ADDENDUM NO. 01 **Date: October 09, 2023**
To Drawings and Specifications dated 10/09/23

PROJECT: **Finley ES HVAC Upgrade & Modernization**
Westminster School District

PROJECT LOCATION: 13521 Edwards Street
Westminster, CA 92683

PROJECT ARCHITECT PBK Architects
2400 East Katella Ave. #950
Fresno, CA 93711

This Addendum forms a part of the Contract Documents. It modifies the original Project Manual and Drawings, as well as any Addendum previously issued, as noted below. Bidders are required to acknowledge receipt of this Addendum in the space provided in the proposal form. Failure to acknowledge receipt of each addendum may subject bidder to disqualification.

GENERAL ITEMS:

Item No. 1-01: BIDDING DOCUMENTS

1. Revise "SUPPLEMENTARY GENERAL CONDITIONS."
    a. Clarification of School name for schedule on pages "192"

Item No. 1-02: HAZMAT PROCEDURE 5 CLEAN UP PLAN

1. Add Finley Elementary School's "Hazmat Procedure 5 Clean Up Plan."

Item No. 1-03: MANDATORY JOB WALK AGENDA

1. Revise Project's Preliminary Cost Estimate for "FINLEY & WEBBER."

Item No. 1-04: PRE-QUALIFY SUB CONTRACTORS LIST

1. Add "PQBids Approved Sub Contractors."

Item No. 1-05: PRE-BID RFI LOG

1. Add "Pre-Bid RFI Log" with responses, see attached.

SPECIFICATIONS:

Item No. 1-06: 08 80 00 GLAZING

1. Replace the section entirely.

Item No. 1-07: 10 28 13 TOILET ACCESSORIES

1. Replace the section entirely.

Item No. 1-08: 23 00 00 GENERAL MECHANICAL PROVISIONS

1. Replace the section entirely.

Item No. 1-09: 23 00 01 HEATING VENTILATING AND AIR CONDITIONING

1. Replace the section entirely.

DRAWINGS:

Item No. 1-10: D1.1 DEMO FLOOR PLAN BLDG CK, C1, C2, C6 & ADMIN

1. Revised "2 – DEMO FLOOR PLAN – BUILDING CK."
    a. Revised demo to KG TOILET [CK-2 & CK-3].

Item No. 1-11: D2.1 DEMO RCP BLDG CK, C1, C2, C6, C3 & ADMIN

1. Revised "2 – DEMO RCP BUILDING CK."
    a. Revised demo in KG TOILET [CK-2 & CK-3].

Item No. 1-12: A1.01 FLOOR PLANS BLDG CK, C1, C2, C6 & ADMIN

1. Revised "2 – FLOOR PLAN – BUILDING CK."
    a. Revised (N) restroom layout for BLDG K.
    b. Removed ALS notes.
2. Revised "3 – FLOOR PLAN – BUILDING C1."
    a. Removed ALS notes.
3. Revised "4 – FLOOR PLAN – BUILDING C2."
    a. Removed ALS notes.
4. Revised "5 – FLOOR PLAN – BUILDING C6."
    a. Removed ALS notes.

5. Add “ASSISTIVE LISTENING SYSTEMS AND SIGNAGE 11B-219” & “ALTERNATIVE ALS SYSTEM REQUIREMENTS.”

Item No. 1-13: **A1.02 FLOOR PLANS BLDG C3, C4 & C5**

1. Revised “1 – FLOOR PLAN – BUILDING C3.”
    a. Removed ALS notes.
2. Revised “2 – FLOOR PLAN – BUILDING C4.”
    a. Removed ALS notes.
3. Revised “3 – FLOOR PLAN – BUILDING C5.”
    a. Removed ALS notes.
4. Add “ASSISTIVE LISTENING SYSTEMS AND SIGNAGE 11B-219” & “ALTERNATIVE ALS SYSTEM REQUIREMENTS.”

Item No. 1-14: **A2.01 REFLECTED CEILING PLANS BLDG CK, C1, C2, C6, C3 & ADMIN**

1. Revised “2 – BUILDING CK REFLECTED CEILING PLAN.”
    a. Revised ceiling for (N) restroom layout.

Item No. 1-15: **A4.01 BUILDING SECTIONS**

1. Revised “8 – BLDG CK – SECTION A.”
    a. Revised background base on (N) restroom layout.

Item No. 1-16: **A5.01 ENLARGED RESTROOM PLANS & INTERIOR ELEVATIONS**

1. Added “RESTROOM ACCESSORY SCHEDULE.”
2. Revised “2 – PLAN – C3-1 GIRLS RR (AGES 5-8).”
    a. Revised keynotes to match “Restroom Accessory Schedule.”
3. Revised “6 – ELEVATIONS – C3-1 GIRLS RR (AGES 5-8).”
    a. Revised keynotes to match “Restroom Accessory Schedule.”
4. Revised “8 – PLAN – C5-1 BOYS RR (AGES 5-8).”
    a. Revised keynotes to match “Restroom Accessory Schedule.”
5. Revised “12 – ELEVATIONS – C5-1 BOYS RR (AGES 5-8).”
    a. Revised keynotes to match “Restroom Accessory Schedule.”
6. Revised “20 – PLAN – AD9 STAFF TOILET 2 (ADULT).”
    a. Revised keynotes to match “Restroom Accessory Schedule.”
7. Revised “24 – ELEVATIONS – AD9 STAFF TOILET 2 (ADULT).”
    a. Revised keynotes to match “Restroom Accessory Schedule.”
8. Revised “26 – PLAN – CK 2&3 KINDER TOILET (AGES 5-8).”
    a. Revised enlarge plan to (N) restroom layout.
9. Revise “30 – ELEVATIONS – CK – 3 KINDERGARTEN TOILETS (AGES 5-8).”
    a. Revised elevation to (N) restroom layout.

Item No. 1-17: **A6.01 EXTERIOR ELEVATIONS**

1. Revised “11 – BLDG CK EAST ELEVATION.”
    a. Revised window tag.

Item No. 1-18: **A7.01 INTERIOR ELEVATIONS**

1. Revised “4 – KINDERGARTEN K1 – INTERIOR ELEVATIONS.”
    a. Revise “4C – K1 – EAST INTERIOR ELEVATION” to new restroom layout.
2. Revised “DOOR SCHEDULE.”
    a. Add new doors to schedule.

Item No. 1-19: **A9.01 DOORS SCHEDULE & WINDOWS FRAMING ELEVATION**

1. Revised “DOOR SCHEDULE.”
    a. Add new doors to schedule.
2. Revised title to “12 – WINDOW FRAMING ELEVATION W6”
3. Add “18 – WINDOW FRAMING ELEVATION – W5” to sheet.

Item No. 1-20: **A10.01 FINISH PLANS & SCHEDULE**

1. Revised “2 – FINISH FLOOR PLAN – BUILDING CK.”
    a. Revised (N) restroom layout for BLDG K.
2. Revised “FINISH SCHEDULE.”
    a. Revised schedule for (N) restroom layout.

Item No. 1-21: **S1 ROOF PLANS – BLDG C1, C2 & CK**

1. Revised “FLOOR/ROOF PLAN – BLDG CK.”
    a. Revised (N) restroom layout for BLDG K.

Item No. 1-22: **M2.01 MECHANICAL FLOOR PLANS**

1. Revised “KEY NOTES.”
    a. Revised keynote “3.”
2. Revised “1 – FLOOR PLAN – BUILDING CK.”
    a. Revised floor plan with (N) restroom layout.

Item No. 1-23: **M4.01 MECHANICAL ROOF PLANS**

1. Revised “1 – MECHANICAL ROOF PLAN – BUILDING CK.”
    a. Revised keynote tags.

Item No. 1-24: **M5.01 MECHANICAL SCHEDULES**

1. Revised “FANS SCHEDULE.”

Item No. 1-25: **E1.01 ELECTRICAL SITE PLAN**

1. Revised “KEY NOTES.”
2. Revised “ELECTRICAL SITE PLAN.”

Item No. 1-26: **E2.01 ELECTRICAL POWER PLANS**

1. Revised “1 – POWER PLAN – BUILDING CK.”
    a. Revised drawings for (N) restroom layout.

Item No. 1-27: **E2.02 ELECTRICAL POWER PLANS**

1. Revised “1 – POWER PLAN – ADMIN BLDG.”

Item No. 1-28: **E4.01 ELECTRICAL ROOF PLANS**

1. Revised “1 – ELECTRICAL ROOF PLAN – BLDG CK.”
2. Revised “2 – ELECTRICAL ROOF PLAN – BLDG C1.”
3. Revised “3 – ELECTRICAL ROOF PLAN – BLDG C2.”
4. Revised “4 – ELECTRICAL ROOF PLAN – BLDG C3.”

Item No. 1-29: **E4.02 ELECTRICAL ROOF PLANS**

1. Revised “KEY NOTES.”
2. Revised “2 – ELECTRICAL ROOF PLAN – BLDG C4.”
3. Revised “3 – ELECTRICAL ROOF PLAN – BLDG C5.”
4. Revised “4 – ELECTRICAL ROOF PLAN – BLDG C6.”

Item No. 1-30: **E5.01 ELECTRICAL SINGLE LINE DIAGRAM & SCHEDULES**

1. Revised “2 – ELECTRICAL ONE-LINE DIAGRAM - NEW.”

Item No. 1-31: **E5.02 ELECTRICAL SCHEDULES**

1. Revised “ELECTRICAL SCHEDULE.”

Item No. 1-32: **E5.03 ELECTRICAL SCHEDULES**

1. Revised “3 – LIGHT FIXTURE SCHEDULE.”

Item No. 1-33: E6.01 ELECTRICAL DETAILS

1. ADD “3 – TYPICAL MULTI-CONDUIT PLACEMENT DETAIL.”

Item No. 1-34: PD2.01 PLUMBING DEMOLITION FLOOR PLANS

1. Revised “DEMO KEY NOTES.”
2. Revised “1 – FLOOR PLAN – BUILDING CK - DEMO.”
    a. Revised drawings for (N) restroom layout.

Item No. 1-35: P2.01 PLUMBING FLOOR PLANS

1. Revised “1 – FLOOR PLAN – BUILDING CK.”
    a. Revised drawings for (N) restroom layout.

Item No. 1-36: FA2.2 FIRE ALARM FLOOR PLANS

1. Revised “4 – FLOOR PLAN – BUILDING CK.”
    a. Revised drawings for (N) restroom layout.

Item No. 1-37: FA4.1 FIRE ALARM RISER DIAGRAM

1. Revised “FIRE ALARM RISER DIAGRAM.”

Item No. 1-38: FA5.1 FIRE ALARM CALCULATIONS

1. Revised “BATTERY CAPACITY CALCULATION SHEET.”
2. Revised “BATTERY CALCULATION SHEET.”
3. Revised “STROBES WORST CASE VOLTAGE DROP.”

END OF ADDENDUM 01

SUPPLEMENTARY GENERAL CONDITIONS

The following supplements modify the General Conditions. Where a portion of the General Conditions is modified and or deleted by these Supplementary Conditions, the unaltered portions of the General Conditions shall remain in effect.

ARTICLE 8 – TIME

Article 8 Schedule Inclusion Requirements –The Baseline Schedule shall include the following Milestone Schedule:

Finley Elementary School*

Phase 1 Dec 2023 – Feb 2024
Phase 2 Feb 2024 – Apr 2024
Phase 3 May 2024 – July 2024**
Phase 4 July 2024 – Sep 2024

Schmitt Elementary School*

Phase 1 Dec 2023 – Mar 2024
Phase 2 Mar 2024 – Jun 2024
Phase 3 Jun 2024 – Aug 2024**
Phase 4 Aug 2024 – Sep 2024

Webber Elementary School*

Phase 1 Dec 2023 – Feb 2024
Phase 2 Feb 2024 – Apr 2024
Phase 3 May 2024 – Jun 2024
Phase 4 Jun 2024 – Aug 2024**

Addendum 1_ Clarification of School name for schedule.

*Further information on each sites phasing the see the attached Master Phasing plans page 210-212

** Summer scope of work must include the Fire Alarm Control Panel instillation.

See attached for further Supplementary General Condition on TELACU Construction Management Letterhead items A through S. These items are to be included into the contract documents.

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PatriotLab.com
1041 S. Placentia Avenue, Fullerton, CA 92831

PATRIOT
Environmental Laboratory Services, Inc.

September 15, 2023

South Coast Air Quality Management District Headquarters
Attention: ASBESTOS SUPERVISOR
21865 East Copely Drive
Diamond Bar, California 91765-4182

Regarding: **PROCEDURE-5 CLEAN-UP PLAN**

Finley Elementary School
13521 Edwards Street
Westminster, CA 92683

PO No: T6000763

Project No: OC164900

Patriot Environmental Laboratory Services, Inc. (Patriot) is submitting a Procedure-5 work plan at the request of Westminster School District in an effort to comply with South Coast Air Quality Management District (SCAQMD) rule 1403. This abatement action is categorized as a Procedure-5 based on the condition of the asbestos-containing building materials (TSI pipe run and TSI elbows) and the need to modify standard abatement protocol due to current site conditions.

On September 14, 2023, California DOSH Certified Asbestos Consultant, Fernando Najera-Hernandez CAC (11-4771), conducted a site contamination assessment of the damaged asbestos-containing materials that were disturbed due to pre-existing / aging conditions. The damaged ACM was located within building R8-R10 attic space at the above referenced site.

Findings: ***(Samples collected on August 18, 2023)***

The following damaged materials are known to contain asbestos in concentrations greater than 1%:

- TSI Pipe Run
- TSI Elbows

The following material in good condition is known to contain asbestos in concentrations greater than 1%: Not contamination contributors.

- Black/Yellow Flooring Mastic
- Gray Window Putty
- Tan Stucco
- Tan Vibration Collar

The work covered by this Procedure-5 Plan includes furnishing all required labor, equipment, materials, and transportation necessary for the proper and safe removal / decontamination, handling, and disposal of the listed materials during this project. Work shall be performed in accordance with applicable government regulations and the following procedure outline.

Background Information:

Source:	Pre-existing Aged Condition
Type of damage:	Physical
Date of loss:	Unknown
Date of site inspection:	August 18, 2023

Building Information:

Type:	School
Level:	Single-story
Circa:	Unknown
Size:	Unknown

Property Occupancy:

The subject property is currently occupied.

Site Observations:

Mr. Mitchell Martinez (CSST 13-5045), working under the direction of Ms. Johana Quintana Hernandez CAC (19-6487), of Patriot observed that the rest of the interior of the structure was not subjected to ACM contamination. At the time of Patriot's inspection, the subject property was occupied. HVAC unit was observed within the affected area.

Decontamination and Gross Removal:

In accordance with all applicable Federal, State, and Local regulations, all critical barriers will be sealed, a 3-Stage decontamination unit will be constructed for entry/exit at the attic access, and the building/work areas will be placed under negative air pressure utilizing negative air machines with HEPA filtration which must be registered with South Coast AQMD and as required by (OSHA Asbestos Standard Title 8 1529 and 29 CFR 1926.1101) the negative pressure within the containment shall be operated continuously (24 hours-per-day, every day) from the commencement of removal activities through the final clean-up of the work area and clearance. The contractor will then proceed to conduct necessary gross removal and clean up utilizing manual methods with hand tools and the use of amended water "adequately wet" (see Scope of Work). Prior to exiting/leaving the regulated work area, all materials, equipment, containerized waste and miscellaneous items shall be thoroughly decontaminated via HEPA vacuuming and wet-wiping. Upon completion of initial clean up, HEPA vacuuming and wet wiping of all surfaces starting from top to bottom will begin. At this point the on-site representative will visually inspect the affected attic area of the residence to determine if all debris and visible dust has been removed and properly bagged for disposal. All asbestos waste materials removed shall be properly double bagged in leak tight bags transparent 6 mil polyethylene bags and goose necked with each bag bearing the appropriate hazardous label including the Generator's name,

address, and manifest number and stored in an enclosed/locked disposal bin lined with two layers of 6 mil poly.

Summary of All Affected Areas:

Damaged TSI Pipe Run	*Remove as Necessary Repair: 30 out of 700 SF
Damaged TSI Elbow	*Remove as Necessary Repair: 2 out of 15 SF
ACM Debris Pile	4 SF
Asbestos-Contaminated Yellow Fiberglass Duct Wrap	40 SF
Asbestos-Contaminated Yellow Fiberglass Batting Insulation	65 SF
Tan Vibration Collars	24 SF
Wet Wipe HEPA Vacuum Surfaces	3600 SF

Impacted Areas & Scope of Work Regarding Structure:

Patriot observed damaged asbestos-containing **TSI pipe run** and **TSI elbow** that affects Building R8-R10 attic space.

(Area 1:) Building R8-R10 Attic Space:

- Patriot observed damaged TSI pipe run and TSI elbow materials in the attic space.
- Removal and disposal of the damaged TSI pipe run ***as necessary for repairs*** (30 out of an approx. total 700 sq. ft.) as asbestos-containing hazardous waste.
- Removal and disposal of the damaged TSI elbow ***as necessary for repairs*** (2 out of an approx. total 15 sq. ft.) as asbestos-containing hazardous waste.
- Removal and disposal of the debris pile containing ACM debris (approx. 4 sq. ft.) as asbestos-containing hazardous waste.
- Removal and disposal of the yellow fiberglass duct wrap (approx. 40 sq. ft.) as asbestos-containing hazardous waste.
- Removal and disposal of the yellow fiberglass batting (approx. 65 sq. ft.) as asbestos-containing hazardous waste.
- Removal and disposal of the 1'x1' ceiling tiles in the affected area (approx. 65 sq. ft.) as asbestos-containing hazardous waste.
- Wet wipe and HEPA vacuum all exposed wood framing/surfaces, exposed pipes, exposed wires, metal ducts, and metal boot registers throughout the affected area (approx. 65 sq. ft.).

Contents:

Porous contents to be disposed of as asbestos waste (approx. 100 sq. ft.).

3 HVAC Units	Cardboard	--	--	--

Scope of Work Regarding Personal Contents:

Based on the type of damage, asbestos content of the building materials and the spread of asbestos fibers the specified contents located in the areas listed above are deemed contaminated with asbestos. They are separated into two categories: "Porous" and "Non-Porous".

Square footage is given as an approximation due to contents cannot be individually measured and manipulated to prevent further cross contamination. It is the responsibility of the abatement contractor to verify the actual quantities.

Electronic items' ability to be decontaminated is based on the vent openings on the electronic items and the distance from the asbestos disturbed. Each item is individually assessed and evaluated.

Non-Porous item were not observed in the affected area.

Porous items that cannot be completely decontaminated and therefore shall be disposed of as asbestos waste.

Public Facilities - asbestos-contaminated porous items that will subject the public (i.e. members of the congregation, tenants, school children, etc.) to exposure must be disposed as asbestos-contaminated waste as required by South Coast Air Quality Management District (AQMD). Porous items that cannot be completely decontaminated must therefore be disposed of as asbestos-contaminated waste.

All coordination of the contents for cleaning or disposal will be done by and facilitated through the asbestos abatement contractor.

Final inspection and screening of decontaminated items must be conducted by Patriot prior to releasing them back to the owner. It is the asbestos abatement contractor's responsibility to contact Patriot for this testing.

Mobilization: (Contractor)

The mobilization phase, which includes agency notifications and staging of supplies, will take place once a verbal notice to proceed has been issued and this Procedure-5 has been approved by SCAQMD.

A. Agency Notifications: This regulatory notice allows for notification to the proper governmental agencies of work to be performed, prior to starting date.

- SCAQMD
- Cal-OSHA (24-Hr.)

B. Staging of Supplies: Supplies will be staged in a neat and orderly manner and will be coordinated with the designated Owner's Representative.

Worker Decontamination: (Contractor)

The contractor will have on-site a 3-stage decontamination unit. The contractor will be responsible for total compliance with all applicable OSHA guidelines including but not limited to: 29 CFR 1926.1101 and Title 8 1529.

Respiratory \ Worker Protection:(Contractor)

Respiratory protection for this project will be half face negative pressure HEPA filtered respirators. All personnel will be required to wear proper protective clothing, which will include hooded suits, gloves and boots. The contractor will be responsible for total compliance with all applicable OSHA guidelines including but not limited to: 29 CFR 1926.1101 and Title 8,1529.

Personal Air Monitoring:(Contractor)

Personal sampling is conducted during the abatement project to determine employee's exposure (outside any respirator) to airborne fibers. Representative, daily personal monitoring during the abatement project is required by (OSHA Asbestos Standard Title 8 1529 and 29 CFR 1926.1101) and the Contractor's work policy. Moreover, every Contractor worker shall have the right to know the asbestos concentrations to which they are exposed and what measures are being taken to protect them. This information will be made available to the employee on a daily basis. Also, results of personal sampling shall be used to select proper respiratory protection for the abatement worker. Data from personal monitoring can be used as an indication of effective removal and control techniques, which result in the lowest employee exposure.

Transport and Disposal:

All asbestos and asbestos contaminated materials removed from the site will be considered as friable asbestos hazardous waste and appropriately double bagged into properly labeled transparent, leak tight bags, which will then be placed in an enclosed/locked disposal bin lined with two layers of 6 mil poly and stored for transport to a disposal site. The waste material will be manifested prior to removal from the project site and signed for by a representative of the owner.

Clearance: (Consultant)

A final visual inspection will be conducted by a DOSH Certified Asbestos Consultant and or Certified Site Surveillance Technician in the building R8-R10 attic space. Final visual inspection will be documented in a written report and provided to the client once completed.

Governing Regulations:

All work performed by the Contractor will be in accordance with these written procedures. In conducting our research, we have collaborated with the governmental regulatory agencies including the U.S. Environmental Protection Agency (U.S. EPA), the U.S. Occupational Safety and Health Administration (OSHA), the State of California Department of Health Services (DHS), the California Department of Industrial Relations Division of Occupational Safety and Health (Cal/OSHA), and the National Institute of Occupational Safety and Health (NIOSH). Our work procedures are planned, documented, and performed in compliance with the following regulations and specifications:

Code of Federal Regulations (CFR) Publications

-29 CFR 1910.134	Respiratory Protection
-29 CFR 1910.145	Specifications for Accident Prevention Signs and Tags
-29 CFR 1926.1101 & 1926.58	Asbestos
-40 CFR 61.	Subpart A General Provisions
-40 CFR 61.	Subpart B National Emission Standard for Hazardous Air Pollutants

California Code of Regulations (CCR)

-Title 8
-8 CCR 341.6 TO 341.15
-8 CCR 1529

American National Institute (FANSI) Publications

-ZP.279	Fundamentals Governing the Design and Operation of Local Exhaust systems
-Z88.280	Practices for Respiratory Protection

American Society for Testing and Materials (ASTM)

National Institute for Occupational Safety and Health (NIOSH)

77-173	NIOSH Occupational Exposure Sampling Strategy Manual

South Coast Air Quality Management District Rule 1403

SCAQMD HEPA negative air machine permits, proper emergency notification, proof of payment and worker certifications will be submitted to SCAQMD prior to commencement of work and should be kept on site per Rule 1403 d1H during abatement.

Patriot Environmental Laboratory Services, Inc. would be pleased to answer any questions that you may have regarding this report.

Site Assessment by:



Fernando Najera-Hernandez
Certified Asbestos Consultant No. 11-4771

Prepared/Reviewed/Submitted by:



Johana Quintana-Hernandez
Certified Asbestos Consultant No. 19-6487

PHOTOGRAPHS



Date: 8/18/2023

Photograph 1

View of
Building R8-R10
Attic Space



Date: 8/18/2023

Photograph 2

View of
Building R8-R10
Attic Space
Debris Pile



Date: 8/18/2023

Photograph 3

View of
Building R8-R10
Attic Space
Debris Pile



Date: 8/18/2023

Photograph 4

View of
Building R8-R10
Attic Space



Date: 8/18/2023

Photograph 5

View of Building R8-R10 Attic Space



Date: 8/18/2023

Photograph 6

View of Building R8-R10 Attic Space

SCAQMD
(NEG AIR REG. NUMBERS)

SCAQMD
(PROCEDURE-5 NOTIFICATION W/ PROOF OF PAYMENT)

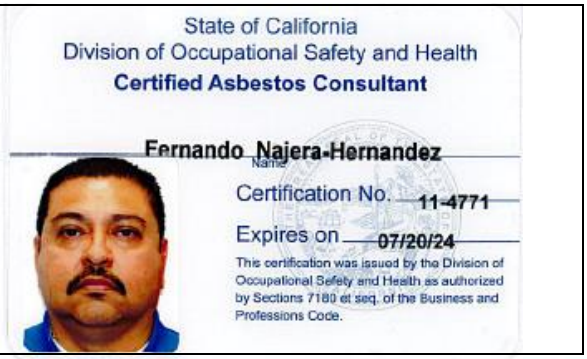


ASBESTOS SURVEY

CERTIFICATION CARDS

Fernando Najera - Hernandez
Certified Asbestos Consultant Card

CAC #11-4771


State of California
Division of Occupational Safety and Health
Certified Asbestos Consultant

Name: Fernando Najera-Hernandez

Certification No. 11-4771

Expires on 07/20/24

This certification was issued by the Division of Occupational Safety and Health as authorized by Sections 7180 et seq. of the Business and Professions Code.

Certificate Of Completion

Asbestos Management Planner Refresher Course

DOSH #:CA-015-08

Fernando Najera

AMPR0512230003N35349

Robert Cisneros — Principal Instructor

Michael W. Horner — Training Director

5/12/2023	5/12/2023	5/12/2023	5/12/2024
Course Start Date	Course End Date	Exam Date	Expiration Date

This course satisfies the education requirements for Asbestos accreditation under the Toxic Substances Control Act, Title II. This course has been approved by the Department of Industrial Relations, Division of Occupational Safety and Health of the State of California

NATEC International, Inc.
National Association of Training and Environmental Consulting
1100 Technology Circle, Suite A, Anaheim, CA 92805 • www.natecintl.com • 800-969-3228


Important Industry Contacts

CAL-OSHA: Ph# (916) 574-2993 (916) 483-0572 Fax Notification Web: www.dir.ca.gov or calosha.com

CDPH/CLPPB: Ph# (510) 620-5600 Web: www.cdph.ca.gov/programs/CLPPB

SCAQMD: Ph# (909) 396-3739 Fax#(909) 396-3342

BAAQMD: Ph# (415) 749-4762

NATEC International, Inc.
National Association of Training and Environmental Consulting
Asbestos • Lead • Mold • HAZWOPER
PO Box 8657, Fountain Valley, CA 92728
(714) 678-2750, (800) 969-3228, Fax (714) 678-2757
www.natecintl.com

NATEC International, Inc.
National Association of Training and Environmental Consulting
This Card Acknowledges That
Fernando Najera
Holds Training Certification For
Asbestos Management Planner Refresher Course
Expiration: 5/12/2024
Training Date 5/12/2023
Certificate No. AMPR0512230003N35349
Michael W. Horner
Training Director

Certificate Of Completion

Asbestos Contractor/Supervisor Refresher Course

DOSH #:CA-015-04

Fernando Najera

ASR0513230016N35307

Guillermo Renteria — Principal Instructor

Michael W. Horner — Training Director

5/13/2023	5/13/2023	5/13/2023	5/13/2024
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SCAQMD: Ph# (909) 396-3739 Fax#(909) 396-3342

BAAQMD: Ph# (415) 749-4762

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www.natecintl.com

NATEC International, Inc.
National Association of Training and Environmental Consulting
This Card Acknowledges That
Fernando Najera
Holds Training Certification For
Asbestos Contractor/Supervisor Refresher Course
Expiration: 5/13/2024
Training Date 5/13/2023
Certificate No. ASR0513230016N35307
Michael W. Horner
Training Director

Certificate Of Completion

Asbestos Building Inspector Refresher Course

DOSH #:CA-015-06

Fernando Najera

ABIR0512230012N35219

Robert Cisneros — Principal Instructor

Michael W. Horner — Training Director

5/12/2023	5/12/2023	5/12/2023	5/12/2024
Course Start Date	Course End Date	Exam Date	Expiration Date

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Important Industry Contacts

CAL-OSHA: Ph# (916) 574-2993 (916) 483-0572 Fax Notification Web: www.dir.ca.gov or calosha.com

CDPH/CLPPB: Ph# (510) 620-5600 Web: www.cdph.ca.gov/programs/CLPPB

SCAQMD: Ph# (909) 396-3739 Fax#(909) 396-3342

BAAQMD: Ph# (415) 749-4762

NATEC International, Inc.
National Association of Training and Environmental Consulting
Asbestos • Lead • Mold • HAZWOPER
PO Box 8657, Fountain Valley, CA 92728
(714) 678-2750, (800) 969-3228, Fax (714) 678-2757
www.natecintl.com

NATEC International, Inc.
National Association of Training and Environmental Consulting
This Card Acknowledges That
Fernando Najera
Holds Training Certification For
Asbestos Building Inspector Refresher Course
Expiration: 5/12/2024
Training Date 5/12/2023
Certificate No. ABIR0512230012N35219
Michael W. Horner
Training Director

Certificate Of Completion

Asbestos Project Designer Refresher Course

DOSH #:CA-015-10

Fernando Najera

APDR0517230012N35408

David Wallach — Principal Instructor

Michael W. Horner — Training Director

5/17/2023	5/17/2023	5/17/2023	5/17/2024
Course Start Date	Course End Date	Exam Date	Expiration Date

This course satisfies the education requirements for Asbestos accreditation under the Toxic Substances Control Act, Title II. This course has been approved by the Department of Industrial Relations, Division of Occupational Safety and Health of the State of California

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Expiration: 5/17/2024
Training Date 5/17/2023
Certificate No. APDR0517230012N35408
Michael W. Horner
Training Director

Johana Quintana Hernandez
Certified Asbestos Consultant Card

CAC #19-6487


State of California
Division of Occupational Safety and Health
Certified Asbestos Consultant

Name: Johana C Quintana Hernandez

Certification No. 19-6487

Expires on 05/14/24

This certification was issued by the Division of Occupational Safety and Health as authorized by Sections 7180 et seq. of the Business and Professions Code.

Certificate Of Completion

Asbestos Contractor/Supervisor Refresher Course

DOSH #:CA-015-04

Johana Quintana-Hernandez

ASR0519230025N35308

Course Start Date	Course End Date	Exam Date	Expiration Date
5/19/2023	5/19/2023	5/19/2023	5/19/2024

Robert Cisneros, Principal Instructor

Michael W. Horner, Training Director

This course satisfies the education requirements for Asbestos accreditation under the Toxic Substances Control Act, Title II. This course has been approved by the Department of Industrial Relations, Division of Occupational Safety and Health of the State of California

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This Card Acknowledges That
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Holds Training Certification For
Asbestos Contractor/Supervisor Refresher Course
Expiration: 5/19/2024
Training Date: 5/19/2023
Certificate No. ASR0519230025N35308
Michael W. Horner, Training Director

Certificate Of Completion

Asbestos Building Inspector Refresher Course

DOSH #:CA-015-06

Johana Quintana-Hernandez

ABIR0518230027N35220

Course Start Date	Course End Date	Exam Date	Expiration Date
5/18/2023	5/18/2023	5/18/2023	5/18/2024

Norm Kramer, Principal Instructor

Michael W. Horner, Training Director

This course satisfies the education requirements for Asbestos accreditation under the Toxic Substances Control Act, Title II. This course has been approved by the Department of Industrial Relations, Division of Occupational Safety and Health of the State of California

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National Association of Training and Environmental Consulting
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Asbestos Building Inspector Refresher Course
Expiration: 5/18/2024
Training Date: 5/18/2023
Certificate No. ABIR0518230027N36220
Michael W. Horner, Training Director

Certificate Of Completion

Asbestos Management Planner Refresher Course

DOSH #:CA-015-08

Johana Quintana-Hernandez

AMPR0518230009N35350

Course Start Date	Course End Date	Exam Date	Expiration Date
5/18/2023	5/18/2023	5/18/2023	5/18/2024

Norm Kramer, Principal Instructor

Michael W. Horner, Training Director

This course satisfies the education requirements for Asbestos accreditation under the Toxic Substances Control Act, Title II. This course has been approved by the Department of Industrial Relations, Division of Occupational Safety and Health of the State of California

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Holds Training Certification For
Asbestos Management Planner Refresher Course
Expiration: 5/18/2024
Training Date: 5/18/2023
Certificate No. AMPR0518230009N35350
Michael W. Horner, Training Director

Certificate Of Completion

Asbestos Project Designer Refresher Course

DOSH #:CA-015-10

Johana Quintana-Hernandez

APDR0517230003N35408

Course Start Date	Course End Date	Exam Date	Expiration Date
5/17/2023	5/17/2023	5/17/2023	5/17/2024

David Wallach, Principal Instructor

Michael W. Horner, Training Director

This course satisfies the education requirements for Asbestos accreditation under the Toxic Substances Control Act, Title II. This course has been approved by the Department of Industrial Relations, Division of Occupational Safety and Health of the State of California

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Expiration: 5/17/2024
Training Date: 5/17/2023
Certificate No. APDR0517230003N35408
Michael W. Horner, Training Director

TELACU
CONSTRUCTION MANAGEMENT

Mandatory Job Walk Agenda

Westminster Interim Housing Project - Finley ES, Schmitt ES, Webber ES

Job Walk Date: September 20th at 2:00 P.M. at the Westminster District Office 14121 Cedarwood Avenue Westminster, CA 92683

Owner:	Westminster School District
Architect (AOR):	PBK Architects
Construction Manager (CM):	TELACU Construction Management
Inspector of Record (IOR):	TBD

General Project Information:

Deadline for Submitting Proposals: 2:00 p.m. on October 17, 2023

Location to Submit Proposals:

District Board Room
Attn: TELACU Construction Management
14121 Cedarwood Avenue
Westminster, CA 92683

Project Contact:
Joe Hodgson
Project Manager
TELACU Construction Management
714-293-2632
jhodgson@TELACU.com

Prequalification Procedures: Prequalification's are by 10:00 a.m. on Monday October2, 2023 PQBids at https://pqbids.com/westminster/.

Bid Documents: Project Documents are available free on the Districts Website: www.wsdk8.us

Project Bid Documents consist of

- Plans Set Finley Elementary School
- Plans Set Schmitt Elementary School
- Plans Set Webber Elementary School
- Geological Survey
- Prequalification Form – PQ Bids
- Hazmat Survey Finley
- Hazmat Survey Schmitt
- Hazmat Survey Webber
- General Conditions
- Special Conditions
- Phasing Site Maps

TELACU
CONSTRUCTION MANAGEMENT

Construction Information:

Licensing Requirements: Class B

Project's Preliminary Cost Estimate: Project total estimate is

Schmitt $5,800,000, Finley ~~$9,700,000~~ $ 7,250,000 Webber ~~$9,500,000,~~ $ 7,500,000 Project Total ~~$25,000,000~~ $ 20,550,000

Scope of Work: Art Gonzalez PBK

Addendum 1_ Project Cost clarifiaction

Finley ES -

Schmitt ES -

Webber ES-

Project Duration:
Finley ES, Schmitt ES, and Webber ES: 11/15/2023 – 8/20/2024 (285 calendar days)

Schedule: The major project milestones are as follows:

	DATE	TIME
Advertisement	September 15, 2023 September 18, 2023	N/A
Documents Available	September 15, 2023	N/A
Pre-Bid Conference	September 20, 2023	2 PM
Clarification Request Deadline	October 2, 2023	2 PM
Deadline for Response to Questions	October 10, 2022	5 PM
Bid Opening	October 17, 2023	2 PM
Board Approval	November 9, 2023	N/A
Contract Executed by	November 10, 2023	N/A
Notice to Proceed Issued	November 13, 2023	N/A

Prevailing Wage: This project will use the Prevailing wage rates with Certified Payroll Submitted to DIR

TELACU
CONSTRUCTION MANAGEMENT

Contractor Work Hours: All construction and delivery activities shall be restricted to the hours of 7:00 a.m. to 5:00 p.m. Monday through Saturday and from 8:00 A.M. to 5:00 P.M (Saturday work requires written request approved by TELACU Construction Management 48 hours prior any Saturday work). No work shall take place on Sundays or Federal Holidays.

Staging: Contractor must coordinate with TELACU Construction Management for staging of materials and deliveries.

Clarification Request: Email the Prebid Clarification form (Bid documents pg. 14) to the persons noted and copy Joe Hodgson at jhodgson@TELACU.com no later than 2:00pm on October 2, 2023. Include your Company letterhead and contact information. If the RFI is deemed to be valid, a formal response shall be issued as an addendum to ALL Plan holders in Procore. Addendum will be issued on or before October 2, 2023.

Site General Comments: No smoking or substance use, Professional construction attire, No interaction with staff & students. All correspondence and communicating to be directed to TELACU Construction Management. Bidders shall not contact the District or design team directly for information related to the project.



WESTMINSTER SCHOOL DISTRICT - APPLICATIONS BY STATUS - FULLY APPROVED

Firm name	Email	Name	Contractor type	Ownership	License no	Lic Clas	Dir Reg	Expiry date	Pe am
CTG Construction, Inc.	lily@ctgconstruction.net	CTG Construction, Inc.	General Contractor	SBA	635916	B, C-33	1000005770	2024-04-13	$1
Intercom Clock & Signal Service	j.abbasi@icsservice.net	jennifer abbasi	Other	Women owned & Operated Other	711012	C-7, C-10	1000007581	2024-03-14	$ 1
Fricke Electric	frickeelectric@yahoo.com	Joshua Fricke	Electrical contractor	SBA	805503	C-10	1000011942	2024-10-03 10:04:57	$4(
SKC Company	info@skccompany.com	Melina Corona	General Contractor	SBA	992118	B	1000012108	2024-08-04 10:39:56	$5,
Dalke & Sons Construction, Inc.	barry@dalkeandsons.com	Barry Dalke	General Contractor	Other	612500	B, C-10	1000003081	2024-04-03	$1(
MBC Enterprises Inc.	bidding@mbcenterprises.net	RUDY SULTAN	General Contractor	Minority Owned	1050671	B, A	1000064318	2023-10-20	$2,
Core Contracting, Inc.	estimating@corecontractinginc.com	Core Contracting, Inc.	General Contractor	Other	905751	B	1000012197	2024-05-19	$2
Piana Construction & Painting	pianaconstruction@sbcglobal.net	Piana Construction & Painting	Other	SBA	731555	B, C-33	1000002822	2024-07-28 15:36:57	$5,
Integrated Demolition and Remediation Inc.	info@idrdemo.com	Nick Vora	General Contractor	Minority Owned	1003504	A, B, C-21, C-22, HAZ	1000023608	2024-02-07	$1(
Erickson-Hall Construction Co.	rgonzalez@ericksonhall.com	Rachael Gonzalez	General Contractor	Other	751343	A, B, HAZ	1000000191	2024-04-26	$1
Neff Construction, Inc.	karen@neffcon.com	Karen Anderson	General Contractor	Other	790576	B	1000000197	2024-07-28 15:40:23	$1(
Saifco Construction Company	oisaifan@gmail.com	Osama I Saifan	General Contractor	Other	906460	A, B	100042317	2024-08-04 10:08:21	$2
P A Thompson Company, Inc	bids@thompsone.com	P A Thompson Company, Inc	Electrical contractor	SBA	665844	C-7, C-10	1000002048	2023-11-02	$3,
Valley Pipeline Services, Inc	steve@valleypipeline.com	STEVE VATTER	Other	Other	988742	A, C-34, C-36	1000011810	2024-02-22	$6,
Sandalwood Construction	joseph@sandalwoodconstruct.com	Sandalwood Construction	General Contractor	Other	680715	B	1000005773	2024-05-05	$ 1
Crosby Plumbing Inc	admin@crosbyplumbing.net	Anthony Tatikian	Plumbing Contractor	SBA	994490	A, C-36, B, C-34	1000004513	2024-08-22 10:02:30	$1,

Firm name	Email	Name	Contractor type	Ownership	License no	Lic Clas	Dir Reg	Expiry date	Pe am
MPI - Miller Plumbing Inc.	estimating@mpiplumbing.com	Chris Miller	Plumbing Contractor	Other	720581	C-36, C-34	1000001568	2023-12-13	$5,
Kerns Inc. A California Corporation	office@kernscon.com	RICHARD KERNS	Plumbing Contractor	Other	986739	A, B, C-36, C-34	1000006137	2023-12-23	$6,
All Star Air Systems, Inc.	accounting@allstarairsystemsinc.com	All Star Air Systems, Inc.	Mechanical contractor	Other	747924	C-20, B	1000001207	2024-05-15	$2(
Apex Fire Protection, Inc.	apexfireinc@yahoo.com	Zare Babayan	Other	Other	954286	C-16	1000006088	2024-03-16	$3,
J B Bostick Company, Inc.	greg@jbbostick.com	James Bostick	Other	Other	341573	C-12, C-8	1000000734	2024-09-06 09:00:21	$5,
Empyrean Plumbing, Inc.	dave@empyreanplumbing.com	Dave Koralewski	Plumbing Contractor	SBA	879157	C-36, C-34, C-2, B	1000001538	2024-10-14 16:57:03	$1(
Champion Electric Inc.	estimating@championelec.com	Patrick Howard	Electrical contractor	Other	744374	C-10, B	1000001571	2024-03-28	$1!
Daniel's Electrical Construction Co., Inc.	dustin@danielselectric.com	DUSTIN ISPAS	Electrical contractor	Other	467288	C-10	1000000290	2023-12-12	$2(
Flint Design Build LLC dba FLINT	rtognetti@flintbuilders.com	Ryan Tognetti	General Contractor	Other	1085096	A, B, C-17	1000000005	2023-10-24	$1!
US National Corp	maryg@usnationalcorp.com	Fred Jimenez	Other	SBA	813354	C-33, B	1000001988	2023-10-17	$1,
Simco Mechanical, Inc.	pq@simcomechanical.com	Alexander Harbachian	Mechanical contractor	SBA	974288	C-20	1000005424	2024-01-02	$3,
VSC, Inc. dba Vulcan Steel Company	dhopper@vulcansteelco.com	Vulcan Steel Company	Other	Other	663436	C-51	1000003292	2024-01-31	$7,
Color New Co.	colornewco@yahoo.com	Color New Co.	Other	Other	818650	C-33, B	1000001623	2023-12-21	$7,
JAM Corporation	larry.erbe@jamcorporation.com	Larry Erbe	Electrical contractor	SBA	791060	B, C-10, C-16, C-7	1000005174	2024-03-09	$ 1
AVSAR Construction Development Inc.	baris@avsarcd.com	BARIS AVSAR	General Contractor	SBA	1035467	B, C-27, A	1000058080	2024-03-21	$2,
Russell Sigler Inc.	jmyers@siglers.com	Jeffrey Myers	Mechanical contractor	Other	960159	C-20	1000005440	2023-12-16	$5,
C.W. Driver	jvasquez@cwdriver.com	Jennifer Vasquez	General Contractor	Other	1009002	B	1000003790	2024-04-24	$2!
Econo Fence Inc.	ajohnson@econofenceinc.com	Amanda Johnson	Other	SBA	337734	C-13, B	1000001395	2025-08-18 10:37:26	$4,
Ironclad General Engineering Inc	accounting@ironcladgei.com	jamie chandler	General Contractor	Other	954859	A	1000001508	2024-07-28 15:33:42	$1

Firm name	Email	Name	Contractor type	Ownership	License no	Lic Clas	Dir Reg	Expiry date	Pe am
Mel Smith Electric, Inc.	estimating@melsmithelectric.com	Mel Smith	General Contractor	SBA	394741	A, B, C-7, C-10, C-12, C-21, HAZ	1000001784	2024-03-09	$5(
Builtall	tom@builtall.com	Tom Madrigal	General Contractor	SBA	785095	B, C-27, C-33, D-03	1000027843	2024-03-15	$2,
Best Contracting Services, Inc.	estimating@bestcontracting.com	Myris Ignacio Guballa	General Contractor	Other	456263	A, B, C-17, C-39, C-43	1000000563	2024-01-31	$5(
Air Design Solutions	jackie@airdesign1.com	Air Design Solutions	Mechanical contractor	SBA	953818	C-20	1000004802	2024-05-19	$1,
AMG & Associates, Inc.	estimating@amgassociatesinc.com	Albert Giacomazzi	General Contractor	Other	881824	A, B, ASB, HAZ	1000000413	2024-05-22	$7!
Kemcorp Construction, Inc.	melissa@kemcorp.net	Jason Bollinger	General Contractor	Other	934522	A, B	1000002295	2024-01-12	$1!
Ferandell Tennis Courts	assistant@ferandelltenniscourts.com	Paul Ferandell	General Contractor	Other	603945	A, B	1000004786	2023-11-28	$3,
K F Y United Mechanical Contractors, Inc. dba United Mechanical Contractors	jeremy@umcontractors.com	JEREMY YABLAN	General Contractor	SBA	759496	B, C-20	1000004362	2023-10-25	$2(
New Dimension General Construction	kdahlberg@newdimension.biz	Kent Dahlberg	General Contractor	SBA	865303	B, C-10, C-33	1000776287	2023-11-07	$1,
Platinum Construction, Inc.	nwalker@platconinc.com	Natalie Walker	Other	Other	870864	B, C-9, C-35, C-36	1000006755	2024-02-13	$5,
Progressive Surface Solutions LLC	info@progressivesurfacesolutions.com	Craig Maurer	Other	SBA	929883	C-15, D-12, C-54, D-03, D-06, D-34, D-50	1000042517	2024-04-11	$2!
Bravo Concrete Construction Services, Inc.	kathy@bravoconcreteshop.com	STEVE DEGENNARO	Other	Other	856049	A, B, C-8	1000001509	2024-02-24	$2(
Michael W. Crowder, Inc dba C & H Construction	candhconstr@aol.com	KARI CROWDER	General Contractor	Other	300253	B	1000005028	2024-01-12	$2,
KYA Services LLC	shane.collins@thekyagroup.com	Shane Collins	General Contractor	Other	984827	B, C-15, A, C-61, D-12	1000003379	2024-02-07	$2!
EIDIM Group Inc. dba EIDIM AV Technology	estimate@eidim.com	Andrew Bang	Other	SBA	824410	B, C-7, C-10, C-33	1000010711	2024-02-16	$2,
Preferred Ceilings, Inc.	megan@preferredceilings.com	Rick Risser	Other	SBA	705630	A, B, C-2, C-10, D-50	1000001964	2024-03-22	$1!

