



COUNTY PURCHASING AGENT
Fort Bend County, Texas

Debbie Kaminski, CPPB
County Purchasing Agent

(281) 341-8640
Fax (281) 341-8645

November 25, 2019

TO: All Prospective Bidders

RE: Addendum No. 1 – Fort Bend County RFP 20-033 – Video Camera Systems for Fort Bend County Public Transportation

Addendum 1:

Attached is addendum 1. Vendors are to use Addendum 1 document while preparing their solicitation response. Replaced Section 36.3 Exhibit 3 in its entirety.

Immediately upon your receipt of this addendum, please fill out the following information and email this page to Jessica Carabajal at jessica.carabajal@fortbendcountytexas.gov

Company Name

Signature of person receiving addendum Date

If you have any questions, please contact this office.

Sincerely,

Jaime Kovar
Assistant County Purchasing Agent

*Fort Bend County, Texas
Request for Proposals*



*Video Camera Systems for Fort Bend County Public Transportation
RFP 20-033*

SUBMIT PROPOSALS TO:

Fort Bend County
Purchasing Department
Travis Annex
301 Jackson, Suite 201
Richmond, TX 77469

Note: All correspondence must include the term
“Purchasing Department” in address to assist in
proper delivery

SUBMIT NO LATER THAN:

Tuesday, December 3, 2019
2:00 PM (Central)

MARK ENVELOPE:

RFP 20-033
Surveillance System

***ALL RFPs MUST BE RECEIVED IN AND TIME/DATE STAMPED BY THE PURCHASING OFFICE
OF FORT BEND COUNTY ON OR BEFORE THE SPECIFIED TIME/DATE STATED ABOVE.***

RFPs RECEIVED AS REQUIRED WILL THEN BE OPENED AND NAMES PUBLICLY READ.

RFPs RECEIVED AFTER THE SPECIFIED TIME, WILL BE RETURNED UNOPENED.

Results will not be given by phone.
Results will be provided to bidder in writing
after Commissioners Court award.

Requests for information must be in
writing and directed to:
Jaime Kovar
Assistant County Purchasing Agent
Jaime.kovar@fortbendcountytexas.gov

Vendor Responsibilities:

- Download and complete any addendums. (Addendums will be posted on the Fort Bend County website no
Later than 48 hours prior to bid opening)
- Submit response in accordance with requirements stated on the cover of this document.
- DO NOT submit responses via email or fax.



COUNTY PURCHASING AGENT

Fort Bend County, Texas

Vendor Information

Debbie Kaminski, CPPB
County Purchasing Agent

Office (281) 341-8640

Legal Company Name <small>(top line of W9)</small>			
Business Name <small>(if different from legal name)</small>			
Federal ID # or S.S. #			DUNS #
Type of Business	<input type="checkbox"/> Corporation/LLC <input type="checkbox"/> Partnership <input type="checkbox"/> Sole Proprietor/Individual <input type="checkbox"/> Tax Exempt Organization	Age in Business?	
Publicly Traded Business	<input type="checkbox"/> No <input type="checkbox"/> Yes Ticker Symbol _____		
Remittance Address			
City/State/Zip			
Physical Address			
City/State/Zip			
Phone/Fax Number	Phone: _____ Fax: _____		
Contact Person			
E-mail			
Check all that apply to the company listed above and provide certification number.	DBE-Disadvantaged Business Enterprise _____ SBE-Small Business Enterprise _____ HUB -Texas Historically Underutilized Business _____ WBE-Women's Business Enterprise _____	Certification # _____ Certification # _____ Certification # _____ Certification # _____	
Company's gross annual receipts	<\$500,000 _____	\$500,000-\$4,999,999 _____	
	\$5,000,000-\$16,999,999 _____	\$17,000,000-\$22,399,999 _____	
	>\$22,400,000 _____		
NAICs codes (Please enter all that apply)			
Signature of Authorized Representative			
Printed Name			
Title			
Date			

THIS FORM MUST BE SUBMITTED WITH THE SOLICITATION RESPONSE

1.0 SCOPE OF WORK:

Fort Bend County intends to contract with one (1) vendor to provide, install, and maintain video surveillance system (VSS) for the Transit Facility, as described herein.

2.0 GUIDELINES:

By virtue of submitting a proposal, interested parties are acknowledging:

- 2.1 The County reserves the right to reject any or all proposals if it determines that select proposals are not responsive to the RFP. The County reserves the right to reconsider any proposal submitted at any phase of the procurement. It also reserves the right to meet with select Respondents at any time to gather additional information. Furthermore, the County reserves the right to delete or add scope up until the final contract signing.
- 2.2 All Respondents submitting proposals agree that their pricing is valid for a minimum of ninety (90) days after proposal submission to the County. Furthermore, the County is by statute exempt from the State Sales Tax and Federal Excise Tax; therefore, proposal prices shall not include taxes.
- 2.3 This Proposal does not commit the County to award nor does it constitute an offer of employment or a contract for services. Costs incurred in the submission of this proposal, or in making necessary studies or designs for the preparation thereof, are the sole responsibility of the Respondents. Further, no reimbursable cost may be incurred in the anticipation of award. Proposals containing elaborate artwork, expensive paper and binding and expensive visual or other presentations are neither necessary nor desired.
- 2.4 In an effort to maintain fairness in the process, all inquiries concerning this procurement are to be directed only to the County's Purchasing Agent in writing. Attempts to contact any members of the County's Commissioners' Court or any other County employee to influence the procurement decision may lead to immediate elimination from further consideration.
- 2.5 When responding to this Proposal, follow all instructions carefully. Submit proposal contents according to the outline specified and submit all hard copy and electronic documents according to the instructions. Failure to follow these instructions may be considered a non-responsive proposal and may result in immediate elimination from further consideration.

3.0 PROPOSAL CONTACT:

This Proposal is being issued by the County Purchasing Agent on behalf of Fort Bend County, Texas. Thus, responses should be directed to the Assistant Purchasing Agent, as outlined below. **Respondents are specifically directed NOT to contact any County personnel for meetings,**

conferences or technical discussions that are related to this Proposal other than specified herein. Unauthorized contact of any County personnel will likely be cause for rejection of the Respondent's proposal. All communications regarding the Proposal shall be directed to the County's Proposal Contact. Communication with the Proposal Contact is permitted via email, facsimile, or written correspondence.

PROPOSAL CONTACT:

Jaime Kovar
Assistant County Purchasing Agent
Fort Bend County Travis Annex
301 Jackson, Suite 201
Richmond, Texas 77469
Jaime.Kovar@fortbendcountytexas.gov
Ph: 281.341.3724

4.0 SUBMISSION REQUIREMENTS:

- 4.1 Submission requirements: one (1) original proposal, six (6) paper copies, and one (1) electronic response on CD or flash drive are required by RFP opening time of 2:00 PM on Tuesday, December 3, 2019. CD or flash drive must contain only one (1) file in PDF format and must match written response identically. Failure to provide proper CD or flash drive is cause for disqualification. Proposal shall be submitted to the address shown below. Proposal shall be signed, in ink, by a person having the authority to bind the firm in a contract.

Fort Bend County	Proposal Number: R20-033
Purchasing Department	Due Date: Tuesday, December 3, 2019
301 Jackson, Suite 201	Time: 2:00 PM (CST)
Richmond, Texas 77469	For: Video Surveillance System for Public Transportation

- 4.2 Respondents may submit their proposal any time prior to the Opening Date and time. The Respondent's name and address as well as a distinct reference to the Proposal number above shall be marked clearly on the submission. All proposals are time-stamped upon receipt and are securely kept, unopened, until the Opening Date. No responsibility will attach to the County, or any official or employee thereof, for the pre-opening of, post-opening of, or the failure to open a proposal not properly addressed and identified. No oral, telegraphic, telephonic, or facsimile proposals will be considered.
- 4.3 Proposals may be modified or withdrawn prior to the established opening date by delivering written notice to the proposal contact. Any alteration made prior to opening date and time shall be initialed by the signer of the proposal, guaranteeing authenticity.

- 4.4 Proposals time-stamped after the due date and time will not be considered and will be returned to the Respondent unopened. Regardless of the method used for delivery, respondents shall be wholly responsible for the timely delivery of submitted proposals.
- 4.5 The Respondent's name and address shall be clearly marked on all copies of the proposal.

5.0 INCURRED COSTS:

Those submitting proposals do so entirely at their expense. There is no expressed or implied obligation by the County to reimburse any individual or firm for any costs incurred in preparing or submitting proposals, for providing additional information when requested by the County or for participating in any selection interviews, including discovery (pre-contract negotiations) and contract negotiations.

6.0 ACCEPTANCE:

- 6.1 Submission of any proposal indicates a Respondent's acceptance of the conditions contained in this Proposal unless clearly and specifically noted otherwise in their proposal.
- 6.2 Furthermore, the County is not bound to accept a proposal on the basis of lowest price, and further, the County has the sole discretion and reserves the right to cancel this Proposal, to reject any and all proposals, to waive any and all informalities and or irregularities, or to re-advertise with either the identical or revised specifications, if it is deemed to be in the County's best interests. The County reserves the right to accept or reject any or all of the items in the proposal, and to award the contract in whole or in part and/or negotiate any or all items with individual Respondents if it is deemed in the County's best interest.
- 6.3 Although Fort Bend County desires to negotiate toward a contract with a selected Respondent, the Commissioners' Court may award the contract on the basis of the initial proposals received, without discussions. Therefore, each initial proposal should contain the Respondent's best terms.

7.0 INTERPRETATIONS, DISCREPANCIES, AND OMISSIONS:

- 7.1 It is incumbent upon each potential Respondent to carefully examine these specifications, terms, and conditions. Should any potential Respondent find discrepancies, omissions or ambiguities in this Proposal, the Respondent shall at once request in writing an interpretation from the County's Proposal Contact. Any inquiries, suggestions, or requests concerning interpretation, clarification or additional information shall be made in writing via e-mail only to the County's Proposal Contact, as specified in Section 3.0. Deadline for submission of questions and/or clarification is no later than **Friday, November 22, 2019 at**

10:00 AM (central). Requests received after the deadline will not be responded to due to the time constraints of this Proposal process.

7.2 The issuance of a written addendum is the only official method by which interpretation, clarification or additional information will be given by the County. Only questions answered by formal written addenda will be binding. Oral and other interpretations or clarification will be without legal effect. If it becomes necessary to revise or amend any part of this Proposal, notice will be given by the County Purchasing Agent to all prospective Respondents who were sent a Proposal. The Respondent in their proposal shall acknowledge receipts of amendments. Each Respondent shall ensure that they have received all addenda and amendments to this Proposal before submitting their proposals.

8.0 TENTATIVE SCHEDULE:

Release of RFP:	November 11, 2019
Deadline for Questions:	November 22, 2019
Submission Due Date:	December 3, 2019
Evaluation of Submissions:	December 9, 2019
Commissioners Court Permission to Negotiate:	December 17, 2019
Negotiations:	Beginning December 18, 2019
Final Contract Approval Commissioners Court:	February 4, 2020

9.0 PRE-RFP CONFERENCE:

A pre-proposal conference will be conducted on **Tuesday, November 19, at 9:00AM** (central). The pre-bid conference will be held at the Fort Bend County Purchasing Office located at 301 Jackson, Suite 201, Richmond TX 77469. The pre-bid conference is not mandatory; however, all bidders are encouraged to attend.

10.0 RETENTION OF RESPONDENT’S MATERIAL:

The County reserves the right to retain all proposals regardless of which response is selected. All proposals and accompanying documents become the property of the County.

11.0 CERTIFICATE OF INDEPENDENT PRICE DETERMINATION:

By submission of a proposal, each Respondent certifies, that in connection with this procurement:

11.1 The prices in this proposal have been arrive at independently, without consultation, communication, or agreement with any other Respondent; with any competitor; or with any County employee(s) or consultant(s) for the purpose of restricting competition on any matter relating to this Proposal.

- 11.2 Unless otherwise required by law, the prices which have been quoted in this proposal have not been knowingly disclosed by the Respondent and will not knowingly be disclosed by the Respondent prior to award directly or indirectly to any other Respondent or to any competitor; and;
- 11.3 No attempt has been made or will be made by the Respondent to induce any other person or firm to submit or not to submit a proposal for the purpose of restricting competition.

12.0 ASSIGNMENT:

The Respondent may not sell, assign, transfer or convey the contract resulting from this Proposal, in whole or in part, without the prior written approval from Fort Bend County Commissioners' Court.

13.0 CONFIDENTIAL MATTERS:

- 13.1 All data and information gathered by the Respondent and its agents, including this Proposal and all reports, recommendations, specifications, and data shall be treated by the Respondent and its agents as confidential. The Respondent and its agents shall not disclose or communicate the aforesaid matters to a third party or use them in advertising, publicity, propaganda, and/or in another job or jobs, unless written consent is obtained from the County.
- 13.2 Proposals will only be publicly received and acknowledged only so as to avoid disclosure of the contents to competing Respondents and kept secret during negotiation. However, all proposals shall be open for public inspection after the contract is awarded. Trade secrets and any material that is considered to be confidential information contained in the proposal and identified by Respondent as such will be treated as confidential to the extent allowable in the Open Records Act.

14.0 LIMITS OF SUBCONTRACTORS:

- 14.1 The County has approval rights over the use and/or removal of all subcontractors and/or vendor(s). Subcontractors shall conform to all County policies.
- 14.2 Any dispute between the Respondent and subcontractors, including any payment dispute, will be promptly remedied by the Respondent. Failure to promptly remedy or to make prompt payment to subcontractor may result in the withholding of funds from the Respondent by the County for any payments owed to the subcontractor.

15.0 JURISDICTION, VENUE, CHOICE OF LAW:

This Proposal and any contract resulting there from shall be governed by and construed according to the laws of the State of Texas. Should any portion of any contract be in conflict with the laws of the State of Texas, the State laws shall invalidate only that portion. The remaining portion of the contract(s) shall remain in effect. Any lawsuit shall be governed by Texas law and Fort Bend County, Texas shall be the venue for any action or proceeding that may be brought or arise out of, in connection with or by reason of this Proposal process and resulting Agreements.

16.0 INDEPENDENT CONTRACTOR:

The Respondent is an independent contractor and no employee or agent of the Respondent shall be deemed for any reason to be an employee or agent of the County.

17.0 AMERICANS WITH DISABILITIES ACT (ADA)

Proposals shall comply with all federal, state, county, and local laws concerning this type of products/service/equipment/project and the fulfillment of all ADA requirements.

18.0 DRUG-FREE WORKPLACE:

All Respondents shall provide any and all notices as may be required under the Drug-Free Workplace Act of 1988, 28 CFR Part 67, Subpart F, to their employees and all sub-contractors to insure that the County maintains a drug-free workplace.

19.0 PERFORMANCE AND PAYMENT BOND:

No performance nor payment bond is required for this project.

20.0 POWER OF ATTORNEY:

An attorney-in-fact who signs a bid bond, performance bond or payment bond must file with each bond a certified and effectively dated copy of his or her power of attorney.

21.0 TEXAS ETHICS COMMISSION FORM 1295:

21.1 Effective January 1, 2016 all contracts executed by Commissioners Court, regardless of the dollar amount, will require completion of Form 1295 "Certificate of Interested Parties", per the new Government Code Statute §2252.908. All firms submitting a response to a formal Bid, RFP, SOQ or any contracts, contract amendments, renewals or change orders are required to complete the Form 1295 online through the State of Texas Ethics Commission website. Please visit:

https://www.ethics.state.tx.us/whatsnew/elf_info_form1295.htm.

21.2 On-line instructions:

21.2.1 Name of governmental entity is to read Fort Bend County.

21.2.2 Identification number use: RFP 20-033

21.2.3 Description is: Video Surveillance System for Public Transportation

21.3 Highest evaluated respondent will be required to provide the Form 1295 within three (3) calendar days from notification; however, if your company is publicly traded, you are not required to complete this form.

22.0 INSURANCE:

22.1 All respondents must submit, with RFP, a current certificate of insurance indicating coverage in the amounts stated below. In lieu of submitting a certificate of insurance, respondents may submit, with RFP, a notarized statement from an Insurance company, authorized to conduct business in the State of Texas, and acceptable to Fort Bend County, guaranteeing the issuance of an insurance policy, with the coverage stated below, to the firm named therein, if successful, upon award of this Contract. Failure to provide current insurance certificate or2notarized statement will result in disqualification of submittal.

22.2 At contract execution, contractor shall furnish County with properly executed certificates of insurance, which shall evidence all insurance required and provide that such insurance shall not be canceled, except on 30 days prior written notice to County. Contractor shall provide certified copies of insurance endorsements and/or policies if requested by County. Contractor shall maintain such insurance coverage from the time Services commence until Services are completed and provide replacement certificates, policies and/or endorsements for any such insurance expiring prior to completion of Services. Contractor shall obtain such insurance written on an Occurrence form (or a Claims Made form for Professional Liability insurance) from such companies having Best's rating of A/VII or better, licensed or approved to transact business in the State of Texas, and shall obtain such insurance of the following types and minimum limits:

22.2.1 Workers' Compensation insurance. Substitutes to genuine Workers' Compensation Insurance will not be allowed.

22.2.2 Employers' Liability insurance with limits of not less than \$1,000,000 per injury by accident, \$1,000,000 per injury by disease, and \$1,000,000 per bodily injury by disease.

22.2.3 Commercial general liability insurance with a limit of not less than \$1,000,000 each occurrence and \$2,000,000 in the annual aggregate. Policy shall cover liability for bodily injury, personal injury, and property

damage and products/completed operations arising out of the business operations of the policyholder.

22.2.4 Business Automobile Liability coverage with a combined Bodily Injury/Property Damage limit of not less than \$1,000,000 each accident. The policy shall cover liability arising from the operation of licensed vehicles by policyholder.

22.3 County and the members of Commissioners Court shall be named as additional insured to all required coverage except for Workers' Compensation and Professional Liability (if required). All Liability policies including Workers' Compensation written on behalf of contractor, excluding Professional Liability, shall contain a waiver of subrogation in favor of County and members of Commissioners Court.

22.4 If required coverage is written on a claims-made basis, contractor warrants that any retroactive date applicable to coverage under the policy precedes the effective date of the contract; and that continuous coverage will be maintained or an extended discovery period will be exercised for a period of two (2) years beginning from the time that work under the agreement is completed.

23.0 INDEMNIFICATION:

Respondent shall save harmless County from and against all claims, liability, and expenses, including reasonable attorney's fees, arising from activities of Respondent, its agents, servants or employees, performed under this agreement that result from the negligent act, error, or omission of Respondent or any of Respondent's agents, servants or employees.

23.1 Respondent shall timely report all such matters to Fort Bend County and shall, upon the receipt of any such claim, demand, suit, action, proceeding, lien or judgment, not later than the fifteenth day of each month; provide Fort Bend County with a written report on each such matter, setting forth the status of each matter, the schedule or planned proceedings with respect to each matter and the cooperation or assistance, if any, of Fort Bend County required by Respondent in the defense of each matter.

23.2 Respondent's duty to defend, indemnify and hold Fort Bend County harmless shall be absolute. It shall not abate or end by reason of the expiration or termination of any contract unless otherwise agreed by Fort Bend County in writing. The provisions of this section shall survive the termination of the contract and shall remain in full force and effect with respect to all such matters no matter when they arise.

23.3 In the event of any dispute between the parties as to whether a claim, demand, suit, action, proceeding, lien or judgment appears to have been caused by or appears to have arisen out of or in connection with acts or omissions of Respondent, Respondent shall never-the-less fully defend such claim, demand,

suit, action, proceeding, lien or judgment until and unless there is a determination by a court of competent jurisdiction that the acts and omissions of Respondent are not at issue in the matter.

- 23.4 Respondent's indemnification shall cover, and Respondent agrees to indemnify Fort Bend County, in the event Fort Bend County is found to have been negligent for having selected Respondent to perform the work described in this request.
- 23.5 The provision by Respondent of insurance shall not limit the liability of Respondent under an agreement.
- 23.6 Respondent shall cause all trade contractors and any other contractor who may have a contract to perform construction or installation work in the area where work will be performed under this request, to agree to indemnify Fort Bend County and to hold it harmless from all claims for bodily injury and property damage that arise may from said Respondent's operations. Such provisions shall be in form satisfactory to Fort Bend County.
- 23.7 Loss Deduction Clause - Fort Bend County shall be exempt from, and in no way liable for, any sums of money which may represent a deductible in any insurance policy. The payment of deductibles shall be the sole responsibility of Respondent and/or trade contractor providing such insurance.

24.0 TAX EXEMPT:

Fort Bend County is exempt from state and local sales and use taxes under Section 151.309 of the Texas Tax Code. This project will be deemed a separate project for Texas tax purposes, and as such, Fort Bend County hereby issues its Texas Exemption for the purchase of any items qualifying for exemption under this project. Respondent is to issue its Texas Resale Certificate to vendors and subcontractors for such items qualifying for this exemption, and further, Respondent should state these items at cost.

25.0 SPECIFICATIONS:

Refer to Exhibit 1: Video Surveillance System Specifications

26.0 EVALUATION CRITERIA:

In order to facilitate the analysis of responses to this Proposal, Respondents are required to prepare their proposals in accordance with the instructions outlined and organized in the order stated below. All parts, pages, figures, and tables should be numbered and clearly labeled. Proposals should be prepared in a manner that is easily understood, provide a straightforward, concise description of the Respondent's capabilities to satisfy the requirements of the Proposal as outlined in this document. Emphasis should be concentrated on accuracy, completeness, and clarity of content.

26.1 Respondents are required to follow the outline below when preparing their proposals:

Tab	Title
	Title Page
	Table of Contents
	Executive Summary
1	Understanding Scope of Work
2	Firm Experience
3	Project Individual Experience/Qualifications
4	Schedule and Implementation Plan
5	Cost
6	Overall Completeness of Proposal

26.2 Any exceptions to the Proposal requirements shall be identified in the applicable section.

26.3 Executive Summary - This part of the response to the Proposal should be limited to a brief narrative highlighting the Respondent's proposal. This section should not include cost quotations. Note that the executive summary should identify the primary contacts for the Respondent.

26.4 Respondents will be evaluated utilizing the factors, as weighted below:

Tab 1

Understanding Scope of Work (weight factor = 20%)

- Respondent shall demonstrate their ability to meet the required specifications. Describe how the services requested will be provided and how they will be supported. Describe the approach your firm will take to accomplish the required collaboration, scheduling, and coordination required for this type of project.
- Provide any features and options that are above and beyond minimum requirements of this RFP.

Tab 2

Firm Experience (weight factor = 15%)

- Provide three (3) recent and relevant experience in the type of work completed. In addition, provide the client name, contact name and number, brief project description including location of project, project cost and completion date. List only similar projects completed in the last five (5) years.
- Provide a general description of the respondent's financial

condition and identify any conditions (bankruptcy, pending litigation, planned office closures, impending mergers, etc.) that may affect the respondent's ability to perform services under this contract.

- Provide three (3) recent and relevant experience in the type of work completed. In addition, provide the client name, contact name and number, brief project description including location of project, project cost and completion date. List only similar projects completed in the last five (5) years.
- Provide audited financial statements for the three (3) most recent fiscal years, including the audit respondent's certification and management letter with a response (if applicable). In the event an audited financial statement is not available, an independently "reviewed" financial statement for the three (3) most recent fiscal years will be acceptable as long as a certified accountant conducts the review. Financial and other documentation provided indicates respondent's capacity and ability to perform services.

Tab 3

Project Individuals Experience/Qualifications (weight factor = 15%)

- Provide resumes of each team member assigned to this project. Resumes must also include the number of years with the company and a minimum of three (3) similar projects as related to this RFP within the last five (5) years. Similar projects must consist of project name, year, and location. If a subcontractor is being utilized, the same information as above is to be provided.

Tab 4

Schedule and Implementation Plan (weight factor = 25%)

- Respondent must demonstrate the ability to expedite the completion of this project. Respondent must provide a detailed project schedule including but not limited to installation procedures. Provide number of employees for this project, flexibility and ability to promptly respond to task requests.

Tab 5

Cost (weight factor = 20%)

- Complete Exhibit 2: Price Worksheets for each building.

Tab 6

Overall Completeness of Proposal (weight factor = 5%)

- Proposal must be well-written and organized with tabs. Proposal must include required proof of insurance, as stated in Section 22.0 and include all required forms.

27.0 EVALUATION PROCESS:

- 27.1 After the proposals are received, the evaluation team shall evaluate each proposal that was submitted on time, and the evaluation shall be based on the criteria listed in the proposal. Selection committee members will conduct a quantitative evaluation according to a numerical ranking system and a qualitative evaluation of overall proposal content and its conformance to requirements. The entire evaluation committee will then meet to discuss the strong and weak points of each proposal to assure that it has been evaluated fairly, impartially and comprehensively. Following this initial evaluation, the evaluation team may recommend contract award without further discussion with proposers, or the firms submitting the top-rated proposals may be asked to make an oral presentation to the evaluation team for the propose of further clarification and evaluation of the proposals.
- 27.2 If oral presentations are scheduled, the representatives of the firm who will be directly assigned to the account must be present at the interview. During the interview portion of the meeting, the evaluation team shall advise the proposer of deficiencies in the proposal and shall allow the proposer to satisfy the requirements, questions, or concerns by submitting a final offer. The proposer may decide not to modify their proposal and may inform Fort Bend County that the offer is firm and final.
- 27.3 The evaluation team shall not disclose any information included in a firm's proposal to another firm during the RFP process and shall not disclose any information for the purpose of bringing one firm's proposal up to that of a competitor's proposal.
- 27.4 After final offers are received, the evaluation team shall reevaluate each of the final offers, including those deemed final at the interview. The final offers shall be evaluated on the same criteria used in the first evaluation.
- 27.5 Fort Bend County reserves the right to reject any and all proposals received for any reason that would be to the benefit of Fort Bend County.
- 27.6 All proposals submitted are to be valid for a period of ninety (90) days.

28.0 AWARD:

The County will select the respondent whose proposal is the highest evaluated and responsible for the County. Contractual commitments are contingent upon the availability of funds, as evidenced by the issuance of a purchase order. All contracts are subject to the approval of the County's legal counsel and Commissioners' Court, prior to execution. Once awarded, the contract will be the final expression of the agreement between the parties and may not be altered, changed, or amended except by mutual agreement, in writing.

29.0 FEDERAL CLAUSES:

Contractor understands and acknowledges that this Agreement may be totally or partially funded with federal and or state funds. As a condition of receiving these funds, Contractor represents that it is and will remain in compliance with all federal and or state terms as stated below. These terms flow down to all third party contractors and their subcontracts at every tier that exceed the simplified acquisition threshold, unless a particular award term or condition specifically indicates otherwise. The Contractor shall require that these clauses shall be included in each covered transaction at any tier.

29.1 Access for Individuals with Disabilities (ADA Access).

The Contractor agrees to comply with 49 U.S.C. § 5301(d), which states the Federal policy that elderly individuals and individuals with disabilities have the same right as other individuals to use public transportation services and facilities, and that special efforts shall be made in planning and designing those services and facilities to implement transportation accessibility rights for elderly individuals and individuals with disabilities. The Contractor also agrees to comply with all applicable provisions of section 504 of the Rehabilitation Act of 1973, as amended, with 29 U.S.C. § 794, which prohibits discrimination on the basis of disability; with the Americans with Disabilities Act of 1990 (ADA), as amended, 42 U.S.C. §§ 12101 et seq., which requires that accessible facilities and services be made available to individuals with disabilities; and with the Architectural Barriers Act of 1968, as amended, 42 U.S.C. §§ 4151 et seq., which requires that buildings and public accommodations be accessible to individuals with disabilities, and any subsequent amendments to these laws. In addition, the Contractor agrees to comply with applicable implementing Federal regulations and directives and any subsequent amendments thereto, as follows:

- (1) U.S. DOT regulations, "Transportation Services for Individuals with Disabilities (ADA), 49 C.F.R. Part 37;
- (2) U.S. DOT regulations, "Nondiscrimination on the Basis of Handicap in programs and Activities Receiving or Benefiting from Federal Financial Assistance, 49 C.F.R. Part 27;
- (3) Joint U.S. Architectural and Transportation Barriers Compliance board (U.S. ATBCB)/U.S. DOT regulations, "Americans With Disabilities (ADA)

Accessibility Specifications for Transportation Vehicles," 36 C.F.R. Part 1192 and 49 C.F.R. Part 38;

- (4) U.S. DOJ regulations, "Nondiscrimination on the Basis of Disability in State and Local Government Services," 28 C.F.R. Part 35;
- (5) U.S. DOJ regulations, "Nondiscrimination on the Basis of Disability by Public Accommodations and in Commercial Facilities," 28 C.F.R. Part 36;
- (6) U.S. General Services Administration (U.S. GSA) regulations, "Accommodations for the Physically Handicapped," 41 C.F.R. Subpart 101-19;
- (7) U.S. EEOC, "Regulations to Implement the Equal Employment Provisions of the Americans with Disabilities Act," 29 C.F.R. Part 1630;
- (8) U.S. Federal Communications Commission regulations, "Telecommunications Relay Services and Related Customer Premises Equipment for the Hearing and Speech Disabled," 47 C.F.R. Part 64, Subpart F; and
- (9) U.S. ATBCB regulations, "Electronic and Information Technology Accessibility Standards," 36 C.F.R. Part 1194; FTA regulations, "Transportation for Elderly and Handicapped Persons", 49 C.F.R. Part 609; and
- (10) U.S. DOT regulations, "Transportation for Individuals with Disabilities: Passenger Vessels," 49 C.F.R. Part 39;
- (11) FTA Circular 4710.1, "Americans with Disabilities Act: Guidance"; and
- (12) Federal civil rights and nondiscrimination directives implementing the foregoing regulations, except to the extent the Federal Government determines otherwise in writing.

29.2 Access to Records and Reports.

The Contractor agrees to provide County, the FTA Administrator, the Comptroller General of the United States or any of their authorized representatives access to any books, documents, papers and records of the Contractor which are directly pertinent to the Agreement for the purposes of making audits, examinations, excerpts and transcriptions. Contractor also agrees, pursuant to 49 C.F.R. 633.17 to provide the FTA Administrator or his authorized representatives including any PMO Contractor access to Contractor's records and construction sites pertaining to a major capital project, defined at 49 U.S.C. 5302(a)1, which is receiving federal financial assistance through the programs described at 49 U.S.C. 5307, 5309 or 5311. The Contractor agrees to permit any of the

foregoing parties to reproduce by any means whatsoever or to copy excerpts and transcriptions as reasonably needed.

The Contractor agrees to comply and will require all subcontractors of any tier to comply with the record retention requirements in accordance with 2 C.F.R. 200.333. The Contractor agrees to retain, and will require its subcontractors of all tiers to retain, complete and readily accessible records related in whole or in part to the contract, including, but not limited to, all books, records, accounts, statistics, leases, subcontracts, arrangements other third party arrangements of any type, reports, and supporting materials related to those records required under the Agreement for a period of not less than three years after the date of termination or expiration of the Agreement, except in the event of litigation or settlement of claims arising from the performance of the Agreement, in which case Contractor agrees to maintain same until County, the FTA Administrator, the Comptroller General, or any of their duly authorized representatives, have disposed of all such litigation, appeals, claims or exceptions related thereto.

29.3 Breaches and Disputes.

The parties shall attempt in good faith to resolve promptly any dispute arising out of or relating to the Agreement by negotiation between the parties. Disputes arising in the performance of this Agreement that are not resolved by agreement of the parties shall be decided in writing by the authorized representative of the County. This decision shall be final and conclusive unless within ten [10] days from the date of receipt of its copy, the Contractor mails or otherwise furnishes a written appeal to the County. In connection with any such appeal, the Contractor shall be afforded an opportunity to be heard and to offer evidence in support of its position. The decision of the County shall be binding upon the Contractor and the Contractor shall abide by the decision.

Performance During Dispute - Unless otherwise directed by County, Contractor shall continue performance under the Agreement while matters in dispute are being resolved.

The requirement to seek mediation may be a condition required before filing an action at law or in equity, unless to do so would prevent either party from seeking relief in a court of law or equity under any applicable statute of limitations.

Claims for Damages - Should either party to the Agreement suffer injury or damage to person or property because of any act or omission of the party or of any of his employees, agents or others for whose acts he is legally liable, a claim for damages therefor shall be made in writing to such other party within a reasonable time after the first observance of such injury of damage.

Rights and Remedies - The duties and obligations imposed by the Agreement and the rights and remedies available thereunder shall be in addition to and not a limitation of any duties, obligations, rights and remedies otherwise imposed or available by law. No action or failure to act by the County or Contractor shall constitute a waiver of any right or duty

afforded any of them under the Agreement, nor shall any such action or failure to act constitute an approval of or acquiescence in any breach thereunder, except as may be specifically agreed in writing.

29.4 Buy America.

The Contractor agrees to comply with 49 U.S.C. 5323(j) and 49 C.F.R. Part 661, which provide that Federal funds may not be obligated unless steel, iron, and manufactured products used in FTA-funded projects are produced in the United States, unless a waiver has been granted by FTA or the product is subject to a general waiver. General waivers are listed in 49 C.F.R. 661.7, and include final assembly in the United States for 15 passenger vans and 15 passenger wagons produced by Chrysler Corporation, and microcomputer equipment and software. Separate requirements for rolling stock are set out at 49 U.S.C. 5323(j)(2)(C) and 49 C.F.R. 661.11. Rolling stock must be assembled in the United States and have a 60 percent domestic content, subject to the Amendment below.

The FAST Act, effective October 1, 2015 amended the Buy America waiver for rolling stock to provide for a phased increase in the domestic content requirement for rolling stock to more than 65 percent for FY2018 and FY2019 and to more than 70 percent in FY2020 and beyond. The new provisions apply based on the date of delivery of the rolling stock. Domestic content requirement over the phase of the contract period shall be the provision applicable to the year of delivery of rolling stock procured under this contract.

Unlike rolling stock, manufactured goods must be 100-percent produced in the U.S. A manufactured good is considered produced in the United States if: (1) All of the manufacturing processes for the product take place in the United States; and (2) All of the components of the product are of U.S. origin. A component is considered of U.S. origin if it is manufactured in the United States, regardless of the origin of its subcomponents. 49 CFR 661.5(d). FTA has issued a number of Buy America guidance letters discussing manufactured goods.

A bidder or offeror must submit to the FTA recipient the appropriate Buy America certification with all bids or offers on FTA-funded contracts, except those subject to a general waiver. Bids or offers that are not accompanied by a completed Buy America certification must be rejected as nonresponsive. This requirement does not apply to lower tier subcontractors.

29.5 Cargo Preference-Use of United States – Flag Vessels.

The Contractor agrees: (a) to use privately owned US -Flag commercial vessels to ship at least 50 percent of the gross tonnage (computed separately for dry bulk carriers, dry cargo liners, and tankers) involved, whenever shipping any equipment, material or commodities pursuant to the Agreement to the extent such vessels are available at fair and reasonable rates for US-Flag commercial vessels; and (b) to furnish within 20

working days following the date of loading for shipments originating within the US or within 30 working days following the date of loading for shipments originating outside the US, a legible copy of a rated, "on-board" commercial ocean bill-of-lading in English for each shipment of cargo to the Division of National Cargo, Office of Market Development, Maritime Administration, Washington, DC 20590 and to the FTA recipient (through the contractor in the case of a subcontractor's bill-of-lading).

29.6 Civil Rights Requirements.

Nondiscrimination - In accordance with Title VI of the Civil Rights Act, as amended, 42 U.S.C. § 2000d, section 303 of the Age Discrimination Act of 1975, as amended, 42 U.S.C. § 6102, section 202 of the Americans with Disabilities Act of 1990, 42 U.S.C. § 12132, and Federal transit law at 49 U.S.C. § 5332, the Contractor agrees that it will not discriminate against any employee or applicant for employment because of race, color, religion, national origin, sex, sexual orientation, gender identity, age, status as a parent or disability. In addition, the Contractor agrees to comply with applicable Federal implementing regulations and other implementing requirements FTA may issue.

Equal Employment Opportunity - The following equal employment opportunity requirements apply to the Agreement:

Race, Color, Creed, National Origin, Sex- The Contractor agrees to take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, color, creed, national origin, disability, age, sexual orientation, gender identity, or status as a parent. 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. In addition, the Contractor agrees to comply with any implementing requirements FTA may issue.

Age - In accordance with section 4 of the Age Discrimination in Employment Act of 1967, as amended, 29 U.S.C. § § 623 and Federal transit law at 49 U.S.C. § 5332, the Contractor agrees to refrain from discrimination against present and prospective employees for reason of age. In addition, the Contractor agrees to comply with any implementing requirements FTA may issue.

Disabilities - In accordance with section 102 of the Americans with Disabilities Act, as amended, 42 U.S.C. § 12112, the Contractor agrees that it will comply with the requirements of U.S. Equal Employment Opportunity Commission, "Regulations to Implement the Equal Employment Provisions of the Americans with Disabilities Act," 29 C.F.R. Part 1630, pertaining to employment of persons with disabilities. In addition, the Contractor agrees to comply with any implementing requirements FTA may issue.

The Contractor also agrees to include these requirements in each subcontract financed in whole or in part with Federal assistance provided by FTA, modified only if necessary to identify the affected parties.

29.7 Clean Air.

The Contractor agrees to comply with all applicable standards, orders or regulations issued pursuant to the Clean Air Act, as amended, 42 U.S.C. §§ 7401 et seq. The Contractor agrees to report each violation to the County and understands and agrees that the County will, in turn, report each violation as required to assure notification to FTA and the appropriate EPA Regional Office. The Contractor agrees it will not use any violating facilities. It will report the use of facilities placed on or likely to be placed on the U.S. EPA “List of Violating Facilities”. It will report violations of use of prohibited facilities to FTA.

The Contractor also agrees to include these requirements in each subcontract exceeding \$150,000 financed in whole or in part with Federal assistance provided by FTA.).

29.8 Clean Water.

The Contractor agrees to comply with all applicable standards, orders or regulations issued pursuant to the Federal Water Pollution Control Act, as amended, 33 U.S.C. 1251 et seq. The Contractor agrees to report each violation to the County and understands and agrees that the County will, in turn, report each violation as required to assure notification to FTA and the appropriate EPA Regional Office. The Contractor agrees it will not use any violating facilities. It will report the use of facilities placed on or likely to be placed on the U.S. EPA “List of Violating Facilities”. It will report violations of use of prohibited facilities to FTA.

The Contractor also agrees to include these requirements in each subcontract exceeding \$150,000 financed in whole or in part with Federal assistance provided by FTA.

29.9 Contract Work Hours and Safety Standards.

The Contractor shall comply with all federal laws, regulations, and requirements providing wage and hour protections for non-construction employees, in accordance with 40 U.S.C. § 3702, Contract Work Hours and Safety Standards Act, and other relevant parts of that Act, 40 U.S.C. § 3701 et seq., and U.S. DOL regulations, “Labor Standards Provisions Applicable to Contracts Covering Federally Financed and Assisted Construction (also Labor Standards Provisions Applicable to Non-construction Contracts Subject to the Contract Work Hours and Safety Standards Act),” 29 C.F.R. part 5.

The Contractor shall maintain payrolls and basic payroll records during the course of the work and shall preserve them for a period of three (3) 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.

Such records maintained under this paragraph shall be made available by the Contractor for inspection, copying, or transcription by authorized representatives of the FTA and the Department of Labor, and the Contractor will permit such representatives to interview employees during working hours on the job.

The Contractor shall require the inclusion of the language of this clause within subcontracts of all tiers.

29.10 Disadvantaged Business Enterprise (DBE).

The Agreement is subject to the requirements of Title 49, Code of Federal Regulations, Part 26, Participation by Disadvantaged Business Enterprises in Department of Transportation Financial Assistance Programs including 49 C.F.R. Part 26, Section 1101(b) of the FAST Act (23 U.S.C. § 101 note). The national goal for participation of Disadvantaged Business Enterprises (DBE) is 10%. **A separate contract goal has not been established for this procurement.**

The Contractor, and each Third Party Subcontractor must not discriminate on the basis of race, color, national origin, or sex in the award and performance of any FTA or U.S. DOT-assisted subagreement, third party contract, and third party subcontract, as applicable, and the administration of its DBE program or the requirements of 49 C.F.R. part 26.

The Contractor and each Third Party Subcontractor must take all necessary and reasonable steps under 49 C.F.R. part 26 to ensure nondiscrimination in the award and administration of U.S.FTA-assisted subagreements, third party contracts, and third party subcontracts, as applicable.

Failure by the Subrecipient and any of its Third Party Contractors or Third Party Subcontractors to carry out the requirements of this subparagraph 12.e(4)(b) is a material breach of this subagreement, third party contract, or third party subcontract, as applicable which may result in the termination of the Agreement or such other remedy as County deems appropriate, which may include, but is not limited to: (1) withholding monthly progress payments; (2) assessing sanctions; (3) liquidated damages; and/or (4) disqualifying the Contractor from future bidding as non-responsible. Each subcontract the Contractor signs with a subcontractor must include the assurance in this paragraph (see 49 C.F.R. 26.13(b)).

The successful bidder/offeror will be required to report its DBE participation obtained through race-neutral means throughout the period of performance.

The Contractor is required to pay its subcontractors performing work related to the Agreement for satisfactory performance of that work no later than 30 days after the Contractor's receipt of payment for that work from County. In addition, the Contractor is required to return any retainage payments to those subcontractors within 30 days after the subcontractor's work related to the Agreement is satisfactorily completed.

The Contractor must promptly notify County whenever a DBE subcontractor performing work related to the Agreement is terminated or fails to complete its work, and must make good faith efforts to engage another DBE subcontractor to perform at least the same amount of work. The Contractor may not terminate any DBE subcontractor and perform that work through its own forces or those of an affiliate without the prior written consent of County.

29.11 Distracted Driving.

The Contractor agrees to adopt and enforce workplace safety policies to decrease crashes caused by distracted drivers, including policies to ban text messaging while using an electronic device supplied by an employer, and driving a vehicle the driver owns or rents, a vehicle Contractor owns, leases, or rents, or a privately-owned vehicle when on official business in connection with the Award, or when performing any work for or behalf of the County.

29.12 Energy Conservation.

The Contractor agrees to comply with 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.

29.13 Environmental Justice.

The Contractor agrees to, and assures that it will, promote environmental justice by following: (1) Executive Order No. 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations," February 11, 1994, 42 U.S.C. § 4321 note, as well as facilitating compliance with that Executive Order, (2) U.S. DOT Order 5610.2, "Department of Transportation Actions To Address Environmental Justice in Minority Populations and Low-Income Populations," 62 Fed. Reg. 18377, April 15, 1997, and (3) the most recent edition of FTA Circular 4703.1, "Environmental Justice Policy Guidance for Federal Transit Administration Recipients," August 15, 2012, to the extent consistent with applicable federal laws, regulations, requirements, and guidance.

29.14 Environmental Protections.

The Contractor agrees to, and assures that it will, comply with all applicable environmental and resource use laws, regulations, and requirements, and follow applicable guidance, now in effect or that may become effective in the future, including state and local laws, ordinances, regulations, and requirements and follow applicable guidance.

29.15 Notice to Third Party Participants.

Federal requirements that apply to the County or the Award, the accompanying Award Agreement or any Amendments thereto may change due to changes in federal law, regulation, other requirements, or guidance, or changes in the Recipient's Award Agreement including any information incorporated by reference and made part of that Award Agreement will apply to the Contractor and any other Third-Party Agreements.

29.16 Fly America.

The Contractor agrees to comply with 49 U.S.C. 40118 (the "Fly America" Act) in accordance with the General Services Administration's regulations at 41 C.F.R. Part 301-10, which provide that recipients and sub-recipients of Federal funds and their contractors are required to use U.S. Flag air carriers for U.S Government-financed international air travel and transportation of their personal effects or property, to the extent such service is available, unless travel by foreign air carrier is a matter of necessity, as defined by the Fly America Act. The Contractor shall submit, if a foreign air carrier was used, an appropriate certification or memorandum adequately explaining why service by a U.S. flag air carrier was not available or why it was necessary to use a foreign air carrier and shall, in any event, provide a certificate of compliance with the Fly America requirements. The Contractor agrees to include the requirements of this section in all subcontracts that may involve international air transportation.

