

Bidding Requirements, Contract Forms and Conditions of the Contract
ADDENDUM
Section 00900

ADDENDUM No. 3

Date December 23, 2015

City of Austin

Project Name Davis Water Treatment Plant Treated Water Discharge System

C.I.P. No. 2015.041

This Addendum forms a part of Contract and clarifies, corrects or modifies original Bid Documents, dated October 27, 2015. Acknowledge receipt of this addendum in space provided on bid form. Failure to do so may subject bidder to disqualification.

A. Project Manual Revisions:

1. Replace Section 00810 in its entirety with the attached revised Section 00810.
2. Replace Page 9 of Section 15100 with the attached revised Page 9 of Section 15100.
3. Replace Page 4 and Page 8 of Section 16140 with the attached revised Page 4 and Page 8 of Section 16140.
4. Replace Pages 7, 8 and 32 of Section 17600 with the attached revised Pages 7, 8 and 32 of Section 17600.

B. Drawing Revisions:

1. Replace drawing A-I-5 with the attached revised drawing A-I-5.
2. Replace drawing MSPS-E-33 with the attached revised drawing MSPS-E-33.
3. Replace drawing MSPS-E-67 with the attached revised drawing MSPS-E-67.
4. Replace drawing MSPS-I-15 with the attached revised drawing MSPS-I-15.
5. Replace drawing TD-S-6 with the attached revised drawing TS-S-6.

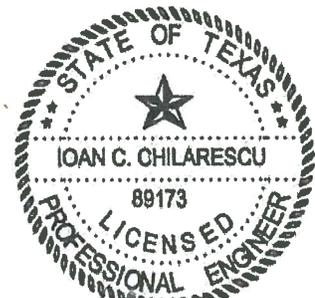
This addendum consists of 30 page(s)/sheet(s).

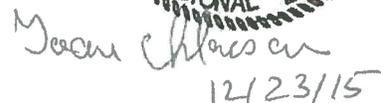


Approved by OWNER



Approved by ENGINEER/ARCHITECT




12/23/15

END

Bidding Requirements, Contract Forms and Conditions of the Contract
SUPPLEMENTAL GENERAL CONDITIONS
Section 00810

The Supplemental General Conditions contained herein amend or supplement the General Conditions, Section 00700.

ARTICLE 1 - DEFINITIONS

Add the following definition:

“1.20 Engineer/Architect (E/A): Add the following:

Name: Ioan Chilarescu, P.E.,

AECOM Technical Services, Inc.

Address: 9400 Amberglen Blvd, Building E, Austin, Texas 78729”

Add the following definitions:

“1.51 Insurance Cost Form - Section 00425 of the Contract, submitted by CONTRACTOR with its Bid, used to notify OWNER of insurance costs not included in CONTRACTOR’s Bid as a result of the OWNER providing insurance through ROCIP.

1.52 Payment Form - A form used by the ROCIP Administrator to notify the OWNER’s Project Manager that all required insurance information and documentation has been received from CONTRACTOR.

1.53 OWNER’s ROCIP Administrator - The insurance broker responsible for administering the OWNER’s Rolling Owner Controlled Insurance Program (ROCIP).

1.54 Rolling Owner Controlled Insurance Program (ROCIP) - A specialized insurance program provided by OWNER for specifically identified Capital Improvements Program (CIP) projects.

1.55 Allowance - Allowance is defined as “a not-to-be-exceeded amount”, either individually or in the aggregate, which is established between the Owner and the Contractor as part of its Bid Proposal when the precise scope of a particular line item(s) has not been defined to a level which is adequate for the Contractor to provide a definitive line item pricing for that particular scope of Work. The use of any Allowances by the Contractor will be subject to the Owner’s sole approval and it is the Owner’s intent to minimize the use of Allowances to the fullest extent possible. For any Allowances which the Owner allows the Contractor to use, the following rules shall apply: (i) Allowances shall cover the cost to the Contractor of the Cost of Work; (ii) Contractor’s overhead and profit associated with the stated Allowance shall be included in the Allowance; and (iii) upon completion of the portion of the Work subject to an Allowance, the Contract Amount for that portion of the Work will be adjusted based upon the approved actual cost of the Work, which will not exceed the approved aggregate amount of the Allowances.

1.56 “Mobilization Prompt Payment Program - The Owner’s Mobilization Prompt Payment Program, will allow bimonthly payments during “critical mobilization stages” as specified in the Contract Documents by the Prime Contractor. The Mobilization Prompt Payment Program will only apply to projects with a construction cost of greater than \$2,000,000.”

ARTICLE 2 - PRELIMINARY MATTERS

2.1 Delivery of Agreement, Bonds, Insurance, etc.: Add the following:

"2.1.1 CONTRACTOR shall complete enrollment in the Rolling Owner Controlled Insurance Program (ROCIP) within five (5) Working Days after written notification of award of Contract."

2.4 Before Starting Construction:

Add the following to the end of 2.4.2.1:

" The Baseline Schedule and schedule submittals for Projects in the Mobilization Prompt Payment Program, must identify periods of "critical mobilization." The periods of critical mobilization will include the first two months of the Contract Time and additional periods identified by the Contractor and approved by Owner when peak Subcontractor mobilization will occur."

Delete 2.4.2.6 and replace with the following (changes to the original text are identified by underlining):

".6 a preliminary schedule of values for all of the Work, subdivided into component parts in sufficient detail to serve as the basis for progress payments during construction. At a minimum, the schedule of values shall be broken out by trade and split between materials and labor. Prices will include an appropriate amount of overhead and profit applicable to each item of Work;"

ARTICLE 5 - BONDS AND INSURANCE**"5.3 Insurance:****5.3.1 CONTRACTOR Provided Insurance**

CONTRACTOR shall provide insurance coverages described in paragraph(s) 5.3.1.1 and 5.3.1.2 (and 5.3.1.5 and 5.3.1.6, as required) for all Work required by the Contract through the end of the warranty period (with the exception of Builders' Risk, which is required only until the Work is accepted by OWNER). In addition, CONTRACTOR shall provide insurance coverages described in Paragraph(s) 5.3.1.3 and 5.3.1.4 from Substantial Completion of the Work (in accordance with Section 00700 General Conditions Paragraph 14.11) to the end of the warranty period.

Subcontractors performing Work which involves asbestos, hazardous material or pollution defined as asbestos or any other excluded contractor as described in 5.3.2.1 will not be enrolled in the Rolling Owner Controlled Insurance Program (ROCIP) and must provide insurance as specified in paragraphs 5.3.1.1 through 5.3.1.6.

In the event that the Rolling Owner Controlled Insurance Program (ROCIP) or the coverage it provides to the Project is terminated for any reason, whether prior to the start of Work or any time during the Work, upon thirty (30) days Written Notice from OWNER, CONTRACTOR shall purchase and maintain as minimum the insurance coverages described in Paragraphs 5.3.1.3 and 5.3.1.4, for all Work remaining under the Contract through the end of the warranty period. All insurance secured by CONTRACTOR, Subcontractors and Sub-subcontractors pursuant to OWNER's requirements under this provision shall be in accordance with Article 5 of the General Conditions and paragraph 5.3.1.1 of this section. If CONTRACTOR is required to provide insurance as described in paragraphs 5.3.1.3 and 5.3.1.4, OWNER shall reimburse CONTRACTOR for the reasonable cost of providing the insurance described therein based upon the "Total Cost of Insurance for Base Bid" (plus total of all "Total Cost of Insurance for Alternates" selected by

OWNER) as stated by CONTRACTOR in Contract Section 00425 (Insurance Cost Form) pro rated to take into account the Contract Time and Work remaining for performance of CONTRACTOR's obligations under the Contract.

5.3.1.1 General Requirements.

- .1 CONTRACTOR shall carry insurance in the types and amounts indicated below for the duration of the Contract, which shall include items owned by OWNER in the care, custody and control of CONTRACTOR prior to and during construction and warranty period.
- .2 CONTRACTOR must complete and forward the Certificate of Insurance, Section 00650, to OWNER before the Contract is executed as verification of coverage required below. CONTRACTOR shall not commence Work until the required insurance is obtained and until such insurance has been reviewed by OWNER. Approval of insurance by OWNER shall not relieve or decrease the liability of CONTRACTOR hereunder and shall not be construed to be a limitation of liability on the part of CONTRACTOR. CONTRACTOR must also complete and forward the Certificate of Insurance, Section 00650, to OWNER whenever a previously identified policy period has expired as verification of continuing coverage.
- .3 CONTRACTOR's insurance coverage is to be written by companies licensed to do business in the State of Texas at the time the policies are issued and shall be written by companies with A.M. Best ratings of B+VII or better, except for hazardous material insurance which shall be written by companies with A.M. Best ratings of A- or better.
- .4 All endorsements naming the OWNER as additional insured, waivers, and notices of cancellation endorsements as well as the Certificate of Insurance shall indicate: City of Austin, Contract Management Department, P.O. Box 1088, Austin, Texas 78767.
- .5 The "other" insurance clause shall not apply to the OWNER where the OWNER is an additional insured shown on any policy. It is intended that policies required in the Contract, covering both OWNER and CONTRACTOR, shall be considered primary coverage as applicable.
- .6 If insurance policies are not written for amounts specified below, CONTRACTOR shall carry Umbrella or Excess Liability Insurance for any differences in amounts specified. If Excess Liability Insurance is provided, it shall follow the form of the primary coverage.
- .7 OWNER shall be entitled, upon request and without expense, to receive certified copies of policies and endorsements thereto and may make any reasonable requests for deletion or revision or modification of particular policy terms, conditions, limitations, or exclusions except where policy provisions are established by law or regulations binding upon either of the parties hereto or the underwriter on any such policies.
- .8 OWNER reserves the right to review the insurance requirements set forth during the effective period of this Contract and to make reasonable adjustments to insurance coverage, limits, and exclusions when deemed necessary and prudent by OWNER based upon changes in statutory law, court decisions, the claims history of the industry or financial condition of the insurance company as well as CONTRACTOR.
- .9 CONTRACTOR shall not cause any insurance to be canceled nor permit any insurance to lapse during the term of the Contract or as required in the Contract.

- .10 CONTRACTOR shall be responsible for premiums, deductibles and self-insured retentions, if any, stated in policies. All deductibles or self-insured retentions shall be disclosed on the Certificate of Insurance.
- .11 CONTRACTOR shall provide OWNER thirty (30) days written notice of erosion of the aggregate limits below occurrence limits for all applicable coverages indicated within the Contract.
- .12 If OWNER owned property is being transported or stored off-site by CONTRACTOR, then the appropriate property policy will be endorsed for transit and storage in an amount sufficient to protect OWNER's property.
- .13 The insurance coverages required under this contract are required minimums and are not intended to limit the responsibility or liability of CONTRACTOR.

5.3.1.2 Business Automobile Liability Insurance. Provide coverage for all owned, non-owned and hired vehicles. The policy shall contain the following endorsements in favor of OWNER:

- a) Waiver of Subrogation endorsement CA 0444;
- b) 30 day Notice of Cancellation endorsement CA 0244; and
- c) Additional Insured endorsement CA 2048.

Provide coverage in the following types and amounts:

- .1 A minimum combined single limit of \$500,000 per occurrence for bodily injury and property damage. Alternate acceptable limits are \$250,000 bodily injury per person, \$500,000 bodily injury per occurrence and at least \$100,000 property damage liability each accident.

5.3.1.3 Workers' Compensation And Employers' Liability Insurance. Coverage shall be consistent with statutory benefits outlined in the Texas Workers' Compensation Act (Section 401). CONTRACTOR shall assure compliance with this Statute by submitting two (2) copies of a standard certificate of coverage (e.g. ACCORD form) to Owner's Representative for every person providing services on the Project as acceptable proof of coverage. The Certificate of Insurance, Section 00650, must be presented as evidence of coverage for CONTRACTOR. CONTRACTOR's policy shall apply to the State of Texas and include these endorsements in favor of OWNER:

- a) Waiver of Subrogation, form WC 420304; and
- b) 30 day Notice of Cancellation, form WC 420601.

The minimum policy limits for Employers' Liability Insurance coverage shall be as follows:

- .1 \$100,000 bodily injury per accident, \$500,000 bodily injury by disease policy limit and \$100,000 bodily injury by disease each employee.

5.3.1.4 Commercial General Liability Insurance. The Policy shall contain the following provisions:

- a) Contractual liability coverage for liability assumed under the Contract and all contracts relative to this Project.
- b) Completed Operations/Products Liability for the duration of the warranty period.
- c) Explosion, Collapse and Underground (X, C & U) coverage.
- d) Independent Contractors coverage (Contractors/ Subcontractors work).
- e) Aggregate limits of insurance per project, endorsement CG 2503.

- f) OWNER listed as an additional insured, endorsement CG 2010 and CG 2037 or equivalent.
- g) 30 day notice of cancellation in favor of OWNER, endorsement CG 0205.
- h) Waiver of Transfer of Recovery Against Others in favor of OWNER, endorsement CG 2404.

Provide coverages A&B with minimum limits as follows:

- .1 A combined bodily injury and property damage limit of \$500,000 per occurrence.

5.3.1.5 Builders' Risk Insurance. CONTRACTOR shall maintain Builders' Risk Insurance or Installation Insurance on an all risk physical loss form in the Contract Amount. Coverage shall continue until the Work is accepted by OWNER. OWNER shall be a loss payee on the policy. If off-site storage is permitted, coverage shall include transit and storage in an amount sufficient to protect property being transported or stored.