Firm name	Email	Name	Contractor type	Ownership	License no	Lic Clas	Dir Reg	Expiry date	Pe am
Dulux Painting Inc	duluxpaintinginc@gmail.com	John Mantikas	Other	Other	780020	C-33	1000010729	2024-11-14 10:37:49	$1,
RAN Enterprises, Inc.	thierry@ranent.com	Thierry Abinader	Mechanical contractor	Other	818754	B, C-20	1000007881	2024-02-08	$6,
Westland Mechanical	travis@westlandmechanical.net	travis lee	Mechanical contractor	SBA	894940	C-20	1000062056	2024-02-16	$2(
Painting & Decor, Inc.	bidding@paintinganddecor.com	Nyle Buchner	General Contractor	Other	276640	B, C-33	1000002852	2023-11-30	$3,
VLA Construction Inc	vlainc@hotmail.com	Veronique Loizu	General Contractor	SBA	1040399	C-33, B	1000060242	2023-12-01	$2,
Maranatha Sheet Metal, Inc.	kelly@maranathasheetmetal.com	Kelly Melendes	Other	Other	915024	C-43	1000030456	2023-12-27	$5,
Chapman Coast Roof Co., Inc.	carmen@chapmancoastroof.com	Carmen Martinez	Other	Other	927543	C-39	1000002150	2023-12-22	$4,
Serenity Fire Protection	ROBERT@SERENITYFIREPROTECTION.COM	Robert Black	Other	SBA	902927	C-16	1000055751	2024-02-17	$1,
Scorpio Enterprises dba AireMasters Air Conditioning	shaney@airemasters-ac.com	Charles Thompson	General Contractor	Other	315631	B, C-20	1000001582	2023-12-05	$ 2
RT Contractor Corp.	rtcontractor1@gmail.com	RICHIE TRAN	General Contractor	DVBE	755720	B, C-10, C-20, C-36, A	1000003314	2023-12-07	$1!
Ohno Construction Company	mail@ohnoconstruction.com	Ohno Construction Company	General Contractor	Other	833470	A, B, C-12, C-27, D-12	1000000584	2024-01-05	$2!
Pro-Craft Construction, Inc.	estimating@procraftci.com	Timothy McFayden	Plumbing Contractor	Other	467234	C-36, C-34, B, A, C-42, C-2, C-16	1000001106	2024-03-10	$4(
Urban Habitat	Brett@MyUrbanHabitat.com	Brett Brennan	Other	Other	963744	A, C-27	1000003890	2024-02-02	$1(
RDM Electric Co., Inc.	m.deleon@rdmcompanies.com	RDM Electric Co., Inc.	Electrical contractor	Other	539194	C-10	1000000776	2024-09-07 08:26:23	$2!
Exclusive Metal Inc	liz@exclusivemetalinc.com	Alberto Jauregui	Other	Minority Owned	1055390	C-39, C-43	1000537179	2024-02-09	$2,
Advanced Cable Solutions, Inc.	bids@acsdbi.com	Jennifer Wieman	Electrical contractor	Other	930210	C-7, C-10	1000001812	2024-04-03	$2(
TELENET VoIP, INC.	diane@telenetvoip.com	Diane Goodman	General Contractor	Other	647808	C-7, C-10, C-16, D-56	1000003189	2023-12-27	$1(
Universal Asphalt Co. Inc.	tomhouck@universalasphalt.com	Thomas Houck	Other	Other	256383	A, C-12, C-32	1000001866	2023-12-13	$5,
Danny Ryan Precision Contracting, Inc. dba ADEP	dcarrillo@precision-ca.com	Debbie Carrillo	General Contractor	Minority Owned	701357	B, C-21, C-22	1000018129	2023-12-19	$5,

Firm name	Email	Name	Contractor type	Ownership	License no	Lic Clas	Dir Reg	Expiry date	Pe am
Precision Contracting									
Couts Heating & Cooling, Inc.	aparamo@couts.com	Amy Wilson	Mechanical contractor	Other	375584	C-20, C-4, C-36, C-43, B	1000001611	2024-03-20	$2(
TELACU Construction Management	dclem@telacu.com	TELACU Construction Management	General Contractor	Other	741851	B	1000012893	2023-12-16	$3(
Ryan Electric, Inc.	ryanelectricinc@verizon.net	Ryan Electric, Inc.	Electrical contractor	Other	790924	C-10	1000000794	2023-12-28	$ 5
2H Construction, Inc.	sean@2hconstruction.com	Sean R. Hitchcock	General Contractor	Other	741856	A, B	1000003938	2024-05-15	$ 4
ACCO Engineered Systems, Inc.	cadler@accoes.com	Cindi Adler	Mechanical contractor	Other	120696	C-20, A, B, C-4, C-10, C-16, C-36, C-38, C-42	1000000546	2024-06-21 11:14:43	$1!
M. Wilson Co. Contractors, Inc.	mdarino@uia.net	M. Wilson Co. Contractors, Inc.	Electrical contractor	SBA	757834	A, B, C-10	1000003912	2024-05-19	$9,
Red Hawk Services, Inc.	scott@redhawkfence.com	SCOTT MOORE	General Contractor	SBA	971584	A, B, C-13, C-61, D-28	10000405318	2024-01-25	$3,
Avidex Industries, LLC	biddesk@avidex.com	Ron Ponce	Electrical contractor	Other	981651	C-7, C-10	1000004292	2024-02-17	$2(
Giant Services Inc.	brian@giantpowercomm.com	Giant Services Inc.	Electrical contractor	DVBE	920295	C-10	1000004953	2024-05-15	$7,
NKS Mechanical Contracting, Inc.	finni@nksmechanical.com	Namir Shmara	General Contractor	Other	865725	B, C-20	1000003330	2024-03-03	$1:
Tri-Power Electrical Contractors, Inc	ray@tripowerelectric.com	Ray Blanchard	Electrical contractor	Other	1050901	C-10	1000064500	2024-02-17	$3,
Kazoni, Inc. (dba Kazoni Construction	info@kazoni-inc.com	April Kulpinski	General Contractor	Women owned & Operated Other	974982	B, A	1000002212	2024-07-11 10:20:09	$1!
Next Level HVAC Energy Management System	jb@nextlevelems.com	JACOB BURROLA	Other	SBA	1050564	C-20	1000366416	2024-01-05	$5,
Interpipe Contracting, Inc.	info@interpipecontracting.com	Interpipe Contracting, Inc.	Plumbing Contractor	SBA	578888	C-34, C-36	1000003586	2024-03-03	$8,
G A Abell Inc. dba Precision Electric Company	estimating@precisionelectricco.com	Greg Abell	Electrical contractor	Other	534116	A, B, C-7, C-10, C-46	1000002037	2023-12-22	$ 8
Pathway Communications LTD	beckyt@pcomus.com	Becky Thurmon	Electrical contractor	Other	868539	C-7	1000001958	2024-03-10	$ 2
West Coast Air Conditioning Co., Inc.	khaislip@wcac.com	West Coast Air Conditioning Co., Inc.	General Contractor	Other	262349	A, B, C-4, C-10, C-20, C-36,	1000000067	2024-04-13	$5(

Firm name	Email	Name	Contractor type	Ownership	License no	Lic Clas	Dir Reg	Expiry date	Pe am
						C-43, C-51, ASB			
Terra Pave, Inc.	estimating@terrapave.com	Aaron Terry	General Contractor	SBA	456836	A, C-12	1000000807	2024-04-18	$1
R. Jensen Co., Inc	ELLYRJC@GMAIL.COM	R. Jensen Co., Inc	General Contractor	SBA	353856	A, B, C-10	1000000522	2024-03-20	$4,
Audio Associates	pspencer@audioassociates.com	Pete Spencer	Electrical contractor	DVBE	728789	C-7	1000002509	2024-03-07	$3,
Franklin Mechanical Systems, Inc	seth@fmshvac.net	Franklin Mechanical Systems, Inc	Mechanical contractor	SBA	761887	C-20	1000002063	2024-03-14	$1
Paul C Miller Construction Co., Inc.	andrea@millercon.com	Todd Miller	General Contractor	Other	933449	B	1000002747	2024-03-30	$ 5
Rancho Pacific Electric Construction, Inc.	avasquez@rpeinc.net	Adriana Vasquez	Electrical contractor	Other	1047107	B, C-10	1000062492	2024-03-20	$2
PLYCO CORP	plyco@plycocorp.com	PLYCO CORP	General Contractor	Other	824958	B, C-8, A	1000006424	2024-04-18	$2
PCN3,INC.	babghari@pcn3.com	Brian Abghari	General Contractor	Other	786518	A, B, C-10, C-51	1000007827	2024-02-09	$2
Golden Gate Steel Inc. DBA Golden Gate Construction	information.goldengate@gmail.com	Yohann Chang	General Contractor	Minority Owned	776708	B, C-8, C-23, C-51, C-61, D-28, D-39, C-27	1000016071	2024-10-03 10:07:06	$3,
Verne's Plumbing, Inc.	ceci@vernesplumbing.com	Verne's Plumbing, Inc.	Plumbing Contractor	SBA	674077	B, C-34, C-36	1000000572	2024-01-19	$5,
Liberty Climate Control, Inc.	sylvia@libertyclimate.com	Sylvia Duarte	Mechanical contractor	SBA	327683	B, C-20	1000003471	2024-03-03	$1
ACC Contractors, Inc.	ruben@acccontractors.com	EILEEN AJAMIAN	General Contractor	Other	468940	A, B, C-20, C-10, C-36	1000003255	2024-04-28	$1
ACH Mechanical Contractors, Inc.	amandas@achmechanical.com	Amanda Sanchez	Mechanical contractor	Minority Owned	780560	C-20	1000003396	2024-02-02	$2
Bowen Engineering and Environmental	office@bowendemo.com	Arline Parfitt	General Contractor	SBA	816496	A, B, C-10, C-21, C-22, C-50, ASB, HAZ, C-33, C-39, D-38	1000003520	2024-04-03	$1
Woodcliff Corporation	christina@woodcliff.net	Woodcliff Corporation	General Contractor	Other	719883	B, A	1000003832	2024-05-30	$4
Danny Letner Inc. dba Letner Roofing Company	kolson@letner.com	Kevin Fleming	Other	Other	689961	B, C-39, C-43	1000002763	2024-04-07	$ 2
Baker Electric & Renewables LLC	prequal@baker-electric.com	Baker Electric & Renewables LLC	Electrical contractor	Other	161756	C-10, C-46, B, C-7, A	1000000466	2024-03-02	$1

Firm name	Email	Name	Contractor type	Ownership	License no	Lic Clas	Dir Reg	Expiry date	Pe am
PMK Professional Inc.	bids@pmkpro.com	Maziyar Farhadi	Electrical contractor	SBA	959668	C-7, C-10, B	1000004512	2024-02-09	$1,
JPI Development Group, Inc	estimating@jpidevelopment.com	Brad Janikowski	Plumbing Contractor	Other	778930	A, B, C-2, C-8, C-16, C-34, C-36	1000000801	2024-05-02	$1(
SOLPAC Construction Inc. dba Soltek Pacific Construction Company	marketing@soltekpacific.com	Kevin Cammall	General Contractor	Other	886641	A, B	1000000370	2024-03-28	$1:
H J Mechanical	hjmechanical@yahoo.com	Houssam Jafaklou	Mechanical contractor	SBA	947208	C-20, B	1000011159	2023-11-09	$1,
Rivera Equipment dba Valley Industrial Mechanical	cortney@revim.co	Raymond Rivera	Plumbing Contractor	Other	1051483	C-36	1000365455	2024-02-23	$5,
Premier Culinary Solutions Inc dba Premier Prefabricated Equipment	scott@premierculinarysolutions.com	Scott Roczey	Other	SBA	1057430	D-34	1000456875	2024-05-04	$5,
Los Angeles Engineering, Inc.	joseph@laeng.net	Joseph Haygood	General Contractor	Other	591176	A, B, C-10, C-27, D-12, HAZ	1000002848	2024-04-13	$3(
Century Paving Inc.	lori@paveit.com	Lori Ochoa	General Contractor	Minority Owned	311456	A, C-12, C-32, D-12	1000002297	2024-05-19	$5,
Construct 1 One, Corp.	samr@construct1.com	Sam Reed	General Contractor	Other	698241	B	1000003144	2024-05-10	$5(
S.J. Amoroso Construction Co., LLC	marketing@sjamoroso.com	Allison Grozdanov	General Contractor	Other	331024	A, B	1000000202	2024-09-14 14:10:53	$2(
Able Heating & Air Conditioning, Inc.	snunn@ableac.net	Able Heating & Air Conditioning, Inc.	Mechanical contractor	Minority Owned	466861	C-20, C-43, B	1000004337	2024-05-02	$2(
Continental Plumbing, Inc.	grace.monreal@continentalplumbing.com	Grace Monreal	Plumbing Contractor	Other	399073	C-34, C-36, HAZ, C-16, C-4	1000000624	2024-05-19	$5,
West-Tech Mechanical Inc	bids@westtechmech.com	West-Tech Mechanical Inc	Mechanical contractor	Other	597398	C-20	1000002683	2024-08-31 09:46:59	$1:
Risher Sutherland, Inc. dba United Contractors	jan@united-contractors.us	Risher Sutherland, Inc. dba United Contractors	Other	SBA	416125	C-43, C-39, C-51	1000001724	2024-08-10 10:06:20	$4,
RND Contractors Inc	nsauter@rndcontractorsinc.com	RND Contractors Inc	Other	Women owned & Operated Other	898471	A, C-51	1000001732	2024-07-25 11:33:30	$1:

Firm name	Email	Name	Contractor type	Ownership	License no	Lic Clas	Dir Reg	Expiry date	Pe am
Commercial Roofing Systems, Inc.	crs@comroofsys.com	Glenn Hiller	General Contractor	Other	591222	C-39, C-43	1000000838	2023-10-19	$5,
David M. Bertino Manufacturing, Inc.	cindy@davidmbertinomanufacturing.com	Cindy Hutton	Other	Other	520857	C-6	1000006947	2024-08-01 16:07:15	$2,
AP Construction Group Inc. dba Air Plus	info@apconstructiongroup.com	Navid Djouzaie	General Contractor	Other	573122	B, C-20, C-4, C-36	1000003176	2024-09-26 09:14:52	$2!
Archico Design Build Inc	bids@archico.com	Alan Alavi	General Contractor	Other	987122	A, B	100049561	2024-10-31 13:43:39	$2!
Swinerton Builders	pchoi@swinerton.com	Pauline Choi	General Contractor	Other	92	A, B, C-2	1000000296	2024-03-30	$7!
Borbon, Inc.	arisbet@borbon.net	Arisbet Picazo	Other	Minority Owned	351557	C-33	1000002552	2023-11-14	$1(
Red Wave Communications & Electrical Systems, Inc.	amy@redwavecomm.com	PAUL LUKIANOV	Electrical contractor	SBA	500378	A, B, C-7, C-10	1000001102	2024-01-04	$5,
EKC Enterprises, Inc	greg@ekccorp.com	EKC Enterprises, Inc	Electrical contractor	Other	916095	C-10, C-7	1000000219	2024-11-03 13:16:30	$1!
Tony Painting	tonyspaintingsb@yahoo.com	Ante Marijanovic	General Contractor	Other	320164	C-33, D-38	1000001496	2023-11-28	$1,
SJD&B, Inc.	info@sjdandb.com	Simon Jeon	General Contractor	SBA	1001950	A, B, C-12, C-39	1000030237	2023-11-28	$1(
Pacific Contractors Group, Inc.	pacificcontractorsinc@gmail.com	Setmir Qose	General Contractor	SBA	927973	B, C-33, C-35	1000002862	2023-11-30	$3,
Tovey/Shultz Construction, Inc.	BidDiscovery@ToveyShultz.com	BidDiscovery@toveyshultz.com	General Contractor	Other	549838	B	1000004783	2024-06-07	$1(
Rite-Way Roof Corporation	lisa@ritewayroofing.com	Lisa Mora	General Contractor	SBA	661941	C-39, B, C-10, C-43	1000001946	2023-11-23	$3,
Apple Valley Communications Inc.	jlovato@avcsystems.com	Jay Lovato	Other	Other	542642	C-10, C-7	1000002294	2024-05-25	$ 8
Los Angeles Air Conditioning Inc.	jasmin@laair.net	Los Angeles Air Conditioning Inc.	Mechanical contractor	Other	208872	C-20, C-4, B	1000000594	2024-03-06	$1!
Laser Electric, Inc.	kevinhartnett@laserelectric.com	Laser Electric, Inc.	Electrical contractor	Women owned & Operated Other	513888	C-7, C-10	1000000032	2024-08-03 13:21:31	$2(
Prestige Paving & Striping Company	Brian@PrestigeCompany.net	Brian Beckner	General Contractor	Other	827632	C-32, C-12, A, B, C-8	1000015267	2024-04-20	$5,
Precision Air Balance Co., Inc.	kfox@precisionairbalance.com	Karen Fox	Mechanical contractor	Women owned &	633805	D-62, C-20	1000000337	2024-04-18	$5,

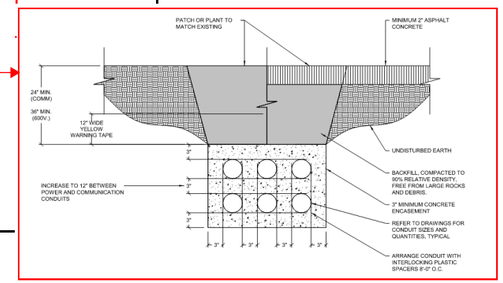
Firm name	Email	Name	Contractor type	Ownership	License no	Lic Clas	Dir Reg	Expiry date	Pe am
				Operated Other					
Anderson Air Conditioning LP	mhaynam@amsofusa.com	Mitch Haynam	Mechanical contractor	Other	1075333	C-20, C-10, C-38, B	1000765095	2024-04-13	$1(
Fischer, Inc.	beth@fischerinc.us	MIKE Fischer	Plumbing Contractor	Other	853357	A, C-36, C-16, B	1000000857	2024-04-21	$5,
JG Tate Fire Protection Systems, Inc.	tinaellis@jgtate.com	James Tate	Plumbing Contractor	Other	800609	C-16, C-10	1000005084	2024-05-11	$3,
Spec Construction Co., Inc.	info@specconstructionco.com	Chaz DeLaFosse	General Contractor	Other	419626	B, C-15, C-36, C-10, A, C-39, C-33, C-4, C-20, C-17, C-8, C-9, C-35	1000007706	2024-03-10	$1:
Enpowered Solutions	cscamihorn@veregy.com	Cory Scamihorn	General Contractor	Other	1023083	B	1000053722	2024-07-13 15:01:15	$1(
Time and Alarm Systems	ProjectAdmin-TAS@sciensbuildingsolutions.com	Keith Senn	Other	Other	393251	C-7, C-10, C-16	1000000832	2024-05-23	$5,
K.E. Rodgers Inc.	dawnpeer@gmail.com	K.E. Rodgers Inc.	Plumbing Contractor	SBA	1000195	C-36	1000033832	2024-08-31 11:32:16	$4(
ABNY General Engineering Inc	samwahba@abnyinc.com	Sam Wahba	General Contractor	Other	979357	A, B	1000002354	2023-11-04	$5,
R.E. Schultz Construction, Inc.	nicole@reschultzconstruction.com	Nicole Roth	General Contractor	Other	1007195	A, D-34, B, D-12	1000033385	2024-01-11	$3,
Checkpoint Communications, Inc	bids@ccomwire.com	James Shoaff	Electrical contractor	Other	545063	C-7, C-10	1000001532	2024-02-14	$ 1
Edwards Construction Group, Inc.	estimatingSD@edwardscongroup.com	Maranda Maliska	General Contractor	Other	1057451	B, A	1000459456	2024-02-08	$8(
MLC Constructors, Inc.	estimating@mlcconstructors.com	Karina Chavez	General Contractor	SBA	1068632	A, B, C-10, C-20, C-36, C-51	1000667976	2024-02-23	$3,
MOBILE MODULAR CONSTRUCTION INC	mobmodco@gmail.com	MITCH MARINESCU	General Contractor	Other	680893	B	1000001293	2024-03-08	$2,
Mac Dad Builders, Inc	team@wearemdb.com	Courtney Statham	General Contractor	Other	1054408	A	1000399000	2024-04-14	$5,
Asphalt, Fabric & Engineering, Inc.	lsandoval@afesports.com	Doug Coulter	General Contractor	Other	747934	A, B, D-12, HAZ	1000004130	2024-07-20 16:34:32	$1(
Westco Service Company	sara@westcoservice.com	Sara Barberio Coleman	Mechanical contractor	Women owned &	670542	B, C-20, C-36	1000000840	2024-03-24	$3,

Firm name	Email	Name	Contractor type	Ownership	License no	Lic Clas	Dir Reg	Expiry date	Pe am
				Operated Other					
Harik Construction, Inc.	lilah@harikconstruction.com	Harik Construction, Inc.	General Contractor	Other	598592	B	1000002780	2024-03-30	$1
Western States Roofing, Inc.	lynne@westernstatesroofing.com	Western States Roofing, Inc.	Other	Other	993251	C-39	1000006180	2024-04-13	$1,
Newman Midland Corporation	estimating@newmanmidland.com	Newman Midland Corporation	General Contractor	Other	757755	B	1000004166	2024-04-28	$1
Class Leasing, LLC	tim@classleasing.net	Tim Nicholas	General Contractor	Other	1001535	B	1000012018	2024-05-05	$2
Climatec, LLC	socalbiddesk@climatec.com	Climatec, LLC	General Contractor	Other	991066	B, C-10, C-20	1000001265	2024-05-10	$1
D.F. Perez Construction, Inc.	tiffany@dfperez.com	David Perez	General Contractor	Minority Owned	387778	B, C-8	1000051924	2024-05-10	$1
Norse Corporation	bmills@norseca.com	Norse Corporation	General Contractor	SBA	747555	B	1000005444	2024-05-15	$3,
Bogh Engineering LLC	lisa@bogh.biz	Lisa Venable	General Contractor	Other	788915	A, B, C-8, C-29, C-50	1001091513	2024-05-16	$4
Radonich Corp DBA Cal Coast Telecom	contracts@cctcom.net	Marie Pernick	Other	Other	732886	C-7	1000000317	2024-05-19	$8,
AM Painting Inc	amcontractorslb@gmail.com	Ante Marijanovic	General Contractor	DVBE	959118	B, C-33, D-34, D-38	1000716047	2024-05-31	$5
ExhibitOne Corporation	crowley@exhibitone.com	Chad Rowley	Other	Other	834123	C-7	1000003232	2024-06-01	$9,
Interior Demolition Earthwise Demo JV	MARIA@INTERIORDEMOLITION.NET	MARIA MOLINA	General Contractor	Minority Owned	1025275	B, C-12, C-21	1000047924	2024-06-30 11:08:11	$5,
Continental Marble and Tile Company	john@cmtc.us	John McGee	Other	SBA	394	C-54	1000002594	2024-09-06 09:02:54	$8,
D. Burke Mechanical Corporation	janet@dburkepipe.com	Janet Gordon	General Contractor	Women owned & Operated Other	658944	B, C-4, C-20, C-36		2024-09-15 09:18:46	$1
Allison Mechanical, Inc.	office@allison1.net	Don Allison	Mechanical contractor	SBA	679866	C-20, B, C-36, HAZ	1000002213	2024-09-19 10:09:21	$1
Pacific West Industries Inc.	teresa.m@pacwestac.com	Teresa Moulton	Mechanical contractor	SBA	792079	C-10, C-20, C-36, C-38	1000002299	2024-10-03 10:26:14	$1,
Stallworth construction and management Corp	tom@stallworthsafety.com	Sholandric Stallworth	General Contractor	Minority Owned	1086776	B	1000816692	2024-10-04 10:29:54	$1,

PRE-BID REQUEST FOR INFORMATION LOG

ARCHITECT'S PROJECT NO:
PROJECT NAME: **Finley, Schmitt & Webber ES HVAC**
CONTRACTOR:
DSA File No:
DSA App No:

RFI #	SCHOOL	DATE RECEIVED	QUESTION	CONTRACTOR/SUBCONTRACTOR TRADE	RESPONSE
1	all	9/21/23	Can the owner provide the current list of existing prequalified firms, so we know which firms to engage in the project?	**2H Construction**	See forthcoming Addendum 1
2	all	9/21/23	Bid Form section 3. refers to Hayden and Meairs ES. Please confirm is this an error.	**2H Construction**	Confirmed. See forthcoming Addendum 1
3	all	9/21/23	Addendum #1 is marked as DRAFT. Is Addendum #1_DRAFT a bid document?	**2H Construction**	See forthcoming Addendum 1 for complete addendum
4	all	9/27/23	Please provide specification to HVAC Controls	**2H Construction**	See forthcoming Addendum 1
5	Webber	9/27/23	Specification 23 00 00 and 23 00 01 for Webber Elementary School are noted as Victoria Elementary School Mountain View School District. Please confirm there specification sections are for Webber Elementary	**2H Construction**	See forthcoming Addendum 1 for revised specs
6	Schmitt	9/27/23	Please provide SCE plans for Schmitt Elementary	**2H Construction**	Contractor to Coordinate with District after bid award.
7	Webber	10/3/23	There is only (1) detail, and it is on 3/E6.01 of the Webber Plans. It shows no concrete encasement with a depth coverage of 24" for both Power and FA. The specs for all (3) schools call for concrete encasement with 36" of coverage. 1. Is concrete encasement required for ALL new UG Conduits. (Both Power and FA) 2. Please provide depth coverage for both Power and FA Conduits. 3. Please provide UGPB sizes/specs for Power. FA is already provided.	**2H Construction**	1. Yes, per specifications all underground conduit requires concrete encasement. 2. See snippet for depth requirements. → 3. 17"x30"xDepth req'd in-ground H-20 traffic rated pullbox. Contractor to verify size meets NEC requirements due to but not limited to any routing deviations from plans.
8	all	10/3/23	G-1 it calls out lo-e tinted tempered glass, but it does not mention which low-e we need to use.	**2H Construction**	Confirmed Solarban 70
9	all	10/4/23	Can you specify which low-e glazing we need to use?	**Rainbow Glazing**	Confirmed Solarban 70
10	Finley	10/4/23	There are two different W5 in Finley drawing on 17,23/A6.02 & 12/A9.01		CHANGE WINDOW FRAMING ELEVATION W5 TO W6 IN 12/A9.01 CHANGE W5 TO W6 IN 2/A1.01 - FLOOR PLAN BLDG CK CHANGE W5 TO W6 IN BLDG CK EAST ELEVATION 11/A6.01 ADD WINDOW FRAMING ELEVATION - W5 IN A9.01. See Addendum 1 revised sheet A9.01
11	Schmitt	10/4/23	Door #K2A-1 indicates the door is single, but the frame is double (Type D)	**Rainbow Glazing**	THERE IS NO K2A-1. K2-1 IS SINGLE TYPE A K2-2 IS A PAIR TYPE D PER DOOR SCHEDULE
12	Schmitt	10/4/23	We've found W10 on 4/A6.01, but W10 is missing on window schedule @ schmitt A9.01	**Rainbow Glazing**	Added window elevation W10. See Addendum 1 revised sheet A9.01
13	Webber	10/4/23	The glazing specs state that G2 is 1/4" tinted tempered glass, but the drawing (webber 3 & 13/A9.01) shows G-2 as 1" insulated frosted glass.	**Rainbow Glazing**	See revised spec section in Addendum 1.



RFI #	SCHOOL	DATE RECEIVED	QUESTION	CONTRACTOR/SUBCONTRACTOR TRADE	RESPONSE
14	Schmitt	10/5/23	The Roof drawings for Schmitt indicate to provide 1'C 3#10 + 1#10 for the A/C units. If you go to the panel schedules drawing several of the schedule indicates some of the units should have #8 wire to them. Also, the roof drawing indicates 30-amp disconnects yet, the panel schedules indicate some of the units to be fed from a 40-amp circuit breaker.	**2H Construction**	30A - 1"C-3#10 + 1#10 GRD. 40A - 1"C-3#8 + 1#8 GRD. 15A & 20A - 1"C-3#12 + 1#12 GRD. Updated plans with keynote tags are found on Addendum #1.
15	Finley	10/5/23	The Roof drawings for Finley indicate to provide 1'C 3#10 + 1#10 for the A/C units. If you go to the panel schedules drawing several of the schedule indicates some of the units should have #8 wire to them. Also, the roof drawing indicates 30-amp disconnects yet, the panel schedules indicate some of the units to be fed from a 40-amp circuit breaker.	**2H Construction**	30A - 1"C-3#10 + 1#10 GRD. 40A - 1"C-3#8 + 1#8 GRD. 15A & 20A - 1"C-3#12 + 1#12 GRD. Updated plans with keynote tags are found on Addendum #1.
16	Finley	10/5/23	All the electrical panels on Finley are shown on the exterior of the buildings. However, the single line and panel schedules do not indicate the panels are Nema3r.	**2H Construction**	All panels will need to Nema 3R, SLD has been updated with a note for Nema 3R on all new panelboards. See addendum #1 for all changes.
17	Finley	10/5/23	Finley Drawing E1.01 indicates new Panel MC1 on the exterior of the Administration Building. This panel is not shown on the single line diagram, there is no panel schedule provided and the site drawing does not show a feeder for this panel.	**2H Construction**	Panelboards were mislabeled on SLD. Tags have been updated on the SLD to match the site plan. See addendum #1 for all changes.
18	Schmitt	10/5/23	Schmitt Drawing E5.1 indicates to re-feed the existing 400-amp distribution boards. There is no location shown for these existing distribution boards.	**2H Construction**	Existing 400A switchboards are located in the electrical room in the MPR. Updated plans with locations are found on Addendum #1.
19	Schmitt	10/5/23	Schmitt Drawing E5.1 , the feeder for Panels MA1 and MB1 are not spcified. What are we to figure?	**2H Construction**	Panels MA1 and MB1 are feed-thru. Match upstream wire sizing. Updated plans with sizing are found on Addendum #1.
20	Schmitt	10/5/23	Schmitt Drawing E1.0 indicates feeder routing for the new panel boards. Drawing E2.1 indicates Panel MA and MB to be located in the electrical room in the middle of building. The site drawing indicates the panels to be located on the corners.	**2H Construction**	Panels are located in the electrical room, middle of the building. Background textwas not showing the stub up toward the center of the building. Provide pullbox directly outside from the center of the building. Refer to Addendum #1 for sizing and approx. locations.
21	Schmitt/Finley	10/5/23	The Power Drawings for Finley and Schmitt do not show circuiting for the ceiling exhuast fans.	**2H Construction**	Exhaust fans shall require 120V circuit per note. Refer to addendum #1 for exact circuit/s.
22	Finley	10/3/23	Sheet FA1.0 shows (2) locations for "future connections". Please confirm we are to install UG infrastructure ONLY at these (2) locations	**2H Construction**	Confirmed. Only at those indicated locations.
23	Schmitt	10/3/23	Sheet FA1.00 Note 8 calls for (n) UG conduit system but does not specify conduit size and quantity, Please provide.	**2H Construction**	Revise Note #8 to read NEW UNDERGROUND CONDUIT SYSTEM. ROUTE ALL NEW FIRE ALARM WIRING IN NEW UNDERGROUND CONDUIT SYSTEM FROM BUILDING TO BUILDING. PROVIDE ONE (1) 2" UNDERGROUND CONDUIT (FIRE ALARM DEDICATED), PVC SCHEDULE 40 AT 24" BELOW GRADE.

SECTION 08 80 00

GLAZING

PART 1 GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes: Requirements including but not limited to:
1. Tempered glass.
2. Reflective glass.
3. Glazing sealants.
4. Fire rated glass and sealants
5. Accessories necessary for a complete installation.

B. Related Sections:
1. Section 08 11 13, Hollow Metal Doors and Frames.
2. Section 08 14 16, Flush Wood Doors.
3. Section 08 51 00, Aluminum Windows.
4. Section 08 41 13, Aluminum-Framed Entrances and Storefronts.

1.2 DEFINITIONS

A. Glass Thickness: Indicated by thickness designations in millimeters according to ASTM C 1036.

B. Interspace: Space between lites of an insulating lass unit.

1.3 PERFORMANCE REQUIREMENTS

A. Delegated Design: Design glass panels including comprehensive engineering analysis by a qualified professional engineer lawfully licensed in the State of California, using performance requirements and design criteria indicated.

B. Installed Glazing: Design glazing systems to withstand normal thermal movement and wind and impact loads (where applicable) without failure, including loss or glass breakage attributable to the following: defective manufacture, fabrication, or installation; failure of sealants or gaskets to remain watertight and airtight; deterioration of glazing materials; or other defects in construction.

C. Structural Performance: Glazing shall withstand the following design loads within limits and under conditions indicated determined according to the CBC and ASTM E 1300.
1. Design Wind Pressures: Indicated on Drawings.
2. Design Wind Pressures: Determine design wind pressures applicable to Project according to ASCE/SEI 7-16, based on heights above grade indicated on Drawings.
   a. Wind Design Data: As indicated on Drawings.
   b. Basic Wind Speed: 110 mph (49 m/s). Or as indicated on structural drawings.

c. Importance Factor: 1.0.
3. Exposure Category: C.
4. Design Snow Loads: Indicated on Drawings.
5. Thickness of Patterned Glass: Base design of patterned glass on thickness at thinnest part of the glass.
6. Probability of Breakage for Sloped Glazing: For glass surfaces sloped more than 15 degrees from vertical, design glass for a probability of breakage not greater than 0.001.
7. Maximum Lateral Deflection: For glass supported on all four edges, the center of glass deflection limit at design wind pressure shall be not more than 1/50 times the short side length or 1 inch (25 mm), whichever is less.

D. Safety Glazing: Where safety glazing is indicated, provide glazing that complies with 16 CFR 1201, Category II.

E. Thermal and Optical Performance Properties: Provide glass with performance properties specified, as indicated in manufacturer's published test data, based on procedures indicated below:
1. For monolithic glass lites, properties are based on units with lites 6 mm thick.
2. For laminated glass lites, properties are based on products of construction indicated.
3. For insulating glass units, properties are based on units of thickness indicated for overall unit and for each lite.
4. U-Factors: Center of glazing values, according to NFRC 100 and based on LBL's WINDOW 5.2 computer program, expressed as Btu/sq. ft. x h x deg. F (W/sq. m x K).
5. Solar Heat Gain Coefficient and Visible Transmittance: Center of glazing values, according to NFRC 200 and based on LBL's WINDOW 5.2 computer program.
6. Visible Reflectance: Center-of-glazing values, according to NFRC 300.
7. 2022 California Building Code – Chapter 24 – Glass & Glazing

1.4 SUBMITTALS

A. Product Data: Technical data for each type of product including recommended installation and cleaning procedures.

B. Glass Samples: For each type of glass required. Prepare samples from same material to be used for Work.

C. Glazing Schedule: List glass types and thickness for each size opening and location. Use same designations indicated here-in and on Drawings.

D. Delegated Design Submittal: For glass indicated to comply with performance requirements and design criteria, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

E. Product Certificates: Submit glass product certificates required by Code.
1. Glass Manufacturer Certificate: The glass manufacturer shall submit a letter certifying it has reviewed the glazing details proposed for the project, including the use of gaskets and sealants, and that each product furnished is recommended for the application shown and compliance with the Code.

F. Thermal Stress and Wind Load Analyses: Submit the following from the glass manufacturer:
1. Thermal stress analysis for each exterior glass unit type, each building elevation. The analysis shall clearly indicate the expected service temperature ranges and the effects of partial and full shading on the glass.
a. Attach to the thermal stress analysis a statement from the glass manufacturer that

based upon this analysis that the resulting thermal stresses will not reduce the specified statistical probability of breakage.

2. Wind load analysis for each glass unit type, each building elevation. The analysis shall indicate the statistical probability of breakage at the design wind pressure does not exceed the specified statistical probability of breakage.

G. Product Test Reports: Submit test reports for insulating glass and glazing sealants, for tests performed by a qualified testing agency.
   1. Glazing Sealants: Provide test reports based on testing current sealant formulations within previous 36 month period.
   2. Glazing Sealants: Preconstruction adhesion and compatibility test report.

1.5 QUALITY ASSURANCE

A. Regulatory Requirements:
   1. Building Code: Comply with applicable requirements for glazing in CBC 2019 California Building Code (CCR Title 24, Part 2, as adopted and amended by DSA).
   2. Energy Code: Comply with applicable requirements of glazing in the 2019 California Green Building Standards Code California Code of Regulations, Title 24, Part 11.
   3. Safety Glazing Labeling: Where safety glazing is indicated, permanently mark glazing with certification label of the SGCC or manufacturer. Label shall indicate manufacturer's name, type of glass, thickness, and safety glazing standard with which glass complies.
      a. As a minimum provide Category II materials complying with testing requirements in 16 CFR 1201 (Consumer Product Safety Commission *Safety Standard for Architectural Glazing Materials*, published in the Code of Federal Regulations) and ANSI Z97.1.
      b. Permanently mark safety glass with certification label of Safety Glazing Certification Council.
   4. Insulating Glass Certification Program: Permanently marked either on spacers or on at least one component lite of units with appropriate certification label of IGCC.
   5. Glazing Publications: Comply with published recommendations of glass product organizations.
      a. GANA: Glazing Manual.
      b. IGMA: SIGMA TM-3000 Vertical Glazing Guidelines.
      c. GANA: Laminated Glazing Reference Manual.
      d. AAMA: AAMA GDSG-1 Glass Design for Sloped Glazing.
      e. AAMA: TIR A7 Sloped Glazing Guidelines.
      f. IGMA for Sloped Glazing: IGMA TB-3001 Guidelines for Sloped Glazing.
      g. IGMA for Insulating Glass: SIGMA TM-3000 North American Glazing Guidelines for Sealed Insulating Glass Units for Commercial and Residential Use.
   6. Fire Rated Door Assemblies: Assemblies complying with NFPA 80 listed and labeled by UL for fire ratings indicated, based on testing according to NFPA 252.
   7. Thickness: Where glass thickness is indicated, it is a minimum. Provide glass that complies with performance requirements and is not less than the thickness indicated.
      a. Minimum Glass Thickness for Exterior Lites: 1/4 inch (6 mm).
      b. Thickness of Tinted Glass: Provide same thickness for each tint color indicated.
   8. Strength: Where annealed float glass is indicated, provide annealed float glass, heat strengthened float glass, or fully tempered float glass necessary to comply with performance requirements.
      a. Where heat strengthened float glass is indicated, provide heat strengthened float glass or fully tempered float glass necessary to comply with performance requirements.
      b. Where fully tempered float glass is indicated, provide fully tempered float glass.

B. Installer Qualifications, Glazer: Experience entity having minimum 5 years documented

experience and who employs glass installers certified under the National Glass Association's Certified Glass Installer Program.

C. Installer Qualifications, Decorative Film: Experience entity having minimum 5 years documented experience in the installation of glass films.

D. Source Limitations for Glass and Glass Accessories: Obtain each type of glass and glass accessories from a single source.

E. Sealant Testing Agency Qualifications: An independent testing agency qualified according to ASTM C 1021 to conduct the testing indicated.

F. Pre-installation Conference: Conduct conference at site.

G. Fire Protective Rated Glass: Each lite shall bear permanent, non-removable label of UL certifying it for use in tested and rated fire protective assemblies.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Protect glazing materials according to manufacturer's written instructions. Prevent damage to glass and glazing materials from condensation, temperature changes, direct exposure to sun, or other causes.

B. Delivery: Deliver materials in manufacturer’s original, unopened, undamaged containers with identification labels intact.

C. Storage and Protection: Store materials protected from exposure to harmful environmental conditions and at temperature and humidity conditions recommended by manufacturer.

D. Exercise exceptional care to prevent edge damage to glass, and damage/deterioration to coating on glass.

E. Comply with insulating glass manufacturer's written instructions for venting and sealing units to avoid hermetic seal ruptures due to altitude change.

1.7 FIELD CONDITIONS

A. Environmental Limitations: Do not proceed with glazing when ambient and substrate temperature conditions are outside limits permitted by glazing material manufacturers and when glazing channel substrates are wet from rain, frost, condensation, or other causes.
   1. Do not install glazing sealants when ambient and substrate temperature conditions are outside limits permitted by sealant manufacturer or are below 40 degrees F (4.4 degrees C).

B. Field Measurements: Verify actual dimensions of openings and construction contiguous with decorative glass by field measurements before fabrication.

1.8 COORDINATION

A. Coordinate glazing channel dimensions to provide necessary bite on glass, minimum edge and face clearances, and adequate sealant thicknesses, with reasonable tolerances.

1.9 WARRANTY

A. Coated Glass Products: Written warranty signed by manufacturer in which glass

manufacturer agrees to replace coated glass units that deteriorate within specified warranty period. Deterioration of coated glass is defined as defects developed from normal use that are not attributed to glass breakage or to maintaining and cleaning coated glass contrary to manufacturer's written instructions. Defects include peeling, cracking, and other indications of deterioration in coating.

1. Warranty Period: Ten (10) years from date of Substantial Completion.

B. Insulating Glass: Written warranty signed by manufacturer in which manufacturer agrees to replace insulating glass units that deteriorate within specified warranty period. Deterioration of insulating glass is defined as failure of hermetic seal under normal use that is not attributed to glass breakage or to maintaining and cleaning insulating glass contrary to manufacturer's written instructions. Evidence of failure is the obstruction of vision by dust, moisture, or film on interior surfaces of glass.

1. Warranty Period: Ten (10) years from date of Substantial Completion.

C. Glass Film: Written warranty signed by glass film manufacturer and installer in which manufacturer and installer agree to replace glass film that crack, peel, delaminate, discolor, change appearance, or failure to meet solar criteria within specified warranty period.

1. Warranty Period: Five (5) years from date of Substantial Completion.

PART 2 PRODUCTS

2.1 MATERIALS

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. Glass:
   a. Cardinal Glass Industries.
   b. AGC Glass Company North America, Inc.
   c. Cardinal Glass Industries.
   d. Guardian Industries Corp.; SunGuard.
   e. Oldcastle Building Envelope.
   f. Pilkington North America.
   g. Vitro Architectural Glass.
   h. Vetrotech Saint-Gobain.
2. Glass Film:
   a. 3M Construction Markets Division. http://www.3m.com
   b. Bekaert Specialty Films. http://www.solargard.com
   c. Madico. http://www.madico.com

B. Clear Annealed Float Glass: ASTM C 1036, Type I, Class 1 (clear), Quality-Q3.

C. Ultra-clear Float Glass: ASTM C 1036, Type I, Class I (clear), Quality-Q3; and with visible light transmission of not less than 91 percent and solar heat gain coefficient of not less than 0.87.

D. Tinted Annealed Float Glass: ASTM C 1036, Type I, Class 2 (tinted), Quality-Q3.

E. Fully Tempered Float Glass: ASTM C 1048, Kind FT (fully tempered), Condition A (uncoated) unless otherwise indicated, Type I, Class 1 (clear) or Class 2 (tinted) as indicated, Quality-Q3.

1. Fabrication Process: By horizontal (roller hearth) process with roll wave distortion parallel to bottom edge of glass as installed unless otherwise indicated.

F. Laminated Float Glass: ASTM 1036 / ASTM C1172 / ASTM C1376, Kind LT (fully tempered

and bonded by an interlayer), Condition A (uncoated) unless otherwise indicated, Class 1 (clear) and/or Class 2 (tinted) as indicated, Quality-Q3.

1. Fabrication Process: By horizontal (roller hearth) process with roll wave distortion parallel to bottom edge of glass as installed unless otherwise indicated.

G. Pyrolytic Coated, Low Maintenance Glass: Clear float glass with a coating on first surface having both photocatalytic and hydrophilic properties that act to loosen dirt and to cause water to sheet evenly over the glass instead of beading.

H. Ceramic Coated Vision Glass: ASTM C 1048, Condition C, Type I, Class 1 (clear) or Class 2 (tinted) as indicated, Quality-Q3; and complying with Specification No. 95-1-31 in GANA *Engineering Standards Manual*.

I. Reflective Coated Vision Glass: ASTM C 1376.

J. Ceramic Coating Color: Selected by Architect from manufacturer's full range.

K. Adhered Backing: Adhered scrim backing to ceramic coated surface; provide backed units identical to materials which, while possibly developing cracks and fissures, show no shear nor develop any openings large enough for the unobstructed penetration of 3 inch diameter sphere when tested by approved independent testing laboratory:

1. Mount test specimens consisting of 3 glass assemblies, 34" x 76" (plus zero or minus 3/16 inch), for testing as specified in ANSI Z-97.1.
2. Expose specimens to 100 cycles of the following conditions:
   a. 1 hour at 0 degrees F, ambient humidity.
   b. 3 hours increase from 0 degrees F to 140 degrees F, 95 to 100 percent relative humidity.
   c. 1 hour at 140 degrees F, 95 to 100 percent relative humidity.
   d. 3 hours decrease from 140 degrees F to 0 degrees F, ambient humidity.
3. Break glass by spring-loaded prick punch at midpoint of either vertical edge.
4. After breaking glass, subject it to pressure of 4 lbs. per sq. ft. for 5 minutes to simulate wind load.
5. Inorganic Opacifier: Provide polyethylene opacifier where no insulation and other backing material is applied directly to spandrel glass. Use polyester where direct attachment does occur.
6. Fallout Resistance: Provide spandrel units identical to those passing fallout resistance test for spandrel glass specified in ASTM C 1048.

2.2 FIRE RATED GLAZING

A. Manufacturer: FireLite® as manufactured by Nippon Electric Glass Company, Ltd., and distributed by Technical Glass Products, 8107 Bracken Place SE, Snoqualmie, WA 98065 phone (800.426.0279) fax (425.396.8300) e-mail sales@fireglass.com, web site http://www.fireglass.com

B. Passes positive pressure test standards UL 10C.

C. Labeling: Permanently label each piece of FireLite® with the FireLite® logo, UL logo and fire rating in sizes up to 3,325 sq. in., and with the FireLite® label only for sizes that exceed the listing (as approved by the local authority having jurisdiction).

D. Fire Rating: Fire rating classified and labeled by UL for fire rating scheduled at opening locations on drawings, when tested in accordance with ASTM E2010-01, NFPA 257, UL 9 and UL 10B.

E. Substitutions: No substitutions permitted.

2.3 INSULATING GLASS

A. Insulating Glass Units: Factory assembled units consisting of sealed lites of glass separated by a dehydrated interspace, qualified according to ASTM E 2190.

B. Sealing System: Dual seal, with polyisobutylene and silicone primary and secondary sealants.
   1. Spacer: Aluminum with black, color anodic finish. Thermally broken aluminum.
      a. Manufacturers: Subject to compliance with requirements, provide products by Technoform Glass Insulation NA, Inc.
      b. Desiccant: Molecular sieve or silica gel, or a blend of both.

C. Performance Properties:
   1. Basis of Design Product: SOLORBAN 70 BRONZE
   2. Overall Unit Thickness: 1 inch (25 mm).
   3. Minimum Thickness of Each Glass Lite: 1/4 inch (6 mm).
   4. Outdoor Lite: Fully tempered float glass.
   5. Interspace Content: Air.
   6. Indoor Lite: Fully tempered float glass.
   7. Safety glazing required.

