

Agenda



County of Inyo Board of Supervisors

Board of Supervisors Room
County Administrative Center
224 North Edwards
Independence, California

All members of the public are encouraged to participate in the discussion of any items on the Agenda. Anyone wishing to speak, please obtain a card from the Board Clerk and indicate each item you would like to discuss. Return the completed card to the Board Clerk before the Board considers the item (s) upon which you wish to speak. You will be allowed to speak about each item before the Board takes action on it.

Any member of the public may also make comments during the scheduled "Public Comment" period on this agenda concerning any subject related to the Board of Supervisors or County Government. No card needs to be submitted in order to speak during the "Public Comment" period.

Public Notices: (1) In Compliance with the Americans with Disabilities Act, if you need special assistance to participate in this meeting please contact the Clerk of the Board at (760) 878-0373. (28 CFR 35.102-35.104 ADA Title II). Notification 48 hours prior to the meeting will enable the County to make reasonable arrangements to ensure accessibility to this meeting. Should you because of a disability require appropriate alternative formatting of this agenda, please notify the Clerk of the Board 72 hours prior to the meeting to enable the County to make the agenda available in a reasonable alternative format. (Government Code Section 54954.2). (2) If a writing, that is a public record relating to an agenda item for an open session of a regular meeting of the Board of Supervisors, is distributed less than 72 hours prior to the meeting, the writing shall be available for public inspection at the Office of the Clerk of the Board of Supervisors, 224 N. Edwards, Independence, California and is available per Government Code § 54957.5(b)(1).

Note: Historically the Board does break for lunch; the timing of a lunch break is made at the discretion of the Chairperson and at the Board's convenience.

November 5, 2019 - 8:30 AM - AMENDED

1. **PUBLIC COMMENT**

CLOSED SESSION

2. **CONFERENCE WITH LEGAL COUNSEL – EXISTING LITIGATION** – Los Angeles Department of Water and Power v. County of Inyo et al, Kern Superior Court Case No. BCV-18-101513-KCT (CEQA).
3. **CORRECTION: CONFERENCE WITH LEGAL COUNSEL – ANTICIPATED LITIGATION** – Significant exposure to potential litigation pursuant to (2) of subdivision (d) of Government Code §54956.9 (*one case*).
Circumstances: threatened state revocation of LPA primacy delegation agreement.
4. **CONFERENCE WITH COUNTY'S LABOR NEGOTIATORS** – Regarding employee organizations: Deputy Sheriff's Association (DSA); Elected Officials Assistant Association (EOAA); Inyo County Correctional Officers Association (ICCOA); Inyo County Employees Association (ICEA); Inyo County Probation Peace Officers Association (ICPPOA); IHSS Workers; Law Enforcement Administrators' Association (LEAA). Unrepresented employees: all. County designated representatives – Administrative Officer Clint Quilter, Assistant County Administrator Leslie Chapman Deputy Personnel Director Sue Dishion, County Counsel Marshall Rudolph, Health and Human Services Director Marilyn Mann, and Chief Probation Officer Jeff Thomson.

OPEN SESSION (With the exception of timed items, all open-session items may be considered at any time and in any order during the meeting in the Board's discretion.)

10 A.M.

5. **PLEDGE OF ALLEGIANCE**
6. **REPORT ON CLOSED SESSION AS REQUIRED BY LAW.**

7. **PUBLIC COMMENT**
8. **COUNTY DEPARTMENT REPORTS** (*Reports limited to two minutes*)
9. **INTRODUCTIONS** - The following new employees will be introduced to the Board: Cullen Aukee, Equipment Mechanic Trainee; Danyel Dondero, Road Maintenance Worker I, and John Kinney, Road Maintenance Worker I, Road Department; Linze deJesus Lopez, Building and Grounds Worker, Public Works; and Marcus Warner, Gate Attendant, Recycling & Waste Management.

CONSENT AGENDA (Approval recommended by the County Administrator)

10. **Clerk of the Board** - Request Board appoint Ms. Frieda LaCues to an unexpired four-year term on the Independence Cemetery District Board of Trustees ending October 8, 2023. (*Notice of Vacancy resulted in request for appointment from Ms. LaCues.*)
11. **County Administrator** - Request Board approve Amendment No. 1 to the contract between the County of Inyo and GovInvest, Inc. of Torrance, CA, changing the effective date for the OPEB Module to September 27, 2019, and authorize the Chairperson to sign.
12. **County Administrator** - Request Board authorize payment to NKB Forensic Psychological Services for a prior-year invoice in the amount of \$7,000 for Court-ordered services provided back in December, 2018 and in March, 2019 to a Public Defender client.
13. **County Administrator - Parks & Recreation** - Request Board authorize the purchase of two automated payment system pay stations from Caracal Enterprises LLC, dba VenTek International for use at two County campgrounds in an amount not to exceed \$26,040.
14. **County Administrator - Personnel** - Request Board approve the amended October 1, 2016 through June 30, 2021 Memorandum of Understanding between the County of the Inyo and the Inyo County Employee's Association (ICEA) and authorize the Chairperson to sign.
15. **County Administrator - Recycling & Waste Management** - Request Board: A) declare the bids submitted by Best Weigh Scales, LSI Scales, Michelli Measurements Inc, and Mettler-Toledo, LLC for the purchase of a weight scale for the Lone Pine Landfill, as not in the County's best interest; B) reject the bids submitted by Best Weigh Scales, LSI Scales, Michelli Measurements Inc, and Mettler-Toledo, LLC; and C) authorize the Assistant County Administrator to revise and re-advertise the RFP for the purchase of the Lone Pine scale.
16. **County Counsel** - Request Board approve an amended conflict of interest code for the Public Works Department.
17. **Health & Human Services - Fiscal** - Request Board approve an annual bulk purchase of Eastern Sierra Transit Authority bus passes for Health & Human Services Programs in an amount not to exceed \$39,359.61.

18. **Health & Human Services - Social Services** - Request Board approve the Learning Site Agreement between Inyo County Health and Human Services and the California State University San Bernardino for a five-year term, and authorize the HHS Director to sign the Learning Site Agreement.
19. **Public Works** - Request Board: A) approve the plans and specifications for the Annex Server HVAC Retrofit; and B) authorize the Public Works Director to advertise and bid the project.
20. **Sheriff** - Request Board: A) declare Dooley's Enterprises, Inc. of Anaheim, CA a sole-source provider of ammunition; and B) authorize the issuance of a purchase order in an amount not to exceed \$30,000, payable to Dooley's Enterprises, Inc. of Anaheim, CA for ammunition.
21. **Sheriff** - Request Board: A) declare Adamsons Police Products of Los Alamitos, CA a sole-source supplier of law enforcement equipment and safety gear; and B) authorize the issuance of a blanket purchase order in an amount not to exceed \$13,100, payable to Adamsons Police Products of Los Alamitos, CA for ballistic and load bearing vests.
22. **Sheriff** - Request Board: A) determine that Senior Reserve Deputy John Lammiman's duty weapon is no longer required for public use pursuant to Inyo County Code Section 6.28.040.B; and B) pursuant to Penal Code Section 26615, authorize Sheriff Hollowell to sell a Glock Model 22 to Retired Senior Reserve Deputy John Lammiman for fair market value.

DEPARTMENTAL (To be considered at the Board's convenience)

23. **Board of Supervisors** - Request Board nominate from among its members a director and alternate to serve on the California State Association of Counties (CSAC) Board of Directors for year 2019-2020.
24. **Board of Supervisors** - Request Board: A) confirm from among its members a delegate and alternate to the boards of directors for both the Rural County Representatives of California (RCRC) and the Golden State Finance Authority; and B) confirm a Supervisor as a delegate and staff member as an alternate to the Environmental Services Joint Powers Authority.
- 24A. **ADDENDUM (Addition):**
County Administrator - Request Board provide direction regarding County's response to the City of Los Angeles' notice of intent to dispose of certain surplus property in Inyo County.
25. **Planning Department** - Request Board receive a presentation from *Alta Planning + Design* regarding the draft Final Olancho Cartago Corridor Study.
26. **Public Works - Town Water Systems** - Request Board provide direction regarding the proposed surcharge increase for the Independence Water System users.

27. **Health & Human Services - Social Services** - Request Board ratify and approve the Data Privacy and Security Agreement (PSA) between the California Department of Health Care Services (DHCS) and the Inyo County Department of Health and Human Services (HHS) for the period of September 1, 2019 – September 1, 2022 and authorize the HHS Director to sign and submit as instructed.

28. **Clerk of the Board** - Request Board approve the minutes of the regular Board of Supervisors meetings of October 8, 2019 and October 15, 2019.

COMMENT (Portion of the Agenda when the Board takes comment from the public and County staff)

29. ***PUBLIC COMMENT***

BOARD MEMBERS AND STAFF REPORTS



County of Inyo



Clerk of the Board

CONSENT - ACTION REQUIRED

MEETING: November 5, 2019

FROM: Assistant Clerk of the Board

SUBJECT:

Filling of Vacancy on Independence Cemetery District Board of Trustees

RECOMMENDED ACTION:

Request Board appoint Ms. Frieda LaCues to an unexpired four-year term on the Independence Cemetery District Board of Trustees ending October 8, 2023. (*Notice of Vacancy resulted in request for appointment from Ms. LaCues.*)

SUMMARY/JUSTIFICATION:

One of the three terms on the Independence Cemetery District Board of Trustees expired October 8, 2019. The vacancy was advertised per your Board's policy and one letter of interest was received, from Ms. Frieda LaCues requesting reappointment to a four-year term ending October 8, 2023.

It is recommended your Board reappoint Ms. LaCues as requested.

BACKGROUND/HISTORY OF BOARD ACTIONS:

N/A

ALTERNATIVES AND CONSEQUENCES OF NEGATIVE ACTION:

Your Board could choose not to appoint Ms. LaCues, and/or reopen the application period, however neither course of action is recommended.

OTHER AGENCY INVOLVEMENT:

Independence Cemetery District

FINANCING:

There are no fiscal impacts to the County associated with this appointment.

ATTACHMENTS:

1. Notice of Vacancy - Indy Cemetery District Board
2. Letter of Interest - Frieda LaCues

APPROVALS:

Darcy Ellis

Created/Initiated - 10/28/2019

Darcy Ellis

Final Approval - 10/28/2019

PROOF OF PUBLICATION

(2015.5 C.C.P.)

STATE OF CALIFORNIA,
COUNTY OF INYO

I am a citizen of the United States
and a resident of the County aforesaid.
I am over the age of eighteen years,
And not a party to or interested in the
above-entitled matter. I am the principal
clerk of the printer of the
The Inyo Register

County of Inyo

The Inyo Register has been adjudged a
newspaper of general circulation by the
Superior Court of the County of Inyo,
State of California, under date of
Oct. 5, 1953, Case Number 5414;
that the notice, of which the annexed
is a printed copy (set in type not
smaller than non-pareil), has been
published in each regular and entire
issue of said newspaper and not in
any supplement thereof, on the
following
date, to with:

October 19th

In the year of **2019**

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

Dated at Bishop, California, on this
21st Day of October, 2019


Signature

This space is for County Clerk's Filing Stamp

RECEIVED

2019 OCT 25 AM 11:17

INYO COUNTY
ADMINISTRATOR

**Proof of Publication of
Public Notice**

NOTICE OF VACANCY INDEPENDENCE CEMETERY DISTRICT BOARD OF TRUSTEES

NOTICE IS HEREBY GIVEN
that the Inyo County Board of
Supervisors is accepting appli-
cations to fill one (1) vacancy
on the Independence Ceme-
tery District Board of Trustees:
one unexpired four-year term
ending October 8, 2023.

If you are interested in serving
on the Independence Ceme-
tery District Board of Trustees,
please submit your request for
appointment to the Clerk of the
Board of Supervisors at P.O.
Drawer N, Independence, CA
93526 or dellis@inyocounty.us.
In order for your request for ap-
pointment to be considered, it
must be received on or before
Tuesday, October 29, 2019 at
5:00 p.m. (IR 10.19.2019
#191012)

RECEIVED
2019 OCT 21 AM 9:24

INYO COUNTY
ADMINISTRATOR
CLERK OF THE BOARD

Frieda LaCues
150 N. Webster
Independence, CA 93526
(760) 878-2468

October 15, 2019

Inyo County Board of Supervisors
P.O. Drawer N
Independence, CA 93526

RE: Reappointment to Independence Cemetery District Board

Dear Honorable Board,

I am requesting reappointment to the Independence Cemetery District Board of Trustees for an additional four-year term ending October 8, 2023. Thank you for consideration of my request.

Sincerely,



Frieda LaCues



County of Inyo



County Administrator

CONSENT - ACTION REQUIRED

MEETING: November 5, 2019

FROM: Denelle Carrington

SUBJECT: Amendment #1 with GovInvest, LLC moving the effective date to September 27, 2019 for the OPEB Module

RECOMMENDED ACTION:

Request Board approve Amendment No. 1 to the contract between the County of Inyo and GovInvest, Inc. of Torrance, CA, changing the effective date for the OPEB Module to September 27, 2019, and authorize the Chairperson to sign.

SUMMARY/JUSTIFICATION:

This amendment is needed in order to "reset the clock" for the OPEB Module in the GovInvest Program. Originally, the "effective date" was set for April 9, 2019, however, the OPEB Module was not actually received until September 27, 2019. Since the County is only contracting for one year with the OPEB Module, importance was placed on the issue of not having the full year, with the original effective date of April 9th. Discussion was had with GovInvest staff and they agreed to allow an amendment changing the effective date for the OPEB Module to the date that the program was completed and delivered, allowing Inyo County the full year to work with the program.

BACKGROUND/HISTORY OF BOARD ACTIONS:

ALTERNATIVES AND CONSEQUENCES OF NEGATIVE ACTION:

Your Board could choose not to approve the amendment, which would only allow the Auditor-Controller and Budget Analyst a few months to work within the OPEB Module.

OTHER AGENCY INVOLVEMENT:

Auditor-Controller
Personnel

FINANCING:

There is no fiscal impact with this Agenda item.

ATTACHMENTS:

1. GovInvest Original Contract

2. GovInvest Amendment 1

APPROVALS:

Denelle Carrington
Darcy Ellis
Denelle Carrington
Amy Shepherd
Marshall Rudolph
Clint Quilter

Created/Initiated - 10/16/2019
Approved - 10/16/2019
Approved - 10/17/2019
Approved - 10/17/2019
Approved - 10/17/2019
Final Approval - 10/17/2019

In the Rooms of the Board of Supervisors

County of Inyo, State of California

I, HEREBY CERTIFY, that at a meeting of the Board of Supervisors of the County of Inyo, State of California, held in their rooms at the County Administrative Center in Independence on the 9th day of April 2019 an order was duly made and entered as follows:

*Personnel –
GovInvest &
AdastraGov*

Moved by Supervisor Tillemans and seconded by Supervisor Griffiths to approve: A) the licensing agreement with GovInvest for Actuarial Services and Technology and approve the purchase of the module and annual fees in the amount of \$55,800; B) the licensing agreement with AdastraGov for Labor Negotiation Services and Technology and approve the purchase of the module and annual fees in the amount of \$15,810; and C) authorize the County Administrator to sign the license agreements. Motion carried unanimously.

WITNESS my hand and the seal of said Board this 9th
Day of April, 2019

Routing
CC Purchasing Personnel X Auditor X CAO Budget Analyst Other: DATE: April 15, 2019



CLINT G. QUILTER
Clerk of the Board of Supervisors

By: 



AGENDA REQUEST FORM
BOARD OF SUPERVISORS
COUNTY OF INYO

For Clerk's Use Only: AGENDA NUMBER 12
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- Consent Departmental Correspondence Action Public Hearing
 Scheduled Time for Closed Session Informational

FROM: County Administrative Officer - Personnel

FOR THE BOARD MEETING: April 9, 2019

SUBJECT: Approval of Licensing Agreements with GovInvest for Actuarial Services and Technology and AdastraGov for Labor Negotiations Services and Technology

DEPARTMENTAL RECOMMENDATION:

Request Board 1) Approve the Licensing Agreement with GovInvest for Actuarial Services and Technology and approve the purchase of the module and annual fees in the amount of \$55,800; and 2) Approve the Licensing Agreement with AdastraGov for Labor Negotiation Services and Technology and approve the purchase of the module and annual fees in the amount of \$15,810; and 3) Authorize County Administrative Officer to sign Licensing Agreements.

SUMMARY DISCUSSION:

Recently, the CAO, Auditor-Controller and Budget Analyst had the opportunity to receive an overview of actuarial services and technology options provided by GovInvest and AdastraGov. These companies provide tools to government agencies to assist in better understanding liabilities and manage those costs in the future. The actuaries on their staff provide real-time information, instant actuarial and financial analysis, and insights into how to pay down unfunded liabilities.

There are three modules that would be purchased along with annual rates. The Pension and OPEB modules help make GASB 68 simple and intuitive, while helping decision makers and constituents get a clear picture of the outstanding liabilities and the impact that economic and demographic variables have on the results. Currently the information that we receive from CalPERS actuarials are typically one to two years behind. This software will allow staff to provide more current information and also allows staff to provide different analysis if things were to change, such as, lowering of the discount rate, which is currently being discussed. Additionally the software could help analyze increases related to any labor negotiation discussions. This type of actuarial analysis typically takes months for a traditional actuarial consulting firm to provide, but with the software could be provided instantly. The Labor Costing Module is an innovative technological solution to assist in effectively providing total transparency around the fiscal impact of costs associated with proposals during negotiations.

The request before you is for the purchase of all three modules, and for the payment of five years of annual fees for the Pension module, one year of annual fees for the OPEB module and one year of annual fees for the Labor module, with the ability to extend years out for both OPEB and Labor.

ALTERNATIVES:



Your Board could choose not to approve the purchase and staff would continue to provide information that is available.

OTHER AGENCY INVOLVEMENT:

Auditor-Controller

FINANCING:

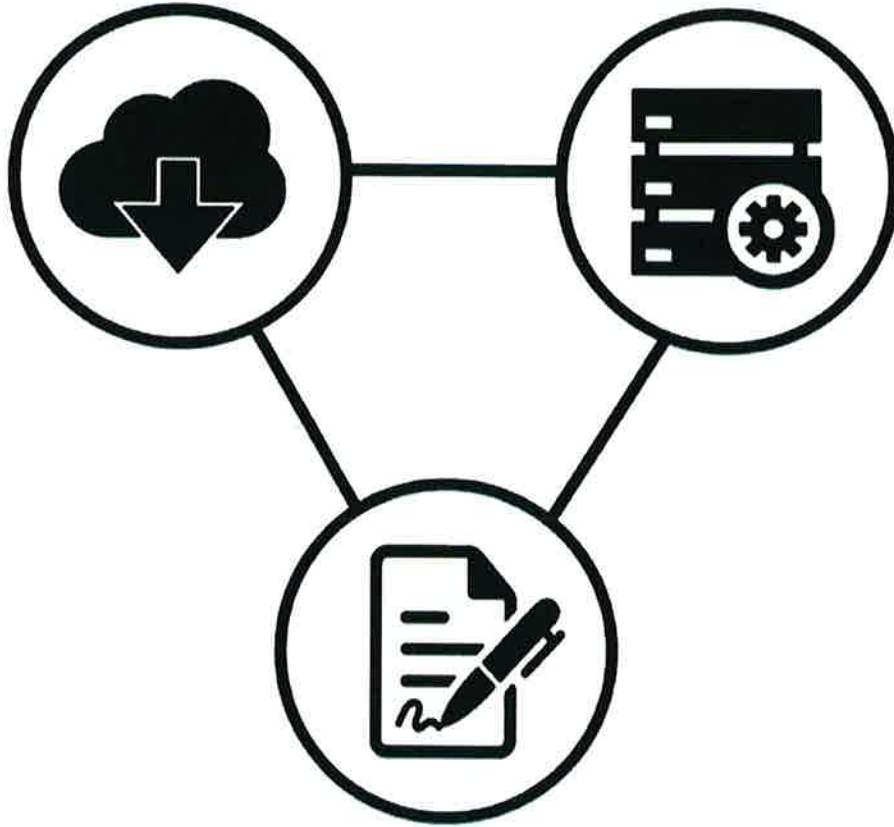
This purchase will be paid for from the Personnel Budget (010800) in Professional Services (5265). The changes in the Personnel Budget will occur during the Third Quarter Financial Review process.

<u>APPROVALS</u>	
COUNTY COUNSEL:	AGREEMENTS, CONTRACTS AND ORDINANCES AND CLOSED SESSION AND RELATED ITEMS (Must be reviewed and approved by county counsel prior to submission to the board clerk.)  Approved: <u>yes</u> Date <u>4/3/19</u>
AUDITOR/CONTROLLER:	ACCOUNTING/FINANCE AND RELATED ITEMS (Must be reviewed and approved by the auditor-controller prior to submission to the board clerk.)  Approved: <u>yes</u> Date <u>4/3/19</u>

DEPARTMENT HEAD SIGNATURE:
(Not to be signed until all approvals are received)
(The Original plus 14 copies of this document are required)

 Date: 4/3/19

SaaS Licensing Agreement



Attention: Clint Quilter, CAO

Prepared by: Ted Price, CEO

April 9, 2019

Summary of Services and Implementation

Customer:

Clint Quilter, CAO
PO Drawer N
Independence, CA 93526

Services:

Service Capacity: Use of the Standard Pension Module and Other Post-Employment Benefits Module of the Total Liability Calculator; Bi-annual GASB 75 Actuarial Valuation; Roll-forward GASB 75 Actuarial Valuation; Actuarially Determined Contribution Funding (ADC) Report (collectively, the "Service(s)").

Service Fees: Fees are payable annually, subject to the terms of Section 4 herein.

Total Contract Value Invoiced Annually.

OPTION - OPEB Module: \$12,500 total contract value. \$7,500 annual licensing fee. Option to extend for additional four-years starting at \$7,725 (+) the greater of the US CPI or 3% each consecutive year (+) \$5,000 onboarding fee. \$47,318 total contract value for five-years.

Total Contract Value Invoiced Up-front.

Pension Module: \$45,000 total contract value. \$8,000 annual licensing fee for five-years (+) \$5,000 onboarding fee.

OPTION - OPEB Module: \$15,000 total contract value. \$7,500 annual licensing fee. Option to pay upfront for four additional years at \$6,500 annual licensing fee (+) \$7,500 onboarding fee. \$41,000 total contract value.

Initial Term: Five-years from Effective Date for Pension Module.

Initial Term: One-years from Effective Date for OPEB Module.

Implementation Services:

Company will use commercially reasonable efforts to provide Customer the services described in accordance with the terms herein, and Customer shall pay Company the Implementation Fee in accordance with the terms herein.

Pension Implementation Fee (One-Time): \$5,000.


OPEB Implementation Fee (One-Time): \$7,500.

Additional 7% discount off total contract value if either GovInvest software (Pension or OPEB) purchased with Labor Costing Module.


SERVICE AGREEMENT

This SaaS Services Agreement ("Agreement") is entered into on this 9th day of April, 2019 (the "Effective Date") between GovInvest, Inc. ("Company"), and the Customer listed above ("Customer"). This Agreement includes and incorporates the above Summary of Services and Implementation, as well as the attached Terms and Conditions and contains, among other things, warranty disclaimers, liability limitations and use limitations. There shall be no force or effect to any different or additional terms of any purchase order, confirmation or similar form, even if signed by the parties before or after the date hereof.

GovInvest Inc.

By: 
Name: Ted Price
Title: CEO and Co-founder
Date: 4-2-19

Inyo County

By: 
Name: Clint G. Quilter
Title: County Administrator
Date: 4/10/19

TERMS AND CONDITIONS

1. SAAS SERVICES AND SUPPORT

- 1.1 Subject to the terms of this Agreement, Company will use commercially reasonable efforts to provide Customer the Services in accordance with the Service Level Terms attached hereto as Exhibit A. As part of the registration process, Customer will identify an administrative user name and password for Customer's account. Company reserves the right to refuse registration or cancel passwords it deems inappropriate.
- 1.2 Subject to the terms hereof, Company will provide Customer with reasonable technical support services in accordance with the terms set forth in Exhibit B.

2. RESTRICTIONS AND RESPONSIBILITIES

- 2.1 Customer will not, directly or indirectly; reverse engineer, decompile, disassemble or otherwise attempt to discover the source code, object code or underlying structure, ideas, know-how or algorithms relevant to the Services or any software, documentation or data related to or used to provide the Services ("Software"); modify, translate, or create derivative works based on the Services or any Software (except to the extent expressly permitted in writing by Company or authorized within the Services); use the Services or any Software for timesharing or service bureau purposes or otherwise for the benefit of a third party; or remove any proprietary notices or labels.
- 2.2 Further, Customer shall not export or re-export, either directly or indirectly, the Software or any copies thereof in such manner as to violate the export laws and regulations of the United States or any other applicable jurisdiction in effect from time to time (including, without limitation, when such export or re-export requires an export license or other governmental approval without first obtaining such license or approval). Without limiting the foregoing, Customer shall not permit any third parties to access or use the Services in violation of any United States export embargo, prohibition, or restriction.
- 2.3 Customer hereby agrees to indemnify and hold harmless Company against any damages, losses, liabilities, settlements and expenses (including without limitation costs and attorney's fees) in connection with any claim or action that arises from Customer's failure to comply with the terms of this Agreement or otherwise from Customer's use of Services. Although Company has no

obligation to monitor Customer's use of the Services, Company may do so. Company reserves the right, in its sole discretion, to prohibit or suspend Customer's use of the Services at any time Company believes such use to be in violation of this Agreement or otherwise harmful to the Service.

- 2.4 Customer shall be responsible for obtaining and maintaining any equipment and ancillary services needed to connect to, access or otherwise use the Services, including, without limitation, modems, hardware, servers, software, operating systems, networking, web servers and the like (collectively, "Equipment"). Customer shall also be responsible for maintaining the security of the Equipment, Customer account, passwords (including but not limited to administrative and user passwords) and files, and for all uses of Customer account or the Equipment with or without Customer's knowledge or consent.

3. **CONFIDENTIALITY; PROPRIETARY RIGHTS**

- 3.1 One party (the "Receiving Party") understands that the other party (the "Disclosing Party") has disclosed or may disclose business, technical or financial information relating to the Disclosing Party's business (hereinafter referred to as "Proprietary Information" of the Disclosing Party). Proprietary Information of Company includes non-public information regarding features, functionality and performance of the Service. Proprietary Information of Customer includes non-public data ("Customer Data") provided by Customer to Company to enable the provision of the Services. The Receiving Party agrees: (i) to take reasonable precautions to protect such Proprietary Information, and (ii) not to use (except in performance of the Services or as otherwise permitted herein) or divulge to any third party any such Proprietary Information. The Disclosing Party agrees that the foregoing shall not apply with respect to any information after five (5) years following the disclosure thereof or any information that the Receiving Party can document (a) is or becomes generally available to the public, without any action by, or involvement of, the Receiving Party or (b) was in its possession or known by it prior to receipt from the Disclosing Party, or (c) was rightfully disclosed to it without restriction by a third party, or (d) was independently developed without use of any Proprietary Information of the Disclosing Party or (e) is required to be disclosed by law. The Receiving Party acknowledges that in the event of a breach of Section 3.1 by the Receiving Party, substantial injury could result to the Disclosing Party and money damages will not be a sufficient remedy for such breach. Therefore, in the event that the Receiving Party engages in, or threatens to engage in, any act which violates Section 3.1, the Disclosing Party will be entitled, in addition to all other remedies which may be available to it under law, to seek injunctive relief (including, without limitation, temporary restraining orders, or preliminary or permanent injunctions) and specific enforcement of the terms of Section 3.1. The Disclosing Party will not be required to post a bond or other security in connection with the granting of any such relief.
- 3.2 Company shall own and retain all rights, title and interest in and to: (i) the Services and Software, together with all improvements, enhancements, modifications, changes, translations, compilation, and derivative works thereto, (ii) any software, applications, inventions or other technology developed in connection with Implementation Services or support, (iii) any analytics generated through Customer's use of the Services, including but not limited to, any data, materials, information, and reports ("Analytics") and (iv) all intellectual property rights related to any of the foregoing. Company hereby grants Customer a non-exclusive, non-transferable and non-sublicensable license to access and use the Analytics.
- 3.3 Notwithstanding anything to the contrary, Company shall have the right to collect and analyze data and other information relating to the provision, use and performance of various aspects of the Services and related systems and technologies (including, without limitation, information concerning Customer Data and data derived therefrom), and Company will be free (during and after the term hereof) to: (i) use such information and data to improve and enhance the Services

and for other development, diagnostic and corrective purposes in connection with the Services and other Company offerings, (ii) disclose such data solely in aggregate or other de-identified form in connection with its business, and (iii) disclose, share, license, or resell Analytics to third parties for consideration. No rights or licenses are granted except as expressly set forth herein.

4. **PAYMENT OF FEES**

- 4.1 Customer will pay Company the then applicable fees described in the Summary of Services and Implementation in accordance with the terms therein (the "Fees"). If Customer's use of the Services exceeds the Service Capacity set forth in the Summary of Services and Implementation or otherwise requires the payment of additional fees (per the terms of this Agreement), Customer shall be billed for such usage and Customer agrees to pay the additional fees in the manner provided herein. Company reserves the right to change the Fees or applicable charges and to institute new charges and Fees at the end of the Initial Term or then current Renewal Term, upon thirty (30) days prior notice to Customer (which may be sent by email). If Customer believes that Company has billed Customer incorrectly, Customer must contact Company no later than 60 days after the closing date on the first billing statement in which the error or problem appeared, in order to receive an adjustment or credit. Inquiries should be directed to Company's customer support department.
- 4.2 Company may choose to bill through an invoice, in which case, full payment for invoices issued in any given month must be received by Company thirty (30) days after the mailing date of the invoice. Unpaid amounts are subject to a finance charge of 5% per month on any outstanding balance, or the maximum permitted by law, whichever is lower, plus all expenses of collection and may result in immediate termination of Service. Customer shall be responsible for all taxes associated with Services other than U.S. taxes based on Company's net income.
- 4.3 Services may be provided outside the scope encompassed within the "Summary of Services and Implementation". Said services may be subject to additional fees, which are set at \$600/hour for executive-level work, \$425/hour for FSA-level work, \$300/hour for ASA-level work, \$200/hour for analyst work, and reasonable travel expenses. Said services that are subject to additional fees will not be performed without explicit advance consent from Customer.
- 4.4 Company may incur business license fees that are mandated by Customer. Customer agrees to reimburse Company for said fees.
- 4.5 Company may incur costs for adding Customer as additional insured to Company's existing insurance policies in order to comply with Customer's insurance requirements. Customer agrees to reimburse Company for said costs.
- 4.6 Company may incur costs for providing a waiver of subrogation in relation to Company's existing insurance policies in order to comply with Customer's insurance requirements. Customer agrees to reimburse Company for said costs.

5. **TERM AND TERMINATION**

- 5.1 Subject to earlier termination as provided below, the Initial Term of this Agreement shall be for a period specified in the Summary of Services and Implementation (the "Initial Term"). Upon the expiration of the Initial Term, this agreement shall automatically renew for additional periods of the same duration as the Initial Term (each a "Renewal Term"). The Initial Term and the Renewal Term are collectively referred to herein as the "Term."
- 5.2 In addition to any other remedies it may have, either party may terminate this Agreement upon thirty (30) days written notice (or without notice in the case of nonpayment), if the other party materially breaches any of the terms or conditions of this Agreement. Customer will pay in full for the Services up to and including the last day on which the Services are provided. All sections of this Agreement which by their nature should survive termination will survive termination,

including, without limitation, accrued rights to payment, confidentiality obligations, warranty disclaimers, and limitations of liability.

6. **WARRANTY AND DISCLAIMER**

Company shall use reasonable efforts consistent with prevailing industry standards to maintain the Services in a manner which minimizes errors and interruptions in the Services and shall perform the Implementation Services in a professional and workmanlike manner as expressed in Exhibit C. Services may be temporarily unavailable for scheduled maintenance or for unscheduled emergency maintenance, either by Company or by third-party providers, or because of other causes beyond Company's reasonable control, but Company shall use reasonable efforts to provide advance notice in writing or by e-mail of any scheduled service disruption. However, Company does not warrant that the Services will be uninterrupted or error free; nor does it make any warranty as to the results that may be obtained from use of the Services. EXCEPT AS EXPRESSLY SET FORTH IN THIS SECTION, THE SERVICES, THE ANALYTICS, AND IMPLEMENTATION SERVICES ARE PROVIDED "AS IS" AND COMPANY DISCLAIMS ALL WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE AND NON-INFRINGEMENT.

7. **INDEMNITY**

Company shall hold Customer harmless from liability to third parties resulting from infringement by the Service of any United States patent or any copyright or misappropriation of any trade secret, provided Company is promptly notified of any and all threats, claims and proceedings related thereto and given reasonable assistance and the opportunity to assume sole control over defense and settlement; Company will not be responsible for any settlement it does not approve in writing. The foregoing obligations do not apply with respect to portions or components of the Service (i) not supplied by Company, (ii) made in whole or in part in accordance with Customer specifications, (iii) that are modified after delivery by Company, (iv) combined with other products, processes or materials where the alleged infringement relates to such combination, (v) where Customer continues allegedly infringing activity after being notified thereof or after being informed of modifications that would have avoided the alleged infringement, or (vi) where Customer's use of the Service is not strictly in accordance with this Agreement. If, due to a claim of infringement, the Services are held by a court of competent jurisdiction to be or are believed by Company to be infringing, Company may, at its option and expense (a) replace or modify the Service to be non-infringing provided that such modification or replacement contains substantially similar features and functionality, (b) obtain for Customer a license to continue using the Service, or (c) if neither of the foregoing is commercially practicable, terminate this Agreement and Customer's rights hereunder and provide Customer a refund of any prepaid, unused fees for the Service.

8. **LIMITATION OF LIABILITY**

8.1 FOR ANY VALUATION SERVICES PROVIDED HEREUNDER, COMPANY IS A PASSIVE CONDUIT THAT CONNECTS CUSTOMER WITH SUBCONTRACTORS WHO PERFORM THE SERVICES AND PROVIDE THE WORK PRODUCT HEREIN. ACCORDINGLY, UNDER NO CIRCUMSTANCES WILL COMPANY HAVE ANY LIABILITY FOR THE ACTIONS AND/OR INACTIONS OF THIRD PARTIES THAT PROVIDE THE VALUATIONS AND THE SOLE LIABILITY SHALL REST WITH SUCH THIRD PARTIES. IN NO EVENT SHALL COMPANY, BE LIABLE ON ANY THEORY OF LIABILITY, WHETHER IN AN EQUITABLE, LEGAL, OR COMMON LAW ACTION ARISING HEREUNDER FOR CONTRACT, STRICT LIABILITY, TORT (INCLUDING NEGLIGENCE), OR OTHERWISE,

FOR DAMAGES WHICH, IN THE AGGREGATE, EXCEED THE AMOUNT OF CHARGES PAID BY CUSTOMER FOR THE SERVICES AND/OR DELIVERABLES WHICH GAVE RISE TO SUCH DAMAGES AND NOTWITHSTANDING THE FAILURE OF ESSENTIAL PURPOSE OF ANY REMEDY. IN ADDITION, IN NO EVENT SHALL COMPANY BE LIABLE FOR ANY SPECIAL, INCIDENTAL, INDIRECT, EXEMPLARY, PUNITIVE, OR CONSEQUENTIAL DAMAGES OF ANY KIND AND HOWEVER CAUSED, INCLUDING BUT NOT LIMITED TO BUSINESS INTERRUPTION OR LOSS OF PROFITS, BUSINESS OPPORTUNITIES, OR GOOD WILL EVEN IF NOTIFIED OF THE POSSIBILITY OF SUCH DAMAGE, AND NOTWITHSTANDING THE FAILURE OF ESSENTIAL PURPOSE OF ANY REMEDY.

9. **MISCELLANEOUS**

If any provision of this Agreement is found to be unenforceable or invalid, that provision will be limited or eliminated to the minimum extent necessary so that this Agreement will otherwise remain in full force and effect and enforceable. This Agreement is not assignable, transferable or sublicensable by Customer except with Company's prior written consent. Company may not transfer or assign any of its rights and obligations under this Agreement without Customer's prior written consent. This Agreement is the complete and exclusive statement of the mutual understanding of the parties and supersedes and cancels all previous written and oral agreements, communications and other understandings relating to the subject matter of this Agreement, and all waivers and modifications in this Agreement must be in a writing signed by both parties, except as otherwise provided herein. No agency, partnership, joint venture, or employment is created as a result of this Agreement and Customer does not have any authority of any kind to bind Company in any respect whatsoever. In any action or proceeding to enforce rights under this Agreement, the prevailing party will be entitled to recover costs and attorneys' fees. All notices under this Agreement will be in writing and will be deemed to have been duly given when received, if personally delivered; when receipt is electronically confirmed, if transmitted by facsimile or e-mail; the day after it is sent, if sent for next day delivery by recognized overnight delivery service; and upon receipt, if sent by certified or registered mail, return receipt requested. This Agreement shall be governed by the laws of the State of California without regard to its conflict of laws provisions. The parties shall work together in good faith to issue at least one mutually agreed upon press release within 90 days of the Effective Date, and Customer otherwise agrees to reasonably cooperate with Company to serve as a reference account upon request.

EXHIBIT A
Service Level Terms

The Services shall be available 99% of the time, measured monthly, excluding holidays and weekends and scheduled maintenance. If Customer requests maintenance during these hours, any uptime or downtime calculation will exclude periods affected by such maintenance. Further, any downtime resulting from outages of third party connections or utilities or other reasons beyond Company's control will also be excluded from any such calculation. Customer's sole and exclusive remedy, and Company's entire liability, in connection with Service availability shall be that for each period of downtime lasting longer than 12 hours, Company will credit Customer 1% of Service Fees for each period of 30 or more consecutive minutes of downtime; provided that no more than one such credit will accrue per day. Downtime shall begin to accrue as soon as Customer (with notice to Company) recognizes that downtime is taking place, and continues until the availability of the Services is restored. In order to receive downtime credit, Customer must notify Company in writing within 12 hours from the time of downtime, and failure to provide such notice will forfeit the right to receive downtime credit. Such credits may not be redeemed for cash and shall not be cumulative beyond a total of credits for one (1) week of Service Fees in any one (1) calendar month in any event. Company will only apply a credit to the month in which the incident occurred. Company's blocking of data communications or other Service in accordance with its policies shall not be deemed to be a failure of Company to provide adequate service levels under this Agreement.

EXHIBIT B
Support Terms

Company will provide Technical Support to Customer via both telephone and electronic mail on weekdays during the hours of 9:00 a.m. through 5:00 p.m. Pacific Standard Time, with the exclusion of Federal Holidays ("Support Hours").

Customer may initiate a help desk ticket during Support Hours by calling 310-371-7106 or any time by emailing support@govinvest.com.

Company will use commercially reasonable efforts to respond to all help desk tickets within one (1) business day.

EXHIBIT C
Disclaimer of Software Analysis

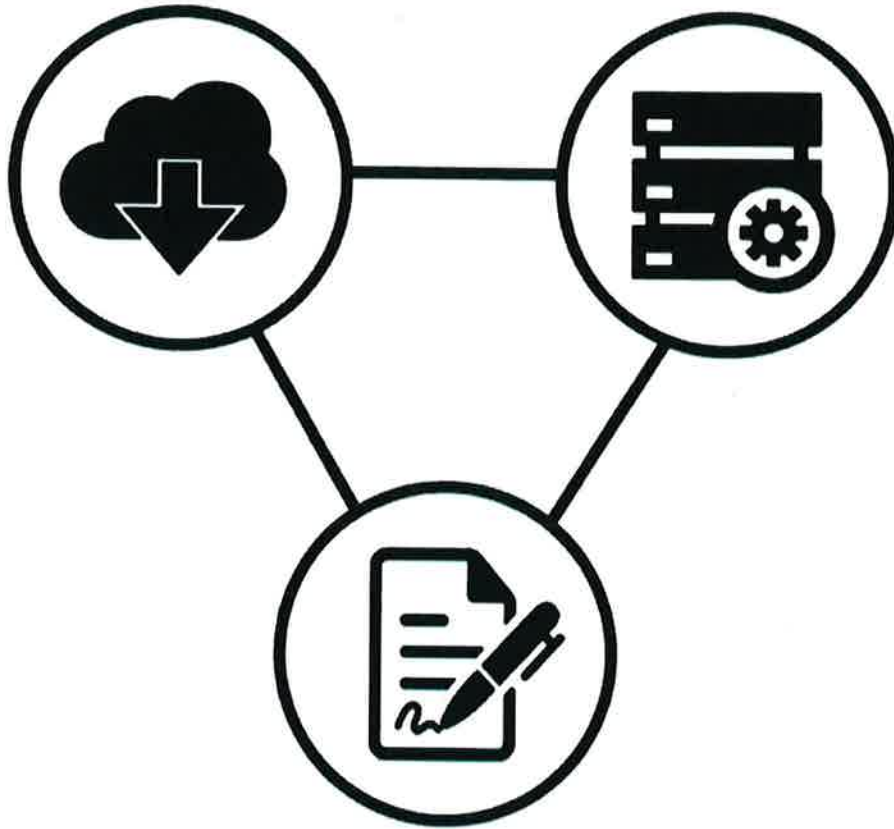
Company will use census data, plan provisions, and actuarial assumptions provided by Customer and/or Customer's actuary to develop the software for Customer. Company will rely on this information without audit. Company does not set actuarial assumptions.

Company will provide software with financially sound projections and analysis, but does not guarantee compliance with actuarial standards for funding and accounting purposes under Government Accounting Standards Board or Generally Accepted Accounting Principles.

The software will not be prepared in accordance with the actuarial standards of practice or actuarial compliance guidelines as promulgated by the American Academy of Actuaries nor will outputs constitute a Statement of Actuarial Opinion. Software results are not suitable for financial reporting purposes.

While the software is tested against actuarial valuation results, the software results will not match, nor are intended to match actuarial valuation results.

SaaS Licensing Agreement



Attention: Clint Quilter, CAO

Prepared by: Ted Price, CEO

April 9, 2019

Summary of Services and Implementation

Customer:

Clint Quilter, CAO
PO Drawer N
Independence, CA 93526

Services:

Service Capacity: Use of the Labor Costing Module (the "Service(s)").

Initial Term: One year from the Effective Date.

Regular Annual Pricing: Total Contract Value Invoiced Annually.

Labor Costing Module: \$17,00 total contract value. \$9,000 annual licensing fee. Option to extend for four additional years starting at \$9,270 annual license fee (+) the greater of the US CPI or 3% each consecutive year. \$55,782 total contract value.

Discounted Annual Pricing: Total Contract Value Invoiced Up-front.

Labor Costing Module: \$17,000 total contract value. \$9,000 annual licensing fee. Option to pay upfront for four additional years for \$32,000. \$8,000 annual licensing fee. \$49,000 total contract value

Implementation Services:

Company will use commercially reasonable efforts to provide Customer the services described in accordance with the terms herein, and Customer shall pay Company the Implementation Fee in accordance with the terms herein.

Implementation Fee (One-Time): \$8,000

Total Contract Value:


Regular Total Contract Value:	<u>\$55,782</u>
Discounted Total Contract Value Up-front:	<u>\$49,000</u>
Savings:	<u>\$6,782</u>


Additional 7% discount off total contract value if either GovInvest software (Pension or OPEB) purchased with Labor Costing Module.

SERVICE AGREEMENT

This SaaS Services Agreement ("Agreement") is entered into on this 9th day of April, 2019 (the "Effective Date") between AdastraGov, Inc. ("Company"), and the Customer listed above ("Customer"). This Agreement includes and incorporates the above Summary of Services and Implementation, as well as the attached Terms and Conditions and contains, among other things, warranty disclaimers, liability limitations and use limitations. There shall be no force or effect to any different or additional terms of any purchase order, confirmation or similar form, even if signed by the parties before or after the date hereof.

AdastraGov Inc.

By: 
Name: Ted N Price III
Title: CEO
Date: 4-2-19

Inyo County
By: 
Name: Clint G. Quilter
Title: County Administrator
Date: 4/10/19

TERMS AND CONDITIONS

1. SAAS SERVICES AND SUPPORT

- 1.1 Subject to the terms of this Agreement, Company will use commercially reasonable efforts to provide Customer the Services in accordance with the Service Level Terms attached hereto as Exhibit A. As part of the registration process, Customer will identify an administrative user name and password for Customer's account. Company reserves the right to refuse registration or cancel passwords it deems inappropriate.
- 1.2 Subject to the terms hereof, Company will provide Customer with reasonable technical support services in accordance with the terms set forth in Exhibit B.

2. RESTRICTIONS AND RESPONSIBILITIES

- 2.1 Customer will not, directly or indirectly; reverse engineer, decompile, disassemble or otherwise attempt to discover the source code, object code or underlying structure, ideas, know-how or algorithms relevant to the Services or any software, documentation or data related to or used to provide the Services ("Software"); modify, translate, or create derivative works based on the Services or any Software (except to the extent expressly permitted in writing by Company or authorized within the Services); use the Services or any Software for timesharing or service bureau purposes or otherwise for the benefit of a third party; or remove any proprietary notices or labels.
- 2.2 Further, Customer shall not export or re-export, either directly or indirectly, the Software or any copies thereof in such manner as to violate the export laws and regulations of the United States or any other applicable jurisdiction in effect from time to time (including, without limitation, when such export or re-export requires an export license or other governmental approval without first obtaining such license or approval). Without limiting the foregoing, Customer shall not permit any third parties to access or use the Services in violation of any United States export embargo, prohibition, or restriction.
- 2.3 Customer hereby agrees to indemnify and hold harmless Company against any damages, losses, liabilities, settlements and expenses (including without limitation costs and attorney's fees) in connection with any claim or action that arises from Customer's failure to comply with the terms of this Agreement or otherwise from Customer's use of Services. Although Company has no obligation to monitor Customer's use of the Services, Company may do so. Company reserves the right, in its sole discretion, to prohibit or suspend Customer's use of the Services at any time

- Company believes such use to be in violation of this Agreement or otherwise harmful to the Service.
- 2.4 Customer shall be responsible for obtaining and maintaining any equipment and ancillary services needed to connect to, access or otherwise use the Services, including, without limitation, modems, hardware, servers, software, operating systems, networking, web servers and the like (collectively, "Equipment"). Customer shall also be responsible for maintaining the security of the Equipment, Customer account, passwords (including but not limited to administrative and user passwords) and files, and for all uses of Customer account or the Equipment with or without Customer's knowledge or consent.
3. **CONFIDENTIALITY; PROPRIETARY RIGHTS**
- 3.1 One party (the "Receiving Party") understands that the other party (the "Disclosing Party") has disclosed or may disclose business, technical or financial information relating to the Disclosing Party's business (hereinafter referred to as "Proprietary Information" of the Disclosing Party). Proprietary Information of Company includes non-public information regarding features, functionality and performance of the Service. Proprietary Information of Customer includes non-public data ("Customer Data") provided by Customer to Company to enable the provision of the Services. The Receiving Party agrees: (i) to take reasonable precautions to protect such Proprietary Information, and (ii) not to use (except in performance of the Services or as otherwise permitted herein) or divulge to any third party any such Proprietary Information. The Disclosing Party agrees that the foregoing shall not apply with respect to any information after five (5) years following the disclosure thereof or any information that the Receiving Party can document (a) is or becomes generally available to the public, without any action by, or involvement of, the Receiving Party or (b) was in its possession or known by it prior to receipt from the Disclosing Party, or (c) was rightfully disclosed to it without restriction by a third party, or (d) was independently developed without use of any Proprietary Information of the Disclosing Party or (e) is required to be disclosed by law. The Receiving Party acknowledges that in the event of a breach of Section 3.1 by the Receiving Party, substantial injury could result to the Disclosing Party and money damages will not be a sufficient remedy for such breach. Therefore, in the event that the Receiving Party engages in, or threatens to engage in, any act which violates Section 3.1, the Disclosing Party will be entitled, in addition to all other remedies which may be available to it under law, to seek injunctive relief (including, without limitation, temporary restraining orders, or preliminary or permanent injunctions) and specific enforcement of the terms of Section 3.1. The Disclosing Party will not be required to post a bond or other security in connection with the granting of any such relief.
- 3.2 Company shall own and retain all rights, title and interest in and to: (i) the Services and Software, together with all improvements, enhancements, modifications, changes, translations, compilation, and derivative works thereto, (ii) any software, applications, inventions or other technology developed in connection with Implementation Services or support, (iii) any analytics generated through Customer's use of the Services, including but not limited to, any data, materials, information, and reports ("Analytics") and (iv) all intellectual property rights related to any of the foregoing. Company hereby grants Customer a non-exclusive, non-transferable and non-sublicensable license to access and use the Analytics.
- 3.3 Notwithstanding anything to the contrary, Company shall have the right to collect and analyze data and other information relating to the provision, use and performance of various aspects of the Services and related systems and technologies (including, without limitation, information concerning Customer Data and data derived therefrom), and Company will be free (during and after the term hereof) to: (i) use such information and data to improve and enhance the Services and for other development, diagnostic and corrective purposes in connection with the Services and other Company offerings, (ii) disclose such data solely in aggregate or other de-identified

form in connection with its business, and (iii) disclose, share, license, or resell Analytics to third parties for consideration. No rights or licenses are granted except as expressly set forth herein.

4. **PAYMENT OF FEES**

- 4.1 Customer will pay Company the then applicable fees described in the Summary of Services and Implementation in accordance with the terms therein (the "Fees"). If Customer's use of the Services exceeds the Service Capacity set forth in the Summary of Services and Implementation or otherwise requires the payment of additional fees (per the terms of this Agreement), Customer shall be billed for such usage and Customer agrees to pay the additional fees in the manner provided herein. Company reserves the right to change the Fees or applicable charges and to institute new charges and Fees at the end of the Initial Term or then current Renewal Term, upon thirty (30) days prior notice to Customer (which may be sent by email). If Customer believes that Company has billed Customer incorrectly, Customer must contact Company no later than 60 days after the closing date on the first billing statement in which the error or problem appeared, in order to receive an adjustment or credit. Inquiries should be directed to Company's customer support department.
- 4.2 Company may choose to bill through an invoice, in which case, full payment for invoices issued in any given month must be received by Company thirty (30) days after the mailing date of the invoice. Unpaid amounts are subject to a finance charge of 5% per month on any outstanding balance, or the maximum permitted by law, whichever is lower, plus all expenses of collection and may result in immediate termination of Service. Customer shall be responsible for all taxes associated with Services other than U.S. taxes based on Company's net income.

5. **TERM AND TERMINATION**

- 5.1 Subject to earlier termination as provided below, the Initial Term of this Agreement shall be for a period specified in the Summary of Services and Implementation (the "Initial Term"). Upon the expiration of the Initial Term, this agreement shall automatically renew for additional periods of the same duration as the Initial Term (each a "Renewal Term"). The Initial Term and the Renewal Term are collectively referred to herein as the "Term."
- 5.2 In addition to any other remedies it may have, either party may terminate this Agreement upon thirty (30) days written notice (or without notice in the case of nonpayment), if the other party materially breaches any of the terms or conditions of this Agreement. Customer will pay in full for the Services up to and including the last day on which the Services are provided. All sections of this Agreement which by their nature should survive termination will survive termination, including, without limitation, accrued rights to payment, confidentiality obligations, warranty disclaimers, and limitations of liability.

6. **WARRANTY AND DISCLAIMER**

Company shall use reasonable efforts consistent with prevailing industry standards to maintain the Services in a manner which minimizes errors and interruptions in the Services and shall perform the Implementation Services in a professional and workmanlike manner. Services may be temporarily unavailable for scheduled maintenance or for unscheduled emergency maintenance, either by Company or by third-party providers, or because of other causes beyond Company's reasonable control, but Company shall use reasonable efforts to provide advance notice in writing or by e-mail of any scheduled service disruption. However, Company does not warrant that the Services will be uninterrupted or error free; nor does it make any warranty as to the results that may be obtained from use of the Services. EXCEPT AS EXPRESSLY SET FORTH IN THIS SECTION, THE SERVICES, THE ANALYTICS, AND IMPLEMENTATION SERVICES ARE PROVIDED "AS IS" AND COMPANY DISCLAIMS ALL WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, IMPLIED WARRANTIES

OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE AND NON-INFRINGEMENT.

7. **INDEMNITY**

Company shall hold Customer harmless from liability to third parties resulting from infringement by the Service of any United States patent or any copyright or misappropriation of any trade secret, provided Company is promptly notified of any and all threats, claims and proceedings related thereto and given reasonable assistance and the opportunity to assume sole control over defense and settlement; Company will not be responsible for any settlement it does not approve in writing. The foregoing obligations do not apply with respect to portions or components of the Service (i) not supplied by Company, (ii) made in whole or in part in accordance with Customer specifications, (iii) that are modified after delivery by Company, (iv) combined with other products, processes or materials where the alleged infringement relates to such combination, (v) where Customer continues allegedly infringing activity after being notified thereof or after being informed of modifications that would have avoided the alleged infringement, or (vi) where Customer's use of the Service is not strictly in accordance with this Agreement. If, due to a claim of infringement, the Services are held by a court of competent jurisdiction to be or are believed by Company to be infringing, Company may, at its option and expense (a) replace or modify the Service to be non-infringing provided that such modification or replacement contains substantially similar features and functionality, (b) obtain for Customer a license to continue using the Service, or (c) if neither of the foregoing is commercially practicable, terminate this Agreement and Customer's rights hereunder and provide Customer a refund of any prepaid, unused fees for the Service.

8. **LIMITATION OF LIABILITY**

NOTWITHSTANDING ANYTHING TO THE CONTRARY, EXCEPT FOR BODILY INJURY OF A PERSON, COMPANY AND ITS SUPPLIERS (INCLUDING BUT NOT LIMITED TO ALL EQUIPMENT AND TECHNOLOGY SUPPLIERS), OFFICERS, AFFILIATES, REPRESENTATIVES, CONTRACTORS AND EMPLOYEES SHALL NOT BE RESPONSIBLE OR LIABLE WITH RESPECT TO ANY SUBJECT MATTER OF THIS AGREEMENT OR TERMS AND CONDITIONS RELATED THERETO UNDER ANY CONTRACT, NEGLIGENCE, STRICT LIABILITY OR OTHER THEORY: (A) FOR ERROR OR INTERRUPTION OF USE OR FOR LOSS OR INACCURACY OR CORRUPTION OF DATA OR COST OF PROCUREMENT OF SUBSTITUTE GOODS, SERVICES OR TECHNOLOGY OR LOSS OF BUSINESS; (B) FOR ANY INDIRECT, EXEMPLARY, INCIDENTAL, SPECIAL OR CONSEQUENTIAL DAMAGES; (C) FOR ANY MATTER BEYOND COMPANY'S REASONABLE CONTROL; OR (D) FOR ANY AMOUNTS THAT, TOGETHER WITH AMOUNTS ASSOCIATED WITH ALL OTHER CLAIMS, EXCEED THE FEES PAID BY CUSTOMER TO COMPANY FOR THE SERVICES UNDER THIS AGREEMENT IN THE 12 MONTHS PRIOR TO THE ACT THAT GAVE RISE TO THE LIABILITY, IN EACH CASE, WHETHER OR NOT COMPANY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

9. **MISCELLANEOUS**

If any provision of this Agreement is found to be unenforceable or invalid, that provision will be limited or eliminated to the minimum extent necessary so that this Agreement will otherwise remain in full force and effect and enforceable. This Agreement is not assignable, transferable or sublicensable by Customer except with Company's prior written consent. Company may not transfer or assign any of its rights and obligations under this Agreement without Customer's prior written consent. This Agreement is the complete and exclusive statement of the mutual

understanding of the parties and supersedes and cancels all previous written and oral agreements, communications and other understandings relating to the subject matter of this Agreement, and all waivers and modifications in this Agreement must be in a writing signed by both parties, except as otherwise provided herein. No agency, partnership, joint venture, or employment is created as a result of this Agreement and Customer does not have any authority of any kind to bind Company in any respect whatsoever. In any action or proceeding to enforce rights under this Agreement, the prevailing party will be entitled to recover costs and attorneys' fees. All notices under this Agreement will be in writing and will be deemed to have been duly given when received, if personally delivered; when receipt is electronically confirmed, if transmitted by facsimile or e-mail; the day after it is sent, if sent for next day delivery by recognized overnight delivery service; and upon receipt, if sent by certified or registered mail, return receipt requested. This Agreement shall be governed by the laws of the State of California without regard to its conflict of laws provisions. The parties shall work together in good faith to issue at least one mutually agreed upon press release within 90 days of the Effective Date, and Customer otherwise agrees to reasonably cooperate with Company to serve as a reference account upon request.

EXHIBIT A
Service Level Terms

The Services shall be available 99% of the time, measured monthly, excluding holidays and weekends and scheduled maintenance. If Customer requests maintenance during these hours, any uptime or downtime calculation will exclude periods affected by such maintenance. Further, any downtime resulting from outages of third party connections or utilities or other reasons beyond Company's control will also be excluded from any such calculation. Customer's sole and exclusive remedy, and Company's entire liability, in connection with Service availability shall be that for each period of downtime lasting longer than 12 hours, Company will credit Customer 1% of Service Fees for each period of 30 or more consecutive minutes of downtime; provided that no more than one such credit will accrue per day. Downtime shall begin to accrue as soon as Customer (with notice to Company) recognizes that downtime is taking place, and continues until the availability of the Services is restored. In order to receive downtime credit, Customer must notify Company in writing within 12 hours from the time of downtime, and failure to provide such notice will forfeit the right to receive downtime credit. Such credits may not be redeemed for cash and shall not be cumulative beyond a total of credits for one (1) week of Service Fees in any one (1) calendar month in any event. Company will only apply a credit to the month in which the incident occurred. Company's blocking of data communications or other Service in accordance with its policies shall not be deemed to be a failure of Company to provide adequate service levels under this Agreement.

EXHIBIT B
Support Terms

Company will provide Technical Support to Customer via both telephone and electronic mail on weekdays during the hours of 9:00 a.m. through 5:00 p.m. Pacific Standard Time, with the exclusion of Federal Holidays ("Support Hours").

Customer may initiate a help desk ticket during Support Hours by calling (650) 269-6333 or any time by emailing support@adastragov.com.

Company will use commercially reasonable efforts to respond to all help desk tickets within one (1) business day.

AMENDMENT NUMBER 1 TO
AGREEMENT BETWEEN THE COUNTY OF INYO AND
GovInvest, Inc.
FOR THE PROVISION OF INDEPENDENT CONTRACTOR SERVICES

WHEREAS, the County of Inyo (hereinafter referred to as "County") and GovInvest, Inc. _____ of _____ Torrance, CA (hereinafter referred to as "Contractor"), have entered into an Agreement for the Provision of Independent Contractor Services dated April 9, 2019, on County of Inyo Standard Contract No. N/A, for the term from April 9, 2019 to April 8, 2024.

WHEREAS, County and Contractor do desire and consent to amend such Agreement as set forth below;

WHEREAS, such Agreement provides that it may be modified, amended, changed, added to, or subtracted from, by the mutual consent of the parties thereto, if such amendment or change is in written form, and executed with the same formalities as such Agreement, and attached to the original Agreement to maintain continuity.

County and Contractor hereby amend such Agreement as follows:

Service Agreement - 1st Paragraph, is amended as follows:

This Saas Agreement "Agreement" is entered into on this 9th day of April, 2019 (the "Effective Date" for the Pension Module is April 9, 2019 and the "Effective Date" for the OPEB Module is September 27, 2019) between GovInvest, Inc ("Company"), and the Customer listed above ("Customer").

The effective date of this Amendment to the Agreement is April 9, 2019.

All the other terms and conditions of the Agreement are unchanged and remain the same.

AMENDMENT NUMBER 1 TO
AGREEMENT BETWEEN THE COUNTY OF INYO AND
GovInvest, Inc.
FOR THE PROVISION OF INDEPENDENT CONTRACTOR SERVICES

4 IN WITNESS THEREOF, THE PARTIES HERETO HAVE SET THEIR HANDS AND SEALS THIS
DAY OF October, 2019.

COUNTY OF INYO

By: _____

Dated: _____

CONTRACTOR

By: Ted Price
Signature

Ted Price, CEO
Type or Print

Dated: 10/4/2019

APPROVED AS TO FORM AND LEGALITY:

[Signature]
County Counsel

APPROVED AS TO ACCOUNTING FORM:

[Signature]
County Auditor

APPROVED AS TO PERSONNEL REQUIREMENTS:

[Signature]
Personnel Services

APPROVED AS TO RISK ASSESSMENT:

[Signature]
County Risk Manager



County of Inyo



County Administrator

CONSENT - ACTION REQUIRED

MEETING: November 5, 2019

FROM: Denelle Carrington

SUBJECT: Fiscal Year 2018-2019 Invoice for prior year services provided for Public Defender services

RECOMMENDED ACTION:

Request Board authorize payment to NKB Forensic Psychological Services for a prior-year invoice in the amount of \$7,000 for Court-ordered services provided back in December, 2018 and in March, 2019 to a Public Defender client.

SUMMARY/JUSTIFICATION:

Staff in the CAO's office recently received an Order For Payment of Funds for Expert from Superior Court of California - County of Inyo for services provided in December, 2018 and in March, 2019 to a Public Defender client in the previous fiscal year. Billing was delayed due to the court proceedings taking longer than anticipated and to insure no further examinations were ordered.

There is sufficient funding included in the Fiscal Year 2019-2020 Public Defender Budget to cover this expense.

BACKGROUND/HISTORY OF BOARD ACTIONS:

ALTERNATIVES AND CONSEQUENCES OF NEGATIVE ACTION:

The Board could choose not to approve this prior year payment, which could negatively impact our working relationship with the Courts and NKB Forensic Psychological Services.

OTHER AGENCY INVOLVEMENT:

Public Defender
Inyo County Superior Court

FINANCING:

There are sufficient funds in the Public Defender Budget (022600) in Professional Services Object Code (5265) to cover this prior year invoice.

ATTACHMENTS:

1. NKB Forensic Psychological Services Invoice

APPROVALS:

Denelle Carrington
Darcy Ellis
Denelle Carrington
Amy Shepherd
Clint Quilter

Created/Initiated - 10/28/2019
Approved - 10/28/2019
Approved - 10/28/2019
Approved - 10/29/2019
Final Approval - 10/30/2019

NANCY KASER-BOYD, PH.D.

CLINICAL AND FORENSIC PSYCHOLOGY

August 31, 2019

12725 VENTURA BLVD. SUITE K
STUDIO CITY, CALIFORNIA 91604
TELEPHONE (818) 506-0719
FAX (818) 506-0636

Mr. Josh D. Hillemeier
Law Office of Josh D. Hillemeier
314 West Line Street, Suite C
Bishop, California 93514

STATEMENT OF PROFESSIONAL SERVICES

Db/a: NKB Forensic Psychological Services

Tax I.D. #71-0946492

RE: People v. XXXXXXXXXXXX, Case # MBCRF-18-63104

December 11, 2019 ²⁰¹⁸	Travel to Bishop	
	Review of Discovery	5.0
December 12, 2019 ²⁰¹⁸	Forensic Psychological Interview	3.0
	Psychological Testing	2.0
December 12, 2019 ²⁰¹⁸	Travel to office	4.0
December 16, 2018	Written Report	5.0
	First set of charges:	19 hours
	Court Order for, dated 10/29/2018	\$3,800
New Charges		
March 8, 2019	Review of Discovery	2.0
March 9, 2019	Travel to Independence	3.5
March 9, 2019	Forensic Psychological Interview	3.0
March 10, 2019	Travel to Office	3.5
April 21, 2019	Written Report	4.0
	Second set of charges	16.0
	Court Order dated 1/3/2019	\$3,200
Final Billing		\$7,000.00

Evaluation & work pertaining to Case No. 18-63104

Evaluation & Work pertaining to Case No. 18-63354



County of Inyo



County Administrator - Parks & Recreation

CONSENT - ACTION REQUIRED

MEETING: November 5, 2019

FROM: Leslie Chapman

SUBJECT: Approve the purchase of two (2) Automated Payment System Pay Stations for use at two (2) County Campgrounds.

RECOMMENDED ACTION:

Request Board authorize the purchase of two automated payment system pay stations from Caracal Enterprises LLC, dba VenTek International for use at two County campgrounds in an amount not to exceed \$26,040.

SUMMARY/JUSTIFICATION:

Inyo County Parks and Recreation operates seven (7) campgrounds between Lone Pine and Bishop generating approximately \$200,000 per year in revenue. These campgrounds host nearly 20,000 vehicles per year. Four of these campgrounds currently have Pay Stations. Through a thorough analysis of machine costs and revenues generated at campgrounds it has been determined economically beneficial to install two additional automated payment system pay stations at Tinnemaha and Portagee Joe Campgrounds.

BACKGROUND/HISTORY OF BOARD ACTIONS:

In September 2013, Inyo County Parks and Recreation received one response from a Request for Proposal for Campground Paystations from VenTek International. VenTek International Pay Stations are used in many National Park Campgrounds, including Death Valley, as well as many other jurisdictions including Santa Clara County, Orange County, and Sonoma County.

Your Board authorized the purchase of (4) four pay stations at four County campgrounds including: Pleasant Valley, Baker Creek, Tinnemaha and Taboose Campgrounds. (We were just getting Diaz Lake back from the concessionaire and decided it would be more beneficial there instead of Tinnemaha.)

A thorough analysis of machine costs and revenues generated at campgrounds has been determined economically beneficial to install automated payment system pay stations.

The old payment system included a cash only system, through an envelope and a slotted tube. There had been several instances of theft of the campground funds throughout the years resulting in unaccountable losses for the County. Additionally, campers often lose or misplace their receipt thereby creating a potentially tense situation between the Park Ranger and the camper with regard to whether they have or have not paid their camping fees.

The installation of automated pay stations has created a system at the campgrounds where campers pay their

camping fees through an automatic payment machine, which can then be posted at the campsite. In the event that the receipt is lost, the park employees can utilize data from the machine to ensure payment. Additionally, this system allows the campground rental data to be electronically transmitted to the Park's and Treasurer's offices for easier accounting and tracking campground use.

ALTERNATIVES AND CONSEQUENCES OF NEGATIVE ACTION:

Your Board could consider not purchasing the pay stations and continue to operate the selected two County campgrounds via pay tubes as has been historically done, thereby maintaining staff time in collecting and counting cash, as well as the occasional theft that occurs through this system.

OTHER AGENCY INVOLVEMENT:

None

FINANCING:

The purchase and installation of two (2) automated payment system pay stations is included in the Fiscal Year 2019/2020 budget for Parks and Recreation 076900, Equipment object code 5650.

ATTACHMENTS:

APPROVALS:

Teresa Elliott	Created/Initiated - 10/15/2019
Darcy Ellis	Approved - 10/16/2019
Teresa Elliott	Approved - 10/16/2019
Leslie Chapman	Approved - 10/16/2019
Amy Shepherd	Approved - 10/16/2019
Marshall Rudolph	Approved - 10/17/2019
Leslie Chapman	Final Approval - 10/24/2019



County of Inyo



County Administrator - Personnel

CONSENT - ACTION REQUIRED

MEETING: November 5, 2019

FROM: Sue Dishion

SUBJECT:

RECOMMENDED ACTION:

Request Board approve the amended October 1, 2016 through June 30, 2021 Memorandum of Understanding between the County of the Inyo and the Inyo County Employee's Association (ICEA) and authorize the Chairperson to sign.

SUMMARY/JUSTIFICATION:

Your Board has given direction regarding negotiations on the current contract with the Inyo County Employee's Association (ICEA). At this time, negotiations have concluded successfully with all parties agreeing on the Memorandum of Understanding. These changes to the MOU consist of changes to language only.

BACKGROUND/HISTORY OF BOARD ACTIONS:

ALTERNATIVES AND CONSEQUENCES OF NEGATIVE ACTION:

Your Board could choose not to approve the Memorandum of Understanding and direct staff to re-negotiate the terms with ICEA.

OTHER AGENCY INVOLVEMENT:

FINANCING:

No fiscal impact with these changes.

ATTACHMENTS:

1. ICEA MOU 2016-2021

APPROVALS:

Darcy Ellis
Sue Dishion
Amy Shepherd
Marshall Rudolph

Created/Initiated - 10/30/2019
Approved - 10/30/2019
Approved - 10/30/2019
Approved - 10/31/2019

Clint Quilter

Final Approval - 10/31/2019



COMPREHENSIVE

MEMORANDUM OF UNDERSTANDING

BETWEEN

THE COUNTY OF INYO

AND

THE INYO COUNTY EMPLOYEES ASSOCIATION

(AFSCME LOCAL 315)

2016-2021

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ARTICLE 1 - RECOGNITION

The County of Inyo (hereinafter called the "County") recognizes the Inyo County Employees Association (hereinafter called the "Association" or "Union"), American Federation of State County and Municipal Employees Local 315 as the formally recognized employee organization of bargaining unit employees for the purpose of meeting its obligations under the Meyers-Milias-Brown Act, Government Code section 3500, *et seq.* This Agreement applies to all employees in the Association bargaining unit.

ARTICLE 2 - EFFECT OF PRIOR MEMORANDA OF UNDERSTANDING AND RESOLUTIONS

This Agreement supersedes all prior Memoranda of Understanding between the County and the Association and Resolutions approving such prior Memoranda of Understanding.

ARTICLE 3 - NON-DISCRIMINATION

Section 1. The County will recognize and will protect the rights of all employees hereby to join and/or participate in protected union activities, or to refrain from joining or participating in protected union activities, in accordance with Government Code sections 3500 to 3511. Notwithstanding the definition of a grievance in Article 21, this section creates a basis upon which a grievance may be filed. If an employee or the Union elects to utilize the grievance process to address allegations of the County violating this Section, it shall be the exclusive process available. The election of the grievance process is irrevocable.

Section 2. The County and the Association agree that they shall not discriminate against any employee because of race, color, sex, age, national origin, ancestry, political or religion or religious creed, marital status, physical or mental disability, medical condition or sexual orientation, whistleblower status, or on any other basis in violation of applicable federal, state, or municipal law(s). The County and the Association shall reopen any provision of this Agreement for the purpose of complying with any final order of a federal or state agency or court of competent jurisdiction requiring a modification or change in any provision or provisions of this Agreement to be in compliance with state or federal anti-discrimination laws. This section does not create a basis upon which an employee may file a grievance.

Section 3. Whenever the masculine gender is used in this Agreement, it shall be understood to include the feminine gender.

ARTICLE 4 - WORKDAY AND WORKWEEK

The work week begins at 0001 hours each Thursday and ends at 2400 hours the following Wednesday (one minute after 12 midnight Thursday through 12 midnight on Wednesday).

- A. Full-time permanent employees on either a seven (7) or eight (8) hour daily work schedule will work five (5) consecutive days, with two (2) consecutive days off. Any seven (7) hour per day position which becomes vacant shall be filled on an eight (8) hour per day basis. All future promotions and transfer of incumbent County employees shall be at with (8) hours per day.
- B. Employees may be assigned, and employees may request their Department Head recommend to the CAO, to work an alternative work schedule. This shall consist of a weekly work-week schedule consisting of no more than forty (40) work hours during the County designated workweek, as applicable, which may be at hours other than traditionally scheduled for the assigned shift. Such alternative work schedules may include a 4-10 (consecutive work days unless otherwise agreed to by the employee), 9-80, or other schedule approved by the County Administrative Officer, in his/her sole discretion. A denial of a Department Head's recommendation for an employee request shall be explained in writing.
- C. The County Administrative Officer may in his/her discretion based upon recommendation from a Department Head change work hours and/or work shifts on a temporary basis in such department or work unit thereof.

ARTICLE 5 - OVERTIME AND COMPENSATORY TIME - FULL-TIME PERMANENT

The County will comply with the Fair Labor Standards Act (FLSA) and shall compensate all full-time nonexempt employees at the pay rate of time and one-half (1.5) for all overtime hours worked. Time and one-half (1.5) compensation shall be paid after thirty-five (35) hours worked for those non-exempt full-time employees scheduled on a thirty-five (35) hour week. Time and one-half (1.5) compensation will be paid after forty (40) hours worked for those full-time non-exempt employees scheduled on a forty (40) hour work week. Non-exempt full-time employees covered by this Agreement shall be compensated for authorized overtime at the rate of one and one-half (1.5) times his or her equivalent hourly rate of pay, when approved in advance by the department head.

- A. All overtime must be scheduled with the employee in advance, except in the case of an emergency or when reasonable, unforeseeable operational needs prohibit advance notice.
- B. Overtime may be converted to compensatory time off at the rate of time and one-half (1.5). The compensatory time may be banked as provided in paragraph E. below. The conversion of overtime shall be at the option of the employee. Overtime shall be paid in accordance with current procedures unless an employee requests compensatory time.
- C. Attachment A to this Agreement is a list of those positions exempt from overtime and compensatory time under FLSA. Positions on this list may be added to or deleted from in accordance with the definitions of the FLSA. If issues of dispute arise between the County and Association, a letter of ruling will be sought from the U.S. Department of

Labor, which administers FLSA, to determine if the position meets the appropriate criteria for inclusion or exclusion from the list.

- D. "Hours worked" will be calculated as provided for by the Fair Labor Standards Act, 29 U.S.C. § 201, *et seq.* "Hours worked" does not include time for which persons are compensated, but do not actually work.
- E. County will allow non-exempt full-time employees to carry forty (40) hours of compensatory time on the books. Compensatory time will be placed on the books at the rate of one and one-half (1.5) hours for each hour of approved overtime worked. When an employee leaves employment, any compensatory time remaining on the books will be paid at the employee's hourly rate.

ARTICLE 6 - STANDBY AND CALL-OUT COMPENSATION

- A. Stand-by Compensation. Employees requested by the department head to serve in an after-hours response capacity will receive \$50.00 for performing standby duties on each regularly scheduled day and \$75.00 for performing stand-by duties on regularly scheduled days off or holidays. Holidays are those recognized pursuant to Article 19 of this Agreement.
- B. Call-Out Compensation. Those employees who are eligible for overtime compensation and have ended their workday and have left their place of employment, but who have been requested to perform duties after normal working hours, will be compensated at the rate of time and one-half (1.5). If the time worked is less than two (2) hours, the employee will receive two (2) hours compensation minimum at the rate of time and one-half (1.5). Provided, however, if the employee is not required to leave the location at which they would otherwise remain (e.g. the employee takes a call at home, and/or makes calls from home) then the employee will receive time and one-half (1.5) for the actual hours (calculated in fifteen [15] minute increments) worked. If the time worked is more than two (2) hours, the employee will receive time and one-half (1.5) for the actual hours or portions thereof worked.

These call-out provisions will apply to no more than two (2) call-out instances per twelve (12)-hour period. Any call-out instance after the first two (2) in a twelve (12)-hour period will be paid at normal overtime rates.

- C. An employee will be deemed to be on telephone standby if the employee's department head informs the employee that the employee may be subject to being called out during a certain period. A department cannot avoid payment under this Article by informing an employee that they may be needed, but not formally placing the employee on standby.

ARTICLE 7 - SALARIES

- A. Salaries: Salaries for employees represented by ICEA shall be as set forth in Attachment D. County will provide the following COLAs:

Retroactive to October, 2016 (first full pay period 10/06/16) 1% COLA.

1% COLA effective July 13, 2017.

2% COLA effective July 12, 2018.

2% COLA effective July 11, 2019.

2% COLA effective July 09, 2020.

- B. Longevity Pay: The County will provide the following longevity increases after ten (10) years of consecutive service:

- 10 years – 2%
- 15 years – 2%
- 20 years – 2%
- 25 years - 2%

Employee will receive longevity on the anniversary date when eligible.

- C. Bilingual Pay: Employees will be compensated an additional five percent (5%) of their base pay for providing bilingual skills as deemed necessary by the Department Head.
- D. Shift Differential: Employees working swing shifts (as designated by their Department Head) shall receive a shift differential of two percent (2%). Those working graveyard shifts (as designated by their Department Head) shall receive a shift differential of four percent (4%). Shifts subject to this subsection are attached to this MOU as Attachment C.
- E. Bi-Weekly Pay Period: Employees covered by this Agreement shall be paid bi-weekly (every other Friday).

ARTICLE 8 - PART-TIME BENEFITS

Section 1. The County will provide the following benefits at the following levels for the following classifications of part-time employees:

A-Par Employees

- A. Part-time, Non-benefited, Merit System Employees:
1. Defined as employees working between 1 to 19.99 hours per week;

2. Hired through County recruitment process;
3. Appeal rights under Article XII, Disciplinary Actions and Appeals Procedures, of the Personnel Rules, shall be limited to an appeal to the County Administrative Officer, whose decision shall be final and binding; such employees shall not be entitled to appeal any disciplinary matters to the Hearing Officer or any other higher authority;
4. Any hours worked in excess of forty (40) during the two (2) week pay period will be paid at time and one half (1.5);
5. Longevity Pay: Longevity pay for A-Par employees at two percent (2%) to be paid after ten (10) years of service at the pay step and category at the time of attainment of ten (10) years (not based upon the beginning pay at the time of hire). Additional two percent (2%) after each additional five (5) years of service, equal to four percent (4%) at fifteen (15) years, six percent (6%) at twenty (20) years, eight percent (8%) at twenty-five (25) years. If an A-Par employee moves to a miscellaneous full-time category, the initial hire date is used to calculate the longevity accrual;
6. Flex Days: Employees will receive ten (10) hours of flex days per fiscal year – does not accrue;
7. Holiday Pay: Holiday pay shall be paid at the rate of time and one-half (1.5) to A-Par employees for working on recognized County Holidays scheduled and authorized by their department heads and according to the Holiday Policy Section 10.16 (f) page 62 of the Personnel Rules or any other classification that works on a county recognized holiday:
 - (a) Employees in this category will not receive holiday pay for county recognized holidays not worked;
8. Short-Term Disability Benefit: Employees in this category may opt into the County's Short-Term Disability program at their own expense through payroll deduction;
9. Such employees shall not receive any other benefits, including but not limited to those benefits provided for in Articles 9, 10, 11, 16, 17, 18, 20 or 33 of this Agreement or any other insurance, leave, or other benefits provided by the County to any other employees.

B-Par Employees

B. Part-time, Benefited, No PERS Retirement, Merit System Employees:

1. Defined as employees working between 20.00 to 29.99 hours per week;

2. Employees hired through the County recruitment process;
3. Merit System employees with full appellate rights under the Personnel Rules;
4. Employees shall be hourly employees and shall not receive any benefits provided for in Article 20 (PERS retirement benefits and limited payment of employee's contributions for Social Security and Medicare);
5. Employees shall receive the following benefits:
 - (a) The County will pay eighty percent (80%) contribution of the premium for employee only health benefits. (Employee has the option to purchase, at their own expense, dependent coverage);
 - (b) Dental and Vision Insurance: Employees will be allowed to opt into dental and vision insurance, premium to be paid by the employee through payroll deduction;
 - (c) Employees shall receive prorated vacation (Article 17 hereof and Personnel Rule 10.9) and sick leave (Article 16 hereof and Personnel Rule 10.10). Proration shall be determined by the number of hours worked by the employees. Employees will be allowed to participate in sick leave buy back. The buyback will be based on the budgeted position (20.00-29.99). Employee using less than five (5) days of sick leave in a calendar year and having a minimum of ten (10) sick days on the books will be eligible to sell back up to five (5) days;
 - (d) Any hours worked in excess of sixty (60) hours during the two-week pay period, will be paid at time and one half (1.5);
 - (e) Longevity Pay: Longevity pay for B-Par employees to be paid at two percent (2%) after ten (10) years of service at the pay step and category at the time of attainment of ten (10) years (not based upon the beginning pay at the time of hire); additional two percent (2%) after each additional five (5) years of service, equal to four percent (4%) at fifteen (15) years, six percent (6%) at twenty (20) years, eight percent (8%) at twenty-five (25) years for B-Pars just as miscellaneous employees. If a B-Par moves to a miscellaneous category, the initial hire date is used to calculate the longevity accrual;
 - (f) Flex Days: Employees will receive twenty (20) hours of flex days per fiscal year - does not accrue;
 - (g) Holidays: Eleven (11) holidays per year will be paid to B-Par employees at four (4) hours per holiday. Flex hours may be used to

complement hours in order to spare the use of accrued vacation time by B-Par employees for holidays when county departments are closed;

- (h) Holiday Pay: Holiday pay shall be paid at the rate of time and one half (1.5) to B-Par employees for working on recognized County Holiday scheduled and authorized by their department heads and according to the Holiday Policy Section 10.16 (f) page 62 of the Personnel Rules, or any other classification that works on a county recognized holiday;
- (i) Short-term Disability Insurance: Benefit for B-Par employees shall be paid by the County. County will cover the one percent (1%) of base pay for all B-Par employees for the County Disability Program;
- (j) Employee moving from part-time status to full-time status will be allowed portability of vacation and sick leave accruals based on the prorated budgeted position;
- (k) Employees shall be entitled to participate in the County Flexible Benefit Program, provided for in Article 10, herein;
- (l) Employees shall be entitled to participate in the County Deferred Compensation programs, provided for in Article 12, herein;
- (m) Except as specifically provided in sections (a) through (l) above, these employees shall receive no other benefits provided by the County to its other employees, including but not limited to any other insurance, leave or other benefits provided by the County to any other employees.

C-Par Employees

C. Part-time, Prorated Benefits, Merit System Employees:

1. Defined as employees working between 30.00 to 39.99 hours per week, (as determined by the Personnel Rules and Article 4, herein);
2. Employees hired through County recruitment process and merit system employees;
3. Employees will have health benefits as provided by the County to full-time employees as provided in Article 9 – Insurance Benefits;
4. Employees will have prorated dental, vision, leave and retirement benefits. Proration will be determined by the number of hours worked by the employee;

5. A non-exempt employee will be paid overtime and be eligible for compensatory time for all hours worked in excess of forty (40) hours per week. Overtime payments and compensatory time will be provided in Article 5.

Section 2. The benefits and status provided to the employee classifications defined in Section 1, above, are subject to the following:

- A. The following are excluded from the above classifications and, therefore, not entitled to any benefits or status provided for in Section 1: Seasonal employees, temporary reserve officers, contract employees, or other workers placed through state or federal programs;
- B. In the event PERS reverses its current position concerning the validity of the County's hourly exclusion in its PERS contract, the County and Association shall meet-and-confer concerning the impact of such decision and the necessary changes to the benefits provided for in Section 1.

ARTICLE 9 - INSURANCE BENEFITS

- A. The County shall continue to contract with the Public Employees Retirement System (PERS) for medical benefits during the term of this Agreement.
- B. County agrees to pay eighty percent (80%) of the premium of PERS Choice or PERS Select Plans. Employee will be responsible for twenty percent (20%) of the premium. The maximum the County will contribute toward a different CalPERS plan other than listed above will be eighty percent (80%) of PERS Choice premium.
- C. The County will reimburse fifty percent (50%) of the annual medical deductible after the full deductible per person has been paid.
- D. County agrees to pay one hundred percent (100%) of the premium for optical insurance.
- E. County agrees to provide through Delta Dental orthodontia benefits for adults and children, fifty percent (50%) benefit schedule; \$1,200 lifetime maximum.
- F. County will pay the following per pay period to each employee who has other medical coverage and has opted out of the County's medical plan:
 - Eligible for employee only coverage = \$92.31 per pay period
 - Eligible for employee plus one coverage = \$184.62 per pay period
 - Eligible for family coverage = \$276.93 per pay period

ARTICLE 10 - FLEXIBLE BENEFIT PROGRAM

County will pay the monthly administration fee for each employee who participates in Flexible Benefit Program allowed by Section 125 of the Internal Revenue Code.

ARTICLE 11 - SHORT-TERM DISABILITY PROGRAM

County will provide all eligible employees with a self-insured income protection plan for up to one (1) year for non-job-related disabilities preventing a person from working. County agrees to pay the premium of one percent (1%) of employee's base salary to a maximum amount equal to what the State of California rate is per year. Any employee denied benefits under this provision may file a grievance pursuant to Article XIII of the County Personnel Rules and may have the matter heard only up to the level of the County Administrative Officer. The benefit will be as set forth in the Short Term Disability Program.

ARTICLE 12 - DEFERRED COMPENSATION

County will provide deferred compensation programs for employees.

ARTICLE 13 - CONTRACTING OUT, ADVANCE NOTICE

Contracting Out – The County agrees to address contracting-out of County Services in accordance with all applicable laws.

Advance Notice – Absent an emergency, as determined in the sole discretion of the County, the County shall provide at least one hundred twenty (120) hours advance notice to the Union prior to the Board of Supervisors formally considering at a public meeting any and all changes that affect the wages, hours, terms and conditions of employees in the represented bargaining unit as to allow time for the Union's response and meet- and- confer if necessary. Said notice shall be sent to the ICEA and AFSCME.

Board of Supervisors Agenda – County agrees to email ICEA President and AFSCME the Board of Supervisors agenda. The entire agenda packet will be available on the County website.

ARTICLE 14 - LABOR - MANAGEMENT TEAM

A Labor-Management Team is hereby established to create a forum for Union representatives and County management personnel to discuss issues surrounding general working conditions. One Labor-Management Team Meeting shall be convened during the months of February, May, August, and November. Said meetings shall be scheduled the month prior to the meeting. An agenda shall be drafted concurrently with scheduling each meeting in order to assist the Labor-Management Team to conduct a productive meeting.

ARTICLE 15 - JOB DESCRIPTIONS

The County will post all current job descriptions on the County website on or before October 1, 2017. Within two weeks of a written employee request to the Personnel Director or his/her designee, County shall provide an employee with a copy of any job descriptions in his/her personnel file existing therein at the time of ratification of this MOU. County will maintain personnel files, including copies of previous job descriptions therein, in a manner consistent with its current practice.

ARTICLE 16 - SICK LEAVE

- A. Each full-time and B-Par employee shall accrue sick leave. There is no limit on the amount of sick leave that may be accrued.
- B. Except as provided in Article 8, once per calendar year any employee may, at the employee's option, exchange up to five (5) days of sick leave with the County for monetary compensation at the employee's current hourly rate, provided, however, that the sick leave bank for any employee exercising this option must contain at least four hundred (400) remaining hours of sick leave.
- C. The County recognizes that the ICEA membership has created a sick leave pool for use by those members who exhaust all accrued leave (flex, vacation, sick, compensatory) due to non-industrial illness or injury. Rules governing use of the Sick Leave Bank have been established by the ICEA Sick Leave Bank Committee. A copy of those rules is available through ICEA, Personnel, or the department head. An employee may only receive a cumulative total of one hundred and sixty (160) hours from the ICEA Sick Leave Bank during any twelve-month period. Any exception to this limitation must be approved in writing by both the department head and County Administrator Officer. Prior to making their determination, the department head and County Administrator Officer shall consider a written recommendation from the ICEA board or its designee.
- D. Any employee may donate up to a maximum of ten (10) days per year of unused sick leave to the sick leave bank. Employee will have two fifteen (15)-day windows of opportunity (January 16-31 and July 16-31) to contribute to the sick leave bank.
- E. Any employee who separates or retires from the County may donate sick leave to the sick leave bank, without complying with the window requirement.
- F. Any sick leave used for bereavement will not impact the "buy back" provisions above.

ARTICLE 17 - VACATION LEAVE

The maximum amount of vacation days which may be accrued shall be thirty-five (35). There shall be no accrual in excess of thirty-five (35) days.

- A. In the event an employee is denied a request for vacation, which denial causes the employee to cease accruing vacation benefits due to the thirty-five (35) day cap provided herein, the employee may continue to accrue vacation benefits so long as (1) the employee and his supervisor agree that the employee will take necessary vacation time at a date in the future to bring the employee below the thirty-five (35) day cap; (2) the alternative vacation must be scheduled and taken by the employee within six months; and (3) the County Administrative Officer approves the arrangement, which approval will not be unreasonably denied.
- B. The County Administrative Officer may approve requests for vacation in excess of twenty (20) consecutive work days based on extenuating circumstances.

ARTICLE 18 - FLEXIBLE LEAVE

The County shall grant employees thirty-five (35) hours or forty (40) hours (depending on employee’s hourly status) of Flexible Leave hours each fiscal year.

Flexible leave will be granted each July 1 and must be exhausted by the following June 30. Flexible leave will not accrue from one fiscal year to the next, with the following exception. If an employee believes there are extenuating circumstances that made it impossible for him to utilize flexible leave within the fiscal year, the employee must make a written request to the County Administrative Officer stating the reasons flexible leave should be carried over to the next fiscal year. If the County Administrative Officer approves the request, flexible leave shall be carried over.

Flexible leave will not be paid should an employee terminate, for any reason, from County service.

An employee requesting flexible leave shall give a minimum of forty-eight (48) hours’ notice to his supervisor. A request to take flexible leave may be denied due to the operational needs of the employee’s department.

New employees, upon appointment, shall be granted a prorated number of flexible leave days as follows:

July 1- October 31..... Five (5) days
 November 1 - February 28.....Three (3) days
 March 1 - June 30.....One (1) day.

ARTICLE 19 - HOLIDAYS

- A. Recognized Holidays. County holidays are as follows:

January 1 (New Year’s Day)

Third Monday in January (Martin Luther King Day)
Third Monday in February (President's Day)
Last Monday in May (Memorial Day)
July 4 (Independence Day)
First Monday in September (Labor Day)
November 11 (Veteran's Day)
Thanksgiving Day
Friday immediately following Thanksgiving Day
December 24 or December 31
December 25 (Christmas Day)

- B. Additional Provisions. Any employee who works in a facility which operates seven (7) days a week who works on a County recognized holiday, shall be paid at double time and one-half their regular rate, *i.e.* pay for twenty (20) hours on an eight (8)-hour work day, with the exception of A-Par and B-Par employees as outlined in Article 8. If a holiday falls on the employee's day off, payment will be made at straight time with no additional day off.

ARTICLE 20 - RETIREMENT PROVISIONS

PERS Employees hired prior to January 1, 2013 (Classic):

- A. County agrees to provide two percent (2%) at fifty-five (55) full formula PERS retirement for miscellaneous members.
- B. County agrees to pay the member's contribution for PERS retirement, at the rate of seven percent (7%) of gross pay, less Social Security (FICA) adjustment.
- C. Full-time employees shall pay their own contribution for both Social Security and Medicare through payroll deductions.
- D. PERS benefit to miscellaneous employees shall consist of:
1. Final compensation to be based on highest one year's salary;
 2. Include post-retirement survivor allowance;
 3. Allow two hundred and sixty (260) days of accrued sick leave to be added to service credit;
 4. Employer Paid Member Contribution (EPMC);
 5. All other provisions as amended in the County PERS contract.

- E. New PERS members hired after January 2013 will fall under PEPRA. Employees will receive two percent (2%) @ sixty-two (62) PERS Formula and will be required to pay at least fifty percent (50%) of normal cost.

ARTICLE 21 - PERSONNEL RULES

- A. The Personnel Rules, as updated to incorporate “Attachment E” from the October 15, 2013 MOU, are hereby incorporated by reference. Specific Personnel Rules revisions applicable to the Association are set forth below, and are effective upon ratification of this MOU. If a provision of the Personnel Rules is in conflict with a provision of this MOU, to the extent of such conflict, the provision of the MOU shall be controlling. Notwithstanding any other provision of this MOU, the parties agree that County may during the term of this MOU propose revisions to such rules and/or additional personnel rules, excluding those set forth below, provided that County allows an appropriate opportunity for affected employees and their bargaining units to “meet-and-confer” in compliance with the Meyers-Milias-Brown Act.

1. LEAVE WITHOUT PAY:

The following revision supersedes the existing Article X Section 10.4(b) of the Personnel Rules:

10.4(b) An employee on a leave of absence without pay shall not receive compensation or accrue sick leave, vacation, or holiday credits. County's contributions to the employee's retirement, life insurance, medical, dental, or other designated benefit plans shall be suspended until the employee is reinstated. However, upon approval of a leave of absence without pay, the employee may elect to continue his or her benefits coverage at his or her own expense, with the exception of retirement and Social Security. Any employee requesting a leave of absence without pay may utilize all of his or her accrued compensatory time-off, administrative leave, and vacation time prior to the start of the leave without pay.

2. DISCIPLINARY ACTION GUIDELINES:

Ordinarily, the County will use progressive discipline in correcting the behavior of a worker. The intent of progressive discipline is to be corrective in nature and allows for a worker to correct behavior. However, the circumstances of each case dictates the appropriate disciplinary response and the county reserves the right to skip one or all levels of discipline in appropriate circumstances. The facts and circumstances of the specific act, misconduct or performance deficiency, together with the employee's performance history, and the harm to public service, will be reviewed to determine the appropriate level of disciplinary action to be imposed. In general, this policy contemplates a two-tier approach when determining the level of appropriate discipline. Examples of this policy include, but are not limited to, the following:

- a. The types of misconduct and poor performance that will usually result in an oral reprimand or written reprimand include limited incidents of tardiness and poor performance, minor acts of neglect of duty, incompetence, and violations of rules or policies that will be corrected by a reasonable level of discipline and supervision.
- b. The types of misconduct and poor performance that will usually result in suspension or termination will include any instance of insubordination, violence, harassment, discrimination, theft, violation of a felony or any crime of moral turpitude, repeated poor performance or misconduct following any written reprimand, performance violation, performance improvement plan or corrective action plan, repeated acts of insubordination, neglect of duty, incompetence, or violation of any rule, law, or policy that may cause a risk or harm to any person.

3. DISCIPLINE APPEALS:

Article XII of the County’s Personnel Rules and Regulations, entitled “Disciplinary Actions and Appeals Procedures,” contains a detailed description of the procedures applicable to employee discipline including employee rights to due process through the “Skelly” procedure for proposed discipline and the appeals procedure for imposed discipline.

Selection of Arbitrator (as a Hearing Officer for disciplinary appeals under Article XII) within 30 days of the date the grievant files a notice of appeal, the County and the employee, or if the employee is represented, the employee’s representative, shall attempt to mutually agree on an experienced impartial Arbitrator to preside over the hearing. The parties may extend this date by mutual consent. If the parties are unable to identify a mutually acceptable Arbitrator, they will request a list of seven (7) experienced Arbitrators from the State Mediation and Conciliation Service (SMCS) or similar source agreed upon by the parties and select an Arbitrator via an alternate strike method. The party to strike the first name will be determined either by mutual agreement or by a random method such as coin toss. If the remaining individual on the list is unavailable to hear the matter, the parties may mutually agree to use the second remaining name on the list or will otherwise request a new list from SMCS. This provision shall also apply to the grievance process to the extent consistent therewith.

Re-Opener: In the event that ICEA becomes an “agency shop” the Union agrees to reopen the MOU upon the County’s request to provide for a new process regarding the manner in which disciplinary appeals are pursued.

4. GRIEVANCE

The following revisions supersede the existing Article XIII Sections 13.1(a) and (b) of the Personnel Rules:

13.1(a) Grievance. A grievance is a written allegation by a grievant, submitted by an employee or group of employees within forty five (45) days of the act or omission at issue, claiming violation of, or misapplication of, the specific expressed terms of a memorandum of understanding or rules or regulations governing the personnel practices or working conditions of employees and for which there is no other specific method of review provided by State or Federal law or by County ordinance or rules. All grievances must be signed by the employee or each employee of a group on whose behalf the grievance is submitted. The grievance must be submitted and pursued as set forth below.

13.1(b) Grievant. For all grievance procedures up to the level of arbitration, a grievant is an employee in the County Service (probationary or permanent), group of such employees, or the majority representative of a bargaining unit, adversely affected by an act or omission of the County. For all grievance procedures at the level of arbitration, the grievant is the Association. The Association is the exclusive representative of the employees subject to the INYO-ICEA MOU, with the sole right to appeal to arbitration Grievances that are eligible for such appeals. The Association may adopt internal policies and procedures to determine whether or not to elevate a Grievance to arbitration. All fees and expenses of the Arbitration shall be evenly split by the parties. Either the County or the Association may call any employee as a witness to the proceeding and the employee shall be considered to be working for such time. If called by the Union, the Union will reimburse the County for that time.

5. INTERNAL PROMOTIONS

Employees who accept an internal promotion but request to be reinstated in their previous position during the applicable probationary period for their new position, and/or who do not pass probation in the new position for reasons other than misconduct rising to a level of disciplinary action, shall be offered a reinstatement to their previous position so long as it remains vacant. If the employee's previous position is filled, an employee may request re-assignment to a similar position for which they are qualified during the applicable probationary period for their new position. If a vacancy for a similar position for which the employee is qualified is in the department from which the employee promoted, the re-assignment shall be approved. If the vacancy is in another department, the Department Head has the discretion to make an offer to the employee. The eligibility of individuals on the reinstatement and re-employment list shall extend for a period of one (1) year from the date of reinstatement/re-assignment request as set forth in Personnel Rule Section 11.1(e) and a reinstatement of benefits as set forth in Personnel Rule Section 11.1(f).

6. RECRUITMENT

In addition to the preference set forth in Personnel Rule Section 6.4, the County shall give preference to competing internal candidates based on the total time any such employee has been employed by the County. In other words, a County

employee who has been employed by the County for a total of five (5) years, regardless of any breaks in employment, shall have preference over another internal candidate who has four (4) years of total employment with the County, even if said four (4) years are continuous.

The parties recognize that potential ambiguities exist in the second sentence of Personnel Rule 6.4, which reads as follows: “While recognizing the need to recruit from a pool of persons both inside and outside County employment at all levels, the policy of the County is to transfer and promote persons already employed by the County when their qualifications, training, work performance and work experience are determined to be comparable to other applicants.”

In applying this language of 6.4 to future recruitments, the parties agree that:

- The County will evaluate applicants’ qualifications, training, and work experience at the initial application screening stage. Any applicant (including an existing County employee) who doesn’t meet minimum qualifications or properly complete the County’s standard application form will not be interviewed or further considered for the position. The County shall clearly inform all applicants that a resume will not be considered as part of the initial screening. The County will also use its best efforts to improve the features and usability of the County’s online application form (a project that is already in the works). And the County has recently revised its paper application form in a manner acceptable to ICEA (see Attachment G).
- The County will evaluate applicants’ work training and experience and other relevant qualities at the interview stage.
- All applicants who are interviewed will be scored using the County’s standard Interview Rating Form, an example of which is attached hereto along with the instructions to interview panel members for using the form (Attachment G). The Interview Rating Form provides scoring bands for overall ratings (e.g., an overall rating of ninety (90) to one hundred (100) points is “outstanding;” and an overall rating of eighty (80) to eighty-nine (89) points is “above satisfactory”). Note: the foregoing shall not prevent the County from exercising its management rights to modify the Interview Rating Form, including the scoring criteria, as it deems appropriate, provided such changes are consistent with Rule 6.4.
- Applicants with overall ratings in the same scoring band will be considered “comparable” for purposes of Rule 6.4. Thus, an applicant who is already employed by the County and has an overall rating of ninety (90) will be considered comparable to an applicant who is not already employed by the County and has an overall rating of ninety-eight (98), because both applicants’ overall ratings are in the same “outstanding” scoring band.

7. CAREER LADDER

As outlined in Personnel Rules 5.19, Career Ladder, a career ladder is a term used to define movement through a job series without posting of the position (e.g. Office Clerk I, II, III) as the employee acquires additional skills, responsibilities and experience. Career ladder advancements do not require a vacant position. Job titles or positions within a job series constitute distinct classifications.

5.19 Career Ladders. Due to the nature of some classifications, various County positions have been assigned career ladders through the classification plan. These progressions are part of a job series and identified in the applicable job descriptions. Each rung on the career ladder represents a distinct classification.

- Advancement from a I to II
 - Employee who meets the minimum requirements for the II level, and who also receives a rating of “satisfactory” (employee must receive a three (3) [meets] or higher in every individual rating criteria) on the first annual evaluation report will advance to level II.

The County shall modify the Library Specialist and Librarian Series so that the minimum qualifications to move to a II in both series is one (1) year at the I level (educational substitutions stay the same).

The County shall modify the Animal Control Officer Series from promotional Animal Control Officer and Senior to career ladder Animal Control Officer I and II.

- Advancement from a II to III and III to IV

Employee must meet the minimum qualifications for the next level in the career ladder.

- Employee must receive a minimum overall rating of “Meets Expectations” in all categories on their most recent annual performance evaluation report.

Should the employee meet expectations in every category in their current position, the Department shall conduct a skills assessment based on the minimum qualifications of the next position on the ladder to determine whether the employee is eligible to move to the next level. This assessment shall be shared with the employee. Should the employee not be ready, they shall be eligible for assessment again at their next evaluation.

Department Head must provide written documentation that moving the employee to the higher level will benefit the efficiency and functioning of the Department. A copy of the document must be signed by the Department Head and employee, and transmitted to Personnel with the request for inclusion in the employee's personnel file.

ARTICLE 22 - EMPLOYEE ASSISTANCE PROGRAM

The County will provide an Employee Assistance Program.

ARTICLE 23 - TRAVEL PAY

County will use the Internal Revenue Service (IRS) policy regarding reimbursement of travel pay. If the IRS rates increase, the County reimbursement rates will increase in the same amount as the IRS rates. Should the IRS rates decrease or undergo fundamental changes, renegotiations between the County and the Association on travel pay will occur.

ARTICLE 24 - EMPLOYEE ORGANIZATIONAL RIGHTS AND RESPONSIBILITY

Section 1. Dues Deductions: The County shall deduct for dues, on a regular basis, from the pay of all employees in the classifications and positions recognized to be represented by the Association, who voluntarily authorize such deduction. The County shall remit such funds to the Association within thirty (30) days following their deduction.

Section 2. PEOPLE Deduction: The County agrees to deduct from the wages of any employee who is a member of the Union and so elects a Public Employees Organized to Promote Legislative Equality ("PEOPLE") deduction as provided for in a written authorization. The employer agrees to remit any deductions made pursuant to this provision promptly to the Union together with an itemized statement showing the name of each employee from whose pay such deductions have been made and the amount deducted during the period covered by the remittance.

Section 3. Indemnification: The County will not be responsible or liable for any claims, causes of action, or lawsuits arising out of the deductions or transmittal of such funds to the Association, except the intentional failure of the County to transmit to the Association monies deducted from the employees pursuant to this Article.

Section 4. ICEA Release Time: County will release with pay ICEA Officers, Stewards, Bargaining Team Members, or other ICEA members (maximum seven [7] employees) from their normal duties to conduct legitimate and reasonable Association business. More than seven (7) employees may be released if agreed to by the County. The Union must request, in advance, release time for all employees for said purposes, which may be denied due to the operational needs of the

department. The Union shall inform the County of any new officers or representatives within two (2) weeks of any changes.

ICEA shall continue to provide to the County, by January 15 of each year, a list of meetings and board and committee members for that calendar year and coordinating with the Personnel Department any meeting or training that will require members to be away from work in excess of three (3) hours. ICEA and Personnel will work together to assure that such meetings or training will not adversely impact departments.

Section 5. Reasonable Access: The practice will continue which allows ICEA/AFSCME Officers and Representatives reasonable access to County work locations, facilities, equipment and other County resources, provided he/she first makes arrangements with the Personnel Department, or his/her designee, to ensure such access does not unreasonably disrupt County business.

Section 6. Mailing List: County will provide the Union with current employee lists with personal mailing addresses, to provide the opportunity to correspond with all ICEA represented employees in a timely manner. This address list will be provided within two (2) weeks written notice.

Section 7. Bargaining Unit Notification: The Union shall be electronically notified of any new members of the bargaining unit as well as any bargaining unit separations, or transfers on a monthly basis. Such notice shall contain department and classification. The County shall provide the name, job title, department, work location, work, home, and personal cell phone numbers, personal email address and home address on file with the employer of any newly hired employee within thirty (30) days of the date of hire or first pay period of the month following hire. The County also agrees to provide that information for all employees in the unit at least every one hundred and twenty (120) days.

Section 8. Orientation: The County shall distribute a copy of this MOU and the Personnel Rules to all new Bargaining Unit employees. The County will be holding orientations every other Thursday in Independence. If there are no new bargaining unit employees, the County Personnel will send an email to the Union Representative. The Union shall be given the first scheduled fifteen (15) minutes of each new employee orientation to provide the new employee(s) with official Union materials and information. The County shall ensure a Union Representative is made available for the purpose of this section.

ARTICLE 26 - FLSA EXEMPT AND REPRESENTED EMPLOYEES

Attachment A lists those classifications, which are FLSA exempt.

Attachment B lists those classifications that are represented by the Association, except as classifications may be severed in accordance with Resolution 2003-76.

ARTICLE 27 - PROBATION PERIOD

The following classifications will serve a twelve (12)-month probationary period:

- Dispatchers

ARTICLE 28 - UNIFORMS

The following uniform allowance applies only to full-time Animal Control Officers, Shelter Manager, and Shelter Attendants, who are required to wear a full uniform. Part time employees not required to wear a full uniform shall be provided required clothing by the department.

- A. The uniform allowance shall be \$800.00 per year for the cleaning, replacement and maintenance of clothing.
- B. This allowance shall be paid per pay period in the amount of \$30.77.
- C. All clothing damaged within the course and scope of employment shall be replaced or repaired at no cost to the employee. The determination of replacement or repair will be made by the department. Normal wear and tear of clothing articles is not included.
- D. New employees only will receive a \$200.00 advancement of uniform allowance, non-accountable plan, to be paid through payroll. This \$200.00 advancement is to come from the current \$800.00 annual payment, whereby a new employee's uniform allowance shall be reduced for the proration of the advance payment to \$23.08 per pay period for the first year of employment.

ARTICLE 29 - SAFETY SHOES

County shall reimburse each employee covered by this Agreement who is required to wear safety shoes, for purchase, repair or rebuild of required safety shoes, upon presentation of an invoice evidencing payment, up to a maximum of \$150.00 per employee per fiscal year. County shall replace an employee's safety shoes, which are destroyed, excluding normal wear and tear, during the course and scope of employment.

ARTICLE 30 - PERFORMANCE EVALUATIONS

The County will use the performance evaluation form attached herewith as Attachment F. Challenges to the evaluation as set forth in Personnel Rules Section 8.2 (c) shall be heard by the County Administrator or neutral designee. This provision confirms the County's existing practice.

ARTICLE 31 - DRUG-FREE WORKPLACE/DEPARTMENT OF TRANSPORTATION DRUG TESTING POLICY

The County will enforce the Alcohol and Drug Abuse policy as amended September, 1991.

The County of Inyo Drug will enforce the Alcohol Policy pursuant to the Department of Transportation Regulations as amended in accordance with the law.

ARTICLE 32 - MATERNITY LEAVE OF ABSENCE

Maternity leave is governed by Personnel Rule 10.2.

ARTICLE 33 – EMPLOYEE TRAINING AND TUITION ASSISTANCE PROGRAM POLICY

The County will reimburse educational expenses in accordance with Attachment E “Employee Training and Tuition Assistance Program Policy.” The County will also continue to reimburse all costs for licenses and certifications used in the course of employment.

