronic Sourcing Solution which is accessible via https://www.eandi.org/contract-finder/rfp-development/ . E&I does not accept hard copy submissions or submissions through any other medium other than its Electronic Sourcing Solution.				
E&I is committed to developing mutually advantageous business relationships with minority, women, disabled, veteran and service-disabled veteran-owned businesses.				

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IMPROVE YOUR CREDIT SCORE				

BUSINESS				
FINANCIAL SERVICES				
We can help if your total debt is \$10,000 or more!				
☑ CREDIT CARD DEBT ☑ MEDICAL DEBT ☑ PERSONAL LOANS				
800-825-1306				
Avoid bankruptcy today and start over completely debt-free.				
THE CALL IS FREE.				

MLB POWER RANKINGS

LW Comments by staff reports				
1. Houston Astros	1	Carlos Correa (.935 OPS) is having a heck of a contract year.		
2. San Francisco Giants	2	Giants become the first team to reach 50 wins.		
3. Tampa Bay Rays	4	The Wander Franco era has begun in St. Petersburg.		
4. San Diego Padres	3	Tommy Pham is heating up, batting .317 with a .429 OBP since May 21.		
5. Los Angeles Dodgers	8	Tough week ahead: Two vs. Giants, four vs. Nationals in Washington.		
6. Boston Red Sox	6	Swept the Yankees twice in the month of June.		
7. Chicago White Sox	5	Michael Kopech (1.72 ERA in 31.1 IP) nearing a return, having been out since late May.		
8. Oakland Athletics	7	Tony Kemp (.401 OBP) getting chance to play every day at second base and left field.		
9. Chicago Cubs	9	Lefty Ray Brothers (2.84 ERA in 29 games) has been a nice comeback story. Jacob deGrom's worst start of 2021 (2 runs in 6 innings) ballooned his ERA to 0.69.		
10. New York Mets	11	Kolten Wong went 12-for-33 with three homers in first eight games after coming off IL.		
11. Milwaukee Brewers	12	MLB wins leader Aaron Civala (10-2) hits the injured list for at least a month.		
12. Cleveland	10	George Springer's return makes lineup even more fearsome.		
13. Toronto Blue Jays	14	Before you freak out about Gleyber Torres, remember that he's just 24.		
14. New York Yankees	13	Luis Castillo (1.71 ERA in last five starts) back on track after bad rough patch.		
15. Cincinnati Reds	16	Promoted in early June, Shed Long had 11 RBI in his first 14 games.		
16. Seattle Mariners	21	Kyle Schwarber's historic hot streak may be distracting from this team's flaws.		
17. Washington Nationals	19	Mike Soroka can't catch a break and is done for 2021 after re-tearing Achilles.		
18. Atlanta Braves	17	Hector Neris loses closer job while bullpen makeover continues to be a dud.		
19. Philadelphia Phillies	15	Jack Flaherty last pitched on May 31 and the Cardinals lost 16 of 23 to start June.		
20. St. Louis Cardinals	20	Jared Walsh's splits are wild: 1.080 OPS vs. righties, .551 vs. lefties.		
21. Los Angeles Angels	18	Pablo Lopez (2.87 ERA in 16 starts) proving that strong 2020 was no fluke.		
22. Miami Marlins	22	Will they trade Jose Berrios before the July 30 deadline?		
23. Minnesota Twins	24	Nicky Lopez (.347 OBP, 7 SB) has done a nice job filling in for Adalberto Mondesi.		
24. Kansas City Royals	23	Reminder that Casey Mize (2.77 ERA in last 10 starts) is eligible for Rookie of the Year.		
25. Detroit Tigers	25	After missing three weeks, Jon Gray returns with 10 strikeouts in five scoreless innings.		
26. Colorado Rockies	26	Kyle Gibson (1.52 ERA in five June starts) keeps upping his trade value.		
27. Texas Rangers	27	Bryan Reynolds (.366 BA, 6 HRs, 19 RBI in 22 games) tearing it up in June.		
28. Pittsburgh Pirates	28	A year after cancer surgery, Trey Mancini set to appear in the Home Run Derby.		
29. Baltimore Orioles	29	Team's 24-game road losing streak, an MLB record, mercifully comes to an end.		
30. Arizona Diamondbacks	30			

SUNDAY GOLF

PGA Tour Travelers Championship
TPC River Highlands, Cromwell, Conn.
Yardage: 6,841; Par: 70
Purse: \$7.4 Million
Final Round
x-won on the eighth playoff hole

Harris English (500), \$1,332,000	67-68-67-65-267 (-13)
Kramer Hickok (300), \$806,600	63-69-68-67-267 (-13)
Marc Leishman (190), \$510,600	69-66-69-64-268 (-12)
Abraham Ancer (135), \$362,600	72-66-66-65-269 (-11)
Brice Garnett (93), \$253,820	65-68-69-68-270 (-10)
Brian Harman (93), \$253,820	68-68-67-67-270 (-10)
Kevin Kisner (93), \$253,820	70-63-74-63-270 (-10)
Brooks Koepka (93), \$253,820	69-67-69-65-270 (-10)
Hank Lebioda (93), \$253,820	69-68-67-66-270 (-10)
Jason Day (70), \$186,850	69-62-70-70-271 (-9)
Beau Hossler (70), \$186,850	65-70-72-64-271 (-9)
Sepp Straka (70), \$186,850	66-70-69-66-271 (-9)
Guido Migliozzi, \$132,583	69-65-71-67-272 (-8)
Andrew Putnam (54), \$132,583	70-67-69-66-272 (-8)
Sam Burns (54), \$132,583	66-71-67-68-272 (-8)
Patrick Cantlay (54), \$132,583	68-66-70-68-272 (-8)
Chandler Packer (54), \$132,583	68-65-69-67-272 (-8)
Adam Scott (54), \$132,583	69-69-67-67-272 (-8)
Bryson DeChambeau (42), \$87,690	69-67-67-67-272 (-8)
Russell Henley (42), \$87,690	67-66-71-67-272 (-8)
Lucas Herbert, \$87,690	70-67-67-67-272 (-8)
Seamus Power (42), \$87,690	66-67-67-67-272 (-8)
Robert Streb (42), \$87,690	68-68-67-67-272 (-8)
Timba Watson (42), \$87,690	66-66-66-66-272 (-8)
Jim Herman (33), \$58,090	68-69-67-67-272 (-8)
Dustin Johnson (33), \$58,090	70-68-68-67-272 (-8)
Zach Johnson (33), \$58,090	66-70-66-66-272 (-8)
Chad Reavie (33), \$58,090	70-67-67-67-272 (-8)
Patrick Reed (33), \$58,090	69-66-70-67-272 (-8)
Stewart Cink (24), \$45,325	68-67-71-67-272 (-8)
Charley Hoffman (24), \$45,325	72-63-73-67-272 (-8)
Maverick McNealy (24), \$45,325	65-70-70-67-272 (-8)
Cameron Smith (24), \$45,325	67-67-67-67-272 (-8)
Brandt Stuard (24), \$45,325	69-66-71-67-272 (-8)
Brendan Todd (24), \$45,325	68-69-67-67-272 (-8)
Jonas Blixt (15), \$30,744	68-68-68-67-272 (-8)
Paul Casey (15), \$30,744	71-67-67-67-272 (-8)
Kevin Chappell (15), \$30,744	68-67-71-67-272 (-8)
Talor Gooch (15), \$30,744	64-70-70-67-272 (-8)
Justin Holman (15), \$30,744	67-67-67-67-272 (-8)
Joachim Niemann (15), \$30,744	68-67-71-67-272 (-8)
Justin Rose (15), \$30,744	70-63-74-67-272 (-8)
Matt Jones (15), \$30,744	70-66-66-66-272 (-8)
Satoshi Kodaira (15), \$30,744	68-68-67-67-272 (-8)
Troy Merritt (15), \$30,744	68-65-65-65-272 (-8)
Austin English (9), \$19,377	68-66-66-66-272 (-8)
Tommy Fleetwood (9), \$19,377	67-68-67-67-272 (-8)
Carlos Ortiz (9), \$19,377	70-65-65-65-272 (-8)
Scottie Scheffler (9), \$19,377	69-65-65-65-272 (-8)
J.J. Spaun (9), \$19,377	71-67-67-67-272 (-8)
Harold Varner III (9), \$19,377	70-68-67-67-272 (-8)
Kevin Na (9), \$19,377	65-68-66-66-272 (-8)
Tyler Duncan (6), \$17,094	67-67-67-67-272 (-8)
Doug Ghim (6), \$17,094	68-66-66-66-272 (-8)
Peter Malnati (6), \$17,094	68-70-70-67-272 (-8)
Ryan Moore (6), \$17,094	72-65-72-65-272 (-7)
Cameron Percy (6), \$17,094	70-66-66-66-272 (-8)



Alberta Purchasing Connection



Opportunity Notice Restroom and Shower Facility Solutions

Category: Goods

This opportunity is now
closed.

Opportunity Information

Organization: Rural Municipalities of Alberta (RMA)
Organization Address: www.rmalberta.com
Reference Number: AB-2021-04362
Solicitation Number: AB-2021-04362
Solicitation Type: Request for Proposal
Posting (MM/dd/yyyy): 06/29/2021
03:00:00 PM Alberta Time
Closing (MM/dd/yyyy): 08/17/2021
03:30:00 PM Alberta Time
Last Update (MM/dd/yyyy): 06/29/2021
02:35:06 PM Alberta Time
Agreement Type: NWPTA/TILMA & CFTA & CETA & TCA
Region of Opportunity: Open
Region of Delivery: Alberta
Opportunity Type: Open & Competitive
Commodity Codes:
N4510GD: Seats, Toilet, Plastic
N4510AK: Portable Toilets
N4510AD: Bowls, Toilet

[View Bid Package](#)

[View Interested Vendors \(Bidders\)](#)

APC "Opportunity Notices" This notice is provided for information purposes only. Refer to the "Opportunity Documents" in the bid package for authoritative information.

All queries pertaining to the language, content or any missing or inaccurate information within this abstract must be sent to its originator of the abstract, as specified in the opportunity notice.

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View Details

Click [here](#) to return to the Sourcewell Procurement Portal home page.

 Bid Details

Bid Classification:

Bid Type:

Bid Number:

Bid Name:

Bid Status:

Bid Closing Date:

Question Deadline:

Time-frame for delivery or the duration of the contract:

Negotiation Type:

Condition for Participation:

Electronic Auctions:

Language for Bid Submissions:

Submission Type:

Submission Address:

Public Opening:

Description:

Goods

RFP - General

RFP 081721

Restroom and Shower Facility Solutions

Closed

Tue Aug 17, 2021 4:30:00 PM (CDT)

Tue Aug 10, 2021 4:30:00 PM (CDT)

Refer to project document

Refer to project document

Refer to project document

Not Applicable

English unless specified in the bid document

Online Submissions Only

Online Submissions Only

No

Sourcewell, a State of Minnesota local government unit and service cooperative, is requesting proposals for **Restroom and Shower Facility Solutions** to result in a contracting solution for use by its Participating Entities. Sourcewell Participating Entities include thousands of governmental, higher education, K-12 education, nonprofit, tribal government, and other public agencies located in the United States and Canada. A full copy of the Request for Proposals can be found on the Sourcewell Procurement Portal [<https://proportal.sourcewell-mn.gov>]. Only proposals submitted through the Sourcewell Procurement Portal will be considered. Proposals are due no later than **August 17, 2021, at 4:30 p.m. Central Time**, and late proposals will not be considered.

Bid Document Access:

Bid Opportunity notices and awards and a free preview of the bid documents is available on this site free of charge without registration. Please note, some documents may be secured and you will be required to register for the bid to download and view the documents. There is no cost to obtain an unsecured version of the document and /or to participate in this solicitation.