2.4 GLASS FILM

A. Performance Requirements:
   1. Scratch resistant coating that, after fully cured, facilitates cleaning without damaging or scratching film.
   2. Optical Distortion: When viewed from a distance of 10 feet at angles up to 45 degrees from either side of the glass, there is no discernable distortion.
   3. Edges: Seal edges except when the film is applied with a lacquer that prevents moisture or free water from penetrating between the film and the glass.

B. Coating: Provide coating with uniform finish, without noticeable pin holes, streaks, thin spots, scratches, or banding.
   1. Light Transmission:
      a. Maximum Variation across Width and Length: Not to exceed 1 percent.
      b. Variation *in Transmission across Width and Length: Not to exceed 2 percent.*

C. Rate of Change of Total Transmission across Width and Length: Not to exceed 1 percent in 4 inches.

2.5 GLAZING ACCESSORIES

A. Compatibility: Provide glazing sealants compatible with one another and with other materials in contact, including glass products, seals of insulating glass units, and glazing channel substrates, under conditions of service and application, demonstrated by sealant manufacturer based on testing and field experience.

B. Suitability: Comply with sealant and glass manufacturers' written instructions for selecting glazing sealants suitable for applications indicated and for conditions existing at time of installation.

C. Colors of Exposed Glazing Sealants: Selected by Architect.

D. Glazing Sealant: Neutral curing silicone glazing sealant complying with ASTM C 920, Type S, Grade NS, Class 100/50, Use NT.
   1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
      a. Dow Corning Corporation.
      b. GE Construction Sealants; Momentive Performance Materials Inc.
      c. May National Associates, Inc.; a subsidiary of Sika Corporation.
      d. Pecora Corporation.
      e. Sika Corporation.

E. Back Bedding Mastic Glazing Tapes: Preformed, butyl based, 100 percent solids elastomeric tape; non-staining and non-migrating in contact with nonporous surfaces; with or without spacer rod recommended in writing by tape and glass manufacturers for application indicated; and complying with ASTM C 1281 and AAMA 800 for products indicated below:
   1. AAMA 804.3 tape, where indicated.
   2. AAMA 806.3 tape, for glazing applications in which tape is subject to continuous pressure.
   3. AAMA 807.3 tape, for glazing applications in which tape is not subject to continuous pressure.

F. Expanded Cellular Glazing Tapes: Closed-cell, PVC foam tapes; factory coated with adhesive on both surfaces; and complying with AAMA 800 for the following types:
   1. AAMA 810.1, Type 1, for glazing applications in which tape acts as the primary sealant.
   2. AAMA 810.1, Type 2, for glazing applications in which tape is used in combination with a full bead of liquid sealant.

G. Miscellaneous Glazing Accessories: Provide products of material, size, and shape complying with referenced glazing standard, with requirements of manufacturers of glass and other glazing materials for application indicated, and with proven record of compatibility with surfaces contacted in installation.
   1. Cleaners, Primers, and Sealers: Types recommended by sealant or gasket manufacturer.
   2. Setting Blocks: Elastomeric material with a Shore, Type A durometer hardness of 85, plus or minus 5.
   3. Spacers: Elastomeric blocks or continuous extrusions of hardness required by glass manufacturer to maintain glass lites in place for installation indicated.
   4. Edge Blocks: Elastomeric material of hardness needed to limit glass lateral movement (side walking).
   5. Cylindrical Glazing Sealant Backing: ASTM C 1330, Type O (open-cell material), of size and density to control glazing sealant depth and otherwise produce optimum glazing sealant performance.
   6. Perimeter Insulation for Fire Resistive Glazing: Product approved by testing agency listed and labeled fire resistant glazing product with which it is used for application and fire protection rating indicated.

2.6 GLAZING COMPOUND FOR FIRE-RATED GLAZING MATERIALS (G5.1)

A. Glazing Tape: Closed cell polyvinyl chloride (PVC) foam, coiled on release paper over adhesive on two sides, maximum water absorption by volume of 2 percent. Glass panels that exceed 1,393 sq. inches for 90-minute ratings must be glazed with fire-rated glazing tape supplied by manufacturer.

B. Glazing Compound: DAP 33 putty.

C. [Silicone Sealant: One-part neutral curing silicone, medium modulus sealant, Type S; Grade NS; Class 25 with additional movement capability of 50 percent in both extension and compression (total 100 percent); Use (Exposure) NT; Uses (Substrates) G, A, and O as applicable. Available Products:
   1. Dow Corning 795 - Dow Corning Corp.
   2. Silglaze-II 2800 - General Electric Co.
   3. Spectrem 2 - Tremco Inc.

D. Setting Blocks: Neoprene, EPDM, or silicone; tested for compatibility with glazing compound; of 70 to 90 Shore A hardness.

2.7 FABRICATION OF GLAZING UNITS

A. Fabricate glazing units in sizes required to fit openings indicated for Project, with edge and face clearances, edge and surface conditions, and bite complying with written instructions of product manufacturer and referenced glazing publications, to comply with system performance requirements.
   1. Allow for thermal movements from ambient and surface temperature changes acting on glass framing members and glazing components.
      a. Temperature Change: 120 degrees F (67 degrees C), ambient; 180 degrees F (100 degrees C), material surfaces.
   2. Edge and Surface Conditions: Comply with the recommendations of AAMA *Structural Properties of Glass* for clean cut edges, except comply with manufacturer's recommendations.
   3. Exposed Glass Edges and Surface Condition: Finish edges flat with an arrissed edge profile (small bevel of uniform width not exceeding 1.5 mm at an angle of approximately 45 degrees to the surface of the glass) with polished (surface is reflective in appearance similar to the major surface of the glass) surface.

B. Cutting: Wheel cut or sawed edges and seamed at manufacturer's option. For site cut glass, provide glass 2 inches (50.8 mm) larger than required in both dimensions to facilitate cutting of clean cut edges without the necessity of seaming or nipping. Do not cut, seam, nip or abrade heat treated glass.

C. Butt Glazing: Clean cut or flat grind vertical edges of butt glazed monolithic lites to produce square edges with slight chamfers at junctions of edges and faces.
   1. Edges: Grind smooth and polish exposed glass edges and corners.

PART 3 EXECUTION

3.1 EXAMINATION

A. Examine framing, glazing channels, and stops, with Installer present, for compliance with the following:
   1. Manufacturing and installation tolerances, including size, squareness, and offsets at corners.
   2. Presence and functioning of weep systems.
   3. Minimum required face and edge clearances.
   4. Effective sealing between joints of glass-framing members.

B. Proceed with installation after correcting unsatisfactory conditions.

3.2 PREPARATION

A. Clean glazing channels and framing members receiving glass immediately before glazing.

Remove coatings not firmly bonded to substrates.

1. Comply with manufacturer instructions for wiping of surfaces immediately before application of primers.
2. Wipe metal surfaces with IPA (isopropyl alcohol) unless otherwise required by compatibility and adhesion testing results.

B. Inspect each piece of glass immediately before installation. Do not install pieces improperly sized or with damaged edges, scratches, abrasion, or evidence damage. Remove labels from glass immediately after installation.

C. Examine glazing units to locate exterior and interior surfaces. Label or mark units so exterior and interior surfaces are readily identifiable. Do not use materials that leave visible marks in the completed Work.

D. Seal vent (breather or capillary) tubes in insulating glass units in accordance with insulating glass manufacturer written recommendations.

E. Glass Film Preparation:

1. Remove particulate matter on the glass surface using a scraping blade.
2. Place an absorbent towel on window sill or sash to absorb moisture generated by the film application.

3.3 GLAZING

A. Comply with combined written instructions of manufacturers of glass, sealants, gaskets, and glazing materials, unless more stringent requirements are indicated, including those in referenced glazing publications.

B. Protect glass edges from damage during handling and installation. Remove damaged glass from Project site and legally dispose of off Project site. Damaged glass includes glass with edge damage or other imperfections that, when installed, could weaken glass, impair performance, or impair appearance.

C. Apply primers to joint surfaces where required for adhesion of sealants, as determined by preconstruction testing.

D. Install setting blocks in sill rabbets, sized and located to comply with referenced glazing publications, unless otherwise required by glass manufacturer. Set blocks in thin course of compatible sealant suitable for heel bead.

E. Do not exceed edge pressures stipulated by glass manufacturers for installing glass lites.

F. Provide spacers for glass lites where length plus width is larger than 50 inches (1270 mm).

1. Locate spacers directly opposite each other on both inside and outside faces of glass. Install correct size and spacing to preserve required face clearances, unless gaskets and glazing tapes are used that have demonstrated ability to maintain required face clearances and to comply with system performance requirements.
2. Provide 1/8 inch (3 mm) minimum bite of spacers on glass and use thickness equal to sealant width. With glazing tape, use thickness slightly less than final compressed thickness of tape.

G. Provide edge blocking where indicated or needed to prevent glass lites from moving sideways in glazing channel, as recommended in writing by glass manufacturer and according to requirements in referenced glazing publications.

H. Set glass lites in each series with uniform pattern, draw, bow, and similar characteristics.

I. Set glass lites with proper orientation so that coatings face exterior or interior as specified.

J. Where wedge shaped gaskets are driven into one side of channel to pressurize sealant or gasket on opposite side, provide adequate anchorage so gasket cannot walk out when installation is subjected to movement.
   1. Square cut wedge shaped gaskets at corners and install gaskets as recommended by gasket manufacturer to prevent corners from pulling away; seal corner joints and butt joints with sealant recommended by gasket manufacturer.

K. Tape Glazing: Position tapes on fixed stops so that, when compressed by glass, the exposed edges are flush with or protrude slightly above sightline of stops.
   1. Install tapes continuously, but not necessarily in one continuous length. Do not stretch tapes to make tapes fit opening.
   2. Cover vertical framing joints by applying tapes to heads and sills first, then to jambs. Cover horizontal framing joints by applying tapes to jambs, then to heads and sills.
   3. Place joints in tapes at corners of opening with adjoining lengths butted together, not lapped. Seal joints in tapes with compatible sealant approved by tape manufacturer.
   4. Do not remove release paper from tape until right before each glazing unit is installed.
   5. Apply heel bead of elastomeric sealant.
   6. Center glass lites in openings on setting blocks, and press firmly against tape by inserting dense compression gaskets formed and installed to lock in place against faces of removable stops. Start gasket applications at corners and work toward centers of openings.
   7. Apply cap bead of elastomeric sealant over exposed edge of tape.

L. Gasket Glazing (Dry): Cut compression gaskets to lengths recommended by gasket manufacturer to fit openings exactly, with allowance for stretch during installation.
   1. Insert soft compression gasket between glass and frame or fixed stop so it is securely in place with joints miter cut and bonded together at corners.
   2. Installation with Drive in Wedge Gaskets: Center glass lites in openings on setting blocks, and press firmly against soft compression gasket by inserting dense compression gaskets formed and installed to lock in place against faces of removable stops. Start gasket applications at corners and work toward centers of openings. Compress gaskets to produce a weathertight seal without developing bending stresses in glass. Seal gasket joints with sealant recommended by gasket manufacturer.
   3. Installation with Pressure Glazing Stops: Center glass lites in openings on setting blocks, and press firmly against soft compression gasket. Install dense compression gaskets and pressure glazing stops, applying pressure uniformly to compression gaskets. Compress gaskets to produce a weathertight seal without developing bending stresses in glass. Seal gasket joints with sealant recommended by gasket manufacturer.
   4. Install gaskets to protrude past face of glazing stops.

M. Sealant Glazing (Wet): Install continuous spacers, or spacers combined with cylindrical sealant backing, between glass lites and glazing stops to maintain glass face clearances and to prevent sealant from extruding into glass channel and blocking weep systems until sealants cure. Secure spacers or spacers and backings in place and in position to control depth of installed sealant relative to edge clearance for optimum sealant performance.
   1. Force sealants into glazing channels to eliminate voids and to ensure complete wetting or bond of sealant to glass and channel surfaces.
   2. Tool exposed surfaces of sealants to provide a substantial wash away from glass.

N. Erection Tolerances:
   1. Maximum Deviation from Vertical: 1/8 inch in any story and 1/4 inch in any 45 foot run.

2. Maximum Deviation from Horizontal: 1/8 inch in any 30 foot run.
3. Maximum Deviation from True Alignment: 1/32 inch for any two (2) abutting units. Allow no edge projections.
4. Maximum Joint Gap: 1/32 inch.

3.4 CLEANING AND PROTECTION

A. Immediately after installation remove nonpermanent labels and clean surfaces.

B. Protect glass from contact with contaminating substances resulting from construction operations. Examine glass surfaces adjacent to or below exterior concrete and other masonry surfaces at frequent intervals during construction, but not less than once a month, for buildup of dirt, scum, alkaline deposits, or stains.
   1. If contaminating substances come into contact with glass, remove substances immediately as recommended in writing by glass manufacturer. Remove and replace glass that cannot be cleaned without damage to coatings.

C. Remove and replace glass that is damaged during construction period.

D. Wash glass on both exposed surfaces not more than four days before date scheduled for inspections that establish date of Substantial Completion. Wash glass as recommended in writing by glass manufacturer.

PART 4 SCHEDULE

4.1 GLAZING SCHEDULE

A. **G-1 Insulated Glass:** 1 inch Glass Unit: 1/4" Bronze Tempered, 1/2" Black Spacer, 1/4" Solarban 70 - #3 Surface Tempered.

B. **G-2 Tinted Tempered Glass:** 1 inch Glass Unit: Solarban 70 on Solarbronze 6mm (2), Air 1/2" (12.7mm), 100% Pavia Acid Etch on 6mm clear.

C. **G-3 Clear Tempered Glass:** 1/4 inch (6 mm) clear tempered float glass.

D. G-4 Annealed Float Glass: *Not Used.*

E. G-5 20 min. Fire Rated Glass: *Not Used*

F. **G-5.1 90 min. Fire Rated Glass:** 3/16" inch (5 mm) ceramic, premium clear fire rated glass; 90 minute UL labeled No. R13377. All test performed in accordance with UL 9, UL 10C, NFPA 80, NFPA 257.

G. G-6 Acoustic Glazing: *Not Used*

H. G-7 Laminated Glass: *Not Used*

I. G-10 Insulated Spandrel Glass: *Not Used*

END OF SECTION 08 80 00

SECTION 10 28 13 - TOILET ACCESSORIES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes: Requirements including but not limited to:
   1. Public use washroom accessories.
   2. Public use shower room accessories.
   3. Private use bathroom accessories.
   4. Electric hand dryers.
   5. Under-lavatory guards.
   6. Custodial accessories.
   7. Accessories necessary for a complete installation.

1.3 SUBMITTALS

A. Product Data: Technical Data including construction details, material descriptions, dimensions of individual components and profiles, and finishes.
   1. Include anchoring and mounting requirements, including requirements for cutouts in other work and substrate preparation.
   2. Include electrical characteristics.

B. Samples: Full size, for each exposed product and for each finish specified.
   1. Approved full size Samples will be returned and may be used in the Work.

C. Product Schedule: Show types, quantities, sizes, and installation locations by room of each accessory required. Identify locations using room designations indicated.

D. Maintenance Data: Submit for inclusion in maintenance manuals.

1.4 QUALITY ASSURANCE

A. Accessibility Requirements: Comply with applicable requirements.
   1. Americans with Disabilities Act of 1990, as amended.
      a) ADA Title II Regulations & the 2010 ADA Standards for Accessible Design.
   2. CBC 2019 California Building Code (CCR Title 24, Part 2, as adopted and amended by DSA).
      a) CBC Chapter 11B, Access to Public Buildings, Public Accommodations, Commercial Buildings and Public Housing.

B. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

C. Source Limitations: Obtain products from single source from single manufacturer.

1.5 COORDINATION

A. Coordinate accessory locations with other work to prevent interference with clearances required for access by people with disabilities, and for proper installation, adjustment, operation, cleaning, and servicing of accessories.

B. Deliver inserts and anchoring devices set into concrete or masonry as required to prevent delaying the Work.

1.6 WARRANTY

A. Mirrors: Written warranty signed by manufacturer in which manufacturer agrees to repair or replace mirrors that fail in materials or workmanship within specified warranty period.
   1. Failures include, but are not limited to, visible silver spoilage defects.
   2. Warranty Period: 15 years from date of Substantial Completion.

B. Electric Hand Dryers: Written warranty signed by manufacturer in which manufacturer agrees to repair or replace hand dryers that fail within specified warranty period.
   1. Failures include, motors and/or sensors which fail to activate when properly energized.
   2. Warranty Period: 5 years from date of substantial completion.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Manufacturers: Toilet accessories schedule is based on Bobrick Washroom Equipment. Subject to compliance with requirements, provide products by one of the following:
   1. Bobrick Washroom Equipment, Inc.
   2. Bradley Corporation.
   3. Or approved equal.

B. Stainless Steel: ASTM A 666, Type 304, 0.031-inch (0.8-mm) minimum nominal thickness unless otherwise indicated.

C. Brass: ASTM B 19, flat products; ASTM B 16/B 16M, rods, shapes, forgings, and flat products with finished edges; or ASTM B 30, castings.

D. Steel Sheet: ASTM A 1008/A 1008M, Designation CS (cold rolled, commercial steel), 0.036-inch (0.9-mm) minimum nominal thickness.

E. Galvanized Steel Sheet: ASTM A 653/A 653M, with G60 (Z180) hot dip zinc coating.

F. Galvanized Steel Mounting Devices: ASTM A 153/A 153M, hot dip galvanized after fabrication.

G. Fasteners: Screws, bolts, and other devices of same material as accessory unit and tamper-and-theft resistant where exposed, and of galvanized steel where concealed.

H. Mirrors: ASTM C 1503, Mirror Glazing Quality, clear glass mirrors, nominal 6.0 mm thick.

2.2 COMPONENTS

A. Under-lavatory Guard: Insulating pipe covering for supply and drain piping assemblies that prevent direct contact with piping and/or burns from piping; allow service access without removing coverings.
   1. Product: Truebro LavShield Protective Lavatory Enclosure

2. Material and Finish: Antimicrobial, molded plastic, white.
3. Provide at all lavatories

B. Accessible Toilet Compartments:

- Wheelchair accessible compartment shall comply with CBC Section 11B-604.8.1.

- Toe clearance for at least one side partition of a wheelchair accessible compartment shall comply with CBC Section and Figure 11B-604.8.1.4. Toe clearance shall be 9” high minimum above the floor and 6” deep minimum beyond the compartment side face of the partition, exclusive of partition support members, It shall be 12” high minimum above the finish floor for children’s use. Partition components at toe clearances shall be smooth without sharp edges or abrasive surfaces. Toe clearance at the side partition is not required in a compartment greater than 66” wide.

- Ambulatory accessible compartments shall be provided where there are six or more toilet compartments, or where the combination of urinals and water closets total six or more fixtures. Such compartments shall be provided in the same quantity as wheelchair accessible compartments per CBC Section 11B-213.3.1 and shall comply with CBC Section 11B-213.3.1 and shall comply with CBC Section 11B-604.8.2.

- Door and door hardware for accessible compartments shall be self-closing and shall comply with CBC Section 11B-404 except that if the approach is to the latch side of an ambulatory compartment door, clearance between the door side of the compartment and any obstruction shall be 44” minimum. CBC Figure 11B-604.8.2.

- A door pull complying with CBC Section 11B-404.2.7 shall be placed on both sides of the accessible compartment door near the latch.

- Ambulatory Accessible Toilet Compartment doors shall not swing into the clear floor space or clearance required for any fixture or into the minimum required compartment area. CBC Section 11B-604.8.2.2.

- Elements of Sanitary facilities shall be mounted at locations in compliance with CBC Sections 11B-602 through 11B-612.

- Grab bars in toilet facilities and bathing facilities shall comply with CBC Section 11B-609. Grab bars and any wall or other surfaces adjacent to grab bars shall be free of sharp or abrasive elements and shall have rounded edges. The space around the grab bars shall be as follow:

    - 1-1/2” between the grab bar and the wall.

    - 1-1/2” minimum between the grab bar and projecting objects below and at the ends.

    - 12” minimum between the grab bar and projecting objects above.

2.3 FABRICATION

A. Fabricate units with tight seams and joints, and exposed edges rolled. Hang doors and access panels with full length, continuous hinges. Equip units for concealed anchorage and with corrosion-resistant backing plates.

B. Keys: Provide universal keys for internal access to accessories for servicing and resupplying. Provide minimum of six keys to Owner's representative.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Install accessories according to manufacturers' written instructions, using fasteners appropriate to substrate indicated and recommended by unit manufacturer. Install units level, plumb, and firmly anchored in locations and at heights indicated.

B. Grab Bars: Install to withstand a downward load of at least 250 lbf (1112 N), when tested according to ASTM F 446.

3.2 ADJUSTING AND CLEANING

A. Adjust accessories for unencumbered, smooth operation. Replace damaged or defective items. Remove temporary labels and protective coatings. Clean and polish exposed surfaces according to manufacturer's written recommendations.

PART 4 - SCHEDULE

4.1 ACCESSORY SCHEDULE (IDENTIFIED IN KEYNOTES, SEE ENLARGED PLAN, WHERE USED)

A. TA-1 - Soap Dispensers (OFCI):
1. Mounting: Surface.
2. Model No.: DEB ProLine #98123.
3. Locations: Refer to drawings.

B. TA-2 - Mirrors:
1. Mounting: Surface.
2. Model No.: B-290 at staff toilet rooms; B-1556 at student toilet rooms.
3. Size: 24 inches by 36 inches (600 mm by 900 mm), unless shown otherwise.
4. Locations: Refer to drawings.

C. TA-3 - Toilet Paper Dispensers (At Typical Non-accessible Toilet Stalls) (OFCI):
1. Mounting: Surface.
2. Manufacturer: GP Pro.
3. Model No.: SofPull 56501.
4. Locations: Non-accessible water closets and toilet stalls.

D. TA-4 - Paper Towel Dispensers: (Low Profile)
1. Mounting: Surface (Less than 4” projection)
2. Model No.: B-262.
3. Locations: Staff toilet rooms.

E. TA-5 - Grab Bars: At typical accessible toilet stalls
1. Size/Finish: 36” & 42” x 1-1/2 inch diameter satin stainless steel
2. Clearance: 1-1/2 inch between rail and wall.
3. Model No.: B-6806-42 & B-6806-36
4. Mounting: Attach with concealed mounting kit. Mount parallel to floor.
5. Location: Semi-ambulatory toilet stalls.

F. TA-6 - Sanitary Napkin Dispensers:

1. Mounting: Semi-Recessed.
2. Model No.: B-3706.
3. Operation: Single coin / Double coin - (25/50 cents).
4. Capacity: 20 Napkins/ 30 Tampons.
5. Locations: Indicated on Drawings.

G. TA-7 - Sanitary Napkin Disposal:
1. Mounting: Surface.
2. Model No.: Waxie #820750.
3. Locations: Women's non-accessible toilet stalls.

H. TA-8 Mop and Broom Holder:
1. Mounting: Surface.
2. Model No.: B-239 x 34.
3. Capacity: Four hooks, three mop holders.
4. Locations: Mop sink at each custodial rooms.

I. TA-9 - Grab Bars: (At Accessible Shower)
1. Mounting: Surface.
2. Model: B-6861 modified (24 x 16).
3. Locations: Accessible shower stalls.

J. TA-10 - Folding Benches: Adult Height:
1. Mounting: Surface, reversible.
2. Models: B-5181.
3. Locations: Accessible shower stalls.

K. TA-11 - Clothes Hook:
1. Mounting: Surface.
2. Model No.: B-6717.
3. Locations: All shower locations.
4. Toilet and Shower Partitions: If toilet and shower partitions are utilized, hooks are to be provided by the partition manufacturer(s) as part of their hardware package.

L. TA-12 - Shower Curtains, Rods and Hooks:
1. Rods: B-047 (36 inches or as indicated).
2. Curtains: B-204-2 (42 inches x 72 inches or as required).
3. Hooks: B-204-1.
4. Mounting/Locations: Accessible shower stalls.

M. TA-13 - Electric Hand Dryers:
1. Mounting: Semi-recessed, maximum 3-9/16 inch recess.
2. Model No.: World Dryer, Slim Dri #L-974 (Optional: XLERATOReco Hand Dryer).
3. Voltage: 120 volt, single phase.
4. Set "Heating Control" to "Off".
5. Location: Refer to drawings.

N. TA-14 - Recessed Paper Towel Dispenser and Waste Receptacle
   1. Size/Finish: 28” x 14” x 3-15/16” (recess)
   2. Model No.: B-369
   3. Mounting: Provide framed rough wall opening 12-5/8” wide x 26-5/8” high.
   4. Minimum recessed depth required to finish face of wall is 4”
   5. Location: Refer to drawings.

O. TA-15 - Grab Bars: (At Typical Semi-ambulatory Toilet Stalls)
   1. Size/Finish: 42” x 1-1/2 inch diameter satin stainless steel
   2. Clearance: 1-1/2 inch between rail and wall.
   3. Model No.: B-6806-42.
   4. Mounting: Attach with concealed mounting kit. Mount parallel to floor.
   5. Location: Semi-ambulatory toilet stalls.

P. TA-16 – Changing station

Q. TA-17 - Trash Receptacle
   1. Mounting: Recessed
   2. Model No.: B3644.
   3. Locations: Refer to drawings.

R. TA-18 - Toilet Paper Dispensers:
   1. Mounting: Semi-recessed (Less than 4” projection).
   2. Model No.: B-3888.
   3. Location: Accessible water closets and toilet stalls.

S. TA-19 - Seat Cover Dispenser:
   1. Mounting: Surface.
   2. Model No.: B-221
   3. Location: All water closets and toilet stalls.

T. TA-20 - Sanitary Napkin Disposal:
   1. Mounting: Recessed.
   2. Model No.: Waxie #820750.
   3. Locations: Women’s accessible toilet stalls.

END OF SECTION 10 28 13

SECTION 23 00 00 - GENERAL MECHANICAL PROVISIONS

PART 1 - GENERAL

1.01 GENERAL CONDITIONS:

A. The foregoing General and Special Conditions shall form a part of this Division with the same force and effect as though repeated herein. The provisions of this Section shall apply to all the Sections of Division 23.

1.02 CODES AND REGULATIONS:

A. All work and materials shall be in full accordance with current rules and regulations of applicable codes. Nothing in these drawings or specifications is to be construed to permit work not conforming to these codes. Should the drawings or specifications call for material or methods of construction of a higher quality or standard than required by these codes, the specifications shall govern. Applicable codes and regulations are:

1. California Code of Regulations – CCR:
   a. Title 8, Industrial Relations.
   b. Title 24, Building Standards.
2. California Building Code – CBC.
3. California Mechanical Code – CMC.
4. California Plumbing Code – CPC.
5. California Green Building Code.
6. Air Diffusion Council – ADC.
7. American Gas Association – AGA.
8. Air Moving and Conditioning Association – AMCA.
9. American National Standards Institute – ANSI.
10. Air Conditioning and Refrigeration Institute – ARI.
11. American Society of Heating, Refrigerating and Air Conditioning Engineers – ASHRAE.
12. American Society of Mechanical Engineers – ASME.
13. American Society for Testing and Materials – ASTM.
14. American Water Works Association – AWWA.
15. California Electrical Code – CEC.
16. National Electrical Manufacturers Association – NEMA.
17. National Fire Protection Association – NFPA.
18. Sheet Metal and Air Conditioning Contractors National Association – SMACNA.
19. Underwriters' Laboratory – UL.
20. Occupational Safety and Health Act - OSHA.

1.03 PERMITS AND FEES:

A. The Contractor shall take out all permits and arrange for all tests in connection with his work as required by local ordinances. All charges are to be included in the work. Permits for equipment connected to a particular system are to be considered as a part of the work included under each system; for example, permits for electric motor connection are part of electrical work, permits for domestic water or gas connections are part of plumbing work. All charges for service connections, meters, etc. by utility companies or districts shall be included in the work.

1.04 COORDINATION OF WORK:

A. Layout of materials, equipment and systems is generally diagrammatic unless specifically dimensioned. The actual locations of all materials, piping, ductwork, equipment, supports, etc. shall be carefully planned, prior to installation of any work, to avoid all interference’s with each other, or with structural, electrical or architectural elements. Verify the proper voltage and phase

of all equipment with the electrical plans. All conflicts shall be called to the attention of the Engineer prior to the installation of any work or the ordering of any equipment.

1.05 GUARANTEE:

A. Guarantee shall be in accordance with the General Conditions. These specifications may extend the period of the guarantee for certain items. Where such extensions are called for, or where items are normally provided with guarantee periods in excess of that called for in the General Conditions, the Certificate of Guarantee shall be furnished to the Owner through the Engineer.

1.06 EXAMINATION OF SITE:

A. The Contractor shall examine the site, compare it with plans and specifications, and shall have satisfied himself as to the conditions under which the work is to be performed. No allowance shall subsequently be made in his behalf for any extra expense to which he may be put due to failure or neglect on his part to make such an examination.

1.07 SUBMITTALS:

A. Submit shop drawings in accordance with Division 01.

B. Shop Drawings: Within 30 days of contract award, the Contractor shall submit six copies of shop drawings for all materials, equipment, etc. proposed for use on this project. Material and equipment shall not be ordered or installed until written review is processed by the Engineer. Any item omitted from the submittal shall be provided as specified without substitution. All shop drawings must comply with the following:

1. Shop drawings are required for all material and equipment items and shall include manufacturer's name and catalog numbers, dimensions, capacities, performance curves, and all other characteristics and accessories as listed in the specifications or on the drawings. Descriptive literature shall be current factory brochures and submittal sheets. Capacities shall be certified by the factory.
2. All shop drawings shall be submitted at one time in a neat and orderly fashion in a suitable binder with title sheet including Project, Engineer, and Contractor; Table of Contents; and indexed tabs dividing each group of materials or item of equipment. All items shall be marked with the specification paragraph number for which they are proposed. All equipment shall also be identified by the mark number as indicated on the drawings.
3. All capacities, characteristics, and accessories called for in the specifications or on the drawings shall be highlighted, circled or underlined on the shop drawings. Calculations and other detailed data indicating how the item was selected shall be included for items that are not scheduled. Data must be complete enough to permit detailed comparison of every significant characteristic which is specified, scheduled, or detailed.

C. Substitutions: Manufacturers and model numbers listed in the specifications or on the drawings represent the standard of quality and the features desired. Unless otherwise noted, alternate manufacturers may be submitted for review by the Engineer. Calculations and other detailed data indicating how the item was selected shall be included. The Contractor shall assume full responsibility that substituted items or procedures will meet the specifications and job requirements and shall be responsible for the cost of redesign and modifications to the work caused by these items.

D. Review: Submittals will be reviewed for general conformance with the design concept, but this review does not guarantee quantity shown, nor does it supersede the responsibility of the Contractor to provide all materials, equipment and installation in accordance with the drawings and specifications. The Contractor shall agree that shop drawing submittals processed by the Engineer are not Change Orders; that the purpose of shop drawing submittals by the Contractor

is to demonstrate to the Engineer that the Contractor understands the design concept; that he demonstrates his understanding by indicating which equipment and material he intends to furnish and install and by detailing the fabrication and installation methods he intends to use. The Contractor shall agree that if deviations, discrepancies or conflicts between shop drawings and design drawings and specifications are discovered either prior to or after shop drawing submittals are processed by the Engineer, the design drawings and specifications shall control and shall be followed.

1.08 OPERATION AND MAINTENANCE INSTRUCTIONS:

A. Submit one electronic pdf copy for review and after approved submit three hard copies of the Operation and Maintenance Instructions and Wiring Diagrams for all equipment and parts lists for all equipment, etc. shall be submitted to the Engineer. All instructions shall be clearly identified by marking them with the same designation as the equipment item to which they apply (e.g. AC-1). All wiring diagrams shall agree with revised shop drawings and indicate the exact field installation. All instructions shall be submitted at the same time and shall be bound in a suitable binder with tabs dividing each type of equipment (e.g. Fans, Motors, etc.). Each binder shall be labeled indicating "Operating and Maintenance Instructions, Project Title, Contractor, Date" and shall have a Table of Contents listing all items included. **(These submittals shall be submitted with regular submittals at start of job so Commissioning Contractor can start on the commissioning check list for LEED Certification or Title 24 Requirements)**

B. Verbal: The Contractor shall verbally instruct the Owner's maintenance staff in the operation and maintenance of all equipment and systems. The controls contractor shall present that portion of the instruction that applies to the control system. The Engineer's office shall be notified 96 hours prior to this meeting.

C. Posted: The Contractor shall prepare operation instructions for all systems which shall be typewritten, reviewed by the Engineer, and mounted under glass adjacent to the appropriate temperature control panel. These instructions shall include applicable temperature control diagrams.

D. Acknowledgment: The Contractor shall prepare a letter indicating that all operation and maintenance instructions (printed, verbal and posted) have been given to the Owner, to the Owner's satisfaction. This letter shall be acknowledged (signed) by the Owner and submitted to the Engineer.

1.09 RECORD DRAWINGS:

A. The Contractor shall maintain a set of prints for the project as a record of all construction changes made. As the Work progresses, the Contractor shall maintain a record of all deviations in the Work from that indicated on the drawings. Final location of all underground work shall be recorded by depth from finished grade and by offset distance from permanent surface structures, i.e. buildings, curbs and walks. In addition, the water, gas, under-floor ducts, etc. within the building shall be recorded by offset distances from building walls. The original drawings will be made available to the Contractor from which he shall have a set of reproducible drawings made. The Contractor shall then transfer the changes, notations, etc. from the marked-up prints to the reproducible drawings. The record drawings (marked-up prints and reproducibles) shall be submitted to the Engineer for review (as an alternative, the marked-up prints may be photocopied full size on reproducible stock).

PART 2 - PRODUCTS

2.01 PROTECTIVE COATING FOR UNDERGROUND PIPING:

A. All ferrous pipe below grade (except cast iron) shall have a factory applied protective coating of extruded high density polyethylene, 35 to 70 mils total thickness, X-Tru Coat, Scotchkote. All fittings and areas of damaged coating shall be covered with two layer double wrap of 10 mil polyvinyl tape to total thickness of 40 mils. Manville Corporation. Protective coating shall be extended 6" above surrounding grade.

2.02 CONCRETE ANCHORS:

A. Concrete Anchors shall comply with CBC 1901A.3. Steel stud with expansion anchor requiring a drilled hole; powder driven anchors are not acceptable. Minimum concrete embedment shall be 4-1/2 diameters. Minimum spacing shall be 10 diameters center-to-center and 5 diameters from center to edge of concrete. Maximum allowable stresses for tension and shear shall be 80% of the test report values "with special inspection". Anchors shall be Hilti, Philips - or Approved equal.

2.03 SEISMIC RESTRAINTS:

A. All mechanical systems (all equipment, piping, etc.) shall be provided with seismic restraints in accordance with "Guidelines for Seismic Restraint of Mechanical Systems" dated 2006 by SMACNA.

2.04 SYSTEM IDENTIFICATION:

A. Above Grade Piping: Provide markers on piping which is either exposed or concealed in accessible spaces. For piping systems, other than drain and vent lines, indicate the fluid conveyed or its abbreviation, either by preprinted markers or stenciled marking, and include arrows to show the direction of flow. Comply with ANSI A13.1 for colors. Locate markers at ends of lines, near major branches and other interruptions including equipment in the line, where lines pass through floor, walls or ceilings or otherwise pass into inaccessible spaces, and at 50' maximum intervals along exposed portion of lines. Marking of short branches and repetitive branches for equipment connections is not required.

B. Equipment: All equipment shall be identified with a plastic laminated, engraved nameplate which bears the unit mark number as indicated on the drawings (e.g. AC-1). Provide 1/2" high lettering, white on black background. Nameplates shall be permanently secured to the unit.

C. Valves: Provide valve tags on all valves of each piping system, excluding check valves, valves within equipment, shut-off valves at equipment and other repetitive terminal units. Provide brass tags or plastic laminate tags. Prepare and submit a tagged valve schedule, listing each valve by tag number, location and piping service. Mount in glazed frame where directed.

D. Controls: Label all panels, thermostats and by-pass timers with plastic laminated, engraved nameplate which bears the unit mark number as indicated on the drawings (e.g. AC-1). Provide 1/4" high lettering, white on black background. Nameplates shall be permanently secured to the unit.

2.05 EQUIPMENT SUPPORT FRAMES:

A. Unless specifically noted otherwise, it shall be the responsibility of Mechanical Contractor to furnish and install all support frames for its equipment.

PART 3 - EXECUTION

3.01 SCHEDULING OF WORK:

A. All work shall be scheduled subject to the approval of the Engineer and Owner. No work shall interfere with the operation of the existing facilities on or adjacent to the site.

3.02 CONDUCT OF WORK:

A. The Contractor shall have at all times, as conditions permit, a sufficient force of workmen and quantity of materials to install the work contracted for as rapidly as possible consistent with good work, and shall cause no delay to other Divisions engaged upon this project or to the Owner.

B. Mechanical Contractor shall arrange for all cutting necessary for the proper installation of its work, providing all sleeves and chases necessary. Cutting shall not be done in such a manner to impair the strength of the structure. Any damage resulting from work shall be repaired by the Contractor at his expense to the satisfaction of the Engineer.

C. Progressively, daily at the completion of each day's work, and at completion of the job, the Contractor shall thoroughly clean all of his work, removing all debris, stain and marks resulting from his work.

D. IAQ Management plan will be in effect for LEED Certification, including the sealing of duct ends before and during rough-in, specific requirements for the use of HVAC equipment during construction (if used at all), building flush-out, etc. Adhesives and mastic must comply with low VOC requirements and documentation (MSDS, etc.) shall be provided with submittals.

3.03 EXCAVATION AND BACKFILL:

A. Excavation: Trenches are to be excavated to grade and depth established by drawings. Unless otherwise noted, minimum earth cover above top of pipe shall be 24", not including base and paving in paved areas. Width of trenches at top of pipe shall be a minimum of 16" plus the outside diameter of the pipe. Provide all shoring required by site conditions. Barrel of pipe shall have uniform support on trench bottom, hand excavate additional depth at bells, hubs and fittings. Where over-excavation occurs, provide compacted selected backfill to pipe bottom. Where ground water is encountered, remove to keep excavation dry, using well points and pumps as required.

B. Backfill:

1. Around Pipe and to One Foot Above Pipe: Material shall be river run sand or native granular free flowing material, free of clay lumps, silt or vegetable matter and shall have 100% passing through the No. 4 sieve and a maximum of 3% passing through the No. 200 sieve. Place carefully around and on top of pipe, taking care not to disturb piping. Consolidate with vibrator.
2. One Foot Above Pipe to Grade: Material to be sandy or silty loam, free of lumps, laid in 6" layers, uniformly mixed, to proper moisture and compacted to required density. If backfill is determined to be suitable and required compaction is demonstrated by laboratory test, water compaction in 6" layers may be used, subject to approval by the Engineer.
3. Remove all water sensitive settlement from trench backfill regardless of location and compaction requirements.

C. Compaction: Compact to a density of 95% within building and 90% outside building. Demonstrate proper compaction by testing at one-half of the trench depth. Perform three tests per 100' of trench.

3.04 OPENINGS, CUTTING AND PATCHING:

A. The locations and dimensions for openings through walls, floors, ceilings, foundations, footings, etc. required to accomplish the work under this Specification Division shall be provided under this Division. The actual openings and the required cutting and patching shall be provided. Coring through existing concrete or masonry walls, floors, ceilings, foundations, footings, etc., and saw cutting of concrete floors or asphaltic concrete required to accomplish the work under this Specification Division shall be provided under this Division. Patching of these surfaces shall also be provided. Cutting and coring shall not impair the strength of the structure. Any damage resulting from this work shall be repaired at the Contractor's expense to the satisfaction of the Engineer.

3.05 MANUFACTURER'S RECOMMENDATIONS:

A. All material, equipment, devices, etc., shall be installed in accordance with the recommendations of the manufacturer of a particular item. The Contractor shall be responsible for all installations contrary to the manufacturer's recommendations. The Contractor shall make all necessary changes and revisions to achieve such compliance. Manufacturer's installation instructions shall be delivered to and maintained at the job site through the construction of the project.

3.06 QUIETNESS:

A. Piping, ductwork and equipment shall be arranged and supported so that vibration is a minimum and is not carried to the building structure or spaces.

3.07 DAMAGES BY LEAKS:

A. The Contractor shall be responsible for damages to other work caused by leaks in the temporary or permanent piping systems prior to completion of work and during the period of the guarantee, and for damages to other work caused by disconnected pipes or fittings, and the overflow of equipment prior to completion of the work.

3.08 CLEANING:

A. Progressively and at completion of the job, the Contractor shall thoroughly clean all of his work, removing all debris, stain and marks resulting from his work.

END OF SECTION 23 00 00

SECTION 23 00 01- HEATING, VENTILATING AND AIR CONDITIONING

PART 1 - GENERAL

1.01 GENERAL CONDITIONS:

A. The foregoing Section 23 00 00, General Mechanical Provisions shall form a part of this specification.

1.02 SCOPE:

A. Included: Perform all work necessary and required to complete construction as indicated. Such work includes the furnishings of all labor, materials and services necessary for a complete, lawful and operating air conditioning, heating, ventilating system with all equipment as shown or noted on the drawings or as specified herein. The work includes, but is not necessarily limited to, the following:

1. Heating, ventilating and air conditioning equipment.
2. Air distribution system (Ductwork, Air Terminals, etc.).
3. System insulation.
4. Controls and control wiring and conduit for control wiring.

B. Work Specified Elsewhere:

1. Line voltage power wiring (60 volts or greater), motor starters in motor control centers, and disconnect switches are included in the electrical section.
2. Connection of gas and condensate drains to equipment.
3. Access doors.

PART 2 - MATERIALS

2.01 DUCTWORK MATERIALS:

A. General: All ductwork materials shall have fire and smoke hazard ratings as tested under ASTM E-84 and UL-181 not exceeding a flame spread of 25 and smoke developed of 50. All ductwork shall be per Chapter 6 of the CMC.

B. Low Velocity Metal Ductwork: Metal ductwork shall be minimum 26 gauge galvanized sheet steel, ASTM A527.

C. Low Velocity Flexible Ductwork: Insulated flexible ductwork. Continuous internal liner bonded to galvanized steel wire helix. One pound per cubic foot glass fiber insulation, R-8. Thermal conductivity shall not exceed 0.13 Btu/hr sq. ft.- degrees F at a mean temperature of 75°F. Seamless vapor barrier jacket. Each length shall have a factory installed metal sleeve at each end. Duct shall be capable of continuous operation at 1.5" of water static pressure and 4000 ft./ min. air velocity. Maximum length 5 ft., single piece at runouts to air terminals. Genflex, Lamborn or equal.

D. Spiral Duct: Ductwork shall be galvanized steel with uni-seal spiral seamlock and uni-seal fittings, ASTM A653. United McGill Corp or equal. All exposed spiral duct shall be painted, color selected by Owner.

E. Round Duct on Roof: Ductwork shall be double wall insulated galvanized steel with solid welded seam longitudinal seam-K27. United McGill Corp or equal.

F. Bonding Adhesive: Durodyne WBG, Scotchgrip Adhesive 4230 or equal.

G. Duct Mastic: Minnesota Mining and Manufacturing Duct Sealer 800, Tuff-Bond No. 12, Glencoat Seal-Flex or equal.

H. Duct Joints:

1. As an option to joints and seams designated by SMACNA or shown on Drawings, the following systems may be used:
   a. Ducts with sides 24 inches to 48 inches, transverse duct joint system by Ductmate Jr., Nexus or equal (SMACNA "E" Type connection).
   b. Ducts 48 inches and larger, Ductmate Regular, Nexus (SMACNA "J" Type connection) or equal.

I. Fiber Tape: Mineral impregnated fiber tape and plastic activator-adhesive. Hardcast Inc., United McGill Uni-Cast or equal.

2.02 AIR TERMINALS AND DUCT FITTINGS:

A. Grilles: (Grilles, Registers and Diffusers)

1. Information on Drawings: Refer to the Air Distribution Schedule on the drawings for the list of grilles. Manufacturer's model numbers are listed to complete the description. Equivalent models of T & B, Krueger, Anemostat, Price, Titus or equal. Refer to the floor plans for neck size, CFM, air diffusion pattern, and fire damper, if required.
2. Performance: If, according to the certified data of the manufacturer of the proposed units, the sizes indicated on the drawings will not perform satisfactorily, the units shall be re-selected by the Contractor for the proper diffusion, spread, drop and throw.
3. Frame and Accessories: All supply, return, and exhaust grilles shall be provided with cushion heads and attachments to structure, unless otherwise noted. All surface mounted grilles shall have a perimeter gasket and flanged edge. All grilles shall have frames suitable for mounting in the surfaces designated by the architectural drawing, coordinate prior to ordering.
4. Finish: All ceilings and wall grilles shall have a paintable white finish unless otherwise noted. Interior components shall be flat black.

B. Turning Vanes: Double wall, hollow metal, air-foil shape. Spacing in accordance with manufacturer's recommendations. Aero Dyne, HEP or equal.

C. Flexible Connection: UL listed neoprene coated 30-ounce fiberglass cloth. 3" metal, 6" fabric, 3" metal. Ventglas or equal.

D. Branch Duct Volume Damper: Volume control damper (VCD) in rectangular ducts shall be as follows: Opposed blade, 6” maximum blade width, 16-gage blade, 48” maximum length, nylon or oil impregnated bronze bearings, ½” diameter pin shaft, 16-gage channel frame, actuating rod and linkage out of air stream. VCD in round duct shall be as follows: Damper blade full height of branch and 1” less than branch width. All branch dampers shall have regulator with stamped steel handle, spring loaded shaft nut, cast body and serrated self-locking die cast core. Regulator for horizontal ducts overhead shall be mounted on sides or bottom of ducts. Secure a 12” length of brightly colored plastic ribbon to handle for ease of location. Where rectangular or round ductwork is insulated, slit insulation to allow handle to protrude. Ventlok 641 (with 607 end bearing for round ducts).

E. Fire/ Smoke Damper: Multi-blade construction in accordance with CBC & CMC. UL 555 and UL 555S labels. Blades shall have metal-to-metal seals and not rely on actuator torque to maintain leakage rating. Prefco, Air Balance, Ruskin, Greenheck 5020-1 with 5800MB2 power open/spring close operator, or equal.

F. Fire Damper: Dynamic rated fire dampers, U.L. 555 label. Prefco, Air Balance, Ruskin, Greenheck or equal.

G. Louvers: Refer to the Air Distribution Schedule on the drawings. Manufacturer's model numbers are listed to complete the description. Equivalent models of Ruskin, Greenheck, Dayton or approved equal. Contractor shall fabricate and provide 16 GA. galvanized perforated panel (50% Free Area) over exterior of all louvers and have field painted to match exterior wall. Refer to the floor plans for all sizes.

