



**AGENDA
MEETING OF THE
INLAND EMPIRE UTILITIES AGENCY
BOARD OF DIRECTORS**

**WEDNESDAY, NOVEMBER 16, 2016
10:00 A.M.**

*Or immediately following the
Joint CBRFA Commission and IEUA Board Meeting*

**INLAND EMPIRE UTILITIES AGENCY*
AGENCY HEADQUARTERS
6075 KIMBALL AVENUE, BUILDING A
CHINO, CALIFORNIA 91708**

CALL TO ORDER OF THE INLAND EMPIRE UTILITIES AGENCY BOARD OF DIRECTORS MEETING

FLAG SALUTE

PUBLIC COMMENT

Members of the public may address the Board on any item that is within the jurisdiction of the Board; however, no action may be taken on any item not appearing on the agenda unless the action is otherwise authorized by Subdivision (b) of Section 54954.2 of the Government Code. Those persons wishing to address the Board on any matter, whether or not it appears on the agenda, are requested to complete and submit to the Board Secretary a "Request to Speak" form which are available on the table in the Board Room. Comments will be limited to five minutes per speaker. Thank you.

ADDITIONS TO THE AGENDA

In accordance with Section 54954.2 of the Government Code (Brown Act), additions to the agenda require two-thirds vote of the legislative body, or, if less than two-thirds of the members are present, a unanimous vote of those members present, that there is a need to take immediate action and that the need for action came to the attention of the local agency subsequent to the agenda being posted.

1. NEW HIRE INTRODUCTIONS

- Mr. Chad Bonnett, Electrical & Instrumentation Technician I, hired on 10/10/16 (Greg Barron)
- Mr. Javier Gallegos, Electrical & Instrumentation Technician I, hired on 10/10/16 (Jon Florio)

- Mr. Roberto Delgado, Deputy Manager of Maintenance, hired on 10/24/16 (Randy Lee)

2. CONSENT ITEMS

NOTICE: All matters listed under the Consent Calendar are considered to be routine and non-controversial and will be acted upon by the Board by one motion in the form listed below. There will be no separate discussion on these items prior to the time the Board votes unless any Board members, staff or the public requests specific items be discussed and/or removed from the Consent Calendar for separate action.

A. MINUTES

The Board will be asked to approve the minutes from the September 21, Board meeting, and October 5, 2016 Board Workshop.

B. ADOPTION OF RESOLUTION NO. 2016-11-1, COMMENDING MAYOR DENNIS YATES FOR HIS 24 YEAR OF SERVICE WITH THE CITY OF CHINO

It is recommended that the Board adopt Resolution No. 2016-11-1, commending Mayor Dennis Yates for his 24 years of public service with the City of Chino, and best wishes on his retirement.

C. SUPPORT OF THE CALIFORNIA WATERFIX PROJECT PROCESS

It is recommended that the Board adopt a support position for the process of developing the California WaterFix Project, noting that an official support position for the project is not recommended until costs are fully disclosed.

D. PROPOSED 2017 FEDERAL AND STATE LEGISLATIVE PRIORITIES

It is recommended that the Board adopt the 2017 Federal and State Legislative Priorities.

E. REPORT OF GENERAL DISBURSEMENTS FOR AUGUST

It is recommended that the Board approve the total disbursements for the month of August 2016, in the amount of \$10,282,194.52.

F. REPORT ON GENERAL DISBURSEMENTS FOR SEPTEMBER

It is recommended that the Board approve the total disbursements for the month of September 2016, in the amount of \$13,658,483.29.

G. ADOPTION OF RESOLUTION 2016-11-2, TO REMOVE THE PER MILLION GALLON SEWER SERVICE RATES

It is recommended that the Board adopt Rate Resolution No. 2016-11-2, to remove the per million gallon (MG) sewer service rate and maintain the equivalent dwelling unit (EDU) volumetric rate as adopted for Fiscal Years (FY) 2015/16 through 2019/20.

H. DEBT MANAGEMENT POLICY UPDATE

It is recommended that the Board approve the updated Debt Management Policy governing all Agency's debt.

I. IEUA AND SAN BERNARDINO COUNTY RECYCLED WATER LETTER AGREEMENT

It is recommended that the Board:

1. Approve the proposed Letter Agreement between IEUA and County of San Bernardino regarding implementing recycled water requests; and
2. Authorize the General Manager to execute the Agreement.

J. RP-4 IMPROVEMENTS BID REJECTION

It is recommended that the Board reject the September 7, 2016, bids for the construction of the RP-4 Improvements, Project No. EN14018.

K. CONTRACT AWARD TO AQUA BEN CORPORATION FOR HYDROFLOC 748E POLYMER

It is recommended that the Board:

1. Approve Contract No. 4600002229 to Aqua Ben Corporation, establishing a one-year contract for supply of Hydrofloc 748E with options for four additional one-year extensions, for a potential total contract term of five years; and
2. Authorize the General Manager to execute the contract with the four potential contract extensions.

L. CONTRACT AWARD TO CHEMTRADE FOR BULK ALUMINUM SULFATE

It is recommended that the Board:

1. Approve Contract No. 4600002237 to Chemtrade Chemicals US LLC, establishing a two-year contract for the supply of bulk aluminum sulfate with options for three additional one-year extensions, for a potential total contract term of five years; and
2. Authorize the General Manager to execute the contract with the three potential contact extensions.

M. CONTRACT AWARD FOR CCWRF CLIMBER SCREENS AND INFLUENT GATES REPAIR

It is recommended that the Board:

1. Award Single Source Contract No. 4600002240 to Misco, Inc. for the Carbon Canyon Water Recycling Facility (CCWRF) climber screens and influent gates repair for a total amount not-to-exceed \$358,000; and
2. Authorize the General Manager to execute the contract.

N. RATIFY CONTRACT FOR THE DECLEZ BASIN RESTORATION OF PHYSICAL STRUCTURES

It is recommended that the Board ratify Contract No. 4600002233 with Jeremy Harris Construction, Inc. (previously authorized by the General Manager) for the Declez Basin Restoration of Physical Structures maintenance activities for a not-to-exceed amount of \$185,808.

O. RP-4 PROJECT MANAGEMENT AND DESIGN SERVICES CONTRACT AWARD

It is recommended that the Board:

1. Award a consultant contract to Carollo Engineers for the Project Management and Design Services for the RP-4 Primary Clarifier Rehabilitation Project No. EN17043 and RP-4 Process Rehabilitation Project No. EN17110 for a not-to-exceed total amount of \$1,288,858; and
2. Authorize the General Manager to execute the consultant contract.

P. HEADQUARTERS AUDIOVISUAL DESIGN-BUILD CONTRACT AWARD

It is recommended that the Board:

1. Approve the design-build contract award for the Headquarters Audiovisual Upgrades, Project No. EN16049, to New Millennium Construction Services in the amount of \$831,890; and
2. Authorize the General Manager to execute the design-build contract.

3. ACTION ITEMS – (to be continued after closed session)

A. SARCCUP FY 2017 BUDGET

It is recommended that the Board:

1. Adopt the PA 22 and PA 23 Committee Budgets for Fiscal Year Ending (FYE) 2017 for the SARCCUP; and
2. Authorize the General Manager to execute the requisite documents.

B. RP-1 DEWATERING CENTRIFUGE EMERGENCY REPAIR

It is recommended that the Board:

1. Ratify the emergency purchase of parts and services from Alfa Laval under Purchase Order No. 4500024955 for \$107,880 and Purchase Order No. 4500025219 for \$11,350; and
2. Approve the additional costs associated with centrifuge unit 2 repair and shipping for a total project not-to-exceed amount of \$160,000.

4. INFORMATION ITEMS

- A. LAFCO UPDATE – CASE NO. 3212 (WRITTEN)**
- B. ENGINEERING AND CONSTRUCTION MANAGEMENT PROJECT UPDATES (POWERPOINT)**
- C. SEPTIC TO SEWER FEASIBILITY STUDY UPDATE (POWERPOINT)**
- D. MWD AND DROUGHT UPDATE - STATE WATER PROJECT (POWERPOINT)**
- E. RP-5 BATTERY STORAGE PROJECT UPDATE (POWERPOINT)**

RECEIVE AND FILE INFORMATION ITEMS

- F. TREASURER'S REPORT OF FINANCIAL AFFAIRS FOR AUGUST (WRITTEN/ POWERPOINT)**
- G. TREASURER'S REPORT OF FINANCIAL AFFAIRS FOR SEPTEMBER (WRITTEN/ POWERPOINT)**
- H. PUBLIC OUTREACH AND COMMUNICATION (WRITTEN)**
- I. LEGISLATIVE REPORT FROM INNOVATIVE FEDERAL STRATEGIES (WRITTEN)**
- J. LEGISLATIVE REPORT FROM WEST COAST ADVISORS (WRITTEN)**
- K. LEGISLATIVE REPORT FROM AGRICULTURAL RESOURCES (WRITTEN)**
- L. CALIFORNIA STRATEGIES, LLC MONTHLY ACTIVITY REPORT (WRITTEN)**
- M. RP-1/RP-5 EXPANSION PRELIMINARY DESIGN REPORT (PDR) UPDATE (WRITTEN/POWERPOINT)**
- N. RECHARGE MASTER PLAN PRELIMINARY DESIGN REPORT UPDATE (WRITTEN/POWERPOINT)**
- O. FY 2015/16 IEUA ANNUAL WATER USE EFFICIENCY PROGRAMS REPORT (WRITTEN/POWERPOINT)**
- P. ANNUAL WATER USE REPORT (WRITTEN/POWERPOINT)**
- Q. FY 15/16 BUILDING ACTIVITY SUMMARY TEN-YEAR GROWTH SURVEY (POWERPOINT)**
- R. 1ST QUARTER PLANNING & ENVIRONMENTAL RESOURCES UPDATE (POWERPOINT)**

Materials related to an item on this agenda submitted to the Agency, after distribution of the agenda packet, are available for public inspection at the Agency's office located at 6075 Kimball Avenue, Chino, California during normal business hours.

5. **AGENCY REPRESENTATIVES' REPORTS**
 - A. **SAWPA REPORT**
 - B. **MWD REPORT (WRITTEN)**
 - C. **REGIONAL SEWERAGE PROGRAM POLICY COMMITTEE REPORT**
 - D. **CHINO BASIN WATERMASTER REPORT**
6. **GENERAL MANAGER'S REPORT (WRITTEN)**
7. **BOARD OF DIRECTORS' REQUESTED FUTURE AGENDA ITEMS**
8. **DIRECTORS' COMMENTS**
 - A. **CONFERENCE REPORTS**

This is the time and place for the Members of the Board to report on prescheduled Committee/District Representative Assignment meetings, which were held since the last regular Board meeting, and/or any other items of interest.

9. **CLOSED SESSION**
 - A. **PURSUANT TO GOVERNMENT CODE SECTION 54956.9(a) – CONFERENCE WITH LEGAL COUNSEL – EXISTING LITIGATION**
 1. Chino Basin Municipal Water District vs. City of Chino, Case No. RCV51010
 2. Martin vs. IEUA, Case No. CIVRS 1000767
 3. Mwembu vs. IEUA, Case No. CIVDS 1415762
 - B. **PURSUANT TO GOVERNMENT CODE SECTION 54956.8 – CONFERENCE WITH REAL PROPERTY NEGOTIATOR**

Supplemental Water Transfer/Purchase
Negotiating Party: General Manager P. Joseph Grindstaff
Under Negotiation: Price and Terms of Purchase
 - C. **PURSUANT TO GOVERNMENT CODE SECTION 54956.9 CONFERENCE WITH LEGAL COUNSEL - ANTICIPATED LITIGATION**

One (1) Case
 - D. **PURSUANT TO GOVERNMENT CODE SECTION 54956.9(d)(4) CONFERENCE WITH LEGAL COUNSEL - ANTICIPATED LITIGATION; INITIATION OF LITIGATION**

Two (2) Cases

E. PURSUANT TO GOVERNMENT CODE SECTION 54957 – PERSONNEL MATTERS

1. Various Positions – Compensation Study
2. Various Positions

F. PURSUANT TO GOVERNMENT CODE SECTION 54957 – PERSONNEL MATTERS – PUBLIC EMPLOYEE PERFORMANCE EVALUATION

Manager of Internal Audit
Board Secretary/Office Manager

3. ACTION ITEMS – (continued)

C. ADOPTION OF RESOLUTIONS TO AMEND THE MEMORANDA OF UNDERSTANDING AND SALARY MATRIXES/SCHEDULES FOR UNIT MODIFICATION

It is recommended that the Board adopt Resolution Nos. 2016-11-4 and 2016-11-5 to amend the Supervisors' Unit, General Unit and the Professional Unit Memoranda of Understanding (MOUs) and salary matrix/schedule to reflect a unit modification

10. ADJOURN

*A Municipal Water District

In compliance with the Americans with Disabilities Act, if you need special assistance to participate in this meeting, please contact the Board Secretary (909) 993-1736, 48 hours prior to the scheduled meeting so that the Agency can make reasonable arrangements.

Proofed by: 

Declaration of Posting

I, April Woodruff, Board Secretary of the Inland Empire Utilities Agency*, A Municipal Water District, hereby certify that a copy of this agenda has been posted by 5:30 p.m. at the Agency's main office, 6075 Kimball Avenue, Building A, Chino, CA on Thursday, November 10, 2016.


April Woodruff

**CONSENT
CALENDAR
ITEM**

2P

Date: November 16, 2016

To: The Honorable Board of Directors

Through: Engineering, Operations, and Biosolids Management Committee (11/09/16)

From: *for* P. Joseph Grindstaff *Wa*
General Manager

Submitted by: *for* Chris Berch *Wa*
Executive Manager of Engineering/Assistant General Manager

Shaun J. Stone *SJS*
Manager of Engineering

Subject: Headquarters Audiovisual Design-Build Contract Award

RECOMMENDATION

It is recommended that the Board of Directors:

1. Approve the design-build contract award for the Headquarters Audiovisual Upgrades, Project No. EN16049, to New Millennium Construction Services in the amount of \$831,890; and
2. Authorize the General Manager to execute the design-build contract.

BACKGROUND

The conference rooms in Inland Empire Utilities Agency (IEUA) Headquarters' buildings A (HQ-A) and B (HQ-B), commissioned in 2003, contain aged audiovisual equipment that has reached the end of its useful life. The Headquarters Audiovisual Upgrades Project will include designing and upgrading the audiovisual equipment in the Board Room, Event Center, and ten conference rooms located throughout the Headquarters' buildings, as well as the Regional Water Recycling Plant No. 1 (RP-1). Vantage Technology Consulting performed a needs analysis of the existing conference rooms and developed a functional specification for the audiovisual equipment to be included in the project.

In July 2016, with the input from project stakeholders, it was determined that in addition to the audiovisual upgrades, the Headquarters project will include the modification of the Event Center enabling division of the room into two separate conference spaces. Staff and Gillis and Panichapan Architects, Inc. developed architectural bridging documents for the modifications. As a result, the

contractors bidding on this project comprise a team of audiovisual integrators and general contractors that will combine efforts to complete the work.

On September 13, 2016, a request for design-build bids was advertised on *PlanetBids*. Five contractors participated in the job walk on September 27, 2016. On October 13, 2016, the following bids were received:

Bidder's Name	Total Price
New Millennium Construction Services	\$831,890
Pinnacle Audiovisual and Lighting (disqualified)	\$ -
Engineer's Estimate	\$895,000

Since the bid from Pinnacle Audiovisual and Lighting did not include the construction modifications included in the specification, the bid was non-responsive and disqualified. Therefore, New Millennium Construction Services was the responsive and responsible bidder with a bid price of \$831,890. New Millennium Construction Services will team with Western Audiovisual to perform the specified work. Both contractors have previously performed work for IEUA and have shown good workmanship and responsiveness.

Below are the projected costs for the project:

Description	Estimated Cost
Technical Consultant	\$85,000
Design Labor	\$75,000
Design-Build Contract	\$831,890
Construction Services (~15%)	\$125,000
Contingency (~20%)	\$165,000
Total Project Cost	\$1,281,890
Total Project Budget	\$1,349,230

The following is the project schedule:

Project Milestone	Date
Construction Contract Award	November 2016
Board Room Construction Completion	May 2017
Event Center Construction Completion	October 2017
Remaining Rooms Construction Completion	December 2017

The Headquarters Audiovisual Upgrades Project is consistent with the *IEUA's Business Goal of Workplace Environment* to provide employees with state-of-the-art skills and a learning environment that will encourage growth and development of IEUA staff.

PRIOR BOARD ACTION

None.

IMPACT ON BUDGET

If approved, the design-build contract award for the Headquarters Audiovisual Upgrades Project No. EN16049, in the amount of \$831,890 will be within the total project budget of \$1,349,230 in the Administrative Services (10200) Fund.

PJG:CB:SS:jp

Headquarters Audiovisual Upgrades Design-Build Contract Award

Project No. EN16049
November 2016



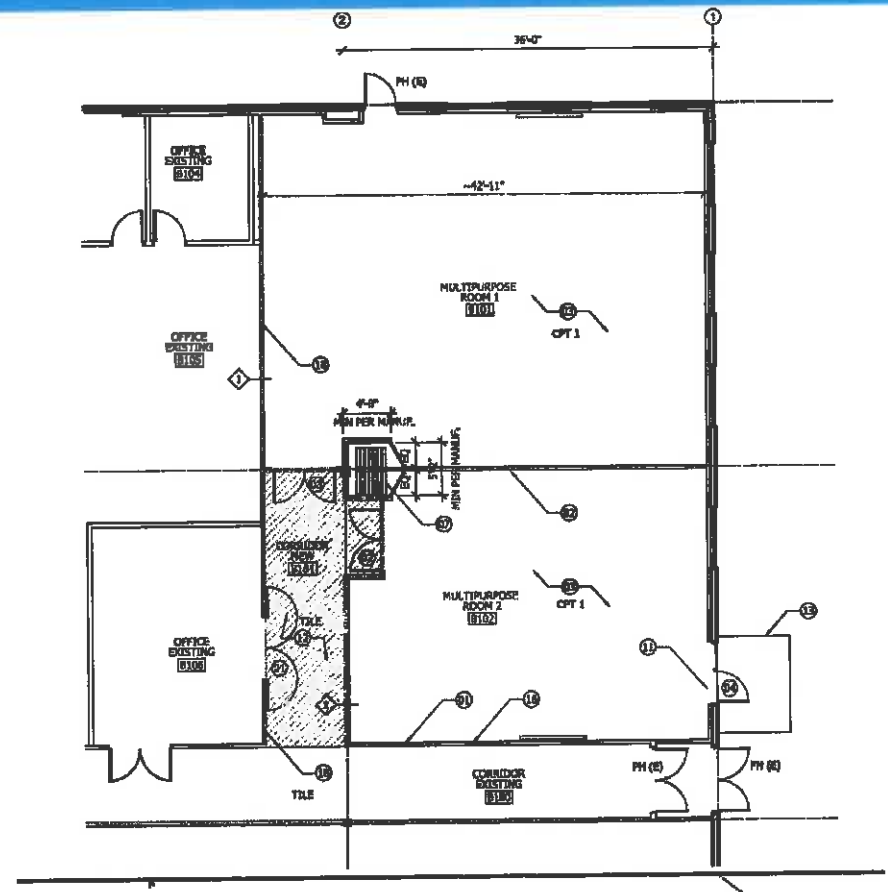
Project Background

- Twelve rooms in HQ/RP-1
- Existing A/V systems have reached end-of-useful life
- Opportunity to modernize and standardize A/V equipment
- Improve operation and maintenance of A/V systems

No.	Room	Phase
1	Board Room	Phase 1
2	Event Center	Phase 2
3	Anza Conference	Phase 3
4	Raines Conference	
5	Barton Conference	
6	Prado Conference	
7	Guasti Conference	
8	Basin Conference	
9	Chaffey Conference	
10	Yorba Conference	
11	Adobe Conference	
12	RP-1 Lunch/Conference	

Project Scope

- Board Room
 - Increase screen size
 - Modernize dais
- Event Center
 - Install retractable partition and new access corridor
 - Add A/V equipment to serve two useable spaces
- Remaining Conference Rooms
 - Standardize A/V systems
 - Enable videoconferencing



New Event Center Layout

Bid Summary

- On September 13, 2016, bids advertised on Planetbids
- On October 13, 2016, the following bids were received:

A/V Integrator	General Contractor	Total Bid Price
Western A/V	New Millenium	\$831,890
Pinnacle A/V & Lighting *	-	\$ -
Engineer's Estimate		\$895,000

*Disqualified – Non-responsive

Project Cost and Schedule

Description	Estimated Cost
Technical Consultants	\$85,000
Design Labor	\$75,000
Design-Build Contract	\$831,890
Construction Services (~15%)	\$125,000
Contingency (~20%)	\$165,000
Total Project Cost	\$1,281,890
Current Total Project Budget	\$1,349,230

Project Milestone	Date
Construction Contract Award	November 2016
Board Room Construction Completion (Phase 1)	May 2017
Event Center Construction Completion (Phase 2)	October 2017
Remaining Rooms Construction Completion (Phase 3)	December 2017



IEUA Goal/Recommendation

Staff Recommends the Board of Directors award the design-build contract to New Millenium Construction Services for the Headquarters Audiovisual Upgrades, Project No. EN16049 in the amount of \$831,890 and authorize the General Manager to execute the contract.

The Headquarters Audiovisual Upgrades project is consistent with the *IEUA's Business Goal of Workplace Environment* to provide employees with state-of-the-art skills and a learning environment that will encourage growth and development of IEUA staff.



CONTRACT NUMBER: 4600002238
FOR
CONFERENCE ROOMS AUDIO VISUAL UPGRADES

THIS CONTRACT (the "Contract"), is made and entered into this _____ day of _____, 2016 by and between the Inland Empire Utilities Agency, a Municipal Water District, organized and existing in the County of San Bernardino under and by virtue of the laws of the State of California (hereinafter referred to as "Agency") and New Millennium Construction Services, Inc. dba New Millennium Construction Services, With Offices Located In Diamond Bar, California and Chino Hills, California (Hereinafter Referred To As "Contractor"), for the construction of the Conference Rooms Audio Visual Upgrades as per Project No. EN16049.00.

NOW, THEREFORE, in consideration of the mutual promises and obligations set forth herein, the parties agree as follows:

1. **PROJECT MANAGER ASSIGNMENT:** All technical direction related to this Contract shall come from the designated Project Manager. Details of the Agency's assignment are listed below.

Project Manager: **Jesse Pompa, Senior Engineer**
Address: **6075 Kimball Avenue, Building "B"**
Chino, CA 91708
Telephone: **(909) 993-1545**
Email: **jpompa@ieua.org**

2. **CONTRACTOR ASSIGNMENT:** Special inquiries related to this Contract and the effects of this Contract shall be referred to the following:

Contractor: **New Millennium Construction Services**
Lee Kemble, President
Address: **4158 Lugo Avenue**
Chino, CA 91709
Telephone: **(909) 597-0220**
Email: **newmillenniumconstruction@yahoo.com**

3. **ORDER OF PRECEDENCE:** The documents referenced below represent the Contract Documents. Where any conflicts exist between the General Terms and Conditions, or addenda attached, then the governing order of precedence shall be as follows:
- A. Permits issued by the jurisdictional regulatory agencies;
 - B. Change Orders/Task Orders/Supplemental Agreements; whichever occurs last;
 - C. Amendments to Contract number 4600002238;
 - D. Contract number 4600002238 General Terms and Conditions;
 - E. Agency's Request for Proposals (RFP) number RFP-RW-16-024b and all germane addenda (**Exhibit A**);
 - F. Contractor's proposal dated October 13, 2016 (**Exhibit B**);
 - G. Request for Deviation;
 - H. 2015 Edition of the Standard Specifications for Public Works Construction (SSPWC)- Green Book, or most recent addition;
 - I. Plans;
 - J. Standard Plans;
 - K Reference Specifications; and
 - L. Photos.
4. **SCOPE OF WORK AND SERVICES:** Contractor services and responsibilities shall include and be in accordance with the Agency's Request for Proposals (RFP) RFP-RW-16-024b and germane Addenda, referenced herein and made a part hereof by this reference.
5. **TERM:** The term of this Contract shall extend from the date of the Notice to Proceed, and terminate upon acceptance of the design's construction as signed off by the Agency's cognizant Engineering & Construction Management Department personnel and project management, unless agreed to by both parties, reduced to writing, and amended to this Contract.
6. **PAYMENT, INVOICING AND COMPENSATION:** The Contractor shall submit once-monthly invoicing, basis materials and labor completed to-date. IEUA shall pay the Contractor's invoice within thirty (30) days following receipt of the approved invoice. Payment will be withheld for any service which does not meet the requirements of this Contract, until such service is revised, the invoice resubmitted and accepted by the Project Manager.

All invoices shall be submitted electronically with all required back-up to apgroup@ieua.org .

Contractor shall provide with their invoice certified payroll verifying that Consultant has paid prevailing wage in accordance with the Department of Industrial Relations requirements as stipulated in SB-854 [<http://www.dir.ca.gov/Public-Works/Certified-Payroll-Reporting.html>] .

Effective January 1, 2015: The call for bids and contract documents must include the following information:

A. No contractor or subcontractor may be listed on a bid proposal for a public works project (submitted on or after March 1, 2015) unless registered with the Department of Industrial Relations pursuant to Labor Code section 1725.5 [with limited exceptions from this requirement for bid purposes only under Labor Code section 1771.1(a)].

B. No contractor or subcontractor may be awarded a contract for public work on a public works project (awarded on or after April 1, 2015) unless registered with the Department of Industrial Relations pursuant to Labor Code section 1725.5.

C. This project is subject to compliance monitoring and enforcement by the Department of Industrial Relations. As such, a PWC-100 shall be generated.

As compensation for the work performed under this Contract, Agency shall pay Contractor, a **maximum not-to-exceed \$831,890.00** for all work satisfactorily provided hereunder in accordance with **Exhibit A**, referenced herein, attached hereto, and made a part hereof.

Note: All payments made, whether for design or construction build, shall be in accordance with the payment terms outlined in Request for Proposals (RFP) number RFP-RW-16-024b. Contractor's use of CIPO is mandatory throughout entire term of contract.

7. **INSURANCE:** During the term of this Contract, the Contractor shall maintain at Contractor's sole expense, the following insurance.

A. **Minimum Scope of Insurance:**

1. **General Liability:** \$1,000,000 combined single limit per occurrence for bodily injury, personal injury and property damage. Coverage shall be at least as broad as Insurance Services Office form number GL 0001-87 covering Comprehensive General Liability. If Commercial General Liability Insurance or other form with a general aggregate limit is used, either the general aggregate limit shall apply separately to this project/location, or the general aggregate limit shall be twice the required occurrence limit.

a. The insurance shall include coverage for each of the following hazards:

Premises – Operations
Owners and Contractors Damage
Broad Form Property Damage
Contractual for Specific Contract
Severability of Interests or Cross-Liability

XCU [Explosion, Collapse and Underground] Hazards
Personal Injury – with the "Employee" Exclusion Deleted

2. **Automobile Liability:** \$1,000,000 combined single limit per accident for bodily injury and property damage. Coverage shall be at least as broad as Insurance Services Office form number CA 00 01 87, covering Automobile Liability, including "any auto."
 3. **Workers' Compensation and Employers Liability:** Workers' compensation limits as required by the Labor Code of the State of California and employers Liability limits of \$1,000,000 per accident.
 4. **Builders Risk Insurance completed value (course of construction):** The Agency is to be named as the loss payee.
 5. **Payment, Labor & Material, and Performance Bonds:** Bonding is required, per Public Contract Code Article 121, Section 21565, for public works projects. All construction-related labor for this project is designated as the public works portion of this project and therefore subject to prevailing wage. Contractor and subcontractor shall furnish bonding with the use of forms attached hereto and referenced as **Exhibit C.**
- B. **Deductibles and Self-Insured Retention:** Any deductibles or self-insured retention must be declared to and approved by the Agency. At the option of the Agency, either: the insurer shall reduce or eliminate such deductibles or self-insured retention (as respects the Agency), its officers, officials, employees, volunteers, property owners and engineers under contract to the Agency; or the Contractor shall procure a bond guaranteeing payment of losses and related investigations, claim administration and defense expenses.
- C. **Other Insurance Provisions:** The policies are to contain, or be endorsed to contain, the following provisions:
1. **General Liability and Automobile Liability Coverage**
 - a. The Agency, its officers, officials, employees, volunteers, property owners and any engineers under contract to the Agency are to be covered as insureds, endorsement CG2010 1185, as respects: liability arising out of activities performed by or on behalf of the Contractor, products and completed operations of the Contractor, premises owned, occupied or used by the Contractor, or automobiles owned, leased, hired or borrowed by the Contractor. The coverage shall contain no special limitations on the scope of protection afforded to the Agency, its officers, officials, employees, volunteers, property owners or engineers under contract to the Agency.

- b. The Contractor's insurance coverage shall be primary insurance as respects the Agency, its officer, officials, employees, volunteers, property owners or engineers under contract to the Agency. Any insurance or self-insurance maintained by the Agency, its officers, officials, employees, volunteers, property owners or engineers under contract to the Agency shall be excess of the Contractor's insurance and shall not contribute with it.
- c. Any failure to comply with reporting provisions of the policies shall not affect coverage provided to the Agency, its officers, officials, employees, volunteers, property owners or engineers under contract to the Agency
- d. The Contractor's insurance shall apply separately to each insured against whom claim is made or suit is brought, except with respect to the limits of the insurer's liability.
- e. The Contractor may satisfy the limit requirements in a single policy or multiple policies. Any Such additional policies written as excess insurance shall not provide any less coverage than that provided by the first or primary policy.

2. Workers' Compensation and Employers Liability Coverage

The insurer shall agree to waive all rights of subrogation against the Agency, its officers, officials, employees, volunteers, property owners or engineers under contract to the Agency for losses arising from work performed by the Contractor for the Agency.

3. Builders Risk Insurance, Course of Completion (Course of Construction) is required for this Project. The Agency is to be named as the loss payee.

4. All Coverages

Each insurance policy required by this contract shall be endorsed to state that coverage shall not be suspended, voided, canceled by either party, reduced in coverage or in limits except after thirty (30) days' prior written notice by certified mail, return receipt requested, has been given to the Agency.

- D. Acceptability of Insurers: Insurance is to be placed with insurers with a Best's rating of no less than A minus:VII, and who are admitted insurers in the State of California.
- E. Verification of Coverage: Contractor shall furnish the Agency with certificates of insurance and with original endorsements effecting coverage required by the

Agency for themselves and all subcontractors prior to commencing work or allowing any subcontractor to commence work under any subcontract. The certificates and endorsements for each insurance policy are to be signed by a person authorized by that insurer to bind coverage on its behalf. All certificates and endorsements are to be approved by the Agency before work commences. The Agency reserves the right to require complete, certified copies of all required insurance policies, at any time.

- F. Submittal of Certificates: Contractor shall submit all required certificates and endorsements to the following:

Inland Empire Utilities Agency
Attn: Ms. Angela Witte, Risk Specialist
P.O. Box 9020
Chino Hills, California 91709-0902

8. CONTROL OF THE WORK: Contractor shall perform the Work in compliance with the Work Schedule. If performance of the Work falls behind schedule, the Contractor shall accelerate the performance of the Work to comply with the Work Schedule as directed by the Project Manager. If the nature of the Work is such that Contractor is unable to accelerate the Work, Contractor shall promptly notify the Project Manager of the delay, the causes of the delay, and submit a proposed revised Work Schedule.

9. LEGAL RELATIONS AND RESPONSIBILITIES

- A. Professional Responsibility: The Contractor shall be responsible, to the level of competency presently maintained by other practicing professionals performing the same or similar type of work.
- B. Status of Contractor: The Contractor is retained as an independent Contractor only, for the sole purpose of rendering the services described herein, and is not an employee of the Agency.
- C. Observing Laws and Ordinances: The Contractor shall keep itself fully informed of all existing and future state and federal laws and all county and city ordinances and regulations which in any manner affect the conduct of any services or tasks performed under this Contract, and of all such orders and decrees of bodies or tribunals having any jurisdiction or authority over the same. The Contractor shall at all times observe and comply with all such existing and future laws, ordinances, regulations, orders and decrees, and shall protect and indemnify, as required herein, the Agency, its officers, employees and agents against any claim or liability arising from or based on the violation of any such law, ordinance, regulation, order or decree, whether by the Contractor or its employees.

Effective July 1, 2014, all Contractors must be registered with the California Dept. of Industrial Relations as required by law SB-854 for public works construction projects:

D. Confined Space Work:

I. Precautions and Programs:

a. The Contractor shall be responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the work or the activities of subcontractors, suppliers, and others at the work site.

b. The Contractors and subcontractors shall comply with the provisions of the Safety and Health Regulations for Construction, promulgated by the Secretary of Labor under Section 107 of the "Contract Work Hours and Safety Standards Act," as set forth in Title 29 C.F.R. If the Agency is notified of an alleged violation of the Occupational Safety and Health Standards referred to in this Section and it is established that there is a violation, the Contractor shall be subject to liquidated damages as provided in the Contract.

c. The Contractor and all subcontractors shall comply with the provisions of the Occupational Safety and Health Standards, promulgated by the United States Secretary of Labor under the "Occupational Safety and Health Act of 1970," as set forth in Title 29, C.F.R. Where an individual State act on occupational safety and health standards has been approved by federal authority, then the provisions of said state act shall control.

d. The Contractor shall take all necessary precautions for the safety of, and shall provide the necessary supervision, control, and direction to prevent damage, injury, or loss to:

- 1) All employees on the work or work site and other persons and organizations who may be affected thereby;
- 2) All the work and materials and equipment to be incorporated therein, whether in storage or on or off the work site; and
- 3) All other property at the site.

e. Contract work requiring confined space entry must follow Cal-OSHA Regulation 8 CCR, Sections 5157 - 5158. This regulation requires the following to be submitted to IEUA for approval prior to the start of the project:

- 1) *Proof of training on confined space procedures, as defined in Cal-OSHA Regulation 8 CCR, Section 5157. This regulation also requires the following to be submitted to IEUA for approval prior to the entry of a confined space:*
- 2) *A written plan that includes identification of confined spaces within the construction site, alternate procedures where appropriate, contractor provisions, specific procedures for*

permit-required and non-permit required spaces, and a rescue plan.

f. The Contractor must also submit a copy of their Safety Program or IIPP prior to the start of the project for approval by the Safety & Risk Department.

- E. Subcontract Services: Any subcontracts for the performance of any services under this Contract shall be subject to the written approval of the Project Manager.
- F. Hours of Labor: The Contractor shall comply with all applicable provisions of California Labor Code Sections 1810 to 1817 relating to working hours. The Contractor shall, as a penalty to the Agency, forfeit \$25.00 for each worker employed in the execution of the Contract by the Contractor or by any subcontractor for each calendar day during which such worker is required or permitted to work more than eight hours in any one calendar day and forty (40) hours in any one calendar week in violation of the provisions of the Labor Code.
- G. Travel and Subsistence Pay: The Contractor shall make payment to each worker for travel and subsistence payments which are needed to execute the work and/or service, as such travel and subsistence payments are defined in the applicable collective bargaining agreements with the worker.
- H. Liens: Contractor shall pay all sums of money that become due from any labor, services, materials or equipment furnished to Contractor on account of said services to be rendered or said materials to be furnished under this Contract and that may be secured by any lien against the Agency. Contractor shall fully discharge each such lien at the time performance of the obligation secured matures and becomes due.
- I. Indemnification: Contractor shall indemnify IEUA, its directors, employees, agents, and assigns, and shall defend and hold them harmless from all liability, demands, actions, claims, losses, and expenses, including reasonable attorney's fees, which arise out of or are related to the negligence, recklessness or willful misconduct of Contractor, its directors, employees, agents and assigns, in the performance of work under this contract.
- J. Conflict of Interest: No official of the Agency who is authorized in such capacity and on behalf of the Agency to negotiate, make, accept or approve, or to take part in negotiating, making, accepting or approving this Contract, or any subcontract relating to services or tasks to be performed pursuant to this Contract, shall become directly or indirectly personally interested in this Contract.
- K. Equal Opportunity: During the performance of this Contract, the Contractor shall not unlawfully discriminate against any employee or employment applicant because of race, color, religion, sex, age, marital status, ancestry, physical or mental disability, sexual orientation, veteran status or national origin.

L. Disputes:

1. All disputes arising out of or in relation to this Contract shall be determined in accordance with this section. The Contractor shall pursue the work to completion in accordance with the instruction of the Agency's Project Manager notwithstanding the existence of dispute. By entering into this Contract, both parties are obligated, and hereby agree, to submit all disputes arising under or relating to the Contract which remain unresolved after the exhaustion of the procedures provided herein, to independent arbitration. Except as otherwise provided herein, arbitration shall be conducted under California Code of Civil Procedure Sections 1280, et seq., or their successor.
2. Any and all disputes during the pendency of the work shall be subject to resolution by the Agency Project Manager and the Contractor shall comply, pursuant to the Agency Project Manager instructions. If the Contractor is not satisfied with any such resolution by the Agency Project Manager, they may file a written protest with the Agency Project Manager within seven (7) calendar days after receiving written notice of the Agency's decision. Failure by Contractor to file a written protest within seven (7) calendar days shall constitute waiver of protest, and acceptance of the Agency Project Manager's resolution. The Agency's Project Manager shall submit the Contractor's written protests to the General Manager, together with a copy of the Agency Project Manager's written decision, for his or her consideration within seven (7) calendar days after receipt of said protest(s). The General Manager shall make his or her determination with respect to each protest filed with the Agency Project Manager within ten (10) calendar days after receipt of said protest(s). If Contractor is not satisfied with any such resolution by the General Manager, they may file a written request for arbitration with the Project Manager within seven (7) calendar days after receiving written notice of the General Manager's decision.
3. In the event of arbitration, the parties hereto agree that there shall be a single neutral Arbitrator who shall be selected in the following manner:
 - a. The Demand for Arbitration shall include a list of five names of persons acceptable to the Contractor to be appointed as Arbitrator. The Agency shall determine if any of the names submitted by Contractor are acceptable and, if so, such person will be designated as Arbitrator.
 - b. In the event that none of the names submitted by Contractor are acceptable to Agency, or if for any reason the Arbitrator selected in Step (a) is unable to serve, the Agency shall submit to Contractor a list of five names of persons acceptable to Agency for appointment

as Arbitrator. The Contractor shall, in turn, have seven (7) calendar days in which to determine if one such person is acceptable.

- c. If after Steps (a) and (b), the parties are unable to mutually agree upon a neutral Arbitrator, the matter of selection of an Arbitrator shall be submitted to the San Bernardino County Superior Court pursuant to Code of Civil Procedure Section 1281.6, or its successor. The costs of arbitration, including but not limited to reasonable attorneys' fees, shall be recoverable by the party prevailing in the arbitration. If this arbitration is appealed to a court pursuant to the procedure under California Code of Civil Procedure Section 1294, et seq., or their successor, the costs of arbitration shall also include court costs associated with such appeals, including but not limited to reasonable attorneys' fees which shall be recoverable by the prevailing party.

- 4. Joinder in Mediation/Arbitration: The Agency may join the Contractor in mediation or arbitration commenced by a contractor on the Project pursuant to Public Contracts Code Sections 20104 et seq. Such joinder shall be initiated by written notice from the Agency's representative to the Contractor.

N. Workers' Legal Status: For performance against this Contract, Supplier shall only utilize employees and/or subcontractors that are authorized to work in the United States pursuant to the Immigration Reform and Control Act of 1986.

O. Prevailing Wage Requirements: Pursuant to Section 1770 and following, of the California Labor Code, the Contractor shall not pay less than the general prevailing wage rates, as determined by the Director of the State of California Department of Industrial Relations for the locality in which the work is to be performed and for each craft or type of worker needed to execute the work contemplated under the Contract. The Contractor or any subcontractor performing part of said work shall strictly adhere to all provisions of the Labor Code, including, but not limited to, minimum wages, work days, nondiscrimination, apprentices, maintenance and availability of accurate payroll records and any other matters required under all Federal, State and local laws related to labor [<http://www.dir.ca.gov/Public-Works/PublicWorks.html> & <http://www.dir.ca.gov/Public-Works/Prevailing-Wage.html>].

10. FITNESS FOR DUTY:

A. Fitness: Consultant and its Subcontractor personnel on the Jobsite:

- 1. shall report for work in a manner fit to do their job;
- 2. shall not be under the influence of or in possession of any alcoholic beverages or of any controlled substance (except a controlled substance

as prescribed by a physician so long as the performance or safety of the Work is not affected thereby); and

3. shall not have been convicted of any serious criminal offense which, by its nature, may have a discernible adverse impact on the business or reputation of Agency.

B. **Compliance:** Consultant shall advise all contractor and subcontractor personnel and associated third parties of the requirements of this Contract ("Fitness for Duty Requirements") before they enter on the Jobsite and shall immediately remove from the Jobsite any employee determined to be in violation of these requirements. Consultant shall impose these requirements on its Subcontractors. Agency may cancel the Contract if Consultant violates these Fitness for Duty Requirements.

11. **OWNERSHIP OF MATERIALS AND DOCUMENTS/CONFIDENTIALITY:** The Agency retains ownership of any and all partial or complete reports, drawings, plans, notes, computations, lists, and/or other materials, documents, information, or data prepared by the Contractor and/or the Contractor's subcontractor(s) pertaining to this Contract. Said materials and documents are confidential and shall be available to the Agency from the moment of their preparation, and the Contractor shall deliver same to the Agency whenever requested to do so by the Project Manager and/or Agency. The Contractor agrees that same shall not be made available to any individual or organization, private or public, without the prior written consent of the Agency.
12. **PUBLIC RECORDS POLICY:** Information made available to the Agency may be subject to the California Public Records Act (Government Code Section 6250 et seq.) The Agency's use and disclosure of its records are governed by this Act. The Agency shall use its best efforts to notify Contractor of any requests for disclosure of any documents pertaining to Contractor.

In the event of litigation concerning disclosure of information Contractor considers exempt from disclosure; (e.g., Trade Secret, Confidential, or Proprietary) Agency shall act as a stakeholder only, holding the information until otherwise ordered by a court or other legal process. If Agency is required to defend an action arising out of a Public Records Act request for any of the information Contractor has marked "Confidential," "Proprietary," or "Trade Secret," Contractor shall defend and indemnify Agency from all liability, damages, costs, and expenses, including attorneys' fees, in any action or proceeding arising under the Public Records Act.

13. **NON-CONFORMING WORK AND WARRANTY:** Contractor represents and warrants that the Work shall be in conformance with the specifications provided herein and shall serve the purposes described. For a period of not less than one (1) year after acceptance of the completed Work, Contractor shall, at no additional cost to Agency, correct any and all errors or shortcomings of the Work, regardless of whether any such errors or shortcomings is brought to the attention of the Contractor by Agency, or any other person or entity.

13. **NOTICES:** Any notice may be served upon either party by delivering it in person, or by depositing it in a United States Mail deposit box with the postage thereon fully prepaid, and addressed to the party at the address set forth below:

Agency: Inland Empire Utilities Agency
Attn: Mr. Warren T. Green
Manager of Contracts and Facilities Services
P.O. Box 9020
Chino Hills, California 91709-0902

Contractor: New Millennium Construction Services Inc.
Attn: Mr. Lee Kemble
President and Responsible Managing Officer (RMO)
4158 Lugo Avenue
Chino Hills, CA 91709

Any notice given hereunder shall be deemed effective in the case of personal delivery, upon receipt thereof, or, in the case of mailing, at the moment of deposit in the course of transmission with the United States Postal Service.

15. **SUCCESSORS AND ASSIGNS:** All of the terms, conditions and provisions of this Contract shall inure to the benefit of and be binding upon the Agency, the Contractor, and their respective successors and assigns. Notwithstanding the foregoing, no assignment of the duties or benefits of the Contractor under this Contract may be assigned, transferred or otherwise disposed of without the prior written consent of the Agency; and any such purported or attempted assignment, transfer or disposal without the prior written consent of the Agency shall be null, void and of no legal effect whatsoever.
16. **INTEGRATION:** The Contract Documents represent the entire Contract of the Agency and the Contractor as to those matters contained herein. No prior oral or written understanding shall be of any force or effect with respect to those matters covered by the Contract Documents. This Contract may not be modified, altered or amended except by written mutual agreement by the Agency and the Contractor.
17. **GOVERNING LAW:** This Contract is to be governed by and constructed in accordance with the laws of the State of California.
18. **TERMINATION FOR CONVENIENCE:** The Agency reserves and has the right to immediately suspend, cancel or terminate this Contract at any time upon written notice to the Contractor. In the event of such termination, the Agency shall pay Contractor for all authorized and Contractor-invoiced services up to the date of such termination.
19. **RIGHT TO AUDIT:** The Agency reserves the right to review and/or audit all Contractor's records related to the Work. The option to review and/or audit may be

exercised during the term of the Contract, upon termination, upon completion of the Contract, or at any time thereafter up to twelve (12) months after final payment has been made to Contractor. The Contractor shall make all records and related documentation available within three (3) working days after said records are requested by the Agency.

- 20. **FORCE MAJEURE:** Neither party shall hold the other responsible for the effects of acts occurring beyond their control; e.g., war, riots, strikes, natural disasters, etcetera.
- 21. **LIQUIDATED DAMAGES:** Liquidated Damages, in the amount of \$500.00 per day, may be assessed by the Agency for each calendar day that the Contractor fails to complete this project in accordance with its final, contractually-committed delivery schedule. Any and all Liquidated Damages assessed by the Agency will be taken as a direct credit against the Contractor's invoice for this project. The Contractor's acceptance of a contract subsequently issued in conjunction with this solicitation, shall serve to indicate acceptance of this Liquidated Damages clause, and the daily assessment of damages expressed herein.
- 22. **CHANGES:** The Agency may, at any time, make changes to this Contract's Scope of Work; including additions, reductions and other alterations to any or all of the work. However, such changes shall only be made via written amendment to this Contract. The Contract Price and Work Schedule shall be equitably adjusted, if required, to account for such changes and shall be set forth within the Contract Amendment.
- 23. **NOTICE TO PROCEED:** No services shall be performed or furnished under this Contract unless and until this document has been properly signed by all responsible parties and a Notice to Proceed order has been issued to the Contractor.

AS WITNESS HEREOF, the parties hereto have caused the Contract to be entered as of the day and year written above.

INLAND EMPIRE UTILITIES AGENCY:
(A Municipal Water District)

NEW MILLENIUM CONSTRUCTION
SERVICES, INC. DBA NEW MILLENNIUM
CONSTRUCTION SERVICES:

P. Joseph Grindstaff
General Manager

(Date)



Lee Kemble
President

11-2-16

(Date)

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Exhibit A



Inland Empire Utilities Agency

A MUNICIPAL WATER DISTRICT

**REQUEST FOR PROPOSAL
RFP-RW-16-024b**

FOR

**DESIGN-BUILD SERVICES FOR
HEADQUARTERS AUDIOVISUAL UPGRADES**

PROJECT NO. EN16049

September 13, 2016

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SECTION 1 - SUBMITTAL INFORMATION

A. **INTRODUCTION:** The Inland Empire Utilities Agency ("IEUA" or "Agency") is accepting sealed proposals at its Headquarters Facility at 6075 "A" Kimball Avenue, Chino, CA 91708 for DESIGN-BUILD SERVICES FOR HEADQUARTERS AUDIOVISUAL UPGRADES.

B. **ENGINEERS ESTIMATE of PROBABLE COST:** The Engineer has provided an estimate of probable cost for the work; bidders are requested to consider this estimate as they prepare costs for this work.

ENGINEERS ESTIMATE of PROBABLE COST = \$ 895,000

C. **PRE-BID and JOB-WALK MEETING:** Job Walk: Non-Mandatory

PRE-BID MEETING and JOB-WALK: September 27, 2016, at 9:30 A.M.

All participants are to meet at HQ B, 6075 Kimball Avenue, Building B, Chino, CA 91708, in the Lobby Atrium.

D. **SUBMITTAL LOCATION, CLOSING DATE, AND TIME:** Proposals will not be accepted after the "closing" date and time indicated. This includes emailed proposals sent after the closing date. Faxed proposals will not be accepted.

LOCATION: See Section "H" Below

PROPOSAL CLOSING: October 13th, 2016, at 3:00 P.M.

E. **WORK HOURS:** All work will be conducted between the hours of 7:00 AM and 3:30 PM, Monday through Friday with the following exceptions:

1. No work shall be permitted on a District defined Holiday.
2. Work affecting staff workspaces may be requested by Project Manager to be conducted after hours or on weekends to limit impact to staff.

Work requested by the Contractor outside of these time periods, if accepted by the Project Manager, will result in the Contractor paying all cost related to Agency manpower, required to monitor/facilitate the work.

F. **COMPLETION:** All work shall be completed within the below stated period from notification to start work given by Inland Empire Utilities Agency.

COMPLETION: Three-Hundred and Two (302) Working Days of issuance of: Notice to Proceed

G. **INQUIRIES:** Technical inquiries regarding this solicitation should be directed to:

Jesse Pompa, P.E.,
Project Manager
(909) 993-1545 Work
jpompa@ieua.org

H. **PROPOSAL LABELING:** The proposal may be submitted by mail or delivery:

SECTION 1 - SUBMITTAL INFORMATION

ALL PROPOSALS SHALL BE LABELED WITH	
INLAND EMPIRE UTILITIES AGENCY	
RE: PROPOSAL FOR	"Headquarters Audiovisual Upgrades"
REQUEST FOR PROPOSAL NUMBER	RFP-RW-16-024
ATTENTION	Jesse Pompa
PROPOSAL MUST BE PLAINLY MARKED AND SUBMITTED AS FOLLOWS:	
If mailing via the <u>United States Postal Service (USPS)</u> , proposal envelopes shall be labeled as follows	P.O. BOX 9020 Chino Hills, CA 91709
Proposal envelopes submitted via an <u>Express Courier or Personal Delivery</u> shall be labeled as follows:	6075 "A" Kimball Avenue Chino, CA 91708

- I. PROPOSAL SUBMITTAL:** Bidders shall complete and return one (1) original and one (1) copy of their proposal. All proposals delivered in an express courier package shall be sealed in a separate envelope within the courier package. **Any proposal found to be illegible or incomplete may be rejected.** Whether sent by courier, mail, or by means of personal delivery, bidders assume full responsibility for having their proposal deposited at the proper address by no later than the scheduled closing time. More than one (1) proposal from an individual, firm, partnership, or corporation under the same or different names, will not be considered.
- J. PROPOSAL FORMAT:** Proposals shall be well organized, and the Bidder shall include page numbers on their Proposal. The Proposal shall include a dated cover letter which must be signed by a person authorized to negotiate and execute the contract on behalf of the Bidder, and must remain valid for acceptance for a period of ninety (90) days.
- NOTE: IT IS THE BIDDER'S RESPONSIBILITY TO EXAMINE THIS "REQUEST FOR PROPOSAL" SOLICITATION IN ITS ENTIRETY, VISIT THE SITE AND TAKE MEASUREMENTS OF ALL DIMENSIONS/VOLUMES PRIOR TO SUBMITTING A PROPOSAL.**

SECTION 2 – GENERAL INFORMATION

- A. **WAITING PERIOD / BID VALIDITY:** All Bidders are alerted that a waiting period of up to ninety (90) days from the date of the proposal opening may be required before an award is made. Bidder shall assume full responsibility for the effect of the waiting period on all proposal prices and terms.
- B. **INSURANCE AND BONDING:** Contractor's attention is directed to the insurance and bonding requirements set forth in Sample Contract and Bonding Requirements, as provided in Exhibits A and B.

The selected Contractor shall provide all bond(s) requirements within fourteen (14) calendar days following contract execution and award. All Contractors are required to submit with their proposal, certificates of insurance verifying coverage, as well as a letter from the Contractor's insurance agent or corporate Risk Management Department acknowledging that the Contractor is able to comply with all insurance requirements. It is highly recommended that each Contractor confer with their respective insurance carriers or brokers to determine in advance of proposal submittal, the availability of insurance certificates and endorsements as prescribed herein. If an apparent best-Contractor fails to strictly comply with the insurance requirements, that Contractor may be disqualified from receiving the award. All insurance certificates and endorsements meeting the Agency's requirements must be received and accepted by the Agency prior to award.

- C. **PROPOSAL PREPARATION COSTS:** IEUA is not, nor shall be deemed, liable for any costs incurred by Bidders in the preparation, submittal, or presentation of their proposal.
- D. **WITHDRAWAL OF PROPOSAL BEFORE CLOSING:** Any Bidder may request the withdrawal of their submitted proposal by a written request at any time **prior** to the scheduled closing date and time. Upon receiving the written request to withdraw any proposal, IEUA will consider the Bidders proposal null and void, and return the proposal to the Bidder unopened. Withdrawal of Bidder's proposal will not prejudice Bidder's re-submittal for this or any future proposal(s).
- E. **MISTAKE IN PROPOSAL:** Any Bidder may withdraw their proposal after the proposal opening, subject to the time restrictions indicated, **only** if the Bidder can establish to IEUA's satisfaction, that a mistake was made in preparing the proposal.
1. A Bidder declaring a mistake must provide a written notice to IEUA within five (5) calendar days following the scheduled closing date, specifying in detail, how the mistake occurred, and how the mistake made the proposal materially different than as was intended.
 2. Withdrawal of the proposal will **only** be permitted for mistakes made in the completion of the proposal. A Bidder who claims a mistake shall be **PROHIBITED** from submitting further proposals on the Project in which the mistake in proposal was claimed. (*Public Contract Code 5105*).
- F. **PROPOSAL ACCEPTANCE:** IEUA reserves the right to **accept or reject** any or all proposals, or waive any informality(s) in any proposal, if such action is deemed to be in the best interest of IEUA. Additionally, be advised that if all valid proposal prices received are found to exceed the budget appropriated for this project, IEUA may reject all proposals.
- G. **INTERPRETATION OF DOCUMENTS:** During the proposal solicitation period, should a Bidder find discrepancies or omissions in the specifications of the "Request for Proposal," or should the Bidder be in doubt as to their interpretation, the Bidder shall immediately notify the contact indicated in Section 1(G). Should it be found necessary, an addendum will be sent to all Bidders. Any addenda issued prior to the

SECTION 2 – GENERAL INFORMATION

scheduled proposal closing date and time, shall form a part of this solicitation and shall become a part of the submitted proposal.

Exceptions to this Request for Proposal: Any changes from the provisions of this Request for Proposal, which may be desired by the Bidder, shall be specifically noted and attached to a separate exception sheet to be included with the proposal.

- H. **PUBLIC RECORD:** Subsequent to finalization of the award decision, the results of the proposal opening may be recorded in the meeting minutes and posted at <http://www.ieua.org>. Alternatively, a summary of all the bids will be made available upon a written request. Be advised that **all** information contained in proposals submitted in response to this solicitation **shall** become a matter of public record, and be made available upon request in compliance with the California Public Records Act.
- I. **CONTRACT EXECUTION:** The Bidder shall execute a Contract with the Agency for the services to be provided in this Request for Proposal. The Bidder shall provide any additional bonding indicated and a preliminary schedule within 10 days of request from the Agency. Failure to do so may result in the Agency selecting the second most qualified bidder.
- J. **ACCEPTANCE AND PAYMENT:** The selected bidder's invoice(s) shall include reference to the Contract Task Order issued for the services required by the Agency, and be accompanied by detailed supporting documentation, which includes information on the specific services rendered during the invoice period. Invoices are subject to approval of the Project Manager and cannot be processed until approved. IEUA shall pay the selected bidder's invoice, within thirty (30) days following receipt of the approved invoice.
- Payment will be withheld for any services, which do not meet or exceed contractual requirements, until such services are repaired or corrected, and accepted, by the Project Manager.
- K. **LIENS:** The Bidder shall pay all sums of money that become due from any labor, services, materials or equipment furnished to Bidder on account of this specific Agency project, and that may be secured by any lien against IEUA. The Bidder shall fully discharge each such lien no later than the time performance of the obligation.
- L. **FEDERAL, STATE, AND LOCAL LAWS:** The Bidder and all sub-Bidders shall comply with all applicable federal, state, and local laws, rules, and regulations including any permitting requirements and their related costs
- M. **EQUAL EMPLOYMENT OPPORTUNITY AND HARASSMENT PROHIBITION:** The Agency is committed to creating and maintaining an environment free from harassment and discrimination. To accomplish these goals the Agency has established procedures regarding the implementation and enforcement of the Agency's Equal Employment Opportunity and Harassment Prohibition commitments. Please refer to Agency Policies A-29 (Equal Employment Opportunity) and A-30 Harassment Prohibition or contact the Agency's Human Services Administrator. A copy of either of these Policies can be obtained by contacting the respective Project Manager for this solicitation. Please advise any of your staff who think that they might have been harassed or discriminated against while on Agency property to report said possible incident to either the Project Manager or the Agency's Human Services Administrator. Please be assured that any possible infraction will be thoroughly investigated by the Agency.
- N. **PREVAILING WAGE/CONTRACTOR REGISTRATION REQUIREMENTS:** The Legislature requires "prevailing wages" to be paid to those who are employed on "public works" that are performed by a private Bidder and paid for in whole or in part with public funds. Pursuant to Section 1770, and following, of the California Labor Code: "the successful bidder shall not pay its employees less than the

SECTION 2 – GENERAL INFORMATION

general prevailing wage rates, as determined by the Director of the State of California Department of Industrial Relations for the locality in which the work is to be performed and for each craft or type of worker needed to execute the work contemplated under the Contract”. In accordance with the Labor Code, the Agency has on file a schedule of prevailing wage rates for the types of work to be done under the specifications.

The Contractor or any subcontractor performing part of said work shall strictly adhere to all provisions of the Labor Code, including, but not limited to, minimum wages, work days, nondiscrimination, apprentices, maintenance and availability of accurate payroll records and any other matters required under all Federal, State and local laws related to labor. The Contractor must be registered with the State of California.

No contractor or subcontractor may be listed on a bid proposal for a public works project (submitted on or after March 1, 2015) unless registered with the Department of Industrial Relations pursuant to Labor Code section 1725.5 [with limited exceptions from this requirement for bid purposes only under Labor Code section 1771.1(a)].

No contractor or subcontractor may be awarded a contract for public work on a public works project (awarded on or after April 1, 2015) unless registered with the Department of Industrial Relations pursuant to Labor Code section 1725.5.

This project is subject to compliance monitoring and enforcement by the Department of Industrial Relations.

Contractors can go to: <http://www.dir.ca.gov/DAS/DASForm140.pdf> to obtain a DAS-140 form.

Contractors can go to: <http://www.dir.ca.gov/das/DASForm142.pdf> to obtain a DAS142 form.

“Public Works” is the construction, alteration, demolition, or repair work done under contract and paid for in whole or in part out of public funds.” The Work performed under the scope of any contract issued in conjunction with this solicitation will be subject to prevailing wage.

- O. **INDEMNIFICATION:** The Contractor hereby agrees to protect, defend, indemnify and hold the Agency and its employees, agents, officers, directors, servants and volunteers free and harmless from any and all liability, claims, judgments, costs and demands, including demands arising from injuries or death of persons (including employees of the Agency and the Contractor) and damage to property, arising directly or indirectly out of the obligation herein undertaken or out of the operations conducted by the Contractor, its employees agents, representatives or subcontractors under or in connection with this Contract.

The Contractor further agrees to investigate, handle, respond to, provide defense for, and defend, any such claims, demands or suit at the sole expense of the Contractor.

- P. **STANDARD SPECIFICATION FOR PUBLIC WORKS CONSTRUCTION:** Unless noted otherwise by order of precedence, Section 3.C., this job shall utilize the 2015 Edition of The “GREENBOOK” Standard Specifications for Public Works Construction (SSPWC), or most recent edition, as the Standard Specifications to be utilized for this project, as amended herewith.

- Q. **AWARD / SELECTION CRITERIA:** The Agency anticipates issuing a single award in conjunction with this proposal activity to the responsive Bidder judged to be most capable of accomplishing all specified requirements in a cost-effective and time efficient manner for the Proposal Price Schedule given in Section 4 - Lump-Sum Bid. The Agency reserves the right to negotiate unit costs based on costing guidelines prior to award if costs are deemed to be unreasonable. In addition, the Agency reserves the right to add or deduct work to meet its budget and adjust for potential variations of the quantity of work actually performed, based on field conditions.

SECTION 2 – GENERAL INFORMATION

- R. **PROPOSAL PRICE:** The Bidder's proposed price(s) shall be indicated on the Proposal Price Schedule located within this document (See Section 4). Each Bidder must fully complete all parts of the Proposal Price Schedule, or their proposal may be rejected. Be advised that, at any time, the Agency may require the Bidder to further itemize/detail components of proposed prices and/or invoices; i.e. labor, materials, travel expenses, sales taxes, freight charges, etc.). If the Bidder desires to convey clarifications/explanations to the information presented on the Proposal Price Schedule, an addendum page(s) may be attached thereto. For each bid item, all cost including overhead, burden, administration, Supervision, etcetera, shall be evenly weighted so that work may be added or deducted, at the discretion of the Inland Empire Utilities Agency, with no adjustment to the unit costs submitted.
- S. **LIQUIDATED DAMAGES:** Replace Section 6-9, Liquidated Damages, of the Standard Specifications for Public Works Construction (SSPWC), with: Failure of the Contractor to complete the Work within the time allowed will result in damages being sustained by the Agency. Such damages are, and will continue to be, impracticable and extremely difficult to determine. For each consecutive calendar day in excess of the time specified for completion of the Work, as adjusted in accordance with 6-6, the Contractor shall pay to the Agency, or have withheld from monies due it, the sum of **\$500** per day, unless otherwise specified in the Special Provisions.

Execution of the Contract/Task Order shall constitute agreement by the Agency and Contractor that **\$500** per day is the minimum value of the costs and actual damage caused by failure of the Contractor to complete the Work within the allotted time. Such sum is liquidated damages and shall not be construed as a penalty. Any and all liquidated damages assessed by the Agency will be taken as a direct credit against the Contractor's invoice for this project. The Contractor's acceptance of this Task Order/Contract issued in conjunction with this solicitation shall serve to indicate acceptance of this Liquidated Damages clause, and the daily assessment of damages expressed herein.

SECTION 3 – TECHNICAL PROVISIONS

- A. **DESCRIPTION:** The Agency’s Headquarters and RP-1 facility comprise twelve (12) conference rooms that are used on a daily basis to conduct internal and external meetings, workshops, training and other business activities. Of the twelve rooms, the Board Room, Event Center, and Anza Conference Room are three major rooms that vary in size and capacity, and each seat between twenty five (25) and one hundred (100) staff. The Audio-Visual (AV) systems for the three major rooms (Board Room, Event Center and the Anza Conference) are the original systems installed when the building was commissioned in 2003. Some of the essential equipment has reached its end-of-useful-life and is experiencing repeated failures, such as projectors and audio recording devices. Additionally, the installed technology does not support the needs of the Agency, including video conferencing, digital audio recordings, projector screen quality, maintainability, etc. Reliability and maintainability of the installed equipment has become a major concern as these are the Agency’s primary rooms used for large meetings.

The remaining nine conference rooms each seat between ten (10) and twenty (20) staff. These conference rooms have undergone upgrades over the course of the twelve years, mostly related to replacement of wall monitors and computers. The equipment (monitors, computers, software, etc.) vary between rooms, both in inventory and make/models. These rooms are used on a daily basis, and require current technology and standardization between these conference rooms.

The Agency has worked with an audiovisual consultant to develop functional specifications for the audiovisual equipment needed to upgrade the conference rooms to a level that will meet the needs of the Agency. The functional specifications and associated signal drawings for the audiovisual equipment is included in Exhibit C.

Some of the upgrades will require structural, mechanical, and/or electrical modifications to the conference room spaces. Exhibits D and E contain architectural specifications and drawings for the modifications required in the Board Room and Event Center, respectively.

Due to the diverse skill sets needed for this project, the Bidder shall comprise a team of an audiovisual integrator with a Certified Technology Specialist – Design (CTS-D), as well as a contractor with experience in working with an audiovisual integrator. The Bidder shall provide information on each component of the project team, including contractor roles, responsibilities, and experience with audiovisual integration projects.

In addition to the information in the preliminary scope of work included in the attached plans and specifications, the contractor shall obtain a building permit from the City of Chino. It is expected that Plan Review can be completed at the counter. This shall be a top priority of the contractor to obtain this permit. A copy of the permit shall be provided to the Agency, prior to the start of work.

- B. **SHOP DRAWING/SUBMITTALS:** All materials must conform to the specifications given within these documents and the Standard Specifications for Public Works Construction (SSPWC). Submittals will be required for all materials as described in Exhibits C, D, and E.

Submission of listed Submittals as well as those indicated in the scope of work shall be part of the cost of the job. The Agency shall only provide compensation for preparation of shop drawings when the submittals are approved and construction is complete, related to said submittal.

SECTION 3 – TECHNICAL PROVISIONS

- C. **ORDER OF PRECEDENCE:** Replace Section 2-5.2 Precedence of Contract Documents, of the SSPWC, to include the following: If there is a conflict between any of the Contract Documents, the document with the highest order (1 being highest) in precedence shall control. The order shall be as follows:
1. Permits issued by the jurisdictional regulatory agencies;
 2. Change Orders/Task Orders/Supplemental Agreements; whichever occurs last;
 3. Amendments to the Master Services Contract;
 4. Contractors with Agreements with IEUA for Minor Construction, Maintenance and Emergency Construction Services, with the Agreement taking precedence above the below items;
 5. This Contract/Agreement;
 6. Amendments/Clarifications to this Contract;
 7. The Bid/Proposal for this Contract;
 8. Request for Deviation;
 9. Special Provisions/Technical Specifications;
 10. 2015 Edition of the Standard Specifications for Public Works Construction (SSPWC)-Green Book, or most recent addition;
 11. Plans;
 12. Standard Plans;
 13. Reference Specifications; and
 14. Photos.
- D. **CONTRACTOR'S RESPONSIBILITY:** All quantities shall be verified based on field measurements by the Contractor.
- E. **SERVICES FURNISHED TO THE CONTRACTOR:** The Agency will provide the following services to the Contractor:
1. Material testing for the specification compliance,
 2. Compaction testing for specification compliance, and
 3. A web-based document tracking system, named Capital Improvement Program Office (CIPO). IEUA shall provide sufficient training to Contractor designated staff to use the system. Contractor shall use CIPO to document and record all contract correspondence including but not limited to: letters, Field Memorandums (FM), Request for Deviation (RFD), Request for Proposals (RFP), Advisory Notices (AN) , Non-Compliance Reports (NCR), Shutdown Requests (SR), Request for Information(RFI), Shop Drawing Submittals, Change Orders (CO), Progress Payments (PP) etcetera. Contractor's use of CIPO is mandatory throughout entire term of contract.
 4. To access CIPO, Contractor will require at their expense,
 - a. A workstation supporting a web browser which must be one of : (A) Microsoft Internet Explorer® 7 or later, (B) Mozilla Firefox® 3.0 (C) Google Chrome 2.0 or (D) Apple Safari 3.0 of later;
 - b. A broadband internet connection with sufficient bandwidth and quality to allow trouble-free browsing and data uploading and downloading;
 - c. A workstation based, commercially available and proven anti-virus program.

SECTION 4 – FORMS

A. PROPOSAL PRICE SCHEDULE: The bidder agrees to furnish all labor, equipment, apparatus, materials, facilities transportation, insurance, taxes, permits, shop drawings, overhead, profit, mobilization costs, incidentals, and any other costs necessary to furnish, deliver, design, install or perform work under the subject bid item, in conformance with the plans, specifications, and permits complete, for the “Headquarters Audiovisual Upgrades Design/Build” as described in the specifications, contract documents, drawings, pictures and/or RFP.

The Bidder declares that the cost for labor, materials, equipment and incidentals necessary for sheeting, shoring, bracing and other excavation supports required by the Labor Code of the State of California, the Construction Safety Orders of the Division of Industrial Safety of the State of California, and the California Occupational Safety and Health Act of 1973, is included in the total lump sum bid.

Only lump sum bids will be accepted.

Total Bid Price: \$ _____ dollars
(in numeric figures)

Total Bid Price: _____
(written in words)

Lead-time for material prior to project completion
in calendar days after receipt of order: _____

_____ Bidder's Signature	_____ Company Name
_____ Print Name	_____ Contractor's License Number & Type
_____ Title	_____ Date

() _____
Bidder's Phone Number

Bidder's Business Address

SECTION 4 – FORMS

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SECTION 5 - EXHIBITS

**EXHIBIT A
SAMPLE CONTRACT**



ATTACHMENT A
SAMPLE CONTRACT
FOR

XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

THIS CONTRACT (the "Contract"), is made and entered into this ____ day of _____, 20XX, by and between the Inland Empire Utilities Agency, a Municipal Water District, organized and existing in the County of San Bernardino under and by virtue of the laws of the State of California (hereinafter referred to as "Agency"), and (COMPANY NAME), of (CITY), (STATE) (hereinafter referred to as "Contractor"), for (PROJECT DESCRIPTION).

NOW, THEREFORE, in consideration of the mutual promises and obligations set forth herein, the parties agree as follows:

1. **PROJECT MANAGER ASSIGNMENT:** All technical direction related to this Contract shall come from the designated Project Manager. Details of the Agency's assignment are listed below.

Project Manager: (NAME)
Address: (ADDRESS)
(CITY), (STATE) (ZIP)

Telephone: (AREA CODE) (TELEPHONE), Extension (NO.)
Facsimile: (AREA CODE) (FACSIMILE)

2. **CONTRACTOR ASSIGNMENT:** Special inquiries related to this Contract and the effects of this Contract shall be referred to the following:

Contractor: (NAME)
Address: (ADDRESS)
(CITY, STATE, ZIP)

Telephone: (AREA CODE) (NUMBER), Extension (NO.)
Facsimile: (AREA CODE) (NUMBER)

3. **ORDER OF PRECEDENCE:** The documents referenced below represent the Contract Documents; each of which is hereby incorporated as an integral part of this Contract. Where any conflicts exist between the General Terms and Conditions, or addenda attached, then the governing order of precedence shall be as follows:

1. Amendments to Contract number (NO.).
2. Contract Number (NO.) General Terms and Conditions.

3. Agency Request for Proposal Number (NO.).
4. Contractor's Proposal, dated (DATE).
4. **SCOPE OF WORK AND SERVICES:** Contractor services and responsibilities shall include and be in accordance with the Agency's Request for Proposal dated (date) .
5. **TERM:** The term of this Contract shall extend from the date of the Notice to Proceed, and terminate upon completion of the Project or (date) , whichever occurs first, unless agreed to by both parties, reduced to writing, and incorporated as an amendment to this Contract.
6. **PAYMENT, INVOICING AND COMPENSATION:** The Contractor may submit an invoice not more than once per month during the term of this Contract. *(alternative language for firm fixed price / lump sum contracts)* The Contractor shall submit one lump sum invoice, valued at the total firm fixed price established for this Contract, upon completion of all required work / services and submittal of all required deliverables. Agency shall pay Contractor's properly executed invoice, approved by the Project Manager, within thirty (30) days following receipt of the invoice. The Agency may take a _____ % discount to each Contractor invoice were payment is issued (defined a by the date of post-mark by U.S. Mail or private carrier service) within _____ calendar days subsequent to the date of Agency's receipt of invoice. Payment will be withheld for any service which does not meet the requirements of this Contract, until such service is revised, the invoice resubmitted and accepted by the Project Manager.

All invoices shall be formulated consistent with the rates proposed within the Contractor's accepted proposal, dated XXXXXX XX, 20XX.

Contractor shall provide with their invoice certified payroll verifying that Contractor has paid prevailing wage in accordance with the Department of Industrial Relations requirements. *(Include with Public Works contracts > \$1,000.00 price).*

Contractor's invoices shall be submitted electronically with all required back-up to apgroup@ieua.org .

Concurrent with submittal of each original invoice to the Agency's Accounts Payable Department, the Contractor shall forward a copy of said invoice to the Agency's designated Project Manager identified on page 1 of this Contract.

As compensation for the work performed under this Contract, Agency shall pay Contractor, **on a firm fixed price ... alternatively (fixed price level-of-effort or time and materials)** basis, a total price *not-to-exceed* \$ XXXXXX for all work/ services/products satisfactorily provided hereunder.

7. **LIQUIDATED DAMAGES:** Liquidated damages, in the amount of \$500 (to be determined and/or negotiated) per calendar day, shall apply for each full day that the Contractor's completion of the project is delinquent to (date) . Any and all liquidated damages shall be paid by the Contractor, or at the Agency's discretion, credited towards payment for the project. Contractor's acceptance of an award resulting from this Request for Proposal indicates the Contractor's acceptance of this liquidated damages provision and the daily amount expressed herein.
8. **CONTROL OF THE WORK:** Contractor shall perform the Work in compliance with the Work Schedule established by the Agency's Project Manager. If performance of the Work falls behind schedule, the Contractor shall accelerate the performance of the Work to comply with the Work Schedule as directed by the Project Manager. If the nature of the Work is such that Contractor is unable to accelerate the Work, Contractor shall promptly notify the Project Manager of the delay, the causes of the delay, and submit a proposed revised Work Schedule.

9. FITNESS FOR DUTY:

A. Fitness: Contractor and its Subcontractor personnel on the Jobsite:

1. shall report for work in a manner fit to do their job;
2. shall not be under the influence of or in possession of any alcoholic beverages or of any controlled substance (except a controlled substance as prescribed by a physician so long as the performance or safety of the Work is not affected thereby); and
3. shall not have been convicted of any serious criminal offense which, by its nature, may have a discernible adverse impact on the business or reputation of Agency.

B. Inspection: Searches by Agency authorized personnel may be made of lockers, storage areas, vehicles, persons or personal effects on Agency-owned, or leased property at various times without prior announcement. Such facility inspections may be conducted using detection dog teams to search work areas and other common areas in order to detect evidence of unlawful drug use or the presence of pyrotechnics, explosives, firearms, weapons, or facsimiles thereof, alcoholic beverages and illegal drugs ("Prohibited Items"). Prohibited Items must not be brought onto, or kept on, Agency property.

C. Compliance: Contractor shall advise all contractor and subcontractor personnel and associated third parties of the requirements of this Contract ("Fitness for Duty Requirements") before they enter on the Jobsite and shall immediately remove from the Jobsite any employee determined to be in violation of these requirements. Contractor shall impose these requirements on its Subcontractors. Agency may cancel the Contract if Contractor violates these Fitness for Duty Requirements.

10. INSURANCE: During the term of this Contract, the Contractor shall maintain at Contractor's sole expense, the following insurance.

A. Minimum Scope of Insurance:

1. **General Liability:** \$1,000,000 combined single limit per occurrence for bodily injury, personal injury and property damage. Coverage shall be at least as broad as Insurance Services Office form number GL 0001-87 covering Comprehensive General Liability. If Commercial General Liability Insurance or other form with a general aggregate limit is used, either the general aggregate limit shall apply separately to this project/location, or the general aggregate limit shall be twice the required occurrence limit.
2. **Automobile Liability:** \$300,000 combined single limit per accident for bodily injury and property damage. Coverage shall be at least as broad as Insurance Services Office form number CA 00 01 87, covering Automobile Liability, including "any auto."
3. **Workers' Compensation and Employers Liability:** Workers' compensation limits as required by the Labor Code of the State of California and employers Liability limits of \$1,000,000 per accident.
4. **Builders Risk completed value (course of construction) fire insurance with extended coverage and a vandalism and malicious endorsement.** The policy shall cover the full value of all completed construction, which includes all material and labor invested in the construction and the full value of all equipment and material at the job site. Said policy shall remain in effect until acceptance of the work by the Agency.

- B. **Deductibles and Self-Insured Retention:** Any deductibles or self-insured retention must be declared to and approved by the Agency. At the option of the Agency, either: the insurer shall reduce or eliminate such deductibles or self-insured retention as respects the Agency, its officers, officials, employees and volunteers; or the Contractor shall procure a bond guaranteeing payment of losses and related investigations, claim administration and defense expenses.
- C. **Other Insurance Provisions:** The policies are to contain, or be endorsed to contain, the following provisions:
1. **General Liability and Automobile Liability Coverage**
 - a. The Agency, its officers, officials, employees and volunteers are to be covered as insureds, endorsements GL 20 11 07 66, CG2010 1185 and/or CA 20 01 (Ed. 0178), as respects: liability arising out of activities performed by or on behalf of the Contractor, products and completed operations of the Contractor, premises owned, occupied or used by the Contractor, or automobiles owned, leased, hired or borrowed by the Contractor. The coverage shall contain no special limitations on the scope of protection afforded to the Agency, its officers, officials, employees or volunteers.
 - b. The Contractor's insurance coverage shall be primary insurance as respects the Agency, its officer, officials, employees and volunteers. Any insurance or self-insurance maintained by the Agency, its officers, officials, employees, or volunteers shall be excess of the Contractor's insurance and shall not contribute with it.
 - c. Builders Risk Insurance (Course of Construction): The Agency is to be named as the loss payee.
 - d. Any failure to comply with reporting provisions of the policies shall not affect coverage provided to the Agency, its officers, officials, employees or volunteers.
 - e. The Contractor's insurance shall apply separately to each insured against whom claim is made or suit is brought, except with respect to the limits of the insurer's liability.
 - f. The Contractor may satisfy the limit requirements in a single policy or multiple policies. Any Such additional policies written as excess insurance shall not provide any less coverage than that provided by the first or primary policy.
 2. **Workers' Compensation and Employers Liability Coverage**

The insurer shall agree to waive all rights of subrogation against the Agency, its officers, officials, employees and volunteers for losses arising from work performed by the Contractor for the Agency.
 3. **All Coverages**

Each insurance policy required by this contract shall be endorsed to state that coverage shall not be suspended, voided, canceled by either party, reduced in coverage or in limits except after thirty (30) days' prior written notice by certified mail, return receipt requested, has been given to the Agency.

- D. Acceptability of Insurers: All insurance is to be placed with insurers with a Best's rating of no less than A minus:VII, and who are admitted insurers in the State of California.
- E. Verification of Coverage: Contractor shall furnish the Agency with certificates of insurance and with original endorsements effecting coverage required by the Agency for themselves and all subcontractors prior to commencing work or allowing any subcontractor to commence work under any subcontract. The certificates and endorsements for each insurance policy are to be signed by a person authorized by that insurer to bind coverage on its behalf. All certificates and endorsements are to be approved by the Agency before work commences. The Agency reserves the right to require complete, certified copies of all required insurance policies, at any time.
- F. Submittal of Certificates: Contractor shall submit all required certificates and endorsements to the following:
- Attention: Manager of Safety and Risk Manager
Inland Empire Utilities Agency
P.O. Box 9020
Chino Hills, California 91709

11. LEGAL RELATIONS AND RESPONSIBILITIES

- A. Professional Responsibility: The Contractor shall be responsible, to the level of competency presently maintained by other practicing professionals performing the same or similar type of work.
- B. Status of Contractor: The Contractor is retained as an independent Contractor only, for the sole purpose of rendering the services described herein, and is not an employee of the Agency.
- C. Observing Laws and Ordinances: The Contractor shall keep itself fully informed of all existing and future state and federal laws and all county and city ordinances and regulations which in any manner affect the conduct of any services or tasks performed under this Contract, and of all such orders and decrees of bodies or tribunals having any jurisdiction or authority over the same. The Contractor shall at all times observe and comply with all such existing and future laws, ordinances, regulations, orders and decrees, and shall protect and indemnify, as required herein, the Agency, its officers, employees and agents against any claim or liability arising from or based on the violation of any such law, ordinance, regulation, order or decree, whether by the Contractor or its employees.
- D. Subcontract Services: Any subcontracts for the performance of any services under this Contract shall be subject to the written approval of the Project Manager.
- E. Hours of Labor: The Contractor shall comply with all applicable provisions of California Labor Code Sections 1810 to 1817 relating to working hours. The Contractor shall, as a penalty to the Agency, forfeit \$25.00 for each worker employed in the execution of the Contract by the Contractor or by any subcontractor for each calendar day during which such worker is required or permitted to work more than eight hours in any one calendar day and forty (40) hours in any one calendar week in violation of the provisions of the Labor Code.
- F. Travel and Subsistence Pay: The Contractor shall make payment to each worker for travel and subsistence payments which are needed to execute the work and/or service, as such travel and subsistence payments are defined in the applicable collective bargaining agreements with the worker.
- G. Liens: Contractor shall pay all sums of money that become due from any labor, services, materials or equipment furnished to Contractor on account of said services to be rendered or said materials to

be furnished under this Contract and that may be secured by any lien against the Agency. Contractor shall fully discharge each such lien at the time performance of the obligation secured matures and becomes due.

- H. **Conflict of Interest:** No official of the Agency who is authorized in such capacity and on behalf of the Agency to negotiate, make, accept or approve, or to take part in negotiating, making, accepting or approving this Contract, or any subcontract relating to services or tasks to be performed pursuant to this Contract, shall become directly or indirectly personally interested in this Contract.
- I. **Equal Opportunity and Unlawful Discrimination:** During the performance of this Contract, the Contractor shall not unlawfully discriminate against any employee or employment applicant because of race, color, religion, sex, age, marital status, ancestry, physical or mental disability, sexual orientation, veteran status or national origin. The Agency is committed to creating and maintaining an environment free from harassment and discrimination. To accomplish these goals the Agency has established procedures regarding the implementation and enforcement of the Agency's Harassment Prohibition and Equal Employment Opportunity commitments. Please refer to Agency Policies A-29 (Equal Employment Opportunity) and A-30 Harassment Prohibition for detailed information or contact the Agency's Human Resources Administrator. A copy of either of these Policies can be obtained by contacting the Project Manager for your respective Contract. Please advise any of your staff that believes they might have been harassed or discriminated against while on Agency property, to report said possible incident to either the Project Manager, or the Agency's Human Resources Administrator. Please be assured that any possible infraction will be thoroughly investigated by the Agency.
- J. **Non-Conforming Work and Warranty:** Contractor represents and warrants that the Work and Documentation shall be adequate to serve the purposes described in the Contract. For a period of not less than one (1) year after acceptance of the completed Work, Contractor shall, at no additional cost to Agency, correct any and all errors in and shortcomings of the Work or Documentation, regardless of whether any such errors or shortcoming is brought to the attention of Contractor by Agency, or any other person or entity. Contractor shall within three (3) calendar days, correct any error or shortcoming that renders the Work or Documentation unusable and shall correct other errors within thirty (30) calendar days after Contractor's receipt of notice of the error. Upon request of Agency, Contractor shall correct any such error deemed important by Agency in its sole discretion to Agency's continued use of the Work or Documentation within seven (7) calendar days after Contractor's receipt of notice of the error. If the Project Manager rejects all or any part of the Work or Documentation as unacceptable and agreement to correct such Work or Documentation cannot be reached without modification to the Contract, Contractor shall notify the Project Manager, in writing, detailing the dispute and reason for the Contractor's position. Any dispute that cannot be resolved between the Project Manager and Contractor shall be resolved in accordance with the provisions of this Contract.
- K. **Disputes:**
 - 1. All disputes arising out of or in relation to this Contract shall be determined in accordance with this section. The Contractor shall pursue the work to completion in accordance with the instruction of the Agency's Project Manager notwithstanding the existence of dispute. By entering into this Contract, both parties are obligated, and hereby agree, to submit all disputes arising under or relating to the Contract, which remain unresolved after the exhaustion of the procedures provided herein, to independent arbitration. Except as otherwise provided herein, arbitration shall be conducted under California Code of Civil Procedure Sections 1280, et. seq, or their successor.

2. Any and all disputes during the pendency of the work shall be subject to resolution by the Agency Project Manager and the Contractor shall comply, pursuant to the Agency Project Manager instructions. If the Contractor is not satisfied with any such resolution by the Agency Project Manager, they may file a written protest with the Agency Project Manager within seven (7) calendar days after receiving written notice of the Agency's decision. Failure by Contractor to file a written protest within seven (7) calendar days shall constitute waiver of protest, and acceptance of the Agency Project Manager's resolution. The Agency's Project Manager shall submit the Contractor's written protests to the General Manager, together with a copy of the Agency Project Manager's written decision, for his or her consideration within seven (7) calendar days after receipt of said protest(s). The General Manager shall make his or her determination with respect to each protest filed with the Agency Project Manager within ten (10) calendar days after receipt of said protest(s). If Contractor is not satisfied with any such resolution by the General Manager, they may file a written request for arbitration with the Project Manager within seven (7) calendar days after receiving written notice of the General Manager's decision.
 3. In the event of arbitration, the parties hereto agree that there shall be a single neutral Arbitrator who shall be selected in the following manner:
 - a. The Demand for Arbitration shall include a list of five names of persons acceptable to the Contractor to be appointed as Arbitrator. The Agency shall determine if any of the names submitted by Contractor are acceptable and, if so, such person will be designated as Arbitrator.
 - b. In the event that none of the names submitted by Contractor are acceptable to Agency, or if for any reason the Arbitrator selected in Step (a) is unable to serve, the Agency shall submit to Contractor a list of five names of persons acceptable to Agency for appointment as Arbitrator. The Contractor shall, in turn, have seven (7) calendar days in which to determine if one such person is acceptable.
 - c. If after Steps (a) and (b), the parties are unable to mutually agree upon a neutral Arbitrator, the matter of selection of an Arbitrator shall be submitted to the San Bernardino County Superior Court pursuant to Code of Civil Procedure Section 1281.6, or its successor. The costs of arbitration, including but not limited to reasonable attorneys' fees, shall be recoverable by the party prevailing in the arbitration. If this arbitration is appealed to a court pursuant to the procedure under California Code of Civil Procedure Section 1294, et. seq., or their successor, the costs of arbitration shall also include court costs associated with such appeals, including but not limited to reasonable attorneys' fees which shall be recoverable by the prevailing party.
 4. Joinder in Mediation/Arbitration: The Agency may join the Contractor in mediation or arbitration commenced by a contractor on the Project pursuant to Public Contracts Code Sections 20104 et seq. Such joinder shall be initiated by written notice from the Agency's representative to the Contractor.
- L. Workers' Legal Status: For performance against this Contract, Contractor shall only utilize employees and/or subcontractors that are authorized to work in the United States pursuant to the Immigration Reform and Control Act of 1986.
- M. Prevailing Wage Requirements: Pursuant to Section 1770 and following, of the California Labor Code, the Contractor shall not pay less than the general prevailing wage rates, as determined by the Director of the State of California Department of Industrial Relations for the locality in which

the work is to be performed and for each craft or type of worker needed to execute the work contemplated under the Contract. The Contractor or any subcontractor performing part of said work shall strictly adhere to all provisions of the Labor Code, including, but not limited to, minimum wages, work days, nondiscrimination, apprentices, maintenance and availability of accurate payroll records and any other matters required under all Federal, State and local laws related to labor.

SB854 Requirements:

- No contractor or subcontractor may be listed on a bid proposal for a public works project (submitted on or after March 1, 2015) unless registered with the Department of Industrial Relations pursuant to Labor Code section 1725.5 [with limited exceptions from this requirement for bid purposes only under Labor Code section 1771.1(a)].
- No contractor or subcontractor may be awarded a contract for public work on a public works project (awarded on or after April 1, 2015) unless registered with the Department of Industrial Relations pursuant to Labor Code section 1725.5.
- This project is subject to compliance monitoring and enforcement by the Department of Industrial Relations.

12. **INDEMNIFICATION:** Contractor or Contractor shall indemnify and hold harmless and defend as permitted by law, the Agency, its directors, officers, employees, or authorized volunteers, each of them from and against:

- A. Any and all claims, demands, causes of action, damages, costs, expenses, losses or liabilities, in law or in equity, of every kind or nature whatsoever for, but not limited to, injury to or death of any person including Agency and/or Contractor, or any directors, officers, employees, or authorized volunteers of Agency or Contractor, and damages to or destruction of property of any person, including but not limited to, Agency and/or Contractor or their directors, officers, employees, or authorized volunteers, arising out of or in any manner directly or indirectly connected with the work to be performed under this agreement, however caused, except for the sole negligence or willful misconduct or active negligence of the Agency or its directors, officers, employees, or authorized volunteers;
- B. Any and all actions, proceedings, damages, costs, expenses, penalties or liabilities, in law or equity, or every kind or nature whatsoever, arising out of, resulting from, or on account of the violation of any governmental law or regulation, compliance with which is the responsibility of the Contractor;
- C. Any and all losses, expenses, damages (including damages to the work itself), attorneys' fees, and other costs, including all costs of defense, which any of them may incur with respects to the failure, neglect, or refusal or Contractor to faithfully perform the work and all of the Contractor's obligations under the agreement. Such costs, expenses, and damages shall include all costs, including attorneys' fees, incurred by the indemnified parties in any lawsuit to which they are a party.

13. **OWNERSHIP OF MATERIALS AND DOCUMENTS/CONFIDENTIALITY:** The Agency retains ownership of any and all partial or complete reports, drawings, plans, notes, computations, lists, and/or other materials, documents, information, or data prepared by the Contractor and/or the Contractor's subcontractor(s) pertaining to this Contract. Said materials and documents are confidential and shall be available to the Agency from the moment of their preparation, and the Contractor shall deliver same to the Agency whenever requested to do so by the Project Manager and/or Agency. The Contractor agrees that same shall not be

made available to any individual or organization, private or public, without the prior written consent of the Agency.

14. TITLE AND RISK OF LOSS:

- A. Documentation: Title to the Documentation shall pass to Agency when prepared; however, a copy may be retained by Contractor for its records and internal use. Contractor shall retain such Documentation in a controlled access file, and shall not reveal, display or disclose the contents of the Documentation to others without the prior written authorization of Agency or for the performance of Work related to the Project.
- B. Material: Title to all Material, equipment, procured or fabricated under the Contract shall pass to Agency when procured or fabricated, and such title shall be free and clear of any and all encumbrances. Contractor shall have risk of loss of any Material or Agency-owned equipment of which it has custody.
- C. Disposition: Contractor shall dispose of items to which Agency has title as directed in writing by the Agency.

15. PROPRIETARY RIGHTS:

- A. Rights and Ownership: Agency's rights to inventions, discoveries, trade secrets, patents, copyrights, and other intellectual property, including the Information and Documentation, and revisions thereto (hereinafter collectively referred to as "Proprietary Rights"), used or developed by Contractor in the performance of the Work, shall be governed by the following provisions:
 - 1. Proprietary Rights conceived, developed, or reduced to practice by Contractor in the performance of the Work shall be the property of Agency, and Contractor shall cooperate with all appropriate requests to assign and transfer same to Agency.
 - 2. If Proprietary Rights conceived, developed, or reduced to practice by Contractor prior to the performance of the Work are used in and become integral with the Work or Documentation, or are necessary for Agency to have complete enjoyment of the Work or Documentation, Contractor shall grant to Agency a non-exclusive, irrevocable, royalty-free license, as may be required by Agency for the complete enjoyment of the Work and Documentation, including the right to reproduce, correct, repair, replace, maintain, translate, publish, use, modify, copy or dispose of any or all of the Work and Documentation and grant sublicenses to others with respect to the Work and Documentation.
 - 3. If the Work or Documentation includes the Proprietary Rights of others, Contractor shall procure, at no additional cost to Agency, all necessary licenses regarding such Proprietary Rights so as to allow Agency the complete enjoyment of the Work and Documentation, including the right to reproduce, correct, repair, replace, maintain, translate, publish, use, modify, copy or dispose of any or all of the Work and Documentation and grant sublicenses to others with respect to the Work and Documentation. All such licenses shall be in writing and shall be irrevocable and royalty-free to Agency.
- B. No Additional Compensation: Nothing Set forth in this Contract shall be deemed to require payment by Agency to Contractor of any compensation specifically for the assignments and assurances required hereby, other than the payment of expenses as may be actually incurred by Contractor in complying with this Contract.

16. **INFRINGEMENT:** Contractor represents and warrants that the Work and Documentation shall be free of any claim of trade secret, trade mark, trade name, copyright, or patent infringement or other violations of any Proprietary Rights of any person.

Contractor shall defend, indemnify and hold harmless, Agency, its officers, directors, agents, employees, successors, assigns, servants, and volunteers free and harmless from any and all liability, damages, losses, claims, demands, actions, causes of action, and costs including reasonable attorney's fees and expenses arising out of any claim that use of the Work or Documentation infringes upon any trade secret, trade mark, trade name, copyright, patent, or other Proprietary Rights.

Contractor shall, at its expense and at Agency's option, refund any amount paid by Agency under the Contract, or exert its best efforts to procure for Agency the right to use the Work and Documentation, to replace or modify the Work and Documentation as approved by Agency so as to obviate any such claim of infringement, or to put up a satisfactory bond to permit Agency's continued use of the Work and Documentation.

17. **NOTICES:** Any notice may be served upon either party by delivering it in person, or by depositing it in a United States Mail deposit box with the postage thereon fully prepaid, and addressed to the party at the address set forth below:

Agency: Warren Green
Manager of Contracts & Procurement
Inland Empire Utilities Agency
P.O. Box 9020
Chino Hills, California 91709

Contractor: (CONTRACTOR'S REPRESENTATIVE)
(COMPANY NAME)
(ADDRESS)
(CITY, STATE, ZIP)

Any notice given hereunder shall be deemed effective in the case of personal delivery, upon receipt thereof, or, in the case of mailing, at the moment of deposit in the course of transmission with the United States Postal Service.

18. **SUCCESSORS AND ASSIGNS:** All of the terms, conditions and provisions of this Contract shall inure to the benefit of and be binding upon the Agency, the Contractor, and their respective successors and assigns. Notwithstanding the foregoing, no assignment of the duties or benefits of the Contractor under this Contract may be assigned, transferred or otherwise disposed of without the prior written consent of the Agency; and any such purported or attempted assignment, transfer or disposal without the prior written consent of the Agency shall be null, void and of no legal effect whatsoever.
19. **PUBLIC RECORDS POLICY:** Information made available to the Agency may be subject to the California Public Records Act (Government Code Section 6250 et seq.) The Agency's use and disclosure of its records are governed by this Act. The Agency shall use its best efforts to notify Contractor of any requests for disclosure of any documents pertaining to Contractor.

In the event of litigation concerning disclosure of information Contractor considers exempt from disclosure; (e.g., Trade Secret, Confidential, or Proprietary) Agency shall act as a stakeholder only, holding the information until otherwise ordered by a court or other legal process. If Agency is required to defend an action arising out of a Public Records Act request for any of the information Contractor has marked "Confidential," "Proprietary," or "Trade Secret," Contractor shall defend and indemnify Agency from all

liability, damages, costs, and expenses, including attorneys' fees, in any action or proceeding arising under the Public Records Act.

20. **RIGHT TO AUDIT:** The Agency reserves the right to review and/or audit all Contractor's records related to the Work. The option to review and/or audit may be exercised during the term of the Contract, upon termination, upon completion of the Contract, or at any time thereafter up to twelve (12) months after final payment has been made to Contractor. The Contractor shall make all records and related documentation available within three (3) working days after said records are requested by the Agency.
21. **INTEGRATION:** The Contract Documents represent the entire Contract of the Agency and the Contractor as to those matters contained herein. No prior oral or written understanding shall be of any force or effect with respect to those matters covered by the Contract Documents. This Contract may not be modified, altered or amended except by written mutual agreement by the Agency and the Contractor.
22. **GOVERNING LAW:** This Contract is to be governed by and constructed in accordance with the laws of the State of California.
23. **TERMINATION FOR CONVENIENCE:** The Agency reserves and has the right to immediately suspend, cancel or terminate this Contract at any time upon written notice to the Contractor. In the event of such termination, the Agency shall pay Contractor for all authorized and Contractor-invoiced services up to the date of such termination.
24. **FORCE MAJEURE:** Neither party shall hold the other responsible for the effects of acts occurring beyond their control; e.g., war, riots, strikes, natural disasters, etcetera.
25. **CHANGES:** The Agency may, at any time, make changes to this Contract's Scope of Work; including additions, reductions and other alterations to any or all of the work. However, such changes shall only be made via written amendment to this Contract. The Contract Price and Work Schedule shall be equitably adjusted, if required, to account for such changes and shall be set forth within the Contract Amendment.
26. **NOTICE TO PROCEED:** No services shall be performed or furnished under this Contract unless and until this document has been properly signed by all responsible parties and a Notice to Proceed order has been issued to the Contractor.

IN WITNESS WHEREOF, the parties hereto have caused the Contract to be entered as of the day and year written above.

INLAND EMPIRE UTILITIES AGENCY: (COMPANY NAME):

P Joseph Grindstaff (Date) (AUTH. REP.) (Date)
General Manager (TITLE)

EXHIBIT B
BONDING REQUIREMENTS

PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS, THAT, WHEREAS, the Inland Empire Utilities Agency, a Municipal Water District, hereinafter designated as the "Agency," has, on 20____, awarded to _____, hereinafter designated as the "Principal," the Contract for the construction of:

Headquarters Audiovisual Upgrades, Project No. EN16049

WHEREAS, said Principal is required under the terms of said Contract to furnish a bond for the faithful performance of said Contract:

NOW, THEREFORE, WE, the Principal, and _____, as Surety, are held and firmly bound unto the Agency the penal sum of the total lump sum bid price lawful money of the United States, for the payment of which sum will and truly be made, we bind ourselves, our heirs, executors, administrators, and successors, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH, that if the above bounden Principal, or its heirs, executors, administrators, successors, or assigns, shall in all things stand to and abide by, and will and truly keep and faithfully perform the covenants, conditions, and agreements in the said Contract and any alterations made as therein provided, on its or their part, to be kept and performed at the time and in the manner therein specified, and in all respects according to their true intent and meaning, and shall indemnify and save harmless, Agency and engineer, their officers, agents, and employees as therein stipulated, then this obligation shall become null and void; otherwise it shall be and remain in full force and virtue and Principal and Surety, in the event suit is brought on this bond, will pay to Agency such reasonable attorney's fees as shall be fixed by the court.

As a condition precedent to the satisfactory completion of the said Contract, the above obligation in the said amount shall hold good for a period of two (2) years after the completion and acceptance of said Contract, during which time if the above bounden Principal, its heirs, executors, administrators, successors, or assigns shall fail to make full, complete, and satisfactory repair and replacements or totally protect said Agency from loss or damage made evident during said period of one year from the date of acceptance of the work under said Contract, and resulting from or caused by defective materials or faulty workmanship in the execution of the work done, the above obligation in the said amount shall remain in full force and effect. However, anything in this paragraph to the contrary notwithstanding, the obligation of the Surety hereunder shall continue so long as any obligation of the Principal remains.

Bond Number

SECOND PAGE OF PERFORMANCE BOND

Said Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration, or addition to the terms of the Contract or to the work to be performed there under or the specifications accompanying the same shall, in any way, affect its obligations on this bond, and it does hereby waive notice of any such change, extension of time, alteration, or addition to the terms of the Contract or to the work or to the specifications. Said Surety hereby waives the provisions of Sections 2819 and 2845 of the Civil Code of the State of California.