29.17 FTA Interest.

Contractor understands and agrees that FTA has a vested interest in the settlement of any violation of federal law, regulation, or disagreement involving federal funds used towards this Agreement, including, but not limited to, a default, breach, major dispute, or litigation, and FTA reserves the right to concur in any settlement or compromise.

29.18 Government-wide Debarment and Suspension.

The Contractor shall comply and facilitate compliance with U.S. FTA regulations, Nonprocurement Suspension and Debarment," 2 C.F.R. part 1200, which adopts and supplements the U.S. Office of Management and Budget (U.S. OMB) "Guidelines to Agencies on Governmentwide Debarment and Suspension (Nonprocurement)," 2 C.F.R. part 180. These provisions apply to each contract at any tier of \$25,000 or more, and to each contract at any tier for a federally required audit (irrespective of the contract

amount), and to each contract at any tier that must be approved by an FTA official irrespective of the contract amount. As such, the Contractor shall verify that its principals, affiliates, and subcontractors are eligible to participate in this federally funded contract and are not presently declared by any Federal department or agency to be:

- (1) Debarred from participation in any federally assisted Award;
- (2) Suspended from participation in any federally assisted Award;
- (3) Proposed for debarment from participation in any federally assisted Award;
- (4) Declared ineligible to participate in any federally assisted Award;
- (5) Voluntarily excluded from participation in any federally assisted Award; or
- (6) Disqualified from participation in any federally assisted Award.

By signing and submitting its bid or proposal, the bidder or proposer certifies as follows:

"The Certification in this clause is a material representation of fact relied upon by the County. If it is later determined by the County that the bidder or proposer knowingly rendered an erroneous certification, in addition to remedies available to County, the Federal Government may pursue available remedies, including but not limited to suspension and/or debarment. The bidder or proposer agrees to comply with the requirements of 2 C.F.R. part 180, subpart C, as supplemented by 2 C.F.R. part 1200, while this offer is valid and throughout the period of any contract that may arise from this offer. The bidder or proposer further agrees to include a provision requiring such compliance in its lower tier covered transactions."

29.19 Incorporation of FTA Terms.

The provisions in this Section include, in part, certain Standard Terms and Conditions required by FTA, whether or not expressly set forth in the preceding contract provisions. All contractual provisions required by FTA, as set forth in FTA Circular 4220.1E, are hereby incorporated by reference. Anything to the contrary herein notwithstanding, all FTA mandated terms shall be deemed to control in the event of a conflict with other provisions contained in the Agreement. The Contractor shall not perform any act, fail to perform any act, or refuse to comply with any County requests which would cause County to be in violation of the FTA terms and conditions.

29.20 Intelligent Transportation Systems (ITS) Architecture and Standards.

Contractor ensures that they will conform to the National Intelligent Transportation Systems (ITS) Architecture requirements of 23 U.S.C. § 517(d), unless it obtains an exemption from those requirements, and follow FTA Notice, "FTA National ITS Architecture Policy on Transit Projects," 66 Fed. Reg. 1455, January 8, 2001, and all other applicable federal guidance.

29.21 Lobbying.

Contractors who apply or bid for an award of \$100,000 or more shall file the certification required by 49 C.F.R. Part 20, “New Restrictions on Lobbying.” Each tier certifies to the tier above that it will not and has not 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. Each tier shall also disclose the name of any registrant under the Lobbying Disclosure Act of 1995 who has made lobbying contacts on its behalf with non-Federal funds with respect to that Federal contract, grant or award covered by 31 U.S.C. 1352. Such disclosures are forwarded from tier to tier up to the Recipient.

29.22 No Government Obligation to Third Parties.

County and Contractor acknowledge and agree that, notwithstanding any concurrence by the Federal Government in or approval of the solicitation or award of the contract, absent the express written consent by the Federal Government, the Federal Government is not a party to the Agreement and shall not be subject to any obligations or liabilities to County, the Contractor, or any other party (whether or not a party to that contract) pertaining to any matter resulting from the contract. The Contractor agrees to include this clause in each subcontract financed in whole or in part with Federal assistance provided by FTA. It is further agreed that the clause shall not be modified, except to identify the subcontractor who will be subject to its provisions.

29.23 Notification of FTA.

Contractor understands that if a current or prospective legal matter that may affect the Federal Government emerges, the County must promptly notify the FTA Chief Counsel, or FTA Regional Counsel for the Region in which the County is located. (1) The types of legal matters that require notification include, but are not limited to, a major dispute, breach, default, litigation, or naming the Federal Government as a party to litigation or a legal disagreement in any forum for any reason. (2) Matters that may affect the Federal Government include, but are not limited to, the Federal Government’s interests in the federal funds used towards this Agreement, or the Federal Government’s administration or enforcement of federal laws, regulations, and requirements.

29.24 False Claims.

If the County has credible evidence that Contractor or other person has submitted a false claim under the False Claims Act, 31 U.S.C. § 3729 et seq., or has committed a criminal or civil violation of law pertaining to such matters as fraud, conflict of interest, bribery, gratuity, or similar misconduct involving federal assistance, the County must promptly

notify the U.S. FTA Inspector General, in addition to the FTA Chief Counsel or Regional Counsel for the Region in which the County is located.

29.25 Program Fraud and False or Fraudulent Statements and Related Acts.

The Contractor acknowledges that the provisions of the Program Fraud Civil Remedies Act of 1986, as amended, 31 U.S.C. § 3801 et seq. and U.S. DOT regulations, “Program Fraud Civil Remedies,” 49 C.F.R. Part 31, apply to its actions pertaining to this Project. Upon execution of the contract, the Contractor certifies or affirms the truthfulness and accuracy of any statement it has made, it makes, it may make, or causes to be made, pertaining to the Agreement or the FTA assisted project for which the Agreement work is being performed. In addition to other penalties that may be applicable, the Contractor further acknowledges that if it makes, or causes to be made, a false, fictitious, or fraudulent claim, statement, submission, or certification, the Federal Government reserves the right to impose the penalties of the Program Fraud Civil Remedies Act of 1986 on the Contractor to the extent the Federal Government deems appropriate.

The Contractor also acknowledges that if it makes, or causes to be made, a false, fictitious, or fraudulent claim, statement, submission, or certification to the Federal Government under a contract connected with a project that is financed in whole or in part with Federal assistance originally awarded by FTA under the authority of 49 U.S.C. § 5307, the Government reserves the right to impose the penalties of 18 U.S.C. § 1001 and 49 U.S.C. § 5307(n)(1) on the Contractor, to the extent the Federal Government deems appropriate.

The Contractor agrees to include the above two clauses in each subcontract financed in whole or in part with Federal assistance provided by FTA. It is further agreed that the clauses shall not be modified, except to identify the subcontractor who will be subject to the provisions.

29.26 Prompt Payment.

The Contractor is required to pay its subcontractors performing work related to this Agreement for satisfactory performance of that work no later than 30 days after the Contractor’s receipt of payment for that work from County. In addition, the Contractor is required to return any retainage payments to those subcontractors within 30 days after the subcontractor’s work related to this Agreement is satisfactorily completed.

29.27 Resource Recovery.

The Contractor agrees to 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. part 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.

29.28 Safe Operation of Vehicles (Seat Belt).

Contractor shall encourage their employees and other personnel that operate company-owned vehicles, company rented-vehicles, or personally operated vehicles to adopt on-the-job seat belt policies and programs.

29.29 Sensitive Security Information.

Each third party contractor must protect, and take measures to ensure that its subcontractors at each tier protect, “sensitive security information” made available during the administration of a third party contract or subcontract to ensure compliance with 49 U.S.C. Section 40119(b) and implementing FTA regulations, “Protection of Sensitive Security Information,” 49 CFR Part 15, and with 49 U.S.C. Section 114(r) and implementing Department of Homeland Security regulations, “Protection of Sensitive Security Information,” 49 CFR Part 1520.

29.30 Termination.

(a) Termination for Convenience

County may terminate the Agreement, in whole or in part, at any time by written notice to the Contractor. If the Contractor has any property in its possession belonging to County, the Contractor will account for the same, and dispose of it in the manner County directs.

(b) Termination for Cause

(1) County may terminate the whole or any part of this Agreement for cause in the following circumstances:

- a. If Contractor fails to perform services within the time specified in the Scope of Services or any extension thereof granted by the County in writing;
- b. If Contractor materially breaches any of the covenants or terms and conditions set forth in the Agreement or fails to perform any of the other provisions of the Agreement or so fails to make progress as to endanger performance of the Agreement in accordance with its terms, and in any of these circumstances does not cure such breach or failure to County’s reasonable satisfaction within a period of ten (10) calendar days after receipt of notice from County specifying such breach or failure.

(2) If, after termination, it is determined for any reason whatsoever that Contractor was not in default, or that the default was excusable, the rights and obligations of the parties shall be the same as if the termination had been issued for the convenience of the County as if the contract had been terminated for convenience.

(3) Upon termination of the Agreement, County shall compensate Contractor in accordance with the terms for payment set out in the agreement, above, for those services which were provided under the Agreement prior to its termination and which have not

been previously invoiced to County. Contractor's final invoice for said services will be presented to and paid by County in the same manner set forth in the Agreement.

(4) The County shall terminate by delivering to the Contractor a Notice of Termination specifying the nature of the default. In this event, the County may take over the work and complete it by contract or otherwise, and may take possession of and use any materials, appliances, and plant on the work site necessary for completing the work. The Contractor and its sureties shall be liable for any damage to the County resulting from the Contractor's refusal or failure to complete the work within specified time, whether or not the Contractor's right to proceed with the work is terminated. This liability includes any increased costs incurred by the County in completing the work.

(5) The Contractor's right to proceed shall not be terminated nor shall the Contractor be charged with damages under this clause if the delay in completing the work arises from unforeseeable causes beyond the control and without the fault or negligence of the Contractor. Examples of such causes include: acts of God, acts of another contractor in the performance of a contract with the County, epidemics, quarantine restrictions, strikes, and freight embargoes.

(6) In the case of delay, the Contractor shall within ten (10) days from the beginning of any delay, notify the County in writing of the causes of any delay. If, in the judgment of County, the delay is excusable, the time for completing the work shall be extended. The judgment of County shall be final and conclusive for the parties, but subject to appeal under the Disputes clause(s) of the Agreement.

(8) Any such termination for default shall not in any way operate to preclude County from also pursuing all available remedies against Contractor and its sureties for said breach or default including specific performance, an injunction, any other equitable remedy or the right to money damages.

(9) In the event that County elects to waive its remedies for any breach by Contractor of any covenant, term or condition of the Agreement, such waiver by County shall not limit County's remedies for any succeeding breach of that or of any other covenant, term, or condition of the Agreement.

(10) Inasmuch as the Contractor can be adequately compensated by money damages for any breach of the Agreement, which may be committed by the County, the Contractor expressly agrees that no default, act or omission of the County shall constitute a material breach of its Agreement with the County, entitling Contractor to cancel or rescind the Agreement (unless the County directs Contractor to do so) or to suspend or abandon performance.

29.31 Change Orders.

Verbal change orders to the Agreement are not permitted. No changes in the scope, specifications, character, or complexity of work shall be made by the Contractor without first receiving written approval by the Fort Bend County Public Transportation Director or their designee properly defining and limiting any such change. Contractor shall be liable for all costs resulting from and/or for satisfactorily correcting any specification change not properly ordered by written modification to the Contract and signed by the Fort Bend County Public Transportation Director or their designee."

Within 14 calendar days after Contractor's receipt of the written change order request for modification of the Contract, Contractor shall submit to FBCPT Manager of Contracts and Procurement a detailed price schedule proposal for the work to be performed. This proposal shall be accepted or modified by negotiation between Contractor and the FBCPT Manager of Contracts and Procurement. At the time both parties shall execute a detailed Contract modification in writing. Disagreements that cannot be resolved within negotiations shall be resolved in accordance with the contract disputes clause."

It is distinctly understood and agreed that no claim for payment for work done or materials furnished by the Contractor outside of these parameters shall be paid by FBCPT. Any such services or materials furnished by Contractor without such written order shall be at the risk, cost and expense of the Contractor, and no claim for compensation for any such services or materials shall be made.

All such changes, which are mutually agreed upon by and between all parties, shall be incorporated in written amendments to the Contract. All such amendments shall state any increase or decrease in the amount of the compensation due to FBCPT for the change in the scope.

29.32 Child Support.

Per Texas Family Code 231.006, a child support obligor or business entity remains ineligible to receive payments from state funds under a contract to provide property, materials, or services; or a state funded loan until: (1) All arrearages have been paid; (2) the obligor is in compliance with a written repayment agreement or court order as to any existing delinquency; or (3) the court of continuing jurisdiction over the child support order has granted the obligor an exemption from ineligibility as part of a court-supervised effort to improve earnings and child support payments.

Before payment can be released Contractor will supply County with the name and social security number of the individual or sole proprietor and each partner, shareholder, or owner with an ownership interest of at least 25 percent of the business entity.

Contractor certifies that the individual or business entity named in this contract, bid, or application is not ineligible to receive the specified grant, loan, or payment and acknowledges that this contract may be terminated and payment may be withheld if this certification is inaccurate.

29.33 Debt to State.

The State of Texas shall not be responsible for the debts of the County or Subcontractor.

29.34 Required Assurance.

The Contractor and any Sub-contractors shall not discriminate on the basis of race, color, religion, national origin, or sex (including gender identity), disability, or age in the performance of this contract. The Contractor shall carry out applicable requirements of

49 CFR Part 26 "Participation by Disadvantaged Business Enterprises in Department of Transportation Financial Assistance Programs" in the award and administration of DOT-assisted contracts. Failure by the Contractor to carry out these requirements is a material breach of this agreement, which may result in the termination of this contract or such other remedy as the County deems appropriate, which may include, but is not limited to: (1) Withholding monthly progress payments; (2) Assessing sanctions; (3) Liquidated damages; and/or (4) Disqualifying the Contractor from future bidding as non-responsible.

30.0 STATE LAW REQUIREMENTS FOR CONTRACTS:

The contents of this section are required by Texas Law and are included by County regardless of content.

- 30.1 Agreement to Not Boycott Israel Chapter 2270 Texas Government Code: By signature on vendor form, Contractor verifies Contractor does not boycott Israel and will not boycott Israel during the term of this Contract.
- 30.2 Texas Government Code Section 2251.152 Acknowledgment: By signature on vendor form, Contractor represents pursuant to Section 2252.152 of the Texas Government Code, that Contractor is not listed on the website of the Comptroller of the State of Texas concerning the listing of companies that are identified under Section 806.051, Section 807.051 or Section 2253.153.

31.0 HUMAN TRAFFICKING:

By acceptance of this contract, Contractor acknowledges that Fort Bend County is opposed to human trafficking and that no County funds will be used in support of services or activities that violate human trafficking laws.

32.0 TERM OF CONTRACT FOR MAINTENANCE:

This contract is for a period of four (4) years. Either party for any reason may terminate this contract by giving thirty (30) days written notice of the intent to terminate.

33.0 REQUIRED FORMS:

All respondents submitting are required to complete the attached and return with submission or will result in disqualification:

- 33.1 Vendor Form
- 33.2 W9 Form
- 33.3 Tax Form/Debt/Residence Certification

- 33.4 Required Proof of Insurance
- 33.5 Attachment A: Buy America Certificate
- 33.6 Attachment B: Certification of Restrictions on Lobbying
- 33.7 Attachment C: Certification Regarding Government-Wide Debarment and Suspension (Nonprocurement)
- 33.8 Attachment D: Disclosure of Lobbying Activities
- 33.9 Attachment E: Intent to Perform as a DBE Contractor/DBE Subcontractor
- 33.10 Attachment F: PTN 130
The following sections of PTN 130 are not applicable to this solicitation and therefore DO NOT need to be completed:
 - Section I.V - Disadvantaged Business Enterprise (DBE) Certification (Transit Vehicle Manufacturer or TVM)
 - Section I.X – Altoona Test Certification (For rolling stock purchases)
 - Section I.Y – Federal Motor Vehicle Safety Standards (FMVSS) Certification (For rolling stock purchases)
 - Section II.A – Special Project Type Provisions, Construction or Architectural & Engineering Projects
 - Section II.B – Special Project Type Provisions, Transit Operations or Management Projects
- 33.11 Attachment G: Subcontractor Participation, if applicable.

34.0 REQUIRED FORMS AFTER CONTRACT EXECUTION:

- 34.1 Attachment H: Vendor Payment Report

35.0 NAIC CODES:

The following NAIC codes are set for this project; however, they are not all inclusive. Fort Bend County utilizes the following website:

<https://txdot.txdotcms.com/FrontEnd/VendorSearchPublic.asp?TN=txdot&XID=2340>

- 238210 Electrical Contractors and other wiring installations
- 334290 Other Communications Equipment Manufacturing
- 423610 Electrical Apparatus and Equipment, Wiring Supplies, and Related Equipment Merchant Wholesalers

36.0 EXHIBITS:

- 36.1 Exhibit 1: Specifications

***Amended 11/25/19**

- 36.2 Exhibit 2: Price Worksheets
- *36.3 Exhibit 3: Site and Building Plans
- 36.4 Exhibit 4: County Travel Policy

37.0 ESCALATION:

Successful Contractor may apply to the FBCPT Department for a price increase based on a percentage equal to the applicable annual percentage increase in the Consumer Price Index (CPI) – South Region. This price increase will be based on the percent change as detailed in the CPI South Region for All Urban Consumers, which can be found at https://www.bls.gov/regions/southeast/news-release/consumerpriceindex_south.htm . No application for a price increase may be submitted within the first two (2) years of the contract. This increase will be capped at twenty-five (25) percent over the original contract rate.

Note. If you are a U.S. person and a requester gives you a form other than Form W-9 to request your TIN, you must use the requester's form if it is substantially similar to this Form W-9.

Definition of a U.S. person. For federal tax purposes, you are considered a U.S. person if you are:

- An individual who is a U.S. citizen or U.S. resident alien;
- A partnership, corporation, company, or association created or organized in the United States or under the laws of the United States;
- An estate (other than a foreign estate); or
- A domestic trust (as defined in Regulations section 301.7701-7).

Special rules for partnerships. Partnerships that conduct a trade or business in the United States are generally required to pay a withholding tax under section 1446 on any foreign partners' share of effectively connected taxable income from such business. Further, in certain cases where a Form W-9 has not been received, the rules under section 1446 require a partnership to presume that a partner is a foreign person, and pay the section 1446 withholding tax. Therefore, if you are a U.S. person that is a partner in a partnership conducting a trade or business in the United States, provide Form W-9 to the partnership to establish your U.S. status and avoid section 1446 withholding on your share of partnership income.

In the cases below, the following person must give Form W-9 to the partnership for purposes of establishing its U.S. status and avoiding withholding on its allocable share of net income from the partnership conducting a trade or business in the United States:

- In the case of a disregarded entity with a U.S. owner, the U.S. owner of the disregarded entity and not the entity;
- In the case of a grantor trust with a U.S. grantor or other U.S. owner, generally, the U.S. grantor or other U.S. owner of the grantor trust and not the trust; and
- In the case of a U.S. trust (other than a grantor trust), the U.S. trust (other than a grantor trust) and not the beneficiaries of the trust.

Foreign person. If you are a foreign person or the U.S. branch of a foreign bank that has elected to be treated as a U.S. person, do not use Form W-9. Instead, use the appropriate Form W-8 or Form 8233 (see Publication 515, Withholding of Tax on Nonresident Aliens and Foreign Entities).

Nonresident alien who becomes a resident alien. Generally, only a nonresident alien individual may use the terms of a tax treaty to reduce or eliminate U.S. tax on certain types of income. However, most tax treaties contain a provision known as a "saving clause." Exceptions specified in the saving clause may permit an exemption from tax to continue for certain types of income even after the payee has otherwise become a U.S. resident alien for tax purposes.

If you are a U.S. resident alien who is relying on an exception contained in the saving clause of a tax treaty to claim an exemption from U.S. tax on certain types of income, you must attach a statement to Form W-9 that specifies the following five items:

1. The treaty country. Generally, this must be the same treaty under which you claimed exemption from tax as a nonresident alien.
2. The treaty article addressing the income.
3. The article number (or location) in the tax treaty that contains the saving clause and its exceptions.
4. The type and amount of income that qualifies for the exemption from tax.
5. Sufficient facts to justify the exemption from tax under the terms of the treaty article.

Example. Article 20 of the U.S.-China income tax treaty allows an exemption from tax for scholarship income received by a Chinese student temporarily present in the United States. Under U.S. law, this student will become a resident alien for tax purposes if his or her stay in the United States exceeds 5 calendar years. However, paragraph 2 of the first Protocol to the U.S.-China treaty (dated April 30, 1984) allows the provisions of Article 20 to continue to apply even after the Chinese student becomes a resident alien of the United States. A Chinese student who qualifies for this exception (under paragraph 2 of the first protocol) and is relying on this exception to claim an exemption from tax on his or her scholarship or fellowship income would attach to Form W-9 a statement that includes the information described above to support that exemption.

If you are a nonresident alien or a foreign entity, give the requester the appropriate completed Form W-8 or Form 8233.

Backup Withholding

What is backup withholding? Persons making certain payments to you must under certain conditions withhold and pay to the IRS 28% of such payments. This is called "backup withholding." Payments that may be subject to backup withholding include interest, tax-exempt interest, dividends, broker and barter exchange transactions, rents, royalties, nonemployee pay, payments made in settlement of payment card and third party network transactions, and certain payments from fishing boat operators. Real estate transactions are not subject to backup withholding.

You will not be subject to backup withholding on payments you receive if you give the requester your correct TIN, make the proper certifications, and report all your taxable interest and dividends on your tax return.

Payments you receive will be subject to backup withholding if:

1. You do not furnish your TIN to the requester,
2. You do not certify your TIN when required (see the Part II instructions on page 3 for details),

3. The IRS tells the requester that you furnished an incorrect TIN,

4. The IRS tells you that you are subject to backup withholding because you did not report all your interest and dividends on your tax return (for reportable interest and dividends only), or

5. You do not certify to the requester that you are not subject to backup withholding under 4 above (for reportable interest and dividend accounts opened after 1983 only).

Certain payees and payments are exempt from backup withholding. See *Exempt payee code* on page 3 and the separate Instructions for the Requester of Form W-9 for more information.

Also see *Special rules for partnerships* above.

What is FATCA reporting?

The Foreign Account Tax Compliance Act (FATCA) requires a participating foreign financial institution to report all United States account holders that are specified United States persons. Certain payees are exempt from FATCA reporting. See *Exemption from FATCA reporting code* on page 3 and the Instructions for the Requester of Form W-9 for more information.

Updating Your Information

You must provide updated information to any person to whom you claimed to be an exempt payee if you are no longer an exempt payee and anticipate receiving reportable payments in the future from this person. For example, you may need to provide updated information if you are a C corporation that elects to be an S corporation, or if you no longer are tax exempt. In addition, you must furnish a new Form W-9 if the name or TIN changes for the account; for example, if the grantor of a grantor trust dies.

Penalties

Failure to furnish TIN. If you fail to furnish your correct TIN to a requester, you are subject to a penalty of \$50 for each such failure unless your failure is due to reasonable cause and not to willful neglect.

Civil penalty for false information with respect to withholding. If you make a false statement with no reasonable basis that results in no backup withholding, you are subject to a \$500 penalty.

Criminal penalty for falsifying information. Willfully falsifying certifications or affirmations may subject you to criminal penalties including fines and/or imprisonment.

Misuse of TINs. If the requester discloses or uses TINs in violation of federal law, the requester may be subject to civil and criminal penalties.

Specific Instructions

Line 1

You must enter one of the following on this line; **do not** leave this line blank. The name should match the name on your tax return.

If this Form W-9 is for a joint account, list first, and then circle, the name of the person or entity whose number you entered in Part I of Form W-9.

a. **Individual.** Generally, enter the name shown on your tax return. If you have changed your last name without informing the Social Security Administration (SSA) of the name change, enter your first name, the last name as shown on your social security card, and your new last name.

Note. ITIN applicant: Enter your individual name as it was entered on your Form W-7 application, line 1a. This should also be the same as the name you entered on the Form 1040/1040A/1040EZ you filed with your application.

b. **Sole proprietor or single-member LLC.** Enter your individual name as shown on your 1040/1040A/1040EZ on line 1. You may enter your business, trade, or "doing business as" (DBA) name on line 2.

c. **Partnership, LLC that is not a single-member LLC, C Corporation, or S Corporation.** Enter the entity's name as shown on the entity's tax return on line 1 and any business, trade, or DBA name on line 2.

d. **Other entities.** Enter your name as shown on required U.S. federal tax documents on line 1. This name should match the name shown on the charter or other legal document creating the entity. You may enter any business, trade, or DBA name on line 2.

e. **Disregarded entity.** For U.S. federal tax purposes, an entity that is disregarded as an entity separate from its owner is treated as a "disregarded entity." See Regulations section 301.7701-2(c)(2)(iii). Enter the owner's name on line 1. The name of the entity entered on line 1 should never be a disregarded entity. The name on line 1 should be the name shown on the income tax return on which the income should be reported. For example, if a foreign LLC that is treated as a disregarded entity for U.S. federal tax purposes has a single owner that is a U.S. person, the U.S. owner's name is required to be provided on line 1. If the direct owner of the entity is also a disregarded entity, enter the first owner that is not disregarded for federal tax purposes. Enter the disregarded entity's name on line 2, "Business name/disregarded entity name." If the owner of the disregarded entity is a foreign person, the owner must complete an appropriate Form W-8 instead of a Form W-9. This is the case even if the foreign person has a U.S. TIN.

Line 2

If you have a business name, trade name, DBA name, or disregarded entity name, you may enter it on line 2.

Line 3

Check the appropriate box in line 3 for the U.S. federal tax classification of the person whose name is entered on line 1. Check only one box in line 3.

Limited Liability Company (LLC). If the name on line 1 is an LLC treated as a partnership for U.S. federal tax purposes, check the "Limited Liability Company" box and enter "P" in the space provided. If the LLC has filed Form 8832 or 2553 to be taxed as a corporation, check the "Limited Liability Company" box and in the space provided enter "C" for C corporation or "S" for S corporation. If it is a single-member LLC that is a disregarded entity, do not check the "Limited Liability Company" box; instead check the first box in line 3 "Individual/sole proprietor or single-member LLC."

Line 4, Exemptions

If you are exempt from backup withholding and/or FATCA reporting, enter in the appropriate space in line 4 any code(s) that may apply to you.

Exempt payee code.

- Generally, individuals (including sole proprietors) are not exempt from backup withholding.
- Except as provided below, corporations are exempt from backup withholding for certain payments, including interest and dividends.
- Corporations are not exempt from backup withholding for payments made in settlement of payment card or third party network transactions.
- Corporations are not exempt from backup withholding with respect to attorneys' fees or gross proceeds paid to attorneys, and corporations that provide medical or health care services are not exempt with respect to payments reportable on Form 1099-MISC.

The following codes identify payees that are exempt from backup withholding. Enter the appropriate code in the space in line 4.

- 1—An organization exempt from tax under section 501(a), any IRA, or a custodial account under section 403(b)(7) if the account satisfies the requirements of section 401(f)(2)
- 2—The United States or any of its agencies or instrumentalities
- 3—A state, the District of Columbia, a U.S. commonwealth or possession, or any of their political subdivisions or instrumentalities
- 4—A foreign government or any of its political subdivisions, agencies, or instrumentalities
- 5—A corporation
- 6—A dealer in securities or commodities required to register in the United States, the District of Columbia, or a U.S. commonwealth or possession
- 7—A futures commission merchant registered with the Commodity Futures Trading Commission
- 8—A real estate investment trust
- 9—An entity registered at all times during the tax year under the Investment Company Act of 1940
- 10—A common trust fund operated by a bank under section 584(a)
- 11—A financial institution
- 12—A middleman known in the investment community as a nominee or custodian
- 13—A trust exempt from tax under section 664 or described in section 4947

The following chart shows types of payments that may be exempt from backup withholding. The chart applies to the exempt payees listed above, 1 through 13.

IF the payment is for . . .	THEN the payment is exempt for . . .
Interest and dividend payments	All exempt payees except for 7
Broker transactions	Exempt payees 1 through 4 and 6 through 11 and all C corporations. S corporations must not enter an exempt payee code because they are exempt only for sales of noncovered securities acquired prior to 2012.
Barter exchange transactions and patronage dividends	Exempt payees 1 through 4
Payments over \$600 required to be reported and direct sales over \$5,000 ¹	Generally, exempt payees 1 through 5 ²
Payments made in settlement of payment card or third party network transactions	Exempt payees 1 through 4

¹ See Form 1099-MISC, Miscellaneous Income, and its instructions.

² However, the following payments made to a corporation and reportable on Form 1099-MISC are not exempt from backup withholding: medical and health care payments, attorneys' fees, gross proceeds paid to an attorney reportable under section 6045(f), and payments for services paid by a federal executive agency.

Exemption from FATCA reporting code. The following codes identify payees that are exempt from reporting under FATCA. These codes apply to persons submitting this form for accounts maintained outside of the United States by certain foreign financial institutions. Therefore, if you are only submitting this form for an account you hold in the United States, you may leave this field blank. Consult with the person requesting this form if you are uncertain if the financial institution is subject to these requirements. A requester may indicate that a code is not required by providing you with a Form W-9 with "Not Applicable" (or any similar indication) written or printed on the line for a FATCA exemption code.

A—An organization exempt from tax under section 501(a) or any individual retirement plan as defined in section 7701(a)(37)

B—The United States or any of its agencies or instrumentalities

C—A state, the District of Columbia, a U.S. commonwealth or possession, or any of their political subdivisions or instrumentalities

D—A corporation the stock of which is regularly traded on one or more established securities markets, as described in Regulations section 1.1472-1(c)(1)(i)

E—A corporation that is a member of the same expanded affiliated group as a corporation described in Regulations section 1.1472-1(c)(1)(i)

F—A dealer in securities, commodities, or derivative financial instruments (including notional principal contracts, futures, forwards, and options) that is registered as such under the laws of the United States or any state

G—A real estate investment trust

H—A regulated investment company as defined in section 851 or an entity registered at all times during the tax year under the Investment Company Act of 1940

I—A common trust fund as defined in section 584(a)

J—A bank as defined in section 581

K—A broker

L—A trust exempt from tax under section 664 or described in section 4947(a)(1)

M—A tax exempt trust under a section 403(b) plan or section 457(g) plan

Note. You may wish to consult with the financial institution requesting this form to determine whether the FATCA code and/or exempt payee code should be completed.

Line 5

Enter your address (number, street, and apartment or suite number). This is where the requester of this Form W-9 will mail your information returns.

Line 6

Enter your city, state, and ZIP code.

Part I. Taxpayer Identification Number (TIN)

Enter your TIN in the appropriate box. If you are a resident alien and you do not have and are not eligible to get an SSN, your TIN is your IRS individual taxpayer identification number (ITIN). Enter it in the social security number box. If you do not have an ITIN, see *How to get a TIN* below.

If you are a sole proprietor and you have an EIN, you may enter either your SSN or EIN. However, the IRS prefers that you use your SSN.

If you are a single-member LLC that is disregarded as an entity separate from its owner (see *Limited Liability Company (LLC)* on this page), enter the owner's SSN (or EIN, if the owner has one). Do not enter the disregarded entity's EIN. If the LLC is classified as a corporation or partnership, enter the entity's EIN.

Note. See the chart on page 4 for further clarification of name and TIN combinations.

How to get a TIN. If you do not have a TIN, apply for one immediately. To apply for an SSN, get Form SS-5, Application for a Social Security Card, from your local SSA office or get this form online at www.ssa.gov. You may also get this form by calling 1-800-772-1213. Use Form W-7, Application for IRS Individual Taxpayer Identification Number, to apply for an ITIN, or Form SS-4, Application for Employer Identification Number, to apply for an EIN. You can apply for an EIN online by accessing the IRS website at www.irs.gov/businesses and clicking on Employer Identification Number (EIN) under Starting a Business. You can get Forms W-7 and SS-4 from the IRS by visiting IRS.gov or by calling 1-800-TAX-FORM (1-800-829-3676).

If you are asked to complete Form W-9 but do not have a TIN, apply for a TIN and write "Applied For" in the space for the TIN, sign and date the form, and give it to the requester. For interest and dividend payments, and certain payments made with respect to readily tradable instruments, generally you will have 60 days to get a TIN and give it to the requester before you are subject to backup withholding on payments. The 60-day rule does not apply to other types of payments. You will be subject to backup withholding on all such payments until you provide your TIN to the requester.

Note. Entering "Applied For" means that you have already applied for a TIN or that you intend to apply for one soon.

Caution: A disregarded U.S. entity that has a foreign owner must use the appropriate Form W-8.

Part II. Certification

To establish to the withholding agent that you are a U.S. person, or resident alien, sign Form W-9. You may be requested to sign by the withholding agent even if items 1, 4, or 5 below indicate otherwise.

For a joint account, only the person whose TIN is shown in Part I should sign (when required). In the case of a disregarded entity, the person identified on line 1 must sign. Exempt payees, see *Exempt payee code* earlier.

Signature requirements. Complete the certification as indicated in items 1 through 5 below.

- 1. Interest, dividend, and barter exchange accounts opened before 1984 and broker accounts considered active during 1983.** You must give your correct TIN, but you do not have to sign the certification.
- 2. Interest, dividend, broker, and barter exchange accounts opened after 1983 and broker accounts considered inactive during 1983.** You must sign the certification or backup withholding will apply. If you are subject to backup withholding and you are merely providing your correct TIN to the requester, you must cross out item 2 in the certification before signing the form.
- 3. Real estate transactions.** You must sign the certification. You may cross out item 2 of the certification.
- 4. Other payments.** You must give your correct TIN, but you do not have to sign the certification unless you have been notified that you have previously given an incorrect TIN. "Other payments" include payments made in the course of the requester's trade or business for rents, royalties, goods (other than bills for merchandise), medical and health care services (including payments to corporations), payments to a nonemployee for services, payments made in settlement of payment card and third party network transactions, payments to certain fishing boat crew members and fishermen, and gross proceeds paid to attorneys (including payments to corporations).
- 5. Mortgage interest paid by you, acquisition or abandonment of secured property, cancellation of debt, qualified tuition program payments (under section 529), IRA, Coverdell ESA, Archer MSA or HSA contributions or distributions, and pension distributions.** You must give your correct TIN, but you do not have to sign the certification.

What Name and Number To Give the Requester

For this type of account:	Give name and SSN of:
1. Individual	The individual
2. Two or more individuals (joint account)	The actual owner of the account or, if combined funds, the first individual on the account ¹
3. Custodian account of a minor (Uniform Gift to Minors Act)	The minor ²
4. a. The usual revocable savings trust (grantor is also trustee) b. So-called trust account that is not a legal or valid trust under state law	The grantor-trustee ¹ The actual owner ¹
5. Sole proprietorship or disregarded entity owned by an individual	The owner ³
6. Grantor trust filing under Optional Form 1099 Filing Method 1 (see Regulations section 1.671-4(b)(2)(i)(A))	The grantor*
For this type of account:	Give name and EIN of:
7. Disregarded entity not owned by an individual	The owner
8. A valid trust, estate, or pension trust	Legal entity ⁴
9. Corporation or LLC electing corporate status on Form 8832 or Form 2553	The corporation
10. Association, club, religious, charitable, educational, or other tax-exempt organization	The organization
11. Partnership or multi-member LLC	The partnership
12. A broker or registered nominee	The broker or nominee
13. Account with the Department of Agriculture in the name of a public entity (such as a state or local government, school district, or prison) that receives agricultural program payments	The public entity
14. Grantor trust filing under the Form 1041 Filing Method or the Optional Form 1099 Filing Method 2 (see Regulations section 1.671-4(b)(2)(i)(B))	The trust

¹ List first and circle the name of the person whose number you furnish. If only one person on a joint account has an SSN, that person's number must be furnished.

² Circle the minor's name and furnish the minor's SSN.

³ You must show your individual name and you may also enter your business or DBA name on the "Business name/disregarded entity" name line. You may use either your SSN or EIN (if you have one), but the IRS encourages you to use your SSN.

⁴ List first and circle the name of the trust, estate, or pension trust. (Do not furnish the TIN of the personal representative or trustee unless the legal entity itself is not designated in the account title.) Also see *Special rules for partnerships* on page 2.

*Note. Grantor also must provide a Form W-9 to trustee of trust.

Note. If no name is circled when more than one name is listed, the number will be considered to be that of the first name listed.

Secure Your Tax Records from Identity Theft

Identity theft occurs when someone uses your personal information such as your name, SSN, or other identifying information, without your permission, to commit fraud or other crimes. An identity thief may use your SSN to get a job or may file a tax return using your SSN to receive a refund.

To reduce your risk:

- Protect your SSN,
- Ensure your employer is protecting your SSN, and
- Be careful when choosing a tax preparer.

If your tax records are affected by identity theft and you receive a notice from the IRS, respond right away to the name and phone number printed on the IRS notice or letter.

If your tax records are not currently affected by identity theft but you think you are at risk due to a lost or stolen purse or wallet, questionable credit card activity or credit report, contact the IRS Identity Theft Hotline at 1-800-908-4490 or submit Form 14039.

For more information, see Publication 4535, Identity Theft Prevention and Victim Assistance.

Victims of identity theft who are experiencing economic harm or a system problem, or are seeking help in resolving tax problems that have not been resolved through normal channels, may be eligible for Taxpayer Advocate Service (TAS) assistance. You can reach TAS by calling the TAS toll-free case intake line at 1-877-777-4778 or TTY/TDD 1-800-829-4059.

Protect yourself from suspicious emails or phishing schemes. Phishing is the creation and use of email and websites designed to mimic legitimate business emails and websites. The most common act is sending an email to a user falsely claiming to be an established legitimate enterprise in an attempt to scam the user into surrendering private information that will be used for identity theft.

The IRS does not initiate contacts with taxpayers via emails. Also, the IRS does not request personal detailed information through email or ask taxpayers for the PIN numbers, passwords, or similar secret access information for their credit card, bank, or other financial accounts.

If you receive an unsolicited email claiming to be from the IRS, forward this message to phishing@irs.gov. You may also report misuse of the IRS name, logo, or other IRS property to the Treasury Inspector General for Tax Administration (TIGTA) at 1-800-366-4484. You can forward suspicious emails to the Federal Trade Commission at: spam@uce.gov or contact them at www.ftc.gov/idtheft or 1-877-IDTHEFT (1-877-438-4338).

Visit IRS.gov to learn more about identity theft and how to reduce your risk.

Privacy Act Notice

Section 6109 of the Internal Revenue Code requires you to provide your correct TIN to persons (including federal agencies) who are required to file information returns with the IRS to report interest, dividends, or certain other income paid to you; mortgage interest you paid; the acquisition or abandonment of secured property; the cancellation of debt; or contributions you made to an IRA, Archer MSA, or HSA. The person collecting this form uses the information on the form to file information returns with the IRS, reporting the above information. Routine uses of this information include giving it to the Department of Justice for civil and criminal litigation and to cities, states, the District of Columbia, and U.S. commonwealths and possessions for use in administering their laws. The information also may be disclosed to other countries under a treaty, to federal and state agencies to enforce civil and criminal laws, or to federal law enforcement and intelligence agencies to combat terrorism. You must provide your TIN whether or not you are required to file a tax return. Under section 3406, payers must generally withhold a percentage of taxable interest, dividend, and certain other payments to a payee who does not give a TIN to the payer. Certain penalties may also apply for providing false or fraudulent information.



COUNTY PURCHASING AGENT Fort Bend County, Texas

Debbie Kaminski, CPPB
County Purchasing Agent

Office (281) 341-8640

NO BID/PROPOSAL/QUALIFICATIONS FORM

Bid/RFP/RFQ Number: _____

Vendor's not responding to this solicitation are requested to complete and submit this form to:
Jessica.Carabajal@fortbendcountytexas.gov

Please provide your purpose for not responding to this solicitation.

Do not provide this type of product. Please remove us from your notification list for this solicitation.

Cannot supply item/service by the delivery/completion date.

Not equipped to complete this project.

Not within the scope of our expertise.

Can supply item, but it is not competitive.

Project size is too large.

Project size is too small.

Not enough time to respond to this solicitation.

Unable to obtain required insurance.

Unable to obtain required bonding.

Do not desire to remain on your notification list.

Not interested in this type of project. Explain:

Cannot comply with specifications. Explain:

Other: <input type="text"/>

Please complete the below information:

Company Name:	<input type="text"/>
Mailing Address:	<input type="text"/>
Physical Address:	<input type="text"/>
City:	<input type="text"/>
State:	<input type="text"/>
Zipcode:	<input type="text"/>
Name of Signatory:	<input type="text"/>
Title of Signatory:	<input type="text"/>
Signature:	<input type="text"/>

BUY AMERICA CERTIFICATION

Instructions:

Bidder to complete the Buy America Certification listed below. Bidder shall certify EITHER COMPLIANCE OR NON-COMPLIANCE (not both). This Certification MUST BE submitted with the Bidder's bid response.

Certification requirement for procurement of steel, iron, or manufactured products (required for contracts over \$150,000).

Certificate of Compliance with 49 U.S.C. 5323(j)(1)

The bidder or offeror hereby certifies that it **will meet** the requirements of 49 U.S.C. 5323(j)(1) and the applicable regulations in 49 CFR Part 661 and any amendments thereto.

Signature _____

Company Name _____

Title _____

Date _____

Certificate of Non-Compliance with 49 U.S.C. 5323(j)(1)

The bidder or offeror hereby certifies that it **cannot comply** with the requirements of 49 U.S.C. 5323(j)(1) and 49 C.F.R. 661.5, but it may qualify for an exception pursuant to 49 U.S.C. 5323(j)(2)(A), 5323(j)(2)(B), or 5323(j)(2)(D), and 49 C.F.R. 661.7.

Signature _____

Company Name _____

Title _____

Date _____

Special Note: Make sure you have signed only one of the above statements -- either Compliance OR Non-Compliance (not both).

**CERTIFICATION REGARDING GOVERNMENT-WIDE DEBARMENT AND
SUSPENSION (NONPROCUREMENT)**

This contract is a covered transaction for purposes of 49 CFR Part 29. As such, the Bidder/Offeror is required to verify that none of the contractor, its principals, as defined at 49 CFR 29.995, or affiliates, as defined at 49 CFR 29.905, are excluded or disqualified as defined at 49 CFR 29.940 and 29.945.

The Bidder/Offeror is required to comply with 49 CFR 29, Subpart C and must include the requirement to comply with 49 CFR 29, Subpart C in any lower tier covered transaction it enters into.

By signing and submitting its bid or proposal, the bidder or proposer certifies as follows:

The certification in this clause is a material representation of fact relied upon by _____(agency name). If it is later determined that the bidder or proposer knowingly rendered an erroneous certification, in addition to remedies available to _____ (agency name), the Federal Government may pursue available remedies, including but not limited to suspension and/or debarment. The bidder or proposer agrees to comply with the requirements of 49 CFR 29, Subpart C while this offer is valid and throughout the period of any contract that may arise from this offer. The bidder or proposer further agrees to include a provision requiring such compliance in its lower tier covered transactions.