2.03 DUCTWORK INSULATION MATERIALS:

A. General: All ductwork insulation materials shall have fire and smoke hazard ratings as tested under ASTM E-84 and UL-181 not exceeding a flame spread of 25 and smoke developed of 50.

B. Acoustic Lining: Glass fiber. One side coated to prevent fiber erosion up to 6000 ft./ min. Average noise reduction coefficient of 0.90. 0.13 Btu/ hr – sq. ft. – degrees F conductivity at a mean temperature of 75 degrees F, R-8. CSG Insulation Corp., Schuller, Owens-Corning, Knauf or equal. Duct dimensions shown on drawings for lined duct are clear (net) opening inside of lining.

C. Fiber Glass Blanket: Foil faced, 0.13 Btu/ hr – sq. ft. – degrees F conductivity at a mean temperature of 75 degrees F, R-8. CSG Insulation Corp., Schuller, Owens-Corning, Knauf or equal.

D. Bonding Adhesive: Benjamin Foster 85-15 or equal.

2.04 PIPING MATERIALS:

A. Flue Piping:

1. Gas Flue Piping: Flue pipe shall be type as recommended by equipment manufacturer for which the pipe is connected to. UL listed. Metalbestos, Amerivent or equal.
2. Flue Cap: Designed to properly ventilate flue regardless of wind direction. Storm proof, bird proof. Metalbestos, Amerivent or equal.

B. Flue/ Combustion Air Piping:

1. Gas Flue Piping: Schedule 40 PVC pipe with solvent weld fittings.
2. Flue Cap: Designed to properly ventilate flue regardless of wind direction. Storm proof, bird proof. Factory concentric vent/ combustion air termination kit.

C. Refrigerant Piping:

1. Type L hard temper seamless copper, ASTM B88. Wrought copper fittings ANSI B16.22. 50/ 50 lead-tin solder joints above grade, 95/ 5 tin-silver brazed joints below grade. Provide schedule 40 PVC sleeve pipe for all below grade refrigerant piping. All piping shall be sized per equipment manufacturer requirements.
2. Valves and Specialties:
   a. Line Valves: Bronze body, ball type, TFE locked in seals. Back seated valve stem. Contromatics C-11.
   b. Filter-Drier: Replaceable core. Capacity in accordance with ARI Standard 710. Sporlan "Catch-All".
   c. Moisture Indicator-Sight Glass: Double port. Henry, Sporlan.
   d. Vibration Isolating Connection: Seamless flexible bronze tubing, braid covered. Suitable for system pressure. American, Flexonics.

D. Refrigerant Piping (Ductless Split System):

1. Type ACR soft temper seamless copper, ASTM B280. Cast copper alloy fittings for flared copper tubes, ASME B16.26. Follow the Society of Automotive Engineers SAE J533

Standard-Flares for tubing. All piping shall be sized per equipment manufacturer requirements.

2. Valves and Specialties:
   a. Line Valves: Bronze body, ball type, TFE locked in seals. Back seated valve stem. Contromatics C-11.
   b. Filter-Drier: Replaceable core. Capacity in accordance with ARI Standard 710. Sporlan "Catch-All".
   c. Moisture Indicator-Sight Glass: Double port. Henry, Sporlan.
   d. Vibration Isolating Connection: Seamless flexible bronze tubing, braid covered. Suitable for system pressure. American, Flexonics.

E. Miscellaneous Piping Items:

1. Pipe Support:
   a. Pipe Hanger: Adjustable split ring, swivel hanger and rod. Black malleable iron. Size and maximum loads per manufacturer's recommendation. Felt Lined, Kin-Line 450 F.
   b. Construction Channel: 12 gage 1-5/8" x 1-5/8" steel channel. Single or multiple sections. Self-locking nuts and fittings. Kin-Line, Unistrut.
2. Pipe Sleeves: 24 gage galvanized steel. Adjus-to-Crete #10 with #99 thimble for floors. #100 for walls.
3. Flashing: Flashing for piping through roof shall be prefabricated 24 gage galvanized steel roof jacks with 8" square flange around pipe. Seal with weatherproofing mastic.

F. Flashing: Flashing for piping through roof shall be prefabricated 24 gage galvanized steel roof jacks with 8" square flange around pipe. Seal with weatherproofing mastic.

2.05 PIPING INSULATION MATERIALS:

A. General: All piping insulation materials shall have fire and smoke hazard ratings as tested under ASTM E-84 and UL 723 not exceeding a flame spread of 25 and smoke developed of 50.

B. Pre-Molded Fiberglass: Heavy density sectional pre-molded fiberglass with vapor barrier laminated all-service jacket and pressure sealing vapor barrier lap. Thermal conductivity shall not exceed 0.25 Btu-in/hr-sq. ft-degrees F. at a mean temperature of 50°F. Perm rating 0.02, ASTM E96. Puncture rating 50 Beach units, ASTM D781. Provide 3" (min.) wide tape of same material as lap for butt joints. For chilled and hot water piping, thickness shall be 1" for pipe sizes less than 2", 1-1/2" thickness for pipe sizes 2" and larger. CSG Insulation Corp., Manville, and Owens-Corning.

C. Fiber Glass Blanket: Unfaced. Thermal conductivity shall not exceed 0.25 Btu-in/hr sq. ft-degrees F. at a mean temperature of 50°F. 1-1/2" thickness. Manville, Owens-Corning.

D. PVC Jacket (for fittings and valves): Pre-molded polyvinyl chloride (PVC) jackets. Size to match application. Provide PVC vapor barrier, pressure-sealing tape by same manufacturer. Zeston.

E. Aluminum Jacketing: Aluminum pipe and fitting jacketing, 0.016" thickness for straight pipe, 0.024" thickness for fittings. Integral moisture barrier. Provide pre-fabricated aluminum strapping and seals by same manufacturer. Childers, Pabco.

F. Refrigerant Piping: Rubber based elastomeric preformed pipe insulation. Thermal conductivity shall not exceed 0.25 Btu-in/hr-SF-degree F at mean temperature of 75 degrees F., 3/4" thick. Provide aluminum pipe and fitting jacketing. 0.016” thickness for straight pipe, 0.024” thickness for fittings with integral moisture barrier, pre-fabricated strapping and seals for piping exposed to weather, Childers, Pabco or equal.

1. Insulation shall be provided on both refrigerant lines for ductless split systems.

2.06 EQUIPMENT:

A. General Requirements:

1. Capacity: Capacities shall be in accordance with schedules shown on drawings. Capacities are to be considered minimum.
2. Dimensions: Equipment must conform to space requirements and limitations as indicated on drawings and as required for operation and maintenance. Where Architectural screening is indicated, equipment shall not extend above or beyond screening. Equipment will not be accepted that does not readily conform to space conditions. Prepare and submit layout drawings for all proposed equipment (different than scheduled units) showing actual job conditions, required clearances for proper operation, maintenance, etc.
3. Ratings:
   a. Gas: Gas burning equipment shall be furnished with 100% safety gas shut-off, intermittent pilot ignition, and be CSA (US) certified, except that boilers shall be CSA (US) certified or UL listed.
   b. Electrical: Electrical equipment shall be in accordance with NEMA Standards and UL or ETL listed where applicable standards have been established.
4. Piping: Each item or assembly of items shall be furnished completely piped for connection to services. Control valves and devices shall be provided. Equipment requiring domestic water for non-potable use shall be provided with backflow preventer acceptable for intended use by local governing authorities.
5. Electrical:
   a. General: Each item or assembly of items shall be furnished completely wired to individual terminal blocks for connection to single branch electrical circuit. All electrical accessories and controls required by equipment shall be furnished. Provide terminal blocks for controls and interlocks not included in equipment package. Manual and magnetic starters shall have ambient compensating running overcurrent protection in all ungrounded conductors. Magnetic starters shall be manual reset, shall have H-O-A switches and auxiliary contacts. Controllers and other devices shall be in NEMA 1 or 3R enclosures as applicable.
   b. Wiring: Conductors, conduit, and wiring shall be in accordance with Electrical Specifications. Individual items within assembly shall be separately protected with dead front, fused disconnect, fuse block, or circuit breaker for each ungrounded conductor, all accessible on operating side of equipment. Switches, contacts and other devices shall be in ungrounded conductors.
   c. Motors: Shall be rated, constructed and applied in accordance with NEMA and ANSI Standards without using service factor. Single-phase motor shall be of type to suit application. Three-phase motors shall be open drip proof, NEMA B design on pumps and fans, NEMA C on reciprocating equipment, sealed ball bearing, three-phase induction unless otherwise noted. Design shall limit starting inrush current and running current to values shown on drawings. Motors 1 horsepower and larger shall be the premium efficiency type, tested according to IEEE Standard 112, Method B. Motors exposed to weather shall be TEFC. Motors in a fan air stream shall be TEFC or TEAO. Vertical motors outdoors shall be ODP or TEFC and shall have rain caps.
   d. Starters: Motor starters shall be furnished for all equipment except where starter is in a motor control center as designated on the electrical drawings. Deliver starter to Electrical Contractor for installation and wiring.
   e. Control Voltage: Equipment connected to greater than 240 volts shall be provided with 120 volt control circuit from integral protected transformer if separate source is not indicated on plans. 240 volt control is acceptable if confined within control panel.
   f. Submittals: Included in shop drawings shall be internal wiring diagrams and manufacturer's recommend external wiring.
6. Fan Selection:
   a. Fan Curves: Performance curves shall be submitted for all units of 3000 CFM or greater. Operating point for forward curved fans shall be from point of maximum efficiency towards increased CFM limited by horsepower scheduled. Operating point

for backward inclined fans shall be selected near point of maximum efficiency. Curves shall plot CFM verses static pressure with constant brake horsepower, RPM and efficiency lines.

b. Static Pressure: Unless otherwise noted, pressure scheduled as external static pressure (ESP) includes all ductwork and accessory losses external to the unit housing. Unless otherwise noted, pressure scheduled as total static pressure includes all ductwork, filter, coil, cabinet, damper and other accessory losses. Unless otherwise noted, pressure scheduled as duct static pressure includes all supply and return ductwork and accessory losses external to the unit housing and plenum (as applicable). The allowance for filter losses is 0.3" WC, unless otherwise noted. Submit itemized static pressure losses for all components.

7. Filters:
   a. General: Tested and rated in accordance with ASHRAE Standard 52.2 and Title 24, C.C.R. Furnish and install one complete change of all filters after air balance in completed and prior to acceptance. Provide pressure differential gage across all filter banks.
   b. Filter Media: 2" pleated media. MERV-13. Clean filter resistance 0.25" water at 500 fpm. Throw-away frame. Class 2. Camfil Farr AP-Eleven.
   c. Pressure Differential Gage: Diaphragm actuated. 4" dial. Zero adjustment. Accuracy +/ - 2% of full scale. Range as required. Provide static pressure sensors, tubing and mounting brackets. Dwyer Series 2000. Mark gage to indicate filter replacement pressure, coordinate point with filter and equipment manufacturers.
8. Mixing Dampers: Opposed blade, 16-gage. Six-inch maximum blade width, 48" maximum length. Nylon or oil impregnated bronze bearings. One-half inch diameter pin shaft. 16-gage channel frame. One percent maximum leakage at 4" WC in accordance with AMCA 500 for outside air dampers. Actuating rod out of air stream. Arrow.
9. Sound Ratings: Shall be in accordance with ASHRAE 36-72. Sound ratings shall not exceed scheduled values.
10. Drives: Unless noted as direct connected, drives shall be V-belt, rated at 150% of motor horsepower. Multiple drive belts shall be matched set. Drive sheaves shall be dynamically balanced, adjustable, range +/ - 10%, selected at mid range. Adjustable relative movement shall be lockable to shaft. Belts shall be aligned within 1-1/2 degrees at all times. Open drives shall be provided with OSHA approved open mesh belt guards. Belt guards exposed to weather shall be weatherproof enclosure with louvered face for adequate ventilation. Driving motor shall be mounted on adjustable rails. T.B. Woods, Browning. Submit RPM range of driven machine with drive selection.

B. Air Conditioning Unit (thru 15 tons):

1. General: Self-contained heating/cooling unit designed for outdoor installation. Factory assembled and tested. Provide all starters and relays required for operation. 24 volt control circuit from integral transformer. Weatherproof cabinet, galvanized steel with enamel finish. Drain pan. Multivane, centrifugal supply fan. ARI certified. Gas equipment AGA certified. Carrier, York, Trane, or approved equal.
2. Refrigeration: Sealed Hermetic compressor with heater, high/ low pressure switch, recycling timer. Air-cooled condenser with propeller fan. Non-ferrous finned coil. Low ambient control to 45 degrees F, unless otherwise noted.
3. Heat: Gas fired. Aluminized or ceramic-coated welded steel heat exchanger. Electric ignition. Automatic gas valve, 100% safety shutoff.
4. Automatic Shutoff: For units or zones providing air in excess of 2000 cfm, provide smoke detectors in supply air stream to automatically shut off all power to air moving equipment and alert fire alarm system when smoke is detected in accordance with CMC Section 608.
5. Economizer with Power Exhaust (where shown on drawings): Economizer shall be a modulating power exhaust type where the unit will exhaust at the minimum outside air setpoint and exhaust 100% during economizer mode. Economizer with power exhaust is shipped separately and shall be field installed and wired under this section.

a. Provide plastic air sampling tube to sense pressure in room for control of power exhaust. Tube shall be placed thru ceiling with escutcheon plate in room that unit serves.

b. Modulating Economizer Sequence of Operation:
The economizer system initially responds to a signal from the cooling thermostat and functions as a true first stage for cooling, while providing maximum fuel economy. The economizer is automatically locked out during the heating mode and holds the outdoor air damper at the minimum position settings.

During the occupied period, the discharge sensor provides a signal to the actuator during free cooling or economizer mode. The signal opens the economizer damper until the discharge temperature drops below 50 degrees F. At this time the signal causes the motor to drive the damper back to minimum position. As the discharge temperature climbs to 60 degrees F the motor will drive back open. During the occupied period, the actuator will not close past the minimum position. **(The setpoints maybe changed by Commissioning Contractor to optimize controls for LEED Certification or Title 24 Requirements.)**

If the fully open actuator cannot satisfy the space demand, mechanical cooling is sequenced on.

During the unoccupied period, the actuator will override minimum position setting and drive fully closed. On a loss of power, the actuator will spring return fully closed.

When in heating operation, or when outdoor air temperature or enthalpy conditions are high, economizer operation is locked out, and actuator is held at minimum position.

The staging relay is used when the first stage compressors must provide mechanical cooling when assisting the economizer.

The staging relay can be omitted when the second stage compressors can be used to assist the economizer with mechanical cooling.

c. CO2 Sensor Economizer Integration:
When a CO2 sensor is used in conjunction with an economizer, the minimum position jumper between P and P1 on the logic is removed, and the sensor connected. When the Co2 sensor gets a reading higher than the setpoint, the sensor will signal the logic to modulate the o/a dampers open. The HVAC unit functions as if there is no economizer during the CO2 call for fresh air.

When the CO2 level falls below the setpoint, the damper modulates back to the minimum position.

d. Modulating Power Exhaust Sequence of Operation:
When the outside air damper on an economizer starts to open, extra air is introduced the system. As this happens, a mercury switch mounted on the economizer closes. This causes a switch to close on the variable speed controller, allowing high voltage power to be sent to an exhaust motor and blower.

The mercury switch is adjusted to close at the 1% outside air damper position.

The power exhaust is a centrifugal blower power exhaust. The power exhaust uses an adjustable transducer (0-10 VDC) to accurately compare the space pressure to atmospheric pressure, and adjust the amount of exhaust air accordingly. The exhaust volume adjustment is accomplished using a variable frequency drive with a built-in PID control to maintain a field adjustable pressure set point.

6. Guarantee: Provide 5 year extended parts warranty on the condenser coil and compressor.

D. Heat Pump, Split System:

1. Outdoor Unit:
   a. General: Self-contained unit designed for outdoor installation. Factory assembled and tested. Provide all starters and relays required for operation. 24 volt control circuit from integral transformer. Weatherproof cabinet, galvanized steel with enamel finish. Drain pan. ARI certified. BDP, Carrier, Trane, York, and Lennox.
   b. Refrigeration: Sealed Hermetic compressor with internal vibration isolating mount. Reversing valve, hard start components crankcase heater, high/low pressure switch, anti-recycle timer. Air-cooled condenser with propeller fan. Non-ferrous finned coil. Low ambient control to 25 degrees, unless otherwise noted. Provide base mounting rails.
   d. Guarantee: provide 5 year extended warranty on the condenser coil and compressor.
2. Fan Coil:
   a. General: Multi-speed direct drive blower on vibration mountings, filters, capacity as scheduled on plans. Casing shall be galvanized steel finished with baked enamel, and shall be insulated. Direct expansion evaporation coils complete with distribution piping, expansion valve, drain pan, and drain connection. Supplemental electric heater. Carrier, Trane, York, Lennox.
   b. Thermostat: Thermostats shall comply with Title 24 Energy Conservation Standards. Thermostat shall provide automatic changeover from heating to cooling with continuous fan operation. Provide 2 stage heating and "OFF-HEAT-AUTO-COOL' and "AUTO-ON" switches.

E. Variable Refrigerant Flow (VRF) Air Conditioning Specification – Heat Pump:

1. System Description:
   a. The variable capacity, heat pump air conditioning system shall be a Carrier, Mitsubishi, LG, Daikin or approved equal Variable Refrigerant Flow Series (heat/cool model) split system. The system shall consist of multiple evaporators using PID control, and condensing unit. The outdoor units shall be a nominal 3 ton, 4 ton, or 5 ton direct expansion (DX), air-cooled heat pump air-conditioning system, inverter driven variable speed compressor, multi-zone split system, using R-410A refrigerant. The outdoor unit may connect an indoor evaporator capacity up to 130% to that of the outdoor condensing unit capacity. All indoor units are each capable of operating separately with individual temperature control.
   b. The outdoor unit shall be interconnected to indoor unit and shall range in capacity from 7,500 Btu/h to 54,000 Btu/h in accordance with manufacturer's engineering data book detailing each available indoor unit. The indoor units shall be connected to the condensing unit utilizing manufacturer's specified piping joints and headers to ensure correct refrigerant flow and balancing. T style joints are not acceptable.
   c. Operation of the system shall permit either cooling or heating of all of the indoor units. Each indoor unit or group of indoor units shall be able to provide set temperature independently via a local remote controller, an Intelligent Touch Controller (ITC), an Intelligent Touch Manager (ITM) or a BMS interface.
2. VRF Features and Benefits:
   a. Voltage Platform: Heat pump condensing units shall be available in 208-230V/1/60 configurations.
   b. Advanced Zoning: A single system shall provide for up to 10 zones.
   c. Independent Control: Each indoor unit shall use a dedicated electronic expansion valve for independent control.
   d. VFD Inverter Control: Each condensing unit shall use a high efficiency, variable speed "inverter" compressor coupled with inverter fan motors for superior part load performance.

e. Compressor capacity shall be modulated automatically to maintain a constant suction pressure, while varying the refrigerant volume for the needs of the cooling or heating loads.
f. Indoor units shall use PID control to control superheat to deliver a comfortable room temperature condition.
g. Variable Refrigerant Temperature (VRT) Control: Each condensing unit shall utilize an algorithm to automatically adjust the refrigerant suction and condensing temperatures in response to the heating and cooling loads, and in response to the current weather conditions. The VRT control shall be capable of being customized in the following modes and sub-modes:
    i. Automatic (factory preset): The Automatic VRT mode shall allow the target evaporator temperature (Te) and target condensing temperature (Tc) to float based on outdoor ambient temperature conditions, and shall incorporate the following sub-modes: Powerful, Quick, and Mild (factory preset).
    ii. High Sensible: The High Sensible mode shall allow the system Te and Tc values to be programmed to series of fixed Te and Tc values. The High Sensible mode shall also be capable of incorporating the following sub-mode: Eco.
    iii. Basic: The Basic mode shall disable the VRT control of the outdoor unit and allow the system to operate with constant Te and Tc values.
h. Flexible Design:
    i. Linear piping distance between the condensing unit and furthest located indoor unit shall be per manufacturer's recommendations.
    ii. Total "one-way" piping distance in the piping network shall be per manufacture's recommendations.
    iii. Vertical (height) separation between the condensing unit and the indoor unit units shall be per manufacturer's recommendations.
    iv. The outdoor unit shall connect an indoor evaporator capacity up to 130% of the outdoor condensing unit capacity.
i. Simple Wiring: Systems shall use 2 wire, multi-stranded, non-shielded and non-polarized daisy chain control wiring.
j. Advanced Diagnostics: Systems shall include a self diagnostic, auto-check function to detect a malfunction and display the type and location.
k. Advanced Controls: Each system shall have at least one remote controller capable of controlling up to 16 indoor unit units.

3. Quality Assurance:
    a. The units shall be tested by a Nationally Recognized Testing Laboratory (NRTL), in accordance with ANSI/UL 1995 – Heating and Cooling Equipment and bear the Listed Mark.
    b. All wiring shall be in accordance with the National Electric Code (NEC).
    c. Each combination shall be rated in accordance with Air Conditioning, Heating and Refrigeration Institute's (AHRI) Standard 210/240 and bear the AHRI label.
    d. The system will be produced in an ISO 9001 and ISO 14001 facility, which are standards set by the International Standard Organization (ISO). The system shall be factory tested for safety and function.
    e. The outdoor unit will be factory charged with R-410A.
4. Delivery, Storage and Handling:
    a. Unit shall be stored and handled according to the manufacturer's recommendations.
5. Standard Limited Warranty:
    a. Manufacturer shall warrants original owner of the non-residential building, multifamily residence or residence in which the Daikin products are installed that under normal use and maintenance for comfort cooling and conditioning applications such products (the "Products") will be free from defects in material and workmanship. This warranty applies to compressor and all parts and is limited in duration to ten (10) years starting from the ''installation date'' which is one of the two dates below:
        i. The installation date is the date that the unit is originally commissioned, but no later than 18 months after the manufacture date noted on the unit's rating plate.

ii. If the date the unit is originally commissioned cannot be verified, the installation date is three months after the manufacture date.

6. Outdoor Unit:
   a. General: The outdoor unit is designed specifically for use with VRF series components.
      i. The outdoor unit shall be factory assembled and pre-wired with all necessary electronic and refrigerant controls. The refrigeration circuit of the condensing unit shall consist of a Daikin swing compressor, motors, fans, condenser coil, electronic expansion valves, solenoid valves, 4-way valve, distribution headers, capillaries, filters, shut off valves, oil separator, service ports and suction line accumulator. Liquid and suction lines must be individually insulated between the outdoor and indoor units.
      ii. The outdoor unit can be wired and piped with outdoor unit access from the left, right, rear or bottom.
      iii. The connection ratio of indoor units to outdoor unit shall be permitted up to 130%.
      iv. The outdoor system shall be able to support the connection of up to 10 indoor unit's dependant on the model of the outdoor unit.
      v. The sound pressure level standard shall be that value as listed in the engineering manual for the specified models at 3 feet from the front of the unit. The outdoor unit shall be capable of operating automatically at further reduced noise during night time.
      vi. The system will automatically restart operation after a power failure and will not cause any settings to be lost, thus eliminating the need for reprogramming.
      vii. The outdoor unit shall allow for side-by-side installation with minimum spacing.
      viii. The following safety devices shall be included on the condensing unit; high pressure switch, low pressure sensor, control circuit fuses, crankcase heaters, fusible plug, overload relay, inverter overload protector, thermal protectors for compressor and fan motors, over current protection for the inverter and anti-recycling timers.
      ix. To ensure the liquid refrigerant does not flash when supplying to the various indoor unit units, the circuit shall be provided with a sub-cooling feature.
      x. Oil recovery cycle shall be automatic occurring 2 hours after start of operation and then every 8 hours of operation.
      xi. The outdoor unit shall be capable of heating operation at 0°F dry bulb ambient temperature without additional low ambient controls.
   b. Unit Cabinet:
      i. The outdoor unit shall be completely weatherproof and corrosion resistant. The unit shall be constructed from rust-proofed mild steel panels coated with a baked enamel finish.
   c. Fan:
      i. The condensing unit fan(s) shall consist of propeller type, direct-drive fan motors that have multiple speed operation via a DC (digitally commutating) inverter.
      ii. The fan shall be a horizontal discharge configuration with a nominal airflow maximum range of 3,740 CFM.
      iii. The fan motor shall have inherent protection and permanently lubricated bearings and be mounted.
      iv. The fan motor shall be provided with a fan guard to prevent contact with moving parts.
   d. Condenser Coil:
      i. The condenser coil shall be manufactured from copper tubes expanded into aluminum fins to form a mechanical bond.
      ii. The heat exchanger coil shall be of a waffle louver fin and rifled bore tube design to ensure high efficiency performance.
      iii. The heat exchanger on the condensing units shall be manufactured from Hi-X seamless copper tube.
      iv. The fins are to be covered with an anti-corrosion acrylic resin and hydrophilic film type E1.
   e. Compressor:
      i. The compressor shall be variable speed controlled which is capable of changing the

speed to follow the variations in total cooling and heating load as determined by the suction gas pressure as measured in the condensing unit. In addition, samplings of evaporator and condenser temperatures shall be made so that the high/low pressures detected are read every 20 seconds and calculated. With each reading, the compressor capacity shall be controlled to eliminate deviation from target value.

ii. The inverter driven compressor in each condensing unit shall be of highly efficient reluctance DC (digitally commutating), hermetically sealed swing type.

iii. Neodymium magnets shall be adopted in the rotor construction to yield a higher torque and efficiency in the compressor instead of the normal ferrite magnet type. At complete stop of the compressor, the neodymium magnets will position the rotor into the optimum position for a low torque start.

iv. The capacity control range shall be 14% to 100%.

v. The compressor shall be equipped with a crankcase heater, high pressure safety switch, and internal thermal overload protector.

vi. Oil separators shall be standard with the equipment together with an intelligent oil management system.

vii. The compressor shall be spring mounted to avoid the transmission of vibration.

f. Electrical:

i. The power supply to the outdoor unit shall be 208/230 volts, 1 phase, 60 hertz +/- 10%.

ii. The control voltage between the indoor and outdoor unit shall be 18VDC non-shielded, stranded 2 conductor cable.

iii. The control wiring shall be a two-wire multiplex transmission system, making it possible to connect multiple indoor units to one outdoor unit with one 2-cable wire, thus simplifying the wiring operation.

7. Concealed Ceiling Ducted Unit:

a. General: The indoor unit shall be a built-in ceiling concealed fan coil unit, operable with refrigerant R-410A, equipped with an electronic expansion valve, for installation into the ceiling cavity. It is constructed of a galvanized steel casing. It shall be available in capacities from 72,000 Btu/h to 96,000 Btu/h. Indoor unit to be connected to outdoor unit heat pump. It shall be a horizontal discharge air with horizontal return air configuration. All models feature a low height cabinet making them applicable to ceiling pockets that tend to be shallow. Computerized PID control shall be used to control superheat to deliver a comfortable room temperature condition. The unit shall be equipped with a programmed drying mechanism that dehumidifies while limiting changes in room temperature when used with remote control. The indoor units sound pressure shall be 48 dB(A) at low speed measured 5 feet below the ducted unit.

b. Performance: Each unit's performance is based on nominal operating conditions.

c. Indoor Unit:

i. The indoor unit shall be completely factory assembled and tested. Included in the unit is factory wiring, piping, electronic proportional expansion valve, control circuit board, fan motor thermal protector, flare connections, self-diagnostics, auto-restart function, 3-minute fused time delay, and test run switch. The unit shall have an adjustable external static pressure switch.

ii. Indoor unit and refrigerant pipes will be charged with dehydrated air prior to shipment from the factory.

iii. Both refrigerant lines shall be insulated from the outdoor unit.

iv. The indoor units shall be equipped with a return air thermistor.

v. The indoor unit will be separately powered with 208~230V/1-phase/60Hz.

vi. The voltage range will be 253 volts maximum and 187 volts minimum.

d. Unit Cabinet:

i. The cabinet shall be located into the ceiling and ducted to the supply and return openings.

ii. The cabinet shall be constructed with sound absorbing foamed polystyrene and polyethylene insulation.

e. Fan:

i. The fan shall be direct-drive Sirocco type fan, statically and dynamically balanced impeller with high and low fan speeds available.
ii. The fan motor shall operate on 208/230 volts, 1 phase, 60 hertz, with a motor output of 0.51 HP.
iii. The airflow rate shall be available in high and low settings.
iv. The fan motor shall be thermally protected.
v. The fan motor shall be equipped as standard with adjustable external static pressure (ESP) settings.

f. Coil:
i. Coils shall be of the direct expansion type constructed from copper tubes expanded into aluminum fins to form a mechanical bond.
ii. The coil shall be of a waffle louver fin and high heat exchange, rifled bore tube design to ensure highly efficient performance.
iii. The coil shall be a 3 row cross fin copper evaporator coil with 13 fpi design completely factory tested.
iv. The refrigerant connections shall be flare connections and the condensate will be 1-5/16 inch outside diameter PVC.
v. A thermistor will be located on the liquid and gas line.

g. Electrical:
i. A separate power supply will be required of 208/230 volts, 1 phase, 60 hertz. The acceptable voltage range shall be 187 to 253 volts.
ii. Transmission (control) wiring between the indoor and outdoor unit shall be per manufacturer's recommendations.
iii. Transmission (control) wiring between the indoor unit and remote controller shall be per manufacturer's recommendations.

h. Control:
i. The unit shall have controls provided to perform input functions necessary to operate the system.
ii. The unit shall be compatible with interfacing with a BMS system via optional LonWorks or BACnet gateways.
iii. The unit shall be compatible with a Daikin Intelligent Touch Manager advanced multi-zone controller.

E. Exhaust/Supply Fans:

1. General: All exhaust fans shall be tested and rated in accordance with AMCA Standard 210. Fans exposed to the weather shall have ventilated weatherproof housing over motor and drive assembly.
2. Ceiling Fan: Ceiling mounted direct drive centrifugal exhaust fan with exhaust grille. Motor mounted on rubber-in-shear isolators. Motor and fan removable through grille. Acoustically lined housing. Backdraft damper. UL listed. Penn, Cook, ACME, Greenheck or equal.
3. Kitchen Hood Fan: Multivane centrifugal fan. Ball bearings. Vibration isolation mount. All aluminum construction with steel or aluminum wheel, and aluminum curb base. Weatherproof disconnect switch. Upblast type UL listed for removal of smoke and grease laden vapors (YZHW, 762), for kitchen hood service. Cook, Greenheck, Penn, ACME or equal.
4. Roof Fan: Multivane centrifugal fan. Ball bearings. Vibration isolation mount. All aluminum curb base. Weatherproof disconnect switch. Down blast type UL listed. Cook, Greenheck, Penn, ACME or equal.

2.07 INTERNET PROGRAMMABLE THERMOSTAT (IPT):

A. Internet Programmable Thermostat shall be a wireless communicating commercial programmable thermostat for networking communication and a wiring terminal block for controlling a single zone HVAC unit.

1. Contractor shall be responsible for providing a fully functional user web-

interface inclusive of initial programming based on set points provided by owner, all requisite infrastructure, coordination with owner IT department, and all work associated with a functioning system.

B. The IPT shall provide a keypad for setting

1. Temperature Set Points.
2. System Mode (Heat, Cool, Auto, Off).
3. Fan Mode (Auto, On).
4. Light Button.

C. The IPT shall include a wiring terminal for controlling a single zone HVAC unit. The wiring terminal must be able to be removed from the IPT for installations where only 3- wires exist or are available between where the IPT will be placed and its connection with the HVAC unit it will be controlling. Over these 3-wires the thermostat must still be able to control the HVAC unit based on these specifications.

D. The IPT must be configurable using a Web Based App. No thermostat configuration, other than setting the IPT to Conventional, Heat Pump - O, or Heat Pump -B, shall be done at the thermostat. Web based Configuration Setting options shall include:

1. Naming the thermostat.
2. Grouping multiple thermostats.
3. Heat Pump or Conventional system setting.
4. If Heat Pump; reversing valve O or B setting.
5. Cycles Per Hour (1 - 6).
6. Anticipation Degrees (0˚F - 0.5˚F)
7. Calibration Degrees (2.0˚F - -2.0˚F)
8. Heat Stages (0 - 2)
9. If Heat Pump; Aux Heat (Disabled and/or Enabled Option)
10. Cool Stages (0 - 2)
11. Fan Stages (1 - 2)
12. Fan Circulation Minutes Per Hour.
13. Temperature Display (Fahrenheit or Celsius)
14. Heat Range Temperature Setting Limitation
15. Cool Range Temperature Setting Limitation
16. Ability to disable and enable Keypad Control through schedule.
17. Heat consumption (kw, btu, ton, or watt)
18. Cool consumption (kw, btu, ton, or watt)
19. Notification Sensitivity (High, Medium, Low)
20. Alarm of exceeding temperature based on a Safe Range
21. Schedule set times (2, 3, 4, or Variable).

E. IPT settings and control through the Web Base App shall be in real-time and include:

1. Space Temperature
2. System Mode (Heat, Cool, Auto, Off).

3. Fan Mode (Auto, On).
4. Current set point.
5. Relay status (Heat/Cool and Fan).
6. Historical Trend Graphs.
7. Scheduling
8. Lock and Unlock Entire Thermostat's Keypad
9. Lock and Unlock the Thermostat's Fan Mode setting Only

F. The IPT shall be provided with the following :

1. Wireless Gatway (WG) capable of providing communication between a dedicated cloud server and the on-site Internet Programmable Thermostat (IPT).
2. Web Based Graphical User Interface (WBA) able to run on any Internet Accessible Smartphone and/or Tablet that has a Web Browser compatible with HTML5.
3. Wired Remote Temperature Sensors and Digital Alarm Input
4. Wireless Proximity Sensors.

PART 3 – EXECUTION

3.01 DUCTWORK INSTALLATION:

A. General:

1. Standards: Unless otherwise noted, all ductwork shall be constructed and installed in accordance with current SMACNA "HVAC Duct Construction Standards". Ductwork and accessories shall be installed in a manner to prevent vibration and rattling.
2. Seismic bracing: All ducts shall be braced and supported per SMACNA Guidelines for "Seismic Restraints Manual for Mechanical Systems" dated 1998, including Appendix E.
3. Duct Access Doors: Provide access doors as required to adjust equipment and dampers.
4. Flexible Connections: Connections of ductwork to all equipment shall be with 6" (min.) flexible connection. Install with ample slack and uniform gap after deflection of vibration isolators. There shall be no metal to metal contact across flexible connection. Protect outdoor connections with weatherproof metal shroud on top and sides, no metal-to-metal contact. Provide at all seismic joints.
5. Ducted Returns: All air handling that is not directly located in the space that it serves shall have ducted returns.
6. Open ends of ductwork shall be covered during construction to keep inside clean.

B. Low Velocity-Low Pressure (up to 2000 ft/ min; up to 2.0 in. water):

1. Sheet Metal Ductwork:
   a. Ells: Ells with less than standard radius and square ells shall be fitted with turning vanes.
   b. Tees: Tees shall be straight tap-in with extractor or 45 degree takeoff, as shown on drawings.
   c. Duct Joints: Seal duct joints airtight with fiber tape and adhesive per manufacturer's printed instruction. Ducts in weather shall be sealed air and water tight with duct mastic before closing and taping.
      i. Where Ductmate type joints are used, the manufacturer's designated procedure shall be followed. Ductmate joints on roof shall have continuous cleat on top duct flange to prevent water from collecting on gasket.
   d. Dampers: Install volume control damper and damper regulator in all branch ducts.

e. Duct dimensions shown on drawings for lined ducts, are clear net openings inside of lining.
f. Top of ducts exposed to weather shall be cross broken and sloped slightly to each side to allow rain water to run off. Ducts that do not drain off top will be rejected and need to be replaced at contractors' expense.

2. Flexible Glass Fiber Ductwork: Hangers shall be 2" wide metal straps spaced to prevent sagging, 3 feet spacing maximum. Insert 6" wide fiberglass pad between duct and hanging strap. All joints and fittings shall be sheet metal and shall be installed with metal bands or 3 (min) self-tapping screws and fiber tape. Maximum length of flexible duct shall be 5 ft. Single piece minimum length shall be 3 ft. Minimum turn radius shall be in accordance with SMACNA Standards (turn radius to duct centerline not less than 1.5 times the duct diameter).

3.02 AIR TERMINALS AND DUCT FITTINGS INSTALLATION:

A. General: Unless otherwise noted, all air terminals and duct fittings shall be installed in accordance with current SMACNA "HVAC Duct Construction Standards", details on drawings and manufacturers instructions. Terminals and fittings shall be installed in a manner to prevent vibration and rattling.

B. Fire Smoke Damper: Fire smoke dampers shall be installed in accordance with their State Fire Marshal approval and the manufacturer's recommendations.

3.03 DUCTWORK INSULATION INSTALLATION:

A. General: All supply and return sheet metal ductwork shall be insulated.

B. Concealed Ductwork: Wrap ductwork with fiberglass blanket lapped 2" minimum. Secure with foil tape at all joints for a complete vapor barrier.

C. Acoustic Lining: All ductwork in equipment rooms, where exposed to weather, and elsewhere as indicated on drawings, shall have acoustic lining. Increase each sheet metal dimension to accommodate lining and maintain clear inside duct dimensions shown on drawings. Apply lining with bonding adhesive in accordance with manufacturer's recommendations and also secure with mechanical fasteners in accordance with SMACNA Standards. Seal exposed edges of lining with bonding adhesive.

3.04 PIPING INSTALLATION:

A. General:

1. Piping Layout: Piping shall be concealed in walls, above the ceilings, or below grade unless otherwise noted. Exposed piping shall run parallel to room surfaces; location to be approved by Architect. No structural member shall be weakened by cutting, notching, boring or otherwise unless specifically allowed by structural drawings and/ or specifications. Where such cutting is required, reinforcement shall be provided as specified or detailed. All piping shall be installed in a manner to ensure unrestricted flow, eliminate air pockets, prevent any unusual noise, and permit complete drainage of the system. All piping shall be installed to permit expansion and contraction without strain on piping or equipment. Expansion joints and/or flexible connectors shall be installed as required. Vertical lines shall be installed to allow for building settlement without damage to piping. Lines shall be adequately braced against vertical and lateral movement.
2. Pipe Support:
   a. General: Hangers shall be placed to support piping without strain on joints or fittings. Maximum spacing between supports shall be as specified below. Actual spacing requirements will depend on structural system. Refer to drawings for additional

requirements and attachment to structure. Vertical piping shall be supported at floor and ceiling. Support pipe within 12" of all changes in direction. No perforated straphanger shall be used in any work.

b. Refrigerant Piping: Pipe shall be cut square. Joint surfaces shall be thoroughly cleaned, fitted and erected before brazing. Install specified accessories. After installation, evacuate to 29 inches of mercury, ambient temperature during evacuation shall not be less than 70 degrees F. After evacuation, fill with dry nitrogen to 250 psi and maintain for two-hour period without additional charge. After nitrogen test, purge with refrigerant charged through dryer and maintain holding charge in system and equipment. Refrigerant piping below grade shall be run in 4” (min.) PVC conduit with long radius ells. Seal ends of conduit watertight.

c. Flue Piping: Flue piping shall be installed in accordance with its UL listing and manufacturer's instructions. All welders shall be certified in accordance with AWS Standard D9.1, Specifications for welding sheet metal.

d. PVC Piping: Shall be cut square and assembled prior to solvent weld. Apply primer per manufacturer’s recommendations. Coat male joint fully with solvent, make joint before solvent dries and wipe exterior clean.

3.05 PIPING INSULATION INSTALLATION:

A. Refrigerant Piping: Cover suction piping with foamed plastic insulation. Longitudinal and end seams shall be thoroughly cemented with adhesive in accordance with manufacturer's recommendation. Cover all fittings, unions, valves, and connections. Piping exposed to weather shall be covered with aluminum jacketing, seal all joints and seams with grey outdoor mastic or silver silicone sealant. Piping exposed in room shall be covered with piping chase painted to match wall.

3.06 EQUIPMENT INSTALLATION:

A. General: It shall be the responsibility of the contractor to insure that no work done under other specification sections shall in any way block, or otherwise hinder access panels or diminish the effectiveness of equipment vibration isolation.

B. Connections to Equipment: Where size reductions are required for connections to equipment, they shall be made immediately adjacent to the equipment and, if possible, inside the equipment cabinet. Connections made to equipment mounted on vibration isolators shall be with flexible connectors, installed adjacent to equipment.

C. Start Up: Engage manufacturer or factory-authorized service representative to perform start up supervision. Manufacturer shall provide on-site start up and commissioning assistance through job completion. Complete installation and start up checks according to manufacturer’s written instructions.

3.07 TEMPERATURE CONTROL SYSTEM:

A. Thermostats shall have the capability of terminating all heating at a temperature of no more than 70 degrees F, or terminating all cooling at a temperature of no less than 78 degrees F, and to provide a temperature range of up to 10 degrees F between full heating and full cooling. Thermostats shall be 7 day programmable, Carrier, Venstar or equal with sub-base capable of battery back up or capacitor to retain program in the event of a power outage. All control wiring, regardless of voltage, shall be installed in conduit.

3.08 SYSTEM AIR BALANCE:

A. Scope: Provide the services of a qualified independent test and balance agency certified by the Associated Air Balance Council (AABC) or The National Environmental Balancing Bureau (NEBB) to test, adjust and balance, retest, and record performance of the system to obtain design quantities as specified. Balancing contractor must also be TABB certified and have a C-20 license.

B. Qualifications: Prior to commencing work, the agency shall be approved by the Owner's Representative.

C. Instruments: All instruments shall be accurately calibrated; calibration histories shall be available for examination. Application of instrumentation shall be in accordance with AABC standards.

D. Procedure: General: Balanced quantities shall be plus 5%, minus 5% of design quantities. All name-plate data, manufacturer, model, and serial numbers shall be recorded for each item tested.

E. Extended Warranty: The test and balance agency shall include an extended warranty of 90 days after completion of test and balance work, during which time the Owner's Representative at his discretion may request a recheck or resetting of any item or items in test report. The agency shall provide technicians to assist the Owner's Representative in making any tests he may require during this period of time.

F. Air Balance Procedure (for each Air Handling System):

1. All air filters shall be clean when air balance is performed.
2. Provide a sketch of the equipment showing exactly where all pressure readings were taken.
3. Adjust blower RPM to design requirements.
4. Record motor full load amperes.
5. Make pitot tube traverse of main supply and return ducts and obtain design CFM at fans.
6. Record system static pressures, inlet and discharge.
7. Record filter quantity, size(s) and pressure drop across filter(s) at each filter bank.
8. Adjust system for design CFM recirculated air.
9. Adjust system for design CFM outside air.
10. Record entering air temperatures. (DB heating, DB and WB cooling.)
11. Record leaving air temperatures. (DB heating, DB and WB cooling.)
12. Adjust all main supply and return air ducts to design CFM.
13. Adjust all zones to design CFM, supply and return.
14. Adjust all diffusers, grilles and registers to plus 10%, minus 0% of design requirements.
15. Adjust CFM at all exhaust fans, make-up units, etc. (high and low speed, where applicable). Record applicable data from items 1 through 11 above.
16. Each grille, diffuser and register shall be identified as to location.
17. Verify proper diffusion pattern for all ceiling grilles and that all sidewall grilles are set for 5 degrees downward deflection unless otherwise noted. Make a notation of any that are not set properly.
18. Size, type and manufacturer of diffusers, grilles, registers and all tested items shall be identified and listed. Manufacturer's ratings shall be used to make required calculations on all items.
19. Readings and tests of diffusers, grilles, and registers shall include required FPM velocity and test resultant velocity, required CFM and test resultant CFM after adjustments.
20. In cooperation with the control manufacturer's representative, set adjustments of automatically operated dampers to operate as specified. Testing agency shall check all controls for proper calibrations and list all controls requiring adjustment by control installers.
21. All diffusers, grilles and registers shall be adjusted for required air patterns and to minimize drafts.

22. As a part of the work of this contract, THE AIR CONDITIONING CONTRACTOR shall make any changes in pulleys, belts, dampers or the addition of dampers cleaning of insect screens and replacement of filters required for correct balance as recommended by air balance agency, at no additional cost to Owner.
23. Set, test and adjust packaged heating/ cooling unit economizer operation in cooperation with controls contractor. Record minimum and maximum outside and exhaust airflows.

G. Water Balance Procedure:

1. Set valves for maximum coil flow.
2. Remove and clean all strainers.
3. Examine water in system and determine if water has been treated and cleaned.
4. Check expansion tanks to determine that they are properly charged and that the system is completely full of water. Bleed air from system.
5. Adjust water flow through boilers, to design flow.
6. Record leaving and return water temperatures at boiler. Reset to correct design temperature.
7. Record the following at each coil:
   a. Inlet water temperatures.
   b. Leaving water temperatures.
   c. Pressure drop across coil.
   d. Pressure drop across bypass valve.
8. Record pump suction and discharge pressures at operating condition and also with pump discharge valve completely closed.
9. Record running amperage of pump motor at operation condition and also with pump discharge valve completely closed.
10. Record water metering device readings.