As a part of the obligation secured hereby and in addition to the amount specified therefore, there shall be included costs and reasonable expenses and fees, including reasonable attorney's fees, incurred by Agency in successfully enforcing such obligation, all to be taxed as costs and included in any judgment rendered.

IN WITNESS WHEREOF, the above bounden parties have executed this instrument under their seals this _____ day of _____, 20____, the name and corporate seal of each corporate party being hereto affixed and these presents duly signed by its undersigned representative, pursuant to authority of its governing body.

Principal (print name)

Signature for Principal

(Corporate Seal)

THIRD PAGE OF PERFORMANCE BOND

Surety (print name)

Signature for Surety

(Surety Seal)

Surety address

**ATTACH POWER-OF-ATTORNEY AND NOTARIAL ACKNOWLEDGEMENT
OF SURETY BELOW**

BIDDER'S BOND (Ten (10) Percent of the Total Bid)

Bond Number

BID BOND

KNOW ALL MEN BY THESE PRESENTS,

That _____, as Principal

and _____, as Surety

are held and firmly bound unto the Inland Empire Utilities Agency, a Municipal Water District hereinafter designated as the "Agency", in the sum of _____ dollars, (not less than ten (10) percent of the total amount of the bid) for the payment of which sum will and truly to be made, we bind ourselves, our heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents.

WHEREAS, said Principal has submitted a bid to said Agency to perform all work required under the bidding schedule(s) titled:

NOW, THEREFORE, if said Principal is awarded the Contract by said Agency and within the time and in the manner required under the Instructions to Bidders (Section I) bound with said specifications, enters into a written agreement and fully executes the Contract bound with said specifications and furnishes the required bonds and verification of insurance, then this obligation shall be null and void, otherwise it shall remain in full force and effect. In the event a suit is brought upon this bond by said Agency and judgment is recovered, said Surety shall pay all costs incurred by said Agency in such suit, including a reasonable attorney's fee to be fixed by the Court.

SIGNED AND SEALED, this ___ day of _____, 20___

Principal (print name)

By: _____
Signature

(Corporate Seal)

Continued on page 2

Bond Number

SECOND PAGE OF BID BOND

Bidding Schedule(s) titled:

Surety agent (print name)

By: _____ (Surety Seal)
Signature

Surety address

Bond Number _____

PAYMENT BOND

KNOW ALL MEN BY THESE PRESENTS, THAT, WHEREAS, the Inland Empire Utilities Agency, hereinafter designated as the "Agency", has, on _____, 20____, awarded to _____, hereinafter designated as the "Principal," a Contract for the construction of:

Headquarters Audiovisual Upgrades, Project No. EN16049

WHEREAS, said Principal is required under the terms of said Contract to furnish a payment bond providing that if said Principal, or any of their subcontractors, shall fail to pay for any materials, provisions, or other supplies used in, upon, for, or about the performance of the work under said Contract, or for any work or labor done thereon of any kind, the Surety of this bond will pay the same to the extent hereinafter set forth:

NOW, THEREFORE, WE, the Principal, and _____, as Surety, are held and firmly bound unto the Agency the penal sum of the total lump sum of bid price lawful money of the United States, for the payment of which sum will and truly be made, we bind ourselves, our heirs, executors, administrators, and successors, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH, that if the above bounden Principal, or its heirs, executors, administrators, successors, or assigns, shall fail to pay any person specified in California Civil Code Section 3181, or for any materials, provisions, or other supplies used in, upon, for, or about the performance of the work under said Contract, or for any work or labor thereon of any kind or for amount due under the Unemployment Insurance Code with respect to work or labor performed under said Contract, or for any amounts due, or to be withheld pursuant to Sections 18806 of the Revenue and Taxation Code of the State of California, or with respect to any work or labor for which a bond is required by the provisions of Sections 3247 through 3252 of the California Civil Code, and provided that the persons, companies, or corporations so furnishing said materials, provisions, or other supplies, appliances, or power use, in, upon, for, or about the performance of the work under said Contract, or any person who performs work or labor upon same, or any person who supplies both work and materials, thereto, shall have complied with the provisions of said Civil Code, then said surety will pay the same in or to an amount not exceeding the amount herein before set forth, and also will pay in case suit is brought upon this bond, such reasonable attorney's fees to Agency as shall be fixed by the court.

Bond Number

SECOND PAGE OF PAYMENT BOND

This bond shall inure to the benefit of Agency and any and all persons, companies, and corporations and their respective assigns entitled to file claims under applicable State law, including but not limited to, California Civil Code Section 3181, so as to give a right of action to them or their assigns in any suit brought upon this bond.

Said Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration, or addition to the terms of said Contract or to the work to be performed there under or the specifications accompanying the same shall, in any way, affect its obligations on this bond, and it does hereby waive notice of any such change, extension of time, alteration, or addition to the terms of the Contract or to the work or to the specifications. Said Surety hereby waives the provisions of Sections 2819 and 2845 of the Civil Code of the State of California.

As a part of the obligation secured hereby and in addition to the amount specified therefore, there shall be included costs and reasonable expenses and fees, including reasonable attorney's fees, incurred by Agency in successfully enforcing such obligation, all to be taxed as costs and included in any judgment rendered.

IN WITNESS WHEREOF, the above bounden parties have executed this instrument under their seals this _____ day of _____, 20____, the name and corporate seal of each corporate party being hereto affixed and these presents duly signed by its undersigned representative, pursuant to authority of its governing body.

Principal (print name)

Signature for Principal

(Corporate Seal)

Bond Number

THIRD PAGE OF PAYMENT BOND

Surety (print name)

Signature for Surety

(Surety Seal)

Surety address

**ATTACH POWER-OF-ATTORNEY AND NOTARIAL ACKNOWLEDGEMENT OF SURETY
BELOW**

EXHIBIT C
AUDIOVISUAL SPECIFICATIONS
AND SIGNAL DRAWINGS

SECTION 27 41 00

AUDIOVISUAL SYSTEMS EQUIPMENT & INSTALLATION

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PART 1 - GENERAL

1.1 SCOPE OF WORK

- A. The work covered in this Section consists of furnishing all labor, material and services to install a complete audiovisual system as indicated on the project drawings and in these specifications. The intent of this specification is that the GC together with a duly qualified Audio Visual Integrator/ Audio Visual contractor shall be responsible for a complete installation and testing of the AV systems.
- B. Delivery of the work described in this Specification shall include, but not be limited to, the following Basic Services:
1. **Engineering and Design:** The Audiovisual Integrator shall provide all system engineering and design necessary to develop the complete systems described herein. Engineering and Design shall include preparation of all necessary electronic schematics, hardware drawings, systems diagrams, schedules and lists. Additionally, final system design and configuration with the Owner, as well as on site audiovisual coordination and infrastructure installation review with the Construction Manager is required.
 2. **Assembly:** The Audiovisual Integrator shall procure and assemble all hardware and equipment (both CFCI and OFCI), and any additional materials as required to deliver a completely functioning Audiovisual Systems.
 3. **Software Programming:** The Audiovisual Integrator shall perform all required software setup, configuration, and programming required to develop a complete operating system in accordance with this Specification, including all control logic and push button component faceplate or interface programming.
 4. **Installation:** The Audiovisual Integrator shall install all equipment, cable, wiring, connectors, plates and other material at the Project site per the Integrator's approved designs. The Audiovisual Integrator shall install any owner furnished equipment identified in this document and calibrate it to work with the integrated systems.
 5. **Testing and Adjustment:** The Audiovisual Integrator shall perform all tests and adjustments, furnish all test equipment necessary and perform all work required to properly configure the systems and to verify their performance in accordance with the information in this Specification and the Integrator's approved engineered designs. Completed Testing check-lists will be provided to the CM for review and approval by the Audiovisual Consultant.
 6. **Acceptance Testing:** Prior to Owner acceptance and hand-over of the completed Audiovisual Systems, the Audiovisual Integrator shall demonstrate the operation of the complete systems, including all individual devices and specified control functions. Both subjective and objective tests may be required by the Owner to determine compliance with the information in this Specification and the Integrator's approved designs. Prior to the Audiovisual Consultant performing their system acceptance, completed Integrator testing reports will be provided showing all systems are in complete operation.
 7. **Training:** The Audiovisual Integrator shall provide technical training of Owner's staff, instructing them on Audiovisual Systems operation, maintenance and troubleshooting.
 8. **Warranty:** The Audiovisual Integrator shall warranty the Audiovisual Systems in accordance with the terms of this Specification.

1.2 DEFINITION OF TERMS

- A. Definitions of the terminology used in this Specification are as follows:

1. **Owner or Client:** shall refer to the **Inland Empire Utilities Agency (IEUA)**, or their designated representative.
2. **Construction Manager (CM):** shall refer to **IEUA Engineering Department**
3. **Contractor:** shall refer to the **Awarded contractor** and any of its sub-contractors.
4. **Bidder:** shall refer to any party proposing to provide the services and material delineated in this Specification
5. **Bid:** shall refer to a Bidder's proposal to provide the services and material delineated in this Specification
6. **Audiovisual Consultant (Audiovisual Consultant, Consultant):** shall refer to **Vantage Technology Consulting Group**
7. **Audiovisual Integrator (Audiovisual Contractor):** The awarded contractor for this scope of services.
8. **Audiovisual Specification (Specification):** shall refer to the complete set of designs, performance and delivery requirements delineated within this document and all referenced documents
9. **Audiovisual System (AV System):** shall refer to the complete compliment of equipment, software and other material that upon completion of assembly, installation and configuration provides the full functionality and technical performance delineated in this Specification
10. **Audiovisual Equipment (AV Equipment):** shall refer to any and all individual equipment items and OFCI equipment items installed as a part of the Audiovisual System
11. **Work:** Design and provision the Audiovisual Systems and associated equipment, software and services for the Project
12. **Construction Documents:** shall include all documentation associated with the design and general construction of the Project, including this Specification
13. **Provide:** Supply, deliver, install, test, configure, label, and commission.
14. **Manufacturer:** shall refer to the original manufacturer of any equipment provided as part of the Work
15. **Commissioning Date:** shall refer to the date at which a system is formally accepted by the Owner
16. **OFCI:** Owner Furnished, Contractor installed.
17. **CFCI:** Contractor Furnished, Contractor installed.

1.3 PRELIMINARY SCHEDULE

- A. Refer to the included construction schedule for key project milestones.

1.4 REGULATORY REQUIREMENTS

- A. The Audiovisual Integrator shall obtain any permits and shall pay all fees required by public agencies having jurisdiction over the Work.
- B. All products and materials provided shall be listed by Underwriters Laboratory (UL) and shall bear the UL label intended for the purpose specified and indicated. If UL has no published standards for a particular item, then other national independent testing standards shall apply and such items shall bear those labels.
- C. All equipment and installations under this Specification shall conform to the following:
1. ANSI/NFPA 70 - National Electrical Code.
 2. ANSI/IEEE C2 - National Electrical Safety Code
 3. TIA/EIA Standards 568-B, 569 and 607
 4. IEEE/ANSI 142-2007 - Recommended Practice for Grounding of Industrial and Commercial Power Systems.
- D. The Audiovisual Integrator and their employees shall perform all work in compliance with current Occupational Safety and Health Administration (OSHA) guidelines and regulations and other safety and health requirements as may be mandated by the Owner, the Construction Manager or other authorities.
- E. The Audiovisual Integrator shall have a thorough knowledge of governing codes and standards in effect and having jurisdiction over the Project. Lack of awareness of any of the relevant codes and standards will not be accepted as a reason for non-compliance.
- F. The Audiovisual Integrator shall be responsible for providing cable and materials that comply with applicable codes and requirements of regulating bodies. The cost for these materials shall be included in the Bid price, as the Owner shall not accept change orders for changes in materials.

1.5 COORDINATION OF RELATED WORK BY OTHERS

- A. The Audiovisual Integrator shall coordinate with the Construction Manager to ensure proper integration and operation of the Audiovisual Systems with the complete Project designs, building systems and all other elements of the Project. The Audiovisual Integrator shall coordinate with, Construction Manager and complete project Construction Documents to help facilitate effective coordination of the work with the work of other trades.
- B. Some components of the complete Audiovisual Systems will be provided by the GC, its sub-contractors or the owner. It shall be the responsibility of the Audiovisual Integrator to coordinate with all parties whose work impacts the Audiovisual Integrator's work to ensure the complete coordination and successful implementation of the Audiovisual Systems. Related work by GC shall include, but may not be limited to, the following:
1. Millwork and Cabinetry: All millwork and cabinetry modifications required to accommodate the installation of Audiovisual Systems, equipment and related cabling and connections, except as may be individually identified in the Specification, shall be provided by Contractor.
 2. Owner Furnished Equipment (OFE): Some equipment that will become a part of or connect to the Audiovisual Systems may be provided by the Owner and shall be designated as Owner Furnished Equipment (OFE). Owner Furnished Equipment shall be provided by the Owner and supplied to the Audiovisual Integrator for

connection, installation and/or integration into the Audiovisual Systems as delineated in the Audiovisual System designs and these Specifications. This may include new or existing equipment. The Audiovisual Integrator shall be responsible for coordinating with the Owner to ensure that all Owner Furnished Equipment is fully operational and compatible with other Audiovisual Equipment and that it is made available to the Audiovisual Integrator in a timeframe that does not delay the Audiovisual Integrator's work.

3. Information Technology Systems: Unless otherwise specified, all data networking cabling and active electronics shall be provided the Contractor as specified in sections 271000 and 275320 in the Contract Documentation. The Audiovisual Integrator shall be responsible for coordinating with the Owner or the Owner's designated representative regarding connections between the Audiovisual Systems and the Owner's data network, including all client/server computing and peripherals, Internet, digital video storage and other data/media distribution systems.
4. Paging and life safety: When required, interfacing the Audiovisual System(s) to the paging or life safety systems may be required. The Audiovisual Integrator shall be responsible for coordinating with the Contractor or the Owner's designated representative regarding connections between the Audiovisual Systems and the Paging or Life Safety system.

C. Electrical (AC) Power Service and Connections

1. Technical Power Service: All electrical panels, power receptacles, lighting fixtures, dimmers, lighting controls, and interconnecting wiring shall be supplied by Construction Manager.
2. The Audiovisual Integrator shall extend AC power circuits and insulated ground wires into each equipment rack. This work must be done by a qualified electrician, licensed in the jurisdiction of this project, and under direction from the Audiovisual Integrator.

D. Low Voltage Cable Containment

1. Low voltage cable containment, including raceways, conduits and junction boxes, required to support Audiovisual System devices and interconnecting cabling shall be as specified in the Construction Documents and shall be provided the Contractor.
2. Upon commencement of work on the Project the Audiovisual Integrator shall review the Construction Documents to confirm that the infrastructure provided is sufficient to accommodate the Audiovisual Systems to be installed. Any conflicts or issues must immediately be brought to the attention of Construction Manager and the Audiovisual Consultant.
3. The Audiovisual Integrator shall provide blank cover plates or panels for all floor, wall and ceiling boxes that are dedicated to the Audiovisual Systems but do not have devices and/or connectors at the time of Audiovisual System commissioning. Colors and types shall be coordinated with the Construction Manager. Devices and plates for other trades (HV power, voice/data, and security) within the AV floor boxes are by the contractor.

E. Low Voltage Cabling and Termination

1. All audio, video, control and other low voltage cabling associated with the Audiovisual System shall be provided, installed and terminated by the Audiovisual Integrator utilizing the cable containment infrastructure (e.g. conduit, raceways, junction boxes, etc.) provided by contractor as noted on the Construction Documents.
2. The Audiovisual Integrator shall provide all patch cords and other cable assemblies required to connect Audiovisual Equipment to voice/data outlets and any other required system or network inputs or outputs.
3. Where cable installation is required, this will include wall and/or floor jacks, plates and terminations at all room devices, and service loops at patch bay locations shall be provided by the Audiovisual Integrator.

F. Equipment Mounting and Support

1. Structural support for ceiling mounted video projectors, wall mounted monitors and other Audiovisual Equipment shall be provided the Contractor as noted and detailed in the Construction Documents. The Audiovisual Integrator shall coordinate with the Construction Manager and other trades as necessary to ensure compatibility of the structural supports provided by the Audiovisual Equipment provided by the Audiovisual Integrator.
2. The Audiovisual Integrator shall install all Audiovisual Equipment, including display mounts, as indicated in this Specification and the Construction Documents. The Audiovisual Integrator shall verify location and structural suitability before attaching equipment and mounts. Any variations from the drawings and specifications or any question of structural integrity shall be brought to the attention of the Construction Manager, the Construction Manager and Audiovisual Consultant before installing the equipment.

G. Audiovisual System Connections to Building Systems and Controls

1. Building systems and controls provided by the GC or Owner that may be interconnected to the Audiovisual System shall include environmental controls, fire and life safety, and security systems. Where required, interconnection between these systems and the Audiovisual System is designated in these Specifications and in the Construction Documents, including requirements for low voltage interface electronics. The Audiovisual Integrator shall verify that all required system components and interfaces are specified and provided in order to enable the functional performance described in this Specification.
2. The Audiovisual Integrator shall coordinate with the Construction Manager to verify that all devices and controls to be interconnected to the Audiovisual System are functioning properly prior to commencing interconnection to the Audiovisual Equipment.
3. The Audiovisual Integrator shall investigate all hardware and software control conflicts between the building systems and the Audiovisual Equipment before interconnecting the building systems. Report any conflicts, potential or existing, to the Audiovisual Consultant, in writing, before interconnecting the systems. Damage caused to any base building systems due to the improper connection of Audiovisual Equipment shall be the sole responsibility of the Audiovisual Integrator.
4. The Audiovisual Integrator shall select and install the appropriate cable type to facilitate device communication from the Audiovisual Equipment to interconnected building systems.
5. The Audiovisual Integrator shall coordinate with the Construction Manager to verify proper operation of the connected Audiovisual Equipment and the building systems after interconnecting the systems.

1.6 REFERENCES

- A. The following documents provide information regarding audiovisual industry "best practices," including commonly accepted standards for design, installation, and performance of integrated audiovisual systems. The technical quality of the Audiovisual Integrator's work and the resulting performance of the Audiovisual Systems installed in the Project will generally be measured against the standards and practices delineated in these References.
1. Audiovisual Best Practices: The Design and Integration Process for the AV and Construction Industry, Timothy Cape and Jim Smith; Fairfax, VA; International Communications Industries Association, 2005
 2. ASTM Task Group E33.04C, Acoustical Environment in the Open-Plan Office, Atlas-Soundolier, Addendum, May 1994
 3. Dashboard for Controls Design Reference, InfoComm International® <http://www.infocomm.org>

4. Dashboard for Controls Integrators Guide, InfoComm International®
<http://www.infocomm.org>

1.7 PROJECT / SITE CONDITIONS

- A. Refer to Division 1 of the Construction Documents for coordination with other trades on this project.
- B. Coordinate all access to the site at all times with the Construction Manager.
- C. Adhere to the safety standards established by the Construction Manager while performing work on site.
- D. All employees of the Audiovisual Integrator shall wear identification clearly indicating the Audiovisual Integrator's company name while on site.
- E. All employees of the Audiovisual Integrator shall comply with rules and policies established by the Owner and/or the Construction Manager.
- F. All vehicles of the Audiovisual Integrator or employees shall be parked in areas designated by the Owner and/or the Construction Manager.
- G. The Audiovisual Integrator will store equipment in a manner that will not interfere with the work of the GC or its sub-contractors, or Owner. Coordinate secured storage on site with the Construction Manager.
- H. Do not install equipment in dusty conditions or allow dust to accumulate in or on installed Audiovisual Equipment.
- I. Protect all work and equipment from damage by others.
- J. Protect all existing work-in-place by others from damage by the Audiovisual Integrator, the Audiovisual Integrator's agents and/or sub-contractors, or any employees or vendors. The Audiovisual Integrator will be solely responsible for any/all damage to work-in-place by others.
- K. Keep areas around and inside of each piece of equipment and each rack free from dust, dirt and debris throughout the project. Equipment that is not properly maintained during installation shall be replaced at no cost to the Owner before final payment is made to the Audiovisual Integrator.
- L. All Audiovisual Integrator equipment and materials and all owner furnished equipment turned over to the Integrator stored at the Audiovisual Integrator's facility(s) or stored and/or installed at the Project site will remain the property of the Audiovisual Integrator unless ownership is legally transferred and accepted in writing by the Owner. The Audiovisual Integrator shall be solely responsible for the protection of all equipment from damage, theft or vandalism regardless of cause, until the work described herein is accepted by the Owner at the time of Final Checkout.

1.8 ENVIRONMENTAL IMPACT CONSIDERATIONS

- A. The Audiovisual Integrator is encouraged to utilize environmentally sustainable materials and work practices wherever possible in the delivery of the Work.
- B. Audiovisual Integrator is expected to supply documentation on in-house policies for recycling and environmental offset goals. This may consist of (but not be limited to):
 1. Local sourcing of materials to minimize transportation impact.
 2. Utilizing materials and processes that minimize waste and environmental impact.

3. Work with manufactures and suppliers with established business practices that minimize environmental impact and promote sustainability.
4. In-house and on-site recycling plans.
5. In-house and on-site hazardous material disposal plans.
6. On-site installation team car-pooling.
7. Environmental education and policy promotion policies to employees, suppliers.
8. Encouraging active participation of employees and others in environmental practices in both the work place as well as in daily lives.
9. ISO 9000:2001 and/or ISO 14001 certification(s).
10. Internal monitoring and evaluation processes.

1.9 REQUIREMENTS SPECIFIC TO THIS PROJECT

- A. Disposal: Bidder to de-install and remove/dispose of all identified equipment in coordination with IEUA Facilities Department through an eWaste (or approved equivalent) program. The Facilities group will inventory all equipment to be disposed of and provide list to successful bidder upon award of contract.
- B. Programming & Commissioning: All programming and video/audio system commissioning will be done through an approved and certified third party group as a sub-contractor to the AV Integrator. An example firm with experience and certifications is Front Side Solutions, Block-O-Matic, etc. (contact information listed below). Services to include (but not be limited to within agreed scope of services to AV Integrator):
 1. Control panel Graphic User Interface (GUI) design and submittals (including web-emulation pages / PC GUI & iPad GUI emulation pages)
 2. Audio panel and DSP layout and programming GUI design and submittals (including web-emulation pages / PC GUI & iPad GUI emulation pages)
 3. AV system control programming and testing for all scope functionality
 4. Digital Media™ system implementation, testing and commissioning
 5. Verification of projection image alignment & rear projection physical configuration (installation and configuration services provided by manufacturer install groups)
 6. 4K signal management
 7. Audio tuning in DSP for all audio related items
 8. Final system commissioning & testing
 9. Other services the Audiovisual Integrator wishes to include (negotiated terms between parties)
- C. Contact information:

Chris Russell / Daryl Lovato
Front Side Solutions, Inc.
Direct: 714.914.5295
chris@frontsidesolutions.com

Michael Block
Block-O-Matic
Direct: 714.943.3319
michael@block-o-matic.com

1.10 SUBMITTALS

A. General Submittal Requirements

1. A submittal package consists of all items (forms, lists, drawings, etc.) specified for that submittal.
 2. All specified items for each submittal shall be provided at the same time. Partial or incomplete submittals will be rejected.
 3. Product Submittals shall be issued no sooner than three (3) months prior to scheduled substantial completion date of the building.
 4. Unless directed otherwise in writing by the Audiovisual Consultant, the Audiovisual Integrator is not authorized to proceed with the acquisition, assembly or installation of any systems or components until all required submittals have been approved by the Audiovisual Consultant. Any acquisition, assembly or installation of any systems or components without Audiovisual Consultant's approval will be subject to removal at the Audiovisual Integrator's expense.
 5. The Audiovisual Integrator shall coordinate with Audiovisual Consultant prior to the delivery of each submittal to obtain the proper quantities of submittals to each recipient.
 6. Unless otherwise instructed, the Audiovisual Integrator shall provide three copies of all submittals.
 7. Product cut sheets shall be submitted electronically on one compact disc with a separate "table of contents" listing all of the cut sheets included.
 8. Product cut sheets shall accompany all requests for product substitutions.
 9. Audiovisual Consultant will notify the Audiovisual Integrator if any sample products are required for fit or finish coordination. Samples shall be provided by the Audiovisual Integrator upon request and at no additional cost to the Owner.
10. Drawing Formatting Requirements
- a. Shop Drawings shall be numbered consecutively and shall accurately and distinctly present the following information:
 - (i) Title Sheet
 - (ii) Single-Line/Block Diagrams showing signal relationships of all controls and devices within the system.
 - (iii) Necessary details, including complete information for making connections between work under this Contract and work under other Contracts.
 - b. Formatting of shop drawings and other drawing submittals shall include the following:
 - (i) Title Block with;
 - (ii) Project name and address, Project Number and Drawing Name.
 - (iii) Sequential number of submittal
 - (iv) Date of submittal
 - (v) Name and address of the Audiovisual Integrator
 - (vi) Drawing Scale
 - (vii) Critical dimensions at accurate scale
 - (viii) Submittal date and space for revision dates.
 - (ix) Identification of equipment, product or material.
 - (x) Name of Supplier / Manufacturer.

- (xi) Physical dimensions, clearly identified, where applicable.
 - (xii) Specification references.
 - (xiii) Identification of deviations from the Contract Documents, if necessary.
 - (xiv) Audiovisual Integrator 's stamp, initialed or signed, dated and certifying to review of submittal, certification of field measurements and compliance with Contract.
- c. The Audiovisual Integrator's drawings shall clearly identify the specific equipment make and model number(s) as well as specific Audiovisual System configuration and installation requirements as noted below.
- (i) Type fonts must be legible (minimum 1/16" on 11x17 prints) and must be exportable to .DWG or .DXF format.
 - (ii) Plans indicating Audiovisual Equipment layouts shall be scaled to be not less than 1/8" = 1'-0". Details for particular equipment mounting shall be scaled to be not less than 1/4" = 1'-0".
 - (iii) Background CAD files (in .DWG format) of the building will be made available to the Audiovisual Integrator if requested.
 - (iv) Audiovisual Consultant assumes no responsibility for errors and/or omissions due to electronic translation of CAD file formats.
 - (v) Prior to being issued electronic Project documents the Audiovisual Integrator shall warrant in writing that any electronic files given to the Audiovisual Integrator for use on the Project will be used only for the Project, and that any intellectual property originated, copyrighted and/or owned by others is for use only on this Project.
 - (vi) Any building plans or drawings originated by others and reproduced by the Audiovisual Integrator in their documentation shall be labeled with "Audiovisual Integrator Shop Drawing" and the names and stamps of others shall be removed.
11. All submitted drawings shall include information listed in Appendix A – AV System Functional Diagrams
12. Refer to the Audiovisual Systems drawing package for functional system diagrams and additional system configuration specifications.
13. Weekly Status Reports
- a. The Audiovisual Integrator shall provide weekly progress updates to the Construction Manager and Audiovisual Consultant. Weekly Status Reports shall be submitted as directed by the CM via faxed hard copy or electronic means (i.e. email). Issuance of Weekly Status Reports shall commence from the date of the first submittal delivery and shall continue until contract closeout.
 - b. The Weekly Status Report shall not be used as an official means of communicating Project issues. It does not replace any part of a required submittal, request for information, proposed change order, report of field conditions, schedule issues, etc. No official response will be given to the Weekly Status Report.
 - c. A representative of the Audiovisual Integrator shall attend the weekly construction meeting at the job site. This representative shall be fully knowledgeable in all aspects of the Project and the Audiovisual Integrators work and shall have the authority to make binding commitments on behalf of the Audiovisual Integrator.

B. Project Commencement Submittals

Immediately upon award of contract and authorization to proceed with the Work, the Audiovisual Integrator shall commence initial planning and coordination. Project Commencement Submittals required upon commencement of the Work shall include, but not be limited to, the following:

1. Project Plan

- a. Provide a complete and detailed Schedule for the Audiovisual Integrator's work describing the major tasks, sequence of work, submittals and other critical milestones. At a minimum the tasks noted in the Schedule shall include all required submittals, rack assembly and shop testing, on-site cable installation, periodic shop and site visits, on-site equipment installation, testing and commissioning, Substantial Completion and Project Completion. Indicate the sequence of installation and completion by room and/or system. The Schedule shall also include anticipated dates of acquisition of major equipment and their installation milestones.
 - b. Provide a complete listing of the Audiovisual Integrator's project team, including the names and all contact information (email address, cell phone, etc.) for all personnel assigned to the Project. At a minimum this Project Team Directory shall include the Audiovisual Integrator's executive in charge of the Project as well as the Project Manager, Lead Engineer and Lead Installer. Include names and contact information for all sub-contractors.
2. Listing of Long Lead Time Equipment
- a. The Audiovisual Integrator shall submit a list of long-lead items including OFCI items. These are items that may be necessary to order ahead of the submittal and approval sequence in order to avoid adversely impacting the project schedule. Do not include equipment that will be ordered within the scheduled submittal and approval process.
 - b. The Audiovisual Integrator shall use reasonable judgment in determining which products are legitimate long-lead items. Failure to include an item that may require long procurement lead time shall not relieve the Audiovisual Integrator of responsibility for furnishing the item to meet the agreed Schedule.
3. Sample Drawing
- a. The Audiovisual Integrator shall present to the Audiovisual Consultant a Sample Drawing illustrating the Audiovisual Integrator's standard drawing conventions and detail methodology for system engineering and other shop drawings. The intent of the Sample Drawing submittal is to ensure that the general format and nature of the Audiovisual Integrator's shop drawings complies with the expected standards of professionalism prior to the Audiovisual Integrator developing and submitting the complete documentation for the Project.
 - b. The Audiovisual Integrator shall submit two (2) sets of sample drawings for Staff Development Conference Classroom 211 (reference drawing AV501). Include all information required in Paragraph 1.10A.10.

C. Engineering Submittals

The Audiovisual Integrator shall present documentation delineating the complete requirements for Audiovisual System engineering, fabrication, assembly, installation, commissioning and testing. Engineering Submittals shall be presented to the Audiovisual Consultant for review, comment and approval prior to commencing further work. Engineering Submittals shall include, but not limited to, the following:

1. Equipment List (to be submitted in the form of Appendix A)
2. Audiovisual System Shop Drawings
 - a. At a minimum, Shop Drawings shall include the following:
 - (i) Single-line system design diagrams
 - (ii) Equipment rack elevations
 - (iii) Custom fabrication drawings
 - (iv) Wiring diagrams of all equipment, with types and model numbers specified under these Contract Documents.

- (v) Fully dimensioned housing and mounting drawings, including information on finishes.
- b. Additionally, Audiovisual System Shop Drawings shall include the following:
 - (i) Drawings, diagrams or other information providing evidence of Audiovisual System design compatibility with the architectural, infrastructure and building systems designs delineated in the Project Construction Documents
 - (ii) Critical points of coordination with other trades
 - (iii) Specific notation of critical field measurements at accurate scale
 - (iv) Identification of specific products and materials used
 - (v) Cross references for all related Construction Documents (e.g. drawings, detail numbers, specification sections, etc.)
 - (vi) Reference to room numbers and room names where Audiovisual Systems are to be installed
- c. All sheets shall be the same size, oriented the same direction, and shall be bound, not folded. All information required in Paragraph 1.10A.10 and corrections provided in the approved sample drawing shall be included.

D. Control System Software Submittals

1. Control System Software consists of the following two primary components:
 - a. Control System Graphical User Interface (GUI)
 - b. Control System Processor Software
2. In order to develop Control System Software that is functional and understandable by the intended users it will be necessary for the Audiovisual Integrator to provide "working" copies of software for review and comment by the Owner and the Project team as it is being developed.
3. The software programming process must be an iterative process that includes a minimum of three (3) iterative submittals prior to first beneficial use. The following table is provided to help facilitate the software development process:

Deliverable	Notes	Due
Initial Submittal	Listing of individual device control functions GUI logic flow diagram Static touch panel layouts Initial labeling of button panels	Due no later than one week after return of approved shop drawings
First Beta Review	Dynamic touch panel Layouts including page flips, pop-ups, feedback, etc to show operational relationships between pages	Due no later than two weeks after return of approved Initial Submittal
Second Beta Review	Interface updates and revisions Test of loaded working system (in shop or on site)	Due no later than three weeks after return of approved First Beta Review submittal
Implementation / On-site Testing	Loading of live code into working systems	Prior to Substantial Completion
Completion	Follow-up programming review and minor modifications based on user feedback	60 days after Final Acceptance

E. Substantial Completion Submittals

Substantial Completion of the Audiovisual System installation shall be the point at which all Audiovisual Equipment has been installed, programmed, configured and initially tested to confirm proper operation. The point of Substantial Completion shall be as mutually agreed between the Audiovisual Integrator and the Audiovisual Consultant following discussion and observation. At the point of agreed Substantial Completion, the Audiovisual Integrator shall submit the following:

1. Testing Report

- a. Perform electrical and electronic tests and present documented results as noted in Paragraph 3.3C and 3.3D. Provide results to Audiovisual Consultant before scheduling the Preliminary Checkout.
- b. Submit test results in a table format stating test description, acceptable result value and measured value (result). Clearly show all values not in acceptable value ranges.

2. Preliminary Project Record Documents Submittal

- a. Upon Substantial Completion the Audiovisual Integrator shall submit Preliminary Project Record Documents to the Audiovisual Consultant. Preliminary Project Record documents shall be submitted prior to the Preliminary Checkout.
- b. Preliminary Project Record Documents shall include:
 - (i) Corrected/updated shop drawings
 - (ii) Updated Equipment List in the form of Appendix A
 - (iii) Half-size drawings modified to reflect the actual installation conditions
 - (iv) CD-ROM with manufacturers' operation manuals arranged alphabetically and current drawings in .DWG format
- c. Consultant's Preliminary Checkout will be scheduled after the Preliminary Project Record Documents and Test Reports have been approved.

F. Final Acceptance Submittals

Prior to Final Acceptance the Audiovisual Integrator shall submit the following:

1. Hardcopy Project Record Documents

- a. Product Information Binders which shall consist of all product literature, manuals, software and other material provided by equipment manufacturers with the Audiovisual Equipment. Material shall be assembled in the binders with section dividers and a table of contents.
- b. Warranty documentation including warranty start and end dates for each individual piece of equipment provided.
- c. Explanation of procedures for obtaining telephone support and on site service during Audiovisual Integrator's warranty period.
- d. Recommended dates for the preventive maintenance service calls.
- e. Final Equipment List with itemized listing by room/system, including serial number for each item.
- f. Electrical and electronic test results.

- g. Key schedule with three copies of each key required for operation of the systems, equipment racks, etc.
 - h. One (1) half-size set of all Audiovisual System design drawings revised to reflect "as-built" conditions.
 - i. One (1) full-size set of all Audiovisual System design drawings revised to reflect "as-built" conditions.
2. Electronic documentation on CD-ROM(s) to include:
- a. Back-up of Audiovisual Control System software code (e.g. user interface software and control processor program). Un-compiled source code shall be submitted in both soft copy and printed out in hard copy documentation. Copies (hard and soft) of the software are to be included in the systems manuals.
 - b. Copies of all custom or purpose-created software, including original source code.
 - c. All software shall be written with remark statements to document function of sub-routines, macro's and program requirements.
 - d. All control, DSP and specific device application software.
 - e. All final software configuration and final set-up settings.
 - f. Final equipment list with warranty and serial number information.
 - g. Record Drawings in PDF format.
 - h. Record Drawings in .DWG format.

G. Submittal Checklist

The checklist below is intended to aid the Audiovisual Integrator in the compilation of the various submittals required for the Project.

ITEM / QTY DUE PER SUBMITTAL	Project Kickoff		Design	Substantial Completion		Project Complete
	Project Plan	Long Lead Items	Full Project	Test Reports	Prelim Project Record	Final Project Record
Project Schedule	3					
Team Contact Information	3					
Long Lead Equipment List		3				
Sample Drawing Set						
Complete, Current Equipment List			3		1	3
Test Results Report				1		3
Checkout Checklists				1		3
Complete, Current Full-Size Drawing Set			3			3
Complete, Current Half-Size Drawing Set					1	3
Warranty Statement						3
Owner's Manual (Hardcopies)						3
All Control Code (GUI & Program) on CD					1	3
All Drawings (.pdf & .dwg) on CD					1	3
All Owner's Manuals on CD						3
Equipment List w/Serial Numbers & Warranty Expiration Dates on CD						3
Equipment Application Software on CD						3
All Equipment Keys						<i>ALL</i>

1.11 WARRANTY & MAINTENANCE SUPPORT

A. Basic Warranty

1. Basic Warranty provided by the Audiovisual Integrator shall include repair or replacement for one year from Final Acceptance on all Audiovisual Equipment provided (including products having a manufacturer's warranty of less than one year) and all Audiovisual Integrator workmanship. Basic Warranty shall be provided at no additional cost, except in case of obvious abuse. Consumable items such as lamps, batteries, etc. are not covered by Basic Warranty. Manufacturers' warranties on Audiovisual Equipment of more than one year shall remain in force beyond the Audiovisual Integrator's Basic Warranty period.
2. During the Basic Warranty period the Audiovisual Integrator shall:
 - a. Provide telephone support within 4 hours of a call requesting service.
 - b. Provide on-site support within 24 hours of a call requesting service not corrected by telephone support.
 - c. Repair or replace faulty items within 72 hours of on-site service or within manufacturers' specific repair program whichever is quicker.
3. Audiovisual Integrator shall not involve the Owner with removing, re-installing equipment, shipping or receiving equipment being repaired under Basic Warranty, nor shall the Owner be responsible for any shipping or freight charges associated with any item under warranty.
4. Audiovisual Consultant and the Owner shall be copied with all paperwork related to any and all warranty work during the Basic Warranty period.
5. The Basic Warranty period will commence no sooner than the date of first beneficial use by the Owner and no later than the date of contract closeout.

B. Day-One Support

1. As part of the warranty, training and installation completion, the Audiovisual Integrator will provide on-site presence on the first day of critical move-in and operation to support the staff and instructors in equipment use. This date will be coordinated with the Owner and the CPM for reasonable staffing requirements. Typically, this will require one certified technician to be present to resolve and issues that may arise and to provide basic operational support in the early usage stages. Programming support should be on stand-by to help resolve more complex issues as they arise.
2. All programming resources (code, software, configuration files, etc.) shall be made available to on-site technicians

C. Preventative Maintenance

1. Within the term of the one-year Basic Warranty period the Audiovisual Integrator shall provide, at no additional cost, periodic Preventative Maintenance on the installed Audiovisual System to ensure proper ongoing maintenance and operation.
2. A minimum of four (4) Preventive Maintenance visits shall be provided.
3. Preventative Maintenance shall include, but not be limited to, the following:
 - a. Adjustments to video projectors; checking projector lamp life and replacing lamps (using only spare lamps provided under this contract) if usage exceeds 85% of projector manufacturer's lifecycle rating

- b. Cleaning tape heads
 - c. Checking audio system settings
 - d. Reviewing control system functionality
 - e. Any other maintenance and adjustments necessary to ensure that the Audiovisual System is in proper working order
4. Any problems or issues noted by the users or other Owner representatives shall be documented and completely resolved at each of the scheduled visits.
 5. Preventative Maintenance Schedule
 - a. 90 days (± 15 days) after the commencement of the Warranty Period.
 - b. 180 days (± 15 days) after the commencement of the Warranty Period.
 - c. 270 days (± 15 days) after the commencement of the Warranty Period.
 - d. 20 days (± 10 days) before the end of the Warranty Period.

D. Extended Warranty

1. The Audiovisual Integrator shall provide an optional Extended Warranty that covers the terms in both the Basic Warranty and Preventative Maintenance sections but will extend those services beyond the first year coverage.
2. The Audiovisual Integrator shall provide price-break pricing for extending into the second, third, fourth and fifth consecutive years of system operation as well as a per annum renewal for extending after the initial year of coverage.
3. This pricing is included as an option to the Owner.

E. Extended Warranty

The Audiovisual Integrator may elect to propose to the Owner the offer of Extended Warranty coverage for the Audiovisual Systems. Extended Warranty shall be any optional warranty services offered by the Audiovisual Integrator and accepted by the Owner that expand on and complement the Basic Warranty coverage required by this Specification. Any provisions of Extended Warranty coverage shall not release the Audiovisual Integrator from responsibility for performance of all requirements under the Basic Warranty coverage.

F. Software Support

The Audiovisual Integrator shall also offer an annual Software Maintenance contract. This shall cover all software provided as part of this system and/or written for this system, and shall include both routine upgrades to applications and operating systems, as well as any modifications to software that may be required by the Owner. The Software Maintenance contract shall commence immediately after expiration of the warranty period and continue for three years. Maintenance visits will be four times per year and shall be scheduled to coincide with the periodic system maintenance of the system (See next section for terms of the Warranty).

PART 2 - GENERAL

2.1 AUDIOVISUAL SYSTEM FUNCTIONAL REQUIREMENTS

A. General

1. The information provided in this section describes the basic functional capabilities and operational requirements of the Audiovisual System(s) installed in the Project. Descriptions are provided by individual area where applicable. The table below indicates rooms that are in and out of scope as well as with associated infrastructure and system plan references.

Room Description/Name	Room #	Arch. Dwg # (Ref.)	System Dwg # (Ref.)	Units
Boardroom		N/A	AV501	1
Anza Conference Room		N/A	AV502	1
Event Conference Room		N/A	AV503	1
RP-1 Conference Room		N/A	AV504	1
Basin Conference Room Ceiling Document Camera		N/A	-	1
Wetlands Park Interpretive Center		N/A	AV505	1
Room Reservation System		N/A	-	12
Remote Management System		-	-	1

2.2 ADDITIVE ALTERNATES

- A. None.

2.3 GENERAL

- A. Acceptable products are listed below categorized by type of equipment. Quantities are listed for movable, portable or loose equipment, and other selected entries. Where quantities are not listed, refer to the system drawings and provide quantities as necessary to deliver the specified functionality.
- B. All products shall be new and under manufacturer’s warranty at the time of installation. B-stock, previously installed, refurbished or used equipment shall not be provided on this project.
- C. Manufacturers/vendors of some specified Audiovisual Equipment may provide “master quotes” specific to this Project. The Audiovisual Integrator shall be responsible for providing all Audiovisual Equipment required to deliver the specified functionality, including any items that may be missing from manufacturer/vender master quotes.
- D. Where the Specification lists several manufacturers for a major item, or group of items, the Audiovisual Integrator shall provide all of those items from one manufacturer (i.e. all Type A loudspeakers shall be brand “X” not a combination of brands “X” and “Y”).
- E. The Audiovisual Integrator shall provide all options, accessories and hardware necessary to meet the functionality of the design even if all components are not specifically listed (i.e. rack mount kits, separate or additional power supplies, input modules, transformers, special or longer power cords, AV adapters or break-out cables, etc.).
- F. Computer interface cabling shall be provided by the Audiovisual Integrator as part of the Audiovisual Systems. The Audiovisual Integrator shall provide all cabling necessary to connect wall and rack mounted computer and

laptop audio and video interfaces to Owner Furnished (OFCI) laptop and desktop computers as specified in this document including extension patch cords for integrated network pass-through adapters.

- G. The Audiovisual Integrator shall be responsible for providing all miscellaneous material required to provide the complete integration of all computer equipment into the Audiovisual System and into the architectural environment. With the aim of providing clear and simple user connection of computers to the Audiovisual Systems, the Audiovisual Integrator shall observe the following requirements:
1. The Audiovisual Integrator shall securely attach any applicable interface electronics in a position that provides easy access for connection of signal cables as well as adjustments and service of the electronics by system maintenance personnel. No loose equipment will be accepted unless specifically directed otherwise.
 2. All computer video connections at the end user positions (e.g. laptop connections shall utilize standard VGA-type (15-pin HD) signal connections and HDMI connections unless indicated otherwise on the dwgs.
 3. Where necessary, the Audiovisual Integrator shall provide breakout cable(s) to convert the computer output connections to the appropriate input connections at the computer interface, switcher or other designated device.
 4. Computer interface connections shall accommodate audio signal connections with corresponding computer video signals.
 5. Provide any required extension patch cords for integrated network pass-through adapters on computer workstation interfaces or connector panels.
 6. Clearly label all connection points and cables.
 7. All power and signal cables shall be neatly routed and dressed with removable tie straps (e.g. Velcro) or other means for securing loose cables when not connected or not in use.
- H. Model numbers listed are believed to be current and correct as of the preparation of this specification. All equipment shall be current models as of the time of installation. Should listed models become obsolete, they shall be replaced with the manufacturers' direct or recommended replacement.
- I. The Audiovisual Integrator shall coordinate with the Owner for the settings of the OFCI tuners/set-top-boxes (within this project scope) to make appropriate settings for the equipment including (but not limited to):
1. Power Saving Mode – OFF
 2. Resolution – 1080P
- J. Audiovisual Integrator shall set all TVs (as applicable) within this project scope to:
1. 3D display – OFF
 2. Control to remain on during standby mode

2.4 MASTER QUOTE INFORMATION

- A. Refer to current version of Crestron master quote for specific project pricing.
- B. Refer to current version of DWI Enterprises master quote for specific podium design and pricing.
- C. Refer to current version of Draper Inc. master quote #525028 for specific project pricing on screen and rear projection system.

- D. Refer to current version of Front Side Solutions (FSS) master quote for specific project programming & commissioning pricing and complete listing of services and support. Refer to section 1.9 for additional scope information.

2.5 ROOM DESCRIPTIONS

A. Boardroom

1. Refer to drawings AV501A-E for signal flow diagram, rack elevation and room details.
2. The Boardroom will be used for general public presentations and official IEUA meetings. Audiovisual capabilities in the room will support the use of audio, video and computer based media for official presentations via a single large rear projection screen and high-resolution projector. Audio reproduction shall be by using ceiling recessed speakers for presentation materials and audience voice support. Media sources will be located in dedicated and secure AV equipment racks located within the rear projection closet.
3. Within the front dais, a total of 13 viewing monitors will be set in recessed wells with adjacent gooseneck microphones at twelve of the positions (the Clerk station does not receive a microphone). The Clerk position will accommodate a local OFCI PC and monitor as well as the main touch control panel.
4. Video (and source audio) routing shall be via a 32 in by 32 out digital video matrix switcher attached to the network. The switcher shall accommodate both digital and analog video sources (both in twisted pair extended signals and native / local connections) and shall output in both local HDMI and twisted pair extended signals to sync/display devices.
5. Control processor will be attached to client network and assigned a dedicated IP address (in coordination with the IT department). An OFCI 16-port network switch will be used to support multiple devices through the limited data ports. All base processing and control support equipment will be located in the rear room.
6. Digital sources will also be accommodated with both the rack and in the podium connections. Auxiliary connections at the podium surface will facilitate the connection of OFE portable laptop computers using HDMI or DVI-D outputs (as well as VGA). Provisions will be made for a secondary OFCI dedicated PC to be connected to the digital switcher within the rack, and a supplied shelf, and shall be used as a presentation source, as well as to support voting functions. The PC will be configured to include a dual DVI output to accommodate extended desktop through the remote digital switch. This will include support for a Bluetooth wireless keyboard and mouse via an included USB extender running from the rack to the ceiling projector. Space for a future OFCI HD CATV tuner is also included along with HDMI allocation on the system switcher.
7. Three new motorized pan/tilt/zoom/focus (PTZF) HD cameras and mounts will be included for broadcasting and recording sessions. There will be a camera located on each of the side walls and one on the rear wall. A HDMI-to-USB capture device will be included to route the selected camera feed in parallel to the rack PC for Skype™ sessions along with the room audio (both program and microphone) for a complete web-conference session.
8. A digital to analog transcoding device will be used to accommodate Apple computer encrypted signals to being distributed and shall be connected in line between the recording appliance content input and the video matrix switch output(s).
9. Control processor will be attached to client network and assigned a dedicated IP address (in coordination with the IEUA's IT department). An included network router will be used to support multiple devices through the limited data ports. The digital-audio signal processor (DSP) will have an analog phone line tied to a separate phone/communications port for telephone conference bridging use within the room.
10. Control of room shall be provided via a table mounted 15" wired desktop touch control panel at the Clerk's position. All media sources and display devices will be controlled through the control processor. Control

port expansion cards/modules will be included to accommodate all necessary devices to ensure proper turn-key system control of all AV components within the room. Control panel GUI will be coordinated with The IEUA to work with the standard color pallet and preferred functional layout for control pages. Control will include parallel connections for existing projection screen and shall integrate a new low voltage controller to interface with the wall switch as applicable. Control will include selection and control of multiple sources and routing to multiple destinations. Control programming will include the hooks for all functionality through a remote management system (Crestron Fusion) as well as parallel GUIs for both X-Panel (PC) and iPad control and operation.

11. The Digital audio Signal Processor (DSP) will be configured to accommodate the microphones (wired & wireless), audio sources and tele/video-conference signals (both mic level and line level). The DSP will be connected to the network for both control & remote configuration. Echo cancellation will be included and configured for all conferencing applications. Testing will be done to ensure levels will be equalized between outbound mic and source audio. Complete testing shall be done to ensure all levels will be equalized between outbound mic and source audio to and from codec. A mono output will used for both ALS feed, and for audio recording and streaming/broadcasting. Testing will occur to ensure speaker zones and recording/outbound levels are properly controlled based on room source audio and voice support. A mixed audio output feed (similar to the ALS feed) will be connected to the rack PC for incoming audio that can be used for Skype™ sessions.
12. Audio support in the room shall be via the reuse of existing ceiling mounted 70 volt speakers for voice reinforcement and presentation/program audio. Integrated RF-based assistive listening system (ALS) equipment for ADA support is provided within the rack with an extension antenna into the room. Voice lift/room reinforcement (if required by room size) and video / audio conferencing audio will be through ceiling speakers.
13. Two wireless combination handheld/lapel microphones will be included to be used for mobile presenters or for audience pass-around use. Wireless microphone antennas shall be extended from the rear room into the main Boardroom. Twelve wired desktop 18" gooseneck microphones at the key designated dais position. As well as one at the podium. Two wired handheld microphones shall be included with 48" tall adjustable microphone stands and 25' extension cables for special presentation use. At the podium, a wired 18" gooseneck microphone and shock mount will be included for standing presenters. All microphones will be type to shield resistant from radio frequency interference such as GSM cell phone signals. An RF-based integrated assisted listening system will be included to accommodate ADA requirements. This will include 4 wireless receiver units each with an over-the-ear adapter, 4 inductive loop lanyard adapters (for hearing-aid use), rechargeable batteries, RF antenna extension, a charging case(s) to accommodate all portable receivers and signage for ADA placement. Wireless ALS antennas shall be extended from the rear projection room into the main Council Room for maximum support and signal strength.
14. Two new equipment cabinets will be included to house all the room's central equipment. The two existing cabinets will be disconnected and removed and any identified equipment (per Section 1.9) shall be provided back to the IEUA for re-use and the other equipment shall be sent for disposal (eWaste, etc.) as part of this scope. All removed equipment that will not be repurposed shall be relocated to a separate storage space in coordination with the Owner until further directed for removal. Any planned repurposed legacy equipment shall be cleaned and provided back to IEUA as required. All existing (unrequired) wiring shall be removed (or used as pull-strings). Within the new racks, new quiet forced air fan cooling and intake/exhaust fans to accommodate 1,500 BTU/Hr for video processing equipment and computers shall be included. Racks shall include both surge protection and power distribution. Power, data and AV cabling/services shall be brought into the rack from the wall and connected. Cabinets shall house the following central components (amplifiers, wireless equipment, etc.) and audiovisual processing and control equipment:
 - a. Audiovisual digital matrix switcher
 - b. Base control processor
 - c. Digital audio signal processor and surround sound processor

- d. Wireless microphone receivers and ALS transmitter
 - e. OFCI 16-port network switch
 - f. Audio amplifiers
 - g. Media sources (OFCI PCs, etc.)
 - h. Misc. support equipment for control and video system
15. Specific equipment to this room will be:
- a. **Projection Screen:** Provide new large Draper Onyx CineFlex ¼" thick rear projection screen and wall frame from Draper Inc. or RP Visual to match revised specifications per vendor master quote. Provide glazier installation services for screen and frame within wall opening. Ensure internal frame and any wall perimeter ledges to be painted matte black to prevent stray light on screen.
 - b. **Rear Projection Frame and Mirror:** Provide new large rear projection frame and mirror system from Draper Inc. or RP Visual to match revised specifications per vendor master quote. The old frame and mirror system shall be disassembled and removed for eWaste, etc. Provide installation and alignment services. System to be anchored to floor to prevent movement.
 - c. **Projector (primary):** Provide Panasonic PT-DZ870UK 8,500 ANSI lumen projector. Projector to include Ethernet network connection with wired networking, RS232 serial control and HDCP compliant digital port (DVI/HDMI) provisioned for computer signals (WUXGA: 1920x1200 minimum). Specify and include appropriate (2) long-throw lensing for planned projector screen throw from ceiling mounts per drawing AV401. Provide uploaded logo per client for projector standby state when source selection is absent.
 - d. **Flat Panel Display (Podium Face):** Install one 42" 1920x1080p LCD/LED TV Include IR/serial control and security locking method to mount.
 - e. **Wall/Podium TV Mount:** Provide Premier Mounts #P4263F or equivalent that will accommodate flat panel display for room.
 - f. **Dais Monitors:** Provide (12) Dell #E1916H 19" monitors secured to dais via surface bracket.
 - g. **Dais Monitor Mount:** Provide (12) custom surface mount monitor brackets (pipe cut down from stock 15" length to 9" to prevent top from protruding above monitor) from Premier Mounts # MM-VH151 and secure to dais surface in coordinated positions with Owner and Architect.
 - h. **Presentation Podium:** Provide custom height-adjustable podium DWI Enterprises #D70 with approved matching wood veneer and colors – confirm with Owner prior to ordering. Coordinate ordering of integrated parts for use with specific fitting within podium. Unit to include connection well for power and AV signals, gooseneck microphone socket and display well to accommodate a 20" annotation monitor. Coordinate ordering of integrated parts for use with specific fitting within podium.
 - i. **Control Processing:** Provide MC3 3-series control processor from Crestron that will satisfy the control elements and parameters of the system. Use all related expansion devices, cards, power supplies, etc. to satisfy system requirements. Control system will be attached to campus network and to Crestron Fusion for remote management. All program hooks will be included to accommodate. Include control provisions for lighting interfacing and screen LV control. Include Ethernet CAT6 patch cable to Owner network. Devices to be used will include (but not limited to):
 - (i) ST-COM
 - (ii) ST-IO

- (iii) C2N-HBLOCK
- (iv) STRIP

- j. Lighting controls (as applicable per room). Coordinate final configuration with Construction Manager at project kick-off. Provide all related Crestron control expansion devices, cards, power supplies, etc. to satisfy system requirements.

- k. "In-Use" Indicator Light: Provide outside of the Boardroom, a custom indicator surface light that notes "QUIET Meeting In Progress" in red letters that can be toggled on when critical meetings are in progress. Provide Directional System 38659 (SBL1212R-C887) sign and coordinate with Owner facilities department for electrical circuit and installation. Refer to www.directionalsystems.com or approved equivalent.

- l. Annotation Monitor (Podium): Provide Crestron TSD-2020 touch screen 20" monitor along with wall mount kit #TSD-2020-WMK-BB for integrating into custom podium surface for display and annotation use. Include digital graphics engine Crestron #DM-DGE-200-C or equivalent to accommodate the on-screen annotation and display on both the 20" screen and main projected image for all annotations over displayed content (overlay mode).

- m. Touch control panel: Provide TS-1542 desktop black 15" touch LCD monitor and associated Crestron #DGE-200 (or equivalent as listed above in Annotation Monitor section) graphics engine from Crestron or appropriate to support 8G cabling solution to both graphics engine and touch panel. GUI page flips to include preview of video/graphics sources and functions as required (but not limited to):
 - (i) Welcome - Start-up /power down
 - (ii) Source selection and preview window and projector routing screen as applicable (but not limited to):
 - a) PC
 - b) Laptop
 - c) Local Cameras
 - d) Auxiliary Connections
 - e) Routing selected to auxiliary monitors (Lobby signage & wall, etc.)
 - f) Projector Image Mute (separate from audio)
 - g) Room controls as applicable (but not limited to):
 - 1) Individual screen control (raise/lower)
 - 2) Mic (separate from source) gain up/down/mute
 - 3) Program (separate from mic) gain up/down/mute
 - 4) Audio select
 - 5) Local camera selection and control (PTZF)
 - 6) Source preview / cueing and "take" selection
 - 7) Archival / recording control (program routing for future integration & "grey out")
 - (iii) Helpdesk request
 - (iv) Technical / Advanced page including extended audio level control options, etc. as applicable (password protected)
 - (v) Special / advanced controls will include (but not limited to):
 - a) Camera preset recall (include 5 presets per camera)
 - b) Annotation support
 - c) Conference (Skype) inbound & outbound source audio levels
 - d) Manual audio and video crosspoints override
 - e) Projector lamp hours used / estimated remaining
 - f) Hooks for Crestron Fusion.
 - g) GUI emulation for computer control

Provide all related Crestron control expansion devices, cards, power supplies, etc. to satisfy system requirements.

- n. **Digital Signal/HDMI Transmitters/Receivers:** Provide DM-TX-201-C for transmitting remote sources to main DM switch. Provide Crestron scaling receiver #DM-RMC-SCALER-C at projector to fit all outbound resolutions to screen aspect ratio. Provide Crestron scaling receiver #DM-RMC-SCALER-C at remote flat panel monitors – provide fiber model as required based on cable distances in field. As applicable, provide Crestron #PWE-4803RU Power over Ethernet injector at the main DM switch for remotely powering receivers and transmitters. No substitutions allowed.
- o. **HDMI Distribution & Switching:** Provide 4K compliant Crestron DM-MD32X32-RPS card frame with redundant power supply and appropriate combination of digital and analog video I/O cards ready to support 4K video distribution. No substitutions allowed. Include Ethernet CAT6 patch cable to College network. I/O cards required per plans (but not limited to):
 - (i) DMC-STR streaming input card
 - (ii) DMC-DVI input card
 - (iii) DMC-4K-HD input card
 - (iv) DMC-4K-C input card
 - (v) DMC-4K-C-DSP input card
 - (vi) DMC-C-DSP
 - (vii) DMC-C
 - (viii) DMC-VID-RCA-A (for mixed source/microphone audio insertion)
 - (ix) DMC-4K-CO-HD output card
 - (x) DMC-SO-HD output card
 - (xi) DMC-S2O-HD output card
 - (xii) DMC-HDO output card w/ audio breakout
 - (xiii) DMC-STRO streaming output card
- p. **Audio Digital Signal Processing (DSP) equipment:** Provide Biamp Tesira series card frame (or equal) and I/O cards as required. Include echo-cancellation support, and network interface. Include AVB/CobraNet bussing support if required within local room to expand DSP I/O and chassis/frames. One spare input card and one spare output card are included to support future paging system ties. Include Ethernet CAT6 patch cable to Owner network. Cards to be used will include (but not limited to):
 - (i) DSP-2 (total A/R)
 - (ii) SIC-4 (total A/R)
 - (iii) SOC-4 (total A/R)
 - (iv) SIC-4 (total A/R)
 - (v) SAC-4 (total A/R)
 - (vi) STC-2 (total A/R)
 - (vii) SVC-2 (total A/R)
 - (viii) AVB-1 (total A/R)

Include Biamp Tesira #EX-MOD units bussed audio expanders at dais to accommodate microphones and Clerk audio connections.

DSP programming will consist of tuning and equalizing all I/O levels and verifying all origin/destination routing and cross-points. A PC-web based GUI will be developed for the control of all I/O levels and settings. This will emulate mixing console functions and will be primarily run in the main room but shall not be limited to that location. Source level adjustments to accommodate (but not be limited to):

- (ix) All local desk, wall & wireless microphones
- (x) All local speaker output levels
- (xi) Gain, bass/treble, mix levels adjustments

(xii) Voice conference bridge GUI control (dial-pad, connect/hang-up, etc.)

Acceptable approved equivalent from BSS London.

- q. Analog Phone to IP Adapter: Provide at DSP telephone input a Cisco ATA to connect the conference capability to the IEUA VoIP phone system. Include VoIP connection at DSP for future.
- r. Camera: Provide three new Vaddio #999-9910-000 RoboSHOT HD PTZ broadcast cameras. Provide three new mating Vaddio Quick-Connect Universal camera control unit (CCU) to be rack mounted.
- s. Camera Mount: Provide wall mounting shoe for signal transmission to Vaddio CCUs.
- t. HDMI to USB Capture Appliance: Provide Epiphan HDMI-to-USB 3.0 DVI capture device to accommodate the connection of routed/selected HDMI camera feeds into the PC for use with web-based Skype calls.
- u. Transcoding Device: Provide one HD-Fury3 or Kanex ATV Pro digital to analog transcoding device on content DVI input to accommodate the sending of digital-based Apple computing and tablet devices (Mac Book, iPad, etc.). One transcoder shall be used at the existing analog projector for the display of new digital signals.
- v. Podium Microphones: Provide (1) black Shure MX418/SC with the locking socket wired into the podium (per position indicated on the manufacturer podium drawing). Route all cabling down and through podium to remote DSP equipment. Include with logic support for illuminating ring.
- w. Dais Discussion Microphones: Provide (12) Shure MX418/C gooseneck microphone with locking base. Route all cabling through dais to remote DSP equipment. Include with logic support for illuminating ring.
- x. Ceiling Speakers: Connect to existing (16) 70v ceiling speakers. Speakers reside in existing ceiling positions.
- y. Audio Amplifier (ceiling): Provide up to three Crown CTs series or approved multi-channel equivalent for appropriately driving the multi-zoned 70V ceiling speakers in room.
- z. Wireless Microphones: Provide two Shure QLXD124/85 (or equal) wireless digital microphones combination (handheld/lapel) kits integrated into rack. Place extended antennas into each room as required for optimal signal transmission.
- aa. ALS Equipment: Provide 216MHz range RF transmitter/receiver set for installed condition consisting of antenna(s) as required, microphone transmitter, 4 wireless portable receivers and spare ear buds, rechargeable batteries and charging case. Use Listen #LS-04-216 (or equal). Use antenna extensions for front wall mounting into each room as required. Include lanyard
- bb. Bluetooth USB Device: Provide Bluetooth USB 2.0 (or higher) receiver unit at the Dais Clerk position main and connect back to (through switcher) OFE dedicated PC. Provide Logitech DiNovo series wireless Bluetooth mouse & keyboard combination set and pair to Bluetooth receiver and OFE PC. Ensure proper room coverage when keyboard/mouse are used at the dais.
- cc. Input Connection Well: Provide at both podium and Dais positions with power, data and video connections within the existing furniture mounted pop-up units.
- dd. Speaking Timer: Provide D'SAN Limiter series system #PRO-2000BT with remote signal light at podium and base timer control for Podium position (wireless and portable and can be relocated where required).

- ee. PC: Install (2) OFCI PCs on included 2RU shelves.
- ff. Blu-ray / DVD player: Provide Sony #BDP-S1500 or equivalent from Samsung, Panasonic or Toshiba. Secure on an included 2RU shelf.
- gg. Network switch: Provide one AVB compliant network PoE Ethernet 10/100/1000 POE switch for rack equipment. Coordinate with the IEUA IT department for switch installation and setup and VLAN provisioning.
- hh. Equipment Rack (rear room): Provide two full height 36" deep metal cabinets (see Section 2.10) and blank/vented filler panels as required. Include floor brackets for securing for seismic conditions.
- ii. Circuit Protection/Power Distribution: Provide (2) Surge-X #SX2120 power conditioner or equivalent from Middle Atlantic in both podium and in control booth equipment rack. Provide in-rack power distribution as required for all devices.
- jj. Camera Controller: Provide appropriate Vaddio camera controller(s) to accommodate the room cameras.

B. Anza Conference Room

1. Refer to drawing AV502 for signal flow diagram.
2. The Anza Conference Rooms will be used for general presentations as well as for videoconferencing. Audiovisual capabilities in the room will support the use of audio, video and computer based media for group presentations via a ceiling mounted projector and motorized ceiling recessed projection screen. Audio reproduction shall be by using both in-wall mounted speakers for presentation materials and ceiling recessed speakers for voice support. Media sources will be located in a dedicated and secure AV portable equipment rack located within room millwork.
3. A HD USB pan/tilt/zoom/focus camera will be used for real-time web conferencing (Skype, etc.). The camera will be located in the front within a recessed camera wall box located below the projection screen image. The camera will be extended via a USB extender kit back to the main computer. The room audio from the DSP will be tied back into the PC via an included USB audio interface built into the DSP.
4. Digital sources will also be accommodated with both the rack and in the table connections. Auxiliary connections at the table surface will facilitate the connection of OFE portable laptop computers using HDMI or DVI-D outputs (as well as VGA). Within the rack, the included Blu-Ray DVD player is supported by an HDMI connection. Provisions for an OFE dedicated PC is to be connected to the digital equipment within the rack and a supplied shelf. This will include support for a Bluetooth wireless keyboard and mouse via an included USB extender running from the rack to the ceiling projector.
5. A wall mounted interactive projector will capture digitally any hand annotations written on the glass wall or whiteboard surface back to the OFE dedicated room PC. These can be displayed in real-time back on the main projected image for the main audience to view in a larger format. The interactive projector is connected directly to the dedicated computer for its primary video/graphics source and is not connected to the digital video matrix switch. Connection to the dedicated computer will be done via a CAT5 USB extender set and a HDMI twisted pair extender set.
6. Through the digital content distribution line from the rack to the projector, an included Bluetooth wireless mouse / keyboard set will be connected to the OFE dedicated computer via the USB port. The Bluetooth receiver will be located at the projector for a more centralized signal receiving point when the wireless keyboard is used at the table.
7. Video and audio processing shall be via a combination Control/AV switcher/DSP/Amplifier system attached to the network. Control processor will be attached to client network and assigned a dedicated IP address (in coordination with IEUA IT department). An included network 8-port router will be used to support multiple devices through the limited data ports. The digital-audio signal processor (DSP) will have an analog phone line tied to a separate phone/communications port for telephone conference bridging use within the room.
8. Control of room shall be provided via a 10" wired touch control panel with a base station located at the table (rear). All media sources and display devices will be controlled through the control processor. Control port expansion cards/modules will be included to accommodate all necessary devices to ensure proper turn-key system control of all AV components within the room. Control panel GUI will be coordinated with the IEUA for final design for control pages. Control will include parallel connections for projection screen low voltage controller / wall switch. Control will include selection and control of multiple TV tuners and routing to multiple destinations. Control programming will include the hooks for all functionality through a re-mote management system (Fusion RM) as well as parallel GUIs for both X-Panel (PC) and iPad control and operation.
9. The audio Digital Signal Processor (DSP) will be configured to accommodate 10 table surface microphones on AEC inputs, audio sources and tele/video-conference signals (both mic level and line level). The DSP will be connected to the network for both control & remote configuration. Echo cancellation will be included and configured for all conferencing applications. Complete testing shall be and all levels will be

equalized between outbound mic and source audio to and from codec. A mono output will be used for both ALS feed and for future audio recording.

10. Audio support in the room shall be via ceiling mounted speakers for voice and in-wall speakers for all program audio. A mono connection is provided on a front rack plate for portable assistive listening system (ALS) equipment for ADA support. Closed captioning for all display devices will be accommodated for all supporting source devices (tuners, DVD, etc.). Voice lift/room reinforcement (if required by room size) and video / audio conferencing audio will be through ceiling speakers. DSP levels shall be configured to include some conference audio through front speakers for localization (to be field adjusted).
11. The equipment rack(s) will be a pull-out and pivot style system that will reside within room millwork. Include as needed within millwork bay(s) forced air fan and intake/exhaust vents to accommodate cooling for video processing equipment and computers. Rack shall include both surge protection and power distribution. Power, data and AV cabling/services shall be brought into the rack from the wall and connected. Provide 13RU rack-unit model with PDU.
12. Specific equipment to this room will be:
 - a. Projector: Provide Epson model #G6450WU 4500 lumen projector with Ethernet network connection with wired networking, RS232 serial control and HDCP compliant digital port (DVI/HDMI) provisioned for computer signals (WUXGA: 1920x1200 minimum). Unit to use standard 2.0:1 lensing (1.85-2.35:1) for planned projector screen throw from ceiling mount.
 - b. Interactive Whiteboard Projector: Provide Epson BrightLink 1430Wi 3,300 ANSI lumen projector with Ethernet network connection with wired networking, RS232 serial control and HDCP compliant digital port (HDMI) provisioned for computer signals (1280x1024 minimum). Include all interactive accessories including dry erase pens, wireless styluses and software (PC and Mac based). Include per each installed room one spare stylus sets and one spare set of colored dry erase pens for immediate room use (swap out to projector). Include touch module.
 - c. USB Extender: Provide twisted pair extender Smart Technologies #CAT5-XT to connect the interactive projector to the OFE dedicated PC.
 - d. Bluetooth USB Device: Provide Bluetooth USB 2.0 (or higher) receiver unit at projector DM receiver and connect back to (through DM switcher) OFE dedicated PC. Provide Logitech DiNovo series wireless Bluetooth mouse & keyboard combination set and pair to Bluetooth receiver and OFE PC. Ensure proper room coverage when keyboard/mouse are used at table.
 - e. Projector Security Mount: Provide Premier Mounts #GB-SEC1W with large capacity equipment tray and lateral shift. All units in project to be keyed alike using campus master key. Unit to be white in color. Mount shall be verified to mate properly with projector without causing hindrance to lamp / filter access or connections. Include for both ceiling projectors in each room.
 - f. Camera: Provide BigShot HD PTZ 10X HD USB camera with serial control. Provide USB extender kit as needed to extend camera from front wall to equipment rack.
 - g. Camera Wall Box: Provide Vaddio in-wall camera box #999-2225-015 or equivalent sized per camera.
 - h. HDMI to USB Capture Appliance: Provide Epiphan HDMI-to-USB 3.0 DVI capture device to accommodate the connection of routed/selected HDMI camera feeds into the PC for use with web-based Skype calls.
 - i. Table Microphones: Provide 10 black Shure MX392/C microphones installed with immediate 3/8" grommet holes in table. Route all cabling down and through table rib and pedestal with XLR disconnects hidden within table leg or under table so not seen. Integrator to field-drill holes in table surface in coordination with Owner Facilities Dept.

- j. HDMI controller/switcher & distribution, DSP & amplifier: Use DMPS-300-C from Crestron.
- k. HDMI Digital Receivers: Provide Crestron DM-RMC-SCALER-C with HDMI and serial connection to the projector and flat panel displays. Power to be PoE or powered locally by display.
- l. HDMI Digital Transmitter: Provide Crestron DM-TX-201-C to support the projector.
- m. HDMI Distribution Amplifier: Provide Crestron HD-DA-2 HDMI distribution amplifier or appropriate equivalent to support parallel HDMI feeds from codec to monitor and switch. Include twisted pair HDMI extenders and separate serial control line for each display.
- n. Universal HDMI Adapter Assembly: Provide one per table connection Liberty #DL-AR adapter ring assembly clamped to the table HDMI cable. Assembly to include DisplayPort, Mini DisplayPort, Mini HDMI, Micro HDMI, DVI-D.
- o. Control panel: Provide black 10" TWPS-10 wired touch control panel from Crestron. Coordinate directly with IEUA for desired GUI layout based on client standards for operation. Control buttons and graphical page-flips to include functions as required (but not limited to):
 - (i) Power up/down toggle
 - (ii) Mic (separate from source) gain up/dwn/mute
 - (iii) Program mute (separate from mic) – level will be adjusted by knob
 - (iv) Closed Captioning toggle
 - (v) Camera adjustment
 - (vi) Videoconferencing codec controls
 - (vii) Audio conference controls
 - (viii) Helpdesk request
 - (ix) Source selection screen including as applicable (but not limited to):
 - (x) PC
 - (xi) Blu-Ray / DVD player
 - (xii) Auxiliary table connections – Laptop (video, etc.)
 - (xiii) Projector Image Mute (separate from audio)
 - (xiv) Special / advanced controls will include (but not limited to):
 - h) Manual audio and video matrix points override
 - i) Projector lamp hours used / estimated remaining
 - j) Hooks for Crestron Fusion RV
 - k) GUI emulation for computer control (X-Panel & iPad app)
 - l) Warning message on panel when muted for fire alarm signal
- p. Lighting & shade controls. Coordinate final configuration with Construction Manager at project kick-off. Provide all related Crestron control expansion devices, cards, power supplies, etc. to satisfy system requirements.
- q. Audio Amplifier: Provide Crestron MP-AMP40 or approved equivalent for 70V ceiling speakers in room.
- r. Audio Digital Signal Processing (DSP) equipment: Provide Biamp TesiraForte CI (or approved equivalent from Polycom or BSS Soundweb). DSP programming will consist of tuning and equalizing all I/O levels and verifying all origin/destination routing and cross-points. Include USB connection to PC. Source level adjustments to accommodate (but not be limited to):
 - (i) All local desk, wall & wireless microphones
 - (ii) All local speaker output levels
 - (iii) Gain, bass/treble, mix levels adjustments

- (iv) Voice conference bridge GUI control (dial-pad, connect/hang-up, etc.)
- s. Analog Phone to IP Adapter: Provide at DSP telephone input a Cisco ATA to connect the conference capability to the IEUA VoIP phone system.
- t. Ceiling Speakers: Provide Crestron Saros IC6T or approved 70v equivalent from JBL, Extron, QSC or Tannoy. To be white in color and shall include structural attachment per architectural details along with all included accessories.
- u. Wireless Mirroring Appliance: Provide Crestron AirMedia connected to the network.
- v. Blu-ray / DVD player: Provide Sony #BDP-S1500 or equivalent from Samsung, Panasonic or Toshiba. Secure on an included 2RU shelf.
- w. Equipment Rack: Provide one C5-series dual-bay (13 RU per bay) enclosed equipment credenza from Middle Atlantic #C5-FF27-2. Include forced air fan and intake/exhaust system in each bay for cooling of video processing equipment and computers. Provide with PDU per bay. Include all millwork panels (top, front, sides, rear), rack rails, power distribution, hardware, shelves and blank / vent RU panels as required for complete system equipment installation. Fan to be Middle Atlantic system to work with credenza system and shall have one fan installed per bay to evacuate the heated air from the rear of the credenza. Provide thermal sensing to activate fan system(s) as required. Coordinate final finish for external paneling with Owner prior to ordering.
- x. Network switch: Install OFCI Cisco 8 port PoE Ethernet 10/100/1000 POE switch for rack equipment. Coordinate with IT department for switch compliance and manufacturer preference.
- y. Circuit Protection: Provide Middle Atlantic #PD-915R horizontal power distribution or equivalent from Furman.

C. Event Conference Room

1. Refer to drawing AV503 for signal flow diagram.
2. The Event Conference Room will be used for general presentations and training sessions. Audiovisual capabilities in the room will support the use of audio, video and computer based media for group presentations via one ceiling mounted projector and motorized ceiling recessed projection screen per half (two total per combined room). Audio reproduction shall be by using zoned ceiling recessed speakers. Media sources will be by portable devices or are located in the equipment racks in the front of the room halves.
3. Two HD pan/tilt/zoom/focus cameras per combined room (in rear) will be used for real-time synchronous video-teleconferencing, distance learning and training sessions or presentation recording.
4. Digital to analog transcoding devices will be used to accommodate Apple computer encrypted signals to be ingested and shall be connected in line between both the recording appliance and steaming content input and the video matrix switch output(s).
5. Digital sources will also be accommodated with floor connection panel(s). An auxiliary HDMI connection at the podium surface will facilitate the connection of OFE portable laptop computers using HDMI or DVI-D outputs (as well as VGA) when connected to the floor box. Provisions for an OFE dedicated PC is to be connected to the digital equipment within the AV Control Room rack and a supplied shelf. This will include support for a Bluetooth wireless keyboard and mouse via an included USB extender running from the rack to the ceiling projector. Remotely located HD CATV tuners and a DVD player will be included for media playback.

6. Control of room shall be via two 10" wall mounted touch control panels, with one panel located in each room half. All media sources and display devices will be controlled through the control processor located remotely in the AV Control Room. Control panel GUI will be coordinated with the IEUA to emulate their existing standard design for control pages. Legacy GUI pages are available upon request. Control will include parallel connections for projection screen low voltage controller / wall switch. Control will include selection and control of sources and displays as well as for managing the room divide and combine states. Control programming will include the hooks for all functionality through a remote management system (Fusion RM, etc.) as well as parallel GUI for both X-Panel (PC) and iPad control and operation.
7. Audio support in the room shall be via ceiling mounted speakers for voice and program audio. Assistive listening system (ALS) equipment for ADA support is included with a remote antenna into each room. Closed captioning for all display devices will be accommodated for all supporting source devices (tuners, DVD, etc.). Voice lift/room reinforcement (if required by room size) and video / audio conferencing audio will be through ceiling speakers. DSP levels shall be configured to include some conference audio through front speakers for localization (to be field adjusted).
8. Two wireless lapel microphones will be included as well as two wired handheld microphones with various length connection cables. All microphones will be type to shield resistant from radio frequency interference such as GSM cell phone signals. Wireless microphone antennas shall be included within the room and run back to wireless receiving equipment.
9. Two Bluetooth audio receivers will be included to accommodate wireless audio connection and playback within the rooms.
10. Specific equipment to this room will be:
 - a. Projector: Provide two Epson model #Z8050WNL 7000 lumen (1280x800 native resolution) projector with Ethernet network connection with wired networking, RS232 serial control and HDCP compliant digital port (DVI/HDMI) provisioned for computer signals (WUXGA: 1920x1200 minimum). Unit to have wireless networking capability through the wired Ethernet port along with included option for point-to-point wireless module. Unit to use standard 2.0:1 lensing (1.85-2.35:1) for planned projector screen throw from ceiling mount.
 - b. Control panel: Provide two black 10" TWPS-10 wired (wall mounted) touch control panel from Crestron in each room half. Coordinate directly with IEUA for desired GUI layout based on client standards for operation. Control processing equipment is located in remote AV Control Room. Control buttons and graphical page-flips to include functions as required (but not limited to):
 - (i) Power up/down toggle
 - (ii) Mic (separate from source) gain up/dwn/mute
 - (iii) Program mute (separate from mic) – level will be adjusted by knob
 - (iv) Closed Captioning toggle
 - (v) Camera adjustment
 - (vi) Videoconferencing codec controls
 - (vii) Audio conference controls
 - (viii) Room Divide/Combine
 - (ix) Helpdesk request
 - (x) Source selection screen including as applicable (but not limited to):
 - (xi) PC
 - (xii) Tuner (multiple)
 - (xiii) Wireless Projector Link
 - (xiv) Auxiliary table connections – Laptop (video, etc.)
 - (xv) Lighting & shades presets

- (xvi) Projector Image Mute (separate from audio)
- (xvii) Special / advanced controls will be done by Control Room overrides

Provide all related Crestron control expansion devices, cards, power supplies, etc. to satisfy system requirements.

- c. **Digital Signal/HDMI Transmitters/Receivers:** Provide DM-TX-201-C for transmitting remote classroom sources to main DM switch. Provide DM-TX-XXX-2G for front wall connections (note that this should be appropriate 8G wall solution, not old-DM solution). Provide Crestron scaling receiver #DM-RMC-SCALER-C at projector to fit all outbound resolutions to screen aspect ratio. Provide Crestron scaling receiver #DM-RMC-SCALER-C at remote flat panel monitors – provide fiber model as required based on cable distances in field. As applicable, provide Crestron #PWE-4803RU Power over Ethernet injector at the main DM switch for remotely powering receivers and transmitters. No substitutions allowed.
- d. **HDMI Distribution & Switching:** Provide 4K compliant Crestron DM-MD16X16-RPS card frame with redundant power supply and appropriate combination of digital and analog video I/O cards ready to support 4K video distribution. No substitutions allowed. Include Ethernet CAT6 patch cable to College network. I/O cards required per plans (but not limited to):
 - (i) DMC-STR streaming input card
 - (ii) DMC-DVI input card
 - (iii) DMC-4K-HD input card
 - (iv) DMC-4K-HD-DSP (for Blu-Ray player for 5.1 surround processing)
 - (v) DMC-4K-C input card
 - (vi) DMC-4K-C-DSP input card
 - (vii) DMC-C-DSP
 - (viii) DMC-C
 - (ix) DMC-VID-RCA-A (for mixed source/microphone audio insertion)
 - (x) DMC-4K-CO-HD output card
 - (xi) DMC-SO-HD output card
 - (xii) DMC-S2O-HD output card
 - (xiii) DMC-HDO output card w/ audio breakout
 - (xiv) DMC-STRO streaming output card
- e. **Audio Digital Signal Processing (DSP) equipment:** Provide Biamp Tesira series card frame (or equal) and I/O cards as required. Include echo-cancellation support, and network interface. Include Dante interface to connect to audio mixing console. Include AVB/CobraNet bussing support if required within local room to expand DSP I/O and chassis/frames. One spare input card and one spare output card are included to support future paging system ties. Include Ethernet CAT6 patch cable to Owner network. Cards to be used will include (but not limited to):
 - (i) DSP-2 (total A/R)
 - (ii) SIC-4 (total A/R)
 - (iii) SOC-4 (total A/R)
 - (iv) SIC-4 (total A/R)
 - (v) SAC-4 (total A/R)
 - (vi) STC-2 (total A/R)
 - (vii) SVC-2 (total A/R)
 - (viii) AVB-1 (total A/R)
 - (ix) DAN-1 (total A/R)

Include Biamp Tesira #EX-IN & #EX-OUT units bussed audio expanders at dais to accommodate microphones and Clerk audio connections.

DSP programming will consist of tuning and equalizing all I/O levels and verifying all origin/destination routing and cross-points. A PC-web based GUI will be developed for the control of all I/O levels and settings. This will emulate mixing console functions and will be primarily run in the main room but shall not be limited to that location. Source level adjustments to accommodate (but not be limited to):

- (x) All local desk, wall & wireless microphones
- (xi) All local speaker output levels
- (xii) Gain, bass/treble, mix levels adjustments
- (xiii) Voice conference bridge GUI control (dial-pad, connect/hang-up, etc.)

Acceptable approved equivalent from Polycom or BSS Soundweb.

- f. Analog Phone to IP Adapter: Provide at DSP telephone input two Cisco ATA units to connect the conference capability to the IEUA VoIP phone system.
- g. HDMI to USB Capture Appliance: Provide two Epiphan HDMI-to-USB 3.0 DVI capture devices to accommodate the connection of routed/selected HDMI camera feeds into the PC for use with web-based Skype calls.
- h. Bluetooth USB Device: Provide Bluetooth USB 2.0 (or higher) receiver unit at projector DM receiver and connect back to (through DM switcher) OFE dedicated PC. Provide Logitech DiNovo series wireless Bluetooth mouse & keyboard combination set and pair to Bluetooth receiver and OFE PC. Ensure proper room coverage when keyboard/mouse are used at table.
- i. Projector Security Mount: Provide Premier Mounts #GB-SEC1W with large capacity equipment tray and lateral shift. All units in project to be keyed alike using campus master key. Unit to be white in color. Mount shall be verified to mate properly with projector without causing hindrance to lamp / filter access or connections. Include for both ceiling projectors in each room.
- j. Wired Handheld Microphone. Handheld microphone Shure #SM58 or equal from Audio Technica, etc. Provide 10', 25' and 50' extension XLR cables.
- k. Wireless Microphones: Shure ULXP124/85 (or equal) wireless digital microphones dual kits integrated into rack. Place antennas as required for optimal signal transmission.
- l. ALS Equipment: Provide 216MHz range RF transmitter/receiver set for installed condition consisting of antenna(s) as required, microphone transmitter, 4 wireless portable receivers and spare ear buds, rechargeable batteries and charging case. Use Listen #LS-04-216 (or equal). Use antenna extensions for front wall mounting as required.
- m. Bluetooth Audio Receiver: Provide two Audioengine B1 premium Bluetooth® music receivers with extended range (100 ft.). Mount on dedicated or shared included 1 or 2 RU shelf and secure to base in each room's racks.
- n. Camera: Provide two rear wall mounted white Vaddio #ClearView HD-19 cameras and appropriate wall mounting brackets.
- o. HDMI to USB Capture Appliance: Provide two Epiphan HDMI-to-USB 3.0 DVI capture device to accommodate the connection of routed/selected HDMI camera feeds into the PC for use with web-based Skype calls.

- p. **Transcoding Device:** Provide two HD-Fury3 or Kanex ATV Pro digital to analog transcoding device on content DVI input to accommodate the sending of digital-based Apple computing and tablet devices (Mac Book, iPad, etc.). One transcoder shall be used at the existing analog projector for the display of new digital signals.
- q. **Wireless Mirroring Appliance:** Provide two Crestron AirMedia connected to the network.
- r. **Blu-ray / DVD player:** Provide two Sony #BDP-S1500 or equivalent from Samsung, Panasonic or Toshiba. Secure on an included 2RU shelf.
- s. **Connection panel(s):** Provide two Crestron FT-PWR flip-up units that will reside within each OFE podium with just 6' cables attached to the transmitters secured below the table surface (or in the table drum-leg). All bulkhead or keystone connectors used for DM (digital) cabling shall be rated for shielded CAT6 conditions. Provide XLR shock mount base and XLR cable to floor in each podium. Provide cut-in for flip-up panel and shock mount microphone socket into each podium. Coordinate with Construction Manager.
- t. **Speakers:** Provide Crestron #Saros IC6T ceiling speakers or approved equivalent from Tannoy, Extron, etc. To be white in color (confirm with Construction Manager by location) and shall include ceiling tile bridge, grill, etc. AV Integrator to finish out wall when installing in gyp surfaces and plaster/paint as required making installation aesthetically appropriate.
- u. **Podium:** Provide DWI Enterprises #D10 podium to match the existing podium within the room.
- v. **Equipment Rack:** Provide one C5-series dual-bay (13 RU per bay) enclosed equipment credenza from Middle Atlantic #C5-FF27-2 as the main support cabinet for central equipment and one single-bay matching enclosure to accommodate equipment for the second room. Include forced air fan and intake/exhaust system in each bay for cooling of video processing equipment and computers. Provide with PDU per bay. Include all millwork panels (top, front, sides, rear), rack rails, power distribution, hardware, shelves and blank / vent RU panels as required for complete system equipment installation. Fan to be Middle Atlantic system to work with credenza system and shall have one fan installed per bay to evacuate the heated air from the rear of the credenza. Provide thermal sensing to activate fan system(s) as required. Coordinate final finish for external paneling with Owner prior to ordering.
- w. **Network switch:** Install OFCI Cisco 16 port PoE Ethernet 10/100/1000 POE switch for rack equipment. Coordinate with IT department for switch compliance and manufacturer preference.
- x. **Circuit Protection:** Provide Middle Atlantic #PD-915R horizontal power distribution or equivalent from Furman.

D. RP-1 Conference Room

1. Refer to drawing AV5.04 for signal flow diagram.
2. The RP-1 Conference Room is an off-site satellite location that will be used for general presentations, training sessions and web-conferencing. Audiovisual capabilities in the room will support the use of audio, video and computer based media for group presentations via a wall mounted 80" flat panel HDTV and articulating wall mount. Audio reproduction shall be by using ceiling speakers. Media sources will be located in a dedicated and secure AV portable equipment rack located within the room.
3. Digital sources will also be accommodated at a wall connection panel. An auxiliary HDMI connection at the wall will facilitate the connection of OFE portable laptop computers using HDMI. Within the rack, the included Blu-Ray DVD player is supported by an HDMI connection. Provisions for an OFE dedicated PC is to be connected to the digital equipment within the rack and a supplied shelf. This will include support for a Bluetooth wireless keyboard and mouse via an included USB extender running from the rack to the ceiling projector.

4. Control of room shall be via display handheld remote control as well as the display control panel peripheral connected via USB.
5. The equipment will be secured to a wall mounted triple shelf system. A wireless Bluetooth microphone and ceiling mounted USB connected web camera shall be used to support Skype calls to other IEUA locations.
6. Audio support in the room shall be via ceiling speakers for all program audio. A mono connection is provided on a front rack plate for portable assistive listening system (ALS) equipment for ADA support. Closed captioning for all display devices will be accommodated for all supporting source devices (tuners, DVD, etc.). DSP levels shall be configured to include some conference audio through front speakers for localization (to be field adjusted).
7. The equipment rack(s) will be a fixed cabinet with locking door. Include as needed within millwork bay(s) forced air fan and intake/exhaust vents to accommodate cooling for video processing equipment and computers. Rack shall include both surge protection and power distribution. Power, data and AV cabling/services shall be brought into the rack from the wall and connected. Provide 12RU rack-unit model with PDU.
8. Specific equipment to this room will be:
 - a. Flat Panel Display (Podium Face): Install one 80" 1920x1080p LCD/LED TV Include IR/serial control and security locking method to mount.
 - b. Articulating TV Wall Mount: Provide Premier Mounts #AM300-B or equivalent that will accommodate the larger flat panel display for room.
 - c. Bluetooth USB Device: Provide RF or Bluetooth USB 2.0 (or higher) receiver unit at shelf and connect back to OFE dedicated PC. Provide Logitech wireless RF or Bluetooth mouse & keyboard combination set and pair to receiver and OFE PC. Ensure proper room coverage when keyboard/mouse are used at table.
 - d. Ceiling Speakers: Provide Crestron #IC6T or approved 70v equivalent from JBL, Extron, QSC or Tannoy. To be white in color and shall include structural attachment per architectural details along with all included accessories.
 - e. Audio Amplifier: Provide Crestron MP-AMP40 or approved equivalent for 70V ceiling speakers in room.
 - f. Blu-Ray / DVD Player: Provide Sony #BDP-S1500 or equivalent from Samsung, Panasonic or Toshiba on included 2RU shelf.
 - g. USB Docking Station: Provide Plugable USB dual display docking station with all required cables.
 - h. HDMI Digital Transmitter: Provide HDMI transmitter/receiver set(s) to support the display equipment and source signal extension.
 - i. USB Camera: Provide BigShot HD PT USB camera. Provide USB extender kit as needed to extend camera from front wall to equipment rack. Include ceiling mount to secure (inverted) to ceiling tile and grid.
 - j. Wireless Microphone: Provide Audio Technica ATW1102 basic wireless microphone system and 12" microphone desk stand. Provide Shure XLR to USB adapter to connect microphone to PC for Skype™ sessions.
 - k. Equipment Rack: Provide Middle Atlantic #MFR-1227GE. Include forced air fan and intake/exhaust system in each bay for cooling of video processing equipment and computers. Provide 12 rack-unit tall

with PDU. Include all rack rails, power distribution, hardware, shelves and blank / vent RU panels as required for complete system equipment installation. Fan to be Middle Atlantic #QFAN & GUARD and shall have one fan installed per bay to evacuate the heated air from the rear of the credenza. Provide thermal sensing to activate fan system(s) as required.

E. Basin Conference Room

1. Provide pricing to include a ceiling mounted overhead document camera located above the conference table (location coordinated with Owner Facilities Dept.) and connect back to existing room display via HDMI.
2. Specific equipment to this room will be:
 - a. Ceiling Document Camera: Provide Vaddio #CeilingVIEW HD-18 (999-3028-000) or equivalent from Wolfvision (#EYE-14) with ceiling recessed enclosure and trim ring.

F. Wetlands Park Interpretive Center

1. Refer to drawing AV5.05 for signal flow diagram.
2. The Interpretive Center is a remote site location near the IEUA headquarters building and the space will be used for general presentations and tour/classroom instruction. Audiovisual capabilities in the room will support the use of audio, video and computer based media for group presentations via a wall mounted 80" flat panel HDTV and articulating wall mount. Audio reproduction shall be by using ceiling speakers. Media sources will be located in a dedicated and secure AV portable equipment rack located within an adjacent room.
3. Digital sources will also be accommodated at a wall connection panel. An auxiliary HDMI connection at the wall will facilitate the connection of OFE portable laptop computers using HDMI. Within the rack, the included Blu-Ray DVD player is supported by an HDMI connection. Provisions for an OFE dedicated PC is to be connected to the digital equipment within the rack and a supplied shelf. This will include support for a Bluetooth wireless keyboard and mouse via an included USB extender running from the rack to the ceiling projector.
4. Control of room shall be via display handheld remote control as well as the display control panel peripheral connected via USB.
5. The equipment will be secured to a wall mounted triple shelf system. A wireless Bluetooth microphone and ceiling mounted USB connected web camera shall be used to support Skype calls to other IEUA locations.
6. Audio support in the room shall be via ceiling speakers for all program audio. A mono connection is provided on a front rack plate for portable assistive listening system (ALS) equipment for ADA support. Closed captioning for all display devices will be accommodated for all supporting source devices (tuners, DVD, etc.). DSP levels shall be configured to include some conference audio through front speakers for localization (to be field adjusted).
7. The equipment rack(s) will be a fixed cabinet with locking door. Include as needed within millwork bay(s) forced air fan and intake/exhaust vents to accommodate cooling for video processing equipment and computers. Rack shall include both surge protection and power distribution. Power, data and AV cabling/services shall be brought into the rack from the wall and connected. Provide 12RU rack-unit model with PDU.
8. Specific equipment to this room will be:
 - a. Interactive Whiteboard Projector: Provide Epson BrightLink 1430Wi 3,300 ANSI lumen projector with Ethernet network connection with wired networking, RS232 serial control and HDCP compliant digital port (HDMI) provisioned for computer signals (1280x1024 minimum). Include all interactive

accessories including dry erase pens, wireless styluses and software (PC and Mac based). Include per each installed room one spare stylus sets and one spare set of colored dry erase pens for immediate room use (swap out to projector). Include touch module.

- b. USB Extender: Provide twisted pair extender Smart Technologies #CAT5-XT to connect the interactive projector to the OFE dedicated PC.
- c. Bluetooth USB Device: Provide RF or Bluetooth USB 2.0 (or higher) receiver unit at shelf and connect back to OFE dedicated PC. Provide Logitech wireless RF or Bluetooth mouse & keyboard combination set and pair to receiver and OFE PC. Ensure proper room coverage when keyboard/mouse are used at table.
- d. Ceiling Speakers: Provide Crestron #IC6T or approved 70v equivalent from JBL, Extron, QSC or Tannoy. To be white in color and shall include structural attachment per architectural details along with all included accessories.
- e. Audio Amplifier: Provide Crestron MP-AMP40 or approved equivalent for 70V ceiling speakers in room.
- f. Blu-Ray / DVD Player: Provide Sony #BDP-S1500 or equivalent from Samsung, Panasonic or Toshiba on included 2RU shelf.
- g. USB Docking Station: Provide Plugable USB dual display docking station with all required cables.
- h. HDMI Digital Transmitter: Provide HDMI transmitter/receiver set(s) to support the display equipment and source signal extension.
- i. USB Camera: Provide BigShot HD PT USB camera. Provide USB extender kit as needed to extend camera from front wall to equipment rack. Include ceiling mount to secure (inverted) to ceiling tile and grid.
- j. Wireless Microphone: Provide Audio Technica ATW1102 basic wireless microphone system and 12" microphone desk stand. Provide Shure XLR to USB adapter to connect microphone to PC for Skype™ sessions.
- k. Equipment Rack: Provide Middle Atlantic #MFR-1227GE. Include forced air fan and intake/exhaust system in each bay for cooling of video processing equipment and computers. Provide 12 rack-unit tall with PDU. Include all rack rails, power distribution, hardware, shelves and blank / vent RU panels as required for complete system equipment installation. Fan to be Middle Atlantic #QFAN & GUARD and shall have one fan installed per bay to evacuate the heated air from the rear of the credenza. Provide thermal sensing to activate fan system(s) as required.

G. Room Reservation System

- 1. Outside all identified conference spaces, include a digital room reservation panel and connect to the data network via an included patch cable. Coordinate with IEUA Facilities and IT Departments for data connection and IP addresses for connection of devices. Coordinate with Owner for configuration and set up with Microsoft Exchange server for client integration with calendar programs for scheduling.
- 2. Rooms to be included are:
 - a. Boardroom (HQ. A)
 - b. Barton Conference room (HQ. A)
 - c. Chaffey Conference room (HQ. A)

- d. Guasti Conference room (HQ. A)
 - e. Raines Conference room (HQ. A)
 - f. Sadie Conference room (HQ. A)
 - g. Adobe Conference room (HQ. B)
 - h. Anza Conference room (HQ. B)
 - i. Basin Conference room (HQ. B)
 - j. Event Conference room (HQ. B)
 - k. Yorba Conference room (HQ. B)
3. Specific equipment to this room will be:
- a. Room Scheduling Panel: Provide a total of 12 SteelCase Room Wizard scheduling panels and 6" CAT6 data patch cables – one per each identified room.

H. Integrated Audiovisual System Management

1. Remote network management system software is required to control, manage and support all attached AV control systems and their related networked AV peripheral devices. This should support to tie into any Owner building management systems. This application must also be able to accommodate other Owner existing or future AV systems or components integrated with a compatible control system. Please note that this service is provided as part of the control system master quote and to coordinate with the manufacturer. Client standard for control is Crestron Electronic.
2. This system shall be configured to monitor and manage (but not limited to):
 - a. System or individual peripheral status including power on/off state, network status (disconnected indicating possible theft).
 - b. Projector lamp hours remaining vs. total estimated lamp life. Must be configured to notify by email the appropriate Campus staff or service technician when to order spare lamps (at 75% of lamp life is spent at each projector), to change lamp at 95% or use or when a lamp has blown.
 - c. System or peripheral temperature. An email notification will also be sent to the appropriate Campus staff or service technician when critical limits are triggered.
 - d. Archival system storage capacity notification. Where applicable, provide an email notification will also be sent to the appropriate Campus staff or service technician and Campus IT department when the storage capacity of the archival server is near maximum limits. This is different from and not including the Campus content server but rather the individual room or portable video servers tied to the network or integrated in the room AV system(s).
 - e. Other key elements included within each room that are tied to the AV system and can be controlled or monitored.
3. Specific equipment will be:
 - a. Provide integration of all networked AV systems included within this project scope for Crestron Fusion RV (Fusion) to added to the existing Crestron Fusion server. AV Integrator to connect all rooms in-

cluded within this scope to Crestron Fusion RV (Fusion) software and shall interface to IEUA scheduling software (TBD).