DATE _____

SIGNATURE _____

COMPANY _____

NAME _____

TITLE _____

Disclosure of Lobbying Activities

Complete this form to disclose lobbying activities pursuant to 31 U.S.C. 1352
(See following page for public burden disclosure)

<p>1. Type of Federal Action: a. contract _____ b. grant c. cooperative agreement d. loan e. loan guarantee f. loan insurance</p>	<p>2. Status of Federal Action: a. bid/offer/application _____ b. initial award c. post-award</p>	<p>3. Report Type: a. initial filing _____ b. material change</p> <p>For material change only: Year _____ quarter _____ Date of last report _____</p>
<p>4. Name and Address of Reporting Entity: _____ Prime _____ Subawardee Tier _____, if Known:</p> <p>Congressional District, if known:</p>	<p>5. If Reporting Entity in No. 4 is Subawardee, Enter Name and Address of Prime:</p> <p>Congressional District, if known:</p>	
<p>6. Federal Department/Agency:</p>	<p>7. Federal Program Name/Description:</p> <p>CFDA Number, if applicable: _____</p>	
<p>8. Federal Action Number, if known:</p>	<p>9. Award Amount, if known: \$ _____</p>	
<p>10. a. Name and Address of Lobbying Registrant <i>(if individual, last name, first name, MI):</i></p>	<p>b. Individuals Performing Services <i>(including address if different from No. 10a)</i> <i>(last name, first name, MI):</i></p>	
<p>11. Information requested through this form is authorized by title 31 U.S.C. section 1352. This disclosure of lobbying activities is a material representation of fact upon which reliance was placed by the tier above when this transaction was made or entered into. This disclosure is required pursuant to 31 U.S.C. 1352. This information will be reported to the Congress semi-annually and will be available for public inspection. Any person who fails to file the required disclosure shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.</p>	<p>Signature: _____</p> <p>Print Name: _____</p> <p>Title: _____</p> <p>Telephone No.: _____ Date: _____</p>	
<p>Federal Use Only</p>	<p>Authorized for Local Reproduction Standard Form - LLL (Rev. 7-97)</p>	

INSTRUCTIONS FOR COMPLETION OF SF-LLL, DISCLOSURE OF LOBBYING ACTIVITIES

This disclosure form shall be completed by the reporting entity, whether subawardee or prime Federal recipient, at the initiation or receipt of a covered Federal action, or a material change to a previous filing, pursuant to title 31 U.S.C. section 1352. The filing of a form is required for each payment or agreement to make payment to any lobbying entity 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 a covered Federal action. Complete all items that apply for both the initial filing and material change report. Refer to the implementing guidance published by the Office of Management and Budget for additional information.

1. Identify the type of covered Federal action for which lobbying activity is and/or has been secured to influence the outcome of a covered Federal action.
2. Identify the status of the covered Federal action.
3. Identify the appropriate classification of this report. If this is a followup report caused by a material change to the information previously reported, enter the year and quarter in which the change occurred. Enter the date of the last previously submitted report by this reporting entity for this covered Federal action.
4. Enter the full name, address, city, State and zip code of the reporting entity. Include Congressional District, if known. Check the appropriate classification of the reporting entity that designates if it is, or expects to be, a prime or subaward recipient. Identify the tier of the subawardee, e.g., the first subawardee of the prime is the 1st tier. Subawards include but are not limited to subcontracts, subgrants and contract awards under grants.
5. If the organization filing the report in item 4 checks "Subawardee," then enter the full name, address, city, State and zip code of the prime Federal recipient. Include Congressional District, if known.
6. Enter the name of the federal agency making the award or loan commitment. Include at least one organizational level below agency name, if known. For example, Department of Transportation, United States Coast Guard.
7. Enter the Federal program name or description for the covered Federal action (item 1). If known, enter the full Catalog of Federal Domestic Assistance (CFDA) number for grants, cooperative agreements, loans, and loan commitments.
8. Enter the most appropriate Federal identifying number available for the Federal action identified in item 1 (e.g., Request for Proposal (RFP) number; Invitations for Bid (IFB) number; grant announcement number; the contract, grant, or loan award number; the application/proposal control number assigned by the Federal agency). Included prefixes, e.g., "RFP-DE-90-001."
9. For a covered Federal action where there has been an award or loan commitment by the Federal agency, enter the Federal amount of the award/loan commitment for the prime entity identified in item 4 or 5.
10. (a) Enter the full name, address, city, State and zip code of the lobbying registrant under the Lobbying Disclosure Act of 1995 engaged by the reporting entity identified in item 4 to influence the covered Federal action.

(b) Enter the full names of the individual(s) performing services, and include full address if different from 10(a). Enter Last Name, First Name, and Middle Initial (MI).
11. The certifying official shall sign and date the form, print his/her name, title, and telephone number.

According to the Paperwork Reduction Act, as amended, no persons are required to respond to a collection of information unless it displays a valid OMB control Number. The valid OMB control number for this information collection is OMB No. 0348-0046. Public reporting burden for this collection of information is estimated to average 10 minutes per response, including 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 the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to the Office of Management and Budget, Paperwork Reduction Project (0348-0046), Washington, DC 20503



FORT BEND COUNTY PUBLIC TRANSPORTATION
Intent to Perform as a DBE Contractor/DBE Subcontractor
IFB/RFP/SOQ #

Note: In accordance with 49 CFR (Code of Federal Regulations) Part 26, DBE firms participating in Fort Bend County's DBE Program must have "current" certification status with a TUCP Certifying Agency by the due date established for this IFB/RFP/SOQ.

1. TO: (name of Offeror/Prime Contractor)
2. The undersigned is either currently certified under the Texas Unified Certification Program (TUCP) as a DBE or will be at the time this solicitation is due. due and asserts that said qualification is met with the ethnic code _____.

Ethnic Code: A) African-American Male B) African-American Female C) Asian-Indian Male D)Asian-Indian Female
 E) Asian-Pacific Male G) Asian-Pacific Female H) Hispanic Male I) Hispanic Female J) Native American Male
 K) Native American Female L) White Female M) Other

3. The undersigned is prepared to perform the following described work with their own workforce and/or supply the material listed in connection with the above project (where applicable specify "supply" or "install" or both):

and at the following price \$ _____ and/or _____ % of the total contract amount (should be the same \$ or % found on Subcontractor Participation Form).

With respect to the proposed subcontract described above, the undersigned DBE anticipates that _____% of the dollar value of this subcontract will be sublet and/or awarded to other contractors. Any and all subcontractors that a DBE subcontractor uses must also be listed on the Subcontractor Participation Form and must be DBE certified.

 (Name of DBE Firm)

 (Signature of Authorized Representative)

 (Phone Number)

 (Date Signed)

 (Name of Offeror/Prime Contractor)

 (Signature of Authorized Representative)

 (Phone Number)

 (Date Signed)



Consolidated Certification Form

Form PTN-130
(Rev. 4/19)
Page 1 of 7

I. GENERAL:

The undersigned vendor certifies to abide by these clauses and include the following clauses in each subcontract financed in whole or in part with Federal Transit Administration (FTA) funds. Vendors are certifying by reference the entire list of FTA's current fiscal year Certifications and Assurances (for fiscal year: **2019**), and shall download the same at:

<https://www.transit.dot.gov/funding/grantee-resources/certifications-and-assurances/certifications-assurances>

A. Access to Third Party Contract Records (ALL)

As required by 49 U.S.C. § 5325(g). The VENDOR agrees provide sufficient access to records as needed to assure proper project management and compliance with Federal laws and regulations.

B. Interest of Members of or Delegates to Congress (ALL)

The vendor certifies that no member of or delegate to the Congress of the United States (US) shall be admitted to any share or part of this contract or to any benefit arising therefrom.

C. Prohibited Interest (ALL)

The vendor certifies that no member, officer or employee of the Public Body or of a local public body during his or her tenure or one year thereafter shall have any interest, direct or indirect, in this contract or the proceeds thereof.

D. Cargo Preference - Use of United States-Flag Vessels (property transported on ocean vessels)

The vendor agrees: a. to use privately owned US -Flag commercial vessels to ship at least 50 percent of the gross tonnage (computed separately for dry bulk carriers, dry cargo liners, and tankers) involved, whenever shipping any equipment, material or commodities pursuant to the underlying contract to the extent such vessels are available at fair and reasonable rates for US-Flag commercial vessels; b. to furnish within 20 working days following the date of loading for shipments originating within the US or within 30 working days following the date of loading for shipments originating outside the US, a legible copy of a rated, "on-board" commercial ocean bill-of-lading in English for each shipment of cargo to the Division of National Cargo, Office of Market Development, Maritime Administration, Washington, DC 20590 and to the FTA recipient (through the contractor in the case of a subcontractor's bill-of-lading).

E. Energy Conservation (ALL)

The vendor agrees to comply with 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.

F. No Obligation by the Federal Government. (ALL)

The Purchaser and vendor acknowledge and agree that, notwithstanding any concurrence by the Federal Government in or approval of the solicitation or award of the underlying contract, absent the express written consent by the Federal Government, the Federal Government is not a party to this contract and shall not be subject to any obligations or liabilities to the Purchaser, Contractor or any other party (whether or not a party to that contract) pertaining to any matter resulting from the underlying contract).

G. Program Fraud and False or Fraudulent Statements or Related Acts (ALL)

The vendor acknowledges that the provisions of the Program Fraud Civil Remedies Act of 1986, as amended, 31 U.S.C. §3801 et seq. and U.S. DOT regulations, "Program Fraud Civil Remedies," 49 C.F.R. Part 31, apply to its actions pertaining to this project. The vendor certifies truthfulness and accuracy of any statement it makes pertaining to the FTA-assisted project. The vendor acknowledges that if it makes, or causes to be made, a false, fictitious or fraudulent claim, statement, submission or certification, the Federal Government reserves the right to impose the penalties of the Program Fraud Civil Remedies Act of 1986 as deemed appropriate. The vendor acknowledges that if it makes, or causes to be made, a false, fictitious or fraudulent claim, statement submission, or certification to the Federal Government relating to the FTA-assisted project, per 49 U.S.C. §5307, the Government reserves the right to impose the penalties of 18 U.S.C. §1001 and 49 U.S.C. §5307(n)(1) on the Contractor, as deemed appropriate.

H. Contract Work Hours (all over 100K)

(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 (1) of this section, the contractor & any subcontractor responsible therefore shall be liable for unpaid wages and shall be liable to the United States for liquidated damages which shall be computed for each individual laborer, mechanic, watchman or guard employed in violation of the clause set forth in paragraph (1) of this section, in the sum of \$10 for each calendar day that an individual was required / permitted to work over 40 hours in a workweek without payment of overtime wages required by the clause in paragraph (1) of this section.

(3) **Withholding for unpaid wages and liquidated damages** - The purchaser shall upon its own action or upon written request of the Department of Labor (DOL) withhold or cause to be withheld, from any money payable for work performed by the contractor or subcontractor under any contract or 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 to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as set-forth in paragraph (2) of this section.

(4) **Subcontracts** - The contractor or subcontractor shall include the clauses set forth in this section and require the same from 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 these clauses.

(5) **Payrolls and basic records** - Payrolls and related basic records shall be maintained by the contractor during the course of the work and preserved for three years thereafter for all laborers and mechanics working at the work site (or under the United States Housing Act of 1937 or 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 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 showing that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, that the plan or program has been communicated in writing to the laborers or mechanics affected, and records of the costs anticipated or actual costs incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of registration of apprenticeship programs, certification of trainee programs, registration of the apprentices and trainees, and ratios & wage rates prescribed in applicable programs.

I. Civil Rights (over 10K)

(1) **Nondiscrimination** - In accordance with Title VI of the Civil Rights Act (CRA), as amended, 42 U.S.C. §2000d, section 303 of the Age Discrimination Act of 1975, as amended, 42 U.S.C. §6102, section 202 of the Americans with Disabilities Act of 1990, 42 U.S.C. §12132, and Federal transit law at 49 U.S.C. §5332, the vendor agrees that it will not discriminate against any employee or applicant for employment because of race, color, creed, national origin, sex, age, or disability. In addition, the vendor agrees to comply with applicable Federal implementing regulations and other implementing requirements FTA may issue.

(2) **Equal Employment Opportunity** - The following equal employment opportunity requirements apply:

(a) **Race, Color, Creed, National Origin, Sex** - In accordance with Title VI of the CRA, as amended, 42 U.S.C. §2000e, and Federal transit laws at 49 U.S.C. §5332, the vendor agrees to comply with all applicable equal employment opportunity requirements of U.S. DOL regulations, "Office of Federal Contract Compliance Programs, Equal Employment Opportunity, DOL," 41 C.F.R. Parts 60 et seq., (which implement Executive Order No. 11246, "Equal Employment Opportunity," as amended by Executive Order No. 11375, "Amending Executive Order 11246 Relating to Equal Employment Opportunity," 42 U.S.C. §2000e note), and with any applicable Federal statutes, executive orders, regulations and Federal policies that may in the future affect construction activities undertaken in the course of the Project. The vendor agrees to take affirmative action to ensure that applicants are employed & treated during employment without regard to their race, color, creed, national origin, sex or age. Action shall include but not be limited to employment, upgrading, demotion, transfer, recruitment, layoff, termination, rates of pay or other forms of compensation; and selection for training, including apprenticeship. The vendor agrees to comply with any implementing requirements FTA may issue.

(b) **Age** - In accordance with section 4 of the Age Discrimination in Employment Act of 1967 (29 U.S.C. §§623 and 49 U.S.C. §5332), the vendor agrees to refrain from discrimination against present and prospective employees for reason of age. and comply with any implementing requirements FTA may issue.

(c) Disabilities - In accordance with section 102 of the Americans with Disabilities Act (42 U.S.C. §12112), the contractor agrees to comply with the requirements of U.S. Equal Employment Opportunity Commission, "Regulations to Implement the Equal Employment Provisions of the Americans with Disabilities Act," 29 C.F.R. Part 1630, pertaining to employment of persons with disabilities. and to comply with any implementing requirements FTA may issue.

J. Incorporation of Federal Transit Administration (FTA) Terms (ALL)

The preceding provisions include, in part, certain Standard Terms and Conditions required by DOT, whether or not expressly set forth in the preceding contract provisions. All contractual provisions required by DOT, as set forth in FTA circular 4220.1F are hereby incorporated by reference. Anything to the contrary herein notwithstanding, all FTA mandated terms shall be deemed to control in the event of a conflict with other provisions contained in this Agreement. The Contractor shall not perform any act, fail to perform any act, or refuse to comply with any transit agency requests which would cause the transit agency to violate FTA terms and conditions.

K. Application of Federal, State, & Local Laws, Regulations, & Directives (Federal Changes) (ALL)

The VENDOR agrees that Federal laws and regulations control project award and implementation. The VENDOR understands and agrees that unless the recipient requests FTA approval in writing, the VENDOR may incur a violation of Federal laws or regulations or this agreement if it implements an alternative procedure or course of action not approved by FTA. The VENDOR understands and agrees that Federal laws, regulations, and directives applicable on the date on which Federal assistance is awarded may be modified from time to time. In particular, new Federal laws, regulations, and directives may become effective after the date the project agreement is effective, and might apply to that project agreement. The VENDOR agrees that the most recent versions of such Federal laws, regulations, and directives will apply to the administration of the project at any particular time.

L. Right of the State Government to Terminate (ALL)

Upon written notice, the VENDOR agrees that the State Government may suspend or terminate all or any part of State assistance if terms of the project agreement are violated, if the State Government determines that the purposes of the laws authorizing the Project would not be adequately served by the continuation of State assistance for the Project., if reasonable progress on the Project is not made, if there is a violation of the project agreement that endangers substantial performance of the Project, or if the State Government determines that State assistance has been willfully misused by failing to make appropriate use of Project property. Termination of State assistance for the Project will not typically invalidate obligations properly incurred before the termination date to the extent those obligations cannot be canceled. The State Government reserves the right to require the refund of the entire amount of State assistance provided for the Project or a lesser amount.

M. Disputes, Breaches, Defaults, or Other Litigation (over 150K)

The VENDOR agrees that FTA has a vested interest in the settlement of any dispute, breach, default, or litigation involving the Project. Accordingly:

a. **Notification to FTA.** The VENDOR is aware that recipients of Federal assistance must notify FTA in writing of any current or prospective major dispute, breach, default, or litigation that may affect the Federal Government's interests in the Project or the administration or enforcement of Federal laws or regulations. If the Federal Government is to be named as a party to litigation for any reason, in any forum, the appropriate FTA Regional Counsel is to be notified in writing before doing so.

b. **Federal Interest in Recovery.** The VENDOR is aware that the Federal Government retains the right to a proportionate share, based on the percentage of the Federal share awarded for the Project, of proceeds derived from any third party recovery.

c. **Enforcement.** The VENDOR agrees to pursue its legal rights and remedies available under any third party contract or available under law or regulations.

d. **FTA Concurrence.** The VENDOR is aware that FTA reserves the right to concur in any compromise or settlement of any claim involving the Project.

e. **Alternative Dispute Resolution.** The VENDOR is aware that FTA encourages the use of alternative dispute resolution procedures, as may be appropriate.

f. **Agency Process.**

Transit agency enters dispute resolution process here.

N. Fly America (foreign air transport or travel)

The Contractor agrees to comply with 49 U.S.C. 40118 (the "Fly America" Act) in accordance with the General Services Administration's regulations at 41 CFR Part 301-10, which provide that recipients and subrecipients of Federal funds and their contractors are required to use U.S. Flag air carriers for U.S. Government-financed international air travel and transportation of personal effects or property, to the extent such service is available, unless travel by foreign air carrier is a matter of necessity, as defined by the Fly America Act. The Contractor shall submit, if a foreign air carrier was used, an appropriate certification or memorandum adequately explaining why service by a U.S. flag air carrier was not available or why it was necessary to use a foreign air carrier and shall, in any event, provide a certificate of compliance with the Fly America requirements. The Contractor agrees to include the requirements of this section in all subcontracts that may involve international air transportation.

O. Recycled Products (all products)

The contractor agrees to comply with all the requirements of Section 6002 of the Resource Conservation and Recovery Act (RCRA), as amended (42 U.S.C. 6962), including but not limited to the 40 CFR Part 247, and Executive Order 12873, as they apply to the procurement of the items designated in Subpart B of 40 CFR 247.

P. Access for Individuals with Disabilities (ALL)

The VENDOR agrees to comply with 49 U.S.C. § 5301(d), which states the Federal policy that elderly individuals and individuals with disabilities have the same right as other individuals to use public transportation services and facilities, and that special efforts shall be made in planning and designing those services and facilities to implement transportation accessibility rights for elderly individuals and individuals with disabilities. The VENDOR also agrees to comply with all applicable provisions of section 504 of the Rehabilitation Act of 1973, as amended, with 29 U.S.C. § 794, which prohibits discrimination on the basis of disability; with the Americans with Disabilities Act of 1990 (ADA), as amended, 42 U.S.C. §§ 12101 *et seq.*, which requires that accessible facilities and services be made available to individuals with disabilities; and with the Architectural Barriers Act of 1968, as amended, 42 U.S.C. §§ 4151 *et seq.*, which requires that buildings and public accommodations be accessible to individuals with disabilities; and with other laws and amendments thereto pertaining to access for individuals with disabilities that may be applicable. In addition, the VENDOR agrees to comply with applicable implementing Federal regulations any later amendments thereto, and agrees to follow applicable Federal directives except to the extent FTA approves otherwise in writing. Among those regulations and directives are: (1) U.S. DOT regulations, "Transportation Services for Individuals with Disabilities (ADA)," 49 C.F.R. Part 37; (2) U.S. DOT regulations, "Nondiscrimination on the Basis of Handicap in Programs and Activities Receiving or Benefiting from Federal Financial Assistance," 49 C.F.R. Part 27; (3) Joint U.S. Architectural and Transportation Barriers Compliance Board (U.S. ATBCB)/U.S. DOT regulations, "Americans With Disabilities (ADA) Accessibility Specifications for Transportation Vehicles," 36 C.F.R. Part 1192 and 49 C.F.R. Part 38; (4) U.S. DOJ regulations, "Nondiscrimination on the Basis of Disability in State and Local Government Services," 28 C.F.R. Part 35; (5) U.S. DOJ regulations, "Nondiscrimination on the Basis of Disability by Public Accommodations and in Commercial Facilities," 28 C.F.R. Part 36; (6) U.S. General Services Administration (U.S. GSA) regulations, "Accommodations for the Physically Handicapped," 41 C.F.R. Subpart 101-19; (7) U.S. EEOC, "Regulations to Implement the Equal Employment Provisions of the Americans with Disabilities Act," 29 C.F.R. Part 1630; (8) U.S. Federal Communications Commission regulations, "Telecommunications Relay Services and Related Customer Premises Equipment for the Hearing and Speech Disabled," 47 C.F.R. Part 64, Subpart F; (9) U.S. ATBCB regulations, "Electronic and Information Technology Accessibility Standards," 36 C.F.R. Part 1194; (10) FTA regulations, "Transportation for Elderly and Handicapped Persons," 49 C.F.R. Part 609; and (11) Federal civil rights and nondiscrimination directives implementing the foregoing Federal laws and regulations, except to the extent the Federal Government determines otherwise in writing.

Q. Debarment and Suspension (over 25K)

The vendor hereby certifies that it and its principals have not presently or within a three year period been debarred, suspended, proposed for debarment, declared ineligible or voluntarily excluded from covered transactions by any Federal agency; and the vendor hereby certifies that it and its principals have not presently or within a three-year period been convicted of or had a civil judgment rendered against them for the commission of a fraud or a criminal offense in connection with obtaining, attempting to obtain or performing a public (Federal, state or local) transaction; violation of Federal or state antitrust statutes; or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements or receiving stolen property.

R. Clean Water & Air (over 150K)

The vendor agrees to comply with all applicable standards, orders or regulations issued pursuant to the Federal Water Pollution Control Act, as amended, 33 U.S.C. 1251 et seq. The vendor agrees to comply with all applicable standards, orders or regulations issued pursuant to the Clean Air Act, as amended, 42 U.S.C. §§7401 et seq. The vendor agrees to report each violation to the Purchaser and understands and agrees that the Purchaser will, in turn, report each violation as required to assure notification to the FTA and the EPA.

S. Non-Lobbying (over 150K)

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 any officer or employee of an agency, a member of Congress, an officer or employee 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, an officer or employee of Congress, or an employee of 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 subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements and that all subrecipients 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, USC. 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.

T. Lobbying and Disclosure Certification

Name of Company	Printed Name of Person Completing Form
Date	Signature

U. CERTIFICATION TO PURCHASER:

- A. The undersigned vendor certifies that the manufactured good(s) furnished will meet or exceed the specifications, and/or that services rendered will comply with the terms of the solicitation or contract.
- B. The undersigned vendor certifies that it has read all of the bid, proposal, or contract documents and agrees to abide by the terms, certifications, and conditions thereof.

Name of Company	Address	
	Printed Name of Person Completing Form	
Telephone	Signature	
Date	SS# or Tax ID #	
Description of Commodity or Service		
Disadvantaged Business Enterprise Information	Type of Organization (circle)	
	<input type="checkbox"/> Sole Proprietorship	<input type="checkbox"/> General Proprietorship
Is your firm a DBE? <input type="checkbox"/> (yes) <input type="checkbox"/> (no)	<input type="checkbox"/> Corporation	<input type="checkbox"/> Limited Partnership
If yes, what type?	<input type="checkbox"/> Limited Proprietorship	

V. Disadvantaged Business Enterprises (DBE) Certification (Transit Vehicle Manufacturer or TVM)

The vendor will provide products compliant with 49 CFR 26.49 regarding the vehicle manufacturer's overall DBE goal.

Name of manufacturer of vehicle(s) to be delivered: _____

W. Disadvantage Business Enterprise (DBE) Race-Neutral Required Clauses (Non-TVM):

The DBE rules set forth in 49 CFR Part 26 apply to all contracts funded in whole or in part with Federal DOT funds. Contracts and subcontracts must contain the clauses listed in 49 CFR 26.13 and 49 CFR 26.29. Sub-recipients with contracts that contain a DBE goal must coordinate with their PTC in order to ensure solicitations and contracts comply with DBE requirements.

49 CFR 26.13 -- What assurances must recipients and contractors make?

Each contract you sign with a contractor (and each subcontract the prime contractor signs with a subcontractor) must include the following assurance:

The contractor, sub recipient or subcontractor 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 49 CFR part 26 in the award and administration of DOT-assisted contracts. 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 such other remedy as the recipient deems appropriate, which may include, but is not limited to:

- (1) Withholding monthly progress payments;
- (2) Assessing sanctions;
- (3) Liquidated damages; and/or
- (4) Disqualifying the contractor from future bidding as non-responsible."

49 CFR 26.29 -- What Prompt Payment Mechanisms Must Recipients Have?

Grantees must establish a contract clause requiring prime contractors to pay subcontractors for satisfactory performance no later than 30 days from receipt of each payment the grantee makes to the prime contractor. This clause must require the prompt return of retainage payments from the prime contractor to the subcontractor within 30 days after the subcontractor's work is satisfactorily completed. For more information on these please review 49 CFR 26.29 and the FTA Best Practice Procurement Manual.

X. Altoona Test Certification (for rolling stock purchases) (Check one of the following):

- The vehicle has been Altoona tested, report number: _____
- The vehicle is exempt from testing IAW 49 CFR 665.
- The vehicle is currently being tested at Altoona.

Funds will not be released until the purchasing agency gets a copy of the Altoona test report, as appropriate, per 49 CFR 665.

Y. **Federal Motor Vehicle Safety Standards (FMVSS) Certification (for rolling stock purchases)**

Any vehicles provided by the vendor will comply with all applicable FMVSS. The vendor shall submit 1) manufacturer's FMVSS self-certification sticker information that the vehicle complies with relevant FMVSS or 2) manufacturer's certified statement that the contracted buses will not be subject to FMVSS regulations.

FMVSS Certification

Name of Company	Printed Name of Person Completing Form
Date	Signature

Z. Buy America (Check where applicable): (over \$150K rolling stock, construction, materials)

- The vendor or offeror hereby certifies it will comply with the requirements of 49 USC 5323(j) and the applicable regulations in 49 CFR 661, providing Buy America compliant manufactured goods or rolling stock.
- The vendor or offeror cannot comply with the requirements 49 USC 5323(j), but may qualify for an exception to the requirement pursuant to the regulations in 49 CFR 661.

Buy America Certification

Name of Company	Printed Name of Person Completing Form
Date	Signature

II. **SPECIAL PROJECT TYPE PROVISIONS - the following addenda are attached and endorsed as appropriate:**

- A. Construction or Architectural & Engineering Projects
- B. Transit Operations or Management Projects
- C. Intelligent Transportation System or Research & Development



Attachment G.
**FORT BEND COUNTY PUBLIC TRANSPORTATION
 SUBCONTRACTOR PARTICIPATION**

Instructions: The Offeror shall complete this form by listing 1) Names of all proposed subcontractors. 2) Contact information, 3) Description of work to be performed/product to be provided, 4) Status as a DBE or non-DBE, 5) % or \$ amount of Total Contract. Those subcontractors which are listed on this form as DBEs must have current certification as a DBE with a participating TUCP certifying agency. The DBE certification must be complete by the time the proposals are submitted. Additionally, those subcontractors which are listed on this form as DBEs must complete an Intent to Perform as a DBE Subcontractor agreeing to the information listed here.

Name of Prime Contractor (Offeror): _____

Project Name: _____

IFB/RFP/SOQ Number: _____

1) Name of Subcontractor	2) Address, Telephone Number (Including name of contact person)	3) Description of Work, Services Provided. Where applicable, specify "Supply" or "Install" or both.	4) DBE or non- DBE	5) % or \$ amount of Total Contract

This schedule must be completed as instructed above and include every subcontractor proposed on this project.

The undersigned will enter into a formal agreement with DBE contractors for work listed in this schedule upon execution of a contract with Fort Bend County Public Transportation. The contractor agrees to the terms of this schedule by signing below and submitting the Intent to Perform as completed by the DBE subcontractors. If you are a DBE contractor, you also certify that no more than 70% of the work for this project will be subcontracted.

 Signature of Authorized Representative of Offeror

 Date Signed

CONTRACTOR PAYMENT REPORT

**Fort Bend County
Public Transportation
12550 Emily Court, #400
Sugar Land, Texas 77478
Phone 281-633-7433
Fax 281-243-6715**

1. Contract Number	2. Invoice Number
3. Reporting Period & Invoice Date	4. Invoice Amount \$

**Please Return Completed
Form with Invoice to:
Theresa.Tiemann@
fortbendcountytx.gov**

All prime contractors are required to complete and submit this report as specified in the contract, or as requested, until final payment of the contract. Failure to comply with Fort Bend County's Disadvantaged Business Enterprise (DBE) provisions may result in delayed payment by Fort Bend County Public Transportation in accordance with the procedures set forth in Fort Bend County's DBE Program. **This report must be submitted with each invoice.** Instructions for completing this report can be found on the following page.

5. Contractor's Name	6. Contact Person	7. Address	8. Phone Number
9. Date of Contract Award	10. Scheduled Date of Completion	11. Original Contract Amount	12. Amended Contract Amount
		\$	\$
13. Total Amount Received to Date	14. Remaining Amount Owed	15. Committed DBE %	16. % Actual DBE Participation to Date
\$	\$		

17. Name of each Subcontractor that this Invoice applies to	18. DBE or Non-DBE	19. Description of Work	20. Invoice Number	21. Invoice Date	22. \$ Amount of Invoice	23. Subcontract Dollars \$	24. \$ Amount Paid to Date	25. % Paid to Date

By completing this form, the contractor acknowledges Fort Bend County's prompt payment policy which requires the contractor to pay all subcontractors within 30 days of receiving payment from Fort Bend County.

Authorized Signature	Date	Printed Name and Title

FORT BEND COUNTY PUBLIC TRANSPORTATION INSTRUCTIONS FOR COMPLETING THE CONTRACTOR PAYMENT REPORT

The Contractor Payment Report is to be filled out by the contractor and submitted with each invoice that the contractor submits to Fort Bend County Public Transportation. Please follow the instructions below, which correspond to each item on the report.

<p>1. <u>Contract Number</u> Fill in the Contract # assigned to your project by Fort Bend County.</p> <p>2. <u>Invoice Number</u> Fill in the Invoice Number that corresponds with this report.</p> <p>3. <u>Reporting Period & Invoice Date</u> Fill in the period of time your invoice covers (period of time for which you are invoicing), and the Invoice Date.</p> <p>4. <u>Invoice Amount</u> Fill in the amount of the Invoice.</p> <p>5. <u>Contractor's Name</u> Fill in your company's name.</p> <p>6. <u>Contact Person</u> Fill in the first and last name of the person completing the report.</p> <p>7. <u>Address</u> Fill in your company's address.</p> <p>8. <u>Phone Number</u> Fill in your company's phone number.</p> <p>9. <u>Date of Contract Award</u> Fill in the date the contract was executed by Fort Bend County.</p> <p>10. <u>Scheduled Date of Completion</u> Fill in the scheduled completion date of the contract as written.</p> <p>11. <u>Original Contract Amount</u> Fill in the dollar amount of the original contract agreed upon by your Company and Fort Bend County.</p> <p>12. <u>Amended Contract Amount (if applicable)</u> Calculate: Dollar amount of the original contract plus/minus the dollar amount agreed upon for contract modifications (if applicable). Fill in the amended amount.</p> <p>13. <u>Total Amount Received to Date</u> Fill in the dollar amount you have received to date from Fort Bend County.</p>	<p>14. <u>Remaining Amount Owed</u> Calculate: Dollar amount of the contract minus the amount paid to you to date by Fort Bend County. Enter the dollar amount.</p> <p>15. <u>Committed DBE %</u> Enter the percentage of DBE participation you committed to obtain in the contract.</p> <p>16. <u>% Actual DBE Participation to date</u> Calculate: Total combined dollar amount paid to the DBEs divided by the dollar amount received from Fort Bend County to date. Enter the percentage.</p> <p>17. <u>Name of Each Subcontractor That This Invoice Applies To</u> List the name of each subcontractor that submitted an invoice to you in this period. (Ref #3) (Use additional sheets if necessary.)</p> <p>18. <u>DBE or Non-DBE</u> Fill in accordingly.</p> <p>19. <u>Description of Work</u> Brief description of the work performed by the subcontractor</p> <p>20. <u>Invoice Number</u> Fill in the number of the invoice submitted to you by the subcontractor in this period.</p> <p>21. <u>Invoice Date</u> Fill in the date of the invoice submitted to you by the subcontractor in this period.</p> <p>22. <u>\$ Amount of Invoice</u> Enter the amount of the invoice submitted to you by the subcontractor in this period.</p> <p>23. <u>Subcontract Dollars \$</u> Enter the total committed dollar amount to the subcontractor.</p> <p>24. <u>\$ Amount Paid to Date</u> Enter the total amount you have paid the subcontractor to date.</p> <p>25. <u>% Paid to Date</u> Calculate: Dollar amount paid to the subcontractor to date divided by the amount committed to them. (Item 23 divided by Item 22). Enter the percentage.</p>
---	--

ATTACHMENT 1: VIDEO SURVEILLANCE SYSTEM SPECIFICATIONS

SECTION 1: GENERAL

1.0 OVERVIEW

- A. Fort Bend County (FBC) intends to contract with one (1) vendor to provide, install, and maintain Video Surveillance System (VSS) for the Transit Facility and future Public Transportation facilities and/or park and rides that may require VSS. Quantities states herein are estimates only. County does not guarantee purchase of all items and services as stated herein.

1.1 WORK INCLUDED

- A. For the Transit Facility, the Scope of Work shall include turnkey proposal that includes, but not limited to, all necessary parts, materials, labor, installation, software, and maintenance to properly complete the proposed project.
- B. All camera communication cabling infrastructure to include fiber optic, and Category 6 UTP network shall be provided for the Video Surveillance installing contractor, properly terminated at cameras being powered by switch POE (Cat-6) , or media converter locations where (fiber) shall terminate inside an outdoor enclosure with equal specifications as OSVP-18168 on the designated light poles, and SB-14127 on the designated gate pedestals to the designated IT/Security closet locations shown on plans.
- C. All 10AWG electrical wiring used for the low voltage powering of required fiber optic to Ethernet POE+ media converters located at pole and pedestal termination points shall be in place for the Video Surveillance contractor. The contractor will connect a power supply which meets the selected fiber optic to Ethernet POE+ media converters manufacturer specified power requirements.
- D. Fiber optic to Ethernet POE+ media controllers shall accept SFP transceivers of a type fully supported by WS-C3850-12S-S network switch manufacturer model connecting to the Video Surveillance network. Fiber to POE+ Media converters must be spec 48VDC input to meet voltage requirements at the furthest pole.
- E. The power supply must have an adjustable range of 48VDC to 52VDC, or greater. This is usually adjustable with a potentiometer. The contractor would need two of these power supplies (1) for close power and (2) for furthest distance to adjust power output accordingly for each set based on distance. (Power balance)
- F. The contractor is responsible for sealing all building envelope penetrated during installation of VSS with a method approved by FBC staff. A one year warranty is required for water intrusion to sealed areas.

1.2 QUALIFICATIONS

- A. The manufacturer shall have a minimum of five years' experience in producing IP video application software.
- B. Installers shall be trained, certified, and authorized by the Manufacturer to install, integrate, test, and commission the system.

- C. Submittal of work plan and equipment shall be approved in writing by FBC Staff prior to acceptance.
- D. Manufacturer's Qualifications: ISO 9000:2000 Registered Company

1.3 DELIVERY, STORAGE, AND HANDLING

- A. Deliver the camera(s), materials, and equipment to the site in the manufacturer's original, unopened, and undamaged container with identification labels intact.
- B. All hardware shall be stored in an environment where temperature and humidity are in the range specified by the Manufacturer.
- C. Protect camera(s), materials, and equipment during handling and installation to prevent damage.

1.4 PREPARATION

- A. The network design, configuration, low voltage configuration to and from the camera(s) shall be verified by the contractor for compatibility and performance with the camera(s) prior to the camera and system installation.
- B. Network configuration shall be tested and approved by the Contractor prior to the camera and system installation.

1.5 INSTALLERS

- A. Contractor personnel shall comply with all applicable state and local licensing requirements.
- B. Onsite Installers shall obtain product manufacturers training and certification.

1.6 INSTALLATION

- A. The Contractor shall follow all manufacturer published installation and configuration instructions and guidelines.
- B. Before the permanent installation of the system, the Contractor shall test the system in conditions simulating the final installed environment and provide a report showing successful test results.
- C. The Contractor shall protect installed equipment enclosures from damage during construction.
- D. Contractor shall follow all Manufacturer-published guidance on proper installation and configuration of the camera(s).
- E. Contractor shall at its expense arrange for an authorized manufacturer representative to verify system configuration and operation prior to acceptance from FBC Staff.
- F. Contractor shall update and have the latest firmware and software versions updated on all system components and devices prior to acceptance.
- G. Upon notification, by FBC the contractor shall provide a manufacturer trained and certified technician onsite for service warranty repairs within 24 hours for 90 days from the time of

completion acceptance. The repair should take place between the hours of 8:00 am and 5:00 pm Monday through Friday unless other arrangements are agreed in writing by Fort Bend County.

- H. Install equipment enclosures in accordance with the manufacturer's instructions. Install equipment enclosures plump, level, and square.
- I. Continuously verify that the site conditions are in agreement with the documents and the design package.
 - 1. Submit a report to the Construction Manager documenting changes to the site or conditions that affect the performance of the system to be installed.
 - 2. For those changes or conditions, which affect system installation or performance, provide (with the report) specification sheets, or written functional requirements to support the findings, and a cost estimate to correct the deficiency.
 - 3. No deficiency shall be corrected without written permission from the FBC staff.
- J. Installation on the County's facilities/locations shall not interrupt office/bus services within Fort Bend County and shall be coordinated with FBC ITS Manager and/or staff.
- K. The contractor shall clean worksite at the end of each day.

1.7 TRAINING AND SUPPORT

- A. Provide either on or off-site training on a complete and fully operational system parallel and equal to the system being provided, to representatives of the Owner.
- B. Operator training shall include, but not be limited to the following:
 - 1. Minimum of 16 hours
 - 2. System operation
 - 3. Manual and automatic camera call-up procedures
 - 4. Video matrix functionality
 - 5. NVR functionality
- C. Administrative training shall include, but not be limited to the following:
 - 1. Minimum of 24 hours
 - 2. System operation and configuration variables
 - 3. Manual and automatic camera call-up procedures
 - 4. Video matrix set up, configuration variables, and functionality
 - 5. Recording set up, configuration variables, and functionality

6. Video playback functionality

- D. The manufacturer shall provide software support and update for a period of 3-years at no additional cost to FBC.

1.8 WARRANTY AND LICENSING

- A. The manufacturer shall provide a limited 3-year warranty for manufacturer-supplied hardware to be free of defects in material and workmanship.
- B. The manufacturer shall provide a limited 3-year warranty for the software product to be free of defects in material and workmanship.
- C. The manufacturer shall provide options to extend the warranty by up to 5 years at the time of initial purchase.
- D. One year labor warranty shall be provided with the option to extend annually if needed.
- E. If any defects are found within the warranty period, the defective equipment shall be replaced at no cost to the County.
- F. Client software shall not require a license and have no limitations on a number of client users.

1.9 REPAIR AND MAINTENANCE

- A. The vendor shall have new or unused parts to perform a repair to Video Systems.
- B. The vendor shall be able to fix emergency outages within twelve (12) hours. Emergency outages are defined as those affecting 75% or more of the total operating capacity.
- C. All the medium level outages should be fixed within two (2) business days, and low-level outages should be fixed within five (5) business days. Medium outages are defined as those affecting 30-75% of the total operating capacity of a given site. Also, low outages are anything below 30% of the total operating capacity of a given site.
- D. Vendors must maintain adequate hardware inventory to replace, repair, and/or maintain each system at the time dispatched.
- E. Vendor must be prepared to provide an immediate replacement for defective equipment, to include hardware covered under the manufacturer's warranty; and shall not remove a defective unit without an immediate replacement.
- F. Software maintenance must include software upgrades, fixes, and patches.
- G. The vendor must have off-site support services via telephone or email 24 hours a day.
 - 1. A required response time regarding issues is two (2) hours.
- H. The vendor must supply a cost breakdown for maintenance fees and detail what services are included. Proposal cost/price should include the first year of maintenance. Also, include pricing for maintenance for the following three (3) years (for budgetary purposes).

1.10 CLOSEOUT DOCUMENTS

- A. Product Data
 - 1. Manufacturer's printed or electronic data sheets
 - 2. Manufacturer's installation and operation manuals
 - 3. Manufacturer's product data, including options and accessories.
 - 4. Warranty documentation
 - a. Manufacturer's Standard Warranty.
- B. Vendor must provide as-built drawings at the end of the project.

SECTION 2: IP VIDEO MANAGEMENT SYSTEM (VMS)

2.0 SUMMARY

- A. This section includes an IP Video Management System per Fort Bend County requirements.
- B. The VMS shall be a scalable Microsoft windows-based video management and surveillance system consisting of four primary components to be installed, as follows:
 - 1. A core server application to maintain the database of cameras and recording devices and to provide a web-based administrative portal to manage the video surveillance system.
 - 2. A media gateway application to route video traffic to users as requested and appropriate.
 - 3. A Client presentation application to allow users to view and manage live and recorded video.
 - 4. A storage management application server to manage the video storage resources on the network.
- C. The VMS shall allow the viewing of live streaming video in the browser interface and recorded video playback.

2.1 EQUIPMENT

- A. Manufacturer: Pelco or approved equal
- B. Model: E1-VXS-96-US-P

2.2 SYSTEM FUNCTIONS AND CAPABILITIES

- A. The VMS shall be designed for reliability through fault-tolerant, distributed architecture, and multiple levels of redundancy.
- B. The VMS shall provide an open interface that facilitates the creation and deployment of user interface plug-ins, including mapping, video information overlays, access control, and license plate recognition.

- C. Video capabilities
 - 1.Support recording of MJPEG, MPEG-4, and H.264 IP video streams.
 - 2.Support megapixel video cameras up to 28 Megapixel resolution.
 - 3.Support for ONVIF S and G profiles.
- D. Analytic capabilities integral to VMS
 - 1.Motion detection of objects that move within, enter or exit a scene triggering an event.
 - 2.Alarm detection of physical alarms from cameras within the system, triggering an event.
 - 3.Analytical detection of events from Pelco or approved equal camera(s)
- E. Each VMS component shall operate on standard commercial off-the-shelf (COTS) hardware.
- F. VMS software updates shall be downloadable from a publicly available website.
- G. The VMS shall indicate system performance and operation status utilizing a variety of reports, including CSV and pdf formats.
- H. The video must have the capability to be viewed off-site via a web interface, IOS, or Android App to access live video or pull recorded videos from up to 500 cameras.

2.3 CORE SERVER APPLICATION

- A. The core server application shall have central management responsibility, with the following functions and characteristics:
 - 1.Maintain a database of cameras and recording devices.
 - 2.Provide an administrative web interface.
 - 3.Define and administer level user accounts, their associated roles, and permissions for the system functions and devices users can access.
 - 4.Support LDAP to associate users in a Microsoft active directory with a user and role within the system.
 - 5.Provide basic access to video streaming resources, ensuring that users with appropriate permissions can view video from the system with installed video client software.
 - 6.Supports audio associations with video devices, ensuring that users with appropriate permissions can listen to audio associated with video within the Ops center application.
 - 7.Continually search the network for relevant devices.
 - 8.Assign resources to video recording pools.

9. Store videos that operators elect to export from network storage devices for safekeeping, supporting the storage of video clips relevant to an investigation independent of standard recording devices.
10. Create and assign “tags” to efficiently organize cameras and devices within the system.
11. Configure and respond to events within the system.
12. Download reports from the system in CSV format contained within a ZIP archive.
13. Perform daily backup at a specified time.
14. Stores exported video or allow the user to export video to an external location for safekeeping.
15. Have the capability to store the videos for at least 30 days.
16. Deployment options:
 - a. Independent core server working with an independent media gateway application server to provide systems functions.
 - b. The combined single server also hosting the media gateway application distributed cluster to provide fault tolerance, scalability, and load balancing.