Categories:

[Show Categories](#) [+]

Download Bid Documents

Simulate Submission

Meeting Locations

The following are the meeting times and locations for the opportunity:

Meeting Location	Description	Date / Time	Mandatory Me...	Meeting Document
Online Pre-Proposal Conference	Login instructions will be posted to the "Documents" section and available to registered suppliers two business days prior to the web conference.	Tuesday July 27, 2021 10:00 AM to 11:00 AM (CDT)	No	

 Documents

File Name	Pages	
RFP_081721_Restroom_and_Shower_Facilities Friday June 25, 2021 01:11 PM	13	 Download
RFP_081721_Restroom_and_Shower_Facilities_Contract_Template Friday June 25, 2021 01:17 PM	18	 Download



Bid RFP #081721 - Restroom and Shower Facility Solutions

Bid Type **RFP**

Bid Number **081721**

Title **Restroom and Shower Facility Solutions**

Expected Start Date **Jun 29, 2021 12:00:00 AM CDT**

Expected End Date **Aug 17, 2021 4:30:00 PM CDT**

Agency **Sourcewell**

Bid Contact **Chris Robinson**
 (218) 895-4168
 rfp@sourcewell-mn.gov
 202 12th Street NE
 P.O. Box 219
 Staples, MN 56479-0219

Questions

0 Questions
 0 Unanswered
[\[View Questions\]](#)

Edit Bid

[\[Edit\]](#)

Description

Sourcewell, a State of Minnesota local government unit and service cooperative, is requesting proposals for Restroom and Shower Facility Solutions to result in a contracting solution for use by its Participating Entities. Sourcewell Participating Entities include thousands of governmental, higher education, K-12 education, nonprofit, tribal government, and other public agencies located in the United States and Canada. A full copy of the Request for Proposals can be found on the Sourcewell Procurement Portal [<https://portal.sourcewell-mn.gov>]. Only proposals submitted through the Sourcewell Procurement Portal will be considered. Proposals are due no later than August 17, 2021, at 4:30 p.m. Central Time, and late proposals will not be considered.

Pre-Bid Conference

Date **Jul 27, 2021 10:00:00 AM CDT**

Location **Online Conference**

Notes **Login information will be emailed two business days prior to the event.**

Documents

No Documents for this bid

PENDING

Restroom and Shower Facility Solutions

Sourcewell, a State of Minnesota local government unit and service cooperative, is requesting proposals for Restroom and Shower Facility Solutions to result in a contracting solution for use by its Participating Entities. Sourcewell Participating Entities include thousands of governmental, higher education, K-12 education, nonprofit, tribal government, and other public agencies located in the United States and Canada. A full copy of the Request for Proposals can be found on the Sourcewell Procurement Portal [<https://portal.sourcewell-mn.gov>]. Only proposals submitted through the Sourcewell Procurement Portal will be considered. Proposals are due no later than August 17, 2021, at 4:30 p.m. Central Time, and late proposals will not be considered.

This RFP is now closed.

Solicitation Setting

✓ Invite Bidders	No
✓ Evaluate Response online	No
✓ Internal Approval	No
✓ Enable Collaboration with other Users	No

Solicitation Details

Mandatory Information

Solicitation Type	RFP	Solicitation Number	081721
Solicitation Name	Restroom and Shower Facility Solutions	Procurement Type	Goods , Services
Country & Province/State	Canada / Ontario	Published By	Sourcewell
Accept Questions	Not Applicable		

Internal Information (For Internal Use Only)

Procurement Title/Project Name	081721 Restroom and Shower Facility Solutions
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Advertisement

Basic Settings

Solicitation Type	Open to all suppliers	Estimated Contract Amount	\$80,000,000.00
Publish Date	06/29/2021	Closing Date & Time	08/17/2021 16:30:00 CT
Publish Option		Value Range for this Solicitation	10,000,001 over

Selected Categories

Construction

Building Projects/ Renovation/ Demolition Projects

Building Construction, Concrete Work, Sidewalks, Steel, Aluminum, Metal Fabrication, Mortar Renovation, Stone Cladding, Flooring Supplies And Services, Carpentry And Wood Services, Demolition Civil Works, Earth Moving, Site Preparation, Masonry Works, Underground Storage, Fences, Pallet Racking, Millwork, Waterproofing, Parking Lots, Modular Homes, etc



Solicitation Overview



Restroom and Shower Facility Solutions

081721

Closing Date: 08/17/2021 04:30:00 PM CT

Detail:

Sourcewell, a State of Minnesota local government unit and service cooperative, is requesting proposals for Restroom and Shower Facility Solutions to result in a contracting solution for use by its Participating Entities. Sourcewell Participating Entities include thousands of governmental, higher education, K-12 education, nonprofit, tribal government, and other public agencies located in the United States and Canada. A full copy of the Request for Proposals can be found on the Sourcewell Procurement Portal [<https://proportal.sourcewell-mn.gov>]. Only proposals submitted through the Sourcewell Procurement Portal will be considered. Proposals are due no later than August 17, 2021, at 4:30 p.m. Central Time, and late proposals will not be considered.

Notice

Basic Information

Estimated Contract Value (CAD)	\$80,000,000.00 (Not shown to suppliers)
Reference Number	0000203358
Issuing Organization	Sourcewell
Owner Organization	
Solicitation Type	RFP - Request for Proposal (Formal)
Solicitation Number	081721
Title	Restroom and Shower Facility Solutions
Source ID	PP.CO.USA.868485.C88455

Details

Location	All of Canada, All of Canada
Purchase Type	Duration:4 years
Description	Sourcewell, a State of Minnesota local government unit and service cooperative, is requesting proposals for Restroom and Shower Facility Solutions to result in a contracting solution for use by its Participating Entities. Sourcewell Participating Entities include thousands of governmental, higher education, K-12 education, nonprofit, tribal government, and other public agencies located in the United States and Canada. A full copy of the Request for Proposals can be found on the Sourcewell Procurement Portal [https://proportal.sourcewell-mn.gov]. Only proposals submitted through the Sourcewell Procurement Portal will be considered. Proposals are due no later than August 17, 2021, at 4:30 p.m. Central Time, and late proposals will not be considered.

Dates

Publication	2021/06/29 07:48:34 AM EDT
Question Acceptance Deadline	2021/08/10 05:30:00 PM EDT
Questions are submitted online	No
Bid Intent	Not Available
Closing Date	2021/08/17 05:30:00 PM EDT

Prebid Conference	2021/07/27 11:00:00 AM EDT
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Contact Information

Procurement Department
218-894-1930
rfp@sourcewell-mn.gov

Pre-Bidding Events

Event Type	Prebid Conference
Attendance	Recommended
Event date	2021/07/27 11:00:00 AM EDT
Location	Online Conference
Event Note	Login information will be emailed two business days prior to the event.

Bid Submission Process

Bid Submission Type	Electronic Bid Submission
Pricing	In attached document
Pricing	In attached document
Bid Documents List	

Item Name	Description	Mandatory
Bid Documents	Documents defining the proposal	Yes

Categories

Selected Categories

GSIN Categories (156)	
G	Goods Goods
N56	Construction And Building Materials Construction And Building Materials
N56	Construction and Building Materials Construction and Building Materials
N5600	CONSTRUCTION AND BUILDING MATERIALS Construction and building materials
N5610	MINERAL CONSTRUCTION MATERIALS, BULK Mineral Construction Materials Bulk Includes Asphalt; Cinders; Gravel; Lime; Sand; Rough Dimension Stone, including Rubble; Cement; Ballast.
N5610A	ASPHALT, LIQUID PETROLEUM, PRIMER AND CEMENT FOR ROAD PURPOSE ASPHALT, LIQUID PETROLEUM, PRIMER AND CEMENT FOR ROAD PURPOSE
N5610B	CEMENT CEMENT
N5610BA	CEMENT, PORTLAND CEMENT, PORTLAND
N5610BC	CEMENT, ROOFING CEMENT, ROOFING
N5610C	CONCRETE CONCRETE
N5610CB	CONCRETE, JOINT SEALER CONCRETE, JOINT SEALER
N5610CD	CONCRETE, READY-MIX CONCRETE, READY-MIX
N5610CE	CONCRETE, PRE-MIXED IN BAGS CONCRETE, PRE-MIXED IN BAGS
N5610D	EMULSION, ASPHALT EMULSION, ASPHALT
N5610E	PRIMER, ASPHALT PRIMER, ASPHALT
N5610F	PRECAST CONCRETE PRODUCTS PRECAST CONCRETE PRODUCTS
N5610G	WALK WAY COMPOUND (R-MIR-DEK) WALK WAY COMPOUND (R-MIR-DEK)
N5610H	COMPOUND COVERING DECK (DEX-O-TEX) COMPOUND COVERING DECK (DEX-O-TEX)
N5610J	COMPOUND WING WALK COMPOUND WING WALK
N5610K	SEAMLESS FLOORING SEAMLESS FLOORING
N5610KB	DECK COATING, NON-SLIP, EPOXY, CGSB 1-GP-192M, SEE DND QPL DECK COATING, NON-SLIP, EPOXY, CGSB 1-GP-192M, SEE DND QPL
N5610L	STONE AND AGGREGATE STONE AND AGGREGATE
N5610LA	AGGREGATE, CONSTRUCTION, FIRE CLAY, CRUSHED AGGREGATE, CONSTRUCTION, FIRE CLAY, CRUSHED
N5610LC	STONE, AGGREGATE, FOR RUNWAY ICE CONTROL STONE, AGGREGATE, FOR RUNWAY ICE CONTROL
N5610LE	GRAVEL, ROAD GRAVEL, ROAD

GSIN Categories (156)	
N5610LF	STONE, CRUSHED (QUARRY ROCK) STONE, CRUSHED (QUARRY ROCK)
N5610N	ASPHALT, PETROLEUM, ROOFING ASPHALT, PETROLEUM, ROOFING
N5610R	EXPANSION JOINT FILLER, FOR CONCRETE EXPANSION JOINT FILLER, FOR CONCRETE
N5610S	SAND, RUNWAY SAND, RUNWAY
N5610T	LIME, HYDRATED, STRUCTURAL LIME, HYDRATED, STRUCTURAL
N5610U	SOIL SOIL
N5610V	STONE, DECORATIVE STONE, DECORATIVE
N5610W	SAND SAND
N5620	TILES, BRICKS AND BLOCKS TILES, BRICKS AND BLOCKS
N5620A	TILES, FLOOR AND WALL, CERAMIC TILES, FLOOR AND WALL, CERAMIC
N5620AA	TILE, TERRAZZO AND MARBLE TILE, TERRAZZO AND MARBLE
N5620B	PRECAST, PRESTRESSED CONCRETE UNITS PRECAST, PRESTRESSED CONCRETE UNITS
N5620BA	STRUCTURAL MEMBERS, CONCRETE, PRECAST, PRESTRESSED STRUCTURAL MEMBERS, CONCRETE, PRECAST, PRESTRESSED
N5620BB	SLABS, ROOF, WALL AND FLOOR, CONCRETE, PRECAST, PRESTRESSED SLABS, ROOF, WALL AND FLOOR, CONCRETE, PRECAST, PRESTRESSED
N5620BC	PILING, CONCRETE, PRECAST, PRESTRESSED PILING, CONCRETE, PRECAST, PRESTRESSED
N5620BD	TRENCHES, CONCRETE, PRECAST, PRESTRESSED TRENCHES, CONCRETE, PRECAST, PRESTRESSED
N5620BE	WALLS, RETAINING, CONCRETE, PRECAST, PRESTRESSED WALLS, RETAINING, CONCRETE, PRECAST, PRESTRESSED
N5620C	TILES, STRUCTURAL, CLAY TILES, STRUCTURAL, CLAY
N5620D	BRICKS, CLAY (NONREFRACTORY) BRICKS, CLAY (NONREFRACTORY)
N5620F	BRICKS AND BLOCKS, CONCRETE BRICKS AND BLOCKS, CONCRETE
N5630	PIPE AND CONDUIT, NONMETALLIC Pipe and Conduit, Nonmetallic Includes Concrete Pipe and Conduit; Clay Pipe and Conduit for underground use; Drain Tile; Nonmetallic Pipe Fittings for underground use.
N5630B	PIPE, NONMETALLIC PIPE, NONMETALLIC
N5630BC	PIPE, NONMETALLIC, CONCRETE PIPE, NONMETALLIC, CONCRETE
N5630C	MANHOLES, CONCRETE, PRECAST, PRESTRESSED MANHOLES, CONCRETE, PRECAST, PRESTRESSED
N5640	WALLBOARD, BUILDING PAPER AND THERMAL INSULATION MATERIALS Wallboard, Building Paper, and Thermal Insulation Materials Includes Paper Building Board; Ceiling Board; Gypsum Board; Insulating Board; PlasterBoard; Soundproofing Board; Tar Paper; Wallpaper; Mineral Wool; Glass Wool Batts; Pipe Covering.
N5640A	ASBESTOS ASBESTOS