5.3.1.6 Hazardous Materials Insurance.

For Work which involves asbestos or any hazardous materials or pollution defined as asbestos, CONTRACTOR or Subcontractor responsible for the Work shall comply with the following insurance requirements in addition to those specified above:

- .1 Provide lead and asbestos abatement endorsement to the Commercial General Liability policy with minimum bodily injury and property damage limits of \$1,000,000 per occurrence for coverages A&B and products/completed operations coverage with a separate aggregate of \$1,000,000. This policy shall not exclude lead, asbestos or any hazardous materials or pollution defined as lead or asbestos, and shall provide "occurrence" coverage without a sunset clause. The policy shall provide 30 day Notice of Cancellation and Waiver of Subrogation endorsements in favor of OWNER.
- .2 CONTRACTOR or Subcontractor responsible for transporting lead, asbestos or any hazardous materials defined as lead or asbestos shall provide pollution coverage. Federal law requires interstate or intrastate transporters of lead or asbestos to provide an MCS 90 endorsement with a \$5,000,000 limit when transporting lead or asbestos in bulk in conveyances of gross vehicle weight rating of 10,000 pounds or more. Interstate transporters of lead or asbestos in non-bulk in conveyances of gross vehicle weight rating of 10,000 pounds or more must provide an MCS 90 endorsement with a \$1,000,000 limit. The terms "conveyance" and "bulk" are defined by Title 49 CFR 171.8. All other transporters of lead or asbestos shall provide either an MCS 90 endorsement with minimum limits of \$1,000,000 or an endorsement to their Commercial General Liability Insurance policy which provides coverage for bodily injury and property damage arising out of the transportation of lead or asbestos. The endorsement shall, at a minimum, provide a \$1,000,000 limit of liability and cover events caused by the hazardous properties of airborne lead or asbestos arising from fire, wind, hail, lightning, overturn of conveyance, collision with other vehicles or objects, and loading and unloading of conveyances.
- .3 CONTRACTOR shall submit complete copies of the policy providing pollution liability coverage to OWNER.

5.3.1.7 Professional Liability Insurance. For Work which requires professional engineering or professional survey services to meet the requirements of the Contract, including but not limited to excavation safety systems, traffic control plans, and construction surveying, the CONTRACTOR or Subcontractors, responsible for performing the professional services shall provide Professional Liability Insurance with a minimum limit of \$500,000 per claim and in the aggregate to pay on behalf of the assured all sums which the assured shall become legally obligated to pay as damages by reason of any negligent act, error, or omission committed with respect to all professional services provided in due course of the Work of this Contract.

5.3.2 OWNER Controlled Insurance.

5.3.2.1 OWNER has procured, and will maintain at its own expense a Rolling Owner Controlled Insurance Program (ROCIP) with the following coverage for OWNER, CONTRACTOR, each Subcontractor and their respective Sub-subcontractors while engaged in Work under the Contract. It is not the intent of this ROCIP to cover architects, engineers (not including design/build subcontractors), consultants, vendors, suppliers (who do not perform or subcontract installation), material dealers, guard services, janitorial services, truckers. Moreover, this ROCIP will not provide coverage for:

- .1 Contractors and subcontractors whose main function is abating lead or asbestos or removing hazardous materials and/or waste from the project site;
- .2 Others whose sole function is to transport, pickup, deliver or carry materials, supplies, tools, equipment, parts or other items to or from the project site;
- .3 Any employee(s) of the Contractor or an enrolled subcontractor of any tier that does not work and/or generate payroll at the Project Site

5.3.2.2 Workers' Compensation and Employers' Liability Insurance. All states including monopolistic.

- .1 Workers' Compensation - Statutory Benefits for Texas or state of hire as required by statute.
- .2 Employers' Liability. Limits of \$1,000,000 bodily injury each accident. \$1,000,000 bodily injury by disease, each employee. \$1,000,000 bodily injury by disease, policy limit.
- .3 Endorsements:
 - a) Employers' Liability Coverage Endorsement
 - b) Designated Workplaces Exclusion Endorsement
 - c) Voluntary Compensation and Employers Liability Coverage Endorsement
 - d) Policy Period Endorsement
 - e) Texas Waiver of Our Right to Recover From Others Endorsement
 - f) Federal Employers' Liability Act Coverage Endorsement
 - g) Longshoremen's and Harbor Workers' Compensation Act
 - h) Maritime Coverage Endorsement

- i) Sole Proprietors, Partners, Officers and Others Coverage Endorsement
- j) Sole Agent Consolidated Insurance Programs
- k) Unintentional Error And Omissions Endorsement
- l) Knowledge and Notice of Occurrence Endorsement
- m) Texas Health Care Network Endorsement
- n) Terrorism Risk Insurance Program Reauthorization Act Disclosure Endorsement
- o) Notice of Cancellation
- p) Texas Amendatory Endorsement - Notice of Cancellation
- q) Alternate Employer Endorsement
- r) Texas Deductible Endorsement
- s) Texas Amendatory Endorsement – Who Is An Insured
- t) State Specific Endorsements

5.3.2.3 Commercial General Liability Insurance.

- .1 Limits of Liability:
 - a) \$4,000,000 General Aggregate Limit
 - b) \$4,000,000 Products-Completed Operations Aggregate Limit
 - c) \$2,000,000 Personal and Advertising Injury
 - d) \$2,000,000 Each Occurrence
 - e) \$1,000,000 Damages to Premises Rented to You Limit (Any one premises. Subject to occurrence limit.)
 - f) \$10,000 Medical Expense Limit (Any one person. Subject to occurrence limit.)
 - g) Aggregate limits reinstate annually during the 5-year project period. For 10 Year Completed Operations Extension, the Products Completed Operations Aggregate will be shared with the latest annual policy period during which a policy issued by us was in effect.
- .2 Policy Form. Commercial General Liability Coverage Form CG 00 01 (12/07 Edition).
- .3 Forms:
 - a) Wrap-up Insurance Program – Amendment of Coverage
 - b) Products and Completed Operations Extension – Ten (10) Years – This is part of the Wrap-Up Insurance Program Amendment of Coverage Endorsement
 - c) Sole Agent / First Named Insured is the Sole Agent – This is part of the Wrap-Up Insurance Program Amendment of Coverage Endorsement
 - d) Designated Projects - This is part of the Wrap-Up Insurance Program Amendment of Coverage Endorsement

- e) Common Policy Conditions
- f) Texas Disclosure Form
- g) Early Notice of Cancellation Provided By Us
- h) Texas Changes - Cancellation And Nonrenewal Provisions For Casualty Lines
And Commercial Package Policies
- i) Combined Limits of Insurance – Multiple Policies
- j) Blanket Additional Insured
- k) Notice of Occurrence, Offense or Injury
- l) Knowledge of Occurrence or Offense
- m) Nonowned Watercraft Amended
- n) Contractual Liability - Railroads
- o) Texas Changes – Employment Related Practices Exclusion
- p) Per Project and Per Location combined Aggregate Limits – With Optional
Capped Limits Endorsement
- q) Unintentional Failure to Disclose
- r) Reasonable Force
- s) Bodily Injury Redefined
- t) Waiver of Transfer Rights of Recovery Against Others to Us
- u) Bodily Injury to Co-Employees Coverage – Supervisors, Managers and Good
Samaritans
- v) Exclusion – Contractors – Professional Liability
- w) Professional Health Care Services by Employees or Volunteer Workers
Coverage
- x) Texas - Total Pollution Exclusion
- y) Silica Exclusion Endorsement
- z) Recording and Distribution of Material or Information in Violation of Law
Exclusion
- aa) Lead Exclusion
- bb) Mold And Mold Related Construction Defect Exclusion
- cc) Asbestos Exclusion Endorsement
- dd) Advertisement Redefined
- ee) Joint Defense Endorsement
- ff) Joint and Several Amendment
- gg) Nuclear Energy Liability Exclusion Endorsement (Broad Form)
- hh) Non-Cumulation of Liability (Same Occurrence)
- ii) Discrimination Exclusion
- jj) Composite Rate Endorsement
- kk) Deductible – Damages and Supplementary Payments (Damages Within The
Deductible Erode The Policy Limit)

- ll) Personal and Advertising Injury – Occurrence Redefined
- mm) Personal and Advertising Injury – Definition of Publication
- nn) Cap On Losses From Certified Acts of Terrorism
- oo) Exclusion of Punitive Damages From Certified Acts of Terrorism
- pp) Other Terrorism Endorsements
- qq) All State Mandatory Endorsements

5.3.2.4 Umbrella/Excess Liability Insurance.

- .1 \$50,000,000 Each Occurrence
- .2 \$50,000,000 Products-Completed Operations Aggregate
- .3 \$50,000,000 Other Aggregate (Where Applicable)
- .4 Umbrella/Excess includes a Completed Operations Extension period of Ten (10) years.

5.3.2.5 General Provisions.

- .1 Coverage Availability. All insurance specified herein shall be maintained continuously until Substantial Completion of the Project except as provided in Section 5.3.1. All insurance shall provide for OWNER to take occupancy of the Work or any part thereof during the term of said insurance.
- .2 Insurance Policies and Certificates. The Broker and/or Insurers will issue Policies for Worker's Compensation and Binders for General Liability to CONTRACTOR, each Subcontractor and each Sub-subcontractor participating in the ROCIP.
- .3 CONTRACTOR, Subcontractor and Sub-subcontractors agree to comply with the requirements of the ROCIP including enrollment, record keeping, reporting, auditing, and claim requirements.
- .4 The first five thousand dollars (\$5,000) of any insurable general liability property damage loss will be the responsibility of and paid by the CONTRACTOR and deducted from the contract amount.
- .5 Contract Insurance Cost.
 - a) CONTRACTOR agrees not to duplicate or include any portion of their normal insurance cost, including Subcontractor insurance costs, in their Bid or in Change Orders (if any) for the coverages provided by OWNER under paragraphs 5.3.2.2 through 5.3.2.4.
 - b) CONTRACTOR stipulates that the insurance costs as defined in the Insurance Cost Form (Section 00425), submitted with the Bid and part of the Contract, is the amount that would have been included in the Bid if OWNER elected not to provide such coverage.
 - c) CONTRACTOR agrees to the audit conditions specified in the Insurance Cost Form (Section 00425).
 - d) In the event OWNER elects not to include CONTRACTOR's Work under the ROCIP coverages, the insurance amounts reported in the

Insurance Cost Form (Section 00425) will be added to the Contract Amount on a pro rated basis.

- e) CONTRACTOR shall agree to cooperate fully with OWNER's ROCIP Administrator and Project Manager in providing the necessary insurance data and information as required in the Bid Documents and associated documents and submittals furnished and required by OWNER during the duration of the Project or until OWNER furnished coverages are terminated. Failure to provide insurance information or documents/submittals to the OWNER's ROCIP Administrator and OWNER's Representative within specified time periods, by CONTRACTOR, any Subcontractor or Sub-subcontractor will result in withholding of progress payments to CONTRACTOR by OWNER. The Green Form can be withheld due to failure to provide insurance information or documents within specified time periods.

.6 Governing Conditions. In the event of conflict between Insurance Policy Terms and Conditions and the coverage conditions specified herein, the insurance policies will govern.

.7 CONTRACTOR Furnished Insurance.

- a) Automobile Liability Insurance. CONTRACTOR and all Subcontractors, Sub-subcontractors and vendors shall maintain Automobile Liability Insurance as specified in paragraphs 5.3.1.1 and 5.3.1.2, at their own expense. CONTRACTOR must submit Certificates of Insurance for all Subcontractors to OWNER prior to their commencing Work on the Project.

b) Vendors, Suppliers and Haulers Required Insurance

- a. Workers' Compensation and Employers' Liability Insurance. Vendors, suppliers, haulers, and other non-ROCIP participants as outlined in 5.3.2.1 shall provide workers' compensation insurance as specified in paragraphs 5.3.1.1 and 5.3.1.3.

This coverage requirement does not apply to motor carriers who are required pursuant to Texas Civil Statutes, Article 6675c to register with the Texas Department of Transportation and to provide accidental insurance coverage pursuant to Texas Civil Statutes, Article 6675c.

This coverage requirement does not apply to sole proprietors, partners, and corporate officers who meet the requirements of the Texas Workers' Compensation Act (Act), Article 406.09(c) and who are explicitly excluded from coverage in accordance with the Act.

- b. Automobile Liability Insurance. Vendors, suppliers, haulers and other non-ROCIP participants as outlined in 5.3.2.1 shall provide workers' compensation insurance as specified in paragraphs 5.3.1.1 and 5.3.1.2.
- c. Commercial General Liability Insurance. Vendors, suppliers, haulers, and other non-ROCIP participants as outlined in 5.3.2.1 shall provide Commercial General Liability Insurance as specified in paragraphs 5.3.1.1 and 5.3.1.4.

.8 Other Insurance.

- a) The ROCIP as outlined herein is intended to afford broad coverage and relatively high limits of liability, but it may not provide all the insurance needed or desired by CONTRACTOR, Subcontractors or Sub-subcontractors. Any insurance or limits of liability greater than those provided by the ROCIP or other coverages which CONTRACTOR, Subcontractors or Sub-subcontractors may be required by Law to

carry or may need for its own protection, shall be at their own expense and the cost therefore may not be included in the Bid.

- b) If CONTRACTOR chooses to have such policies endorsed to recognize the Project site during the construction period, coverage should be excess and/or Difference In Conditions (DIC) of the OWNER's ROCIP as determined by CONTRACTOR or Subcontractor. OWNER shall be endorsed as additional insured.
 - c) Any policy of insurance covering CONTRACTOR, any Subcontractor or any Sub-subcontractor for its owned and leased machinery, water craft, vehicles, tools, or equipment (used in connection with the Project) for physical loss or damage shall provide a Waiver of Subrogation Rights against OWNER, Project Manager, if applicable, CONTRACTOR, Subcontractor, or Sub-subcontractor that is insured under the ROCIP, including the employees, agents or assigns of any one of them.
- .9 Mutual Waiver of Property Damage and Right of Recovery. To the extent of coverage provided by the Builder's Risk Insurance, OWNER has waived its rights to recover physical damage or loss to its property against CONTRACTOR, Subcontractors and Sub-subcontractors. CONTRACTOR, Subcontractors and Sub-subcontractors shall also waive any and all rights each may have to recover physical damage or loss to the property of each against OWNER, its designees, E/A, and other contractors engaged in the Project. This waiver of the right of recovery for property damage shall be binding upon any property, automobile or equipment insured in respect to any subrogation rights which such insurer may possess by virtue of any payments of damage or loss. CONTRACTOR, Subcontractors and Sub-subcontractors agree as a condition of performing Work on the Project to execute such documents and coverage described herein and the waiver(s) of subrogation as described herein.
- .10 Certificates of Insurance. CONTRACTOR shall submit three (3) copies of the required Certificates of Insurance (Section 00650) for CONTRACTOR and all Subcontractors and Sub-subcontractors to OWNER prior to their commencing Work on the job site. CONTRACTOR and all Subcontractors and Sub-subcontractors shall provide the following information on the Certificate of Insurance:
- Workers' Compensation (off-site)
 - General Liability (off-site)
 - Umbrella/Excess Liability (off-site)
 - Automobile Liability - Primary (CONTRACTOR must provide hired/non-owned)

5.4.4 Maintenance Bond: Substitute all instances of "one (1) year contractual warranty" with "two (2) year contractual warrant".