B. Hardware Requirements

1. Processor: Intel Xeon E3-1275 v6
2. Operating System: Microsoft Windows 2012 Server or later
3. RAM: 32 GB DDR RAM ECC
4. SSD Storage: 480 GB
5. HDD: 24 TB
6. Video
 - a. Graphics: Intel HD Graphics P47400 or later
 - b. Outputs:
 - i. Display Port (2)
 - ii. DVI-D
 - iii. VGA
 - c. Resolution Capability:
 - i. Display Port: 3840 x 2160 @ 60 HZ
 - ii. DVI-D, VGA: 1920 x 1200 @ 60 HZ
 - d. Acceptable Web Browsers:
 - e. Windows OS: Internet Explorer 8.0 (or later)
 - f. Mac OS: Firefox 3.5 (or later)
 - g. Acceptable Media Players:

- i. VideoXpert Ops Center
 - ii. Pelco/Approved Equal Media Player
 - iii. QuickTime 7.6.5 for Windows 7 or later
 - iv. QuickTime 7.6.4 for Mac OS X 10.4 (or later)
- h. USB Ports:
 - i. USB 2.0: 3
 - ii. USB 3.0: 2
 - iii. USB 3.1: 2

2.4 MEDIA GATEWAY APPLICATION

- A. Based on a successful determination by the core server application of a user's permissions, the media gateway connects the user with the appropriate camera, encoder, or recorder device.
- B. The media gateway shall be deployed within the VMS in a modular fashion to allow expansion of system capabilities or to build redundancies within the system to maximize video availability.
- C. Supports H.264 and MPEG-4 streams.
- D. Deployment options:
 - 1. Independent core server working with an independent core server application to provide systems functions
 - 2. The combined single server also hosting the core server application
 - 3. Virtual machine
- E. Hardware Requirements
 - 1. Processor: Intel Xeon E3-1275 v3
 - 2. Operating System: Microsoft Windows 2012 Server or later
 - 3. RAM: 8 GB DDR RAM ECC
 - 4. SSD Storage: 120 GB
 - 5. Video
 - a. Graphics: Intel HD Graphics P47400
 - b. Outputs:
 - i. Display Port (2)
 - ii. DVI-D
 - iii. VGA
 - c. Resolution Capability:
 - i. Display Port: 3840 x 2160 @ 60 HZ
 - ii. DVI-D, VGA: 1920 x 1200 @ 60 HZ
 - 6. USB Ports:
 - a. USB 2.0: 3
 - b. USB 3.0: 2

2.5 CLIENT PRESENTATION APPLICATION

- A. The Client presentation application shall be windows-based, providing an environment from which authorized users can watch live and recorded video on a computer in which the application has been installed.
- B. The Client shall be comprised of a central control panel, which may be hidden, working in unison with a series of windows (workspaces), each providing a tab-based experience.
- C. Workspaces and Tabs
 - 1. The Client interface shall be based upon workspaces and tabs.
 - a. A tab shall be a configurable layout populated with sources of content and plug-ins contained in cells.
 - b. A collection of one or more tabs shall constitute a workspace.
 - c. The Client shall allow configuration and recall of complete workspaces.
 - i. An operator with appropriate permissions shall be able to send a saved workspace to other clients, causing their system to launch the saved workspace.
 - d. Any layout of the video can be saved as a tab to be later recalled by an operator.
 - i. An operator with appropriate permissions shall be able to send a saved tab to other clients, causing their system to launch the saved tab.
 - e. Cells shall have the capability for system management, live view, and playback search options.
 - f. Remote Tab Push: an operator with appropriate permissions can choose to send a saved tab to one or more operators' clients, causing their system to launch the saved tab.
- D. Live View and Playback
 - 1. A list of video and audio sources which users are authorized to access shall be displayed.
 - 2. Each video source shall indicate a list of current viewers to a user with appropriate permissions.
 - 3. The Client computer shall be able to connect to an unlimited number of recorders simultaneously to display live and recorded video.
 - 4. The Client shall allow video streams to be selectable from a system tree on an individual camera, individual system, client-defined local groups, or from pre-defined recorder based groups.
 - 5. The Client shall playback audio associated with video sources for users with the correct permissions.
 - 6. Users shall be able to switch between live and recorded video on the fly seamlessly.
 - 7. For live view, cells 1/4 the size of the tab or larger will use the primary stream from a video source, and cells smaller than 1/4 the size the tab shall use the secondary video stream.

8. Pan Tilt Zoom (PTZ)

- a. Digital Zoom - An operator shall be able to digitally zoom in a video stream in live or playback mode.
- b. Optical Zoom and Pan Tilt Control: Operators shall be able to use a mouse or joystick to control PTZ cameras.

9. Playback

- a. The Client application shall enable simultaneous playback for up to nine (9) synchronized cameras.
- b. The Client application shall have the capability to playback non-synchronized cameras at one time in different cells.
- c. For viewing recorded video, cells 1/4 the size of the tab or larger shall display full- frame rate video, and cells smaller than 1/4 the size of the tab shall playback only IFrames to conserve bandwidth and processing power.
- d. When hovering over a recorded video time bar, an operator shall see a thumbnail representing the contents of the video stream at that point in time.
- e. Available playback control functions:
 - i. Date-time selection
 - ii. Synchronized playback of selected cells within a tab
 - iii. Play the video at normal speed
 - iv. Pause the video and advance one frame
 - v. Pause the video and rewind one frame
 - vi. Fast forward video at speeds up to 128x
 - vii. Rewind video at speeds up to 128x
 - viii. Rewinds video 30 seconds and initiates playback
 - ix. Forward video to live playback
 - x. Take a snapshot of the current frame
- f. Hovering over a video playback cell with a mouse shall display the playback control menu.
- g. It shall be possible to pull up recorded video through reports.

10. The user shall be able to configure a rotating sequence of cameras, allowing the application to cycle through cameras relevant to the operator without intervention.

11. The user shall be able to configure a sequence of cameras that appear on the alarm, allowing the application to cycle cameras when an event or alarm relevant to the user occurs.

E. Investigations

1. An investigation mode shall be available to provide a 2 x 2 layout with synchronized playback controls, allowing users to investigate a scene from multiple angles fully.
2. The investigation mode shall open in a new tab.
3. The investigation mode shall enable operators to synchronize video playback and export investigative playlists covering scenes of interest in forward or reverse at speeds up to 128 times normal playback.

4. Users shall be able to create playlists from multiple video clips encompassing selected scenes from an investigation.
5. Operators shall be able to save a current investigation, preserving the associated device list and any created clips for later recall.
 - a. Saved investigations shall be capable of being shared with other operators' similar tabs.
6. Operators shall be able to export individual video clips or entire playlists to the Core application, storing clips relevant to their investigation independent of the system's network video storage for evidentiary safe-keeping and quick access.

F. Export

1. An operator shall be able to create and export a JPG snapshot image of the current frame of the video in a cell.
2. The Client application shall enable video export to any system-accessible media including locally to HDD, CD/DVD, and Flash USB device or network storage.
 - a. Exported video shall be subject to checksum verification.

G. Display

1. The Client application shall have both built-in video decoding and the ability to control separate hardware video decoders, providing virtual matrix functionality.
2. The Client application shall allow multiple monitor support for up to six (6) displays per Client workstation, with the use of hardware video decoders.
3. The Client application shall allow the user to configure remote or "shared" displays, providing monitor wall functionality.
4. The Client application shall allow up to four (4) 1080p, 30 ips streams (or 120 ips total) per monitor.
5. Recommended ability to use a decoder capable of decoding:
 - a. 16X real-time MPEG-4 streams at 704 x 480/576 (NTSC/PAL)
 - b. 16X real-time H.264 Baseline streams at 704 x 480/576 (NTSC/PAL)
 - c. 8X 720p H.264 Baseline streams
 - d. 4X 1080p H.264 Baseline streams

H. Events

1. The Client application shall allow the operator to respond to events.
2. Certain events shall be configurable for acknowledgment.
 - a. Acknowledgment options:
 - i. Snooze
 - ii. in process
 - iii. acknowledged
3. Fort Bend County operators shall have the ability to derive additional information about an event from the core application.

I. Plug-ins– The Client application shall support modular plug-ins for enhanced functionality.

- 1.A mapping plug-in which enables operators to arrange and find cameras on maps.
- 2.The PlateSmart plug-in exposes license plate numbers, to track vehicles.

J. System and Device Information

1. Information management
 - a. The Client application shall provide a mechanism to create and assign.
 - b. A primary device list shall be apparent in the Client application.
 - i. The device list shall be sortable by device name or device ID.
 - ii. The device list shall be able to be filtered by the following terms:
 - 1) Simple text-based filter, matching the device name or device ID
 - 2) Tag-based filtering, showing devices matching the intersection of all assigned tags.
 - 3) Status based filtering, showing devices with a particular status.
2. User roles, as assigned by a system administrator, shall define the limits of a user's ability to access the live or recorded video and to export video and other standard Client operations.
 - a. Authorized users shall be able to share views, including window arrangements and camera selections, with other users, for purposes of collaboration.
3. When using a mouse to hover over a device in a listing, a popup shall appear with the following information:
 - a. Device state
 - b. Device name
 - c. Device ID
 - d. Thumbnail image
 - e. Associated tags
 - f. IP Address

K. Hardware Requirements

- 1.Processor: Intel Xeon E3-1275 v3
- 2.Operating System: Microsoft Windows 7 Ultimate SP3 or later
- 3.RAM: 8 GB DDR RAM ECC
- 4.SSD Storage: 120 GB
- 5.Optical Drive: DVD \pm RW
- 6.Video
 - a. Graphics: Intel HD Graphics P47400
 - b. Outputs:
 - i. Display Port (2)
 - ii. DVI-D
 - iii. VGA
 - c. Resolution Capability:
 - i. Display Port: 3840 x 2160 @ 60 HZ
 - ii. DVI-D, VGA: 1920 x 1200 @ 60 HZ

- d. Acceptable Web Browsers:
 - i. Windows OS: Internet Explorer 8.0 (or later)
 - ii. Mac OS: Firefox 3.5 (or later)
- e. Acceptable Media Players:
 - i. Pelco/Approved Equal Media Player
 - ii. QuickTime 7.6.5 for Windows 7 or later
 - iii. QuickTime 7.6.4 for Mac OS X 10.4 (or later)

7.USB Ports:

- a. USB 2.0: 3
- b. USB 3.0: 2

2.6 STORAGE MANAGEMENT APPLICATION SERVER

- A. The storage management application server shall incorporate both server functions and storage elements into a purpose-built chassis.
- B. The storage management application server shall not require removal from its rack installation when hard disk drives or power supplies must be replaced.
- C. The storage management application shall record video and audio stream from IP cameras and video encoders on the network.
 - 1.Video: H.264 in High, Main, or Base Profile streams from both standard resolution and megapixel cameras.
- D. The storage management application server shall support extension through network storage, allowing the server to preserve and extend the life of video by moving it to an external, network storage location.
- E. The storage management application server shall support failover, allowing a storage management application server to act as a hot standby for any number of other, active storage management application servers.
- F. The storage management application shall have the following further functions and characteristics:
 - 1. Employ the Windows Server 2012 or later operating system.
 - 2. Use RAID 6 parity across the storage drives to protect recorded data against a hard disk drive failure.
 - 3. Use enterprise-level hard disk drives specifically rated for operation in RAID systems.
 - 4. Employ the following redundancy features
 - a. Redundant, hot-swappable power supply modules.
 - b. Designed for online service and maintenance and cannot be removed from the rack when hard disk drives or power supplies must be replaced.
 - 5. Guaranteed recording throughput: 350 Mbps and up to 300 total cameras per storage device under normal and error (RAID rebuild) conditions.

6. Guaranteed downloading throughput: 175 Mbps per storage device under normal and error (RAID rebuild) conditions.
7. The storage server shall natively support Optera cameras any combination of cameras from third-party manufacturers supporting ONVIF Profile S.
8. Support continuous, scheduled, alarm/event (including analytic), and motion
 - a. Pre and post-alarm periods shall be configurable.
9. Support bookmarking of video content.
10. Support recording of secondary video streams.
11. Support privacy tools that allow administrators to establish maximum retention times for video.
12. Ability to report all diagnostic events, including software status diagnostics to a centralized user interface.
13. Fully manageable from a remote workstation, including the ability to configure settings and update firmware and software.
14. Capable of interfacing with a UPS using a USB connector.
 - a. The network video recorder shall receive status and control signals from the UPS when it is in backup mode, informing the operator about the amount of charge remaining and triggering a controlled shutdown when the charge becomes zero.

G. Hardware

1. System Specifications

- a. System Drive: 200 GB SSD
- b. RAID Level: RAID 6
- c. Storage : Up to 96 TB
- d. Drive Interface: SAS/SATA II
- e. Network Interface (2): Gigabit Ethernet 1000Base-T (RJ-45 connection)
- f. USB 2.0: 2 on the rear panel; 2 on the front panel
- g. USB 3.0: 2 on the rear panel

2. Electrical – Power

- a. Voltage Input: 100 to 240 VAC, 50/60 Hz, auto-ranging
- b. Power Supply: Internal, dual-redundant, hot-swappable
- c. Power Consumption: 414 W, 1.69 A, 1411 BTU/H @ 120 VAC

3. Environmental

- a. Temperature
 - i. Operating: 10° to 35°C (50° to 95°F) at unit intake
 - ii. Storage : -40° to 65°C (-40° to 149°F)
 - iii. Operating Humidity: 20% to 95%, non-condensing

4. Physical

- a. Construction: Steel and plastic cabinet

- b. Dimensions (D x W x H): 64.8 x 43.7 x 13.2 cm
(25" D x 17.2" W x 5.2" H)
- c. Unit Weight (fully equipped): 35.5 kg (78.3 lbs.)
- d. Mounting: Desktop (feet); Rack, 3 RU per unit

2.7 DECODER

- A. The HD video decoder needs to support any digital video stream on the network and allow for the decoding of up to 16 simultaneous streams from any video encoder or recorder. It shall also allow for simultaneous and independent viewing of both live and recorded video.
- B. The HD video decoder must decode H.264 in High, Main, or Base profiles, and MPEG-4 encoded video streams.
- C. The HD video decoder capability to decode up to sixteen 4CIF resolution, 30 images per second (ips) MPEG-4 encoded video streams simultaneously, or up to twelve H.264 Baseline, 4CIF resolution, 30 ips video streams simultaneously, or up to four 1080p streams at 30 ips encoded in H.264 Baseline profile. Additional streams shall be decoded minimizing the network bandwidth consumption and CPU processing requirements by automatically subscribing to a lower resolution, lower bit-rate stream from a given camera depending on current load and screen configuration.
- D. The HD video decoder will drive one high-resolution monitor through HDMI connections for displaying the video footage.
- E. Diagnostics to be systemized with other system components. Any faults shall be reported to users that have subscribed to diagnostic alarms regardless of where the user is located. In addition, the HD video decoder shall also support SNMP messages and traps and be compatible with SNMP versions 1 and 2.
- F. Hardware
 - 1. Electric-Power
 - a. Consumption
 - i. 100VAC: 121 W, 1.21 A, 413 BTU/H
 - ii. 120 VAC: 119 W, 0.99 A, 406 BTU/H
 - iii. 240 VAC: 122 W, 0.51 A, 416 BTU/H
 - iv. Power Supply: External
 - v. Power Input: 100 to 240 VAC, 50/60 Hz, auto-ranging
 - 2. Environmental
 - a. Operating Temperature: 10° to 35°C (50° to 95°F)
 - b. Operating Humidity: 20% to 80%, non-condensing
 - c. Maximum Humidity: 10% per hour
 - d. Operating Altitude: -16 to 3,048 m (-50 to 10,000 ft.)
 - e. Operating Vibration: 0.25 G at 3 Hz to 200 Hz at a sweep rate of 0.5 octave/minute
 - 3. Video
 - a. Maximum Resolution: 2560 x 1600 resolution; 60 Hz (NTSC)
50 Hz capability for PAL
 - b. Video Coding: H.264 in High, Main, or Base profiles and MPEG-4

- c. Decoding Performance: 16X real-time MPEG-4 streams at 704 x 480/576 (NTSC/PAL); 16X real-time H.264 Baseline streams at 704 x 480/576 (NTSC/PAL); 8X 720p H.264 Baseline streams; 4X 1080p H.264 Baseline streams
- d. Video: Outputs/Connector HDMI outputs (2 HDMI-to-VGA adapters supplied)
- e. Screen Configuration: On each of monitor: 1 image (1 x 1), 4 images (2 x 2), 9 images (3 x 3), 16 images (4 x 4), 6 images (1 large + 5 small), 10 images (2 large + 8 small), 13 images (1 large + 8 small); each high definition monitor (16:9 aspect ratio) can also display 6 images (3 x 2) and 12 images (4 x 3) Network
- a. Interface: Gigabit Ethernet (1000Base-T) ports (2x)

4. Front Panel

- a. Buttons: Power, configuration/reset
- b. Indicators
 - i. Unit Status Green, amber, red
 - ii. Primary Network Green, amber, red
 - iii. Secondary Network Green, amber, red
 - iv. Software Status Green, amber, red (based on diagnostics)
 - v. Hard Disk Status Green, red, off (behind bezel)

2.8 ACCESSORY SERVER

- A. The Accessory Server provides NTP services for the network. It shall act as a pass-through, getting time from an external time server, or it shall provide its own system time as the definitive time.
- B. The Accessory Server is a load balancer sufficient for networks with two CMG servers. It shall support clusters with two CMG servers in an active-failover scheme. In this scheme, both servers shall field requests, but the system will continue operating if either CMG server in the cluster fails.
- C. The Accessory server shall act as a DHCP server for devices on the network if necessary. Users can toggle DHCP functionality on or off as necessary and specify ranges of addresses.
- D. Hardware
 - 1. Electric-Power
 - a. Consumption
 - i. 100VAC: 121 W, 1.21 A, 413 BTU/H
 - ii. 120 VAC: 119 W, 0.99 A, 406 BTU/H
 - iii. 240 VAC: 122 W, 0.51 A, 416 BTU/H
 - b. Power Supply: External
 - c. Power Input: 100 to 240 VAC, 50/60 Hz, auto-ranging
 - 2. Environmental
 - a. Operating Temperature: 10° to 35°C (50° to 95°F)
 - b. Operating Humidity: 20% to 80%, non-condensing
 - c. Maximum Humidity: 10% per hour
 - d. Operating Altitude: -16 to 3,048 m (-50 to 10,000 ft.)

- e. Operating Vibration: 0.25 G at 3 Hz to 200 Hz at a sweep rate of 0.5 octave/minute
- 3.Video
- a. Maximum Resolution: 2560 x 1600 resolution; 60 Hz (NTSC): 50 Hz capability for PAL
 - b. Video Outputs/Connector: HDMI outputs (2 HDMI-to-VGA adapters supplied)
- 4.Network
- a. Interface: Gigabit Ethernet (1000Base-T) ports (2x)
- 5.Front Panel
- a. Buttons: Power, configuration/reset
- 6.Indicators
- | | |
|----------------------|--|
| a. Unit Status | Green, amber, red |
| b. Primary Network | Green, amber, red |
| c. Secondary Network | Green, amber, red |
| d. Software Status | Green, amber, red (based on diagnostics) |
| e. Hard Disk Status | Green, red, off (behind bezel) |

2.9 REFERENCE STANDARDS

- 1.Network
 - a. IEEE 802.3 Ethernet Standards
- 2.Video
 - a. ISO / IEC 14496 –10, MPEG-4 Part 10 (ITU H.264)
 - b. ISO / IEC 10918 – JPEG
 - c. ONVIF – Profile S and Profile G
- 3.Emissions
 - a. FCC-47 CFR Part 15, Class A
 - b. CE, Class A
 - c. ICES-003, Class A

SECTION 3: NETWORK DOME CAMERA

3.0 SUMMARY

- A. This section includes a network dome camera.
- B. The camera is supporting H.264 High or Main profiles; and MJPEG compression.
- C. Plan T-601 Camera ID A.

3.1.EQUIPMENT

- A. Manufacturer: Pelco or Approved Equal
- B. Model: Camera ID A: IMP121-1ES or approved equal

3.2.PRODUCT: GENERAL CAMERA SPECIFICATIONS Sarix® IMP INDOOR AND ENVIRONMENTAL MINI DOMES UP TO 5 MEGAPIXEL, H.264, IR, DAY/NIGHT IP DOMES

A. General Description

1. The network camera system shall offer two simultaneous video streams and a third service streams with up to 3 MPx, 2048 x 1536 resolution.

B. The network camera system shall possess the following primary characteristics:

1. Up to 5 megapixels (MPx) resolution
2. Up to 30 images per second (ips) at 3 MPx
3. Autofocus motorized remote zoom lens
4. Integrated adaptive IR illumination (environmental IR models)
5. Operating temperature up to 55°C (131°F)
6. Up to 64 GB edge storage with Micro SD card
7. Motion detection and camera sabotage detection
8. Power over Ethernet (PoE+) Class 4, 24 VAC (environmental models)
9. All models vandal resistant to IK10
10. PoE, 24 VAC, 12 VDC (indoor models)
11. Compatible with Pelco or approved, and third-party video systems
12. ONVIF Profile S and Profile G conformant

C. Video/Camera

1. Imaging Device

MPx	Sensor	Maximum Resolution
5 MPx	1/1.8-inch	2592 x 1944 (5.0 MPx)
3 MPx	1/2.8-inch	2048 x 1536 (3.1 MPx)
2 MPx	1/2.8-inch	1920 x 1080 (2.1 MPx)
1 MPx	1/3-inch	1280 x 960 (1.3 MPx)

2. CMOS

3. Electronic Shutter Range:

- 1/5 ~ 1/30,000 sec (1 and 5 MPx),
- 1/5 ~ 1/25,000 sec (2 MPx),
- 1/5 ~ 1/45,000 sec (3 MPx)

4. Minimum Illumination:

MPx	Sensitivity	Color	Mono
5 MPx	f/1.2	0.30 lux 0.03 lux	0.10 lux 0.02 lux
3 MPx	f/1.2	0.25 lux 0.03 lux	0.10 lux 0.02 lux
2 MPx	f/1.2	0.25 lux 0.03 lux	0.10 lux 0.02 lux
1 MPx	f/1.4	0.05 lux 0.03 lux	0.10 lux 0.02 lux

D. LENS

1. Lens Type Built-in; varifocal
2. Focal Length f/1.4, 3 ~ 10.5 mm
3. Focus Autofocus, motorized
4. Zoom Remote
5. Auto Iris Type DC drive lens
6. Field Of View:

Lens	Angle of View	1 MPx	2 MPx	3 MPx	5 MPx
3 to 10.5 mm	Diagonal	110°~ 33°	116°~ 35°	115°~ 34°	110°~ 46°
	Horizontal	85°~ 27°	100°~ 31°	88°~ 30°	88°~ 37°

Vertical 62°~ 19° 54°~ 17° 52°~ 16° 64°~ 27°

E. VIDEO

1. Video Streams: Up to 2 simultaneous streams, plus service stream; the secondary stream is variable based on the setup of the primary stream
2. Video Overlay : Camera name, time, date, and customizable text with multiple supported languages

3. Available Resolutions:

MPx	Width	Height	Aspect Ratio
5.0	2592	1944	4:3
3.1	2048	1536	4:3
2.1	1920	1080	16:9
1.2	1280	960	4:3
0.9	1280	720	16:9
0.5	800	600	4:3
0.3	640	480	4:3
0.1	320	240	4:3
0.1	320	180	16:9

4. Frame Rates

MPx	Images per Second (ips)
5 MPx	15, 12.5, 10, 7.5, 5, 3, 2, 1
3 MPx	30, 25, 20, 16.67, 15, 12.5, 10, 7.5, 5, 3, 2, 1
2 MPx	30, 25, 20, 16.67, 15, 12.5, 10, 7.5, 5, 3, 2, 1
1 MPx	30, 25, 20, 16.67, 15, 12.5, 10, 7.5, 5, 3, 2, 1

5. Video Encoding: H.264 High or Main profiles; and MJPEG
6. Bit Rate Control: Constant bit rate (CBR), constrained variable bit rate (CVBR) with configurable maximum value.
7. Corridor Mode: Electronic image flip and mirror: 180°, 90° and 270° (H.264 only)
8. Service Stream: 640 x 480 or 640 x 352; 2 ips, JPEG
9. Window Blanking: 8 configurable windows

F. NETWORK:

1. Connectivity: 100 BASE-TX Ethernet with RJ-45 connector
2. Protocols supported
 - a. Transmission Control Protocol (TCP), Internet Protocol (IP) v4 and v6, User Datagram Protocol (UDP)
 - b. Configuration: Dynamic Host Configuration Protocol (DHCP)
 - c. Web services: Hypertext Transfer Protocol (HTTP), Secure HTTP (HTTPS)
 - d. Network services: Domain Name System (DNS), Network Time Protocol (NTP), Internet Control Message Protocol (ICMP), Simple Network Management Protocol (SNMP) v2c/v3, Universal Plug and Play (UPnP)
 - e. Media: Real-Time Transport Protocol (RTP), Real-Time Streaming Protocol (RTSP)
 - f. Multicast: Internet Group Management Protocol (IGMP)
 - g. Notifications: File Transfer Protocol (FTP), Simple Mail Transfer Protocol (SMTP)
 - h. Remote Access: Secure Shell (SSH)

- i. Security: Secure Sockets Layer (SSL), IEEE 802.1x (EAP-MD5, EAP-TLS, EAP-TTLS, EAP-PEAP, and EAP-FAST)
- j. Quality of Service: IEEE 802.1p Layer 3 Differentiated Services Code Point (DSCP)
- k. DDNS – The network camera system shall support DDNS services offered by the Manufacturer and other publicly available service offerings. (DNS)

3.3 CAMERA SOFTWARE

- A. The network camera system shall have a built-in web server which supports browser-based configuration.
- B. The camera’s web server shall allow access to camera information and all primary software functions.
- C. The Manufacturer shall offer a video viewer and configuration to implement the following actions:
 - 1.Camera discovery
 - 2.Live Video
 - a. Video stream selection
 - b. Video stream configuration
 - i. Use preset video setting configurations
 - ii. Configure custom video setting configurations
 - 1) compression type
 - 2) resolution
 - 3) image rate
 - 4) I-frame interval
 - 5) H.264 profile
 - 6) Image quality
 - 7) Bit rate control
 - iii. Multicast
 - iv. Unicast
 - v. JPEG frame rate
 - c. Maximize view area of the video to the full size of the browser
 - i. Revert to normal view
 - d.Open stream in new window
 - e.Capture and save image as a .jpg file
 - f. Resize viewing area
 - 3.Image Settings
 - a. image quality
 - b. exposure
 - c. focus
 - d. white balance
 - e. window blanking
 - f. digital zoom
 - g. lighting mode
 - h. video noise reduction
 - i. digital processing (color and detail adjustment)
 - i. image enhancement
 - ii. quick setup preset modes

- iii. sharpness
- iv. saturation
- v. contrast
- vi. brightness
- j. exposure modes

4. Recording

- a. Initiate instant record and playback
- b. Manage SD card storage

5. Events

- a. configure event sources:
 - i. external alarm events
 - ii. analytic events
- b. e-mail setup
- c. define web addresses for notifications
- d. Camera network settings

6. System

- a. firmware upgrade
- b. reset to factory default
- c. set date, time, and NTP server synchronization
- d. user access control
- e. view and export camera settings
- f. view system logs

D. Acceptable Web Browsers:

1. Microsoft® Internet Explorer® 8.0 (or later)
2. Google® Chrome™ 51 and later
3. Apple® Safari® 7.0.6
4. Mozilla® Firefox® 3.5.9 (or later)

E. The Manufacturer shall offer a mobile application with the capability to access live video from up to 500 cameras.

F. The Manufacturer shall support integrations as follows:

1. Video Management: VideoXpert™; Endura® 2.0 (or later); Digital Sentry® 7.3 (or later); Third-party system through Pelco/Approved Equal API/SDK, ONVIF Profile S, ONVIF Profile G, and ONVIF Profile Q
2. Mobile Application Pelco/Approved Equal Mobile
3. Camera Discovery and Firmware: Discover cameras upgrade firmware upgrade using Pelco/Approved Equal Device Utility 2 (version 2.2 or later) or Pelco /Approved Equal Utilities

3.4 ELECTRICAL

- A. Power
 - 4. Source Options
 - a. 24 VAC and PoE+
 - b. PoE+ Class 4
 - c. 18 to 32 VAC range, 12 VDC
 - 2. Power Consumption: <16 W (with heater ring)
- B. Connectors:
 - 1. Ethernet: RJ-45 connector
 - 2. External power: 2-conductor power to a terminal block

3.5 MECHANICAL AND ENVIRONMENTAL

- A. Construction Material: Aluminum base and plastic trim ring, polycarbonate bubble (indoor models), aluminum construction, polycarbonate bubble (outdoor models)
- B. Finish: RAL 9003 (indoor models), RAL 7047 (outdoor models)
- C. Impact Resistance: IK10 (20J)
- D. Dimensions (D x H): 13.38 cm (5.27 in) x 11.74 cm (4.62 in)
- E. Temperature:
 - 1. Operating: -10°C to 55°C (14°F to 131°F) (indoor models) -40°C to 55°C (-40°F to 131°F) (outdoor models)
 - 2. Storage: -40°C to 60°C (-40°F to 140°F) (indoor and outdoor models)
- F. Ingress Protection: IP66 (indoor/outdoor models)
- G. NEMA Type 4X (outdoor models with IMEEBAP adapter plate accessory)

3.6 CERTIFICATIONS

- A. CE – EN 55022 (Class A), EN 50130-4, EN 60950-1
- B. FCC (Class A) – 47 CFR Part 15
- C. UL and cUL Listed – UL 60950-1, CAN/CSA-C22.2 No. 60950-1-07
- D. ICES-003 (Class A)
- E. RCM
- F. KC
- G. ONVIF Profile S, Profile G, and Profile Q conformant

3.7 REFERENCE STANDARDS

1. Video
 - a. ISO / IEC 14496 –10, MPEG-4 Part 10 (ITU H.264)
 - b. ISO / IEC 10918 – JPEG
 - c. ONVIF – Profile S, Profile G, and Profile Q
2. Emissions
 - a. FCC (Class A) – 47 CFR Part 15
 - b. CE – EN 55022 (Class A), EN 50130-4, EN 60950-1
 - c. ICES-003, Class A
3. Environmental Models
 - a. ANSI / IEC 60529 – Degrees of Protection Provided by Enclosures – IP66
 - b. IK10 (20J) Impact Resistance / IEC62262
 - c. National Electrical Manufacturers Association, NEMA 250-2003, 4X Enclosure Definition

SECTION 4: INDOOR / OUTDOOR PANOMERSIVE IP NETWORK CAMERAS

4.0 SUMMARY

- A. Plan T-601 Camera ID C & D

4.1 EQUIPMENT

- A. Manufacturer: Pelco or approved Equal
- B. Model:
 1. Camera ID C: IMM12018 or approved equal
 2. Camera ID D: IMM12027 or approved equal

4.2 PRODUCTS: INDOOR / OUTDOOR PANOMERSIVE IP NETWORK CAMERAS GENERAL CAMERA SECTION 180°, 270° OPTERA IP CAMERA PRODUCTS

- A. The IP Panoramic indoor/outdoor multi-sensor camera system shall transparently integrate video across all sensor's in the camera presenting a seamless fully stitched and blended total resolution of 12 megapixels (MPx), 2048 x 1536 x 4.
- B. The IP Panoramic indoor/outdoor multi-sensor camera system technology shall include options for 180°, 270°, and 360° camera functionality as well as provide pan and tilt adjustment of the camera module for 180° degree models and pan for 270° and 360° modules.
- C. In conjunction with a Video Management System “VMS” that integrates the Panomersive Toolkit, the camera shall be able to support seamless panoramic views and simultaneous Immersive Views that allow for the pan, tilt and zoom in, across the entire field of view.
- D. The IP Panoramic indoor/outdoor multi-sensor camera system housing technology shall meet the IK10 impact specification as well as standard mounting hardware capabilities that would include but not be limited to Pendant, Surface, and Ceiling mount hardware.
- E. The IP Panoramic indoor/outdoor multi-sensor camera system shall provide SureVision™ 2.0 technology that seamlessly delivers extended True Wide Dynamic Range (WDR), low-

light performance, and anti-bloom technology, operating in a simultaneous mode of operation.

- F. The IP Panoramic indoor/outdoor multi-sensor camera system shall provide a slot for a removable, local storage medium (not provided by camera manufacturer) (Micro SD) to capture video clips of varying lengths in accordance with the ONVIF G Profile. Any Video Management System “VMS” that is conformant to this standard can initiate storage and retrieval of video, for instance, to safeguard against network failure.
- G. The IP Panoramic indoor/outdoor multi-sensor camera system shall provide a service video stream in addition to and independent of the video streams.
- H. The IP Panoramic indoor/outdoor multi-sensor camera system shall provide advanced low-light capabilities for day/night models with sensitivity down to 0.03 lux for the 180° and 0.05 lux in the 270° and 360° models respectively while in night mode.
- I. The IP Panoramic indoor/outdoor multi-sensor camera system shall support industry standard Power over Ethernet Plus (PoE+) IEEE 802.3at, Class4 to supply power to the camera over the network.
- J. The IP Panoramic indoor/outdoor multi-sensor camera system shall provide options for clear and smoked lower domes.
- K. The IP Panoramic indoor/outdoor multi-sensor camera system shall provide a Wide Dynamic Range (WDR) up to 120 dB with dynamic adjustments through the User Interface across the cameras field of view.
- L. The IP Panoramic indoor/outdoor multi-sensor camera system shall have a mechanical IR cut filter mechanism for increased sensitivity in low-light installations. Set points for the IR cut filter feature shall be configurable through an embedded Web browser.
- M. The IP Panoramic indoor/outdoor multi-sensor camera system shall support H.264 High, Main or Base profiles, using constrained variable bit rate (CVBR) as the default, variable bit rate (VBR), or constant bit rate (CBR) with target range.
- N. The IP Panoramic indoor/outdoor multi-sensor camera system shall provide 802.1x port security to establish point-to-point access through a wired or wireless port using Extensible Authentication Protocol (EAP).
- O. The IP Panoramic indoor/outdoor multi-sensor camera system shall conform to the ONVIF Profile S and Profile G, and support open architecture best practices with a published API available to third-party network video recording and management systems. A “Panomersive” SDK that would enable Video Management Systems to d-warp the streams from this camera into panoramic and Immersive Views shall be made available.
- P. The IP Panoramic indoor/outdoor multi-sensor camera system shall support SNMP v2c and v3.
- Q. The IP Panoramic indoor/outdoor multi-sensor camera system shall support IPv6 configurations in conjunction with IPv4.

- R. The IP Panoramic indoor/outdoor multi-sensor camera system shall provide Auto or Manual exposure settings for adjusting the amount of light detected by the camera sensor.
- S. The IP Panoramic indoor/outdoor multi-sensor camera system shall provide user-selectable configurations for day/night auto mode. Transitional levels shall be used to set the desired light level for transitioning to night mode. Transition detect time shall control the length of time that the camera is exposed to a light level before changing to color or monochrome mode.
- T. The IP Panoramic indoor/outdoor multi-sensor camera system shall be factory focused, requiring no manual adjustment of focus in the field.
- U. The IP Panoramic indoor/outdoor multi-sensor camera system shall provide User and Group settings to assign permissions and access levels to the camera.
- V. The IP Panoramic indoor/outdoor multi-sensor camera system shall be based on a 1/3.2-inch high-resolution CMOS sensor and includes four of them in the cameras standard configuration.
- W. The IP Panoramic indoor/outdoor network camera system shall include a camera module, back box, and lower dome.
- X. The IP Panoramic indoor/outdoor multi-sensor camera system shall support standard IT protocols.
- Y. The IP Panoramic indoor/outdoor multi-sensor camera dome system shall provide a 1000Base-T network interface.
- Z. The IP Panoramic indoor/outdoor multi-sensor camera system shall be plenum-rated per 2008 NEC article 300.22(C) (2).
- AA. The IP Panoramic indoor/outdoor multi-sensor camera system shall be vandal and tamper-resistant with an impact resistance of IK10 (20 Joules).
- BB. The IP Panoramic indoor/outdoor multi-sensor camera system shall be NEMA-4X, IP66 rated.
- CC. The IP Panoramic indoor/outdoor multi-sensor camera system shall provide a 3/4-inch NPT conduit attachment on the side and top of the back box for in-ceiling and surface mounted applications.
- DD. The IP Panoramic indoor/outdoor multi-sensor camera system shall attach to a standard (1900) 4-inch square box or standard 2-gang electrical box for surface mounted applications.
- EE. The IP Panoramic indoor/outdoor multi-sensor camera system shall provide a 1.5-inch NPT conduit attachment for pendant mounted applications.
- FF. The IP Panoramic indoor/outdoor multi-sensor camera system shall provide for standards-based HTML interface.

- GG. The IP Panoramic indoor/outdoor multi-sensor camera system shall provide Window Blanking Technology for user-defined privacy areas.
- HH. The IP Panoramic indoor/outdoor multi-sensor camera system shall feature open architecture connectivity for third-party software recording solutions allowing integration into virtually any IP-based system.
- II. The IP Panoramic indoor/outdoor multi-sensor camera system shall provide integrated video analytics with the ability to provide hardware and software alarms based on the analytic behaviors presented.
- JJ. Analytics for the IP Panoramic indoor/outdoor multi-sensor camera system shall include
1. Abandoned Object: Detects objects placed in a defined zone and triggers an alarm if the object remains in the zone longer than the user-defined time allows. An airport terminal is a typical installation for this behavior. This behavior can also detect objects left behind at an ATM, signaling possible card skimming.
 2. Adaptive Motion: Detects and tracks objects that enter a scene and then triggers an alarm when the objects enter a user-defined zone. This behavior is primarily used in outdoor environments with light traffic to reduce the number of false alarms caused by environmental changes.
 3. Camera Sabotage: Detects contrast changes in the field of view. An alarm is triggered if the lens is obstructed with spray paint, a cloth, or a lens cap. Any unauthorized repositioning of the camera also triggers an alarm.
 4. Directional Motion: Generates an alarm in a high traffic area when a person or object moves in a specified direction. Typical installations for this behavior include an airport gate or tunnel where cameras can detect objects moving in the opposite direction of the normal flow of traffic or an individual entering through an exit door.
 5. Loitering Detection: Identifies when people or vehicles remain in a defined zone longer than the user-defined time allows. This behavior is effective in the real-time notification of suspicious behavior around ATMs, stairwells, and school grounds.
 6. Object Counting: Counts the number of objects that enter a defined zone or cross a tripwire. This behavior might be used to count the number of people at a store entrance/exit or inside a store where the traffic is light. This behavior is based on tracking and does not count people in a crowded setting.
 7. Object Removal: Triggers an alarm if an object is removed from a defined zone. This behavior is ideal for customers who want to detect the removal of high-value objects, such as a painting from a wall or a statue from a pedestal.
 8. Stopped Vehicle: Detects vehicles stopped near a sensitive area longer than the user-defined time allows. This behavior is ideal for airport curbside drop-offs, parking enforcement, suspicious parking, traffic lane breakdowns, and vehicles waiting at gates.
- KK. The IP Panoramic indoor/outdoor multi-sensor camera system shall meet or exceed the following design and performance specifications.

1. Camera Specifications
 - a. Imaging Device: 1/3.2-inch
 - b. Imager Type: CMOS
 - c. Imager Readout: Progressive Scan
 - d. Highest Resolution: 12 MP, 2048 x 1536 x 4
 - e. Signal-to-Noise Ratio: >50 db
 - f. Sensitivity
 - i. 180° Model: f/2.0, 0.3 lux color (33 ms),
0.14 lux mono (33 ms)
 - ii. 270° Model: f/2.5, 0.5 lux color (33 ms),
0.2 lux mono (33 ms)
 - iii. Day/Night Capabilities: Yes
 1. Mechanical IR Cut Filte: Yes, (ON/OFF/AUTO selectable) with
different set points
 - iv. Wide Dynamic Range: 120 dB
2. Lens Specifications
 - a. Length
 - i. 180° Model: f/2.0 ~ 4.8 mm
 - ii. 270° Model: f/2.5 ~ 2.7 mm
 - b. Field of View
 - i. 180° Model: 180° horizontal, 41° vertical
 - ii. 270° Model: 270° horizontal, 73° vertical
3. Video Specification
 - a. Video Streams: Set of streams to deliver full resolution views; the secondary stream that comprises a lower resolution mosaic of above streams
 - b. Frame Rate(s): User selectable up to 12.5 frames per second (fps)
 - c. Video Encoding: H.264 High, Main, or Base profiles; MJPEG (mosaic stream only)
 - d. Bit Rate Control: Default maximum for Constrained Variable Rate (CVBR) at maximum resolution and frame rate
 - i. 180° Model: 28 Mbps Note: Actual bit rates are lower depending on scene complexity
 - e. Network
 - i. Supported Protocols TCP/IP, UDP/IP (Unicast, Multicast IGMP), UPnP, DNS, DHCP, RTP, RTSP, NTP, IPv4, IPv6, SNMP v2c/v3, QoS, HTTP, HTTPS, SSH, SSL, SMTP, FTP, ARP, ICMP, and+ 802.1x(EAP) Note: IPv6 supports mixed IPv4 and IPv6 installations, but not IPv6-only deployments
 - ii. Users
 - 1) Unicast: Up to 20 simultaneous depending on the resolution settings, and frame rate
 - 2) Multicast: Unlimited H.264
 - f. Security Access: Password protected
 - g. Software Interface: Web browser view and setup
 - h. Open API Integration: Pelco/Approved Equal API, Panomersive SDK, ONVIF Profile S and G
 - i. Minimum System Requirements
 - i. Processor: Intel® Core™ i3 processor, 2.4 GHz

- ii. Operating System: Microsoft Windows® 10, Windows® 7 (32- and 64-bit), or Windows Vista ®; or Mac® OS X 10.9 (or later)
- iii. Memory: 4 GB RAM
- iv. Network Interface: 100 Mbit (or greater)
- v. Monitor: Minimum of 1024 x 768 resolution, 16- or 32-bit pixel color resolution
- vi. Web Browser: Internet Explorer® 8.0 (or later); Mozilla®, Firefox® 35 (or later); Google® Chrome 40 (or later)
- j. Analytics
 - i. Open API: Can transmit behavior alarm data to third-party applications.