2.6 SUBSTITUTIONS

- A. The acceptability of a proposed substitution to a specified Audiovisual Equipment item shall be considered under the following terms listed in the "Substitutions" column of the equipment list spreadsheet (Appendix A):
1. The term "No Substitutions" shall denote that only the listed product(s) are acceptable and no substitutions will be considered or approved.
 2. The term "Or Equal as Approved" shall denote that equivalent products will be considered as alternatives to the specified products pending approval from Audiovisual Consultant.
 3. The term "Or Equal" shall denote that functionally equivalent products shall be acceptable without written approval by Audiovisual Consultant.
- B. Where a specified item has been discontinued by the manufacturer and/or replaced by a new model, Audiovisual Consultant may require submission of the new model for evaluation prior to acceptance as a substitute.
- C. Where a manufacturer is listed as "comparable" but a specific model number is not indicated, the comparable products must meet all the listed specifications as a minimum, and the primary specified product (manufacturer and model number) shall be used as the basis of design.
- D. Product substitution is allowed only by expressed written consent of Audiovisual Consultant.
- E. The Audiovisual Integrator shall be fully responsible for making a substitute product match the requirements, description and functionality of the originally specified product regarding all options, accessories and external interface requirements.

2.7 SOFTWARE

A. General

1. The Audiovisual Integrator may retain intellectual rights to the operating software.
2. The Owner shall be granted a license in perpetuity for use.
3. All source code becomes the exclusive property of the Owner.
4. All source code changes must be fully documented. Updated programming (compiled and un-compiled hard and soft copy versions of code) must be updated and located at all equipment rack locations and for all equipment manuals.
5. Source code changes and/or additional programming will be warranted by the vendor for a period of 1 year with the Audiovisual Integrator responsible for any required diagnosis and repair.
6. All manufacturer's software operating system updates, bug fixes, patches, etc., shall be installed as part of the periodic system maintenance of the system during the warranty period.
7. An acceptance test will be performed at commissioning during which the software and any additional code changes or upgrades must perform accurately and be error free.

B. Audiovisual System Control Software

1. Audiovisual System Control Software shall facilitate operation and/or status monitoring of all designated Audiovisual Equipment.
2. Graphical user interface (GUI) designs for all Audiovisual System control touch panels developed in accordance with the guidelines of the InfoComm International® “Dashboard for Controls Design Reference” and “Integrators Guide” for layout and flow principals.
3. Graphical User Interface designs shall conform to Owner’s graphic standards and guidelines for use of logos or other graphical treatments.
4. Coordinate and integrate requirements for lighting control presets with control panel scene recall where appropriate.
5. Coordinate and integrate requirements for motorized window covering and screen controls.
6. Set up of all video windowing software in multi-image processors whether in stand-alone units or within video projectors.
7. Set up of Codecs in coordination with the Owner’s videoconference and/or network support staff including any specific networking or line provisioning.
8. Coordinate with Client for all required IP address range and info for AV networked devices and supply any specific requirements for network parameters (MDO for switches, multicast for streaming, bandwidth and port settings for videoconferencing, etc.). Configure and record all final IP address information and supply final listing of devices and their information to Client IT Department.
9. Configuration of all networked AV devices with appropriate settings and instruction on how to access remotely for support of management. Tie all control system and networked AV peripherals into main Client or specific management software package (either included in this scope or existing system) for remote control, management and support.

2.8 DEVICE PLATES

- A. NEMA “gang-type” device and cover plates shall be standard (or “jumbo” size as required) with color and finish as specified by the Construction Manager.
- B. Device plates other than NEMA “gang-type” plates shall be 1/8" aluminum or 1/16" stainless steel or other material/finish as specified by the Construction Manager.
- C. All device plates shall be sized to fully cover the mounting box and rough opening.
- D. All text and graphics shall be engraved. Colors and type font shall be as specified by the Construction Manager.
- E. Detailed shop drawings of device plates and panels showing all finishes, dimensions, labeling and cutout information shall be submitted prior to fabrication.
- F. Blank cover plates shall be provided at all wall, floor and ceiling boxes that do not have device plates installed. Material/finish shall be as specified by Construction Manager.
- G. At ceiling mounted video projector locations and other “non-connectorized” plates, provide a secured grommet in ceiling tile or a grommetted hole in a blank plate. Acceptable: ProCo Plateworks® / Captain NEMA® or comparable by RCI, Wireworks, Whirlwind, Panel Authority, Panel Crafters, custom by Audiovisual Integrator.

2.9 FIXED INSTALLATION CABLE

- A. The cable types listed in the table below are specified for fixed installation within the base-building raceway and within fixed equipment racks. Unless specifically noted elsewhere, these are NOT acceptable for flexible cables used within lecterns or credenzas or for connection of portable equipment.
- B. Where plenum rated cables required, plenum equivalents shall meet the same performance characteristics as non-plenum cables listed below
- C. All speaker cable shall be sized by the Audiovisual Integrator to produce less than 1dB of loss in the speaker/cable circuit.
- D. All video cable shall be sized by the Audiovisual Integrator to meet the criteria listed in Paragraph 3.3 D. 6.
- E. The Audiovisual Integrator shall select the UTP cable type (Cat 5, Cat5e, Cat6, MediaTwist, etc.) for correct operation of AV over UTP equipment.

Signal Type	Description	Acceptable Mfgs
Audio (analog line/mic level)	Shielded twisted pair, 22 AWG	Belden 9451, Liberty 22-1P-EZ
Audio (digital)	110 ohm, Low Capacitance STP	Belden 1800B, Liberty 24 1p DIG-AUDIO
Audio Speaker Level, constant voltage	Stranded 18 AWG	Belden 5300UP, Liberty 18-2C
Audio Speaker Level 8 ohm, short run	Stranded 16 AWG	Belden 5200UP, Liberty 16-2C-TTP
Audio Speaker Level 8 ohm, medium run	Stranded 14 AWG	Belden 5100UP, Liberty 14-2C-TTP
Audio Speaker Level 8 ohm, long run	Stranded 12 AWG	Belden 5000UP, Liberty 12-2C-TTP
Audio Speaker Level 8 ohm, long run	Stranded 10 AWG	Belden 5T00UP, Liberty
Bundled RGBHV with optional control and audio pairs	Composite cable with mini hi-res coax	Belden, Extron, Liberty with video, audio, control elements as required
Baseband Video	RG-59	Belden 1505A
CATV Trunk Line	RG-11U Quad Shield	Belden 7731A
CATV Drop Line	RG-59U Quad Shield	Belden 9100, Liberty RG59-CCS
Control (Cresnet, Axlink)	STP 22 AWG UTP 18 AWG	Liberty LLinx-U, Belden 1502P or control system mfg certified equal
Control (serial, dry contact, etc)	Varies	Belden, Liberty, West Penn
Fiber for data transport	Varies	Client std mfg and type (MM/SM)
Fiber for AV signal transport	Varies	Client std mfg and type (MM/SM)
UTP for media transport (non IP)	CAT 5e or CAT 6 as req	Cat 5e- Belden 1701A Cat 6-1874A (orange jacket)
UTP for control (non IP)	CAT 5e or CAT 6 as req	Cat 5e- Belden 1701A Cat 6-1874A (orange jacket)
UTP for control (IP based)	CAT 5e or CAT 6 as req	Client std mfg and data color
UTP (IP transport)	CAT 5e or CAT 6 as req	Client std mfg and data color
UTP (Network cabling/patch cords)	CAT 5e or CAT 6 as req	Client std mfg and data color
UTP (Network crossover)	CAT 5e or CAT 6 as req	Client std mfg and data color (red if no Client standard exists)
Lectern, credenza, cart and portable cables:	Use highly flexible, pre-made or molded cables. Select	Extron or Liberty as required

	AWG, number of conductors, pairs and/or shield as required depending on specific function	
Other Cable Types not listed		Cable shall be submitted for approval prior to installation
Digital Media™ 8G	Proprietary vendor cable	Crestron DM or plenum ver. or approved Shielded CAT6 equivalent - Configure in system for type. Cable / termination to support video content up to 4k resolution.
Digital Media™ 8G Fiber	Proprietary vendor cable	Crestron DM or plenum ver. or approved equivalent. Cable / termination to support video content up to 4k resolution.
HDMI	High speed HDMI cable	AMX, Crestron, Extron or acceptable equivalent for distance reqd.
Note: Substitutions must be submitted for approval however CommScope, Canare, West Penn, and Extron cables are generally acceptable provided the cable meets or exceeds the performance of those cables shown above.		

2.10 CONNECTORS

Connector Type	Acceptable Mfg and Model
1/4 Inch Cable Connectors	Neutrik "NP" Series or comparable product by Switchcraft.
BNC Cable Connectors	3 piece, true 75Ω crimp type. (Must be compatible with cable type.) Kings, Liberty, Extron, Canare, ADC, Trompeter, Cambridge
F Cable Connectors	True 75Ω crimp type. (Must be compatible with cable type.) Gilbert, Trompeter, T&B
Loudspeaker Cable Connectors	Neutrik Speakon NL4FC or NL8FC
XLR Cable Connectors	Neutrik "X" series or comparable product by Switchcraft
RCA Cable Connectors	Canare RCAP-C*, Liberty Z400 Series
Recessed BNC Panel Connectors	Neutrik NBB75DFIB or comparable product by Canare for rack panels or wall plates (recessed).
Non-recessed BNC Panel Connectors	Neutrik NBB75FI or comparable product by Canare (with insulating washers) for floor boxes (non-recessed).
RJ-45 (Data) Panel Connectors for non IP Signals	Neutrik NE8FAV-Y110 or comparable product by Canare for rack panels or wall plates (recessed).
RJ-45 (Data) Panel Connectors for LAN	All LAN Jacks must match client standard mfg and color
Electrical/Electronic Hardware	<p>Telco 66-type punch blocks are not acceptable. All materials located in plenum spaces must be plenum-rated.</p> <p>Phoenix UK, USK series or comparable product by Cinch, Beau for terminal barrier strips; provide marker strips.</p> <p>ADC ICON series or comparable product by AVP, Switchcraft for split ring punch blocks; provide marker strips.</p> <p>Trimm 426J-3 or comparable product by ADC for x-mas trees; provide identification strips.</p>

Digital Media™ 8G	Crestron DM connector type. Shielded RJ45 for Shielded CAT6 grade (match to cable type – must match at both ends and be configured in system for type.
Digital Media™ 8G Fiber SC	Crestron DM SC Fiber connector type or approved equiv.

2.11 Rack Enclosures & Accessories

- A. **Gang-able rack enclosures shall be used in locations where two or more racks are grouped together. Height and quantity as indicated on drawings. Unless otherwise specified, the enclosure depth shall be 36” minimum. Finish shall be black powder coat. Acceptable: Middle Atlantic series WRK, or comparable by CPI, Atlas Sound, Lowell, or Stantron.**
- B. **Provide the accessories noted below for each gang-able rack enclosure. All accessories shall be from the same manufacturer as the rack enclosure.**
 - 1. Side panels (for end racks of each group of racks)
 - 2. Cable chase (as required)
 - 3. Vented top and solid rear door
 - 4. Grounding stud in top rear of rack
 - 5. Forced air ventilation configured for equipment and heat loads
 - 6. Full height rear mounting rails
 - 7. Full height solid copper bus bar bonded to rack
 - 8. Rack work light
 - 9. Horizontal lacing bars (as required)
 - 10. Seismic base and support
 - 11. Switched & circuit protected vertical power strip(s)
- C. **Stand-alone rack enclosures shall be used in locations where single racks are specified. Height and quantity as indicated on drawings. Unless otherwise specified, the enclosure depth shall be 32.5” minimum. Finish shall be black powder coat. Acceptable: Middle Atlantic series WRK-SA, or comparable by Atlas Sound, Lowell, or Stantron**
- D. **Provide the accessories noted below for each stand-alone rack enclosure. All accessories shall be from the same manufacturer as the enclosure.**
 - 1. Solid top and solid rear door
 - 2. Grounding stud in top rear of rack
 - 3. Forced air ventilation configured for equipment and heat loads
 - 4. Full height rear mounting rails
 - 5. Full height solid copper bus bar bonded to rack

6. Rack work light
 7. Horizontal lacing bars (as required)
 8. Caster base or seismic base
 9. Switched & circuit protected vertical power strip(s)
- E. Slide-out rack enclosures shall be used in locations where single racks are located within millwork. The height and quantity shall be as indicated on drawings. Acceptable: Middle Atlantic series SRSR-2-X (X = # of RU applicable), or comparable by Atlas Sound, Lowell, or Stantron. Confirm and coordinate the total height available within millwork or cabinetry for total number of rack-units (RUs) to fit.
- F. Provide the accessories noted below for each slide-out rack. All accessories shall be from the same manufacturer as the rack enclosure.
1. Grounding stud in top rear of rack
 2. Full height rear mounting rails
 3. Full height solid copper bus bar bonded to rack
 4. Forced air ventilation configured for equipment and heat loads
 5. Horizontal lacing bars (as required)
 6. Switched & circuit protected horizontal power management
- G. Wall mounted rack enclosures shall be used where indicated on drawings. The height and quantity shall be as indicated on drawings. The depth shall be a minimum of 22" with a black finish. Acceptable: Middle Atlantic series DWR, or comparable by Atlas Sound, Lowell, or Stantron.
- H. Provide the following accessories for each wall mounted rack. All accessories shall be from the same manufacturer as the rack enclosure.
1. Grounding stud in top rear of rack.
 2. Full height solid copper bus bar bonded to rack.
 3. Horizontal lacing bars (as required).
 4. Forced air ventilation configured for equipment and heat loads
 5. Switched & circuit protected horizontal power management
- 2.12 DISPLAY DEVICE MOUNTS
- A. Provide wall or ceiling mounts as required for all flat screen displays
- B. Wall mounts for flat screen displays shall provide vertical and horizontal position adjustment, and tilt and swivel adjustment. Acceptable: Premier Mounts or comparable product by Chief, Crimson AV, or Peerless unless otherwise shown on drawings. Color to match architectural environment where possible.
- C. All video projector mounts and ceiling mounted flat panel mounts shall provide infinite projector adjustment up to 30° pitch, 30° roll and 360° yaw. Acceptable: Premier Mounts or comparable product by Chief, Crimson AV, or Peerless unless otherwise shown on drawings. Color to match architectural environment where possible.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Before commencing the Audiovisual Integrator shall verify proper completion of the following work by others:
1. All low voltage cable containment and other infrastructure, including, but not limited to, the following:
 - a. Junction boxes and conduit installed per drawings and specifications.
 - b. Conduit stub-outs finished appropriately to prevent cable abrasion.
 - c. Pull boxes installed per NEC based on total number of turns and angles and on linear feet of conduit.
 - d. Pull strings installed in all conduits.
 - e. Cable tray installed and accessible as specified.
 2. All line voltage (120VAC) electrical power services, including verification of service levels, circuiting, grounding and other critical criteria.
 3. Fixed millwork and furniture systems.
- B. Confirm with the Construction Manager and the Owner that all work performed by others that impacts the work of the Audiovisual Integrator and the Audiovisual System installation has been completed satisfactorily. Also confirm that any remaining work to be completed will not adversely affect the work of the Audiovisual Integrator of the Audiovisual System installation and/or performance.
- C. Provide written notification of any problems impacting the Audiovisual Integrator's work to Audiovisual Consultant. Failure of the Audiovisual Integrator to notify the Construction Manager and/or Audiovisual Consultant in a timely manner of incomplete, inadequate, unfinished or otherwise unacceptable pre-requisite work by other trades in the base-building infrastructure will not relieve the Audiovisual Integrator of the responsibility to complete the work under this contract.

3.2 INSTALLATION

A. General

1. All equipment and enclosures described in this Specification shall be installed plumb and square unless specifically detailed otherwise.
2. All Audiovisual Equipment, except that designated as movable, portable or loose equipment, shall be secured and permanently attached to racks or other appropriate rigid surface in a manner which will require the use of a tool (e.g.: screw driver, nut driver, etc.) for removal.
3. All Audiovisual Equipment installed in a manner or location that may visually impact the finished appearance or functionality of any part of the facility shall be coordinated and approved by the Construction Manager and/or the Audiovisual Consultant prior to installation.
4. All Audiovisual Equipment supports shall meet or exceed the load requirements of the intended application with a minimum safety factor of five times the actual load.
5. Provide support structure and hardware with a SAE Grade 8 load rating (min.).

6. Secure all external hanging devices (speakers, cameras, etc.) with 3/16" diameter stainless steel cable tether to main wall/ceiling attachment point for secondary seismic support.

B. Equipment Racks

1. Electrical power distribution
 - a. Provide labels on receptacles indicating branch panel and circuit number.
 - b. See drawings for details of power raceway entering and mounting inside rack.
 - c. Power loads on outlet strips should be equalized for even load distribution.
 - d. Power cable attachment to outlet strips should be secured with remaining slack cabling bundled and secured leaving only enough to remove from outlet when serviced.
2. Provide a full height, technical ground bus bar in each vertical equipment rack, mount adjacent to the power raceway and electrically bonded to rack.
3. Install rack mounted equipment as indicated on the approved Audiovisual Shop Drawings, and make all connections within the racks before delivery to job site.
4. Provide vents or blank panels in unused equipment spaces.

C. Conduit and Raceways

1. Where cabling transitions from the building distribution infrastructure into equipment racks, provide strain relief and insulation as necessary to protect the cables.
2. Segregate cabling within conduits by signal and cable types.
3. Do not exceed 40% fill in conduits.

D. Cable Dressing

1. Cable dressing shall be considered from a maintenance standpoint. Suitable service loops shall be provided to allow removal of equipment, or to extend equipment that is mounted in the rack on rack slides. Where there is no rear access to the rack mounted equipment, this requirement shall be carefully addressed, and cabling shall be of sufficient length to enable the removal and replacement of any individual piece of equipment with all others in place.
2. It is expected that the Audiovisual Integrator will fabricate some portions of the systems off-site. Pre-wiring is acceptable provided that the pre-wired assembly can easily be transported to its final location without complication, and without risk of cable or equipment damage. Use of intermediate connections for inter-rack cables is not acceptable.
3. Equipment specified as "Future" shall be accommodated with cables installed and routed normally, with the un-terminated end being labeled, sealed in a plastic bag, and tagged appropriately.
4. The Audiovisual Integrator shall be responsible for determining the proper length of all cables whether manufactured on or off the job site.
5. The Audiovisual Integrator shall determine the desired method of securing cables. All of the following requirements must be met by the system:

6. Plastic cable ties are the preferred method of cable lacing. Lay-in systems are not acceptable except as applied to a horizontal cable tray.
7. Wires and cable shall be installed in a neat and orderly fashion, with like cable types following similar paths. Groups of cables shall be neatly combed and harnessed. Harnessed groups of cables shall be anchored at suitable intervals to reduce and relieve wire strain, especially strain on connections. Adequate service loops shall be provided at all cable endpoints.
8. Some rack-mounted equipment utilizes slide assemblies for front extension while in operation. For this type of mounting, additional, carefully dressed service loops on all cables shall be provided and installed with spring operated cable retractor assemblies to gather and recoil the service loop.
9. For all schemes of cable routing, no point in the path shall be subjected to a bend radius of less than eight (8) times the cable diameter, or minimum cable bend radius specified by the manufacturer.
10. Captive cables shall not be laced in such a manner as to prevent removal of the equipment to which they are captive.
11. Wires and cables shall be segregated according to signal type. In addition, audio cable shall be subdivided into three (3) classes: microphone level circuits, line level circuits, and speaker level circuits.
12. Microphone level audio circuits shall be kept at least three inches (3") from any other type of parallel signal circuits and at least six inches (6") from any parallel AC power circuits.
13. Speaker level audio circuits shall be kept a minimum of three inches (3") from line level audio and AC power circuits. All other signal circuits shall be kept at least three inches (3") away from any parallel AC power circuits.
14. Where circuits of different types must cross, they shall do so at right angles and then return to the above required separations in as short a distance as possible.
15. Conductors, wires, and cables shall be continuous between termination points. Splices are not acceptable.
16. Cable tie and lacing installation shall be accomplished using hand tools specifically designed to apply proper tension to the cable tie, and to cut the end off flush with no protruding sharp edges. The Audiovisual Integrator's field supervisor shall spot check assemblies using cable ties both visually and by touch, thereby detecting any sharp edges of improperly cut cable ties. Install cable ties on all cable runs of two or more cables that are not supported by raceway, cable tray, or other means. Place cable ties approximately six inches (6") apart. Do not use more cable ties than are necessary for a neat installation. Cable ties shall not be applied with excessive force that may damage or deform sensitive and fragile cables.
17. Rack mounting rails shall not be used for cable lacing. Lacing bars and/or tie mount bases mounted to cabinets or console shall be provided where appropriate.

E. Labeling

1. Provide permanent, self-adhesive, engraved labels on the following (use 1/8 inch letters with contrasting core):
 - a. Front panel of rack mounted equipment to indicate system designation and/or functionality (e.g. Auto-mixer 3, Press Feed, ADA, Speech Amp-Zone A, etc.).
 - b. Terminals (all types) to indicate system designation and/or functionality.

2. Provide permanent, self-adhesive labels on the back of rack mounted equipment to indicate system designation and/or functionality. Text shall be identical to equipment front panels noted above; however, labels for equipment back panels do not need to be rigid, engraved labels.
3. Identification "Vanity Panels" may be used and located at the top most panel location of each equipment rack to identify the Audiovisual Integrator as well as the Audiovisual Consultant.
4. Provide engraved text or graphics directly on the following (use 1/8 inch letters with contrasting paint fill):
 - a. Receptacle plates and panels.
 - b. Rack panels.
5. Provide heat-shrink labels on both ends of all installed cabling. Use self-adhesive wire numbers under clear heat-shrink, direct-printed heat-shrink or direct-printed self-adhesive wrap-around.
6. Provide printed tags 6 inches from the male connector end on all portable cables.
7. Do not indicate the Audiovisual Integrator's name on movable, portable or loose equipment, control panels or wall plates.
8. Text, graphics and colors used on labels visible on finished surfaces visible to Audiovisual System end-users must be approved by Audiovisual Consultant before fabrication of labeling, plates or other labeled items.

F. Wiring

1. Do not make any in-line wire splices unless specifically approved and noted.
2. Use only wire pulling lubricants specified by the wire manufacturer.
3. Provide grommets or chase nipples at cable entry where conduit is not installed.
4. Provide cable anchors for any cable or cable bundle ≥ 1 inch diameter. Do not use self sticking adhesive cable anchors.
5. Provide a service loop for each cable that connects to equipment in racks or AV furniture.
6. All cables to or from a movable lectern, cart, or desk or lectern shall be highly flexible cable, specifically designed by the manufacturer to be flexed repeatedly. Permanent installation type of cable is not acceptable for this application.
7. Do not install HD-SDI cable or Category type cables with plastic wire ties. Use soft Velcro based cable ties located at random distances apart.

G. Service and segregation of installed cables:

1. Refer to AV Drawing package for standard wiring termination and labeling details, standard cable segregation requirements and any special condition wiring details.

H. Terminations

1. Use crimping tools recommended by the termination manufacturer. Use ratcheting crimp tools for spade lugs and Molex connector pins.
2. Provide insulated spade lugs for screw terminals, two lugs per terminal maximum.

3. Conductors in phoenix type connectors shall not be tinned.
4. Use properly sized spade lugs for cable gauge and screw size.
5. Terminate conductors with proper mating connectors.
6. Audio shield/drain wires shall not be connected to the connector body at any time.
7. Only one cable or set of wires should be installed into any single connector; do not loop cable in and out of a connector. Provide a terminal block to parallel any audio signal wiring.
8. Dual channel audio circuits using 5-pin XLR-type connectors should be made using a dual twisted pair type cable (Canare Star Quad, ProCo Ameriquad, or equivalent).
9. If multiple connection types are available on a given piece of equipment, the screw terminal type (including phoenix type) should be used as first choice, with XLR connections used as second choice, and other connectors as last choice.
10. Maintain proper polarity when wiring components and loudspeakers.
11. Provide vertically mounted 1/2 inch plywood or 1/8 inch thick blank panels for mounting terminal strips. Do not mount terminal strips on the bottom of racks. Do not connect field cabling directly to rack mounted equipment without approval.
12. When using BNC cable, use only true 75 Ohm BNC cable end connectors designed for the intended coaxial cable required. Apply connectors with a crimp die certified for use with the intended coaxial cable and BNC. Feed thru must also strictly maintain 75 Ohms.
13. For HD-SDI, do not use any connectors or feed-thrus not specifically rated through 1.5 GHz digital bit rate.

3.3 QUALITY CONTROL

- A. Using the necessary test equipment, record and report to Audiovisual Consultant the results of all tests called for under this heading and as noted elsewhere.
- B. Correct or replace at no expense to the Owner any component that does not meet the manufacturer's specifications or indicated performance during any test.
- C. AV System Shop Tests:
 1. DC Resistance - Record the DC resistance of each rack chassis to the chassis of each rack mounted component. Verify resistance to be $<1\Omega$. If impedance for any piece of equipment is $>1\Omega$, troubleshoot and address the problem, then retest and record results.
 2. Audio Systems – For each system, set equipment to unity gain (microphone preamplifiers at 40dB gain) and test all system audio inputs to normally configured system electronic outputs (not speakers). Record frequency response noting test device and source used, source input levels and system output levels. Measured frequency response shall meet or exceed manufacturer's specification for all individual units in the signal path. Measured signal level shall not exceed ± 1 dB within the 80 Hz to 20 kHz bandwidth.
 3. Audio Equipment – If the audio system tests reveal problems with the equipment or system wiring or installation, the Audiovisual Integrator shall troubleshoot all individual equipment inputs to equipment outputs until the problem is determined and resolved. Then retest system inputs to system outputs per paragraph above and record results.

4. Video Systems – For each room system, test all system inputs to normally configured system outputs with commercially pre-recorded, calibrated source media. Record video gain, response and noise noting test device and source used, source input levels and system output levels.
 5. Video Equipment – If the video system tests reveal problems with the equipment or system wiring/installation, the Audiovisual Integrator shall troubleshoot all individual equipment inputs to equipment outputs until the problem is determined and resolved. Then retest system inputs to system outputs per paragraph above and record results.
 6. RF Systems – Test each system input to system outputs for all equipment supplied under this contract. Record output level and slope of each RF video system under test conditions. Use the following signals and device settings:
 - a. Test signal of 1 V p-p, 75% color bars at input to modulators.
 - b. All modulators connected and set to 2dB below maximum output.
 7. RF Equipment - If the RF system tests reveal problems with the equipment or system wiring/installation, the Audiovisual Integrator shall troubleshoot all individual equipment inputs to equipment outputs until the problem is determined and resolved. Then retest system inputs to system outputs per paragraph above and record results.
 8. Digital / HDMI Equipment – Follow current manufacturer required testing procedures for specific digital-based equipment. Test and verify using both a laptop with DisplayPort or HDMI support and with an appropriate test generator such as a Sencore MP500 (www.sencore.com).
- D. AV Systems Site Tests (at each AV equipment rack or group of racks) –
1. Test the following before connecting any AV equipment to 120VAC circuits -
 - a. Voltage between technical systems isolated ground and bonded non-isolated ground.
 - b. Voltages between hot/neutral, hot/ground and neutral/ground.
 2. After all AV equipment is installed and connected to all 120VAC circuits and IG conductors, record the current on isolated ground conductors. Current in excess of 2mA in any IG conductor is unacceptable. Troubleshoot, resolve and retest until current is <2mA and record final results.
 3. Test and record continuity of all cables and test for shorts between conductors and from conduits to conductors.
 4. Record the impedance of all loudspeaker circuits.
 5. Audio Systems absolute system polarity - Verify for all room input to room output audio paths as a part of systems tests, such that:
 - a. Positive acoustic pressure at the front of all microphones creates a positive voltage at the positive terminal of all line outputs and a positive acoustic pressure at all loudspeakers.
 - b. Positive voltage at the positive terminal of all line inputs creates a positive voltage at the positive terminal of all line outputs and a positive acoustic pressure at all loudspeakers.
 6. Video Systems - Measure all video paths from all in-room sources to all in-room displays.
 - a. Record gain, response and noise of each NTSC video system with all video circuits terminated with $75 \Omega \pm 1 \Omega$ under test conditions. Use the settings noted for video equipment in Paragraph 3.3 C.

- b. Signal loss through any signal path shall not exceed 3dB at 400 MHz.
 - (i) Video line drivers or peaking amplifiers shall be added to meet this criterion.
 - (ii) Video line drivers or peaking amplifiers shall be added only when signal loss due to cable length exceeds this criterion and cannot be corrected by selecting a lower loss cable.
 - (iii) Video line drivers or peaking amplifiers shall be adjusted to provide the least amount of correction to bring the signal within this criterion.
7. RF Systems - Each system input to system outputs at the closest and farthest tap on each cable run per floor. Record output level and slope of each RF video system under test conditions. Use the following signals and device settings:
 - a. Test signal of 1 V p-p, 75% color bars at input to modulators.
 - b. All modulators with gain controls connected and set to 3dB below maximum output.
8. Using a network analyzer with a fixed bridge, configured to 75 ohms, perform a S11 reflection measurement. Verify that each cable run maintains return loss, up to the clock frequency (1.485 GHz), greater than 20db. HD-SDI cable runs include all passive devices (e.g., connectors, feed-thrus, patches and patch cables). Identify each run link (including passive devices) and report values on shop drawings. Refer to SMPTE 292M, "Television-bit-serial Digital Interface for High-Definition Television Systems" SMPTE Journal, 107:849, Sept. 1998. See also "High Definition Cabling and Return Loss" in SMPTE Journal, January 2001.
9. Digital / HDMI Testing – Follow current manufacturer required commissioning procedures for specific digital-based equipment used including (but not limited to): Blu-Ray™ / DVD players or other HDMI based content players such as AppleTV™, etc., computing equipment with digital (DisplayPort, HDMI, etc.) outputs, digital based media switchers or processing equipment, distribution systems, encoders/decoders, transmitters / receivers & display equipment.
 - a. Test and verify resolutions using both a laptop with DisplayPort or HDMI support and with a laptop computer (using appropriate EDID information) and an appropriate test generator such as a Sencore MP500 (www.sencore.com), Extron VTG-400 or other appropriate testing equipment.
 - b. Configure digital media switcher and/or end devices with all appropriate device resolutions and matching equipment EDID tables. Resolutions to support include (but not be limited to): 800x600,, 1024x768, 1280x960, 1280x1024x 1360x768x 1280x768, 1280x800, 1440x900, 1600x1200, 1080p, 480p, 720p.

3.4 SUBSTANTIAL COMPLETION INSPECTION

- A. Prior to the Substantial Completion Inspection, the Audiovisual Integrator must verify that he is prepared for the checkout session by filling out a checklist for each room based on field verification. This completed checklist must be faxed or emailed to Audiovisual Consultant before checkout.
- B. During Substantial Completion Inspection the Audiovisual Integrator will verify quality of workmanship, labeling, proper power/signal grounding and overall equipment performance. Audiovisual Consultant will also verify audio setup and equalization and projector adjustments and will test all basic AV system operations. Audiovisual Consultant will prepare a punch list of items the Audiovisual Integrator must address before Final Checkout.
- C. Substantial Completion Inspection will be scheduled after the documentation provided is approved.
- D. The Audiovisual Integrator's Project Manager or a senior technician who is familiar with the system and the control system programmer shall assist Audiovisual Consultant during the Substantial Completion Inspection. The tests will consist of a thorough test, set-up, adjustments and evaluation of all system performance and functionality. Include 16 hours on site for these tests.

- E. Following the Substantial Completion Inspection, Audiovisual Consultant will create a punch list of deficiencies that must be corrected by the Audiovisual Integrator within 7 calendar days. The Audiovisual Integrator must provide documentation indicating that the punch list deficiencies have been corrected no later than 7 calendar days after Substantial Completion Inspection.

3.5 FINAL ACCEPTANCE

- A. Prior to the Final Acceptance inspection, the Audiovisual Integrator must verify that he is prepared for the checkout session by again filling out the following checklist verifying that all systems are operational, as well as all punch list items from the Preliminary Checkout Session have been addressed and corrected. This completed checklist, one for each room, must be faxed or emailed to Audiovisual Consultant before checkout.

3.6 SYSTEM TESTING & OWNER ACCEPTANCE PROCEDURES

A. Installation Testing and Adjustment

1. The Audiovisual Integrator shall perform all tests and adjustments, shall furnish all test equipment necessary and perform all work required to verify performance of the system in accordance with these Specifications. When these initial tests and adjustments are completed, the Audiovisual Integrator shall notify the Owner that the systems are in compliance with the Specifications and are ready and complete for Acceptance Tests. The scope of this work includes, but is not limited to the following:
2. The acceptance testing process shall reference this Specification for specific system requirements. There are two distinct procedures in the overall acceptance testing process outlined in this section, the Substantial Completion and the Final Acceptance. Often times, punch lists and incomplete elements will preclude considering the first review of the systems to be the final acceptance of the systems. Typically, final acceptance occurs only after all punch lists are completed and the owner has had some time to work the systems (after the systems are substantially complete), final documentation is given to the owner, and all training is performed.
3. Additionally, the Owner shall retain the right to hire a consultant to test the technology systems. Delays to this consultant caused by incomplete work, improper wiring or inoperative equipment may result in consultant's time being billed to the Audiovisual Integrator at current consulting rates. In the event further adjustments are required, or defective equipment is to be repaired or replaced, tests shall be suspended or continued at the option of the Owner.

B. Substantial Completion

1. AV system substantial completion acceptance testing will consist of verifying overall system functionality, internal rack functions and wiring, external device functions and terminations, device operation, and completion of the Audiovisual Integrators testing procedures. The owner and Audiovisual Consultant will spot check the systems installed by the Audiovisual Integrator in accordance with the standards and practices delineated in the Specification documentation. The following requirements will be considered the basis for establishing substantial completion of the AV Systems.
2. Provide as-built equipment list.
3. Provide redlined design drawings, rack layouts, spreadsheets, and any other relevant and current documentation.
4. Integrator's Punch list: Provide an internally constructed punch list of known devices, cables, or systems that are incomplete. Audiovisual Consultant and the owner will construct another punch list after the substantial completion acceptance testing is performed that is based on the inspection and the Audiovisual Integrator's internally constructed list.

5. Test, adjust, balance, equalize and calibrate all equipment (including OFE) as required for optimum quality. Establish and tabulate normal settings for all level controls. These settings shall be recorded in the maintenance manual for reference.
6. Signal and Cable Testing and Documentation: Provide documentation on the point to point testing of all Fiber, CAT6, Audio, Video Inter-Room and Cabling, provided by the Audiovisual Integrator. The following will be tested for each of the respective category of cable and/or signal types:
 - a. Audio: continuity, polarity, sound check
 - b. Speaker: impedance, polarity, proper zoning, buzz & rattle (frequency sweep), sound check, signal quality.
 - c. Video: signal continuity, proper routing.
 - d. Control: continuity & confirmation of control capability between designated control locations and control processors.
 - e. Data/Cat6: Bandwidth testing
7. Quality of Installation: The areas around the racks and consoles should be free of debris and excess wires. Racks, consoles, and equipment should be free from dirt and grease.
8. Labeling and Terminations: All devices, including floor boxes, racks, termination panels, components, closets, panels, and cables should be terminated and labeled according to the Integrator's engineered plans. Visual spot-checking of wire dressing and terminations will be performed during the Acceptance Testing procedure.
9. The Owner's technical staff shall be involved in recommending hardware and software system settings. The Integrator shall be responsible for providing the test equipment for the tests.
10. System Functional Completion Requirements:
 - a. The owner is encouraged to bring in specific testing and operation scenarios that the Integrator may run through.
 - b. The individual areas of the building and the corresponding audiovisual shall be tested for compliance with system functional descriptions described in the Technology Systems Performance Specification.
11. System Technical Performance Completion
 - a. Individual sub-system components of the integrated AV Systems shall meet or exceed the technical performance defined in the Technology Systems Specification. Testing of the performance of these systems is the responsibility of the Integrator and shall include:
 - b. During the Acceptance Testing procedure, each system will be spot checked to verify systems integration and inter-system operability. For instance, a laptop and/or microphone should be able to be plugged into an interface, and the audio routed to a desired speaker zone.
 - c. The Audiovisual Integrator shall supply any necessary testing equipment for Acceptance Testing including a continuity checker, laptop computers with software, patch cables, and video test equipment. Also, video signal must be able to be routed, patched, and scaled or scan converted.
12. Architectural Integration Completion

- a. The Integrator shall be responsible for ensuring that the Audiovisual Systems are fully compatible with the architectural designs, equipment, fabrications and conditions described in the Audiovisual Systems Performance Specification.

C. Final Acceptance

1. The following items have been identified as items or systems that will not be required for substantial completion, but will be required for final acceptance of the systems:
 - a. Completion of the Substantial Completion checklist
 - b. Final Interface Design of control system screens (if applicable) and software provided to owner.
 - c. Audio EQ and final levels
 - d. Completion of all consultant and owner checklists
 - e. All Training performed
 - f. Final Software Configurations
 - g. Review of maintenance agreement documentation, contact information, and procedures with the owner.
 - h. Final As-Built Systems Documentation including spreadsheets, software, and drawings (in final CAD format)
 - i. Final network device listing and IP address allocation and information.

3.7 TRAINING

- A. The Audiovisual Integrator shall provide sufficient training for the Owner's designated staff to become proficient in the general operation, routine maintenance, troubleshooting, and other basic system support functions. This training shall include up to 6 sessions of training totaling up to 24 hours by the Audiovisual Integrator or the equipment manufacturer. This training shall include a session or sessions that are focused on the Owner's designated technical staff and also a session or sessions that focus on the administrative and/or instructional staff. Training of end users will be provided by the Owner's technical staff. Training may include coordinated "on-the-job" event support as part of the 24 hours total training. Additional training shall be negotiated as additional scope unless agreed on as part of the base contract. All trainings shall be digitally recorded and provided to client on DVD/CD for use as required.
- B. Times of day for training must be coordinated with Client availability including evening hours if requested for least disruption to Client day time operations.

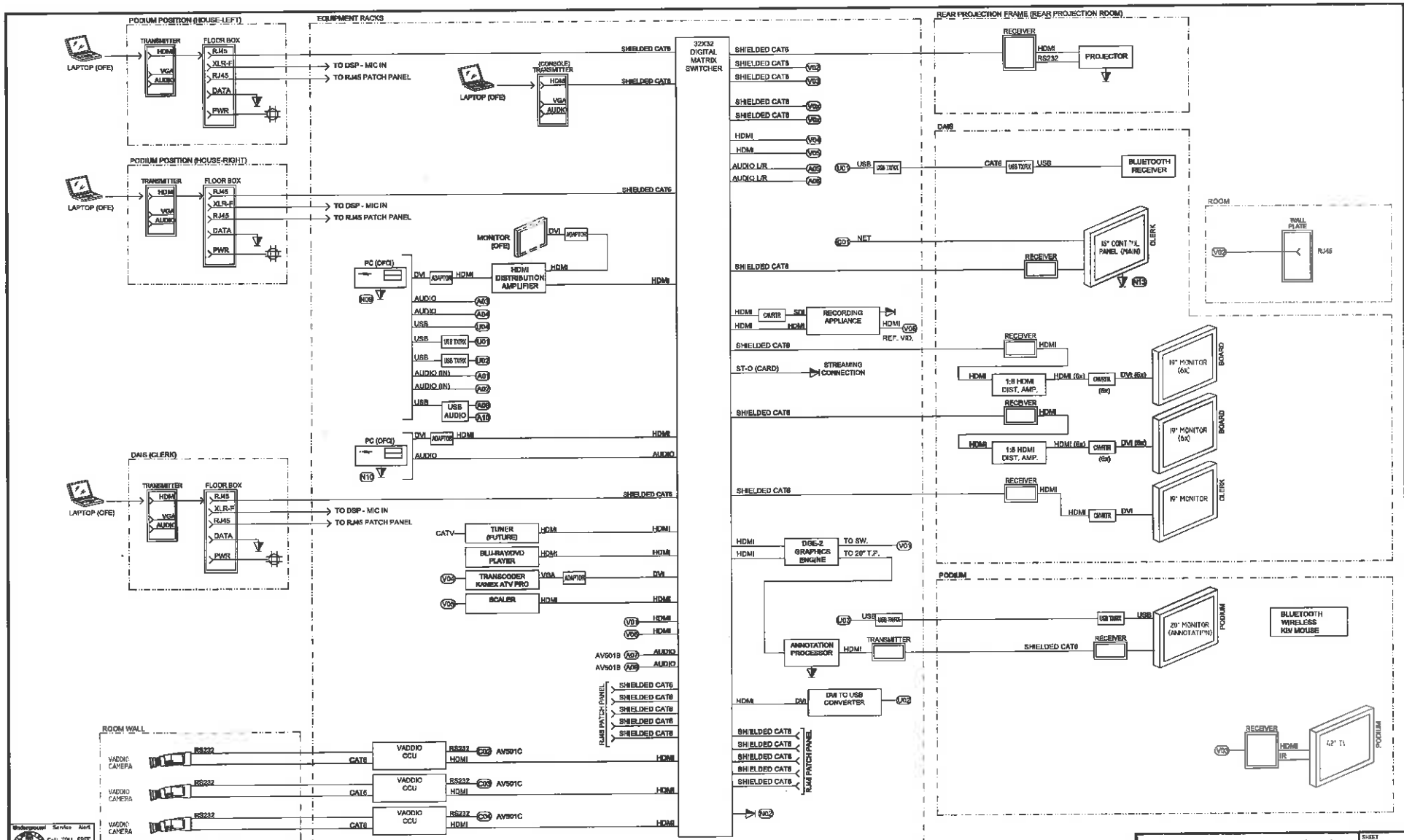
3.8 CONTRACT CLOSE-OUT

- A. Contract Closeout will be based on completion of Final Checkout, acceptance of Project Record Documents and Completion of Using Agency Training.
- B. Audiovisual Consultant has allowed 6 hours for Preliminary Checkout, 12 hours for Final Checkout, and 8 hours for Owner Training. If the Consultant is unable to perform his duties work within this allocation due to errors, omissions or inaccuracies by the Audiovisual Integrator, the Owner reserves the right to hold the Audiovisual Integrator responsible for additional costs incurred by the Owner for additional review by the Consultant.

3.9 APPENDIX A – AV SYSTEM FUNCTIONAL DIAGRAMS

- A. Refer to the Audiovisual Systems drawing package for functional system diagrams and additional system configuration specifications.
- B. Use the architectural audiovisual infrastructure constructions plans and specifications for reference (obtainable through the IEUA).

End of Section 27 41 00



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 Dallas, TX 75244

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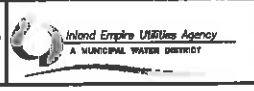
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 Big Orange shows where to put
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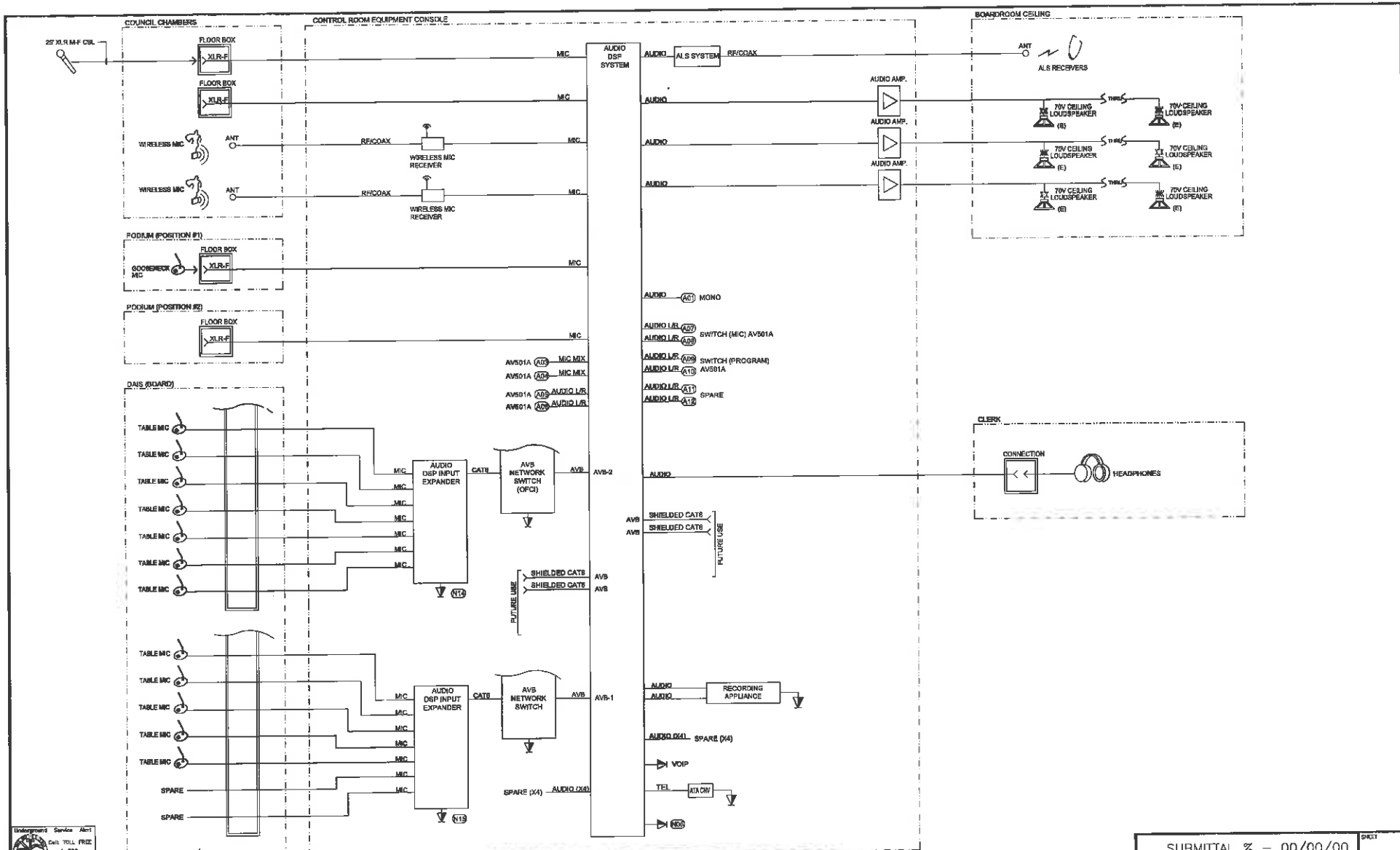
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INLAND EMPIRE UTILITIES AGENCY
 PROJECT NO. EN15049
 AUDIOVISUAL SYSTEMS -
 SIGNAL DIAGRAM FOR
 BOARD ROOM

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 PROJECT NO. PROJECT NO.
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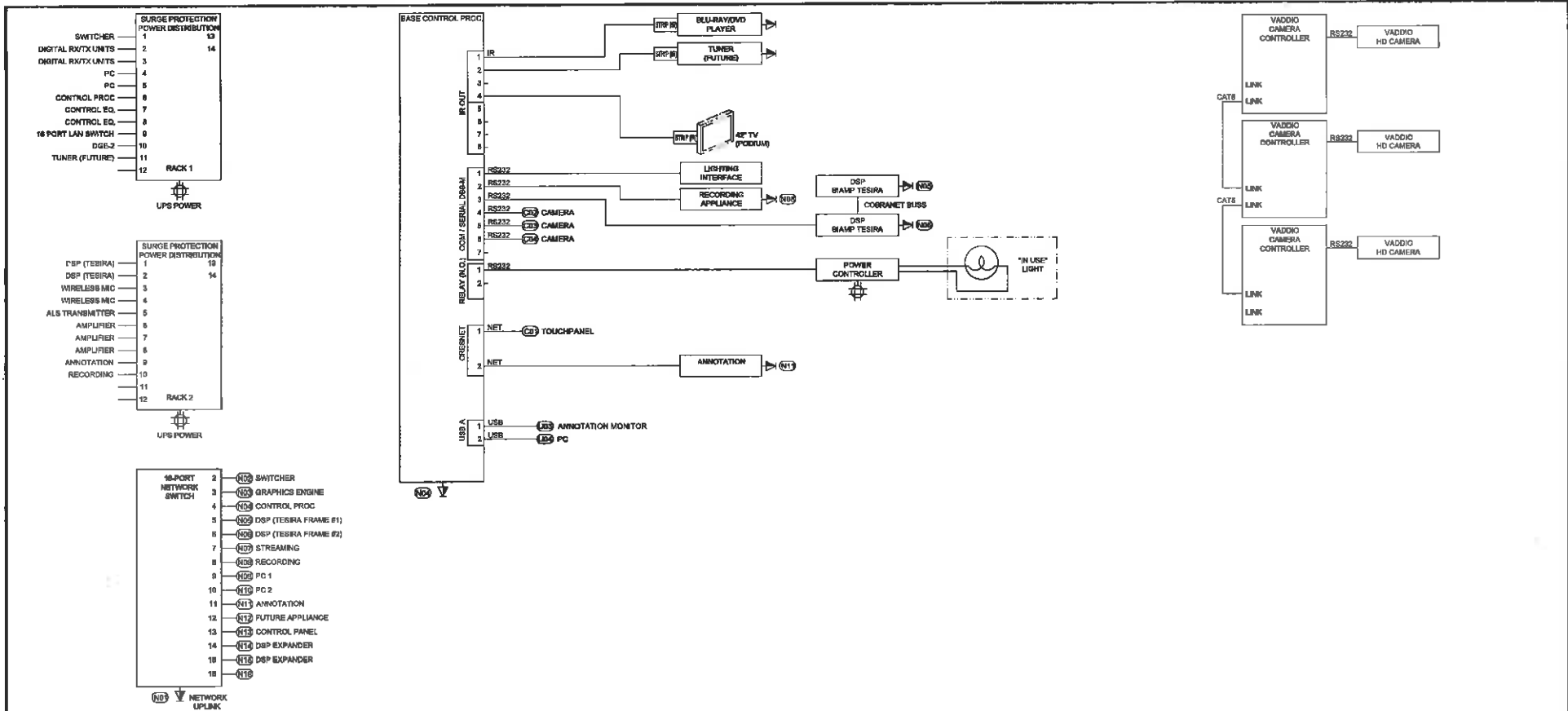
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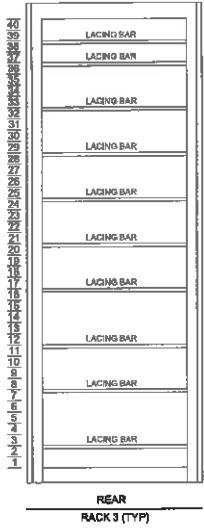
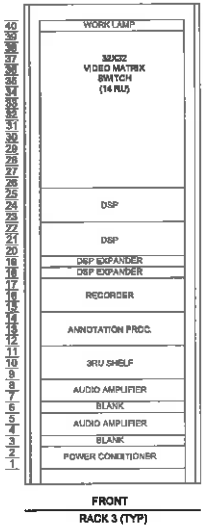
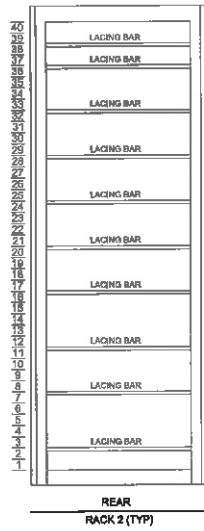
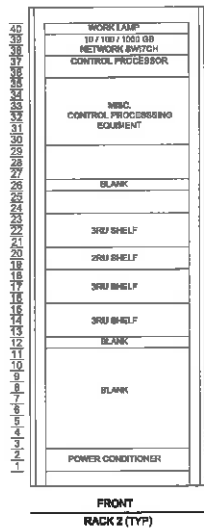
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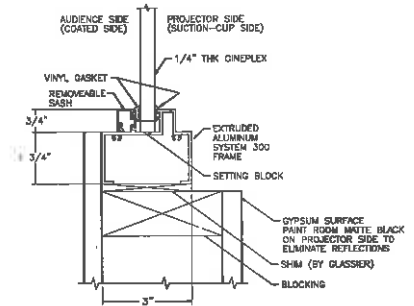
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AUDIOVISUAL SYSTEMS - SIGNAL DIAGRAM FOR BOARD ROOM		PROJECT NO. DRAWING NO. ANSIC1



1 AV EQUIPMENT RACK LAYOUT (REAR ROOM)
SCALE: 1/2" = 1' 0"



2 AV PROJECTION SCREEN FRAME
SCALE: 1/2" = 1' 0"

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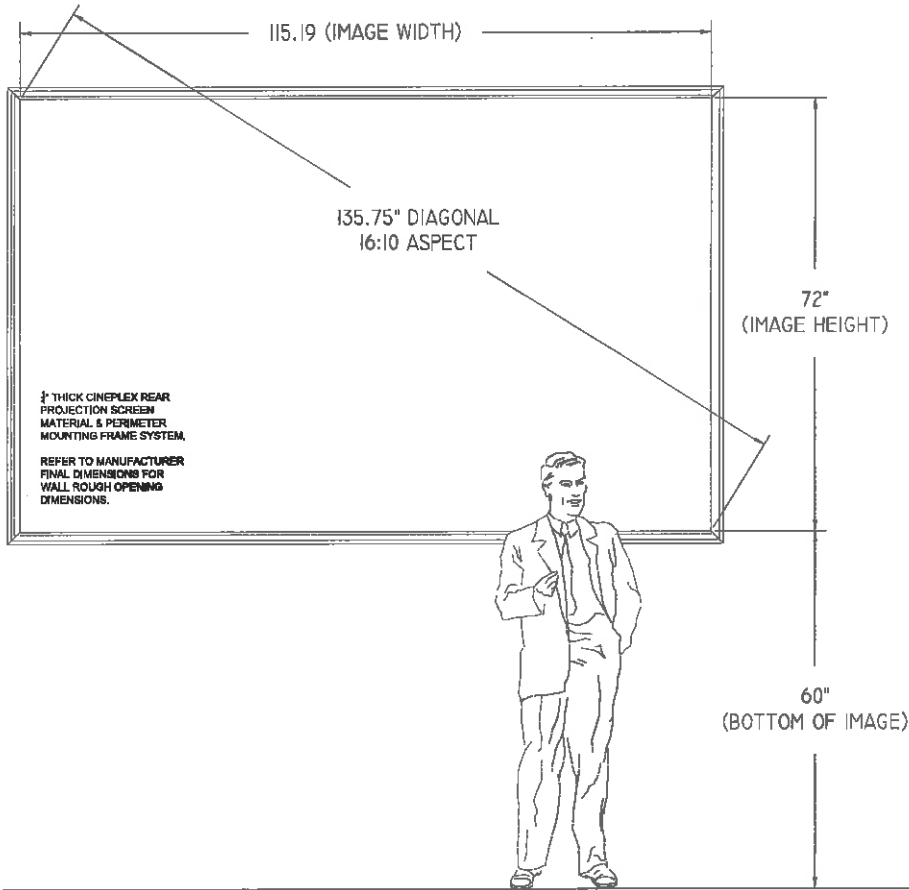
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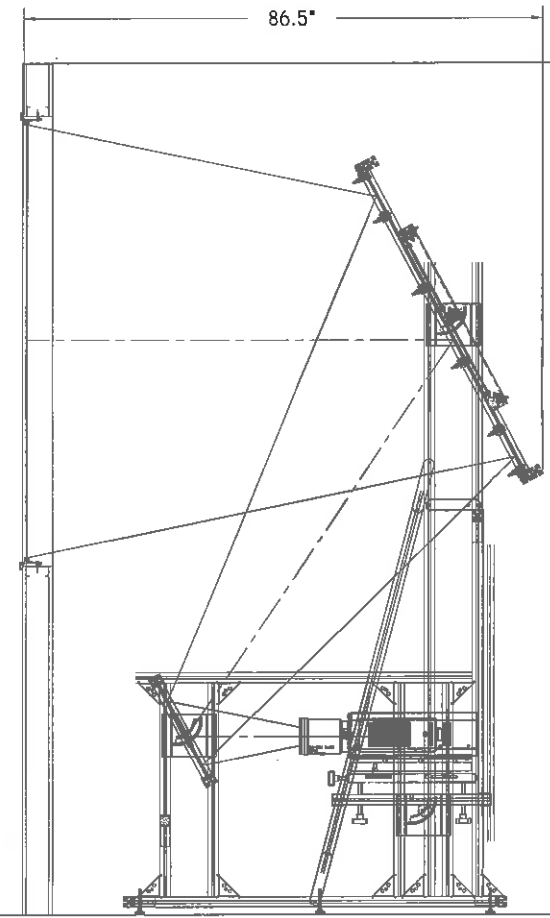
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PROJECT NO. EN16049
AUDIOVISUAL SYSTEMS -
DETAILS FOR
BOARD ROOM

SHEET NO. _____ OF XX
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PROJECT NO. _____
DRAWING NO. _____



1 PROJECTION SCREEN
SCALE: 1/2" = 1'-0"



2 REAR PROJECTION SYSTEM
SCALE: 1/2" = 1'-0"

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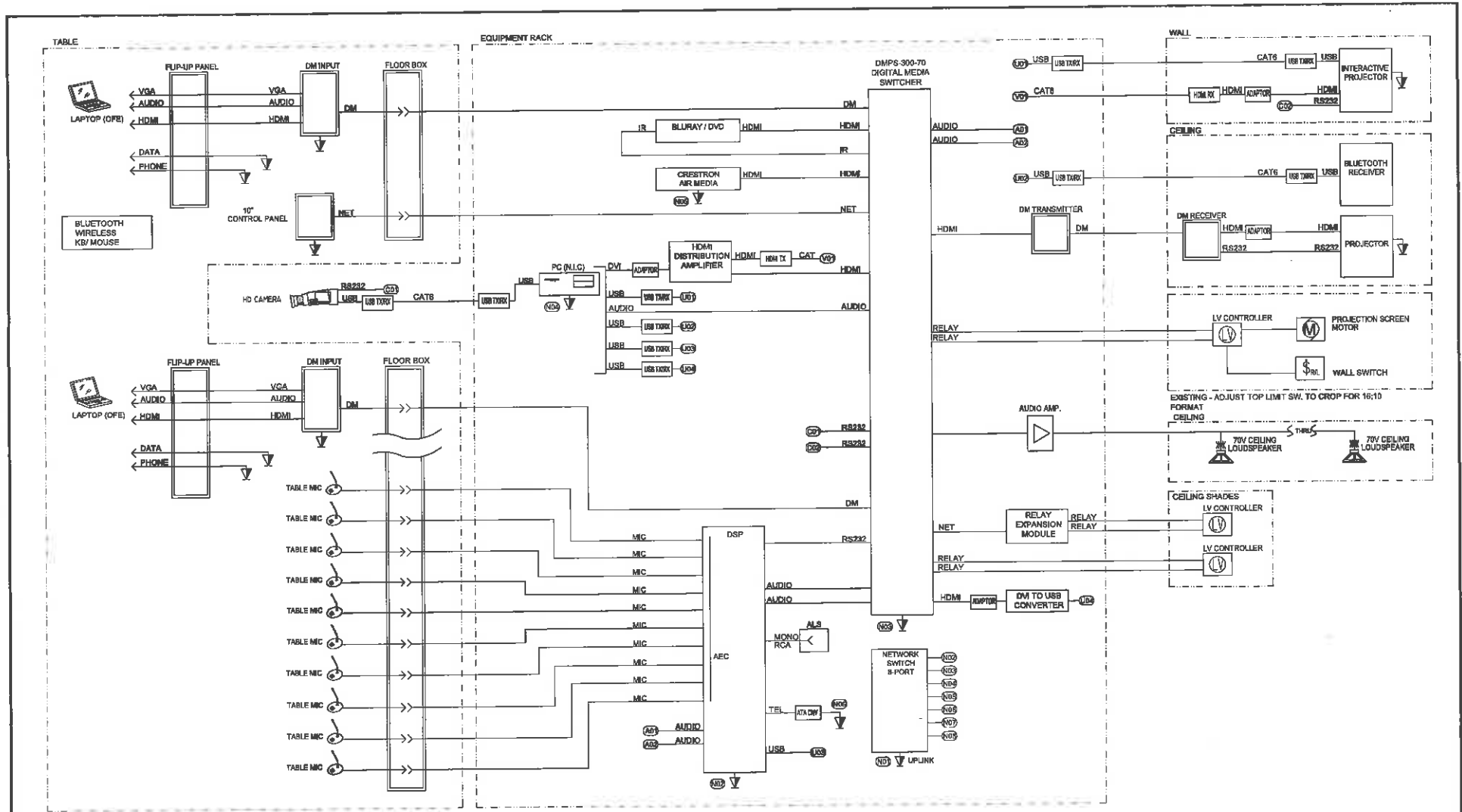
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AUDIOVISUAL SYSTEMS - DETAILS FOR REAR PROJECTION ROOM		PROJECT NO. PROJECT NO. DRAWING NO. AGENCY



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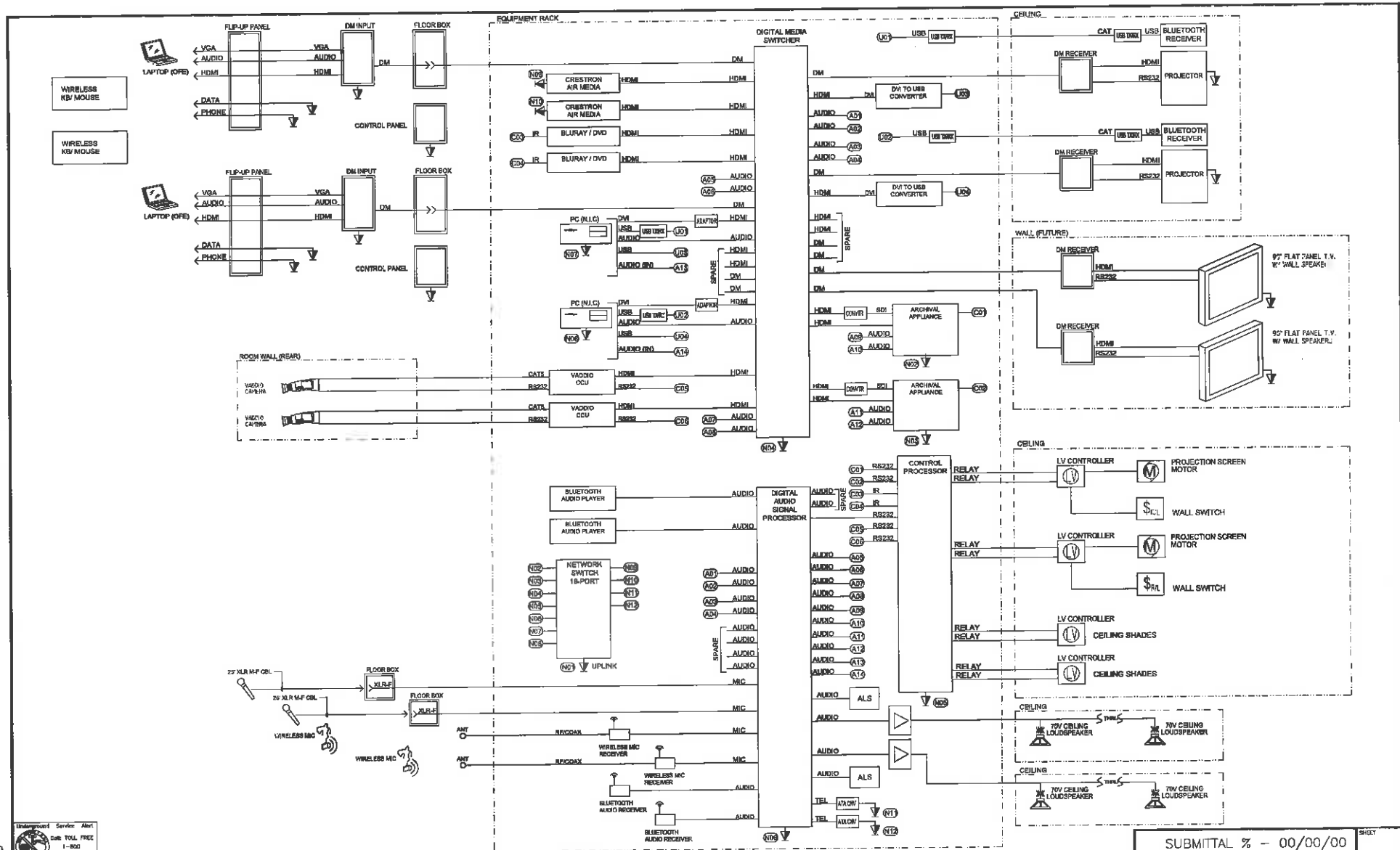
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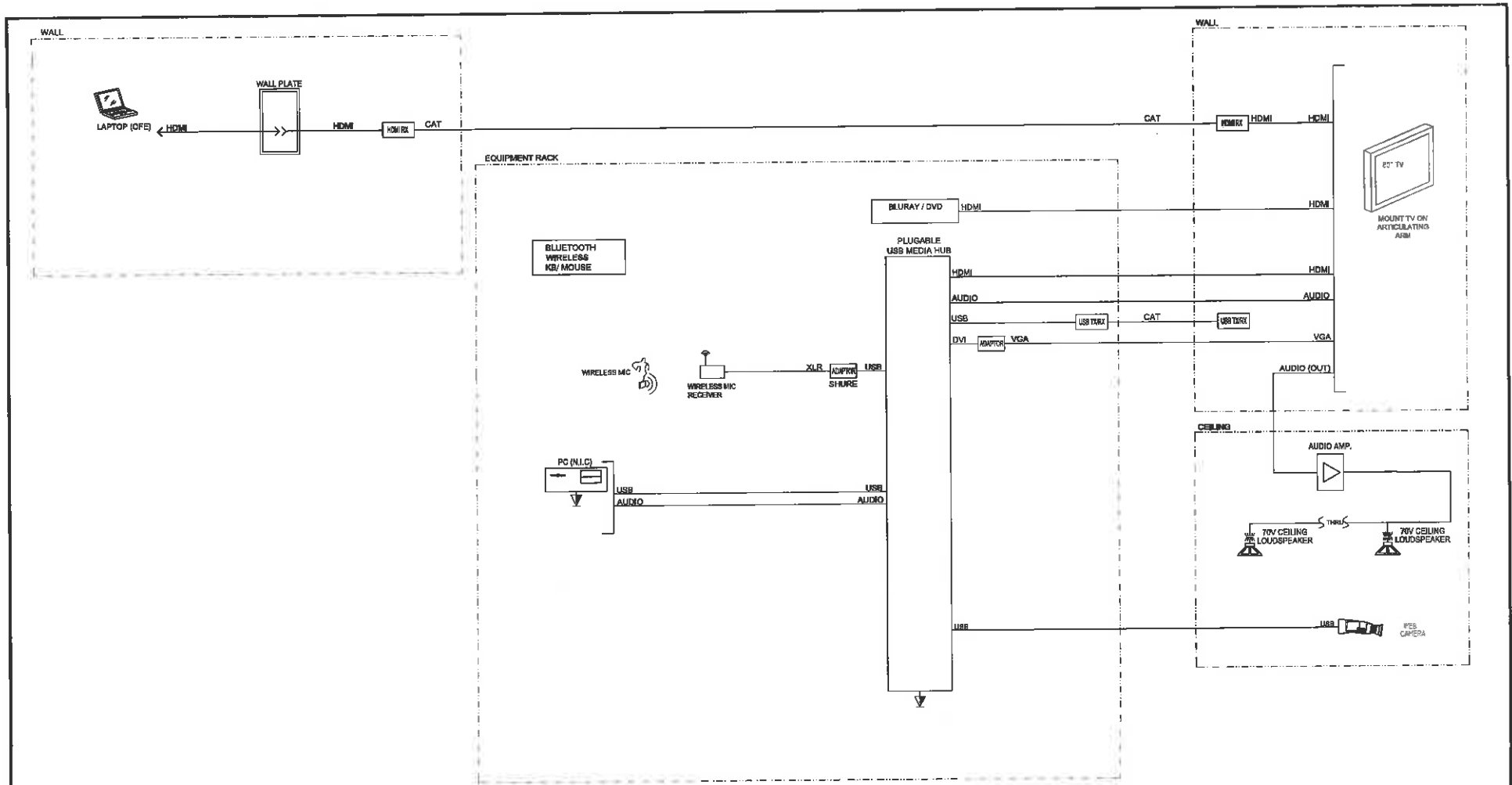
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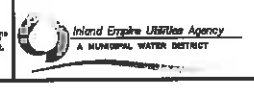
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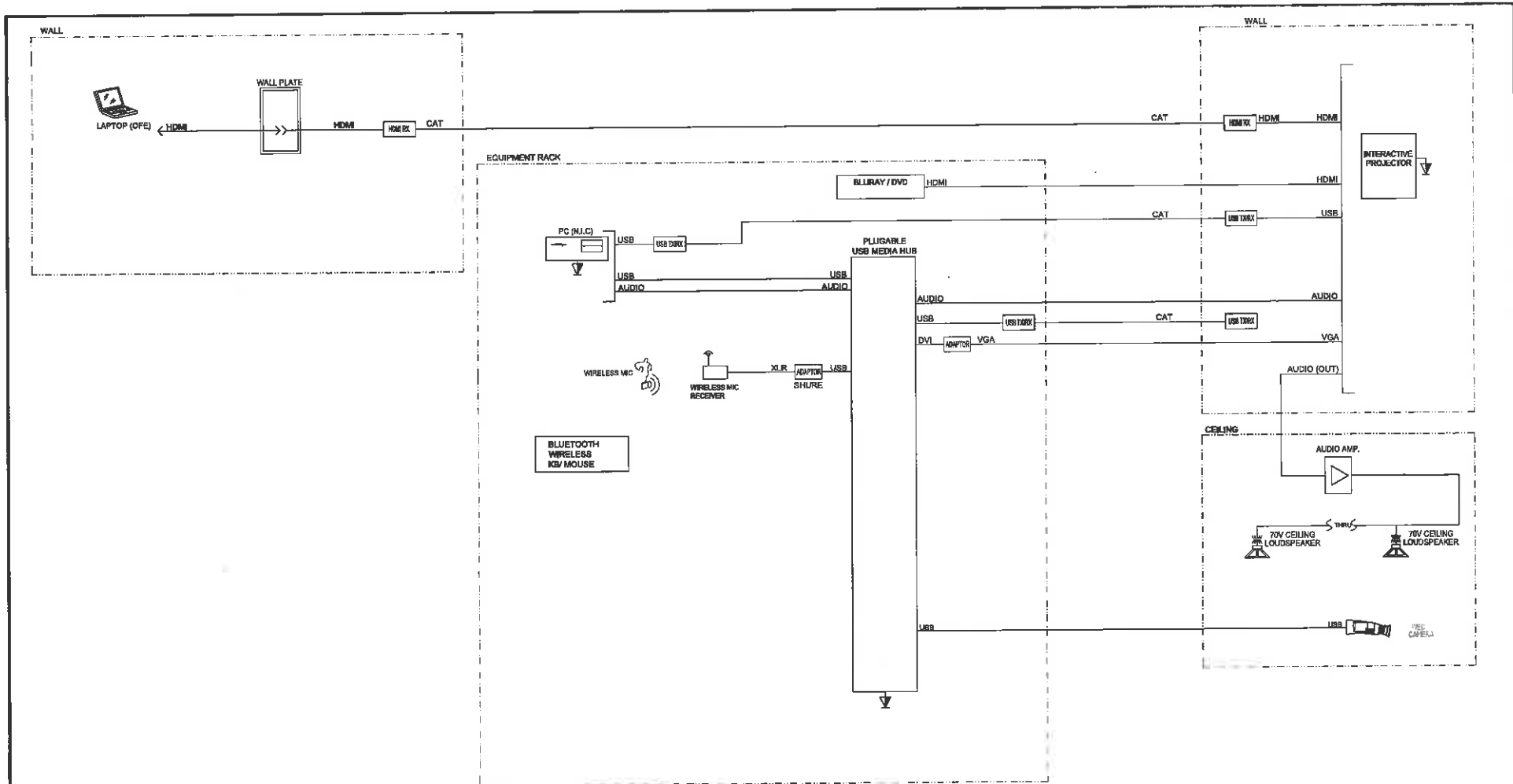
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 SIGNAL DIAGRAM FOR
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AUDIOVISUAL SYSTEMS - SIGNAL DIAGRAM FOR WETLAND INTERPRETIVE CENTER		PROJECT NO. DRAWING NO. AV505

**EXHIBIT D
BOARD ROOM SPECIFICATIONS
AND DRAWINGS**

**SECTION 00 01 10
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PROCUREMENT AND CONTRACTING REQUIREMENTS

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- A. 01 30 00 - Administrative Requirements
- B. 01 60 00 - Product Requirements
- C. 01 61 16 - Volatile Organic Compound (VOC) Content Restrictions
- D. 01 70 00 - Execution and Closeout Requirements
- E. 01 74 19 - Construction Waste Management and Disposal

2.02 DIVISION 02 -- EXISTING CONDITIONS

2.03 DIVISION 03 -- CONCRETE

2.04 DIVISION 04 -- MASONRY

2.05 DIVISION 05 -- METALS

2.06 DIVISION 06 -- WOOD, PLASTICS, AND COMPOSITES

2.07 DIVISION 07 -- THERMAL AND MOISTURE PROTECTION

2.08 DIVISION 08 -- OPENINGS

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2.13 DIVISION 13 -- SPECIAL CONSTRUCTION

2.14 DIVISION 14 -- CONVEYING EQUIPMENT

2.15 DIVISION 21 -- FIRE SUPPRESSION

2.16 DIVISION 22 -- PLUMBING

2.17 DIVISION 23 -- HEATING, VENTILATING, AND AIR-CONDITIONING (HVAC)

2.18 DIVISION 26 -- ELECTRICAL

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2.20 DIVISION 28 -- ELECTRONIC SAFETY AND SECURITY

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END OF SECTION

SECTION 01 30 00
ADMINISTRATIVE REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Preconstruction meeting.
- B. Construction progress schedule.
- C. Submittals for review, information, and project closeout.
- D. Submittal procedures.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 PRECONSTRUCTION MEETING

- A. Attendance Required:
 - 1. Owner.
 - 2. Architect.
 - 3. Contractor.
- B. Agenda:
 - 1. Execution of Owner-Contractor Agreement.
 - 2. Submission of executed bonds and insurance certificates.
 - 3. Distribution of Contract Documents.
 - 4. Submission of list of Subcontractors, list of Products, schedule of values, and progress schedule.
 - 5. Procedures and processing of field decisions, submittals, substitutions, applications for payments, proposal request, Change Orders, and Contract closeout procedures.
 - 6. Scheduling.
- C. Record minutes and distribute copies within two days after meeting to participants, with two copies to Architect, Owner, participants, and those affected by decisions made.

3.02 PROGRESS MEETINGS

- A. Schedule and administer meetings throughout progress of the Work at maximum monthly intervals.
- B. Make arrangements for meetings, prepare agenda with copies for participants, preside at meetings.
- C. Attendance Required:
 - 1. Contractor.
 - 2. Owner.
 - 3. Contractor's Superintendent.
 - 4. Major Subcontractors.
- D. Agenda:
 - 1. Review minutes of previous meetings.
 - 2. Review of Work progress.
 - 3. Field observations, problems, and decisions.
 - 4. Identification of problems that impede, or will impede, planned progress.
 - 5. Review of submittals schedule and status of submittals.
 - 6. Maintenance of progress schedule.
 - 7. Corrective measures to regain projected schedules.
 - 8. Planned progress during succeeding work period.
 - 9. Maintenance of quality and work standards.
 - 10. Effect of proposed changes on progress schedule and coordination.
 - 11. Other business relating to Work.

- E. Record minutes and distribute copies within two days after meeting to participants, with two copies to Architect, Owner, participants, and those affected by decisions made.

3.03 CONSTRUCTION PROGRESS SCHEDULE

- A. If preliminary schedule requires revision after review, submit revised schedule within 10 days.
- B. Within 20 days after review of preliminary schedule, submit draft of proposed complete schedule for review.
 - 1. Include written certification that major contractors have reviewed and accepted proposed schedule.
- C. Within 10 days after joint review, submit complete schedule.
- D. Submit updated schedule with each Application for Payment.

3.04 SUBMITTALS FOR REVIEW

- A. When the following are specified in individual sections, submit them for review:
 - 1. Product data.
 - 2. Shop drawings.
 - 3. Samples for selection.
 - 4. Samples for verification.
- B. Submit to Architect of Record and Owner for review for the limited purpose of checking for conformance with information given and the design concept expressed in the contract documents.
- C. Samples will be reviewed only for aesthetic, color, or finish selection.
- D. After review, provide copies and distribute in accordance with SUBMITTAL PROCEDURES article below .

3.05 SUBMITTALS FOR INFORMATION

- A. When the following are specified in individual sections, submit them for information:
 - 1. Design data.
 - 2. Certificates.
 - 3. Test reports.
 - 4. Inspection reports.
 - 5. Manufacturer's instructions.
 - 6. Manufacturer's field reports.
 - 7. Other types indicated.

3.06 SUBMITTALS FOR PROJECT CLOSEOUT

- A. Submit Correction Punch List for Substantial Completion.
- B. Submit Final Correction Punch List for Substantial Completion.
- C. When the following are specified in individual sections, submit them at project closeout:
 - 1. Project record documents.
 - 2. Operation and maintenance data.
 - 3. Warranties.
 - 4. Bonds.
 - 5. Other types as indicated.
- D. Submit for Owner's benefit during and after project completion.

3.07 NUMBER OF COPIES OF SUBMITTALS

- A. Documents for Review:
 - 1. Small Size Sheets, Not Larger Than 8-1/2 x 11 inches (215 x 280 mm): Submit the number of copies that Contractor requires, plus two copies that will be retained by Architect.
- B. Documents for Information: Submit two copies.

- C. **Samples:** Submit the number specified in individual specification sections; one of which will be retained by Architect.
 - 1. After review, produce duplicates.
 - 2. Retained samples will not be returned to Contractor unless specifically so stated.

3.08 SUBMITTAL PROCEDURES

- A. **Shop Drawing Procedures:**
 - 1. Prepare accurate, drawn-to-scale, original shop drawing documentation by interpreting the Contract Documents and coordinating related Work.
 - 2. Generic, non-project specific information submitted as shop drawings do not meet the requirements for shop drawings.
- B. Transmit each submittal with a copy of approved submittal form.
- C. Sequentially number the transmittal form. Revise submittals with original number and a sequential alphabetic suffix.
- D. Identify Project, Contractor, Subcontractor or supplier; pertinent drawing and detail number, and specification section number, as appropriate on each copy.
- E. Apply Contractor's stamp, signed or initialed certifying that review, approval, verification of Products required, field dimensions, adjacent construction Work, and coordination of information is in accordance with the requirements of the Work and Contract Documents.
- F. Schedule submittals to expedite the Project, and coordinate submission of related items.
- G. For each submittal for review, allow 15 days excluding delivery time to and from the Contractor.
- H. Identify variations from Contract Documents and Product or system limitations that may be detrimental to successful performance of the completed Work.
- I. Provide space for Contractor and Architect review stamps.
- J. When revised for resubmission, identify all changes made since previous submission.
- K. Distribute reviewed submittals as appropriate. Instruct parties to promptly report any inability to comply with requirements.
- L. Submittals not requested will not be recognized or processed.

END OF SECTION

SECTION 01 60 00
PRODUCT REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Transportation, handling, storage and protection.
- B. Product option requirements.
- C. Substitution limitations and procedures.

1.02 RELATED REQUIREMENTS

- A. Section 01 61 16 - Volatile Organic Compound (VOC) Content Restrictions: Requirements for VOC-restricted product categories.

1.03 SUBMITTALS

- A. **Product Data Submittals:** Submit manufacturer's standard published data. Mark each copy to identify applicable products, models, options, and other data. Supplement manufacturers' standard data to provide information specific to this Project.
- B. **Shop Drawing Submittals:** Prepared specifically for this Project; indicate utility and electrical characteristics, utility connection requirements, and location of utility outlets for service for functional equipment and appliances.
- C. **Sample Submittals:** Illustrate functional and aesthetic characteristics of the product, with integral parts and attachment devices. Coordinate sample submittals for interfacing work.
 - 1. For selection from standard finishes, submit samples of the full range of the manufacturer's standard colors, textures, and patterns.

PART 2 PRODUCTS

2.01 NEW PRODUCTS

- A. Provide new products unless specifically required or permitted by the Contract Documents.
- B. **DO NOT USE** products having any of the following characteristics:
 - 1. Made outside the United States, its territories, Canada, or Mexico.
 - 2. Made using or containing CFC's or HCFC's.
 - 3. Made of wood from newly cut old growth timber.
 - 4. Containing lead, cadmium, asbestos.
- C. Where all other criteria are met, Contractor shall give preference to products that:
 - 1. If used on interior, have lower emissions, as defined in Section 01 61 16.
 - 2. If wet-applied, have lower VOC content, as defined in Section 01 61 16.
 - 3. Have a published GreenScreen Chemical Hazard Analysis.

2.02 PRODUCT OPTIONS

- A. **Products Specified by Reference Standards or by Description Only:** Use any product meeting those standards or description.
- B. **Products Specified by Naming One or More Manufacturers:** Use a product of one of the manufacturers named and meeting specifications, no options or substitutions allowed.
- C. **Products Specified by Naming One or More Manufacturers with a Provision for Substitutions:** Submit a request for substitution for any manufacturer not named.

PART 3 EXECUTION

3.01 SUBSTITUTION PROCEDURES

- A. Document each request with complete data substantiating compliance of proposed substitution with Contract Documents.
- B. A request for substitution constitutes a representation that the submitter:
 - 1. Has investigated proposed product and determined that it meets or exceeds the quality level of the specified product.

2. Agrees to provide the same warranty for the substitution as for the specified product.
 3. Agrees to coordinate installation and make changes to other Work that may be required for the Work to be complete with no additional cost to Owner.
 4. Waives claims for additional costs or time extension that may subsequently become apparent.
- C. Substitutions will not be considered when they are indicated or implied on shop drawing or product data submittals, without separate written request, or when acceptance will require revision to the Contract Documents.
- D. Substitution Submittal Procedure (after contract award):
1. Submit three copies of request for substitution for consideration. Limit each request to one proposed substitution.
 2. Submit shop drawings, product data, and certified test results attesting to the proposed product equivalence. Burden of proof is on proposer.
 3. The Architect will notify Contractor in writing of decision to accept or reject request.

3.02 TRANSPORTATION AND HANDLING

- A. Package products for shipment in manner to prevent damage; for equipment, package to avoid loss of factory calibration.
- B. If special precautions are required, attach instructions prominently and legibly on outside of packaging.
- C. Coordinate schedule of product delivery to designated prepared areas in order to minimize site storage time and potential damage to stored materials.
- D. Transport and handle products in accordance with manufacturer's instructions.
- E. Transport materials in covered trucks to prevent contamination of product and littering of surrounding areas.
- F. Promptly inspect shipments to ensure that products comply with requirements, quantities are correct, and products are undamaged.
- G. Provide equipment and personnel to handle products by methods to prevent soiling, disfigurement, or damage, and to minimize handling.
- H. Arrange for the return of packing materials, such as wood pallets, where economically feasible.

3.03 STORAGE AND PROTECTION

- A. Designate receiving/storage areas for incoming products so that they are delivered according to installation schedule and placed convenient to work area in order to minimize waste due to excessive materials handling and misapplication.
- B. Store and protect products in accordance with manufacturers' instructions.
- C. Store with seals and labels intact and legible.
- D. Store sensitive products in weather tight, climate controlled, enclosures in an environment favorable to product.
- E. For exterior storage of fabricated products, place on sloped supports above ground.
- F. Protect products from damage or deterioration due to construction operations, weather, precipitation, humidity, temperature, sunlight and ultraviolet light, dirt, dust, and other contaminants.
- G. Comply with manufacturer's warranty conditions, if any.
- H. Cover products subject to deterioration with impervious sheet covering. Provide ventilation to prevent condensation and degradation of products.
- I. Prevent contact with material that may cause corrosion, discoloration, or staining.
- J. Provide equipment and personnel to store products by methods to prevent soiling, disfigurement, or damage.

- K. Arrange storage of products to permit access for inspection. Periodically inspect to verify products are undamaged and are maintained in acceptable condition.

END OF SECTION

SECTION 01 61 16
VOLATILE ORGANIC COMPOUND (VOC) CONTENT RESTRICTIONS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Requirements for Indoor-Emissions-Restricted products.
- B. Requirements for VOC-Content-Restricted products.

1.02 RELATED REQUIREMENTS

- A. Section 01 30 00 - Administrative Requirements: Submittal procedures.

1.03 DEFINITIONS

- A. Indoor-Emissions-Restricted Products: All products in the following product categories, whether specified or not:
 - 1. Interior paints and coatings.
- B. VOC-Content-Restricted Products: All products in the following product categories, whether specified or not:
 - 1. Interior paints and coatings.
 - 2. Interior adhesives and sealants, including flooring adhesives.
- C. Interior of Building: Anywhere inside the exterior weather barrier.
- D. Adhesives: All gunnable, trowelable, liquid-applied, and aerosol adhesives, whether specified or not; including flooring adhesives, resilient base adhesives, and pipe jointing adhesives.
- E. Sealants: All gunnable, trowelable, and liquid-applied joint sealants and sealant primers, whether specified or not; including firestopping sealants and duct joint sealers.
- F. Inherently Non-Emitting Materials: Products composed wholly of minerals or metals, unless they include organic-based surface coatings, binders, or sealants; and specifically the following:
 - 1. Concrete.
 - 2. Glass.
 - 3. Ceramics.

1.04 REFERENCE STANDARDS

- A. 40 CFR 59, Subpart D - National Volatile Organic Compound Emission Standards for Architectural Coatings; U.S. Environmental Protection Agency; current edition.
- B. ASTM D3960 - Standard Practice for Determining Volatile Organic Compound (VOC) Content of Paints and Related Coatings; 2005 (Reapproved 2013).
- C. CARB (SCM) - Suggested Control Measure for Architectural Coatings; California Air Resources Board; 2007.
- D. SCAQMD 1113 - South Coast Air Quality Management District Rule No.1113; current edition.
- E. SCAQMD 1168 - South Coast Air Quality Management District Rule No.1168; current edition.

1.05 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Product Data: For each VOC-restricted product used in the project, submit evidence of compliance.

1.06 QUALITY ASSURANCE

- A. VOC Content Test Method: 40 CFR 59, Subpart D (EPA Method 24), or ASTM D3960, unless otherwise indicated.
 - 1. Evidence of Compliance: Acceptable types of evidence are:
 - a. Report of laboratory testing performed in accordance with requirements.
- B. Testing Agency Qualifications: Independent firm specializing in performing testing and inspections of the type specified in this section.

PART 2 PRODUCTS

2.01 MATERIALS

- A. VOC-Content-Restricted Products: VOC content not greater than required by the following:
 - 1. Adhesives, Including Flooring Adhesives: SCAQMD 1168 Rule.
 - 2. Joint Sealants: SCAQMD 1168 Rule.
 - 3. Paints and Coatings: Each color; most stringent of the following:
 - a. 40 CFR 59, Subpart D.
 - b. SCAQMD 1113 Rule.
 - c. CARB (SCM).

PART 3 EXECUTION

3.01 FIELD QUALITY CONTROL

- A. Owner reserves the right to reject non-compliant products, whether installed or not, and require their removal and replacement with compliant products at no extra cost to Owner.
- B. Additional costs to restore indoor air quality due to installation of non-compliant products will be borne by Contractor.

END OF SECTION

SECTION 01 70 00
EXECUTION AND CLOSEOUT REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Examination, preparation, and general installation procedures.
- B. Requirements for alterations work, including selective demolition, except removal, disposal, and/or remediation of hazardous materials and toxic substances.
- C. Cutting and patching.
- D. Cleaning and protection.

1.02 RELATED REQUIREMENTS

- A. Section 07 84 00 - Firestopping.

1.03 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Cutting and Patching: Submit written request in advance of cutting or alteration that affects:
 - 1. Structural integrity of any element of Project.
 - 2. Integrity of weather exposed or moisture resistant element.
 - 3. Efficiency, maintenance, or safety of any operational element.
 - 4. Visual qualities of sight exposed elements.
 - 5. Work of Owner or separate Contractor.

1.04 PROJECT CONDITIONS

- A. Ventilate enclosed areas to assist cure of materials, to dissipate humidity, and to prevent accumulation of dust, fumes, vapors, or gases.
- B. Noise Control: Provide methods, means, and facilities to minimize noise produced by construction operations.

1.05 COORDINATION

- A. Coordinate scheduling, submittals, and work of the various sections of the Project Manual to ensure efficient and orderly sequence of installation of interdependent construction elements, with provisions for accommodating items installed later.
- B. Notify affected utility companies and comply with their requirements.
- C. Verify that utility requirements and characteristics of new operating equipment are compatible with building utilities. Coordinate work of various sections having interdependent responsibilities for installing, connecting to, and placing in service, such equipment.
- D. Coordinate space requirements, supports, and installation of mechanical and electrical work that are indicated diagrammatically on Drawings. Follow routing shown for pipes, ducts, and conduit, as closely as practicable; place runs parallel with lines of building. Utilize spaces efficiently to maximize accessibility for other installations, for maintenance, and for repairs.
- E. In finished areas except as otherwise indicated, conceal pipes, ducts, and wiring within the construction. Coordinate locations of fixtures and outlets with finish elements.
- F. Coordinate completion and clean-up of work of separate sections.

PART 2 PRODUCTS

2.01 PATCHING MATERIALS

- A. New Materials: As specified in product sections; match existing products and work for patching and extending work.
- B. Type and Quality of Existing Products: Determine by inspecting and testing products where necessary, referring to existing work as a standard.

- C. **Product Substitution:** For any proposed change in materials, submit request for substitution described in Section 01 60 00 - Product Requirements.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that existing site conditions and substrate surfaces are acceptable for subsequent work. Start of work means acceptance of existing conditions.
- B. Verify that existing substrate is capable of structural support or attachment of new work being applied or attached.
- C. Examine and verify specific conditions described in individual specification sections.
- D. Take field measurements before confirming product orders or beginning fabrication, to minimize waste due to over-ordering or misfabrication.
- E. Verify that utility services are available, of the correct characteristics, and in the correct locations.
- F. **Prior to Cutting:** Examine existing conditions prior to commencing work, including elements subject to damage or movement during cutting and patching. After uncovering existing work, assess conditions affecting performance of work. Beginning of cutting or patching means acceptance of existing conditions.

3.02 PREPARATION

- A. Clean substrate surfaces prior to applying next material or substance.
- B. Seal cracks or openings of substrate prior to applying next material or substance.
- C. Apply manufacturer required or recommended substrate primer, sealer, or conditioner prior to applying any new material or substance in contact or bond.

3.03 GENERAL INSTALLATION REQUIREMENTS

- A. Install products as specified in individual sections, in accordance with manufacturer's instructions and recommendations, and so as to avoid waste due to necessity for replacement.
- B. Make vertical elements plumb and horizontal elements level, unless otherwise indicated.
- C. Install equipment and fittings plumb and level, neatly aligned with adjacent vertical and horizontal lines, unless otherwise indicated.
- D. Make consistent texture on surfaces, with seamless transitions, unless otherwise indicated.
- E. Make neat transitions between different surfaces, maintaining texture and appearance.

3.04 ALTERATIONS

- A. Drawings showing existing construction and utilities are based on casual field observation and existing record documents only.
 - 1. Verify that construction and utility arrangements are as shown.
 - 2. Beginning of alterations work constitutes acceptance of existing conditions.
- B. Remove existing work as indicated and as required to accomplish new work.
 - 1. Remove items indicated on drawings.
 - 2. Relocate items indicated on drawings.
 - 3. Where new surface finishes are to be applied to existing work, perform removals, patch, and prepare existing surfaces as required to receive new finish; remove existing finish if necessary for successful application of new finish.
 - 4. Where new surface finishes are not specified or indicated, patch holes and damaged surfaces to match adjacent finished surfaces as closely as possible.
- C. **Services (Including but not limited to HVAC, Plumbing, Fire Protection, Electrical, and Telecommunications):** Remove, relocate, and extend existing systems to accommodate new construction.

1. Maintain existing active systems that are to remain in operation; maintain access to equipment and operational components; if necessary, modify installation to allow access or provide access panel.
 2. Where existing systems or equipment are not active and Contract Documents require reactivation, put back into operational condition; repair supply, distribution, and equipment as required.
 3. Where existing active systems serve occupied facilities but are to be replaced with new services, maintain existing systems in service until new systems are complete and ready for service.
 - a. Disable existing systems only to make switchovers and connections; minimize duration of outages.
 - b. Provide temporary connections as required to maintain existing systems in service.
 4. Verify that abandoned services serve only abandoned facilities.
 5. Remove abandoned pipe, ducts, conduits, and equipment, including those above accessible ceilings; remove back to source of supply where possible, otherwise cap stub and tag with identification; patch holes left by removal using materials specified for new construction.
- D. Protect existing work to remain.
1. Prevent movement of structure; provide shoring and bracing if necessary.
 2. Perform cutting to accomplish removals neatly and as specified for cutting new work.
 3. Repair adjacent construction and finishes damaged during removal work.
- E. Adapt existing work to fit new work: Make as neat and smooth transition as possible.
- F. Patching: Where the existing surface is not indicated to be refinished, patch to match the surface finish that existed prior to cutting. Where the surface is indicated to be refinished, patch so that the substrate is ready for the new finish.
- G. Refinish existing surfaces as indicated:
1. Where rooms or spaces are indicated to be refinished, refinish all visible existing surfaces to remain to the specified condition for each material, with a neat transition to adjacent finishes.
 2. If mechanical or electrical work is exposed accidentally during the work, re-cover and refinish to match.
- H. Clean existing systems and equipment.
- I. Remove demolition debris and abandoned items from alterations areas and dispose of off-site; do not burn or bury.
- J. Do not begin new construction in alterations areas before demolition is complete.
- K. Comply with all other applicable requirements of this section.

3.05 CUTTING AND PATCHING

- A. Whenever possible, execute the work by methods that avoid cutting or patching.
- B. See Alterations article above for additional requirements.
- C. Perform whatever cutting and patching is necessary to:
 1. Complete the work.
 2. Fit products together to integrate with other work.
 3. Provide openings for penetration of mechanical, electrical, and other services.
 4. Match work that has been cut to adjacent work.
 5. Repair areas adjacent to cuts to required condition.
 6. Repair new work damaged by subsequent work.
 7. Remove samples of installed work for testing when requested.
 8. Remove and replace defective and non-conforming work.
- D. Execute work by methods that avoid damage to other work and that will provide appropriate surfaces to receive patching and finishing. In existing work, minimize damage and restore to original condition.

- E. Employ original installer to perform cutting for weather exposed and moisture resistant elements, and sight exposed surfaces.
- F. Cut rigid materials using masonry saw or core drill. Pneumatic tools not allowed without prior approval.
- G. Restore work with new products in accordance with requirements of Contract Documents.
- H. Fit work air tight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.
- I. At penetrations of fire rated walls, partitions, ceiling, or floor construction, completely seal voids with fire rated material in accordance with Section 07 84 00, to full thickness of the penetrated element.
- J. Patching:
 - 1. Finish patched surfaces to match finish that existed prior to patching. On continuous surfaces, refinish to nearest intersection or natural break. For an assembly, refinish entire unit.
 - 2. Match color, texture, and appearance.
 - 3. Repair patched surfaces that are damaged, lifted, discolored, or showing other imperfections due to patching work. If defects are due to condition of substrate, repair substrate prior to repairing finish.

3.06 PROGRESS CLEANING

- A. Maintain areas free of waste materials, debris, and rubbish. Maintain site in a clean and orderly condition.
- B. Remove debris and rubbish from pipe chases, plenums, attics, crawl spaces, and other closed or remote spaces, prior to enclosing the space.
- C. Broom and vacuum clean interior areas prior to start of surface finishing, and continue cleaning to eliminate dust.
- D. Collect and remove waste materials, debris, and trash/rubbish from site periodically and dispose off-site; do not burn or bury.

3.07 PROTECTION OF INSTALLED WORK

- A. Protect installed work from damage by construction operations.
- B. Provide special protection where specified in individual specification sections.
- C. Provide temporary and removable protection for installed products. Control activity in immediate work area to prevent damage.
- D. Provide protective coverings at walls, projections, jambs, sills, and soffits of openings.
- E. Protect finished floors, stairs, and other surfaces from traffic, dirt, wear, damage, or movement of heavy objects, by protecting with durable sheet materials.
- F. Prohibit traffic or storage upon waterproofed or roofed surfaces. If traffic or activity is necessary, obtain recommendations for protection from waterproofing or roofing material manufacturer.
- G. Remove protective coverings when no longer needed; reuse or recycle plastic coverings if possible.

3.08 ADJUSTING

- A. Adjust operating products and equipment to ensure smooth and unhindered operation.

3.09 FINAL CLEANING

- A. Use cleaning materials that are nonhazardous.
- B. Clean interior and exterior glass, surfaces exposed to view; remove temporary labels, stains and foreign substances, polish transparent and glossy surfaces, vacuum carpeted and soft surfaces.

- C. Remove all labels that are not permanent. Do not paint or otherwise cover fire test labels or nameplates on mechanical and electrical equipment.
- D. Clean equipment and fixtures to a sanitary condition with cleaning materials appropriate to the surface and material being cleaned.
- E. Clean filters of operating equipment.
- F. Clean site; sweep paved areas, rake clean landscaped surfaces.
- G. Remove waste, surplus materials, trash/rubbish, and construction facilities from the site; dispose of in legal manner; do not burn or bury.

3.10 CLOSEOUT PROCEDURES

- A. Make submittals that are required by governing or other authorities.
- B. Accompany Project Coordinator on preliminary inspection to determine items to be listed for completion or correction in the Contractor's Correction Punch List for Contractor's Notice of Substantial Completion.
- C. Notify Architect when work is considered ready for Architect's Substantial Completion inspection.
- D. Submit written certification containing Contractor's Correction Punch List, that Contract Documents have been reviewed, work has been inspected, and that work is complete in accordance with Contract Documents and ready for Architect's Substantial Completion inspection.
- E. Conduct Substantial Completion inspection and create Final Correction Punch List containing Architect's and Contractor's comprehensive list of items identified to be completed or corrected and submit to Architect.
- F. Correct items of work listed in Final Correction Punch List and comply with requirements for access to Owner-occupied areas.
- G. Notify Architect when work is considered finally complete and ready for Architect's Substantial Completion final inspection.
- H. Complete items of work determined by Architect listed in executed Certificate of Substantial Completion.