ARTICLE 34 - SMOKING

There shall be no smoking, vaping, or chewing of tobacco, or any use of tobacco products, in any County facility or County vehicle. Employees smoking or vaping on County property shall smoke or vape in designated smoking areas, which areas will be agreed to by the County and Association.

ARTICLE 35 - MISTAKEN OVERPAYMENTS

Should any employee be overpaid due to any mistake or inadvertence, the County may recover the amount of overpayment by subsequent unilateral deductions from the pay of the employee in question up to the amount of overpayment with a minimum of fourteen (14) days advanced notice. However, not more than ten percent (10%) of any such employee’s net pay shall be deducted from any one paycheck for this purpose. Notwithstanding this, employee will have the option of ten percent (10%) to twenty-five percent (25%) being deducted from any one (1) paycheck.

ARTICLE 36 - LETTER OF REPRIMAND

Any employee who receives a letter of reprimand shall be entitled to submit a written response thereto, which shall be placed in such employee's personnel file, along with the written reprimand. While the employee may discuss a reprimand with the County Administrator, or his/her neutral designee, who shall have the authority to modify or remove the letter, there shall be no right to grieve or appeal any reprimand, warning, or counseling nor shall there be any formal hearings or review procedures concerning any reprimand, warning or counseling.

ARTICLE 37 - AUTHORIZED AGENTS

Authorized agents, for the purpose of administering the terms and provisions of the Memorandum of Understanding shall be:

- A. Representing the County
County Administrative Officer
P.O. Box X
Independence, CA 93526

- B. President
Inyo County Employees Association
P.O. Box 492
Independence, CA 93526

- C. AFSCME, District Council 57
P.O. Box 418
Independence, CA 93526

ARTICLE 38 - SOLE AND ENTIRE MEMORANDUM OF UNDERSTANDING

Section 1. It is the intent of the parties hereto that the provisions of this Memorandum of Understanding shall supersede all prior agreements and memoranda of agreement or memoranda of understanding, or contrary salary and/or personnel resolutions, oral or written, expressed or implied, between the parties, and shall govern the entire relationship and shall be the sole source of any and all rights which may be asserted hereunder. This Memorandum of Understanding is not intended to conflict with Federal or State law.

Section 2. The parties acknowledge that the Board of Supervisors will adopt this Agreement by Resolution and that said Resolution shall remain in full force and effect during the life of this Memorandum of Understanding.

ARTICLE 39 - NO STRIKE-NO LOCKOUT

Section 1. The Association, its officers, agents, representatives, and/or members agree that during the term of this MOU they will not cause or condone any strike, walkout, slowdown, sickout, or any other job action by withholding or refusing to perform services. Informational picketing, rallying, and other public action by employees that does not involve withholding or refusing to perform services, shall only be permitted before or after work, or during breaks and lunch periods.

Section 2. The County agrees that it shall not lockout its employees during the term of this MOU. The term "lockout" is hereby defined so as not to include the discharge, suspension, termination, layoff, failure to recall or failure to return to work of employees of the County in the exercise of its rights as set forth in any of the provisions of the MOU or applicable ordinance or law.

Section 3. Any employee who participates in any conduct prohibited in Section 1 above may be subject to disciplinary action up to and including discharge.

Section 4. In the event that any one or more officers, agents, representatives, or members of the Association engage in any of the conduct prohibited in Section 1 above, the Association shall immediately instruct any persons engaging in such conduct that their conduct is in violation of this MOU and is unlawful and they must immediately cease engaging in conduct prohibited in Section 1 above, and return to work.

ARTICLE 40 - EMERGENCY WAIVER

In the event of circumstances beyond the control of the County, such as acts of God, fire, flood, insurrection, civil disorder, national emergency, or similar circumstances, if the County Administrative Officer or his designee so declares, any provisions of this Agreement which restricts the County's ability to respond to these emergencies shall be suspended for the duration of such emergency. After the emergency is declared over, the Association shall have the right to meet and confer with the County regarding the impact on employees of the suspension of these provisions of this Agreement and any Personnel rules and policies.

ARTICLE 41 - SEPARABILITY

Should any provision of this MOU be found to be inoperative, void, or invalid by a court of competent jurisdiction, all other provisions of this MOU shall remain in full force and effect.

ARTICLE 42 - REOPENER CLAUSE

- A. The Parties agree that the County may re-open and meet and confer regarding the retiree health benefits to be provided for future employees.
- B. The Parties agree that the County may re-open and meet and confer regarding eliminating or changing the definition of A-Par, B-Par and C-Par employees to facilitate the development of a global alternative work schedule program.
- C. The County may exercise its right to re-open the MOU under this beginning July 1, 2017.

ARTICLE 43 - TERM

This Memorandum of Understanding shall be in force and effect upon ratification and adoption of this MOU by both parties through June 30, 2021. The County will provide each employee represented by the Association with a copy of this and all subsequent MOUs.

ARTICLE 44 - RATIFICATION AND EXECUTION

The County and the Association acknowledge that this Memorandum of Understanding shall not be in full force and effect until ratified by the Association and adopted by the Board of Supervisors of the County of Inyo. Subject to the foregoing, this Memorandum of Understanding is hereby executed by the authorized representatives of the County and Association, and entered into this 5th day of November, 2019.

<p>COUNTY OF INYO:</p> <hr/> <p>Richard Pucci, Chairperson</p>	<p>INYO COUNTY EMPLOYEES ASSOCIATION:</p> <hr/> <p>Samantha Rottner, ICEA NEGOTIATOR</p> <hr/> <p>Katie Bird, ICEA NEGOTIATOR</p> <hr/> <p>Donald Gockley, ICEA NEGOTIATOR</p> <hr/> <p>David Miller, ICEA NEGOTIATOR</p> <hr/> <p>Jane McDonald, AFSCME Council 57</p>
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**ATTACHMENT A
EXEMPT POSITIONS UNDER THE FAIR LABOR STANDARDS ACT
FOR PURPOSES OF OVERTIME**

ADDICTIONS SUPERVISOR LICENSED
AUDITOR APPRAISER SENIOR
CHILD SUPPORT ATTORNEY
DISTRICT ATTORNEY DEPUTY
FIRST SUPERVISOR SR
HAZARD MATERIALS MANAGER SENIOR
MHSA COORDINATOR LICENSED
MITIGATION PROJECT MANAGER
NURSE SUPERVISING
PLANNING SENIOR
PLANNING TRANSPORTATION SENIOR
SCIENTIST SENIOR
SCIENTIST

ATTACHMENT B
ICEA REPRESENTED POSITIONS

ADDICTION COUNSELOR
ADDICTION SUPERVISOR
ADDICTION SUPERVISOR LICENSED
ADMINISTRATIVE ANALYST
AG BIOL W/M INSPECTOR SENIOR
AG BIOL WGHTS & MSRS INSPECTOR
AG CANNABIS INSPECTOR
AGRICULTURAL BIOLOGIST SUPERVISOR
AIRPORT SUPERVISOR OPERATIONS
AIRPORT TECHNICIAN
ANIMAL CONTROL OFFICER
ANIMAL CONTROL SUPERVISOR
APPRAISER
AUDITOR APPRAISER
AUDITOR APPRAISER SENIOR
BUILDING GROUNDS WORKER
BUILDING INSPECTOR
BUILDING INSPECTOR SENIOR
BUILDING MAINTENANCE WATER SUPERVISOR
BUILDING MAINTENANCE WORKER
CAREGIVER RESIDENTIAL
CHILD SUPPORT ATTORNEY
CHILD SUPPORT OFFICER
CHILD SUPPORT SUPERVISOR
CIVIL OFFICER
CUSTODIAN
DA ADMINISTRATIVE ASSISTANT
DA INVESTIGATOR ASSISTANT
DISTRICT ATTORNEY DEPUTY
ENGINEER ASSISTANT CIVIL
ENGINEER ASSOCIATE
ENGINEER ASSOCIATE CIVIL
ENGINEERING ASSISTANT
ENVIRONMENTAL HEALTH REHS
ENVIRONMENTAL HEALTH TECHNICIAN
ENVIRONMENTAL HEALTH TRAINEE
EQUIPMENT MECHANIC HEAVY
EQUIPMENT MECHANIC TRAINEE
EQUIPMENT OPERATOR HEAVY
EQUIPMENT OPERATOR LEAD
EQUIPMENT OPERATOR MECHANIC
EVIDENCE TECHNICIAN

ATTACHMENT B
ICEA REPRESENTED POSITIONS

FIELD TECHNICIAN
FIELD TECHNICIAN LEAD
FIRST FIVE DIRECTOR
FIRST SUPERVISOR
FIRST SUPERVISOR SENIOR
FOOD COOK
FOOD COOK SUPERVISOR
GATE ATTENDANT
GIS ANALYST
HAZARD MATERIALS MANAGER
HAZARD MATERIALS MGR SENIOR
HHS SPECIALIST
HUMAN SERVICES SUPERVISOR
HUMAN SERVICES SUPERVISOR ASST
INTEGRATED CASE WORKER
LABORATORY TECHNICIAN
LIBRARIAN
LIBRARIAN MUSEUM COORDINATOR
LIBRARY MUSEUM ASSISTANT
LIBRARY SPECIALIST
MANAGER PROGRESS HOUSE
MANAGER PROGRESS HOUSE TRAINEE
MHSA COORDINATOR
MHSA COORDINATOR LICENSED
MITIGATION PROJECT MANAGER
MUSEUM CURATOR COLL & EXHIBITS
NETWORK ANALYST
NURSE PUBLIC HEALTH
NURSE REGISTERED
NURSE REGISTERED BEHAV HEALTH
NURSE SUPERVISING
OFFICE CLERK
OFFICE TECHNICIAN
OPERATIONS MANAGER TECOPA
PARK MOTORPOOL MANAGER
PARK SPECIALIST
PLANNING ASSISTANT
PLANNING ASSOCIATE
PLANNING SENIOR
PLANNING TRANSPORTATION
PLANNING TRANSPORTATION SENIOR
PREVENTION MANAGER

ATTACHMENT B
ICEA REPRESENTED POSITIONS

PREVENTION SPECIALIST
PROGRAM SERVICES ASST
PROGRAMMER ANALYST
PROJECT COORDINATOR
PSYCHOTHERAPIST
PUBLIC ADMIN GUARD DEPUTY
PUBLIC SAFETY DISPATCHER
RE-ENTRY SERVICES COORDINATOR
REGISTERED DIETITIAN NUTRITION
RESEARCH ASSISTANT
ROAD MAINTENANCE SUPERVISOR
ROAD SHOP SUPERVISOR
SALT CEDAR MANAGER
SCIENTIST
SCIENTIST ASSOCIATE
SCIENTIST SENIOR
SECRETARY ADMINISTRATIVE
SECRETARY ADMINISTRATIVE LEGAL
SECRETARY LEGAL
SHELTER ASSISTANT
SOCIAL SERVICES AIDE
SOCIAL WORKER
SOCIAL WORKER SUPERVISOR
VEGETATION MANAGER
VETERAN SERVICES REP
VICTIM WITNESS ASSISTANT
VICTIM WITNESS COORDINATOR

ATTACHMENT C

Sheriff's Department – Dispatch

10:00 a.m. – 8:00 p.m. – Swing Shift

2:00 p.m. – 12:00 a.m. – Swing Shift

4:00 p.m. – 2:00 a.m. – Swing Shift

8:00 p.m. – 6:00 a.m. – Graveyard Shift

Public Works – Custodians

12:30 p.m. – 9:00 p.m. – Swing Shift

4:00 p.m. – 12:30 a.m. – Swing Shift

2:00 p.m. – 11:00 p.m. – Swing Shift

Health and Human Services – Progress House

11:30 a.m. – 9:30 p.m. – Swing Shift

9:15 p.m. – 7:15 a.m. – Graveyard Shift

ATTACHMENT D
MISCELLANEOUS EMPLOYEES
EFFECTIVE SEPTEMBER 21, 2017
(Retro Back to 10/6/16 1% COLA and 7/13/17 1% COLA)

Range	Step A	Step B	Step C	Step D	Step E
039	2182	2288	2407	2526	2651
040	2230	2339	2458	2583	2714
041	2286	2394	2517	2642	2773
042	2334	2446	2574	2707	2837
043	2388	2505	2633	2763	2905
044	2445	2567	2698	2833	2976
045	2498	2626	2756	2900	3044
046	2552	2691	2816	2965	3116
047	2620	2751	2890	3028	3187
048	2686	2809	2952	3107	3255
049	2741	2877	3022	3174	3332
050	2804	2948	3093	3244	3410
051	2871	3017	3163	3322	3482
052	2938	3080	3240	3398	3570
053	3010	3160	3312	3473	3659
054	3074	3235	3388	3556	3739
055	3150	3301	3469	3645	3830
056	3227	3381	3549	3727	3916
057	3297	3465	3636	3817	4006
058	3376	3544	3718	3907	4108
059	3457	3627	3812	4001	4201
060	3541	3714	3900	4099	4301
061	3622	3801	3995	4198	4398
062	3709	3897	4093	4289	4510
063	3791	3983	4188	4394	4613
064	3886	4077	4277	4503	4723
065	3973	4177	4387	4607	4832
066	4067	4274	4493	4714	4951
067	4170	4378	4597	4830	5062
068	4272	4486	4709	4938	5190
069	4374	4591	4822	5059	5309
070	4479	4706	4937	5188	5448
071	4583	4813	5055	5305	5572
072	4693	4932	5173	5427	5701
073	4804	5047	5302	5565	5843
074	4923	5168	5424	5698	5983
075	5040	5295	5551	5832	6126
076	5161	5417	5694	5977	6275
077	5282	5544	5826	6119	6422
078	5410	5675	5963	6261	6574
079	5536	5816	6104	6409	6733
080	5671	5958	6259	6569	6897
081	5806	6103	6405	6728	7060
082	5957	6248	6564	6892	7233
083	6103	6405	6728	7054	7416
084	6254	6564	6892	7233	7601
085	6407	6728	7054	7416	7789
086	6565	6892	7233	7601	7979
087	6729	7054	7416	7789	8173
088	6896	7233	7601	7979	8379
089	7070	7416	7789	8173	8586
090	7242	7601	7979	8379	8805
091	7422	7789	8173	8586	9018
092	7606	7979	8379	8805	9246
093	7797	8173	8586	9018	9471
094	7982	8379	8805	9246	9708
095	8179	8586	9018	9471	9954
096	8386	8805	9246	9708	10198
097	8592	9018	9471	9954	10447
098	8809	9246	9708	10198	10710
099	9022	9471	9954	10447	10973

ATTACHMENT D
MISCELLANEOUS EMPLOYEES
EFFECTIVE JULY 12, 2018
2% COLA

Range	Step A	Step B	Step C	Step D	Step E
039	2226	2334	2455	2577	2704
040	2275	2386	2507	2635	2768
041	2332	2442	2567	2695	2828
042	2381	2495	2625	2761	2894
043	2436	2555	2686	2818	2963
044	2494	2618	2752	2890	3036
045	2548	2679	2811	2958	3105
046	2603	2745	2872	3024	3178
047	2672	2806	2948	3089	3251
048	2740	2865	3011	3169	3320
049	2796	2935	3082	3237	3399
050	2860	3007	3155	3309	3478
051	2928	3077	3226	3388	3552
052	2997	3142	3305	3466	3641
053	3070	3223	3378	3542	3732
054	3135	3300	3456	3627	3814
055	3213	3367	3538	3718	3907
056	3292	3449	3620	3802	3994
057	3363	3534	3709	3893	4086
058	3444	3615	3792	3985	4190
059	3526	3700	3888	4081	4285
060	3612	3788	3978	4181	4387
061	3694	3877	4075	4282	4486
062	3783	3975	4175	4375	4600
063	3867	4063	4272	4482	4705
064	3964	4159	4363	4593	4817
065	4052	4261	4475	4699	4929
066	4148	4359	4583	4808	5050
067	4253	4466	4689	4927	5163
068	4357	4576	4803	5037	5294
069	4461	4683	4918	5160	5415
070	4569	4800	5036	5292	5557
071	4675	4909	5156	5411	5683
072	4787	5031	5276	5536	5815
073	4900	5148	5408	5676	5960
074	5021	5271	5532	5812	6103
075	5141	5401	5662	5949	6249
076	5264	5525	5808	6097	6400
077	5388	5655	5943	6241	6550
078	5518	5788	6082	6386	6705
079	5647	5932	6226	6537	6868
080	5784	6077	6384	6700	7035
081	5922	6225	6533	6863	7201
082	6076	6373	6695	7030	7378
083	6225	6533	6863	7195	7564
084	6379	6695	7030	7378	7753
085	6535	6863	7195	7564	7945
086	6696	7030	7378	7753	8139
087	6864	7195	7564	7945	8336
088	7034	7378	7753	8139	8547
089	7211	7564	7945	8336	8758
090	7387	7753	8139	8547	8981
091	7570	7945	8336	8758	9198
092	7758	8139	8547	8981	9431
093	7953	8336	8758	9198	9660
094	8142	8547	8981	9431	9902
095	8343	8758	9198	9660	10153
096	8554	8981	9431	9902	10402
097	8764	9198	9660	10153	10656
098	8985	9431	9902	10402	10924
099	9202	9660	10153	10656	11192

ATTACHMENT D
MISCELLANEOUS EMPLOYEES
EFFECTIVE JULY 11, 2019
2% COLA

Range	Step A	Step B	Step C	Step D	Step E
039	2,271	2,381	2,504	2,629	2,758
040	2,320	2,434	2,557	2,688	2,823
041	2,379	2,491	2,618	2,749	2,885
042	2,429	2,545	2,678	2,816	2,952
043	2,485	2,606	2,740	2,874	3,022
044	2,544	2,670	2,807	2,948	3,097
045	2,599	2,733	2,867	3,017	3,167
046	2,655	2,800	2,929	3,084	3,242
047	2,725	2,862	3,007	3,151	3,316
048	2,795	2,922	3,071	3,232	3,386
049	2,852	2,994	3,144	3,302	3,467
050	2,917	3,067	3,218	3,375	3,548
051	2,987	3,139	3,291	3,456	3,623
052	3,057	3,205	3,371	3,535	3,714
053	3,131	3,287	3,446	3,613	3,807
054	3,198	3,366	3,525	3,700	3,890
055	3,277	3,434	3,609	3,792	3,985
056	3,358	3,518	3,692	3,878	4,074
057	3,430	3,605	3,783	3,971	4,168
058	3,513	3,687	3,868	4,065	4,274
059	3,597	3,774	3,966	4,163	4,371
060	3,684	3,864	4,058	4,265	4,475
061	3,768	3,955	4,156	4,368	4,576
062	3,859	4,054	4,258	4,462	4,692
063	3,944	4,144	4,357	4,572	4,799
064	4,043	4,242	4,450	4,685	4,913
065	4,133	4,346	4,564	4,793	5,028
066	4,231	4,446	4,675	4,904	5,151
067	4,338	4,555	4,783	5,026	5,266
068	4,444	4,668	4,899	5,138	5,400
069	4,550	4,777	5,016	5,263	5,523
070	4,660	4,896	5,137	5,398	5,668
071	4,768	5,007	5,259	5,519	5,797
072	4,883	5,132	5,382	5,647	5,931
073	4,998	5,251	5,516	5,790	6,079
074	5,121	5,376	5,643	5,928	6,225
075	5,244	5,509	5,775	6,068	6,374
076	5,369	5,636	5,924	6,219	6,528
077	5,496	5,768	6,062	6,366	6,681
078	5,628	5,904	6,204	6,514	6,839
079	5,760	6,051	6,351	6,668	7,005
080	5,900	6,199	6,512	6,834	7,176
081	6,040	6,350	6,664	7,000	7,345
082	6,198	6,500	6,829	7,171	7,526
083	6,350	6,664	7,000	7,339	7,715
084	6,507	6,829	7,171	7,526	7,908
085	6,666	7,000	7,339	7,715	8,104
086	6,830	7,171	7,526	7,908	8,302
087	7,001	7,339	7,715	8,104	8,503
088	7,175	7,526	7,908	8,302	8,718
089	7,355	7,715	8,104	8,503	8,933
090	7,535	7,908	8,302	8,718	9,161
091	7,721	8,104	8,503	8,933	9,382
092	7,913	8,302	8,718	9,161	9,620
093	8,112	8,503	8,933	9,382	9,853
094	8,305	8,718	9,161	9,620	10,100
095	8,510	8,933	9,382	9,853	10,356
096	8,725	9,161	9,620	10,100	10,610
097	8,939	9,382	9,853	10,356	10,869
098	9,165	9,620	10,100	10,610	11,142
099	9,386	9,853	10,356	10,869	11,416

ATTACHMENT D
MISCELLANEOUS EMPLOYEES
EFFECTIVE JULY 9, 2020
2% COLA

Range	Step A	Step B	Step C	Step D	Step E
039	2,316	2,429	2,554	2,682	2,813
040	2,366	2,483	2,608	2,742	2,879
041	2,427	2,541	2,670	2,804	2,943
042	2,478	2,596	2,732	2,872	3,011
043	2,535	2,658	2,795	2,931	3,082
044	2,595	2,723	2,863	3,007	3,159
045	2,651	2,788	2,924	3,077	3,230
046	2,708	2,856	2,988	3,146	3,307
047	2,780	2,919	3,067	3,214	3,382
048	2,851	2,980	3,132	3,297	3,454
049	2,909	3,054	3,207	3,368	3,536
050	2,975	3,128	3,282	3,442	3,619
051	3,047	3,202	3,357	3,525	3,695
052	3,118	3,269	3,438	3,606	3,788
053	3,194	3,353	3,515	3,685	3,883
054	3,262	3,433	3,596	3,774	3,968
055	3,343	3,503	3,681	3,868	4,065
056	3,425	3,588	3,766	3,956	4,155
057	3,499	3,677	3,859	4,050	4,251
058	3,583	3,761	3,945	4,146	4,359
059	3,669	3,849	4,045	4,246	4,458
060	3,758	3,941	4,139	4,350	4,564
061	3,843	4,034	4,239	4,455	4,668
062	3,936	4,135	4,343	4,551	4,786
063	4,023	4,227	4,444	4,663	4,895
064	4,124	4,327	4,539	4,779	5,011
065	4,216	4,433	4,655	4,889	5,129
066	4,316	4,535	4,768	5,002	5,254
067	4,425	4,646	4,879	5,127	5,371
068	4,533	4,761	4,997	5,241	5,508
069	4,641	4,873	5,116	5,368	5,633
070	4,753	4,994	5,240	5,506	5,781
071	4,863	5,107	5,364	5,629	5,913
072	4,981	5,235	5,490	5,760	6,050
073	5,098	5,356	5,626	5,906	6,201
074	5,223	5,484	5,756	6,047	6,350
075	5,349	5,619	5,890	6,189	6,501
076	5,476	5,749	6,042	6,343	6,659
077	5,606	5,883	6,183	6,493	6,815
078	5,741	6,022	6,328	6,644	6,976
079	5,875	6,172	6,478	6,801	7,145
080	6,018	6,323	6,642	6,971	7,320
081	6,161	6,477	6,797	7,140	7,492
082	6,322	6,630	6,966	7,314	7,677
083	6,477	6,797	7,140	7,486	7,869
084	6,637	6,966	7,314	7,677	8,066
085	6,799	7,140	7,486	7,869	8,266
086	6,967	7,314	7,677	8,066	8,468
087	7,141	7,486	7,869	8,266	8,673
088	7,318	7,677	8,066	8,468	8,892
089	7,502	7,869	8,266	8,673	9,112
090	7,686	8,066	8,468	8,892	9,344
091	7,875	8,266	8,673	9,112	9,570
092	8,071	8,468	8,892	9,344	9,812
093	8,274	8,673	9,112	9,570	10,050
094	8,471	8,892	9,344	9,812	10,302
095	8,680	9,112	9,570	10,050	10,563
096	8,900	9,344	9,812	10,302	10,822
097	9,118	9,570	10,050	10,563	11,086
098	9,348	9,812	10,302	10,822	11,365
099	9,574	10,050	10,563	11,086	11,644

ATTACHMENT D
PART TIME EMPLOYEES - EIGHT HOUR
EFFECTIVE SEPTEMBER 21, 2017
(Retro Back to 10/6/16 1% COLA and 7/13/17 1% COLA)

Range	Step A	Step B	Step C	Step D	Step E
039PT	11.691	12.277	12.905	13.525	14.200
040PT	11.960	12.539	13.180	13.835	14.538
041PT	12.263	12.842	13.497	14.166	14.862
042PT	12.505	13.104	13.801	14.490	15.214
043PT	12.801	13.428	14.111	14.821	15.572
044PT	13.098	13.766	14.449	15.193	15.951
045PT	13.394	14.076	14.773	15.538	16.324
046PT	13.690	14.414	15.083	15.889	16.689
047PT	14.035	14.738	15.483	16.241	17.075
048PT	14.052	15.062	15.814	16.634	17.447
049PT	14.676	15.421	16.186	17.013	17.854
050PT	15.048	15.793	16.586	17.385	18.268
051PT	15.386	16.151	16.958	17.806	18.667
052PT	15.745	16.524	17.365	18.212	19.129
053PT	16.117	16.944	17.758	18.619	19.619
054PT	16.482	17.330	18.150	19.060	20.039
055PT	16.882	17.702	18.599	19.536	20.522
056PT	17.282	18.137	19.019	19.963	20.997
057PT	17.675	18.571	19.474	20.446	21.473
058PT	18.095	18.998	19.929	20.949	22.011
059PT	18.523	19.433	20.418	21.445	22.514
060PT	18.978	19.908	20.901	21.956	23.045
061PT	19.412	20.370	21.425	22.493	23.582
062PT	19.881	20.880	21.914	22.997	24.175
063PT	20.322	21.342	22.445	23.562	24.713
064PT	20.825	21.852	22.934	24.127	25.313
065PT	21.294	22.397	23.507	24.679	25.892
066PT	21.797	22.914	24.079	25.264	26.540
067PT	22.349	23.458	24.630	25.878	27.139
068PT	22.900	24.044	25.230	26.471	27.815
069PT	23.438	24.596	25.837	27.126	28.449
070PT	24.003	25.216	26.464	27.801	29.173
071PT	24.554	25.788	27.105	28.435	29.849
072PT	25.154	26.436	27.725	29.090	30.559
073PT	25.754	27.057	28.422	29.814	31.310
074PT	26.374	27.698	29.070	30.538	32.055
075PT	27.002	28.387	29.752	31.241	32.833
076PT	27.650	29.035	30.517	32.020	33.633
077PT	28.304	29.725	31.220	32.785	34.412
078PT	28.980	30.407	31.958	33.571	35.239
079PT	29.683	31.165	32.716	34.350	36.087
080PT	30.379	31.924	33.557	35.205	36.963
081PT	31.131	32.709	34.336	36.053	37.831
082PT	31.917	33.481	35.184	36.942	38.762
083PT	32.709	34.336	36.053	37.797	39.741
084PT	33.523	35.184	36.942	38.762	40.740
085PT	34.343	36.053	37.797	39.741	41.740
086PT	35.191	36.942	38.762	40.740	42.767
087PT	36.060	37.797	39.741	41.740	43.808
088PT	36.956	38.762	40.740	42.767	44.911
089PT	37.893	39.741	41.740	43.808	46.007
090PT	38.813	40.740	42.767	44.911	47.190
091PT	39.776	41.740	43.808	46.007	48.333
092PT	40.762	42.767	44.911	47.190	49.546
093PT	41.789	43.808	46.007	48.333	50.758
094PT	42.787	44.911	47.190	49.546	52.029
095PT	43.837	46.007	48.333	50.758	53.340
096PT	44.945	47.190	49.546	52.029	54.657
097PT	46.047	48.333	50.758	53.340	55.991
098PT	47.213	49.546	52.029	54.657	57.395
099PT	48.356	50.758	53.340	55.991	58.799

ATTACHMENT D
PART TIME EMPLOYEES - EIGHT HOUR
EFFECTIVE JULY 12, 2018
2% COLA

Range	Step A	Step B	Step C	Step D	Step E
039PT	11.925	12.523	13.163	13.795	14.484
040PT	12.199	12.790	13.444	14.112	14.829
041PT	12.509	13.099	13.767	14.449	15.160
042PT	12.755	13.367	14.077	14.780	15.518
043PT	13.057	13.697	14.393	15.117	15.884
044PT	13.359	14.042	14.738	15.497	16.270
045PT	13.662	14.358	15.068	15.849	16.650
046PT	13.964	14.702	15.385	16.207	17.023
047PT	14.316	15.033	15.792	16.566	17.417
048PT	14.333	15.363	16.130	16.967	17.796
049PT	14.970	15.729	16.509	17.353	18.211
050PT	15.349	16.109	16.917	17.733	18.633
051PT	15.694	16.474	17.297	18.162	19.041
052PT	16.060	16.854	17.712	18.577	19.512
053PT	16.439	17.283	18.113	18.992	20.011
054PT	16.812	17.677	18.513	19.442	20.440
055PT	17.220	18.056	18.970	19.927	20.932
056PT	17.627	18.499	19.399	20.363	21.417
057PT	18.028	18.942	19.863	20.855	21.903
058PT	18.457	19.378	20.328	21.368	22.451
059PT	18.893	19.821	20.827	21.874	22.964
060PT	19.357	20.306	21.319	22.395	23.506
061PT	19.800	20.778	21.853	22.943	24.054
062PT	20.278	21.298	22.353	23.456	24.659
063PT	20.728	21.769	22.894	24.033	25.207
064PT	21.242	22.289	23.393	24.610	25.819
065PT	21.720	22.845	23.977	25.172	26.410
066PT	22.233	23.372	24.560	25.770	27.071
067PT	22.796	23.928	25.123	26.396	27.682
068PT	23.358	24.525	25.735	27.000	28.371
069PT	23.906	25.088	26.353	27.668	29.018
070PT	24.483	25.721	26.993	28.357	29.756
071PT	25.046	26.304	27.647	29.004	30.446
072PT	25.657	26.965	28.280	29.672	31.170
073PT	26.269	27.598	28.990	30.410	31.936
074PT	26.902	28.252	29.651	31.149	32.696
075PT	27.542	28.955	30.347	31.866	33.490
076PT	28.203	29.616	31.128	32.660	34.306
077PT	28.871	30.319	31.845	33.441	35.100
078PT	29.560	31.015	32.597	34.242	35.944
079PT	30.277	31.789	33.371	35.037	36.809
080PT	30.987	32.562	34.228	35.909	37.702
081PT	31.753	33.364	35.023	36.774	38.588
082PT	32.555	34.151	35.888	37.681	39.537
083PT	33.364	35.023	36.774	38.553	40.536
084PT	34.193	35.888	37.681	39.537	41.555
085PT	35.030	36.774	38.553	40.536	42.575
086PT	35.895	37.681	39.537	41.555	43.622
087PT	36.781	38.553	40.536	42.575	44.684
088PT	37.695	39.537	41.555	43.622	45.809
089PT	38.651	40.536	42.575	44.684	46.927
090PT	39.589	41.555	43.622	45.809	48.134
091PT	40.571	42.575	44.684	46.927	49.300
092PT	41.577	43.622	45.809	48.134	50.537
093PT	42.625	44.684	46.927	49.300	51.773
094PT	43.642	45.809	48.134	50.537	53.069
095PT	44.714	46.927	49.300	51.773	54.407
096PT	45.844	48.134	50.537	53.069	55.750
097PT	46.968	49.300	51.773	54.407	57.111
098PT	48.158	50.537	53.069	55.750	58.543
099PT	49.323	51.773	54.407	57.111	59.975

ATTACHMENT D
PART TIME EMPLOYEES - EIGHT HOUR
EFFECTIVE JULY 11, 2019
2% COLA

Range	Step A	Step B	Step C	Step D	Step E	Step F	Step G
039PT	12.16	12.77	13.43	14.07	14.77	-	-
040PT	12.44	13.05	13.71	14.39	15.13	-	-
041PT	12.76	13.36	14.04	14.74	15.46	-	-
042PT	13.01	13.63	14.36	15.08	15.83	-	-
043PT	13.32	13.97	14.68	15.42	16.20	-	-
044PT	13.63	14.32	15.03	15.81	16.60	-	-
045PT	13.94	14.65	15.37	16.17	16.98	-	-
046PT	14.24	15.00	15.69	16.53	17.36	-	-
047PT	14.60	15.33	16.11	16.90	17.76	-	-
048PT	14.62	15.67	16.45	17.31	18.15	-	-
049PT	15.27	16.04	16.84	17.70	18.58	-	-
050PT	15.66	16.43	17.26	18.09	19.01	-	-
051PT	16.01	16.80	17.64	18.53	19.42	-	-
052PT	16.38	17.19	18.07	18.95	19.90	-	-
053PT	16.77	17.63	18.47	19.37	20.41	-	-
054PT	17.15	18.03	18.88	19.83	20.85	-	-
055PT	17.56	18.42	19.35	20.33	21.35	-	-
056PT	17.98	18.87	19.79	20.77	21.85	-	-
057PT	18.39	19.32	20.26	21.27	22.34	-	-
058PT	18.83	19.77	20.73	21.80	22.90	-	-
059PT	19.27	20.22	21.24	22.31	23.42	-	-
060PT	19.74	20.71	21.75	22.84	23.98	-	-
061PT	20.20	21.19	22.29	23.40	24.54	-	-
062PT	20.68	21.72	22.80	23.93	25.15	-	-
063PT	21.14	22.20	23.35	24.51	25.71	-	-
064PT	21.67	22.74	23.86	25.10	26.34	-	-
065PT	22.15	23.30	24.46	25.68	26.94	-	-
066PT	22.68	23.84	25.05	26.29	27.61	-	-
067PT	23.25	24.41	25.63	26.92	28.24	-	-
068PT	23.83	25.02	26.25	27.54	28.94	-	-
069PT	24.38	25.59	26.88	28.22	29.60	-	-
070PT	24.97	26.23	27.53	28.92	30.35	-	-
071PT	25.55	26.83	28.20	29.58	31.05	-	-
072PT	26.17	27.50	28.85	30.27	31.79	-	-
073PT	26.79	28.15	29.57	31.02	32.57	-	-
074PT	27.44	28.82	30.24	31.77	33.35	-	-
075PT	28.09	29.53	30.95	32.50	34.16	-	-
076PT	28.77	30.21	31.75	33.31	34.99	-	-
077PT	29.45	30.93	32.48	34.11	35.80	-	-
078PT	30.15	31.64	33.25	34.93	36.66	-	-
079PT	30.88	32.42	34.04	35.74	37.55	-	-
080PT	31.61	33.21	34.91	36.63	38.46	-	-
081PT	32.39	34.03	35.72	37.51	39.36	-	-
082PT	33.21	34.83	36.61	38.43	40.33	-	-
083PT	34.03	35.72	37.51	39.32	41.35	-	-
084PT	34.88	36.61	38.43	40.33	42.39	-	-
085PT	35.73	37.51	39.32	41.35	43.43	-	-
086PT	36.61	38.43	40.33	42.39	44.49	-	-
087PT	37.52	39.32	41.35	43.43	45.58	-	-
088PT	38.45	40.33	42.39	44.49	46.73	-	-
089PT	39.42	41.35	43.43	45.58	47.87	-	-
090PT	40.38	42.39	44.49	46.73	49.10	-	-
091PT	41.38	43.43	45.58	47.87	50.29	-	-
092PT	42.41	44.49	46.73	49.10	51.55	-	-
093PT	43.48	45.58	47.87	50.29	52.81	-	-
094PT	44.52	46.73	49.10	51.55	54.13	-	-
095PT	45.61	47.87	50.29	52.81	55.49	-	-
096PT	46.76	49.10	51.55	54.13	56.86	-	-
097PT	47.91	50.29	52.81	55.49	58.25	-	-
098PT	49.12	51.55	54.13	56.86	59.71	-	-
099PT	50.31	52.81	55.49	58.25	61.17	134.34	173.40

ATTACHMENT D
PART TIME EMPLOYEES - EIGHT HOUR
EFFECTIVE JULY 9, 2020
2% COLA

Range	Step A	Step B	Step C	Step D	Step E	Step F	Step G
039PT	12.41	13.03	13.69	14.35	15.07	-	-
040PT	12.69	13.31	13.99	14.68	15.43	-	-
041PT	13.01	13.63	14.32	15.03	15.77	-	-
042PT	13.27	13.91	14.65	15.38	16.15	-	-
043PT	13.58	14.25	14.97	15.73	16.53	-	-
044PT	13.90	14.61	15.33	16.12	16.93	-	-
045PT	14.21	14.94	15.68	16.49	17.32	-	-
046PT	14.53	15.30	16.01	16.86	17.71	-	-
047PT	14.89	15.64	16.43	17.24	18.12	-	-
048PT	14.91	15.98	16.78	17.65	18.52	-	-
049PT	15.57	16.36	17.18	18.05	18.95	-	-
050PT	15.97	16.76	17.60	18.45	19.39	-	-
051PT	16.33	17.14	18.00	18.90	19.81	-	-
052PT	16.71	17.53	18.43	19.33	20.30	-	-
053PT	17.10	17.98	18.84	19.76	20.82	-	-
054PT	17.49	18.39	19.26	20.23	21.27	-	-
055PT	17.92	18.79	19.74	20.73	21.78	-	-
056PT	18.34	19.25	20.18	21.19	22.28	-	-
057PT	18.76	19.71	20.67	21.70	22.79	-	-
058PT	19.20	20.16	21.15	22.23	23.36	-	-
059PT	19.66	20.62	21.67	22.76	23.89	-	-
060PT	20.14	21.13	22.18	23.30	24.46	-	-
061PT	20.60	21.62	22.74	23.87	25.03	-	-
062PT	21.10	22.16	23.26	24.40	25.66	-	-
063PT	21.57	22.65	23.82	25.00	26.23	-	-
064PT	22.10	23.19	24.34	25.60	26.86	-	-
065PT	22.60	23.77	24.95	26.19	27.48	-	-
066PT	23.13	24.32	25.55	26.81	28.16	-	-
067PT	23.72	24.89	26.14	27.46	28.80	-	-
068PT	24.30	25.52	26.77	28.09	29.52	-	-
069PT	24.87	26.10	27.42	28.79	30.19	-	-
070PT	25.47	26.76	28.08	29.50	30.96	-	-
071PT	26.06	27.37	28.76	30.18	31.68	-	-
072PT	26.69	28.05	29.42	30.87	32.43	-	-
073PT	27.33	28.71	30.16	31.64	33.23	-	-
074PT	27.99	29.39	30.85	32.41	34.02	-	-
075PT	28.65	30.12	31.57	33.15	34.84	-	-
076PT	29.34	30.81	32.39	33.98	35.69	-	-
077PT	30.04	31.54	33.13	34.79	36.52	-	-
078PT	30.75	32.27	33.91	35.63	37.40	-	-
079PT	31.50	33.07	34.72	36.45	38.30	-	-
080PT	32.24	33.88	35.61	37.36	39.23	-	-
081PT	33.04	34.71	36.44	38.26	40.15	-	-
082PT	33.87	35.53	37.34	39.20	41.13	-	-
083PT	34.71	36.44	38.26	40.11	42.17	-	-
084PT	35.57	37.34	39.20	41.13	43.23	-	-
085PT	36.45	38.26	40.11	42.17	44.29	-	-
086PT	37.34	39.20	41.13	43.23	45.38	-	-
087PT	38.27	40.11	42.17	44.29	46.49	-	-
088PT	39.22	41.13	43.23	45.38	47.66	-	-
089PT	40.21	42.17	44.29	46.49	48.82	-	-
090PT	41.19	43.23	45.38	47.66	50.08	-	-
091PT	42.21	44.29	46.49	48.82	51.29	-	-
092PT	43.26	45.38	47.66	50.08	52.58	-	-
093PT	44.35	46.49	48.82	51.29	53.86	-	-
094PT	45.41	47.66	50.08	52.58	55.21	-	-
095PT	46.52	48.82	51.29	53.86	56.60	-	-
096PT	47.70	50.08	52.58	55.21	58.00	-	-
097PT	48.87	51.29	53.86	56.60	59.42	-	-
098PT	50.10	52.58	55.21	58.00	60.91	-	-
099PT	51.32	53.86	56.60	59.42	62.40	137.03	176.87

**ATTACHMENT D
PART TIME EMPLOYEES - SEVEN HOUR
EFFECTIVE SEPTEMBER 21, 2017
(Retro Back to 10/6/16 COLA 1% and 7/13/17 1% COLA)**

Range	Step A	Step B	Step C	Step D	Step E
042P7	14.291	14.976	15.772	16.560	17.387
044P7	14.968	15.732	16.512	17.363	18.230
050P7	17.372	18.241	19.153	20.110	21.116
051P7	17.584	18.458	19.380	20.349	21.334

**ATTACHMENT D
PART TIME EMPLOYEES - SEVEN HOUR
EFFECTIVE JULY 12, 2018
2% COLA**

Range	Step A	Step B	Step C	Step D	Step E
042P7	14.576	15.276	16.087	16.891	17.734
044P7	15.267	16.047	16.842	17.710	18.594
050P7	17.719	18.605	19.536	20.513	21.538
051P7	17.935	18.827	19.768	20.756	21.760

upd 4/30/18

**PART-TIME EMPLOYEES - SEVEN HOUR
EFFECTIVE JULY 11, 2019
2% COLA**

Range	Step A	Step B	Step C	Step D	Step E
042P7	14.87	15.58	16.41	17.23	18.09
044P7	15.57	16.37	17.18	18.07	18.97
050P7	18.07	18.98	19.93	20.92	21.97
051P7	18.29	19.20	20.16	21.17	22.20

**PART-TIME EMPLOYEES - SEVEN HOUR
EFFECTIVE JULY 9, 2020
2% COLA**

Range	Step A	Step B	Step C	Step D	Step E
042P7	15.17	15.89	16.74	17.57	18.45
044P7	15.88	16.70	17.52	18.43	19.35
050P7	18.44	19.36	20.33	21.34	22.41
051P7	18.66	19.59	20.57	21.59	22.64

ATTACHMENT E

EMPLOYEE TRAINING, CONTINUING EDUCATION, AND TUITION ASSISTANCE PROGRAM POLICY

STATEMENT OF POLICY

It is the policy of the County of Inyo to encourage training, self-improvement and personal development programs for employees which includes three (3) general categories: on-the-job training; continuing education, and tuition assistance programs. In its discretion, the County may provide limited financial assistance in the form of tuition assistance loans for a given employee's participation in an education program.

ON-THE-JOB TRAINING

Responsibility for developing and assigning on-the-job training programs for employees shall be assumed jointly by the Department Head, Personnel staff, and the employee's supervisor. Such training may include demonstration, assignments of reading matter, lecture courses; seminars, conferences, and/or training courses inside and outside the workplace, or such other devices as may be available for the purpose of improving the effectiveness in broadening the knowledge of employees in the performance of their respective duties. All on-the-job training shall be assigned or otherwise approved in advance by the County and the cost of on-the-job training will be paid by the County.

CONTINUING EDUCATION

Employees who, as a job requirement of their current employment, must utilize certifications or licenses which require renewal or continuing education will have the cost of doing so paid by the County. The time associated with participating in the continuing education program will count as time worked. The continuing education program, course, or class required to renew certificate or license, and associated use of time and travel expense, must be approved in advance by the County, and are expected to be planned in advance of the deadline for acquiring them, and achieved using the most cost-effective means available. The County will not provide reimbursement for continuing education activities and associated costs not approved in advance by the County. Nothing in this policy shall be construed as limiting an employee's ability to select and attend a continuing education program, certificate, license renewal course, or class of his or her choice, at their expense and on their time.

TUITION ASSISTANCE

Personal and professional development of employees can be beneficial to both employees and the County. In this regard, the County understands that some employees on their own initiative and on their own time (outside of work), may wish to voluntarily pursue advanced education programs leading to college degrees, certificates, or professional licenses. Although pursuit of such education programs is not mandated by the County for employees, the County recognizes that an employee's attainment of a degree, certificate, or professional license that is not a job

requirement for their current employment may be a benefit to the County. As such, in accordance with eligibility criteria described below and subject to available funding, the County may provide limited financial assistance to employees in the form of tuition assistance loans that may be satisfied over time through continued County employment.

ELIGIBILITY FOR TUITION ASSISTANCE

To be considered for the Tuition Assistance Program, an individual must be a full-time employee and have received a performance evaluation of “Meet Standards”, “Exceeds Standards”, or “Exemplary” during the most recent rating period. Probationary employees are generally not eligible to be considered for tuition assistance except in the case of probation due to promotional reclassification. The County Administrator/Personnel Director may make exceptions, in his/her sole discretion based upon the potential benefit to the County, for newly hired employees who are already participating in an advanced education program.

In addition, the advanced education program or course(s) must be employment related, a benefit to the County, and be provided through an accredited educational institution. Conferences, conventions, seminars, workshops, short courses, etc. are not eligible for Tuition Assistance Program. Attendance at these types of events will typically be handled at the department level. Programs in specific courses of study that do not result in a degree or certificate may be pursued on a case-by-case basis through on-the-job training.

The advanced education program or course(s) must be pursued on the employee’s personal time and shall not interfere with the employee’s normal workday, and is not considered compensable time. Any scheduling impacts with the employee’s job related duties and responsibilities must have prior approval from the employee’s supervisor or Department Head, and utilize compensatory time off (or accrued leave other than sick leave) or a flexed work schedule.

APPLICATION PROCESS AND ASSISTANCE PLAN

1. PRE-APPROVAL REQUIREMENT

To participate in the Tuition Assistance Program, an employee must be accepted into the course of study for which he/she is seeking tuition assistance, complete an application provided by the Personnel Office, and submit the completed and signed application to the Department Head. The Department Head reviews the application, and provides a recommendation for approval or denial based on whether the employee meets the eligibility requirements, and if the Department Head believes the proposed course of study is relevant to the employee’s current job or professional development, or will otherwise benefit or meet the needs of the County. The Department Head may consult with the County Administrator/Personnel Director regarding County needs, if necessary.

Regardless of his or her recommendation, the Department Head must forward the employee’s completed application for the Tuition Assistance Program to the County Administrator/Personnel Director who, in his or her sole discretion, will determine the employee’s eligibility to participate in the Program in accordance with the criteria outlined in this Policy and his/her understanding of the needs of the County; and, if eligible, approves the

employee's participation in the Tuition Reimbursement Program and the associated level of reimbursement based on available funding in the selected course of study.

If an employee is pursuing a degree program, the entire course of study must be submitted as part of the application. Only those courses within the degree program that are employment related, as determined by the County Administrator /Personnel Director, are eligible to be considered for assistance. Required versus elective courses will be taken into account in this evaluation. Advanced degrees beyond the Masters level are not eligible for this program.

2. CRITERIA

a. Employment Related

Eligibility for tuition assistance will be primarily based on the relevance for the employee's duties and responsibilities at the County, in the context of how the course of study will improve the employee's knowledge or skills as it relates to his/her current position, or to prepare him/her for a higher position within the organization. Course electives which are part of the degree program curriculum, and are chosen by the employee, and are relevant to the employee's current duties and responsibilities and/or professional development as a County employee, may be considered for assistance. The final decision on eligibility for assistance and acceptance into the program will be made by the County Administrator/Personnel Director in his/her sole discretion.

b. Assistance (Loan Agreement)

Once accepted in the Tuition Assistance Program, an employee will be eligible to enter into a tuition loan agreement (promissory note) with the County on terms and conditions specified in the agreement, which will be approved as to form by County Counsel. Among other things, the agreement will provide for the County to loan the employee money toward agreed-upon tuition expenses up to a maximum dollar amount specified in the agreement and within the maximum rates/schedule specified by this Policy. Among other things, the agreement will specify the interest rate applicable to the loan, the term for repayment, and the minimum monthly payments which shall be forgiven under the terms of the agreement for each month that the employee remains employed with County, beginning with the first month thereafter the employee draws upon the loan as described below. The employee will be permitted to draw down funding from the authorized loan amount over time toward approved tuition expenses after submission of satisfactory evidence that the course work associated with the tuition has been successfully completed with at least a grade of C, and provided that the employee has a minimum 2.0 GPA, at an accredited educational institution. Grades are determined by the educational institution. Subject to the maximum rate/schedule set forth in this Policy (see below) and the maximum dollar amounts of individual loan agreements, loan funds can potentially cover up to one hundred percent (100%) of tuition, however, no loan funds will be made available for any course which the employee has not received a minimum C grade (i.e. not C minus or lower). Additionally, the classes taken on an audit basis are not eligible for tuition assistance.

c. Assistance Rate/Schedule

1. *Link to State University Fee*- The maximum amount of loan agreement funds that will be made available for tuition will be set at the highest cost per unit at inland California State University campuses within the Southern California area. Currently, these

campuses include: Bakersfield, Dominguez Hills, Fresno, Fullerton, Los Angeles, Northridge, Pomona and San Bernardino. The Personnel Office will monitor the State University fee annually to ensure that the assistance rate is current in determining the per unit cost of tuition, the tuition cost for up to six units will be divided into the total cost (for example, the FY 2016-2017 Tuition is \$3,174 for up to six units, the per unit cost is \$529 per unit.)

2. *Subject to Available Funding* - Tuition Assistance Program funding will be limited to the Program budget approved by the Inyo County Board of Supervisors as part of the annual County Budget process. Generally, dollars budgeted for each fiscal year will be available on a first-come, first-served basis, with existing tuition loan agreements being prioritized for funding over new applications. In accordance with the terms and conditions specified in the tuition loan agreement, the County will determine the amount of budgeted funds available in a given fiscal year for the employee to draw against for approved tuition expenses, and will earmark (reserve) a portion of the budgeted funds for that purpose.

3. *Grants/Scholarships* - If an employee receives assistance for approved educational classes/programs under the Veterans Administration, other federal/state student aid programs or public grants/scholarships, only the difference, if any, between such assistance and the cost the employee actually incurs, subject to the criteria established for maximum reimbursement, will be eligible for County assistance under this Policy.

4. *Use of Funds* - The purpose of the Tuition Assistance Program is to fund a portion of the cost of tuition for an approved course of study at an accredited institution. However, to the extent that the County Tuition Assistance Program funds are drawn down upon the completion of an approved course of study or discrete class, with a qualifying grade, and in accordance with the approved program application, the maximum rate/schedule specified by this Policy, and the tuition loan agreement, the employee may, in his/her sole discretion, apply funds to the cost of books, materials, supplies, fees for entrance to a university program, or similar expenses.

STEPS FOR PARTICIPATING IN TUITION ASSISTANCE PROGRAM

1. Employee completes a County provided Tuition Assistance Program application and submits it to the Department Head for review. The employee must submit the application to participate in the Tuition Assistance Program for review at least sixty (60) days prior to the beginning of the course of study, but no sooner than the first day of April preceding the fiscal year for which application is being made to the Tuition Assistance Program. As provided for in the Tuition Assistance Program application, the employee must provide a detailed explanation of the course(s) and how the degree and/or course(s) related to the employee's professional development benefit the County of Inyo.

2. The Department Head reviews a signed application for completeness, and provides a recommendation for approval or denial based on whether the employee meets the eligibility requirements, and if the Department Head believes the proposed course of study is relevant to the employee's current job or professional development, or will otherwise benefit or meet the needs of the County. The Department Head will consult with the County Administrator/Personnel Director regarding County needs, if necessary. Regardless of his or her recommendation, the

Department Head forwards the signed and completed application to the County Administrator/Personnel Office for review and consideration.

3. Upon receiving complete applications, including the Department Head's recommendation, the County Administrator/Personnel Office will consider applications on a first-come first-served basis and, in his or her sole discretion will determine the employee's eligibility to participate in the Program in accordance with the criteria outlined in this Policy and his/her understanding of the needs of the County; and, if eligible, approves the employee's participation in the Tuition Reimbursement Program and the associated level of reimbursement based on available funding and selected course of study.

4. Approval or modified approvals of applications for participation in the Tuition Assistance Program will be conditioned on budget availability, and final approval may not be made until adoption of the Final County Budget for the fiscal year in which application to the Tuition Assistance Program is made. Funding will be allocated in the order in which approved or modified applications were received. However, in the event that the number of applications received exceeds the available funding if all were fully funded, funding may be based on those applications that are deemed to provide the greatest potential benefit to the County and may be funded on a limited term basis (e.g. a semester as opposed to a degree program.) Employees already enrolled in an approved degree program in the prior year's Tuition Assistance Program, which maintain a 2.0 or higher GPA will be given top priority for continued funding (based on seniority in the Tuition Assistance Program) if their application is received by April 1 preceding the fiscal year for which application for continued participation in the Tuition Assistance Program is made.

5. Once accepted in the Tuition Assistance Program, the employee will be eligible to enter into the tuition loan agreement (promissory note) with the County on terms and conditions specified in the agreement, which will be approved as to form by County Counsel. See the discussion above under "application process."

6. Upon successful completion of a course that has been approved for tuition assistance under the Program and pursuant to their tuition loan agreement, the employee forwards a copy of their official grade reports, and original tuition receipts to the Personnel Office with a request to draw down their loan. The employee must submit, with each grade report, a separate tuition assistance (loan) approval/acceptance form per semester, trimester or quarter.

7. Request to draw against the loan amount specified in an employee's tuition loan agreement for an approved course must be submitted by the employee within three (3) months after completion of the course(s), but not later than the 31st day of July following the fiscal year in which the course was successfully completed. Request to draw against the loan amount specified in the employee's tuition loan agreement which are submitted after the three (3) month specified deadline, or after July 31st, whichever is less, will not be considered or approved by the Personnel Office.

JOHN H. DOE
Anniversary



08/01/2016 - 07/31/2017

COUNTY OF INYO PERFORMANCE EVALUATION

General Information

Employee:	JOHN H. DOE
Position:	OFFICE TECHNICIAN I
Department:	ASSESSOR
Supervisor:	Jane M. Smith
Type of Review:	Anniversary
Review Period:	08/01/2016 to 07/31/2017

Rating Information

Overall Rating:	3.64	Exceeds Standards	4.50+	Exemplary
Section I Rating:	3.67	Exceeds Standards	3.50 - 4.49	Exceeds Standards
Section II Rating:	3.46	Meets Standards	2.50 - 3.49	Meets Standards
Section III Rating:	3.80	Exceeds Standards	Less than 2.50	Does Not Meet Standards

ATTACHMENT G
COUNTY OF INYO
INTERVIEW RATING FORM

APPLICANT: _____ DATE: _____

POSITION: _____ DEPARTMENT: _____

	Point Value (Standard)	Point Value (Department)	Rater Score	Comments
Employment Application Completed accurately and clearly	5			
Education/Training Does the candidate meet the educational and/or training criteria necessary for this position? Does the candidate demonstrate thorough and current knowledge of profession or position?	25			
Work Experience Does the candidate possess the required work experience to be successful in this position? Length of employment in prior jobs?	25			
Communication Skills Does the candidate have communication skills that are appropriate to this position? Is the candidate able to understand implications of questions and to make clear and direct replies and ideas?	25			
Written Exam Score/Other Applicable Skills and/or Abilities Does the candidate have other skills and abilities necessary to be successful in this position?	10			
Physical Appearance/Demeanor Is the candidate's behavior and appearance appropriate to this position? Poise, tact, neatness, grooming, maturity. Does the candidate present a positive attitude toward the duties and responsibilities of the position?	10			
Other (Determined by Department Head):				
TOTAL points	100			OVERALL RATING: (To be completed by Personnel Staff) If DD214 rec'd, add 4 additional points

Final Rating

Standard Rating is Personnel-recommended point value. Department Heads have the ability to change the standard rating based upon departmental need and position being rated. Departmental changes in point values **MUST BE RECEIVED BY THE PERSONNEL OFFICE, ALONG WITH CATEGORIZED INTERVIEW QUESTIONS, NO LATER THAN 48 HOURS PRIOR TO THE INTERVIEW DATE.**

Raters are to give each candidate a final numerical rating. A passing score can be any rating between 70 and 100 points. Overall rating will be based on a combined average of all scores. Below are scoring bands that act as a guide for determining your final rating.

- An overall rating of 90 to 100 points is **OUTSTANDING.**
- An overall rating of 80 to 89 points is **ABOVE SATISFACTORY.**
- An overall rating of 70 to 79 points is **SATISFACTORY.**
- An overall rating of 69 or fewer points is **UNSATISFACTORY.**

RATER'S SIGNATURE: _____

**COUNTY OF INYO
PANEL INTERVIEW**

**INSTRUCTIONS TO PANEL MEMBERS –
INTERVIEW RATING FORM**

The rating form for each candidate is designed to be compatible with the structured interview used by this panel and to provide the rater with a maximum amount of flexibility in recording reactions to the candidate. The entire form should be completed during and/or immediately following the interview. This will determine the overall rating following each interview.

Rating System:

An overall rating of **Unsatisfactory** (69 points or fewer) indicates a rater judgment that the candidate did not demonstrate the necessary knowledge or abilities required to successfully perform the essential functions of the position based on the criteria being evaluated.

An overall rating of **Satisfactory** (70 to 79 points) indicates a rater judgment of candidate competency to perform the essential functions of the position and a prediction of satisfactory performance of the position based on the criteria being evaluated.

An overall rating of **Above Satisfactory** (80 to 89 points) indicates a rater judgment of above adequate predicted performance of the position based on the criteria being evaluated.

An overall rating of **Outstanding** (90 to 100 points) indicates a rater judgment of advanced knowledge or ability level for the position and a prediction of outstanding performance of the position based on the criteria being evaluated.

760-878-0377- Office 760-878-0465- Fax	 <h2 style="margin: 0;">COUNTY OF INYO</h2> <h3 style="margin: 0;">APPLICATION FOR EMPLOYMENT</h3>	RETURN TO: Inyo County Personnel 224 N. Edwards St. P. O. Box 249 Independence, CA 93526
---	---	--

NAME: (LAST, FIRST, MIDDLE INITIAL)	POSITION APPLIED FOR (please submit one application per position):
--	---

MAILING ADDRESS (Street, City & Zip):	DATE:
--	--------------

DO YOU HAVE A DRIVER'S LICENSE NOW? <input type="checkbox"/> Yes <input type="checkbox"/> No IF YES, WHAT KIND: <input type="checkbox"/> Class A <input type="checkbox"/> Class B <input type="checkbox"/> Class C	PHONE:	EMAIL:
---	---------------	---------------

Have you previously been employed by Inyo County? Yes No Are you a CalPers Retiree? Yes No

List any family members employed by Inyo County: _____

Were you in the U.S. Armed Forces? Yes No If requesting veteran's preference, you must attach a copy of your DD214 prior to the final filing date.

BRANCH _____ from _____ to _____

COMPLETE ONLY IF THE POSITION YOU ARE APPLYING FOR STATES AN AGE REQUIREMENT: Birthdate : MO. _____ DAY _____ YEAR _____

Do you need reasonable accommodation to take an interview or written test? Yes No

Were you ever discharged, released during probation, or have you resigned under pressure or unfavorable circumstances from any employment? Yes No If yes, explain:

EDUCATION:
Highest grade completed:

HIGH SCHOOL	COURSE	GRADUATED <input type="checkbox"/> Yes <input type="checkbox"/> No GED
JUNIOR COLLEGE/COLLEGE	MAJOR UNITS DATE GRAD.	DEGREE
UNIVERSITY/GRADUATE SCHOOL	MAJOR UNITS DATE GRAD.	DEGREE

PROFESSIONAL LICENSES OR REGISTRATIONS HELD:

COMPUTER KNOWLEDGE:

DO YOU SPEAK ANY LANGUAGE OTHER THAN ENGLISH? <input type="checkbox"/> Yes <input type="checkbox"/> No	IF YES, WHICH ONE?
WILL YOU ACCEPT TEMPORARY WORK? <input type="checkbox"/> Yes <input type="checkbox"/> No	WILL YOU ACCEPT PART-TIME WORK? <input type="checkbox"/> Yes <input type="checkbox"/> No

LIST APPRENTICESHIP, TRADE, VOCATIONAL, BUSINESS SCHOOL, MANPOWER TRAINING OR ANY OTHER SPECIAL TRAINING YOU HAVE HAD. INCLUDE TYPE, WHERE ACQUIRED, DATES AND WHETHER COMPLETED SUCCESSFULLY.

LIST ANY VOLUNTEER SERVICE THAT MAY BE RELATED TO THE POSITION FOR WHICH YOU ARE APPLYING. (LIST IN DETAIL - USE ADDITIONAL PAGES IF NECESSARY).

CERTIFICATE OF APPLICANT (*Read carefully before signing-Application must be signed in order to be eligible*)

I hereby certify that all statements made in this application are true, and I agree and understand that any misstatement of material facts herein will cause forfeiture on my part of any employment as an employee in the service of the County of Inyo. I further give permission to thoroughly investigate my references, work record, education and other matters related to my suitability for employment and authorize disclosure of any and all information related to my work records, without giving me prior notice of such disclosure. In addition I hereby release Inyo County, my former employers, and all other persons from any and all claims, demands, or liabilities arising out of or in any way related to such disclosure. I further agree to be fingerprinted, to submit to a complete medical examination by a County physician, upon employment, to furnish such proof of age and citizenship as may be directed.

Signature _____

DO NOT WRITE IN THIS BLOCK - COMPLETE EMPLOYMENT RECORD ON REVERSE

Written:	Interview Date:	Interview Time:
----------	-----------------	-----------------

ALL INFORMATION CONTAINED ON OR ATTACHED TO THE EMPLOYMENT APPLICATION IS CONSIDERED CONFIDENTIAL INFORMATION AND IS NOT SUBJECT TO PUBLIC DISCLOSURE WITHOUT THE CANDIDATE'S EXPRESSED PERMISSION.

EMPLOYMENT RECORD: Beginning with your present or most recent job, show a complete record of your employment. Describe in detail any aspects of your experience or activities that are particularly appropriate for the position for which you are applying. *You may not submit resume in lieu of completing the Employment Record form. We will evaluate your qualifications based solely on the information entered into the Employment Record form. It is not acceptable to complete the application with statements like "See/Refer to resume" or "See attached".*

FROM (Mo - Yr)	TO (Mo - Yr)	JOB TITLE OR OCCUPATION	
EMPLOYER'S NAME AND ADDRESS		REASON FOR LEAVING	
DESCRIPTION OF DUTIES:			
YOUR SUPERVISOR'S NAME		PART-TIME <input type="checkbox"/> FULL-TIME <input type="checkbox"/>	

FROM (Mo - Yr)	TO (Mo - Yr)	JOB TITLE OR OCCUPATION	
EMPLOYER'S NAME AND ADDRESS		REASON FOR LEAVING	
DESCRIPTION OF DUTIES:			
YOUR SUPERVISOR'S NAME		PART-TIME <input type="checkbox"/> FULL-TIME <input type="checkbox"/>	

FROM (Mo - Yr)	TO (Mo - Yr)	JOB TITLE OR OCCUPATION	
EMPLOYER'S NAME AND ADDRESS		REASON FOR LEAVING	
DESCRIPTION OF DUTIES:			
YOUR SUPERVISOR'S NAME		PART-TIME <input type="checkbox"/> FULL-TIME <input type="checkbox"/>	

FROM (Mo - Yr)	TO (Mo - Yr)	JOB TITLE OR OCCUPATION	
EMPLOYER'S NAME AND ADDRESS		REASON FOR LEAVING	
DESCRIPTION OF DUTIES:			
YOUR SUPERVISOR'S NAME		PART-TIME <input type="checkbox"/> FULL-TIME <input type="checkbox"/>	

Use additional sheets if necessary to continue your employment history or to describe in greater detail any aspects of your experience or activities that are particularly appropriate for the position for which you are applying.

Inyo County Personnel Department
Employment Application Form – Page 3

THIS PORTION OF THE APPLICATION IS NOT AVAILABLE TO AN INTERVIEW BOARD

AN EQUAL OPPORTUNITY-AFFIRMATIVE ACTION EMPLOYER - Please help us comply with the state and Federal law by completing this section. While you are not required to complete this section, you should know that if you leave it blank we have the right to enter data for this purpose based upon our visual assessment. To demonstrate that we meet equal employment opportunity requirements, periodically we must report statistical information about applicants and employees to the California and United States Governments. This information will be kept separate and confidential and will not be used in any unlawful way to make any employment decision. The County of Inyo is an Affirmative Action Employer.

NAME OF APPLICANT _____

DATE _____

TITLE OF POSITION APPLIED FOR _____

Date of Birth _____/_____/_____

Drivers License: State _____ Number _____

Social Security Number: _____

Email Address: _____

Please answer below based upon how you are known in your community. We understand that it may be difficult to choose single ethnic identity if you have a multicultural heritage. Nevertheless to comply with legal guidelines, we would like you to choose only one.

Check Appropriate Box: Male Female Non-Binary

8 WHITE (not of Hispanic Origin): All persons not classified into one of five specific ethnic minority categories that follow.

2 BLACK (not of Hispanic origin): All persons having origin in any of the black racial groups.

7 HISPANIC: All persons of Mexican, Puerto Rican, Cuban, Central or South American, or another Spanish culture or origin, regardless of race.

1 ASIAN or Pacific Islanders other than Filipinos
All persons having origins in any of the original peoples of the Far East, Southeast Asia, or the Pacific Islands. For example, includes China, Japan, Korea, Samoa, the Indian Subcontinent and the Middle East.

3 FILIPINO All persons having origins in the peoples of the Philippine Islands.

5 AMERICAN INDIAN or Alaskan Native. All persons having origins in any of the original peoples of North America.

EMPLOYMENT RECORD: CONTINUATION SHEET

FROM (Mo - Yr)	TO (Mo - Yr)	JOB TITLE OR OCCUPATION	
EMPLOYER'S NAME AND ADDRESS		REASON FOR LEAVING	
DESCRIPTION OF DUTIES:			
YOUR SUPERVISOR'S NAME		PART-TIME <input type="checkbox"/> FULL-TIME <input type="checkbox"/>	

FROM (Mo - Yr)	TO (Mo - Yr)	JOB TITLE OR OCCUPATION	
EMPLOYER'S NAME AND ADDRESS		REASON FOR LEAVING	
DESCRIPTION OF DUTIES:			
YOUR SUPERVISOR'S NAME		PART-TIME <input type="checkbox"/> FULL-TIME <input type="checkbox"/>	

FROM (Mo - Yr)	TO (Mo - Yr)	JOB TITLE OR OCCUPATION	
EMPLOYER'S NAME AND ADDRESS		REASON FOR LEAVING	
DESCRIPTION OF DUTIES:			
YOUR SUPERVISOR'S NAME		PART-TIME <input type="checkbox"/> FULL-TIME <input type="checkbox"/>	

FROM (Mo - Yr)	TO (Mo - Yr)	JOB TITLE OR OCCUPATION	
EMPLOYER'S NAME AND ADDRESS		REASON FOR LEAVING	
DESCRIPTION OF DUTIES:			
YOUR SUPERVISOR'S NAME		PART-TIME <input type="checkbox"/> FULL-TIME <input type="checkbox"/>	

Use additional sheets if necessary to continue your employment history or to describe in greater detail any aspects of your experience or activities that are particularly appropriate for the position for which you are applying.



County of Inyo



County Administrator - Recycling & Waste Management

CONSENT - ACTION REQUIRED

MEETING: November 5, 2019

FROM: Cap Aubrey

SUBJECT: Lone Pine Scale Purchase - Bid Rejection

RECOMMENDED ACTION:

Request Board: A) declare the bids submitted by Best Weigh Scales, LSI Scales, Michelli Measurements Inc, and Mettler-Toledo, LLC for the purchase of a weight scale for the Lone Pine Landfill, as not in the County's best interest; B) reject the bids submitted by Best Weigh Scales, LSI Scales, Michelli Measurements Inc, and Mettler-Toledo, LLC; and C) authorize the Assistant County Administrator to revise and re-advertise the RFP for the purchase of the Lone Pine scale.

SUMMARY/JUSTIFICATION:

On September 26, 2019 bids were opened for the purchase of a scale for the Lone Pine landfill. Inyo County Recycling and Waste Management (ICRWM). Based on review of the bids received, the County determined that awarding a contract at this time is not in the County's best interest. It is staff's assertion that a revised Request for Proposal will yield bids that more closely meet the County's needs. Consequently, staff's recommendation is to reevaluate the County's needs and reissue a bid package.

BACKGROUND/HISTORY OF BOARD ACTIONS:

ALTERNATIVES AND CONSEQUENCES OF NEGATIVE ACTION:

Not approve rejection of bids and proceed with the first round of bids for the scale. This is not recommended because revising and reissuing the Request for Bids will more likely result in bids that better fit the County's needs.

OTHER AGENCY INVOLVEMENT:

County Counsel
Auditor

FINANCING:

This project is funded in the 2019/2020 Recycling Waste Management Budget 045700, object code 5620.

ATTACHMENTS:

APPROVALS:

Teresa Elliott	Created/Initiated - 10/7/2019
Darcy Ellis	Approved - 10/8/2019
Teresa Elliott	Approved - 10/8/2019
Leslie Chapman	Approved - 10/10/2019
Amy Shepherd	Approved - 10/10/2019
Marshall Rudolph	Approved - 10/10/2019
Leslie Chapman	Final Approval - 10/10/2019



County of Inyo



County Counsel

CONSENT - ACTION REQUIRED

MEETING: November 5, 2019

FROM:

SUBJECT:

RECOMMENDED ACTION:

Request Board approve an amended conflict of interest code for the Public Works Department.

SUMMARY/JUSTIFICATION:

This amended version of the Public Works Department's conflict of interest code restores a designated position that was inadvertently omitted in a prior code amendment: specifically, the position of Airport Advisory Committee Member (northern and southern). See Appendix A of the code. The disclosure category for this position (category 3) is the same category applicable to other airport-related positions designated in the code. See Appendix B of the code. We recommend that your Board approve the amended code as the Local Agency Code-Reviewing Body.

BACKGROUND/HISTORY OF BOARD ACTIONS:

ALTERNATIVES AND CONSEQUENCES OF NEGATIVE ACTION:

Your Board could decline to approve the amended code. That is not recommended as the position of Airport Advisory Committee member should be included in the Public Works Department's conflict of interest code (and was previously included until it was inadvertently omitted).

OTHER AGENCY INVOLVEMENT:

FINANCING:

ATTACHMENTS:

1. PW Conflict of Interest Code 2019

APPROVALS:

Marshall Rudolph
Michael Errante

Created/Initiated - 10/21/2019
Approved - 10/21/2019

Darcy Ellis
Marshall Rudolph
Sue Dishion
Amy Shepherd
Marshall Rudolph

Approved - 10/21/2019
Approved - 10/22/2019
Approved - 10/22/2019
Approved - 10/22/2019
Final Approval - 10/22/2019

CONFLICT OF INTEREST CODE OF THE
Public Works **DEPARTMENT**
COUNTY OF INYO, STATE OF CALIFORNIA

SECTION 1. Purpose.

Pursuant to California Government Code section 87300, et seq., the Public Works Department hereby adopts the following Conflict of Interest Code. Nothing contained herein is intended to modify or abridge the provisions of the Political Reform Act of 1974 (Government Code section 81000). The provisions of this Conflict of Interest Code are additional to California Government Code section 87100 and other laws pertaining to conflicts of interest. Except as otherwise indicated, the definitions of said Act and regulations adopted pursuant thereto are incorporated herein and this Conflict of Interest Code shall be interpreted in a manner consistent therewith.

SECTION 2. Designated Positions.

The positions listed on Appendix "A" are designated positions. Employees holding these designated positions are deemed to make, or participate in the making of, decisions which may have a material effect on a financial interest.

SECTION 3. Disclosure Statements.

Each designated position is assigned to one or more of the disclosure categories set forth in Appendix "B". Each employee in a designated position shall file a statement of financial interests disclosing that employee's interest in investments, business positions, real property, and income, designated as reportable under the disclosure category to which the employee's position is assigned by Appendix "A".

Notwithstanding the disclosure category to which a consultant position is assigned by Appendix "A", the Director of the Public Works Department may determine in writing that a particular consultant, although a "designated" position, is hired to perform a range of duties that are limited in scope and, thus, is not required to fully comply with the disclosure requirements of the category designated for consultants on Appendix "A". Such written determination shall include a description of the consultant's duties and, based upon that description, a statement of the extent, if any, of the disclosure requirements for such consultant. Such written determination is a public record and shall be filed and retained for public inspection in the same manner and locations as is required for statements of financial interest.

SECTION 4. Place, Time and Requirements of Filing.

(A) Place of Filing.

All employee's required to file a statement of financial interests shall file the original with the Inyo County Clerk, and a copy with the Director of Public Works.

(B) Time and Content of Filing.

The first statement filed by an employee in a designated position upon the effective date of this Conflict of Interest Code, shall be filed within thirty (30) days after the effective date of this Conflict of Interest Code, and shall disclose investments, business positions, and interest in real property, held on the effective date of this Conflict of Interest Code, and income received twelve (12) months before the effective date of this Conflict of Interest Code. The first statement filed by an employee who assumes a designated position after the effective date of this Conflict of Interest Code, shall be filed within thirty (30) days after assuming such position with the County and shall disclose investments, business positions, and interests in real property held, and income received, during the twelve (12) months before the date of assuming such position. After filing the first statement, each employee in a designated position shall file an annual statement on or before April 1, disclosing reportable investments, business positions, interests in real property held, and income

received, any time during the previous calendar year or since the date the employee assumed the designated position during the calendar year. Every employee in a designated position who leaves a designated position shall file, within thirty (30) days of leaving the position, a statement disclosing reportable investments, business positions, interests in real property held, and income received, at any time during the period between the closing date of the last statement required to be filed, and the date of leaving the position.

SECTION 5. Contents of Disclosure Statement.

Statements of financial interest shall be made on forms supplied by the Inyo County Clerk and shall contain all of the information as required by the current provisions of Government Code sections 87206 and 87207 for interest in investments, business positions, real property, and sources of income designated as reportable under the disclosure category to which the employee's position is assigned on Appendix "A".

SECTION 6. Disqualification.

An employee in a designated position must disqualify himself or herself from making, or participating in the making, or using their official position to influence the making of any decision which will have a material financial effect, as distinguishable from its effect on the public generally, on any financial interest as defined in Section 87103 of the Government Code. No employee in a designated position shall be required to disqualify himself or herself with respect to any matter which could not be legally acted upon or decided without his or her participation.

APPENDIX "A"
CONFLICT OF INTEREST CODE OF THE
Public Works _____ **DEPARTMENT**
COUNTY OF INYO, STATE OF CALIFORNIA

DESIGNATED POSITIONS

<u>Designated Positions</u>	<u>Disclosure Category</u>
Public Works Director/ Road Commissioner	1
Deputy Public Works Director	1
Engineer Senior Civil	1
Engineer Associate	1
Engineer Assistant Civil	1
Engineering Assistant	1
Transportation Planner	1
Project Coordinator	2
Management Analyst	2
Administrative Analyst	2
Airport Supervisor Operations	3
Airport Advisory Committee Member (Northern and Southern)	3
Office Technician	3
Building Associate Official	4
Building Inspector	4
Building Maintenance Lead	5
Building Maintenance Worker	5
Custodian	5
Road Maintenance Supervisor	6
Road Shop Supervisor	6

APPENDIX “B”
DISCLOSURE CATEGORIES
OF THE PUBLIC WORKS DEPARTMENT
COUNTY OF INYO, STATE OF CALIFORNIA

DISCLOSURE CATEGORY ONE (1):

(a) Designated employees shall report any investment, business position, interest in real property or source of income, if the business entity in which the investment or business position is held, the interest in real property, or source of income is located within the County of Inyo or within two miles of the County Boundary.

(b) Designated employees shall disclose all investments, business positions, interests in real property, or sources of income, regardless of where located, if the business entity in which the investment or business position held, the interest in real property, the income or source of income is from any of the following businesses which have done business in Inyo County at any time during the two (2) years prior to the time the statement is filed, currently does any business in Inyo County, or currently has plans to do business in Inyo County.

1. Surveying, engineering and construction firms.
2. Wholesale or retail building supply firms, lumber yards, aggregate mines and/or manufacturing plants, asphalt plants or concrete plants.
3. Wholesale or retail engineering, surveying or construction supplies firms.
4. Aircraft related business including aircraft fuel sales.
5. Accounting firms.
6. Vehicle/equipment repair or vehicle/equipment parts supply firms.
7. Building cleaning/janitorial supplies.

DISCLOSURE CATEGORY TWO (2):

(a) Designated employees shall report any investment, business position, interest in real property or source of income, if the business entity in which the investment or business position is held, the interest in real property, or source of income is located within the County of Inyo or within two miles of the County Boundary.

(b) Designated employees shall disclose all investments, business positions, interests in real property, or sources of income, regardless of where located, if the business entity in which the investment or business position held, the interest in real property, the income or source of income is from any of the following businesses which have done business in Inyo County at any time during the two (2) years prior to the time the statement is filed, currently does any business in Inyo County, or currently has plans to do business in Inyo County.

1. Wholesale or retail office supplies or office equipment.
2. Wholesale or retail engineering, surveying or construction supplies firms.
3. Accounting firms.

DISCLOSURE CATEGORY THREE (3):

(a) Designated employees shall report any investment, business position, interest in real property or source of income, if the business entity in which the investment or business position is held, the interest in real property, or source of income is located within the County of Inyo or within two miles of the County Boundary.

(b) Designated employees shall disclose all investments, business positions, interests in real property, or sources of income, regardless of where located, if the business entity in which the investment or business position held, the interest in real property, the income or source of income is from any of the following businesses which have done business in Inyo County at any time during the two (2) years prior to the time the statement is filed, currently does any business in Inyo County, or currently has plans to do business in Inyo County.

1. Wholesale or retail office supplies or office equipment.
2. Aircraft related business including aircraft fuel sales.
3. Wholesale or retail engineering, surveying or construction supplies firms.

DISCLOSURE CATEGORY FOUR (4):

(a) Designated employees shall report any investment, business position, interest in real property or source of income, if the business entity in which the investment or business position is held, the interest in real property, or source of income is located within the County of Inyo or within two miles of the County Boundary.

(b) Designated employees shall disclose all investments, business positions, interests in real property, or sources of income, regardless of where located, if the business entity in which the investment or business position held, the interest in real property, the income or source of income is from any of the following businesses which have done business in Inyo County at any time during the two (2) years prior to the time the statement is filed, currently does any business in Inyo County, or currently has plans to do business in Inyo County.

1. Surveying, engineering and construction firms.
2. Wholesale or retail building supply firms, lumber yards, aggregate mines and/or manufacturing plants, asphalt plants or concrete plants.

DISCLOSURE CATEGORY FIVE (5):

(a) Designated employees shall report any investment, business position, interest in real property or source of income, if the business entity in which the investment or business position is held, the interest in real property, or source of income is located within the County of Inyo or within two miles of the County Boundary.

(b) Designated employees shall disclose all investments, business positions, interests in real property, or sources of income, regardless of where located, if the business entity in which the investment or business position held, the interest in real property, the income or source of income is from any of the following businesses which have done business in Inyo County at any time during the two (2) years prior to the time the statement is filed, currently does any business in Inyo County, or currently has plans to do business in Inyo County.

1. Building cleaning or janitorial supplies.
2. Sales or Service for building mechanical, electrical or plumbing systems.
3. Wholesale or retail parts for building mechanical, electrical or plumbing systems.
4. Wholesale or retail building supply firms, lumberyards or concrete plants.

DISCLOSURE CATEGORY SIX (6):

(a) Designated employees shall report any investment, business position, interest in real property or source of income, if the business entity in which the investment or business position is held, the interest in real property, or source of income is located within the County of Inyo or within two miles of the County Boundary.

(b) Designated employees shall disclose all investments, business positions, interests in real property, or sources of income, regardless of where located, if the business entity in which the investment or business position held, the interest in real property, the income or source of income is from any of the following businesses which have done business in Inyo County at any time during the two (2) years prior to the time the statement is filed, currently does any business in Inyo County, or currently has plans to do business in Inyo County.

1. Surveying, engineering and construction firms.
2. Wholesale or retail building supply firms, lumber yards, aggregate mines and/or manufacturing plants, asphalt plants or concrete plants.
3. Vehicle/equipment repair or vehicle/equipment parts supply firms.

DICLOSURE CATEGORY SEVEN (7):

Designated employees in Category seven (7), must disclose pursuant to Category one (1) above, except that the Public Works Director/Road Commissioner may determine in writing that a particular consultant, although a “designated position” is hired to perform a range of duties that are limited in scope and thus, is not required to fully comply with the disclosure requirements described in this section. Such written determination shall include a description of the consultants duties and, based upon that description, statement of the extent, if any, of disclosure required. The determination is a public record and shall be retained for public inspection in the same manner and location as this Conflict of Interest Code.



County of Inyo



Health & Human Services - Fiscal

CONSENT - ACTION REQUIRED

MEETING: November 5, 2019

FROM: Melissa Best-Baker

SUBJECT: Bulk purchase of Eastern Sierra Transit Authority (ESTA) Bus Passes for Health & Human Services Programs

RECOMMENDED ACTION:

Request Board approve an annual bulk purchase of Eastern Sierra Transit Authority bus passes for Health & Human Services Programs in an amount not to exceed \$39,359.61.

SUMMARY/JUSTIFICATION:

Health & Human Services requests approval to make our annual bulk purchase of all bus passes for all eligible Health & Human Services programs in order to take advantage of the opportunity to receive a 10% discount towards the price of some of the passes. There are several programs purchasing the passes, and a spreadsheet is attached detailing the amount of passes and amounts charged to each division. The 10% discount savings total that Health & Human Services would realize is \$3,180.49.

The purchase of passes for the ESAAA program allow seniors to get to the Senior centers for the congregate meals and activities, or to their doctor appointments, and are an allowable CDA Title IIIB Transportation cost. The passes for the Eligibility programs are for participants in the program to get to work places and meet their participation requirements. The Wellness Center purchases allow the program participants to become more autonomous in their daily lives and become less dependent on the Mental Health program and staff. The Adult Protective Services, Child Protective Services, and FIRST passes will be used by clients to get to their required appointments or court dates that they must attend to stay compliant with the program.

BACKGROUND/HISTORY OF BOARD ACTIONS:

N/A

ALTERNATIVES AND CONSEQUENCES OF NEGATIVE ACTION:

Denying this request would mean that we would not be able to receive the 10% discount for all of the bus passes and would be delay our ability to provide transportation assistance to clients in these various programs.

OTHER AGENCY INVOLVEMENT:

ESTA

FINANCING:

State, Federal and Realignment funds. The budgets are as follows: ESAAA (683000) - \$21,255.30 in General Operating (5311); Social Services (055800) - \$7,464.51 in Support & Care (5501); Mental Health (045200) - \$8,639.80 in Support & Care (5501); and FIRST (055801) - \$2,000.00 in Support and Care (5501). No County General Funds.

ATTACHMENTS:

1. HHS ESTA 19-20 passes

APPROVALS:

Melissa Best-Baker	Created/Initiated - 10/17/2019
Marilyn Mann	Approved - 10/18/2019
Meaghan McCamman	Approved - 10/18/2019
Melissa Best-Baker	Approved - 10/18/2019
Darcy Ellis	Approved - 10/21/2019
Amy Shepherd	Approved - 10/21/2019
Marilyn Mann	Approved - 10/21/2019
Rhiannon Baker	Final Approval - 10/21/2019



Eastern Sierra Transit Authority

703 Airport Road
P.O. Box 1357
Bishop, CA 93515
760.872.1901

INVOICE

October 11, 2019
Invoice # 191011-02

Inyo County
Health and Human Services

Qty	Unit	Description	Pass Price	Total
58	10 Punch Adult	Bishop Multi-Zone DAR	\$37.80	\$2,192.40
80	10 Punch Adult	Bishop Dial-A-Ride Zone 1	\$27.00	\$2,160.00
75	10 Punch Adult	Lone Pine Multi Zone DAR	\$37.80	\$2,835.00
6	10 Punch Adult	Mammoth Local Dial a Ride	\$27.00	\$162.00
60	10 Punch Adult	Lone Pine-Bishop	\$33.00	\$1,980.00
10	10 Punch Adult	Indy-Bishop	\$29.00	\$290.00
7	10 Punch Adult	Big Pine - Bishop	\$17.00	\$119.00
12	10 Punch Adult	Bishop-Benton	\$54.00	\$648.00
12	10 Punch Adult	Benton-Bishop	\$54.00	\$648.00
29	One Way Adult	Bishop Dar Zone 1 (Local)	\$3.00	\$87.00
620	10 Punch Senior	Bishop DAR Zone 1	\$21.60	\$13,392.00
175	10 Punch Senior	Lone Pine Dial-A-Ride Zone 1	\$21.60	\$3,780.00
10	One Way Adult	Bishop to Carson City	\$37.00	\$370.00
30	One Way Adult	Bishop to Lancaster	\$32.00	\$960.00
20	One Way Adult	Mammoth - Bishop	\$7.00	\$140.00
18	One Way Adult	Bishop - Mammoth	\$7.00	\$126.00
240	One Way Adult	Bishop Multi-Zone DAR	\$4.20	\$1,008.00
20	One Way Adult	Bishop Independence	\$7.00	\$140.00
10	One Way Adult	Lone Pine-Bishop	\$7.25	\$72.50
20	One Way Adult	Bishop-Lone Pine	\$7.25	\$145.00
50	One Way Adult	Tecopa-Pahrump	\$5.50	\$275.00
50	One Way Adult	Pahrump-Tecopa	\$5.50	\$275.00
73	Monthly Passes (Adult)	Bishop	\$108.00	\$7,884.00
33	Monthly Passes (Youth)	Bishop	\$86.40	\$2,851.20
1718		Total price for all passes		\$42,540.10
		30 day pass not eligible for 10% disc		\$10,735.20
		Passes Eligible for 10% discount		\$31,804.90
		10% Bulk Pass Discount		\$3,180.49
		Total Due		\$39,359.61



County of Inyo



Health & Human Services - Social Services

CONSENT - ACTION REQUIRED

MEETING: November 5, 2019

FROM: Tyler Davis

SUBJECT: Agreement with California State University San Bernardino for Learning Site Location

RECOMMENDED ACTION:

Request Board approve the Learning Site Agreement between Inyo County Health and Human Services and the California State University San Bernardino for a five-year term, and authorize the HHS Director to sign the Learning Site Agreement.

SUMMARY/JUSTIFICATION:

The Department has a Social Worker III who is enrolled in a graduate program, with the California State University San Bernardino (CSUSB) to obtain her Masters in Social Work (MSW). As part of her requirements, she must be placed with a Learning Site to complete an internship which includes field practicums. CSUSB has reached out to the Department and asked that we act as her Learning Site.

As her Learning Site, the Department will be agreeing to provide a field instructor (supervisor). The role of the field instructor is to meet with the student regularly to facilitate the student's learning experience, provide support, review progress on assigned tasks, verify service hours and give feedback.

The Department is excited to support our employee by becoming her Learning Site and supporting her while obtaining the required field practicums and meeting the many other requirements that she has to obtain her MSW.

The Department is respectfully requesting your Board approve the Learning Agreement and authorize the HHS Director to sign.

BACKGROUND/HISTORY OF BOARD ACTIONS:

N/A

ALTERNATIVES AND CONSEQUENCES OF NEGATIVE ACTION:

Your Board could choose not to authorize the Department to enter into this agreement. This would limit our team member's ability to meet the internship requirements of the Master's Program she is enrolled in and ultimately impact the Department's ability to have her work in a Social Worker IV status, providing advanced social work services.

OTHER AGENCY INVOLVEMENT:

N/A

FINANCING:

There is no financing involved in this request.

ATTACHMENTS:

1. Learning Site Agreement

APPROVALS:

Tyler Davis	Created/Initiated - 9/30/2019
Keri Oney	Approved - 9/30/2019
Marilyn Mann	Approved - 10/10/2019
Melissa Best-Baker	Approved - 10/11/2019
Meaghan McCamman	Approved - 10/15/2019
Darcy Ellis	Approved - 10/16/2019
Marshall Rudolph	Approved - 10/16/2019
Sue Dishion	Approved - 10/16/2019
Marilyn Mann	Final Approval - 10/17/2019



LEARNING SITE AGREEMENT

This *Learning Site Agreement* ("Agreement") is entered into by and between the Trustees of the California State University (CSU) on behalf of California State University, San Bernardino ("University" or "CSUSB") principally located at 5500 University Parkway, San Bernardino, CA 92407

and Inyo County - Health & Human Services Department ("Learning Site")

located at 163 May St, Bishop, CA 93514

BACKGROUND: The University Procurement & Contracts Department is requested to execute a substantial number of Learning Site Agreements annually. This Learning Site Agreement is intended to streamline the process by authorizing campus departments to place students at sites where a standardized agreement, containing required general terms and conditions, is already executed and in force. Where neither party requires the standard contract language be modified by additions or deletions, students may be placed without further action from Procurement & Contracts. Program specific requirements not explicitly addressed in this agreement do not automatically necessitate the execution of a supplemental agreement. For example, implicit program administrative requirements, which do not affect the substantive rights of the parties, do not require an amendment or supplemental agreement. Only modifications, which materially change the rights or obligations of the parties, or any revision to, or deviation from, the General Provisions, require both parties authorized signatories to execute an amendment or supplemental agreement.

PURPOSE: University offers degree, certificate, or class specific programs in a wide variety of disciplines, which are academically enhanced by practical experiences outside of the traditional classroom setting. The term "University Program", includes any college, school, academic or administrative department located at CSUSB or CSUSB-PDC (Palm Desert Campus), governed by the Trustees of the California State University which may offer programs involving practical experience outside the classroom. In order for specific University programs to place students with a Learning Site, a valid Learning Site Agreement must be in place. Execution of a Learning Site Agreement does not automatically grant University the right to place students with Learning Site at any time or place it desires, nor does it promise or ensure that students will be placed at Learning Site. Placement of students at a Learning Site is at the sole discretion of individual University programs so long as Learning Site is willing and able to accommodate students for the requested duration. Prior to any placement, both the specific University program and Learning Site must mutually agree in writing prior to placement, to the scope of the engagement and to any additional program specific requirements not specified herein.

SCOPE: This agreement is intended to cover *Service Learning, Internships, Field Practicums* and any substantially similar program where University places students with an outside entity as part of his or her educational requirements. Each University program is required to maintain program specific standards, tools and goals, which must be communicated with Learning Site prior to placement of students. These requirements may include, but not be limited to risk assessments and site vetting which may or may not include a site visit; and creation of a program specific Learning Plan. This agreement does not delineate any of these responsibilities. Individual programs are required to develop, maintain, and communicate, as necessary, any additional requirements to Learning Site. Specific program requirements may be incorporated into this agreement by reference as necessary, or from time to time by addendum, upon the request of University Program or Learning Site.

In consideration of the mutual promises and conditions set forth below, the University and the Learning Site agree as follows:

I. RIGHTS AND OBLIGATIONS

A. Program Activities

1. The Learning Site will provide the University's student(s) with a student-focused learning experience in keeping with the student(s) and the University's learning objectives and goals.
2. The Learning Site and the University will meet as necessary to facilitate a mutually beneficial experience for all parties involved, or at the request of any of the parties.

3. The University and the Learning Site shall mutually agree to maximum number of students assigned to the Learning Site at any one time for experience in any given quarter prior to the student(s) arrival at the Learning Site.
4. The length of the time the student(s) will be assigned to the Learning Site shall be mutually agreed to prior to the student(s) arrival at the Learning Site.
5. The University will work closely with the Learning Site to meet the expectations and priorities of the Learning Site as well as the student(s) outcomes.

B. Conflict Resolution and Discipline

6. The Learning Site and the University will meet upon request or as necessary to resolve any potential conflicts and to facilitate a mutually beneficial experience for all involved.
7. The Learning Site may dismiss a student if the student violates its standards, mission or goals. The Learning Site will document its rationale for terminating a student and provide the University with a copy of the rationale upon request.

C. Learning Site's Responsibilities

1. Identify the student's field instructor (supervisor) who satisfies the University's requirements for this role. The field instructor agrees to meet with the student regularly to facilitate the student's learning experience, provide support, review progress on assigned tasks, verify service hours (if required) and give feedback.
2. Provide an orientation that includes a site tour; an introduction to staff; a description of the characteristics of and risks associated with the Learning Site's operations, services and/or clients; a discussion concerning safety policies and emergency procedures; and information detailing where students' check-in and how they log their time.
3. Provide each student with a written description of the student's tasks and responsibilities.
4. Provide appropriate training, equipment, materials and work area for students prior to students performing assigned tasks or working with the Learning Site's clients.
5. Evaluate the quality of student performance in accordance with any program specific requirements mutually agreed to and provided by the University in advance of student(s) arrival.
6. Contact the University if the student fails to perform assigned tasks, engages in misconduct, or does not meet the Learning Site's expectations for any reason.
7. Notify the University as soon as is reasonably possible of any injury or illness to a student participating in a learning activity at the Learning Site.
8. Learning Site retains professional and administrative responsibility for all activity at Learning Site.

D. University's Responsibilities

1. The University will advise the student(s) of their responsibility to:
 - a. Participate in all training required by the Learning Site.
 - b. Exhibit professional, ethical and appropriate behavior when at the Learning Site.
 - c. Complete all assigned tasks and responsibilities in a timely and efficient manner.
 - d. Abide by the Learning Site's rules and standards of conduct.
 - e. Maintain the confidentiality of the Learning Site's proprietary information, records and information concerning its clients.

II. GENERAL PROVISIONS

- A. Term of Agreement** - The term of this Agreement shall begin when fully executed and shall continue for five (5) years from the date of the last signature. Unless otherwise prohibited by law, it shall automatically renew indefinitely (if not terminated sooner in accordance with the termination provisions provided herein) for additional

five (5) year terms under the same terms and conditions. Agreements subject to California Education Code Section 17596 shall not exceed five years in total.

BY CHECKING THE FOLLOWING BOX, LEARNING SITE MAY ELECT TO PROVIDE ADVANCE NOTICE OF TERMINATION. ACCORDINGLY, UPON COMPLETION OF THE INITIAL FIVE (5) YEAR TERM THIS AGREEMENT WILL NOT AUTOMATICALLY RENEW

B. Termination - Either Party may terminate this agreement with thirty (30) days advance written notice. If either Party terminates prior to the completion of an academic semester, all students enrolled at the time of notification must be allowed to continue their placement until the conclusion of the current academic semester.

C. Relationship of Parties – Learning Site (including its employees and agents) shall act in an independent capacity and not as officers, employees or agents of CSU or University. Nothing in this Agreement shall be construed to constitute a partnership, joint venture or any other relationship other than that of independent contractors.

D. Indemnification

1. University shall defend, indemnify and hold Learning Site, its officers, agents, and employees harmless from and against any and all liability, loss, expense (including reasonable attorney's fees), or claims for injury or damages arising out of the performance of this Agreement but only in proportion to and to the extent such liability, loss, expense, attorney's fees, or claims for injury or damages are caused by or result from the negligent or intentional acts or omissions of University, its officers, agents, or employees.
2. Learning Site shall defend, indemnify and hold University, its officers, agents, and employees harmless from and against any and all liability, loss, expense (including reasonable attorney's fees), or claims for injury or damages arising out of the performance of this Agreement but only in proportion to and to the extent such liability, loss, expense, attorney's fees, or claims for injury or damages are caused by or result from the negligent or intentional acts or omissions of Learning Site, its officers, agents, or employees.

E. Insurance

1. Agency shall, at its own cost and expense, maintain general liability insurance, comprehensive or commercial form, with a minimum limit of \$1,000,000 for each occurrence and \$2,000,000 general aggregate. If Learning Site offers medical or professional services, Learning Site shall also carry professional liability (or errors and omissions) coverage with the same minimum limits. University shall maintain general liability insurance, comprehensive or commercial form, with a minimum limit of \$2,000,000 for each occurrence and \$4,000,000 general aggregate. Each Party shall maintain Workers' compensation insurance as required by law. Insurance must be placed with insurers with a current A.M. Best rating of at least A: VII.
2. The California State University system has elected to be insured for its General Liability exposure through the self-insured CSU Risk Management Authority.
3. The State of California has elected to be self-insured for its vehicle liability and Workers' Compensation and property exposures. As a State agency, the California State University, Office of the Chancellor, the Trustees, and the CSU system of campuses are included in this self-insured program.
4. Notwithstanding anything to the contrary in Subsection E.1, Learning Site may maintain a self-insurance program for all or any part of the foregoing liability risks, provided such self-insurance in all material respects complies with the requirements set forth herein.
 - a. If self-insured Learning Site, upon request, shall furnish University with a Certificate of Self-Insurance Coverage or other suitable document indicating that the self-funded retention levels maintained for each liability program meet or exceed the minimum insurance limits required under this agreement.
5. The General Liability coverage referred to hereunder by each Party shall include the respective Party as an additional insured. Such a provision, however, shall only apply in proportion to and to the extent of the negligent acts or omissions of the Parties, their officers, agents and/or employees.
6. University shall arrange for students to be covered by an insurance policy providing general and professional liability with

limits of \$2,000,000 each occurrence and \$4,000,000 general aggregate under either the Student Academic Field Experience for Credit Liability Insurance Program (SAFECLIP), or the Student Professional Liability Insurance Program (SPLIP)

- a. Student Academic Field Experience for Credit Liability Insurance Program (SAFECLIP) provides general and professional liability coverage for students enrolled in service-learning course sections for which they receive academic credit. In essence, the program provides indemnity, including legal defense costs for students, faculty, campus and host institution (when required by contract/agreement), if there is a claim or lawsuit involving injury to others or damage to property in connection with service learning and other academic fieldwork experiences.
 - b. Student Professional Liability Insurance Program (SPLIP) provides general and professional liability coverage as well as educator's errors & omissions liability coverage for students enrolled in nursing, allied health, social work or education credential programs of the CSU who also perform community service or volunteer work for academic credit.
- F. Status of Students** - Students shall at no time throughout this agreement be considered officers, employees, agents or volunteers of either the University or Learning Site.
- G. Confidentiality of Student Information** – University student records shall remain confidential as required by the Family Educational Rights and Privacy Act (FERPA). Neither Party shall release any protected student information without written consent of the student, unless required to do so by law or as dictated by the terms of this Agreement.
- H. Health Testing** – If Learning Site requires a health history or testing (tuberculosis testing, current immunizations, flu shot, etc.) for students prior to placement, students shall provide proof of satisfactory health history directly to Learning Site.
- I. Background Check/Finger-Printing** - If Learning Site requires University's students to undergo a background check or fingerprinting prior to placement, University students shall coordinate the results directly with Learning Site.
- J. Governing Law** – This Agreement shall be construed in accordance with and governed by the laws of the State of California, except where superseded by federal law.
- K. Endorsement** - Nothing contained in this Agreement shall confer on any party the right to use the other party's name as an endorsement of a product or service, or to advertise, promote or market any product or service.
- L. Assignments** - This Agreement is not assignable in whole or in part by either Party.
- M. Fair Labor Standards Act and Displacement of Organization Employees** – It is not the intention of this Agreement for students to perform services that would displace or replace regular employees of Learning Site.
- N. Confidentiality of Medical Records (HIPAA)** – [Applicable to clinical/medical placements only] All of Learning Site's medical records and charts created in connection with Clinical Training shall be and shall remain the property of Learning Site. For purposes of this Agreement and patient confidentiality under the Health Insurance Portability and Accountability Act of 1996 ("HIPAA"), Students shall be considered to be members of Learning Site's "Workforce," as defined at 45 Code of Federal Regulations (C.F.R.) §160.103.

In the course of Clinical Training at Learning Site, Students may have access to Protected Health Information, as defined at 45 C.F.R. §160.103, and shall be subject to Learning Site's HIPAA Privacy and Security policies and procedures. Students may be required to participate in training related to Learning Site's HIPAA Privacy and Security policies and procedures.

The Parties agree that University is not a "business associate" of Learning Site under HIPAA. University will not be performing or assisting in the performance of covered HIPAA functions on behalf of Learning Site. There will be no exchange of individually identifiable protected health information between University and Learning Site.

- O. Locations** – If Learning Site operates more than one location capable of accepting student interns, and unless otherwise prohibited by policy or law, all locations under Learning Site's management or control will be covered by the terms of this Agreement. As such, the terms of this agreement shall flow down to any agency, department, etc. under the jurisdiction of the executing body without execution of a separate agreement.
- P. Nondiscrimination** – Neither Party shall discriminate unlawfully against any student in placement or continuation in a fieldwork program, nor shall they discriminate unlawfully against any employee or applicant for employment.

- Q. Severability** - If any provision of this agreement is held invalid by any law, rule, order of regulation of any government, or by the final determination of any state or federal court, such invalidity shall not affect the enforceability of any other provision not held to be invalid.
- R. Notices** – Any notices required by this Agreement will be deemed to have been duly given if sent by overnight delivery or by certified mail with return receipt requested to the correct addresses. Additionally, notices by Email will be considered legal notice if such communications include the following text in the Subject field: FORMAL LEGAL NOTICE – [insert, as the case may be: Learning Site name or CSUSB].
- S. Program Contacts (Optional)** – The below listed program contacts (if any) may have administrative oversight of educational programs related to this agreement. These individuals should be contacted for program administrative matters only. All contractual matters must be communicated, in writing, to the authorized signatories.

California State University, San Bernardino:

Rachel Allinson
Name (University Program Contact)
Director of Field Education
Title
rallinson@csusb.edu
Email
909-537-5568
Phone

Learning Site:

Keri Oney
Name (Learning Site Contact)
Deputy Director, Aging & Social Services
Title
koney@inyocounty.us
Email
760-872-0902
Phone

- T. Authority** - Each Party represents and warrants that the person(s) signing below on its behalf has the authority to enter into this Agreement and that this Agreement does not violate any of its existing agreements or obligations.
- U. Changes** – This agreement may only be modified through execution of a written amendment.
- V. Entire Agreement** – This document contains the entire agreement and understanding of the Parties, and supersedes all prior agreements, arrangements, and understandings with respect to the subject matter of this document. No amendment, alternation or variation of the terms of the Agreement shall be valid unless in writing and signed by the Parties hereto.

IN WITNESS WHEREOF, this Agreement has been executed by the duly authorized parties as of the date last written below.

Trustees of the California State University:

University Authorized Signature _____ Date _____
Nancy K Murray
Name
Director of Procurement & Contracts
Title
contracts@csusb.edu
Email

Learning Site:

Learning Site Authorized Signature _____ Date _____
Marilyn Mann
Name
HHS Director
Title
mmanm@inyocounty.us
Email



County of Inyo



Public Works

CONSENT - ACTION REQUIRED

MEETING: November 5, 2019

FROM: Greg Waters

SUBJECT: Approval of plans and specifications for the Annex IS HVAC Retrofit

RECOMMENDED ACTION:

Request Board: A) approve the plans and specifications for the Annex Server HVAC Retrofit; and B) authorize the Public Works Director to advertise and bid the project.

SUMMARY/JUSTIFICATION:

As part of the 2019-2020 approved Deferred Maintenance Budget, \$100,000 was budgeted for improvements to the cooling system for the Annex Information Services Server Room.

The scope-of-work represented within the attached bid package is narrowly focused on the upgrading of the HVAC system which maintains the ambient air temperature within the server room. This scope-of-work is part of the larger scope-of-work with respect to retrofitting the existing HVAC for the entire Annex Building in Independence, CA, which will be carried out as a separate project later in the fiscal year.

BACKGROUND/HISTORY OF BOARD ACTIONS:

ALTERNATIVES AND CONSEQUENCES OF NEGATIVE ACTION:

The Board could choose to disapprove the request.

OTHER AGENCY INVOLVEMENT:

FINANCING:

Budget Unit 011501 Deferred Maintenance, Object Code 5640, Structures and Improvements. The Deferred Maintenance Budget for Fiscal Year 19/20 includes \$50,000 for construction. The \$50,000 budgeted in Fiscal Year 18/19 for the project rolled over, for a total project budget of \$100,000.

ATTACHMENTS:

1. Annex IS Server HVAC Project Bid Package 10-24-19 FINAL GLW

APPROVALS:

Greg Waters	Created/Initiated - 10/24/2019
Ashley Helms	Approved - 10/29/2019
Darcy Ellis	Approved - 10/29/2019
Breanne Nelums	Approved - 10/30/2019
Michael Errante	Approved - 10/30/2019
Marshall Rudolph	Approved - 10/30/2019
Amy Shepherd	Approved - 10/30/2019
Michael Errante	Final Approval - 10/30/2019

BID PACKAGE AND SPECIAL PROVISIONS



FOR CONSTRUCTION OF

ANNEX SERVER HVAC RETROFIT PROJECT

Project No. ZP-19-003

**FOR USE IN CONNECTION WITH INYO COUNTY
STANDARD SPECIFICATIONS, DATED OCTOBER 2015,
GENERAL PREVAILING WAGE RATES IN EFFECT
ON THE DATE THE WORK IS ACCOMPLISHED**

October, 2019

Prepared By: Inyo County Public Works

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NOTICE INVITING BIDS FOR

ANNEX SERVER HVAC RETROFIT PROJECT
Independence, CA

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COUNTY OF INYO

DEPARTMENT OF PUBLIC WORKS

NOTICE INVITING BIDS

The Inyo County Public Works Department is soliciting bids for:

ANNEX SERVER HVAC RETROFIT PROJECT

Bid Packages, which include the Notice Inviting Bids, Bid Proposal Forms, Contract and Bond Forms, Special Provisions, and Plans, may only be obtained from the Inyo County (County) Public Works Department (Department) at 168 North Edwards, P. O. Drawer Q, Independence, CA 93526, telephone (760) 878-0201. A non-refundable price of \$50.00 will be charged for each set of Bid Packages requested. The Bid Packages are available for inspection at the Department during regular business hours. Checks are to be made out to "Inyo County Public Works Department." The Bid Package is also available at no charge at the County of Inyo website at www.inyocounty.us. Bidders who obtain Bid Packages over the internet are responsible for notifying Inyo County Public Works Department that they are plan holders. Bidders who fail to notify the Department that they are plan holders may not be notified should any Addenda be issued. If the Department issues any Addenda to the Bid Package that is not acknowledged, the Bid Proposal may be rejected. This project is subject to the State of California Department of Industrial Relations (DIR) prevailing wage labor rates.

Bids must be submitted in a sealed envelope clearly marked with the bidder's name and address, the word "BID", and the Project Title:

ANNEX SERVER HVAC RETROFIT PROJECT

To be considered, **bids must be received by the Inyo County Clerk of the Board of Supervisors, 224 North Edwards Street (mailing address: P.O. Box N), Independence, California 93526 at or before 3:30 P.M. on XXXXXX, 2019** at which time they will be publicly opened and read aloud. No oral, telegraphic, telephonic, or fax proposals or modifications will be accepted.

General Work Description: This Project includes selective demolition of some HVAC ductwork and the installation of a new server HVAC unit per Special Provisions and Project Plans, at the Inyo County Annex Building, Independence, CA.

A mandatory job walk will be held on **XXXXXXXXXX, 2019 at 10:00 a.m.** at 168 N. Edwards Street in Independence, CA.

All project work is more particularly described in the plans and special provisions. All of the work shall be in accordance with all applicable Federal, State, and local laws, codes, and regulations.