GSIN Categories (156)	
N5640E	INSULATION, THERMAL INSULATION, THERMAL
N5640EB	INSULATION, THERMAL, FIBREGLASS INSULATION, THERMAL, FIBREGLASS
N5640EC	INSULATION, THERMAL, PIPE COVERING (EXCEPT ASBESTOS) INSULATION, THERMAL, PIPE COVERING (EXCEPT ASBESTOS)
N5640ED	INSULATION, THERMAL, PIPE FITTING COVERINGS, FABRICATED INSULATION, THERMAL, PIPE FITTING COVERINGS, FABRICATED
N5640EF	INSULATION, THERMAL, POLYSTYRENE INSULATION, THERMAL, POLYSTYRENE
N5640EG	INSULATION, THERMAL, STYROFOAM INSULATION, THERMAL, STYROFOAM
N5640EK	INSULATION, THERMAL, PIPE COVERING, ASBESTOS INSULATION, THERMAL, PIPE COVERING, ASBESTOS
N5640EM	INSULATION, THERMAL, MINERAL FIBRE INSULATION, THERMAL, MINERAL FIBRE
N5640EMC	INSULATION, THERMAL, MINERAL FIBRE, BLOCK OR BOARD INSULATION, THERMAL, MINERAL FIBRE, BLOCK OR BOARD
N5640EME	INSULATION, THERMAL, MINERAL FIBRE, BLANKET INSULATION, THERMAL, MINERAL FIBRE, BLANKET
N5640EP	INSULATION, THERMAL, GRANULAR, VERMICULITE INSULATION, THERMAL, GRANULAR, VERMICULITE
N5640EQ	INSULATION, THERMAL, FIREPROOFING INSULATION, THERMAL, FIREPROOFING
N5640ER	INSULATION, THERMAL, MARINITE M INSULATION, THERMAL, MARINITE M
N5640FD	INSULATION, BOARD, THERMAL, FOAM FACED, POLYURETHANE (GENERAL PURPOSE) INSULATION, BOARD, THERMAL, FOAM FACED, POLYURETHANE (GENERAL PURPOSE)
N5640FF	INSULATION, BOARD, THERMAL, FOAM FACED, POLYURETHANE (ROOFING) CGSB 51-GP-26M, TYPE 4 INSULATION, BOARD, THERMAL, FOAM FACED, POLYURETHANE (ROOFING) CGSB 51-GP-26M, TYPE 4
N5640H	TILES, ACOUSTICAL, CEILING TILES, ACOUSTICAL, CEILING
N5640J	WALLBOARD WALLBOARD
N5640JA	WALLBOARD, GYPSUM WALLBOARD, GYPSUM
N5640JB	WALLBOARD, LAMINATES (ARBORITE AND FORMICA) WALLBOARD, LAMINATES (ARBORITE AND FORMICA)
N5640JC	WALLBOARD, GYPROC WALLBOARD, GYPROC
N5640JE	WALLBOARD, TEN TEST WALLBOARD, TEN TEST
N5640K	INSULATION TAPE, THERMAL INSULATION TAPE, THERMAL
N5640M	INSULATION, SOUND CONTROLLING INSULATION, SOUND CONTROLLING
N5640MB	SOUND CONTROLLING BLANKETS (EXCEPT FITTED TO EQUIPMENT) SOUND CONTROLLING BLANKETS (EXCEPT FITTED TO EQUIPMENT)
N5640N	PANEL, CEILING PANEL, CEILING
N5640P	WALLPAPER WALLPAPER

GSIN Categories (156)		
N5650	ROOFING AND SIDING MATERIALS	Roofing and Siding Materials Includes Roofing (all materials), including Sheet Metal; Roofing Felt; Roll Roofing; Roofing Tile; Shingles.
N5650A	ROOFING MATERIALS	ROOFING MATERIALS
N5650AC	ROOFING MATERIALS, METAL	ROOFING MATERIALS, METAL
N5650AD	ROOFING MATERIALS, ASBESTOS ASPHALT	ROOFING MATERIALS, ASBESTOS ASPHALT
N5650AF	ROOFING MATERIALS, CEDAR	ROOFING MATERIALS, CEDAR
N5650B	SIDING MATERIALS	SIDING MATERIALS
N5650BC	SIDING MATERIALS, METAL, ALUMINUM	SIDING MATERIALS, METAL, ALUMINUM
N5650BE	SIDING, HARDBOARD	SIDING, HARDBOARD
N5650C	SHINGLES, WOOD	SHINGLES, WOOD
N5650D	SHINGLES, ASBESTOS	SHINGLES, ASBESTOS
N5660	FENCING, FENCES, GATES AND COMPONENTS	FENCING, FENCES, GATES AND COMPONENTS
N5660B	FENCING	FENCING
N5660BA	FENCING, CHAIN LINK	FENCING, CHAIN LINK
N5660BC	FENCING, WIRE	FENCING, WIRE
N5660BD	FENCING, STEEL PANEL	FENCING, STEEL PANEL
N5660BE	FENCING, ELECTRICAL	FENCING, ELECTRICAL
N5660C	POST, FENCE	POST, FENCE
N5660CA	POST, FENCE, METAL	POST, FENCE, METAL
N5660D	RAIL, GUARD, HIGHWAY	RAIL, GUARD, HIGHWAY
N5660E	BARBED WIRE	BARBED WIRE
N5660F	FENCES, METAL	FENCES, METAL
N5660G	GATES, METAL	GATES, METAL
N5660GA	GATE SECURITY HYDRAULIC	GATE SECURITY HYDRAULIC
N5660H	POST, METAL SIGNS, U CHANNEL AND TELESCOPIC TYPE	POST, METAL SIGNS, U CHANNEL AND TELESCOPIC TYPE
N5670	BUILDING COMPONENTS, PREFABRICATED	Building Components, Prefabricated Includes Door Frames; Window Frames; Window Sashes; Eave Troughs (gutters); Gratings; Grilles; Shutters; Fixed Fire Escapes; Mounted Partitions.
N5670A	DOORS, METAL CONSTRUCTION	DOORS, METAL CONSTRUCTION

GSIN Categories (156)	
N5670AA	DOORS, ALUMINUM DOORS, ALUMINUM
N5670AB	DOORS, METAL, ROLLING DOORS, METAL, ROLLING
N5670AC	DOORS, METAL, SLIDING DOORS, METAL, SLIDING
N5670AD	DOORS, STEEL DOORS, STEEL
N5670AE	DOORS, METAL, SECURITY DOORS, METAL, SECURITY
N5670AF	DOORS, METAL, FIRE, MINERAL CORE DOORS, METAL, FIRE, MINERAL CORE
N5670AG	DOORS, OVERHEAD, METAL CONSTRUCTION DOORS, OVERHEAD, METAL CONSTRUCTION
N5670AH	DOORS, METAL, AUTOMATIC OPENING AND CLOSING DOORS, METAL, AUTOMATIC OPENING AND CLOSING
N5670AJ	DOORS, GARAGE METAL DOORS, GARAGE METAL
N5670AJA	DOOR, GARAGE, OVERHEAD DOOR, GARAGE, OVERHEAD
N5670AK	DOORS, METAL, COLD STORAGE DOORS, METAL, COLD STORAGE
N5670B	GRATING, METAL GRATING, METAL
N5670C	RAILING, HAND (METAL) RAILING, HAND (METAL)
N5670E	WINDOW, METAL WINDOW, METAL
N5670EA	WINDOW, METAL, STORM, ALUMINUM WINDOW, METAL, STORM, ALUMINUM
N5670EC	WINDOW, METAL, N.E.S. WINDOW, METAL, N.E.S.
N5670EE	WINDOW, METAL, SECURITY WINDOW, METAL, SECURITY
N5670EF	WINDOW METAL, STORM WINDOW METAL, STORM
N5670F	SKYLIGHTS, METAL, PLASTIC PANE SKYLIGHTS, METAL, PLASTIC PANE
N5670GA	STAIR TREAD GRATING, METAL STAIR TREAD GRATING, METAL
N5670H	TROUGHS, EAVES, METAL TROUGHS, EAVES, METAL
N5670K	WALLS, METAL, FOLDING WALLS, METAL, FOLDING
N5670L	PARTITIONS, METAL, SECURITY PARTITIONS, METAL, SECURITY
N5670N	STUDS AND TRIMS, STEEL, FOR DRYWALL STUDS AND TRIMS, STEEL, FOR DRYWALL
N5670P	SCREENS, WINDOW, ALUMINUM SCREENS, WINDOW, ALUMINUM
N5670S	FRAMES, DOOR, METAL FRAMES, DOOR, METAL
N5670V	ACCESS HATCHES, BUILDING, CUSTOM ACCESS HATCHES, BUILDING, CUSTOM

GSIN Categories (156)		
N5675	NONWOOD CONSTRUCTION LUMBER AND RELATED MATERIALS NONWOOD CONSTRUCTION LUMBER AND RELATED MATERIALS	
N5680	CONSTRUCTION MATERIAL, MISCELLANEOUS Miscellaneous Construction Materials Includes Expanded Metal Lath; Airplane Landing Mats; Traction Mats.	
N5680A	COVERS, MANHOLE (EXCEPT MARINE AND TANK) COVERS, MANHOLE (EXCEPT MARINE AND TANK)	
N5680B	STEEL BAR, REINFORCING STEEL BAR, REINFORCING	
N5680C	GABION GABION	
N5680E	FLOORING SYSTEMS FLOORING SYSTEMS	
N5680EB	FLOORING SYSTEMS, SECTIONAL, NON-SLIP (EXCEPT METAL GRATING) FLOORING SYSTEMS, SECTIONAL, NON-SLIP (EXCEPT METAL GRATING)	
N5680F	DECK FLOOR, N.E.S. DECK FLOOR, N.E.S.	
N5680H	WEATHER STRIPPING, DOOR, WINDOW WEATHER STRIPPING, DOOR, WINDOW	
N5680J	PANELS, BUILDING, INSULATED, METAL PANELS, BUILDING, INSULATED, METAL	
N5680L	TEXEL, ROAD SURFACING MATERIAL (TEXTILE) TEXEL, ROAD SURFACING MATERIAL (TEXTILE)	
C	Construction Construction	
512	Construction works for buildings Construction works for buildings	
512	Construction Works for Buildings CONSTRUCTION WORKS FOR BUILDINGS	
5121A	CONSTRUCTION OF ONE AND TWO DWELLING BUILDINGS CONSTRUCTION OF ONE AND TWO DWELLING BUILDINGS	
5122A	CONSTRUCTION OF MULTI-DWELLING BUILDINGS Multi-dwelling Buildings	
5123A	LEASING OF WAREHOUSES AND INDUSTRIAL BUILDINGS LEASING OF WAREHOUSES AND INDUSTRIAL BUILDINGS	
5123B	CONSTRUCTION OF WAREHOUSES AND INDUSTRIAL BUILDINGS Warehouses and Industrial Buildings	
5124A	LEASING OF COMMERCIAL BUILDINGS LEASING OF COMMERCIAL BUILDINGS	
5124B	CONSTRUCTION OF COMMERCIAL BUILDINGS Commercial Buildings	
5125A	LEASING OF PUBLIC ENTERTAINMENT BUILDINGS LEASING OF PUBLIC ENTERTAINMENT BUILDINGS	
5125B	CONSTRUCTION OF PUBLIC ENTERTAINMENT BUILDINGS CONSTRUCTION OF PUBLIC ENTERTAINMENT BUILDINGS	
5126A	LEASING OF HOTEL, RESTAURANT BUILDINGS ETC. LEASING OF HOTEL, RESTAURANT BUILDINGS ETC.	
5126B	CONSTRUCTION OF HOTEL, RESTAURANT AND SIMILAR BUILDINGS CONSTRUCTION OF HOTEL, RESTAURANT AND SIMILAR BUILDINGS	
5127A	LEASING OF EDUCATIONAL BUILDINGS LEASING OF EDUCATIONAL BUILDINGS	
5127B	CONSTRUCTION OF EDUCATIONAL BUILDINGS CONSTRUCTION OF EDUCATIONAL BUILDINGS	

GSIN Categories (156)	
5128A	LEASING OF HEALTH BUILDINGS LEASING OF HEALTH BUILDINGS
5128B	CONSTRUCTION OF HEALTH BUILDINGS Health Buildings
5129A	LEASING OF OTHER BUILDINGS LEASING OF OTHER BUILDINGS
5129B	CONSTRUCTION OF OTHER BUILDINGS Other Buildings
MERX Category (1)	
G	Goods Goods
G22	Miscellaneous Goods Miscellaneous Goods
UNSPSC Categories (3)	
72000000	Building and Construction and Maintenance Services
72130000	General building construction
72131500	Residential construction
72131600	Commercial or industrial construction
72131700	Infrastructure construction



Proposal Evaluation
Restroom and Shower Facility Solutions RFP #081721

		8540527 Canada Inc (Comac Corporation Niu Toilet)	Active Deployment Systems INC.	CXT Inc	Green Flush Technologies LLC	Public Restroom Company	Romtec, Inc.	United Site Services
Possible Points								
Conformance to Terms/ Conditions to Include Documentation	50	36	37	43	41	43	43	40
Pricing	400	340	330	346	290	333	288	300
Financial, Industry and Marketplace Successes	75	56	57	64	60	61	64	56
Bidder's Ability to Sell/ Service Contract Nationally	100	66	72	84	74	79	80	72
Bidder's Marketing Plan	50	35	37	41	41	44	41	38
Value Added Attributes	75	58	52	64	64	62	70	59
Warranty Coverages and Information	50	37	39	40	42	45	42	38
Selection and Variety of Products and Services Offered	200	161	164	169	160	172	169	167
Total Points	1,000	789	788	851	772	839	797	770
Rank Order		4	5	1	6	2	3	7

DocuSigned by:
Kim Austin
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Kim Austin, MBA, CPPB, Procurement Lead Analyst

DocuSigned by:
Michael Muñoz
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Michael Muñoz, CPPB, Procurement Analyst

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Stephanie Haataja
755BA3F379B5409...
Steff Haataja, CPIM, Procurement Analyst

DocuSigned by:
Nick Scholer
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Nick Scholer, Procurement Analyst



Proposal Opening Record

Date of opening: August 17, 2021

Sourcewell posted Request for Proposal #081721, for the procurement of Restroom and Shower Facility Solutions, on the Sourcewell Procurement Portal [proportal.sourcewell-mn.gov] on Tuesday, June 29, 2021, and the solicitation remained in an open status within the portal until August 17, 2021, at 4:30 pm CT. The RFP required that all proposals be submitted through the Sourcewell Procurement Portal no later than 4:30 pm CT on August 17, 2021, the date and time specified in the Solicitation Schedule.