4. Electrical Specifications

- a. Network Port: RJ-45 connector for 1000Base-T 1 Gigabit/sec Auto MDI/MDI-X PoE+; Class 4
- b. Cabling Type: Category 5 or better
- c. Input Power: PoE+ (IEEE 802.3at, Class 4)
- d. Power Consumption
 - i. Without Heater: 17 watts
 - ii. With Heater: 23 watts
- e. Local Storage: Micro SD, SDHC
- f. Alarm
 - i. Unsupervised: Detects open or closed alarm state
 - ii. Supervised: Detects open and short alarm state with external 1-kohm resistor to detect alarm tampering
 - iii. Input: 3.5 VDC maximum, 3.5 mA maximum
- g. Relay Output: ±32 VDC maximum, 150 mA maximum
- h. Audio
 - i. Streaming: Bidirectional: full or half duplex
 - ii. Input/Output: 600 ohm differential, 1Vp-p max. signal level
 - iii. Compression: G.711 PCM 8 bit, 8 kHz mono at 64 kbit/s

5. Back box and lower dome specifications

- a. Indoor Vandal, In-Ceiling
 - i. Installation: Single back box for suspended or hard ceiling applications
 - ii. Back Box: Plenum rated
 - iii. Cable Entry: 0.75-inch NPT or 25 mm conduit attachments on side and top of back box
 - iv. Operating Temperatures: -10° to 50°C (14° to 122°F)
 - v. Operating Humidity: 15 to 85%, RH non-condensing
 - vi. Impact Resistance: IK10
 - vii. Shock and Vibration: EN50155 Category 1, Class B; IEC 60068:2-6 and 2-27, ISTA-2A, Sequence 5, MIL810G
 - viii. Construction: Alodine aluminum
- b. Indoor Vandal, Surface Mount
 - i. Installation: Attaches to the standard 4-inch square outlet box and 2-gang electrical box; 0.75-inch NTP or 25 mm conduit attachments on side back box; wire entry through a grommet on top of back box
 - ii. Operating Temperatures: -10° to 50°C (14° to 122°F)
 - iii. Operating Humidity: 15 to 85%, RH non-condensing
 - iv. Impact Resistance: IK10

- v. Shock and Vibration: EN50155 Category 1, Class B; IEC 60068:2-6 and 2-27, ISTA-2A, Sequence 5, MIL810G
- vi. Construction: Alodine aluminum
- c. Indoor Vandal, Pendant
 - i. Installation: 1.5-inch NPT conduit/pipe attachment
 - ii. Operating Temperatures: -10° to 50°C (14° to 122°F)
 - iii. Operating Humidity: 15 to 85%, RH non-condensing
 - iv. Impact Resistance: IK10
 - v. Shock and Vibration: EN50155 Category 1, Class B; IEC 60068:2-6 and 2-27, ISTA-2A, Sequence 5, MIL810G
 - vi. Construction: Alodine aluminum
- d. Environmental Vandal, In-Ceiling
 - i. Installation: Single back box for suspended or hard ceiling applications
 - ii. Back Box: Plenum rated
 - iii. Cable Entry: 0.75-inch NPT or 25 mm conduit attachments on side and top of back box
 - iv. Operating Temperatures: -40° to 50°C (-40° to 122°F)
 - v. Operating Humidity: 10 to 95%, RH non-condensing
 - vi. Impact Resistance: IK10
 - vii. Shock and Vibration: EN50155 Category 1, Class B; IEC 60068:2-6 and 2-27, ISTA-2A, Sequence 5, MIL810G
 - viii. Construction Alodine aluminum
 - ix. Ingress protection: IP66
- e. Environmental Vandal, Surface Mount
 - i. Installation: Attaches to the standard 4-inch square outlet box and 2-gang electrical box
 - ii. Cable Entry: 0.75-inch NPT or 25 mm conduit attachments on side and top of back box. Wire entry through the grommet on top of back box
 - iii. Operating Temperatures: -40° to 50°C (-40° to 122°F)
 - iv. Operating Humidity: 10 to 95%, RH condensing
 - v. Impact Resistance: IK10
 - vi. Shock and Vibration: EN50155 Category 1, Class B; IEC 60068:2-6 and 2-27, ISTA-2A, Sequence 5, MIL810G
 - vii. Construction: Alodine aluminum
 - viii. Ingress protection: IP66
- f. Environmental Vandal, Pendant
 - i. Installation: 1.5-inch NPT thread for use with Pelco/Approved Equal wall mounts
 - ii. Operating Temperatures: -40° to 50°C (-40° to 122°F)
 - iii. Operating Humidity: 10 to 95%, RH condensing
 - iv. Impact Resistance: IK10
 - v. Shock and Vibration: EN50155 Category 1, Class B; IEC 60068:2-6 and 2-27, ISTA-2A, Sequence 5, MIL810G
 - vi. Construction: Alodine aluminum
 - vii. Ingress protection: IP66

6. Dome System Specifications

- a. Indoor Vandal, In-Ceiling 5.90 cm (2.32 in) above the ceiling, lower dome, 9.85 cm (3.88 in) below ceiling, 16.15 cm (6.36 in) diameter
- b. Indoor Vandal, Surface Mount 14.65 cm (5.76 in) overall length (including dome) by 15.93 cm (6.27 in) diameter

- c. Indoor Vandal, Pendant 17.80 cm (7.00 in) overall length (including dome) by 15.75 cm (6.20 in) diameter
- d. Environmental Vandal, In-Ceiling 5.90 cm (2.32 in) above the ceiling, lower dome 9.85 cm (3.88 in) below ceiling, 16.15 cm (6.36 in) diameter
- e. Environmental Vandal, Surface 14.65 cm (5.76 in) overall length (including dome) by 15.93 cm (6.27 in) diameter
- f. Environmental Vandal, Pendant 17.80 cm (7.00 in) overall length (including dome) by 15.75 cm (6.20 in) diameter

7. Mechanical Specifications

- a. Dome Attenuation
 - i. Clear: f/0.0 light loss
 - ii. Smoked: f/1.0 light loss
 - iii. Pan Adjustable (All Models): 370°
 - iv. Tilt Adjustable (180 Model): 0° - 180°

8. General Specifications

- a. Unit Weight
 - i. In-Ceiling 1.5 kg (3.3 lb)
 - ii. Surface Mount 1.7 kg (3.9 lb.)
 - iii. Pendant Mount 1.7 kg (3.9 lb.)

9. Warranty

- a. 36-months, parts, and labor

10. Certifications/Ratings

- a. CE, Class A
- b. FCC, Class A
- c. UL/cUL Listed
- d. ICES, Class A
- e. KCC
- f. C-Tick
- g. CB Scheme ITE
- h. NEMA Type 4X, and IP66 rating (Environmental Vandal)
- i. RoHS, Lead-Free, REACH
- j. MTBF \geq 200,000 POH (Reporting standard is RELEX Modeling)

4.3 REFERENCE STANDARDS

1. Network

- a. IEEE
 - i. 802.3 Ethernet Standards
 - ii. 802.1x – Port-based authentication
- b. Video
 - i. ISO / IEC 14496 –10, MPEG-4 Part 10 (ITU H.264)
 - ii. ISO / IEC 10918 – JPEG
 - iii. ONVIF – Profile S and Profile G
- c. Emissions
 - i. FCC-47 CFR Part 15, Class A
 - ii. CE, Class A
 - iii. ICES-003, Class A

- d. Environmental
 - i. ANSI / IEC 60529 – Degrees of Protection Provided by Enclosures – IP66
 - ii. IK10 (20J) Impact Resistance / IEC62262
 - iii. National Electrical Manufacturers Association, NEMA 250-2003, 4X Enclosure Definition

SECTION 5 INDOOR/OUTDOOR, 360° IP NETWORK CAMERAS

5.0 SUMMARY

- A. Plan T – 601 Camera ID E

5.1 EQUIPMENT

- A. Manufacturer: Pelco or Approved Equal
- B. Model: Camera ID E: EVO05NID or approved equal

**5.2 PRODUCTS: INDOOR/OUTDOOR, 360° IP NETWORK CAMERAS
GENERAL CAMERA SECTION 360° EVO**

- A. Equipment and materials used shall be standard components that are manufactured and available for purchase as standard replacement parts as long as the product is commercially available from the manufacturer.
- B. All manufactured products shall be thoroughly tested and proven in actual use.
- C. All manufactured products shall include, at no additional cost, online support services and availability of a toll-free (U.S. and Canada), 24-hour technical assistance program (TAP) for emergencies.
- D. The manufacturer shall replace without charge, manufactured products proven defective in material or workmanship for the stated warranty period from the date of shipment.
- E. The camera shall be designed to provide H.264 and Motion JPEG video, and support resolutions up to 2144 x 1944 pixels.
- F. The camera shall provide a 100Base-TX network interface.
- G. The camera shall be IP-rated for ingress protection against dust and moisture such that it is suitable for indoor and outdoor use.
- H. The camera shall support open architecture best practices with a published API available to third-party network video recording and management systems.
- I. The camera shall be manufactured in solid-state electronics with no moving parts.
- J. The camera shall have both FTP client and server capabilities.
- K. The camera shall contain a built-in web server allowing the streaming of video, motion data, and input/output information from the camera configuration, available in standard browsers (Internet Explorer, Mozilla Firefox and Google Chrome) using HTTP, without the need for additional software. H.264 requires Quick Time.
 - 1. Web server support of up to 20 clients simultaneously over the network

- 2.Support for defining usernames and passwords for up to three different user types shown below
 - a. User viewing video and reviewing configuration
 - b. Operator as above. Image and system configuration
 - c. Administrator as above. User configurable port settings

- L. The camera shall support both fixed IP addresses and dynamically assigned addresses provided by a Dynamic Host Control Protocol (DHCP) server.
 - 1.Accessible via an IP address within the link-local address range (169.254.*)

 - 2.Automatic detection based on multicast when using a PC operating on a Windows operating system
 - a. IPv4 addressing

- M. The camera shall be capable of providing bit rates up to 40 Megabits per second, MJPEG and 5MP at H.264.
 - 1.H.264 bandwidth controls
 - a. Capped constant bit rate setting
 - b. Average constant bit rate setting
 - c. Bit rate control “off” setting
 - d. Maximum FPS setting
 - e. GOP length setting

 - 2.MJPEG bandwidth controls
 - a. Maximum FPS setting
 - b. Quality setting

- N. The camera shall be supported by the Onecam Grandeye Software Development Kit (SDK), to provide a necessary interface for integration of functionality into third-party software. This can provide client-side / NVR side 3D dewarping of both live and playback fisheye images.

- O. The camera shall provide built-in motion detection software that allows full configurability of sensitivity in motion detection with H.264. It will provide at least ten motion detection regions and configurable motion response.

- P. The camera shall have an audio microphone input (via 3.5mm jack; via RTSP using G711 codec (μLaw – 8K sample rate); via ONVIF S).

- Q. The camera shall be equipped with an integrated event functionality, which can be triggered by External hardware input and Video motion detection. Response to triggers shall include activating external hardware output, notification via HTTP, and Image upload via FTP or SMTP.

- R. The camera shall provide at least ten privacy zones which shall hide polygonal regions on all video streams. Each privacy zone can be individually named.

- S. The camera shall be supplied with Windows-based configuration software which allows the assignment of IP addresses, multi-camera configuration, backup of cameras configuration and upgrade of firmware and software
 - 1.Remote change and configure of camera IP settings /DHCP setting

- 2.Remote import / Export of IP settings
 - 3.Remote upgrade of camera firmware
 - 4.Remote commands, camera settings, and values
 - 5.All customer-specific settings, including IP address settings, shall be stored in non-volatile memory and shall not be lost during power cuts or soft reset
- T. The camera shall be monitored by a Watchdog functionality, which shall automatically reset the camera ships and software if a malfunction disables the camera’s normal operation. The camera shall have a diagnostics tool to test hardware functionality and review statistics and diagnose hardware faults.
- U. The camera shall meet or exceed the following design and performance specifications.
- 1.General Specifications
 - a. IP66 (outdoor version only)
 - b. 12V, 1.0A (min) “LPS or NEC Class 2” power supply or Power over Ethernet (PoE) IEEE standard 802.3af
 - c. IPv4 (RFC 791)
 - 2.Hardware Specifications
 - a. 1/2.5-inch 5-Megapixel CMOS digital image sensor with an active array of 2592 x 1944 pixels
 - b. 185° 1.6mm / F2.0 5-Megapixel rated fisheye lens
 - c. TMS320DM368 DaVinci™ processor
 - 3.Video Specifications
 - a. Supported Resolutions
 - i. 1/4 MPx (528 x 480)
 - ii. 1 MPx (1056 x 960)
 - iii. 2 MPx (1488 x 1360)
 - iv. 4 MPx (2144 x 1944)
 - b. Image Formats
 - i. Fisheye
 - 1) 1/4 MPx (528 x 480)
 - 2) 1 MPx (1056 x 960)
 - 3) 2 MPx (1488 x 1360)
 - 4) 4 MPx (2144 x 1944)
 - c. Transmission Speed
 - i. 15 frames per second, all resolutions, using MJPEG and H.264
 - ii. Ten frames per second (4 MPx) MJPEG and H.264
 - iii. Streaming at the user-defined frame rate
 - d. Supported Protocols
 - i. TCP/IP, HTTP, DHCP, DNS, NTP, FTP, SMTP, RSTP
 - 4.Compression Specifications
 - a. H.264 and Motion JPEG
 - b. 85 different compression levels for the all fisheye image resolutions on MJPEG

- c. 100 different compression levels for all fisheye image resolutions on H.264

5. Image Control Specifications

- a. Automatic exposure control
- b. Automatic white balance (range; 2500K ~ 8000K)
- c. 50 Hz and 60Hz mains frequency flicker control
- d. Sharpness control setting
- e. EV compensation control setting
- f. Wide dynamic range setting (greater than 90db)
- g. Pictures down to 0.2 lux at 50 IRE / F2.0 (6500k)

6. Electrical Specifications

- a. Input Voltage and Power Consumption
- b. Isolated power supply with an output voltage of 12VDC and a current rating of at least 1A
- c. Power over Ethernet (PoE) capability, in accordance with IEEE 802.3af Class 2 standard
- d. Power consumption of the camera shall be 8 watts (max)

7. Environmental Specifications

- a. Outdoor Camera
 - i. Ingress-protected against dust and moisture in accordance with IP66
 - ii. Gore-Tex® vent on housing
 - iii. Operating temperature of -40°C to +55°C (-40°F to 131°F)
 - iv. Shock and vibration in accordance with BS EN 60068-2-64 and BS EN 600658-2- 27
- b. Indoor and Indoor Concealed Camera
 - i. Operating temperature of -40°C to +55°C (-40°F to 131°F)

8. Mechanical Specifications

- a. Sealed IP66-rated cable entry point, side, and rear
- b. External power via a 2.1mm socket at the rear of the camera
- c. Alarm input/output socket shall be a 6-way (4 for alarm and 2 for RS485) 3.5mm pitch, Phoenix Contact socket with screw-down terminals

9. Lens and Lens Mount Specifications

- a. 5 Megapixel resolution miniature fisheye lens with a focal length of 1.6mm
- b. Lens mount of M12x0.5 thread

10. Construction Specifications

- a. Outdoor Enclosure
 - i. IP-66 standards for water and dust ingress
 - ii. Vandal resistance IK-10 standard
 - iii. Die-cast aluminum alloy housing
 - iv. Bubble and trim ring made of polycarbonate polymers with UV inhibitors
- b. Indoor Trim Enclosure
 - i. Manufactured from ABS

- c. Concealed Enclosure
 - i. Manufactured from ABS

11. Certifications

- a. EMC to CISPR Class A
- b. cUL
- c. FCC
- d. CE
- e. ICES-003
- f. Safety: UL60950
- g. IP66 standards
- h. ONVIF Profile S Conformant

V. Equipment and materials used shall be standard components that are manufactured and available for purchase as standard replacement parts as long as the product is commercially available from the manufacturer.

W. All manufactured products shall be thoroughly tested and proven in actual use.

X. All manufactured products shall include, at no additional cost, online support services and availability of a toll-free (U.S. and Canada), 24-hour technical assistance program (TAP) for emergencies.

The manufacturer shall repair or replace without charge manufactured products proved defective in material or workmanship for the stated warranty period from the date of shipment.

SECTION 6: SPECIFICATION CAMERA TYPE PTZ SPECTRA

6.0 SUMMARY

- B. The section includes a 1080p high definition IP PTZ video dome camera with outdoor rated dome housing.
- C. Product - A high definition IP PTZ video dome camera, based on H.264 and MJPEG compression, capable of streaming up to 60 fps at resolutions up to 1920 x 1080, with dual streaming capability in an IP66 outdoor-rated dome housing.
- D. Related Requirements
 - 1. Data Communications
 - 2. Video Surveillance Control and Management Systems
 - 3. Video Surveillance Monitoring and Supervisory Interfaces
 - 4. Digital Video Recorders and Analog Recording Devices
 - 5. Video Surveillance Systems Infrastructure
- E. Plan T-601 Camera ID F, B & G

6.1 EQUIPMENT

- A. Manufacturer: Pelco or Approved Equal
- B. Model:
 - 1. Camera ID B: S6230-ESGL1 or approved equal
 - 2. Camera ID F: P2230-ESR or approved equal
 - 3. Camera ID G: S6230-ESGL or approved equal

6.2 GENERAL DESCRIPTION

- A. The High Definition Outdoor PTZ Dome Camera (“PTZ Dome camera”) shall provide video performance capable of providing selectable resolutions up to 1920 x 1080 pixels at up to 60 frames per second (fps).
- B. The PTZ dome camera shall possess the following primary characteristics:
 - 1. Variable speed/high-speed pan/tilt drive unit with continuous 360° rotation up to 450°/sec
 - 2. H.264 and MJPEG compression
 - 3. 2.1 megapixels
 - 4. Dual streaming (two independent IP video streams)
 - 5. Day/night operation with IR cut filter
 - 6. 12 x digital zoom, <20X> <30X> optical zoom
 - 7. Automatic Gain Control: 41 dB maximum
 - 8. Wide Dynamic Range (WDR): 130 dB minimum
 - 9. Integral video analytics with nine user-configurable behaviors
 - 10. Electronic image stabilization
 - 11. PoE+ and High PoE capable
 - 12. Pelco/Approved Equal H.264 Smart Compression Technology
 - 13. Multicast or unicast capable with unlimited H.264 viewers
 - 14. Unicast capable with up to 20 simultaneous viewers
 - 15. Local storage via SD card
 - 16. Audio input and output
 - 17. Alarm input and output

18. IP66 rated housing

C. Video

1. Imager

- a. Sensor: 1/2.8" Sony Exmor CMOS
- b. Minimum illumination
 - i. Color mode: 20 lux (33 ms, F1.6), .025 lux (250 ms, F1.6)
 - ii. Color mode (low light): .03 lux (33 ms, F1.6), .008 lux (250 ms, F1.6)
 - iii. Black & white mode: .06 lux (33 ms, F1.6), .008 lux (250 ms, F1.6)
 - iv. Black & White mode (low light): .004 lux (33 ms, F1.6), .001 lux (250 ms, F1.6)
- c. Scanning: Progressive
- d. Image Control Settings
 - i. Automatic white balance (AWB)
 - 1) Selectable for:
 - a) Normal (7,500K to 2,500K)
 - b) Extended (7,500K to 2,000K)
 - c) Auto Tracking White (10,000K to 2,000K)
 - d) Cool White – fixed mode for scenes with bluer light sources
 - e) Manual mode - provide the ability to configure red and blue values for color adjustment
 - 2) Lighting modes: WDR, visibility enhancement, backlight compensation, normal
 - 3) Defog mode (enhanced clarity in the presence of fog)
 - 4) Exposure modes: automatic or manual
 - 5) Day and night settings
 - 6) Frequency
 - 7) Image sharpness
 - 8) Chroma
 - 9) Image mirror or flip
 - 10) Digital noise reduction
 - 11) Privacy zone definition: up to 32 zones of window blanking
 - e. Additional capabilities:
 - i. 130 dB WDR
 - ii. Backlight compensation
 - iii. Automatic gain control (AGC)
 - iv. Active noise filtering
 - v. Electronic image stabilization

2. Lens: 4.7- 94 mm variable, F1.6 – F3.5, remote auto-focus

- a. Horizontal angle of view: 55.4° (wide) – 2.9° (tele) > 59.5° (wide) – 2.1° (tele) >
- b. Focus settings
 - i. Auto Focus: Automatically focuses during runtime operation.
 - ii. Sure Focus: Camera autofocuses when pan, tilt, and zoom operations are complete or if the IR cut filter changes state.
 - 1) When autofocus lock is achieved, autofocus shall turn off, fixing the focal position until the next PTZ operation.
 - 2) If 30 seconds pass without an autofocus lock, the camera shall retain its focal position until the next PTZ action.
 - iii. Focus Trace: Enables camera to use a focus trace curve when zooming based on the distance to ground-level targets in the scene

iv. Install Height: Determines the distance between the camera and ground-level targets for focus trace operations

3. Video Streams

- a. The PTZ dome camera shall support the transmission of two configurable video streams, each of which may have the following properties:
 - i. Compression type:
 - 1) H.264 (High, main, or Base profiles), available in Stream 1 and Stream 2
 - 2) MJPEG, available in Stream 2
 - ii. Available resolutions:
 - 1) 1920 x 1080 (16:9) (1080p)
 - 2) 1280 x 720 (16:9) (720p)
 - 3) 800 x 448 (16:9)
 - 4) 640 x 352 (16:9)
 - iii. Bitrate: 1.8 Mbps – 8 Mbps
 - iv. Frame rate: 0 – 60 fps
- b. Video streams shall be supported ONVIF profile S.
- c. The PTZ dome camera shall have the following additional streams available:
 - i. Low-resolution JPEG stream for configuration of camera settings.
 - ii. Event stream displaying a list of alerts triggered by an active analytic behavior.
- d. Pelco's/Approved Equal H.264 Smart Compression Technology lowers bandwidth and storage requirements by up to 70% while reducing storage requirements.

4. Storage and Recording

- a. The PTZ dome control shall have onboard SD card storage.
 - i. Card type: SD
 - ii. Capacity: up to 32 GB
- b. The local SD storage shall have the ability to be backed up to alternate media without removal of the SD card from the camera.
- c. Local recording on the SD card shall commence upon loss of network connectivity, based on a pre-programmed schedule.
- d. The video shall be recorded continuously in the case of a network outage.
- e. Alarm recording: The PTZ dome camera shall capture selectable 1, 5, or 10-second video clips on camera sabotage, motion detection, or alarm input.
- f. Video recording and storage shall support ONVIF profile G.

5. Pan Tilt

- a. Pan Range: 360°
- b. Tilt Range: +1° - 90°
- c. Presets: up to 256
 - i. Accuracy: $\pm .1^\circ$
- d. Tours: up to 16
- e. Pan Speed
 - i. manual: $.1^\circ$ - 80° per second
 - ii. maximum: 450° per second
- f. Tilt Speed
 - i. manual: $.1^\circ$ - 45° per second
 - ii. maximum: 450° per second
- g. Limit stops: configurable through a web browser

6. Analytics

- a. Analytics shall be pre-loaded in the PTZ dome camera.
- b. The PTZ dome camera shall have the ability to detect motion within user-defined areas of the video image.
- c. Number of simultaneous running analytic behaviors: 3
- d. Configurable behaviors:
 - i. Abandoned object detection of objects placed in a defined zone and triggers an alarm if the object remains in the zone longer than the user-defined time allows.
 - ii. Adaptive motion detection and tracking of objects that enter a scene and triggering of an alarm when the objects enter a user-defined zone.
 - iii. Auto tracker detection and tracking of movement in the camera's field of view, with automatic pan and tilt to follow the moving object until the object stops or disappears from the monitored area.
 - iv. Camera sabotage detection of contrast changes in the field of view, suitable to detect lens obstruction or unauthorized repositioning of the camera.
 - v. Directional motion detection of person or object moving in a specified direction.
 - vi. Loitering detection Identification of people or vehicles remaining in a defined zone longer than a user-defined time.
 - vii. Object counting the number of objects that enter a defined zone or cross a tripwire.
 - viii. Object removal detection of an object is removed from a defined zone.
 - ix. Stopped vehicle detection of vehicles stopped near a sensitive area longer than a user-defined time.

D. Additional Features

- 1. Alarm – The PTZ dome camera shall have four-alarm/sensor inputs and a relay output for alarm or control.
 - a. The alarm input shall be able to detect an open or closed alarm state function in unsupervised or supervised modes.
 - b. Input: 3.5 VDC maximum, 3.5mA maximum
 - c. Relay Output: ±32 VDC maximum, 150mA maximum
- 5. Audio – The PTZ dome camera shall have bi-directional audio capability.
 - a. Input/Output: Line level/external microphone input; 600-ohm differential, 1 V p-p maximum
 - b. Encoding: G711 - Alaw / mlaw
- 6. Discovery - the Manufacturer, shall offer a discovery program to identify all devices of his manufacture on the network.
- 7. System Information
 - a. The system settings of the PTZ dome camera shall be exportable as a separate file.
 - b. The PTZ dome camera shall maintain an access log of the system and motion-triggered events.
 - i. The log shall be exportable to an Excel spreadsheet file.

6.3 NETWORK

A. Connectivity: 100 BASE-TX Ethernet with RJ-45 connector

B. Protocols supported

- 1. Transmission Control Protocol (TCP), Internet Protocol (IP) v4 and v6, User Datagram Protocol (UDP)

2. Configuration: Dynamic Host Configuration Protocol (DHCP)
 3. Web services: Hypertext Transfer Protocol (HTTP), Secure HTTP (HTTPS)
 4. Network services: Domain Name System (DNS), Network Time Protocol (NTP), Internet Control Message Protocol (ICMP), Simple Network Management Protocol (SNMP) v2c/v3, Universal Plug and Play (UPnP)
 8. Media: Real-Time Transport Protocol (RTP), Real-Time Streaming Protocol (RTSP)
 9. Multicast: Internet Group Management Protocol (IGMP)
 10. Notifications: File Transfer Protocol (FTP), Simple Mail Transfer Protocol (SMTP)
 11. Remote Access: Secure Shell (SSH)
 12. Security: Secure Sockets Layer (SSL), IEEE 802.1x (EAP-MD5, EAP-TLS, EAP-TTLS, EAP-PEAP, and EAP-FAST)
 13. Quality of Service: IEEE 802.1p Layer 3 Differentiated Services Code Point (DSCP)
- C. DDNS – The PTZ dome camera shall support DDNS services offered by the Manufacturer and other publicly available service offerings.
- D. Security
1. The PTZ dome camera shall support IP address filtering whereby users can enter a list of allowed or blocked IP addresses for viewing video and configuring camera settings
 2. The PTZ dome camera shall provide three levels of user access with password protection.
 3. User authentication shall be available through a Lightweight Directory Access Protocol (LDAP) server.

6.4 CAMERA SOFTWARE

- A. The PTZ dome camera shall have a built-in web server which supports browser-based configuration.
- B. The camera's web server shall allow access to camera information and all primary software functions.
- C. The Manufacturer shall offer a video viewer and configuration to implement the following actions:
 1. Camera discovery
 2. Live Video
 - a. Video stream selection
 - b. Video stream configuration
 - i. Use preset video setting configurations
 - ii. Configure custom video setting configurations
 - 1) Compression type

- 2) Resolution
 - 3) Image rate
 - 4) I-frame interval
 - 5) H.264 profile
 - 6) Quality of Service (QoS)
 - 7) Bit rate control
 - iii. Multicast
 - iv. Unicast
 - v. JPEG frame rate
- c. Maximize view area of the video to the full size of the browser
 - i. Revert to normal view
- d. Open stream in new window
- e. Capture and save image as a .jpg file
- f. Center camera field of view
- g. Configure PTZ functions
 - i. Control type:
 - 1) linear
 - 2) Exponential
 - 3) Proportional (to zoom)
 - 4) Auto flip allowing 180o rotation when the camera is pointing straight down
 - 5) Resume last PTZ action requested before power loss
 - ii. Set pan center point
 - iii. Pan and tilt limit stops
- h. Engage PTZ functions
 - i. Pan
 - ii. Tilt
 - iii. Zoom
 - iv. Focus
 - v. Iris open/close
- i. Resize viewing area
 - i. Image Settings
 - 1) Image quality
 - 2) Exposure
 - 3) Focus
 - 4) White balance
 - 5) Window blanking
 - 6) Preset configuration
 - 7) Preset tours
 - 8) Positioning
 - 9) Digital zoom
 - 10) Freeze frames during preset calls
 - 11) Image stabilization
 - 12) Lighting mode
 - 13) Defog mode
 - 14) Video noise reduction
 - 15) Digital processing (color and detail adjustment)
 - a) Image enhancement
 - b) Quick setup preset modes
 - c) Sharpness
 - d) Saturation

- e) Contrast
 - f) Brightness
 - 16) Exposure modes
 - 17) Window blanking calibration
- ii. Recording
 - 1) Initiate instant record and playback
 - 2) Manage SD card storage
- iii. Events
 - 1) Configure event sources:
 - a) External alarm events
 - b) analytic events
 - 2) E-mail setup
 - 3) Define web addresses for notifications
- iv. Camera network settings
- v. System
 - 1) Firmware upgrade
 - 2) Reset to factory default
 - 3) Set date, time, and NTP server synchronization
 - 4) User access control
 - 5) View and export camera settings
 - 6) View system logs

D. Minimum System Requirements

1. Processor: Intel® Core™ i3 Processor, 2.4 GHz
2. Acceptable Operating Systems
 - a. Windows® 7 (32-bit and 64-bit) with DirectX® 11
 - b. Mac OS X 10.4 (or later)
3. Memory: 4 GB RAM
4. Network Interface Card: 100 megabits (or greater)
5. Monitor: Minimum 1024 x 768 resolution, 16- or 32-bit pixel color
6. Acceptable Web Browsers
 - a. Internet Explorer® 8.0(or later)
 - b. Firefox 3.5 (or later)
7. Acceptable Media Players
 - a. Pelco/Approved Equal Media Player
 - b. QuickTime 7.6.5 for Windows 7 or later
 - c. QuickTime 7.6.4 for Mac OS X 10.4 (or later)

E. The Manufacturer shall offer a mobile application with the capability to access live video from up to 500 cameras.

F. The Manufacturer shall offer an open API.

6.5 ELECTRICAL

A. Power

1. Source Options

- a. 24 VAC/VDC
- b. PoE+: (802.3at, Class 4)
- c. High PoE

2. Power Consumption

- a. With heater/blower
 - i. 24 VAC: 81 VA
 - ii. 24 VDC: 3 A nominal
- b. With heater only
 - i. PoE+: 18 W with High PoE injector
 - ii. High PoE: 60 W
- c. Without heater or blower
 - i. 24 VAC: 24 VA
 - ii. 24 VDC: 1 A nominal
 - iii. PoE+: 15 W
 - iv. High PoE: 15 W

B. Connectors

- 1. Ethernet: RJ-45 connector
- 2. External power (24 VAC/VDC): 2-conductor power to a terminal block

6.6 MECHANICAL AND ENVIRONMENTAL

A. Housing Material

- 1. Back box, lower dome: aluminum 316 stainless steel
- 2. Dome bubble: clear acrylic or smoked acrylic

B. Configuration: PTZ dome

C. Conduit attachments

- 1. Pendant mounted: 1.5-inch NPT
- 2. In-ceiling: 3/4-inch NPT

D. Temperature

- 1. Operating:
 - a. 24 VAC/VDC: -45° C to 50° C (-49° F to 122° F)
 - b. PoE+: -20° C to 50° C (-4° F to 122° F)
 - c. High PoE: -45° C to 50° C (-49° F to 122° F)
- 2. Storage: 60° C (140° F) maximum

F. Relative Humidity: 10 - 100%, non-condensing

G. Environmental Rating: IP66

SECTION 7: SECTION HEADEND EQUIPMENT ENCLOSURES

7.0 SUMMARY

- A. The section includes Headend equipment enclosures.

7.1 EQUIPMENT

- A. Manufacturer: Middle Atlantic Production or approved equal
- B. Model: WMRK-4236SVR-AB or approved equal

7.2 GENERAL DESCRIPTION

- A. Type: 19-inch gangable equipment rack.
- B. Compliance:
 - 1. EIA/TIA 310D
- C. Overall Dimensions:
 - 1. Height: 80.06 inches
 - 2. Width: 23.94 inches
 - 3. Depth: 38.26 inches
- D. Useable Dimensions:
 - 1. Height: 42 rack spaces
 - 2. Depth: 33.5 inches
- E. Construction: Fully welded
- F. Weight Capacity: 1,000 pounds.
- G. Materials:
 - 1. Top and Bottom: 14-gauge steel.
 - 2. Horizontal Braces: 16-gauge steel.
 - 3. Rear Door: 18-gauge steel.
- H. The finish of Structural Elements: Black textured powder coat.
- I. Rackrail:
 - 1. Two pairs of fully adjustable, 14-gauge steel rack rail with cage nut mounting holes in universal EIA spacing, includes two rear Z-rail adaptors
 - 2. Finish: Black powder coat
 - 3. Rackspace: Numbered.
- J. Rear Door: Split cupboard style, vented perforation with 76% open area.
- K. Removable Split Rear Knockout Panels:
 - 1. 1/2-inch, 3/4-inch, 1-inch, and 1-1/2-inch electrical knockouts installed in the bottom
- L. Top Knockouts:
 - 1. 1/2-inch, 3/4-inch, 1-inch, and 1-1/2-inch electrical knockouts and 5/8-inch BNC knockouts for UHF/VHF antennae formed in the top.

- M. Grounding and Bonding Stud: 1/4-20 by 1-inch threaded, installed in the base, allows installation to conform to NEC.
- N. Removable Bottom Rear Cable Entry Plate.
- O. Cable Gland Grommets: 4-inch diameter, quantity five, located on the top.
- P. Cable Ladder Mounting Holes: top accepts 6-inch, 12-inch and 18-inch wide cable ladders.
- Q. Temperature Monitor with Display: includes temperature probe with 9-foot wire, LED display, top front of the rack.
- R. Vertical Lacer Strip: 3-1/4-inch width, highly perforated, cable tie posts.
- S. Vertical Power Strip: 20 Amp, ten outlets, corded.
- T. Mounting Hardware: 100.
- U. Option
 - 1. Cable Ladder: 12-inch wide, 6-foot long.
 - 2. Lacer Strip: 11-gauge steel, highly perforated.
 - 3. Horizontal Cable Managers.
 - 4. Copper busbar.
 - 5. Door Latch

7.3 EXAMINATION

- A. Examine areas to receive equipment enclosures.
- B. Notify Construction Manager of conditions that would adversely affect installation or subsequent use.
- C. Do not begin installation until unacceptable conditions are corrected.

7.4 ADJUSTING

- A. Adjust operating hardware to operate smoothly without binding.
- B. Repair any damages to finish in accordance with manufacturer’s instructions and as approved by FBCPT staff.

7.5 PROTECTION

- A. Protect installed equipment enclosures from damage during construction.

SECTION 8: VIDEO SURVEILLANCE LOCAL SITE NETWORK

8.0 EQUIPMENT

- A. Manufacturer Avaya
 - 1. Model: FEDERAL TAA VSP 4850GTS-PWR+
 - a. Qty.: 2
 - b. Location: Maintenance Building
 - c. Switch details

- i. 48 10/100/1000 Gigabit Ethernet RJ45 ports
- ii. 48 ports support IEEE 802.3at PoE+ ports
- iii. 2 Combo SFP ports
- iv. Plus 2 x 1/10 Gigabit SFP+ ports
- v. System CPU operates at 533 MHz
- vi. The switch is configured with 1GB RAM
- vii. RJ-45 Console port provides industry standard serial port connectivity
- viii. Ships with 1 set of 44mm/19” rack mount brackets
- d. Dimensions 4.4cm – 1RU (H), 44.0cm (W), 43.68cm (D)
- e. Weight 11.98 Kg
- f. Power and Thermal
 - i. Supplied with 1 x 1000 watt Field Replaceable
 - ii. AC power supply
 - iii. Supports addition of second Field Replaceable AC power
 - iv. Supply for redundancy or additional PoE
 - v. Thermal Rating 383 BTU/hr Maximum PoE budget
 - vi. 855 watts when operating on one 1000w power supply
 - vii. 1855 watts when operating on two 1000w power supply
- g. General Requirements
 - i. Frame length: 64 to 1518 Bytes (802.1Q Untagged), 64 to 1522 bytes (802.1Q Tagged)
 - ii. Jumbo Frame support: up to 9.6 Kbytes
 - iii. Switching Fabric Capacity: 184 Gbps
 - iv. Packet Forwarding Throughput (64-byte packets): 102 Mpps
 - v. Latency (64-byte packets): 9 microseconds
 - vi. Other:
 - RSTP, MSTP
 - VRRP Backup Master
 - IPv4 and IPv6 Routing
 - Policy-Based Routing
 - Ingress & Egress Port ACLs
 - Ingress VLAN ACLs
 - Enterprise Device Manager GUI, on-box & off-box
 - Configuration & Orchestration Manager
 - Virtualization Performance & Fault Manager
 - Virtualization Provisioning Service
 - System Logging
 - Mirroring: 1:1 / 1:M / M:1 / M:M
 - Key Health Indicators
 - Flight Recorder
 - Auto MDIX
 - MACsec (VSP 4450GSX-PWR+ only)
 - TACACS+
 - SLAMon agent Layer 2
 - MAC Address: 32,000
 - Port-based VLANs: 4,059
 - Private VLANs/E-Tree: 1,000
 - MSTP Instances: 12
 - MLT/LACP Groups: 50
 - MLT Links per Group: 8
 - LACP Links per Group: 8 Active

- Avaya VLACP Instances: 50
- Avaya SLPP Instances: 128 Layer 3 IPv4 Routing Services
- ARP Entries: 6,000
- Static ARP Entries: up to 2,000 per VRF/Switch
- IP Interfaces: 256
- CLIP Interfaces: 64
- IP Routes: up to 15,744
- IP Static Routes: 1,000 per VRF, 1,000 per Switch
- RIP Interfaces: 24
- RIP Routes: up to 15,744
- OSPF Interfaces: 100
- OSPF Routes: up to 15,744
- OSPF Areas: 12 per VRF, 64 per Switch
- BGP Peers: 12
- BGP Routes: up to 15,744
- ECMP Groups: 500
- ECMP Paths per Group: 4
- VRRP Interfaces: 64 or 24 with fast timers
- RSMLT Interfaces: 252
- IPv4 UDP Forwarding Entries: 128
- IPv4 DHCP Relay Forwarding Entries: 128
- IP Route Policies: 500 per VRF, 5,000 System-wide
- VRF Instances: up to 128 Layer 3 IPv6 Routing Services
- Neighbors: 4,000
- Static Neighbors: 128
- IP Interfaces: 256
- CLIP Interfaces: 64
- IP Configured Tunnels: 254
- IP Routes: up to 7,488
- IP Static Routes: 1,000
- RIPng Interfaces: 24
- RIPng Routes: up to 7,488
- OSPFv3 Interfaces: up to 100
- OSPFv3 Routes: up to 7,488
- OSPFv3 Areas: 64 per switch
- ECMP Groups: 500
- ECMP Paths per Group: 4
- VRRP Interfaces: 64 or 24 with fast timers
- RSMLT Interfaces: 252 Multicast
- IGMP Interfaces: 4,059
- PIM Active Interfaces: 128
- PIM-SSM Static Channels: 512
- IP Multicast Streams: 1,000
- Fabric Connect-PIM Gateway Controllers per Region: 5
- Fabric Connect-PIM Gateway Nodes per Region: 64
- Fabric Connect-PIM Gateway Interfaces per BEB Node: 64
- Fabric Connect-PIM Gateway Source Announcements: 6,000 Fabric Connect
- 802.1aq/RFC 6329 Shortest Path Bridging with Avaya extensions
- MAC Address: 16,000
- NNI Interfaces/Adjacencies: up to 255

- BCB/BEB Nodes per Region: 2,000
- BEB Nodes per VSN: 2,000
- L2 Virtual Service Networks: 1,000
- L3 Virtual Service Networks: up to 128
- IP Shortcut Routes: IPv4 up to 15,744, and IPv6 up to 7,488
- L2 Multicast Virtual Service Networks: 1,000
- L3 Multicast Virtual Service Networks: 128 QoS & Filtering
- IPv4 ACE: 1530 Ingress and 254 Egress
- IPv6 ACE: 256 Ingress
- QoS priority queues: 8 Operations & Management
- Mirrored Ports: 49
- sFlow: up to 100 samples per second
- Fabric RSPAN: 1,000 VLAN IDs
- IEEE
 - 802.1 Bridging (Networking) and Network Management
 - 802.1D MAC Bridges (a.k.a. Spanning Tree Protocol)
 - 802.1p Traffic Class Expediting and Dynamic Multicast Filtering
 - 802.1t 802.1D Maintenance
 - 802.1w Rapid Reconfiguration of Spanning Tree (RSTP)
 - 802.1Q Virtual Local Area Networking (VLAN)
 - 802.1s Multiple Spanning Trees (MSTP)
 - 802.1v VLAN Classification by Protocol and Port
 - 802.1ag Connectivity Fault Management
 - 802.1ah Provider Backbone Bridges
 - 802.1aq Shortest Path Bridging (SPB) MAC-in-MAC
 - 802.1Qbp Equal-Cost Multi-Path (Shortest Path Bridging)
 - 802.1X Port-Based Network Access Control
 - 802.1AB-2005 Station & Media Access Control Connectivity Discovery; aka LLDP (partial support)
 - 802.1AE Media Access Control Security
 - 802.1AX Link Aggregation
 - 802.3 Ethernet
 - 802.3-1983 CSMA/CD Ethernet (ISO/IEC 8802-3)
 - 802.3i-1990 10Mb/s Operation, 10BASE-T Copper
 - 802.3u-1995 100Mb/s Operation, 100BASE-TX Copper, with Auto-Negotiation
 - 802.3x-1997 Full Duplex Operation, including Flow Control
 - 802.3z-1998 1000Mb/s Operation, implemented as 1000BASE-X SFP
 - 802.3ab-1999 1000Mb/s Operation, 1000BASE-T Copper
 - 802.3ae-2002 10Gb/s Operation, implemented as 10GBASE-X SFP+ IETF
- 768 UDP
- 783 TFTP
- 791 IP
- 792 ICMP
- 793 TCP
- 826 ARP
- 854 Telnet

- 894 Transmission of IP Datagrams over Ethernet Networks
- 896 Congestion Control in IP/TCP Internetworks
- 906 Bootstrap Loading using TFTP
- 950 Internet Standard Subnetting Procedure
- 951 BOOTP: Relay Agent-only
- 959 FTP
- 1027 Using ARP to Implement Transparent Subnet Gateways
- 1058 RIP
- 1112 Host Extensions for IP Multicasting
- 1122 Requirements for Internet Hosts - Communication Layers
- 1155 Structure and Identification of Management Information for TCP/IP-based Internets
- 1156 MIB for Network Management of TCP/IP
- 1157 SNMP
- 1212 Concise MIB Definitions
- 1213 MIB for Network Management of TCP/ IP-based Internets: MIB-II
- 1215 Convention for Defining Traps for use with the SNMP
- 1256 ICMP Router Discovery
- 1258 BSD Rlogin
- 1271 Remote Network Monitoring MIB
- 1305 NTPv3
- 1321 MD5 Message-Digest Algorithm
- 1340 Assigned Numbers
- 1350 TFTPv2
- 1398 Ethernet MIB
- 1442 SMIv2 of SNMPv2
- 1450 SNMPv2 MIB
- 1519 CIDR
- 1541 DHCP
- 1542 Clarifications & Extensions for BOOTP
- 1573 Evolution of the Interfaces Group of MIB-II
- 1587 OSPF NSSA Option
- 1591 DNS Client
- 1650 Definitions of Managed Objects for the Ethernet-like Interface Types
- 1657 Definitions of Managed Objects for BGP-4 using SMIv2
- 1723 RIPv2 Carrying Additional Information
- 1812 Router Requirements
- 1850 OSPFv2 MIB
- 1866 HTMLv2
- 1907 SNMPv2 MIB
- 1930 Guidelines for creation, selection, and registration of an AS
- 1981 Path MTU Discovery for IPv6
- 2021 Remote Network Monitoring MIBv2 using SMIv2
- 2068 HTTP
- 2080 RIPng for IPv6
- 2131 DHCP
- 2138 RADIUS Authentication
- 2139 RADIUS Accounting
- 2236 IGMPv2 Snooping

- 2284 PPP Extensible Authentication Protocol
- 2328 OSPFv2
- 2362 PIM-SM
- 2404 HMAC-SHA-1-96 within ESP and AH1
- 2407 Internet IP Security Domain of Interpretation for ISAKMP1
- 2408 Internet Security Association and Key Management Protocol1
- 2428 FTP Extensions for IPv6 and NAT
- 2452 TCP IPv6 MIB
- 2453 RIPv2
- 2454 UDP IPv6 MIB
- 2460 IPv6 Basic Specification
- 2463 ICMPv6
- 2464 Transmission of IPv6 Packets over Ethernet Networks
- 2466 MIB for IPv6: ICMPv6 Group
- 2474 Differentiated Services Field Definitions in IPv4 & IPv6 Headers
- 2475 Architecture for Differentiated Service
- 2541 DNS Security Operational Considerations
- 2545 BGP-4 Multiprotocol Extensions for IPv6 Inter-Domain Routing
- 2548 Microsoft Vendor-specific RADIUS Attributes
- 2572 Message Processing and Dispatching for SNMP
- 2573 SNMP Applications
- 2574 User-based Security Model for SNMPv3
- 2575 View-based Access Control Model for SNMP
- 2576 Coexistence between v1/v2/v3 of the Internet-standard Network Management Framework
- 2578 SMIV2
- 2579 Textual Conventions for SMIV2
- 2580 Conformance Statements for SMIV2
- 2597 Assured Forwarding PHB Group
- 2598 Expedited Forwarding PHB OA&M RFCs
- 2616 HTTPv1.1
- 2716 PPP EAP TLS Authentication Protocol
- 2787 Definitions of Managed Objects for VRRP
- 2818 HTTP over TLS
- 2819 Remote Network Monitoring MIB
- 2863 Interfaces Group MIB
- 2865 RADIUS
- 2874 DNS Extensions for IPv6
- 2925 Definitions of Managed Objects for Remote Ping, Traceroute, & Lookup Operations
- 2933 GMP MIB
- 2934 PIM MIB for IPv4
- 2992 ECMP Algorithm
- 3046 DHCP Relay Agent Information Option 82
- 3162 RADIUS and IPv6
- 3246 Expedited Forwarding PHB
- 3315 DHCPv6
- 3376 IGMPv3
- 3411 Architecture for Describing SNMP Management Frameworks

- 3412 Message Processing and Dispatching for SNMP
- 3413 SNMP Applications
- 3414 USM for SNMPv3
- 3415 VACM for SNMP
- 3416 Protocol Operations v2 for SNMP
- 3417 Transport Mappings for SNMP
- 3418 MIB for SNMP
- 3484 Default Address Selection for IPv6
- 3513 IPv6 Addressing Architecture
- 3569 Overview of SSM
- 3579 RADIUS Support for EAP
- 3587 IPv6 Global Unicast Address Format
- 3596 DNS Extensions to support IPv6
- 3748 Extensible Authentication Protocol
- 3768 VRRP; plus draft-IETF-vrrp-ipv6-spec-08
- 3810 MLDv2 for IPv6: Host Mode-only
- 4007 IPv6 Scoped Address Architecture
- 4022 TCP MIB
- 4087 IP Tunnel MIB
- 4113 UDP MIB
- 4133 Entity MIB Version 3 (partial support)
- 4213 Basic Transition Mechanisms for IPv6 Hosts and Routers
- 4250 SSH Assigned Numbers
- 4251 SSH Protocol Architecture
- 4252 SSH Authentication Protocol
- 4253 SSH Transport Layer Protocol
- 4254 SSH Connection Protocol
- 4255 DNS to Securely Publish SSH Key Fingerprints
- 4256 Generic Message Exchange Authentication for SSH
- 4291 IPv6 Addressing Architecture
- 4292 IP Forwarding Table MIB
- 4293 IP MIB
- 4301 Security Architecture for IP1
- 4302 IP Authentication Header1
- 4303 IP Encapsulating Security Payload1
- 4308 Cryptographic Suites for IPsec
- 4363 Definitions of Managed Objects for Bridges with Traffic Classes, Multicast Filtering, and Virtual LAN Extensions
- 4443 ICMP for IPv6
- 4552 Authentication/Confidentiality for OSPFv3
- 4835 Cryptographic Algorithm Implementation Requirements for ESP & AH1
- 4861 Neighbor Discovery for IPv6
- 4862 IPv6 Stateless Address Auto- Configuration
- 5095 Deprecation of Type 0 Routing Headers in IPv6
- 5187 OSPFv3 Graceful Restart (Helper-mode)
- 5308 Routing IPv6 with IS-IS
- 5340 OSPF for IPv6
- 5798 VRRPv3 for IPv4 & IPv62
- 6105 IPv6 Router Advertisement Guard
- 6329 IS-IS Extensions supporting Shortest Path Bridging QoS RFCs

- 7610 DHCPv6 Shield: Protecting Against Rogue DHCPv6 Servers 1
Vii. MTBF Values 214,542 to 311,104 hours (24.49 to 35.31 years)

SECTION 9: ABBREVIATIONS

AGC - Automatic Gain Control

API - Applications Programming Interface

ARP – Address Resolution Protocol

AWB - Automatic White Balance

BLC – Back Light Compensation

CBR – Constant Bit Rate

CMG - Core/Media Gateway Server

CMOS – Complementary Metal Oxide Semiconductor

CVBR - Constant and Variable Bit Rate

DDNS – Dynamic Domain Name Server

DHCP - Dynamic Host Configuration Protocol

DNR – Digital Noise Reduction

DNS - Domain Name Server

EAP – Extensible Authentication Protocol

FBC - Fort Bend County

FPS - frames per second

FTA - Federal Transit Administration

FTP - File Transfer Protocol

GUI - Graphical User Interface

HTTP - Hypertext Transfer Protocol

HTTPS – Secure Hypertext Transfer Protocol

ICMP – Internet Control Message Protocol

IGMP - Internet Group Management Protocol

IP - Internet Protocol

JPEG - Joint Photographic Experts Group
LDAP - Lightweight Directory Access Protocol
MJPEG - Motion JPEG
MPEG - Moving Pictures Experts Group
MTP - Simple Mail Transfer Protocol
NTP - Network Time Protocol
PoE - Power over Ethernet
PPPoE - Point-to-Point Protocol over Ethernet
QoS – Quality of Service
RARP – Reverse Address Resolution Protocol
RTP - Real-Time Transport Protocol
RTSP - Real-Time Streaming Protocol
SMTP - Simple Mail Transfer Protocol
SNMP - Simple Network Management Protocol
SSH – Secure Shell
SSL – Secure Sockets Layer
TCP - Transmission Control Protocol
UDP - User Datagram Protocol
UPnP – Universal Plug and Play
UPS - Uninterruptible Power Supply
VBR – Variable Bit Rate
VMS - Video Management System
WDR – Wide Dynamic Range

SECTION 10: REFERENCES

EIA/TIA 310D - Cabinets, Racks, Panels, and Associated Equipment.