For technical questions related to project work, site conditions, or to schedule a site visit, please contact Greg Waters of the Public Works Department at gwaters@inyocounty.us or Chris Cox of the Building and Maintenance Department at 760-878-0230.

Bids shall conform to and be responsive to the Contract Documents. Bids are required for the entire work described in the Contract Documents.

Each Bid must be submitted on the Bid Proposal Forms furnished as a part of the Bid Package. Each Bid must be accompanied by a Proposal Guarantee in the amount and form described in the Bid Package, in an amount not less than 10% of the amount of the bid, made payable to the order of the County of Inyo. The check or bond shall be given as security that the bidder will enter into the Contract with the County and furnish the required Faithful Performance Bond, Labor and Materials Payment Bond, Certificates and/or original endorsements of insurance, or other required documents. The check or bond may be retained by the County for sixty (60) days or until the Contract is fully executed by the successful bidder and the County, whichever first occurs.

The successful bidder shall be required to furnish a Faithful Performance Bond and a Labor and Materials Payment Bond on the forms provided in the Bid Package and in the amount of 100% of the Contract amount.

The successful bidder must be licensed as required by law, and consistent with the Contract Documents, at the time the contract is awarded, which license shall be a current California Class B - General Building Contractor license or a combination of all specialty classifications that will be required for complete performance of all of the work in accordance with the Contract Documents, and if applicable, a joint venture license as defined in the **Business and Professions Code, Section 7029**. Failure of the bidder to obtain proper and adequate licensing for an award of a contract shall constitute failure to execute the contract and shall result in the forfeiture of the security of the bidder.

In addition to the requirements set forth in this Notice Inviting Bids, all bids shall be subject to the requirements set forth in the Special Provisions, Standard Specifications of the Inyo County Public Works Department, dated October, 2015, Contract Documents and other applicable law.

The Contract is subject to the State Contract nondiscrimination and compliance requirements pursuant to **Government Code, Section 12990**, and other applicable law.

The Contract is also subject to and incorporates by reference the provisions of **Public Contract Code, Section 22300**, pursuant to which, the Contractor is permitted to substitute securities for earned retention or have them placed in escrow at the Contractor's expense, as also set forth in Section 1150.15 of the Standard Specifications.

Pursuant to **Section 1725.5 of the Labor Code**, the bidder is required to certify that they, and all subcontractors listed on the submitted Bid Form documents, are registered with the California Department of Industrial Relations.

Pursuant to **Section 1773 of the Labor Code**, the general prevailing wage rates in Inyo County have been determined by the Director of the State Department of Industrial Relations. These wage rates appear in the Department of Transportation publication entitled "General Prevailing Wage Rates," in effect at the time the project is advertised. Future effective wage rates, which have been predetermined and are on file with the State Department of Industrial Relations are referenced, but not printed, in said publication. Such rates of wages are on file with the State Department of Industrial Relations and the Public Works Department of the County of Inyo and are available to any interested party upon request.

Inyo County reserves the right at any stage of these proceedings to reject any or all Bids or to waive any immaterial defect in any Bid if it is deemed to be in the best interest of the County.

Each bidder must supply all the information required by the Contract Documents, Special Provisions and Standard Specifications.

County of Inyo
Department of Public Works

Michael Errante
Director

Dated: October, 2019

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BID PROPOSAL FORMS FOR

ANNEX SERVER HVAC RETROFIT PROJECT
Independence, CA

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BID PROPOSAL FORM

TO: COUNTY OF INYO
Attn.: Inyo County Clerk of Board of Supervisors
224 North Edwards Street, P.O. Box N
Independence, California 93526
(Herein called the "County")

FROM: _____

(Herein called "Bidder")

FOR: **ANNEX SERVER HVAC RETROFIT PROJECT**
(Herein called "Project")

In submitting this Bid, Bidder understands and agrees that:

- 1. BID DEADLINE.** Bids must be received no later than 3:30 P.M. on **XXXXXXXXXXXX**, 2019 by the **Inyo County Assistant Board Clerk, 224 North Edwards Street (mailing address: P.O. Box N), Independence, CA 93526**, at which time they will be publicly opened and read aloud. No oral, electronic, telephonic or fax proposals or modifications will be accepted.
- 2. BID AMOUNT TOTAL.** The total amount of this Bid for provision of the services and/or materials for completion of the Project in accordance with the Contract Documents is set forth herein as:
- 3. BID ADDITIVES.** The County reserves the right to award the base bid and any combination, including neither, of the bid additives.

BASE PROJECT BID FORM – UNIT PRICE BID:

ABBREVIATIONS:

LS = LUMP SUM

SF = SQUARE FEET

LF = LINEAR FEET

Item No.	Description	Quantity	Unit	Unit Price	Total Price
1	Mobilization and Demobilization	1	LS	\$	\$
2	Scope of Work per Sheet T0.1	1	LS	\$	\$
3	Replacement & Restoration of Finishes	1	LS	\$	\$
4	Start-Up, Commissioning, and Training	1	LS	\$	\$
TOTAL BASE BID AMOUNT:					\$

PROJECT BID AMOUNT - UNIT PRICE BID:

BID TOTAL (IN NUMBERS): \$ _____

BID TOTAL (IN WORDS): _____

ALTERNATE PROJECT BID FORM – UNIT PRICE BID:

ABBREVIATIONS:

LS = LUMP SUM

SF = SQUARE FEET

LF = LINEAR FEET

Item No.	Description	Quantity	Unit	Unit Price	Total Price
1	Demolition of Existing Air Handler	1	LS	\$	\$
2	Replacement of Existing Condenser	1	LS	\$	\$

ALTERNATE #1 BID AMOUNT - UNIT PRICE BID:

BID TOTAL (IN NUMBERS): \$ _____

BID TOTAL (IN WORDS): _____

ALTERNATE #2 BID AMOUNT - UNIT PRICE BID:

BID TOTAL (IN NUMBERS): \$ _____

BID TOTAL (IN WORDS): _____

No provision in this section is intended or shall be construed to alter the terms and conditions specified in the Contract Documents for payment of any amounts in the event the Project contract is awarded to Bidder pursuant to this Bid.

3. INCLUSION OF ALL COSTS. This Bid includes all costs for all labor, materials, tools, taxes, insurance, transportation, and other related supplies and services to perform all services and provide all materials as required by, and in accordance with, the Contract Documents for the Project.

4. CONTRACT DOCUMENTS. The Contract Documents shall constitute the Contract between the parties, which will come into full force and effect upon acceptance, approval, and execution by the Inyo County Board of Supervisors. The Contract Documents are complementary and are incorporated herein by reference and made a part hereof with like force and effect as if all of said documents were set forth in full herein. The Contract Documents include all documents defined as "Contract Documents" in the Standard Specifications of the Inyo County Public Works Department, dated October, 2015.

5. ACCEPTANCE. County reserves the right to reject any and all Bids, or part of any Bid, to postpone the scheduled Bid deadline date(s), to make an award in its own best interest, and to waive any irregularities or technicalities that do not significantly affect or alter the substance of an otherwise responsible Bid and that would not affect a Bidder's ability to perform the work adequately as specified. However, this Bid shall remain open and shall not be withdrawn for a period of sixty (60) calendar days after the date designated in the Notice Inviting Bids for publicly opening this Bid. If Bidder receives written notice of the award of the Project Contract to Bidder on or before the sixtieth day, Bidder shall execute the Contract and deliver to County the executed Contract and all of the bonds, certificates and/or endorsements of insurance coverage, and other required documents no later than fifteen (15) calendar days after the date on which Bidder receives such notice.

This solicitation in no way obligates County to award a Bid Contract described herein, nor will County assume any liability for the costs incurred in the preparation and transmittal of Bids in response to this solicitation. County reserves the right to not accept any Bid, to reject any or all Bids, to reject any part of any Bid proposal, to negotiate and modify any Bid, and to waive any defects or irregularities in any Bid at County's sole discretion. Furthermore, County shall have the sole discretion to award a Bid Contract as it may deem appropriate to best serve the interests of County. In this regard, County may consider demonstrated quality of work, responsiveness, comparable experience, professional qualifications, references, and proposed fees. Awards will not be based on cost alone. County does not guarantee a minimum or maximum dollar value for any Contract(s) resulting from this solicitation.

If the Contract Documents require or permit this Bid to include two or more Alternates, County reserves the right to award the Contract for that Alternate which County, in its sole discretion, determines at the time of award to be in County's best interest.

6. TIME OF COMPLETION. The Bidder further specifically agrees to complete all the work no later than the Time for Completion specified in the Contract Special Provisions.

7. ADDENDA. The Bidder acknowledges receipt of the following Addenda and has provided for all Addenda changes in this Bid.

(Fill in Addendum numbers and dates Addenda have been received.
If none have been received, enter "NONE".)

WARNING: IF AN ADDENDUM OR ADDENDA HAVE BEEN ISSUED BY THE COUNTY AND NOT NOTED ABOVE AS BEING RECEIVED BY THE BIDDER, THIS PROPOSAL MAY BE REJECTED.

8. BIDDER'S BUSINESS INFORMATION. Bidder provides the following information concerning its business:

Bidder's Name: _____

Address: _____

_____ Zip Code _____

(The above address will be used to send notices or requests for additional information.)

Telephone: () _____

Federal Identification No.: _____

Contractor's License No.: _____ State: _____

Classification: _____ Expiration Date: _____

Type of Business (check one):

Individual (), Partnership (), Joint Venture ()

Corporation (), Other (Specify) : _____ ()

Owners, Officers, Partners, or Other Authorized Representatives:

IMPORTANT NOTICE: If bidder or other interested person is a corporation, state legal name of corporation above and list below, names of the president, secretary, treasurer, and chief executive officer/manager thereof; if a partnership, joint venture, or other business entity, state true name of firm above and list below, names of all partners, joint venturers, or for other entities, parties having authority to act on behalf of the entity, such as officers, owners, directors; if bidder or other interested person is an individual, state first, middle, and last names in full above and write "N/A" below.

9. PROPOSAL GUARANTEE. As security for the Bid, this Bid includes one of the following proposal guarantee instruments (the "Proposal Guarantee"), in the amount required by this section, as checked:

- (a) ____ Bid Bond from a corporate surety admitted to issue such bonds in the State of California; or
- (b) ____ Cashier's Check or Certified Check, made payable to the County of Inyo, attached to the form entitled Cashier's or Certified Check; or
- (c) ____ Cash, in legal tender of the United States of America, enclosed in a separate envelope marked " Cash Proposal Guarantee."

The Proposal Guarantee is in the amount of Ten Percent (10%) of the total amount of the Bid. If the Contract Documents require or permit this Bid to include two or more Alternates, the amount of the Proposal Guarantee must not be less than Ten Percent (10%) of the amount of the bid total submitted for the alternate having the highest total bid amount. Only one form of Proposal Guarantee may be submitted with each Bid.

Bidder hereby agrees that County shall be entitled to payment by forfeiture of the Proposal Guarantee if County awards the Project Contract to Bidder, but Bidder fails or refuses to execute the Contract and/or furnish all of the bonds, certificates and/or endorsements of insurance coverage, and other required documents no later than fifteen (15) calendar days after the date on which Bidder receives notice of the award from County.

10. BID PROTEST. In the event a dispute arises concerning the bid process prior to the award of the contract, the party wishing resolution of the dispute shall submit an appeal request in writing to the County Director of Purchasing. Bidder may appeal the recommended award or denial of award, provided the following stipulations are met:

- 1. Only a bidder who has actually submitted a Bid Proposal is eligible to submit an appeal request/bid protest against another bidder. Subcontractors are not eligible to submit bid protests. A bidder may not rely on the bid protest submitted by another bidder, but must timely pursue its own protest.
- 2. Appeal must be in writing. The appeal must contain a complete statement of the basis for the protest and all supporting documentation. Materials submitted after the Bid Protest Deadline will not be considered. The protest must refer to the specific portion or portions of the Contract Documents upon which the protest is based. The protest must include the name, address and telephone number of the person representing the protesting bidder if different from the protesting bidder.
- 3. A copy of the protest and all supporting documents must also be transmitted by fax or by e-mail, by or before the Bid Protest Deadline, to the protested bidder and any other bidder who has a reasonable prospect of receiving an award depending upon the outcome of the protest.
- 4. Must be submitted within ten (10) calendar days of the date of the recommended award or denial of award letters.
- 5. An appeal of a denial of award can only be brought on the following grounds:
 - a. Failure to follow the selection procedures and adhere to requirements specified in the Bid Package or any addenda or amendments.

- b. There has been a violation of conflict of interest as provided by California Government Code Section 87100 et seq.
 - c. A violation of State or Federal law.
6. Appeals will not be accepted for any other reasons than those stated above. All appeals must be sent to:

Clint Quilter, Director
County of Inyo
Purchasing Department
224 N. Edwards St.
Independence, CA 93526

County's Purchasing Director shall make a decision concerning the appeal, and notify the Proposer making the appeal, within a reasonable timeframe prior to the tentatively scheduled date for awarding the contract. The decision of County's Purchasing Director shall be deemed final.

11. ADDITIONAL REQUIRED DOCUMENTS. Bidder agrees that, in addition to the Proposal Guarantee, Bidder is required to submit, as a part of this Bid, the following forms properly completed, and signed as required, all of which accompany this Bid Proposal Form and are incorporated herein by this reference:

- (1) Designation of Subcontractors (Public Contract Code section 4100 et seq.)
- (2) Certification Regarding Equal Employment Opportunity (Government Code section 12900 et seq., sections 11135-11139.5)
- (3) Contractor's Labor Code Certification (Labor Code section 3700)
- (4) Contractor and Subcontractor Dept. of Industrial Relations (DIR) Registration (Labor Code section 1725.5)
- (5) Non-Collusion Affidavit (Public Contract Code Section 7106)
- (6) Public Contract Code Section 10162 Questionnaire
- (7) Public Contract Code Statement (Section 10232)
- (8) Small Business Enterprise Commitment (Construction Contracts)
- (9) Small Business Enterprise Final Report of Utilization of Small Business Enterprise

12. DEFINITIONS. The definition and meaning of the words used in this Bid Proposal Form are the same as set forth in **Section 1070, "Abbreviations, Symbols and Definitions,"** of the Standard Specifications of the Inyo County Public Works Department, dated October, 2015.

THE UNDERSIGNED HEREBY DECLARES, UNDER PENALTY OF PERJURY ACCORDING TO THE LAWS OF THE STATE OF CALIFORNIA, THAT THE STATEMENTS, DESIGNATIONS, CERTIFICATIONS, AND REPRESENTATIONS MADE IN THIS BID PROPOSAL, INCLUDING ALL ATTACHMENTS, ARE TRUE AND CORRECT AND HE OR SHE IS THE INDIVIDUAL, MANAGING PARTNER, CORPORATE OFFICER, OR OTHER REPRESENTATIVE, DULY AUTHORIZED BY LAW TO MAKE THIS BID ON BEHALF OF BIDDER, AND BY SIGNING BELOW, MAKES THIS BID ON BEHALF OF BIDDER ACCORDING TO ALL OF THE TERMS AND CONDITIONS SET FORTH OR INCORPORATED BY REFERENCE HEREIN.

(Signature of Authorized Person)

(Date)

(Printed Name)

(Printed Title)

INYO COUNTY PUBLIC WORKS DEPARTMENT

ANNEX SERVER HVAC RETROFIT PROJECT

**BID BOND
(BID PROPOSAL GUARANTEE)**

(Not required if a certified or cashier's check or a cash deposit accompanies the bid as a proposal guarantee)

KNOW ALL MEN BY THESE PRESENTS: That we, _____

_____ as Principal, and
(Name of Bidder)

(Name of Corporate Surety)

as Corporate Surety admitted to issue such bonds in the State of California, are held and firmly bound unto the County of Inyo, State of California, in the sum of _____ dollars (\$_____) for the payment whereof we hereby bind ourselves, our successors, heirs, executors, and administrators, jointly and severally, firmly by these presents.

The condition of the foregoing obligation is such that whereas the above bounded Principal is about to submit to the Board of Supervisors of the County of Inyo a bid for the construction of the **ANNEX SERVER HVAC RETROFIT PROJECT**, in compliance with the Contract therefor:

Now, if the bid of the Principal shall be accepted and the Contract awarded to the Principal by said Board of Supervisors, and if the Principal shall fail or neglect to enter into the Contract therefor in accordance with the terms of the Principal's bid and the terms set forth in the Bid Package, or to furnish the required Faithful Performance and Labor and Materials Payment Bonds, Certificates of insurance, and other required documents, to the satisfaction of the Board of Supervisors of said County, no later than fifteen (15) calendar days after the Principal has received notice from the County that the Contract has been awarded to the Principal, then the sum guaranteed by this Bond is forfeited to the County of Inyo.

It is expressly agreed and understood that any errors, clerical, mathematical, or otherwise, in the bid shall not be or constitute a defense to a forfeiture of this Bond.

WITNESS our hands and seals this _____ day of _____, 20 ____ A.D.

Principal

(SEAL)

By: _____
(Title of Authorized Person)

(Address for Notices to be Sent)

Surety

(SEAL)

By: _____
(Title of Authorized Person)

(Address for Notices to be Sent)

NOTE:

THE SIGNATURES OF THE PRINCIPAL (BIDDER) AND THE SURETY MUST EACH BE ACKNOWLEDGED BEFORE A NOTARY PUBLIC (OR OTHER OFFICER AUTHORIZED UNDER CALIFORNIA LAW) AND THE ACKNOWLEDGMENTS MUST BE ATTACHED TO THIS BOND. The Bid Bond must be executed on this form by a corporate surety admitted to issue such bonds in the State of California. No substitutions will be accepted. If an attorney-in-fact signs for the surety, an acknowledged statement from the surety appointing and empowering the attorney-in-fact to execute such bonds in such amounts on behalf of the surety, must accompany the Bid Bond.

ADDRESS OF COUNTY FOR NOTICES TO BE SENT:

**County of Inyo (Attn.: Public Works Director)
224 North Edwards Street, P.O. Box N
Independence, California 93526**

ANNEX SERVER HVAC RETROFIT PROJECT

**CASHIER'S OR CERTIFIED CHECK
(BID PROPOSAL GUARANTEE)**

(Not required if Bid Bond accompanies the bid as a proposal guarantee)

A cashier's or certified check in the amount required as a proposal guarantee for the Bid and made payable to the County of Inyo is attached below:

[]

ATTACH CHECK HERE

[]

Bidder (print name) : _____

ANNEX SERVER HVAC RETROFIT PROJECT
DESIGNATION OF SUBCONTRACTORS

In compliance with the provisions of the **Subletting and Subcontracting Fair Practices Act (Section 4100 et. seq. of the Public Contract Code of the State of California)**, the undersigned bidder has set forth below the full name, and the location of the place of business of each Subcontractor who will perform work or labor or render service to the Prime Contractor in or about the construction of the work or improvement, or a Subcontractor licensed by the State of California who, under subcontract to the Prime Contractor, specifically fabricates and installs a portion of the work or improvement according to detailed drawings contained in the Plans and Specifications to which the attached bid is responsive, and the portion of the work which will be done by each Subcontractor for each subcontract in excess of one-half of one percent of the Prime Contractor's total bid, or \$10,000.00, whichever is greater.

The Bidder understands that if he 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 his bid, or \$10,000.00, whichever is greater, he shall be deemed to have agreed to perform such portion himself, and that he shall not be permitted to sublet or subcontract that portion of the work except in cases of public emergency or necessity, and then only after a finding, produced to writing as a public record of the Awarding Authority, setting forth the facts constituting the emergency or necessity. If no Subcontractors are to be employed on the project, enter the word "none".

ITEM NO.	DESCRIPTION OF WORK	% OF TOTAL CONTRACT	SUBCONTRACTOR'S LICENSE TYPE, NUMBER, EXPIRATION DATE	NAME, ADDRESS, PHONE NUMBER

 Signature of Authorized Person) (Title)

 (Printed Name) (Date)

**CERTIFICATION REGARDING EQUAL EMPLOYMENT
OPPORTUNITY**

(Government Code Section 12900 et seq., Sections 11135-11139.7)

ANNEX SERVER HVAC RETROFIT PROJECT

During the performance of this Contract, the Contractor and its subcontractors shall not unlawfully deny the Contract's benefits to any person, nor shall any person be unlawfully subjected to discrimination under the contract and its performance on the basis of religion, color, ethnic group identification, sex, age, or disability. In addition, the Contractor and its subcontractors shall not discriminate unlawfully against any employee or applicant for employment because of race, religious creed, color, national origin, ancestry, physical disability, mental disability, medical condition, marital status, age, or sex. The Contractor shall insure that the evaluation and treatment of employees and applicants for employment are free from such discrimination.

The Contractor shall comply with the provisions of the Fair Employment and Housing Act (**Government Code, Section 12900 et seq.**), the regulations promulgated thereunder (**California Code of Regulations, Title 2, Section 7285.0 et seq.**), and the Provisions of **Article 9.5, Chapter 1, Part 1, Division 3, Title 2 of the Government Code (Government Code, Sections 11135-11139.7)**.

Contractor and its subcontractors shall give written notice of their obligations under this clause to labor organizations with which they have a collective bargaining or other agreement.

The Contractor shall include the nondiscrimination and compliance provisions of this clause in all subcontracts to perform work under the contract.

(Name and Title of Signer)

Signature

Date

Company Name _____

Business Address _____

CONTRACTOR'S LABOR CODE CERTIFICATION
(Labor Code Section 3700 et seq.)

ANNEX SERVER HVAC RETROFIT PROJECT

I am aware of the provisions of Section 3700 and following of the Labor Code which requires every employer to be insured against liability for workers' compensation or to undertake self-insurance in accordance with the provisions of that code, and I will comply with such provisions before commencing the performance of the work of this contract.

(Name and Title of Signer)

Signature

Date

Company Name _____

Business Address _____

CONTRACTOR AND SUBCONTRACTOR REGISTRATION
With
CA Department of Industrial Relations (DIR)
(CA LABOR CODE SECTION 1725.5)

Bidder hereby certifies that they, and all subcontractors listed on the submitted Bid Form documents, are Registered with the CA Department of Industrial Relations pursuant to requirements of CA Labor Code Section 1725.5 and will comply with all requirements as noted in the aforementioned CA Labor Code Section.

Signed Name

Date

Printed Name

CA DIR Registration No.

NON-COLLUSION AFFIDAVIT
(Public Contract Code Section 7106)
(Code of Civil Procedure Section 2015.5)

ANNEX SERVER HVAC RETROFIT PROJECT

The undersigned declares:

I am the _____ of _____, the party making the foregoing bid. The bid is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation. The bid is genuine and not collusive or sham. The bidder has not directly or indirectly induced or solicited any other bidder to put in a false or sham bid. The bidder has not directly or indirectly colluded, conspired, connived, or agreed with any bidder or anyone else to put in a sham bid, or to refrain from bidding. The bidder has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the bid price of the bidder or any other bidder, or to fix any overhead, profit, or cost element of the bid price, or of that of any other bidder. All statements contained in the bid are true. The bidder has not, directly or indirectly, submitted his or her bid price or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, to any corporation, partnership, company, association, organization, bid depository, or to any member or agent thereof, to effectuate a collusive or sham bid, and has not paid, and will not pay, any person or entity for such purpose. Any person executing this declaration on behalf of a bidder that is a corporation, partnership, joint venture, limited liability company, limited liability partnership, or any other entity, hereby represents that he or she has full power to execute, and does execute, this declaration on behalf of the bidder.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct and that this declaration is executed on

_____, at _____,
(Date) (City) (State)

(Name and Title of Signer)

Signature **Date**

Company Name _____

Business Address _____

PUBLIC CONTRACT CODE SECTION 10162 QUESTIONNAIRE

ANNEX SERVER HVAC RETROFIT PROJECT

In accordance with Public Contract Code Section 10162, the Bidder shall complete, under penalty of perjury, the following questionnaire:

Has the Bidder, any officer of the Bidder, or any employee of the Bidder who has a proprietary interest in the Bidder, ever been disqualified, removed, or otherwise prevented from bidding on, or completing a federal, state, or local government project because of a violation of law or a safety regulation:

Yes _____ No _____

If the answer is yes, explain the circumstances in the following space.

By bidder's signature on the Bid Proposal Form, Bidder certifies, under penalty of perjury under the laws of the State of California, that the foregoing statements in accordance with Public Contract Code Section 10162 are true and correct.

PUBLIC CONTRACT CODE STATEMENT (SECTION 10232)

ANNEX SERVER HVAC RETROFIT PROJECT

In accordance with **Public Contract Code Section 10232**, the Contractor hereby states under penalty of perjury, that no more than one final unappealable finding of contempt of court by a federal court has been issued against the Contractor within the immediately preceding two year period because of the Contractor's failure to comply with an order of a federal court which orders the Contractor to comply with an order of the National Labor Relations Board.

By Bidder's signature on the Bid Proposal Form, Bidder certifies, under penalty of perjury under the laws of the State of California, that the foregoing statements in accordance with **Public Contract Code Section 10232** are true and correct.

(Name and Title of Signer)

Signature

Date

Company Name _____

Business Address _____

**LOCAL BUSINESS PREFERENCES
INYO COUNTY ORDINANCE NO. 1156**

ANNEX SERVER HVAC RETROFIT PROJECT

ORDINANCE NO. 1156

AN ORDINANCE OF THE BOARD OF SUPERVISORS OF THE COUNTY OF INYO, STATE OF CALIFORNIA, ADDING CHAPTER 6.06 TO THE INYO COUNTY CODE TO PROVIDE CONTRACTING PREFERENCES FOR LOCAL AND SMALL BUSINESSES

The Board of Supervisors of the County of Inyo ordains as follows:

SECTION 1. PURPOSE AND AUTHORITY

The purpose of this ordinance is to contribute to the economic and social well-being of all the citizens of the County by providing a contracting preference for local and small businesses. As a market participant, and pursuant to Public Contract Code § 2002, the County may award a purchasing preference to certain entities to vindicate the governmental purpose of encouraging County and regional economic development.

SECTION 2. ADDITION OF CHAPTER 6.06 TO INYO COUNTY CODE.

Chapter 6.06 is added to the Inyo County Code to read as follows:

Chapter 6.06

CONTRACTING PREFERENCES

Sections:

6.06.010	Findings.
6.06.020	Definitions.
6.06.030	General Provisions.
6.06.040	Local Business and Small Business Preference.
6.06.050	Small Business Subcontracting Preference.
6.06.060	Limit On Contracting Preference.

6.06.010 Findings

Businesses located in Inyo County contribute to the economic and social well-being of all the citizens of the County. Such businesses provide convenient services within the County and provide employment for County citizens. Further, the payroll paid by and income earned by local businesses tend to be largely expended within the County, which enhances the business environment in the County and the well-being of its citizens. It is in the public interest to encourage a vibrant business environment in the County. Providing modest purchasing preferences for County businesses furthers the goal of building a healthy economy in the County. Further, providing contracting preferences for all small businesses is allowed by State law, expands the types of contracts for which preferences may be given, and benefits local small businesses, also furthering the goal of building and maintaining a healthy local economy.

6.06.020 Definitions.

- A. A **Small Business** is a business which is certified by the State of California or the Small Business Administration as a small business.
- B. A **Local Business** is a business which:
1. Has its headquarters, distribution point or locally-owned franchise located in or having a street address within the County for at least six months immediately prior to the issuance of the request for competitive bids by the County; and
 2. Holds any required business license by a jurisdiction located in Inyo County; and
 3. Employs at least one full-time or two part-time employees whose primary residence is located within Inyo County, or if the business has no employees, shall be at least fifty percent owned by one or more persons whose primary residence is located within Inyo County.

4. Meets the conditions of one through three of this subsection, but within Mono or Inyo and Mono Counties, if no Inyo County local business submits a bid that is within eight percent of the lowest bid submitted.

C. A **Responsive Bid** is a bid which responds to the requirements of the request for bids and is submitted by a responsible bidder.

6.06.030 General Provisions.

A. The preferences provided in this chapter are intended to extend to the limit of the jurisdiction of Inyo County under California law. Such preferences do not apply where prohibited by Federal or State law. Such preferences do not apply where funding agencies prohibit such preferences as a condition of providing funding for the anticipated project. Where this Chapter provides preferences for multiple classes of entities, and one or more of those classes of entities are disallowed contracting preference by Federal or State law or by the funding agency, those disallowed entities will not be provided preferences, but the remaining classes of entities shall receive preferences.

B. Requests for bids or proposals issued by the County shall specify the applicable contracting preferences available pursuant to this Chapter.

6.06.040 Local Business and Small Business Preference.

Except as excluded by Section 6.06.030(A), for all contracts awarded by Inyo County, if the lowest responsive bid is submitted by a local business or a small business, that business shall be awarded the contract. If the lowest responsive bid is not submitted by a local business or a small business, the lowest responsive bid submitted by a local business that is within eight percent of the lowest responsive bid or by a small business that is within five percent of the lowest responsive bid shall be considered the low bid and that business shall be awarded the contract. To be eligible, a local business or a small business shall provide certification with its bid that it is such business as herein defined.

6.06.050 Small Business Subcontracting Preference.

For public works and road construction contracts awarded by Inyo County, where no entity qualifying under this Chapter for a contracting preference submits a responsive bid that is the lowest or within five percent of the lowest responsive bid, there shall be a preference given to bids in which at least ten percent of the monetary value of the work to be performed is subcontracted to a small business or businesses. If such bid is the lowest responsive bid, that contractor shall be awarded the contract. If such bid is not the lowest responsive bid, any such bid that is within five percent of the lowest responsive bid shall be considered the low bid, and that contractor shall be awarded the contract.

6.06.060 Limit On Contracting Preferences.

Contracting preferences under this Chapter shall not exceed \$10,000.00 for any one solicitation and award determination.

SECTION 3. SEVERABILITY

If any section, subsection, sentence, clause or phrase of this ordinance is for any reason held to be unconstitutional or invalid, such decision shall not affect the validity of the remaining portions of this ordinance. The Board of Supervisors hereby declares that it would have passed this ordinance and every section, subsection, sentence, clause or phrase not declared invalid or unconstitutional, without regard to whether any portion of this ordinance would be subsequently declared unconstitutional or invalid.

SECTION 4. EFFECTIVE DATE

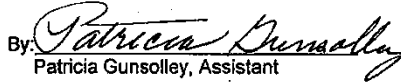
This Ordinance shall take effect and be in full force and effect thirty (30) days after its adoption. Before the expiration of fifteen (15) days from the adoption hereof, this Ordinance shall be published as required by Government Code Section 25124. The Clerk of the Board is hereby instructed and ordered to so publish this Ordinance together with the names of the Board members voting for and against the same.

PASSED AND ADOPTED this 25th day of May, 2010, by the following vote:

AYES: Supervisors Arcularius, Cash, Brown, Fortney and Cervantes
NOES: -0-
ABSTAIN: -0-
ABSENT: -0-


Richard Cervantes, Chairperson
Inyo County Board of Supervisors

ATTEST: Kevin Carunchio
Clerk of the Board

By: 
Patricia Gunsolley, Assistant

s/Ordinance/ContractingPrefSmBusiness

4/29/10

SMALL BUSINESS ENTERPRISE COMMITMENTS (Construction Contracts)

NOTE: PLEASE REFER TO INSTRUCTIONS ON THE REVERSE SIDE/NEXT PAGE OF THIS FORM

Department: Inyo County Public Works Department LOCATION: Independence, CA

PROJECT DESCRIPTION: ANNEX SERVER HVAC RETROFIT PROJECT

TOTAL CONTRACT AMOUNT: \$ _____

BID OPENING DATE: XXXXXXXXXX, 2019 _____

BIDDER'S COMPANY NAME: _____

BID ITEM NO.	ITEM OF WORK AND DESCRIPTION OR SERVICES TO BE SUBCONTRACTED OR MATERIALS TO BE PROVIDED	LICENSE INFO./CERT. No. of LOCAL AND SMALL BUSINESS ENTERPRISE AND EXPIRATION DATE	NAME AND CONTACT INFORMATION FOR LOCAL AND SMALL BUSINESS ENTERPRISE (Must be certified on the date bids are opened)	DOLLAR AMOUNT LOCAL AND SMALL BUSINESS ENTERPRISE

For Inyo County to Complete:

Project Number: ZP-19-003

Financing Type: _____

Contract Award Date: _____

Checked by: _____

 Print Name Signature Date

Total Claimed Participation	\$ _____
	_____ %

Signature of Bidder

Date (Area Code) Tel. No.

Person to Contact (Please Type or Print)

INSTRUCTIONS – Small Business Enterprise Commitment (CONSTRUCTION CONTRACTS)
(05/10)

ALL BIDDERS:

PLEASE NOTE: It is the bidder's responsibility to verify that the Small Business Enterprise (SBE) subcontractors are certified by the proper certifying authorities, and submit evidence of that certification with the bid. If a SBE prime contractor is not certified on the date of the bid opening, the SBE prime contractor will not qualify for the contracting preference. If the SBE subcontractor or subcontractors are not certified on the date of bid opening, that portion of that firm's participation will not count toward the minimum ten percent of the monetary value of the work needed to qualify for the contracting preference.

The form requires specific information regarding the construction contract: Total Contract Amount, Bid Opening Date, and Bidder's Name.

Indicate the appropriate bid item number (or numbers); Item of Work and description or services to be subcontracted or materials to be provided by the SBE; the SBE's business license information/expiration date, certification number and its expiration date; the SBE's contact information, including company and contact name, address, and telephone number; and the dollar amount expected to be paid to the SBE.

IMPORTANT: Identify **all** SBE firms participating in the project regardless of tier, including the prime contractor, if an SBE. Names of the First Tier SBE Subcontractors and their respective item(s) of work listed should be consistent, where applicable, with the names and items of work in the "List of Subcontractors" submitted with your bid. **Provide copies of the SBEs' quotes, and if applicable,** a copy of joint venture agreements pursuant to the Subcontractors Listing Law and the Special Provisions.

There is a column for the total SBE dollar amount. Enter the Total Claimed SBE Participation dollars and percentage amount of items of work submitted with your bid pursuant to the special provisions. (If 100% of item is not to be performed or furnished by the SBE, describe exact portion of time to be performed or furnished by the SBE.)

This form must be submitted with the bid if the bidder is attempting to qualify for the SBE contracting preference. If the bidder is not attempting to qualify for the SBE contracting preference the form does not need to be submitted.

**FINAL REPORT – UTILIZATION OF SMALL BUSINESS ENTERPRISES
(SBE), FIRST-TIER SUBCONTRACTORS**

PROJECT: ANNEX SERVER HVAC RETROFIT PROJECT				CONTRACT COMPLETION DATE			
PRIME CONTRACTOR		BUSINESS ADDRESS		ESTIMATED CONTRACT AMOUNT			
BID ITEM NO.	SUBCONTRACTOR NAME, BUSINESS ADDRESS, AND PHONE	DESCRIPTION OF WORK PERFORMED	SBE CERT. NUMBER	CONTRACT PAYMENTS		DATE WORK COMPLETE	DATE OF FINAL PAYMENT
				NON-SBE	SBE		
				\$	\$		
				\$	\$		
				\$	\$		
				\$	\$		
				\$	\$		
				\$	\$		
				\$	\$		
			TOTAL	\$	\$		
(i) Original Commitment							
\$ _____							
2) I CERTIFY THAT THE ABOVE INFORMATION IS COMPLETE AND CORRECT							
CONTRACTOR REPRESENTATIVES SIGNATURE				BUSINESS PHONE NUMBER		DATE	
4) TO THE BEST OF MY KNOWLEDGE, THE ABOVE INFORMATION IS COMPLETE AND CORRECT							
RESIDENT ENGINEER'S SIGNATURE				BUSINESS PHONE NUMBER		DATE	

To be completed by the contractor and submitted to the Resident Engineer upon project completion

INSTRUCTIONS - FINAL REPORT – UTILIZATION OF SMALL BUSINESS ENTERPRISES (SBE), FIRST-TIER SUBCONTRACTORS

The form requires specific information regarding the construction project, including the prime contractor name and address, contract completion date, and estimated contract amount. The objective of the form is to describe who did what by bid item numbers and description, asking for specific dollar values of item work completed broken down by subcontractors who performed the work, SBE and non-SBE work forces. SBE prime contractors are required to show the date of work performed by their own forces along with the corresponding dollar value of work.

Indicate appropriate bid item number or numbers, a description of work performed or materials provided, and subcontractor name and address. For those firms who are SBE, enter the SBE certification number. The SBE shall provide their certification number to the contractor and notify the contractor in writing with the date of decertification if their status changes during the course of the project.

The form has two columns for the dollar value to be entered for the item work performed by the subcontractor. The non-SBE column is used to enter the dollar value of work performed by firms who are not certified SBEs. Enter the dollar value of work performed by firms who are SBEs in the SBE column.

If the prime contractor or a subcontractor performing work as a SBE on the project becomes decertified and still performs work after their decertification date, enter the total value performed by the contractor/subcontractor under the appropriate SBE identification column.

If the prime contractor or a subcontractor performing work as a non-SBE on the project becomes certified as a SBE, enter the dollar value of all work performed after certification as a SBE under the appropriate SBE identification column.

Enter the total of each column on the form.

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CONTRACT AND BOND FORMS FOR

ANNEX SERVER HVAC RETROFIT PROJECT
Independence, CA

ENCLOSURES:

Contract: Inyo County Standard Contract No. 147
Faithful Performance Bond
Labor and Material Payment Bond

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**CONTRACT
BY AND BETWEEN
THE COUNTY OF INYO
and**

_____, **CONTRACTOR**

for the

ANNEX SERVER HVAC RETROFIT

PROJECT

THIS CONTRACT is awarded by the COUNTY OF INYO to CONTRACTOR on and made and entered into effective, _____, 20____, by and between the COUNTY OF INYO, a political subdivision of the State of California, (hereinafter referred to as "COUNTY"), and _____ (hereinafter referred to as "CONTRACTOR"), for the construction or removal of ANNEX SERVER HVAC RETROFIT **PROJECT** (hereinafter referred to as "PROJECT"), which parties agree, for and in consideration of the mutual promises, as follows:

1. SERVICES TO BE PERFORMED. CONTRACTOR shall furnish, at his/her own expense, all labor, materials, methods, processes, implements, tools, machinery, equipment, transportation, permits, services, utilities, and all other items, and related functions and otherwise shall perform all work necessary or appurtenant to construct the Project in accordance with the Special Provisions, which are incorporated herein by reference per section 4(c) of this Contract, within the Time for Completion set forth, as well as in all other in the Contract Documents, for:

Title: ANNEX SERVER HVAC RETROFIT

PROJECT

2. TIME OF COMPLETION. Project work shall begin within 15 calendar days after receipt of the Notice to Proceed (NTP) (or on the start of work date identified in the NTP) and shall continue until all requested services are completed. Said services shall be completed no later than the Time of Completion as noted in the Project's Special Provisions. Procedures for any extension of time shall be complied with as noted in the Project's Special Provisions.

3. PAYMENT/CONSIDERATION. For the performance of all such work, COUNTY shall pay to CONTRACTOR for said work the total amount of: _____ dollars (\$_____), adjusted by such increases or decreases as authorized in accordance with the Contract Documents, and payable at such times and upon such conditions as otherwise set forth in the Contract Documents.

4. ALL PROVISIONS SET FORTH HEREIN. CONTRACTOR and COUNTY agree that this Contract shall include and consist of:

- a. All of the provisions set forth expressly herein;
- b. The Bid Proposal Form, the Faithful Performance Bond, and the Labor and Materials Payment Bond, all of which are incorporated herein and made a part hereof by this reference; and

c. All of the other Contract Documents, as described in **Section 5-1.02, "Definitions,"** of the Standard Specifications of the Inyo County Public Works Department, dated October, 2015, all of which are incorporated herein and made a part of this Contract by this reference, including without limitation, the Bid Package, the Standard Specifications of the Inyo County Public Works Department, dated October, 2015, and the Special Provisions concerning this Project including the Appendices, the Plans, any and all amendments or changes to any of the above-listed documents, including, without limitation, contract change orders, and any and all documents incorporated by reference into any of the above-listed documents.

5. STANDARD OF PERFORMANCE. Contractor represents that he/she is qualified and licensed to perform the work to be done as required in this Contract. County relies upon the representations of Contractor regarding professional and/or trade training, licensing, and ability to perform the services as a material inducement to enter into this Contract. Acceptance of work by the County does not operate to release Contractor from any responsibility to perform work to professional and/or trade standards. Contractor shall provide properly skilled professional and technical personnel to perform all services under this Contract. Contractor shall perform all services required by this Contract in a manner and according to the standards observed by a competent practitioner of the profession. All work products of whatsoever nature delivered to the County shall be prepared in a manner conforming to the standards of quality normally observed by a person practicing in Contractor's profession and/or trade.

6. INDEPENDENT CONTRACTOR. Nothing contained herein or any document executed in connection herewith, shall be construed to create an employer-employee, partnership or joint venture relationship between County and Contractor, nor to allow County to exercise discretion or control over the manner in which Contractor performs the work or services that are the subject matter of this Contract; provided, however, the work or services to be provided by Contractor shall be provided in a manner consistent with reaching the County's objectives in entering this Contract.

Contractor is an independent contractor, not an employee of County or any of its subsidiaries or affiliates. Contractor will not represent him/herself to be nor hold her/himself out as an employee of County. Contractor acknowledges that s/he shall not have the right or entitlement in or to any of the pension, retirement or other benefit programs now or hereafter available to County's employees. The consideration set forth in Paragraph 3 shall be the sole consideration due Contractor for the services rendered hereunder. It is understood that County will not withhold any amounts for payment of taxes from the Contractor's compensation hereunder. Any and all sums due under any applicable state, federal or municipal law or union or professional and/or trade guild regulations shall be Contractor's sole responsibility. Contractor shall indemnify and hold County harmless from any and all damages, claims and expenses arising out of or resulting from any claims asserted by any third party, including but not limited to a taxing authority, as a result of or in connection with payments due it from Contractor's compensation.

7. ASSIGNMENT AND SUBCONTRACTING. The parties recognize that a substantial inducement to County for entering into this Contract is the professional reputation, experience and competence of Contractor. Assignments of any and/or all rights, duties or obligations of the Contractor under this Contract will be permitted only with the express consent

of the County. Contractor shall not subcontract any portion of the work to be performed under this Contract without the written authorization of the County. If County consents to such subcontract, Contractor shall be fully responsible to County for all acts or omissions of the subcontractor. Nothing in this Contract shall create any contractual relationship between County and subcontractor, nor shall it create any obligation on the part of the County to pay any monies due to any such subcontractor, unless otherwise required by law.

8. CLAIMS RESOLUTION. Pursuant to **Section 9204 of the Public Contract Code**, any and all claims submitted by Contractor to County will follow the provisions as set forth in the Project's Special Provisions.

9. INSURANCE INDEMNIFICATION. Contractor shall hold harmless, defend and indemnify County and its officers, officials, employees and volunteers from and against all claims, damages, losses, and expenses, including attorney fees arising out of the performance of the work described herein, caused in whole or in part by any negligent act or omission of the Contractor, any subcontractor, anyone directly or indirectly employed by any of them, or anyone for whose acts any of them may be liable, except where caused by the active negligence, sole negligence, or willful misconduct of the County.

10. INSURANCE. For the duration of this Agreement, Contractor shall procure and maintain insurance of the scope and amount specified in Attachment 3 and with the provisions specified in that attachment.

11. POLITICAL REFORM ACT. Contractor is not a designated employee within the meaning of the Political Reform Act because Contractor:

- a. Will conduct research and arrive at conclusions with respect to his/her rendition of information, advice, recommendation or counsel independent of the control and direction of the County or of any County official, other than normal Contract monitoring; and
- b. Possesses no authority with respect to any County decision beyond rendition of information, advice, recommendation or counsel [FPPC Reg. 18700(a)(2)].

12. COMPLIANCE WITH ALL LAWS.

Performance Standards: Contractor shall use the standard of care in its profession and/or trade to comply with all applicable federal, state and local laws, codes, ordinances and regulations that relate to the work or services to be provided pursuant to this Contract.

a. Safety Training:

i. Contractor shall provide such safety and other training as needed to assure work will be performed in a safe and healthful manner "in a language" that is understandable to employees receiving the training. The training shall in all respects be in compliance with CAL OSHA; and

ii. Contractor working with employees shall maintain a written Injury and Illness Prevention (IIP) Program, a copy of which must be maintained at each worksite or at a central worksite identified for the employees, if the Contractor has non-fixed worksites; and

iii. Contractor using subcontractors with the approval of the County to perform the work which is the subject of this Contract shall require each subcontractor working with employees to comply with the requirements of this section.

b. Child, Family and Spousal Support reporting Obligations:

i. Contractor shall comply with the state and federal child, family and spousal support reporting requirements and with all lawfully served wage and earnings assignment orders or notices of assignment relating to child, family and spousal support obligations.

c. Nondiscrimination:

i. Contractor shall not discriminate in employment practices or in the delivery of services on the basis of membership in a protected class which includes any class recognized by law and not limited to race, color, religion, sex (gender), sexual orientation, marital status, national origin (Including language use restrictions), ancestry, disability (mental and physical, including HIV and Aids), medical Conditions (cancer/genetic characteristics), age (40 and above) and request for family care leave.

ii. Contractor represents that it is in compliance with federal and state laws prohibiting discrimination in employment and agrees to stay in compliance with the Americans with Disabilities Act of 1990 (42 U.S.C. sections 12101, et. seq.), Age Discrimination in Employment Act of 1975 (42 U.S.C. 5101, et. seq.), Title VII (42 U.S.C. 2000, et. seq.), the California Fair Employment Housing Act (California Government Code sections 12900, et. seq.) and regulations and guidelines issued pursuant thereto.

13. LICENSES. Contractor represents and warrants to County that it has all licenses, permits, qualifications, insurance and approvals of whatsoever nature which are legally required of Contractor to practice its trade and/or profession. Contractor represents and warrants to County that Contractor shall, at its sole cost and expense, keep in effect or obtain at all times during the term of this Contract, any licenses, permits, insurance and approvals which are legally required of Contractor to practice its and/or profession.

14. PREVAILING WAGE. Pursuant to **Section 1720 et seq. of the Labor Code**, Contractor agrees to comply with the Department of Industrial Relations regulations, to which this Contract is subject, the prevailing wage per diem rates in Inyo County have been determined by the Director of the State Department of Industrial Relations. These wage rates appear in the Department publication entitled "General Prevailing Wage Rates," in effect at the time the project is advertised. Future effective wage rates, which have been predetermined and are on file with the State Department of Industrial Relations are referenced but not printed in said publication. Such rates of wages are also on file with the State Department of Industrial Relations and the offices of the Public Works Department of the County of Inyo and are available to any interested party upon request. Contractor agrees to comply with County and the Department of Industrial Relations regulations in submitting the certified payroll.

15. CONTROLLING LAW VENUE. This Contract is made in the County of Inyo, State of California. The parties specifically agree to submit to the jurisdiction of the Superior Court of California for the County of Inyo.

16. WRITTEN NOTIFICATION. Any notice, demand, request, consent, approval or communication that either party desires or is required to give to the other party shall be in writing and either served personally or sent prepaid, first class mail. Any such notice, demand, et cetera, shall be addressed to the other party at the address set forth herein below. Either party

may change its address by notifying the other party of the change of address. Notice shall be deemed communicated within 48 hours from the time of mailing if mailed as provided in this section.

If to County: County of Inyo
Public Works Department
Attn: Michael Errante, Director of Public Works
168 N. Edwards
PO Drawer Q
Independence, CA 93526

If to Contractor: _____

17. AMENDMENTS. This Contract may be modified or amended only by a written document executed by both Contractor and County and approved as to form by Inyo County Counsel.

18. WAIVER. No failure on the part of either party to exercise any right or remedy hereunder shall operate as a waiver of any other right or remedy that party may have hereunder.

19. TERMINATION. This Contract may be terminated for the reasons stated below:

- a. Immediately for cause, if either party fails to perform its responsibilities under this Contract in a timely and professional manner and to the satisfaction of the other party or violates any of the terms or provisions of this Contract. If termination for cause is given by either party to the other and it is later determined that the other party was not in default or default was excusable, then the notice of termination shall be deemed to have been given without cause pursuant to paragraph “b” of this section; or
- b. By either party without cause upon fifteen (15) days' written notice of termination. Upon termination, Contractor shall be entitled to compensation for services performed up to the effective date of termination; or
- c. By County upon oral notice from the Board of Supervisors based on funding ending or being materially decreased during the term of this Contract.

20. TIME IS OF THE ESSENCE. Time is of the essence for every provision.

21. SEVERABILITY. If any provision of this Contract is held to be invalid, void or unenforceable, the remainder of the provision and/or provisions shall remain in full force and effect and shall not be affected, impaired or invalidated.

22. CONTRACT SUBJECT TO APPROVAL BY BOARD OF SUPERVISORS. It is understood and agreed by the parties that this Contract is subject to the review and approval by the Inyo County Board of Supervisors upon Notice and Public Hearing. In the event that the Board of Supervisors declines to enter into or approve said Contract, it is hereby agreed to that

there is, in fact, no binding agreement, either written or oral, between the parties herein.

23. ATTACHMENTS. All attachments referred to are incorporated herein and made a part of this Contract.

24. EXECUTION. This Contract may be executed in several counterparts, each of which shall constitute one and the same instrument and shall become binding upon the parties. In approving this Contract, it shall not be necessary to produce or account for more than one such counterpart.

25. ENTIRE AGREEMENT. This Contract, including the Contract Documents and all other documents which are incorporated herein by reference, constitutes the complete and exclusive agreement between the County and Contractor. All prior written and oral communications, including correspondence, drafts, memoranda, and representations, are superseded in total by this Contract.

---o0o---

IN WITNESS WHEREOF, COUNTY and CONTRACTOR have each caused this Contract to be executed on its behalf by its duly authorized representative, effective as of the day and year first above written.

COUNTY

CONTRACTOR

COUNTY OF INYO

By: _____

By: _____

Name: _____

Name: _____

Title: _____

Title: _____

Dated: _____

Dated: _____

APPROVED AS TO FORM AND LEGALITY:

County Counsel

APPROVED AS TO ACCOUNTING FORM:

County Auditor

APPROVED AS TO INSURANCE REQUIREMENTS:

County Risk Manager

ATTACHMENT 1

ANNEX SERVER HVAC RETROFIT PROJECT

FAITHFUL PERFORMANCE BOND
(100% OF CONTRACT AMOUNT)

KNOW ALL MEN BY THESE PRESENTS: That
(Name of Contractor) as Principal, hereinafter "Contractor,"
and (Name of Corporate Surety)

as Corporate Surety, hereinafter called Surety, are held and firmly bound unto the County of Inyo as Obligee, hereinafter called County, in the amount of dollars (\$.), for the payment whereof Contractor and Surety bind themselves, their heirs, executors, administrators, successors and assignees, jointly and severally, firmly by these presents.

WHEREAS, Contractor has, by written Contract, dated , 20, entered into an Contract with the County for the Construction of the ANNEX SERVER HVAC RETROFIT PROJECT (hereinafter referred to as "Project"), to be constructed in accordance with the terms and conditions set forth in the Contract for the Project, which contract is by reference incorporated herein and is hereinafter referred to as the "Contract."

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION is such that, if Contractor shall promptly and faithfully perform said Contract, then this obligation shall be null and void; otherwise it shall remain in full force and effect.

The Surety hereby waives notice of any alteration or extension of time made by the County.

Whenever Contractor shall be, and is declared by County to be, in default under the Contract, the County having performed Owner's obligations thereunder, the Surety may promptly remedy the default, or shall promptly either:

- 1. Complete the Contract in accordance with its terms and conditions; or,
2. Obtain a Bid or Bids for completing the Contract in accordance with its terms and conditions, and upon determination by Surety of the lowest responsible Bidder, or if the County elects, upon determination by the County and the Surety jointly of the lowest responsible Bidder, arrange for a Contract between such Bidder and County, and make available as work progresses (even though there should be a default or a succession of defaults under the Contract or contracts of completion arranged under this paragraph) sufficient funds to pay the cost of completion less the balance of the Contract price; but not exceeding, including other costs and damages for which the Surety may be liable hereunder, the amount set forth in the first paragraph hereof. The

term "balance of the Contract price", as used in this paragraph, shall mean the total amount payable by County to Contractor under the Contract and any amendments thereto, less the amount properly paid by County to Contractor.

Any suit under this Bond must be instituted before the expiration of two (2) years from the date on which final payment under the Contract falls due, or the date on which any warranty or guarantee period expires, whichever is later.

No right of action shall accrue on this Bond to or for the use of any person or corporation other than the County named herein.

---o0o---

Signed and sealed this _____ day of _____, 20 ____.

(Name of Corporate Surety)

By: _____
(Signature)

(SEAL)

(Title of Authorized Person)

(Address for Notices to be Sent)

(Name of Contractor)

By: _____
(Signature)

(SEAL)

(Title of Authorized Person)

(Address for Notices to be Sent)

NOTE: THE SIGNATURES OF THE CONTRACTOR AND THE SURETY MUST EACH BE ACKNOWLEDGED BEFORE A NOTARY PUBLIC (OR OTHER OFFICER AUTHORIZED UNDER CALIFORNIA LAW) AND THE ACKNOWLEDGMENTS MUST BE ATTACHED TO THIS BOND.

The Faithful Performance Bond must be executed by a corporate surety on this form. No substitutions will be accepted. If an attorney-in-fact signs for the surety, an acknowledged statement from the surety appointing and empowering the attorney-in-fact to execute such bonds in such amounts on behalf of the surety must accompany the Faithful Performance Bond.

ADDRESS OF COUNTY FOR NOTICES TO BE SENT:

County of Inyo
224 North Edwards Street, P.O. Box N
Independence, California 93526

ATTACHMENT 2

ANNEX SERVER HVAC RETROFIT

PROJECT

**LABOR AND MATERIALS PAYMENT BOND
(100% OF CONTRACT AMOUNT)**

KNOW ALL MEN BY THESE PRESENTS, that _____
(Name of Contractor)

_____ as Principal, hereinafter "CONTRACTOR,"

and _____
(Name of Corporate Surety)

as Corporate Surety, hereinafter called SURETY, are held and firmly bound unto the County of Inyo as Oblige, hereinafter called COUNTY, for the use and benefit of claimants as hereinafter defined in the amount of _____ dollars (\$ _____) for the payment whereof Contractor and Surety bind themselves, their heirs, executors, administrators, successors and assignees, jointly and severally, firmly by these presents.

WHEREAS, Contractor has by written contract dated _____, 20____, entered into an Contract with the County for the construction of the ANNEX SERVER HVAC RETROFIT **PROJECT** (hereinafter referred to as "PROJECT"), to be constructed in accordance with the terms and conditions set forth in the contract for the PROJECT, which contract is by reference incorporated herein, and is hereinafter referred to as the "CONTRACT."

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION is such that, if Contractor shall promptly make payment to all claimants as hereinafter defined, for all labor and materials used or reasonably required for use in the performance of the Contract, then this obligation shall be void; otherwise, it shall remain in full force and effect, subject, however, to the following conditions:

1. A claimant is defined as one having a direct contract with the Contractor, or with a Subcontractor of the Contractor, for labor, materials, or both, used or reasonably required for use in the performance of the Contract. Labor and materials is construed to include, but not limited to, that part of water, gas, power, light, heat, oil, gasoline, telephone service or rental of equipment directly applicable to the Contract.
2. The above named Contractor and Surety hereby jointly agree with the County that every claimant as herein defined, who has not been paid in full before the expiration of a period of ninety (90) calendar days after the date on which the last of such claimant's work or labor was done or performed, or materials were furnished by such claimant, may sue on this Bond for the benefit of such claimant, prosecute the suit to final judgment for such

sum or sums as may be justly due claimant, and have execution thereon. The County shall not be liable for the payment of any costs or expenses of any such suit.

3. No suit or action shall be commenced hereunder by any claimant:

a) Unless claimant, other than one having a direct contract with the Contractor, shall have given written notice to any two of the following: the Contractor, the County, or the Surety above named, within ninety (90) calendar days after such claimant did or performed the last of the work or labor, or furnished the last of the material for which said claim is made, stating with substantial accuracy the amount claimed and the name of the party to whom the materials were furnished, or for whom the work or labor was done or performed. Such notice shall be served by mailing the same by registered mail or certified mail, postage prepaid, in any envelope addressed to the Contractor, County, or Surety, at the address below, or at any place where an office is regularly maintained for the transaction of their business. Such notice may also be served in the state in which the aforesaid project is located, save that such service need not be made by a public officer.

b) After the expiration of one (1) year following the date on which County accepted the work done under the Contract. However, if any limitation embodied in this Bond is prohibited by any law controlling the construction hereof, such limitation shall be deemed to be amended so as to be equal to the minimum period of limitation permitted by such law.

c) Other than in a State Court of competent jurisdiction in and for the County or other political subdivision of the state in which the Project, or any part thereof, is situated, and not elsewhere.

4. The amount of this Bond shall be reduced by and to the extent of any payment or payments made in good faith hereunder, inclusive of the payment by Surety of mechanics' liens which may be filed or recorded against said Project, whether or not claim for the amount of such lien be presented under and against this Bond.

---o0o---

Signed and sealed this _____ day of _____, 20 ____.

(Name of Contractor)

By: _____
(Signature)

(SEAL)

(Title of Authorized Person)

(Address for Notices to be Sent)

(Name of Corporate Surety)

By: _____
(Signature)

(SEAL)

(Title of Authorized Person)

(Address for Notices to be Sent)

NOTE:

THE SIGNATURES OF THE CONTRACTOR AND THE SURETY MUST BE ACKNOWLEDGED BEFORE A NOTARY PUBLIC (OR OTHER OFFICER AUTHORIZED UNDER CALIFORNIA LAW).

The Labor and Materials Payment Bond must be executed by a corporate surety on this form. No substitutions will be accepted. If an attorney-in-fact signs for the surety, an acknowledged statement from the surety appointing and empowering the attorney-in-fact to execute such bonds in such amounts on behalf of the surety, must accompany the Labor and Materials Payment Bond.

ADDRESS OF COUNTY FOR NOTICES TO BE SENT TO:

**County of Inyo
224 N. Edwards, P.O. Box N
Independence, California 93526**

ATTACHMENT 3

AGREEMENT BETWEEN THE COUNTY OF INYO AND

FOR THE _____ **ANNEX SERVER HVAC RETROFIT** _____ **PROJECT**

TERM:

FROM: _____ **TO:** _____

SEE ATTACHED INSURANCE PROVISIONS

Please see insurance provisions under Section 7-1.06 of the Special Provisions

SPECIAL PROVISIONS

FOR

ANNEX SERVER HVAC RETROFIT PROJECT

Independence, CA

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COUNTY OF INYO
DEPARTMENT OF PUBLIC WORKS

SPECIFICATIONS APPROVAL

ANNEX SERVER HVAC RETROFIT PROJECT
Independence, CA

These Special Provisions have been prepared by the Inyo County Public Works Department and the County's consultant, Etchemendy Engineering under the direction of the undersigned and are approved for the work contemplated herein.

Director of Public Works

Specifications Approval Date

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SPECIAL PROVISIONS
ANNEX SERVER HVAC RETROFIT Project

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PROJECT [MANUAL](#)

CUTSHEET MANUAL

PLANS

INTRODUCTION / GENERAL:

The Annex Server HVAC Retrofit Project, a public works project of Inyo County, is to be constructed and completed in accordance with these Special Provisions, the Project Plans, and, insofar as they are referenced herein, the Standard Specifications of the Inyo County Public Works Department dated October, 2015 (Standard Specifications). The Special Provisions, the Project Plans, and the sections of the Standard Specifications referenced herein, constitute a portion of the “Contract Documents” governing the project and shall therefore be binding upon and observed by the person/entity with whom the County of Inyo enters into contract for construction of the Project.

Copies of the Project Plans, the Inyo County Standard Specifications may be obtained from the Inyo County Public Works Department in Independence, California, or online at: http://www.inyocounty.us/county_directory.htm, under Public Works.

Unless indicated otherwise, all references in this document to sections are to those in the Standard Specifications or to other sections in these Special Provisions. In case of any irreconcilable conflict between the requirements of the Standard Specifications referenced herein and these Special Provisions, the latter shall prevail and be observed.

PROJECT DESCRIPTION

This Project includes the selective demolition of finishes and ductwork, installation of ductwork and equipment, and restoration of finishes as described in the Special Provisions and Project Plans, at the Inyo Annex Building, Independence, CA.

A mandatory job walk will be held on **XXXXXXXX, 2019 at 10:00 a.m.** at 168 N. Edwards Street in Independence, CA.

The work is more particularly described in the Plans and below, in the Project Special Provisions. All of the work shall be in accordance with all applicable State and local laws, codes, and regulations.

SECTION 3 CONTRACT AWARD AND EXECUTION

3-1.04 CONTRACT AWARD

Section 3-1.04 of the Standard Specifications shall be amended as follows:

Whenever possible, the award to the lowest bidder, if made, will be made no later than thirty (30) calendar days after the opening of bid proposals. However, failure of the County to make award within thirty (30) calendar days after the opening of the bid proposals shall not relieve the Contractor of its requirement to deliver an executed contract and bonds, and any other required documents, within 15 days of Notification of Award, as further described in Section 3-1.18: Contract Execution.

3-1.05 CONTRACT BONDS (PUB CONT CODE §§ 10221 AND 10222)

The successful bidder must furnish 2 bonds:

1. Payment bond to secure the claim payments of laborers, workers, mechanics, or materialmen providing goods, labor, or services under the Contract. This bond must be equal to at least 100 percent of the Contract amount.
2. Performance bond to guarantee the faithful performance of the Contract. This bond must be equal to at least 100 percent of the Contract amount.

The bond forms are in the Bid Book.

3-1.06 CONTRACTOR LICENSE

For a federal-aid contract, the Contractor must be properly licensed as a contractor from contract award through Contract acceptance (Pub Cont Code § 10164).

For a non-federal-aid contract:

1. The Contractor must be properly licensed as a contractor from bid opening through Contract acceptance (Bus & Prof Code § 7028.15)
2. Joint venture bidders must obtain a joint venture license before contract award (Bus & Prof Code § 7029.1)

3-1.07 INSURANCE POLICIES

The successful bidder must submit:

1. Copy of its commercial general liability policy and its excess policy or binder until such time as a policy is available, including the declarations page, applicable endorsements, riders, and other modifications in effect at the time of contract execution. Standard ISO form no. CG 0001 or similar exclusions are allowed if not inconsistent with section 7-1.06. Allowance of additional exclusions is at the discretion of the Department.
2. Certificate of insurance showing all other required coverages. Certificates of insurance, as evidence of required insurance for the auto liability and any other required policy, shall set forth deductible amounts applicable to each policy and all exclusions that are added by endorsement to each policy. The evidence of insurance shall provide that no cancellation, lapse, or reduction of coverage will occur without 10 days prior written notice to the Department.
3. A declaration under the penalty of perjury by a CPA certifying the accountant has applied GAAP guidelines confirming the successful bidder has sufficient funds and resources to cover any selfinsured retentions if the self-insured retention is over \$50,000.

If the successful bidder uses any form of self-insurance for workers compensation in lieu of an insurance policy, it shall submit a certificate of consent to self-insure under Labor Code § 3700.

3-1.08 SMALL BUSINESS ENTERPRISE PARTICIPATION

This section is amended as follows.

This project is subject to Inyo County Ordinance No. 1156, *An Ordinance of the Board of Supervisors of the County of Inyo, State of California, Adding Chapter 6.06 to the Inyo County Code to Provide Contacting Preferences for Local and Small Businesses*, which is included in the bid package.

Take necessary and reasonable steps to ensure that small business enterprises (SBEs) have opportunity to participate in the contract.

Make work available to SBEs and select work parts consistent with available SBE subcontractors and suppliers.

To qualify for the SBE contracting preference as described in Inyo County Ordinance No. 1156 (Ordinance No. 1156), Section 6.06.040, the bidder must show that he/she is a SBE as described in Ordinance No. 1156 Section 6.06.020.

To qualify for the SBE subcontracting preference as described in Ordinance No. 1156, Section 6.06.050, the bidder must show that the subcontractor(s) proposed for work on the project is/are a SBE(s) as described in Ordinance No. 1156 Section 6.06.020.

It is the bidders responsibility to verify that the SBE(s) is certified as a small business enterprise at the date of bid opening.

SBE Contracting Preference Commitment Submittal

If the bidder is claiming the SBE contracting preference, submit SBE information on the “Small Business Enterprise Commitment (Construction Contracts),” form included in the Bid Package. If the bidder is not claiming the SBE contracting preference remove the form from the Bid Package before submitting your bid.

Submit written confirmation from each SBE subcontractor stating that it is participating in the contract. Include confirmation with the SBE Commitment form. A copy of a SBE subcontractor’s quote will serve as written confirmation that the SBE is participating in the contract.

SUBCONTRACTOR AND SBE RECORDS. The Contractor shall maintain records showing the name and business address of each first-tier subcontractor. The records shall also show the name and business address of every SBE subcontractor, SBE vendor of materials and SBE trucking company, regardless of tier. The records shall show the date of payment and the total dollar figure paid to all of these firms. SBE prime contractors shall also show the date of work performed by their own forces along with the corresponding dollar value of the work.

Upon completion of the contract, a summary of these records shall be prepared on “Final Report – Utilization of Small Business Enterprises - (SBE), First-Tier Subcontractors,” certified correct by the Contractor or his authorized representative, and submitted to the Engineer. The form shall be furnished to the Engineer within 90 days from the date of contract acceptance.

3-1.18 CONTRACT EXECUTION

The successful bidder must sign the Contract form.

Deliver two (2) fully executed (except for the County's signature) to the Office Engineer:

1. Signed Contract form
2. Contract bonds
3. Documents identified in section 3-1.07
4. Payee Data Record
5. Small Business (SB) Participation Report form
6. For a federal-aid contract, Caltrans Bidder - DBE Information form

The Office Engineer must receive these documents before the 10th business day after the bidder receives the contract.

The bidder's security may be forfeited for failure to execute the contract within the time specified (Pub Cont Code §§ 10181, 10182, and 10183).

A copy of the Contract form is included in your bid book.

SECTION 7 LEGAL RELATIONS AND RESPONSIBILITY TO THE PUBLIC

Amended to read as follows:

7-1.02K (2) WAGES

The general prevailing wage rates, determined by the Department of Industrial Relations, for Inyo County, are available at the County of Inyo address or the California DIR web site at <http://www.dir.ca.gov>. Changes are available at the same locations. These wage rates are not included in the Contract Documents. All labor will be paid at not less than these minimum wage rates.

ADD TO 7-1.02K (3) CERTIFIED PAYROLL RECORDS (LABOR CODE §1776)

Keep accurate payroll records. Submit a copy of your certified payroll records, weekly, including those of subcontractors to the following:

1. Inyo County Department of Public Works
2. Division of Labor Standards Enforcement of the Department of Industrial Relations
3. Division of Apprenticeship Standards of the Department of Industrial Relations

Include:

1. Each employee's:
 - 1.1. Full name
 - 1.2. Address

- 1.3. Social security number
- 1.4. Work classification
- 1.5. Straight time and overtime hours worked each day and week
- 1.6. Actual wages paid for each day to each:
 - 1.6.1. Journeyman
 - 1.6.2. Apprentice
 - 1.6.3. Worker
 - 1.6.4. Other employee you employ for the work
- 1.7. Pay rate
- 1.8. Itemized deductions made
- 1.9. Check number issued
2. Apprentices and the apprentice-to-journeyman ratio

Each certified payroll record must include a Statement of Compliance signed under penalty of perjury that declares:

1. The information contained in the payroll record is true, correct, and complete
2. The employer has complied with the requirements of sections 1771, 1811, and 1815 for any work performed by his or her employees on the public works project
3. The wage rates paid are at least those required by the Contract

7-1.05 INDEMNIFICATION

Contractor shall hold harmless, defend, and indemnify the County of Inyo and its officers, officials, employees, and volunteers from and against all claims, damages, losses, and expenses including attorney fees and litigation costs, arising out of the performance of the work described herein, caused in whole or in part by any negligent act or omission of the Contractor, any subcontractor, anyone directly or indirectly employed by any of them, or anyone for whose acts any of them may be liable, except where caused by the active negligence, sole negligence, or willful misconduct of the County.

7-1.06 INSURANCE

Please see ‘Insurance Requirements for Construction Contracts’

Insurance Requirements for Construction Contracts

Contractor shall procure and maintain for the duration of the contract, and for six years thereafter, insurance against claims for injuries to persons or damages to property which may arise from or in connection with the performance of the work hereunder by the Contractor, his agents, representatives, employees, or subcontractors.

MINIMUM SCOPE AND LIMIT OF INSURANCE

Coverage shall be at least as broad as:

- **Commercial General Liability (CGL):** Insurance Services Office (ISO) Form CG 00 01 covering CGL on an “occurrence” basis, including products and completed operations, property damage, bodily injury and personal & advertising injury with limits no less than **\$2,000,000** per occurrence. If a general aggregate limit applies, either the general aggregate limit shall apply separately to this project/location (ISO CG 25 03 or 25 04) or the general aggregate limit shall be twice the required occurrence limit.
- **Automobile Liability:** Insurance Services Office Form CA 0001 covering Code 1 (any auto), with limits no less than **\$1,000,000** per accident for bodily injury and property damage.
- **Workers’ Compensation** insurance as required by the State of California, with Statutory Limits, and Employers’ Liability insurance with a limit of no less than **\$1,000,000** per accident for bodily injury or disease.
- **Surety Bonds** as described below.

If the contractor maintains broader coverage and/or higher limits than the minimums shown above, Inyo County requires and shall be entitled to the broader coverage and/or the higher limits maintained by the contractor. Any available insurance proceeds in excess of the specified minimum limits of insurance and coverage shall be available to Inyo County.

OTHER INSURANCE PROVISIONS

The insurance policies are to contain, or be endorsed to contain, the following provisions:

Additional Insured Endorsement

Inyo County, its officers, officials, employees, and volunteers are to be covered as additional insureds on the CGL policy with respect to liability arising out of work or operations performed by or on behalf of the Contractor including materials, parts, or equipment furnished in connection with such work or operations and automobiles owned, leased, hired, or borrowed by or on behalf of the Contractor. General liability coverage can be provided in the form of an endorsement to the Contractor’s insurance (at least as broad as ISO Form CG 20 10, CG 11 85 or **both** CG 20 10, CG 20 26, CG 20 33, or CG 20 38; **and** CG 20 37 forms if later revisions used). An additional insured endorsement must be submitted along with the certificate of insurance as evidence, though failure to supply does not relieve contractor of requirement.

Waiver of Subrogation

Contractor hereby agrees to waive rights of subrogation which any insurer of Contractor may acquire from Contractor by virtue of the payment of any loss. Contractor agrees to obtain any endorsement that may be necessary to affect this waiver of subrogation. **The Workers’ Compensation policy shall be endorsed with a waiver of subrogation** in favor of Inyo County for all work performed by the Contractor, its employees, agents and subcontractors. An

endorsement specifying this waiver must be submitted along with the certificate of insurance as evidence, though failure to supply does not relive contractor of requirement.

Primary Coverage

For any claims related to this project, the **Contractor's insurance coverage shall be primary** insurance coverage at least as broad as ISO CG 20 01 04 13 as respects Inyo County, its officers, officials, employees, and volunteers. Any insurance or self-insurance maintained by Inyo County, its officers, officials, employees, or volunteers shall be excess of the Contractor's insurance and shall not contribute with it.

Notice of Cancellation

Each insurance policy required by this clause shall provide that coverage shall not be canceled, except with notice to Inyo County.

Self-Insured Retentions

Self-insured retentions must be declared to and approved by Inyo County. At the option of Inyo County, either: the contractor shall cause the insurer shall to reduce or eliminate such self-insured retentions as respects Inyo County, its officers, officials, employees, and volunteers; or the Contractor shall provide a financial guarantee satisfactory to Inyo County guaranteeing payment of losses and related investigations, claim administration, and defense expenses. The policy language shall provide, or be endorsed to provide, that the self-insured retention may be satisfied by either the named insured or Inyo County.

Claims Made Policies – (If at all possible avoid and require occurrence type CGL policies)

If any coverage required is written on a claims-made coverage form:

1. The retroactive date must be shown, and this date must be before the execution date of the contract or the beginning of contract work.
2. Insurance must be maintained and evidence of insurance must be provided for at least five (5) years after completion of contract work.
3. If coverage is cancelled or non-renewed, and not replaced with another claims-made policy form with a retroactive date prior to the contract effective, or start of work date, the Contractor must purchase extended reporting period coverage for a minimum of five (5) years after completion of contract work.
4. A copy of the claims reporting requirements must be submitted to Inyo County for review.
5. If the services involve lead-based paint or asbestos identification/remediation, the Contractors Pollution Liability policy shall not contain lead-based paint or asbestos exclusions. If the services involve mold identification/remediation, the Contractors Pollution Liability policy shall not contain a mold exclusion, and the definition of Pollution shall include microbial matter, including mold.

Acceptability of Insurers

Insurance is to be placed with insurers authorized to conduct business in the state with a current A.M. Best rating of no less than A: VII, unless otherwise acceptable to Inyo County.

Verification of Coverage

Contractor shall furnish Inyo County with original Certificates of Insurance including all required amendatory endorsements (or copies of the applicable policy language effecting coverage required by this clause) and a copy of the Declarations and Endorsement Page of the CGL policy listing all policy endorsements to Inyo County before work begins. However, failure to obtain the required

documents prior to the work beginning shall not waive the Contractor's obligation to provide them. Inyo County reserves the right to require complete, certified copies of all required insurance policies, including endorsements, required by these specifications, at any time.

Subcontractors

Contractor shall require and verify that all subcontractors maintain insurance meeting all requirements stated herein, and Contractor shall ensure that Inyo County is an additional insured on insurance required from subcontractors. For CGL coverage, subcontractors shall provide coverage with a form at least as broad as CG 20 38 04 13.

Surety Bonds

Contractor shall provide the following Surety Bonds:

1. Bid Bond
2. Performance Bond
3. Payment Bond
4. Maintenance Bond

The Payment Bond and the Performance Bond shall be in a sum equal to the contract price. If the Performance Bond provides for a one-year warranty a separate Maintenance Bond is not necessary. If the warranty period specified in the contract is for longer than one year a Maintenance Bond equal to 10% of the contract price is required. Bonds shall be duly executed by a responsible corporate surety, authorized to issue such bonds in the State of California and secured through an authorized agent with an office in California.

Special Risks or Circumstances

Inyo County reserves the right to modify these requirements, including limits, based on the nature of the risk, prior experience, insurer, coverage, or other circumstances.

SECTION 8 PROSECUTION AND PROGRESS

Amended to read as follows:

ADD TO 8-1.05 TIME

The Contractor shall complete all designated portions of the work required to be provided pursuant to the contract no later than **Sixty (60) Calendar days** from and including the Starting Date, plus such additional days, if any, which are expressly granted as extensions of time by Contract Change Orders signed and issued by the County. Such total number of days shall be referred to herein as the “Time for Completion”.

ALL WORK WITHIN THE SERVER ROOM WILL BE LIMITED TO A MAXIMUM OF TWO WEEKENDS AS THE SERVERS WILL NEED TO BE SHUT DOWN AND SHRINK WRAPPED BY THE INFORMATION SERVICES STAFF ON FRIDAY AFTERNOON AND RESTARTED ON MONDAY MORNING. NO PREMIUM OR OVERTIME CHARGES WILL BE ALLOWED. PLEASE CONSIDER THIS REQUIREMENT WHEN PREPARING YOUR BID. CEILING TILES CAN REMAIN OUT OF THE GRID UNTIL COMPLETION OF THE WORK IN THIS AREA.

Failure of the Contractor to perform any covenant or condition contained in the Contract Documents within the time period specified shall constitute material breach of this Contract entitling the County to terminate the Contract unless the Contractor applies for, and receives, an extension of time in accordance with the procedures set forth in Section 1017.09 SS, “EXTENSION OF TIME.”

8-1.10 LIQUIDATED DAMAGES

In accordance with Government Code Section 53069.85, the Contractor shall pay to the County of Inyo, liquidated damages in the amounts of:

\$500.00 per day for each and every calendar day delay in finishing work in excess of the Time for Completion specified.

The County shall be entitled to deduct the amounts of liquidated damages from any payment otherwise due to the Contractor.

PUBLIC CONTRACT CODE SECTION 9204

(a) The Legislature finds and declares that it is in the best interests of the state and its citizens to ensure that all construction business performed on a public works project in the state that is complete and not in dispute is paid in full and in a timely manner.

(b) Notwithstanding any other law, including, but not limited to, Article 7.1 (commencing with Section 10240) of Chapter 1 of Part 2, Chapter 10 (commencing with Section 19100) of Part 2, and Article 1.5 (commencing with Section 20104) of Chapter 1 of Part 3, this section shall apply to any claim by a contractor in connection with a public works project.

(c) For purposes of this section:

(1) "Claim" means a separate demand by a contractor sent by registered mail or certified mail with return receipt requested, for one or more of the following:

(A) A time extension, including, without limitation, for relief from damages or penalties for delay assessed by a public entity under a contract for a public works project.

(B) Payment by the public entity of money or damages arising from work done by, or on behalf of, the contractor pursuant to the contract for a public works project and payment for which is not otherwise expressly provided or to which the claimant is not otherwise entitled.

(C) Payment of an amount that is disputed by the public entity.

(2) "Contractor" means any type of contractor within the meaning of Chapter 9 (commencing with Section 7000) of Division 3 of the Business and Professions Code who has entered into a direct contract with a public entity for a public works project.

(3) (A) "Public entity" means, without limitation, except as provided in subparagraph (B), a state agency, department, office, division, bureau, board, or commission, the California State University, the University of California, a city, including a charter city, county, including a charter county, city and county, including a charter city and county, district, special district, public authority, political subdivision, public corporation, or nonprofit transit corporation wholly owned by a public agency and formed to carry out the purposes of the public agency.

(B) "Public entity" shall not include the following:

(i) The Department of Water Resources as to any project under the jurisdiction of that department.

(ii) The Department of Transportation as to any project under the jurisdiction of that department.

(iii) The Department of Parks and Recreation as to any project under the jurisdiction of that department.

(iv) The Department of Corrections and Rehabilitation with respect to any project under its jurisdiction pursuant to Chapter 11 (commencing with Section 7000) of Title 7 of Part 3 of the Penal Code.

(v) The Military Department as to any project under the jurisdiction of that department.

(vi) The Department of General Services as to all other projects.

(vii) The High-Speed Rail Authority.

(4) "Public works project" means the erection, construction, alteration, repair, or improvement of any public structure, building, road, or other public improvement of any kind.

(5) "Subcontractor" means any type of contractor within the meaning of Chapter 9 (commencing with Section 7000) of Division 3 of the Business and Professions Code who either is in direct contract with a contractor or is a lower tier subcontractor.

(d) (1) (A) Upon receipt of a claim pursuant to this section, the public entity to which the claim applies shall conduct a reasonable review of the claim and, within a period not to exceed 45 days, shall provide the claimant a written statement identifying what portion of the claim is disputed and what portion is undisputed. Upon receipt of a claim, a public entity and a contractor may, by mutual agreement, extend the time period provided in this subdivision.

(B) The claimant shall furnish reasonable documentation to support the claim.

(C) If the public entity needs approval from its governing body to provide the claimant a written statement identifying the disputed portion and the undisputed portion of the claim, and the governing body does not meet within the 45 days or within the mutually agreed to extension of time following receipt of a claim sent by registered mail or certified mail, return receipt requested, the public entity shall have up to three days following the next duly publicly noticed meeting of the governing body after the 45-day period, or extension, expires to provide the claimant a written statement identifying the disputed portion and the undisputed portion.

(D) Any payment due on an undisputed portion of the claim shall be processed and made within 60 days after the public entity issues its written statement. If the public entity fails to issue a written statement, paragraph (3) shall apply.

(2) (A) If the claimant disputes the public entity's written response, or if the public entity fails to respond to a claim issued pursuant to this section within the time prescribed, the claimant may demand in writing an informal conference to meet and confer for settlement of the issues in dispute. Upon receipt of a demand in writing sent by registered mail or certified mail, return receipt requested, the public entity shall schedule a meet and confer conference within 30 days for settlement of the dispute.

(B) Within 10 business days following the conclusion of the meet and confer conference, if the claim or any portion of the claim remains in dispute, the public entity shall provide the claimant a written statement identifying the portion of the claim that remains in dispute and the portion that is undisputed. Any payment due on an undisputed portion of the claim shall be processed and made within 60 days after the public entity issues its written statement. Any disputed portion of the claim, as identified by the contractor in writing, shall be submitted to nonbinding mediation, with the public entity and the claimant sharing the associated costs equally. The public entity and claimant shall mutually agree to a mediator within 10 business days after the disputed portion of the claim has been identified in writing. If the parties cannot agree upon a mediator, each party shall select a mediator and those mediators shall select a qualified neutral third party to mediate with regard to the disputed portion of the claim. Each party shall bear the fees and costs charged by its respective mediator in connection with the selection of the neutral mediator. If mediation is unsuccessful, the parts of the claim remaining in dispute shall be subject to applicable procedures outside this section.

(C) For purposes of this section, mediation includes any nonbinding process, including, but not limited to, neutral evaluation or a dispute review board, in which an independent third party or board assists the parties in dispute resolution through negotiation or by issuance of an evaluation. Any mediation utilized shall conform to the timeframes in this section.

(D) Unless otherwise agreed to by the public entity and the contractor in writing, the mediation conducted pursuant to this section shall excuse any further obligation under Section 20104.4 to mediate after litigation has been commenced.

(E) This section does not preclude a public entity from requiring arbitration of disputes under private arbitration or the Public Works Contract Arbitration Program, if mediation under this section does not resolve the parties' dispute.

(3) Failure by the public entity to respond to a claim from a contractor within the time periods described in this subdivision or to otherwise meet the time requirements of this section shall result in the claim being deemed rejected in its entirety. A claim that is denied by reason of the public entity's failure to have responded to a claim, or its failure to otherwise meet the time requirements of this section, shall not constitute an adverse finding with regard to the merits of the claim or the responsibility or qualifications of the claimant.

(4) Amounts not paid in a timely manner as required by this section shall bear interest at 7 percent per annum.

(5) If a subcontractor or a lower tier subcontractor lacks legal standing to assert a claim against a public entity because privity of contract does not exist, the contractor may present to the public entity a claim on behalf of a subcontractor or lower tier subcontractor. A subcontractor may request in writing, either on his or her own behalf or on behalf of a lower tier subcontractor, that the contractor present a claim for work which was performed by the subcontractor or by a

lower tier subcontractor on behalf of the subcontractor. The subcontractor requesting that the claim be presented to the public entity shall furnish reasonable documentation to support the claim. Within 45 days of receipt of this written request, the contractor shall notify the subcontractor in writing as to whether the contractor presented the claim to the public entity and, if the original contractor did not present the claim, provide the subcontractor with a statement of the reasons for not having done so.

(e) The text of this section or a summary of it shall be set forth in the plans or specifications for any public works project that may give rise to a claim under this section.

(f) A waiver of the rights granted by this section is void and contrary to public policy, provided, however, that (1) upon receipt of a claim, the parties may mutually agree to waive, in writing, mediation and proceed directly to the commencement of a civil action or binding arbitration, as applicable; and (2) a public entity may prescribe reasonable change order, claim, and dispute resolution procedures and requirements in addition to the provisions of this section, so long as the contractual provisions do not conflict with or otherwise impair the timeframes and procedures set forth in this section.

(g) This section applies to contracts entered into on or after January 1, 2017.

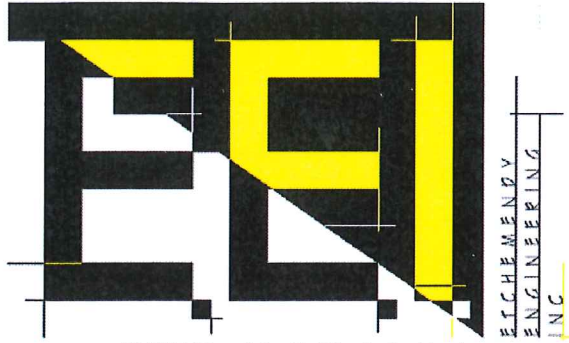
(h) Nothing in this section shall impose liability upon a public entity that makes loans or grants available through a competitive application process, for the failure of an awardee to meet its contractual obligations.

(i) This section shall remain in effect only until January 1, 2020, and as of that date is repealed, unless a later enacted statute, that is enacted before January 1, 2020, deletes or extends that date.

INYO COUNTY ANNEX SERVER HVAC RETROFIT

**PROJECT MANUAL
&
CUTSHEET MANUAL**

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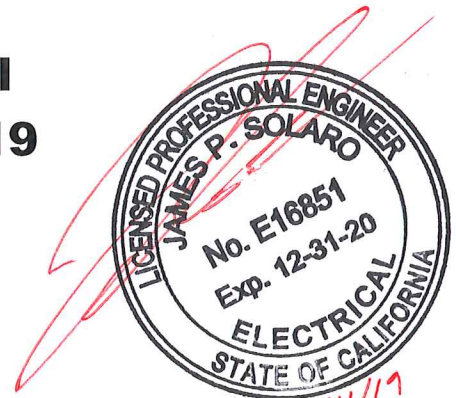
10597 Double R Blvd, Suite 1
Reno, Nevada 89521
(775) 853-1131 – Fax (775) 852-2352

**Inyo Annex Server IT
HVAC Retrofit
168 N Edwards St.
Independence, California
Project No. -**



10/11/19

**Project Manual
October 11, 2019**



10/11/19

SECTION 230500 - MECHANICAL GENERAL CONDITIONS

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. The Drawings and General provisions of the Contract including the "General Conditions", "Supplementary Conditions", and "General Requirements" of the Contract as written and referred to here are adopted and made part of Division 16.
- B. The Contract Agreement, Bidding documents, and all Addenda issued prior to Contract Agreement execution form a part of these specifications and apply to all Contracts or Subcontracts relating to the Mechanical systems.

1.02 SUMMARY

- A. The work under this Division shall consist of all labor, materials, equipment, services and related accessories, etc., necessary and required to complete all work as shown or inferred on the Drawings and in the Specifications (Contract Documents).
- B. Provide fixed Mechanical, except where specifically noted otherwise.
- C. Provide portable Mechanical equipment for the complete system(s).
- D. Provide equipment, ducting, piping etc. normally furnished or required for complete Mechanical systems but not specifically specified on the drawings and/or in specifications, as though specified by both.
- E. All equipment, ducting, piping etc. shall be new, except where specifically shown or specified otherwise.

1.03 WORK INCLUDED IN THIS DIVISION

- A. Mechanical work includes, but is not limited to
 - 1. Alterations and additions to existing Mechanical systems.
 - 2. Connection of all appliances and equipment including Owner furnished equipment.
- A. Install work under this Division per drawings, specifications, latest adopted edition of the Local adopted Building Codes, and any special codes having jurisdiction over specific portions of work within complete installation. In event of conflict, install work per most stringent code requirements determined by Engineer. This does not relieve the Contractor from furnishing and installing work shown or specified which may exceed the requirements of such ordinances, laws, regulations and codes.

- B. All materials, products, devices, fixtures, forms or types of construction included in this project shall meet or exceed the published requirements of American Society of Mechanical Engineers (ASME), American National Standards Institute (ANSI), and Institute of Mechanical and Electronics Engineers (IEEE). All equipment shall bear the Underwriter's Laboratories (UL) label or equivalent from approved independent testing laboratory.
- C. Arrange, pay fees for and complete work to pass required tests by agencies having authority over work. Deliver to Engineer copies of the Certificates of Inspection and approval issued by authorities and provide original copy of each certificate to Owner.
- D. When required by law or regulations, the governmental agency having jurisdiction for inspections shall be given reasonable notice and opportunity to inspect the work. Any work that is enclosed or covered up before such inspection and test shall be uncovered at the Contractor's expense; after it has been inspected, the Contractor shall restore the work to its original condition at his own expense.

1.04 INSURANCE

- A. The Contractor shall procure and maintain, at his expense, such insurance as required by law and/or specified in the General Conditions.

1.05 DRAWINGS AND SPECIFICATIONS

- A. Drawings and specifications are complementary. Work called for by one is binding as if called for by both. Any discrepancies between drawings and specifications shall be brought to the attention of the Engineer for clarification during the bidding period. No allowance shall subsequently be made to the Contractor by reason of his failure to have brought said discrepancies to the attention of the Consultant during the bidding period or by reason of any error on the Contractor's part.
- B. Drawings are schematic and diagrammatic in nature. Drawings show general run of distribution and approximate location of equipment. The contractor shall review drawings of all trades to assure coordination prior to placement of work. Right is reserved to change location of equipment and devices, and routing of pipes and ducts within 10 feet, without extra cost to Owner.
- C. Use dimensions in figures, shop drawings, etc. and actual site measurements in preference to scaled dimensions. Do not scale drawings for exact sizes or locations – use dimensioned details or actual field conditions. Verify item mounting heights as required by project conditions prior to rough-in.
- D. Discrepancies between different drawings or between drawings and specifications, or regulations and codes governing the installation shall be brought to the attention of the Engineer in writing for determination.
- E. Layout equipment as shown on drawings as close as possible. Verify access requirements for equipment actually furnished.

- F. Contractor is responsible to field measure and confirm the mounting heights and location of Mechanical equipment with respect to counters, doorways, and other architectural, electrical, fire or structural work. Do not scale distances off the Mechanical drawings: Use actual building dimensions.
- G. Execution of Contract is evidence that Contractor has examined all existing conditions, drawings and specifications related to work, and is informed to extent and character of work. Later claims for labor and materials required due to difficulties encountered, which could have been foreseen had examination been made, will not be recognized.
- H. All work called for in this Section of the plans and specifications shall be performed under this Section, regardless of whether such work may also have been called for in other Section(s). Discrepancies in or conflicts among the various parts of the contract drawings shall not relieve Contractor of his obligation to perform.
- I. No attempt has been made to establish the required sections or splits of equipment relative to the size of access into the space, building, etc. Contractor shall establish all said splits, sections, etc. necessary to install equipment complete without undue disassembly of equipment or demolition of building parts at site of work.
- J. Charges for extra work are not allowed unless work is authorized by written order from the Owner's Representative approving charges for work.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. All material shall be new, and have a UL label where available. If UL label is not available, material shall be manufactured in accordance with applicable ASME, ANSI, IEEE and Federal Standards. Use UL labeled components in assemblies that do not have overall UL label.
- B. Utilize one of the manufacturers listed to furnish all of the major equipment required for this project.

2.02 SUBSTITUTIONS

- A. All equipment and materials scheduled on the drawings or listed in the specifications are the "basis of design;" equipment and materials used on the project are subject to compliance with all listed requirements. In submitting a bid to complete services in this project, the contractor represents that its bid is based on materials and equipment described in the contract documents, including addenda. Contractors are encouraged to request a review of substitute materials and equipment. Substitutes will be considered only if they keep with the general intent of the contract documents, including quality of work and product, and are fully documented. All requests for review of alternates shall be submitted to the engineer 7 working days prior to the date of bid opening. Substitutes not properly submitted may be rejected without cause. In requesting a review of substitutes the contractor is to provide and item-by-item comparison of the alternate product to the basis of design. Comparisons shall include but are not limited to: size, weight, capacity, construction, warranty, finish, etc. Contractors will not be granted extended con-

tract time or fees in connection with the rejection of a substitute product. Contractor shall fabricate, furnish, install and pay for any additional materials and/or services by any other trade required to facilitate the use of a substituted item.

2.03 SUBMITTALS

- A. Before ordering any equipment contractor is to provide 6 sets of submittals for all equipment, accessories, test and balance, startup, fixtures, etc. That bare importance on proper project completion. All certifications for welders, balance contractors and startup technicians are to be provided in their appropriate sections. Submittals expected for final review are to be submitted a minimum of 14 working days prior to the required review and return time. The contractor is included 2 reviews of said submittals; any time incurred by additional submittal reviews caused by rejected or unacceptable submittals will be charged to the contractor at the engineer's hourly billing rate. Submittals will not be accepted that have not been reviewed and approved by the general contractor and/or construction manager having authority on the project. Incomplete submittals will not be accepted; a single fully encompassing submittal is to be provided by each trade. Contractors will not be granted extended contract time or fees in connection with the rejection of submittals or delays caused by unhurried submittal delivery.
- B. Standard factory brochures will not suffice as product submittals; factory submittal packages indicating the products, performance, dimensions, clearances, colors, testing and listing certifications and all accessories to be used are to be provided. In the case of alternates comparison documentation is to be provided showing proof of equality.
- C. In the case that additional design services are required by a registered professional the contractor is to provide sealed and signed documentation of work to be completed depicting necessary designs, and performance in accordance with all adopted codes.

PART 3 - EXECUTION

3.01 VISIT TO SITE

- A. Visit site, and survey existing conditions affecting work prior to bid. Include necessary materials and labor to accomplish the Mechanical work, including relocation of existing services and utilities on building site in bid. No consideration shall be given to future claims due to existing conditions. Any discrepancies or interference's shall be reported immediately to the Engineer.

3.02 WORKMANSHIP

- A. All work performed shall be first class work in every aspect. The work shall be performed by mechanics skilled in their respective trades, who shall at all times be under the supervision of competent persons.
- B. Work under this Division shall be first class with emphasis on neatness and workmanship. All work shall be installed square and plumb and concealed where possible. Work that is deficient, defective, poorly laid out, not perfectly aligned, or that is not consistent with the requirements generally accepted in the trade for "first class work" will not be acceptable.

- C. In addition to the materials specified elsewhere, furnish and install all other miscellaneous items necessary for the completion of the work to the extent that all systems are complete and operative.
- D. All work under this Section shall be performed in cooperation with the work performed under all other Sections of the Specifications for the Project in order to avoid interference with other work and to secure the proper installation of all work. Refer the Drawings and Specifications covering the work to be performed under all Sections, so that the relation and extent of the work of this Section with respect to the work of all other Sections is understood. Give right of way to raceways and piping systems installed at a required slope.
- E. Install work using competent mechanics, under supervision of foreman, all duly certified by local authorities. The installation shall be subject to the Engineer's observation, and final acceptance. The Engineer may reject unsuitable work.

3.03 CHANGE ORDERS

- A. Additional work may be required on the project, which is outside the scope of the contract. Such additional work will be described in Supplemental Instructions and/or Clarifications, to be estimated and priced by the Contractor, and accepted by the Owner, prior to commencing work.
- B. Acceptable charges will be limited to the following:
 - a. Labor hours shall be calculated, and shall be priced based on actual paid cost, not to exceed local Prevailing Wage Rates.
 - b. Supervision and Support shall not exceed 15% of labor charges. This blanket percentage shall cover foreman, tools, vehicles, record drawings, etc.
 - c. Charges for material shall be charged at actual unit prices quoted by suppliers, supported by a true copy of the written price quotation.
 - d. Major equipment items shall be charged at actual unit prices quoted by suppliers, supported by a true copy of the written price quotation.
 - e. Handling charges for material shall not exceed 5% of material and equipment charges. This blanket percentage shall cover freight, cartage, wastage, etc.
 - f. Should the Owner or Engineer find reason to dispute or challenge the Contractor's pricing of additional work, one of the following solutions may be imposed
 - g. Contractor shall be directed to proceed with the work, and submit his proposed charges for arbitration at the conclusion of the project.
 - h. Contractor shall maintain a separate labor log and obtain daily signatures thereon, and shall be prepared to submit a certified, audited payroll report to support his claims.

- i. Owner shall purchase the disputed equipment and/or material, and provide same to Contractor at job site for installation, along with a copy of the invoice. Contractor may add a 10% charge to cover handling and warranty administration.
- j. Owner shall contract with a separate licensed Mechanical Contractor to perform the extra work. In this event, the originally-contracted work shall be completed by Contractor and accepted by the Owner, following inspection and recommendation by the Engineer. This Contractor shall cause no impediment to the work of the separate contractor, and shall maintain full warranty on his originally-installed equipment and workmanship.

3.04 GUARANTEE

- A. Furnish the Owner a written guarantee, stating that if the workmanship and/or material executed under this Division are proven defective within one (1) year after final acceptance by the Owner, such defects and other work damaged will be repaired and/or replaced. Submit with Operations and Maintenance Manuals.
- B. Obtain from the various manufacturers or vendors guarantees or warranties for their particular equipment or components, and deliver them to the Owner. All guarantees and warranties provided shall be referenced to this project.
- C. In event that systems are placed in operation in several phases at the Owner's request, guarantee will begin on date each system or item of equipment is accepted for service by the Owner. Provide O&M manuals for all equipment when equipment is accepted for service by the Owner.
- D. All guarantees and warranties shall include labor and material at the site of installation for the duration of the guarantee period.

3.05 COOPERATION

- A. Carefully coordinate work with other contractors and subcontractors. Refer conflicts between trades to Engineer. Provide necessary information to other trades for such coordination. Such information shall include Shop Drawings, Product Data and all other required data.
- B. Whenever such information is not provided in a timely manner or whenever such information is incorrect, this contractor shall bear all costs for providing or correcting affected work of related trades with no change to the Contract Price or Construction Schedule.
- C. Work to be installed as progress of project will allow. Schedule of work determined by General Contractor, Owner, and/or Architect/Engineer.

3.06 HVAC CONTROL WIRING

- A. Control Wiring including low voltage and line voltage interlock wiring will be furnished and installed under Division 16.

3.07 PROTECTING

- A. Provide warning lights, bracing, shoring, rails, guards and covers necessary to prevent damage or injury. All persons working around Mechanical equipment shall have Mechanical shock and flash protection per OSHA 1910.301-309 & 331-335.
- B. Do not leave exposed or unprotected, Mechanical items carrying current. Protect visitors and workers from exposure to contact with Mechanically energized surfaces, parts, etc. in accordance with OSHA standards.

3.08 DELIVERY, STORAGE AND HANDLING

- A. Deliver equipment and materials to job site in original, unopened, labeled container. Products shall be properly identified with names, model numbers, types, grades, compliance labels and other information needed for identification. Store to prevent damage and injury. Store materials to prevent corroding. Store finished materials and equipment to prevent staining and discoloring. Store materials affected by condensation in warm dry areas. Provide heaters. Contractor shall verify the availability of on site storage space, if no on site storage space is available then the contractor shall cover the cost for off site storage. Materials stored at the project site that becomes soiled with construction dirt, concrete, or moisture shall be removed from the site and replaced with new. Do not install soiled material.
- B. Protect work and materials from damage by weather, entrance of water or dirt. Cap and mark piping and ductwork during installation.
- C. Avoid damage to materials and equipment in place. Repair, or remove and replace damaged work and materials.
- D. Protection and safekeeping of products stored on premises is responsibility of Contractor supplying products.
- E. Schedule of deliveries and unloading to prevent traffic congestion blocking of access or interference with work. Arrange deliveries to avoid larger accumulations of materials than can be suitably stored at site.
- F. Install equipment per manufacturer's recommendations. Conflicts between contract documents and these recommendations shall be referred to Engineer for remedy.
- G. Mechanical or electronic equipment that has been damaged, exposed to weather or is, in the opinion of the Engineer or Architect, otherwise unsuitable because of improper fabrication, storage or installation shall be removed and replaced by this Contractor at his expense.

3.09 CLEANING AND PAINTING

- A. Clean equipment furnished in this Division after completion of work. Clean wipe the interior of all ducting, pipes, equipment soiled with dirt and debris prior to installation of wiring.
- B. Touch-up or re-paint damaged painted finishes as determined by the Engineer.
- C. Contractor is to paint out all diffuser, grille and internal ductwork portions visible behind terminations in space. All ductwork installed exposed within the space is to be

painted per the architectural requirements. Coordinate exact requirements with architectural drawings.

D. Remove debris, packing cartons, scrap, etc., from site daily.

3.10 STARTUP

A. All mechanical and high efficiency plumbing equipment is to be started up by a factory trained and certified technician

3.11 TRAINING

A. Training for operation and maintenance of new systems or modifications to existing systems is specified in Technical sections. Contractor shall submit with record documents an itemized receipt signed by Owner's representative that all specified training has been received.

3.12 ACCESS PANELS

A. The contractor shall furnish all access panels for walls, partitions, etc., and shall give access panel to the General Contractor for installation at locations as directed by the Mechanical Contractor. It shall be the responsibility of the Mechanical Contractor that access panels are provided for access to all equipment and accessories, which may be concealed by building construction to provide adequate service space and comply with the manufacturers listed requirements. Access panels shall be installed so as not to interfere with building and other system arrangements.

END OF SECTION 230500

SECTION 230518 - ESCUTCHEONS FOR HVAC PIPING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Escutcheons.
 - 2. Floor plates.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product indicated.

PART 2 - PRODUCTS

2.1 ESCUTCHEONS

- A. One-Piece, Cast-Brass Type: With polished, chrome-plated finish and setscrew fastener.
- B. One-Piece, Stamped-Steel Type: With chrome-plated finish and spring-clip fasteners.

2.2 FLOOR PLATES

- A. One-Piece Floor Plates: Cast-iron flange with holes for fasteners.
- B. Split-Casting Floor Plates: Cast brass with concealed hinge.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install escutcheons for piping penetrations of walls, ceilings, and finished floors.

- B. Install escutcheons with ID to closely fit around pipe, tube, and insulation of insulated piping and with OD that completely covers opening.
 - 1. Escutcheons for New Piping:
 - a. Piping with Fitting or Sleeve Protruding from Wall: One-piece.
 - b. Chrome-Plated Piping: One-piece, cast-brass type with polished, chrome-plated finish.
 - c. Insulated Piping: One-piece, stamped-steel type.
 - d. Bare Piping at Wall and Floor Penetrations in Finished Spaces: One-piece, cast-brass type with polished, chrome-plated finish.
 - e. Bare Piping at Ceiling Penetrations in Finished Spaces: One-piece, cast-brass type with polished, chrome-plated finish.
 - f. Bare Piping in Unfinished Service Spaces: One-piece, stamped-steel type.
 - g. Bare Piping in Equipment Rooms: One-piece, stamped-steel type.
- C. Install floor plates for piping penetrations of equipment-room floors.
- D. Install floor plates with ID to closely fit around pipe, tube, and insulation of piping and with OD that completely covers opening.
 - 1. New Piping: One-piece, floor-plate type.
 - 2. Existing Piping: Split-casting, floor-plate type.

3.2 FIELD QUALITY CONTROL

- A. Replace broken and damaged escutcheons and floor plates using new materials.

END OF SECTION 230518

SECTION 220548 - VIBRATION AND SEISMIC CONTROLS FOR HVAC

PART 1: GENERAL

1.1 WORK INCLUDED

- A. This section provides minimum acceptance requirements for vibration isolation and seismic/wind restraints for all plumbing equipment and piping.

1.2 RELATED WORK SPECIFIED ELSEWHERE

- A. Concrete work is provided in Division 03.
- B. Seismic restraints for fire suppression systems are provided in Division 21.
- C. Vibration isolation and seismic/wind restraints for HVAC systems are provided in Division 23.
- D. Vibration isolation and seismic restraints for electrical systems are provided in Division 26.

1.3 QUALITY ASSURANCE

- A. Unless otherwise directed by the local authority having jurisdiction, the following codes and standards will apply:
 - 1. 2018 International Building Code (2018 IBC)
 - 2. American Society of Civil Engineers 7-10
- B. Manufacturer's Qualifications: Firms regularly engaged in manufacture of vibration control and restraint products of type, size, and capacity required, whose products have been in satisfactory use in similar service for not less than 5 years.
- C. The following guides may be used for supplemental information on typical seismic installation practices. Where a conflict exists between the guides and these construction documents, the construction documents will preside.
 - 1. Federal Emergency Management Agency (FEMA) manuals 412, *Installing Seismic Restraints for Mechanical Equipment* and 414, *Installing Seismic Restraints for Ductwork and Pipe*.
 - 2. Sheet Metal and Air-conditioning Contractors' National Association's (SMACNA) *Seismic Restraint Manual Guidelines for Mechanical Systems, 3rd ed., 2008*

3. American Society for Heating, Refrigerating and Air-conditioning Engineers' (ASHRAE) *A Practical Guide to Seismic Restraint*

1.4 SUBMITTALS

- A. All vibration isolation and seismic/wind restraint systems shall be by one manufacturer.
- B. All outdoor mounted equipment shall be restrained for the highest wind speed as specified by the project's structural engineer, the governing building code(s) or the authority having jurisdiction.
- C. Submit shop drawings for all items/devices requiring restraint. Those items/devices not requiring restraint shall be indicated in a stamped letter from the design professional. Submittals shall indicate full compliance with the device specification in Part 2. Any deviation shall be specifically noted and subject to engineer approval. Submittals shall include device dimensions, placement, attachment and anchorage requirements.
- D. Provide calculations for selection of seismic/wind restraints, certified by a qualified professional engineer, licensed in the state of the project.
- E. Seismic/Wind Restrain Design Criteria: Per the local authority and code requirements.

PART 2: PRODUCTS

2.1 VIBRATION ISOLATION AND RESTRAINTS:

- A. Springs: All springs shall have a minimum additional travel to solid equal to 50% of the rated deflection. All springs except internal nested springs shall have an outside diameter not less than 0.8 of the compressed height of the spring. Ends of springs shall be square and ground for stability. Laterally stable springs shall have k_x/k_y ratios of at least 0.9. All springs shall be fully color-coded to indicate capacity – color striping is not considered adequate.
- B. Corrosion Protection: All springs shall be powder-coated enamel. Housings shall be hot dipped galvanized (located outdoors), powder-coated enamel, or painted with rust-resistant paint.
- C. Provide positive attachment for seismic and wind restraints on those systems and components required by the applicable building code and by the local authority having jurisdiction.
- D. Provide restraint devices as required, specified, and as scheduled for isolated and non-isolated systems and equipment. Provide calculations to determine restraint loadings for all restrained systems and equipment resulting from seismic forces.