The undersigned certify that all responses received on Request for Proposal #081721 were submitted through the Sourcewell Procurement Portal, and that each Proposer's response material was digitally sealed upon submission and remained inaccessible until the due date and time specified in the Solicitation Schedule.

Responses were received from the following:

8540527 Canada, Inc. (Comac Corporation Niu Toilet) - Submitted 8/17/21 at 12:17:31 PM
Active Deployment Systems, Inc. - Submitted 8/16/21 at 5:06:48 PM
CXT, Inc. - Submitted 8/16/21 at 5:40:42 PM
Green Flush Technologies, LLC - Submitted 8/16/21 at 7:15:45 PM
Public Restroom Company - Submitted 8/17/21 at 3:50:48 PM
Romtec, Inc. - Submitted 8/10/21 at 3:48:28 PM
United Site Services - Submitted 8/17/21 at 4:12:44 PM

The Proposals were opened electronically, and a list of all Proposers was made publicly available in the Sourcewell Procurement Portal, on August 17, 2021, at 4:40:13 PM CT. All responsive proposals were then submitted for review by the Sourcewell Evaluation Committee.

DocuSigned by:

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Chris Robinson, CPSM, Procurement Manager

DocuSigned by:

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Carol Jackson, Procurement Analyst

Memorandum

Date: June 27, 2022
To: Mayor and City Council
From:

Subject: SFS Requests

Recommendation:

Action: Make a motion to approve or deny Agreement Amendment No. 6 providing additional funding to SFS Architecture in the amount of \$59,966 conditional on approval by the City Attorney.

Background: SFS is requesting additional payments to them for bidding and construction at an expense to the City of \$2,778; additional payments related to change orders at an expense to the City of \$71,389, and additional payments related to "extended construction administration" at an expense to the City of \$22,120. SFS is "reducing" their request by \$36,321 due to corrections at the PD.

Additionally, please see the attached letter from SFS regarding a request for the City to allow SFS and Henderson Engineering to submit a 179D request for federal tax credit. The anticipated value of the tax credit is \$25,000.

The City's agreement with SFS allows states, "Should the budget be increased or decreased, the Architect shall be entitled to an equitable adjustment in compensation." In review of the agreement and discussions with SFS, there is no language regarding their other requests.

Discussion:

Financial Impact:

January 11, 2021

Revised December 3, 2021

Revised May 13, 2022



Sean Pederson
City Manager, City of Bonner Springs
205 E. 2nd Street
Bonner Springs, KS 66012

RE: Government Services Center
Bonner Springs, Kansas
Request for Additional Services Compensation

Dear Sean,

On behalf of SFS Architecture, following you will find our request for additional services compensation and proposed contributions for the above referenced project. This includes an equitable increase in compensation per Item 2. Article 11 Compensation, Section a. of Amendment No. 2 of our Owner-Architect agreement as well as additional services compensation for added scope during construction as discussed on February 26, 2020, and again via email January 11, 2021. Per your direction, we are submitting this fee request at the end of the project at Substantial Completion. If this proposal is acceptable, we can provide an amendment to the Agreement to formalize these additional services.

We appreciate the opportunity to continue our work with the City of Bonner Springs on this important project. If you have questions or comments regarding this information, please do not hesitate to call.

Sincerely,

Kerry K. Newman, AIA, LEED AP
Principal

Copy: Dana Gould, File

Scope of Additional Services and Proposed Compensation

1. Initial Bidding and Construction Administration Services \$2,778.00

Owner-Architect Agreement Amendment 2 added bidding and construction administration services for the project. Item 2, Article 11 Compensation, Section a. indicates that the fee is based on a construction cost up to \$13,850,000. The contractor's original contract sum was \$13,961,117 or a difference of \$111,117. Our original fee percentage for bidding and construction is 2.5%. We propose an additional fee for bidding and construction administration at 2.5% of \$111,117 or \$2,778.

2. Change Order Requests \$71,389.00

As previously discussed, we are requesting additional fee for accepted contractor change order items which are due to Owner requests and unforeseen conditions. We are not requesting additional fees for change order requests due to errors and omissions or additional environmental scopes of work. We are not requesting additional fees for change order requests we reviewed that were not accepted. Except for two items, all change order requests due to errors/omissions were considered betterment to the Owner. See item 4 below for contributions offered for the non-betterment change order requests. The total construction cost value for accepted change order requests due to Owner requests and unforeseen conditions is \$710,228.16. We request an additional fee of \$71,389 for these items. This covers design time, change order review/negotiation and construction administration time. As it is impractical if not impossible to track hours spent on each of these items, we are calculating the additional fee at 10.1% of the construction value (the same percentage fee as our original fee). Our effort on many of these items exceed this fee percentage however, we believe this is a tempered and fair approach. An itemized list is of these items is as follows:

- a. Community Center - Change Orders Requests 001, 030, 045 and 056
- b. City Hall – Add Alternates 1 (coping) and 2 (windows); Change Order Requests 007, 022, 026, 029, 032, 033, 035, 037, 038, 041, 042, 043, 044, 046, 047, 048, 058, 063b, 064, 065, 069, 070, 071, 076, 077, 079, 080, 083, 087, 096, 110, 118, 124, 127 and 142.
- c. Police Facility – Change Order Requests 005, 030, 072, 078, 085, 088, 094, 104, 123, 132, 137 and 149.

**Government Services Center
Bonner Springs, Kansas
Request for Additional Services Compensation
Page 2 of 2**

3. Extended Construction Administration \$22,120.00

Due to the extended construction contract period, we are requesting additional fees for additional construction administration time to cover seventeen (17) additional OAC meetings and fifteen (15) additional site visits for the contract time extension from September 18, 2020, to Substantial Completion on October 25, 2021. We request an average of 4 hours per OAC meeting and an average of 6 hours per site visit at an average hourly rate of \$140. This attempts to cover meeting/on-site time plus associated follow up time. This does not represent the total time spent during this period.

4. Contributions (\$36,321.00)

As previously discussed, and agreed to, we are proposing a contribution of \$35,000.00 for the revised Police Department sally port. In addition, we are proposing contributing \$1,321.00 for the non-betterment portion of COR 136 ceiling revisions at Police Toilet 115.

Total requested additional services compensation less proposed contributions is \$59,966.00.



BUILDING ENERGY&ECONOMICS

January 19, 2022
Sean Pederson, ICMA-CM
City Manager
City of Bonner Springs, Kansas
200 East 3rd Street

Subject: 179D Tax Deduction Form of Allocation

Dear Mr. Pederson,

Building Energy & Economics is requesting permission for allocation of the tax deduction incentives under §179D of the Internal Revenue Code regarding the Energy Policy Act of 2005 (EPAct 2005) and energy savings. This deduction has no direct value to the City of Bonner Springs as it does not pay federal income taxes.

Per the IRS definitions in Notice 2008-40 and the fact that the government entity does not pay taxes, tax deduction incentives can be allocated to the person primarily responsible for the efficiency design of this project. We are requesting you verify that SFS Architecture and Henderson Engineers are those responsible persons by signing this letter. After reviewing the enclosed form for accuracy, please sign and return it by scanning your signed copy and e-mailing it to my attention.

We congratulate you and appreciate that you and your organization have played a leading role in reducing the energy intensity of your facilities.

Sincerely,

Austin Hermesen
Building Energy & Economics



This document serves to identify the allocation of designer efforts on the referenced projects.

Government Entity:

Sean Pederson
City of Bonner Springs, Kansas
200 East 3rd Street
Bonner Springs, Kansas
913-422-1020

Designers:

SFS Architecture
2100 Central Street, Suite 31
Kansas City, MO 64108

Henderson Engineers
8345 Lenexa Drive, Suite 300
Lenexa, KS 66214

Building	Address	Date Placed in Service	Project Cost	Allocation to Designers
Bonner Springs Police	215 Cedar Bonner Springs, KS 66012	May 17, 2021	\$6,246,451	\$1.80/SF
Bonner Springs City Hall	200 E. 3 rd Street Bonner Springs, KS 66012	Oct. 25, 2021	\$8,675,117	\$1.80/SF

Declaration of allocation: "Under penalties of perjury, I declare that I have examined this allocation, including accompanying documents, and to the best of my knowledge and belief, the facts presented in support of this allocation are true, correct, and complete."

Signature of Representative

Name of Representative

Date

Signature of Designer

Name of Designer

Date



Excerpt from §179D of the Internal Revenue Code regarding the Energy Policy Act of 2005

SECTION 3. SPECIAL RULE FOR GOVERNMENT-OWNED BUILDINGS

.01 In General. In the case of energy efficient commercial building property (or partially qualifying commercial building property for which a deduction is allowed under § 179D) that is installed on or in property owned by a Federal, State, or local government or a political subdivision thereof, the owner of the property may allocate the § 179D deduction to the person primarily responsible for designing the property (the designer). If the allocation of a § 179D deduction to a designer satisfies the requirements of this section, the deduction will be allowed only to that designer. The deduction will be allowed to the designer for the taxable year that includes the date on which the property is placed in service.

.02 Designer of Government-Owned Buildings. A designer is a person that creates the technical specifications for installation of energy efficient commercial building property (or partially qualifying commercial building property for which a deduction is allowed under § 179D). A designer may include, for example, an architect, engineer, contractor, environmental consultant or energy services provider who creates the technical specifications for a new building or an addition to an existing building that incorporates energy efficient commercial building property (or partially qualifying commercial building property for which a deduction is allowed under § 179D). A person that merely installs, repairs, or maintains the property is not a designer.

.03 Allocation of the Deduction. If more than one designer is responsible for creating the technical specifications for installation of energy efficient commercial building property (or partially qualifying commercial building property for which a deduction is allowed under § 179D) on or in a government-owned building, the owner of the building shall—

- (1) determine which designer is primarily responsible and allocate the full deduction to that designer, or
- (2) at the owner's discretion, allocate the deduction among several designers.

.04 Form of Allocation. An allocation of the § 179D deduction to the designer of a government-owned building must be in writing and will be treated as satisfying the requirements of this section with respect to energy efficient commercial building property (or partially qualifying commercial building property for which a deduction is allowed under § 179D) if the allocation contains all of the following:

- (1) The name, address, and telephone number of an authorized representative of the owner of the government-owned building;
- (2) The name, address, and telephone number of an authorized representative of the designer receiving the allocation of the § 179D deduction;
- (3) The address of the government-owned building on or in which the property is installed;
- (4) The cost of the property;
- (5) The date the property is placed in service;
- (6) The amount of the § 179D deduction allocated to the designer;
- (7) The signatures of the authorized representatives of both the owner of the government-owned building and the designer or the designer's authorized representative; and
- (8) A declaration, applicable to the allocation and any accompanying documents, signed by the authorized representative of the owner of the government-owned building, in the following form:



BUILDING ENERGY&ECONOMICS

"Under penalties of perjury, I declare that I have examined this allocation, including accompanying documents, and to the best of my knowledge and belief, the facts presented in support of this allocation are true, correct, and complete."