END OF SECTION

SECTION 01 74 19

CONSTRUCTION AND DEMOLITION WASTE MANAGEMENT AND DISPOSAL

PART 1 GENERAL

1.01 WASTE MANAGEMENT REQUIREMENTS

- A. Owner requires that this project generate the least amount of trash and waste possible and divert at least 50 percent of construction and demolition debris in order to comply with Section 5.408 of CalGreen.
- B. Construction Waste: 50% of construction waste that is generated on-site is required to be diverted from landfills (CalGreen).
- C. Demolition Waste: 50% of demolition waste that is generated on-site is required to be diverted from landfills (CalGreen).
- D. Employ processes that ensure the generation of as little waste as possible due to error, poor planning, breakage, mishandling, contamination, or other factors.
- E. Minimize trash/waste disposal in landfills; reuse, salvage, or recycle as much waste as economically feasible.
- F. Required Recycling, Salvage, and Reuse: The following may not be disposed of in landfills or by incineration:
 - 1. Aluminum and plastic beverage containers.
 - 2. Corrugated cardboard.
 - 3. Wood pallets.
 - 4. Clean dimensional wood: May be used as blocking or furring.
 - 5. Metals, including packaging banding, metal studs, sheet metal, structural steel, piping, reinforcing bars, door frames, and other items made of steel, iron, galvanized steel, stainless steel, aluminum, copper, zinc, lead, brass, and bronze.
 - 6. Glass.
 - 7. Gypsum drywall and plaster.
 - 8. Carpet, carpet cushion, carpet tile, and carpet remnants, both new and removed: DuPont (<http://flooring.dupont.com>) and Interface (www.interfaceinc.com) conduct reclamation programs.
 - 9. Acoustical ceiling tile and panels.
- G. Contractor shall submit periodic Waste Disposal Reports; all landfill disposal, recycling, salvage, and reuse must be reported regardless of to whom the cost or savings accrues; use the same units of measure on all reports.
- H. Methods of trash/waste disposal that are not acceptable are:
 - 1. Burning on the project site.
 - 2. Burying on the project site.
 - 3. Dumping or burying on other property, public or private.
 - 4. Other illegal dumping or burying.
- I. Regulatory Requirements: Contractor is responsible for knowing and complying with regulatory requirements, including but not limited to Federal, state and local requirements, pertaining to legal disposal of all construction and demolition waste materials.

1.02 DEFINITIONS

- A. Clean: Untreated and unpainted; not contaminated with oils, solvents, caulk, or the like.
- B. Construction and Demolition Waste: Solid wastes typically including building materials, packaging, trash, debris, and rubble resulting from construction, remodeling, repair and demolition operations.
- C. Hazardous: Exhibiting the characteristics of hazardous substances, i.e., ignitibility, corrosivity, toxicity or reactivity.
- D. Nonhazardous: Exhibiting none of the characteristics of hazardous substances, i.e., ignitibility, corrosivity, toxicity, or reactivity.

- E. **Nontoxic:** Neither immediately poisonous to humans nor poisonous after a long period of exposure.
- F. **Recyclable:** The ability of a product or material to be recovered at the end of its life cycle and remanufactured into a new product for reuse by others.
- G. **Recycle:** To remove a waste material from the project site to another site for remanufacture into a new product for reuse by others.
- H. **Recycling:** The process of sorting, cleansing, treating and reconstituting solid waste and other discarded materials for the purpose of using the altered form. Recycling does not include burning, incinerating, or thermally destroying waste.
- I. **Return:** To give back reusable items or unused products to vendors for credit.
- J. **Reuse:** To reuse a construction waste material in some manner on the project site.
- K. **Salvage:** To remove a waste material from the project site to another site for resale or reuse by others.
- L. **Sediment:** Soil and other debris that has been eroded and transported by storm or well production run-off water.
- M. **Source Separation:** The act of keeping different types of waste materials separate beginning from the first time they become waste.
- N. **Toxic:** Poisonous to humans either immediately or after a long period of exposure.
- O. **Trash:** Any product or material unable to be reused, returned, recycled, or salvaged.
- P. **Waste:** Extra material or material that has reached the end of its useful life in its intended use. Waste includes salvageable, returnable, recyclable, and reusable material.

1.03 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. **Waste Diversion Reports:** Submit at specified intervals, with details of quantities of trash and waste, means of disposal or reuse, and costs; show both totals to date and since last report.
 - 1. Submit updated Report with each Application for Progress Payment; failure to submit Report will delay payment.
 - 2. Submit Report on a form acceptable to Owner.
 - 3. **Landfill Disposal:** Include the following information:
 - a. Identification of material.
 - b. Amount, in tons or cubic yards (cubic meters), of trash/waste material from the project disposed of in landfills.
 - c. State the identity of landfills, total amount of tipping fees paid to landfill, and total disposal cost.
 - d. Include manifests, weight tickets, receipts, and invoices as evidence of quantity and cost.
 - 4. **Recycled and Salvaged Materials:** Include the following information for each:
 - a. Identification of material, including those retrieved by installer for use on other projects.
 - b. Amount, in tons or cubic yards (cubic meters), date removed from the project site, and receiving party.
 - c. Transportation cost, amount paid or received for the material, and the net total cost or savings of salvage or recycling each material.
 - d. Include manifests, weight tickets, receipts, and invoices as evidence of quantity and cost.
 - e. Certification by receiving party that materials will not be disposed of in landfills or by incineration.
 - 5. **Other Disposal Methods:** Include information similar to that described above, as appropriate to disposal method.

PART 2 PRODUCTS

2.01 PRODUCT SUBSTITUTIONS

- A. See Section 01 60 00 - Product Requirements for substitution submission procedures.

PART 3 EXECUTION

3.01 WASTE MANAGEMENT PROCEDURES

- A. See Section 01 30 00 for additional requirements for project meetings, reports, submittal procedures, and project documentation.
- B. See Section 01 70 00 for trash/waste prevention procedures related to demolition, cutting and patching, installation, protection, and cleaning.

3.02 WASTE MANAGEMENT PLAN IMPLEMENTATION

- A. **Manager:** Designate an on-site person or persons responsible for instructing workers and overseeing and documenting results of the Waste Management Plan.
- B. **Communication:** Distribute copies of the Waste Management Plan to job site foreman, each subcontractor, Owner, and Architect.
- C. **Instruction:** Provide on-site instruction of appropriate separation, handling, and recycling, salvage, reuse, and return methods to be used by all parties at the appropriate stages of the project.
- D. **Meetings:** Discuss trash/waste management goals and issues at project meetings.
 - 1. Pre-bid meeting.
 - 2. Pre-construction meeting.
 - 3. Regular job-site meetings.
- E. **Facilities:** Provide specific facilities for separation and storage of materials for recycling, salvage, reuse, return, and trash disposal, for use by all contractors and installers.
 - 1. Provide containers as required.
 - 2. Provide adequate space for pick-up and delivery and convenience to subcontractors.
 - 3. Keep recycling and trash/waste bin areas neat and clean and clearly marked in order to avoid contamination of materials.
- F. **Hazardous Wastes:** Separate, store, and dispose of hazardous wastes according to applicable regulations.
- G. **Recycling:** Separate, store, protect, and handle at the site identified recyclable waste products in order to prevent contamination of materials and to maximize recyclability of identified materials. Arrange for timely pickups from the site or deliveries to recycling facility in order to prevent contamination of recyclable materials.
- H. **Reuse of Materials On-Site:** Set aside, sort, and protect separated products in preparation for reuse.
- I. **Salvage:** Set aside, sort, and protect products to be salvaged for reuse off-site.

END OF SECTION

SECTION 09 21 16
GYPSUM BOARD ASSEMBLIES

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Metal stud wall framing.
- B. Gypsum wallboard.
- C. Joint treatment and accessories.

1.02 REFERENCE STANDARDS

- A. AISI S100-12 - North American Specification for the Design of Cold-Formed Steel Structural Members; American Iron and Steel Institute; 2012.
- B. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process; 2015.
- C. ASTM C475/C475M - Standard Specification for Joint Compound and Joint Tape for Finishing Gypsum Board; 2015.
- D. ASTM C645 - Standard Specification for Nonstructural Steel Framing Members; 2014.
- E. ASTM C754 - Standard Specification for Installation of Steel Framing Members to Receive Screw-Attached Gypsum Panel Products; 2015.
- F. ASTM C840 - Standard Specification for Application and Finishing of Gypsum Board; 2013.
- G. ASTM C954 - Standard Specification for Steel Drill Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Steel Studs From 0.033 in. (0.84 mm) to 0.112 in. (2.84 mm) in Thickness; 2015.
- H. ASTM C1002 - Standard Specification for Steel Self-Piercing Tapping Screws for Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs; 2014.
- I. ASTM C1047 - Standard Specification for Accessories For Gypsum Wallboard and Gypsum Veneer Base; 2014a.
- J. ASTM C1396/C1396M - Standard Specification for Gypsum Board; 2014.
- K. GA-216 - Application and Finishing of Gypsum Board; 2013.

1.03 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide manufacturer's data on partition head to structure connectors, showing compliance with requirements.

1.04 QUALITY ASSURANCE

- A. Installer Qualifications: Company specializing in performing gypsum board application and finishing, with minimum five years of experience.

PART 2 PRODUCTS

2.01 METAL FRAMING MATERIALS

- A. Manufacturers - Metal Framing, Connectors, and Accessories:
 - 1. Clarkwestern Dietrich Building Systems LLC; -: www.clarkdietrich.com.
 - 2. Marino; -: www.marinoware.com.
 - 3. Substitutions: See Section 01 60 00 - Product Requirements.
- B. Non-Loadbearing Framing System Components: ASTM C645; galvanized sheet steel, of size and properties necessary to comply with ASTM C754 for the spacing indicated, with maximum deflection of wall framing of L/240 at 5 psf (L/240 at 240 Pa).
 - 1. Studs: "C" shaped with flat or formed webs with knurled faces.
 - 2. Runners: U shaped, sized to match studs.

- C. **Partition Head to Structure Connections:** Provide mechanical anchorage devices that accommodate deflection using slotted holes, screws and anti-friction bushings, preventing rotation of studs while maintaining structural performance of partition.
1. **Structural Performance:** Maintain lateral load resistance and vertical movement capacity required by applicable code, when evaluated in accordance with AISI S100-12.
 2. **Material:** ASTM A653/A653M steel sheet, SS Grade 50/340, with G60/Z180 hot dipped galvanized coating.
 3. **Provide components UL-listed for use in UL-listed fire-rated head of partition joint systems of fire rating and movement required.**
 4. **Deflection and Firestop Track:**
 - a. Provide mechanical anchorage devices as described above that accommodate deflection while maintaining the fire-rating of the wall assembly.

2.02 BOARD MATERIALS

- A. **Manufacturers - Gypsum-Based Board:**
1. American Gypsum Company; -: www.americangypsum.com.
 2. CertainTeed Corporation; -: www.certainteed.com.
 3. Georgia-Pacific Gypsum; -: www.gpgypsum.com.
 4. National Gypsum Company; -: www.nationalgypsum.com.
 5. PABCO Gypsum; -: www.pabco gypsum.com.
 6. USG Corporation; -: www.usg.com.
- B. **Gypsum Wallboard:** Paper-faced gypsum panels as defined in ASTM C1396/C1396M; sizes to minimize joints in place; ends square cut.
1. **Application:** Use for vertical surfaces and ceilings, unless otherwise indicated.
 2. **At Assemblies Indicated with Fire-Rating:** Use type required by indicated tested assembly; if no tested assembly is indicated, use Type X board, UL or WH listed.
 3. **Thickness:**
 - a. Vertical Surfaces: 5/8 inch (16 mm).

2.03 ACCESSORIES

- A. **Finishing Accessories:** ASTM C1047, galvanized steel or rolled zinc, unless noted otherwise.
1. **Types:** As detailed or required for finished appearance.
 2. **Special Shapes:** In addition to conventional corner bead and control joints, provide U-bead at exposed panel edges.
 3. **Products:**
 - a. Same manufacturer as framing materials.
- B. **Joint Materials:** ASTM C475 and as recommended by gypsum board manufacturer for project conditions.
1. **Tape:** 2 inch (50 mm) wide, coated glass fiber tape for joints and corners, except as otherwise indicated.
 2. **Tape:** 2 inch (50 mm) wide, creased paper tape for joints and corners, except as otherwise indicated.
 3. **Ready-mixed vinyl-based joint compound.**
- C. **High Build Drywall Surfer:** Vinyl acrylic latex-based coating for spray application, designed to take the place of skim coating and separate paint primer in achieving Level 5 finish.
- D. **Screws for Fastening of Gypsum Panel Products to Cold-Formed Steel Studs Less than 0.033 inch (0.84 mm) in Thickness and Wood Members:** ASTM C1002; self-piercing tapping screws, corrosion resistant.
- E. **Screws for Fastening of Gypsum Panel Products to Steel Members from 0.033 to 0.112 inch (0.84 to 2.84 mm) in Thickness:** ASTM C954; steel drill screws, corrosion resistant.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that project conditions are appropriate for work of this section to commence.

3.02 FRAMING INSTALLATION

- A. Metal Framing: Install in accordance with ASTM C754 and manufacturer's instructions.
- B. Studs: Space studs at 16 inches on center (at 406 mm on center).
 - 1. Extend partition framing to structure in all locations.
 - 2. Partitions Terminating at Structure: Attach top runner to structure, maintain clearance between top of studs and structure, and connect studs to track using specified mechanical devices in accordance with manufacturer's instructions; verify free movement of top of stud connections; do not leave studs unattached to track.
- C. Openings: Reinforce openings as required for weight of doors or operable panels, using not less than double studs at jambs.
- D. Blocking: Install mechanically fastened steel channel blocking for support of:
 - 1. All items that require backing support including surface mounted acoustical panels if required.

3.03 BOARD INSTALLATION

- A. Comply with ASTM C 840, GA-216, and manufacturer's instructions. Install to minimize butt end joints, especially in highly visible locations.

3.04 INSTALLATION OF TRIM AND ACCESSORIES

- A. Control Joints: Place control joints consistent with lines of building spaces and as indicated.
- B. Corner Beads: Install at external corners, using longest practical lengths.
- C. Edge Trim: Install at locations where gypsum board abuts dissimilar materials.

3.05 JOINT TREATMENT

- A. Finish gypsum board in accordance with levels defined in ASTM C840, as follows:
 - 1. Level 5: Walls and ceilings to receive semi-gloss or gloss paint finish and other areas specifically indicated.
 - 2. Level 2: Behind surface mounted Acoustical Panels.
- B. Tape, fill, and sand exposed joints, edges, and corners to produce smooth surface ready to receive finishes.
 - 1. Feather coats of joint compound so that camber is maximum 1/32 inch (0.8 mm).
- C. Where Level 5 finish is indicated, spray apply high build drywall surfacer over entire surface after joints have been properly treated; achieve a flat and tool mark-free finish.

3.06 TOLERANCES

- A. Maximum Variation of Finished Gypsum Board Surface from True Flatness: 1/8 inch in 10 feet (3 mm in 3 m) in any direction.

END OF SECTION

SECTION 09 91 23
INTERIOR PAINTING

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Surface preparation.
- B. Field application of paints.
- C. Scope: Finish interior surfaces exposed to view, unless fully factory-finished and unless otherwise indicated.
- D. Do Not Paint or Finish the Following Items:
 - 1. Items factory-finished unless otherwise indicated; materials and products having factory-applied primers are not considered factory finished.
 - 2. Items indicated to receive other finishes.
 - 3. Items indicated to remain unfinished.
 - 4. Fire rating labels, equipment serial number and capacity labels, bar code labels, and operating parts of equipment.
 - 5. Floors, unless specifically indicated.
 - 6. Glass.
 - 7. Concealed pipes, ducts, and conduits.

1.02 RELATED REQUIREMENTS

- A. Section 01 61 16 - Volatile Organic Compound (VOC) Content Restrictions.

1.03 REFERENCE STANDARDS

- A. MPI (APSM) - Master Painters Institute Architectural Painting Specification Manual; Current Edition, www.paintinfo.com.

1.04 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide complete list of products to be used, with the following information for each:
 - 1. Manufacturer's name, product name and/or catalog number, and general product category (e.g. "alkyd enamel").
 - 2. MPI product number (e.g. MPI #47).
 - 3. Cross-reference to specified paint system(s) product is to be used in; include description of each system.
- C. Samples: Submit three paper "draw down" samples, 8-1/2 by 11 inches (216 by 279 mm) in size, illustrating range of colors available for each finishing product specified.
 - 1. Where sheen is specified, submit samples in only that sheen.
 - 2. Where sheen is not specified, submit each color in each sheen available.
- D. Certification: By manufacturer that paints and finishes comply with VOC limits specified.
- E. Manufacturer's Instructions: Indicate special surface preparation procedures.

1.05 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing the products specified, with minimum three years documented experience.
- B. Applicator Qualifications: Company specializing in performing the type of work specified with minimum five years experience.

1.06 MOCK-UP

- A. Provide door and frame assembly illustrating paint color, texture, and finish.
- B. Mock-up may remain as part of the work.

1.07 DELIVERY, STORAGE, AND HANDLING

- A. Deliver products to site in sealed and labeled containers; inspect to verify acceptability.
- B. Container Label: Include manufacturer's name, type of paint, brand name, lot number, brand code, coverage, surface preparation, drying time, cleanup requirements, color designation, and instructions for mixing and reducing.
- C. Paint Materials: Store at minimum ambient temperature of 45 degrees F (7 degrees C) and a maximum of 90 degrees F (32 degrees C), in ventilated area, and as required by manufacturer's instructions.

1.08 FIELD CONDITIONS

- A. Do not apply materials when surface and ambient temperatures are outside the temperature ranges required by the paint product manufacturer.
- B. Follow manufacturer's recommended procedures for producing best results, including testing of substrates, moisture in substrates, and humidity and temperature limitations.
- C. Provide lighting level of 80 ft candles (860 lx) measured mid-height at substrate surface.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Provide paints and finishes from the same manufacturer to the greatest extent possible.
 - 1. In the event that a single manufacturer cannot provide specified products, minor exceptions will be permitted provided approval by Architect is obtained using the specified procedures for substitutions.
 - 2. Substitution of MPI-approved products by a different manufacturer is preferred over substitution of unapproved products by the same manufacturer.
- B. Paints:
 - 1. Base Manufacturer: Sherwin-Williams.
 - 2. Behr Process Corporation: www.behr.com.
 - 3. Benjamin Moore & Co: www.benjaminmoore.com.
 - 4. Glidden Professional, a product of PPG Architectural Coatings: www.gliddenprofessional.com.
 - 5. Sherwin-Williams Company: www.sherwin-williams.com.
 - 6. Valspar Corporation: www.valsparpaint.com.
- C. Substitutions: See Section 01 60 00 - Product Requirements.

2.02 PAINTS AND FINISHES - GENERAL

- A. Paints and Finishes: Ready mixed, unless intended to be a field-catalyzed paint.
 - 1. Provide paints and finishes of a soft paste consistency, capable of being readily and uniformly dispersed to a homogeneous coating, with good flow and brushing properties, and capable of drying or curing free of streaks or sags.
 - 2. Supply each paint material in quantity required to complete entire project's work from a single production run.
 - 3. Do not reduce, thin, or dilute paint or finishes or add materials unless such procedure is specifically described in manufacturer's product instructions.
- B. Volatile Organic Compound (VOC) Content: Comply with Section 01 61 16.
- C. Flammability: Comply with applicable code for surface burning characteristics.
- D. Sheens: Provide the sheens specified; where sheen is not specified, sheen will be selected later by Architect from the manufacturer's full line.
- E. Colors: To be selected from manufacturer's full range of available colors.
 - 1. Selection to be made by Owner after award of contract.
 - 2. Allow for minimum of two colors for each system, unless otherwise indicated, without additional cost to Owner.
 - 3. Extend colors to surface edges; colors may change at any edge as directed by Architect.

4. In finished areas, finish pipes, ducts, conduit, and equipment the same color as the wall/ceiling they are mounted on/under.

2.03 PAINT SYSTEMS - INTERIOR

- A. Paint I-OP - Interior Surfaces to be Painted, Unless Otherwise Indicated: Including gypsum board.
 1. Two top coats and one coat primer- existing painted gypsum board and new gypsum board
 2. Top Coat(s): Institutional Low Odor/VOC Interior Latex.
 - a. Products:
 - 1) Sherwin-Williams ProMar 200 Zero VOC Interior Latex, Flat.
 - 2) Sherwin-Williams ProMar 200 Zero VOC Interior Latex, Low Sheen.
 - 3) Substitutions: Section 01 60 00 - Product Requirements.

2.04 PRIMERS

- A. Primers: Provide the following unless other primer is required or recommended by manufacturer of top coats.
 1. Interior Institutional Low Odor/VOC Primer Sealer.

2.05 ACCESSORY MATERIALS

- A. Accessory Materials: Provide primers, sealers, cleaning agents, cleaning cloths, sanding materials, and clean-up materials as required for final completion of painted surfaces.
- B. Patching Material: Latex filler.
- C. Fastener Head Cover Material: Latex filler.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Do not begin application of paints and finishes until substrates have been properly prepared.
- B. Verify that surfaces are ready to receive work as instructed by the product manufacturer.
- C. Examine surfaces scheduled to be finished prior to commencement of work. Report any condition that may potentially effect proper application.
- D. Test shop-applied primer for compatibility with subsequent cover materials.
- E. Measure moisture content of surfaces using an electronic moisture meter. Do not apply finishes unless moisture content of surfaces are below the following maximums:
 1. Gypsum Wallboard: 12 percent.
 2. Concrete Floors and Traffic Surfaces: 8 percent.

3.02 PREPARATION

- A. Clean surfaces thoroughly and correct defects prior to application.
- B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.
- C. Remove or mask surface appurtenances, including electrical plates, hardware, light fixture trim, escutcheons, and fittings, prior to preparing surfaces or finishing.
- D. Seal surfaces that might cause bleed through or staining of topcoat.
- E. Gypsum Board: Fill minor defects with filler compound. Spot prime defects after repair.

3.03 APPLICATION

- A. Apply products in accordance with manufacturer's written instructions and recommendations in "MPI Architectural Painting Specification Manual".
- B. Do not apply finishes to surfaces that are not dry. Allow applied coats to dry before next coat is applied.
- C. Apply each coat to uniform appearance in thicknesses specified by manufacturer.

- D. Vacuum clean surfaces of loose particles. Use tack cloth to remove dust and particles just prior to applying next coat.
- E. Reinstall electrical cover plates, hardware, light fixture trim, escutcheons, and fittings removed prior to finishing.

3.04 CLEANING

- A. Collect waste material that could constitute a fire hazard, place in closed metal containers, and remove daily from site.

3.05 PROTECTION

- A. Protect finishes until completion of project.
- B. Touch-up damaged finishes after Substantial Completion.

END OF SECTION

INLAND EMPIRE UTILITIES AGENCY

GILLIS + PANICHAPAN ARCHITECTS, INC.

Jack Panichapan, AIA
PRINCIPAL-IN-CHARGE

BRIDGING DOCUMENTS



VICINITY MAP (NOT TO SCALE)



LOCATION MAP (NOT TO SCALE)



PROJECT NO. EN16049

INLAND EMPIRE UTILITIES AGENCY HEADQUARTERS
6075 KIMBALL AVENUE
CHINO, CA 91708

SHEET INDEX

CV-1 COVER SHEET

ARCHITECTURAL DRAWINGS:

- T-1 TITLE SHEET
- A-1.1 SITE PLAN
- A-1.2 SCOPE OF WORK PLAN
- A-2.1 BOARD ROOM PLANS
- A-3.1 BOARD ROOM ELEVATION, SECTION, & DETAILS



Gillis + Panichapan Architects, Inc.
ARCHITECTS
1000 BARTON STREET CHINO, CALIFORNIA 91710
TEL: (91) 604-4240 FAX: (91) 604-4240

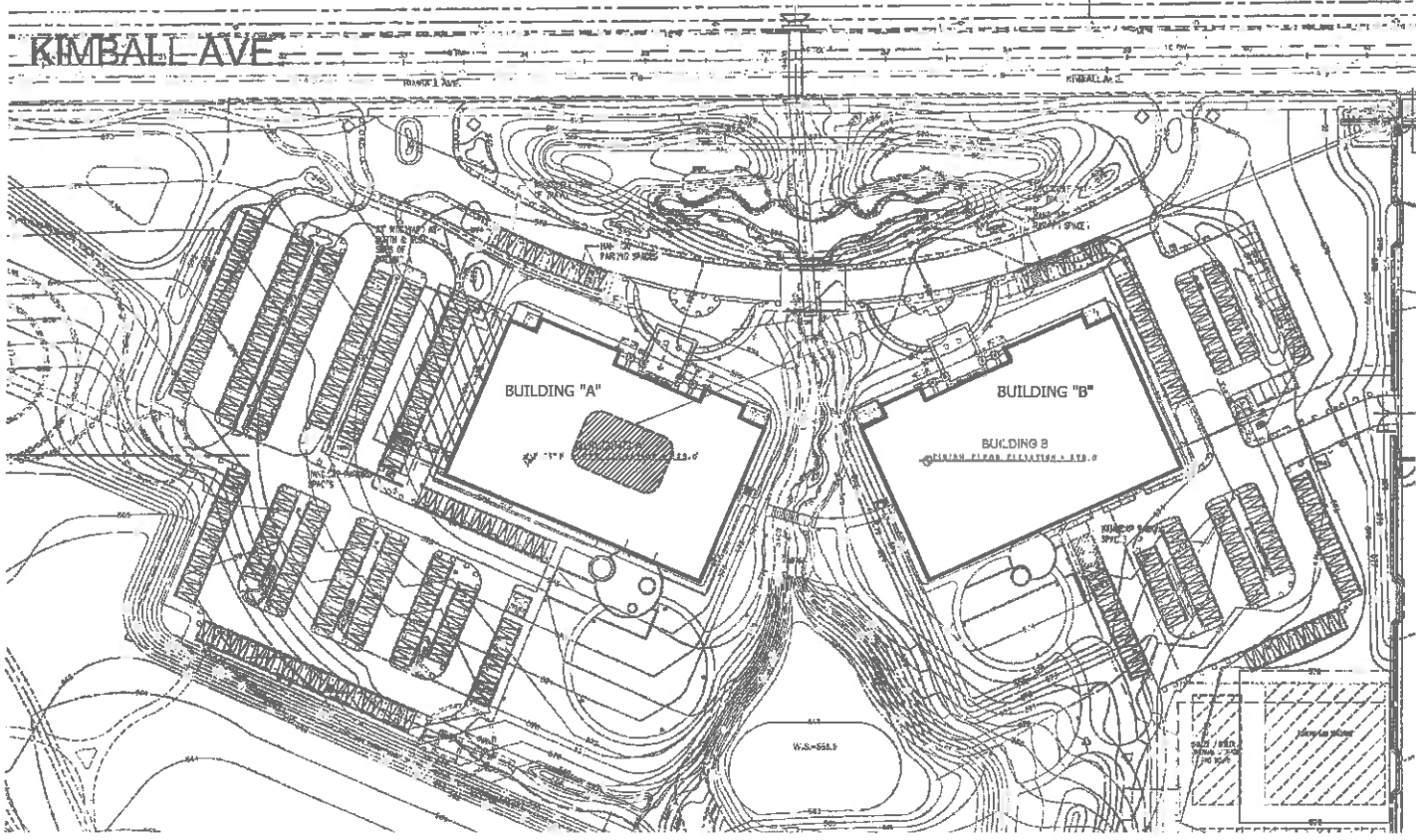
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BRIDGING DOCUMENTS

DATE: 05/20/2010
DATE: 05/20/2010
DATE: 05/20/2010
DATE: 05/20/2010

COVER SHEET
INLAND EMPIRE UTILITIES AGENCY
Board Room-Building A

CV-1



LOCATION OF SCOPE OF WORK

01 SITE PLAN
A-1.1 Scale: N.T.S.



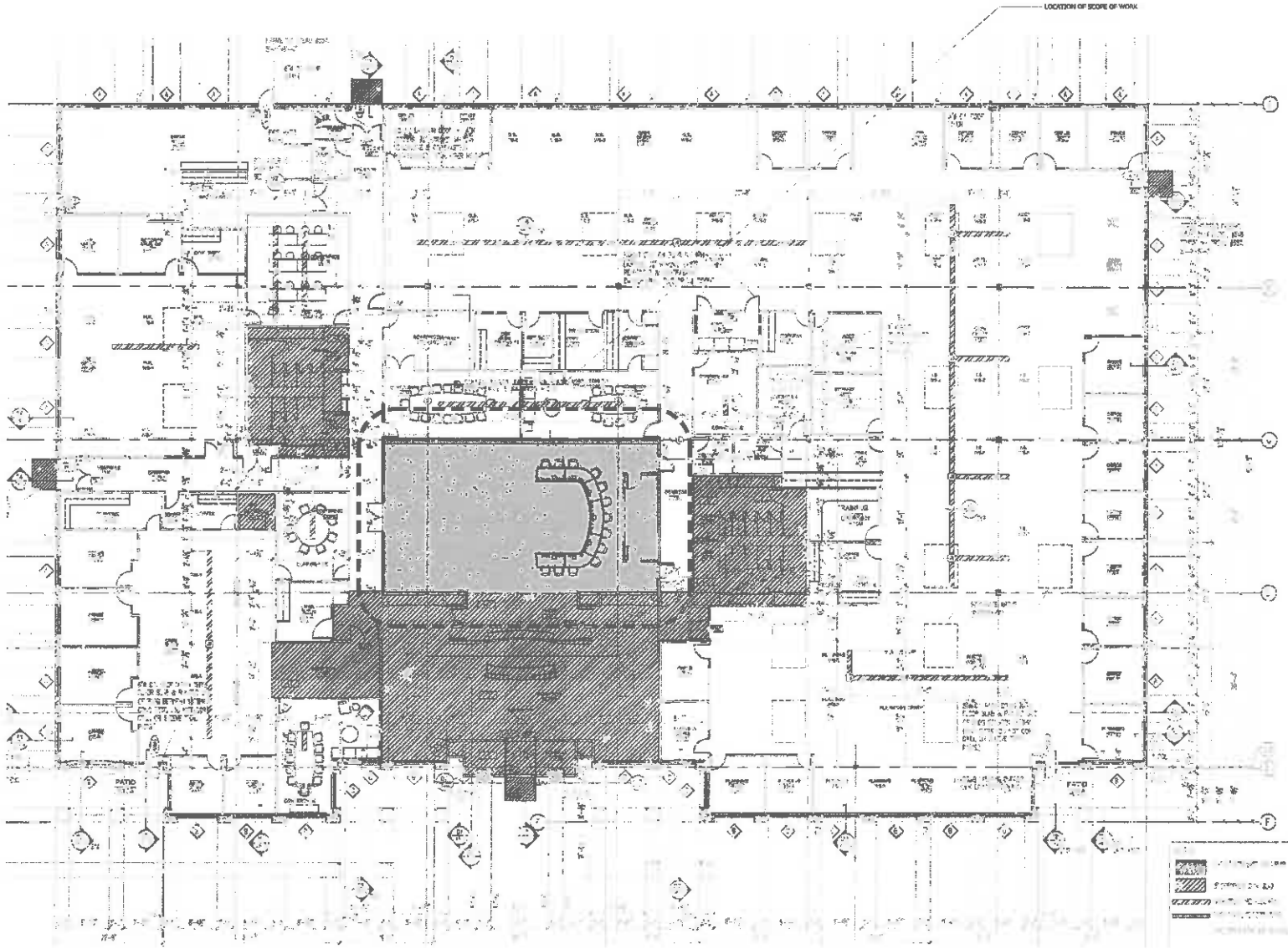
GILLIS + PANICHAPAN ARCHITECTS, INC.
 1000 BRYANT STREET, SUITE 100, MENA, CALIFORNIA 94554
 TEL: 925.438.1100 FAX: 925.438.1101
 WWW.GILLIS-PA.COM

BRIDGING DOCUMENTS

DATE: 01/11/17	DATE: 01/11/17
DRAWN BY: JMM	CHECKED BY: JMM
DESIGNED BY: JMM	PROJECT NO: 17-0000

SITE PLAN
 INLAND EMPIRE UTILITIES AGENCY
 Board Room-Building A

A-1.1



01 BUILDING A FLOOR PLAN - SCOPE OF WORK
Scale: N.T.S.

	Proposed Work
	Existing Work
	Other



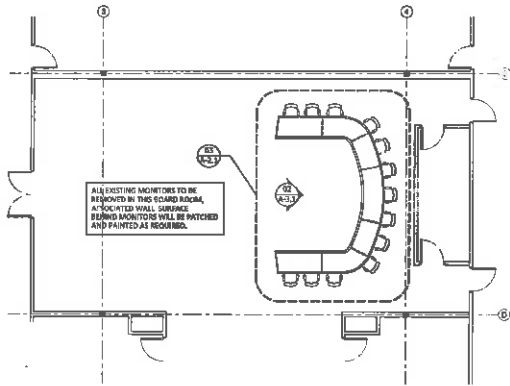
Gillis + Panichapan Architects, Inc.
 10000 AVENUE 158, SUITE 100
 COSTA MESA, CALIFORNIA 92626
 TEL: 714.441.2200
 FAX: 714.441.2201

Professional seal and signature area.

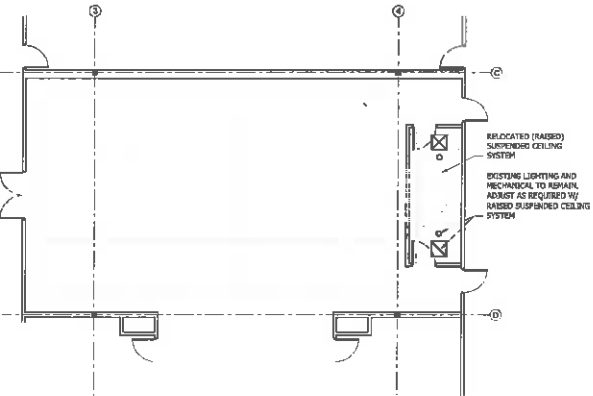
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DATE: 08/25/15
DESIGNED BY: J.P.
CHECKED BY: J.P.
SCALE: AS SHOWN

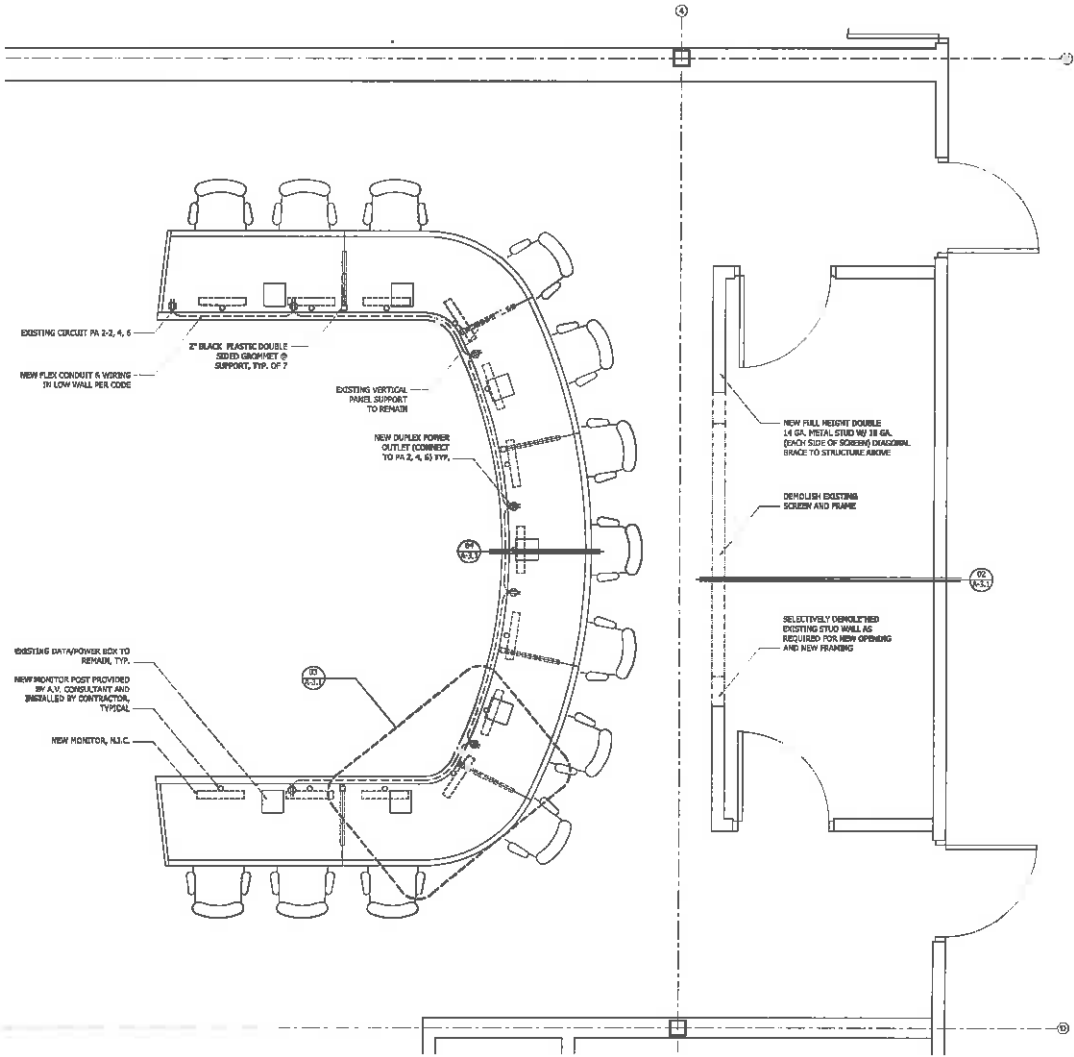
BUILDING A FLOOR PLAN - SCOPE OF WORK
 INLAND EMPIRE UTILITIES AGENCY
 Board Room-Building A



D1 BOARD ROOM FLOOR PLAN - EXISTING/PROPOSED
 Scale: 1/8" = 1'-0"



D2 BOARD ROOM FLOOR PLAN - RCP
 Scale: 1/8" = 1'-0"



D3 DIAS ENLARGED FLOOR PLAN - PROPOSED
 Scale: 1/2" = 1'-0"



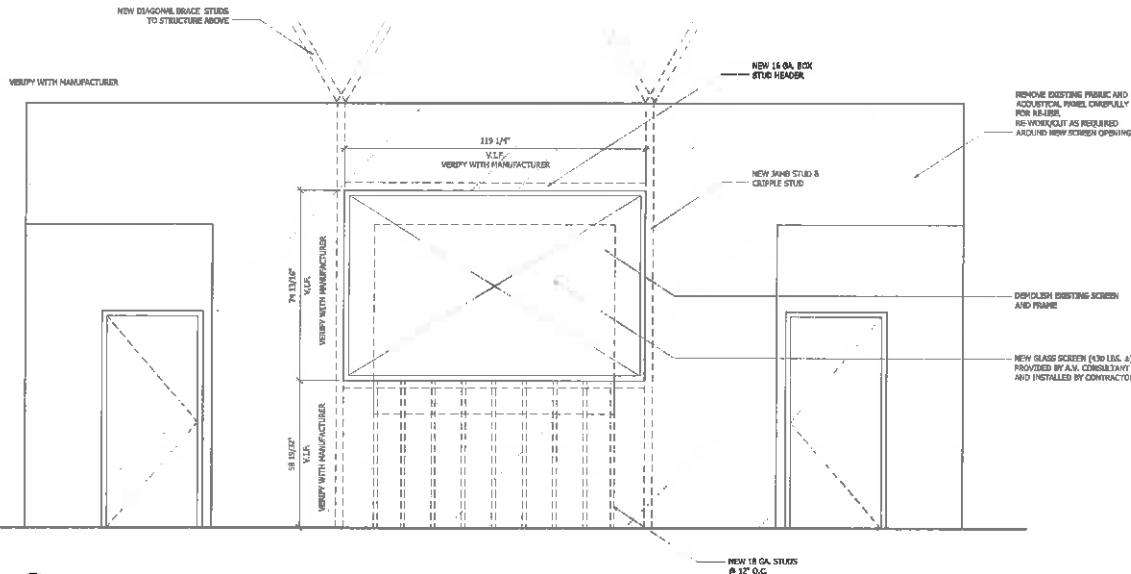
CHAS. J. PETERSON
 PE No. 10000
 State of California
 Civil & Mechanical
 2000 B STREET, SUITE 200, LOS ANGELES, CA 90012
 TEL: 213-480-3300 FAX: 213-480-3300

CHAS. J. PETERSON
 PE No. 10000
 State of California
 Civil & Mechanical
 2000 B STREET, SUITE 200, LOS ANGELES, CA 90012
 TEL: 213-480-3300 FAX: 213-480-3300

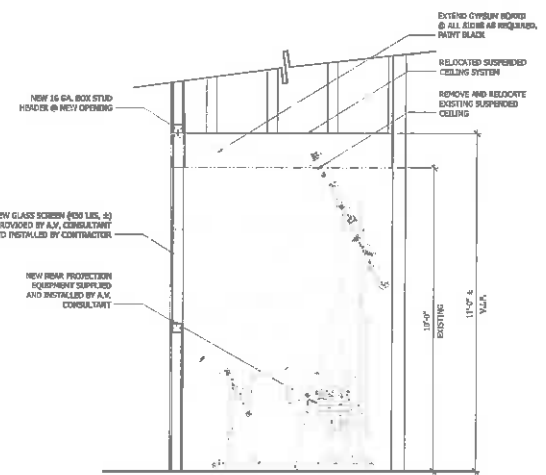
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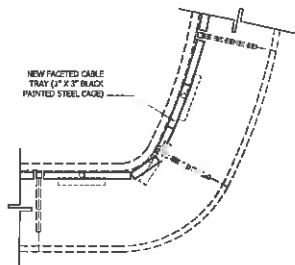
BOARD ROOM FLOOR PLANS
 INLAND EMPIRE UTILITIES AGENCY
 Board Room-Building A



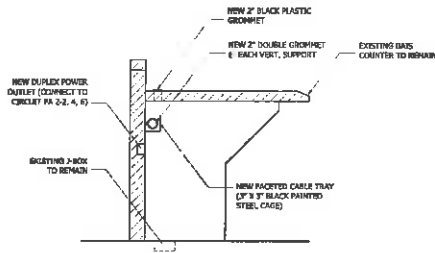
01 BOARD ROOM SCREEN ELEVATION
A-3.1 Scale: 3/8" = 1'-0"



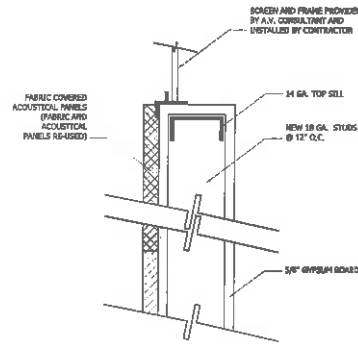
02 BOARD ROOM SCREEN SECTION
A-3.1 Scale: 1/2" = 1'-0"



03 BOARD ROOM DAIS PARTIAL PLAN
A-3.1 Scale: 1/2" = 1'-0"



04 BOARD ROOM DAIS SECTION
A-3.1 Scale: 1" = 1'-0"



05 STILL @ PROJECTION SCREEN
A-3.1 Scale: 3" = 1'-0"



Panichapan Architects, Inc.
1000 BROADWAY STREET, SUITE 200
SAN FRANCISCO, CALIFORNIA 94103
TEL: 415 398 8200
FAX: 415 398 8201

18. I am a duly licensed professional engineer in the State of California, and I hereby certify that I am the author of the design and drawings herein, and that I am a duly licensed professional engineer in the State of California.

BRIDGING DOCUMENTS

DATE: 07/20/11	DATE: 07/20/11
DATE: 07/20/11	DATE: 07/20/11
DATE: 07/20/11	DATE: 07/20/11

BOARD ROOM ELEVATION, SECTION, & DETAILS
INLAND EMPIRE UTILITIES AGENCY
Board Room-Building A

**EXHIBIT E
EVENT CENTER SPECIFICATIONS
AND DRAWINGS**

**SECTION 00 01 10
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END OF SECTION

SECTION 01 30 00
ADMINISTRATIVE REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Preconstruction meeting.
- B. Progress meetings.
- C. Construction progress schedule.
- D. Submittals for review, information, and project closeout.
- E. Submittal procedures.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 PRECONSTRUCTION MEETING

- A. Attendance Required:
 - 1. Owner.
 - 2. Architect.
 - 3. Contractor.
- B. Agenda:
 - 1. Execution of Owner-Contractor Agreement.
 - 2. Submission of executed bonds and insurance certificates.
 - 3. Distribution of Contract Documents.
 - 4. Submission of list of Subcontractors, list of Products, schedule of values, and progress schedule.
 - 5. Procedures and processing of field decisions, submittals, substitutions, applications for payments, proposal request, Change Orders, and Contract closeout procedures.
 - 6. Scheduling.
- C. Record minutes and distribute copies within two days after meeting to participants, with two copies to Architect, Owner, participants, and those affected by decisions made.

3.02 PROGRESS MEETINGS

- A. Schedule and administer meetings throughout progress of the Work at maximum monthly intervals.
- B. Make arrangements for meetings, prepare agenda with copies for participants, preside at meetings.
- C. Attendance Required:
 - 1. Contractor.
 - 2. Owner.
 - 3. Architect.
 - 4. Contractor's Superintendent.
 - 5. Major Subcontractors.
- D. Agenda:
 - 1. Review minutes of previous meetings.
 - 2. Review of Work progress.
 - 3. Field observations, problems, and decisions.
 - 4. Identification of problems that impede, or will impede, planned progress.
 - 5. Review of submittals schedule and status of submittals.
 - 6. Maintenance of progress schedule.
 - 7. Corrective measures to regain projected schedules.
 - 8. Planned progress during succeeding work period.
 - 9. Maintenance of quality and work standards.

10. Effect of proposed changes on progress schedule and coordination.
 11. Other business relating to Work.
- E. Record minutes and distribute copies within two days after meeting to participants, with two copies to Architect, Owner, participants, and those affected by decisions made.

3.03 CONSTRUCTION PROGRESS SCHEDULE

- A. If preliminary schedule requires revision after review, submit revised schedule within 10 days.
- B. Within 20 days after review of preliminary schedule, submit draft of proposed complete schedule for review.
 1. Include written certification that major contractors have reviewed and accepted proposed schedule.
- C. Within 10 days after joint review, submit complete schedule.
- D. Submit updated schedule with each Application for Payment.

3.04 SUBMITTALS FOR REVIEW

- A. When the following are specified in individual sections, submit them for review:
 1. Product data.
 2. Shop drawings.
 3. Samples for selection.
 4. Samples for verification.
- B. Submit to Architect of Record and Owner for review for the limited purpose of checking for conformance with information given and the design concept expressed in the contract documents.
- C. Samples will be reviewed only for aesthetic, color, or finish selection.
- D. After review, provide copies and distribute in accordance with SUBMITTAL PROCEDURES article below .

3.05 SUBMITTALS FOR INFORMATION

- A. When the following are specified in individual sections, submit them for information:
 1. Design data.
 2. Certificates.
 3. Test reports.
 4. Inspection reports.
 5. Manufacturer's instructions.
 6. Manufacturer's field reports.
 7. Other types indicated.

3.06 SUBMITTALS FOR PROJECT CLOSEOUT

- A. Submit Correction Punch List for Substantial Completion.
- B. Submit Final Correction Punch List for Substantial Completion.
- C. When the following are specified in individual sections, submit them at project closeout:
 1. Project record documents.
 2. Operation and maintenance data.
 3. Warranties.
 4. Bonds.
 5. Other types as indicated.
- D. Submit for Owner's benefit during and after project completion.

3.07 NUMBER OF COPIES OF SUBMITTALS

- A. Documents for Review:
 1. Small Size Sheets, Not Larger Than 8-1/2 x 11 inches (215 x 280 mm): Submit the number of copies that Contractor requires, plus two copies that will be retained by Architect.

- B. Documents for Information: Submit two copies.
- C. Samples: Submit the number specified in individual specification sections; one of which will be retained by Architect.
 - 1. After review, produce duplicates.
 - 2. Retained samples will not be returned to Contractor unless specifically so stated.

3.08 SUBMITTAL PROCEDURES

- A. Shop Drawing Procedures:
 - 1. Prepare accurate, drawn-to-scale, original shop drawing documentation by interpreting the Contract Documents and coordinating related Work.
 - 2. Generic, non-project specific information submitted as shop drawings do not meet the requirements for shop drawings.
- B. Transmit each submittal with a copy of approved submittal form.
- C. Sequentially number the transmittal form. Revise submittals with original number and a sequential alphabetic suffix.
- D. Identify Project, Contractor, Subcontractor or supplier; pertinent drawing and detail number, and specification section number, as appropriate on each copy.
- E. Apply Contractor's stamp, signed or initialed certifying that review, approval, verification of Products required, field dimensions, adjacent construction Work, and coordination of information is in accordance with the requirements of the Work and Contract Documents.
- F. Schedule submittals to expedite the Project, and coordinate submission of related items.
- G. For each submittal for review, allow 15 days excluding delivery time to and from the Contractor.
- H. Identify variations from Contract Documents and Product or system limitations that may be detrimental to successful performance of the completed Work.
- I. Provide space for Contractor and Architect review stamps.
- J. When revised for resubmission, identify all changes made since previous submission.
- K. Distribute reviewed submittals as appropriate. Instruct parties to promptly report any inability to comply with requirements.
- L. Submittals not requested will not be recognized or processed.

END OF SECTION

**SECTION 01 60 00
PRODUCT REQUIREMENTS**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Transportation, handling, storage and protection.
- B. Product option requirements.
- C. Substitution limitations and procedures.

1.02 RELATED REQUIREMENTS

- A. Section 01 61 16 - Volatile Organic Compound (VOC) Content Restrictions: Requirements for VOC-restricted product categories.

1.03 SUBMITTALS

- A. **Product Data Submittals:** Submit manufacturer's standard published data. Mark each copy to identify applicable products, models, options, and other data. Supplement manufacturers' standard data to provide information specific to this Project.
- B. **Shop Drawing Submittals:** Prepared specifically for this Project; indicate utility and electrical characteristics, utility connection requirements, and location of utility outlets for service for functional equipment and appliances.
- C. **Sample Submittals:** Illustrate functional and aesthetic characteristics of the product, with integral parts and attachment devices. Coordinate sample submittals for interfacing work.
 - 1. For selection from standard finishes, submit samples of the full range of the manufacturer's standard colors, textures, and patterns.

PART 2 PRODUCTS

2.01 NEW PRODUCTS

- A. Provide new products unless specifically required or permitted by the Contract Documents.
- B. **DO NOT USE** products having any of the following characteristics:
 - 1. Made outside the United States, its territories, Canada, or Mexico.
 - 2. Made using or containing CFC's or HCFC's.
 - 3. Made of wood from newly cut old growth timber.
 - 4. Containing lead, cadmium, asbestos.
- C. Where all other criteria are met, Contractor shall give preference to products that:
 - 1. If used on interior, have lower emissions, as defined in Section 01 61 16.
 - 2. If wet-applied, have lower VOC content, as defined in Section 01 61 16.
 - 3. Have a published GreenScreen Chemical Hazard Analysis.

2.02 PRODUCT OPTIONS

- A. **Products Specified by Reference Standards or by Description Only:** Use any product meeting those standards or description.
- B. **Products Specified by Naming One or More Manufacturers:** Use a product of one of the manufacturers named and meeting specifications, no options or substitutions allowed.
- C. **Products Specified by Naming One or More Manufacturers with a Provision for Substitutions:** Submit a request for substitution for any manufacturer not named.

PART 3 EXECUTION

3.01 SUBSTITUTION PROCEDURES

- A. Document each request with complete data substantiating compliance of proposed substitution with Contract Documents.
- B. A request for substitution constitutes a representation that the submitter:
 - 1. Has investigated proposed product and determined that it meets or exceeds the quality level of the specified product.

2. Agrees to provide the same warranty for the substitution as for the specified product.
 3. Agrees to coordinate installation and make changes to other Work that may be required for the Work to be complete with no additional cost to Owner.
 4. Waives claims for additional costs or time extension that may subsequently become apparent.
- C. Substitutions will not be considered when they are indicated or implied on shop drawing or product data submittals, without separate written request, or when acceptance will require revision to the Contract Documents.
- D. Substitution Submittal Procedure (after contract award):
1. Submit three copies of request for substitution for consideration. Limit each request to one proposed substitution.
 2. Submit shop drawings, product data, and certified test results attesting to the proposed product equivalence. Burden of proof is on proposer.
 3. The Architect will notify Contractor in writing of decision to accept or reject request.

3.02 TRANSPORTATION AND HANDLING

- A. Package products for shipment in manner to prevent damage; for equipment, package to avoid loss of factory calibration.
- B. If special precautions are required, attach instructions prominently and legibly on outside of packaging.
- C. Coordinate schedule of product delivery to designated prepared areas in order to minimize site storage time and potential damage to stored materials.
- D. Transport and handle products in accordance with manufacturer's instructions.
- E. Transport materials in covered trucks to prevent contamination of product and littering of surrounding areas.
- F. Promptly inspect shipments to ensure that products comply with requirements, quantities are correct, and products are undamaged.
- G. Provide equipment and personnel to handle products by methods to prevent soiling, disfigurement, or damage, and to minimize handling.
- H. Arrange for the return of packing materials, such as wood pallets, where economically feasible.

3.03 STORAGE AND PROTECTION

- A. Designate receiving/storage areas for incoming products so that they are delivered according to installation schedule and placed convenient to work area in order to minimize waste due to excessive materials handling and misapplication.
- B. Store and protect products in accordance with manufacturers' instructions.
- C. Store with seals and labels intact and legible.
- D. Store sensitive products in weather tight, climate controlled, enclosures in an environment favorable to product.
- E. For exterior storage of fabricated products, place on sloped supports above ground.
- F. Protect products from damage or deterioration due to construction operations, weather, precipitation, humidity, temperature, sunlight and ultraviolet light, dirt, dust, and other contaminants.
- G. Comply with manufacturer's warranty conditions, if any.
- H. Cover products subject to deterioration with impervious sheet covering. Provide ventilation to prevent condensation and degradation of products.
- I. Prevent contact with material that may cause corrosion, discoloration, or staining.
- J. Provide equipment and personnel to store products by methods to prevent soiling, disfigurement, or damage.

- K. Arrange storage of products to permit access for inspection. Periodically inspect to verify products are undamaged and are maintained in acceptable condition.

END OF SECTION

SECTION 01 61 16
VOLATILE ORGANIC COMPOUND (VOC) CONTENT RESTRICTIONS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Requirements for Indoor-Emissions-Restricted products.
- B. Requirements for VOC-Content-Restricted products.

1.02 RELATED REQUIREMENTS

- A. Section 01 30 00 - Administrative Requirements: Submittal procedures.

1.03 DEFINITIONS

- A. Indoor-Emissions-Restricted Products: All products in the following product categories, whether specified or not:
 - 1. Interior paints and coatings.
 - 2. Interior adhesives and sealants, including flooring adhesives.
 - 3. Flooring.
 - 4. Composite wood.
 - 5. Products making up wall and ceiling assemblies.
 - 6. Thermal and acoustical insulation.
- B. VOC-Content-Restricted Products: All products in the following product categories, whether specified or not:
 - 1. Interior paints and coatings.
 - 2. Interior adhesives and sealants, including flooring adhesives.
- C. Interior of Building: Anywhere inside the exterior weather barrier.
- D. Adhesives: All gunnable, trowelable, liquid-applied, and aerosol adhesives, whether specified or not; including flooring adhesives, resilient base adhesives, and pipe jointing adhesives.
- E. Sealants: All gunnable, trowelable, and liquid-applied joint sealants and sealant primers, whether specified or not; including firestopping sealants and duct joint sealers.
- F. Inherently Non-Emitting Materials: Products composed wholly of minerals or metals, unless they include organic-based surface coatings, binders, or sealants; and specifically the following:
 - 1. Concrete.
 - 2. Glass.
 - 3. Ceramics.

1.04 REFERENCE STANDARDS

- A. 40 CFR 59, Subpart D - National Volatile Organic Compound Emission Standards for Architectural Coatings; U.S. Environmental Protection Agency; current edition.
- B. ASTM D3960 - Standard Practice for Determining Volatile Organic Compound (VOC) Content of Paints and Related Coatings; 2005 (Reapproved 2013).
- C. CARB (SCM) - Suggested Control Measure for Architectural Coatings; California Air Resources Board; 2007.
- D. SCAQMD 1113 - South Coast Air Quality Management District Rule No.1113; current edition.
- E. SCAQMD 1168 - South Coast Air Quality Management District Rule No.1168; current edition.

1.05 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Product Data: For each VOC-restricted product used in the project, submit evidence of compliance.

1.06 QUALITY ASSURANCE

- A. VOC Content Test Method: 40 CFR 59, Subpart D (EPA Method 24), or ASTM D3960, unless

1. Evidence of Compliance: Acceptable types of evidence are:
 - a. Report of laboratory testing performed in accordance with requirements.
- B. Testing Agency Qualifications: Independent firm specializing in performing testing and inspections of the type specified in this section.

PART 2 PRODUCTS

2.01 MATERIALS

- A. VOC-Content-Restricted Products: VOC content not greater than required by the following:
 1. Adhesives, Including Flooring Adhesives: SCAQMD 1168 Rule.
 2. Joint Sealants: SCAQMD 1168 Rule.
 3. Paints and Coatings: Each color; most stringent of the following:
 - a. 40 CFR 59, Subpart D.
 - b. SCAQMD 1113 Rule.
 - c. CARB (SCM).

PART 3 EXECUTION

3.01 FIELD QUALITY CONTROL

- A. Owner reserves the right to reject non-compliant products, whether installed or not, and require their removal and replacement with compliant products at no extra cost to Owner.
- B. Additional costs to restore indoor air quality due to installation of non-compliant products will be borne by Contractor.

END OF SECTION

SECTION 01 70 00
EXECUTION AND CLOSEOUT REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Examination, preparation, and general installation procedures.
- B. Requirements for alterations work, including selective demolition, except removal, disposal, and/or remediation of hazardous materials and toxic substances.
- C. Cutting and patching.
- D. Surveying for laying out the work.
- E. Cleaning and protection.

1.02 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Cutting and Patching: Submit written request in advance of cutting or alteration that affects:
 - 1. Structural integrity of any element of Project.
 - 2. Integrity of weather exposed or moisture resistant element.
 - 3. Efficiency, maintenance, or safety of any operational element.
 - 4. Visual qualities of sight exposed elements.
 - 5. Work of Owner or separate Contractor.

1.03 QUALIFICATIONS

- A. For field engineering, employ a professional engineer of the discipline required for specific service on Project, licensed in the State in which the Project is located.
- B. For design of temporary shoring and bracing, employ a Professional Engineer experienced in design of this type of work and licensed in the State in which the Project is located.

1.04 PROJECT CONDITIONS

- A. Ventilate enclosed areas to assist cure of materials, to dissipate humidity, and to prevent accumulation of dust, fumes, vapors, or gases.
- B. Dust Control: Execute work by methods to minimize raising dust from construction operations. Provide positive means to prevent air-borne dust from dispersing into atmosphere and over adjacent property.
 - 1. Provide dust-proof barriers between construction areas and areas continuing to be occupied by Owner.
- C. Noise Control: Provide methods, means, and facilities to minimize noise produced by construction operations.
- D. Rodent Control: Provide methods, means, and facilities to prevent rodents from accessing or invading premises.
- E. Pollution Control: Provide methods, means, and facilities to prevent contamination of soil, water, and atmosphere from discharge of noxious, toxic substances, and pollutants produced by construction operations. Comply with federal, state, and local regulations.

PART 2 PRODUCTS

2.01 PATCHING MATERIALS

- A. New Materials: As specified in product sections; match existing products and work for patching and extending work.
- B. Type and Quality of Existing Products: Determine by inspecting and testing products where necessary, referring to existing work as a standard.
- C. Product Substitution: For any proposed change in materials, submit request for substitution described in Section 01 60 00 - Product Requirements.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that existing site conditions and substrate surfaces are acceptable for subsequent work. Start of work means acceptance of existing conditions.
- B. Verify that existing substrate is capable of structural support or attachment of new work being applied or attached.
- C. Examine and verify specific conditions described in individual specification sections.
- D. Take field measurements before confirming product orders or beginning fabrication, to minimize waste due to over-ordering or misfabrication.
- E. Verify that utility services are available, of the correct characteristics, and in the correct locations.
- F. Prior to Cutting: Examine existing conditions prior to commencing work, including elements subject to damage or movement during cutting and patching. After uncovering existing work, assess conditions affecting performance of work. Beginning of cutting or patching means acceptance of existing conditions.

3.02 PREPARATION

- A. Clean substrate surfaces prior to applying next material or substance.
- B. Seal cracks or openings of substrate prior to applying next material or substance.
- C. Apply manufacturer required or recommended substrate primer, sealer, or conditioner prior to applying any new material or substance in contact or bond.

3.03 LAYING OUT THE WORK

- A. Verify locations of survey control points prior to starting work.
- B. Promptly notify Architect of any discrepancies discovered.
- C. Protect survey control points prior to starting site work; preserve permanent reference points during construction.
- D. Promptly report to Architect the loss or destruction of any reference point or relocation required because of changes in grades or other reasons.
- E. Replace dislocated survey control points based on original survey control. Make no changes without prior written notice to Architect.
- F. Utilize recognized engineering survey practices.
- G. Establish elevations, lines and levels. Locate and lay out by instrumentation and similar appropriate means:
 - 1. Site improvements including pavements; stakes for grading, fill and topsoil placement; utility locations, slopes, and invert elevations.
- H. Periodically verify layouts by same means.
- I. Maintain a complete and accurate log of control and survey work as it progresses.

3.04 GENERAL INSTALLATION REQUIREMENTS

- A. Install products as specified in individual sections, in accordance with manufacturer's instructions and recommendations, and so as to avoid waste due to necessity for replacement.
- B. Make vertical elements plumb and horizontal elements level, unless otherwise indicated.
- C. Install equipment and fittings plumb and level, neatly aligned with adjacent vertical and horizontal lines, unless otherwise indicated.
- D. Make consistent texture on surfaces, with seamless transitions, unless otherwise indicated.
- E. Make neat transitions between different surfaces, maintaining texture and appearance.

3.05 ALTERATIONS

- A. Drawings showing existing construction and utilities are based on casual field observation and existing record documents only.
 - 1. Verify that construction and utility arrangements are as shown.
 - 2. Beginning of alterations work constitutes acceptance of existing conditions.
- B. Remove existing work as indicated and as required to accomplish new work.
 - 1. Remove items indicated on drawings.
 - 2. Relocate items indicated on drawings.
 - 3. Where new surface finishes are to be applied to existing work, perform removals, patch, and prepare existing surfaces as required to receive new finish; remove existing finish if necessary for successful application of new finish.
 - 4. Where new surface finishes are not specified or indicated, patch holes and damaged surfaces to match adjacent finished surfaces as closely as possible.
- C. Services (Including but not limited to HVAC, Plumbing, Fire Protection, Electrical, and Telecommunications): Remove, relocate, and extend existing systems to accommodate new construction.
 - 1. Maintain existing active systems that are to remain in operation; maintain access to equipment and operational components; if necessary, modify installation to allow access or provide access panel.
 - 2. Where existing systems or equipment are not active and Contract Documents require reactivation, put back into operational condition; repair supply, distribution, and equipment as required.
 - 3. Where existing active systems serve occupied facilities but are to be replaced with new services, maintain existing systems in service until new systems are complete and ready for service.
 - a. Disable existing systems only to make switchovers and connections; minimize duration of outages.
 - b. Provide temporary connections as required to maintain existing systems in service.
 - 4. Verify that abandoned services serve only abandoned facilities.
 - 5. Remove abandoned pipe, ducts, conduits, and equipment, including those above accessible ceilings; remove back to source of supply where possible, otherwise cap stub and tag with identification; patch holes left by removal using materials specified for new construction.
- D. Protect existing work to remain.
 - 1. Prevent movement of structure; provide shoring and bracing if necessary.
 - 2. Perform cutting to accomplish removals neatly and as specified for cutting new work.
 - 3. Repair adjacent construction and finishes damaged during removal work.
- E. Adapt existing work to fit new work: Make as neat and smooth transition as possible.
- F. Patching: Where the existing surface is not indicated to be refinished, patch to match the surface finish that existed prior to cutting. Where the surface is indicated to be refinished, patch so that the substrate is ready for the new finish.
- G. Refinish existing surfaces as indicated:
 - 1. Where rooms or spaces are indicated to be refinished, refinish all visible existing surfaces to remain to the specified condition for each material, with a neat transition to adjacent finishes.
 - 2. If mechanical or electrical work is exposed accidentally during the work, re-cover and refinish to match.
- H. Clean existing systems and equipment.
- I. Remove demolition debris and abandoned items from alterations areas and dispose of off-site; do not burn or bury.
- J. Do not begin new construction in alterations areas before demolition is complete.

K. Comply with all other applicable requirements of this section.

3.06 CUTTING AND PATCHING

- A. Whenever possible, execute the work by methods that avoid cutting or patching.
- B. See Alterations article above for additional requirements.
- C. Perform whatever cutting and patching is necessary to:
 - 1. Complete the work.
 - 2. Fit products together to integrate with other work.
 - 3. Provide openings for penetration of mechanical, electrical, and other services.
 - 4. Match work that has been cut to adjacent work.
 - 5. Repair areas adjacent to cuts to required condition.
 - 6. Repair new work damaged by subsequent work.
 - 7. Remove samples of installed work for testing when requested.
 - 8. Remove and replace defective and non-conforming work.
- D. Execute work by methods that avoid damage to other work and that will provide appropriate surfaces to receive patching and finishing. In existing work, minimize damage and restore to original condition.
- E. Employ original installer to perform cutting for weather exposed and moisture resistant elements, and sight exposed surfaces.
- F. Cut rigid materials using masonry saw or core drill. Pneumatic tools not allowed without prior approval.
- G. Restore work with new products in accordance with requirements of Contract Documents.
- H. Fit work air tight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.
- I. At penetrations of fire rated walls, partitions, ceiling, or floor construction, completely seal voids with fire rated material in accordance with Section 07 84 00, to full thickness of the penetrated element.
- J. Patching:
 - 1. Finish patched surfaces to match finish that existed prior to patching. On continuous surfaces, refinish to nearest intersection or natural break. For an assembly, refinish entire unit.
 - 2. Match color, texture, and appearance.
 - 3. Repair patched surfaces that are damaged, lifted, discolored, or showing other imperfections due to patching work. If defects are due to condition of substrate, repair substrate prior to repairing finish.

3.07 PROGRESS CLEANING

- A. Maintain areas free of waste materials, debris, and rubbish. Maintain site in a clean and orderly condition.
- B. Remove debris and rubbish from pipe chases, plenums, attics, crawl spaces, and other closed or remote spaces, prior to enclosing the space.
- C. Broom and vacuum clean interior areas prior to start of surface finishing, and continue cleaning to eliminate dust.
- D. Collect and remove waste materials, debris, and trash/rubbish from site periodically and dispose off-site; do not burn or bury.

3.08 PROTECTION OF INSTALLED WORK

- A. Protect installed work from damage by construction operations.
- B. Provide special protection where specified in individual specification sections.
- C. Provide temporary and removable protection for installed products. Control activity in immediate work area to prevent damage.
- D. Provide protective coverings at walls, projections, jambs, sills, and soffits of openings.

- E. Protect finished floors, stairs, and other surfaces from traffic, dirt, wear, damage, or movement of heavy objects, by protecting with durable sheet materials.
- F. Prohibit traffic or storage upon waterproofed or roofed surfaces. If traffic or activity is necessary, obtain recommendations for protection from waterproofing or roofing material manufacturer.
- G. Remove protective coverings when no longer needed; reuse or recycle plastic coverings if possible.

3.09 ADJUSTING

- A. Adjust operating products and equipment to ensure smooth and unhindered operation.

3.10 FINAL CLEANING

- A. Use cleaning materials that are nonhazardous.
- B. Clean interior and exterior glass, surfaces exposed to view; remove temporary labels, stains and foreign substances, polish transparent and glossy surfaces, vacuum carpeted and soft surfaces.
- C. Remove all labels that are not permanent. Do not paint or otherwise cover fire test labels or nameplates on mechanical and electrical equipment.
- D. Clean equipment and fixtures to a sanitary condition with cleaning materials appropriate to the surface and material being cleaned.
- E. Clean filters of operating equipment.
- F. Clean site; sweep paved areas, rake clean landscaped surfaces.
- G. Remove waste, surplus materials, trash/rubbish, and construction facilities from the site; dispose of in legal manner; do not burn or bury.

3.11 CLOSEOUT PROCEDURES

- A. Make submittals that are required by governing or other authorities.
- B. Accompany Project Coordinator on preliminary inspection to determine items to be listed for completion or correction in the Contractor's Correction Punch List for Contractor's Notice of Substantial Completion.
- C. Notify Architect when work is considered ready for Architect's Substantial Completion inspection.
- D. Submit written certification containing Contractor's Correction Punch List, that Contract Documents have been reviewed, work has been inspected, and that work is complete in accordance with Contract Documents and ready for Architect's Substantial Completion inspection.
- E. Conduct Substantial Completion inspection and create Final Correction Punch List containing Architect's and Contractor's comprehensive list of items identified to be completed or corrected and submit to Architect.
- F. Correct items of work listed in Final Correction Punch List and comply with requirements for access to Owner-occupied areas.
- G. Notify Architect when work is considered finally complete and ready for Architect's Substantial Completion final inspection.
- H. Complete items of work determined by Architect listed in executed Certificate of Substantial Completion.

END OF SECTION

SECTION 01 74 19

CONSTRUCTION AND DEMOLITION WASTE MANAGEMENT AND DISPOSAL

PART 1 GENERAL

1.01 WASTE MANAGEMENT REQUIREMENTS

- A. Owner requires that this project generate the least amount of trash and waste possible and divert at least 50 percent of construction and demolition debris in order to comply with Section 5.408 of CalGreen.
- B. Construction Waste: 50% of construction waste that is generated on-site is required to be diverted from landfills (CalGreen).
- C. Demolition Waste: 50% of demolition waste that is generated on-site is required to be diverted from landfills (CalGreen).
- D. Employ processes that ensure the generation of as little waste as possible due to error, poor planning, breakage, mishandling, contamination, or other factors.
- E. Minimize trash/waste disposal in landfills; reuse, salvage, or recycle as much waste as economically feasible.
- F. Required Recycling, Salvage, and Reuse: The following may not be disposed of in landfills or by incineration:
 - 1. Aluminum and plastic beverage containers.
 - 2. Corrugated cardboard.
 - 3. Wood pallets.
 - 4. Clean dimensional wood: May be used as blocking or furring.
 - 5. Concrete.
 - 6. Metals, including packaging banding, metal studs, sheet metal, structural steel, piping, reinforcing bars, door frames, and other items made of steel, iron, galvanized steel, stainless steel, aluminum, copper, zinc, lead, brass, and bronze.
 - 7. Glass.
 - 8. Gypsum drywall and plaster.
 - 9. Carpet, carpet cushion, carpet tile, and carpet remnants, both new and removed: DuPont (<http://flooring.dupont.com>) and Interface (www.interfaceinc.com) conduct reclamation programs.
 - 10. Acoustical ceiling tile and panels.
- G. Contractor shall submit periodic Waste Disposal Reports; all landfill disposal, recycling, salvage, and reuse must be reported regardless of to whom the cost or savings accrues; use the same units of measure on all reports.
- H. Methods of trash/waste disposal that are not acceptable are:
 - 1. Burning on the project site.
 - 2. Burying on the project site.
 - 3. Dumping or burying on other property, public or private.
 - 4. Other illegal dumping or burying.
- I. Regulatory Requirements: Contractor is responsible for knowing and complying with regulatory requirements, including but not limited to Federal, state and local requirements, pertaining to legal disposal of all construction and demolition waste materials.

1.02 DEFINITIONS

- A. Clean: Untreated and unpainted; not contaminated with oils, solvents, caulk, or the like.
- B. Construction and Demolition Waste: Solid wastes typically including building materials, packaging, trash, debris, and rubble resulting from construction, remodeling, repair and demolition operations.
- C. Hazardous: Exhibiting the characteristics of hazardous substances, i.e., ignitibility, corrosivity, toxicity or reactivity.

- D. **Nonhazardous:** Exhibiting none of the characteristics of hazardous substances, i.e., ignitibility, corrosivity, toxicity, or reactivity.
- E. **Nontoxic:** Neither immediately poisonous to humans nor poisonous after a long period of exposure.
- F. **Recyclable:** The ability of a product or material to be recovered at the end of its life cycle and remanufactured into a new product for reuse by others.
- G. **Recycle:** To remove a waste material from the project site to another site for remanufacture into a new product for reuse by others.
- H. **Recycling:** The process of sorting, cleansing, treating and reconstituting solid waste and other discarded materials for the purpose of using the altered form. Recycling does not include burning, incinerating, or thermally destroying waste.
- I. **Return:** To give back reusable items or unused products to vendors for credit.
- J. **Reuse:** To reuse a construction waste material in some manner on the project site.
- K. **Salvage:** To remove a waste material from the project site to another site for resale or reuse by others.
- L. **Sediment:** Soil and other debris that has been eroded and transported by storm or well production run-off water.
- M. **Source Separation:** The act of keeping different types of waste materials separate beginning from the first time they become waste.
- N. **Toxic:** Poisonous to humans either immediately or after a long period of exposure.
- O. **Trash:** Any product or material unable to be reused, returned, recycled, or salvaged.
- P. **Waste:** Extra material or material that has reached the end of its useful life in its intended use. Waste includes salvageable, returnable, recyclable, and reusable material.

1.03 SUBMITTALS

- A. **See Section 01 30 00 - Administrative Requirements, for submittal procedures.**
- B. **Waste Diversion Reports: Submit at specified intervals, with details of quantities of trash and waste, means of disposal or reuse, and costs; show both totals to date and since last report.**
 - 1. **Submit updated Report with each Application for Progress Payment; failure to submit Report will delay payment.**
 - 2. **Submit Report on a form acceptable to Owner.**
 - 3. **Landfill Disposal: Include the following information:**
 - a. **Identification of material.**
 - b. **Amount, in tons or cubic yards (cubic meters), of trash/waste material from the project disposed of in landfills.**
 - c. **State the identity of landfills, total amount of tipping fees paid to landfill, and total disposal cost.**
 - d. **Include manifests, weight tickets, receipts, and invoices as evidence of quantity and cost.**
 - 4. **Recycled and Salvaged Materials: Include the following information for each:**
 - a. **Identification of material, including those retrieved by installer for use on other projects.**
 - b. **Amount, in tons or cubic yards (cubic meters), date removed from the project site, and receiving party.**
 - c. **Transportation cost, amount paid or received for the material, and the net total cost or savings of salvage or recycling each material.**
 - d. **Include manifests, weight tickets, receipts, and invoices as evidence of quantity and cost.**
 - e. **Certification by receiving party that materials will not be disposed of in landfills or by incineration.**

5. Other Disposal Methods: Include information similar to that described above, as appropriate to disposal method.

PART 2 PRODUCTS

2.01 PRODUCT SUBSTITUTIONS

- A. See Section 01 60 00 - Product Requirements for substitution submission procedures.

PART 3 EXECUTION

3.01 WASTE MANAGEMENT PROCEDURES

- A. See Section 01 30 00 for additional requirements for project meetings, reports, submittal procedures, and project documentation.
- B. See Section 01 70 00 for trash/waste prevention procedures related to demolition, cutting and patching, installation, protection, and cleaning.

3.02 WASTE MANAGEMENT PLAN IMPLEMENTATION

- A. **Manager:** Designate an on-site person or persons responsible for instructing workers and overseeing and documenting results of the Waste Management Plan.
- B. **Communication:** Distribute copies of the Waste Management Plan to job site foreman, each subcontractor, Owner, and Architect.
- C. **Instruction:** Provide on-site instruction of appropriate separation, handling, and recycling, salvage, reuse, and return methods to be used by all parties at the appropriate stages of the project.
- D. **Meetings:** Discuss trash/waste management goals and issues at project meetings.
 1. Pre-bid meeting.
 2. Pre-construction meeting.
 3. Regular job-site meetings.
- E. **Facilities:** Provide specific facilities for separation and storage of materials for recycling, salvage, reuse, return, and trash disposal, for use by all contractors and installers.
 1. Provide containers as required.
 2. Provide adequate space for pick-up and delivery and convenience to subcontractors.
 3. Keep recycling and trash/waste bin areas neat and clean and clearly marked in order to avoid contamination of materials.
- F. **Hazardous Wastes:** Separate, store, and dispose of hazardous wastes according to applicable regulations.
- G. **Recycling:** Separate, store, protect, and handle at the site identified recyclable waste products in order to prevent contamination of materials and to maximize recyclability of identified materials. Arrange for timely pickups from the site or deliveries to recycling facility in order to prevent contamination of recyclable materials.
- H. **Reuse of Materials On-Site:** Set aside, sort, and protect separated products in preparation for reuse.
- I. **Salvage:** Set aside, sort, and protect products to be salvaged for reuse off-site.

END OF SECTION

**SECTION 02 41 00
DEMOLITION**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Selective demolition of building elements for alteration purposes.

1.02 RELATED REQUIREMENTS

- A. Section 01 10 00 - Summary: Limitations on Contractor's use of site and premises.
- B. Section 01 10 00 - Summary: Sequencing and staging requirements.
- C. Section 01 10 00 - Summary: Description of items to be salvaged or removed for re-use by Contractor.
- D. Section 01 50 00 - Temporary Facilities and Controls: Site fences, security, protective barriers, and waste removal.
- E. Section 01 60 00 - Product Requirements: Handling and storage of items removed for salvage and relocation.
- F. Section 01 70 00 - Execution and Closeout Requirements: Project conditions; protection of bench marks, survey control points, and existing construction to remain; reinstallation of removed products; temporary bracing and shoring.
- G. Section 01 74 19 - Construction and Demolition Waste Management and Disposal: Limitations on disposal of removed materials; requirements for recycling.

1.03 SUBMITTALS

- A. Site Plan: Showing:
 - 1. Areas for temporary construction.
 - 2. Areas for temporary and permanent placement of removed materials.
- B. Demolition Plan: Submit demolition plan as specified by local authorities.
 - 1. Indicate extent of demolition, removal sequence, bracing and shoring, and location and construction of barricades and fences.
 - 2. Include a summary of safety procedures.
- C. Project Record Documents: Accurately record actual locations of capped and active utilities and subsurface construction.

PART 2 PRODUCTS -- NOT USED

PART 3 EXECUTION

3.01 SCOPE

- A. Remove portions of existing buildings as shown on the Drawings and as required for a complete Project:
- B. Remove other items indicated, for salvage, relocation, and recycling.

3.02 GENERAL PROCEDURES AND PROJECT CONDITIONS

- A. Comply with applicable codes and regulations for demolition operations and safety of adjacent structures and the public.
 - 1. Obtain required permits.
 - 2. Take precautions to prevent catastrophic or uncontrolled collapse of structures to be removed; do not allow worker or public access within range of potential collapse of unstable structures.
 - 3. Provide, erect, and maintain temporary barriers and security devices.
 - 4. Conduct operations to minimize effects on and interference with adjacent structures and occupants.
 - 5. Do not close or obstruct roadways or sidewalks without permit.

6. Conduct operations to minimize obstruction of public and private entrances and exits; do not obstruct required exits at any time; protect persons using entrances and exits from removal operations.
 7. Obtain written permission from owners of adjacent properties when demolition equipment will traverse, infringe upon or limit access to their property.
- B. Do not begin removal until receipt of notification to proceed from Owner.
 - C. Protect existing structures and other elements that are not to be removed.
 1. Provide bracing and shoring.
 2. Prevent movement or settlement of adjacent structures.
 3. Stop work immediately if adjacent structures appear to be in danger.
 - D. Minimize production of dust due to demolition operations; do not use water if that will result in ice, flooding, sedimentation of public waterways or storm sewers, or other pollution.
 - E. If hazardous materials are discovered during removal operations, stop work and notify Architect and Owner; hazardous materials include regulated asbestos containing materials, lead, PCB's, and mercury.
 - F. Perform demolition in a manner that maximizes salvage and recycling of materials.
 1. Comply with requirements of Section 01 74 19 - Waste Management.
 2. Dismantle existing construction and separate materials.
 3. Set aside reusable, recyclable, and salvageable materials; store and deliver to collection point or point of reuse.

3.03 EXISTING UTILITIES

- A. Protect existing utilities to remain from damage.
- B. Do not disrupt public utilities without permit from authority having jurisdiction.
- C. Do not close, shut off, or disrupt existing life safety systems that are in use without at least 7 days prior written notification to Owner.
- D. Do not close, shut off, or disrupt existing utility branches or take-offs that are in use without at least 3 days prior written notification to Owner.
- E. Locate and mark utilities to remain; mark using highly visible tags or flags, with identification of utility type; protect from damage due to subsequent construction, using substantial barricades if necessary.
- F. Remove exposed piping, valves, meters, equipment, supports, and foundations of disconnected and abandoned utilities.

3.04 SELECTIVE DEMOLITION FOR ALTERATIONS

- A. Drawings showing existing construction and utilities are based on casual field observation and existing record documents only.
 1. Verify that construction and utility arrangements are as shown.
 2. Report discrepancies to Architect before disturbing existing installation.
 3. Beginning of demolition work constitutes acceptance of existing conditions that would be apparent upon examination prior to starting demolition.
- B. Remove existing work as indicated and as required to accomplish new work.
 1. Remove items indicated on drawings.
- C. Services (Including but not limited to HVAC, Plumbing, Fire Protection, Electrical, and Telecommunications): Remove existing systems and equipment as indicated.
 1. Maintain existing active systems that are to remain in operation; maintain access to equipment and operational components.
 2. Where existing active systems serve occupied facilities but are to be replaced with new services, maintain existing systems in service until new systems are complete and ready for service.
 3. Verify that abandoned services serve only abandoned facilities before removal.

4. Remove abandoned pipe, ducts, conduits, and equipment, including those above accessible ceilings; remove back to source of supply where possible, otherwise cap stub and tag with identification.
- D. Protect existing work to remain.
1. Prevent movement of structure; provide shoring and bracing if necessary.
 2. Perform cutting to accomplish removals neatly and as specified for cutting new work.
 3. Repair adjacent construction and finishes damaged during removal work.
 4. Patch as specified for patching new work.

3.05 DEBRIS AND WASTE REMOVAL

- A. Remove debris, junk, and trash from site.
- B. Remove from site all materials not to be reused on site; comply with requirements of Section 01 74 19 - Waste Management.
- C. Leave site in clean condition, ready for subsequent work.
- D. Clean up spillage and wind-blown debris from public and private lands.

END OF SECTION

SECTION 08 12 13
HOLLOW METAL FRAMES

PART 1 GENERAL

1.01 SECTION INCLUDES

1.02 REFERENCE STANDARDS

- A. ADA Standards - Americans with Disabilities Act (ADA) Standards for Accessible Design; 2010.
- B. ANSI/SDI A250.3 - Test Procedure and Acceptance Criteria for Factory Applied Finish Coatings for Steel Doors and Frames; 2007 (R2011).
- C. ANSI/SDI A250.8 - Specifications for Standard Steel Doors and Frames (SDI-100); 2014.
- D. ANSI/SDI A250.10 - Test Procedure and Acceptance Criteria for Prime Painted Steel Surfaces for Steel Doors and Frames; 2011.
- E. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process; 2015.
- F. ASTM A1008/A1008M - Standard Specification for Steel, Sheet, Cold-Rolled, Carbon, Structural, High-Strength Low-Alloy, High-Strength Low-Alloy with Improved Formability, Solution Hardened, and Bake Hardenable; 2015.
- G. ASTM A1011/A1011M - Standard Specification for Steel, Sheet and Strip, Hot-Rolled, Carbon, Structural, High-Strength Low-Alloy, High-Strength Low-Alloy with Improved Formability, and Ultra-High Strength; 2014.
- H. ICC A117.1 - Accessible and Usable Buildings and Facilities; 2009.
- I. ITS (DIR) - Directory of Listed Products; current edition.
- J. NAAMM HMMA 830 - Hardware Selection for Hollow Metal Doors and Frames; 2002.
- K. NAAMM HMMA 831 - Hardware Locations for Hollow Metal Doors and Frames; 2011.
- L. NFPA 80 - Standard for Fire Doors and Other Opening Protectives; 2016.
- M. NFPA 252 - Standard Methods of Fire Tests of Door Assemblies; 2012.
- N. UL 10C - Standard for Positive Pressure Fire Tests of Door Assemblies; Current Edition, Including All Revisions.

1.03 DELIVERY, STORAGE, AND HANDLING

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Hollow Metal Frames with Applied Casings, Prefinished:
 - 1. Western Integrated Materials.
 - 2. Substitutions: Not permitted.

2.02 DESIGN CRITERIA

- A. Door Frame Type: Provide hollow metal door frames with applied casings.
- B. Steel used for fabrication of frames shall comply with one or more of the following requirements; Galvannealed steel conforming to ASTM A653/A653M, cold-rolled steel conforming to ASTM A1008/A1008M, or hot-rolled pickled and oiled (HRPO) steel conforming to ASTM A1011/A1011M, Commercial Steel (CS) Type B for each.
- C. Accessibility: Comply with ICC A117.1 and ADA Standards.
- D. Combined Requirements: If a particular door and frame unit is indicated to comply with more than one type of requirement, comply with the specified requirements for each type; for instance, an exterior frame that is also indicated as being sound-rated must comply with the requirements specified for exterior frames and for sound-rated frames; where two requirements conflict, comply with the most stringent.

- E. Hardware Preparations, Selections and Locations: Comply with NAAMM HMMA 830 and NAAMM HMMA 831 or ANSI/SDI A250.8 (SDI-100) in accordance with specified requirements.

2.03 HOLLOW METAL DOOR FRAMES WITH APPLIED CASINGS

- A. Frame Type: Knockdown, slip-on drywall frames; separate jambs and head with separate snap-on casings both sides; factory-applied finish on exposed surfaces.
 - 1. Frame Material: Cold-rolled steel complying with ASTM A1008/A1008M.
 - 2. Casing Material: Formed steel.
 - 3. Casing Profile: As scheduled.
 - 4. Finish: Factory-applied baked enamel finish, or electrostatically applied water-based paint.
 - a. Color: to match existing.
- B. Interior Door Frames, Non-Fire-Rated:
 - 1. Frame Metal Thickness: 18 gage, 0.042 inch (1.0 mm), minimum.
- C. Interior Door Frames, Fire-Rated: Provide smoke gaskets.
 - 1. Frame Metal Thickness: 18 gage, 0.042 inch (1.0 mm), minimum.
 - 2. Fire Rating: As indicated on Door and Frame Schedule, tested in accordance with UL 10C or NFPA 252 ("positive pressure fire tests").
 - a. Provide units listed and labeled by testing agency acceptable to authority having jurisdiction or WH (Warnock Hersey) - ITS (DIR).
 - b. Attach fire rating label to each fire rated unit.

2.04 ACCESSORIES

- A. Silencers: Resilient rubber, fitted into drilled hole; 3 on strike side of single door, 3 on center mullion of pairs, and 2 on head of pairs without center mullions.

2.05 FINISHES

- A. Primer: Rust-inhibiting, complying with ANSI/SDI A250.10, door manufacturer's standard.
- B. Factory Finish: Complying with ANSI/SDI A250.3, manufacturer's standard coating.
 - 1. Color: to match existing.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify existing conditions before starting work.
- B. Verify that opening sizes and tolerances are acceptable.
- C. Verify that finished walls are in plane to ensure proper door alignment.

3.02 INSTALLATION

- A. Install frames in accordance with manufacturer's instructions and related requirements of specified frame standards or custom guidelines indicated.
- B. Install fire rated units in accordance with NFPA 80.
- C. Coordinate frame anchor placement with wall construction.
- D. Coordinate installation of hardware.

3.03 TOLERANCES

- A. Maximum Diagonal Distortion: 1/16 inch (1.6 mm) measured with straight edges, crossed corner to corner.

END OF SECTION

SECTION 08 14 16
FLUSH WOOD DOORS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Flush wood doors; flush and flush glazed configuration; fire rated, non-rated, and acoustical.

1.02 RELATED REQUIREMENTS

- A. Section 08 80 00 - Glazing.

1.03 REFERENCE STANDARDS

- A. 16 CFR 1201 - Safety Standard for Architectural Glazing Materials; current edition.
- B. AWI/AWMAC/WI (AWS) - Architectural Woodwork Standards; 2014.
- C. NFPA 80 - Standard for Fire Doors and Other Opening Protectives; 2016.
- D. UL 10C - Standard for Positive Pressure Fire Tests of Door Assemblies; Current Edition, Including All Revisions.
- E. WDMA I.S. 1A - Interior Architectural Wood Flush Doors; 2013.

1.04 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years of experience.
- B. Installed Fire Rated Door and Transom Panel Assembly: Conform to NFPA 80 for fire-rating as indicated.

1.05 DELIVERY, STORAGE, AND HANDLING

- A. Package, deliver and store doors in accordance with specified quality standard.
- B. Accept doors on site in manufacturer's packaging. Inspect for damage.
- C. Protect doors with resilient packaging sealed with heat shrunk plastic. Do not store in damp or wet areas; or in areas where sunlight might bleach veneer. Seal top and bottom edges with tinted sealer if stored more than one week. Break seal on site to permit ventilation.

1.06 WARRANTY

- A. Interior Doors: Provide manufacturer's warranty for the life of the installation.
- B. Include coverage for delamination of veneer, warping beyond specified installation tolerances, defective materials, and telegraphing core construction.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Wood Veneer Faced Doors:
 - 1. Eggers Industries; -: www.eggersondustries.com.
 - 2. Graham Wood Doors; -: www.grahamdoors.com.
 - 3. Haley Brothers; -: www.haleybros.com.
 - 4. Marshfield DoorSystems, Inc; -: www.marshfielddoors.com.
 - 5. Oregon Door; Architectural Series: www.oregondoor.com.

2.02 DOORS AND PANELS

- A. Doors: See drawings for locations and additional requirements.
 - 1. Quality Level: Custom Grade, Heavy Duty performance, in accordance with AWI/AWMAC/WI (AWS).
- B. Interior Doors: 1-3/4 inches (44 mm) thick unless otherwise indicated; flush construction.
 - 1. Provide solid core doors at each location.
 - 2. Fire Rated Doors: Tested to 20 minutes in accordance with UL 10C - Positive Pressure; Underwriters Laboratories Inc. (UL) or Intertek/Warnock Hersey (WHI) labeled without any visible seals when door is open.

2.03 DOOR AND PANEL CORES

- A. Fire Rated Doors: Mineral core type, with fire resistant composite core (FD), plies and faces as indicated above; with core blocking as required to provide adequate anchorage of hardware without through-bolting.
- B. Sound Resistant Doors: Equivalent to type, with particleboard core (PC) construction with core as required to achieve STC rating specified; plies and faces as indicated above.

2.04 DOOR FACINGS

- A. Veneer Facing for Transparent Finish: Species to match existing, veneer grade in accordance with quality standard indicated, plain sliced (flat cut), with book match between leaves of veneer, running match of spliced veneer leaves assembled on door or panel face.

2.05 ACCESSORIES

- A. Glazed Openings:
 - 1. Laminated Safety Glass: Comply with 16 CFR 1201 test requirements for Category II.
- B. Glazing Stops: Rolled steel channel shape, butted corners; prepared for countersink style tamper proof screws, to match existing.

2.06 DOOR CONSTRUCTION

- A. Fabricate doors in accordance with door quality standard specified.
- B. Cores Constructed with stiles and rails:
- C. Factory machine doors for hardware other than surface-mounted hardware, in accordance with hardware requirements and dimensions.
- D. Factory fit doors for frame opening dimensions identified on shop drawings, with edge clearances in accordance with specified quality standard.
- E. Provide edge clearances in accordance with the quality standard specified.

2.07 FACTORY FINISHING - WOOD VENEER DOORS

- A. Finish work in accordance with AWI/AWMAC/WI (AWS), Section 5 - Finishing for grade specified and as follows:
- B. Finish work in accordance with WDMA I.S. 1A for Grade specified and as follows:
 - 1. Transparent:
 - a. System - TR-2, Catalyzed Lacquer.
 - b. Sheen: match existing finish.
- C. Factory finish doors in accordance with approved sample.
- D. Seal door top edge with color sealer to match door facing.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify existing conditions before starting work.
- B. Verify that opening sizes and tolerances are acceptable.
- C. Do not install doors in frame openings that are not plumb or are out-of-tolerance for size or alignment.

3.02 INSTALLATION

- A. Install doors in accordance with manufacturer's instructions and specified quality standard.
 - 1. Install fire-rated doors in accordance with NFPA 80 requirements.
- B. Factory-Finished Doors: Do not field cut or trim; if fit or clearance is not correct, replace door.
- C. Use machine tools to cut or drill for hardware.
- D. Coordinate installation of doors with installation of frames and hardware.
- E. Coordinate installation of glazing.

3.03 TOLERANCES

- A. Conform to specified quality standard for fit and clearance tolerances.
- B. Conform to specified quality standard for telegraphing, warp, and squareness.

3.04 ADJUSTING

- A. Adjust doors for smooth and balanced door movement.
- B. Adjust closers for full closure.

END OF SECTION

SECTION 08 31 00
ACCESS DOORS AND PANELS

PART 1 GENERAL

PART 2 PRODUCTS

2.01 ACCESS DOOR AND PANEL APPLICATIONS

- A. Ceilings, Unless Otherwise Indicated: Same type as for walls.
 - 1. Material: Steel, painted to match adjacent surface
 - 2. Size in Gypsum Board Ceiling: as required for Moveable Wall Motor access.
 - 3. Tool-operated spring or cam lock; no handle.

2.02 WALL AND CEILING UNITS

- A. Access Doors: Factory fabricated door and frame units, fully assembled units with corner joints welded, filled, and ground flush; square and without rack or warp; coordinate requirements with assemblies that units are to be installed in.
 - 1. Door Style: Single thickness with rolled or turned in edges.
 - 2. Steel Finish: Primed.
 - 3. Primed and Factory Finish: Polyester powder coat; color custom.
 - 4. Hardware:
 - a. Hinges for Non-Fire-Rated Units: Concealed, constant force closure spring type.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that rough openings are correctly sized and located.

3.02 INSTALLATION

- A. Install units in accordance with manufacturer's instructions.
- B. Install frames plumb and level in openings. Secure rigidly in place.
- C. Position units to provide convenient access to the concealed work requiring access.

END OF SECTION

SECTION 08 43 13
ALUMINUM-FRAMED STOREFRONTS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Aluminum-framed storefront, with vision glass.
- B. Aluminum doors and frames.
- C. Weatherstripping.
- D. Door hardware.

1.02 REFERENCE STANDARDS

- A. AAMA CW-10 - Care and Handling of Architectural Aluminum From Shop to Site; 2015.
- B. AAMA 2605 - Voluntary Specification, Performance Requirements and Test Procedures for Superior Performing Organic Coatings on Aluminum Extrusions and Panels; 2013.
- C. ASTM B221 - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes; 2014.
- D. ASTM B221M - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes [Metric]; 2013.

1.03 QUALITY ASSURANCE

- A. Manufacturer and Installer Qualifications: Company specializing in manufacturing aluminum glazing systems with minimum three years of experience.

1.04 DELIVERY, STORAGE, AND HANDLING

- A. Handle products of this section in accordance with AAMA CW-10.
- B. Protect finished aluminum surfaces with wrapping. Do not use adhesive papers or sprayed coatings that bond to aluminum when exposed to sunlight or weather.

1.05 FIELD CONDITIONS

- A. Do not install sealants when ambient temperature is less than 40 degrees F (5 degrees C). Maintain this minimum temperature during and 48 hours after installation.

PART 2 PRODUCTS

2.01 BASIS OF DESIGN – FRAMING FOR INSULATING GLAZING

- A. Center-Set Style, Thermally-Broken:
 - 1. Basis of Design: C.R. Laurence Company, Inc; U.S. Aluminum Series IT451/451-S.
 - 2. Vertical Mullion Dimensions: 2 inches wide by 4-1/2 inches deep (50 mm wide by 114 mm deep).
- B. Substitutions: Not permitted.

2.02 BASIS OF DESIGN – SWINGING DOORS

- A. Medium Stile, Insulating Glazing, Thermally-Broken:
 - 1. Basis of Design: C.R. Laurence Company, Inc; U.S. Aluminum Series 400-T Medium Stile Thermal Door.
 - 2. Thickness: 1-3/4 inches (43 mm).
- B. Substitutions: Not permitted.

2.03 STOREFRONT

- A. Aluminum-Framed Storefront: Factory fabricated, factory finished aluminum framing members with infill, and related flashings, anchorage and attachment devices.
 - 1. Finish: Superior performing organic coatings.
 - a. Factory finish all surfaces that will be exposed in completed assemblies.
 - b. Touch-up surfaces cut during fabrication so that no natural aluminum is visible in completed assemblies, including joint edges.

2. Finish Color: match existing color.
3. Fabrication: Joints and corners flush, hairline, and weatherproof, accurately fitted and secured; prepared to receive anchors and hardware; fasteners and attachments concealed from view; reinforced as required for imposed loads.
4. Construction: Eliminate noises caused by wind and thermal movement, prevent vibration harmonics, and prevent "stack effect" in internal spaces.
5. System Internal Drainage: Drain to the exterior by means of a weep drainage network any water entering joints, condensation occurring in glazing channel, and migrating moisture occurring within system.
6. Expansion/Contraction: Provide for expansion and contraction within system components caused by cycling temperature range of 170 degrees F (95 degrees C) over a 12 hour period without causing detrimental effect to system components, anchorages, and other building elements.
7. Movement: Allow for movement between storefront and adjacent construction, without damage to components or deterioration of seals.
8. Perimeter Clearance: Minimize space between framing members and adjacent construction while allowing expected movement.

2.04 COMPONENTS

- A. Aluminum Framing Members: Tubular aluminum sections, thermally broken with interior section insulated from exterior, drainage holes and internal weep drainage system.
 1. Glazing Stops: Flush.
- B. Swing Doors: Glazed aluminum.
 1. Thickness: 1-3/4 inches (43 mm).
 2. Top Rail: 4 inches (100 mm) wide.
 3. Vertical Stiles: 4-1/2 inches (115 mm) wide.
 4. Bottom Rail: 10 inches (254 mm) wide.
 5. Finish: Same as storefront.

2.05 MATERIALS

- A. Extruded Aluminum: ASTM B221 (ASTM B221M).
- B. Fasteners: Stainless steel.
- C. Glazing Gaskets: Type to suit application to achieve weather, moisture, and air infiltration requirements.

2.06 FINISHES

- A. Superior Performing Organic Coatings: AAMA 2605 multiple coat, thermally cured polyvinylidene fluoride (PVDF) system.
 1. Polyvinylidene fluoride (PVDF) multi-coat thermoplastic fluoropolymer coating system, including minimum 70 percent PVDF color topcoat and minimum total dry film thickness of 0.9 mil (0.023 mm); color and gloss as indicated on drawings.
- B. Color: to match existing.