- E. See the vibration isolation and seismic restraint schedule on the drawings for equipment specific values to be used in calculating the seismic restraint forces, including component importance factor, I_p .
- F. Bases:
1. Concrete Inertia Base: Inertia bases shall be of welded steel construction with concrete in-fill supplied by the installing contractor on site and shall incorporate minimum #4 or minimum 10M reinforcing bars, welded 12" (300 mm) to 18" (455 mm) maximum on centers each way. Inertia bases for split case pumps shall be of sufficient size to accommodate supports for pipe elbows at pump suction and discharge connections. Inertia bases for fans shall include motor slide rails as required. The weight of each inertia base shall be at least equal to the weight of the equipment mounted thereon. Inertia bases shall be of minimum 6" (150 mm) thickness. Height-saving brackets or welded steel pockets shall be incorporated to ensure a 1-1/2" (40 mm) minimum clearance under each base. Bases for exterior use shall be painted or hot dipped galvanized for complete corrosion resistance. Equipment bolting templates shall be provided when required.
 - a. Type CIB – Rectangular frame concrete inertia base
- G. Isolators:
1. Vibration Isolation Pads: Type N – Neoprene pad type isolators, 3/8" (10 mm) minimum thick, ribbed on both sides. Type NSN – Sandwich neoprene pad type isolators, with 3/8" (10 mm) minimum thick ribbed neoprene pads bonded to each side of a 10 ga (3.5 mm) minimum galvanized metal plate. Isolator pads shall be selected to ensure that deflection does not exceed 20% of isolator free height.
 2. Grommet Washers: Type GW - Neoprene grommet washers of sufficient size to accommodate USS standard washers, long enough to sleeve through 1/4" (6 mm) plate material, and with at least 1/8" (3 mm) thick material around the bolt hole.
 3. Seismic/Wind Spring Floor Mounts: Type SFS – Laterally stable, restrained spring type with support for bolting to the equipment. Springs shall be supported either with a neoprene cup or a metal base plate complete with a neoprene noise isolation pad, minimum 1/4" (6 mm) thick, bonded to the base plate. Mount shall include integral all-directional limit stops with elastomeric grommets preventing metal-to-metal contact and with minimum 1/4" clearance under normal operation.
 4. Seismic/Wind Restrained Spring Isolator: Type SCSR – Laterally stable, restrained spring type with housings and heavy top plates for supporting the equipment and resisting seismic and wind loading. Housings shall be of welded steel construction and include vertically restraining limit stops. Maximum clearance around the restraining bolts shall be 1/4" (6 mm).

Top plate and restraining bolts shall be out of contact with the housing during normal operation and neoprene grommets shall be incorporated to minimize short-circuiting of restraining bolts. Housing must be hot-dip galvanized for outdoor applications. For indoor applications, powder-coated finish is acceptable for the housing.

5. Spring Hangers: Vibration isolator hanger supports with steel springs and welded steel housings. Hangers shall be designed for a minimum of 15 degree angular misalignment from vertical before support rod contacts housing; hangers serving lightweight loads 0.90 kN (200 lbs) and less may be exempt from this requirement. Provide a vertical uplift stop-washer on spring hangers for seismically restrained equipment, duct or piping.
 - a. Type SHRB – Spring hanger with neoprene and bottom cup isolators complete with spring, compression cup, neoprene “double-deflection” element at top of hanger, and neoprene cup under the spring.

H. Restraints:

1. Seismic Cable Restraints: Type BulletBrace™ – Preassembled Adjustable Seismic cable sway bracing restraints shall consist of 7x19 galvanized steel aircraft cable sized to resist seismic loads. Cable restraint system shall be completely preassembled to eliminate onsite assembly of restraint components and must allow quick and easy adjustment on the length of the cable after the installation to remove excessive sag on the cable. Cable end connections shall use heavy brackets, thimbles, and wire rope clips or compression sleeves.
2. Rigid Restraints: Type RRK-V – Seismic rigid sway bracing restraints shall include heavy duty brackets made of high-strength, low alloy steel designed to provide enough strength to withstand seismic load. To prevent any confusion, brackets should be universal to be used for both structure and equipment attachments and should accommodate post-installation of seismic restraints without the requirement of disassembling the hanger rod or any component of the equipment. No drilling should be required to secure rigid restraint brackets to the rigid brace, and rigid restraint system must include special grade hardware for attachments. Rigid restraint brackets must be color-coded for capacity identification.
3. Hanger Rod Stiffener: Structural steel angle attached with a formed steel clamp (Type VAC) to threaded rod support. Steel angle to be provided by contractor; steel clamp to be provided by seismic restraint manufacturer.
4. Seismic Pipe/Duct Stand: Type SPS-6 and SPSA-6 (Adjustable Height) – rigid support pipe stands made of high-strength steel rigid restraints, low alloy designed to support the dead load, and provide enough strength to withstand at least 1 g of lateral seismic force. In addition to providing

allowance for roof slopes, the adjustable height stands shall be used to accommodate changing pipe sizes.

5. Seismic Restraint Brackets: Type SRB – Formed steel brackets for securing floor-mounted equipment complete with pre-drilled holes. Brackets shall be galvanized or powder coated enamel for corrosion protection.
6. Concrete Anchors: Post-installed anchors in concrete shall be qualified for seismic/wind restraint application.
 - a. Mechanical anchor bolts: Drilled-in and stud-wedge or female-wedge type in zinc-coated steel for interior applications and stainless steel for exterior applications. (In accordance with ACI 355.2 and ICC-ES AC193)
 - b. Adhesive Anchor Bolts: Drilled-in and capsule anchor system containing polyvinyl or urethane methacrylate-based resin and accelerator, or injected polymer or hybrid mortar adhesive. Provide anchor bolts and hardware with zinc-coated steel for interior applications and stainless steel for exterior applications. (In accordance with ACI 355.4 and ICC-ES AC308)

I. Flexible Connectors:

1. Rubber Expansion Joints: Rubber expansion joints are constructed of synthetic rubber tube and cover, which are molded and cured in hydraulic presses. They are reinforced with multi-ply Nylon tire cord fabric. Internal reinforcing of metal wire or embedded rings are not acceptable. Rubber expansion joints will either be single sphere or double sphere. Double sphere rubber expansion joints shall have a factory installed steel body ring between the two spheres to control ballooning under high pressure/temperature situations. Rubber expansion joints for pipe sizes 1-1/2" and up will have floating steel flanges. The mating surface will be 100% rubber. For sizes 3/4" up to 3", threaded female union connectors are also accepted. Control rods shall be installed to prevent excessive elongation where required. Control rods shall utilize 1/4" thick neoprene grommets to limit vibration transfer.
2. Metal Bellows Expansion Joints: Type EJM – Bellow pump connectors are constructed with series 300 stainless steel multi-ply bellows welded to 150 lbs carbon steel flanges. Three tie rods are factory installed to prevent excessive elongation and to control the static pressure thrust at full rated working pressure of the connector. Tie rods shall utilize rubber grommets to limit vibration transfer.
3. Braided Metal Flexible Connectors: Connectors shall have copper sweat ends or copper hex male threaded ends for copper piping. Connectors for steel piping shall have flanged, carbon steel male threaded, grooved or a

combination of grooved and flanged ends. Utilize connectors of 300 series stainless steel corrugated hose and braid and carbon steel fittings for connection to steel piping. Reducing sizes shall be available with combinations of all end fittings. Connectors for copper piping shall be constructed of bronze hose and braid with copper end connections.

4. Thermal and Seismic V-Connectors: V connectors shall allow standard 2", 3", 4" or greater movements along the 6 directions of XY, YZ and XZ planes. V-connectors use two 45° elbows and one 90° elbow for a total of 180° in pipe change. Large connectors shall be supplied with shipping bars tack welded at factory to maintain designed length. For steam applications, a drain port and plug shall be specified and factory installed into the bottom of the 90° elbow to allow condensate to be drained. Flange, weld, threaded, groove or copper tube end fittings are provided to match connecting pipe.

PART 3: EXECUTION

3.1 GENERAL:

- A. Coordinate size, doweling, and reinforcing of concrete equipment housekeeping pads and piers with vibration isolation and seismic restraint device manufacturer to ensure adequate space and prevent edge breakout failures. Pads and piers must be adequately doweled in to structural slab.
- B. Coordinate locations and sizes of structural supports with locations of vibration isolators and seismic/wind restraints (e.g., roof curbs, cooling towers, air-cooled chillers, etc.).
- C. Isolated and restrained equipment, duct and piping located on roofs must be attached to the structure. Intermediate supports between the restraint and structure that are not attached to the structure must be approved by the restraint manufacturer.

3.2 VIBRATION ISOLATION:

- A. Block and shim all bases level so that all ductwork, piping and electrical connections can be made to a rigid system at the proper operating level, before isolators are adjusted. Ensure that there are no rigid connections or incidental physical contacts between isolated equipment and the building structure or nearby systems.
- B. Ensure housekeeping pads have adequate space to mount equipment and isolator housings and shall also be large enough to ensure adequate edge distance for isolator anchors.
- C. Select and locate vibration isolation equipment to give uniform loading and deflection, according to weight distribution of equipment.

- D. Mount fans, as indicated on the drawings, on structural steel vibration bases common to both fan and motor. There shall be a minimum operating clearance of 1" (25 mm) between steel bases and the structure.
- E. Mount pumps and equipment, as indicated on the drawings, on concrete-filled inertia bases. Concrete in-fill shall be supplied by the installing contractor on site. There shall be a minimum operating clearance of 2" (50 mm) between each inertia base and its foundation.
- F. Extent of Piping Isolation:
 - 1. Isolate all piping larger than 1" (25 mm) dia. connected to spring isolated equipment with 0.75" (25 mm) static deflection spring hangers at spacing intervals in accordance with the following:

Pipe Diameter	Distance from Vibrating Equipment
1-1/4" to 4"	40'
6" and 8"	50'
10" and larger	60'
 - 2. Spring hanger isolators shall be cut in to the hanger rods and installed after the system is filled. Alternatively, provisions must be made to ensure piping does not change height during installation and start-up.

3.3 SEISMIC/WIND RESTRAINTS:

- A. General:
 - 1. All equipment, piping and ductwork shall be restrained to resist seismic/wind forces per the applicable building code(s) as a minimum. Restraint attachments shall be made by bolts, welds or a positive fastening method. Friction shall not be considered. All attachments shall be proven capable of accepting the required wind load by calculations. Additional requirements specified herein are included specifically for this project.
 - 2. Install seismic and wind restraint devices per the manufacturer's submittals. Any deviation from the manufacturer's instructions shall be reviewed and approved by the manufacturer.
 - 3. Attachment to structure for suspended equipment, pipe and duct: If specific attachment is not indicated, anchor bracing to structure at flanges of beams, at upper truss chords of bar joists, or at concrete members.
 - 4. Wall penetrations may be used as bracing locations provided the wall can provide adequate resistance without damage.

5. Coordinate sizes and locations of cast-in-place inserts for post-tensioned slabs with seismic restraint manufacturer.
6. Provide hanger rod stiffeners where indicated or as required to prevent buckling of rods due to seismic forces.
7. Where rigid restraints are used on equipment, ductwork or piping, support rods for the equipment, ductwork or piping at restraint locations must be supported by anchors rated for seismic use. Post-installed concrete anchors must be in accordance with ACI 355.2.
8. Ensure housekeeping pads have adequate space to mount equipment and seismic restraint devices and shall also be large enough to ensure adequate edge distance for restraint anchor bolts to avoid housekeeping pad breakout failure.

B. Concrete Anchor Bolts:

1. Identify position of reinforcing steel and other embedded items prior to drilling holes for anchors. Do not damage existing reinforcing or embedded items during coring or drilling. Notify the structural engineer if reinforcing steel or other embedded items are encountered during drilling. Locate and avoid pre- or post-tensioned tendons, electrical and telecommunications conduit, and gas lines. Do not drill holes in concrete or masonry until concrete, mortar, or grout has achieved full design strength.
 - 1.
 2. Mechanical Anchors: Protect threads from damage during anchor installation. Heavy-duty sleeve anchors shall be installed with sleeve fully engaged in the structural element to which anchor is to be fastened.
 - 2.
 3. Adhesive Anchors: Clean holes to remove loose material and drilling dust prior to installation of adhesive. Place adhesive in holes proceeding from the bottom of the hole and progressing toward the surface in such a manner as to avoid introduction of air pockets in the adhesive.
 - 3.
 4. Set anchors to manufacturer's recommended torque, using a torque wrench.

C. Equipment Restraints:

1. Seismically restrain equipment as indicated on the schedule. Install fasteners, straps and brackets as required to secure the equipment.

2. Install neoprene grommet washers on equipment anchor bolts where clearance between anchor and equipment support hole exceeds 1/8" (3.2 mm).
 3. Install bushing assemblies for mounting bolts for wall-mounted equipment, arranged to provide resilient media where equipment or equipment-mounting channels are attached to wall.
- D. Piping Systems:
1. Unless otherwise indicated on the drawings, the component importance factor (Ip) for all piping systems shall be assigned a 1.5. therefore all piping with a diameter greater than 1" (25 mm) or trapeze-supported piping with combined operating weight over 10 lbs./ft. (15 kg/m) shall be restrained.
 2. Restraint spacing:
 - a. For ductile piping, space lateral supports a maximum of 40' (12 m) o.c., and longitudinal supports a maximum of 80' (24 m) o.c.
 - b. For non-ductile piping (e.g., cast iron, PVC) space lateral supports a maximum of 20' (6 m) o.c., and longitudinal supports a maximum of 40' (12 m) o.c.
 - c. For piping with hazardous material inside (e.g., natural gas, medical gas) space lateral supports a maximum of 20' (6 m) o.c., and longitudinal supports a maximum of 40' (12 m) o.c.
 - d. For pipe risers, restrain the piping at floor penetrations using the same spacing requirements as above.
 3. Brace a change of direction longer than 10' (3.7 m).
 4. Longitudinal restraints for single pipe supports shall be attached directly to the pipe, not to the pipe hanger.
 5. For supports with multiple pipes (trapezes), secure pipes to trapeze member with clamps approved for application.
 6. Piping on roller supports shall include a second roller support located on top of the pipe at each restraint location to provide vertical restraint.
 7. Install restraint cables so they do not bend across edges of adjacent equipment or building structure.
 8. Install flexible metal hose loops in piping which crosses building seismic joints, sized for the anticipated amount of movement.

9. Install flexible piping connectors where adjacent sections or branches are supported by different structural elements, and where the connections terminate with connection to equipment that is anchored to a different structural element from the one supporting the connections as they approach equipment.
10. Coordinate seismic restraints with thermal expansion compensators, guides and anchor points. Thermal expansion anchor points shall be designed to accommodate seismic forces.

E. Extent of Piping Isolation:

1. The equipment to be restrained shall be per the following schedule:
 - a. HP – Heat Pump
 - 1) Ground Mounted
 - 2) IP 1.5
 - b. AHU – Air Handler
 - 1) Ceiling Mounted
 - 2) IP 1.5
 - c. Ductwork
 - 1) Suspended Mounting
 - 2) IP 1.5

3.4 INSPECTION AND CERTIFICATION:

- A. After installation of restraints, arrange and pay for the seismic restraint product manufacturer, or representative, to visit the site to verify that the seismic and wind restraint systems are installed properly. The manufacturer or representative shall submit a certification stating such.

END OF SECTION 220548

SECTION 230553 - IDENTIFICATION FOR HVAC PIPING AND EQUIPMENT

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Equipment labels.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Samples: For color, letter style, and graphic representation required for each identification material and device.
- C. Equipment Label Schedule: Include a listing of all equipment to be labeled with the proposed content for each label.
- D. Valve numbering scheme.
- E. Valve Schedules: For each piping system to include in maintenance manuals.

PART 2 - PRODUCTS

2.1 EQUIPMENT LABELS

- A. Metal Labels for Equipment:
 - 1. Material and Thickness: Brass, 0.032-inch, stainless steel, 0.025-inch, aluminum, 0.032-inch or anodized aluminum, 0.032-inch minimum thickness, and having predrilled or stamped holes for attachment hardware.
 - 2. Letter Color: White.
 - 3. Background Color: Black.
 - 4. Minimum Label Size: Length and width vary for required label content, but not less than 2-1/2 by 3/4 inch.
 - 5. Minimum Letter Size: 1/4 inch for name of units if viewing distance is less than 24 inches, 1/2 inch for viewing distances up to 72 inches, and proportionately

larger lettering for greater viewing distances. Include secondary lettering two-thirds to three-quarters the size of principal lettering.

6. Fasteners: Stainless-steel rivets.
 7. Adhesive: Contact-type permanent adhesive, compatible with label and with substrate.
- B. Label Content: Include equipment's Drawing designation or unique equipment number, Drawing numbers where equipment is indicated (plans, details, and schedules), and the Specification Section number and title where equipment is specified.
- C. Equipment Label Schedule: For each item of equipment to be labeled, on 8-1/2-by-11-inch bond paper. Tabulate equipment identification number, and identify Drawing numbers where equipment is indicated (plans, details, and schedules) and the Specification Section number and title where equipment is specified. Equipment schedule shall be included in operation and maintenance data.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Clean piping and equipment surfaces of substances that could impair bond of identification devices, including dirt, oil, grease, release agents, and incompatible primers, paints, and encapsulants.

3.2 GENERAL INSTALLATION REQUIREMENTS

- A. Coordinate installation of identifying devices with completion of covering and painting of surfaces where devices are to be applied.
- B. Coordinate installation of identifying devices with locations of access panels and doors.
- C. Install identifying devices before installing acoustical ceilings and similar concealment.

3.3 EQUIPMENT LABEL INSTALLATION

- A. Install or permanently fasten labels on each major item of mechanical equipment.
- B. Locate equipment labels where accessible and visible.

END OF SECTION 230553

SECTION 230593
TESTING, ADJUSTING, AND BALANCING FOR HVAC

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Balancing Air Systems:
 - a. Constant-volume air system.
 - 2. Testing, adjusting, and balancing existing systems and equipment.

1.3 DEFINITIONS

- A. AABC: Associated Air Balance Council.
- B. BAS: Building automation systems.
- C. NEBB: National Environmental Balancing Bureau.
- D. TAB: Testing, adjusting, and balancing.
- E. TABB: Testing, Adjusting, and Balancing Bureau.
- F. TAB Specialist: An independent entity meeting qualifications to perform TAB work.
- G. TDH: Total dynamic head.

1.4 PREINSTALLATION MEETINGS

- A. TAB Conference: If requested by the Owner, conduct a TAB conference at Project site after approval of the TAB strategies and procedures plan to develop a mutual understanding of the details. Provide a minimum of 14 days' advance notice of scheduled meeting time and location.
 - 1. Minimum Agenda Items:

- a. The Contract Documents examination report.
- b. The TAB plan.
- c. Needs for coordination and cooperation of trades and subcontractors.
- d. Proposed procedures for documentation and communication flow.

1.5 INFORMATIONAL SUBMITTALS

- A. Qualification Data: Within 30 days of Contractor's Notice to Proceed, submit documentation that the TAB specialist and this Project's TAB team members meet the qualifications specified in "Quality Assurance" Article.
- B. Contract Documents Examination Report: Within 30 days of Contractor's Notice to Proceed, submit the Contract Documents review report as specified in Part 3.
- C. Strategies and Procedures Plan: Within 30 days of Contractor's Notice to Proceed, submit TAB strategies and step-by-step procedures as specified in "Preparation" Article.
- D. System Readiness Checklists: Within 30 days of Contractor's Notice to Proceed, submit system readiness checklists as specified in "Preparation" Article.
- E. Examination Report: Submit a summary report of the examination review required in "Examination" Article.
- F. Certified TAB reports.
- G. Sample report forms.
- H. Instrument calibration reports, to include the following:
 1. Instrument type and make.
 2. Serial number.
 3. Application.
 4. Dates of use.
 5. Dates of calibration.

1.6 QUALITY ASSURANCE

- A. TAB Specialists Qualifications: Certified by AABC.
 1. TAB Field Supervisor: Employee of the TAB specialist and certified by AABC.
 2. TAB Technician: Employee of the TAB specialist and certified by AABC as a TAB technician.
- B. Instrumentation Type, Quantity, Accuracy, and Calibration: Comply with requirements in ASHRAE 111, Section 4, "Instrumentation."

- C. ASHRAE Compliance: Applicable requirements in ASHRAE 62.1, Section 7.2.2 - "Air Balancing."
- D. ASHRAE/IESNA Compliance: Applicable requirements in ASHRAE/IESNA 90.1, Section 6.7.2.3 - "System Balancing."

1.7 FIELD CONDITIONS

- A. Full Owner Occupancy: Owner will occupy the site and existing building during entire TAB period. Cooperate with Owner during TAB operations to minimize conflicts with Owner's operations.
- B. Partial Owner Occupancy: Owner may occupy completed areas of building before Substantial Completion. Cooperate with Owner during TAB operations to minimize conflicts with Owner's operations.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine the Contract Documents to become familiar with Project requirements and to discover conditions in systems designs that may preclude proper TAB of systems and equipment.
- B. Examine installed systems for balancing devices, such as test ports, gage cocks, thermometer wells, flow-control devices, balancing valves and fittings, and manual volume dampers. Verify that locations of these balancing devices are applicable for intended purpose and are accessible.
- C. Examine the approved submittals for HVAC systems and equipment.
- D. Examine design data including HVAC system descriptions, statements of design assumptions for environmental conditions and systems output, and statements of philosophies and assumptions about HVAC system and equipment controls.
- E. Examine ceiling plenums and underfloor air plenums used for supply, return, or relief air to verify that they are properly separated from adjacent areas. Verify that penetrations in plenum walls are sealed and fire-stopped if required.
- F. Examine equipment performance data including fan and pump curves.
 - 1. Relate performance data to Project conditions and requirements, including system effects that can create undesired or unpredicted conditions that cause reduced capacities in all or part of a system.

2. Calculate system-effect factors to reduce performance ratings of HVAC equipment when installed under conditions different from the conditions used to rate equipment performance. To calculate system effects for air systems, use tables and charts found in AMCA 201, "Fans and Systems," or in SMACNA's "HVAC Systems - Duct Design." Compare results with the design data and installed conditions.
- G. Examine system and equipment installations and verify that field quality-control testing, cleaning, and adjusting specified in individual Sections have been performed.
- H. Examine test reports specified in individual system and equipment Sections.
- I. Examine HVAC equipment and verify that bearings are greased, belts are aligned and tight, filters are clean, and equipment with functioning controls is ready for operation.
- J. Examine operating safety interlocks and controls on HVAC equipment.
- K. Report deficiencies discovered before and during performance of TAB procedures. Observe and record system reactions to changes in conditions. Record default set points if different from indicated values.

3.2 PREPARATION

- A. Prepare a TAB plan that includes the following:
 1. Equipment and systems to be tested.
 2. Strategies and step-by-step procedures for balancing the systems.
 3. Instrumentation to be used.
 4. Sample forms with specific identification for all equipment.
- B. Perform system-readiness checks of HVAC systems and equipment to verify system readiness for TAB work. Include, at a minimum, the following:
 1. Airside:
 - a. Verify that leakage and pressure tests on air distribution systems have been satisfactorily completed.
 - b. Duct systems are complete with terminals installed.
 - c. Volume, smoke, and fire dampers are open and functional.
 - d. Clean filters are installed.
 - e. Fans are operating, free of vibration, and rotating in correct direction.
 - f. Variable-frequency controllers' startup is complete and safeties are verified.
 - g. Automatic temperature-control systems are operational.
 - h. Ceilings are installed.
 - i. Windows and doors are installed.
 - j. Suitable access to balancing devices and equipment is provided.

3.3 GENERAL PROCEDURES FOR TESTING AND BALANCING

- A. Perform testing and balancing procedures on each system according to the procedures contained in AABC's "National Standards for Total System Balance", ASHRAE 111 and SMACNA's "HVAC Systems - Testing, Adjusting, and Balancing" and in this Section.
- B. Cut insulation, ducts, pipes, and equipment cabinets for installation of test probes to the minimum extent necessary for TAB procedures.
 - 1. After testing and balancing, patch probe holes in ducts with same material and thickness as used to construct ducts.
 - 2. After testing and balancing, install test ports and duct access doors that comply with requirements in Section 233300 "Air Duct Accessories."
 - 3. Install and join new insulation that matches removed materials. Restore insulation, coverings, vapor barrier, and finish according to Section 230713 "Duct Insulation," Section 230716 "HVAC Equipment Insulation," and Section 230719 "HVAC Piping Insulation."
- C. Mark equipment and balancing devices, including damper-control positions, valve position indicators, fan-speed-control levers, and similar controls and devices, with paint or other suitable, permanent identification material to show final settings.
- D. Take and report testing and balancing measurements in inch-pound (IP) units.

3.4 GENERAL PROCEDURES FOR BALANCING AIR SYSTEMS

- A. Prepare test reports for both fans and outlets. Obtain manufacturer's outlet factors and recommended testing procedures. Cross-check the summation of required outlet volumes with required fan volumes.
- B. Prepare schematic diagrams of systems' "as-built" duct layouts.
- C. For variable-air-volume systems, develop a plan to simulate diversity.
- D. Determine the best locations in main and branch ducts for accurate duct-airflow measurements.
- E. Check airflow patterns from the outdoor-air louvers and dampers and the return- and exhaust-air dampers through the supply-fan discharge and mixing dampers.
- F. Locate start-stop and disconnect switches, electrical interlocks, and motor starters.
- G. Verify that motor starters are equipped with properly sized thermal protection.
- H. Check dampers for proper position to achieve desired airflow path.
- I. Check for airflow blockages.

- J. Check condensate drains for proper connections and functioning.
- K. Check for proper sealing of air-handling-unit components.
- L. Verify that air duct system is sealed as specified in Section 233113 "Metal Ducts."

3.5 PROCEDURES FOR CONSTANT-VOLUME AIR SYSTEMS

- A. Adjust fans to deliver total indicated airflows within the maximum allowable fan speed listed by fan manufacturer.
 - 1. Measure total airflow.
 - a. Set outside-air, return-air, and relief-air dampers for proper position that simulates minimum outdoor-air conditions.
 - b. Where duct conditions allow, measure airflow by Pitot-tube traverse. If necessary, perform multiple Pitot-tube traverses to obtain total airflow.
 - c. Where duct conditions are not suitable for Pitot-tube traverse measurements, a coil traverse may be acceptable.
 - d. If a reliable Pitot-tube traverse or coil traverse is not possible, measure airflow at terminals and calculate the total airflow.
 - 2. Measure fan static pressures as follows:
 - a. Measure static pressure directly at the fan outlet or through the flexible connection.
 - b. Measure static pressure directly at the fan inlet or through the flexible connection.
 - c. Measure static pressure across each component that makes up the air-handling system.
 - d. Report artificial loading of filters at the time static pressures are measured.
 - 3. Review Record Documents to determine variations in design static pressures versus actual static pressures. Calculate actual system-effect factors. Recommend adjustments to accommodate actual conditions.
 - 4. Obtain approval from Architect and Owner for adjustment of fan speed higher or lower than indicated speed. Comply with requirements in HVAC Sections for air-handling units for adjustment of fans, belts, and pulley sizes to achieve indicated air-handling-unit performance.
 - 5. Do not make fan-speed adjustments that result in motor overload. Consult equipment manufacturers about fan-speed safety factors. Modulate dampers and measure fan-motor amperage to ensure that no overload occurs. Measure amperage in full-cooling, full-heating, economizer, and any other operating mode to determine the maximum required brake horsepower.
- B. Adjust volume dampers for main duct, submain ducts, and major branch ducts to indicated airflows.

1. Measure airflow of submain and branch ducts.
 2. Adjust submain and branch duct volume dampers for specified airflow.
 3. Re-measure each submain and branch duct after all have been adjusted.
- C. Adjust air inlets and outlets for each space to indicated airflows.
1. Set airflow patterns of adjustable outlets for proper distribution without drafts.
 2. Measure inlets and outlets airflow.
 3. Adjust each inlet and outlet for specified airflow.
 4. Re-measure each inlet and outlet after they have been adjusted.
- D. Verify final system conditions.
1. Re-measure and confirm that minimum outdoor, return, and relief airflows are within design. Readjust to design if necessary.
 2. Re-measure and confirm that total airflow is within design.
 3. Re-measure all final fan operating data, rpms, volts, amps, and static profile.
 4. Mark all final settings.
 5. Test system in economizer mode. Verify proper operation and adjust if necessary.
 6. Measure and record all operating data.
 7. Record final fan-performance data.

3.6 TOLERANCES

- A. Set HVAC system's airflow rates and water flow rates within the following tolerances:
1. Supply, Return, and Exhaust Fans and Equipment with Fans: Plus or minus 10 percent.
 2. Air Outlets and Inlets: Plus or minus 10 percent.
- B. Maintaining pressure relationships as designed shall have priority over the tolerances specified above.

3.7 FINAL REPORT

- A. General: Prepare a certified written report; tabulate and divide the report into separate sections for tested systems and balanced systems.
1. Include a certification sheet at the front of the report's binder, signed and sealed by the certified testing and balancing engineer.
 2. Include a list of instruments used for procedures, along with proof of calibration.
 3. Certify validity and accuracy of field data.
- B. Final Report Contents: In addition to certified field-report data, include the following:
1. Fan curves.
 2. Manufacturers' test data.

3. Field test reports prepared by system and equipment installers.
 4. Other information relative to equipment performance; do not include Shop Drawings and Product Data.
- C. General Report Data: In addition to form titles and entries, include the following data:
1. Title page.
 2. Name and address of the TAB specialist.
 3. Project name.
 4. Project location.
 5. Architect's name and address.
 6. Engineer's name and address.
 7. Contractor's name and address.
 8. Report date.
 9. Signature of TAB supervisor who certifies the report.
 10. Table of Contents with the total number of pages defined for each section of the report. Number each page in the report.
 11. Summary of contents including the following:
 - a. Indicated versus final performance.
 - b. Notable characteristics of systems.
 - c. Description of system operation sequence if it varies from the Contract Documents.
 12. Nomenclature sheets for each item of equipment.
 13. Data for terminal units, including manufacturer's name, type, size, and fittings.
 14. Notes to explain why certain final data in the body of reports vary from indicated values.
 15. Test conditions for fans and pump performance forms including the following:
 - a. Settings for outdoor-, return-, and exhaust-air dampers.
 - b. Conditions of filters.
 - c. Cooling coil, wet- and dry-bulb conditions.
 - d. Other system operating conditions that affect performance.
- D. System Diagrams: Include schematic layouts of air and hydronic distribution systems. Present each system with single-line diagram and include the following:
1. Quantities of outdoor, supply, return, and exhaust airflows.
 2. Water and steam flow rates.
 3. Duct, outlet, and inlet sizes.
 4. Balancing stations.
 5. Position of balancing devices.
- E. Air-Handling-Unit Test Reports: For air-handling units with coils, include the following:
1. Unit Data:
 - a. Unit identification.

- b. Location.
 - c. Make and type.
 - d. Model number and unit size.
 - e. Manufacturer's serial number.
 - f. Unit arrangement and class.
 - g. Discharge arrangement.
 - h. Sheave make, size in inches, and bore.
 - i. Center-to-center dimensions of sheave and amount of adjustments in inches.
 - j. Number, make, and size of belts.
 - k. Number, type, and size of filters.
2. Motor Data:
- a. Motor make, and frame type and size.
 - b. Horsepower and rpm.
 - c. Volts, phase, and hertz.
 - d. Full-load amperage and service factor.
 - e. Sheave make, size in inches, and bore.
 - f. Center-to-center dimensions of sheave and amount of adjustments in inches.
3. Test Data (Indicated and Actual Values):
- a. Total airflow rate in cfm.
 - b. Total system static pressure in inches wg.
 - c. Fan rpm.
 - d. Discharge static pressure in inches wg.
 - e. Filter static-pressure differential in inches wg.
 - f. Preheat-coil static-pressure differential in inches wg.
 - g. Cooling-coil static-pressure differential in inches wg.
 - h. Heating-coil static-pressure differential in inches wg.
 - i. Outdoor airflow in cfm.
 - j. Return airflow in cfm.
 - k. Outdoor-air damper position.
 - l. Return-air damper position.
 - m. Vortex damper position.
- F. Apparatus-Coil Test Reports:
1. Coil Data:
 - a. System identification.
 - b. Location.
 - c. Coil type.
 - d. Number of rows.
 - e. Fin spacing in fins per inch o.c.
 - f. Make and model number.
 - g. Face area in sq. ft..

- h. Tube size in NPS.
 - i. Tube and fin materials.
 - j. Circuiting arrangement.
2. Test Data (Indicated and Actual Values):
- a. Airflow rate in cfm.
 - b. Average face velocity in fpm.
 - c. Air pressure drop in inches wg.
 - d. Outdoor-air, wet- and dry-bulb temperatures in deg F.
 - e. Return-air, wet- and dry-bulb temperatures in deg F.
 - f. Entering-air, wet- and dry-bulb temperatures in deg F.
 - g. Leaving-air, wet- and dry-bulb temperatures in deg F.
 - h. Water flow rate in gpm.
 - i. Water pressure differential in feet of head or psig.
 - j. Entering-water temperature in deg F.
 - k. Leaving-water temperature in deg F.
 - l. Refrigerant expansion valve and refrigerant types.
 - m. Refrigerant suction pressure in psig.
 - n. Refrigerant suction temperature in deg F.
 - o. Inlet steam pressure in psig.
- G. Fan Test Reports: For supply, return, and exhaust fans, include the following:
1. Fan Data:
- a. System identification.
 - b. Location.
 - c. Make and type.
 - d. Model number and size.
 - e. Manufacturer's serial number.
 - f. Arrangement and class.
 - g. Sheave make, size in inches, and bore.
 - h. Center-to-center dimensions of sheave and amount of adjustments in inches.
2. Motor Data:
- a. Motor make, and frame type and size.
 - b. Horsepower and rpm.
 - c. Volts, phase, and hertz.
 - d. Full-load amperage and service factor.
 - e. Sheave make, size in inches, and bore.
 - f. Center-to-center dimensions of sheave, and amount of adjustments in inches.
 - g. Number, make, and size of belts.
3. Test Data (Indicated and Actual Values):

- a. Total airflow rate in cfm.
 - b. Total system static pressure in inches wg.
 - c. Fan rpm.
 - d. Discharge static pressure in inches wg.
 - e. Suction static pressure in inches wg.
- H. Round, Flat-Oval, and Rectangular Duct Traverse Reports: Include a diagram with a grid representing the duct cross-section and record the following:
1. Report Data:
 - a. System and air-handling-unit number.
 - b. Location and zone.
 - c. Traverse air temperature in deg F.
 - d. Duct static pressure in inches wg.
 - e. Duct size in inches.
 - f. Duct area in sq. ft..
 - g. Indicated airflow rate in cfm.
 - h. Indicated velocity in fpm.
 - i. Actual airflow rate in cfm.
 - j. Actual average velocity in fpm.
 - k. Barometric pressure in psig.

3.8 VERIFICATION OF TAB REPORT

- A. The TAB specialist's test and balance engineer shall conduct the inspection in the presence of Owner and commissioning authority.
- B. Owner or Commissioning authority shall randomly select measurements, documented in the final report, to be rechecked. Rechecking shall be limited to either 10 percent of the total measurements recorded or the extent of measurements that can be accomplished in a normal 8-hour business day.
- C. If rechecks yield measurements that differ from the measurements documented in the final report by more than the tolerances allowed, the measurements shall be noted as "FAILED."
- D. If the number of "FAILED" measurements is greater than 10 percent of the total measurements checked during the final inspection, the testing and balancing shall be considered incomplete and shall be rejected.
- E. If TAB work fails, proceed as follows:
 1. TAB specialists shall recheck all measurements and make adjustments. Revise the final report and balancing device settings to include all changes; resubmit the final report and request a second final inspection.
 2. If the second final inspection also fails, Owner may contract the services of another TAB specialist to complete TAB work according to the Contract

Documents and deduct the cost of the services from the original TAB specialist's final payment.

3. If the second verification also fails, Owner and/or design professional may contact AABC Headquarters regarding the AABC National Performance Guaranty.

- F. Prepare test and inspection reports.

3.9 ADDITIONAL TESTS

- A. Within 90 days of completing TAB, perform additional TAB to verify that balanced conditions are being maintained throughout and to correct unusual conditions.
- B. Seasonal Periods: If initial TAB procedures were not performed during near-peak summer and winter conditions, perform additional TAB during near-peak summer and winter conditions.

END OF SECTION 230593

SECTION 230713 - DUCT INSULATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes insulating the following duct services:
 - 1. Indoor, concealed supply and outdoor air.
 - 2. Indoor, concealed supply and outdoor air.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product indicated. Include thermal conductivity, water-vapor permeance thickness, and jackets (both factory- and field-applied if any).
- B. Shop Drawings: Include plans, elevations, sections, details, and attachments to other work.
 - 1. Detail application of protective shields, saddles, and inserts at hangers for each type of insulation and hanger.
 - 2. Detail insulation application at elbows, fittings, dampers, specialties and flanges for each type of insulation.
 - 3. Detail application of field-applied jackets.
 - 4. Detail application at linkages of control devices.
- C. Samples: For each type of insulation and jacket indicated. Identify each Sample, describing product and intended use. Sample sizes are as follows:
 - 1. Sheet Form Insulation Materials: 12 inches square.
 - 2. Sheet Jacket Materials: 12 inches square.
 - 3. Manufacturer's Color Charts: For products where color is specified, show the full range of colors available for each type of finish material.

1.4 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For qualified Installer.
- B. Material Test Reports: From a qualified testing agency acceptable to authorities having jurisdiction indicating, interpreting, and certifying test results for compliance of

insulation materials, sealers, attachments, cements, and jackets, with requirements indicated. Include dates of tests and test methods employed.

- C. Field quality-control reports.

1.5 QUALITY ASSURANCE

- A. Installer Qualifications: Skilled mechanics who have successfully completed an apprenticeship program or another craft training program certified by the Department of Labor, Bureau of Apprenticeship and Training.
- B. Surface-Burning Characteristics: For insulation and related materials, as determined by testing identical products according to ASTM E 84, by a testing agency acceptable to authorities having jurisdiction. Factory label insulation and jacket materials and adhesive, mastic, tapes, and cement material containers, with appropriate markings of applicable testing agency.
 - 1. Insulation Installed Indoors: Flame-spread index of 25 or less, and smoke-developed index of 50 or less.
 - 2. Insulation Installed Outdoors: Flame-spread index of 75 or less, and smoke-developed index of 150 or less.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Packaging: Insulation material containers shall be marked by manufacturer with appropriate ASTM standard designation, type and grade, and maximum use temperature.

1.7 COORDINATION

- A. Coordinate sizes and locations of supports, hangers, and insulation shields specified in Section 230529 "Hangers and Supports for HVAC Piping and Equipment."
- B. Coordinate clearance requirements with duct Installer for duct insulation application. Before preparing ductwork Shop Drawings, establish and maintain clearance requirements for installation of insulation and field-applied jackets and finishes and for space required for maintenance.
- C. Coordinate installation and testing of heat tracing.

1.8 SCHEDULING

- A. Schedule insulation application after pressure testing systems and, where required, after installing and testing heat tracing. Insulation application may begin on segments that have satisfactory test results.

- B. Complete installation and concealment of plastic materials as rapidly as possible in each area of construction.

PART 2 - PRODUCTS

2.1 INSULATION MATERIALS

- A. Comply with requirements in "Duct Insulation Schedule, General," "Indoor Duct and Plenum Insulation Schedule," and "Aboveground, Outdoor Duct and Plenum Insulation Schedule" articles for where insulating materials shall be applied.
- B. Products shall not contain asbestos, lead, mercury, or mercury compounds.
- C. Products that come in contact with stainless steel shall have a leachable chloride content of less than 50 ppm when tested according to ASTM C 871.
- D. Insulation materials for use on austenitic stainless steel shall be qualified as acceptable according to ASTM C 795.
- E. Foam insulation materials shall not use CFC or HCFC blowing agents in the For operating temperatures higher than 250 deg F (121 deg C), use blanket insulation in first paragraph below. Retain ASTM C 1290 types as follows: Type I for insulation without jackets, Type II for insulation with vinyl jackets, and Type III for insulation with FSK or FSP jackets.
- F. Mineral-Fiber Blanket Insulation: Mineral or glass fibers bonded with a thermosetting resin. Comply with ASTM C 553, Type II and ASTM C 1290. Factory-applied jacket requirements are specified in "Factory-Applied Jackets" Article.
 - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Johns Manville; a Berkshire Hathaway company.
 - b. Knauf Insulation.
 - c. Manson Insulation Inc.
 - d. Owens Corning.

2.2 ADHESIVES

- A. Materials shall be compatible with insulation materials, jackets, and substrates and for bonding insulation to itself and to surfaces to be insulated unless otherwise indicated.
- B. Mineral-Fiber Adhesive: Comply with MIL-A-3316C, Class 2, Grade A.
 - 1. For indoor applications, adhesive shall have a VOC content of 80 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).

- C. ASJ Adhesive, and FSK Jacket Adhesive: Comply with MIL-A-3316C, Class 2, Grade A for bonding insulation jacket lap seams and joints.
 - 1. For indoor applications, adhesive shall have a VOC content of 50 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).

2.3 MASTICS

- A. Materials shall be compatible with insulation materials, jackets, and substrates; comply with MIL-PRF-19565C, Type II.
 - 1. For indoor applications, use mastics that have a VOC content of 50 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).
- B. Vapor-Barrier Mastic: Water based; suitable for indoor use on below ambient services.
 - 1. Water-Vapor Permeance: ASTM E 96/E 96M, Procedure B, 0.013 perm at 43-mil dry film thickness.
 - 2. Service Temperature Range: Minus 20 to plus 180 deg F.
 - 3. Solids Content: ASTM D 1644, 58 percent by volume and 70 percent by weight.
 - 4. Color: White.
- C. Vapor-Barrier Mastic: Solvent based; suitable for indoor use on below ambient services.
 - 1. Water-Vapor Permeance: ASTM F 1249, 0.05 perm at 35-mil dry film thickness.
 - 2. Service Temperature Range: 0 to 180 deg F.
 - 3. Solids Content: ASTM D 1644, 44 percent by volume and 62 percent by weight.
 - 4. Color: White.
- D. Breather Mastic: Water based; suitable for indoor and outdoor use on above ambient services.
 - 1. Water-Vapor Permeance: ASTM F 1249, 1.8 perms at 0.0625-inch dry film thickness.
 - 2. Service Temperature Range: Minus 20 to plus 180 deg F.
 - 3. Solids Content: 60 percent by volume and 66 percent by weight.
 - 4. Color: White.

2.4 SEALANTS

- A. FSK and Metal Jacket Flashing Sealants:
 - 1. Materials shall be compatible with insulation materials, jackets, and substrates.
 - 2. Fire- and water-resistant, flexible, elastomeric sealant.
 - 3. Service Temperature Range: Minus 40 to plus 250 deg F.
 - 4. Color: Aluminum.

5. For indoor applications, sealants shall have a VOC content of 420 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).
- B. ASJ Flashing Sealants, and Vinyl and PVC Jacket Flashing Sealants:
1. Materials shall be compatible with insulation materials, jackets, and substrates.
 2. Fire- and water-resistant, flexible, elastomeric sealant.
 3. Service Temperature Range: Minus 40 to plus 250 deg F.
 4. Color: White.
 5. For indoor applications, sealants shall have a VOC content of 420 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).

2.5 FACTORY-APPLIED JACKETS

- A. Insulation system schedules indicate factory-applied jackets on various applications. When factory-applied jackets are indicated, comply with the following:
1. ASJ: White, kraft-paper, fiberglass-reinforced scrim with aluminum-foil backing; complying with ASTM C 1136, Type I.
 2. ASJ-SSL: ASJ with self-sealing, pressure-sensitive, acrylic-based adhesive covered by a removable protective strip; complying with ASTM C 1136, Type I.
 3. FSK Jacket: Aluminum-foil, fiberglass-reinforced scrim with kraft-paper backing; complying with ASTM C 1136, Type II.
 4. FSP Jacket: Aluminum-foil, fiberglass-reinforced scrim with polyethylene backing; complying with ASTM C 1136, Type II.
 5. Vinyl Jacket: White vinyl with a permeance of 1.3 perms when tested according to ASTM E 96/E 96M, Procedure A, and complying with NFPA 90A and NFPA 90B.

2.6 FIELD-APPLIED JACKETS

- A. Field-applied jackets shall comply with ASTM C 921, Type I, unless otherwise indicated.
- B. FSK Jacket: Aluminum-foil-face, fiberglass-reinforced scrim with kraft-paper backing.
- C. PVC Jacket: High-impact-resistant, UV-resistant PVC complying with ASTM D 1784, Class 16354-C; thickness as scheduled; roll stock ready for shop or field cutting and forming. Thickness is indicated in field-applied jacket schedules.
1. Adhesive: As recommended by jacket material manufacturer.
 2. Color: White.

2.7 TAPES

- A. ASJ Tape: White vapor-retarder tape matching factory-applied jacket with acrylic adhesive, complying with ASTM C 1136.

1. Width: 3 inches.
 2. Thickness: 11.5 mils.
 3. Adhesion: 90 ounces force/inch in width.
 4. Elongation: 2 percent.
 5. Tensile Strength: 40 lbf/inch in width.
 6. ASJ Tape Disks and Squares: Precut disks or squares of ASJ tape.
- B. FSK Tape: Foil-face, vapor-retarder tape matching factory-applied jacket with acrylic adhesive; complying with ASTM C 1136.
1. Width: 3 inches.
 2. Thickness: 6.5 mils.
 3. Adhesion: 90 ounces force/inch in width.
 4. Elongation: 2 percent.
 5. Tensile Strength: 40 lbf/inch in width.
 6. FSK Tape Disks and Squares: Precut disks or squares of FSK tape.
- C. Aluminum-Foil Tape: Vapor-retarder tape with acrylic adhesive.
1. Width: 2 inches.
 2. Thickness: 3.7 mils.
 3. Adhesion: 100 ounces force/inch in width.
 4. Elongation: 5 percent.
 5. Tensile Strength: 34 lbf/inch in width.

2.8 SECUREMENTS

- A. Bands:
1. Stainless Steel: ASTM A 167 or ASTM A 240/A 240M, Type 304 or Type 316; 0.015 inch thick, 1/2 inchwide with wing seal.
 2. Aluminum: ASTM B 209, Alloy 3003, 3005, 3105, or 5005; Temper H-14, 0.020 inch thick, 1/2 inchwide with wing seal.
- B. Insulation Pins and Hangers:
1. Capacitor-Discharge-Weld Pins: Copper- or zinc-coated steel pin, fully annealed for capacitor-discharge welding, 0.135-inch-diameter shank, length to suit depth of insulation indicated.
 2. Cupped-Head, Capacitor-Discharge-Weld Pins: Copper- or zinc-coated steel pin, fully annealed for capacitor-discharge welding, 0.135-inch-diameter shank, length to suit depth of insulation indicated with integral 1-1/2-inch galvanized carbon-steel washer.
 3. Metal, Adhesively Attached, Perforated-Base Insulation Hangers: Baseplate welded to projecting spindle that is capable of holding insulation, of thickness indicated, securely in position indicated when self-locking washer is in place. Comply with the following requirements:

- a. Baseplate: Perforated, galvanized carbon-steel sheet, 0.030 inch thick by 2 inches square.
 - b. Spindle: Copper- or zinc-coated, low-carbon steel, aluminum or stainless steel, fully annealed, 0.106-inch-diameter shank, length to suit depth of insulation indicated.
 - c. Adhesive: Recommended by hanger manufacturer. Product with demonstrated capability to bond insulation hanger securely to substrates indicated without damaging insulation, hangers, and substrates.
4. Nonmetal, Adhesively Attached, Perforated-Base Insulation Hangers: Baseplate fastened to projecting spindle that is capable of holding insulation, of thickness indicated, securely in position indicated when self-locking washer is in place. Comply with the following requirements:
- a. Baseplate: Perforated, nylon sheet, 0.030 inch thick by 1-1/2 inches in diameter.
 - b. Spindle: Nylon, 0.106-inch-diameter shank, length to suit depth of insulation indicated, up to 2-1/2 inches.
 - c. Adhesive: Recommended by hanger manufacturer. Product with demonstrated capability to bond insulation hanger securely to substrates indicated without damaging insulation, hangers, and substrates.
5. Self-Sticking-Base Insulation Hangers: Baseplate welded to projecting spindle that is capable of holding insulation, of thickness indicated, securely in position indicated when self-locking washer is in place. Comply with the following requirements:
- a. Baseplate: Galvanized carbon-steel sheet, 0.030 inch thick by 2 inches square.
 - b. Spindle: Copper- or zinc-coated, low-carbon steel, aluminum or stainless steel, fully annealed, 0.106-inch-diameter shank, length to suit depth of insulation indicated.
 - c. Adhesive-backed base with a peel-off protective cover.
6. Insulation-Retaining Washers: Self-locking washers formed from 0.016-inch-thick, galvanized-steel, aluminum or stainless-steel sheet, with beveled edge sized as required to hold insulation securely in place but not less than 1-1/2 inches in diameter.
- a. Protect ends with capped self-locking washers incorporating a spring steel insert to ensure permanent retention of cap in exposed locations.
7. Nonmetal Insulation-Retaining Washers: Self-locking washers formed from 0.016-inch-thick nylon sheet, with beveled edge sized as required to hold insulation securely in place but not less than 1-1/2 inches in diameter.
- C. Staples: Outward-clinching insulation staples, nominal 3/4-inch-wide, stainless steel or Monel.

- D. Wire: 0.062-inch soft-annealed, stainless steel.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates and conditions for compliance with requirements for installation tolerances and other conditions affecting performance of insulation application.
 - 1. Verify that systems to be insulated have been tested and are free of defects.
 - 2. Verify that surfaces to be insulated are clean and dry.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Surface Preparation: Clean and dry surfaces to receive insulation. Remove materials that will adversely affect insulation application.

3.3 GENERAL INSTALLATION REQUIREMENTS

- A. Install insulation materials, accessories, and finishes with smooth, straight, and even surfaces; free of voids throughout the length of ducts and fittings.
- B. Install insulation materials, vapor barriers or retarders, jackets, and thicknesses required for each item of duct system as specified in insulation system schedules.
- C. Install accessories compatible with insulation materials and suitable for the service. Install accessories that do not corrode, soften, or otherwise attack insulation or jacket in either wet or dry state.
- D. Install insulation with longitudinal seams at top and bottom of horizontal runs.
- E. Install multiple layers of insulation with longitudinal and end seams staggered.
- F. Keep insulation materials dry during application and finishing.
- G. Install insulation with tight longitudinal seams and end joints. Bond seams and joints with adhesive recommended by insulation material manufacturer.
- H. Install insulation with least number of joints practical.
- I. Where vapor barrier is indicated, seal joints, seams, and penetrations in insulation at hangers, supports, anchors, and other projections with vapor-barrier mastic.
 - 1. Install insulation continuously through hangers and around anchor attachments.

2. For insulation application where vapor barriers are indicated, extend insulation on anchor legs from point of attachment to supported item to point of attachment to structure. Taper and seal ends at attachment to structure with vapor-barrier mastic.
 3. Install insert materials and install insulation to tightly join the insert. Seal insulation to insulation inserts with adhesive or sealing compound recommended by insulation material manufacturer.
- J. Apply adhesives, mastics, and sealants at manufacturer's recommended coverage rate and wet and dry film thicknesses.
- K. Install insulation with factory-applied jackets as follows:
1. Draw jacket tight and smooth.
 2. Cover circumferential joints with 3-inch-wide strips, of same material as insulation jacket. Secure strips with adhesive and outward clinching staples along both edges of strip, spaced 4 inches o.c.
 3. Overlap jacket longitudinal seams at least 1-1/2 inches. Clean and dry surface to receive self-sealing lap. Staple laps with outward clinching staples along edge at 2 inches o.c.
 - a. For below ambient services, apply vapor-barrier mastic over staples.
 4. Cover joints and seams with tape, according to insulation material manufacturer's written instructions, to maintain vapor seal.
 5. Where vapor barriers are indicated, apply vapor-barrier mastic on seams and joints and at ends adjacent to duct flanges and fittings.
- L. Cut insulation in a manner to avoid compressing insulation more than 75 percent of its nominal thickness.
- M. Finish installation with systems at operating conditions. Repair joint separations and cracking due to thermal movement.
- N. Repair damaged insulation facings by applying same facing material over damaged areas. Extend patches at least 4 inches beyond damaged areas. Adhere, staple, and seal patches similar to butt joints.

3.4 PENETRATIONS

- A. Insulation Installation at Roof Penetrations: Install insulation continuously through roof penetrations.
1. Seal penetrations with flashing sealant.
 2. For applications requiring only indoor insulation, terminate insulation above roof surface and seal with joint sealant. For applications requiring indoor and outdoor insulation, install insulation for outdoor applications tightly joined to indoor insulation ends. Seal joint with joint sealant.

3. Extend jacket of outdoor insulation outside roof flashing at least 2 inches below top of roof flashing.
 4. Seal jacket to roof flashing with flashing sealant.
- B. Insulation Installation at Aboveground Exterior Wall Penetrations: Install insulation continuously through wall penetrations.
1. Seal penetrations with flashing sealant.
 2. For applications requiring only indoor insulation, terminate insulation inside wall surface and seal with joint sealant. For applications requiring indoor and outdoor insulation, install insulation for outdoor applications tightly joined to indoor insulation ends. Seal joint with joint sealant.
 3. Extend jacket of outdoor insulation outside wall flashing and overlap wall flashing at least 2 inches.
 4. Seal jacket to wall flashing with flashing sealant.
- C. Insulation Installation at Interior Wall and Partition Penetrations (That Are Not Fire Rated): Install insulation continuously through walls and partitions.
- D. Insulation Installation at Fire-Rated Wall and Partition Penetrations: Terminate insulation at fire damper sleeves for fire-rated wall and partition penetrations. Externally insulate damper sleeves to match adjacent insulation and overlap duct insulation at least 2 inches.
1. Comply with requirements in Section 078413 "Penetration Firestopping."

3.5 INSTALLATION OF MINERAL-FIBER INSULATION

- A. Blanket Insulation Installation on Ducts and Plenums: Secure with adhesive and insulation pins.
1. Apply adhesives according to manufacturer's recommended coverage rates.
 2. Apply adhesive to entire circumference of ducts and to all surfaces of fittings and transitions.
 3. Install either capacitor-discharge-weld pins and speed washers or cupped-head, capacitor-discharge-weld pins on sides and bottom of horizontal ducts and sides of vertical ducts as follows:
 - a. On duct sides with dimensions 18 inches and smaller, place pins along longitudinal centerline of duct. Space 3 inches maximum from insulation end joints, and 16 inches o.c.
 - b. On duct sides with dimensions larger than 18 inches, place pins 16 inches o.c. each way, and 3 inches maximum from insulation joints. Install additional pins to hold insulation tightly against surface at cross bracing.
 - c. Pins may be omitted from top surface of horizontal, rectangular ducts and plenums.
 - d. Do not over-compress insulation during installation.
 - e. Impale insulation over pins and attach speed washers.

- f. Cut excess portion of pins extending beyond speed washers or bend parallel with insulation surface. Cover exposed pins and washers with tape matching insulation facing.
4. For ducts and plenums with surface temperatures below ambient, install a continuous unbroken vapor barrier. Create a facing lap for longitudinal seams and end joints with insulation by removing 2 inches from one edge and one end of insulation segment. Secure laps to adjacent insulation section with 1/2-inch outward-clinching staples, 1 inch o.c. Install vapor barrier consisting of factory- or field-applied jacket, adhesive, vapor-barrier mastic, and sealant at joints, seams, and protrusions.
 - a. Repair punctures, tears, and penetrations with tape or mastic to maintain vapor-barrier seal.
 - b. Install vapor stops for ductwork and plenums operating below 50 deg F at 18-foot intervals. Vapor stops shall consist of vapor-barrier mastic applied in a Z-shaped pattern over insulation face, along butt end of insulation, and over the surface. Cover insulation face and surface to be insulated a width equal to two times the insulation thickness, but not less than 3 inches.
 5. Overlap unfaced blankets a minimum of 2 inches on longitudinal seams and end joints. At end joints, secure with steel bands spaced a maximum of 18 inches o.c.
 6. Install insulation on rectangular duct elbows and transitions with a full insulation section for each surface. Install insulation on round and flat-oval duct elbows with individually mitered gores cut to fit the elbow.
 7. Insulate duct stiffeners, hangers, and flanges that protrude beyond insulation surface with 6-inch-wide strips of same material used to insulate duct. Secure on alternating sides of stiffener, hanger, and flange with pins spaced 6 inches o.c.
- B. Board Insulation Installation on Ducts and Plenums: Secure with adhesive and insulation pins.
1. Apply adhesives according to manufacturer's recommended coverage rates.
 2. Apply adhesive to entire circumference of ducts and to all surfaces of fittings and transitions.
 3. Install either capacitor-discharge-weld pins and speed washers or cupped-head, capacitor-discharge-weld pins on sides and bottom of horizontal ducts and sides of vertical ducts as follows:
 - a. On duct sides with dimensions 18 inches and smaller, place pins along longitudinal centerline of duct. Space 3 inches maximum from insulation end joints, and 16 inches o.c.
 - b. On duct sides with dimensions larger than 18 inches, space pins 16 inches o.c. each way, and 3 inches maximum from insulation joints. Install additional pins to hold insulation tightly against surface at cross bracing.
 - c. Pins may be omitted from top surface of horizontal, rectangular ducts and plenums.

- d. Do not over compress insulation during installation.
 - e. Cut excess portion of pins extending beyond speed washers or bend parallel with insulation surface. Cover exposed pins and washers with tape matching insulation facing.
4. For ducts and plenums with surface temperatures below ambient, install a continuous unbroken vapor barrier. Create a facing lap for longitudinal seams and end joints with insulation by removing 2 inches from one edge and one end of insulation segment. Secure laps to adjacent insulation section with 1/2-inch outward-clinching staples, 1-inch o.c. Install vapor barrier consisting of factory- or field-applied jacket, adhesive, vapor-barrier mastic, and sealant at joints, seams, and protrusions.
 - a. Repair punctures, tears, and penetrations with tape or mastic to maintain vapor-barrier seal.
 - b. Install vapor stops for ductwork and plenums operating below 50 deg F at 18-foot intervals. Vapor stops shall consist of vapor-barrier mastic applied in a Z-shaped pattern over insulation face, along butt end of insulation, and over the surface. Cover insulation face and surface to be insulated a width equal to two times the insulation thickness, but not less than 3 inches.
 5. Install insulation on rectangular duct elbows and transitions with a full insulation section for each surface. Groove and score insulation to fit as closely as possible to outside and inside radius of elbows. Install insulation on round and flat-oval duct elbows with individually mitered gores cut to fit the elbow.
 6. Insulate duct stiffeners, hangers, and flanges that protrude beyond insulation surface with 6-inch-wide strips of same material used to insulate duct. Secure on alternating sides of stiffener, hanger, and flange with pins spaced 6 inches o.c.

3.6 FIELD-APPLIED JACKET INSTALLATION

- A. Where glass-cloth jackets are indicated, install directly over bare insulation or insulation with factory-applied jackets.
 1. Draw jacket smooth and tight to surface with 2-inch overlap at seams and joints.
 2. Embed glass cloth between two 0.062-inch-thick coats of lagging adhesive.
 3. Completely encapsulate insulation with coating, leaving no exposed insulation.
- B. Where FSK jackets are indicated, install as follows:
 1. Draw jacket material smooth and tight.
 2. Install lap or joint strips with same material as jacket.
 3. Secure jacket to insulation with manufacturer's recommended adhesive.
 4. Install jacket with 1-1/2-inch laps at longitudinal seams and 3-inch-wide joint strips at end joints.
 5. Seal openings, punctures, and breaks in vapor-retarder jackets and exposed insulation with vapor-barrier mastic.

- C. Where PVC jackets are indicated, install with 1-inch overlap at longitudinal seams and end joints; for horizontal applications, install with longitudinal seams along top and bottom of tanks and vessels. Seal with manufacturer's recommended adhesive.
 - 1. Apply two continuous beads of adhesive to seams and joints, one bead under lap and the finish bead along seam and joint edge.
- D. Where metal jackets are indicated, install with 2-inch overlap at longitudinal seams and end joints. Overlap longitudinal seams arranged to shed water. Seal end joints with weatherproof sealant recommended by insulation manufacturer. Secure jacket with stainless-steel bands 12 inches o.c. and at end joints.

3.7 FINISHES

- A. Insulation with ASJ, Glass-Cloth, or Other Paintable Jacket Material: Paint jacket with paint system identified below and as specified in Section 099113 "Exterior Painting" and Section 099123 "Interior Painting."
- B. Flexible Elastomeric Thermal Insulation: After adhesive has fully cured, apply two coats of insulation manufacturer's recommended protective coating.
- C. Color: Final color as selected by Architect. Vary first and second coats to allow visual inspection of the completed Work.
- D. Do not field paint aluminum or stainless-steel jackets.

3.8 FIELD QUALITY CONTROL

- A. Perform tests and inspections.
- B. Tests and Inspections:
 - 1. Inspect ductwork, randomly selected by Architect, by removing field-applied jacket and insulation in layers in reverse order of their installation.
- C. All insulation applications will be considered defective Work if sample inspection reveals noncompliance with requirements.

3.9 DUCT INSULATION SCHEDULE, GENERAL

- A. Plenums and Ducts Requiring Insulation:
 - 1. Indoor, concealed supply and return air.
- B. Items Not Insulated:

1. Metal ducts with duct liner of sufficient thickness to comply with energy code and ASHRAE/IESNA 90.1.
2. Factory-insulated flexible ducts.
3. Factory-insulated plenums and casings.
4. Flexible connectors.
5. Vibration-control devices.
6. Factory-insulated access panels and doors.
7. Indoor, exposed supply and return air

3.10 INDOOR DUCT AND PLENUM INSULATION SCHEDULE

- A. Concealed, round and flat-oval, supply-air duct insulation shall be the following:
 1. Mineral-Fiber Blanket: 2 inches thick and an installed isolating value of R-6 minimum.
- B. Concealed, round and flat-oval, return-air duct insulation shall be the following:
 1. Mineral-Fiber Blanket: 2 inches thick and an installed isolating value of R-6 minimum.
- C. Concealed, rectangular, supply-air duct insulation shall be one of the following:
 1. Mineral-Fiber Blanket: 2 inches thick and an installed isolating value of R-6 minimum.
 2. Polyolefin: 1 inch thick and an installed isolating value of R-6 minimum.
- D. Concealed, rectangular, return-air duct insulation shall be one of the following:
 1. Mineral-Fiber Blanket: 2 inches thick and an installed isolating value of R-6 minimum.
 2. Polyolefin: 1 inch thick and an installed isolating value of R-6 minimum.

END OF SECTION 230713

SECTION 233113 - METAL DUCTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Single-wall rectangular ducts and fittings.
 - 2. Single-wall round ducts and fittings.
 - 3. Sheet metal materials.
 - 4. Sealant and gaskets.
 - 5. Hangers and supports.
- B. Related Sections:
 - 1. Section 230593 "Testing, Adjusting, and Balancing for HVAC" for testing, adjusting, and balancing requirements for metal ducts.
 - 2. Section 233300 "Air Duct Accessories" for dampers, sound-control devices, duct-mounting access doors and panels, turning vanes, and flexible ducts.

1.3 PERFORMANCE REQUIREMENTS

- A. Delegated Duct Design: Duct construction, including sheet metal thicknesses, seam and joint construction, reinforcements, and hangers and supports, shall comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible" and performance requirements and design criteria indicated in "Duct Schedule" Article.
- B. Structural Performance: Duct hangers and supports and seismic restraints shall withstand the effects of gravity and seismic loads and stresses within limits and under conditions described in SMACNA's "HVAC Duct Construction Standards - Metal and Flexible" and ASCE/SEI 7.
- C. Airstream Surfaces: Surfaces in contact with the airstream shall comply with requirements in ASHRAE 62.1.

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of the following products:
 - 1. Sealants and gaskets.

2. Seismic-restraint devices.

B. Delegated-Design Submittal:

1. Sheet metal thicknesses.
2. Joint and seam construction and sealing.
3. Reinforcement details and spacing.
4. Materials, fabrication, assembly, and spacing of hangers and supports.
5. Design Calculations: Calculations including analysis data signed and sealed by the qualified professional engineer responsible for their preparation for selecting hangers and supports and seismic restraints.

1.5 INFORMATIONAL SUBMITTALS

A. Coordination Drawings: Plans, drawn to scale, on which the following items are shown and coordinated with each other, using input from installers of the items involved:

1. Duct installation in congested spaces, indicating coordination with general construction, building components, and other building services. Indicate proposed changes to duct layout.
2. Suspended ceiling components.
3. Structural members to which duct will be attached.
4. Size and location of initial access modules for acoustical tile.
5. Penetrations of smoke barriers and fire-rated construction.
6. Items penetrating finished ceiling including the following:
 - a. Lighting fixtures.
 - b. Air outlets and inlets.
 - c. Speakers.
 - d. Sprinklers.
 - e. Access panels.
 - f. Perimeter moldings.

B. Welding certificates.

C. Field quality-control reports.

1.6 QUALITY ASSURANCE

A. Welding Qualifications: Qualify procedures and personnel according to the following:

1. AWS D1.1/D1.1M, "Structural Welding Code - Steel," for hangers and supports.
2. AWS D1.2/D1.2M, "Structural Welding Code - Aluminum," for aluminum supports.
3. AWS D9.1M/D9.1, "Sheet Metal Welding Code," for duct joint and seam welding.

B. ASHRAE Compliance: Applicable requirements in ASHRAE 62.1, Section 5 - "Systems and Equipment" and Section 7 - "Construction and System Start-up."

- C. ASHRAE/IESNA Compliance: Applicable requirements in ASHRAE/IESNA 90.1, Section 6.4.4 - "HVAC System Construction and Insulation."

PART 2 - PRODUCTS

2.1 SINGLE-WALL RECTANGULAR DUCTS AND FITTINGS

- A. General Fabrication Requirements: Comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible" based on indicated static-pressure class unless otherwise indicated.
- B. Transverse Joints: Select joint types and fabricate according to SMACNA's "HVAC Duct Construction Standards - Metal and Flexible," Figure 2-1, "Rectangular Duct/Transverse Joints," for static-pressure class, applicable sealing requirements, materials involved, duct-support intervals, and other provisions in SMACNA's "HVAC Duct Construction Standards - Metal and Flexible."
- C. Longitudinal Seams: Select seam types and fabricate according to SMACNA's "HVAC Duct Construction Standards - Metal and Flexible," Figure 2-2, "Rectangular Duct/Longitudinal Seams," for static-pressure class, applicable sealing requirements, materials involved, duct-support intervals, and other provisions in SMACNA's "HVAC Duct Construction Standards - Metal and Flexible."
- D. Elbows, Transitions, Offsets, Branch Connections, and Other Duct Construction: Select types and fabricate according to SMACNA's "HVAC Duct Construction Standards - Metal and Flexible," Chapter 4, "Fittings and Other Construction," for static-pressure class, applicable sealing requirements, materials involved, duct-support intervals, and other provisions in SMACNA's "HVAC Duct Construction Standards - Metal and Flexible."

2.2 SINGLE-WALL ROUND DUCTS AND FITTINGS

- A. General Fabrication Requirements: Comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible," Chapter 3, "Round, Oval, and Flexible Duct," based on indicated static-pressure class unless otherwise indicated.
- B. Flat-Oval Ducts: Indicated dimensions are the duct width (major dimension) and diameter of the round sides connecting the flat portions of the duct (minor dimension).
- C. Transverse Joints: Select joint types and fabricate according to SMACNA's "HVAC Duct Construction Standards - Metal and Flexible," Figure 3-1, "Round Duct Transverse Joints," for static-pressure class, applicable sealing requirements, materials involved, duct-support intervals, and other provisions in SMACNA's "HVAC Duct Construction Standards - Metal and Flexible."
 - 1. Transverse Joints in Ducts Larger Than 32 Inches in Diameter: Flanged.

- D. Longitudinal Seams: Select seam types and fabricate according to SMACNA's "HVAC Duct Construction Standards - Metal and Flexible," Figure 3-2, "Round Duct Longitudinal Seams," for static-pressure class, applicable sealing requirements, materials involved, duct-support intervals, and other provisions in SMACNA's "HVAC Duct Construction Standards - Metal and Flexible."
 - 1. Fabricate round ducts larger than 90 inches in diameter with butt-welded longitudinal seams.
 - 2. Fabricate flat-oval ducts larger than 72 inches in width (major dimension) with butt-welded longitudinal seams.
- E. Tees and Laterals: Select types and fabricate according to SMACNA's "HVAC Duct Construction Standards - Metal and Flexible," Figure 3-5, "90 Degree Tees and Laterals," and Figure 3-6, "Conical Tees," for static-pressure class, applicable sealing requirements, materials involved, duct-support intervals, and other provisions in SMACNA's "HVAC Duct Construction Standards - Metal and Flexible."

2.3 SHEET METAL MATERIALS

- A. General Material Requirements: Comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible" for acceptable materials, material thicknesses, and duct construction methods unless otherwise indicated. Sheet metal materials shall be free of pitting, seam marks, roller marks, stains, discolorations, and other imperfections.
- B. Galvanized Sheet Steel: Comply with ASTM A 653/A 653M.
 - 1. Galvanized Coating Designation: G90.
 - 2. Finishes for Surfaces Exposed to View: Mill phosphatized.
- C. Carbon-Steel Sheets: Comply with ASTM A 1008/A 1008M, with oiled, matte finish for exposed ducts.
- D. Reinforcement Shapes and Plates: ASTM A 36/A 36M, steel plates, shapes, and bars; black and galvanized.
 - 1. Where black- and galvanized-steel shapes and plates are used to reinforce aluminum ducts, isolate the different metals with butyl rubber, neoprene, or EPDM gasket materials.
- E. Tie Rods: Galvanized steel, 1/4-inch minimum diameter for lengths 36 inches or less; 3/8-inch minimum diameter for lengths longer than 36 inches.

2.4 SEALANT AND GASKETS

- A. General Sealant and Gasket Requirements: Surface-burning characteristics for sealants and gaskets shall be a maximum flame-spread index of 25 and a maximum smoke-developed index of 50 when tested according to UL 723; certified by an NRTL.
- B. Two-Part Tape Sealing System:
 - 1. Tape: Woven cotton fiber impregnated with mineral gypsum and modified acrylic/silicone activator to react exothermically with tape to form hard, durable, airtight seal.
 - 2. Tape Width: 4 inches.
 - 3. Sealant: Modified styrene acrylic.
 - 4. Water resistant.
 - 5. Mold and mildew resistant.
 - 6. Maximum Static-Pressure Class: 10-inch wg, positive and negative.
 - 7. Service: Indoor and outdoor.
 - 8. Service Temperature: Minus 40 to plus 200 deg F.
 - 9. Substrate: Compatible with galvanized sheet steel (both PVC coated and bare), stainless steel, or aluminum.
 - 10. For indoor applications, sealant shall have a VOC content of 250 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).
 - 11. Sealant shall comply with the testing and product requirements of the California Department of Health Services' "Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers."
- C. Water-Based Joint and Seam Sealant:
 - 1. Application Method: Brush on.
 - 2. Solids Content: Minimum 65 percent.
 - 3. Shore A Hardness: Minimum 20.
 - 4. Water resistant.
 - 5. Mold and mildew resistant.
 - 6. VOC: Maximum 75 g/L (less water).
 - 7. Maximum Static-Pressure Class: 10-inch wg, positive and negative.
 - 8. Service: Indoor or outdoor.
 - 9. Substrate: Compatible with galvanized sheet steel (both PVC coated and bare), stainless steel, or aluminum sheets.

2.5 HANGERS AND SUPPORTS

- A. Hanger Rods for Noncorrosive Environments: Cadmium-plated steel rods and nuts.
- B. Strap and Rod Sizes: Comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible," Table 5-1, "Rectangular Duct Hangers Minimum Size," and Table 5-2, "Minimum Hanger Sizes for Round Duct."

- C. Duct Attachments: Sheet metal screws, blind rivets, or self-tapping metal screws; compatible with duct materials.
- D. Trapeze and Riser Supports:
 - 1. Supports for Galvanized-Steel Ducts: Galvanized-steel shapes and plates.
 - 2. Supports for Stainless-Steel Ducts: Stainless-steel shapes and plates.
 - 3. Supports for Aluminum Ducts: Aluminum or galvanized steel coated with zinc chromate.

PART 3 - EXECUTION

3.1 DUCT INSTALLATION

- A. Drawing plans, schematics, and diagrams indicate general location and arrangement of duct system. Indicated duct locations, configurations, and arrangements were used to size ducts and calculate friction loss for air-handling equipment sizing and for other design considerations. Install duct systems as indicated unless deviations to layout are approved on Shop Drawings and Coordination Drawings.
- B. Install ducts according to SMACNA's "HVAC Duct Construction Standards - Metal and Flexible" unless otherwise indicated.
- C. Install round ducts in maximum practical lengths.
- D. Install ducts with fewest possible joints.
- E. Install factory- or shop-fabricated fittings for changes in direction, size, and shape and for branch connections.
- F. Unless otherwise indicated, install ducts vertically and horizontally, and parallel and perpendicular to building lines.
- G. Install ducts close to walls, overhead construction, columns, and other structural and permanent enclosure elements of building.
- H. Install ducts with a clearance of 1 inch, plus allowance for insulation thickness.
- I. Where ducts pass through non-fire-rated interior partitions and exterior walls and are exposed to view, cover the opening between the partition and duct or duct insulation with sheet metal flanges of same metal thickness as the duct. Overlap openings on four sides by at least 1-1/2 inches.
- J. Where ducts pass through fire-rated interior partitions and exterior walls, install fire dampers. Comply with requirements in Section 233300 "Air Duct Accessories" for fire and smoke dampers.

- K. Protect duct interiors from moisture, construction debris and dust, and other foreign materials. Comply with SMACNA's "IAQ Guidelines for Occupied Buildings Under Construction," Appendix G, "Duct Cleanliness for New Construction Guidelines."

3.2 DUCT SEALING

- A. Seal ducts for duct static-pressure, seal classes, and leakage classes specified in "Duct Schedule" Article according to SMACNA's "HVAC Duct Construction Standards - Metal and Flexible."
- B. Seal ducts to the following seal classes according to SMACNA's "HVAC Duct Construction Standards - Metal and Flexible":
 - 1. Comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible."
 - 2. Unconditioned Space, Supply-Air Ducts in Pressure Classes 2-Inch wg and Lower: Seal Class B.
 - 3. Unconditioned Space, Return-Air Ducts: Seal Class B.
 - 4. Conditioned Space, Supply-Air Ducts in Pressure Classes 2-Inch wg and Lower: Seal Class C.
 - 5. Conditioned Space, Return-Air Ducts: Seal Class C.

3.3 HANGER AND SUPPORT INSTALLATION

- A. Comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible," Chapter 5, "Hangers and Supports."
- B. Building Attachments: Concrete inserts, powder-actuated fasteners, or structural-steel fasteners appropriate for construction materials to which hangers are being attached.
 - 1. Where practical, install concrete inserts before placing concrete.
 - 2. Install powder-actuated concrete fasteners after concrete is placed and completely cured.
 - 3. Use powder-actuated concrete fasteners for standard-weight aggregate concretes or for slabs more than 4 inches thick.
 - 4. Do not use powder-actuated concrete fasteners for lightweight-aggregate concretes or for slabs less than 4 inches thick.
 - 5. Do not use powder-actuated concrete fasteners for seismic restraints.
- C. Hanger Spacing: Comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible," Table 5-1, "Rectangular Duct Hangers Minimum Size," and Table 5-2, "Minimum Hanger Sizes for Round Duct," for maximum hanger spacing; install hangers and supports within 24 inches of each elbow and within 48 inches of each branch intersection.
- D. Hangers Exposed to View: Threaded rod and angle or channel supports.

- E. Support vertical ducts with steel angles or channel secured to the sides of the duct with welds, bolts, sheet metal screws, or blind rivets; support at each floor and at a maximum intervals of 16 feet.
- F. Install upper attachments to structures. Select and size upper attachments with pull-out, tension, and shear capacities appropriate for supported loads and building materials where used.

3.4 SEISMIC-RESTRAINT-DEVICE INSTALLATION

- A. Install ducts with hangers and braces designed to support the duct and to restrain against seismic forces required by applicable building codes. Comply with ASCE/SEI 7.
 - 1. Space lateral supports per the delegated design requirements.
 - 2. Brace a change of direction longer per the delegated design requirements.
- B. Select seismic-restraint devices with capacities adequate to carry present and future static and seismic loads.
- C. Install cables so they do not bend across edges of adjacent equipment or building structure.
- D. Install cable restraints on ducts that are suspended with vibration isolators.
- E. Install seismic-restraint devices using methods approved by an agency acceptable to authorities having jurisdiction.
- F. Attachment to Structure: If specific attachment is not indicated, anchor bracing and restraints to structure, to flanges of beams, to upper truss chords of bar joists, or to concrete members.

3.5 CONNECTIONS

- A. Make connections to equipment with flexible connectors complying with Section 233300 "Air Duct Accessories."
- B. Comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible" for branch, outlet and inlet, and terminal unit connections.

3.6 PAINTING

- A. Paint interior of metal ducts that are visible through registers and grilles and that do not have duct liner. Apply one coat of flat, black, latex paint over a compatible galvanized-steel primer. Paint materials and application requirements are specified in Section 099113 "Exterior Painting" and Section 099123 "Interior Painting."

3.7 FIELD QUALITY CONTROL

- A. Perform tests and inspections.
- B. Leakage Tests:
 - 1. Comply with SMACNA's "HVAC Air Duct Leakage Test Manual." Submit a test report for each test.
- C. Duct System Cleanliness Tests:
 - 1. Visually inspect duct system to ensure that no visible contaminants are present.
 - 2. Test sections of metal duct system, chosen randomly by Owner, for cleanliness according to "Vacuum Test" in NADCA ACR, "Assessment, Cleaning and Restoration of HVAC Systems."
 - a. Acceptable Cleanliness Level: Net weight of debris collected on the filter media shall not exceed 0.75 mg/100 sq. cm.
- D. Duct system will be considered defective if it does not pass tests and inspections.
- E. Prepare test and inspection reports.

3.8 DUCT CLEANING

- A. Clean new and existing duct system(s) before testing, adjusting, and balancing.
- B. Use service openings for entry and inspection.
 - 1. Create new openings and install access panels appropriate for duct static-pressure class if required for cleaning access. Provide insulated panels for insulated or lined duct. Patch insulation and liner as recommended by duct liner manufacturer. Comply with Section 233300 "Air Duct Accessories" for access panels and doors.
 - 2. Disconnect and reconnect flexible ducts as needed for cleaning and inspection.
 - 3. Remove and reinstall ceiling to gain access during the cleaning process.
- C. If duct system is considered defective due to cleanliness the entire duct system shall be mechanically, and surface, cleaned per the specifications below.

3.9 START UP

- A. Air Balance: Comply with requirements in Section 230593 "Testing, Adjusting, and Balancing for HVAC."

3.10 DUCT SCHEDULE

A. Supply Ducts:

1. Ducts Connected to Constant-Volume Air-Handling Units:
 - a. Pressure Class: Positive at pressures indicated in the project schedules.
 - b. Minimum SMACNA Seal Class: A.
 - c. SMACNA Leakage Class for Rectangular: 12.
 - d. SMACNA Leakage Class for Round and Flat Oval: 6.

B. Return Ducts:

1. Ducts Connected to Air-Handling Units:
 - a. Pressure Class: Negative at pressures indicated in the project schedules.
 - b. Minimum SMACNA Seal Class: A.
 - c. SMACNA Leakage Class for Rectangular: 6.
 - d. SMACNA Leakage Class for Round and Flat Oval: 3.
2. Ducts Connected to Equipment Not Listed Above:
 - a. Pressure Class: Positive or negative at pressures indicated in the project schedules.
 - b. Minimum SMACNA Seal Class: A.
 - c. SMACNA Leakage Class for Rectangular: 6.
 - d. SMACNA Leakage Class for Round and Flat Oval: 3.

C. Intermediate Reinforcement:

1. Galvanized-Steel Ducts: Galvanized steel.

D. Elbow Configuration:

1. Rectangular Duct: Comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible," Figure 4-2, "Rectangular Elbows."
 - a. Velocity 1000 fpm or Lower:
 - 1) Radius Type RE 1 with minimum 0.5 radius-to-diameter ratio.
 - 2) Mitered Type RE 4 without vanes.
 - b. Velocity 1000 to 1500 fpm:
 - 1) Radius Type RE 1 with minimum 1.0 radius-to-diameter ratio.
 - 2) Radius Type RE 3 with minimum 0.5 radius-to-diameter ratio and two vanes.

- 3) Mitered Type RE 2 with vanes complying with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible," Figure 4-3, "Vanes and Vane Runners," and Figure 4-4, "Vane Support in Elbows."
- c. Velocity 1500 fpm or Higher:
 - 1) Radius Type RE 1 with minimum 1.5 radius-to-diameter ratio.
 - 2) Radius Type RE 3 with minimum 1.0 radius-to-diameter ratio and two vanes.
 - 3) Mitered Type RE 2 with vanes complying with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible," Figure 4-3, "Vanes and Vane Runners," and Figure 4-4, "Vane Support in Elbows."
2. Rectangular Duct: Comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible," Figure 4-2, "Rectangular Elbows."
 - a. Radius Type RE 1 with minimum 1.5 radius-to-diameter ratio.
 - b. Radius Type RE 3 with minimum 1.0 radius-to-diameter ratio and two vanes.
 - c. Mitered Type RE 2 with vanes complying with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible," Figure 4-3, "Vanes and Vane Runners," and Figure 4-4, "Vane Support in Elbows."
3. Round Duct: Comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible," Figure 3-4, "Round Duct Elbows."
 - a. Minimum Radius-to-Diameter Ratio and Elbow Segments: Comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible," Table 3-1, "Mitered Elbows." Elbows with less than 90-degree change of direction have proportionately fewer segments.
 - 1) Velocity 1000 fpm or Lower: 0.5 radius-to-diameter ratio and three segments for 90-degree elbow.
 - 2) Velocity 1000 to 1500 fpm: 1.0 radius-to-diameter ratio and four segments for 90-degree elbow.
 - 3) Velocity 1500 fpm or Higher: 1.5 radius-to-diameter ratio and five segments for 90-degree elbow.
 - 4) Radius-to Diameter Ratio: 1.5.
 - b. Round Elbows, 12 Inches and Smaller in Diameter: Stamped or pleated.
 - c. Round Elbows, 14 Inches and Larger in Diameter: Standing seam.
- E. Branch Configuration:
 1. Rectangular Duct: Comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible," Figure 4-6, "Branch Connection."

- a. Rectangular Main to Rectangular Branch: 45-degree entry.
2. Round and Flat Oval: Comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible," Figure 3-5, "90 Degree Tees and Laterals," and Figure 3-6, "Conical Tees." Saddle taps are permitted in existing duct.
 - a. Velocity 1500 fpm or Higher: 45-degree lateral.

END OF SECTION 233113

SECTION 233300 - AIR DUCT ACCESSORIES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Manual volume dampers.
 - 2. Turning vanes.
 - 3. Flexible connectors.
 - 4. Flexible ducts.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Shop Drawings: For duct accessories. Include plans, elevations, sections, details and attachments to other work.
 - 1. Detail duct accessories fabrication and installation in ducts and other construction. Include dimensions, weights, loads, and required clearances; and method of field assembly into duct systems and other construction. Include the following:
 - a. Special fittings.
 - b. Manual volume damper installations.
 - c. Control-damper installations.
 - d. Fire-damper, smoke-damper, combination fire- and smoke-damper, ceiling, and corridor damper installations, including sleeves; and duct-mounted access doors and remote damper operators.
 - e. Duct security bars.
 - f. Wiring Diagrams: For power, signal, and control wiring.

1.4 INFORMATIONAL SUBMITTALS

- A. Coordination Drawings: Reflected ceiling plans, drawn to scale, on which ceiling-mounted access panels and access doors required for access to duct accessories are shown and coordinated with each other, using input from Installers of the items involved.

- B. Source quality-control reports.

1.5 CLOSEOUT SUBMITTALS

- A. Operation and Maintenance Data: For air duct accessories to include in operation and maintenance manuals.

PART 2 - PRODUCTS

2.1 ASSEMBLY DESCRIPTION

- A. Comply with NFPA 90A, "Installation of Air Conditioning and Ventilating Systems," and with NFPA 90B, "Installation of Warm Air Heating and Air Conditioning Systems."
- B. Comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible" for acceptable materials, material thicknesses, and duct construction methods unless otherwise indicated. Sheet metal materials shall be free of pitting, seam marks, roller marks, stains, discolorations, and other imperfections.

2.2 MATERIALS

- A. Galvanized Sheet Steel: Comply with ASTM A 653/A 653M.
 - 1. Galvanized Coating Designation: G90.
 - 2. Exposed-Surface Finish: Mill phosphatized.
- B. Reinforcement Shapes and Plates: Galvanized-steel reinforcement where installed on galvanized sheet metal ducts; compatible materials for aluminum and stainless-steel ducts.

2.3 MANUAL VOLUME DAMPERS

- A. Low-Leakage, Steel, Manual Volume Dampers:
 - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Nailor Industries Inc.
 - b. Pottorff.
 - c. Ruskin Company.
 - d. Vent Products Co., Inc.
 - 2. Comply with AMCA 500-D testing for damper rating.
 - 3. Low-leakage rating, with linkage outside airstream, and bearing AMCA's Certified Ratings Seal for both air performance and air leakage.

4. Suitable for horizontal or vertical applications.
 5. Frames:
 - a. Raised Hat shape.
 - b. 0.094-inch-thick, galvanized sheet steel.
 - c. Mitered and welded corners.
 - d. Flanges for attaching to walls and flangeless frames for installing in ducts.
 6. Blades:
 - a. Multiple or single blade.
 - b. Parallel- or opposed-blade design.
 - c. Stiffen damper blades for stability.
 - d. Galvanized, roll-formed steel, 0.064 inch thick.
 7. Blade Axles: Stainless steel.
 8. Blade Seals: Vinyl or Neoprene.
 9. Jamb Seals: Cambered stainless steel or aluminum.
 10. Tie Bars and Brackets: Galvanized steel.
 11. Accessories:
 - a. Include locking device to hold single-blade dampers in a fixed position without vibration.
- B. Jackshaft:
1. Size: 0.5-inch diameter.
 2. Material: Galvanized-steel pipe rotating within pipe-bearing assembly mounted on supports at each mullion and at each end of multiple-damper assemblies.
 3. Length and Number of Mountings: As required to connect linkage of each damper in multiple-damper assembly.
- C. Damper Hardware:
1. Zinc-plated, die-cast core with dial and handle made of 3/32-inch-thick zinc-plated steel, and a 3/4-inch hexagon locking nut.
 2. Include center hole to suit damper operating-rod size.
 3. Include elevated platform for insulated duct mounting.
- 2.4 TURNING VANES
- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
1. CL WARD & Family Inc.
 2. Ductmate Industries, Inc.
 3. Duro Dyne Inc.
 4. METALAIRE, Inc.
 5. SEMCO LLC.

- B. Manufactured Turning Vanes for Metal Ducts: Curved blades of galvanized sheet steel; support with bars perpendicular to blades set; set into vane runners suitable for duct mounting.
 - 1. Acoustic Turning Vanes: Fabricate airfoil-shaped aluminum extrusions with perforated faces and fibrous-glass fill.
- C. Manufactured Turning Vanes for Nonmetal Ducts: Fabricate curved blades of resin-bonded fiberglass with acrylic polymer coating; support with bars perpendicular to blades set; set into vane runners suitable for duct mounting.
- D. General Requirements: Comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible"; Figures 4-3, "Vaness and Vane Runners," and 4-4, "Vane Support in Elbows."
- E. Vane Construction: Single and Double wall.
- F. Vane Construction: Single wall for ducts up to 48 inches wide and double wall for larger dimensions.

2.5 FLEXIBLE CONNECTORS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1. CL WARD & Family Inc.
 - 2. Ductmate Industries, Inc.
 - 3. Duro Dyne Inc.
- B. Materials: Flame-retardant or noncombustible fabrics.
- C. Coatings and Adhesives: Comply with UL 181, Class 1.
- D. Metal-Edged Connectors: Factory fabricated with a fabric strip 5-3/4 inches wide attached to two strips of 2-3/4-inch-wide, 0.028-inch-thick, galvanized sheet steel or 0.032-inch-thick aluminum sheets. Provide metal compatible with connected ducts.
- E. Indoor System, Flexible Connector Fabric: Glass fabric double coated with neoprene.
 - 1. Minimum Weight: 26 oz./sq. yd..
 - 2. Tensile Strength: 480 lbf/inch in the warp and 360 lbf/inch in the filling.
 - 3. Service Temperature: Minus 40 to plus 200 deg F.

2.6 FLEXIBLE DUCTS

- A. Insulated, Flexible Duct: UL 181, Class 1, 2-ply vinyl film supported by helically wound, spring-steel wire; fibrous-glass insulation; polyethylene vapor-barrier film.

1. Pressure Rating: 10-inch wg positive and 1.0-inch wg negative.
 2. Maximum Air Velocity: 4000 fpm.
 3. Temperature Range: Minus 10 to plus 160 deg F.
 4. Insulation R-value: R-8
- B. Flexible Duct Connectors:
1. Clamps: Stainless-steel band with cadmium-plated hex screw to tighten band with a worm-gear action in sizes 3 through 18 inches, to suit duct size.
 2. Non-Clamp Connectors: Liquid adhesive plus tape.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install duct accessories according to applicable details in SMACNA's "HVAC Duct Construction Standards - Metal and Flexible" for metal ducts and in NAIMA AH116, "Fibrous Glass Duct Construction Standards," for fibrous-glass ducts.
- B. Install duct accessories of materials suited to duct materials; use galvanized-steel accessories in galvanized-steel and fibrous-glass ducts, stainless-steel accessories in stainless-steel ducts, and aluminum accessories in aluminum ducts.
- C. Compliance with ASHRAE/IESNA 90.1-2004 includes Section 6.4.3.3.3 - "Shutoff Damper Controls," restricts the use of backdraft dampers, and requires control dampers for certain applications. Install backdraft dampers at inlet of exhaust fans or exhaust ducts as close as possible to exhaust fan unless otherwise indicated.
- D. Install volume dampers at points on supply, return, and exhaust systems where branches extend from larger ducts. Where dampers are installed in ducts having duct liner, install dampers with hat channels of same depth as liner, and terminate liner with nosing at hat channel.
 1. Install steel volume dampers in steel ducts.
- E. Set dampers to fully open position before testing, adjusting, and balancing.
- F. Install flexible connectors to connect ducts to equipment.
- G. Connect diffusers to ducts directly or with maximum 60-inch lengths of flexible duct clamped or strapped in place.
- H. Connect flexible ducts to metal ducts with liquid adhesive plus tape or draw bands as listed above.

3.2 FIELD QUALITY CONTROL

A. Tests and Inspections:

1. Operate dampers to verify full range of movement.
2. Inspect locations of access doors and verify that purpose of access door can be performed.
3. Operate fire, smoke, and combination fire and smoke dampers to verify full range of movement and verify that proper heat-response device is installed.
4. Inspect turning vanes for proper and secure installation.
5. Operate remote damper operators to verify full range of movement of operator and damper.

END OF SECTION 233300

SECTION 233713.13 - AIR DIFFUSERS

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Perforated diffusers.
- B. Related Requirements:
 - 1. Section 233300 "Air Duct Accessories" for fire and smoke dampers and volume-control dampers not integral to diffusers.
 - 2. Section 233713.23 "Air Registers and Grilles" for adjustable-bar register and grilles, fixed-face registers and grilles, and linear bar grilles.
 - 3. Section 233713.43 "Security Registers and Grilles" for security registers and security grilles.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.
 - 1. Data Sheet: Indicate materials of construction, finish, and mounting details; and performance data including throw and drop, static-pressure drop, and noise ratings.
 - 2. Diffuser Schedule: Indicate drawing designation, room location, quantity, model number, size, and accessories furnished.
- B. Samples: For each exposed product and for each color and texture specified. Actual size of smallest diffuser indicated.
- C. Samples for Initial Selection: For diffusers with factory-applied color finishes. Actual size of smallest diffuser indicated.
- D. Samples for Verification: For diffusers, in manufacturer's standard sizes to verify color selected. Actual size of smallest diffuser indicated.

1.4 INFORMATIONAL SUBMITTALS

- A. Coordination Drawings: Reflected ceiling plans, drawn to scale, on which the following items are shown and coordinated with each other, using input from installers of the items involved:

1. Ceiling suspension assembly members.
 2. Method of attaching hangers to building structure.
 3. Size and location of initial access modules for acoustical tile.
 4. Ceiling-mounted items including lighting fixtures, diffusers, grilles, speakers, sprinklers, access panels, and special moldings.
 5. Duct access panels.
- B. Source quality-control reports.

PART 2 - PRODUCTS

2.1 PERFORATED DIFFUSERS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
1. Krueger.
 2. Nailor Industries Inc.
 3. Price Industries.
 4. Titus
 5. Tuttle & Bailey
- B. Devices shall be specifically designed for variable-air-volume flows.
- C. Material: Steel backpan and pattern controllers, with steel face Finish: Per the project drawings.
- D. Mounting: Per the drawings
- E. Pattern: Core style per the drawings.
- F. Dampers: Radial opposed blade as required by drawings.
- G. Accessories:
1. Square to round neck adaptor.

2.2 SOURCE QUALITY CONTROL

- A. Verification of Performance: Rate diffusers according to ASHRAE 70, "Method of Testing for Rating the Performance of Air Outlets and Inlets."

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine areas where diffusers are installed for compliance with requirements for installation tolerances and other conditions affecting performance of equipment.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

- A. Install diffusers level and plumb.
- B. Ceiling-Mounted Outlets and Inlets: Drawings indicate general arrangement of ducts, fittings, and accessories. Air outlet and inlet locations have been indicated to achieve design requirements for air volume, noise criteria, airflow pattern, throw, and pressure drop. Make final locations where indicated, as much as practical. For units installed in lay-in ceiling panels, locate units in the center of panel. Where architectural features or other items conflict with installation, notify Architect for a determination of final location.
- C. Install diffusers with airtight connections to ducts and to allow service and maintenance of dampers, air extractors, and fire dampers.

3.3 ADJUSTING

- A. After installation, adjust diffusers to air patterns indicated, or as directed, before starting air balancing.

END OF SECTION 233713.13

SECTION 233713.23 - AIR REGISTERS AND GRILLES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Fixed face egg crate grilles.
- B. Related Requirements:
 - 1. Section 233300 "Air Duct Accessories" for fire and smoke dampers and volume-control dampers not integral to registers and grilles.
 - 2. Section 233713.13 "Air Diffusers" for various types of air diffusers.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.
 - 1. Data Sheet: Indicate materials of construction, finish, and mounting details; and performance data including throw and drop, static-pressure drop, and noise ratings.
 - 2. Register and Grille Schedule: Indicate drawing designation, room location, quantity, model number, size, and accessories furnished.
- B. Samples: For each exposed product and for each color and texture specified. Smallest size register and grille indicated.
- C. Samples for Initial Selection: For registers and grilles with factory-applied color finishes. Smallest size register and grille indicated.
- D. Samples for Verification: For registers and grilles, in manufacturer's standard sizes to verify color selected. Smallest size register and grille indicated.

1.4 INFORMATIONAL SUBMITTALS

- A. Coordination Drawings: Reflected ceiling plans, drawn to scale, on which the following items are shown and coordinated with each other, using input from installers of the items involved:

1. Ceiling suspension assembly members.
 2. Method of attaching hangers to building structure.
 3. Size and location of initial access modules for acoustical tile.
 4. Ceiling-mounted items including lighting fixtures, diffusers, grilles, speakers, sprinklers, access panels, and special moldings.
 5. Duct access panels.
- B. Source quality-control reports.

PART 2 - PRODUCTS

2.1 GRILLES

- A. Fixed Face Egg Crate Grille:
1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Krueger.
 - b. Nailor Industries Inc.
 - c. Price Industries.
 - d. Titus.
 - e. Tuttle & Bailey.
 2. Finish: Baked enamel, white.
 3. Face Arrangement: [1/2-by-1/2-by-1/2-inchgrid core.
 4. Core Construction: Removable.
 5. Frame: 1-1/4wide.
 6. Mounting: Lay in.

2.2 SOURCE QUALITY CONTROL

- A. Verification of Performance: Rate registers and grilles according to ASHRAE 70, "Method of Testing for Rating the Performance of Air Outlets and Inlets."

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine areas where registers and grilles are installed for compliance with requirements for installation tolerances and other conditions affecting performance of equipment.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

- A. Install registers and grilles level and plumb.
- B. Outlets and Inlets Locations: Drawings indicate general arrangement of ducts, fittings, and accessories. Air outlet and inlet locations have been indicated to achieve design requirements for air volume, noise criteria, airflow pattern, throw, and pressure drop. Make final locations where indicated, as much as practical. For units installed in lay-in ceiling panels, locate units in the center of panel. Where architectural features or other items conflict with installation, notify Architect for a determination of final location.
- C. Install registers and grilles with airtight connections to ducts and to allow service and maintenance of dampers, air extractors, and fire dampers.

3.3 ADJUSTING

- A. After installation, adjust registers and grilles to air patterns indicated, or as directed, before starting air balancing.

END OF SECTION 233713.23

SECTION 238129 - MINI-SPLIT HVAC SYSTEMS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes complete HVAC system(s) including, but not limited to, delegated design and the following components to make a complete operating system(s) according to requirements indicated:
 - 1. Indoor, suspended, ceiling-mounted units.
 - 2. Outdoor, air-source, heat-pump units.
 - 3. System controls.
 - 4. System refrigerant and oil
 - 5. System condensate drain piping.
 - 6. System refrigerant piping.
 - 7. Metal hangers and supports.
 - 8. Metal framing systems.
 - 9. Fastener systems.
 - 10. Miscellaneous support materials.
 - 11. Piping and tubing insulation.

1.3 DEFINITIONS

- A. Air-Conditioning System Operation: System capable of operation with all zones in cooling only.
- B. Heat-Pump System Operation: System capable of operation with all zones in either heating or cooling, but not with simultaneous heating and cooling zones that transfer heat between zones.
- C. Low Voltage: As defined in NFPA 70 for circuits and equipment operating at less than 50 V or for remote-control, signaling power-limited circuits.
- D. Plenum: A space forming part of the air distribution system to which one or more air ducts are connected. An air duct is a passageway, other than a plenum, for transporting air to or from heating, ventilating, or air-conditioning equipment.
- E. Two-Pipe System Design: One refrigerant vapor line and one refrigerant liquid line connect a single outdoor unit to associated indoor units.

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product.
 - 1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for indoor and outdoor units.
 - 2. Include rated capacities, operating characteristics, electrical characteristics, and furnished specialties and accessories.
 - 3. Include operating performance at design conditions and at extreme maximum and minimum outdoor ambient conditions.
 - 4. Include description of system controllers, dimensions, features, control interfaces and connections, power requirements, and connections.
 - 5. Include system operating sequence of operation in narrative form for each unique indoor- and outdoor-unit.
 - 6. Include description of control software features.
 - 7. Include total refrigerant required and a comprehensive breakdown of refrigerant required by each system installed.
 - 8. Include refrigerant type and data sheets showing compliance with requirements indicated.
 - 9. For system design software.
 - 10. Indicate location and type of service access.

- B. Shop Drawings: For Mini-split HVAC systems.
 - 1. Include plans, elevations, sections, and mounting/attachment details.
 - 2. Include details of equipment assemblies. Indicate dimensions, weights, loads, required clearances, method of field assembly, components, and location and size of each field connection.
 - 3. Vibration Isolation Base Details: Detail fabrication including anchorages and attachments to structure and to supported equipment. Include adjustable motor bases, rails, and frames for equipment mounting.
 - 4. Include diagrams and details of refrigerant piping and tubing showing installation requirements for manufacturer-furnished divided flow fittings.
 - 5. Include diagrams for power, signal, and control wiring.

1.5 INFORMATIONAL SUBMITTALS

- A. Qualification Data:
 - 1. For Installer: Certificate from Mini-split HVAC system manufacturer certifying that Installer is a factory authorized technician and has successfully completed prerequisite training administered by manufacturer for proper installation of systems, including but not limited to, equipment, piping, controls, and accessories indicated and furnished for installation.
 - a. Retain copies of Installer certificates on-site and make available on request.

- B. Seismic Qualification Data: Certificates, for equipment, accessories, and components, from manufacturer.
 - 1. Basis for Certification: Indicate whether withstand certification is based on actual test of assembled components or on calculation.
 - 2. Dimensioned Outline Drawings of Equipment Unit: Identify center of gravity and locate and describe mounting and anchorage provisions.
 - 3. Detailed description of equipment anchorage devices on which the certification is based and their installation requirements.
- C. Source quality-control reports.
- D. Field quality-control reports.
- E. Sample Warranties: For manufacturer's warranties.

1.6 CLOSEOUT SUBMITTALS

- A. Operation and Maintenance Data: For Mini-split HVAC systems to include in emergency, operation, and maintenance manuals.
- B. Software and Firmware Operational Documentation:
 - 1. Software operating and upgrade manuals.
 - 2. Program Software Backup: On CD or DVD, USB media, or approved cloud storage platform, complete with data files.
 - 3. Device address list.
 - 4. Printout of software application and graphic screens.

1.7 QUALITY ASSURANCE

- A. Factory-Authorized Service Representative Qualifications:
 - 1. Authorized representative of, and trained by, Mini-split HVAC system manufacturer.
 - 2. In-place facility located within 30 miles of Project.
 - 3. Demonstrated past experience with products being installed for period within three consecutive years before time of bid.
 - 4. Demonstrated past experience on five projects of similar complexity, scope, and value.
 - a. Each person assigned to Project shall have demonstrated past experience.
 - 5. Staffing resources of competent and experienced full-time employees that are assigned to execute work according to schedule.

6. Service and maintenance staff assigned to support Project during warranty period.
 7. Product parts inventory to support ongoing system operation for a period of not less than five years after Substantial Completion.
 8. Mini-split HVAC system manufacturer's backing to take over execution of Work if necessary to comply with requirements indicated. Include Project-specific written letter, signed by manufacturer's corporate officer, if requested.
- B. Installer Qualifications: An entity that employs installers and supervisors who are trained and approved by Mini-split HVAC system manufacturer.
1. Each employee shall be certified by manufacturer for proper installation of systems, including, but not limited to, equipment, piping, controls, and accessories indicated and furnished for installation.
 2. Installer certification shall be valid and current for duration of Project.
 3. Retain copies of Installer certificates on-site and make available on request.
 4. Each person assigned to Project shall have demonstrated past experience.
 - a. Demonstrated past experience with products being installed for period within three consecutive years before time of bid.
 - b. Demonstrated past experience on five projects of similar complexity, scope, and value.
 5. Installers shall have staffing resources of competent, trained, and experienced full-time employees that are assigned to execute work according to schedule.
- C. ISO Compliance: System equipment and components furnished by Mini-split HVAC system manufacturer shall be manufactured in an ISO 9001 and ISO 14001 facility.

1.8 DELIVERY, STORAGE, AND HANDLING

- A. Deliver and store products in a clean and dry place.
- B. Comply with manufacturer's written rigging and installation instructions for unloading and moving to final installed location.
- C. Handle products carefully to prevent damage, breaking, denting, and scoring. Do not install damaged products.
- D. Protect products from weather, dirt, dust, water, construction debris, and physical damage.
 1. Retain factory-applied coverings on equipment to protect finishes during construction and remove just prior to operating unit.
 2. Cover unit openings before installation to prevent dirt and dust from entering inside of units. If required to remove coverings during unit installation, reapply coverings over openings after unit installation and remove just prior to operating unit.

- E. Replace installed products damaged during construction.

1.9 WARRANTY

- A. Manufacturer's Warranty: Manufacturer agrees to repair or replace equipment and components that fail(s) in materials or workmanship within specified warranty period.
 - 1. Failures include, but are not limited to, the following:
 - a. Structural failures.
 - b. Faulty operation.
 - c. Deterioration of metals, metal finishes, and other materials beyond normal weathering and use.
 - 2. Warranty Period:
 - a. For Compressor: 5 year(s) from date of Substantial Completion.
 - b. For Parts, Including Controls: 5 year(s) from date of Substantial Completion.
 - c. For Labor: 1 year(s) from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1. Daikin AC (Americas), Inc.
 - 2. LG Electronics.
 - 3. Mitsubishi Electric & Electronics USA, Inc.
- B. Source Limitations: Obtain products from single source from single manufacturer including, but not limited to, the following:
 - 1. Indoor and outdoor units, including accessories.
 - 2. Controls and software.
 - 3. Refrigerant isolation valves.
 - 4. Specialty refrigerant pipe fittings.

2.2 SYSTEM DESCRIPTION

- A. Direct-expansion (DX) Mini-split HVAC system(s) with variable capacity in response to varying cooling and heating loads. System shall consist of multiple indoor units, outdoor unit(s), piping, controls, and electrical power to make complete operating system(s) complying with requirements indicated.

1. Two-pipe system design.
 2. System(s) operation, air-conditioning, heat pump as indicated on Drawings.
 3. Each system with one refrigerant circuit shared by all indoor units connected to system.
- B. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
- C. AHRI Compliance: System and equipment performance certified according to AHRI 1230 and products listed in AHRI directory.
- D. ASHRAE Compliance:
1. ASHRAE 15: For safety code for mechanical refrigeration.
 2. ASHRAE 62.1: For indoor air quality.
 3. ASHRAE 135: For control network protocol with remote communication.
 4. ASHRAE/IES 90.1 Compliance: For system and component energy efficiency.
- E. UL Compliance: Comply with UL 1995.

2.3 PERFORMANCE REQUIREMENTS

- A. Service Access:
1. Provide and document service access requirements.
 2. Locate equipment, system isolation valves, and other system components that require service and inspection in easily accessible locations. Avoid locations that are difficult to access if possible.
 3. Where serviceable components are installed behind walls and above inaccessible ceilings, provide finished assembly with access doors or panels to gain access. Properly size the openings to allow for service, removal, and replacement.
 4. If less than full and unrestricted access is provided, locate components within an 18-inch reach of the finished assembly.
 5. Where ladder access is required to service elevated components, provide an installation that provides for sufficient access within ladder manufacturer's written instructions for use.
 6. Comply with OSHA regulations.
- B. System Design and Installation Requirements:
1. Design and install systems indicated according to manufacturer's recommendations and written instructions.
 2. Where manufacturer's requirements differ from requirements indicated, contact Architect for direction. The most stringent requirements should apply unless otherwise directed in writing by Architect.

- C. Isolation of Equipment: Provide isolation valves to isolate each indoor unit and outdoor unit for service, removal, and replacement without interrupting system operation.
- D. System Capacity Ratio: The sum of connected capacity of all indoor units shall be within the following range of outdoor-unit rated capacity:
 - 1. Not less than 60 percent.
 - 2. Not more than 130 percent.
 - 3. Range acceptable to manufacturer.
- E. System Auto Refrigerant Charge: Each system shall have an automatic refrigerant charge function to ensure the proper amount of refrigerant is installed in system.
- F. Outdoor Conditions:
 - 1. Suitable for outdoor ambient conditions encountered.
 - a. Design equipment and supports to withstand wind loads of governing code and ASCE/SEI 7.
 - b. Design equipment and supports to withstand snow and ice loads of governing code and ASCE/SEI 7.
 - 2. Maximum System Operating Outdoor Temperature: 110 F.
 - 3. Minimum System Operating Outdoor Temperature: -12 F.
- G. Seismic Performance: Mini-split HVAC system(s) shall withstand the effects of earthquake motions determined according to ASCE/SEI 7.
 - 1. The term "withstand" means "the system will remain in place without separation of any parts when subjected to the seismic forces specified."
 - 2. Component Importance Factor: 1.0.
- H. Sound Performance: Sound levels generated by operating HVAC equipment shall be within requirements indicated.
 - 1. Indoor: Within design guidelines of "2015 ASHRAE HANDBOOK- HVAC Applications."
 - 2. Outdoor: Sound pressure levels shall not exceed 52 dB (A) during cooling operation for Heat Pump.
- I. Thermal Movements: Allow for controlled thermal movements from ambient, surface, and system temperature changes.
- J. Capacities and Characteristics: As indicated on Drawings.