H. Test, adjust and retest water bleed rates from evaporative coolers. Record all data.

I. Acoustic Performance Testing: Provide acoustic performance testing in accordance with the requirements of EQ3.0 of the “California Criteria for High Performance Schools, Best Practices Manual, 2009 Edition”.
   1. Maximum Background Noise Level: Unoccupied classrooms must have a maximum background noise level of no more than 45 dBA LAeq. The standard anticipates two primary noise sources, steady HVAC equipment noise and the usually unsteady exterior environmental noise. Where the measured ambient noises due to sources other than HVAC are within 5 dB of the measured overall noise (HVAC and exterior intrusive noise) a measurement of at least ½ hour duration shall be made in at least two classrooms in each building in the worse case (noisiest) locations on the school site during normal school days and hours.
      a. To evaluate the significance of intrusive exterior noise, a 30-minute Equivalent Sound Level (LAeq30, in general conformance with ANSI S12.60-2002, Annex E3) measurement shall be made in the classroom that is subjectively assessed to represent the worse case exposure to exterior noise, with the HVAC system not in operation. This Leq30 measurement shall be repeated with the HVAC in operation. If the second “HVAC-on” sound level is more than 5 dB greater than the initial “HVAC-off” measurement, exterior noise intrusion shall be deemed “not significant”.
      b. Where intrusive exterior noise has been deemed “not significant” short-term (15 second) A-weighted sound level measurements shall be made in each classroom with the HVAC systems in operation. Where exterior intrusive noise has been deemed “significant” (per the evaluation method noted above), LAeq30 sound level measurements shall be made in each classroom with the HVAC system in operation. In either case, where classrooms are served by variable-air-volume systems, the systems shall be operated at maximum nominal flow (typically by means of varying the thermostat set point).
      c. Where exposure to exterior noise varies significantly between groups of classrooms (e.g. one side of a classroom wing adjacent to a street, the other side facing away), separate

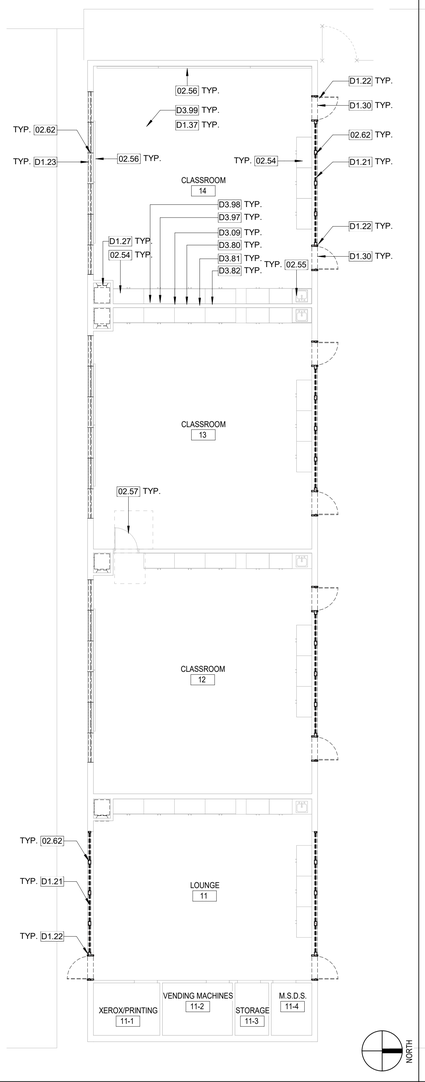
evaluations of exterior noise significance can be conducted to limit the need for LAeq30 measurements.

2. Maximum Reverberation: Classrooms less than 10,000 cubic feet must have a 0.6-second maximum (unoccupied) reverberation time and classrooms with volumes between 10,000 cubic feet and 20,000 cubic feet must have a 0.7-second maximum (unoccupied, furnished, and fitted-out) reverberation time. (ANSI Standard S12.60-2002). The reverberation times shall be measured in each classroom in three octave bands with center frequencies of 500, 1000, and 2000 Hz. The arithmetic average of the three measured values shall be compared to the standard.

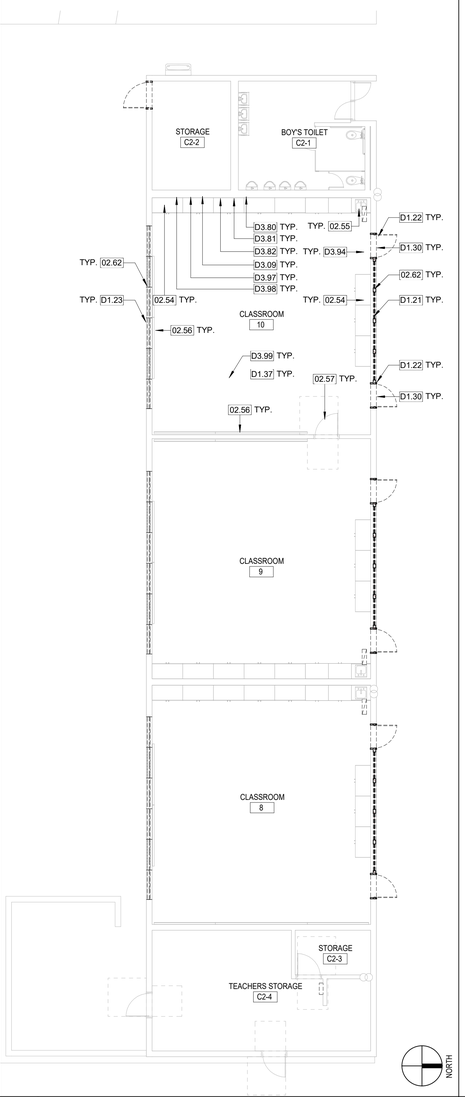
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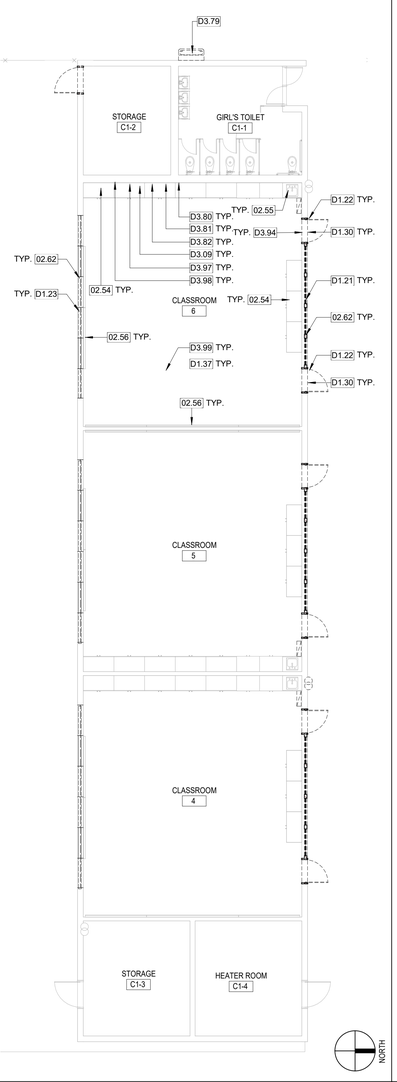
D1.1 - DEMO FLOOR PLAN BLDG CK, C1,C2,C6 & ADMIN



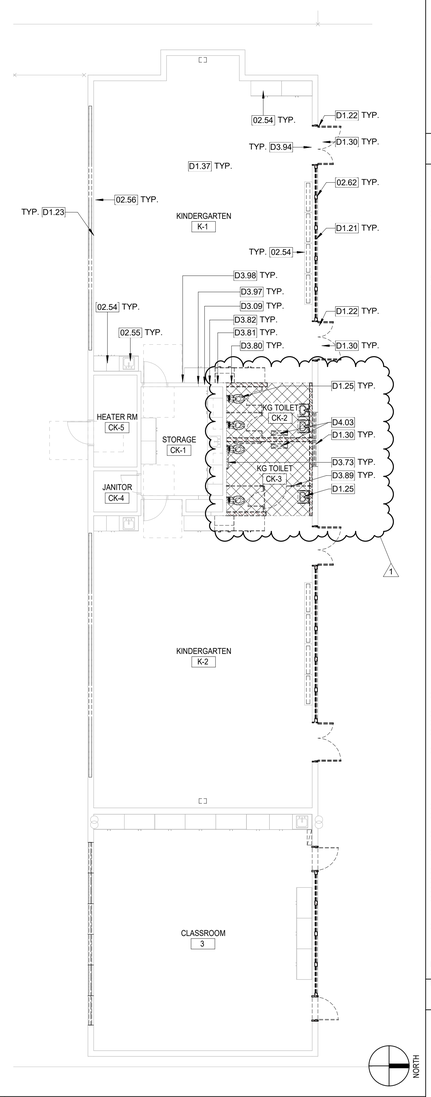
5 DEMO FLOOR PLAN - BUILDING C6
1/8" = 1'-0"



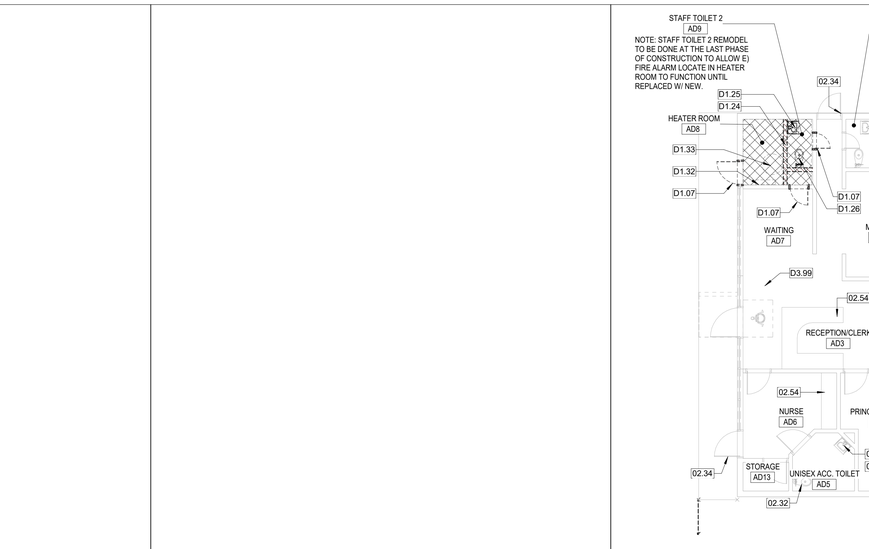
4 DEMO FLOOR PLAN - BUILDING C2
1/8" = 1'-0"



3 DEMO FLOOR PLAN - BUILDING C1
1/8" = 1'-0"



2 DEMO FLOOR PLAN - BUILDING CK
1/8" = 1'-0"



20 DEMO FLOOR PLAN - ADMIN BLDG
1/8" = 1'-0"

KEYNOTE LEGEND

#	DESCRIPTION
02.20	(E) LAVATORY TO REMAIN
02.32	(E) FLOOR MOUNTED WATER CLOSET TO REMAIN
02.34	(E) H.M. DOOR FRAME & DOOR PANEL TO REMAIN
02.54	(E) CASEWORK TO REMAIN, RE-PAINT & PROTECT IN PLACE
02.55	(E) ACCESSIBLE SINK TO REMAIN. PROTECT IN PLACE
02.56	(E) MARKER/TACKBOARD TO BE REMOVED & REPLACED WITH NEW PER DETAIL 5&6/A8.02
02.57	(E) DOOR FRAME & PANEL TO REMAIN. PROTECT IN PLACE.
02.62	(E) WINDOW MULLION/COLUMN TUBE STEEL TO REMAIN, PROTECT IN PLACE, WHERE OCCURS

DEMOLITION KEYNOTES

#	DESCRIPTION
D1.07	(E) DOOR TO BE REMOVED AND DISPOSED
D1.21	(E) ALUMINUM FRAME & GLAZING STOREFRONT SYSTEM TO BE REMOVED AND DISPOSED
D1.22	(E) HM DOOR FRAME & (E) DOOR PANEL TO BE REMOVED AND DISPOSED
D1.23	(E) ALUMINUM FRAME & GLAZING WINDOW SYSTEM TO BE REMOVED AND DISPOSED
D1.24	(E) INTERIOR PARTITION TO BE REMOVED
D1.25	(E) LAVATORY TO BE REMOVED AND DISPOSED, PATCH AND REPLACE WALL FINISH MATERIALS TO MATCH EXISTING
D1.26	(E) WATERCLOSET TO BE REMOVED AND DISPOSED, PATCH AND REPLACE FLOOR AND WALL FINISH MATERIALS TO MATCH EXISTING
D1.27	(E) VERTICAL DUCT CHASE, (E) LOUVERED VENT TO BE REMOVED, DISPOSED & COVERED WITH SIMILAR FRAMING & DRYWALL MATERIAL. (E) MECH DUCT TO BE CAPPED & SEALED
D1.30	(E) TRANSOM WINDOW TO BE REMOVED AND DISPOSED
D1.32	(E) FIRE ALARM PANEL TO BE REMOVED, DISPOSED & REPLACED DURING PHASED CONSTRUCTION OF STAFF TOILET 2. SEE FIRE ALARM DWG.
D1.33	(E) WATER HEATER TO BE REMOVED & DISPOSED DURING PHASED CONSTRUCTION OF STAFF TOILET 2. SEE PLUMBING DWG.
D1.37	(E) MARKER/TACK BOARD TO BE REMOVED AND DISPOSED. WHERE OCCURS
D3.09	(E) GLUE-ON/STAPLED ACOUSTIC TILE TO BE DEMOLISHED AND DISPOSED, INCLUDING SUBSTRATES AND (E) 2"X3" WOOD STRIPPING. WHERE OCCURS
D3.73	REMOVE (E) GRAB BAR AND RELOCATE PER ELEVATION, PATCH AND REPLACE WALL FINISH MATERIALS TO MATCH EXISTING
D3.79	REMOVE (E) DRINKING FOUNTAINS, PREPARE FOR NEW DRINKING FOUNTAIN
D3.80	(E) TELEVISION, PROJECTOR & BRACKET TO BE REMOVED AND DISPOSED. WHERE OCCURS.
D3.81	(E) ANALOG WALL CLOCK TO BE REMOVED AND DISPOSED. WHERE OCCURS.
D3.82	(E) AUDIO SPEAKER TO BE REMOVED AND DISPOSED. WHERE OCCURS.
D3.89	REMOVE (E) SOLID PLASTIC TOILET PARTITION, PREPARE FOR NEW TOILET PARTITION, PATCH AND REPLACE FLOOR AND WALL FINISH MATERIALS TO MATCH EXISTING
D3.94	(E) EXIT SIGNAGE TO BE REMOVED, DISPOSED AND REPLACED
D3.97	(E) ELECTRICAL OUTLETS, WIREMOLDS & RACEWAYS TO BE REMOVED, PER ELECTRICAL PLAN, WHERE OCCURS.
D3.98	REMOVE (E) WALL PANELS AND REPLACE WITH NEW PER SPECS SECTION 10 11 00, WHERE OCCURS.
D3.99	REMOVE & DISPOSE OF EXISTING ABOVE CEILING ROOF INSULATION WHERE OCCURS
D4.03	(E) DUCT OPENINGS IN SLAB TO BE REMOVED AND IN-FILLED WITH CONCRETE WHERE OCCURS

DEMOLITION LEGEND

- EXISTING NON-BEARING WALL TO BE REMOVED
- DOOR TO BE REMOVED
- WINDOW TO BE REMOVED (SEE SCHEDULE)
- DEMO ALL (E) WALL FINISH, FLOOR SLAB, DUCTS, PIPES, CONDUITS & FIXTURES, U.N.O.
- (E) DUCT OPENINGS IN SLAB TO BE REMOVED AND IN-FILLED WITH CONCRETE WHERE OCCURS. PER DETAIL 4/SD1

GENERAL DEMOLITION NOTES

1. DEMOLITION PLANS INDICATE SOME OF THE SCOPE-OF-WORK INVOLVED FOR THE DEMOLITION PHASE OF THIS PROJECT. CONTRACTOR SHALL REVIEW ALL SHEETS FOR ADDITIONAL DEMOLITION SCOPE.
2. CONTRACTOR SHALL VERIFY EXISTING SITE AND BUILDING CONDITIONS AND DIMENSIONS IN THE FIELD PRIOR TO DEMOLITION ACTIVITIES AND WORK.
3. CONTRACTOR SHALL NOTIFY ARCHITECT OF ANY DISCREPANCIES IN WRITING. PRIOR TO COMMENCING WITH WORK.
4. CONTRACTOR SHALL NOTIFY ARCHITECT AND OWNER OF ANY POSSIBLE ASBESTOS CONTAINING MATERIALS DISCOVERED BEFORE PROCEEDING WITH WORK, PROTECT INTERIOR CONSTRUCTION TO REMAIN DURING DEMOLITION AND CONSTRUCTION.
5. CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS BEFORE COMMENCING WORK.
6. CONTRACTOR SHALL NOT SCALE DRAWINGS.
7. ALL FURNITURE WILL BE REMOVED OR RELOCATED BY THE OWNER AS NECESSARY PRIOR TO THE DEMOLITION WORK OF THIS PROJECT. CONTRACTOR SHALL COORDINATE WITH OWNER AS REQUIRED.
8. REMOVE EXISTING CONSTRUCTION TO THE EXTENT INDICATED ON THE DRAWINGS. SHOULD ANY DAMAGE OCCUR TO ANY EXISTING CONSTRUCTION TO REMAIN, THE CONTRACTOR SHALL REPAIR THE DAMAGE TO MATCH EXISTING AND OR ADJACENT CONSTRUCTION.
9. CONTRACTOR IS TO VERIFY THE EXACT LOCATION OF ALL EXISTING UTILITIES PRIOR TO DEMOLITION ACTIVITIES AND WORK.
10. NOTIFY THE BUILDING OWNER OF ANY MATERIALS, FIXTURES, ETC. TO BE REMOVED THAT ARE DEEMED SALVAGEABLE. TURN OVER ANY REQUESTED ITEMS TO THE BUILDING OWNER IN GOOD CONDITION.
11. THE CONTRACTOR SHALL REMOVE ALL TRASH AND DEBRIS FROM THE SITE ON A DAILY BASIS.
12. MAINTAIN ANY AND ALL EXISTING FIRE-RATED ASSEMBLIES THAT ARE TO REMAIN, AND THEIR ASSOCIATED FIRE-RATINGS, INCLUDING BUT NOT LIMITED TO ALL ASSOCIATED EXISTING FIRE-RATED OPENINGS, ALL ASSOCIATED EXISTING FIRE-RATED PENETRATIONS, AND ALL ASSOCIATED EXISTING FIRE-RATED FIRESTOPPING CONDITIONS.
13. WHEN UNANTICIPATED MECHANICAL, ELECTRICAL, OR STRUCTURAL ELEMENTS THAT CONFLICT WITH THE INTENDED FUNCTION OR DESIGN ARE ENCOUNTERED, DETERMINE THE NATURE AND EXTENT OF THE CONFLICT AND NOTIFY THE ARCHITECT IMMEDIATELY FOR RESOLUTION.
14. CONTRACTOR SHALL RE-LOCATE UTILITIES AND EQUIPMENT AS REQUIRED TO ACCOMMODATE NEW HVAC, ELECTRICAL, PLUMBING, AND TECHNOLOGY REQUIREMENTS FOR NEW WORK.
15. SAW-CUT AND REMOVE EXISTING FLOOR FINISHES AND FLOOR SLAB AS REQUIRED TO INSTALL NEW FIXTURES, ITEMS, AND OR DEVISES FOR ALL SCOPE-OF-WORK PERTAINING TO NEW MECHANICAL WORK, NEW PLUMBING UTILITIES, NEW PLUMBING WORK, NEW ELECTRICAL WORK, AND NEW TECHNOLOGY WORK. SPLICE NEW REINFORCING BARS DOWELED INTO EXISTING CONCRETE AND PROVIDE NEW VAPOR RETARDER AND NEW CONTINUOUS WATERSTOPS AT JOINT BETWEEN NEW CONCRETE FLOOR SLAB AND EXISTING CONCRETE FLOOR SLAB. PATCH WITH NEW 3,500 PSI MINIMUM CONCRETE AND PREPARE FLOOR, INCLUDING NEW CONCRETE, TO RECEIVE NEW FLOOR FINISHES. COORDINATE WITH STRUCTURAL.
16. EXISTING WALLS (OR PORTIONS OF WALLS) TO BE REMOVED SHALL BE CUT FLUSH WHERE INTERSECTING WITH WALLS TO REMAIN. REMAINING WALLS TO BE PATCHED AND FINISHED SMOOTH.
17. NEW OPENING TO BE CUT IN EXISTING WALLS SHALL BE SAW-CUT ONLY AT LOCATIONS INDICATED IN STRUCTURAL DRAWINGS TO THE HEIGHT AND WIDTH INDICATED. NEW LINTELS SHALL BE INSTALLED TO SUPPORT EXISTING **NOT USED** ABOVE AS INDICATED ON THE DRAWINGS, OR IF NOT INDICATED, AS REQUIRED FOR NEW WALL CONSTRUCTION PER STRUCTURAL DRAWINGS.
18. WHERE EXISTING INTERIOR WALLS ARE REPLACED OR REMOVED, REMOVE MEPT SYSTEMS BACK TO PANEL, OR MECHANICAL ROOM, OR FARTHEST POSSIBLE POINT WITHOUT DISTURBING EXISTING CONSTRUCTION. REMOVE EXISTING MECHANICAL EQUIPMENT, RELOCATE POWER PER MEPT DRAWINGS.
19. PATCH FLOORS, WALLS CEILINGS WHICH REMAIN AT LOCATIONS WHERE PIPES, CONDUITS, ETC. ARE REMOVED AS REQUIRED TO MATCH EXISTING CONDITIONS OR TO RECEIVE NEW FINISHES.
20. WHERE EXISTING FINISH FLOOR IS REMOVED, PREPARE FLOOR SURFACE TO RECEIVE NEW FLOORING.
21. ALL DASHED LINES ARE DEMOLITION LINES UNLESS NOTED OTHERWISE.
22. REMOVE ALL EXISTING ROOM AND BUILDING SIGNAGE.
23. DEMOLISH PORTION OF (E) WALL AS REQ'D TO PROVIDE ACCESSIBLE SIDE STRIKE CLEARANCE, RE: TO REMODEL PLAN FOR EXTENT.
24. EXISTING HHW BOILERS TO BE DECOMMISSIONED, DISCONNECT EXISTING HHW PIPING AT BOILER ROOM, DRAIN PIPING SYSTEM AND CAP. EXISTING RADIATORS IN CLASSROOMS TO BE REMOVED. EXPOSED HHW PIPING IN CLASSROOMS SHALL BE REMOVED BACK TO WALL PENETRATION AND CAPPED INSIDE WALL. ALL WALL OPENINGS, INCLUDING EXTERIOR WALL, SHALL BE SEALED AIR AND WATER TIGHT AND PAINTED TO MATCH EXISTING WALL COLOR. COORDINATE WITH DISTRICT ON REMOVAL OF EXISTING BOILER, PUMPS AND ASSOCIATED EQUIPMENT IN BOILER ROOM.
25. EXISTING EXHAUST FANS AND DUCTWORK IN RESTROOMS TO BE REMOVED.
26. DISCONNECT AND REMOVE EXISTING LIGHT FIXTURES AND DISPOSE OF IN A LEGAL MANNER. RETAIN EXISTING CIRCUITS TO ALLOW EXTENSION TO NEW LIGHT FIXTURES.
27. CONTRACTOR TO DEMOLISH PLUMBING PIPING BACK TO POINTS OF CONNECTION (POC) AS IDENTIFIED ON ENGINEERING DRAWINGS FOR WATER AND SANITARY SEWER.
28. CONTRACTOR WILL REMOVE FROM SITE AND PATCH AND REPAIR AS NECESSARY TO ACCOMMODATE NEW WORK.
29. CONTRACTOR TO REMOVE ALL EXISTING WINDOW SHADES.
30. ALL EXISTING FIRE ALARM SYSTEM TO BE REMOVED.
31. ALL EXISTING ROUTERS TO BE REMOVED AND RELOCATED.
32. CONTRACTOR SHALL PROTECT ALL EXISTING WALL MURALS AND SCHEDULE A MEETING WITH THE OWNER AND ARCHITECT TO REVIEW ALL PROTECTION IN PLACE PRIOR TO INITIATING DEMOLITION.
33. CONTRACTOR TO REMOVE AND DISPOSE OF ALL ITEMS THAT ARE NOT BEING REUSED. DISPOSAL SHALL BE IN COMPLIANCE WITH ALL LOCAL AND STATE CODES AND SHALL BE RECYCLED PER SPECIFICATIONS AND LOCAL AND STATE CODES.

NOTE: CONTRACTOR SHALL PROTECT ALL EXISTING WALL MURALS AND SCHEDULE A MEETING WITH THE OWNER AND ARCHITECT TO REVIEW ALL PROTECTION IN PLACE PRIOR TO INITIATING DEMOLITION.

BUILDING MPE NOTES

1. EXISTING GAS AND WATER PIPES: REMOVE AND REPLACE ANY RUSTED OR DETERIORATED PIPES, VALVES AND YARD BOXES TO REMAIN.
2. RELOCATE / RE-ROUTE ANY ELECTRICAL CONDUITS AND LOW VOLTAGE RACEWAYS AND WIRING ABOVE & BELOW CEILING TO ACCOMMODATE NEW WORK.
3. RELOCATE / RE-ROUTE ANY VENT PIPES INTERFERING WITH NEW WORK.
4. REMOVE AND DISPOSE OLD CLOCK AND SPEAKERS NO LONGER IN USE.
5. REMOVE AND DISPOSE ELECTRICAL CABLING AND DEVICES NOT IN USE.
6. REMOVE AND DISPOSE FAU HEATING UNITS IN EACH ROOM AND ALL ASSOCIATED DUCTWORK, REGISTERS, CONDUITS AND WIRING.
7. REMOVE PROJECTORS IN WORKROOM AND LIBRARY ROOMS RETURN TO DISTRICT

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DSA SUBMITTAL

DSA APPL NO.: 04-121614 DSA FILE NO.: 30-43

WESTMINSTER SCHOOL DISTRICT

KEY PLAN
NORTH: PLAN

Consultant

Architect

CLIENT
WESTMINSTER SCHOOL DISTRICT

DATE	PROJECT NUMBER
05-16-2023	220307

REVISIONS

No.	Description	Date
1	ADDENDUM	10/09/2023

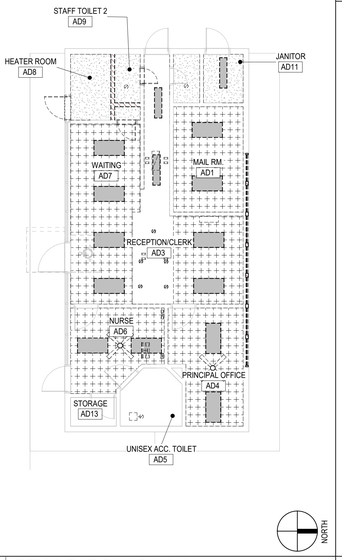
DSA SUBMITTAL

DEMO FLOOR PLAN BLDG CK, C1,C2,C6 & ADMIN

D1.1

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0" 1"



21 DEMO RCP BUILDING A
1/8" = 1'-0"

DEMOLITION RCP LEGEND

- EXISTING CEILING TO REMAIN
- EXISTING PLASTER /GYP.BD. CEILING & SUBSTRATE TO BE REMOVED AND DISPOSED.
- EXISTING NON-BEARING WALL TO BE REMOVED
- EXISTING 12"x12" GLUE UP / STAPLED ACOUSTIC TILE AND (E) SUBSTRATES TO BE REMOVED AND DISPOSED.
- REMOVE AND DISPOSE (E) LIGHT FIXTURES AND WIRING
- MECHANICAL GRILLES, REFER TO MECHANICAL DRAWINGS (REMOVE WHEN SHOWN DASHED)
- (E) CEILING FAN AND ACCESSORIES TO BE REMOVED BY G.C. AND RETURNED TO THE DISTRICT.
- (E) ACCESS PANEL TO BE REMOVED & DISPOSED, WHERE OCCURS.

NOTE:
1. REMOVE & DISPOSE OF EXISTING ABOVE CEILING ROOF INSULATION. WHERE OCCURS.

GENERAL DEMOLITION NOTES

1. DEMOLITION PLANS INDICATE SOME OF THE SCOPE-OF-WORK INVOLVED FOR THE DEMOLITION PHASE OF THIS PROJECT. CONTRACTOR SHALL REVIEW ALL SHEETS FOR ADDITIONAL DEMOLITION SCOPE.
2. CONTRACTOR SHALL VERIFY EXISTING SITE AND BUILDING CONDITIONS AND DIMENSIONS IN THE FIELD PRIOR TO DEMOLITION ACTIVITIES AND WORK.
3. CONTRACTOR SHALL NOTIFY ARCHITECT OF ANY DISCREPANCIES IN WRITING.
4. CONTRACTOR SHALL NOTIFY ARCHITECT AND OWNER OF ANY POSSIBLE ASBESTOS CONTAINING MATERIALS DISCOVERED BEFORE PROCEEDING WITH WORK. PROTECT INTERIOR CONSTRUCTION TO REMAIN DURING DEMOLITION AND CONSTRUCTION.
5. CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS BEFORE COMMENCING WORK.
6. AFTER AWARD OF THE CONTRACT, CHANGE ORDER REQUESTS FOR ADDITIONAL MONEY WILL NOT BE APPROVED IF THE WORK COULD HAVE BEEN ANTICIPATED DURING A SITE VISIT BY THE CONTRACTOR.
7. CONTRACTOR SHALL NOT SCALE DRAWINGS.
8. CONTRACTOR SHALL PROVIDE ALL NECESSARY TEMPORARY SHORING, TEMPORARY BRACING, AND OR TEMPORARY SUPPORTS AS REQUIRED TO MAINTAIN STRUCTURAL INTEGRITY OF EXISTING STRUCTURE TO REMAIN AND OR EXISTING BUILDING ELEMENTS TO REMAIN.
9. CONTRACTOR IS TO VERIFY THE EXACT LOCATION OF ALL EXISTING UTILITIES PRIOR TO DEMOLITION ACTIVITIES AND WORK.
10. CONTRACTOR SHALL REMOVE TRASH AND DEBRIS REGULARLY AS NECESSARY TO ELIMINATED INTERFERENCE WITH ROADS, STREET, WALKS, AND ALL OTHER ADJACENT FACILITIES.
11. CONTRACTOR SHALL REMOVE TRASH AND DEBRIS FROM THE SITE ON A DAILY BASIS.
12. CONTRACTOR IS RESPONSIBLE FOR CONSTRUCTION OF TEMPORARY DUST AND OR SOUND PARTITION BETWEEN CONSTRUCTION AREA AND AREAS NOT IN SCOPE AS NECESSARY. DEMOLITION ACTIVITIES SHALL BE PERFORMED SO AS TO PRODUCE MINIMAL DISTURBANCE TO EXISTING FACILITY AND OCCUPANTS (I.E. MINIMIZE EXCESSIVE AND PROLONGED NOISE LEVELS AND DUST).
13. CONTRACTOR SHALL REPAIR, REPLACE, OR PATCH EXISTING BUILDINGS, DRIVEWAYS, SIDEWALKS, CANOPIES, AND OR PARKING AREAS DAMAGED, MODIFIED, AND OR DISTURBED BY DEMOLITION WORK AT NO COST TO THE OWNER.
14. ALL EXISTING EQUIPMENT THAT REMAINS SHALL BE PROTECTED DURING DEMOLITION AND OR CONSTRUCITON TO PREVENT DAMAGE. ANY DAMAGE TO REMAINING EXISTING EQUIPMENT SUSTAINED DURING DEMOLITION AND OR CONSTRUCITON SHALL BE EQUIVALENTLY REPLACED OR EQUIVALENTLY REPAIRED AT NO COST TO THE OWNER.
15. CONTRACTOR SHALL PROVIDE TRAFFIC HANDLING MEASURES TO PROTECT THE GENERAL PUBLIC AT ALL TIMES, AS NECESSARY AND AS REQURED BY AUTHORITIES HAVING JURISDICTION.
16. DO NOT INTERRUPT EXISTING UTILITIES, EXCEPT WHEN AUTHORIZED IN WRITING BY AUTHORITIES HAVING JURISDICTION. PROVIDE TEMPORARY SERVICES DURING INTERRUPTIONS TO EXISTING UTILITIES, AS ACCEPTABLE TO AUTHORITIES HAVING JURISDICTION.
17. WHEN UTILITY SERVICES ARE REQUIRED TO BE REMOVED, RELOCATED, OR ABANDONED, PROVIDE BYPASS CONNECTIONS TO MAINTAIN CONTINUITY OF SERVICE BEFORE PROCEEDING WITH DEMOLITION.
18. CONTRACTOR SHALL CONTACT ALL UTILITY COMPANIES INCLUDING BUT NOT LIMITED TO THE FOLLOWING: ELECTRIC, GAS, WATER, TELEPHONE, STORM SEWER, AND SANITARY SEWER FOR FIELD LOCATION OF ALL UNDERGROUND AND OVERHEAD UTILITY LINES. PRIOR TO COMMENCEMENT OF ANY DEMOLITION WORK, CONTRACTOR SHALL IDENTIFY ALL ELECTRICAL CIRCUITS SERVICING THE AREA INVOLVED WITH THIS DEMOLITION. THOSE CIRCUITS SHALL THEN BE LOCKED OUT AND TAGGED OUT IF THEY DO NOT SERVICE ANY OF THE REMAINING BUILDING. THOSE CIRCUITS WHICH ARE IDENTIFIED TO SERVICE BOTH THE AREA TO BE DEMOLISHED AND THE REMAINING BUILDING SHALL BE SPLIT SO AS TO KILL ALL ELECTRICAL POWER TO THE AREA TO BE DEMOLISHED WHILE MAINTAINING POWER TO THE REMAINDER OF THE BUILDING.
19. CONTRACTOR SHALL RELOCATE UTILITIES AND EQUIPMENT AS REQUIRED TO ACCOMMODATE NEW HVAC, ELECTRICAL, PLUMBING, AND TECHNOLOGY REQUIREMENTS FOR NEW WORK.
20. PROTECT EXISTING SITE ELEMENTS AND EXISTING LANDSCAPING TO REMAIN. PROTECTION SHALL INCLUDE BUT NOT BE LIMITED TO EXISTING TREES AND OTHER EXISTING VEGETATION INDICATED TO REMAIN IN PLACE AGAINST UNNECESSARY CUTTING, BREAKING, OR SKINNING OF ROOTS, SKINNING OR BRUISING OF BARK, SMOTHERING OF TREES BY STOCKPILING CONSTRUCTION MATERIAL OR EXCAVATED MATERIAL WITHIN DRIP LINES.
21. CONTRACTOR SHALL REGRADE AND HYDROMULCH AREAS AFFECTED BY DEMOLITION.
22. OWNER HAS RIGHT OF FIRST REFUSAL OF ALL ITEMS REMOVED AS PART OF THE SOCPE OF WORK, WHETHER IDENTIFIED AS SALVAGE OR NOT.
23. NOTIFY THE BUILDING OWNER OF ANY MATERIALS, FIXTURES, ETC. TO BE REMOVED THAT ARE DEEMED SALVAGEABLE. TURN OVER ANY REQUESTED ITEMS TO THE BUILDING OWNER IN GOOD AND CLEAN CONDITION.
24. ALL FURNITURE WILL BE REMOVED OR RELOCATED BY THE OWNER AS NECESSARY PRIOR TO THE DEMOLITION WORK OF THIS PROJECT. CONTRACTOR SHALL COORDINATE WITH OWNER AS REQUIRED.
25. REMOVE EXISTING CONSTRUCTION TO THE EXTENT INDICATED ON THE DRAWINGS. SHOULD ANY DAMAGE OCCUR TO ANY EXISTING CONSTRUCTION TO REMAIN, THE CONTRACTOR SHALL REPAIR THE DAMAGE TO MATCH EXISTING AND OR ADJACENT CONSTRUCTION AT NO COST TO THE OWNER.
26. MAINTAIN ANY AND ALL EXISTING FIRE-RATED ASSEMBLIES THAT ARE TO REMAIN, AND THEIR ASSOCIATED FIRE-RATINGS, INCLUDING BUT NOT LIMITED TO ALL ASSOCIATED EXISTING FIRE-RATED OPENINGS, ALL ASSOCIATED EXISTING FIRE-RATED PENETRATIONS, AND ALL ASSOCIATED EXISTING FIRE-RATED FIRESTOPPING CONDITIONS.
27. WHEN UNANTICIPATED MECHANICAL, ELECTRICAL, OR STRUCTURAL ELEMENTS THAT CONFLICT WITH THE INTENDED FUNCTION OR DESIGN ARE ENCOUNTERED, DETERMINE THE NATURE AND EXTENT OF THE CONFLICT AND NOTIFY THE ARCHITECT IMMEDIATELY FOR RESOLUTION.
28. REMOVE, PATCH, AND REPAIR ALL ABANDONED ROOF PENETRATIONS RESULTING FROM WORK.
29. SAW-CUT AND REMOVE EXISTING FLOOR FINISHES AND FLOOR SLAB AS REQUIRED TO INSTALL NEW FIXTURES, ITEMS, AND OR DEVISES FOR ALL SCOPE-OF-WORK PERTAINING TO NEW MECHANICAL WORK, NEW PLUMBING UTILITIES, NEW PLUMBING WORK, NEW ELECTRICAL WORK, AND NEW TECHNOLOGY WORK. SPLICE NEW REINFORCING BARS DOWELED INTO EXISTING CONCRETE AND PROVIDE NEW VAPOR RETARDER AND NEW CONTINUOUS WATERSTOPS AT JOINT BETWEEN NEW CONCRETE FLOOR SLAB AND EXISTING CONCRETE FLOOR SLAB. PATCH WITH NEW 3,500 PSI MINIMUM CONCRETE AND PREPARE FLOOR, INCLUDING NEW CONCRETE, TO RECEIVE NEW FLOOR FINISHES. COORDINATE WITH STRUCTURAL.
30. EXISTING WALLS (OR PORTIONS OF WALLS) TO BE REMOVED SHALL BE CUT FLUSH WHERE INTERSECTING WITH WALLS TO REMAIN. REMAINING WALLS TO BE PATCHED AND FINISHED SMOOTH.
31. NEW OPENING TO BE CUT IN EXISTING WALLS SHALL BE SAW-CUT AT LOCATIONS INDICATED TO THE HEIGHT AND WIDTH INDICATED. NEW LINTELS SHALL BE INSTALLED TO SUPPORT EXISTING WALL CONSTRUCTION ABOVE AS INDICATED. **NOT USED** OR IF NOT INDICATED, AS REQUIRED FOR NEW WALL CONSTRUCTION PER STRUCTURAL DRAWINGS. COORDINATE LOCATIONS OF ALL NEW OPENINGS IN EXISTING WALLS AND PARTITIONS WITH ARCHITECTURAL PLANS.
32. WHERE EXISTING WALL OPENINGS ARE TO BE NEWLY CLOSED-OFF, REMOVE ANY EXISTING OPENING FRAME AND PATCH AND REPAIR EXISTING WALL TO MATCH EXISTING ADJACENT MATERIALS AND FINISHES, UNLESS NOTED OTHERWISE.
33. WHERE EXISTING INTERIOR WALLS ARE REPLACED OR REMOVED, REMOVE MEPT SYSTEMS BACK TO PANEL, OR MECHANICAL ROOM, OR FARTHEST POSSIBLE POINT WITHOUT DISTURBING EXISTING CONSTRUCTION. REMOVE EXISTING MECHANICAL EQUIPMENT, RELOCATE POWER PER MEPT DRAWINGS
34. REFER TO MEPT DRAWINGS FOR DEMOLITION OF MEPT SYSTEMS. IDENTIFY WORK REQUIRED BY THIS CONTRACTOR WHICH MAY AFFECT DEMOLITION AND OR REPAIRS OF ARCHITECTURAL ELEMENTS. COORDINATE WITH RELATED SUBCONTRACTORS THE EXTENT OF ALL DEMOLITION WORK.
35. PATCH FLOORS, WALLS CEILINGS WHICH REMAIN AT LOCATIONS WHERE PIPES, CONDUITS, ETC. ARE REMOVED AS REQUIRED TO MATCH EXISTING CONDITIONS OR TO RECEIVE NEW FINISHES.
36. WHERE EXISTING FINISH FLOOR IS REMOVED, PREPARE FLOOR SURFACE TO RECEIVE NEW FLOORING.
37. ALL DASHED LINES ARE DEMOLITION LINES U.N.O.

BUILDING MPE NOTES

1. EXISTING GAS AND WATER PIPES: REMOVE AND REPLACE ANY RUSTED OR DETERIORATED PIPES, VALVES AND YARD BOXES TO REMAIN.
2. RELOCATE / RE-ROUTE ANY ELECTRICAL CONDUITS AND LOW VOLTAGE RACEWAYS AND WIRING ABOVE & BELOW CEILING TO ACCOMMODATE NEW WORK.
3. RELOCATE / RE-ROUTE ANY VENT PIPES INTERFERING WITH NEW WORK.
4. REMOVE AND DISPOSE OLD CLOCK AND SPEAKERS NO LONGER IN USE.
5. REMOVE AND DISPOSE ELECTRICAL CABLING AND DEVICES NOT IN USE.
6. REMOVE AND DISPOSE FAU HEATING UNITS IN EACH ROOM AND ALL ASSOCIATED DUCTWORK, REGISTERS, CONDUITS AND WIRING.
7. REMOVE PROJECTORS IN WORKROOM AND LIBRARY ROOMS RETURN TO DISTRICT

5 DEMO RCP BUILDING C3
1/8" = 1'-0"

5 DEMO RCP BUILDING C6
1/8" = 1'-0"

4 DEMO RCP BUILDING C2
1/8" = 1'-0"

3 DEMO RCP BUILDING C1
1/8" = 1'-0"

2 DEMO RCP BUILDING CK
1/8" = 1'-0"

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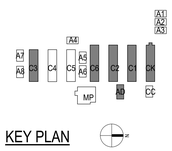
FINLEY ES HVAC UPGRADE & MODERNIZATION

PROJECT ADDRESS:
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DSA SUBMITTAL

DSA APPL NO.: 04-121814 DSA FILE NO.: 30-43

WESTMINSTER SCHOOL DISTRICT



KEY PLAN
NORTH: PLAN

Consultant

Architect

CLIENT
WESTMINSTER SCHOOL DISTRICT

DATE	PROJECT NUMBER
05-16-2023	220307

REVISIONS

No.	Description	Date
1	ADDENDUM	10/09/2023

DSA SUBMITTAL

DEMO RCP BLDG CK,C1,C2,C6 ,C3 & ADMIN

D2.1

A1.01 - FLOOR PLANS BLDG CK, C1,C2,C6 & ADMIN

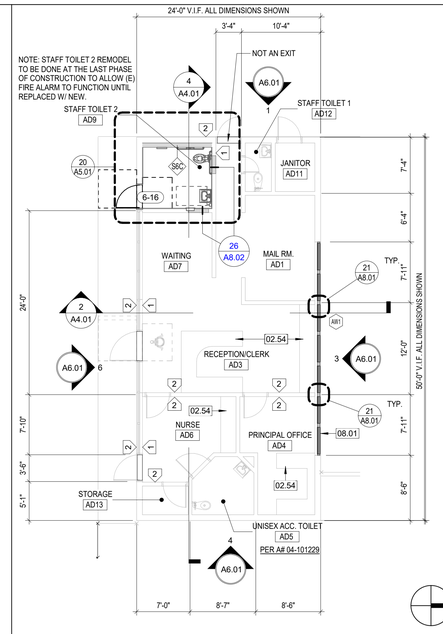
ASSISTIVE LISTENING SYSTEMS AND SIGNAGE 11B-219

1) PROVIDE AN ASSISTIVE LISTENING SYSTEM, COMPLYING WITH CBC 11B-219 & 11B-706.PROVIDE EACH ASSEMBLY WITH A SIGN WHICH INCLUDES THE SYMBOL FOR HEARING LOSS IN COMPLIANCE WITH 11B-216.10 & 11B-703.7.2.4.

2) ASSISTIVE-LISTENING SYSTEMS SHALL BE PROVIDED IN ACCORDANCE WITH CBC SECTION 11B-219 AND SHALL COMPLY WITH CBC SECTION 11B-706.

ALTERNATIVE ALS SYSTEM REQUIREMENTS

PROVIDE 2 PORTABLE ASSISTIVE LISTENING SYSTEMS, EACH WITH A TRANSMITTER AND A MINIMUM OF 2 RECEIVERS, FOR USE IN CLASSROOMS WITHOUT AUDIO AMPLIFICATION. THE ASSISTIVE LISTENING RECEIVERS AND TRANSMITTER SHALL BE STORED IN THE SCHOOL SITE ADMINISTRATION OFFICE UNTIL REQUESTED.



NOTE: STAFF TOILET 2 REMODEL TO BE DONE AT THE LAST PHASE OF CONSTRUCTION TO ALLOW (E) FIRE ALARM TO FUNCTION UNTIL REPLACED W/ NEW.

20 FLOOR PLAN - ADMIN BLDG
1/8" = 1'-0"

CONSTRUCTION KEYED NOTES

02.54 (E) CASEWORK TO REMAIN, RE-PAINT & PROTECT IN PLACE
02.55 (E) ACCESSIBLE SINK TO REMAIN. PROTECT IN PLACE
02.56 (E) MARKER/TACKBOARD TO BE REMOVED & REPLACED WITH NEW PER DETAIL 5&6/A8.02
02.57 (E) DOOR FRAME & PANEL TO REMAIN. PROTECT IN PLACE.
08.01 (N) ALUMINUM FRAME & GLAZING WINDOW SYSTEM.SEE WINDOWS FRAMING ELEVATION A9.01, PER ALUMINUM-FRAMED STOREFRONT SPEC SECTION 084113, ALUMINUM WINDOWS SPECS SECTION 085100 & GLAZING SPEC SECTION 088000
08.02 (N) INTEGRAL ALUMINUM FRAME DOOR SYSTEM.SEE FRAMING ELEVATION A9.01 & DOOR SCHEDULE, PER ALUMINUM-FRAMED STOREFRONT SPEC SECTION 084113, & DOOR SPEC SECTION IN DIV 8
09.01 (N) INTERIOR PAINT FINISH, SEE FINISH SCHEDULE
09.02 (N) FLOOR FINISH AND BASEBOARD, SEE FINISH SCHEDULE
10.14 (N) FIRE EXTINGUISHER, SURFACE MOUNTED TO (E) WALL. SEE DETAIL 18/A8.02
22.01 (N) ACCESSIBLE DRINKING FOUNTAIN W/ BOTTLE FILLER AND WING GUARDS. SEE DETAIL 18/G4
26.03 NEW EXIT SIGN, PER ELEC DWGS. SEE DETAIL 16/A8.02

EXTERIOR AND INTERIOR PAINT SCOPE OF WORK

1. CONTRACTOR SHALL PAINT ALL EXTERIOR AND INTERIOR SURFACES OF ALL BUILDINGS INCLUDING PORTABLES PER SPECIFICATION, THIS WORK INCLUDES ALL FLASHING, FASCIA, PLASTER, LOUVER, DRYWALL, DOORS AND FRAMES WITH THE EXCEPTION OF BRICK SURFACES. MINIMUM OF 4 COLORS TO BE SELECTED BY THE ARCHITECTS.
2. GENERAL CONTRACTOR TO NOTIFY AND DOCUMENT ANY AREAS WITH DRYROT AND / OR TERMITE DAMAGE IN WRITTEN FORMAT PRIOR TO BID.
3. PROVIDE APPROPRIATE PREPARATION , CLEANING AND BASE MATERIAL AT EXISTING EXTERIOR FINISHES BEFORE RECEIVING NEW FINISHES. PER FINISH SPECIFICATION.