2.07 HARDWARE

- A. Weatherstripping: Wool pile, continuous and replaceable; provide on all doors.
- B. Sill Sweep Strips: Resilient seal type, retracting, of neoprene; provide on all doors.
- C. Sill Sweeps
- D. Threshold: Extruded aluminum, one piece per door opening, ribbed surface; provide on all doors.
- E. Pivots: Offset type; top and bottom. to match existing
- F. Exit Devices: Panic type.
- G. Door Closers: Exposed overhead.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify dimensions, tolerances, and method of attachment with other work.
- B. Verify that wall openings and adjoining air and vapor seal materials are ready to receive work of this section.

3.02 INSTALLATION

- A. Install wall system in accordance with manufacturer's instructions.
- B. Attach to structure to permit sufficient adjustment to accommodate construction tolerances and other irregularities.
- C. Provide alignment attachments and shims to permanently fasten system to building structure.
- D. Align assembly plumb and level, free of warp or twist. Maintain assembly dimensional tolerances, aligning with adjacent work.
- E. Provide thermal isolation where components penetrate or disrupt building insulation.
- F. Install sill flashings. Turn up ends and edges; seal to adjacent work to form water tight dam.
- G. Where fasteners penetrate sill flashings, make watertight by seating and sealing fastener heads to sill flashing.
- H. Pack fibrous insulation in shim spaces at perimeter of assembly to maintain continuity of thermal barrier.
- I. Install hardware using templates provided.
- J. Touch-up minor damage to factory applied finish; replace components that cannot be satisfactorily repaired.

3.03 TOLERANCES

- A. Maximum Variation from Plumb: 0.06 inches every 3 ft (1.5 mm/m) non-cumulative or 1/16 inches per 10 ft (1.5 mm/3 m), whichever is less.
- B. Maximum Misalignment of Two Adjoining Members Abutting in Plane: 1/32 inch (0.8 mm).

3.04 ADJUSTING

- A. Adjust operating hardware and sash for smooth operation.

3.05 CLEANING

- A. Remove protective material from pre-finished aluminum surfaces.
- B. Wash down surfaces with a solution of mild detergent in warm water, applied with soft, clean wiping cloths. Take care to remove dirt from corners. Wipe surfaces clean.

3.06 PROTECTION

- A. Protect installed products from damage until Date of Substantial Completion.

END OF SECTION

SECTION 08 71 00
DOOR HARDWARE

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Hardware for wood and aluminum doors.
- B. Hardware for fire-rated doors.
- C. Electronically operated and controlled hardware (Door #04).
- D. Thresholds.
- E. Weatherstripping, seals and door gaskets.

1.02 RELATED REQUIREMENTS

- A. Section 08 12 13 - Hollow Metal Frames.

1.03 REFERENCE STANDARDS

- A. BHMA A156.3 - American National Standard for Exit Devices; 2014.
- B. BHMA A156.4 - American National Standard for Door Controls - Closers; 2013.
- C. BHMA A156.8 - American National Standard for Door Controls - Overhead Stops and Holders; 2010.
- D. BHMA A156.21 - American National Standard for Thresholds; 2014.
- E. BHMA A156.22 - American National Standard for Door Gasketing and Edge Seal Systems, Builders Hardware Manufacturers Association; 2012.
- F. NFPA 80 - Standard for Fire Doors and Other Opening Protectives; 2016.
- G. UL (DIR) - Online Certifications Directory; current listings at database.ul.com.

1.04 ADMINISTRATIVE REQUIREMENTS

- A. Coordinate the manufacture, fabrication, and installation of products that door hardware will be installed upon.

1.05 QUALITY ASSURANCE

- A. Standards for Fire-Rated Doors: Maintain one copy of each referenced standard on site, for use by Architect and Contractor.
- B. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years of documented experience.
- C. Hardware Supplier/Installer Qualifications: Company specializing in supplying commercial door hardware with Five years of experience.

1.06 DELIVERY, STORAGE, AND HANDLING

- A. Package hardware items individually; label and identify each package with door opening code to match hardware schedule.

1.07 WARRANTY

- A. Provide five year warranty for door closers.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Allegion Brands; Ives, LCN, Schlage, Steelcraft, or Von Duprin: www.allegion.com/us.

2.02 DOOR HARDWARE - GENERAL

- A. Provide hardware specified or required to make doors fully functional, compliant with applicable codes, and secure to the extent indicated.
- B. Provide items of a single type of the same model by the same manufacturer.
- C. Provide products that comply with the following:

1. Applicable provisions of federal, state, and local codes.
 2. Fire-Rated Doors: NFPA 80.
 3. Hardware on Fire-Rated Doors, Except Hinges: Listed and classified by UL (DIR) as suitable for the purpose specified and indicated.
 4. Hardware for Smoke and Draft Control Doors (Indicated as "S" on Drawings): Provide hardware that enables door assembly to comply with air leakage requirements of the applicable code.
 5. Products Requiring Electrical Connection: Listed and classified by UL (DIR) as suitable for the purpose specified and indicated.
- D. Electrically Operated and/or Controlled Hardware: Provide all power supplies, power transfer hinges, relays, and interfaces required for proper operation; provide wiring between hardware and control components and to building power connection.
- E. Finishes: Match Existing.

2.03 LOCKS AND LATCHES

- A. Locks: Provide a lock for every door, unless specifically indicated as not requiring locking.
1. If no hardware set is indicated for a swinging door provide an office lockset.
 2. Trim: Provide lever handle or pull trim on outside of all locks unless specifically stated to have no outside trim.
 3. Lock Cylinders: Provide key access on outside of all locks unless specifically stated to have no locking or no outside trim.
- B. Lock Cylinders: Manufacturer's standard tumbler type, six-pin standard core.
1. Provide cams and/or tailpieces as required for locking devices required.
- C. Keying: Grand master keyed.
1. Key to existing keying system.
- D. Latches: Provide a latch for every door that is not required to lock, unless specifically indicated "push/pull" or "not required to latch".

2.04 HINGES

- A. Hinges: Provide hinges on every swinging door.
1. Provide five-knuckle full mortise butt hinges unless otherwise indicated.
 2. Provide ball-bearing hinges at all doors.
 3. Provide hinges in the quantities indicated.
- B. Manufacturers - Hinges:
1. Assa Abloy Brands; McKinney: www.assaabloydss.com.
 2. Bommer Industries, Inc; -: www.bommer.com.
 3. C. R. Laurence Company, Inc; -: www.crl-arch.com.
 4. Hager Companies; -: www.hagerco.com.

2.05 FLUSHBOLTS AND COORDINATORS

- A. Flushbolts: Lever extension bolts in leading edge of door, one bolt into floor, one bolt into top of frame.
1. Pairs of Swing Doors: At inactive leaves, provide flush bolts of type as required to comply with code.
 2. Floor Bolts: Provide dustproof strike except at metal thresholds.

2.06 EXIT DEVICES

- A. Exit Devices - Basis of Design: VonDuprin matching existing type and style installed..
- B. Locking Functions: Functions as defined in BHMA A156.3, and as follows:
1. Interior Doors (pair): Entry/Exit: Rated Door application. Keyed Entry with dogging option. Free Exit.
 2. Exterior Door: Electronically operated Entry/Exit based on Von Duprin QEL Series.
- C. Manufacturers - Exit Devices:
1. Von Duprin, an Allegion brand; -: www.allegion.com/us.

2.

2.07 CLOSERS

- A. Closers: Complying with BHMA A156.4.
 - 1. Provide surface-mounted, door-mounted closers unless otherwise indicated.
 - 2. Provide a door closer on every exterior door.
 - 3. Provide a door closer on every fire- and smoke-rated door. Spring hinges are not an acceptable self-closing device unless specifically so indicated.
 - 4. On pairs of swinging doors, if an overlapping astragal is present, provide coordinator to ensure the leaves close in proper order.
 - 5. At corridors, locate door-mounted closer on room side of door.
 - 6. At outswinging exterior doors, mount closer in inside of door.
- B. Manufacturers - Surface Mounted Closers:
 - 1. LCN, an Allegion brand; -: www.allegion.com/us.

2.08 CARD READER

- A. Provide and install new Card Reader device (and all required accessories) matching existing system for operation of Door #04.

2.09 STOPS AND HOLDERS

- A. Stops: Complying with BHMA A156.8; provide a stop for every swinging door, unless otherwise indicated.
 - 1. Provide wall stops, unless otherwise indicated.
 - 2. If wall stops are not practical, due to configuration of room or furnishings, provide overhead stop.
 - 3. Stop is not required if positive stop feature is specified for door closer; positive stop feature of door closer is not an acceptable substitute for a stop unless specifically so stated.
- B. Manufacturers - Wall and Floor Stops/holders:
 - 1. Trimco Hardware; -: www.trimcohardware.com.

2.10 GASKETING AND THRESHOLDS

- A. Gaskets: Complying with BHMA A156.22.
 - 1. On each door in smoke partition, provide smoke gaskets; top, sides, and meeting stile of pairs. If fire/smoke partitions are not indicated on drawings, provide smoke gaskets on each door identified as a "smoke door" and 20-minute rated fire doors.
 - 2. On each exterior door, provide weatherstripping gaskets, unless otherwise indicated; top, sides, and meeting stiles of pairs.
 - a. Where exterior door is also required to have fire or smoke rating, provide gaskets functioning as both smoke and weather seals.
 - 3. On each exterior door, provide door bottom sweep, unless otherwise indicated.
- B. Thresholds: Complying with BHMA A156.21.
 - 1. At each exterior door, provide a threshold unless otherwise indicated.
 - 2. Field cut threshold to frame for tight fit.
- C. Fasteners At Exterior Locations: Non-corroding.
- D. Manufacturers - Gasketing and Thresholds:
 - 1. National Guard Products, Inc; -: www.ngpinc.com.
 - 2. Pemko Manufacturing Co; -: www.pemko.com.

2.11 PROTECTION PLATES AND ARCHITECTURAL TRIM

- A. Protection Plates:
 - 1. Kickplate: Provide on push side of every door with closer, except aluminum storefront and glass entry doors.
- B. Drip Guard: Provide projecting drip guard over all exterior doors unless they are under a projecting roof or canopy.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that doors and frames are ready to receive work; labeled, fire-rated doors and frames are present and properly installed, and dimensions are as indicated on shop drawings.
- B. Verify that electric power is available to power operated devices and of the correct characteristics.

3.02 INSTALLATION

- A. Install hardware in accordance with manufacturer's instructions and applicable codes.
- B. Use templates provided by hardware item manufacturer.
- C. Install hardware on fire-rated doors and frames in accordance with code and NFPA 80.
- D. Mounting heights for hardware from finished floor to center line of hardware item.
- E. Set exterior door thresholds with full-width bead of elastomeric sealant on each point of contact with floor providing a continuous weather seal; anchor thresholds with stainless steel countersunk screws.

3.03 ADJUSTING

- A. Adjust work under provisions of Section 01 70 00.
- B. Adjust hardware for smooth operation.

3.04 CLEANING

- A. Clean adjacent surfaces soiled by hardware installation. Clean finished hardware per manufacturer's instructions after final adjustments has been made. Replace items that cannot be cleaned to manufacturer's level of finish quality at no additional cost.

3.05 PROTECTION

- A. Do not permit adjacent work to damage hardware or finish.

END OF SECTION

SECTION 08 80 00
GLAZING

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Insulating glass units.
- B. Glazing compounds and accessories.

1.02 REFERENCE STANDARDS

- A. ASTM C864 - Standard Specification for Dense Elastomeric Compression Seal Gaskets, Setting Blocks, and Spacers; 2005 (Reapproved 2011).
- B. ASTM C920 - Standard Specification for Elastomeric Joint Sealants; 2014.
- C. ASTM C1036 - Standard Specification for Flat Glass; 2011.
- D. ASTM C1048 - Standard Specification for Heat-Strengthened and Fully Tempered Flat Glass; 2012.
- E. ASTM C1193 - Standard Guide for Use of Joint Sealants; 2013.
- F. ASTM C1376 - Standard Specification for Pyrolytic and Vacuum Deposition Coatings on Flat Glass; 2015.
- G. ASTM E1300 - Standard Practice for Determining Load Resistance of Glass in Buildings; 2012a.
- H. ASTM E2190 - Standard Specification for Insulating Glass Unit Performance and Evaluation; 2010.
- I. GANA (SM) - GANA Sealant Manual; 2008.
- J. NFRC 100 - Procedure for Determining Fenestration Product U-factors; 2014.
- K. NFRC 200 - Procedure for Determining Fenestration Product Solar Heat Gain Coefficient and Visible Transmittance at Normal Incidence; 2014.
- L. NFRC 300 - Test Method for Determining the Solar Optical Properties of Glazing Materials and Systems; 2014.

1.03 QUALITY ASSURANCE

- A. Installer Qualifications: Company specializing in performing work of the type specified and with at least three years experience.

1.04 FIELD CONDITIONS

1.05 WARRANTY

- A. Insulating Glass Units: Provide a five (5) year manufacturer warranty to include coverage for seal failure, interpane dusting or misting, including replacement of failed units.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Float Glass Manufacturers:
 - 1. AGC Glass Company North America, Inc; -: www.us.agc.com.
 - 2. Cardinal Glass Industries; -: www.cardinalcorp.com.
 - 3. Guardian Industries Corp; -: www.sunguardglass.com.
 - 4. Pilkington North America Inc; -: www.pilkington.com/na.
 - 5. PPG Industries, Inc; -: www.ppgideascales.com.

2.02 PERFORMANCE REQUIREMENTS - EXTERIOR GLAZING ASSEMBLIES

- A. Provide type and thickness of exterior glazing assemblies to support assembly dead loads, and to withstand live loads caused by positive and negative wind pressure acting normal to plane of glass.

1. Comply with ASTM E1300 for design load resistance of glass type, thickness, dimensions, and maximum lateral deflection of supported glass.
 2. Provide glass edge support system sufficiently stiff to limit the lateral deflection of supported glass edges to less than 1/175 of their lengths under specified design load.
 3. Glass thicknesses listed are minimum.
- B. Vapor Retarder and Air Barrier Seals: Provide completed assemblies that maintain continuity of building enclosure vapor retarder and air barrier.
1. In conjunction with vapor retarder and joint sealer materials described in other sections.
- C. Thermal and Optical Performance: Provide glass products with performance properties as indicated. Performance properties are in accordance with manufacturer's published data as determined with the following procedures and/or test methods:
1. Center of Glass U-Value: Comply with NFRC 100 using Lawrence Berkeley National Laboratory (LBNL) WINDOW 5.2/6.3 computer program.
 2. Center of Glass Solar Heat Gain Coefficient (SHGC): Comply with NFRC 200 using Lawrence Berkeley National Laboratory (LBNL) WINDOW 5.2/6.3 computer program.
 3. Solar Optical Properties: Comply with NFRC 300 test method.

2.03 GLASS MATERIALS

- A. Float Glass: Provide float glass based glazing unless noted otherwise.
1. Annealed Type: ASTM C1036, Type I - Transparent Flat, Class 1 - Clear, Quality-Q3.
 2. Heat-Strengthened and Fully Tempered Types: ASTM C1048, Kind HS and FT.
 3. Tinted Type: ASTM C1036, Class 2 - Tinted, Quality-Q3, color and performance characteristics as indicated.
 4. Thicknesses: As indicated; provide greater thickness as required for exterior glazing wind load design.

2.04 INSULATING GLASS UNITS

- A. Insulating Glass Units: Types as indicated.
1. Durability: Certified by an independent testing agency to comply with ASTM E2190.
 2. Coated Glass: Comply with requirements of ASTM C1376 for pyrolytic (hard-coat) or magnetic sputter vapor deposition (soft-coat) type coatings on flat glass; coated vision glass, Kind CV; coated overhead glass, Kind CO; or coated spandrel glass, Kind CS.
 3. Metal Edge Spacers: Aluminum, bent and soldered corners.
 4. Spacer Color: Black.
 5. Edge Seal:
 - a. Dual-Sealed System: Provide polyisobutylene sealant as primary seal applied between spacer and glass panes, and silicone, polysulfide, or polyurethane sealant as secondary seal applied around perimeter.
 6. Color: Black.
 7. Purge interpane space with dry air, hermetically sealed.
- B. Type IG-1 - Insulating Glass Units: Vision glass, double glazed.
1. Applications: Exterior glazing unless otherwise indicated.
 2. Space between lites filled with air.
 3. Outboard Lite: Fully tempered float glass, 1/4 inch (6.4 mm) thick, minimum.
 - a. Tint: match existing tint.
 - b. Coating: Low-E (passive type), on #2 surface.
 4. Inboard Lite: Fully tempered float glass, 1/4 inch (6.4 mm) thick, minimum.
 - a. Tint: Clear.
 5. Total Thickness: 1 inch (25.4 mm).
 6. Visible Light Transmittance (VLT): match existing percent, -.
 7. Solar Heat Gain Coefficient (SHGC): matching existing percent, -.

2.05 GLAZING COMPOUNDS

- A. Type GC-2 - Butyl Sealant: Single component; ASTM C920, Grade NS, Class 12-1/2, Uses M and A, Shore A hardness of 10 to 20; black color.

2.06 ACCESSORIES

- A. Setting Blocks: Silicone, with 80 to 90 Shore A durometer hardness; ASTM C864 Option II. Length of 0.1 inch for each square foot (25 mm for each square meter) of glazing or minimum 4 inch (100 mm) x width of glazing rabbet space minus 1/16 inch (1.5 mm) x height to suit glazing method and pane weight and area.
- B. Spacer Shims: Neoprene, 50 to 60 Shore A durometer hardness; ASTM C864 Option II. Minimum 3 inch (75 mm) long x one half the height of the glazing stop x thickness to suit application, self adhesive on one face.
- C. Glazing Tape, Back Bedding Mastic Type: Preformed, butyl-based, 100 percent solids compound with integral resilient spacer rod applicable to application indicated; 5 to 30 cured Shore A durometer hardness; coiled on release paper; black color.
- D. Glazing Splines: Resilient silicone extruded shape to suit glazing channel retaining slot; ASTM C864 Option II; color black.

PART 3 EXECUTION

3.01 VERIFICATION OF CONDITIONS

- A. Verify that openings for glazing are correctly sized and within tolerances, including those for size, squareness, and offsets at corners.
- B. Verify that surfaces of glazing channels or recesses are clean, free of obstructions that may impede moisture movement, weeps are clear, and support framing is ready to receive glazing system.

3.02 PREPARATION

- A. Clean contact surfaces with appropriate solvent and wipe dry within maximum of 24 hours before glazing. Remove coatings that are not tightly bonded to substrates.
- B. Seal porous glazing channels or recesses with substrate compatible primer or sealer.
- C. Prime surfaces scheduled to receive sealant where required for proper sealant adhesion.

3.03 INSTALLATION, GENERAL

- A. Install glazing sealants in accordance with ASTM C1193, GANA Sealant Manual, and manufacturer's instructions.

3.04 INSTALLATION - DRY GLAZING METHOD (TAPE AND GASKET SPLINE GLAZING)

- A. Application - Exterior Glazed: Set glazing infills from the exterior of the building.
- B. Cut glazing tape to length; install on glazing pane. Seal corners by butting tape and sealing junctions with butyl sealant.
- C. Place setting blocks at 1/4 points with edge block no more than 6 inch (152 mm) from corners.
- D. Rest glazing on setting blocks and push against fixed stop with sufficient pressure to attain full contact.
- E. Install removable stops without displacing glazing spline. Exert pressure for full continuous contact.
- F. Carefully trim protruding tape with knife.

3.05 CLEANING

- A. Remove excess glazing materials from finish surfaces immediately after application using solvents or cleaners recommended by manufacturers.
- B. Remove non-permanent labels immediately after glazing installation is complete.
- C. Clean glass and adjacent surfaces after sealants are fully cured.
- D. Clean glass on both exposed surfaces not more than 4 days prior to Date of Substantial Completion in accordance with glass manufacturer's written recommendations.

3.06 PROTECTION

- A. After installation, mark pane with an 'X' by using removable plastic tape or paste; do not mark heat absorbing or reflective glass units.
- B. Remove and replace glass that is damaged during construction period prior to Date of Substantial Completion.

END OF SECTION

SECTION 09 21 16
GYPSUM BOARD ASSEMBLIES

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Performance criteria for gypsum board assemblies.
- B. Metal stud wall framing.
- C. Metal channel ceiling framing.
- D. Acoustic insulation.
- E. Gypsum wallboard.
- F. Joint treatment and accessories.

1.02 REFERENCE STANDARDS

- A. AISI S100-12 - North American Specification for the Design of Cold-Formed Steel Structural Members; American Iron and Steel Institute; 2012.
- B. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process; 2015.
- C. ASTM C475/C475M - Standard Specification for Joint Compound and Joint Tape for Finishing Gypsum Board; 2015.
- D. ASTM C645 - Standard Specification for Nonstructural Steel Framing Members; 2014.
- E. ASTM C665 - Standard Specification for Mineral-Fiber Blanket Thermal Insulation for Light Frame Construction and Manufactured Housing; 2012.
- F. ASTM C754 - Standard Specification for Installation of Steel Framing Members to Receive Screw-Attached Gypsum Panel Products; 2015.
- G. ASTM C840 - Standard Specification for Application and Finishing of Gypsum Board; 2013.
- H. ASTM C954 - Standard Specification for Steel Drill Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Steel Studs From 0.033 in. (0.84 mm) to 0.112 in. (2.84 mm) in Thickness; 2015.
- I. ASTM C1002 - Standard Specification for Steel Self-Piercing Tapping Screws for Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs; 2014.
- J. ASTM C1047 - Standard Specification for Accessories For Gypsum Wallboard and Gypsum Veneer Base; 2014a.
- K. ASTM C1396/C1396M - Standard Specification for Gypsum Board; 2014.
- L. ASTM E90 - Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements; 2009.
- M. ASTM E413 - Classification for Rating Sound Insulation; 2010.
- N. GA-216 - Application and Finishing of Gypsum Board; 2013.

1.03 QUALITY ASSURANCE

- A. Installer Qualifications: Company specializing in performing gypsum board application and finishing, with minimum five years of experience.

PART 2 PRODUCTS

2.01 GYPSUM BOARD ASSEMBLIES

- A. Provide completed assemblies complying with ASTM C840 and GA-216.
- B. Interior Partitions, Indicated as Acoustic: Provide completed assemblies with the following characteristics:
 - 1. Acoustic Attenuation: STC of 45-49 calculated in accordance with ASTM E413, based on tests conducted in accordance with ASTM E90.

- C. Fire Rated Assemblies: Provide completed assemblies with the following characteristics:
 - 1. Fire Rated Partitions (full height): 1 hour rating for Separation between A-3 occupancy and B occupancy.
 - 2. Shaft wall construction adjacent to existing Office wall. Full Height 1 hour rating for Separation between A-3 and B occupancy.

2.02 METAL FRAMING MATERIALS

- A. Manufacturers - Metal Framing, Connectors, and Accessories:
 - 1. Clarkwestern Dietrich Building Systems LLC; -: www.clarkdietrich.com.
 - 2. Marino; -: www.marinoware.com.
 - 3. Substitutions: See Section 01 60 00 - Product Requirements.
- B. Non-Loadbearing Framing System Components: ASTM C645; galvanized sheet steel, of size and properties necessary to comply with ASTM C754 for the spacing indicated, with maximum deflection of wall framing of L/240 at 5 psf (L/240 at 240 Pa).
 - 1. Studs: "C" shaped with flat or formed webs with knurled faces.
 - 2. Runners: U shaped, sized to match studs.
 - 3. Ceiling Channels: C-shaped.
- C. Ceiling Hangers: Type and size as specified in ASTM C754 for spacing required.
- D. Partition Head to Structure Connections: Provide mechanical anchorage devices that accommodate deflection using slotted holes, screws and anti-friction bushings, preventing rotation of studs while maintaining structural performance of partition.
 - 1. Structural Performance: Maintain lateral load resistance and vertical movement capacity required by applicable code, when evaluated in accordance with AISI S100-12.
 - 2. Material: ASTM A653/A653M steel sheet, SS Grade 50/340, with G60/Z180 hot dipped galvanized coating.
 - 3. Provide components UL-listed for use in UL-listed fire-rated head of partition joint systems of fire rating and movement required.
 - 4. Deflection and Firestop Track:
 - a. Provide mechanical anchorage devices as described above that accommodate deflection while maintaining the fire-rating of the wall assembly.

2.03 BOARD MATERIALS

- A. Manufacturers - Gypsum-Based Board:
 - 1. American Gypsum Company; -: www.americangypsum.com.
 - 2. CertainTeed Corporation; -: www.certainteed.com.
 - 3. Georgia-Pacific Gypsum; -: www.gpgypsum.com.
 - 4. National Gypsum Company; -: www.nationalgypsum.com.
 - 5. PABCO Gypsum; -: www.pabcogypsum.com.
 - 6. USG Corporation; -: www.usg.com.
- B. Gypsum Wallboard: Paper-faced gypsum panels as defined in ASTM C1396/C1396M; sizes to minimize joints in place; ends square cut.
 - 1. Application: Use for vertical surfaces and ceilings, unless otherwise indicated.
 - 2. At Assemblies Indicated with Fire-Rating: Use type required by indicated tested assembly; if no tested assembly is indicated, use Type X board, UL or WH listed.
 - 3. Thickness:
 - a. Vertical Surfaces: 5/8 inch (16 mm).
- C. Ceiling Board: Special sag resistant gypsum ceiling board as defined in ASTM C1396/C1396M; sizes to minimize joints in place; ends square cut.
 - 1. Application: Ceilings, unless otherwise indicated.
 - 2. Thickness: 5/8 inch (16 mm).
 - 3. Edges: Tapered.

2.04 ACCESSORIES

- A. Acoustic Insulation: ASTM C665; preformed glass fiber, friction fit type, unfaced. Thickness: 4 inch (- mm).
- B. Acoustic Sealant: Acrylic emulsion latex or water-based elastomeric sealant; do not use solvent-based non-curing butyl sealant.
- C. Finishing Accessories: ASTM C1047, galvanized steel or rolled zinc, unless noted otherwise.
 - 1. Types: As detailed or required for finished appearance.
 - 2. Special Shapes: In addition to conventional corner bead and control joints, provide U-bead at exposed panel edges.
 - 3. Products:
 - a. Same manufacturer as framing materials.
- D. Joint Materials: ASTM C475 and as recommended by gypsum board manufacturer for project conditions.
 - 1. Tape: 2 inch (50 mm) wide, coated glass fiber tape for joints and corners, except as otherwise indicated.
 - 2. Tape: 2 inch (50 mm) wide, creased paper tape for joints and corners, except as otherwise indicated.
 - 3. Ready-mixed vinyl-based joint compound.
- E. High Build Drywall Surfer: Vinyl acrylic latex-based coating for spray application, designed to take the place of skim coating and separate paint primer in achieving Level 5 finish.
- F. Screws for Fastening of Gypsum Panel Products to Cold-Formed Steel Studs Less than 0.033 inch (0.84 mm) in Thickness and Wood Members: ASTM C1002; self-piercing tapping screws, corrosion resistant.
- G. Screws for Fastening of Gypsum Panel Products to Steel Members from 0.033 to 0.112 inch (0.84 to 2.84 mm) in Thickness: ASTM C954; steel drill screws, corrosion resistant.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that project conditions are appropriate for work of this section to commence.

3.02 FRAMING INSTALLATION

- A. Metal Framing: Install in accordance with ASTM C754 and manufacturer's instructions.
- B. Suspended Ceilings and Soffits: Space framing and furring members as indicated.
 - 1. Level ceiling system to a tolerance of 1/1200.
 - 2. Laterally brace entire suspension system.
- C. Studs: Space studs at 16 inches on center (at 406 mm on center).
 - 1. Extend partition framing to structure in all locations.
 - 2. Partitions Terminating at Structure: Attach top runner to structure, maintain clearance between top of studs and structure, and connect studs to track using specified mechanical devices in accordance with manufacturer's instructions; verify free movement of top of stud connections; do not leave studs unattached to track.
- D. Openings: Reinforce openings as required for weight of doors or operable panels, using not less than double studs at jambs.
- E. Blocking: Install mechanically fastened steel channel blocking for support of:
 - 1. All items that require backing support

3.03 ACOUSTIC ACCESSORIES INSTALLATION

- A. Acoustic Insulation: Place tightly within spaces, around cut openings, behind and around electrical and mechanical items within partitions, and tight to items passing through partitions.
- B. Acoustic Sealant: Install in accordance with manufacturer's instructions.
 - 1. Place one bead continuously on substrate before installation of perimeter framing members.

2. Seal around all penetrations by conduit, pipe, ducts, and rough-in boxes, except where firestopping is provided.

3.04 BOARD INSTALLATION

- A. Comply with ASTM C 840, GA-216, and manufacturer's instructions. Install to minimize butt end joints, especially in highly visible locations.
- B. Fire-Rated Construction: Install gypsum board in strict compliance with requirements of assembly listing.

3.05 INSTALLATION OF TRIM AND ACCESSORIES

- A. Control Joints: Place control joints consistent with lines of building spaces and as indicated.
- B. Corner Beads: Install at external corners, using longest practical lengths.
- C. Edge Trim: Install at locations where gypsum board abuts dissimilar materials.

3.06 JOINT TREATMENT

- A. Finish gypsum board in accordance with levels defined in ASTM C840, as follows:
 1. Level 5: Walls and ceilings to receive semi-gloss or gloss paint finish and other areas specifically indicated.
 2. Level 1: Fire rated wall areas above finished ceilings, whether or not accessible in the completed construction.
- B. Tape, fill, and sand exposed joints, edges, and corners to produce smooth surface ready to receive finishes.
 1. Feather coats of joint compound so that camber is maximum 1/32 inch (0.8 mm).
- C. Where Level 5 finish is indicated, spray apply high build drywall surfacer over entire surface after joints have been properly treated; achieve a flat and tool mark-free finish.

3.07 TOLERANCES

- A. Maximum Variation of Finished Gypsum Board Surface from True Flatness: 1/8 inch in 10 feet (3 mm in 3 m) in any direction.

END OF SECTION

SECTION 09 30 00

TILING

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Tile for floor applications.
- B. Tile for wall applications.- matching 6" base

1.02 REFERENCE STANDARDS

- A. ANSI A108/A118/A136.1 - American National Standard Specifications for the Installation of Ceramic Tile (Compendium); 2013.1.
- B. ANSI A108.1a - American National Standard Specifications for Installation of Ceramic Tile in the Wet-Set Method, with Portland Cement Mortar; 2014.
- C. ANSI A108.1b - American National Standard Specifications for Installation of Ceramic Tile on a Cured Portland Cement Mortar Setting Bed with Dry-Set or Latex-Portland Cement Mortar; 1999 (Reaffirmed 2010).
- D. ANSI A108.1c - Specifications for Contractors Option: Installation of Ceramic Tile in the Wet-Set Method with Portland Cement Mortar or Installation of Ceramic Tile on a Cured Portland Cement Mortar Bed with Dry-Set or Latex-Portland Cement; 1999 (Reaffirmed 2010).
- E. ANSI A108.4 - American National Standard Specifications for Installation of Ceramic Tile with Organic Adhesives or Water Cleanable Tile-Setting Epoxy Adhesive; 2009 (Revised).
- F. ANSI A108.5 - American National Standard Specifications for Installation of Ceramic Tile with Dry-Set Portland Cement Mortar or Latex-Portland Cement Mortar; 1999 (Reaffirmed 2010).
- G. ANSI A108.6 - American National Standard Specifications for Installation of Ceramic Tile with Chemical Resistant, Water Cleanable Tile-Setting and -Grouting Epoxy; 1999 (Reaffirmed 2010).
- H. ANSI A108.8 - American National Standard Specifications for Installation of Ceramic Tile with Chemical Resistant Furan Resin Mortar and Grout; 1999 (Reaffirmed 2010).
- I. ANSI A108.9 - American National Standard Specifications for Installation of Ceramic Tile with Modified Epoxy Emulsion Mortar/Grout; 1999 (Reaffirmed 2010).
- J. ANSI A108.10 - American National Standard Specifications for Installation of Grout in Tilework; 1999 (Reaffirmed 2010).
- K. ANSI A108.11 - American National Standard for Interior Installation of Cementitious Backer Units; 2010 (Revised).
- L. ANSI A108.12 - American National Standard for Installation of Ceramic Tile with EGP (Exterior glue plywood) Latex-Portland Cement Mortar; 1999 (Reaffirmed 2010).
- M. ANSI A108.13 - American National Standard for Installation of Load Bearing, Bonded, Waterproof Membranes for Thin-Set Ceramic Tile and Dimension Stone; 2005 (Reaffirmed 2010).
- N. ANSI A118.4 - American National Standard Specifications for Modified Dry-Set Cement Mortar; 2012 (Revised).
- O. ANSI A118.6 - American National Standard Specifications for Standard Cement Grouts for Tile Installation; 2010 (Revised).
- P. ANSI A118.15 - American National Standard Specifications for Improved Modified Dry-Set Cement Mortar; 2012.
- Q. TCNA (HB) - Handbook for Ceramic, Glass, and Stone Tile Installation; 2015.

1.03 QUALITY ASSURANCE

- A. Maintain one copy of and ANSI A108/A118/A136.1 and TCNA (HB) on site.

- B. Installer Qualifications: Company specializing in performing tile installation, with minimum of five years of documented experience.

1.04 DELIVERY, STORAGE, AND HANDLING

- A. Protect adhesives from freezing or overheating in accordance with manufacturer's instructions.

1.05 FIELD CONDITIONS

- A. Do not install solvent-based products in an unventilated environment.
- B. Maintain ambient and substrate temperature of 50 degrees F (10 degrees C) during installation of mortar materials.

PART 2 PRODUCTS

2.01 TILE

- A. Manufacturers: All products by the same manufacturer.
 - 1. Dal-Tile Corporation: www.daltile.com.
 - 2. 12"x12" VS-07 pavers to match existing..
 - 3. Substitutions: Not permitted.

2.02 SETTING MATERIALS

- A. Manufacturers:
 - 1. ARDEX Engineered Cements; -: www.ardexamericas.com.
 - 2. Custom Building Products; -: www.custombuildingproducts.com.
 - 3. LATICRETE International, Inc; -: www.laticrete.com.
 - 4. Merkrete, by Parex USA, Inc; -: www.merkrete.com.
 - 5. ProSpec, an Oldcastle brand; -: www.prospec.com.
- B. Latex-Portland Cement Mortar Bond Coat: ANSI A118.4 or ANSI A118.15.
 - 1. Applications: Use this type of bond coat where indicated and where no other type of bond coat is indicated.
 - 2. Products:
 - a. ARDEX Engineered Cements; ARDEX X 77 MICROTEC: www.ardexamericas.com.
 - b. Custom Building Products; Complete Contact-LFT Premium Rapid Setting Large Format Tile Mortar, with Multi-Surface Bonding Primer: www.custombuildingproducts.com.
 - c. LATICRETE International, Inc; LATICRETE 254 Platinum: www.laticrete.com.
 - d. Merkrete, by Parex USA, Inc; Merkrete 720 Marble Pro: www.merkrete.com.
 - e. ProSpec, an Oldcastle brand; Permalastic System: www.prospec.com.

2.03 GROUTS

- A. Manufacturers:
 - 1. ARDEX Engineered Cements; -: www.ardexamericas.com.
 - 2. Custom Building Products; -: www.custombuildingproducts.com.
 - 3. LATICRETE International, Inc: www.laticrete.com.
 - 4. Merkrete, by Parex USA, Inc: www.merkrete.com.
 - 5. ProSpec, an Oldcastle brand: www.prospec.com.
- B. Standard Grout: ANSI A118.6 standard cement grout.
 - 1. Applications: Use this type of grout where indicated and where no other type of grout is indicated.
 - 2. Use sanded grout for joints 1/8 inch wide and larger; use unsanded grout for joints less than 1/8 inch wide.
 - 3. Color(s): to match existing.

2.04 MAINTENANCE MATERIALS

- A. Grout Sealer: Liquid-applied, moisture and stain protection for existing or new Portland cement grout.
 - 1. Composition: Water-based colorless silicone.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that sub-floor surfaces are smooth and flat within the tolerances specified for that type of work and are ready to receive tile.
- B. Verify that wall surfaces are smooth and flat within the tolerances specified for that type of work, are dust-free, and are ready to receive tile.
- C. Verify that sub-floor surfaces are dust-free and free of substances that could impair bonding of setting materials to sub-floor surfaces.

3.02 PREPARATION

- A. Protect surrounding work from damage.
- B. Vacuum clean surfaces and damp clean.
- C. Seal substrate surface cracks with filler. Level existing substrate surfaces to acceptable flatness tolerances.

3.03 INSTALLATION - GENERAL

- A. Install tile, thresholds, and stair treads and grout in accordance with applicable requirements of ANSI A108.1a thru A108.13, manufacturer's instructions, and TCNA (HB) recommendations.
- B. Lay tile to pattern indicated. Do not interrupt tile pattern through openings.
- C. Cut and fit tile to penetrations through tile, leaving sealant joint space. Form corners and bases neatly. Align floor joints.
- D. Place tile joints uniform in width, subject to variance in tolerance allowed in tile size. Make grout joints without voids, cracks, excess mortar or excess grout, or too little grout.
- E. Form internal angles square and external angles bullnosed.
- F. Sound tile after setting. Replace hollow sounding units.
- G. Keep control and expansion joints free of mortar, grout, and adhesive.
- H. Prior to grouting, allow installation to completely cure; minimum of 48 hours.
- I. Grout tile joints unless otherwise indicated. Use standard grout unless otherwise indicated.
- J. At changes in plane and tile-to-tile control joints, use tile sealant instead of grout, with either bond breaker tape or backer rod as appropriate to prevent three-sided bonding.

3.04 INSTALLATION - FLOORS - THIN-SET METHODS

- A. Over interior concrete substrates, install in accordance with TCNA (HB) Method F113, dry-set or latex-Portland cement bond coat, with standard grout, unless otherwise indicated.

3.05 INSTALLATION - WALL TILE

- A. Over gypsum wallboard on wood or metal studs install in accordance with TCNA (HB) Method W243, thin-set with dry-set or latex-Portland cement bond coat, unless otherwise indicated.

3.06 CLEANING

- A. Clean tile and grout surfaces.

3.07 PROTECTION

- A. Do not permit traffic over finished floor surface for 4 days after installation.

END OF SECTION

SECTION 09 51 00
SUSPENDED ACOUSTICAL CEILINGS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Suspended metal grid ceiling system.- matching existing manufacture/system.
- B. Acoustical units.-replacement panels
- C. Supplementary acoustical insulation above ceiling.

1.02 RELATED REQUIREMENTS

- A. Section 01 61 16 - Volatile Organic Compound (VOC) Content Restrictions.

1.03 QUALITY ASSURANCE

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Acoustic Panels and Suspension System:
 - 1. Match existing system as needed and as required for a complete finished final installation.
 - 2. New perimeter ledger to match existing.
 - 3. Replace existing damaged suspension system or damaged system due to construction.
 - 4. Replace existing damages acoustical tiles or damaged tiles due to construction.
 - 5. Provide and install new acoustical panels as indicated in Drawings.
 - 6. Existing acoustical tiles removed from project and not to be re-used to be given to Owner (a maximum of the best 20 tiles).
- B. Acoustic Panels:
 - 1. USG; Mars ClimaPlus, High-NRC, Mineral Fiber Ceiling Panels: www.usg.com.
 - a. 2'x2'x 7/8" Class A
 - b. Profile: FLB to match existing
- C. Suspension Systems: for repairs as required.
 - 1. USG; Fineline 1/8 DXFF to match existing: www.usg.com.

2.02 ACCESSORIES

- A. Wire Ties: No. 12 galvanized wire. as required for new light fixtures and relocated mechanical supply/return grilles.
- B. Perimeter Moldings: Same material and finish as grid.
 - 1. At Exposed Grid: Provide shaped molding (matching existing system) for mounting at same elevation as face of grid.
- C. Acoustical Insulation: Specified in Section 07 21 00.
 - 1. Thickness: 2.5 inch (- mm). R-Value: 8.0
 - 2. CertainTeed, Noise Reducer, Sound Attenuation and Acoustical Ceiling Batts
 - 3. Size: To fit acoustical suspension system, 24" rolls
- D. Touch-up Paint: Type and color to match acoustical and grid units.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify existing conditions before starting work.
- B. Verify that layout of hangers will not interfere with other work.

3.02 INSTALLATION - SUSPENSION SYSTEM

- A. Rigidly secure system, including integral mechanical and electrical components, for maximum deflection of 1:360.
- B. Install after major above-ceiling work is complete. Coordinate the location of hangers with other work.

- C. Hang suspension system independent of walls, columns, ducts, pipes and conduit. Where carrying members are spliced, avoid visible displacement of face plane of adjacent members.
- D. Where ducts or other equipment prevent the regular spacing of hangers, reinforce the nearest affected hangers and related carrying channels to span the extra distance.
- E. Do not support components on main runners or cross runners if weight causes total dead load to exceed deflection capability.
- F. Support fixture loads using supplementary hangers located within 6 inches (150 mm) of each corner, or support components independently.
- G. Do not eccentrically load system or induce rotation of runners.
- H. Perimeter Molding: Install at intersection of ceiling and vertical surfaces and at junctions with other interruptions.
 - 1. Use longest practical lengths.
 - 2. Overlap and rivet corners.

3.03 INSTALLATION - ACOUSTICAL UNITS

- A. Install acoustical units in accordance with manufacturer's instructions.
- B. Fit acoustical units in place, free from damaged edges or other defects detrimental to appearance and function.
- C. Fit border trim neatly against abutting surfaces.
- D. Install units after above-ceiling work is complete.
- E. Install acoustical units level, in uniform plane, and free from twist, warp, and dents.
- F. Cutting Acoustical Units:
 - 1. Make field cut edges of same profile as factory edges.

3.04 TOLERANCES

- A. Maximum Variation from Flat and Level Surface: 1/8 inch in 10 feet (3 mm in 3 m).
- B. Maximum Variation from Plumb of Grid Members Caused by Eccentric Loads: 2 degrees.

END OF SECTION

SECTION 09 68 13
TILE CARPETING

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Carpet tile, fully adhered.
- B. Removal of existing carpet tile.

1.02 RELATED REQUIREMENTS

- A. Section 01 61 16 - Volatile Organic Compound (VOC) Content Restrictions.

1.03 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing specified carpet tile with minimum three years documented experience.
- B. Installer Qualifications: Company specializing in installing carpet tile with minimum three years experience.

1.04 FIELD CONDITIONS

- A. Store materials in area of installation for minimum period of 24 hours prior to installation.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Tile Carpeting:
 - 1. Philadelphia Commercial, Fuse Tile, style CLIC.
 - 2. Substitutions: See Section 01 60 00 - Product Requirements.

2.02 ACCESSORIES

- A. Sub-Floor Filler: White premix latex; type recommended by flooring material manufacturer.
- B. Edge Strips: Rubber, black color.
- C. Adhesives:
 - 1. Compatible with materials being adhered; maximum VOC content as specified in Section 01 61 16.
- D. Carpet Tile Adhesive: Recommended by carpet tile manufacturer.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that sub-floor surfaces are smooth and flat within tolerances specified for that type of work and are ready to receive carpet tile.
- B. Verify that sub-floor surfaces are dust-free and free of substances that could impair bonding of adhesive materials to sub-floor surfaces.

3.02 PREPARATION

- A. Remove existing carpet tile.
- B. Prepare floor substrates as recommended by flooring and adhesive manufacturers.
- C. Remove sub-floor ridges and bumps. Fill minor or local low spots, cracks, joints, holes, and other defects with sub-floor filler.
- D. Apply, trowel, and float filler to achieve smooth, flat, hard surface. Prohibit traffic until filler is cured.
- E. Vacuum clean substrate.

3.03 INSTALLATION

- A. Starting installation constitutes acceptance of sub-floor conditions.
- B. Install carpet tile in accordance with manufacturer's instructions.

- C. Blend carpet from different cartons to ensure minimal variation in color match.
- D. Cut carpet tile clean. Fit carpet tight to intersection with vertical surfaces without gaps.
- E. Lay carpet tile in square pattern, with pile direction parallel to next unit, set parallel to building lines.
- F. Fully adhere carpet tile to substrate.
- G. Trim carpet tile neatly at walls and around interruptions.
- H. Complete installation of edge strips, concealing exposed edges.

3.04 CLEANING

- A. Remove excess adhesive without damage, from floor, base, and wall surfaces.
- B. Clean and vacuum carpet surfaces.

END OF SECTION

SECTION 09 91 23
INTERIOR PAINTING

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Surface preparation.
- B. Field application of paints.
- C. Scope: Finish interior surfaces exposed to view, unless fully factory-finished and unless otherwise indicated.
- D. Do Not Paint or Finish the Following Items:
 - 1. Items factory-finished unless otherwise indicated; materials and products having factory-applied primers are not considered factory finished.
 - 2. Items indicated to receive other finishes.
 - 3. Items indicated to remain unfinished.
 - 4. Fire rating labels, equipment serial number and capacity labels, bar code labels, and operating parts of equipment.
 - 5. Floors, unless specifically indicated.
 - 6. Glass.
 - 7. Concealed pipes, ducts, and conduits.

1.02 RELATED REQUIREMENTS

- A. Section 01 61 16 - Volatile Organic Compound (VOC) Content Restrictions.

1.03 REFERENCE STANDARDS

- A. MPI (APSM) - Master Painters Institute Architectural Painting Specification Manual; current edition, www.paintinfo.com.

1.04 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing the products specified, with minimum three years documented experience.
- B. Applicator Qualifications: Company specializing in performing the type of work specified with minimum five years experience.

1.05 MOCK-UP

- A. See Section 01 40 00 - Quality Requirements, for general requirements for mock-up.
- B. Provide door and frame assembly illustrating paint color, texture, and finish.
- C. Mock-up may remain as part of the work.

1.06 DELIVERY, STORAGE, AND HANDLING

- A. Deliver products to site in sealed and labeled containers; inspect to verify acceptability.
- B. Container Label: Include manufacturer's name, type of paint, brand name, lot number, brand code, coverage, surface preparation, drying time, cleanup requirements, color designation, and instructions for mixing and reducing.
- C. Paint Materials: Store at minimum ambient temperature of 45 degrees F (7 degrees C) and a maximum of 90 degrees F (32 degrees C), in ventilated area, and as required by manufacturer's instructions.

1.07 FIELD CONDITIONS

- A. Do not apply materials when surface and ambient temperatures are outside the temperature ranges required by the paint product manufacturer.
- B. Follow manufacturer's recommended procedures for producing best results, including testing of substrates, moisture in substrates, and humidity and temperature limitations.
- C. Provide lighting level of 80 ft candles (860 lx) measured mid-height at substrate surface.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Provide paints and finishes from the same manufacturer to the greatest extent possible.
 - 1. In the event that a single manufacturer cannot provide specified products, minor exceptions will be permitted provided approval by Architect is obtained using the specified procedures for substitutions.
 - 2. Substitution of MPI-approved products by a different manufacturer is preferred over substitution of unapproved products by the same manufacturer.
- B. Paints:
 - 1. Base Manufacturer: Sherwin-Williams.
 - 2. Behr Process Corporation: www.behr.com.
 - 3. Benjamin Moore & Co: www.benjaminmoore.com.
 - 4. Glidden Professional, a product of PPG Architectural Coatings: www.gliddenprofessional.com.
 - 5. Sherwin-Williams Company: www.sherwin-williams.com.
 - 6. Valspar Corporation: www.valsparpaint.com.
- C. Substitutions: See Section 01 60 00 - Product Requirements.

2.02 PAINTS AND FINISHES - GENERAL

- A. Paints and Finishes: Ready mixed, unless intended to be a field-catalyzed paint.
 - 1. Provide paints and finishes of a soft paste consistency, capable of being readily and uniformly dispersed to a homogeneous coating, with good flow and brushing properties, and capable of drying or curing free of streaks or sags.
 - 2. Supply each paint material in quantity required to complete entire project's work from a single production run.
 - 3. Do not reduce, thin, or dilute paint or finishes or add materials unless such procedure is specifically described in manufacturer's product instructions.
- B. Volatile Organic Compound (VOC) Content: Comply with Section 01 61 16.
- C. Flammability: Comply with applicable code for surface burning characteristics.
- D. Sheens: Provide the sheens specified; where sheen is not specified, sheen will be selected later by Architect from the manufacturer's full line.
- E. Colors: To be selected from manufacturer's full range of available colors.
 - 1. Selection to be made by Owner after award of contract.
 - 2. Allow for minimum of three colors for each system, unless otherwise indicated, without additional cost to Owner.
 - 3. Extend colors to surface edges; colors may change at any edge as directed by Architect.
 - 4. In finished areas, finish pipes, ducts, conduit, and equipment the same color as the wall/ceiling they are mounted on/under.

2.03 PAINT SYSTEMS - INTERIOR

- A. Paint I-OP - Interior Surfaces to be Painted, Unless Otherwise Indicated: Including gypsum board.
 - 1. Two top coats and one coat primer- existing painted gypsum board and new gypsum board
 - 2. Top Coat(s): Institutional Low Odor/VOC Interior Latex.
 - a. Products:
 - 1) Sherwin-Williams ProMar 200 Zero VOC Interior Latex, Flat.
 - 2) Sherwin-Williams ProMar 200 Zero VOC Interior Latex, Low Sheen.
 - 3) Substitutions: Section 01 60 00 - Product Requirements.

2.04 PRIMERS

- A. Primers: Provide the following unless other primer is required or recommended by manufacturer of top coats.

1. Interior Institutional Low Odor/VOC Primer Sealer.

2.05 ACCESSORY MATERIALS

- A. Accessory Materials: Provide primers, sealers, cleaning agents, cleaning cloths, sanding materials, and clean-up materials as required for final completion of painted surfaces.
- B. Patching Material: Latex filler.
- C. Fastener Head Cover Material: Latex filler.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Do not begin application of paints and finishes until substrates have been properly prepared.
- B. Verify that surfaces are ready to receive work as instructed by the product manufacturer.
- C. Examine surfaces scheduled to be finished prior to commencement of work. Report any condition that may potentially effect proper application.
- D. Test shop-applied primer for compatibility with subsequent cover materials.
- E. Measure moisture content of surfaces using an electronic moisture meter. Do not apply finishes unless moisture content of surfaces are below the following maximums:
 1. Gypsum Wallboard: 12 percent.
 2. Concrete Floors and Traffic Surfaces: 8 percent.

3.02 PREPARATION

- A. Clean surfaces thoroughly and correct defects prior to application.
- B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.
- C. Remove or mask surface appurtenances, including electrical plates, hardware, light fixture trim, escutcheons, and fittings, prior to preparing surfaces or finishing.
- D. Seal surfaces that might cause bleed through or staining of topcoat.
- E. Gypsum Board: Fill minor defects with filler compound. Spot prime defects after repair.

3.03 APPLICATION

- A. Apply products in accordance with manufacturer's written instructions and recommendations in "MPI Architectural Painting Specification Manual".
- B. Do not apply finishes to surfaces that are not dry. Allow applied coats to dry before next coat is applied.
- C. Apply each coat to uniform appearance in thicknesses specified by manufacturer.
- D. Vacuum clean surfaces of loose particles. Use tack cloth to remove dust and particles just prior to applying next coat.
- E. Reinstall electrical cover plates, hardware, light fixture trim, escutcheons, and fittings removed prior to finishing.

3.04 CLEANING

- A. Collect waste material that could constitute a fire hazard, place in closed metal containers, and remove daily from site.

3.05 PROTECTION

- A. Protect finishes until completion of project.
- B. Touch-up damaged finishes after Substantial Completion.

END OF SECTION

SECTION 10 14 00
SIGNAGE

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Room and door signs.
- B. Interior directional and informational signs.

1.02 REFERENCE STANDARDS

- A. 36 CFR 1191 - Americans with Disabilities Act (ADA) Accessibility Guidelines for Buildings and Facilities; Architectural Barriers Act (ABA) Accessibility Guidelines; current edition.
- B. ADA Standards - Americans with Disabilities Act (ADA) Standards for Accessible Design; 2010.
- C. ICC A117.1 - Accessible and Usable Buildings and Facilities; 2009.

1.03 QUALITY ASSURANCE

- A. **Manufacturer Qualifications:** Company specializing in manufacturing the products specified in this section with minimum three years of documented experience.

1.04 DELIVERY, STORAGE, AND HANDLING

- A. Package signs as required to prevent damage before installation.
- B. Package room and door signs in sequential order of installation, labeled by floor or building.
- C. Store tape adhesive at normal room temperature.

1.05 FIELD CONDITIONS

- A. Do not install tape adhesive when ambient temperature is lower than recommended by manufacturer.
- B. Maintain this minimum temperature during and after installation of signs.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Flat Signs:
 - 1. Best Sign Systems, Inc; -: www.bestsigns.com.
 - 2. Cosco Industries (non-ADA signs); Changeable Message Signs: www.coscoarchitecturalsigns.com.
 - 3. Mohawk Sign Systems, Inc; -: www.mohawksign.com.
- B. Curved Signs:
 - 1. Vista System: www.vistasystem.com.
- C. Other Signs:

2.02 SIGNAGE APPLICATIONS

- A. **Accessibility Compliance:** Signs are required to comply with ADA Standards and ICC A117.1 standards, unless otherwise indicated; in the event of conflicting requirements, comply with the most comprehensive and specific requirements.
- B. **Room and Door Signs:** Provide a sign for every doorway, whether it has a door or not, not including corridors, lobbies, and similar open areas.
 - 1. Sign Type: Curved signs with engraved panel media as specified.
 - 2. Provide "tactile" signage, with letters raised minimum 1/32 inch (0.8 mm) and Grade II braille.
 - 3. Character Height: 1 inch (25 mm).
 - 4. Sign Height: 2 inches (50 mm), unless otherwise indicated.
 - 5. Office Doors: Identify with room numbers to be determined later, not the numbers shown on the drawings; in addition, provide "window" section for replaceable occupant name.

6. Conference and Meeting Rooms: Identify with room numbers to be determined later, not the numbers shown on the drawings; in addition, provide "window" section with sliding "In Use/Vacant" indicator.
- C. Interior Directional and Informational Signs:
1. Sign Type: Flat signs with engraved panel media as specified for EXIT signage

2.03 SIGN TYPES

- A. Flat Signs: Signage media without frame.
1. Edges: Square.
 2. Corners: Square.
 3. Wall Mounting of One-Sided Signs: Tape adhesive.
- B. Radius / Curved Signs: One-piece, curved extruded aluminum media holder securing flat, flexible sign media by curved lip on two sides; other two sides closed by end caps; concealed mounting attachment.
1. Sizes: As indicated on the drawings.
 2. Finish: Natural (clear) anodized.
 3. Sign Orientation: Curved in horizontal section.
 4. End Caps: Aluminum with finish matching frame and stainless steel screw attachment.
 5. Clear Cover: For customer produced sign media, provide clear cover of polycarbonate plastic, glossy on back, non-glare on front.
 6. Wall Mounting of One-Sided Signs: Mechanical anchorage, with predrilled holes, and set in clear silicone sealant.
- C. Color and Font: Unless otherwise indicated:
1. Character Font: Helvetica, Arial, or other sans serif font.
 2. Character Case: Upper case only.
 3. Background Color: Clear.
 4. Character Color: Contrasting color.

2.04 TACTILE SIGNAGE MEDIA

- A. Engraved Panels: Laminated colored plastic; engraved through face to expose core as background color:
1. Total Thickness: 1/16 inch (1.6 mm).

2.05 ACCESSORIES

- A. Tape Adhesive: Double sided tape, permanent adhesive.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that substrate surfaces are ready to receive work.

3.02 INSTALLATION

- A. Install in accordance with manufacturer's instructions.
- B. Install neatly, with horizontal edges level.
- C. Locate signs where indicated:
1. Room and Door Signs: Locate on wall at latch side of door with centerline of sign at 60 inches (1525 mm) above finished floor.
 2. If no location is indicated obtain Owner's instructions.
- D. Protect from damage until Substantial Completion; repair or replace damage items.

END OF SECTION

SECTION 10 22 26
OPERABLE PARTITIONS

PART 1: GENERAL

1.01 SUMMARY

- A. A. This Section includes the following:
 - 1. 1. Electrically operated, continuously hinged partitions.

1.02 QUALITY ASSURANCE

- A. Installer Qualifications: An experienced installer who is certified in writing by the operable partition manufacturer, as qualified to install the manufacturer's partition systems for work similar in material, design, and extent to that indicated for this Project.
- B. Acoustical Performance: Test operable partitions in an independent acoustical laboratory in accordance with ASTM E90 test procedure to attain no less than the STC rating specified. Provide a complete and unedited written test report by the testing laboratory upon request.
- C. Preparation of the opening shall conform to the criteria set forth per ASTM E557 "Standard Practice for Architectural Application and Installation of Operable Partitions."

1.03 DELIVERY, STORAGE, AND HANDLING

- A. Clearly mark packages and panels with numbering systems used on Shop Drawings. Do not use permanent markings on panels.
- B. Protect panels during delivery, storage, and handling to comply with manufacturer's direction and as required to prevent damage.

1.04 WARRANTY

- A. Provide written warranty by manufacturer of operable partitions agreeing to repair or replace any components with manufacturing defects.
- B. Partition Warranty period: Two (2) years from date of shipment.

PART 2 - PRODUCTS

2.01 MANUFACTURERS, PRODUCTS, AND OPERATIONS

- A. A. Manufacturers: Subject to compliance with requirements, provide products by the following:
 - 1. Modernfold, Inc.
 - 2. Products: Subject to compliance with the requirements, provide the following product:
 - a. OP-01: Acousti-Seal #933E electrically operated continuously hinged operable partition.
- B. Substitutions: See Section 01 60 00 - Product Requirements.

2.02 OPERATION

- A. OP-01: Acousti-Seal #933E: Series of continuously hinged flat panels, electrically operated, top supported with operable floor seals.
 - 1. Final Closure:
 - a. OP-01: Side Jamb
- B. OP-01: Partition shall be operated by two push button control stations wired in series and located on opposite sides of the partition. Control stations shall be activated by key switch at stack end of partion. Motor unit shall be reversible, continuous duty, and class A insulated. Motor unit shall have NEMA MG1 service factor, high starting torque, thermal overload protection, and open/drip proof enclosure. Motor assembly shall have wiring compliant with NFPA 70, 24 volt controls, compliant with UL508A, and speed of 28 feet/minute. The drive unit motor shall be equipped with outboard limit switches to prevent over-extension. A positive-chain drive attached to the lead panel shall pull the partition across the opening. Cable, belt or other friction type drives will not be accepted.
 - 1. Electric motor shall consist of:
 - a. OP-01: A 460-volt, 3-phase

2.03 PANEL CONSTRUCTION

- A. Nominal 3-inch (76mm) thick panels in manufacturer's standard 48-inch (1220mm) widths. All panel horizontal and vertical framing members fabricated from minimum 18-gage formed steel with overlapped and welded corners for rigidity. Top channel is reinforced to support suspension system components. Frame is designed so that full vertical edges of panels are of formed steel and provide concealed protection of the edges of the panel skin.
- B. Panel skin shall be:
 - 1. OP-01: Roll-formed steel wrapping around panel edge. Panel skins shall be lock formed and welded directly to the frame for unitized construction. Acoustical ratings of panels with this construction minimum:
 - a. 50 STC
 - 2. C. Hinges for Panels, Closure Panels, Pass Doors, and Pocket Doors shall be:
 - a. OP-01: Full leaf butt hinges, attached directly to the panel frame with welded hinge anchor plates within panel to further support hinge mounting to frame. Lifetime warranty on hinges. Hinges mounted into panel edge or vertical astragal are not acceptable.
 - 3. Panel Trim: No vertical or horizontal trim required or allowed on edges of panels; minimal groove appearance at all panel joints.
 - 4. Panel Weights:
 - a. OP-01: 50 STC - 8 lbs./square foot

2.04 PANEL FINISH

- A. A. Panel finish shall be:
 - 1. OP-01: Reinforced vinyl with woven backing weighing not less than 21 ounces (595 grams) per lineal yard.
 - 2. Panel Trim: Exposed panel trim of one consistent color:
 - a. OP-01: To Be Advised

2.05 SOUND SEALS

- A. Vertical Interlocking Sound Seals between panels: Roll-formed steel astragals, with reversible tongue and groove configuration in each panel edge for universal panel operation. Rigid plastic astragals or astragals in only one panel edge are not acceptable.
- B. Horizontal Top Seals: Continuous contact extruded vinyl bulb shape with pairs of non-contacting vinyl fingers to prevent distortion without the need for mechanically operated parts.
- C. Horizontal bottom floor seals shall be:
 - 1. OP-01: Modernfold IA2 Bottom seal. Automatic operable seals providing nominal 2-inch (51mm) operating clearance with an operating range of +0.50-inch (13mm) to -1.50-inch (38mm) which automatically drop as panels are positioned, without the need for tools or cranks.

2.06 SUSPENSION SYSTEM

- A. OP-01: #30 Suspension System
 - 1. Suspension Tracks: Track shall be structural aluminum. Static loading of track with brackets at 48-inch (1220 mm) centers shall show no failure of track or brackets at 5,000 pounds (2250 kg) point loading at mid-span. Track shall be supported by adjustable steel hanger brackets connected to structural support by pairs of 3/8-inch (9.5 mm) diameter threaded rods.
 - a. Exposed track soffit: Track soffit to be integral to track shape and shall be powder-coated off white paint finish. Track must accommodate termination of plenum sound barriers on both sides of track for maximum sound control.
 - b. Carriers: One trolley in alternating panels with 3-inch (76.2 mm) diameter glass reinforced nylon, all steel precision-ground ball-bearing wheels. Steel wheeled or reinforced polymer trolleys on aluminum track not permitted. Trolleys shall attach to panels with 1/2-inch (12.7 mm) diameter pendent bolt mounted to welded steel mounting plate.

2.07 ACCESSORIES

- A. Pocket Door Closure:
 - 1. OP-01: Pocket Doors: Acousti-Seal Pocket Doors by Modernfold, Inc., with same construction, finish, and appearance as the adjacent panels.
 - a. Pocket Door configuration shall be manually operated: Type III double doors hinged to a jamb on each side and closing in the center. One of the door panels is equipped with a smaller hinged panel that folds back when the operable partition is extended into the pocket.

PART 3: EXECUTION

3.01 INSTALLATION

- A. General: Comply with ASTM E557, operable partition manufacturer's written installation instructions, Drawings and approved Shop Drawings.
- B. Install operable partitions and accessories after other finishing operations, including painting have been completed.
- C. Match operable partitions by installing panels from marked packages in numbered sequence indicated on Shop Drawings.
- D. Broken, cracked, chipped, deformed or unmatched panels are not acceptable.

3.02 CLEANING AND PROTECTION

- A. Clean partition surfaces upon completing installation of operable partitions to remove dust, dirt, adhesives, and other foreign materials according to manufacturer's written instructions.
- B. Provide final protection and maintain conditions in a manner acceptable to the manufacturer and installer that insure operable partitions are without damage or deterioration at time of Substantial Completion.

3.03 ADJUSTING

- A. Adjust operable partitions to operate smoothly, easily, and quietly, free from binding, warp, excessive deflection, distortion, nonalignment, misplacement, disruption, or malfunction, throughout entire operational range. Lubricate hardware and other moving parts.

3.04 EXAMINATION

- A. Examine flooring, structural support, and opening, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of operable partitions. Proceed with installation only after unsatisfactory conditions have been corrected.

3.05 DEMONSTRATION

- A. Demonstrate proper operation and maintenance procedures to Owner's representative.
- B. Provide Operation and Maintenance Manual to Owner's representative.

END OF SECTION

**SECTION 10 26 01
WALL AND CORNER GUARDS**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Corner guards.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Wall and Corner Guards: Match existing material, size and fastening system.

2.02 FABRICATION

- A. Fabricate components with tight joints, corners and seams.
- B. Pre-drill holes for attachment.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that rough openings, concealed blocking, and anchors are correctly sized and located.

3.02 INSTALLATION

- A. Install components in accordance with manufacturer's instructions, level and plumb, secured rigidly in position to wall framing members only.

3.03 TOLERANCES

- A. Maximum Variation From Required Height: 1/4 inch (6 mm).
- B. Maximum Variation From Level or Plane For Visible Length: 1/4 inch (6 mm).

END OF SECTION

**SECTION 32 13 13
CONCRETE PAVING**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Concrete sidewalks.

1.02 REFERENCE STANDARDS

- A. ACI 211.1 - Standard Practice for Selecting Proportions for Normal, Heavyweight, and Mass Concrete; 1991 (Reapproved 2009).
- B. ASTM C33/C33M - Standard Specification for Concrete Aggregates; 2013.
- C. ASTM C94/C94M - Standard Specification for Ready-Mixed Concrete; 2015.
- D. ASTM C150/C150M - Standard Specification for Portland Cement; 2015.
- E. ASTM C618 - Standard Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use in Concrete; 2015.
- F. ASTM C685/C685M - Standard Specification for Concrete Made by Volumetric Batching and Continuous Mixing; 2014.

PART 2 PRODUCTS

2.01 PAVING ASSEMBLIES

- A. Concrete Sidewalks: 3,000 psi, 28 day concrete, 4 inches thick, gray Portland cement, color to match existing sidewalks.

2.02 FORM MATERIALS

2.03 REINFORCEMENT

2.04 CONCRETE MATERIALS

- A. Obtain cementitious materials from same source throughout.
- B. Cement: ASTM C150/C150M, Normal - Type I Portland cement, gray color.
- C. Fine and Coarse Mix Aggregates: ASTM C33/C33M.
- D. Fly Ash: ASTM C618, Class C or F.
- E. Water: Clean, and not detrimental to concrete.
- F. Fiber Reinforcement: Synthetic fibers shown to have long-term resistance to deterioration when in contact with alkalis and moisture; 1/2 inch (12 mm) length.

2.05 CONCRETE MIX DESIGN

- A. Proportioning Normal Weight Concrete: Comply with ACI 211.1 recommendations.
- B. Fiber Reinforcement: Add to mix at rate of 1.5 pounds per cubic yard (0.89 kg per cubic meter), or as recommended by manufacturer for specific project conditions.
- C. Concrete Properties:
 - 1. Fly Ash Content: Maximum 15 percent of cementitious materials by weight.
 - 2. Water-Cement Ratio: Maximum 40 percent by weight.

2.06 MIXING

- A. On Project Site: Mix in drum type batch mixer, complying with ASTM C685/C685M. Mix each batch not less than 1-1/2 minutes and not more than 5 minutes.
- B. Transit Mixers: Comply with ASTM C94/C94M.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify compacted subgrade is acceptable and ready to support paving and imposed loads.
- B. Verify gradients and elevations of base are correct.

3.02 SUBBASE

3.03 PREPARATION

- A. Moisten base to minimize absorption of water from fresh concrete.

3.04 FORMING

- A. Place and secure forms to correct location, dimension, profile, and gradient.
- B. Assemble formwork to permit easy stripping and dismantling without damaging concrete.

3.05 PLACING CONCRETE

- A. Ensure reinforcement, inserts, embedded parts, formed joints are not disturbed during concrete placement.

3.06 JOINTS

- A. Provide scored joints. to match existing

3.07 FINISHING

- A. Sidewalk Paving: Light broom, texture perpendicular to direction of travel with troweled and radiused edge 1/4 inch radius (6 mm radius).

3.08 PROTECTION

- A. Immediately after placement, protect pavement from premature drying, excessive hot or cold temperatures, and mechanical injury.
- B. Do not permit pedestrian traffic over pavement for 7 days minimum after finishing.

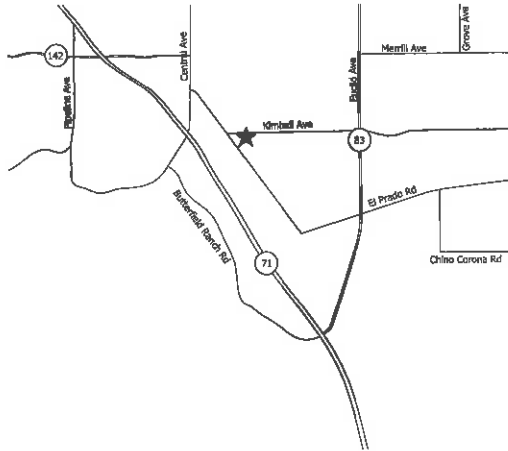
END OF SECTION

INLAND EMPIRE UTILITIES AGENCY

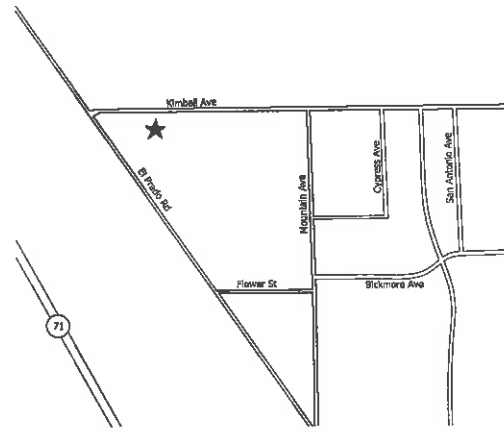
GILLIS + PANICHAPAN ARCHITECTS, INC.

Jack Panichapan, AIA
PRINCIPAL-IN-CHARGE

BRIDGING DOCUMENTS



VICINITY MAP (NOT TO SCALE)



LOCATION MAP (NOT TO SCALE)



PROJECT NO. EN16049

INLAND EMPIRE UTILITIES AGENCY HEADQUARTERS
6075 KIMBALL AVENUE
CHINO, CA 91708

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- A-2.1 MULTI-PURPOSE ROOM FLOOR PLAN
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Gillis + Panichapan Architects, Inc.
1000 W. 14th St., Suite 205
Chino, CA 91710
Tel: 917.444.2929

Professional Seal of Jack Panichapan, AIA, No. 14512-2005, State of California, expires 12/31/2010.

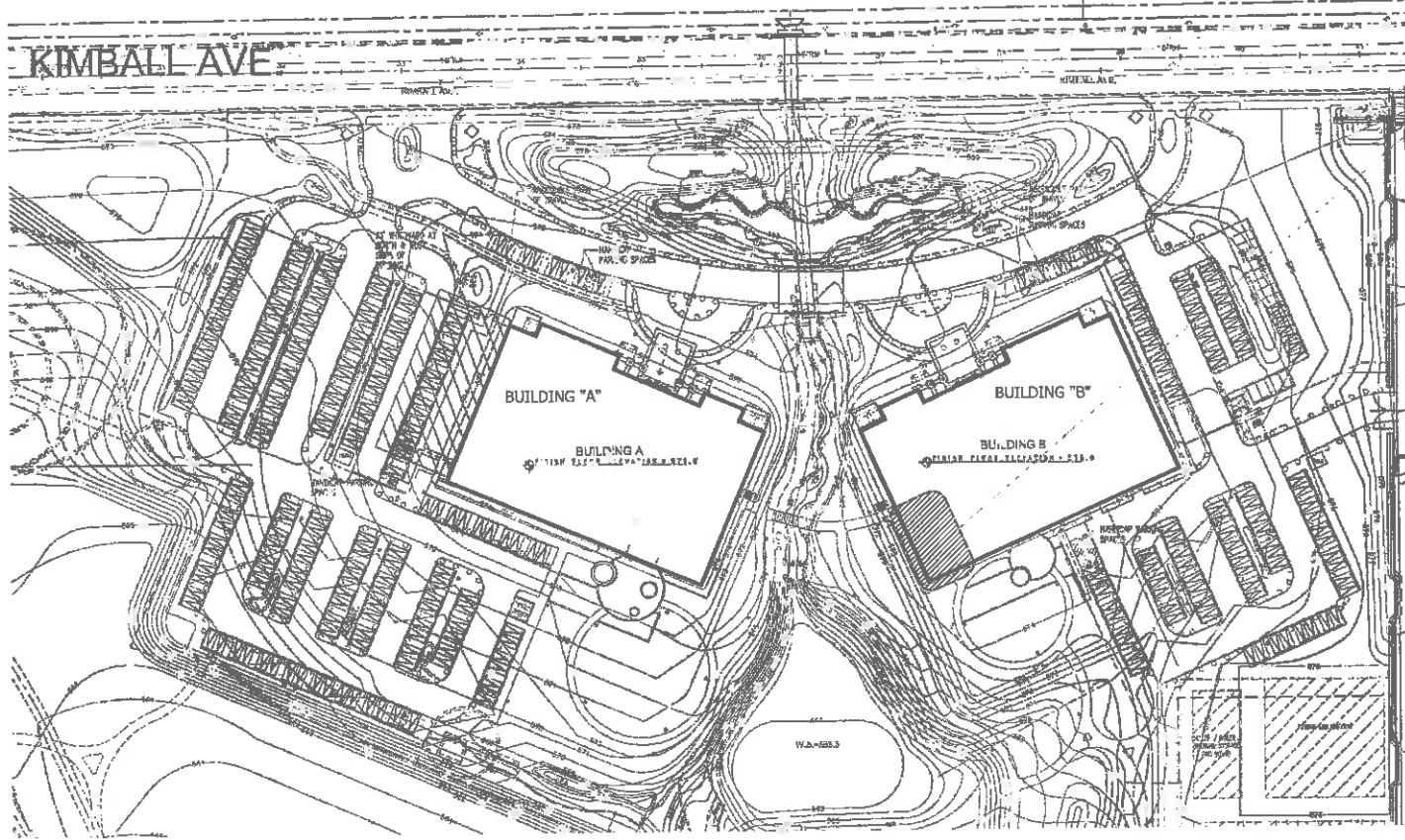
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DATE: 09/15/14
DATE: 09/15/14
DATE: 09/15/14
DATE: 09/15/14

COVER SHEET
INLAND EMPIRE UTILITIES AGENCY
Event Center

CV-1

KIMBALL AVE



LOCATION OF SCOPE OF WORK



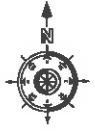
DATE: 08/11/11
 PROJECT: A-1.1
 Gills + Panichapan Architects, Inc.
 2250 BENTLEY STREET, CHANA, WISLA, CALIFORNIA 92524
 TEL: 951-948-8224 FAX: 951-948-8224

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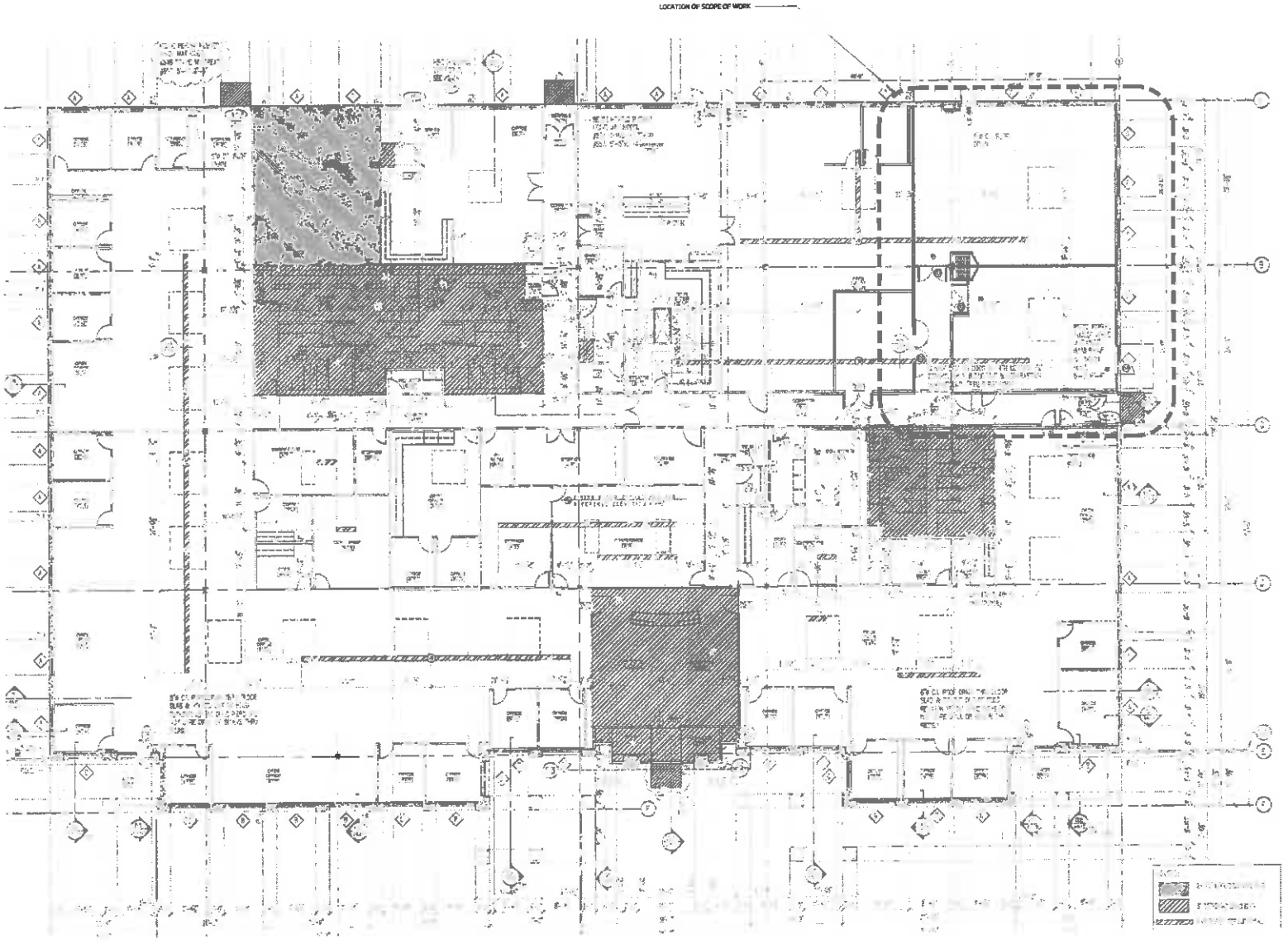
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PROJECT: A-1.1
SCALE: N.T.S.

SITE PLAN
 INLAND EMPIRE UTILITIES AGENCY
 Event Center



SITE PLAN
 Scale: N.T.S.

A-1.1



LOCATION OF SCOPE OF WORK

01 BUILDING B FLOOR PLAN - SCOPE OF WORK AND LOCATION PLAN
A-1.2 SCALE: N.T.S.



PROJECT: INLAND EMPIRE UTILITIES AGENCY
 ARCHITECT: GILLIS + PONICHAPAN ARCHITECTS, INC.
 2700 BRADDOCK STREET, COSSA, N.Y. 12034
 TEL: 518.482.8400
 FAX: 518.482.8402
 REG. NO. 11230

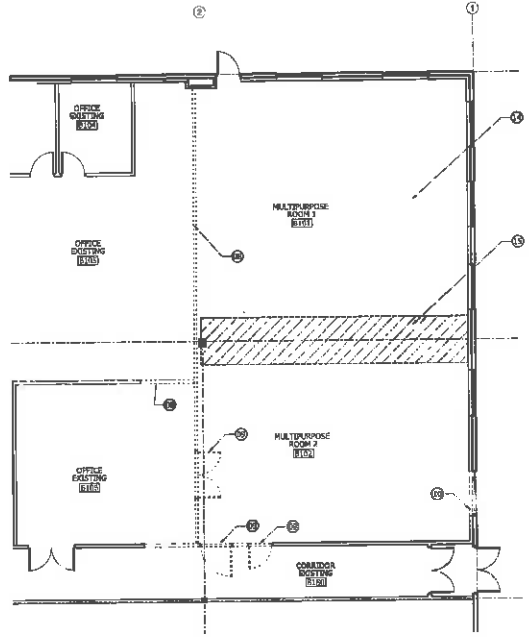
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 DRAWN BY: [Name]
 CHECKED BY: [Name]
 SCALE: AS NOTED

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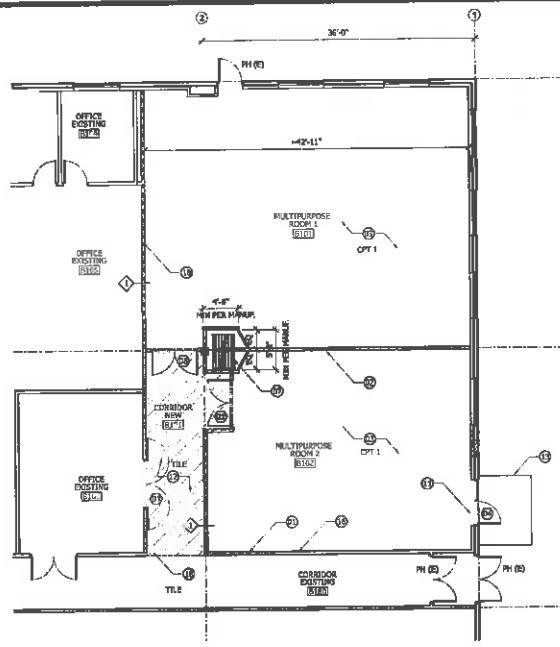
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BUILDING B FLOOR PLAN - SCOPE OF WORK
INLAND EMPIRE UTILITIES AGENCY
Event Center

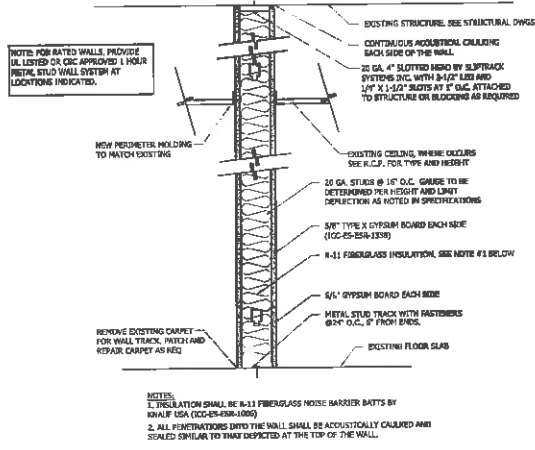
A-1.2



01 MULTI-PURPOSE ROOM FLOOR PLAN - DEMO/EXISTING
 Scale: 1/8" = 1'-0"



02 MULTI-PURPOSE ROOM FLOOR PLAN - PROPOSED
 Scale: 1/8" = 1'-0"



03 INT. MTL. FULL PARTITION WALL NON 4"
 Scale: 1/2" = 1'-0"
 (1 HOUR RATED AS INDICATED ON PLANS)

- NOTES:**
- FOR BOTH NEW MULTIPURPOSE ROOM 1 AND 2 (B101 AND B102) REPLACE ALL CARPET WITH NEW. FOR AREAS IMPACTED BY CONSTRUCTION REPAIR AND REPLACE ALL DAMAGED CARPET TILE WITH LIKE KIND.
 - DIRECTIONS ARE TO FINISH FACE OF WALL, U.N.O.
 - GENERAL CONTRACTOR SHALL PROVIDE RECORD DOCUMENTS TO OWNER UPON COMPLETION OF TENANT CONSTRUCTION.
 - PROVIDE A "LEVEL-5" FINISH AT CIV. BOARD CEILING AND SORRETS.
 - "R" AS USED IN THESE DOCUMENTS SHALL MEAN EXISTING TO REMAIN.
 - PROVIDE NEW CORNER CHAIRS AT ALL OUTSIDE DRYWALL CORNERS. CORNER GUARDS TO BE 3/4" X 5/8" AND HAVE ADHESIVE BACKS. MOUNT AT TOP OF RUBBER BASE. REFER TO FINISH PLANS FOR PAINT COLOR AND CORRESPONDING CORNER GUARD COLOR AT EACH LOCATION.
 - EXISTING SYSTEMS FURNITURE - PROTECT ADJACENT FURNISHINGS AND FINISHES FROM CONTACT, DUST, AND DAMAGE DURING CONSTRUCTION.

- KEYNOTES:**
- NEW WALL PARTITION (SEE DETAIL 03(A)-1)
 - PROVIDE AND INSTALL NEW AUTOMATED MOVABLE WALL PARTITION (PHOSPHORUM OR EQUAL) CONTACT ROBERT SIMPSON (R-363) 100-3161. SEE STRUCTURAL ENGINEERING DRAWINGS FOR SUPPORT AND SEE DETAIL 14(A)-1.
 - PROVIDE NEW CARPET TILE FINISH.
 - PROVIDE TACTILE BOT SIGN STATING "EXIT ROUTE" AT CENTERLINE -40" AFF AT LATCH SIDE OF DOOR AS SHOWN.
 - PROVIDE MAGNUM OCCUPANCY SEATINGS FOR SINGLE AND COMPACT LAYOUTS FOR TRAINING ROOMS.
 - PROVIDE ASSISTED LISTENING STORAGE AT CENTERLINE -40" AFF AT LATCH SIDE OF DOOR.
 - AUTOMATED WALL FLOOR TRACK INSIDE AUTOMATED WALL HOIST.
 - EXISTING WALL TO BE DEMOLISHED.
 - EXISTING DOOR ASSEMBLY TO BE DEMOLISHED.
 - EXISTING WINDOW WALL TO BE DEMOLISHED.
 - NEW EXTERIOR DOOR EGRESS ACCESS.
 - PROVIDE NEW CERAMIC TILE TO MATCH EXISTING (D40-850)
 - PROVIDE NEW POLURED IN PLACE CONCRETE PAD.
 - REMOVE EXISTING CARPET AND BASE AS REQUIRED. CLEAN AND PREP CONCRETE SLAB ON GRADE FOR NEW FINISH.
 - CONTRACTOR TO VERIFY CONCRETE SLAB "FLATNESS" COMPLIES WITH MOVABLE WALL REQUIREMENTS. PERIOD OUTDOING MAY BE REQUIRED.
 - EXISTING WALL TO BE MODIFIED OR REPLACED. PROVIDE 1 HOUR WALL SYSTEM (FULL HEIGHT).
 - SNAP-F WALL CONSTRUCTION ADJACENT TO EXISTING WALL.
 - WALL MUST BE CONSTRUCTED FIRST TO MINIMIZE NOISE AND CONSTRUCTION IMPACT TO ADJACENT REMAINING SPACE. NEW PARTITION WALL CONSTRUCTION REQUIRES COORDINATION WITH UTA, MINIMUM 95 STC RATING.

FINISH SCHEDULE:

WALL COVERING	
① ITEM:	GENERAL PAINT (THROUGHOUT U.N.O.)
MPR:	COLORING; TO BE CONFIRMED WITH OWNER
FINISH:	EGGSHELL
② ITEM:	ACCENT PAINT
MPR:	COLORING; TO BE CONFIRMED WITH OWNER
FINISH:	EGGSHELL
③ ITEM:	ACCENT PAINT
MPR:	COLORING; TO BE CONFIRMED WITH OWNER
FINISH:	EGGSHELL
FLOOR COVERINGS	
CPT 1	EXISTING CARPET TILE: REPLACE IN BOTH MEETING ROOMS
TILE	CERAMIC TILE: NEW CORRIDOR TO MATCH WITH EXISTING
BASE:	
BI ITEM:	4" STRAIGHT FLOOR BASE THROUGHOUT @ CARPET
MPR:	BUCKLE
COLORING:	TO BE CONFIRMED WITH OWNER AND ARCHITECT.

LEGEND:

	DOOR TYPE (NEW DOOR ASSEMBLY)
	WALL TYPE
	EXISTING WALL TO REMAIN
	NEW WALL (SEE FINISH SCHEDULE)
	NEW 1 HOUR OCCUPANCY SEPARATION FULL HEIGHT WALL
PH (C)	EXISTING PANIC HARDWARE

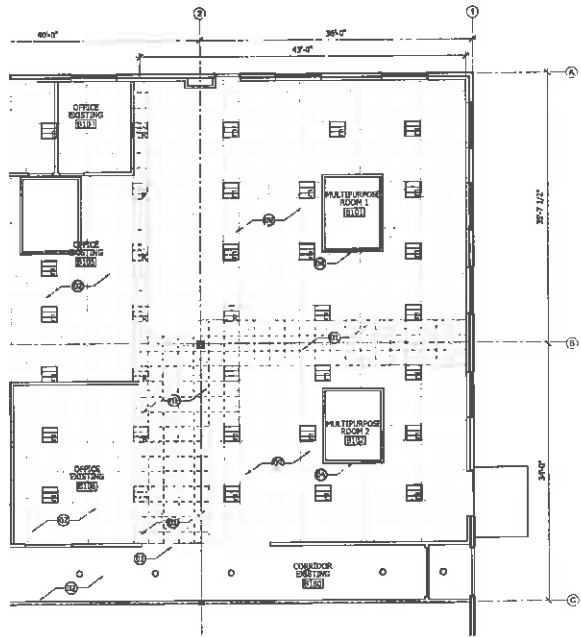


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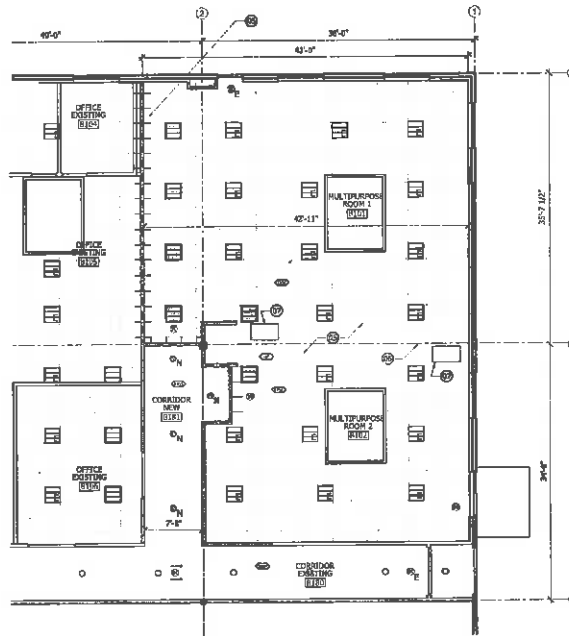
BRIDGING DOCUMENTS

NO.	DATE	BY	REVISION

MULTI-PURPOSE ROOM FLOOR PLANS
INLAND EMPIRE UTILITIES AGENCY
Event Center



11. MULTI-PURPOSE ROOM REFLECTED CEILING PLAN - DEMO/EXISTING
Scale: 1/8" = 1'-0"



12. MULTI-PURPOSE ROOM REFLECTED CEILING PLAN - PROPOSED
Scale: 1/8" = 1'-0"

- GENERAL NOTES:**
1. PATCH AND REPAIR SUSPENDED CEILING GRID AND T.D.C. AS REQUIRED.
 2. REFER TO MECHANICAL AND ELECTRICAL PLANS FOR ADDITIONAL INFORMATION ON RELOCATION AND INSTALLATION OF SUPPLY AND RETURN AIR.
 3. MODIFY AND PROVIDE NEW EXIT SIGNS AS REQUIRED PER CODE.
 4. ALL NEW WALL FINISHES TO HAVE LEVEL 5 FINISH OR PATCH WITH ADJACENT WALL.

- KEYNOTES:**
1. EXISTING CEILING AREA TO BE REMOVED FOR NEW CONSTRUCTION
 2. EXISTING CEILING AREA TO REMAIN
 3. EXISTING LIGHT FIXTURE TO BE RELOCATED
 4. EXISTING SKYLIGHT TO REMAIN
 5. NEW GYPSUM-BOARD SOFFIT
 6. TRACK LOCATION FOR AUTOMATED WALL EQUIPMENT ABOVE
 7. ACCESS HATCH TO THE AUTOMATED WALL EQUIPMENT ABOVE
 8. RE-WORK SUSPENDED CEILING SYSTEM AS NEEDED
 9. ALL EXISTING CEILING TILES IN BOTH MEETING ROOMS TO BE REPLACED.

- LEGEND:**
- EXISTING LIGHT FIXTURE TO BE RELOCATED
 - NEW LOCATION OF EXISTING LIGHT FIXTURE
 - EXISTING LIGHT FIXTURE TO REMAIN
 - NEW PROPOSED DOWN LIGHT FIXTURE
 - EXISTING DOWN LIGHT TO REPAIR
 - NEW EXIT SIGN - CEILING MOUNTED
 - NEW DIRECTIONAL EXIT SIGN
 - NEW EXIT SIGN - CEILING MOUNTED

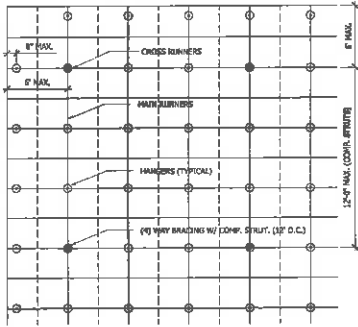
Professional Seal:
Gillis + Ponichapan Architects, Inc.
Professional Seal
Gillis + Ponichapan Architects, Inc.
2700 85TH STREET, SUITE 200
SAN DIEGO, CA 92126
TEL: 619.444.2200
FAX: 619.444.2200

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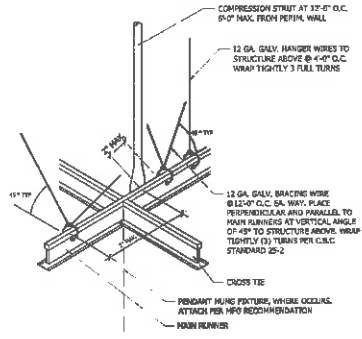
DATE: 08/15/11
DESIGNED BY: J.P.
CHECKED BY: J.P.
SCALE: AS SHOWN

MULTI-PURPOSE ROOM REFLECTED CEILING PLANS
INLAND EMPIRE UTILITIES AGENCY
Event Center.