2.4 INDOOR, SUSPENDED, CEILING-MOUNTED UNITS

- A. Description: Factory-assembled complete unit with components, piping, wiring, and controls required for mating to piping, power, and controls field connections.
- B. Cabinet:
1. Material: Painted steel, or coated steel frame covered by a plastic cabinet, with an architectural acceptable finish suitable for tenant occupancy on exposed surfaces.
 2. Insulation: Manufacturer's standard internal insulation, complying with ASHRAE 62.1, to provide thermal resistance and prevent condensation.
 3. Mounting: Manufacturer-designed provisions for field installation.
 4. Internal Access: Removable panels of adequate size for field access to internal components for inspection, cleaning, service, and replacement.
- C. DX Coil Assembly:
1. Coil Casing: Aluminum, galvanized, or stainless steel.
 2. Coil Fins: Aluminum, mechanically bonded to tubes, with arrangement required by performance.
 3. Coil Tubes: Copper, of diameter and thickness required by performance.
 4. Expansion Valve: Electronic modulating type with linear or proportional characteristics.
 5. Unit Internal Tubing: Copper tubing with brazed joints.
 6. Unit Internal Tubing Insulation: Manufacturer's standard insulation, of thickness to prevent condensation.
 7. Field Piping Connections: Manufacturer's standard.
 8. Factory Charge: Dehydrated air or nitrogen.
 9. Testing: Factory pressure tested and verified to be without leaks.
- D. Drain Assembly:
1. Pan: Non-ferrous material, with bottom sloped to low point drain connection.
 2. Condensate Removal: Unit-mounted pump or other integral lifting mechanism, capable of lifting drain water to the appropriate drawing location. Routing, elevation and termination locations is to be coordinated with Plumbing Design Drawings.
 3. Field Piping Connection: Non-ferrous material.
 4. Drain Pan Sensor: Drain pan sensor shall be provided and interlocked with unit operation. Upon detection of excess condensate, indoor unit is to shut down.
- E. Fan and Motor Assembly:
1. Fan(s):
 - a. Direct-drive arrangement.

- b. Single or multiple fans connected to a common motor shaft and driven by a single motor.
 - c. Fabricated from non-ferrous components or ferrous components with corrosion protection finish.
 - d. Wheels statically and dynamically balanced.
2. Motor: Brushless dc or electronically commutated with permanently lubricated bearings.
 3. Motor Protection: Integral protection against thermal, overload, and voltage fluctuations.
 4. Speed Settings and Control: Two (low, high), three (low, medium, high), or more than three speed settings or variable speed with a speed range of least 50 percent.
- F. Filter Assembly:
1. Access: Front, to accommodate filter replacement without the need for tools.
 2. Washable Media: Manufacturer's standard filter with antimicrobial treatment.
- G. Discharge-Air Grille Assembly: Mounted in front of unit cabinet.
1. Discharge Pattern: One-way throw.
 2. Discharge Pattern Adjustment: Field-adjustable limits for range of pattern.
 3. Motorized Vanes: Modulating up and down flow pattern for uniform room air distribution.
- H. Return-Air Grille Assembly: Manufacturer's standard.
- I. Outdoor Air Ventilation Connection: Sheet metal knockout for optional connection to outdoor air ventilation duct.
- J. Unit Accessories:
1. Remote Room Temperature Sensor Kit: Wall-mounted, hardwired room temperature sensor kit for use in rooms that do not have room temperature measurement.
 2. Condensate Pump: Integral reservoir and control with electrical power connection through unit power.
- K. Vibration Control: Integral isolation to dampen vibration transmission. Filter Assembly:
1. Access: Front, to accommodate filter replacement without the need for tools.
 2. Washable Media: Manufacturer's standard filter with antimicrobial treatment.
- L. Unit Accessories:
1. Thermostat interface Card: Interface shall be provided to allow the indoor unit to interface with third-party controller provided by controls contractor.
 2. Condensate Pump: Integral reservoir and control with electrical power connection through unit power.

3. Communication: Network communication with other indoor and outdoor units.
4. Cable and Wiring: Manufacturer's standard with each connection labeled and corresponding to a unit-mounted wiring diagram.
5. Field Connection: Manufacturer's standard with each connection labeled and corresponding to a unit-mounted wiring diagram.

M. Unit Electrical:

1. Enclosure: Manufacturer's standard, and suitable for indoor locations.
2. Field Connection: Single point connection to power entire unit and integral controls.
3. Disconnecting Means: Factory-mounted circuit breaker or switch, complying with NFPA 70.
4. Control Transformer: Manufacturer's standard. Coordinate requirements with field power supply.
5. Wiring: Manufacturer's standard with each connection labeled and corresponding to a unit-mounted wiring diagram.
6. Raceways: Enclose line voltage wiring in raceways to comply with NFPA 70.

2.5 OUTDOOR, AIR-SOURCE HEAT-PUMP UNITS

- A. Description: Factory-assembled and -tested complete unit with components, piping, wiring, and controls required for mating to piping, power, and controls field connections.

1. Specially designed for use in systems with either all heating or all cooling demands, but not for use in systems with simultaneous heating and cooling.
2. Systems shall consist of one unit, or multiple unit modules that are designed by variable refrigerant system manufacturer for field interconnection to make a single refrigeration circuit that connects multiple indoor units.
3. All units installed shall be from the same product development generation.

B. Cabinet:

1. Galvanized steel and coated with a corrosion-resistant finish.
 - a. Coating with documented salt spray test performance of 1000 hours according ASTM B 117 surface scratch test (SST) procedure.
2. Mounting: Manufacturer-designed provisions for field installation.
3. Internal Access: Removable panels or hinged doors of adequate size for field access to internal components for inspection, cleaning, service, and replacement.

C. Compressor and Motor Assembly:

1. One or more positive-displacement, direct-drive and hermetically sealed scroll compressor(s).

2. Protection: Integral protection against the following:
 - a. High refrigerant pressure.
 - b. Low oil level.
 - c. High oil temperature.
 - d. Thermal and overload.
 - e. Voltage fluctuations.
 - f. Phase failure and phase reversal.
 - g. Short cycling.
 3. Speed Control: Variable to automatically maintain refrigerant suction and condensing pressures while varying refrigerant flow to satisfy system cooling and heating loads.
 4. Vibration Control: Integral isolation to dampen vibration transmission.
 5. Oil management system to ensure safe and proper lubrication over entire operating range.
 6. Crankcase heaters with integral control to maintain safe operating temperature.
 7. Fusible plug.
 8. Low ambient kits
- D. Condenser Coil Assembly:
1. Plate Fin Coils:
 - a. Casing: Aluminum, galvanized, or stainless steel.
 - b. Fins: Aluminum or copper, mechanically bonded to tubes, with arrangement required by performance.
 - c. Tubes: Copper, of diameter and thickness required by performance.
 2. Aluminum Microchannel Coils:
 - a. Series of flat tubes containing a series of multiple, parallel-flow microchannels layered between refrigerant header manifolds.
 - b. Single- or multiple-pass arrangement.
 - c. Construct fins, tubes, and header manifolds of aluminum alloy.
 3. Corrosion Protection: Coating with documented salt spray test performance of 1000 hours according ASTM B 117 surface scratch test (SST) procedure.
 4. Hail Protection: Provide condenser coils with louvers, baffles, or hoods to protect against hail damage.
- E. Condenser Fan and Motor Assembly:
1. Fan(s): Propeller type.
 - a. Direct-drive arrangement.
 - b. Fabricated from non-ferrous components or ferrous components with corrosion protection finish to match performance indicated for condenser coil.

- c. Dynamically balanced.
 2. Fan Guards: Removable safety guards complying with OSHA regulations. If using metal materials, coat with corrosion-resistant coating to match performance indicated for condenser coil.
 3. Motor(s): Brushless dc or electronically commutated with permanently lubricated bearings and rated for outdoor duty.
 4. Motor Protection: Integral protection against thermal, overload, and voltage fluctuations.
 5. Speed Settings and Control: Variable speed with a speed range of least 75 percent.
 6. Vibration Control: Integral isolation to dampen vibration transmission.
- F. Drain Pan: If required by manufacturer's design, provide unit with non-ferrous drain pan with bottom sloped to a low point drain connection.
- G. Unit Controls:
1. Enclosure: Manufacturer's standard, and suitable for unprotected outdoor locations.
 2. Factory-Installed Controller: Configurable digital control.
 3. Factory-Installed Sensors:
 - a. Refrigerant suction temperature.
 - b. Refrigerant discharge temperature.
 - c. Outdoor air temperature.
 - d. Refrigerant high pressure.
 - e. Refrigerant low pressure.
 - f. Oil level.
 4. Features and Functions: Self-diagnostics, time delay, auto-restart, fuse protection, auto operation mode , manual operation mode , night setback control, run test switch equalize run time between multiple same components.
 5. Communication: Network communication with indoor units and other outdoor unit(s).
 6. Cable and Wiring: Manufacturer's standard with each connection labeled and corresponding to a unit-mounted wiring diagram.
 7. Field Connection: Manufacturer's standard with each connection labeled and corresponding to a unit-mounted wiring diagram.
 8. Factory Bacnet interface
- H. Unit Electrical:
1. Enclosure: Metal, similar to enclosure, and suitable for unprotected outdoor locations.
 2. Field Connection: Single point connection to power entire unit and integral controls.
 3. Disconnecting Means: Factory-mounted circuit breaker or switch, complying with NFPA 70.

4. Control Transformer: Manufacturer's standard. Coordinate requirements with field power supply.
 5. Wiring: Manufacturer's standard with each connection labeled and corresponding to a unit-mounted wiring diagram.
 6. Raceways: Enclose line voltage wiring in raceways to comply with NFPA 70.
- I. Unit Hardware: Zinc-plated steel, or stainless steel. Coat exposed surfaces with additional corrosion-resistant coating if required to prevention corrosion when exposed to salt spray test for 1000 hours according ASTM B 117.
- J. Unit Piping:
1. Unit Tubing: Copper tubing with brazed joints.
 2. Unit Tubing Insulation: Manufacturer's standard insulation, of thickness to prevent condensation.
 3. Field Piping Connections: Manufacturer's standard.
 4. Factory Charge: Dehydrated air or nitrogen.
 5. Testing: Factory pressure tested and verified to be without leaks.

2.6 SYSTEM CONTROLS

A. General Requirements:

1. Network: Indoor units and outdoor units shall include integral controls and connect through a manufacturer-selected control network.
2. Network Communication Protocol: Control communication between interconnected units.
 - a. Users shall be capable of interface with controllers for indoor units control to extent privileges are enabled. Control features available to users shall include the following:
 - 1) On/off control.
 - 2) Temperature set-point adjustment.

2.7 SYSTEM REFRIGERANT AND OIL

A. Refrigerant:

1. As required by Mini-Split HVAC system manufacturer for system to comply with performance requirements indicated.

B. Oil:

1. As required by Mini-Split HVAC system manufacturer and to comply with performance requirements indicated.

2.8 SYSTEM REFRIGERANT PIPING

A. Refrigerant Tubing Kits:

1. Furnished by Mini-Split HVAC system manufacturer.
2. Factory-rolled and -bundled, soft-copper tubing with tubing termination fittings at each end.
3. Standard one-piece length for connecting to indoor units.
4. Pre-insulated with flexible elastomeric insulation of thickness to comply with governing energy code and sufficient to eliminate condensation.
5. Factory Charge: Dehydrated air or nitrogen.

B. Refrigerant Isolation Ball Valves:

1. Description: Uni-body full port design, rated for maximum system temperature and pressure, and factory tested under pressure to ensure tight shutoff. Designed for valve operation without removing seal cap.
2. Seals: Compatible with system refrigerant and oil. Seal service life of at least 20 years.
3. Valve Connections: Flare or sweat depending on size.

2.9 PIPING AND TUBING INSULATION

A. Comply with requirements in Section 230719 "HVAC Piping Insulation" for system piping insulation requirements.

B. Refrigerant Tubing Insulation and Jacket Requirements:

1. Flexible Elastomeric Insulation:
 - a. Closed-cell, sponge- or expanded-rubber materials, complying with ASTM C 534, Type I for tubular materials.
 - b. Indoors: 1.5 inch thick.
 - c. Outdoors: 2inchthick.
2. Field-Applied Jacket:
 - a. Concealed: None required.
 - b. Indoors, Exposed to View: PVC, 20 mils thick.
 - c. Outdoors, Exposed to View: Aluminum, smooth, 0.020 inch thick

C. Metal Jacket Flashing Sealants:

1. Materials shall be compatible with insulation materials, jackets, and substrates.
2. Fire- and water-resistant, flexible, elastomeric sealant.
3. Service Temperature Range: Minus 40 to plus 250 deg F.
4. Color: Aluminum.

2.10 SYSTEM CONTROL CABLE

- A. Cable Rating: Listed and labeled for application according to NFPA 70.
 - 1. Flame Travel and Smoke Density in Plenums: As determined by testing identical products according to NFPA 262, by a qualified testing agency. Identify products for installation in plenums with appropriate markings of applicable testing agency.
 - a. Flame Travel Distance: 60 inches or less.
 - b. Peak Optical Smoke Density: 0.5 or less.
 - c. Average Optical Smoke Density: 0.15 or less.
 - 2. Flame Travel and Smoke Density for Riser Cables in Non-Plenum Building Spaces: As determined by testing identical products according to UL 1666.
 - 3. Flame Travel and Smoke Density for Cables in Non-Riser Applications and Non-Plenum Building Spaces: As determined by testing identical products according to UL 1685.
- B. Low-Voltage Control Cabling:
 - 1. Paired Cable: NFPA 70, Type CMG.
 - a. One pair, twisted, No. 16 AWG, stranded (19x29) or No. 18 AWG, stranded (19x30) tinned-copper conductors as required by Mini-split HVAC system manufacturer.
 - b. PVC insulation.
 - c. Braided or foil shielded.
 - d. PVC jacket.
 - e. Flame Resistance: Comply with UL 1685.
 - 2. Plenum-Rated, Paired Cable: NFPA 70, Type CMP.
 - a. One pair, twisted, No. 16 AWG, stranded (19x29) or No. 18 AWG, stranded (19x30) tinned-copper conductors as required by Mini-split HVAC system manufacturer.
 - b. PVC insulation.
 - c. Braided or foil shielded.
 - d. PVC jacket.
 - e. NFPA 262 includes the standard flame-resistance test criteria in common use for cables and conductors.
 - f. Flame Resistance: Comply with NFPA 262.
- C. TIA-485A Network Cabling:
 - 1. Standard Cable: NFPA 70, Type CMG.

- a. Paired, two pairs, twisted, No. 22 AWG, stranded (7x30) tinned-copper conductors.
 - b. PVC insulation.
 - c. Unshielded.
 - d. PVC jacket.
 - e. Flame Resistance: Comply with UL 1685.
2. Plenum-Rated Cable: NFPA 70, Type CMP.
- a. Paired, No. 22 AWG, stranded (7x30) tinned-copper conductors.
 - b. Fluorinated ethylene propylene insulation.
 - c. Unshielded.
 - d. Fluorinated ethylene propylene jacket.
 - e. NFPA 262 includes the standard flame-resistance test criteria in common use for cables and conductors.
 - f. Flame Resistance: NFPA 262.
- D. Ethernet Network Cabling: TIA-568-C.2 Category 6 cable with RJ-45 connectors.
1. Description: Four-pair, balanced-twisted pair cable, certified to meet transmission characteristics of category cable indicated.
 2. Conductors: 100-ohm, 23 AWG solid copper.
 3. Shielding: Shielded twisted pairs (FTP).
 4. Cable Rating: By application.
 5. Jacket: Gray thermoplastic.
- E. Comply with requirements in Section 260533 "Raceways and Boxes for Electrical Systems" for control wiring and cable raceways.

2.11 SOURCE QUALITY CONTROL

- A. Factory Tests: Test and inspect factory-assembled equipment.
- B. Equipment will be considered defective if it does not pass tests and inspections.
- C. Prepare test and inspection reports for historical record. Submit reports only if requested.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.

- B. Examine products before installation. Reject products that are wet, moisture damaged, or mold damaged.
- C. Examine roughing-in for piping and tubing to verify actual locations of connections before equipment installation.
- D. Examine roughing-in for wiring and conduit to verify actual locations of connections before equipment installation.
- E. Examine walls, floors, roofs, and outdoor pads for suitable conditions where equipment will be installed.
- F. Prepare written report, endorsed by Installer, listing conditions detrimental to performance of the Work.
- G. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 EQUIPMENT INSTALLATION, GENERAL

- A. Clearance:
 - 1. Maintain manufacturer's recommended clearances for service and maintenance.
 - 2. Maintain clearances required by governing code.
- B. Loose Components: Install components, devices, and accessories furnished by manufacturer, with equipment, that are not factory mounted.
 - 1. Loose components shall be installed by manufacturer's service representative or system Installer under supervision of manufacturer's service representative.
- C. Equipment Restraint Installation: Install equipment with seismic-restraint device. Comply with requirements for seismic-restraint devices specified in Section 230548 "Vibration and Seismic Controls for HVAC."

3.3 INSTALLATION OF INDOOR UNITS

- A. Install units to be level and plumb while providing a neat and finished appearance.
- B. Unless otherwise required by Mini-Split HVAC system manufacturer, support ceiling-mounted units from structure above using threaded rods; minimum rod size of 3/8 inch.
- C. Adjust supports of exposed and recessed units to draw units tight to adjoining surfaces.
- D. Protect finished surfaces of ceilings, floors, and walls that come in direct contact with units. Refinish or replaced damaged areas after units are installed.

- E. In rooms with ceilings, conceal piping and tubing, controls, and electrical power serving units above ceilings.
- F. In rooms without ceiling, arrange piping and tubing, controls, and electrical power serving units to provide a neat and finished appearance.
- G. Provide lateral bracing if needed to limit movement of suspended units to not more than 0.25 inch.
- H. For floor- and wall-mounted units that are exposed, conceal piping and tubing, controls, and electrical power serving units within walls.
- I. Attachment: Install hardware for proper attachment to supported equipment.
- J. Grouting: Place grout under equipment supports and make bearing surface smooth.

3.4 INSTALLATION OF OUTDOOR UNITS

- A. Install units to be level and plumb while providing a neat and finished appearance.
- B. Install outdoor units on support structures indicated on Drawings.
- C. Roof-Mounted Installations: Install outdoor units on equipment supports specified in Section 077200 "Roof Accessories." Anchor units to supports with removable, stainless-steel fasteners utilizing vibration pads.

3.5 GENERAL REQUIREMENTS FOR PIPING INSTALLATION

- A. Drawing plans, schematics, and diagrams indicate general location and arrangement of piping and tubing systems. Install piping and tubing as indicated unless deviations to layout are approved on coordination drawings.
- B. Install piping and tubing in concealed locations unless otherwise indicated and except in equipment rooms and service areas.
- C. Install piping and tubing at right angles or parallel to building walls. Diagonal runs are prohibited unless specifically indicated otherwise.
- D. Install piping and tubing above accessible ceilings to allow sufficient space for ceiling panel removal.
- E. Install piping and tubing to permit valve servicing.
- F. Install piping and tubing at indicated slopes.
- G. Install piping and tubing free of sags.
- H. Install fittings for changes in direction and branch connections.

- I. Install piping and tubing to allow application of insulation.
- J. Install groups of pipes and tubing parallel to each other, spaced to permit applying insulation with service access between insulated piping and tubing.
- K. Install sleeves for piping and tubing penetrations of walls, ceilings, and floors. Comply with requirements for sleeves specified in Section 230517 "Sleeves and Sleeve Seals for HVAC Piping."
- L. Install escutcheons for piping and tubing penetrations of walls, ceilings, and floors. Comply with requirements for escutcheons specified in Section 230518 "Escutcheons for HVAC Piping."

3.6 INSTALLATION OF REFRIGERANT PIPING

- A. Refrigerant Tubing Kits:
 - 1. Unroll and straighten tubing to suit installation. Deviations in straightness of exposed tubing shall be unnoticeable to observer.
 - 2. Support tubing using hangers and supports indicated at intervals not to exceed 5 feet. Minimum rod size, 1/4 inch.
 - 3. Prepare tubing ends and make mating connections to provide a pressure tight and leak-free installation.
- B. Install refrigerant piping according to ASHRAE 15 and governing codes.
- C. Select system components with pressure rating equal to or greater than system operating pressure.
- D. Install piping as short and direct as possible, with a minimum number of joints and fittings.
- E. Arrange piping to allow inspection and service of equipment. Install valves and specialties in accessible locations to allow for service and inspection. Install access doors or panels as specified in Section 083113 "Access Doors and Frames" if valves or equipment requiring maintenance is concealed behind finished surfaces.
- F. Install refrigerant piping and tubing in protective conduit where installed belowground.
- G. Install refrigerant piping and tubing in rigid or flexible conduit in locations where exposed to mechanical damage.
- H. Unless otherwise required by Mini-Split HVAC system manufacturer, slope refrigerant piping and tubing as follows:
 - 1. Install horizontal hot-gas discharge piping and tubing with a uniform slope downward away from compressor.
 - 2. Install horizontal suction lines with a uniform slope downward to compressor.

3. Install traps to entrain oil in vertical runs.
 4. Liquid lines may be installed level.
- I. When brazing, remove or protect components that could be damaged by heat.
 - J. Before installation, clean piping, tubing, and fittings to cleanliness level required by Mini-Split HVAC system manufacturer.
 - K. Joint Construction:
 1. Ream ends of tubes and remove burrs.
 2. Remove scale, slag, dirt, and debris from inside and outside of tube and fittings before assembly.
 3. Construct joints according to AWS's "Brazing Handbook," "Pipe and Tube" Chapter.
 - a. Use Type BCuP (copper-phosphorus) alloy for joining copper fittings with copper tubing.
 - b. Use Type BAg (cadmium-free silver) alloy for joining copper with bronze.

3.7 INSTALLATION OF METAL HANGERS AND SUPPORTS

- A. Comply with requirements in Section 230548 "Vibration and Seismic Controls for HVAC" for seismic restraints.
- B. Metal Pipe-Hanger Installation: Comply with MSS SP-69 and MSS SP-89. Install hangers, supports, clamps, and attachments as required to properly support piping from the building structure.
- C. Metal Framing System Installation: Arrange for grouping of parallel runs of piping, and support together on field-assembled metal framing systems.
- D. Comply with MFMA-103 for metal framing system selections and applications that are not specified.
- E. Install hangers and supports complete with necessary attachments, inserts, bolts, rods, nuts, washers, and other accessories.
- F. Install hangers and supports to allow controlled thermal and seismic movement of piping systems, to permit freedom of movement between pipe anchors, and to facilitate action of expansion joints, expansion loops, expansion bends, and similar units.
- G. Install lateral bracing with pipe hangers and supports to prevent swaying.
- H. Install building attachments within concrete slabs or attach to structural steel.
 1. Install concrete inserts before concrete is placed; fasten inserts to forms and install reinforcing bars through openings at top of inserts.

- I. Load Distribution: Install hangers and supports so that piping live and dead loads and stresses from movement will not be transmitted to connected equipment.
- J. Pipe Slopes: Install hangers and supports to provide indicated pipe slopes and to not exceed maximum pipe deflections allowed by ASME B31.9 for building services piping.
- K. Piping and Tubing Insulation:
 - 1. Install MSS SP-58, Type 40, protective shields on cold piping with vapor barrier. Shields shall span an arc of 180 degrees.
 - 2. Shield Dimensions for Pipe: Not less than the following:
 - a. NPS 1/4 to NPS 3-1/2: 12 inches long and 0.048 inch thick.
- L. Horizontal-Piping Hangers and Supports: Install the following types:
 - 1. Adjustable, Steel Clevis Hangers (MSS Type 1): For suspension of noninsulated or insulated, stationary pipes NPS 1/2 to NPS 30.
 - 2. Pipe Hangers (MSS Type 5): For suspension of pipes NPS 1/2 to NPS 4, to allow off-center closure for hanger installation before pipe erection.
 - 3. Clips (MSS Type 26): For support of insulated pipes not subject to expansion or contraction.
 - 4. Multiple horizontal pipes located indoors may use metal framing systems with split clamp attachment for each pipe in lieu of individual clevis hangers.
 - 5. Provide copper-clad hangers and supports for hangers and supports in direct contact with copper pipe.
 - 6. On plastic pipe, install pads or cushions on bearing surfaces to prevent hanger from scratching pipe.
- M. Horizontal Piping Hanger Spacing and Rod Size: Install hangers for drawn-temper copper piping with the following maximum horizontal spacing and minimum rod sizes:
 - 1. Sizes through NPS 3/4: Maximum span, 5 feet; minimum rod size, 1/4 inch.
 - 2. NPS 1: Maximum span, 6 feet; minimum rod size, 1/4 inch.
 - 3. NPS 1-1/4: Maximum span, 7 feet; minimum rod size, 3/8 inch.
 - 4. NPS 1-1/2: Maximum span, 8 feet; minimum rod size, 3/8 inch.
 - 5. NPS 2: Maximum span, 8 feet; minimum rod size, 3/8 inch.
 - 6. NPS 2-1/2: Maximum span, 9 feet; minimum rod size, 3/8 inch.
 - 7. NPS 3 and Larger: Maximum span, 10 feet; minimum rod size, 3/8 inch.
- N. Plastic Pipe Hanger and Support Spacing:
 - 1. Space hangers and supports according to pipe manufacturer's written instructions for service conditions.
 - 2. Maximum spacing, 5 feet; minimum rod size, 1/4 inch.
- O. Vertical-Piping Clamps: Install the following types:

1. Extension Pipe or Riser Clamps (MSS Type 8).
 2. Carbon- or Alloy-Steel Riser Clamps (MSS Type 42): If longer ends are required for riser clamps.
- P. Comply with MSS SP-69 for pipe-hanger selections and applications that are not specified.
- Q. Use hangers, supports, and attachments with galvanized coatings unless otherwise indicated.
- R. Hanger Adjustments: Adjust hangers to distribute loads equally on attachments and to achieve indicated slope of pipe.
- S. Trim excess length of continuous-thread hanger and support rods to 1/2 inch.
- T. Hanger-Rod Attachments: Install the following types:
1. Steel Turnbuckles (MSS Type 13): For adjustment up to 6 inches for heavy loads.
 2. Steel Clevises (MSS Type 14): For 120 to 450 deg F piping installations.
 3. Malleable-Iron Sockets (MSS Type 16): For attaching hanger rods to various types of building attachments.
 4. Steel Weldless Eye Nuts (MSS Type 17): For 120 to 450 deg F piping installations.
- U. Building Attachments: Install the following types:
1. Steel or Malleable Concrete Inserts (MSS Type 18): For upper attachment to suspend pipe hangers from concrete ceiling.
 2. Top-Beam C-Clamps (MSS Type 19): For use under roof installations with bar-joint construction, to attach to top flange of structural shape.
 3. Side-Beam or Channel Clamps (MSS Type 20): For attaching to bottom flange of beams, channels, or angles.
 4. Center-Beam Clamps (MSS Type 21): For attaching to center of bottom flange of beams.
 5. Welded Beam Attachments (MSS Type 22): For attaching to bottom of beams if loads are considerable and rod sizes are large.
 6. C-Clamps (MSS Type 23): For structural shapes.
 7. Top-Beam Clamps (MSS Type 25): For top of beams if hanger rod is required tangent to flange edge.
 8. Side-Beam Clamps (MSS Type 27): For bottom of steel I-beams.
 9. Steel-Beam Clamps with Eye Nuts (MSS Type 28): For attaching to bottom of steel I-beams for heavy loads.
 10. Linked-Steel Clamps with Eye Nuts (MSS Type 29): For attaching to bottom of steel I-beams for heavy loads, with link extensions.
 11. Malleable-Beam Clamps with Extension Pieces (MSS Type 30): For attaching to structural steel.
 12. Welded-Steel Brackets: For support of pipes from below or for suspending from above by using clip and rod. Use one of the following for indicated loads:

- a. Light (MSS Type 31): 750 lb.
 - b. Medium (MSS Type 32): 1500 lb.
13. Side-Beam Brackets (MSS Type 34): For sides of steel or wooden beams.
 14. Plate Lugs (MSS Type 57): For attaching to steel beams if flexibility at beam is required.
 15. Horizontal Travelers (MSS Type 58): For supporting piping systems subject to linear horizontal movement where headroom is limited.

3.8 INSTALLATION OF PIPING AND TUBING INSULATION

- A. Seal longitudinal seams and end joints with manufacturer's recommended adhesive to eliminate openings in insulation that allow passage of air to surface being insulated. Installation to maintain a continuous vapor barrier.
- B. Insulation Installation on Pipe Fittings and Elbows:
 1. Install mitered sections of pipe insulation.
 2. Secure insulation materials and seal seams with manufacturer's recommended adhesive to eliminate openings in insulation that allow passage of air to surface being insulated.
- C. Insulation Installation on Valves and Pipe Specialties:
 1. Install preformed valve covers manufactured of same material as pipe insulation when available.
 2. When preformed valve covers are unavailable, install cut sections of pipe and sheet insulation to valve body. Arrange insulation to permit access to packing and to allow valve operation without disturbing insulation.
 3. Secure insulation to valves and specialties and seal seams with manufacturer's recommended adhesive to eliminate openings in insulation that allow passage of air to surface being insulated.
- D. Where metal jackets are indicated, install with 2-inch overlap at longitudinal seams and end joints. Overlap longitudinal seams arranged to shed water. Seal end joints with weatherproof sealant recommended by insulation manufacturer. Secure jacket with stainless-steel bands 12 inches o.c. and at end joints.

3.9 INSTALLATION OF DUCT, ACCESSORIES, AND AIR OUTLETS

- A. Where installing ductwork adjacent to equipment, allow space for service and maintenance.

3.10 ELECTRICAL INSTALLATION

- A. Comply with requirements indicated on Drawings and in applicable Division 26 Sections.
- B. To extent electrical power is required for system equipment, components, and controls, and is not indicated on Drawings and addressed in the Specifications, the design for such electrical power shall be delegated to Mini-split HVAC system provider.
 - 1. Delegated design of electrical power to equipment, components and controls, and associated installation shall be included at no additional cost to Owner.
- C. Connect field electrical power source to each separate electrical device requiring field electrical power. Coordinate termination point and connection type with Installer.
- D. Comply with requirements in Section 260519 "Low-Voltage Electrical Power Conductors and Cables" for wiring connections.
- E. Comply with requirements in Section 260526 "Grounding and Bonding for Electrical Systems" for grounding connections.
- F. Install nameplate or acrylic label with self-adhesive back for each electrical connection indicating electrical equipment designation and circuit number feeding connection.
 - 1. Nameplate shall be laminated phenolic layers of black with engraved white letters. Letters at least 1/2 inch high.
 - 2. Locate nameplate or label where easily visible.
- G. Comply with requirements in Section 260533 "Raceways and Boxes for Electrical Systems" for raceway selection and installation requirements for boxes, conduits, and wireways as supplemented or revised in this Section.
 - 1. Outlet boxes shall be no smaller than 2 inches wide, 3 inches high, and 2-1/2 inches deep.
 - 2. Outlet boxes for cables shall be no smaller than 4 inches square by 1-1/2 inches deep with extension ring sized to bring edge of ring to within 1/8 inch of the finished wall surface.
 - 3. Flexible metal conduit shall not be used.
- H. Comply with TIA-569-D for pull-box sizing and length of conduit and number of bends between pull points.
- I. Install manufactured conduit sweeps and long-radius elbows if possible.
- J. Install metal conduits with grounding bushings and connect with grounding conductor to grounding system.

3.11 INSTALLATION OF SYSTEM CONTROL CABLE

- A. Comply with NECA 1.
- B. Installation Method:
 - 1. Install cables in raceways except as follows:
 - a. Within equipment and associated control enclosures.
 - b. In accessible ceiling spaces where open cable installation method may be used.
 - c. In gypsum board partitions where cable may be enclosed within wall cavity.
 - 2. Conceal raceway and cables except in unfinished spaces.
- C. General Requirements for Cabling:
 - 1. Comply with TIA-568-C Series of standards.
 - 2. Comply with BICSI ITSIMM, Ch. 5, "Copper Structured Cabling Systems."
 - 3. Terminate all conductors; no cable shall contain unterminated elements. Make terminations only at indicated outlets, terminals, and cross-connect and patch panels.
 - 4. Cables may not be spliced and shall be continuous from terminal to terminal. Do not splice cable.
 - 5. Cables serving a common system may be grouped in a common raceway. Install control cable in separate raceway from power wiring. Do not group conductors from different systems or different voltages.
 - 6. Secure and support cables at intervals not exceeding 30 inches and not more than 6 inches from cabinets, boxes, fittings, outlets, racks, frames, and terminals.
 - 7. Bundle, lace, and train conductors to terminal points without exceeding manufacturer's limitations on bending radii, but not less than radii specified in BICSI ITSIMM, Ch. 5, "Copper Structured Cabling Systems." Install lacing bars and distribution spools.
 - 8. Do not install bruised, kinked, scored, deformed, or abraded cable. Remove and discard cable if damaged during installation and replace it with new cable.
 - 9. Cold-Weather Installation: Bring cable to room temperature before dereeling. Do not use heat lamps for heating.
 - 10. Pulling Cable: Comply with BICSI ITSIMM, Ch. 5, "Copper Structured Cabling Systems." Monitor cable pull tensions.
 - 11. Support: Do not allow cables to lie on removable ceiling tiles or access panels.
 - 12. Secure: Fasten securely in place with hardware specifically designed and installed so as to not damage cables.
 - 13. Provide strain relief.
 - 14. Keep runs short. Allow extra length for connecting to terminals.
 - 15. Do not bend cables in a radius less than 10 times the cable OD.

16. Use sleeves or grommets to protect cables from vibration at points where they pass around sharp corners and through penetrations.
 17. Ground wire shall be copper, and grounding methods shall comply with IEEE C2. Demonstrate ground resistance.
- D. Balanced Twisted-Pair Cable Installation:
1. Comply with TIA-568-C.2.
 2. Do not untwist balanced twisted-pair cables more than 1/2 inch at the point of termination to maintain cable geometry.
- E. Open-Cable Installation:
1. Suspend copper cable not in a wireway or pathway a minimum of 8 inches above ceilings by cable supports not more than 24 inches apart.
 2. Cable shall not be run through or on structural members or in contact with pipes, ducts, or other potentially damaging items. Do not run cables between structural members and corrugated panels.
- F. Separation from EMI Sources: Comply with BICSI TDMM and TIA-569-D recommendations for separating unshielded cable from potential EMI sources including electrical power wiring and equipment.

3.12 FIRESTOPPING

- A. Comply with requirements in Section 078413 "Penetration Firestopping."
- B. Comply with TIA-569-D, Annex A, "Firestopping."
- C. Comply with BICSI TDMM, "Firestopping" Chapter.

3.13 GROUNDING INSTALLATION

- A. For data communication wiring, comply with TIA-607-B and with BICSI TDMM, "Bonding and Grounding (Earthing)" Chapter.
- B. For low-voltage control cabling, comply with requirements in Section 260526 "Grounding and Bonding for Electrical Systems."

3.14 IDENTIFICATION

- A. Identify system equipment, piping, tubing, and valves. Comply with requirements for identification specified in Section 230553 "Identification for HVAC Piping and Equipment."
- B. Identify system electrical and controls components, wiring, cabling, and terminals. Comply with requirements for identification specified in Section 260553 "Identification for Electrical Systems."

1. Identify each control cable on each end and at each terminal with a numbered identification tag. Each cable shall have a unique tag.

3.15 FIELD QUALITY CONTROL

- A. Manufacturer's Field Service: Engage Mini-Split HVAC system manufacturer's representative to advise and assist installers; witness testing; and observe and inspect components, assemblies, and equipment installations, including controls and connections.

3.16 STARTUP SERVICE

- A. Engage a Mini-Split HVAC system manufacturer's approved representative to perform system(s) startup service.
 1. Service representative shall be an employee of Mini-split HVAC system manufacturer.
 2. Complete startup service of each separate system.
 3. Complete system startup service according to manufacturer's written instructions.
- B. Startup checks shall include, but not be limited to, the following:
 1. Check control communications of equipment and each operating component in system(s).
 2. Check each indoor unit's response to demand for cooling and heating.
 3. Check each indoor unit's response to changes in airflow settings.
 4. Check each indoor unit, and outdoor unit for proper condensate removal.
 5. Check sound levels of each indoor and outdoor unit.
- C. Installer shall accompany manufacturer's representative during startup service and provide manufacturer's representative with requested documentation and technical support during startup service.
 1. Installer shall correct deficiencies found during startup service for reverification.
- D. System Operation Report:
 1. After completion of startup service, manufacturer shall issue a report for each separate system.
 2. Report shall include complete documentation describing each startup check, the result, and any corrective action required.
 3. Manufacturer shall electronically record not less than two hours of continuous operation of each system and submit with report for historical reference.
 - a. All available system operating parameters shall be included in the information submitted.

3.17 ADJUSTING

- A. Adjust equipment and components to function smoothly, and lubricate as recommended by manufacturer.
- B. Adjust initial temperature and humidity set points. Adjust initial airflow settings and discharge airflow patterns.
- C. Set field-adjustable switches and circuit-breaker trip ranges according to Mini-split HVAC system manufacturer's written instructions, and as indicated.
- D. Occupancy Adjustments: When requested within 12 months from date of Substantial Completion, provide on-site assistance in adjusting system to suit actual occupied conditions. Provide up to two visits to Project during other-than-normal occupancy hours for this purpose.

3.18 PROTECTION

- A. Protect products from moisture and water damage. Remove and replace products that are wet, moisture damaged, or mold damaged.
- B. Protect equipment from physical damage. Replace equipment with physical damage that cannot be repaired to new condition. Observable surface imperfections shall be grounds for removal and replacement.
- C. Protect equipment from electrical damage. Replace equipment suffering electrical damage.
- D. Cover and seal openings of equipment to keep inside of equipment clean. Do not remove covers until finish work is complete.

3.19 MAINTENANCE SERVICE

- A. Initial Maintenance Service: Beginning at Substantial Completion, maintenance service shall include 12 months' full maintenance by skilled employees of system Installer who are manufacturer's authorized service representative. Include four service visits for preventive maintenance, repair or replacement of worn or defective components, lubrication, cleaning, and adjusting as required for proper equipment and system operation. Parts and supplies shall be manufacturer's authorized replacement parts and supplies.

3.20 SOFTWARE SERVICE AGREEMENT

- A. Technical Support: Beginning at Substantial Completion, service agreement shall include software support for two years.

- B. Upgrade Service: At Substantial Completion, update software to latest version. Install and program software upgrades that become available within two years from date of Substantial Completion. Upgrading software shall include operating system and new or revised licenses for using software.
 - 1. Upgrade Notice: At least 30 days to allow Owner to schedule and access the system and to upgrade computer equipment if necessary.

3.21 DEMONSTRATION

- A. Engage a Mini-Split HVAC system manufacturer's factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain entire system.
- B. Location: Owner shall provide a suitable on-site location to host classroom training.
- C. Training Attendance: For record purposes, document training attendees at the start of each new training session. Record attendee's name, signature, phone number, and e-mail address.
- D. Acceptance: Obtain Architect and Owner written acceptance that training is complete and requirements indicated have been satisfied.

END OF SECTION 238129

SECTION 260000 - ELECTRICAL GENERAL PROVISIONS

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. The Drawings and General provisions of the Contract including the "General Conditions", "Supplementary Conditions", and "General Requirements" of the Contract as written and referred to here are adopted and made part of Division 16.
- B. The Contract Agreement, Bidding documents, and all Addenda issued prior to Contract Agreement execution form a part of these specifications and apply to all Contracts or Subcontracts relating to the electrical systems.

1.02 SUMMARY

- A. The work under this Division shall consist of all labor, materials, equipment, services and related accessories, etc., necessary and required to complete all work as shown or inferred on the Drawings and in the Specifications (Contract Documents).
- B. Provide fixed electrical, telecomm, security, and fire alarm equipment, except where specifically noted otherwise.
- C. Provide portable electrical equipment for the complete system(s).
- D. Provide equipment and/or wiring normally furnished or required for complete electrical and fire alarm systems but not specifically specified on the drawings and/or in specifications, as though specified by both.
- E. All equipment and wiring shall be new, except where specifically shown or specified otherwise.

1.03 WORK INCLUDED IN THIS DIVISION

- A. Electrical, telecomm, security, and fire alarm work includes, but is not limited to
 - 1. Removal or relocation of electrical, telecomm, security, and fire alarm services along with electrical work located on or crossing through project property, above or below grade, obstructing construction of project or conflicting with completed project or any applicable code.
 - 2. Alterations and additions to existing electrical and fire alarm systems.
 - 4. Provide fire alarm control panels, booster panels, circuit breakers, power outlets, convenience outlets, switches, fire alarm initiation and annunciation devices and/or other equipment forming part of a system.

5. Connection of all appliances and equipment including Owner furnished equipment.
6. Complete temporary facilities for construction power and fire alarm systems.
7. Complete alterations and additions to existing fire alarm system.

1.04 WORK NOT INCLUDED IN THIS DIVISION (REFER TO OTHER DIVISIONS OF THESE SPECIFICATIONS)

- A. Installation of motors.
- B. Control wiring for mechanical systems, except where specifically indicated to be provided by Electrical Contractor.

1.05 REFERENCES

NEC:	National Electrical Code (latest edition adopted by local authorities unless otherwise noted).
NFPA:	National Fire Protection Association.
OSHA:	Occupational Safety and Health Administration.
UL:	Underwriters Laboratories, Inc.
NEMA:	National Electrical Manufacturer's Association.
IEEE:	Institute of Electrical and Electronic Engineers.
ACI:	American Concrete Institute.
ADA:	American Disabilities Act.
ASTM:	American Society for Testing Materials.
AWS:	American Welding Society.
FM:	Factory Mutual Insurance Association.
IES:	Illumination Engineering Society.
ISA:	Instrument Society of America.
LPI	Lightning Protection Institute.
NACE:	National Association of Corrosion Engineers.
NETA:	International Electrical Testing Association.
UL:	Underwriters Laboratories.
NECA:	National Electrical Contractors Association.
NETA:	National Electrical Testing Association.

1.06 DEFINITIONS

Provide:	Furnish, install, connect and test until complete.
Wire:	Furnish all necessary wiring, connect and test until complete.
Install:	Furnish, set in place, wire and test until complete.
Work:	Materials completely installed, connected, and tested until complete.
AWG:	American Wire Gage.
Equal:	Acceptable equal as determined by the Engineer.

1.07 REQUIREMENTS OF REGULATORY AGENCIES

- A. Obtain and pay for all permits and inspections required for the work prior to the start of work. Where permits are not obtained prior to the commencement of work, all additional equipment required by the permitting process shall be the responsibility of the contractor and shall not be an extra cost to the owner. Comply with all ordinances pertaining to work described herein. Pay all expenses arising from the procurement of these certificates and include in the base Contract Price.
- B. Install work under this Division per drawings, specifications, latest adopted edition of the National Electrical Code, (NFPA-70) including local amendments and interpretations, Local adopted Building Codes, and any special codes having jurisdiction over specific portions of work within complete installation. In event of conflict, install work per most stringent code requirements determined by Engineer. This does not relieve the Contractor from furnishing and installing work shown or specified which may exceed the requirements of such ordinances, laws, regulations and codes.
- C. All materials, products, devices, fixtures, forms or types of construction included in this project shall meet or exceed the published requirements of National Electrical Code (NEC), American National Standards Institute (ANSI), Institute of Electrical and Electronics Engineers (IEEE) and National Electrical Manufacturers Associations (NEMA). All equipment shall bear the Underwriter's Laboratories (UL) label or equivalent from approved independent testing laboratory.
- D. Arrange, pay fees for and complete work to pass required tests by agencies having authority over work. Deliver to Engineer copies of the Certificates of Inspection and approval issued by authorities and provide original copy of each certificate to Owner.
- E. When required by law or regulations, the governmental agency having jurisdiction for inspections shall be given reasonable notice and opportunity to inspect the work. Any work that is enclosed or covered up before such inspection and test shall be uncovered at the Contractor's expense; after it has been inspected, the Contractor shall restore the work to its original condition at his own expense.

1.08 INSURANCE

- A. The Contractor shall procure and maintain, at his expense, such insurance as required by law and/or specified in the General Conditions.

1.09 DRAWINGS AND SPECIFICATIONS

- A. Drawings and specifications are complementary. Work called for by one is binding as if called for by both. Any discrepancies between drawings and

specifications shall be brought to the attention of the Engineer for clarification during the bidding period. No allowance shall subsequently be made to the Contractor by reason of his failure to have brought said discrepancies to the attention of the Consultant during the bidding period or by reason of any error on the Contractor's part.

- B. Drawings are schematic and diagrammatic in nature. Drawings show general run of circuits and approximate location of equipment. The contractor shall review drawings of all trades to assure coordination prior to placement of work. Right is reserved to change location of equipment and devices, and routing of conduits within 10 feet, without extra cost to Owner.
- C. Use dimensions in figures, shop drawings, etc. and actual site measurements in preference to scaled dimensions. Do not scale drawings for exact sizes or locations – use dimensioned details or actual field conditions. Verify item mounting heights as required by project conditions prior to rough-in.
- D. Discrepancies between different drawings or between drawings and specifications, or regulations and codes governing the installation shall be brought to the attention of the Engineer in writing for determination.
- E. Layout equipment as shown on drawings as close as possible. Verify access requirements for equipment actually furnished, and adjust layout to comply with NEC 110. Right is reserved to change layout within 10 feet without additional cost.
- F. Contractor is responsible to field measure and confirm the mounting heights and location of electrical equipment with respect to counters, doorways, and other architectural, mechanical or structural work. Do not scale distances off the electrical drawings: Use actual building dimensions.
- G. Execution of Contract is evidence that Contractor has examined all existing conditions, drawings and specifications related to work, and is informed to extent and character of work. Later claims for labor and materials required due to difficulties encountered, which could have been foreseen had examination been made, will not be recognized.
- H. All work called for in this Section of the plans and specifications shall be performed under this Section, regardless of whether such work may also have been called for in other Section(s). Discrepancies in or conflicts among the various parts of the contract drawings shall not relieve Contractor of his obligation to perform.
- I. No attempt has been made to establish the required sections or splits of equipment relative to the size of access into the space, building, etc. Contractor shall establish all said splits, sections, etc. necessary to install equipment complete without undue disassembly of equipment or demolition of building parts at site of work.

- J. Charges for extra work are not allowed unless work is authorized by written order from the Owner's Representative approving charges for work.
- K. Check all door swings so devices are not located behind doors. Relocate devices as required with the Consultant's review.
- L. Elevators: Coordination of the fire alarm equipment intertie with the elevator equipment and all work involved in the elevator shaft area shall be completed by an approved elevator contractor. The elevator contractor shall be included as a subcontractor to the fire alarm contractor.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. All material shall be new, and have a UL label where available. If UL label is not available, material shall be manufactured in accordance with applicable NEMA, IEEE and Federal Standards. Use UL labeled components in assemblies that do not have overall UL label. All equipment shall comply with the terms "listed and labeled" as defined in the NEC 70, Article 100. Submit letter stating compliance with these requirements.
- B. Utilize one of the manufacturers listed to furnish all of the major equipment (i.e., transformers, bus duct, switchgear, circuit breakers, fire alarm panels, booster panels, detection equipment, annunciation equipment, etc.) required for this project.

PART 3 - EXECUTION

3.01 VISIT TO SITE

- A. Visit site, and survey existing conditions affecting work prior to bid. Include necessary materials and labor to accomplish the electrical work, including relocation of existing services and utilities on building site in bid. No consideration shall be given to future claims due to existing conditions. Any discrepancies or interference's shall be reported immediately to the Engineer.

3.02 WORKMANSHIP

- A. All work performed shall be first class work in every aspect. The work shall be performed by mechanics skilled in their respective trades, who shall at all times be under the supervision of competent persons. All work shall be installed to comply with NECA's "Standard of Installation."
- B. Work under this Division shall be first class with emphasis on neatness and workmanship. All work shall be installed square and plumb and concealed where possible. Work that is deficient, defective, poorly laid out, not perfectly aligned, or that is not consistent with the requirements generally accepted in the trade for "first class work" will not be acceptable.

- C. In addition to the materials specified elsewhere, furnish and install all other miscellaneous items necessary for the completion of the work to the extent that all systems are complete and operative.
- D. All work under this Section shall be performed in cooperation with the work performed under all other Sections of the Specifications for the Project in order to avoid interference with other work and to secure the proper installation of all work. Refer the Drawings and Specifications covering the work to be performed under all Sections, so that the relation and extent of the work of this Section with respect to the work of all other Sections is understood. Give right of way to raceways and piping systems installed at a required slope.
- E. Install work using competent mechanics, under supervision of foreman, all duly certified by local authorities. The installation shall be subject to the Engineer's observation, and final acceptance. The Engineer may reject unsuitable work.
- F. Conduit or Wire Mold systems must be complete prior to installation of wiring.

3.03 CHANGE ORDERS

- A. Additional work may be required on the project, which is outside the scope of the contract. Such additional work will be described in Supplemental Instructions and/or Clarifications, to be estimated and priced by the Contractor, and accepted by the Owner, prior to commencing work.
- B. Acceptable charges will be limited to the following
 1. Labor hours shall be calculated per National Electrical Contractors Association (NECA) tables, and shall be priced based on actual paid cost, not to exceed local Prevailing Wage Rates.
 2. Supervision and Support shall not exceed 15% of labor charges. This blanket percentage shall cover foreman, tools, vehicles, record drawings, etc.
 3. Charges for material shall be limited to wholesale customer end-column Electrical Trade Pricing Publication (ETP, also known as "Biddle Book").
 4. Major equipment items (switchgear, lighting fixtures, custom equipment, etc. - known in the trade as "quote" items) shall be charged at actual unit prices quoted by suppliers, supported by a true copy of the written price quotation.
 5. Handling charges for material shall not exceed 5% of material and equipment charges. This blanket percentage shall cover freight, cartage, wastage, etc.
- C. Should the Owner or Engineer find reason to dispute or challenge the Contractor's pricing of additional work, one of the following solutions may be imposed
 1. Contractor shall be directed to proceed with the work, and submit his proposed charges for arbitration at the conclusion of the project.

2. Contractor shall maintain a separate labor log and obtain daily signatures thereon, and shall be prepared to submit a certified, audited payroll report to support his claims.
3. Owner shall purchase the disputed equipment and/or material, and provide same to Contractor at job site for installation, along with a copy of the invoice. Contractor may add a 10% charge to cover handling and warranty administration.
4. Owner shall contract with a separate licensed Electrical Contractor to perform the extra work. In this event, the originally-contracted work shall be completed by Contractor and accepted by the Owner, following inspection and recommendation by the Engineer. This Contractor shall cause no impediment to the work of the separate contractor, and shall maintain full warranty on his originally-installed equipment and workmanship.

3.04 GUARANTEE

- A. Furnish the Owner a written guarantee, stating that if the workmanship and/or material executed under this Division are proven defective within one (1) year after final acceptance by the Owner, such defects and other work damaged will be repaired and/or replaced. Submit with Operations and Maintenance Manuals.
- B. Obtain from the various manufacturers or vendors guarantees or warranties for their particular equipment or components, and deliver them to the Owner. All guarantees and warranties provided shall be referenced to this project.
- C. In event that systems are placed in operation in several phases at the Owner's request, guarantee will begin on date each system or item of equipment is accepted for service by the Owner. Provide O&M manuals for all equipment when equipment is accepted for service by the Owner.
- D. All guarantees and warranties shall include labor and material at the site of installation for the duration of the guarantee period.

3.05 OBSERVATIONS OF WORK AND DEMONSTRATION OF OPERATION (ACCEPTANCE)

- A. At all observations of work, open panel covers, junction box covers, pull box covers, device covers, and other equipment with removable plates for observation. Provide sufficient personnel to expedite cover removal and replacement.
- B. Contractor to demonstrate operation of new equipment and/or systems to satisfaction of Owner/Engineer, and to have manufacturer available for demonstration of equipment and/or systems where requested by Owner/Engineer. Furnish affidavit signed by Owner's representative indicating that demonstration of operation has been performed.

3.06 TESTING OF ELECTRICAL SYSTEMS

- A. Test Completed work as follows
 - 1. Perform tests required as defined in this document to indicate compliance with specifications, drawings, standards and applicable codes. Provide sufficient instruments, labor, technical support and materials for performing these tests. Tests shall be performed to the satisfaction of the Owner/Engineer. One-week prior notice of testing required.
 - 2. Insulation - use 1000 VDC insulation tester (0-2000 megohm full-scale), equivalent to "Megger" as manufactured by Biddle Company. Test conductors and busses of all systems, including feeders, main service busway, motors, devices, equipment, etc. Test feeders, bus ducts, busses, etc., for fifteen (15) minutes with readings at one minute intervals.
- B. Additional Testing and Commissioning of electrical equipment is specified in elsewhere.

3.07 COOPERATION

- A. Carefully coordinate work with other contractors and subcontractors. Refer conflicts between trades to Engineer. Provide necessary information to other trades for such coordination. Such information shall include Shop Drawings, Product Data and all other required data.
- B. Whenever such information is not provided in a timely manner or whenever such information is incorrect, this contractor shall bear all costs for providing or correcting affected work of related trades with no change to the Contract Price or Construction Schedule.
- C. Work to be installed as progress of project will allow. Schedule of work determined by General Contractor, Owner, and/or Architect/Engineer.

3.08 COORDINATION OF UTILITY SERVICES

- A. The contractor shall be responsible for the coordination with all utility connections. This includes, but is not limited to; Power, Telephone and Cable Television.

3.09 PROTECTING

- A. Provide warning lights, bracing, shoring, rails, guards and covers necessary to prevent damage or injury. All persons working around electrical equipment shall have electrical shock and flash protection per OSHA 1910.301-309 & 331-335.
- B. Do not leave exposed or unprotected, electrical items carrying current. Protect visitors and workers from exposure to contact with electrically energized surfaces, parts, etc. in accordance with OSHA standards.

3.10 DELIVERY, STORAGE AND HANDLING

- A. Deliver equipment and materials to job site in original, unopened, labeled container. Products shall be properly identified with names, model numbers, types, grades, compliance labels and other information needed for identification. Store to prevent damage and injury. Store materials to prevent corroding. Store finished materials and equipment to prevent staining and discoloring. Store materials affected by condensation in warm dry areas. Provide heaters. Contractor shall verify the availability of on site storage space, if no on site storage space is available then the contractor shall cover the cost for off site storage. Materials stored at the project site that becomes soiled with construction dirt, concrete, or moisture shall be removed from the site and replaced with new. Do not install soiled material.
- B. Protect work and materials from damage by weather, entrance of water or dirt. Cap and mark conduit during installation.
- C. Avoid damage to materials and equipment in place. Repair, or remove and replace damaged work and materials.
- D. Protection and safekeeping of products stored on premises is responsibility of Contractor supplying products.
- E. Schedule of deliveries and unloading to prevent traffic congestion blocking of access or interference with work. Arrange deliveries to avoid larger accumulations of materials than can be suitably stored at site.
- F. Install equipment per manufacturer's recommendations. Conflicts between contract documents and these recommendations shall be referred to Engineer for remedy.
- G. Electrical or electronic equipment that has been damaged, exposed to weather or is, in the opinion of the Engineer or Architect, otherwise unsuitable because of improper fabrication, storage or installation shall be removed and replaced by this Contractor at his expense.

3.11 ANCHORS

- A. Provide anchors for all equipment, raceways, hangers, etc. to safely support weight of item involved plus 100% for dead loads. Live loads shall be considered in addition to dead loads.
- B. Anchors to consist of expansion type devices similar to "Redhead" or lead expansion anchors. Plastic anchors are not acceptable.
- C. Use preset anchor steel inserts in concrete slabs. Provide preset anchor size and type for anticipated or specified rod/bolt size and live/dead load.

- D. Anchor all wire mold surface raceway, a minimum of 5'-0" on center, and all components to permanent structure when possible. If wire mold and all components cannot be supported by a permanent structure, the contractor shall utilize Steel Hollow Wall Anchors or equal, provide size as required by application.

3.12 CLEANING AND PAINTING

- A. Clean equipment furnished in this Division after completion of work. Clean wipe the interior of all conduit, pull boxes, junction boxes, outlet boxes, and panel board backbones, soiled with dirt and debris prior to installation of wiring.
- B. Touch-up or re-paint damaged painted finishes as determined by the Engineer.
- C. All new conduits, existing wall surfaces (where existing devices have been removed), and other areas damaged by the contractor shall be painted to match the existing wall surface. Colors shall match existing.
- D. Remove debris, packing cartons, scrap, etc., from site daily.

3.13 HOUSEKEEPING PADS

- A. Furnish 2500 # concrete pads, 4" high, unless otherwise noted, for all freestanding equipment, i.e.: switchboards, panels, control panels, motor control centers, transformers, etc. Pads shall have 1" x 45° chamfered edges, and shall extend 2" to 4" beyond equipment mountings. Equipment pads that attach to existing equipment for a continuous line-up shall match existing pad elevations.

3.14 TRAINING

- A. Training for operation and maintenance of new systems or modifications to existing systems is specified in Technical sections. Contractor shall submit with record documents an itemized receipt signed by Owner's representative that all specified training has been received.

3.15 ACCESS PANELS

- A. The contractor shall furnish all access panels for walls, partitions, etc., and shall give access panel to the General Contractor for installation at locations as directed by the Electrical Contractor. It shall be the responsibility of the Electrical Contractor that access panels are provided for access to all boxes, bus joints, equipment, etc., which may be concealed by building construction to comply with the NEC and NFPA. Access panels shall be installed so as not to interfere with lighting arrangements.

END OF SECTION 260000

SECTION 260519 LOW-VOLTAGE ELECTRICAL POWER CONDUCTORS AND CABLES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Copper building wire rated 600 V or less.
2. Connectors, splices, and terminations rated 600 V and less.

B. Related Requirements:

1.2 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Product Schedule: Indicate type, use, location, and termination locations.

1.3 INFORMATIONAL SUBMITTALS

A. Field quality-control reports.

PART 2 - PRODUCTS

2.1 COPPER BUILDING WIRE

A. Description: Flexible, insulated and uninsulated, drawn copper current-carrying conductor with an overall insulation layer or jacket, or both, rated 600 V or less.

B. Standards:

1. Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and use.
2. RoHS compliant.
3. Conductor and Cable Marking: Comply with wire and cable marking according to UL's "Wire and Cable Marking and Application Guide."

C. Conductors: Copper, complying with ASTM B 3 for bare annealed copper and with ASTM B 8 for stranded conductors.

D. Conductor Insulation:

1. Type THHN and Type THWN-2: Comply with UL 83.
2. Type XHHW-2: Comply with UL 44.

2.2 CONNECTORS AND SPLICES

- A. Description: Factory-fabricated connectors and splices of size, ampacity rating, material, type, and class for application and service indicated; listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and use.
- B. All splices of branch circuit conductors shall be done with twist-on wire nuts or insulated mechanical terminations. Push-in terminations are not allowed.

PART 3 - EXECUTION

3.1 CONDUCTOR MATERIAL APPLICATIONS

- A. Feeders: Copper; solid for No. 12 AWG and smaller; stranded for No. 10 AWG and larger.
- B. Branch Circuits: Copper. Solid for No. 12 AWG and smaller; stranded for No. 10 AWG and larger.
- C. Power-Limited Fire Alarm and Control: Solid for No. 12 AWG and smaller.
- D. No wire smaller than #12 AWG shall be used for light and power circuits.

3.2 CONDUCTOR INSULATION AND MULTICONDUCTOR CABLE APPLICATIONS AND WIRING METHODS

- A. Service Entrance: Type THHN/THWN-2, single conductors in raceway.
- B. Exposed Feeders: Type THHN/THWN-2, single conductors in raceway.
- C. Feeders Concealed in Ceilings, Walls, Partitions, and Crawlspace: Type THHN/THWN-2, single conductors in raceway.
- D. Feeders Concealed in Concrete, below Slabs-on-Grade, and Underground: Type THHN/THWN-2, single conductors in raceway Type XHHW-2, single conductors in raceway.
- E. Exposed Branch Circuits, Including in Crawlspace: Type THHN/THWN-2, single conductors in raceway.

- F. Branch Circuits Concealed in Ceilings, Walls, and Partitions: Type THHN/THWN-2, single conductors in raceway.
- G. Branch Circuits Concealed in Concrete, below Slabs-on-Grade, and Underground: Type THHN/THWN-2, single conductors in raceway Type XHHW-2, single conductors in raceway.

3.3 INSTALLATION OF CONDUCTORS AND CABLES

- A. All building power, telephone, signal and other wiring (whether plenum rated or not) shall be installed in raceways. Exception: 50V or less cables in a remodeled area where other methods are currently being utilized and approved by a UNR Representative.
- B. **MC Cable shall not be used.** Exception: For a fixture whip (6' maximum length) from a junction box to (1) a recessed fixture above an accessible (lift-out tile) ceiling, or (2) a recessed fixture with at least 4 square feet of surface area in a non-accessible type of ceiling.
- C. Conceal cables in finished walls, ceilings, and floors unless otherwise indicated.
- D. Complete raceway installation between conductor and cable termination points according to Section 260533 "Raceways and Boxes for Electrical Systems" prior to pulling conductors and cables.
- E. Use manufacturer-approved pulling compound or lubricant where necessary; compound used must not deteriorate conductor or insulation. Do not exceed manufacturer's recommended maximum pulling tensions and sidewall pressure values.
- F. Use pulling means, including fish tape, cable, rope, and basket-weave wire/cable grips, that will not damage cables or raceway.
- G. Install exposed cables parallel and perpendicular to surfaces of exposed structural members, and follow surface contours where possible.
- H. Support cables according to Section 260529 "Hangers and Supports for Electrical Systems."
- I. Instrument cable shall consist of twisted shielded pair or triads.

3.4 CONNECTIONS

- A. Tighten electrical connectors and terminals according to manufacturer's published torque-tightening values. If manufacturer's torque values are not indicated, use those specified in UL 486A-486B.

- B. Make splices, terminations, and taps that are compatible with conductor material and that possess equivalent or better mechanical strength and insulation ratings than unspliced conductors.
 - 1. Use oxide inhibitor in each splice, termination, and tap for aluminum conductors.
- C. Wiring at Outlets: Install conductor at each outlet, with at least 6 inches of slack.

3.5 IDENTIFICATION

- A. Identify and color-code conductors and cables according to Section 260553 "Identification for Electrical Systems."
- B. Identify each spare conductor at each end with identity number and location of other end of conductor, and identify as spare conductor.
- C. Provide full size separate color coded neutral conductors with a stripe that corresponds with phase color for each branch circuit. No shared neutral conductors on 120 volt and 277 volt circuits.

3.6 SLEEVE AND SLEEVE-SEAL INSTALLATION FOR ELECTRICAL PENETRATIONS

- A. Install sleeves and sleeve seals at penetrations of exterior floor and wall assemblies. Comply with requirements in Section 260544 "Sleeves and Sleeve Seals for Electrical Raceways and Cabling."

3.7 FIRESTOPPING

- A. Apply firestopping to electrical penetrations of fire-rated floor and wall assemblies to restore original fire-resistance rating of assembly according to Section 078413 "Penetration Firestopping."

END OF SECTION

SECTION 260526 - GROUNDING AND BONDING FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes grounding and bonding systems and equipment.

1.2 ACTION SUBMITTALS

- A. Product Data: For each type of product.

1.3 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For testing agency and testing agency's field supervisor.
- B. Field quality-control reports.

1.4 CLOSEOUT SUBMITTALS

- A. Operation and maintenance data.
 - 1. Plans showing as-built, dimensioned locations of grounding features specified in "Field Quality Control" Article, including the following:
 - a. UFER Grounds.
 - b. Grounding arrangements and connections for separately derived systems.
 - 2. Instructions for periodic testing and inspection of grounding features at test wells grounding connections for separately derived systems based on NFPA 70B.
 - a. Tests shall determine if ground-resistance or impedance values remain within specified maximums, and instructions shall recommend corrective action if values do not.
 - b. Include recommended testing intervals.

1.5 QUALITY ASSURANCE

- A. Testing Agency Qualifications: Certified by NETA.

PART 2 - PRODUCTS

2.1 SYSTEM DESCRIPTION

- A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
- B. Comply with UL 467 for grounding and bonding materials and equipment.

2.2 MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1. Burndy; Part of Hubbell Electrical Systems.
 - 2. Thomas & Betts Corporation; A Member of the ABB Group.

2.3 CONDUCTORS

- A. Insulated Conductors: Copper wire or cable insulated for 600 V unless otherwise required by applicable Code or authorities having jurisdiction.
- B. Bare Copper Conductors:
 - 1. Solid Conductors: ASTM B 3.
 - 2. Stranded Conductors: ASTM B 8.
 - 3. Bonding Cable: 28 kcmil, 14 strands of No. 17 AWG conductor, 1/4 inch in diameter.
 - 4. Bonding Conductor: No. 4 or No. 6 AWG, stranded conductor.
 - 5. Bonding Jumper: Copper tape, braided conductors terminated with copper ferrules; 1-5/8 inches wide and 1/16 inch thick.
- C. Grounding Bus: Predrilled rectangular bars of annealed copper, 1/4 by 4 inches in cross section, with 9/32-inch holes spaced 1-1/8 inches apart. Stand-off insulators for mounting shall comply with UL 891 for use in switchboards, 600 V and shall be Lexan or PVC, impulse tested at 5000 V.

2.4 CONNECTORS

- A. Listed and labeled by an NRTL acceptable to authorities having jurisdiction for applications in which used and for specific types, sizes, and combinations of conductors and other items connected.
- B. Welded Connectors: Exothermic-welding kits of types recommended by kit manufacturer for materials being joined and installation conditions.
- C. Bus-Bar Connectors: Mechanical type, cast silicon bronze, solderless exothermic-type wire terminals, and long-barrel, two-bolt connection to ground bus bar.
- D. Beam Clamps: Exothermic-welding kits of types recommended by kit manufacturer for materials being joined and installation conditions.
- E. Cable-to-Cable Connectors: Exothermic-welding kits of types recommended by kit manufacturer for materials being joined and installation conditions.
- F. Cable Tray Ground Clamp: Mechanical type, zinc-plated malleable iron.
- G. Conduit Hubs: Mechanical type, terminal with threaded hub.
- H. Ground Rod Clamps: Exothermic-welding kits of types recommended by kit manufacturer for materials being joined and installation conditions.
- I. Straps: Solid copper, copper lugs. Rated for 600 A.
- J. Water Pipe Clamps:
 - 1. U-bolt type with malleable-iron clamp and copper ground connector rated for direct burial.

2.5 GROUNDING ELECTRODES

- A. Building grounding electrode shall be concrete encased Ufer type.
 - 1. Where building is existing and new service is provided, which requires a new grounding conductor due to increase of grounding conductor size, the ufer ground shall be installed as follows:
 - a. Place ufer in footing for new service entrance exterior pad. Pad shall have a footing which extends 30-inches below finished grade. Install 30-feet of copper conductor per NEC 250 requirements and 260526-3.1(B).
 - b. Place in 30-foot long trench adjacent to the existing stemwall, footing of building. Trench shall be 30-inches in depth and grounding conductor shall be placed in concrete at the bottom of the trench, per NEC 250 requirements and 260526-3.1(B).

PART 3 - EXECUTION

3.1 APPLICATIONS

- A. Conductors: Install solid conductor for No. 8 AWG and smaller, and stranded conductors for No. 6 AWG and larger unless otherwise indicated.
- B. Underground Grounding Conductors: Install bare tinned-copper conductor, No. 2/0 AWG minimum.
 - 1. Bury at least 24 inches below grade.
- C. Underground Medium Voltage Duct Banks: Install bare copper conductor, No. 2/0 AWG minimum.
- D. Grounding Bus: Install in electrical equipment rooms, in rooms housing service equipment, and elsewhere as indicated.
 - 1. Install bus horizontally, on insulated spacers 2 inches minimum from wall, 6 inches above finished floor unless otherwise indicated.
- E. Conductor Terminations and Connections:
 - 1. Pipe and Equipment Grounding Conductor Terminations: Bolted connectors.
 - 2. Underground Connections: Welded connectors.
 - 3. Connections to Ground Rods at Test Wells: Welded connectors.
 - 4. Connections to Structural Steel: Welded connectors.

3.2 GROUNDING AT THE SERVICE

- A. Equipment grounding conductors and grounding electrode conductors shall be connected to the ground bus. Install a main bonding jumper between the neutral and ground buses.

3.3 GROUNDING SEPARATELY DERIVED SYSTEMS

- A. Generator: Install grounding electrode(s) at the generator location. The electrode shall be connected to the equipment grounding conductor and to the frame of the generator.
- B. Generator grounding shall be considered as a separately derived system and shall meet the requirements of the NEC 250.

3.4 GROUNDING UNDERGROUND DISTRIBUTION SYSTEM COMPONENTS

- A. Comply with IEEE C2 grounding requirements.
- B. Pad-Mounted Transformers and Switches: Install two ground rods and ground ring around the pad. Ground pad-mounted equipment and noncurrent-carrying metal items associated with substations by connecting them to underground cable and grounding electrodes. Install tinned-copper conductor not less than No. 2/0 AWG for ground ring and for taps to equipment grounding terminals. Bury ground ring not less than 6 inches from the foundation.

3.5 EQUIPMENT GROUNDING

- A. Install insulated equipment grounding conductors with all feeders and branch circuits.
- B. Install insulated equipment grounding conductors with the following items, in addition to those required by NFPA 70:
 - 1. Feeders and branch circuits.
 - 2. Lighting circuits.
 - 3. Receptacle circuits.
 - 4. Single-phase motor and appliance branch circuits.
 - 5. Three-phase motor and appliance branch circuits.
 - 6. Flexible raceway runs.
 - 7. Busway Supply Circuits: Install insulated equipment grounding conductor from grounding bus in the switchgear, switchboard, or distribution panel to equipment grounding bar terminal on busway.
- C. Air-Duct Equipment Circuits: Install insulated equipment grounding conductor to duct-mounted electrical devices operating at 120 V and more, including air cleaners, heaters, dampers, humidifiers, and other duct electrical equipment. Bond conductor to each unit and to air duct and connected metallic piping.
- D. Water Heater, Heat-Tracing, and Antifrost Heating Cables: Install a separate insulated equipment grounding conductor to each electric water heater and heat-tracing cable. Bond conductor to heater units, piping, connected equipment, and components.
- E. Poles Supporting Outdoor Lighting Fixtures: Install grounding electrode and a separate insulated equipment grounding conductor in addition to grounding conductor installed with branch-circuit conductors.

3.6 INSTALLATION

- A. Grounding Conductors: Route along shortest and straightest paths possible unless otherwise indicated or required by Code. Avoid obstructing access or placing conductors where they may be subjected to strain, impact, or damage.
- B. Ground Bonding Common with Lightning Protection System: Comply with NFPA 780 and UL 96 when interconnecting with lightning protection system. Bond electrical power system ground directly to lightning protection system grounding conductor at closest point to electrical service grounding electrode. Use bonding conductor sized same as system grounding electrode conductor, and install in conduit.
- C. Bonding Straps and Jumpers: Install in locations accessible for inspection and maintenance except where routed through short lengths of conduit.
 - 1. Bonding to Structure: Bond straps directly to basic structure, taking care not to penetrate any adjacent parts.
 - 2. Bonding to Equipment Mounted on Vibration Isolation Hangers and Supports: Install bonding so vibration is not transmitted to rigidly mounted equipment.
 - 3. Use exothermic-welded connectors for outdoor locations; if a disconnect-type connection is required, use a bolted clamp.
- D. Grounding and Bonding for Piping:
 - 1. Metal Water Service Pipe: Install insulated copper grounding conductors, in conduit, from building's main service equipment, or grounding bus, to main metal water service entrances to building. Connect grounding conductors to main metal water service pipes; use a bolted clamp connector or bolt a lug-type connector to a pipe flange by using one of the lug bolts of the flange. Where a dielectric main water fitting is installed, connect grounding conductor on street side of fitting. Bond metal grounding conductor conduit or sleeve to conductor at each end.
 - 2. Water Meter Piping: Use braided-type bonding jumpers to electrically bypass water meters. Connect to pipe with a bolted connector.
 - 3. Bond each aboveground portion of gas piping system downstream from equipment shutoff valve.

3.7 FIELD QUALITY CONTROL

- A. Perform tests and inspections.
- B. Tests and Inspections:

1. After installing grounding system but before permanent electrical circuits have been energized, test for compliance with requirements.
 2. Inspect physical and mechanical condition. Verify tightness of accessible, bolted, electrical connections with a calibrated torque wrench according to manufacturer's written instructions.
 3. Test completed grounding system at each location where a maximum ground-resistance level is specified, at service disconnect enclosure grounding terminal, at ground test wells. Make tests at ground rods before any conductors are connected.
 - a. Measure ground resistance no fewer than two full days after last trace of precipitation and without soil being moistened by any means other than natural drainage or seepage and without chemical treatment or other artificial means of reducing natural ground resistance.
 - b. Perform tests by fall-of-potential method according to IEEE 81.
 4. Prepare dimensioned Drawings locating each test well, ground rod and ground-rod assembly, and other grounding electrodes. Identify each by letter in alphabetical order, and key to the record of tests and observations. Include the number of rods driven and their depth at each location, and include observations of weather and other phenomena that may affect test results. Describe measures taken to improve test results.
- C. Grounding system will be considered defective if it does not pass tests and inspections.
- D. Prepare test and inspection reports.
- E. Report measured ground resistances that exceed the following values:
1. Power and Lighting Equipment or System with Capacity of 500 kVA and Less: 1 ohm or less.
 2. Power and Lighting Equipment or System with Capacity of 500 to 1000 kVA: 1 ohm or less.
 3. Power Distribution Units or Panelboards Serving Electronic Equipment: 1 ohm or less.
 4. Substations and Pad-Mounted Equipment: 1 ohm or less.
- F. Excessive Ground Resistance: If resistance to ground exceeds specified values, notify Project Engineer promptly and include recommendations to reduce ground resistance.

END OF SECTION

SECTION 260529 - HANGERS AND SUPPORTS FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Hangers and supports for electrical equipment and systems.
2. Construction requirements for concrete bases.

B. Related Requirements:

1.2 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Shop Drawings: For fabrication and installation details for electrical hangers and support systems.

C. Delegated-Design Submittal: For hangers and supports for electrical systems.

1. Include design calculations and details of trapeze hangers.

1.3 INFORMATIONAL SUBMITTALS

A. Coordination Drawings: Reflected ceiling plan(s) and other details, drawn to scale, and coordinated with each other, using input from installers of the items involved:

B. Seismic Qualification Certificates: For hangers and supports for electrical equipment and systems, accessories, and components, from manufacturer.

C. Welding certificates.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Delegated Design: Engage a qualified professional engineer, as defined in Section 014000 "Quality Requirements," to design hanger and support system.

B. Seismic Performance: Hangers and supports shall withstand the effects of earthquake motions determined according to ASCE/SEI 7.

1. The term "withstand" means "the supported equipment and systems will remain in place without separation of any parts when subjected to the seismic forces specified."
2. Component Importance Factor: 1.0.

2.2 SUPPORT, ANCHORAGE, AND ATTACHMENT COMPONENTS

- A. Steel Slotted Support Systems: Comply with MFMA-4 factory-fabricated components for field assembly.
 1. Material: Pre-galvanized steel.
 2. Channel Width: 1-5/8 inches.
 3. Metallic Coatings: Hot-dip galvanized after fabrication and applied according to MFMA-4.
 4. Nonmetallic Coatings: Manufacturer's standard PVC, polyurethane, or polyester coating applied according to MFMA-4.
 5. Painted Coatings: Manufacturer's standard painted coating applied according to MFMA-4.
 6. Protect finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.
 7. Channel Dimensions: Selected for applicable load criteria.
- B. Conduit and Cable Support Devices: Steel hangers, clamps, and associated fittings, designed for types and sizes of raceway or cable to be supported.
- C. Support for Conductors in Vertical Conduit: Factory-fabricated assembly consisting of threaded body and insulating wedging plug or plugs for nonarmored electrical conductors or cables in riser conduits. Plugs shall have number, size, and shape of conductor gripping pieces as required to suit individual conductors or cables supported. Body shall be made of malleable iron.
- D. Structural Steel for Fabricated Supports and Restraints: ASTM A 36/A 36M steel plates, shapes, and bars; black and galvanized.
- E. Mounting, Anchoring, and Attachment Components: Items for fastening electrical items or their supports to building surfaces include the following:
 1. Powder-Actuated Fasteners: Threaded-steel stud, for use in hardened portland cement concrete, steel, or wood, with tension, shear, and pullout capacities appropriate for supported loads and building materials where used.

2. Mechanical-Expansion Anchors: Insert-wedge-type, zinc-coated steel, for use in hardened portland cement concrete, with tension, shear, and pullout capacities appropriate for supported loads and building materials where used.
3. Concrete Inserts: Steel or malleable-iron, slotted support system units are similar to MSS Type 18 units and comply with MFMA-4 or MSS SP-58.
4. Clamps for Attachment to Steel Structural Elements: MSS SP-58 units are suitable for attached structural element.
5. Through Bolts: Structural type, hex head, and high strength. Comply with ASTM A 325.
6. Toggle Bolts: All-steel springhead type.
7. Hanger Rods: Threaded steel.

2.3 FABRICATED METAL EQUIPMENT SUPPORT ASSEMBLIES

- A. Description: Welded or bolted structural-steel shapes, shop or field fabricated to fit dimensions of supported equipment.

PART 3 - EXECUTION

3.1 APPLICATION

- A. Comply with NECA 1 and NECA 101 for application of hangers and supports for electrical equipment and systems unless requirements in this Section are stricter.
- B. Comply with requirements for raceways and boxes specified in Section 260533 "Raceways and Boxes for Electrical Systems."
- C. Maximum Support Spacing and Minimum Hanger Rod Size for Raceway: Space supports for EMTs, IMCs, and RMCs as required by NFPA 70. Minimum rod size shall be 1/4 inch in diameter.
- D. Multiple Raceways or Cables: Install trapeze-type supports fabricated with steel slotted or other support system, sized so capacity can be increased by at least 25 percent in future without exceeding specified design load limits.
 1. Secure raceways and cables to these supports with single-bolt conduit clamps using spring friction action for retention in support channel.
- E. Spring-steel clamps designed for supporting single conduits without bolts may be used for 1-1/2-inch and smaller raceways serving branch circuits and communication systems above suspended ceilings and for fastening raceways to trapeze supports.

3.2 SUPPORT INSTALLATION

- A. Comply with NECA 1 and NECA 101 for installation requirements except as specified in this article.
- B. Strength of Support Assemblies: Where not indicated, select sizes of components so strength will be adequate to carry present and future static loads within specified loading limits. Minimum static design load used for strength determination shall be weight of supported components plus 200 lb.
- C. Mounting and Anchorage of Surface-Mounted Equipment and Components: Anchor and fasten electrical items and their supports to building structural elements.
- D. Drill holes for expansion anchors in concrete at locations and to depths that avoid the need for reinforcing bars.

3.3 INSTALLATION OF FABRICATED METAL SUPPORTS

- A. Cut, fit, and place miscellaneous metal supports accurately in location, alignment, and elevation to support and anchor electrical materials and equipment.
- B. Field Welding: Comply with AWS D1.1/D1.1M.

3.4 PAINTING

- A. Galvanized Surfaces: Clean welds, bolted connections, and abraded areas and apply galvanizing-repair paint to comply with ASTM A 780.

END OF SECTION 260529

SECTION 260533 - RACEWAYS AND BOXES FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Metal conduits, tubing, and fittings.
2. Nonmetal conduits, tubing, and fittings.
3. Metal wireways and auxiliary gutters.
4. Boxes, enclosures, and cabinets.
5. Handholes and boxes for exterior underground cabling.

B. Related Requirements:

1. Section 260543 "Underground Ducts and Raceways for Electrical Systems" for exterior ductbanks, manholes, and underground utility construction.
2. Section 270528 "Pathways for Communications Systems" for conduits, wireways, surface pathways, innerduct, boxes, faceplate adapters, enclosures, cabinets, and handholes serving communications systems.
3. Section 280528 "Pathways for Electronic Safety and Security" for conduits, surface pathways, innerduct, boxes, and faceplate adapters serving electronic safety and security.

1.2 ACTION SUBMITTALS

- A. Product Data: For surface raceways, wireways and fittings, floor boxes, hinged-cover enclosures, and cabinets.
- B. Sustainable Design Submittals:
- C. Shop Drawings: For custom enclosures and cabinets. Include plans, elevations, sections, and attachment details.

1.3 INFORMATIONAL SUBMITTALS

- A. Coordination Drawings: Conduit routing plans, drawn to scale, on which the following items are shown and coordinated with each other, using input from installers of items involved:

1. Structural members in paths of conduit groups with common supports.
 2. HVAC and plumbing items and architectural features in paths of conduit groups with common supports.
- B. Seismic Qualification Certificates: For enclosures, cabinets, and conduit racks and their mounting provisions, including those for internal components, from manufacturer.

PART 2 - PRODUCTS

2.1 METAL CONDUITS, TUBING, AND FITTINGS

- A. Listing and Labeling: Metal conduits, tubing, and fittings shall be listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
- B. Fittings for electrical metallic tubing shall be steel, watertight, gland-ring types or steel setscrew types.
- C. GRC: Comply with ANSI C80.1 and UL 6.
- D. ARC: Comply with ANSI C80.5 and UL 6A.
- E. IMC: Comply with ANSI C80.6 and UL 1242.
- F. All metal conduit, couplings, elbows, and fittings buried below grade shall be coated with PVC or ½ -lap wrapped with an approved tape (coating or wrapping shall be a 20 mil total thickness). In lieu of rigid galvanized conduit for horizontal secondary service raceways and branch circuit wiring in or under a floor slab, Schedule 40 PVC may be used with rigid steel conduit termination stub-ups out of the ground or slab and into the building.
- G. PVC-Coated Steel Conduit: PVC-coated rigid steel conduit.
 1. Comply with NEMA RN 1.
 2. Coating Thickness: 0.040 inch, minimum.
- H. EMT: Comply with ANSI C80.3 and UL 797.
- I. LFMC: Flexible steel conduit with PVC jacket and complying with UL 360.
- J. Fittings for Metal Conduit: Comply with NEMA FB 1 and UL 514B.
 1. Conduit Fittings for Hazardous (Classified) Locations: Comply with UL 886 and NFPA 70.
 2. Fittings for EMT:

- a. Material: Steel.
 - b. Type: Setscrew, if in a wet location compression shall be used.
3. Expansion Fittings: PVC or steel to match conduit type, complying with UL 651, rated for environmental conditions where installed, and including flexible external bonding jumper.
 4. Coating for Fittings for PVC-Coated Conduit: Minimum thickness of 0.040 inch, with overlapping sleeves protecting threaded joints.
- K. Joint Compound for IMC, GRC, or ARC: Approved, as defined in NFPA 70, by authorities having jurisdiction for use in conduit assemblies, and compounded for use to lubricate and protect threaded conduit joints from corrosion and to enhance their conductivity.

2.2 METAL WIREWAYS AND AUXILIARY GUTTERS

- A. Description: Sheet metal, complying with UL 870 and NEMA 250, Type 1 Type 3R unless otherwise indicated, and sized according to NFPA 70.
1. Metal wireways installed outdoors shall be listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
- B. Fittings and Accessories: Include covers, couplings, offsets, elbows, expansion joints, adapters, hold-down straps, end caps, and other fittings to match and mate with wireways as required for complete system.

2.3 BOXES, ENCLOSURES, AND CABINETS

- A. General Requirements for Boxes, Enclosures, and Cabinets: Boxes, enclosures, and cabinets installed in wet locations shall be listed for use in wet locations.
- B. Sheet Metal Outlet and Device Boxes: Comply with NEMA OS 1 and UL 514A.
- C. Cast-Metal Outlet and Device Boxes: Comply with NEMA FB 1, ferrous alloy, Type FD, with gasketed cover.
- D. Nonmetallic Outlet and Device Boxes: Comply with NEMA OS 2 and UL 514C.
- E. Metal Floor Boxes:
1. Material: Cast metal or sheet metal.
 2. Type: Semi-adjustable.
 3. Shape: Rectangular.

4. Listing and Labeling: Metal floor boxes shall be listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
- F. Luminaire Outlet Boxes: Nonadjustable, designed for attachment of luminaire weighing 50 lb. Outlet boxes designed for attachment of luminaires weighing more than 50 lb shall be listed and marked for the maximum allowable weight.
- G. Small Sheet Metal Pull and Junction Boxes: NEMA OS 1.
- H. Cast-Metal Access, Pull, and Junction Boxes: Comply with NEMA FB 1 and UL 1773, cast aluminum with gasketed cover.
- I. Box extensions used to accommodate new building finishes shall be of same material as recessed box.
- J. Device Box Dimensions: 4 inches square by 2-1/8 inches deep.
- K. Gangable boxes are allowed.
- L. Hinged-Cover Enclosures: Comply with UL 50 and NEMA 250, Type 1 with continuous-hinge cover with flush latch unless otherwise indicated.
 1. Metal Enclosures: Steel, finished inside and out with manufacturer's standard enamel.
 2. Nonmetallic Enclosures: Plastic.
 3. Interior Panels: Steel; all sides finished with manufacturer's standard enamel.
- M. Cabinets:
 1. NEMA 250, Type 1 galvanized-steel box with removable interior panel and removable front, finished inside and out with manufacturer's standard enamel.
 2. Hinged door in front cover with flush latch and concealed hinge.
 3. Key latch to match panelboards.
 4. Metal barriers to separate wiring of different systems and voltage.
 5. Accessory feet where required for freestanding equipment.
 6. Nonmetallic cabinets shall be listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

2.4 HANDHOLES AND BOXES FOR EXTERIOR UNDERGROUND WIRING

- A. General Requirements for Handholes and Boxes:

1. Boxes and handholes for use in underground systems shall be designed and identified as defined in NFPA 70, for intended location and application.
 2. Boxes installed in wet areas shall be listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
- B. Polymer-Concrete Handholes and Boxes with Polymer-Concrete Cover: Molded of sand and aggregate, bound together with polymer resin, and reinforced with steel, fiberglass, or a combination of the two.
1. Standard: Comply with SCTE 77.
 2. Configuration: Designed for flush burial with open bottom unless otherwise indicated.
 3. Cover: Weatherproof, secured by tamper-resistant locking devices and having structural load rating consistent with enclosure and handhole location.
 4. Cover Finish: Nonskid finish shall have a minimum coefficient of friction of 0.50.
 5. Cover Legend: Molded lettering, "ELECTRIC."
 6. Conduit Entrance Provisions: Conduit-terminating fittings shall mate with entering ducts for secure, fixed installation in enclosure wall.
- C. Fiberglass Handholes and Boxes: Molded of fiberglass-reinforced polyester resin, with frame and covers of polymer concrete or hot-dip galvanized-steel diamond plate.
1. Standard: Comply with SCTE 77.
 2. Configuration: Designed for flush burial with open bottom unless otherwise indicated.
 3. Cover: Weatherproof, secured by tamper-resistant locking devices and having structural load rating consistent with enclosure and handhole location.
 4. Cover Finish: Nonskid finish shall have a minimum coefficient of friction of 0.50.
 5. Cover Legend: Molded lettering, "ELECTRIC."
 6. Conduit Entrance Provisions: Conduit-terminating fittings shall mate with entering ducts for secure, fixed installation in enclosure wall.

PART 3 - EXECUTION

3.1 RACEWAY APPLICATION

- A. Outdoors: Apply raceway products as specified below unless otherwise indicated:

1. Exposed Conduit: GRC.
 2. Concealed Conduit, Aboveground: GRC.
 3. Underground Conduit: RNC, Type EPC-40-PVC,.
 4. Connection to Vibrating Equipment (Including Transformers and Hydraulic, Pneumatic, Electric Solenoid, or Motor-Driven Equipment): LFMC.
 5. Boxes and Enclosures, Aboveground: NEMA 250, Type 3R.
- B. Indoors: Apply raceway products as specified below unless otherwise indicated.
1. Exposed, Not Subject to Physical Damage: EMT.
 2. Exposed, Not Subject to Severe Physical Damage: EMT.
 3. Exposed and Subject to Severe Physical Damage: GRC. Raceway locations include the following:
 - a. Loading dock.
 - b. Corridors used for traffic of mechanized carts, forklifts, and pallet-handling units.
 - c. Mechanical rooms.
 - d. Gymnasiums.
 4. Concealed in Ceilings and Interior Walls and Partitions: EMT.
 5. Connection to Vibrating Equipment (Including Transformers and Hydraulic, Pneumatic, Electric Solenoid, or Motor-Driven Equipment): LFMC.
 6. Damp or Wet Locations: GRC.
 7. Boxes and Enclosures: NEMA 250, Type 1, except use NEMA 250, Type 4 nonmetallic in institutional and commercial kitchens and damp or wet locations.
- C. Minimum Raceway Size: 3/4-inch trade size.
- D. Raceway Fittings: Compatible with raceways and suitable for use and location.
1. Rigid and Intermediate Steel Conduit: Use threaded rigid steel conduit fittings unless otherwise indicated. Comply with NEMA FB 2.10.
 2. PVC Externally Coated, Rigid Steel Conduits: Use only fittings listed for use with this type of conduit. Patch and seal all joints, nicks, and scrapes in PVC coating after installing conduits and fittings. Use sealant recommended by fitting manufacturer and apply in thickness and number of coats recommended by manufacturer.
 3. EMT: Use setscrew, steel fittings. Comply with NEMA FB 2.10.

- 4. Flexible Conduit: Use only fittings listed for use with flexible conduit. Comply with NEMA FB 2.20.
- E. All fire alarm system conduit shall be manufactured red.
- F. Do not install aluminum conduits, boxes, or fittings in contact with concrete or earth.
- G. Do not install nonmetallic conduit where ambient temperature exceeds 120 deg F.

3.2 INSTALLATION

- A. Comply with NECA 1 and NECA 101 for installation requirements except where requirements on Drawings or in this article are stricter. Comply with NECA 102 for aluminum conduits. Comply with NFPA 70 limitations for types of raceways allowed in specific occupancies and number of floors.
- B. Keep raceways at least 6 inches away from parallel runs of flues and steam or hot-water pipes. Install horizontal raceway runs above water and steam piping.
- C. Comply with requirements in Section 260529 "Hangers and Supports for Electrical Systems" for hangers and supports.
- D. Arrange stub-ups so curved portions of bends are not visible above finished slab.
- E. Install no more than the equivalent of three 90-degree bends in any conduit run except for control wiring conduits, for which fewer bends are allowed. Support within 12 inches of changes in direction.
- F. Conceal conduit and EMT within finished walls, ceilings, and floors unless otherwise indicated. Install conduits parallel or perpendicular to building lines. Conduit shall be routed to minimize penetrations through floor building structural components.
- G. Support conduit within 12 inches of enclosures to which attached.
- H. Raceways Embedded in Slabs:
 - 1. Run conduit larger than 1-inch trade size, parallel or at right angles to main reinforcement. Where at right angles to reinforcement, place conduit close to slab support. Secure raceways to reinforcement at maximum 10-foot intervals.
 - 2. Arrange raceways to cross building expansion joints at right angles with expansion fittings.
 - 3. Arrange raceways to keep a minimum of 1 inch of concrete cover in all directions.
 - 4. Do not embed threadless fittings in concrete unless specifically approved by Architect for each specific location.

5. Conduits shall stub up through concrete slabs with RGC elbows and risers.
 6. Conduits located in concrete slabs shall not exceed $\frac{3}{4}$ " and shall be spaced no closer than eight inches on center except at panel and junction boxes where they shall be spread as widely as possible. Provide for special framing when required where conduits enter a panel board. In cases where conduits are larger than $\frac{3}{4}$ " are to be placed in a concrete slab, the structural engineering shall be notified/consulted.
- I. Stub-ups to Above Recessed Ceilings:
 1. Use EMT, IMC, or RMC for raceways.
 2. Use a conduit bushing or insulated fitting to terminate stub-ups not terminated in hubs or in an enclosure.
 - J. Threaded Conduit Joints, Exposed to Wet, Damp, Corrosive, or Outdoor Conditions: Apply listed compound to threads of raceway and fittings before making up joints. Follow compound manufacturer's written instructions.
 - K. At damp and wet locations or where exposed to weather, flexible steel conduit, where allowed, shall be liquid tight type.
 - L. Coat field-cut threads on PVC-coated raceway with a corrosion-preventing conductive compound prior to assembly.
 - M. Raceway Terminations at Locations Subject to Moisture or Vibration: Use insulating bushings to protect conductors including conductors smaller than No. 4 AWG.
 - N. Terminate threaded conduits into threaded hubs or with locknuts on inside and outside of boxes or cabinets. Install bushings on conduits up to 1-1/4-inch trade size and insulated throat metal bushings on 1-1/2-inch trade size and larger conduits terminated with locknuts. Install insulated throat metal grounding bushings on service conduits.
 - O. Install pull wires in empty raceways. Use polypropylene or monofilament plastic line with not less than 200-lb tensile strength. Leave at least 12 inches of slack at each end of pull wire. Cap underground raceways designated as spare above grade alongside raceways in use and label.
 - P. Install raceway sealing fittings at accessible locations according to NFPA 70 and fill them with listed sealing compound. For concealed raceways, install each fitting in a flush steel box with a blank cover plate having a finish similar to that of adjacent plates or surfaces.
 - Q. Install devices to seal raceway interiors at accessible locations. Locate seals so no fittings or boxes are between the seal and the following changes of environments. Seal the interior of all raceways at the following points:

1. Where conduits pass from warm to cold locations, such as boundaries of refrigerated spaces.
 2. Where an underground service raceway enters a building or structure.
 3. Where otherwise required by NFPA 70.
- R. Flexible Conduit Connections: Comply with NEMA RV 3. Use a maximum of 36 inches of flexible conduit for motor connections, connection between fan plenum and structure, expansion joints with an accessible junction box on each side, recessed and semi-recessed luminaires, equipment subject to vibration, noise transmission, or movement; and for transformers and motors.
1. Use LFMC in damp or wet locations subject to severe physical damage.
 2. Use LFMC in damp or wet locations not subject to severe physical damage.
- S. For recessed lighting fixtures in an accessible (lift-out tile) ceiling flexible steel conduit shall not exceed 6'.
- T. Mount boxes at heights indicated on Drawings. If mounting heights of boxes are not individually indicated, give priority to ADA requirements. Install boxes with height measured to top of box unless otherwise indicated.
- U. Recessed Boxes in Masonry Walls: Saw-cut opening for box in center of cell of masonry block, and install box flush with surface of wall. Prepare block surfaces to provide a flat surface for a raintight connection between the box and cover plate or the supported equipment and box.
- V. Horizontally separate boxes mounted on opposite sides of walls so they are not in the same vertical channel.
- W. Locate boxes so that cover or plate will not span different building finishes.
- X. Support boxes of three gangs or more from more than one side by spanning two framing members or mounting on brackets specifically designed for the purpose.
- Y. Fasten junction and pull boxes to or support from building structure. Do not support boxes by conduits.
- Z. Set metal floor boxes level and flush with finished floor surface.
- AA. Set nonmetallic floor boxes level. Trim after installation to fit flush with finished floor surface.
- 3.3 INSTALLATION OF UNDERGROUND CONDUIT
- A. Direct-Buried Conduit:

1. Excavate trench bottom to provide firm and uniform support for conduit. Prepare trench bottom for pipe less than 6 inches in nominal diameter.
2. Install backfill.
3. After installing conduit, backfill and compact. Start at tie-in point, and work toward end of conduit run, leaving conduit at end of run free to move with expansion and contraction as temperature changes during this process. Firmly hand tamp backfill around conduit to provide maximum supporting strength. After placing controlled backfill to within 12 inches of finished grade, make final conduit connection at end of run and complete backfilling with normal compaction as.
4. Install manufactured duct elbows for stub-up at poles and equipment and at building entrances through floor unless otherwise indicated. Encase elbows for stub-up ducts throughout length of elbow.
5. Install manufactured rigid steel conduit elbows for stub-ups at poles and equipment and at building entrances through floor.
 - a. Couple steel conduits to ducts with adapters designed for this purpose, and encase coupling with 3 inches of concrete for a minimum of 12 inches on each side of the coupling.
 - b. For stub-ups at equipment mounted on outdoor concrete bases and where conduits penetrate building foundations, extend steel conduit horizontally a minimum of 60 inches from edge of foundation or equipment base. Install insulated grounding bushings on terminations at equipment.
6. Underground Warning Tape: Comply with requirements in Section 260553 "Identification for Electrical Systems."

3.4 INSTALLATION OF UNDERGROUND HANDHOLES AND BOXES

- A. Install handholes and boxes level and plumb and with orientation and depth coordinated with connecting conduits to minimize bends and deflections required for proper entrances.
- B. Unless otherwise indicated, support units on a level bed of crushed stone or gravel, graded from 1/2-inch sieve to No. 4 sieve and compacted to same density as adjacent undisturbed earth.
- C. Elevation: In paved areas, set so cover surface will be flush with finished grade. Set covers of other enclosures 1 inch above finished grade.
- D. Install handholes with bottom below frost line.
- E. Field-cut openings for conduits according to enclosure manufacturer's written instructions. Cut wall of enclosure with a tool designed for material to be cut. Size

holes for terminating fittings to be used, and seal around penetrations after fittings are installed.

3.5 SLEEVE AND SLEEVE-SEAL INSTALLATION FOR ELECTRICAL PENETRATIONS

- A. Install sleeves and sleeve seals at penetrations of exterior floor and wall assemblies. Comply with requirements in Section 260544 "Sleeves and Sleeve Seals for Electrical Raceways and Cabling."

3.6 FIRESTOPPING

- A. Install firestopping at penetrations of fire-rated floor and wall assemblies. Comply with requirements in Section 078413 "Penetration Firestopping."

3.7 PROTECTION

- A. Protect coatings, finishes, and cabinets from damage and deterioration.
 - 1. Repair damage to galvanized finishes with zinc-rich paint recommended by manufacturer.
 - 2. Repair damage to PVC coatings or paint finishes with matching touchup coating recommended by manufacturer.

END OF SECTION

SECTION 260553 - IDENTIFICATION FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Color and legend requirements for raceways, conductors, and warning labels and signs.
 - 2. Labels.
 - 3. Bands and tubes.
 - 4. Tapes and stencils.
 - 5. Tags.
 - 6. Signs.
 - 7. Cable ties.
 - 8. Paint for identification.
 - 9. Fasteners for labels and signs.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Samples: For each type of label and sign to illustrate composition, size, colors, lettering style, mounting provisions, and graphic features of identification products.
- C. Delegated-Design Submittal: For arc-flash hazard study.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Comply with ASME A13.1.
- B. Comply with UNR Design and Construction Standards.
- C. Comply with NFPA 70.
- D. Comply with 29 CFR 1910.144 and 29 CFR 1910.145.
- E. Comply with ANSI Z535.4 for safety signs and labels.
- F. Comply with NFPA 70E requirements for arc-flash warning labels.
- G. Adhesive-attached labeling materials, including label stocks, laminating adhesives, and inks used by label printers, shall comply with UL 969.
- H. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes.
 - 1. Temperature Change: 120 deg F, ambient; 180 deg F, material surfaces.

2.2 COLOR AND LEGEND REQUIREMENTS

- A. Raceways and Cables Carrying Circuits at 600 V or Less:
 - 1. Black letters on an orange field.
 - 2. Legend: Indicate voltage.
- B. Color-Coding for Phase- and Voltage-Level Identification, 600 V or Less: Use colors listed below for ungrounded service, feeder and branch-circuit conductors.
 - 1. Color shall be factory applied or field applied for sizes larger than No. 8 AWG if authorities having jurisdiction permit.
 - 2. Colors for 208/120-V Circuits:
 - a. Phase A: Black.
 - b. Phase B: Red.
 - c. Phase C: Blue.
 - 3. Colors for 480/277-V Circuits:
 - a. Phase A: Brown.

- b. Phase B: Orange.
 - c. Phase C: Yellow.
- 4. Color for Neutral: White.
- 5. Color for Equipment Grounds: Green.
- 6. Colors for Isolated Grounds: Green with white stripe.
- C. Warning Label Colors:
 - 1. Identify system voltage with black letters on an orange background.
- D. Warning labels and signs shall include, but are not limited to, the following legends:
 - 1. Multiple Power Source Warning: "DANGER - ELECTRICAL SHOCK HAZARD - EQUIPMENT HAS MULTIPLE POWER SOURCES."
 - 2. Workspace Clearance Warning: "WARNING - OSHA REGULATION - AREA IN FRONT OF ELECTRICAL EQUIPMENT MUST BE KEPT CLEAR FOR 36 INCHES."

2.3 LABELS

- A. All labeling shall be done by machine – NO hand written labels.
- B. Provide label on the covers of outlets, switches, and junction boxes. Labels shall indicate panel and circuit numbers.
- C. All Equipment/System/Panel Identification Labels shall include room number, voltage, destination, or origin. Labels shall be engraved type with white letters on black for normal power, white letters on red for emergency power, and white letters on orange for UPS power.
 - 1. Examples: PNL 5L 208-120V 3P 4W
 - Fed from DPL1
 - Located in Rm. E100
 - At Feeder Circuit Breaker in Distribution Panel DPL1:
 - Feeds PNL 5L
 - Located in Rm. E500
- D. Vinyl Wraparound Labels: Preprinted, flexible labels laminated with a clear, weather- and chemical-resistant coating and matching wraparound clear adhesive tape for securing label ends.

- E. Snap-around Labels: Slit, pretensioned, flexible, preprinted, color-coded acrylic sleeves, with diameters sized to suit diameter and that stay in place by gripping action.
- F. Self-Adhesive Wraparound Labels: Preprinted, 3-mil-thick, polyester flexible label with acrylic pressure-sensitive adhesive.
 - 1. Self-Lamination: Clear; UV-, weather- and chemical-resistant; self-laminating, protective shield over the legend. Labels sized such that the clear shield overlaps the entire printed legend.
 - 2. Marker for Labels: Permanent, waterproof, black ink marker recommended by tag manufacturer.
 - 3. Marker for Labels: Machine-printed, permanent, waterproof, black ink recommended by printer manufacturer.
- G. Self-Adhesive Labels: Polyester, thermal, transfer-printed, 3-mil-thick, multicolor, weather- and UV-resistant, pressure-sensitive adhesive labels, configured for intended use and location.
 - 1. Minimum Nominal Size:
 - a. 1-1/2 by 6 inches for raceway and conductors.
 - b. 3-1/2 by 5 inches for equipment.
 - c. As required by authorities having jurisdiction.

2.4 BANDS AND TUBES

- A. Snap-around, Color-Coding Bands: Slit, pretensioned, flexible, solid-colored acrylic sleeves, 2 inches long, with diameters sized to suit diameter and that stay in place by gripping action.

2.5 TAPES AND STENCILS

- A. Marker Tapes: Vinyl or vinyl-cloth, self-adhesive wraparound type, with circuit identification legend machine printed by thermal transfer or equivalent process.
- B. Self-Adhesive Vinyl Tape: Colored, heavy duty, waterproof, fade resistant; not less than 3 mils thick by 1 to 2 inches wide; compounded for outdoor use.
- C. Tape and Stencil: 4-inch-wide black stripes on 10-inch centers placed diagonally over orange background and is 12 inches wide. Stop stripes at legends.
- D. Floor Marking Tape: 2-inch-wide, 5-mil pressure-sensitive vinyl tape, with black and white stripes and clear vinyl overlay.
- E. Underground-Line Warning Tape:

1. Tape:
 - a. Recommended by manufacturer for the method of installation and suitable to identify and locate underground electrical and communications utility lines.
 - b. Printing on tape shall be permanent and shall not be damaged by burial operations.
 - c. Tape material and ink shall be chemically inert and not subject to degradation when exposed to acids, alkalis, and other destructive substances commonly found in soils.
 2. Color and Printing:
 - a. Comply with ANSI Z535.1, ANSI Z535.2, ANSI Z535.3, ANSI Z535.4, and ANSI Z535.5.
 - b. Inscriptions for Red-Colored Tapes: "ELECTRIC LINE, HIGH VOLTAGE".
 - c. Inscriptions for Orange-Colored Tapes: "TELEPHONE CABLE, CATV CABLE, COMMUNICATIONS CABLE, OPTICAL FIBER CABLE".
- F. Stenciled Legend: In nonfading, waterproof, black ink or paint. Minimum letter height shall be 1 inch.

2.6 TAGS

- A. Machine Written Tags:
1. Marker for Tags: Machine-printed, permanent, waterproof, black ink marker recommended by printer manufacturer.

2.7 SIGNS

- A. Baked-Enamel Signs:
1. Preprinted aluminum signs, punched or drilled for fasteners, with colors, legend, and size required for application.
 2. 1/4-inch grommets in corners for mounting.
 3. Nominal Size: 7 by 10 inches.
- B. Metal-Backed Butyrate Signs:
1. Weather-resistant, nonfading, preprinted, cellulose-acetate butyrate signs, with 0.0396-inch galvanized-steel backing, punched and drilled for fasteners, and with colors, legend, and size required for application.
 2. 1/4-inch grommets in corners for mounting.

3. Nominal Size: 10 by 14 inches.
- C. Laminated Acrylic or Melamine Plastic Signs:
1. Engraved legend.
 2. Thickness:
 - a. For signs up to 20 sq. in., minimum 1/16 inch.
 - b. For signs larger than 20 sq. in., 1/8 inch thick.
 - c. Engraved legend with white letters on a dark gray background.
 - d. Punched or drilled for mechanical fasteners with 1/4-inch grommets in corners for mounting.
 - e. Framed with mitered acrylic molding and arranged for attachment at applicable equipment.