ARTICLE 6 - CONTRACTOR'S RESPONSIBILITIES

6.6 Permits, Fees: Add the following:

"OWNER will obtain and pay for the following permits, licenses and/or fees:

- .1 Site Development Permit.

- .2 Building Permit(s). OWNER's responsibility for obtaining and paying for the Building Permit(s) shall be limited to the following where applicable: the required Electrical Service (Aid of Construction) Fee, Water and Wastewater Tap Fees, Water and Wastewater Capital Recovery Fees, and Septic Permit Fee. The OWNER's responsibility for obtaining and paying for the Building Permit(s) excludes securing and paying for the following where applicable: Driveway Permit (Concrete) Fee, Electrical Permit, Mechanical Permit, Plumbing Permit, Water Engineering Inspection Fee, Temporary Use of Right-of Way Permit, the gas company's Gas Yard Line Contribution Fee, and any other permits/fees not listed above.

6.7 Laws and Regulations: Add the following:

"6.7.4 This Work is subject to the Texas Pollution Discharge Elimination System (TPDES) permitting requirements for the installation and maintenance of temporary and permanent erosion and sediment controls and storm water pollution prevention measures throughout the construction period.

OWNER has prepared a Storm Water Pollution Prevention Plan (SWPPP). Reference Section 01096 for this SWPPP.

OWNER shall file the Owner's Notice of Intent and Notice of Termination to the Texas Commission on Environmental Quality (TCEQ). OWNER shall pay the TPDES storm water application fee.

CONTRACTOR's responsibilities are as follows.

- .1 File a Notice of Intent (NOI) form with the TCEQ at least two (2) days prior to start of construction activity and pay for the permit. Form is available from OWNER or on the Internet at <http://www.tceq.state.tx.us/assets/public/permitting/waterquality/forms/20022.pdf>.

The form shall be mailed or submitted online to the TCEQ. If submitting online, the web address is <https://www6.tceq.state.tx.us/steers/>. If CONTRACTOR has not already registered to use the TCEQ online application submittal service, it will take up to ten (10) Working Days to receive a user name and password. CONTRACTOR shall take this timeframe into consideration if applying online. A Time Extension shall not be granted for this timeframe.

The mailing address is:

Texas Commission on Environmental Quality
 Storm Water & General Permits Team; MC-228
 P.O. Box 13087
 Austin, TX 78711-3087

A copy of the completed Notice of Intent (NOI) form must also be mailed to the local Municipal Separate Storm Sewer Systems (MS4) representative:

TPDES Program Coordinator
 City of Austin – WPD – ERM
 P.O. Box 1088
 Austin, TX 78767

- .2 Obtain a signed certification statement from all Subcontractors responsible for implementing the erosion and sediment control measures. This statement shall indicate that the Subcontractor understands the permit requirements. The certified statement forms shall be attached to and become part of the SWPPP.

- .3 Post a notice near the main entrance of the Work with the following information.
- The TPDES permit number for the Work or a copy of the NOI if a permit number has not yet been assigned,
 - The name and telephone number of a local contact person,
 - A brief description of the Work, and
 - The location of the SWPPP if the site is inactive or does not have an on-site location to store the plan.
- If posting this information near a main entrance is infeasible due to safety concerns, the notice must be posted in a local public building. If the Work is linear (pipeline, highway, etc.), the notice must be placed in a publicly accessible location near where construction is actively underway and moved as necessary. For linear Work, multiple postings of the information may be required by OWNER (e.g. postings at both ends of the Work).
- .4 Maintain all erosion and sediment control measures and other protective measures identified in the SWPPP in effective operating condition.
- .5 Perform inspections every five (5) working days and after every ½ inch rainfall event, noting the following observations on an inspection form provided by OWNER:
- Locations of discharges of sediment or other pollutants from the site.
 - Locations of storm water / erosion / sedimentation controls that are in need of maintenance.
 - Locations of storm water / erosion / sedimentation controls that are not performing, failing to operate, or are inadequate.
 - Locations where additional storm water / erosion / sedimentation controls are needed.
- .6 Maintain at Work site at all times a copy of the SWPPP (with all updates, as described below) and inspection reports.
- .7 Update the SWPPP as necessary to comply with TPDES permitting requirements, which includes noting changes in erosion / sedimentation controls and other best management practices that are part of the SWPPP and which may be necessary due to the results of inspection reports. Any SWPPP revisions or updates must be signed and certified by a Certified Professional in Erosion and Sedimentation Control (CPESC) or a Registered Professional Engineer. If the SWPPP includes engineering calculations, then SWPPP must be sealed and signed by a Registered Professional Engineer.
- .8 File a Notice of Termination with the TCEQ within thirty (30) days of final stabilization on all portions of the Work site. Form is available from OWNER or on the Internet at <http://www.tceq.state.tx.us/assets/public/permitting/waterquality/forms/20023.pdf>.

The NOT shall be mailed to:
 Storm Water & General Permits Team; MC-228
 P.O. Box 13087

Austin, TX 78711-3087
 (512) 239-4671

.9 Upon completion of the Work, provide TPDES records to OWNER."

6.11 Safety and Protection: Add the following to paragraph 6.11.2:

"**6.11.2** CONTRACTOR shall comply with all provisions of the "Project Safety Manual" provided by OWNER as part of its insurance coverage program under the Rolling Owner Controlled Insurance Program (ROCIP). This program is in addition to CONTRACTOR's existing safety program, not in lieu of that program."

6.11 Safety and Protection: Add the following to paragraph 6.11.3:

"**6.11.3** At the minimum, the safety representative will be certified in personal protective equipment, hazard communication, demolition and blasting, trench/excavation, hand and power tools, welding/cutting, cranes/derricks/hoists/conveyors/, scaffolding, confined space, CPR and first aid."

ARTICLE 11 - CHANGE OF CONTRACT AMOUNT

11.4 Determination of Value of Work: Add the following to paragraph 11.4.1.2:

"11.4.1.2 In the case of a Change Order determined by a mutually agreed lump sum or unit price properly itemized and supported by sufficient substantiating data, including documentation by subcontractors performing the work, to permit evaluation, the following method may be used:

COMPONENT ONE - The R.S. Means Co., Inc. 'Building Construction Cost Data' - latest edition - will be used as a basis for evaluating:

1a - the cost of labor (base rate, including fringe benefits),

1b - the cost of material and equipment to be incorporated in the Work, and

1c - the cost of tools, equipment and facilities necessary to accomplish the Work described in the change.

COMPONENT TWO - The costs of payroll taxes and insurance, Liability and Builder's Risk Insurance, shall be calculated as follows:

2a - Payroll taxes and Workers' Compensation Insurance <25% of payroll (Item 1a) (14.65% of 1a for ROCIP Projects)>

2b - Liability and Builder's Risk Insurance <2% of "total costs" (Items 1a, 1b, 1c, and 2a) (.034% of "total costs" for ROCIP Projects)>

COMPONENT THREE - Overhead and profit shall be calculated as follows:

3a - For Subcontractors and for those portions of the Work performed by CONTRACTOR'S own forces:

15% of the first \$10,000.00 of costs and 10% of the balance over \$10,000.00.

("costs" = Items 1a, 1b, and 1c, above, broken down into Contractor and Subcontractor costs).

3b - For the CONTRACTOR for that portion of the Work performed by Subcontractors:

10% of the first \$10,000.00 of the Subcontractor costs and 7.5% of the balance over \$10,000.00.

("costs" = Items 1a, 1b, and 1c, above, broken down into Subcontractor costs)

COMPONENT FOUR - Bonds

Performance and Payment Bond according to the following table ("TOTAL COST" = Items 1a, 1b, 1c, 2a, 2b, 3a and 3b.):

<u>DOLLAR VALUE OF CONTRACT</u>	<u>% OF TOTAL COST OF CHANGE ORDER ADDED FOR BOND EXPENSE</u>
100,000 or less	2.5
100,001 thru 500,000	1.5
500,001 thru 2,500,000	1.0
2,500,001 thru 5,000,000	0.75
5,000,001 thru 7,500,000	0.70
OVER 7,500,000	0.65

- The total costs for the change, whether additive or deductive, shall be the sum total of COMPONENTS ONE - FOUR.

ARTICLE 13 - TESTS AND INSPECTIONS; CORRECTION, REMOVAL OR ACCEPTANCE OF DEFECTIVE WORK

13.7 Warranty Period:

Delete and Replace:

"13.7.1 If within two years after the date of Substantial Completion or such longer period of time as may be prescribed by laws or regulations or by the terms of any applicable special guarantee required by the Contract Documents or by any specific provision of the Contract Documents (e.g. paragraph 14.11.2), any Work, Installation, Equipment, including items performed after the Substantial Completion date, is found to be defective, CONTRACTOR shall promptly, without cost to OWNER and in accordance with OWNER's written instructions:

(i) correct such defective Work, or, if it has been rejected by OWNER, remove it from the site and replace it with Work that is not defective, and

(ii) satisfactorily correct or remove and replace any damage to other Work or the work of others resulting therefrom.

If CONTRACTOR does not promptly comply with the terms of such instructions, or in an emergency where delay would cause serious risk of loss or damage, OWNER may have the defective Work corrected or the rejected Work removed and replaced, and all claims, costs, losses and damages caused by or resulting from such removal and replacement (including but not limited to all costs of repair or replacement of work of others) will be paid by CONTRACTOR. The warranty period will be deemed to be renewed and recommenced in connection with the completed items of Work requiring correction."

Delete:

13.7.2

Add the following:

"**13.7.5** OWNER will utilize a "Warranty Item Form" (attached at the end of this Section) for the purpose of providing Written Notice of warranty defects to CONTRACTOR. CONTRACTOR shall date, sign, complete and return the form to OWNER when the defect is corrected, including such information on or attached to the form to describe the nature of the repairs or corrections that were made. If the defect cannot be corrected in seven (7) Calendar Days, CONTRACTOR shall provide a written explanation to the Owner's Representative describing the repairs needed and the time required to complete the repairs."

ARTICLE 14 - PAYMENTS TO CONTRACTOR AND COMPLETION

14.1 Application for Progress Payment: Delete 14.1.1 and replace with the following (changes to the original text are identified by underling):

"14.1.1 No more often than once a month, unless authorized as part of the Mobilization Prompt Payment Program, CONTRACTOR shall submit to Owner's Representative for review a completed and executed Application for Payment, in a form acceptable to OWNER, covering the Work completed as of the date of the Application and not previously paid and accompanied by such supporting documentation as required by the Contract Documents.

Add the following .1:

.1 - Mobilization Prompt Payment Program. During critical mobilization periods, as identified by the CONTRACTOR and as approved by OWNER in accordance with 00700 2.4.2.1 of this Contract, CONTRACTOR shall submit bi-monthly Applications for Payment. The additional Pay Applications will include any costs accrued during the periods of critical mobilization. The Program will allow the CONTRACTOR and Subcontractors to invoice for costs as they are accrued during periods of critical mobilization. The CONTRACTOR shall submit bimonthly invoices to the OWNER for such costs. The CONTRACTOR shall pay Subcontractors for costs within 10 days of receipt of payment from OWNER.

14.1 Application for Progress Payment: Delete 14.1.6.3 and replace with the following:

".3 Time Extension Request."

".4 Payroll Authorization and Certificates of Insurance. CONTRACTOR shall provide monthly payroll reports (including CONTRACTOR and all Subcontractors and Sub-subcontractors) to the ROCIP Insurance Administrator on forms provided by the ROCIP Administrator or on other mutually agreed upon forms. In addition, Contractor shall assure that current certificates of insurance are provided as necessary for CONTRACTOR and all Subcontractors and Sub-subcontractors. A Payment Form signed by the ROCIP Administrator shall be submitted with each Application for Payment. Failure to submit this form will result in withholding of payment. The ROCIP Insurance Administrator will generate the Payment Form upon receipt of the monthly payroll report and required certificates of insurance."

14.4 Decisions to Withhold Payment:

Reference 14.4.1; add the following:

".16 failure of CONTRACTOR to meet the ROCIP and/or Safety Program requirements.

.17 property damage losses that are the responsibility of the CONTRACTOR (reference section 00810, 5.3.2.5.4)"

14.7 Substantial Completion:

Add the following:

"**14.7.3** For Treated Water Discharge System Project, Substantial Completion means that the construction of the Medium Service Pump Station including all testing and disinfection, has been completed and accepted, the pump station has been connected to the existing Transmission Mains and the pump station has been placed into service.

A certificate of Substantial Completion will not be issued until all approved O&M Manual/s related to the work that is substantially completed are delivered and/or received by the OWNER.

Work that remains after Substantial Completion could include the work for the High Service Pump Station, demolition of the existing MSPS, site piping that cannot be complete before the demolition of the existing MSPS, pavement of roadways, final grading and revegetation."

14.10 Final Application for Payment: Add the following paragraph(s) to 14.10:

".10 Documentation required by the ROCIP."

".11 TPDES records in accordance with 6.7.4."