GENERAL ARCH PLAN NOTES

1. COORDINATE ALL SPOT ELEVATIONS AND DIMENSIONS WITH CIVIL
2. PROVIDE AND INSTALL POSITIVE DRAINAGE AWAY FROM ALL BUILDINGS OF 1 % MINIMUM, 2 % MAXIMUM AT ALL EXTERIOR PAVED PEDESTRIAN AREAS, INCLUDING BUT NOT LIMITED TO, SIDEWALKS, PATIOS, STAIRS, PAVING, U.N.O.
3. PROVIDE AND INSTALL POSITIVE DRAINAGE AWAY FROM ALL BUILDINGS OF 5 % FOR A HORIZ. DISTANCE OF 10 FEET AT ALL EXTERIOR NON-PAVED AREAS U.N.O
4. REFER TO CIVIL DOCUMENTS FOR CONCRETE SIDEWALK EXPANSION JOINTS AND CONCRETE SIDEWALK CONTROL JOINTS
5. PROVIDE AND INSTALL CONCRETE SIDEWALK CONTROL JOINTS AT DISTANCES EQUIVALENT TO SIDEWALK WIDTH, BUT NOT TO EXCEED 10 FEET ON-CENTER MAX.

NOTE: ALL BUILDINGS ARE NON-SPRINKLERED

REMODEL PLAN LEGEND

EXISTING WALL TO REMAIN

NEW NON-BEARING WALL TO BE PROVIDED.
AND SEE WALL PARTITIONS TAG FOR TOP & BOTTOM CONNECTION

(N) DOOR MARK

(N) WINDOWLOCATION
(N) WINDOW NUMBER
REFER TO A9.10 FOR WINDOW FRAMES AND GLAZING TYPES

(N) DOOR TO BE PROVIDED. REFER TO A9.01 FOR DOOR SCHEDULE AND TYPES

(N) WINDOW (SEE WINDOW FRAMING ELEVATION ON SHEET A9.01)

WALL PARTITIONS TAG

LETTER INDICATES PARTITION TYPE, REF. DETAIL
INDICATES CORE WIDTH
LETTER INDICATES CORE TYPE (S=STUD)

CLASSROOM — ROOM NAME
400 — ROOM NUMBER
960 — ROOM AREA (SQ. FT.)
E 20 — OCCUPANT LOAD FACTOR
48 — ROOM OCCUPANT
OCCUPANCY TYPE

100 — COMBINED EXIT LOAD
32 20 — REQUIRED CLEAR EXIT WIDTH (IN INCHES)
PROVIDED CLEAR EXIT WIDTH (IN INCHES)

NOTE: 1. ALL EXTERIOR CLASSROOM/ADMIN WINDOW FRAMES AND GLAZING TO BE REPLACED. PATCH AND REPAIR WALLS, AS NEEDED, FOLLOWING WINDOW INSTALLATION

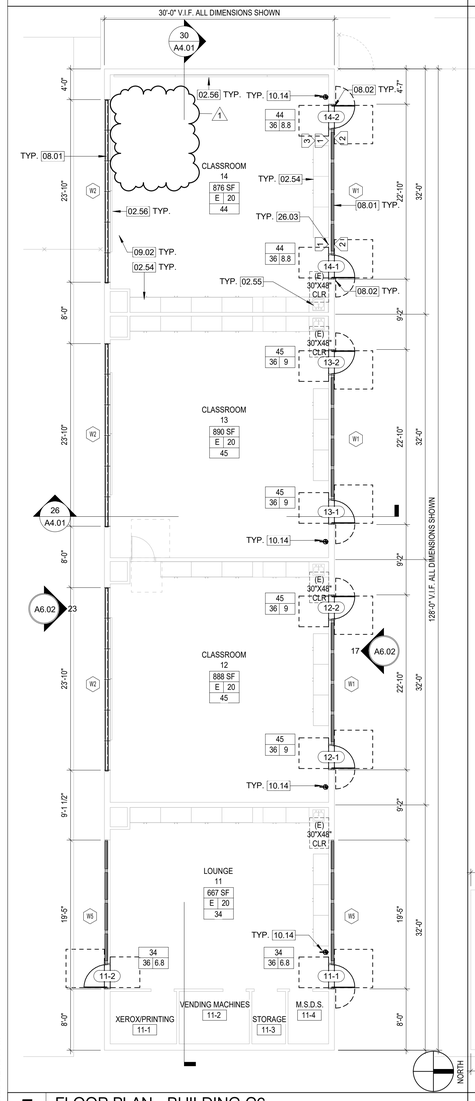
2. FIELD VERIFY ALL DIMENSIONS .

SIGNAGE LEGEND

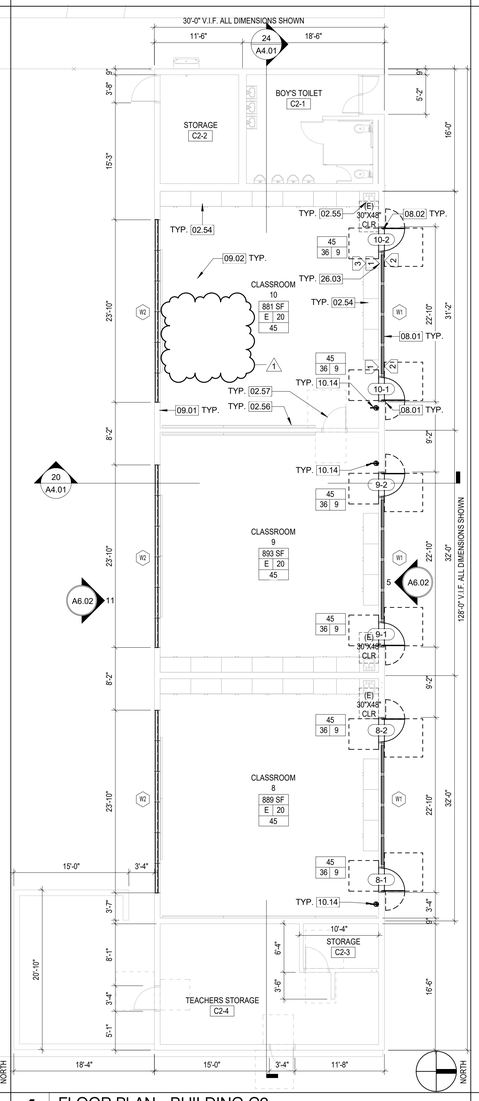
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SIGNAGE TAG #

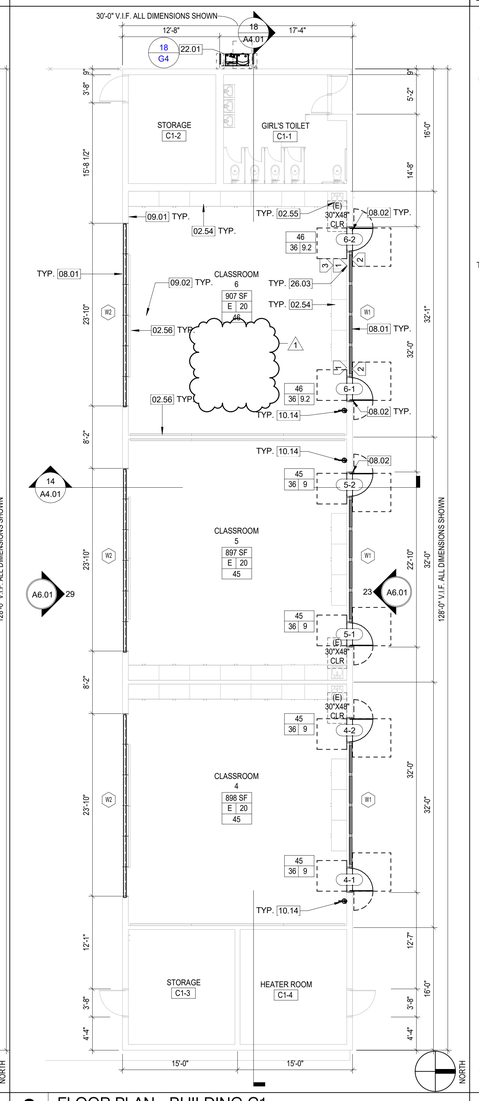
1. TACTILE EXIT SIGNAGE, SEE DETAIL 16 / A8.02 AND/OR SEE ELECTRICAL PLANS FOR ILLUMINATED EXIT REQUIREMENTS.
2. ROOM IDENTIFICATION SIGNAGE, SEE DETAIL 19 / A8.02 (VERIFY ROOM NAME & NUMBER w/ OWNER). WHERE TWO ROOMS ADJOIN ONE ANOTHER, PROVIDE SIGNAGE ON EACH SIDE OF THE WALL, TYP. ALL ROOMS
3. ASSISTIVE LISTENING SIGNAGE, SEE DETAIL 23 / A8.02



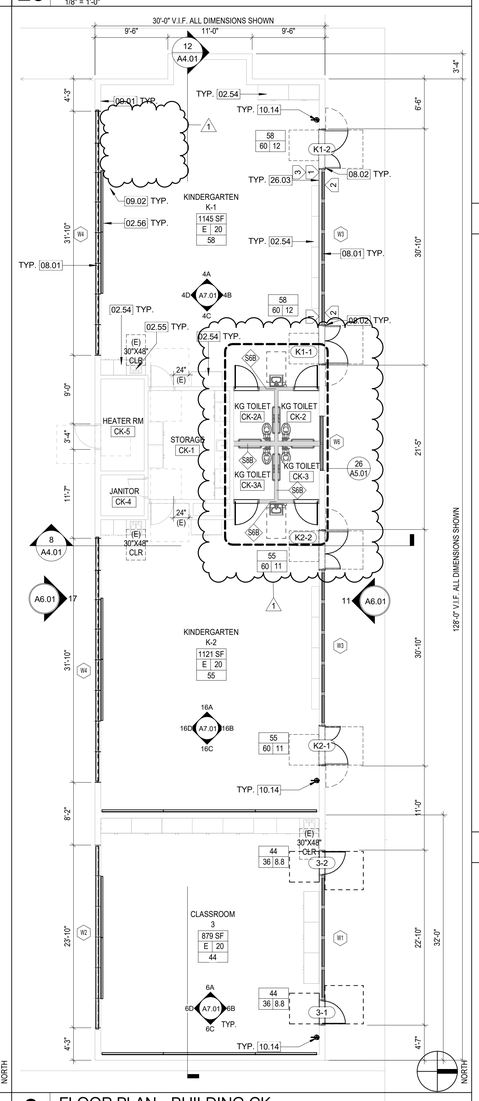
5 FLOOR PLAN - BUILDING C6
1/8" = 1'-0"



4 FLOOR PLAN - BUILDING C2
1/8" = 1'-0"



3 FLOOR PLAN - BUILDING C1
1/8" = 1'-0"



2 FLOOR PLAN - BUILDING CK
1/8" = 1'-0"

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FINLEY ES HVAC UPGRADE & MODERNIZATION

PROJECT ADDRESS:
13521 Edwards St.
Westminster, CA 92683

DSA SUBMITTAL

DSA APPL NO.: 04-121814 DSA FILE NO.: 30-43

WESTMINSTER SCHOOL DISTRICT

KEY PLAN
NORTH: PLAN

Consultant

Architect

CLIENT
WESTMINSTER SCHOOL DISTRICT

DATE	PROJECT NUMBER
05-16-2023	220307

REVISIONS

No.	Description	Date
1	ADDENDUM	10/09/2023

DSA SUBMITTAL

FLOOR PLANS BLDG CK, C1,C2,C6 & ADMIN

A1.01

A1.02 - FLOOR PLANS BLDG C3,C4 & C5

0" 1"

ASSISTIVE LISTENING SYSTEMS AND SIGNAGE 11B-219

1) PROVIDE AN ASSISTIVE LISTENING SYSTEM, COMPLYING WITH CBC 11B-219 & 11B-706.PROVIDE EACH ASSEMBLY WITH A SIGN WHICH INCLUDES THE SYMBOL FOR HEARING LOSS IN COMPLIANCE WITH 11B-216.10 & 11B-703.7.2.4.

2) ASSISTIVE-LISTENING SYSTEMS SHALL BE PROVIDED IN ACCORDANCE WITH CBC SECTION 11B-219 AND SHALL COMPLY WITH CBC SECTION 11B-706.

ALTERNATIVE ALS SYSTEM REQUIREMENTS

PROVIDE 2 PORTABLE ASSISTIVE LISTENING SYSTEMS, EACH WITH A TRANSMITTER AND A MINIMUM OF 2 RECEIVERS, FOR USE IN CLASSROOMS WITHOUT AUDIO AMPLIFICATION. THE ASSISTIVE LISTENING RECEIVERS AND TRANSMITTER SHALL BE STORED IN THE SCHOOL SITE ADMINISTRATION OFFICE UNTIL REQUESTED.

CONSTRUCTION KEYED NOTES

02.54	(E) CASEWORK TO REMAIN, RE-PAINT & PROTECT IN PLACE
02.55	(E) ACCESSIBLE SINK TO REMAIN. PROTECT IN PLACE
02.56	(E) MARKER/TACKBOARD TO BE REMOVED & REPLACED WITH NEW PER DETAIL 5&6/A8.02
08.01	(N) ALUMINUM FRAME & GLAZING WINDOW SYSTEM.SEE WINDOWS FRAMING ELEVATION A9.01, PER ALUMINUM-FRAMED STOREFRONT SPEC SECTION 084113, ALUMINUM WINDOWS SPECS SECTION 085100 & GLAZING SPEC SECTION 088000
08.02	(N) INTEGRAL ALUMINUM FRAME DOOR SYSTEM.SEE FRAMING ELEVATION A9.01 & DOOR SCHEDULE, PER ALUMINUM-FRAMED STOREFRONT SPEC SECTION 084113, & DOOR SPEC SECTION IN DIV 8
09.01	(N) INTERIOR PAINT FINISH. SEE FINISH SCHEDULE
10.14	(N) FIRE EXTINGUISHER, SURFACE MOUNTED TO (E) WALL. SEE DETAIL 18/A8.02
22.01	(N) ACCESSIBLE DRINKING FOUNTAIN W/ BOTTLE FILLER AND WING GUARDS. SEE DETAIL 18/G4
26.03	NEW EXIT SIGN, PER ELEC DWGS. SEE DETAIL 16/A8.02

EXTERIOR AND INTERIOR PAINT SCOPE OF WORK

1. CONTRACTOR SHALL PAINT ALL EXTERIOR AND INTERIOR SURFACES OF ALL BUILDINGS INCLUDING PORTABLES PER SPECIFICATION, THIS WORK INCLUDES ALL FLASHING, FASCIA, PLASTER, LOUVER, DRYWALL, DOORS AND FRAMES WITH THE EXCEPTION OF BRICK SURFACES. MINIMUM OF 4 COLORS TO BE SELECTED BY THE ARCHITECTS.
2. GENERAL CONTRACTOR TO NOTIFY AND DOCUMENT ANY AREAS WITH DRYROT AND / OR TERMITE DAMAGE IN WRITTEN FORMAT PRIOR TO BID.
3. PROVIDE APPROPRIATE PREPARATION , CLEANING AND BASE MATERIAL AT EXISTING EXTERIOR FINISHES BEFORE RECEIVING NEW FINISHES. PER FINISH SPECIFICATION.

GENERAL ARCH PLAN NOTES

1. COORDINATE ALL SPOT ELEVATIONS AND DIMENSIONS WITH CIVIL
2. PROVIDE AND INSTALL POSITIVE DRAINAGE AWAY FROM ALL BUILDINGS OF 1 % MINIMUM, 2 % MAXIMUM AT ALL EXTERIOR PAVED PEDESTRIAN AREAS, INCLUDING BUT NOT LIMITED TO, SIDEWALKS, PATIOS, STAIRS, PAVING, U.N.O.
3. PROVIDE AND INSTALL POSITIVE DRAINAGE AWAY FROM ALL BUILDINGS OF 5 % FOR A HORIZ. DISTANCE OF 10 FEET AT ALL EXTERIOR NON-PAVED AREAS U.N.O
4. REFER TO CIVIL DOCUMENTS FOR CONCRETE SIDEWALK EXPANSION JOINTS AND CONCRETE SIDEWALK CONTROL JOINTS
5. PROVIDE AND INSTALL CONCRETE SIDEWALK CONTROL JOINTS AT DISTANCES EQUIVALENT TO SIDEWALK WIDTH, BUT NOT TO EXCEED 10 FEET ON-CENTER MAX.

NOTE: ALL BUILDINGS ARE NON-SPRINKLERED

REMODEL PLAN LEGEND

- EXISTING WALL TO REMAIN
- NEW NON-BEARING WALL TO BE PROVIDED. AND SEE WALL PARTITIONS TAG FOR TOP & BOTTOM CONNECTION
- (N) DOOR MARK
- (N) WINDOWLOCATION / (N) WINDOW NUMBER REFER TO A9.10 FOR WINDOW FRAMES AND GLAZING TYPES
- (N) DOOR TO BE PROVIDED. REFER TO A9.01 FOR DOOR SCHEDULE AND TYPES
- (N) WINDOW (SEE WINDOW FRAMING ELEVATION ON SHEET A9.01)
- WALL PARTITIONS TAG
- LETTER INDICATES PARTITION TYPE, REF. DETAIL - 1/A8.02 2/A8.02 3/A8.02
- # INDICATES CORE WIDTH
- LETTER INDICATES CORE TYPE (S=STUD)

CLASSROOM — ROOM NAME
400 — ROOM NUMBER
960 — ROOM AREA (SQ. FT.)
E 20 — OCCUPANT LOAD FACTOR
48 — ROOM OCCUPANT
OCCUPANCY TYPE

100 — COMBINED EXIT LOAD
32 20 — REQUIRED CLEAR EXIT WIDTH (IN INCHES)
PROVIDED CLEAR EXIT WIDTH (IN INCHES)

NOTE: 1. ALL EXTERIOR CLASSROOM/ADMIN WINDOW FRAMES AND GLAZING TO BE REPLACED. PATCH AND REPAIR WALLS, AS NEEDED, FOLLOWING WINDOW INSTALLATION

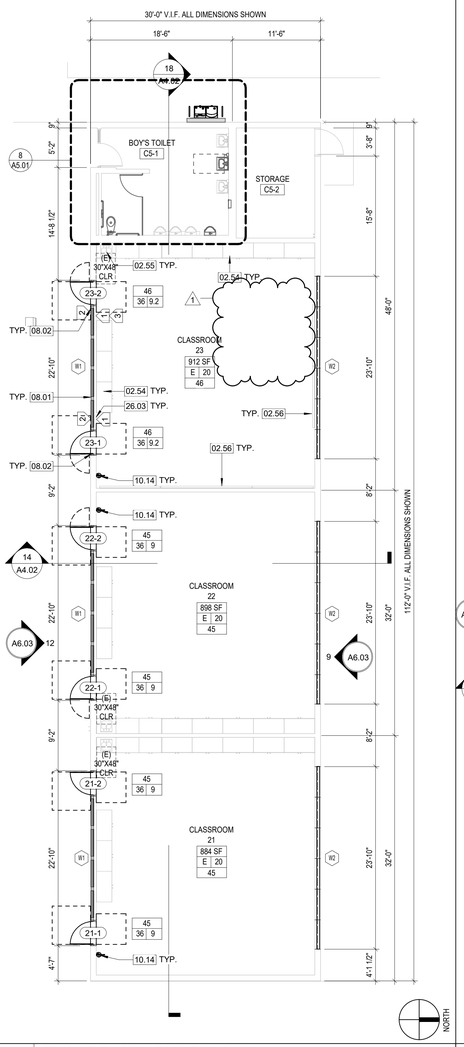
2. FIELD VERIFY ALL DIMENSIONS .

SIGNAGE LEGEND

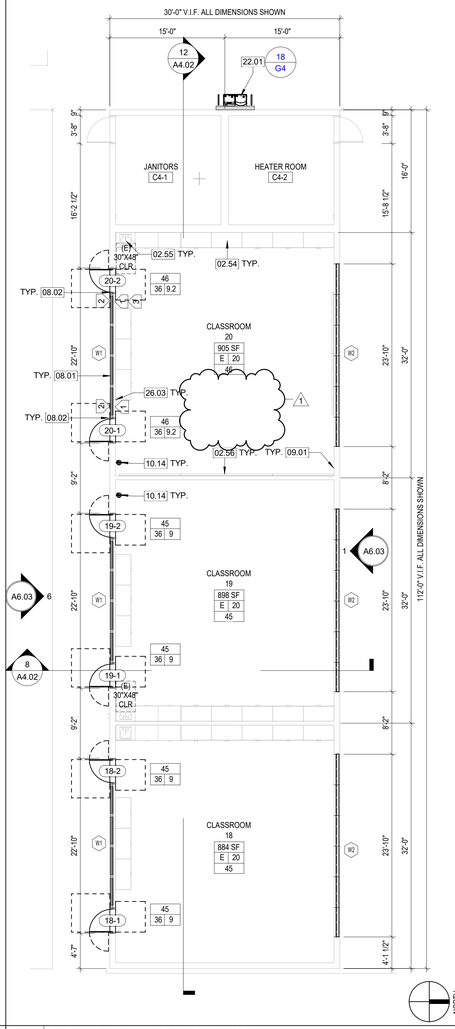
ALL SIGNAGE IS (E) TO REMAIN. WHERE (E) SIGNAGE IS MISSING OR DAMAGED PROVIDE NEW SIGNAGE TO MATCH EXISTING PER DETAIL REFERENCES BELOW...

SIGNAGE TAG (#)

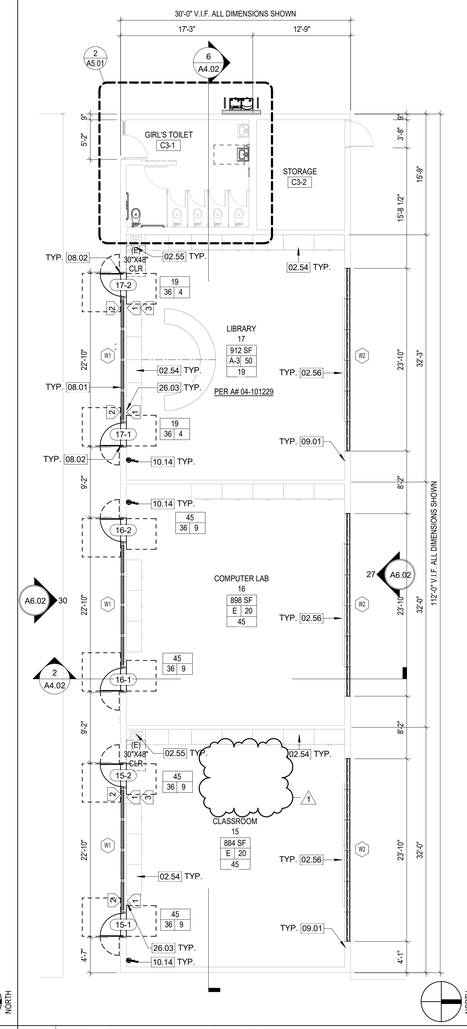
1. TACTILE EXIT SIGNAGE, SEE DETAIL 16 / A8.02 AND/OR SEE ELECTRICAL PLANS FOR ILLUMINATED EXIT REQUIREMENTS.
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3. ASSISTIVE LISTENING SIGNAGE, SEE DETAIL 23 / A8.02



3 FLOOR PLAN - BUILDING C5
1/8" = 1'-0"



2 FLOOR PLAN - BUILDING C4
1/8" = 1'-0"



1 FLOOR PLAN - BUILDING C3
1/8" = 1'-0"

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FINLEY ES HVAC UPGRADE & MODERNIZATION

PROJECT ADDRESS: 13521 Edwards St. Westminster, CA 92683
DSA SUBMITTAL
DSA APPL NO.: 04-121614 DSA FILE NO.: 30-43

WESTMINSTER SCHOOL DISTRICT

KEY PLAN
NORTH: PLAN

Consultant

Architect

CLIENT
WESTMINSTER SCHOOL DISTRICT

DATE	PROJECT NUMBER
05-16-2023	220307

REVISIONS

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1	ADDENDUM	10/09/2023

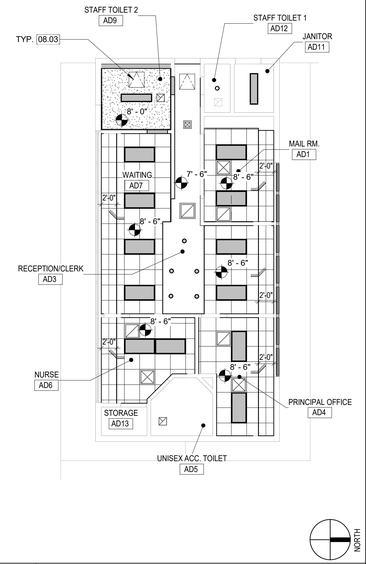
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FLOOR PLANS BLDG C3,C4 & C5

A1.02

A2.01 - REFLECTED CEILING PLANS BLDG CK, C1, C2, C6, C3 & ADMIN

0" 1"



-CONSTRUCTION KEYED NOTES

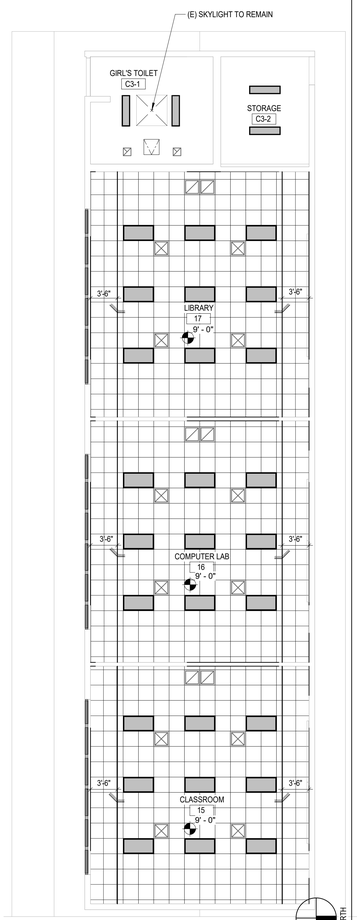
#	Description
08.03	(N) CEILING ACCESS PANEL, MIN. 22"X30" ROUGH FRAME OPENING, AS REQUIRED PER CODE. TO ACCESS HEAT DETECTOR AND RELATED MECH/ELEC SYSTEMS. MATCH CEILING FINISH

20 ADMIN BUILDING RCP
1/8" = 1'-0"

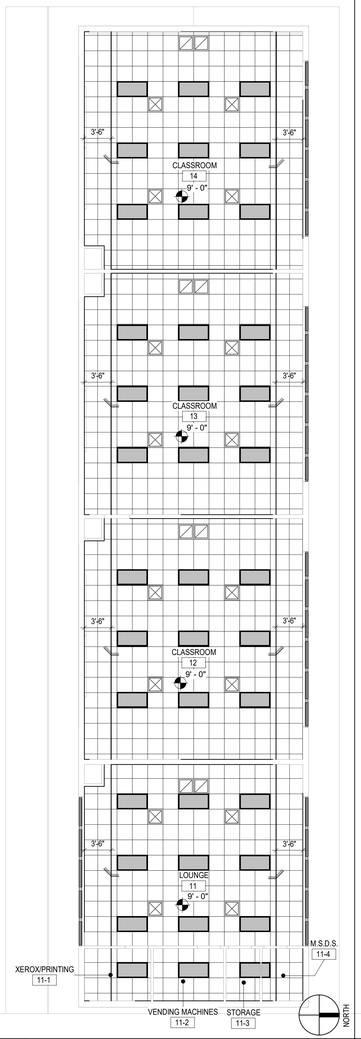
REFLECTED CEILING PLAN LEGEND

- EXISTING PLASTER /GYP. BD. CEILING TO REMAIN. RE-PAINT TO MATCH EXISTING.
- NEW GYPSUM BOARD CEILING ATTACHED TO (E) CEILING JOIST. SEE DETAIL 5 / A8.03
- NEW 24" x 24" SUSPENDED ACOUSTIC CEILING TILE. SEE DETAIL 7 / A8.03
- NEW LIGHT FIXTURE(S). SEE ELECTRICAL DRAWINGS.
- MECHANICAL GRILLES, REFER TO MECHANICAL DRAWINGS AND STRUCTURAL DETAIL FOR HUNG UNITS. 10 / M6.01, 11 / M6.01, 19 / M6.01, 4 / SD3
- ACCESS PANEL. SEE DETAIL 4 / A8.03
- CEILING SLOPE TRANSITION.
- CEILING HEIGHT

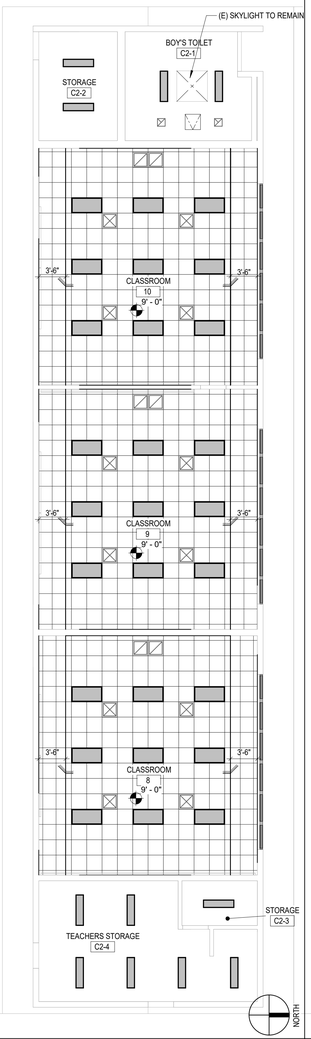
NOTE:
ALL (E) BLDGS ARE NON-SPRINKLERED



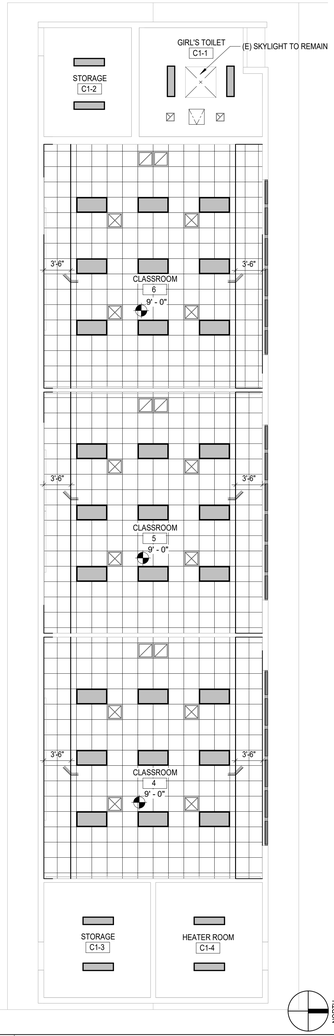
6 BUILDING C3 REFLECTED CEILING PLAN
1/8" = 1'-0"



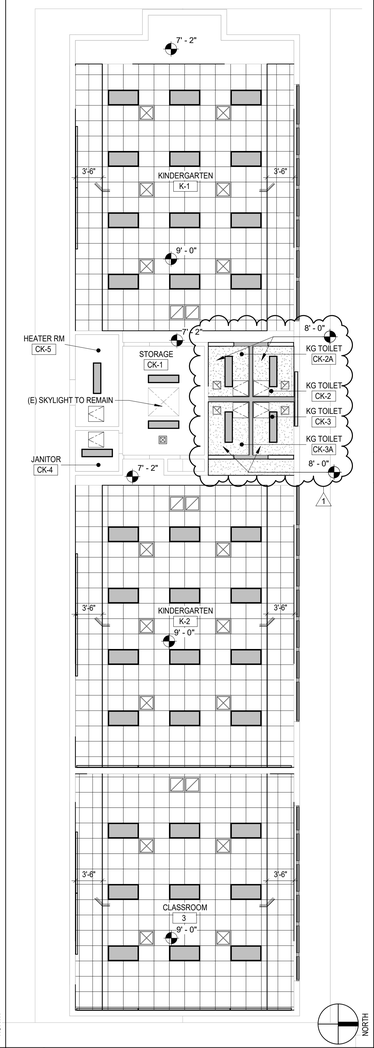
5 BUILDING C6 REFLECTED CEILING PLAN
1/8" = 1'-0"



4 BUILDING C2 REFLECTED CEILING PLAN
1/8" = 1'-0"



3 BUILDING C1 REFLECTED CEILING PLAN
1/8" = 1'-0"



2 BUILDING CK REFLECTED CEILING PLAN
1/8" = 1'-0"

GENERAL CEILING PLAN NOTES

1. REFER TO AND COORD. WITH ROOM FINISH SCHEDULES FOR SPECIFIC CEILING TYPES.
2. ALL SCHEDULED CEILING HEIGHTS ARE FROM THE MAIN FLOOR LEVEL WITHIN THE ROOM AND OR SPACE. AND ARE NOT FROM AN ELEVATED FLOOR LEVEL, AND ARE NOT FROM A RECESSED FLOOR LEVEL.
3. NO FIRE SPRINKLER HEADS ARE SHOWN ON ARCH. CEILING PLANS. ALL SPRINKLER HEADS SHALL BE CENTERED WITHIN CEILING TILES U.N.O.
4. ONLY CEILING MOUNTED FIXTURES AND EQUIP. IS SHOWN ON ARCH. CEILING PLANS. REFER TO INTERIOR ELEVATIONS FOR WALL MOUNTED FIXTURES. REFER TO MEPT DOCUMENTS FOR ADDITIONAL INFORMATION CONCERNING CEILING MOUNTED FIXTURES AND OR WALL MOUNTED FIXTURES.
5. CEILING MOUNTED LIGHT FIXTURES ARE SHOWN FOR LOCATION PURPOSES ONLY. COORD. WITH ELEC. DOCUMENTS FOR LIGHT FIXTURE DESIGNATIONS.
6. CEILING MOUNTED LIGHT FIXTURES WITHIN FIRE RATED CEILING ASSEMBLIES SHALL HAVE LIGHT FIXTURE PROTECTION AND BE TENTED OR OTHERWISE FIRE RATED TO MATCH CEILING ASSEMBLY FIRE RATING.
7. VERIFY LOCATIONS OF ALL CEILING ACCESS PANELS WITH MEPT DOCUMENTS. COORD. LOCATIONS OF CEILING ACCESS PANELS WITH ARCH. PRIOR TO INSTALLATION. CEILING ACCESS PANEL FIRE RATINGS SHALL MATCH CEILING ASSEMBLY FIRE RATINGS.
8. REFER TO WALL SECTIONS FOR WALL-CEILING INTERFACE
9. EXISTING CEILING ACCESS PANEL TO REMAIN.
10. PROVIDE NEW CEILING ACCESS PANEL WHERE REQUIRED PER CODE.

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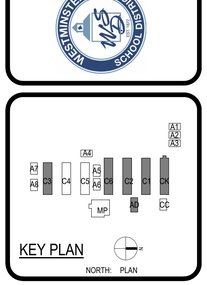
FINLEY ES HVAC UPGRADE & MODERNIZATION

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DSA APPL NO.: 04-121814 DSA FILE NO.: 30-43

WESTMINSTER SCHOOL DISTRICT



Consultant

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05-16-2023	220307

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1	ADDENDUM	10/09/2023

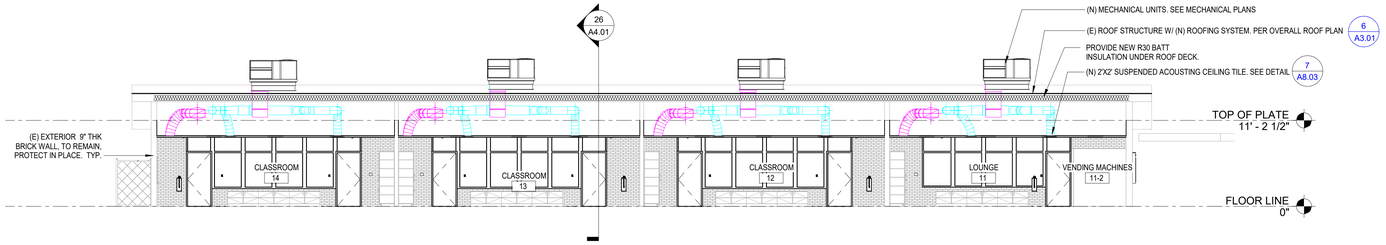
DSA SUBMITTAL

REFLECTED CEILING PLANS BLDG CK, C1, C2, C6, C3 & ADMIN

A2.01

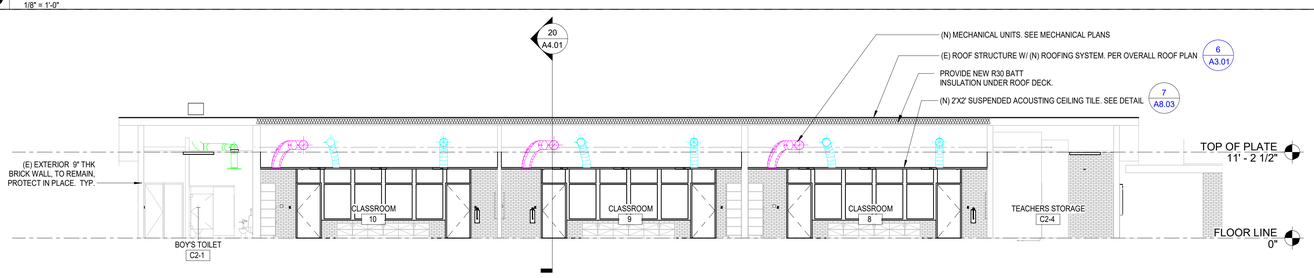
A4.01 - BUILDING SECTIONS

0" 1"



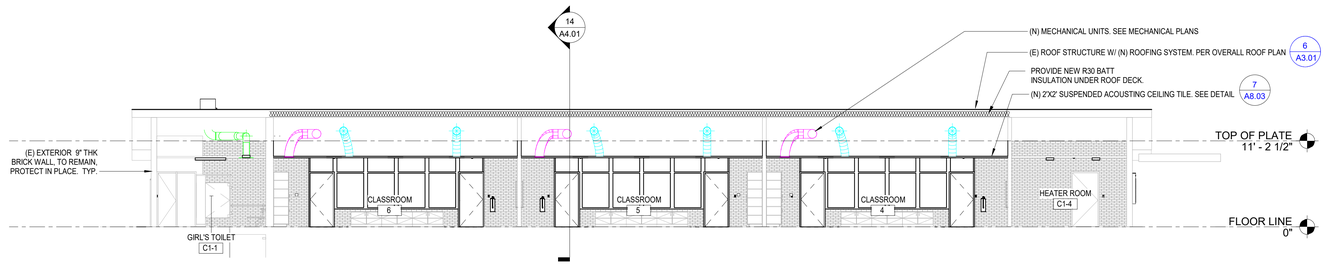
30 BLDG C6 - SECTION B

1/8" = 1'-0"



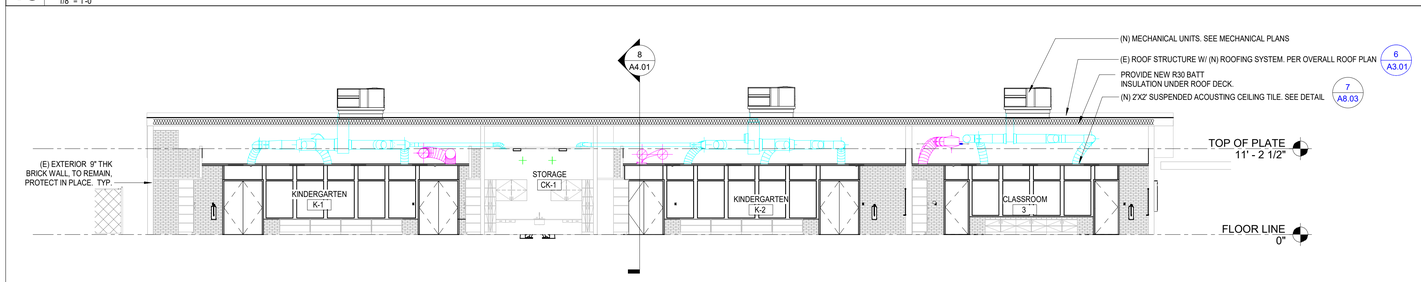
24 BLDG C2 - SECTION B

1/8" = 1'-0"



18 BLDG C1 - SECTION B

1/8" = 1'-0"

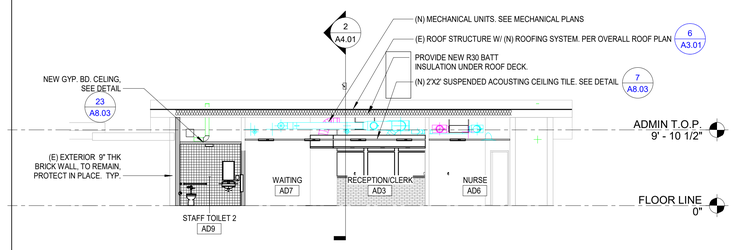


12 BLDG CK - SECTION B

1/8" = 1'-0"

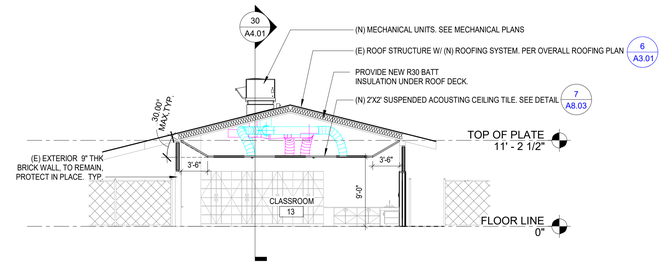
4 BLDG ADMIN - SECTION B

1/8" = 1'-0"



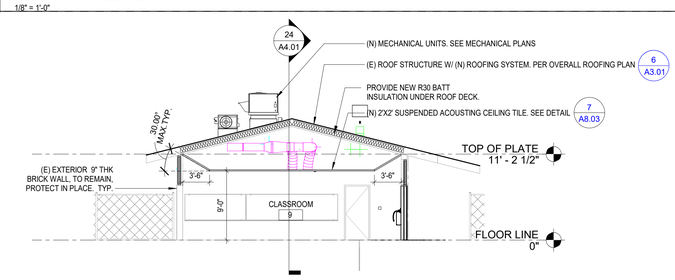
30 BLDG C6 - SECTION A

1/8" = 1'-0"



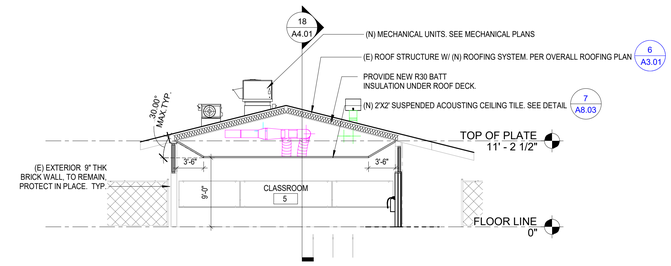
26 BLDG C6 - SECTION A

1/8" = 1'-0"



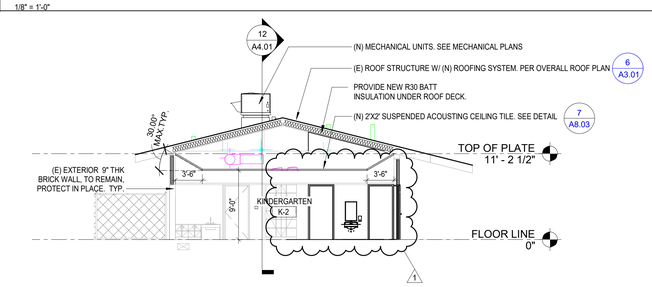
20 BLDG C2 - SECTION A

1/8" = 1'-0"



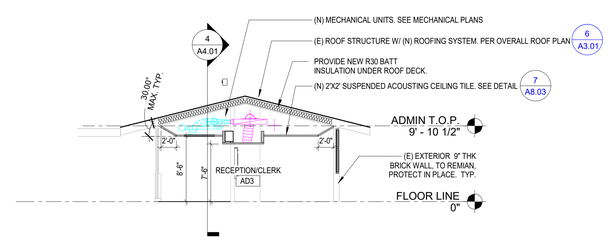
14 BLDG C1 - SECTION A

1/8" = 1'-0"



8 BLDG CK - SECTION A

1/8" = 1'-0"



2 BLDG ADMIN - SECTION A

1/8" = 1'-0"

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Westminster, CA 92683

DSA SUBMITTAL

DSA APPL NO.: 04-121814 DSA FILE NO.: 30-43

WESTMINSTER SCHOOL DISTRICT

KEY PLAN

NORTH: PLAN

Consultant

Architect

CLIENT
WESTMINSTER SCHOOL DISTRICT

DATE	PROJECT NUMBER
05-16-2023	220307

REVISIONS

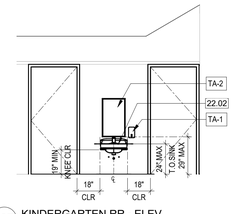
No.	Description	Date
1	ADDENDUM	10/09/2023

DSA SUBMITTAL

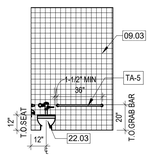
BUILDING SECTIONS

A4.01

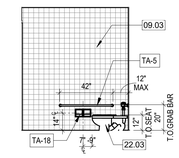
A5.01 - ENLARGED RESTROOM PLANS & INTERIOR ELEVATIONS



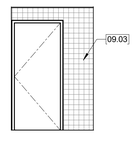
30E KINDERGARTEN RR - ELEV
1/4" = 1'-0"



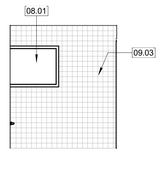
30D WEST
1/4" = 1'-0"



30C SOUTH
1/4" = 1'-0"

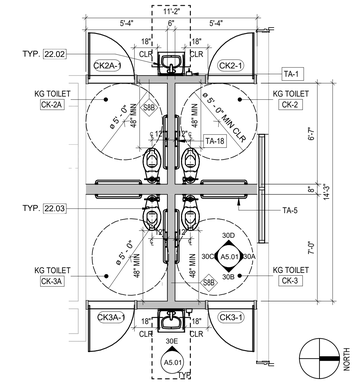


30B WEST
1/4" = 1'-0"



30A NORTH
1/4" = 1'-0"

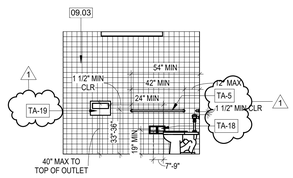
30 ELEVATIONS - CK-3 KINDERGARTEN TOILETS (AGES 5-8)
1/4" = 1' - 0"



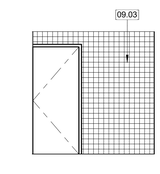
26 PLAN - CK 2&3 KINDER TOILET (AGES 5-8)
1/4" = 1'-0"

CONSTRUCTION KEYED NOTES

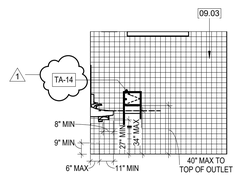
02.20 (E) LAVATORY TO REMAIN
02.21 (E) SOAP DISPENSER TO REMAIN
02.22 (E) URINAL TO REMAIN
02.23 (E) TOILET FIXTURE TO REMAIN
02.31 (E) FLOOR MOUNTED OVERHEAD BRACED SOLID PLASTIC TOILET PARTITION TO REMAIN
02.64 (E) CERAMIC TILE TO REMAIN, PROTECT IN PLACE
02.65 (E) WALL FINISH TO REMAIN, PROTECT IN PLACE
08.01 (N) ALUMINUM FRAME & GLAZING WINDOW SYSTEM.SEE WINDOWS FRAMING ELEVATION A8.01, PER ALUMINUM-FRAMED STOREFRONT SPEC SECTION 084113, ALUMINUM WINDOWS SPECS SECTION 085100 & GLAZING SPEC SECTION 088000
09.01 (N) INTERIOR PAINT FINISH, SEE FINISH SCHEDULE
09.03 (N) 4X4 CERAMIC TILE. PROVIDE GREENBOARD SUBSTRATE AT (E) BRICK SURFACES.
10.08 (N) SOLID PLASTIC TOILET PARTITION, FOR MOUNTING SEE DETL 12/A8.03
10.15 (N) TACTILE RESTROOM DOOR & WALL SIGN, REF DETAIL 24/A8.02
22.01 (N) ACCESSIBLE DRINKING FOUNTAIN W/ BOTTLE FILLER AND WING GUARDS. SEE DETAIL 18/G4
22.02 (N) WALL MOUNTED LAVATORY, BACKING SUPPORT PER DETL 6/A8.03
22.03 (N) FLOOR MOUNTED ACCESSIBLE WATER CLOSET
22.05 (N) WALL MOUNTED URINAL, BACKING SUPPORT PER DETL 6/A8.03



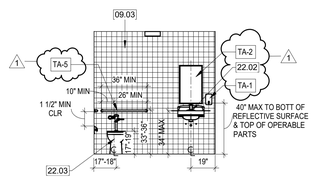
21D WEST
1/4" = 1'-0"



21C SOUTH
1/4" = 1'-0"

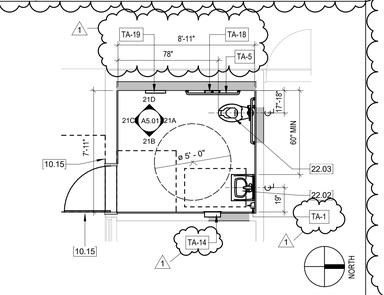


21B EAST
1/4" = 1'-0"



21A NORTH
1/4" = 1'-0"

24 ELEVATIONS - AD9 STAFF TOILET 2 (ADULT)
1/4" = 1' - 0"



20 PLAN - AD9 STAFF TOILET 2 (ADULT)
1/4" = 1'-0"

LABEL	DESCRIPTION	REMARKS
TA1	SOAP DISPENSER	
TA2	MIRROR (24"x36" U.N.O.)	
TA3	TOILET PAPER DISPENSER	
TA4	PAPER TOWEL DISPENSER	
TA5	GRAB BARS AT TYPICAL ACCESSIBLE TOILET STALLS	
TA6	SANITARY NAPKIN DISPENSER	
TA7	SANITARY NAPKIN DISPOSAL	
TA8	MOP & BROOM HOLDER	
TA9	GRAB BARS AT ACCESSIBLE SHOWER	
TA10	FOLDING SHOWER BENCH	
TA11	CLOTHES HOOK	
TA12	SHOWER CURTAIN, ROD AND HOOKS	
TA13	ELECTRIC HAND DRYER	
TA14	COMBO PAPER TOWEL DISPENSER/TRASH RECEPTACLE	
TA15	GRAB BAR AT AMBULATORY ACCESSIBLE TOILET STALL	
TA16	CHANGING STATION	
TA17	TRASH RECEPTACLE	
TA18	TOILET PAPER DISPENSER, SEMI-RECESSED	
TA19	TOILET SEAT COVER DISPENSER	
TA20	SANITARY NAPKIN DISPOSAL, SEMI-RECESSED	

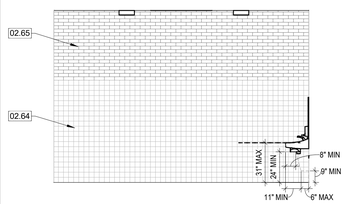
NOTES:

1. ALL TOILET ACCESSORIES SHALL BE CONTRACTOR FURNISHED AND INSTALLED UNLESS NOTED OTHERWISE
2. COORDINATE FINAL LOCATIONS WITH ARCHITECT PRIOR TO INSTALLATION.
3. CONTRACTOR IS TO VERIFY ALL HEIGHTS OF ACCESSORIES TO COMPLY WITH ADA.
4. REFER TO ALL FINISHES AND COLORS IN FINISH SCHEDULE.VERIFY ALL PATTERNS WITH ARCHITECT.