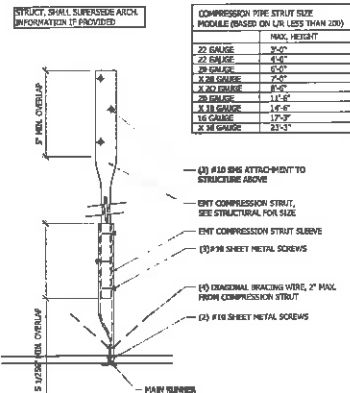




01 SUSPENDED CEILING DIAGRAM PLAN
A-5.1 Scale: 3" = 1'-0"

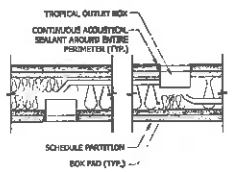


02 SUSPENDED CEILING BRACING
A-5.1 Scale: 3" = 1'-0"

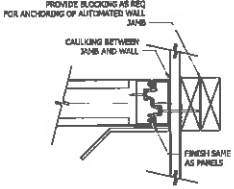


03 COMPRESSION STRUT
A-5.1 Scale: 3" = 1'-0"

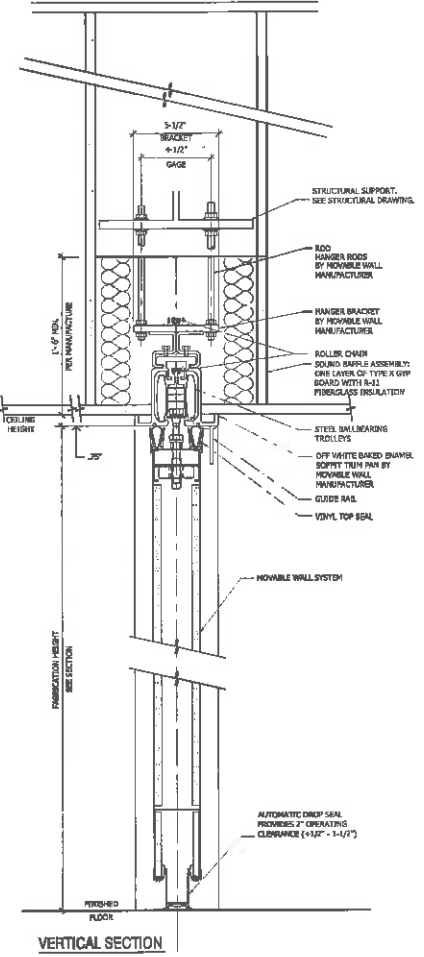
COMPRESSION PIPE STRUT SIZE	MAX. HEIGHT
22 GAUGE	3'-0"
22 GAUGE	4'-0"
20 GAUGE	5'-0"
18 GAUGE	7'-0"
18 GAUGE	8'-0"
16 GAUGE	11'-0"
16 GAUGE	14'-0"
14 GAUGE	17'-0"
12 GAUGE	23'-0"



11 WALL OUTLET SECTION
A-5.1 Scale: 3" = 1'-0"



08 JAMB @ MOVABLE WALL
A-5.1 Scale: 3" = 1'-0"



14 SECTION @ MOVABLE WALL
A-5.1 Scale: 3" = 1'-0"



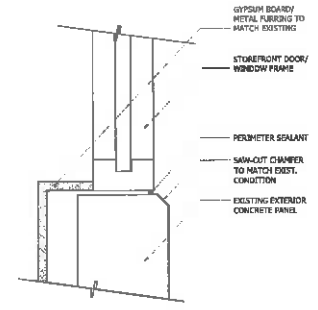
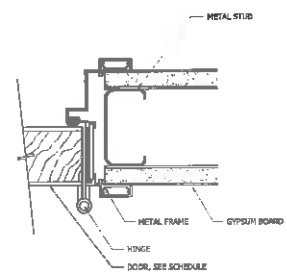
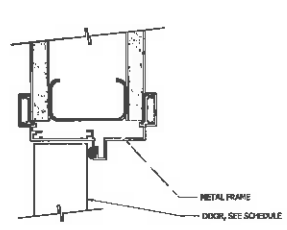
Gills + Panichapan Architects, Inc.
1000 W. 10th Street, Suite 100
Tulsa, Oklahoma 74103
Tel: (918) 438-2081
Fax: (918) 438-2082

Scale: 3" = 1'-0"

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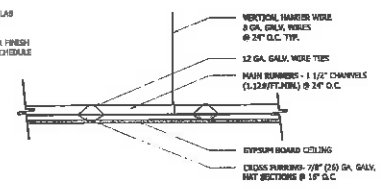
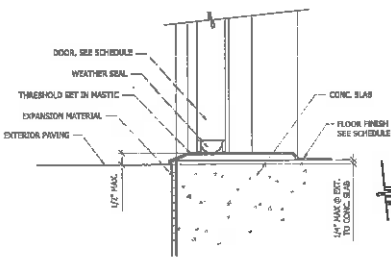
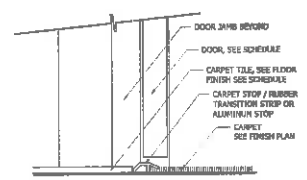
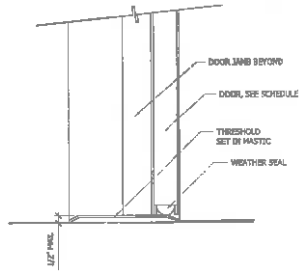
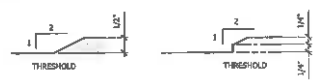
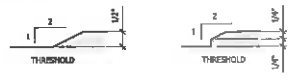
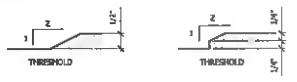
DETAILS
INLAND EMPIRE UTILITIES AGENCY
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01 INTERIOR DOOR HEAD
A-5.2 Scale: 8" = 1'-0"

02 INTERIOR DOOR JAMB
A-5.2 Scale: 8" = 1'-0"

03 INTERIOR H.M. DOOR JAMB/HEAD
A-5.2 Scale: 3" = 1'-0"

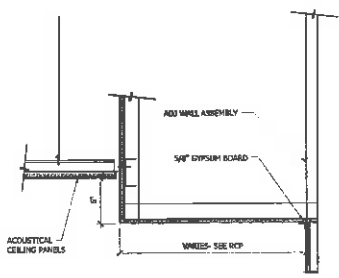
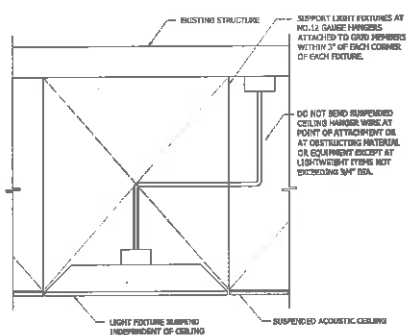


06 THRESHOLD AT INTERIOR DOOR
A-5.2 Scale: 1 1/2" = 1'-0"

07 TRANSITION AT INTERIOR DOOR
A-5.2 Scale: 3" = 1'-0"

08 THRESHOLD AT EXTERIOR DOOR, TYP.
A-5.2 Scale: 3" = 1'-0"

09 SUSPENDED CEILINGS
A-5.2 Scale: 3" = 1'-0"



12 LIGHT FIXTURE SUSPENSION
A-5.2 Scale: 1-1/2" = 1'-0"

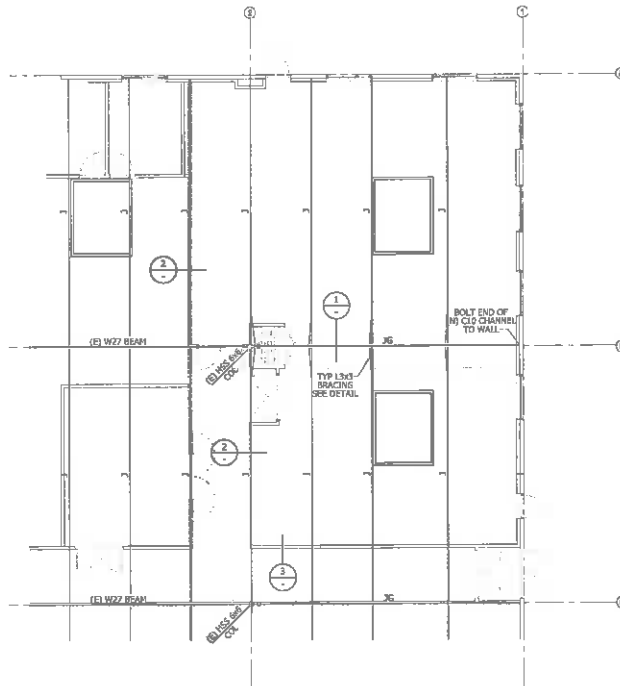
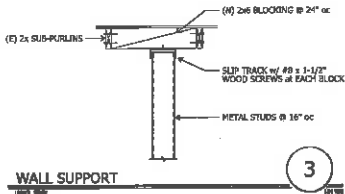
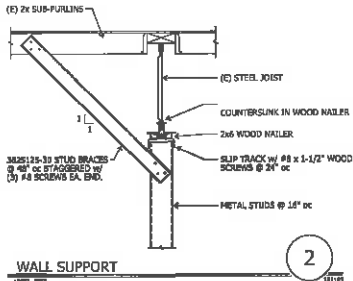
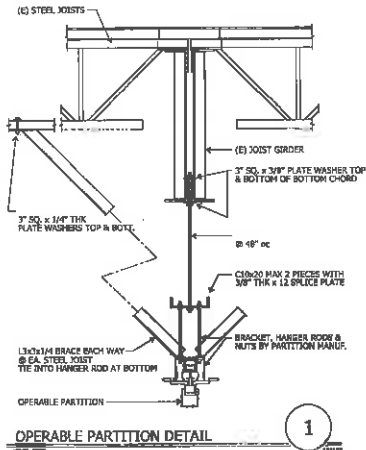
13 SOFFIT SECTION (TYP)
A-5.2 Scale: 1-1/2" = 1'-0"

Gills + Panicanon Architects, Inc.
12576
10/20/16

BRIDGING DOCUMENTS

DATE: 10/20/16
DATE: 10/20/16
DATE: 10/20/16
DATE: 10/20/16
DATE: 10/20/16

DETAILS
INLAND EMPIRE UTILITIES AGENCY
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J = EXISTING MANUFACTURED STEEL JOIST
JG = EXISTING MANUFACTURED STEEL JOIST GIRDER

FRAMING PLAN

SCALE: 1/8" = 1'-0"



GENERAL

1. THE INTENT OF THIS BRIDGING DOCUMENT IS TO CONVEY BASIC STRUCTURAL SYSTEMS AND OWNER REQUIREMENTS. THIS DOCUMENT MAY NOT BE USED FOR CONSTRUCTION NOR BE USED TO OBTAIN A PERMIT FOR CONSTRUCTION.
2. STRUCTURAL DOCUMENTS FOR CONSTRUCTION SHALL BE PREPARED BY A CALIFORNIA REGISTERED STRUCTURAL OR CIVIL ENGINEER. THE STRUCTURAL DESIGN SHALL CONFORM TO THE REQUIREMENTS OF THE CURRENT BUILDING CODE EDITION ADOPTED BY THE CITY OF ORANGE, CALIFORNIA AND ALL LOCAL BUILDING CODES IN EFFECT. THE 2013 CALIFORNIA BUILDING CODE WAS USED AS A BASIS FOR THIS DOCUMENT.
3. SPECIFIC ARCHITECTURAL DETAILS ARE NOT PRESENTED HERE TO PROVIDE FLEXIBILITY FOR THE ENGINEER OF RECORD'S STRUCTURAL DESIGN. GENERAL CONTRACTOR SHALL ASSUME TYPICAL DETAILING FOR A CONCRETE MASONRY BUILDING FOR FINISHING PURPOSES.
4. THESE DRAWINGS SHALL NOT INHIBIT THE DESIGN ENGINEER TO DEVIATE FROM THESE DRAWINGS AS LONG AS THE DESIGN MEETS CODE AND ARCHITECTURAL INTENT. IT SHALL BE DEMONSTRATED THAT THE DEVIATIONS WILL ENHANCE OR ADD VALUE TO THE FINISHED CONSTRUCTION PROJECT.
5. THE DRAWINGS AND SPECIFICATIONS SHALL REPRESENT THE FINISHED STRUCTURE. ALL BRACING, TEMPORARY SUPPORTS, SHORING, ETC. IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR.

DESIGN CRITERIA

2013 CALIFORNIA BUILDING CODE
INTERIOR LATERAL: 5 PSF
PARTITION LOAD: 10 PSF

STRUCTURAL STEEL

1. ASTM A36 CHANNELS AND ANGLES
2. DEFLECTION LIMITS FOR OPERABLE PARTITION IS 1/8" IN 12"

WOOD FRAME

1. ALL STRUCTURAL LUMBER SHALL BE DOUGLAS FIR - LARCH OF THE FOLLOWING GRADES, CONFORMING TO STANDARD GRADING RULES FOR WEST COAST LUMBER NO. 17, UNLESS NOTED OTHERWISE. THE LUMBER GRADES AS SPECIFIED BELOW MEET MINIMUM REQUIREMENTS: PLATES, BLOCKING, NAILED—CONSTRUCTION GRADE 105-F OR BETTER (TO MATCH EXISTING CONSTRUCTION)
LUMBER SHALL BE USED (FSC) CERTIFIED.

LIGHT GAUGE STEEL FRAMING

1. ALL STUDS, JOISTS AND TRACK DESIGNATIONS ARE BASED ON PRODUCTS MANUFACTURED BY THE CURRENT MEMBERS OF THE STEEL STUD MANUFACTURERS ASSOCIATION (SSMA, ICC ESR-3064/P). ALTERNATES MAY BE SUBMITTED WHICH ARE EQUAL OR EXCEED THE PROPERTIES OF THE SPECIFIED MEMBER WHEN APPROVED BY THE ARCHITECT.
 2. ALL FRAMING SHALL BE GALVANIZED OR PAINTED CARBON SHEET STEEL. TOUCH UP ALL WELDS AND DAMAGED AREAS WITH APPROVED ZINC-RICH GALVANIZING TOUCH UP PAINT FOR GALVANIZED PRODUCTS, PAINT FOR CARBON SHEET PRODUCTS.
 3. ALL CONNECTIONS SHALL BE WITH SELF DRILLING SCREWS. SCREWS SHALL BE OF SUFFICIENT SIZE TO ENHANCE STRENGTH OF THE CONNECTION.
 4. FABRICATION AND ERECTION SHALL BE IN ACCORDANCE WITH MANUFACTURERS SPECIFICATIONS.
 5. PROVIDE 2 ROWS OF BRIDGING BETWEEN WALL STUDS UP TO 10'-0" TALL AND AT MAXIMUM SPACING OF 3'-0" ABOVE 10'-0" TALL.
- SSMA PRODUCT IDENTIFICATION CODE ARE DEFINED AS FOLLOWS:
- | | |
|--------------------|--------------|
| DDD = MEMBER DEPTH | 350 = 3-1/2" |
| | 362 = 3-5/8" |
| | 400 = 4" |
| | 500 = 5-1/2" |
| | 600 = 6" |
- S = STYLE S = STUD OR JOIST
T = TRACK
- | | |
|--------------------|--------------|
| WWW = MEMBER WIDTH | 135 = 1-1/4" |
| | 137 = 1-3/8" |
| | 162 = 1-5/8" |
- (REFERENCE GAUGE)
- | | |
|--|-----------------------------|
| TTT = MATERIAL THICKNESS (MILS) 18 (25 GA) | |
| AND GRADE | |
| | 27 (23 GA) |
| | 30 (20 GA DRYWALL GRADE) |
| | 33 (20 GA STRUCTURAL GRADE) |
| | 43 (18 GA) |
| | 54 (16 GA) 30 KSI STEEL |
| | 68 (14 GA) 30 KSI STEEL |
7. STRUCTURAL MEMBERS SHALL NOT BE CUT FOR PIPES, ETC. UNLESS SPECIFICALLY DETAILED. NOTCHING OF STUDS ARE STRICTLY PROHIBITED.



DCSE
ASSOCIATES, INC.
STRUCTURAL ENGINEERS
1744 Wil. Knolls Ave.
Suite 101
Orange, CA 92667
TEL: 714 997-1345
www.dcseinc.com



Chik + Parichapan Architects, Inc.
Professional Engineer
Chik + Parichapan Architects, Inc.
2013 CALIFORNIA BUILDING CODE
1744 Wil. Knolls Ave.
Suite 101
Orange, CA 92667
TEL: 714 997-1345
www.dcseinc.com

BRIDGING DOCUMENTS

NO.	DATE	REVISION

NO.	DATE	REVISION

PLOT DATE: 9/7/16

FOUNDATION PLAN
INLAND EMPIRE UTILITIES AGENCY
Event Center

GENERAL NOTES

- ALL DIMENSIONS ARE APPROXIMATE AND ARE GIVEN FOR ESTIMATE PURPOSES ONLY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CHECKING AND VERIFYING ALL DIMENSIONS, SIZES, REQUIRED CLEARANCES AND ASSURE FULL RESPONSIBILITY FOR FITTING OF ALL EQUIPMENT AND MATERIALS HEREIN REQUIRED TO OTHER PARTS OF THE WORK AND TO THE WORK OF OTHER TRADES.
- THE DRAWINGS ARE ESSENTIALLY DIAGRAMMATIC TO THE EXTENT THAT ALL OFFSETS, FINISHES, SPECIAL FITTINGS AND LOCKINGS ARE NOT EXACTLY LOCATED.
- THIS CONTRACTOR SHALL COMPLY WITH ALL CONTRACT DOCUMENTS IN LAYING OUT HIS WORK AND EQUIPMENT. HE SHALL COORDINATE THE WORK OF THIS SECTION WITH THE WORK OF OTHER TRADES AND ALL JOB CONDITIONS.
- FINAL LOCATIONS OF THERMOSTATS TO BE VERIFIED WITH THE ELECTRICAL AND MECHANICAL ENGINEER AT JOB SITE. COORDINATE WITH FURNITURE VENDOR TO AVOID CONFLICTS.
- ROOM THERMOSTATS SHALL BE MOUNTED PER THERMOSTAT HEIGHT DIAGRAM IN THIS SHEET.
- MISCELLANEOUS DUCTS, PIPES, ETC. SHALL BE BRANCHED IN ACCORDANCE WITH SMACNA SEISMIC HAZARD LEVEL "A" DETAILS.
- ALL SEDS FOR HANGWORK AND AIR DISTRIBUTION ARE NET NEUSE DIMENSIONS. DUCTWORK WITH INTERNAL LINING SHALL MAINTAIN THE NET INSIDE DIMENSION.
- DUCT CONSTRUCTION SHALL BE GALVANIZED STEEL IN ACCORDANCE WITH CHAPTER 19 OF CMC UNLESS NOTED OTHERWISE. FLEXIBLE ALUMINUM DUCTWORK IS NOT ACCEPTABLE.
- ALL DUCT SEAMS AND JOINTS SHALL BE SEALED AIR AND WATER-TIGHT. DUCT TAPE IS NOT ACCEPTABLE.
- FLEXIBLE DUCTWORK SHALL BE LIMITED TO A MAXIMUM OF 6 FEET FROM THE TERMINAL AIR DEVICE. FLEXIBLE DUCTS SHALL BE CONNECTED TO JOINTS OR DUCTS OR AIR DEVICES WITH A MINIMUM OF THREE #10 SHEET METAL SCREENS WITH A WASHER POSITIVELY ATTACHED TO THE INTERNAL SPIRAL WIRE. THE INNER PLY OF THE FLEXIBLE DUCT SHALL BE SEALED TO THE ADJACENT SURFACE WITH A TAPE MEETING THE REQUIREMENTS OF UL181 SUCH AS 3M VENTURE TAPE 1599B OR 1060P.
- FLEXIBLE DUCTS SHALL BE SUPPORTED AT OR NEAR END LENGTH WITH 2" WIDE ZS OR STEEL HANG COLLAR WITH AN APPROVED ATTACHMENT TO STRUCTURE. DUCT SHALL BE SUPPORTED SO AS TO AVOID ANY SHARP BENDS OR PINCHING OF THE DUCT.
- PROVIDE AND INSTALL TURNING VANES IN RIGHT ANGLE ELBOWS AND DEFLECTORS IN RECTANGULAR BRANCHES.
- PRIME AND INSTALL ALL NECESSARY ACCESS DOORS AND CEILING ACCESS PANELS PER HANDBOOK AND CONTROLS. SEE ARCHITECTURAL SPECIFICATION SECTION 05 31 00.
- FOR EXACT LOCATIONS OF DIFFUSERS AND REGISTER, SEE ARCHITECTURAL DRAWINGS.
- PROVIDE FLEXIBLE CONNECTIONS TO ALL HVAC EQUIPMENT (INCLUDES DUCTS, PIPING, CONDUIT, ETC.)
- REQUIRED ROUTINE MAINTENANCE ACTION SHALL BE CLEARLY STATED AND INCORPORATED ON A READILY ACCESSIBLE LABEL WHICH MAY BE LIMITED TO IDENTIFYING BY TITLE AND/OR PUBLICATION NUMBER THE OPERATION AND MAINTENANCE MANUAL FOR THAT PARTICULAR MODEL AND TYPE OF PRODUCT. ONE COPY OF THIS INFORMATION SHALL BE FURNISHED BY THE CONTRACTOR TO THE OWNER.
- THE CONTRACTOR SHALL PROVIDE THE BUILDING OWNER, MANAGER, AND ORIGINAL OCCUPANTS A DESCRIPTION OF THE QUANTITIES OF OUTDOOR AND RECYCLED AIR THAT THE VENTILATION SYSTEMS ARE DESIGNED TO PROVIDE TO EACH AREA.
- THE CONTRACTOR SHALL PROVIDE AN AIR BALANCE PERFORMED BY AN INDEPENDENT AGENCY CERTIFIED BY IAQAC AND SUBMIT THE REPORT TO THE MECHANICAL ENGINEER OF RECORD FOR REVIEW. REFER TO SPECIFICATION SECTION 23.06.03.
- THE CONTRACTOR SHALL PROVIDE A WRITTEN WARRANTY TO REPLACE ALL FINISH AND/OR LABOR AT NO COST TO OWNER FOR A PERIOD OF ONE (1) YEAR FROM THE DATE OF THE OWNER'S ACCEPTANCE, UNLESS STATED OTHERWISE IN THE PLANS AND SPECIFICATIONS.
- THE CONTRACTOR SHALL COORDINATE HIS WORK WITH ALL TRADES AT THE SITE. ANY COSTS TO INSTALL WORK TO ACCOMPLISH SHD COORDINATION WITH OTHER TRADES SHALL BE SHOWN ON THE PLANS SHALL BE INCURRED BY THE CONTRACTOR. ANY DISCREPANCIES, AMBIGUITIES OR CONFLICTS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT DURING BID TIME FOR CLARIFICATION. ANY SUCH CONFLICTS NOT CLARIFIED PRIOR TO BID SHALL BE SUBJECT TO THE INTERPRETATION OF THE ARCHITECT AT NO ADDITIONAL COST TO THE OWNER.
- PROVIDE PERMANENT LABELING FOR ALL MECHANICAL EQUIPMENT WHICH IDENTIFIES THE UNIT TAG AS DESCRIBED ON THE EQUIPMENT SCHEDULE AND THE AREA/SPACE IT SERVES. REFER TO SPECIFICATION SECTION 23.06.53.
- CONTRACTOR SHALL PROVIDE AS-BUILT CAD DRAWINGS AND PDF FORMAT AT THE CONCLUSION OF THE PROJECT.
- ALL DUCT OPERAND AND MECHANICAL EQUIPMENT SHALL BE COVERED DURING CONSTRUCTION (SEE 5.50.4.3 OF 2013 CCR).
- ALL MECHANICAL EQUIPMENT SHALL BE LABELED AS TO THE AREA(S) IT SERVES.
- ALL DUCT INSULATION VALUES SHALL BE A MINIMUM OF R-5.0.
- BACKDRAFT DAMPERS ARE REQUIRED AT ALL OUTSIDE AIR INTAKES AND ALL EXHAUST OUTLETS.
- BEFORE BIDDING THE PROJECT THE CONTRACTOR SHALL VISIT THE SITE AND VERIFY THE CLEARANCES AVAILABLE TO BRING THE SPECIFIED EQUIPMENT AND MATERIAL TO THE SITE.
- SYSTEMS AND COMPONENTS SHOWN AS EXISTING HAVE BEEN TAKEN FROM OWNER'S EXISTING DRAWINGS. CONTRACTOR SHALL VERIFY EXACT LOCATION AND SIZES IN THE FIELD.
- NEW WORK AND INSTALLATION SHALL NOT IMPAIR THE PROPER FUNCTIONING OF THE EXISTING SYSTEMS AND THE COMPLETED PROJECT SHALL BE PROPERLY FUNCTIONING ENTIRELY THROUGHOUT. FURNISH ALL LABOR AND MATERIALS REQUIRED TO RELOCATE, REMOVE, REINSTALL, RECONNECT, REPLACE WITH ANY EXISTING WORK TO ACCOMPLISH THE NEW WORK. MATERIALS AS HEREBEFOR SPECIFIED, UNLESS OTHERWISE APPROVED IN WRITING BY THE ENGINEER.

ENERGY COMPLIANCE NOTES

- ALL EQUIPMENT INSTALLED AS PART OF THIS PROJECT MUST MEET EFFICIENCY REQUIREMENTS WHICH MEET THE MANDATORY EFFICIENCY REGULATIONS, TITLE 20 CALIFORNIA CODE OF REGULATIONS, SECTION 16000(a) AND MUST BE LISTED IN THE CALIFORNIA ENERGY COMMISSION'S DATABASE OF CERTIFIED APPLIANCES OR AN EQUIVALENT DIRECTORY PUBLISHED BY A FEDERAL AGENCY, OR AN APPROVED TRADE ASSOCIATION DIRECTORY AS DEFINED IN TITLE 24 CALIFORNIA CODE OF REGULATIONS, SECTION 16000(a).
- ALL EQUIPMENT INSTALLED AS PART OF THIS PROJECT SHALL MEET OR EXCEED THE MINIMUM EFFICIENCY REQUIREMENTS OF CALIFORNIA ENERGY CODE SECTION 110.2(a).
- DAMPERS FOR OUTDOOR AIR SUPPLY AND EXHAUST EQUIPMENT WHICH ARE PART OF THIS PROJECT SHALL BE INSTALLED WITH DAMPERS THAT AUTOMATICALLY CLOSE UPON FAN SHUTDOWN.
- ALL PROGRAMMABLE THERMOSTATS AND DDC CONTROLS WHICH ARE PART OF THIS PROJECT MUST PROVIDE AUTOMATIC DEMAND SHED CONTROLS COMPLIANT WITH CALIFORNIA ENERGY CODE SECTION 120.2(9).
- ALL ECONOMIZERS WHICH ARE PART OF THIS PROJECT SHALL INCLUDE A FAULT DETECTION AND DIAGNOSIS SYSTEM IN ACCORDANCE WITH CALIFORNIA ENERGY CODE SECTIONS 120.2(1) THRU 120.2(9).
- ALL OUTDOOR INSULATION WHICH IS PART OF THIS PROJECT SHALL BE MINIMUM R-6.0 VALUE.
- SUPPLY FAN PRESSURE CONTROLS WHICH ARE PART OF THIS PROJECT SHALL COMPLY WITH CALIFORNIA ENERGY CODE SECTION 140.4(a).
- SYSTEMS WHICH ARE PART OF THIS PROJECT SHALL HAVE CONTROLS THAT PREVENT HEATING, REHEATING, AND SMALL-SCALE PROCESSES OF HEATING AND COOLING TO THE SAME ZONE.
- SUPPLY AIR TEMPERATURE RESET CONTROLS WHICH ARE PART OF THIS PROJECT SHALL BE:
 - IN RESPONSE TO REPRESENTATIVE BUILDING LOADS OR TO OUTDOOR AIR TEMPERATURE OR
 - AT LEAST 20% OF THE DIFFERENCE BETWEEN THE DESIGN SUPPLY AIR TEMPERATURE AND THE DESIGN ROOM AIR TEMPERATURE.

CAL GREEN NOTES

- MECHANICAL CONTRACTOR MUST RECYCLE AND/OR SALVAGE FOR REUSE A MINIMUM OF 50% OF THE NON-HAZARDOUS CONSTRUCTION WASTE UTILIZING ONE OF THE METHODS LISTED BELOW:
 - WHERE A LOCAL JURISDICTION DOES NOT HAVE A CONSTRUCTION AND DEMOLITION WASTE MANAGEMENT ORDINANCE THAT IS MORE STRINGENT, SUBMIT A CONSTRUCTION WASTE MANAGEMENT PLAN TO THE CITY ENGINEER.
 - IDENTIFY THE CONSTRUCTION WASTE MATERIALS TO BE DERIVED FROM DISPOSAL BY STREET CLEANING, RECYCLING, REUSE ON THE PROJECT, OR SALVAGE FOR FUTURE USE OR SALE.
 - CONTRACTOR IF CONSTRUCTION WASTE MATERIALS WILL BE SORTED ON SITE (SOURCE SEPARATED) OR BULK MIXED (SINGLE STREAM).
 - IDENTIFIES DIVISION FACILITIES WHERE CONSTRUCTION WASTE MATERIALS COLLECTED WILL BE TAKEN.
 - SPECIFIES THAT THE AMOUNT OF CONSTRUCTION WASTE MATERIALS DIVERTED SHALL BE CALCULATED BY WEIGHT OF VOLUME, BUT NOT BY BOTH.
- UTILIZE A WASTE MANAGEMENT COMPANY THAT CAN PROVIDE VERIFIABLE DOCUMENTATION THAT THE PERCENTAGE OF CONSTRUCTION WASTE MATERIAL DIVERTED FROM THE LANDFILL COMPLIES WITH THIS SECTION.
- NOTE: THE MECHANICAL CONTRACTOR SHALL MAKE THE DETERMINATION IF THE CONSTRUCTION WASTE MATERIAL WILL BE DIVERTED BY A WASTE MANAGEMENT COMPANY.
- MEET A LOCAL CONSTRUCTION WASTE MANAGEMENT ORDINANCE.
- MECHANICAL CONTRACTOR SHALL DEVELOP A WRITTEN PLAN OF PROCEDURES FOR TESTING AND ADJUSTING SYSTEMS. SYSTEMS TO BE TESTED AND ADJUSTED SHALL INCLUDE BUT NOT BE LIMITED TO:
 - MECHANICAL CONTRACTOR SHALL PERFORM TESTING AND ADJUSTING PROCEDURES IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS AND APPLICABLE STANDARDS ON EACH SYSTEM.
 - IN ADDITION TO TESTING AND ADJUSTING BEFORE A NEW SPACE CONTROLLING SYSTEM SEEMING A BUILDING IS OPERATED FOR NORMAL USE, ADJUST THE SYSTEM IN ACCORDANCE WITH THE PROCEDURES DEFINED BY THE ASSOCIATED BALANCE CALIBRATE NATIONAL STANDARDS OR AS APPROVED BY THE ENFORCING AGENCY.
 - AFTER COMPLETION OF TESTING, ADJUSTING AND BALANCING, MECHANICAL CONTRACTOR SHALL PROVIDE A FINAL REPORT OF TESTING SHOWN BY THE INDIVIDUAL RESPONSIBLE FOR PERFORMING THESE SERVICES.
 - MECHANICAL CONTRACTOR SHALL PROVIDE THE BUILDING OWNER OR REPRESENTATIVE WITH DETAILS OPERATING AND MAINTENANCE INSTRUCTIONS AND COPIES OF GUARANTEES/WARRANTIES FOR EACH SYSTEM. OAM INSTRUCTIONS SHALL BE CONSISTENT WITH OAM REQUIREMENTS IN CCR TITLE 8, SECTION 3142, AND OTHER RELATED REGULATIONS.
 - OAM INSTRUCTIONS SHALL INCLUDE A COPY OF ALL INSPECTION VERIFICATIONS AND REPORTS REQUIRED BY THE ENFORCING AGENCY.
- THE PERMANENT HVAC SYSTEM SHALL ONLY BE USED DURING CONSTRUCTION IF NECESSARY TO CONDITION ADDITIONS OR AREAS OF ALTERATION WITHIN THE REQUIRED TEMPERATURE RANGE FOR MATERIAL AND EQUIPMENT INSTALLATION. IF THE HVAC SYSTEM IS USED DURING CONSTRUCTION, MECHANICAL CONTRACTOR SHALL SUPPLY AND INSTALL RETURN AIR FILTERS WITH A MINIMUM EFFICIENCY REPORTING VALUE (MERV) OF 8, OR AN AVERAGE EFFICIENCY OF 95% BASED ON ASHRAE 52.1-1999. REPLACE ALL FILTERS IMMEDIATELY PRIOR TO OCCUPANCY, OR IF THE BUILDING IS OCCUPIED DURING ALTERATION, AT THE CONCLUSION OF CONSTRUCTION.
- MECHANICAL CONTRACTOR SHALL AT THE TIME OF ROUGH INSTALLATION AND DURING STORAGE ON THE CONSTRUCTION SITE UNTIL FINAL STARTUP OF THE HEATING, COOLING AND VENTILATING EQUIPMENT, ALL DUCT AND OTHER RELATED AIR DISTRIBUTION COMPONENT OPERINGS SHALL BE COVERED WITH TAPE, PLASTIC, SHEET METAL OR OTHER METHOD ACCEPTABLE TO THE ENFORCING AGENCY TO REDUCE THE AMOUNT OF DUST, WATER AND DEBRIS WHICH MAY ENTER THE SYSTEM.
- MECHANICAL CONTRACTOR SHALL ENSURE ADHESIVES, SEALANTS, AND GASKETS USED ON THE PROJECT MEET THE REQUIREMENTS OF THE FOLLOWING STANDARDS:
 - ADHESIVES, ADHESIVE BONDING PRIMERS AND GASKETS SHALL COMPLY WITH LOCAL OR REGIONAL AIR POLLUTION CONTROL OR AIR QUALITY MANAGEMENT DISTRICT RULES WHERE APPLICABLE, OR SEPCAM RULE 1168 VOC LIMITS, AS SHOWN IN TABLES 5.504.4.1 AND 5.504.4.2 OF 2013 CALIFORNIA GREEN BUILDING CODE. SUCH PRODUCTS ALSO SHALL COMPLY WITH THE RULE 1168 PROHIBITION ON THE USE OF CERTAIN TOXIC COMPOUNDS EXCEPT FOR AEROSOL PRODUCTS AS SPECIFIED IN 5.5.2 BELOW.
 - AEROSOL ADHESIVES AND SMALLER UNIT SIZES OF ADHESIVES, AND SEALANT OR GASKET COMPOUNDS SHALL COMPLY WITH STATEWIDE VOC STANDARDS AND OTHER REQUIREMENTS, INCLUDING PROHIBITIONS ON THE USE OF CERTAIN TOXIC COMPOUNDS OF CALIFORNIA CODE OF REGULATIONS, TITLE 17, CONCERNING WITH SECTION 04507.
- PRIOR TO FINAL APPROVAL OF THE BUILDING THE LICENSED CONTRACTOR, ARCHITECT OR ENGINEER IN RESPONSIBLE CHARGE OF THE GENERAL CONTRACTOR MUST COMPLETE AND SIGN THE CITY APPROVED GREEN BUILDING STANDARDS CERTIFICATION FORM OR OTHER DOCUMENTATION REQUIRED BY THE CITY AND GIVEN TO THE BUILDING DEPARTMENT OFFICIAL PRIOR TO BUILDING FINAL APPROVAL TO BE FILED WITH THE APPROVED PLANS.

LEGEND

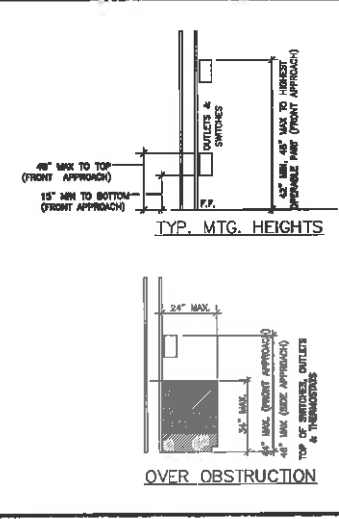
SYMBOL	ABBREVIATION	DESCRIPTION
	ACJLJL	SQUARE OR RECTANGULAR DUCT
		DUCT WITH ACOUSTIC LINER (IN ADDITION TO WHERE SPECIFIED)
		ROUND DUCT
		FLEXIBLE ROUND DUCT
		DUCT SLOPE DIRECTION
		DUCT UP OR DOWN
		DUCT TRANSITION
		RADIUS ELBOW (FIG. 2-2)
		RECTANGULAR/SQUARE DUCT THROAT ELBOW WITH VANES (FIG. 2-2)
		SQUARE 45 DEGREE ENTRY BRANCH CONDUCTION (FIG. 2-3)
		RECTANGULAR DUCT PARALLEL FLOW BRANCH (FIG. 2-7)
		THROAT SIZE ON RECTANGULAR DUCT SPLIT
		DUCT TAKE-OFF FROM TOP
		DUCT TAKE-OFF FROM BOTTOM
		VOLUME DAMPER
	CR	MOTORIZED DAMPER
	CD	CEILING REGISTER (RETURN OR OUTSIDE AIR), SEE SPECIFICATIONS
	CR	CEILING DIFFUSER (SUPPLY), SEE SPECIFICATIONS
	CR	CEILING REGISTER (EXHAUST), SEE SPEC.
		SUPPLY AIR DUCT SECTION
		RETURN OR OUTSIDE AIR DUCT SECTION
		EXHAUST DUCT SECTION
		SUPPLY AIR DUCT UP THRU FLOOR OR ROOF
		RETURN OR OUTSIDE AIR DUCT UP THRU FLOOR OR ROOF
		EXHAUST DUCT UP THRU FLOOR OR ROOF
	LWR	DOOR LOWER AND SQUARE FOOT GROSS AREA
		UNDEGRADED DOOR 1"
		ABOVE FINISHED FLOOR
	GALV.	GALVANIZED
	S.P.	STATIC PRESSURE
	D/L	ROUND(DIAMETER)
	TR	TOP GRILLE, SEE SPECIFICATIONS
	RQ	TOP REGISTER, SEE SPECIFICATIONS
	GG	CEILING GRILLE, SEE SPECIFICATIONS
	CFM	CUBIC FEET OF AIR PER MINUTE
	EXH	EXHAUST
	OSA	OUTSIDE AIR
	RA	RETURN AIR
	SA	SUPPLY AIR
	TEMP.	TEMPERATURE
	TYP.	TYPICAL
	U.N.O.	UNLESS NOTED OTHERWISE
		EQUIPMENT NUMBER
	TSTAT.	THERMOSTAT WITH ZONE NUMBER
	POR	DUCT SHEDD DETECTOR
	POC	CARBON MONOXIDE SENSOR
	UTR	POINT OF REPAIR
	DTR	POINT OF CONNECTION
	EA	UP THRU ROOF
	SA	DOWN THRU ROOF
	RA	EXHAUST AIR
	S.P.	SUPPLY AIR
	CFM	RETURN AIR
	CFM	STATIC PRESSURE
	TSTAT.	CUBIC FEET PER MINUTE FOR SUPPLY AIR
		CUBIC FEET PER MINUTE FOR RETURN AIR

* REFERS TO "SMACNA" HVAC DUCT CONSTRUCTION STANDARDS

DRAWING LIST

PHNO. NO.	DESCRIPTION
MO.1	MECHANICAL NOTES, LEGENDS AND DRAWING LIST
MO.2	MECHANICAL SCHEDULES AND DETAILS
ME.1	MECHANICAL DEMO AND RENAME PLANS

THERMOSTAT MOUNTING DIAGRAM



CODES AND STANDARDS

- 2013 CALIFORNIA BUILDING STANDARDS ADMINISTRATIVE CODE, CALIFORNIA CODE OF REGULATIONS (CCR) TITLE 24, PART 1
- 2013 CALIFORNIA BUILDING CODE (CBC) CALIFORNIA CODE OF REGULATIONS (CCR) TITLE 24, PART 2 (2008 INTERNATIONAL BUILDING CODE (IBC) W/CALIFORNIA AMENDMENTS)
- 2013 CALIFORNIA ELECTRICAL CODE (CEC)
- 2009 NATIONAL ELECTRICAL CODE (NEC) W/CALIFORNIA AMENDMENTS
- 2013 CALIFORNIA MECHANICAL CODE (CMC) CALIFORNIA CODE OF REGULATIONS (CCR) TITLE 24, PART 4 (2009 UNIFORM MECHANICAL CODE (UMC) W/CALIFORNIA AMENDMENTS)
- 2013 CALIFORNIA PLUMBING CODE (CPC) CALIFORNIA CODE OF REGULATIONS (CCR) TITLE 24, PART 5 (2009 UNIFORM PLUMBING CODE (UPC) W/CALIFORNIA AMENDMENTS)
- 2013 CALIFORNIA ENERGY CODE (CEC) CALIFORNIA CODE OF REGULATIONS (CCR) TITLE 24, PART 6
- 2013 CALIFORNIA FIRE CODE (CFC) CALIFORNIA CODE OF REGULATIONS (CCR) TITLE 24, PART 8 (2009 INTERNATIONAL FIRE CODE (IFC) W/CALIFORNIA AMENDMENTS)
- 2013 CALIFORNIA GREEN BUILDING STANDARDS



Gilis + Panicharian Architects, Inc.
 1000 BROADWAY STREET, SUITE 1000, CALIFORNIA, CA 94107
 PHONE: (415) 778-4387 FAX: (415) 778-4388



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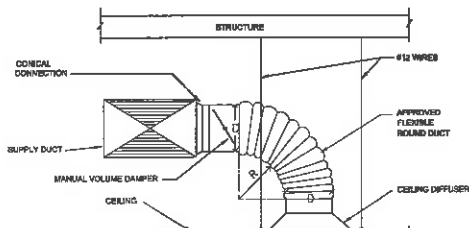
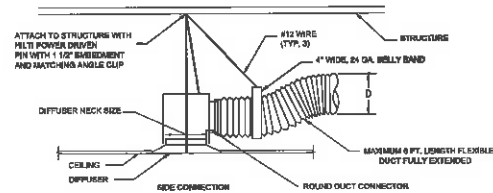
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MECHANICAL LEGEND, NOTES, AND ABBREVIATIONS

INLAND EMPIRE UTILITIES AGENCY

Event Center

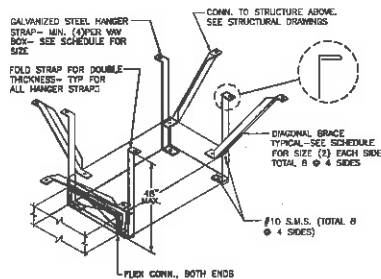
MO.1



- NOTES:**
1. WHERE HEADROOM PERMITTED (R-D) CONNECTION TO DIFFUSER SHALL BE MADE AS SHOWN.
 2. FLEXIBLE DUCTS 9'-2\"/>

DIFFUSER CONNECTION DETAIL

SCALE NONE 3



HANGER AND BRACE SCHEDULE			
MIXING BOX WEIGHT	MAX. LOAD EACH HANGER	HANGER STRAP SIZE	DIAGONAL BRACE SIZE
UP TO 100#	72#/HANGER	1 1/2\"/>	

- NOTE:**
1. PROVIDE FLEXIBLE CORN. AND TRANSITION AT INLET/OUTLET TO SUIT DUCT CONNECTION.

VAV BOX SUPPORT DETAIL

SCALE NONE 2

VAV BOX SCHEDULE - BUILDING B

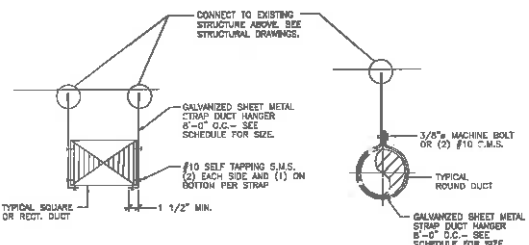
ITEM	CONDITION	MANUFACTURER & MODEL NO.	BOX SIZE		CFM		ROOM TSTAT TYPE	ANCHORAGE DETAIL REFERENCE	REMARKS
			INLET (IN\"/>						
VAV 17	EXISTING RELOCATED	TITUS DESV-3000	18	20x17.8	3,300	800	DDC	(2) (UO.2)	(1)(2)(3)(4)(5)
VAV 17A	NEW	TITUS DESV-3000	14	16x15	2,000	800	DDC	(2) (UO.2)	(1)(2)(3)(4)
VAV 18	EXISTING	TITUS DESV-3000	14	16x15	2,300	750	DDC	(2) (UO.2)	(1)(2)(3)(4)(5)

- NOTES:**
- (1) REBALANCE VAV TERMINAL BOX TO MAX AND MIN CFM QUANTITY AS SHOWN.
 - (2) REPAIR, CLEAN AND PAINT VAV TERMINAL BOX AS REQUIRED TO LIKE NEW CONDITION.
 - (3) REPLACE ANY DAMAGED OR INOPERABLE, VAV TERMINALS, DAMPERS, CONTROL DEVICES, WIRING, VALVES, DUCTWORK, INSULATION, DUCT OFFSETS, BENDS AND TRANSITIONS, DUCT JOINTS, DUCT AND PIPE HANGERS TO MEET CODE REQUIREMENTS AND A COMPLETE AND FULLY OPERATIONAL SYSTEM.
 - (4) FIELD VERIFY EXISTING SYSTEMS PRIOR TO SUBMITTING A PROPOSAL FOR THIS WORK SCOPE. SUBMIT QUESTIONS IN WRITING PRIOR TO BIDDING.
 - (5) INSTALL VAV BOX SUCH THAT ALL COMPONENTS WILL BE ACCESSIBLE FOR MAINTENANCE.
 - (6) PROVIDE WITH 3\"/>

AIR DEVICE SCHEDULE

ITEM NO.	TYPE	CEILING TYPE	MANUFACTURER AND MODEL NO.	FACE TYPE	SIZE (NO)	NOISE CRITERIA	ANCHORAGE DETAIL REFERENCE	REMARKS
(E)CD	SUPPLY	T-BAR	TITUS PCS	PERFORATED	24x24	<35		EXISTING SUPPLY DIFFUSER TO BE REFURBISHED TO LIKE NEW CONDITION. ADJUST AND AIR BALANCE DIFFUSER TO AIR QUANTITIES SHOWN ON PLANS.
(D)CD	SUPPLY	T-BAR	TITUS POS	PERFORATED	24x24	<35	(3) (UO.2)	PROVIDE VOLUME DAMPER AT BRANCH DUCT AS SHOWN ON PLANS. ADJUST AND AIR BALANCE DIFFUSER TO AIR QUANTITIES SHOWN ON PLANS. (1)(2)(3)
(E)RD	RETURN	T-BAR	TITUS PAR	PERFORATED	24x24	<35		EXISTING RETURN DIFFUSER TO BE REFURBISHED TO LIKE NEW CONDITION. ADJUST AND AIR BALANCE DIFFUSER TO AIR QUANTITIES SHOWN ON PLANS.
(D)RD	RETURN	T-BAR	TITUS PAR	PERFORATED	24x24	<35	(3) (UO.2)	PROVIDE VOLUME DAMPER AT BRANCH DUCT AS SHOWN ON PLANS. ADJUST AND AIR BALANCE DIFFUSER TO AIR QUANTITIES SHOWN ON PLANS. (1)(2)(3)

- NOTES:**
- (1) REFER TO ARCHITECTURAL DRAWINGS FOR COLOR AND FINISH OF ALL AIR DEVICES.
 - (2) REPAIR, CLEAN AND PAINT EXISTING DIFFUSER AS REQUIRED TO LIKE NEW CONDITION.
 - (3) REPLACE ANY DAMAGED OR INOPERABLE, DAMPERS, DUCTWORK, INSULATION, DUCT OFFSETS, BENDS AND TRANSITIONS, DUCT JOINTS, DUCT AND PIPE HANGERS TO MEET CODE REQUIREMENTS AND A COMPLETE AND FULLY OPERATIONAL SYSTEM.



RECTANGULAR DUCT		ROUND DUCT	
MAX. OF HALF OF DUCT PERIMETER	HANGER STRAP	MAX. LOAD EACH HANGER/LBS.	DIAMETER
P/2 = 30"	1\"/>		

- NOTE:**
1. SEE STRUCTURAL SUBMITTAL PACKAGE FOR CALCULATIONS.

DUCT HANGER WITHOUT BRACING

SCALE NONE 1

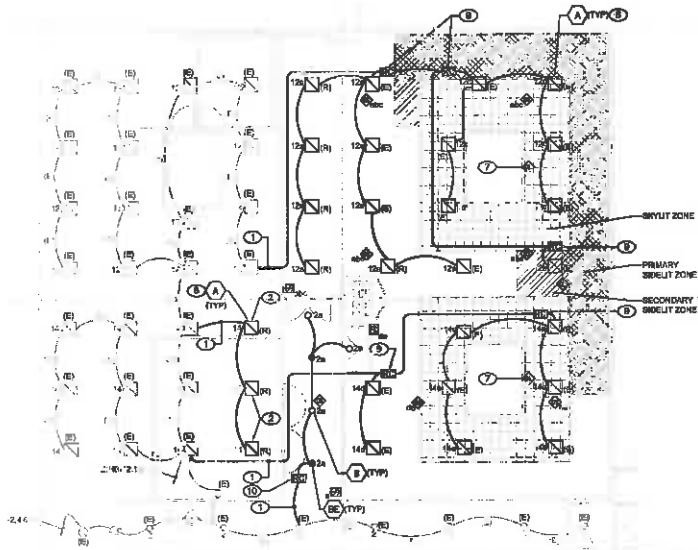


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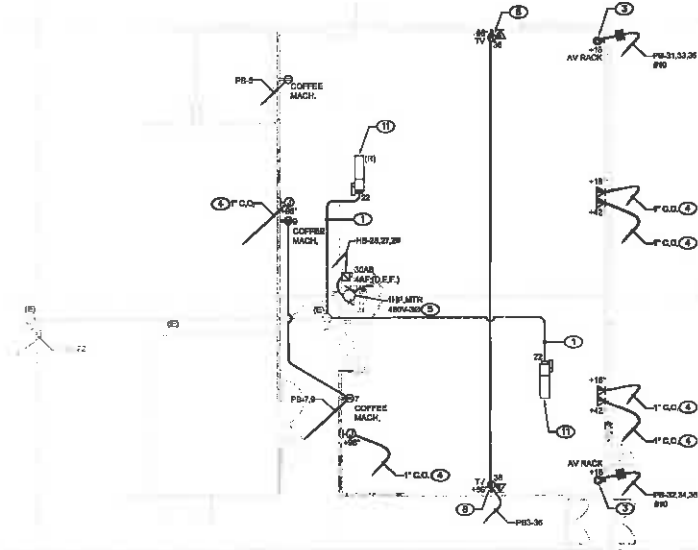
DATE	BY	REVISIONS

MECHANICAL SCHEDULES
INLAND EMPIRE UTILITIES AGENCY
Event Center

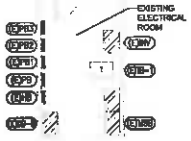
MO.2



01 LIGHTING PLAN
E2.1
Scale: 1/8" = 1'-0"



02 POWER PLAN
E2.1
Scale: 1/8" = 1'-0"



GENERAL NOTES

- CONTRACTOR TO VERIFY SPARE CIRCUITS PRIOR TO INT.
- REFER TO ARCHITECTURAL PLANS FOR ROOM INFORMATION.

KEYNOTES

- INTERCEPT EXISTING CIRCUIT AND EXTEND CONDUIT AND TUBES AS SHOWN ON PLANS.
- NO BRANING REQUIRED. RE-CONNECT, RE-LOCATED FIXTURE TO EXISTING CIRCUIT AS SHOWN AND FOLLOW MIL-STD-LEVEL 167 SEQUENCE IN PLACE.
- 200V-3Ø/4W, 3ØA, THREE-LOCK RECEPTACLE. VERIFY EXACT TYPE WITH A.H. CONSULTANT PRIOR TO ROUGH-IN.
- POINT OF CONNECTION TO BE DETERMINED. VERIFY EXACT LOCATION WITH A.H. CONSULTANT PRIOR TO ROUGH-IN.
- PRIOR TO ROUGH-IN, REFER TO 'MECHANICAL' PLANS FOR EXACT LOCATION OF KEY SWITCHES AND EXACT POWER REQUIREMENTS FOR RETRACTABLE WALL.
- CONTRACTOR TO RE-LAMP AND PROVIDE (0-10V) DIMMING BALLAST TO COMPLY WITH IES REQUIREMENTS.
- VERIFY BEST LOCATION OF DAYLIGHT HARVESTING SENSOR AND PROVIDE SET-POINT SETTINGS PER MANUFACTURER'S RECOMMENDATIONS.
- SWAP SWITCHED RECEPTABLES IN THIS ROOM SHALL BE CONTROLLED WITH RECEPTABLE RELAY. RECEPTABLE RELAY SHALL BE CONNECTED TO ROOM CONTROLLER IN 745 ROOM. REFER TO DETAIL 3/ASL FOR MORE INFORMATION.
- PROVIDE LIGHTING CONTROLS PER DETAIL 4/ASL.
- PROVIDE LIGHTING CONTROLS PER DETAIL 3/ASL.
- VIEW BOX IN CEILING. REFER TO MECHANICAL PLANS FOR EXACT LOCATION AND POWER REQUIREMENTS.



Gilis & Panchippan Architects, Inc.
1800 AVENUE 100, SUITE 1000, CALIFORNIA, CALIFORNIA 94612
TEL: (415) 862-4288 FAX: (415) 862-4288
DATE: 10-2017



BRIDGING DOCUMENTS

DATE	BY	DESCRIPTION

ELECTRICAL PLANS
INLAND EMPIRE UTILITIES AGENCY
Event Center

PB2 VOLTAGE: 270/240 VOLT 3 PHASE 4 WIRE
SUBSTATION: 100 AMP
LOCATION: 1000 W. 1000 N.

LOAD NO.	LOAD NAME	PHASE	WIRE	AMP	TYPE	REMARKS
1	1000 W. 1000 N.	A	1	100	RES	
2	1000 W. 1000 N.	B	2	100	RES	
3	1000 W. 1000 N.	C	3	100	RES	
4	1000 W. 1000 N.	A	4	100	RES	
5	1000 W. 1000 N.	B	5	100	RES	
6	1000 W. 1000 N.	C	6	100	RES	
7	1000 W. 1000 N.	A	7	100	RES	
8	1000 W. 1000 N.	B	8	100	RES	
9	1000 W. 1000 N.	C	9	100	RES	
10	1000 W. 1000 N.	A	10	100	RES	
11	1000 W. 1000 N.	B	11	100	RES	
12	1000 W. 1000 N.	C	12	100	RES	
13	1000 W. 1000 N.	A	13	100	RES	
14	1000 W. 1000 N.	B	14	100	RES	
15	1000 W. 1000 N.	C	15	100	RES	
16	1000 W. 1000 N.	A	16	100	RES	
17	1000 W. 1000 N.	B	17	100	RES	
18	1000 W. 1000 N.	C	18	100	RES	
19	1000 W. 1000 N.	A	19	100	RES	
20	1000 W. 1000 N.	B	20	100	RES	
21	1000 W. 1000 N.	C	21	100	RES	
22	1000 W. 1000 N.	A	22	100	RES	
23	1000 W. 1000 N.	B	23	100	RES	
24	1000 W. 1000 N.	C	24	100	RES	
25	1000 W. 1000 N.	A	25	100	RES	
26	1000 W. 1000 N.	B	26	100	RES	
27	1000 W. 1000 N.	C	27	100	RES	
28	1000 W. 1000 N.	A	28	100	RES	
29	1000 W. 1000 N.	B	29	100	RES	
30	1000 W. 1000 N.	C	30	100	RES	

HB VOLTAGE: 270/240 VOLT 3 PHASE 4 WIRE
SUBSTATION: 100 AMP
LOCATION: 1000 W. 1000 N.

LOAD NO.	LOAD NAME	PHASE	WIRE	AMP	TYPE	REMARKS
1	1000 W. 1000 N.	A	1	100	RES	
2	1000 W. 1000 N.	B	2	100	RES	
3	1000 W. 1000 N.	C	3	100	RES	
4	1000 W. 1000 N.	A	4	100	RES	
5	1000 W. 1000 N.	B	5	100	RES	
6	1000 W. 1000 N.	C	6	100	RES	
7	1000 W. 1000 N.	A	7	100	RES	
8	1000 W. 1000 N.	B	8	100	RES	
9	1000 W. 1000 N.	C	9	100	RES	
10	1000 W. 1000 N.	A	10	100	RES	
11	1000 W. 1000 N.	B	11	100	RES	
12	1000 W. 1000 N.	C	12	100	RES	
13	1000 W. 1000 N.	A	13	100	RES	
14	1000 W. 1000 N.	B	14	100	RES	
15	1000 W. 1000 N.	C	15	100	RES	
16	1000 W. 1000 N.	A	16	100	RES	
17	1000 W. 1000 N.	B	17	100	RES	
18	1000 W. 1000 N.	C	18	100	RES	
19	1000 W. 1000 N.	A	19	100	RES	
20	1000 W. 1000 N.	B	20	100	RES	
21	1000 W. 1000 N.	C	21	100	RES	
22	1000 W. 1000 N.	A	22	100	RES	
23	1000 W. 1000 N.	B	23	100	RES	
24	1000 W. 1000 N.	C	24	100	RES	
25	1000 W. 1000 N.	A	25	100	RES	
26	1000 W. 1000 N.	B	26	100	RES	
27	1000 W. 1000 N.	C	27	100	RES	
28	1000 W. 1000 N.	A	28	100	RES	
29	1000 W. 1000 N.	B	29	100	RES	
30	1000 W. 1000 N.	C	30	100	RES	

PB3 VOLTAGE: 270/240 VOLT 3 PHASE 4 WIRE
SUBSTATION: 100 AMP
LOCATION: 1000 W. 1000 N.

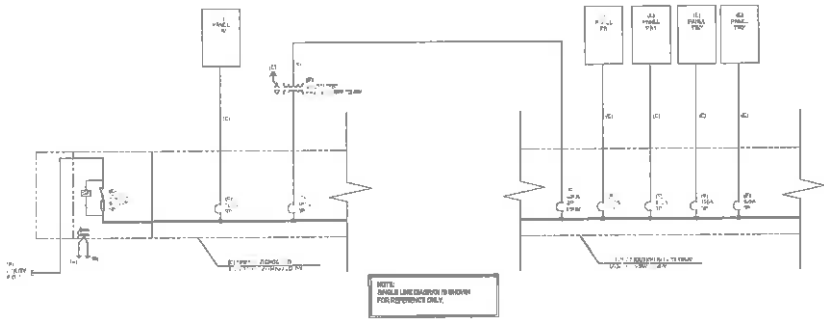
LOAD NO.	LOAD NAME	PHASE	WIRE	AMP	TYPE	REMARKS
1	1000 W. 1000 N.	A	1	100	RES	
2	1000 W. 1000 N.	B	2	100	RES	
3	1000 W. 1000 N.	C	3	100	RES	
4	1000 W. 1000 N.	A	4	100	RES	
5	1000 W. 1000 N.	B	5	100	RES	
6	1000 W. 1000 N.	C	6	100	RES	
7	1000 W. 1000 N.	A	7	100	RES	
8	1000 W. 1000 N.	B	8	100	RES	
9	1000 W. 1000 N.	C	9	100	RES	
10	1000 W. 1000 N.	A	10	100	RES	
11	1000 W. 1000 N.	B	11	100	RES	
12	1000 W. 1000 N.	C	12	100	RES	
13	1000 W. 1000 N.	A	13	100	RES	
14	1000 W. 1000 N.	B	14	100	RES	
15	1000 W. 1000 N.	C	15	100	RES	
16	1000 W. 1000 N.	A	16	100	RES	
17	1000 W. 1000 N.	B	17	100	RES	
18	1000 W. 1000 N.	C	18	100	RES	
19	1000 W. 1000 N.	A	19	100	RES	
20	1000 W. 1000 N.	B	20	100	RES	
21	1000 W. 1000 N.	C	21	100	RES	
22	1000 W. 1000 N.	A	22	100	RES	
23	1000 W. 1000 N.	B	23	100	RES	
24	1000 W. 1000 N.	C	24	100	RES	
25	1000 W. 1000 N.	A	25	100	RES	
26	1000 W. 1000 N.	B	26	100	RES	
27	1000 W. 1000 N.	C	27	100	RES	
28	1000 W. 1000 N.	A	28	100	RES	
29	1000 W. 1000 N.	B	29	100	RES	
30	1000 W. 1000 N.	C	30	100	RES	

PB VOLTAGE: 270/240 VOLT 3 PHASE 4 WIRE
SUBSTATION: 100 AMP
LOCATION: 1000 W. 1000 N.

LOAD NO.	LOAD NAME	PHASE	WIRE	AMP	TYPE	REMARKS
1	1000 W. 1000 N.	A	1	100	RES	
2	1000 W. 1000 N.	B	2	100	RES	
3	1000 W. 1000 N.	C	3	100	RES	
4	1000 W. 1000 N.	A	4	100	RES	
5	1000 W. 1000 N.	B	5	100	RES	
6	1000 W. 1000 N.	C	6	100	RES	
7	1000 W. 1000 N.	A	7	100	RES	
8	1000 W. 1000 N.	B	8	100	RES	
9	1000 W. 1000 N.	C	9	100	RES	
10	1000 W. 1000 N.	A	10	100	RES	
11	1000 W. 1000 N.	B	11	100	RES	
12	1000 W. 1000 N.	C	12	100	RES	
13	1000 W. 1000 N.	A	13	100	RES	
14	1000 W. 1000 N.	B	14	100	RES	
15	1000 W. 1000 N.	C	15	100	RES	
16	1000 W. 1000 N.	A	16	100	RES	
17	1000 W. 1000 N.	B	17	100	RES	
18	1000 W. 1000 N.	C	18	100	RES	
19	1000 W. 1000 N.	A	19	100	RES	
20	1000 W. 1000 N.	B	20	100	RES	
21	1000 W. 1000 N.	C	21	100	RES	
22	1000 W. 1000 N.	A	22	100	RES	
23	1000 W. 1000 N.	B	23	100	RES	
24	1000 W. 1000 N.	C	24	100	RES	
25	1000 W. 1000 N.	A	25	100	RES	
26	1000 W. 1000 N.	B	26	100	RES	
27	1000 W. 1000 N.	C	27	100	RES	
28	1000 W. 1000 N.	A	28	100	RES	
29	1000 W. 1000 N.	B	29	100	RES	
30	1000 W. 1000 N.	C	30	100	RES	

PB1 VOLTAGE: 270/240 VOLT 3 PHASE 4 WIRE
SUBSTATION: 100 AMP
LOCATION: 1000 W. 1000 N.

LOAD NO.	LOAD NAME	PHASE	WIRE	AMP	TYPE	REMARKS
1	1000 W. 1000 N.	A	1	100	RES	
2	1000 W. 1000 N.	B	2	100	RES	
3	1000 W. 1000 N.	C	3	100	RES	
4	1000 W. 1000 N.	A	4	100	RES	
5	1000 W. 1000 N.	B	5	100	RES	
6	1000 W. 1000 N.	C	6	100	RES	
7	1000 W. 1000 N.	A	7	100	RES	
8	1000 W. 1000 N.	B	8	100	RES	
9	1000 W. 1000 N.	C	9	100	RES	
10	1000 W. 1000 N.	A	10	100	RES	
11	1000 W. 1000 N.	B	11	100	RES	
12	1000 W. 1000 N.	C	12	100	RES	
13	1000 W. 1000 N.	A	13	100	RES	
14	1000 W. 1000 N.	B	14	100	RES	
15	1000 W. 1000 N.	C	15	100	RES	
16	1000 W. 1000 N.	A	16	100	RES	
17	1000 W. 1000 N.	B	17	100	RES	
18	1000 W. 1000 N.	C	18	100	RES	
19	1000 W. 1000 N.	A	19	100	RES	
20	1000 W. 1000 N.	B	20	100	RES	
21	1000 W. 1000 N.	C	21	100	RES	
22	1000 W. 1000 N.	A	22	100	RES	
23	1000 W. 1000 N.	B	23	100	RES	
24	1000 W. 1000 N.	C	24	100	RES	
25	1000 W. 1000 N.	A	25	100	RES	
26	1000 W. 1000 N.	B	26	100	RES	
27	1000 W. 1000 N.	C	27	100	RES	
28	1000 W. 1000 N.	A	28	100	RES	
29	1000 W. 1000 N.	B	29	100	RES	
30	1000 W. 1000 N.	C	30	100	RES	



GENERAL NOTES
1. CONSULT TO VERIFY SPARE CIRCUIT FROM TO BE.

02 PANEL SCHEDULES
Scale: NOT TO SCALE

01 SINGLE LINE DIAGRAM
Scale: NOT TO SCALE

PANEL SCHEDULE INDEX:

PB2	HB
PB3	PB
	PB1



Gilis + Panichar Architects, Inc.
2400 BOSTON STREET, COSTA MESA, CALIFORNIA 92626
PHONE: (714) 835-8885 FAX: (714) 835-8885

REGISTERED ELECTRICAL ENGINEER
GILIS + PANICHAR ARCHITECTS, INC.
2400 BOSTON STREET, COSTA MESA, CALIFORNIA 92626
PHONE: (714) 835-8885 FAX: (714) 835-8885

BRIDGING DOCUMENTS

DATE: 05/14/2014	DATE: 05/14/2014
BY: [Signature]	BY: [Signature]
CHECKED: [Signature]	CHECKED: [Signature]
DATE: 05/14/2014	DATE: 05/14/2014
BY: [Signature]	BY: [Signature]

SINGLE LINE DIAGRAM AND PANEL SCHEDULES
INLAND EMPIRE UTILITIES AGENCY
Event Center



GPC
 Gills + Parichapan Architects, Inc.
 1000 W. BELT ROAD, SUITE 1000, BALTIMORE, MD 21286
 TEL: (410) 528-8888 FAX: (410) 528-8889

The Applicant shall be the contractor responsible for the installation, maintenance and repair of the equipment and shall be responsible for any and all damage to the equipment and any other property caused by the equipment.

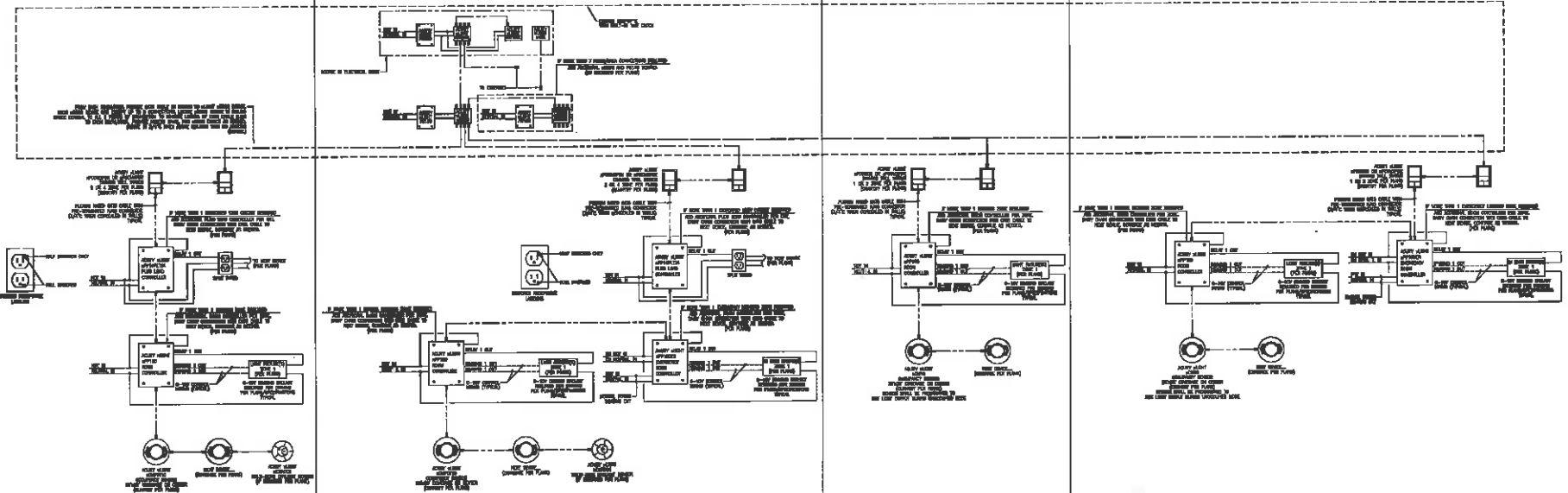


BRIDGING DOCUMENTS

DATE	DESCRIPTION
08/11/2014	ISSUED FOR PERMIT
08/11/2014	ISSUED FOR PERMIT
08/11/2014	ISSUED FOR PERMIT

LIGHTING CONTROL DETAILS
 INLAND EMPIRE UTILITIES AGENCY
 Event Center

E6.1



4 ALL OTHER NO EMERGENCY
 E6.1 Scale: NOT TO SCALE

3 ALL OTHER W/ EMERGENCY INVERTER
 E6.1 Scale: NOT TO SCALE

2 CORRIDOR NO EMERGENCY
 E6.1 Scale: NOT TO SCALE

1 CORRIDOR W/ EMERGENCY INVERTER
 E6.1 Scale: NOT TO SCALE

NOTE: REFER TO ALL MANUFACTURER'S INSTALLATION INSTRUCTIONS FOR CORRECT WIRING INFORMATION. THIS DIAGRAM INDICATES FUNCTIONAL INTENT, PROVIDE ALL PARTS AND ACCESSORIES PER MANUFACTURER FOR A COMPLETE INSTALLATION. LOCATE OCCUPANCY SENSORS AND DAY LIGHT SENSORS PER MANUFACTURER'S RECOMMENDATIONS. NOT ALL DEVICES SHOWN IN THIS DETAIL MAY BE USED. REFER TO THE FLOOR PLANS FOR DEVICES USED AND QUANTITY.

**EXHIBIT F
PROJECT SCHEDULE**

PROJECT SCHEDULE

<u>Milestone (Activity)</u>	<u>Completion Date</u>
Project Advertisement	September 13, 2016
Project Job Walk	September 27, 2016
Proposal Closing	October 13, 2016
Board Approval	November 16, 2016
Pre-Design Meeting	November 29, 2016
Design Completion	March 31, 2017
Pre-Construction Meeting	April 7, 2017
Construction Complete	January 22, 2018

**EXHIBIT G
PHOTOS**

CONFERENCE ROOM PHOTOS
EXISTING BOARD ROOM PHOTOS



Figure 1: Board Room Looking West



Figure 2: Board Member Audio Visual



Figure 3: Speaker Podium

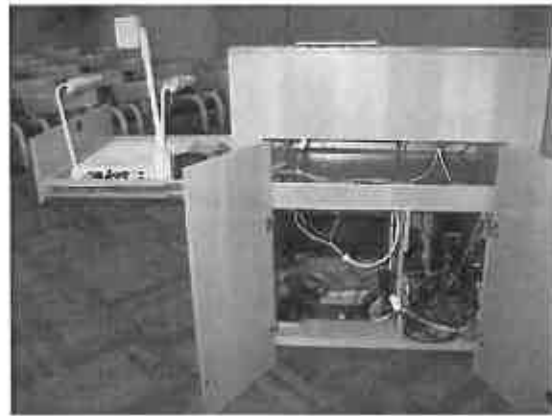


Figure 4: Speaker Podium (2)



Figure 5: Audio Visual Control Station



Figure 6: Audio Visual Control Station (2)



Figure 7: Audio Equipment



Figure 8: Projector

EXISTING EVENT CENTER PHOTOS



Figure 1: Event Center Looking South West



Figure 2: Event Center Looking North West



Figure 3: Projector Audio Speakers in Background



Figure 4: Projector and Screen



Figure 5: Audio and Visual Control



Figure 6: Speaker Podium

EXISTING ANZA CONFERNECE ROOM PHOTOS



Figure 1: Anza Conference Room Looking East

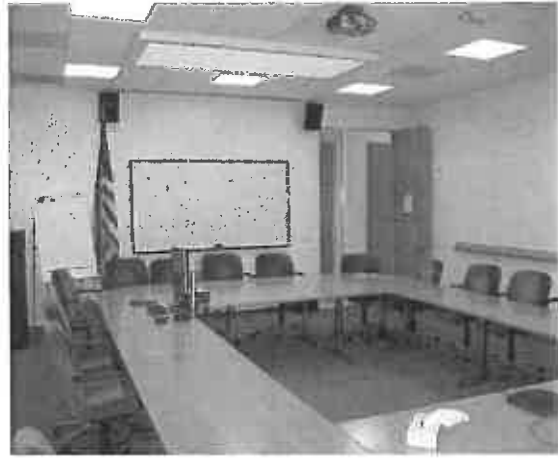


Figure 2: Anza Conference Room Looking West with Projector and Audio Speakers



Figure 3: Audio and Visual Control



Figure 4: Audio and Visual Control (2)

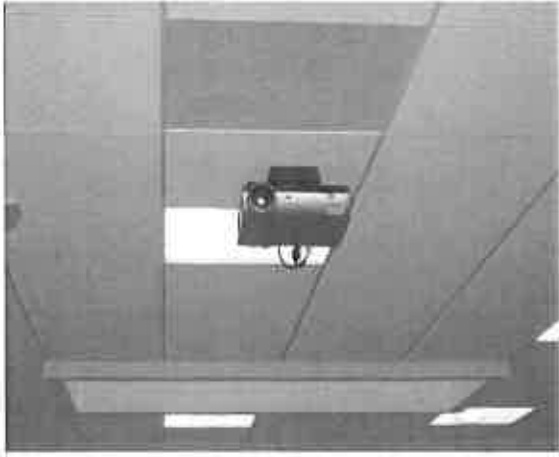


Figure 5: Projector



Figure 6: Audio Phone System

EXISTING RAINES CONFERENCE ROOM PHOTOS



Figure 1: Raines Conference Room Looking North



Figure 2: Raines Conference Room Looking South



Figure 3: Visual Display



Figure 4: Audio and Visual Control

EXISTING BARTON CONFERENCE ROOM PHOTOS



Figure 1: Barton Conference Room Looking North



Figure 2: Barton Conference Room Looking South



Figure 3: Visual Display



Figure 4: Visual Display with Audio and Visual controller

EXISTING PRADO CONFERENCE ROOM PHOTOS



Figure 1: Prado Conference Room Looking South East With Audio and Visual Controller

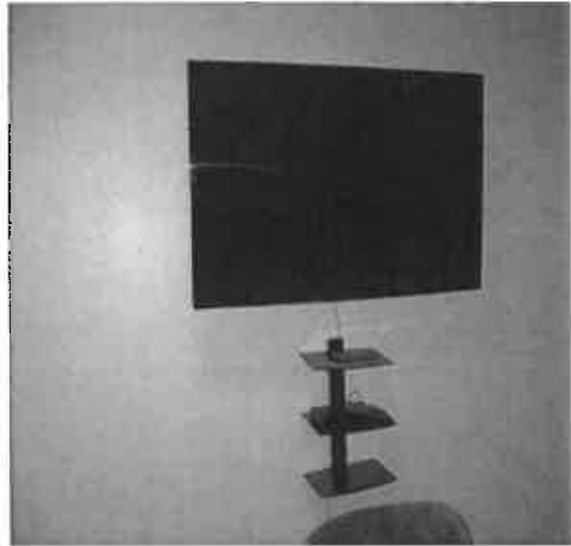


Figure 2: Visual Equipment

EXISTING GUASTI CONFERENCE ROOM PHOTOS



Figure 1: Guasti Conference Room Looking East with Audio and Visual Controller

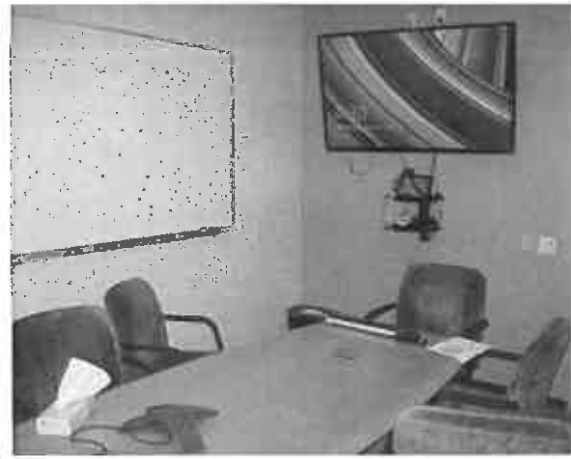


Figure 2: Guasti Conference Room Looking West with Visual Equipment

EXISTING BASIN CONFERENCE ROOM PHOTOS

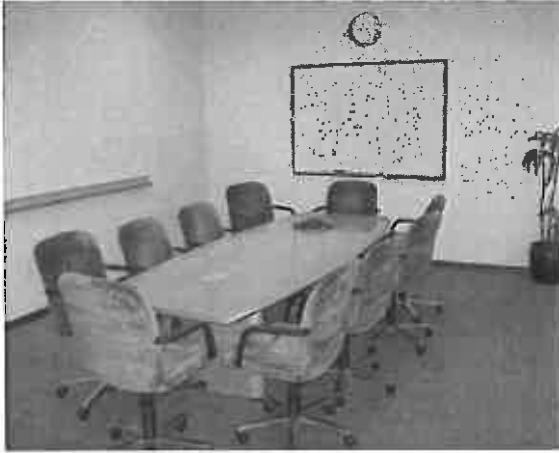


Figure 1: Basin Conference Room Looking West



Figure 2: Basin Conference Room Looking East with Audio and Visual Equipment

EXISTING CHAFFEY CONFERENCE ROOM PHOTOS



Figure 1: Chaffey Conference Room Looking East



Figure 2: Chaffey Conference Room Looking West



Figure 3: Audio and Visual Control



Figure 4: Visual Display

EXISTING YORBA CONFERENCE ROOM PHOTOS



Figure 1: Yorba Conference Room Looking North



Figure 2: Yorba Conference Room Looking South with Visual and Audio Equipment

EXISTING ADOBE CONFERENCE ROOM PHOTOS



Figure 1: Adobe Conference Room Looking North East



Figure 2: Adobe Conference Room Looking South West

ADDENDUM NO. 1

**REQUEST FOR PROPOSALS FOR
DESIGN-BUILD SERVICES FOR
HEADQUARTERS AUDIOVISUAL UPGRADES
PROJECT NO. EN16049
RFP-RW-16-024b**

September 19, 2016

To: All RFP Holders


The following changes, clarifications and additions are hereby made to the document:

REQUEST FOR PROPOSALS


1. Reference: Section 1. Submittal Information, Subsection G. Inquiries

Add:

"All questions must be received in writing by October 5, 2016. Answers to these questions will be sent to all prospective Consultants. No answers will be given on an individual basis."



Shaun Stone, P.E.
Manager of Engineering




Jesse Pompa, P.E.
Project Manager

Please address all correspondence to:

Jesse Pompa, P.E.
Project Manager
Fax: (909) 993-1982
jpompa@ieua.org (preferred)

Please sign, date and email/fax a signed copy showing you received this Addendum No. 1

Signature:  Date: 10-13-16
Name of Company: NEW MILLENNIUM CONSTRUCTION SERVICES

ADDENDUM NO. 2

**REQUEST FOR PROPOSALS FOR
DESIGN-BUILD SERVICES FOR HEADQUARTERS
AUDIOVISUAL UPGRADES
PROJECT NO. EN16049
RFP-RW-16-024b**

September 29, 2016

To: All RFP Holders

The following changes, clarifications and additions are hereby made to the document:

REQUEST FOR PROPOSALS

1. Reference: Section 2(B) – Insurance and Bonding

Add additional language to section as follows:

“Separate bonds may be provided by main contractor and subcontractor. The engineer’s estimate was calculated assuming the following cost breakdown for project components:

Engineer’s Estimate for Audiovisual Equipment and Installation – \$545,000
Engineer’s Estimate for Architectural Modifications = \$350,000

The audiovisual integrator may provide bonding for work specific to audiovisual equipment and installation, and general contractor may provide bonding for work specific to the architectural modifications.”

2. Reference: Exhibit C, Section 2.4 – Master Quote Information

Revise language to the following:

“Refer to current version of Draper Inc. master quote #525028 for specific project pricing on screen and rear projection system.

All other pricing will require direct contact with equipment vendor or manufacturer.”

3. Reference: Exhibit C, Signal Drawing AV503 – Event Conference Room

Remove two 90” flat panel televisions and associated DM receivers from project scope.

4. Reference: Exhibit D, Sheet A-2.1

Projector room dimensions are drawn to scale.

5. Reference: Exhibit E, Sheet T-1, “Bridging Documents” Section

Modifications to the fire suppression system may be required as noted in Item B(5).

6. Reference: Exhibit E, Sheet T-1, "Code Analysis" Section

New corridor will be rated for 1-hour separation as noted.

7. Reference: Material List

Requested audiovisual equipment is listed within the specifications and signal drawings. No further compilation or material list will be provided during the bid period.


Shaun Stone, P.E.
Manager of Engineering


Jesse Pompa, P.E.
Project Manager

Please address all correspondence to:

Jesse Pompa, P.E.
Project Manager
Fax: (909) 993-1982
jpompa@jeuu.org (preferred)

Please sign, date and email/fax a signed copy showing you received this Addendum No. 1

Signature:  Date: 10-13-16
Name of Company: NEW MILLENNIUM CONSTRUCTION SERVICES

ADDENDUM NO. 3

**REQUEST FOR PROPOSALS FOR
DESIGN-BUILD SERVICES FOR HEADQUARTERS
AUDIOVISUAL UPGRADES
PROJECT NO. EN16049
RFP-RW-16-024b**

October 6, 2016

To: All RFP Holders

The following changes, clarifications and additions are hereby made to the document:

REQUEST FOR PROPOSALS

1. Reference: Exhibit A, Section 3, Order of Precedence

Revise language to:

"Where any conflicts exist between the General Terms and Conditions, or addenda attached, then the governing order of precedence shall be as follows:

1. Permits issued by the jurisdictional regulatory agencies;
2. Change Orders/Task Orders/Supplemental Agreements, whichever occurs last;
3. Amendments to the Master Services Contract;
4. Contractors with Agreements with IEUA for Minor Construction, Maintenance and Emergency Construction Services, with the Agreement taking precedence above the below items;
5. This Contract/Agreement;
6. Amendments/Clarifications to this Contract;
7. The Bid/Proposal for this Contract;
8. Request for Deviation;
9. Special Provisions/Technical Specifications;
10. 2015 Edition of the Standard Specifications for Public Works Construction (SSPWC)-Green Book, or most recent addition;
11. Plans;
12. Standard Plans;
13. Reference Specifications; and
14. Photos.

2. Reference: Exhibit C, Section 2.5(A)(6)

Revise language to:

"Auxiliary connections at the podium surface will facilitate the connection of OFE portable laptop computers using HDMI and VGA outputs, per Signal Drawing AV501A."

3. Reference: Exhibit C, Section 2.5(A)(12)

Add language:

"If speaker cabling is still viable and zoning from the existing cabling complies, the existing speaker cable may be re-used along with the existing speakers."

4. Reference: Exhibit C, Section 2.5(A)(14)

Add language:

"AV rack may be located in the same position as existing rack, requiring demolition work to take place first. Alternatively, the new AV rack may be placed adjacent to the existing rack with cable slack to re-position when ready."

5. Reference: Exhibit C, Section 2.5(A)(14)

Add language:

"No ladder rack will be required for the new AV cabinets. Cabling can be dressed for aesthetics along the wall via new D-rings or cable saddles."

6. Reference: Exhibit C, Section 2.5(A)(15)(j)

Add language:

"No re-zoning of lights is required."

7. Reference: Exhibit C, Section 2.5(A)

Floor box and feeds to the dais will be accessible and re-usable once legacy/unused cabling is removed by AV contractor.

8. Reference: Exhibit C, Section 2.5(A)

Board Room will be non-operational throughout the duration of the construction process. Modifications to the Board Room will be strategically planned to minimize downtime, but standard contractor working hours will apply.

9. Reference: Exhibit C, Section 2.5(B)(5)

Add language:

"Da-Lite Model No. 25940 (53" x 85" with 24" wide pen tray) to be furnished and installed by contractor. Wall mount kit included with projector to be used for installation."

10. Reference: Exhibit G - Photos

Add photos of the RP-1 Lunch/Conference Room and Wetland Interpretive Center:

EXISTING RP-1 LUNCH/CONFERENCE ROOM PHOTOS



Figure 1: Lunch Room Looking South East



Figure 2: Kitchenette Looking North East

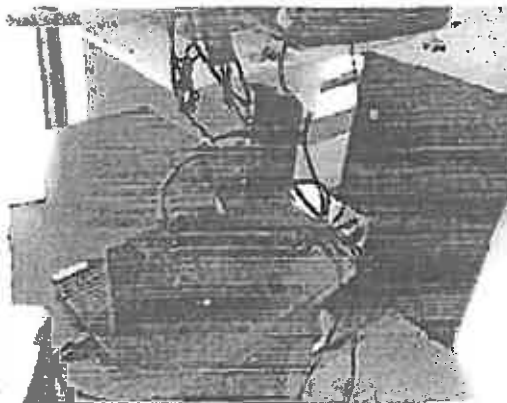


Figure 3: A/V Equipment

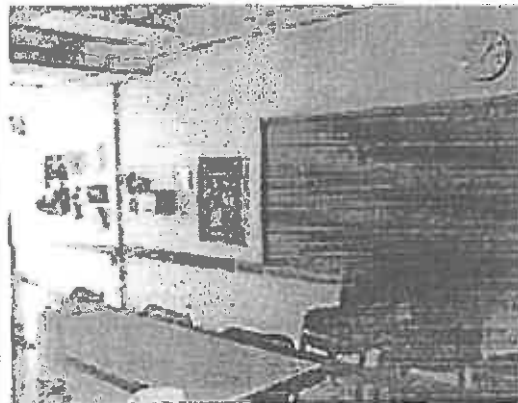


Figure 4: Side Wall Looking South West

EXISTING WETLANDS INTERPRETIVE CENTER PHOTOS

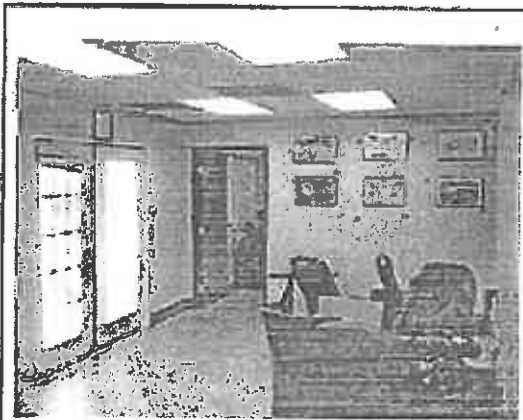


Figure 1: Interpretive Center Lobby Looking East



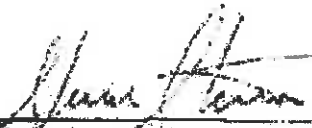
Figure 2: Office Space Looking South East




Figure 3: Office Space Looking South West

11. Reference; Storage Location

No location will be provided for contractor onsite storage due to current space restrictions and liability concerns.


Shawn Stone, P.E.
Manager of Engineering


Jesse Pompa, P.E.
Project Manager

Please address all correspondence to:

Jesse Pompa, P.E.
Project Manager
Fax: (909) 993-1982
jpompa@ieuu.org (preferred)

Please sign, date and email/fax a signed copy showing you received this Addendum No. 1

Signature:  Date: 10-13-16

Name of Company: NEW MILLENNIUM CONSTRUCTION SERVICES

ADDENDUM NO. 4

**REQUEST FOR PROPOSALS FOR
DESIGN-BUILD SERVICES FOR HEADQUARTERS
AUDIOVISUAL UPGRADES
PROJECT NO. EN16049
RFP-RW-16-024b**

October 10, 2016

To: All RFP Holders

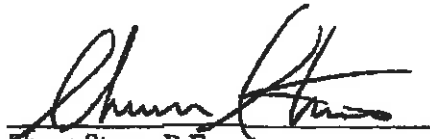
The following changes, clarifications and additions are hereby made to the document:

REQUEST FOR PROPOSALS

1. Reference: Section 1(I), Proposal Submittal

Revise language to:

"Bidders shall complete and return one (1) original and seven (7) copies of their proposal."


Shaun Stone, P.E.
Manager of Engineering


Jesse Pompa, P.E.
Project Manager

Please address all correspondence to:

Jesse Pompa, P.E.
Project Manager
Fax: (909) 993-1982
jpompa@leua.org (preferred)

Please sign, date and email/fax a signed copy showing you received this Addendum No. 1


Signature:  Date: 10-13-16
Name of Company: NEW MILLIARDIUM CONSTRUCTION SERVICES

Exhibit B

New Millennium
Construction Services



Lee Kemble
Chino Hills, CA 91709
951-897-1821 Cell

"Wayne-Dalton and Genie Specialist"
newmillenniumconstruction@yahoo.com
Ph/Fax: (909) 597-0220 #849024 B, D-28

JEUA
COPY

A. PRC
mate
costs
the :

"Headquarters Audiovisual Upgrades Design/Build" as described in the specifications, contract documents, drawings, pictures and/or RFP.

ish all labor, equipment, apparatus,
awings, overhead, profit, mobilization
design, install or perform work under
ons, and permits complete, for the

The Bidder declares that the cost for labor, materials, equipment and incidentals necessary for sheeting, shoring, bracing and other excavation supports required by the Labor Code of the State of California, the Construction Safety Orders of the Division of Industrial Safety of the State of California, and the California Occupational Safety and Health Act of 1973, is included in the total lump sum bid.

Only lump sum bids will be accepted.

Total Bid Price: \$ 831,890⁰⁰ dollars

(in numeric figures)
Total Bid Price: Eight Hundred thirty one thousand eight hundred ninety dollars
(written in words)

Lead-time for material prior to project completion
in calendar days after receipt of order:

4-8 week lead-time for materials

[Signature]

Bidder's Signature

LEE KEMBLE

Print Name

PRARIDWT

Title

NEW MILLENNIUM CONSTRUCTION SERVICES

Company Name

849024 B

Contractor's License Number & Type

10-13-16

Date

(951) 897-1821

Bidder's Phone Number

4158 LUGO AVE

CHINO HILLS, CA

91709

Bidder's Business Address

Exhibit C

Bond Number _____

PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS, THAT, WHEREAS, the Inland Empire Utilities Agency, a Municipal Water District, hereinafter designated as the "Agency," has, on _____
_____20____, awarded to _____, hereinafter
designated as the "Principal," the Contract for the construction of:

RP-1 Outdoor Light Pole/Fixture Replacement, Project No. EN11040.00

WHEREAS, said Principal is required under the terms of said Contract to furnish a bond for the faithful performance of said Contract:

NOW, THEREFORE, WE, the Principal, and _____, as Surety, are held and firmly bound unto the Agency the penal sum of _____
dollars (\$_____) lawful money of the United States, for the payment of which sum will and truly be made, we bind ourselves, our heirs, executors, administrators, and successors, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH, that if the above bounden Principal, or its heirs, executors, administrators, successors, or assigns, shall in all things stand to and abide by, and will and truly keep and faithfully perform the covenants, conditions, and agreements in the said Contract and any alterations made as therein provided, on its or their part, to be kept and performed at the time and in the manner therein specified, and in all respects according to their true intent and meaning, and shall indemnify and save harmless, Agency and engineer, their officers, agents, and employees as therein stipulated, then this obligation shall become null and void; otherwise it shall be and remain in full force and virtue and Principal and Surety, in the event suit is brought on this bond, will pay to Agency such reasonable attorney's fees as shall be fixed by the court.

As a condition precedent to the satisfactory completion of the said Contract, the above obligation in the said amount shall hold good for a period of one (1) year after the completion and acceptance of said Contract, during which time if the above bounden Principal, its heirs, executors, administrators, successors, or assigns shall fail to make full, complete, and satisfactory repair and replacements or totally protect said Agency from loss or damage made evident during said period of one year from the date of acceptance of the work under said Contract, and resulting from or caused by defective materials or faulty workmanship in the execution of the work done, the above obligation in the said amount shall remain in full force and effect. However, anything in this paragraph to the contrary notwithstanding, the obligation of the Surety hereunder shall continue so long as any obligation of the Principal remains.

Bond Number _____

SECOND PAGE OF PERFORMANCE BOND

Said Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration, or addition to the terms of the Contract or to the work to be performed there under or the specifications accompanying the same shall, in any way, affect its obligations on this bond, and it does hereby waive notice of any such change, extension of time, alteration, or addition to the terms of the Contract or to the work or to the specifications. Said Surety hereby waives the provisions of Sections 2819 and 2845 of the Civil Code of the State of California.

As a part of the obligation secured hereby and in addition to the amount specified therefore, there shall be included costs and reasonable expenses and fees, including reasonable attorney's fees, incurred by Agency in successfully enforcing such obligation, all to be taxed as costs and included in any judgment rendered.

IN WITNESS WHEREOF, the above bounden parties have executed this instrument under their seals this _____ day of _____, 20____, the name and corporate seal of each corporate party being hereto affixed and these presents duly signed by its undersigned representative, pursuant to authority of its governing body.

Principal (print name)

Signature for Principal

(Corporate Seal)

Bond Number _____

THIRD PAGE OF PERFORMANCE BOND

Surety (print name)

Signature for Surety

(Surety Seal)

Surety address

**ATTACH POWER-OF-ATTORNEY AND NOTARIAL ACKNOWLEDGEMENT OF SURETY
BELOW**

Bond Number _____

PAYMENT BOND

KNOW ALL MEN BY THESE PRESENTS, THAT, WHEREAS, the Inland Empire Utilities Agency, hereinafter designated as the "Agency", has, on _____, 20____, awarded to _____, hereinafter designated as the "Principal," a Contract for the construction of:

RP-1Outdoor Light Pole/Fixture Replacement, Project No. EN11040.00

WHEREAS, said Principal is required under the terms of said Contract to furnish a payment bond providing that if said Principal, or any of their subcontractors, shall fail to pay for any materials, provisions, or other supplies used in, upon, for, or about the performance of the work under said Contract, or for any work or labor done thereon of any kind, the Surety of this bond will pay the same to the extent hereinafter set forth:

NOW, THEREFORE, WE, the Principal, and _____, as Surety, are held and firmly bound unto the Agency the penal sum of _____ dollars (\$_____) lawful money of the United States, for the payment of which sum will and truly be made, we bind ourselves, our heirs, executors, administrators, and successors, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH, that if the above bounden Principal, or its heirs, executors, administrators, successors, or assigns, shall fail to pay any person specified in California Civil Code Section 3181, or for any materials, provisions, or other supplies used in, upon, for, or about the performance of the work under said Contract, or for any work or labor thereon of any kind or for amount due under the Unemployment Insurance Code with respect to work or labor performed under said Contract, or for any amounts due, or to be withheld pursuant to Sections 18806 of the Revenue and Taxation Code of the State of California, or with respect to any work or labor for which a bond is required by the provisions of Sections 3247 through 3252 of the California Civil Code, and provided that the persons, companies, or corporations so furnishing said materials, provisions, or other supplies, appliances, or power use, in, upon, for, or about the performance of the work under said Contract, or any person who performs work or labor upon same, or any person who supplies both work and materials, thereto, shall have complied with the provisions of said Civil Code, then said surety will pay the same in or to an amount not exceeding the amount herein before set forth, and also will pay in case suit is brought upon this bond, such reasonable attorney's fees to Agency as shall be fixed by the court.

Bond Number _____

SECOND PAGE OF PAYMENT BOND

This bond shall inure to the benefit of Agency and any and all persons, companies, and corporations and their respective assigns entitled to file claims under applicable State law, including but not limited to, California Civil Code Section 3181, so as to give a right of action to them or their assigns in any suit brought upon this bond.

Said Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration, or addition to the terms of said Contract or to the work to be performed there under or the specifications accompanying the same shall, in any way, affect its obligations on this bond, and it does hereby waive notice of any such change, extension of time, alteration, or addition to the terms of the Contract or to the work or to the specifications. Said Surety hereby waives the provisions of Sections 2819 and 2845 of the Civil Code of the State of California.

As a part of the obligation secured hereby and in addition to the amount specified therefore, there shall be included costs and reasonable expenses and fees, including reasonable attorney's fees, incurred by Agency in successfully enforcing such obligation, all to be taxed as costs and included in any judgment rendered.

IN WITNESS WHEREOF, the above bounden parties have executed this instrument under their seals this _____ day of _____, 20_____, the name and corporate seal of each corporate party being hereto affixed and these presents duly signed by its undersigned representative, pursuant to authority of its governing body.

Principal (print name)

Signature for Principal

(Corporate Seal)

Bond Number _____

THIRD PAGE OF PAYMENT BOND

Surety (print name)

Signature for Surety

(Surety Seal)

Surety address

**ATTACH POWER-OF-ATTORNEY AND NOTARIAL ACKNOWLEDGEMENT OF SURETY
BELOW**

WAIVER/RELEASE OF LIABILITY

I, the undersigned, on behalf of _____(hereinafter called Firm) fully understand that the storage or leaving of _____ at the Agency's facility, located at RP-1 in the City of Ontario, California, during the period of _____ to _____ exposes Firm to the risk of, but not limited to, theft, fire damage, vandalism, water damage, wind damage, and possible personal injury to Firm's employees. For the privilege of storing/leaving _____ at said location, Firm agrees to assume any and all such risk.

In consideration of being able to store/leave said item(s) at said location, Firm hereby releases, agrees not to sue, or bring any action against, the Inland Empire Utilities Agency, its officers, employees, agents, representatives, and volunteers for any and all liability, claims, or actions for injury or death to Firm's employees, or damage or theft of said property arising out of or in connection with the storage or leaving of said item(s) for whatever cause, including the active or passive negligence of the Inland Empire Utilities Agency, its officers, employees, agents, representatives, and volunteers.

I have carefully read this Waiver/Release of Liability and covenant not to sue, and fully understand its contents, and the possible exposures that Firm is agreeing to assume. I am aware that this Waiver/Release of Liability is a full release of any and all liability. I am signing such as the authorized agent of Firm, and of my own free will.

Name of Firm

By: _____
Representative's signature

Date

Print Name

Title

Approved: _____
Department Manager of Engineering
signature

Date

Distribution: Department Manager of Engineering, Construction Manager; Construction Project Manager; Supervisor; Risk Manager; Contractor, Subcontractor, Supplier, or Repair Person

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**ACTION
ITEM**

3A

Date: November 16, 2016

To: The Honorable Board of Directors

Through: Finance, Legal and Administration Committee (11/9/16)

From: P. Joseph Grindstaff
General Manager

Chris Berch
Executive Manager of Engineering/Assistant General Manager

Submitted by: Sylvie Lee
Manager of Planning & Environmental Resources

Subject: SARCCUP FY 2017 Budget

RECOMMENDATION

It is recommended that the Board of Directors:

1. Adopt the PA 22 and PA 23 Committee Budgets for Fiscal Year Ending (FYE) 2017 for the SARCCUP; and,
2. Authorize the General Manager to execute the requisite documents.

BACKGROUND

Project Agreement 23 (PA 23) was established by the Santa Ana Watershed Project Authority (SAWPA) member agencies to govern water banking elements of the Santa Ana River Conservation and Conjunctive Use Program (SARCCUP). Parties to PA 23 are SAWPA and its five member agencies. PA 23 established a committee, with each member agency having one representative on the committee. Through SARCCUP, the PA 23 parties desire to improve storage and dry year yield resiliency of the watershed by conjunctive operation of its groundwater basins with available imported water. The PA 23 Committee will implement measures pursuant to a \$55-million Proposition 84 grant, and may implement other measures consistent with the purpose of SARCCUP.

On September 22, 2016, the SAWPA PA 23 Committee approved the FYE 2017 Budget. This budget provides a framework for Committee activities to address the SARCCUP. Before expenditures can be approved by the Committee, the budget must be adopted by each of respective boards of the five PA 23 member agencies, of which IEUA is a member. Although the IEUA Board of Directors as part of its annual budget already approved the FY budget for this project, the PA 23 Committee further requires formal adoption by the Board of the FYE PA 22 and PA 23 budgets.

The PA 23 Budget for FYE 2017 is \$6.1M with anticipated grant proceeds of \$3.3M grants. The cost share for the FYE 2017 would be as follows amongst the five member agencies:

Local Cost Share: \$2.8M (or \$560K/ agency)
IEUA Cost Share (\$1.2M Total, \$560K w/ grants)

IEUA's Budget: WR16024 Water Resources (WW) Fund
 Total Project Budget: \$19.7 M
 FYE 2017 Budget: \$1.9 M

The SARCCUP FYE 2017 budget adoption for the PA 22 and PA 23 is consistent with the Agency's Business Goal of increasing *Water Reliability* by meeting the region's need to develop reliable, drought-proof and diverse local water resources in order to reduce dependence on imported water supplies.

PRIOR BOARD ACTION

On September 21, 2016, the IEUA Board of Directors approved the appointment of IEUA's Santa Ana Watershed Project Authority (SAWPA) Commissioner to serve as the alternate committee member to the PA 23 Committee.

On June 15, 2016, the IEUA Board of Directors approved the formation of PA 23 and the appointment of the IEUA General Manager as the agency's representative to the committee.

IMPACT ON BUDGET

The adopted budget is consistent with IEUA's FY 2016/17 budget for the SARCCUP Project WR16024 in the Water Resources (WW) Fund.

Attachments: PA 23 Committee Budget Memo
 PA 22 and PA 23 FYE 2017 Budget Attachments

SARCCUP FY 2017 Budget



Inland Empire Utilities Agency

A MUNICIPAL WATER DISTRICT

Sylvie Lee

IEUA Board of Directors Meeting
November 2016

SARCCUP FY 2017 Budget

- Santa Ana Watershed Project Authority (SAWPA) established Project Agreement 23 (PA 23) to govern Santa Ana River Conservation & Conjunctive Use Program (SARCCUP)
- PA 23 Parties: SAWPA and its 5 member agencies
- Parties desire to improve storage and dry year yield resiliency
- Total Project Cost: \$110 M
- \$55M Prop 84 grant

SARCCUP FY 2017 Budget

- June 15, 2016: IEUA Board approved PA 23 Agreement
- Sept 22, 2016: PA 23 approved FYE 2017 budget
- PA 23 Budget: (FYE 2017)
 - \$6.1 M Total (\$3.3M grants)
 - Local Cost Share: \$2.8M (or \$560K/agency)
 - IEUA Cost Share (\$1.2M Total, \$560K w/ grants)
- IEUA's Budget:
 - WR16024 Water Resources (WW) Fund
 - Total Project Budget: \$19.7 M
 - FYE 2017 Budget: \$1.9 M
- Budget required to be adopted by boards of member agencies

Recommendation

It is recommended that the Board of Directors:

- Adopt the PA 22 and PA 23 Budgets for Fiscal Year Ending 2017; and,
- Authorize the General Manager to execute the requisite documents.

The SARCCUP FYE 2017 budget adoption for PA23 is consistent with the **Agency's Business Goal of increasing Water Reliability** by meeting the region's need to develop reliable, drought-proof and diverse local water resources in order to reduce dependence on imported water supplies.

PA 23 COMMITTEE MEMORANDUM NO. 2016.6

DATE: September 22, 2016
TO: SAWPA Project Agreement 23 Committee
SUBJECT: Project Agreement 23 Committee Budget for Fiscal Year Ending 2017
PREPARED BY: Ian Achimore, Senior Watershed Manager

RECOMMENDATION

It is recommended that the Project Agreement 23 (PA 23) Committee adopt the PA 23 Committee Budget for Fiscal Year Ending (FYE) 2017 and receive an informational report regarding the Estimated Project Cost Projections.

DISCUSSION

The SAWPA member agencies, the Santa Ana Conservation and Conjunctive Use Program (SARCCUP) project proponents, have executed PA 23 and several Memorandums of Understanding related to financing the overall SARCCUP Project. Per 2015 Amendment to the 2014 SARCCUP Memorandum of Understanding, the SAWPA member agencies have agreed to share equally in the estimated local costs for SARCCUP implementation. In order for the PA 23 Committee to take action on expenditures related to SARCCUP, the Committee must adopt a budget. Before expenditures can be approved by the Committee, after the budget is approved by the PA 23 Committee, it must be adopted by each of respective boards of the five PA 23 member agencies.