ISO 9001:2000 - Quality Management Systems – Requirements.

NFPA 70 - National Electrical Code (NEC).

Definitions

Cell – A defined area within a tab.

Playlist – A series of recorded video clips.

Role - A group of permissions defining abilities and responsibilities within a system.

Tab - A layout populated with sources, e.g., video, and plug-ins.

Tags - Custom attributes that users with sufficient rights can create and assign to cameras and devices, helping organize resources.

Workspace - A collection of tabs spanning the monitors connected to a workstation.

**PERIMETER OF THE FACILITY
VIDEO SURVEILLANCE SYSTEM**

Camera System	Unit price	Quantity	Extended Price	Specify (include description like make, model, version or
List all items to be used with detail. Add additional lines as necessary.				
HARDWARE				
Pelco IMM12018 or approved equal		1.00	\$ -	Camera ID C
Pelco P2230-ESR or approved equal		9.00	\$ -	Camera ID F
Pelco S6230-ESGL1 or approved equal		7.00	\$ -	Camera ID G
Subtotal			\$ -	
ACCESSORIES				
Accessory (Unknown)			\$ -	
Subtotal			\$ -	
LABOR				
Labor				
Subtotal				
SOFTWARE				
Licensing		20.00		
Other				
Other				
Subtotal				
Maintenance				
Maintenance for first year				
Maintenance for second year				
Maintenance for third year				
Maintenance for fourth year				
Subtotal				
MISCELLANEOUS (Specify)				
Miscellaneous (unknown)				
Subtotal				

TOTAL

GRAND TOTAL

**ADMINISTRATION BUILDING
VIDEO SURVEILLANCE SYSTEM**

Camera System	Unit price	Quantity	Extended Price	Specify (include description like make, model, version or
List all items to be used with detail. Add additional lines as necessary.				
HARDWARE				
Pelco IMP121-1ES or approved equal		20.00	\$ -	Camera ID A
Pelco S6230-ESGL1 or approved equal		1.00	\$ -	Camera ID B
Pelco IMM12027 or approved equal		2.00	\$ -	Camera ID D
Pelco EVO05NID or approved equal		1.00	\$ -	Camera ID E
Pelco, E1-VXS-96-US-P or approved equal		1.00	\$ -	Server
Pelco, FMCI-PoE Series Media Converters or approved equal		32.00	\$ -	Media converter
Patch Panel		1.00	\$ -	
Avaya 4850GTS-PWR+ or approved equal		2.00	\$ -	POE Switch- 48 port
Subtotal			\$ -	
ACCESSORIES				
Pelco IWM-GY+PA402 or approved equal		12.00	\$ -	
Middle Atlantic, WMRK-4236SVR-AB or approved equal		1.00	\$ -	
Trim rings leave two options		2.00	\$ -	
Subtotal			\$ -	
LABOR				
Labor				
Subtotal				
SOFTWARE				
Licensing		24.00		
Other				
Other				
Subtotal				
Maintenance				
Maintenance for first year				
Maintenance for second year				
Maintenance for third year				
Maintenance for fourth year				
Subtotal				

MISCELLANEOUS (Specify)				
Miscellaneous (unknown)				
Subtotal				

TOTAL

GRAND TOTAL

MAINTENANCE BUILDING
VIDEO SURVEILLANCE SYSTEM

Camera System	Unit price	Quantity	Extended Price	Specify (include description like make,
List all items to be used with detail. Add additional lines as necessary.				
HARDWARE				
Pelco IMP121-1ES or approved equal		10.00	\$ -	Camera ID A
Pelco IMM12027 or approved equal		4.00	\$ -	Camera ID D
Subtotal			\$ -	
ACCESSORIES				
Accessory (Unknown)			\$ -	
Subtotal			\$ -	
LABOR				
Labor				
Subtotal				
SOFTWARE				
Licensing		14.00		
Other				
Other				
Subtotal				
Maintenance				
Maintenance for first year				
Maintenance for second year				
Maintenance for third year				
Maintenance for fourth year				
Subtotal				
MISCELLANEOUS (Specify)				
Miscellaneous (unknown)				
Subtotal				

TOTAL

GRAND TOTAL

\$ -

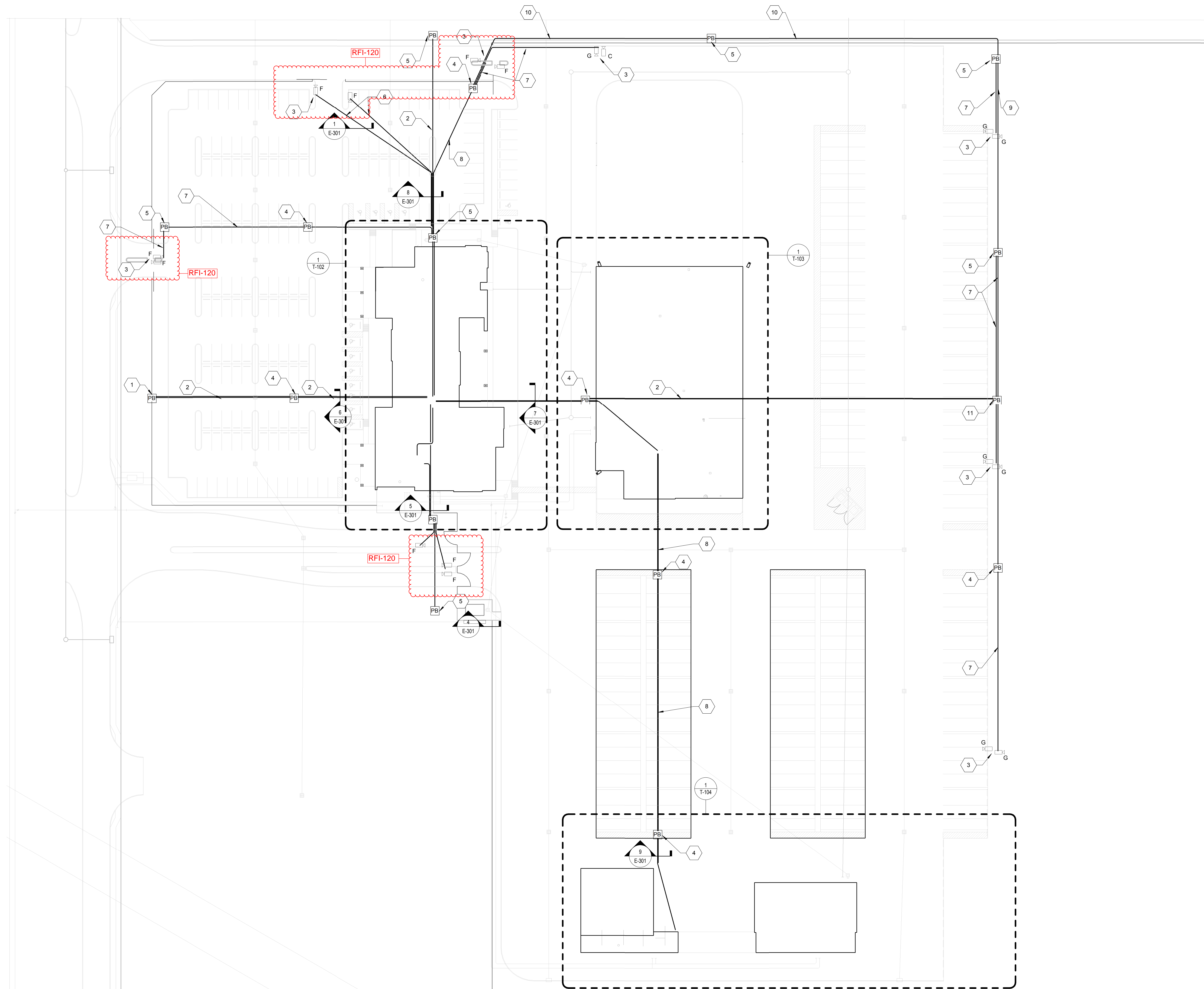
FUEL & WASH BUILDING
VIDEO SURVEILLANCE SYSTEM

Camera System	Unit price	Quantity	Extended Price	Specify (include description like make,
List all items to be used with detail. Add additional lines as necessary.				
HARDWARE				
Pelco IMP121-1ES or approved equal		7.00	\$ -	Camera ID A
Pelco S6230-ESGL1 or approved equal		1.00	\$ -	Camera ID B
Pelco IMM12018 or approved equal		1.00	\$ -	Camera ID C
Pelco IMM12027 or approved equal		2.00	\$ -	Camera ID D
Pelco EVO05NID or approved equal		1.00	\$ -	Camera ID E
Subtotal			\$ -	
ACCESSORIES				
Accessory (unknown)			\$ -	
Subtotal			\$ -	
LABOR				
Labor				
Subtotal				
SOFTWARE				
Licensing		12.00		
Other				
Subtotal				
Maintenance				
Maintenance for first year				
Maintenance for second year				
Maintenance for third year				
Maintenance for fourth year				
Subtotal				
MISCELLANEOUS (Specify)				
Miscellaneous (unknown)				
Subtotal				

TOTAL

GRAND TOTAL

\$ -



1 TELECOMMUNICATION CAMERA SITE PLAN
SCALE: 1" = 40'-0"
RF-038

GENERAL NOTES

- REFER TO SHEET T-801 FOR THE PROPOSED CAMERA SCHEDULE.
- INSTALL ALL TELECOMMUNICATION CONDUIT AT LEAST 2' BELOW GRADE.
- ENGAGE A LICENSED SECURITY CONTRACTOR FOR THIS WORK. ENSURE THAT A COMPLETE AND FUNCTIONAL SYSTEM IS PROVIDED. NOTIFY THE OWNER AND ENGINEER OF ANY DISCREPANCIES OR DEFICIENCIES.
- PROVIDE YELLOW JACKET CABLE FOR ALL CCTV CAMERA NETWORK/DATA CABLING. ENSURE CABLE COLOR IS DISTINCT FROM NON-CCTV CAMERA DATA CABLING.

KEYED NOTES

- PULLBOX PROVIDED IN ROADWAY SET. COORDINATE WITH ROADWAY CONTRACTOR FOR FINAL LOCATION AND CONTINUE CONDUITS AS SHOWN.
- PROVIDE (1) 4" CONDUIT WITH 144 STRAND FIBEROPTIC CABLE UNDERGROUND.
- PROPOSED PENETRATION LOCATION FOR POLE OR PEDESTAL MOUNTED CAMERAS. COORDINATE WITH OWNER FOR FINAL PENETRATION LOCATION, GAP/FILL PENETRATIONS.
- PROVIDE PRECAST CONCRETE H20 RATED COVER PULL BOX. COORDINATE WITH OWNER FOR INSTALLATION LOCATION.
- PROVIDE STANDARD LIGHT WEIGHT PULLBOX. COORDINATE WITH OWNER FOR INSTALLATION LOCATION AT LEAST 5'-0" FROM VEHICLE CURB.
- PROVIDE (1) 2" CONDUIT WITH (2) CAT 6 CABLES.
- PROVIDE (1) 2" CONDUIT WITH (4) CAT 6 CABLES.
- PROVIDE (1) 4" CONDUIT WITH 20 CAT 6 CABLES AND (1) 4" CONDUIT WITH (1) 12 STRAND MULTIMODE FIBER OPTIC CABLE.
- PROVIDE (1) 2" CONDUIT WITH (8) CAT 6 CABLES.
- PROVIDE (1) 2" CONDUIT WITH (12) CAT 6 CABLES.
- PROVIDE H20 TRAFFIC RATED PULLBOX. COORDINATE WITH OWNER FOR INSTALLATION LOCATION AT LEAST 5'-0" FROM VEHICLE CURB. PROVIDE (1) 4" CONDUIT WITH FIBER OPTIC CABLE FROM THIS PULL BOX TO THE FUELING STATION LOCATED APPROXIMATELY 2,000 FT TO THE EAST. PROVIDE AN H20 TRAFFIC RATED PULLBOX EVERY 1000'.

KEY PLAN

REVISIONS

NO.	DESCRIPTION	DATE
0	ISSUED FOR PERMIT & CONSTRUCTION	02/28/18

FILE LOG

Manager	JDU
Design	MDM
Draw	NS
Check	MDM

STAMP



Lockwood, Andrews & Newnam, Inc.
Texas Registered Engineering Firm F-2614

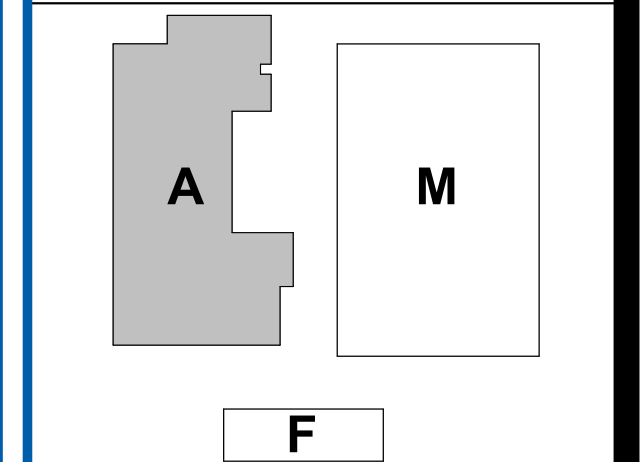
0 20' 40' 60'
SCALE: 1" = 40'-0"

Project No. 170-10807-002
Date: 02/28/2018

TELECOMMUNICATION SITE PLAN



KEY PLAN



REVISIONS

NO.	DESCRIPTION	DATE
0	ISSUED FOR PERMIT & CONSTRUCTION	02/28/18

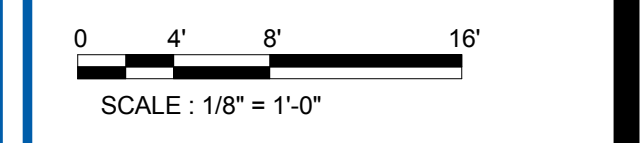
FILE LOG

Manager	JDJ
Design	MDM
Draw	NS
Check	MDM

STAMP



Lockwood, Andrews & Newnam, Inc.
Texas Registered Engineering Firm F-2614



Project No. 170-10807-002
Date: 02/28/2018

TELECOMMUNICATION ADMIN
BUILDING PLAN



1 TELECOMMUNICATION ADMIN BUILDING PLAN
SCALE: 1/8" = 1'-0"

GENERAL NOTES

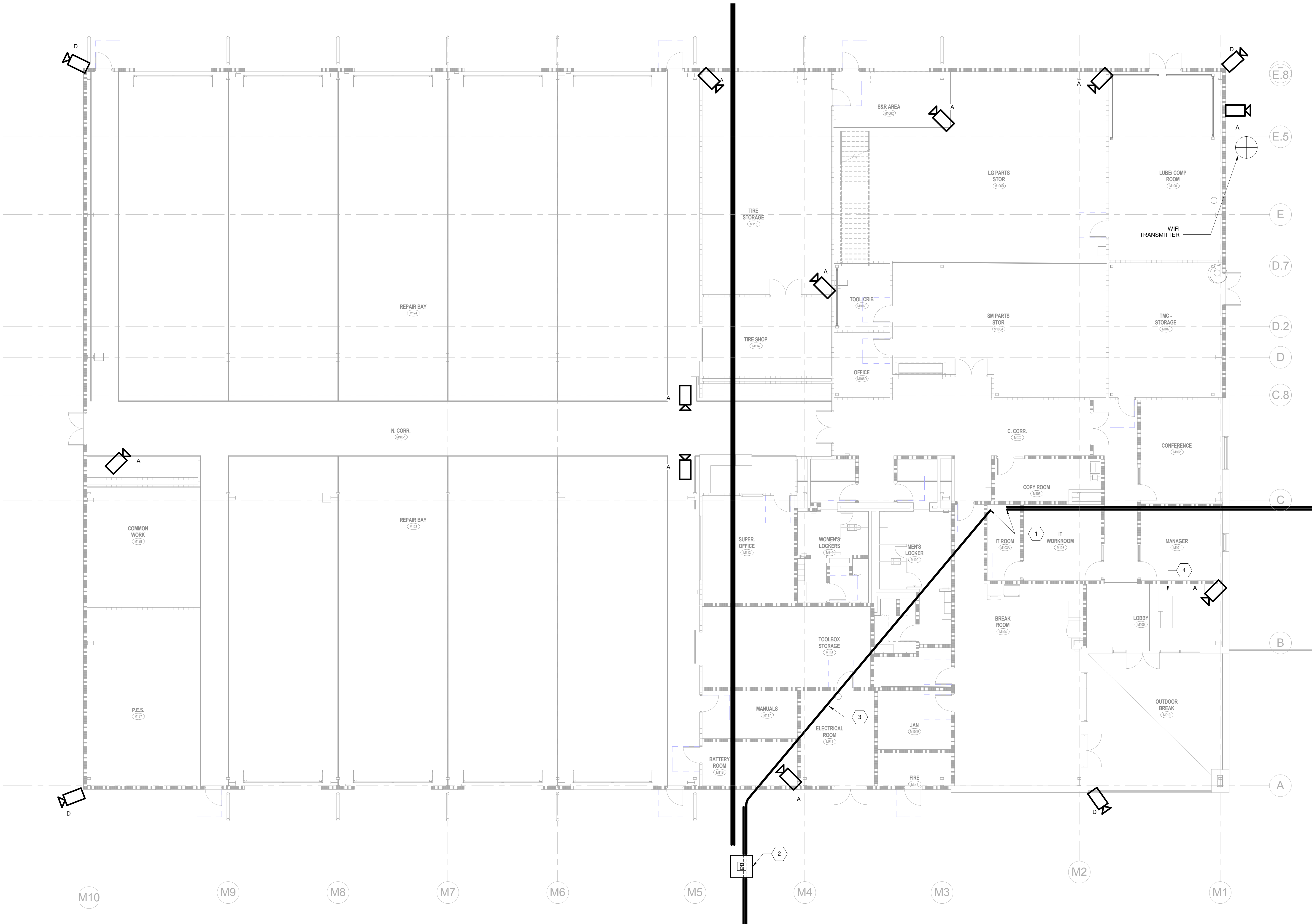
- REFER TO SHEET T-601 FOR THE PROPOSED CAMERA SCHEDULE.
- PROVIDE A 1" CONDUIT AND (2) CAT 6 CABLES FOR EACH CAMERA SHOWN. ROUTE BACK TO THE IT CLOSET ROOM A122.
- ENGAGE A LICENSED SECURITY CONTRACTOR FOR THIS WORK. ENSURE THAT A COMPLETE AND FUNCTIONAL SYSTEM IS PROVIDED. NOTIFY THE OWNER AND ENGINEER OF ANY DISCREPANCIES OR DEFICIENCIES.
- PROVIDE YELLOW JACKET CABLE FOR ALL CCTV CAMERA NETWORK/DATA CABLING. ENSURE CABLE COLOR IS DISTINCT FROM NON-CCTV CAMERA DATA CABLING.

KEYED NOTES

- PROPOSED PENETRATION LOCATION. COORDINATE WITH OWNER FOR FINAL PENETRATION LOCATION. CAP ALL PENETRATIONS.
- COORDINATE WITH LICENSED SECURITY CONTRACTOR TO PROVIDE A PELCO DECODER AT THIS LOCATION FOR CCTV CAMERAS. PROVIDE POWER AND DATA CONNECTIONS AS REQUIRED. NOTIFY OWNER AND ENGINEER OF ANY DISCREPANCIES.
- COORDINATE WITH LICENSED SECURITY CONTRACTOR TO PROVIDE A PELCO DS STATION AT THIS LOCATION FOR CCTV CAMERAS. PROVIDE POWER AND DATA CONNECTIONS AS REQUIRED. NOTIFY OWNER AND ENGINEER OF ANY DISCREPANCIES.
- PROVIDE STANDARD LIGHT WEIGHT PULLBOX. COORDINATE WITH OWNER FOR INSTALLATION LOCATION AT LEAST 5'-0" VEHICLE CURB.
- PROVIDE (1) 2" CONDUIT WITH (6) CAT 6 CABLES.
- PROVIDE (1) 4" CONDUIT WITH 55 CAT 6 CABLES AND (1) 4" CONDUIT WITH (2) 12 STRAND MULTIMODE FIBER OPTIC CABLE.
- PROVIDE (1) 2" CONDUIT WITH (4) CAT 6 CABLES.
- PROVIDE A CCTV DATA DROP IN THIS LOCATION. PROVIDE A YELLOW JACKET CAT-6 AND KEYSTONE FROM THE SECURITY IT CLOSET.



2/23/2018 2:52:39 AM C:\Users\Nishant.D\Documents\AutoCAD\New\2018\FortBend\170-10807-002\Fort Bend_Telecom MEP - 102.dwg



1 TELECOMMUNICATION MAINTENANCE BUILDING PLAN
SCALE: 1/8" = 1'-0"

GENERAL NOTES

- REFER TO SHEET T-201 FOR THE PROPOSED CAMERA SCHEDULE. PROVIDE A 1" CONDUIT AND (2) CAT 6 CABLES FOR EACH CAMERA SHOWN. ROUTE BACK TO THE IT CLOSET ROOM M103A.
- ENGAGE A LICENSED SECURITY CONTRACTOR FOR THIS WORK. ENSURE THAT A COMPLETE AND FUNCTIONAL SYSTEM IS PROVIDED. NOTIFY THE OWNER AND ENGINEER OF ANY DISCREPANCIES OR DEFICIENCIES.
- PROVIDE YELLOW JACKET CABLE FOR ALL CCTV CAMERA NETWORK/DATA CABLING. ENSURE CABLE COLOR IS DISTINCT FROM NON-CCTV CAMERA DATA CABLING.

KEYED NOTES

- PROPOSED PENETRATION LOCATION. COORDINATE WITH OWNER FOR FINAL PENETRATION LOCATION. CAP ALL PENETRATIONS.
- PROVIDE PRECAST CONCRETE WITH HS20 RATED COVER PULL BOX. COORDINATE WITH OWNER FOR INSTALLATION LOCATION.
- PROVIDE (1) 4" CONDUIT WITH 6 CAT 6 CABLES AND (1) 4" CONDUIT WITH (2) 12 STRAND MULTIMODE FIBER OPTIC CABLE.
- PROVIDE A CCTV DATA DROP IN THIS LOCATION. PROVIDE A YELLOW JACKET CAT-6 AND KEYSTONE FROM THE SECURITY IT CLOSET.

Public Transportation Bus Maintenance Facility

Rosenberg, Texas

Fort Bend County

301 Jackson St. Richmond, Texas 77469



2925 Briarpark Drive
Suite 400
Houston, TX 77042
Tel 713-266-6900
www.lan-inc.com

RdR ARCHITECTS

ARCHITECTURE | PLANNING | INTERIORS
1245 West 18th Street Houston, Texas 77008
phone 713.868.3121 www.rdr.com

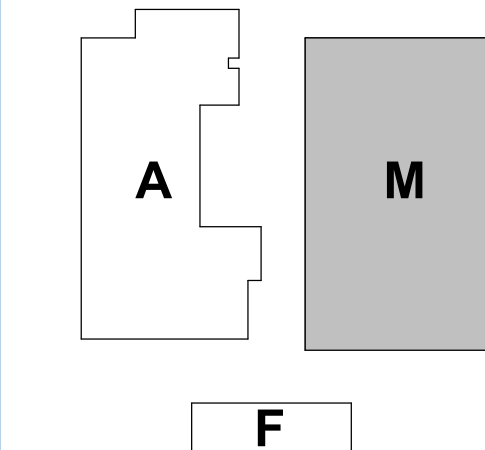


810 South Mason Rd., Suite 208
Houston, TX 77450
Tel 832-327-6006



Planning | Urban Design | Landscape Architecture
1002 Washington Ave., Suite A Houston, Texas 77007 P: 713.337.5830

KEY PLAN



REVISIONS

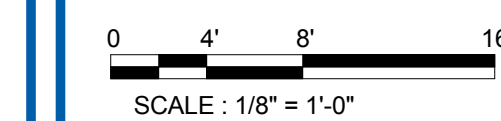
NO.	DESCRIPTION	DATE
0	ISSUED FOR PERMIT & CONSTRUCTION	02/28/18

FILE LOG

Manager	JDJ
Design	MDM
Draw	NS
Check	MDM
Stamp	



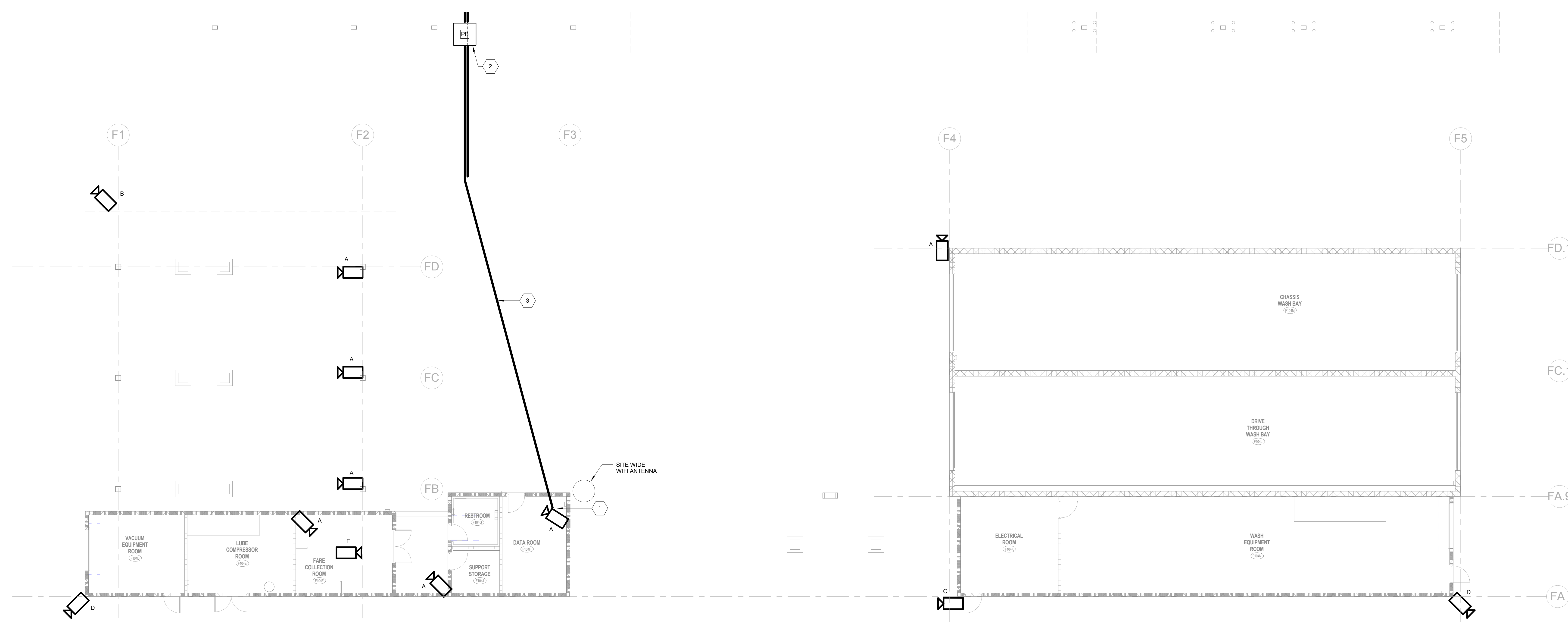
Lockwood, Andrews & Newnam, Inc.
Texas Registered Engineering Firm F-2614



Project No. 170-10807-002
Date: 02/28/2018

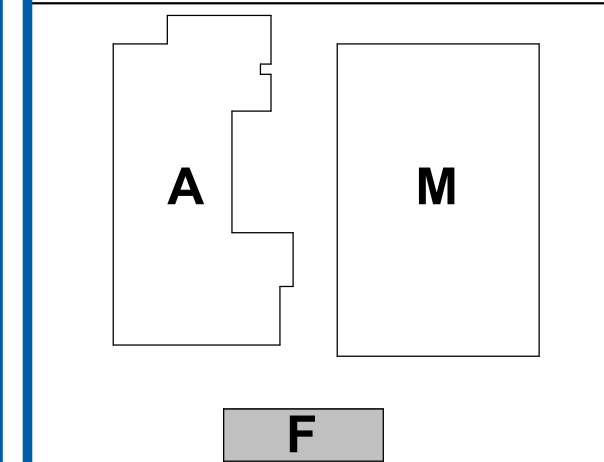
TELECOMMUNICATION MAINTENANCE BUILDING PLAN





1 TELECOMMUNICATION FUEL-WASH BUILDING PLAN
SCALE: 1/8" = 1'-0"

KEY PLAN



REVISIONS

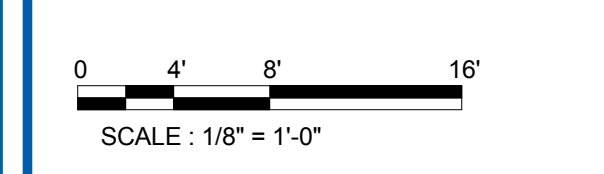
NO.	DESCRIPTION	DATE
0	ISSUED FOR PERMIT & CONSTRUCTION	02/28/18

FILE LOG

Manager	JDJ
Design	MDM
Draw	NS
Check	MDM

STAMP

Lockwood, Andrews & Newnam, Inc.
Texas Registered Engineering Firm F-2614



GENERAL NOTES

- REFER TO SHEET T-611 FOR THE PROPOSED CAMERA SCHEDULE. PROVIDE A 1" CONDUIT AND (2) CAT 6 CABLES FOR EACH CAMERA SHOWN. ROUTE BACK TO THE DATA ROOM F104H.
- ENGAGE A LICENSED SECURITY CONTRACTOR FOR THIS WORK. ENSURE THAT A COMPLETE AND FUNCTIONAL SYSTEM IS PROVIDED. NOTIFY THE OWNER AND ENGINEER OF ANY DISCREPANCIES OR DEFICIENCIES.
- PROVIDE YELLOW JACKET CABLE FOR ALL CCTV CAMERA NETWORK/DATA CABLING. ENSURE CABLE COLOR IS DISTINCT FROM NON-CCTV CAMERA DATA CABLING.

KEYED NOTES

- PROPOSED PENETRATION LOCATION. COORDINATE WITH OWNER FOR FINAL PENETRATION LOCATION. CAP ALL PENETRATIONS.
- PROVIDE PRECAST CONCRETE HS20 RATED COVER PULL BOX. COORDINATE WITH OWNER FOR INSTALLATION LOCATION.
- PROVIDE (1) 4" CONDUIT WITH 20 CAT 6 CABLES AND (1) 4" CONDUIT WITH (1) 12 STRAND MULTIMODE FIBER OPTIC CABLE.

Project No. 170-10807-002
Date: 02/28/2018

TELECOMMUNICATION FUEL
WASH STATION PLAN

2/23/2018 2:52:40 AM C:\Users\Nishant\Documents\AutoCAD\Drawings\2018\FortBend\170-10807-002-Fuel-Wash-Telecom-MFP.dwg



2925 Briarpark Drive
Suite 400
Houston, TX 77042
Tel 713-266-6900
www.lan-inc.com

RdIR ARCHITECTS

ARCHITECTURE | PLANNING | INTERIORS
1245 West 18th Street Houston, Texas 77008
phone 713.868.3121 www.rdir.com



810 South Mason Rd., Suite 208
Houston, TX 77450
Tel 832-327-6006



Planning Urban Design Landscape Architecture
1902 Washington Ave., Suite A Houston, Texas 77007 P. 713.337.5830

CAMERA SCHEDULE						
FIXTURE ID	MANUFACTURER	TYPE	MODEL	MOUNTING	INSTALLATION	NOTES
A	PELCO	STANDARD	NEXTGEN SARIX OR... Spectra Enhanced (Environmental Models)	TYPICAL MOUNT	INSTALL BETWEEN 8' - 15' FROM GROUND. COORDINATE LOCATION WITH OWNER.	
B	PELCO	PAN TILT ZOOM		TYPICAL MOUNT	INSTALL BETWEEN 8' - 15' FROM GROUND. COORDINATE LOCATION WITH OWNER.	
C	PELCO	180° VIEW	IMM12018-xxx	TYPICAL MOUNT	INSTALL BETWEEN 8' - 15' FROM GROUND. COORDINATE LOCATION WITH OWNER.	INDOOR/OUTDOOR PANORAMIC IP CAMERA, 12 MPx
D	PELCO	270° VIEW	IMM12027-xxx	TYPICAL MOUNT	INSTALL BETWEEN 8' - 15' FROM GROUND. COORDINATE LOCATION WITH OWNER.	INDOOR/OUTDOOR PANORAMIC IP CAMERA, 12 MPx
E	PELCO	360° INDOOR DOME CAMERA	EVO-05NID	TYPICAL MOUNT	INSTALL BETWEEN 8' - 15' FROM GROUND. COORDINATE LOCATION WITH OWNER.	5 MPx, WHITE ENCLOSURE
F	PELCO	LICENSE PLATE CAMERA	NEXTGEN SARIX OR AS SPECIFIED	PEDESTAL MOUNT	COORDINATE LOCATION WITH OWNER.	
G	PELCO	PAN TILT ZOOM	Spectra Enhanced (Environmental Models)	LIGHT POLE MOUNT	INSTALL AT A MINIMUM OF 25'. COORDINATE LOCATION WITH OWNER.	

RFI-187

KEY PLAN

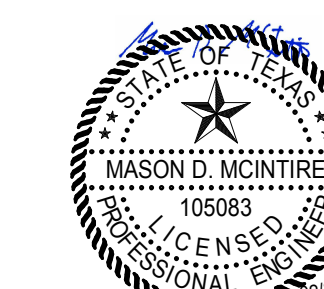
REVISIONS

NO.	DESCRIPTION	DATE
0	ISSUED FOR PERMIT & CONSTRUCTION	02/28/18

FILE LOG

Manager	JDJ
Design	MDM
Draw	NS
Check	MDM

STAMP



Lockwood, Andrews & Newnam, Inc.
Texas Registered Engineering Firm F-2614

GENERAL NOTES

- REFER TO SPECIFICATION 282300 IP VIDEO SURVEILLANCE SYSTEM FOR ADDITIONAL SYSTEM AND PERFORMANCE REQUIREMENTS.
- ENGAGE A LICENSED SECURITY CONTRACTOR FOR THIS WORK. ENSURE THAT A COMPLETE AND FUNCTIONAL SYSTEM IS PROVIDED. NOTIFY THE OWNER AND ENGINEER OF ANY DISCREPANCIES OR DEFICIENCIES.
- PROVIDE YELLOW JACKET CABLE FOR ALL CCTV CAMERA NETWORK/DATA CABLING. ENSURE CABLE COLOR IS DISTINCT FROM NON-CCTV CAMERA DATA CABLING.

KEYED NOTES

Project No. 170-10807-002
Date: 02/28/2018

TELECOMMUNICATION
SCHEDULES

T-601



REQUEST FOR INFORMATION

PROJ: FBC Bus Maintenance Facility
3737 Bamore Road
Rosenberg, TX 77471

RFI#: 003

DATE: 9/6/18

SG PROJ #: 4018015.01

TO: Claud Marshall

FROM: Bryce Sutter

SUBJ: Telecommunication Pull Box

SPECIFICATIONS:

DRAWINGS: T101

QUESTION: (number each question)

RECOMMENDATION: (number each Option)

Please see attached Prism Electric RFI-002

BY, TITLE: Bryce Sutter, Assistant Project Manager

DATE REQUIRED:

STATUS: CRITICAL IMPORTANT ROUTINE

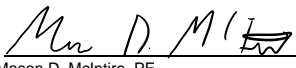
IMPACTS: COST TIME

RESPONSE: (List responses with same numbering as questions)

1 and 2. Provide pullboxes as shown on detail 1 sheet E-502.

3. Provide traffic rated covers. The area highlighted in the plan east area will become parking space in the future so traffic rated covers are required.

T-501 markup: Relocating that pullbox north of the admin building to limit conduit bends is acceptable.

BY: 
Mason D. McIntire, PE
Lockwood, Andrews, & Newnam Inc.

DATE: 09/07/2018

RESPONSE TO:

RFI #2 – PEI RFI 002 - T101 Telecommunication Pull Box Clarification

Due
Sep 19, 2018

Sent on
Sep 05, 2018

Sent by
Richard Rios

Assigned to
No one assigned.

Question

Prism would like clarification on the following questions.

- 1.) On sheet T-101, note 5 says to provide a standard lightweight pull box. Are we to size per NEC code?
- 2.) Also on sheet T-101, note 11 states to provide an H20 traffic rated pull box, but does not specify a size. Are we to size per NEC code?
- 3.) Architectural site drawings call for traffic rated pull boxes in grass areas. Can Prism assume that if a pull box is not in a concrete area, it does not need to be traffic rated?