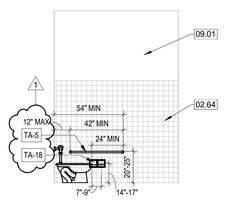
RESTROOM ACCESSORIES SCHEDULE

18 NOT USED
NTS

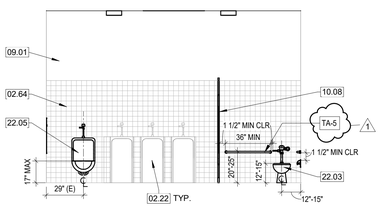
14 NOT USED
NTS



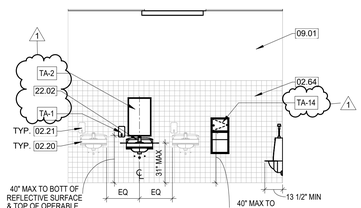
8D WEST
1/4" = 1'-0"



8C SOUTH
1/4" = 1'-0"

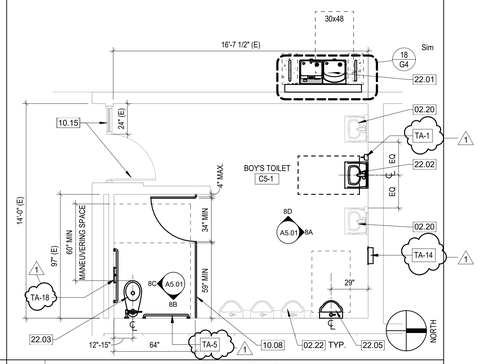


8B EAST
1/4" = 1'-0"

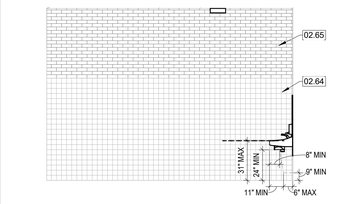


8A NORTH
1/4" = 1'-0"

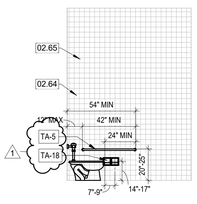
12 ELEVATIONS - C5-1 BOYS RR (AGES 5-8)
1/4" = 1' - 0"



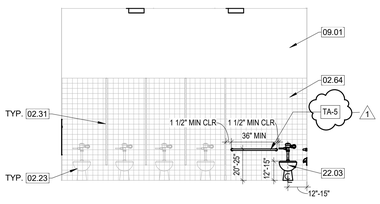
8 PLAN - C5-1 BOYS RR (AGES 5-8)
1/4" = 1'-0"



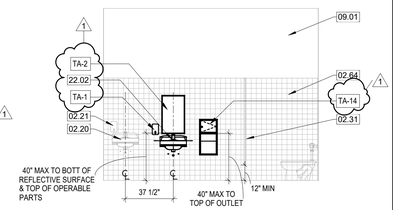
2D WEST
1/4" = 1'-0"



2C SOUTH
1/4" = 1'-0"

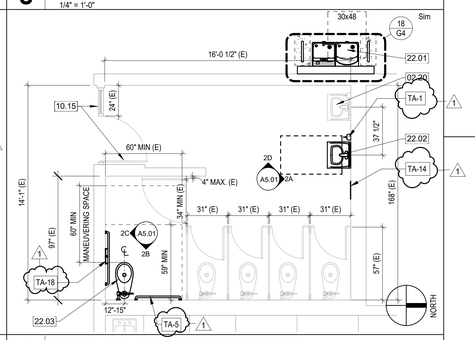


2B EAST
1/4" = 1'-0"



2A NORTH
1/4" = 1'-0"

6 ELEVATIONS - C3-1 GIRLS RR (AGES 5-8)
1/4" = 1' - 0"



2 PLAN - C3-1 GIRLS RR (AGES 5-8)
1/4" = 1'-0"

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PBK

ARCHITECT PBK Architects, Inc.
PBK.com
ANAHEIM
2400 E. Katella Ave. #910
Anaheim, CA 92806
P 949-548-5000

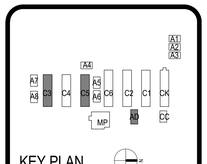
FINLEY ES HVAC UPGRADE & MODERNIZATION

PROJECT ADDRESS:
13521 Edwards St.
Westminster, CA 92683

DSA SUBMITTAL

DSA APPL NO.: 04-121814 DSA FILE NO.: 30-43

WESTMINSTER SCHOOL DISTRICT



Consultant

Architect

CLIENT
WESTMINSTER SCHOOL DISTRICT

DATE	PROJECT NUMBER
05-16-2023	220307

REVISIONS

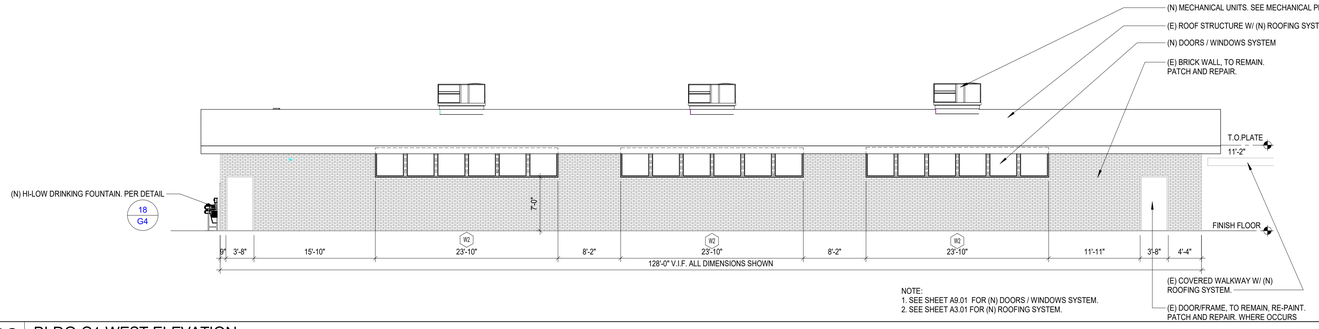
No.	Description	Date
1	ADDENDUM	10/09/2023

DSA SUBMITTAL

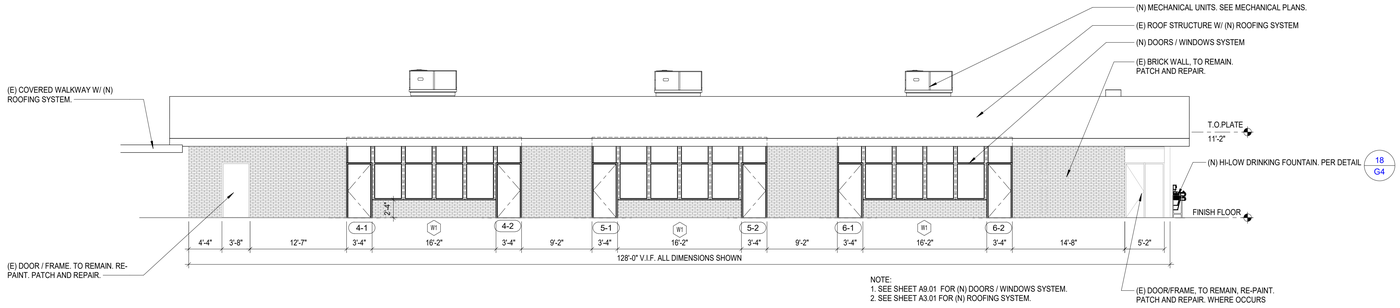
ENLARGED RESTROOM PLANS & INTERIOR ELEVATIONS

A5.01

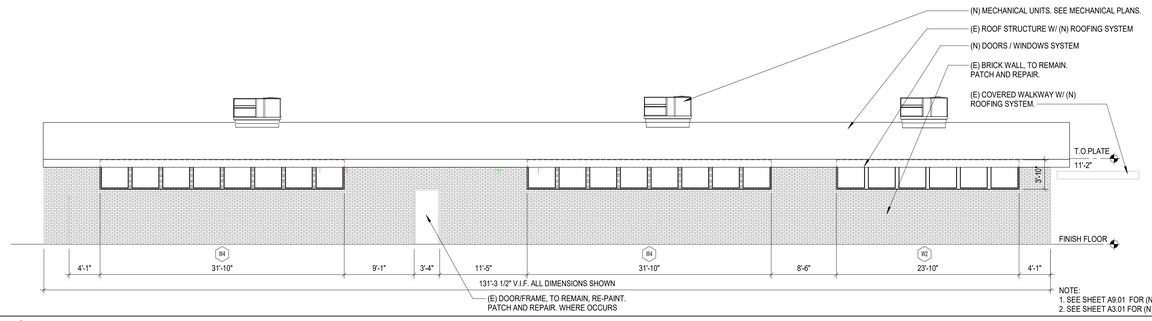
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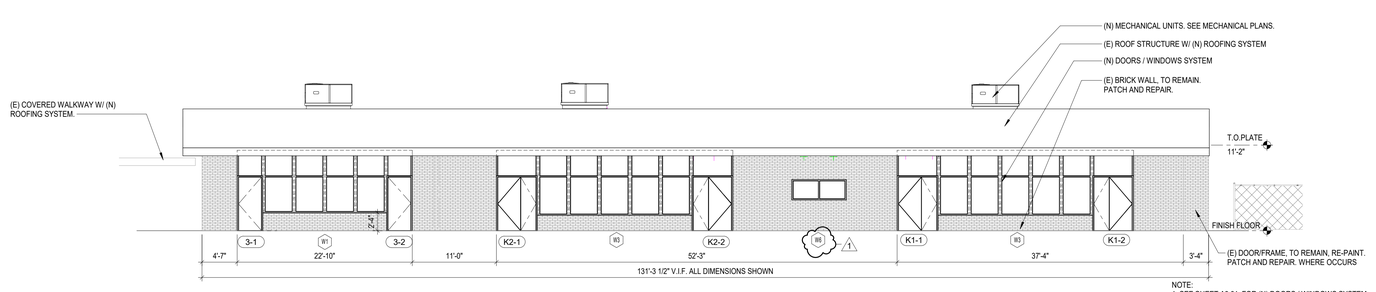
29 BLDG C1 WEST ELEVATION
1/8" = 1'-0"



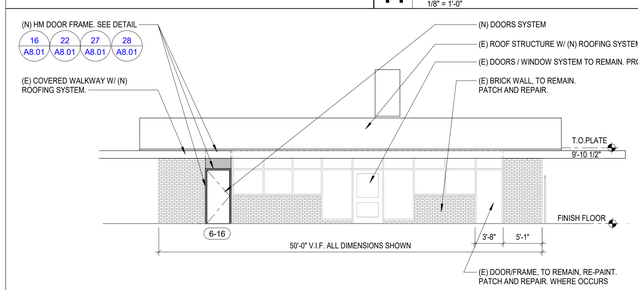
23 BLDG C1 EAST ELEVATION
1/8" = 1'-0"



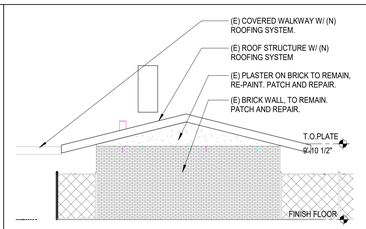
17 BLDG CK WEST ELEVATION
1/8" = 1'-0"



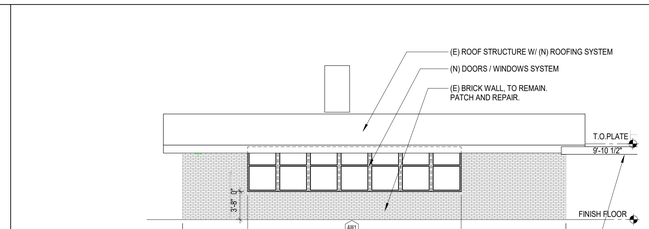
11 BLDG CK EAST ELEVATION
1/8" = 1'-0"



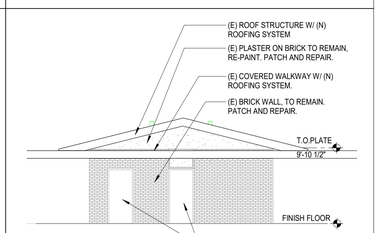
6 BLDG ADMIN SOUTH ELEV
1/8" = 1'-0"



4 BLDG ADMIN EAST ELEVATION
1/8" = 1'-0"



3 BLDG ADMIN NORTH ELEVATION
1/8" = 1'-0"



1 BLDG ADMIN WEST ELEVATION
1/8" = 1'-0"

EXTERIOR AND INTERIOR PAINT SCOPE OF WORK

1. CONTRACTOR SHALL PAINT ALL EXTERIOR AND INTERIOR SURFACES OF ALL BUILDINGS INCLUDING PORTABLES PER SPECIFICATION, THIS WORK INCLUDES ALL FLASHING, FASCIA, PLASTER, LOUVER, DRYWALL, DOORS AND FRAMES WITH THE EXCEPTION OF BRICK SURFACES. MINIMUM OF 4 COLORS TO BE SELECTED BY THE ARCHITECTS.
2. GENERAL CONTRACTOR TO NOTIFY AND DOCUMENT ANY AREAS WITH DRYROT AND / OR TERMITE DAMAGE IN WRITTEN FORMAT PRIOR TO BID.
3. PROVIDE APPROPRIATE PREPARATION , CLEANING AND BASE MATERIAL AT EXISTING EXTERIOR FINISHES BEFORE RECEIVING NEW FINISHES. PER FINISH SPECIFICATION.

PBK

ARCHITECT PBK Architects, Inc.
PBK.com
ANAHEIM
2400 E. Katella Ave, #910
Anaheim, CA 92806
P 949-548-9000

FINLEY ES HVAC UPGRADE & MODERNIZATION

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DSA APPL NO.: 04-121614 DSA FILE NO.: 30-43

WESTMINSTER SCHOOL DISTRICT

A1 A2 A3 A4 A5 A6 A7 A8 C3 C4 C5 C6 C2 C1 CK MP AB CC

KEY PLAN NORTH: PLAN

Consultant

Architect

CLIENT
WESTMINSTER SCHOOL DISTRICT

DATE 05-16-2023
PROJECT NUMBER 220307

REVISIONS

No.	Description	Date
1	ADDENDUM	10/09/2023

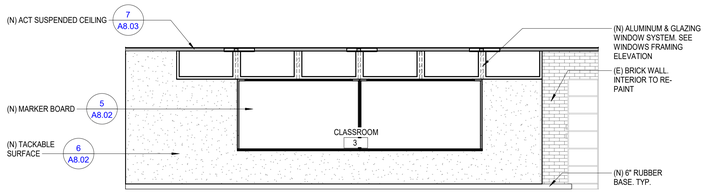
DSA SUBMITTAL

EXTERIOR ELEVATIONS

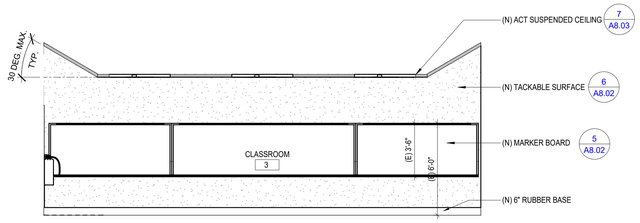
A6.01

A7.01 - INTERIOR ELEVATIONS

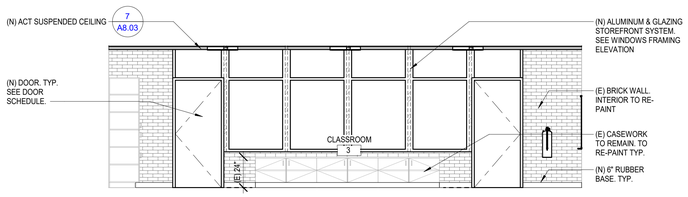
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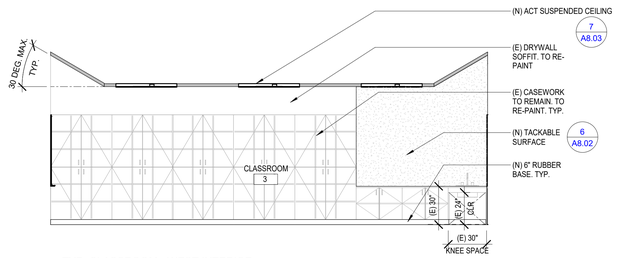
6D TYP. CLASSROOM - SOUTH INTERIOR ELEVATION
1/4" = 1'-0"



6C TYP. CLASSROOM - EAST INTERIOR ELEVATION
1/4" = 1'-0"

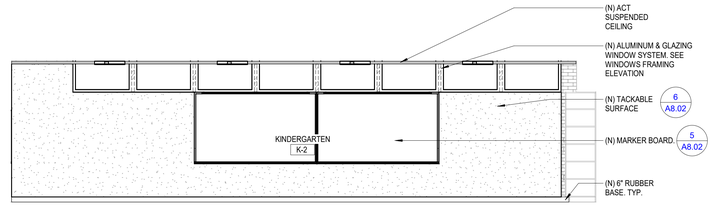


6B TYP. CLASSROOM - NORTH INTERIOR ELEVATION
1/4" = 1'-0"

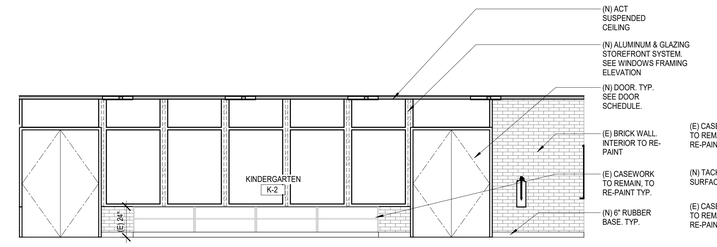


6A TYP. CLASSROOM - WEST INTERIOR ELEVATION
1/4" = 1'-0"

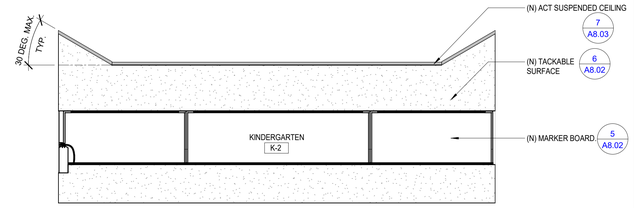
6 TYPICAL CLASSROOM AT BLDG CK , C1 , C2, C6 - INTERIOR ELEVATIONS
1/4" = 1'-0"



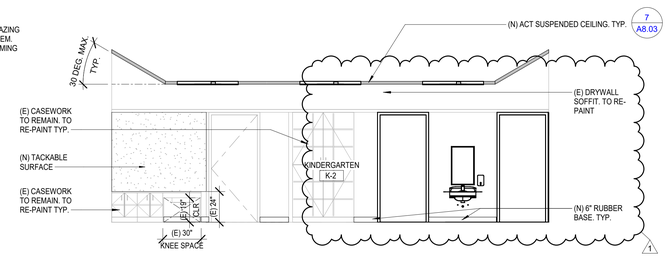
16D K2 - SOUTH INTERIOR ELEVATION
1/4" = 1'-0"



16B K2 - NORTH INTERIOR ELEVATION
1/4" = 1'-0"

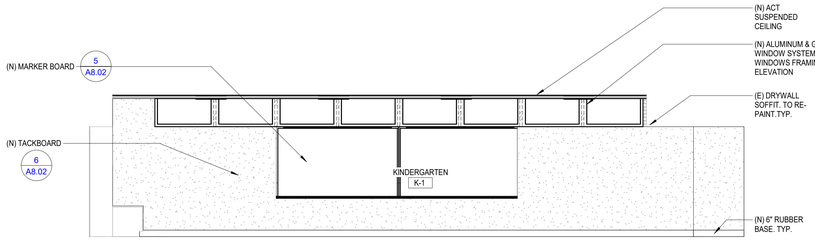


16C K2 - EAST INTERIOR ELEVATION
1/4" = 1'-0"

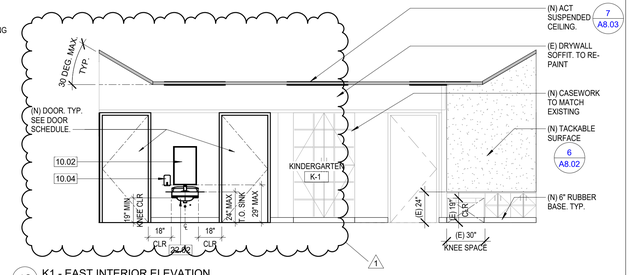


16A K2 - WEST INTERIOR ELEVATION
1/4" = 1'-0"

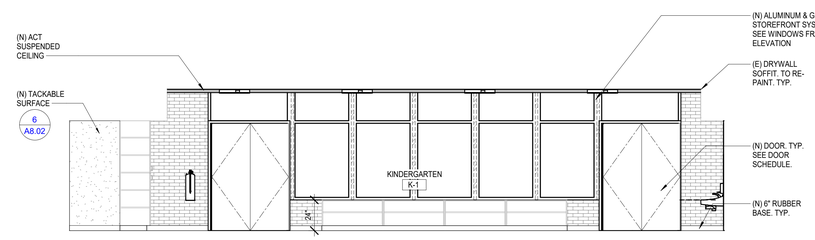
16 KINDERGARTEN K2 - INTERIOR ELEVATIONS
1/4" = 1'-0"



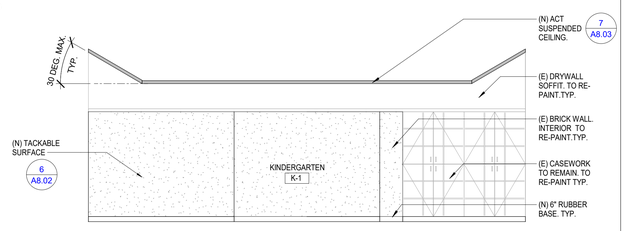
4D K1 - SOUTH INTERIOR ELEVATION
1/4" = 1'-0"



4C K1 - EAST INTERIOR ELEVATION
1/4" = 1'-0"



4B K1 NORTH INTERIOR ELEVATION
1/4" = 1'-0"



4A K1 WEST INTERIOR ELEVATION
1/4" = 1'-0"

4 KINDERGARTEN K1 - INTERIOR ELEVATIONS
1/4" = 1'-0"

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PBK

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2400 E. Katella Ave, #910
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FINLEY ES HVAC UPGRADE & MODERNIZATION

PROJECT ADDRESS:
13521 Edwards St.
Westminster, CA 92683

DSA SUBMITTAL

DSA APPL NO.: 04-121814 DSA FILE NO.: 30-43

WESTMINSTER SCHOOL DISTRICT

A1 A2 A3 A4 A5 A6 A7 C1 C2 C3 C4 C5 C6 CK AD CC MP

KEY PLAN
NORTH: PLAN

Consultant

Architect

CLIENT
WESTMINSTER SCHOOL DISTRICT

DATE	PROJECT NUMBER
05-16-2023	220307

REVISIONS

No.	Description	Date
1	ADDENDUM	10/09/2023

DSA SUBMITTAL

INTERIOR ELEVATIONS

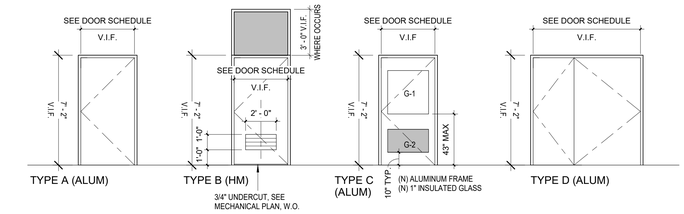
A7.01

A9.01 - DOORS SCHEDULE & WINDOWS FRAMING ELEVATION

0" 1"

DOOR SCHEDULE

DOOR #	ROOM NAME	BUILDING NAME	DOOR					FRAME			DETAILS			HARDWARE	Fire Rating	Panic Hardware	ACCESSIBLE LOCKING HARDWARE	COMMENTS
			Pair/Single	SIZE W x H WIDTH	SIZE W x H HEIGHT	MATL	Finish	TYPE	MATL.	FINISH	SILL	JAMB	HEAD					
3-1	CLASSROOM 3	BLDG CK	SINGLE	3' - 0"	7' - 0"	SC/WD	PTD	A	ALUM	PTD	7/A8.01	20&26/A8.01	9/A8.01	1		Yes	X	Lockable from inside
3-2	CLASSROOM 3	BLDG CK	SINGLE	3' - 0"	7' - 0"	SC/WD	PTD	A	ALUM	PTD	7/A8.01	20&26/A8.01	9/A8.01	1		No	X	Lockable from inside
4-1	CLASSROOM 4	BLDG C1	SINGLE	3' - 0"	7' - 0"	SC/WD	PTD	A	ALUM	PTD	7/A8.01	20&26/A8.01	9/A8.01	1		Yes	X	Lockable from inside
4-2	CLASSROOM 4	BLDG C1	SINGLE	3' - 0"	7' - 0"	SC/WD	PTD	A	ALUM	PTD	7/A8.01	20&26/A8.01	9/A8.01	1		No	X	Lockable from inside
5-1	CLASSROOM 5	BLDG C1	SINGLE	3' - 0"	7' - 0"	SC/WD	PTD	A	ALUM	PTD	7/A8.01	20&26/A8.01	9/A8.01	1		Yes	X	Lockable from inside
5-2	CLASSROOM 5	BLDG C1	SINGLE	3' - 0"	7' - 0"	SC/WD	PTD	A	ALUM	PTD	7/A8.01	20&26/A8.01	9/A8.01	1		No	X	Lockable from inside
6-1	CLASSROOM 6	BLDG C1	SINGLE	3' - 0"	7' - 0"	SC/WD	PTD	A	ALUM	PTD	7/A8.01	20&26/A8.01	9/A8.01	1		Yes	X	Lockable from inside
6-2	CLASSROOM 6	BLDG C1	SINGLE	3' - 0"	7' - 0"	SC/WD	PTD	A	ALUM	PTD	7/A8.01	20&26/A8.01	9/A8.01	1		No	X	Lockable from inside
6-16	STAFF TOILET 2	ADMIN	SINGLE	3' - 0"	7' - 0"	WOOD	PTD	B	HM	PTD	19/A8.01	27/A8.01	16 & 22/A8.01	3		No		
8-1	CLASSROOM 8	BLDG C2	SINGLE	3' - 0"	7' - 0"	SC/WD	PTD	A	ALUM	PTD	7/A8.01	20&26/A8.01	9/A8.01	1		Yes	X	Lockable from inside
8-2	CLASSROOM 8	BLDG C2	SINGLE	3' - 0"	7' - 0"	SC/WD	PTD	A	ALUM	PTD	7/A8.01	20&26/A8.01	9/A8.01	1		No	X	Lockable from inside
9-1	CLASSROOM 9	BLDG C2	SINGLE	3' - 0"	7' - 0"	SC/WD	PTD	A	ALUM	PTD	7/A8.01	20&26/A8.01	9/A8.01	1		Yes	X	Lockable from inside
9-2	CLASSROOM 9	BLDG C2	SINGLE	3' - 0"	7' - 0"	SC/WD	PTD	A	ALUM	PTD	7/A8.01	20&26/A8.01	9/A8.01	1		No	X	Lockable from inside
10-1	CLASSROOM 10	BLDG C2	SINGLE	3' - 0"	7' - 0"	SC/WD	PTD	A	ALUM	PTD	7/A8.01	20&26/A8.01	9/A8.01	1		Yes	X	Lockable from inside
10-2	CLASSROOM 10	BLDG C2	SINGLE	3' - 0"	7' - 0"	SC/WD	PTD	A	ALUM	PTD	7/A8.01	20&26/A8.01	9/A8.01	1		No	X	Lockable from inside
11-1	CLASSROOM 11	BLDG C6	SINGLE	3' - 0"	7' - 0"	SC/WD	PTD	A	ALUM	PTD	7/A8.01	20&26/A8.01	9/A8.01	1		Yes	X	Lockable from inside
11-2	CLASSROOM 11	BLDG C6	SINGLE	3' - 0"	7' - 0"	SC/WD	PTD	A	ALUM	PTD	7/A8.01	20&26/A8.01	9/A8.01	1		No	X	Lockable from inside
12-1	CLASSROOM 12	BLDG C6	SINGLE	3' - 0"	7' - 0"	SC/WD	PTD	A	ALUM	PTD	7/A8.01	20&26/A8.01	9/A8.01	1		Yes	X	Lockable from inside
12-2	CLASSROOM 12	BLDG C6	SINGLE	3' - 0"	7' - 0"	SC/WD	PTD	A	ALUM	PTD	7/A8.01	20&26/A8.01	9/A8.01	1		No	X	Lockable from inside
13-1	CLASSROOM 13	BLDG C6	SINGLE	3' - 0"	7' - 0"	SC/WD	PTD	A	ALUM	PTD	7/A8.01	20&26/A8.01	9/A8.01	1		Yes	X	Lockable from inside
13-2	CLASSROOM 13	BLDG C6	SINGLE	3' - 0"	7' - 0"	SC/WD	PTD	A	ALUM	PTD	7/A8.01	20&26/A8.01	9/A8.01	1		No	X	Lockable from inside
14-1	CLASSROOM 14	BLDG C6	SINGLE	3' - 0"	7' - 0"	SC/WD	PTD	A	ALUM	PTD	7/A8.01	20&26/A8.01	9/A8.01	1		Yes	X	Lockable from inside
14-2	CLASSROOM 14	BLDG C6	SINGLE	3' - 0"	7' - 0"	SC/WD	PTD	A	ALUM	PTD	7/A8.01	20&26/A8.01	9/A8.01	1		No	X	Lockable from inside
15-1	CLASSROOM 15	BLDG C3	SINGLE	3' - 0"	7' - 0"	SC/WD	PTD	A	ALUM	PTD	7/A8.01	20&26/A8.01	9/A8.01	1		Yes	X	Lockable from inside
15-2	CLASSROOM 15	BLDG C3	SINGLE	3' - 0"	7' - 0"	SC/WD	PTD	A	ALUM	PTD	7/A8.01	20&26/A8.01	9/A8.01	1		No	X	Lockable from inside
16-1	CLASSROOM 16	BLDG C3	SINGLE	3' - 0"	7' - 0"	SC/WD	PTD	A	ALUM	PTD	7/A8.01	20&26/A8.01	9/A8.01	1		Yes	X	Lockable from inside
16-2	CLASSROOM 16	BLDG C3	SINGLE	3' - 0"	7' - 0"	SC/WD	PTD	A	ALUM	PTD	7/A8.01	20&26/A8.01	9/A8.01	1		No	X	Lockable from inside
17-1	CLASSROOM 17	BLDG C3	SINGLE	3' - 0"	7' - 0"	SC/WD	PTD	A	ALUM	PTD	7/A8.01	20&26/A8.01	9/A8.01	1		Yes	X	Lockable from inside
17-2	CLASSROOM 16	BLDG C3	SINGLE	3' - 0"	7' - 0"	SC/WD	PTD	A	ALUM	PTD	7/A8.01	20&26/A8.01	9/A8.01	1		No	X	Lockable from inside
18-1	CLASSROOM 18	BLDG C4	SINGLE	3' - 0"	7' - 0"	SC/WD	PTD	A	ALUM	PTD	7/A8.01	20&26/A8.01	9/A8.01	1		Yes	X	Lockable from inside
18-2	CLASSROOM 18	BLDG C4	SINGLE	3' - 0"	7' - 0"	SC/WD	PTD	A	ALUM	PTD	7/A8.01	20&26/A8.01	9/A8.01	1		No	X	Lockable from inside
19-1	CLASSROOM 19	BLDG C4	SINGLE	3' - 0"	7' - 0"	SC/WD	PTD	A	ALUM	PTD	7/A8.01	20&26/A8.01	9/A8.01	1		Yes	X	Lockable from inside
19-2	CLASSROOM 19	BLDG C4	SINGLE	3' - 0"	7' - 0"	SC/WD	PTD	A	ALUM	PTD	7/A8.01	20&26/A8.01	9/A8.01	1		No	X	Lockable from inside
20-1	CLASSROOM 20	BLDG C4	SINGLE	3' - 0"	7' - 0"	SC/WD	PTD	A	ALUM	PTD	7/A8.01	20&26/A8.01	9/A8.01	1		Yes	X	Lockable from inside
20-2	CLASSROOM 20	BLDG C4	SINGLE	3' - 0"	7' - 0"	SC/WD	PTD	A	ALUM	PTD	7/A8.01	20&26/A8.01	9/A8.01	1		No	X	Lockable from inside
21-1	CLASSROOM 21	BLDG C4	SINGLE	3' - 0"	7' - 0"	SC/WD	PTD	A	ALUM	PTD	7/A8.01	20&26/A8.01	9/A8.01	1		Yes	X	Lockable from inside
21-2	CLASSROOM 21	BLDG C4	SINGLE	3' - 0"	7' - 0"	SC/WD	PTD	A	ALUM	PTD	7/A8.01	20&26/A8.01	9/A8.01	1		No	X	Lockable from inside
22-1	CLASSROOM 22	BLDG C4	SINGLE	3' - 0"	7' - 0"	SC/WD	PTD	A	ALUM	PTD	7/A8.01	20&26/A8.01	9/A8.01	1		Yes	X	Lockable from inside
22-2	CLASSROOM 22	BLDG C4	SINGLE	3' - 0"	7' - 0"	SC/WD	PTD	A	ALUM	PTD	7/A8.01	20&26/A8.01	9/A8.01	1		No	X	Lockable from inside
23-1	CLASSROOM 23	BLDG C4	SINGLE	3' - 0"	7' - 0"	SC/WD	PTD	A	ALUM	PTD	7/A8.01	20&26/A8.01	9/A8.01	1		Yes	X	Lockable from inside
23-2	CLASSROOM 23	BLDG C4	SINGLE	3' - 0"	7' - 0"	SC/WD	PTD	A	ALUM	PTD	7/A8.01	20&26/A8.01	9/A8.01	1		No	X	Lockable from inside
CK2-1	CK-2 KG TOILET	BLDG CK	SINGLE	3' - 0"	7' - 0"	SC/WD	PTD	A	ALUM	PTD	19/A8.01	13/A8.01	13/A8.01	3		No		ADDENDUM 01
CK2A-1	CK-2A KG TOILET	BLDG CK	SINGLE	3' - 0"	7' - 0"	SC/WD	PTD	A	ALUM	PTD	19/A8.01	13/A8.01	13/A8.01	3		No		ADDENDUM 01
CK3-1	CK-3 KG TOILET	BLDG CK	SINGLE	3' - 0"	7' - 0"	SC/WD	PTD	A	ALUM	PTD	19/A8.01	13/A8.01	13/A8.01	3		No		ADDENDUM 01
CK3A-1	CK-3A KG TOILET	BLDG CK	SINGLE	3' - 0"	7' - 0"	SC/WD	PTD	A	ALUM	PTD	19/A8.01	13/A8.01	13/A8.01	3		No		ADDENDUM 01
K1-1	KINDERGARTEN K1	BLDG CK	PAIR	5' - 0" (30" / 24")	7' - 0"	SC/WD	PTD	D	ALUM	PTD	7/A8.01	20&26/A8.01	9/A8.01	4		Yes	X	Lockable from inside
K1-2	KINDERGARTEN K1	BLDG CK	PAIR	5' - 0" (30" / 24")	7' - 0"	SC/WD	PTD	D	ALUM	PTD	7/A8.01	20&26/A8.01	9/A8.01	4		No	X	Lockable from inside
K2-1	KINDERGARTEN K2	BLDG CK	PAIR	5' - 0" (30" / 24")	7' - 0"	SC/WD	PTD	D	ALUM	PTD	7/A8.01	20&26/A8.01	9/A8.01	4		Yes	X	Lockable from inside
K2-2	KINDERGARTEN K2	BLDG CK	PAIR	5' - 0" (30" / 24")	7' - 0"	SC/WD	PTD	D	ALUM	PTD	7/A8.01	20&26/A8.01	9/A8.01	4		No	X	Lockable from inside



NOTE:

G-1 = TG (TEMPERED GLASS)
G-2 = TG/TINT (TEMPERED GLASS/TINTED GLASS
REFERENCE SCHEDULE ABBREVIATIONS

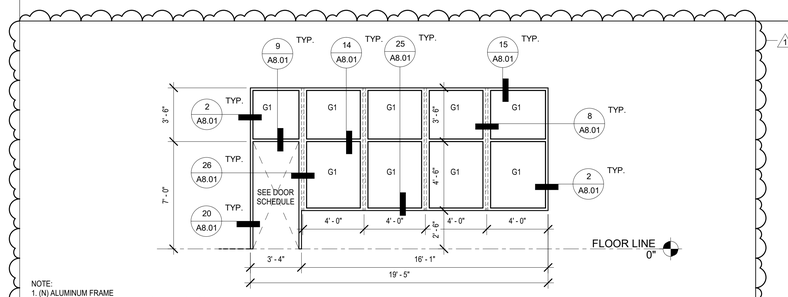
GLASS COLOR TO BE VERIFIED BY THE DISTRICT

DOOR & WINDOW SCHEDULE ABBREVIATIONS

ALUM	ALUMINUM
FF	FACTORY FINISH
HM	HOLLOW METAL
N/A	NOT APPLICABLE
PTD	PAINT
SC	SOLID CORE
ST	STAIN
WD	WOOD

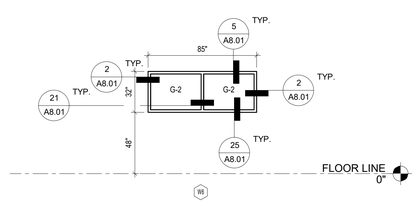
DOOR TYPE LEGEND

1/4" = 1'-0"



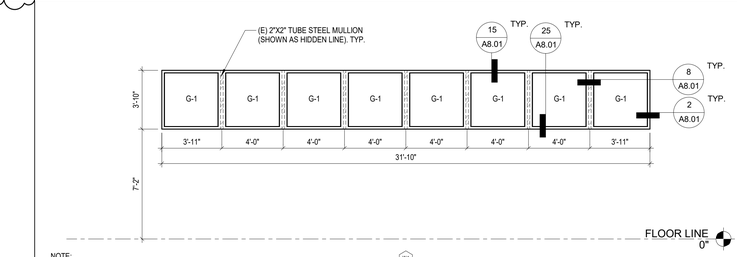
NOTE:
1. (N) ALUMINUM FRAME
2. G-1 : TEMPERED GLASS (N) 1" INSULATED GLASS. SEE GLAZING SPECS.
3. USE BRONZE GLAZING COLOR
4. FIELD VERIFY ALL DIMENSIONS

18 WINDOW FRAMING ELEVATION - W5
1/4" = 1'-0"



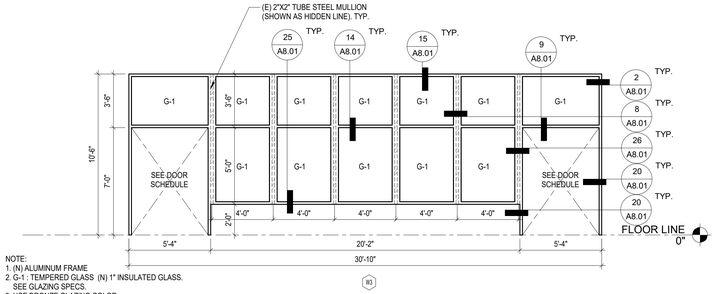
NOTE:
1. (N) ALUMINUM FRAME
2. G-2 : TEMPERED GLASS (N) 1" INSULATED GLASS. SEE GLAZING SPECS.
3. USE BRONZE GLAZING COLOR
4. FIELD VERIFY ALL DIMENSIONS

12 WINDOW FRAMING ELEVATION - W6
1/4" = 1'-0"



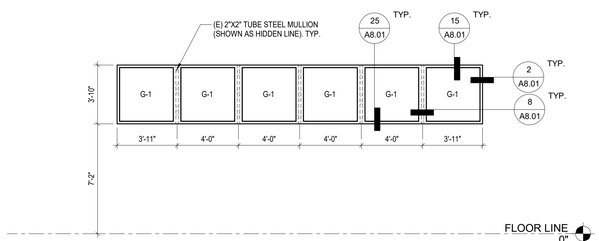
NOTE:
1. (N) ALUMINUM FRAME
2. G-1 : TEMPERED GLASS (N) 1" INSULATED GLASS. SEE GLAZING SPECS.
3. USE BRONZE GLAZING COLOR
4. FIELD VERIFY ALL DIMENSIONS

10 WINDOW FRAMING ELEVATION - W4
1/4" = 1'-0"



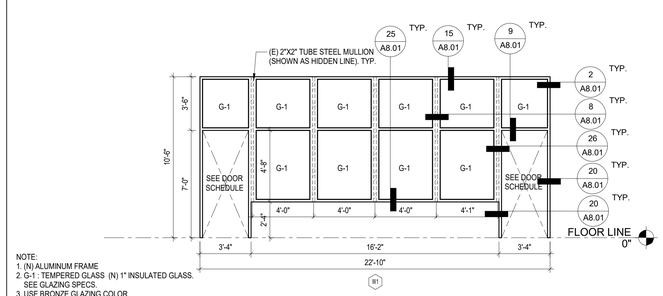
NOTE:
1. (N) ALUMINUM FRAME
2. G-1 : TEMPERED GLASS (N) 1" INSULATED GLASS. SEE GLAZING SPECS.
3. USE BRONZE GLAZING COLOR
4. FIELD VERIFY ALL DIMENSIONS

8 WINDOW FRAMING ELEVATION - W3
1/4" = 1'-0"



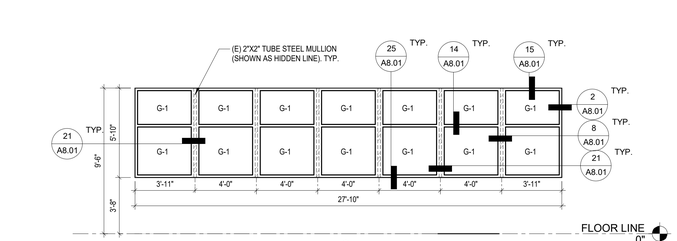
NOTE:
1. (N) ALUMINUM FRAME
2. G-1 : TEMPERED GLASS (N) 1" INSULATED GLASS. SEE GLAZING SPECS.
3. USE BRONZE GLAZING COLOR
4. FIELD VERIFY ALL DIMENSIONS

