



VICTOR VALLEY TRANSIT AUTHORITY

*Representing the communities of Adelanto, Apple Valley, Barstow, Hesperia,
Victorville, and San Bernardino County*

**INVITATION FOR BID
IFB 2027-01**

**BUILDING MODIFICATIONS FOR HYDROGEN FUEL
CELL BUS MAINTENANCE**

October 12, 2026

NOTICE INVITING BIDS 2027-01 BUILDING MODIFICATIONS

1. Purpose of the Procurement and Period of Performance

VVTA is requesting Bids from qualified contractors to provide labor and materials for Building Modifications for Hydrogen Fuel Cell Bus Maintenance. The period of performance for this contract is estimated at 180 days.

2. Obtaining the Invitation for Bid (IFB) Document

IFB documents may be obtained from VVTA, in person at 17150 Smoke Tree Street, Hesperia, CA 92345-8305, electronically at www.vvta.org/Procurement or via www.publicpurchase.com.

Documents are also available via email request to cplasting@vvta.org. IFBs requested by courier or via USPS mail shall be packaged and sent only at the Bidders' expense.

3. Public Bid Opening and Submittal Requirements

There will be a **Public Bid Opening** and Bids must be received before **3:00 PM (PST), Thursday, November 19, 2026**. Bid Opening will be at the VVTA address below in room A104 (Board Room.)

3.1. Bid packages will be accepted at the following address:

Victor Valley Transit Authority
Attn: Christine Plasting, Procurement Manager
17150 Smoke Tree Street
Hesperia, CA 92345-8305
(760) 995-3583

3.2. Envelopes, boxes, or electronic submissions via publicpurchase.com shall contain Bids clearly labeled with VVTA's IFB number and the solicitation title: "VVTA IFB 2027-01 BUILDING MODIFICATIONS FOR HYDROGEN FUEL CELL BUS MAINTENANCE."

3.3. Bidders are to submit to VVTA either one (1) hard copy of the Bid and one (1) electronic copy via thumb/flash drive **OR** via www.publicpurchase.com. A Bid is deemed to be late if it is received by VVTA after the deadline stated above. Bids received after the submission deadline shall be returned, unopened to the Bidder. It is the Bidder's sole responsibility to ensure that the Bids are received by the date and time stated above.

4. Bonds

Bid Bond- Each Bid must be accompanied by a certified or cashier's check, or by a corporate surety bond. Check or Bid bond shall be in an amount not less than 10% of the total Bid.

A Performance Bond and Payment Bond **may** be required by the **contractor awarded** after the notice of intent to award.

5. Prevailing Wage

Minimum wage rates for this project have been predetermined by the Secretary of Labor. If there is a difference between the minimum wage rates predetermined by the Secretary of Labor and the prevailing wage rates as determined by the State for similar labor classifications, the Contractor and his/her subcontractors shall pay not less than the higher wage rate. In accordance with provisions of Section 1773.2 (amended 1977) of the California Labor Code copies of the prevailing rate of per diem wages as determined by the State Director of Industrial Relations and are available at the California Department of Industrial Relations' Internet web site at <http://www.dir.ca.gov/oprl/DPreWageDetermination.htm>.

Future effective general prevailing wage rates, which have been predetermined and are on file with the California Department of Industrial Relations, are referenced but not printed. Copies of the prevailing wage rates are on file with VVTA and available upon request.

This work falls under the Davis-Bacon Act, as amended (40 U.S.C. 276a to a-7) and that contractor shall supply VVTA with certified payroll documentation. The Davis-Bacon and Related Acts will apply to contractors and subcontractors performing construction, alteration, or repair with federally funded or assisted contracts of \$2,000 or more. Under this Act, contractors shall be required to pay wages specified in a wage determination made by the Secretary of Labor. In addition, contractors shall be required to pay wages not less than once a week. A current copy of the Davis Bacon Wage Determinations is available upon request. Contractor shall attach a copy of the prevailing wage to the bid. The award of the contract shall be conditioned upon the acceptance of the wage determination.

If the State of California prevailing Wage is higher than Davis Bacon, contractor is required to pay the higher rate.

6. Vendor Registration with the California Department of Industrial Relations

California SB 854 Compliance -VVTA will not accept a Bid from or enter the Contract with a Bidder, without proof that the Bidder and its Subcontractors are registered with the California Department of Industrial Relations (DIR) to perform public work under Labor Code Section 1725.5, subject to limited legal exceptions. The Bidder shall enter DIR Registration Number on the Bid.

7. Validity of Bids. Bids and subsequent offers shall be valid for a period of ninety (90) days. An award may be made without further discussion. VVTA reserves the right to withdraw or cancel this IFB at any time without prior notice and VVTA makes no representation that any contract will be awarded to a Bidder responding to this IFB.

8. Pre-Bid Conference/Job Walk

There will be a non-mandatory Pre-Bid Conference/Job Walk on Tuesday, October 27, 2026, at 10:00 AM PDT. The deadline for questions is 5:00 PM (PST), Friday, November 6, 2026. Prospective Bidders are requested to submit questions, in writing to the Procurement Manager at cplasting@vvta.org. Responses shall be shared with all known prospective Bidders by written addenda only.

The awarded Bidder shall be required to comply with all applicable Equal Opportunity Laws and Regulations.

TABLE OF CONTENTS

INSTRUCTIONS TO BIDDERS	5
A. TIMELINE	5
B. PURPOSE.....	5
C. BACKGROUND	5
D. PERIOD OF PERFORMANCE.....	6
E. EXAMINATION OF DOCUMENTS.....	6
F. REQUEST FOR CLARIFICATION / APPROVED EQUALS.....	6
G. VENDOR CONTACT.....	6
H. ADDENDA TO IFB.....	7
I. EXCEPTIONS / DEVAITIONS	7
J. FORMAT OF BIDS	7
K. BID PACKAGING REQUIREMENTS	9
L. PRE-CONTRACTUAL EXPENSES.....	10
M. JOINT BIDS	10
N. TAXES	10
O. MODIFICATION OR WITHDRAWAL OF BIDS	10
P. SUBCONTRACTORS AND ASSIGNMENTS	11
Q. BIDDERS'S LICENSING REQUIREMENTS	12
R. PREVAILING WAGE REQUIREMENTS	12
S. RESERVED	13
T. PERFORMANCE AND PAYMENT BONDS	14
U. SUBSTITUTION OF SECURITIES	14
V. CONFIDENTIALITY AND PUBLIC RECORDS ACT	14
W. ACCEPTANCE / REJECTION OF BIDS	16
X. SINGLE RESPONSE	16
Y. CANCELLATION OF PROCUREMENT	16
Z. AVAILABILITY OF FUNDS	17
AA. VVTA'S RIGHTS	17
BB. CONFLICT OF INTEREST AND CODE OF CONDUCT	17
CC. EVALUATION, NEGOTIATION AND SELECTION.....	18

ATTACHMENT A – SCOPE OF WORK

EXHIBIT 1 – CONSTRUCTION WASTE MANAGEMENT PLAN

EXHIBIT 2 – SPECIFICATION 28.42.00 GAS AND FLAME DETECTION

EXHIBIT 3 – VVTA FULL DESIGN DRAWINGS

ATTACHMENT B – FEDERAL CLAUSES

ATTACHMENT C – SAMPLE CONTRACT

ATTACHMENT D – PROTEST POLICY

ATTACHMENT E – REQUIRED FORMS

ATTACHMENT F – PREVAILING WAGE REQUIREMENTS

INSTRUCTIONS TO BIDDERS

A. TIMELINE

Date of Invitation for Bid (IFB):	October 12, 2026
Agency:	VICTOR VALLEY TRANSIT AUTHORITY
Address of Agency:	17150 SMOKETREE ST., HESPERIA, CA 92345-8305
Contracting Officer:	Christine Plasting, CPPO, Procurement Manager
Telephone No:	(760) 995-3583
FAX No:	(760) 948-1380
Email Address:	cplasting@vvta.org
Pre-Bid Conference (Non-Mandatory)	10:00 AM PDT, Tuesday, October 27 , 2026, at 17150 Smoke Tree Street, Hesperia, CA 92345 Room A 104
Last Day for Questions	5:00 PM PST, Friday, November 6, 2026.
Addenda and Answers to questions	2:00 PM PST, Thursday, November 12, 2026
Public Bid Opening	3:00 PM PST, Thursday, November 19, 2026
Anticipated Award Date	January 2027

B. PURPOSE

With the addition of 13 Hydrogen Fuel Cell Buses in Victor Valley Transit Authority's (VVTA's) fleet, certain upgrades to the existing facilities are required to detect hydrogen within the maintenance building located at 17150 Smoke Tree Street, Hesperia, CA 92345. In order to complete the project and ensure compliance with the National Fire Protection Agency and San Bernardino County Fire Department by having adequate detection, VVTA needs a qualified contractor to source the products for upgrades, perform minor demolition to the existing sensor equipment, and perform the upgrades to specifications. Specifications are included in the Scope of Work (Attachment A.)

C. BACKGROUND

Victor Valley Transit Authority (VVTA) is a public transit agency and Consolidated Transportation Services Agency (CTSA), providing bus, ADA paratransit, and vanpool service to California's High Desert. VVTA's service area spans nearly 1,000 square miles, featuring service to Adelanto, Apple Valley, Barstow, Hesperia, Needles, Victorville, and unincorporated San Bernardino County, including Daggett, Helendale, Hinkley, Lucerne Valley, Newberry Springs, Oak Hills, Oro Grande, Phelan, Pinon Hills, Wrightwood, and Yermo. Commuter service to Fort Irwin National Training Center (NTC) and connecting service from the High

Desert to the Inland Empire is also provided. Additional information and service alerts are available at VVTA.org and Twitter.com/VVTransit.

D. PERIOD OF PERFORMANCE

VVTA intends to award a Lump Sum contract for a period of 180 days, unless extended by mutual agreement. VVTA reserves the right to award the contract at a time other than stated in the proposed schedule.

E. EXAMINATION OF DOCUMENTS

By submitting a Bid, the Bidder represents that it has thoroughly examined and become familiar with the work required and documents included under the IFB.

F. REQUEST FOR CLARIFICATION / APPROVED EQUALS

1. Whenever any material, product or service is specified or indicated in the contract documents by brand name, trade, patent, or proprietary name or by the name of the manufacturer, the item so specified or indicated shall be deemed to be followed by the words, "Or Equal."
2. At any time during this procurement up to the time specified in the "Bid Schedule" (Section A), Bids may request, in writing, a clarification or interpretation of any aspect, or a change to any requirement of the IFB or any addendum to the IFB. Requests may include suggested substitutes for specified items and for any brand names. Whenever a brand name is used in this solicitation it shall mean the brand name or "approved equal." Such written requests shall be made to the Contracting Officer and may be transmitted by facsimile or via email. The Bid making the request shall be responsible for its proper delivery to VVTA per "Contracting Officer" (Section A) on the form provided in "Request for Pre-Offer Change or Approved Equal" (Attachment E.) **VVTA will not respond to oral requests.** Any request for a change to any requirement of the Contract Documents must be fully supported with technical data, test results, or other pertinent information evidencing that the exception will result in a condition equal to or better than that required by the IFB, without substantial increase in cost or time requirements. Any responses to such written request shall be provided by VVTA in the form of addendum only. Only written responses provided as addendum shall be official and all other forms of communication with any officer, employee, or agent of VVTA shall not be binding on VVTA.
3. VVTA, at its sole discretion, shall determine whether the substantiating data demonstrates that an "approved equal" item(s) is equivalent in all respects to the item specified in the contract documents.

G. VENDOR CONTACT

1. All correspondence, communication and/or contact with regard to any aspect of this solicitation is authorized only with the designated Contracting Officer identified in "A. Bid Schedule" above, or their designated representative. Bidders and their representatives shall not make any contact with or communicate with any employees of VVTA, or its directors and consultants, other than the Contracting Officer regarding any

aspect of this solicitation or offers. Ex parte' communications with members of VVTA's Board of Directors or any person responsible for awarding a contract, including the Contracting Officer is prohibited under California Public Contract Code Section 20216. All communications shall be in writing and will be made public.

2. If it should appear to a prospective Bidders that the performance of the Work under the contract, or any of the matters relating thereto, is not sufficiently described or explained in the **IFB** or Contract Documents, or that any conflict or discrepancy exists between different parts thereof or with any federal, state, local or Agency law, ordinance, rule, regulation, or other standard or requirement, then the Bidder shall submit a written request for clarification to VVTA within the time period specified above.

H. ADDENDA TO IFB

VVTA reserves the right to amend the IFB at any time. Any amendments to or interpretations of the IFB shall be described in written addendum. VVTA shall provide copies of Addendum to all prospective Bidders officially known to have received the IFB. Prospective Bidders, or their agents, shall be responsible to collect the addendum at the address provided in "Contracting Officer" (Section A. above) or receive the same otherwise. Notification of the addendum will also be emailed to all such prospective Bidders officially known to have received the IFB and to the email address provided by each prospective Bidder. Failure of any prospective Bidder to receive the notification or addendum shall not relieve the Bidder from any obligation under its Bid as submitted or under the IFB, as clarified, interpreted, or modified. All addenda issued shall become part of the IFB. Prospective Bidders shall acknowledge the receipt of each individual addendum and all prior addenda in their Bidder (See Attachment E). Failure to acknowledge in their Bids receipt of addendum may, at VVTA's sole option, disqualify the Bid.

If VVTA determines that the addendum may require significant changes in the preparation of Bids, the deadline for submitting the Bids may be postponed by the number of days that VVTA determines will allow Bidder sufficient time to revise their Bids. Any new Due Date shall be included in the addendum.

I. EXCEPTIONS / DEVIATIONS

Using the Form for Bid Deviation – Attachment E – State any exceptions to or deviations from the requirements of this IFB, segregating "technical exceptions from contractual" exceptions. Where Bidder wishes to propose alternative approaches to meet VVTA's technical or contractual requirements, these should be thoroughly explained. If no contractual exceptions are noted, Bidder will be deemed to have accepted the contract requirements as set form in the Scope of Work.

J. FORMAT OF BIDS

1. Bids must be submitted and organized in the order listed below. The Bid shall include, at a minimum, the following:
 - a. Cover letter – Bidder must include a letter of introduction.

- b. Title Page
- c. Table of Contents
- d. Profile of Firm (History, Experience, Changes) – This section should include details regarding the Bidder’s ability and experience to operate the project as specified in the IFB. The following information should be included:
 - I. Corporate hierarchy – i.e., President, Vice President, Corporate Officers, etc....
 - II. Corporate overview of services or activities performed.
 - History of firm – Include a brief history of the firm
 - Founding Date (month and year)
 - Firm size – staff and client base
 - Firm’s vision and mission statement
 - III. Employment practices – policies and procedures, training, including safety training and affiliation/accreditation.
 - IV. Location of the office from which the work will be provided and the staff allocation at that office.
- e. Identify Project team including, but not limited to:
 - I. Size of Project Team
 - II. Education, qualifications, and specific experiences in performing the work that is being solicited in this IFB.
 - III. Project Organization Chart.
- f. Resumes of Key Personnel (if applicable)
- g. Commitment that key personnel will be available throughout the contract and will not be removed without prior approval of VVTA (if applicable)
- h. Bidder’s approach to accomplish the Scope of Work Requirements.
 - I. Description of Bidder’s approach to performing services. Bids must include a description of the services to be rendered in terms of the scope of work including a detailed Bid.
 - II. Provide a work plan or description of how the work will be performed by the contractor. (e.g. – outline a proposed work plan and methodologies that will be employed to accomplish the work)
 - III. The name of the Project Manager / Liaison and a list of personnel to be assigned to the project and the roles and qualifications.
 - IV. Indicate whether your firm will be sub-contracting portion(s) of the work. If so,

indicate the name of the subcontractor, the portion of the work to be subcontracted (In Dollars), and their State of CA Contractor's License Number (if applicable).

V. Describe your firm's approach to resolving problems that may be encountered in the field.

i. Summary of Contracted Services

I. Bidder must identify all areas that will be subcontracted and name of the firms performing such work. List their key personnel and their qualifications.

II. Bidder must list all services, equipment, and facilities that the Bidder has provided and/or operated under contract during the past five (5) years. Include company name, address, phone number, and contact.

III. VVTA reserves the right to interview any organization and visit any of the facilities as listed as subcontractors.

j. Required Forms (See Attachment E)

1. Cost/Price Bid – Bidders shall submit proposed pricing to provide the products/services for the work described in Attachment A – Scope of Work

k. Any other information required by this IFB or its addenda which may not be listed above.

2. Firms may include additional information, however, do NOT attach terms and conditions that conflict with the IFB, as your firms' Bid may be deemed non-responsive.

K. BID PACKAGING REQUIREMENTS

1. Please note that **all official addenda** must be acknowledged. Bidder is instructed to use Attachment E – Acknowledgement of Addenda – to acknowledge all official addenda released during this solicitation.

2. **Original Sealed Bid plus one (1) electronic copy OR via publicpurchase.com**, must be received at the address shown in "Bid Schedule" (Section A) before the Public Bid Opening scheduled for **3:00 PM (PST) on Thursday, November 19, 2026. All Bids will be opened and read aloud during the bid opening. VVTA will announce the apparent low bidder after all bids have been opened.**

3. All labor and materials shall be furnished in strict accordance with the delivery schedule and the Contract terms and conditions. All Bids shall be valid for a period of ninety (90) days.

4. Bidder shall submit the Cost/Price Bid (Attachment E) with the Bid. Prices are to be quoted including California State and Local Sales Tax (current Hesperia Sales of 7.75%). Bidder shall pay all taxes which are legally enacted at the time Bid is

submitted and shall secure and pay for all permits and government fees, licenses, and inspections necessary for the proper execution and completion of the Contract.

5. If a Bidder is submitting their Bid electronically through publicpurchase.com, a copy of any required originals (notarized documents, bonds, etc.) must be included. The original notarized document, bid bonds, etc.... must be received by VVTA not later than 5 business days after the Bid Opening Date.

L. PRE-CONTRACTUAL EXPENSES

1. VVTA will not be liable for any pre-contractual expenses incurred by any Bidder in preparation of its Bid. Bidder shall not include any such expenses as part of their Bid.
2. Pre-contractual expenses are defined as expenses incurred by the Bidder in:
 - a. Preparing a Bid in response to this IFB;
 - b. Submitting that Bid to VVTA;
 - c. Negotiating with VVTA any matter related to this Bid; and
 - d. Any other expenses incurred by Bidder prior to date of award, if any, of the Agreement.

M. JOINT BIDS

Where two or more firms desire to submit a single Bid in response to this IFB, they should do so on a prime-subcontractor basis rather than as a joint venture.

N. TAXES

Bids are subject to State and Local sales taxes. However, VVTA is exempt from the payment of Federal Excise and Transportation Taxes. Firm is responsible for payment of all taxes for any goods, services, processes, and operations incidentally to or involved in the contract.

O. MODIFICATION OR WITHDRAWAL OF BIDS

1. A modification of a Bid already received will be accepted by VVTA only if the modification is received prior to the Bid Due Date or is specifically requested by VVTA. All modifications shall be made in writing and executed and submitted in the same form and manner as the original Bid.
2. A Bidder may withdraw a Bid already received prior to the Bid Due Date by submitting, in the same manner as the original Bid, to VVTA a written request for withdrawal executed by the Bidder's authorized representative. After the Bid Due Date, a Bid may be withdrawn only if VVTA fails to award the contract within the Bid validity period prescribed in "Due Date" or any agreed upon extension thereof. The withdrawal of a Bid does not prejudice the right of a Bidder to submit another Bid within the time set for receipt of Bids.
3. This provision for modification and withdrawal of Bids may not be used by a Bidder to submit a late Bid and, as such, will not alter VVTA's right to reject a Bid.

P. SUBCONTRACTORS AND ASSIGNMENTS

1. Pursuant to the provisions of the California Public Contract Code Section 4104 every Bidder shall in the Bid set forth:
 - a. The name and location of the place of business (address) of each subcontractor who will perform work or labor or render service to the Bidder in or about the work in an amount more than one-half of one percent of the Bidder's total Bid; and
 - b. The portion of the work that will be done by each subcontractor. The Bidder shall list only one subcontractor for each portion of work as defined by the Bidder in its Bid.
 - c. The dollar amount of the work which will be done by each such subcontractor
2. Bidder shall complete form entitled "List of Subcontractors (Attachment E)" with the above requested information.
3. If the Bidder fails to specify a subcontractor for any portion of the work to be performed under the contract in excess of one-half of one percent of the Bidder's total Bid, or if the Bidder specified more than one subcontractor for the same portion of the work to be performed under the contract in excess of one-half of one percent of the Bidder's total Bid, the Bidder agrees to perform that portion.
4. The successful Bidder shall not, without the express written consent of VVTA, either:
 - a. Substitute any person, firm, or corporation as subcontractor in place of the subcontractor designated in the original Bid; or
 - b. Permit any subcontract to be assigned or transferred; or
 - c. Allow it to be performed by anyone other than the original subcontractor listed in the Bid.
 - d. Each Bidder shall set forth in its Bid the name and location of the place of business (address) of each subcontractor certified as a disadvantaged business enterprise who will perform work or labor or render service to the prime contractor about the performance of the contract.
 - e. Bidder shall not assign any interest it may have in any Agreement/Contract with VVTA, nor shall Bidder assign any portion of the work under any such Agreement with a value in excess of one-half of one percent of Agreement price to be subcontracted to anyone other than these subcontractors listed in the "List of Subcontracts," except by prior written consent of VVTA. VVTA's consent to any assignment shall not be deemed to relieve Bidder of its obligations to fully comply with its obligations under its Agreement with VVTA. Bidder with its own forces shall perform a minimum of ten percent (10%) (calculated as a percentage of the total cost of the project) of the work under this Agreement. Bidder shall also include in its subcontract agreements the provisions of its Agreement with VVTA including the stipulation that each subcontractor shall maintain adequate insurance coverage compatible to the insurance coverage required of the Bidder.

Q. BIDDER'S LICENSING REQUIREMENTS

1. In conformance with the current statutory requirements of Section 7028.15 of the Business and Professions Code of the State of California, regarding submission of a Bid without a license, the Bidder shall provide as part of the Bid the license number, class (or type), and date of expiration of license.
 - a. Class "A" — General Engineering Contractor The principal business is in connection with fixed works requiring specialized engineering knowledge and skill. **Or**
 - b. Class "B" — General Building Contractor The principal business is in connection with any structure built, being built, or to be built, requiring in its construction the use of at least two unrelated building trades or crafts. **AND**
 - c. Class "C" — "C" Specialty contractors perform their trade using the art, experience, science, and skill necessary to satisfactorily organize, administer, construct, and complete projects under their classification, in accordance with the standards of their trade. A specialty contractor may use subcontractors to complete the incidental and supplemental work, or may use his/her own employees to do so. (Also see BPC §7058):
 - i. For this project, the specialized licenses shall include all applicable trades listed with the CSLB at:
http://www.cslb.ca.gov/About_Us/Library/Licensing_Classifications/
2. No contractor or subcontractor may be listed on a bid Bid for a public works project unless currently registered with the Department of Industrial Relations pursuant to Labor Code Section 1725.5 [with limited exceptions from this requirement for bid purposes only under Labor Code Section 1771.1(a)]. Contractors and subcontractors must be registered for the current fiscal year.
3. This project is subject to compliance monitoring and enforcement by the Department of Industrial Relations (DIR). Registration can be accomplished through the DIR website by using this link: <http://www.dir.ca.gov/Public-Works/PublicWorks.html>.
4. Failure of a Bidder to possess the required license on the Bid date shall render the Bid non-responsive.

R. PREVAILING WAGE REQUIREMENTS AND EMPLOYMENT OF APPRENTICES

This Project is subject to the provisions of Labor Code §1720, *et seq.* and regulations set forth in Title 8 §§ 16000 *et seq.* of the California Code of Regulations, which govern the payment of prevailing wages on public works projects. All Bidders shall be governed by and are required to comply with these statutes and regulations in connection with the Project. Pursuant to Labor Code § 1771, the Bidder receiving award of the contract, its subcontractors of any tier shall pay not less than prevailing wage rates to all workers employed in the execution of the contract. The Director of the Department of Industrial Relations, State of California pursuant to the California Labor Code and VVTA, have determined the general prevailing rates of wages in the locality in which the work is to be performed. Copies of said rates are on file with the Procurement Manager of VVTA, will

be made available for inspection during regular business hours and are also available online at <https://www.dir.ca.gov/Public-Works/Prevailing-Wage.html>.

No contractor or subcontractor may be listed on a bid Bid for a public works project unless registered with the Department of Industrial Relations pursuant to Labor Code Section 1725.5 [with limited exceptions from this requirement for bid purposes only under Labor Code Section 1771.1(a)].

1. California SB 854 Compliance -VVTA will not accept a Bid from or enter the Contract with a Bidder, without proof that the Bidder and its Subcontractors are registered with the California Department of Industrial Relations (DIR) to perform public work under Labor Code Section 1725.5, subject to limited legal exceptions. The Bidder shall enter DIR Registration Number on the Bid.
2. Furthermore, the Bidder shall ensure that all subcontractors fully comply with the appropriate licensing requirements. The Bidder shall also certify that all information provided, and representations made in the Bid are true and correct and made under penalty of perjury. Bidders shall also certify that all information provided, and representations made in the Bid are true and correct and made under penalty of perjury. Bidders shall provide this information on form entitled "List of Subcontractors (Attachment E)." Failure to provide the information on the certification form or elsewhere as part of the Bidder shall render the Bid nonresponsive to this solicitation and will result in the rejection of the Bid.

This work falls under the Davis-Bacon Act, as amended (40 U.S.C. 276a to a-7) and that contractor shall supply VVTA with certified payroll documentation. The Davis-Bacon and Related Acts will apply to contractors and subcontractors performing construction, alteration, or repair with federally funded or assisted contracts \$2,000 or more. Under this Act, contractors shall be required to pay wages specified in a wage determination made by the Secretary of Labor. In addition, contractors shall be required to pay wages not less than once a week. A current copy of the Davis Bacon Wage Determinations is available upon request. Contractor shall attach a copy of the prevailing wage to bid Bid. The award of contract shall be conditioned upon the acceptance of the wage determination.

If State of California prevailing Wage is higher than Davis Bacon, contractor is required to pay the higher rate.

S. RESERVED

T. PERFORMANCE AND PAYMENT BOND

The **awarded** Bidder will be required to furnish VVTA: (1) a performance bond; and (2) a payment bond on forms furnished by California Department of Insurance (CDI) approved Surety. The penal amount of each bond shall remain equal to one hundred percent (100 %) of the contract sum. Said bonds must be satisfactory to VVTA and must be executed by a California admitted surety insurer with a policy-holder's rating of **A** or higher and a financial class of **VII** or larger.

U. SUBSTITUTION OF SECURITIES

Pursuant to Public Contract Code 2230, the Bidder who received award of the contract may,

at its sole cost and expense, substitute approved securities equivalent to any retained funds withheld by VVTA to ensure performance of the work, or, in alternative, request that VVTA make payment of retention to an escrow agent. Notwithstanding the foregoing, the Bidder shall have **thirty (30) calendar days** following VVTA's Notice to Proceed to submit a written request to VVTA for substitution of securities or payment of retention to an escrow account; failure to do so shall be deemed a waiver of such right.

V. CONFIDENTIALITY AND PUBLIC RECORDS ACT

All Bids and other material submitted become the property of VVTA and are subject to release according to the California Public Records Act (Government Code § 6250 et. seq.) Except as otherwise required by state law, VVTA will be exempt from disclosure proprietary information, trade secrets and confidential commercial and financial information submitted in the Bid. Any such proprietary information, trade secrets or confidential commercial and financial information, which a Bidder believes should be exempted from disclosure, shall be specifically identified, and marked as such. VVTA will use reasonable means to ensure that such information is safeguarded but will not be held liable for inadvertent disclosure of the information. Bids marked "Confidential" in their entirety will not be honored. Blanket-type identification by designating whole pages or sections containing proprietary information, trade secrets or confidential commercial and financial information will not ensure confidentiality. The specific proprietary information, trade secrets or confidential commercial and financial information must be clearly identified as such.

Bidder fully understands the scope of work/specifications and has carefully checked all words and figures inserted in said IFB and further understands that VVTA will no way be responsible for any errors or submissions in the preparation of this Bid.

1. Exclusive Property

- a. Responses to this IFB become the exclusive property of VVTA and are subject to the California Public Records Act.
- b. Those elements of each Bid that are *trade secrets*, as the term is defined in California Civil Code section 3426.1 (d) or otherwise exempt by law from disclosure and which are not prominently marked as TRADE SECRET, CONFIDENTIAL or PROPRIETARY may be subject to disclosure.

2. Disclosure of Records

- a. Upon a request for records from a third party regarding this IFB, VVTA will notify in writing the party involved. The party involved must respond within twenty (20) calendar days with the identification of any and all "proprietary, trade secret, or confidential commercial or financial" information and the party involved shall agree to indemnify VVTA for its defense costs, (Including reasonable attorney fees) associated with its refusal to produce such identified information; otherwise, the requested information may be released and VVTA shall not be held liable for complying with the records request.
- b. If disclosure is deemed to be required by law or by an order of the court, VVTA shall not, in any way, be liable or responsible for the disclosure of any such records including, without limitation, those so marked.

- c. Any documents that are not marked "TRADE SECRET" or "CONFIDENTIAL" or "PROPRIETARY," will be made available.

3. Exemption from Disclosure May be Deemed Unresponsive

- a. VVTA will take into consideration documents that the Bidder deems exempt from disclosure which must be marked "TRADE SECRET" or "CONFIDENTIAL" or "PROPRIETARY."
- b. Bidders who indiscriminately identify all or most of their Bids as exempt from disclosure without justification may be deemed non-responsive.

4. Indemnification of VVTA by Bidder

- a. The Bidder agrees to indemnify, hold harmless and defend VVTA and each of its board members, officers, officials, employees and agents from any and all claims, demands and actions in law or equity (including attorney's fees and litigation expenses), arising or alleged to have arisen directly or indirectly out of a Public Records Act request for any of the contents of a Bid labeled as protected information and identified as, among other things, "TRADE SECRET" or "CONFIDENTIAL" or "PROPRIETARY." This obligation shall survive the IFB process, including the awarding of the Contract
- b. Bidder agrees to absorb all costs and expenses, including attorneys' fees, in any action or liability arising under the California Public Records Act pertaining to protected information contained and labeled as such in the Bidder's Bid.

5. Public Interest

- a. The public interest exemption of the California Public Records Act provides that an agency may withhold the disclosure of a record by showing that the public interest served by not making the record public clearly outweighs the public interest served by disclosure of the record.
- b. To protect the integrity of the Bid process, in most instances, price Bids and information regarding the contents of a Bid, will not be released or made available to other Bidders or the public until contract award is made by VVTA's Board of Directors and after the conclusion of any protest.
- c. VVTA shall employ sound business practices no less diligent than those used for VVTA's own confidential information to protect the confidence of all licensed technology, software, documentation, drawings, schematics, manuals, data and other information and material provided by Bidders and the Contractor pursuant to the Contract which contain confidential commercial or financial information, trade secrets or proprietary information as defined in or pursuant to the state law against disclosure of such information and material to third parties except as permitted by the Contract. The Contractor shall be responsible for ensuring that confidential commercial or financial information, trade secrets or proprietary information, with such determinations to be made by VVTA in its sole discretion, bears appropriate notices relating to its confidential character.

W. ACCEPTANCE/REJECTION OF BIDS

1. VVTA reserves the right to reject any or all Bids for sound business reasons, to undertake contract negotiations with one or more Bidders, and to accept that Bid, which in its judgment, will be most advantageous to VVTA, price and other evaluation criteria considered. VVTA reserves the right to consider any specific Bid, which is conditional or not prepared in accordance with the instructions and requirements of this IFB to be non-responsive. VVTA reserves the right to waive any defects, or minor informalities or irregularities in any Bid which do not materially affect the Bid or prejudice other Bids.
2. If there is any evidence indicating that two or more Bidders are in collusion to restrict competition or otherwise engaged in anti-competitive practices, the Bids of all such Bidders shall be rejected, and such evidence may be a cause for disqualification of the participants in any future solicitations undertaken by VVTA.
3. VVTA reserves the right to reject a Bid that includes unacceptable conditions, exceptions, and deviations.

X. SINGLE BID RESPONSE

If only one Bid is received in response to this IFB and it is found by VVTA to be acceptable, a detailed price/cost Bid may be requested of the single Bidder. A price or cost analysis, or both, possibly including an audit, may be performed by or for VVTA of the detailed price/cost Bid to determine if the price is fair and reasonable. The Bidder has agreed to such analysis by submitting a Bid in response to this IFB. A price analysis is an evaluation of a proposed price that does not involve an in-depth evaluation of all the separate cost elements and the profit factors that comprise a Bidder's price Bid. It should be recognized that a price analysis through comparison to other similar procurements must be based on an established or competitive price of the elements used in the comparison. The comparison must be made to a purchase of similar quantity, involving similar specifications and in a similar time frame. Where a difference exists, a detailed analysis must be made of this difference and costs attached thereto. Where it is impossible to obtain a valid price analysis, it may be necessary to conduct a cost analysis of the proposed price. A cost analysis is a more detailed evaluation of the cost elements in the Bidder's Offer to perform. It is conducted to form an opinion as to the degree to which the proposed costs represent what the Bidder's performance should cost. A cost analysis is generally conducted to determine whether the Bidder is applying sound management in proposing the application of resources to the contracted effort and whether costs are allowable, allocable, and reasonable. Any such analyses and the results therefrom shall not obligate VVTA to accept such a single Bid; and VVTA may reject such Bid at its sole discretion.

Y. CANCELLATION OF PROCUREMENT

VVTA reserves the right to cancel the procurement, for any reason, at any time before the Contract is fully executed and approved on behalf of VVTA.

Z. AVAILABILITY OF FUNDS

This procurement is subject to the availability of funding. VVTA's obligation hereunder is contingent upon the availability of appropriated funds from which payment for the contract purposes can be made. No legal liability on the part of VVTA for any payment shall arise until funds are made available to the Contracting Officer for this contract and until the Contracting Officer receives notice of such availability, by issuance of a written Notice to Proceed by the Contracting Officer. Any award of Contract hereunder is conditioned upon said availability of funds for the Contract.

AA. VVTA'S RIGHTS

1. Each Bid will be received with the understanding that acceptance by VVTA of the Bid to provide services described herein shall constitute a contract between the Bidder and VVTA which shall bind the Bidder on its part to furnish and deliver at the prices given and in accordance with conditions of said accepted Bid and specifications.
2. VVTA reserves the right, in its sole discretion to:
 - a. Accept or reject all Bids, or any item or part thereof, or to waive any informalities or irregularities in Bids.
 - b. Withdraw or cancel this IFB at any time without prior notice. VVTA makes no representations that any contract will be awarded to any Bidder responding to this IFB.
 - c. Issue a new IFB for the project.
 - d. To postpone the Bid opening for its own convenience.
 - e. Investigate the qualifications of any Bid, and/or require additional evidence or qualifications to perform the work.

BB. CONFLICT OF INTEREST AND CODE OF CONDUCT

1. POLICY OVERVIEW

Federal regulations require VVTA to prevent conflicts of interest in contract awards. VVTA also seeks to avoid any appearance of conflicts of interest. VVTA personnel and Contractors are expected to avoid conflicts of interest or appearances thereof and actions which could result in favoritism or appearances thereof.

2. GUIDELINES FOR CONTRACTOR RELATIONSHIPS

To avoid conflict whether real or apparent, the following shall apply to employees of any Contractor providing services to VVTA.

No Contract Management personnel or support staff shall:

- (a) Make recommendations or be involved in preparation of specifications for any

contracts for which that Contract personnel may propose.

- (b) Be involved in any aspect of evaluation, selection, or award of a contract for which that Contract personnel may propose.
- (c) Be involved in any aspect of contract administration of a contract or subcontract which has been awarded to Contract personnel.

CC. EVALUATION, NEGOTIATION AND SELECTION

The basis of award of the resulting contract shall be to the responsible and responsive Bidder whose Bid is the lowest price.

1. OPENING OF BIDS

On ***Thursday, November 19, at 3:00 PM (Pacific Time)***, all bids received will be publicly opened. The amounts bid by each bidder will be read aloud. An announcement will be made of the apparent low bid, pending the Board of Directors' approval of the bid.

2. BID SELECTION PROCESS

- a. VVTA will award the contract to the lowest and best responsive and responsible Bidder, which represents the most advantageous bid to VVTA, price, and other factors considered. In determining the most advantageous bid price, quantifiable factors, and other factors are considered. This would include specifications, delivery requirements, the initial purchase price, life expectancy, cost of maintenance and operation overtime, operating efficiency, training requirements, disposal value, and other factors contributing to the overall acquisition cost of an item. Consideration may be given but is not limited to conformity to the specifications, product warranty, a bidder's proposed service, ability to supply and provide service, delivery to required schedules, and past performances in other contracts with VVTA including timely delivery. VVTA reserves the right to extend any contract when most advantageous to the Authority.
- b. Bids that do not comply with the instructions contained in these IFB documents and do not include the required information shall be rejected as non-responsive and shall not be considered for the competitive range. VVTA reserves the right to waive technical defects, discrepancies and minor irregularities in an IFB and/or submitted Bid(s). VVTA reserves the right to award any alternatives set forth in the solicitation documents in its sole discretion. Submitted Bids may be rejected if there is any alteration of the IFB forms, additions not called for, conditional Bids, incomplete Bids, or irregularities of any kind. VVTA reserves the right to reject any Bid not in compliance with the solicitation documents or prescribed public contracting procedures and requirements. Written notice of rejection of all submitted Bids shall be sent to all Bidders. **ALL UNSIGNED BIDS**

SHALL BE REJECTED.

- c. Submittal of a Bid shall mean that the Bidder has accepted the VVTA Contract Documents in their entirety without exception.
- d. No information, financial or otherwise, will be provided to any Bidder about any of the Bids from other Bidders. Bidders will not be given a specific price or specific financial requirements they must meet to gain further consideration, except that proposed prices may be too high with respect to the marketplace or unacceptable. Bidders will not be told of their rankings among the other Bidders.
- e. **Best Offers.** VVTA expects that all responsible and responsive Bidders shall submit their Best Offer upon initial submission in response to this solicitation.
- f. **VVTA reserves the right to make an award to a Bidder whose Bid it judges to be most advantageous to VVTA without conducting any written or oral discussions with any Bidders or solicitation of any BAFO.**
- g. **AWARD**
After the determination by the VVTA of the Bid with the lowest price by the most responsible and responsive Bidder, a recommendation will be made to the Board of Directors for their approval of the award of the contract. Upon approval by the Board of Directors, a written Notice of Intent to Award will be sent to all participating Bidders.

*** End of Instructions to Bidders****

VVTA IFB 2027-01 CONSTRUCTION SERVICES: BUILDING MODIFICATIONS FOR HYDROGEN FULE CELL BUS MAINTENANCE ATTACHMENT A – SCOPE OF WORK

INTRODUCTION

To ensure VVTA can safely store, maintain, fuel, and operate Fuel Cell Electric Buses (FCEBs) in its facility and to ensure compliance with NFPA 2 and other regulations, construction services are required to modify VVTA's existing facilities. The work required for this project includes furnishing, installing, programming, integrating, testing, commissioning, and warranting a complete hydrogen (GH_2), methane (CH_4), and carbon monoxide (CO) gas detection system, together with associated alarm, control, monitoring, supervisory, and reporting functions for the Victor Valley Transit Authority (VVTA) bus Maintenance and Fuel Island facility in Hesperia, CA.

1. PROJECT LOCATION & DESCRIPTION

VVTA's maintenance facility and fuel island are located at 17150 Smoke Tree St. Hesperia, CA.

The VVTA Maintenance Building has floor area of 20,457 square feet (25,750 total gross square feet) with 9 bus repair bays (including two pit bays).

The fuel island located in the north-west corner of the facility has 3 service lanes equipped with (2) CNG dispensers, (1) remote CNG dispenser, (2) unleaded dispensers, vacuum reels, hose reels, and (2) planned hydrogen dispensers. A canopy/roof covers the entire service area and is open on 3 sides.

VVTA IFB 2027-01 CONSTRUCTION SERVICES: BUILDING MODIFICATIONS FOR HYDROGEN FULE CELL BUS MAINTENANCE ATTACHMENT A – SCOPE OF WORK



VVTA currently maintains and operates a fleet of compressed natural gas (CNG) buses. Currently, the facilities are equipped to work on and fuel CNG buses. VVTA is in contract to add a Hydrogen Fueling Station with two (2) H2 dispensers being placed at VVTA's current fuel island located on the north-west side of the facility.

2. PROJECT COORDINATION

- a. Contractor shall coordinate construction services with VVTA. An initial pre-construction conference shall be scheduled after the award of the contract. Thereafter, regularly scheduled meetings shall be held for discussion of project/milestone progress. Contractor shall set the agenda and notify affected parties of meeting dates and locations. Contractor shall produce minutes of all meetings and distribute the minutes within two (2) working days to the affected parties. Meeting minutes shall include completed items, items in progress, upcoming items, changes, budget impacts, the amount of project days elapsed, and project days remaining. Contractor is also expected to make and publish action item checklists and other pertinent documentation. Contractor shall notify VVTA immediately of any problem(s), which may impact either the project's original scope, schedule, or budget.

VVTA IFB 2027-01 CONSTRUCTION SERVICES: BUILDING MODIFICATIONS FOR HYDROGEN FULE CELL BUS MAINTENANCE ATTACHMENT A – SCOPE OF WORK

3. SCHEDULE

- a. Contractor shall prepare a schedule for the project, to include all procurement activities, demolition/removal of equipment, installation of new equipment, programming, integration, testing, commissioning, training, and any/all inspections required; including appropriate sub activities, start dates, submittal dates, completion date relationships, and duration. The schedule must include a minimum of five working days (5) for review by VVTA for all deliverables submitted by the Contractor (as specified by the scope of work).
- b. A preliminary schedule shall be submitted to VVTA for approval within five (5) working days after the Notice to Proceed (NTP) is issued. The schedule shall indicate a logical sequence for completing the work within the allotted time. Within ten (10) working days after VVTA approval of the preliminary schedule, a final schedule shall be submitted for approval by VVTA. Upon approval, this schedule shall be designated the project design schedule from which contract progress shall be tracked. Periodic updates of the schedule to show progress may be required bi-weekly, but not less than monthly.

4. WORK PERFORMANCE

- a. Contractor shall commence work immediately upon issuance of the NTP. Contractor shall use diligence in completing the work in accordance with the schedule.
- b. In case of conflict, ambiguities, discrepancies, errors, or omissions among any of the items of work, the Contractor shall submit the matter to VVTA for clarification. Any work affected by such conflicts, ambiguities, discrepancies, errors, or omissions that are performed by the Contractor prior to clarification by VVTA shall be at the Contractor's risk and may not be eligible for payment by VVTA. Such conflicts, ambiguities, discrepancies, errors, or omissions among the references shall not give rise to a claim by the Contractor for extra work unless the Contractor can demonstrate that it has incurred additional expenses as a result thereof.

5. PROJECT SCOPE FOR FACILITY UPGRADES FOR HYDROGEN:

- a. The work required for this project includes furnishing, installing, programming, integrating, testing, commissioning, and warranting a complete hydrogen (GH₂), methane (CH₄), and carbon monoxide (CO) gas detection system, together with associated alarm, control, monitoring, supervisory, and reporting functions for the Victor Valley Transit Authority (VVTA) bus operations facility in Hesperia, CA.

**VVTA IFB 2027-01 CONSTRUCTION SERVICES:
BUILDING MODIFICATIONS FOR HYDROGEN FULE CELL BUS
MAINTENANCE
ATTACHMENT A – SCOPE OF WORK**

- b. The work includes the removal and replacement of the existing gas detection system within the Maintenance Building, installation of hydrogen, methane, and carbon monoxide detection systems within the maintenance and repair areas, integration with ventilation and safety systems, and associated electrical, mechanical, controls, and fire alarm modifications. The Work shall have minimal downtime of existing CH₄ systems to minimize impact to existing operations within the facility.
- c. The Work within the Maintenance Building also includes installation of a hydrogen flame detection system utilizing hydrogen-rated Triple-IR flame detectors integrated with the existing Simplex Fire Alarm Control Panel (FACP) through addressable monitor modules. The flame detection system shall provide detector-specific alarm and trouble monitoring and annunciation at the FACP. Hydrogen flame detection is provided only within the Maintenance Building and is intended as an owner-directed safety enhancement to supplement the gas detection system.
- d. The Fueling Area (Canopy) scope is limited to hydrogen and methane gas detection, alarm annunciation, control functions, status and fault reporting to the existing Fire Alarm Control Panel (FACP), and associated equipment as indicated on the Contract Drawings. No hydrogen flame detection is included within the Fueling Area under this Section.
- e. The Work shall include all labor, materials, equipment, programming, wiring, conduit, accessories, testing, commissioning, training, documentation, warranty and related services necessary to provide a complete, fully functional, and operational installation in accordance with the Contract Documents.
- f. Contractor is responsible for final location and anchoring of all new and replacement equipment based on field conditions and as indicated on the plans and details.
- g. Contractor is responsible for providing data sheets for gas and flame detection equipment, as well as wiring diagrams for gas-detection system.
- h. A Construction Waste Management Plan, required by the City of Hesperia (see Exhibit 1), shall be completed and submitted by the awarded contractor and the fees billed back to VVTA. Do not include these fees within the proposal.
- i. Please see Exhibit 2, specification 28 42 00 – Gas and Flame Detection for full specifications and information.
- j. Reference Exhibit 3, for full design drawings.

VVTA IFB 2027-01 CONSTRUCTION SERVICES: BUILDING MODIFICATIONS FOR HYDROGEN FULE CELL BUS MAINTENANCE ATTACHMENT A – SCOPE OF WORK

- k. The contractor's material, procedures, and planned work are to be reviewed and approved by VVTA staff before starting any work.
- l. The contractor shall furnish all labor, tools, equipment, and materials necessary to complete the work detailed in this project
- m. All services provided by the Contractor shall be performed in strict accordance with all local, City, State, and Federal rules and regulations.

System Components

The Contractor shall furnish, demolition/deconstruct old equipment, install, program, integrate, test, commission, and place into operation a complete fuel gas detection and hydrogen flame detection system consisting of, but not limited to, the following components:

- Point-infrared methane (CH₄) gas detectors.
- Hydrogen (GH₂) gas detectors.
- Electrochemical carbon monoxide (CO) gas detectors.
- Gas detection transmitters, including single-channel and dual-channel transmitters, as indicated on the Contract Drawings.
- Microprocessor-based gas detection controller(s) with Human-Machine Interface (HMI), alarm management, data logging, event reporting, and communication capabilities.
- Remote display panels and monitoring stations.
- Test stations and associated calibration tubing and accessories.
- Audible alarm devices.
- Visual alarm devices.
- Power supplies and battery backup systems required for continuous operation of the gas detection system.
- Communication networks, communication modules, and associated system interfaces.
- Conduit, wiring, junction boxes, mounting hardware, supports, and accessories required for a complete installation.
- Control interfaces to ventilation systems, exhaust fans, heating systems, motorized doors, natural gas shutoff valves, and other equipment identified in the Contract Drawings.
- Hydrogen-rated Triple-IR flame detectors for installation within the Maintenance Building.
- Addressable monitor modules for integration of the flame detection system with the existing Simplex Fire Alarm Control Panel (FACP).
- Supervised power supplies and battery backup equipment required for operation of the flame detection system.

VVTA IFB 2027-01 CONSTRUCTION SERVICES: BUILDING MODIFICATIONS FOR HYDROGEN FULE CELL BUS MAINTENANCE ATTACHMENT A – SCOPE OF WORK

- Fire alarm interface hardware, software modifications, programming, testing, and commissioning necessary to provide alarm and trouble monitoring, supervision, and annunciation at the existing FACP.
 - Network communication hardware, relays, control modules, interface devices, and associated accessories required to implement the sequences of operation identified in the Contract Documents.
 - Calibration equipment, test equipment, manufacturer-recommended accessories, and commissioning materials required to place the system into fully operational service.
 - All other equipment, materials, accessories, and incidental items necessary to provide a complete, fully functional, tested, and commissioned fuel gas detection and hydrogen flame detection system in accordance with the Contract Documents.
- n. The contractor shall repair any preexisting walls, floor, ceiling, concrete, sidewalk, pavement, or any other existing structure or component that is damaged by said contractor in this project.
- a. All repairs and work performed shall have a sufficiently pleasing appearance.
 - b. Saw cutting, trenching, and removal of existing concrete or asphalt.
 - c. Installation of new concrete pads, equipment foundations, and sidewalks as required.
 - d. Restoration of all disturbed surfaces to equal or better condition better than existing.



City of Hesperia

**CONSTRUCTION WASTE MANAGEMENT PLAN
PART ONE FORM**
City Use Only

Date Paid _____	Deposit Amt _____
Building Permit # _____	
Initials _____	Admin Fee _____

Submit completed Plan to the Building and Safety Department with your Plan Review application packet or Building and/or Demolition Permit application.

The City of Hesperia (City) requires all building and demolition permit applicants to prepare a Construction Waste Management Plan (CWMP). The intent of this form is to ensure a minimum of 50% diversion of construction building materials and demolition debris from landfills and comply with State Law. The City requires that contractors and developers utilize the authorized franchise hauler in accordance with Municipal Code Chapter 8.04. If your project is exempt from deposits and fees please complete Section 1, General Information, check the exempt category, and identify project size and value in Section 3.

For assistance with this form, call (760) 947-1589

1. General Information

APN: _____ Date: _____

Project Name: _____

Project Address: _____

Owner's Name: _____ Owner's Telephone: _____

Mailing Address _____ E-mail _____

Contractor Name: _____ Contractor Contact: _____

Contractor Phone: _____ E-mail: _____

Project Type: ☐ New Construction ☐ Demolition ☐ Renovation ☐ Categorically Exempt

Building Type: ☐ Non-Residential ☐ Residential ☐ Multi-Family Residential

Demolition Dates: Start: _____ Finish: _____

Construction Dates: Start: _____ Finish: _____

2. Disposal and Recycling Information

How will waste be handled during the project? (Please check all that apply.)

- ☐ **Job Site Separation:** Material will be segregated into two or more material-specific bins. For example, one bin for concrete, one for metal, one for wood, one for trash, etc.
- ☐ **Collection and Delivery of Mixed Load to a Material Recovery Facility:** All construction and demolition materials and trash are commingled into a bin. The mixed loads are then delivered to a materials recovery facility for sorting. Note: bins must be provided and serviced by the City's franchise waste hauler.

3. Diversion Deposit/Fees and Other Information

Unless categorically exempt (see Project Type listed under Step 1 of procedures), each applicant for a building and/or demolition permit may be required to post a deposit in an amount of \$500.

List Project Value: _____ Dollars List Project Size: _____ Square Feet

4. Responsibility for the Plan

Briefly state who will be responsible for the collection and management of construction materials and how employees/contractors handle waste materials at the project site to ensure salvage/reuse or recycling. Also explain how you will inform your workers/contractors of your CWMP requirements and ensure their participation:

5. Exemption

Please fill out the section below if you believe that your project is entitled to an exemption and should not be required to divert or recycle C&D debris.

6. Certification

I, the undersigned, will comply, to the maximum extent practical, with the Municipal Code regarding construction and demolition diversion. I will use only the City's authorized franchise waste hauler in accordance with Municipal Code Section 8.04 and give a good faith effort toward diverting at least 50% of construction and demolition materials away from landfills. To the best of my knowledge, the tonnage and diversion percentage estimates reported on Part One Form are my best estimate of the disposition of construction and demolition materials generated at this project site.

Prepared By: _____ Date _____

Signature: _____

Print Name: _____

Title: _____

****FOR CITY USE** PART ONE ESTIMATED TONNAGE (PRIOR TO BLDG PERMITS)**

Plan Approval Status:

Exemption Status:

_____ Approved

_____ Exemption Approved

_____ Further explanation needed (see attached)

_____ Exemption Denied

_____ Denied

Comments: _____

Review By: _____ Signature: _____

Building Permit # _____ Date: _____

****FOR CITY USE** PART TWO ACTUAL TONNAGE (PRIOR TO OCCUPANCY)**

Date: _____ Documentation Requested _____ Documentation Provided _____

Comments _____

Reviewer's Name: _____ Reviewer's Signature: _____

50% Diversion: _____ Good Cause _____ Non-Attainment _____

Approval: _____ Not Approved: _____ Reason: _____

PART ONE (Prior to Building Permits): ESTIMATED MATERIAL DISPOSAL/DIVERSION WORKSHEET (In lbs)

7. Material Handling Estimate Tonnage

Please complete this Worksheet to help identify the types of materials, estimated quantities, and the waste material that will be reduced, recycled or disposed from your project site. Estimates should be calculated in pounds. Use the attached Materials Conversion Table on the last page for conversion factors if needed. Fill- in the estimated diversion percentage calculated on line 7a below.

APN _____ Address _____ Project Name _____

Material Type	A Total Quantity Construction Wastes	B Salvaged or Reuse	C Recycling	D Disposal (non-recyclable)	E Actual Destination(s)
<i>Example: Paper</i>	62	15	35	12	<i>Onsite Packaging & John Smith Recycling Center</i>
Acoustical Ceiling Tiles					
Batteries					
Asphalt & Concrete					
Brick/Masonry/Tile					
Cabinets/Fixtures/Doors/Engineered Wood					
Cardboard					
Carpet/Padding/Foam					
Drywall					
Electrical Wiring					
Garbage (non-recyclable)					
Glass (window pane)					
Insulation					
Organic Debris					
Other (specify)					
Plastic (all types)					
Plastic Pipe (PVC)					
Roofing Material					
Scrap Metal (all types)					
Wood, Pallets & Lumber					
TOTALS					

Commingled Sorting Sorted on site

7a. (Total column B + Total Column C)/Column A = # x 100% = Total Diversion Percentage _____%

7b. Is the percentage listed in 7a greater than or equal to 50%? Yes _____ No _____

7c. If NO, please explain why:

SECTION 28 42 00
FUEL GAS DETECTION, HYDROGEN FLAME DETECTION,
AND ALARM SYSTEMS

PART 1 - GENERAL

1.01 SUMMARY

- A. This project manual references work at the Victor Valley Transit Authority in Hesperia, CA.
- B. The project manual, drawings, and general provisions of the Contract, General and additional terms and Conditions of the Contract, apply to this section.
- C. This Section includes the following requirements: Contractor shall provide, install, make fully functional, and warrant the system to detect natural gas (also described as “Methane” or CH₄), hydrogen gas (also described as H₂), and carbon monoxide (also described as CO) inside the vehicle-repair bays at the project site and provide annunciation, control signals, and alarms as specified in this section and related contract drawings. The work also includes the installation of flame detectors in the maintenance building and wiring them to an existing fire alarm control panel. Required equipment includes:
 - 1. Point-infrared (IR) natural gas leak detectors for methane
 - 2. Catalytic-bead detectors for hydrogen
 - 3. Electrochemical CO detectors
 - 4. MODBUS Data transmitters for gas detectors
 - 5. Microprocessor-based gas detection controller with human-machine interface (HMI) for monitoring leak detectors and controlling addressable relay contacts via MODBUS communication protocol
 - 6. Remote display monitors for remote monitoring
 - 7. Backup battery or uninterruptible power supply for detection system
 - 8. Audible and visual annunciators
 - 9. Inter-component wiring and conduit
 - 10. Control connections to motor starters and power contactors
 - 11. Control connections to existing facility management control system (FMCS)
 - 12. Telephone auto dialer
 - 13. Software for control and monitoring at control panel and remotely
 - 14. Flame detectors for wiring to an existing fire alarm control panel
- D. Related Documents: The following documents are related to this technical specification:
 - 1. Design drawings for detection systems and related modifications to the existing maintenance garage.
 - 2. Other contract documents as required.
- E. Facility Operations. The maintenance facility shall remain operational during construction and start-up of the work required under this scope.
- F. Scope Of Work Summary
 - 1. General. The scope of work includes furnishing, installing, programming, integrating, testing, commissioning, training, and warranting a complete hydrogen (GH₂), methane (CH₄), and carbon monoxide (CO) gas detection and hydrogen flame detection system, together with associated alarm, control, monitoring, supervisory, and reporting functions.

2. The Work shall include, but not be limited to, the following:
 - a. Removal and disposal of existing gas detection equipment within the Maintenance Building as indicated on the Contract Drawings.
 - b. Installation of hydrogen (GH₂), methane (CH₄), and carbon monoxide (CO) detection systems within the Maintenance Building. Installation of hydrogen (GH₂) and methane (CH₄) detection systems within the Fueling Area (Canopy).
 - c. Furnishing and installation of gas detectors, transmitters, controllers, remote displays, alarm devices, power supplies, communication networks, and associated accessories.
 - d. Integration of the gas detection system with ventilation equipment, heating systems, motorized doors, gas shutoff valves, and other equipment as indicated on the Contract Drawings.
 - e. Installation of a hydrogen flame detection system within the Maintenance Building utilizing hydrogen-rated Triple-IR flame detectors.
 - f. Integration of hydrogen flame detectors with the existing Simplex Fire Alarm Control Panel (FACP) through addressable monitor modules.
 - g. Programming and modification of the existing FACP as required to provide alarm and trouble monitoring, supervision, and annunciation of flame detection events.
 - h. Installation of conduit, wiring, mounting hardware, communication cabling, and associated electrical infrastructure required for a complete installation.
 - i. Testing, calibration, startup, commissioning, and functional verification of all system components and interfaces.
 - j. Preparation of operating and maintenance documentation, training of VVTA personnel, and submission of closeout documents.
 - k. Provision of warranties, maintenance services, and support as specified herein.

1.02 STANDARDS

- A. Comply with all Municipal, County, State and Federal laws, ordinances, rules and regulations governing or relating to building construction, employment standards and public health and safety.
- B. The latest enforced editions of the following listed codes, specifications and standards shall be considered an integral part of this specification, to the extent that they apply to the design, manufacture and assembly of the specified equipment. Compliance with the enforced version of the following documents as amended by the State of California and City of Hesperia is mandatory:
 1. 2025 California Electrical Code.
 2. 2025 California Mechanical Code.
 3. 2025 California Fire Code.
 4. 2025 California Building Code.
 5. 2025 California Plumbing Code
 6. 2022 NFPA 30A – Code for Fuel Dispensing and Repair Garages.
 7. 2023 NFPA 2 – Hydrogen Technologies Code.
 8. 2023 NFPA 715 – Standard for Installation of Fuel Gases Detection and Warning Equipment.

9. All components for the gas detection system, from sensor(s) to control output, will be tested by a recognized NRTL to meet or exceed ANSI/ISA Performance Standard 12.13.01 (2013).
10. The system detectors shall be listed with UL 2075 - Standard for Gas and Vapor Detectors and Sensors and indicate the gases they are designed to detect.
11. The controller shall be listed with UL 2017 - Standard for General Purpose Signaling Devices and Systems.
12. Buy America – U.S. Department of Transportation (FTA).
 - a. Requirements. The contractor agrees to comply with 49 U.S.C. § 5323(j), as amended by MAP-21 and 49 C.F.R. part 661, to the extent consistent with MAP-21, and subsequent amendments to those regulations that may be promulgated. The Contractor also agrees to comply with FTA directives to the extent those directives are consistent with MAP-21, except to the extent that FTA determines otherwise in writing. Buy America requirements state 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 waiver requirements are listed in 49 CFR 661.7.

1.03 MATERIALS

- A. Furnish and install all items required to make a complete and functional system as required elsewhere herein.
- B. The Contractor shall furnish and install all labor, materials, equipment, devices, wiring, conduit, software, hardware, accessories, supports, and incidentals required to provide a complete, fully functional, tested, and commissioned fuel gas detection and hydrogen flame detection system as specified herein and indicated on the Contract Drawings.
- C. All materials and equipment shall be new, current production, and suitable for the intended application. Equipment shall be installed in accordance with the manufacturer's published recommendations and the requirements of the Contract Documents.
- D. All equipment, devices, and system components shall be listed, labeled, and approved for their intended service and installation environment, and shall comply with the requirements of the Contract Drawings, applicable codes, standards, and Authority Having Jurisdiction (AHJ) requirements. Where specified, equipment shall be UL Listed, FM Approved, or otherwise certified by a nationally recognized testing laboratory acceptable to the AHJ.

1.04 SUBMITTALS

- A. Manufacturers' Warranties. All manufacturers' original warranties for material, components and assemblies shall be passed through to the Owner. These are in addition to the comprehensive Facility warranty that is the responsibility of the Contractor.
- B. Approvals. Prior to procurement, fabrication, shipment, or installation of any equipment or materials, the Contractor shall submit all required product data, shop drawings, calculations, certifications, and supporting documentation for review by the Owner and Engineer of Record (EOR).

C. Required Submittals

1. Submittals are required for all materials and pre-packaged equipment listed in this Section and are subject to approval by the Owner. Submittals shall include the additive alternates procured by the Owner, and include all the equipment listed below:
2. Submittals shall be provided for all equipment, materials, assemblies, and systems specified herein, including but not limited to:
 1. Gas detectors and associated transmitters.
 2. Gas detection controllers, HMI panels, and relay/interface panels.
 3. Remote display panels.
 4. Audible and visual alarm devices.
 5. .Power supplies, battery backup systems for detection/alarm system.
 6. Communication modules and networking equipment.
 7. Wiring, communication cabling, and raceway systems.
 8. Conduits, fittings, supports, brackets, and associated accessories.
 9. Test stations, calibration tubing, and termination cabinets.
 10. Natural gas shutoff valve assemblies and actuators.
 11. Any additional equipment identified on the Contract Drawings.

D. Required Documentation. The following documentation shall be submitted, as applicable, for each item identified above:

1. Manufacturer's product data sheets and technical specifications.
2. Dimensional drawings and installation requirements.
3. Equipment listings and certifications.
4. Wiring diagrams, control schematics, and communication architecture diagrams.
5. Electrical connection and termination details.
6. Installation, operation, testing, calibration, and maintenance procedures.
7. Recommended maintenance schedules.
8. Special tools required for operation, maintenance, testing, or calibration.
9. Manufacturer's warranties.

- a. Shop drawings identifying equipment.
 - b. Electrical and wiring-termination schematics of supplied equipment.
- 10. Test data indicating compliance with all normal and specified functions and processes, including gas detection by LEL %, detector locations and interfaces.
- 11. Factory test reports and certification data, where applicable.
- 12. Documentation demonstrating compliance with Buy America requirements, where required by the Contract.
- E. Submittal Format. Submittals shall be organized by system and equipment type and shall include a table of contents if multiple products are provided in a common submittal. All data for a particular packaged system shall be grouped, i.e. Piping and Instrumentation Diagrams, required sub-component listings, shop drawings, test data, etc. Cut sheets or catalog sheets containing multiple product listings shall include marks to clearly indicate actual unit(s) proposed for use, and all. All electronic submittals shall include a mark or reference indicating intended location of use or application. Submittals shall be provided as a searchable PDF documents with logical file names.

1.05 QUALITY ASSURANCE

- A. The Specifications and accompanying Drawings are intended to encompass a system that will be complete, and which will fit into the available space. As it is not within the scope of the Drawings to show all necessary offsets and obstructions, it shall be the responsibility of the Contractor to install all work in such a manner that it will conform to the space available, avoid obstructions and interferences, preserve headroom, and keep openings and passageways clear.
- B. Provide qualified personnel to perform tests and inspections. Personnel qualifications shall be made available to the Owner upon request.
- C. All instruments, controls, and other electrical equipment must be qualified for the hazardous area classification where the equipment is to be installed.

1.06 PREPARATION AND COORDINATION WITH OTHER TRADES

- A. Coordinate construction works as necessary with other trades to assure proper and adequate interface with all the Work.
- B. Where equipment, pipes, electrical conduit and other items are shown in conflict with structural members and other equipment, provide labor and materials required for extensions, offsets, and supports to clear the encroachment.
- C. Although such work may not be specifically indicated, furnish and install all supplementary or miscellaneous items, appurtenances, and devices incidental to or necessary for a sound, secure and complete installation.
- D. Coordinate accepted equipment changes from those scheduled or specified with other trades affected.

1.07 PRODUCT DELIVERY AND HANDLING

- A. Materials shall be delivered in the manufacturer's original unopened packaging, labeled to indicate the manufacturer's name and product identification.
- B. Delivered materials shall be handled and stored so as to ensure that the packaging and labeling remain intact until the material is installed. Materials shall be stored and protected from ground contact and from the elements.
- C. All containers, including internal containers, shall be indelibly labeled to clearly describe their contents. Labels shall show the manufacturer's name and clearly state the equipment type, size, and catalog number.

1.08 PROJECT COMPLETION

- A. Submit record data, as-built drawings, operating and maintenance manuals, final project photographs, damage or settlement survey, and similar final record information.
- B. Deliver tools, spare parts, and similar physical items.
- C. Complete start-up testing of specified systems. Includes commissioning of all detectors, controllers, alarms, communication subsystems, software and appurtenances by technicians authorized and trained by the respective manufacturers of the equipment.
- D. Provide functional and operational training on use of the detection and alarm system, including theory of operation, troubleshooting, calibration, testing, and interpretation of display data and alerts. Training shall consist of one 4-hour course, held at the Owner's garage, for staff. Furnish a written course outline for approval by the Owner, at least two weeks prior to the date that the training is given.
- E. Remove temporary facilities and services from the project site, along with construction tools and facilities, mock-ups and similar elements.
- F. Upon completion of the work, thoroughly clean all exposed portions of the installation, removing all traces of soil, labels, grease, oil, and other foreign material, and using only the type of cleaner recommended by the manufacturer of the item being cleaned.

1.09 INSPECTION, TESTING AND ACCEPTANCE

- A. General. Contractor shall be responsible for proving to the satisfaction of the Owner that the minimum specifications for the detection and alarm system, as described herein, have been met. The Owner will require the execution of various inspections and tests, and furnish written test reports, prior to accepting the leak detection and alarm system as being complete and in compliance with these specifications. Such inspections and tests shall be based on recommendations by the contractor, as well as the main vendor and manufacturer/vendors of various components and systems of the detection and alarm system. If the Owner determines that such recommended inspections and tests are not adequate, the Owner shall require additional inspections and tests as needed. Neither inspection, witnessing of tests, nor waiving of any such procedures by the Owner shall release the component/system contractor, main vendor or other vendors from full responsibility for compliance with equipment, materials and functional requirements according to this specification.
- B. Requirements. Contractor shall supply the Owner with all manufacturer-recommended installation and start-up procedures for the following systems:

1. Gas-leak detectors and detectors transmitters.
 2. Gas detection system HMI controller and relay panels.
 3. Relay display panels.
 4. Alarm Devices (visual and audible).
 5. Backup battery or uninterruptible power supply for detection and alarm system.
 6. Telephone auto dialer / IP notifier.
- C. Contractor shall also provide test equipment, material and labor during inspection to conduct construction testing and start-up. Construction inspection procedures will be provided to the Owner to include each of the above components and systems. All tests shall be made available to be witnessed by the Owner to determine compliance with specifications.
- D. Documentation and Notification. Recommended procedures for equipment testing during start-up will be submitted in writing to the Owner not more than thirty days after contract award, or not later than two weeks prior to the start of testing, whichever occurs first. Off-the-shelf equipment must be accompanied by factory test and inspection reports and manufacturer warranties at the time of delivery to site. The contractor shall notify the Owner's project manager of all planned start-up tests at least 48 hours prior to the scheduled start of testing, so as to give the Owner adequate opportunity to witness the testing.
- E. Additional Inspections. Additional inspections will be carried out to by the Owner to determine compliance with material and component specifications that may be beyond the scope of jurisdictional inspections. The Owner will prescribe a final punch list following start-up tests and inspections. The content and completion schedule for the punch list will be agreed upon by the Owner, Contractor and key equipment supplier(s).