The expectation is that, starting with the FYE 2018 and 2019 SAWPA budget, the PA 23 budget will be developed and approved in conjunction with the SAWPA budget, per Section 10 of PA 23. However, to cover the period from now through this FYE 2017, this proposed PA 23 budget has been prepared.

The FYE 2017 PA 23 budget is based on the funding table used in the application to the California Department of Water Resources (DWR) for Proposition 84 Integrated Regional Water Management State grant funding that was prepared by the SAWPA member agencies and their past consultant, Dudek. Since the application's approval by DWR, SAWPA staff have worked with the member agencies to refine the funding table, attached as the "SARCCUP Funding by Task," showing the funding associated by agency and by task. Per Section 10 of PA 23, the PA 23 budget uses the format of the SAWPA budget. In order to reflect the SAWPA budget process, SARCCUP tasks were separated by fiscal year over the projected five years of funding and implementation. The SARCCUP Funding by Task Table shows funding associated over the life of the SARCCUP project in two main categories: 1) grant amount, and 2) local match, which total to \$55,000,000 and \$46,272,899 respectively.

For Fiscal Year Ending 2017, the grant and local match amounts for approval by the Committee include a fiscal year breakdown of the overall project's grant amount and local match. Those amounts include:

FYE 2017 PA 23 Committee Budget

	Fund/Task	Requested Grant Amount	Local Match: Non-State Fund Source	Total
A	SAWPA Administration of PA 23 Committee/ Planning Managers Mtgs	\$99,885	\$0	\$99,885
B	RMC/SAWPA Program Management	\$302,383	\$25,941	\$328,324
C	Pass Through	\$2,924,165	\$2,755,386	\$5,679,551
Total	PA 23 FYE 2017 Budget	\$3,326,433	\$2,781,327	6,107,760

Provided as an attachment is the FYE 2017 PA 23 Budget that explains in detail the row values in lines A through C, which are referred to as “funds” in the SAWPA budget process. The row values in line A and B in the above table are based on the labor hour projections provided by SAWPA to the PA 23 Committee during the Committee’s July 28, 2016 meeting. The row values in line C are based on projections that were prepared by Eastern Municipal Water District, reflecting the detailed SARCCUP implementation schedule by task and quarter used to project funding needs by quarter. In this budget, projected task expenses are assumed to occur at an even pace. SAWPA and the SARCCUP planning managers have discussed updating the projections for budgets going forward closer to when SARCCUP tasks such as CEQA, groundwater modeling and construction bids are in their final draft phases. Once those steps are complete, future PA 23 Committee annual budgets will incorporate updated and more specific expense projections.

For the row values in line B in the attached FYE 2017 Budget, the contributions from the SAWPA member agencies for the RMC program management consultant contract Agreement, will be deducted from the local match defined in the Sub-Agreements with the SAWPA member agencies.

FYE 2016 actual outlays are also shown below for informational purposes. The funding amounts shown in lines a and b reflect work under Task 1 Program Administration associated with preparing the RFP and consultant selection for SARCCUP program management services and the initial PA 23 Committee setup. The row values in line c correspond to the projections prepared by Eastern Municipal Water District.

FYE 2016 PA 23 Committee Actuals

	Fund/Task	Requested Grant Amount	Local Match: Non-State Fund Source	Total
a	SAWPA Administration of PA 23 Committee/ Planning Managers Mtgs	\$4,877	\$0	\$4,877
b	RMC/SAWPA Program Management	\$14,695	\$0	\$14,695
c	Pass Through	\$512,193	\$447,543	\$959,737
Total	PA 23 FYE 2016 Actuals	\$531,765	\$447,543	\$979,309

BACKGROUND

The budget is for FYE 2017 which is the current and last fiscal year of the present two year SAWPA budget. Before FYE 2018 begins on July 1, 2017, a two year PA 23 Committee budget for FYE 2018 and FYE 2019 will be proposed in conjunction with the next SAWPA budget.

The budget for the Water Use Efficiency components of SARCCUP, which include Smartscape and Conservation-Based Water Rates, will be brought to the PA 22 Committee at its next meeting. With Phase I of PA 22 Committee pertaining to the Proposition 84 Integrated Regional Water Management Drought Round tasks, a Phase II has been defined for the PA 22 Committee tasks relating to the SARCCUP Water Use Efficiency components. Provided below is the FYE 2017 PA 22 (Phase II) budget for SARCCUP Water Use Efficiency that will be brought to the PA 22 Committee.

FYE 2017 PA 22 Phase II Committee Budget –SARCCUP

	Fund/Task	Requested Grant Amount	Local Match: Non-State Fund Source	Total
D	Water Use Efficiency Component Implementation	\$197,600	\$191,120	\$388,720
Total	PA 22 Phase II FYE 2017 Budget	\$197,600	\$191,120	\$388,720

The total FYE 2017 Budget for both the PA 22 Committee and PA 23 Committee is provided below:

FYE 2017 Budget Total for PA 22 and PA 23 Committees - SARCCUP

	Fund/Task	Requested Grant Amount	Local Match: Non-State Fund Source	Total
E	PA 23 FYE 2017 Budget	\$3,326,433	\$2,781,327	6,107,760
F	PA 22 Phase II FYE 2017 Budget	\$197,600	\$191,120	\$388,720
Total	FYE 2017 Budgets	\$3,524,033	\$2,972,447	\$6,496,480

CRITICAL SUCCESS FACTORS

The following OWOW critical success factors are addressed by this action:

1. Administration of the OWOW process and plan in a highly efficient and cost-effective manner.
2. Data and information needed for decision-making is available to all.

RESOURCE IMPACTS

Funding shown in the PA 23 Committee FYE 2017 budget is provided by \$3,326,433 in Proposition 84 Integrated Regional Water Management State grant funds and \$2,781,327 in local funding from the five SAWPA member agencies.

Attachments

1. Fiscal Year Ending 2017 PA 23 Committee Budget
2. Fiscal Year Ending 2017 PA 22- Phase II Committee Budget for SARCCUP
3. SARCCUP Funding by Task table
4. SARCCUP Funding Projections by Year table



Fiscal Year Ending 2017 Budget Message/Executive Summary

SAWPA Project Agreement 23 Committee Santa Ana River Conservation and Conjunctive Use Program

Committee Members:

**Thomas P. Evans, Vice President, Board of Directors of the Western Municipal Water District
Joe Grindstaff, General Manager, Inland Empire Utilities Agency [Vice Chair]
Douglas Headrick, General Manager, San Bernardino Valley Municipal Water District [Chair]
Paul D. Jones, General Manager, Eastern Municipal Water District
Michael Markus, General Manager, Orange County Water District**

September 22, 2016

SAWPA is pleased to present the Santa Ana Watershed Project Authority (SAWPA) Project Agreement 23 Committee Fiscal Year Ending (FYE) 2017 Budget. This budget provides a framework for Committee activities to address the Santa Ana River Conservation and Conjunctive Use Program (SARCCUP) over FYE 2017, which began on July 1, 2016 and ends on June 30, 2017.

The SAWPA Commission approved Project Agreement 23 (PA23) on June 21, 2016 for the purpose of implementing a program that operates the groundwater basins conjunctively with other available imported sources of supply to optimize the use of available basin storage and their dry year yield values across the Santa Ana River Watershed.

The FYE 2017 SAWPA PA 23 Committee Budget as follows is separated into three parts:

- SAWPA Administration of PA 23 Committee/Planning Managers Meetings;**
- Consultant/SAWPA Program Management; and**
- Pass Through.**

SAWPA looks forward to working with the PA 23 Committee in effectively using the local match and Proposition 84 Integrated Regional Water Management grant funding made available by the State of California to expedite and implement this important work in a timely fashion.

Proposition 84 - PA23 Administration

504-401PA23

SAWPA Administration of PA 23 Committee/ Planning Managers Mtgs

G/L Acct.	Description	FYE 2016 Actuals	FYE 2017 Budget
Revenues			
40102	State Grant Proceeds - Prop 84	\$ 4,876.65	\$ 99,884.77
Total Revenues		\$ 4,876.65	\$ 99,884.77
Expenses			
51000	Salaries - Regular	\$ 1,619.61	\$ 33,147.78
52000	Benefits	\$ 678.62	\$ 14,388.40
53000	Indirect Costs	\$ 2,578.42	\$ 52,348.59
60121	Consulting	\$ -	\$ -
6310	Construction	\$ -	\$ -
60190	Offsite Meeting/Travel Expense	\$ -	\$ -
60500	Program Expenses	\$ -	\$ -
Total Expenditures		\$ 4,876.65	\$ 99,884.77
Excess Rev over (under) Exp		\$ -	\$ -

Proposition 84 - PA23* Administration
SAWPA Administration of PA 23 Committee/ Planning Managers Mtgs

Budget Assumptions		FYE 2017
Acct # - Description		

40102 - State Grant Proceeds - Prop 84		
Based on Prop 84 Department of Water Resources Grant Agreement to implement SARCCUP	\$	99,884.77
TOTAL	\$	99,884.77
60120 - Consulting		
No funding projected.	\$	-
TOTAL	\$	-
6310 - Construction		
No funding projected.	\$	-
TOTAL	\$	-
60190 - Offsite Meeting / Travel Expense		
No funding projected.	\$	-
TOTAL	\$	-
60500 - Program Expenses		
No funding projected.	\$	-
TOTAL	\$	-

*Project Agreement 23 Committee

Project Implementation (SARCCUP)

504-401IMPLE

RMC/SAWPA Program Management

G/L Acct.	Description	FYE 2016 Actuals	FYE 2017 Budget
Revenues			
40102	State Grant Proceeds - Prop 84	\$ 14,695.38	\$ 302,383.31
40005	Local Match from SAWPA Member Agencies	\$ -	\$ 25,941.00
Total Revenues		\$ 14,695.38	\$ 328,324.31
Expenses			
51000	Salaries - Regular	\$ 4,880.56	\$ 5,939.10
52000	Benefits	\$ 2,044.96	\$ 2,577.74
53000	Indirect Costs	\$ 7,769.86	\$ 9,378.47
60121	Consulting	\$ -	\$ 310,429.00
6310	Construction	\$ -	\$ -
60190	Offsite Meeting/Travel Expense	\$ -	\$ -
60500	Program Expenses	\$ -	\$ -
Total Expenditures		\$ 14,695.38	\$ 328,324.31
Excess Rev over (under) Exp		\$ -	\$ -

Project Implementation (SARCCUP)*
RMC/SAWPA Program Management

Budget Assumptions		FYE 2017
Acct # - Description		

<u>40102 - State Grant Proceeds - Prop 84</u>		
Based on Prop 84 Department of Water Resources Grant Agreement to Implement SARCCUP		\$ 302,383.31
	TOTAL	\$ 302,383.31
<u>40005 - Local Funding Proceeds</u>		
Based on Agreements with SAWPA Member agencies to implement SARCCUP		\$ 25,941.00
	TOTAL	\$ 25,941.00
<u>60120 - Consulting</u>		
Based on Task Order RMC504-401-01 for SARCCUP program management services		\$ 310,429.00
	TOTAL	\$ 310,429.00
<u>6310 - Construction</u>		
No funding projected.		\$ -
	TOTAL	\$ -
<u>60190 - Offsite Meeting / Travel Expense</u>		
No funding projected.		\$ -
	TOTAL	\$ -
<u>60500 - Program Expenses</u>		
No funding projected.		\$ -
	TOTAL	\$ -

*Santa Ana River Conservation and Conjunctive Use Program

Proposition 84 - SARCCUP Capital Projects - Pass Through

Fund 504
R4Passthrough

Pass Through

G/L Acct.	Description	FYE 2016 Actuals	FYE 2017 Budget
Revenues			
40102	State Grant Proceeds - Prop 84	\$ 512,193.45	\$ 2,924,164.55
40005	Local Match from SAWPA Member Agencies	\$ 447,543.28	\$ 2,755,385.97
Total Revenues		\$ 959,736.73	\$ 5,679,550.52
Expenses			
504	Eastern Municipal Water District - Grant	\$ 385,823.05	\$ 1,266,246.76
40005	Eastern Municipal Water District - Local Match	\$ 117,655.88	\$ 954,436.55
504	Inland Empire Utilities Agency - Grant	\$ 6,484.90	\$ 25,939.60
40005	Inland Empire Utilities Agency - Local Match	\$ 38,183.70	\$ 88,612.05
504	Orange County Water District - Grant	\$ 33,653.90	\$ 134,615.60
40005	Orange County Water District - Local Match	\$ 85,794.30	\$ 279,054.45
504	San Bernardino Valley Municipal Water District - Grant	\$ 79,746.70	\$ 1,450,848.05
40005	San Bernardino Valley Municipal Water District - Local Match	\$ 127,725.70	\$ 1,169,245.80
504	Western Municipal Water District - Grant	\$ 6,484.90	\$ 46,514.53
40005	Western Municipal Water District - Local Match	\$ 78,183.70	\$ 264,037.12
Total Expenditures		\$ 959,736.73	\$ 5,679,550.52
Excess Rev over (under) Exp		\$ -	\$ -

Proposition 84 - SARCCUP* Capital Projects - Pass Through
Pass Through

Budget Assumptions		FYE 2017
Acct # - Description		

<u>40102 - State Grant Proceeds - Prop 84</u>		
Based on Prop 84 Department of Water Resources Grant Agreement to implement SARCCUP		\$ 2,924,164.55
	TOTAL	\$ 2,924,164.55
<u>40005 - Local Funding Proceeds</u>		
Based on Sub-Agreements with SAWPA Member agencies to Implement SARCCUP		\$ 2,755,385.97
	TOTAL	\$ 2,755,385.97
<u>504 - Pass Through</u>		
Funding for SAWPA member agencies to Implement SARCCUP		\$ 2,924,164.55
	TOTAL	\$ 2,924,164.55
<u>60120 - Consulting</u>		
No funding projected.		\$ -
	TOTAL	\$ -
<u>6310 - Construction</u>		
No funding projected.		\$ -
	TOTAL	\$ -
<u>60190 - Offsite Meeting / Travel Expense</u>		
No funding projected.		\$ -
	TOTAL	\$ -
<u>60500 - Program Expenses</u>		
No funding projected.		\$ -
	TOTAL	\$ -

*Santa Ana River Conservation and Conjunctive Use Program



Fiscal Year Ending 2017 Budget

SAWPA Project Agreement 22 Committee Santa Ana River Conservation and Conjunctive Use Program

Committee Members:

Joe Grindstaff, General Manager, Inland Empire Utilities Agency
Douglas Headrick, General Manager, San Bernardino Valley Municipal Water District
Paul D. Jones, General Manager, Eastern Municipal Water District [Chair]
Michael Markus, General Manager, Orange County Water District [Vice-Chair]
John Rossi, General Manager, Western Municipal Water District

Project Implementation (SARCCUP WUE Components)

504-401WUE

Water Use Efficiency Component Implementation

G/L Acct.	Description	FYE 2016 Actuals	FYE 2017 Budget
Revenues			
40102	State Grant Proceeds - Prop 84	\$ -	\$ 197,600.00
40005	Local Match from SAWPA Member Agencies	\$ -	\$ 191,120.00
Total Revenues		\$ -	\$ 388,720.00
Expenses			
51000	Salaries - Regular	\$ -	\$ 21,184.44
52000	Benefits	\$ -	\$ 9,194.29
53000	Indirect Costs	\$ -	\$ 33,451.12
60121	Consulting	\$ -	\$ 324,890.15
6310	Construction	\$ -	\$ -
60190	Offsite Meeting/Travel Expense	\$ -	\$ -
60500	Program Expenses	\$ -	\$ -
Total Expenditures		\$ -	\$ 388,720.00
Excess Rev over (under) Exp		\$ -	\$ -

Project Implementation (SARCCUP WUE* Components)
Water Use Efficiency Component Implementation

Budget Assumptions		
Acct # - Description		FYE 2017

<u>40102 - State Grant Proceeds - Prop 84</u>		
Based on Prop 84 Department of Water Resources Grant Agreement to implement SARCCUP	\$	197,600.00
TOTAL	\$	197,600.00
<u>40005 - Local Funding Proceeds</u>		
Based on Sub-Agreements with SAWPA Member agencies to implement SARCCUP	\$	191,120.00
TOTAL	\$	191,120.00
<u>60120 - Consulting</u>		
Consulting with Orange County Coastkeeper to Implement SARCCUP WUE Smartscape and Sub-Agreements with Retail Water Agencies to Implement SARCCUP WUE Conservation Based Rates	\$	324,890.15
TOTAL	\$	324,890.15
<u>6310 - Construction</u>		
No funding projected.	\$	-
TOTAL	\$	-
<u>60190 - Offsite Meeting / Travel Expense</u>		
No funding projected.	\$	-
TOTAL	\$	-
<u>60500 - Program Expenses</u>		
No funding projected.	\$	-
TOTAL	\$	-

*Santa Ana River Conservation and Conjunctive Use Program - Water Use Efficiency

Santa Ana Conservation and Conjunctive Use Program (SARCCUP): FUNDING BY TASK

Lead Agency (Budget Category in Parentheses)	Budget Category/Task Description	(a)	(b)	(c)	(d)
		Requested Grant Amount	Total Local Match: Non-State Fund Sources ¹	Total Cost	SAWPA Member Agencies Equal Split Providing Local Match
(a) Project Administration (Program Mgr Consultant)		\$ 1,000,000.00	\$ 1,000,000.00	\$ 2,000,000.00	\$ 200,000.00
SAWPA/Consultant	1 - Project Management	\$ 950,000.00	\$ 1,000,000.00	\$ 1,950,000.00	\$ 200,000.00
SAWPA/Consultant	2 - Labor Compliance Program ²	\$ -	\$ -	\$ -	N/A
SAWPA/Consultant	3 - Reporting	\$ 50,000.00	\$ -	\$ 50,000.00	N/A
(b) Land Purchase/Easement		\$ 899,000.00	\$ 200,000.00	\$ 1,099,000.00	-
EMWD, SBVMWD, WMWD	4 - Land Purchase	\$ 899,000.00	\$ 200,000.00	\$ 1,099,000.00	-
(c) Planning/Design/Engineering/ Environmental Doc		\$ 5,274,405.00	\$ 5,967,685.00	\$ 10,642,090.00	\$ 229,170.20
SAWPA Member Agencies	5 - SARCCUP Master Plan (a.k.a. "Feasibility Study")	\$ -	\$ 1,000,000.00	\$ 1,000,000.00	\$ 200,000.00
SAWPA Member Agencies	6 - CEQA	\$ 476,517.00	\$ 837,248.00	\$ 833,762.00	N/A
SAWPA Member Agencies	6.1 Programmatic CEQA	\$ 194,547.00	\$ 145,851.00	\$ 340,398.00	\$ 29,170.20
SBVMWD	6.2 Programmatic CEQA	\$ -	\$ -	\$ -	-
EMWD	6.3 EMWD CEQA	\$ 140,985.00	\$ 105,697.00	\$ 246,682.00	N/A
OCWD, SBVMWD	7 - Permitting	\$ 7,928.00	\$ 122,519.00	\$ 130,447.00	N/A
OCWD	7.1 OCWD Permitting	\$ 845.00	\$ 13,083.00	\$ 13,898.00	N/A
SBVMWD	7.2 SBVMWD Permitting	\$ 7,083.00	\$ 109,436.00	\$ 116,519.00	N/A
Upper Watershed	8.1 - 8.9 Conjunctive Use Design	\$ 4,288,651.00	\$ 3,215,211.00	\$ 7,503,862.00	N/A
IEUA	8.1 Design: Chino Basin Conjunctive Use Program				
IEUA	8.1.1 Baseline Feeder Extension	\$ 1,129,288.00	\$ 846,615.00	\$ 1,975,883.00	N/A
IEUA	8.1.2 Municipal Intakes on Baseline Feeder Extension	\$ 64,676.00	\$ 49,488.00	\$ 113,164.00	N/A
IEUA	8.1.3 Turnout on Baseline Feeder to San Savaia Creek	\$ 128,328.00	\$ 96,206.00	\$ 224,534.00	N/A
IEUA	8.1.4 Diversion on San Savaia Creek to Recharge Basin	\$ 71,863.00	\$ 59,375.00	\$ 128,768.00	N/A
IEUA	8.1.5 Turnout on Devil Canyon-Azusa Pipeline	\$ 128,326.00	\$ 96,206.00	\$ 224,532.00	N/A
IEUA	8.1.6 Production Wells in Chino/IEUA South Zone	\$ 51,830.00	\$ 38,455.00	\$ 89,813.00	N/A
EMWD	8.2 Design: San Jacinto Conjunctive Use Program				
EMWD	8.2.1 Phase 1: Basin Development, Amenities	\$ 443,904.00	\$ 332,786.00	\$ 776,700.00	N/A
EMWD	8.2.2 Phase 1: Extraction Wells and Associated Pipelines	\$ 702,119.00	\$ 526,381.00	\$ 1,228,500.00	N/A
SBVMWD	8.3 Design: San Bernardino Basin Conjunctive Use Program				
SBVMWD	8.3.1 Production Wells and Transmission Pipelines	\$ 951,591.00	\$ 713,405.00	\$ 1,665,000.00	N/A
SBVMWD	8.3.2 Expand Aglands Pump Station	\$ 308,634.00	\$ 231,376.00	\$ 540,000.00	N/A
WMWD	8.4 Design: Elmore Conjunctive Use Program	\$ 308,624.00	\$ 231,376.00	\$ 540,000.00	N/A
OCWD/SBVMWD	8.5 Habitat Design	\$ 501,809.00	\$ 672,718.00	\$ 1,174,019.00	N/A
OCWD	8.5.1 Design: Arundo Removal	\$ 185,000.00	\$ 228,000.00	\$ 380,000.00	N/A
SBVMWD	8.5.2.1 Design: Sucker Habitat - Arizo Drain	\$ 106,407.89	\$ 150,497.08	\$ 246,904.98	N/A
SBVMWD	8.5.2.2 Design: Sucker Habitat - Old Farm Road	\$ 128,805.00	\$ 157,425.00	\$ 286,230.00	N/A
SBVMWD	8.5.2.3 Design: Sucker Habitat - Lower Hole Creek	\$ 44,853.00	\$ 54,820.00	\$ 99,673.00	N/A
SBVMWD	8.5.3.4 Design: Sucker Habitat - Hidden Valley Wetlands	\$ 94,244.89	\$ 209,298.89	\$ 303,543.89	N/A
All	9 Project Management Plan ³	\$ 47,886,595.00	\$ 39,705,214.00	\$ 87,591,809.00	\$ 165,200.00
(d) Construction/Implementation		\$ 47,886,595.00	\$ 39,705,214.00	\$ 87,591,809.00	\$ 165,200.00
SAWPA Member Agencies	10 Construction Contracting ⁴				
SAWPA Member Agencies	11 Construction Administration ⁴				
Upper Watershed	12 - Conjunctive Use Construction	\$ 42,047,511.00	\$ 32,152,108.00	\$ 74,199,619.00	N/A
IEUA	12.1 Chino Basin Conjunctive Use Program				
IEUA	12.1.1 Baseline Feeder Extension	\$ 11,292,680.00	\$ 8,466,147.00	\$ 19,758,827.00	N/A
IEUA	12.1.2 Municipal Intakes on Baseline Feeder Extension	\$ 646,768.00	\$ 494,878.00	\$ 1,131,642.00	N/A
IEUA	12.1.3 Turnout on Baseline Feeder to San Savaia Creek	\$ 1,283,289.00	\$ 962,062.00	\$ 2,245,321.00	N/A
IEUA	12.1.4 Diversion on San Savaia Creek to Recharge Basin	\$ 718,828.00	\$ 593,755.00	\$ 1,257,980.00	N/A
IEUA	12.1.5 Turnout on Devil Canyon-Azusa Pipeline	\$ 1,283,289.00	\$ 962,062.00	\$ 2,245,321.00	N/A
IEUA	12.1.6 Production Wells in Chino/IEUA South Zone	\$ 513,804.00	\$ 394,824.00	\$ 898,128.00	N/A
EMWD	12.2 San Jacinto Conjunctive Use Program				
EMWD	12.2.1 Phase 1: Recharge Basin Development, Amenities	\$ 4,439,041.00	\$ 3,327,959.00	\$ 7,767,000.00	N/A
EMWD	12.2.2 Phase 1: Extraction Wells and Associated Pipelines	\$ 6,611,195.00	\$ 5,263,805.00	\$ 11,875,000.00	N/A
SBVMWD	12.3 - San Bernardino Basin Conjunctive Use Program				
SBVMWD	12.3.1 Production Wells and Transmission Pipelines	\$ 9,086,905.00	\$ 7,134,095.00	\$ 16,221,000.00	N/A
SBVMWD	12.3.2 Expand Aglands Pump Station	\$ 3,086,240.00	\$ 2,313,760.00	\$ 5,400,000.00	N/A
WMWD	12.4 - Elmore Conjunctive Use Program	\$ 3,086,240.00	\$ 2,313,760.00	\$ 5,400,000.00	N/A
OCWD/SBVMWD	12.5 - Habitat Implementation	\$ 5,013,084.00	\$ 6,727,108.00	\$ 11,740,190.00	N/A
OCWD	12.5.1 - Arundo Removal	\$ 1,850,000.00	\$ 2,280,000.00	\$ 3,600,000.00	N/A
SBVMWD	12.5.2.1 Arizo Drain	\$ 1,064,078.89	\$ 1,504,977.08	\$ 2,469,045.98	N/A
SBVMWD	12.5.2.2 Old Farm Road	\$ 1,288,050.00	\$ 1,574,287.00	\$ 2,862,337.00	N/A
SBVMWD	12.5.2.3 Lower Hole Creek	\$ 448,529.00	\$ 548,201.00	\$ 996,730.00	N/A
SBVMWD	12.5.3.4 Hidden Valley Wetlands	\$ 942,448.89	\$ 2,092,988.89	\$ 3,035,437.89	N/A
SAWPA	12.6 - Water Use Efficiency Implementation	\$ 826,000.00	\$ 826,000.00	\$ 1,652,000.00	\$ 165,200.00
SAWPA	12.6.1 Conservation-Based Water Rates	\$ 583,000.00	\$ 631,600.00	\$ 1,214,600.00	-
SAWPA	12.6.2 Smartscape	\$ 243,000.00	\$ 194,400.00	\$ 437,400.00	-
All	Grand Total	\$ 55,000,000.00	\$ 46,272,899.00	\$ 101,272,899.00	\$ 594,370.20

1 Funding match will be provided by the five Santa Ana Watershed Project Authority (SAWPA) member agencies: Eastern Municipal Water District (EMWD), Inland Empire Utilities Agency (IEUA), Orange County Water District (OCWD), San Bernardino Valley Municipal Water District (SBVMWD) and Western Municipal Water District (WMWD).
 2 All Tasks 1-12 reflect the State's Work Plan. Tasks marked with "2" footnote do not have a specific funding line item. Those tasks will be completed using funds accounted in the other task line items.
 3 Task 4 Land Purchase will be split amongst three agencies with EMWD receiving \$410,000 in grant funding, SBVMWD receiving \$429,000 in grant funding, and WMWD providing \$200,000 in local match.
 4 OCWD's local cost share funding originally intended for Smartscape Task 12.6.2 was added to Conservation-Based Water Rates Task 12.6.1.

SARCCUP: FUNDING BY AGENCY

Lead Agency	Color	(a)	(b)	(c)	(d)	(e)
		Requested Grant Amount	Total Local Match: Non-State Fund Sources ¹	Total Cost	Total Local Match Equally Shared By Agency	Receive or Provide Portion of Local Match ²
EMWD		\$ 12,786,153.40	\$ 10,151,068.20	\$ 22,937,161.60	\$ 9,254,579.80	\$ 896,428.40
IEUA		\$ 17,350,588.40	\$ 18,572,972.20	\$ 30,923,560.60	\$ 9,254,579.80	\$ 4,318,392.40
OCWD		\$ 1,524,754.40	\$ 3,082,423.20	\$ 4,607,177.60	\$ 9,254,579.80	\$ (6,172,156.60)
SBVMWD		\$ 18,078,730.40	\$ 16,126,989.20	\$ 34,205,719.60	\$ 9,254,579.80	\$ 6,872,409.40
WMWD		\$ 3,433,773.40	\$ 3,339,506.20	\$ 6,773,279.60	\$ 9,254,579.80	\$ (5,915,073.80)
SAWPA/Consultant		\$ 1,826,000.00	\$ -	\$ 1,826,000.00	\$ -	\$ -
Grand Total		\$ 55,000,000.00	\$ 46,272,899.00	\$ 101,272,899.00	\$ 46,272,899.00	\$ (0.00)

¹Represents the funding to be provided by agency to implement their tasks as well as the shared obligation to implement Task 1 Project Management, Task 5 SARCCUP Master Plan, Task 6.1 Programmatic CEQA, and Task 12.6 Water Use Efficiency Implementation.
²**No agency will give local match beyond the equal share of the Total Local Match shown in column (b), but as some tasks have more expenses associated with them than others, those agencies implementing tasks with smaller budgets will pass through a portion of the local match to the agencies implementing the larger budgeted tasks.


**ACTION
ITEM**

3B

Date: November 16, 2016

To: The Honorable Board of Directors

Through: Engineering, Operations, and Biosolids Management Committee
(11/09/16)

From:  P. Joseph Grindstaff
General Manager

Submitted by: Randy Lee *RL*
Executive Manager of Operations/Assistant General Manager

Albert VanBreukelen *RL for AV*
Deputy Manager of Maintenance

Subject: RP-1 Dewatering Centrifuge Emergency Repair

RECOMMENDATION

It is recommended that the Board of Directors:

1. Ratify the emergency purchase of parts and services from Alfa Laval under Purchase Order No. 4500024955 for \$107,880 and Purchase Order No. 4500025219 for \$11,350; and
2. Approve the additional costs associated with centrifuge unit 2 repair and shipping for a total project not-to-exceed amount of \$160,000.

BACKGROUND

Sewage treatment generally involves solids and liquid treatments processes. Solids stream goes through thickening, digestion, dewatering, and finally transported to the Inland Empire Regional Composting Facility for composting. The Agency owns and operates four dewatering centrifuges at Regional Water Recycling Plant No. 1 (RP-1) since 2013. During normal operation, two units are running while the other two units serve as stand-by. As with any industrial equipment, they require periodic services such as inspection, seal and bearing replacements, oil change, etc. Under normal operating conditions, the manufacturer recommends minor services to be performed at 3,000 hours and major services to be performed at 8,000 hours. RP-1 centrifuges have between 4,100 to 6,000 operating hours per unit and have had no minor or major services performed since the units were put in service in 2013. While Agency staff and the manufacturer were trying to find a way for them to perform minor services to RP-1 centrifuges and comply with the California

Department of Industrial Relations (DIR) registration requirements, centrifuge units 1 and 3 failed due to a main bearing oil leak on June 4, 2016, causing an automatic shutdown rendering them inoperable. DIR registration of contractors is required for all public works projects that cost over \$1,000. However, the most recently updated DIR regulation in 2015 also requires contractors who perform maintenance work to register with DIR. The centrifuge manufacturer is not registered with DIR. Due to the criticality of the centrifuges to operations, staff determined that this was an emergency and the centrifuges needed to be repaired as soon as possible. Per regulation, DIR registration requirement can be waived in this situation. Centrifuge units 2 and 4 were put in service while staff initiated an emergency service request with the manufacturer on June 9, 2016. The Board was verbally informed of the emergency repair on June 15, 2016. After explaining the situation to the manufacturer, it was recommended that major services should also be performed on all four units while the technicians were on site since the hours were already close to the major service interval. The major service includes inspection of centrifuge's internal components in addition to replacement of centrifuge's scroll and main bearing lubricating oil and seal assemblies. After the manufacturer's technician took apart the damaged centrifuges, it was discovered that the bearing housing for centrifuge 3 was damaged and needed to be replaced. The two damaged units were repaired and returned to operation on June 29, 2016 and all four units had the major services performed by October 27, 2016. The total cost for the emergency repair was \$119,230 with the major service at \$107,880 and the bearing housing at \$11,350.

On October 25, 2016, Alfa Laval's technician discovered that centrifuge unit 2 was unable to be opened onsite. Alfa Laval recommended the unit be shipped to their factory in Greenwood, Indiana so that the unit could be pulled apart and rebuilt. The additional costs of this repair, including shipping of the unit, will bring a total amount of the RP-1 dewatering centrifuge repair within a not-to-exceed amount of \$160,000.

Root Cause Failure Analysis

As part of the Reliability Centered Maintenance philosophy implemented at the Agency, a Root Cause Failure Analysis (RCFA) was performed immediately after the failure to understand the cause of the oil leak and to mitigate repeat failure in the future. The RCFA involved a number of methodologies including the use of lube oil analysis, operational parameter analysis, and work flow assessment. After an extensive review of all prior work orders, operational parameters, alarm histories, interviews with operators and maintenance staff that had experience with these centrifuges, it was determined that no unusual operational parameters or alarms occurred prior to the major failure. However, it was noted that the failure occurred soon after the lube oil was replaced. According to staff, oil sample analysis performed earlier this year indicated that the oil quality was deteriorating and metallic particle was observed in the oil. In addition, metal shavings and sludge material were accumulating on oil filters. Without confirming the observation with Agency's reliability engineer or Deputy Manager of Maintenance, staff took the initiative to replace the bearing lube oil with an oil that has a higher viscosity and not recommended by the original equipment manufacturer (OEM). This was the main reason for the seal failure for the two centrifuges. However, an in depth review of the work flow process also identified some systemic issues including the need to properly and timely schedule the required maintenance services; clearly identify centrifuges lubricant specification in the work order system and on the lube oil reservoir themselves; improve staff's technical training on the importance of proper equipment

RP-1 Dewatering Centrifuge Emergency Repair

November 16, 2016

Page 3 of 3

lubrication; and increase communications between field staff, reliability engineer, and management.

The following is a list of improvements implemented by the Maintenance Department as a result of the RCFA:

1. Added language in CMMS for the centrifuge work orders to include lubrication specifications;
2. Added labels at the centrifuge lubrication reservoirs to indicate lubrication specifications;
3. Provided trainings to maintenance staff, supervisors, and managers on equipment lubrications through the Maintenance Competency Based training program;
4. Lube oil analysis results are now sent directly from the laboratory to the reliability engineer, who will consult with staff and Deputy Manager of Maintenance on the preventative and corrective maintenance needs of various equipment.

The Maintenance Department will continue to use the Reliability Centered Maintenance philosophy and increase the use of RCFA process to improve overall maintenance efficiencies, minimize down time, and reduce costly repairs.

This centrifuge repair supports the Agency's business goal of Wastewater Management to maintain capacity within systems and facilities to meet essential service demands.

PRIOR BOARD ACTION

None.

IMPACT ON BUDGET

The emergency repair of dewatering centrifuge units at RP-1 was funded through Maintenance Regional Operations and Maintenance (RO) Professional Fees and Services budget for the FY 2015/16 and FY 21016/17.



Inland Empire Utilities Agency

A MUNICIPAL WATER DISTRICT

RP-1 Dewatering Centrifuge Emergency Repair

November 2016

Albert VanBreukelen

Deputy Manager of Maintenance

Randy Lee

Executive Manager of Operations/AGM

Background

- **RP-1 Dewatering Centrifuge**
 - The Agency owns four Alfa Laval Aldec G-120 Centrifuge units since 2013
 - RP-1 centrifuges have 4,000 to 6,000 operating hours
 - Minor services is recommended at 3,000 hours
 - Major services is recommended at 8,000 hours
- **Equipment Failure**
 - On June 4, 2016, Units 1 and 3 experienced a failure in lubrication system that rendered both units inoperable
- **Emergency Repair**
 - Original equipment manufacture (OEM) was contacted to provide emergency service
- **Root Cause Analysis**
 - A root cause failure analysis was completed
 - AW68 hydraulic oil was used instead of OEM recommended AW46 hydraulic oil



RP-1 Centrifuges



RP-1 Centrifuges



Centrifuge Unit 2

Root Cause Failure Analysis

- Late 2015 Challenges in getting OEM to perform maintenance work due to California Department of Industrial Relations (DIR) regulation
- 3/28/2016 Lube oil samples were taken and were returned with a marginal rating
- 4/14/2016 Centrifuge 3 had high bearing temp alarm and it was traced to a plugged up oil filter
- 5/19/2016 Lube oil was changed on centrifuge units 1 and 3 with AW68 hydraulic oil instead of OEM recommended AW46 hydraulic oil
- 6/4/2016 **Both centrifuges** had oil leaks and shut down
- 6/8/2016 OEM was contacted for emergency services
- 6/29/2016 Units 1 and 3 repaired and returned to operation
- 10/27/2016 Service performed on Unit 2 but the scroll was unable to be removed, needs to be sent to Alfa Laval; Unit 4 still pending service.

Alfa Laval Emergency Service

- 6/9/2016 Emergency contract issued to OEM for \$107,880. Service included bearing replacement and seal repair for four centrifuge units
- 6/23/2016 During the repair service, centrifuge unit 3 was found to have a damaged bearing housing and a change order was issued for \$11,350
- Total amount for the emergency service was \$119,230
- Additional repair required for centrifuge unit 2, for a total project not-to-exceed amount of \$160,000



Main bearing and housing



Bearing housing shows surface gouging caused by bearing that spun in place



Close up of bearing housing surface damage

Findings and Improvements

Findings	Improvements
Lube oil specification not in CMMS	Added lube oil specifications to work orders
No lube oil specifications on oil reservoir	Added label on the oil reservoir
Lack of training	Added lubrication training to staff, supervisors, and managers
Poor communications	Lube oil analysis is sent directly to reliability engineer for evaluation. Reliability engineer will discuss findings and recommendations with staff and management



USE ONLY SHELL T VG46 OIL
ISO 46

Recommendation


It is recommended that the Board of Directors ratify the emergency purchase of parts and services from Alfa Laval under PO No. 4500024955 for \$107,880 and change order PO No. 4500025219 for \$11,350 and approve the additional repair of Centrifuge Unit 2 for a total project not-to-exceed amount of \$160,000.


Supports the Agency's business goal of Wastewater Management to maintain capacity within systems and facilities to meet essential service demands.


**INFORMATION
ITEM**

4A

Date: November 16, 2016

To:  The Honorable Board of Directors

From:  P. Joseph Grindstaff
General Manager

Submitted by: Kathy Besser 
Manager of External Affairs

Subject: LAFCO Update – Case No. 3212

RECOMMENDATION

This is an informational item for the Board of Directors to review.

BACKGROUND

On October 13, 2016, the Local Agency Formation Commission (LAFCO) for San Bernardino County held a Departmental Review Committee meeting regarding Case No. 3212 – Consolidation of the Chino Basin Water Conservation District (CBWCD) with IEUA. The meeting was held to review and discuss the Plan for Service IEUA submitted to LAFCO along with its application, with staff from IEUA and CBWCD present. LAFCO staff reviewed the questions they had, as well as questions about concerns that had been sent to them. A formal letter will be sent to IEUA for a written response to the questions that were posed.

During the meeting, LAFCO's Executive Director said that CBWCD's education programs were of "paramount importance" to the LAFCO commissioners and they must be continued. With that in mind, LAFCO staff suggested the best solution may be to move the educational programs under the Inland Empire Regional Conservation District (IERCD). IERCD is a special district responsible for the preservation and management of the resources of 823,390 acres, or approximately 1,286 square miles, of public and private land in San Bernardino and Riverside Counties. IERCD is governed and run by a seven member Board of Directors who are appointed by the San Bernardino County Board of Supervisors.

Representatives from two of IEUA's member agencies were present to express their concerns that tax dollars from their district would be spent outside of the cities where the residents pay a portion of the property tax to CBWCD each year and diminish their conservation services. LAFCO's Executive Director assured them that part of the LAFCO process was to ensure all services are maintained at their current levels.

At the end of the meeting, LAFCO's Executive Director stated that she would be asking her Commission to authorize the formation of a committee to determine whether it was more beneficial to consolidate CBWCD with solely IEUA, or consolidate and split CBWCD's services between IERCD and IEUA.

An emergency item was added to LAFCO's October 19, 2016, Commission meeting requesting authorization for the Executive Director to form a committee consisting of LAFCO staff, and two representatives each from IEUA, CBWCD, IERCD, and County Administration Office/Flood Control District, to review alternatives related to the processing of LAFCO Case No. 3212. The recommendation was approved by the commission.

PRIOR BOARD ACTION

None.

IMPACT ON BUDGET

None.

**INFORMATION
ITEM**

4B

Engineering and Construction Management Project Updates

November 16, 2016



Inland Empire Utilities Agency
A MUNICIPAL WATER DISTRICT

Jerry E. Burke, P.E.
Deputy Manager of Engineering

EN15008 – Water Quality Laboratory

- Contractor: Kemp Bros. Construction, Inc.
- Current Contract (Construction): \$17 M
- Total Project Budget: \$25 M
- Project Completion: August 2018
- Scope of Work:
 - Construction of new Water Quality Laboratory
 - Central Chiller Plant Expansion
 - Construction of new 25-stall parking lot
- Current Activities:
 - Underground utilities installation
 - Project control schedule update
 - Solar system design coordination
 - 3-D Modeling for structural component conflict
 - Submittals review and approval



Partial Site Demolition (before)



Partial Site Demolition (after)

EN22002 – NRW Flow Meter Replacement

- Engineering Consultant: TBD
- Current Contract (Evaluation): TBD
- Total Project Budget: \$300 K
- Project Completion: August 2019
- Scope of Work:
 - Flow Meter located: East End Ave/Grand Ave
 - Design new sampling station
 - Install new flowmeter at new location
- Current Activities:
 - Received two consultant proposals on 10/11/16
 - Select a consultant and negotiate the contract



Existing Flowmeter



Existing Below Grade Sample Point

EN14042 – 1158 Recycled Water Pump Station Upgrade

- Engineering Consultant: Stantec
- Current Contract (Feasibility Study): \$75 K
- Total Project Budget: \$4 M
- Project Completion: April 2019
- Scope of Work:
 - Increase the RP-1 1158 RW Pump Station capacity
 - Upgrade Surge Protection System
- Current Activities:
 - Final Feasibility Study (Oct. 30, 2016)
 - Prepare design consultant solicitation RFP



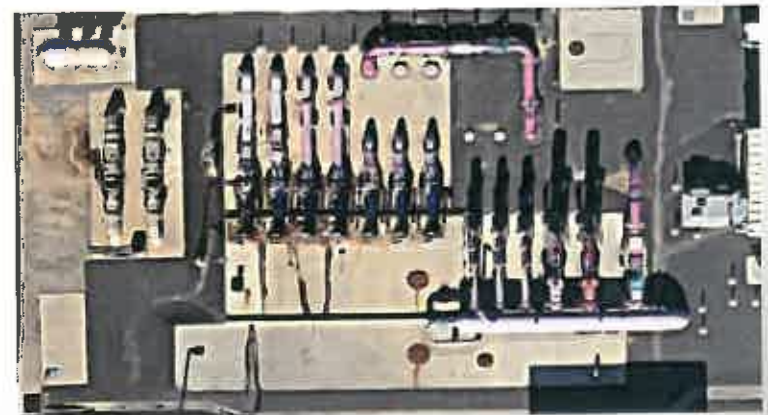
RP-1 1158 RW PS

EN13048 –RP-1 Power Upgrade

- Engineering Consultant: Tetra Tech
- Current Contract (Design): \$270 K
- Total Project Budget: \$1.6 M
- Project Completion: September 2018
- Scope of Work:
 - Upgrade power capacity to the TP-1 Site
 - Upgrade existing switchgear
- Current Activities:
 - Prepare consultant solicitation RFP
 - Grant application coordination



Switchgear at RP-1



TP-1 Site with RW Pump Stations

EN13056.01 – RP-4 MCC Power Center Five Roof Access

- Contractor: SCW Contracting
- Current Contract (Construction): \$206 K
- Total Project Budget: \$1.1 M
- Project Completion: October 2017
- Scope of Work:
 - Install roof access stairway
 - Install rooftop platform for maintenance access
 - Install roof handrail system on roof perimeter
 - Roof joist bracing
- Current Activities:
 - Punchlist items correction
 - Project closeout



Building Stairway



HVAC Unit Platform

EN16055 – Headquarters Building Backup Generator

- Contractor: Davis Electric, Inc.
- Current Contract (Construction): \$179 K
- Total Project Budget: \$450 K
- Project Completion: May 2017
- Scope of Work:
 - Modify existing portable backup generator to stationary unit
 - Install automatic transfer switch and control
 - Install a diesel particulate filter (DPF) for emission control
- Current Activities:
 - AQMD permit to construct is in progress (EPA review)
 - Procurement of DPF
 - Submittals/shop drawings review and approval



Project Location Behind HQB



Existing Portable Generator

**INFORMATION
ITEM**

4C

Septic to Sewer Feasibility Study Update



Inland Empire Utilities Agency
A MUNICIPAL WATER DISTRICT

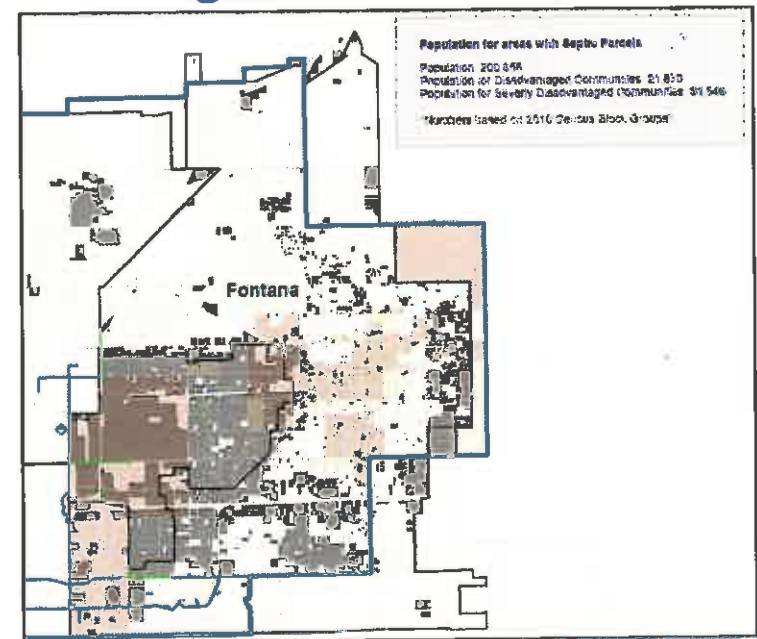
Ken Tam

IEUA Board of Directors Meeting
November 2016

Project Goals

■ Feasibility Study Goals & Plan of Implementation:

- Cost effectiveness – ranked based on grant funding
- Groundwater quality benefits
- Sewer Capacity Analysis
- Analysis of Associated Costs
- Low Impact Development Considerations
- Overall Economic Benefits to Region
- IEUA Recycled Water Program impacts



Feasibility Study Progress Update

- **Septic Parcel Re-screening**
 - Conducted by IEUA and Member Agencies
 - ~15% of the parcels needed additional confirmation as located adjacent to sewer lines
- **RMC establishing Sewer Service Regions for:**
 - Fontana, Upland, CVWD, Montclair, Chino Hills, and Unincorporated San Bernardino County
 - In process of completing additional analysis for Chino and Ontario
- **State Board planning grant application in process**
 - \$500,000 max/city
 - Disadvantaged Communities
 - Opportunities to incorporate stormwater management & low-impact development

Updated Project Schedule

Project Milestone	Date
Define Sewer Service Regions	November 2016
Prioritize Sewer Service Regions	December 2016
Develop Layout of Sewer System for Service Regions	February 2017
Projected Costs of Sewer Service Regions	March 2017
Feasibility Study Completion	April 2017

**INFORMATION
ITEM**

4D



State Water Project

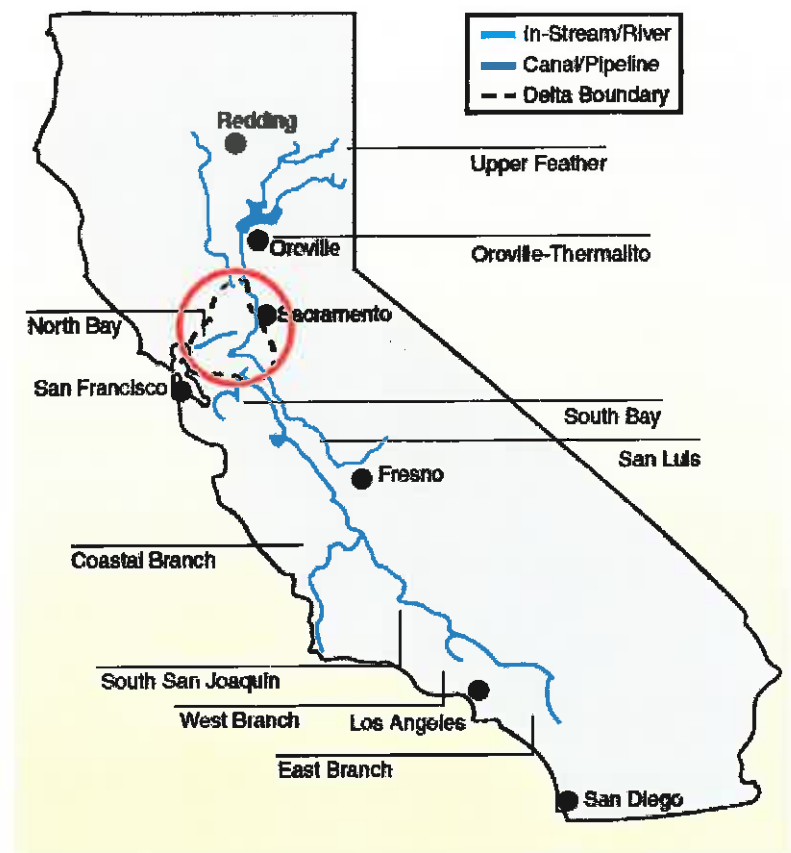
Connecting California's Water



Facility Tour

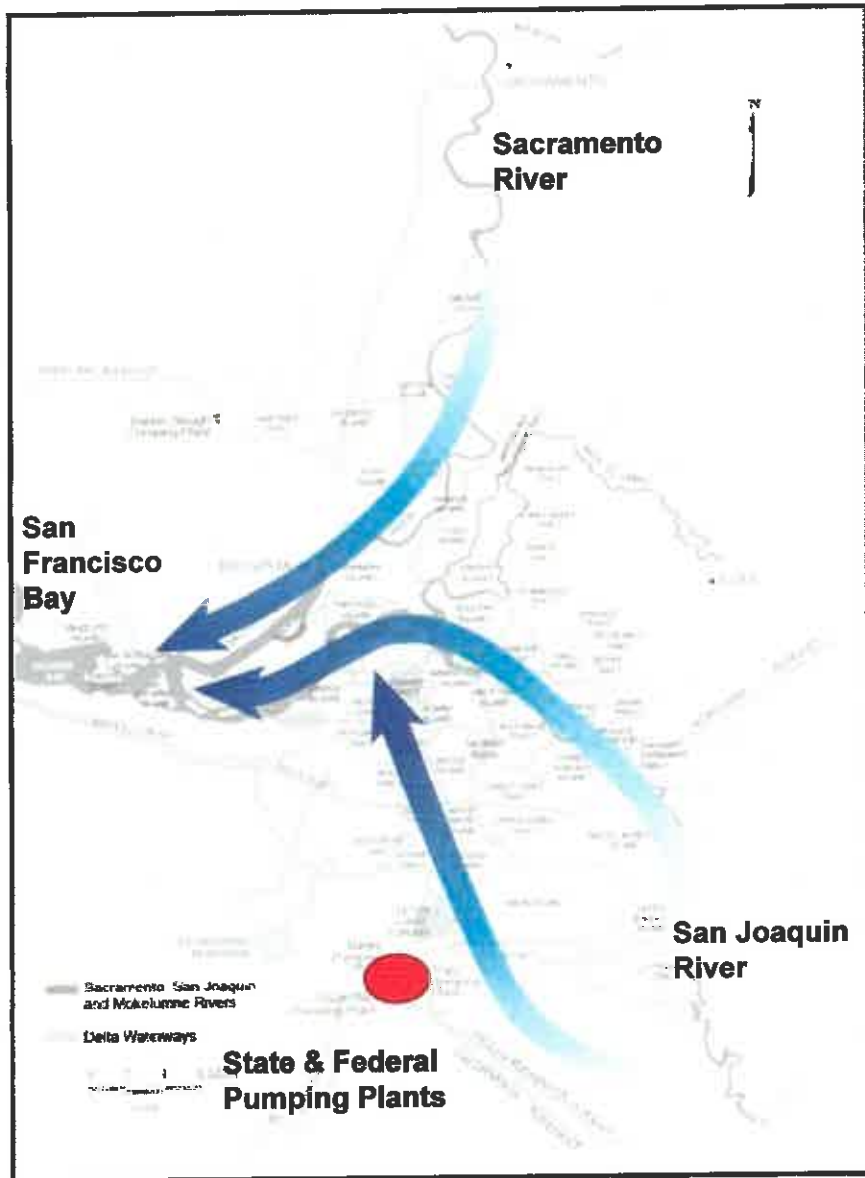
Key SWP facilities:

- Lake Oroville
- **Bay Delta** ←
- San Luis Reservoir
- Edmonston Pumping Plant
- Pearblossom Pumping Plant
- Rialto Pipeline to IEUA

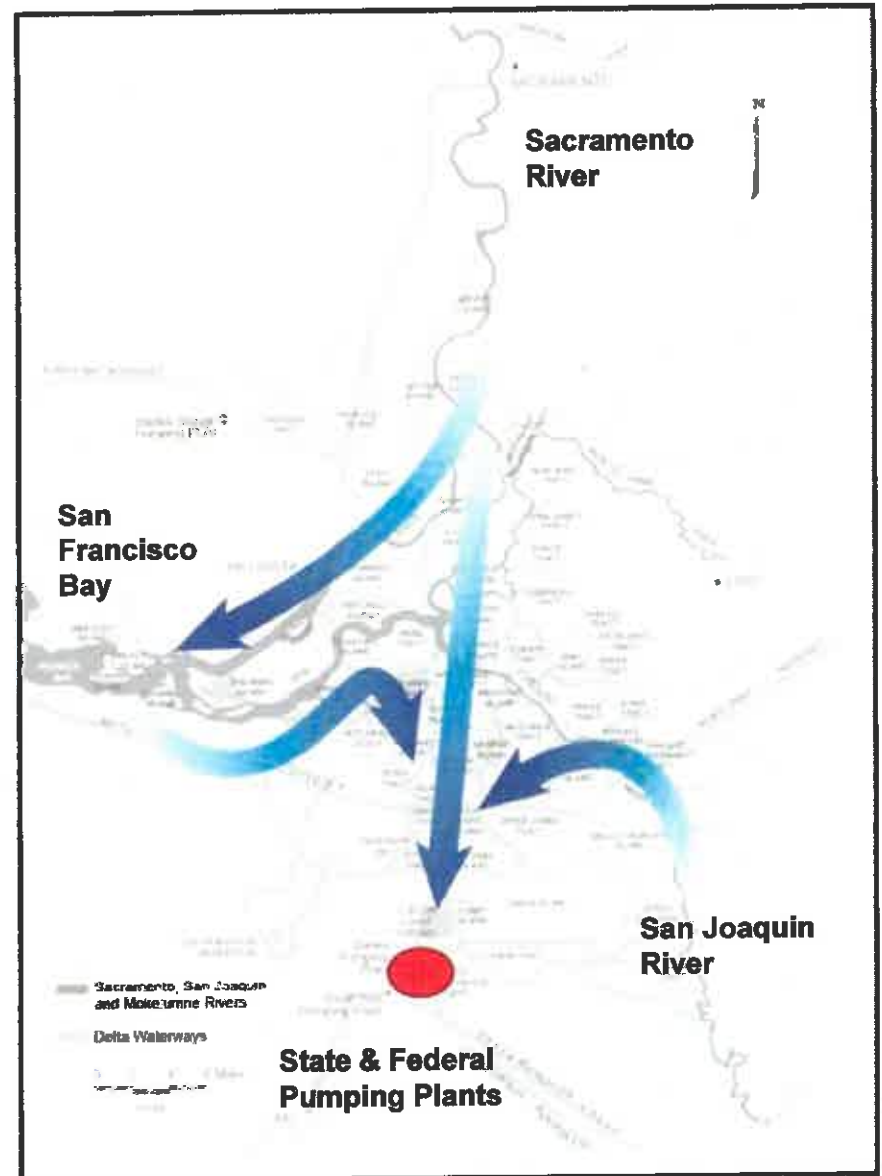


Journey to the Delta





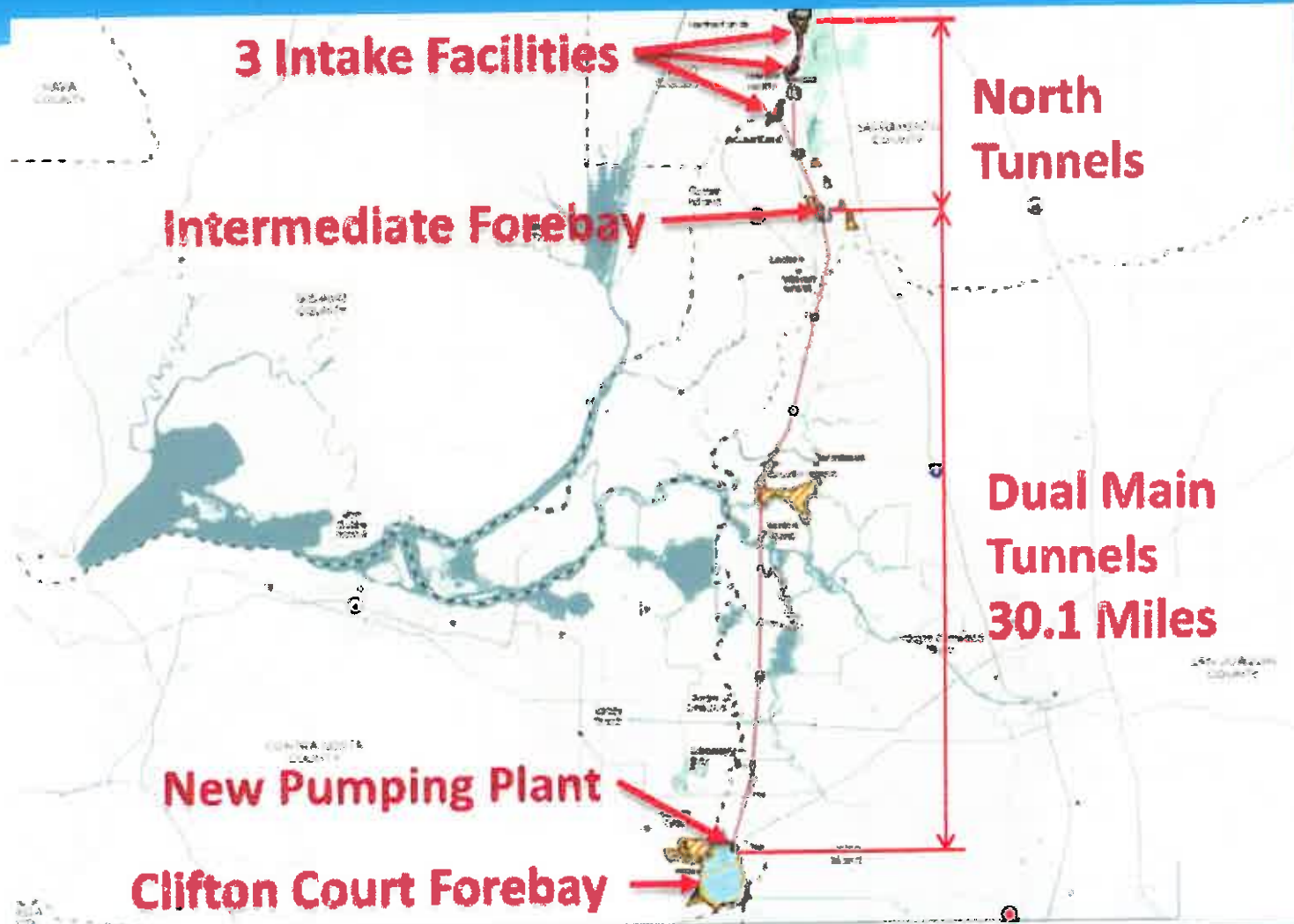
Bay Delta Flows without Pumping



Bay Delta Flows with Pumping

Source: Maven's Notebook –
Stressors in the Delta, C.Austin 2013

California Water Fix



Delta FAQs

- Unique blend of small town communities, busy ship ports, popular recreation, farmland, industries and wildlife habitat
- Region where two of California's largest rivers meet saltwater
- 700-mile maze of waterways with over 1,000 miles of levees
- Composed of +50 leveed tracts and islands
- Islands can be +20 feet below the water surface
- Hub of the State's water distribution system with ~2/3 of Californians and millions of acres of farmland relying on the Delta for water
- Key Delta risks include: aging system, earthquakes, sea level rise and subsidence
- California WaterFix will update the State's Water Supply System

**INFORMATION
ITEM**

4E

RP-5 Battery Storage Project Update November 16, 2016



Inland Empire Utilities Agency

A MUNICIPAL WATER DISTRICT

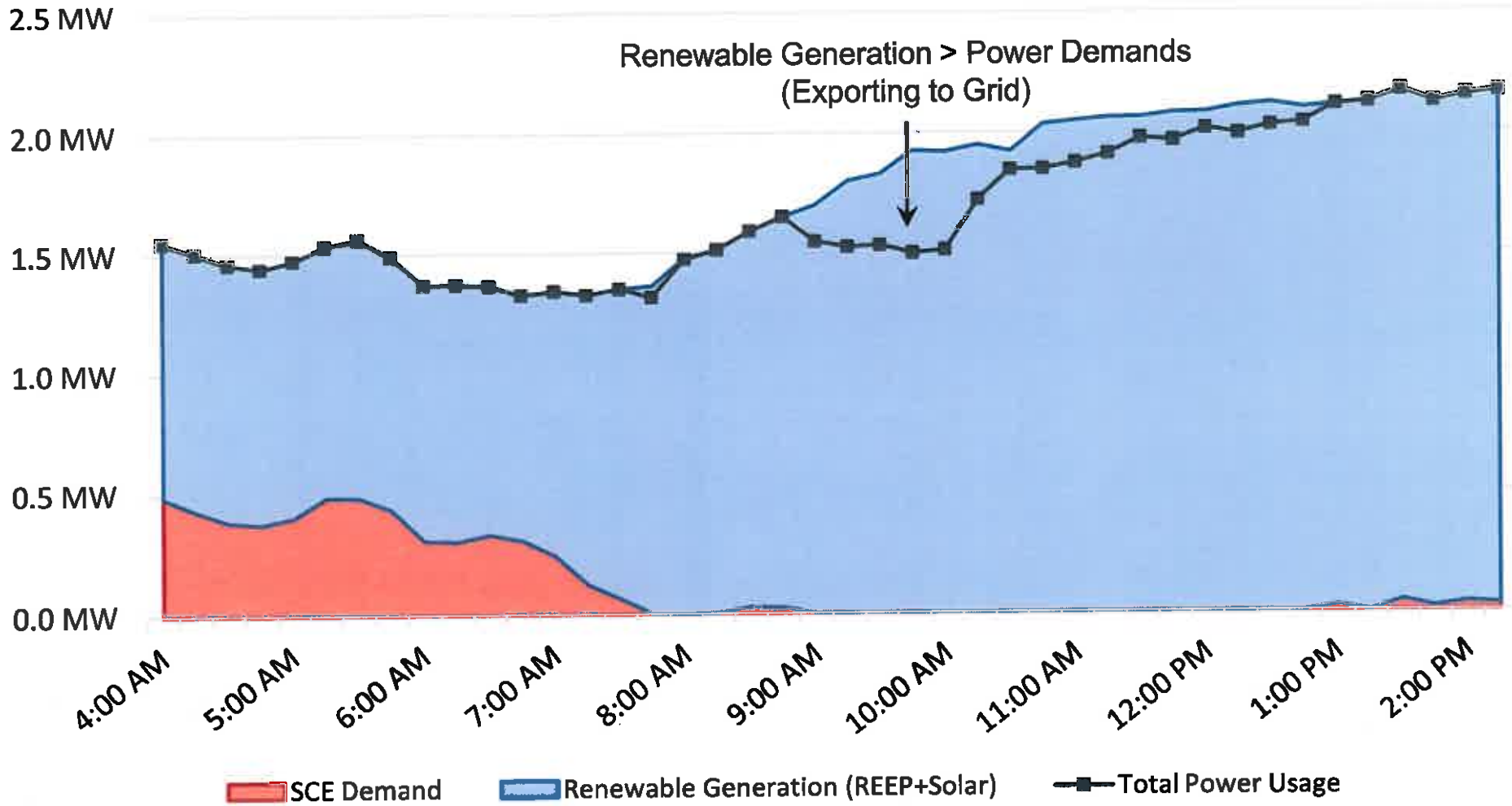
Jesse Pompa, P.E.
Senior Engineer

Regional Plant No. 5 Project Update

- Construction Completed June 2016
- SCE Interconnection Agreement Pending
 - Battery storage operating in test mode
 - Minimal operational limitations – not consistently discharging full 500 kW
- Dedication Ceremony held 10/20/16
- August Cost Savings
 - \$7,011
 - 9.4% of Facility Electricity Costs

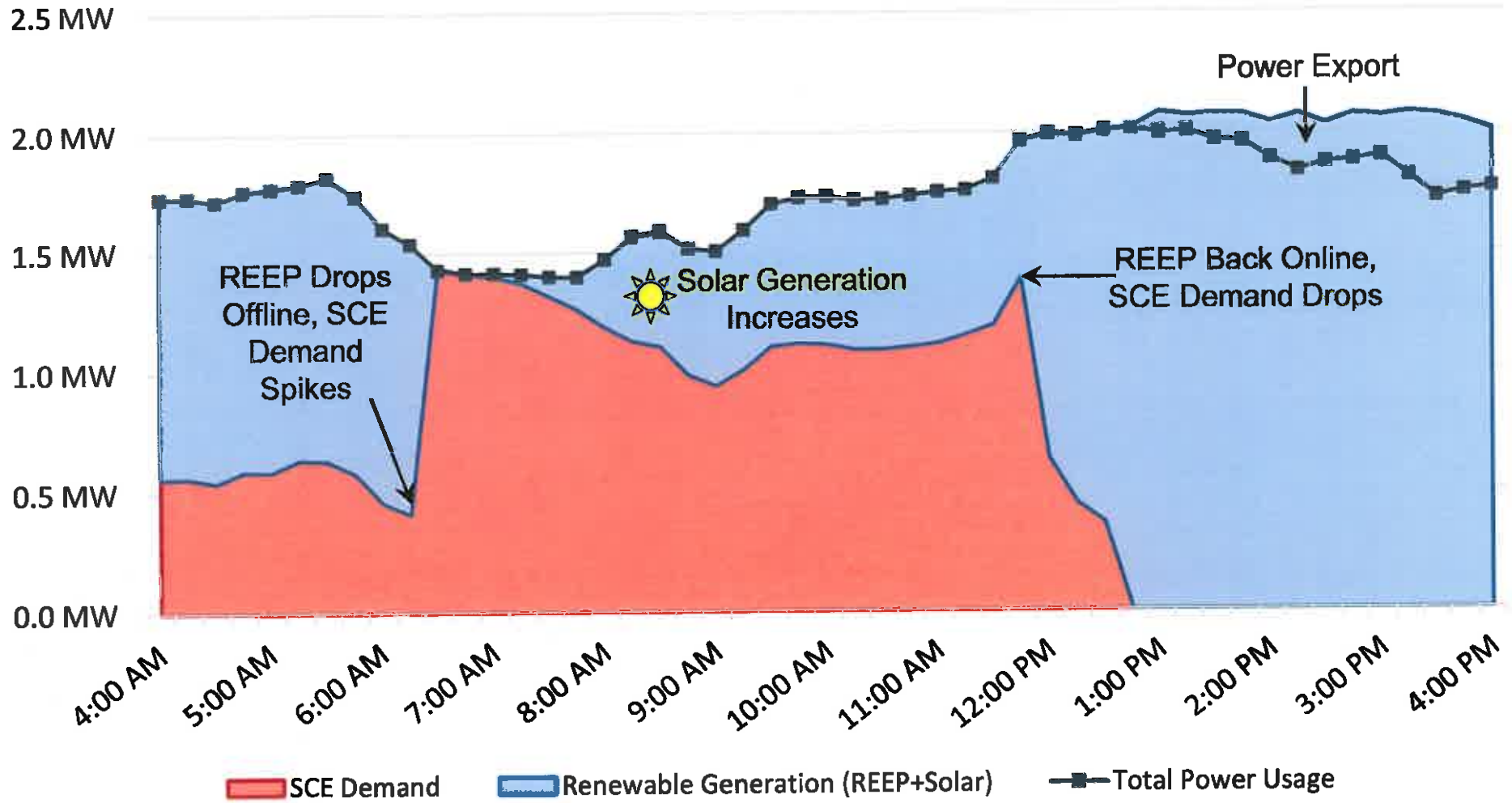


RP-5 Power Usage (w/out Battery) - 9/10/16

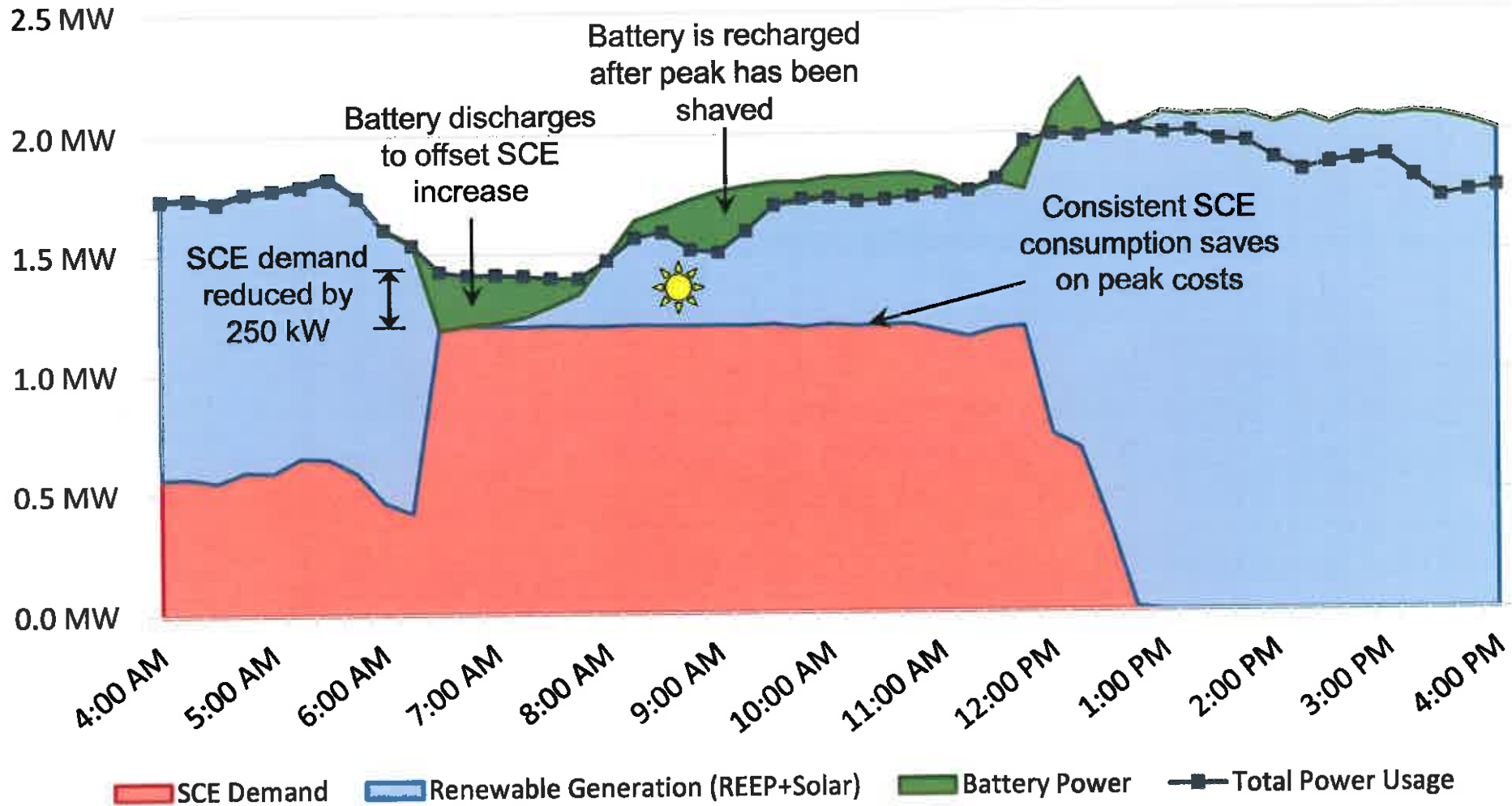


■ REEP – Food Waste-to-Energy Project

RP-5 Power Usage (w/out Battery) - 9/9/16



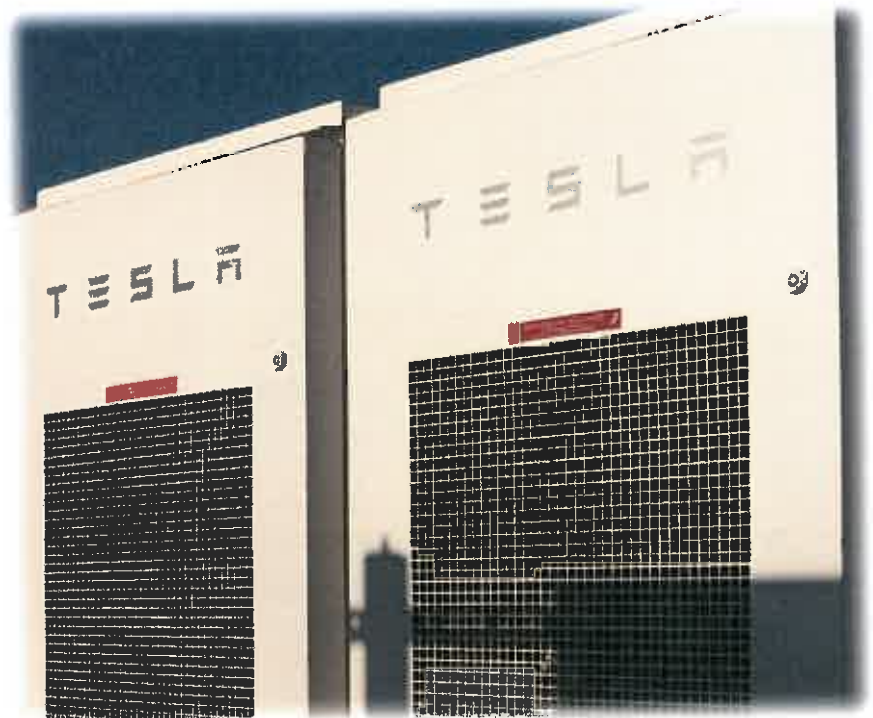
RP-5 Power Usage (w/ Battery) - 9/9/16



■ 250 kW Savings = \$800 (mid-peak); \$4,200 (on-peak)

Battery Storage Benefits (Here's the cool part)

- Completely Automated Process
- Renewable Energy Integration
 - Real-time tracking
 - Control over when renewable power is consumed
- Unmatched Load Management
- Ability to Coordinate with Electric Utility
 - IEUA not just a consumer, but a Demand Response asset



**INFORMATION
ITEM**

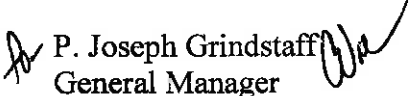
4F





Date: November 16, 2016

To: The Honorable Board of Directors

Through: Finance, Legal, and Administration Committee (11/9/16)

From:  P. Joseph Grindstaff
General Manager

Submitted by:  Christina Valencia
Chief Financial Officer/ Assistant General Manager

 Javier Chagoyen-Lazaro
Manager of Finance and Accounting

Subject: Treasurer's Report of Financial Affairs

RECOMMENDATION

The Treasurer's Report of Financial Affairs for the month ended August 31, 2016, is an informational item for the Board of Director's review.

BACKGROUND

The Treasurer's Report of Financial Affairs for the month ended August 31, 2016, is submitted in a format consistent with State requirements. The monthly report denotes investment transactions that have been executed in accordance with the criteria stated in the Agency's Investment Policy (Resolution No. 2016-5-1).

Total cash, investments, and restricted deposits of \$179,362,512 reflects an increase of \$922,741 compared to the total reported for July 2016. The increase can be attributed to capital call receipts. As a result, the average days of cash on hand for the month ended August 31, 2016 increased to 264 days from 249 days as reported in July 2016. Average days of cash on hand is calculated using the monthly ending balance of unrestricted cash and cash equivalents divided by disbursements associated with operating expenses, debt service, and capital expenditures as recorded in the Agency's cash flow. New connection fees collected and held by member agencies are excluded from the days of cash on hand calculation.

The Agency's investment portfolio average rate of return in August 2016 was 0.861%, a slight decrease of 0.008% compared to the average yield of 0.8690% reported in July 2016.

The Financial Affairs report is consistent with the Agency's Business Goal of Fiscal Responsibility in providing financial reporting that accounts for cash and investment activities to fund operating requirements and to optimize investment earnings.

PRIOR BOARD ACTION

None.

IMPACT ON BUDGET

The interest earned on the Agency's investment portfolio increases the Agency's reserves.

Attachment: August 2016 Treasurer's Report of Financial Affairs

TREASURER'S REPORT OF FINANCIAL AFFAIRS

For the Month Ended August 31, 2016



All investment transactions have been executed in accordance with the criteria stated in the Agency's Investment Policy (Resolution No. 2016-5-1) adopted by the Inland Empire Utilities Agency's Board of Directors during its regular meeting held on May 18, 2016.

The funds anticipated to be available during the next six-month period are expected to be sufficient to meet all foreseen expenditures during the period.

* A Municipal Water District

INLAND EMPIRE UTILITIES AGENCY
Cash and Investment Summary

Month Ended
August 31, 2016

	<u>August</u>	<u>July</u>
<u>Cash, Bank Deposits, and Bank Investment Accounts</u>	<u>\$1,168,109</u>	<u>\$545,415</u>
<u>Investments</u>		
Citizens Business Bank (CBB) Repurchase (Sweep)	\$16,977,523	\$10,458,173
Local Agency Investment Fund (LAIF)	25,542,452	30,542,452
CalTrust	16,057,449	16,057,901
California Asset Management Program (CAMP)	8,012,398	5,008,156
Certificates of Deposit	3,630,000	3,874,000
Medium Term Notes	9,603,987	9,605,972
U.S. Treasury Notes	999,948	999,933
U.S. Government Sponsored Entities	29,428,573	29,428,338
Total Investments	<u>\$110,252,330</u>	<u>\$105,974,925</u>
 Total Cash and Investments Available to the Agency	 <u>\$111,420,439</u>	 <u>\$106,520,340</u>
 <u>Restricted Deposits</u>		
Debt Service Accounts	\$2,544,810	\$7,283,494
CCRA Deposits Held by Member Agencies	55,905,885	55,133,818
OPEB (CERBT) Account	9,491,378	9,502,119
Total Restricted Deposits	<u>\$67,942,073</u>	<u>\$71,919,431</u>
 Total Cash, Investments, and Restricted Deposits	 <u>\$179,362,512</u>	 <u>\$178,439,771</u>

INLAND EMPIRE UTILITIES AGENCY
Cash and Investment Summary

Month Ended
August 31, 2016

Cash, Bank Deposits, and Bank Investment Accounts

CBB Demand Account (Offset by CBB Sweep Balance)	\$921,345
CBB Workers' Compensation Account	42,745
Bank of America (BofA) Payroll Account	53,955
BofA Payroll Taxes Account	53,118
Subtotal Demand Deposits	\$1,071,163
Other Cash and Bank Accounts	
Petty Cash	\$2,250
Subtotal Other Cash	\$2,250
US Bank Pre-Investment Money Market Account	\$94,696
Total Cash and Bank Accounts	\$1,168,109

Investments

CBB Repurchase (Sweep) Investments	
Federal Home Loan	\$2,854,747
Fannie Mae	14,122,776
Subtotal CBB Repurchase (Sweep)	\$16,977,523
Local Agency Investment Fund (LAIF)	
LAIF Non-Restricted Fund	\$25,542,452
Subtotal Local Agency Investment Fund	\$25,542,452
CalTrust	
Short Term	\$10,096,970
Medium Term - Restricted	5,960,479
Subtotal CalTrust	\$16,057,449
California Asset Management Program (CAMP)	
Pool	\$8,012,398
Subtotal CAMP	\$8,012,398

INLAND EMPIRE UTILITIES AGENCY
Cash and Investment Summary

Month Ended
August 31, 2016

Investments Continued

Certificates of Deposit

Brokered Certificates of Deposit	\$3,630,000
Subtotal Certificates of Deposit	\$3,630,000

Medium Term Notes

John Deere Capital Corp.	\$1,000,924
Toyota Motor Credit Corp.	2,000,000
JP Morgan Chase & Co.	999,400
Johnson & Johnson	2,021,742
Microsoft	2,071,123
Wells Fargo Bank N.A.	1,510,798
Subtotal Medium Term Notes	\$9,603,987

U.S. Treasury Notes

Treasury Note	\$999,948
Subtotal U.S. Treasury Notes	\$999,948

U.S. Government Sponsored Entities

Fannie Mae Bank	\$7,749,498
Freddie Mac Bank	7,480,385
Federal Farm Credit Bank	11,198,690
Federal Home Loan Bank	3,000,000
Subtotal U.S. Government Sponsored Entities	\$29,428,573

Total Investments

\$110,252,330

Restricted Deposits

Debt Service Reserves

08B Debt Service Accounts	\$2,544,719
10A Debt Service Accounts	91
Subtotal Debt Service Reserves	\$2,544,810

INLAND EMPIRE UTILITIES AGENCY
Cash and Investment Summary

Month Ended
August 31, 2016

CCRA Deposits Held by Member Agencies

City of Chino	\$12,656,772
Cucamonga Valley Water District	11,642,991
City of Fontana	9,558,150
City of Montclair	2,474,767
City of Ontario	10,851,749
City of Chino Hills	5,285,662
City of Upland	3,435,794
Subtotal CCRA Deposits Held by Member Agencies	\$55,905,885

CalPERS

OPEB (CERBT) Account	\$9,491,378
Subtotal CalPERS Accounts	\$9,491,378

Total Restricted Deposits

\$67,942,073

Total Cash, Investments, and Restricted Deposits as of August 31, 2016

\$179,362,512

Total Cash, Investments, and Restricted Deposits as of 8/31/16 Less:

\$179,362,512

Total Cash, Investments, and Restricted Deposits as of 7/31/16

178,439,771

Total Monthly Increase (Decrease)

\$922,741

INLAND EMPIRE UTILITIES AGENCY

Cash and Investment Summary

Month Ended
August 31, 2016

	Credit Rating @ Purchase		CHANGES IN Credit Rating		Par	Cost Basis	Term	August	August	% Coupon	% Yield to Maturity	Maturity	Market
	S&P	Moody's	S&P	Moody's	Amount	Amount	(Days)	Amortization	Value			Date	Value
Cash, Bank Deposits, and Bank Investment Accounts													
Citizens Business Bank (CBB)													
Demand Account*					\$921,345	\$921,345	N/A	N/A	\$921,345		N/A	N/A	\$921,345
Workers' Compensation Account					42,745	\$42,745	N/A	N/A	\$42,745		N/A	N/A	\$42,745
Subtotal CBB Accounts					\$964,090	\$964,090			\$964,090				\$964,090
Bank of America (BofA)													
Payroll Checking					\$53,955	\$53,955	N/A	N/A	\$53,955		N/A	N/A	\$53,955
Payroll Tax Checking					53,118	53,118	N/A	N/A	53,118		N/A	N/A	53,118
Subtotal B of A Accounts					\$107,073	\$107,073			\$107,073		N/A	N/A	\$107,073
US Bank (USB)													
Federated Automated MMA					\$94,696	\$94,696	N/A	N/A	\$94,696	0.01%		N/A	\$94,696
Subtotal USB Account					\$94,696	\$94,696			\$94,696	0.01%			\$94,696
Petty Cash													
					\$2,250	\$2,250	N/A	N/A	\$2,250		N/A	N/A	\$2,250
Total Cash, Bank Deposits and Bank Investment Accounts					\$1,168,109	\$1,168,109			\$1,168,109				\$1,168,109
<i>*Negative demand checking balance is offset by the Daily Repurchase (Sweep) Account balance</i>													
Investments													
CBB Daily Repurchase (Sweep) Accounts													
Federal Home Loan					\$2,854,747	\$2,854,747	N/A	N/A	\$2,854,747	0.40%		N/A	\$2,854,747
Fannie Mae					14,122,776	14,122,776	N/A	N/A	14,122,776	0.40%		N/A	14,122,776
Subtotal CBB Repurchase Accounts					\$16,977,523	\$16,977,523			\$16,977,523	0.40%			\$16,977,523
LAIF Accounts													
Non-Restricted Funds					\$25,542,452	\$25,542,452	N/A	N/A	\$25,542,452	0.614%		N/A	\$25,542,452
Subtotal LAIF Accounts					\$25,542,452	\$25,542,452			\$25,542,452	0.614%			\$25,542,452
CALTRUST Accounts													
Short-Term					\$10,096,970	\$10,096,970	N/A	N/A	\$10,096,970	0.79%		N/A	\$10,096,970
Medium-Term (Self Insurance Reserves)					5,960,479	5,960,479	N/A	N/A	5,960,479	1.00%		N/A	5,960,479
Subtotal CalTrust Accounts					\$16,057,449	\$16,057,449			\$16,057,449	0.868%			\$16,057,449
CAMP Accounts													
Short-Term					\$8,012,398	\$8,012,398	N/A	N/A	\$8,012,398	0.64%		N/A	\$8,012,398
Subtotal CAMP Accounts					\$8,012,398	\$8,012,398			\$8,012,398	0.64%			\$8,012,398

INLAND EMPIRE UTILITIES AGENCY

Cash and Investment Summary

Month Ended
August 31, 2016

	Credit Rating @ Purchase		CHANGES IN Credit Rating		Par Amount	Cost Basis Amount	Term (Days)	August	August	% Coupon	% Yield to Maturity	Maturity Date	Market Value
	S&P	Moody's	S&P	Moody's				Amortization	Value				
Investments (continued)													
Brokered Certificates of Deposit (CDs)													
Ally Bank	N/A				\$245,000	\$245,000	551		\$245,000	0.80%	0.80%	01/17/17	\$245,213
Capital One National Association	N/A				240,000	240,000	552		240,000	0.80%	0.80%	01/17/17	240,209
Compass Bank	N/A				245,000	245,000	552		245,000	0.85%	0.85%	01/17/17	245,213
Comenity Capital Bank	N/A				240,000	240,000	731		240,000	1.15%	1.15%	07/13/17	240,674
Discover Bank	N/A				240,000	240,000	552		240,000	1.15%	1.15%	07/17/17	240,648
Medallion Bank	N/A				240,000	240,000	733		240,000	1.20%	1.20%	07/17/17	240,648
Sallie Mae Bank	N/A				248,000	248,000	743		248,000	1.15%	1.15%	11/06/17	249,161
Key Bank National Association	N/A				248,000	248,000	732		248,000	1.10%	1.10%	11/13/17	249,198
Capital One Bank	N/A				240,000	240,000	916		240,000	1.35%	1.35%	01/16/18	241,702
Goldman Sachs Bank USA	N/A				240,000	240,000	916		240,000	1.40%	1.40%	01/16/18	241,862
BMW Bank of North America	N/A				240,000	240,000	915		240,000	1.40%	1.40%	01/17/18	241,865
American Express Bank	N/A				240,000	240,000	1097		240,000	1.70%	1.70%	07/16/18	242,491
American Express Centurion	N/A				240,000	240,000	1097		240,000	1.70%	1.70%	07/16/18	242,491
HSBC Bank USA, NA Step	N/A				244,000	244,000	1827		244,000	1.25%	2.51%	07/29/20	244,932
Synchrony Bank	N/A				240,000	240,000	1827		240,000	2.25%	2.25%	10/02/20	248,746
Subtotal Brokered CDs					\$3,630,000	\$3,630,000		\$0	\$3,630,000		1.366%		\$3,655,053
US Treasury Note													
US Treasury Note	N/A	AAA			\$1,000,000	\$999,463	1092	15	\$999,948	0.63%	0.64%	12/15/16	\$1,000,700
Subtotal US Treasuries					\$1,000,000	\$999,463		15	\$999,948		0.64%		\$1,000,700
U.S. Government Sponsored Entities													
Federal Farm Credit Bank (<i>Sinking Fund Reserves</i>)	AA+	AAA			\$5,195,000	\$5,199,431	447	(303)	\$5,198,690	0.75%	0.68%	09/13/17	\$5,194,792
Freddie Mac Bond	AA+	AAA			2,000,000	2,000,000	714		2,000,000	1.05%	1.05%	05/10/18	2,000,440
Fannie Mae Bond	AA+	AAA			2,000,000	2,000,000	1,097		2,000,000	1.20%	1.20%	11/28/18	2,001,620
Fannie Mae Bond	AA+	AAA			2,000,000	2,000,000	1,459		2,000,000	1.63%	1.63%	12/28/18	2,006,520
Federal Farm Credit Bank	AA+	AAA			3,000,000	3,000,000	1,079		3,000,000	1.15%	1.15%	02/22/19	2,998,500
Freddie Mac Bond	AA+	AAA			1,000,000	1,003,132	1,023	(95)	1,002,835	1.25%	1.14%	03/15/19	1,007,030
Federal Home Loan Bank	AA+	AAA			3,000,000	3,000,000	1,186		3,000,000	1.50%	1.50%	04/26/19	3,005,460
Federal Farm Credit Bank	AA+	AAA			2,000,000	2,000,000	1,460		2,000,000	1.52%	1.52%	06/24/19	2,025,840
Freddie Mac Bond	AA+	AAA			1,500,000	1,500,000	1,080		1,500,000	1.15%	1.15%	07/26/19	1,495,380
Fannie Mae Step Bond	AA+	AAA			1,500,000	1,500,000	1,080		1,500,000	0.88%	1.33%	07/27/19	1,494,960
Fannie Mae Bond	AA+	AAA			900,000	899,460	1,153	14	899,498	1.25%	1.25%	08/23/19	900,000
Fannie Mae Bond	AA+	AAA			1,350,000	1,350,000	1,157		1,350,000	1.25%	1.25%	08/26/19	1,350,095
Freddie Mac Bond	AA+	AAA			3,000,000	2,972,928	1,359	618	2,977,550	1.25%	1.50%	10/02/19	3,019,080
Federal Farm Credit Bank	AA+	AAA			1,000,000	1,000,000	1,461		1,000,000	1.42%	1.42%	10/21/19	1,000,330
Subtotal U.S. Gov't Sponsored Entities					\$29,445,000	\$29,424,951		\$234	\$29,428,573		1.218%		\$29,500,047

(As of August 2011, all US GSE's have been downgraded to AA+ Rating by S&P)

INLAND EMPIRE UTILITIES AGENCY

Cash and Investment Summary

Month Ended
August 31, 2016

	Credit Rating @ Purchase		CHANGES IN Credit Rating		Par	Cost Basis	Term	August	August	% Coupon	% Yield to Maturity	Maturity	Market
	S&P	Moody's	S&P	Moody's	Amount	Amount	(Days)	Amortization	Value		Date	Value	
Medium Term Notes													
John Deere Capital Corp	A	A2			\$1,000,000	\$1,004,000	1,754	(71)	\$1,000,924	1.20%	1.11%	10/10/17	\$1,001,800
Toyota Motor Credit Corp	AA-	AA3			2,000,000	2,000,000	1,045		2,000,000	1.10%	1.10%	04/25/18	1,978,580
JP Morgan Chase & Co	A-	A3			1,000,000	999,000	1,037	30	999,400	1.63%	1.66%	05/15/18	1,004,620
Johnson & Johnson	AAA	AAA			2,000,000	2,027,480	1,044	(816)	2,021,742	1.65%	1.16%	12/05/18	2,027,600
Microsoft	AAA	AAA			2,050,000	2,076,691	1,045	(792)	2,071,123	1.63%	1.16%	12/06/18	2,074,539
Wells Fargo Bank	AA-	Aa2			1,500,000	1,511,655	1,061	(336)	1,510,798	1.75%	1.48%	05/24/19	1,515,495
Subtotal Medium Term Notes					<u>\$9,550,000</u>	<u>\$9,618,826</u>		<u>(\$1,985)</u>	<u>\$9,603,987</u>		<u>1.25%</u>		<u>\$9,602,634</u>
Total Investments					<u>\$110,214,822</u>	<u>\$110,263,062</u>			<u>\$110,252,330</u>				<u>\$110,348,256</u>
<i>(Source of Investment Market Value: US Bank)</i>													
Restricted Deposits													
Debt Service and Arbitrage Accounts													
08B Debt Service Accounts					\$2,544,719	\$2,544,719	N/A	N/A	\$2,544,719		0.00%		\$2,544,719
10A Debt Service Accounts					91	91	N/A	N/A	91		0.10%		91
Total Debt Service Accounts					<u>\$2,544,810</u>	<u>\$2,544,810</u>			<u>\$2,544,810</u>		<u>0.00%</u>		<u>\$2,544,810</u>
CCRA Deposits Held by Member Agencies													
City of Chino					\$12,656,772	\$12,656,772	N/A	N/A	\$12,656,772		N/A	N/A	\$12,656,772
Cucamonga Valley Water District					11,642,991	11,642,991	N/A	N/A	11,642,991		N/A	N/A	11,642,991
City of Fontana					9,558,150	9,558,150	N/A	N/A	9,558,150		N/A	N/A	9,558,150
City of Montclair					2,474,767	2,474,767	N/A	N/A	2,474,767		N/A	N/A	2,474,767
City of Ontario					10,851,749	10,851,749	N/A	N/A	10,851,749		N/A	N/A	10,851,749
City of Chino Hills					5,285,662	5,285,662	N/A	N/A	5,285,662		N/A	N/A	5,285,662
City of Upland					3,435,794	3,435,794	N/A	N/A	3,435,794		N/A	N/A	3,435,794
Subtotal CCRA Deposits Held by Member Agencies					<u>\$55,905,885</u>	<u>\$55,905,885</u>			<u>\$55,905,885</u>				<u>\$55,905,885</u>
<i>(Reported total as of June 30, 2016)</i>													
CalPERS Deposits													
OPEB (CERBT) Account					\$9,000,000	\$9,000,000	N/A	N/A	\$9,491,378		N/A	N/A	\$9,491,378
Subtotal CalPERS Deposits					<u>\$9,000,000</u>	<u>\$9,000,000</u>			<u>\$9,491,378</u>				<u>\$9,491,378</u>
Total Restricted Deposits					<u>\$67,450,695</u>	<u>\$67,450,695</u>			<u>\$67,942,073</u>				<u>\$67,942,073</u>
Total Cash, Investments, and Restricted Deposits as of August 31, 2016					<u>\$178,833,626</u>	<u>\$178,881,866</u>			<u>\$179,362,512</u>				<u>\$179,458,438</u>

INLAND EMPIRE UTILITIES AGENCY
Cash and Investment Summary

Month Ended
 August 31, 2016

August Purchases

No.	Date	Transaction	Investment Security	Par Amount Purchased	Investment Yield
				\$ -	
Total Purchases				\$ -	

August Investment Maturities, Calls & Sales

No.	Date	Transaction	Investment Security	Par Amount Matured/Sold	Investment Yield to Maturity
1	08/01/16	Called	JP Morgan Chase CD	\$ 244,000	1.250%
Total Maturities, Calls & Sales				\$ 244,000	

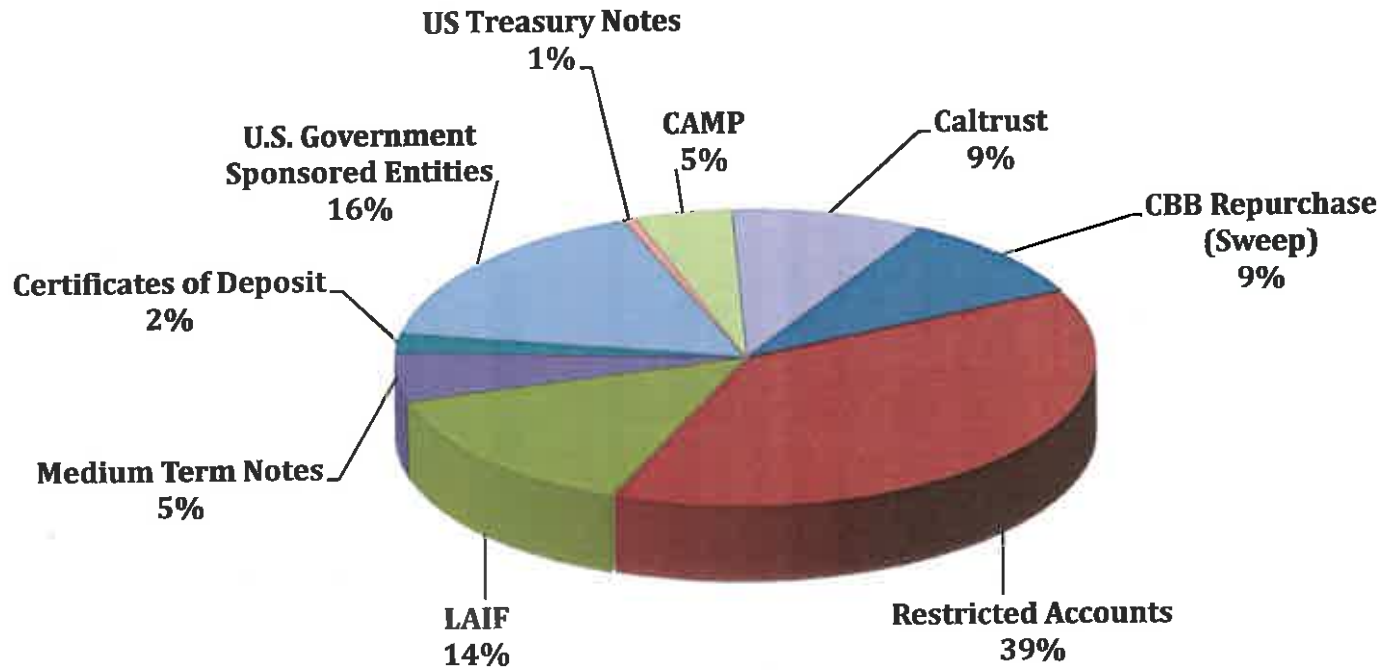
INLAND EMPIRE UTILITIES AGENCY
Cash and Investment Summary

Month Ended
August 31, 2016

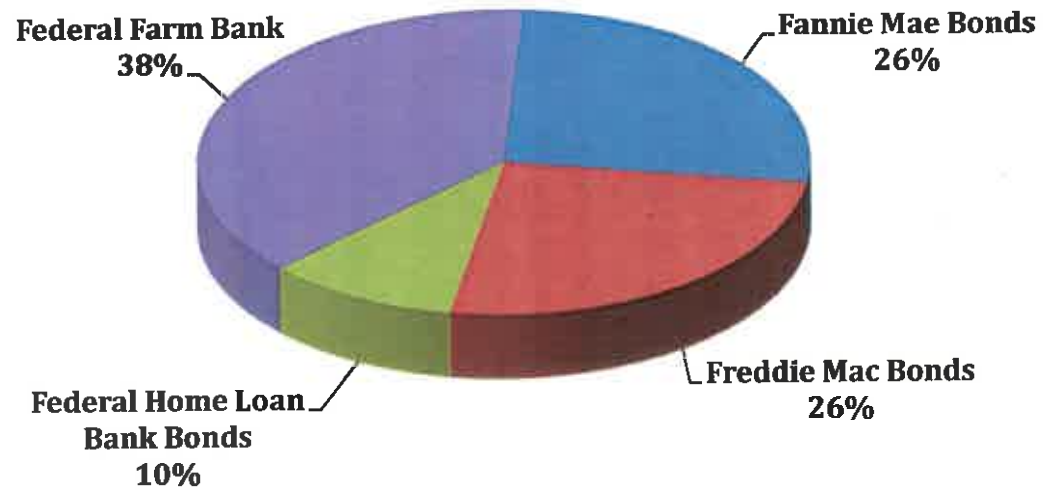
<u>Directed Investment Category</u>	<u>Amount Invested</u>	<u>Yield</u>
CBB Repurchase (Sweep)	\$16,977,523	0.400%
LAIF	25,542,452	0.614%
CalTrust	16,057,449	0.868%
CAMP	8,012,398	0.640%
Medium Term Notes	9,603,987	1.245%
US Treasury Notes	999,948	0.640%
U.S. Government Sponsored Entities	29,428,573	1.218%
	\$106,622,330	0.844%
Bank Deposit and Investment Accounts		
Various Banks - Brokered Certificates of Deposit	\$3,630,000	1.366%
	\$3,630,000	1.366%
Total Investment Portfolio	\$110,252,330	
Investment Portfolio Rate of Return		0.861%
Restricted/Transitory/Other Demand Accounts		
	<u>Amount Invested</u>	<u>Yield</u>
CCRA Deposits Held by Member Agencies	\$55,905,885	N/A
CalPERS OPEB (CERBT) Account	9,491,378	N/A
US Bank - 2008B Debt Service Accounts	2,544,719	0.000%
Citizens Business Bank - Demand Account	921,345	N/A
US Bank - 2010A Debt Service Accounts	91	0.100%
US Bank - Pre-Investment Money Market Account	94,696	0.010%
Citizens Business Bank - Workers' Compensation Account	42,745	N/A
Other Accounts*	109,323	N/A
	\$69,110,182	
Total Other Accounts		
Average Yield of Other Accounts		0.000%
Total Agency Directed Deposits	\$179,362,512	

* Note: Bank of America Payroll Deposits used as compensating balances for bank services.