2.8 CABLE TIES

- A. General-Purpose Cable Ties: Fungus inert, self-extinguishing, one piece, self-locking, and Type 6/6 nylon.
1. Minimum Width: 3/16 inch.
 2. Tensile Strength at 73 Deg F according to ASTM D 638: 12,000 psi.
 3. Temperature Range: Minus 40 to plus 185 deg F.
 4. Color: Black, except where used for color-coding.
- B. UV-Stabilized Cable Ties: Fungus inert, designed for continuous exposure to exterior sunlight, self-extinguishing, one piece, self-locking, and Type 6/6 nylon.
1. Minimum Width: 3/16 inch.
 2. Tensile Strength at 73 Deg F according to ASTM D 638: 12,000 psi.
 3. Temperature Range: Minus 40 to plus 185 deg F.
 4. Color: Black.
- C. Plenum-Rated Cable Ties: Self-extinguishing, UV stabilized, one piece, and self-locking.
1. Minimum Width: 3/16 inch.
 2. Tensile Strength at 73 Deg F according to ASTM D 638: 7000 psi.
 3. UL 94 Flame Rating: 94V-0.

4. Temperature Range: Minus 50 to plus 284 deg F.
5. Color: Black.

2.9 MISCELLANEOUS IDENTIFICATION PRODUCTS

- A. Paint: Comply with requirements in painting Sections for paint materials and application requirements. Retain paint system applicable for surface material and location (exterior or interior).
- B. Fasteners for Labels and Signs: Self-tapping, stainless-steel screws or stainless-steel machine screws with nuts and flat and lock washers.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Verify and coordinate identification names, abbreviations, colors, and other features with requirements in other Sections requiring identification applications, Drawings, Shop Drawings, manufacturer's wiring diagrams, and operation and maintenance manual. Use consistent designations throughout Project.
- B. Install identifying devices before installing acoustical ceilings and similar concealment.
- C. Verify identity of each item before installing identification products.
- D. Coordinate identification with Project Drawings, manufacturer's wiring diagrams, and operation and maintenance manual.
- E. Apply identification devices to surfaces that require finish after completing finish work.
- F. Install signs with approved legend to facilitate proper identification, operation, and maintenance of electrical systems and connected items.
- G. Self-Adhesive Identification Products: Before applying electrical identification products, clean substrates of substances that could impair bond, using materials and methods recommended by manufacturer of identification product.
- H. System Identification for Raceways and Cables under 600 V: Identification shall completely encircle cable or conduit. Place identification of two-color markings in contact, side by side.
 1. Secure tight to surface of conductor, cable, or raceway.
- I. System Identification for Raceways and Cables over 600 V: Identification shall completely encircle cable or conduit. Place adjacent identification of two-color markings in contact, side by side.

1. Secure tight to surface of conductor, cable, or raceway.
- J. Auxiliary Electrical Systems Conductor Identification: Identify field-installed alarm, control, and signal connections.
- K. Emergency Operating Instruction Signs: Install instruction signs with white legend on a red background with minimum 3/8-inch-high letters for emergency instructions at equipment used for power transfer.
- L. Elevated Components: Increase sizes of labels, signs, and letters to those appropriate for viewing from the floor.
- M. Accessible Fittings for Raceways: Identify the covers of each junction and pull box of the following systems with the wiring system legend and system voltage. System legends shall be as follows:
1. "EMERGENCY POWER."
 2. "POWER."
 3. "UPS."
- N. Vinyl Wraparound Labels:
1. Secure tight to surface at a location with high visibility and accessibility.
 2. Attach labels that are not self-adhesive type with clear vinyl tape, with adhesive appropriate to the location and substrate.
- O. Snap-around Labels: Secure tight to surface at a location with high visibility and accessibility.
- P. Self-Adhesive Wraparound Labels: Secure tight to surface of raceway or cable at a location with high visibility and accessibility.
- Q. Snap-around Color-Coding Bands: Secure tight to surface at a location with high visibility and accessibility.
- R. Marker Tapes: Secure tight to surface at a location with high visibility and accessibility.
- S. Self-Adhesive Vinyl Tape: Secure tight to surface at a location with high visibility and accessibility.
1. Field-Applied, Color-Coding Conductor Tape: Apply in half-lapped turns for a minimum distance of 6 inches where splices or taps are made. Apply last two turns of tape with no tension to prevent possible unwinding.
- T. Tape and Stencil: Comply with requirements in painting Sections for surface preparation and paint application.

- U. Floor Marking Tape: Apply stripes to finished surfaces following manufacturer's written instructions.
- V. Underground Line Warning Tape:
 - 1. During backfilling of trenches, install continuous underground-line warning tape directly above cable or raceway at 6 to 8 inches below finished grade. Use multiple tapes where width of multiple lines installed in a common trench exceeds 16 inches overall.
 - 2. Limit use of underground-line warning tape to direct-buried cables.
 - 3. Install underground-line warning tape for direct-buried cables and cables in raceways.
- W. Machine Written Tags:
 - 1. Place in a location with high visibility and accessibility.
 - 2. Secure using plenum-rated cable ties.
- X. Baked-Enamel Signs:
 - 1. Attach signs that are not self-adhesive type with mechanical fasteners appropriate to the location and substrate.
 - 2. Unless otherwise indicated, provide a single line of text with 1/2-inch-high letters on minimum 1-1/2-inch-high sign; where two lines of text are required, use signs minimum 2 inches high.
- Y. Metal-Backed Butyrate Signs:
 - 1. Attach signs that are not self-adhesive type with mechanical fasteners appropriate to the location and substrate.
 - 2. Unless otherwise indicated, provide a single line of text with 1/2-inch-high letters on minimum 1-1/2-inch-high sign; where two lines of text are required, use signs minimum 2 inches high.
- Z. Laminated Acrylic or Melamine Plastic Signs:
 - 1. Attach signs and plastic labels that are not self-adhesive type with mechanical fasteners appropriate to the location and substrate.
 - 2. Unless otherwise indicated, provide a single line of text with 1/2-inch-high letters on minimum 1-1/2-inch-high sign; where two lines of text are required, use signs minimum 2 inches high.
- AA. Cable Ties: General purpose, for attaching tags, except as listed below:

1. Outdoors: UV-stabilized nylon.
2. In Spaces Handling Environmental Air: Plenum rated.

3.2 IDENTIFICATION SCHEDULE

- A. Install identification materials and devices at locations for most convenient viewing without interference with operation and maintenance of equipment. Install access doors or panels to provide view of identifying devices.
- B. Identify conductors, cables, and terminals in enclosures and at junctions, terminals, pull points, and locations of high visibility. Identify by system and circuit designation.
- C. Accessible Raceways and Metal-Clad Cables, 600 V or Less, for Service, Feeder, and Branch Circuits, More Than 30 A and 120 V to Ground: Identify with self-adhesive raceway labels.
 1. Locate identification at changes in direction, at penetrations of walls and floors, at 50-foot maximum intervals in straight runs, and at 25-foot maximum intervals in congested areas.
- D. Accessible Fittings for Raceways and Cables within Buildings: Identify the covers of each junction and pull box of the following systems with self-adhesive labels containing the wiring system legend and system voltage. System legends shall be as follows:
 1. "EMERGENCY POWER."
 2. "POWER."
 3. "UPS."
- E. Power-Circuit Conductor Identification, 600 V or Less: For conductors in vaults, pull and junction boxes, manholes, and handholes, use snap-around labels to identify the phase.
 1. Locate identification at changes in direction, at penetrations of walls and floors, at 50-foot maximum intervals in straight runs, and at 25-foot maximum intervals in congested areas.
- F. Control-Circuit Conductor Identification: For conductors and cables in pull and junction boxes, manholes, and handholes, use write-on tags with the conductor or cable designation, origin, and destination.
- G. Control-Circuit Conductor Termination Identification: For identification at terminations, provide self-adhesive wraparound labels with the conductor designation.

- H. Conductors to Be Extended in the Future: Attach marker tape to conductors and list source.
- I. Auxiliary Electrical Systems Conductor Identification: Marker tape that is uniform and consistent with system used by manufacturer for factory-installed connections.
 - 1. Identify conductors, cables, and terminals in enclosures and at junctions, terminals, and pull points. Identify by system and circuit designation.
- J. Locations of Underground Lines: Underground-line warning tape for power, lighting, communication, and control wiring and optical-fiber cable.
- K. Workspace Indication: Apply floor marking tape or tape and stencil to finished surfaces. Show working clearances in the direction of access to live parts. Workspace shall comply with NFPA 70 and 29 CFR 1926.403 unless otherwise indicated. Do not install at flush-mounted panelboards and similar equipment in finished spaces.
- L. Instructional Signs: Self-adhesive labels, including the color code for grounded and ungrounded conductors.
- M. Warning Labels for Indoor Cabinets, Boxes, and Enclosures for Power and Lighting: Self-adhesive equipment labels.
 - 1. Apply to exterior of door, cover, or other access.
 - 2. For equipment with multiple power or control sources, apply to door or cover of equipment, including, but not limited to, the following:
 - a. Power-transfer switches.
 - b. Controls with external control power connections.
- N. Arc Flash Warning Labeling: Self-adhesive labels.
- O. Operating Instruction Signs: Self-adhesive labels.
- P. Emergency Operating Instruction Signs: Self-adhesive labels with white legend on a red background with minimum 3/8-inch-high letters for emergency instructions at equipment used for power transfer.
- Q. Equipment Identification Labels:
 - 1. Indoor Equipment: Baked-enamel signs.
 - 2. Outdoor Equipment: Laminated acrylic or melamine sign.

END OF SECTION 260553

SECTION 262416 - PANELBOARDS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Distribution panelboards.
 - 2. Lighting and appliance branch-circuit panelboards.

1.2 DEFINITIONS

- A. MCCB: Molded-case circuit breaker.
- B. SPD: Surge protective device.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of panelboard.
- B. Shop Drawings: For each panelboard and related equipment.
 - 1. Include dimensioned plans, elevations, sections, and details.
 - 2. Detail enclosure types including mounting and anchorage, environmental protection, knockouts, corner treatments, covers and doors, gaskets, hinges, and locks.
 - 3. Detail bus configuration, current, and voltage ratings.
 - 4. Short-circuit current rating of panelboards and overcurrent protective devices.
 - 5. Include evidence of NRTL listing for series rating of installed devices.
 - 6. Include evidence of NRTL listing for SPD as installed in panelboard.
 - 7. Detail features, characteristics, ratings, and factory settings of individual overcurrent protective devices and auxiliary components.
 - 8. Include wiring diagrams for power, signal, and control wiring.
 - 9. Key interlock scheme drawing and sequence of operations.
 - 10. Include time-current coordination curves for each type and rating of overcurrent protective device included in panelboards.

1.4 INFORMATIONAL SUBMITTALS

- A. Panelboard schedules for installation in panelboards.

1.5 CLOSEOUT SUBMITTALS

- A. Operation and maintenance data.

1.6 FIELD CONDITIONS

- A. Service Conditions: NEMA PB 1, usual service conditions, as follows:
 - 1. Ambient temperatures within limits specified.
 - 2. Altitude not exceeding 6600 feet.

1.7 WARRANTY

- A. Manufacturer's Warranty: Manufacturer agrees to repair or replace panelboards that fail in materials or workmanship within specified warranty period.
 - 1. Panelboard Warranty Period: 18 months from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PANELBOARDS COMMON REQUIREMENTS

- A. Fabricate and test panelboards according to IEEE 344 to withstand seismic forces defined in Section 260548.16 "Seismic Controls for Electrical Systems."
- B. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
- C. Comply with NEMA PB 1.
- D. Comply with NFPA 70.
- E. Enclosures: Flush and Surface-mounted, dead-front cabinets.
 - 1. Rated for environmental conditions at installed location.
 - a. Indoor Dry and Clean Locations: NEMA 250, Type 1.
 - b. Outdoor Locations: NEMA 250, Type 3R.
 - c. Other Wet or Damp Indoor Locations: NEMA 250, Type 3R.

2. Height: 84 inches maximum.
 3. Front: Secured to box with concealed trim clamps. For surface-mounted fronts, match box dimensions; for flush-mounted fronts, overlap box. Trims shall cover all live parts and shall have no exposed hardware.
 4. Front Cover: Shall be door-in-door type.
- F. Incoming Mains Location: Convertible between top and bottom.
- G. Phase, Neutral, and Ground Buses: Hard-drawn copper, 98 percent conductivity.
- H. Conductor Connectors: Suitable for use with conductor material and sizes.
1. Material: Hard-drawn copper, 98 percent conductivity.
 2. Main and Neutral Lugs: Mechanical type, with a lug on the neutral bar for each pole in the panelboard.
 3. Ground Lugs and Bus-Configured Terminators: Mechanical type, with a lug on the bar for each pole in the panelboard.
 4. Feed-Through Lugs: Mechanical type, suitable for use with conductor material. Locate at opposite end of bus from incoming lugs or main device.
 5. Subfeed (Double) Lugs: Mechanical type suitable for use with conductor material. Locate at same end of bus as incoming lugs or main device.
- I. NRTL Label: Panelboards shall be labeled by an NRTL acceptable to authority having jurisdiction for use as service equipment with one or more main service disconnecting and overcurrent protective devices. Panelboards shall have meter enclosures, wiring, connections, and other provisions for utility metering. Coordinate with utility company for exact requirements.
- J. Future Devices: Panelboards shall have mounting brackets, bus connections, filler plates, and necessary appurtenances required for future installation of devices.
- K. Panelboard Short-Circuit Current Rating: Fully rated to interrupt symmetrical short-circuit current available at terminals. Assembly listed by an NRTL for 100 percent interrupting capacity.

2.2 PERFORMANCE REQUIREMENTS

- A. Seismic Performance: Panelboards shall withstand the effects of earthquake motions determined according to ASCE/SEI 7.

1. The term "withstand" means "the unit will remain in place without separation of any parts from the device when subjected to the seismic forces specified."

2.3 POWER PANELBOARDS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 1. Eaton.
 2. General Electric Company; GE Energy Management - Electrical Distribution.
 3. Siemens Energy.
 4. Square D; by Schneider Electric.
- B. Panelboards: NEMA PB 1, distribution type.
- C. Doors: Secured with vault-type latch with tumbler lock; keyed alike.
 1. For doors more than 36 inches high, provide two latches, keyed alike.
- D. Mains: Lugs only.
- E. Branch Overcurrent Protective Devices for Circuit-Breaker Frame Sizes 125 A and Smaller: Bolt-on circuit breakers.
- F. Branch Overcurrent Protective Devices for Circuit-Breaker Frame Sizes Larger Than 125 A: Bolt-on circuit breakers.
- G. Branch Overcurrent Protective Devices: Fused switches.
- H. Contactors in Main Bus: NEMA ICS 2, Class A, electrically held, general-purpose controller, with same short-circuit interrupting rating as panelboard.
 1. External Control-Power Source: 120-V branch circuit.

2.4 LIGHTING AND APPLIANCE BRANCH-CIRCUIT PANELBOARDS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 1. Eaton.
 2. General Electric Company; GE Energy Management - Electrical Distribution.
 3. Siemens Energy.
 4. Square D; by Schneider Electric.

- B. Panelboards: NEMA PB 1, lighting and appliance branch-circuit type.
- C. Mains: Circuit breaker or lugs only.
- D. Branch Overcurrent Protective Devices: Bolt-on circuit breakers, replaceable without disturbing adjacent units.
- E. Contactors in Main Bus: NEMA ICS 2, Class A, electrically held, general-purpose controller, with same short-circuit interrupting rating as panelboard.
 - 1. External Control-Power Source: 120-V branch circuit.
- F. Doors: Concealed hinges; secured with flush latch with tumbler lock; keyed alike.
- G. Column-Type Panelboards: Single row of overcurrent devices with narrow gutter extension and overhead junction box equipped with ground and neutral terminal buses.

2.5 DISCONNECTING AND OVERCURRENT PROTECTIVE DEVICES

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1. Eaton.
 - 2. General Electric Company; GE Energy Management - Electrical Distribution.
 - 3. Siemens Energy.
 - 4. Square D; by Schneider Electric.
- B. Molded-case circuit breaker: Comply with UL 489, with interrupting capacity to meet available fault currents.
 - 1. Thermal-Magnetic Circuit Breakers:
 - a. Inverse time-current element for low-level overloads.
 - b. Instantaneous magnetic trip element for short circuits.
 - c. Adjustable magnetic trip setting for circuit-breaker frame sizes 250 A and larger.
 - 2. Adjustable Instantaneous-Trip Circuit Breakers: Magnetic trip element with front-mounted, field-adjustable trip setting.
 - 3. Electronic Trip Circuit Breakers:
 - a. RMS sensing.
 - b. Field-replaceable rating plug or electronic trip.
 - c. Digital display of settings, trip targets, and indicated metering displays.
 - d. Multi-button keypad to access programmable functions and monitored data.

- e. Ten-event, trip-history log. Each trip event shall be recorded with type, phase, and magnitude of fault that caused the trip.
- f. Integral test jack for connection to portable test set or laptop computer.
- g. Field-Adjustable Settings:
 - 1) Instantaneous trip.
 - 2) Long- and short-time pickup levels.
 - 3) Long and short time adjustments.
 - 4) Ground-fault pickup level, time delay, and I squared T response.
- 4. Current-Limiting Circuit Breakers: Frame sizes 400 A and smaller; let-through ratings less than NEMA FU 1, RK-5.
- 5. GFCI Circuit Breakers: Single- and double-pole configurations with Class A ground-fault protection (6-mA trip).
- 6. GFEP Circuit Breakers: Class B ground-fault protection (30-mA trip).
- 7. Arc-Fault Circuit Interrupter Circuit Breakers: Comply with UL 1699; 120/240-V, single-pole configuration.
- 8. Subfeed Circuit Breakers: Vertically mounted.
- 9. MCCB Features and Accessories:
 - a. Standard frame sizes, trip ratings, and number of poles.
 - b. Breaker handle indicates tripped status.
 - c. UL listed for reverse connection without restrictive line or load ratings.
 - d. Lugs: Mechanical style, suitable for number, size, trip ratings, and conductor materials.
 - e. Application Listing: Appropriate for application; Type SWD for switching fluorescent lighting loads; Type HID for feeding fluorescent and HID lighting circuits.
 - f. Ground-Fault Protection: Integrally mounted relay and trip unit with adjustable pickup and time-delay settings, push-to-test feature, and ground-fault indicator.
 - g. Shunt Trip: 120-V trip coil energized from separate circuit, set to trip at 75 percent of rated voltage.
 - h. Handle Padlocking Device: Fixed attachment, for locking circuit-breaker handle in off position.
 - i. Handle Clamp: Loose attachment, for holding circuit-breaker handle in on position.

2.6 IDENTIFICATION

- A. Panelboard Label: Manufacturer's name and trademark, voltage, amperage, number of phases, and number of poles shall be located on the interior of the panelboard door.
- B. Breaker Labels: Faceplate shall list current rating, UL and IEC certification standards, and AIC rating.

- C. Circuit Directory: Directory card inside panelboard door, mounted in transparent card holder. Directory card shall be typewritten giving circuit numbers and a complete description of all outlets controlled by each panel circuit breaker including room numbers.

2.7 ACCESSORY COMPONENTS AND FEATURES

- A. Portable Test Set: For testing functions of solid-state trip devices without removing from panelboard. Include relay and meter test plugs suitable for testing panelboard meters and switchboard class relays.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Comply with NECA 1.
- B. Install panelboards and accessories according to NECA 407.
- C. Comply with mounting and anchoring requirements specified in Section 260548.16 "Seismic Controls for Electrical Systems."
- D. Mount top of trim 70" above finished floor unless otherwise indicated.
- E. Mount panelboard cabinet plumb and rigid without distortion of box.
- F. Mount recessed panelboards with fronts uniformly flush with wall finish and mating with back box.
- G. Install overcurrent protective devices and controllers not already factory installed.
 - 1. Set field-adjustable, circuit-breaker trip ranges.
- H. Make grounding connections and bond neutral for services and separately derived systems to ground. Make connections to grounding electrodes, separate grounds for isolated ground bars, and connections to separate ground bars.
- I. Install filler plates in unused spaces.
- J. Where panels are installed flush with the walls, empty conduits shall be extended from the panel to an accessible space above and below. A minimum of one $\frac{3}{4}$ inch conduit shall be installed for every single pole spare circuit breakers or spaces, or fraction thereof, but not less than two empty conduits.
- K. Where underfloor space is accessible, spare conduits shall be extended there in addition to the ceiling space.

- L. Arrange conductors in gutters into groups and bundle and wrap with wire ties.

3.2 IDENTIFICATION

- A. Identify field-installed conductors, interconnecting wiring, and components; install warning signs complying with requirements in Section 260553 "Identification for Electrical Systems."
- B. Create a directory to indicate installed circuit loads; incorporate Owner's final room designations. Obtain approval before installing. Handwritten directories are not acceptable. Install directory inside panelboard door.
- C. Panelboard Nameplates: Label each panelboard with a nameplate complying with requirements for identification specified in Section 260553 "Identification for Electrical Systems."
- D. Device Nameplates: Label each branch circuit device in power panelboards with a nameplate complying with requirements for identification specified in Section 260553 "Identification for Electrical Systems."
- E. Install warning signs complying with requirements in Section 260553 "Identification for Electrical Systems" identifying source of remote circuit.
- F. Ensure all items required by Inyo County Design and Construction Standards are included on labels

3.3 FIELD QUALITY CONTROL

- A. Perform tests and inspections.
- B. Acceptance Testing Preparation:
 - 1. Test insulation resistance for each panelboard bus, component, connecting supply, feeder, and control circuit.
 - 2. Test continuity of each circuit.
- C. Tests and Inspections: (All tests and inspections shall be in accordance with Nevada State Public Works Division Adopted Standards latest edition)
 - 1. Perform each visual and mechanical inspection and electrical test for low-voltage air circuit breakers stated in NETA Acceptance Testing Specification. Certify compliance with test parameters.
 - 2. Correct malfunctioning units on-site, where possible, and retest to demonstrate compliance; otherwise, replace with new units and retest.
- D. Panelboards will be considered defective if they do not pass tests and inspections.

- E. Prepare test and inspection reports, including a certified report that identifies panelboards included and that describes scanning results, with comparisons of the two scans. Include notation of deficiencies detected, remedial action taken, and observations after remedial action.

END OF SECTION 262416

SECTION 262813 - FUSES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Cartridge fuses rated 600 V ac and less for use in the following:
 - a. Control circuits.
 - b. Motor-control centers.
 - c. Panelboards.
 - d. Switchboards.
 - e. Enclosed controllers.
 - f. Enclosed switches.

1.2 ACTION SUBMITTALS

- A. Product Data: For each type of product.

1.3 CLOSEOUT SUBMITTALS

- A. Operation and maintenance data.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
1. Bussmann, an Eaton business.
 2. Littelfuse, Inc.

2.2 CARTRIDGE FUSES

- A. Characteristics: NEMA FU 1, current-limiting, nonrenewable cartridge fuses with voltage ratings consistent with circuit voltages.
1. Type RK-1: 600-V, zero- to 600-A rating, 200 kAIC, time delay.
 2. Type RK-5: 600-V, zero- to 600-A rating, 200 kAIC, time delay.

3. Type CC: 600-V, zero- to 30-A rating, 200 kAIC, fast acting.
 4. Type CD: 600-V, 31- to 60-A rating, 200 kAIC, fast acting.
 5. Type J: 600-V, zero- to 600-A rating, 200 kAIC, time delay.
 6. Type L: 600-V, 601- to 6000-A rating, 200 kAIC, time delay.
- B. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
- C. Comply with NEMA FU 1 for cartridge fuses.
- D. Comply with NFPA 70.
- E. Coordinate fuse ratings with utilization equipment nameplate limitations of maximum fuse size and with system short-circuit current levels.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install fuses in fusible devices. Arrange fuses so rating information is readable without removing fuse.
- B. Install spare-fuse cabinet(s) in location shown on the Drawings or as indicated in the field by Owner.

3.2 IDENTIFICATION

- A. Install labels complying with requirements for identification specified in Section 260553 "Identification for Electrical Systems" and indicating fuse replacement information inside of door of each fused switch and adjacent to each fuse block, socket, and holder.

END OF SECTION 262813

SECTION 262816 - ENCLOSED SWITCHES AND CIRCUIT BREAKERS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Fusible switches.
 - 2. Nonfusible switches.
 - 3. Molded-case circuit breakers (MCCBs).
 - 4. Enclosures.

1.2 ACTION SUBMITTALS

- A. Product Data: For each type of enclosed switch, circuit breaker, accessory, and component indicated. Include nameplate ratings, dimensioned elevations, sections, weights, and manufacturers' technical data on features, performance, electrical characteristics, ratings, accessories, and finishes.
 - 1. Include time-current coordination curves (average melt) for each type and rating of overcurrent protective device; include selectable ranges for each type of overcurrent protective device. Provide in PDF electronic format.
- B. Shop Drawings: For enclosed switches and circuit breakers.
 - 1. Include plans, elevations, sections, details, and attachments to other work.
 - 2. Include wiring diagrams for power, signal, and control wiring.

1.3 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For qualified testing agency.
- B. Seismic Qualification Certificates: For enclosed switches and circuit breakers, accessories, and components, from manufacturer.
- C. Field quality-control reports.

1.4 CLOSEOUT SUBMITTALS

- A. Operation and maintenance data.

1.5 QUALITY ASSURANCE

- A. Testing Agency Qualifications: Accredited by NETA.
 - 1. Testing Agency's Field Supervisor: Currently certified by NETA to supervise on-site testing.

1.6 WARRANTY

- A. Manufacturer's Warranty: Manufacturer and Installer agree to repair or replace components that fail in materials or workmanship within specified warranty period.
 - 1. Warranty Period: 5 year(s) from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Seismic Performance: Enclosed switches and circuit breakers shall withstand the effects of earthquake motions determined according to ASCE/SEI 7.
 - 1. The term "withstand" means "the unit will remain in place without separation of any parts from the device when subjected to the seismic forces specified."

2.2 GENERAL REQUIREMENTS

- A. Source Limitations: Obtain enclosed switches and circuit breakers, overcurrent protective devices, components, and accessories, within same product category, from single manufacturer.
- B. Product Selection for Restricted Space: Drawings indicate maximum dimensions for enclosed switches and circuit breakers, including clearances between enclosures, and adjacent surfaces and other items. Comply with indicated maximum dimensions.
- C. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by an NRTL, and marked for intended location and application.
- D. Comply with NFPA 70.

2.3 FUSIBLE SWITCHES

- A. Manufacturers: Subject to compliance with requirements, provide products by the following:

1. ABB Inc.
 2. Eaton.
 3. Siemens Industry, Inc.
 4. Square D; by Schneider Electric.
- B. Type HD, Heavy Duty:
1. Single throw.
 2. Three pole.
 3. 600-V ac.
 4. 200 A and smaller.
 5. UL 98 and NEMA KS 1, horsepower rated, with clips or bolt pads to accommodate indicated fuses.
 6. Lockable handle with capability to accept three padlocks, and interlocked with cover in closed position.
- C. Accessories:
1. Equipment Ground Kit: Internally mounted and labeled for copper and aluminum ground conductors.
 2. Neutral Kit: Internally mounted; insulated, capable of being grounded and bonded; labeled for copper and aluminum neutral conductors.
 3. Isolated Ground Kit: Internally mounted; insulated, labeled for copper and aluminum neutral conductors.
 4. Class R Fuse Kit: Provides rejection of other fuse types when Class R fuses are specified.
 5. Service-Rated Switches: Labeled for use as service equipment.
- 2.4 NONFUSIBLE SWITCHES
- A. Manufacturers: Subject to compliance with requirements, provide products by the following:
1. Eaton.
 2. Siemens Industry, Inc.

3. Square D; by Schneider Electric.
- B. Type GD, General Duty, Three Pole, Single Throw, 240-V ac, 600 A and Smaller: UL 98 and NEMA KS 1, horsepower rated, lockable handle with capability to accept two padlocks, and interlocked with cover in closed position.
- C. Type HD, Heavy Duty, Three Pole, Single Throw, 600-V ac, 1200 A and Smaller: UL 98 and NEMA KS 1, horsepower rated, lockable handle with capability to accept three padlocks, and interlocked with cover in closed position.
- D. Type HD, Heavy Duty, Six Pole, Single Throw, 600-V ac, 200 A and Smaller: UL 98 and NEMA KS 1, horsepower rated, lockable handle with capability to accept three padlocks, and interlocked with cover in closed position.
- E. Type HD, Heavy Duty, Three Pole, Double Throw, 600-V ac, 1200 A and Smaller: UL 98 and NEMA KS 1, horsepower rated, lockable handle with capability to accept three padlocks, and interlocked with cover in closed position.
- F. Accessories:
 1. Equipment Ground Kit: Internally mounted and labeled for copper and aluminum ground conductors.
 2. Neutral Kit: Internally mounted; insulated, capable of being grounded and bonded; labeled for copper and aluminum neutral conductors.
 3. Isolated Ground Kit: Internally mounted; insulated, labeled for copper and aluminum neutral conductors.
 4. Class R Fuse Kit: Provides rejection of other fuse types when Class R fuses are specified.
 5. Service-Rated Switches: Labeled for use as service equipment.

2.5 MOLDED-CASE CIRCUIT BREAKERS

- A. Manufacturers: Subject to compliance with requirements, provide products by the following:
 1. Eaton.
 2. General Electric Company.
 3. Siemens Industry, Inc.
 4. Square D; by Schneider Electric.

- B. Circuit breakers shall be constructed using glass-reinforced insulating material. Current carrying components shall be completely isolated from the handle and the accessory mounting area.
- C. Circuit breakers shall have a toggle operating mechanism with common tripping of all poles, which provides quick-make, quick-break contact action. The circuit-breaker handle shall be over center, be trip free, and reside in a tripped position between on and off to provide local trip indication. Circuit-breaker escutcheon shall be clearly marked on and off in addition to providing international I/O markings. Equip circuit breaker with a push-to-trip button, located on the face of the circuit breaker to mechanically operate the circuit-breaker tripping mechanism for maintenance and testing purposes.
- D. The maximum ampere rating and UL, IEC, or other certification standards with applicable voltage systems and corresponding interrupting ratings shall be clearly marked on face of circuit breaker. Circuit breakers shall be 100 percent rated.
- E. MCCBs shall be equipped with a device for locking in the isolated position.
- F. Lugs shall be suitable for 140 deg F rated wire on 125-A circuit breakers and below.
- G. Standards: Comply with UL 489 and NEMA AB 3, with interrupting capacity to comply with available fault currents.
- H. Thermal-Magnetic Circuit Breakers: Inverse time-current thermal element for low-level overloads and instantaneous magnetic trip element for short circuits. Adjustable magnetic trip setting for circuit-breaker frame sizes 250 A and larger.
- I. Adjustable, Instantaneous-Trip Circuit Breakers: Magnetic trip element with front-mounted, field-adjustable trip setting.
- J. Electronic Trip Circuit Breakers: Field-replaceable rating plug, rms sensing, with the following field-adjustable settings:
 - 1. Long- and short-time pickup levels.
 - 2. Long- and short-time time adjustments.
 - 3. Ground-fault pickup level, time delay, and I-squared t response.
- K. Current-Limiting Circuit Breakers: Frame sizes 400 A and smaller, and let-through ratings less than NEMA FU 1, RK-5.
- L. Features and Accessories:
 - 1. Standard frame sizes, trip ratings, and number of poles.

2. Application Listing: Appropriate for application; Type SWD for switching fluorescent lighting loads; Type HID for feeding fluorescent and high-intensity discharge lighting circuits.

2.6 ENCLOSURES

- A. Enclosed Switches and Circuit Breakers: UL 489, NEMA KS 1, NEMA 250, and UL 50, to comply with environmental conditions at installed location.
- B. Enclosure Finish: The enclosure shall be finished with gray baked enamel paint, electrodeposited on cleaned, phosphatized steel (NEMA 250 Type 1) gray baked enamel paint, electrodeposited on cleaned, phosphatized galvanized steel (NEMA 250 Types 3R, 12).
- C. Conduit Entry: NEMA 250 Types 4, 4X, and 12 enclosures shall contain no knockouts. NEMA 250 Types 7 and 9 enclosures shall be provided with threaded conduit openings in both endwalls.
- D. Operating Mechanism: The circuit-breaker operating handle shall be externally operable with the operating mechanism being an integral part of the box, not the cover. The cover interlock mechanism shall have an externally operated override. The override shall not permanently disable the interlock mechanism, which shall return to the locked position once the override is released. The tool used to override the cover interlock mechanism shall not be required to enter the enclosure in order to override the interlock.

PART 3 - EXECUTION

3.1 ENCLOSURE ENVIRONMENTAL RATING APPLICATIONS

- A. Enclosed Switches and Circuit Breakers: Provide enclosures at installed locations with the following environmental ratings.
 1. Indoor, Dry and Clean Locations: NEMA 250, Type 1.
 2. Outdoor Locations: NEMA 250, Type 3R.
 3. Indoor Locations Subject to Dust, Falling Dirt, and Dripping Noncorrosive Liquids: NEMA 250, Type 12.

3.2 INSTALLATION

- A. Interruption of Existing Electric Service: Do not interrupt electric service to facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary electric service according to requirements indicated:

1. Notify Architect and Owner no fewer than seven days in advance of proposed interruption of electric service.
 2. Indicate method of providing temporary electric service.
 3. Do not proceed with interruption of electric service without Architect's and Owner's written permission.
 4. Comply with NFPA 70E.
- B. Coordinate layout and installation of switches, circuit breakers, and components with equipment served and adjacent surfaces. Maintain required workspace clearances and required clearances for equipment access doors and panels.
- C. Install individual wall-mounted switches and circuit breakers with tops at uniform height unless otherwise indicated.
- D. Temporary Lifting Provisions: Remove temporary lifting of eyes, channels, and brackets and temporary blocking of moving parts from enclosures and components.
- E. Install fuses in fusible devices.
- F. Comply with NFPA 70 and NECA 1.
- G. Set field-adjustable circuit-breaker trip ranges to values indicated on the Drawings.

3.3 IDENTIFICATION

- A. Comply with requirements in Section 260553 "Identification for Electrical Systems."
1. Identify field-installed conductors, interconnecting wiring, and components; provide warning signs.
 2. Label each enclosure with engraved metal or laminated-plastic nameplate.

3.4 FIELD QUALITY CONTROL

- A. Testing Agency: Owner will engage a qualified testing agency to perform tests and inspections.
- B. Testing Agency: Engage a qualified testing agency to perform tests and inspections.
- C. Perform tests and inspections.
- D. Tests and Inspections for Switches:
1. Visual and Mechanical Inspection:

- a. Inspect physical and mechanical condition.
 - b. Inspect anchorage, alignment, grounding, and clearances.
 - c. Verify that the unit is clean.
 - d. Verify blade alignment, blade penetration, travel stops, and mechanical operation.
 - e. Verify that fuse sizes and types match the Specifications and Drawings.
 - f. Verify that each fuse has adequate mechanical support and contact integrity.
 - g. Inspect bolted electrical connections for high resistance using one of the two following methods:
 - 1) Use a low-resistance ohmmeter.
 - a) Compare bolted connection resistance values to values of similar connections. Investigate values that deviate from those of similar bolted connections by more than 50 percent of the lowest value.
 - 2) Verify tightness of accessible bolted electrical connections by calibrated torque-wrench method in accordance with manufacturer's published data or NETA ATS Table 100.12.
 - a) Bolt-torque levels shall be in accordance with manufacturer's published data. In the absence of manufacturer's published data, use NETA ATS Table 100.12.
 - h. Verify that operation and sequencing of interlocking systems is as described in the Specifications and shown on the Drawings.
 - i. Verify correct phase barrier installation.
 - j. Verify lubrication of moving current-carrying parts and moving and sliding surfaces.
2. Electrical Tests:
- a. Perform resistance measurements through bolted connections with a low-resistance ohmmeter. Compare bolted connection resistance values to values of similar connections. Investigate values that deviate from adjacent poles or similar switches by more than 50 percent of the lowest value.
 - b. Measure contact resistance across each switchblade fuseholder. Drop values shall not exceed the high level of the manufacturer's published data. If manufacturer's published data are not available, investigate values that deviate from adjacent poles or similar switches by more than 50 percent of the lowest value.
 - c. Perform insulation-resistance tests for one minute on each pole, phase-to-phase and phase-to-ground with switch closed, and across each open pole. Apply voltage in accordance with manufacturer's published data. In the absence of manufacturer's published data, use Table 100.1 from the

NETA ATS. Investigate values of insulation resistance less than those published in Table 100.1 or as recommended in manufacturer's published data.

- d. Measure fuse resistance. Investigate fuse-resistance values that deviate from each other by more than 15 percent.
- e. Perform ground fault test according to NETA ATS 7.14 "Ground Fault Protection Systems, Low-Voltage."

E. Tests and Inspections for Molded Case Circuit Breakers:

1. Visual and Mechanical Inspection:

- a. Verify that equipment nameplate data are as described in the Specifications and shown on the Drawings.
- b. Inspect physical and mechanical condition.
- c. Inspect anchorage, alignment, grounding, and clearances.
- d. Verify that the unit is clean.
- e. Operate the circuit breaker to ensure smooth operation.
- f. Inspect bolted electrical connections for high resistance using one of the two following methods:
 - 1) Use a low-resistance ohmmeter.
 - a) Compare bolted connection resistance values to values of similar connections. Investigate values that deviate from those of similar bolted connections by more than 50 percent of the lowest value.
 - 2) Verify tightness of accessible bolted electrical connections by calibrated torque-wrench method in accordance with manufacturer's published data or NETA ATS Table 100.12.
 - a) Bolt-torque levels shall be in accordance with manufacturer's published data. In the absence of manufacturer's published data, use NETA ATS Table 100.12.
- g. Inspect operating mechanism, contacts, and chutes in unsealed units.
- h. Perform adjustments for final protective device settings in accordance with the coordination study.

2. Electrical Tests:

- a. Perform resistance measurements through bolted connections with a low-resistance ohmmeter. Compare bolted connection resistance values to values of similar connections. Investigate values that deviate from adjacent poles or similar switches by more than 50 percent of the lowest value.
- b. Perform insulation-resistance tests for one minute on each pole, phase-to-phase and phase-to-ground with circuit breaker closed, and across each

- open pole. Apply voltage in accordance with manufacturer's published data. In the absence of manufacturer's published data, use Table 100.1 from the NETA ATS. Investigate values of insulation resistance less than those published in Table 100.1 or as recommended in manufacturer's published data.
- c. Perform a contact/pole resistance test. Drop values shall not exceed the high level of the manufacturer's published data. If manufacturer's published data are not available, investigate values that deviate from adjacent poles or similar switches by more than 50 percent of the lowest value.
 - d. Perform insulation resistance tests on all control wiring with respect to ground. Applied potential shall be 500-V dc for 300-V rated cable and 1000-V dc for 600-V rated cable. Test duration shall be one minute. For units with solid state components, follow manufacturer's recommendation. Insulation resistance values shall be no less than two megohms.
 - e. Determine the following by primary current injection:
 - 1) Long-time pickup and delay. Pickup values shall be as specified. Trip characteristics shall not exceed manufacturer's published time-current characteristic tolerance band, including adjustment factors.
 - 2) Short-time pickup and delay. Short-time pickup values shall be as specified. Trip characteristics shall not exceed manufacturer's published time-current characteristic tolerance band, including adjustment factors.
 - 3) Ground-fault pickup and time delay. Ground-fault pickup values shall be as specified. Trip characteristics shall not exceed manufacturer's published time-current characteristic tolerance band, including adjustment factors.
 - 4) Instantaneous pickup. Instantaneous pickup values shall be as specified and within manufacturer's published tolerances.
 - f. Test functionality of the trip unit by means of primary current injection. Pickup values and trip characteristics shall be as specified and within manufacturer's published tolerances.
 - g. Perform minimum pickup voltage tests on shunt trip and close coils in accordance with manufacturer's published data. Minimum pickup voltage of the shunt trip and close coils shall be as indicated by manufacturer.
 - h. Verify correct operation of auxiliary features such as trip and pickup indicators; zone interlocking; electrical close and trip operation; trip-free, anti-pump function; and trip unit battery condition. Reset all trip logs and indicators. Investigate units that do not function as designed.
 - i. Verify operation of charging mechanism. Investigate units that do not function as designed.
3. Correct malfunctioning units on-site, where possible, and retest to demonstrate compliance; otherwise, replace with new units and retest.
 4. Test and adjust controls, remote monitoring, and safeties. Replace damaged and malfunctioning controls and equipment.

- F. Enclosed switches and circuit breakers will be considered defective if they do not pass tests and inspections.
- G. Prepare test and inspection reports.
 - 1. Test procedures used.
 - 2. Include identification of each enclosed switch and circuit breaker tested and describe test results.
 - 3. List deficiencies detected, remedial action taken, and observations after remedial action.

END OF SECTION 262816



10597 Double R Blvd, Suite 1
Reno, Nevada 89521
(775) 853-1131 – Fax (775) 852-2352

Inyo **Annex Server IT**
HVAC Retrofit
168 N Edwards St.
Independence, California
Project No. -

Cutsheet Manual
October 11, 2019

Job Name:

System Reference:

HP 1-2

Date:

OUTDOOR VRF SYSTEM**UNIT OPTION**

- Standard Model (PUMY-P60NKMU2)
- Seacoast <BS> Model (PUMY-P60NKMU2-BS)

FEATURES

- Connects up to 12 indoor units
- Single-phase outdoor unit with Variable Refrigerant Flow Zoning (VRF) technology
- Service accessible through both a front and side panel
- Up to 492 ft. of total pipe length
- ENERGY STAR® certified units¹
- Improved efficiency

ACCESSORIES

- Joint Kit (for details see Pipe Accessories Submittal)
- Header Kit (for details see Pipe Accessories Submittal)
- Air Outlet Guide (One Piece)² (PAC-SH96SG-E)
- Front Wind Baffle (One Piece)² (WB-PA3)
- Drain Pan (PAC-SH97DP-E)
- Drain Socket (PAC-SG61DS-E)
- Base Pan Heater (PAC-SJ20BH-E)
- Air Deflector Vertical (ADV-1)

¹ENERGY STAR products are third-party certified by an EPA-recognized Certification Body

²PUMY requires two outlet guides and wind baffles for installation.

SPECIFICATIONS: PUMY-P60NKMU2(-BS)

Nominal Cooling Capacity (208/230V) ¹	Btu/h	60,000
Nominal Heating Capacity (208/230V) ²	Btu/h	66,000
Operating Temperature Range	Cooling (Outdoor)	5° to 115° F (-15 to +46° C) DB ^{3, 4}
	Heating (Outdoor)	-13° to +59° F (-25° to +15.0° C) WB
External Dimensions (H x W x D)	In. / mm	52-11/16 x 41-11/32 x 13+1 / 1,338 x 1050 x 330+25
Net Weight	Lbs. / kg	295 / 134
External Finish		Galvanized sheets (+power coating for -BS type) <MUNSELL 3Y 7.8/1.1>
Electrical Power Requirements	Voltage, Phase, Hertz	208/230V, 1-Phase, 60Hz
Minimum Circuit Ampacity (MCA)	A	36
Maximum Overcurrent Protection (MOP)	A	45
Recommended Fuse Size	A	40
Short-circuit Current Rating (SCCR)	kA	5
Piping Diameter (Flare) In. / mm	Liquid (High Pressure)	3/8 (9.52) Flare
	Gas (Low Pressure)	3/4 (19.05) Flare
Indoor Unit	Total Capacity	50-130% of outdoor unit capacity
	Model / Quantity	P05-P72 / 1-12
Fan Type x Quantity		Propeller fan x 2
Fan Motor Output	kW	0.2 + 0.2 (two fan motors)
Airflow Rate	CFM	4,879
Compressor Operating Range	Cooling	28% to 100%
	Heating	18% to 100%
Compressor Type x Quantity		INVERTER-driven Scroll Hermetic x 1
Compressor Motor Output	kW	3.9
Sound Pressure Level	Cooling	dB(A) 58
	Heating	dB(A) 59
Refrigerant		R410A; (11 lbs + 4 oz) (5.1kg)
Lubricant		FVC68D (2.3 liters)
Protection Devices	High Pressure	High pressure sensor, High pressure switch 601 psi (4.15 MPa)
	Inverter Circuit	Over-heat protection, Over-current protection
	Compressor	Discharge thermo protection, Over-current protection
AHRI Ratings (Ducted / Non-Ducted)	EER	11.1 / 13.3
	SEER	17.8 / 20.0
	COP	3.7 / 4.1
	HSPF	10.7 / 12.0

Notes

¹Cooling | Indoor: 81° F (27° C) DB / 66° F (19° C) WB; Outdoor: 95° F (35° C) DB

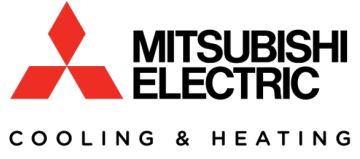
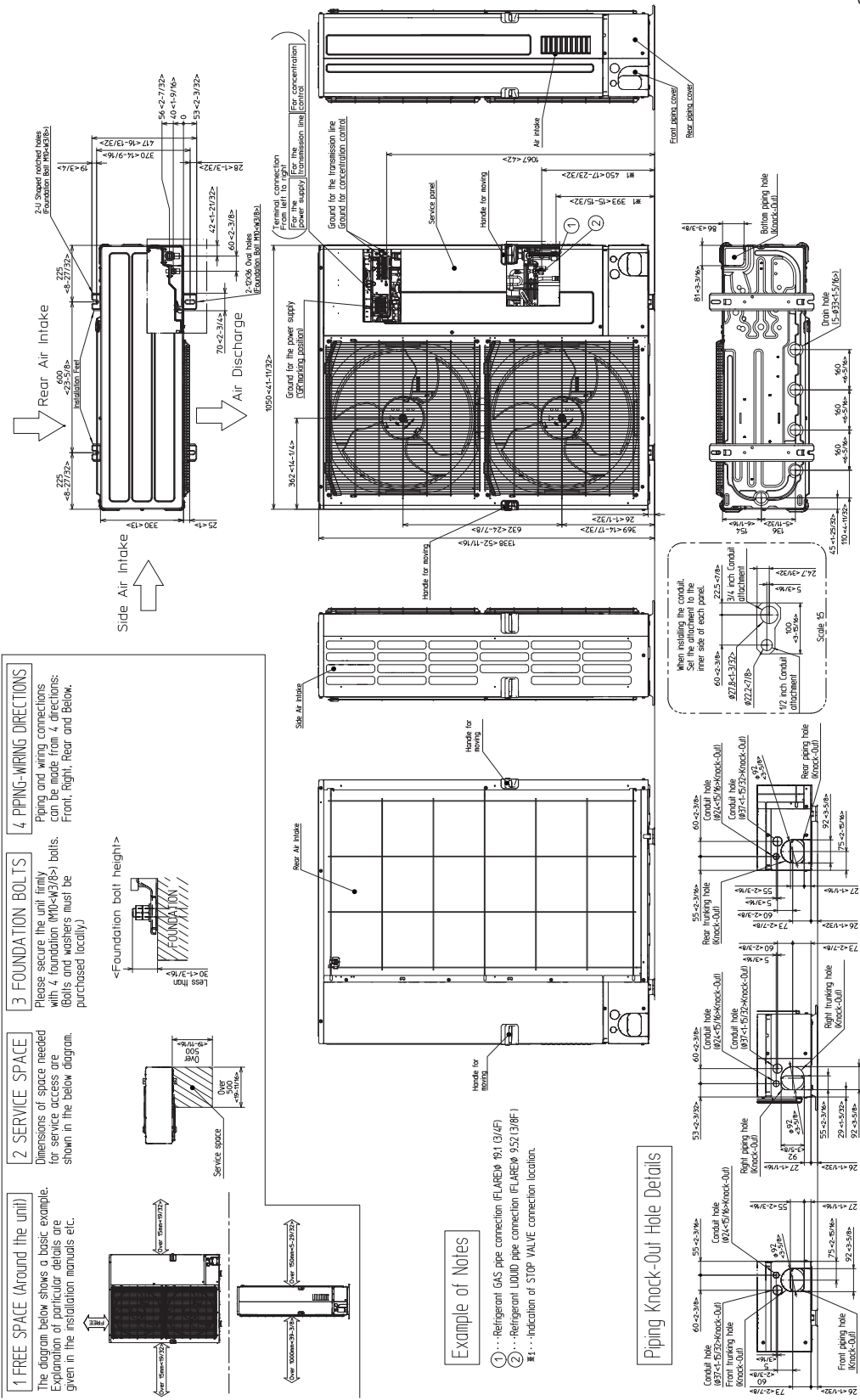
²Heating | Indoor: 68° F (20° C) DB, Outdoor 45° F (7° C) DB / 43° F (6° C) WB

³When using Wind Baffles [WB-PA3], the minimum operating range is 5° F. Without Wind Baffles, the minimum operating range is 23° F.

⁴When connecting PKFY-P06NBMU/P08NHMU, PFFY-P06/08/12NEMU or PFFY-P06/08/12NRMU indoor units, the minimum operating range is 50° F.

DIMENSIONS: PUMY-P60NKMU2(-BS)

Unit: mm(in)



1340 Satellite Boulevard, Suwanee, GA 30024
Toll Free: 800-433-4822 www.mehvac.com



FORM#PUMY-P60NKMU2(-BS) - 201902

Specifications are subject to change without notice.

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Job Name: **AHU 1-3**

Schedule Reference.

Date:



GENERAL FEATURES

- Dual set point functionality
- Adjustable airflow angle
- Four-speed fan setting
- Ventilation air intake supported
- Filter: long life included

OPTIONS

- Medium-efficiency Filter (MERV 8).....PAC-SH90KF-E
- i-see Sensor.....PAC-SH91MK-E
- Wireless Remote Controller Receiver Kit.....PAR-SL93B-E
- Wireless Remote Controller Receiver Kit with i-See Sensor.....PAR-SA92MW-E
- Drain Pump Kit.....PAC-SH84DM-E
- CN24 Relay Kit.....CN24RELAY-KIT-CM3

SPECIFICATIONS

Capacity*
 Cooling.....30,000 Btu/h
 Heating.....34,000 Btu/h

Power
 Power Source.....208 / 230V, 1-phase, 60Hz

Power Consumption
 Cooling.....0.09 kW
 Heating.....0.09 kW

Current
 Cooling.....0.83 A
 Heating.....0.83 A
 Minimum Circuit Ampacity (MCA).....1.22 A
 Maximum Overcurrent Protection (MOCP) Fuse.....15 A

External Finish.....Polyester painted steel sheet
 Munsell No. 6.4Y 8.9 / 0.4

External Dimensions
 Inches.....9-1/16 H x 63 W x 26-3/4 D
 mm.....230 H x 1,600 W x 680 D

Net Weight
 Unit.....79 lbs. / 36 kg

Coil Type.....Cross Fin
 (Aluminum Plate Fin and Copper Tube)

Fan
 Type x Quantity.....Sirocco Fan x 4
 Airflow Rate (Low-Mid1-Mid2-High)....703 - 777 - 883 - 989 CFM
 Motor Type.....Direct-driven DC Motor

Air Filter.....Polypropylene Honeycomb

Refrigerant Piping Dimensions
 Liquid (High Pressure).....3/8" / 9.52 mm (Flare)
 Gas (Low Pressure).....5/8" / 15.88 mm (Flare)

Drainpipe Dimension.....O.D. 1" / 26 mm

Sound Pressure Levels
 Low-Mid1-Mid2-High.....34 - 37 - 40 - 43 dB(A)

* Cooling / Heating capacity indicated at the maximum value at operation under the following conditions:
 Cooling | Indoor: 80° F (27° C) DB / 67° F (19° C) WB,
 Cooling | Outdoor: 95° F (35° C) DB
 Heating | Indoor: 70° F (21° C) DB,
 Heating | Outdoor: 47° F (8° C) DB / 43° F (6° C) WB

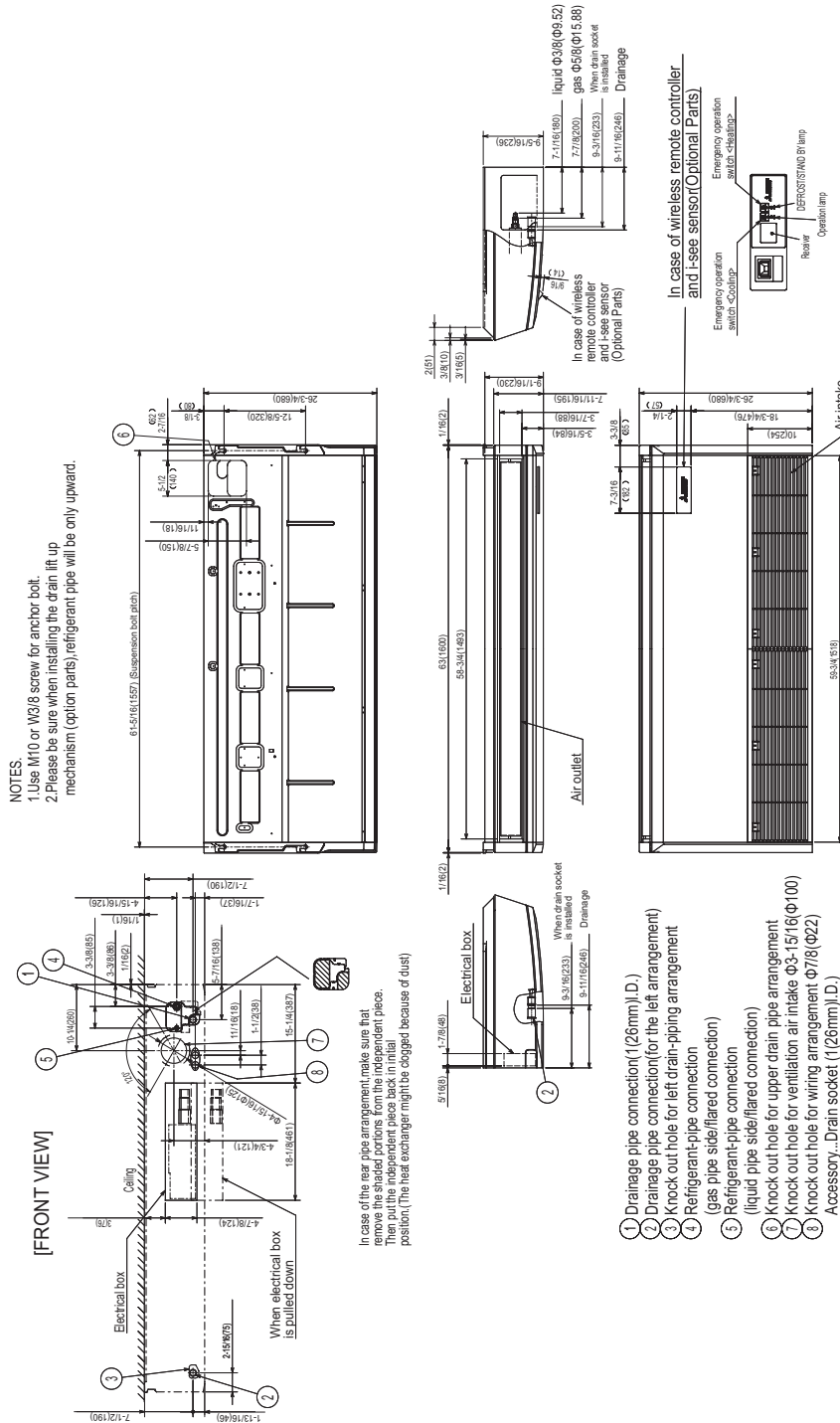
Notes:



Model: PCFY-P30NKMU-ER1.TH – DIMENSIONS

PCFY-P30, 36NKMU-ER1

Unit : in(mm)



FORM# PCFY-P30NKMU-ER1.TH - 201306

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1340 Satellite Boulevard
Suwanee, GA 30024
Tele: 678-376-2900 • Fax: 800-889-9904
Toll Free: 800-433-4822
www.mehvac.com

Job Name:

Schedule Reference:

AHU-4

Date:



GENERAL FEATURES

- Dual set point functionality
- Compact, lightweight, shiny-white, flat-panel design
- Quiet operation
- Multiple fan-speed settings
- Intake grille filter is easily removed for cleaning
- Wireless receiver on board

OPTIONS

- Condensate Pump.....SI3100-230
- CN24 Relay Kit.....CN24RELAY-KIT-CM3

SPECIFICATIONS

Capacity*

Cooling.....12,000 Btu/h
 Heating.....13,500 Btu/h

Power

Power Source.....208 / 230V, 1-phase, 60Hz

Power Consumption

Cooling.....0.03 kW
 Heating.....0.03 kW

Current

Cooling.....0.30 A
 Heating.....0.30 A
 Minimum Circuit Ampacity (MCA).....0.38 A
 Maximum Overcurrent Protection (MOCP) Fuse.....15 A

External Finish.....Munsell No. 1.0Y9.2/0.2

External Dimensions

Inches.....11-5/8 H x 35-3/8 W x 9-13/16 D
 mm.....295 H x 898 W x 249 D

Net Weight

Unit.....29 lbs. / 13 kg

Coil Type.....Cross Fin
 (Aluminum Plate Fin and Copper Tube)

Fan

Type x Quantity.....Line Flow Fan x 1
 Airflow Rate (Low-Mid-High).....320 - 370 - 413 CFM
 Motor Type.....Direct-drive DC Motor

Air Filter.....Polypropylene Honeycomb

Refrigerant Piping Dimensions

Liquid (High Pressure).....1/4" / 6.35 mm (Flare)
 Gas (Low Pressure).....1/2" / 12.7 mm (Flare)

Drainpipe Dimension.....I.D. 5/8" / 16 mm

Sound Pressure Levels

Low-Mid-High.....34 - 38 - 42 dB(A)

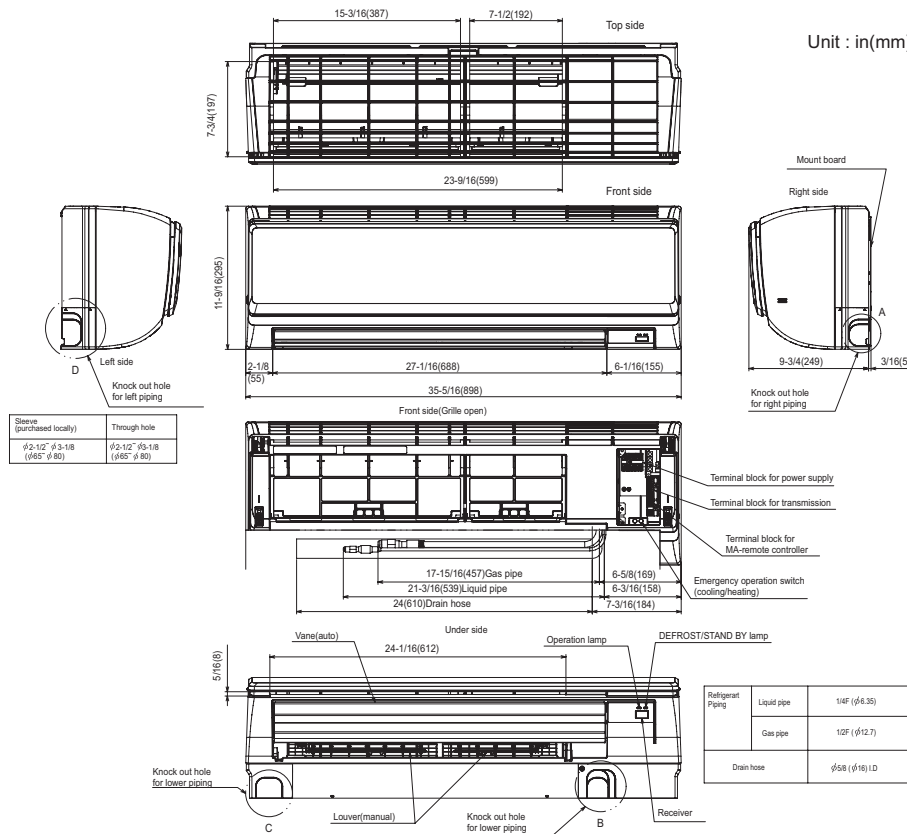
* Cooling / Heating capacity indicated at the maximum value at operation under the following conditions:
 Cooling | Indoor: 80° F (27° C) DB / 67° F (19° C) WB, Outdoor 95° F (35° C) DB
 Heating | Indoor: 70° F (21° C) DB, Outdoor 47° F (8° C) DB / 43° F (6° C) WB

Notes:

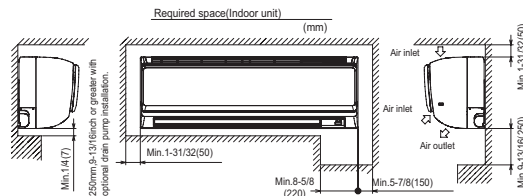
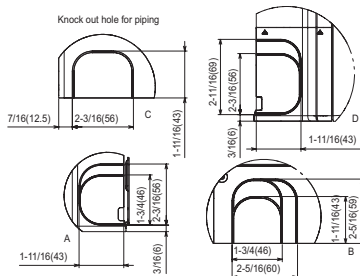
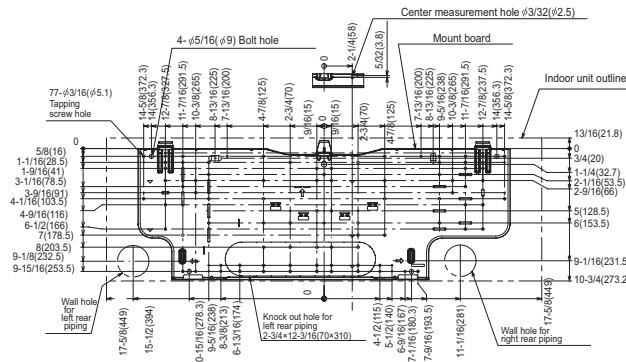


Model: PKFY-P12NHMU-E2 – DIMENSIONS

Unit : in(mm)



Refrigerant Piping	Liquid pipe	1/4" (ø12.7)
	Gas pipe	1/2" (ø12.7)
	Drain hose	ø5/8" (ø16) I.D.



Intertek

FORM# PKFY-P12NHMU-E2 - 201301

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Add alternate #2: CU-1

SUBMITTAL COVER SHEET

PROJECT NAME _____

LOCATION _____

ARCHITECT _____

ENGINEER _____

CONTRACTOR _____

SUBMITTED BY _____ DATE _____

UNIT SUMMARY

Quantity						
Unit Designation						
Model No.						
Total Cooling						
Sensible Cooling						
Air Ent. Evaporator						
Air Lvg. Evaporator						
Heating Input						
Heating Output						
CFM/ESP						
EER/SEER						
Electrical						
Minimum Ampacity						
Min.-Max. Breaker						
Net Unit Weight						
Accessory						
Catalog Form Number						

ACCESSORIES:

NOTES:



SUBMITTAL SHEET FOR RA16 SERIES 1 1/2 TO 5 NOMINAL TON [5.28 TO 17.6 kW], EFFICIENCIES UP TO 16 SEER/13 EER AIR CONDITIONER UNITS

JOB NAME _____ LOCATION _____
 CONTRACTOR _____ ORDER NO. _____
 ENGINEER _____ UNIT MODEL NO. _____
 SUBMITTED FOR APPROVAL RECORD COIL MODEL NO. _____
 DATE _____ AIR HANDLER MODEL NO. _____

UNIT DATA

COOLING PERFORMANCE

EFFICIENCY SEER
 TOTAL CAPACITY* MBH [kW]
 SENSIBLE CAPACITY* MBH [kW]
 OUTDOOR DESIGN TEMP °F [°C] DB
 TEMP. OF AIR ENTERING
 EVAPORATOR COIL °F [°C] DB
 °F [°C] WB
 POWER INPUT REQUIREMENT kW
 (*uses blower motor heat)

HEATING PERFORMANCE

EFFICIENCY HSPF
 TOTAL CAPACITY* MBH [kW]
 OUTDOOR DESIGN TEMP °F [°C] DB
 TEMP. OF AIR ENTERING
 EVAPORATOR COIL °F [°C] DB

SUPPLY AIR BLOWER PERFORMANCE

TOTAL AIR SUPPLY CFM [L/s]
 TOTAL RESISTANCE EXTERNAL
 TO UNIT IWG
 BLOWER SPEED RPM
 POWER OUTPUT REQUIREMENT BHP
 MOTOR RATING HP [W]
 POWER INPUT REQUIREMENT kW

ELECTRICAL DATA

POWER SUPPLY Hz
 TOTAL UNIT AMPACITY AMPS
 MINIMUM WIRE SIZE AWG
 MAXIMUM OVERCURRENT DEVICE
 FUSES/HACR BREAKER AMPS

CLEARANCES

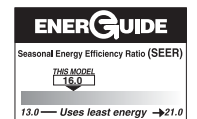
ACCESS SIDE 24" [609.6 mm]
 AIR INLETS 12" [304.8 mm]
 ABOVE UNIT 60" [1524 mm]

FEATURES FOR RA16 SERIES AIR CONDITIONER UNITS

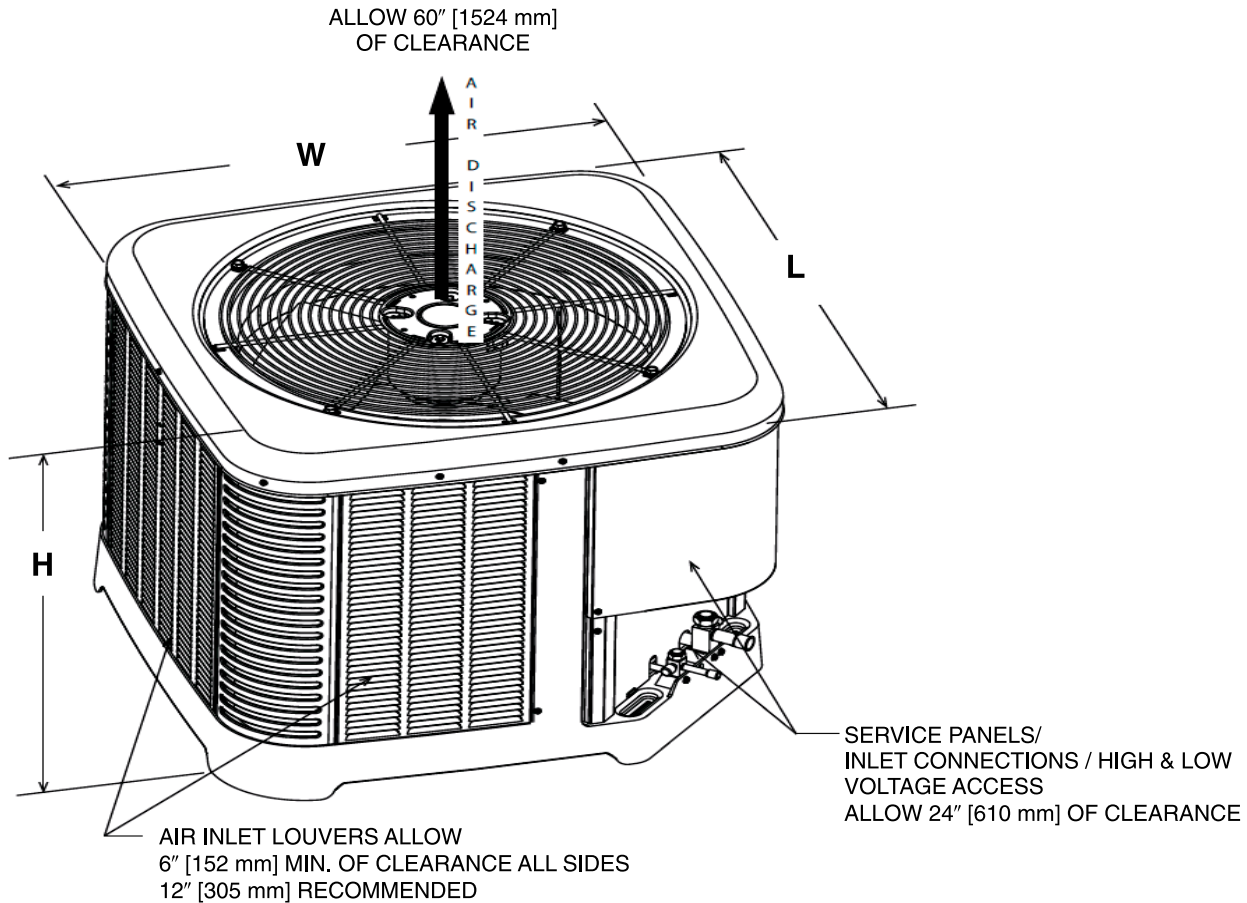
- New composite base pan – dampens sound, captures louver panels, eliminates corrosion and reduces number of fasteners needed
- Powder coat paint system – for a long lasting professional finish
- Scroll compressor – uses 70% fewer moving parts for higher efficiency and increased reliability
- Modern cabinet aesthetics – increased curb appeal with visually appealing design
- Curved louver panels – provide ultimate coil protection, enhance cabinet strength, and increased cabinet rigidity
- Optimized fan orifice – optimizes airflow and reduces unit sound
- Rust resistant screws – confirmed through 1500-hour salt spray testing
- PlusOne™ **Expanded Valve Space** – 3"-4"-5" service valve space – provides a minimum working area of 27-square inches for easier access
- PlusOne™ **Triple Service Access** – 15" wide, industry leading corner service access – makes repairs easier and faster. The two fastener removable corner allows optimal access to internal unit components. Individual louver panels come out once fastener is removed, for faster coil cleaning and easier cabinet reassembly
- Diagnostic service window with two-fastener opening – provides access to the high and low pressure.
- External gauge port access – allows easy connection of "low-loss" gauge ports
- Single-row condenser coil – makes unit lighter and allows thorough coil cleaning to maintain "out of the box" performance
- 35% fewer cabinet fasteners and fastener-free base – allow for faster access to internal components and hassle-free panel removal
- Service trays – hold fasteners or caps during service calls
- QR code – provides technical information on demand for faster service calls
- Fan motor harness with extra long wires allows unit top to be removed without disconnecting fan wire.

ACCESSORIES/OPTIONS

- Compressor Crankcase Heater
 Low Ambient Control (Model No. RXAD-A08)
 Compressor Sound Cover
 Compressor Hard Start Kit
 Classic Top Cap w/label (91-101123-21)
 Low Pressure Control (RXAC-A07)
 High Pressure Control (RXAB-A07)



**RA16 18, 24, 30,
36, 42, 48, 60**



ST-A1226-02-00

Unit Dimensions

MODEL NO.	OPERATING						SHIPPING					
	H (Height)		L (Length)		W (Width)		H (Height)		L (Length)		W (Width)	
	INCHES	mm	INCHES	mm	INCHES	mm	INCHES	mm	INCHES	mm	INCHES	mm
RA1618	27	685	29.75	755	29.75	755	27.375	695	32.25	819	32.25	819
RA1624	27	685	33.75	857	33.75	857	27.375	695	36.25	921	36.25	921
RA1630	27	685	35.75	908	35.75	908	27.375	695	38.25	972	38.25	972
RA1636	31	787	35.75	908	35.75	908	31.375	797	38.25	972	38.25	972
RA1642	39	990	35.75	908	35.75	908	39.375	1000	38.25	972	38.25	972
RA1648	45	1143	35.75	908	35.75	908	45.375	1153	38.25	972	38.25	972
RA1660	51	1295	35.75	908	35.75	908	51.375	1305	38.25	972	38.25	972

[] Designates Metric Conversions

Before proceeding with installation, refer to installation instructions packaged with each model, as well as complying with all Federal, State, Provincial, and Local codes, regulations, and practices.

Rheem Sales Company, Inc.
P.O. Box 17010, Fort Smith, AR 72917

"In keeping with its policy of continuous progress and product improvement, Rheem reserves the right to make changes without notice."

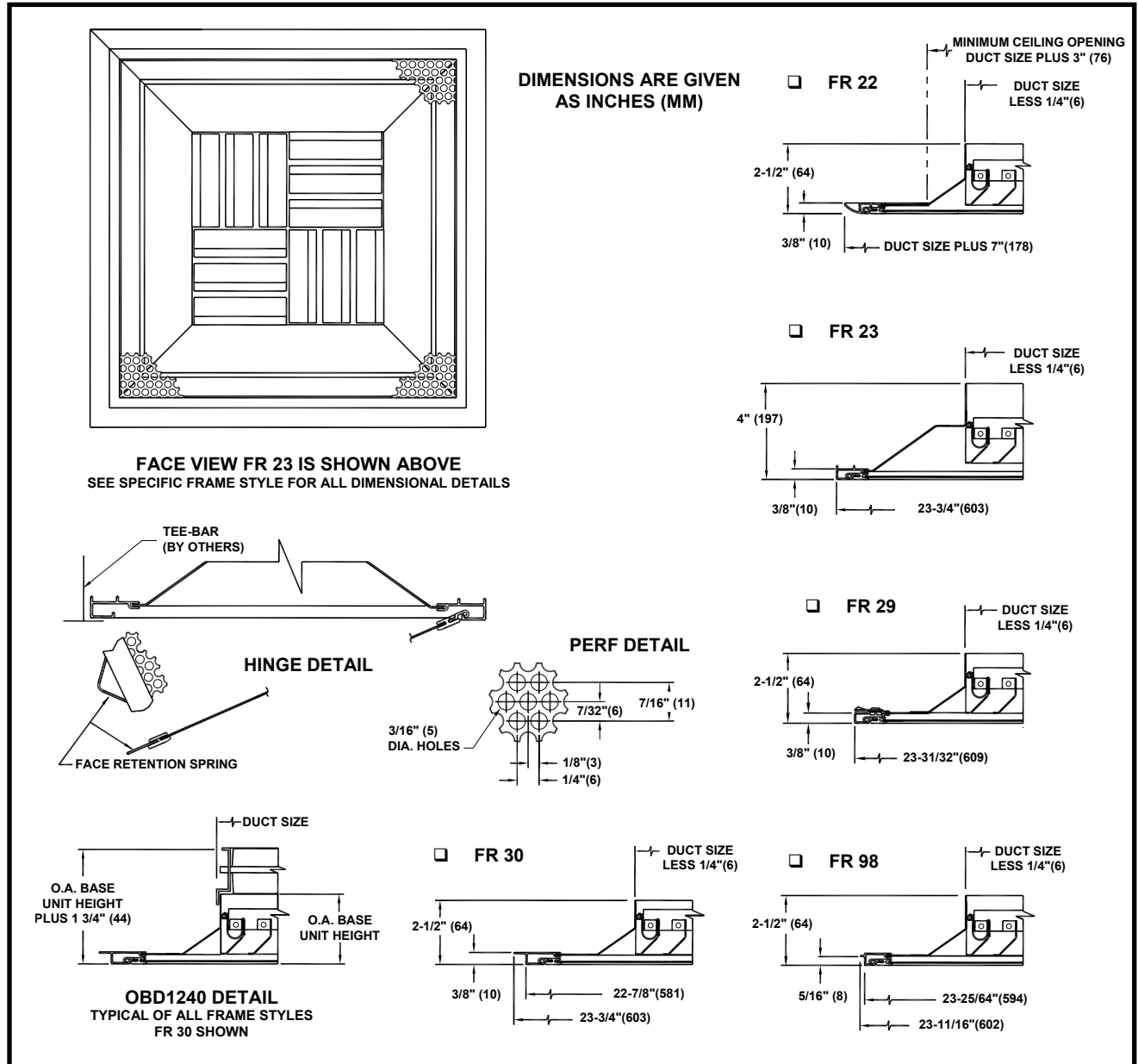
JOB NAME _____
 ARCHITECT _____
 ENGINEER _____
 CONTRACTOR _____
 LOCATION _____

D-1

SUBMITTAL SHEET
 Form Number DS1202.3 Effective Date 7/06
 Replaces FORM DS1202.2



SERIES 1240P
MODULAR CORE WITH INTERLOCKING EXTRUDED PERF FRAME



NOTES :

- CONSTRUCTION IS STEEL WITH EXTRUDED ALUMINUM FRAMES.
- FOUR SNAP IN CORES FIELD ADJUST TO PROVIDE 1, 2, 3, OR 4 WAY PATTERNS.
- STANDARD FINISH IS 44 WHITE

ACCESSORIES :

- OBD1240 – STEEL OPPOSED BLADE DAMPER
- 5OBD1240 – ALUMINUM OPPOSED BLADE DAMPER

INLET	FRAME STYLES				
	FR 22	FR 23	FR 29	FR 30	FR 98
06x06 (152x152)	X	X	X	X	X
08x08 (203x203)	X	X	X	X	X
10x10 (254x254)	X	X	X	X	X
12x12 (305x305)	X	X	X	X	X
14x14 (356x356)	X	X	X	X	X
16x16 (406x406)	X	X	X	X	X
18x18 (457x457)	X	X	X	X	X
20x20 (508x508)	X	NA	NA	NA	NA

JOB NAME _____
 ARCHITECT _____
 ENGINEER _____
 CONTRACTOR _____
 LOCATION _____

SUBMITTAL SHEET
 Form Number GS0321.3 Effective Date 5/13
 Replaces FORM GS0321.2



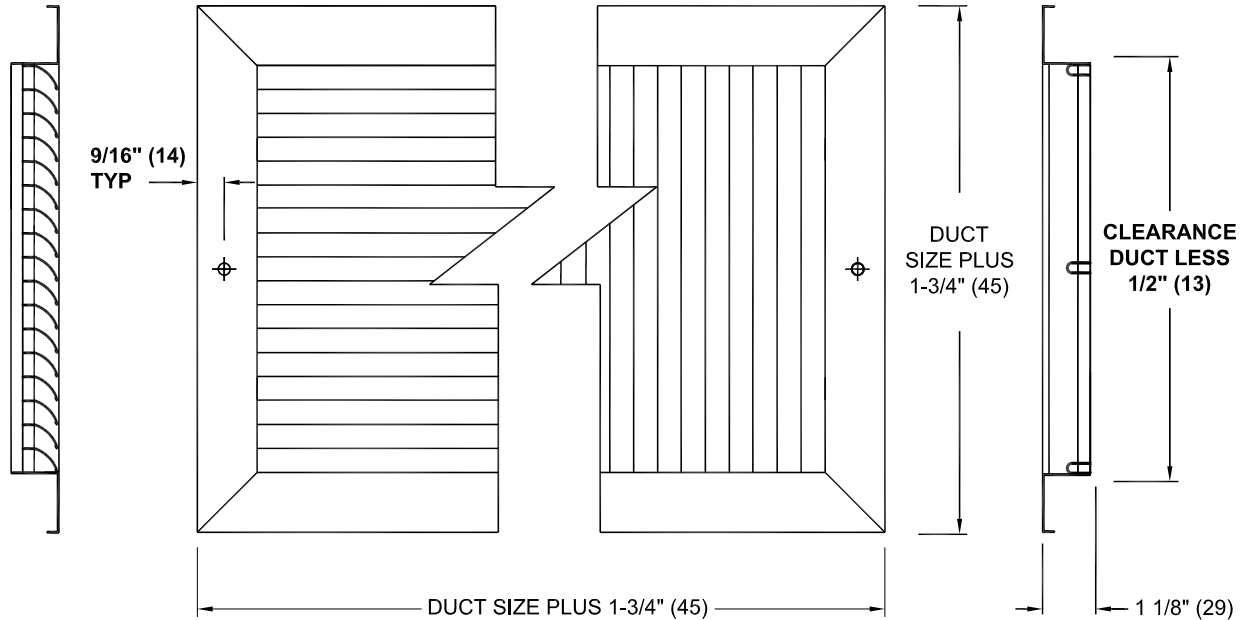
AFCS85H or V SERIES
Fixed Curved Blades

G-1

Architectural Return Grille
Page 1 of 2

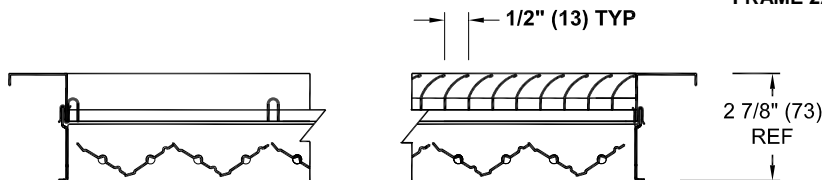
30° HORIZONTAL BLADES 1/2" (13) O.C.

30° VERTICAL BLADES 1/2" (13) O.C.



AFCS85H
 FRAME 22 SHOWN

AFCS85V
 FRAME 22 SHOWN



AFCS85H-OBD

AFCS85V-OBD

NOTES :

AFCS85H / V UNITS ARE STEEL CONSTRUCTION WITH ROLL FORMED BLADES.

SUPPORT MULLIONS 12" MAX SPACING.

DIMENSIONS ARE SHOWN AS INCHES (MM)

OPTIONAL ACCESSORIES :

- **FRAME STYLES**
 - FRAME 22 SURFACE MOUNT
 - FRAME 23 LAY-IN T-BAR
 - FRAME 98 NARROW TEE
 - FTB CHANEL FRAME
- OBD (22 GA) STEEL OPPOSED BLADE DAMPER
- 5OBD ALUMINUM OPPOSED BLADE DAMPER
- 8PF PLASTER FRAME
- 1" FILTER FRAME (SEE pg2 FOR FASTENING OPTIONS)
- 2" FILTER FRAME (SEE pg2 FOR FASTENING OPTIONS)
- IS INSECT SCREEN 1/16" MESH
- DS DEBRIS SCTEEN 1/4" SCREEN

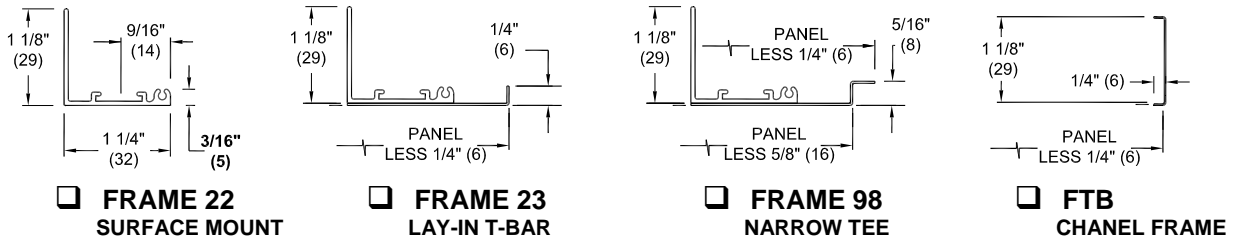
JOB NAME _____
 ARCHITECT _____
 ENGINEER _____
 CONTRACTOR _____
 LOCATION _____

SUBMITTAL SHEET
 Form Number GS0321.3 Effective Date 5/13
 Replaces FORM GS0321.2

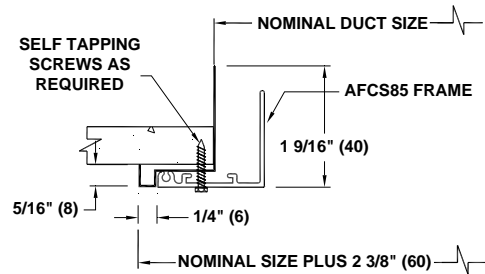
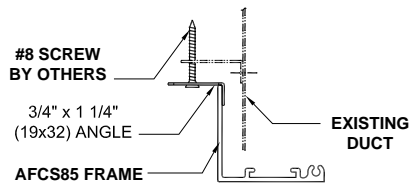


AFCS85H or V SERIES
Options and Accessories

BASIC FRAME STYLES



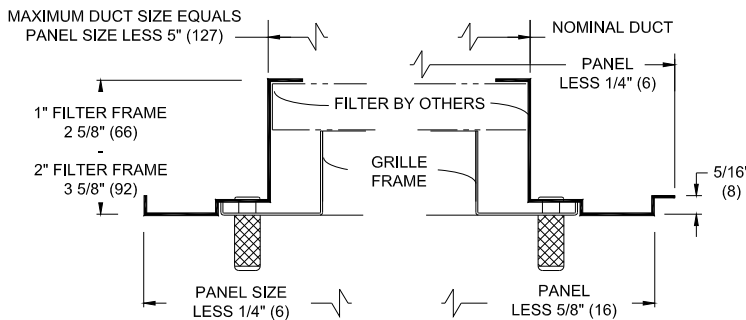
BASIC FASTENING OPTIONS



NO SCREW HOLES

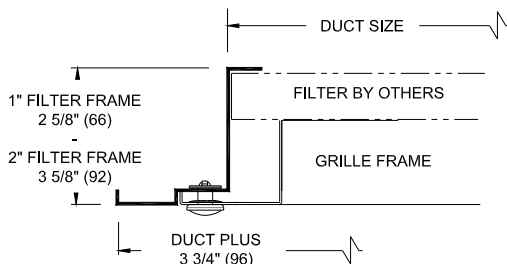
STANDARD SCREW HOLES

FILTER FRAME OPTION



Frame 23 Shown

Frame 98 Shown



Frame 22 Shown

DIMENSIONS ARE SHOWN AS INCHES (MM)

* MAXIMUM DUCT SIZE FOR F23 AND F98 EQUALS PANEL SIZE MINUS 5" (127)

PLANS
FOR
ANNEX SERVER HVAC RETROFIT PROJECT
Independence, CA

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SERVER ROOM HVAC RETROFIT INYO ANNEX BUILDING

168 N EDWARDS ST,
INDEPENDENCE, CA

MECHANICAL ENGINEER
BRANDON ETCEMENDY PE
ETCEMENDY ENGINEERING INC.
10597 DOUBLE R BOULEVARD
RENO, NV 89521
775-853-1131 EXT. 221
betchemendy@eei-nv.com

ELECTRICAL ENGINEER
JAMES SOLARO PE
JP ENGINEERING
10597 DOUBLE R BLVD, STE. 1
RENO, NV 89521
775-852-2337
JAMES@JPENGNV.COM



APPLICABLE CODES: CALIFORNIA MECHANICAL CODE 2016
CALIFORNIA PLUMBING CODE 2016
CALIFORNIA BUILDING CODE 2016
CALIFORNIA ELECTRICAL CODE 2016

SCOPE OF WORK

WORK UNDER THIS CONTRACT; includes but is not limited to, all material, labor, tools, expendable equipment, utility and transportation service, and all incidental items necessary to perform and complete the required Scope of Work in a workmanlike manner, complete and on schedule.

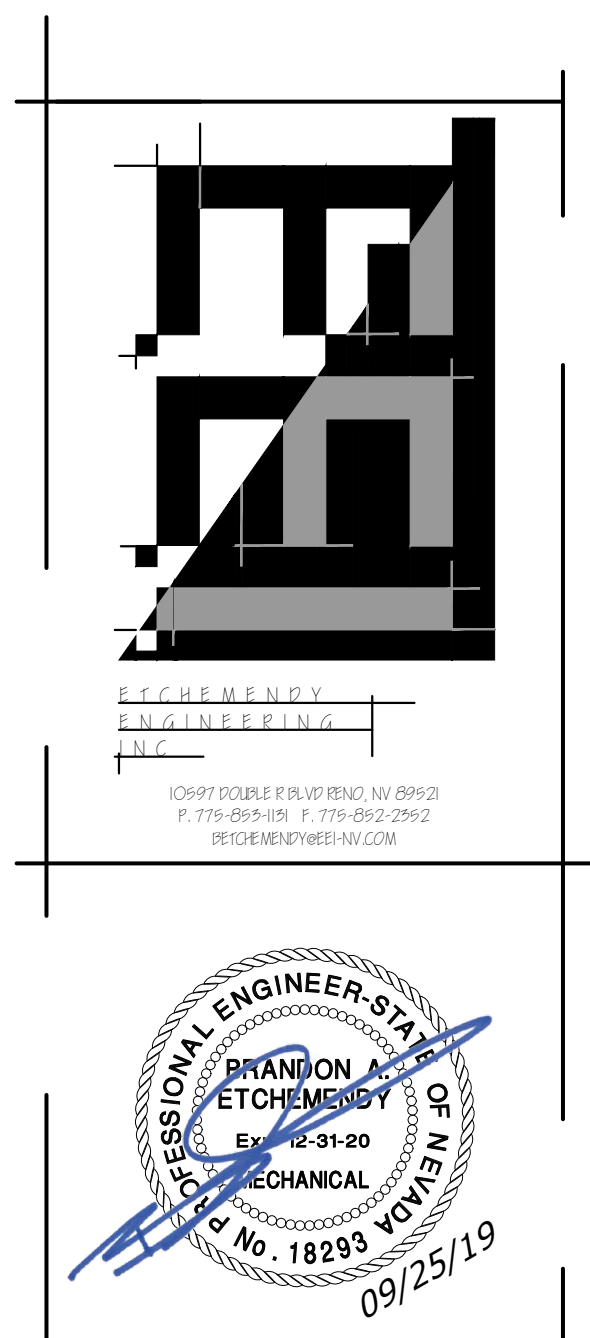
A. The Work shall be performed in areas as shown on the attached drawings at Inyo Annex Server IT located at 168 N Edwards St, Independence, CA.

B. The Scope of Work includes the following:

1. Demolition of diffusers and grilles in the Server Room.
2. Demolition of existing condenser and refrigerant piping located in outdoor mechanical patio.
3. Salvation of existing AC units located in Server.
4. Add alternate #1:
 - a. Demolition of an existing air handler (AC-2)
5. Add alternate #2:
 - a. Replacement of existing condenser in landscaped area near mechanical patio.
6. Provide complete electrical demolition of existing equipment to be removed.
7. Maintain circuit continuity of any branch circuit that is connected to equipment being removed.
8. Installation of new heat pumps, new air handlers and the install and routing of the refrigerant piping system.
9. Installation of new ductwork, supply air diffusers and return air grilles for existing air handler.
10. Provide new Panel and feed from existing Panel.
11. Provide new feeds for existing Panel.
12. Provide new electrical connections for new HVAC equipment
13. Provide new manual transfer switch
14. Provide new temporary generator landing lugs.

DRAWING INDEX

NO.	TITLE PAGE
TO.1	TITLE PAGE
MO.1	MECHANICAL NOTES & SCHEDULES
M1.1	DEMOLITION MECHANICAL PLAN
M2.1	MECHANICAL PLAN
M3.1	MECHANICAL DETAILS
PO.1	PLUMBING NOTES & DETAILS
PL.1	DEMOLITION PLUMBING PLAN
P2.1	PLUMBING PLAN
EO.1	SYMBOL LIST AND SPECIFICATIONS
EO.2	SINGLE LINE DIAGRAM
E1.1	ELECTRICAL DEMOLITION PLAN
E2.1	ELECTRICAL PLAN



SERVER ROOM HVAC RETROFIT
INYO ANNEX BUILDING
168 N EDWARDS ST,
INDEPENDENCE, CALIFORNIA

REVISIONS	
DRAWING TITLE	
TITLE PAGE	
date	09 / 25 / 19
job number	19030
drawn	SME
checked	BAE

TO.1

GENERAL NOTES:

STANDARDS AND CODES: LATEST EDITION OF THE CALIFORNIA MECHANICAL CODE (CMC), AS WELL AS ALL APPLICABLE STATE AND LOCAL CODES AND ORDINANCES. THIS DOES NOT RELIEVE THE CONTRACTOR FROM FURNISHING AND INSTALLING WORK SHOWN OR SPECIFIED WHICH MAY EXCEED THE REQUIREMENTS OF SUCH ORDINANCES, LAWS, REGULATIONS AND CODES.

COMPLETE INSTALLATION: PROVIDE ALL LABOR, MATERIALS, EQUIPMENT, TOOLS, ACCESSORIES, ETC., NECESSARY TO ACCOMPLISH A COMPLETE MECHANICAL SYSTEM IN ACCORDANCE WITH THE PLANS TOGETHER WITH THE SPECIFICATIONS.

PERMITS: OBTAIN AND PAY FOR ALL BUILDING AND WORKING PERMITS AND INSPECTION FEES REQUIRED FOR THIS PROJECT.

DRAWINGS: DATA PRESENTED ON THESE DRAWINGS SHALL BE FIELD VERIFIED SINCE ALL DIMENSIONS, LOCATIONS, AND LEVELS ARE GOVERNED BY ACTUAL FIELD CONDITIONS. REVIEW ALL ARCHITECTURAL, STRUCTURAL, CIVIL, ELECTRICAL AND SPECIALTY SYSTEMS DRAWINGS AND ADJUST ALL WORK TO MEET THE REQUIREMENTS ON CONDITIONS SHOWN THEREON. DO NOT SCALE MECHANICAL PLANS FOR EQUIPMENT, DUCTING, PIPING, APPLIANCE ETC. LOCATIONS. USE CONFIGURED DIMENSIONS IF GIVEN OR CHECK ARCHITECTURAL DRAWINGS.

COPYRIGHT: THESE PLANS, SPECIFICATIONS AND ALL RELATED ADDENDA AND DOCUMENTS CONSTITUTE COPYRIGHT MATERIALS OF ETCHENENDY ENGINEERING INC. ALL RIGHTS CONFERRED BY THE COPYRIGHT AND SIMILAR LAWS ARE RESERVED TO ETCHENENDY ENGINEERING INC. THESE MATERIALS SHALL REMAIN THE SOLE PROPERTY OF ETCHENENDY ENGINEERING INC. AND MAY NOT BE REPRODUCED, DISTRIBUTED TO OTHERS OR USED FOR ANY PURPOSE WHATSOEVER WITHOUT THE PRIOR WRITTEN CONSENT OF ETCHENENDY ENGINEERING INC.

LOCATIONS: INDICATED LOCATIONS OF ALL EQUIPMENT, DUCTING, PIPING ETC. ARE SUBJECT TO CHANGE. SHIFT/RELOCATE/RECONFIGURE ANY OR CONNECTION POINT UP TO 10' AS DIRECTED BY ENGINEER, AT NO ADDED COST.

RECORD DRAWINGS: CONTRACTOR SHALL PROVIDE, PRIOR TO FINAL ACCEPTANCE AND OBSERVATION, ONE SET OF REVISED RECORD MECHANICAL CONSTRUCTION DOCUMENTS ON REPRODUCIBLE MEDIUM INDICATING THE FOLLOWING ADDITIONAL INFORMATION:

RECORD NOTATIONS SHALL BE CLEARLY DRAWN AT A DRAFTING APPEARANCE EQUAL TO THE ORIGINAL DRAWINGS. CONTRACTOR SHALL ALSO PROVIDE ALL OPERATING AND MAINTENANCE MANUALS PRIOR TO FINAL PAYMENT.

EXAMINATION OF SITE AND EXISTING CONDITIONS: BEFORE SUBMITTING A PROPOSAL CONTRACTOR SHALL EXAMINE THE SITE AND FAMILIARIZE HIMSELF WITH THE EXISTING CONDITIONS AND LIMITATIONS. NO EXTRAS WILL BE ALLOWED BECAUSE OF THE CONTRACTOR'S MISUNDERSTANDING OF THE AMOUNT OF WORK INVOLVED OR HIS LACK OF KNOWLEDGE OF ANY SITE CONDITIONS WHICH MAY AFFECT HIS WORK. ANY APPARENT VARIANCE OF THE DRAWINGS OR SPECIFICATIONS FROM THE EXISTING CONDITIONS AT THE SITE SHALL BE CALLED TO THE ATTENTION OF THE ENGINEER BEFORE SUBMITTING A PROPOSAL.

SEISMIC RESTRAINT: ALL BUILDING HVAC SYSTEMS, INCLUDING DUCTWORK, IS TO BE SEISMICALLY RESTRAINED PER THE UNIFORM MECHANICAL CODES, INTERNATIONAL BUILDING CODE, AMERICAN SOCIETY OF CIVIL ENGINEERS AND STRUCTURAL ENGINEERING INSTITUTE. RESTRAINT SYSTEMS ARE TO BE COMPLETED IN A "DESIGN BUILD" FASHION BY THE AWARDED CONTRACTOR AND ARE TO BE INCLUDED IN THE PROJECT BID. THE CONTRACTOR IS TO ENLIST A QUALIFIED LICENSED PROFESSIONAL TO PROVIDE COMPREHENSIVE DESIGN CALCULATIONS AND SHOP DRAWINGS FOR SAID SYSTEMS. ALL DESIGN DATA AND DETAILED DRAWINGS ARE TO BE PROVIDED TO THE ENGINEER AND AUTHORITY HAVING JURISDICTION FOR REVIEW AND APPROVAL DURING THE SUBMITTAL PROCESS.

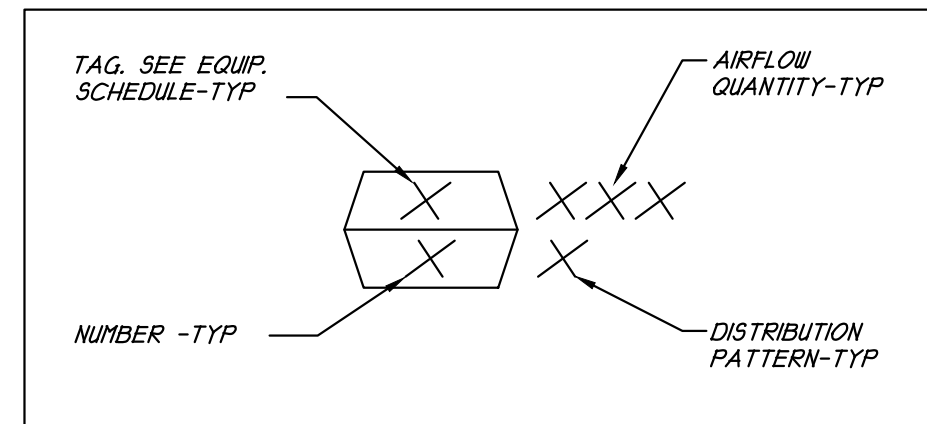
EXISTING CONDITIONS: ALL (E) SIZES AND LOCATIONS ARE APPROXIMATIONS AND ARE TO BE FIELD VERIFIED BY THE CONTRACTOR PRIOR COMMENCEMENT OF ANY WORK. NO ADDITIONAL FEES WILL BE ALLOWED DUE TO DUE LACK OF FIELD VERIFICATION.

EQUIPMENT: ALL HVAC AND REFRIGERATION EQUIPMENT SHALL NOT CONTAIN CFC OR HALONS.

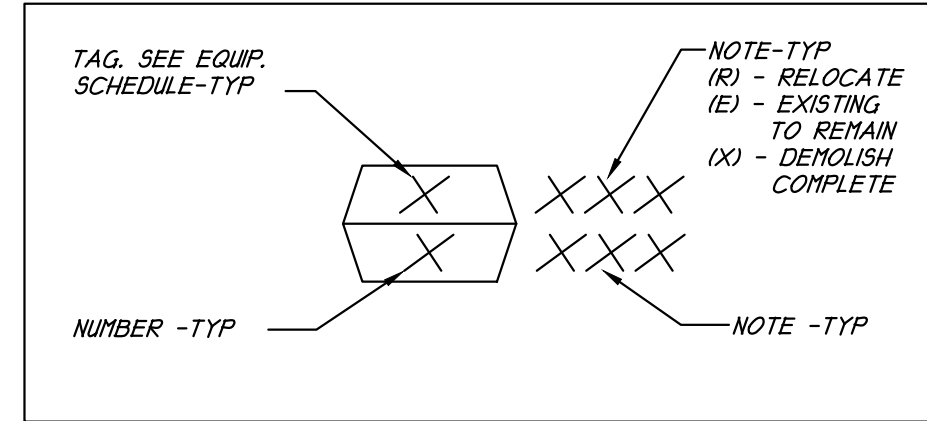
DUCT LEAKAGE VERIFICATION: ALL DUCT CONSTRUCTION SHALL COMPLY WITH TITLE 24 SECTION 120.4.1 (M) (B) (2) FOR ALTERED SYSTEMS. DUCT LEAKAGE FOR ENTIRELY NEW OR REPLACEMENT DUCT SYSTEMS SHALL BE EQUAL TO OR LESS THAN 4 PERCENT OF THE SYSTEM AIR HANDLER AIRFLOW. THIS IS TO BE CONFIRMED BY FIELD VERIFICATION AND DIAGNOSTIC TESTING BY THE AIR BALANCE CONTRACTOR. TESTING SHALL BE PER THE PROJECT SPECIFICATIONS (AABC CONTRACTOR) AND THE TITLE 24 NONRESIDENTIAL APPENDIX SECTION 142.1.1.21

LISTINGS: ALL MECHANICAL EQUIPMENT AND DUCTWORK SHALL BE LISTED AND LABELED BY AN APPROVED AGENCY. INSTALLATION SHALL BE IN ACCORDANCE WITH APPROVED LISTING

DIFFUSER/GRILLE SYMBOL LEGEND



EQUIPMENT SYMBOL LEGEND



MECHANICAL LEGEND

SYMBOL	ABBREVIATION	INTENT
		RIGID DUCT
		INTERNALLY LINED DUCTWORK
		RIGID EXHAUST DUCT
		DUCT DOWN
		DUCT UP
		TURNING VANES
	D	SUPPLY AIR
	G	RETURN AIR
	EXH	EXHAUST AIR
	D	SUPPLY AIR
	G	RETURN AIR
	MVD	MANUAL VOLUME DAMPER
	AD	AUTOMATIC DAMPER (MOTORIZED)
	FLEX	FLEXIBLE DUCTWORK
		VERTICAL BRANCH WITH DAMPER
	DOWN	PIPE DOWN
	UP	PIPE UP
	Ø	DIAMETER ROUND
	(N)	NEW
	(E)	EXISTING
	⊕	POINT OF CONNECTION
	⊖	POINT OF DISCONNECT
	AFF	ABOVE FINISHED FLOOR
	BFF	BELOW FINISHED FLOOR
	AFG	ABOVE FINISHED GRADE
	TYP	TYPICAL
	MIN	MINIMUM
	CFM	CUBIC FEET PER MINUTE
	OSA	OUTSIDE AIR
	ESP	EXTERNAL STATIC PRESSURE
	BTU, BTUH	BRITISH THERMAL UNIT PER HOUR
	MBH	THOUSAND BTU
	CLG	COOLING
	HTG	HEATING
	CAP	CAPACITY
	SENS	SENSIBLE
	LTNT	LATENT
	C	CONDENSATE DRAIN
	RLL	REFRIGERATION LIQUID LINE
	RSL	REFRIGERATION SUCTION LINE
	⊞	BALL VALVE
	⊞	BALANCING VALVE
	⊞	BUTTERFLY VALVE
	⊞	AUTOMATIC CONTROL VALVE (2-WAY)
	⊞	AUTOMATIC CONTROL VALVE (3-WAY)
	⊞	MOTORIZED VALVE
	⊞	PRESSURE REDUCING VALVE

SPLIT SYSTEM OUTDOOR VRF HEAT PUMP WITH HEAT RECOVERY SCHEDULE

SYMBOL	DESCRIPTION	MODEL	CAPACITY	SEER	SUCTION	LIQUID	WEIGHT	ELECTRICAL	REMARKS
	AIR COOLED VRF HEAT PUMP FOR AHU 1-2	mitsubishi model PUMY-P40NRM2	CLG: 10.5 MBH HTG: 38.2 MBH	20	3/4"	3/8"	370	208V, 1Ø 3Ø MCA, 45 MOCP	L 3
	AIR COOLED VRF HEAT PUMP FOR AHU 3-4	mitsubishi model PUMY-P40NRM2	CLG: 28.4 MBH HTG: 38.2 MBH	20	3/4"	3/8"	370	208V, 1Ø 3Ø MCA, 45 MOCP	L 2

REMARKS:
1. LOW AMBIENT WITH WIND BAFFLE
2. 4-PIPE HEADER, CMY-Y104C-G
3. JOINT PIPE, CMY-Y42-G-E

SPLIT SYSTEM INDOOR HEAT PUMP SCHEDULE

SYMBOL	DESCRIPTION	MODEL	CAPACITY	AIRFLOW	MIN OSA	ELECTRICAL	WT (LBS)	REMARKS
	MULTI-ZONE CEILING SUSPENDED HEAT PUMP AIR HANDLER	mitsubishi model PEFY-P12NWH5U-E	CLG: 20.3 MBH HTG: 21.4 MBH	880 CFM	-	208V, 1Ø, 122 MCA, 15 MOCP	100	L 2, 3
	MULTI-ZONE WALL MOUNT HEAT PUMP AIR HANDLER	mitsubishi model PKFY-P12NWHU-E2	CLG: 8.1 MBH HTG: 10.8 MBH	370 CFM	-	208V, 1Ø, 0.38 MCA, 15 MOCP	40	L 2, 3

REMARKS:
1. INTEGRAL CONDENSATE PUMP
2. WIRED THERMOSTAT
3. BV-BB BALL VALVES

NOTES:
1. MECHANICAL CONTRACTOR TO COORDINATE WITH SYSTEM PIPING TREES AND SYSTEM WIRING DIAGRAMS, SEE DETAIL 4115.1

AIR DISTRIBUTION SCHEDULE

SYMBOL	DESCRIPTION	MODEL	SIZE	FRAME	PANEL	FINISH	ACCESSORIES
	STEEL MODULAR CORE SUPPLY AIR DIFFUSER	KRUEGER MODEL 5580P	20"x20"	F23	24"x24"	BRITISH WHITE	-

THERMOSTAT SCHEDULE

TAG	DESCRIPTION	MODEL	ELECTRICAL	MOUNT HEIGHT	REMARKS
	PROGRAMMABLE COMMERCIAL THERMOSTAT	mitsubishi	24V	48"	1

REMARKS:
1. ALL MOUNTING HARDWARE

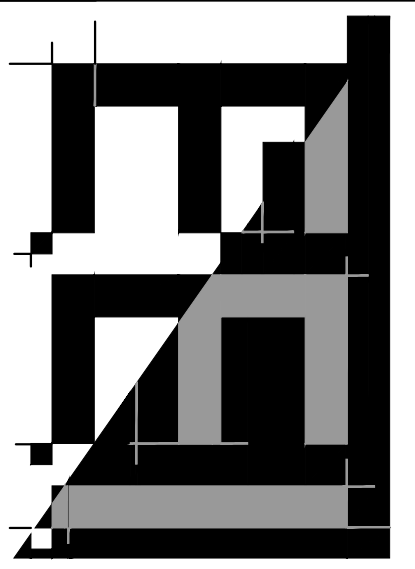
NOTES:
1.