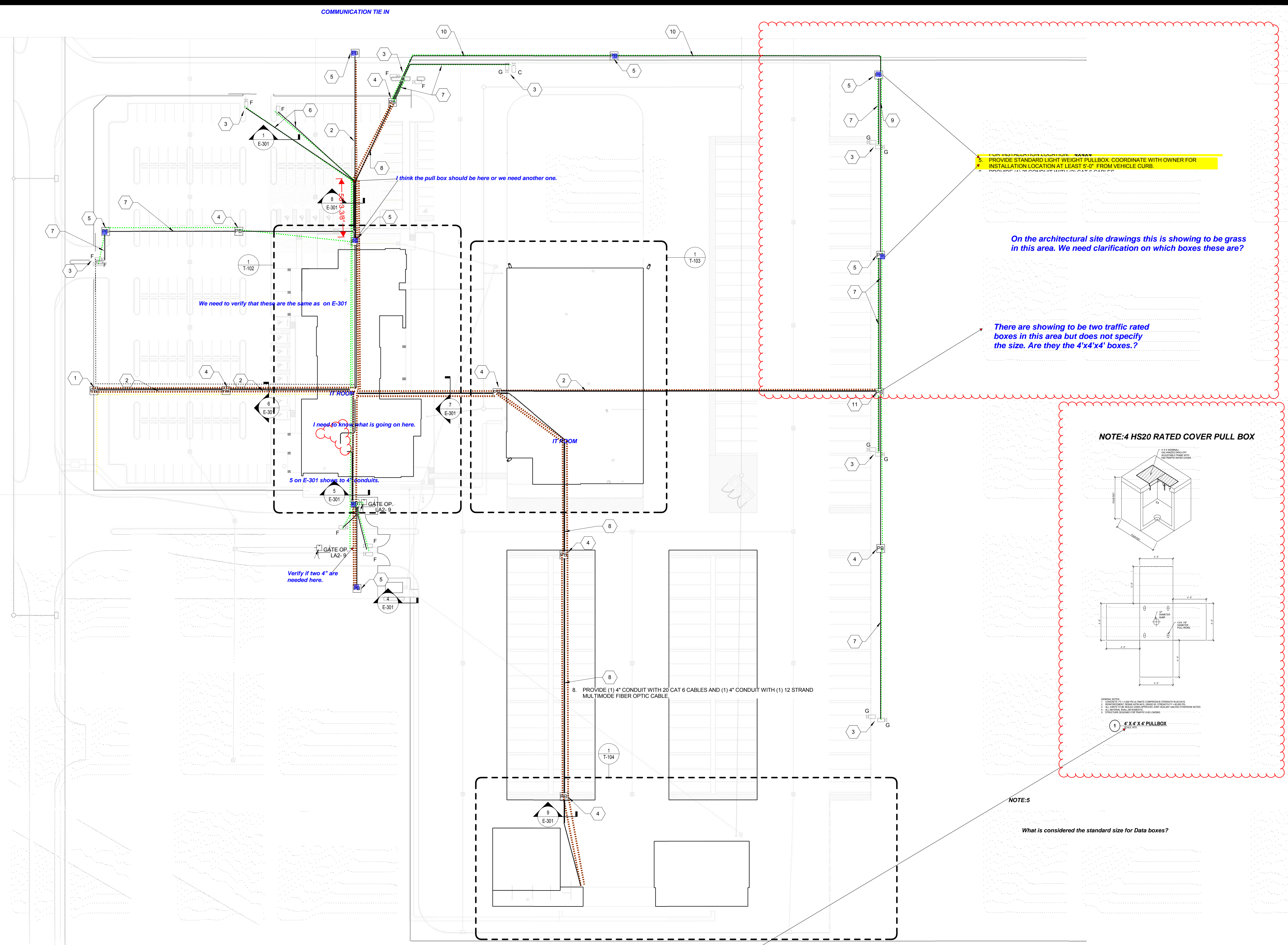
Please clarify these notes and requirements.

Answer

References (1)

»Document titled "RFI 002 - T101 Telecommunication Pull Box Clarification.pdf"

2/23/2016 7:52:38 AM C:\Users\Ashraf\Documents\2016\Projects\170-10807-2016\Final\Transit\MFP - site.dwg



1 TELECOMMUNICATION CAMERA SITE PLAN
SCALE: 1" = 40'-0"

- GENERAL NOTES**
- REFER TO SHEET T-801 FOR THE PROPOSED CAMERA SCHEDULE.
 - INSTALL ALL TELECOMMUNICATION CONDUIT AT LEAST 2' BELOW GRADE.
 - ENGAGE A LICENSED SECURITY CONTRACTOR FOR THIS WORK. ENSURE THAT A COMPLETE AND FUNCTIONAL SYSTEM IS PROVIDED. NOTIFY THE OWNER AND ENGINEER OF ANY DISCREPANCIES OR DEFICIENCIES.
 - PROVIDE YELLOW JACKET CABLE FOR ALL CCTV CAMERA NETWORK/DATA CABLING. ENSURE CABLE COLOR IS DISTINCT FROM NON-CCTV CAMERA DATA CABLING.

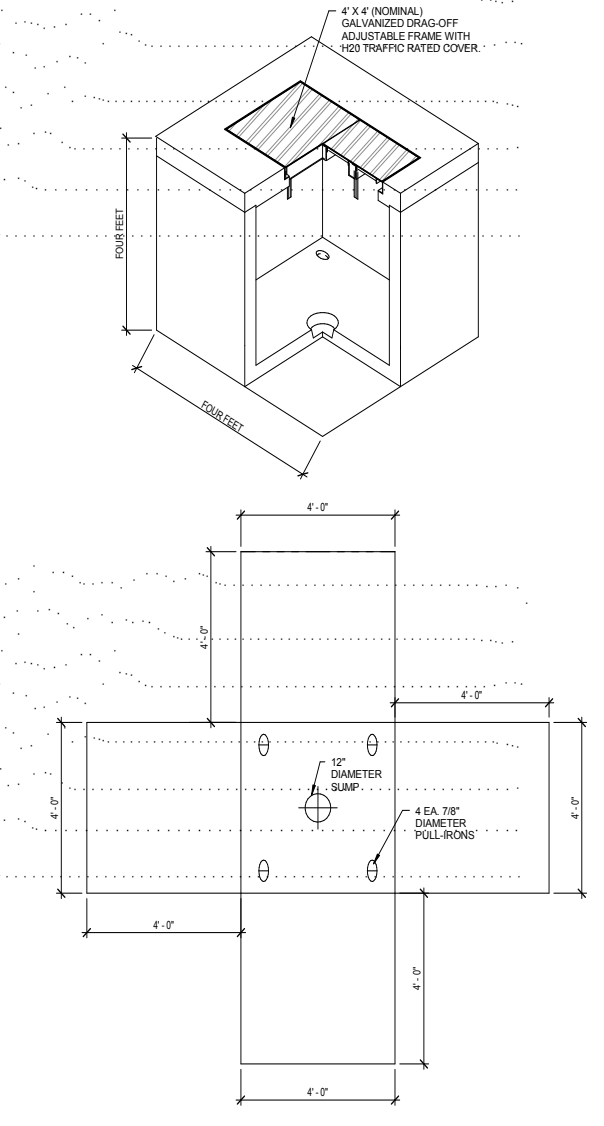
- KEYED NOTES**
- PULLBOX PROVIDED IN ROADWAY SET. COORDINATE WITH ROADWAY CONTRACTOR FOR FINAL LOCATION AND CONTINUE CONDUITS AS SHOWN.
 - PROVIDE (1) 4" CONDUIT WITH 144 STRAND FIBEROPTIC CABLE UNDERGROUND.
 - PROPOSED PENETRATION LOCATION FOR POLE OR PEDESTAL MOUNTED CAMERAS. COORDINATE WITH OWNER FOR FINAL PENETRATION LOCATION. CAP ALL PENETRATIONS.
 - PROVIDE PRECAST CONCRETE HS20 RATED COVER PULL BOX. COORDINATE WITH OWNER FOR INSTALLATION LOCATION.
 - PROVIDE STANDARD LIGHT WEIGHT PULLBOX. COORDINATE WITH OWNER FOR INSTALLATION LOCATION AT LEAST 5'-0" FROM VEHICLE CURB.
 - PROVIDE (1) 2" CONDUIT WITH (2) CAT 6 CABLES.
 - PROVIDE (1) 2" CONDUIT WITH (4) CAT 6 CABLES.
 - PROVIDE (1) 4" CONDUIT WITH 20 CAT 6 CABLES AND (1) 4" CONDUIT WITH (1) 12 STRAND MULTIMODE FIBER OPTIC CABLE.
 - PROVIDE (1) 2" CONDUIT WITH (8) CAT 6 CABLES.
 - PROVIDE (1) 2" CONDUIT WITH (12) CAT 6 CABLES.
 - PROVIDE H20 TRAFFIC RATED PULLBOX. COORDINATE WITH OWNER FOR INSTALLATION LOCATION AT LEAST 5'-0" FROM VEHICLE CURB. PROVIDE (1) 4" CONDUIT WITH FIBER OPTIC CABLE FROM THIS PULL BOX TO THE FUELING STATION LOCATED APPROXIMATELY 2,000 FT TO THE EAST. PROVIDE AN H20 TRAFFIC RATED PULLBOX EVERY 1000'.

5. PROVIDE STANDARD LIGHT WEIGHT PULLBOX. COORDINATE WITH OWNER FOR INSTALLATION LOCATION AT LEAST 5'-0" FROM VEHICLE CURB.

On the architectural site drawings this is showing to be grass in this area. We need clarification on which boxes these are?

There are showing to be two traffic rated boxes in this area but does not specify the size. Are they the 4'x4'x4' boxes.?

NOTE: 4 HS20 RATED COVER PULL BOX



1 4' x 4' x 4' PULLBOX

NOTE: 5
What is considered the standard size for Data boxes?

Public Transportation Bus Maintenance Facility
Rosenberg, Texas

Fort Bend County
301 Jackson St. Richmond, Texas 77469

LDN Lockwood, Andrews & Newnam, Inc.
A LEED A DAILY COMPANY
2925 Briarpark Drive Suite 400
Houston, TX 77042
Tel: 713-266-6900
www.lan-inc.com

RdIR ARCHITECTS
ARCHITECTURE | PLANNING | INTERIORS
1245 West 18th Street Houston, Texas 77008
phone 713.868.3121 www.rdir.com

Maintenance Design Group
810 South Mason Rd., Suite 208
Houston, TX 77450
Tel 832-327-6006

asakura robinson
Planning, Urban Design, Landscape Architecture
1022 Washington Ave., Suite A Houston, Texas 77007 P: 713.337.5833

KEY PLAN

REVISIONS

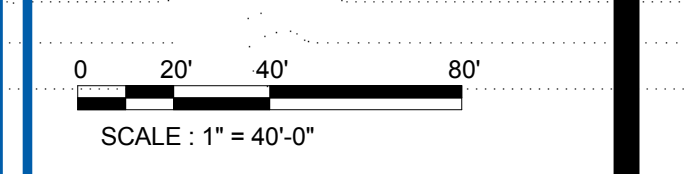
NO.	DESCRIPTION	DATE
0	ISSUED FOR PERMIT & CONSTRUCTION	02/28/16

FILE LOG

Manager	JDJ
Design	MDM
Draw	NS
Check	MDM

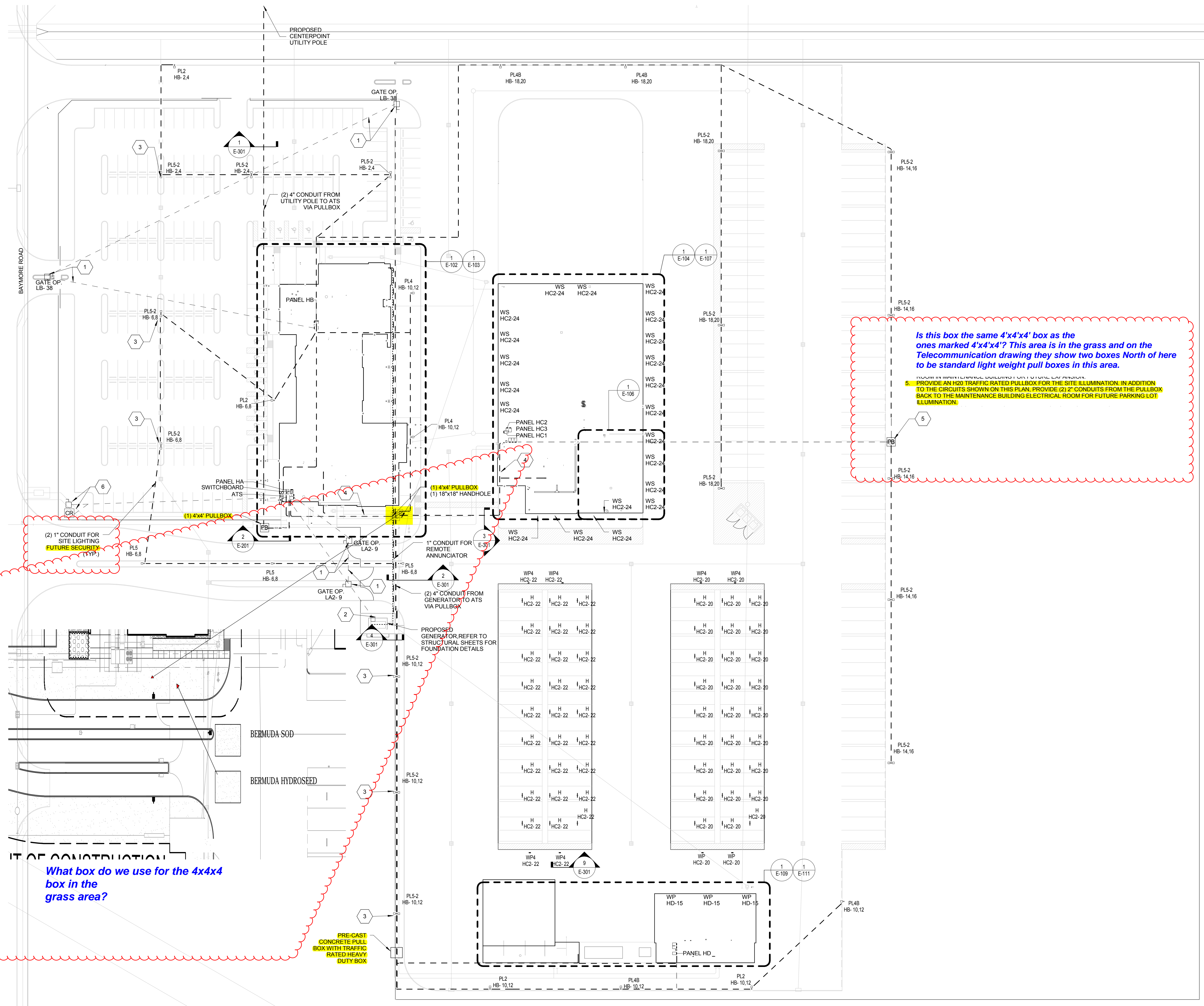
STAMP

Lockwood, Andrews & Newnam, Inc.
Texas Registered Engineering Firm F-2614

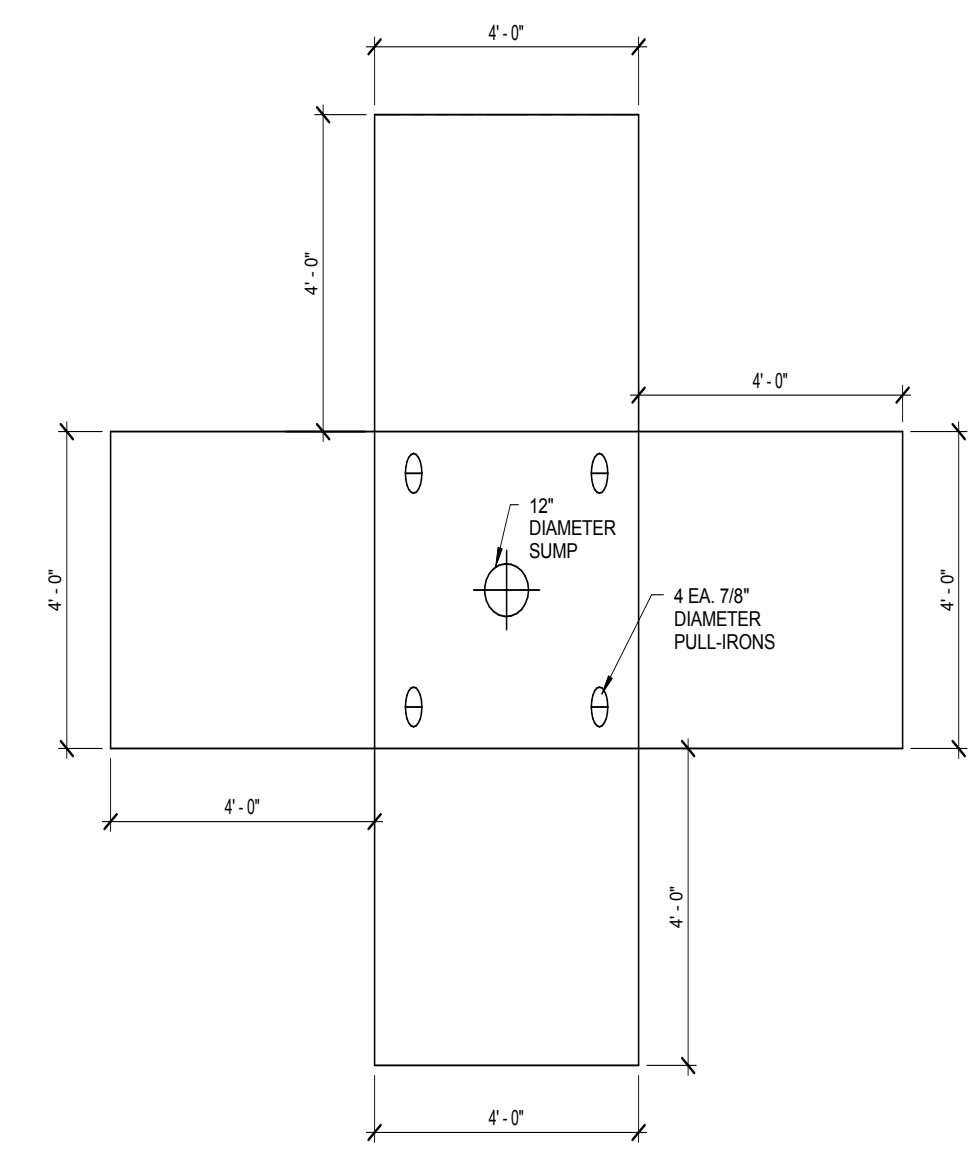
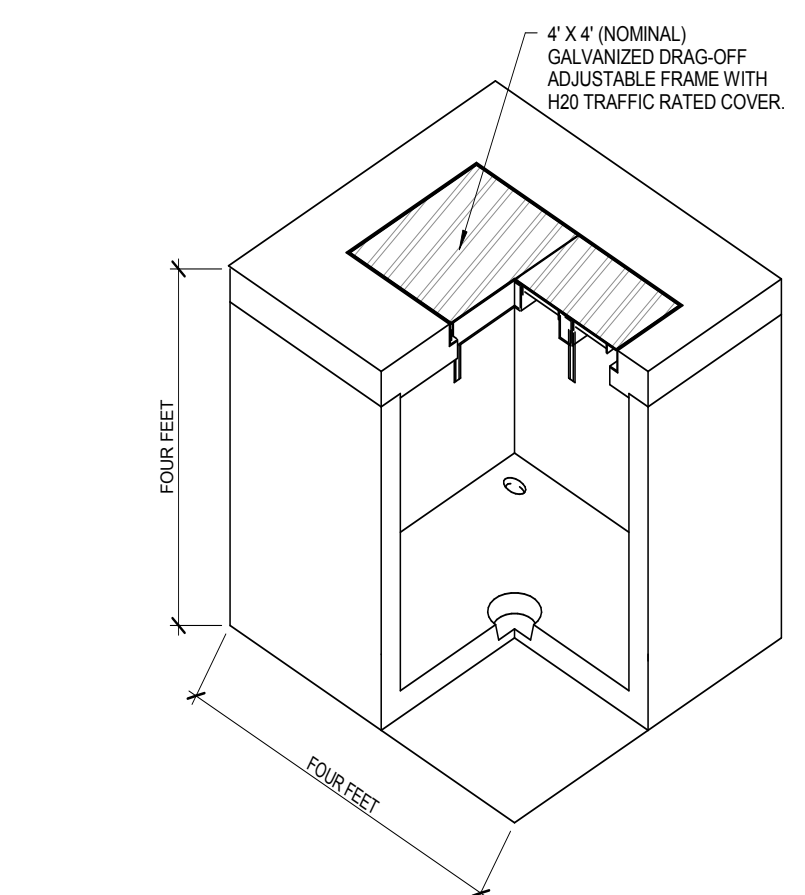


Project No. 170-10807-002
Date: 02/28/2016

TELECOMMUNICATION SITE PLAN



Is this box the same 4'x4'x4' box as the ones marked 4'x4'x4'? This area is in the grass and on the Telecommunication drawing they show two boxes North of here to be same light weight pull boxes in this area.



- GENERAL NOTES:
1. CONCRETE: FC = 4,000 PSI ULTIMATE COMPRESSIVE STRENGTH IN 28 DAYS.
 2. REINFORCEMENT: REBAR ASTM A615, GRADE 60, STRENGTH F_y = 60,000 PSI.
 3. ALL JOINTS TO BE SEALED USING APPROVED JOINT SEALANT UNLESS OTHERWISE NOTED.
 4. ALL MATERIAL SHALL BE DOMESTIC.
 5. STRUCTURE DESIGNED FOR TRAFFIC H-20 LOADING.

1 4' X 4' X 4' PULLBOX
SCALE: 1/8\"/>

(2) 1\"/>

What box do we use for the 4x4x4 box in the grass area?

PRE-CAST CONCRETE PULL BOX WITH TRAFFIC RATED HEAVY DUTY BOX

1 ELECTRICAL SITE PLAN
SCALE: 1\"/>

- GENERAL NOTES**
1. REFER TO SHEET E-001 FOR THE SYMBOLS AND LEGEND.
 2. REFER TO SHEET E-001 FOR THE PROPOSED ONE-LINE DIAGRAM.
 3. REFER TO SHEET E-602 FOR THE PROPOSED LIGHT FIXTURE SCHEDULE.
 4. PROVIDE A LIGHTING CONTROL PANEL AS SPECIFIED IN SECTION 28 05 23. ADJACENT TO EACH PANEL FEEDING THE LIGHTING CIRCUIT SHOWN. LOCATE PHOTOCELL ON ROOF AND COORDINATE PENETRATION WITH PEMB MANUFACTURER. REFER TO DETAIL 9E-301 FOR CONTROL SCHEMATIC.
 5. PROVIDE GATE OPERATORS AT EVERY ENTRANCE AND ENSURE LOOP DETECTORS ARE FUNCTIONING PROPERLY. NOTIFY THE BEGINNER AND OWNER OF ANY DISCREPANCIES.
 6. PROVIDE IT EQUIPMENT AS LISTED IN APPENDIX A SECTION PARTS/PPOWER LIST FOR FORT BEND COUNTY PUBLIC TRANSPORTATION - 1/18/2017. COORDINATE WITH OWNER FOR FINAL LOCATIONS.
 7. COORDINATE WITH C-SERIES SHEETS FOR ALL SITE LIGHT POLE FOUNDATIONS.

- KEYED NOTES**
1. PROPOSED DISCONNECT FOR GATE OPERATOR SYSTEM. INSTALL (1) 1\"/>
 2. (1) 1\"/>
 3. COORDINATE FOUNDATIONS AND CONDUITS WITH PROPOSED WATER AND DRAINAGE LINES IN THIS AREA.
 4. PROVIDE (2) 4\"/>
 5. PROVIDE AN H20 TRAFFIC RATED PULLBOX FOR THE SITE ILLUMINATION. IN ADDITION TO THE CIRCUITS SHOWN ON THIS PLAN, PROVIDE (2) 2\"/>
 6. PROPOSED DISCONNECT AND CARD READER FOR GATE OPENER. INSTALL (1) 1\"/>

KEY PLAN

REVISIONS

NO.	DESCRIPTION	DATE
0	ISSUED FOR PERMIT & CONSTRUCTION	02/28/18

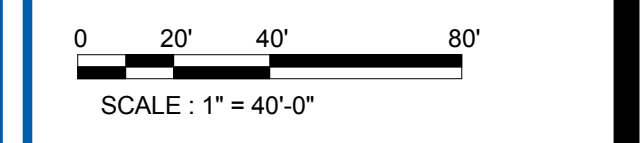
FILE LOG

Manager	JDJ
Design	MDM
Draw	NS
Check	MDM

STAMP



Lockwood, Andrews & Newnam, Inc.
Texas Registered Engineering Firm F-2614



Project No. 170-10807-002
Date: 02/28/2018

ELECTRICAL SITE PLAN

3/8/2018 4:55:42 PM C:\Users\mhall\Documents\Autodesk\2016\Projects\170-10807-002\Fort Bend Transit MEP - revised.rvt



REQUEST FOR INFORMATION

PROJ: FBC Bus Maintenance Facility
3737 Bamore Road
Rosenberg, TX 77471

RFI#: 038

DATE: 10.16.18

SG PROJ #: 4018015.01

TO: Claude Marshall

FROM: Bryce Sutter

SUBJ: DAC Excesive Conduit Re-Design

SPECIFICATIONS:

DRAWINGS: T-101

QUESTION: (number each question)

RECOMMENDATION: (number each Option)

In coordination with the subcontractor providing the work for the Access Control and the IP Surveillance, it appears that there is excessive conduit on the plan east side of the project. Please review and confirm that the removal of excess conduit from the design is acceptable.

Please see attached proposed conduit drawings.

BY, TITLE: Bryce Sutter, Assistant Project Manager

DATE REQUIRED: 10.24.18

STATUS: CRITICAL IMPORTANT ROUTINE

IMPACTS: COST TIME

RESPONSE: (List responses with same numbering as questions)

Redesign of conduits is acceptable for telecommunications, but the conduits need to be retained as shown on E-101 for the lighting circuits.

BY: Mason McIntire, PE **DATE:** 10/24/18

Mason D. McIntire

RESPONSE TO:

REQUEST FOR INFORMATION



TO: KEN, NGUYEN, PROJECT MANAGER
SPAW GLASS

RFI #	1
DATE	10/15/2018
DATE NEEDED BY	ASAP
PROJECT NAME	FBC BUS MAINT.
PROJECT #	9025-0300

RFI DESCRIPTION

IT HAS BEEN NOTICED THAT THERE IS EXCESSIVE CONDUIT BEING UTILIZED AROUND THE PERIMETER OF THE FACILITY. WE HAVE RE-DESIGNED THE CONDUIT PATHWAYS TO AIDE IN PROVIDING A MORE STREAMLINED WAY OF REACHING THE LOCATIONS IDENTIFIED ON THE DRAWINGS. ATTACHED ARE THE DESIGN SHOP DRAWINGS FOR APPROVAL. DAC IS REQUESTING APPROVAL FOR THE ALTERNATE PATHWAYS TO THE PATHWAYS SHOWN ON THE TELECOM DRAWINGS PAGE T-101. THIS CHANGE WILL HAVE NO COST IMPACT ON CABLING INSTALLATION

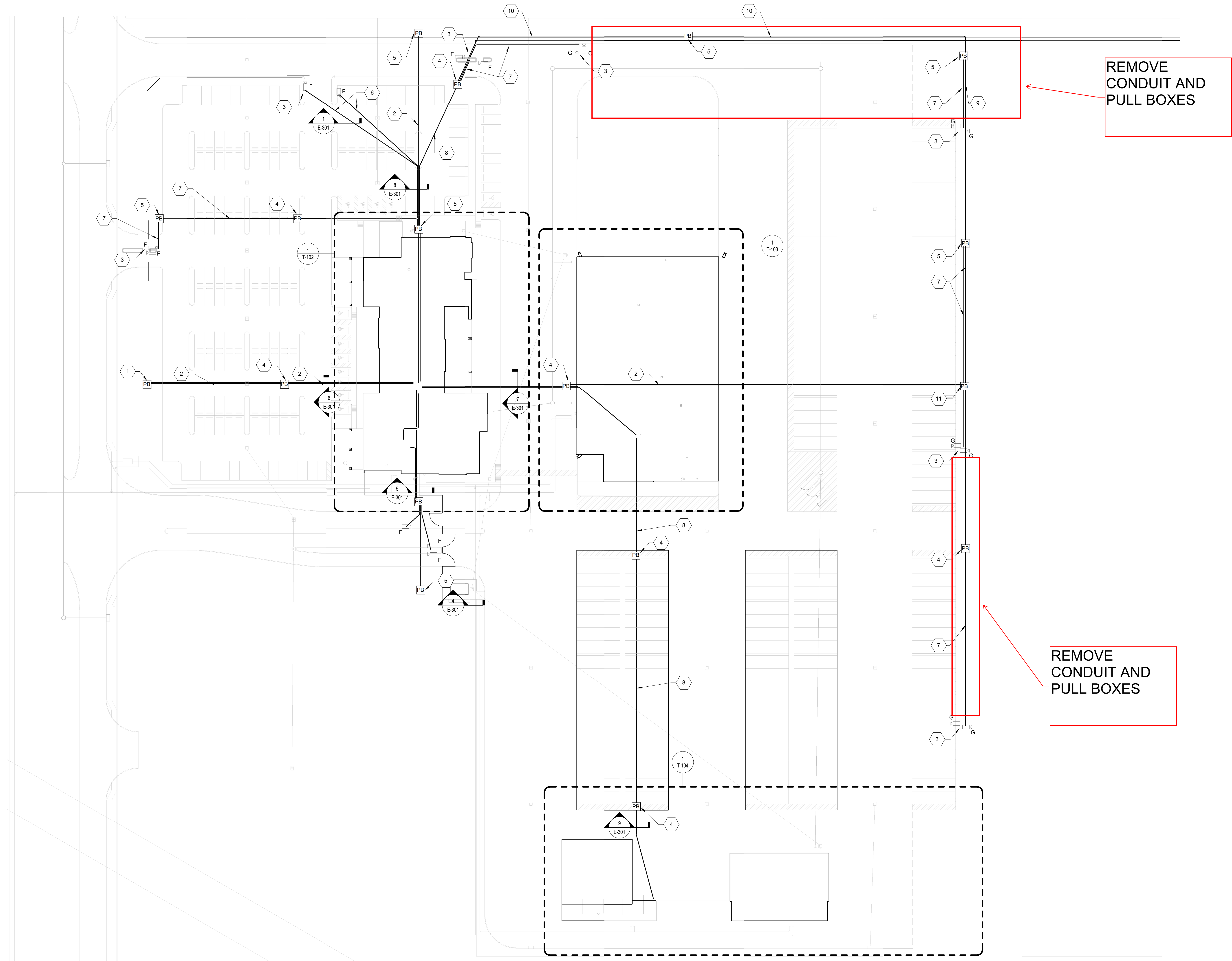
ATTACHMENTS: DAC REVISED CONDUIT PATHWAY DESIGN SHOP DRAWING, TELECOM T-101

SUBMITTED BY: STEPHEN GRISHAM, PROJECT MANAGER
DAC, INC

RESPONSE TO RFI

RESPONSE BY: (NAME, TITLE)
(COMPANY)

DATE:



1 TELECOMMUNICATION CAMERA SITE PLAN
SCALE: 1" = 40'-0"

GENERAL NOTES

1. REFER TO SHEET T-801 FOR THE PROPOSED CAMERA SCHEDULE.
2. INSTALL ALL TELECOMMUNICATION CONDUIT AT LEAST 2' BELOW GRADE.
3. ENGAGE A LICENSED SECURITY CONTRACTOR FOR THIS WORK. ENSURE THAT A COMPLETE AND FUNCTIONAL SYSTEM IS PROVIDED. NOTIFY THE OWNER AND ENGINEER OF ANY DISCREPANCIES OR DEFICIENCIES.
4. PROVIDE YELLOW JACKET CABLE FOR ALL CCTV CAMERA NETWORK/DATA CABLING. ENSURE CABLE COLOR IS DISTINCT FROM NON-CCTV CAMERA DATA CABLING.

KEYED NOTES

1. PULLBOX PROVIDED IN ROADWAY SET. COORDINATE WITH ROADWAY CONTRACTOR FOR FINAL LOCATION AND CONTINUE CONDUITS AS SHOWN.
2. PROVIDE (1) 4" CONDUIT WITH 144 STRAND FIBEROPTIC CABLE UNDERGROUND.
3. PROPOSED PENETRATION LOCATION FOR POLE OR PEDESTAL MOUNTED CAMERAS. COORDINATE WITH OWNER FOR FINAL PENETRATION LOCATION. CAP ALL PENETRATIONS.
4. PROVIDE PRECAST CONCRETE H20 RATED COVER PULL BOX. COORDINATE WITH OWNER FOR INSTALLATION LOCATION.
5. PROVIDE STANDARD LIGHT WEIGHT PULLBOX. COORDINATE WITH OWNER FOR INSTALLATION LOCATION AT LEAST 5'-0" FROM VEHICLE CURB.
6. PROVIDE (1) 2" CONDUIT WITH (2) CAT 6 CABLES.
7. PROVIDE (1) 2" CONDUIT WITH (4) CAT 6 CABLES.
8. PROVIDE (1) 4" CONDUIT WITH 20 CAT 6 CABLES AND (1) 4" CONDUIT WITH (1) 12 STRAND MULTIMODE FIBER OPTIC CABLE.
9. PROVIDE (1) 2" CONDUIT WITH (8) CAT 6 CABLES.
10. PROVIDE (1) 2" CONDUIT WITH (12) CAT 6 CABLES.
11. PROVIDE H20 TRAFFIC RATED PULLBOX. COORDINATE WITH OWNER FOR INSTALLATION LOCATION AT LEAST 5'-0" FROM VEHICLE CURB. PROVIDE (1) 4" CONDUIT WITH FIBER OPTIC CABLE FROM THIS PULL BOX TO THE FUELING STATION LOCATED APPROXIMATELY 2,000 FT TO THE EAST. PROVIDE AN H20 TRAFFIC RATED PULLBOX EVERY 1000'.

**Public Transportation
Bus Maintenance
Facility**
Rosenberg, Texas

Fort Bend County

301 Jackson St. Richmond, Texas
77469

LAN Lockwood, Andrews
& Newnam, Inc.
A LEO A DALY COMPANY

2925 Briarpark Drive
Suite 400
Houston, TX 77042
Tel 713-266-6900
www.lan-inc.com

RdIR ARCHITECTS
ARCHITECTURE | PLANNING | INTERIORS
1245 West 18th Street Houston, Texas 77008
phone 713.868.3121 www.rdir.com

**Maintenance
Design
Group**
810 South Mason Rd., Suite 208
Houston, TX 77450
Tel 832-327-6006

**asakura
robinson**
Planning | Urban Design | Landscape Architecture
1902 Washington Ave., Suite A Houston, Texas 77007 P: 713.337.5830

KEY PLAN

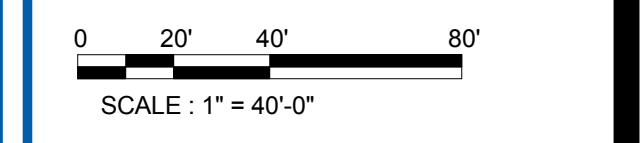
REVISIONS

NO.	DESCRIPTION	DATE
0	ISSUED FOR PERMIT & CONSTRUCTION	02/28/18

FILE LOG

Manager	JDU
Design	MDM
Draw	NS
Check	MDM

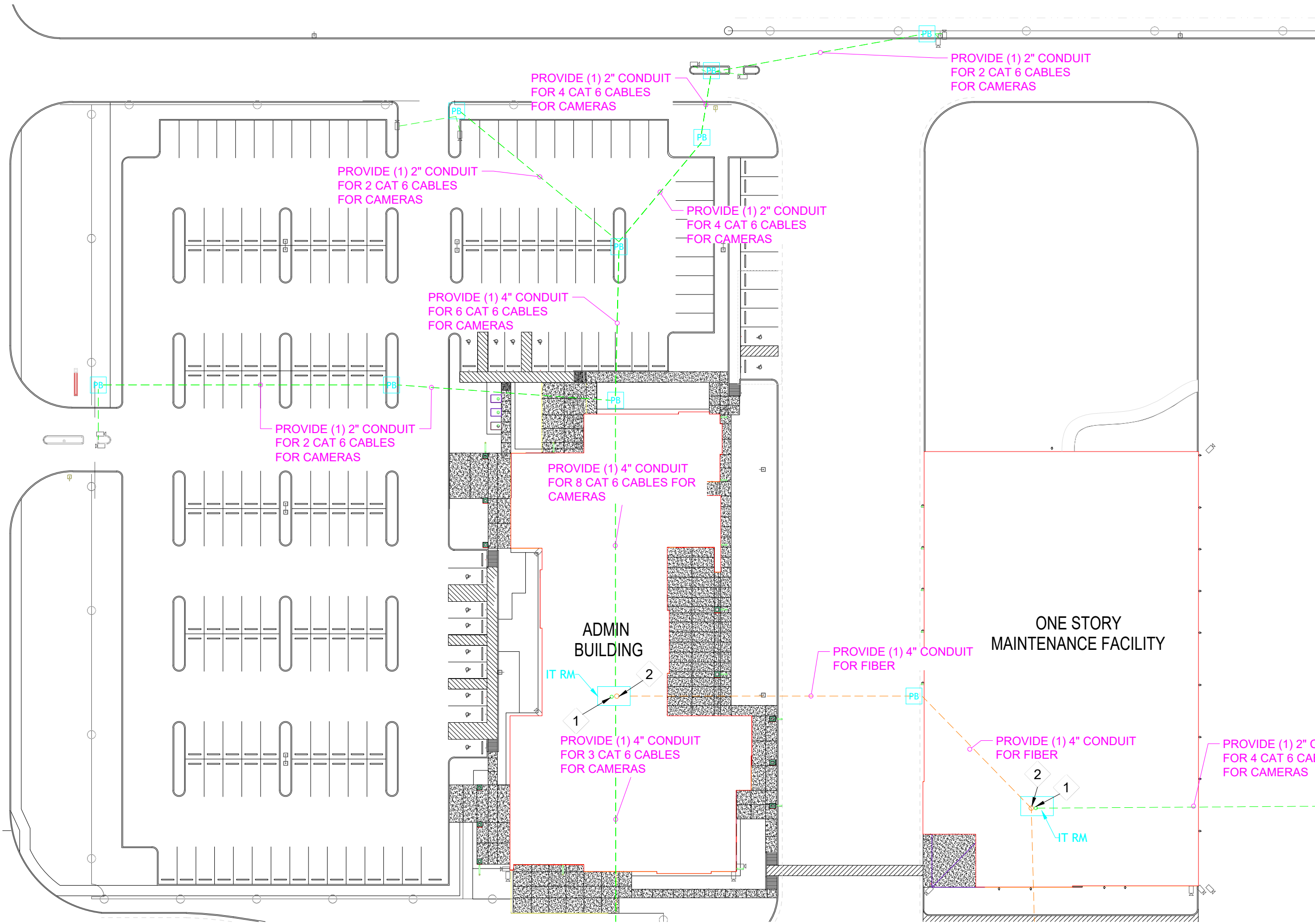
STAMP



Project No. 170-10807-002
Date: 02/28/2018

TELECOMMUNICATION SITE PLAN

2/23/2018 2:52:38 AM C:\Users\Nishant\Documents\Subcontract\New\2016\FortBend\T-101-10807-002-Fort Bend Transit MFP - revised.rvt



GENERAL NOTES:
 - FIBER CABLE/CONDUIT ROUTE
 - CAT 6 CABLE/CONDUIT ROUTE

KEY NOTE:

- 1 2" CONDUIT STUB OUT TO EXTERIOR PULL BOX
- 2 4" CONDUIT STUB OUT TO EXTERIOR PULL BOX



Digital Air Control, Inc.
 Texas Security License B16589
 Houston, TX • 713-975-8160
 Dallas, TX • 817-617-7162
 http://www.digitalaircontrol.com

Project:	Security Upgrades
Address:	Waller Independent School District
Architect:	VLK Architects
Consulting Engineer:	####
General Contractor:	####
Mechanical Contractor:	####

Revisions			
Rev:	Description:	Date:	By:
00	Submittal Drawings	10/08/2018	HG
01			
02			
03			
04			
05			
06			
07			
08			
09			
10			
11			

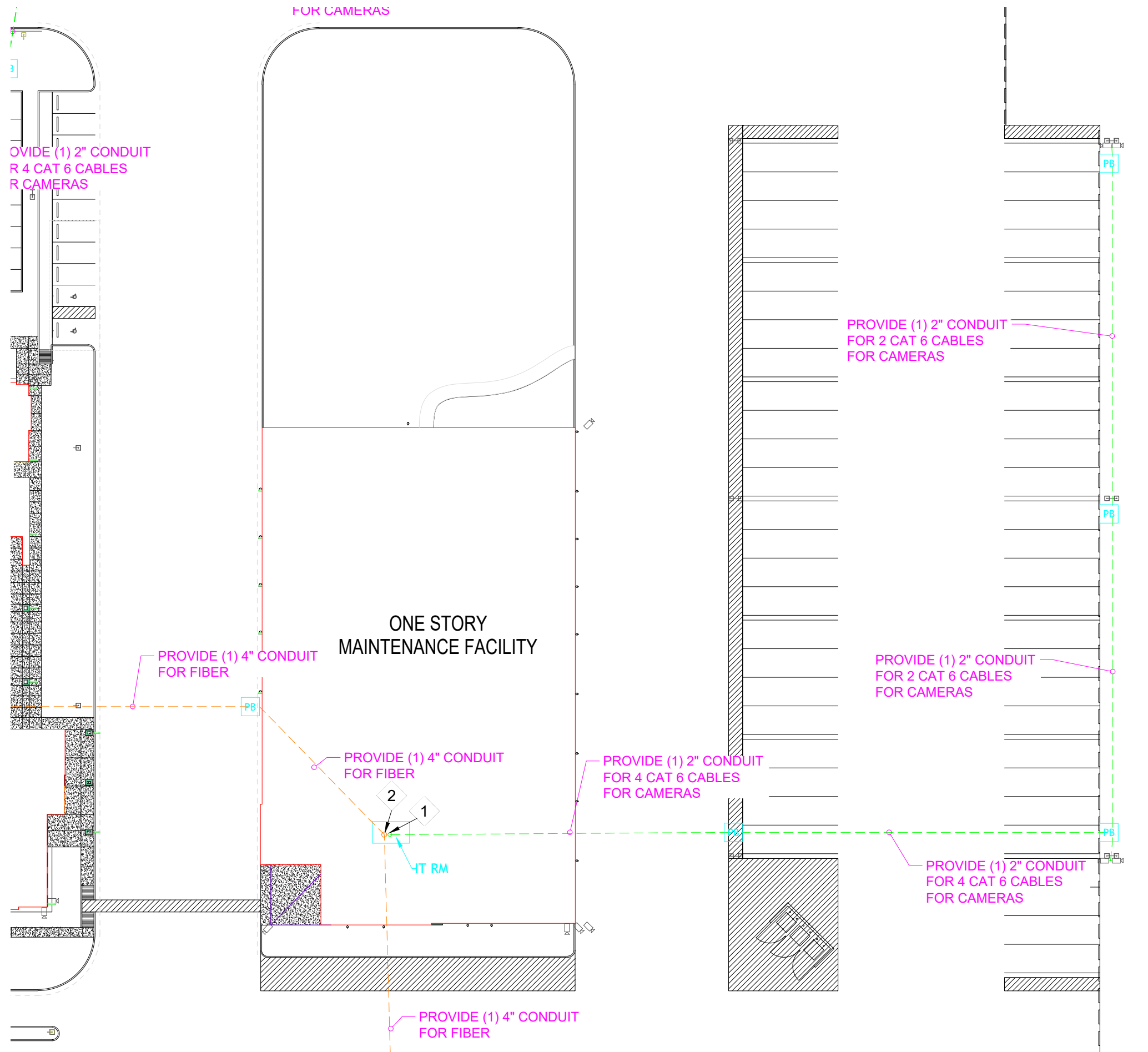
Applies to:					
Unit:	eSC:	Addr:	Unit:	eSC:	Addr:

Drawing Title:
CABLE/CONDUIT ROUTE SITE PLAN

Job Number: H9025-03-00
Drawing #: SC2.05

1 CAMERA AND FIBER CABLE/CONDUIT ROUTE SITE PLAN
 Scale: 1/16" = 1'-0"

Location: Z:\9025 - Fort Bend County\9025-03-00 - Fort Bend County Bus Maintenance Facility\Engineering\Design\Working CAD
 File Name: 9025-03-00 Fort Bend B.M.F. Site Plan_HG_10032018.dwg



GENERAL NOTES:
 - FIBER CABLE/CONDUIT ROUTE
 - CAT 6 CABLE/CONDUIT ROUTE

KEY NOTE:
 1 2" CONDUIT STUB OUT TO EXTERIOR PULL BOX
 2 4" CONDUIT STUB OUT TO EXTERIOR PULL BOX



Digital Air Control, Inc.
 Texas Security License B16589
 Houston, TX • 713-975-8160
 Dallas, TX • 817-617-7162
 http://www.digitalaircontrol.com

Project:	Security Upgrades
Address:	Waller Independent School District
Architect:	VLK Architects
Consulting Engineer:	####
General Contractor:	####
Mechanical Contractor:	####

Revisions			
Rev:	Description:	Date:	By:
00	Submittal Drawings	10/08/2018	HG
01			
02			
03			
04			
05			
06			
07			
08			
09			
10			
11			

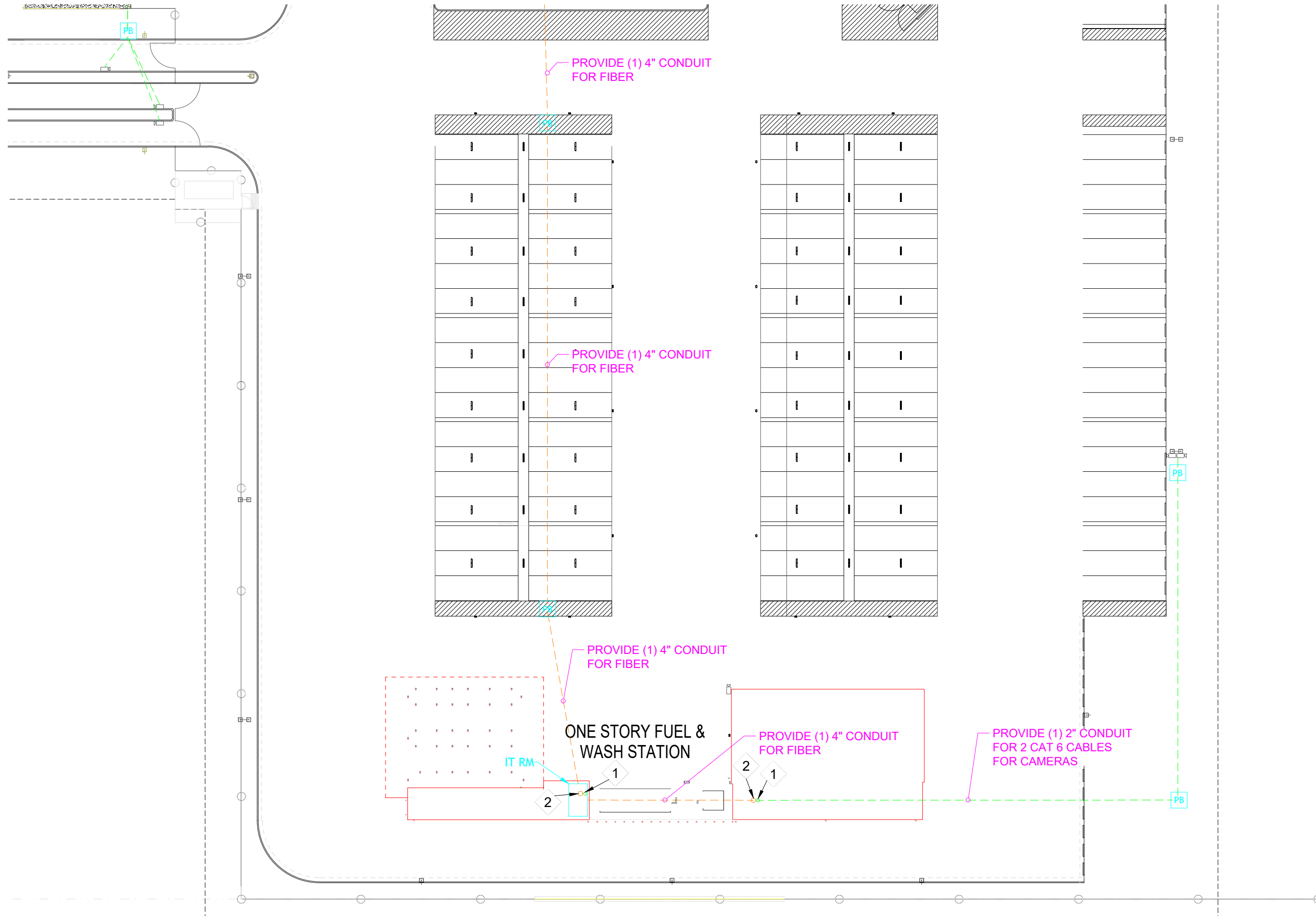
Applies to:					
Unit:	eSC:	Addr:	Unit:	eSC:	Addr:

Drawing Title:
 CABLE/CONDUIT ROUTE SITE PLAN

Job Number: H9025-03-00
Drawing #: SC2.06

1 CAMERA AND FIBER CABLE/CONDUIT ROUTE SITE PLANE
 Scale: 1/16" = 1'-0"

Location: Z:\9025 - Fort Bend County\9025-03-00 - Fort Bend County Bus Maintenance Facility\Engineering\Design\Working CAD
 File Name: 9025-03-00 Fort Bend B.M.F. Site Plan_HG_10032018.dwg



GENERAL NOTES:
 - - - FIBER CABLE/CONDUIT ROUTE
 - - - CAT 6 CABLE/CONDUIT ROUTE

KEY NOTE:
 1 2" CONDUIT STUB OUT TO EXTERIOR PULL BOX
 2 4" CONDUIT STUB OUT TO EXTERIOR PULL BOX



Digital Air Control, Inc.
 Texas Security License B16589
 Houston, TX • 713-975-8160
 Dallas, TX • 817-617-7162
<http://www.digitalaircontrol.com>

Project:	Fort Bend Bus Maintenance Facility
Address:	3737 Bamore Road Rosenberg, TX 77471
Architect:	Rdlr Architects
Consulting Engineer:	####
General Contractor:	Spaw Glass
Mechanical Contractor:	####

Revisions			
Rev:	Description:	Date:	By:
00	Submittal Drawings	10/08/2018	HG
01			
02			
03			
04			
05			
06			
07			
08			
09			
10			
11			

Applies to:					
Unit:	eSC:	Addr:	Unit:	eSC:	Addr:

Drawing Title:
CABLE/CONDUIT ROUTE SITE PLAN

Job Number: H9025-03-00
Drawing #: SC2.07

Location: Z:\9025 - Fort Bend County\9025-03-00 - Fort Bend County Bus Maintenance Facility\Engineering\Design\Working CAD
 File Name: 9025-03-00 Fort Bend B.M.F. Site Plan_HG_10032018.dwg



SpawGlass Construction Corp.