.05 Obligations of Designer. Before a designer may claim the § 179D deduction with respect to property installed on or in a government-owned building, the designer must obtain the written allocation described in section 3.04. A designer is not required to attach the allocation to the return on which the deduction is taken. However, § 1.6001-1(a) of the Income Tax Regulations requires that taxpayers maintain such books and records as are sufficient to establish the entitlement to, and amount of, any deduction claimed by the taxpayer. Accordingly, a designer claiming a deduction under § 179D should retain the allocation as part of the taxpayer's records for purposes of § 1.6001-1(a) of the Income Tax Regulations.

.06 Tax Consequences to Designer of Government-Owned Buildings. The maximum amount of the § 179D deduction to be allocated to the designer is the amount of the costs incurred by the owner of the government-owned building to place the energy efficient commercial building property in service. A partial deduction may be allocated and computed in accordance with the procedures set forth in sections 2 and 3 of Notice 2006-52. The designer does not include any amount in income on account of the § 179D deduction allocated to the designer. In addition, the designer is not required to reduce future deductions by an amount equal to the § 179D deduction allocated to the designer. Although reducing future deductions in this manner would provide equivalent treatment for designers that are allocated a § 179D deduction and building owners that are required to reduce the basis of their energy efficient commercial building property by the amount of the § 179D deduction they claim, § 179D does not provide for any reductions other than reductions to the basis of the energy efficient commercial building property.

.07 Tax Consequences to Owner of Public Building. The owner of the public building is not required to include any amount in income on account of the § 179D deduction allocated to the designer. The owner of the public building is, however, required to reduce the basis of the energy efficient commercial building property (or partially qualifying commercial building property) by the amount of the § 179D deduction allocated.

R Number	CO Number	Project	Change Order Description	Accepted	Declined	Fee Request	Reason Code
n/a	01	City Hall	Add Alternates (1) coping stones; (2) windows	\$ 267,848.00		\$ 267,848.00	
001	01	Community Center	Permanent ADA Lift	\$ 50,195.20		\$ 50,195.20	GC Means and Methods/Betterment
003	01	City Hall / Police	VE Lighting and Concrete Pigment Removal	\$ (24,081.00)		\$ -	Value Engineering
005	06	Police	Stone Masonry Add for Mortar in lieu of Sealant	\$ 5,197.50		\$ 5,197.00	Error/Betterment
006	15	City Hall	Door Hardware Modifications	\$ 2,899.07	\$ 8,489.64		Error / Betterment
007	03	City Hall	ASI-003 First Floor Ceiling Scope Revisions	\$ 1,905.20		\$ 1,905.20	Unforeseen Condit
009	01		Alternate #1 and #2	included below		included below	
010	02	City Hall	Additional Asbestos Abatement - Remobilization	\$ 21,073.80		\$ -	Unforeseen Condit
011	03	City Hall	Chimney Hazmat Removal and Infill - Remobilization	\$ 7,775.90		\$ -	Unforeseen Condit
012	02	Police / Site	Shared Tunnel Abatement and Demo	\$ 36,628.89		\$ -	Unforeseen Condit
014	03	City Hall	S2 Shaftwall per RFI-027	\$ 4,560.66		\$ -	Omission / Betterment
015	02	Police / Site	CH Parging and Waterproofing Added Scope	\$ 7,999.20		\$ -	Omission / Betterment
016	04	Police / Site	Jersey Barriers for Egress	\$ 1,499.85		\$ -	GC Means and Methods/Betterment
018	02	City Hall	Slab Infill at Court Level	\$ 16,120.61		\$ -	Omission / Betterment
020	03	City Hall	ASI-005 Finishes Revisions	\$ 1,553.04		\$ -	Value Engineering
021	04	Police	Lower Level Changes	\$ (4,830.97)		\$ -	Owner Request
022	05	City Hall	Structural Changes - Wood	\$ 25,110.42		\$ 25,110.42	Unforeseen Condit
023	03	City Hall	Electrical Conduit - Credit	\$ (2,556.00)		\$ -	Value Engineering
026	05	City Hall	Chimney Cap	\$ 3,712.00		\$ 3,712.00	Unforeseen Condition
027	07	City Hall Addition	Cith Hall addition roof drain to basin	\$ 28,969.05		\$ -	Omission / Betterment
028	08	Police / Site	City Hall historic downspout tie in, basin, increased pipe size	\$ 16,244.64		\$ -	Omission / Betterment
029	05	City Hall	Structural Framing Modifications	\$ 10,651.65		\$ 10,651.65	Unforeseen Condit
030	08	Police / Site	Civil, Foundations	\$ 49,147.87		\$ 49,147.87	Unforeseen Condit
030	08	Community Center	Civil, Foundations	\$ 2,931.49		\$ 2,931.49	Betterment
032	10	City Hall	Concrete sill demo, added wood blocking at windows, increase width in mullion covering	\$ 945.46		\$ 945.46	Unforeseen Condit
033	05	City Hall	Removal of Concrete Vault in Basement	\$ 4,940.65		\$ 4,940.65	Unforeseen Condit
034							
035	05	City Hall	Court Room concrete slab reinforcement, self leveling	\$ 69,155.68		\$ 69,155.68	Unforeseen Condit
036		City Hall	First Floor - maintain existing storage room	\$ (4,551.53)		\$ -	Value Engineering
037	13	City Hall	First Floor - Infill opening; mod to vault door	\$ 963.63		\$ 963.63	Owner Request / Betterment / VE
038	09	City Hall	Roof Hydrants	\$ 2,410.59		\$ 2,410.59	Owner Request

040	11	Police / Site	Floor drain modifications	\$ 8,591.86		\$ -	Omission & Owner Request / Betterment
041	15	City Hall	Revise parapet detail	\$ 4,580.97		\$ 4,580.97	Unforeseen Condit
042		City Hall	Plastered finish across mechanical duct openings and 523sf of shafts.	\$ 8,378.75		\$ 8,378.75	Unforeseen Condit / Omission / Betterment
043	13	City Hall	Framing and new wall at ground floor over 2 stairs	\$ 10,611.26		\$ 10,611.26	Unforeseen Condit
044	10	City Hall	Additional framing at main corridor framing; repaired framing under stage.	\$3,990.45		\$3,990.45	Unforeseen Condit
045	12	Community Center	CT Cabinet electrical repairs at Community Center	\$2,599.85		\$2,599.85	Unforeseen Condit
046	10	City Hall	Court Room entry doors, additional masonry infill.	\$4,825.22		\$4,825.22	Unforeseen Condit
047	13	City Hall	Demo old closet, remove concrete slab in court clerk,	\$ 3,896.10		\$ 3,896.10	Unforeseen Condit
048	13	City Hall	Demo attic ductwork	\$5,274.72		\$ 5,274.72	Unforeseen Condit
050	11	Police / Site	Additional front canopy structural	\$ 13,437.44		\$ -	Omission / Betterment
051	11	Police / Site	Removal of drywall	\$ (1,605.71)		\$ -	Value Engineering
052	11	Police / Site	Additional reinforcement for trench drains.	\$ 967.44		\$ -	Omission / Betterment
055	13	City Hall	Lighting fixtures changes	\$502.49		\$ -	Omission / Betterment
056	14	Community Center	PR 17 community center drainage tie in - goes with COR 008	\$ 4,706.12		\$ 4,706.12	Owner Request / Betterment
057	15	City Hall	PR 10 deleted steel members; added angles for RFI 47, 94	\$ (1,336.58)		\$ -	Value Engineering
058	13	City Hall	RFIs 11, 16 existing openings in concrete floors	\$ 3,338.72		\$ 3,338.72	Unforeseen Condit
059	13	City Hall	RFI 24 new openings in existing elev lobby	\$ 9,209.24		\$ -	Omission / Betterment
060	13	City Hall	RFI 26 new soffit across corridor to conceal duct	\$ 3,676.56		\$ -	Omission / Betterment
061	13	City Hall	Electrified strikes modifications	\$ (2,793.46)		\$ -	Value Engineering
062	15	City Hall	Second floor fire protection changes.	\$ 3,403.44			Error / Betterment
063b	17	City Hall	Suspended panels on furring	\$ 16,467.51		\$ 16,467.51	Unforeseen Condit
064	15	City Hall	G and 1st floors soffit installation for ductwork	\$ 3,075.36		\$ 3,075.36	Unforeseen Condit
065	13	City Hall	Elect Rm G12 stone bump out modification	\$ 812.00		\$ 812.00	Unforeseen Condit
069	23	City Hall	Courtroom historic paint restoration	\$ 8,428.68		\$ 8,428.68	Owner Request
070	15	City Hall	North elevation brick panel rebuild	\$ 1,392.00		\$ 1,392.00	Unforeseen Condition
071	15	City Hall	Misc. additional framing	\$ 1,882.68		\$ 1,882.68	Unforeseen Condition
072	18	Police Facility	Power for vacuum at sally port; add for waterproofing	\$ 350.91		\$ 350.91	Owner Request
073	17	City Hall	Misc credits, add plaster lower level all walls	\$ (1,853.33)		\$ -	Value Engineering
074	17	City Hall	Room 121 ceiling removal, add plaster at top of wall	\$ (487.77)		\$ -	Value Engineering
075	16	Police Facility	Remove security cameras in 3 interview rooms.	\$ (2,679.60)		\$ -	Owner Request
076	20	City Hall	Change ceiling fixtures at stair landings; channel plaster and concrete for install	\$ 939.14		\$ 939.14	Unforeseen Condit

077	23	City Hall	Additional plaster patching	\$ 2,228.36		\$ 2,228.36	Unforeseen Condit
078	16	Police Facility	Evidence locker upgrade and added tactical lockers	\$ 33,233.14		\$ 33,233.14	Owner Request
079	17	City Hall	Shaft Wall Ceilings	\$ 861.88		\$ 861.88	Unforeseen Condit
080	20	City Hall	Restore found historic windows - 2 total	\$ 11,235.91		\$ 11,235.91	Owner Request
082	22	City Hall Addition	Deleted framing	\$ (791.30)		\$ -	Value Engineering
083	20	City Hall	Existing opening infills	\$ 15,016.44		\$ 15,016.44	Unforeseen Condit
084	22	City Hall Addition	Emergency Lighting Power	\$ 2,054.23		\$ -	Error / Betterment
085	21	Police Facility	Evidence Holding Mods	\$ 3,483.49		\$ 3,483.49	Owner Request
086	17	City Hall	Phone Booth data outlet	\$ -		\$ -	
087	17	City Hall	Mail Room G02D	\$ 5,620.96		\$ 5,620.96	Owner Request
088	18	Police Facility	Add window to Office 208	\$ 2,778.91		\$ 2,778.91	Owner Request
091	20	City Hall	W3 and W6 fixture changes	\$ (1,443.45)		\$ -	Value Engineering
092	24	Police Facility	PR 24 FFE - Room 109 drain box and hose bibb	\$ 3,082.89		\$ -	Ommission, Betterment
093	21	Police / Site	Drain tile modifications	\$ 2,509.73		\$ -	Ommission, Betterment
094	24	Police Facility	PR 25 Security system	\$ 20,404.64		\$ 20,404.64	Owner Request
095	19	Police Facility	Sally Port	\$ 151,655.17			
096	20	City Hall	Skylights painting, cleaning, plasterwork repair	\$ 9,213.78		\$ 9,213.78	Unforeseen Condition
097	25	City Hall	Add handrails at steps CIRC G17	\$ 2,930.88		\$ -	Ommission, Betterment
099	21	Police Facility	Draper shade in lieu of Mecho shade substitution	\$ (3,727.50)		\$ -	Value Engineering
100	20	City Hall	Draper shade in lieu of Mecho shade substitution	\$ (6,922.50)		\$ -	Value Engineering
102	23	City Hall	Lintel over exterior door opening - east elev	\$ 2,613.48		\$ -	Ommission, Betterment
074	21	Police Facility	Correction of -10 cents to Change Order 16	\$ (0.10)		\$ -	
103	31	City Hall Addition	Add steel beam at elevator opening + 6 days w/ GC	\$ 2,752.84	\$ 19,510.07		
104	24	Police Facility	Add drywall bulkhead above mesh partition in Evidence Storage	\$ 1,117.08		\$ 1,117.08	Owner Request / Betterment
106	24	Police Facility	Add 4 concrete benches at sidewalk north of Training Rm	\$ 5,256.54		\$ -	Ommission / Betterment
107	25	City Hall	Add 2 speakers to transaction windows in Rm 214.	\$ 962.54		\$ -	Ommission / Betterment
108	24	Police Facility	Underground electrical rough-in for fence/gates	\$ 9,240.16		\$ -	Ommission / Betterment
109	25	City Hall	Additional 4 smoke detectors at automatic door hold opens	\$ 4,497.32		\$ -	Ommission / Betterment
110	25	City Hall	Infill 3 found windows with plaster infill w/ reveal; this COR goes with COR 080 (restoration of other 2 windows)	\$ 5,609.11		\$ 5,609.11	Unforeseen Condition
111	25	City Hall	Credit for wheelchair lift change	\$ (20,714.25)		\$ -	
112	25	City Hall	Additional wood framing to install projector and lift	\$ 1,329.78			Ommission / Betterment
114	26	Police Facility	Extend overflow storm drain on sally port	829.78			Error / Betterment
115	25	Police Facility	Relocate fire annunciator panel location	\$ -		\$ -	Owner Request
118	25	City Hall	Install drywall cap at S03 stair guardrails	\$ 1,531.20		\$ 1,531.20	Unforeseen Condit
119	26/27/28	Police Facility/City Hal	Contract time extension	\$ -			
122	26	Police Facility	Delete mirrors in Women's lockers	\$ (930.17)			VE
123	26	Police Facility	Primer at epoxy floors for moisture mitigation	\$ 3,492.76		\$ 3,492.76	Unforeseen Condit
124	27	City Hall	Primer at epoxy floors for moisture mitigation	\$ 2,821.12		\$ 2,821.12	Unforeseen Condit
125	28	City Hall Addition	Core W section to install roof drain pipe	\$ 714.84			Unforeseen Condit
126	29	Police Facility	Increased amount of concrete at drive approaches for bollard/card reader install	\$ 8,742.92		\$ -	Error / Betterment
127	30	City Hall	Add'l underlayment/foam/flashing at voids	\$ 2,320.00		\$ 2,320.00	Unforeseen Condit
130	29	Police Facility	Grasses under stair in lieu of stone	\$ (106.50)		\$ -	VE