1.10 WARRANTY

- A. General. The contractor shall warrant that the gas detection and flame detection system, including all associated equipment, controls, software, programming, integration, testing, and commissioning, shall be free from defects in design, materials, installation, workmanship, and construction for a period of one (1) year commencing upon Owner acceptance and recordation of the Notice of Completion. The warranty shall include all parts, labor, travel, software updates, programming modifications, testing, and commissioning support necessary to restore the system to full operation.
- B. Original Component Warranties. All manufacturers' original warranties for materials, equipment, components, software, and assemblies furnished under this Contract shall be assigned and transferred to the Owner upon project acceptance. Such warranties shall be in addition to, and not in lieu of, the Contractor's warranty obligations under the Contract.
- C. 1.11.3 Warranty Enforcement. In the event of a warranty claim, the Contractor shall promptly investigate the reported condition and take all actions necessary to restore the affected system to normal operation. Temporary repairs, replacement equipment, or other interim measures shall be provided where required to maintain safe and continuous facility operations until permanent corrective actions have been completed.

PART 2 - PRODUCTS

2.01 GENERAL

- A. New Equipment. All equipment and materials to be supplied by the contractor shall be in new condition unless otherwise expressly permitted by the Owner and shall include all components, appurtenances, and systems necessary for the leak detection and alarm system to function as described herein.
- B. Complete System. The detection system shall be complete, functional, code-compliant and furnished with all required accessories and controls needed for functionality.
- C. Compatibility. All detection components shall be from the same manufacturer, unless indicated or approved otherwise by the Owner. All the hardware and software provided shall be compatible with the overall system and with existing interfaces.
- D. Acceptable Products.
 - 1. Each significant component specified within Part 2 of this specification includes at least one acceptable product with corresponding manufacturer and model where applicable. These are listed to provide a basis of function and performance.
 - 2. The Contractor may propose the use of alternative or substitute products, as approved by the owner. It is the Contractor's responsibility to satisfy the Owner that the proposed substitution meets or exceeds the function and performance of the listed products. This includes provision of complete data sheets, manuals, and at least three customer references where the proposed substitution has been in service for at least 24 months. Any variation from design drawings needed for alternative or substitute products will be the contractor's responsibility to verify and design. Such substitutions shall only be allowed when approved in writing by the Owner.

2.02 SYSTEM ARCHITECTURE AND FUNCTION

- A. Theory of Operation.
 - 1. Project site is a transit-fleet maintenance facility, which requires provisions for maintaining and repairing natural gas and hydrogen fuel-cell electric (FCE) vehicles. Contractor shall furnish, install, and make operational a natural gas, hydrogen, and carbon monoxide, detection system in the maintenance garage as shown on the drawings. The gas detection system shall detect unique gas concentration as a percentage of lower-explosive limit (LEL) of methane and hydrogen in air. Similarly, the gas detection system shall detect unique gas concentration as a percentage of parts per million (ppm) of CO. The system shall initiate audible and visual alarms, open roll-up doors, energize exhaust fans and ventilation fans, if not already energized, interrupt welding machine electrical circuits, de-energize heating systems, and shut-off natural gas supply to heating systems and other equipment utilizing natural gas, and automatically provide alerts to designated personnel as indicated on plans..
 - 2. Methane (CH₄). The detection system for methane shall use point-type infrared-absorption natural gas detectors at the locations shown in the drawings. Gas concentration and alarm signals from the detectors will be conveyed to a central programmable controller via a serial-type hard-wired Modbus data highway with addressable detectors. The system shall distinguish low alarms from high alarms, whereby:

- a. “Low alarm” corresponds to natural gas concentrations detected that are between 10% and 25% of LEL for methane.
 - b. “High alarm” corresponds to natural gas concentrations detected that are 25% or more of LEL for methane.
3. Hydrogen (H₂). The detection system for hydrogen shall use catalytic-bead hydrogen detectors at the locations shown in the drawings. Gas concentration and alarm signals from the detectors will be conveyed to a central programmable controller via a serial-type hard-wired Modbus data highway with addressable detectors. The system shall distinguish low alarms from high alarms, whereby:
 - a. “Low alarm” corresponds to hydrogen gas concentrations detected that are between 10% and 25% of LEL for hydrogen.
 - b. “High alarm” corresponds to hydrogen gas concentrations detected that are 25% or more of LEL for hydrogen.
4. Carbon Monoxide (CO). The detection system for hydrogen shall use electrochemical detectors at the locations shown in the drawings. Gas concentration and alarm signals from the detectors will be conveyed to a central programmable controller via a serial-type hard wired Modbus data highway with addressable detectors. The system shall distinguish low alarms from high alarms, whereby:
 - a. “Low alarm” corresponds to CO gas concentrations detected between 25ppm and 100ppm.
 - b. “High alarm” corresponds to CO gas concentrations detected that are 100ppm or higher.
5. Each gas detector shall be addressable and identified with an assigned Unique ID#. Gas leak detection events shall be automatically and immediately reported upon each detection event by the controller. The report message shall include: Unique ID of detector that has detected gas leak, percentage of concentration of detected gas in terms of LEL, repair bay number in which gas leak has been detected.
6. The detection system shall have (6) functional zones. A low level detection alarm in any zone shall cause the controller to initiate alarms and other responses for the indicated zone. A high level detection alarm shall cause the controller to initiate alarms and other responses for all zones.
 - a. West service bay shall be identified as ‘Zone 1’.
 - b. West service bay Maintenance Pit shall be identified as ‘Zone 2’.
 - c. Equipment/Parts storage room shall be identified as ‘Zone 3’.
 - d. Battery storage room shall be identified as ‘Zone 4’.
 - e. Main service bay shall be identified as ‘Zone 5’.
 - f. East service bay shall be identified as ‘Zone 6’.

B. Required functions during normal standby operation.

1. While no detector is in alarm, the detection system shall:
 - a. Continuously monitor all gas detectors for malfunctions.
 - b. Illuminate a steady green light at all visible alarm devices.
 - c. Display detector data, including unique ID #, gas concentration being detected, and system status from the controller to authorized remote PC users via TCP-IP protocol.
 2. Upon detecting a detector malfunction, the controller shall:
 - a. Initiate low alarm devices, consisting of amber lights and audible alarm as noted in sequence of operations on drawing set.
 - b. Signal the power contactor to disconnect power to welding machine(s) in the garage.
 - c. Signal the power contactor to disconnect power to heating systems in the garage, if any.
 - d. Signal the power contactor to close natural gas shut off valve and interrupt flow of natural gas to heating and other equipment.
 - e. Disable the makeup air unit (MAU) furnace.
 - f. Increase exhaust fan speed in the zone(s) containing the malfunctioning detector(s).
 - g. Start (or continue running) make-up air units near zone(s) containing the malfunctioning detector(s).
 - h. Display the malfunctioning detectors or other pieces of equipment on the HMI/Controller including location and unique ID, and visual to authorized remote PC users.
 - i. Send an alert email, telephone call, and SMS message to the existing building fire alarm monitor service and assigned supervisory staff reporting unique ID# of malfunctioning detector or other equipment and its location.
- C. Actions required when any gas leak is detected. The system shall automatically execute all required responses immediately after the alarm or other input signal is initiated.
1. Upon low-alarm condition detected by any gas system detector, the control system shall perform the following actions only within the zone(s) in which the detection event(s) are located.
 - a. Start (or continue running) exhaust fans in the zone(s) containing the malfunctioning detector(s).
 - b. Signal the power contactor to disconnect power to welding machine(s) in the garage.
 - c. Signal the power contactor to disconnect power to heating systems in the garage, if any.
 - d. Signal the power contactor to close natural gas shut-off valve(s) serving heating systems and other equipment.
 - e. Disable MAU furnace
 - f. Shut off all green lamps at the visual alarm stations associated with the zones containing the leak event, and initiate audible and visual low alarms, consisting of amber flashing lamps and a "low alarm" horn tone.
 - g. Display the detectors locations giving alarm on the HMI/Controller.
 - h. Display detectors data, including unique ID # and gas concentration being detected, and system status from the controller to authorized remote PC users via TCP-IP protocol.
 - i. Start (or continue running) make-up air units near zone(s) containing the malfunctioning detector(s).
 - j. Send an alert email, telephone call, and SMS message to fire alarm monitor company as determined by the owner, and to up to (6) assigned supervisory staff reporting ID# of detector that has detected gas leak, percentage of concentration of detected gas in terms of % LEL, and building ID or name, in which gas leak has been detected.

2. Upon high-alarm condition detected by any natural gas detector, the control system shall automatically perform the following actions within all zones.
 - a. Start (or continue running) exhaust fans in the zone(s) containing the malfunctioning detector(s).
 - b. Signal the power contactor to disconnect power to welding machine(s) in the garage.
 - c. Signal the power contactor to disconnect power to heating systems in the garage, if any.
 - d. Signal the power contactor to close the natural gas shut-off valve(s) serving heating systems and other equipment.
 - e. Disable MAU furnace
 - f. Shut off all green and amber lamps at the visual alarm stations associated with the zones containing the leak event, and initiate audible and visual high alarm signals, consisting of red flashing lamps and an urgent “high alarm” horn tone.
 - g. Display detectors data, including ID # and gas concentration being detected, and system status from the controller to authorized remote PC users via TCP-IP protocol.
 - h. Display detectors data, including ID # and gas concentration being detected, and system status from the controller to authorized remote PC users via TCP-IP protocol.
 - i. Start (or continue running) make-up air units near zone(s) containing the malfunctioning detector(s).
 - j. Turn off all building-heating systems.
 - k. Send an alert email, telephone call, and SMS message to fire alarm monitor company as determined by the owner, and to up to (6) assigned supervisory staff reporting ID# of detector that has detected gas leak, percentage of concentration of detected gas in terms of % LEL, and building ID or name, in which gas leak has been detected.
- D. Acknowledgement Station. Provide an alarm acknowledgement station for each detection system adjacent to each controller. Each station shall consist of a push button for acknowledging gas-leak alarms. Acknowledgment shall shut off only the audible alarms and leave visual alarms in effect until the natural gas concentration falls below the alarm level(s) and the fault is manually reset at the HMI. The system shall annunciate new alarms after previous alarms have been acknowledged.
- E. Test Switches. Provide test switch(s) in the gas detection system HMI control panel. The switch(s) shall activate all control panel responses, as noted in this document and sequence of operation on drawings, for testing purposes. Switches shall be selectable for testing system responses to either a simulated low natural gas leak alarm; or a simulated high natural gas leak alarm.
- F. Provide signage that describes what each light color and each tone of audible annunciator mean. Include instruction to evacuate building upon detection of a high alarm. Sign shall be affixed at a location visual to all staff.
- G. Provide software as needed for control, communication, and notifications specified in the project documents. Software shall be the latest version and be compatible with current building-facility software, interface and control architecture.

2.03 SUMMARY COMPONENT DESCRIPTIONS

- A. Equipment and components to be installed for the leak detection and alarm system are listed below. Quantities shall be provided as shown in the contract drawings.

1. Infrared natural gas detectors, point type.
2. Catalytic-bead gas detectors.
3. Electrochemical CO detectors.
4. MODBUS data transmitters for gas detectors.
5. MODBUS-based gas detection control & signaling panel.
6. MODBUS wiring for natural gas detectors array.
7. MODBUS relay modules.
8. Visual and audible alarms.
9. Human-Machine Interface (HMI) panel & graphics.
10. IP/network interface card or module.
11. 24 VDC power supply for gas detection and alarm systems.
12. Backup battery or uninterruptible power supply for detection system.
13. Tygon tubing for ground-level calibration and testing of detectors, including wall-mounted NEMA-1 termination cabinets. Each tube shall be permanently tagged with the corresponding detectors number, and each cabinet shall house a no more than five tube terminations.
14. UV/IR flame detectors and interfaced modules.

2.04 INFRARED NATURAL GAS DETECTORS, POINT TYPE

- A. Provide (31) methane detectors. Detectors shall be infrared self-contained optical methane detectors with 4-20 mA analog output that detect gas in range of 0-100% LEL concentration, with accuracy of +/-3% within 0-50% LEL and +/-5% within 51-100% LEL. Detectors shall require recalibration no more frequently than annually. Detector's output shall provide remote alarm, fault and calibration signals. Remote calibration at the controller shall be available. Detectors shall be powered by a 24 VDC supply, with 5 watts maximum power consumption.
- B. Detectors shall be listed for use in Group D, Class 1, Division 1 hazardous areas, and listed per UL2075.
- C. Furnish and install gas detectors at locations, as shown in the contract drawings.
- D. Acceptable products.
 1. Sensor Electronics Corp. – Millennium Hawk Infrared Hydrocarbon detector.

2.05 CATALYTIC-BEAD HYDROGEN- GAS DETECTORS

- A. Provide (31) hydrogen detectors. Detectors shall be infrared self-contained optical hydrogen detectors with 4-20 mA analog output that detect gas in range of 0-100% LEL concentration,

with accuracy of $\pm 3\%$ within 0-50% LEL and $\pm 5\%$ within 51-100% LEL. Detectors shall require recalibration no more frequently than quarterly. Detector's output shall provide remote alarm, fault and calibration signals. Remote calibration at the controller shall be available. Detectors shall be powered by a 24 VDC supply, with 5 watts maximum power consumption.

- B. Detectors shall be listed for use in Group D, Class 1, Division 1 hazardous areas, and listed per UL2075.
- C. Furnish and install gas detectors at locations, as shown in the contract drawings.
- D. Acceptable products.
 - 1. Sensor Electronics Corp. – 3000 gas detector.
 - 2. Or approved equal.

2.06 ELECTROCHEMICAL CARBON MONOXIDE GAS DETECTORS

- A. Provide (7) CO gas detectors. Detectors shall be electrochemical, intrinsically safe and explosion proof with 4-20 mA output to connected transmitter, 316 stainless steel housing construction, min accuracy of $\pm 5\%$. Provide 24 VDC power supply. Wall mounted unless otherwise noted.
- B. Detectors shall be listed for use in Group D, Class 1, Division 1 hazardous areas, and listed per UL2075.
- C. Furnish and install gas detectors at locations, as shown in the contract drawings.
- D. Acceptable products.
 - 1. Sensor Electronics Corp. – 3000 gas detector.
 - 2. Or approved equal.

2.07 SINGLE AND DUAL TRANSMITTERS FOR GAS DETECTORS

- A. Provide (31) dual transmitters and (7) single transmitter. Transmitter shall receive input of 4-20mA signal from gas detectors, and shall have outputs for RS-485 MODBUS. Transmitters shall support dual detectors and shall be pre-programmed by the manufacturer for connection to matching detector and for location and installation on a serial-type MODBUS data path. Transmitters shall be rated for Class 1 Div 1 Group D, with back-lighted LCD display, capability of time stamped data logging using a removable memory module.
- B. Dual transmitters shall be programmed in a logical OR configuration such that either detector shall have the capability to trigger an alarm condition independent of the other.
- C. Transmitters shall be suitable for powering by 24V DC supply.
- D. Acceptable products.
 - 1. Sensor Electronics Corp. Model SCE 3120 and SEC 3100.
 - 2. Or approved equal.

- E. Data Wiring. Route MODBUS serial wiring in loop configuration so that the first and last transmitter in the loop are both connected to the MODBUS system at the controller, and as recommended by the transmitter manufacturer.
- F. Power Wiring. Route 24V power wiring in loop configuration so that the first and last transmitter in the loop are both connected to the power supply, as recommended by the transmitter manufacturer.

2.08 GAS DETECTION SYSTEM MONITOR, HMI AND RELAY PANEL

- A. Furnish one Natural gas Detection System Monitor, human-machine interface (HMI) and Relay Panel, at each location shown on the contract drawings.
 - 1. The System Monitor shall recognize natural gas detector data transmitters and relay modules on the MODBUS data path. The System Monitor shall be programmable by local input, and at the HMI panel, and shall include password protection for modifying settings or parameters. The System Monitor shall control dry relay contacts wired to the telephone emergency dialer, with separate contacts for separate voice messages for 1) system trouble; 2) low alarm; 3) high alarm. The System Monitor, HMI and Relay panel shall be installed in a non-hazardous area and are not required to be rated for hazardous areas.
 - 2. HMI display shall show status of up to 4 zones, including green, yellow, orange and red for each zone, with indication based on scaled detection level. HMI display shall indicate percentage of LFL detected at each detector simultaneously with the color status. The System Monitor shall provide outputs for RS485 serial communication, Ethernet with RJ45 connection and IP addressability, and the RS485 Modbus communication protocol. HMI shall include graphic representation of each active zone and location of each detector within each zone, including each detector's status, ie green, amber, red, fail.
- B. Acceptable products.
 - 1. Sensor Electronics 3500 HMI Operator Interface and System Monitor.
 - 2. Or approved equal

2.09 MODBUS WIRING FOR GAS SENSOR ARRAY

- A. Wiring between MODBUS input and relay devices shall be with Beldin-type cable with three #16 conductors and twisted shielded design, and as otherwise required by the manufacturer's written installation instruction.

2.10 MODBUS RELAY MODULES

- A. Each MODBUS output relay module shall have MODBUS input and provide eight or 16 dry-contact outputs. Output shall be rated at either 8A at 30VDC, or 8A at 250VAC. Relay shall be programmed and addressable from the gas detection control panel).
- B. Acceptable products
 - 1. Sensor Electronics SEC 3500 relay controller.
 - 2. Or approved equal.

2.11 INDOOR AND OUTDOOR VISUAL ALARMS

- A. Provide visual alarms where shown in the Drawings. Visual alarm shall be illuminated by LED strobe warning light visual in bright daylight. Each visual alarm shall be multi-warning light to indicate different color at each condition, mounted in a NEMA 4X enclosure. Shall be UL listed for use in hazardous locations Class 1, Division 2, Group D, and shall be powered by 24 VDC supply. Lamps shall stay green continuously in normal condition while no gas leak alarms are detected. Lamps shall illuminate flashing amber when a low gas leak is detected and flashing red when a high gas leak is detected.
- B. Acceptable products
 - 1. Federal Signal Model #FB2LEDX-QC-012-024

2.12 INDOOR AND OUTDOOR AUDIBLE ALARMS

- A. Provide audible alarms (horns), in locations as shown on the Drawings. Alarms shall be rated at 110 dbA at 10', listed for Class 1, Division 2, Group D hazardous locations; shall be powered by 24 VDC supply, Nema 4X enclosure and with volume control.
- B. Alarms shall operate distinctly for low alarm versus high alarm.
- C. All audible alarms for leak detection shall be distinct in tone and pattern from audible fire alarms annunciated in the vicinity of the repair garage and shall not have a three-tone temporal pattern, which is reserved for the fire alarm.
- D. Provide Federal Signal 300GCX-024.

2.13 BATTERY BACKUP AND POWER SUPPLY

- A. General. Stand-by power source (battery back-up) capable of operating entire detection system continuously, including detectors, control panel, and visual and audible annunciators up to 40 minutes in the event of power outage. Output 24 VDC, input 120 VAC. See electrical drawings for more details.

2.14 TEST STATION

- A. NEMA 1 Cabinet terminal box termination of test tubing. Provide each box with test tubes based on sensors in vicinity of each test station. Provide quantity as shown on the plans.
- B. Provide Tygon tubing from each leak detectors to a cabinet. Label each tube-end with ID number of related detectors. Install the test cabinet on wall 5'-0" AFF.
- C. Provide test cylinders for methane, hydrogen, and carbon monoxide.

2.15 FLAME DETECTOR

- A. General. Provide (11) dual-spectrum UV/IR flame detectors, suitable for connection to the existing Fire Alarm Control Panel (FACP) at the site.
- B. Requirements. Triple-IR flame detector, 3/4" standard configuration provide listed accessories as required by installation conditions, including standard mounting bracket modelFK-TMO-

S01, air shield/air purge assembly FLS-ADD-S01 where dust exposure exists and other manufacturer recommended hardware to make for complete installation and integration.

- C. Detectors shall be wired to and interfaced with existing simplex panel fire alarm control panel using listed compatible addressable module, as approved by Simplex for the existing panel.
- D. Approved Manufacturer/Models:
 - 1. Fike model 'FIK-IR3'.
 - 2. Or approved equal.

PART 3 - EXECUTION

3.01 GENERAL

- A. Execution is described in the respective Product description of this section, except as otherwise described within Part 3 of this specification.
- B. All components and equipment shall be installed according to the respective manufacturers' instructions and recommendations. Industry-standard practices shall apply if no manufacturer instructions exist.

3.02 SUBMITTALS

- A. Submittals shall be presented according to the terms of the contract.
- B. The contractor shall be responsible for modifying or replacing any of the approved construction contract drawings.
 - 1. Stamping by Professional Engineer. All modified or replaced drawings shall be stamped by an appropriate California-licensed Professional Engineer.
 - 2. Approval by Authorities having jurisdiction (AHJs). Any such changes shall be approved by AHJs.
- C. Manufacturers' original standard specifications and warranties for material, components and assemblies. These are in addition to the comprehensive leak detection and alarm system warranty that is the responsibility of the Contractor.
- D. Approvals. Prior to construction, the Owner shall approve all drawings and other information required under Part 3, section 3.02.
 - 1. Submittals are required for all items listed in this Section and are subject to approval by AHJs. Submittals shall include but are not limited to equipment listed under Article 2.03.A.
 - 2. The following are required as applicable for each size and/or type of item listed in paragraphs 3.02.E of this Section, as applicable.
 - a. Manufacturers' data sheets with dimensional drawings.
 - b. Manufacturers certification complying to ANSI/ISA 12.13.01 (2013)
 - c. Installation and operating instructions and test procedures.

- d. Recommended maintenance instructions and schedules.
- e. Special tools required for maintenance and testing.
- f. Warranties, including those of the original manufacturer.
- g. Wiring diagrams.

E. Items requiring submittals:

- 1. Gas-leak detectors and detectors transmitters.
- 2. Gas detection system controller and relay panels.
- 3. Alarms (visual and audible).
- 4. Human-Machine Interface (HMI) panel.
- 5. Backup battery and power supply, or uninterruptible power supply for detection system including annunciators.
- 6. Telephone auto dialer.

3.03 WORKMANSHIP

- A. Labor shall be performed in a workmanlike manner by electricians skilled in their particular trade. Conduit and equipment shall be installed square and plumb accessible for proper operation and service. Installation shall be consistent with completeness and appearance whether concealed or exposed.

3.04 LABELING

- A. The manufacturer shall provide a stainless-steel nameplate on each major component. The nameplate shall be permanently affixed and shall be embossed with the manufacturer's name, address, model number, serial number, pressure rating and flow capacity as well as the item description, equipment number, and mark number.

3.05 FIELD-STARTUP SERVICES

- A. General. Contractor shall provide complete field startup services for the leak detection and alarm system. Contractor shall provide appropriate field-startup services from manufacturers and vendors, including on-site assistance from the main vendor.
- B. Requirements. Contractor shall initialize and make fully operational the following:
- 1. Natural gas detectors and control panel.
 - 2. Telephone emergency dialer.
 - 3. Alarm relays.
 - 4. Control interfaces to building systems controlled by the natural gas detection system
 - 5. Battery uninterruptible power system.

3.06 ADJUSTING, BALANCING AND TESTING

- A. After completion of the installation, start, regulate, adjust and test all equipment and devices.
- B. Functional testing shall verify that all detectors detect natural gas leaks, give signals, and initiate alarms and other responses as specified. Each detectors's function, and associated building controls initiated by the detectors(s) shall be tested using test gases with methane concentrations at 10% LFL, 25% LFL and 50% LFL.

3.07 OPERATION AND MAINTENANCE DATA AND TRAINING

- A. Maintenance Manuals: Organize maintenance and operating manual information into suitable sets of manageable size, and bind into individual binders, properly identified and indexed (thumb-tabbed). Examples: natural gas detectors, ventilators, pull stations, etc. Include emergency instructions, safety procedures, spare parts listings, warranties, wiring diagrams, recommended maintenance intervals, inspection procedures, shop drawings, product data, and similar applicable information. Use a standard method for highlighting safety procedures. Bind each manual of each set in a heavy-duty 2-inch, three ring vinyl-covered binder and include pocket folders for folded sheet information. Mark identification on both the front and spine of each binder, including "Volume ## of ###" information.
 - 1. Data:
 - a. Include all necessary information required for operation and maintenance of the equipment in the main text of the manuals and sufficient in itself for the purpose intended.
 - 1) Include manufacturer's leaflets (in original form) only to supplement the manual text and fully cross-reference to it.
 - b. When incorporating manufacturer's leaflets, data and nomenclature, black items not related to the specific items(s) supplied or clearly indicated as not applicable.
 - 2. Quantity and Delivery: Supply three (3) complete manuals for approval with the commencement of the delivery of the equipment to the site.
- B. Electronic Copies. Provide (3) copies of maintenance manual in electronic PDF format. Content and organization shall match the printed manuals. Documents shall be text searchable. Provide on USB-C' flash drive and include printed label identifying project and content.
- C. Leak detection and alarm system training.
 - 1. General:
 - a. At least 14 days prior to scheduled data for commencement of training, submit details of the training program and instructional materials to the Owner for review and approval.
 - b. Where specified, develop and conduct a program to train selected Owner personnel in the safe operating procedures, and maintenance of equipment and systems furnished during the hours required by the Owner. Also include in the training program key hazards and their protectors, and corrective actions for violation of safety rules.
 - c. Furnish instructors, instructional materials.
 - d. The Owner is to furnish physical facilities and equipment.
 - e. Begin instruction upon successful completion of Testing as specified in this Section.
 - 2. Program content: At a minimum, instruction will include material covered in the operation and maintenance manuals as well as the following:
 - a. Theory of operation.
 - b. Practical aspects of operation.

- c. Description of system, equipment and components.
 - d. Functional characteristics of system, equipment and components.
 - e. Emergency operation procedures.
 - f. Location, removal and reinstallation of components.
 - g. Maintenance procedures.
 - h. Servicing intervals and schedules.
 - i. Diagnosis and problem solving (troubleshooting).
 - j. Repair procedure.
 - k. Hazards related to leak detection and alarm system operations.
 - l. Conduct preventive maintenance checks and services.
 - m. Review emergency responses to be performed in the event of a natural gas leak.
- D. Special tools or equipment.
- 3. Vendor will supply special tools or equipment.
 - a. The special equipment or tools are defined as, other than those nominally found in a mechanic's toolbox, necessary for the general upkeep, maintenance and overhaul of the equipment or products contained in coaches delivered under this contract.
 - b. A list of special tools or equipment will be provided to the Owner. The list must be submitted for approval no later than 30 days after awarding contract.
 - c. Any tools not found in the catalogue or over the counter of a local supply company are considered a specialty tool or equipment.
- E. Emergency response training.
- 1. Contractor shall provide emergency response training and system familiarization for Fire Department and facility maintenance personnel.

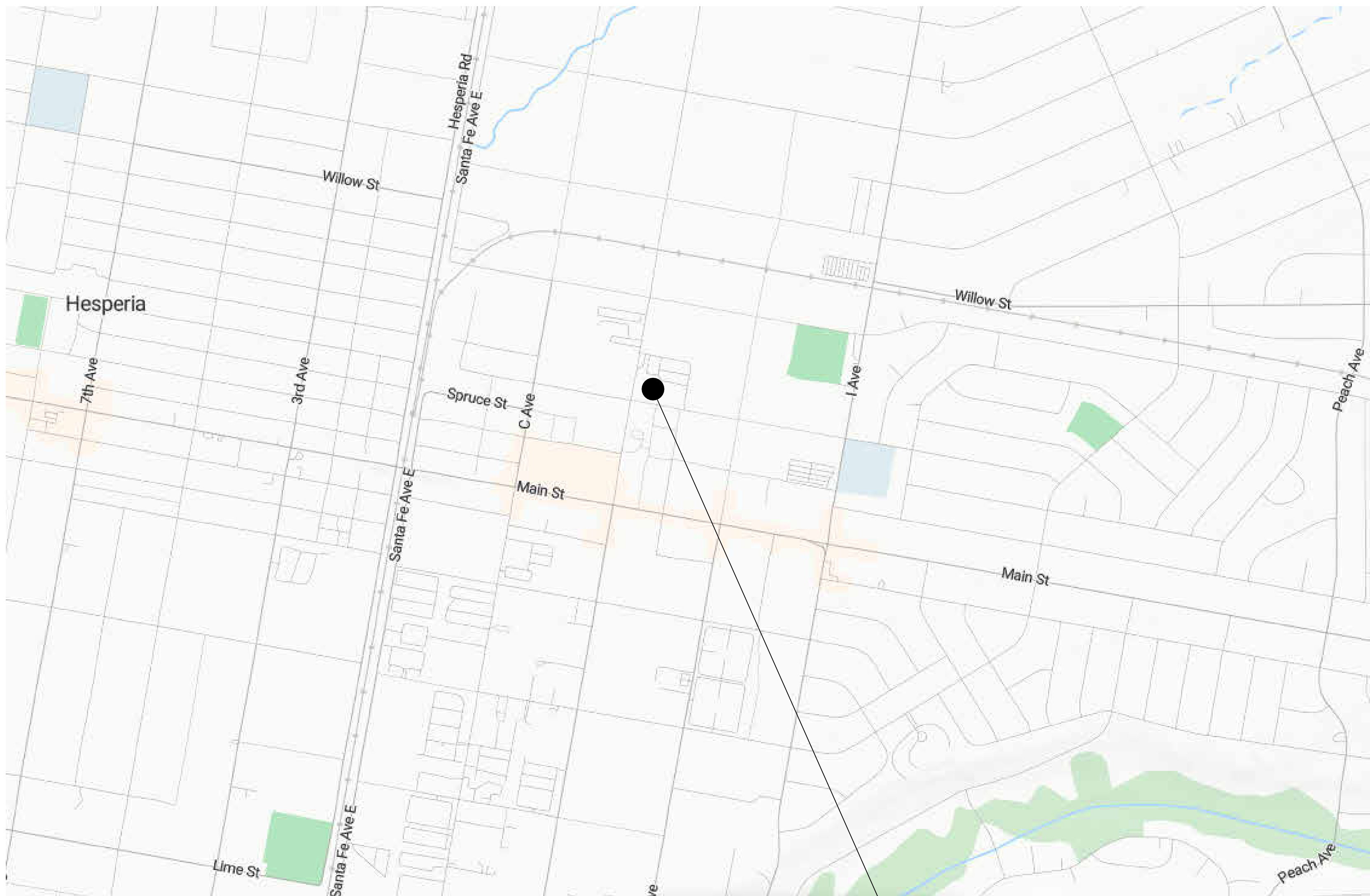
END OF SECTION

VICTOR VALLEY TRANSIT AUTHORITY

HESPERIA MAINTENANCE FACILITY

BUILDING MODIFICATIONS FOR HYDROGEN FUEL-CELL BUSES

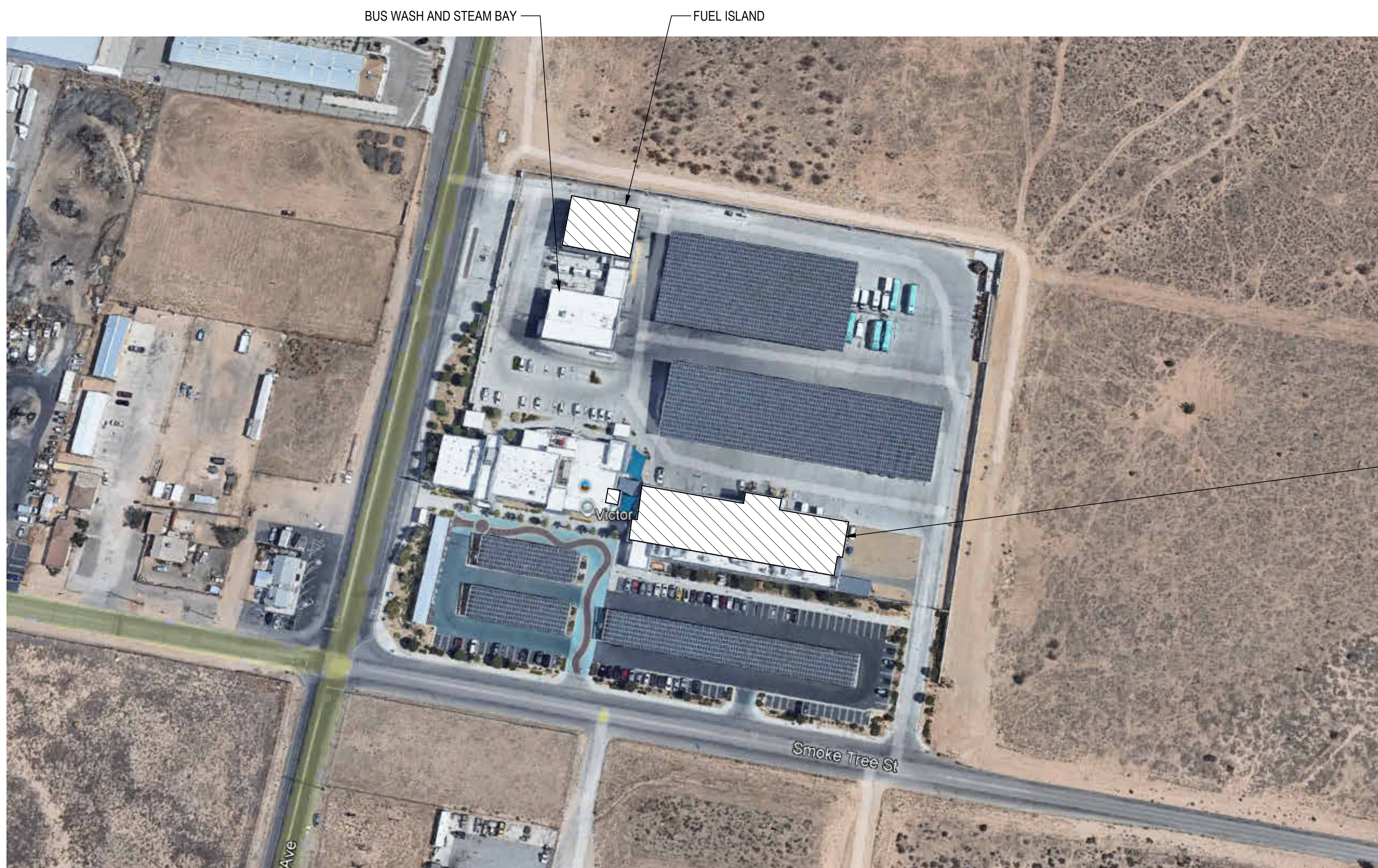
17150 SMOKE TREE STREET, HESPERIA, CA 92345



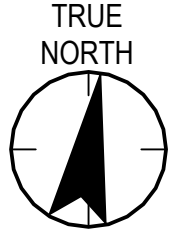
PROJECT LOCATION
17150 SMOKE TREE ST



VICINITY MAP



MAINTENANCE FACILITY



AERIAL MAP

GENERAL INFORMATION

PROJECT DESCRIPTION:

- SCOPE OF PROJECT INCLUDES THE REPLACEMENT OF THE EQUIPMENT AND SYSTEMS AT THE MAINTENANCE AND FUEL BUILDINGS AT THE VICTOR VALLEY TRANSIT AUTHORITY (VYTA) HESPERIA FACILITY.
- RE-CIRCUIT POWER SOURCE FOR (2) EXISTING ROOF-MOUNTED EXHAUST FANS
 - GAS LEAK DETECTION SYSTEM FOR HYDROGEN, METHANE, AND CARBON MONOXIDE GASES IN THE MAINTENANCE BUILDING
 - (1) IN-FLAME DETECTORS W/RED TO EXISTING RACP IN MAINTENANCE BUILDING
 - EXISTING GAS DETECTION AT THE FACILITY CONSISTS OF CARBON MONOXIDE (CO) AND METHANE (CH₄) SENSORS. NITROGEN DIOXIDE (NO₂) / NO_x DETECTION IS NOT PRESENT AND IS NOT PROPOSED AS PART OF THIS PROJECT SCOPE
 - REMOVE ALL EXISTING GAS-DETECTION EQUIPMENT AND WIRING, FOLLOWING COMMISSIONING OF THE REPLACEMENT GAS-DETECTION SYSTEMS
 - HYDROGEN AND METHANE DETECTION AND ALARMS AT THE FUELING BUILDING
 - INSTALL A (N) GAS SHUTOFF VALVE WITH ELECTRONIC ACTUATOR

WORK ALSO INCLUDES ASSOCIATED ELECTRICAL AND MECHANICAL MODIFICATIONS, AND REPAIR OF IMPACTED FINISHES AND ROOFING AS MAY BE REQUIRED.

CONTRACTOR IS RESPONSIBLE FOR FINAL LOCATION AND ANCHORING OF ALL NEW AND REPLACEMENT EQUIPMENT BASED ON FIELD CONDITIONS, AND AS INDICATED ON THE PLANS AND DETAILS. CONTRACTOR IS RESPONSIBLE FOR PROVIDING DATA SHEETS FOR GAS- AND FLAME- DETECTION EQUIPMENT, AS WELL AS WIRING DIAGRAM FOR GAS-DETECTION SYSTEM. ENGINEER OF RECORD IS RESPONSIBLE FOR REVIEW OF CONTRACTOR SUBMITTALS AND COORDINATION OF SUBMITTAL TO THE BUILDING DEPARTMENT OR AHA.

APPLICABLE CODES AND STANDARDS:

- ALL INSTALLATION AND CONSTRUCTION WORK SHALL CONFORM TO THE FOLLOWING CODES AND STANDARDS AS ADOPTED AND AMENDED BY THE STATE OF CALIFORNIA AND CITY OF HESPERIA.
- 2023 CALIFORNIA BUILDING CODE
 - 2023 CALIFORNIA EXISTING BUILDING CODE
 - 2023 CALIFORNIA ELECTRICAL CODE
 - 2023 CALIFORNIA MECHANICAL CODE
 - 2023 CALIFORNIA PLUMBING CODE
 - 2023 CALIFORNIA FIRE CODE
 - 2023 CALIFORNIA ENERGY CODE
 - 2023 CALIFORNIA BUILDING STANDARDS ADMINISTRATIVE CODE
 - PART 1, TITLE 24, CALIFORNIA CODE OF REGULATIONS (CCR)
 - 2023 CALIFORNIA GREEN BUILDING STANDARDS CODE, PART 11, TITLE 24, CCR
 - NFPA 2, HYDROGEN TECHNOLOGIES CODE, 2023 EDITION
 - NFPA 30A CODE FOR MOTOR FUEL DISPENSING FACILITIES & REPAIR GARAGES, 2024 EDITION
 - NFPA 715, STANDARD FOR THE INSTALLATION OF FUEL GASES DETECTION AND WARNING EQUIPMENT, 2024 EDITION
 - NFPA 72, NATIONAL FIRE ALARM AND SIGNALING CODE, 2022 EDITION, AS AMENDED
 - SAN BERNARDINO COUNTY FIRE PROTECTION DISTRICT STANDARD F-5, 2023 EDITION
 - WHERE LAWS AND CODES ARE FOUND TO BE IN CONFLICT WITH EACH OTHER, THE MORE STRINGENT REQUIREMENTS WILL PREVAIL.

AUTHORITY HAVING JURISDICTION:

CITY OF HESPERIA, CALIFORNIA, DEPARTMENT OF BUILDING AND SAFETY, AND SAN BERNARDINO COUNTY FIRE DEPARTMENT

EXISTING BUILDINGS DESCRIPTION:

EXISTING BUILDING USAGE (UNCHANGED): OPERATIONS AND MAINTENANCE FACILITY WITH ADMINISTRATION, OPERATIONS, MAINTENANCE, AND FUELING FUNCTIONS FOR THE VICTOR VALLEY TRANSIT AUTHORITY - HESPERIA FACILITY.

BUILDING CONSTRUCTION TYPE:

ALL BUILDINGS ARE OF CONSTRUCTION TYPE: I-B NONCOMBUSTIBLE ONE-STORY BUILDINGS

FIRE PROTECTION: AUTOMATIC FIRE SPRINKLER SYSTEMS ARE INSTALLED THROUGHOUT

EXISTING BUILDING DESCRIPTIONS:

OCCUPANCIES (UNCHANGED):

MAINTENANCE BUILDING: S1 - STORAGE/MOTOR VEHICLE REPAIR GARAGE

FUEL/WASH BUILDING: S1 - STORAGE/MOTOR VEHICLE REPAIR GARAGE

SHEET INDEX

NO.	SHEET TITLE
GENERAL	
G-000	COVER SHEET AND SHEET INDEX
G-001	GENERAL PROJECT NOTES
G-002	SITE PLAN
FIRE PROTECTION - FLAME DETECTION HZ	
F-101	MAINTENANCE BLDG FIRE PROTECTION PLAN HZ
F-101	FLAME DETECTION BLOCK WIRING DIAGRAM HZ
F-102	FLAME DETECTION FIRE ALARM INTEGRATION DIAGRAM HZ
MECHANICAL	
M-101	GENERAL NOTES, SCHEDULE, AND ENLARGED PLAN
M-102	GAS DETECTION HZ, CH ₄ AND CO
D-001	GAS DETECTION SYSTEM GENERAL NOTES
D-100	FUEL SITE PLAN
DD-101	MAINTENANCE BLDG DETECTION-DEMO PLAN WEST-CO & CH ₄
DD-102	MAINTENANCE BLDG DETECTION-DEMO PLAN EAST-CO & CH ₄
D-101	MAINTENANCE BLDG DETECTION-FLOOR PLAN WEST-CO
D-102	MAINTENANCE BLDG DETECTION-FLOOR PLAN EAST-CO
D-103	FUELING-AREA DETECTION FLOOR PLAN HZ & CH ₄
D-111	MAINTENANCE BLDG REFLECTED CEILING PLAN WEST-HZ & CH ₄
D-112	MAINTENANCE BLDG REFLECTED CEILING PLAN EAST-HZ & CH ₄
D-201	MAINT. BLDG ELEVATIONS AND DETAIL- HZ, CH ₄ AND CO
D-202	FUELING AREA ELEVATIONS AND DETAIL- HZ, CH ₄ AND CO
D-401	DETECTION EQUIPMENT SCHEDULE- HZ, CH ₄ AND CO
D-402	SEQUENCE OF OPERATION- HZ, CH ₄ AND CO
D-411	MAINT. BLDG LOW-VOLTAGE BLOCK WIRING DIAGRAM- HZ, CH ₄ AND CO
D-412	FUELING BUILDING LOW-VOLTAGE BLOCK WIRING DIAGRAM- CO, HZ, & CH ₄
MECHANICAL	
M-001	MECHANICAL GENERAL NOTES
ELECTRICAL	
E-001	SYMBOLS, NOTES, ABBREVIATIONS, AND SPECIFICATIONS
E-100	FIRST FLOOR ELECTRICAL PLAN - MAINTENANCE BLDG
E-101	FIRST FLOOR ELECTRICAL PLAN - FUEL / WASH BLDG
E-200	MEZZANINE ELECTRICAL PLAN - OVERALL
E-203	ENLARGED ELECTRICAL PLANS
E-411	SINGLE LINE DIAGRAM

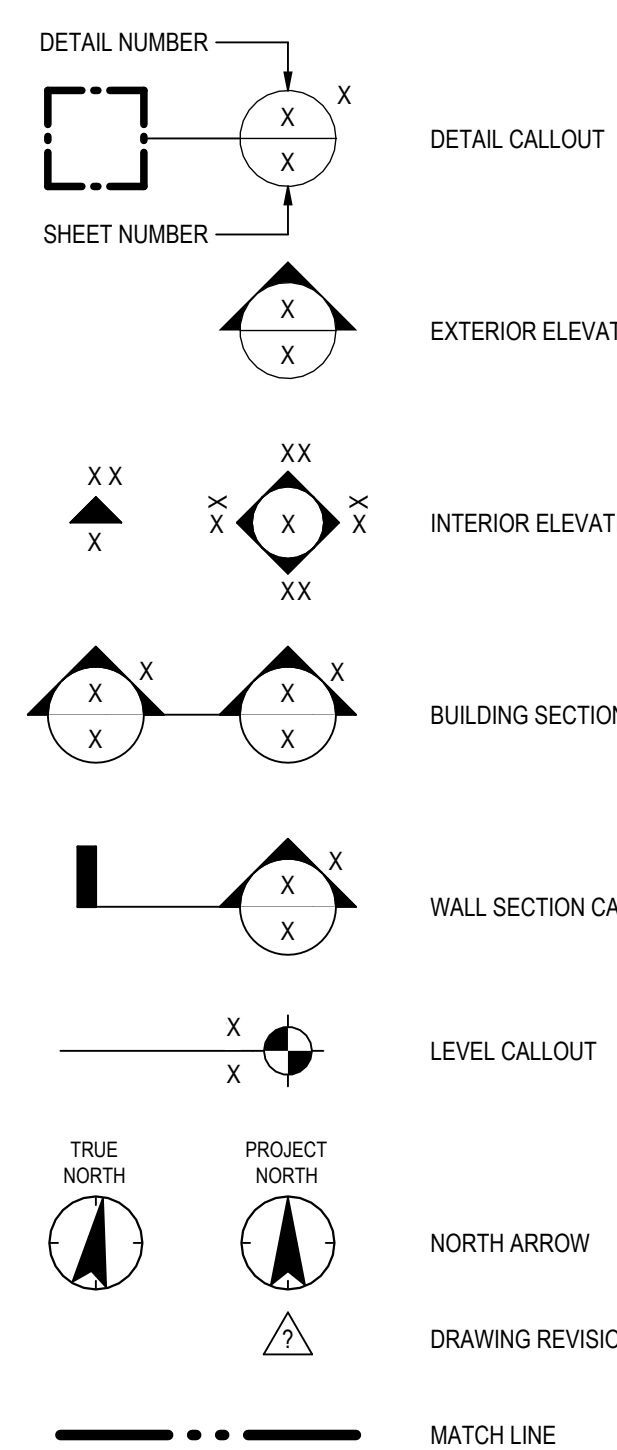
PROJECT DIRECTORY

MECHANICAL STANTEC CONTACT: GLADYS YANG TEL: (719) 289-4179 EMAIL: GLADYS.YANG@STANTEC.COM	FUEL/GAS DETECTION STANTEC CONTACT: ALI ALFEERAWI TEL: (719) 289-4002 EMAIL: ALI.ALFEERAWI@STANTEC.COM	PROJECT MANAGER STANTEC CONTACT: REB GUTHRIE TEL: (719) 955-3591 EMAIL: REB.GUTHRIE@STANTEC.COM
ELECTRICAL STANTEC CONTACT: DANA DEGENKOLB TEL: (719) 289-4133 EMAIL: DANA.DEGENKOLB@STANTEC.COM		OWNER VICTOR VALLEY TRANSIT AUTHORITY 17150 SMOKE TREE STREET, HESPERIA, CA 92345 CONTACT: DUSTIN STRANDBERG TEL: (719) 955-3380 EMAIL: DSTRANDBERG@VYTA.ORG

Permit/Seal



GENERAL SYMBOLS



ABBREVIATIONS

AA	AUDIBLE ALARM
ACT	ACTUATOR
AC	AIR CHILLER UNIT
ADU	ADJUSTABLE
AFF	ABOVE FINISHED FLOOR
AHU	AIR HANDLING UNIT
AL	ALUMINUM
ANOD	ANODIZED
BD	BOARD
BKG	BLUISH
BRG	BEARING
BSMT	BASEMENT
CER	CERAMIC
CG	CORNER GUARD
OP	CASIR-PLACE
CLG	CEILING
CLR	CLEARANCE
CNU	CONCRETE MASONRY UNIT
CNG	COMPRESSED NATURAL GAS
CO	CARBON MONOXIDE
COL	COLUMN
COND	CONDITION
CONT	CONTINUOUS, CONTINUE
CPT	CASPIED
CT	CERAMIC TILE
DEMO	DEMOLISH
DN	DIMENSION
DN	DOWN
DR	DOOR
DS	DOWNSPOUT
DTL	DETAIL
DWG	DRAWING
E	EAST
EA	EACH
EL	ELEVATION
ELEC	ELECTRICAL
ELEV	ELEVATOR/ELEVATION
EPNT	EPOXY PAINT
EQ	EQUAL
EQP	EQUIPMENT
EW	ELECTRIC WATER COOLER
EXT	EXISTING
EXT	EXTERIOR
FACP	FIRE ALARM CONTROL PANEL
FD	FLOOR DRAIN
FEC	FIRE EXTINGUISHER CABINET
FFE	FINISHED FLOOR ELEVATION
FIN	FINISHED
FLR	FLOORING
FND	FOUNDATION
FOC	FURNISHED BY OWNER, INSTALLED BY CONTRACTOR
FT	FIRE RETARDANT TREATED
FTG	FOOTING
FUT	FUTURE
GA	GAGE, GAUGE
GC	GENERAL CONTRACTOR
GL	GLASS, GLAZING
GLDS	GAS LEAK DETECTION SIGN
GRGBW	GYPSUM WALLBOARD
H2	HYDROGEN GAS
HDW	HARDWARE
HMI	HOLLOW METAL
HMI	HUMAN MACHINE INTERFACE
HT	HEIGHT
HVAC	HEATING/VENTILATING/AIR CONDITIONING
HWH	HOT WATER HEATER
INCL	INCLUDED(ING)
INT	INTERIOR
JAN	JANITOR
J-BOX	JUNCTION BOX
LAB	LABORATORY
LAM	LAMINATE
LAV	LAVATORY
LEL	LOWER EXPLOSIVE LIMIT
LFL	LOWER FLAMMABLE LIMIT
LT	LIGHT
LTG	LIGHTING

MECH	MECHANICAL
MED	MEDIUM
MFR	MANUFACTURER
MIN	MINIMUM
MISC	MISCELLANEOUS
MO	MASONRY OPENING
MTL	MATERIALS
N	NORTH
NAT	NATURAL
NC	NOT IN CONTRACT
NTS	NOT TO SCALE
OA	OVERALL
OC	ON CENTER(S)
OH	OVERHEAD
OPG	OPENING
PBD	PARTICLE BOARD
PC	PRECAST
PCF	POUNDS PER CUBIC FOOT
P	PLATE
P, LAM	PLASTIC LAMINATE
PMT	PAINT
PR	PAIR
PSF	POUNDS PER SQUARE FEET
PSI	POUNDS PER SQUARE INCH
PT	POINT
PVC	POLYVINYL CHLORIDE
PVMT	PAVEMENT
PWR	POWER
PWRS	POWER SUPPLY
QT	QUARRY TILE
RA	RETURN AIR
RAO	RADIUS
RBC	RUBBER BASE COVE
RCP	REINFORCED CONCRETE PIPE
RDP	RIDGE DRAIN
ROSP	REMOTE DISPLAY
RE	REFER TO, REFERENCE
REFR	REFRIGERATOR
REQD	REQUIRED
RET	RETURN
RFL	REFLECTED(LIGHT)
RH	RIGHT HAND
RM	ROOM
RO	ROUGH OPENING
ROW	RIGHT OF WAY
S	SOUTH
SC	SOLID CORE
SCONC	SEALED CONCRETE
SHIT	SHEET
SH	SIMILAR
SST	STAINLESS STEEL
STL	STEEL
STD	STANDARD
STR	STRUCTURAL
SV	SHEET VINYL FLOOR FINISH
T1	SINGLE TRANSMITTER
T2	DUAL TRANSMITTER
TEL	TELEPHONE
T&G	TONGUE & GROOVE
TOC	TOP OF CONCRETE/CURB
TOS	TOP OF STEEL
TOW	TOP OF WALL
TS	TEST STATION
TSL	TOP OF SLAB
TYP	TYPICAL
UNF	UNFINISHED
UON	UNLESS OTHERWISE NOTED
VA	VISIBLE ALARM
VCT	VINYL COMPOSITION TILE
VERT	VERTICAL
VT	VINYL TILE
W	WEST
W	WITH
WC	WATER CLOSET
WD	WOOD
WO	WITHOUT
WWF	WELODED WIRE FABRIC
YD	YARD

GENERAL NOTES:

- NOTHING CONTAINED IN THESE DRAWINGS OR IN ANY ACCOMPANYING CONTRACT DOCUMENT SHALL BE CONSIDERED A CONTRACTUAL RELATIONSHIP BETWEEN THE CONTRACTOR AND ARCHITECT AND ENGINEERS.
- THE CONTRACTOR SHALL FURNISH ALL LABOR, MATERIALS, EQUIPMENT ETC., REQUIRED TO COMPLETE THE CONSTRUCTION OR INSTALLATION OF ALL ITEMS REQUIRED FOR A COMPLETE INSTALLATION, UNLESS SUCH WORK IS DESIGNATED (N.C. NOT IN CONTRACT).
- ALL WORK SHALL BE DONE IN A QUALITY WORKMAN LIKE MANNER UTILIZING, UNLESS OTHERWISE NOTED, USE ONLY NEW, HIGH QUALITY MATERIALS CONSISTENT WITH SPECIFICATIONS AS INDICATED. THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE BUILDING CODES AND GOVERNMENTAL REGULATIONS REQUIRED TO IMPLEMENT SUCH INSTALLATION.
- NO SUBSTITUTIONS WILL BE CONSIDERED PRIOR TO SUBMISSION OF THE BID, UNLESS WRITTEN REQUEST IS SUBMITTED TO THE VICTOR VALLEY TRANSIT AUTHORITY REPRESENTATIVE. EACH SUCH REQUEST SHALL INCLUDE A COMPLETE DESCRIPTION OF THE PROPOSED SUBSTITUTE, THE NAME OF THE MATERIAL OR EQUIPMENT FOR WHICH IT IS TO BE SUBSTITUTED, DRAWINGS, CUTS, PERFORMANCE AND TEST DATA NECESSARY FOR A COMPLETE EVALUATION. ALL APPROVALS SHALL BE GIVEN IN WRITING ONLY BY THE ARCHITECT.
- THE CONTRACTOR SHALL NOT SCALE THE DRAWINGS.
- THE CONTRACTOR SHALL MAINTAIN THE PUBLIC RIGHT OF WAYS, SIDEWALKS, CORRIDORS, ETC. AFFECTED BY THE CONSTRUCTION, FREE OF ALL DIRT, DEBRIS, TRASH, ETC. ON A DAILY BASIS.
- THE CONTRACTOR SHALL TAKE ALL REASONABLE PRECAUTIONS FOR THE SAFETY OF, AND SHALL PROVIDE ALL REASONABLE PROTECTION TO PREVENT DAMAGE, INJURY OR LOSS TO:
 - ALL PERSONS EMPLOYED BY THE CONTRACTOR TO IMPLEMENT THE SCOPE OF THE WORK AND ALL OTHER PERSONS WHO MAY BE AFFECTED THEREOF.
 - ALL EMPLOYEES, USERS AND GUESTS OF THE OWNER WHO MAY BE AFFECTED THEREBY.
 - ALL COMPLETED WORK, MATERIALS AND EQUIPMENT TO BE INCORPORATED THEREIN WHICH IS IN THE CARE, CUSTODY, OR CONTROL OF THE CONTRACTOR.
 - ALL EXISTING CONSTRUCTION AND PROPERTY AT THE SITE OR ADJACENT THERETO, ANY DAMAGE TO SUCH SHALL BE REPAIRED/REPLACED TO THE SATISFACTION OF THE VICTOR VALLEY TRANSIT AUTHORITY REPRESENTATIVE (OWNER) AT THE CONTRACTOR'S EXPENSE.
 - PROVIDE SAFETY PLAN THAT ACCOUNTS FOR DECOMMISSIONING ALL NATURAL GAS EQUIPMENT THAT IS TO BE REMOVED, AND HANDLING AND SEALING OF NATURAL GAS SUPPLY LINES.
 - ALL CONSTRUCTION MATERIALS SHALL BE STORED PROPERLY WITHIN THE DESIGNATED AREAS AS AUTHORIZED BY THE OWNER'S REPRESENTATIVE.
 - DELIVERY OF MATERIALS AND REMOVAL OF DEBRIS IS TO BE COORDINATED AND SCHEDULED AS AGREED UPON BY THE OWNER'S REPRESENTATIVE.
 - THE DRAWINGS AND SPECIFICATIONS ARE COMPLEMENTARY AND WHAT IS REQUIRED BY ONE SHALL BE BINDING AS IF REQUIRED BY ALL.
 - THE CONTRACTOR SHALL VERIFY THE SIZE AND LOCATIONS OF ALL EXISTING OPENINGS RELATED TO THE INSTALLATION OF FINAL WORK. THE CONTRACTOR SHALL VERIFY ALL FIELD CONDITIONS PRIOR TO THE START OF THE WORK.
 - KEYNOTES ARE PER SHEET AND REFER TO THE KEYNOTE LIST ON THE SHEET IN WHICH THE KEYNOTE IS LOCATED.
 - ADDITIONAL ALTERNATES FOR EACH ADDITIONAL ALTERNATE ITEM LISTED BELOW. THE PRICE AND SCOPE SHALL BE COMPLETE AND TURNKEY, IN COMPARISON TO THE BASE SCOPE FOR THE INDICATED ITEM:
 - NONE
 - CONTRACTOR'S WORK SHALL PROVIDE A COMPLETE FUNCTIONAL, SAFE AND CODE-COMPLIANT FACILITY UPGRADE PER ALL APPLICABLE JURISDICTIONS AND CODES.
 - THIS SET OF CONSTRUCTION DOCUMENTS INCLUDE THE FLAMMABLE AND NOXIOUS GAS DETECTION SYSTEM AS WELL AS ASSOCIATED FLAME DETECTORS AND OTHER UPGRADES TO THE MECHANICAL, VENTILATION, AND SUPPORTING ELECTRICAL SYSTEMS.
 - THE CONTRACTOR SHALL VERIFY THAT ALL MATERIALS, LABOR, INSTALLATION, FABRICATION, ETC., CONFORM TO ALL CODES AND REGULATIONS OF APPLICABLE GOVERNING AGENCIES AND AHS.
 - THE CONTRACTOR SHALL VERIFY DIMENSIONS AND EXISTING SITE CONDITIONS AND CONSTRUCTIONABILITY PRIOR TO COMMENCING ANY WORK, AND OBTAIN THE OWNER'S APPROVAL PRIOR TO WORK BEING PERFORMED. CONTRACTOR SHALL IMMEDIATELY NOTIFY THE OWNER AND ENGINEER OF ANY DISCREPANCY OR LACK OF CONSTRUCTIONABILITY.
 - CONTRACTOR SHALL INSTALL AND COMMISSION ALL EQUIPMENT, COMPONENTS AND MATERIALS IN COMPLIANCE WITH RESPECTIVE MANUFACTURERS' WRITTEN INSTALLATION INSTRUCTIONS.
 - IN THE EVENT OF AN INCONSISTENCY BETWEEN DRAWINGS, WRITTEN SPECIFICATIONS, AND/OR REFERENCED STANDARDS, THE MOST STRINGENT ONE SHALL GOVERN.
 - ANY INTERRUPTION OF THE OWNER'S NORMAL ACTIVITIES AT THE PROJECT SITE THAT IS NEEDED TO PERFORM THE WORK SHALL BE COORDINATED WITH THE OWNER AT LEAST THREE WORK DAYS PRIOR TO THE INTERRUPTION.
 - PROTECT WORK AREAS AS REQUIRED.
 - PROVIDE LEGAL DISPOSAL OF ALL DEMOLISHED AND REMOVED MATERIAL AT CONTRACTOR'S COST UNLESS IT IS INDICATED TO BE REUSED OR TURNED OVER TO THE OWNER.
 - DO NOT PROCURE OR INSTALL PRODUCTS, EQUIPMENT OR MATERIALS PRIOR TO OBTAINING APPROVED SUBMITTALS FOR SAME.
 - MAINTAIN RED LINED DRAWINGS AT THE JOB SITE AS NEEDED TO TRACK AND DOCUMENT ALL CHANGES TO THE INSTALLATION VS. THE APPROVED DRAWINGS. RED LINES SHALL BE COMPLETE, ACCURATE, NEAT AND LEGIBLE.
 - TURN OVER ALL CLOSE-OUT DOCUMENTATION TO THE OWNER, INCLUDING CONTRACTOR'S WARRANTY, MANUFACTURER'S WARRANTIES, OWNERS MANUAL, INCLUDING ELECTRONIC PDF VERSION ON LABELED USB FLASH DRIVE AND (3) MATCHING PRINTED BOUND COPIES.
 - ALL PRODUCTS, MATERIALS, LABOR AND WORKMANSHIP PROVIDED AS PART OF THE PROJECT SHALL BE COVERED BY A MINIMUM 12-MONTH WARRANTY, COMMENCING WITH DECLARATION OF SUBSTANTIAL COMPLETION OF THE PROJECT WORK, AS DETERMINED BY THE OWNER.
 - CONTRACTOR SHALL COMPLY WITH CONSTRUCTION WASTE MANAGEMENT (CWM) PLAN AS REQUIRED BY CALIFORNIA GREEN BUILDING STANDARD CODE (CGBC) SECTION 5.408.1. MINIMUM OF 65% OF NON-HAZARDOUS MATERIAL SHALL BE RECYCLED.

SEPARATE FIRE ALARM PERMIT REQUIRED.

CONTRACTOR SHALL SUBMIT A SEPARATE FIRE ALARM PERMIT APPLICATION TO THE SAN BERNARDINO FIRE DEPARTMENT FOR ALL WORK INVOLVING THE FIRE ALARM CONTROL PANEL (FACP), ALL FACP CONNECTIONS AND RELATED FIRE ALARM WORK SHALL BE REVIEWED AND APPROVED UNDER THIS SEPARATE PERMIT.

SAFEGUARDS DURING CONSTRUCTION

- CONSTRUCTION EQUIPMENT AND MATERIALS SHALL BE STORED AND PLACED SO AS NOT TO ENDANGER THE PUBLIC, THE WORKERS OR ADJOINING PROPERTY FOR THE DURATION OF THE CONSTRUCTION PROJECT. SAN BERNARDINO COUNTY 33012.6).
- STRUCTURAL ROOF COMPONENTS SHALL BE CAPABLE OF SUPPORTING THE ROOF COVERING SYSTEM AND THE MATERIAL AND EQUIPMENT LOADS THAT WILL BE ENCOUNTERED DURING INSTALLATION OF THE SYSTEM. CBC 3302.1.
- REQUIRED EXITS, EXISTING STRUCTURAL ELEMENTS, FIRE PROTECTION DEVICES AND SANITARY SAFEGUARDS SHALL BE MAINTAINED AT ALL TIMES DURING ALTERATIONS, REPAIRS OR ADDITIONS TO ANY BUILDING OR STRUCTURE. CBC 3302.1.
- WASTE MATERIALS SHALL BE REMOVED IN A MANNER THAT PREVENTS INJURY OR DAMAGE TO PERSONS, ADJOINING PROPERTIES AND PUBLIC RIGHTS-OF-WAY. CBC 3302.2.
- SANITARY FACILITIES SHALL BE PROVIDED DURING CONSTRUCTION, REMODELING OR DEMOLITION ACTIVITIES IN ACCORDANCE WITH THE CALIFORNIA PLUMBING CODE. CBC 3305.1.
- PEDESTRIANS SHALL BE PROTECTED DURING CONSTRUCTION, REMODELING AND DEMOLITION ACTIVITIES AS REQUIRED BY THIS CHAPTER AND TABLE 3306.1. SIGNS SHALL BE PROVIDED TO DIRECT PEDESTRIAN TRAFFIC. CBC 3306.1.
- ADJOINING PUBLIC AND PRIVATE PROPERTY SHALL BE PROTECTED FROM DAMAGE DURING CONSTRUCTION, REMODELING AND DEMOLITION WORK. CBC 3307.1.
- STRUCTURES UNDER CONSTRUCTION, ALTERATION OR DEMOLITION SHALL BE LIGHTED WITH NO FEWER THAN ONE APPROVED PORTABLE FIRE EXTINGUISHER IN ACCORDANCE WITH SECTION 906 AND SIZE FOR NOT LESS THAN ORDINARY HAZARD. CBC 3308.1.

DETECTION SYSTEM DESCRIPTION

VICTOR VALLEY TRANSIT AUTHORITY - HESPERIA MAINTENANCE FACILITY - IS MODIFIED IN THIS PROJECT FOR REPAIR AND MAINTENANCE OF COMPRESSED NATURAL GAS AND HYDROGEN FUEL BURNERS. GAS DETECTION IS PROVIDED FOR HYDROGEN, METHANE, CARBON MONOXIDE. HYDROGEN AND METHANE ARE BOTH LIGHTER THAN AIR AND EXPECTED TO TRAVEL UPWARD. THIS DETECTORS WILL BE INSTALLED UNDER CEILING INVERSELY. CARBON MONOXIDE GASES ARE NOT EXPECTED TO RISE TO CEILING LEVEL. THIS DETECTORS WILL BE MOUNTED IN THE BREATHING ZONE.

THE GAS DETECTION SYSTEM SHALL BE PROGRAMMED TO PROVIDE CONTROL OF VARIOUS EQUIPMENT AND PROVIDE ALARMING IN ACCORDANCE WITH THE SEQUENCE OF OPERATION ON SHEET D-002. AS NOTED, IN ANY GAS DETECTION EVENT (LOW ALARM AND HIGH ALARM), ALARMING SHALL INCLUDE PROVIDING EMAIL, SMS, AND PHONE ALERTS. GAS DETECTORS, EXHAUST FANS, HVAC EQUIPMENT, HEATERS, ALARM DEVICES, AND OTHER EQUIPMENT SHALL BE INTERFACED WITH THE CONTROL SYSTEM IN ACCORDANCE WITH MANUFACTURER REQUIREMENTS. THE BLOCK WIRING DIAGRAM, AND SEQUENCE OF OPERATIONS.

THE CONTROL SYSTEM SHALL INCLUDE A LOCAL HMI CONTROLLER WITH REMOTE WEB ACCESS AND REMOTE DISPLAY PANELS. THE GAS DETECTION SYSTEM SHALL HAVE THE CAPABILITY TO BE CONTROLLED AND MONITORED REMOTELY VIA REMOTE WEB ACCESS.