ADD ALTERNATE #2

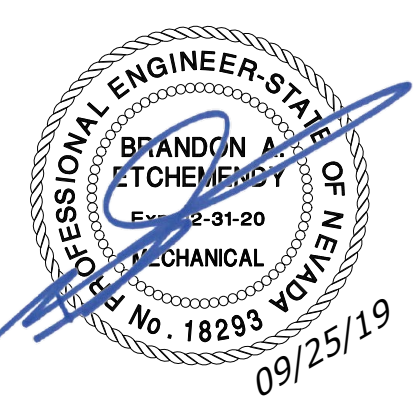
CONDENSING UNIT SCHEDULE

SYMBOL	DESCRIPTION	MODEL	CAPACITY	SEER	SUCTION	LIQUID	WEIGHT	ELECTRICAL	REMARKS
	AIR COOLED CONDENSING UNIT	RHEEM MODEL RA1660AJNA	54.0 MBH TOTAL CAP 46.2 MBH SENS CAP	15.1	1/2"	3/8"	310	208V, 1Ø 3Ø MCA, 40 MOCP	L 2, 3, 4, 5

REMARKS:
1. LOW AMBIENT
2. SUCTION LINE TRAP
3. SOLENOID LIQUID LINE VALVE
4. SIGHT GLASS
5. COMPRESSOR ISOLATION VALVES



BRANDON ETCHENENDY
LICENSED PROFESSIONAL ENGINEER
MECHANICAL
No. 18293
09/25/19



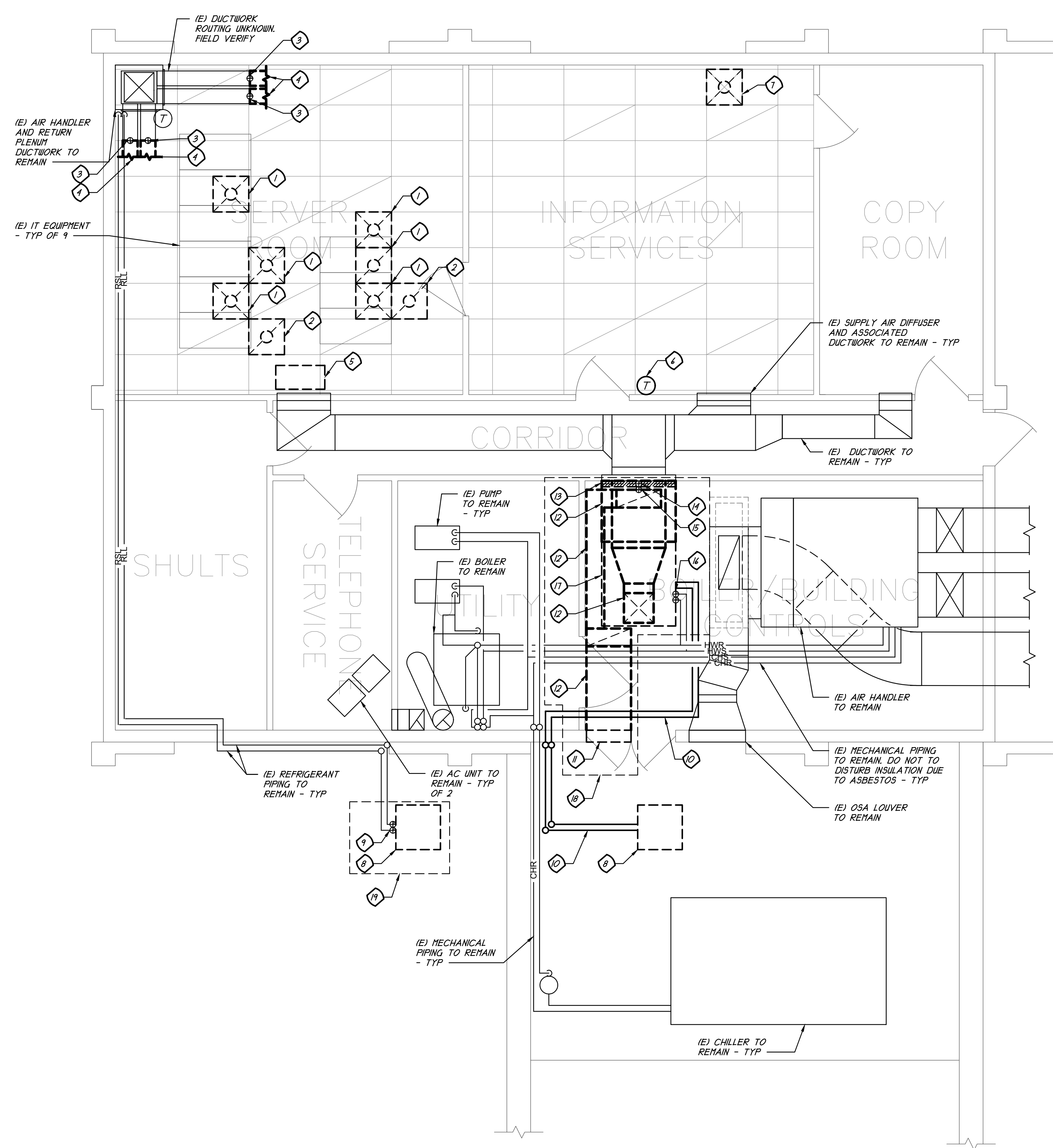
SERVER ROOM HVAC RETROFIT
INYO ANNEX BUILDING
168 N EDWARDS ST.
INDEPENDENCE, CALIFORNIA

REVISIONS

DRAWING TITLE
MECHANICAL NOTES & SCHEDULES

date: 09/25/19
job number: 19090
drawn: SME
checked: BAE

MO.I



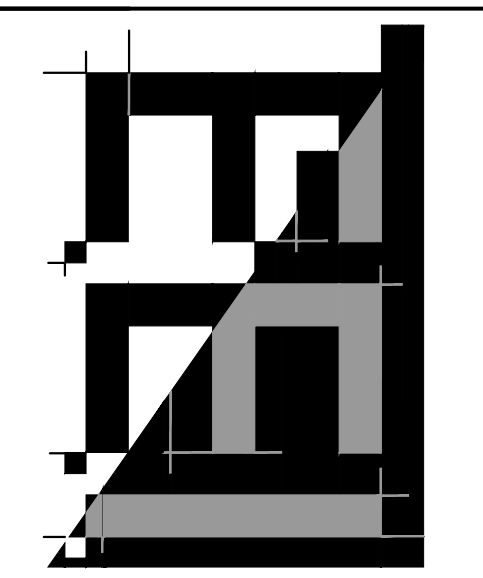
DEMOLITION MECHANICAL PLAN
SCALE: 1/4" = 1'-0"

GENERAL NOTES:

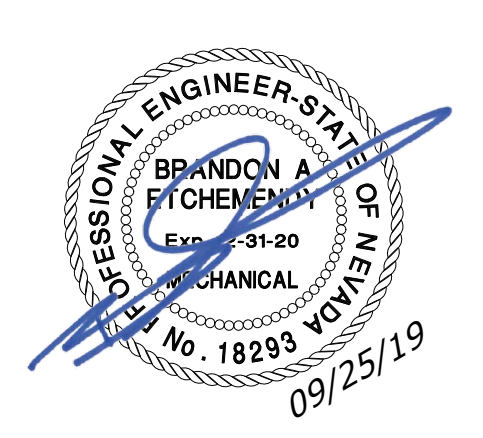
1 ASBESTOS HAS BEEN FOUND TO BE PRESENT IN THE MECHANICAL ROOM VIA TESTING. COORDINATE ALL ASBESTOS CONTAINING MATERIALS WITH THE COUNTY AND COUNTY'S TESTING REPORT. ALL ABATEMENT REQUIRED TO PERFORM WORK IN QUESTION TO BE LISTED AS A SEPARATE LINE ITEM.

DEMOLITION KEYED NOTES:

- 1 (E) SUPPLY AIR DIFFUSER TO BE REMOVED COMPLETE
- 2 (E) RETURN AIR GRILLE TO BE REMOVED COMPLETE
- 3 (E) DUCTWORK TO BE DISCONNECT AND REMAIN FOR RECONNECTION
- 4 (E) DUCTWORK TO BE REMOVED COMPLETE. EXACT ROUTING UNKNOWN, FIELD VERIFY
- 5 (E) AC UNIT TO BE REMOVED AND SALVAGED BACK TO THE OWNER
- 6 (E) THERMOSTAT TO BE REMOVED COMPLETE
- 7 (E) SUPPLY AIR DIFFUSER TO BE REMOVED COMPLETE. REMOVE ANY FLEX DUCT AND PERMANENTLY CAP THE (E) DUCT ABOVE THE CEILING
- 8 ADD ALTERNATE #2: (E) CONDENSING UNIT TO BE REMOVED COMPLETE
- 9 ADD ALTERNATE #2: DISCONNECT (E) REFRIGERANT PIPING AND REMAIN FOR RECONNECTION.
- 10 (E) REFRIGERANT PIPING TO BE REMOVED COMPLETE
- 11 (E) OSA LOUVER AND DAMPER TO BE REMOVED COMPLETE. CAVITY TO BE FILLED WITH POLYISO INSULATION AND CAPPED
- 12 (E) DUCTWORK TO BE REMOVED COMPLETE
- 13 (E) FIRE DAMPERS, HIGH AND/OR LOW TO BE LOCKED CLOSED
- 14 ADD ALTERNATE #1: DISCONNECT (E) SUPPLY AIR DUCTWORK AT WALL AND PERMANENTLY CAP
- 15 ADD ALTERNATE #1: DISCONNECT (E) RETURN AIR DUCTWORK AT DAMPER AND PERMANENTLY CAP
- 16 ADD ALTERNATE #1: DISCONNECT (E) HHS AND HWR AT AC-2 AND PERMANENTLY CAP. ENSURE PIPE INSULATION IS NOT DISTURBED
- 17 ADD ALTERNATE #1: (E) AC-2 TO BE REMOVED COMPLETE
- 18 IF ADD ALTERNATE #1 IS NOT TAKEN, VALVE OFF, LOCK AND TAG OUT AND ABANDON AC-2 IN PLACE
- 19 IF ADD ALTERNATE #2 IS NOT TAKEN, (E) CONDENSING UNIT TO REMAIN



10497 FOLSOM BLVD. SUITE 100
FOLSOM, CA 95630
P. 916-939-1000 F. 916-939-2902
BRANDON@BAE-CA.COM



SERVER ROOM HVAC RETROFIT
INYO ANNEX BUILDING
 168 N EDWARDS ST.
 INDEPENDENCE, CALIFORNIA

REVISIONS

DRAWING TITLE
DEMOLITION MECHANICAL PLAN

date: 09/25/19
job number: 19030
drawn: SME
checked: BAE

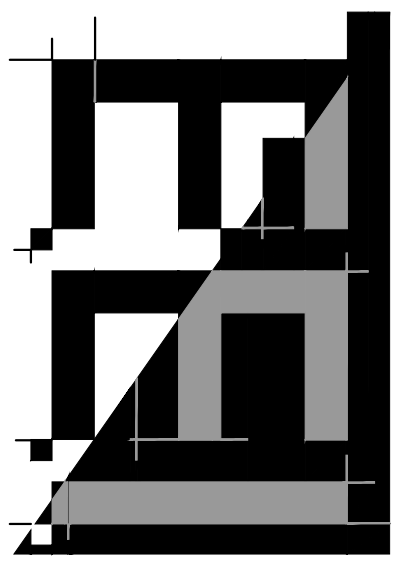
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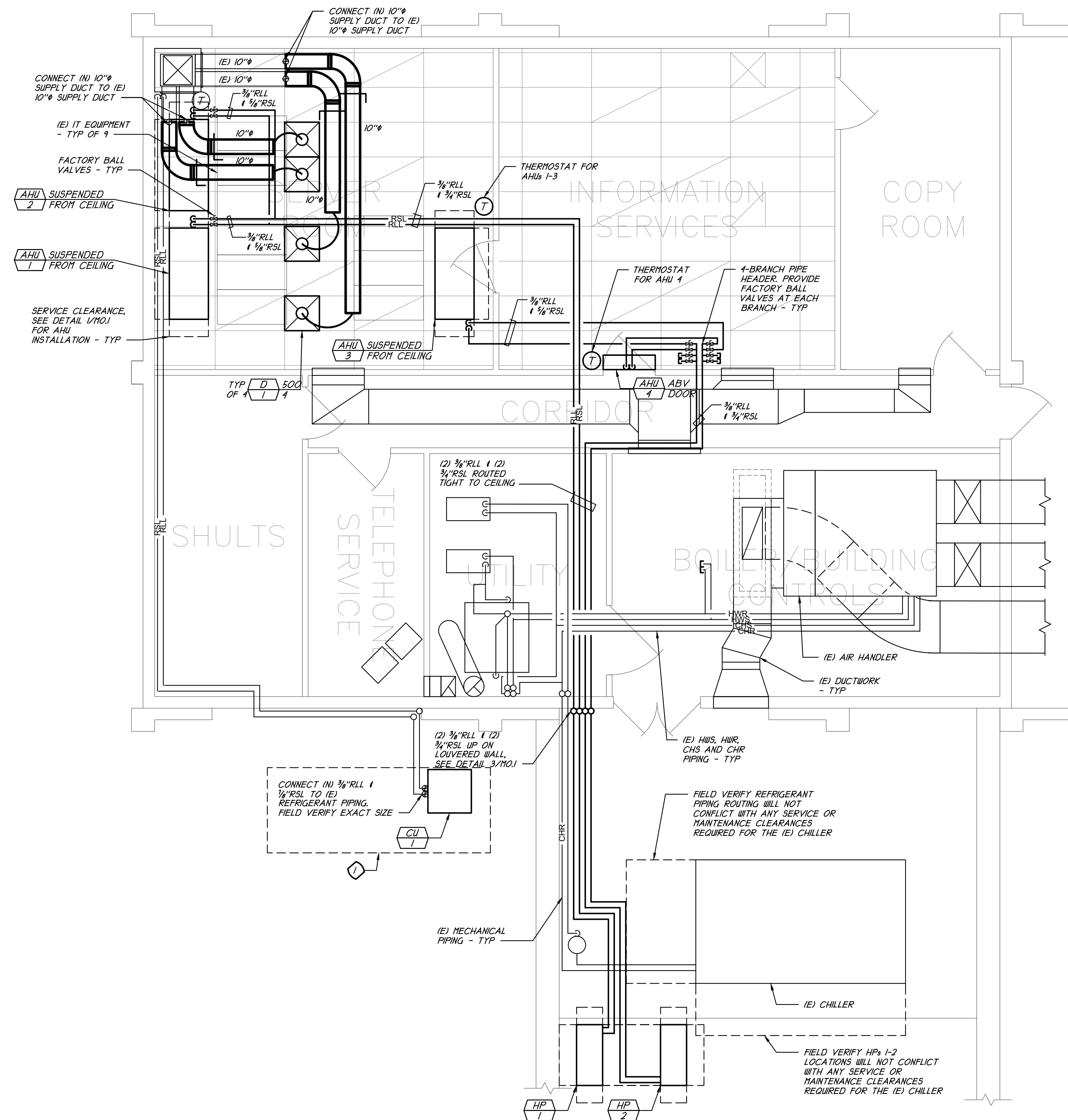
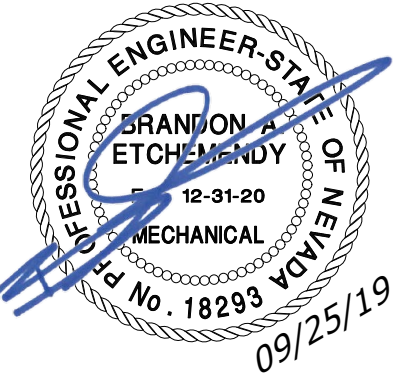
1 ASBESTOS HAS BEEN FOUND TO BE PRESENT IN THE MECHANICAL ROOM VIA TESTING. COORDINATE ALL ASBESTOS CONTAINING MATERIALS WITH THE COUNTY AND COUNTY'S TESTING REPORT. ALL ABATEMENT REQUIRED TO PERFORM WORK IN QUESTION TO BE LISTED AS A SEPARATE LINE ITEM.

KEYED NOTES:

Ⓛ IF ADD ALTERNATE #2 IS NOT TAKEN, NO WORK HERE



TECHNICAL
ENGINEERING
INC.
10497 POOLE ROAD, SUITE 100
F. 775-854-0511 T. 775-852-2562
REGISTRATION NO. 18293



MECHANICAL PLAN
SCALE: 1/4" = 1'-0"

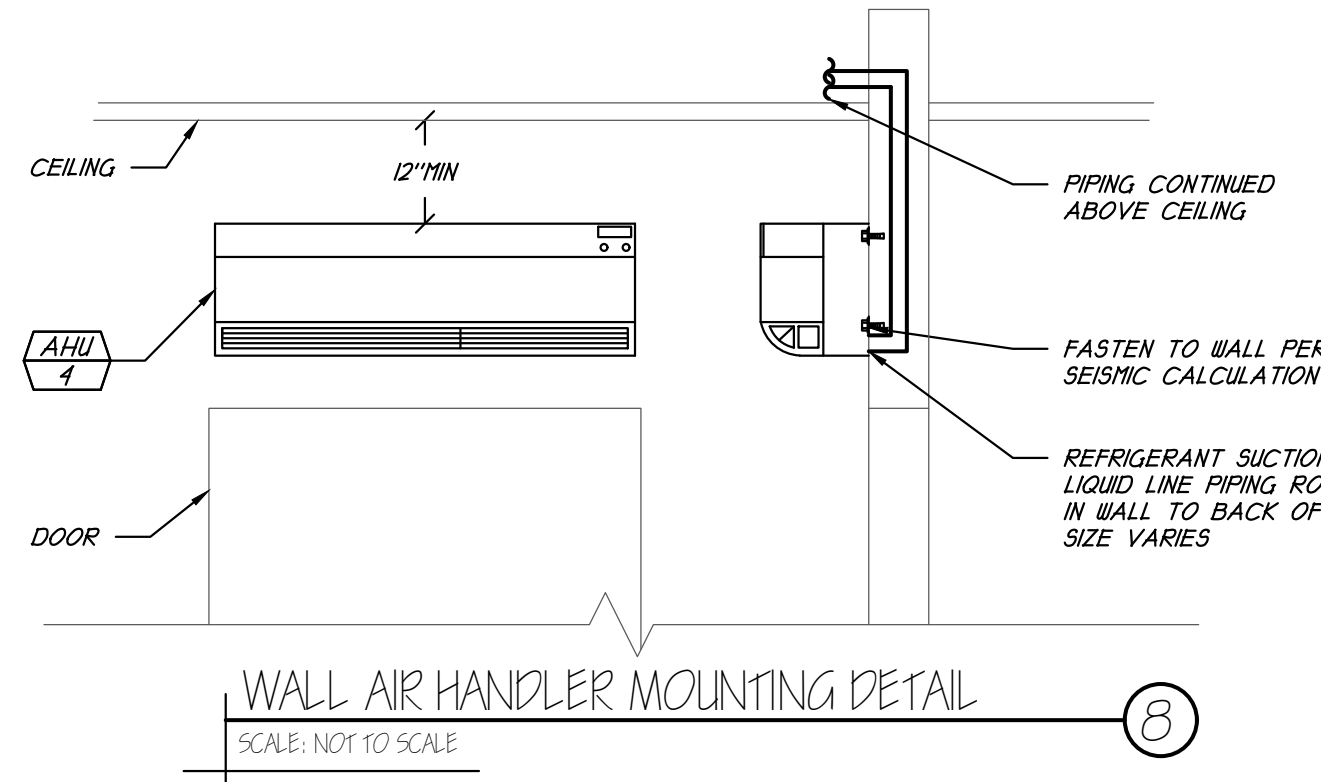
SERVER ROOM HVAC RETROFIT
INYO ANNEX BUILDING
168 N EDWARDS ST.
INDEPENDENCE, CALIFORNIA

REVISIONS	
DRAWING TITLE	MECHANICAL PLAN
DATE	09/25/19
JOB NUMBER	19030
DRAWN	SME
CHECKED	BAE

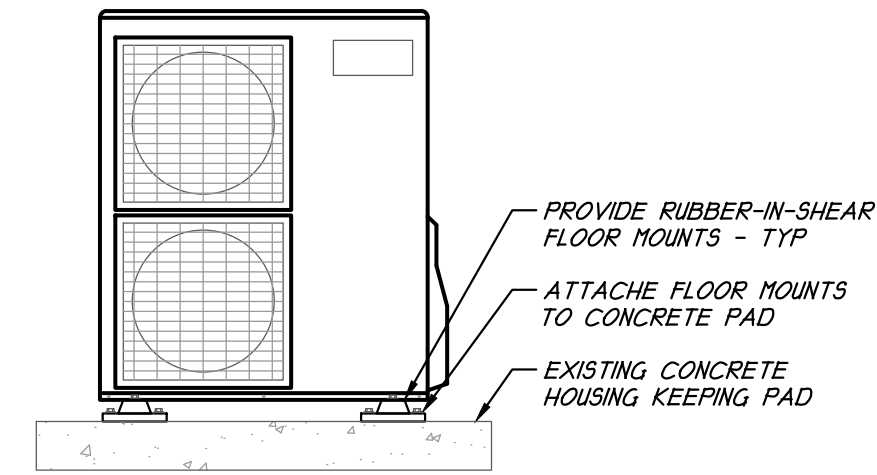
M2.1

NOTE:

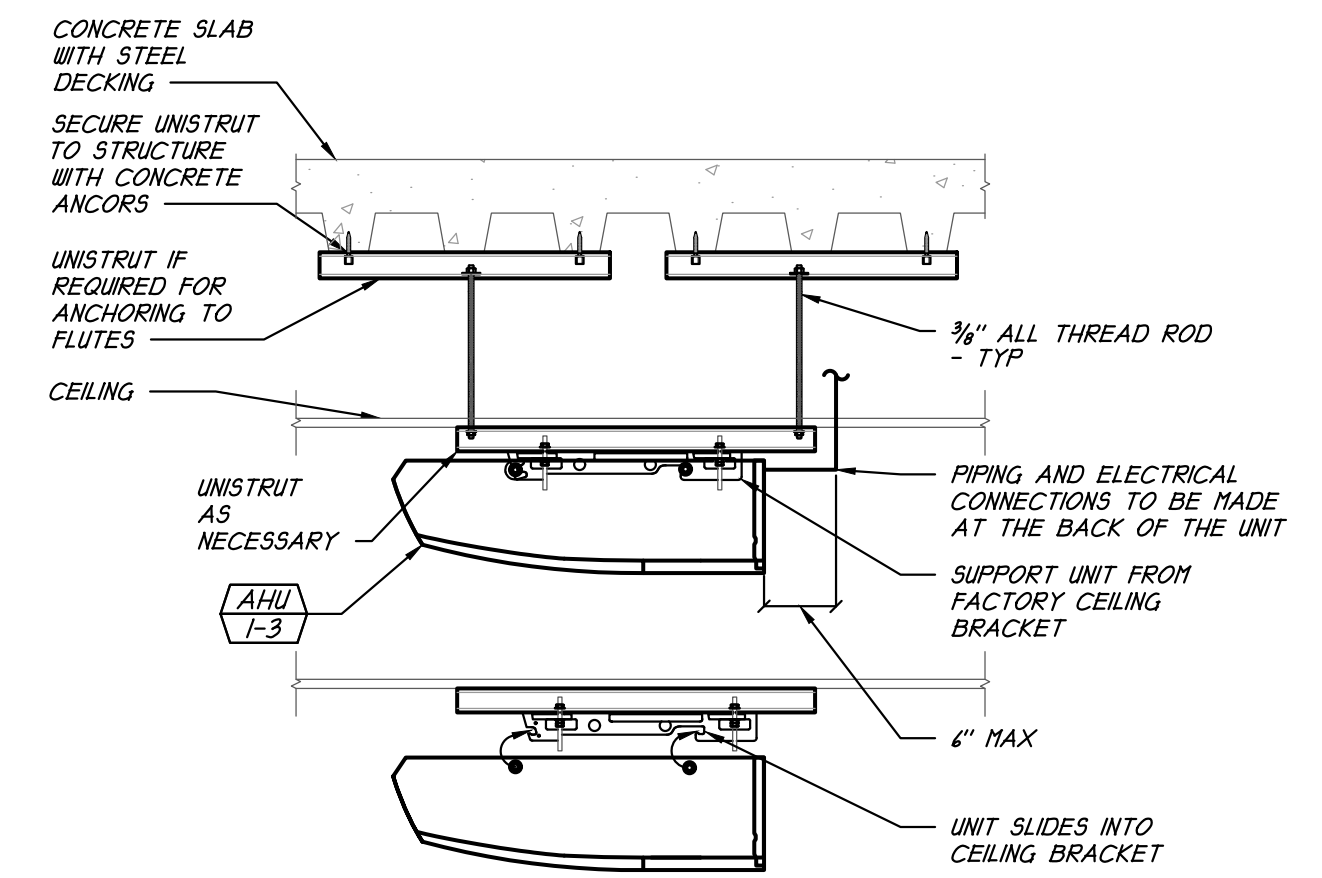
1. THIS DETAIL IS FOR REFERENCE ONLY. SEE MANUFACTURES INSTRUCTION FOR EXACT INSTALLATION.
2. ALL UNIT CONNECTIONS ARE TO BE IN WALL AND NOT VISIBLE (I.E. ELECTRICAL, REFRIGERANT, CONDENSATE ETC.)
3. REFRIGERANT PIPING TO BE INSULATED PER MANUFACTURES SPECIFICATIONS



WALL AIR HANDLER MOUNTING DETAIL ⑧
SCALE: NOT TO SCALE



HEAT PUMP MOUNTING DETAIL ⑤
SCALE: NOT TO SCALE



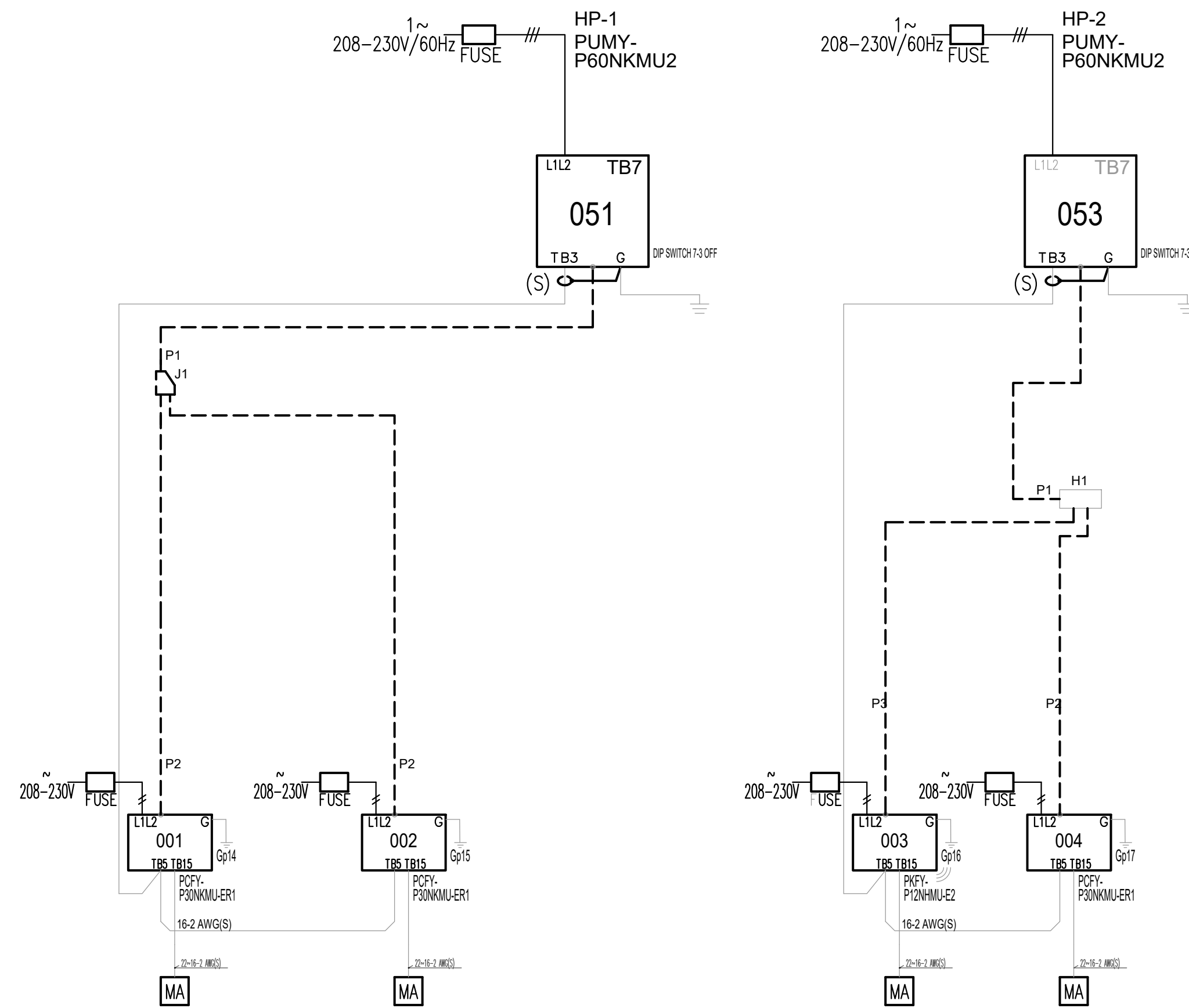
UNIT MOUNTING CEILING SUSPENDED DETAIL ①
SCALE: NOT TO SCALE

DIAGRAM SYMBOL	LEGEND DESCRIPTION	CONT.No	PAGE
---	POWER WIRE		
---	CONTROL WIRE		
---	REF. PIPE		

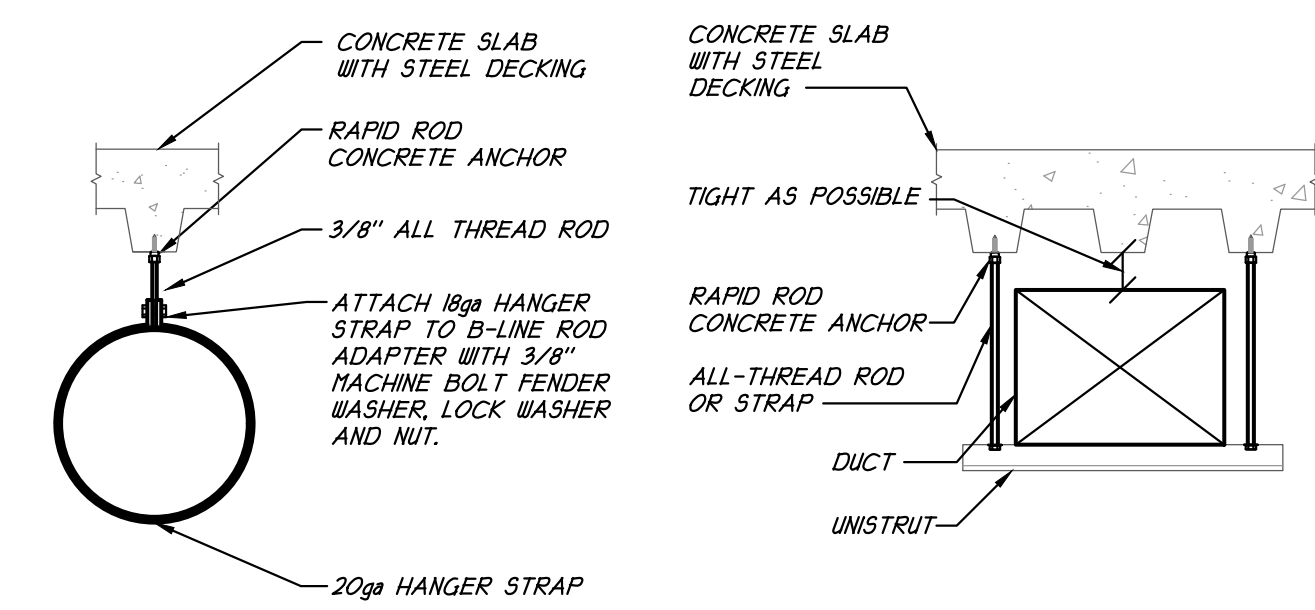
CITY MULTI SYSTEM SCHEMATIC DWG.

Additional refrigerant charge is needed depending on the size and length of extended piping. Please refer the amount of pre-charge and the formula of calculation which is mentioned on the data book.
1.25mm(16 AWG) : 1.25mm(16 AWG) or more. 0.75mm(20 AWG) : between 0.5mm(24 AWG) and 0.75mm(20 AWG).

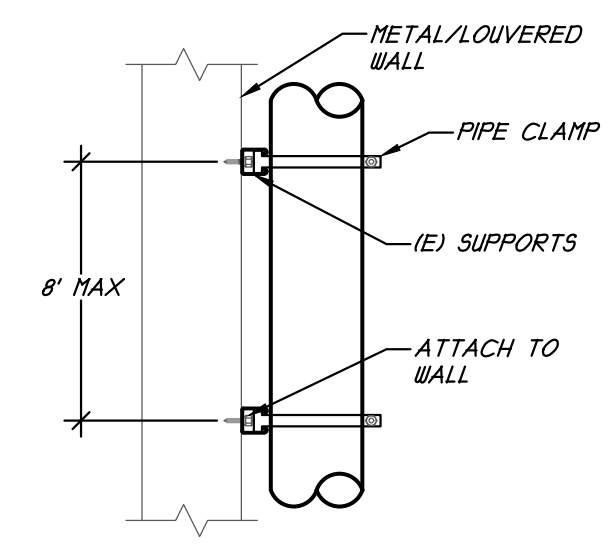
PIPING AND CONTROLS	
SYMBOL	BRANCH PIPE MODEL NAME
J1	CMY-Y62-C-E
H1	CMY-Y64-C-E
SYMBOL LIQUID PIPE/GAS PIPE SIZE	
P1	3/8 / 3/4
P2	3/8 / 5/8
P3	1/4 / 1/2
SYMBOL MODEL NUMBER	
MA	PAR-30AAA-J



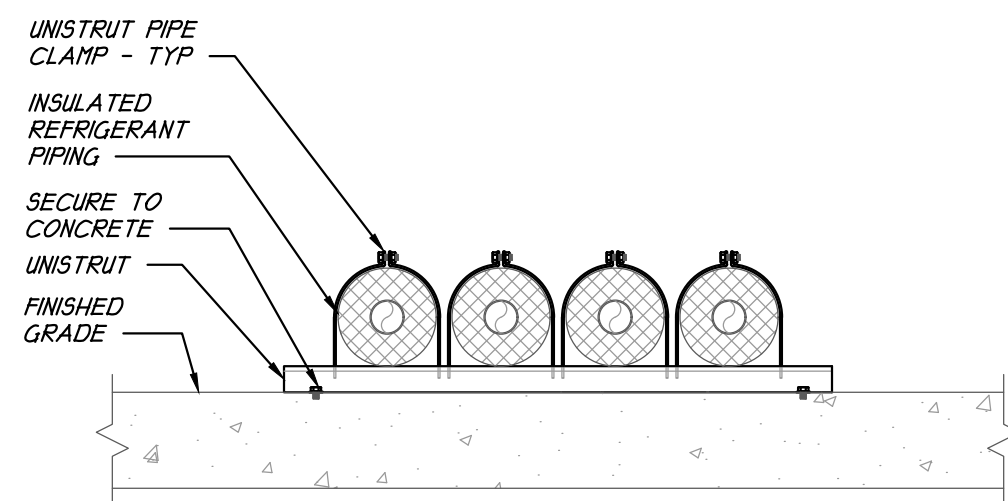
HEAT PUMP WIRING/PIPING DETAIL ⑥
SCALE: NOT TO SCALE



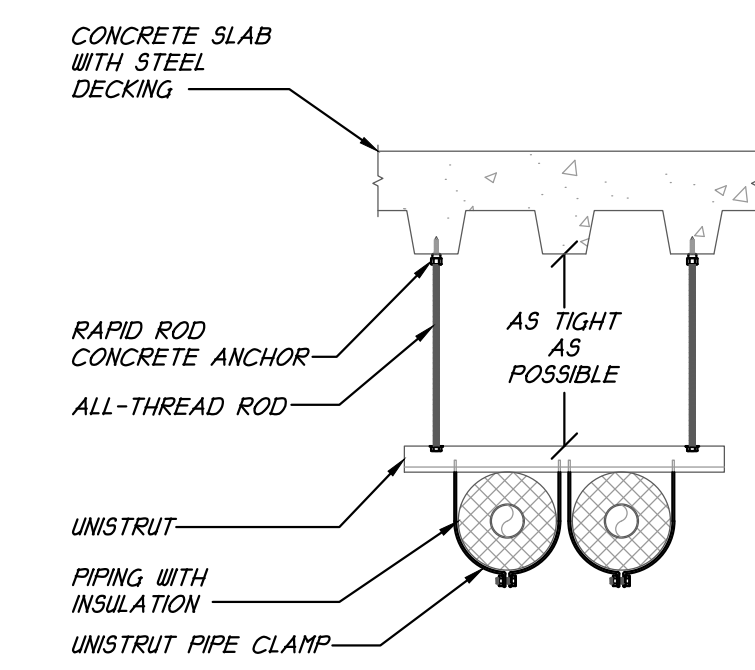
DUCT SUPPORT DETAIL ②
SCALE: NOT TO SCALE



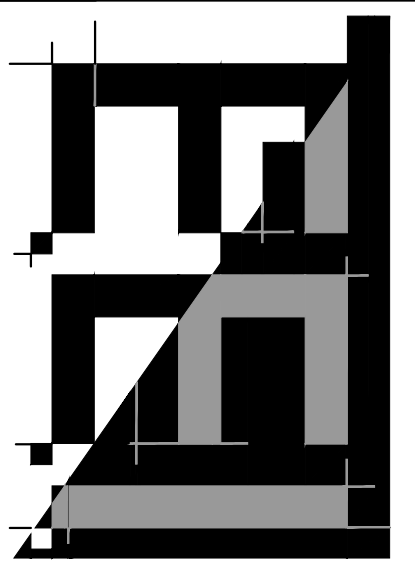
PIPING WALL SUPPORT DETAIL ③
SCALE: NOT TO SCALE



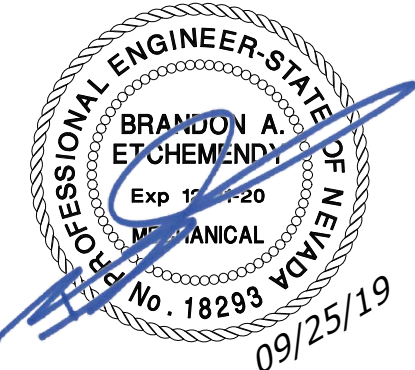
PIPING GROUND SUPPORT DETAIL ⑦
SCALE: NOT TO SCALE



PIPING SUPPORT DETAIL ④
SCALE: NOT TO SCALE



10497 P0016 REV 01/2010 BY SPB/ST
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REGISTRATION WEBSITE: www.ncs.org



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INYO ANNEX BUILDING
168 N EDWARDS ST.
INDEPENDENCE, CALIFORNIA

REVISIONS	
DRAWING TITLE	
MECHANICAL DETAILS	
date:	09 / 25 / 19
job number:	19030
drawn:	SME
checked:	BAE

M3.1

GENERAL NOTES:

STANDARDS AND CODES, LATEST EDITION OF THE CALIFORNIA PLUMBING CODE (CPC), AS WELL AS ALL APPLICABLE STATE AND LOCAL CODES AND ORDINANCES, THIS DOES NOT RELIEVE THE CONTRACTOR FROM FURNISHING AND INSTALLING WORK SHOWN OR SPECIFIED WHICH MAY EXCEED THE REQUIREMENTS OF SUCH ORDINANCES, LAWS, REGULATIONS AND CODES.

COMPLETE INSTALLATION, PROVIDE ALL LABOR, MATERIALS, EQUIPMENT, TOOLS, ACCESSORIES, ETC., NECESSARY TO ACCOMPLISH A COMPLETE PLUMBING SYSTEM IN ACCORDANCE WITH THE PLANS TOGETHER WITH THE SPECIFICATIONS.

PERMITS: OBTAIN AND PAY FOR ALL BUILDING AND WORKING PERMITS AND INSPECTION FEES REQUIRED FOR THIS PROJECT.

DRAWINGS: DATA PRESENTED ON THESE DRAWINGS SHALL BE FIELD VERIFIED SINCE ALL DIMENSIONS, LOCATIONS, AND LEVELS ARE GOVERNED BY ACTUAL FIELD CONDITIONS. REVIEW ALL ARCHITECTURAL, STRUCTURAL, CIVIL, ELECTRICAL AND SPECIALTY SYSTEMS DRAWINGS AND ADJUST ALL WORK TO MEET THE REQUIREMENTS ON CONDITIONS SHOWN THEREON. DO NOT SCALE PLUMBING PLANS FOR FIXTURE, PIPING, APPLIANCE ETC. LOCATIONS USE CONFIGURED DIMENSIONS IF GIVEN OR CHECK ARCHITECTURAL DRAWINGS.

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LOCATIONS: INDICATED LOCATIONS OF ALL FIXTURES, PIPING, EQUIPMENT ETC. ARE SUBJECT TO CHANGE. SHIFT/RELOCATE/RECONFIGURE ANY FIXTURE, PIPE, EQUIPMENT OR CONNECTION POINT UP TO 10' AS DIRECTED BY ENGINEER, AT NO ADDED COST.

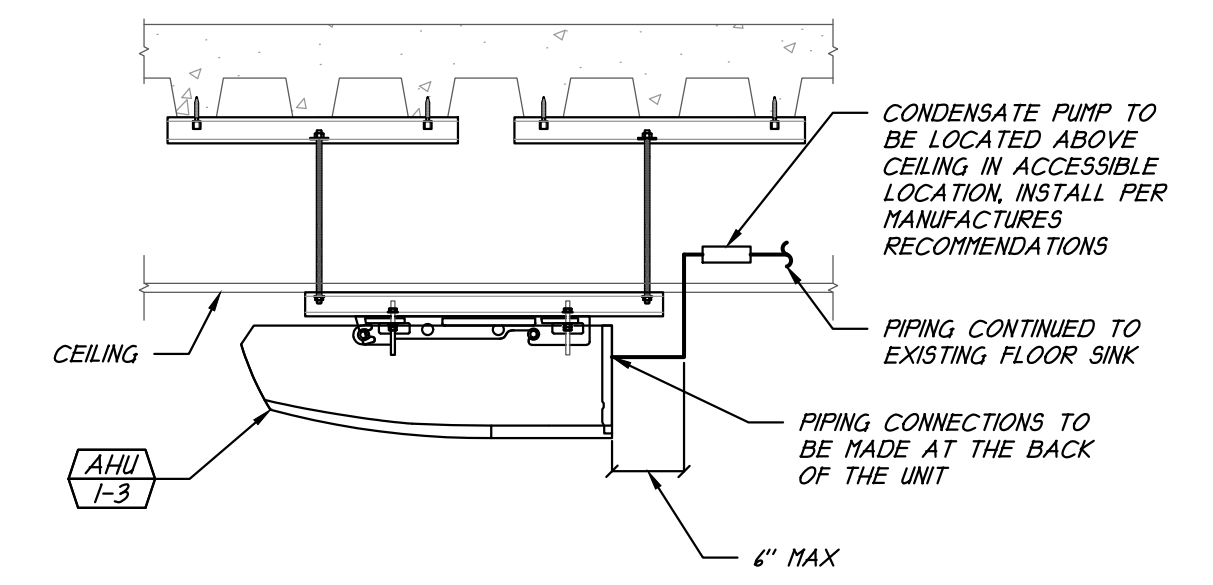
RECORD DRAWINGS: CONTRACTOR SHALL PROVIDE, PRIOR TO FINAL ACCEPTANCE AND OBSERVATION, ONE SET OF REVISED RECORD PLUMBING CONSTRUCTION DOCUMENTS ON REPRODUCIBLE MEDIUM, INDICATING THE FOLLOWING ADDITIONAL INFORMATION:

RECORD NOTATIONS SHALL BE CLEARLY DRAWN AT A DRAFTING APPEARANCE EQUAL TO THE ORIGINAL DRAWINGS. CONTRACTOR SHALL ALSO PROVIDE ALL OPERATING AND MAINTENANCE MANUALS PRIOR TO FINAL PAYMENT.

EXAMINATION OF SITE AND EXISTING CONDITIONS: BEFORE SUBMITTING A PROPOSAL, CONTRACTOR SHALL EXAMINE THE SITE AND FAMILIARIZE HIMSELF WITH THE EXISTING CONDITIONS AND LIMITATIONS. NO EXTRAS WILL BE ALLOWED BECAUSE OF THE CONTRACTOR'S MISUNDERSTANDING OF THE AMOUNT OF WORK INVOLVED OR HIS LACK OF KNOWLEDGE OF ANY SITE CONDITIONS WHICH MAY AFFECT HIS WORK. ANY APPARENT VARIANCE OF THE DRAWINGS OR SPECIFICATIONS FROM THE EXISTING CONDITIONS AT THE SITE SHALL BE CALLED TO THE ATTENTION OF THE ENGINEER BEFORE SUBMITTING A PROPOSAL.

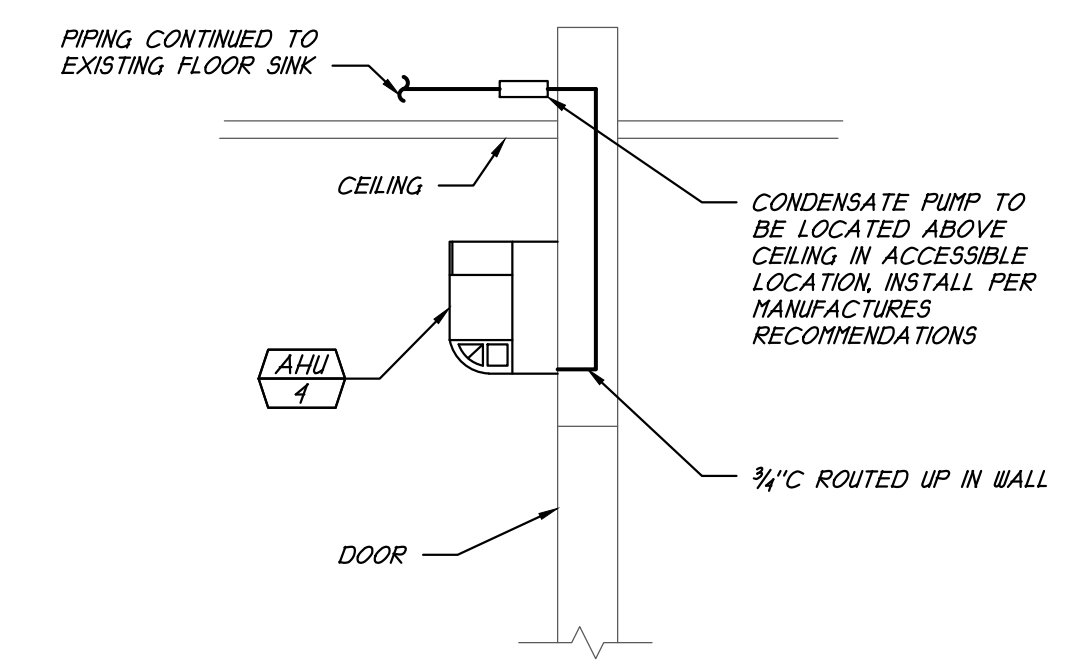
EXISTING CONDITIONS: ALL (E) SIZES AND LOCATIONS ARE APPROXIMATIONS AND ARE TO BE FIELD VERIFIED BY THE CONTRACTOR PRIOR COMMENCEMENT OF ANY WORK. NO ADDITIONAL FEES WILL BE ALLOWED DUE TO LACK OF FIELD VERIFICATION.

WATER HEATING TESTING: THE WATER HEATING SYSTEM SHALL BE TESTED AND ADJUSTED TO MAINTAIN A DELIVERY WATER TEMPERATURE AS INDICATED ON THE WATER HEATER PIPING DIAGRAM FOR ALL OPERATING CONDITIONS.



CEILING SUSPENDED UNIT PIPING DETAIL 1
SCALE: NOT TO SCALE

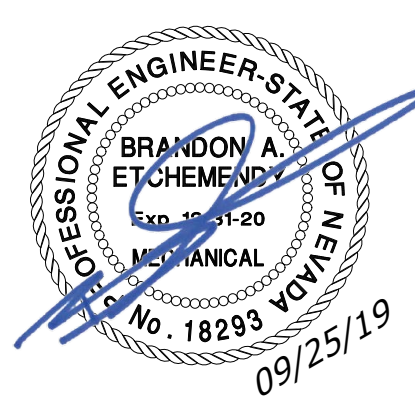
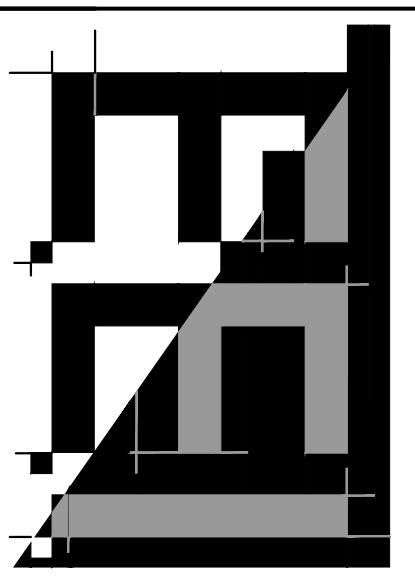
NOTE:
1. THIS DETAIL IS FOR REFERENCE ONLY. SEE MANUFACTURES INSTRUCTION FOR EXACT INSTALLATION
2. ALL UNIT CONNECTIONS ARE TO BE IN WALL AND NOT VISIBLE (I.E. ELECTRICAL, REFRIGERANT, CONDENSATE ETC.)



WALL MOUNTED UNIT PIPING DETAIL 2
SCALE: NOT TO SCALE

PLUMBING LEGEND

LINETYPE	ABBREVIATION	INTENT
— C —	C	CONDENSATE PIPING
— ○ —	UP	PIPE UP
— ⊖ —	DOWN	PIPE DOWN
— ⊗ —	POC	POINT OF CONNECTION
— ⊕ —	POD	POINT OF DISCONNECT
— ⊙ —	VTR	VENT THRU ROOF
— ⊗ —		BALANCING VALVE
— ⊕ —		BALL VALVE
	(N)	NEW
	(E)	EXISTING
	AFF	ABOVE FINISHED FLOOR
	AFG	ABOVE FINISHED GRADE
	BFF	BELOW FINISHED FLOOR
	BFG	BELOW FINISHED GRADE
	MIN	MINIMUM
	TYP	TYPICAL
	GPF	GALLONS PER FLUSH
	GPH	GALLONS PER HOUR
	GPM	GALLON PER MINUTE
	FCO	FLOOR CLEANOUT
	COTG	CLEANOUT TO GRADE
	WCO	WALL CLEAN OUT
	TDL	TOTAL DEVELOPED LENGTH



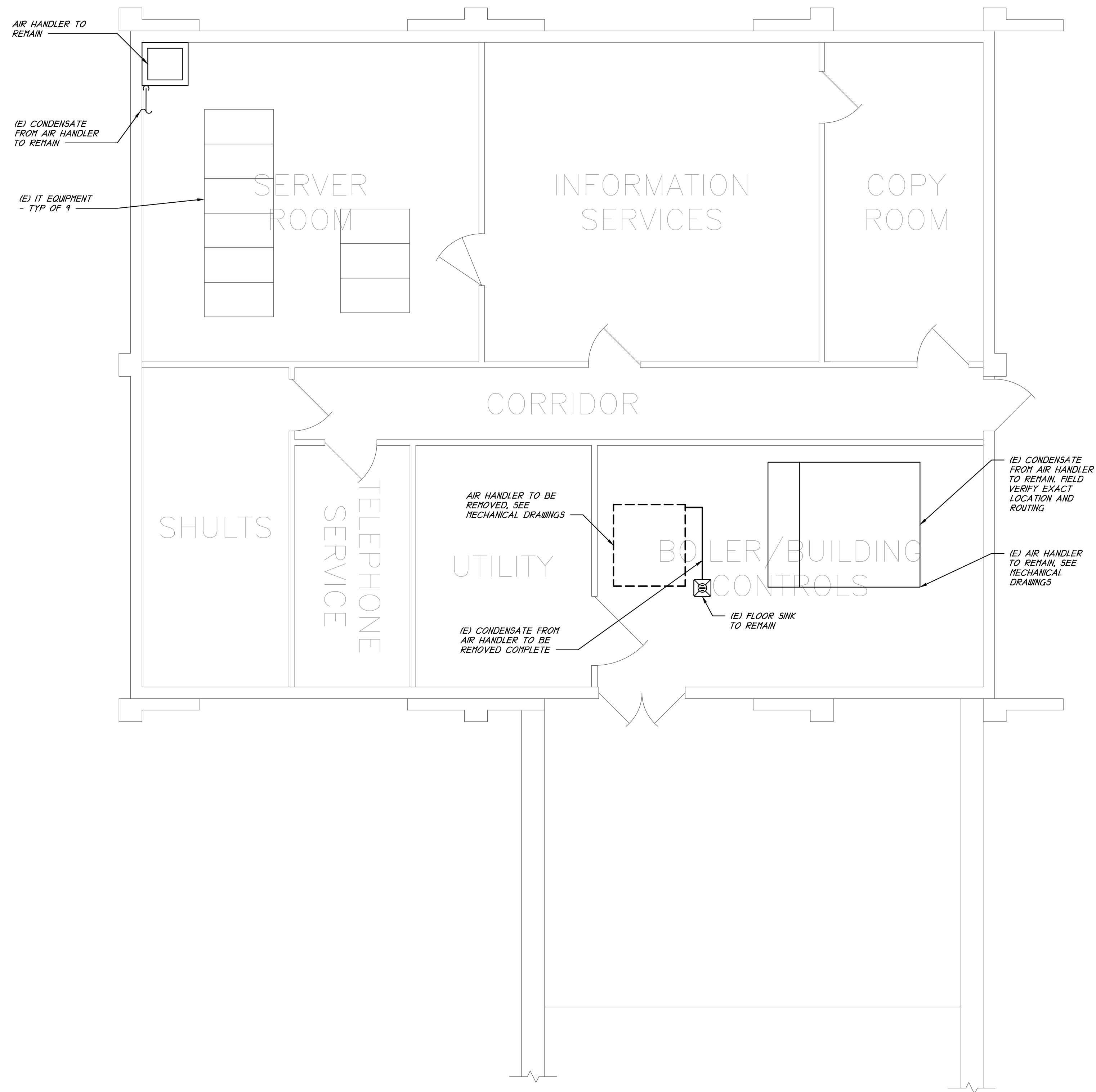
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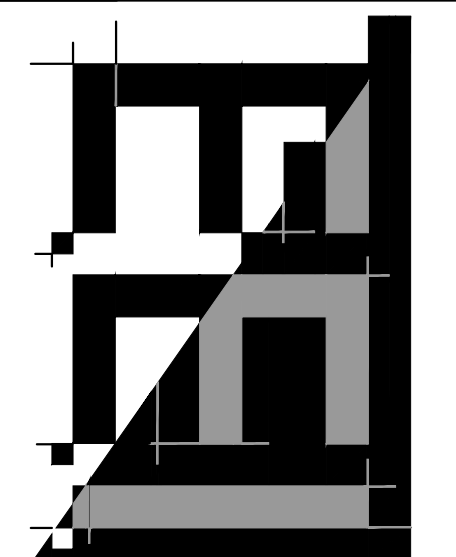
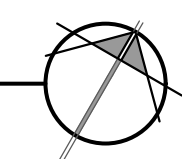
DRAWING TITLE
PLUMBING NOTES & DETAILS

date	09 / 25 / 19
job number	19030
drawn	SME
checked	BAE

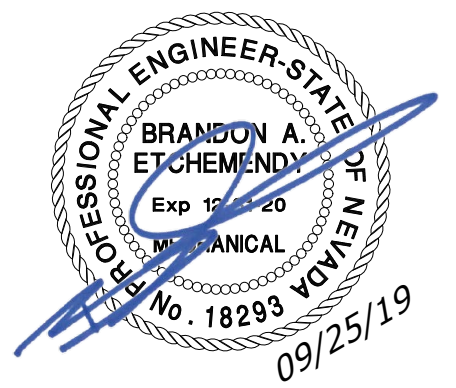
PO.1



DEMOLITION PLUMBING PLAN
 SCALE: 1/4" = 1'-0"



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 REDDING@ETCHEMENDY.COM



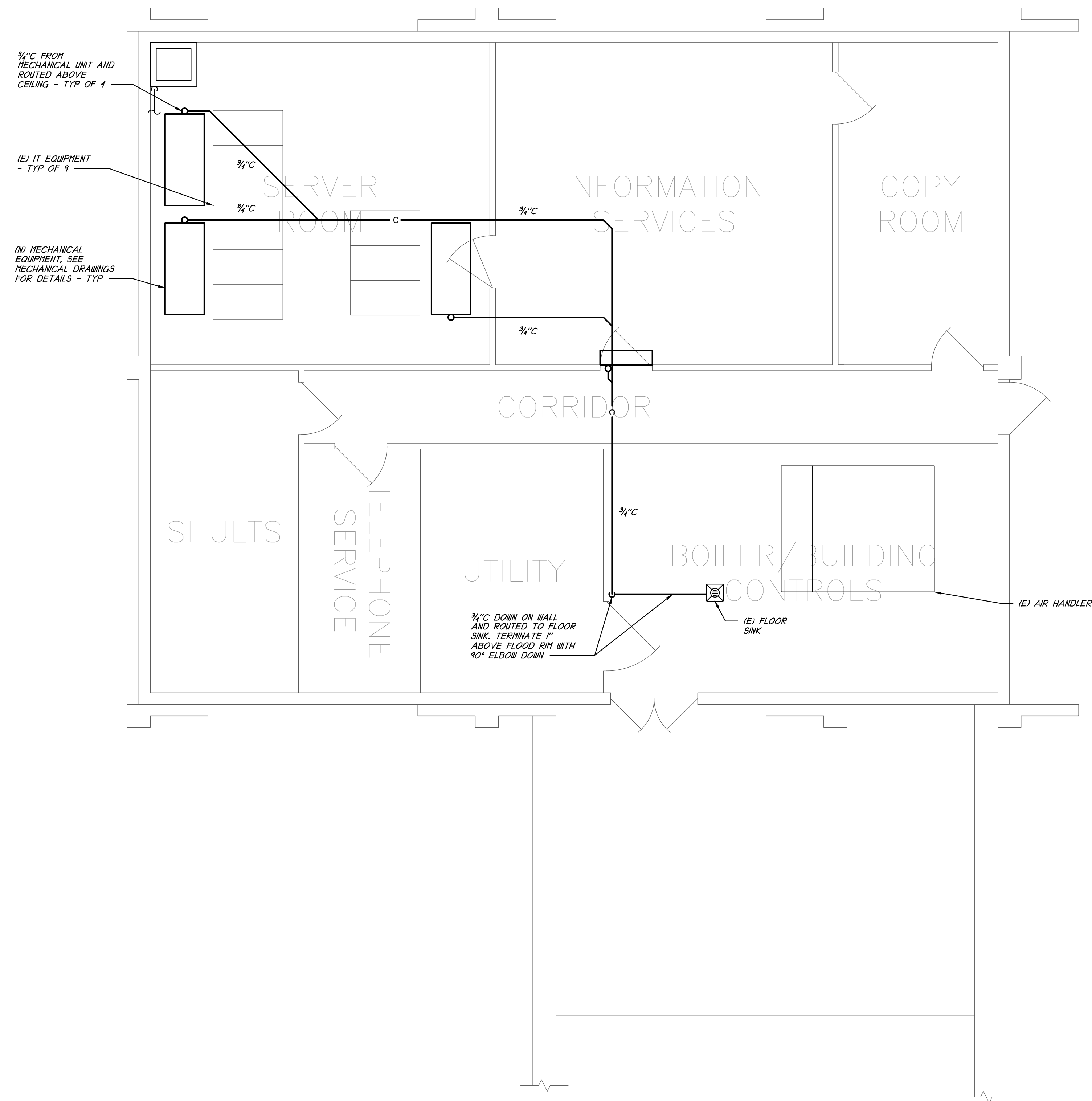
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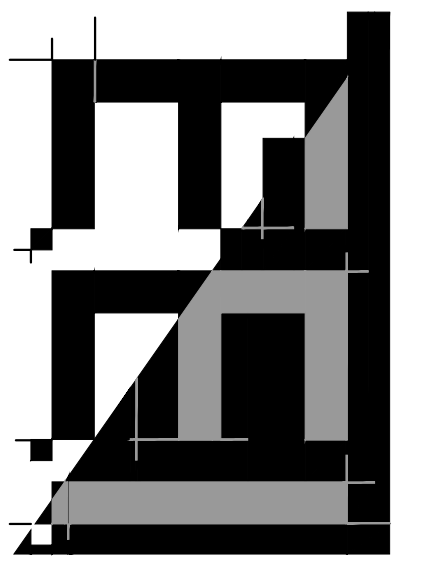
DRAWING TITLE
**DEMOLITION
 PLUMBING PLAN**

date: 09/25/19
 job number: 19030
 drawn: SME
 checked: BAE

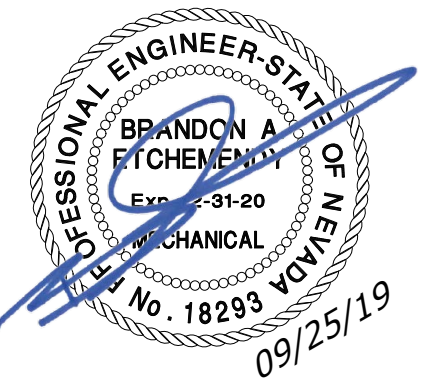
PI.1



PLUMBING PLAN
 SCALE: 1/4" = 1'-0"



FITCHMEN
 ENGINEERING
 INC.
 10497 POINTE BLVD. SUITE 100
 F. 775-855-055 F. 775-852-2502
 REGISTRATION NO. 1220



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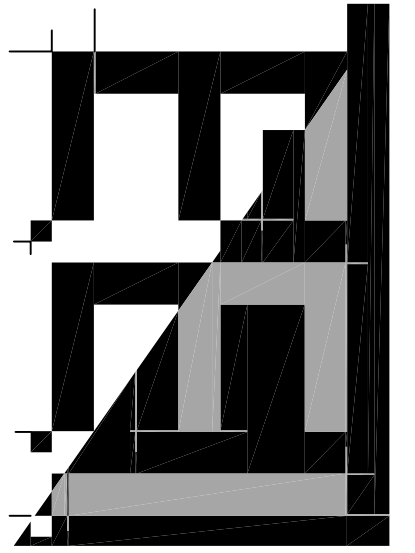
DRAWING TITLE
PLUMBING PLAN

date: 09/25/19
 job number: 19030
 drawn: SME
 checked: BAE

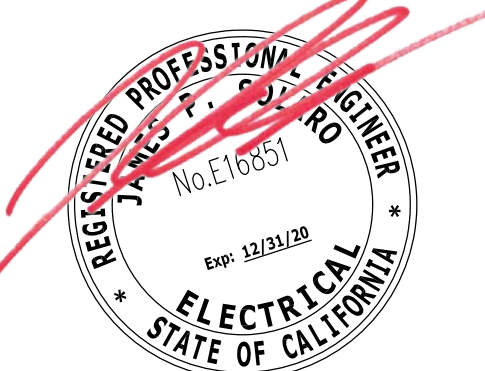
P2.1

SPECIFICATIONS	
ITEM	DESCRIPTION
16.1	STANDARDS AND CODES: ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE (NEC), AS WELL AS ALL APPLICABLE STATE AND LOCAL CODES AND ORDINANCES. THIS DOES NOT RELIEVE THE CONTRACTOR FROM FURNISHING AND INSTALLING WORK SHOWN OR SPECIFIED WHICH MAY EXCEED THE REQUIREMENTS OF SUCH ORDINANCES, LAWS, REGULATIONS AND CODES.
16.2	COMPLETE INSTALLATION: PROVIDE ALL LABOR, MATERIALS, EQUIPMENT, TOOLS, ACCESSORIES, ETC., NECESSARY TO ACCOMPLISH A COMPLETE ELECTRICAL SYSTEM IN ACCORDANCE WITH THE PLANS TOGETHER WITH THE SPECIFICATIONS.
16.3	PERMITS: OBTAIN AND PAY FOR ALL BUILDING AND WORKING PERMITS AND INSPECTION FEES REQUIRED FOR THIS PROJECT.
16.4	DRAWINGS: DATA PRESENTED ON THESE DRAWINGS SHALL BE FIELD VERIFIED SINCE ALL DIMENSIONS, LOCATIONS, AND LEVELS ARE GOVERNED BY ACTUAL FIELD CONDITIONS. REVIEW ALL ARCHITECTURAL, STRUCTURAL, CIVIL, MECHANICAL AND SPECIALTY SYSTEMS DRAWINGS AND ADJUST ALL WORK TO MEET THE REQUIREMENTS ON CONDITIONS SHOWN THEREON, DO NOT SCALE ELECTRICAL PLANS FOR FIXTURE, DEVICE OR APPLIANCE LOCATIONS. USE CONFIGURED DIMENSIONS IF GIVEN OR CHECK ARCHITECTURAL OR MECHANICAL DRAWINGS.
16.5	COPYRIGHT: THESE PLANS, SPECIFICATIONS AND ALL RELATED ADDENDA AND DOCUMENTS CONSTITUTE COPYRIGHT MATERIALS OF JP ENGINEERING. ALL RIGHTS CONFERRED BY THE COPYRIGHT AND SIMILAR LAWS ARE RESERVED TO JP ENGINEERING. THESE MATERIALS SHALL REMAIN THE SOLE PROPERTY OF JP ENGINEERING AND MAY NOT BE REPRODUCED, DISTRIBUTED TO OTHERS OR USED FOR ANY PURPOSE WHATSOEVER WITHOUT THE PRIOR WRITTEN CONSENT OF JP ENGINEERING.
16.6	LOCATIONS: INDICATED LOCATIONS OF ALL OUTLETS AND EQUIPMENT ARE SUBJECT TO CHANGE. SHIFT/RELOCATE/RECONFIGURE ANY OUTLET, EQUIPMENT OR CONNECTION POINT UP TO 10' AS DIRECTED BY ENGINEER, AT NO ADDED COST.
16.7	RECORD DRAWINGS: CONTRACTOR SHALL PROVIDE, PRIOR TO FINAL ACCEPTANCE AND OBSERVATION, ONE SET OF REVISED RECORD ELECTRICAL CONSTRUCTION DOCUMENTS ON REPRODUCIBLE MEDIUM INDICATING THE FOLLOWING ADDITIONAL INFORMATION: EXACT ROUTING OF ALL CONDUITS LARGER THAN 1" EXACT LOCATION OF ALL SERVICE GROUNDING/BONDING CONNECTIONS CONTRACTORS NAME, ADDRESS AND TELEPHONE NUMBER RECORD NOTATIONS SHALL BE CLEARLY DRAWN AT A DRAFTING APPEARANCE EQUAL TO THE ORIGINAL DRAWINGS. CONTRACTOR SHALL ALSO PROVIDE ALL OPERATING AND MAINTENANCE MANUALS PRIOR TO FINAL PAYMENT.
16.8	EXAMINATION OF SITE AND EXISTING CONDITIONS: BEFORE SUBMITTING A PROPOSAL, CONTRACTOR SHALL EXAMINE THE SITE AND FAMILIARIZE HIMSELF WITH THE EXISTING CONDITIONS AND LIMITATIONS. NO EXTRAS WILL BE ALLOWED BECAUSE OF THE CONTRACTOR'S MISUNDERSTANDING OF THE AMOUNT OF WORK INVOLVED OR HIS LACK OF KNOWLEDGE OF ANY SITE CONDITIONS WHICH MAY AFFECT HIS WORK. ANY APPARENT VARIANCE OF THE DRAWINGS OR SPECIFICATIONS FROM THE EXISTING CONDITIONS AT THE SITE SHALL BE CALLED TO THE ATTENTION OF THE ENGINEER BEFORE SUBMITTING A PROPOSAL.
16.9	EXISTING OUTLETS: EXISTING OUTLETS AND CIRCUITING NOT IN CONFLICT WITH NEW CONDITIONS SHALL REMAIN. EXTEND OUTLETS TO NEW SURFACES, CAULK AND PROVIDE JUMBO PLATES AS REQUIRED TO PRESENT A SERVICEABLE AND FINISHED APPEARANCE.
16.10	EXISTING SWITCHGEAR: REUSE EXISTING SWITCHGEAR AND PANELS IN PLACE WHERE SO INDICATED. MODIFY AS REQUIRED TO ACCOMMODATE NEW WORK. PROVIDE NEW CIRCUIT BREAKERS AND/OR FUSES AS REQUIRED. REARRANGE EXISTING CIRCUITS WITHIN PANELS TO AGREE WITH NEW PANEL SCHEDULES. TRACE AND IDENTIFY ALL EXISTING CIRCUITS ON NEW RECORD PANEL SCHEDULES.
16.11	DEMOLITION: PROVIDE COMPLETE ELECTRICAL DEMOLITION: REMOVE EXISTING OUTLETS AND EQUIPMENT IN CONFLICT WITH NEW CONDITIONS. EXISTING CONDUITS REMOVED FROM SERVICE MAY BE ABANDONED IN PLACE IF IN A CONCEALED LOCATION. REMOVE ALL WIRE FROM ABANDONED RACEWAYS. CONTRACTOR SHALL INSURE CONTINUITY OF EXISTING CIRCUITING PASSING THROUGH DEMOLITION AREAS. EXTEND AND/OR RELOCATED AS NECESSARY. SHIFT/RELOCATE EXISTING EQUIPMENT AND CIRCUITING AS REQUIRED TO ACCOMMODATE NEW WORK.
16.12	SALVAGE: ALL EXISTING EQUIPMENT REMOVED DURING THE COURSE OF THIS PROJECT SHALL BE OFFERED TO OWNER FOR SALVAGE. ANY EQUIPMENT SELECTED BY OWNER SHALL BE DELIVERED TO OWNER ON SITE. ALL REMAINING EQUIPMENT BECOMES THE PROPERTY OF THIS CONTRACTOR AND SHALL BE REMOVED FROM THE SITE.
16.13	TESTING: PRIOR TO PLACING IN SERVICE, ALL ELECTRICAL SYSTEMS SHALL BE TESTED FOR OPENS, GROUNDS, AND PHASE ROTATION. THE MAIN SERVICE GROUND AND ALL LOCAL TRANSFORMER MADE GROUNDS SHALL BE MEGGER-TESTED.
16.14	GROUNDING: TEST EXISTING SERVICE NEUTRAL FOR ADEQUACY AND FOR GROUND CONTINUITY. GROUND ALL EQUIPMENT AND SYSTEM NEUTRAL IN ACCORDANCE WITH ARTICLE 250 OF THE NEC. EQUIPMENT GROUNDS HAVE NOT BEEN SHOWN ON DRAWINGS - WHERE GROUND WIRES HAVE BEEN SHOWN THEY INDICATE AN INSULATED GROUND.
16.15	EQUIPMENT STANDARDS: ALL MATERIALS AND EQUIPMENT SHALL BE NEW AND OF THE HIGHEST QUALITY AVAILABLE ("SPECIFICATION GRADE"). SERVICE EQUIPMENT SHALL BE FACTORY-ASSEMBLED COMMERCIAL-GRADE, CONFIGURED PER SERVING UTILITY STANDARDS. WIRING DEVICES SHALL BE SPECIFICATION GRADE WITH NYLON PLATES, WHITE UNLESS OTHERWISE NOTED, RAISED STEEL BOX COVERS MAY BE USED IN UTILITY AREAS.
16.16	MATCH EXISTING: EXISTING EQUIPMENT AND SYSTEMS SHALL BE CONSIDERED A MINIMUM STANDARD TO BE MET, IF NOT OTHERWISE EXCEEDED BY THESE PLANS AND SPECIFICATIONS. NEW MATERIALS AND EQUIPMENT SHALL MATCH EXISTING IN APPEARANCE AND FUNCTION.
16.17	TAMPER-PROOF: ALL EQUIPMENT AND CIRCUITING ACCESSIBLE BY THE PUBLIC SHALL BE TAMPER-PROOF AND VANDAL RESISTANT. OPENABLE DEVICES AND EQUIPMENT SHALL BE PADLOCKABLE.
16.18	DISTRIBUTION EQUIPMENT: DISTRIBUTION EQUIPMENT SHALL BE DEAD-FRONT, PANELBOARD OR SWITCHBOARD TYPE AS INDICATED. UL-LABELED AND ENCLOSED IN A NEMA HOUSING APPROPRIATE TO ITS LOCATION AND APPLICATION WITH HINGED WIREWAY COVERS. BUSSING, DEVICE FINGERS AND LUGS SHALL BE COPPER UNLESS INDICATED ON DRAWINGS. AIC RATINGS SHOWN ON PLANS ARE MINIMUM RATINGS. CIRCUIT BREAKERS SHALL BE IN EXCESS OF THE AVAILABLE FAULT CURRENT. SERIES-RATING OF UPSTREAM AND DOWNSTREAM CIRCUIT BREAKERS TO ACHIEVE REQUIRED FAULT CURRENT RATINGS IS PROHIBITED UNLESS APPROVED BY ENGINEER IN WRITING.
16.19	PANELBOARDS: PANELS SHALL HAVE FLUSH MONO-FLAT TRIM, LOCKING DOOR-IN-DOOR HINGED COVERS AND BOLT-ON CIRCUIT BREAKERS. FLUSH-MOUNTED PANELS SHALL HAVE EMPTY CONDUITS STUBBED TO ACCESSIBLE ATTIC SPACE: ONE 1" CONDUIT FOR EACH FOUR SPARE/SPACE CIRCUITS. PROVIDE ONE TYPED AND ONE SPARE PANEL SCHEDULE FOR OWNER'S USE. SCHEDULES SHALL BE TWO COLUMN TYPE WITH ODD CIRCUIT NUMBERS ON THE LEFT AND EVEN NUMBERS ON THE RIGHT.
16.20	CODE COMPLIANCE: A. WORKING CLEARANCE: • THE CONTRACTOR SHALL VERIFY THAT ALL ELECTRICAL EQUIPMENT MEETS THE CLEARANCE REQUIREMENTS OF NEC 110.26. DRAWINGS REPRESENT CLEARANCES ARE MET AS DESIGNED, ANY DEVIATION SHALL ALSO MEET THIS REQUIREMENT. • ELECTRICAL SWITCHBOARDS RATED 1200 AMPS OR GREATER, IN EXCESS OF 6 FEET IN LENGTH, SHALL REQUIRE TWO (2) EXITS FROM THE ELECTRICAL ROOM UNLESS NEC 110.26(C)(2)(a) OR 110.26(C)(2)(b) ARE MET. B. TRANSFORMERS: • TRANSFORMERS RATED GREATER THAN 112.5 KVA SHALL BE PLACED IN ELECTRICAL ROOMS WITH A 1-HOUR FIRE RATING PER NEC 450.21(B) WHERE THEY DO NOT MEET THE TRANSFORMER SECTION. TRANSFORMERS AS SPECIFIED IN THIS SECTION MEET NEC 450.21(B) EXCEPTION #2 AND ARE NOT REQUIRED TO BE PLACED IN A 1-HOUR RATED ROOM.
16.21	CIRCUITING: ALL WIRING SHALL BE IN CONDUIT, MINIMUM 3/4" O.D. CONCEALED EXCEPT WHERE NOTED. EMT WITH STEEL SET SCREW INSULATED-THROAT FITTINGS MAY BE USED IN DRY, PROTECTED INTERIOR LOCATIONS. PVC SCHEDULE 40 SHALL BE USED BELOW GRADE AT MINIMUM -24". WRAPPED RIGID ELBOWS AND RISERS SHALL BE USED FOR ALL THROUGH-GRADE TRANSITIONS AND STUB-UPS. RGS OR MC CONDUIT WITH THREADED FITTINGS SHALL BE USED IN ALL LOCATIONS WHERE EXPOSED TO THE ELEMENTS OR SUBJECT TO PHYSICAL DAMAGE. METAL-CLAD CABLE (TYPE MC) WILL BE ACCEPTABLE FOR SINGLE CIRCUIT BRANCH CIRCUITING, FLEXIBLE WHIPS FROM JUNCTION BOXES TO LIGHTING FIXTURES (MAXIMUM OF 6'-0"), WITHIN CASEWORK AND ACCESSIBLE AREAS ONLY. TYPE MC CABLE MAY NOT BE USED FOR HOMERUNS. ENT IS NOT ALLOWED. CONNECT RECESSED AND SUSPENDED LIGHTING FIXTURES, MOTORIZED AND VIBRATING EQUIPMENT WITH STEEL FLEX. ALL CONDUIT SHALL HAVE PULL CORD IF OTHERWISE EMPTY.
16.22	WIRING: WIRE SHALL BE COPPER UNLESS OTHERWISE INDICATED. MINIMUM WIRE SIZE SHALL BE #12 AWG. INSULATION SHALL BE THW, THWN OR THHN.
16.23	FUSES: FUSES SHALL BE SIZED PER ACTUAL NAMEPLATE OF EQUIPMENT SERVED. FUSES SHALL BE DUAL-ELEMENT, CURRENT-LIMITING, AND SHALL BE INTERCHANGEABLE BETWEEN FRAME SIZES WITH STANDARD FACTORY FUSE REDUCERS. FUSES SHALL BE AS FOLLOWS UNLESS OTHERWISE INDICATED: a. CIRCUITS 601 TO 6000 AMPERES SHALL BE PROTECTED BY CURRENT LIMITING BUSSMANN LOW-PEAK TIME-DELAY FUSES KRP-C - UL CLASS L b. CIRCUITS 0 TO 800 AMPERES SHALL BE PROTECTED BY CURRENT LIMITING BUSSMANN LOW-PEAK DUAL-ELEMENT FUSES LPN-RK (250 VOLTS) OR LPS-RK (600 VOLTS) - UL CLASS RK1 c. ALL INDIVIDUAL MOTOR CIRCUITS RATED 480 AMPERES OR LESS SHALL BE PROTECTED BY BUSSMANN LOW-PEAK DUAL-ELEMENT FUSES LPN-RK (250 VOLTS) OR LPS-RK (600 VOLTS) - UL CLASS RK1 OR L d. CIRCUIT BREAKER PANELS SHALL BE PROTECTED BY BUSSMANN LOW-PEAK DUAL-ELEMENT FUSES LPN-RK (250 VOLTS), LPS-RK (600 VOLTS) OR BUSSMANN LOW-PEAK KRP-C TIME-DELAY FUSES - UL CLASS RK1 OR L e. ALL DUAL-ELEMENT FUSES SHALL HAVE SEPARATE OVERLOAD AND SHORT-CIRCUIT ELEMENTS. f. PROVIDE SPARE FUSE CABINET AFTER THE COMPLETION OF THE PROJECT WITH ONE SET OF SPARE FUSES FOR EVERY SIZE USED.
16.24	UTILITY SERVICES: PROVIDE POWER AND COMMUNICATIONS SYSTEM SERVICES IN ACCORDANCE WITH THE REQUIREMENTS OF THE SERVING UTILITIES. PROVIDE EXCAVATION, RACEWAY, STRUCTURES, GROUNDING, ETC. AS REQUIRED. CONTACT SERVING UTILITIES AND OBTAIN THEIR PROJECT SPECIFIC REQUIREMENTS PRIOR TO BID. UTILITY WORK INDICATED HEREIN IS FOR BIDDING ASSISTANCE ONLY. THESE PLANS DO NOT PURPORT TO INDICATE ALL WORK REQUIRED. (UTILITY SERVICE CHARGES PAID BY OTHERS)
16.25	TEMPORARY CONSTRUCTION POWER: PROVIDE TEMPORARY ELECTRICAL POWER AND LIGHTING FOR ALL TRADES THAT REQUIRE SERVICE DURING THE COURSE OF THIS PROJECT. PROVIDE TEMPORARY SERVICE AND DISTRIBUTION AS REQUIRED. COMPLY WITH THE NEC AND OSHA REQUIREMENTS. (ENERGY COSTS BY OTHERS).
16.26	SUBMITTALS: BEFORE ORDERING ANY EQUIPMENT, CONTRACTOR SHALL SUBMIT SIX COPIES OF FACTORY SHOP DRAWINGS FOR ALL LIGHTING FIXTURES, SWITCHGEAR, PANELS, MOTOR CONTROLLERS, WIRING DEVICES, ETC. PROPOSED FOR THIS PROJECT.
16.27	SUBSTITUTIONS: PROPOSED SUBSTITUTIONS SHALL BE EQUAL OR SUPERIOR TO SPECIFIED ITEMS IN ALL RESPECTS. QUALITY OF EQUALITY RESTS SOLELY WITH ENGINEER. SUBSTITUTIONS MUST BE SUBMITTED A MINIMUM OF 10 WORKING DAYS PRIOR TO BID FOR CONSIDERATION. PROPOSED SUBSTITUTIONS PROVIDED LATER WILL NOT BE REVIEWED OR ALLOWED. BID SUBSTITUTED MATERIAL WILL NOT BE ALLOWED IF ACCEPTED IN WRITING BY ENGINEER.
16.28	IDENTIFICATION: PROVIDE ENGRAVED NAMEPLATES FOR ALL SWITCHBOARDS, PANELS, TRANSFORMERS, DISCONNECTS, MOTOR STARTERS, CONTACTORS, TIME SWITCHES AND CABINETS. NAMEPLATES SHALL INCLUDE THE FOLLOWING INFORMATION AS APPLICABLE: DESIGNATION (i.e. PANEL A) FUNCTION (i.e. AIR HANDLER AH-1) VOLTAGE, PHASE, WIRE (i.e. 480 VOLT, 3Ø, 4W) FEEDER SIZE (i.e. 4-#4/0 THWN CU IN 2" C.) SOURCE (i.e. SWITCHBOARD MSB) NAMEPLATES SHALL BE WHITE LETTERS ON BLACK FOR NORMAL EQUIPMENT AND WHITE LETTERS ON RED FOR EMERGENCY EQUIPMENT.
16.29	GUARANTEE: THE COMPLETE ELECTRICAL SYSTEM, AND ALL PORTIONS THEREOF, SHALL BE GUARANTEED TO BE FREE FROM DEFECTS IN WORKMANSHIP AND MATERIALS FOR A PERIOD OF ONE YEAR FROM DATE OF FINAL ACCEPTANCE. PROMPTLY REMEDY SUCH DEFECTS AND ANY SUBSEQUENT DAMAGE CAUSED BY THE DEFECTS OR REPAIR THEREOF AT NO EXPENSE TO THE OWNER. LAMPS ARE EXEMPT FROM THIS GUARANTEE, BUT SHALL BE NEW AT TIME OF FINAL ACCEPTANCE.
16.30	SUSPENDED CEILING SYSTEMS: ALL LAY-IN FIXTURES SHALL BE INDEPENDENTLY SUPPORTED BY TWO #12 SLACK WIRES ATTACHED TO TWO OPPOSITE CORNERS OF THE FIXTURE PER UBC & NEC REQUIREMENTS. THESE WIRES SHALL BE SECURED TO THE STRUCTURAL FRAMING SUCH THAT FAILURE OF THE SUSPENDED CEILING SHALL NOT ALLOW THE FIXTURE TO DROP.
16.31	COORDINATION: THE CIVIL, ARCHITECTURAL, MECHANICAL, KITCHEN AND INTERIOR DRAWINGS CONTAIN DETAIL DESCRIPTIONS, CIRCUITING AND CONNECTION REQUIREMENTS WHICH ARE PART OF DIVISION 16 RESPONSIBILITIES. ELECTRICAL CONTRACTOR SHOULD NOT SUBMIT BIDS ON THIS PROJECT BEFORE REVIEWING ALL PROJECT DRAWINGS, SPECIFICATIONS AND ADDENDA.
16.32	FIRE ALARM: EXISTING FIRE ALARM SYSTEM TO REMAIN: MAINTAIN IN CONSTANT OPERATION DURING THIS PROJECT. NEW COMPONENTS AND CIRCUITING SHALL BE FACTORY-CERTIFIED AS BEING PROJECT-SPECIFIC COMPATIBLE WITH EXISTING SYSTEM. ALL CONNECTIONS TO EXISTING SYSTEM SHALL BE PERFORMED BY FACTORY-CERTIFIED TECHNICIAN AND SHALL BE ACCEPTED BY OWNER'S SYSTEM-MONITORING AGENCY. PLANS DO NOT INDICATE ALL DEVICES, CONNECTIONS OR CIRCUITING REQUIRED FOR A COMPLETE SYSTEM. SUBMIT PROPOSED DESIGN TO THE FIRE MARSHAL AND RECEIVE APPROVAL PRIOR TO ROUGH-IN.
16.33	ONGOING OPERATION: CONDUCT WORK TO MINIMIZE DISRUPTION OF OWNER'S ONGOING OPERATIONS. PROVIDE BARRICADES, NOISE ABATEMENT AND DUST CONTAINMENT MEASURES TO ENSURE THE SAFETY AND COMFORT OF PATRONS, STAFF AND WORKERS. INTERRUPTIONS OF EXISTING POWER, COMMUNICATIONS OR FIRE ALARM SYSTEMS SHALL BE PERFORMED ONLY AT SUCH TIMES AS DIRECTED BY RESIDENT ENGINEER. OUTAGES SHALL BE MOMENTARY IN NATURE. EACH SUCH OUTAGE (OR OPERATION WHICH MAY POSE RISK OF AN ACCIDENTAL OUTAGE) SHALL BE SCHEDULED 48 HOURS IN ADVANCE.

MASTER SYMBOL LIST	
SIGNAL OUTLETS	RECEPTACLES
TELEPHONE: 4S BOX WITH SINGLE GANG MUD RING UON, +18" AFF UON	DUPLEX: 20A, 125V, NEMA 5-20, +18" AFF
TELEPHONE: 4S BOX WITH SINGLE GANG MUD RING UON, WALL MOUNT +54" AFF UON	DOUBLE DUPLEX: 20A, 125V, NEMA 5-20, +18" AFF
DATA: 4S BOX WITH SINGLE GANG MUD RING UON, +18" AFF UON	HALF SWITCHED DUPLEX: 20A, 125V, NEMA 5-20, +18" AFF (TOP HALF SWITCHED)
VOICE/DATA: 4S BOX WITH SINGLE GANG MUD RING UON, +18" AFF UON	DUPLEX GFCI: 20A, 125V, GFCI, NEMA 5-20 GFR, +18" AFF
TELEVISION: 4S BOX WITH SINGLE GANG MUD RING UON, +18" AFF UON	DUPLEX I.C.: 20A, 125V, ISO, GND, NEMA 5-20 IG +18" AFF (WHITE WITH ORANGE TRIANGLE, UON)
CAMERA: 4S BOX WITH SINGLE GANG MUD RING UON, CEILING MOUNTED UON	DOUBLE DUPLEX I.C.: 20A, 125V, ISO, GND, NEMA 5-20 IG +18" AFF (WHITE WITH ORANGE TRIANGLE, UON)
MICROPHONE: 4S BOX WITH SINGLE GANG MUD RING UON, +18" AFF UON	SPECIAL RECEPTACLE - AS INDICATED ON PLANS, +18" AFF
VOLUME CONTROL: 4S BOX WITH SINGLE GANG MUD RING UON, +48" TO TOP UON	NOTE: DIAMOND SYMBOLS INDICATES DEDICATED CIRCUIT.
SPEAKER: 8" COAXIAL WITH BACK BOX AND GRILLE, CEILING MOUNTED UON	
3/4" (UON) STUB INTO ACCESSIBLE CEILING SPACE	
EQUIPMENT	
SWITCHBOARD	PANELBOARD: SURFACE MOUNTED
PANELBOARD: SURFACE MOUNTED	PANELBOARD: FLUSH MOUNTED
TRANSFORMER	RELAY (120V COIL , STEP DN XFMR IF REQUIRED, UON)
RELAY (120V COIL , STEP DN XFMR IF REQUIRED, UON)	CONTACTOR (120V COIL , STEP DN XFMR IF REQUIRED, UON)
COMBINATION MAGNETIC STARTER/FUSED DISCONNECT	NON-FUSIBLE DISCONNECT SWITCH
FUSIBLE DISCONNECT SWITCH	PULLBOX: SIZE AS REQUIRED BY NEC
JUNCTION BOX: SIZE AS REQUIRED BY NEC	JUNCTION BOX: SIZE AS REQUIRED BY NEC
SURFACE RACEWAY WITH OR WITHOUT DEVICES	TELEPOWER POLE
CIRCUITING	
CONDUIT IN WALL OR ABOVE CEILING	CONDUIT IN FLOOR OR BELOW GRADE
METAL CLAD CABLE (MC)	OVERHEAD SERVICE
PRIMARY	SECONDARY
TELEPHONE	TELEVISION
LOW VOLTAGE AND/OR CONTROL CIRCUITING	EMERGENCY CIRCUIT
STUB OUT: MARK AND CAP (SITE)	CIRCUITING UP OR DOWN
TICS = NO. OF #12 WIRES (UON) IF MORE THAN TWO WITHIN CONDUIT OR MC	ISOLATED GROUNDING CONDUCTOR
ISOLATED GROUNDING CONDUCTOR	GROUNDING CONDUCTOR
NEUTRAL CONDUCTOR (ONE PER PHASE CONDUCTOR)	PHASE CONDUCTOR(S)
HOMERUN DESIGNATION	
PHASE CONDUCTOR(S)	GROUNDING CONDUCTOR
ISOLATED GROUNDING CONDUCTOR	NEUTRAL CONDUCTOR (ONE PER PHASE CONDUCTOR)
PANEL DESIGNATION	
DESIGNATIONS	
LIGHT FIXTURE: F1 = TYPE (SEE FIXTURE SCHEDULE)	THERMOSTAT: AT +48" TO TOP UON (OR PER MECH PLANS)
SHEET NOTE	EXHAUST FAN: FRACTIONAL HORSEPOWER
REVISION DELTA: NUMBER REPRESENTS REVISION	MOTOR: NUMBER = HORSEPOWER
MECHANICAL AND PLUMBING EQUIPMENT	SIGNATURE CONNECTION
MISCELLANEOUS: THESE AND OTHER SYMBOLS AS INDICATED IN TABLES AND SCHEDULES ON THE PLANS.	SHUNT TRIP STATION: +7'-6" AFF, 12" RED TRIANGLE, UON
	CONTROL STATION: AT +48" TO TOP UON
	DUAL LEVEL LIGHTING CONTROL SWITCH 'a' = CENTER (1) LAMP SWITCH 'b' = OUTER (2) LAMPS
NOTE: THIS IS A MASTER SYMBOL LIST, ALL SYMBOLS SHOWN MAY NOT BE USED WITHIN THIS SET OF PLANS	



JP ENGINEERING
10597 DOUBLE R BLVD, RENO, NV 89521
P: 775.852.2337 F: 775.852.2352



REGISTERED PROFESSIONAL ENGINEER
No. 16657
Exp. 12/31/28
ELECTRICAL STATE OF CALIFORNIA
9/25/19

SERVER ROOM HVAC RETROFIT

INYO ANNEX BUILDING

168 N EDWARDS ST.
INDEPENDENCE, CALIFORNIA

REVISIONS

DRAWING TITLE

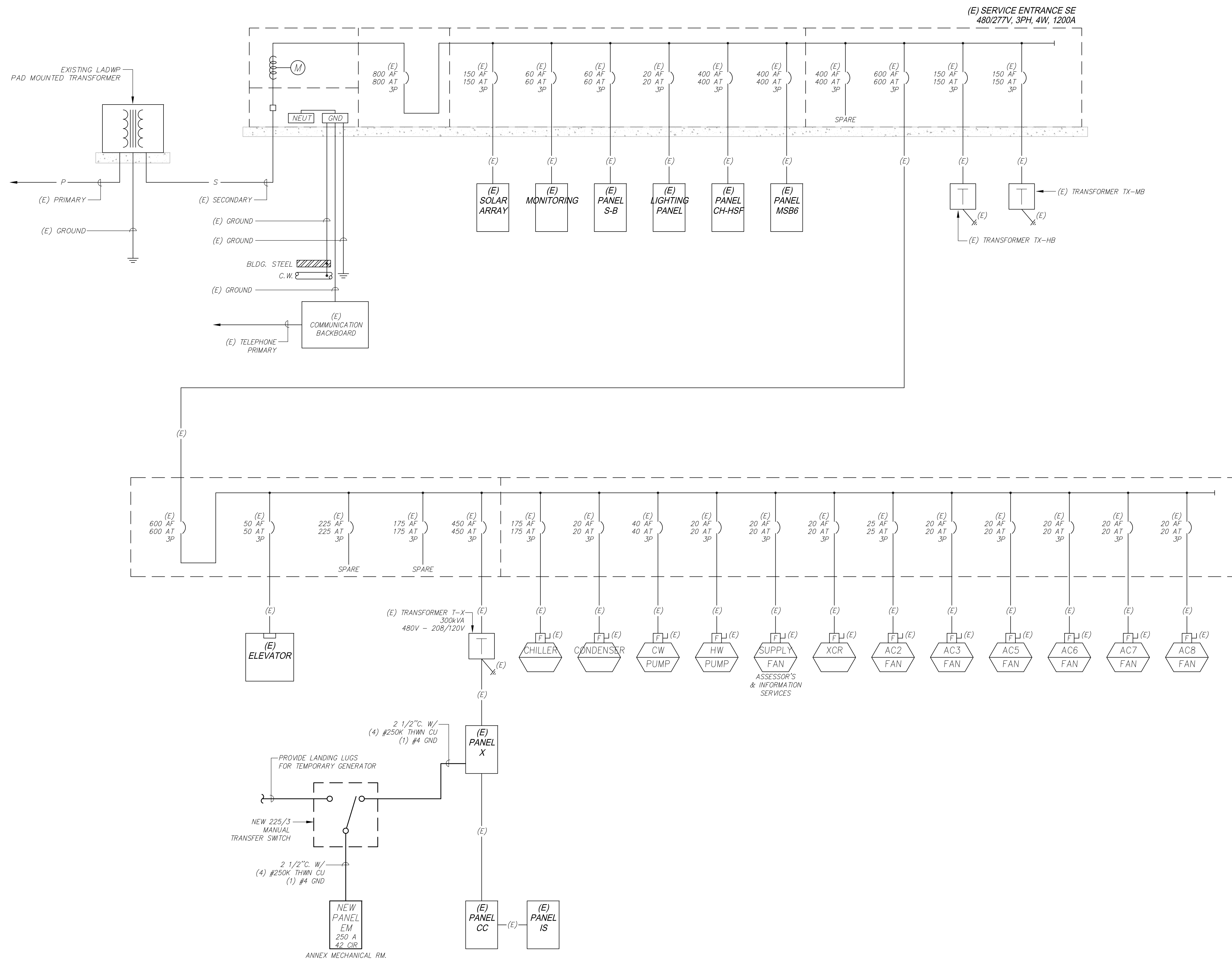
SYMBOL LIST AND SPECIFICATIONS

date: 09/25/19
job number: EEI #19030
drawn: JPS
checked: JPS

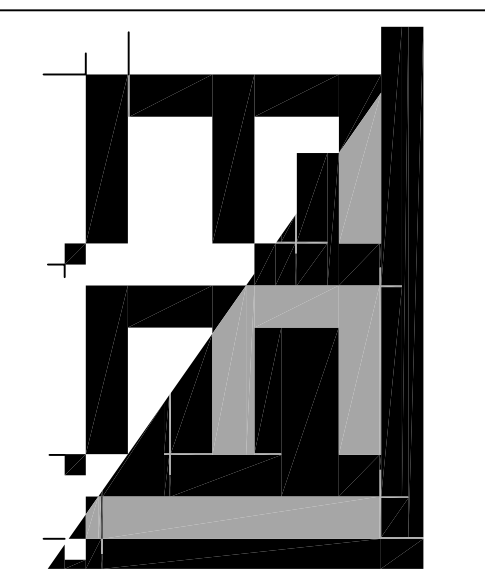


JP ENGINEERING
10597 Double R Blvd, Ste. 1 Reno, Nevada 89521 P: 775.852.2337 F: 775.852.2352

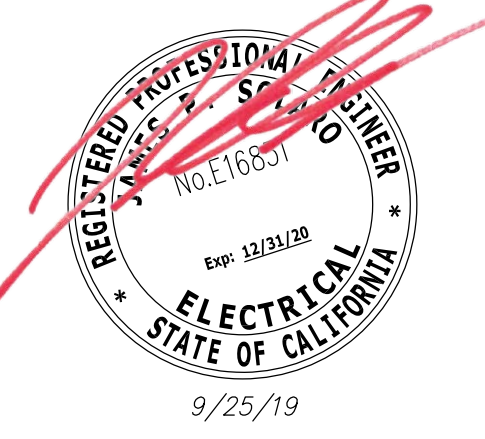
EOI



A	SINGLE LINE DIAGRAM
EO.2	SCALE: NOT TO SCALE

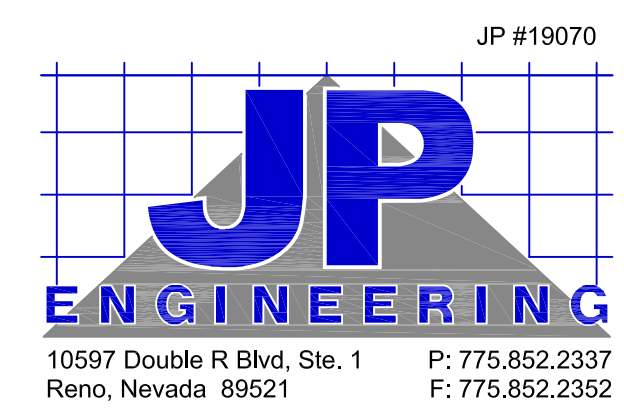


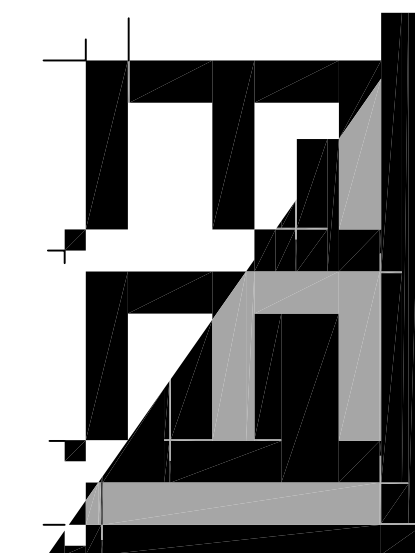
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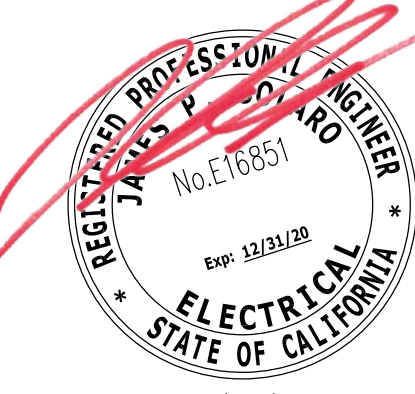
SERVER ROOM HVAC RETROFIT
INYO ANNEX BUILDING
 168 N EDWARDS ST.
 INDEPENDENCE, CALIFORNIA

REVISIONS	
DRAWING TITLE	SINGLE LINE DIAGRAM
date	09/25/19
job number	EEL #19030
drawn	JPS
checked	JPS
	EO.2

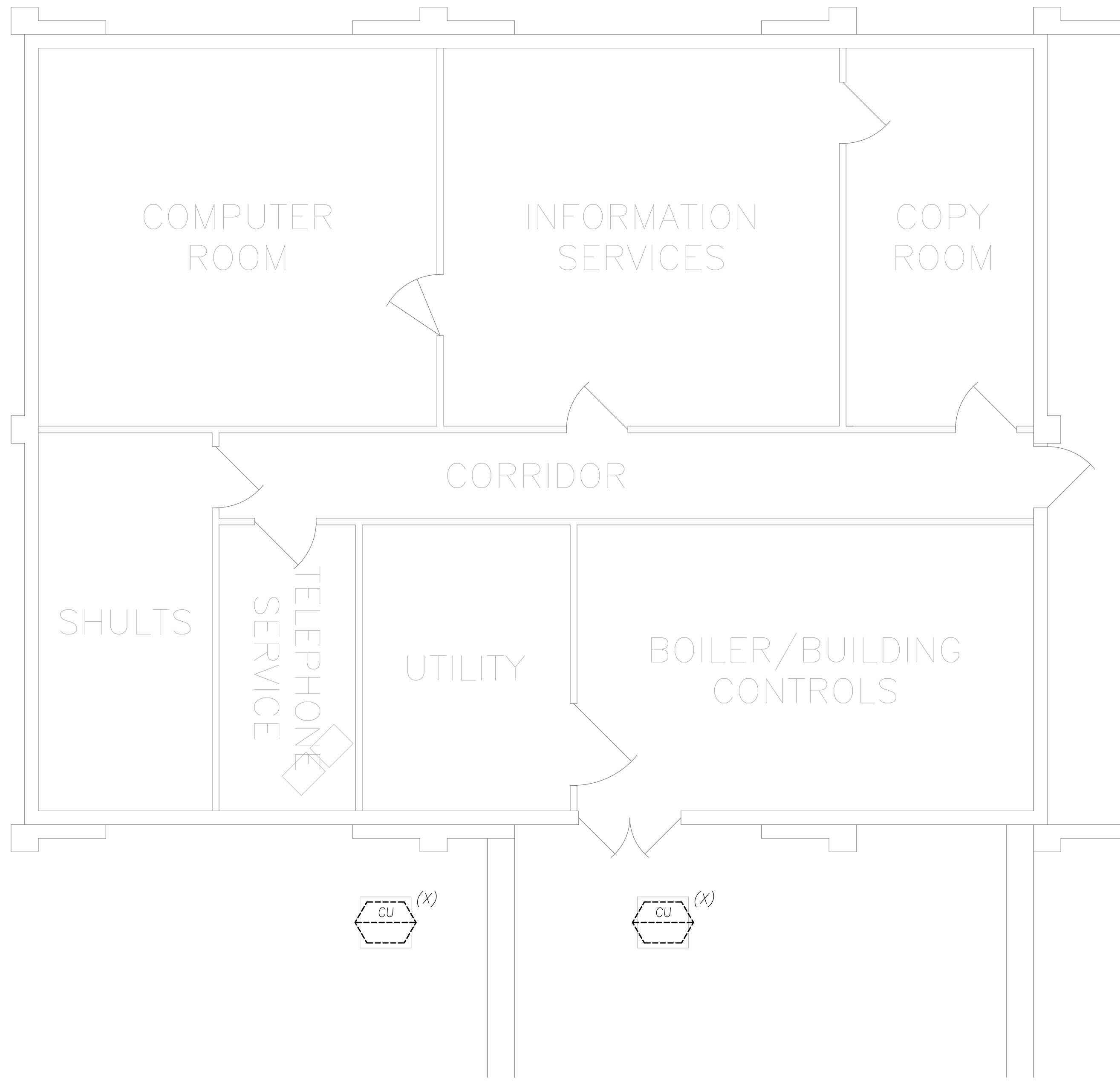




F. CHENY
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P: 775-852-1018 F: 775-852-2352
FCHENY@FCHENY.COM



9/25/19



SERVER ROOM HVAC RETROFIT
INYO ANNEX BUILDING
168 N EDWARDS ST.
INDEPENDENCE, CALIFORNIA

REVISIONS

DRAWING TITLE
**ELECTRICAL
DEMOLITION
PLAN**

date	09/25/19
job number	EEL #19030
drawn	JPS
checked	JPS

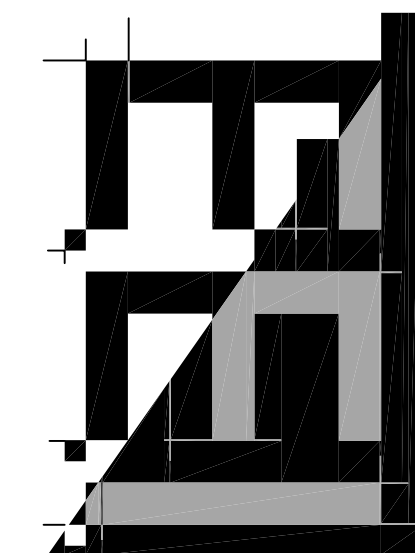
E1.1

A	ELECTRICAL DEMOLITION PLAN	
E1.1	SCALE: 1/4" = 1'-0"	

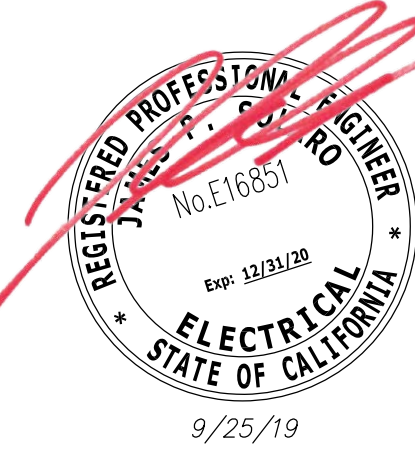
JP #19070

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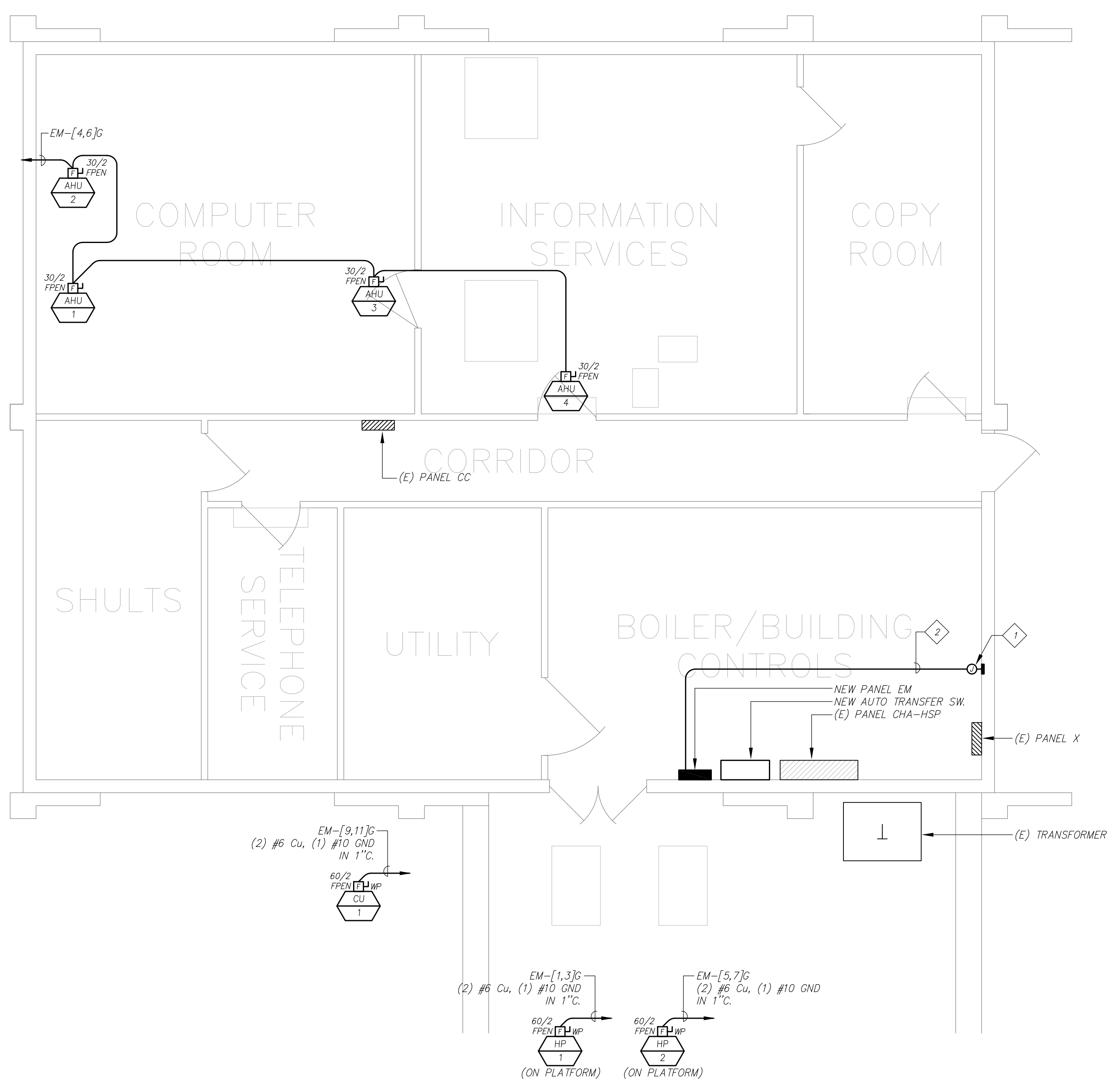
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9/25/19

SERVER ROOM HVAC RETROFIT
INYO ANNEX BUILDING
168 N EDWARDS ST.
INDEPENDENCE, CALIFORNIA

SHEET NOTES	
1	WITH THE ACCEPTANCE OF ALTERNATE #2, INTERCEPT THE EXISTING FEEDERS TO PANEL CC AT THIS LOCATION.
2	WITH THE ACCEPTANCE OF ALTERNATE #2, PROVIDE A NEW FEEDER PER THE SINGLE LINE DIAGRAM.