131	31	City Hall Addition	Additional course of stone at bottom	\$ 3,607.50		\$ -	Error / Betterment
132	29	Police Facility	Tactical lockers relocation	\$ 3,503.82		\$ 3,507.50	Owner Request
133	30	City Hall	ADA lift power	\$ 1,180.31		\$ -	Omission / Betterment
136	29	Police Facility	Toilet 115 ceiling	\$ 5,236.48		\$ -	Error/Betterment + Non-B (SFS Paid)
137	29	Police Facility	Room in use sign	\$ 472.12		\$ 472.12	Owner Request
138	29	Police Facility	Confidence monitor relocation	\$ (3,331.77)		\$ -	VE
141	30	City Hall	Door hold opens for 2 doors	\$ 1,380.95		\$ -	Omission/Betterment
142	30	City Hall	Cut stone at addition roof for counterflashing	\$ 3,410.40		\$ 3,410.40	Unforeseen Condit
145	29	Police Facility	Light bollards	\$ 5,407.92	\$ 6,251.24	\$ -	Omission/Betterment
146	30	City Hall	Credit for ss polishing	\$ (2,317.44)		\$ -	VE
148	30	City Hall	H/HH doors credit	\$ (3,380.31)		\$ -	VE
149	29	Police Facility	Sitework: Credit for concrete paving; statue foundation	\$ 1,204.08		\$ 1,204.08	VE, Owner Request
			Community Center Fee Request			\$ 6,103.70	
			City Hall Add'l Fee Request			\$ 52,721.56	
			City Hall Addition Add'l Fee Request				
			Police Facility Add'l Fee Request			\$ 12,563.34	
						\$ 71,388.60	
					Owner Requests*	\$ 95,086.79	
					10% Fee	\$ 9,508.68	
					*Total reflects Owner Requested COs with multiple "reasons" (e.g. VE, Omission, etc.)		



AMENDMENT NO. 6

Agreement for Architectural Services

Between City of Bonner Springs, Kansas and SFS Architecture, Inc.

Government Services Center

Bonner Springs, Kansas

This Amendment No. 6 is made this ____ day of ____ 2022 between the City of Bonner Springs, Kansas (Owner) and SFS Architecture, Inc. (Architect) pursuant to the terms and conditions set forth in the AIA Document B101 Standard Form of Agreement between Owner and Architect dated June 2017.

1. Article 11 Compensation is modified as follows:
 - a. 11.1 as modified by Amendment 2: Two Thousand Seven Hundred Seventy-Eight Dollars (\$2,778.00) is added to the previously approved Phase 2 fee for Bidding and Construction Administration Services.
 - b. 11.2: The following additional services are hereby included in Architect's compensation:
 - i. Seventy-One Thousand Three Hundred Eighty-Nine Dollars (\$71,389.00) for Architect's services related to Owner accepted change orders due to Owner requests and unforeseen conditions.
 - ii. Twenty-Two Thousand One Hundred Twenty Dollars (\$22,120.00) for Architect's services related to extended construction administration services.
 - iii. Thirty-Five Thousand Dollars (\$35,000.00) is credited as outlined in the Release dated September 24th, 2020, related to the revised Police Department salary port.
 - iv. One Thousand Three Hundred Twenty-One Dollars (\$1,321.00) is credited for the non-betterment portion of ceiling revisions at the Police Toilet.
 - v. Architect agrees this concludes additional services requested for construction administration, extended construction administration services, and all other claims, demands, debts for any architectural services provided by the Architect to the Owner.
 - c. In consideration of compensation of Fifty-Nine Thousand Nine Hundred Sixty-Six Dollars (\$59,966.00). the receipt and sufficiency of which consideration is acknowledged, the Architect releases and forever discharges the Owner, executors, administrators, legal representatives and assigned from all manner of actions, causes of action, debts, accounts, bonds, contracts, claims and demands which have been or may be sustained as a consequence of AIA Document B101 Standard Form of Agreement between Owner and Architect dated June 2017, subsequent Amendments thereto, and all other agreements for architectural services previously agreed to between the Owner and Architect.

- a Compensation will be payable to the Architect upon Final Completion and acceptance of the project as complete by the Owner.

Owner

Architect

Signature

Sean Pederson, City Manager
Name (Printed or typed)

Date

Signature

Kerry K. Newman, AIA LEED AP
Name (Printed or typed)

Date

Memorandum

Date: June 27, 2022
To: Mayor and City Council
From: Christina Brake

Subject: Public Use Request and Carnival Permit - Tiblow Days 2022

Recommendation:

Action: Make a motion to approve the public use request and carnival permit as presented.

Background: The Bonner Springs Edwardsville Chamber of Commerce submitted a Public Use Request for Tiblow Days from Friday, August 25 through Saturday, August 28. The Public Use Request includes closures for the Carnival, Band, Vendors, car show and Parade. Jones & Company will provide the Tiblow Days carnival again this year, operating from Thursday, August 25th through Saturday, August 27th to close by 11:00 p.m. each day. This year's request is not in the consent agenda because it includes a change to the parade route.

Discussion:

Financial Impact:



City of Bonner Springs
KANSAS

Private Use of Parks, Streets, or Public Parking Lot Application

Fee \$50.00 (Non-Alcohol)

Fee \$250.00 (Alcohol on Premises)

Not-for-profit organizations or individuals exempt from fees. (Attach certification form or 501c status)

Date: 6/24/2022

Date/Time of Requested Event: Tiblow Days Festival, August 25 - 27, 2022

Applicant Name: Bonner Springs Edwardsville Chamber of Commerce

Business or Organization: Bonner Springs Edwardsville Chamber of Commerce

Street Address/Mailing Address: 309 Oak St., P.O. Box 548 City/State/Zip: Bonner Springs, KS 66012

Phone: Home: N/A Work/Cell: 913-422-5044 Email: info@bsdewchamber.org

Detailed explanation of purpose of event: include if admissions or space rental will be charged:

Annual Tiblow Days Festival. Carnival charges for tickets for rides, vendors will sell items, car show participants are charged for entry,

Chamber will charge for booth space.

Event to Raise Funds for Charitable Purposes: Yes ☐ No ☒ If yes, what charitable purpose? _____

Police, Fire, EMS or Other Municipal Services Needed: Yes ☒ No ☐ If yes, what services? _____

Public Parking Lot(s) Requested: See attached map

☒ Clear diagram of the parking lot area to be used attached (Events with alcohol or cereal malt beverages must be fenced and be at least 30 feet from Centennial Park).

Park Requested: ☒ Centennial Park ☐ Dog Park ☐ Lion's Park ☒ Kelly Murphy Memorial Park
☐ Kerry Roberts Memorial Park ☐ North Park ☐ South Park ☐ Trails: _____

Street(s) Requested: _____

☒ Route map attached

Tent will be Used: Yes ☒ No ☐ (Tent permit form required, if applicable)

☒ **List of planned activities** attached

☒ **Copy of notification given to** all affected property owners and tenants of the request and list of everyone notified is attached.

☒ **Statement** that the public property used and adjacent areas will be cleaned immediately after the event attached.

☐ **Not-for-Profit** organization status proof attached

☐ **Certificate of insurance** that names the city as an additional insured attached.

☐ **List of vendors** that will participate in event attached.

☐ **Background** investigation forms for security personnel for approval attached.

Application Requirements:

- A. Submit this completed application and all required forms and information to the City Clerk's Office at least 30 days prior to the date of the event for City Council approval, but no more than one year in advance. Certificate of Insurance will be accepted after approval is granted. List of vendors must be provided prior to the event.
- B. Not-for-profit organizations, associations or individuals must provide proof of their non-profit status. A not-for-profit certificate of good standing from the Kansas Secretary of State is an acceptable proof for purposes of this subsection.
- C. Unincorporated associations, organizations or individuals not registered with the Kansas Secretary of State must provide certification of their not-for-profit status.
- D. All applicants must have or obtain all applicable business licenses and ensure vendors that participate in the event have or obtain an occupational license from the City.

Restrictions:

- A. Unless otherwise allowed by ordinance, no more than four special event permits will be issued per calendar year to any individual, business, association, or organization for the use of a public parking lot.
- B. Any event or activity that a for-profit individual, business, association or organization co-sponsors, promotes or participates in any way with any not-for-profit qualified individual, business, association or organization as defined in Section 12-703, paragraph J or K of this ordinance, will count as an event for the for-profit entity.
- C. Unless otherwise allowed by ordinance, no permit will be issued for more than three consecutive days, except for the carnival for Tiblow Days.
- D. No permit will be issued which conflicts with the annual Chamber of Commerce Tiblow Days, or any other city approved celebration.
- E. Approved event shall not take place between the hours of 12 a.m. midnight and 6 a.m. of any day.
- F. No permit will be issued in conflict with any other approved event, zoning ordinance, City ordinance, policy, or regulation.
- G. Sale, possession and/or consumption of alcoholic beverages or cereal malt beverages require separate permits per Chapter III Beverages, of the Ordinance Code. Applications for these permits shall be submitted at the same time as this permit.

Display of Permit: A permit shall be prominently displayed at the special event site or available to display to any officer or employee of the City upon demand.

Revocation of Permit: The City Manager or designee may suspend or revoke a permit if the permittee fails to meet the conditions imposed on the issuance of the permit, violates any provision of this Code or other ordinance of the City governing the activities authorized by the permit or if the permit was obtained by fraud or misrepresentation.

Hazard Prohibited: No person shall make any use of a public park, street or parking lot that constitutes an immediate hazard requiring immediate action to protect the public.

Penalty: Any person who violates the requirements of Ordinance No. 2304, upon conviction, shall be fined not less than \$20.00 nor more than \$500.00 or be imprisoned for not more than thirty (30) days, or be both so fined and imprisoned. Each day that a person violates the requirements of this Article shall constitute a separate offense.

I hereby confirm by signing this application that I understand the regulations and will comply with all regulations and ordinances of the City of Bonner Springs, as outlined above.

Signature of Applicant

Receipt

Transaction Code: MS
Product Code: LL



BONNER SPRINGS/EDWARDSVILLE AREA CHAMBER OF COMMERCE

P. O. Box 548, 309 Oak Street, Bonner Springs, KS 66012 · 913-422-5044
info@bsedwchamber.org · www.bsedwchamber.org · www.facebook.com/BSEDWChamber

June 14, 2022

Subject: 2022 Tiblow Days

Dear Business Owner/Manager:

The Bonner Springs-Edwardsville Area Chamber of Commerce sponsored Tiblow Days will be August 25, 26 and 27. The Chamber appreciates your support, cooperation, and patience. Please note that access to your business during the event (Friday afternoon and Saturday) will be limited and parking will not be allowed. This year's events in downtown Bonner Springs include:

Carnival: Sunday, August 21 through Sunday, August 28 – To be setup in the City Parking Lot at Elm between Second and Third Streets for the carnival behind the Harrington Funeral Home, the Parking Lot behind Ron's Berning Tire and the old Masonic Lodge, Elm Street adjacent to the parking lot from Second to Third Streets for Carnival vehicles and Third Street from Elm to Oak Street.