14.11 Final Payment and Acceptance:

Add the following to paragraph 14.11.1:

"If the sole remaining, unfinished item of the Work is revegetation or other permanent erosion control, including, if applicable, tree mitigation, (collectively, the "revegetation"), the CONTRACTOR may execute a zero-cost "Revegetation Change Order" for such Work and post fiscal security acceptable to Owner to ensure completion of the revegetation.

The fiscal security will be a bond, letter of credit, or cash escrow in a form promulgated by OWNER and posted with OWNER's Watershed Protection Department.

Upon receipt of the executed Revegetation Change Order and fiscal security, the Owner's Representative will issue a conditional letter of final acceptance to the CONTRACTOR for the Work, excluding the revegetation, which establishes the Final Completion Date for that Work and initiates the one year warranty period.

This revegetation must be accomplished within 120 Calendar Days of the date of Final Completion of the balance of the Work or such other stipulated time for completion directed in the Change Order. When the revegetation has been established, OWNER will inspect for final acceptance of that portion of the Work and, as applicable, initiate the one year warranty period for that Work.

If the revegetation is not completed within the 120 Calendar Days or such other time set forth in the Change Order, the OWNER, at its option, may complete the Work using the posted fiscal security."

ARTICLE 15 – SUSPENSION OF WORK AND TERMINATION

15.3 Owner May Terminate with Cause: Add the following paragraph to 15.3.1:

".8 if CONTRACTOR fails to meet the ROCIP and/or Safety Program requirements;"

WARRANTY ITEM NO. _____ (PROJECT NAME)

The General Conditions of the Contract require that Warranty Defects be corrected within 7 days after written notice is received.

TO: _____
contractor name address / telephone / fax / email

ATTENTION OF: _____

FROM: _____
project manager name / address / telephone / fax / email

PROJECT: _____
name / location / CIP ID number

END OF ONE YEAR WARRANTY: _____

SUBJECT: _____

- If checked, the damage requires immediate attention. The Contractor has been called.
- If checked, the Consultant has been asked to consult with the Contractor on the problem.

PLEASE CORRECT OR REPAIR THE FOLLOWING ITEM(S):

DATE OF REQUEST _____ **SIGNATURE** _____
Project Manager

- XC:
- _____ Phone No. _____
 - _____ Phone No. _____
 - _____ Phone No. _____
 - _____ Phone No. _____

RESPONSE FROM CONTRACTOR: DATE CORRECTION WAS MADE: _____

The Contractor must endeavor to correct the defect within 7 calendar days after written notice is given. If the defect cannot be corrected in that time, Contractor shall provide a written explanation to the Owner's Representative describing the repairs needed and the time required to complete the repairs.

Description of corrections made:

DATE OF REPLY _____ **SIGNATURE** _____

When the repair is complete, the contractor should return a copy to each of the following:

- _____ Phone No. _____

END

- 8) Double-acting torque switches to protect valve from excessive loads at any point between FULLY OPENED or FULLY CLOSED.
5. Operation:
 - a. Open-close service:
 - 1) Operators shall operate automatically by remote signal specified and as indicated on the PLANS.
 - 2) Remote signal shall control, with hand switch in REMOTE position, self-contained electromechanical reversing starter shall cause valve to open or close.
 - 3) In LOCAL position, control motorized operator with local control station.
 - b. Modulating service:
 - 1) Actuator controller: Microprocessor based and using proportional-integral derivative algorithm to calculate actuator response.
 - 2) Controller shall compare 4-20mA direct-current analog command signal to analog feedback signal and move actuator accordingly.
 - 3) Microprocessor-based controller shall control integrally mounted solid state reversing starter.
 - c. Where indicated on the PLANS, provide 4-20mA direct-current analog output signal for continuous remote monitoring of position.
 - d. Controller system: Rated for continuous duty.
 - e. Operation: As specified.
- G. Tagging: Provide per Section 15075, "Mechanical Identification".
- H. Limit Switches for Manual Valves:
 1. Provide for the manual valves as listed on Valve Schedule in Drawings.
 2. Factory installed limit switches to be installed on the valve by valve manufacturer.
 3. Provide two SPDT switches one for the valves fully OPEN and one for fully CLOSED position. Provide each assembly with two 5-amp, 125V AC switches. Switches shall be actuated by a position indicator mechanism.
 4. Valve shall also be provided with local position indication.
 5. Limit switches shall be provided standard with NEMA 4X enclosure. Where Class I, Group C and D, Division I and II areas are indicated on the schedule provide suitable enclosures.
 6. Limit switches shall be valve manufacturer standard.
- I. Extension Bonnet for Valve Operator: Complete with stem and accessories for valve and operator.
 1. Manufacturers and Products:
 - a. Pratt.
 - b. Allis-Chalmers.
- J. Floor Stand and Extension Stem:
 1. Nonrising, indicating type.
 2. Complete with stem, coupling, handwheel, stem guide brackets, and yoke attachment.
 3. Stem Guide: Space such that stem L/R ratio does not exceed 200.
 4. Anchor Bolts: Type 304 SST.
 5. Manufacturers and Products:
 - a. Clow; Figure F-5515.
 - b. Mueller, Figure A-26426.
- K. Floor Box and Stem:

“This Project provides insurance to qualified Contractors. Contractors and SubContractors of any tier shall withhold insurance cost from the bid, thus reducing the bid amount. Please refer to the Supplemental General Conditions, Section 00810 and the Safety Manual, for specific information regarding the ROCIP.”

PART 2 - PRODUCTS

2.01 GENERAL

For additional construction notes and special requirements, refer to the PLANS.

2.02 CONSTRUCTION

A. Structure

1. Each Switchboard shall consist of the required number of vertical sections and compartments bolted together to form a rigid, self supporting free-standing assembly. GASKETED NEMA – 1 rated (dust tight), non-walk-in type enclosure. The structure shall be not more than 92-inches nominal height, and be fabricated of formed steel or not less than 14 gauge thickness. It shall be furnished with removal lifting facilities as well as basic construction designed for rolling or skidding. Sections shall be aligned front and rear. Each vertical section as well as the entire line-up assembly shall be NEMA-1. The individual dedicated compartment doors contained within each vertical section shall also be hinged and gasketed.
2. The Switchboards shall be of dead front construction, shall not require rear access, and shall be suitable for back to wall mounting. All wiring, bus joints, and other mechanical parts requiring tightening or other maintenance shall be accessible from the front or top.
3. Each switchboard section shall have a barriered bottom and an individually removable top plate for installation and termination of conduit.
4. Provide 120 volt thermostatically-controlled 250 watt electric space heater in each section of the Switchboard sized to prevent presence of moisture and condensation within the Switchboards. Each space heater shall be wired to a terminal block in its respective section. Provide control power transformer with the total VA rating of the electric heaters in the Switchboard (minimum size 2000VA). Also, refer to Subsection 2.06, below.
5. Each Breaker compartment/section shall be provided with an individual front hinged door. The door shall be interlocked mechanically with the unit circuit breaker device to prevent unintentional opening of the door while the breaker is in closed position. Means shall be provided for releasing the interlock for intentional access and/or application of power. Pad locking arrangements shall permit locking the disconnect device in the “OFF” position.
6. All unused spaces provided, unless otherwise specified, shall be fully equipped for future devices, including all appropriate connectors and mounting hardware.
7. The Switchboard shall be furnished as completely factory assembled unit where transportation facilities and installation requirements permit. Minimize shipping splits if required.

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- D. Terminations: Breakers shall have removable lugs, U.L. listed for copper and aluminum conductors and U.L. listed for installation of mechanical screw type lugs. Furnish lugs for feeders to facilitate field wiring termination, sizes shall be as required by the PLANS.
- E. Key interlocks shall be provided so that the incoming line #1 main circuit breaker must be opened prior to closing the main circuit breaker of the incoming line #2. Also, refer to the requirements of the PLANS.
- F. Provide mechanical padlock attachment for each circuit breaker.

2.05 FEEDER CIRCUIT BREAKERS

- A. Rating: Circuit breaker shall be three pole, 600 volt with a continuous current carrying capacity shown on the PLANS (trip setting shown on the PLANS). Breakers shall be adjustable down to as low 50% of its frame rating. Circuit breakers shall be group mounted. Switchboard breaker ratings shown on the PLANS are the actual trip settings and NOT the Frame Rating. The frame rating shall be greater than the Trip rating shown on the PLANS.
- B. Group mounted circuit breakers, where shown on the PLANS, shall be group mounted plug-on with mechanical restraint on a common pan or rail assembly. The requirement of door and circuit breaker mechanical interlock assembly shall not apply to group mounted circuit breakers.
- C. The interior shall have three flat bus bars stacked and aligned vertically with glass reinforced polyester insulators laminated between phases. The molded polyester insulators shall support and provide phase isolation to the entire length of bus.
- D. Circuit breakers shall be equipped with line terminal jaws shall not require additional external mounting hardware. Circuit breaker(s) shall be held in mounted position by a self-contained bracket secured to the mounting pan by fasteners.
- E. Line-side circuit breaker connections shall be jaw type.
- F. Circuit breaker shall have a U.L. listed minimum RMS symmetrical short circuit current rating equal to or greater than the minimum RMS symmetrical short circuit current rating of the Main bus at 480 volts A.C, unless otherwise indicated on the one-line diagram drawings. However, under no circumstances shall the RMS symmetrical short circuit current rating of the main and tie circuit breaker be less than 42,000 amperes at 480 volts A.C. Breaker shall be U.L. listed and shall comply with NEMA Standard No. AB1-1975 and Federal Specification W-C-3758/GEN 21a. Circuit breaker shall be fully rated and not require rating for ambient temperatures of 40 degrees C. or less.
- G. Circuit breakers shall be the molded case type with overcenter, trip-free, toggle-type operating mechanism with quick-make, quick-break action and positive handle indication, and common trip. Breaker operating handle shall assume a center position when tripped. Construction shall allow connection of supply conductors at either end.
- H. Provide complete with rating plug and other accessories as required for proper operation of circuit breaker.

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1. **Communication Cables:** Provide all cables for interconnection between all components of the DCS inside the and/or in duct/conduit banks, as applicable. These cables shall include cables to the PLCs I/O racks, power supplies, central processing units, fiber-optic components, PCs, Modems, etc. Also refer to fiber-optic communications requirements listed in sub-Section 2.05, below of this Specification.

D. Ethernet Switches

1. **Fiber Optic Connectors associated with Devices:** The SFP modules shall utilize an LC duplex single mode type connector. The GBIC modules shall utilize an SC duplex single mode type connector.
2. All communication cables routed to Ethernet switches shall be of sufficient length such that each communication cable may be connected to any port of the switch, with a remaining minimum slack of 1 foot. in the cable after installation.

E. Equipment Configuration

1. The PLCs shall include, but not be limited to, the equipment components called for on the contract drawings and in these specifications. Capacities and/or quantities shown are minimum. Provide additional capacity or units as necessary to meet the functional requirements.
2. Detailed descriptions equipment components are given in subsection Hardware Components Specifications.

F. Configuration System

1. Provide a configuration system, including hardware necessary to allow Engineer configuration of and programming of the PLC system. PLCs equipment provided as part of the Configuration System shall be fully compatible with the DCS equipment provided for this system.
2. Ship and temporarily install the Configuration System at the Engineer’s designated facility.
3. Include at least the following components for the Configuration System:
 - a. All proposed Programmable Logic Controllers (PLCs), including all racks, power supplies, microprocessor modules, I/O modules, communication modules, remote I/O modules, etc.
 - b. All proposed Remote I/O units, including all racks, power supplies, I/O modules, communication modules, remote I/O modules, etc.
 - c. All Operator Interface Units (OIU's).
 - d. All Laptop Programming Computers and Tablet Computers each complete with all accessories and software. Provide quantity one (1) of Laptop Programming Computer each complete with all accessories and software. Provide quantity four (4) of Tablet Computer each complete with all accessories and software.
 - e. All Communications interface hardware, including switches, cabling, and fiber optics electronics for PLC-to-PLC interface, and PLCs to programmer PC interface.

- f. All necessary cabling to interconnect the equipment at the engineer's site. The programming cabling between the PLC and the Laptop shall, at minimum, consist of two (2) USB programming cables, each of 12 foot length minimum.
- g. Two(2) Uninterruptible power supplies with sufficient capacity for the PLC rack, remote I/O rack(s) and all associated I/O cards, and communication equipment. These may be counted among the UPS equipment to be purchased.
- h. Provide the following equipment for a Type 1 PLC: PLC CPU module, two (2) NOE modules, 16 slot rack, power supply, and two (2) digital input, two (2) digital output, two (2) analog input, two (2) RTD modules if the RTD module of this type is shown on the drawings, and two (2) analog output modules if the analog output module of this type is shown on the drawings. These equipment shall be independent of the PLC equipment to be installed in the field and shall in no way impede the ICS progress of work in wiring to the PLC modules. These may be counted among the spare PLC equipment to be purchased.
- i. Provide the following equipment for a Type 2 PLC: PLC CPU module, two (2) NOE modules, 10 slot rack, power supply, and two (2) digital input, two (2) digital output, two (2) analog input, two (2) RTD modules if the RTD module of this type is shown on the drawings, and two (2) analog output modules if the analog output module of this type is shown on the drawings. These equipment shall be independent of the PLC equipment to be installed in the field and shall in no way impede the ICS progress of work in wiring to the PLC modules. These may be counted among the spare PLC equipment to be purchased.
- j. Necessary cabling for power up of the PLC and communication between the PLC and the programming unit.
- k. Provide one (1) GE Multilin EPM 9450 (Transducer Module) complete with three line LED combination display and keypad Model PL900040N and one (1) GE Multilin 469 unit complete with the Ethernet communication capability, per specifications, one (1) GE Multilin 750 unit complete with the Ethernet communication capability, per specifications, and one (1) GE Multilin 745 unit complete with the Ethernet communication capability, per specifications to be included with the configuration system. These units may be counted amongst the spare units. Furnish and install all required cabling to power the units and to interconnect display with EPM 9450 unit.
- l. Provide 19” rack(s) and install PLC racks and other configuration equipment on 19” rack(s). For each 19” rack, secure rack to base with four (4) lockable, caster wheels that shall allow the cabinet to be pushed/carted forward, backward, and rotated at least 90 degrees. Overall rack assembly height shall not exceed 60”.
- m. Prior to assembly and delivery of configuration system, submit to engineer a drawing detailing the front and back elevations of proposed arrangement of PLC equipment on 19” rack(s). Upon approval of submittal, contractor is to then configure rack according to approved submittal and ship configuration system to Engineer’s location.
- n. When directed by the Engineer, recreate and ship Configuration System from the Engineer’s designated facility to Owner’s facility.