BACK-UP AND EMERGENCY POWER SHALL BE PROVIDED FOR THE ENTIRETY OF THE GAS DETECTION SYSTEM AND AUXILIARY EQUIPMENT. IN THE EVENT OF A POWER OUTAGE, THE GAS DETECTION SYSTEM SHALL REMAIN ENERGIZED AND SHALL REMAIN CAPABLE OF PROVIDING GAS DETECTION, ALARMING, AND CONTROLLING ALL INTERFACED EQUIPMENT.

VENTILATION AND HEATING SYSTEM UPGRADES AND MODIFICATIONS ARE PER MECHANICAL PLANS AND SHALL BE INTERFACED WITH THE GAS DETECTION SYSTEM AS INDICATED IN THIS DRAWING SET.

DETECTION OF FLAMMABLE OR NOXIOUS GASES IN THE CONCENTRATIONS SHOWN IN THE SEQUENCE-OF-OPERATIONS TABLE SHALL TRIGGER VISIBLE AND AUDIBLE ALARMS AS SHOWN IN THE TABLE, AND IN COMPLIANCE WITH CFC 915.6.

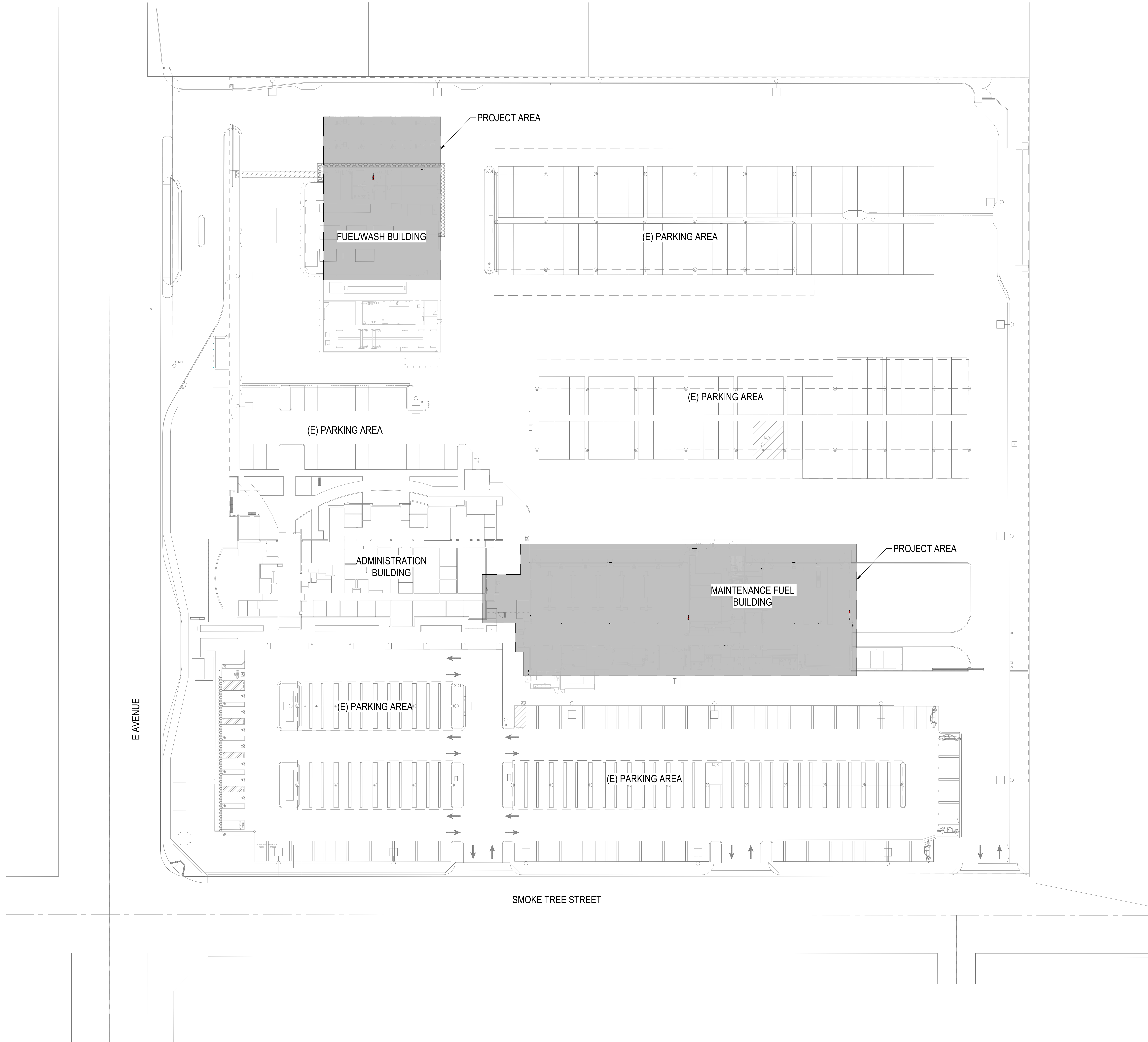
GAS DETECTORS SPECIFIED FOR THIS PROJECT THAT ARE DESIGNATED FOR CARBON MONOXIDE (CO) AND HYDROGEN SHALL BE CALIBRATED ONCE EVERY 90 DAYS. GAS DETECTORS SPECIFIED FOR THIS PROJECT THAT ARE DESIGNATED FOR METHANE AND THAT ARE BASED ON INFRARED TECHNOLOGY SHALL BE CALIBRATED ANNUALLY.

FLAME DETECTORS (UVIR TYPE) SHALL BE INSTALLED ALONG THE CEILING OF THE BUS MAINTENANCE AREAS OF THE MAINTENANCE BUILDING PER PLAN AND SHALL BE WIRED TO THE (E) FACP PER THE DRAWINGS. THE FACP SHALL BE MODIFIED TO RECOGNIZE FLAME EVENTS DETECTED BY THE NEW DETECTORS AND SHALL ANNUNCIATE LOCALLY AND REMOTELY.

Client	
Project No.	20453335200
Title	GENERAL PROJECT NOTES
Scale	
Revision	0
Drawing No.	G-001

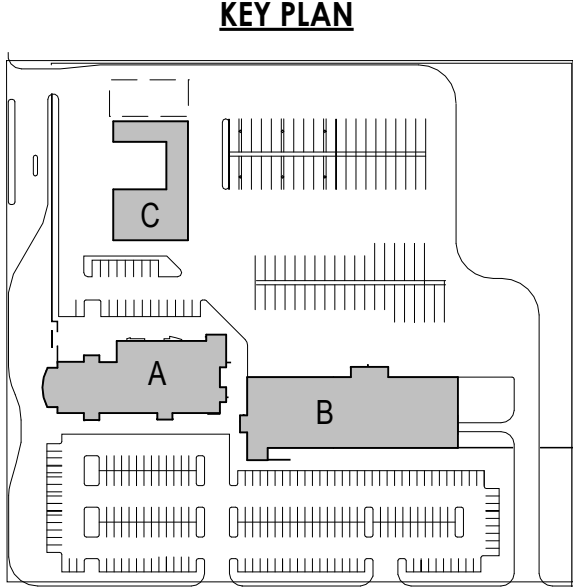
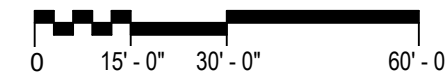
Permit/Seal

5/18/2024



1
G-101

SITE PLAN
1" = 30'-0"



Victor Valley Transit
Authority
VVA Building
Modifications
17150 Smoke Tree St
Hesperia, CA 92345

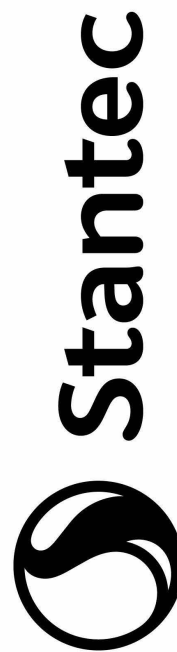
Project No.: 2045335200
Title
SITE PLAN

Scale: 1" = 30'-0"
Revision: 0
Drawing No. **G-101**

Permit/Seal



Client



Stantec Consulting Services Inc.
801 South Figueroa Street, Suite 300
Hesperia, CA 92345
Tel: (760) 935-9773 • www.stantec.com

Copyright Reserved
This drawing is the property of Stantec Consulting Services Inc. and is not to be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording, or by any information storage and retrieval system, without the prior written permission of Stantec Consulting Services Inc.

A

B

C

D

E

F

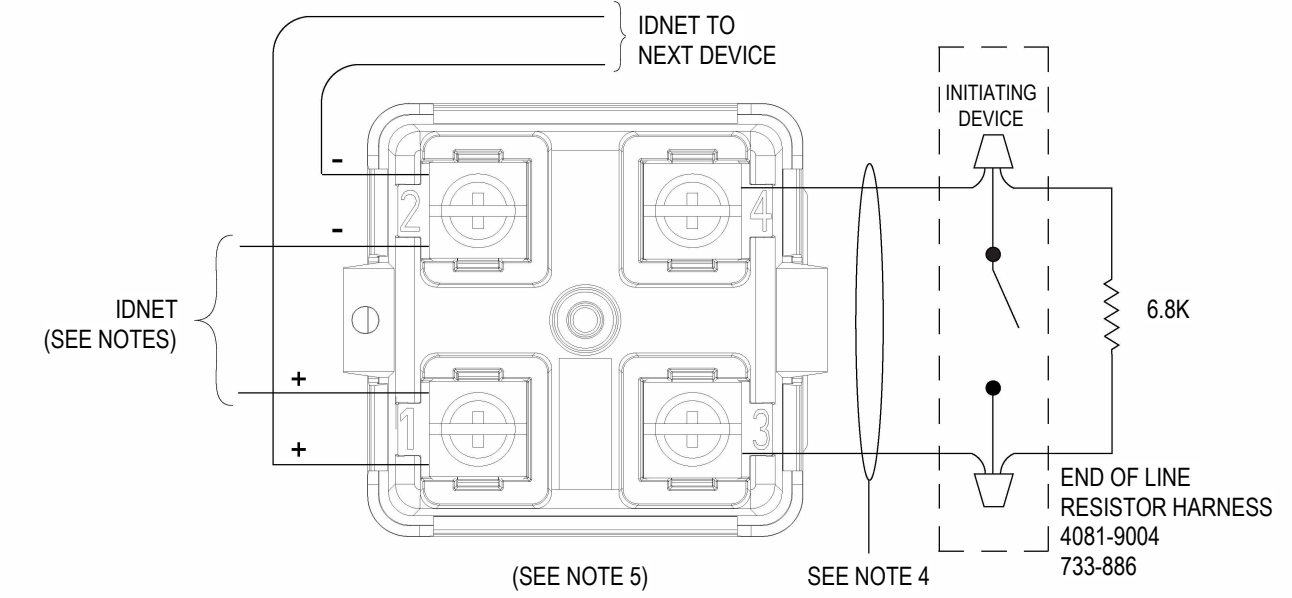
1
F-611

FLAME DETECTOR TO MONITORING MODULE TYPICAL WIRING

N.T.S.

NOTES:

- WHEN CONNECTING TWO WIRES TO ONE TERMINAL, POSITION ONE WIRE ON EACH SIDE OF THE TERMINAL SCREW.
- IDNET LINES ARE 18 AWG TWISTED PAIR (SHIELD RECOMMENDED).
- MAXIMUM ALLOWABLE RUN FROM FACP TO FARTHEST DEVICE NOT TO EXCEED 2500 FEET. MAXIMUM TOTAL WIRE (INCLUDING ALL TAPS) FROM FACP IS 10000 FEET.
- MAXIMUM WIRE LENGTH IS 400 FEET, #19 AWG.
- REFER TO FIELD WIRING DIAGRAM 842-013 FOR FURTHER INFORMATION ON WIRING SUPERVISED IAMS TO IDNET. REFER TO FIELD WIRING DIAGRAMS 841-804 OR 841-198 FOR FURTHER INFORMATION ON WIRING SUPERVISED IAMS TO MAPNET II. IDNET AND MAPNET II WIRING ARE SUPERVISED AND POWER LIMITED.

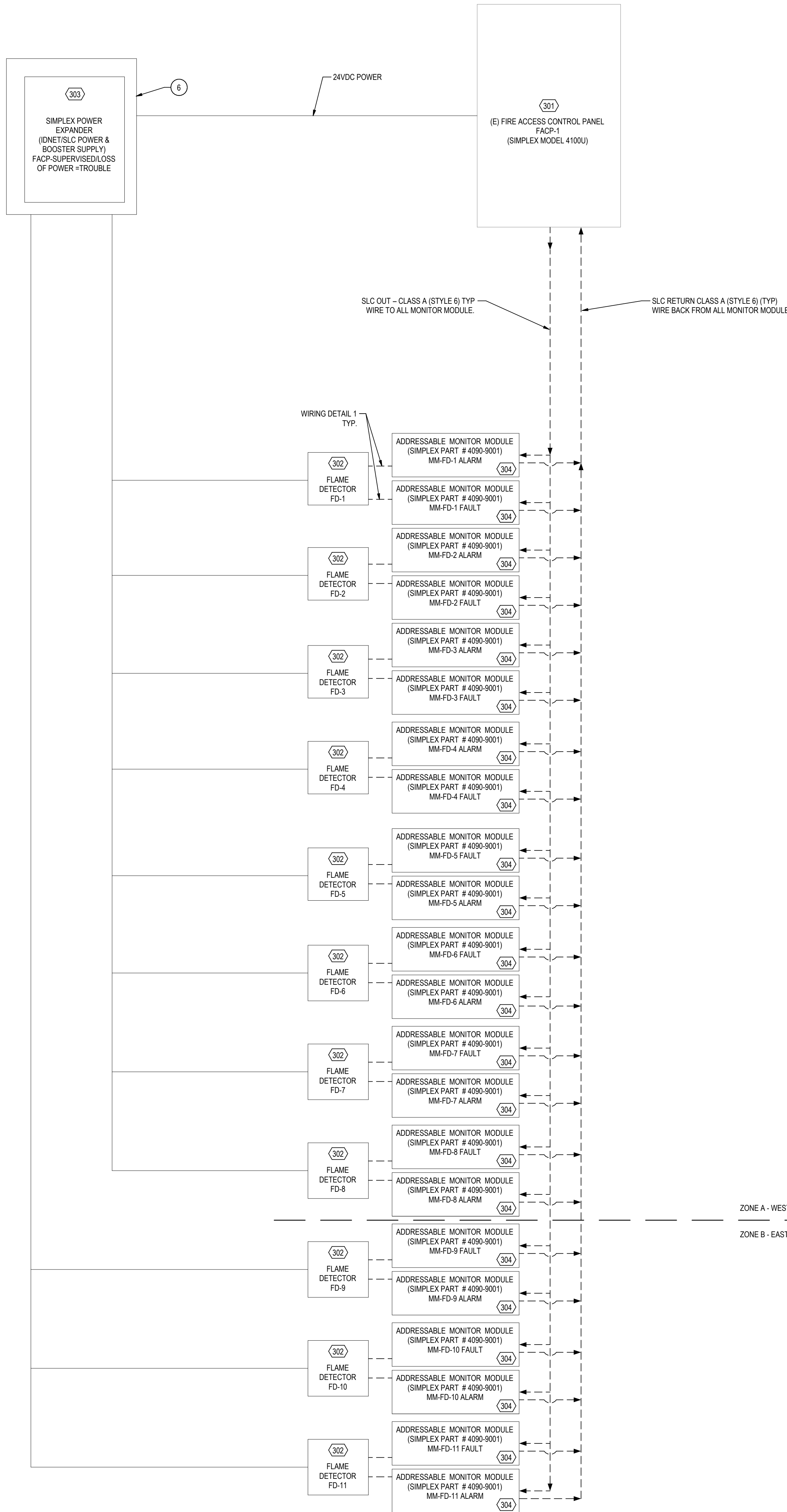
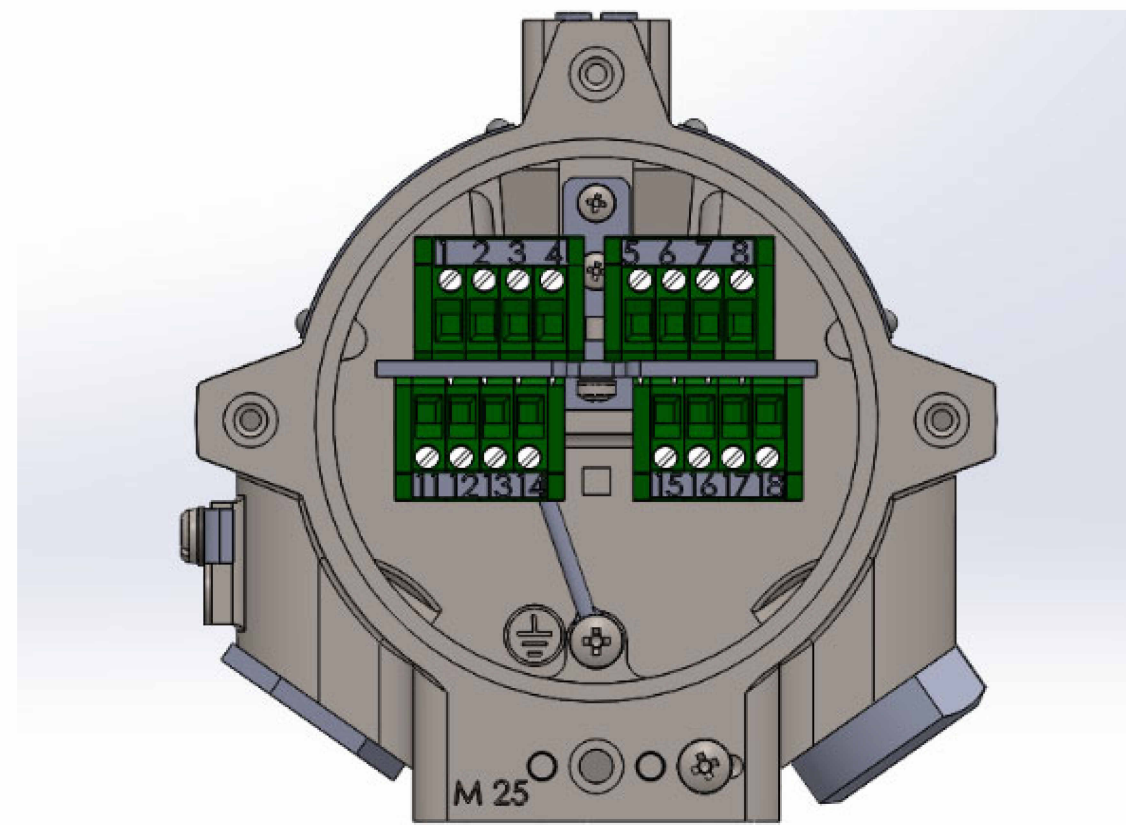


2
F-611

FIKE IR3 TERMINAL CONNECTIONS

N.T.S.

Pin #	Function	Description
Ground	Ground (earth)	Connected to a screw on the housing exterior.
1	24 VDC (+)	Power supply (18-32 VDC)
2	24 VDC (-)	Power supply return (0V)
3	0-20mA+ (in)	This output is used for analog 0-20 mA current output
4	0-20mA- (out)	
5	Fault Relay	A SPST contact relay, that is energized (closed) when the detector is in normal operation and opens in case of fault.
6	Fault Relay COM	
7	Alarm Relay (NO)	A normally open SPST contact relay, that is open in normal operation, and closed when fire is detected. This relay can be configured to latch as described in section (3.4).
8	Alarm Relay COM	
11	24 VDC (+)	Power supply (18-32 VDC)
12	24 VDC (-)	Power supply return (0V)
13	Manual BIT activation	The manual BIT (built-in test) can be initiated by momentarily connecting this terminal and one of the "24 VDC (-)" terminals (2 or 12). See 3.10 for more details.
14	Shield	This terminal should be left connected to the housing internal ground screw.
15	RS-485 (+)	RS-485 Modbus communication (also used by the "FGD Communicator" software)
16	RS-485 (-)	
17	Auxiliary Relay NO	A normally open SPST contact relay, that is open in normal operation, and closed according to the configuration used.
18	Auxiliary Relay COM	



SYMBOLS LEGEND	
---	COMMUNICATION
---	POWER

DRAWING NOTES:

- THE FLAME DETECTION SYSTEM SHOWN IS A SPECIAL HAZARD DETECTION SYSTEM PROVIDED FOR EQUIPMENT AND OPERATIONAL SAFETY. IT IS NOT A REQUIRED FIRE ALARM SYSTEM AND DOES NOT PROVIDE OCCUPANT NOTIFICATION OR EVACUATION FUNCTIONS. DESIGN IS WITHIN THE RESPONSIBLE CHARGE OF THE UNDERSIGNED MECHANICAL ENGINEER.

KEYED NOTES

- FLAME DETECTORS
FLAME DETECTORS (ZONES A AND B) SHALL BE WIRED IN ACCORDANCE WITH THE FIKER3-HQ USER MANUAL (FIGURE 20). EACH FLAME DETECTOR SHALL BE INDIVIDUALLY CONNECTED TO A LISTED SIMPLEX ADDRESSABLE MONITOR MODULE TO PROVIDE UNIQUE ALARM AND TROUBLE POINT IDENTIFICATION AT THE FIRE ALARM CONTROL PANEL (FACP).
- FIRE ALARM CONTROL PANEL LOCATION
EXISTING SIMPLEX FIRE ALARM CONTROL PANEL (FACP) IS LOCATED IN SPRINKLER ROOM A133 AT THE EAST END OF THE ADMINISTRATION BUILDING.
- CIRCUIT SUPERVISION
ALL FLAME DETECTOR INPUT CIRCUITS SHALL BE FULLY SUPERVISED BY THE FIRE ALARM SYSTEM. LOSS OF POWER, OPEN CIRCUIT, SHORT CIRCUIT, OR GROUND FAULT CONDITIONS SHALL BE ANNUNCIATED AS A TROUBLE SIGNAL AT THE FACP.
- ALARM OPERATION
UPON FLAME DETECTION, THE DETECTOR SHALL TRANSMIT A SUPERVISED SIGNAL TO ITS ASSOCIATED ADDRESSABLE MONITOR MODULE, WHICH SHALL REPORT AN INDIVIDUAL ADDRESSABLE ALARM CONDITION AT THE FACP.
- END-OF-LINE (EOL) RESISTORS
END-OF-LINE (EOL) RESISTORS TO BE PROVIDED AT THE FLAME DETECTOR TO BE INSTALLED IN FIELD JUNCTION BOXES, IF REQUIRED BY THE SIMPLEX SPECIFICATION.
- POWER SUPPLY
24 VDC POWER FOR (N) FLAME DETECTORS SHALL BE SUPPLIED FROM THE FIRE ALARM CONTROL PANEL, OR A LISTED, FACP-SUPERVISED POWER SUPPLY. LOSS OF POWER SHALL INITIATE A TROUBLE CONDITION AT THE FACP.
- SYSTEM INTERFACE
FLAME DETECTION SYSTEMS INSTALLED WITHIN THE MAINTENANCE BUILDING SHALL BE INTERCONNECTED TO THE BUILDING FIRE ALARM SYSTEM IN ACCORDANCE WITH SAN BERNARDINO COUNTY FIRE PROTECTION DISTRICT REQUIREMENTS. ALARM AND TROUBLE CONDITIONS SHALL BE MONITORED, ANNUNCIATED, AND RECORDED AT THE FIRE ALARM CONTROL PANEL. THE FIRE ALARM SYSTEM INTERFACE AND FUNCTIONALITY SHALL BE SHOWN ON THE FIRE ALARM PLANS AND VERIFIED DURING FIELD INSPECTION. NO INDEPENDENT OR STANDALONE LIFE-SAFETY ALARM OPERATION IS PROVIDED OUTSIDE OF THE FIRE ALARM SYSTEM.
- WIRING METHOD
ADDRESSABLE MONITOR MODULES SHALL BE CONNECTED TO THE SIMPLEX FIRE ALARM SYSTEM VIA A CLASS A (STYLE 6) SIGNALING LINE CIRCUIT (SLC). WIRING SHALL COMPLY WITH NFPA 72 AND NFPA 70, INCLUDING SUPERVISION FOR OPEN, SHORT, AND GROUND FAULT CONDITIONS. ALL INTERFACE DEVICES AND WIRING SHALL BE LISTED FOR FIRE ALARM SERVICE.
- FACP UPGRADES AND MODIFICATIONS
ALL REQUIRED HARDWARE UPGRADES, SOFTWARE REVISIONS, PROGRAMMING CHANGES, LICENSING, CONFIGURATION UPDATES, AND SYSTEM MODIFICATIONS TO THE EXISTING FIRE ALARM CONTROL PANEL NECESSARY TO PROVIDE A FULLY FUNCTIONAL, CODE-COMPLIANT FLAME DETECTION INSTALLATION FOR THE MAINTENANCE BUILDING SHALL BE INCLUDED IN THE SCOPE OF WORK.
- OEM REQUIREMENTS
ALL FIRE ALARM CONTROL PANEL MODIFICATIONS, PROGRAMMING, TESTING, AND COMMISSIONING SHALL BE PERFORMED BY THE EXISTING FACP ORIGINAL EQUIPMENT MANUFACTURER (SIMPLEX) OR A SIMPLEX-AUTHORIZED AND APPROVED CONTRACTOR, IN ACCORDANCE WITH MANUFACTURER REQUIREMENTS AND APPLICABLE CODES.

SCOPE OF WORK:

THIS PROJECT CONSISTS OF THE ADDITION OF ELEVEN (11) TRIPLE-IR FLAME DETECTORS INCLUDING SUPERVISED POWER SOURCE AND LISTED ADDRESSABLE MONITOR MODULES REQUIRED TO PROVIDE ALARM AND TROUBLE REPORTING TO THE EXISTING FIRE ALARM CONTROL PANEL (FACP). THIS IS PROVIDED ONLY WITHIN THE EXISTING MAINTENANCE BUILDING AS AN OWNER-DIRECTED OPERATIONAL SAFETY ENHANCEMENT. THE WORK IS BEING PROVIDED IN ADDITION TO THE NEW HYDROGEN (H2) GAS DETECTION SYSTEM BEING INSTALLED AND IS NOT REQUIRED BY CODE. NO CHANGES TO THE EXISTING FIRE ALARM SYSTEM CONFIGURATION, NOTIFICATION APPLIANCES OR FIRE ALARM CONTROL PANEL ARE INCLUDED.

FIRE DETECTION EQUIPMENT SCHEDULE					
ITEM	DESCRIPTION	QTY	SPECIFICATIONS	MANUFACTURER	MODEL
301	FIRE ALARM CONTROL PANEL (EXISTING)	1	EXISTING FIRE ALARM CONTROL PANEL (FACP) ADDRESSABLE, NETWORKABLE FIRE ALARM CONTROL UNIT/UL 864 LISTED, LOCATION AT MAIN ADMINISTRATION BUILDING	SIMPLEX	4100U
302	FLAME DETECTOR	11	TRIPLE IR FLAME DETECTOR 3/4" STANDARD CONFIGURATION PROVIDED LISTED ACCESSORIES AS REQUIRED BY INSTALLATION CONDITIONS, INCLUDING STANDARD MOUNTING BRACKET MODEL FK-TWO-S01, AIR SHELVAR PURGE ASSEMBLY PLS-ADD-S01 WHERE DUST EXPOSURE EXISTS AND OTHER MANUFACTURER RECOMMENDED HARDWARE TO MAKE FOR COMPLETE INSTALLATION AND INTEGRATION. MINIMUM ONE FLAME DETECTOR SIMULATOR MODEL FLS-F9AH-R2 FOR FUNCTIONAL TESTING AND COMMISSIONING. DETECTORS SHALL BE INTERFACED WITH EXISTING SIMPLEX PANEL FIRE ALARM CONTROL PANEL USING LISTED COMPATIBLE ADDRESSABLE MODULE	FIKE	FK-IR3-HQAS21 W/ ACCESSORIES
303	DETECTORS 24VDC AUX POWER SUPPLY SOURCES	1	EXPANSION POWER SUPPLY, OUTPUT 24 VDC, 3.0 A (SUPERVISED) WITH BATTERY BACKUP TO POWER TWO FLAME DETECTOR CIRCUITS.	SIMPLEX	4100-511
304	MONITORING MODULE	26	INDIVIDUAL ADDRESSABLE MODULE (IAM) WITH BOTH POWER AND COMMUNICATION SUPPLIED BY A TWO-WIRE IDNET CIRCUIT. SUPERVISED IAM PROVIDES FOUR STATE STATUS INFORMATION (NORMAL, OPEN, CURRENT LIMITED, AND SHORT) TO THE 4100U FIRE ALARM CONTROL PANEL (FACP) VIA THE IDNET CHANNEL. THE IDNET CHANNEL PROVIDES THE COMMUNICATION LINK BETWEEN SUPERVISED IAM AND THE FACP AND POWERS THE ENTIRE IAM CIRCUITRY.	SIMPLEX	4090-9001

Victor Valley Transit
Authority

VVTA Building
Modifications

17150 Smoke Tree St
Hesperia, CA 92345

Project No.:2045335200

Title

FLAME DETECTION
BLOCK-WIRING
DIAGRAM-H2

Scale: 1/2" = 1'-0"

Revision: 0

Drawing No.

F-611

Permit/Seal



5/18/2024

Permit/Seal



5/18/2024

Permit/Seal



5/18/2024

Permit/Seal



5/18/2024

Permit/Seal



5/18/2024

Permit/Seal



5/18/2024

Permit/Seal



5/18/2024

Permit/Seal



5/18/2024

Permit/Seal



5/18/2024

Permit/Seal



5/18/2024

Permit/Seal



5/18/2024

Permit/Seal



5/18/2024

Permit/Seal



5/18/2024

Permit/Seal



5/18/2024

Permit/Seal



5/18/2024

Permit/Seal



5/18/2024

Permit/Seal



5/18/2024

Permit/Seal



5/18/2024

Permit/Seal



5/18/2024

Permit/Seal



5/18/2024

Permit/Seal



5/18/2024

Permit/Seal



5/18/2024

Permit/Seal



5/18/2024

Permit/Seal



5/18/2024

Permit/Seal



5/18/2024

Permit/Seal



5/18/2024

Permit/Seal



5/18/2024

Permit/Seal



5/18/2024

Permit/Seal



5/18/2024

Permit/Seal



5/18/2024

Permit/Seal



5/18/2024

Permit/Seal



5/18/2024

Permit/Seal



5/18/2024

Permit/Seal



5/18/2024

Permit/Seal



5/18/2024

Permit/Seal



5/18/2024

Permit/Seal



5/18/2024

Permit/Seal



5/18/2024

Permit/Seal



5/18/2024

Permit/Seal



5/18/2024

Permit/Seal



5/18/2024

Permit/Seal



5/18/2024

Permit/Seal



5/18/2024

Permit/Seal



5/18/2024

Permit/Seal



5/18/2024

Permit/Seal



5/18/2024

Permit/Seal



5/18/2024

Permit/Seal



5/18/2024

Permit/Seal



5/18/2024

Permit/Seal



5/18/2024

Permit/Seal



5/18/2024

Permit/Seal



5/18/2024

Permit/Seal



5/18/2024

Permit/Seal



5/18/2024

Permit/Seal



5/18/2024

Permit/Seal



5/18/2024

Permit/Seal



5/18/2024

Permit/Seal



5/18/2024

Permit/Seal



5/18/2024

Permit/Seal

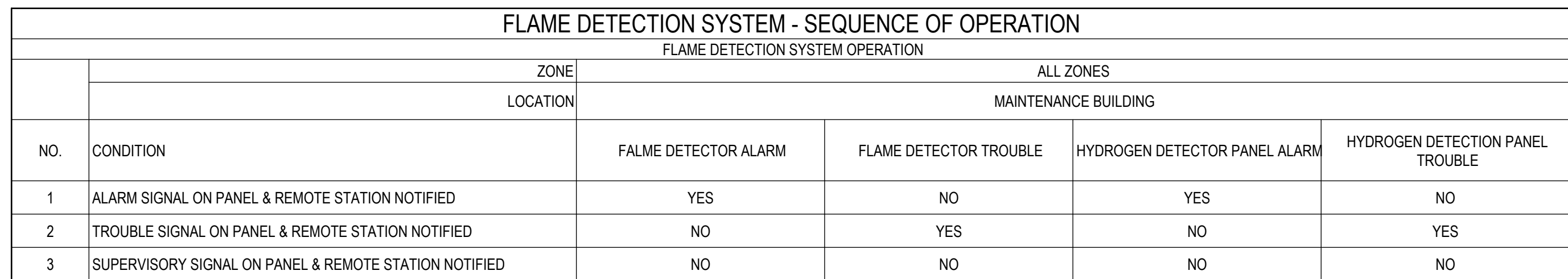


5/18/2024

Permit/Seal



5/18/202



FIRE ALARM CONTROL UNIT ZONE LIST		
ZONE	DEVICE	LOCATION
Z-A	N/A	MAINTENANCE BUILDING WEST REPAIR BAY
Z-A1	MASTER H2 CONTROLLER #1	CIRCULATION HALLWAY (B101)
Z-A2	MC-1 HYDROGEN DETECTION PANEL ALARM	CIRCULATION HALLWAY (B101)
Z-A3	MC-1 HYDROGEN DETECTION PANEL TROUBLE	CIRCULATION HALLWAY (B101)
Z-A4	F0-1 FLAME DETECTOR	RUNNING RAPIR BAY (B110)
Z-A3	F0-2 FLAME DETECTOR	RUNNING RAPIR BAY (B111)
Z-A4	F0-3 FLAME DETECTOR	RUNNING RAPIR BAY (B113)
Z-A4	F0-4 FLAME DETECTOR	RUNNING RAPIR BAY (B115)
Z-A5	F0-5 FLAME DETECTOR	CIRCULATION HALLWAY (B101)
Z-A5	F0-6 FLAME DETECTOR	CIRCULATION HALLWAY (B101)
Z-A6	F0-7 FLAME DETECTOR	CIRCULATION HALLWAY (B101)
Z-A6	F0-8 FLAME DETECTOR	CIRCULATION HALLWAY (B101)
Z-B	N/A	MAINTENANCE BUILDING EAST REPAIR BAY
Z-B1	F0-9 FLAME DETECTOR	PARAMOUNT REPAIR BAY (B133)
Z-B2	F0-10 FLAME DETECTOR	PM REPAIR BAY (B134)
Z-B3	F0-11 FLAME DETECTOR	CIRCULATION HALLWAY (B143)
Z-C	N/A	FUEL WASH BUILDING
Z-C1	MASTER H2 CONTROLLER #2	HALL (C114)
Z-C2	MC-2 HYDROGEN DETECTION PANEL ALARM	HALL (C114)
Z-C3	MC-2 HYDROGEN DETECTION PANEL TROUBLE	HALL (C114)

THIS PROJECT CONSISTS OF THE ADDITION OF ELEVEN (11) TRIPLE-IR FLAME DETECTORS IN ADDITION TO THE EXISTING OWNER-SOURCED AND LISTED ADDRESSABLE MONITORED ALARM REQUIRED TO PROVIDE ALARM AND TROUBLE REPORTING TO THE EXISTING FIRE ALARM CONTROL PANEL (FACP). THIS IS PROVIDED ONLY WITHIN THE EXISTING MAINTENANCE BUILDING AS AN OWNER-DIRECTED OPERATIONAL SAFETY ENHANCEMENT. THE WORK IS BEING PROVIDED IN ADDITION TO THE NEW HYDROGEN (H2) GAS DETECTION SYSTEM BEING INSTALLED AND IS NOT REQUIRED BY CODE. NO CHANGES TO THE EXISTING FIRE ALARM SYSTEM CONFIGURATION, NOTIFICATION APPLIANCES OR FIRE ALARM CONTROL PANEL ARE INCLUDED.

1. EXISTING FIRE ALARM CONTROL PANEL IS SIMPLEX MODEL 4100P. PANEL IS ADDRESSABLE AND SHALL REMAIN IN SERVICE DURING ALL PHASES OF INSTALLATION.
2. INNET SIGNAL LINE CIRCUITS (SCS) SHALL BE CLASS A (STYLE B) WIRING SHALL BE 18 AWG, 2-CONDUCTOR, SHIELDED, P/PL MINIMUM OCSN, SHORT CIRCUIT PROTECTIVE SHALL BE INSTALLED TO TRIGGER SIGNAL AT THE FACTORY.
3. FLAME DETECTOR SHALL BE POWERED ON A 24VDC SIGNAL, SUPPLIED BY THE SIMPLEX 4100P. POWER WIRING SHALL BE 18 AWG, 2-CONDUCTOR, P/PL MINIMUM.
4. ALL FLAME DETECTOR ALARM AND TROUBLE SIGNALS SHALL BE SUPERVISED VIA SIMPLEX INNET ADDRESSABLE MONITOR MODULES AND ANNUNCIATED AT THE EXISTING FACT.
5. FLAME DETECTOR SHALL NOT OPERATE AS A STANDALONE SYSTEM AND SHALL INTERFACE WITH THE BUILDING FIRE ALARM SYSTEM IN ACCORDANCE WITH SCSPPD AND NFPA 72 REQUIREMENTS.
6. ALL WIRING SHALL BE INSTALLED IN METALLIC CONDUIT IN ACCORDANCE WITH NEC ARTICLE 760 AND LOCAL ADOPTIONS. SEPARATION FROM POWER AND NON-POWER RELATED CIRCUITS SHALL BE MAINTAINED.
7. ALL PROGRAMMING, FIRMWARE UPDATES, PANEL MODIFICATIONS, AND ACCEPTANCE TESTING SHALL BE PERFORMED BY THE SAME QUALIFIED/REGISTERED CONTRACTOR.
8. FINAL DEVICE ADDRESSING, LOOP LOGIC, VOLTAGE DROP, AND BATTERY CALCULATIONS SHALL BE PROVIDED AT SHOP DRAWING SUBMITTAL.
9. THE FLAME DETECTION SYSTEM IS A SPECIAL, HAZARD DETECTION SYSTEM PROVIDED FOR EQUIPMENT AND OPERATIONAL SAFETY. IT IS NOT A REQUIRED FIRE ALARM SYSTEM AND DOES NOT PROVIDE OCCUPANT NOTIFICATION.

NOTE: NOT ALL SYMBOLS, SYSTEMS, AND ABBREVIATIONS MAY BE USED ON THIS PROJECT

ABBREVIATIONS

NUMBER, POUND, CLASS
* LESS THAN
+ GREATER THAN
° DEGREES CELSIUS
°F DEGREES FAHRENHEIT

AC ALTERNATING CURRENT
ACR AIR CONDITIONER
ACR SIGNAL + CONCRETE (BUTIRUMIS)
ACK ACKNOWLEDGEMENT (SWITCH + BUTTON)
ACF AIR-CURED FLOOR
ACF ABOVE-FINISHED GRADE
AU AUTHORITY HAVING JURISDICTION
AV APPROXIMATE
AVR AIR-HANDLING UNIT
APPR APPROVAL
ARCH ARCHITECTURAL
AVG AVERAGE
AWG AMERICAN WIRE GAUGE

BEB BATTERY ELECTRIC BUS
BF BUILDING FOOT
BLDG BUILDING
BOP BOTTOM OF PIPE
BTM BOTTOM
BTWN BETWEEN
BU BUILD VALUE

C
CA COMPRESSED AIR
C/CN CONVENIENCE ADMINISTRATIVE CODE
C/CV CONSTANT AIR VOLUME
CCS COMBUSTION CHAMBER
C/CN CENTER CLOSURE
CL CENTER LINE, CHAIN LINK (FENCE, CLASS C)
CLM CARBON MONOXIDE, CLEAR OUT
CMU CONCRETE MASONRY UNIT
C/CN COMPRESSOR NATURAL GAS
C/CN CARBON MONOXIDE, CLEAR OUT
COMP COMPRESSOR
CONC CONCRETE, CONCENTRIC
CONN CONNECTION
CONT CONTINUOUS, CONTINUATION
CPL CPLG COUPLING
C/CN CARBON STEEL, CAP SCREW
C/CN C/CN C AND THREAD FITTING
C/CN COPPER (PIPE), CUBIC
C/CN CUBIC
CV CHECK VALVE
C/CN CLOSURE

(D) DEMO
DEC DECEMBER
DC DIRECT CURRENT
DEF DEFUEL EXHAUST FLOW
DGG DUGGLE
DEPT DEPARTMENT
DA Ø DIAMETER
DN DIMENSION
DSCH DISCHARGE
DSPP DISSEMINATION
DV DIVISION
DSE DISSOLVED
DWG, DWG # DRAWING, DRAWING NUMBER

(E) EXISTING
EA EACH
EBB EXHAUST BATTERY BUS
EGC ENOUGH
EGL ETHYLENE GLYCOL
ELE ELECTRICAL
ELB ELEVATION
ELL ELLIPTICAL
ENC ENCLOSURE
ENG ENGINE
EOG EDGE OF
ESD, E-STOP EMERGENCY SYSTEM SHUT-DOWN DEVICE
EVE ELECTRICAL VEHICLE
EW EXHAUST

(F) FUTURE
FC FUEL CELL
FDE FIRE DEPARTMENT, FLOOR DRAM
FE FX FIRE EXTINGUISHER
FPL FLAME FACE
FH FIRE HYDRANT
FIG FIGURE
FIC FLEXIBLE (CONNECTOR) HOSE/MATERIAL OR
FIT FIT
FNT FOOT
FV FIELD FIELD
FOM FACE OF MASONRY
FRT FUEL OIL RETURN
FOS FUEL OIL SUPPLY

G
GAL GALLON
GALV GALVANIZED
GH GAS/GASEOUS HYDROGEN
GND GROUND
GR GRADE
GT GAS DETECTOR

H
H HYDROGEN LIQUID, LIQUEFIED
H2 HYDROGEN GAS
HC HAPCAR
HGR HEADER
HX HEAT EXCHANGER
HM HUMAN-MACHINE INTERFACE
HP HIGH PRESSURE
HPRG HIGH PRESSURE/PLUMBING SERVICE
HT HEIGHT
HORR HORIZONTAL

I
ICBO INTERNATIONAL CONFERENCE OF BLDG O
ICBO INTERNATIONAL BUILDING CODE
ID INCH
IFC INTERNATIONAL FIRE CODE
IN INCH
IP INTERNET PROTOCOL
IPMB INTERNATIONAL PLUMBING CODE
IPS INCH PER SECOND
ISO ISOMETRIC (DRAWING)

J
JBOW JOINT BOX

K
KV KILOVOLT AMPS
KW KILOWATT
KW KILOWATT HOUR

L
L LENGTH
LB LPOUND (IF INCLUDED)
LC LOCKED CLOSED
LF LINEAR FEET
LH LONG
LHD LIQUID HYDROGEN
LKG LEAKAGE AT/FACING TOWARDS
LNG LIQUID NITROGEN
LO LOCKED OPEN
LO LOCKER OPEN
LO LOUVER OPEN
LP LINE PIPE LIGHT POLE
LP LONG RADIIUS
LT LIGHTING
LV LOW VOLTAGE

M
M METER, METHANE
MAT. MATERIAL
MAY MAYBE, ALLOWABLE WORKING PRESSURE
MAX MAXIMUM
MB MACHINE TOOL
MC MECHANICAL
MFG MANUFACTURER
MSG MASONRY
MIL MILITARY STANDARD
MIN MINIMUM
MSC MISCELLANEOUS
MGM MANAGEMENT
MNT MOUNTING ASSEMBLY (GAS)
MT MOTOR
MTO MOUNTING
MUA MAKE UP AIR

N
N NEW
N0 NOT APPLICABLE
NC NORMALLY CLOSED
NEC NATIONAL ELECTRICAL CODE
NFA NATIONAL FIRE PROTECTION ASSOCIATION
NG NATURAL GAS
NGV NATURAL GAS VEHICLE
NPS NATIONAL PIPE STANDARD
NPT NATIONAL PIPE THREAD
N/C NOT IN CONTRACT
N/C NOT IN SCOPE
NP NIPPLE
NOR NORMALLY OPEN
NOX NITROGEN DIOXIDE
NPS NOMINAL PIPE SIZE
NPT NOMINAL PIPE THREAD
NTS NOT TO SCALE

O
O OXYGEN
OA OUTSIDE AIR INTAKE
OC ON CENTER
OD OUTSIDE DIAMETER
OH OVERHEAD

P
P PUMP
PB PUSH BUTTON
PBL PLAN BOTH ENDS
PEE PNEUMATIC, PROFESSIONAL ENGINEER
PIF PROCESS FLOW DIAGRAM
PIF PROCESS FLOW
PL PROPERTY LINE
PNC PRESSURE INDICATOR
PLC PROGRAMMABLE LOGIC CONTROLLER
PLCS PLACES
PPC POINT OF CONNECTION
PRESS PRESSURE
PRESS PRESSURE RELIEF VALVE
PSI POUNDS PER SQUARE INCH
PSI POUNDS PER SQUARE INCH
PSV PRESSURE SAFETY (RELIEF) VALVE
PSIG POUNDS-FORCE SQUARE INCH GAGE, GALLONS
PSI POUNDS-FORCE, SQUARE INCH, GRADE
P, VALVES, AND FITTINGS

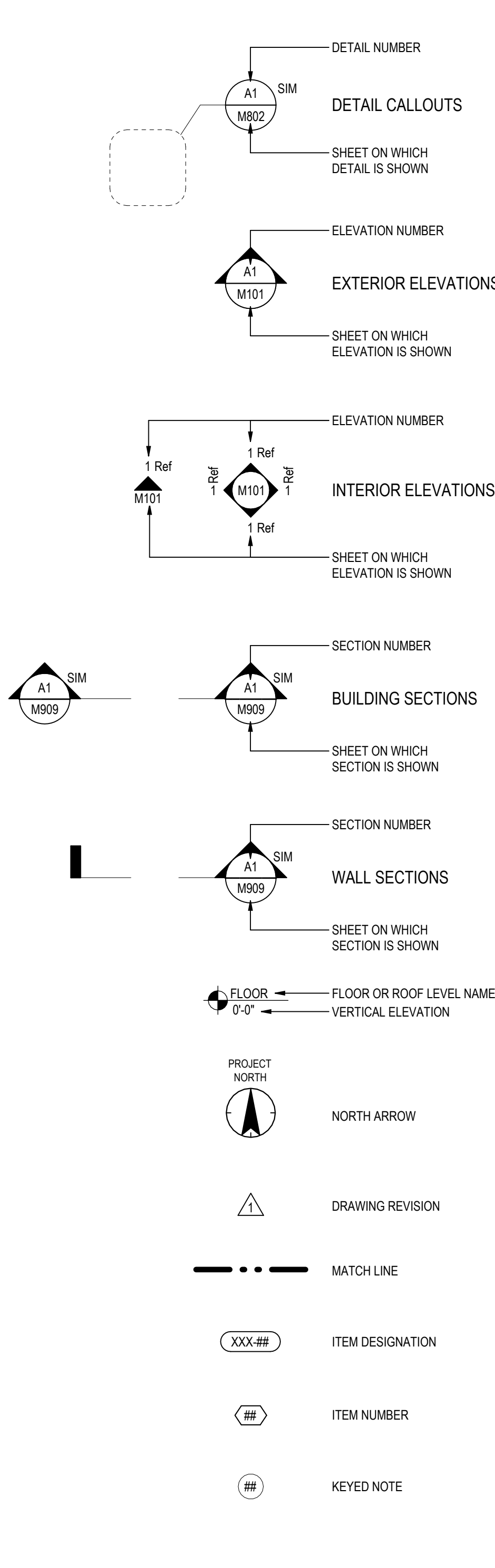
Q
QTY QUANTITY
QUAL. QUALITY, QUALIFICATIONS

R
R RADIUS
RD REDUCER, OR REDUCING
RED RED
RED L REDUCING
REF REFERENCE
REQ REQUIRED
REVS REVISION
RFN RAISED FACE FLANGE
RFN RAISED FACE BUNO FLANGE
RFN/RFN RAISED FACE WELD NECK FLANGE
RFN/RFN REDUCING TEE
RM ROOM
RNT RATED JOINT
RFP REINFORCED CONCRETE PIPE
RFN REINFORCED, REINFORCEMENT

S
S SUPPLY AIR
SCH SCHEDULE
SC SECTION
SW SWIMLAW
SW SWOILED SO
SOFT SOFT SQUARE FOOT OR FEET
SOFT SQUARE FOOT/FEET PER HOUR
SS STAINLESS STEEL
SCF STANDARD CUBIC FEET
SCF STANDARD CUBIC FEET
SO SOIL GAS
SO SEVERED
SO SLOPE (PIPES)
SK/L SKID (PLATE PLATE BETWEEN FLANGES)
SK/L SKID (ON PLATE)
SPEC SPECIFICATIONS
SR SHORT RADIIUS
SRV SHORT RADIIUS ELBOW
SRV SAFETY RELIEF VALVE
SS STAINLESS STEEL
STD STANDARD (PIPE / FITTING SCHEDULE)
STR SUBMERISABLE TURBINE PUMP
STOR STORAGE
STRUCT STRUCTURAL
SUB SHORT LENGTH OF PIPE OR ORF
SUP SUPPLY
SV SOLENOID VALVE
SV SOLENOID VALVE
SW SWITCH
SW SWITCH, SWITCH
SW SWAGE NIPPLE
SW SWAGE WORKING PRESSURE

TAC	THREADED AND COUPLED
TAG	TONGUE AND GROOVE (FLANGE FACING)
TAH	TYPING
TEMP	TEMPERATURE
TH	THICK
THD, THD2	THREAD, THREADED
THRU	THROUGH
TI	TEMPERATURE INDICATOR
TOL	TOLERANCE, TOLERABLE
TOT	TOTAL STATIC PRESSURE
TR	TRIP
TRM	TRIMMER/MEETER WELL
TX, MXTR	TRANSMITTER
U	UNDER
UG	UNDER GROUND
UL	UNLOADED (REGULAR (GASOLINE)
UN	UNION
UNO	UNLESS NOTED OTHERWISE
V	VALVE
VAC	VOLTS ALTERNATING CURRENT, VACUUM
VERT	VERTICAL
VOL	VOLUME
VTA	VENT TO ATMOSPHERE
W	WIDE
W	WIDE, WIDTH
WD	WITHOUT
WE	WELD END
WF	WELD FLANGE
WN	WELD NECK (FLANGE)
WOL	WELDLETT
WP	WORKING PRESSURE
WT	WEIGHT, WALL THICKNESS
X	TRANSFORMER
XNFR	XTRA
XS	XTRA STRONG
XSS	XTRA EXTRA STRONG, DOUBLE EXTRA
YD	YARD

GENERAL SYMBOLS



GENERAL NOTES

1. NOTHING CONTAINED IN THESE DRAWINGS OR IN ANY ACCOMPANYING CONTRACT DOCUMENT SHALL CREATE ANY CONTRACTUAL RELATIONSHIP BETWEEN THE CONTRACTOR AND THE ARCHITECT.
2. THE CONTRACTOR SHALL FURNISH ALL LABOR, MATERIALS, EQUIPMENT ETC. REQUIRED TO COMPLETE THE CONSTRUCTION OR INSTALLATION OF ALL ITEMS REQUIRED TO COMPLETE INSTALLATION, UNLESS SUCH WORK IS DESIGNATED "N/C" (NOT IN CONTRACT).
3. THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE BUILDING CODES AND GOVERNMENTAL REGULATIONS REQUIRED TO IMPLEMENT SUCH INSTALLATION.
4. NO SUBSTITUTIONS WILL BE CONSIDERED PRIOR TO SUBMISSION OF THE BID. UNLESS CORRECTED, ETC. AFFECTING THE CONSTRUCTION, PRELIFE OF ALL SOLID, BEIR, TRASH, ETC. ON A DAILY BASIS.
5. THE CONTRACTOR SHALL TAKE ALL REASONABLE PRECAUTIONS FOR THE SAFETY OF ALL PERSONS EMPLOYED BY THE CONTRACTOR, INCLUDING SUBCONTRACTORS, TO IMPLEMENT THE SCOPE OF THE WORK AND ALL OTHER PERSONS WHO MAY BE AFFECTED THEREBY.
6. ALL EMPLOYEES, USERS AND GUESTS OF THE OWNER WHO MAY BE AFFECTED THEREBY.
7. ALL COMPLETED WORK AND EQUIPMENT TO BE INCORPORATED THEREIN WHICH IS IN THE CARE, CUSTODY, OR CONTROL OF THE CONTRACTOR.
8. ALL EXISTING CONSTRUCTION AND PROPERTY AT THE SITE OR ADJACENT THEREIN, DAMAGE TO SUCH MATERIALS SHALL BE REPAIRABLE TO THE SATISFACTION OF THE RITE OWNER, AT THE CONTRACTOR'S EXPENSE.
9. ALL CONSTRUCTION MATERIALS SHALL BE STORED NEATLY AND PROPERLY WITHIN THE DESIGNATED AREAS AS AUTHORIZED BY THE OWNER.
10. DELIVERY OF MATERIALS AND REMOVAL OF DEBRIS IS TO BE COORDINATED AND SCHEDULED AS AGREED UPON BY THE OWNER.
11. THE DRAWINGS AND SPECIFICATIONS ARE COMPLEMENTARY AND WHAT IS REQUIRED BY THE SPECIFICATIONS SHALL BE DEEMED AS REQUIRED BY THE DRAWINGS.
12. THE CONTRACTOR SHALL VERIFY THE SIZE AND LOCATIONS OF ALL EXISTING OPENINGS RELATED TO THE INSTALLATION OF FINAL WORK. THE CONTRACTOR SHALL VERIFY ALL FIELD CONDITIONS PRIOR TO THE START OF THE WORK.
13. KEYNOTES ARE PER SHEET AND REFER TO THE KEYNOTE LIST ON THE SHEET IN WHICH THE KEYNOTE IS LOCATED.
14. CONTRACTOR'S WORK SHALL PROVIDE A COMPLETE FUNCTIONAL, SAFE AND CODE-COMPLIANT FACILITY UPGRADE PER ALL APPLICABLE JURISDICTIONS AND CODES.
15. THIS SET OF CONSTRUCTION DOCUMENTS INCLUDE THE FLAMMABLE GAS DETECTION SYSTEM, REFERENCE PLUMBING AND ELECTRICAL PLANS FOR ASSOCIATED MINIMAL SYSTEM.
16. THE CONTRACTOR SHALL VERIFY THAT ALL MATERIALS, LABOR, INSTALLATION, FABRICATION, ETC., CONFORM TO ALL CODES AND REGULATIONS OF APPLICABLE GOVERNING AGENCIES AND AHS.
17. THE CONTRACTOR SHALL VERIFY DIMENSIONS AND EXISTING SITE CONDITIONS AND CONDITIONS PRIOR TO WORK BEING PERFORMED. COORDINATE WITH THE OWNER'S APPROVAL PRIOR TO WORK BEING PERFORMED. CONTRACTOR SHALL IMMEDIATELY REPORT ANY DISCREPANCY OR DISCREPANCY TO THE OWNER AND ENGINEER OF ANY DISCREPANCY ON LACK OF CONSTRUCTIBILITY.
18. CONTRACTOR SHALL INSTALL AND COMMISSION ALL EQUIPMENT, COMPONENTS AND MATERIALS IN COMPLIANCE WITH RESPECTIVE MANUFACTURERS' WRITTEN INSTRUCTIONS.
19. IN THE EVENT OF AN INCONSISTENCY BETWEEN DRAWINGS, WRITTEN SPECIFICATIONS, AND/OR REFERENCED STANDARDS, THE MOST STRINGENT ONE SHALL GOVERN.
20. ANY INTERRUPTION OF THE OWNER'S NORMAL ACTIVITIES AT THE PROJECT SITE THAT IS NECESSARY TO PERFORM THE WORK SHALL BE COORDINATED WITH THE OWNER AT LEAST THREE WORK DAYS PRIOR TO THE INTERRUPTION.
21. PROTECT WORK AREAS AS REQUIRED.
22. DISPOSE OF ALL DEMOLISHED AND REMOVED MATERIALS IN A TYPICAL MANNER.
23. DO NOT PROCURE OR INSTALL PRODUCTS, EQUIPMENT, OR MATERIALS PRIOR TO OBTAINING APPROVED SUBMITTALS.
24. MAINTAIN REFINED DRAWINGS AT THE JOB SITE AS NEEDED TO TRACK AND DOCUMENT ALL CHANGES TO THE INSTALLATION VERIFY THE APPROVED DRAWINGS TO THE OWNER. COMPLETE ALL CHANGES TO THE DRAWINGS AND TURNED OVER TO THE OWNER FOR RECORD AS PART OF CLOSEOUT.
25. TURN OVER ALL CLOSE-OUT DOCUMENTATION TO THE OWNER, INCLUDING COMPLETION CERTIFICATE, AS-BUILT DRAWINGS, AND LOGS AND TURNED OVER ALL ELECTROD-PDF VERSION ON LABELED USB FLASH DRIVE AND (d) MATCHING PRINTED-BOUND COPIES.
26. ALL PRODUCTS, MATERIALS, LABOR AND WORKSMANSHIP PROVIDED AS PART OF THE PROJECT SHALL BE GUARANTEED FOR A MINIMUM OF THREE YEARS PARTIAL FOR ALL NEW AND EXISTING HD DETECTORS AND RELATED EQUIPMENT, COMMENCING WITH THE SUBMITTAL AND COMPLETION OF THE PROJECT WORK, AS DETERMINED BY THE OWNER.
27. CONTRACTOR SHALL PROVIDE A 5 YEAR MAINTENANCE AND CALIBRATION SERVICE FOR ALL EXISTING AND NEW HYDROGEN DETECTORS AND EQUIPMENT FROM THE DATE OF PROJECT COMPLETION. COSTS SHALL BE INCLUDED AS PART OF THE SCHEDULE OF VALUES.
28. CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE WASTE MANAGEMENT REQUIREMENTS IN ACCORDANCE WITH APPLICABLE CODES AND REGULATIONS.
29. MANUFACTURER DATA SHEETS AND APPLICABLE LISTINGS FOR ALL GENERAL GAS, HYDROGEN, HYDROGEN (H₂), METHANE (CH₄), AND CARBON MONOXIDE (CO) DETECTORS, TRANSMITTERS, CONTROLLERS, ALARMS, AND POWER SUPPLIES (AS SCHEDULED ON SET-D 801), ARE PROVIDED AS PART OF THIS PERMIT

DETECTION SYSTEM SCOPE OF WORK

1. REMOVE OF EXISTING GAS-DETECTION SYSTEM.
2. DO NOT DISMANTLE, DECOMMISSION OR REMOVE EXISTING GAS DETECTION SYSTEM UNTIL THE REPLACEMENT SYSTEM HAS BEEN COMMISSIONED AND THE EXISTING SYSTEM IS APPROVED BY THE OWNER.
3. UPON WRITTEN OWNER APPROVAL, REMOVE EXISTING GAS DETECTION SYSTEM, INCLUDING GAS DETECTORS, CONTROL PANEL, DC POWER SUPPLY, ANNUNCIATORS AND WIRES AS INDICATED ON DRAWINGS.
4. CONSULTS BETWEEN THE CONTROL-MONITORING PANEL AND ANNUNCIATORS MAY BE REQUIRED TO BE APPROVED BY THE OWNER.
5. UPGRADES AT THE MAINTENANCE GARAGE INCLUDE PROVISION AND INSTALLATION OF THE FOLLOWING EQUIPMENT:
 - A. INFRARED DETECTORS TO DETECT METHANE (CH₄) MOUNTED WITHIN 12" OF THE CEILING CONTROLS, AS INDICATED ON PANELS.
 - B. CATALYTIC BEAD-DETECTORS TO DETECT HYDROGEN (H₂) MOUNTED WITHIN 12" OF THE CEILING CONTROLS, AS INDICATED ON PANELS.
 - C. ELECTROCHEMICAL DETECTORS TO DETECT CARBON MONOXIDE (CO), WALL-MOUNTED AT 5'-0" AFF, AS INDICATED ON PANELS.
 - D. DUAL-INP/UT TRANSMITTERS, WITH EACH CONNECTED TO A METHANE DETECTOR AND A HYDROGEN DETECTOR MOUNTED UNDER CEILING, AS INDICATED ON PANELS.
 - E. SINGLE INP/UT TRANSMITTER WALL-MOUNTED AND CONNECTED TO A CARBON MONOXIDE DETECTOR AT 5'-0" AFF, AS INDICATED ON PANELS.
6. F. HM CONTROL PANEL (MAIN CONTROLLER) FOR DETECTION SYSTEM, AT LOCATION INDICATED ON PANELS.
7. G. AUDIBLE AND VISIBLE INDOOR ANNUNCIATORS, WALL MOUNTED AT LOCATIONS INDICATED ON PANELS.
8. AUDIBLE AND VISIBLE OUTDOOR ANNUNCIATORS, WALL MOUNTED AT LOCATIONS INDICATED ON PANELS.
9. I. REMOTE DISPLAY PANEL WALL MOUNTED AT 5'-0" AFF.
10. J. WIRE COMMUNICATION CIRCUIT FROM GAS DETECTION HM CONTROLLER TO MAIN CONTROL ROOM (LOCATED MORE THAN 100' AWAY) PER ASSESSMENT DRAWINGS. PROVIDE DETECTOR UNIQUE ID LABELS AT CABINET END OF EACH CABLE.
11. K. CALIBRATE AND TEST ALL DETECTORS USING TEST-GAS GAS AS PRESCRIBED BY THE GAS DETECTOR MANUFACTURER. DOCUMENT TEST RESULTS AND VERIFY COMPLIANCE WITH THE MANUFACTURER'S REQUIREMENTS.
12. PROVIDE A LAMINATED SITE MAP OF THE DETECTORS BY DETECTOR-ADDRESS # BASED ON A BUILDING PLAN DIAGRAM AND ATTACHED TO THE MAIN CONTROL PANEL WITH ACCESS TO THE MAIN CONTROL PANEL.
13. G. SET UP REMOTE MONITORING OF THE SYSTEM VIA INTERNET (LAN / WAN IP ACCESS, AND TRAIN SUPERVISORY STAFF AS REQUIRED).
7. LOCATION OF DETECTION SYSTEM DEVICES SHOULD ON PANELS BE APPROXIMATE. INSTALL DEVICES IN BEST PRACTICE LOCATION PER FIELD CONDITIONS. CONSULT CONTRACTOR FOR LOCATION OF EACH DETECTOR.
8. PROVIDE TRAINING AND FAMILIARIZATION FOR READING OPERATION AND TROUBLESHOOTING OF ALL EQUIPMENT. CONTROLLERS, DISPLAY PANELS, DETECTORS, VISUAL ANNUNCIATORS, AND AUDIBLE ANNUNCIATORS INCLUDES MP4 VIDEO RECORDINGS OF THE TRAINING SESSION AND PROVISION OF THE MP4 TO THE OWNER ON A USB FLASH DRIVE WITH LABEL.
9. IN CASE EXISTING CONTROLS FOR NEW DETECTORS ARE USED AND DETECTORS ARE NOT IN THE SAME FAN AREA AS THE EXISTING DETECTORS, THE THREE SEED DETECTORS TO EACH-ONE SHALL BE REPLACED WITHIN 24 HOURS.
10. SEE SHEETS DD-01 AND DD-02 FOR ADDITIONAL DEMOLITION REQUIREMENTS.
11. SEAL ALL 2-INCH PENTHERS FOR POWER AND DATA CONDUIT WITH CODE APPROVED 2-HR FIRE RATED CAULKING. CAULKING SHALL BE LISTED THROUGHOUT THE PROJECT.

FUEL SHEET LIST	
NO.	SHEET NAME
D-001	GAS DETECTION SYSTEM GENERAL NOTES
D-100	FUEL SITE PLAN
D-101	MAINTENANCE BLDG DETECTION DEMO PLAN WEST CO & CH4
D-102	MAINTENANCE BLDG DETECTION DEMO PLAN EAST CO & CH4
D-103	MAINTENANCE BLDG DETECTION FLOOR PLAN WEST CO
D-102	MAINTENANCE BLDG DETECTION FLOOR PLAN EAST CO
D-110	FUELING AREA DETECTION FLOOR PLAN H2 & CH4
D-111	MAINTENANCE BLDG REFLECTED CEILING PLAN WEST-H2 & CH4
D-112	MAINTENANCE BLDG REFLECTED CEILING PLAN EAST-H2 & CH4
D-201	WANT. BLDG. ELEVATIONS & DETAILS - H2, CH4 AND CO
D-202	MAINT. BLDG. ELEVATIONS & DETAILS - H2, CH4 AND CO
D-301	DETECTION EQUIPMENT SCHEDULE - H2, CH4 AND CO
D-602	SEQUENCE OF OPERATION - H2, CH4 AND CO
D-612	WANT. BLDG. LOW-VOLTAGE BLOCK WIRING DIAGRAM - H2, CH4 AND CO
D-612	FUELING BUILDING LOW-VOLTAGE BLOCK WIRING DIAGRAM - H2 & CH4

FOR FIRE DEPARTMENT USE ONLY

Victor Valley Transit
Authority

GAS DETECTION SYSTEM GENERAL NOTES

Scale:
Revision: **0**
Drawing No.