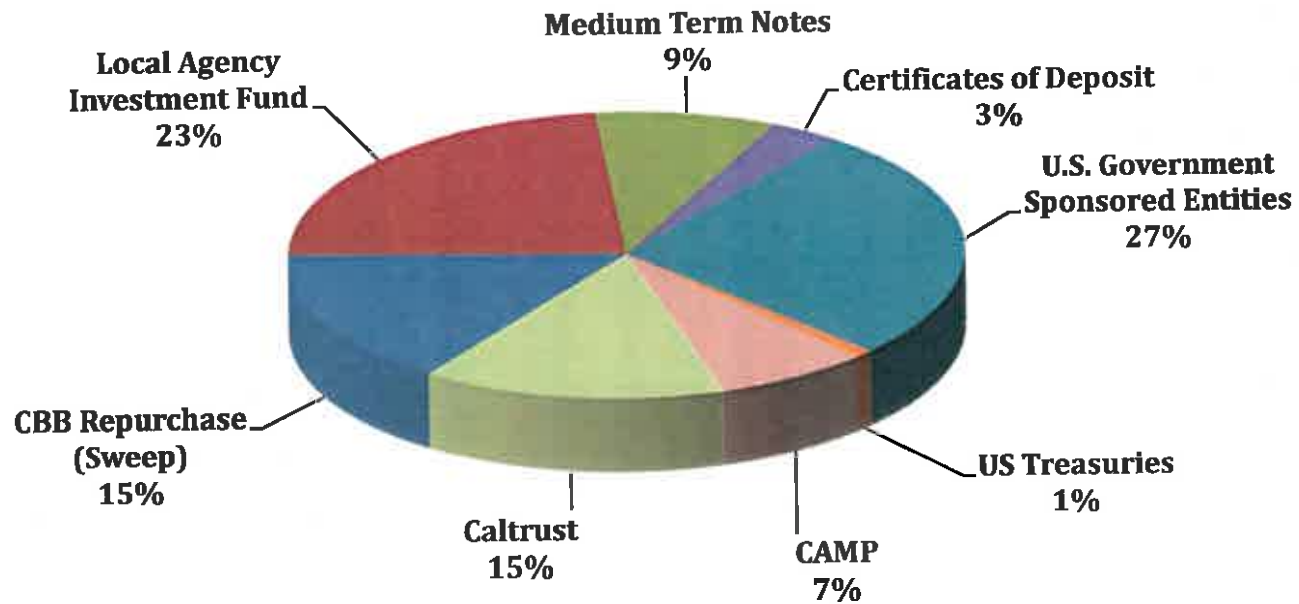
Inland Empire Utilities Agency
Treasurer's Report of Financial Affairs
For the Month Ended August 31, 2016
Agency Investment Portfolio (net of escrow accounts)
\$179,362,512



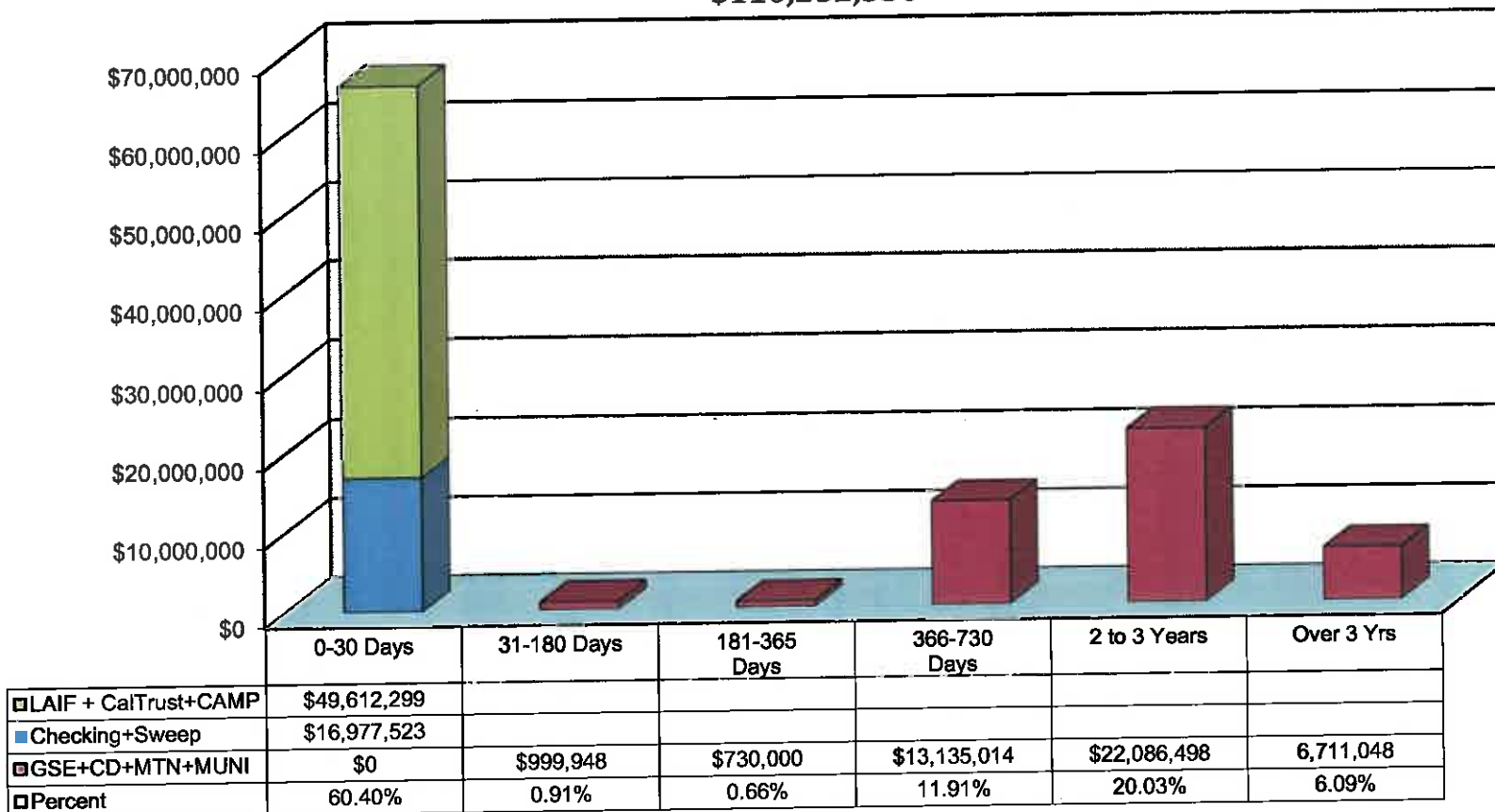
Inland Empire Utilities Agency
Treasurer's Report of Financial Affairs
For the Month Ended August 31, 2016
U.S. Government Sponsored Entities Portfolio
\$29,428,573



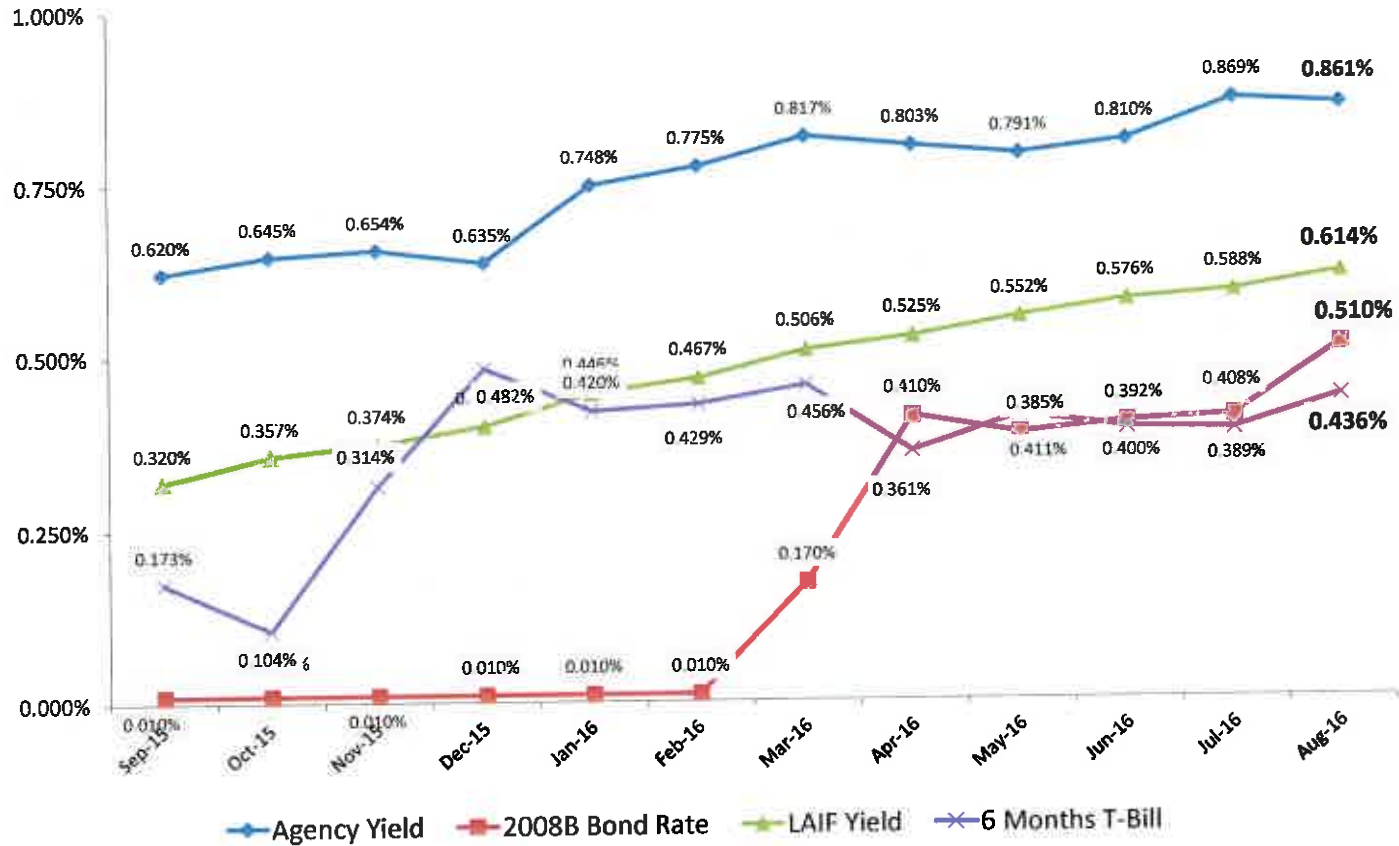
Inland Empire Utilities Agency
Treasurer's Report of Financial Affairs
For the Month Ended August 31, 2016
Unrestricted Agency Investment Portfolio
\$110,252,330



Inland Empire Utilities Agency
Treasurer's Report of Financial Affairs
For the Month Ended August 31, 2016
Agency Investment Portfolio Maturity Distribution
\$110,252,330



Inland Empire Utilities Agency
Treasurer's Report of Financial Affairs
Agency Investment Portfolio Yield Comparison



Treasurer's Report of Financial Affairs for August 31, 2016

**November 2016
Board Meeting**

Report of Financial Affairs

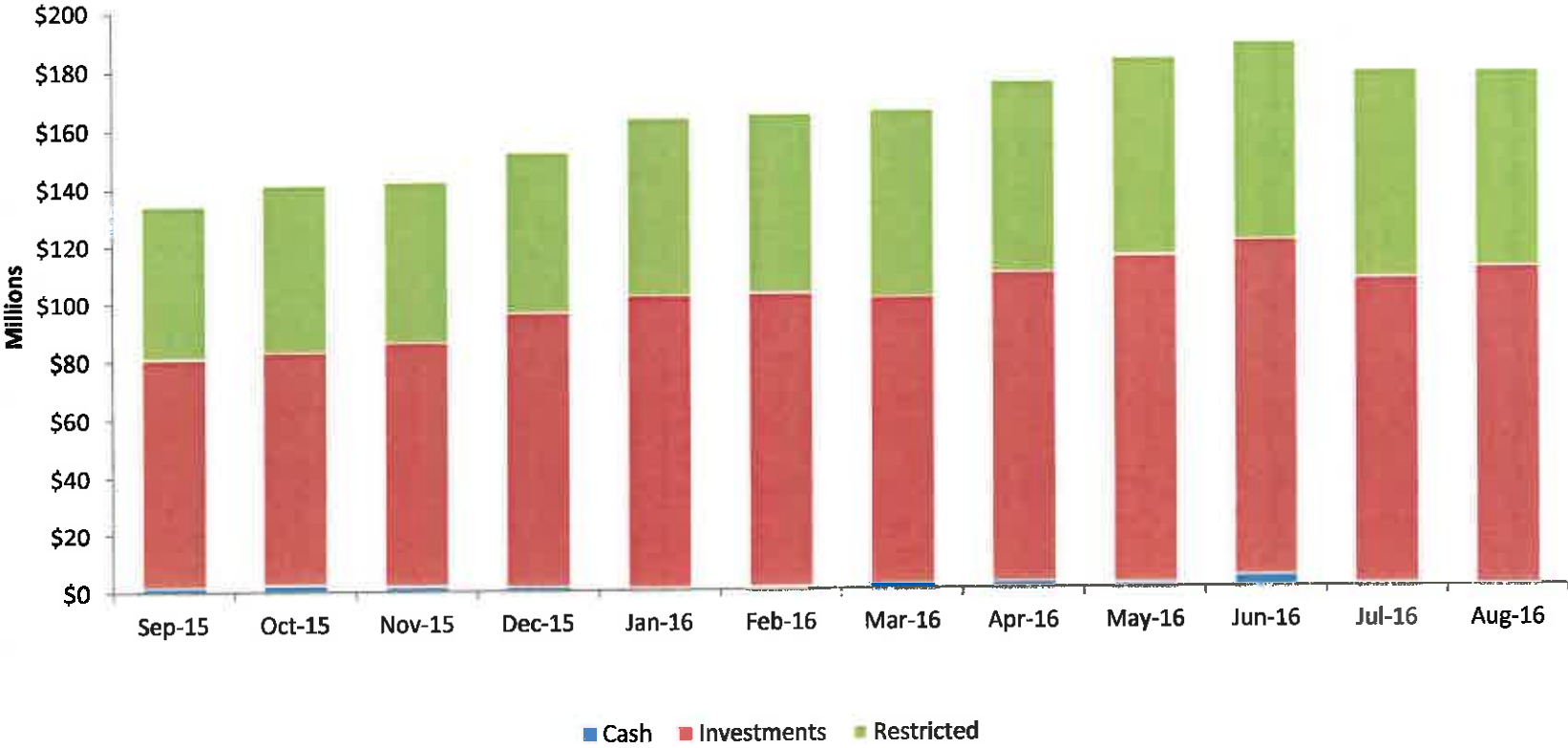
Liquidity

Description	August 2016 (\$ million)	July 2016 (\$ million)	Increase (Decrease) (\$ million)
Total Cash, Investments, and Restricted Deposits	\$179.3	\$178.4	\$0.9
Total Investment Portfolio	\$110.3	\$105.9	\$4.3
Investment Portfolio Yield	0.861%	0.869%	(0.008%)
Weighted Average Duration (years)	0.79	0.89	(0.10)
Average Cash on Hand (days)	264	249	15

Portfolio

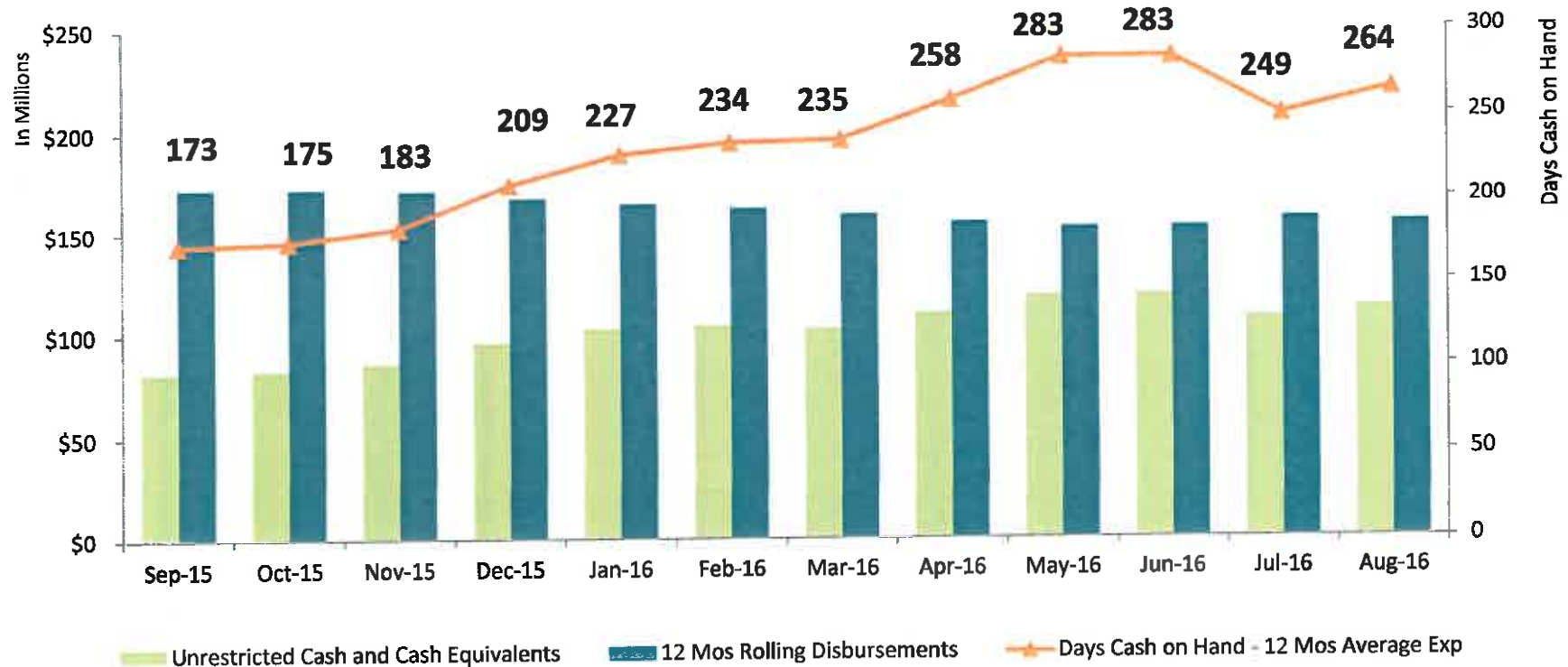
Term	Description	Allowable Threshold (\$ million)	Investment Value (\$ million)	Yield	Current Portfolio %
Short Term, Under 1 Year:	LAIF	\$65	\$25.5	0.614%	23.2%
	CalTrust	\$20	\$16.1	0.868%	14.6%
	Citizens Business – Sweep	40%	\$17.0	0.40%	15.4%
	CAMP	\$20	\$8.0	0.64%	7.3%
	Brokered CD's	30%	\$1.4	0.99%	1.2%
	US Treasury Note	n/a	\$1.0	0.64%	0.9%
1 to 3 Years:	Brokered CDs	30%	\$1.7	1.40%	1.6%
	US Government Securities	n/a	\$25.4	1.18%	23.0%
	Medium Term Notes	10%	\$9.6	1.25%	8.7%
Over 3 Years:	Brokered CDs	30%	\$0.5	2.38%	0.5%
	US Government Securities	n/a	\$4.0	1.48%	3.6%

Cash, Investments and Restricted Deposits

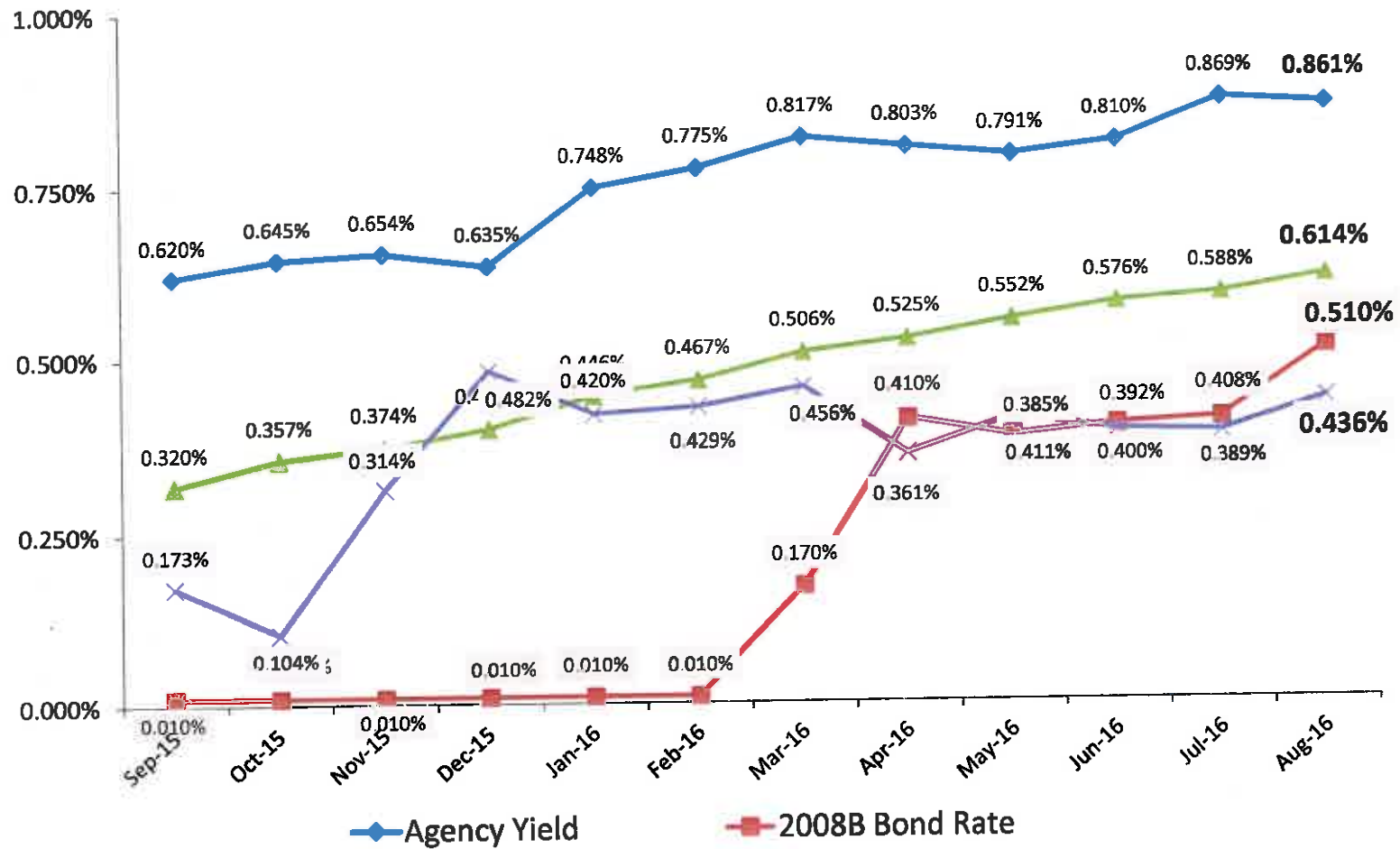


Day Cash On Hand

12 Months Rolling Average



Month End Portfolio Yield Comparison





Questions?

The Treasurer's Report of Financial Affairs is consistent with the Agency's business goal of fiscal responsibility


INFORMATION
ITEM


4G


Date: November 16, 2016

To: The Honorable Board of Directors

Through: Finance, Legal, and Administration Committee (11/9/16)

From:  P. Joseph Grindstaff
General Manager

Submitted by:  Christina Valencia
Chief Financial Officer/ Assistant General Manager

 Javier Chagoyen-Lazaro
Manager of Finance and Accounting

Subject: Treasurer's Report of Financial Affairs

RECOMMENDATION

The Treasurer's Report of Financial Affairs for the month ended September 30, 2016 is an informational item for the Board of Director's review.

BACKGROUND

The Treasurer's Report of Financial Affairs for the month ended September 30, 2016 is submitted in a format consistent with State requirements. The monthly report denotes investment transactions that have been executed in accordance with the criteria stated in the Agency's Investment Policy (Resolution No. 2016-5-1).

Total cash, investments, and restricted deposits of \$181,822,592 reflects an increase of \$2,460,080 compared to the total reported for August 2016. The increase can be attributed to grant receipts that will be passed-through to the Chino Basin Desalter Authority in October. As a result, the average days of cash on hand for the month ended September 30, 2016 increased to 287 days from 264 days as reported in August 2016. Average days of cash on hand is calculated using the monthly ending balance of unrestricted cash and cash equivalents divided by disbursements associated with operating expenses, debt service, and capital expenditures as recorded in the Agency's cash flow. New connection fees collected and held by member agencies are excluded from the days of cash on hand calculation.

The Agency's investment portfolio average rate of return in September 2016 was 0.829%, a slight decrease of 0.032% compared to the average yield of 0.861% reported in August 2016. The

decrease can be attributed to an increase in cash holdings in the CBB Repurchase (Sweep) account with yield of 0.40% in preparation of the refinancing of the 2008A Revenue Bonds.

The Financial Affairs report is consistent with the Agency's Business Goal of Fiscal Responsibility in providing financial reporting that accounts for cash and investment activities to fund operating requirements and to optimize investment earnings.

PRIOR BOARD ACTION

None.

IMPACT ON BUDGET

The interest earned on the Agency's investment portfolio increases the Agency's reserves.

Attachment: September 2016 Treasurer's Report of Financial Affairs

TREASURER'S REPORT OF FINANCIAL AFFAIRS

For the Month Ended September 30, 2016



All investment transactions have been executed in accordance with the criteria stated in the Agency's Investment Policy (Resolution No. 2016-5-1) adopted by the Inland Empire Utilities Agency's Board of Directors during its regular meeting held on May 18, 2016.

The funds anticipated to be available during the next six-month period are expected to be sufficient to meet all foreseen expenditures during the period.

* A Municipal Water District

INLAND EMPIRE UTILITIES AGENCY
Cash and Investment Summary

Month Ended
September 30, 2016

	September	August
<u>Cash, Bank Deposits, and Bank Investment Accounts</u>	\$819,185	\$1,168,109
<u>Investments</u>		
Citizens Business Bank (CBB) Repurchase (Sweep)	\$27,085,624	\$16,977,523
Local Agency Investment Fund (LAIF)	25,542,452	25,542,452
CalTrust	16,069,016	16,057,449
California Asset Management Program (CAMP)	8,016,570	8,012,398
Certificates of Deposit	3,630,000	3,630,000
Medium Term Notes	9,602,066	9,603,987
U.S. Treasury Notes	999,963	999,948
U.S. Government Sponsored Entities	29,428,799	29,428,573
Total Investments	\$120,374,490	\$110,252,330
Total Cash and Investments Available to the Agency	\$121,193,675	\$111,420,439
<u>Restricted Deposits</u>		
Debt Service Accounts	\$2,544,810	\$2,544,810
CCRA Deposits Held by Member Agencies	48,569,971	55,905,885
OPEB (CERBT) Account	9,514,136	9,491,378
Total Restricted Deposits	\$60,628,917	\$67,942,073
Total Cash, Investments, and Restricted Deposits	\$181,822,592	\$179,362,512

INLAND EMPIRE UTILITIES AGENCY
Cash and Investment Summary

Month Ended
September 30, 2016

Cash, Bank Deposits, and Bank Investment Accounts

CBB Demand Account (Offset by CBB Sweep Balance)	\$249,565
CBB Workers' Compensation Account	38,885
Bank of America (BofA) Payroll Account	52,639
BofA Payroll Taxes Account	385,571
Subtotal Demand Deposits	\$726,660
Other Cash and Bank Accounts	
Petty Cash	\$2,250
Subtotal Other Cash	\$2,250
US Bank Pre-Investment Money Market Account	\$90,275
Total Cash and Bank Accounts	\$819,185

Investments

CBB Repurchase (Sweep) Investments	
Federal Home Loan	\$0
Fannie Mae	27,085,624
Subtotal CBB Repurchase (Sweep)	\$27,085,624
Local Agency Investment Fund (LAIF)	
LAIF Non-Restricted Fund	\$25,542,452
Subtotal Local Agency Investment Fund	\$25,542,452
CalTrust	
Short Term	\$10,103,486
Medium Term - Restricted	5,965,530
Subtotal CalTrust	\$16,069,016
California Asset Management Program (CAMP)	
Pool	\$8,016,570
Subtotal CAMP	\$8,016,570

INLAND EMPIRE UTILITIES AGENCY
Cash and Investment Summary

Month Ended
September 30, 2016

Investments Continued

Certificates of Deposit

Brokered Certificates of Deposit	\$3,630,000
Subtotal Certificates of Deposit	<u>\$3,630,000</u>

Medium Term Notes

John Deere Capital Corp.	\$1,000,855
Toyota Motor Credit Corp.	2,000,000
JP Morgan Chase & Co.	999,429
Johnson & Johnson	2,020,952
Microsoft	2,070,357
Wells Fargo Bank N.A.	1,510,473
Subtotal Medium Term Notes	<u>\$9,602,066</u>

U.S. Treasury Notes

Treasury Note	\$999,963
Subtotal U.S. Treasury Notes	<u>\$999,963</u>

U.S. Government Sponsored Entities

Fannie Mae Bank	\$7,749,512
Freddie Mac Bank	7,480,890
Federal Farm Credit Bank	11,198,397
Federal Home Loan Bank	3,000,000
Subtotal U.S. Government Sponsored Entities	<u>\$29,428,799</u>

Total Investments \$120,374,490

Restricted Deposits

Debt Service Reserves

08B Debt Service Accounts	\$2,544,719
10A Debt Service Accounts	91
Subtotal Debt Service Reserves	<u>\$2,544,810</u>

INLAND EMPIRE UTILITIES AGENCY
Cash and Investment Summary

Month Ended
September 30, 2016

CCRA Deposits Held by Member Agencies

City of Chino	\$10,889,077
Cucamonga Valley Water District	10,339,540
City of Fontana	8,201,141
City of Montclair	2,137,540
City of Ontario	9,589,742
City of Chino Hills	4,465,051
City of Upland	2,947,880
Subtotal CCRA Deposits Held by Member Agencies	\$48,569,971

CalPERS

OPEB (CERBT) Account	\$9,514,136
Subtotal CalPERS Accounts	\$9,514,136

Total Restricted Deposits

\$60,628,917

Total Cash, Investments, and Restricted Deposits as of September 30, 2016

\$181,822,592

Total Cash, Investments, and Restricted Deposits as of 9/30/16

\$181,822,592

Less: Total Cash, Investments, and Restricted Deposits as of 8/31/16

179,362,512

Total Monthly Increase (Decrease)

\$2,460,080

INLAND EMPIRE UTILITIES AGENCY

Cash and Investment Summary

Month Ended
September 30, 2016

	Credit Rating @ Purchase		CHANGES IN Credit Rating		Par	Cost Basis	Term	September	September	%	%	Maturity	Market
	S&P	Moody's	S&P	Moody's	Amount	Amount	(Days)	Amortization	Value	Coupon	Yield to Maturity	Date	Value
Cash, Bank Deposits, and Bank Investment Accounts													
Citizens Business Bank (CBB)													
Demand Account*					\$249,565	\$249,565	N/A	N/A	\$249,565		N/A	N/A	\$249,565
Workers' Compensation Account					38,885	38,885	N/A	N/A	38,885		N/A	N/A	38,885
Subtotal CBB Accounts					\$288,450	\$288,450			\$288,450				\$288,450
Bank of America (BoFA)													
Payroll Checking					\$52,639	\$52,639	N/A	N/A	\$52,639		N/A	N/A	\$52,639
Payroll Tax Checking					385,571	385,571	N/A	N/A	385,571		N/A	N/A	385,571
Subtotal B of A Accounts					\$438,210	\$438,210			\$438,210		N/A	N/A	\$438,210
US Bank (USB)													
Federated Automated MMA					\$90,275	\$90,275	N/A	N/A	\$90,275		0.01%	N/A	\$90,275
Subtotal USB Account					\$90,275	\$90,275			\$90,275		0.01%		\$90,275
Petty Cash													
					\$2,250	\$2,250	N/A	N/A	\$2,250		N/A	N/A	\$2,250
Total Cash, Bank Deposits and Bank Investment Accounts					\$819,185	\$819,185			\$819,185				\$819,185
<i>*Negative demand checking balance is offset by the Daily Repurchase (Sweep) Account balance</i>													
Investments													
CBB Daily Repurchase (Sweep) Accounts													
Fannie Mae					\$27,085,624	\$27,085,624	N/A	N/A	\$27,085,624		0.40%		\$27,085,624
Subtotal CBB Repurchase Accounts					\$27,085,624	\$27,085,624			\$27,085,624		0.40%		\$27,085,624
LAIF Accounts													
Non-Restricted Funds					\$25,542,452	\$25,542,452	N/A	N/A	\$25,542,452		0.634%	N/A	\$25,542,452
Subtotal LAIF Accounts					\$25,542,452	\$25,542,452			\$25,542,452		0.634%		\$25,542,452
CALTRUST Accounts													
Short-Term					\$10,103,486	\$10,103,486	N/A	N/A	\$10,103,486		0.81%	N/A	\$10,103,486
Medium-Term (Self Insurance Reserves)					5,965,530	5,965,530	N/A	N/A	5,965,530		1.01%	N/A	5,965,530
Subtotal CalTrust Accounts					\$16,069,016	\$16,069,016			\$16,069,016		0.884%		\$16,069,016
CAMP Accounts													
Short-Term					\$8,016,570	\$8,016,570	N/A	N/A	\$8,016,570		0.64%	N/A	\$8,016,570
Subtotal CAMP Accounts					\$8,016,570	\$8,016,570			\$8,016,570		0.64%		\$8,016,570

INLAND EMPIRE UTILITIES AGENCY

Cash and Investment Summary

Month Ended
September 30, 2016

	Credit Rating @ Purchase		CHANGES IN Credit Rating		Par Amount	Cost Basis Amount	Term (Days)	September Amortization	September Value	% Coupon	% Yield to Maturity	Maturity Date	Market Value
	S&P	Moody's	S&P	Moody's									
Investments (continued)													
Brokered Certificates of Deposit (CDs)													
Ally Bank	N/A				\$245,000	\$245,000	551		\$245,000	0.80%	0.80%	01/17/17	\$245,167
Capital One National Association	N/A				240,000	240,000	552		240,000	0.80%	0.80%	01/17/17	240,163
Compass Bank	N/A				245,000	245,000	552		245,000	0.85%	0.85%	01/17/17	245,167
Comenity Capital Bank	N/A				240,000	240,000	731		240,000	1.15%	1.15%	07/13/17	240,703
Discover Bank	N/A				240,000	240,000	552		240,000	1.15%	1.15%	07/17/17	240,682
Medallion Bank	N/A				240,000	240,000	733		240,000	1.20%	1.20%	07/17/17	240,682
Sallie Mae Bank	N/A				248,000	248,000	743		248,000	1.15%	1.15%	11/06/17	249,126
Key Bank National Association	N/A				248,000	248,000	732		248,000	1.10%	1.10%	11/13/17	249,163
Capital One Bank	N/A				240,000	240,000	916		240,000	1.35%	1.35%	01/16/18	241,651
Goldman Sachs Bank USA	N/A				240,000	240,000	916		240,000	1.40%	1.40%	01/16/18	241,805
BMW Bank of North America	N/A				240,000	240,000	915		240,000	1.40%	1.40%	01/17/18	241,807
American Express Bank	N/A				240,000	240,000	1097		240,000	1.70%	1.70%	07/16/18	242,455
American Express Centurion	N/A				240,000	240,000	1097		240,000	1.70%	1.70%	07/16/18	242,455
HSBC Bank USA, NA Step	N/A				244,000	244,000	1827		244,000	1.25%	2.51%	07/29/20	244,920
Synchrony Bank	N/A				240,000	240,000	1827		240,000	2.25%	2.25%	10/02/20	248,734
Subtotal Brokered CDs					\$3,630,000	\$3,630,000		\$0	\$3,630,000		1.366%		\$3,654,679
US Treasury Note													
US Treasury Note	N/A	AAA			\$1,000,000	\$999,463	1092	15	\$999,963	0.63%	0.64%	12/15/16	\$1,000,710
Subtotal US Treasuries					\$1,000,000	\$999,463		15	\$999,963		0.64%		\$1,000,710
U.S. Government Sponsored Entities													
Federal Farm Credit Bank (<i>Sinking Fund Reserves</i>)	AA+	AAA			\$5,195,000	\$5,199,431	447	(293)	\$5,198,397	0.75%	0.68%	09/13/17	\$5,199,000
Freddie Mac Bond	AA+	AAA			2,000,000	2,000,000	714		2,000,000	1.05%	1.05%	05/10/18	2,000,340
Fannie Mae Bond	AA+	AAA			2,000,000	2,000,000	1,097		2,000,000	1.20%	1.20%	11/28/18	2,001,240
Fannie Mae Bond	AA+	AAA			2,000,000	2,000,000	1,459		2,000,000	1.63%	1.63%	12/28/18	2,005,020
Federal Farm Credit Bank	AA+	AAA			3,000,000	3,000,000	1,079		3,000,000	1.15%	1.15%	02/22/19	3,000,330
Freddie Mac Bond	AA+	AAA			1,000,000	1,003,132	1,023	(92)	1,002,743	1.25%	1.14%	03/15/19	1,006,860
Federal Home Loan Bank	AA+	AAA			3,000,000	3,000,000	1,186		3,000,000	1.50%	1.50%	04/26/19	3,004,800
Federal Farm Credit Bank	AA+	AAA			2,000,000	2,000,000	1,460		2,000,000	1.52%	1.52%	06/24/19	2,027,420
Freddie Mac Bond	AA+	AAA			1,500,000	1,500,000	1,080		1,500,000	1.15%	1.15%	07/26/19	1,497,330
Fannie Mae Step Bond	AA+	AAA			1,500,000	1,500,000	1,080		1,500,000	0.88%	1.33%	07/26/19	1,496,175
Fannie Mae Bond	AA+	AAA			900,000	899,460	1,153	14	899,512	1.25%	1.25%	08/23/19	900,063
Fannie Mae Bond	AA+	AAA			1,350,000	1,350,000	1,157		1,350,000	1.25%	1.25%	08/26/19	1,350,554
Freddie Mac Bond	AA+	AAA			3,000,000	2,972,928	1,359	598	2,978,147	1.25%	1.50%	10/02/19	3,021,180
Federal Farm Credit Bank	AA+	AAA			1,000,000	1,000,000	1,461		1,000,000	1.42%	1.42%	10/21/19	1,000,160
Subtotal U.S. Gov't Sponsored Entities					\$29,445,000	\$29,424,951		\$227	\$29,428,799		1.218%		\$29,510,472

(As of August 2011, all US GSE's have been downgraded to AA+ Rating by S&P)

INLAND EMPIRE UTILITIES AGENCY

Cash and Investment Summary

Month Ended
September 30, 2016

	Credit Rating @ Purchase		CHANGES IN Credit Rating		Par	Cost Basis	Term	September	September	%	%	Maturity	Market
	S&P	Moody's	S&P	Moody's	Amount	Amount	(Days)	Amortization	Value	Coupon	Yield to Maturity	Date	Value
Medium Term Notes													
John Deere Capital Corp	A	A2			\$1,000,000	\$1,004,000	1,754	(68)	\$1,000,855	1.20%	1.11%	10/10/17	\$1,000,410
Toyota Motor Credit Corp	AA-	AA3			2,000,000	2,000,000	1,045		2,000,000	1.10%	1.10%	04/25/18	1,980,820
JP Morgan Chase & Co	A-	A3			1,000,000	999,000	1,037	29	999,429	1.63%	1.66%	05/15/18	1,002,090
Johnson & Johnson	AAA	AAA			2,000,000	2,027,480	1,044	(790)	2,020,952	1.65%	1.16%	12/05/18	2,022,940
Microsoft	AAA	AAA			2,050,000	2,076,691	1,045	(766)	2,070,357	1.63%	1.16%	12/06/18	2,075,072
Wells Fargo Bank	AA-	Aa2			1,500,000	1,511,655	1,061	(326)	1,510,473	1.75%	1.48%	05/24/19	1,506,750
Subtotal Medium Term Notes					\$9,550,000	\$9,618,826		(\$1,921)	\$9,602,066		1.25%		\$9,588,082
Total Investments					\$120,338,662	\$120,386,902			\$120,374,490				\$120,467,604
<i>(Source of Investment Market Value: US Bank)</i>													
Restricted Deposits													
Debt Service and Arbitrage Accounts													
08B Debt Service Accounts					\$2,544,719	\$2,544,719	N/A	N/A	\$2,544,719		0.00%		\$2,544,719
10A Debt Service Accounts					91	91	N/A	N/A	91		0.10%		91
Total Debt Service Accounts					\$2,544,810	\$2,544,810			\$2,544,810		0.00%		\$2,544,810
CCRA Deposits Held by Member Agencies													
City of Chino					\$10,889,077	\$10,889,077	N/A	N/A	\$10,889,077		N/A	N/A	\$10,889,077
Cucamonga Valley Water District					10,339,540	10,339,540	N/A	N/A	10,339,540		N/A	N/A	10,339,540
City of Fontana					8,201,141	8,201,141	N/A	N/A	8,201,141		N/A	N/A	8,201,141
City of Montclair					2,137,540	2,137,540	N/A	N/A	2,137,540		N/A	N/A	2,137,540
City of Ontario					9,589,742	9,589,742	N/A	N/A	9,589,742		N/A	N/A	9,589,742
City of Chino Hills					4,465,051	4,465,051	N/A	N/A	4,465,051		N/A	N/A	4,465,051
City of Upland					2,947,880	2,947,880	N/A	N/A	2,947,880		N/A	N/A	2,947,880
Subtotal CCRA Deposits Held by Member Agencies (Reported total as of August 31, 2016 - net of all received and anticipated Capital Call proceeds)					\$48,569,971	\$48,569,971			\$48,569,971				\$48,569,971
CalPERS Deposits													
OPEB (CERBT) Account					\$9,000,000	\$9,000,000	N/A	N/A	\$9,514,136		N/A	N/A	\$9,514,136
Subtotal CalPERS Deposits					\$9,000,000	\$9,000,000			\$9,514,136				\$9,514,136
Total Restricted Deposits					\$60,114,781	\$60,114,781			\$60,628,917				\$60,628,917
Total Cash, Investments, and Restricted Deposits as of September 30, 2016					\$181,272,628	\$181,320,868			\$181,822,592				\$181,915,706

INLAND EMPIRE UTILITIES AGENCY
Cash and Investment Summary

Month Ended
September 30, 2016

September Purchases

<u>No.</u>	<u>Date</u>	<u>Transaction</u>	<u>Investment Security</u>	<u>Par Amount Purchased</u>	<u>Investment Yield</u>
			None	\$ -	
				<u>\$ -</u>	
				<u><u>\$ -</u></u>	

September Investment Maturities, Calls & Sales

<u>No.</u>	<u>Date</u>	<u>Transaction</u>	<u>Investment Security</u>	<u>Par Amount Matured/Sold</u>	<u>Investment Yield to Maturity</u>
			None		
				<u>\$ -</u>	
				<u><u>\$ -</u></u>	

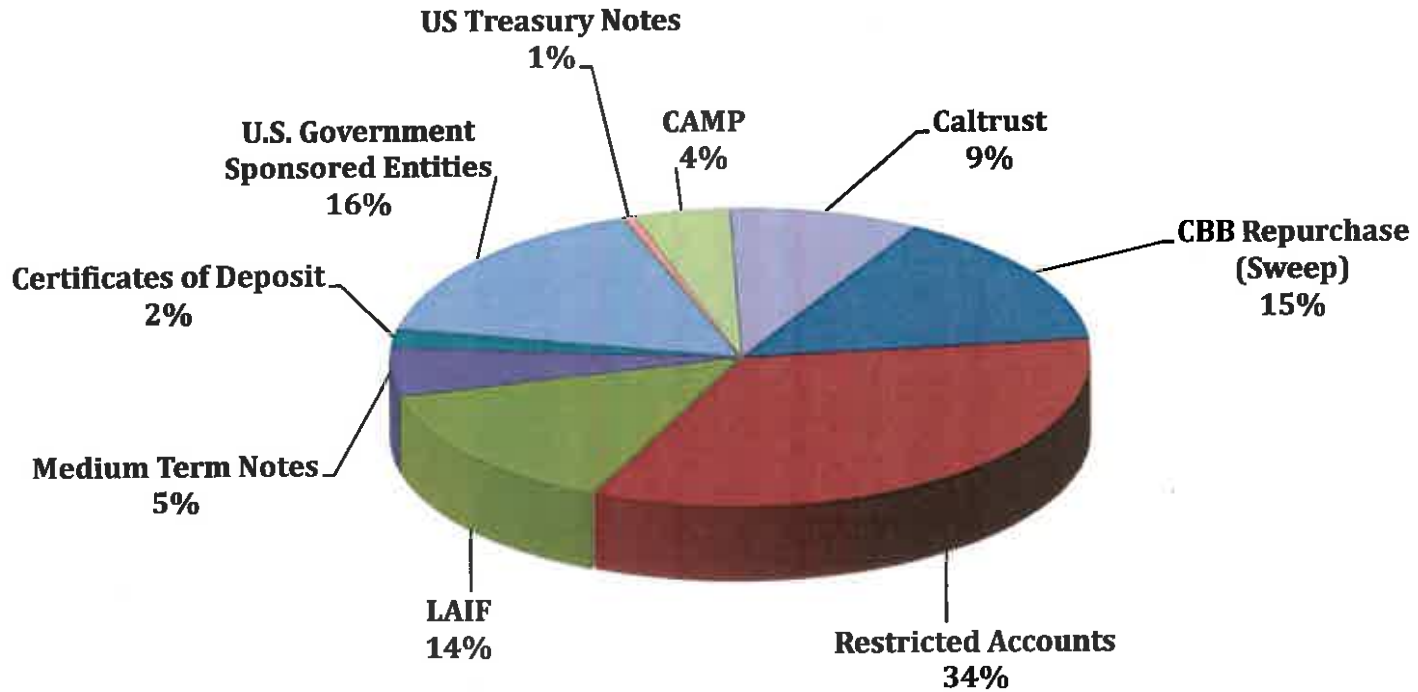
INLAND EMPIRE UTILITIES AGENCY
Cash and Investment Summary

Month Ended
September 30, 2016

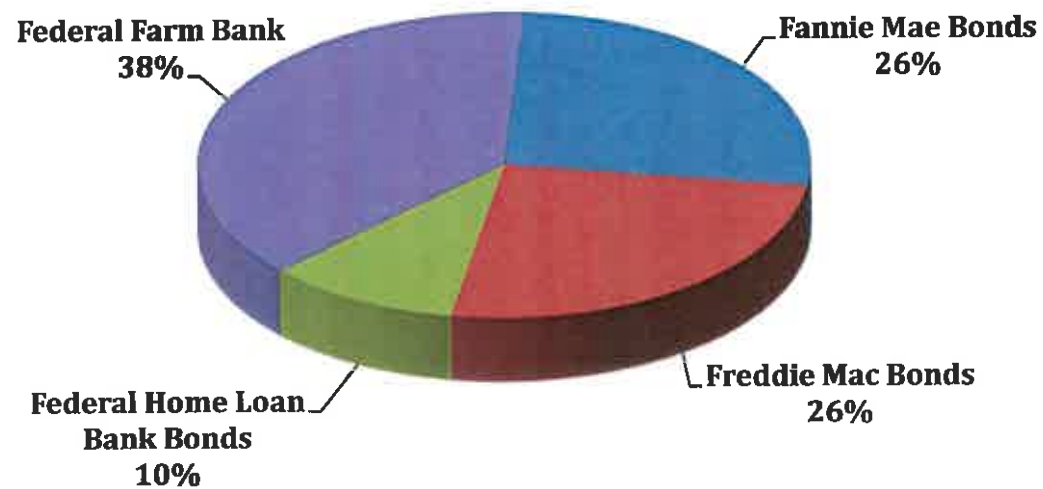
<u>Directed Investment Category</u>	<u>Amount Invested</u>	<u>Yield</u>
CBB Repurchase (Sweep)	\$27,085,624	0.400%
LAIF	25,542,452	0.634%
CalTrust	16,069,016	0.884%
CAMP	8,016,570	0.640%
Medium Term Notes	9,602,066	1.245%
US Treasury Notes	999,963	0.640%
U.S. Government Sponsored Entities	29,428,799	1.218%
	\$116,744,490	0.812%
Bank Deposit and Investment Accounts		
Various Banks - Brokered Certificates of Deposit	\$3,630,000	1.366%
	\$3,630,000	1.366%
Total Investment Portfolio	\$120,374,490	
Investment Portfolio Rate of Return		0.829%
<u>Restricted/Transitory/Other Demand Accounts</u>		
CCRA Deposits Held by Member Agencies	\$48,569,971	N/A
CalPERS OPEB (CERBT) Account	9,514,136	N/A
US Bank - 2008B Debt Service Accounts	2,544,719	0.000%
Citizens Business Bank - Demand Account	249,565	N/A
US Bank - 2010A Debt Service Accounts	91	0.100%
US Bank - Pre-Investment Money Market Account	90,275	0.010%
Citizens Business Bank - Workers' Compensation Account	38,885	N/A
Other Accounts*	440,460	N/A
	\$61,448,102	
Total Other Accounts		0.000%
Average Yield of Other Accounts		
Total Agency Directed Deposits	\$181,822,592	

* Note: Bank of America Payroll Deposits used as compensating balances for bank services.

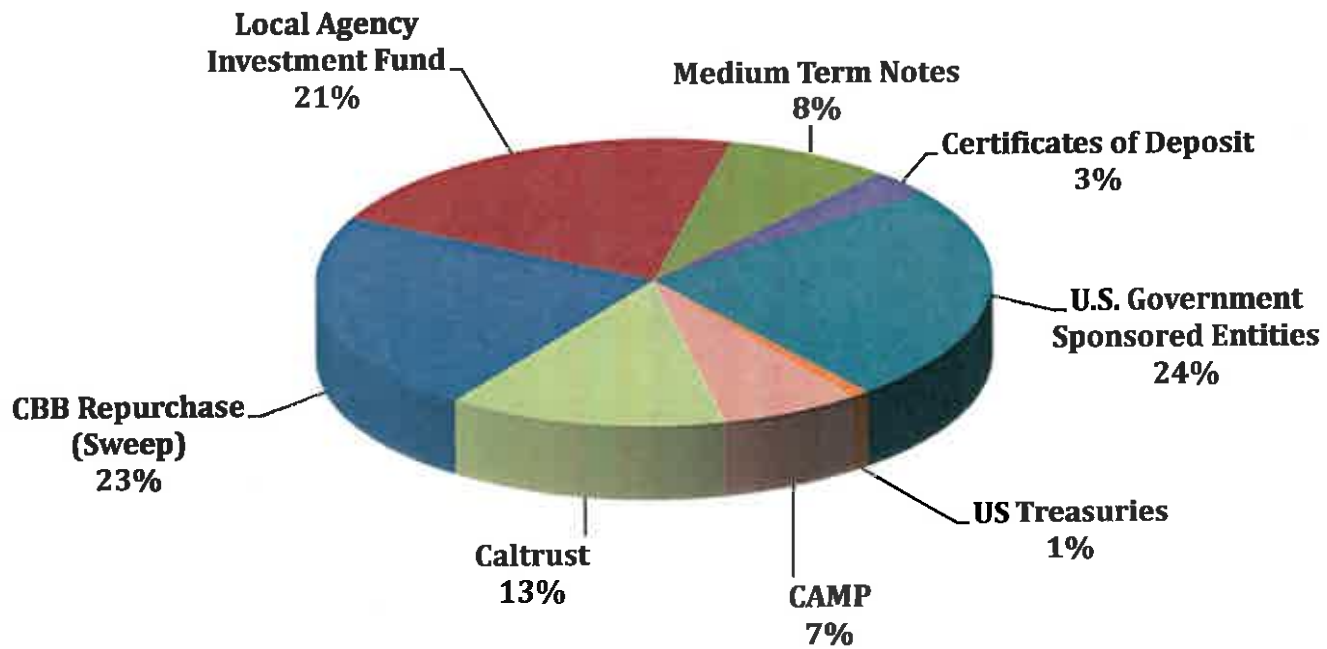
Inland Empire Utilities Agency
Treasurer's Report of Financial Affairs
For the Month Ended September 30, 2016
Agency Investment Portfolio (net of escrow accounts)
\$181,822,592



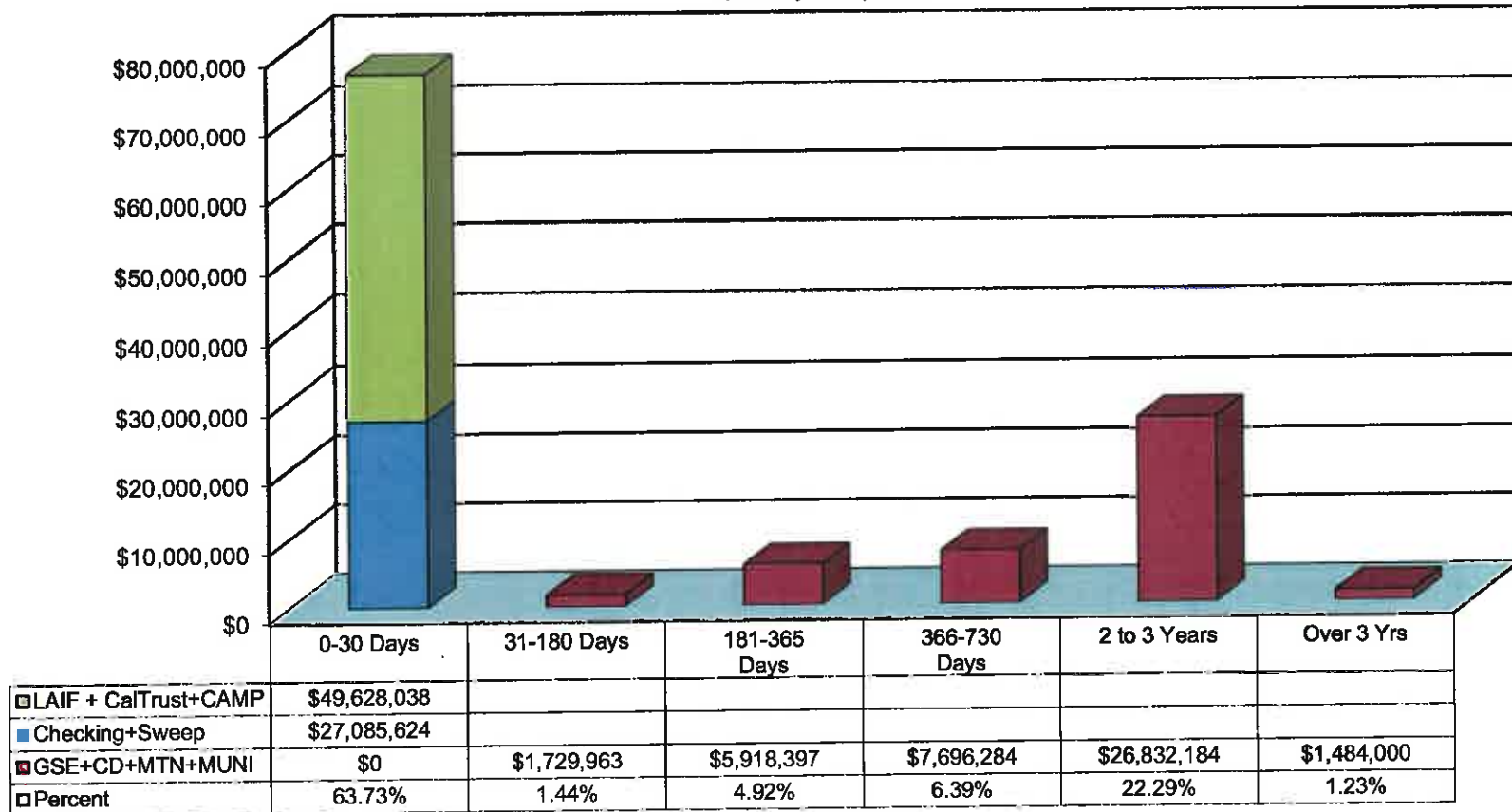
Inland Empire Utilities Agency
Treasurer's Report of Financial Affairs
For the Month Ended September 30, 2016
U.S. Government Sponsored Entities Portfolio
\$29,428,799



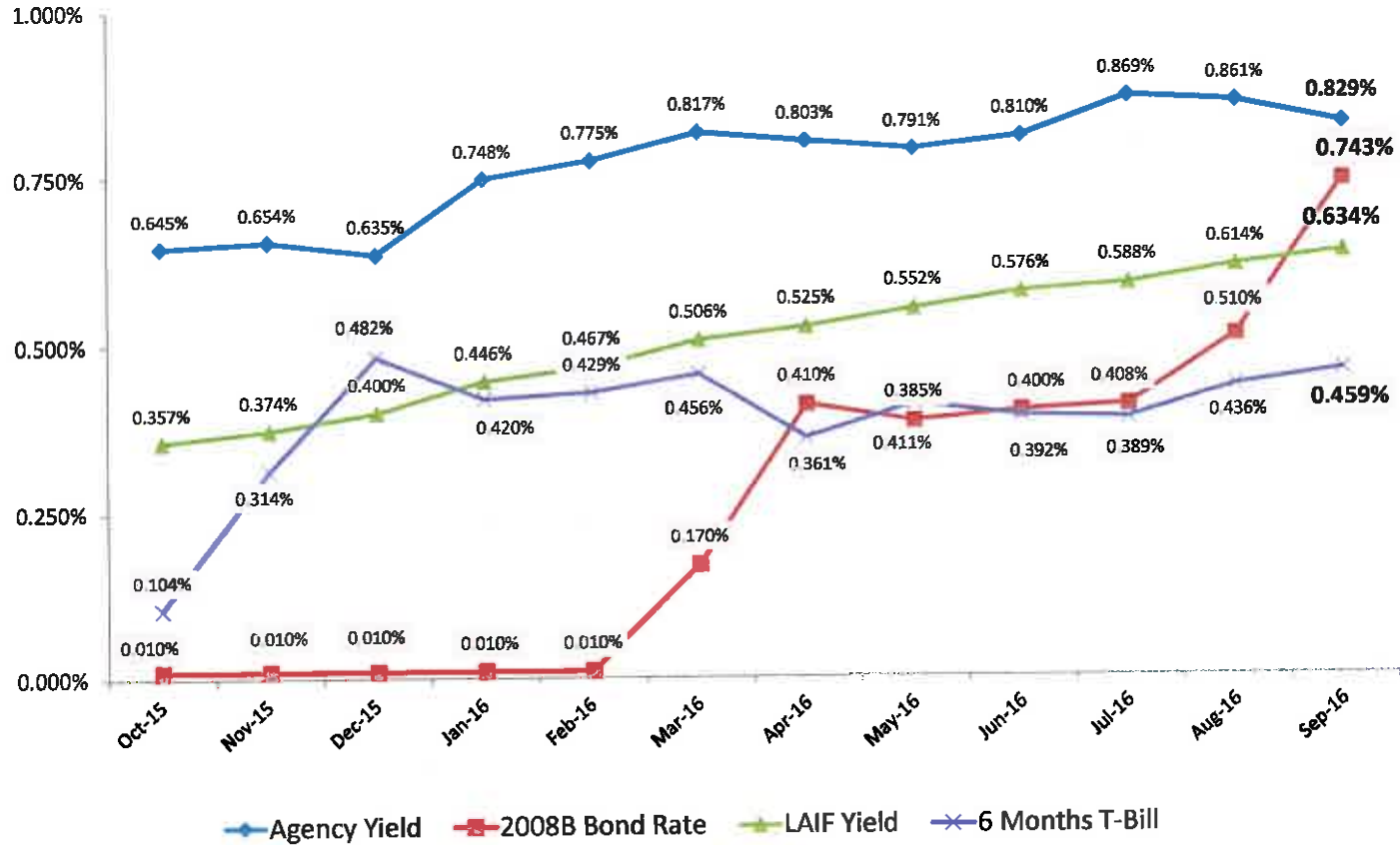
Inland Empire Utilities Agency
Treasurer's Report of Financial Affairs
For the Month Ended September 30, 2016
Unrestricted Agency Investment Portfolio
\$120,374,490



Inland Empire Utilities Agency
Treasurer's Report of Financial Affairs
For the Month Ended September 30, 2016
Agency Investment Portfolio Maturity Distribution
\$120,374,490



Inland Empire Utilities Agency
Treasurer's Report of Financial Affairs
Agency Investment Portfolio Yield Comparison



Treasurer's Report of Financial Affairs for September 30, 2016

**November 2016
Board Meeting**

Report of Financial Affairs

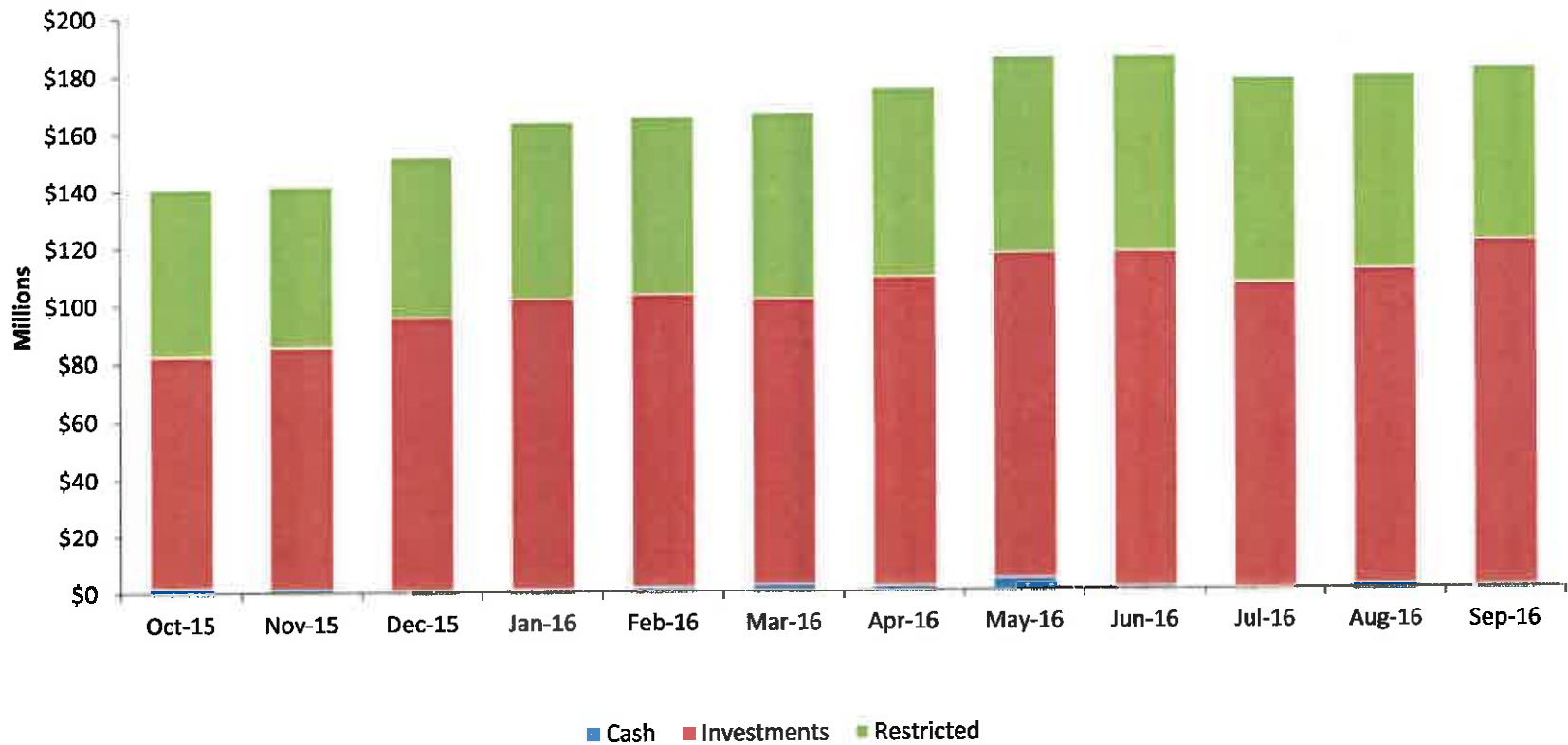
Liquidity

Description	September 2016 (\$ million)	August 2016 (\$ million)	Increase (Decrease) (\$ million)
Total Cash, Investments, and Restricted Deposits	\$181.8	\$179.3	\$2.5
Total Investment Portfolio	\$120.4	\$110.3	\$10.1
Investment Portfolio Yield	0.829%	0.861%	(0.032%)
Weighted Average Duration (years)	0.78	0.79	(0.01)
Average Cash on Hand (days)	287	264	23

Portfolio

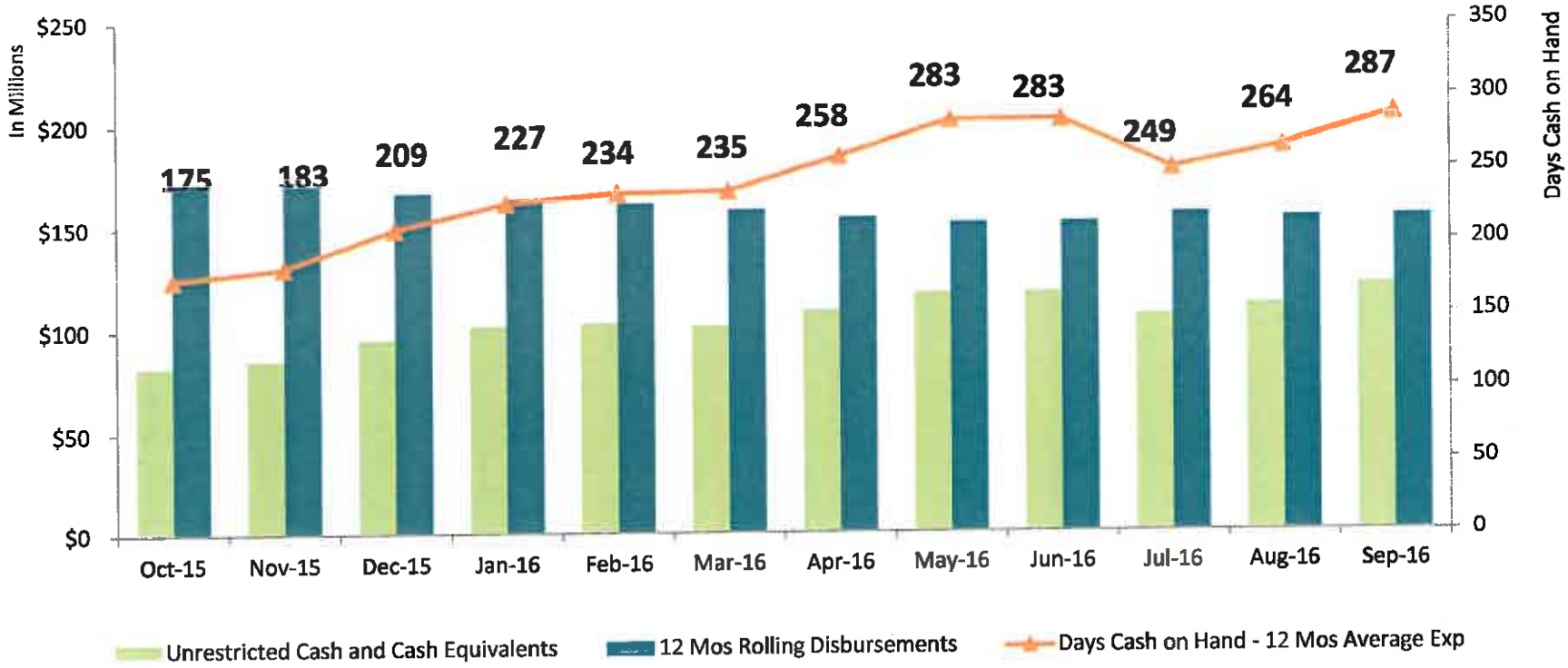
Term	Description	Allowable Threshold (\$ million)	Investment Value (\$ million)	Yield	Current Portfolio %
Short Term, Under 1 Year:	LAIF	\$65	\$25.5	0.634%	21.2%
	CalTrust	\$20	\$16.1	0.884%	13.4%
	Citizens Business – Sweep	40%	\$27.1	0.40%	22.5%
	CAMP	\$20	\$8.0	0.64%	6.6%
	Brokered CD's	30%	\$1.5	0.99%	1.3%
	US Treasury Note	n/a	\$1.0	0.64%	0.8%
	US Government Securities	n/a	\$5.2	0.68%	4.3%
1 to 3 Years:	Brokered CDs	30%	\$1.7	1.40%	1.4%
	US Government Securities	n/a	\$23.2	1.31%	19.3%
	Medium Term Notes	10%	\$9.6	1.25%	8.0%
Over 3 Years:	Brokered CDs	30%	\$0.5	2.38%	0.4%
	US Government Securities	n/a	\$1.0	1.42%	0.8%

Cash, Investments and Restricted Deposits

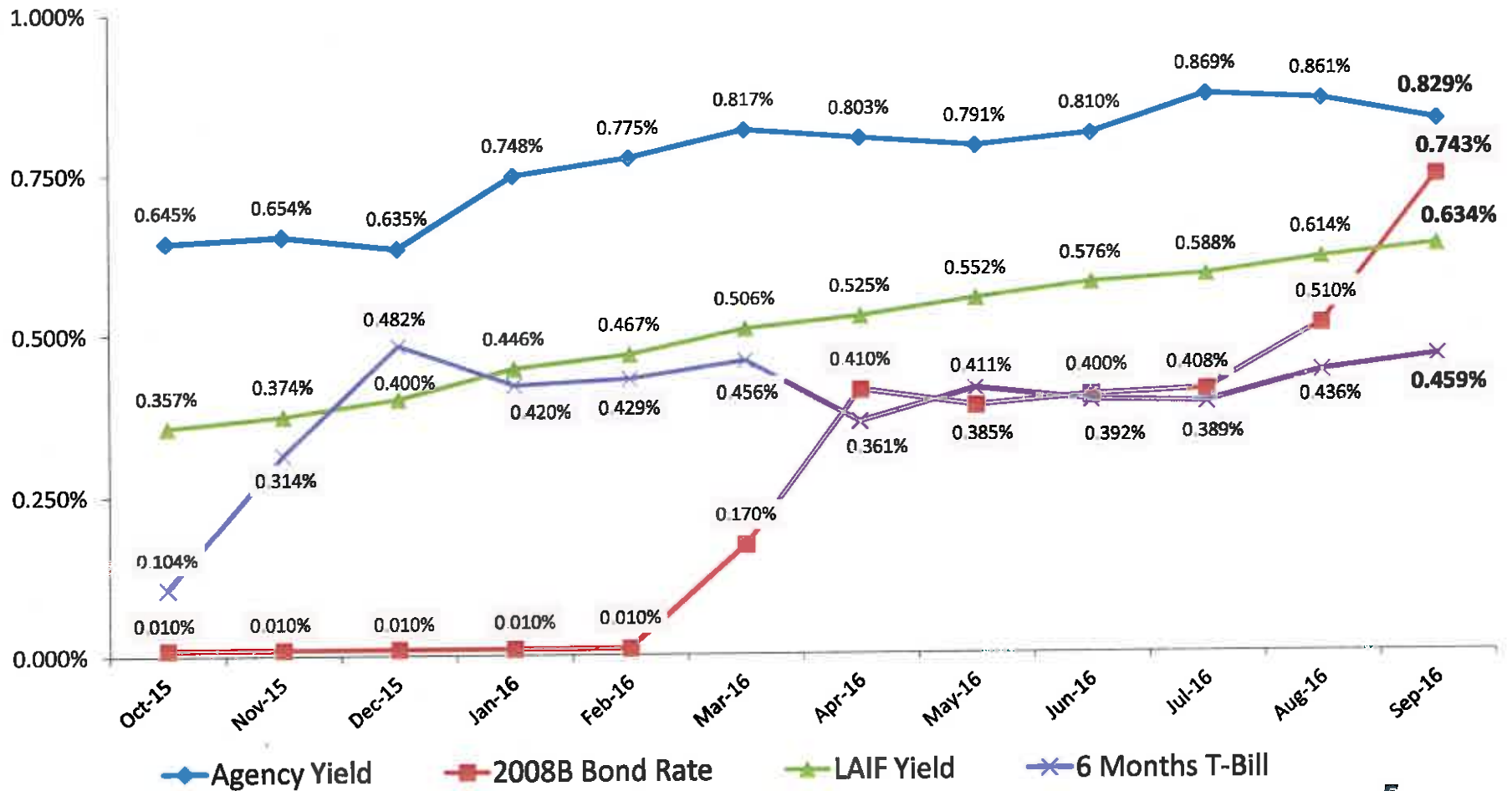


Day Cash On Hand

12 Months Rolling Average



Month End Portfolio Yield Comparison





Questions?

The Treasurer's Report of Financial Affairs is consistent with the Agency's business goal of fiscal responsibility


**INFORMATION
ITEM**


4H

Date: November 16, 2016

To: The Honorable Board of Directors

Through: Public, Legislative Affairs and Water Resources Committee (11/9/16)

From:  P. Joseph Grindstaff
General Manager

Submitted by:  Kathy Besser
Manager of External Affairs

Subject: Public Outreach and Communication

RECOMMENDATION

This is an informational item for the Board of Directors to receive and file.

BACKGROUND

November

- November 5 and 6, MWD Solar Cup Boat Building Workshop, Three Valleys Municipal Water District, 1021 E. Miramar Avenue, Claremont

December

- December 8, Water is Life Student Recognition Event, MWD Headquarters, 9:30 a.m.
- December 21, IEUA Holiday Luncheon, Los Serranos Country Club, 15656 Yorba Avenue, Chino Hills, 11:30 a.m.

Outreach/Education - Civic Publications Newspaper Campaign

- IEUA is working with Civic Publications to update the KickWaterWaste.com micro-site.
- IEUA is working with Civic Publications to create and distribute a fall email blast focused on not “falling back” into water wasting habits.
- IEUA ran two ads in the *Inland Valley Daily Bulletin* (10/23 and 10/28) for the Landscape and Water Conservation Festival.
- IEUA placed an article in the sustainability section of the *Inland Valley Daily Bulletin* the first week of November, focusing on the Agency’s renewable energy portfolio.

Media and Outreach

- IEUA is continuing to run banner ads through *Fontana Herald News* and *La Opinión* newspapers.
- IEUA has placed a movie theater trailer for the *Kick the Habit* campaign in the following theaters: Harkins (15 weeks – began 10/28); Ontario Palace (15 weeks – began 10/21); Ontario Mills (15 weeks – began 10/21); and Victoria Garden (15 weeks – began 10/21). The trailer has been placed on IEUA’s social media channels as well.
- Staff has developed fall messages for the season that align with the *Kick the Habit* brand and include a fall theme. The tips focus on the State Water Resources Control Board’s permanent restrictions following the Governor’s Executive Order.
- A *Kick the Habit* ad will run in the *Champion Newspaper*’s Thanksgiving Gift Guide on November 24.
- In October, 30 posts were published on the IEUA Facebook page and 28 tweets were sent using the @IEUAWater Twitter handle.
- IEUA’s first “Facebook Live” broadcast was at the RP-5 Battery Storage Dedication on October 20. Staff also did a “Facebook Live” broadcast at the Landscape & Water Conservation Festival on October 29.

Education and Outreach Updates

- Staff is marketing and scheduling Water Discovery field trips for program year 2016/17. To date, staff has scheduled 26 field trips.
 - Mount Vernon in San Bernardino took part in the first field trip of the school year on October 19.
 - Educators from Fontana Unified School District visited the Chino Creek Wetlands and Educational Park on November 2. Educators took part in a Nature Walk and learned about the multiple activities and programs that their students can take part in free of cost.
 - 120 Bloomington High School students took part in the Water Discovery Field Trip on November 3 and November 8.
 - Staff will host 3rd grade students from Etiwanda Colony Elementary School in Rancho Cucamonga for a Water Discovery Field Trip on November 15. Another field trip from Etiwanda Colony, for remaining 3rd grade students, will be held on November 17.
 - 5th Grade students from Urbita Elementary School in San Bernardino will participate in the Water Discovery Field Trip on November 16.
- Staff is working on updating the Water Discovery landing page to incorporate activity descriptions that include the new Next Generation Science Standards in addition to the already identified core and STEM curriculum standards.
- Staff has booked outreach/program meetings with principals within the service area for school year 2016/17.
- IEUA co-hosted the Annual Landscape and Water Conservation Festival on October 29. The festival drew in crowds that were interested to learn about water-use efficiency methods.

Public Outreach and Communication

November 16, 2016

Page 3

- IEUA is sponsoring four teams this year for MWD's 2017 Solar Cup: Chino High School (Chino), Chino Hills High School (Chino Hills), Los Osos High School (Rancho), and Henry J. Kaiser High School (Fontana). Schools attended the first boat building workshop on November 6th and 7th.
- Staff has awarded four schools the Garden in Every School® water-wise grant for program year 2016/17. Schools awarded include: Arroyo Elementary in Ontario, Rolling Ridge Elementary in Chino Hills, Townsend Junior High School in Chino Hills, and Montclair High School in Montclair. Staff has begun conducting site inspections to determine prep-work, establish a design and schedule an installation timeline. The garden construction and planting at Arroyo Elementary began on Monday, November 7th. The three remaining school sites will be completed by December 31, 2016. Dedication ceremonies will be planned for spring 2017.

PRIOR BOARD ACTION

None.

IMPACT ON BUDGET

The above-mentioned activities are budgeted in the FY 2016/17 Administrative Service Fund, External Affairs Services budget.

**INFORMATION
ITEM**

41

Innovative Federal Strategies LLC

Comprehensive Government Relations

MEMORANDUM

To: Joe Grindstaff and Kathy Besser, IEUA

From: Letitia White, Jean Denton, and Drew Tatum

Date: October 28, 2016

Re: October Monthly Legislative Update

Emergency Spending to Complicate Lame Duck Appropriations Work

When Congress returns in November after the election, it already faces a December 9th deadline to fund the federal government for the remainder of FY17. With just 3 weeks of scheduled work before the current continuing resolution expires, Congress is facing a tight deadline determining how to deal with federal spending through September 30, 2017. In addition to the 12 annual spending bills, lawmakers will likely face calls for supplemental appropriations for recent natural disasters and money to fund additional troop activity in the Middle East.

Hurricane Matthew, which wreaked havoc on much of the southeastern U.S. coastline from Florida to North Carolina, promised to trigger request for federal emergency aid that could reach into the tens of billions of dollars. In response to the natural disaster, President Obama said that the Federal Emergency Management Agency has the resources it needs for the immediate response to the hurricane with approximately \$5 billion available in its Disaster Relief Fund.

That money, while immediately available, is not expected to cover the increasing cost of cleanup and rebuilding efforts in North Carolina, South Carolina, Georgia, and Florida. For comparison, the Obama Administration requested \$60.4 billion in emergency funding to help rebuild infrastructure, homes, businesses, and public facilities in the wake of Hurricane Sandy, which was only a category 2 storm at landfall. Matthew glided along the coast initially as a category 3 storm.

Any request for supplemental appropriations funding will likely renew a battle in Congress over whether, and to what extent, emergency funding should be offset by cuts elsewhere in the budget. That fight delayed funding after Hurricane Sandy and held up a supplemental appropriations package to respond to the Zika virus outbreak this year.

In addition to an emergency response to Hurricane Matthew, Congress must still consider how to address a \$2.6 billion funding request to respond to flooding in Louisiana that has left over 100,000 people homeless. Before the recess, Congress included \$500 million in supplemental funding to address flooding in certain states, but Senate Majority Leader Mitch McConnell (R-KY) indicated it was a down payment on future emergency funding. Democrats may also renew demands to help Flint, Michigan and other localities facing water contamination emergencies if

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the Water Resources Development Act is not passed before Congress acts on appropriations measures. Another driving force behind passing a supplemental appropriations package this year is a pending request from the White House for Department of Defense activities. President Obama indicated this summer that he would be sending Congress a request for additional Overseas Contingency Operations (OCO) funding after announcing that additional troops would be left in the Middle East longer than originally planned.

President Obama weighed in on emergency funding as lawmakers left town for the recess saying, "There is a backlog of need from natural disasters around the country that we'd like, hopefully during the lame-duck session, to figure out how to fund effectively. We'll obviously make those assessments after the fact and then we'll talk to Congress about how we can help out."

Congress, FEMA May Look at Flood Map Changes

Congress and the Federal Emergency Management Agency (FEMA) may look to change the way flood insurance maps are drawn in the wake of disaster relief operations from Hurricane Matthew and catastrophic flooding in Louisiana, West Virginia, and Maryland. Lawmakers and the administration are looking at ways to limit the federal government's liability for increasingly severe natural disasters. One way—among many proposals—in which they may address the increasing cost of natural disasters is designating more places as flood-prone, requiring flood insurance coverage to more homes when applying for a mortgage.

As more catastrophic weather events, including flooding from torrential rains and hurricanes, strain the federal flood insurance program, lawmakers are grappling with how to make sure the program remains solvent without tapping into additional taxpayer money. While the National Flood Insurance Program has taken in enough money to cover payouts during the last two fiscal years, the program paid out \$4.7 billion more than it took in in fiscal year 2013 as a result of Superstorm Sandy.

The administration believes the program needs to address issues related to climate change to make the program more resilient to the impacts of climate change. President Obama's senior advisor on climate change, Brian Deese said earlier this month, "We've seen that [recently] ... and we know that the frequency and severity of natural disasters like hurricanes and droughts are increasing rapidly, and we need to deal with their impacts even if we succeed on the mitigation front."

Authorization for the National Flood Insurance Program runs through September 30, 2017, meaning it could become a hot-button issue for the new Congress. Deese believes that Congress needs to look at ways in which the government can move from the reactive posture of paying for disasters after they occur to a more proactive approach of encouraging resiliency when working to reauthorize the program. Additionally, the White House believes changes to the designation of 100 year maps is necessary, as those events are occurring more frequently in areas of the country.

Any changes to current formulas, or the inclusion of new areas on FEMA flood maps could require more property owners to purchase flood insurance in order to qualify for mortgages. A 2015 General Accountability Office (GAO) report came to the conclusion that losses generated

Innovative Federal Strategies LLC

by the flood insurance program and the propensity for future losses creates substantial financial exposure for the federal government. A separate GAO report issued in March 2016 called on FEMA to do a better job of collecting information to ensure that flood insurance premiums align with changes to flood risks—especially as those risks grown in areas where flooding has historically been less frequent.

Congress has taken steps to boost FEMA's mapping efforts. In the fiscal year 2016 omnibus appropriations bill, they appropriated \$190 million for flood mapping and an additional \$175 million for mitigation grants, up from \$95 and \$96 million for flood mapping in the prior two fiscal years. Congress has taken additional steps to limit the government's liability exposure with the House passing a measure in April that would spur the development of a private insurance marketplace to offer competitive coverage for the National Flood Insurance Program.

Members of Congress have also proposed legislation that would encourage the mitigation of flooding in areas where repeat events have occurred. The bipartisan legislation, introduced by Representatives Ed Royce (R-CA) and Earl Blumenauer (D-OR) would direct FEMA to map the areas of flooded properties and public infrastructure that have experienced repeat flooding events and then implement a plan to mitigate risk in those areas.

Any changes to the National Flood Insurance Program are likely to spur a lively debate in Congress, as any additional costs to homeowners will likely draw opposition from those impacted by the changes.

Outlook for November

Congress is not set to return until the week of November 14 for the lame duck session. Both the House and Senate are scheduled to be in for one week, then out for a week for Thanksgiving. Post-Thanksgiving, lawmakers are scheduled to be in session for three weeks before adjourning the 114th Congress.

Looking forward toward the lame duck session, lawmakers will have several high profile items to address before the end of the year. Those items include:

- Addressing federal government funding beyond December 9 when the current continuing resolution expires;
- Conferencing the National Defense Authorization Act;
- Conferencing the Water Resources Development Act;
- Conferencing the Energy Policy Modernization Act; and
- Passing other non-controversial bills that have been backlogged in the Senate.

No schedule has been announced, but we do not anticipate seeing any government spending bills on the floor during the few in-sessions days in November. Lawmakers will likely consider a number of non-controversial and low-profile bills during its first week back, with much of the heavy lifting coming in December.

**INFORMATION
ITEM**

4J



October 28, 2016

To: Inland Empire Utilities Agency
From: Michael Boccadoro
President
RE: October Legislative Report

Overview:

Sacramento has been very quiet with the election fast approaching. Members are in their districts campaigning and getting ready for the coming session.

In addition to a number of bills re-capped last month, the Governor also signed a suite of bills relating to energy storage. Increasing energy storage procurement mandates, increased funding for the Self Generation Incentive Program, and streamlining the interconnection dispute process between utilities and customers are a few of the energy storage changes that will go into effect on January 1, 2017.

Southern California Edison (SCE) has filed their 2018-2020 General Rate Case asking for more than a \$2.3 billion increase. The driving force behind the large request is a proposed \$2.1 billion plan to improve safety and reliability and support increased levels of distributed energy.

In a separate application, SCE has also proposed to revise the time-of-use periods. The proposal would shift the periods from between noon and 6:00 p.m. to between 4:00 p.m. and 9:00 p.m. The driving force behind the shift is to accommodate for the significant increase of solar energy on the grid during the day. The shift will potentially have significant effects on the pay-back period for any projects not tied to battery storage.

The Public Policy Institute of California (PPIC) recently released a series of short reports on different aspects in California water management. They include: climate change and water; the Colorado River; energy and water; managing droughts; paying for water; preparing for floods; protecting headwaters; the Sacramento-San Joaquin Delta; storing water; water for cities; water for the environment; and water for farms. The reports provide a solid overview of some of the many water supply management issues facing the state. They may also provide ideas for potential legislation in the upcoming legislative session.

The Little Hoover Commission recently met for a “Public Hearing on Special Districts.” The Association of California Water Agencies (ACWA), East Bay Municipal Utility District (EBMUD), Rancho California Water District, Sanitation Districts of Los Angeles County (LACSD), Fresno Metropolitan Flood Control District and Santa Clara Valley Water District all spoke at the hearing....

Inland Empire Utilities Agency Status Report – October 2016

Energy Storage

Just days before the end of session deadline, Governor Brown signed a number of bills aimed to accelerate the market for distributed energy storage, and encourage greater utilization of bulk energy storage.

- AB 1637 (Low) adds \$249 million to the CPUC's Self Generation Incentive Program (SGIP), of which three-quarters is allocated to energy storage projects. The measure also allows fuel cells to net-energy meter up to 5 MWs, up from 1 MW.
- AB 2861 (Ting) creates a streamlined process for resolving disputes between utilities and their customers over the interconnection of behind-the-meter storage systems.
- AB 2868 (Gatto) expands the state's energy storage procurement target by 500 MWs to 1,825 MWs.
- AB 33 (Quirk) requires state energy regulators to give greater consideration to pumped storage and other long-duration bulk energy storage resources to help meet the state's renewable energy targets.

These measures are just the start of policies that will be needed to help achieve the state's aggressive renewable energy and greenhouse gas reduction goals. Storing energy during peak production times, and feeding it back into the grid during peak demand hours is a growing strategy to meet the state's goals. As more energy storage is tested and deployed, the cost will likely decrease making storage technology more accessible throughout California.

SCE files 2018-2020 Phase One General Rate Case

Southern California Edison (SCE) has kicked off their 2018-2020 General Rate Case proceeding with a significant rate increase request. The utility has asked for a more than \$2.3 billion cumulative increase. Broken down, they are requesting a 4 percent increase in 2018 and a 9 percent increase over present rates in both 2019 and 2020. The driving force behind the large request is a proposed \$2.1 billion plan to improve safety and reliability and support increased levels of distributed energy.

To bolster its case for a \$2.1 billion capital investment to "build the power grid of the future," SCE released a white paper outlining the utility's vision for an electric grid that relies heavily on distributed energy resources. SCE sees itself as uniquely situated to coordinate grid operations and networks.

Of the \$2.1 billion requested for grid modernization, SCE plans to spend about half on safety and reliability, with the other half to enable more distributed energy. The upgrades include existing infrastructure such as substations and areas where there are capacity problems. SCE estimates it will take about 10 years to modernize roughly 60 percent of SCE's total distribution circuits. The white paper also noted that while there are no estimates for future rate cases, it is likely that

they would require the same levels, or higher in the next few cases, which pencils out to more than \$6 billion in expenditures to modernize its distribution grid over the next decade or so.

The Office of Ratepayer Advocates, The Utility Reform Network and other “ratepayer advocacy groups” have all filed protests to the application and will now begin the process of attempting to negotiate a settlement with SCE.

SCE Files to Change Time-of-Use Periods

Southern California Edison (SCE) has filed an application at the California Public Utilities Commission (CPUC) to significantly shift time-of-use (TOU) periods. The proposal would move the peak period from weekday afternoons to weekday evenings to reflect the steep demand “ramps” during the hours when renewable resources trail-off and customer demand remains high. The proposal is to shift from a 12:00 p.m.-6:00 p.m. peak to a 4:00 p.m.- 9:00 p.m. peak.

PPIC Water Report

The Public Policy Institute of California (PPIC) recently released a series of short reports on different aspects in California water management. They include: climate change and water; the Colorado River; energy and water; managing droughts; paying for water; preparing for floods; protecting headwaters; the Sacramento-San Joaquin Delta; storing water; water for cities; water for the environment; and water for farms.

There are no new or revolutionary ideas developed in the reports, however taken together the series does a good job of pulling together a strong majority of the issues the state and local water agencies are working on. From healthy forests, which are essential for strong watersheds, to adapting to extreme weather events, to groundwater regulation, to statewide conservation mandates, and other important policy areas, the reports highlight the complex and ever changing nature of California water policy.

One of the most significant papers, “Paying for Water,” outlines strategies that could be used to inject capital into all of the initiatives discussed in the other papers. The report doesn’t offer any new information or creative solutions, but it does reiterate the barriers water and wastewater agencies face to raising capital, identifies statewide funding gaps, and offers potential solutions to fill the funding gaps.

The report notes that Propositions 13 (1978), 218 (1996) and 26 (2010), have made it very difficult for local water and wastewater agencies to raise funds. It states that Proposition 218 makes it particularly difficult for local agencies to invest in new supplies- including recycled water and conservation- and in pollution controls, such as stormwater capture and treatment.

The report identifies the “fiscal orphans” that the state is failing to adequately fund programs that protect public health, safety and the environment. These include: safe drinking water in small, disadvantaged communities; flood protection; control of stormwater and other polluted runoff; management of aquatic ecosystems; and integrated water management. \$2-3 billion in annual funding gaps are identified in each of the above mention categories.

Finally, PPIC identifies several key initiatives that could help fill the gaps. They note that a legislative priority should be to help local agencies raise needed funds by expanding local funding authority which will provide guidance to the courts on how their interpretations of Prop 218 may affect water program financing. Additionally, PPIC prioritizes enacting new state fees and taxes to boost funding for fiscal orphans. A “public goods charge” has been an ongoing recommendation from PPIC, but they are careful to not use those words anywhere in the report.

The second strategy is to adjust water rates to allow for “drought surcharges” to reduce the fiscal effects of conservation and encourage continued urban investment in drought resilience. They note that utilities must build strong administrative records of ratemaking decisions to meet potential Prop 218 court challenges.

Finally, they contend that in order to solidify local funding bases for water services, voters need to approve several constitutional changes including clarifying Prop 218’s cost-recovery requirements to allow for conservation and life-line rates and stipulating that flood and stormwater programs should be treated like water and wastewater programs.

Again, none of these ideas are new and several have been attempted in the most recent legislative session. The release of the report highlights belief that Prop 218 reform will likely re-surface when the Legislature gets back to work in January, and that a public goods charge might once again surface in legislation. Additionally, we will likely see legislation from some of the other short reports. Headwaters management could come back again as Assemblymember Bloom was only partially successful with his legislation to elevate headwaters to the same level as water infrastructure. With declining urban water conservation numbers the past several months, there will likely be legislation to codify conservation targets. There could also be an effort to address groundwater management issues, ahead of SGMA implementation. Addressing the effects of climate change, declining snowpack, ecosystem decline and other factors of climate change will likely remain at the top of many legislative priority lists.

As the legislature returns, WCA will keep a close eye on all legislation introduced.

Little Hoover Commission

The Little Hoover Commission (LHC) recently met for a “Public Hearing on Special Districts.” The Association of California Water Agencies (ACWA), East Bay Municipal Utility District (EBMUD), Rancho California Water District, Sanitation Districts of Los Angeles County (LACSD), Fresno Metropolitan Flood Control District and Santa Clara Valley Water District all testified to the measures their agencies are taking to adapt to and combat climate change. Most all spoke of conservation and recycled water measures to combat prolonged drought. And several highlighted renewable energy projects that will help reduce greenhouse gas emissions. There was a strong consensus that significant delays in permitting were problematic to getting projects up and running.

Members of the LHC seemed to be more interested in specific projects local agencies were describing than on special district use of reserves and property taxes. In fact, several agencies highlighted their prudent use of reserves and the importance of saving funds for large projects,

but there was not a single question from the Commission about the use of special district reserves or property taxes.

Commissioner and former State Senator, Don Perata, even asked if the state’s ambitious climate change goals such as the provisions of AB 32, have an economic impact on water agencies. He noted that many of these policies are passed with a lack of understanding of the economic impact they will have on taxpayers.

The Commission did not reveal what their next steps might be, but they will likely put out some sort of paper. Overall, water agencies have done an excellent job of answering the Commission’s questions regarding the use of reserve funds and property taxes and how they are adapting to climate change. They have made a very strong case that there is little need for broad state intervention or mandates. If or when they release a report, WCA will review for potential adverse legislation.

Reservoir Levels Update

Despite California lifting mandatory statewide water restrictions earlier this year, 60 percent of the state is still in a severe or extreme drought, officials concluded as the water year ended on September 30.

The recently concluded water year, which is used to measure precipitation totals, was officially classified as dry across the state even though parts of Northern California experienced average to slightly above-average precipitation in the past year, according to a California Department of Water Resources press release. The water year begins October 1 and ends September 30.

The end of the recent water year marks the fifth consecutive drought year for the state, according to the DWR. DWR also noted that the state is not likely to be out of the drought next year either.

Reservoir levels remain lower than average, in most cases, as the state crosses its fingers in the hopes of strong precipitation throughout the winter.

Reservoir	Percent of Capacity		Percent of Historical Average	
	Aug. 26	Oct 25	Aug. 26	Oct 25
Lake Shasta	71%	59%	109%	99%
Lake Oroville	54%	44%	81%	72%
Folsom Lake	36%	33%	57%	63%
San Luis Reservoir	13%	26%	31%	50%
Lake Perris	37%	37%	48%	48%
Castaic Lake	76%	72%	93%	94%

Legislative Update

With the Governor taking final action on all bills at the end of September and members campaigning feverishly, Sacramento has been very quiet on the legislative front. Next month we will report election results with an analysis on how it might affect the coming session. Members will return to Sacramento on December 5 to swear in newly elected members. The real start of the session will kick off after the new year.