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2. Test all non-loop-specific functions including, but not limited to, the following:
 - a. Failure Mode and Backup Procedures: Power failure, auto restart, retentive outputs.
 - b. Data Highway DH Dual Primary and Backup communications switching.
 - c. Communication with existing PCs.
3. Refer to Section 17100.

2.15 OPERATIONAL READINESS TESTS (ORT)

Refer to Section 17100.

2.16 PERFORMANCE ACCEPTANCE TESTS (PAT)

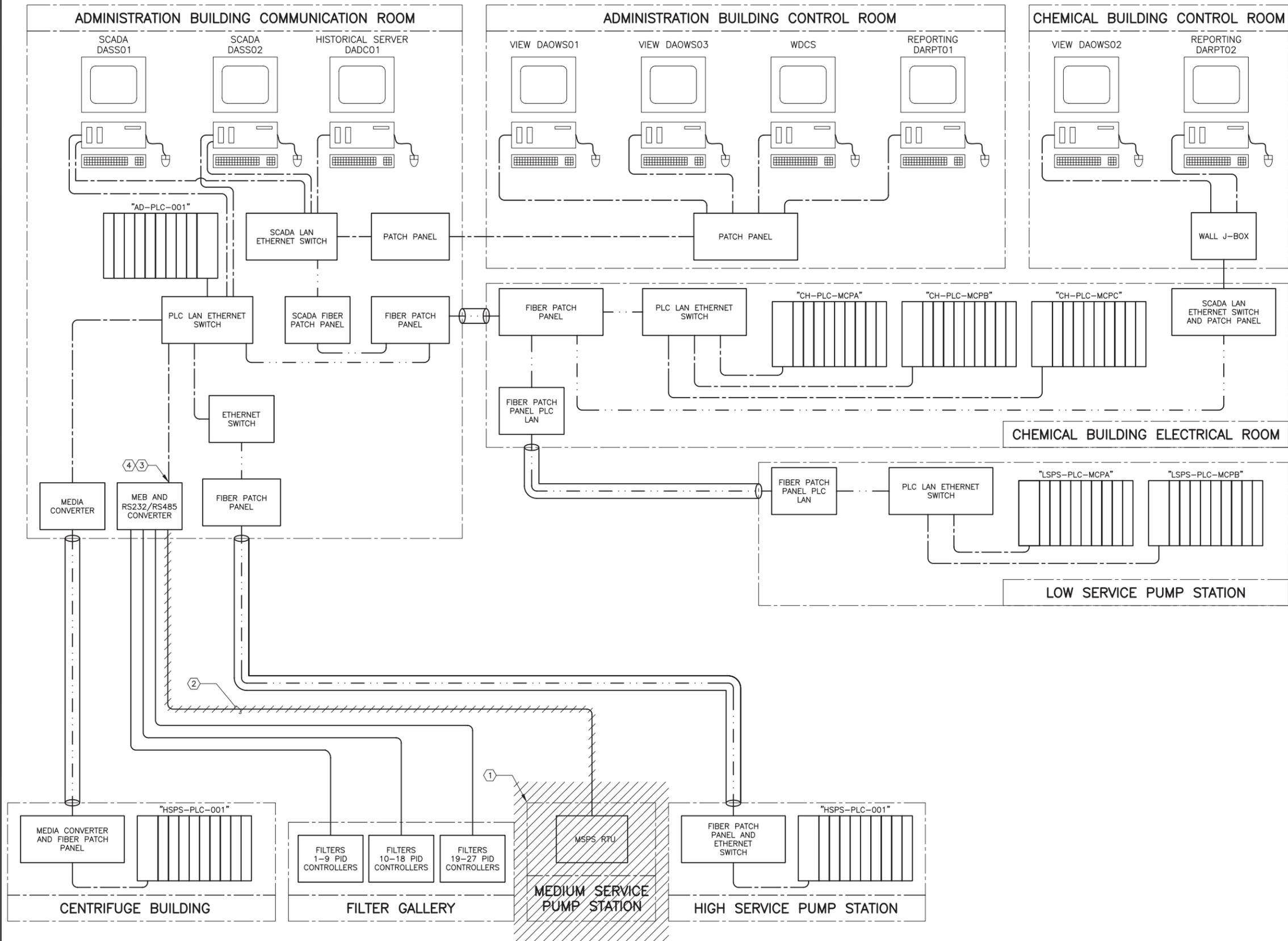
Refer to Section 17100.

2.17 RELIABILITY ACCEPTANCE TESTS (RAT)

Refer to Section 17100.

2.18 TABLET COMPUTER

- A. The Tablet Computer shall be manufactured by DELL and shall meet the requirements of the specifications as provided by Dell in the Dell quote number 1022964029089.1, quote date 12/17/2015, by Shawn Minix, Shawn_Minix@Dell.com.
- B. Quantity of four (4) of each type of item identified in the Dell quote shall be furnished. In particular, four (4) Tablet Computers each with all associated accessories and software, as identified in the quote, shall be furnished.



- GENERAL NOTES:**
1. OMITTED.
 2. OMITTED.
 3. ETHERNET COMMUNICATION CONSISTS OF TWO (2) CHANNELS, "A" AND "B". ONLY CHANNEL "A" CABLING AND ETHERNET SWITCHES ARE SHOWN FOR CLARITY.
 4. THIS DRAWING IS INTENDED AS AN OVERVIEW ONLY AND IS NOT INTENDED FOR CONSTRUCTION. THIS DRAWING DOES NOT SHOW ALL NETWORK DEVICES AND PLC RACKS IN EACH LOCAL PROCESS AREA. REFER TO LOCAL PROCESS AREA PLC SYSTEM ARCHITECTURE DRAWINGS FOR FURTHER INFORMATION.
 5. BOTH OF THE PROPOSED CHANNEL "A" AND CHANNEL "B" DATA NETWORK SERVICES TO THE PROPOSED MEDIUM SERVICE PUMP STATION SHALL BE FULLY OPERATIONAL AND THE PROPOSED MEDIUM SERVICE PUMP STATION SHALL BE COMPLETELY TESTED AND FULLY OPERATIONAL IN COMPLIANCE WITH ALL APPLICABLE CONTRACT REQUIREMENTS PRIOR TO COMMENCING THE DEMOLITION ACTIVITIES SHOWN HEREIN. COORDINATE WITH THE CONSTRUCTION SEQUENCING REQUIREMENTS OF THE PROJECT.

- KEY NOTES:**
- ① DISCONNECT AND REMOVE EXISTING MEDIUM SERVICE PUMP STATION RTU.
 - ② DISCONNECT AND REMOVE EXISTING WIRING BETWEEN THE EXISTING MEDIUM SERVICE PUMP STATION RTU AND THE EXISTING RS-232/RS-485 CONVERTER IN ITS ENTIRETY.
 - ③ EXISTING MEB MODULES AND RS-232/RS-485 CONVERTERS TO REMAIN.
 - ④ REFER TO DRAWING NO. [F-1-3] FOR ADDITIONAL REQUIREMENTS.

This document, and the designs incorporated herein, is an instrument of professional service that has been developed, designed and prepared by Harutunian Engineering, Inc., and is not to be used, in whole or in part, for any other project without giving written notice to Harutunian Engineering, Inc.

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 ENGINEERING AND ENVIRONMENTAL CONSULTANTS
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 TBPE REGISTRATION NO. F-3409

REV	DATE	DESCRIPTION	APPROVED
	12/08/2015	ADDENDUM NO. 3	SH

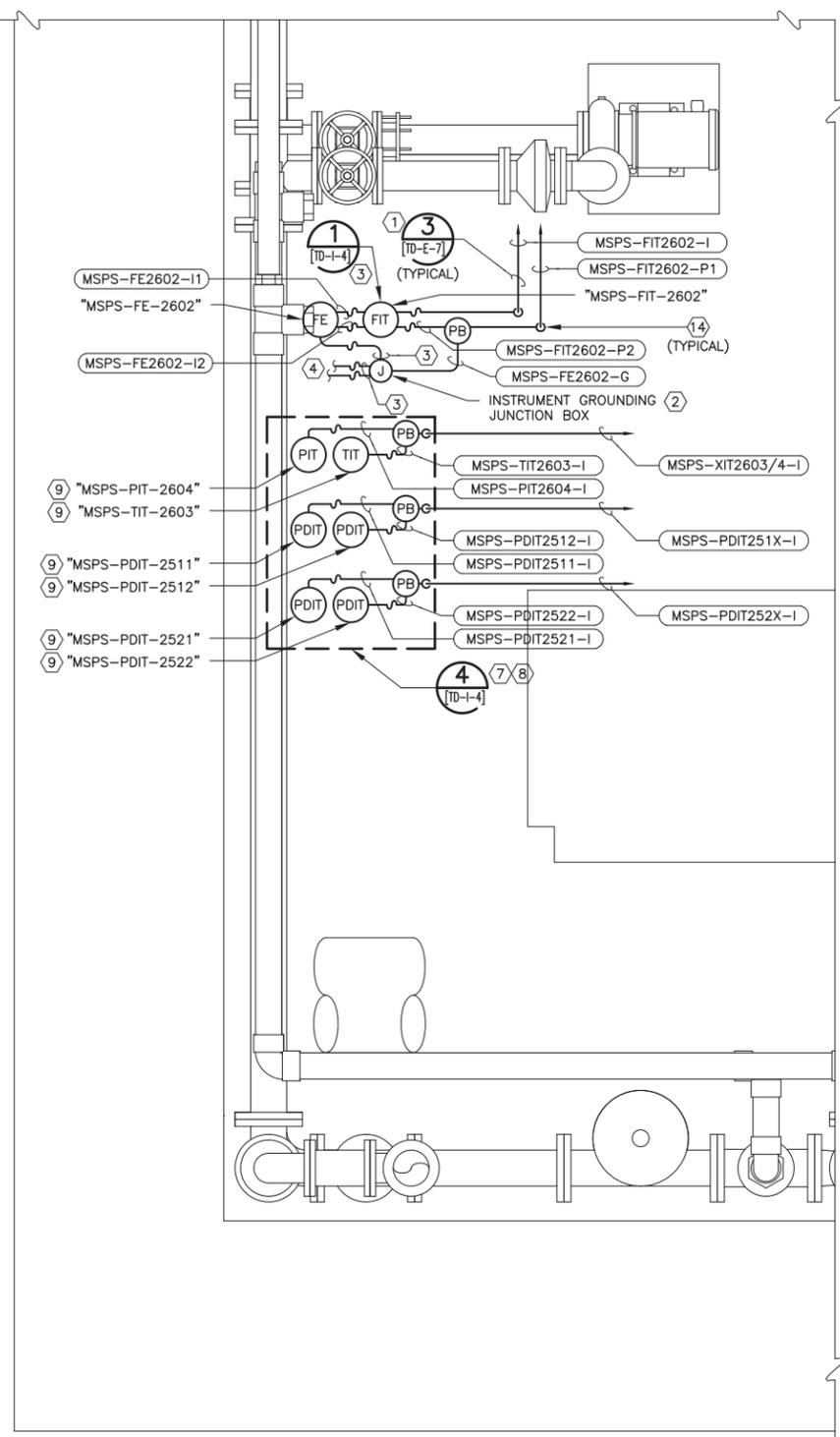
CITY OF AUSTIN
 FOUNDED 1839

**DAVIS WATER TREATMENT PLANT
 TREATED WATER DISCHARGE SYSTEM
 CIP PROJECT No. 2015.041
 OVERALL PLC NETWORK ARCHITECTURE
 DEMOLITION**

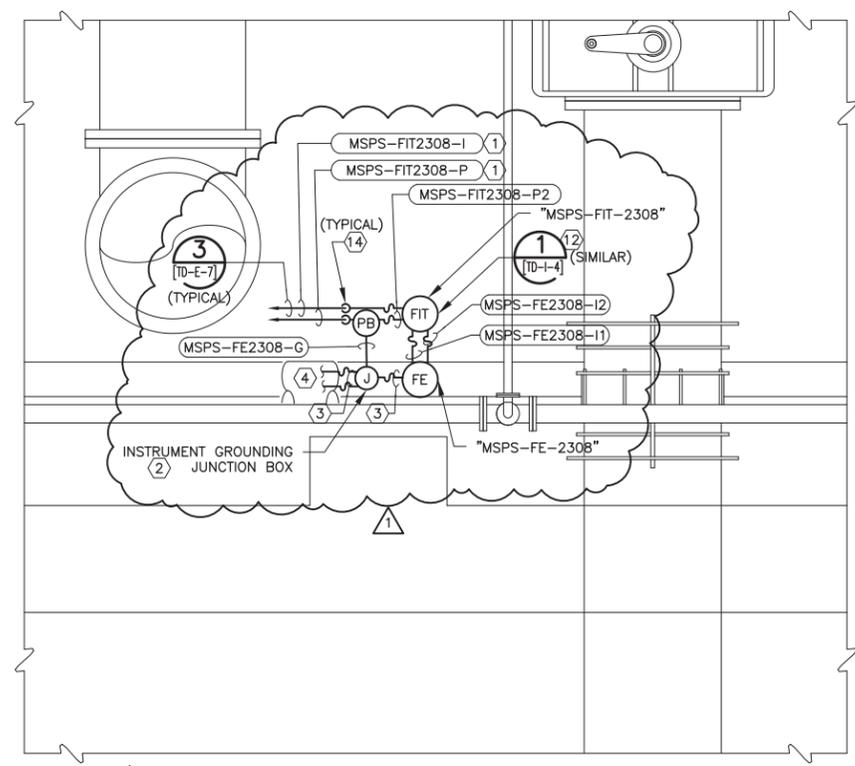
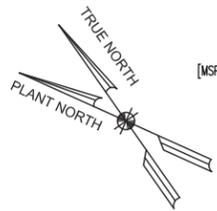
AECOM
 AECOM TECHNICAL SERVICES INC.
 400 W 15th STREET SUITE 500
 AUSTIN, TEXAS 78701
 WWW.AECOM.COM
 TBPE REG. NO. F-3580