D-001

[illegible]

Permit/Sea



Victor Valley Transit
Authority

VVT Building
Modifications

17150 Smoke Tree St
Hesperia, CA 92345

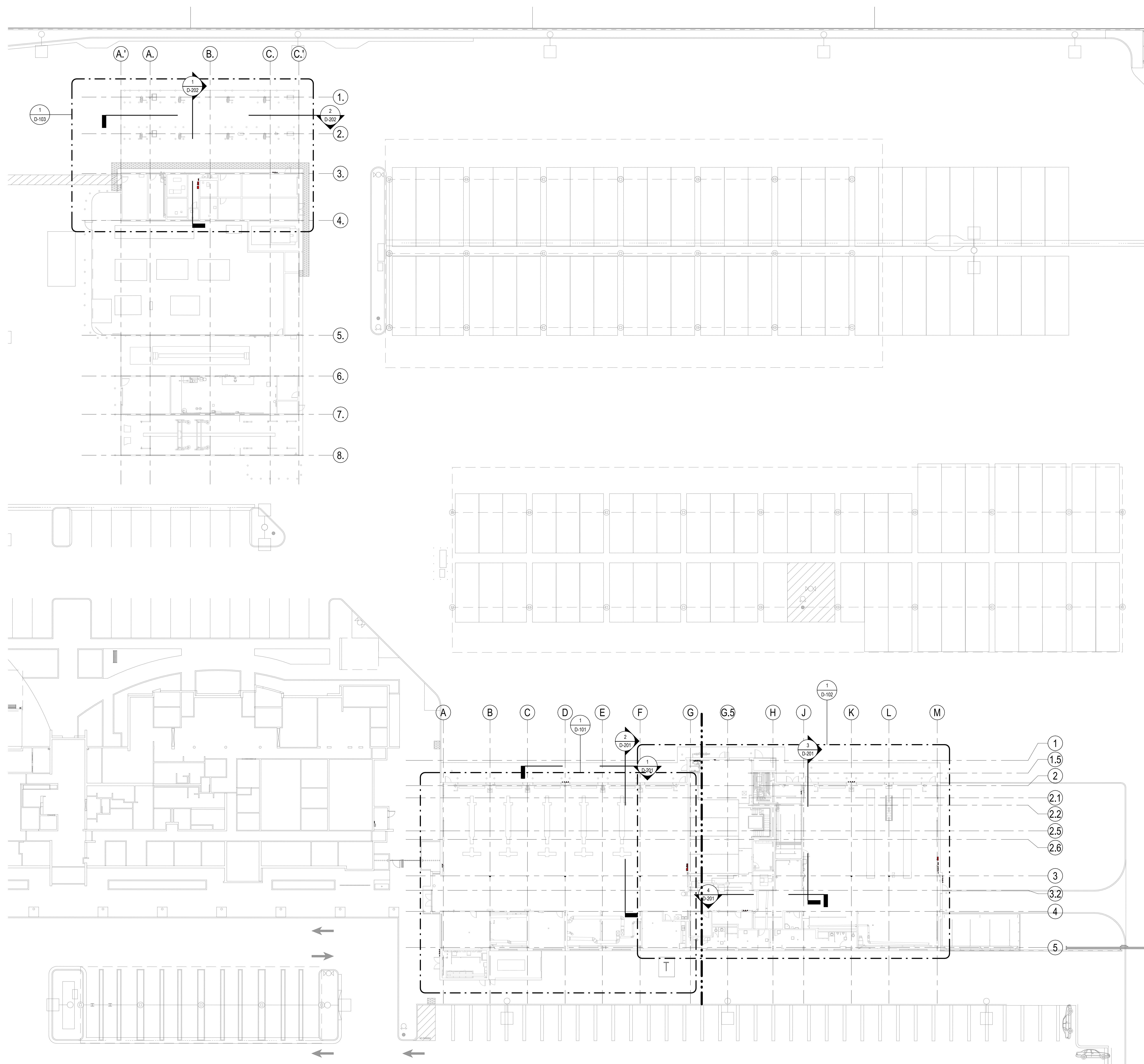
Project No.:2045335200
Title
FUEL SITE PLAN

Scale: 1" = 20'-0"

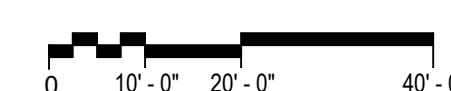
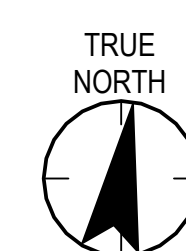
Revision: 0

Drawing No. **D-100**

D-100



1 FUEL SITE PLAN
D-100 1" = 20'-0"

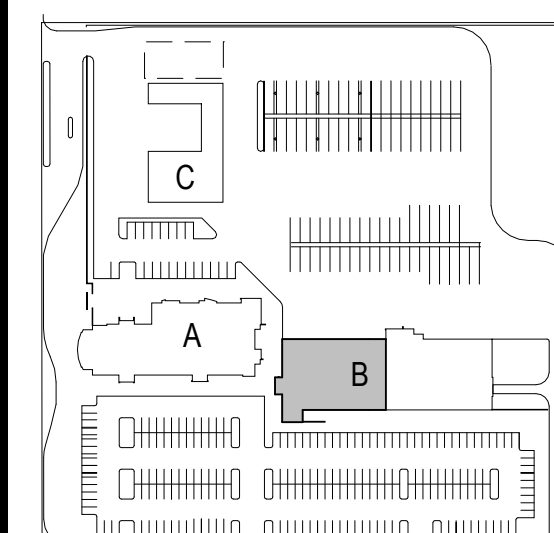


[illegible]

Permit/Sea



5/18/20



Victor Valley Transit Authority

WVTA Building
Modifications17150 Smoke Tree St
Hesperia, CA 92345

Project No.:2045335200

Title

MAINTENANCE BLDG
DETECTION-DEMO
PLAN WEST-CO & CH4

Scale: As indicated

Revision: 0

Drawing No.

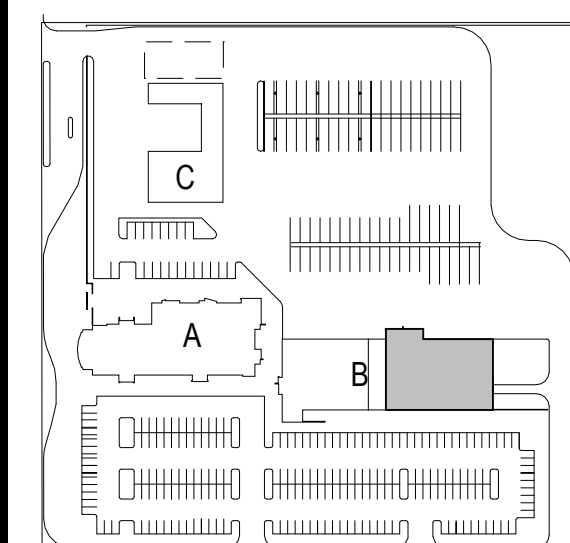
DD-101

[illegible]

Permit/Seq



KEY PLAN



Victor Valley Transit Authority

VTA Building
Modifications17150 Smoke Tree St
Hesperia, CA 92345

FOR FIRE DEPARTMENT USE ONLY

Project No.:2045335200

MAINTENANCE BLDG
DETECTION-DEMO
PLAN EAST-CO & CH4

Scale: As indicated
Revision: 0

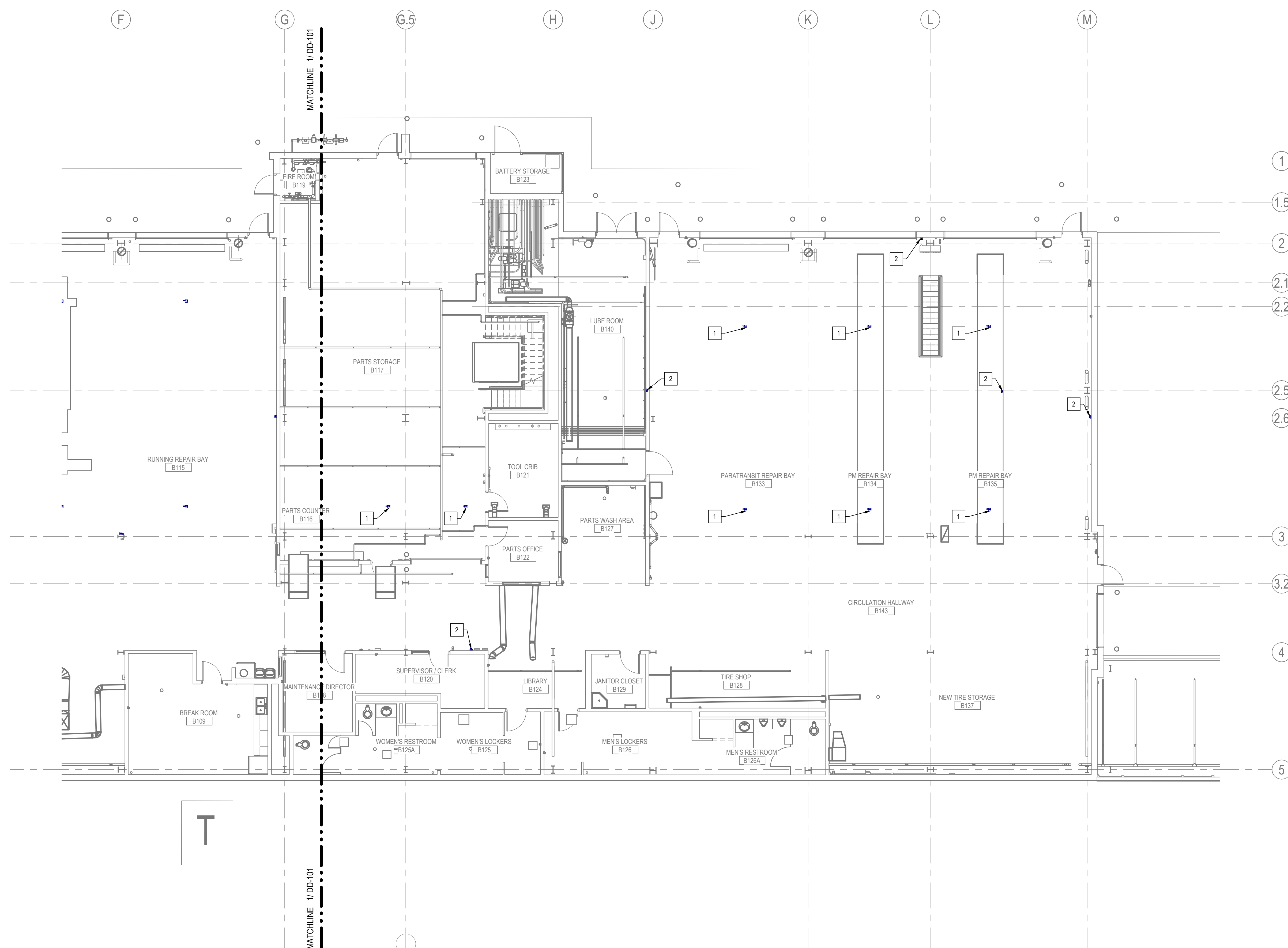
DD-102

GENERAL DEMOLITION NOTES:

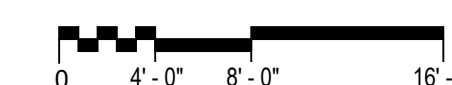
1. EXISTING DETECTION SYSTEM SHALL REMAIN FUNCTIONAL DURING CONSTRUCTION AND UNTIL NEW SYSTEM IS OPERATIONAL, COMMISSIONED, AND HAS BEEN APPROVED.
2. REMOVE ALL EXISTING DETECTORS AND RELATED WIRING AND CONDUITS WHEN NEW SYSTEM IS OPERATIONAL, COMMISSIONED, AND HAS BEEN APPROVED. ONLY FOR CARBON MONOXIDE (CO) SENSORS AND EXHAUST FANS. REMOVE EXISTING DETECTORS AND WIRING IF IN GOOD CONDITION. IDENTIFY CORRECT LOCATIONS OF NEW DETECTORS. IN CASE OF USING EXISTING CONDUITS, EXHAUST FANS IN THE ZONE SHALL BE RUNNING AT HIGH SPEED IF SENSORS ARE NOT ACTIVE. SENSORS AT EACH ZONE SHALL BE REPLACED AS QUICKLY AS POSSIBLE AND WITHIN 24 HOURS.
3. REMOVE EXISTING CONTROL PANEL, DETECTORS, AND ANNUNCIATORS. DE-ENERGIZE AND SAFELY REMOVE ALL EXISTING CONDUITS, WIRING, HANGERS, SUPPORTS, ETC., AND SEAL ALL OPENINGS.
4. EXISTING EQUIPMENT LOCATIONS ARE SHOWN FOR REFERENCE. CONTRACTOR SHALL IDENTIFY LOCATION AND COORDINATE BEFORE DETECTION.

KEYED NOTES

1. EXISTING GAS DETECTORS AND ASSOCIATED COMPONENTS TO BE DEMOLISHED.
2. EXISTING GAS DETECTION ALARMING DEVICES TO BE DEMOLISHED.



1 MAINTENANCE BLDG DETECTION-DEMO PLAN EAST
DD-102 1/8" = 1'-0"

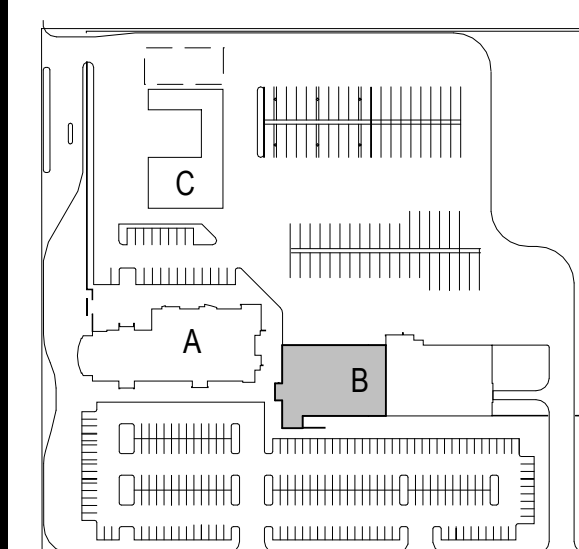


SHEET NOTES

1. NOT ALL LISTED ITEMS ARE TO BE SHOWN ON THIS SHEET.
2. THIS EQUIPMENT SCHEDULE IS A SUMMARY. SEE COMPLETE SCHEDULE ON SHEET #01.
3. EXISTING EQUIPMENT IS SHOWN FOR REFERENCE ONLY. CONTRACTOR TO FIELD VERIFY ALL INDICATED EQUIPMENT LOCATIONS AND ADJUST AS NEEDED BASED ON FIELD CONDITIONS. NONEXISTENT EQUIPMENT SHALL NOT INTERFERE WITH EXISTING BUILDING EQUIPMENT.
4. PROVIDE COMMUNICATION AND 1 VDC POWER WIRING TO INTERFACE WITH VIDEO AND AUDIOABLE AUDIBLE VISUAL ANNOTATORS (AS PROTECTION CONTROL PANEL AS NEEDED) TO OPERATE PER SEQUENCE OF OPERATIONS AS SHOWN ON SHEET D-602.
5. CONTRACTOR TO PROVIDE REPEATER, SERIES 3100 ISO RS-485 REPEATER (UL94V-0), UL94V-0 SERIES 3100 ISO RS-485 REPEATER (UL94V-0) CONTROLLER, FOR EVERY 1000 FEET UP/DOWN CABLE HIGH OR 32 NETWORK LINES. VERIFY THE NUMBER OF REPEATERS AS REQUIRED AND WHETHER MULTIPLE REPEATERS ARE REQUIRED.
6. ALL WIRING SHALL BE ROUTED WITHIN CONDUIT. SURFACE MOUNTING AND SUPPORT CONDUIT ALONG WALL, CEILING, OR FLOOR FRAMING AS REQUIRED BASED ON ORIGIN AND DESTINATION. CONDUIT SHALL BE IMC OR BETTER.
7. PROVIDE MODBUS WIRING FROM CONTROL PANEL TO ALL TRANSMITTERS IN ACCORDANCE WITH MANUFACTURER REQUIREMENTS.
8. INSTALL NOISY AUDIBLE AND VISUAL ANNOTATORS AT 11'-14" AFF. TYPICAL, UNLESS NOTE OTHERWISE.
9. INSTALL OUTDOOR AUDIBLE AND VISUAL ANNOTATORS AT 11'-14" AFF. TYPICAL, UNLESS NOTE OTHERWISE.

KEYED NOTES

1. PROVIDE TYING TUBING BETWEEN EACH GAS DETECTOR AND TEST STATION. INSTALL TEST STATIONS AT 2'-0" AFF. SECURELY CAP END OF TUBING. PROVIDE TUBING TO EACH DETECTOR. PROVIDE TUBING TO TEST CHIMNEYS AT TEST STATION. PROVIDE TEST TUBING FOR HYDROGEN.
2. PROVIDE METAL BAY AT DESIGNATED LOCATION. THE REMOTE DISPLAY PANEL, SHALL BE CAPABLE OF ILLUSTRATING DETECTION SYSTEM GRAPHICALLY AND SHOW EACH SENSE INDEPENDENT FROM OTHER DETECTORS. EACH DETECTOR SHALL BE IDENTIFIED BY NAME AND PER FLOR PLANT OR REFLECTED CELL NUMBER AND BE INSTALLED ON SEQUENCE OF OPERATION ON SHEET D-601.
3. TRANSMITTER, DETECTORS, AND VISUAL ALARM AS SHOWN ON ELECTRICAL SCHEDULE FOR VARIOUS PURPOSES. INSTALL EACH DETECTOR WITHIN 12'-0" OF CEILING. INSTALL GAS DETECTORS 8'-0" AFF.
4. PROVIDE 240VAC POWER SUPPLY WITH BATTERY BACKUP. PROVIDE 120VAC POWER TO THE POWER SUPPLY PER ELECTRICAL DRAWINGS.
5. (E) MOTORIZED ROLLER DOOR CONTROLLED BY EXISTING GAS DETECTION CONTROLLER. MOTORIZED ROLLER DOOR SHALL BE CAPABLE TO OPERATE MANUALLY OR AUTOMATICALLY. ROLLER DOOR BASED ON INPUT FROM EXISTING OR NEW GAS DETECTION CONTROLLER AS INDICATED ON EXISTING WIRING DIAGRAM ON SHEET D-601. CONTROLLER TO VERIFY DOOR POSITION.

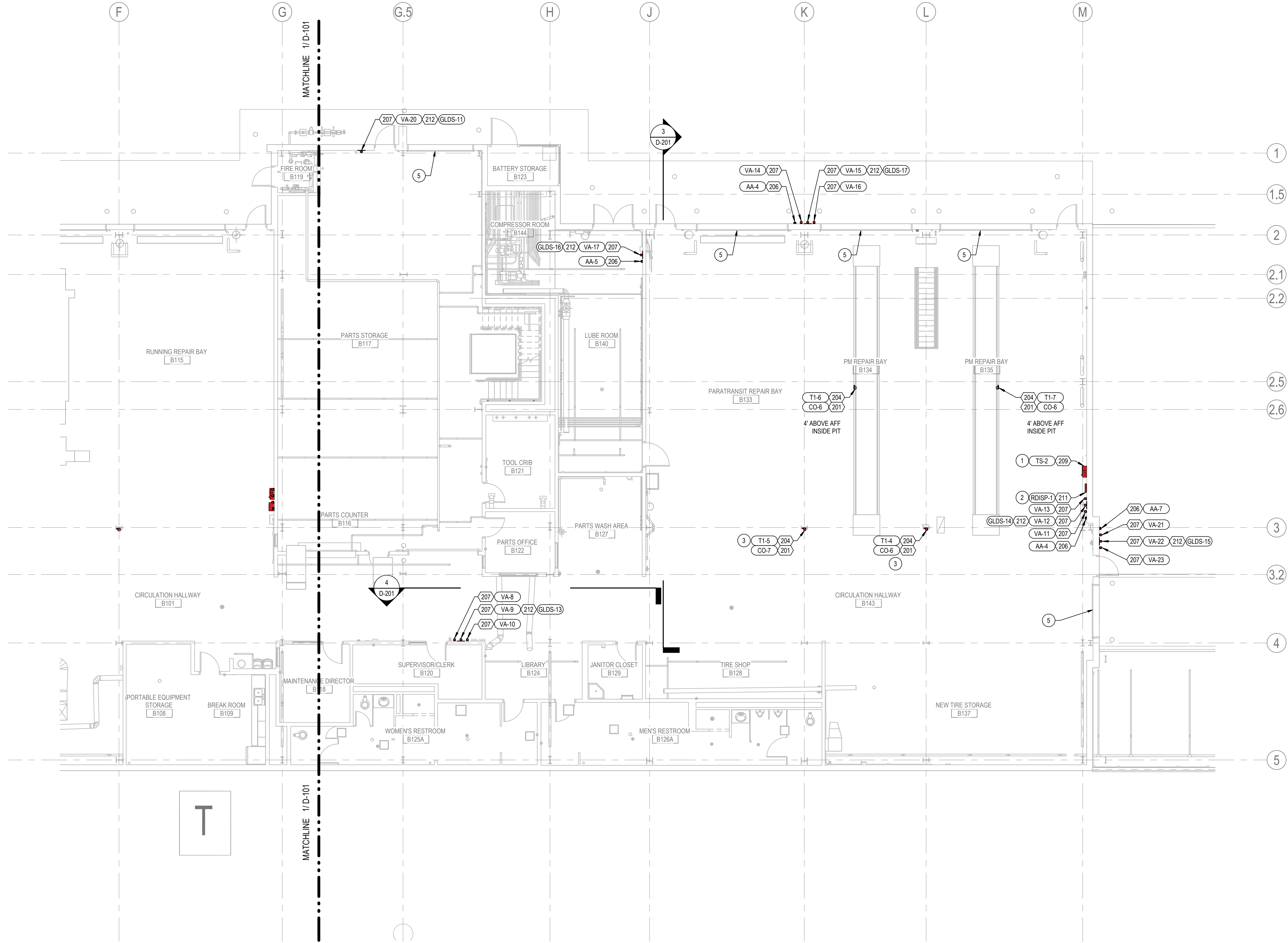


Victor Valley Transit
Authority
VTA Building
Modifications
17150 Smoke Tree St
Hesperia, CA 92345

Project No.:2045335200
Title
MAINTENANCE BLDG
DETECTION-FLOOR
PLAN WEST-CO

Scale: As indicated
Revision: 0
Drawing No. **D 101**

D-101



SUMMARY EQUIPMENT SCHEDULE		
ITEM	DESCRIPTION	TOTAL QTY
201	GAS DETECTOR, CARBON MONOXIDE (CO)	7
202	GAS DETECTOR, HYDROGEN (H2)	31
203	GAS DETECTOR, METHANE (CH4)	31
204	DIGITAL GAS TRANSMITTER, SINGLE DETECTOR	7
205	DIGITAL GAS TRANSMITTER, DUAL DETECTOR	31
206	AUDIBLE ALARM	9
207	VISUAL ALARM	26
208	MASTER CONTROLLER W/ HMI	2
209	TEST STATION CABINET	3
210	POWER SUPPLY AND BATTERY BACKUP	2
211	REMOTE DISPLAY PANEL	1
212	GAS LEAK DETECTION SIGN	11

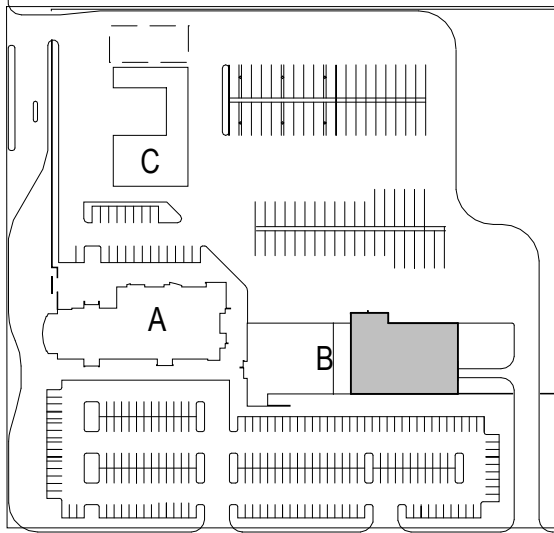
SHEET NOTES

- NOT ALL LISTED ITEMS MAY BE SHOWN ON THIS SHEET.
- THIS EQUIPMENT SCHEDULE IS A SUMMARY. SEE COMPLETE SCHEDULE ON SHEET D-401.
- EXISTING EQUIPMENT IS SHOWN FOR REFERENCE ONLY. CONTRACTOR TO FIELD VERIFY ALL INDICATED EQUIPMENT LOCATIONS AND ADJUST AS NEEDED BASED ON FIELD CONDITIONS. NEW EQUIPMENT SHALL NOT INTERFERE WITH EXISTING BUILDING EQUIPMENT.
- PROVIDE COMMUNICATION AND 24 VDC POWER WIRING TO INTERFACE ALL VISUAL AND AUDIBLE ALARMING DEVICES WITH THE GAS DETECTION CONTROL PANEL, AS NEEDED TO OPERATE PER SEQUENCE OF OPERATIONS AS SHOWN ON SHEET D-402.
- CONTRACTOR TO PROVIDE REPEATER, SEC 3100 ISO RS-485 REPEATER MODULE, BETWEEN SEC 3100 TRANSMITTERS AND SEC 3000 CONTROLLER, FOR EVERY 1000 FEET OF DATA HIGH GAGE OR 32 NETWORK DEVICES. VERIFY EXACT LOCATION OF REPEATERS AS NEEDED AND WHETHER MULTIPLE REPEATERS ARE NEEDED.
- ALL WIRING SHALL BE ROUTED WITHIN CONDUIT, SURFACE MOUNT AND SUPPORT CONDUIT ALONG WALL, CEILING, OR CEILING FRAMING AS REQUIRED BETWEEN ORIGIN AND DESTINATION. CONDUIT SHALL BE IMC OR BETTER.
- PROVIDE MODBUS WIRING FROM CONTROL PANEL TO ALL TRANSMITTERS IN ACCORDANCE WITH MANUFACTURER REQUIREMENTS.
- INSTALL INDOOR AUDIBLE AND VISUAL ANNUNCIATORS AT 11'-14" AFF. TYPICAL UNLESS NOTED OTHERWISE.
- INSTALL OUTDOOR AUDIBLE AND VISUAL ANNUNCIATORS AT 11'-14" AFF. TYPICAL UNLESS NOTED OTHERWISE.

KEYED NOTES

- PROVIDE TYGON TUBING BETWEEN EACH GAS DETECTOR AND TEST STATION. INSTALL TEST STATIONS AT 5'-0" AFF. SECURELY CAP END OF TUBING PROPERLY. TERMINATE TUBING WITH PORTS FOR CONNECTION TO TEST CYLINDERS AT TEST STATION. PROVIDE TEST CYLINDERS FOR HYDROGEN.
- PROVIDE REMOTE HMI AT DESIGNATED LOCATION. THE REMOTE DISPLAY PANEL SHALL BE CAPABLE OF ILLUSTRATING DETECTION SYSTEM GRAPHICALLY AND SHOW EACH SCREEN INDEPENDENT FROM OTHER SCREENS. EACH DETECTOR SHALL BE SHOWN WITH ITS UNIQUE ID (H2, CH4) PER FLOOR PLAN OR REFLECTED CEILING PLAN AND AS INDICATED ON SEQUENCE OF OPERATION ON SHEET D-401.
- TRANSMITTER, DETECTORS, AND VISUAL ALARM ARE SHOWN DIAGMATICALLY FOR VISUALIZATION PURPOSES. INSTALL H2 AND CH4 DETECTORS WITHIN 12' OF CEILING. INSTALL CO GAS DETECTORS 5'-0" AFF.
- PROVIDE 24VDC POWER SUPPLY WITH BATTERY BACKUP. PROVIDE 120VAC POWER TO THE POWER SUPPLY PER ELECTRICAL DRAWINGS.
- (E) MOTORIZED ROLL-UP DOOR CONTROLLED BY EXISTING GAS DETECTION CONTROLLER. MOTORIZED ROLL-UP DOOR SHALL BE CONFIGURED TO OPERATE PER SEQUENCE OF OPERATION ON SHEET D-402 BASED ON INPUT FROM EITHER EXISTING OR NEW GAS DETECTION CONTROLLER AS INDICATED ON BLOCK WIRING DIAGRAM ON SHEET D-401. CONTRACTOR TO VERIFY LOCATIONS AND QUANTITIES.

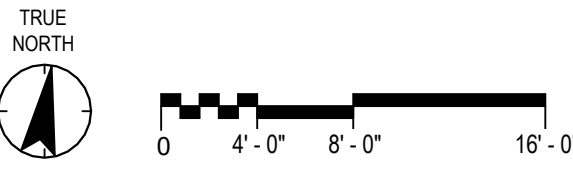
KEY PLAN



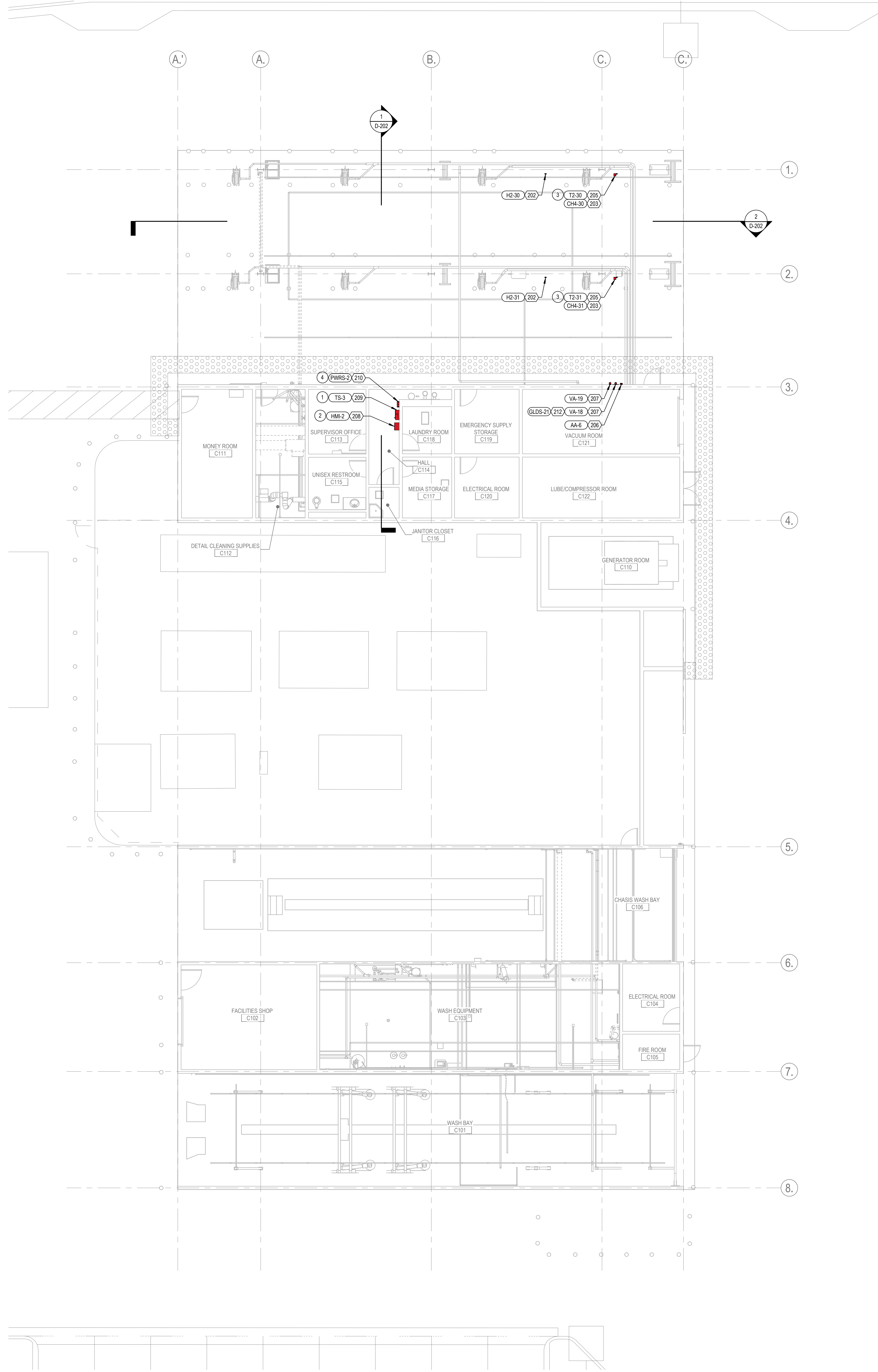
Victor Valley Transit
Authority
VVA Building
Modifications
17150 Smoke Tree St
Heppner, CA 92345

Project No.: 2045335200
Title
MAINTENANCE BLDG
DETECTION-FLOOR
PLAN EAST-CO
Scale: As indicated
Revision: 0
Drawing No. D-102

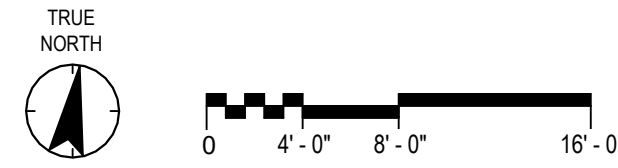
1 D-102 MAINTENANCE BLDG DETECTION-FLOOR PLAN EAST
1/8" = 1'-0"



Client		Permit/Seal	
Project No.	2045335200	Professional Seal	
Project Name	MAINTENANCE BLDG DETECTION-FLOOR PLAN EAST-CO	Professional Stamp	
Project Location	17150 Smoke Tree St, Heppner, CA 92345	Professional Stamp	
Project Date	05/18/2024	Professional Stamp	
Project Status	Issued/Revision	Professional Stamp	



1
D-103 FUELING-AREA DETECTION FLOOR PLAN
1/8" = 1'-0"



SUMMARY EQUIPMENT SCHEDULE		
ITEM	DESCRIPTION	TOTAL QTY
201	GAS DETECTOR, CARBON MONOXIDE (CO)	7
202	GAS DETECTOR, HYDROGEN (H2)	31
203	GAS DETECTOR, METHANE (CH4)	31
204	DIGITAL GAS TRANSMITTER, SINGLE DETECTOR	7
205	DIGITAL GAS TRANSMITTER, DUAL DETECTOR	31
206	AUDIBLE ALARM	9
207	VISUAL ALARM	26
208	MASTER CONTROLLER W/ HMI	2
209	TEST STATION CABINET	3
210	POWER SUPPLY AND BATTERY BACKUP	2
211	REMOTE DISPLAY PANEL	1
212	GAS LEAK DETECTION SIGN	11

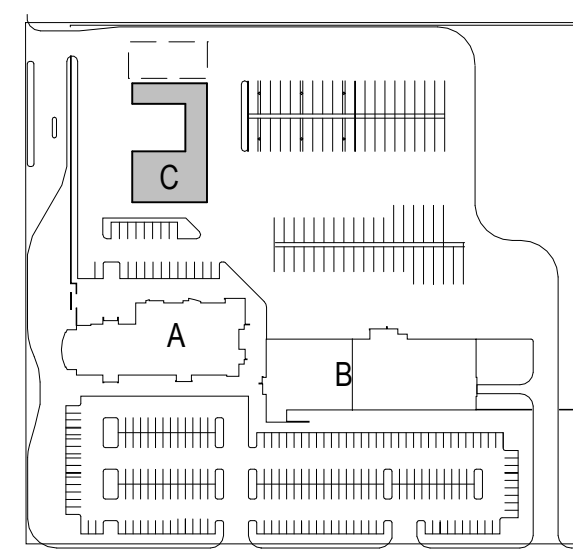
SHEET NOTES

- NOT ALL LISTED ITEMS MAY BE SHOWN ON THIS SHEET.
- THIS EQUIPMENT SCHEDULE IS A SUMMARY. SEE COMPLETE SCHEDULE ON SHEET D-601.
- EXISTING EQUIPMENT IS SHOWN FOR REFERENCE ONLY. CONTRACTOR TO FIELD VERIFY ALL INDICATED EQUIPMENT LOCATIONS AND ADJUST AS NEEDED BASED ON FIELD CONDITIONS. NEW EQUIPMENT SHALL NOT INTERFERE WITH EXISTING BUILDING EQUIPMENT.
- PROVIDE COMMUNICATION AND 24 VDC POWER WIRING TO INTERFACE ALL VISUAL AND AUDIBLE ALARMING DEVICES WITH THE GAS DETECTION CONTROL PANEL AS NEEDED TO OPERATE PER SEQUENCE OF OPERATIONS AS SHOWN ON SHEET D-402.
- CONTRACTOR TO PROVIDE REPEATER, SEC 3100 ISO RS-485 REPEATER MODULE, BETWEEN SEC 3100 TRANSMITTERS AND SEC 3000 CONTROLLER, FOR EVERY 1000 FEET OF DATA HIGH CABLE OR 32 NETWORK DEVICES. VERIFY EXACT LOCATION OF REPEATER AS NEEDED AND WHETHER MULTIPLE REPEATERS ARE NEEDED.
- ALL WIRING SHALL BE ROUTED WITHIN CONDUIT, SURFACE MOUNT AND SUPPORT CONDUIT ALONG WALL, CEILING, OR CEILING FRAMING AS REQUIRED BETWEEN ORIGIN AND DESTINATION. CONDUIT SHALL BE IMC OR BETTER.
- PROVIDE MOBUS WIRING FROM CONTROL PANEL TO ALL TRANSMITTERS IN ACCORDANCE WITH MANUFACTURER REQUIREMENTS.
- INSTALL INDOOR AUDIBLE AND VISUAL ANNUNCIATORS AT 11'-14" AFF. TYPICAL, UNLESS NOTED OTHERWISE.
- INSTALL OUTDOOR AUDIBLE AND VISUAL ANNUNCIATORS AT 11'-14" AFF. TYPICAL, UNLESS NOTED OTHERWISE.

KEYED NOTES

- PROVIDE TYSON TUBING BETWEEN EACH GAS DETECTOR AND TEST STATION. INSTALL TEST STATIONS AT 8'-2" AFF. SECURELY CAP END OF TUBING PROPERLY. TERMINATE TUBING WITH PORTS FOR CONNECTION TO TEST CYLINDERS AT TEST STATION. PROVIDE TEST CYLINDERS FOR HYDROGEN.
- PROVIDE REMOTE HMI AT DESIGNATED LOCATION. THE REMOTE DISPLAY PANEL SHALL BE CAPABLE OF ILLUSTRATING DETECTION SYSTEM GRAPHICALLY AND SHOW EACH SCREEN INDEPENDENT FROM OTHER SCREENS. EACH DETECTOR SHALL BE SHOWN WITH ITS UNIQUE ID (H2-#) PER FLOOR PLAN OR REFLECTED CEILING PLAN AND AS INDICATED ON SEQUENCE OF OPERATION ON SHEET D-601.
- TRANSMITTER, DETECTORS, AND VISUAL ALARM ARE SHOWN DIAGRAMMATICALLY FOR VISUALIZATION PURPOSES. INSTALL H2 AND CH4 DETECTORS WITHIN 12" OF CEILING. INSTALL CO GAS DETECTORS 5'-0" AFF.
- PROVIDE 24VDC POWER SUPPLY WITH BATTERY BACKUP. PROVIDE 120VAC POWER TO THE POWER SUPPLY PER ELECTRICAL DRAWINGS.
- (E) MOTORIZED ROLL-UP DOOR CONTROLLED BY EXISTING GAS DETECTION CONTROLLER. MOTORIZED ROLL-UP DOOR SHALL BE CONFIGURED TO OPERATE PER SEQUENCE OF OPERATION ON SHEET D-402 BASED ON INPUT FROM EITHER EXISTING OR NEW GAS DETECTION CONTROLLER AS INDICATED ON BLOCK WIRING DIAGRAM ON SHEET D-601. CONTRACTOR TO VERIFY LOCATIONS AND QUANTITIES.

KEY PLAN



Victor Valley Transit
Authority
VVA Building
Modifications
17150 Smoke Tree St
Healdsburg, CA 92345

Project No.: 2045335200
Title
FUELING-AREA
DETECTION FLOOR
PLAN-H2 & CH4

Scale: As indicated
Revision: 0
Drawing No. **D-103**

Permit/Seal



Client

Victor Valley Transit
Authority
VVA Building
Modifications
17150 Smoke Tree St
Healdsburg, CA 92345

Project No.: 2045335200
Title
FUELING-AREA
DETECTION FLOOR
PLAN-H2 & CH4

Scale: As indicated
Revision: 0
Drawing No. **D-103**

Project No.: 2045335200
Title
FUELING-AREA
DETECTION FLOOR
PLAN-H2 & CH4

Scale: As indicated
Revision: 0
Drawing No. **D-103**

Project No.: 2045335200
Title
FUELING-AREA
DETECTION FLOOR
PLAN-H2 & CH4

Scale: As indicated
Revision: 0
Drawing No. **D-103**

Project No.: 2045335200
Title
FUELING-AREA
DETECTION FLOOR
PLAN-H2 & CH4

Scale: As indicated
Revision: 0
Drawing No. **D-103**

Project No.: 2045335200
Title
FUELING-AREA
DETECTION FLOOR
PLAN-H2 & CH4

Scale: As indicated
Revision: 0
Drawing No. **D-103**

Project No.: 2045335200
Title
FUELING-AREA
DETECTION FLOOR
PLAN-H2 & CH4

Scale: As indicated
Revision: 0
Drawing No. **D-103**

Project No.: 2045335200
Title
FUELING-AREA
DETECTION FLOOR
PLAN-H2 & CH4

Scale: As indicated
Revision: 0
Drawing No. **D-103**

Project No.: 2045335200
Title
FUELING-AREA
DETECTION FLOOR
PLAN-H2 & CH4

Scale: As indicated
Revision: 0
Drawing No. **D-103**

Project No.: 2045335200
Title
FUELING-AREA
DETECTION FLOOR
PLAN-H2 & CH4

Scale: As indicated
Revision: 0
Drawing No. **D-103**

Project No.: 2045335200
Title
FUELING-AREA
DETECTION FLOOR
PLAN-H2 & CH4

Scale: As indicated
Revision: 0
Drawing No. **D-103**

Project No.: 2045335200
Title
FUELING-AREA
DETECTION FLOOR
PLAN-H2 & CH4

Scale: As indicated
Revision: 0
Drawing No. **D-103**

Project No.: 2045335200
Title
FUELING-AREA
DETECTION FLOOR
PLAN-H2 & CH4

Scale: As indicated
Revision: 0
Drawing No. **D-103**

Project No.: 2045335200
Title
FUELING-AREA
DETECTION FLOOR
PLAN-H2 & CH4

Scale: As indicated
Revision: 0
Drawing No. **D-103**

Project No.: 2045335200
Title
FUELING-AREA
DETECTION FLOOR
PLAN-H2 & CH4

Scale: As indicated
Revision: 0
Drawing No. **D-103**

Project No.: 2045335200
Title
FUELING-AREA
DETECTION FLOOR
PLAN-H2 & CH4

Scale: As indicated
Revision: 0
Drawing No. **D-103**

Project No.: 2045335200
Title
FUELING-AREA
DETECTION FLOOR
PLAN-H2 & CH4

Scale: As indicated
Revision: 0
Drawing No. **D-103**

Project No.: 2045335200
Title
FUELING-AREA
DETECTION FLOOR
PLAN-H2 & CH4

Scale: As indicated
Revision: 0
Drawing No. **D-103**

Project No.: 2045335200
Title
FUELING-AREA
DETECTION FLOOR
PLAN-H2 & CH4

Scale: As indicated
Revision: 0
Drawing No. **D-103**

Project No.: 2045335200
Title
FUELING-AREA
DETECTION FLOOR
PLAN-H2 & CH4

Scale: As indicated
Revision: 0
Drawing No. **D-103**

Project No.: 2045335200
Title
FUELING-AREA
DETECTION FLOOR
PLAN-H2 & CH4

Scale: As indicated
Revision: 0
Drawing No. **D-103**

Project No.: 2045335200
Title
FUELING-AREA
DETECTION FLOOR
PLAN-H2 & CH4

Scale: As indicated
Revision: 0
Drawing No. **D-103**

Project No.: 2045335200
Title
FUELING-AREA
DETECTION FLOOR
PLAN-H2 & CH4

Scale: As indicated
Revision: 0
Drawing No. **D-103**

Project No.: 2045335200
Title
FUELING-AREA
DETECTION FLOOR
PLAN-H2 & CH4

Scale: As indicated
Revision: 0
Drawing No. **D-103**

Project No.: 2045335200
Title
FUELING-AREA
DETECTION FLOOR
PLAN-H2 & CH4

Scale: As indicated
Revision: 0
Drawing No. **D-103**

Project No.: 2045335200
Title
FUELING-AREA
DETECTION FLOOR
PLAN-H2 & CH4

Scale: As indicated
Revision: 0
Drawing No. **D-103**

Project No.: 2045335200
Title
FUELING-AREA
DETECTION FLOOR
PLAN-H2 & CH4

Scale: As indicated
Revision: 0
Drawing No. **D-103**

Project No.: 2045335200
Title
FUELING-AREA
DETECTION FLOOR
PLAN-H2 & CH4

Scale: As indicated
Revision: 0
Drawing No. **D-103**

Project No.: 2045335200
Title
FUELING-AREA
DETECTION FLOOR
PLAN-H2 & CH4

Scale: As indicated
Revision: 0
Drawing No. **D-103**

Project No.: 2045335200
Title
FUELING-AREA
DETECTION FLOOR
PLAN-H2 & CH4

Scale: As indicated
Revision: 0
Drawing No. **D-103**

Project No.: 2045335200
Title
FUELING-AREA
DETECTION FLOOR
PLAN-H2 & CH4

Scale: As indicated
Revision: 0
Drawing No. **D-103**

Project No.: 2045335200
Title
FUELING-AREA
DETECTION FLOOR
PLAN-H2 & CH4

Scale: As indicated
Revision: 0
Drawing No. **D-103**

Project No.: 2045335200
Title
FUELING-AREA
DETECTION FLOOR
PLAN-H2 & CH4

Scale: As indicated
Revision: 0
Drawing No. **D-103**

Project No.: 2045335200
Title
FUELING-AREA
DETECTION FLOOR
PLAN-H2 & CH4

Scale: As indicated
Revision: 0
Drawing No. **D-103**

Project No.: 2045335200
Title
FUELING-AREA
DETECTION FLOOR
PLAN-H2 & CH4

Scale: As indicated
Revision: 0
Drawing No. **D-103**

Project No.: 2045335200
Title
FUELING-AREA
DETECTION FLOOR
PLAN-H2 & CH4

Scale: As indicated
Revision: 0
Drawing No. **D-103**

Project No.: 2045335200
Title
FUELING-AREA
DETECTION FLOOR
PLAN-H2 & CH4

Scale: As indicated
Revision: 0
Drawing No. **D-103**

Project No.: 2045335200
Title
FUELING-AREA
DETECTION FLOOR
PLAN-H2 & CH4

Scale: As indicated
Revision: 0
Drawing No. **D-103**

Project No.: 2045335200
Title
FUELING-AREA
DETECTION FLOOR
PLAN-H2 & CH4

Scale: As indicated
Revision: 0
Drawing No. **D-103**

Project No.: 2045335200
Title
FUELING-AREA
DETECTION FLOOR
PLAN-H2 & CH4

Scale: As indicated
Revision: 0
Drawing No. **D-103**

Project No.: 2045335200
Title
FUELING-AREA
DETECTION FLOOR
PLAN-H2 & CH4

Scale: As indicated
Revision: 0
Drawing No. **D-103**

Project No.: 2045335200
Title
FUELING-AREA
DETECTION FLOOR
PLAN-H2 & CH4

Scale: As indicated
Revision: 0
Drawing No. **D-103**

Project No.: 2045335200
Title
FUELING-AREA
DETECTION FLOOR
PLAN-H2 & CH4

Scale: As indicated
Revision: 0
Drawing No. **D-103**

Project No.: 2045335200
Title
FUELING-AREA
DETECTION FLOOR
PLAN-H2 & CH4

Scale: As indicated
Revision: 0
Drawing No. **D-103**

Project No.: 2045335200
Title
FUELING-AREA
DETECTION FLOOR
PLAN-H2 & CH4

Scale: As indicated
Revision: 0
Drawing No. **D-103**

Project No.: 2045335200
Title
FUELING-AREA
DETECTION FLOOR
PLAN-H2 & CH4

Scale: As indicated
Revision: 0
Drawing No. **D-103**

Project No.: 2045335200
Title
FUELING-AREA
DETECTION FLOOR
PLAN-H2 & CH4

Scale: As indicated
Revision: 0
Drawing No. **D-103**

Project No.: 2045335200
Title
FUELING-AREA
DETECTION FLOOR
PLAN-H2 & CH4

Scale: As indicated
Revision: 0
Drawing No. **D-103**

Project No.: 2045335200
Title
FUELING-AREA
DETECTION FLOOR
PLAN-H2 & CH4

Scale: As indicated
Revision: 0
Drawing No. **D-103**

Project No.: 2045335200
Title
FUELING-AREA
DETECTION FLOOR
PLAN-H2 & CH4

Scale: As indicated
Revision: 0
Drawing No. **D-103**

Project No.: 2045335200
Title
FUELING-AREA
DETECTION FLOOR
PLAN-H2 & CH4

Scale: As indicated
Revision: 0
Drawing No. **D-103**

Project No.: 2045335200
Title
FUELING-AREA
DETECTION FLOOR
PLAN-H2 & CH4

Scale: As indicated
Revision: 0
Drawing No. **D-103**

Project No.: 2045335200
Title
FUELING-AREA
DETECTION FLOOR
PLAN-H2 & CH4

Scale: As indicated
Revision: 0
Drawing No. **D-103**

Project No.: 2045335200
Title
FUELING-AREA
DETECTION FLOOR
PLAN-H2 & CH4

Scale: As indicated
Revision: 0
Drawing No. **D-103**

Project No.: 2045335200
Title
FUELING-AREA
DETECTION FLOOR
PLAN-H2 & CH4

Scale: As indicated
Revision: 0
Drawing No. **D-103**

Project No.: 2045335200
Title
FUELING-AREA
DETECTION FLOOR
PLAN-H2 & CH4

Scale: As indicated
Revision: 0
Drawing No. **D-103**

Project No.: 2045335200
Title
FUELING-AREA
DETECTION FLOOR
PLAN-H2 & CH4

Scale: As indicated
Revision: 0
Drawing No. **D-103**

Project No.: 2045335200
Title
FUELING-AREA
DETECTION FLOOR
PLAN-H2 & CH4

Scale: As indicated
Revision: 0
Drawing No. **D-103**

Project No.: 2045335200
Title
FUELING-AREA
DETECTION FLOOR
PLAN-H2 & CH4

Scale: As indicated
Revision: 0
Drawing No. **D-103**

Project No.: 2045335200
Title
FUELING-AREA
DETECTION FLOOR
PLAN-H2 & CH4

Scale: As indicated
Revision: 0
Drawing No. **D-103**

Project No.: 2045335200
Title
FUELING-AREA
DETECTION FLOOR
PLAN-H2 & CH4

Scale: As indicated
Revision: 0
Drawing No. **D-103**

Project No.: 2045335200
Title
FUELING-AREA
DETECTION FLOOR
PLAN-H2 & CH4

Scale: As indicated
Revision: 0
Drawing No. **D-103**

Project No.: 2045335200
Title
FUELING-AREA
DETECTION FLOOR
PLAN-H2 & CH4

Scale: As indicated
Revision: 0
Drawing No. **D-103**

Project No.: 2045335200
Title
FUELING-AREA
DETECTION FLOOR
PLAN-H2 & CH4

Scale: As indicated
Revision: 0
Drawing No. **D-103**

Project No.: 2045335200
Title
FUELING-AREA
DETECTION FLOOR
PLAN-H2 & CH4

Scale: As indicated
Revision: 0
Drawing No. **D-103**

Project No.: 2045335200
Title
FUELING-AREA
DETECTION FLOOR
PLAN-H2 & CH4

Scale: As indicated
Revision: 0
Drawing No. **D-103**

Project No.: 2045335200
Title
FUELING-AREA
DETECTION FLOOR
PLAN-H2 & CH4

Scale: As indicated
Revision: 0
Drawing No. **D-103**

Project No.: 2045335200
Title
FUELING-AREA
DETECTION FLOOR
PLAN-H2 & CH4

Scale: As indicated
Revision: 0
Drawing No. **D-103**

Project No.: 2045335200
Title
FUELING-AREA
DETECTION FLOOR
PLAN-H2 & CH4

Scale: As indicated
Revision: 0
Drawing No. **D-103**

Project No.: 2045335200
Title
FUELING-AREA
DETECTION FLOOR
PLAN-H2 & CH4

Scale: As indicated
Revision: 0
Drawing No. **D-103**

Project No.: 2045335200
Title
FUELING-AREA
DETECTION FLOOR
PLAN-H2 & CH4

Scale: As indicated
Revision: 0
Drawing No. **D-103**

Project No.: 2045335200
Title
FUELING-AREA
DETECTION FLOOR
PLAN-H2 & CH4

Scale: As indicated
Revision: 0
Drawing No. **D-103**

Project No.: 2045335200
Title
FUELING-AREA
DETECTION FLOOR
PLAN-H2 & CH4

Scale: As indicated
Revision: 0
Drawing No. **D-103**

Project No.: 2045335200
Title
FUELING-AREA
DETECTION FLOOR
PLAN-H2 & CH4

Scale: As indicated
Revision: 0
Drawing No. **D-103**

Project No.: 2045335200
Title
FUELING-AREA
DETECTION FLOOR
PLAN-H2 & CH4

Scale: As indicated
Revision: 0
Drawing No. **D-103**

Project No.: 2045335200
Title
FUELING-AREA
DETECTION FLOOR
PLAN-H2 & CH4

Scale: As indicated
Revision: 0
Drawing No. **D-103**

©2024 Stantec. All Rights Reserved.
11/16/2024 10:28:39 AM

ORIGINAL SHEET: ARCH1

A

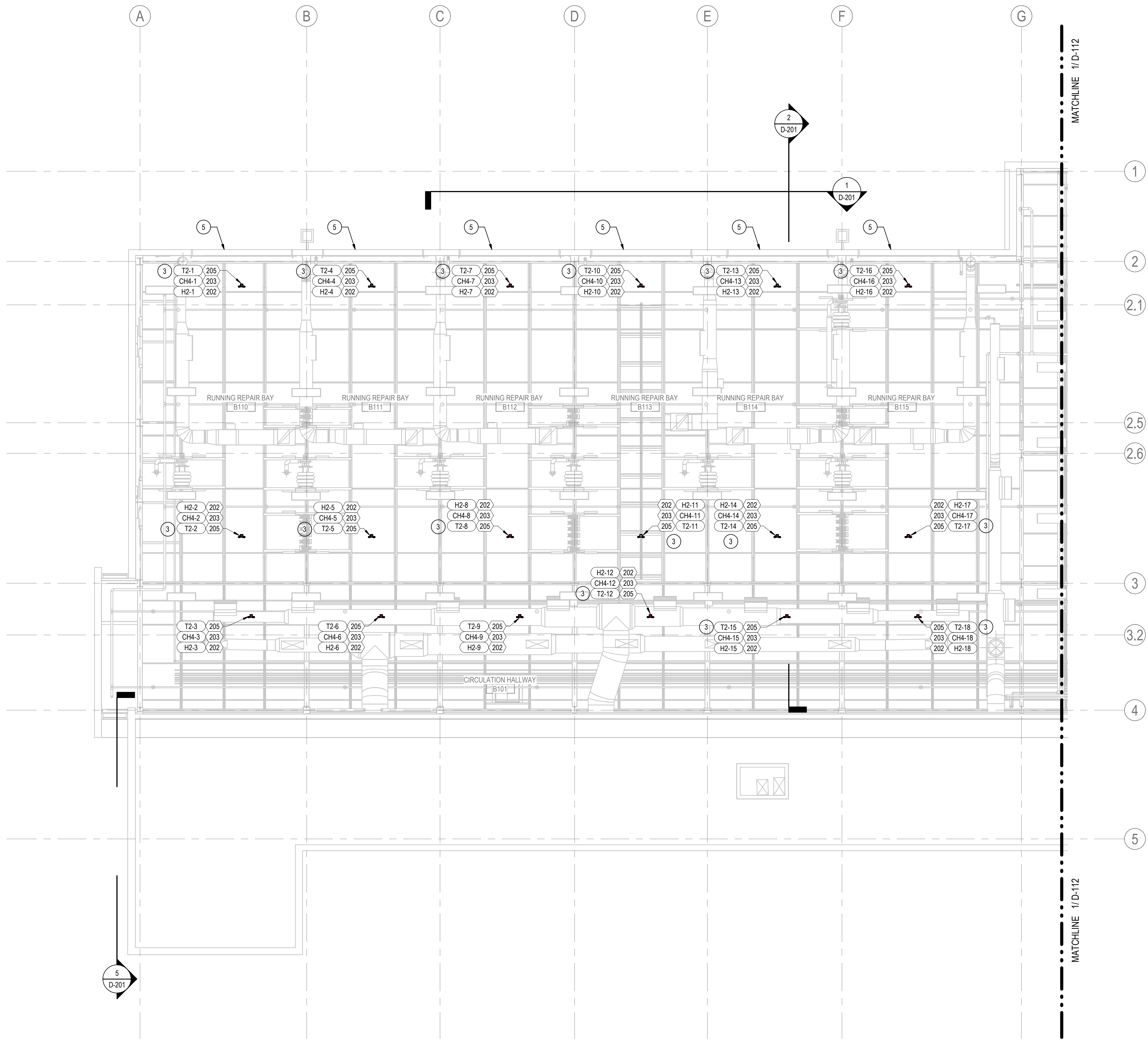
B

C

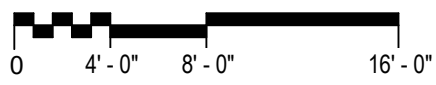
D

E

F



1 MAINTENANCE-BLDG REFLECTED CEILING PLAN WEST
D-111 1/8" = 1'-0"



SUMMARY EQUIPMENT SCHEDULE		
ITEM	DESCRIPTION	TOTAL QTY
201	GAS DETECTOR, CARBON MONOXIDE (CO)	7
202	GAS DETECTOR, HYDROGEN (H2)	31
203	GAS DETECTOR, METHANE (CH4)	31
204	DIGITAL GAS TRANSMITTER SINGLE DETECTOR	7
205	DIGITAL GAS TRANSMITTER, DUAL DETECTOR	31
206	AUDIBLE ALARM	9
207	VISUAL ALARM	26
208	MASTER CONTROLLER W/ HMI	2
209	TEST STATION CABINET	3
210	POWER SUPPLY AND BATTERY BACKUP	2
211	REMOTE DISPLAY PANELS	1
212	GAS LEAK DETECTION SIGN	11

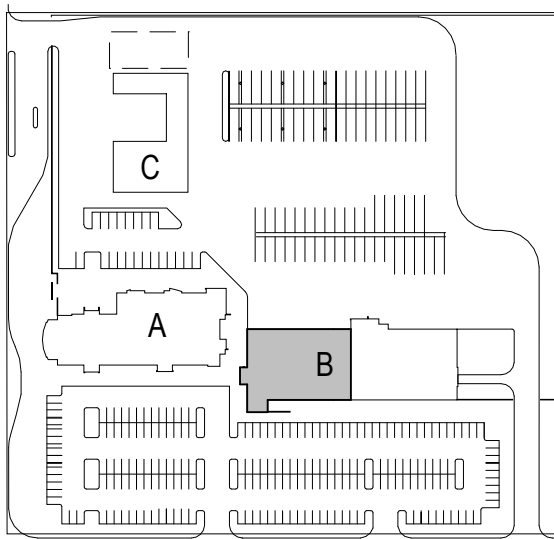
SHEET NOTES

- NOT ALL LISTED ITEMS MAY BE SHOWN ON THIS SHEET.
- THIS EQUIPMENT SCHEDULE IS A SUMMARY. SEE COMPLETE SCHEDULE ON SHEET D-601.
- EXISTING EQUIPMENT IS SHOWN FOR REFERENCE ONLY. CONTRACTOR TO FIELD VERIFY ALL INDICATED EQUIPMENT LOCATIONS AND ADJUST AS NEEDED BASED ON FIELD CONDITIONS. NEW EQUIPMENT SHALL NOT INTERFERE WITH EXISTING BUILDING EQUIPMENT.
- PROVIDE COMMUNICATION AND 24 VDC POWER WIRING TO INTERFACE ALL VISUAL AND AUDIBLE ALARMING DEVICES WITH THE GAS DETECTION CONTROL PANEL AS NEEDED TO OPERATE PER SEQUENCE OF OPERATIONS AS SHOWN ON SHEET D-602.
- CONTRACTOR TO PROVIDE REPEATER, SEC 3100 ISO RS-485 REPEATER MODULE, BETWEEN SEC 3100 TRANSMITTERS AND SEC 3000 CONTROLLER. FOR EVERY 1000 FEET OF DATA HIGH-CABLE OR 32 NETWORK DEVICES. VERIFY EXACT LOCATION OF REPEATER AS NEEDED AND WHETHER MULTIPLE REPEATERS ARE NEEDED.
- ALL WIRING SHALL BE ROUTED WITHIN CONDUIT, SURFACE MOUNT AND SUPPORT CONDUIT ALONG WALL, CEILING, OR CEILING FRAMING AS REQUIRED BETWEEN ORIGIN AND DESTINATION. CONDUIT SHALL BE IMC OR BETTER.
- PROVIDE MODBUS WIRING FROM CONTROL PANEL TO ALL TRANSMITTERS IN ACCORDANCE WITH MANUFACTURER REQUIREMENTS.
- INSTALL INDOOR AUDIBLE AND VISUAL ANNUNCIATORS AT 11'-14" AFF. TYPICAL, UNLESS NOTED OTHERWISE.
- INSTALL OUTDOOR AUDIBLE AND VISUAL ANNUNCIATORS AT 11'-14" AFF. TYPICAL, UNLESS NOTED OTHERWISE.

KEYED NOTES

- PROVIDE TYGON TUBING BETWEEN EACH GAS DETECTOR AND TEST STATION. INSTALL TEST STATIONS AT 5'-0" AFF. SECURELY CAP END OF TUBING PROPERLY. TERMINATE TUBING WITH PORTS FOR CONNECTION TO TEST CYLINDERS AT TEST STATION. PROVIDE TEST CYLINDERS FOR HYDROGEN.
- PROVIDE REMOTE HMI AT DESIGNATED LOCATION. THE REMOTE DISPLAY PANEL SHALL BE CAPABLE OF ILLUSTRATING DETECTION SYSTEM GRAPHICALLY AND SHOW EACH SCREEN INDEPENDENT FROM OTHER SCREENS. EACH DETECTOR SHALL BE SHOWN WITH ITS UNIQUE ID (H2-#) PER FLOOR PLAN OR REFLECTED CEILING PLAN AND AS INDICATED ON SEQUENCE OF OPERATION ON SHEET D-601.
- TRANSMITTER, DETECTORS, AND VISUAL ALARM ARE SHOWN DIAGRAMMATICALLY FOR VISUALIZATION PURPOSES. INSTALL H2 AND CH4 DETECTORS WITHIN 12' OF CEILING. INSTALL CO GAS DETECTORS 5'-0" AFF.
- PROVIDE 24VDC POWER SUPPLY WITH BATTERY BACKUP. PROVIDE 120VAC POWER TO THE POWER SUPPLY PER ELECTRICAL DRAWINGS.
- (E) MOTORIZED ROLL UP DOOR CONTROLLED BY EXISTING GAS DETECTION CONTROLLER. MOTORIZED ROLL UP DOOR SHALL BE CONFIGURED TO OPERATE PER SEQUENCE OF OPERATION ON SHEET D-602 BASED ON INPUT FROM EITHER EXISTING OR NEW GAS DETECTION CONTROLLER AS INDICATED ON BLOCK WIRING DIAGRAM ON SHEET D-601. CONTRACTOR TO VERIFY LOCATIONS AND QUANTITIES.

KEY PLAN



Victor Valley Transit
Authority
VVA Building
Modifications
17150 Smoke Tree St
Heaven, CA 92345

Project No.: 2045335200
Title
MAINTENANCE-BLDG
REFLECTED CEILING
PLAN WEST-H2& CH4

Scale: As indicated
Revision: 0
Drawing No. **D-111**

Permit/Seal



Client
Permit/Seal
Issued/Revision
By
Date



 **Stantec**

Stantec Consulting Services Inc.
801 South Figueroa Street Suite 300
Los Angeles, CA 90071-3007
Tel: (213) 955-9775 • www.stantec.com

Copyright Reserved

© Copyright 2011. All designs and drawings are the property of Stantec. Reproduction or use for any other purpose other than that authorized by Stantec is prohibited. No Contractor shall rely on or be responsible for any dimensions. DO NOT scale the drawings.

Client	Issue/Revision	by	App'd	TTT/AMA/DD
	0	PERM CORRCTIONS		2020.05.11
		ISSUE FOR TRFMT		2020.01.16
		60% DR REVIEW		2020.12.10
		30% DR REVIEW		2020.11.08
				TTT/AMA/DD

- 2 NOT LISTED ITEMS ARE TO BE COMPLETED ON THIS SHEET.
- 3 THIS EQUIPMENT SCHEDULE IS A SUMMARY SEE COMPLETE SCHEDULE ON SHEET D-0401
- 4 EXISTING EQUIPMENT TO BE USED FOR REFERENCE ONLY. CONTRACTOR TO FIELD VERIFY ALL INDICATED EQUIPMENT LOCATIONS AND ADJUST AS REQUIRED BASED ON FIELD CONDITIONS. NEW EQUIPMENT SHALL NOT INTERFERE WITH EXISTING BUILDING EQUIPMENT.
- 5 PROVIDE COMMUNICATION AND 24VDC POWER WIRING TO INTERFACE WITH THE FOLLOWING EQUIPMENT:
6 CONTROL PANELS AS NEEDED TO OPERATE PER SEQUENCE OF OPERATIONS AS SHOWN ON SHEET D-0602.
- 7 CONTRACTOR TO PROVIDE REPEATER, SEC 3140 ISO RES-865 REPEATER MODULES, SEC 3140 ISO RES-310 REPEATER MODULES AND SEC 3200 CONTROLLER, FOR EVERY 1000 FEET OF DATA GIBB CABLE OR 32 REPEATERS PER 1000 FEET OF DATA GIBB CABLE.
8 AND WHETHER MULTIPLE REPEATERS ARE NEEDED.
- 9 ALL WIRING SHALL BE ROUTED WITHIN CONDUIT. SURFACE MOUNTING AND SUPPORT CONDUIT ALLOW WALL, CEILING, OR CEILING FRAMING AS PROVIDED BETWEEN ORIGIN AND DESTINATION. CONDUIT SHALL BE METAL OR RTR.
- 10 PROVIDE MODEMS WIRING FROM CONDUIT, PANEL TO LAN SWITCHES IN ACCORDANCE WITH MANUFACTURER REQUIREMENTS.
- 11 INSTALL NOISE AUDIBLE AND VISUAL ANNUNCIATORS AT 11'-54" AFF.
- 12 TYPICAL UNLESS NOTED OTHERWISE.
- 13 INSTALL OUTDOOR AUDIBLE AND VISUAL ANNUNCIATORS AT 11'-54" AFF.

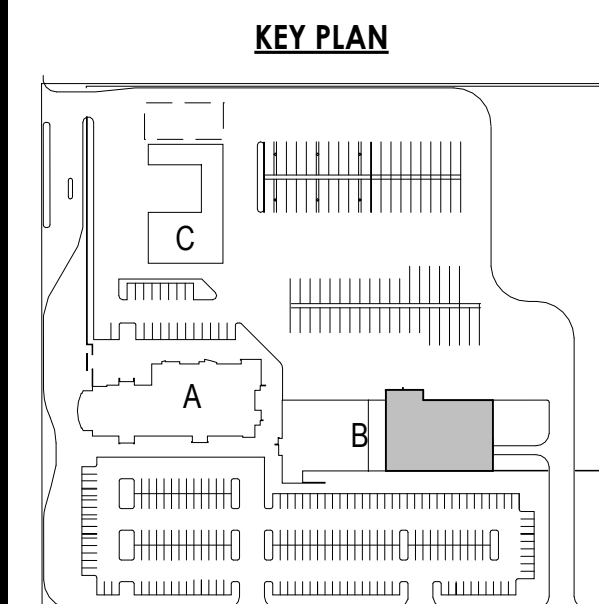
PROVIDE TYGON TUBING BETWEEN EACH GAS DETECTOR AND TEST STATION. TEST STATIONS AT 0°-4° AFF. SECURELY CAP END OF TUBING TO PREVENT GAS FROM ESCAPING. PROVIDE TUBING TO TEST COLUMNS AT TEST STATION. PROVIDE TEST COLUMNS FOR HYDROGEN.