Bands/Stage & Crafters/Vendors: Noon Friday, August 26 through Midnight, Saturday, August 27.

- Kelly Murphy Park for City Band Friday night, vendor booths and entertainment.
- Centennial Park for possible vendor check-in Friday night and Saturday morning, vendor booths and festival seating.
- Second Street from Elm to Cedar for vendor booths.
- Oak Street from approximately 112 to 312 for booths, food trucks and entertainment down one side of the road, leaving space for emergency vehicles.
- Second Street and Cedar Parking Lot (Behind Nationwide) for vendor booths and covered seating, known as the "food court."
- Centennial Park Parking Lot to include the entire parking lot and parking spaces to be used for activities, vendor booths, bands, and stage, except for area used for Kobi's Beer Garden.

Parade: Saturday, August 28 - Begins at 9:30 a.m. to approximately 11:00 a.m. Parade route is from Lion's Park to Morse to Nettleton, Nettleton to Oak Street, stopping at the top of Oak. Floats to disperse down Elm, cars to continue down Nettleton, and walkers to disperse into Oak and the festival.

Car Show: Saturday, August 27 – Staged on Third Street, the City Parking Lot behind Mutual Savings in the southeast corner of Third and Cedar and the City Parking Lot behind Union Bank & Trust in the southwest corner of Third Street and Cedar.

Emergency Vehicle Display: After the Parade on Saturday, August 27, on Oak Street from Nettleton to K-32/Front Street for Emergency Vehicles and Touch a Truck lineup (EMS, Firetrucks, Police Cars).

Street Closures:

1. K-32/Cedar -Front Street to Third Street – Saturday, August 27, 6 a.m.- 3 p.m.
2. Second Street – Cedar to Elm – Friday, August 26, 2:00 PM to Saturday, August 27, 12 Midnight.
3. Third Street – Cedar Street to Elm- Friday, August 26, 2:00 PM to Saturday, August 28, 12 Midnight.
4. Third Street – From Behind Union Bank & Trust to Maple – Saturday, August 28, 6 a.m. to 3 p.m.
5. Oak Street – Friday, August 27, 2:00 PM to Saturday, August 27, 12 Midnight

There will be emergency vehicle access to all streets. No other traffic will be allowed.

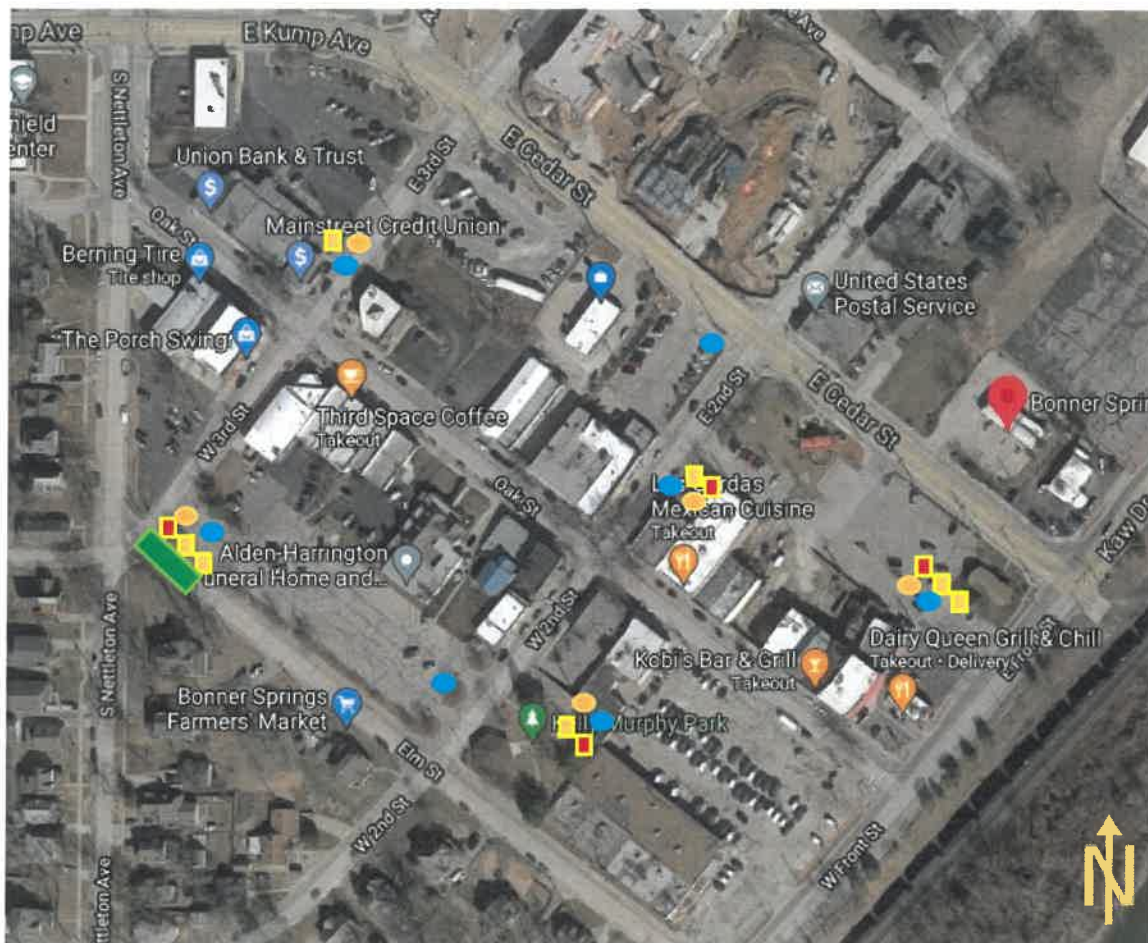
Please call 913-422-5044 with any questions and or concerns. Please email info@bsedwchamber.org for questions about Tiblow Days.

Jen Anders

Jen Anders
Executive Director

Garrett White

Garrett White
President



- : Sanitizer station
- : Handwashing station
- : Portable Toilet
- : ADA Portable Toilet
- : 20yd dumpster

TIBLOW DAYS

TIBLOW DAYS · AUG 25-27th 2022 SCHEDULE OF EVENTS

Downtown Bonner Springs, KS · Cedar · Front · Oak · Nettleton · 2nd & 3rd Streets

VENDORS

SPONSORS

CAR SHOW

PARADE

TIBLOW TROT

CONCERTS

FESTIVAL FAQ

Thursday, August 25th

- 6-8:30pm
- Mayor's Banquet at City Hall *Tickets available at City Hall or from any Rotary Club Member*
 - Carnival (Armband)

Friday, August 26th

- 5-10pm
- Carnival (Armband &/or Tickets)
 - Vendor Booths
Vendors have the option to be open Friday
- 7-8pm
- City Band Concert & Ice Cream Social Kelly Murphy Park
- 9pm-12am
- Musical Act: "The Stolen Winnebagos"
Main Parking Lot behind Kobi's (FREE)

FESTIVAL SPONSORS

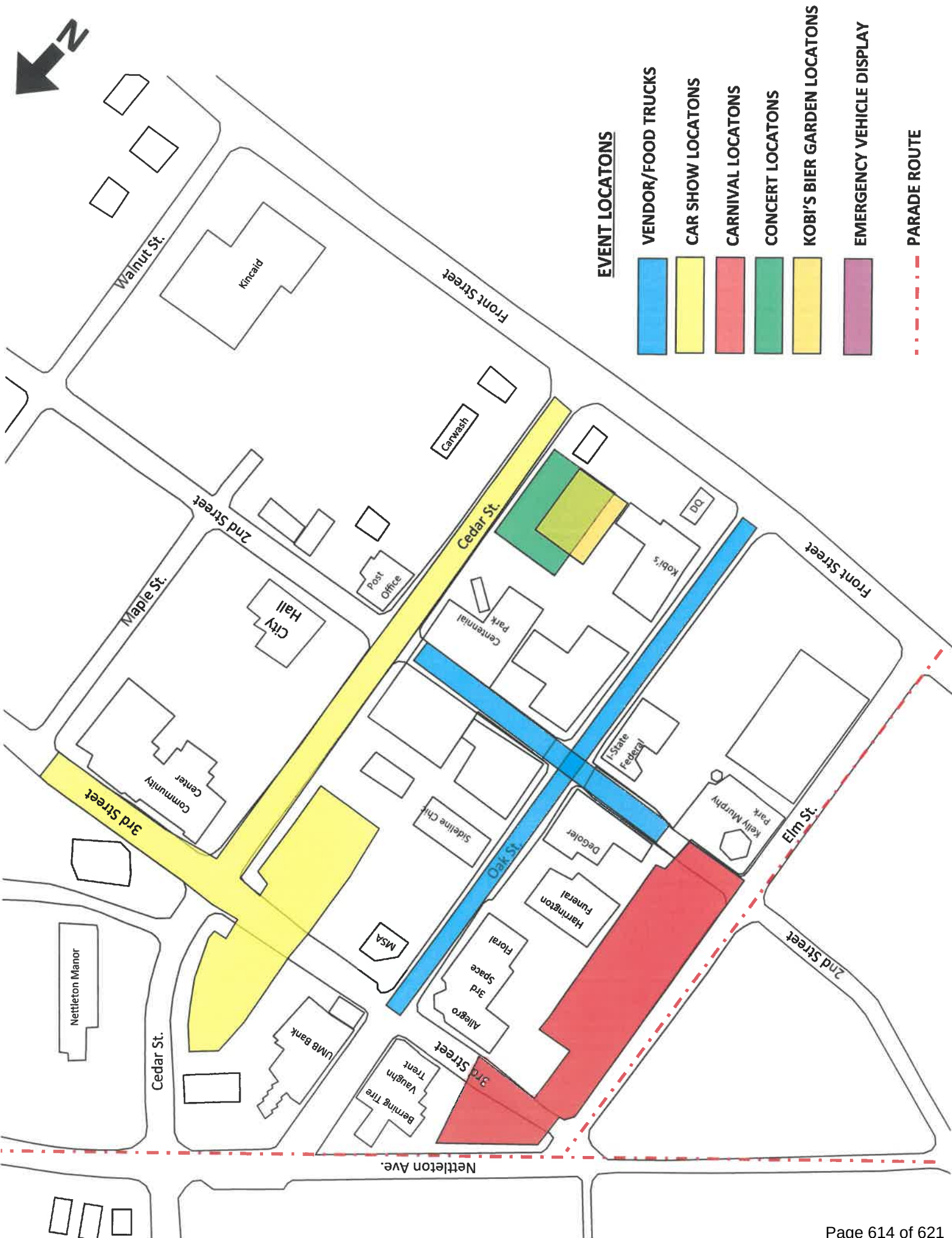
**BS/EDW Chamber
City of Bonner Springs
Union Bank & Trust
Atmos Energy
Third Space Coffee
Proclaim Church
Holliday Sand & Stone**

Saturday, August 27th

- 6-9am
- Pancake, Biscuit & Gravy Breakfast**
*First Christian Church
148 N Nettleton Ave*
- 7-9am
- Tiblow Trot**
*www.tiblowtrot.com
5 Mile & 5K Run, 2 Mile Walk*
- 8-10am
- Car Show Staging & Check-in**
Parking Lot on Cedar & 3rd Street
- 9am-5pm
- Vendor Booths**
2nd Street, from Elm to Cedar & Centennial Park
Vendors have the option to stay open past 5pm
- 9:30am
- Parade**
*Lions Park ⇒ Nettleton: **STOPPING** at top Oak
Car Show on Cedar Street
Awards Presentation from 2-2:30pm*
- 11am-2pm
- Parade Awards & Group Performances**
- BSHS Cheerleaders
 - BSHS Dazzlers
 - The Premiere Dance & Performing Arts
 - Grand Master Kim's Taekwondo
- 11:15am
- Live Music in Centennial Park Near the Caboose**
until soundcheck begins at main stage
- Noon-9pm
- Carnival**
(Armband 12-4, 5-9 &/or Tickets)
- 6-11pm
- Musical Lineup**
Main Parking Lot behind Kobi's (FREE)
- Opening Act, "Syx Pak"
 - Middle Act, Tribute Band "Motley Crucial"
 - Headliner, "Poison Overdose"

www.bsedwchamber.org/Tiblow or Find our event on Facebook/BS Tiblow Days

Bonner Springs' 42nd Annual Tiblow Days Festival
Hosted by the Bonner Springs-Edwardsville Area Chamber of Commerce