SHANT HARUTUNIAN
 REGISTERED PROFESSIONAL ENGINEER
 87735

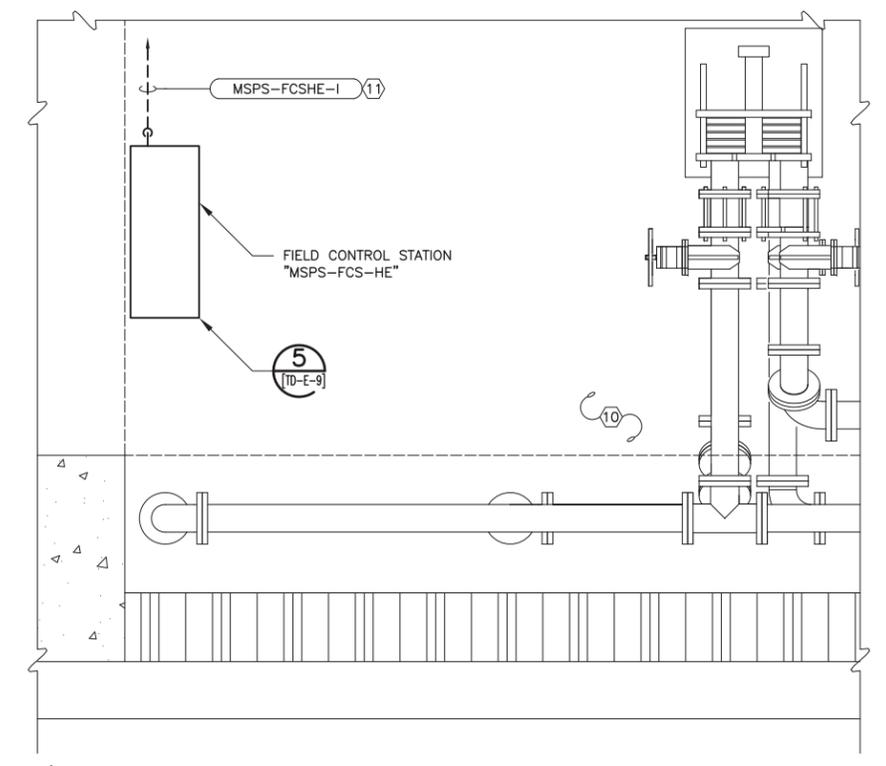
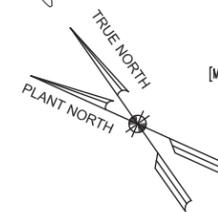
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DRAWN: HEI	DRAWING No. A-I-5
CHECKED: HEI	SHEET No. OF
APPROVED: HEI	
SCALE: NTS	
DATE: AUGUST 2015	



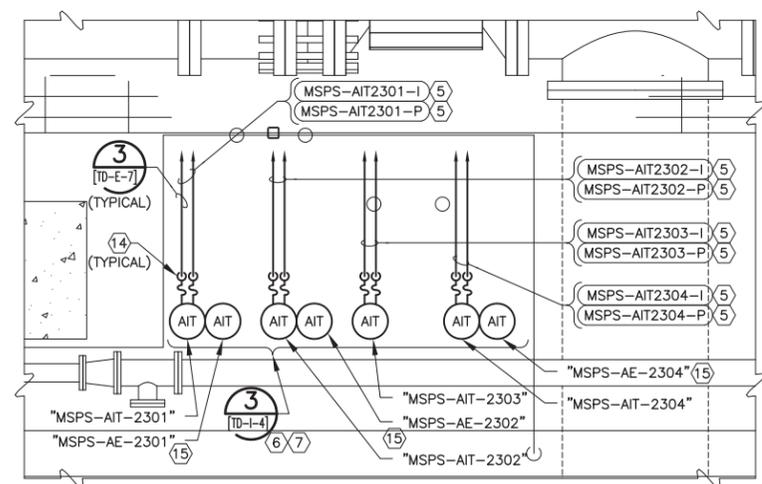
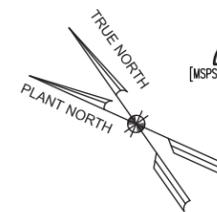
1 WATER SOURCE HEAT PUMPS, HEAT EXCHANGERS, AND COOLING WATER PUMPS INSTRUMENT ENLARGED PLAN
 [MSPS-E-26] SCALE: 1" = 1'-0"



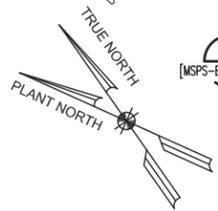
2 FLOW INSTRUMENT ENLARGED PLAN
 [MSPS-E-26] SCALE: 1/2" = 1'-0"



3 HEAT EXCHANGER INSTRUMENTS ENLARGED PLAN
 [MSPS-E-40] SCALE: 3/4" = 1'-0"



4 ANALYSIS INSTRUMENTS ENLARGED PLAN
 [MSPS-E-26] SCALE: 1/2" = 1'-0"



KEY NOTES:

- 7 GROUP MOUNT INSTRUMENTS TO COMMON SUPPORT RACK. CONDUIT/WIRE, PULLBOXES/CONDUIT BODIES, AND INSTRUMENTS SHOWN APART FOR CLARITY. MOUNT TO RACK. VERTICALLY STACK INSTRUMENTS AS REQUIRED.
- 8 SURFACE MOUNT INSTRUMENT SUPPORT RACK TO WALL ABOVE UPPER COOLING WATER PIPE.
- 9 ROUTE INSTRUMENT TUBING ALONG RACK AND UP WALL TO GROUND FLOOR LEVEL. FURNISH AND INSTALL CONDUIT SUPPORT CHANNELS AND CUSHIONED CLAMPS SURFACE MOUNTED TO WALL AS REQUIRED TO SUPPORT TUBING TO/FROM GROUND LEVEL. COORDINATE SENSING ELEMENT TAP LOCATIONS WITH MECHANICAL. COORDINATE TUBING PENETRATIONS OF FLOOR SLAB WITH STRUCTURAL.
- 10 ROUTE INSTRUMENT TUBING ALONG WALL TO SLAB PENETRATION. TUBING CONTINUES TO/FROM INSTRUMENTS LOCATED IN BASEMENT LEVEL. COORDINATE LOCATION OF PENETRATION WITH STRUCTURAL AND MECHANICAL.
- 11 CONDUIT PENETRATES STRUCTURAL FLOOR AND CONTINUES IN CEILING SPACE OF BASEMENT LEVEL.
- 12 MOUNT TRANSMITTER TO SUPPORT RACK AS SHOWN. GROUNDING JUNCTION BOX, AND ASSOCIATED FLOW ELEMENT GROUNDING COMPONENTS ARE NOT REQUIRED.
- 13 OMITTED.
- 14 CONDUIT/WIRE TURN UPS/DOWNS SHOWN AWAY FROM EQUIPMENT FOR CLARITY. PROPOSED CONDUIT/WIRE TURNS UP/DOWN TO CONNECT TO TOP OR BOTTOM OF EQUIPMENT AS APPLICABLE.
- 15 ALTHOUGH NOT SHOWN HERE, FURNISH AND INSTALL ANALYSIS TRANSMITTER VENDOR SUPPLIED CABLE BETWEEN ANALYSIS TRANSMITTER AND RESPECTIVE ANALYSIS SENSOR ELEMENT AND MAKE ALL FINAL CONNECTIONS. COIL AND SECURE EXCESS CABLE LENGTH WITH WIRE TIES.

KEY NOTES:

- 1 CONDUITS SHOWN APART FOR CLARITY. SURFACE MOUNT CONDUIT/WIRE TO BASEMENT WALL. CONDUIT/WIRE CONTINUES ALONG WALL AND TRANSITIONS TO/FROM CONDUIT CORRIDOR IN CEILING SPACE OF BASEMENT.
- 2 FURNISH AND INSTALL JUNCTION BOX.
- 3 FURNISH AND INSTALL #10 AWG INSULATED GROUNDING CONDUCTOR. GROUNDING CONDUCTOR SHALL SPLICE INSIDE JUNCTION BOX AND ROUTE EXPOSED TO FLOW ELEMENT SENSOR HOUSING AND TO EACH SENSOR PIPE GROUND DISK. SECURE/SUPPORT EXPOSED GROUNDING CONDUCTORS TO SUPPORT CHANNEL/EQUIPMENT RACK WITH WIRE TIES. FOLLOW MANUFACTURER'S GROUNDING INSTRUCTIONS.
- 4 #10 AWG INSULATED GROUNDING CONDUCTORS CONTINUE EXPOSED TO SENSOR PIPE GROUND DISKS.
- 5 SURFACE MOUNT CONDUIT/WIRE TO STRUCTURAL COLUMN/BEAM/CEILING AS REQUIRED. CONDUIT/WIRE TRANSITIONS TO CONDUIT CORRIDOR IN CEILING SPACE OF PLATFORM LEVEL ABOVE THE MONORAIL CRANES.
- 6 REFER TO MECHANICAL DRAWINGS FOR ADDITIONAL INFORMATION.

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 TBPE REGISTRATION NO. F-3408

REV	DATE	DESCRIPTION	APPROVED
1	12/08/2015	ADDENDUM NO. 3	KAH

CITY OF AUSTIN
 FOUNDED 1839

DAVIS WATER TREATMENT PLANT TREATED WATER DISCHARGE SYSTEM CIP PROJECT No. 2015.041
 MEDIUM SERVICE PUMP STATION
 BASEMENT LEVEL
 ENLARGED POWER AND I&C DETAILS

AECOM
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REGISTERED PROFESSIONAL ENGINEER
 K. A. HARUTUNIAN
 59181

VERIFY SCALES BAR IS ONE INCH ON ORIGINAL DRAWING 0 1" IF THIS BAR DOES NOT MEASURE ONE INCH, DWG IS NOT TO SCALE	DESIGNED: HEI DRAWN: HEI CHECKED: HEI APPROVED: HEI SCALE: AS NOTED DATE: AUGUST 2015	PROJECT No. 60215430 DRAWING No. MSPS-E-33 SHEET No. OF
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CONDUIT/WIRE SCHEDULE		
CONDUIT TAG	SIZE	CABLE/WIRE DESCRIPTION
MSPS-COM-A1	3"	1 FIBER OPTIC CABLE - TYPE 1 (COM)
MSPS-COM-B1	3"	1 FIBER OPTIC CABLE - TYPE 1 (COM)
MSPS-COM-B2	3"	EMPTY
MSPS-COM-SEC	3"	1 FIBER OPTIC CABLE - TYPE 2 (SECURITY) (2)
MSPS-COM-TELE	3"	1 FIBER OPTIC CABLE - TYPE 2 (TELEPHONE) (2)
MSPS-CP1-G	1"	1 #1 (G)
MSPS-CP2-G	1"	1 #1 (G)
MSPS-CPBWP1-COMA	1"	2 COPPER ETHERNET CABLE (COM)
MSPS-CPBWP1-COMB	1"	1 COPPER ETHERNET CABLE (COM)
MSPS-CPLCP1-A1	3/4"	4 #12 (C),2 #12 (SP),1 #10 (G)
MSPS-CPLCP1-A2	3/4"	4 #12 (C),2 #12 (SP),1 #10 (G)
MSPS-CPLCP1-B1	3/4"	4 #12 (C),2 #12 (SP),1 #10 (G)
MSPS-CPLCP1-B2	3/4"	4 #12 (C),2 #12 (SP),1 #10 (G)
MSPS-CPLCP1-C	2"	44 #12 (P),12 #12 (SP),1 #12 (G)
MSPS-CPLCP1-C1	1-1/4"	8 #12 (C),4 #12 (SP),2 #10 (G)
MSPS-CPLCP1-C2	1-1/4"	8 #12 (C),4 #12 (SP),2 #10 (G)
MSPS-CPLCP1-PA	3/4"	2 #10 (P),1 #10 (G)
MSPS-CPLCP1-PB	3/4"	2 #10 (P),1 #10 (G)
MSPS-CPLCP1-PC	3/4"	2 #10 (P),1 #10 (G)
MSPS-CPLCP1-PD	3/4"	2 #10 (P),1 #10 (G)
MSPS-CPLCP1-PE	3/4"	2 #10 (P),1 #10 (G)
MSPS-CPLCP1-PF	3/4"	2 #10 (P),1 #10 (G)
MSPS-CPLV2-COMA	1-1/2"	3 COPPER ETHERNET CABLE (COM)
MSPS-CPLV2-COMB	1-1/2"	2 COPPER ETHERNET CABLE (COM)
MSPS-CPLV2-P	3/4"	2 #12 (P),2 #12 (SP),1 #10 (G)
MSPS-CPMSP2-COMA	1"	2 COPPER ETHERNET CABLE (COM)
MSPS-CPMSP2-COMB	1"	1 COPPER ETHERNET CABLE (COM)
MSPS-CPMSP3-COMA	1"	2 COPPER ETHERNET CABLE (COM)
MSPS-CPMSP3-COMB	1"	1 COPPER ETHERNET CABLE (COM)
MSPS-CPMSP4-COMA	1"	2 COPPER ETHERNET CABLE (COM)
MSPS-CPMSP4-COMB	1"	1 COPPER ETHERNET CABLE (COM)
MSPS-CPMSP5-COMA	1"	2 COPPER ETHERNET CABLE (COM)
MSPS-CPMSP5-COMB	1"	1 COPPER ETHERNET CABLE (COM)
MSPS-CPMSP6-COMA	1"	2 COPPER ETHERNET CABLE (COM)
MSPS-CPMSP6-COMB	1"	1 COPPER ETHERNET CABLE (COM)
MSPS-CPP1-F	2"	4 #1/0 (P),1 #6 (G),1 #6 (IG)
MSPS-CPP2-F	2"	4 #1 (P),1 #4 (G)
MSPS-CPSP-C	1-1/4"	10 #12 (C),4 #12 (SP),1 #10 (G)
MSPS-CPSP-P	3/4"	3 #8 (P),1 #10 (G)
MSPS-CWP1-PSH	1"	3 #8 (P),1 #10 (G),2 #10 (SH)
MSPS-CWP2-PSH	1"	3 #8 (P),1 #10 (G),2 #10 (SH)
MSPS-CWP3-PSH	1"	3 #8 (P),1 #10 (G),2 #10 (SH)
MSPS-CWV23-C	1"	EMPTY
MSPS-CWV4-C	1"	EMPTY
MSPS-FCSBV2-C	1-1/2"	24 #12 (C),6 #12 (SP),1 #10 (G)
MSPS-FCSBV2-I	3/4"	1 #16 2-CONDUCTOR TWISTED PAIR SHIELDED CABLE (I)
MSPS-FCSBV3-C	1-1/2"	24 #12 (C),6 #12 (SP),1 #10 (G)
MSPS-FCSBV3-I	3/4"	1 #16 2-CONDUCTOR TWISTED PAIR SHIELDED CABLE (I)
MSPS-FCSBV4-C	1-1/2"	24 #12 (C),6 #12 (SP),1 #10 (G)
MSPS-FCSBV4-I	3/4"	1 #16 2-CONDUCTOR TWISTED PAIR SHIELDED CABLE (I)
MSPS-FCSBV5-C	1-1/2"	24 #12 (C),6 #12 (SP),1 #10 (G)
MSPS-FCSBV5-I	3/4"	1 #16 2-CONDUCTOR TWISTED PAIR SHIELDED CABLE (I)
MSPS-FCSBV6-C	1-1/2"	24 #12 (C),6 #12 (SP),1 #10 (G)
MSPS-FCSBV6-I	3/4"	1 #16 2-CONDUCTOR TWISTED PAIR SHIELDED CABLE (I)
MSPS-FCSBV7-C	1-1/2"	24 #12 (C),6 #12 (SP),1 #10 (G)
MSPS-FCSBV7-I	3/4"	1 #16 2-CONDUCTOR TWISTED PAIR SHIELDED CABLE (I)
MSPS-FCSBWP1-C	3/4"	4 #12 (C),2 #12 (SP),1 #10 (G)