PROVIDE REMOTE HORN AT DESIGNATED LOCATION. THE REMOTE DEVICE SHALL BE CAPABLE OF ILLUSTRATING DETECTION SYSTEM STATUS GRAPHICALLY AND SHOW EACH SENSOR INDEPENDENT FROM OTHER DETECTORS. PROVIDE REMOTE DEVICE WITH 120VAC, 15 AMP, 100' MAX. CABLE FOR FLOOR PLAN OR REFLECTED CEILING PLAN AND AS INDICATED ON SPECIFICATION OF OPERATION ON TEST D-601.

TRANSMITTER, DETECTORS, AND VISUAL ALARM SHOWN DETECTOR LOCATIONS SHALL BE FOR EACH DETECTOR. INSTALL H2 AND H2 DETECTORS WITHIN 0° OF CEILING. INSTALL AR GAS DETECTORS 0°-4° AFF.

PROVIDE DASH-TO-POWER SUPPLY WITH ELECTRICAL BACKUP. PROVIDE DASH TO POWER SUPPLY PER TEST LOGIC, DRAWINGS.

(E) MOTORIZED ROLL-UP MOTOR CONTROLLED BY EXISTING GAS DETECTOR CONTROLLER. MOTORIZED ROLL-UP DOOR SHALL BE CAPABLE OF OPENING AND CLOSING DOOR. PROVIDE ROLL-UP DOOR D-402 BASED ON INPUT FROM EITHER EXISTING OR NEW GAS DETECTOR CONTROLLER AS INDICATED ON BLOCKING DIAGRAM ON SHEET CONTAINING DETECTOR LOGIC.



FOR FIRE DEPARTMENT USE ONLY

Scale: As indicated
Revision: 0
Drawing No. **D-112**

 **Stantec**

Stantec Consulting Services Inc.
801 South Figueroa Street Suite 300
Los Angeles, CA 90071-3007
Tel: (213) 955-9775 • www.stantec.com

Copyright Reserved

The Copyright in all designs and drawings are the property of Stantec. Reproduction in whole or in part without the prior written consent of Stantec is prohibited. The Contractor shall verify and be responsible for all dimensions. DO NOT SCALE THE

1. NOT ALL LISTED ITEMS MAY BE SHOWN ON THIS SHEET

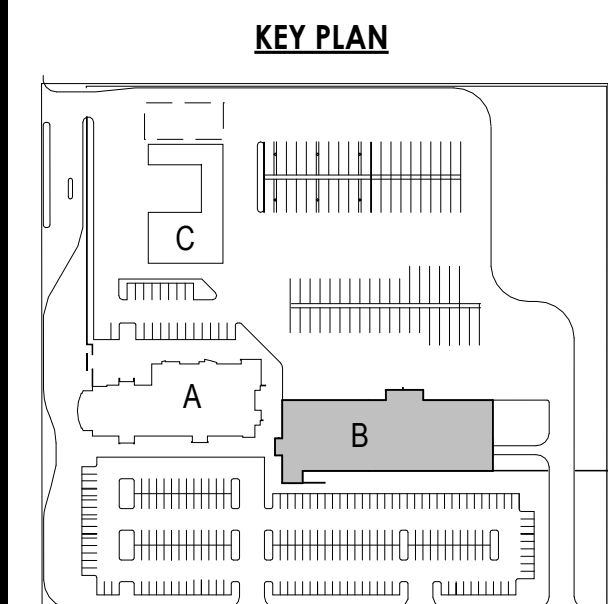
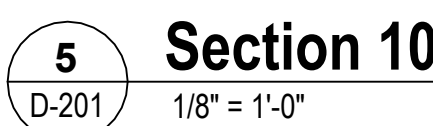
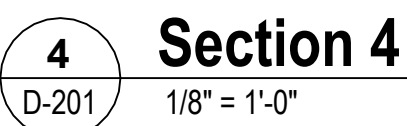
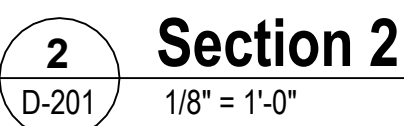
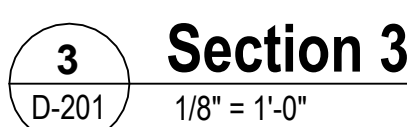
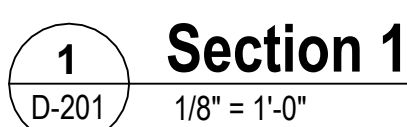
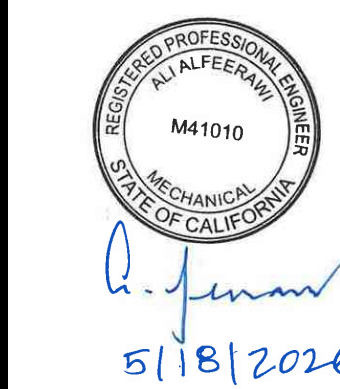
2. THIS EQUIPMENT SCHEDULE IS A SUMMARY. SEE COMPLETE SCHEDULE ON SHEET D-601.

1. COORDINATE FINAL AND EXACT LOCATION OF WALL MOUNTED EQUIPMENT WITH OWNER PRIOR TO INSTALLATION.

2. PROVIDE TYPON TUBING BETWEEN EACH GAS DETECTOR AND TEST STATION INSTALL TEST STATIONS AT 1'-0" APART SECURELY CAP END OF THE TUBING WITH A PLUG. PROVIDE TUBING FOR CONNECTION TO TEST CYLINDERS AT TEST STATION PROVIDE TEST CYLINDERS FOR HYDROGEN.
3. PROVIDE REMOTE HORN AT DESIGNATED LOCATION. THE REMOTE DISPLAY SHALL BE CAPABLE OF ILLUSTRATING WITH PICTS FOR CONNECTION GRAPHICALLY AND SHOW EACH SCREEN INDEPENDENT FROM OTHER SCREENS. EACH DETECTOR SHALL BE SHOWN WITH ITS UNIQUE ID NO (#) ON EACH SCREEN. THE REMOTE HORN SHALL BE SHOWN AND AS INDICATED ON SEQUENCE OF OPERATION ON SHEET #6401.
4. PROVIDE MODBUS WIRING FROM CONTROL PANEL, TO ALL TRANSMITTER IN ACCORDANCE WITH MANUFACTURER REQUIREMENTS.
5. PROVIDE 24VDC POWER SUPPLY WITH BATTERY BACKUP. PROVIDE 120WAC POWER TO THE POWER SUPPLY PER ELECTRICAL DRAWINGS.
- (F) MOTORIZED ROLL-UP DOOR CONTROLLED BY EXISTING GAS DETECTION CONTROLLER. MOTORIZED ROLL-UP DOOR SHALL BE PROVIDED BY CONTRACTOR. CONTRACTOR TO PROVIDE LOGIC ON SHEET #6402 BASED ON INPUT FROM EITHER EXISTING OR NEW GAS DETECTION CONTROLLER. CONTRACTOR TO PROVIDE LOGIC ON SHEET #6401. CONTRACTOR TO VERIFY LOCATIONS AND QUANTITIES.

[illegible]

Permit/Seal



for Valley Transit
Authority

A Building
Modifications

0 Smoke Tree St
Berkeley, CA 94745

FOR FIRE DEPARTMENT USE ONLY

Project No.:2045335200
Title
MAINT. BLDG ELEVATIONS AND DETAIL- H2, CH4 AND CO

Scale:
Revision: 0
Drawing No. **D-201**

D-201

Issued/Revision		By	Appd
0	PERMIT CORRECTIONS		
	ISSUE FOR PERMIT		2006.03.11
	60% TO REVIEW		2006.07.26
	30% TO REVIEW		2005.12.05
	30% TO REVIEW		2005.11.04
			TTTT/MA/D0

Permit/Sea



5/18/2020

SCHED. NOTES

1. SEE SHEETS D-101, D-102, D-103, D-111, AND D-112 FOR LOCATION OF HEX KEYED EQUIPMENT. SOME EQUIPMENT LISTED MAY NOT HAVE AN INDICATED LOCATION.
2. CONTRACTOR SHALL FURNISH ALL EQUIPMENT, LABOR, CONDUIT, WIRE, PIPING, MATERIAL, AND TESTING SERVICES AS REQUIRED BY THE PLANS, DRAWINGS, AND AS APPROVED BY THE OWNER.
3. MEASURE AND DETERMINE QUANTITIES OF PIPING, CONDUIT, WIRING AND SUPPORTS AS REQUIRED PER SITE AND FIELD CONDITIONS.
4. SEE SPECIFICATION MANUALS FOR ADDITIONAL REQUIREMENTS FOR EQUIPMENT AND MATERIALS.
5. SUBSTITUTIONS ARE ACCEPTABLE, IF THEY MEET THE FUNCTION AND PERFORMANCE PROVIDED BY THE REFERENCE MODEL, AND IF APPROVED BY THE OWNER.
6. ALL EQUIPMENT AND PIPING/UTILITY SHALL BE SUITABLE FOR USE WITH HYDROGEN AND CLEANED FOR OXYGEN SERVICE IN ACCORDANCE WITH CGA 4-4.1.
7. THE GENERAL CONTRACTOR SHALL PROVIDE A ONE YEAR PARTS AND LABOR WARRANTY FOR ALL PLASMA FLAME DETECTORS AND EQUIPMENT. PROVIDE A MAINTENANCE SERVICE CONTRACT FOR ALL NEW AND EXISTING H₂ DETECTION EQUIPMENT / SYSTEM FOR A PERIOD OF 5 YEARS FROM DATE OF SUBSTANTIAL COMPLETION. THIS MAINTENANCE SERVICE CONTRACT SHALL INCLUDE PREVENTATIVE MAINTENANCE OF ALL SYSTEMS (SUBMITTING SUCH FORMS TO THE OWNER PRIOR TO PERFORMING ANY TASKS, PERFORMING QUARTERLY, SEMI ANNUAL, AND ANNUAL INSPECTIONS ON ALL DETECTION SYSTEMS). REQUIRED MAINTENANCE, ASSURING ALL REQUIRED SPARE PARTS AND EQUIPMENT IS IN HAND, SO THAT THE GAS DETECTION SYSTEM IS IN OPERATION AT ALL REQUIRED INTERVALS. ALL COSTS SHALL BE INCLUDED IN THE BIDDING OF THE COMPLETE WORK. THE GENERAL CONTRACTOR OR HIS SUBCONTRACTOR/SUPPLIERS SHALL HAVE NO CLAIM FOR ADDITIONAL COMPENSATION.
8. INDICATION OF RESPONSIBILITY FOR SCOPE BY TASK THAT IS NOTED IN THE SPECIFICATIONS SECTION OF SOV-211 IS PRELIMINARY GUIDANCE. THE GENERAL CONTRACTOR IS RESPONSIBLE TO ASSIGN AND ENSURE ALL WORK SHOWN ON ALL PROJECT DRAWINGS IS COMPLETED.

FOR FIRE DEPARTMENT USE ONLY

Victor Valley Transit Authority

WVTA Building
Modifications17150 Smoke Tree St
Hesperia, CA 92345

Project No.:2045335200

DETECTION EQUIPMENT
SCHEDULE- H2, CH4
AND CO

Scale: _____
Revision: 0

Drawing No.

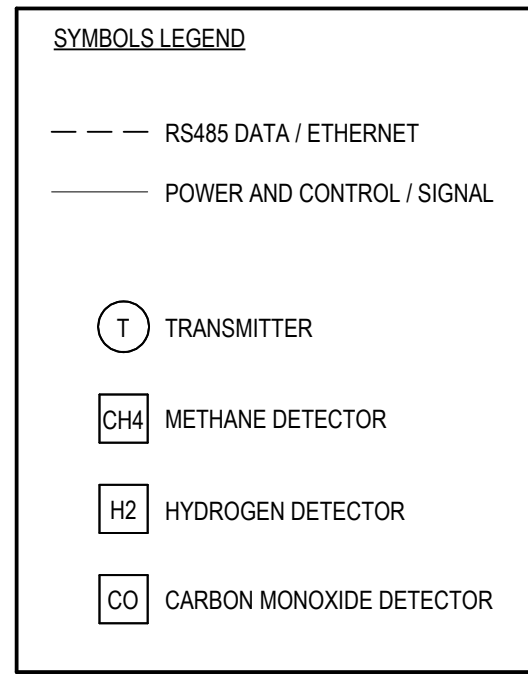
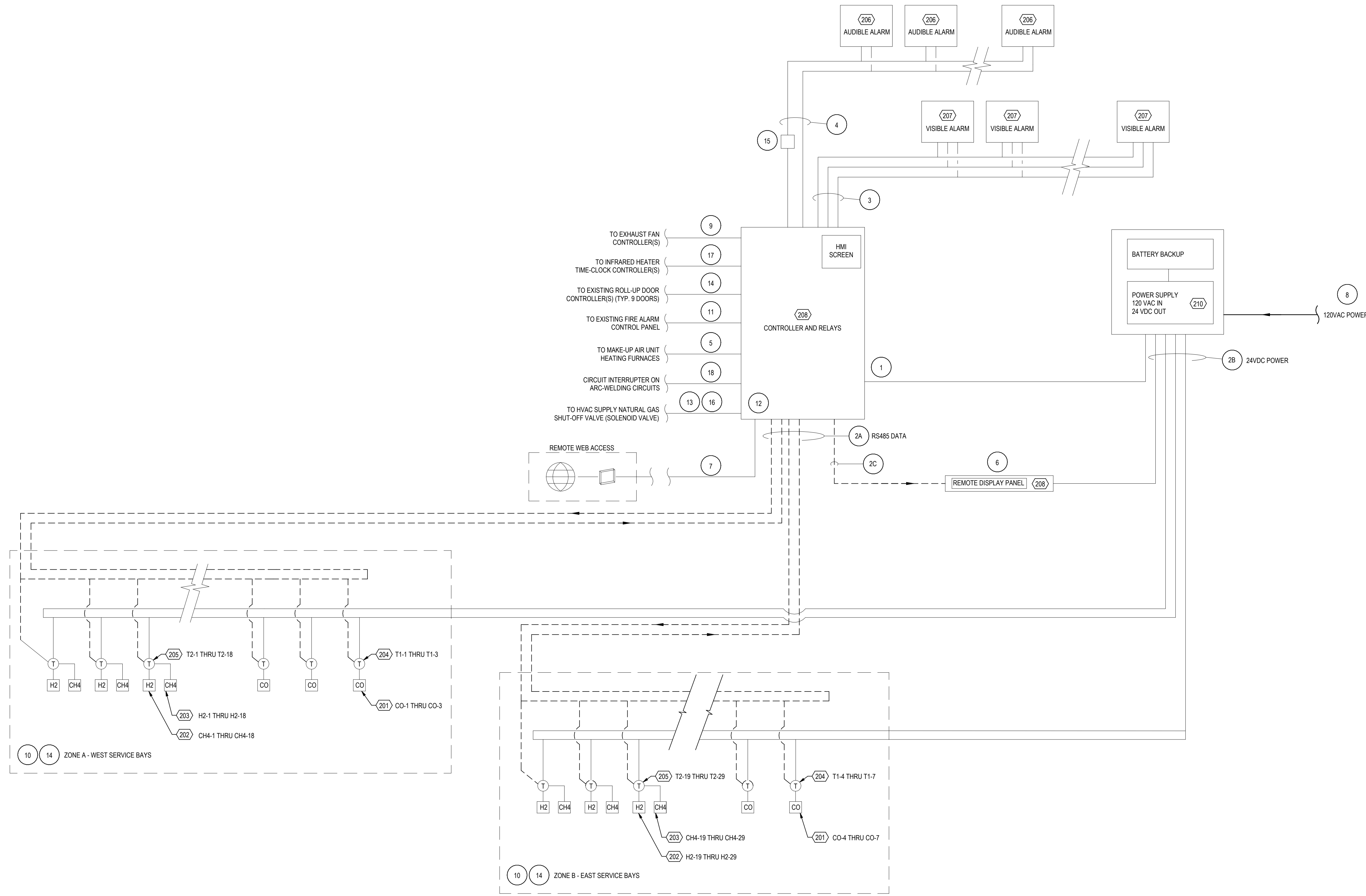
Drawing No.

D-601

NOTES:	
1.	LOW ALARM WARNING CONDITION (CONCENTRATIONS DETECTED BETWEEN LOW LEVEL AND HIGH LEVEL AS INDICATED ABOVE)
2.	HIGH ALARM EVACUATION CONDITION (CONCENTRATIONS DETECTED AT OR ABOVE HIGH LEVEL AS INDICATED ABOVE)
3.	AUDIBLE LOW ALARM: PROGRAM INTERPOSING RELAY WITH TIMER AND MEMORY FUNCTION TO ENERGIZE AUDIBLE ALARM FOR 5 SECONDS AND REPEAT IN 30 SECOND INTERVALS UNTIL CONDITION IS CLEARED.
4.	GAS DETECTION SYSTEM CONTROL SHALL TAKE PRECEDENCE OVER BUILDING MANAGEMENT SYSTEM (BMS) CONTROL.
5.	SOLENOID SHUT OFF VALVE TO BE NORMALLY OPEN AND CLOSED PER SEQUENCE OF OPERATION. REFER TO MECHANICAL PLANS FOR NATURAL GAS SYSTEM DETAILS AND LOCATION AND QUANTITY OF VALVES.
6.	GAS DETECTION EMAL, SMS, AND PHONE CALL ALERT SHALL INCLUDE DETECTOR UNIQUE ID (H2-30, H2-31, CH4-30, CH4-31) PER FLOOR PLAN. PROGRAM DETECTOR NODE NAME TO MATCH UNIQUE ID AS INDICATED.
7.	GAS DETECTION SYSTEM SHALL OPERATE 24 HOURS A DAY AND 7 DAYS A WEEK WITHOUT INTERRUPTION.
8.	A LOW ALARM WARNING CONDITION, ONCE TRIGGERED, SHALL REMAIN ACTIVE UNTIL MANUALLY RESET OR GAS CONCENTRATION(S) HAVE RETURNED TO SAFE LEVELS.
9.	A HIGH ALARM EVACUATION CONDITION, ONCE TRIGGERED, SHALL REMAIN ACTIVE UNTIL A MINIMUM OF 5 CONSECUTIVE GAS CONCENTRATION MEASUREMENTS HAVE BEEN RECORDED WITHIN SAFE LEVELS FOR EACH GAS TRIGGERING THE HIGH ALARM.
10.	PROVIDE SIGNAGE INSTRUCTING STAFF OF WARNING AND EVACUATION ALARMS (AUDIBLE AND VISUAL) ADJACENT TO EACH LOCAL HMI CONTROL PANEL. STAFF TRAINING WITH REHEARSAL SHOULD BE PROVIDED.
11.	PROVIDE CALIBRATION AND TESTING REQUIRED ALERT NOTIFICATION EVERY THREE MONTHS IN ACCORDANCE WITH MANUFACTURER RECOMMENDED CALIBRATION AND TESTING INTERVALS.

NOTES:

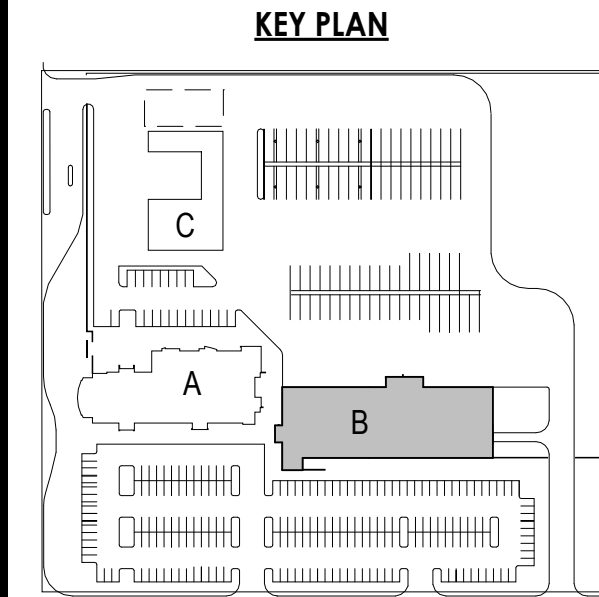
1. LOW ALARM WARNING CONDITION (CONCENTRATIONS DETECTED BETWEEN LOW LEVEL AND HIGH LEVEL AS INDICATED ABOVE).
2. HIGH ALARM EVALUATION CONDITION (CONCENTRATIONS DETECTED AT OR ABOVE HIGH LEVEL AS INDICATED ABOVE).
3. AUDIBLE LOW ALARM: PROGRAM INTERPOSING RELAY WITH TIMER AND MEMORY FUNCTION TO ENERGIZE AUDIBLE ALARM FOR 5 SECONDS, AND REPEAT IN 30 SECOND INTERVALS UNTIL CONDITION IS CLEARED.
4. GAS DETECTION SYSTEM CONTROL SHALL TAKE PRECEDENCE OVER BUILDING MANAGEMENT SYSTEM (BMS) CONTROL.
5. SOLENOID SHUT OFF VALVE TO BE NORMALLY OPEN AND CLOSED PER SEQUENCE OF OPERATION. REFER TO MECHANICAL PLANS FOR NATURAL GAS SYSTEM DETAILS AND LOCATION AND QUANTITY OF VALVES.
6. GAS DETECTION CONTROLLER SHALL PROVIDE CONTROL / SIGNAL TO EXISTING ROLL-UP DOOR CONTROLLER TO INITIATE AN OPEN POSITION.
7. ROLL-UP DOORS SHALL BE NORMALLY OPEN AND CLOSED PER BUILDING OPERATOR DISCRETION. UNDER NO CIRCUMSTANCE SHALL ROLL-UP DOORS BE CLOSED DURING ANY GAS DETECTION ALARM.
8. EXHAUST FANS) SERVING ZONE ARE INDICATED FOR REFERENCE. REFERENCE MECHANICAL PLANS FOR EXHAUST SYSTEM DETAILS AND TO VERIFY EXHAUST FANS) SERVING EACH ZONE.
9. MECHANICAL VENTILATION SYSTEMS SHALL OPERATE PER BMS SEQUENCE OF OPERATION DURING NORMAL OPERATION.
10. GAS DETECTION EMAIL, SMS, AND PHONE CALL SHALL INCLUDE DETECTOR UNIQUE ID (H2-1 THRU H2-19, CH4-1 THRU CH4-29, CO-1 THRU CO-7) PER FLOOR PLAN. PROGRAM DETECTOR NODE NAME TO MATCH UNIQUE ID AS INDICATED.
11. GAS DETECTION SYSTEM SHALL OPERATE 24 HOURS A DAY AND 7 DAYS A WEEK WITHOUT INTERRUPTION.
12. A LOW ALARM WARNING CONDITION, Once TRIGGERED, SHALL REMAIN ACTIVE UNTIL MANUALLY RESET OR GAS CONCENTRATION(S) HAVE RETURNED TO SAFE LEVELS.
13. A HIGH ALARM EVALUATION CONDITION, Once TRIGGERED, SHALL REMAIN ACTIVE UNTIL A MINIMUM OF 5 CONSECUTIVE GAS CONCENTRATION MEASUREMENTS HAVE BEEN RECORDED WITHIN SAFE LEVELS FOR EACH GAS TRIGGERING THE HIGH ALARM.
14. PROVIDE SIGNAGE INSTRUCTING STAFF OF WARNING AND EVACUATION ALARMS (AUDIBLE AND VISUAL) ADJACENT TO EACH LOCAL, HMI CONTROL, PANEL OR REMOTE HMI DISPLAY. STAFF TRAINING WITH REHEARSAL. SHALL BE PROVIDED.
15. PROVIDE CALIBRATION AND TESTING REQUIRED ALERT NOTIFICATION EVERY THREE MONTHS IN ACCORDANCE WITH MANUFACTURER RECOMMENDED CALIBRATION AND TESTING INTERVALS.
16. EP-13 (SHOULD BE ABLE TO BE EXTENDED AND LOCATED AT LOW LEVEL AS CLOSE AS POSSIBLE TO FLOOR LEVEL TO INSURE CO/CO2 DETECTION. ALTERNATIVELY, EF-19, IF EXISTING EXHAUST GRILLE LOCATED LOW NEAR FLOOR LEVEL IN THE AREA OF THE TWO BAYS, SHOULD BE CONNECTED AND POWERED AND RUN DURING EMERGENCY. IT SHALL HAVE FLOW CAPACITY TO REMOVE THE REQUIRED CFM PER CODE/CIM).
17. ROLL UP DOORS SHALL OPEN/REMAIN OPEN DURING EMERGENCY VENTILATION.



SUMMARY EQUIPMENT SCHEDULE		
ITEM	DESCRIPTION	TOTAL QTY
201	GAS DETECTOR: CARBON MONOXIDE (CO)	7
202	GAS DETECTOR: HYDROGEN (H2)	31
203	GAS DETECTOR: METHANE (CH4)	31
204	DIGITAL GAS TRANSMITTER SINGLE DETECTOR	7
205	DIGITAL GAS TRANSMITTER DUAL DETECTOR	31
206	AUDIBLE ALARM	9
207	VISUAL ALARM	28
208	MASTER CONTROLLER W/ HMI	2
209	TEST STATION CABINET	3
210	POWER SUPPLY AND BATTERY BACKUP	2
211	REMOTE DISPLAY PANEL	1
212	GAS LEAK DETECTION SIGN	11

- SHEET NOTES:**
- SEE SHEET D-601 FOR DETAILED EQUIPMENT SCHEDULE.
 - INSTALL ALL WIRING AND PERFORM SYSTEM SETUP IN ACCORDANCE WITH MANUFACTURER REQUIREMENTS.
 - CONTRACTOR SHALL VERIFY EXISTING SITE CONDITIONS PRIOR TO COMMENCING WORK. IMMEDIATELY NOTIFY ENGINEER OF ANY DISCREPANCY OR LACK OF CONSTRUCTABILITY.
 - PROVIDE SEPARATE CONDUIT FOR LOW VOLTAGE WIRING FROM POWER WIRING.
 - PROVIDE ALL WIRING AND MEANS OF COMMUNICATION AS NEEDED TO ACCOMPLISH SEQUENCE OF OPERATION AS INDICATED ON SHEET D-602.
 - CONTROL WIRING BLOCK DIAGRAM IS SCHEMATIC ONLY AND MAY VARY FOR EACH MANUFACTURER AND MODEL.
 - CONTRACTOR SHALL SUBMIT SPECIFIC AND FINAL BLOCK DIAGRAM OF PROPOSED SYSTEM FOR REVIEW AND APPROVAL.
 - CONTRACTOR SHALL PROVIDE VOLTAGE DROP CALCULATIONS FOR ENTIRE GAS DETECTION SYSTEM PER: FINAL LENGTH OF CONDUCTORS AND SIZE THE CONDUCTORS FOR MAXIMUM DROP ACCEPTABLE BY EQUIPMENT MANUFACTURER.
 - ALL POWER AND CONTROL / SIGNAL WIRING FOR THE PROJECT SHALL BE ROUTED IN RIGID GALVANIZED STEEL (RGS) CONDUITS WITH MINIMUM SIZE OF 3/4" CONDUITS UNLESS OTHERWISE NOTED. PROVIDE OUTDOOR RATED CONDUITS AND FITTINGS FOR ALL OUTDOOR EQUIPMENT AND DEVICES.
 - MAINTENANCE BUILDING ONLY: THE FLAME DETECTION SYSTEM SHOWN IS A SPECIAL HAZARD DETECTION SYSTEM PROVIDED FOR EQUIPMENT AND OPERATIONAL SAFETY. IT IS NOT A REQUIRED FIRE ALARM SYSTEM AND DOES NOT PROVIDE OCCUPANT NOTIFICATION OR EVACUATION FUNCTIONS. DESIGN IS WITHIN THE RESPONSIBLE CHARGE OF THE UNDERSIGNED MECHANICAL ENGINEER.

- KEYED NOTES:**
- PROVIDE 24VDC POWER FROM POWER SUPPLY TO CONTROLLER. PROVIDE A PAIR OF #12 AWG CONDUCTORS.
 - MODBUS WIRING AND LOW VOLTAGE POWER WIRING TO TRANSMITTERS.
 - PROVIDE RS485 DATA HIGHWAY FROM CONTROLLER TO EACH TRANSMITTER. PROVIDE RETURN LOOP FROM LAST TRANSMITTER BACK TO CONTROLLER. WIRING FOR EACH LOOP SHALL BE SUITABLE FOR MODBUS WITH (2) SHIELDED #18 AWG MINIMUM CONDUCTORS WITH GROUND WIRE. CONNECT DATA PAIR FROM EACH PAIR OF DETECTORS TO THEIR RESPECTIVE TRANSMITTER.
 - PROVIDE 24VDC POWER FROM POWER SUPPLY TO EACH TRANSMITTER. PROVIDE RETURN LOOP FROM LAST TRANSMITTER BACK TO POWER SUPPLY. WIRING SHALL BE SUITABLE FOR 24VDC WITH (2) #12 AWG MINIMUM CONDUCTORS.
 - PROVIDE ETHERNET DATA CONNECTION TO EACH REMOTE DISPLAY PANEL.
 - PROVIDE (4) #12 24VDC WIRING FOR MULTIPLE OUTPUTS AS NEEDED TO DRIVE (3) LIGHT COLORS OF VISUAL ANNUNCIATORS IN SERIES. INTERFACE PER GAS DETECTION SEQUENCE OF OPERATIONS.
 - PROVIDE 24 VDC WIRING FOR MULTIPLE OUTPUTS AS NEEDED TO DRIVE AUDIBLE ANNUNCIATORS IN SERIES. INTERFACE PER GAS DETECTION SEQUENCE OF OPERATIONS.
 - PROVIDE CONTROL WIRING AS NEEDED FOR COMMUNICATION BETWEEN GAS DETECTION SYSTEM CONTROLLER AND MAKE-UP AIR UNIT CONTROL SYSTEMS. INTERFACE PER GAS DETECTION SEQUENCE OF OPERATIONS. REFERENCE MECHANICAL PLANS FOR MAKE-UP AIR SYSTEM DETAILS.
 - PROVIDE DATA AND POWER WIRING AS NEEDED FOR GAS DETECTION SYSTEM REMOTE HMI DISPLAY PANEL IN MAINTENANCE BUILDING.
 - PROVIDE CAT5 WIRING TO CONNECT DETECTION SYSTEM CONTROL PANEL TO ETHERNET SWITCH IN THE ROOM.
 - AC POWER THAT FEEDS POWER SUPPLY FOR GAS DETECTION SYSTEM SHALL BE FED FROM (E) PANEL BACKED UP BY (E) GENSET POWER. REFER TO ELECTRICAL PLANS FOR ADDITIONAL INFORMATION.
 - PROVIDE SEPARATE CONTACTOR-CONTROL WIRE TO EXHAUST FAN VFD AT EACH ROOF-MOUNTED EXHAUST FAN. INTERFACE PER GAS DETECTION SEQUENCE OF OPERATIONS. REFERENCE MECHANICAL PLANS FOR EXHAUST SYSTEM DETAILS AND LOCATION AND QUANTITY OF VFDs.
 - REFER TO SHEETS D-101, D-102, D-103, D-111, & D-112 FOR SPECIFIC APPLICATION AND LOCATION OF RESPECTIVE DETECTOR TYPE.
 - PROVIDE CONNECTION TO EXISTING FACP.
 - PROVIDE INTERPOSING RELAY WITH TIMER AND MEMORY FUNCTION. INTERFACE PER GAS DETECTION SEQUENCE OF OPERATIONS.
 - PROVIDE SOLENOID VALVE CONTROL FOR FLOW OF NATURAL GAS TO HVAC HEATING SYSTEMS. REFERENCE MECHANICAL PLANS FOR QUANTITY AND LOCATION OF SHUT-OFF VALVES).
 - CONFIGURE SUCH THAT EITHER DETECTOR SHALL HAVE THE CAPABILITY TO TRIGGER AN ALARM CONDITION INDEPENDENT OF THE OTHER. CONTROLLER SHALL ENGAGE/ENERGIZE RELAYS IN ACCORDANCE WITH THE SEQUENCE OF OPERATIONS WHEN ANY ONE DETECTOR TRIGGERS AN ALARM CONDITION.
 - AUDIBLE ALARM: PROGRAM INTERPOSING RELAY WITH TIMER AND MEMORY FUNCTION TO ENERGIZE AUDIBLE ALARM FOR 5 SECONDS AND REPEAT IN 30 SECOND INTERVALS UNTIL CONDITION IS CLEARED.
 - SOLENOID SHUT OFF VALVE TO BE NORMALLY OPEN AND CLOSED PER SEQUENCE OF OPERATION. REFER TO MECHANICAL PLANS FOR NATURAL GAS SYSTEM DETAILS AND LOCATION AND QUANTITY OF VALVES.
 - PROVIDE CONTROL WIRING AS NEEDED FOR COMMUNICATION BETWEEN GAS DETECTION SYSTEM AND HEATING CONTROL SYSTEM. INTERFACE PER GAS DETECTION SEQUENCE OF OPERATIONS. REFERENCE MECHANICAL PLANS FOR HEATING SYSTEM DETAILS.
 - INSTALL CIRCUIT INTERRUPTER ON WELDING MACHINE CIRCUITS TO DE-ENERGIZE WELDING MACHINES IN CASE OF LEAK DETECTION.

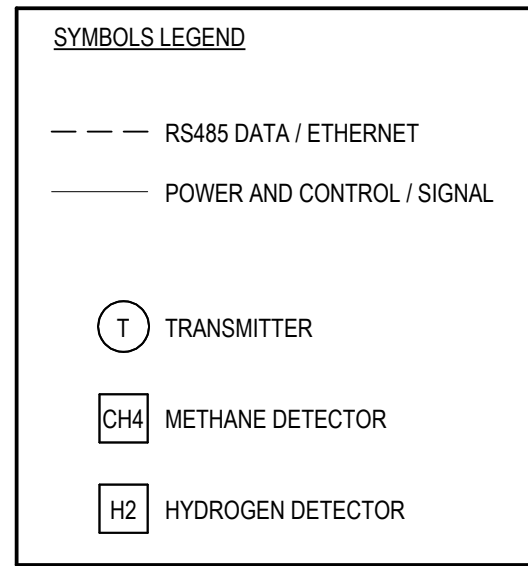


Victor Valley Transit
Authority
VTA Building
Modifications
17150 Smoke Tree St
Healdsburg, CA 92345

Project No.: 2045333200
Title
MAINT. BLDG.
LOW-VOLTAGE BLOCK-
WIRING DIAGRAM- H2,
CH4 AND CO
Scale:
Revision: 0
Drawing No. **D-611**

Permit/Seal
M41010
5/18/2026

Client
Victor Valley Transit
Authority
0. FINAL CORRECTIONS
1. REVISED
2. REVISED
3. REVISED
4. REVISED
5. REVISED
6. REVISED
7. REVISED
8. REVISED
9. REVISED
10. REVISED
11. REVISED
12. REVISED
13. REVISED
14. REVISED
15. REVISED
16. REVISED
17. REVISED
18. REVISED
19. REVISED
20. REVISED
21. REVISED
22. REVISED
23. REVISED
24. REVISED
25. REVISED
26. REVISED
27. REVISED
28. REVISED
29. REVISED
30. REVISED
31. REVISED
32. REVISED
33. REVISED
34. REVISED
35. REVISED
36. REVISED
37. REVISED
38. REVISED
39. REVISED
40. REVISED
41. REVISED
42. REVISED
43. REVISED
44. REVISED
45. REVISED
46. REVISED
47. REVISED
48. REVISED
49. REVISED
50. REVISED
51. REVISED
52. REVISED
53. REVISED
54. REVISED
55. REVISED
56. REVISED
57. REVISED
58. REVISED
59. REVISED
60. REVISED
61. REVISED
62. REVISED
63. REVISED
64. REVISED
65. REVISED
66. REVISED
67. REVISED
68. REVISED
69. REVISED
70. REVISED
71. REVISED
72. REVISED
73. REVISED
74. REVISED
75. REVISED
76. REVISED
77. REVISED
78. REVISED
79. REVISED
80. REVISED
81. REVISED
82. REVISED
83. REVISED
84. REVISED
85. REVISED
86. REVISED
87. REVISED
88. REVISED
89. REVISED
90. REVISED
91. REVISED
92. REVISED
93. REVISED
94. REVISED
95. REVISED
96. REVISED
97. REVISED
98. REVISED
99. REVISED
100. REVISED
101. REVISED
102. REVISED
103. REVISED
104. REVISED
105. REVISED
106. REVISED
107. REVISED
108. REVISED
109. REVISED
110. REVISED
111. REVISED
112. REVISED
113. REVISED
114. REVISED
115. REVISED
116. REVISED
117. REVISED
118. REVISED
119. REVISED
120. REVISED
121. REVISED
122. REVISED
123. REVISED
124. REVISED
125. REVISED
126. REVISED
127. REVISED
128. REVISED
129. REVISED
130. REVISED
131. REVISED
132. REVISED
133. REVISED
134. REVISED
135. REVISED
136. REVISED
137. REVISED
138. REVISED
139. REVISED
140. REVISED
141. REVISED
142. REVISED
143. REVISED
144. REVISED
145. REVISED
146. REVISED
147. REVISED
148. REVISED
149. REVISED
150. REVISED
151. REVISED
152. REVISED
153. REVISED
154. REVISED
155. REVISED
156. REVISED
157. REVISED
158. REVISED
159. REVISED
160. REVISED
161. REVISED
162. REVISED
163. REVISED
164. REVISED
165. REVISED
166. REVISED
167. REVISED
168. REVISED
169. REVISED
170. REVISED
171. REVISED
172. REVISED
173. REVISED
174. REVISED
175. REVISED
176. REVISED
177. REVISED
178. REVISED
179. REVISED
180. REVISED
181. REVISED
182. REVISED
183. REVISED
184. REVISED
185. REVISED
186. REVISED
187. REVISED
188. REVISED
189. REVISED
190. REVISED
191. REVISED
192. REVISED
193. REVISED
194. REVISED
195. REVISED
196. REVISED
197. REVISED
198. REVISED
199. REVISED
200. REVISED
201. REVISED
202. REVISED
203. REVISED
204. REVISED
205. REVISED
206. REVISED
207. REVISED
208. REVISED
209. REVISED
210. REVISED
211. REVISED
212. REVISED
213. REVISED
214. REVISED
215. REVISED
216. REVISED
217. REVISED
218. REVISED
219. REVISED
220. REVISED
221. REVISED
222. REVISED
223. REVISED
224. REVISED
225. REVISED
226. REVISED
227. REVISED
228. REVISED
229. REVISED
230. REVISED
231. REVISED
232. REVISED
233. REVISED
234. REVISED
235. REVISED
236. REVISED
237. REVISED
238. REVISED
239. REVISED
240. REVISED
241. REVISED
242. REVISED
243. REVISED
244. REVISED
245. REVISED
246. REVISED
247. REVISED
248. REVISED
249. REVISED
250. REVISED
251. REVISED
252. REVISED
253. REVISED
254. REVISED
255. REVISED
256. REVISED
257. REVISED
258. REVISED
259. REVISED
260. REVISED
261. REVISED
262. REVISED
263. REVISED
264. REVISED
265. REVISED
266. REVISED
267. REVISED
268. REVISED
269. REVISED
270. REVISED
271. REVISED
272. REVISED
273. REVISED
274. REVISED
275. REVISED
276. REVISED
277. REVISED
278. REVISED
279. REVISED
280. REVISED
281. REVISED
282. REVISED
283. REVISED
284. REVISED
285. REVISED
286. REVISED
287. REVISED
288. REVISED
289. REVISED
290. REVISED
291. REVISED
292. REVISED
293. REVISED
294. REVISED
295. REVISED
296. REVISED
297. REVISED
298. REVISED
299. REVISED
300. REVISED
301. REVISED
302. REVISED
303. REVISED
304. REVISED
305. REVISED
306. REVISED
307. REVISED
308. REVISED
309. REVISED
310. REVISED
311. REVISED
312. REVISED
313. REVISED
314. REVISED
315. REVISED
316. REVISED
317. REVISED
318. REVISED
319. REVISED
320. REVISED
321. REVISED
322. REVISED
323. REVISED
324. REVISED
325. REVISED
326. REVISED
327. REVISED
328. REVISED
329. REVISED
330. REVISED
331. REVISED
332. REVISED
333. REVISED
334. REVISED
335. REVISED
336. REVISED
337. REVISED
338. REVISED
339. REVISED
340. REVISED
341. REVISED
342. REVISED
343. REVISED
344. REVISED
345. REVISED
346. REVISED
347. REVISED
348. REVISED
349. REVISED
350. REVISED
351. REVISED
352. REVISED
353. REVISED
354. REVISED
355. REVISED
356. REVISED
357. REVISED
358. REVISED
359. REVISED
360. REVISED
361. REVISED
362. REVISED
363. REVISED
364. REVISED
365. REVISED
366. REVISED
367. REVISED
368. REVISED
369. REVISED
370. REVISED
371. REVISED
372. REVISED
373. REVISED
374. REVISED
375. REVISED
376. REVISED
377. REVISED
378. REVISED
379. REVISED
380. REVISED
381. REVISED
382. REVISED
383. REVISED
384. REVISED
385. REVISED
386. REVISED
387. REVISED
388. REVISED
389. REVISED
390. REVISED
391. REVISED
392. REVISED
393. REVISED
394. REVISED
395. REVISED
396. REVISED
397. REVISED
398. REVISED
399. REVISED
400. REVISED
401. REVISED
402. REVISED
403. REVISED
404. REVISED
405. REVISED
406. REVISED
407. REVISED
408. REVISED
409. REVISED
410. REVISED
411. REVISED
412. REVISED
413. REVISED
414. REVISED
415. REVISED
416. REVISED
417. REVISED
418. REVISED
419. REVISED
420. REVISED
421. REVISED
422. REVISED
423. REVISED
424. REVISED
425. REVISED
426. REVISED
427. REVISED
428. REVISED
429. REVISED
430. REVISED
431. REVISED
432. REVISED
433. REVISED
434. REVISED
435. REVISED
436. REVISED
437. REVISED
438. REVISED
439. REVISED
440. REVISED
441. REVISED
442. REVISED
443. REVISED
444. REVISED
445. REVISED
446. REVISED
447. REVISED
448. REVISED
449. REVISED
450. REVISED
451. REVISED
452. REVISED
453. REVISED
454. REVISED
455. REVISED
456. REVISED
457. REVISED
458. REVISED
459. REVISED
460. REVISED
461. REVISED
462. REVISED
463. REVISED
464. REVISED
465. REVISED
466. REVISED
467. REVISED
468. REVISED
469. REVISED
470. REVISED
471. REVISED
472. REVISED
473. REVISED
474. REVISED
475. REVISED
476. REVISED
477. REVISED
478. REVISED
479. REVISED
480. REVISED
481. REVISED
482. REVISED
483. REVISED
484. REVISED
485. REVISED
486. REVISED
487. REVISED
488. REVISED
489. REVISED
490. REVISED
491. REVISED
492. REVISED
493. REVISED
494. REVISED
495. REVISED
496. REVISED
497. REVISED
498. REVISED
499. REVISED
500. REVISED
501. REVISED
502. REVISED
503. REVISED
504. REVISED
505. REVISED
506. REVISED
507. REVISED
508. REVISED
509. REVISED
510. REVISED
511. REVISED
512. REVISED
513. REVISED
514. REVISED
515. REVISED
516. REVISED
517. REVISED
518. REVISED
519. REVISED
520. REVISED
521. REVISED
522. REVISED
523. REVISED
524. REVISED
525. REVISED
526. REVISED
527. REVISED
528. REVISED
529. REVISED
530. REVISED
531. REVISED
532. REVISED
533. REVISED
534. REVISED
535. REVISED
536. REVISED
537. REVISED
538. REVISED
539. REVISED
540. REVISED
541. REVISED
542. REVISED
543. REVISED
544. REVISED
545. REVISED
546. REVISED
547. REVISED
548. REVISED
549. REVISED
550. REVISED
551. REVISED
552. REVISED
553. REVISED
554. REVISED
555. REVISED
556. REVISED
557. REVISED
558. REVISED
559. REVISED
560. REVISED
561. REVISED
562. REVISED
563. REVISED
564. REVISED
565. REVISED
566. REVISED
567. REVISED
568. REVISED
569. REVISED
570. REVISED
571. REVISED
572. REVISED
573. REVISED
574. REVISED
575. REVISED
576. REVISED
577. REVISED
578. REVISED
579. REVISED
580. REVISED
581. REVISED
582. REVISED
583. REVISED
584. REVISED
585. REVISED
586. REVISED
587. REVISED
588. REVISED
589. REVISED
590. REVISED
591. REVISED
592. REVISED
593. REVISED
594. REVISED
595. REVISED
596. REVISED
597. REVISED
598. REVISED
599. REVISED
600. REVISED
601. REVISED
602. REVISED
603. REVISED
604. REVISED
605. REVISED
606. REVISED
607. REVISED
608. REVISED
609. REVISED
610. REVISED
611. REVISED
612. REVISED
613. REVISED
614. REVISED
615. REVISED
616. REVISED
617. REVISED
618. REVISED
619. REVISED
620. REVISED
621. REVISED
622. REVISED
623. REVISED
624. REVISED
625. REVISED
626. REVISED
627. REVISED
628. REVISED
629. REVISED
630. REVISED
631. REVISED
632. REVISED
633. REVISED
634. REVISED
635. REVISED
636. REVISED
637. REVISED
638. REVISED
639. REVISED
640. REVISED
641. REVISED
642. REVISED
643. REVISED
644. REVISED
645. REVISED
646. REVISED
647. REVISED
648. REVISED
649. REVISED
650. REVISED
651. REVISED
652. REVISED
653. REVISED
654. REVISED
655. REVISED
656. REVISED
657. REVISED
658. REVISED
659. REVISED
660. REVISED
661. REVISED
662. REVISED
663. REVISED
664. REVISED
665. REVISED
666. REVISED
667. REVISED
668. REVISED
669. REVISED
670. REVISED
671. REVISED
672. REVISED
673. REVISED
674. REVISED
675. REVISED
676. REVISED
677. REVISED
678. REVISED
679. REVISED
680. REVISED
681. REVISED
682. REVISED
683. REVISED
684. REVISED
685. REVISED
686. REVISED
687. REVISED
688. REVISED
689. REVISED
690. REVISED
691. REVISED
692. REVISED
693. REVISED
694. REVISED
695. REVISED
696. REVISED
697. REVISED
698. REVISED
699. REVISED
700. REVISED
701. REVISED
702. REVISED
703. REVISED
704. REVISED
705. REVISED
706. REVISED
707. REVISED
708. REVISED
709. REVISED
710. REVISED
711. REVISED
712. REVISED
713. REVISED
714. REVISED
715. REVISED
716. REVISED
717. REVISED
718. REVISED
719. REVISED
720. REVISED
721. REVISED
722. REVISED
723. REVISED
724. REVISED
725. REVISED
726. REVISED
727. REVISED
728. REVISED
729. REVISED
730. REVISED
731. REVISED
732. REVISED
733. REVISED
734. REVISED
735. REVISED
736. REVISED
737. REVISED
738. REVISED
739. REVISED
740. REVISED
741. REVISED
742. REVISED
743. REVISED
744. REVISED
745. REVISED
746. REVISED
747. REVISED
748. REVISED
749. REVISED
750. REVISED
751. REVISED
752. REVISED
753. REVISED
754. REVISED
755. REVISED
756. REVISED
757. REVISED
758. REVISED
759. REVISED
760. REVISED
761. REVISED
762. REVISED
763. REVISED
764. REVISED
765. REVISED
766. REVISED
767. REVISED
768. REVISED
769. REVISED
770. REVISED
771. REVISED
772. REVISED
773. REVISED
774. REVISED
775. REVISED
776. REVISED
777. REVISED
778. REVISED
779. REVISED
780. REVISED
781. REVISED
782. REVISED
783. REVISED
784. REVISED
785. REVISED
786. REVISED
787. REVISED
788. REVISED
789. REVISED
790. REVISED
791. REVISED
792. REVISED
793. REVISED
794. REVISED
795. REVISED
796. REVISED
797. REVISED
798. REVISED
799. REVISED
800. REVISED
801. REVISED
802. REVISED
803. REVISED
804. REVISED
805. REVISED
806. REVISED
807. REVISED
808. REVISED
809. REVISED
810. REVISED
811. REVISED
812. REVISED
813. REVISED
814. REVISED
815. REVISED
816. REVISED
817. REVISED
818. REVISED
819. REVISED
820. REVISED
821. REVISED
822. REVISED
823. REVISED
824. REVISED
825. REVISED
826. REVISED
827. REVISED
828. REVISED
829. REVISED
830. REVISED
831. REVISED
832. REVISED
833. REVISED
834. REVISED
835. REVISED
836. REVISED
837. REVISED
838. REVISED
839. REVISED
840. REVISED
841. REVISED
842. REVISED
843. REVISED
844. REVISED
845. REVISED
846. REVISED
847. REVISED
848. REVISED
849. REVISED
850. REVISED
851. REVISED
852. REVISED
853. REVISED
854. REVISED
855. REVISED
856. REVISED
857. REVISED
858. REVISED
859. REVISED
860. REVISED
861. REVISED
862. REVISED
863. REVISED
864. REVISED
865. REVISED
866. REVISED
867. REVISED
868. REVISED
869. REVISED
870. REVISED
871. REVISED
872. REVISED
873. REVISED
874. REVISED
875. REVISED
876. REVISED
877. REVISED
878. REVISED
879. REVISED
880. REVISED
881. REVISED
882. REVISED
883. REVISED
884. REVISED
885. REVISED
886. REVISED
887. REVISED
888. REVISED
889. REVISED
890. REVISED
891. REVISED
892. REVISED
893. REVISED
894. REVISED
895. REVISED
896. REVISED
897. REVISED
898. REVISED
899. REVISED
900. REVISED
901. REVISED
902. REVISED
903. REVISED
904. REVISED
905. REVISED
906. REVISED
907. REVISED
908. REVISED
909. REVISED
910. REVISED
911. REVISED
912. REVISED
913. REVISED
914. REVISED
915. REVISED
916. REVISED
917. REVISED
918. REVISED
919. REVISED
920. REVISED
921. REVISED
922. REVISED
923. REVISED
924. REVISED
925. REVISED
926. REVISED
927. REVISED
928. REVISED
929. REVISED
930. REVISED
931. REVISED
932. REVISED
933. REVISED
934. REVISED
935. REVISED
936. REVISED
937. REVISED
938. REVISED
939. REVISED
940. REVISED
941. REVISED
942. REVISED
943. REVISED
944. REVISED
945. REVISED
946. REVISED
947. REVISED
948. REVISED
949. REVISED
950. REVISED
951. REVISED
952. REVISED
953. REVISED
954. REVISED
955. REVISED
956. REVISED
957. REVISED
958. REVISED
959. REVISED
960. REVISED
961. REVISED
962. REVISED
963. REVISED
964. REVISED
965. REVISED
966. REVISED
967. REVISED
968. REVISED
969. REVISED
970. REVISED
971. REVISED
972. REVISED
973. REVISED
974. REVISED
975. REVISED
976. REVISED
977. REVISED
978. REVISED
979. REVISED
980. REVISED
981. REVISED
982. REVISED
983. REVISED
984. REVISED
985. REVISED
986. REVISED
987. REVISED
988. REVISED
989. REVISED
990. REVISED
991. REVISED
992. REVISED
993. REVISED
994. REVISED
995. REVISED
996. REVISED
997. REVISED
998. REVISED
999. REVISED
1000. REVISED



SHEET NOTES:

1. SEE SHEET D-601 FOR DETAILED EQUIPMENT SCHEDULE.
2. INSTALL ALL WIRING AND PERFORM SYSTEM SETUP IN ACCORDANCE WITH MANUFACTURER REQUIREMENTS.
3. CONTRACTOR SHALL VERIFY EXISTING SITE CONDITIONS PRIOR TO INSTALLATION. NOTIFY ARCHITECT IMMEDIATELY IN WRITING OF ANY DISCREPANCY OR LACK OF CONSTRUCTIBILITY.
4. PROVIDE SEPARATE CONDUIT FOR LOW VOLTAGE WIRING FROM POWER WIRING.
5. PROVIDE ALL WIRING AND MEANS OF PROTECTION AND IDENTIFICATION AS INDICATED ON SHEET D-602.
6. CONTRACT. WIRING BLOCK DIAGRAM IS SCHEMATIC ONLY AND MAY VARY FOR EACH MANUFACTURER AND MODEL.
7. CONTRACTOR SHALL SUBMIT SPECIFIC AND FINAL BLOCK DIAGRAM FOR APPROVAL.
8. CONTRACTOR SHALL PROVIDE VOLTAGE DROP CALCULATIONS FOR ENTIRE GAS DETECTION SYSTEM PER LINE LENGTH OF CONDUIT. THE MAXIMUM ALLOWED VOLTAGE DROP FOR MAXIMUM DROP ACCEPTABLE BY EQUIPMENT MANUFACTURER.
9. ALL POWER AND CONTROL/SIGNAL WIRING FOR THE PROJECT SHALL BE ROUTED IN RIGID GALVANIZED STEEL (RGS) CONDUITS. CONTRACTOR SHALL PROVIDE PROTECTION FOR ALL CONDUITS AND WIRING.
10. PROVIDE OUTDOOR RATED RINGS AND FITTINGS.
11. FUELING BAYS FLAME DETECTION IS NOT COVERED UNDER THE PROJECT SCOPE OF WORK AS PER OWNER.

KEYED NOTES

2. PROVIDE A 24VDC POWER FROM POWER SUPPLY TO CONTROLLER.
PROVIDE A PAIR OF #12 AWG CONDUCTORS.
3. MODBUS WIRING AND LOW VOLTAGE POWER WIRING TO TRANSFORMER.
 - A. PROVIDE ISSAS DATA CONNECTION FROM CONTROLLER TO EACH TRANSFORMER. PROVIDE RETURN WIRE FROM LAST TRANSFORMER BACK TO CONTROLLER. WIRING FOR EACH TRANSFORMER SHALL BE IDENTICAL FOR ALL (E) SHELEDS. #18 AWG MINIMUM CONDUCTORS WITH GROUND WIRE. PROVIDE 1/2" FROM EACH END OF PAIR OF DETECTORS TO THEIR RESPECTIVE TRANSFORMER.
 - B. PROVIDE 24VDC POWER FROM POWER SUPPLY TO EACH TRANSFORMER. PROVIDE RETURN WIRE FROM LAST TRANSFORMER BACK TO POWER SUPPLY. WIRING SHALL BE SUITABLE FOR 24VDC WITH (2) #12 AWG MINIMUM CONDUCTORS.
 - C. PROVIDE ETHERNET DATA CONNECTION TO EACH REMOTE DISPLAY PANEL.
3. PROVIDE (6) #12 AWG WIRING FOR MULTIPLE OUTPUTS AS REQUIRED TO (E) LIGHT COLOURS OF VISUAL ANNUNCIATORS IN ORDER TO INTERFACE PER GAS DETECTION SEQUENCE OF OPERATIONS.
4. PROVIDE 24 VDC WIRING FOR MULTIPLE OUTPUTS AS REQUIRED TO FEED ADDRESS ANNUNCIATORS IN SERIES. INTERFACE PER GAS DETECTION SEQUENCE OF OPERATIONS.
5. PROVIDE CABLE WIRING TO CONNECT DETECTION SYSTEM CONTROL PANEL TO ETHERNET SWITCH IN THE ROOM.
6. AC POWER THAT FEEDS POWER SUPPLY FOR GAS DETECTION SYSTEM SHALL BE BACKUP BY (E) PANEL BACKUP BY (E) SYSTEM. REFER TO ELECTRICAL PLANS FOR ADDITIONAL INFORMATION.
7. PROVIDE CONNECTION TO EXISTING GAS IN MAIN ADMINISTRATION BUILDING RM B153.
8. PROVIDE INTERSPEERING RELAY WITH TIMER AND MEMORY FUNCTION. INTERFACE PER GAS DETECTION SEQUENCE OF OPERATIONS.
9. CONFIGURE SUCH THAT EITHER DETECTOR SHALL HAVE THE CAPABILITY TO TRIGGER AN ALARM CONDITION INDEPENDENT OF THE OTHER DETECTOR. INTERSPEERING RELAY SHALL BE WIRING IN ACCORDANCE WITH THE SEQUENCE OF OPERATIONS WHEN EITHER DETECTOR TRIGGERS AN ALARM CONDITION.
10. ADDRESS LOW ALARM PROGRAM INTERSPEERING RELAY WITH TIMER AND MEMORY FUNCTION TO ENERGIZE ADDRESS ALARM FOR 5 SECONDS AND REPEAT IN 3 SECOND INTERVALS UNTIL COULDS BE RESET.
11. SENSORED SHUT OFF VALVE TO BE NORMALLY OPEN AND CLOSED PER SEQUENCE OF OPERATIONS. REFER TO PLUMBING PLANS FOR NATURAL GAS SYSTEM DETAILS AND LOCATION AND QUALITY.
12. COORDINATE AND FIELD VERIFY LOCATION OF (E) ELECTRICALLY ACTUATED BAL. VALVE FOR GAS SUPPLY TO BUILDING HEATER. COORDINATE AND FIELD VERIFY LOCATION OF (E) ELECTRICALLY ACTUATED BAL. VALVE FOR GAS SUPPLY TO BUILDING HEATER AND 120V POWER WIRE FROM PANELBOARD. (GENSET BACKUP) TO BE AVAILABLE TO FEED PLUMBING LANS FOR GAS SUPPLY TO BUILDING HEATER.