A **ELECTRICAL PLAN**
E2.1 SCALE: 1/4" = 1'-0"

E-EQUIPMENT, K-KITCHEN, L-LIGHTING, H-HEAT, M-MOTOR, M-H MOTOR (LARGEST), R-RECEPTS										LOCATION: ANNEX MECHANICAL RM		
DF	DESCRIPTION	LOAD	BKR	CIR	A	B	C	CIR	BKR	LOAD	DESCRIPTION	DF
L	MECHANICAL ROOM LTS	1600	20/1	1	1780			2	20/1	180	RECEPT NEXT TO PANEL X	R
L	HALL & OFFICE LIGHTS	1200	20/1	3		1300		4	20/1	100	RELAY CAB. AC-CONTROLS	E
L	TELE & STORAGE LIGHTS	240	20/1	5			960	6	20/1	720	DATA/PHONE RM RECEPTS	R
R	S. EAST OFF. COPY MACH	1200	20/1	7	1920			8	20/1	720	DATA/PHONE RM RECEPTS	R
E	BOILER CONTROLS	100	20/1	9		820		10	20/1	720	DATA/PHONE RM RECEPTS	R
E	BOILER CONTROLS	100	20/1	11			820	12	20/1	720	DATA/PHONE RM RECEPTS	R
E	BOILER CONTROLS/TCLK	100	20/1	13	1000			14	20/1	900	DATA/PHONE	R
	SPARE COVER LG&G		30	15		3328		16	50	3328	AC UNITS S. WALL	M
			2	17			3328	18	2	3328		M
			30	19	7680			20	100	7680		E
			-	21		7680		22	-	7680	PANEL E - JAN. CLOSET	E
			3	23			7680	24	3	7680		E
E	PANEL B - ANNEX 1ST FLR	15360	200	25	15360			26	40			
E		15360	-	27		15360		28	-		SPARE	
E		15360	3	29			15360	30	3			
E		17280	225	31	34560			32	225	17280		E
E	PNL CC - INFO SVCS HALL	17280	-	33		34560		34	-	17280	PANEL D - ENV. HEALTH	E
E		17280	3	35			34560	36	3	17280		E
E		5990	250	37	5990			38				
E	NEW PANEL EM	6161	-	39		6161		40				
E		6161	3	41				42				
					68290	69209	62708					

AMPS:	800	NEUTRAL BUS:	100%	CON. KVA:	200.2
VOLTAGE:	208	GROUND BUS:	STANDARD	CON. AMPS:	555.7
PHASE/WIRE:	3-PH, 4W	AIC RATING:	22,000	NET KVA:	207.1
MAIN:	(E) 500/3 MCB	NEMA RATING:	1	NET AMPS:	574.9
LUGS:	MLO	EXISTING PANEL		Notes:	BOLD TEXT = NEW LOAD
MOUNTING:	SURFACE				
BUS:	COPPER	X			
DOOR:	STANDARD				

E-EQUIPMENT, K-KITCHEN, L-LIGHTING, H-HEAT, M-MOTOR, M-H MOTOR (LARGEST), R-RECEPTS										LOCATION: ANNEX MECHANICAL RM		
DF	DESCRIPTION	LOAD	BKR	CIR	A	B	C	CIR	BKR	LOAD	DESCRIPTION	DF
M	HP-1	2995	50	1	2995			2	20/1		SPARE	
M		2995	2	3		3332		4	20	337	AHU-1 THRU AHU-4	M
M	HP-2	2995	50	5			3332	6	2	337		M
M		2995	2	7	2995			8	20/1		SPARE	
M1	CU-1	2829	60	9		2829		10	20/1		SPARE	
M1		2829	2	11			2829	12	20/1		SPARE	
				13	0			14				
				15		0		16				
				17			0	18				
				19	0			20				
				21			0	22				
				23				24				
				25	0			26				
				27			0	28				
				29				30				
				31	0			32				
				33			0	34				
				35				36				
				37	0			38				
				39			0	40				
				41				42				
					5990	6161	6161					

AMPS:	250	NEUTRAL BUS:	100%	CON. KVA:	18.3
VOLTAGE:	208	GROUND BUS:	STANDARD	CON. AMPS:	50.8
PHASE/WIRE:	3-PH, 4W	AIC RATING:	22,000	NET KVA:	19.7
MAIN:	(E) 500/3 MCB	NEMA RATING:	1	NET AMPS:	54.8
LUGS:	MLO	NEW PANEL		Notes:	NEW PANEL
MOUNTING:	SURFACE				
BUS:	COPPER	EM			
DOOR:	STANDARD				

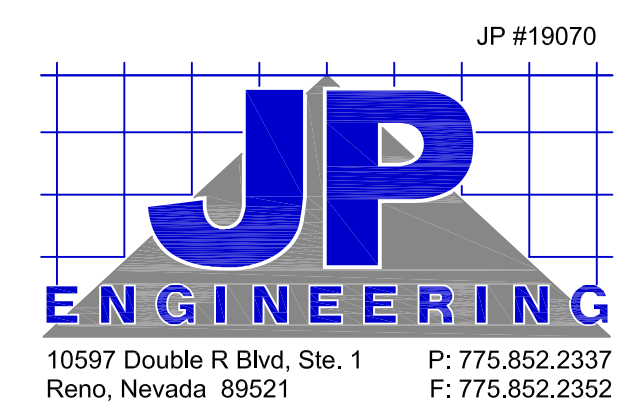
REVISIONS

DRAWING TITLE

ELECTRICAL PLAN

date	09/25/19
job number	EEL #19030
drawn	JPS
checked	JPS

E2.1





County of Inyo



Sheriff

CONSENT - ACTION REQUIRED

MEETING: November 5, 2019

FROM: OFFICE OF THE SHERIFF

SUBJECT: Declare Dooley Enterprises, Inc. as Sole Source and approve purchase of ammunition.

RECOMMENDED ACTION:

Request Board: A) declare Dooley's Enterprises, Inc. of Anaheim, CA a sole-source provider of ammunition; and B) authorize the issuance of a purchase order in an amount not to exceed \$30,000, payable to Dooley's Enterprises, Inc. of Anaheim, CA for ammunition.

SUMMARY/JUSTIFICATION:

The Sheriff's Office is requesting to purchase ammunition for use in all weapons belonging to the Sheriff's Office. Ammunition is an essential part of our daily operation and annual training. This is a sole provider of goods or services that perform the intended function or meet the specialized needs of the County. The Sheriff's Department uses Winchester Ammunition and Dooley is the only authorized distributor in the Southern California area (for which we are a part of), Alaska, Nevada, Oregon and Washington. It is not desirable to use different brands of ammunition in weapons. We use Winchester because we are a small agency and do not have the funds needed to test and evaluate ammunition. The FBI does test and evaluate ammo, the results from their T&E program deemed Winchester ammo the best all-around ammunition for Law Enforcement use. Winchester won the FBI contract to supply them with ammunition. That was based on cost, reliability and performance.

BACKGROUND/HISTORY OF BOARD ACTIONS:

ALTERNATIVES AND CONSEQUENCES OF NEGATIVE ACTION:

Your board could choose to deny this purchase. This action would cause the department to delay training until such a time that we can provide ammunition to our employees. It is imperative to keep up with our training policies and that of the State. Without continued training and skill development, our staff cannot perform to the best of their ability, leaving them and the County at greater risk.

OTHER AGENCY INVOLVEMENT:

Auditor's Office
Purchasing Agent
County Counsel
Dooley Enterprises, Inc.

FINANCING:

These invoices will be paid from multiple budgets, and object codes within our department budget authority. There is sufficient budget split between all Sheriff divisions to make these payments.

ATTACHMENTS:

APPROVALS:

Riannah Reade	Created/Initiated - 10/17/2019
Darcy Ellis	Approved - 10/17/2019
Riannah Reade	Approved - 10/18/2019
Amy Shepherd	Approved - 10/21/2019
Marshall Rudolph	Approved - 10/21/2019
Jeffrey Hollowell	Final Approval - 10/21/2019



County of Inyo



Sheriff

CONSENT - ACTION REQUIRED

MEETING: November 5, 2019

FROM: Office of the Sheriff

SUBJECT: Declare Adamsons Police Products a sole source provider and approve purchase of ballistic and load bearing vests.

RECOMMENDED ACTION:

Request Board: A) declare Adamsons Police Products of Los Alamitos, CA a sole-source supplier of law enforcement equipment and safety gear; and B) authorize the issuance of a blanket purchase order in an amount not to exceed \$13,100, payable to Adamsons Police Products of Los Alamitos, CA for ballistic and load bearing vests.

SUMMARY/JUSTIFICATION:

The Sheriff's Department is requesting the purchase of 12 new ballistic vests and 6 load bearing vests for use by Law Enforcement Personnel. These items are standard issue equipment for Sheriff's Personnel and an essential part of our operation and training. Due to employee turnover, normal wear and tear, and remaining in compliance with local, state and federal equipment guidelines, the Department must replace and purchase new equipment on a continuing basis. It is imperative that we have continuity of our safety equipment and are able to provide it in a timely manner.

This is a sole provider of goods or services that perform the intended function or meet the specialized needs of the County. Adamson's has provided us with competitive pricing on high quality safety equipment and is able to come to us to provide certified measurements for vests within 72 hours of placing an order. Authorization to open a blanket purchase order will allow us to order safety equipment as needed and expedite payments through the Purchasing and Auditor's offices.

The issuance of this purchase order will not negate the requirement of getting verbal or written quotes for individual purchase in accordance with the County Purchasing Policy.

BACKGROUND/HISTORY OF BOARD ACTIONS:

ALTERNATIVES AND CONSEQUENCES OF NEGATIVE ACTION:

Deny sole source justification and go out to bid for ballistic and load bearing vests from other vendors. This is not recommended as we have new hires in the field at academy that we must provide safety equipment for. Travel and overtime costs would increase sending personnel out of the area for certified vest measurements. Adamsons provides this service within 72 hours of notification and travels to Inyo County and works with our scheduling.

OTHER AGENCY INVOLVEMENT:

Auditor's Office
Board of Supervisor's

County Counsel
Purchasing Office
Adamsons Police Products

FINANCING:

Expenses will be paid from multiple budgets, and object codes within our department budget authority. There is sufficient budget split between all Sheriff divisions to make these payments.

ATTACHMENTS:

APPROVALS:

Riannah Reade	Created/Initiated - 10/9/2019
Darcy Ellis	Approved - 10/10/2019
Riannah Reade	Approved - 10/10/2019
Emma Bills	Approved - 10/10/2019
Denelle Carrington	Approved - 10/11/2019
Amy Shepherd	Approved - 10/11/2019
Marshall Rudolph	Approved - 10/11/2019
Jeffrey Hollowell	Final Approval - 10/15/2019



County of Inyo



Sheriff

CONSENT - ACTION REQUIRED

MEETING: November 5, 2019

FROM: Office of the Sheriff

SUBJECT: Sale of Duty Weapon to retiree, Senior Reserve Deputy John Lammiman

RECOMMENDED ACTION:

Request Board: A) determine that Senior Reserve Deputy John Lammiman's duty weapon is no longer required for public use pursuant to Inyo County Code Section 6.28.040.B; and B) pursuant to Penal Code Section 26615, authorize Sheriff Hollowell to sell a Glock Model 22 to Retired Senior Reserve Deputy John Lammiman for fair market value.

SUMMARY/JUSTIFICATION:

Senior Reserve Deputy John Lammiman was hired October 26, 1981 as a Deputy; retiring as a Corporal in December of 2009 and then continuing his service to the County as a Senior Reserve Deputy. Senior Reserve Deputy John Lammiman has honorably served the Inyo County Sheriff's Office for nearly 38 years. Senior Reserve Deputy John Lammiman officially retired effective July 5, 2019 and has requested to purchase his Department issued Glock Model G-22, Serial Number 1ESA052US. This firearm no longer required for public use.

BACKGROUND/HISTORY OF BOARD ACTIONS:

ALTERNATIVES AND CONSEQUENCES OF NEGATIVE ACTION:

OTHER AGENCY INVOLVEMENT:

Purchasing
County Counsel

FINANCING:

The revenue will be posted to Budget# 022700 - SHERIFF - GENERAL Object# 4936 Misc Sales

ATTACHMENTS:

APPROVALS:

Eric Pritchard

Created/Initiated - 10/2/2019

Darcy Ellis
Eric Pritchard
Amy Shepherd
Marshall Rudolph
Jeffrey Hollowell

Approved - 10/2/2019
Approved - 10/15/2019
Approved - 10/17/2019
Approved - 10/18/2019
Final Approval - 10/18/2019



County of Inyo



Board of Supervisors

DEPARTMENTAL - ACTION REQUIRED

MEETING: November 5, 2019

FROM: Clerk of the Board

SUBJECT: Annual Nomination of CSAC Board of Directors Representative and Alternate

RECOMMENDED ACTION:

Request Board nominate from among its members a director and alternate to serve on the California State Association of Counties (CSAC) Board of Directors for year 2019-2020.

SUMMARY/JUSTIFICATION:

The Inyo County Board of Supervisors has been asked to nominate a director and alternate to serve on the California State Association of Counties (CSAC) Board of Directors for year 2019-2020. Supervisors nominated will be appointed by the CSAC Executive Committee to one-year terms commencing with the first day of the annual CSAC conference, scheduled this year for Tuesday, December 3 through Friday, December 6 in San Francisco.

CSAC's Board of Directors will be holding its first meeting of the year during the upcoming conference and it is important that Inyo County has its newly appointed Board representative at the first meeting, in part because officers and Executive Committee members will be nominated at that time.

CSAC has asked that Inyo County notify the organization of its nominations no later than November 13.

BACKGROUND/HISTORY OF BOARD ACTIONS:

The Board of Directors includes one county supervisor from each of the 58 counties plus the officers and delegates day-to-day policy and oversight functions to the Executive Committee.

Supervisor Jeff Griffiths currently serves as Inyo County's representative on the CSAC Board of Directors; Supervisor Tillemans serves as the alternate.

Supervisor Griffiths is the Vice Chair of CSAC's Health and Human Services Policy Committee - one of five committees that formulates the CSAC legislative platform.

ALTERNATIVES AND CONSEQUENCES OF NEGATIVE ACTION:

Your Board could choose not to nominate representatives to the CSAC Board of Directors, or delay its nominations, but neither course of action is recommended.

OTHER AGENCY INVOLVEMENT:

CSAC

FINANCING:

There is no fiscal impact associated to the County with making the requested nominations.

ATTACHMENTS:

1. Selection of CSAC Board of Directors Members - Memo
2. Board Roster 2019
3. Nomination Form - CSAC Board of Directors Member for 2019-2020

APPROVALS:

Darcy Ellis	Created/Initiated - 10/17/2019
Darcy Ellis	Final Approval - 10/17/2019



California State Association of Counties
1100 K Street, Suite 101
Sacramento, CA 95814
Phone (916) 327-7500
Facsimile (916) 321-5047

October 17th, 2019

TO: Chairs, Boards of Supervisors
FROM: Graham Knaus, Executive Director

RE: Selection of CSAC Board of Directors Members

Under provisions of the CSAC Constitution, members of the Board of Directors and alternates are nominated by their respective boards of supervisors and appointed by the Executive Committee to a one-year terms of office commencing with the first day of the CSAC annual conference. This year, that will be on Tuesday, December 3rd, 2019. Any member of your Board of Supervisors is eligible for the directorship.

CSAC's Board of Directors holds its first meeting of each year at the association's annual conference. **Thus, it is important that your county has its newly appointed board representative at this first meeting.** Enclosed is a list of current directors, along with a form for use in notifying us of your Board's nomination.

The new Board of Directors will meet at the annual conference, first by caucus (urban, suburban, and rural) to nominate CSAC officers and Executive Committee members, and again as a full Board to elect the 2020 Executive Committee and to conduct other business. Details of these meetings will be sent to you at a later date. Please note that under the CSAC Constitution, Executive Committee members are elected from the membership of the Board of Directors.

If you have any questions or need further information, please contact Korina Jones of my staff at (916) 327-7500 x508 or by email at kjones@counties.org.

Enclosures

cc: 2019 Board of Directors
Clerks, Board of Supervisors

CALIFORNIA STATE ASSOCIATION OF COUNTIES

Board of Directors

2019

SECTION
U=Urban
S=Suburban
R=Rural

President:
First Vice President:
Second Vice President:
Immediate Past President:

Virginia Bass, Humboldt
Lisa Bartlett, Orange
James Gore, Sonoma
Leticia Perez, Kern

SECTION	COUNTY	DIRECTOR
U	Alameda County	Keith Carson
R	Alpine County	Terry Woodrow
R	Amador County	Richard Forster
S	Butte County	Debra Lucero
R	Calaveras County	Merita Callaway
R	Colusa County	Denise Carter
U	Contra Costa County	John Gioia
R	Del Norte County	Chris Howard
R	El Dorado County	Sue Novasel
U	Fresno County	Buddy Mendes
R	Glenn County	John Viegas
R	Humboldt County	Estelle Fennell
S	Imperial County	Raymond Castillo
R	Inyo County	Jeff Griffiths
S	Kern County	Zack Scrivner
R	Kings County	Craig Pedersen
R	Lake County	Moke Simon
R	Lassen County	Chris Gallagher
U	Los Angeles County	Mark Ridley-Thomas
R	Madera County	Brett Frazier
S	Marin County	Damon Connolly
R	Mariposa County	Miles Menetrey
R	Mendocino County	Carre Brown
S	Merced County	Lee Lor
R	Modoc County	Patricia Cullins
R	Mono County	John Peters
S	Monterey County	Luis Alejo
S	Napa County	Belia Ramos
R	Nevada County	Ed Scofield
U	Orange County	Lisa Bartlett
S	Placer County	Bonnie Gore
R	Plumas County	Lori Simpson
U	Riverside County	Chuck Washington
U	Sacramento County	Susan Peters

R	San Benito County	Jamie De La Cruz
U	San Bernardino County	Janice Rutherford
U	San Diego County	Greg Cox
U	San Francisco City & County	TBA
U	San Joaquin County	Bob Elliott
S	San Luis Obispo County	Bruce Gibson
U	San Mateo County	Carole Groom
S	Santa Barbara County	Das Williams
U	Santa Clara County	Susan Ellenberg
S	Santa Cruz County	Bruce McPherson
S	Shasta County	Leonard Moty
R	Sierra County	Lee Adams
R	Siskiyou County	Ed Valenzuela
S	Solano County	Erin Hannigan
S	Sonoma County	Susan Gorin
S	Stanislaus County	Vito Chiesa
R	Sutter County	Dan Flores
R	Tehama County	Robert Williams
R	Trinity County	Judy Morris
S	Tulare County	Amy Shuklian
R	Tuolumne County	Karl Rodefer
U	Ventura County	Kelly Long
S	Yolo County	Jim Provenza
R	Yuba County	Doug Lofton

ADVISORS

Bruce Goldstein, County Counsels Association, Past President, Sonoma County
 Birgitta Corsello, California Association of County Executives, President, Solano County



California State Association of Counties
1100 K Street, Suite 101
Sacramento, CA 95814
Phone (916) 327-7500
Facsimile (916) 321-5047

NOMINATION OF CSAC BOARD OF DIRECTORS MEMBER FOR YEAR 2019 – 2020

The Board of Supervisors nominates the following named Supervisor(s) to a position on the CSAC Board of Directors for the 2019 – 2020 Association year beginning Tuesday, December 3rd, 2019.

County Name:

Director:

Alternate(s):

Name of individual completing form:

Does the Board of Directors member plan to attend the CSAC Annual Conference (Dec. 3 – 6, 2019) in San Francisco, San Francisco County?

Yes:

No:

PLEASE RETURN BY NOVEMBER 13, 2019 TO:

Korina Jones
California State Association of Counties
1100 K Street, Suite 101
Sacramento, CA 95814
Email: kjones@counties.org
Fax: (916) 441-5507



County of Inyo



Board of Supervisors

DEPARTMENTAL - ACTION REQUIRED

MEETING: November 5, 2019

FROM: Clerk of the Board

SUBJECT: Confirmation of Delegates and Alternates to the RCRC, Golden State Finance Authority, and Environmental Services Joint Powers Authority boards of directors

RECOMMENDED ACTION:

Request Board: A) confirm from among its members a delegate and alternate to the boards of directors for both the Rural County Representatives of California (RCRC) and the Golden State Finance Authority; and B) confirm a Supervisor as a delegate and staff member as an alternate to the Environmental Services Joint Powers Authority.

SUMMARY/JUSTIFICATION:

The Rural County Representatives of California (RCRC) requires each of its member counties to confirm a Delegate and Alternate to serve on the RCRC Board of Directors every calendar year. In anticipation of the first RCRC Board meeting of 2020, scheduled for January 15 in Sacramento, the Board of Supervisors is being asked to make its 2019 confirmations this fall/winter so that they may be submitted to RCRC staff ahead of time.

The Golden State Financial Authority (GSFA), a program of RCRC, also requires confirmation of member counties' Delegates and Alternates for its Board of Directors. Traditionally, the same Supervisors selected to serve as the Delegate and Alternate for the RCRC Board of Directors are confirmed as the Delegate and Alternate for the GSFA.

RCRC also requires member counties to confirm a delegate and at least one alternate to the board of directors for the Environmental Services Joint Powers Authority (ESJPA). Your Board typically selects its main RCRC delegate to serve as the ESJPA delegate, and the Assistant County Administrator - in his or her capacity as the department head for Inyo County Recycling and Waste Management - as the alternate. It is recommended that you do so again for 2020.

BACKGROUND/HISTORY OF BOARD ACTIONS:

Supervisor Matt Kingsley currently serves as Inyo County's delegate on the RCRC, GSFA, and ESJPA boards of directors. Supervisor Rick Pucci serves as the alternate to the RCRC and GSFA boards.

Supervisor Kingsley is also finishing out his term on the Executive Committee as the Chairperson of RCRC and its 36 member counties, and, if confirmed again as Inyo County's delegate, will serve in 2020 as Immediate Past Chair.

ALTERNATIVES AND CONSEQUENCES OF NEGATIVE ACTION:

Your Board could choose not to confirm new Board of Directors representatives for RCRC or the Golden State Financial Authority and Environmental Services Joint Powers Authority, but this is not recommended, as the confirmations are required of member counties.

OTHER AGENCY INVOLVEMENT:

RCRC

FINANCING:

There are no fiscal impacts to the County associated with these confirmations.

ATTACHMENTS:

1. RCRC 2020 Memo and Form
2. RCRC Board of Directors 2019
3. GSFA 2020 Memo Form
4. RCRC 2020 Meeting Calendar FINAL

APPROVALS:

Darcy Ellis	Created/Initiated - 10/25/2019
Darcy Ellis	Final Approval - 10/30/2019



To: RCRC Board of Directors
RCRC Board Alternates
RCRC Member County CAO's
RCRC Member County Clerks of the Board

From: Greg Norton, President & CEO

Date: October 21, 2019

Re: Designation of the 2020 RCRC Board of Directors, Delegates and Alternates - **ACTION REQUIRED**

As we're approaching the end of another year, this is a reminder that annually the Rural County Representatives of California (RCRC) requires confirmation of each member county's Delegate and Alternate to the RCRC Board of Directors. The first RCRC Board Meeting of 2020 will be held on January 15th in Sacramento. That same evening, RCRC will hold its Annual Installation of Officers and Rural Leadership Awards Reception.

To ensure we have the necessary Delegate and Alternate confirmations, once determined, please utilize the attached designation form to provide your county's election/appointment. Please forward the formal confirmation to RCRC as soon as possible. The confirmation can be sent via e-mail PDF to Maggie Chui at mchui@rcrcnet.org, or mailed to:

Rural County Representatives of California
1215 K Street, Suite 1650
Sacramento, CA 95814
Attn: Maggie Chui

Please do not hesitate to contact me if you have any questions or require additional information. Thank you for your assistance with this information.

Attachment

- RCRC Designation Form



**Designation of 2020 Delegate and Alternate Supervisors for the
Rural County Representatives of California (RCRC) Board of Directors**

Date: _____

County: _____

Delegate: Supervisor _____

Alternate: Supervisor _____

Authorization:

The RCRC Board of Directors is comprised of elected a member of the Board of Supervisors from each of its thirty-six member counties. Each county has a board delegate and a board alternate.

The 2019 RCRC Board Delegates are as follows:

Alpine	David Griffith
Amador	Brian Oneto
Butte	Doug Teeter
Calaveras	Jack Garamendi
Colusa	Denise Carter
Del Norte	Gerry Hemmingsen
El Dorado	Lori Parlin
Glenn	John Viegas
Humboldt	Rex Bohn
Imperial	Michael Kelley
Inyo	Matt Kingsley
Lake	Eddie Crandell
Lassen	Aaron Albaugh
Madera	David Rogers
Mariposa	Kevin Cann
Mendocino	Carre Brown
Merced	Daron McDaniel
Modoc	Geri Byrne
Mono	Stacy Corless
Napa	Diane Dillon
Nevada	Dan Miller

Placer	Jim Holmes
Plumas	Kevin Goss
San Benito	Anthony Botelho
San Luis Obispo	John Peschong
Shasta	Les Baugh
Sierra	Lee Adams
Siskiyou	Michael Kobseff
Sonoma	Lynda Hopkins
Sutter	Mat Conant
Tehama	Bob Williams
Trinity	Jeremy Brown
Tulare	Kuyler Crocker
Tuolumne	Sherri Brennan
Yolo	Gary Sandy
Yuba	Randy Fletcher

The 2019 RCRC Board Alternates are as follows:

Alpine	Terry Woodrow
Amador	Frank Axe
Butte	Bill Connelly
Calaveras	Gary Tofanelli
Colusa	John Loudon
Del Norte	Lori Cowan
El Dorado	Brian Veerkamp
Glenn	Leigh McDaniel

Humboldt	Estelle Fennell
Imperial	Jesus E. Escobar
Inyo	Rick Pucci
Lake	Bruno Sabatier
Lassen	David Teeter
Madera	Robert Poyhtress
Mariposa	Miles Menetrey
Mendocino	Dan Gjerde
Merced	Lloyd Pareira
Modoc	Kathie Rhoads
Mono	John Peters
Napa	Brad Wagenknecht
Nevada	Susan Hoek
Placer	Jennifer Montgomery
Plumas	Michael Sanchez
San Benito	Janie De La Cruz
San Luis Obispo	Lynn Compton
Shasta	Mary Rickert
Sierra	Peter Huebner
Siskiyou	Ray Haupt
Sonoma	James Gore
Sutter	Dan Flores
Tehama	Dennis Garton
Trinity	Bobbi Chadwick

Tulare

Dennis Townsend

Tuolumne

Karl Rodefer

Yolo

Jim Provenza

Yuba

Mike Leahy



Golden State Finance Authority (GSFA)
1215 K Street, Suite 1650 · Sacramento, California 95814
Phone: (855) 740-8422 · Fax: (916) 444-3219 · www.gsfa.org

To: GSFA Board of Directors
GSFA Board Alternates
GSFA Member County CAO's
GSFA Member County Clerks of the Board

From: Greg Norton, Executive Director

Date: October 21, 2019

Re: Designation of the 2020 GSFA Board of Directors, Delegates and Alternates - **ACTION REQUIRED**

Annually the Golden State Finance Authority (GSFA) requires confirmation of each member county's Delegate and Alternate to the GSFA Board of Directors. The first GSFA Board Meeting of 2020 will be held on January 15th in Sacramento.

Upon determination, please provide confirmation of your county's election/appointment, and forward the formal confirmation to GSFA as soon as possible. The confirmation can be sent via e-mail PDF to Maggie Chui at mchui@rcrcnet.org or mailed to:

Golden State Finance Authority
1215 K Street, Suite 1650
Sacramento, CA 95814
Attn: Maggie Chui

Please do not hesitate to contact me if you have any questions or require additional information. Thank you for your assistance with this information.

Attachment

- GSFA Designation Form



**Designation of 2020 Delegate and Alternate Supervisors for
Golden State Finance Authority (GSFA) Board of Directors**

Date: _____

County: _____

Delegate: Supervisor _____

Alternate: Supervisor _____

Authorization:

RCRC 2020 Meeting Calendar

January 2020

Wednesday, January 15, 2020
Wednesday, January 15, 2020
 Thursday, January 16, 2020

RCRC Board Meeting
RCRC Installation Reception
 CSAC Executive Committee

RCRC Board Room
Sacramento
 Sacramento

February 2020

Wednesday, February 19, 2020
 Thursday, February 20, 2020
 February 29-March 4, 2020

RCRC Executive Committee
 CSAC Board Meeting
 NACo Legislative Conference

RCRC Board Room
 Sacramento
 Washington D.C.

March 2020

Wednesday, March 11, 2020
 Thursday, March 12, 2020

RCRC Board Meeting
 ESJPA Board Meeting

RCRC Board Room
 RCRC Board Room

April 2020

Thursday, April 16, 2020
Wednesday, April 22-23, 2020

CSAC Executive Committee
RCRC Board Meeting

Sacramento
Merced County

May 2020

May 13 -15, 2020
 Wednesday, May 20, 2020
 May 27 - 28, 2020
 Thursday, May 28, 2020

NACo WIR Conference
 RCRC Executive Committee
 CSAC Legislative Conference
 CSAC Board Meeting

Mariposa County
 Sacramento
 Sacramento
 Sacramento

June 2020

Wednesday, June 17, 2020
 Thursday, June 18, 2020

RCRC Board Meeting
 ESJPA Board Meeting

RCRC Board Room
 RCRC Board Room

July 2020

Wednesday, July 8, 2020
 July 17-20, 2020

RCRC Executive Committee
 NACo Annual Conference

RCRC Board Room
 Orange County, Orlando, FL

August 2020

Thursday, August 6, 2020
Wednesday, August 12, 2020
 Thursday, August 13, 2020

CSAC Executive Committee
RCRC Board Meeting
 ESJPA Board Meeting

Sacramento
RCRC Board Room
 RCRC Board Room

September 2020

Thursday, September 3, 2020
September 16-17, 2020
Friday, September 18, 2020

CSAC Board Meeting
RCRC Annual Meeting
RCRC Board Meeting

Sacramento
 Napa County
 Napa County

October 2020

October 7 - 9, 2020
 Wednesday, October 14, 2020
 Thursday, October 15, 2020

CSAC Executive Retreat
 RCRC Executive Committee
 ESJPA Board Meeting

TBA
 RCRC Board Room
 RCRC Board Room

November 2020

Wednesday, November 11, 2020

RCRC Executive Committee

RCRC Board Room

December 2020

December 1 - 4, 2020
 Thursday, December 3, 2020
Wednesday, December 9, 2020
 Thursday, December 10, 2020
 December 9 - 11, 2020

CSAC Annual Meeting
 CSAC Board Meeting
RCRC Board Meeting
 ESJPA Board Meeting
 CSAC Officers' Retreat

Los Angeles County
 Los Angeles County
RCRC Board Room
 RCRC Board Room
 Napa County



County of Inyo



County Administrator

DEPARTMENTAL - ACTION REQUIRED

MEETING: November 5, 2019

FROM: County Administrator

SUBJECT: Direction Regarding City of Los Angeles' Disposal of Surplus Property

RECOMMENDED ACTION:

ADDENDUM (Addition):

24A. **County Administrator** - Request Board provide direction regarding County's response to the City of Los Angeles' notice of intent to dispose of certain surplus property in Inyo County.

SUMMARY/JUSTIFICATION:

The City of Los Angeles Department of Water and Power (DWP) is proposing to auction several parcels of City of Los Angeles-owned property. The DWP letters and maps of the subject parcels are attached. This item was presented to your Board on October 15, 2019. Staff has done additional research and received clarification from DWP staff.

Staff proposes to provide this additional information for the Boards to consider and provide direction.

BACKGROUND/HISTORY OF BOARD ACTIONS:

N/A

ALTERNATIVES AND CONSEQUENCES OF NEGATIVE ACTION:

N/A

OTHER AGENCY INVOLVEMENT:

Los Angeles Department of Water and Power

FINANCING:

N/A

ATTACHMENTS:

1. LADWP Notice of Surplus Property for Auction 10.08.19
2. LADWP Notice of Surplus Property for Sale 10.08.19

APPROVALS:

Darcy Ellis

Created/Initiated - 11/1/2019

Clint Quilter

Final Approval - 11/1/2019



CUSTOMERS FIRST

Eric Garcetti, Mayor

Board of Commissioners
Mel Levine, President
Cynthia McClain-Hill, Vice President
Jill Banks Barad
Susana Reyes
Susan A. Rodriguez, Secretary

RECEIVED

2019 OCT -8 AM 8:29

Martin L. Adams, General Manager and Chief Engineer

October 3, 2019

Mr. Clint G. Quilter
Administrative Officer
County of Inyo
P.O. Drawer N
Independence, CA 93526

Dear Mr. Quilter:

Subject: Disposal of Surplus City of Los Angeles-owned Property

The Los Angeles Department of Water and Power (LADWP) is proposing to auction several parcels of City of Los Angeles (City) owned property. The auction properties are located in Inyo County and are shown in the table below (maps enclosed):

ASSESSOR'S PARCEL NO.	LOCATION	ADDRESS	SIZE
001-030-12-00	Bishop	794 North Main Street	0.71 acres
Por. of 008-040-09	Bishop	1220 North Main Street	0.51 acres
Por. of 008-360-06	Bishop	Vacant - Wye Road	1.38 acres
Por. of 008-250-01	Bishop	620 South Main Street	0.89 acres
Por. of 002-056-06	Independence	102 South Edwards Street	0.29 acres
002-102-08	Independence	204 South Edwards Street	0.15 acres
002-046-10	Independence	145-149 North Edwards Street	0.06 acres
005-067-08	Lone Pine	220 North Main Street	0.08 acres

Pursuant to the provisions of Section 7.22(c), Article 4, Chapter 1, Division 7, of the Los Angeles Administrative Code, LADWP is asking your department to review the subject property and determine whether you are interested in purchasing the property for City use.

Please respond by **October 25, 2019**, to Ms. Elsa Jimenez, Property Manager at elsa.jimenez@ladwp.com or by mail to 300 Mandich Street, Bishop, CA 93514-3449, attention Elsa Jimenez, indicating whether or not your department has an interest in the properties.

Mr. Clint G. Quilter
Page 2
October 3, 2019

If we have not received a response from you within the above timeframe, we will assume that you have no interest in these properties and that you will have no objections to them being deemed surplus and offered for sale.

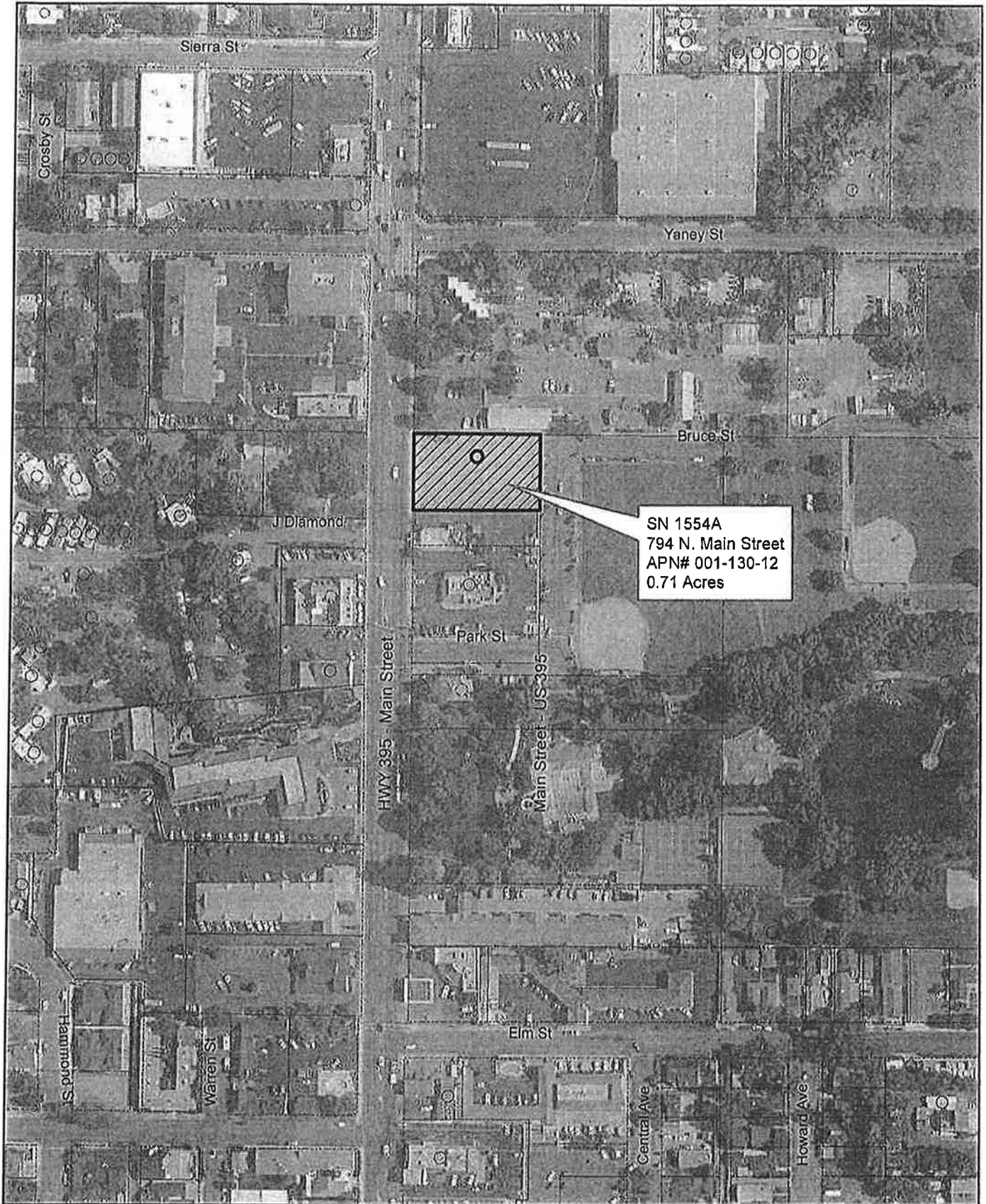
If you have any questions regarding this matter, you may contact Ms. Jimenez as indicated above or by phone at (760) 873-0201.

Sincerely,

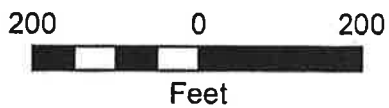


Clarence E. Martin
Manager of Aqueduct

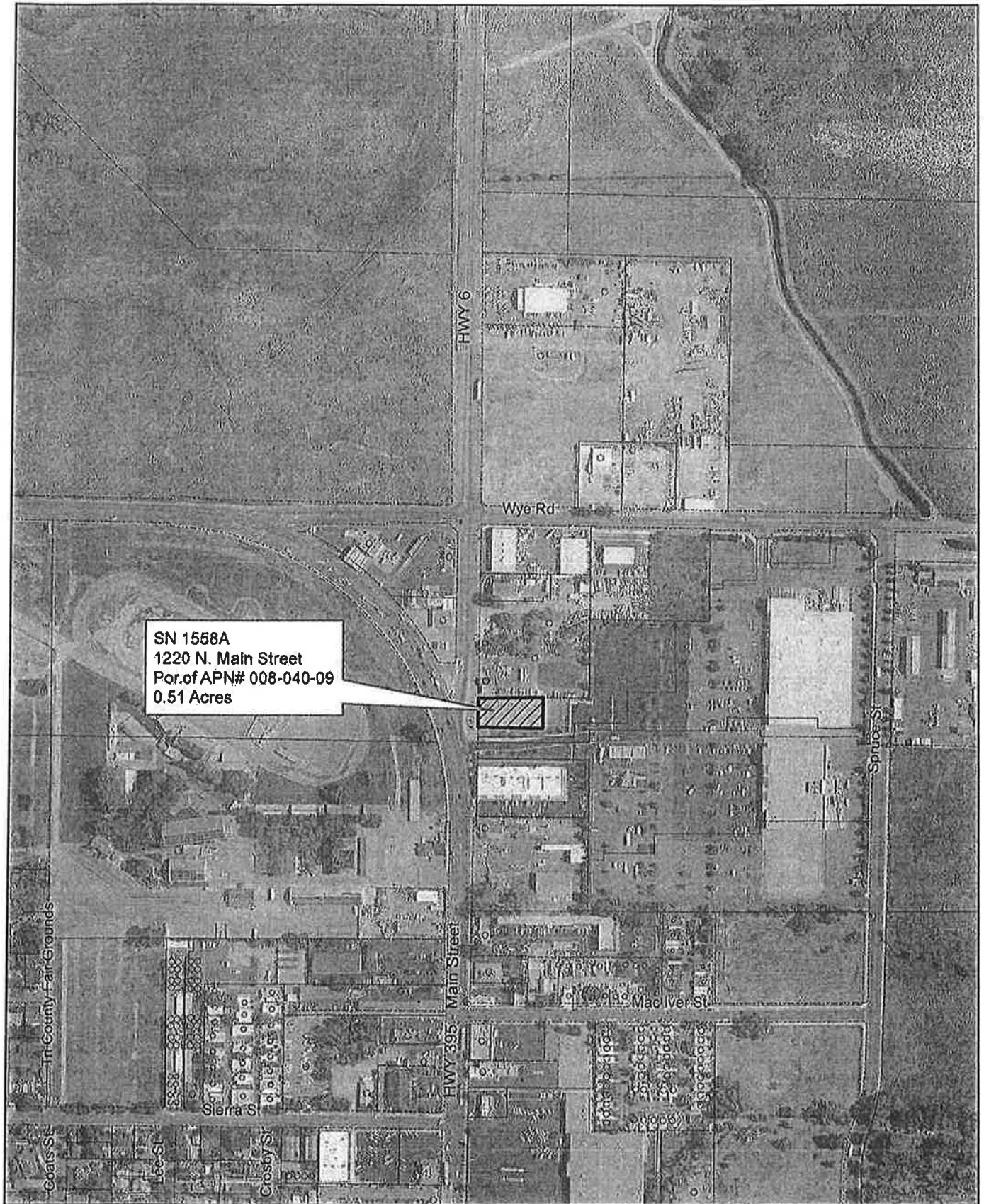
Enclosures
SRC:src
c: Ms. Elsa Jimenez
Real Estate



SN 1554A
794 N. Main Street
APN# 001-130-12
0.71 Acres



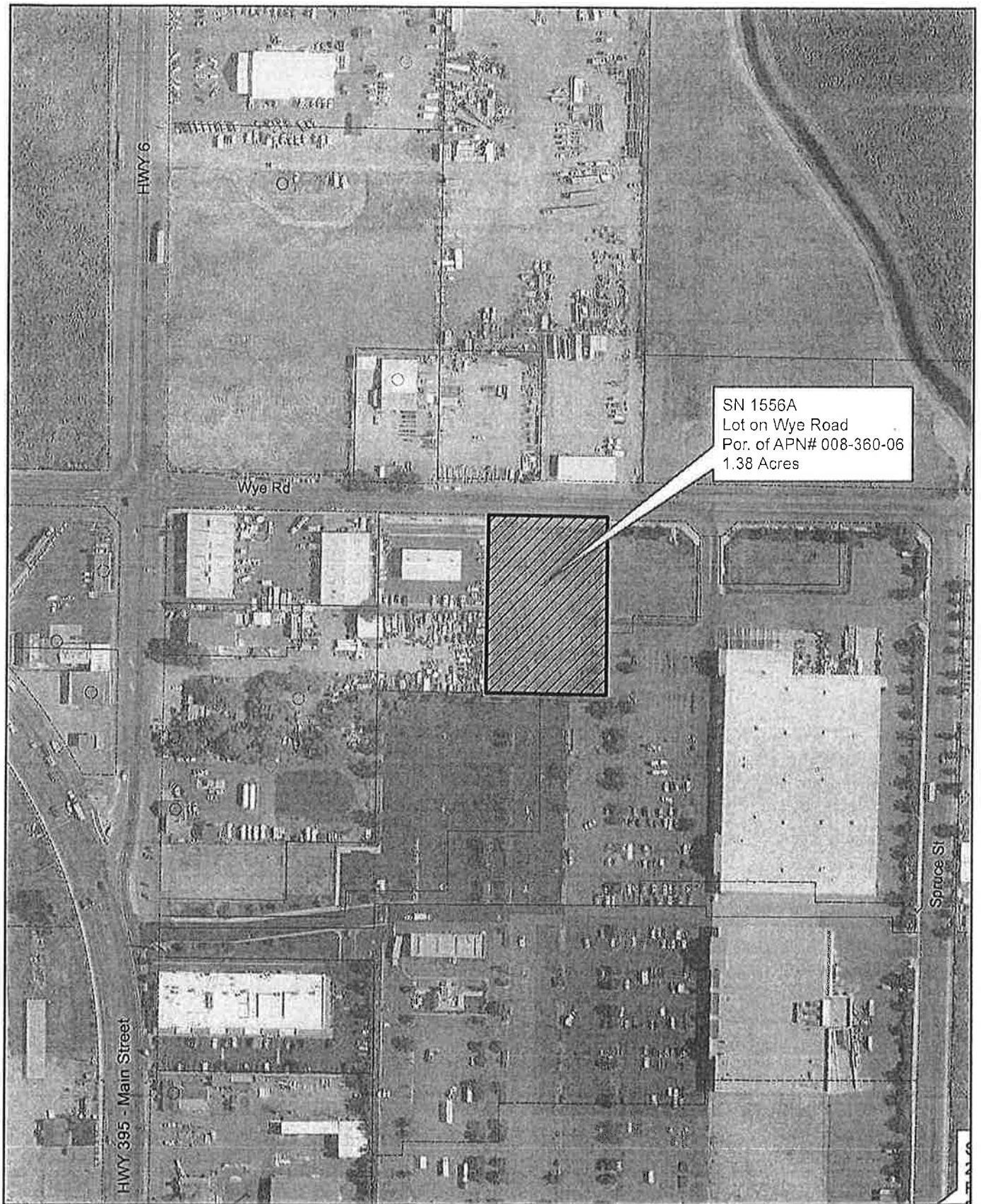
Auction Properties



SN 1558A
1220 N. Main Street
Por. of APN# 008-040-09
0.51 Acres



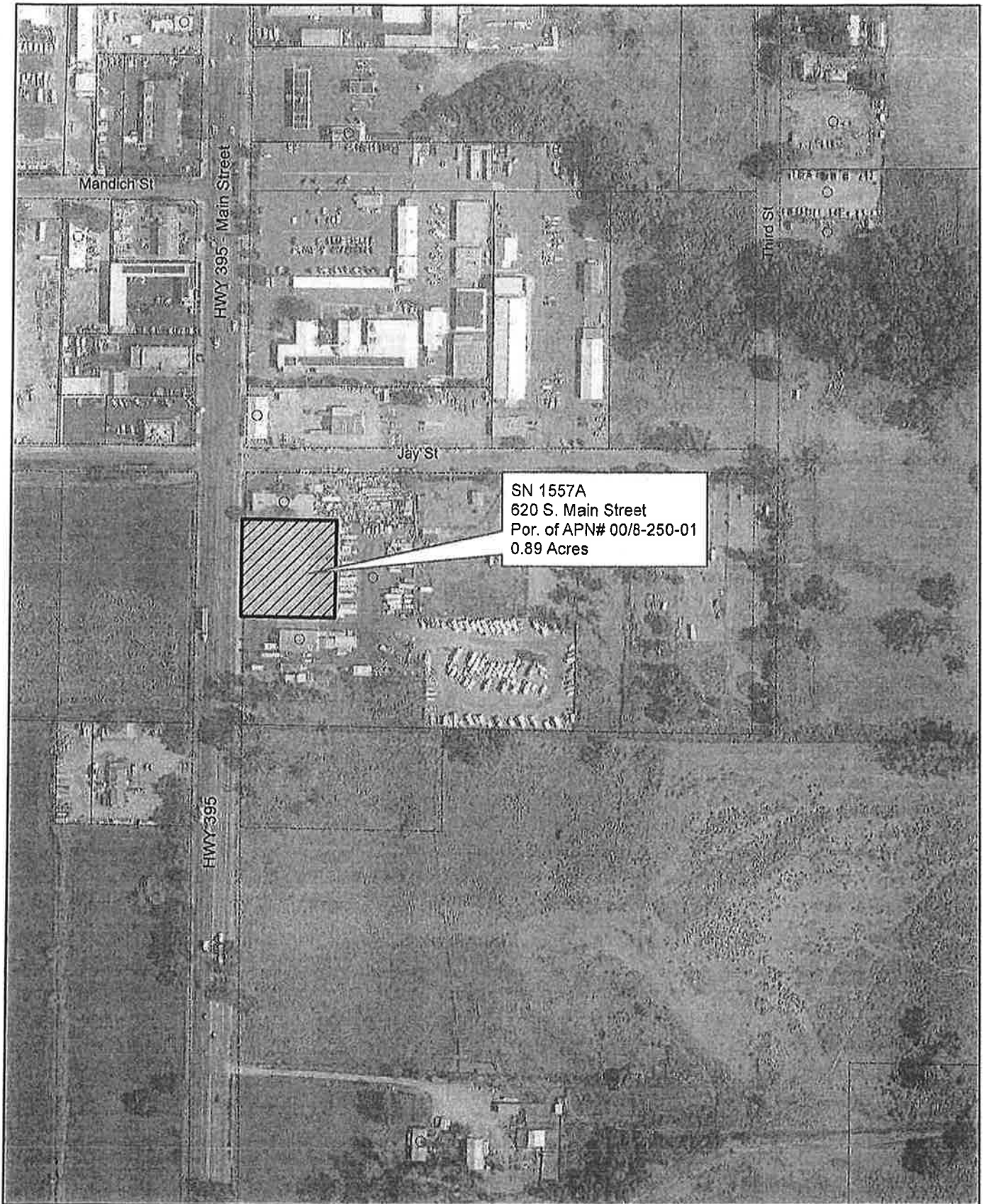
Auction Properties



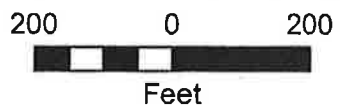
SN 1556A
Lot on Wye Road
Por. of APN# 008-360-06
1.38 Acres



Auction Properties



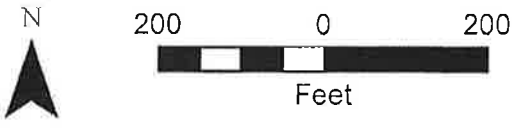
SN 1557A
620 S. Main Street
Por. of APN# 00/8-250-01
0.89 Acres



Auction Properties



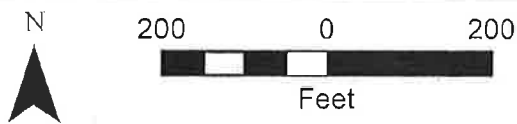
SN 1559A
102 S. Edwards Street
Por. of APN# 002-056-06
0.28 Acres



Auction Properties



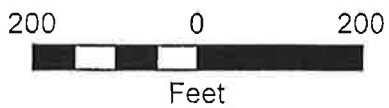
SN 1563A
204 S. Edwards Street
Independence
APN# 002-102-08
0.15 Acres



Auction Properties



SN 1560A
145-149 N. Edwards St
APN# 002-046-10
0.06 Acres



Auction Properties

Auction Properties



SN 1561A
220 N. Main Street
Lone Pine
APN# 005-067-08
0.08 Acres



CUSTOMERS FIRST

Eric Garcetti, Mayor

Board of Commissioners
Mel Levine, President
Cynthia McClain-Hill, Vice President
Jill Banks Barad
Susana Reyes
Susan A. Rodriguez, Secretary

RECEIVED
2019 OCT -8 AM 8:15
INYO COUNTY
ADVISORY
COMMISSION

Martin L. Adams, General Manager and Chief Engineer

October 3, 2019

Mr. Clint G. Quilter
Administrative Officer
County of Inyo
P.O. Drawer N
Independence, CA 93526

Dear Mr. Quilter:

Subject: Disposal of Surplus City of Los Angeles-owned Property

The Los Angeles Department of Water and Power (LADWP) is proposing to sell a parcel of City of Los Angeles (City) owned property. The sale property is located in Inyo County and is shown in the table below (map enclosed):

ASSESSOR'S PARCEL NO.	LOCATION	ADDRESS	SIZE
Por. of 008-010-41	Bishop	233 MacIver Street	2.34 acres

Pursuant to the provisions of Section 7.22(c), Article 4, Chapter 1, Division 7, of the Los Angeles Administrative Code, LADWP is asking your department to review the subject property and determine whether you are interested in purchasing the property for City use.

Please respond by **October 25, 2019**, to Ms. Elsa Jimenez, Property Manager at elsa.jimenez@ladwp.com or by mail to 300 Mandich Street, Bishop, CA 93514-3449, attention Elsa Jimenez, indicating whether or not your department has an interest in the property.

If we have not received a response from you within the above timeframe, we will assume that you have no interest in this property and that you will have no objections to it being deemed surplus and offered for sale.

Mr. Clint G. Quilter
Page 2
October 3, 2019

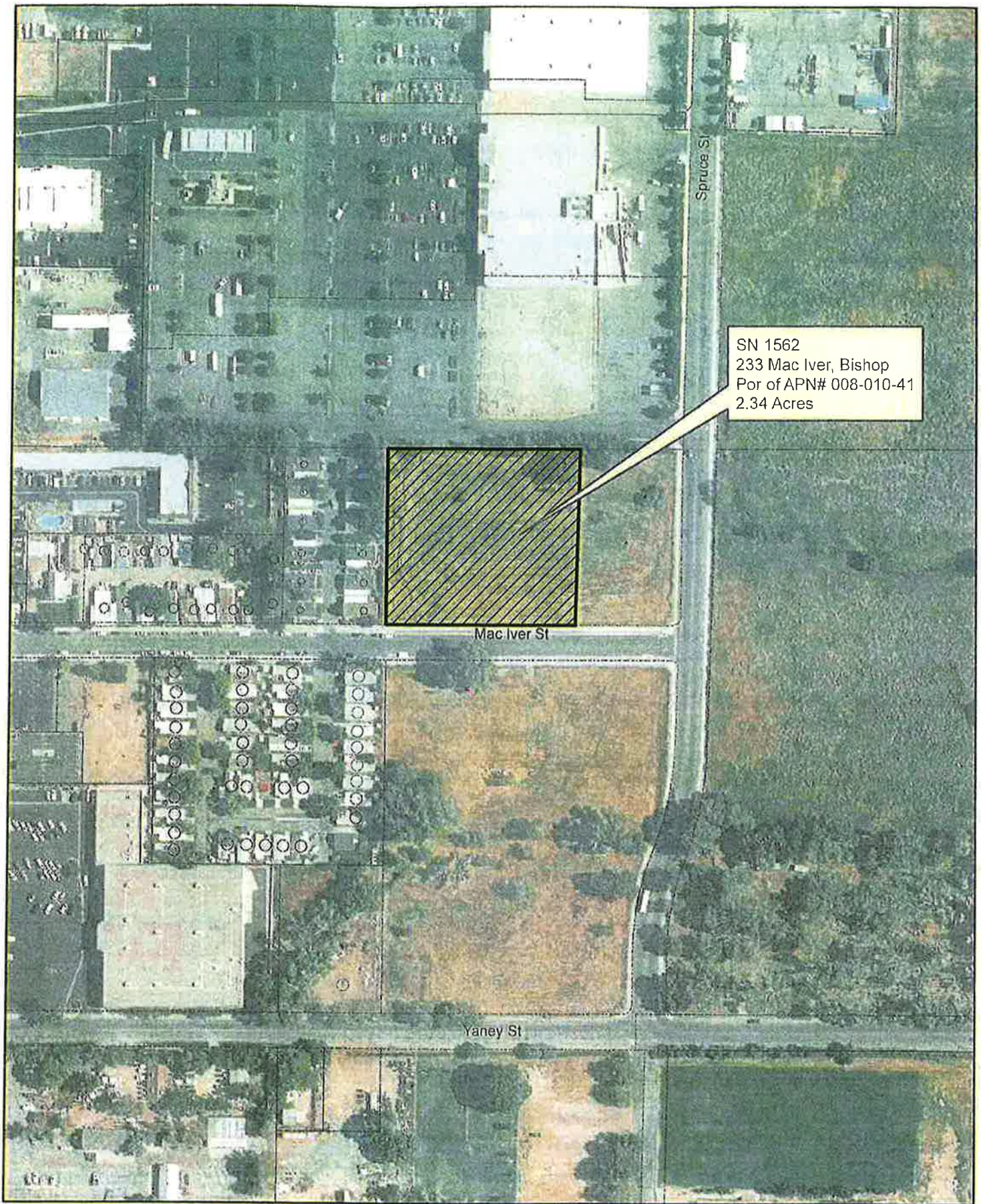
If you have any questions regarding this matter, you may contact Ms. Jimenez as indicated above or by phone at (760) 873-0201.

Sincerely,



Clarence E. Martin
Manager of Aqueduct

Enclosure
SRC:src
c: Ms. Elsa Jimenez
Real Estate

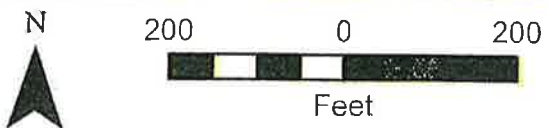


SN 1562
233 Mac Iver, Bishop
Por of APN# 008-010-41
2.34 Acres

Mac Iver St

Yaney St

Spruce St



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County of Inyo



Public Works - Town Water Systems

DEPARTMENTAL - ACTION REQUIRED

MEETING: November 5, 2019

FROM: Chris Cash

SUBJECT: Independence Water System Users Surcharge

RECOMMENDED ACTION:

Request Board provide direction regarding the proposed surcharge increase for the Independence Water System users.

SUMMARY/JUSTIFICATION:

The County needs \$153,928 to replenish its emergency fund and repay the Treasury loan, for the repair of the catastrophic failure of the Independence transmission main. The proposed repayment will be in equal annual contributions for the next five years starting in FY19/20. Therefore, the annual amount to be collected from Independence customers equals \$30,786. The proposed monthly surcharge will depend on the meter size and is calculated using the total number of equivalent meters in the Independence water system.

Table 1-5 shows the proposed additional surcharge for the Independence water system customers by meter size. The surcharge will not be increased with revenue adjustments or any other escalation factors.

Table 1-5 Proposed monthly surcharge for Independence customers

Meter Size	FY2020 – FY2024
5/8 inch	\$6.34
3/4 inch	\$6.34
1 inch	\$10.57
1.5 inch	\$21.13
2 inch	\$33.81
3 inch	\$67.63
4 inch	\$105.67
6 inch	\$211.33

It is recommended that Independence customers pay a surcharge based on meter size, in accordance to this

schedule in addition to their regular water bill to reimburse the fund. It is anticipated that this surcharge will be paid by each customer for 5 years.

Before the Board may impose new or increased fees (surcharge) it must follow a notice and hearing process specified by the California Constitution (Article XIID, section 6, which was added by Proposition 218). The process involves mailing a notice to property owners about the proposed fee and advising them of the date/time/place of a public hearing regarding the proposed fee. The public hearing cannot be held less than 45 days after the mailing of the notices. After the public hearing, the County can impose the fee as long as it didn't receive written protests from a majority of the affected property owners, this surcharge will only apply to the Independence Water System users, therefore, only the Independence Water System users will be notified and eligible to protest.

Inyo County Public Works Department is seeking direction from the Board as follows:

1. Feedback regarding the addition of this surcharge to the Independence Water System users.
2. If the Board wishes to potentially make such change, then direct staff to take the necessary steps to comply with Proposition 218, including scheduling a public hearing at a future Board meeting regarding the proposed surcharge and providing appropriate notices to property owners.

BACKGROUND/HISTORY OF BOARD ACTIONS:

At the December 19, 2017 Board meeting, Public Works brought forward a report outlining the need for emergency repairs, and the installation of a temporary main transmission line, for the Town of Independence Water System. The temporary main transmission line was rented and installed above ground, with a HDPE (High Density Polyethylene) pipe that met all the requirements for the future permanent buried line, once the engineering and construction design was completed. Once the funding was secured, with a County Treasury Loan, the HDPE pipe was purchased for the eventual permanent installation. Total construction costs, for the installation, rental and subsequent purchase of the pipe and fittings, totaled \$153,928.

At the February 5, 2019 Raftelis presented a workshop to the Board, outlining a water rate study and recommending options for bringing the Water Systems revenue in line with the actual operating costs. The workshop recommended transitioning to a flat rate billing rather than a consumption charge billing model, outlined several options, and discussed a surcharge to Independence rate-payers that would be imposed on Independence customers to pay back the cost of emergency repairs to transmission main between the systems storage tanks and town. This was followed by several community meetings through the summer, with a final public hearing and adoption of the new rate structure at your October 1st, 2019 Board meeting.

ALTERNATIVES AND CONSEQUENCES OF NEGATIVE ACTION:

OTHER AGENCY INVOLVEMENT:

County Counsel
Auditor

FINANCING:

Increase revenue to the Town Water Systems to replenish the Water Systems emergency fund, as well as the repayment of the County Treasury loan for the purchase of the pipe.

ATTACHMENTS:

APPROVALS:

Cynthia Browning
Darcy Ellis
Cynthia Browning
Breanne Nelums
Michael Errante
Marshall Rudolph
Amy Shepherd
Michael Errante

Created/Initiated - 10/17/2019
Approved - 10/17/2019
Approved - 10/18/2019
Approved - 10/21/2019
Approved - 10/22/2019
Approved - 10/29/2019
Approved - 10/30/2019
Final Approval - 10/31/2019



County of Inyo



Health & Human Services - Social Services

DEPARTMENTAL - ACTION REQUIRED

MEETING: November 5, 2019

FROM: Rhiannon Baker

SUBJECT:

Approval of 2019 Medi-Cal Privacy and Security Agreement

RECOMMENDED ACTION:

Request Board ratify and approve the Data Privacy and Security Agreement (PSA) between the California Department of Health Care Services (DHCS) and the Inyo County Department of Health and Human Services (HHS) for the period of September 1, 2019 – September 1, 2022 and authorize the HHS Director to sign and submit as instructed.

SUMMARY/JUSTIFICATION:

The purpose of this Medi-Cal Privacy and Security Agreement between DHCS and each County Welfare Department is to ensure the security and privacy of Medi-Cal Personally Identifiable Information (PII) contained in the Medi-Cal Eligibility Data System (MEDS), the Applicant Income and Eligibility Verification System (IEVS), and in data received from the Social Security Administration (SSA) and other sources. Because counties have access to SSA-provided information, SSA requires that DHCS enter into individual agreements with the counties to safeguard this information. All 58 County Welfare Departments are required to sign the Agreement to ensure the continued safe transmission of PII between the counties and DHCS.

This PSA is similar to the one recently passed by the board which authorized the sharing of data between Inyo County HHS and the California Department of Social Services (CDSS). Though the PSA has an August 26 deadline, DHCS has offered counties a 90 day extension, with this signed document due November 26, 2019.

BACKGROUND/HISTORY OF BOARD ACTIONS:

N/A

ALTERNATIVES AND CONSEQUENCES OF NEGATIVE ACTION:

The Board could choose not to approve the agreement. Failure to enter into the agreement could result in the Social Security Administration (SSA) revoking access to SSA information that HHS needs to make Medi-Cal Eligibility determinations, as well as determination of eligibility for other public assistance programs.

OTHER AGENCY INVOLVEMENT:

Information Services, Personnel

FINANCING:

There is no financing involved in this request.

ATTACHMENTS:

1. ACWDL 19-16 Medi-Cal Privacy and Security Agreement

APPROVALS:

Rhiannon Baker	Created/Initiated - 10/15/2019
Melissa Best-Baker	Approved - 10/16/2019
Marilyn Mann	Approved - 10/21/2019
Darcy Ellis	Approved - 10/21/2019
Marshall Rudolph	Approved - 10/22/2019
Sue Dishion	Approved - 10/29/2019
Scott Armstrong	Approved - 10/29/2019
Marilyn Mann	Final Approval - 10/31/2019



State of California—Health and Human Services Agency
Department of Health Care Services



GAVIN NEWSOM
GOVERNOR

June 21, 2019

To: ALL COUNTY WELFARE DIRECTORS Letter No: 19-16
ALL COUNTY ADMINISTRATION OFFICERS
ALL COUNTY PRIVACY AND SECURITY OFFICERS
ALL COUNTY MEDS LIAISONS
ALL COUNTY MED-CAL PROGRAM SPECIALISTS/LIAISONS

SUBJECT: 2019 Medi-Cal Privacy and Security Agreement (PSA)

The purpose of this letter is to notify counties of the 2019 Medi-Cal Privacy and Security Agreement (Agreement) and to provide counties with instructions for returning signed Agreements to the Department of Health Care Services (DHCS). This letter supersedes All County Welfare Directors Letter No. 16-09. The purpose of the Agreement between DHCS and each County Welfare Department (CWD) is to ensure the security and privacy of Medi-Cal Personally Identifiable Information (PII) contained in the Medi-Cal Eligibility Data System (MEDS), the Applicant Income and Eligibility Verification System (IEVS), and in data received from the Social Security Administration (SSA) and other sources. Because counties have access to SSA-provided information, SSA requires that DHCS enter into individual agreements with the counties to safeguard this information. All 58 CWDs are required to sign the 2019 Agreement to ensure the continued transmission of PII between the counties and DHCS.

SUBMISSION GUIDELINES

The Agreement template is enclosed in this letter. CWDs should follow the instructions below when returning signed Agreements to DHCS. The CWD should not modify any of the Agreement language, except as instructed below.

- CWDs shall complete the Preamble of the Agreement by entering the name of the county and the county department/agency.
- CWDs shall complete Section XX of the Agreement by entering signatory information. The name and title of the signatory must be printed or typed.
- CWDs shall modify the Header of the Agreement in order to enter the appropriate Agreement Number. The enclosed Agreement displays a sample Agreement

Number of "19-XX." CWDs should replace the "XX" with the appropriate two digit county code.

CWDs shall send DHCS two copies of the completed Agreements, both of which are to contain the original signature of the CWD authorized official. Note: copies of signatures or electronic signatures are NOT accepted. Once obtained, both of the Agreements will be signed by DHCS; however, only one of the Agreements will be returned to the respective CWD for their records. When sending Agreements to DHCS, CWDs shall include a contact name, contact telephone number, contact email address, and contact street address, which will be used when DHCS returns the signed Agreement(s) as well as, if needed, for communication purposes. CWDs may submit additional completed Agreements with a written request that DHCS return multiple copies to the CWD.

CWDs should ensure that DHCS receives the signed Agreements by August 26, 2019. CWDs should contact DHCS as soon as possible if unable to submit the signed Agreements by the due date.

Agreements should be sent to the following address:

Department of Health Care Services
Medi-Cal Eligibility Division
Program Review Branch
Compliance and Contracts Unit
PO Box 997417, MS 4607
Sacramento, CA 95899-7417

INCORPORATED EXHIBITS

To obtain copies of the following incorporated exhibits, authorized CWD individuals must submit requests via e-mail to DHCS PSA inbox at CountyPSA@dhcs.ca.gov.

Exhibit A

- Computer Matching and Privacy Protection Act Agreement between the SSA and California Health and Human Services Agency
- Information Exchange Agreement between SSA and DHCS
- Electronic Information Exchange Security Requirements and Procedures for State and Local Agencies Exchanging Electronic Information with the SSA (TSSR), version 8.0 (December 2017)*

** The SSA updated their TSSR to version 8.0 in December 2017. Exhibit A of the 2019 PSA contains the current version (8.0) of the TSSR. DHCS does not expect this change to impact CWDs' compliance with the TSSR. If the CWDs identify any*

All County Welfare Directors Letter No.: 19-16
Page 3
June 21, 2019

compliance gaps, they should contact DHCS at CountyPSA@dhcs.ca.gov. DHCS will work with the county department/agency to document a corrective action plan.

Contents within Exhibit A are highly sensitive and confidential. All disclosures of Exhibit A shall be limited to the appropriate parties or individuals responsible for and involved in decision making for safeguarding of PII. These documents are not public and shall not be published on any website accessible by or otherwise made available to the public.

Exhibit B:

- Computer Matching Agreement between the Department of Homeland Security, United States Citizenship and Immigration Services (DHS-USCIS) and DHCS

CWD'S AGENTS, SUBCONTRACTORS, AND VENDORS

As required by both the previous and the new Agreement, if CWDs allow agents, subcontractors, and vendors to access PII, they must enter into written agreements that will impose, at minimum, the same restrictions and conditions that apply to the CWD with respect to PII. If the agents, subcontractors, and vendors of CWDs access data provided to DHCS and/or CDSS by SSA or Department of Homeland Security, United States Citizenship and Immigration Services (DHS-USCIS), the CWDs shall also incorporate the Agreement's Exhibits into each subcontract or subaward with agents, subcontractors, and vendors. CWDs who would like assistance or guidance with this requirement are encouraged to contact DHCS via the PSA inbox at CountyPSA@dhcs.ca.gov.

In the event that you need to contact DHCS regarding any of the information in this letter or additional privacy and information security concerns, please submit inquiries via email to the PSA inbox at CountyPSA@dhcs.ca.gov.

Sincerely,

Original Signed by

Sandra Williams, Chief
Medi-Cal Eligibility Division

Enclosure

MEDI-CAL PRIVACY AND SECURITY AGREEMENT

BETWEEN

the California Department of Health Care Services and the

County of _____,

Department/Agency of _____.

PREAMBLE

The Department of Health Care Services (DHCS) and the

County of _____,

Department/Agency of _____

(County Department) enter into this Medi-Cal Privacy and Security Agreement (Agreement) in order to ensure the privacy and security of Medi-Cal Personally Identifiable Information (Medi-Cal PII).

DHCS receives federal funding to administer California's Medicaid Program (Medi-Cal). The County Department/Agency assists in the administration of Medi-Cal, in that DHCS and the County Department/Agency access DHCS eligibility information for the purpose of determining Medi-Cal eligibility.

This Agreement covers the

County of _____,

Department/Agency of _____

workers, who assist in the administration of Medi-Cal; and access, use, or disclose Medi-Cal PII.

DEFINITIONS

For the purpose of this Agreement, the following terms mean:

1. **“Assist in the administration of the Medi-Cal program”** means performing administrative functions on behalf of Medi-Cal, such as establishing eligibility, determining the amount of medical assistance, and collecting Medi-Cal PII for such purposes, to the extent such activities are authorized by law.
2. **“Breach”** refers to actual loss, loss of control, compromise, unauthorized disclosure, unauthorized acquisition, unauthorized access, or any similar term referring to situations where persons other than authorized users and for other than authorized

purposes have access or potential access to Medi-Cal PII, whether electronic, paper, verbal, or recorded.

3. **“County Worker”** means those county employees, contractors, subcontractors, vendors and agents performing any functions for the County that require access to and/or use of Medi-Cal PII and that are authorized by the County to access and use Medi-Cal PII.
4. **“Medi-Cal PII”** is information directly obtained in the course of performing an administrative function on behalf of Medi-Cal that can be used alone, or in conjunction with any other information, to identify a specific individual. Medi-Cal PII includes any information that can be used to search for or identify individuals, or can be used to access their files, including but not limited to name, social security number (SSN), date and place of birth (DOB), mother’s maiden name, driver’s license number, or identification number. Medi-Cal PII may also include any information that is linkable to an individual, such as medical, educational, financial, and employment information. Medi-Cal PII may be electronic, paper, verbal, or recorded and includes statements made by, or attributed to, the individual.
5. **“Security Incident”** means the attempted or successful unauthorized access, use, disclosure, modification, or destruction of Medi-Cal PII, or interference with system operations in an information system which processes Medi-Cal PII that is under the control of the County or County’s Statewide Automated Welfare System (SAWS) Consortium, or a contractor, subcontractor or vendor of the County.
6. **“Secure Areas”** means any area where:
 - A. County Workers assist in the administration of Medi-Cal;
 - B. County Workers use or disclose Medi-Cal PII; or
 - C. Medi-Cal PII is stored in paper or electronic format.
7. **“SSA-provided or verified data (SSA data)”** means:
 - A. Any information under the control of the Social Security Administration (SSA) provided to DHCS under the terms of an information exchange agreement with SSA (e.g., SSA provided date of death, SSA Title II or Title XVI benefit and eligibility data, or SSA citizenship verification); or
 - B. Any information provided to DHCS, including a source other than SSA, but in which DHCS attests that SSA verified it, or couples the information with data from SSA to certify the accuracy of it (e.g. SSN and associated SSA verification indicator displayed together on a screen, file, or report, or DOB and associated SSA verification indicator displayed together on a screen, file, or report).

For a more detailed definition of “SSA data”, please refer to Section 7 of the “Electronic Information Exchange Security Requirements and Procedures for State

and Local Agencies Exchanging Electronic Information with SSA” document, an attachment of Exhibit A.

AGREEMENTS

DHCS and County Department/Agency mutually agree as follows:

I. PRIVACY AND CONFIDENTIALITY

- A. County Department/Agency County Workers may use or disclose Medi-Cal PII only as permitted in this Agreement and only to assist in the administration of Medi-Cal in accordance with Section 14100.2 of the Welfare and Institutions Code, Section 431.300 et. Seq. of Title 42 Code of Federal Regulations, and as otherwise required by law. Disclosures required by law or that are made with the explicit written authorization of a Medi-Cal client are allowable. Any other use or disclosure of Medi-Cal PII requires the express approval in writing of DHCS. No County Worker shall duplicate, disseminate or disclose Medi-Cal PII except as allowed in this Agreement.
- B. Pursuant to this Agreement, County Workers may only use Medi-Cal PII to assist in the administration of the Medi-Cal program.
- C. Access to Medi-Cal PII shall be restricted to County Workers who need to perform their official duties to assist in the administration of Medi-Cal.
- D. County Workers who access, disclose or use Medi-Cal PII in a manner or for a purpose not authorized by this Agreement may be subject to civil and criminal sanctions contained in applicable federal and state statutes.

II. PERSONNEL CONTROLS

The County Department/Agency agrees to advise County Workers who have access to Medi-Cal PII, of the confidentiality of the information, the safeguards required to protect the information, and the civil and criminal sanctions for non-compliance contained in applicable federal and state laws. For that purpose, the County Department/Agency shall implement the following personnel controls:

- A. ***Employee Training.*** Train and use reasonable measures to ensure compliance with the requirements of this Agreement by County Workers, including, but not limited to:
 - 1. Provide initial privacy and security awareness training to each new County Worker within 30 days of employment;

2. Thereafter, provide annual refresher training or reminders of the privacy and security safeguards in this Agreement to all County Workers. Three or more security reminders per year are recommended;
3. Maintain records indicating each County Worker's name and the date on which the privacy and security awareness training was completed and;
4. Retain training records for a period of three years after completion of the training.

B. *Employee Discipline.*

1. Provide documented sanction policies and procedures for County Workers who fail to comply with privacy policies and procedures or any provisions of these requirements.
2. Sanction policies and procedures shall include termination of employment when appropriate.

- C. *Confidentiality Statement.*** Ensure that all County Workers sign a confidentiality statement. The statement shall be signed by County Workers prior to accessing Medi-Cal PII and annually thereafter. Signatures may be physical or electronic. The signed statement shall be retained for a period of three years, or five years if the signed statement is being used to comply with Section 5.10 of the SSA's "Electronic Information Exchange Security Requirements and Procedures for State and Local Agencies Exchanging Electronic Information with SSA" document, an attachment of Exhibit A.

The statement shall include, at a minimum, a description of the following:

1. General Use of Medi-Cal PII;
2. Security and Privacy Safeguards for Medi-Cal PII;
3. Unacceptable Use of Medi-Cal PII; and
4. Enforcement Policies.

D. *Background Screening.*

1. Conduct a background screening of a County Worker before they may access Medi-Cal PII.
2. The background screening should be commensurate with the risk and magnitude of harm the employee could cause. More thorough screening shall be done for those employees who are authorized to bypass significant technical and operational security controls.

3. The County Department/Agency shall retain each County Worker's background screening documentation for a period of three years following conclusion of employment relationship.

III. MANAGEMENT OVERSIGHT AND MONITORING

To ensure compliance with the privacy and security safeguards in this Agreement the county shall perform the following:

- A. Conduct periodic privacy and security review of work activity by County Workers, including random sampling of work product. Examples include, but are not limited to, access to case files or other activities related to the handling of Medi-Cal PII.
- B. The periodic privacy and security reviews shall be performed or overseen by management level personnel who are knowledgeable and experienced in the areas of privacy and information security in the administration of the Medi-Cal program, and the use or disclosure of Medi-Cal PII.

IV. INFORMATION SECURITY AND PRIVACY STAFFING

The County Department/Agency agrees to:

- A. Designate information security and privacy officials who are accountable for compliance with these and all other applicable requirements stated in this Agreement.
- B. Provide the DHCS with applicable contact information for these designated individuals using the County PSA inbox listed in Section XI of this Agreement. Any changes to this information should be reported to DHCS within ten days.
- C. Assign County Workers to be responsible for administration and monitoring of all security related controls stated in this Agreement.

V. PHYSICAL SECURITY

The County Department/Agency shall ensure Medi-Cal PII is used and stored in an area that is physically safe from access by unauthorized persons at all times. The County Department/Agency agrees to safeguard Medi-Cal PII from loss, theft, or inadvertent disclosure and, therefore, agrees to:

- A. Secure all areas of the County Department/Agency facilities where County Workers assist in the administration of Medi-Cal and use, disclose, or store Medi-Cal PII.

- B. These areas shall be restricted to only allow access to authorized individuals by using one or more of the following:
 - 1. Properly coded key cards
 - 2. Authorized door keys
 - 3. Official identification
- C. Issue identification badges to County Workers.
- D. Require County Workers to wear these badges where Medi-Cal PII is used, disclosed, or stored.
- E. Ensure each physical location, where Medi-Cal PII is used, disclosed, or stored, has procedures and controls that ensure an individual who is terminated from access to the facility is promptly escorted from the facility by an authorized employee and access is revoked.
- F. Ensure there are security guards or a monitored alarm system at all times at the County Department/Agency facilities and leased facilities where 500 or more individually identifiable records of Medi-Cal PII is used, disclosed, or stored. Video surveillance systems are recommended.
- G. Ensure data centers with servers, data storage devices, and/or critical network infrastructure involved in the use, storage, and/or processing of Medi-Cal PII have perimeter security and physical access controls that limit access to only authorized County Workers. Visitors to the data center area shall be escorted at all times by authorized County Workers.
- H. Store paper records with Medi-Cal PII in locked spaces, such as locked file cabinets, locked file rooms, locked desks, or locked offices in facilities which are multi-use meaning that there are County Department/Agency and non-County Department/Agency functions in one building in work areas that are not securely segregated from each other. It is recommended that all Medi-Cal PII be locked up when unattended at any time, not just within multi-use facilities.
- I. The County Department/Agency shall have policies based on applicable factors that include, at a minimum, a description of the circumstances under which the County Workers can transport Medi-Cal PII, as well as the physical security requirements during transport. A County Department/Agency that chooses to permit its County Workers to leave records unattended in vehicles shall include provisions in its policies to provide that the Medi-Cal PII is stored in a non-visible area such as a trunk, that the vehicle is locked, and that under no circumstances permit Medi-Cal PII be left unattended in a vehicle overnight or for other extended periods of time.

- J. The County Department/Agency shall have policies that indicate County Workers are not to leave records with Medi-Cal PII unattended at any time in airplanes, buses, trains, etc., inclusive of baggage areas. This should be included in training due to the nature of the risk.

VI. TECHNICAL SECURITY CONTROLS

- A. **Workstation/Laptop Encryption.** All workstations and laptops, which use, store and/or process Medi-Cal PII, shall be encrypted using a FIPS 140-2 certified algorithm 128 bit or higher, such as Advanced Encryption Standard (AES). The encryption solution shall be full disk. It is encouraged, when available and when feasible, that the encryption be 256 bit.
- B. **Server Security.** Servers containing unencrypted Medi-Cal PII shall have sufficient administrative, physical, and technical controls in place to protect that data, based upon a risk assessment/system security review. It is recommended to follow the guidelines documented in the latest revision of the National Institute of Standards and Technology (NIST) Special Publication (SP) 800-53, Security and Privacy Controls for Federal Information Systems and Organizations.
- C. **Minimum Necessary.** Only the minimum necessary amount of Medi-Cal PII required to perform required business functions may be accessed, copied, downloaded, or exported.
- D. **Mobile Device and Removable Media.** All electronic files, which contain Medi-Cal PII, shall be encrypted when stored on any mobile device or removable media (i.e. USB drives, CD/DVD, smartphones, tablets, backup tapes etc.). Encryption shall be a FIPS 140-2 certified algorithm 128 bit or higher, such as AES. It is encouraged, when available and when feasible, that the encryption be 256 bit.
- E. **Antivirus Software.** All workstations, laptops and other systems, which process and/or store Medi-Cal PII, shall install and actively use an anti-virus software solution. Anti-virus software should have automatic updates for definitions scheduled at least daily.
- F. **Patch Management.**
1. All workstations, laptops and other systems, which process and/or store Medi-Cal PII, shall have critical security patches applied, with system reboot if necessary.

2. There shall be a documented patch management process that determines installation timeframe based on risk assessment and vendor recommendations.
3. At a maximum, all applicable patches deemed as critical shall be installed within 30 days of vendor release. It is recommended that critical patches which are high risk be installed within 7 days.
4. Applications and systems that cannot be patched within this time frame, due to significant operational reasons, shall have compensatory controls implemented to minimize risk.

G. *User IDs and Password Controls.*

1. All users shall be issued a unique user name for accessing Medi-Cal PII.
2. Usernames shall be promptly disabled, deleted, or the password changed within, at most, 24 hours of the transfer or termination of an employee.
3. Passwords are not to be shared.
4. Passwords shall be at least eight characters.
5. Passwords shall be a non-dictionary word.
6. Passwords shall not be stored in readable format on the computer or server.
7. Passwords shall be changed every 90 days or less. It is recommended that passwords be required to be changed every 60 days or less. Non-expiring passwords are permitted when in full compliance with NIST SP 800-63B Authenticator Assurance Level (AAL) 2.
8. Passwords shall be changed if revealed or compromised.
9. Passwords shall be composed of characters from at least three of the four groups from the standard keyboard:
 - a. Upper case letters (A-Z)
 - b. Lower case letters (a-z)
 - c. Arabic numerals (0-9)
 - d. Special characters

- H. ***User Access.*** In conjunction with DHCS, management should exercise control and oversight, of the function of authorizing individual user access to

SSA data via Medi-Cal Eligibility Data System (MEDS), and over the process of issuing and maintaining access control numbers, IDs, and passwords.

- I. **Data Destruction.** When no longer needed, all Medi-Cal PII shall be cleared, purged, or destroyed consistent with NIST SP 800-88, Guidelines for Media Sanitization, such that the Medi-Cal PII cannot be retrieved.
- J. **System Timeout.** The systems providing access to Medi-Cal PII shall provide an automatic timeout, requiring re-authentication of the user session after no more than 20 minutes of inactivity.
- K. **Warning Banners.** The systems providing access to Medi-Cal PII shall display a warning banner stating, at a minimum:
 1. Data is confidential;
 2. Systems are logged;
 3. System use is for business purposes only, by authorized users; and
 4. Users shall log off the system immediately if they do not agree with these requirements.
- L. **System Logging.**
 1. The systems that provide access to Medi-Cal PII shall maintain an automated audit trail that can identify the user or system process which initiates a request for Medi-Cal PII, or alters Medi-Cal PII.
 2. The audit trail shall:
 - a. Be date and time stamped;
 - b. Log both successful and failed accesses;
 - c. Be read-access only; and
 - d. Be restricted to authorized users of the audit trail.
 3. If Medi-Cal PII is stored in a database, database logging functionality shall be enabled.
 4. Audit trail data shall be archived for at least three years from the occurrence.
- M. **Access Controls.** The system providing access to Medi-Cal PII shall use role based access controls for all user authentications, enforcing the principle of least privilege.

N. *Transmission Encryption.*

1. All data transmissions of Medi-Cal PII outside of a secure internal network shall be encrypted using a FIPS 140-2 certified algorithm that is 128 bit or higher, such as AES or TLS. It is encouraged, when available and when feasible, that 256 bit encryption be used.
2. Encryption can be end to end at the network level, or the data files containing Medi-Cal PII can be encrypted.
3. This requirement pertains to any type of Medi-Cal PII in motion such as website access, file transfer, and email.

O. *Intrusion Prevention.* All systems involved in accessing, storing, transporting, and protecting Medi-Cal PII, which are accessible through the Internet, shall be protected by an intrusion detection and prevention solution.

VII. AUDIT CONTROLS

A. *System Security Review.*

1. The County Department/Agency shall ensure audit control mechanisms are in place.
2. All systems processing and/or storing Medi-Cal PII shall have at least an annual system risk assessment/security review that ensures administrative, physical, and technical controls are functioning effectively and provide an adequate level of protection.
3. Reviews should include vulnerability scanning tools.

B. *Log Reviews.* All systems processing and/or storing Medi-Cal PII shall have a process or automated procedure in place to review system logs for unauthorized access.

C. *Change Control.* All systems processing and/or storing Medi-Cal PII shall have a documented change control process that ensures separation of duties and protects the confidentiality, integrity and availability of data.

D. *Anomalies.* When the County Department/Agency or DHCS suspects MEDS usage anomalies, the County Department/Agency shall work with DHCS to investigate the anomalies and report conclusions of such investigations and remediation to DHCS.

VIII. BUSINESS CONTINUITY / DISASTER RECOVERY CONTROLS

- A. ***Emergency Mode Operation Plan.*** The County Department/Agency shall establish a documented plan to enable continuation of critical business processes and protection of the security of Medi-Cal PII kept in an electronic format in the event of an emergency. Emergency means any circumstance or situation that causes normal computer operations to become unavailable for use in performing the work required under this Agreement for more than 24 hours. It is recommended that counties conduct periodic disaster recovery testing, including connectivity exercises conducted with DHCS, if requested.
- B. ***Data Centers.*** Data centers with servers, data storage devices, and critical network infrastructure involved in the use, storage and/or processing of Medi-Cal PII, shall include environmental protection such as cooling; power; and fire prevention, detection, and suppression; and appropriate protection from other threats, including but not limited to flood, earthquake, and terrorism.
- C. ***Data Backup Plan.***
1. The County Department/Agency shall have established documented procedures to backup Medi-Cal PII to maintain retrievable exact copies of Medi-Cal PII.
 2. The documented backup procedures shall contain a schedule which includes incremental and full backups.
 3. The procedures shall include storing backups containing Medi-Cal PII offsite.
 4. The procedures shall ensure an inventory of backup media. It is recommended that the County Department/Agency periodically test the data recovery process.

IX. PAPER DOCUMENT CONTROLS

- A. ***Supervision of Data.*** Medi-Cal PII in paper form shall not be left unattended at any time, unless it is locked in a file cabinet, file room, desk or office. Unattended means that information may be observed by an individual not authorized to access the information.
- B. ***Data in Vehicles.*** The County Department/Agency shall have policies that include, based on applicable risk factors, a description of the circumstances under which the County Workers can transport Medi-Cal PII, as well as the physical security requirements during transport. A County

Department/Agency that chooses to permit its County Workers to leave records unattended in vehicles, it shall include provisions in its policies to provide that the Medi-Cal PII is stored in a non-visible area such as a trunk, that the vehicle is locked, and that under no circumstances permit Medi-Cal PII to be left unattended in a vehicle overnight or for other extended periods of time.

- C. **Public Modes of Transportation.** Medi-Cal PII in paper form shall not be left unattended at any time in airplanes, buses, trains, etc., inclusive of baggage areas. This should be included in training due to the nature of the risk.
- D. **Escorting Visitors.** Visitors to areas where Medi-Cal PII is contained shall be escorted, and Medi-Cal PII shall be kept out of sight while visitors are in the area.
- E. **Confidential Destruction.** Medi-Cal PII shall be disposed of through confidential means, such as cross cut shredding or pulverizing.
- F. **Removal of Data.** Medi-Cal PII shall not be removed from the premises of County Department/Agency except for justifiable business purposes.
- G. **Faxing.**
 - 1. Faxes containing Medi-Cal PII shall not be left unattended and fax machines shall be in secure areas.
 - 2. Faxes shall contain a confidentiality statement notifying persons receiving faxes in error to destroy them and notify the sender.
 - 3. Fax numbers shall be verified with the intended recipient before sending the fax.
- H. **Mailing.**
 - 1. Mailings containing Medi-Cal PII shall be sealed and secured from damage or inappropriate viewing of PII to the extent possible.
 - 2. Mailings that include 500 or more individually identifiable records containing Medi-Cal PII in a single package shall be sent using a tracked mailing method that includes verification of delivery and receipt.

X. **NOTIFICATION AND INVESTIGATION OF BREACHES AND SECURITY INCIDENTS**

During the term of this Agreement, the County Department/Agency agrees to implement reasonable systems for the discovery and prompt reporting of any breach or security incident, and to take the following steps:

A. *Initial Notice to DHCS:*

The County Department/Agency shall notify DHCS, by email, or alternatively, by telephone if email is unavailable, of any suspected security incident, intrusion, or unauthorized access, use, or disclosure of Medi-Cal PII or potential loss of Medi-Cal PII. When making notification, the following applies:

1. If a suspected security incident involves Medi-Cal PII provided or verified by SSA, the County Department/Agency shall **immediately** notify DHCS upon discovery. *For more information on SSA data, please see the Definition section of this Agreement.*
2. If a suspected security incident does not involve Medi-Cal PII provided or verified by SSA, the County Department/Agency shall notify DHCS **within one working day** of discovery.

If it is unclear if the security incident involves SSA data, the County Department/Agency shall immediately report the incident upon discovery.

A County Department/Agency shall notify DHCS of all personal information, as defined by California Civil Code Section 1798.3(a), that may have been accessed, used, or disclosed in any suspected security incident or breach, including but not limited to case numbers.

Notice shall be made using the DHCS Privacy Incident Report (PIR) form, including all information known at the time. The County Department/Agency shall use the most current version of this form, which is available on the DHCS Privacy Office website at:

<http://www.dhcs.ca.gov/formsandpubs/laws/priv/Pages/CountiesOnly.aspx>.

All PIRs and supporting documentation are to be submitted to DHCS via email using the "DHCS Breach and Security Incidents Reporting" contact information found below in Subsection F.

A breach shall be treated as discovered by the County Department/Agency as of the first day on which the breach is known, or by exercising reasonable diligence would have been known, to any person (other than the person committing the breach), who is an employee, officer or other agent of the County Department.

Upon discovery of a breach, security incident, intrusion, or unauthorized access, use, or disclosure of Medi-Cal PII, the County Department/Agency shall take:

1. Prompt action to mitigate any risks or damages involved with the occurrence and to protect the operating environment; and
 2. Any action pertaining to such occurrence required by applicable Federal and State laws and regulations.
- B. *Investigation and Investigative Report.*** The County Department/Agency shall immediately investigate breaches and security incidents involving Medi-Cal PII. If the initial PIR was submitted incomplete and if new or updated information is available, submit an updated PIR to DHCS **within 72 hours of the discovery**. The updated PIR shall include any other applicable information related to the breach or security incident known at that time.
- C. *Complete Report.*** If all of the required information was not included in either the initial report or the investigation PIR submission, then a separate complete report shall be submitted **within ten working days of the discovery**. The Complete Report of the investigation shall include an assessment of all known factors relevant to the determination of whether a breach occurred under applicable provisions of the Health Insurance Portability and Accountability Act (HIPAA), the Health Information Technology for Economic and Clinical Health (HITECH) Act, the Information Protection Act, or other applicable law. The report shall also include a CAP that shall include, at minimum, detailed information regarding the mitigation measures taken to halt and/or contain the improper use or disclosure.
- If DHCS requests additional information related to the incident, the County Department/Agency shall make reasonable efforts to provide DHCS with such information. If necessary, the County Department/Agency shall submit an updated PIR with revisions and/or additional information after the Completed Report has been provided. DHCS will review and determine whether a breach occurred and whether individual notification is required. DHCS will maintain the final decision making over a breach determination
- D. *Notification of Individuals.*** When applicable state or federal law requires notification to individuals of a breach or unauthorized disclosure of their Medi-Cal PII, the County Department/Agency shall give the notice, subject to the following provisions:
1. If the cause of the breach is attributable to the County Department/Agency or its subcontractors, agents or vendors, the County Department/Agency shall pay any costs of such notifications, as well as any and all costs associated with the breach. If the cause of the breach is attributable to DHCS, DHCS shall pay any costs associated with such notifications, as well as any costs associated with the breach.

If there is any question as to whether DHCS or the County Department/Agency is responsible for the breach, DHCS and the County Department/Agency shall jointly determine responsibility for purposes of allocating the costs;

2. All notifications (regardless of breach status) regarding beneficiaries' Medi-Cal PII shall comply with the requirements set forth in Section 1798.29 of the California Civil Code and Section 17932 of Title 42 of United States Code, inclusive of its implementing regulations, including but not limited to the requirement that the notifications be made without unreasonable delay and in no event later than **60 calendar days** from discovery;
3. The DHCS Privacy Office shall approve the time, manner and content of any such notifications and their review and approval shall be obtained before notifications are made. If notifications are distributed without DHCS review and approval, secondary follow-up notifications may be required; and
4. DHCS may elect to assume responsibility for such notification from the County Department/Agency.

E. **Responsibility for Reporting of Breaches when Required by State or Federal Law.** If the cause of a breach of Medi-Cal PII is attributable to the County Department/Agency or its agents, subcontractors or vendors, the County Department/Agency is responsible for all required reporting of the breach. If the cause of the breach is attributable to DHCS, DHCS is responsible for all required reporting of the breach. When applicable law requires the breach be reported to a federal or state agency or that notice be given to media outlets, DHCS and the County Department/Agency shall coordinate to ensure such reporting is in compliance with applicable law and to prevent duplicate reporting, and to jointly determine responsibility for purposes of allocating the costs of such reports, if any.

F. **DHCS Contact Information.** The County Department/Agency shall utilize the below contact information to direct all notifications of breach and security incidents to DHCS. DHCS reserves the right to make changes to the contact information by giving written notice to the County Department/Agency. Said changes shall not require an amendment to this Agreement or any other agreement into which it is incorporated.

DHCS Breach and Security Incident Reporting
Department of Health Care Services Office of HIPAA Compliance 1501 Capitol Avenue, MS 4721 P.O. Box 997413 Sacramento, CA 95899-7413 Email: incidents@dhcs.ca.gov Telephone: (866) 866-0602 <i>The preferred method of communication is email, when available. Do not include any Medi-Cal PII unless requested by DHCS.</i>

XI. DHCS PSA CONTACTS

The County Department/Agency shall utilize the below contact information for any PSA-related inquiries or questions. DHCS reserves the right to make changes to the contact information by giving written notice to the County Department/Agency. Said changes shall not require an amendment to this Agreement or any other agreement into which it is incorporated. *Please use the contact information listed in Section X of this Agreement for any Medi-Cal PII incident or breach reporting.*

PSA Inquires and Questions
Department of Health Care Services Medi-Cal Eligibility Division 1501 Capitol Avenue, MS 4607 P.O. Box 997417 Sacramento, CA 95899-7417 Email: countypsa@dhcs.ca.gov

XII. COMPLIANCE WITH SSA AGREEMENT

The County Department/Agency agrees to comply with applicable privacy and security requirements in the Computer Matching and Privacy Protection Act Agreement (CMPPA) between SSA and the California Health and Human Services Agency (CHHS), in the Information Exchange Agreement (IEA) between SSA and DHCS, and in the Electronic Information Exchange Security Requirements and Procedures for State and Local Agencies Exchanging Electronic Information with SSA (TSSR), which are hereby incorporated into this Agreement (Exhibit A) and available upon request.

If there is any conflict between a privacy and security standard in the CMPPA, IEA or TSSR, and a standard in this Agreement, the most stringent standard shall apply. The most stringent standard means the standard which provides the greatest protection to Medi-Cal PII.

If SSA changes the terms of its agreement(s) with DHCS, DHCS will, as soon as reasonably possible after receipt, supply copies to County Welfare Directors Association (CWDA) as well as the proposed target date for compliance. For a period of thirty (30) days, DHCS will accept input from CWDA on the proposed target date and make adjustments, if appropriate. After the thirty (30) day period, DHCS will submit the proposed target date to SSA, which will be subject to adjustment by SSA. Once a target date for compliance is determined by SSA, DHCS will supply copies of the changed agreement to the CWDA and the County Departments/Agency, along with the compliance date expected by SSA. If the County Department/Agency is not able to meet the SSA compliance date, it shall submit a CAP to DHCS for review and approval at least thirty (30) days prior to the SSA compliance date. Any potential County Department/Agency resource issues may be discussed with DHCS through a collaborative process in developing their CAP.

A copy of Exhibit A can be requested by authorized County Department/Agency individuals from DHCS using the contact information listed in Section XI of this Agreement.

XIII. COMPLIANCE WITH DEPARTMENT OF HOMELAND SECURITY AGREEMENT

The County Department/Agency agrees to comply with substantive privacy and security requirements in the Computer Matching Agreement (CMA) between the Department of Homeland Security, United States Citizenship and Immigration Services (DHS-USCIS) and DHCS, which is hereby incorporated into this Agreement (Exhibit B) and available upon request. If there is any conflict between a privacy and security standard in the CMA and a standard in this Agreement, the most stringent standard shall apply. The most stringent standard means the standard which provides the greatest protection to Medi-Cal PII.

If DHS-USCIS changes the terms of its agreement(s) with DHCS, DHCS will, as soon as reasonably possible after receipt, supply copies to CWDA as well as the DHCS proposed target date for compliance. For a period of thirty (30) days, DHCS will accept input from CWDA on the proposed target date and make adjustments, if appropriate. After the 30-day period, DHCS will submit the proposed target date to DHS-USCIS, which will be subject to adjustment by DHS-USCIS. Once a target date for compliance is determined by DHS-USCIS,

DHCS will supply copies of the changed agreement to the CWDA and the County Department/Agency, along with the compliance date expected by DHS-USCIS. If the County Department/Agency is not able to meet the DHS-USCIS compliance date, it shall submit a CAP to DHCS for review and approval at least thirty (30) days prior to the DHS-USCIS compliance date. Any potential County Department/Agency resource issues may be discussed with DHCS through a collaborative process in developing their CAP.

A copy of Exhibit B can be requested by authorized County Department/Agency individuals from DHCS using the contact information listed in Section XI of this Agreement.

XIV. COUNTY DEPARTMENT'S/AGENCY'S AGENTS, SUBCONTRACTORS, AND VENDORS

The County Department/Agency agrees to enter into written agreements with all agents, subcontractors and vendors that have access to County Department/Agency Medi-Cal PII. These agreements will impose, at a minimum, the same restrictions and conditions that apply to the County Department/Agency with respect to Medi-Cal PII upon such agents, subcontractors, and vendors. These shall include, (1) restrictions on disclosure of Medi-Cal PII, (2) conditions regarding the use of appropriate administrative, physical, and technical safeguards to protect Medi-Cal PII, and, where relevant, (3) the requirement that any breach, security incident, intrusion, or unauthorized access, use, or disclosure of Medi-Cal PII be reported to the County Department/Agency. If the agents, subcontractors, and vendors of County Department/Agency access data provided to DHCS and/or CDSS by SSA or DHS-USCIS, the County Department/Agency shall also incorporate the Agreement's Exhibits into each subcontract or subaward with agents, subcontractors, and vendors. If the County Department/Agency executed the HIPAA Amendment with DHCS, the HIPAA Amendment and Exhibit C will need to be incorporated when applicable. County Departments/Agencies who would like assistance or guidance with this requirement are encouraged to contact DHCS via the PSA inbox at CountyPSA@dhcs.ca.gov.

XV. ASSESSMENTS AND REVIEWS

In order to enforce this Agreement and ensure compliance with its provisions and Exhibits, the County Department/Agency agrees to assist DHCS in performing compliance assessments. These assessments may involve compliance review questionnaires, and/or review of the facilities, systems, books, and records of the County Department/Agency, with reasonable notice from DHCS. Such reviews shall be scheduled at times that take into account the operational and staffing demands. The County Department/Agency agrees to promptly remedy all violations of any provision of this Agreement and certify the same to the DHCS

Privacy Office and DHCS Information Security Office in writing, or to enter into a written CAP with DHCS containing deadlines for achieving compliance with specific provisions of this Agreement.

XVI. ASSISTANCE IN LITIGATION OR ADMINISTRATIVE PROCEEDINGS

In the event of litigation or administrative proceedings involving DHCS based upon claimed violations by the County Department/Agency of the privacy or security of Medi-Cal PII or of federal or state laws or agreements concerning privacy or security of Medi-Cal PII, the County Department/Agency shall make all reasonable effort to make itself and County Workers assisting in the administration of Medi-Cal and using or disclosing Medi-Cal PII available to DHCS at no cost to DHCS to testify as witnesses. DHCS shall also make all reasonable efforts to make itself and any subcontractors, agents, and employees available to the County Department/Agency at no cost to the County Department/Agency to testify as witnesses, in the event of litigation or administrative proceedings involving the County Department/Agency based upon claimed violations by DHCS of the privacy or security of Medi-Cal PII or of state or federal laws or agreements concerning privacy or security of Medi-Cal PII.

XVII. AMENDMENT OF AGREEMENT

DHCS and the County Department/Agency acknowledge that federal and state laws relating to data security and privacy are rapidly evolving and that amendment of this Agreement may be required to provide for procedures to ensure compliance with such developments. Upon request by DHCS, the County Department/Agency agrees to promptly enter into negotiations with DHCS concerning an amendment to this Agreement as may be needed by developments in federal and state laws and regulations. In addition to any other lawful remedy, DHCS may terminate this Agreement upon 30 days written notice if the County Department/Agency does not promptly agree to enter into negotiations to amend this Agreement when requested to do so, or does not enter into an amendment that DHCS deems necessary.

XVIII. TERMINATION

- A. This Agreement shall terminate on September 1, 2022, regardless of the date the Agreement is executed by the parties. The parties can agree in writing to extend the term of the Agreement; through an executed written amendment. County Department/Agency requests for an extension shall be justified and approved by DHCS and limited to no more than a six (6) month extension.
- B. **Survival:** All provisions of this Agreement that provide restrictions on disclosures of Medi-Cal PII and that provide administrative, technical, and physical safeguards for the Medi-Cal PII in the County Department/Agency's

possession shall continue in effect beyond the termination or expiration of this Agreement, and shall continue until the Medi-Cal PII is destroyed or returned to DHCS.

XIX. TERMINATION FOR CAUSE

Upon DHCS' knowledge of a material breach or violation of this Agreement by the County Department/Agency, DHCS may provide an opportunity for the County Department/Agency to cure the breach or end the violation and may terminate this Agreement if the County Department/Agency does not cure the breach or end the violation within the time specified by DHCS. This Agreement may be terminated immediately by DHCS if the County Department/Agency has breached a material term and DHCS determines, in its sole discretion, that cure is not possible or available under the circumstances. Upon termination of this Agreement, the County Department/Agency shall return or destroy all Medi-Cal PII in accordance with Section VII, above. The provisions of this Agreement governing the privacy and security of the Medi-Cal PII shall remain in effect until all Medi-Cal PII is returned or destroyed and DHCS receives a certificate of destruction.

XX. SIGNATORIES

The signatories below warrant and represent that they have the competent authority on behalf of their respective agencies to enter into the obligations set forth in this Agreement.

The authorized officials whose signatures appear below have committed their respective agencies to the terms of this Agreement. The contract is effective on September 1, 2019.

For the County of _____,

Department/Agency of _____,

(Signature)

(Date)

(Name)

(Title)

For the Department of Health Care Services,

(Signature)

(Date)

Jennifer Kent

Director

(Name)

(Title)

EXHIBIT A

Exhibit A consists of the current versions of the following documents, copies of which can be requested by the County Department/Agency information security and privacy staff from DHCS by using the contact information listed in Section XI of this Agreement.

- Computer Matching and Privacy Protection Act Agreement between the SSA and California Health and Human Services Agency
- Information Exchange Agreement between SSA and DHCS
- Electronic Information Exchange Security Requirements and Procedures for State and Local Agencies Exchanging Electronic Information with the SSA (TSSR)

EXHIBIT B

Exhibit B consists of the current version of the following document, a copy of which can be requested by the County Department/Agency information security and privacy staff from DHCS by using the contact information listed in Section XI of this Agreement.

- Computer Matching Agreement between the Department of Homeland Security, United States Citizenship and Immigration Services (DHS-USCIS) and California Department of Health Care Services (DHCS)



County of Inyo



Clerk of the Board

DEPARTMENTAL - ACTION REQUIRED

MEETING: November 5, 2019

FROM: Assistant Clerk of the Board

SUBJECT: Approval of Meeting Minutes

RECOMMENDED ACTION:

Request Board approve the minutes of the regular Board of Supervisors meetings of October 8, 2019 and October 15, 2019.

SUMMARY/JUSTIFICATION:

The Board is required to keep minutes of its proceedings. Once the Board has approved the minutes as requested, the minutes will be made available to the public via the County's webpage, www.inyocounty.us.

BACKGROUND/HISTORY OF BOARD ACTIONS:

N/A

ALTERNATIVES AND CONSEQUENCES OF NEGATIVE ACTION:

N/A

OTHER AGENCY INVOLVEMENT:

N/A

FINANCING:

N/A

ATTACHMENTS:

APPROVALS:

Darcy Ellis
Darcy Ellis

Created/Initiated - 10/31/2019
Final Approval - 10/31/2019