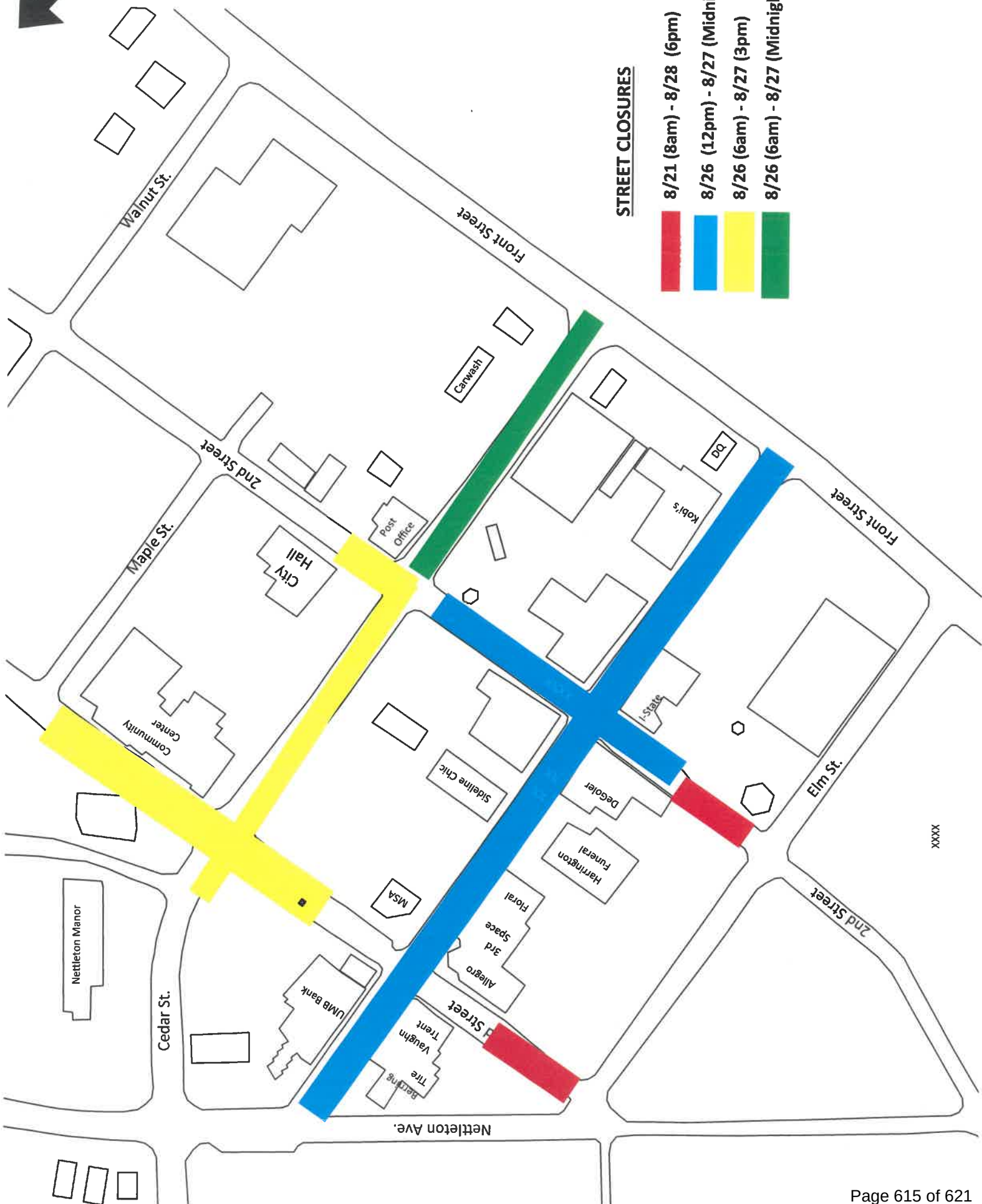
EVENT LOCATIONS

- VENDOR/FOOD TRUCKS**
- CAR SHOW LOCATIONS**
- CARNIVAL LOCATIONS**
- CONCERT LOCATIONS**
- KOBI'S BIER GARDEN LOCATIONS**
- EMERGENCY VEHICLE DISPLAY**
- PARADE ROUTE**



STREET CLOSURES

	8/21 (8am) - 8/28 (6pm)
	8/26 (12pm) - 8/27 (Midnight)
	8/26 (6am) - 8/27 (3pm)
	8/26 (6am) - 8/27 (Midnight)



City Manager's Update

Date: June 24th, 2022

To: Mayor and City Council

General

- Bonner Blast will be Thursday, June 30th following the City Band Concert.
- The Wyandotte County Museum is hosting a living history weekend to commemorate the 165th anniversary of the Utah Expedition's training and departure from Fort Leavenworth. Visitors can watch reenactments, training exercises and more on Saturday, June 25th from 9am – 4pm and Sunday, June 26th from 9am – 1pm. More information is available on the museum website at <https://www.wycokck.org/Departments/Wyandotte-County-Historical-Museum>

Economic Development

- We should be receiving the first Kansas Fights Addiction Opioid Settlement in an estimated amount of \$1,950. This is the smaller settlement. There should be an additional distribution of settlement funds from the larger case. These funds will be used for purposes to treat and mitigate opioid abuse.
- All easements on Riverview have been acquired. The contractor will be starting soon on the widening of Riverview and improvements to the stormwater infrastructure. The sanitary sewer force main is under construction. Site work and grading is currently under way.
- Old Dominion Freight Lines' buildings are nearing completion and have started discussions on public improvement completion process.
- Sandstone Townhomes' engineering plans are in review. The developer intends to begin as soon as possible. The RHID proposal and Housing Needs Analysis were sent to the Secretary of Commerce for review.

Recreation

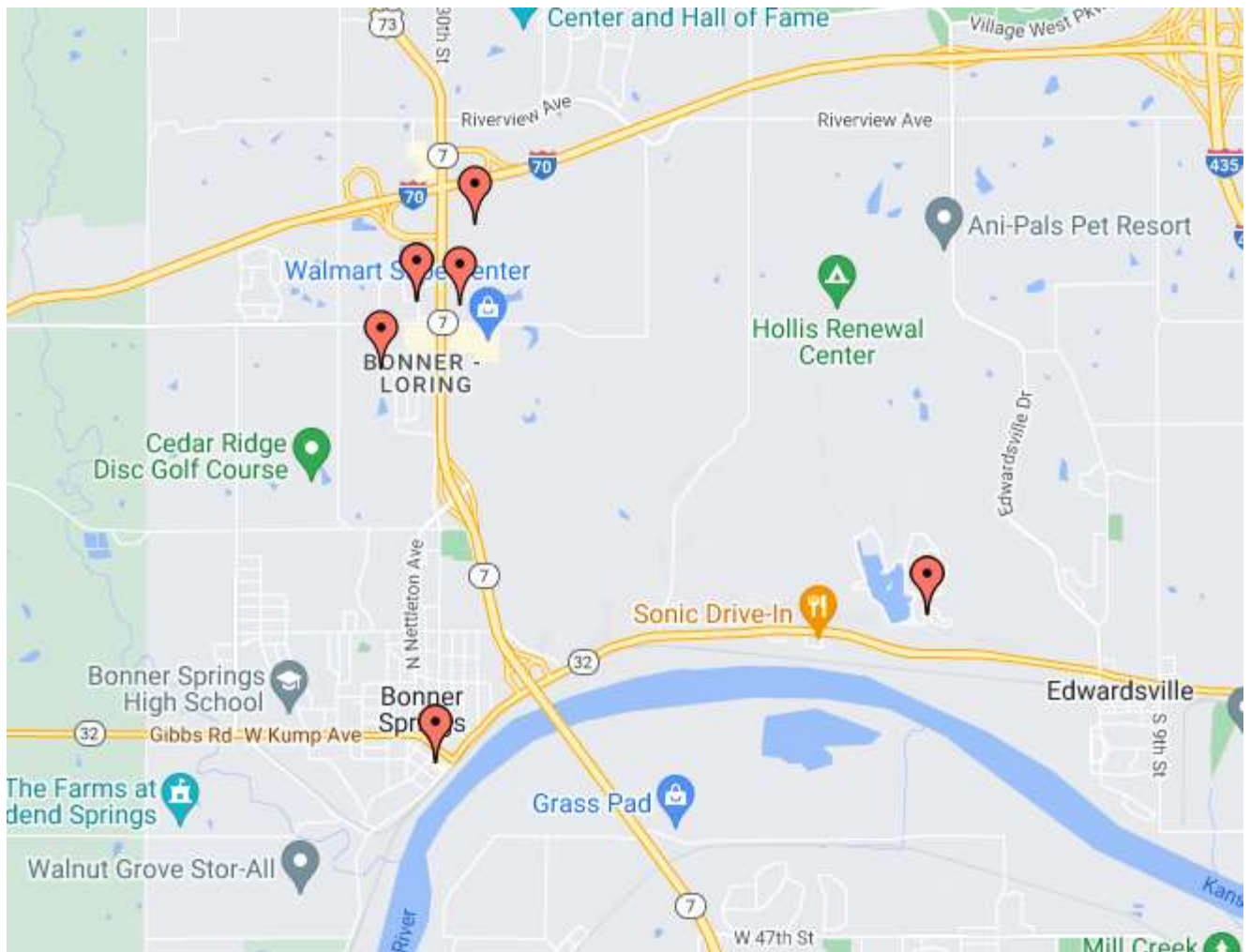
- City Band Concerts continue! Thursdays at 8:30 at Kelly Murphy Park
- Camp Great Adventure received a \$2,500 Start-Up Stipend grant from ChildCare Aware and the Kansas Department for Children and Families. We were eligible for the grant this year due to our new camp licensure through the State.
- Men's Slow-Pitch League registration is open through July 5th. Games begin approx. July 19th at Lions Park
- Registration for fall sports (soccer, fall ball, volleyball) is open
- Central Plains Area Agencies on Aging in partnership with Kansas Creative Arts and Industries Commission is offering workshops for Seniors this June/July 2022. The LOVE LETTER Workshop is free for the aging public with a grand finale event to follow. In the workshop, we will examine the theme of LOVE LETTERS. Participants will contribute their own stories about love, life, career, and family answering the question, "What's Your Love Story?" The LOVE LETTER can be written to someone in from their past, or to their younger self, or to someone that is important to them today. KCAIC will be sponsoring this event so there is no cost to us.

REPORT OF BUILDING PERMITS ISSUED

ISSUED DATES: 6/6/2022 THRU 6/19/2022

STATUS: OPENED, COMPLETED

TYPE OF PERMIT	NUMBER OF PERMITS
COMMERCIAL NEW/ADDITION	0
COMMERCIAL REMODEL	0
COMMERCIAL ROOF.....	0
DECK.....	0
DEMOLITION.....	0
ELECTRICAL	0
FENCE	1
FIREWORKS.....	4
GENERAL INSPECTION.....	1
MECHANICAL	0
PLUMBING	0
POOL, ABOVE GROUND.....	0
POOL, IN GROUND	0
RESIDENTIAL ACCESSORY STRUCTURE	0
RESIDENTIAL MANUFACTURED MOVE-IN	0
RESIDENTIAL NEW/ADDITION	0
RESIDENTIAL REMODEL	1
RIGHT OF WAY	1
SIGN	1
TENT.....	3
UTILITIES OFF	0
=====	
TOTAL.....	12



CODE ENFORCEMENT INCIDENT ACTIVITY REPORT

INCIDENT CODE: * - All

USER: mstites

DATES: 6/6/2022 THRU 6/19/2022

	NEW INCIDENTS	RESOLVED/ CLOSED	CUMULATIVE ACTIVE CASES
BRUSH	0	5	2
GENERAL	5	26	13
INOP/UNLIC/ON-GRASS	0	42	43
OUTSIDE STORAGE	2	47	56
PERMIT CHECK.....	5	66	0
PROPERTY MAINTENANCE	3	22	22
SIGNS.....	9	169	0
SNOW & ICE.....	0	8	0
TALL GRASS/WEEDS	4	6	44

=====

TOTALS 28 391 180

Report shows number of locations. Multiple violations are found at many locations.