13800 West Rd

Houston, TX 77041

(281) 970-5300

Request For Information

0120

Printed On: 02/28/2019

Page 1 of 1

Subject: Gate Entrance Pedestal Confirmation and Clarification

Date: 02/28/2019

Project: Fort Bend County Bus Maintenance Facility

Job: 4018015

Address: 3737 Bamore Road
Rosenberg TX 77471

Required: 03/05/2019

Phone:

Fax:

Est. Cost Impact : \$ Potentially

Est. Days Impact: Potentially

To: Claude Marshall
Huitt-Zollars, Inc

From: SpawGlass Construction Corp. Bryce Sutter

Request

Per A-013 details 7, 8 and 9 please confirm owner would prefer one dual height pedestal at the gate entrances in lieu of two single height pedestals.

Per T-101 note 3, please provide final penetration location for camera pedestals and provide height of pedestals for cameras.

Suggestion

Cost Impact: Potentially
Schedule Impact: Potentially

Cost Amount:
Days:

Answer **Accept Suggestion**

Distribution:

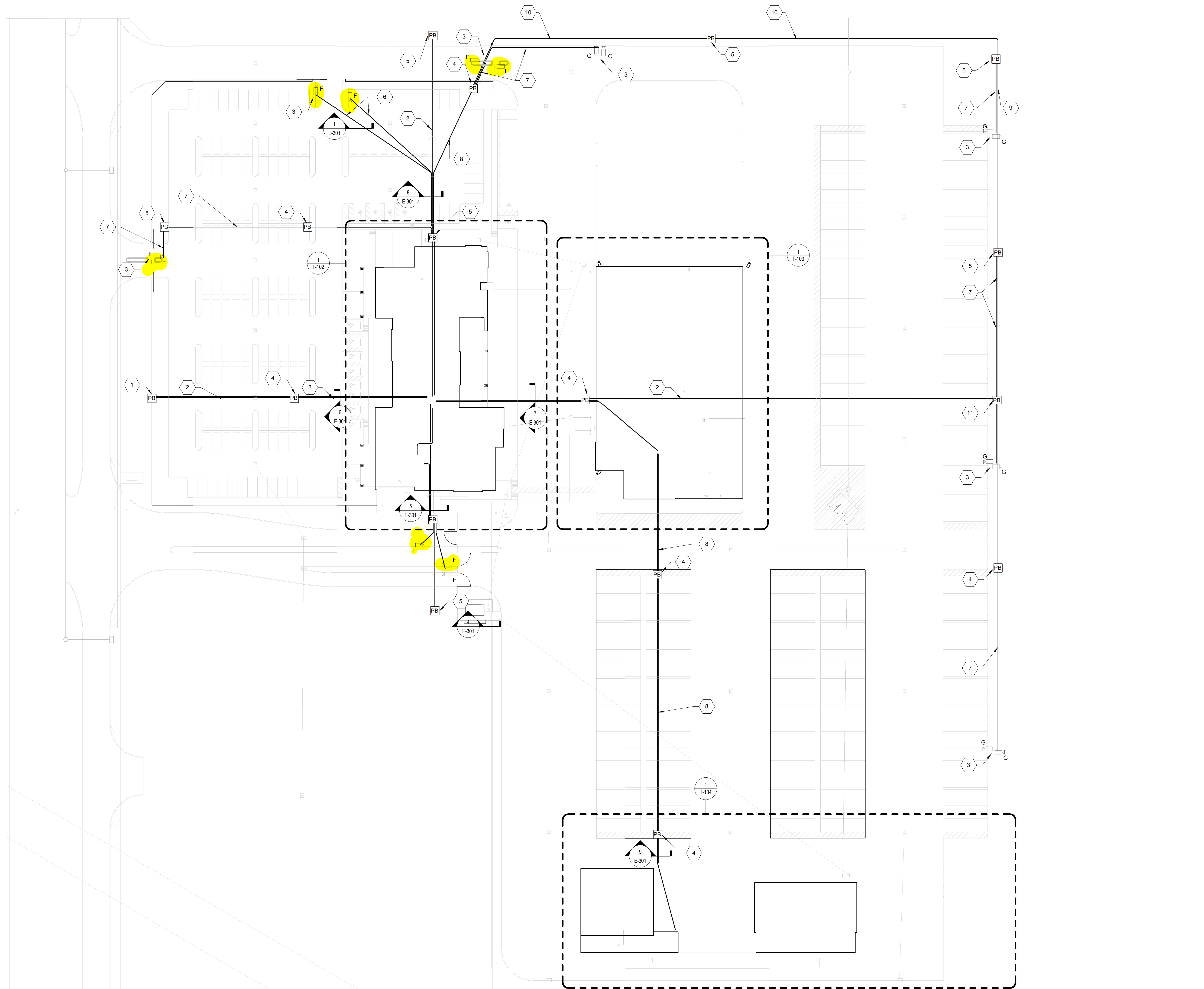
Answered By:

Signed: _____

Date:

It would be acceptable to use a single dual height pedestal instead of two pedestals.

Daniel Ortiz, AIA - RDLR Architects



1 TELECOMMUNICATION CAMERA SITE PLAN
SCALE: 1" = 40'-0"
RFI-038

GENERAL NOTES

- REFER TO SHEET T-801 FOR THE PROPOSED CAMERA SCHEDULE.
- INSTALL ALL TELECOMMUNICATION CONDUIT AT LEAST 2' BELOW GRADE.
- ENGAGE A LICENSED SECURITY CONTRACTOR FOR THIS WORK. ENSURE THAT A COMPLETE AND FUNCTIONAL SYSTEM IS PROVIDED. NOTIFY THE OWNER AND ENGINEER OF ANY DISCREPANCIES OR DEFICIENCIES.
- PROVIDE YELLOW JACKET CABLE FOR ALL CCTV CAMERA NETWORK/DATA CABLING. ENSURE CABLE COLOR IS DISTINCT FROM NON-CCTV CAMERA DATA CABLING.

KEYED NOTES

- PULLBOX PROVIDED IN ROADWAY SET. COORDINATE WITH ROADWAY CONTRACTOR FOR FINAL LOCATION AND CONTINUE CONDUITS AS SHOWN.
- PROVIDE (1) 4" CONDUIT WITH 144 STRAND FIBEROPTIC CABLE UNDERGROUND.
- PROPOSED PENETRATION LOCATION FOR POLE OR PEDESTAL MOUNTED CAMERAS. COORDINATE WITH OWNER FOR FINAL PENETRATION LOCATION, GAS/VALE PENETRATIONS, FOR INSTALLATION LOCATION.
- PROVIDE PRECAST CONCRETE H20 RATED COVER PULL BOX. COORDINATE WITH OWNER FOR INSTALLATION LOCATION.
- PROVIDE STANDARD LIGHT WEIGHT PULLBOX. COORDINATE WITH OWNER FOR INSTALLATION LOCATION AT LEAST 5'-0" FROM VEHICLE CURB.
- PROVIDE (1) 2" CONDUIT WITH (2) CAT 6 CABLES.
- PROVIDE (1) 2" CONDUIT WITH (4) CAT 6 CABLES.
- PROVIDE (1) 4" CONDUIT WITH 20 CAT 6 CABLES AND (1) 4" CONDUIT WITH (1) 12 STRAND MULTIMODE FIBER OPTIC CABLE.
- PROVIDE (1) 2" CONDUIT WITH (8) CAT 6 CABLES.
- PROVIDE (1) 2" CONDUIT WITH (12) CAT 6 CABLES.
- PROVIDE H20 TRAFFIC RATED PULLBOX. COORDINATE WITH OWNER FOR INSTALLATION LOCATION AT LEAST 5'-0" FROM VEHICLE CURB. PROVIDE (1) 4" CONDUIT WITH FIBER OPTIC CABLE FROM THIS PULL BOX TO THE FUELING STATION LOCATED APPROXIMATELY 2,000 FT TO THE EAST. PROVIDE AN H20 TRAFFIC RATED PULLBOX EVERY 1000'.

RFI-003

Public Transportation Bus Maintenance Facility
Rosenberg, Texas
Fort Bend County
301 Jackson St. Richmond, Texas 77469

LAN Lockwood, Andrews & Newnam, Inc.
A LEO A DALY COMPANY
2925 Briarpark Drive
Suite 400
Houston, TX 77042
Tel 713-266-6900
www.lan-inc.com

RdIR ARCHITECTS
ARCHITECTURE | PLANNING | INTERIORS
1245 West 18th Street Houston, Texas 77008
phone 713.868.3121 www.rdir.com

Maintenance Design Group
810 South Mason Rd., Suite 208
Houston, TX 77450
Tel 832-327-6006

sakura robinson
Planning | Urban Design | Landscape Architecture
1902 Washington Ave., Suite A Houston, Texas 77007 P. 713.337.5830

KEY PLAN

REVISIONS

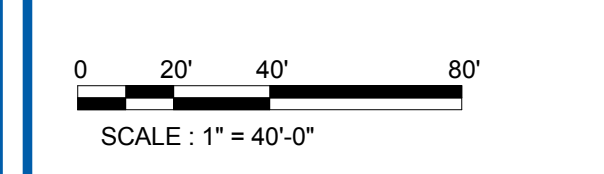
NO.	DESCRIPTION	DATE
0	ISSUED FOR PERMIT & CONSTRUCTION	02/28/18

FILE LOG

Manager	JDU
Design	MDM
Draw	NS
Check	MDM

STAMP

Lockwood, Andrews & Newnam, Inc.
Texas Registered Engineering Firm F-2614



Project No. 170-10807-002
Date: 02/28/2018

TELECOMMUNICATION SITE PLAN

2/23/2018 2:52:38 AM C:\Users\Nishant\Documents\AutoCAD\New\2018\FortBend\T-101-10807-002-Fort Bend Transit MFP - v1.dwg



SpawGlass Construction Corp.

13800 West Rd

Houston, TX 77041

(281) 970-5300

Request For Information

0187

Printed On: 05/06/2019

Page 1 of 1

Subject: Building Surveillance Camera Mounting Clarification

Date: 05/06/2019

Project: Fort Bend County Bus Maintenance Facility

Job: 4018015

Address: 3737 Bamore Road
Rosenberg TX 77471

Required: 05/13/2019

Phone:

Fax:

Est. Cost Impact : \$ Potentially

Est. Days Impact: Potentially

To: Claude Marshall
Huitt-Zollars, Inc

From: SpawGlass Construction Corp. Bryce Sutter

Request

1. T-601 Camera Schedule requires coordination with the Owner to confirm the height of building mounted Cameras. The schedule indicates a dimension between 8' and 15' AFF. Please confirm the exact height for each camera.

2. No detail is given for Camera mounting. Please confirm a single gang or round weatherproof box will be adequate for Camera cable connections.

Suggestion

Cost Impact: Potentially
Schedule Impact: Potentially

Cost Amount:
Days:

Answer **Accept Suggestion**

Distribution:

Answered By:

Signed: _____

Date:

CAMERA SCHEDULE						
FIXTURE ID	MANUFACTURER	TYPE	MODEL	MOUNTING	INSTALLATION	NOTES
A	PELCO	STANDARD	NEXTGEN SARIX OR...	TYPICAL MOUNT	INSTALL BETWEEN 8' - 15' FROM GROUND. COORDINATE LOCATION WITH OWNER.	
B	PELCO	PAN TILT ZOOM	Spectra Enhanced (Environmental Models)	TYPICAL MOUNT	INSTALL BETWEEN 8' - 15' FROM GROUND. COORDINATE LOCATION WITH OWNER.	
C	PELCO	180° VIEW	IMM12018-xxx	TYPICAL MOUNT	INSTALL BETWEEN 8' - 15' FROM GROUND. COORDINATE LOCATION WITH OWNER.	INDOOR/OUTDOOR PANORAMIC IP CAMERA, 12 MPx
D	PELCO	270° VIEW	IMM12027-xxx	TYPICAL MOUNT	INSTALL BETWEEN 8' - 15' FROM GROUND. COORDINATE LOCATION WITH OWNER.	INDOOR/OUTDOOR PANORAMIC IP CAMERA, 12 MPx
E	PELCO	360° INDOOR DOME CAMERA	EVO-05NID	TYPICAL MOUNT	INSTALL BETWEEN 8' - 15' FROM GROUND. COORDINATE LOCATION WITH OWNER.	5 MPx, WHITE ENCLOSURE
F	PELCO	LICENSE PLATE CAMERA	NEXTGEN SARIX OR AS SPECIFIED	PEDESTAL MOUNT	COORDINATE LOCATION WITH OWNER.	
G	PELCO	PAN TILT ZOOM	Spectra Enhanced (Environmental Models)	LIGHT POLE MOUNT	INSTALL AT A MINIMUM OF 25'. COORDINATE LOCATION WITH OWNER.	

KEY PLAN

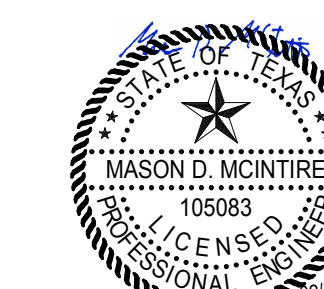
REVISIONS

NO.	DESCRIPTION	DATE
0	ISSUED FOR PERMIT & CONSTRUCTION	02/28/18

FILE LOG

Manager	JDJ
Design	MDM
Draw	NS
Check	MDM

STAMP



Lockwood, Andrews & Newnam, Inc.
Texas Registered Engineering Firm F-2614

GENERAL NOTES

- REFER TO SPECIFICATION 282300 IP VIDEO SURVEILLANCE SYSTEM FOR ADDITIONAL SYSTEM AND PERFORMANCE REQUIREMENTS.
- ENGAGE A LICENSED SECURITY CONTRACTOR FOR THIS WORK. ENSURE THAT A COMPLETE AND FUNCTIONAL SYSTEM IS PROVIDED. NOTIFY THE OWNER AND ENGINEER OF ANY DISCREPANCIES OR DEFICIENCIES.
- PROVIDE YELLOW JACKET CABLE FOR ALL CCTV CAMERA NETWORK/DATA CABLING. ENSURE CABLE COLOR IS DISTINCT FROM NON-CCTV CAMERA DATA CABLING.

KEYED NOTES

Project No. 170-10807-002
Date: 02/28/2018

TELECOMMUNICATION
SCHEDULES

T-601



SpawGlass Construction Corp.

13800 West Rd

Houston, TX 77041

(281) 970-5300

Request For Information

0201

Printed On: 05/20/2019

Page 1 of 1

Subject: Admin CCTV and Fire Alarm at Store Front Clarification

Date: 05/20/2019

Project: Fort Bend County Bus Maintenance Facility

Job: 4018015

Address: 3737 Bamore Road
Rosenberg TX 77471

Required: 05/27/2019

Phone:

Fax:

Est. Cost Impact : \$ Potentially

Est. Days Impact: Potentially

To: Claude Marshall
Huitt-Zollars, Inc

From: SpawGlass Construction Corp. Gabby Salazar

Request

Please confirm that the following information is correct and provide alternate location for CCTV and pull station:

Sheet T-102 Telecommunication Admin Building Plan shows two cameras mounted on the aluminum store front at Room A100.

Sheet 250830_02 Fire Alarm System - Administration Building shows one pull station is mounted on the aluminum store front at Room A100.

Suggestion

Cost Impact: Potentially
Schedule Impact: Potentially

Cost Amount:
Days:

Answer **Accept Suggestion**

Relocate the cameras back to the corner of the lobby, coordinate final location with the Owner. Relocate the pull station back inside the lobby along that wall as shown. Relocations should be at no additional cost to the Owner.

Distribution:

Answered By: Mason McIntire, PE

Signed:

Date: 5/30/19



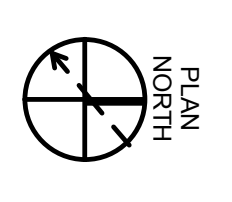
GENERAL NOTES

- REFER TO SHEET T-101 FOR THE REGISTERED CABLE SCHEDULE.
- PROVIDE 1" CONDUIT AND 1/2" CAT 6 CABLES FOR EACH CAMERA SHOWN. ROUTE BACK TO THE CLOSEST ROOM A22.
- COMPLET AND FUNCTIONAL SYSTEMS PROVIDED. NOTIFY THE OWNER AND ENGINEER OF ANY DISCREPANCIES OR DEFICIENCIES.
- ENSURE CABLE COLORS IS DISTINCT FROM NON-OCTA CAMERA DATA CABLING.

1 TELECOMMUNICATION ADMIN BUILDING PLAN
SCALE: 1/8" = 1'-0"

KEYED NOTES

- REGISTER GENERAL LOCATION. COORDINATE WITH OWNER FOR FINAL PRESENTATION LOCATION. CAP ALL PENETRATIONS.
- COORDINATE WITH LICENSED SECURITY CONTRACTOR TO PROVIDE A FIELD OF VISION FOR ALL SECURITY CAMERAS.
- CONDUITS AS REQUIRED. NOTIFY OWNER AND ENGINEER OF ANY DISCREPANCIES OR DEFICIENCIES AS REQUIRED. NOTIFY OWNER AND ENGINEER OF ANY DISCREPANCIES AS REQUIRED.
- PROVIDE STANDARD LIGHT WEIGHT FLEXIBLE CONDUIT WITH OWNER FOR ALL SECURITY CAMERAS.
- PROVIDE (1) 2" CONDUIT WITH (6) CAT 6 CABLES.
- STAND MULTIMODE FIBER OPTIC CABLE.
- PROVIDE (1) 2" CONDUIT WITH (4) CAT 6 CABLES. PROVIDE A YELLOW JACKET CAT 6 AND KEYSONE FROM THE SECURITY CLOSET.



Public Transportation
Bus Maintenance
Facility
Fort Bend County
301 Jackson St. Richmond, Texas
77469

IGN Lockwood, Andrews
& Associates, Inc.
A LEED AC-CERTIFIED COMPANY
2925 Blinnpark Drive
Suite 400
Houston, TX 77042
Tel: 281.855.6000
www.ignhvac.com

RDJR ARCHITECTS
ARCHITECTURE | PLANNING | INTERIORS
1345 West 18th Street
Houston, Texas 77008
Phone: 713.646.3131
www.rdjra.com

Maintenance Design Group
810 South Mason Rd. Suite 208
Houston, TX 77450
Tel: 832-327-6006

adakura robinson
Planning | Architecture | Landscape Architecture
10021 Westheimer Rd., Suite 400 - Houston, Texas 77036 - P: 713.277.4000

KEY PLAN

REVISIONS

NO.	DESCRIPTION	DATE
1	ISSUE FOR PERMIT CONSTRUCTION PERMIT	

FILE LOG

Manager	JDJ
Design	KDM
Draw	NS
Check	KDM

DATE: _____

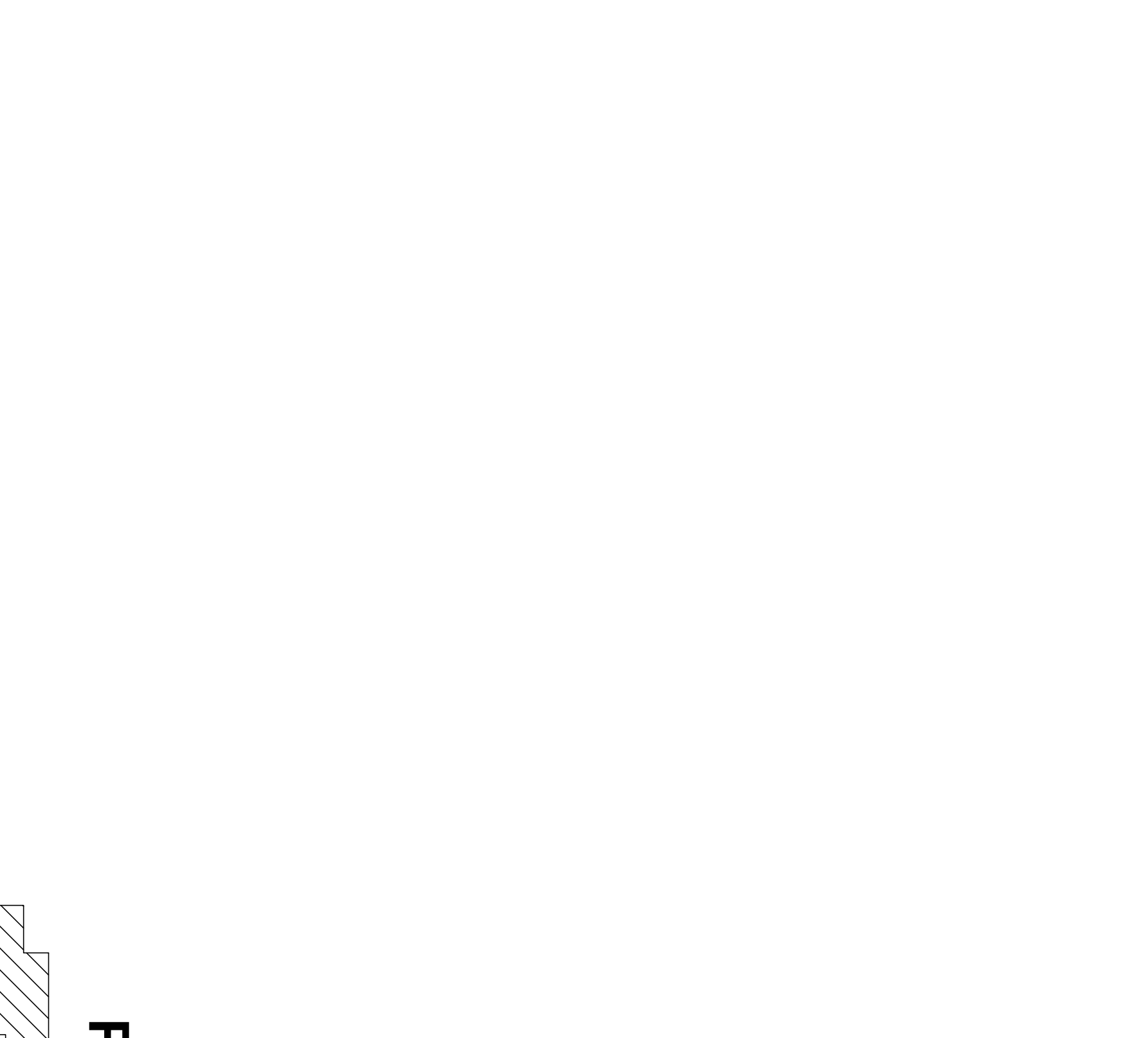
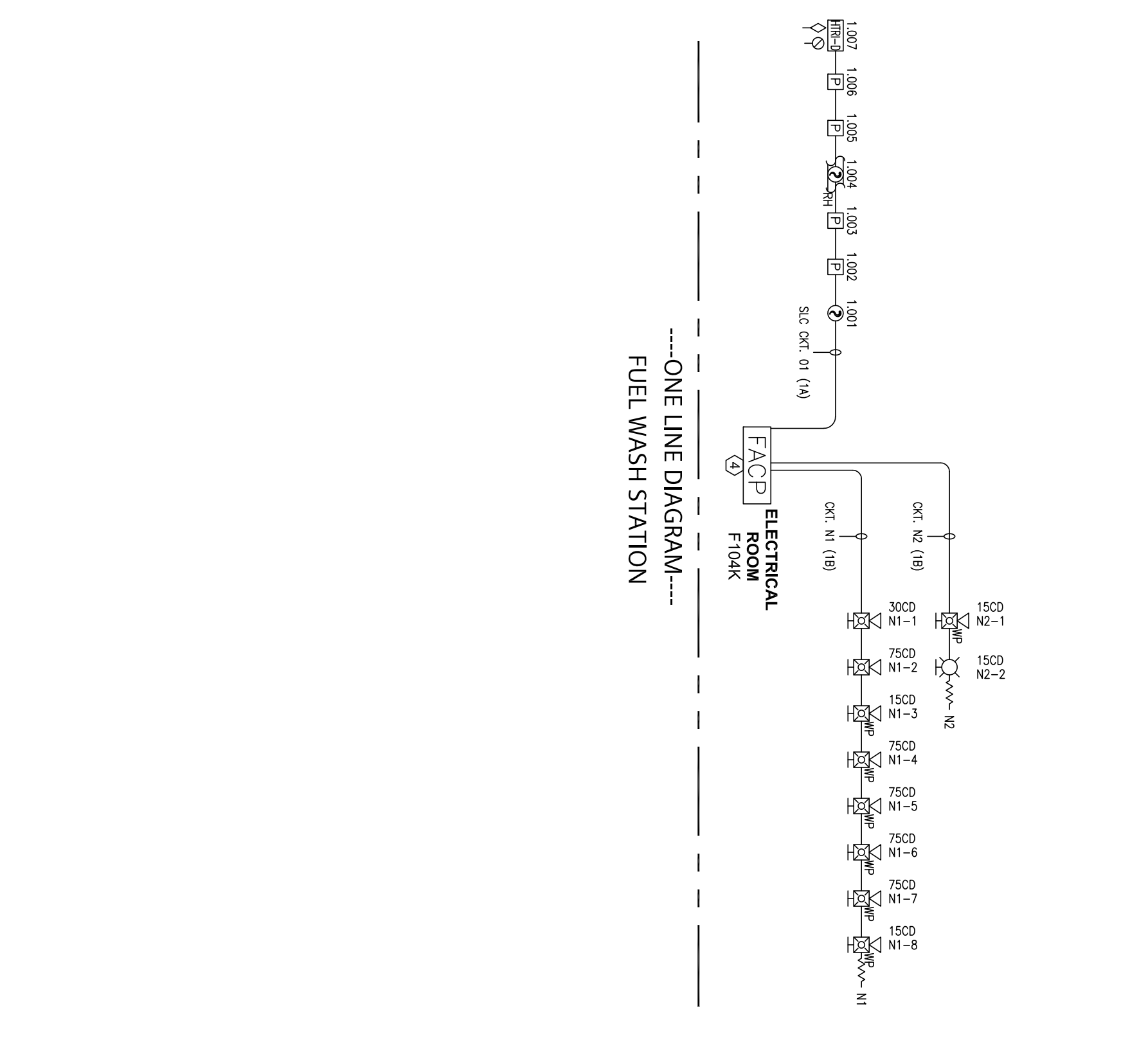
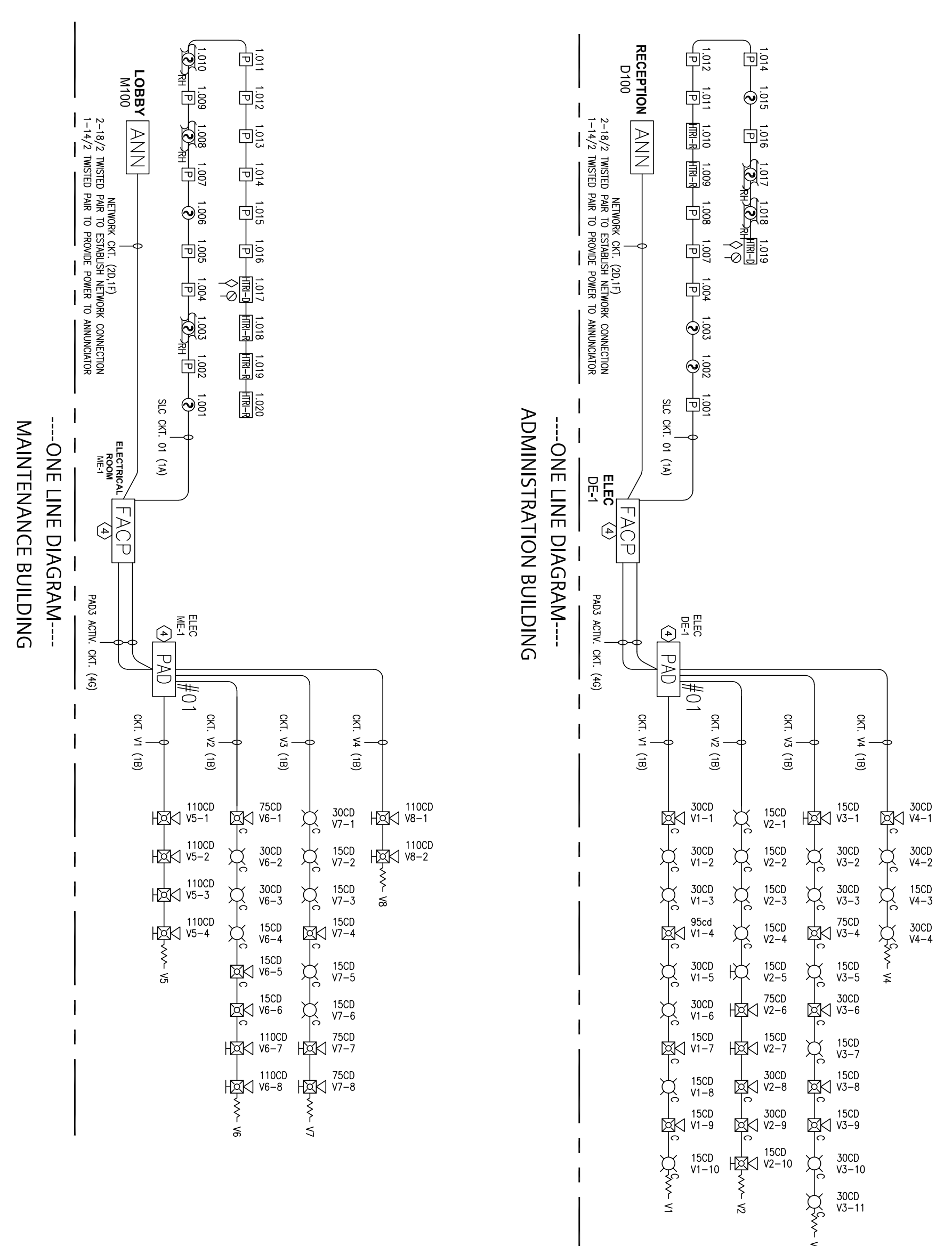
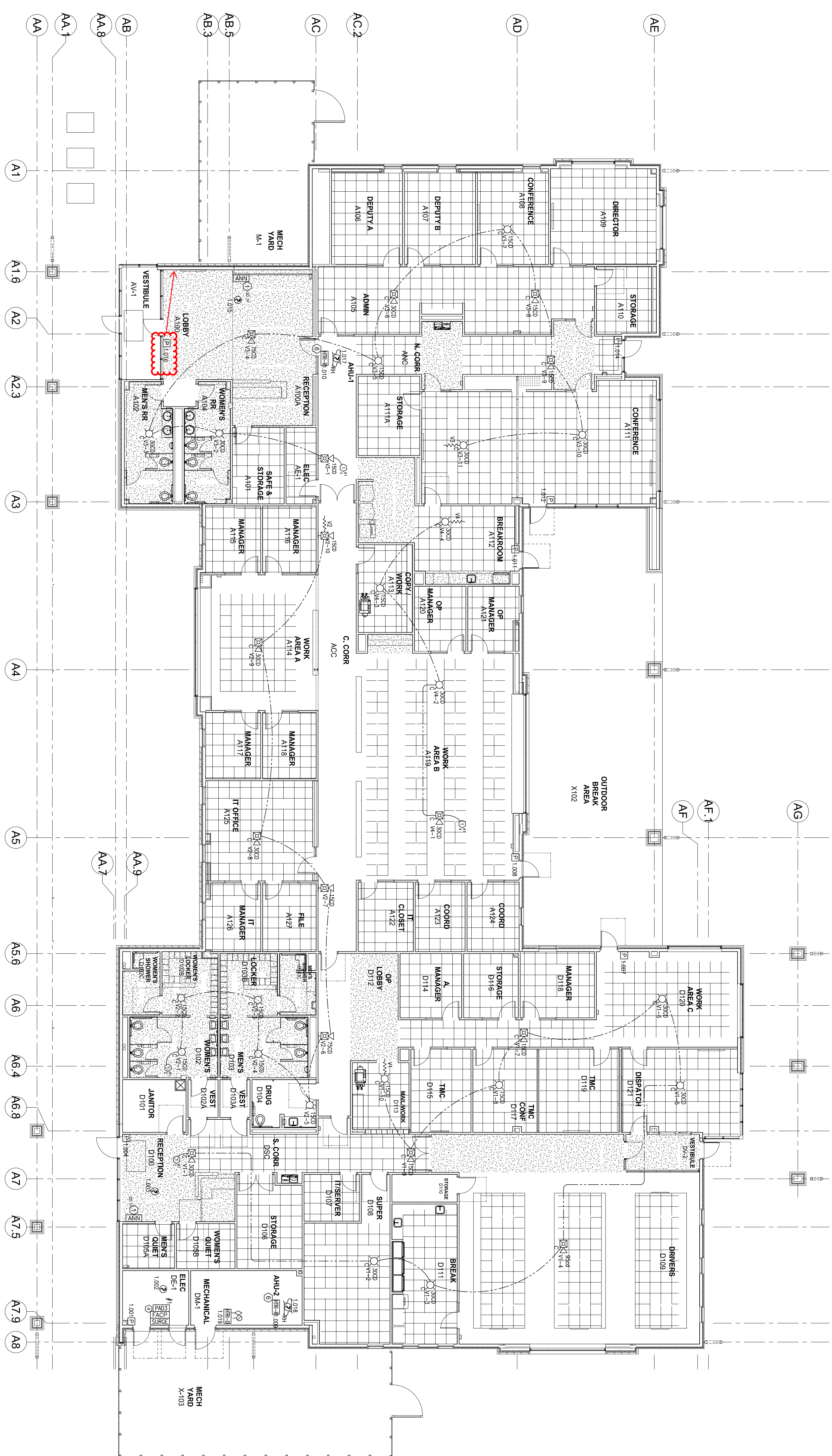
Lockwood, Andrews & Newsum Inc. 195514
Texas Registered Engineering Firm 195514

Scale: 1/8" = 1'-0"
0" 4" 8" 16"

Project No. 170-10807-002
Date: 02/28/2018
TELECOMMUNICATION ADMIN BUILDING PLAN

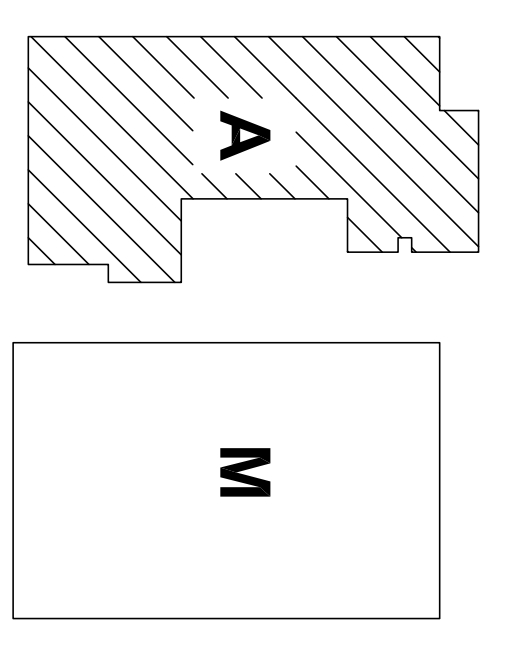
T-102

FIRE ALARM - ADMINISTRATION PLAN
3/32" = 1'-0"



- FIRE ALARM KEY NOTES:**
- ROUTE TO FACP / REMOVE FACP
 - ROUTE TO FAPC / VERTICAL F.A RISER
 - ROUTE TO POWER SUPPLY
 - DEDICATED 120VAC POWER REQUIRED
 - 24VAC POWER REQUIRED
 - VERIFY LOCATION OF AHU MOTOR STARTER MOUNT HCP AND/OR MR201 (SHUTDOWN RELAYS) WITH 3' FEET) OF AHU MOTOR STARTER SECURITY DOOR INTERFACE
 - VERIFY LOCATION OF F.A RELAY
 - MONITOR STATUS OF POWER SUPPLY
 - FIRE PUMP MONITORING MODULE
 - INSTALL HEAT DETECTOR WITH 2' FEET) OF EACH ELEVATOR MACHINE ROOM
 - VERIFY LOCATION OF ELEVATOR RECALL CONTROLS TO BE PROVIDED IN THE ELEVATOR MACHINE ROOMS. 1. PRIMARY RECALL, 2. ALTERNATIVE RECALL, 3. SHUNT TRIP, 4. FIREFIGHTERS' CAB LED (COORDINATE LOCATIONS)
 - BIG ASS FAN SHUTDOWN RELAY (COORDINATE BEST LOCATION)
 - MEZZANINE DEVICES
 - TO NEXT FSD ABOVE / BELOW (FIELD COORDINATE)
 - ROUTE 3/4" CONDUIT UP / DOWN TO JUNCTION BOX
 - ALL REQUIRED CONDUIT SHALL BE 3/4" MINIMUM UNLESS OTHERWISE NOTED ON FLOOR PLANS.
 - MINI F.A RISER SHALL BE 1-1/2" MINIMUM CONDUIT. ALL KEY NOTES MAY NOT APPLY TO THESE DRAWINGS.
- NOMENCLATURES:**
- FACP / REMOVE FACP NUMBER
 - ROUTE TO FACP / REMOVE FACP
 - SPEAKER CIRCUIT NUMBER
 - POWER SUPPLY NUMBER
 - ROUTE TO POWER SUPPLY
 - POWER SUPPLY CIRCUIT NUMBER

KEY PLAN



FOR SUBMITTAL. RECORD DRAWINGS I have reviewed these plans and certify that they comply with applicable codes or ordinances.

Identify any work omitted from sealed engineering standards are specifically noted on these plans.

SIEMENS BUILDING TECHNOLOGIES, INC.
HOUSTON, TEXAS 77064
(281) 949-3000 ACR-1751584

APCS License # 152019
APCS Firm Name DMR