CONDUIT/WIRE SCHEDULE		
CONDUIT TAG	SIZE	CABLE/WIRE DESCRIPTION
MSPS-FCSBWP1-I	1-1/2"	5 #16 2-CONDUCTOR TWISTED PAIR SHIELDED CABLE (I)
MSPS-FCSBWP2-C	1-1/4"	10 #12 (C),4 #12 (SP),1 #10 (G)
MSPS-FCSBWP2-C	1-1/4"	10 #12 (C),4 #12 (SP),1 #10 (G)
MSPS-FCSBWP3-C	1-1/4"	10 #12 (C),4 #12 (SP),1 #10 (G)
MSPS-FCSHE-I	1-1/4"	6 #16 2-CONDUCTOR TWISTED PAIR SHIELDED CABLE (I)
MSPS-FCSMSP2-C	3/4"	4 #12 (C),2 #12 (SP),1 #10 (G)
MSPS-FCSMSP2-I	1-1/2"	5 #16 2-CONDUCTOR TWISTED PAIR SHIELDED CABLE (I)
MSPS-FCSMSP3-C	3/4"	4 #12 (C),2 #12 (SP),1 #10 (G)
MSPS-FCSMSP3-I	1-1/2"	5 #16 2-CONDUCTOR TWISTED PAIR SHIELDED CABLE (I)
MSPS-FCSMSP4-C	3/4"	4 #12 (C),2 #12 (SP),1 #10 (G)
MSPS-FCSMSP4-I	1-1/2"	5 #16 2-CONDUCTOR TWISTED PAIR SHIELDED CABLE (I)
MSPS-FCSMSP5-C	3/4"	4 #12 (C),2 #12 (SP),1 #10 (G)
MSPS-FCSMSP5-I	1-1/2"	5 #16 2-CONDUCTOR TWISTED PAIR SHIELDED CABLE (I)
MSPS-FCSMSP6-C	3/4"	4 #12 (C),2 #12 (SP),1 #10 (G)
MSPS-FCSMSP6-I	1-1/2"	5 #16 2-CONDUCTOR TWISTED PAIR SHIELDED CABLE (I)
MSPS-FCSSV2-C	1"	8 #12 (C),2 #12 (SP),1 #10 (G)
MSPS-FCSSV3-C	1"	8 #12 (C),2 #12 (SP),1 #10 (G)
MSPS-FCSSV4-C	1"	8 #12 (C),2 #12 (SP),1 #10 (G)
MSPS-FCSSV5-C	1"	8 #12 (C),2 #12 (SP),1 #10 (G)
MSPS-FCSSV6-C	1"	8 #12 (C),2 #12 (SP),1 #10 (G)
MSPS-FCSVF1-C	1"	6 #12 (C),2 #12 (SP),1 #10 (G)
MSPS-FCSVF2-C	1"	6 #12 (C),2 #12 (SP),1 #10 (G)
MSPS-FCSVF3-C	1"	6 #12 (C),2 #12 (SP),1 #10 (G)
MSPS-FE2308-I1	3/4"	1 VENDOR CABLE (I) (3)
MSPS-FE2602-G	1"	1 #10 (G)
MSPS-FE2602-I1	3/4"	1 VENDOR CABLE (I) (3)
MSPS-FE2602-I2	3/4"	1 VENDOR CABLE (I) (3)
MSPS-FIT2125-I	3/4"	1 #16 2-CONDUCTOR TWISTED PAIR SHIELDED CABLE (I)
MSPS-FIT2135-I	3/4"	1 #16 2-CONDUCTOR TWISTED PAIR SHIELDED CABLE (I)
MSPS-FIT2145-I	3/4"	1 #16 2-CONDUCTOR TWISTED PAIR SHIELDED CABLE (I)
MSPS-FIT2155-I	3/4"	1 #16 2-CONDUCTOR TWISTED PAIR SHIELDED CABLE (I)
MSPS-FIT2165-I	3/4"	1 #16 2-CONDUCTOR TWISTED PAIR SHIELDED CABLE (I)
MSPS-FIT2215-I	3/4"	1 #16 2-CONDUCTOR TWISTED PAIR SHIELDED CABLE (I)
MSPS-FIT2308-I	3/4"	1 #16 2-CONDUCTOR TWISTED PAIR SHIELDED CABLE (I)
MSPS-FIT2308-P	3/4"	2 #10 (P),2 #10 (G),2 #12 (C)
MSPS-FIT2325-I	3/4"	1 #16 2-CONDUCTOR TWISTED PAIR SHIELDED CABLE (I)
MSPS-FIT2335-I	3/4"	1 #16 2-CONDUCTOR TWISTED PAIR SHIELDED CABLE (I)
MSPS-FIT2345-I	3/4"	1 #16 2-CONDUCTOR TWISTED PAIR SHIELDED CABLE (I)
MSPS-FIT2355-I	3/4"	1 #16 2-CONDUCTOR TWISTED PAIR SHIELDED CABLE (I)
MSPS-FIT2365-I	3/4"	1 #16 2-CONDUCTOR TWISTED PAIR SHIELDED CABLE (I)
MSPS-FIT2602-I	3/4"	1 #16 2-CONDUCTOR TWISTED PAIR SHIELDED CABLE (I)
MSPS-FIT2602-P1	3/4"	2 #10 (P),2 #10 (G),2 #12 (C)
MSPS-FIT2602-P2	3/4"	2 #10 (P),1 #10 (G),2 #12 (C)
MSPS-GSJB1-G	1"	1 #1 (G)
MSPS-GSJB2-G	1"	1 #1 (G)
MSPS-GSJB3-G	1"	1 #1 (G)
MSPS-HS1-C	1-1/4"	10 #12 (C),4 #12 (SP),1 #10 (G)
MSPS-HS2-C	1-1/4"	10 #12 (C),4 #12 (SP),1 #10 (G)
MSPS-KC1-1	1"	EMPTY (1)
MSPS-KC2-1	1"	EMPTY (1)
MSPS-LCPSP3-C	1-1/4"	19 #12 (C),5 #12 (SP),1 #10 (G)
MSPS-LCPSP4-C	1-1/4"	19 #12 (C),5 #12 (SP),1 #10 (G)
MSPS-LCPSP5-C	1-1/4"	19 #12 (C),5 #12 (SP),1 #10 (G)
MSPS-LE2401-I	3/4"	1 VENDOR CABLE (I) (3)
MSPS-LIT2021-I	1"	1 #16 2-CONDUCTOR TWISTED PAIR SHIELDED CABLE (I)
MSPS-LIT2041-I	1"	1 #16 2-CONDUCTOR TWISTED PAIR SHIELDED CABLE (I)
MSPS-LIT2401-I	3/4"	1 #16 2-CONDUCTOR TWISTED PAIR SHIELDED CABLE (I)

KEY NOTES:

- ① WIRING IS FURNISHED AND INSTALLED BY THE SECURITY CONTRACTOR. COORDINATE FINAL CONNECTION REQUIREMENTS WITH SECURITY CONTRACTOR AND OWNER AND MAKE ALL FINAL CONNECTIONS.
- ② COORDINATE FINAL CONNECTION REQUIREMENTS WITH THE OWNER/SECURITY SYSTEM CONTRACTOR AS APPLICABLE AND MAKE ALL FINAL CONNECTIONS.
- ③ WIRING IS FURNISHED BY THE INSTRUMENT MANUFACTURER. REFER TO DIVISION 17 SPECIFICATIONS. INSTALL IN CONDUIT AND MAKE ALL FINAL CONNECTIONS. COORDINATE WITH THE REQUIREMENTS OF THE PLANS, DETERMINE THE REQUIRED WIRING LENGTH, COORDINATE THE REQUIRED LENGTH WITH THE INSTRUMENT MANUFACTURER, AND ADJUST THE CONDUIT SIZE AS REQUIRED.

CONDUIT/WIRE SCHEDULE		
CONDUIT TAG	SIZE	CABLE/WIRE DESCRIPTION
MSPS-FIT2308-P2	3/4"	2 #10 (P),1 #10 (G),2 #12 (C)
MSPS-FE2308-G	1"	1 #10 (G)
MSPS-FE2308-I2	3/4"	1 VENDOR CABLE (I)

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TSPE REGISTRATION NO. F-3409

REV	DATE	DESCRIPTION
1	12/08/2015	ADDENDUM NO. 3

APPROVED: KA
K.A.H.

CITY OF AUSTIN
FOUNDED 1839

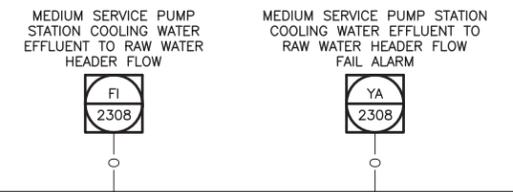
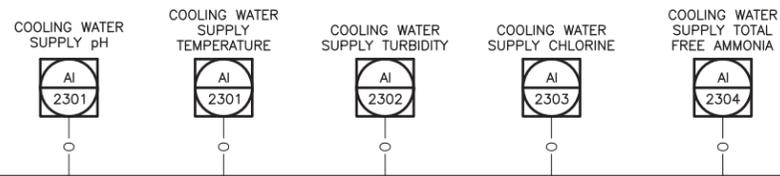
**DAVIS WATER TREATMENT PLANT
TREATED WATER DISCHARGE SYSTEM
CIP PROJECT No. 2015.041
MEDIUM SERVICE PUMP STATION
CONDUIT WIRE SCHEDULES
(SHEET 2 OF 5)**