FOR FIRE DEPARTMENT USE ONLY

Project No.:2045335200

FUELING BUILDING
LOW-VOLTAGE BLOCK
WIRING DIAGRAM-
CO, H2, & CH4

Scale:
Revision: **0**
Drawing No:

D-612

SPECIALTY

CONTROLS ABBREVIATIONS

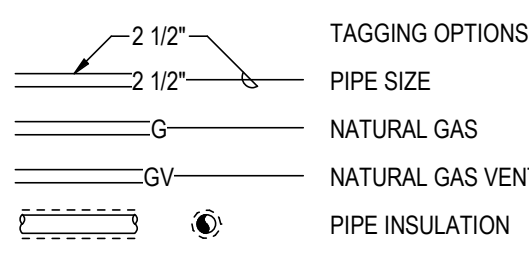
AI	ANALOG INPUT
AO	ANALOG OUTPUT
BA	BUILDING AUTOMATION SYSTEMS
BI	BINARY INPUT
BO	BINARY OUTPUT
DC	DATA CONNECTION
DP	DIFFERENTIAL PRESSURE
NC	NETWORK CONTROLLER
ONS	OPERATOR WORKSTATION
PC	PROGRAMMABLE CONTROLLER
PI	PROPORTIONAL, INTEGRAL
PD	PROPORTIONAL, INTEGRAL, DERIVATIVE
SC	SYSTEM CONTROLLER
TMC	TERMINAL UNIT CONTROLLER
UAC	UNITARY MOUNTED CONTROLLER

CONTROLS SYMBOLS

(P)	AIR PRESSURE GAUGE
(S)	AIR SAMPLING POINT
(C)	CARBON DIOXIDE SENSOR
(CO)	CARBON MONOXIDE SENSOR
(G)	COMBUSTIBLE GAS SENSOR
(I)	CURRENT SENSOR
(L)	CURRENT TRANSMITTER WITH LEAD
(D)	DEWPOINT SENSOR
(DP)	DIFFERENTIAL PRESSURE SENSOR
(DPT)	DIFFERENTIAL PRESSURE TRANSMITTER
(M)	FLOW METER
(F)	FLOW SWITCH
(T)	FLOW TRANSMITTER
(FZ)	FREEZE STAT
(H)	HAND SWITCH
(H)	HUMIDITY SENSOR
(C)	LEVEL CONTROL
(L)	LIMIT SWITCH
(LPI)	LOOP POWER INDICATOR
(NO)	NITROGEN OXIDE SENSOR
(O)	OCCUPANCY SENSOR
(O)	OXYGEN SENSOR
(D)	POSITION INDICATOR
(P)	PRESSURE SENSOR
(R)	REFRIGERANT SENSOR
(RH)	RELATIVE HUMIDITY SENSOR
(R)	RELAY
(RH)	ROOM HUMIDITY SENSOR
(P)	STATIC PRESSURE SENSOR
(T)	TEMPERATURE SENSOR
(T)	THERMOSTAT
(T)	THERMOSTAT WITH GUARD
(T)	TOTAL VOLATILE ORGANIC COMPOUND SENSOR
(V)	VIBRATION SENSOR
(F)	AIR FLOW SWITCH
(P)	CURRENT TO PRESSURE
(E)	ELECTRIC / PNEUMATIC
(S)	SILICON CONTROLLED RECTIFIER
(T)	TEMPERATURE CONTROL PANEL
(T)	TERMINAL EQUIPMENT CONTROLLER
(S)	SENSOR WELL
(A)	ALARM HORN
(A)	ALARM BEACON
(I)	ANALOG INPUT
(O)	ANALOG OUTPUT
(I)	DIRECT INPUT
(O)	DIRECT OUTPUT
(V)	STARTER
(V)	VARIABLE FREQUENCY DRIVE
(V)	NON-MOTORIZED VALVE
(V)	TWO-WAY SOLENOID VALVE
(V)	THREE-WAY SOLENOID VALVE
(V)	DUCT SMOKE DETECTOR
(V)	DUCT SMOKE DETECTOR
(V)	AIR VALVE

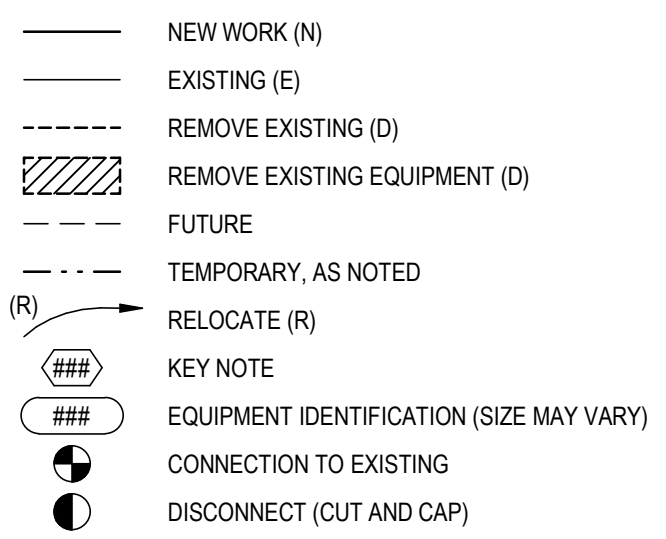
SYSTEMS

PIPING

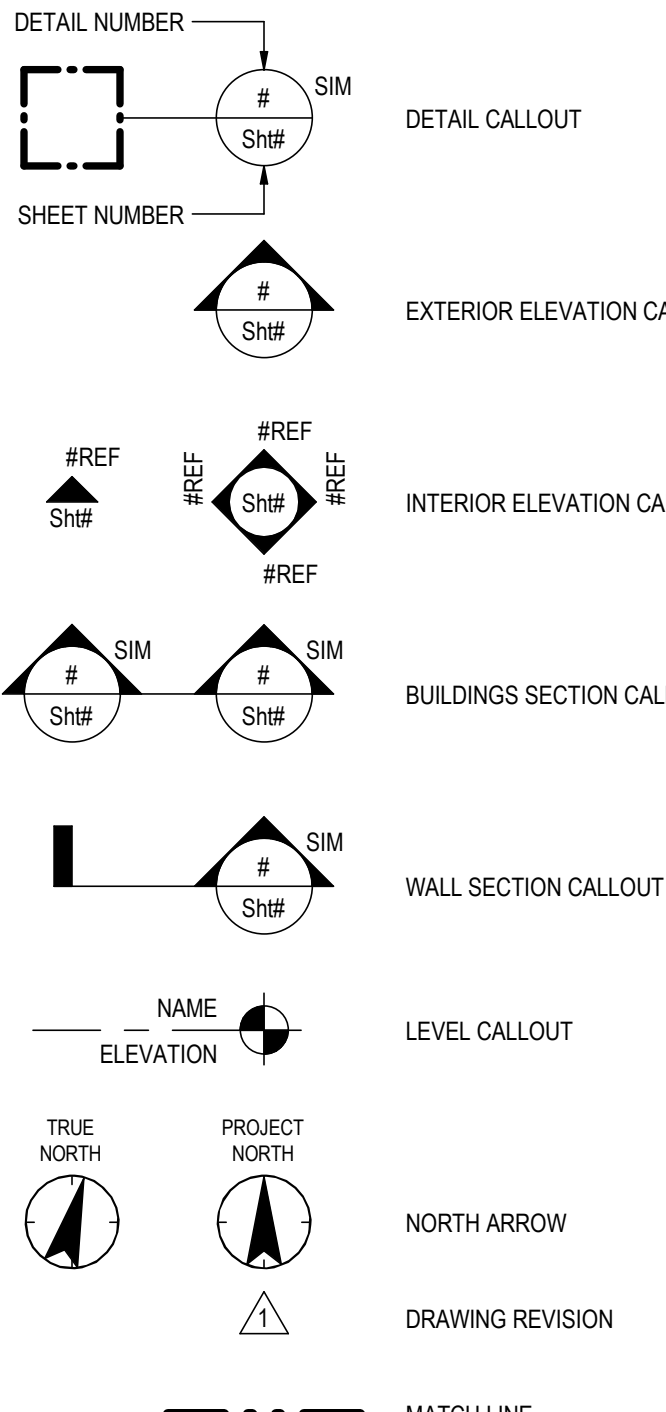


SYMBOLS

WORK DEFINITION

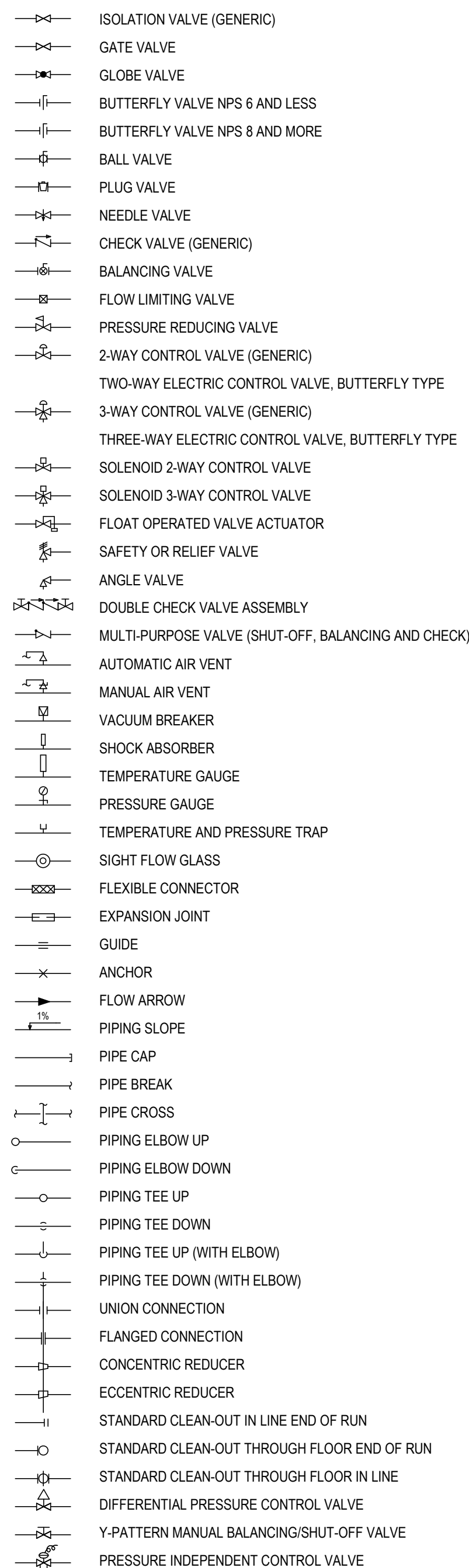


GENERAL



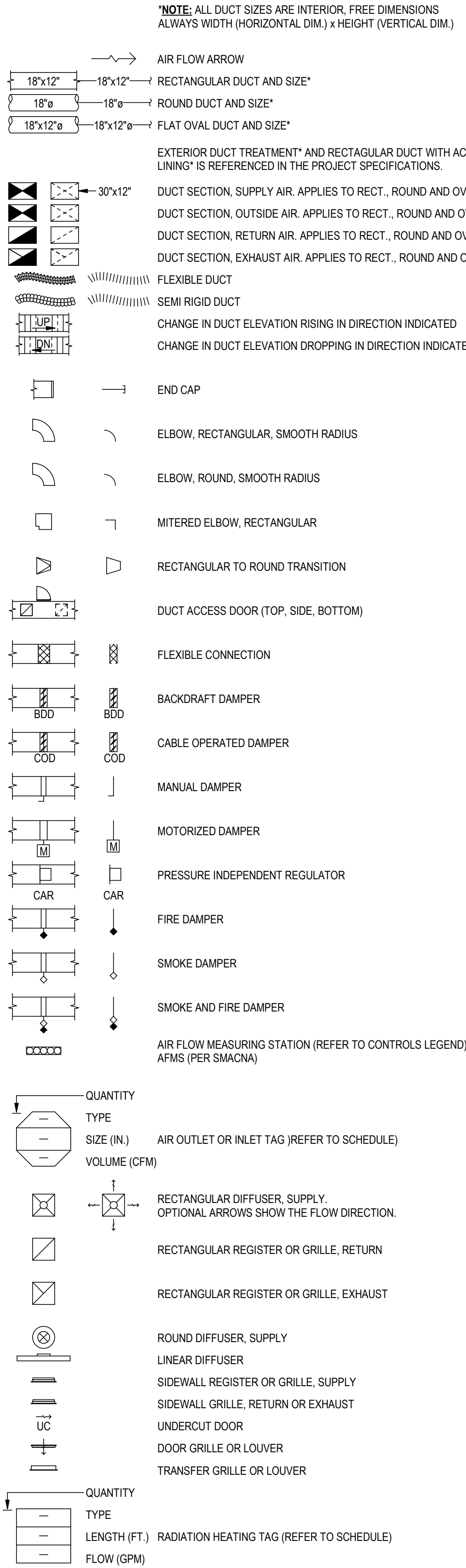
SYMBOLS

PIPING



SYMBOLS

HVAC



ABBREVIATIONS

ACV	AIR CONDITIONING UNIT	MOP	MAXIMUM OVERCURRENT PROTECTION
AAV	AUTOMATIC AIR VENT	MWT	MEAN WATER TEMPERATURE
ADA	AMERICANS WITH DISABILITIES ACT	NA	NOT APPLICABLE
ADJ	ADJUSTABLE	NC	NOISE CRITERIA
AF	ABOVE FINISHED CEILING	NC	NORMALLY CLOSED
AF	ABOVE FINISHED FLOOR	NC	NOT IN CONTRACT
AF	ABOVE FINISHED GRADE	NO	NORMALLY OPEN
AF	ABOVE FINISH ROOF	NPS	NOMINAL PIPE SIZE
AHJ	AUTHORITY HAVING JURISDICTION	NTS	NOT TO SCALE
AP	ACCESS PANEL	OA	OUTSIDE AIR
AP	AIR PRESSURE DROP	OCFI	OWNER FURNISHED, CONTRACTOR INSTALLED
AVG	AVERAGE	OFE	OWNER FURNISHED EQUIPMENT
BA	BUILDING AUTOMATION SYSTEM	OCFI	OWNER FURNISHED / OWNER INSTALLED
BAS	BACKDRAFT DAMPER	PS	PROPYLENE GLYCOL
BHP	BRAKE HORSEPOWER	PSE	POINT OF ENTRANCE
BMS	BUILDING MANAGEMENT SYSTEM	POS	POINT OF SERVICE
BO	BOTTOM OF DUCT	PPM	PARTS PER MILLION
BOP	BOTTOM OF PIPE	PSI	POUNDS PER SQUARE INCH
BTU	BRITISH THERMAL UNIT	PSIA	POUNDS PER SQUARE INCH, ABSOLUTE
BTUH	BRITISH THERMAL UNIT PER HOUR	PSIG	POUNDS PER SQUARE INCH, GAGE
BTU	COMBUSTIBLE WITH	PTS	PNEUMATIC TUBE STATION
CAV	CONSTANT AIR VOLUME	PVC	POLYVINYL CHLORIDE
CBV	CIRCUIT BALANCING VALVE	RA	RETURN AIR
CFM	CUBIC FEET PER MINUTE	RELA	RELIEF AIR
DB	DRY BULB TEMPERATURE	REQD	REQUIRED
DB	DECELSUS	RH	RELATIVE HUMIDITY
DBA	A-WEIGHTED DECIBELS	RFM	REVOLUTIONS PER MINUTE
DDC	DIRECT DIGITAL CONTROL	SA	SUPPLY AIR
DEG	DEGREE	SEER	SEASONAL ENERGY EFFICIENCY RATION
DA	DIAMETER	SP	STATIC PRESSURE
DIFF	DIFFERENTIAL	SP	STAR PRESSURIZATION AIR (*)
DIV	DIVISION	SRV	SAFETY RELIEF VALVE
DN	DOWN	TA	TRANSFER AIR
DWG	DRAWING	TEMP	TEMPERATURE
EA	EXHAUST AIR	TSP	TOTAL STATIC PRESSURE
EA (D)	EXHAUST AIR, DISHWASH	TSTAT	THERMOSTAT
EA (G)	EXHAUST AIR, GENERAL	TYP	TYPICAL
EA (K)	EXHAUST AIR, KITCHEN	UC	UNDER CUT (DOOR)
EA (LAB)	EXHAUST AIR, LABORATORY	UP	UNDERGROUND
EA (LD)	EXHAUST AIR, LAUNDRY/DRYER	VAV	VARIABLE AIR VOLUME
EA (W)	EXHAUST AIR, WASHROOM	VFD	VARIABLE FREQUENCY DRIVE
EAT	ENTERING AIR TEMPERATURE	VF	VERIFY IN FIELD
EAV	EXHAUST AIR VALVE	VTR	VENT-THRU-ROOF
ECC	ELECTRONICALLY COMMUNICATED MOTOR	W	WITH
ED	EXISTING TO BE DEMOLISHED (DEMOLITION PLANS)	W/O	WITHOUT
EER	ENERGY EFFICIENCY RATIO	WB	WET BULB TEMPERATURE
EG	ETHYLENE GLYCOL	WG	WATER GUAUGE
EMCS	ENERGY MANAGEMENT CONTROL SYSTEM	ZN#	ZONE
ER	EXISTING RELOCATED (NEW CONSTRUCTION PLANS)	°C	CELSIUS
ERL	EXISTING TO BE RELOCATED (DEMOLITION PLANS)	°F	FAHRENHEIT
ESP	EXTERNAL STATIC PRESSURE		
EW	ENTERING WATER TEMPERATURE		
EXIST	EXISTING (DEMOLITION PLANS)		
FC	FIRE DAMPER		
FLA	FULL LOAD AMPERAGE		
FO	FIL OPEN		
FP	FIRE PROTECTION		
FM	FEET PER MINUTE		
FPS	FEET PER SECOND		
FT	FOOT/FEET		
GA	GAUGE		
GAL	GALLON (US)		
GC	GENERAL CONTRACTOR		
GEO	GEODETIC		
GF	GALLONS PER MINUTE		
HEPA	HIGH EFFICIENCY PARTICULATE AIR (FILTER)		
HP	HORSEPOWER		
HR	HEATING / VENTILATING / AIR CONDITIONING		
HZ	HERTZ		
IE	INVERT ELEVATION		
IER	INTEGRATED ENERGY EFFICIENCY RATIO		
IN	INCHES		
IN WG	INCHES WATER GAUGE		
IPV	INTEGRATED PART LOAD VALUE		
KW	KILOWATT		
KWH	KILOWATT HOUR		
LAT	LEAVING AIR TEMPERATURE		
LBS	POUNDS		
LF	LINEAR FEET		
LWT	LEAVING WATER TEMPERATURE		
M	METER		
MAX	MAXIMUM		
MBH	THOUSAND OF BTUH		
MCA	MINIMUM CIRCUIT AMPS		
MERV	MINIMUM EFFICIENCY REPORTING VALUES		
MFR	MANUFACTURER		
MN	MINIMUM		

APPLICABLE CODES

THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE LAWS AND CODES AND INCLUDE, BUT NOT BE LIMITED TO, THE LATEST ADOPTED EDITIONS OF:

- 2023 SAN BERNARDINO COUNTY BUILDING CODE
- 2023 SAN BERNARDINO COUNTY ELECTRICAL CODE
- 2023 SAN BERNARDINO COUNTY MECHANICAL CODE
- 2023 SAN BERNARDINO COUNTY PLUMBING CODE
- 2023 SAN BERNARDINO COUNTY FIRE CODE
- 2022 CALIFORNIA ENERGY CODE
- 2022 CALIFORNIA BUILDING STANDARDS ADMINISTRATIVE CODE
- PART 1, TITLE 24, CALIFORNIA CODE OF REGULATIONS (CCR)
- 2022 CALIFORNIA GREEN CODE, PART 11, TITLE 24, CCR
- NFPA 2 HYDROGEN TECHNOLOGIES CODE
- NFPA 30A CODE FOR MOTOR FUEL DISPENSING FACILITIES & REPAIR GARAGES WHERE LAWS AND CODES ARE FOUND TO BE IN CONFLICT WITH EACH OTHER, THE MORE STRINGENT REQUIREMENTS WILL PREVAIL.
- NFPA 715 STANDARD FOR THE INSTALLATION OF FUEL GASES DETECTION AND WARNING EQUIPMENT
- WHERE LAWS AND CODES ARE FOUND TO BE IN CONFLICT WITH EACH OTHER, THE MORE STRINGENT REQUIREMENTS WILL PREVAIL.

ABBREVIATIONS

GENERAL NOTES

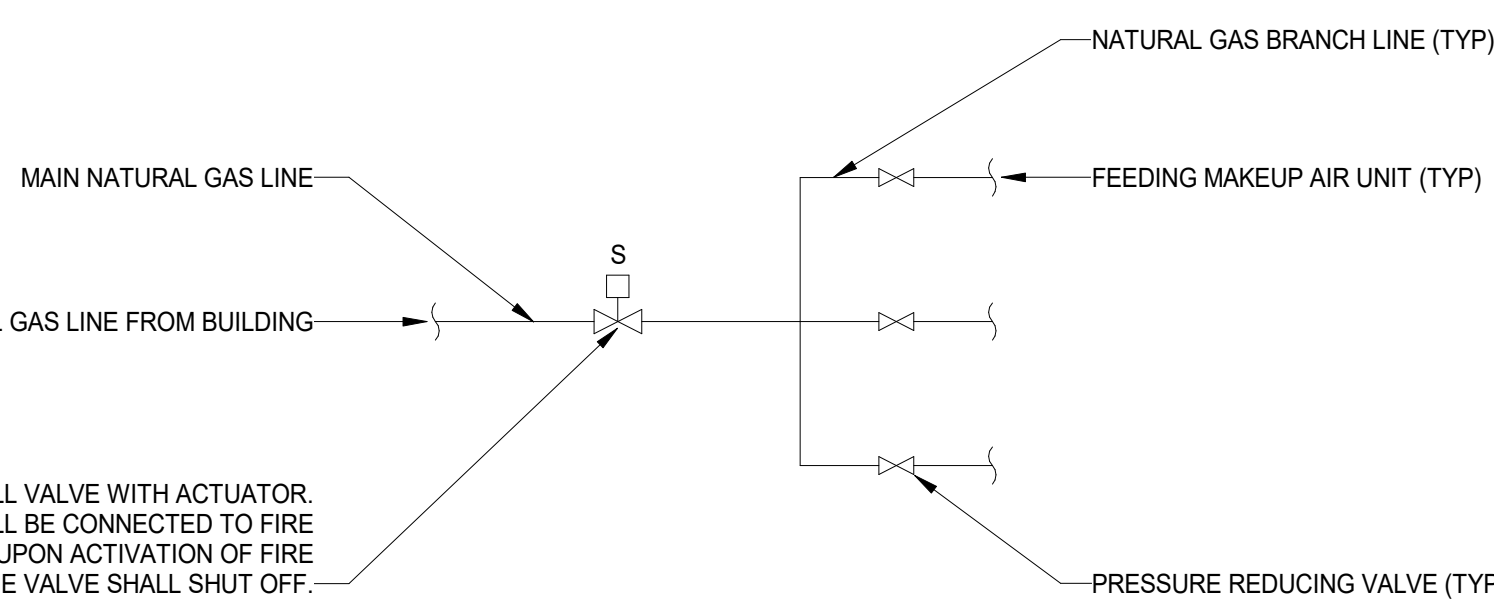
- CONTRACTOR SHALL VISIT SITE TO REVIEW SCOPE OF WORK PRIOR TO SUBMISSION OF BID.
- THE MECHANICAL PLANS ARE DIAGRAMMATIC IN NATURE AND ARE BASED ON ONE MANUFACTURER'S EQUIPMENT. THEY ARE NOT INTENDED TO SHOW EVERY ITEM IN ITS EXACT LOCATION, THE EXACT DIMENSIONS, OR ALL OF THE DETAILS FOR THE EQUIPMENT. THE HVAC CONTRACTOR SHALL VERIFY THE ACTUAL DIMENSIONS OF THE EQUIPMENT AND ENSURE THAT IT WILL FIT IN THE AVAILABLE SPACE.
- MECHANICAL CONTRACTOR RESPONSIBLE FOR INSTALLATION OF COMPLETED OPERATIONAL SYSTEMS WITH DUE RESPECT TO ALL APPLICABLE CODES AND AUTHORITIES HAVING JURISDICTION.
- IT IS THE CONTRACTOR RESPONSIBILITY TO FIELD VERIFY ALL CONNECTION POINTS PRIOR TO INSTALL. NOT ALL CONNECTION SIZES ARE SHOWN, BUT HOSE THAT ARE APPROPRIATE AND TAKEN FROM EXISTING AS-BUILTS AND FIELD OBSERVATIONS.
- COORDINATE PIPE ROUTING WITH DUCTWORK, SPRINKLER PIPING AND ELECTRICAL, POWERLIGHTING CIRCUITING AND STRUCTURAL MEMBERS PRIOR TO INSTALLATION.
- ALL WORK SHALL COMPLY WITH APPLICABLE CODES AND ORDINANCES INCLUDING CALIFORNIA STATE RULES AND REGULATIONS.
- CONTRACTORS TO VERIFY ALL GRADES, DIMENSIONS AND EXISTING CONDITIONS AT THE SITE BEFORE PROCEEDING WITH WORK. NOTIFY PRIME ARCHITECT IMMEDIATELY OF ANY DISCREPANCIES BETWEEN DRAWINGS AND ACTUAL CONDITIONS BEFORE INSTALLATION.
- ALL MATERIALS AND INSTALLATION SHALL COMPLY WITH THE MASTER CONSTRUCTION SPECIFICATIONS.
- COORDINATE INSTALLATION OF PIPING AND DUCTWORK WITH ELECTRICAL CONTRACTOR AND OTHER TRADES.
- ALL EQUIPMENT SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE EQUIPMENT MANUFACTURERS. CONTRACTOR TO PROVIDE ALL FITTINGS, TRANSITIONS, DAMPERS, VALVES, AND OTHER DEVICES REQUIRED FOR A COMPLETE WORKMANLY INSTALLATION.
- PENETRATIONS OF DUCTS, PIPES, CONDUITS ETC IN WALLS REQUIRING PROTECTED OPENINGS SHALL BE FIRE STOPPED, FIRE STOP MATERIAL SHALL BE A UL LISTED ASSEMBLY APPROPRIATE FOR PIPE OR SMOKE PENETRATIONS AS APPLICABLE AND AS APPROVED BY THE FIRE MARSHAL.
- THE HVAC CONTRACTOR SHALL PROVIDE AND INSTALL APPROVED FIRE DAMPERS AND ACCESS PANELS IN ALL DUCTWORK THAT PENETRATES A HORIZONTAL OR VERTICAL FIRE PARTITION, OR AS OTHERWISE SHOWN ON THE DRAWINGS.
- ALL PIPE SHALL BE SUPPORTED FROM THE BUILDING STRUCTURE IN A NEAT AND WORKMANLIKE MANNER. THE USE OF WIRE OR METAL STRAPS TO SUPPORT PIPES WILL NOT BE PERMITTED. SPACING OF PIPE SUPPORTS SHALL NOT EXCEED 8 FEET FOR ALL PIPING. PLASTIC PIPING SHALL BE SUPPORTED EVERY 4 FEET.
- THE HVAC SYSTEMS SHALL BE TESTED AND BALANCED BY AN INDEPENDENT AGENCY UNDER THE SUPERVISION OF A LICENSED PROFESSIONAL ENGINEER. A SEALED TYPE WRITTEN REPORT SHALL BE SUBMITTED TO THE ARCHITECT ENGINEER.
- ALL EQUIPMENT, DUCTS, PIPING, AND OTHER DEVICES AND MATERIALS INSTALLED OUTSIDE OF THE BUILDING OR OTHERWISE EXPOSED TO THE WEATHER SHALL BE COMPLETELY WEATHERPROOFED.

DEMOLITION NOTES

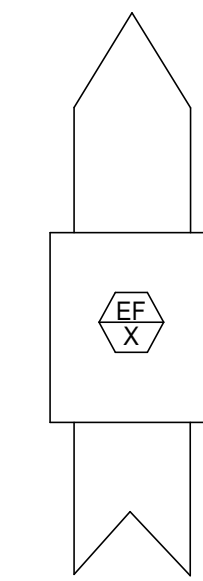
- THE CONTRACTOR SHALL VISIT THE SITE AND BE THOROUGHLY FAMILIARIZED WITH THE EXISTING CONDITIONS PRIOR TO BIDDING. INFORMATION GIVEN ON THESE DRAWINGS ABOUT THE EXISTING INSTALLATION HAS BEEN OBTAINED FROM THE EXISTING AS-BUILT DRAWINGS BUT CANNOT BE GUARANTEED ACCURATE IN ALL RESPECTS. VERIFY ALL SUCH INFORMATION BEFORE PROCEEDING WITH ANY NEW WORK THAT MAY BE AFFECTED. INCLUDE AS PART OF THE CONTRACT ALL WORK REQUIRED TO PRODUCE THE INDICATED RESULT.
- UPON SUBMITTING A BID THE CONTRACTOR SHALL BE HELD TO HAVE MADE SUCH EXAMINATIONS OF THE SITE AND NO ALLOWANCE FOR EXTRAS WILL BE ALLOWED FOR ANY ERROR OR OVERSIGHT RESULTING FROM THE CONTRACTORS UNFAMILIARITY WITH THE SITE OR EXISTING CONDITIONS.
- CONTRACTOR SHALL NOT SCALE DRAWINGS. DIMENSIONS MISSING FROM PLANS OR NEEDED FOR EXECUTION OF WORK SHALL BE CLARIFIED OR PROVIDED BY THE FACILITY REPRESENTATIVE BEFORE WORK IS INSTALLED.
- INTERRUPTION OF EXISTING SERVICES: THE CONTRACTOR'S ATTENTION IS CALLED TO THE PRESENCE OF EXISTING CONDUIT, PIPING, ETC. THE CONTRACTOR WILL BE HELD RESPONSIBLE FOR THE PROPER AND APPROVED REPAIR OF ANY AND ALL DAMAGE CAUSED BY HIM OR HIS WORK TO EXISTING BUILDING. ANY INTERRUPTIONS REQUIRED SHALL BE SCHEDULED TO MINIMIZE INCONVENIENCE TO THE FACILITY, AND AT TIMES AS APPROVED IN ADVANCE BY THE FACILITY REPRESENTATIVE. NEW WORK AND INSTALLATIONS SHALL NOT IMPAIR THE PROPER FUNCTIONING OF THE EXISTING FACILITY. THE COMPLETED PROJECT SHALL BE A PROPERLY FUNCTIONING ENTITY THROUGHOUT. FURNISH ALL LABOR AND MATERIALS REQUIRED TO RELOCATE, REMOVE, REINSTALL, RECONNECT, REPLACE, ETC. ANY EXISTING PIPING TO ACCOMMODATE THE WORK. CONTRACTOR SHOULD CONSIDER IN HIS BID ANY EXTRA WORK REQUIRED TO MINIMIZE SHUT-DOWN TIME.
- EQUIPMENT, FURNITURE, PIPING, ETC. THAT ARE TO BE REMOVED/DEMOLISHED SHALL BE THE PROPERTY OF THIS CONTRACTOR UNLESS NOTED FOR SALVAGE BY FACILITY AND SHALL BE REMOVED IN ITS ENTIRETY FROM THE PREMISES.
- BEFORE DEMOLITION COMMENCES ON SITE, ALL EXISTING EQUIPMENT TO BE RETAINED AND REUSED WILL BE SURVEYED AND VALIDATED TO ESTABLISH CONDITION AND CAPACITIES. ANY EXISTING DAMAGE TO EQUIPMENT IS TO BE RECORDED AT THIS STAGE BY THE CONTRACTOR AND A FULL WRITTEN REPORT SUBMITTED TO THE FACILITY REPRESENTATIVE FOR REVIEW. THE REPORT WILL INCLUDE PHOTOGRAPHIC EVIDENCE OF DAMAGE.
- ALL POWER SUPPLIES TO EXISTING EQUIPMENT TO BE REMOVED SHALL BE ISOLATED AND MADE SAFE PER NEC PRIOR TO DEMOLITION STARTS. THIS PROCESS SHALL BE COORDINATED WITH FACILITY REPRESENTATIVES.

CONSTRUCTION NOTES

- DURING CONSTRUCTION, PROTECT OPENINGS AND MECHANICAL EQUIPMENT FROM DUST AND POLLUTANTS. SEAL PERMANENT HVAC DUCTS/EQUIPMENT STORED ON SITE.
- ALL GAS PIPING SHALL BE INSPECTED AND PRESSURE TESTED PRIOR TO ACCEPTANCE AND INITIAL OPERATION PER CPC SECTION 1213.
- DUCT, PLUMBING, OR FITTINGS OF METAL SHALL COMPLY WITH SMACNA DUCT CONSTRUCTION STANDARDS: METAL AND FLEXIBLE.
- DUCTWORK SHALL BE LEAKED TESTED IN ACCORDANCE WITH SMACNA HVAC AIR DUCT LEAKAGE TEST MANUAL.
- AT THE TIME OF ROUGH INSTALLATION, OR DURING STORAGE ON THE CONSTRUCTION SITE AND UNTIL FINAL START-UP OF THE HEATING, COOLING AND VENTILATING EQUIPMENT, ALL DUCT AND OTHER RELATED AIR DISTRIBUTION COMPONENT OPENINGS SHALL BE COVERED WITH TAPE, PLASTIC, SHEET METAL, OR OTHER ACCEPTABLE METHODS TO REDUCE THE AMOUNT OF DUST, WATER, AND DEBRIS WHICH MAY ENTER THE SYSTEM.



2 M-001 SOLENOID BALL VALVE DETAIL NOT TO SCALE



SEQUENCE OF OPERATION APPLIES TO EF-B10, EF-B11
NORMAL OPERATION MODE: EXHAUST FANS SHALL OPERATE CONTINUOUSLY.
MODIFIED EMERGENCY OPERATION MODE: EXHAUST FANS SHALL BE CONNECTED TO EMERGENCY POWER AND OPERATE CONTINUOUSLY DURING EMERGENCY CONDITIONS.

1 M-001 EXHAUST FAN MODIFIED OPERATION FOR EF-B10 AND EF-B11 NOT TO SCALE

EXHAUST REQUIREMENTS															
SPACE	BUILDING AREA (SQFT)	BUILDING HEIGHT (AVERAGE) FT	2022 CFC 2311.8.8: EXHAUST REQUIRED (CFM)	2022 CFC 2311.4.3: VENTILATION REQUIRED 1.5 CFM/SQFT (CFM)	NFPA 2: 1 CFM/SQFT (CFM)	TOTAL EMERGENCY EXHAUST REQUIRED (CFM)	EXISTING EMERGENCY AIRFLOW (CFM)	EQUIPMENT SERVING EMERGENCY	MAKEUP AIR UNIT SERVING EMERGENCY OPERATION	NORMAL MODE					NOTES
										TOTAL DECLASSIFICATION EXHAUST REQUIRED NFPA 2: 1 CFM/SQFT (CFM)	EXISTING DECLASSIFICATION AIRFLOW (CFM)	EQUIPMENT SERVING DECLASSIFICATION	MAKEUP AIR UNIT SERVING DECLASSIFICATION OPERATION		
WEST REPAIR BAY	9000	24	18,000	13,500	9,000	18,000	20,000	EF-B12	N/A ROLL UP DOORS	9,000	9,300	EF-B17 THROUGH EF-B8	MAU-B1	1, 3, 4	
PARTS STORAGE 1ST FLOOR	2600	12	2,600	3,900	2,600	3,900	3,900	EF-B11	N/A ROLL UP DOORS	2,600	3,900	EF-B11	MAU-B2	2, 4	
EAST REPAIR BAY	4500	24	9,000	6,750	4,500	9,000	20,000	EF-B13	N/A ROLL UP DOORS	4,500	4,650	EF-B17 THROUGH EF-B9	MAU-B3	1, 3, 4	
PARTS STORAGE 2ND FLOOR	2900	12	2,900	4,350	2,900	4,350	3,900	EF-B10	N/A ROLL UP DOORS	2,900	3,900	EF-B10	MAU-B2	2, 4	
NOTES:															
EF-B10 and EF-B13 ARE CURRENTLY ON EMERGENCY MODE. NO MODIFICATION REQUIRED.															
EF-B10 and EF-B13 REQUIRE MODIFICATION TO PLACE ON EMERGENCY POWER.															
EF-B11 TO EF-B9 ARE ON NORMAL POWER AND ARE NOT ON EMERGENCY.															
RELOCATE EXISTING EXHAUST GRILLES TO TERMINATE WITHIN 12 INCHES OF CEILING SPACE. CONTRACTOR TO VERIFY AND MODIFY AS NEEDED.															

NOTES:
1. EF-B12 AND EF-B13 ARE CURRENTLY ON EMERGENCY MODE. NO MODIFICATION REQUIRED.
2. EF-B10 AND EF-B11 REQUIRE MODIFICATION TO PLACE ON EMERGENCY POWER.
3. EF-B10 TO EF-B8 ARE ON NORMAL POWER AND ARE NOT ON EMERGENCY.
4. RELOCATE EXISTING EXHAUST GRILLES TO TERMINATE WITHIN 12 INCHES OF CEILING SPACE. CONTRACTOR TO VERIFY AND MODIFY AS NEEDED.

- SCOPE OF WORK
- PLACE EF-B10 AND EF-B11 ON EMERGENCY POWER. THIS WILL REQUIRE THE RE-CIRCUITING OF THE TWO EXHAUST FANS TO EMERGENCY POWER.
 - RELOCATE EXISTING EXHAUST GRILLES TO TERMINATE WITHIN 12 INCHES OF CEILING SPACE. CONTRACTOR TO VERIFY AND MODIFY AS NEEDED.
 - INSTALL AUTOMATIC SOLENOID BALL VALVE ON THE MAIN GAS LINE COMING INTO THE MAINTENANCE BUILDING. THIS WILL REQUIRE 120V POWER TO OPERATE THE VALVE PLUS A RELAY SIGNAL FROM THE DETECTION CONTROL PANEL.



Client	
Permit/Seal	
Issued/Revision	



Victor Valley Transit
VVT Bldg Meads
17150 Smoke Tree St
Hesperia, CA 92345

Project No.: 2045335200
Title: MECHANICAL GENERAL NOTES

Scale: NOT TO SCALE
Revision: 0
Drawing No. M-001

POWER

SHORT CIRCUIT CURRENT RATING, # INDICATES
RATING
BUS DUCT
BUS
FEEDER

PANEL
SINGLE SECTION

ACDC INVERTER

AUTOTRANSFORMER

TRANSFER SWITCH
A: AUTOMATIC, M: MANUAL

AUTOMATIC TRANSFER SWITCH; BYPASS ISOLATION

BATTERY

CIRCUIT BREAKER, LOW VOLTAGE, DRAW OUT
CIRCUIT BREAKER, LOW VOLTAGE, FIXED

CIRCUIT BREAKER, LOW VOLTAGE,
WITH CURRENT LIMITING FUSE

CIRCUIT BREAKER, MEDIUM VOLTAGE, VACUUM
INTERRUPTER

CONNECTION, CONNECTED

CONNECTION, DRAW OUT, DISCONNECTED

CONNECTION, FEED FROM TO

CONNECTION, SPLICE

CONTACT

CURRENT TRANSFORMER

DEAD BREAK ELBOW

DRAW OUT FUSE AND POTENTIAL, TRANSFORMER
INTERERRUPTER

FUSE

FUSED CUTOOUT

GROUND

GROUND STUD

INDUCTOR

LIGHTNING ARRESTOR, GAP TYPE

LIGHTNING ARRESTOR, MOV TYPE

LOAD BREAK ELBOW

PATHWAY/CONDUCTOR NOT INTERCONNECTED

POTENTIAL TRANSFORMER

SWITCH, FUSED LOAD BREAK

SWITCH, NON-FUSED LOAD BREAK

SWITCH, NON-FUSED DOUBLE LOAD BREAK

SWITCH, NON-FUSED LOAD BREAK WITH GROUNDING
POSITION

RESISTOR

POWER	
	TERMINAL BLOCK
	TRANSFORMER
	TRANSFORMER CONFIGURATION, C
	TRANSFORMER CONFIGURATION, D
	GROUND
	TRANSFORMER CONFIGURATION, C
	TRANSFORMER CONFIGURATION, D
	GROUND
	ZERO SEQUENCE CURRENT TRANS
	RELAY, SINGLE FUNCTION
	RELAY, DUAL FUNCTION
	RELAY, MULTIFUNCTION
	AMMETER
	AMMETER PHASE SWITCH
	DIGITAL METERING SYSTEM
	GENERATOR
	KEY OPERATED SWITCH
	RELAY, TRIP UNIT
	DRAWOUT BREAKER CW
	INTEGRAL SOLID STATE TRIP UNIT
	DRAWOUT BREAKER CW SERIES ELECTROMAGNETIC COIL UNIT
	UTILITY (INLINE SOCKET) METER
	METER
	CALCULATED (VIRTUAL) METERS
	STAND ALONE METERING SYSTEM HEAD END
	ELECTRONIC THERMAL OVERLOAD
	SHORTING BLOCK
	SPACE DRAWOUT BREAKER
	FUSED BREAKER
	SURGE PROTECTION DEVICE
	TEST SWITCH
	VOLTMETER
	VOLTMETER PHASE SWITCH
	INDICATOR, VOLTAGE PRESENT
	RC SNUBBER

WORK DEFINITION	
	NEW WORK (N)
	EXISTING (E)
	REMOVE EXISTING (D)
	REMOVE EXISTING EQUIPMENT (O)
	FUTURE
	TEMPORARY AS NOTED RELOCATE (R)
	KEY NOTE
	EQUIPMENT IDENTIFICATION (SIZE MAY VARY)
	CONNECTION TO EXISTING
	DISCONNECT (CUT AND CAP)
GENERAL	
	DETAIL NUMBER
	DETAIL CALLOUT
	SHEET NUMBER
	EXTERIOR ELEVATION CALLOUT
	INTERIOR ELEVATION CALLOUT
	BUILDINGS SECTION CALLOUT
	WALL SECTION CALLOUT
	NAME ELEVATION
	LEVEL CALLOUT
	TRUE NORTH
	PROJECT NORTH
	NORTH ARROW
	DRAWING REVISION
	MATCH LINE
CONTROLS	
	NON-FUSED SAFETY SWITCH
	FUSED SAFETY SWITCH, FUSE RATING INDICATED
	COMBINATION MOTOR STARTER AND FUSED SAFETY SWITCH, FUSE RATING INDICATED
	MOTOR STARTER
	MANUAL MOTOR STARTER
	EMERGENCY SHUTDOWN
	ENCLOSED CIRCUIT BREAKER
	ENCLOSED CONTACTOR
	PUSH-BUTTON CONTROL STATION
	TOGGLE SWITCH, MOTOR RATED
	DIRECT DIGITAL CONTROL PANEL
	RELAY
	THERMOSTAT
	TIME CLOCK
	VARIABLE FREQUENCY DRIVE

RECEPTACLES

	SIMPLEX RECEPTACLE, 120V
	SIMPLEX RECEPTACLE, ABOVE COUNTER, 120V
	SIMPLEX RECEPTACLE, 120V, CEILING MOUNTED
	DUPLEX RECEPTACLE, 120V
	DUPLEX RECEPTACLE, 120V, CEILING MOUNTED
	DUPLEX RECEPTACLE, 120V, DUPLEX RECEPTACLE, 120V
	DUPLEX RECEPTACLE, ABOVE COUNTER, 120V
	DOUBLE DUPLEX RECEPTACLE, 120V, CEILING MOUNTED
	RECEPTACLE, NEMA #
	RECEPTACLE, NEMA #4, CEILING MOUNTED
	COMBINATION RECEPTACLE, NEMA #1 FOR ONE USB, ETC, AND 120V
	FURNITURE SYSTEMS RECEPTACLE, 120V
	RECEPTACLES FULLY CONTROLLED
	INDICATES 15A
	INDICATES TWIST LOCK
	FLAME DETECTOR
	GAS DETECTOR
	SENSOR

----	RACEWAY CONCEALED IN CEILING OR WALL, EXPOSED	CW	CONDUIT	ID	INSIDE DIAMETER
----	RACEWAY IS ALLOWED ONLY WHERE IN EXPOSED	OW	COMPLETE WITH	IDF	IDENTIFICATION OF DISTRIBUTION FRAME
----	RACEWAY BELOW SLAB OR UNDERGROUND	OW	CAPACITY	IG	INTERNAL GROUNDED
-----	RACEWAY UP	CR	CIRCUIT BREAKER	IMC	INTERMEDIATE METAL CONDUIT
-----	RACEWAY DOWN	CCTV	CLOSED CIRCUIT TELEVISION	INST	INSTANTANEOUS
-----	RACEWAY CONTINUATION	CFC	CONTRACTOR FURNISHED, OWNER INSTALLED	IP	INTERIOR PROTECTED
-----	RACEWAY STUB-OUT WITH BUSHING	CIRC	CIRCUITING	JB	JUNCTION BOX
-----	RACEWAY (HORIZONTAL OR VERTICAL)	OKT	OKT	K	KIRK KEY INTERLOCK
-----	SURFACE RACEWAY (HORIZONTAL OR VERTICAL)	CL	CABLELINE	KAC	KILAMPERS INTERLOCKING CAPACITY
-----	JUNCTION BOX, CEILING OR ABOVE CEILING MOUNTED	CLG	CEILING	KV	KILOVOLT
-----	JUNCTION BOX, WALL MOUNTED	CM	CEILING MOUNTED	KVA	KILOVOLT-AMPERES
-----	JUNCTION BOX, IN-GROUND	CO	CONDUIT ONLY	KW	KILOWATT
-----	PULL BOX	COMM	COMMUNICATIONS	LS	LIST SAFETY HAZARD
-----		CONC	CONCRETE	LSIG	LONG TIME, SHORT TIME, INSTANTANEOUS
-----		CONC	CONNECTION		GROUND FAULT

	208V OR 240V POWER PANEL/BOARD	CPT	CONTROL POWER TRANSFORMER
	CRITICAL BRANCH	CR	CRITICAL BRANCH
	CT	CT	CURRENT TRANSFORMERS
	CU	CU	CENTER TAP
	COPPER	CO	COPPER
	D	D	DEDICATED
	DC	DC	DIRECT CURRENT
	DET	DET	DETAIL SHEET
	DIA	DIA	DIAMETER
	DM	DM	DIMENSION
	DISC	DISC	DISCONNECT
	DL	DL	DIVISION
	DL	DL	DAMP LOCATION
	DN	DN	DOWN
	DP	DP	DISTRIBUTION PANEL
	DRP	DRP	DAMPERS
	DWG	DWG	DRAWING
	DWH	DWH	DOMESTIC WATER HEATER
	EA	EA	EACH
	EC	EC	EACH
	EF	EF	EXHAUST FAN
	ELEC	ELEC	ELECTRICAL
	ELEV	ELEV	ELEVATOR
	EM	EM	EMERGENCY
	EM GEN	EM GEN	EMERGENCY GENERATOR
	EMT	EMT	ELECTRICAL METALLIC TUBING
	ENCL	ENCL	ENCLOSURE
	EPO	EPO	EMERGENCY POWER OFF
	EQP	EQP	EQUIPMENT

AC	MULTI-CONDUCTOR * INDICATES QUANTITY
AD	DEMOLISH
(E)	EXISTING
(N)	NEW
(R)	EXISTING TO BE RELOCATED
1C	SINGLE CONDUCTOR
AMP	AMPS
AC	AIR CONDITIONING UNIT
AC	ALTERNATING CURRENT
ADJ	ADJUSTABLE
AMP	AMP FRAME
AF	ABOVE FINISHED CEILING
AF	AFB FULL CIRCUIT INTERRUPTER
AFB	ABOVE FINISHED FLOOR
AFB	ABOVE FINISHED GRADE
AHJ	AIR HANDLING UNIT
AMP	AMPERE INTERRUPTING CAPACITY
AL	ALUMINUM
ALT	ALTERNATE
ARCH	ARCHITECTURAL
AS	AS SWITCH
AT	ATM TP
ATS	AUTOMATIC TRANSFER SWITCH
AUTO	AUTOMATIC
AVG	AVERAGE
AVG	AMERICAN VEE GAUGE
BC	BONDING CONDUCTOR
BCU	BREAC
BFC	BELOW FINISHED CEILING
BFG	BELOW FINISHED GRADE
BK	BREAKER
BLD	BUILDING
BOH	BACK OF HOUSE
BTM	BOTTOM
C	CONDUIT
CW	COMPLETE WITH CAPACITY
CR	CIRCUIT BREAKER
CCTV	CLOSED CIRCUIT TELEVISION
CCTV	CONTRACTOR FURNISHED, OWNER INSTALLED
CRCT	CIRCUIT
CL	CENTRALINE
CLS	CEILING
CO	CEILING MOUNTED
CO	CONDUIT ONLY
COMM	COMMUNICATIONS
CONC	CONCRETE
CONN	CONNECTION
CONST	CONSTRUCTION
CONT	CONTIGUOUS
CONTR	CONTRACTOR
CPT	CONTROL POWER TRANSFORMER
CR	CRITICAL BRANCH
CT	CURRENT TRANSFORMERS
CTR	CENTER
CU	COPPER
D	DEDICATED
DC	DIRECT CURRENT
DET	DETAIL
DI	DIAMETER
DN	DIMENSION
DISC	DISCONNECT
DIV	DIVISION
DL	DAMP LOCATION
DOWN	DOWN
DP	DISTRIBUTION PANEL
DWG	DRAWING
DWH	DISTRICT WATER HEATER
EA	EACH
EC	ELECTRICAL CONTRACTOR
EF	EXHAUST FAN
ELEC	ELECTRIC
ELEV	ELEVATOR
EM	EMERGENCY
EM GEN	EMERGENCY GENERATOR
ENCL	ENCLOSURE METALLIC TUBING
ENCL	ENCLOSURE
EP	ELECTRICAL POWER OFF
EQU	EQUIPMENT BRANCH
EQUIP	EQUIPMENT

END	EMERGENCY TRANSFER DEVICE
EXH	EXHAUST
EXTER	EXTERIOR
EXTER INST	FURNISHED AND INSTALLED
FAC	FIRE ALARM
FACP	FIRE ALARM ANNUNCIATOR
FACF	FIRE ALARM CONTROL PANEL
FAL	FIRE ALARM LAMP
FBL	FIRE BOX
FCU	FAN COIL UNIT
FLO	FLOOR
FLO (FIBER) OPTIC	FIBER (FIBRE) OPTIC
FOH	FRONT OF HOUSE
FP	FIRE PROTECTION
FS	FORWARD PASSAGE CONTROL
FS	FUSIBLE SWITCH
GA	GAS
GA	GAUGE
GC	GENERAL CONTRACTOR
GEN	GENERATOR
GR-FCPI	GROUND FAULT (CIRCUIT) INTERRUPTER
H	HOT
HH	HANDLE
HI	HIGH INTENSITY DISCHARGE
HK	HOLE KEEPING PAD
HOA	HOLD-OFF-AUTO
HO	HORIZONTAL
HP	HORSEPOWER
HT	HEIGHT
HT	HEATING
HV	HIGH VOLTAGE
HVCB	HIGH VOLTAGE CIRCUIT BREAKER
HW	HOT WATER
ID	INTERMEDIATE CROSS CONNECT
ID	INSIDE DIAMETER
IDF	INTERMEDIATE DISTRIBUTION FRAME
IGB	ISOLATED GROUND
IMC	INTERMEDIATE METAL CONDUIT
INST	INSTANTANEOUS
INT	INTERNET / INTERNET CABLE
J	JUNCTION BOX
K	KIRK KEY INTERLOCK
KV	KILOVOLT-AMPLIFIER CAPACITY
KV	KILOVOLT
KVA	KILOVOLT-AMPERES
KW	KILOWATT
LS	LIFE SAFETY RATING
LSIG	LONG TIME, SHORT TIME, INSTANTANEOUS GROUND FAULT
LT	LIGHT
LV	LOW VOLTAGE
MAU	MAKE UP AIR UNIT
MAX	MAXIMUM
MCL	METAL CLAD CABLE
MCA	MINIMUM CIRCUIT AMPS
MCC	MINI-CIRCUIT BREAKER
MCC	MOTOR CONTROL CENTER
MCCB	MOLDED CASE CIRCUIT BREAKER
MCP	MOTOR-CIRCUIT PROTECTOR
MCT	MAIN CROSS CONNECT
MD	MAIN DISTRIBUTION FRAME
MDP	MAIN DISTRIBUTION PANEL
MECH	MECHANICAL
MFR	MANUFACTURER
MH	MAINTENANCE HOLE
MIS	MISCELLANEOUS
MSC	MISCELLANEOUS
MU	MAIN LUG ONLY
MSR	MAIN SWITCH-BREAKER
MTD	MOUNTED
MTG	MOUNTING
MTS	MAIN TERMINAL SHARD
MV	MEDIUM VOLTAGE
MVCB	MEDIUM VOLTAGE CIRCUIT BREAKER
N	NEUTRAL
NC	NORMALLY CLOSED
NEC	NATIONAL ELECTRIC CODE
NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
NIC	NOT IN CONTRACT
NO	NORMALLY OPEN
NOT	NOT TO SCALE

CO	ON CENTER
OD	OUTSIDE DIAMETER
OFI	OWNER FURNISHED, CONTRACTOR INSTALLED
OFU	OWNER FURNISHED EQUIPMENT
OH	OVERHEAD
OL	OVERLOAD
OS	OCCUPANCY SENSOR, OPTIONAL, STANDBY
PA	PUBLIC ADDRESS
PB	PULL BOX
PC	POWER FACTOR
PMH	PRIMARY MAINTENANCE HOLE
PH	PANEL
PI	POINT OF ENTRANCE
POS	POINT OF SERVICE
PR	PAR
PT	POTENTIAL TRANSFORMERS
PS	PNEUMATIC TUBE STATION
PV	PHOTOVOLTAIC
PL	POLYVINYL CHLORIDE
PO	POWER
RA	RETURN AIR
REC	RECESSED
RECIP	RECEPTACLE
REQ	REQUIRED
RM	ROOM
RNM	RIGID NONMETALLIC CONDUIT
RO	RACEWAY ONLY
RSC	REVERSE PHASE OUT
RS	RIGID STEEL CONDUIT
RSCR	SHORT CIRCUIT CURRENT RATING
SEC	SECURITY
SECT	SECTION
SM	SIMILAR
SMR	SECONDARY MAINTENANCE HOLE
SMR	SURFACE MOUNTED RACEWAY
SP	SPEC, PROTECTED DEVICE
SPEC	SINGLE POLE DOUBLE THROW
SFOTS	SPECIFICATIONS
SH	SHUNT TRIP
ST	STANDARD
SW	SWITCH
SWBD	SWITCHBOARD
SWGR	SWITCHGEAR
SY	SYSTEM
TC	TEMPERATURE CONTROL, OR TERMINAL
TE	TELEPHONE
TELE	TELECOMMUNICATIONS ENCLOSURE
TELECOM	TELECOMMUNICATIONS
TEMP	TEMPERATURE
TER	TERMINAL
TG	TELECOMMUNICATIONS GROUND BAR
TMSG	TELECOMMUNICATIONS MAIN GROUND BAR
TMH	TELECOMMUNICATIONS MAINTENANCE HOLE
TOP	TOP OF FOOTING
TR	TAMPER RESISTANT
TR	TELECOMMUNICATIONS ROOM
TSST	TWISTED-SHIELDED PAIR
TB	TERMINATOR
TB	TELECOM TERMINAL BOARD
TR	TYPICAL
UG	UNDERGROUND
UN	UNLESS NOTED OTHERWISE
UNV	UNDERGROUND VOLTAGE
UNV	UNDERGROUND VOLTAGE SUPPLY
UTP	UNSHIELDED TWISTED PAIR
UV	UNIT VENTILATOR
VL	VOLTS
VA	VOLTS-AMPS
VV	VARIABLE AIR VOLUME
VH	VERTICAL
VFD	VARIABLE FREQUENCY DRIVE
VFI	VERIFY IN FIELD
VL	VOLUME
VT	VENTILATOR TIGHT
W	WIRE, WATH
WG	WIREGUARD
WL	WELL LOCATION
WP	WEATHERPROOF
WT	WATER TIGHT
WTR	TRANSFORMER
Ø, PH	PHASE

1. INFORMATION SHOWN ON THE ELECTRICAL LAYOUT SHEETS THAT ARE NOT REFERENCED ELSEWHERE IN THE CONTRACT DOCUMENTS MAY NOT BE DELETED OR MODIFIED WITHOUT THE WRITTEN CONSENT OF THE ARCHITECT SPECIFIED WITHIN THE CONTRACT DOCUMENTS.
2. THE ELECTRICAL CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS FROM AUTHORITIES HAVING JURISDICTION AND PAY ALL ASSOCIATED FEES.
3. LOCATE JUNCTION AND PULL BOXES AS REQUIRED TO ALLOW ACCESS AFTER CONSTRUCTION. PROVIDE ACCESS TO ALL ELECTRICAL EQUIPMENT, CONDUIT LOCATIONS AND THE OTHER TRADES. COORDINATE LOCATIONS AND PROVIDE ACCESS TO ALL ELECTRICAL EQUIPMENT, CONDUIT, ALL DESIGN DRAWINGS AND OTHER TRADES PRIOR TO INSTALLATION.
4. PROTECT PERMANENT BUILDING FINISHES FROM DAMAGE DURING CONSTRUCTION PERIOD. PROVIDE PLYWOOD OR SIMILAR MATERIAL UNDER ALL ELECTRICAL EQUIPMENT, CONDUIT, AND JUNCTION BOXES. PROVIDE CONSTRUCTION MAY DAMAGE FINISHES. SURFACES OR FINISHES DAMAGED BY CONSTRUCTION SHALL BE REPLACED AT THE COST OF THE CONTRACTOR AT FAULT.
5. CONTRACTORS SHALL COORDINATE LOCATIONS OF FIXTURES AND ELECTRICAL DEVICES INSTALLED IN OR ON THE CEILING WITH THE ARCHITECT. ELECTRICAL DEVICES SHALL BE MOUNTED IN THE CENTER OF THE CEILING LINES, UNLESS OTHERWISE NOTED.
6. WHERE DIRECTED TO USE OR REMOVE EXISTING CIRCUITS AND RECORD THE SAME DIFFERED FROM THE DRAWING, UPDATE DISCREPANCIES AND RECORD DRAWINGS.
7. PROPERLY SPLIT CABLEING NOT IN CONDUIT PER CODE. IN AREAS SUCH AS CORRIDORS DESIGNATED FOR NEW CABLEING AND FINISHES, SUPPORT CABLEING SHALL BE INSTALLED IN CONDUIT. PROVIDE PROPER CABLEING INCLUDING CONDUIT AND CABLEING. PROVIDE PROPER PERMANENT SUPPORT AND PROTECT CABLEING FROM DAMAGE. PROVIDE PROPER CABLEING AND ROUTING TO SPLIT CABLEING NOT IN CONDUIT PER CODE. IF AVAILABLE AND ROUTED TO SPLIT CABLEING MEMBERS AND ASHES AS POSSIBLE. ALL CABLEING, LOOSE CABLEING NOT WITHIN A RACEWAY SYSTEM OR WITHIN A RACEWAY SHALL BE INSTALLED IN CONDUIT. PROVIDE PROPER CABLEING ARCHITECTURAL, BUILDING LINES AND IN A PROFESSIONAL AND SKILLFUL MANNER. PROVIDE PROPER CABLEING AND ROUTING TO SPLIT CABLEING SHALL BE REMOVED AND REINSTALLED AT CONTRACTORS EXPENSE.
8. REMOVE AND REINSTALL ELECTRICAL DEVICES AND EQUIPMENT AS NEEDED FOR PAINTING, WALL COVERINGS, CEILINGS, AND FINISH WORK. REFER TO ARCHITECT FOR FINISHES.
9. WHERE PRODUCT PHASING IS INDICATED IN ANY PART OF THE WORKING DOCUMENT PACKAGE, ELECTRICAL CONTRACTOR IS TO PLAN WORK AS TO FACILITATE SUCH PHASING.
10. FOR BRANCHED CIRCUITS OVER 75 (SEVENTY FIVE) IN LENGTH (FOOT ONE WAY) THE ELECTRICAL CONTRACTOR SHALL CALCULATE THE VOLTAGE DROP AND PROVIDE AN APPROPRIATE CONDUCTOR SIZE TO ACHIEVE NO MORE THAN 3% MAXIMUM ALLOWABLE VOLTAGE DROP.
11. DO NOT SCALE THE DRAWINGS BECAUSE OF THE SCALE OF THE DRAWINGS. IT IS POSSIBLE THAT THE ELECTRICAL CONTRACTOR SHALL CALCULATE THE LINES WHICH MAY BE REQUIRED TO MAKE A COMPLETE OPERATING SYSTEM. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER PHASING OF THE SYSTEM IN SUCH MANNER THAT INTERFERENCE BETWEEN PHASES, CONDUITS, DUCTS, EQUIPMENT, ARCHITECTURAL AND STRUCTURAL FEATURES SHALL BE

EXISTING/DEMOLITION SCOPE OF WORK

- EXISTING SYSTEM LOAD INVESTIGATION TO CONFIRM ELECTRICAL CAPACITY.
- DEMOLITION OF THE EXISTING CONDUIT, WIRING, AND BOXES RELATED TO GAS DETECTION SYSTEM, THAT WAS ORIGINALLY INSTALLED IN 2014, SHALL BE COMPLETED AFTER THE NEW GAS DETECTION SYSTEM IS INSTALLED, COMMISSIONED, AND ACCEPTED BY THE OWNER (OWNER APPROVAL).
- CONDUIT MAY BE REUSED IF THE EXISTING SYSTEM REMAINS OPERATIONAL, AND IS APPROVED BY THE OWNER.

NEW SCOPE OF WORK

- COORDINATION AND POWER REQUIREMENTS FOR GAS DETECTION EQUIPMENT.
- MECHANICAL EQUIPMENT POWER CONNECTION DESIGN AND EXISTING FACILITY FEASIBILITY ANALYSIS.
- CONNECTION TO EXISTING BACKUP GENERATOR, AS REQUIRED, TO PROVIDE EMERGENCY POWER TO GAS DETECTION AND MECHANICAL SYSTEMS.
- THE 120VAC INPUT POWER TO THE DETECTION POWER SUPPLIES TO BE POWERED BY A CIRCUIT CONNECTED TO THE BUILDING'S EXISTING BACKUP GENERATOR. INPUT VOLTAGE IS DEVELOPMENTAL AND SUBJECT TO POTENTIAL CHANGE.

PENDING DESIGN DEVELOPMENT

- SPECIFICATION DOCUMENTS FOR ALL NEW ELECTRICAL SCOPES.
- VERIFY QUANTITIES, LOCATION, AND POWER REQUIREMENTS REQUIRE ALL NEW EQUIPMENT.
- INSTALLATION OF NEW CONDUIT, WIRING, AND BOXES RELATED TO ALL NEW GAS DETECTION SYSTEM.

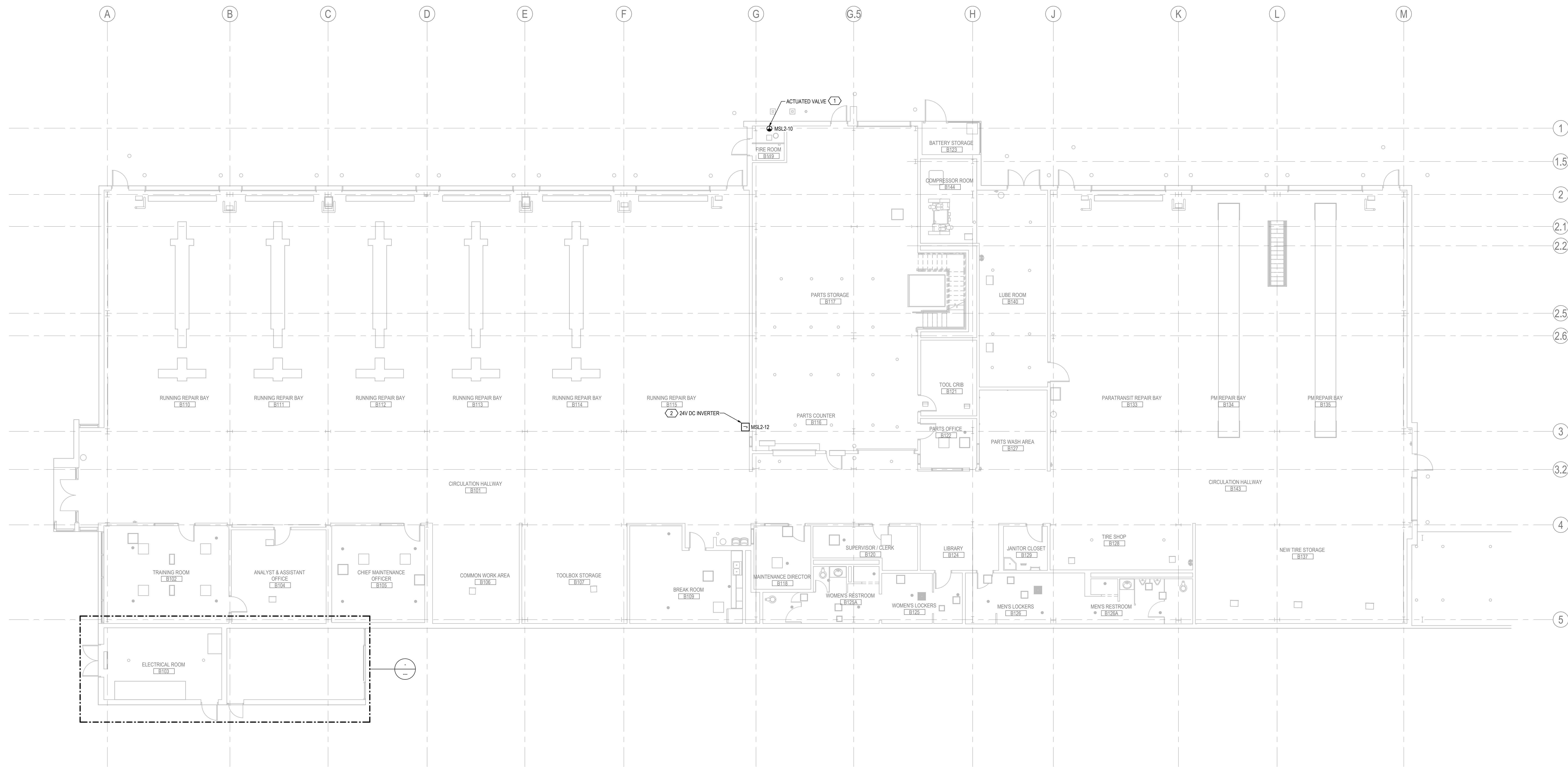
SUMMARY

- IDENTIFY EXISTING EXHAUST FANS TO REMAIN AND CONFIRM NEW ELECTRICAL POWER SOURCE ON SINGLE LINE DIAGRAM.
- INDICATE ELECTRICAL PANELS WILL BE IMPACTED BY PROJECT SCOPE AND PROVIDE LOAD CALCULATIONS (BASED ON CONNECTED LOAD DRAWINGS OR SCOURING) FROM THIRD PARTY CONTRACTOR.
- INDICATED POWER SUPPLY FOR GAS DETECTION SYSTEM AND FLAME DETECTION SYSTEM.

NO.	DRAWING NAME
ELECTRICAL	
E-001	SYMBOLS, NOTES, ABBREVIATIONS, AND SPECIFICATIONS
E-100	FIRST FLOOR ELECTRICAL PLAN - MAINTENANCE BLDG
E-101	FIRST FLOOR ELECTRICAL PLAN - FUEL / WASH BLDG
E-200	MEZZANINE ELECTRICAL PLAN - OVERALL
E-203	ENLARGED ELECTRICAL PLANS
E-611	SINGLE LINE DIAGRAM

1 FIRST FLOOR ELECTRICAL PLAN - MAINTENANCE BUILDING

1/8" = 1'-0"

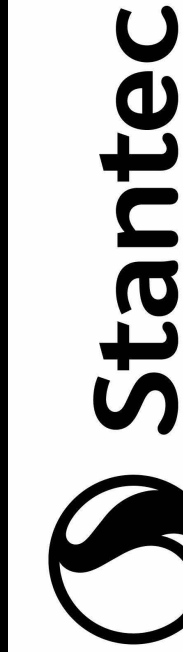


SHEET NOTES

- THE ELECTRICAL CONTRACTOR SHALL COORDINATE ALL ELECTRICAL EQUIPMENT SHUTDOWNS REQUIRED IN THE COURSE OF THIS WORK WITH BUILDING ENGINEER AND GENERAL CONTRACTOR PRIOR TO COMMENCING ANY WORK.
- EQUIPMENT SHALL BE INSTALLED FOLLOWING THE MANUFACTURER'S INSTALLATION MANUAL AND ALL APPLICABLE CODES.
- THE ELECTRICAL CONTRACTOR SHALL COORDINATE NEW WORK WITH EXISTING WORK WHERE CONNECTION TO EXISTING CIRCUITS AND/OR SERVICES IS REQUIRED.
- POWER SHALL BE TURNED OFF, SAFELY LOCKED OUT AND LABELED USING APPROVED LOCKOUT/TAGOUT PROCEDURES PRIOR TO SERVICING, USING OR REPAIRING ANY EQUIPMENT.

CONSTRUCTION NOTES

- 120V, 5A POWER CONNECTION FOR ACTUATED VALVE.
- 120V, 1KW MAX POWER CONNECTION FOR 120V-24V POWER SUPPLY.



Stantec Consulting Services Inc.
801 South Figueroa Street, Suite 300
Los Angeles, CA 90017
Tel: (213) 955-9771 • www.stantec.com

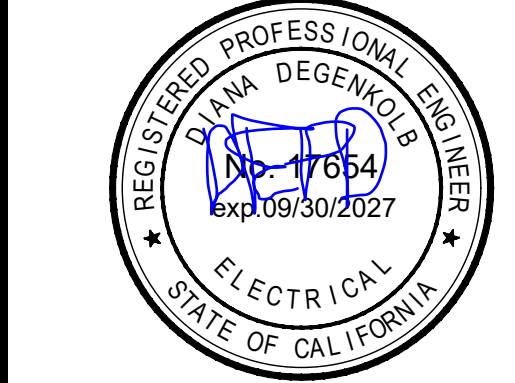
Copyright Reserved
This drawing is the property of Stantec Consulting Services Inc. and is not to be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording, or by any information storage and retrieval system, without the prior written permission of Stantec Consulting Services Inc.



Client

Rev	Description	By	Date
1	ISSUED FOR PERMIT	ARCH1	11/15/2024
2	ISSUED FOR PERMIT	ARCH1	11/15/2024
3	ISSUED FOR PERMIT	ARCH1	11/15/2024
4	ISSUED FOR PERMIT	ARCH1	11/15/2024
5	ISSUED FOR PERMIT	ARCH1	11/15/2024
6	ISSUED FOR PERMIT	ARCH1	11/15/2024
7	ISSUED FOR PERMIT	ARCH1	11/15/2024
8	ISSUED FOR PERMIT	ARCH1	11/15/2024
9	ISSUED FOR PERMIT	ARCH1	11/15/2024
10	ISSUED FOR PERMIT	ARCH1	11/15/2024
11	ISSUED FOR PERMIT	ARCH1	11/15/2024
12	ISSUED FOR PERMIT	ARCH1	11/15/2024
13	ISSUED FOR PERMIT	ARCH1	11/15/2024
14	ISSUED FOR PERMIT	ARCH1	11/15/2024
15	ISSUED FOR PERMIT	ARCH1	11/15/2024
16	ISSUED FOR PERMIT	ARCH1	11/15/2024
17	ISSUED FOR PERMIT	ARCH1	11/15/2024
18	ISSUED FOR PERMIT	ARCH1	11/15/2024
19	ISSUED FOR PERMIT	ARCH1	11/15/2024
20	ISSUED FOR PERMIT	ARCH1	11/15/2024
21	ISSUED FOR PERMIT	ARCH1	11/15/2024
22	ISSUED FOR PERMIT	ARCH1	11/15/2024
23	ISSUED FOR PERMIT	ARCH1	11/15/2024
24	ISSUED FOR PERMIT	ARCH1	11/15/2024
25	ISSUED FOR PERMIT	ARCH1	11/15/2024
26	ISSUED FOR PERMIT	ARCH1	11/15/2024
27	ISSUED FOR PERMIT	ARCH1	11/15/2024
28	ISSUED FOR PERMIT	ARCH1	11/15/2024
29	ISSUED FOR PERMIT	ARCH1	11/15/2024
30	ISSUED FOR PERMIT	ARCH1	11/15/2024
31	ISSUED FOR PERMIT	ARCH1	11/15/2024
32	ISSUED FOR PERMIT	ARCH1	11/15/2024
33	ISSUED FOR PERMIT	ARCH1	11/15/2024
34	ISSUED FOR PERMIT	ARCH1	11/15/2024
35	ISSUED FOR PERMIT	ARCH1	11/15/2024
36	ISSUED FOR PERMIT	ARCH1	11/15/2024
37	ISSUED FOR PERMIT	ARCH1	11/15/2024
38	ISSUED FOR PERMIT	ARCH1	11/15/2024
39	ISSUED FOR PERMIT	ARCH1	11/15/2024
40	ISSUED FOR PERMIT	ARCH1	11/15/2024
41	ISSUED FOR PERMIT	ARCH1	11/15/2024
42	ISSUED FOR PERMIT	ARCH1	11/15/2024
43	ISSUED FOR PERMIT	ARCH1	11/15/2024
44	ISSUED FOR PERMIT	ARCH1	11/15/2024
45	ISSUED FOR PERMIT	ARCH1	11/15/2024
46	ISSUED FOR PERMIT	ARCH1	11/15/2024
47	ISSUED FOR PERMIT	ARCH1	11/15/2024
48	ISSUED FOR PERMIT	ARCH1	11/15/2024
49	ISSUED FOR PERMIT	ARCH1	11/15/2024
50	ISSUED FOR PERMIT	ARCH1	11/15/2024
51	ISSUED FOR PERMIT	ARCH1	11/15/2024
52	ISSUED FOR PERMIT	ARCH1	11/15/2024
53	ISSUED FOR PERMIT	ARCH1	11/15/2024
54	ISSUED FOR PERMIT	ARCH1	11/15/2024
55	ISSUED FOR PERMIT	ARCH1	11/15/2024
56	ISSUED FOR PERMIT	ARCH1	11/15/2024
57	ISSUED FOR PERMIT	ARCH1	11/15/2024
58	ISSUED FOR PERMIT	ARCH1	11/15/2024
59	ISSUED FOR PERMIT	ARCH1	11/15/2024
60	ISSUED FOR PERMIT	ARCH1	11/15/2024
61	ISSUED FOR PERMIT	ARCH1	11/15/2024
62	ISSUED FOR PERMIT	ARCH1	11/15/2024
63	ISSUED FOR PERMIT	ARCH1	11/15/2024
64	ISSUED FOR PERMIT	ARCH1	11/15/2024
65	ISSUED FOR PERMIT	ARCH1	11/15/2024
66	ISSUED FOR PERMIT	ARCH1	11/15/2024
67	ISSUED FOR PERMIT	ARCH1	11/15/2024
68	ISSUED FOR PERMIT	ARCH1	11/15/2024
69	ISSUED FOR PERMIT	ARCH1	11/15/2024
70	ISSUED FOR PERMIT	ARCH1	11/15/2024
71	ISSUED FOR PERMIT	ARCH1	11/15/2024
72	ISSUED FOR PERMIT	ARCH1	11/15/2024
73	ISSUED FOR PERMIT	ARCH1	11/15/2024
74	ISSUED FOR PERMIT	ARCH1	11/15/2024
75	ISSUED FOR PERMIT	ARCH1	11/15/2024
76	ISSUED FOR PERMIT	ARCH1	11/15/2024
77	ISSUED FOR PERMIT	ARCH1	11/15/2024
78	ISSUED FOR PERMIT	ARCH1	11/15/2024
79	ISSUED FOR PERMIT	ARCH1	11/15/2024
80	ISSUED FOR PERMIT	ARCH1	11/15/2024
81	ISSUED FOR PERMIT	ARCH1	11/15/2024
82	ISSUED FOR PERMIT	ARCH1	11/15/2024
83	ISSUED FOR PERMIT	ARCH1	11/15/2024
84	ISSUED FOR PERMIT	ARCH1	11/15/2024
85	ISSUED FOR PERMIT	ARCH1	11/15/2024
86	ISSUED FOR PERMIT	ARCH1	11/15/2024
87	ISSUED FOR PERMIT	ARCH1	11/15/2024
88	ISSUED FOR PERMIT	ARCH1	11/15/2024
89	ISSUED FOR PERMIT	ARCH1	11/15/2024
90	ISSUED FOR PERMIT	ARCH1	11/15/2024
91	ISSUED FOR PERMIT	ARCH1	11/15/2024
92	ISSUED FOR PERMIT	ARCH1	11/15/2024
93	ISSUED FOR PERMIT	ARCH1	11/15/2024
94	ISSUED FOR PERMIT	ARCH1	11/15/2024
95	ISSUED FOR PERMIT	ARCH1	11/15/2024
96	ISSUED FOR PERMIT	ARCH1	11/15/2024
97	ISSUED FOR PERMIT	ARCH1	11/15/2024
98	ISSUED FOR PERMIT	ARCH1	11/15/2024
99	ISSUED FOR PERMIT	ARCH1	11/15/2024
100	ISSUED FOR PERMIT	ARCH1	11/15/2024

Permit/Seal



Victor Valley Transit

VVTA Bldg Mods

17150 Smoke Tree St
Hesperia, CA 92345

Project No.: 2045335200

Title

**FIRST FLOOR
ELECTRICAL PLAN -
MAINTENANCE BLDG**

Scale: As indicated

Revision: 0

Drawing No.