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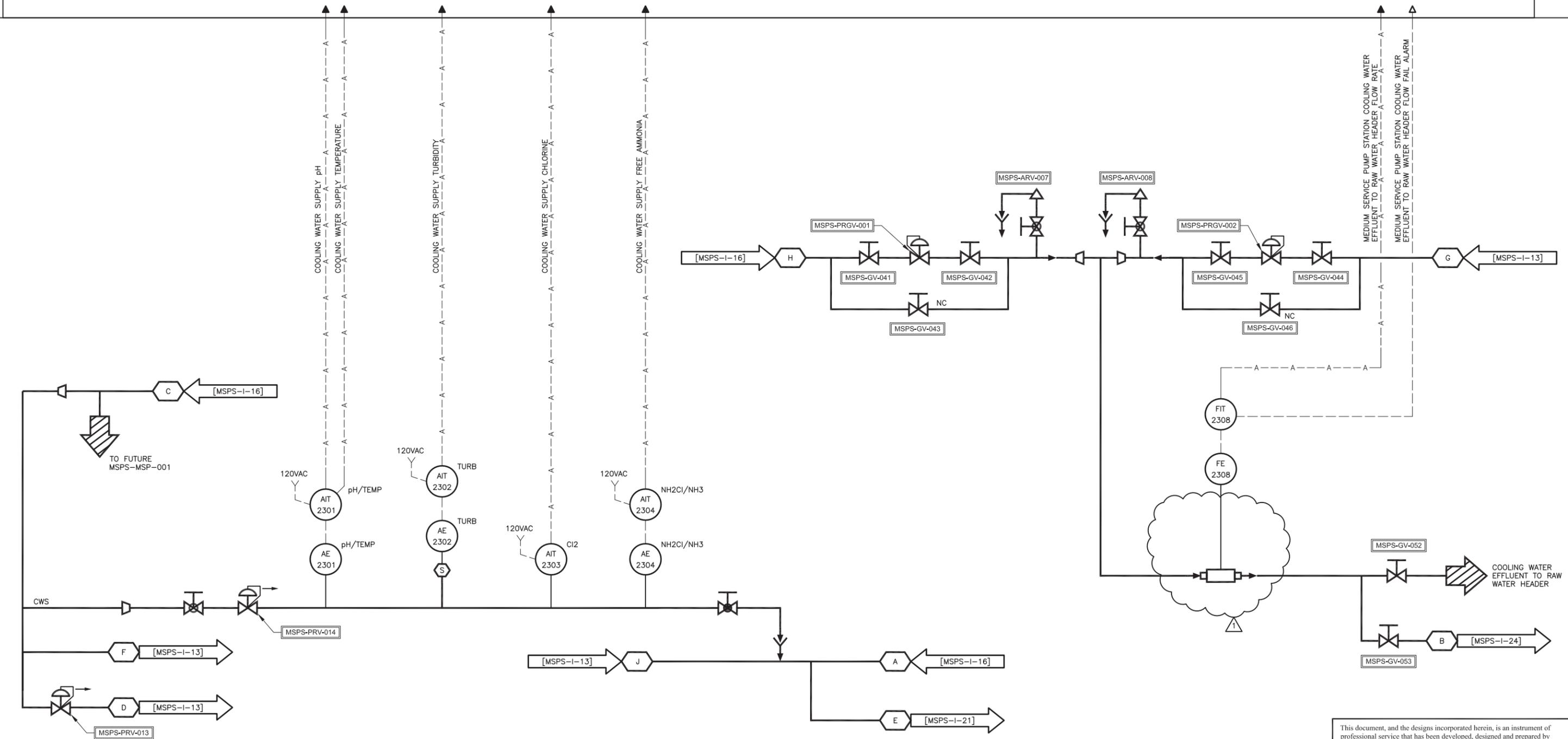
VERIFY SCALES BAR IS ONE INCH ON ORIGINAL DRAWING 0 1"	DESIGNED: HEI DRAWN: HEI CHECKED: HEI APPROVED: HEI SCALE: AS NOTED DATE: AUGUST 2015	PROJECT No. 60215430 DRAWING No. MSPS-E-67 SHEET No. OF
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DISTRIBUTED CONTROL SYSTEM



"MSPS-MCP-01A"

"MSPS-PLC-001"



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AUSTIN, TEXAS 78702
TBPE REGISTRATION NO. F-3408

REV	DATE	DESCRIPTION	APPROVED
1	12/08/2015	ADDENDUM NO. 3	VH

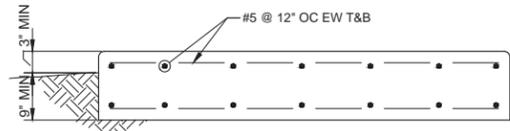
CITY OF AUSTIN
FOUNDED 1839

DAVIS WATER TREATMENT PLANT
TREATED WATER DISCHARGE SYSTEM
CIP PROJECT No. 2015.041
MEDIUM SERVICE PUMP STATION
P&ID - MEDIUM SERVICE WATER ANALYZERS

AECOM
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TBPE REG. NO. F-3580

VIGAN HARUTUNIAN
87736
REGISTERED PROFESSIONAL ENGINEER

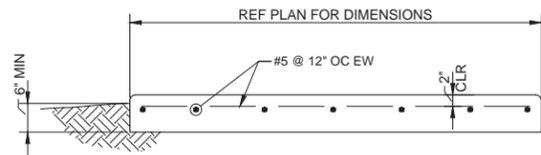
VERIFY SCALES BAR IS ONE INCH ON ORIGINAL DRAWING 0 1"	DESIGNED: HEI DRAWN: HEI CHECKED: HEI APPROVED: HEI SCALE: NTS DATE: AUGUST 2015	PROJECT No. 60215430 DRAWING No. MSPS-I-15 SHEET No. 0F
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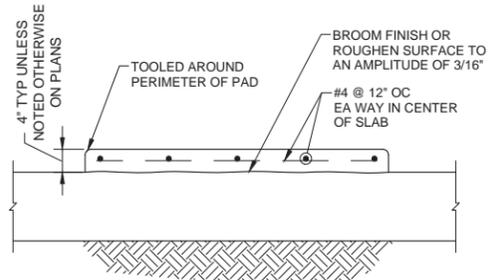
REFER TO HVAC/ MECH/ ELEC DRAWINGS FOR LOCATION OF PADS. DIMENSIONS OF PAD AS REQUIRED TO SUIT EQUIPMENT

USE #6 @ 12\"/>

TYPICAL HVAC UNIT, ELECTRICAL AND MECH FOUNDATION PAD DETAIL 1
NO SCALE

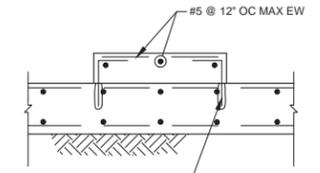


METAL STAIR FOUNDATION PAD DETAIL 2
NO SCALE



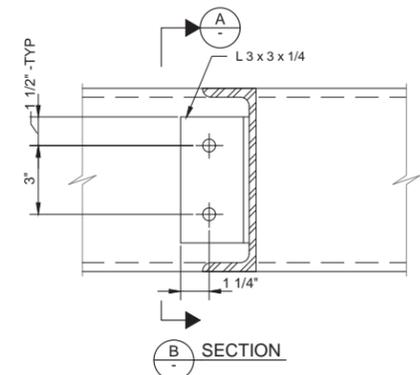
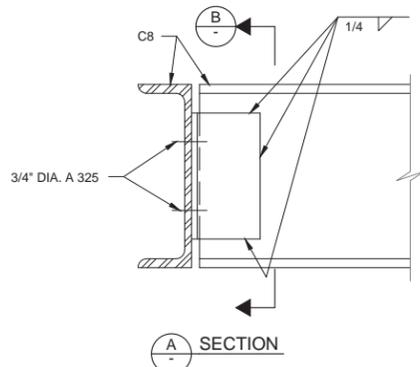
REFER TO MECH. ELEC. HVAC DRAWINGS FOR LOCATION OF CONC PADS AND DIMENSIONS OF PAD AS REQUIRED TO SUIT EQUIPMENT

TYPICAL HOUSEKEEPING PAD DETAIL 3
NO SCALE

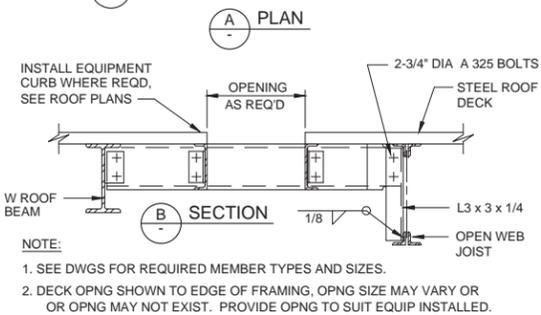
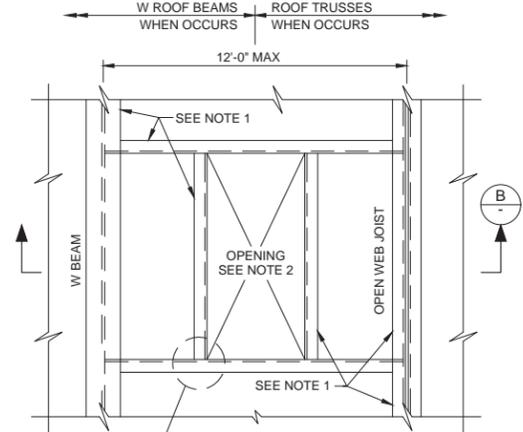


#4 DWL W/ ACI HOOK @ 12\"/>

EQUIPMENT / TANK PAD DETAIL 4
NO SCALE

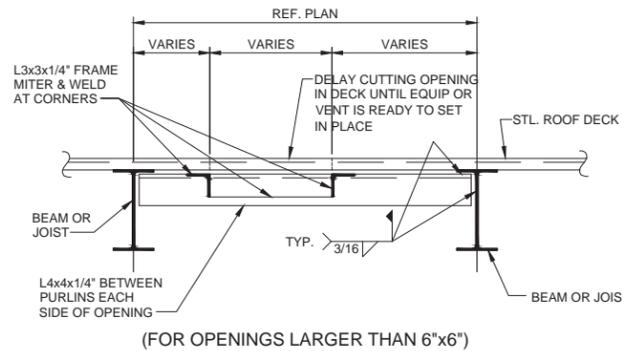


STEEL BOLTED CONNECTION 5
NO SCALE

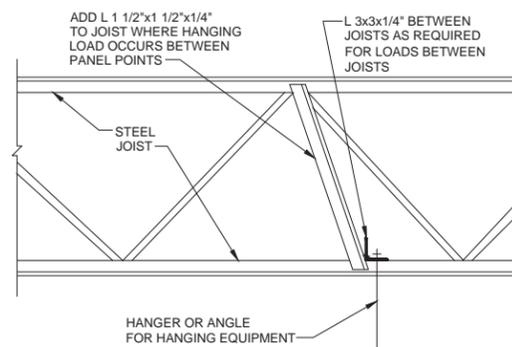


NOTE:
1. SEE DWGS FOR REQUIRED MEMBER TYPES AND SIZES.
2. DECK OPNG SHOWN TO EDGE OF FRAMING. OPNG SIZE MAY VARY OR OR OPNG MAY NOT EXIST. PROVIDE OPNG TO SUIT EQUIP INSTALLED.

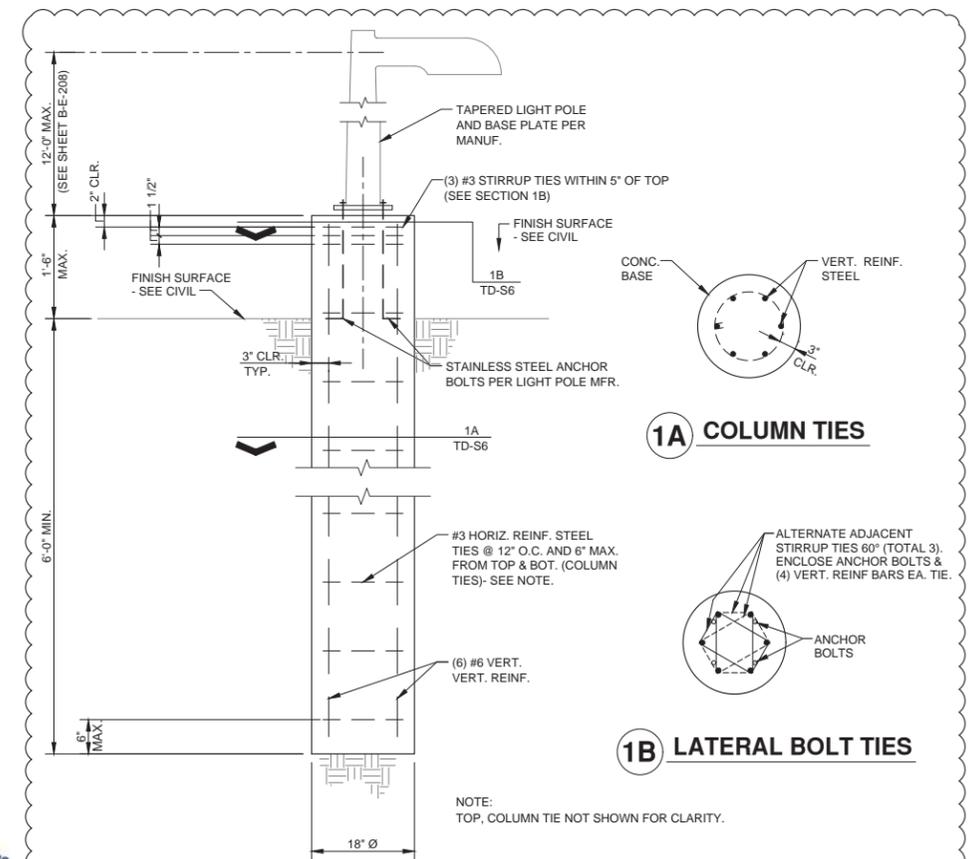
FRAMED ROOF ASSEMBLY 6
NO SCALE



ROOF PENETRATION FRAMING DETAIL 7
NO SCALE



TYPICAL HANGER DETAIL 8
NO SCALE

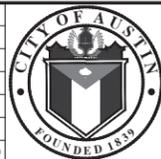


TYPICAL CONCRETE BASE FOR LIGHT POLE DETAIL 9
3/4\"/>



Jose I. Guerra, Inc.
Consulting Engineers
2401 South IH-35 Suite 210
Austin, Texas 78741
(512) 445-2090
Structural • Civil • Mechanical • Electrical
TBPE FIRM P-3

REV	DATE	DESCRIPTION	APPROVED
12/16/15		ADDENDUM #3 TYPICAL LIGHT POLE BASE ADDED	BMB



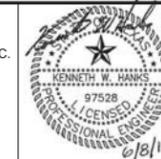
CITY OF AUSTIN

DAVIS WATER TREATMENT PLANT
TREATED WATER DISCHARGE SYSTEM
CIP PROJECT No. 2015.041

STRUCTURAL TYPICAL DETAILS



AECOM TECHNICAL SERVICES INC.
400 W 15th STREET SUITE 500
AUSTIN, TEXAS 78701
WWW.AECOM.COM
TBPE REG. NO. F-3580



VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF THIS BAR DOES NOT MEASURE ONE INCH, DWG IS NOT TO SCALE

DESIGNED: KH	PROJECT No. 60215430
DRAWN: RM	DRAWING No. TD-S-6
CHECKED: KH	SHEET No. OF
APPROVED: JL	
SCALE: NO SCALE	
DATE: JUNE, 2015	