E-100



A

B

C

D

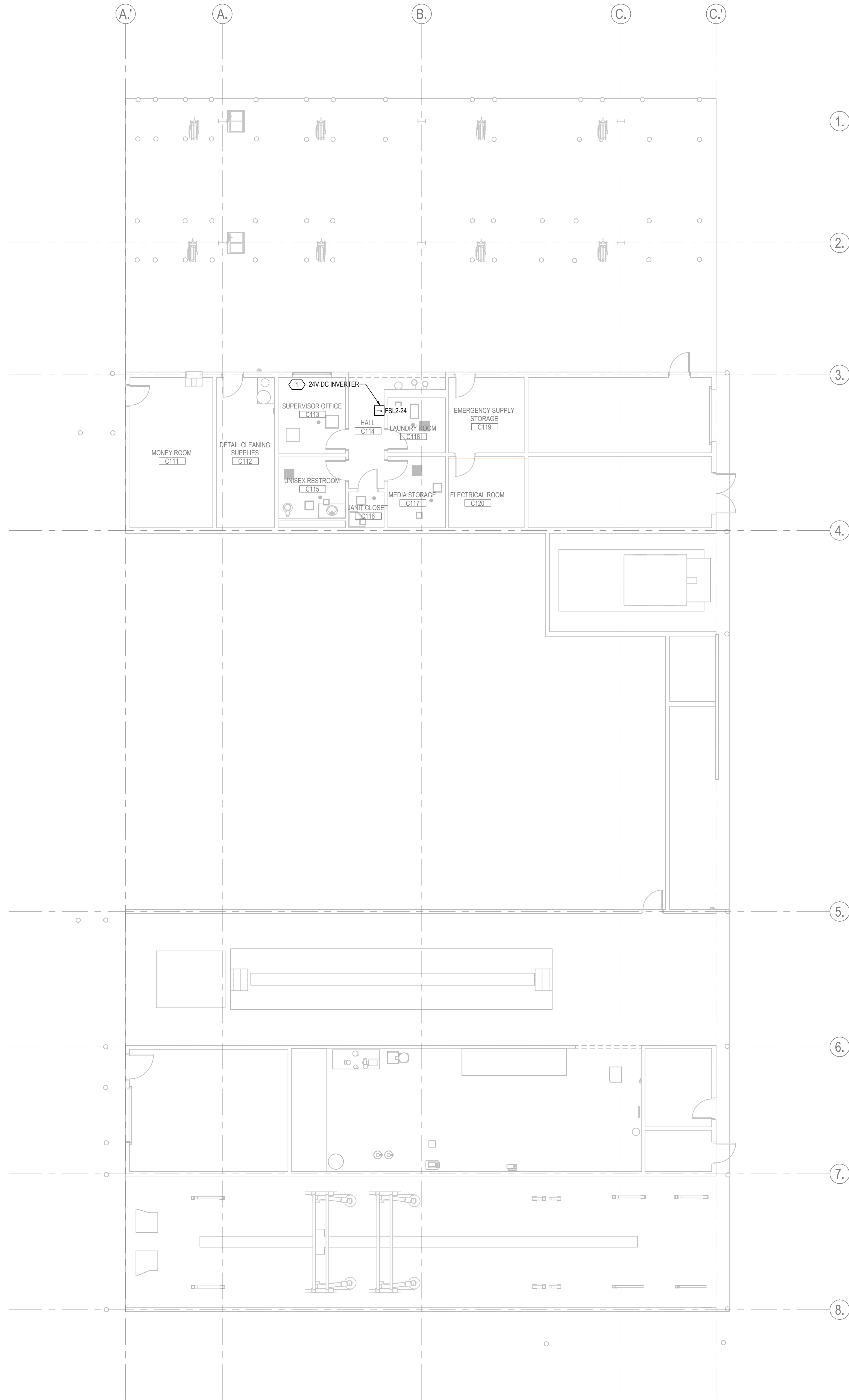
E

F

1
E-101

FIRST FLOOR ELECTRICAL PLAN - FUEL / WASH BUILDING

1/8" = 1'-0"



SHEET NOTES

1. THE ELECTRICAL CONTRACTOR SHALL COORDINATE ALL ELECTRICAL EQUIPMENT SHUTDOWNS REQUIRED IN THE COURSE OF THIS WORK WITH BUILDING ENGINEER AND GENERAL CONTRACTOR PRIOR TO COMMENCING ANY WORK.
2. EQUIPMENT SHALL BE INSTALLED FOLLOWING THE MANUFACTURER 'S INSTALLATION MANUAL AND ALL APPLICABLE CODES.
3. THE ELECTRICAL CONTRACTOR SHALL COORDINATE NEW WORK WITH EXISTING WORK WHERE CONNECTION TO EXISTING CIRCUITS AND OR SERVICES IS REQUIRED.
4. POWER SHALL BE TURNED OFF, SAFELY LOCKED OUT AND LABELED USING APPROVED LOCKOUT TAGOUT PROCEDURES PRIOR TO SERVICING, USING OR REPAIRING ANY EQUIPMENT.

CONSTRUCTION NOTES

1. 120V, 1KW MAX POWER CONNECTION FOR 120V 24V POWER SUPPLY. PROVIDE 1" CONTROL CONDUIT FROM INVERTER TO TELECOM/ DATA ROOM.

Victor Valley Transit

VVTA Bldg Mods

17150 Smoke Tree St
Hesperia, CA 92345

Project No.:2045335200

Title

FIRST FLOOR
ELECTRICAL PLAN -
FUEL / WASH BLDG

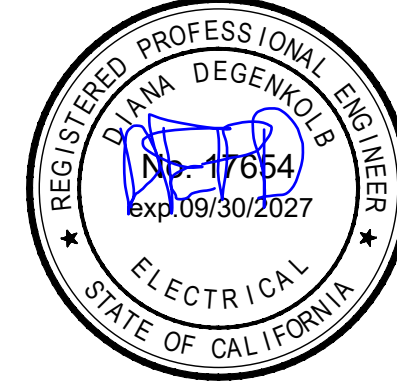
Scale: As indicated

Revision: 0

Drawing No.

E-101

Permit/Seal



Issued/Revision		By	Appr
1	ISSUED	STANTEC	STANTEC
2	REVISION		
3	REVISION		
4	REVISION		
5	REVISION		
6	REVISION		
7	REVISION		
8	REVISION		
9	REVISION		
10	REVISION		
11	REVISION		
12	REVISION		
13	REVISION		
14	REVISION		
15	REVISION		
16	REVISION		
17	REVISION		
18	REVISION		
19	REVISION		
20	REVISION		

Client



Copyright Reserved
The copyright in this drawing and design is the property of Stantec. Reproduction or use of this drawing without the written consent of Stantec is prohibited. Stantec assumes no responsibility for the accuracy or completeness of the information provided in this drawing.

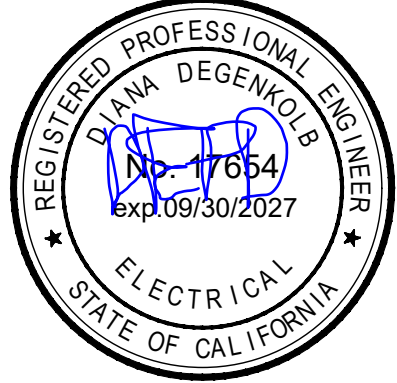
Stantec Consulting Services Inc.
801 South Figueroa Street, Suite 300
Hesperia, CA 92345
Tel: (760) 955-9773 • www.stantec.com

1. THE ELECTRICAL CONTRACTOR SHALL COORDINATE ALL ELECTRICAL EQUIPMENT SHUTDOWNS REQUIRED IN THE COURSE OF THIS WORK WITH BUILDING ENGINEER AND GENERAL CONTRACTOR PRIOR TO COMMENCING ANY WORK.

2. EQUIPMENT SHALL BE INSTALLED FOLLOWING THE MANUFACTURER'S INSTALLATION MANUAL AND ALL APPLICABLE CODES.
3. THE ELECTRICAL CONTRACTOR SHALL COORDINATE NEW WORK WITH EXISTING WORK WHERE CONNECTION TO EXISTING CIRCUITS AND OR SERVICES IS REQUIRED.
4. POWER SHALL BE TURNED OFF, SAFELY LOCKED OUT AND LABELED USING APPROVED LOCKOUT TAGOUT PROCEDURES PRIOR TO SERVICING, USING OR REPAIRING ANY EQUIPMENT.



Issued/Revision		By	App'd	YYTMMDD
0	PERMIT CORRECTIONS			2024.03.11
	ISSUE FOR PERMIT			2024.01.26
	60% DO REVIEW			2023.12.05
	30% ID			2023.10.24



Victor Valley Transit

VvTA Bldg Mods

17150 Smoke Tree St
Hesperia, CA 92345

Project No.:2045335200

MEZZANINE
ELECTRICAL PLAN -
OVERALL

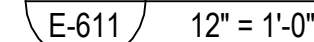
Scale: As indicated
Revision: 0
Drawing No.

E-200

1. THE ELECTRICAL CONTRACTOR SHALL COORDINATE ALL ELECTRICAL EQUIPMENT SHUTDOWNS REQUIRED IN THE COURSE OF THIS WORK WITH BUILDING ENGINEER AND GENERAL CONTRACTOR PRIOR TO COMMENCING ANY WORK.
2. EQUIPMENT SHALL BE INSTALLED FOLLOWING THE MANUFACTURER'S INSTALLATION MANUAL AND ALL APPLICABLE CODES.
3. THE ELECTRICAL CONTRACTOR SHALL COORDINATE NEW WORK WITH EXISTING WORK WHERE CONNECTION TO EXISTING CIRCUITS AND OR SERVICES IS REQUIRED.
4. POWER SHALL BE TURNED OFF, SAFELY LOCKED OUT AND LABELED USING APPROVED LOCKOUT TAGOUT PROCEDURES PRIOR TO SERVICING, USING OR REPAIRING ANY EQUIPMENT.

1. EXHAUST FANS B10, B11 TO BE RE-WIRED FROM TO EXISTING PANEL MH3-2,4,6 TO EMERGENCY PANEL MSH2-22,24,26.





Notes:
1. ALL CIRCUITS ARE EXISTING TO REMAIN

1. ALL CIRCUITS ARE EXISTING TO REMAIN

Notes:
1. ALL CIRCUITS ARE EXISTING TO REMAIN.

1. ALL CIRCUITS ARE EXISTING TO REMAIN

Notes:
1. ALL CIRCUITS ARE EXISTING TO REMAIN

1. ALL CIRCUITS ARE EXISTING TO REMAIN

1. ALL CIRCUITS ARE EXISTING TO REMAIN. (CIRCUITS IN BOLD TEXT WILL BE NEW).

1. ALL CIRCUITS ARE EXISTING TO REMAIN

Stantec		
Name: MH3	Volts: 480Y/277V	Mains Type: N

Name: MH3

Startec

Stanlec

Notes:

1000

1. CIRCUIT RELOCATED AND REWIRED TO EXISTING EMERGENCY PANEL
2. INSTALL NEW 20A 1P BREAKER
3. NEW LOAD ADDED TO SPARE BREAKER

1

1

Revision: 0

Drawing No.

Drawing No.

E-611

IFB 2027-01 BUILDING MODIFICATIONS FOR THE MAINTENANCE OF
HYDROGEN FUEL CELL BUSES
ATTACHMENT B – FEDERAL REGULATORY REQUIREMENTS

THE RESULTING CONTRACT FROM THIS RFP SHALL BE FINANCED WITH FEDERAL FUNDS

The links below are attached to this RFP and are herein incorporated. By submitting a proposal, the PROPOSER agrees to compliance with all reference Federal Regulatory Requirements.

It is the responsibility of the Proposer to ensure compliance with all of the regulations that are applicable to this solicitation and resulting contract.

The federal regulations Check List – a listing by Contract Dollar amount showing the applicable regulations for any Federally Funded contract:

<https://vvta.org/wp-content/uploads/2026/09/26.03.Third-Party-Contract-Provisions-Matrix.pdf>

The following is “Appendix A” of the Federal Procurement Best Practices Manual and includes the full text for all of the clauses included in the above checklist:

https://vvta.org/wp-content/uploads/2024/07/FTA_Required_Clauses_24.07.12.pdf

**VVTA IFB 2027-01 BUILDING MODIFICATIONS FOR THE MAINTENANCE OF
HYDROGEN FUEL CELL BUSES
ATTACHMENT C – SAMPLE CONTRACT**

THIS CONTRACT is made and entered into this ____ day of ____, 20__, by and between the **VICTOR VALLEY TRANSIT AUTHORITY**, a Joint Powers authority, created pursuant to the laws of the State of California (“VVTA” OR “Agency”) and

____ (“CONTRACTOR”).

RECITALS

WHEREAS, VVTA circulated and distributed an Invitation for Bid (IFB) to qualified firms for the installation of Building Modifications for the Maintenance of Hydrogen Fuel Cell buses. at its Hesperia Facility. A copy of the IFB is attached herein as Exhibit 1 (IFB); and

WHEREAS, CONTRACTOR submitted a Bid to provide the required services per the Scope of Work described in the IFB, a copy which is attached herein as Exhibit 2: and

WHEREAS, CONTRACTOR has represented and warrants to VVTA that it has the necessary training, experience, expertise, physical manufacturing capacity and staff competency to provide the services, goods and materials that are described in this Contract, at a cost to VVTA as herein specified and that it will be able to perform the herein described services for VVTA by virtue of its current resources and specialized knowledge of relevant data, issues, and conditions: and

WHEREAS, CONTRACTOR represents and warrants that neither CONTRACTOR, nor any of its officers, agents, employees, contractors, subcontractors, volunteers, or five percent owners, is excluded or debarred from participating in or being paid for participation in any Federal or State program; and

WHEREAS CONTRACTOR further represents and warrants that no conditions or events now exist which give rise to CONTRACTOR, or any of its officers, agents, employees, contractors, subcontractors, volunteers, or five percent owners being excluded or debarred from any Federal or State program; and

WHEREAS CONTRACTOR understands that VVTA is relying upon these representations in entering into this Contract.

NOW, THEREFORE, in consideration of the mutual promises and conditions herein contained, VVTA and CONTRACTOR hereby agree as follows:

1. SCOPE OF WORK

- A. CONTRACTOR will perform the Work and related tasks as described in Attachment A, Scope of Work (Exhibit 2) hereto and is incorporated by reference into and made a part of this Contract.
- B. This is a non-exclusive Contract, whereby VVTA may, at its sole discretion, augment or supplant the Work with its own forces or forces of another contractor or entity. CONTRACTOR will cooperate fully with VVTA’s staff or other contractor or entity that may be providing similar or the

**VVTA IFB 2027-01 BUILDING MODIFICATIONS FOR THE MAINTENANCE OF
HYDROGEN FUEL CELL BUSES
ATTACHMENT C – SAMPLE CONTRACT**

same Work for VVTA.

2. CONTRACT DOCUMENTS

The complete Contract between the parties shall consist of the following component parts:

This Contract;

- A. Exhibit 1 – IFB 2027-01 BUILDING MODIFICATIONS FOR HYDROGEN FUEL CELL BUS MAINTENANCE, including Addenda and all Attachments;
- B. Exhibit 2 – IFB 2027-01 SCOPE OF WORK
- C. Exhibit 3 – CONTRACTOR's BID Submission dated _____
- D. Exhibit 4 – CONTRACTOR's Proof of Insurance dated _____
- E. Exhibit 5 – CONTRACTOR's Price Bid dated _____
- F. Exhibit 6 – Completed, signed, and notarized (if applicable) forms as required by the Solicitation.

All the Exhibits mentioned in this Contract are attached and are herein incorporated. This Contract and the other Exhibits mentioned constitute the entire Contract between the parties. In the event of any conflict between any of the provisions of this Contract and Exhibits, the provision that requires the highest level of performance from CONTRACTOR for VVTA's benefit shall prevail. Bidder shall execute and submit Certifications as required in the IFB and shall be submitted separately in each Bidder's Price Bid.

In the event of any conflict between the final contract and the provisions included in the attachments, the negotiated terms of the final contract shall prevail.

3. PERIOD OF PERFORMANCE

This Contract shall commence on _____ and shall continue in full force and effect through _____, unless earlier terminated or extended as provided in this Contract.

4. TOTAL CONSIDERATION

- A. In accordance with the terms and conditions of this Contract, VVTA shall pay CONTRACTOR for its obligations under this Contract. VVTA shall pay CONTRACTOR on a FIXED PRICE basis at the fully burdened fixed rates stated herein in accordance with the provisions, of this Section, and subject to the maximum cumulative payment obligation

VVTA IFB 2027-01 BUILDING MODIFICATIONS FOR THE MAINTENANCE OF
HYDROGEN FUEL CELL BUSES
ATTACHMENT C – SAMPLE CONTRACT

RATES

- B. VVTA's maximum cumulative payment obligation under this Contract shall not exceed _____ (\$_____), including all amounts payable to CONTRACTOR for all costs, including but not limited to direct labor, other direct costs, subcontracts, indirect costs including, but not limited to, leases, materials, taxes, insurance, and profit.

5. ACCEPTANCE, INVOICING AND PAYMENT

A. Acceptance

When the whole Project has been completed in all respects in accordance with the completed, plan-checked and VVTA approved Plans and Specifications, to the full satisfaction of VVTA, VVTA will then provide a Notice of Completion to the CONTRACTOR. Projects bid with a segregation of costs for separate, independent portions may, at VVTA's discretion, have each of the separate portions accepted individually. The date of acceptance of the Project as stated on the Notice of Completion shall be the official completion date relating to the assessment of liquidated damages. Acceptance shall be final and conclusive except for latent defects, gross mistakes amounting to fraud, audit rights, or Trustees' rights under any warranty or guarantee.

The date of the Notice of Completion shall be the official completion date relating to stop notices and stop payment notices. All stop notices and stop payment notices must be filed with VVTA within 30 Days after the date on VVTA's Notice of Completion. All claims arising from this Contract shall be submitted in writing to VVTA no later than 30 Days after the recordation date on VVTA's Notice of Completion (Section 25. SUBMITTAL OF CLAIMS BY CONTRACTOR).

B. Partial Payment

To assist in computing payments, CONTRACTOR shall submit to the Project Manager and VVTA a "Schedule of Values" of CONTRACTOR'S actual and estimated costs for each item of Work, including approved change orders. The cost breakdowns shall be in sufficient detail for use in estimating the Work to be completed each month and shall be submitted within 21 Days after the date of commencement of Work given in the Notice to Proceed. CONTRACTOR shall also provide the breakdown of the awarded Contract value by completing the Uniformat Building Systems form. This information is valuable to VVTA for budgeting purposes and shall be submitted by CONTRACTOR to the Project Manager along with the initial submittal of the Schedule of Values.

Once each month during the progress of the Work, CONTRACTOR shall submit to the Project Manager a partial payment request. CONTRACTOR shall base the partial payment request on the approved bid breakdown for the cost of the Work completed plus, where applicable, a maximum of 90% of the verified supplier-invoiced and CONTRACTOR-purchased value for the acceptable materials delivered to the site, or stored subject to the control of CONTRACTOR but identified as the property of VVTA, and not yet installed and as allowed on the Contract Payment Request Form, line 2-f. CONTRACTOR must make any materials stored offsite

VVTA IFB 2027-01 BUILDING MODIFICATIONS FOR THE MAINTENANCE OF HYDROGEN FUEL CELL BUSES ATTACHMENT C – SAMPLE CONTRACT

accessible to VVTA to verify invoiced value and shall deliver these materials to VVTA upon request. When submitting a request for payment for materials, CONTRACTOR shall submit the Request for Materials On Hand Form with its partial payment request.

The partial payment request shall be submitted on the monthly anniversary of the day selected by CONTRACTOR in the job start meeting. The Project Manager shall review and certify the validity of the request, which, if the request includes an invoice for materials, then it shall include an inspection by the Project Manager of materials invoiced. No partial payment shall be made without the certification of the Project Manager, unless the partial payment is strictly administrative, and is processed after the completion of the Work (e.g. release of stop notice and stop payment notice claims).

Partial payment requests shall be processed with five percent (5%) retention. VVTA shall hold retention in part as security for the fulfillment of the Contract by CONTRACTOR. VVTA will withhold sufficient funds in addition to the retention to cover for anticipated liquidated damages, stop payment notices, Labor Code wage and penalty assessments, unacceptable Work, punch list Work, and VVTA's back-charges such as for retesting and re-inspection. VVTA will withhold monies from partial payments for incomplete punch list Work in addition to retention. VVTA shall not process partial release of retention before Contract completion (Public Contract Code section 10851) unless the Project is phased with a segregation of costs.

Partial payments shall not be construed as acceptance of any Work which is not in accordance with the requirements of the Contract. Once the Project Manager has certified the partial payment request, it shall be submitted to VVTA's Contract Administrator for approval and processing (Public Contract Code section 10851). Payment will then be processed in accordance with section 10853 of the Public Contract Code. Such procedure is provided for 39 Days processing, from the date of receipt of an undisputed and properly submitted payment request by the Construction Administrator.

CONTRACTOR will submit invoices to email finance@vvta.org or to the address below:

VICTOR VALLEY TRANSIT AUTHORITY
ATTN: ACCOUNTS PAYABLE
17150 SMOKE TREE STREET
HESPERIA, CA 92345-8305
finance@vvta.org

Each invoice shall include, at a minimum, the following information:

- Contract number/Purchase Order number
- Invoice number
- Description of service
- Construction Milestones completed.
- Unit Price, extended price, and applicable taxes
- Information as requested by VVTA.

C. VVTA shall remit payment within thirty (30) calendar days of approval of the invoices by

VVTA IFB 2027-01 BUILDING MODIFICATIONS FOR THE MAINTENANCE OF
HYDROGEN FUEL CELL BUSES
ATTACHMENT C – SAMPLE CONTRACT

VVTA Senior Staff.

D. Stop Payment Notices

VVTA shall retain out of any money due or that may become due CONTRACTOR, sums sufficient (125 percent of the claim) to cover claims filed pursuant to the stop payment notice provisions of the law (Civil Code section 9000 et seq.).

Preliminary notices and stop payment notices shall be presented to VVTA in proper form and should be addressed to the Construction Administrator and sent to VVTA at the address above and the preconstruction conference. CONTRACTOR shall be responsible for communicating this information to all subcontractors.

E. Final Payment

After VVTA's acceptance of the Project as complete, CONTRACTOR shall submit to the Construction Administrator a payment request stating the total due under the Contract less the retention. This payment request will be processed in the same manner as the partial payment requests. Refer to 5.B, Partial Payments.

VVTA shall notify CONTRACTOR of the date of recordation of the Notice of Completion. CONTRACTOR shall then submit a request for payment of the retention to the Construction Administrator, who will process the retention payment 45 Days after the date of recordation by the County Recorder.

VVTA shall continue to retain funds to cover liquidated damages, stop notices and stop payment notices, state labor commissioner claims, back charges from VVTA, unexecuted credit change orders, and other such claims that may be received up to the end of the 45 Days period following recordation. If any stop notices or stop payment notice has been filed, payment shall be withheld in an amount of at least 125 percent of the total claims filed until either the rights under the stop notice or stop payment notice have been settled or CONTRACTOR has posted sufficient bond in an amount of at least 125 percent of the total claims filed to secure payment of such claims.

On projects bid with a segregation of costs for separate, independent portions which portions are accepted individually pursuant to Section 5.A, Acceptance, the final payment procedure specified in this Article shall be followed. The total amount due under the Contract, the amounts retained, other claims for compensation, and the filing of stop notices and stop payment notices shall refer only to the portion accepted.

In the event VVTA should overpay CONTRACTOR, such overpayment shall not be construed as a waiver of VVTA's right to obtain reimbursement for the overpayment. Upon discovering any overpayment, either on its own or upon notice of VVTA, CONTRACTOR shall immediately reimburse VVTA the entire overpayment or, at its sole discretion, VVTA may deduct such overpayment amount from monies due to CONTRACTOR under this Contract or any other Contract between VVTA and CONTRACTOR.

VVTA IFB 2027-01 BUILDING MODIFICATIONS FOR THE MAINTENANCE OF
HYDROGEN FUEL CELL BUSES
ATTACHMENT C – SAMPLE CONTRACT

6. AUDIT AND INSPECTION OF RECORDS

In accordance with 49 C.F.R. § 18.36(i), 49 C.F.R. § 19.48(d), and 49 U.S.C. § 5325(a), provided VVTA is the FTA Recipient or a sub-grantee of the FTA Recipient, the Contractor agrees to provide VVTA, FTA, the Comptroller General of the United States, the Secretary of the U.S. Department of Transportation, or any of their duly authorized representatives access to any books documents, papers, and records of the Contractor which are directly pertinent to or relate to this Contract (1) for the purpose of making audits, examinations, excerpts, and transcriptions and (2) when conducting an audit and inspection.

- A. In the event of a **sole source Contract, or single Offer, single responsive Offer, or competitive negotiated procurement**, the Contractor shall maintain and VVTA, the U.S. Department of Transportation (*if applicable*), or the representatives thereof, shall have the right to examine all books, records, documents, and other cost and pricing data related to the Contract price, unless such pricing is based on adequate price competition, established catalog or market prices of commercial items sold in substantial quantities to the public, or prices set by law or regulation, or combinations thereof. Data related to the negotiation or performance of Contract shall be made available for the purpose of evaluating the accuracy, completeness, and currency of the cost or pricing data. The right of examination shall extend to all documents necessary for adequate evaluation of the cost or pricing data, along with the computations and projections used therein, including review of accounting principles and practices that reflect properly all direct and indirect costs anticipated for the performance of the Contract.
- B. **For Contract Amendments**, the VVTA, the U.S. Department of Transportation (*if applicable*), or their representatives shall have the right to examine all books, records, documents, and other cost and pricing data related to a Contract Amendment, unless such pricing is based on adequate price competition, established catalog or market prices of commercial items sold in substantial quantities to the public, or prices set by law or regulation, or combinations thereof. Data related to the negotiation or performance of the Contract Amendment shall be made available for the purpose of evaluating the accuracy, completeness, and currency of the cost or pricing data. The right of examination shall extend to all documents necessary for adequate evaluation of the cost or pricing data, along with the computations and projections used therein, either before or after execution of the Contract Amendment for the purpose of conducting a cost analysis. If an examination made after execution of the Contract Amendment reveals inaccurate, incomplete, or out-of-date data, the VVTA may renegotiate the Contract Amendment and VVTA shall be entitled to any reductions in the price that would result from the application of accurate, complete, or up-to-date data.

7. NOTIFICATION

All notices hereunder concerning this Contract and the Work to be performed shall be physically transmitted by courier, overnight, registered, or certified mail, return receipt requested, postage prepaid and addressed as follows:

VVTA IFB 2027-01 BUILDING MODIFICATIONS FOR THE MAINTENANCE OF
HYDROGEN FUEL CELL BUSES
ATTACHMENT C – SAMPLE CONTRACT

To VVTA:
Attn: Procurement Manager
Victor Valley Transit Authority
17150 Smoke Tree Street
Hesperia, CA 92345-8305
procurement@vvta.org

To CONTRACTOR:

8. VVTA AND CONTRACTOR'S REPRESENTATIVES

A. **VVTA**

VVTA's Board of Directors has delegated authority to its Chief Executive Officer (CEO) to execute contracts on behalf of VVTA. Except as expressly specified in this Contract, the CEO may exercise any powers, rights and /or privileges that have been lawfully delegated by VVTA's Board of Directors. Nothing in this Contract should be construed to bind VVTA for acts of its officers, employees, and/or agents that exceed the delegation of authority specified herein. The CEO or his/her designee is empowered to:

1. Have general oversight of the Work and this Contract, including the power to enforce compliance with this Contract.
2. Reserve the right to remove any portion of the Work from CONTRACTOR which have not been performed to VVTA's satisfaction.
3. Subject to the review and acceptance by VVTA, negotiate with CONTRACTOR all adjustments pertaining to this Contract for revision.
4. In addition to the foregoing, the Chief Executive Officer shall have those rights and powers expressly set forth in other sections of this Contract.

B. **Contractor's Key Personnel**

The following are CONTRACTOR's key personnel and their associated roles in the Work to be provided:

<u>Name</u>	<u>Role</u>

VVTA IFB 2027-01 BUILDING MODIFICATIONS FOR THE MAINTENANCE OF
HYDROGEN FUEL CELL BUSES
ATTACHMENT C – SAMPLE CONTRACT

Any substitution or replacement by Contractor of Contractor's key personnel shall ensure that such person possesses the same or better expertise and experience than the key personnel being substituted or replaced. VVTA reserves the right to interview such person to ascertain and verify if such proposed substitution or replacement does indeed possess such expertise and experience.

VVTA awarded this Contract to CONTRACTOR based on VVTA's confidence and reliance on the expertise of CONTRACTOR's key personnel described above. CONTRACTOR shall no reassign key personnel or assign other personnel to key personnel roles until CONTRACTOR obtains prior written approval from VVTA.

9. TERMINATION OF CONTRACT

A. TERMINATION FOR CONVENIENCE

1. The performance of Work under this Contract may be terminated for in whole, or from time to time in part, by VVTA for the convenience of VVTA whenever VVTA determines that such termination for convenience is in the best interest of VVTA and the other procuring agencies. Any such termination for convenience shall be executed by delivery to the Contractor of a written Notice of Termination specifying the extent to which performance of Work under the Contract is terminated, and the date upon which such termination becomes effective. After receipt of a Notice of Termination for Convenience, and except as otherwise directed by VVTA, the Contractor must:
 - (a) Stop the Work under the Contract on the date and to the extent specified in the Notice of Termination for Convenience.
 - (b) Place no further orders or subcontracts for materials, services, or facilities, except as may be necessary for completion of such portion of the Work under the Contract as is not terminated.
 - (c) Terminate all orders and subcontracts to the extent that they relate to the performance of Work terminated as set out in the Notice of Termination for convenience.
 - (d) Assign to VVTA in the manner, at the times, and to the extent directed by VVTA, all of the right, title, and interest of the Contractor under the orders and subcontracts so terminated, in which case VVTA shall have the right, in its discretion, to settle or pay and or all claims arising out of the termination of such orders and subcontracts.
 - (e) Settle all outstanding liabilities and all claims arising out of such termination of orders and subcontracts, with the approval or ratification of VVTA, to the extent

VVTA IFB 2027-01 BUILDING MODIFICATIONS FOR THE MAINTENANCE OF
HYDROGEN FUEL CELL BUSES
ATTACHMENT C – SAMPLE CONTRACT

he/she may require, which approval or ratification shall be final for all the purposes of this Section.

- (f) Transfer title to VVTA and deliver in the manner, at the times, and to the extent, if any, directed by VVTA the fabricated or un-fabricated parts, work in process, completed work, supplies, and other material produced as part of, or acquired in connection with the performance of, the Work terminated, and the completed or partially completed plans, drawings, information, and other property which, if the Contract had been completed, would have been required to be furnished to VVTA.
- (g) Complete performance of such part of the Work as shall not have been terminated by the Notice of Termination for Convenience; and
- (h) Take such action as may be necessary, or as VVTA may direct, for the protection or preservation of the property related to this Contract which is in the possession of the Contractor and in which VVTA has or may acquire an interest.

2. After receipt of a Notice of Termination for Convenience, the Contractor shall submit to VVTA its termination claim, in the form and with certification prescribed by VVTA. Such claim shall be submitted promptly but in no event later than six months from the effective date of termination, unless one or more extensions in writing are granted by VVTA, upon request of the Contractor made in writing within such six months period or authorized extension thereof. However, if VVTA determines that the facts justify such action, it may receive and act upon any such termination claim at any time after such six months period or any extension thereof. Upon failure of the Contractor to submit its termination claim within the time allowed, VVTA may determine, on the basis of information available, the amount, if any, due the Contractor by reason of the termination and will thereupon pay the Contractor the amount so determined.
3. Subject to the provisions of subsection 2 above, the Contractor and VVTA may agree upon the whole or any part of the amount or amounts to be paid to the Contractor by reason of the total or partial termination or work pursuant to this Section, which amount or amounts may include an allowance for profit on work done; provided that such agreed amount or amounts exclusive of settlement costs, shall not exceed the total Contract Consideration as reduced by the amount of payments otherwise made and as further reduced by the Contract price of work not terminated. The Contract will be amended accordingly, and the Contractor will be paid the agreed amount.
4. In the event of failure of the Contractor and VVTA to agree, as provided in subsection 3, upon the amount to be paid the Contractor by reason of the termination of Work pursuant to this Section, VVTA will pay the Contractor the amounts determined by

VVTA IFB 2027-01 BUILDING MODIFICATIONS FOR THE MAINTENANCE OF
HYDROGEN FUEL CELL BUSES
ATTACHMENT C – SAMPLE CONTRACT

VVTA as follows, but without duplication of any amounts agreed in accordance with subsection:

With respect to Contract Work performed prior to the effective date of the Notice Termination, the total (without duplication of any items) of:

- (a) The costs of such Work.
- (b) The cost of settling and paying claims arising out of the termination of Work under subcontracts or orders as provided in subsection 1(e) above, exclusive of the amounts paid or payable on account of supplies or material delivered or services furnished by the subcontractor prior to the effective date of the Notice of Termination of Work under this Contract, which amounts shall be included in the costs on account of which payment is made under 2 above.
- (c) A sum, as profit on 4(a) above, determined by VVTA to be fair and reasonable; provided, however, that if it appears that the Contractor would have sustained a loss on the entire Contract had it been completed, no profit shall be included or allowed under this subsection 4(c) and an appropriate adjustment shall be made by reducing the amount of the settlement to reflect the indicated rate of loss; and
- (d) The reasonable cost of preservation and protection of property incurred pursuant to subsection A (9) and any other reasonable cost incidental to termination of work under this Contract, including expense incidental to the determination of the amount due to the Contractor as the result of the termination of Work under this Contract.

- 5. The total sum to be paid to the Contractor under subsection 4 will not exceed the total Contract Consideration as reduced by the number of payments otherwise made and as further reduced by the Contract price of Work not terminated. Except for normal spoilage, and except to the extent that VVTA will have otherwise expressly assumed the risk of loss, there will be excluded from the amounts payable to the Contractor under subsection 4 the fair value, as determined by the VVTA, of property which is destroyed, lost, stolen, or damaged so as to become undeliverable to VVTA, or to a purchaser pursuant to subsection 1 (g) of this Section.
- 6. In arriving at the amount due the Contractor under this Section, there will be deducted:
 - (a) The amount of any claim which VVTA has against the Contractor in connection with the Contract; and

VVTA IFB 2027-01 BUILDING MODIFICATIONS FOR THE MAINTENANCE OF
HYDROGEN FUEL CELL BUSES
ATTACHMENT C – SAMPLE CONTRACT

- (b) The agreed price for, or the proceeds of sale of materials, supplies, or other items acquired by the Contractor or sold, pursuant to the provision of this Section, and not otherwise recovered by or credited to VVTA.
7. If the termination for convenience hereunder is partial, prior to the settlement of the terminated portion of the Contract, the Contractor may file with VVTA a written request for an adjustment of the price or prices specified in the Contract relating to the continued portion of the Contract (the portion not terminated by the Notice of Termination), and such adjustment as may be agreed will be made in the price or prices.
8. VVTA may from time to time, at its sole discretion and under terms and conditions it may prescribe, make partial payments and payments on account against cost incurred by the Contractor in connection with the terminated portion of the Contract whenever, in the opinion of VVTA, the aggregate of payments does not exceed the amount to which the Contractor will be entitled hereunder. If the total of the payments is in excess of the amount finally agreed or determined to be due under this Section, the excess shall be paid by the Contractor to VVTA upon demand, together with interest at the rate of 10 percent per annum or the maximum rate permitted by applicable law, whichever is less, for the period from the date the excess payment is received by the Contractor to the date on which the excess payment is repaid to VVTA.
9. Unless otherwise provided for in this Contract, or by applicable statute, the Contractor, from the effective date of termination and for a period of three years after final settlement under this Contract, shall preserve and make available to VVTA at all reasonable times at the office of the Contractor but without direct charge to VVTA, all its books, records, documents, and other evidence bearing on the costs and expenses of the Contractor under this Contract and relating to the Work terminated hereunder, or to the extent approved by VVTA, photographs, microphotographs, or other authentic reproductions thereof.
10. The Contractor shall insert in all subcontracts that the Subcontractor or Supplier shall stop work on the date of and to the extent specified in a Notice of Termination from VVTA and shall require that any tier subcontractor to insert the same provision in any tier subcontract.
11. The Contractor shall communicate immediately upon receipt thereof, any Notice of Termination issued by VVTA to the affected Subcontractors and Suppliers of any tier.
12. Under no circumstances is the Contractor entitled to anticipatory, unearned profits or consequential damages as a result of a termination or partial termination under this Section. The payment to the Contractor determined in accordance with this Section constitutes exclusive remedy for a termination hereunder.

**VVTA IFB 2027-01 BUILDING MODIFICATIONS FOR THE MAINTENANCE OF
HYDROGEN FUEL CELL BUSES
ATTACHMENT C – SAMPLE CONTRACT**

13. Anything contained in the Contract to the contrary notwithstanding, a termination under this Section shall not waive any right or claim to damages which VVTA may have and VVTA may pursue any course of action it may have under the Contract.

B. TERMINATION FOR CAUSE

- (1) By written Notice of Termination for Cause to the Contractor, VVTA and the other procuring agencies may cancel the whole or any part of the Contract in any one of the following circumstances:
- (a) If the Contractor fails to perform the Work within the time specified or any extension thereof.
 - (b) If the Contractor fails to perform any of the provisions of the Contract, or so fails to make progress so as to endanger performance of the Contract in accordance with its terms, and in either of these two later circumstances, does not cure such failure within a period of the 10) calendar days (or such additional time as may be specified in the notice) after VVTA gives notice to Contractor of the failure.
 - (c) The Contractor or Subcontractor or Supplier has violated an authorized order or requirement of VVTA;
 - (d) Abandonment of the Contract;
 - (e) Assignment of subcontracting of the Contract or any Work under the Contract without approval by VVTA;
 - (f) Bankruptcy or appointment of a receiver for the Contractor's property;
 - (g) Performance by the Contractor in bad faith;
 - (h) Contractor allowing any final judgment to stand (unsatisfied) for a period of 48 hours (excluding weekends and legal holiday(s));
 - (i) Material failure to comply with the law, ordinance, rule, regulation, or order of a legal authority applicable to the Contract, the Work, the Contractor, or the goods; or
 - (j) Failure to indemnify any party which the Contractor is obligated to indemnify under the Section 2.7.5, Indemnification, or elsewhere under the Contract.
- (2) The Contractor shall be provided a period of ten (10) days to cure such failure (or such longer period as VVTA may authorize in writing) after receipt of notice from VVTA

VVTA IFB 2027-01 BUILDING MODIFICATIONS FOR THE MAINTENANCE OF
HYDROGEN FUEL CELL BUSES
ATTACHMENT C – SAMPLE CONTRACT

specifying such failure.

- (3) In the event the Contractor does not cure the breach to the satisfaction of VVTA within the time period specified by VVTA, VVTA will send the Contractor a written notice of failure to cure the breach. Upon receipt of such written notice from VVTA, Contractor shall:
- (a) Stop Work on the date of, and to the extent specified in, the Notice of Termination for Cause;
 - (b) Place no further orders or subcontracts for materials, equipment, services, or facilities, except that which is necessary to complete the portion of the Work which is expressly not cancelled under the Notice of Termination for Cause;
 - (c) Cancel all orders or subcontracts to the extent that they relate to the performance of Work cancelled under the Notice of Termination; and
 - (d) Comply with all other requirements of VVTA specified in the Notice of Termination for Cause.
- (4) If the Contract is cancelled as provided in this Section, VVTA may require Contractor to transfer title and deliver to VVTA, as directed by VVTA, the following:
- (a) Any completed supplies or equipment furnished by VVTA; and
 - (b) Such partially completed supplies and materials, installations, parts, tools, dies, jigs, fixtures, plans, drawings, information, and contract rights (hereinafter called “manufacturing materials”) that the Contractor has specifically produced or acquired for the cancelled portion of this Contract. The Contractor shall also protect and preserve property in its possession in which VVTA has an interest at the Contractor’s sole expense.
- (5) Upon VVTA’s Termination of the Contractor’s right to proceed with the Work because of the Contractor’s default under the Contract, VVTA will have the right to complete the Work by whatever means and method it deems advisable. VVTA will not be required to obtain the lowest prices for completing the Work but shall make such expenditures as, in VVTA’s sole judgment, best accomplish such completion.
- (6) The expense of completing the Work, together with a reasonable charge for engineering, managerial and administrative services, as certified by the Lead Procuring Agency, will be charged, and will be deducted by VVTA out of such monies as may be due or may at any time thereafter become due to the Contractor. In case such expense is in excess of the sum which otherwise would have been payable to the Contractor under the Contract, then the Contractor or its surety shall promptly pay

VVTA IFB 2027-01 BUILDING MODIFICATIONS FOR THE MAINTENANCE OF
HYDROGEN FUEL CELL BUSES
ATTACHMENT C – SAMPLE CONTRACT

the amount of such excess to VVTA upon notice of the excess so due. VVTA may, in its sole discretion, withhold all or any part of any progress payments otherwise due the Contractor until completion and final settlement of the Work covered by the Notice of Termination of Contractor's right to proceed.

- (7) Contractor shall insert in all subcontracts that the Subcontractor or Supplier will stop work on the date of or to the extent specified in a Notice of Termination for Cause from VVTA and shall require the Subcontractors and Suppliers to insert the same provision in any of their subcontracts.
- (8) The Contractor shall immediately upon receipt communicate any Notice of Termination for Cause issued by VVTA to the affected Subcontractors and Suppliers at any tier.
- (9) The Surety on the Contractor's Performance Bond provided for in this Contract shall not be entitled to take over the Contractor's performance of Work in case of termination under this Section, except with the prior written consent of VVTA.
- (10) The Contractor shall not be liable for any costs in excess of the total Contract Consideration if the failure to perform the Contract arises out of causes beyond the control and without the fault or negligence of the Contractor. If the failure to perform is caused by the default of a Subcontractor and/or Supplier and such default arises out of causes beyond the control of and without the fault or negligence of either the Contractor or the Subcontractor and/or Supplier, and if the Supplies or Services to be furnished by the Subcontractor or Supplier were not obtainable from other sources in sufficient time to permit the Contractor to meet the required Delivery Schedule, the Contractor shall not be liable for any costs in excess of the total Contract Consideration to complete the Work.
- (11) If, after issuance of the Notice of Termination of this Contract, it is determined for any reason that the Contractor was not in breach, or that the breach was excusable, the rights and obligations of the parties shall be the same as if the Notice of Termination had been issued pursuant to the Termination for Convenience Section, and the Contractor shall be reimbursed for costs incurred under the terms of that Section.

10. ASSIGNMENT

This Contract, any interest herein or claim hereunder, may not be assigned by CONTRACTOR either voluntarily or by operation of law, nor may all or any part of this Contract be subcontracted by CONTRACTOR – without prior written consent of VVTA. Consent by VVTA shall not be deemed to relieve CONTRACTOR of its obligations to comply fully with all terms and conditions of this Contract.

VVTA IFB 2027-01 BUILDING MODIFICATIONS FOR THE MAINTENANCE OF
HYDROGEN FUEL CELL BUSES
ATTACHMENT C – SAMPLE CONTRACT

11. SUBCONTRACTING

VVTA hereby consents to CONTRACTOR's subcontracting of portions of the Work to the parties identified below for the functions described in CONTRACTOR's Bid. CONTRACTOR shall include in each subcontract Contract the stipulation that CONTRACT, not VVTA, is solely responsible for payment to the subcontractor for all amounts owing and that the subcontractor shall have no claim, and shall take no action against VVTA, Member Agencies or officers, directors, employees, or sureties thereof for nonpayment by CONTRACTOR.

Subcontractors' Names and Addresses

Work to be Performed

12. SUCCESSORS AND ASSIGNS

Subject to any provision under this Contract restricting assignment or subcontracting by CONTRACTOR, the provisions of this Contract shall be binding upon and inure to the benefit of the respective successors, assigns, heirs, and personal representatives of the parties to this Contract.

13. STATUS OF CONTRACTOR

- A. It is understood and agreed by all the parties hereto that Contractor is an independent contractor, and that no relationship of employer-employee exists between VVTA and CONTRACTOR. Neither CONTRACTOR nor CONTRACTOR'S assigned personnel shall be entitled to any benefits payable to employees of VVTA. CONTRACTOR hereby indemnifies and holds VVTA harmless from any and all claims that may be made against VVTA, based upon any contention by any third party that an employer-employee relationship exists by reason of this Contract or any services provided pursuant to this Contract.
- B. It is further understood and agreed by all the parties hereto that neither CONTRACTOR nor CONTRACTOR'S assigned personnel shall have any right to act on behalf of VVTA in any capacity whatsoever as an agent or to bind VVTA to any obligation whatsoever.
- C. It is further understood and agreed by all the parties hereto that CONTRACTOR must issue any and all forms required by Federal and State laws for income and employment tax purposes, including, but not limited to W-2 and 941 forms, for all of CONTRACTOR'S assigned personnel.

VVTA IFB 2027-01 BUILDING MODIFICATIONS FOR THE MAINTENANCE OF
HYDROGEN FUEL CELL BUSES
ATTACHMENT C – SAMPLE CONTRACT

14. CONTRACTOR'S RESPONSIBILITY

- A. The CONTRACTOR shall be responsible for the Work performed under the terms of this Contract to the extent provided by law. The CONTRACTOR agrees not to disclose information identified by VVTA as proprietary to third parties, unless approved in advance by VVTA or required by law.
- B. VVTA shall not be held liable or responsible for the maintenance and/or safety of the CONTRACTOR's equipment or supplies placed upon VVTA's property in accordance with this Contract. The CONTRACTOR acknowledges that it assumes full responsibility for any loss or damage to its equipment and supplies.
- C. Any materials, equipment or work found to be damaged or defective during the period CONTRACTOR is performing the maintenance for the facility pursuant to this Contract shall be repaired, replaced, or corrected by the CONTRACTOR hereunder without additional cost to VVTA, unless such damage is the result of VVTA's gross negligence or willful misconduct.
- D. CONTRACTOR shall pay for all taxes, except for sales, use, transaction, and excise taxes that were legally enacted at the time CONTRACTOR's offer submitted. CONTRACTOR shall secure and pay for all permits and governmental fees, licenses, and inspections necessary for the proper execution and completion of this Contract.
- E. CONTRACTOR shall give VVTA Administration at least 24 hours prior notice when CONTRACTOR's Corporate representatives are scheduled to visit either the Hesperia or Barstow locations. Corporate representatives include, but not limited to, Board Members, Executive Staff, Regional staff, and Management.
- F. Project Design: VVTA does not intend to contract for, pay for, or receive any design services which are in violation of any professional licensing laws, and by execution of the Contract, CONTRACTOR acknowledges that VVTA has no such intent. It is the intent of the Parties that CONTRACTOR is fully responsible for furnishing the design of the Project, although the fully licensed CONTRACTOR's Design Team will perform the design services required by the CONTRACT.
- G. Standard of Care: All design Services to be performed by the CONTRACTOR, its design consultant, subcontractors, and their employees identified by the CONTRACTOR shall be performed in an expeditious and professional manner using architects, engineers and other professional properly licensed and duly qualified in the jurisdiction in which the Project is located. The professional obligations of such person shall be undertaken and performed in the interest of the CONTRACTOR. All design services performed pursuant to this Contract shall be performed with the degree of skill and learning ordinarily possessed by architects and engineers in good standing in the community regularly engaged in the design and

VVTA IFB 2027-01 BUILDING MODIFICATIONS FOR THE MAINTENANCE OF
HYDROGEN FUEL CELL BUSES
ATTACHMENT C – SAMPLE CONTRACT

construction of a facility such as this Project and must apply that knowledge with the diligence ordinarily exercised by reputable architects and engineers under similar circumstances (“Standard of Care”).

15. GOVERNING LAW

This Contract shall be deemed to be executed within the State of California and construed in accordance with and governed by the laws of the State of California. Any action or proceeding arising out of this Contract shall be filed and resolved in the Superior Court of the County San Bernardino.

16. TIME OF THE ESSENCE

Time is of the essence in the performance of every term, covenant, condition, and provision of this Contract.

17. PUBLIC RECORDS ACT

Upon its execution, this Contract (including all Exhibits) shall be subject to disclosure pursuant to the California Public Records Act.

18. INDEMNIFICATION

- A. To the furthest extent allowed by law, Contractor shall indemnify, hold harmless and defend (with counsel reasonably approved by VVTA) the VVTA and its members, board members, officers, officials, employees, agents and volunteers from any and all loss, liability, fines, penalties, forfeitures, costs and damages (whether in contract, tort or strict liability, including but not limited to personal injury, death at any time and property damage) incurred by VVTA, Contractor or any other person, and from any and all claims, demands and actions in law or equity (including attorney's fees and litigation expenses), arising or alleged to have arisen directly or indirectly out of performance of this Contract. Contractor's obligations under the preceding sentence shall apply regardless of whether VVTA or any of its members, board members, officers, officials, employees, agents, or volunteers are negligent, but shall not apply to any loss, liability, fines, penalties, forfeitures, costs, or damages caused solely by the gross negligence, or caused by the willful misconduct, of VVTA or any of its members, board members, officers, officials, employees, agents, or volunteers.

If Contractor should subcontract all or any portion of the work to be performed under this Contract, Contractor shall require each subcontractor to indemnify, hold harmless and defend VVTA and its members, board members, officers, employees, agents, and volunteers in accordance with the terms of the preceding paragraph.

This section shall survive termination or expiration of this Contract.

- B. If CONTRACTOR has retained legal counsel reasonably acceptable to VVTA, CONTRACTOR

**VVTA IFB 2027-01 BUILDING MODIFICATIONS FOR THE MAINTENANCE OF
HYDROGEN FUEL CELL BUSES
ATTACHMENT C – SAMPLE CONTRACT**

shall have the sole charge and direction of the defense of the suit, action or proceeding while it is assigned to such counsel. VVTA shall at the request of the CONTRACTOR furnish to the CONTRACTOR all reasonable assistance that may be necessary for the purpose of defending such suit, action or proceeding, and shall be repaid all reasonable costs incurred in doing so. VVTA shall have the right to be represented therein by advisory counsel of its own selection at its own expense.

19. INSURANCE

A. General Requirements for Contractor

- 1) Without limiting or diminishing the Contractor's obligation to indemnify or hold VVTA harmless, Contractor shall procure, prior to commencement of the services required under this contract and maintain for the duration of the contract at its own expense, insurance of the kinds and in the amounts as indicated below.
- 2) Provide VVTA with valid original certificates of insurance and (except with regard to Professional Liability and Workers' Compensation) showing VVTA as an additional insured.

B. Deductibles or Self-Insured Retention (SIR)

SIR must be declared to and approved by VVTA. At the option of VVTA, either: the insurer shall reduce or eliminate such deductibles or SIR or Contractor shall procure a bond guaranteeing payment of losses and related investigations, claim administration and defense expenses.

C. Other Insurance Provisions

1) Commercial General Liability and Automobile Liability

Commercial General Liability insurance coverage, including but not limited to, premises liability, contractual liability, products and completed operations liability, personal and advertising injury covering claims which may arise from or out of Contractor's performance of its obligations hereunder and if Contractor's vehicles or mobile equipment are used in the performance of the obligations under this Contract, then Contractor shall maintain liability insurance for all owned, non-owned or hired vehicles so used. Policy shall name VVTA, its officers, officials, employees, agents, and volunteers as insureds as respects: liability arising out of activities performed by or on behalf of Contractor; products and completed operations of Contractor; premises owned, occupied, or used by Contractor; or automobiles owned, leased, hired, or borrowed by Contractor. The coverage shall contain no special limitations of the scope of protection afforded VVTA, its officers, officials, employees, agents, and volunteers.

- a) For any claims related to this project, Contractor's insurance coverage shall be primary insurance as respects VVTA, its officers, officials, employees, agents, and volunteers. Any insurance and/or deductibles and/or self-insured retentions

VVTA IFB 2027-01 BUILDING MODIFICATIONS FOR THE MAINTENANCE OF HYDROGEN FUEL CELL BUSES ATTACHMENT C – SAMPLE CONTRACT

or self-insured programs maintained by VVTA, its officers, officials, employees, agents, and volunteers shall be excess of Contractor's insurance and shall not be construed as contributory.

- b) Contractor's insurance shall apply separately to each insured against whom claim is made or suit is brought, except with respect to the limits of the insurer's liability.
- c) Contractor shall notify VVTA of any suspension, void, cancellation, or reduction in coverage or in limits, as required by contract, within (30) days of change.
- d) COMMERCIAL GENERAL LIABILITY insurance which shall be at least as broad as the most current version of Insurance Services Office (ISO) Commercial General Liability Coverage Form CG 00 01 and include insurance for "bodily injury," "property damage" and "personal and advertising injury" with coverage for premises and operations (including the use of owned and non-owned equipment), products and completed operations, and contractual liability (including, without limitation, indemnity obligations under the Contract) with limits of liability of not less than the following:
 - \$4,000,000 per occurrence for bodily injury and property damage;
 - \$4,000,000 per occurrence for personal and advertising injury;
 - \$8,000,000 aggregate for products and completed operations;
 - \$8,000,000 general aggregate applying separately to the work performed under the Contract.
- (e) COMMERCIAL AUTOMOBILE LIABILITY insurance which shall be at least as broad as the most current version of Insurance Service Office (ISO) Business Auto Coverage Form CA 00 01, and include coverage for all owned, hired, and non-owned automobiles or other licensed vehicles (Code 1 - Any Auto) with limits of liability of not less than \$4,000,000 per accident for bodily injury and property damage.

2) Workers' Compensation

If the Contractor has employees as defined by the State of California, the Contractor shall maintain statutory Workers' compensation Insurance (Coverage A) as prescribed by the laws of the State of California. Policy shall include Employers' Liability (Coverage B) including Occupational Disease with limits of not less than \$1,000,000 per person per accident. The policy shall be endorsed to waive subrogation in favor of VVTA and, if applicable, to provide a Borrowed Servant/Alternate Employer Endorsement.

3) Care, Custody, and Control

Contractor shall insure any VVTA property while under its Care, Custody, and Control according to the requirements listed in the insurance coverage required.

VVTA IFB 2027-01 BUILDING MODIFICATIONS FOR THE MAINTENANCE OF
HYDROGEN FUEL CELL BUSES
ATTACHMENT C – SAMPLE CONTRACT

4) EMPLOYERS' LIABILITY insurance with limits of liability of not less than \$1,000,000 each accident, \$1,000,000 disease policy limit and \$1,000,000 disease each employee.

5) PROFESSIONAL LIABILITY Not applicable for this project.

6) BUILDERS RISK (Course of Construction) insurance in an amount equal to the completed value of the project with no coinsurance penalty provisions.

In the event Contractor purchases an Umbrella or Excess insurance policy(ies) to meet the minimum limits of insurance set forth above, this insurance policy(ies) shall "follow form" and afford no less coverage than the primary insurance policy(ies).

Contractor shall be responsible for payment of any deductibles contained in any insurance policies required hereunder and Contractor shall also be responsible for payment of any self-insured retentions. Any deductibles or self-insured retentions must be declared to and approved by VVTA's Chief Executive Officer or his/her designee in his/her sole discretion. At the option of VVTA's Chief Executive Officer or his/her designee, either (i) the insurer shall reduce or eliminate such deductibles or self-insured retentions as respects VVTA, its members, board members, officers, officials, employees, and agents; or (ii) Contractor shall provide a financial guarantee, satisfactory to VVTA's Chief Executive Officer or his/her designee in his/her sole discretion, guaranteeing payment of losses and related investigations, claim administration and defense expenses. At no time shall VVTA be responsible for the payment of any deductibles or self-insured retentions.

All policies of insurance required hereunder shall be endorsed to provide that the coverage shall not be cancelled, non-renewed, reduced in coverage or in limits except after 30 calendar day written notice has been given to VVTA. Upon issuance by the insurer, broker, or agent of a notice of cancellation, non-renewal, or reduction in coverage or in limits, Contractor shall furnish VVTA with a new certificate and applicable endorsements for such policy(ies). In the event any policy is due to expire during the work to be performed for VVTA, Contractor shall provide a new certificate, and applicable endorsements, evidencing renewal of such policy not less than 15 calendar days prior to the expiration date of the expiring policy.

The General Liability and Automobile Liability insurance policies shall be written on an occurrence form. The General Liability (including ongoing operations and completed operations) and Automobile Liability insurance policies shall name VVTA, its members, board members, officers, officials, employees, agents and volunteers as an additional insured. All such policies of insurance shall be endorsed so Contractor's insurance shall be primary and no contribution shall be required of VVTA, its members, board members, officers, officials, employees, agents and volunteers. Any Workers' Compensation insurance policy shall contain a waiver of subrogation as to VVTA, its members, board members, officers, officials, employees, agents, and volunteers. The Builders Risk (Course of Construction) insurance policy shall name VVTA as a loss payee. The coverage(s) shall contain no special limitations on the scope of protection afforded to VVTA, its members, board members, officers, officials, employees, agents, and volunteers. Should Contractor maintain insurance with broader coverage and/or limits of liability greater

VVTA IFB 2027-01 BUILDING MODIFICATIONS FOR THE MAINTENANCE OF
HYDROGEN FUEL CELL BUSES
ATTACHMENT C – SAMPLE CONTRACT

than those shown above, VVTA requires and shall be entitled to the broader coverage and/or the higher limits of liability maintained by Contractor. Any available insurance proceeds in excess of the specified minimum limits of insurance and coverage shall be available to VVTA.

7) Claims-Made Policies - If Professional Liability (Errors and Omissions) insurance is written on a claims-made coverage form:

- a. The retroactive date must be shown and must be before the effective date of the Contract or the commencement of work by Contractor.
- b. Insurance must be maintained, and evidence of insurance must be provided for at least 5 years after completion of the work or termination of the Contract, whichever first occurs.
- c. If coverage is canceled or non-renewed, and not replaced with another claims made policy form with a retroactive date prior to the effective date of the Contract, or work commencement date, Contractor must purchase extended reporting period coverage for a minimum of 5 years after completion of the work or termination of the Contract, whichever first occurs.
- d. A copy of the claims reporting requirements must be submitted to VVTA for review.
- e. These requirements shall survive expiration or termination of the Contract.

Contractor shall furnish VVTA with all certificates and applicable endorsements affecting coverage required hereunder. **All certificates and applicable endorsements are to be received and approved by VVTA's CEO Officer or his/her designee in his/her sole discretion prior to VVTA's execution of the Contract and before work commences.**

Upon request of VVTA, Contractor shall immediately furnish VVTA with a complete copy of any insurance policy required under this Contract, including all endorsements, with said copy certified by the underwriter to be a true and correct copy of the original policy. This requirement shall survive expiration or termination of this Contract.

If at any time during the life of the Contract or any extension, Contractor or any of its subcontractors fail to maintain any required insurance in full force and effect, all work under this Contract shall be discontinued immediately, and all payments due or that become due to Contractor shall be withheld until notice is received by VVTA that the required insurance has been restored to full force and effect and that the premiums therefore have been paid for a period satisfactory to VVTA. Any failure to maintain the required insurance shall be sufficient cause for VVTA to terminate this Contract. No action taken by VVTA hereunder shall in any way relieve Contractor of its responsibilities under this Contract.

The fact that insurance is obtained by Contractor shall not be deemed to release or diminish the liability of Contractor, including, without limitation, liability under the indemnity provisions of this Contract. The duty to indemnify VVTA shall apply to all claims and liability regardless of whether any insurance policies are applicable. The policy limits do not act as a limitation

VVTA IFB 2027-01 BUILDING MODIFICATIONS FOR THE MAINTENANCE OF HYDROGEN FUEL CELL BUSES ATTACHMENT C – SAMPLE CONTRACT

upon the amount of indemnification to be provided by Contractor. Approval or purchase of any insurance contracts or policies shall in no way relieve liability nor limit the liability of Contractor, its principals, officers, agents, employees, persons under the supervision of Contractor, vendors, suppliers, invitees, consultants, sub-consultants, contractors, subcontractors, or anyone employed directly or indirectly by any of them.

If Contractor should contract or subcontract all or any portion of the services to be performed under this Contract, Contractor shall require each subcontractor to provide insurance protection in favor of VVTA, its members, board members, officers, officials, employees, agents and volunteers in accordance with the terms of each of the preceding paragraphs, except that subcontractor's certificates and endorsements shall be on file with Contractor and VVTA prior to the commencement of any work by subcontractor.

D. Acceptability of Insurers

Insurance companies shall be State of California admitted or approved and have a current **A.M. Best's** rating of no less than **A: VIII**.

E. Verification of Coverage

- 1) Contractor shall furnish VVTA with original endorsements affecting coverage required by this clause. The endorsements are to be signed by a person authorized by that insurer to bind coverage on its behalf. All insurance certificates and endorsements are to be received and approved by VVTA before work commences.
- 2) As an alternative, Contractor's insurer may provide complete, certified copies of all required insurance policies, including endorsements affecting the coverage required by these specifications.
- 3) In lieu of purchasing insurance and providing original endorsements and or certificates of insurance, the Contractor may provide proof of self-insurance; such proof must be to the satisfaction of VVTA.

F. Subcontractors

Contractor shall include all subcontractors as insureds under its policies or shall furnish separate certificates and endorsements for each subcontractor. All coverages for subcontractors shall be subject to all of the requirements stated herein.

G. Notification of Terminated Insurance

Insurance shall not be terminated or expire without thirty (30) days written notice and are required to be maintained in force until completion of the contract.

H. Endorsements

The following endorsements 1 through 4 are required to be made a part of the Comprehensive

**VVTA IFB 2027-01 BUILDING MODIFICATIONS FOR THE MAINTENANCE OF
HYDROGEN FUEL CELL BUSES
ATTACHMENT C – SAMPLE CONTRACT**

General Liability policy, and Endorsement No.4 is required to be made part of the Workers' Compensation and Employers' Liability policy:

1. "Victor Valley Transit Authority (herein referred to as VVTA), its employees, officers, agents and contractors are hereby added as additional insurers."
2. "This policy shall be considered primary insurance as respects any other valid and collectible insurance VVTA may possess, including any self-insured retention VVTA may have, and any other insurance VVTA does possess shall be considered excess insurance only."
3. "This insurance shall act for each insured and additional insured as though a separate policy had been written for each. This, however, will not act to increase the limit of liability of the insuring company." Coverage specified herein shall apply to acquisition actions of all procuring agencies under this contract.
4. "Thirty (30) days' prior written notice of Termination shall be given to VVTA in the event of Termination."

Such notice shall be sent to:
Victor Valley Transit Authority
ATTN: Procurement Department
17150 Smoke Tree Street
Hesperia, California 92345
procurement@vvta.org

I. Proof of Coverage

Copies of all the required Endorsements shall be attached to the CERTIFICATE OF INSURANCE which shall be provided by the Contractor's insurance company as evidence of the stipulated coverage. This Proof of Insurance shall then be mailed to:

Victor Valley Transit Authority
ATTN: Procurement Department
17150 Smoke Tree Street
Hesperia, CA 92345
Procurement@vvta.org

G. Special Provisions

1. The foregoing requirements as to the types and limits of insurance coverage to be maintained by Contractor and any approval of said insurance by the VVTA Board, VVTA staff or their insurance consultant(s), are not intended to and shall not in any manner limit or quality the liabilities and obligations otherwise assumed by Contractor pursuant to this Contract, including, but not limited to, the provisions concerning indemnification.
2. VVTA reserves the right to withhold payments to Contractor in the event of material

**VVTA IFB 2027-01 BUILDING MODIFICATIONS FOR THE MAINTENANCE OF
HYDROGEN FUEL CELL BUSES
ATTACHMENT C – SAMPLE CONTRACT**

noncompliance with the insurance requirements outlined above.

MINIMUM INSURANCE COVERAGE

1. Commercial General Liability including Products/Completed Operations: \$4,000,000; per occurrence for bodily and property damage liability and \$8,000,000 aggregate; VVTA named and endorsed as an Additional Insured.
2. Automobile Liability: \$4,000,000; per occurrence for bodily and property damage liability and aggregate; VVTA named and endorsed as an Additional Insured.
3. Workers' Compensation: statutory limits
4. Employer's Liability: \$2,000,000; per occurrence.
5. Professional Liability (Errors and Omission): Not applicable
6. Builder's Risk: at an account equal to the completed value of the project.

20. REVISIONS

By written notice or order, VVTA may, from time to time, order work suspension or make changes to this Contract. Changes in the Work shall be mutually agreed to and incorporated into an amendment to this Contract. Upon execution of an amendment, CONTRACTOR shall perform the Work, as amended.

Price Adjustments:

- A. Any change in the contract that causes an increase or decrease in cost to VVTA, or the time required for the performance of the contract, must be approved as prescribed herein. In the event that the change is a request for price escalation by the Contractor, any price escalation or de-escalation must be justified by the contractor using acceptable measures such as the Consumer Price Index (CPI) or other universally accepted measure.
- B. An equitable adjustment in the compensation and schedule will be made upon an approved Change Order.
- C. CONTRACTOR shall be liable for all costs resulting from, or for satisfactorily correcting, any and all unauthorized specification changes not properly ordered by written modification to the contract.
- D. Except as otherwise expressly provided in the Contract, when costs are a factor in any determination of a contract price adjustment, such costs shall be in accordance with the applicable cost principles of Subpart 31.2 of the Federal Acquisition Regulations (FAR) in effect at the onset of the Contract.

VVTA IFB 2027-01 BUILDING MODIFICATIONS FOR THE MAINTENANCE OF HYDROGEN FUEL CELL BUSES ATTACHMENT C – SAMPLE CONTRACT

Modifications:

Unless specified otherwise in the Contract, this Contract may only be modified by written mutual consent evidenced by signature of representative authorized to enter into and modify the Contract. In order to be effective, amendments may require approval by VVTA's Board of Director, and in all instances require prior signature of an authorized representative of VVTA.

21. RIGHTS IN TECHNICAL DATA

- A. No material or technical data prepared by CONTRACTOR under this Contract is to be released by CONTRACTOR to any other person or entity except as necessary for the performance of the Work. All press releases or information concerning the Work that might appear in any publication or dissemination, including but not limited to, newspapers, magazines, and electronic media, shall first be authorized in writing by VVTA.
- B. The originals of all letter, documents, reports and other products and data produced under this Contract shall become the property of VVTA without restriction or limitation on their use and shall be made available upon request to VVTA at any time. Original copies of such shall be delivered to VVTA upon completion of the Work or termination of the Work. CONTRACTOR shall be permitted to retain copies of such items for the furtherance of its technical proficiency; however, publication of this material is subject to the prior written approval of VVTA. The provisions of this paragraph shall survive termination or expiration of this Contract and/or final payment thereunder.

22. OWNERSHIP OF REPORTS AND DOCUMENTS

The originals of all letters, documents, reports and other products and data produced under this Contract shall be delivered to and become the sole and exclusive property of VVTA. Copies may be made for CONTRACTOR's records but shall not be furnished to others without prior written authorization from VVTA. Such deliverables shall be deemed works made for hire, and all rights in copyright therein shall be retained by VVTA.

23. OWNERSHIP RIGHTS

- A. In the event VVTA rightfully obtains copies of Proprietary Data under the terms of the separate License Agreement and Escrow Agreement that govern rights in Documentation, Software and Intellectual Property created and/or develop by CONTRACTOR, its Third-Party Software Contractors, and its Suppliers as part of the Project, any derivative works and associated documentation created by and on behalf of VVTA by Permitted Programmers (as defined in the License Agreement) shall be the sole and exclusive property of VVTA (collectively "VVTA Intellectual Property"), and VVTA may use, disclose, and exercise dominion and full rights of ownership, in any manner in VVTA Intellectual Property in connection with the use, operation and maintenance of a transportation system

VVTA IFB 2027-01 BUILDING MODIFICATIONS FOR THE MAINTENANCE OF HYDROGEN FUEL CELL BUSES ATTACHMENT C – SAMPLE CONTRACT

administered by VVTA. No use of VVTA Intellectual Property shall be made for any purpose other than in conjunction with a transportation system administered by CONTRACTOR, and VVTA shall not sell, lease, rent, give away or otherwise disclose any VVTA Intellectual property to any outside third party other than Permitted programmers. To the extent there may be any question of rights of ownership or use in any VVTA Intellectual Property, CONTRACTOR shall require all of its subcontractors and suppliers (including without limitation its Third-Party Software Contractors) to assign to VVTA, all worldwide right, title and interest in and to all VVTA Intellectual Property in a manner consistent with the foregoing terms of this paragraph. CONTRACTOR shall execute any documents as VVTA may from time-to-time reasonable request to effectuate the terms of this paragraph.

- B. All documentation and Software which predates this Contract, and which otherwise owned by Contractor or its Third-Party Software Contractors, and all Documentation and Software which is created by CONTRACTOR or its Third-Party Software Contractors shall be Licensed Software or Licensed Documentation, as appropriate. All Licensed Software and Licensed Documentation shall be governed by License Agreement by and between the parties of event date herewith.

24. WORK FOR HIRE

Any Work created or produced as a part of this Contract that may be defined under Section 101, Title 17, USC will be considered “work for hire” as it pertains to ownership rights. CONTRACTOR, by his/her endorsement heron agrees that all rights to any work(s) created or produced are waived, and that ownership rests with VVTA. CONTRACTOR further agrees to ensure transfer of all rights to such work(s), as defined under federal copyright law that may be created or produced under this Contract by its suppliers, contractors, or subcontractors.

25. SUBMITTAL OF CLAIMS BY CONTRACTOR

CONTRACTOR shall file any and all claims with VVTA in writing within thirty (30) days of the event or occurrence giving rise to the claim. The claim shall be in sufficient detail to enable VVTA to ascertain the claim’s basis and amount, and shall describe the date, place and other pertinent circumstances of the event or occurrence giving rise to the claim and the indebtedness, obligation, injury, loss, or damages allegedly incurred by CONTRACTOR.

Even though a claim may be filed and/or in review by VVTA, CONTRACTOR shall continue to perform in accordance with this Contract.

26. EQUAL OPPORTUNITY

CONTRACTOR shall not discriminate against, or grant preferential treatment to, any individual or group, or any employee or applicant for employment because of race, age, religion, color, ethnicity, sex, national origin, ancestry, physical disability, mental disability, political affiliation, sexual orientation, marital status, or other status protected by law. CONTRACTOR shall take action to ensure that applicants and employees are treated without regard to the above.

VVTA IFB 2027-01 BUILDING MODIFICATIONS FOR THE MAINTENANCE OF
HYDROGEN FUEL CELL BUSES
ATTACHMENT C – SAMPLE CONTRACT

27. STANDARD OF PERFORMANCE

- A. CONTRACTOR shall perform and exercise and require its subcontractors to perform and exercise due professional care and competence in this performance of the Work in accordance with the requirements of this Contract. CONTRACTOR shall be responsible for the professional quality, technical accuracy, completeness, and coordination of the Work, it being understood that VVTA will be relying upon such professional quality, accuracy, completeness, and coordination in utilizing the Work. The foregoing obligations and standards shall constitute the “Standard of performance” for purposes of this Contract. The provisions of this paragraph shall survive termination or expiration of this Contract and/or final payment thereunder.
- B. All workers shall have sufficient skill and experience to perform the Work assigned to them. VVTA shall have the right, at its sole discretion to require the immediate removal of CONTRACTOR’s personnel at any level assigned to the performance of the Work at no additional fee or cost to VVTA, if VVTA considers such removal in its best interests and requests such removal in writing and such request is not done for illegal reasons. Further, an employee who is removed from performing Work under the Contract under this Article shall not be reassigned to perform Work in any other capacity under this Contract without VVTA’s prior written approval.

28. NOTIFICATION OF EMPLOYMENT OF VVTA BOARD MEMBERS/ALTERNATES AND EMPLOYEES

To ensure compliance with VVTA’s Ethics Policy, CONTRACTOR shall provide written notice to VVTA disclosing the identity of any individual who CONTRACTOR desires to employ or retain under a contract, and who (1) presently serves as a Board Member/Alternate or an employee of VVTA, or (2) SERVED AS A Board Member/Alternate or an employee of VVTA within the previous 12 months of the date of the proposed employment or retention by CONTRACTOR. CONTRACTOR’s written notice shall indicate whether the individual will be an officer, principal, or shareholder of the entity and/or will participate in the performance of this Contract.

29. DISQUALIFYING POLITICAL CONTRIBUTIONS

In the event of a proposed amendment to this Contract, CONTRACTOR shall provide prior to the execution of such amendment, a written statement disclosing any contribution(s) of \$250 or more made by CONTRACTOR or its subcontractor(s) to VVTA Board Members/Alternates or employees within the preceding twelve (12) months of the date of the proposed amendment. Applicable contributions include those made by any agent/person/entity on behalf of CONTRACTOR or subcontractor(s).

30. COMPLIANCE WITH LAW

CONTRACTOR shall familiarize itself with and perform the Work required under this Contract in conformity with requirements and standards of VVTA, municipal and public agencies, public and private utilities, special districts, and railroad agencies whose facilities and work may be affected by Work under this Contract. CONTRACTOR shall also comply with all Federal, State, and local laws and ordinances.

VVTA IFB 2027-01 BUILDING MODIFICATIONS FOR THE MAINTENANCE OF
HYDROGEN FUEL CELL BUSES
ATTACHMENT C – SAMPLE CONTRACT

31. COMPLIANCE WITH LOBBYING POLICIES

- A. CONTRACTOR agrees that if it is a Lobbyist Employer or if it has retained a Lobbying Firm or Lobbyist, as such terms are defined by VVTA in its Ethics Policy, it shall comply or ensure that its Lobbying Firm and Lobbyist complies with VVTA's Ethics Policy.
- B. If CONTRACTOR (Lobbyist Employer) or its Lobbying Firm or Lobbyist fails to comply, in whole or in part, with VVTA's Ethics Policy, such failure shall be considered a material breach of this Contract and VVTA shall have the right to immediately terminate or suspend this Contract.

32. WAIVER/INVALIDITY

No waiver of a breach of any provision of this Contract by either party shall constitute a waiver of any other breach of the provision, or of any other breach of the provision of the Contract. Failure of either party to enforce any provision of this Contract at any time shall not be construed as a waiver of that provision.

The invalidity in whole or in part of any provision of this Contract shall no void or affect the validity of any other provision.

33. FORCE MAJEURE

Performance of each and all CONTRACTOR's and VVTA's covenants herein shall be subject to such delays as may occur without CONTRACTOR's or VVTA's fault from acts of God, strikes, riots, or from other similar causes beyond CONTRACTOR's or VVTA's control.

34. CONFIDENTIALITY

CONTRACTOR agrees that for and during the entire term of this Contract, any information, data, figures, records, findings, and the like received or generated by CONTRACTOR in the performance of this Contract, shall be considered and kept as the private and privileged records of VVTA and will not be divulged to any person, firm, corporation, or other entity except on the direct prior written authorization of VVTA. Further, upon expiration or termination of this Contract for any reason, CONTRACTOR agrees

that it will continue to treat as private and privileged any information, data, figures, records, findings, and the like, and will not release any such information to any person, firm, corporation, or other entity, either by statement, deposition, or as a witness, except upon direct prior written authority of VVTA.

VVTA IFB 2027-01 BUILDING MODIFICATIONS FOR THE MAINTENANCE OF
HYDROGEN FUEL CELL BUSES
ATTACHMENT C – SAMPLE CONTRACT

35. CONTRACTOR'S INTERACTION WITH THE MEDIA AND THE PUBLIC

- A. VVTA shall review and approve in writing all VVTA related copy proposed to be used by CONTRACTOR for advertising or public relations purposes prior to publication.

CONTRACTOR shall not allow VVTA related copy to be published in its advertisements and public relations programs prior to receiving such approval. CONTRACTOR shall ensure that all published information is factual and that it does not in any way imply that VVTA endorses CONTRACTOR's firm, service, and/or product.

- B. CONTRACTOR shall refer all inquiries from the news media to VVTA and shall comply with the procedures VVTA's Public Affairs staff regarding statements to the media relating to this Contract or the Work.

- C. If CONTRACTOR receives a complaint from a citizen or the community, CONTRACTOR shall inform VVTA as soon as possible and inform VVTA of any action taken to alleviate the situation.

- D. The provision of this Article shall survive the termination or expiration of this Contract.

36. CONFLICT OF INTEREST

- A. Prohibited Interests

1. During the term of this Contract, Contractor, its officers, employees, and their immediate families shall not acquire any interest, direct or indirect, that would conflict with the performance of services required to be performed under this Contract.
2. Violation of subparagraph A. (1) is a material breach of this Contract, and Agency shall have the right to debar Contractor from participating at any tier in any Agency contract for a period of up to five (5) years.
3. Contractor shall include a copy of subparagraphs A. (1), and A. (2), of this provision in any Contract it makes with its subcontractors.

- B. Covenant

1. Contractor covenants that prior to award of this Contract, Contractor has disclosed

any present interest and any interest existing within twelve (12) months prior to award of this Contract including, without limitation, any business or personal relationship that

VVTA IFB 2027-01 BUILDING MODIFICATIONS FOR THE MAINTENANCE OF
HYDROGEN FUEL CELL BUSES
ATTACHMENT C – SAMPLE CONTRACT

creates an appearance of a conflict of interest. Disclosable interests and relationships are those that may reasonably be viewed as creating a potential or actual conflict of interest. Disclosable interests and relationships are those that may reasonably be viewed as creating a potential or actual conflict of interest. Any existing or prospective interest acquired or occurring after submission of the initial Certification shall be provided in an amended Certification with the executed Contract and shall be incorporated into the Contract by this reference. Violation of this covenant is a material breach of this Contract.

2. In addition, Contractor shall immediately disclose in writing to VVTA and or to the other procuring agencies General Manager and Chief Legal Counsel any interest or relationship described in subparagraph B(1) acquired or occurring during the term of this Contract.
3. Violation of the above disclosure obligations is a material breach of this Contract.

37. COVENANT AGAINST GRATUITIES

A. Prohibited Conduct

1. During the term of this Contract, Contractor, its officers and employees and their immediate families are prohibited from offering or giving a gratuity in any form including, without limitation, entertainment, favors, loans, gifts, or anything of greater than nominal value for any reason including personal, non-business-related reasons to any Lead Procuring Agency officer or employee or their immediate families. For the purpose of this section, nominal value means anything: (1) having an aggregate value of \$35.00 (thirty-five dollars) or less per year; or (2) any perishable item (flowers or food) of any value except that prepared meals are subject to the \$35.00 limit. A campaign contribution is not a gratuity and is not prohibited by this Section.
2. Violation of subparagraph A(1) of this provision is a material breach of this Contract, and Agency shall have the right to debar Contractor from participating at any tier in any Agency contract for a period of up to five (5) years.
3. Contractor shall include a copy of subparagraphs A (1) and A (2) of this provision in any Contract it makes with its subcontractors.

B. Covenant

Contractor covenants that prior to award of this Contract, Contractor has disclosed, any gratuity, as described above, that it, its officers, employees, or their immediate families have offered or given to any Agency officer, employee or their immediate families for any reason including personal non-Business-related reasons within the twelve (12) months prior to award of this Contract. Any gratuity offered or given after submission of the initial Certification shall be provided in an amended Certification with the executed Contract and shall be incorporated into the Contract by this reference. Violation of this covenant is a

VVTA IFB 2027-01 BUILDING MODIFICATIONS FOR THE MAINTENANCE OF
HYDROGEN FUEL CELL BUSES
ATTACHMENT C – SAMPLE CONTRACT

material breach of this Contract.

38. WARRANTY OF AUTHORITY

The person executing this Contract on behalf of Contractor affirmatively represents that she/he has the requisite legal authority to enter into this Contract on behalf of Contractor and to bind Contractor to the terms, covenants, and conditions of this Contract. Both the person executing this Contract on behalf of Contractor and CONTRACTOR understand that VVTA is relying on this representation in entering into this Contract.

39. ENTIRE CONTRACT

This Contract, including any and all Exhibits, constitutes the entire Contract between VVTA and CONTRACTOR and supersedes all prior negotiations, representations, or Contracts, whether written or oral. In the event of a dispute between the parties as to the language of this Contract or the construction or meaning of any term hereof, this Contract shall be deemed to have been drafted by the parties in equal parts so that no presumptions or inferences concerning its terms or interpretation may be construed against any party to this Contract.

40. ELECTRONIC SIGNATURES

This Contract may be executed in any number of counterparts, each of which so executed shall be deemed to be an original, and such counterparts shall together constitute one and the same agreement. The parties shall be entitled to sign and transmit an electronic signature of this Contract (whether by facsimile, PDF or other mail transmission), which signature shall be binding on the party whose name is contained therein. Each party providing an electronic signature agrees to promptly execute and deliver to the other party an original signed Contract upon request.

IN WITNESS WHEREOF, the parties have executed this Contract on the day and year set forth above.

VICTOR VALLEY TRANSIT AUTHORITY

By: _____
Roderick Goldman, VVTA CEO

APPROVED AS TO FORM

Via email on 8/8/2024 by County Counsel of San Bernardino Deputy County Counsel
VVTA Legal Counsel

CONTRACTOR

By: _____

Name: _____ Title: _____

VVTA IFB 2027-01 BUILDING MODIFICATIONS FOR THE MAINTENANCE OF HYDROGEN FUEL CELL BUSES ATTACHMENT D – PROTEST PROCEDURES

1. PURPOSE

- A. This policy provides guidelines for the submittal and evaluation of protests relating to all procurements. VVTA shall ensure, to the extent reasonably possible, uniform, timely and equitable consideration of all protests received by VVTA pursuant to this policy.
- B. In order to be considered, a protest must be filed in a timely manner, as described herein, must satisfy all the applicable requirements described in this policy and must be brought by an interested party as defined below.

2. DEFINITIONS

The following definitions apply to this policy.

A. Interested Party – An actual proposer/bidder whose direct economic interest would be affected by the award of a contract or by the failure to award a contract. Interested parties do not include subcontractors or suppliers of an actual or prospective proposer/bidder, or joint venturers acting independently of a joint venture.

B. Procurement Supervisor - The person designated by VVTA who is responsible for managing the contracting and procurement function.

C. File or Submit – Shall mean the date of receipt of a written protest by VVTA.

D. Receipt of Protest – The date of receipt of the Protest will be the date in which VVTA receives the protest package.

3. REFERENCES

United States Department of Transportation, Federal Transit Administration, FTA Circulars, FTA Circular 4420.1 Third Party Contracting Guidelines. Note: Refer to the revision in effect at the time of protest.

4. BASIS OF PROTEST

A. Requests for Proposal

After the receipt of proposals by VVTA and after an action relating to the selection of a consultant/contractor by the VVTA Evaluation Committee, but prior to the award of a contract by the VVTA Board of Directors, a protest may be submitted on the basis of one or more of the following:

- i. VVTA Failed to adhere to the evaluation process set forth in the solicitation package.
- ii. VVTA failed to follow its own procurement policies and procedures.

**VVTA IFB 2027-01 BUILDING MODIFICATIONS FOR THE
MAINTENANCE OF HYDROGEN FUEL CELL BUSES
ATTACHMENT D – PROTEST PROCEDURES**

iii. VVTA violated a specific law, rule, or regulation in the procurement process.

B. Invitations for Bid

After the receipt of bids by VVTA, but prior to award of a contract by the VVTA Board of Directors, a protest may be submitted on the basis of one or more of the following:

- i. VVTA failed to follow its own procurement policies and procedures.
- ii. VVTA violated a specific law, rule or regulation in the procurement process.

5. FILING OF PROTEST

A. Filing Written Protest with the VVTA Procurement Supervisor

An Interested Party wishing to protest a matter involving a procurement or proposed contract award shall file with the Procurement Supervisor, a written protest covering, at a minimum, the following:

- i. Name and address of the Interested Party;
- ii. Identification of the proposed procurement or contract;
- iii. Description of the nature of the protest;
- iv. A detailed statement of the legal and/or factual grounds for the issue(s) identified in the protest, including reference to the provision(s) of the solicitation, regulations, and/or laws upon which the protest is based; and any technical data, documentary evidence, names of witnesses or other pertinent information supporting the basis for the protest;
- v. A statement of the desired resolution to the protest by the Interested Party;
- vi. Signature of a properly authorized representative of the Interested Party.

B. Failure to Comply

Failure to comply with any of the requirements of this section may be grounds for dismissal of the protest.

C. Withdrawal of Protest

The Interested Party may withdraw its protest at any time before VVTA renders a decision by submitting a written request to the VVTA Procurement Supervisor.

**VVTA IFB 2027-01 BUILDING MODIFICATIONS FOR THE
MAINTENANCE OF HYDROGEN FUEL CELL BUSES
ATTACHMENT D – PROTEST PROCEDURES**

6. SUMITTAL OF PROTEST

All protests must be submitted in writing to

**Victor Valley Transit Authority
Attn: Procurement Supervisor
17150 Smoke Tree Street
Hesperia, CA 92345
RE: Solicitation Protest – Solicitation/Contract Number**

7. PROTEST SUBMITTAL DEADLINE

A. Requests for Proposal

After opening proposals, VVTA will evaluate the proposals and determine which proposer shall be recommended to the VVTA Board of Directors for award of a contract. Once VVTA staff has determined which proposer will be recommended to the Board for award, a Notice of Intent to Award will be sent to all proposers.

- i. Protests must be filed within five (5) business days from the issue date on the Notice of Intent to Award.
- ii. The date of filing shall be the date VVTA receives the protest.

B. Invitations for Bid

- i. Protests must be filed within three (3) business days from bid opening.
- ii. The date of filing shall be the date VVTA receive the protest.

8. PROTEST REVIEW PROCESS

If the protest is determined to be timely and meets the criteria identified in the preceding sections 4, 5, and 7, this process will be followed:

- A. No additional material will be allowed to be submitted unless specifically requested by the Procurement Supervisor.
- B. The Procurement Supervisor will review all material submitted and will render a decision within thirty (30) days after the receipt of the protest.
- C. The Procurement Supervisor will consider only those specific issues addressed in the written protest.
- D. The decision of the Procurement Supervisor will then be given to the Chief Executive Officer, or designee, for approval. The decision of the Chief Executive Officer is final.

IFB 2027-01 BUILDING MODIFICATIONS FOR THE MAINTENANCE OF
HYDROGEN FUEL CELL BUSES
ATTACHMENT E – REQUIRED FORMS

1. If a qualifier, i.e. (Required >\$100,000) follows the title of the form, then submit that form only if the Bid meets that requirement.
2. Duplicate forms as necessary.
3. **Submit ONLY those forms that are checked, unless required elsewhere in the IFB/IFB/RFQ.**
4. Submit the following checked items AT THE TIME OF BID SUBMISSION:
 - ☐ Bid Pricing Form (~~Separate Envelope~~)
 - ☒ Buy America Certification (Required >\$150,000)
 - ☒ Current Client References
 - ☒ Not on Excluded Parties List System (SAM.com) (Provide page from website)
 - ☒ Affidavit of Non-Collusion
 - ☒ Debarment, Suspension, & Other Responsibility Matters
 - ☒ List of Subcontractors and DBE's
 - ☒ Restriction on Lobbying (Prime) One (1) form required of each prime bidder and any proposed subcontractor having greater than a \$100,000 share of the bid.
 - ☒ Deviations, Pre-Offer changes or a request for approved equals – submit this form if applicable.
5. Submit the following **Required** forms **at the Time of Contract Award**:
 - a. **Proof of Licenses.** As required by law, in addition to contract requirements. Must be California approved, valid, showing expiration dates and license numbers. These include, but are not limited to (**Only those items checked**):
 - i. ☒ Sales or Services; if applicable
 - ii. ☒ Business: authorized by the city wherein business is to be conducted - To be sure to receive the points for the geographical preference, a copy of the Business License is required;
 - iii. ☐ Driver's: within classification, required, valid, etc...
 - iv. ☒ Others: any not mentioned herein, but required by industry standard, required by law, by requirements of Contract.
 - b. ☐ **Proof of Permits:** as required by law, in addition to contract requirements. Must be California approved, valid, showing expiration dates and license numbers.
 - c. ☒ **Insurance Certificate (Proof)** must meet the requirements in the IFB. If the Insurance Certificate with the additional insured endorsement is submitted with the bid, the Notice to Proceed can be issued sooner. Failure to submit the Proof of Insurance as requested may result in contract award annulment.

IFB 2027-01 BUILDING MODIFICATIONS FOR THE MAINTENANCE OF
HYDROGEN FUEL CELL BUSES
ATTACHMENT E – REQUIRED FORMS

VVTA – IFB 2027-01 PRICE BID

Bidder shall complete the following form and include same in the Bid package.

By execution below Bidder hereby agrees to furnish the related equipment, and services as specified in Victor Valley Transit Authority's IFB 2027-01 at the prices submitted in response to this solicitation.

BIDDER COMPANY NAME: _____
STREET ADDRESS: _____
CITY, STATE, ZIP CODE: _____
AUTHORIZED OFFICER: _____
COMPANY OFFICER TITLE: _____
SIGNATURE OF AUTHORIZED OFFICER: _____
CONTACT INFORMATION: _____
OFFICE PHONE NUMBER: _____
EMAIL ADDRESS: _____

IFB 2027-01 BUILDING MODIFICATIONS FOR THE MAINTENANCE OF HYDROGEN FUEL CELL BUSES ATTACHMENT E – REQUIRED FORMS

NOTES AND INSTRUCTIONS

1. The Bidder agrees that all costs of work required by the IFB, including Work reasonable inferable therefrom and necessary thereto required for a project delivery or turnkey contract basis are included in the prices below.
2. The Cost of all Work required in the IFB for which a specific line item is not provided in the attached schedules shall be allocated proportionately among the other prices most closely associated with such costs and included in the Bid price.

Line Item	Work Item	Total \$
1	GENERAL REQUIREMENTS	\$
2	SITE CONDITIONS/ SITE PREPARATION	\$
3	CONCRETE	\$
4.	MASONRY	\$
5.	METALS	\$
6.	WOOD, PLASTICS, AND COMPOSITES	\$
7.	THERMAL AND MOISTURE PROTECTION	\$
8.	DOORS AND WINDOWS	\$
9	FINISHES	\$
10.	SPECIALTIES	\$
11.	EQUIPMENT	\$

IFB 2027-01 BUILDING MODIFICATIONS FOR THE MAINTENANCE OF
HYDROGEN FUEL CELL BUSES
ATTACHMENT E – REQUIRED FORMS

13	SPECIAL CONSTRUCTION	\$
14	CONVEING SYSTEMS	\$
15.	MECHANICAL	\$
16.	ELECTRICAL	\$
17.	INSTRUMENTATION AND CONTROL	\$
21.	FIRE PROTECTION	\$
22.	PLUMBING	\$
23.	HEATING, VENTILATING, AND AIR CONDITIONING	\$
26.	ELECTRICAL/ELECTRONIC SAFETY AND SECURITY	\$
27.	COMMUNICATIONS	\$
	SUBTOTAL – 01	\$
	GENERAL CONDITIONS	\$
	OVERHEAD AND PROFIT	\$
	SUBTOTAL - 02	\$
	TOTAL COST OF CONSTRUCTION (01 + 02):	\$

Listing of Holidays CONTRACTOR does not provide regular service: _____

IFB 2027-01 BUILDING MODIFICATIONS FOR THE MAINTENANCE OF HYDROGEN FUEL CELL BUSES ATTACHMENT E – REQUIRED FORMS

Build America / 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 fund may not be obligated unless all 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

Effective May 14, 2022, the office of Management and Budget requires recipients (VVTA) include the following Build America, Buy America (BABA) Buy America Preference terms and conditions to all contracts that will use Federal Funds:

Recipients of an award of Federal financial assistance from a program for infrastructure are hereby notified that none of the funds provided under this award may be used for a project for infrastructure unless:

- (1) all iron and steel used in the project are produced in the United States--this means all manufacturing processes, from the initial melting stage through the application of coatings, occurred in the United States;
- (2) all manufactured products used in the project are produced in the United States—this means the manufactured product was manufactured in the United States; and the cost of the components of the manufactured product that are mined, produced, or manufactured in the United States is greater than 55 percent of the total cost of all components of the manufactured product, unless another standard for determining the minimum amount of domestic content of the manufactured product has been established under applicable law or regulation; and
- (3) all construction materials are manufactured in the United States—this means that all manufacturing processes for the construction material occurred in the United States. The Buy America preference only applies to articles, materials, and supplies that are consumed in, incorporated into, or affixed to an infrastructure project. As such, it does not apply to tools, equipment, and supplies, such as temporary scaffolding, brought to the construction site and removed at or before the completion of the infrastructure project. Nor does a Buy America preference apply to equipment and furnishings, such as movable chairs, desks, and portable computer equipment, that are used at or within the finished infrastructure project but are not an integral part of the structure or permanently affixed to the infrastructure project. Excludes cement and cementitious materials, aggregates such as stone, sand, or gravel, or aggregate binding agents or additives.

Waivers

When necessary, recipients may apply for, and the agency may grant, a waiver from these requirements. The agency should notify the recipient for information on the process for requesting a waiver from these requirements.

(a) When the Federal agency has made a determination that one of the following exceptions applies, the awarding official may waive the application of the domestic content procurement preference in any case in which the agency determines that:

**IFB 2027-01 BUILDING MODIFICATIONS FOR THE MAINTENANCE OF
HYDROGEN FUEL CELL BUSES
ATTACHMENT E – REQUIRED FORMS**

(1) applying the domestic content procurement preference would be inconsistent with the public interest;

(2) the types of iron, steel, manufactured products, or construction materials are not produced in the United States in sufficient and reasonably available quantities or of a satisfactory quality; or

(3) the inclusion of iron, steel, manufactured products, or construction materials produced in the United States will increase the cost of the overall project by more than 25 percent. A request to waive the application of the domestic content procurement preference must be in writing. The agency will provide instructions on the format, contents, and supporting materials required for any waiver request. Waiver requests are subject to public comment periods of no less than 15 days and must be reviewed by the Made in America Office. There may be instances where an award qualifies, in whole or in part, for an existing waiver described.

Certificate of Compliance with Build America / Buy America Requirements
The bidder or offeror hereby certifies that it will comply with the requirements of 49 U.S.C. 323(j)(1), and the applicable regulations in 49 C.F.R. part 661.

Date: _____

Signature: _____

Company: _____

Name: _____

Title: _____

Certificate of Non-Compliance with Build America / Buy America Requirements
The bidder or offeror hereby certifies that it cannot comply with the requirements of 49 U.S.C. 323(j), but it may qualify for an exception to the requirement pursuant to 49 U.S.C. 5323(j)(2), as amended, and the applicable regulations in 49 C.F.R. § 661.7.

Date: _____

Signature: _____

Company: _____

Name: _____

Title: _____

IFB 2027-01 BUILDING MODIFICATIONS FOR THE MAINTENANCE OF
HYDROGEN FUEL CELL BUSES
ATTACHMENT E – REQUIRED FORMS

CURRENT CLIENT REFERENCES

Bidder by its signature below, certifies that the following references for similar projects over the last seven (7) years (use additional pages as necessary): (A minimum of 5 are required)

Agency Name	Contact Name/Phone/Email	Year
1.		
2.		
3.		
4.		
5.		
6.		
7.		

Signature of the Bidder's Authorized Official

Name and Title of the Bidder's Authorized Official

Company Name

Date

IFB 2027-01 BUILDING MODIFICATIONS FOR THE MAINTENANCE OF
HYDROGEN FUEL CELL BUSES
ATTACHMENT E – REQUIRED FORMS

NON-COLLUSION AFFIDAVIT
(Per Public Contract Code Section 7106)

State of California)
) ss.
County of _____)

_____, being first duly sworn, deposes and says that he or she is _____, of _____ ("Bidder") the party making the foregoing Bid that the Bid is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation; that the Bid is genuine and not collusive or sham; that the Bidder has not directly or indirectly solicited any other Bidder to put in a false or sham Bid, and has not directly or indirectly colluded, conspired, connived, or agreed with any Bidders or anyone else to put in a sham Bid, or that anyone shall refrain from bidding; that the Bidder has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the Bid fee of the Bidder or any other Bidder, or to fix any overhead, profit, or cost element of the Bid fee, or of that of any other Bidder, or to secure any advantage against the public body making the award of anyone interested in the proposed award; that all statements contained in the Bid are true; and, further, that the Bidder has not, directly or indirectly, submitted his or her Bid fee or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, or paid, and will not pay, any fee to any corporation, partnership, company association, organization, Bid depository, or to any member or agent thereof to effectuate a collusive or sham Bid.

I certify (or declare) under penalty of perjury under the laws of the State of California that the foregoing is true and correct.

Signature	Company Name
Printed Name	Title

SUBSCRIBED AND SWORN TO BEFORE ME

This ____ day of _____, _____.

Notary Public (Seal)

**IFB 2027-01 BUILDING MODIFICATIONS FOR THE MAINTENANCE OF
HYDROGEN FUEL CELL BUSES
ATTACHMENT E – REQUIRED FORMS**

FTA CERTIFICATION REGARDING DEBARMENT,

**DEBARRED BIDDERS' CERTIFICATION
SUSPENSION, INELIGIBILITY AND VOLUNTARY
EXCLUSION**

For Contracts and Subcontracts in Excess of \$25,000.00

Instructions for Certification

1. By signing and submitting its bid or Bid, the prospective lower tier participant is providing the signed certification set out below.
2. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into; If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, VVTA may pursue available remedies, including suspension and/or debarment.
3. The prospective lower tier participant shall provide immediate written notice to VVTA if at any time the prospective lower tier participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.
4. The terms "covered transaction," "debarred," "suspended," "ineligible," "lower tier covered transaction," "participant," "persons," "principal," "Bid," and "voluntary excluded," as used in this clause, have the meanings set out in the Definitions and Coverage sections of rules implementing Executive Order 12549 [49 C.F.R. Part 29]. You may contact VVTA for assistance in obtaining a copy of those regulations.
5. The prospective lower tier participant agrees by submitting its bid or Bid that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized in writing by VVTA.
6. The prospective lower tier participant further agrees by submitting its bid or Bid that it will include the clause, set out below, titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion – Lower Tier Covered Transaction," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions and in all solicitations for lower tier covered transactions.
7. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that it is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant may decide the method and frequency by which it determines the eligibility of its principals. Each participant may, but is not required to, check the Non-procurement List issued by U.S. General Service Administration.

IFB 2027-01 BUILDING MODIFICATIONS FOR THE MAINTENANCE OF
HYDROGEN FUEL CELL BUSES
ATTACHMENT E – REQUIRED FORMS

8. Nothing contained in the foregoing shall be construed to require establishment of system of records in order to render in good faith the certification required by this clause. The knowledge and information of a participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.
9. Except for transactions authorized under Paragraph 5 of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to all remedies available to the Federal Government, RT may pursue available remedies including suspension and/or debarment.

“Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion – Lower Tier covered Transaction”

1. The prospective lower tier participant certifies, by submission of its bid or Bid, that neither it nor it's "principals" [as defined at 49 C.F.R. §29.105(p)] is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency.
2. When the prospective lower tier participant is unable to certify to the statement in this certification, such prospective participant shall attach an explanation to its bid or Bid.

Signature of the Bidder's Authorized Official

Name and Title of the Bidder's Authorized Official

Company Name

Date

IFB 2027-01 BUILDING MODIFICATIONS FOR THE MAINTENANCE OF
HYDROGEN FUEL CELL BUSES
ATTACHMENT E – REQUIRED FORMS

FTA CERTIFICATION OF RESTRICTIONS ON LOBBYING
(For Bids Over \$100,000)

I. _____, hereby certify on behalf of _____ (Company Name)
that:

1. No Federal or State appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any State or Federal agency, a Member of the State Legislature or the United States Congress, an officer or employee of the Legislature or Congress, or an employee of a Member of the Legislature or Congress, in connection with the awarding of any State or Federal contract, the making of any State or Federal grant, the making of any State or Federal loan, the entering into of any State or Federal cooperative agreement and the extension, continuation, renewal, amendment or modification of any State or 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 Federal agency, a Member of Congress, or an officer or employee of Congress, in connection with this contract, grant, loan or cooperative agreement, which is funded in whole or in part by Federal funds, 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 any subcontractor at any tier performing work under this Federal-Aid funded Contract and that all subcontractors of any tier shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance is 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 § 13 52, Title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

Executed this _____ day of _____, _____

Signature of the Bidder’s Authorized Official

Name and Title of the Bidder’s Authorized Official

Company Name

Date

IFB 2027-01 BUILDING MODIFICATIONS FOR THE MAINTENANCE OF
HYDROGEN FUEL CELL BUSES
ATTACHMENT E – REQUIRED FORMS

BID DEVIATION, PRE-OFFER CHANGE OR APPROVED EQUAL

This form shall be completed for each condition, exception, reservation or understanding (i.e., deviation) in the Bid according to “Condition, Exceptions Reservations and Understanding.” This form must also be used for requested clarifications, changes, substitutes or approval of items equal to items specified with a brand name, and must be submitted as far in advance of the Due Date as specified in “Bid Timeline”

Deviation Number: _____

Bidder: _____

Email Address: _____

Phone Number: _____

Page Number: _____

Section: _____

Detailed

Description of Requested Deviation:

Rationale

(Pros and Cons):

**IFB 2027-01 BUILDING MODIFICATIONS FOR THE MAINTENANCE OF
HYDROGEN FUEL CELL BUSES
ATTACHMENT E – REQUIRED FORMS**

ACKNOWLEDGEMENT OF ADDENDA

The following form shall be completed and included in the Bid package.

Failure to acknowledge receipt of all addenda may cause the Bid to be considered non-responsive to the solicitation. Acknowledged receipt of each addendum must be clearly established and included with the Offer.

The undersigned Bidder acknowledges receipt of the following addendum to the documents:

Addendum No.	Date:
Addendum No.	Date:
Addendum No.	Date:
Addendum No.	Date:
Addendum No.	Date:
Addendum No.	Date:

Signature of the Bidder's Authorized Official

Name and Title of the Bidder's Authorized Official

Company Name

Date

IFB 2027-01 BUILDING MODIFICATIONS FOR THE MAINTENANCE OF
HYDROGEN FUEL CELL BUSES
ATTACHMENT E – REQUIRED FORMS

SUBCONTRACTOR'S LIST

(If additional space is needed, supply information on separate form)

COMPANY NAME: _____

ADDRESS: _____

CITY/STATE/ZIP: _____

TELEPHONE: _____ FAX: _____ \$ _____

EMAIL ADDRESS: _____

CSLB NUMBER: _____ DIR REGISTRATION #: _____

CERTIFIED DBE? _____
YES NO

If yes, please provide certification: CERT NUMBER: _____

COMPANY NAME: _____

ADDRESS: _____

CITY/STATE/ZIP: _____

TELEPHONE: _____ FAX: _____ \$ _____

EMAIL ADDRESS: _____

CSLB NUMBER: _____ DIR REGISTRATION #: _____

CERTIFIED DBE? _____
YES NO

If yes, please provide certification: CERT NUMBER: _____

COMPANY NAME: _____

ADDRESS: _____

CITY/STATE/ZIP: _____

TELEPHONE: _____ FAX: _____ \$ _____

EMAIL ADDRESS: _____

CSLB NUMBER: _____ DIR REGISTRATION #: _____

CERTIFIED DBE? _____
YES NO

**IFB 2027-01 BUILDING MODIFICATIONS FOR THE MAINTENANCE OF
HYDROGEN FUEL CELL BUSES
ATTACHMENT E – REQUIRED FORMS**

If yes, please provide certification: CERT NUMBER: _____

SAMPLE PERFORMANCE BOND

Bond No.
Premium:

KNOW ALL PERSONS BY THESE PRESENTS THAT:

WHEREAS, on _____, 2020, the VICTOR VALLEY TRANSIT AUTHORITY (“VVTA”) awarded to (“PRINCIPAL”) a contract for performance of the work described as 2022-15 FACILITY REFURBISHMENT (“CONTRACT”), the terms and conditions of which are incorporated herein by reference; and

WHEREAS, the CONTRACT requires PRINCIPAL to furnish this Performance Bond (“BOND”) to guarantee PRINCIPAL’s faithful performance of all provisions of the CONTRACT; and

WHEREAS, _____ (“SURETY”), a corporation legally authorized to execute and furnish performance bonds as sole surety in the State of California, is willing to act as PRINCIPAL’s SURETY in the making and giving of this BOND.

NOW, THEREFORE, we PRINCIPAL and SURETY hereby hold and firmly bind ourselves to pay to CITY in lawful United States currency the principal sum of _____ Dollars (\$_____), for which payment well and truly to be made to CITY or CITY’s successors or assigns we hereby bind ourselves and our heirs, legal representatives, successors and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS BOND IS THAT IF PRINCIPAL or PRINCIPAL’s heirs, legal representatives, successors or assigns shall in all things stand to, abide by, and well and truly keep and faithfully perform all of the covenants, conditions and promises in the CONTRACT, including its work Guaranty, and all alterations thereof made as therein provided on PRINCIPAL’s part to be kept and performed at the time and in the manner specified therein, and in all respects according to their true intent and meaning, and shall indemnify and save harmless CITY and CITY’s officers, employees and agents as therein specified, then this obligation shall become null and void; otherwise, it shall be and remain in full force and binding effect.

SURETY hereby agrees that no change in the terms of the CONTRACT or the work to be performed thereunder, or any extension of time for completion thereof, shall in any way relieve it of its obligations under this BOND, and hereby waives notice of any change or extension thereof, and further waives the provisions of California Civil Code sections 2819 and 2845.

If lawsuit is brought by CITY on this BOND, PRINCIPAL and SURETY shall pay to CITY, over and above the principal sum hereof, reasonable costs and attorney’s fees which the court is hereby authorized to award.

IN WITNESS WHEREOF, we sign and seal this BOND on _____

Correspondence or claims relating to
this BOND should be sent to SURETY at
the following address:

Principal

By _____ (Seal)

Typed Name and Title

Surety

Attorney-In-Fact (Seal)

Typed Name and Title

Telephone Number _____

Note: Signatures of those executing for
SURETY must be acknowledged, and a
Power of Attorney attached.

IFB 2027-01 BUILDING MODIFICATIONS FOR THE MAINTENANCE OF
HYDROGEN FUEL CELL BUSES
ATTACHMENT E – REQUIRED FORMS

SAMPLE PAYMENT BOND

Bond No.
Premium:

KNOW ALL PERSONS BY THESE PRESENTS THAT:

WHEREAS, on _____, 2020, the VICTOR VALLEY TRANSIT AUTHORITY (“VVTA”) awarded to (“PRINCIPAL”) a contract for performance of work described as 2022-15 FACILITY REFURBISHMENT (“CONTRACT”), the terms and conditions of which are incorporated herein by reference; and

WHEREAS, the CONTRACT requires PRINCIPAL to furnish this Payment Bond (“BOND”) to secure payment of the claims of persons described in California Civil Code section 3248(b); and

WHEREAS, _____ (“SURETY”), a corporation legally authorized to execute and furnish payment bonds as sole surety in the State of California, is willing to act as PRINCIPAL’s SURETY in the giving of this BOND.

NOW, THEREFORE, we PRINCIPAL and SURETY hold and firmly bind ourselves unto CITY and all persons and entities described in California Civil Code section 3248(b) whose claims are not paid by PRINCIPAL in the total sum of _____ Dollars (\$) , for which payment well and truly to be made we bind ourselves and our heirs, legal representatives, successors and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS BOND IS THAT IF PRINCIPAL or PRINCIPAL’s successors, assigns, or subcontractors fail to pay any of the persons described in California Civil Code section 3181, any amounts due under the California Unemployment Insurance Code with respect to work or labor performed under the CONTRACT or any amounts required to be deducted, withheld and paid over to the California Employment Development Department from the wages of employees of PRINCIPAL and PRINCIPAL’s subcontractors pursuant to California Unemployment Insurance Code section 13020 with respect to such work and labor, SURETY will pay for the same in an amount not exceeding the sum stated above, plus all costs and reasonable attorney’s fees awarded by any court of competent jurisdiction in any lawsuit brought upon this BOND.

THIS BOND SHALL INURE TO the benefit of all persons and entities described in California Civil Code section 3248(b) so as to give them or their assigns a right of action in any lawsuit brought upon this BOND, and is executed and filed to comply with the Public Works Payment Bond provisions of Chapter 7, Title 15, Part 4, Division 3 of the California Civil Code (commencing at Section 3247) and all amendments thereto, which provisions are incorporated herein by this reference.

IN WITNESS WHEREOF, we sign and seal this BOND on _____ .

Correspondence or claims relating to
this BOND should be sent to SURETY at
the following address:

Telephone Number _____

Note: Signatures of those executing for
SURETY must be acknowledged and
Power of Attorney attached.

Principal

By _____ (Seal)

Typed Name and Title

Surety

Attorney-In-Fact

Typed Name and Title

Bid Bond (See Instructions on Page 3)		Date Bond Executed (Must Not Be Later Than Bid Opening Date)	OMB Control Number: 9000-0001 Expiration Date: 1/31/2027
Principal (Legal Name And Business Address)		Type Of Organization ("X" One) ☐ Individual ☐ Partnership ☐ Joint Venture ☐ Corporation ☐ Other (Specify)	
		State Of Incorporation	
Surety(ies) (Name And Business Address)			

Penal Sum Of Bond					Bid Identification	
Percent Of Bid Price	Amount Not To Exceed				Bid Date	Invitation Number
	Million(s)	Thousand(s)	Hundred(s)	Cents		
					For (Construction, Supplies Or Services)	

Obligation:

We, the Principal and Surety(ies) are firmly bound to the United States of America (hereinafter called the Government) in the above penal sum. For payment of the penal sum, we bind ourselves, our heirs, executors, administrators, and successors, jointly and severally. However, where the Sureties are corporations acting as co-sureties, we, the Sureties, bind ourselves in such sum "jointly and severally" as well as "severally" only for the purpose of allowing a joint action or actions against any or all of us. For all other purposes, each Surety binds itself, jointly and severally with the Principal, for the payment of the sum shown opposite the name of the Surety. If no limit of liability is indicated, the limit of liability is the full amount of the penal sum.

Conditions:

The Principal has submitted the bid identified above.

Therefore:

The above obligation is void if the Principal - (a) upon acceptance by the Government of the bid identified above, within the period specified therein for acceptance (sixty (60) days if no period is specified), executes the further contractual documents and gives the bond(s) required by the terms of the bid as accepted within the time specified (ten (10) days if no period is specified) after receipt of the forms by the Principal; or (b) in the event of failure to execute such further contractual documents and give such bonds, pays the Government for any cost of procuring the work which exceeds the amount of the bid.

Each Surety executing this instrument agrees that its obligation is not impaired by any extension(s) of the time for acceptance of the bid that the Principal may grant to the Government. Notice to the Surety(ies) of extension(s) is waived. However, waiver of the notice applies only to extensions aggregating not more than sixty (60) calendar days in addition to the period originally allowed for acceptance of the bid.

Witness:

The Principal and Surety(ies) executed this bid bond and affixed their seals on the above date.

Principal

Signature(s)	1. (Seal)	2. (Seal)	3. (Seal)	Corporate Seal
Name(s) And Title(s) (Typed)	1.	2.	3.	

Individual Surety(ies)

Signature(s)	1. (Seal)	2. (Seal)
Name(s) (Typed)	1.	2.

Corporate Surety(ies)

Surety A	Name And Address		State Of Incorporation	Liability Limit (\$)	Corporate Seal
	Signature(s)	1.	2.		
	Name(s) And Title(s) (Typed)	1.	2.		
Surety B	Name And Address		State Of Incorporation	Liability Limit (\$)	Corporate Seal
	Signature(s)	1.	2.		
	Name(s) And Title(s) (Typed)	1.	2.		
Surety C	Name And Address		State Of Incorporation	Liability Limit (\$)	Corporate Seal
	Signature(s)	1.	2.		
	Name(s) And Title(s) (Typed)	1.	2.		
Surety D	Name And Address		State Of Incorporation	Liability Limit (\$)	Corporate Seal
	Signature(s)	1.	2.		
	Name(s) And Title(s) (Typed)	1.	2.		

Surety E	Name And Address		State Of Incorporation	Liability Limit (\$)	Corporate Seal
	Signature(s)	1.	2.		
	Name(s) And Title(s) (Typed)	1.	2.		
Surety F	Name And Address		State Of Incorporation	Liability Limit (\$)	Corporate Seal
	Signature(s)	1.	2.		
	Name(s) And Title(s) (Typed)	1.	2.		
Surety G	Name And Address		State Of Incorporation	Liability Limit (\$)	Corporate Seal
	Signature(s)	1.	2.		
	Name(s) And Title(s) (Typed)	1.	2.		

Instructions

1. This form is authorized for use when a bid guaranty is required. Any deviation from this form will require the written approval of the Administrator of General Services.
2. Insert the full legal name and business address of the Principal in the space designated "Principal" on the face of the form. An authorized person shall sign the bond. Any person signing in a representative capacity (e.g., an attorney-in-fact) must furnish evidence of authority if that representative is not a member of the firm, partnership, or joint venture, or an officer of the corporation involved.
3. The bond may express penal sum as a percentage of the bid price. In these cases, the bond may state a maximum dollar limitation (e.g., 20% of the bid price but the amount not to exceed _____ dollars).
4. (a) Corporations executing the bond as sureties must appear on the Department of the Treasury's list of approved sureties and must act within the limitations listed therein. The value put into the Liability Limit block is the penal sum (i.e., the face value) of the bond, unless a co-surety arrangement is proposed.

(b) When multiple corporate sureties are involved, their names and addresses shall appear in the spaces (Surety A, Surety B, etc.) headed "Corporate Surety(ies)." In the space designated "Surety(ies)" on the face of the form, insert only the letter identifier corresponding to each of the sureties. Moreover, when co-surety arrangements exist, the parties may allocate their respective limitations of liability under the bond, provided that the sum total of their liability equals 100% of the bond penal sum.

(c) When individual sureties are involved, a completed [Affidavit of Individual Surety \(Standard Form 28\)](#) for each individual surety, shall accompany the bond. The Government may require the surety to furnish additional substantiating information concerning its financial capability.

5. Corporations executing the bond shall affix their corporate seals. Individuals shall execute the bond opposite the word "Corporate Seal"; and shall affix an adhesive seal if executed in Maine, New Hampshire, or any other jurisdiction requiring adhesive seals.
6. Type the name and title of each person signing this bond in the space provided.
7. In its application to negotiated contracts, the terms "bid" and "bidder" shall include "proposal" and "offeror."

Paperwork Reduction Act Statement - This information collection meets the requirements of 44 USC § 3507, as amended by section 2 of the Paperwork Reduction Act of 1995. You do not need to answer these questions unless we display a valid Office of Management and Budget (OMB) control number. The OMB control number for this collection is 9000-0001. We estimate that it will take 1 hour to read the instructions, gather the facts, and answer the questions. Send only comments relating to our time estimate, including suggestions for reducing this burden, or any other aspects of this collection of information to: General Services Administration, Regulatory Secretariat Division (MVCB), 1800 F Street, NW, Washington, DC 20405.

**VVTA IFB 2027-01 BUILDING MODIFICATIONS FOR THE
MAINTENANCE OF HYDROGEN FUEL CELL BUSES
ATTACHMENT F – PREVAILING WAGES**

- A. All or a portion of the Scope of Work in the Contract or Purchase Order (as applicable) requires the payment of prevailing wages and compliance with the following requirements.**

1. Determination of Prevailing Rates:

Pursuant to Labor Code sections 1770, et seq., VVTA has obtained from the Director of the Department of Industrial Relations (DIR) pursuant to the California Labor Code, the general prevailing rates of per diem wages and the prevailing rates for holiday and overtime work in the locality in which the Scope of Work is to be performed. Copies of said rates are on file with the VVTA, will be made available for inspection during regular business hours, may be included elsewhere in the specifications for the Scope of Work, and are also available online at www.dir.ca.gov. The wage rate for any classification not listed, but which may be required to execute the Scope of Work, shall be commensurate and in accord with specified rates for similar or comparable classifications for those performing similar or comparable duties. In accordance with Labor Code section 1773.2, the Contractor shall post, at appropriate and conspicuous locations on the jobsite, a schedule showing all applicable prevailing wage rates and shall comply with the requirements of Labor Code sections 1773, et seq.

2. Payment of Prevailing Rates

Each worker of the Contractor, or any subcontractor, engaged in the Scope of Work, shall be paid not less than the general prevailing wage rate, regardless of any contractual relationship which may be alleged to exist between the Contractor or any subcontractor, and such worker.

3. Prevailing Rate Penalty

The Contractor shall, as a penalty, forfeit two hundred dollars (\$200.00) to VVTA for each calendar day or portion thereof, for each worker paid less than the prevailing rates as determined by the Director of the DIR for such work or craft in which such worker is employed by the Contractor or by any subcontractor in connection with the Scope of Work. Pursuant to California Labor Code section 1775, the difference between such prevailing wage rates and the amount paid to each worker for each calendar day, or portion thereof, for which each worker was paid less than the prevailing wage rate, shall be paid to each worker by the Contractor.

4. Ineligible Contractors:

Pursuant to the provisions of Labor Code section 1777.1, the Labor Commissioner publishes and distributes a list of contractors' ineligible to perform work as a contractor or subcontractor on a public works project. This list of debarred contractors is available from the DIR website at <http://www.dir.ca.gov/Public-Works/PublicWorks.html>. Any contract entered into between a contractor and a debarred subcontractor is void as a matter of law. A debarred subcontractor may not receive any public money for performing work as a subcontractor on a public works contract, and any public money that may have been paid to a debarred subcontractor by a contractor on the project shall be returned to VVTA. The Contractor shall be responsible for the payment of wages to workers of a debarred subcontractor who has been allowed to work on the

**VVTA IFB 2027-01 BUILDING MODIFICATIONS FOR THE
MAINTENANCE OF HYDROGEN FUEL CELL BUSES
ATTACHMENT F – PREVAILING WAGES**

Scope of Work.

5. Payroll Records:

Pursuant to California Labor Code section 1776, the Contractor and each subcontractor, shall keep accurate certified payroll records, showing the name, address, social security number, work classification, straight time and overtime hours worked each day and week, and the actual per diem wages paid to each journeyman, apprentice, worker or other employee employed by them in connection with the Scope of Work. The payroll records enumerated herein shall be verified by a written declaration made under penalty of perjury that the information contained in the payroll record is true and correct and that the Contractor or subcontractor has complied with the requirements of the California Labor Code sections 1771, 1811, and 1815 for any Scope of Work performed by his or her employees. The payroll records shall be available for inspection at all reasonable hours at the principal office of the Contractor on the following basis:

- (1) A certified copy of an employee's payroll record shall be made available for inspection or furnished to such employee or his/her authorized representative on request.
- (2) A certified copy of all payroll records shall be made available for inspection or furnished upon request to VVTA, or the Division of Labor Standards Enforcement of the DIR.
- (3) A certified copy of payroll records shall be made available upon request to the public for inspection or copies thereof made; provided, however, that a request by the public shall be made through either VVTA or the Division of Labor Standards Enforcement. If the requested payroll records have not been previously provided to VVTA or the Division of Labor Standards Enforcement, the requesting party shall, prior to being provided the records, reimburse the cost of preparation by the Contractor, subcontractor and the entity through which the request was made; the public shall not be given access to such records at the principal office of the Contractor;
- (4) The Contractor shall file a certified copy of the payroll records with the entity that requested such records within ten (10) days after receipt of a written request; and
- (5) Copies provided to the public, by VVTA or the Division of Labor Standards Enforcement shall be marked or obliterated in such a manner as to prevent disclosure of an individual's name, address and social security number. The name and address of the Contractor or any subcontractor, performing a part of the Scope of Work shall not be marked or obliterated. The Contractor shall inform VVTA of the location of payroll records, including the street address, city and county and shall, within five (5) working days, provide a notice of a change of location and address.

The Contractor shall have ten (10) days from receipt of the written notice specifying in what respects the Contractor must comply with the above requirements. In the event Contractor does not comply with the requirements of this section within the ten (10) day period, the Contractor shall, as a penalty to VVTA, forfeit one-hundred dollars (\$100.00)

**VVTA IFB 2027-01 BUILDING MODIFICATIONS FOR THE
MAINTENANCE OF HYDROGEN FUEL CELL BUSES
ATTACHMENT F – PREVAILING WAGES**

for each calendar day, or portion thereof, for each worker, until strict compliance is effectuated. Upon the request of the Division of Labor Standards Enforcement, such penalty shall be withheld from any portion of the payments then due or to become due to the Contractor.

6. Limits on Hours of Work:

Pursuant to California Labor Code section 1810, eight (8) hours of labor shall constitute a legal day's work. Pursuant to California Labor Code section 1811, the time of service of any worker employed at any time by the Contractor or by a subcontractor, upon the Scope of Work or upon any part of the Scope of Work, is limited and restricted to eight (8) hours during any one calendar day and forty (40) hours during any one calendar week, except as provided for under Labor Code section 1815. Notwithstanding the foregoing provisions, work performed by employees of Contractor or any subcontractor, in excess of eight (8) hours per day and forty (40) hours during any one week, shall be permitted upon compensation for all hours worked in excess of eight (8) hours per day at not less than one and one-half (1½) times the basic rate of pay.

7. Penalty for Excess Hours:

The Contractor shall pay to VVTA a penalty of twenty-five dollars (\$25.00) for each worker employed on the Scope of Work by the Contractor or any subcontractor, for each calendar day during which such worker is required or permitted to work more than eight (8) hours in any calendar day and forty (40) hours in any one calendar week, in violation of the provisions of the California Labor Code, unless compensation to the worker so employed by the Contractor is not less than one and one-half (1½) times the basic rate of pay for all hours worked in excess of eight (8) hours per day.

8. Senate Bill 854 (Chapter 28, Statutes of 2014) Requirements:

(1) Contractor shall comply with Senate Bill 854 (signed into law on June 20, 2014). The requirements include, but are not limited to, the following:

- a. No contractor or subcontractor may be listed on a bid proposal (submitted on or after March 1, 2015) for a public works project unless registered with the DIR pursuant to Labor Code section 1725.5, with limited exceptions from this requirements for bid purposes only as allowed under Labor Code section 1771.1(a).
- b. No contractor or subcontractor may be awarded a contract for public work or perform work on a public works project (awarded on or after April 1, 2015) unless registered with the DIR pursuant to Labor Code section 1725.5.
- c. This project is subject to compliance monitoring and enforcement by the DIR.
- d. As required by the DIR, Contractor is required to post job site notices, as prescribed by regulation, regarding compliance monitoring and enforcement by the DIR.

**VVTA IFB 2027-01 BUILDING MODIFICATIONS FOR THE
MAINTENANCE OF HYDROGEN FUEL CELL BUSES
ATTACHMENT F – PREVAILING WAGES**

- e. Contractors and all subcontractors must submit certified payroll records online to the Labor Commissioner for all new public works projects issued on or after April 1, 2015, and for all public works projects, new or ongoing, on or after January 1, 2016.
 - f. The certified payroll must be submitted at least monthly to the Labor Commissioner.
 - g. VVTA reserves the right to require Contractor and all subcontractors to submit certified payroll records more frequently than monthly to the Labor Commissioner.
 - h. The certified payroll records must be in a format prescribed by the Labor Commissioner.
- (2) As required by Labor Code 1771.1(a) “A contractor or subcontractor shall not be qualified to bid on, be listed in a bid proposal, subject to the requirements of Section 4104 of the Public Contract Code, or engage in the performance of any contract for public work, as defined in this chapter, unless currently registered and qualified to perform public work pursuant to Section 1725.5. It is not a violation of this section for an unregistered contractor to submit a bid that is authorized by Section 7029.1 of the Business and Professions Code or by Section 10164 or 20103.5 of the Public Contract Code, provided the contractor is registered to perform public work pursuant to Section 1725.5 at the time the contract is awarded.”

B. STATE PUBLIC WORKS APPRENTICESHIP REQUIREMENTS

1. State Public Works Apprenticeship Requirements:

The Contractor is responsible for compliance with Labor Code section 1777.5 and the California Code of Regulations, title 8, sections 230 – 230.2 for all apprenticeable occupations (denoted with “#” symbol next to craft name in DIR Prevailing Wage Determination), whether employed by the Contractor, subcontractor, vendor or consultant. Included in these requirements is (1) the Contractor’s requirement to provide notification (i.e. DAS-140) to the appropriate apprenticeship committees; (2) pay training fund contributions for each apprenticeable hour employed on the Contract; and (3) utilize apprentices in a minimum ratio of not less than one apprentice hour for each five journeyman hours by completion of Contract work (unless an exception is granted in accordance with Labor Code section 1777.5) or request for the dispatch of apprentices.

Any apprentices employed to perform any of the Scope of Work shall be paid the standard wage to apprentices under the regulations of the craft or trade for which such apprentice is employed, and such individual shall be employed only for the work of the craft or trade to which such individual is registered. Only apprentices, as defined in California Labor Code section 3077, who are in training under apprenticeship standards and written apprenticeship agreements under California Labor Code sections 3070 et seq. are eligible to be employed for the Scope of Work. The employment and training of each apprentice shall be in accordance with the provisions of the apprenticeship standards and apprentice agreements under which such apprentice is training.

**VVTA IFB 2027-01 BUILDING MODIFICATIONS FOR THE
MAINTENANCE OF HYDROGEN FUEL CELL BUSES
ATTACHMENT F – PREVAILING WAGES**

2. Compliance with California Labor Code section 1777.5 requires all public works contractors to:

(1) Submit Contract Award Information (DAS-140)

- a. Although there are a few exemptions (identified below), all Contractors, regardless of union affiliation, must submit contract award information when performing on a California public works project. **b.** The DAS-140 is a notification “announcement” of the Contractor’s participation on a public works project—*it is not a request for the dispatch of an apprentice.*
- c. Contractors shall submit the contract award information (you may use form DAS 140) within 10 days of the execution of the prime contract or subcontract, but in no event later than the first day in which the Contractor has workers employed on the public work.
- d. Contractors who are already approved to train apprentices (i.e. check “Box 1” on the DAS-140) shall only be required to submit the form to their approved program.
- e. Contractors who are NOT approved to train apprentices (i.e. those that check either “Box 2” or “Box 3” on the DAS-140) shall submit the DAS-140 TO EACH of the apprenticeship program sponsors in the area of your public works project. For a listing of apprenticeship programs see <http://www.dir.ca.gov/Databases/das/pwaddrstart.asp>.

(2) Employ Registered Apprentices

- a. Labor Code section 1777.5 requires that a contractor performing work in an “apprenticeable” craft must employ one (1) hour of apprentice work for every five (5) hours performed by a journeyman. This ratio shall be met prior to the Contractor’s completion of work on the project. “Apprenticeable” crafts are denoted with a pound symbol “#” in front of the craft name on the prevailing wage determination.
- b. All Contractors who do not fall within an exemption category (see below) must request for dispatch of an apprentice from an apprenticeship program (for each apprenticeable craft or trade) by giving the program actual notice of at least 72 hours (business days only) before the date on which apprentices are required.
- c. Contractors may use the “DAS-142” form for making a request for the dispatch of an apprentice.
- d. Contractors who are participating in an approved apprenticeship training program and who did not receive sufficient number of apprentices from their initial request must request dispatch of apprentices from ALL OTHER apprenticeship committees in the project area in order to fulfill this requirement.
- e. Contractor should maintain and submit proof (when requested) of its DAS-142 submittal to the apprenticeship committees (e.g. fax transmittal confirmation). A Contractor has met its requirement to employ apprentices only after it has successfully made a dispatch request to all apprenticeship programs in the project area.
- f. Only “registered” apprentices may be paid the prevailing apprentice rates and must, at all times work under the supervision of a Journeyman (Cal. Code Regs., tit 8, § 230.1).

VVTA IFB 2027-01 BUILDING MODIFICATIONS FOR THE MAINTENANCE OF HYDROGEN FUEL CELL BUSES ATTACHMENT F – PREVAILING WAGES

(3) Make Training Fund Contributions

- a. Contractors performing in apprenticeable crafts on public works projects, must make training fund contributions in the amount established in the prevailing wage rate publication for journeymen and apprentices.
- b. Contractors may use the “CAC-2” form for submittal of their training fund contributions.
- c. Contractors who do not submit their training fund contributions to an approved apprenticeship training program must submit their contributions to the California Apprenticeship Council (CAC), PO Box 420603, San Francisco, CA 94142-0603.
- d. Training fund contributions to the CAC are due and payable on the 15th day of the month for work performed during the preceding month.
- e. The “training” contribution amount identified on the prevailing wage determination shall not be paid to the worker, unless the worker falls within one of the exemption categories listed below.

3. Exemptions to Apprenticeship Requirements:

The following are exempt from having to comply with California apprenticeship requirements. These types of contractors do not need to submit a DAS-140, DAS-142, make training fund contributions, or utilize apprentices.

- a. When the Contractor holds a sole proprietor license (“Owner-Operator”) and no workers were employed by the Contractor. In other words, the contractor performed the entire work from start to finish and worked alone.
- b. Contractors performing in non-apprenticeable crafts. “Apprenticeable” crafts are denoted with a pound symbol “#” in front of the craft name on the prevailing wage determination.
- c. When the Contractor has a direct contract with the Public Agency that is under \$30,000.
- d. When the project is 100% federally funded and the funding of the project does not contain any city, county, and/or state monies (unless the project is administered by a state agency in which case the apprenticeship requirements apply).
- e. When the project is a private project not covered by the definition of public works as found in Labor Code section 1720.

4. Exemption from Apprenticeship Ratios:

The Joint Apprenticeship Committee shall have the discretion to grant a certificate, which shall be subject to the approval of the Administrator of Apprenticeship, exempting the Contractor from the 1-to-5 ratio set forth in this Section when it finds that any one of the following conditions are met:

**VVTA IFB 2027-01 BUILDING MODIFICATIONS FOR THE
MAINTENANCE OF HYDROGEN FUEL CELL BUSES
ATTACHMENT F – PREVAILING WAGES**

- a.** Unemployment for the previous three-month period in such area exceeds an average of fifteen percent (15%); or
- b.** The number of apprentices in training in such area exceeds a ratio of 1-to-5 in relation to journeymen; or
- c.** The Apprenticeable Craft or Trade is replacing at least one-thirtieth (1/30) of its journeymen annually through apprenticeship training, either on a statewide basis or on a local basis; or
- d.** If assignment of an apprentice to any work performed under the Contract Documents would create a condition which would jeopardize such apprentice's life or the life, safety or property of fellow employees or the public at large, or if the specific task to which the apprentice is to be assigned is of such a nature that training cannot be provided by a journeyman.

When such exemptions from the 1-to-5 ratio between apprentices and journeymen are granted to an organization which represents contractors in a specific trade on a local or statewide basis, the member contractors will not be required to submit individual applications for approval to local Joint Apprenticeship Committees, provided they are already covered by the local apprenticeship standards.

5. Contractor's Compliance:

The responsibility of compliance with this Section for all Apprenticeable Trades or Crafts is solely and exclusively that of the Contractor. All decisions of the Joint Apprenticeship Committee(s) under this Section are subject to the provisions of California Labor Code section 3081 and penalties are pursuant to Labor Code section 1777.7 and the determination of the Labor Commissioner.