6 WINDOW FRAMING ELEVATION - W2
1/4" = 1'-0"



NOTE:
1. (N) ALUMINUM FRAME
2. G-1 : TEMPERED GLASS (N) 1" INSULATED GLASS. SEE GLAZING SPECS.
3. USE BRONZE GLAZING COLOR
4. FIELD VERIFY ALL DIMENSIONS

4 WINDOW FRAMING ELEVATION - W1
1/4" = 1'-0"



NOTE:
1. (N) ALUMINUM FRAME
2. G-1 : TEMPERED GLASS (N) 1" INSULATED GLASS. SEE GLAZING SPECS.
3. USE BRONZE GLAZING COLOR
4. FIELD VERIFY ALL DIMENSIONS

2 WINDOW FRAMING ELEVATION - AW1
1/4" = 1'-0"

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PBK

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FINLEY ES HVAC UPGRADE & MODERNIZATION

PROJECT ADDRESS:
13521 Edwards St.
Westminster, CA 92683

DSA SUBMITTAL

DSA APPL NO.: 04-121814 DSA FILE NO.: 30-43

WESTMINSTER SCHOOL DISTRICT



KEY PLAN
NORTH: PLAN

Consultant

Architect

CLIENT
WESTMINSTER SCHOOL DISTRICT

DATE	PROJECT NUMBER
05-16-2023	220307

REVISIONS

No.	Description	Date
1	ADDENDUM	10/09/2023

DSA SUBMITTAL

DOORS SCHEDULE & WINDOWS FRAMING ELEVATION

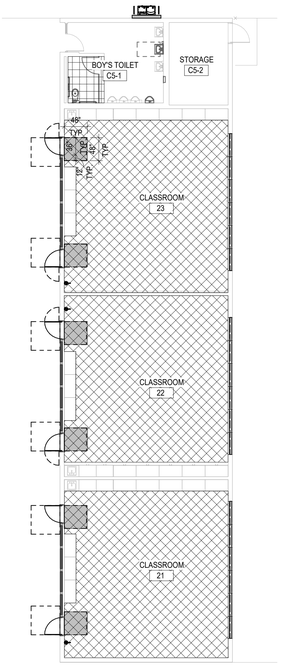
A9.01

A10.01 - FINISH PLANS & SCHEDULE

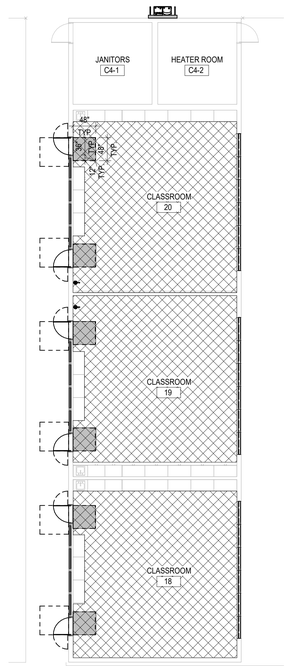
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FINISH SCHEDULE

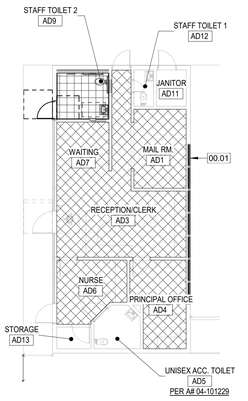
ROOM NUMBER	ROOM NAME	(E) FLOOR MATERIAL	FLOOR		BASE		NORTH WALL		EAST WALL		SOUTH WALL		WEST WALL		CEILING		REMARK
			MATERIAL	FINISH	MATERIAL	FINISH	MATERIAL	FINISH	MATERIAL	FINISH	MATERIAL	FINISH	MATERIAL	FINISH	MATERIAL	FINISH	
3	CLASSROOM	CPT	VCT	VCT1	RB	RB1	(E) BRICK	P1	(E) BRICK	TS1	(E) BRICK	P1 & TS1	(E) GYP	P1 & TS1	ACP	ACP1	
4	CLASSROOM	CPT	VCT	VCT1	RB	RB1	(E) BRICK	P1	(E) BRICK	TS1	(E) BRICK	P1 & TS1	(E) GYP	P1 & TS1	ACP	ACP1	
5	CLASSROOM	CPT	VCT	VCT1	RB	RB1	(E) BRICK	P1	(E) GYP	P1 & TS1	(E) BRICK	P1 & TS1	(E) GYP	TS1	ACP	ACP1	
6	CLASSROOM	CPT	VCT	VCT1	RB	RB1	(E) BRICK	P1	(E) GYP	TS1	(E) BRICK	P1 & TS1	(E) BRICK	P1 & TS1	ACP	ACP1	
8	CLASSROOM	CPT	VCT	VCT1	RB	RB1	(E) BRICK	P1	(E) GYP	TS1	(E) BRICK	P1 & TS1	(E) GYP	P1 & TS1	ACP	ACP1	
9	CLASSROOM	CPT	VCT	VCT1	RB	RB1	(E) BRICK	P1	(E) GYP	P1 & TS1	(E) BRICK	P1 & TS1	(E) GYP	TS1	ACP	ACP1	
10	CLASSROOM	CPT	VCT	VCT1	RB	RB1	(E) BRICK	P1	(E) GYP	TS1	(E) BRICK	P1 & TS1	(E) BRICK	P1 & TS1	ACP	ACP1	
11	LOUNGE	VCT	VCT	VCT1	RB	RB1	(E) BRICK	P1	(E) GYP	P1	(E) BRICK	P3	(E) GYP	P1	ACP	ACP1	
11-1	XEROX/PRINTING	VCT	VCT	VCT1	RB	RB1	(E) GYP	P1	(E) BRICK	P1	(E) BRICK	P3	(E) GYP	P1	ACP	ACP1	
11-2	VENDING MACHINES	VCT	VCT	VCT1	RB	RB1	(E) GYP	P1	(E) BRICK	P1	(E) GYP	P3	(E) GYP	P1	ACP	ACP1	
11-3	STORAGE	VCT	VCT	VCT1	RB	RB1	(E) GYP	P1	(E) BRICK	P1	(E) GYP	P3	(E) GYP	P1	ACP	ACP1	
11-4	M.S.D.S.	VCT	VCT	VCT1	RB	RB1	(E) BRICK	P1	(E) BRICK	P1	(E) GYP	P3	(E) GYP	P1	ACP	ACP1	
12	CLASSROOM	CPT	VCT	VCT1	RB	RB1	(E) BRICK	P1	(E) GYP	P1	(E) BRICK	P1	(E) GYP	P1	ACP	ACP1	
13	CLASSROOM	CPT	VCT	VCT1	RB	RB1	(E) BRICK	P1	(E) GYP	P1	(E) BRICK	P1	(E) GYP	P1	ACP	ACP1	
14	CLASSROOM	CPT	VCT	VCT1	RB	RB1	(E) BRICK	P1	(E) GYP	P1	(E) BRICK	P1	(E) BRICK	P1	ACP	ACP1	
15	CLASSROOM	CPT	VCT	VCT1	RB	RB1	(E) GYP	P1	(E) BRICK	P1	(E) BRICK	P1	(E) GYP	P1	ACP	ACP1	
16	COMPUTER LAB	CPT	VCT	VCT1	RB	RB1	(E) BRICK	P1	(E) GYP	P1	(E) BRICK	P1	(E) GYP	P1	ACP	ACP1	
17	LIBRARY	CPT	VCT	VCT1	RB	RB1	(E) BRICK	P1	(E) GYP	P1	(E) BRICK	P1	(E) GYP	P1	ACP	ACP1	
18	CLASSROOM	CPT	VCT	VCT1	RB	RB1	(E) BRICK	P1	(E) BRICK	P1	(E) BRICK	P1	(E) GYP	P1	ACP	ACP1	
19	CLASSROOM	CPT	VCT	VCT1	RB	RB1	(E) BRICK	P1	(E) GYP	P1	(E) BRICK	P1	(E) GYP	P1	ACP	ACP1	
20	CLASSROOM	CPT	VCT	VCT1	RB	RB1	(E) BRICK	P1	(E) GYP	P1	(E) BRICK	P1	(E) GYP	P1	ACP	ACP1	
21	CLASSROOM	CPT	VCT	VCT1	RB	RB1	(E) BRICK	P1	(E) BRICK	P1	(E) BRICK	P1	(E) GYP	P1	ACP	ACP1	
22	CLASSROOM	CPT	VCT	VCT1	RB	RB1	(E) BRICK	P1	(E) GYP	P1	(E) BRICK	P1	(E) GYP	P1	ACP	ACP1	
23	CLASSROOM	CPT	VCT	VCT1	RB	RB1	(E) BRICK	P1	(E) GYP	P1	(E) BRICK	P1	(E) GYP	P1	ACP	ACP1	
AD1	MAIL RM.	VCT	VCT	VCT1	RB	RB1	(E) BRICK	P1	(E) GYP	P1	(E) GYP	P4	(E) GYP	P1	ACP	ACP1	
AD3	RECEPTION/CLERK	VCT	VCT	VCT1	RB	RB1	(E) GYP	P1	(E) GYP	P1	(E) GYP	P4	(E) GYP	CT1	ACP	ACP1	
AD4	PRINCIPAL OFFICE	VCT	VCT	VCT1	RB	RB1	(E) BRICK	P1	(E) BRICK	P1	(E) GYP	P4	(E) GYP	P1	ACP	ACP1	
AD5	UNISEX ACC. TOILET	CT	(E)	(E)	(E)	(E)	(E)	(E)	(E)	(E)	(E)	(E)	(E)	(E)	ACP	ACP1	
AD6	NURSE	VCT	(E)	(E)	(E)	(E)	(E)	(E)	(E)	(E)	(E)	(E)	(E)	(E)	ACP	ACP1	
AD7	WAITING	VCT	VCT	VCT1	RB	RB1	(E) GYP	P1	-	-	(E) BRICK	P4	(E) &(N) GYP	P1	ACP	ACP1	
AD9	STAFF TOILET 2	VCT	CT	CT1	CT	CT1	CT	CT1	CT	CT1	CT	CT1	CT	CT1	GYP	P1	
C3-1	GIRL'S TOILET	CT	(E)	(E)	(E)	(E)	(E)	(E)	(E)	(E)	(E)	(E)	(E)	(E)	GYP	P1	
C5-1	BOY'S TOILET	CT	(E)	(E)	(E)	(E)	(E)	(E)	(E)	(E)	(E)	(E)	(E)	(E)	GYP	P1	
CK	STORAGE	VCT	(E)	(E)	RB	RB1	GYP	P1	(E) GYP	P1	(E) GYP	P1	(E) GYP	P1	ACP	ACP1	
CK-2	KG TOILET	CT	CT	CT	CT	CT	CT	CT1	CT	CT1	CT	CT1	CT	CT1	GYP	P1	ADDENDUM 01
CK-2A	KG TOILET	-	CT	VCT1	CT	CT	CT	CT1	CT	CT1	CT	CT1	CT	CT1	GYP	P1	ADDENDUM 01
CK-3	KG TOILET	CT	CT	CT	CT	CT	CT	CT1	CT	CT1	CT	CT1	CT	CT1	GYP	P1	ADDENDUM 01
CK-3A	KG TOILET		CT	VCT1	CT	CT	CT	CT1	CT	CT1	CT	CT1	CT	CT1	GYP	P1	ADDENDUM 01
K-1	KINDERGARTEN	CPT/VCT	VCT	VCT1	RB	RB1	(E) BRICK	P1	(E) GYP	P1	(E) BRICK	P2	(E) GYP	P1	ACP	ACP1	
K-2	KINDERGARTEN	CPT/VCT	VCT	VCT1	RB	RB1	(E) BRICK	P1	(E) GYP	P1	(E) BRICK	P2	(E) GYP	P1	ACP	ACP1	



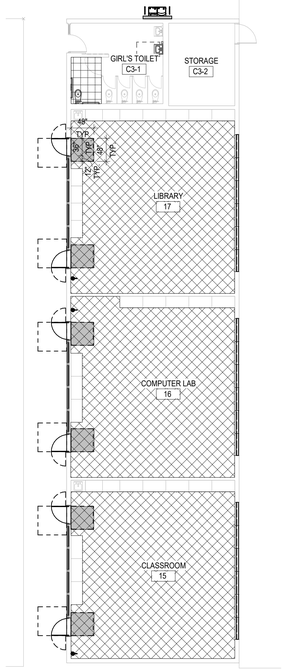
22 FINISH FLOOR PLAN - BUILDING C5
3/32" = 1'-0"



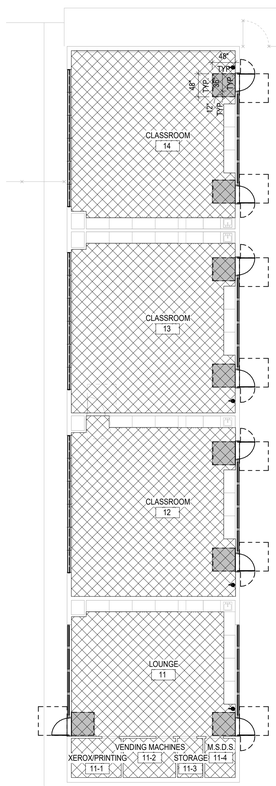
21 FINISH FLOOR PLAN - BUILDING C4
3/32" = 1'-0"



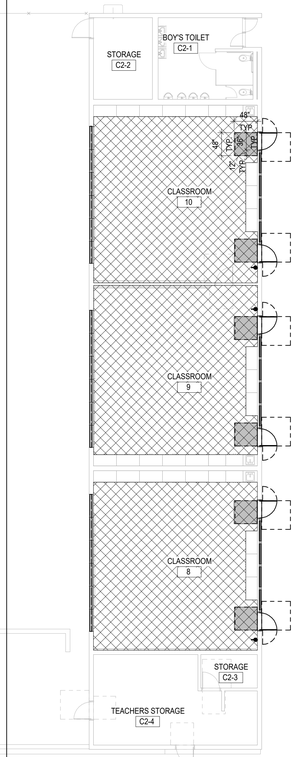
19 FINISH FLOOR PLAN - ADMIN BLDG
3/32" = 1'-0"



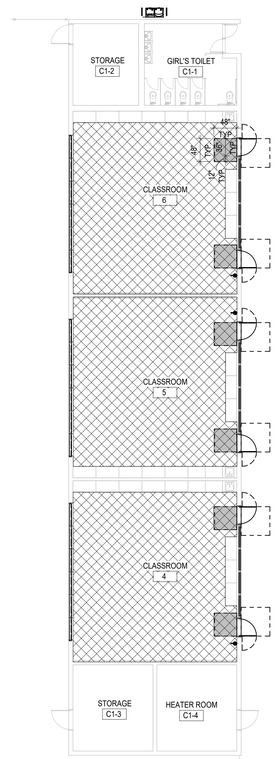
6 FINISH FLOOR PLAN - BUILDING C3
3/32" = 1'-0"



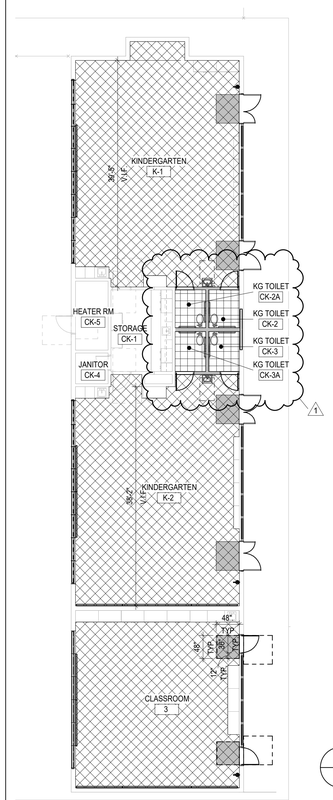
5 FINISH FLOOR PLAN - BUILDING C6
3/32" = 1'-0"



4 FINISH FLOOR PLAN - BUILDING C2
3/32" = 1'-0"



3 FINISH FLOOR PLAN - BUILDING C1
3/32" = 1'-0"



2 FINISH FLOOR PLAN - BUILDING CK
3/32" = 1'-0"

FINISH FLOOR MATERIALS LEGEND

VCT-1, VINYL COMPOSITION TILE
RE: FINISH SCHEDULE

CT-1 CERAMIC TILE FLOORING
RE: FINISH SCHEDULE

WALK-OFF MAT,
TRANSITION FLUSH WITH ADJACENT VCT
RE: FLOOR FINISH PLAN
48" DEPTH, 12" EXTEND ON PUSH SIDE

GENERAL FINISH LEGEND NOTES

1. ALL FINISH MATERIALS SHALL MEET THE FLAME SPREAD RATINGS PER THE BUILDING CODE.
2. REFER TO INTERIOR ELEVATIONS FOR SPECIFIC MATERIAL LOCATIONS.
3. PAINT ALL EXPOSED STRUCT. MEMBERS, STRUCT. DECK, DUCTWORK, DIFFUSERS, PIPING, CONDUIT, EQUIP. HOUSINGS, LIGHT FIXTURE HOUSINGS, CABLE SUPPORTS, CABLE TRAYS, EQUIP. SUPPORTS, HANGERS, ETC. TO MATCH ADJACENT SURFACES.
4. PAINT ALL NON-FACTORY FINISHED EXPOSED METAL.
5. REFER TO TYPICAL FLOORING TRANSITION DETAILS FOR FLOORING MATERIAL TRANSITIONS.
6. ALL FLOORING TRANSITIONS AT DOORS SHALL BE LOCATED UNDER THE DOOR IN THE CLOSED POSITION, U.N.O.
7. PROTECT ALL FINISHED FLOORING SURFACES FROM DAMAGE DURING ALL CONSTRUCTION PHASES.
8. PROVIDE AND INSTALL BULLNOSE TRIM AT ALL TRANSITIONS FROM CERAMIC WALL TILE TO OTHER MATERIAL U.N.O.
9. REFER TO REFLECTED CEILING PLANS FOR CEILING HEIGHTS.
10. ALL ELECTRICAL DEVICE COVERS ARE TO BE WHITE U.N.O.
11. ALL CARPET PATTERNS TO RUN PARALLEL TO CORRIDOR, U.N.O.
12. PAINT ALL HOLLOW METAL DOOR FRAMES TO MATCH ADJACENT WALL COLOR U.N.O.
13. REMOVE EXISTING PAINT AT EXISTING BRICK WALL. PREPARE BRICK WALL SMOOTH TO RECEIVE NEW PAINT FINISH. WHERE OCCURS.
14. RE-PAINT ALL EXISTING CASEWORK (EXCLUDE PLAMISTONE COUNTERTOPS).
15. PROVIDE APPROPRIATE PREPARATION, CLEANING AND BASE MATERIAL TO EXISTING INTERIOR SURFACES TO RECEIVE NEW FINISHES PER FINISH SPECS.
16. PROVIDE APPROPRIATE PREPARATION, CLEANING AND BASE MATERIALTO EXISTING BRICK WALL BEFORE RECEIVING NEW FINISH MATERIAL. PER FINISH SPECIFICATION.
17. PROVIDE CONSISTENT FLAT SURFACE USING CEMENT FLOAT AND APPROPRIATE BASE MATERIAL AT EXISTING BRICK WALL TO RECEIVE NEW TILE FINISH, PER FINISH SPECIFICATIONS.

MATERIAL FINISH ABBREVIATIONS

ACP1	2'X2' ACOUSTICAL CEILING PANEL , SEE SPECIFICATIONS
CPT1	CARPET TYPE 1, SEE SPECIFICATIONS
CT1	CERAMIC TILE 1, SEE SPECIFICATIONS
CTB1	CERAMIC TILE BASE 1, SEE SPECIFICATIONS
VCT1	VINYL COMPOSITE TILE 1, SEE SPECIFICATIONS
P1	PAINT TO BE SELECTED BY OWNER, SEE SPECIFICATIONS
RB1	RUBBER BASE , SEE SPECIFICATIONS
(E)	(E) FINISH TO REMAIN
MF	MANUFACTURERS FINISH, SEE SPECIFICATIONS

MATERIAL ABBREVIATIONS

ACP	ACOUSTIC CEILING PANEL
CONC	CONCRETE
CPT	CARPET
CT	CERAMIC TILE
CTB	CERAMIC TILE BASE
GUT	GLUE UP TILE
GYP	GYPSUM BOARD
P	PAINT
RB	RUBBER BASE
VCT	VINYL COMPOSITE TILE
(E)	(E) FINISH TO REMAIN

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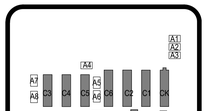
ARCHITECT PBK Architects, Inc.
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ANAHEIM
2400 E. Katella Ave. #910
Anaheim, CA 92806
P 949-548-6000

FINLEY ES HVAC UPGRADE & MODERNIZATION

PROJECT ADDRESS:
13521 Edwards St.
Westminster, CA 92683

DSA SUBMITTAL

DSA APPL NO.: 04-121814 DSA FILE NO.: 30-43



KEY PLAN NORTH: PLAN

Consultant

Architect

CLIENT
WESTMINSTER SCHOOL DISTRICT

DATE	PROJECT NUMBER
05-16-2023	220307

REVISIONS

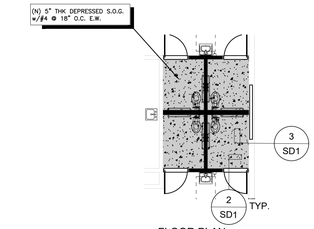
No.	Description	Date
1	ADDENDUM	10/09/2023

DSA SUBMITTAL

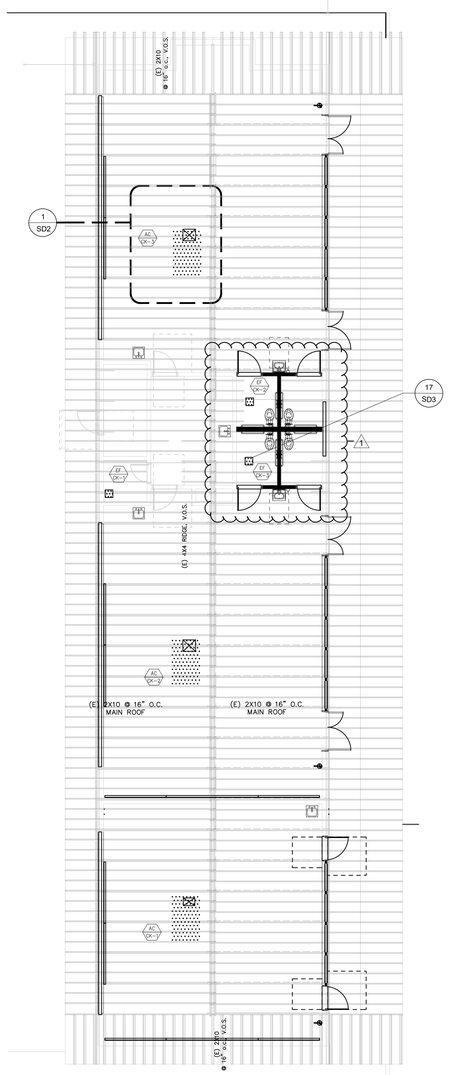
FINISH PLANS & SCHEDULE

A10.01

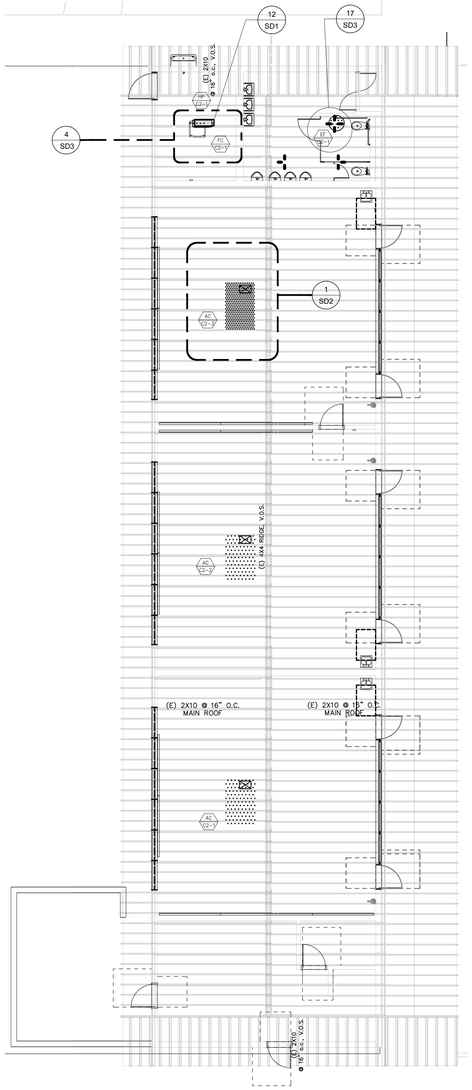
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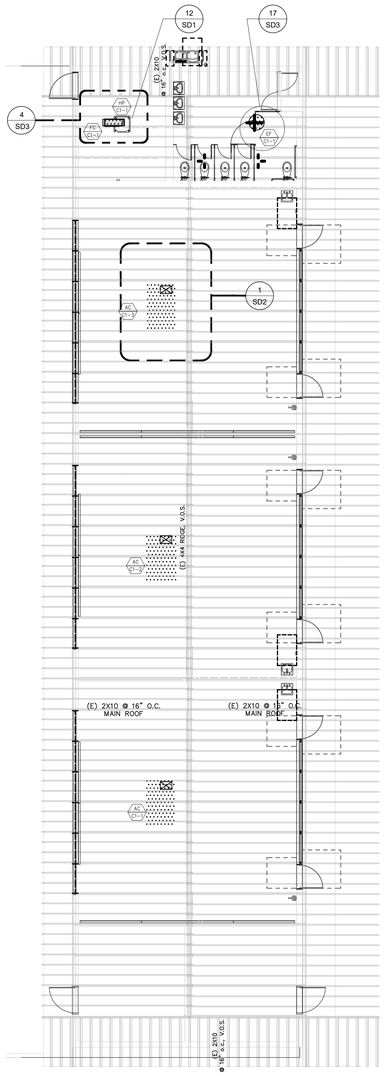


FLOOR PLAN



ROOF PLAN





1. THE MAXIMUM OPERATIONAL WEIGHTS OF NEW UNITS ARE LISTED IN THE ANCHORAGE SCHEDULE IN DETAIL 4/SD2. EXACT SIZE AND WEIGHT OF UNITS MAY SLIGHTLY DIFFER FROM THE ONES SPECIFIED ON THESE DRAWINGS/SCHEDULE. SHOULD THE ACTUAL WEIGHT OF ANY UNITS EXCEED MORE THAN 10% OF THE LISTED WEIGHTS, IMMEDIATELY NOTIFY SE OR AND DSA DISTRICT ENGINEER FOR FURTHER INSTRUCTION.
2. THE OPERATABLE WEIGHT OF UNITS SHALL BE LESS OR EQUAL TO THE VALUES SHOWN, CONTRACTOR SHALL NOTIFY SEoR ABOUT HEAVIER UNITS. (MORE THAN 5% OF LISTED VALUES)
3. UNIT DIMENSION SHOWN HERE REPRESENT THE BEST ESTIMATE BASED ON THE AVAILABLE DATA.
4. MINOR ADJUSTMENTS IN UNIT POSITION WITH RESPECT TO EXISTING ROOF FRAMING MAY BE NECESSARY TO MISS CONFLICT, ALIGN NEW BLOCKINGS TO MATCH THE EXACT UNIT LOCATION/DIMENSIONS.
5. FINAL CONFIGURATION OF EACH UNIT, WITH RESPECT TO THE EXISTING ROOF FRAMING, SHALL BE FIELD VERIFY TO AVOID CONFLICT.
6. THE EXACT LOCATION AND SIZE OF MECH UNIT SHALL BE VERIFIED BY VENDOR/INSTALLER IN COORDINATION WITH THE LATEST MECH DRAWING/ CUT SHEETS.

A. PRIOR TO DEMOLITION WORK, SEE GENERAL NOTES ON SN1. FOR EXACT EXTENT OF DEMOLITION WORK REFER TO THE ARCH. DWG'S.

B. ALL EXISTING FRAMING MEMBERS THAT ARE BEING CUT/NOTCHED/TRIMMED SHALL BE PROPERLY SECURED BY SHORING.

C. SIZES SPACING LOCATIONS OF ALL EXISTING STRUCTURAL ELEMENTS SHALL BE FIELD VERIFIED & ANY DISCREPANCIES BE REPORTED TO SEoR.

D. IF EXISTING MEMBERS ARE SMALLER THAN WHAT IS SHOWN IN DRAWINGS AND CONSIDERED IN CALCULATIONS, PLEASE NOTICE SEOR FOR DETAIL OR FURTHER INFO

LEGEND

	(E) BEAM , V.O.S., PER PLAN SEE NOTE A-D
	(E) HEADER, V.O.S., PER PLAN, SEE NOTES A-D
	(E) ROOF FRAMING, PER PLAN, WHERE OCCURS, SEE NOTES A-D
	(E) STL POST, V.O.S.
	(N) MATCHING SISTER JOIST, PER PLAN FOR EXACT LOCATION, SEE DETAIL 1/SD2
	(N) CONC. SLAB-ON-GRADE
RT HP	(N) ROOFTOP UNIT, PER PLAN, SEE 1/SD2 SEE NOTE 1-7
FC	(N) SUSPENDED UNIT, PER PLAN, SEE 4/SD3 SEE NOTE 1-7
AC	(N) HVAC UNIT, PER MECH. PLANS SEE NOTE 1-7
	DUCT THROUGH ROOF PENETRATION PER MECH.

EQUIPMENT SCHEDULE (*)

UNIT DESCRIPTION	OVERALL WEIGHT(LBS)	DIMENSIONS	DETAIL REF.
	AC D-7 AC D-7 AC D-7 AC D-7 AC D-7		
HEAT PUMP	595+347=942 (UNIT) (CURB)	74"L x 44"W x 41"H	FOR DETAL SEE SHEET SD2
	AC D-1 AC D-1 AC D-1		
HEAT PUMP	640		FOR DETAL SEE SHEET SD2
	FC D-1 FC D-1		
FAN COIL	40		FOR DETAL SEE SHEET 4/SD3
	EF D-1 EF D-1 EF D-1 EF D-1 EF D-1		
EXHAUST FAN	15...75		FOR DETAL SEE SHEET 17/SD3
	HP D-1 HP D-1		
HEAT PUMP	75		FOR DETAL SEE SHEET 12/SD1

(*) SUBJECT TO CHANGE REFER TO LATEST MECHANICAL PACKAGE. SEE NOTES 1-7

(+) AC UNIT WEIGHT INCLUDES RTU SELF WEIGHT AND WEIGHT OF MECH. CURB

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FLOOR/ROOF PLAN – BLDG CK 3 — 1/8" = 1'-0"

ROOF PLAN – BLDG C2 2 — 1/8" = 1'-0"

ROOF PLAN – BLDG C1 1 — 1/8" = 1'-0"

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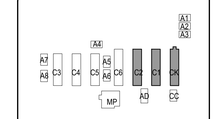
ARCHITECT PBK Architects, Inc.
PBK.com
COSTA MESA
600 Anton Boulevard, Suite 1375
Costa Mesa, CA 92626
P 949-548-5000

FINLEY ES HVAC UPGRADE & MODERNIZATION

PROJECT ADDRESS:
13521 Edwards St.
Westminster, CA 92683

DSA SUBMITTAL

DSA APPL NO.: ##-##### DSA FILE NO.: ##-##



KEY PLAN

NORTH: PLAN TRUE

Consultant

STRUCTURAL ENGINEERING CONSULTANTS
23 CORPORATE PLAZA DR.
SUITE 150
NEWPORT BEACH, CA 92660
NIC PROJECT NO.2224.07

REGISTERED PROFESSIONAL ENGINEER
TOORAJ EIMANI
No. S4302
Exp. 09/30/23
STRUCTURAL
CALIFORNIA

Architect

CLIENT
WESTMINSTER SCHOOL DISTRICT

DATE — PROJECT NUMBER 17391

REVISIONS

No.	Description	Date
1	ADDENDUM	10/09/2023

DSA SUBMITTAL

ROOF PLANS - BLDG C1, C2 & CK

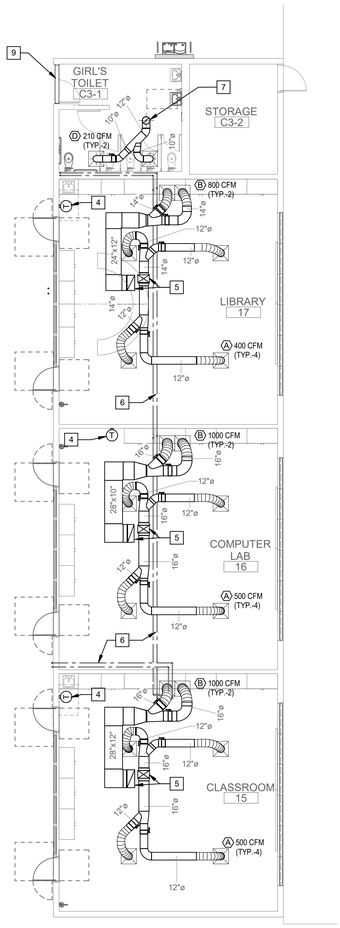
S1

M2.01 - MECHANICAL FLOOR PLANS

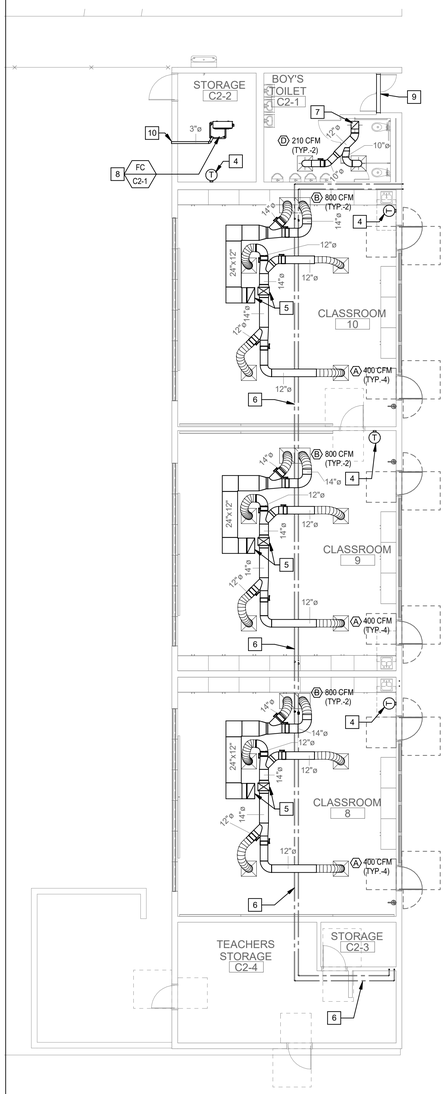
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KEY NOTES

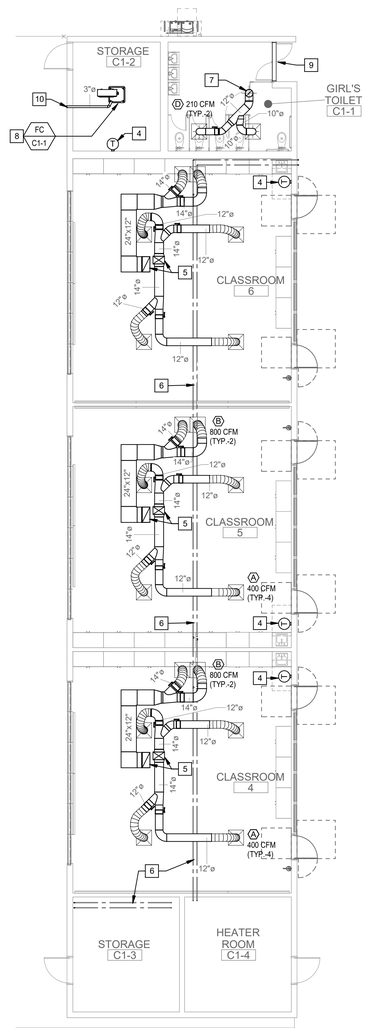
1. CEILING MOUTNED EXHAUST FAN, SEE SCHEDULE SHEET M5.01 FOR INFORMATION. SEE DETAIL #11/M6.01.
2. 6"ø EA DUCT UTR, SEE DETAIL #21/M6.01.
3. NOT USED.
4. THERMOSTAT, SEE MOUNTING OVER OBSTRUTION DETAIL ON SHEET M0.00.
5. SA & RA DUCT UTR TO A/C UNIT ON ROOF, SEE DETAIL #2/M6.01.
6. (E) HWS&R PIPES.
7. 12"ø EA DUCT UTR, SEE DETAIL #21/M6.01.
8. SPLITY SYSTEM DUCTLESS (CASSETTE TYPE) FAN COIL UNIT, SEE SCHEDULE SHEET M5.01 FOR INFORMATION. SEE DETAIL #19/M6.01
9. (E) MAKE-UP AIR LOUVER (ABOVE DOOR).
10. 8"x4" OSA LOUVER (0.2 SQUARE FEET, 50% FREE AREA), REFER TO ARCHITECTURAL DRAWINGS.



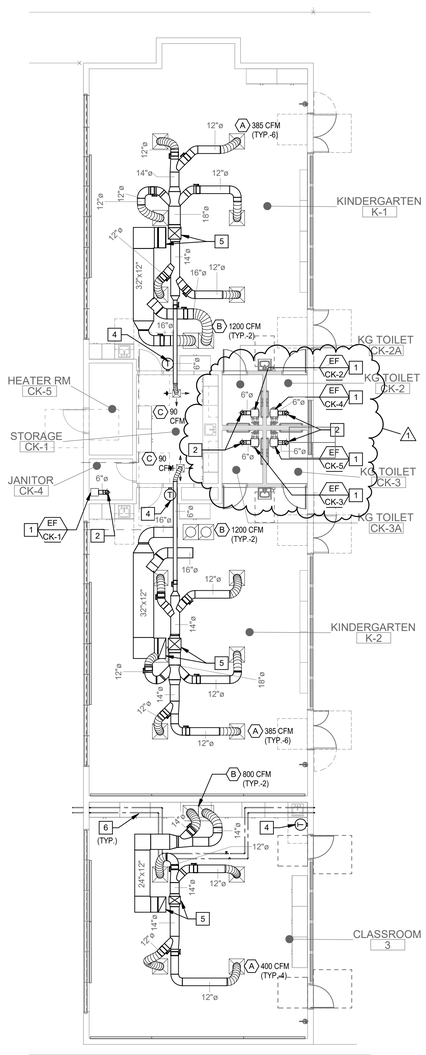
4 FLOOR PLAN - BUILDING C3
1/8" = 1'-0"



3 FLOOR PLAN - BUILDING C2
1/8" = 1'-0"



2 FLOOR PLAN - BUILDING C1
1/8" = 1'-0"



1 FLOOR PLAN - BUILDING CK
1/8" = 1'-0"

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FINLEY ES HVAC UPGRADE & MODERNIZATION

PROJECT ADDRESS:
13521 Edwards St.
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DSA SUBMITTAL

DSA APPL NO.: 04-121614 DSA FILE NO.: 30-43

KEY PLAN
NORTH: PLAN TRUE

Consultant

REGISTERED PROFESSIONAL ENGINEER REX DAVID RAND No.M36155 Exp.09-30-2024 STATE OF CALIFORNIA

Architect

CLIENT
WESTMINSTER SCHOOL DISTRICT

DATE	PROJECT NUMBER
12-28-2022	220307

REVISIONS

No.	Description	Date
1	Addendum #1	10/09/2023

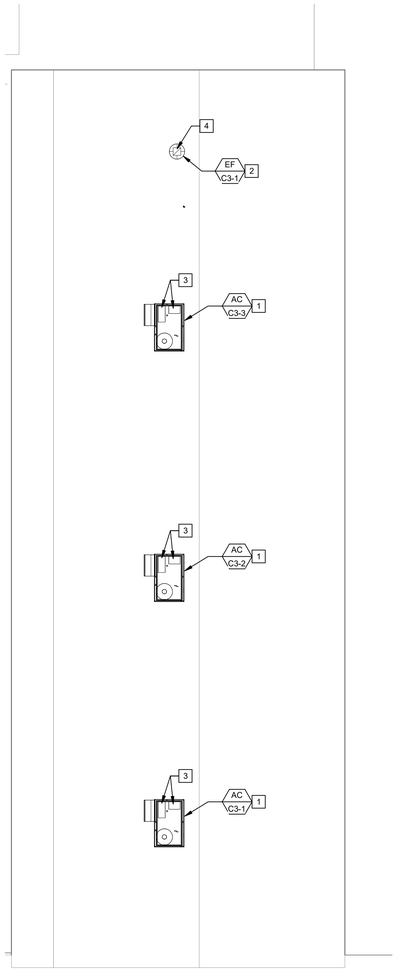
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MECHANICAL FLOOR PLANS

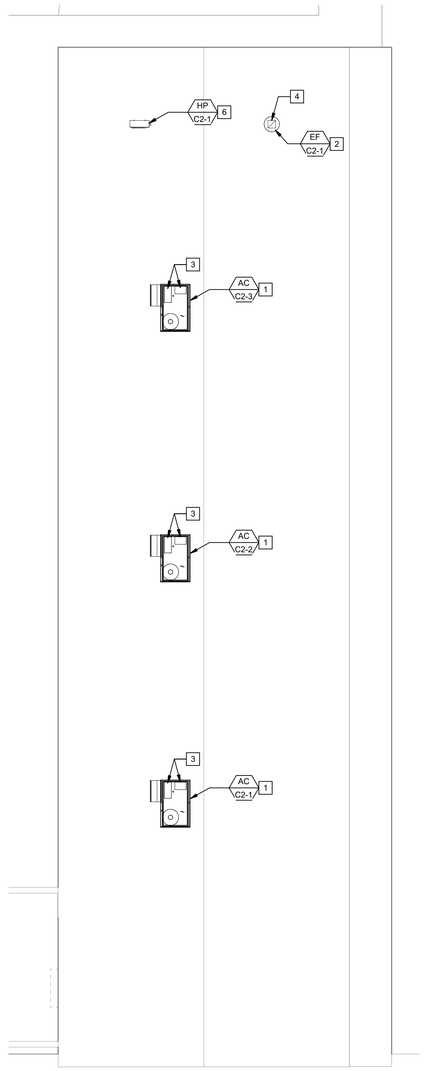
M2.01

M4.01 - MECHANICAL ROOF PLANS

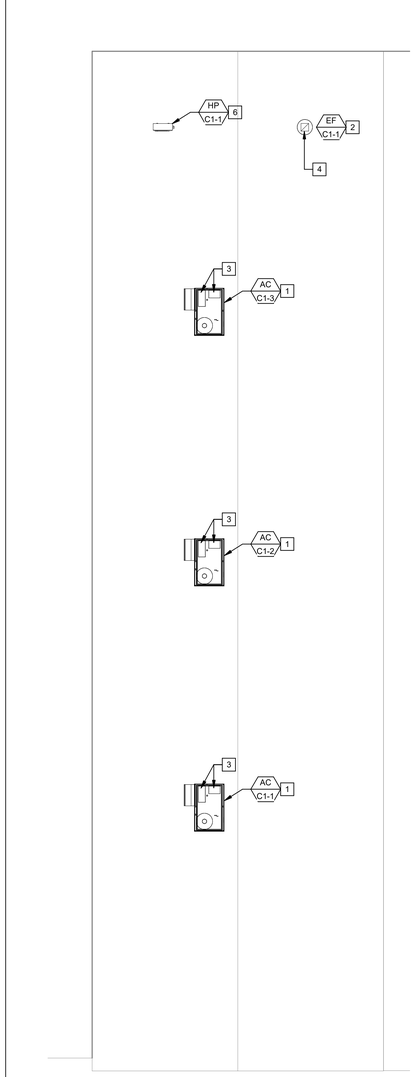
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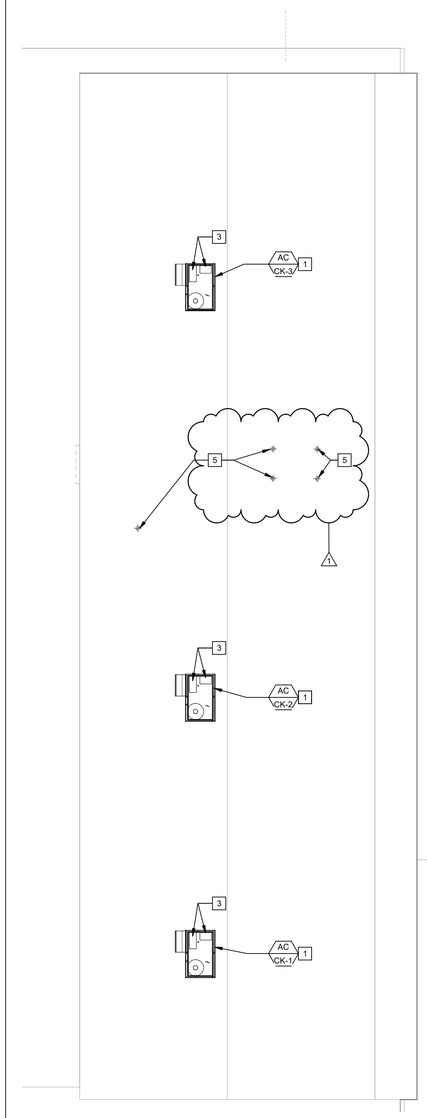
4 MECHANICAL ROOF PLAN - BUILDING C3
1/8" = 1'-0"



3 MECHANICAL ROOF PLAN - BUILDING C2
1/8" = 1'-0"



2 MECHANICAL ROOF PLAN - BUILDING C1
1/8" = 1'-0"



1 MECHANICAL ROOF PLAN - BUILDING CK
1/8" = 1'-0"

KEY NOTES

1. ROOFTOP PACKAGE HEAT PUMP UNIT, SEE SCHEDULE SHEET M5.01 FOR INFORMATION. SEE DETAIL #2/M6.01.
2. ROOF MOUNTED EXHAUST FAN, SEE SCHEDULE SHEET M5.01 DOR INFORMAITON. SEE DETAIL #25/M6.01
3. SA & RA DUCT DN. THROUGH ROOF, SEE DETAIL #2/M6.01.
4. EA DUCT DN. THROUGH ROOF, SEE DETAIL #25/M6.01.
5. EA DUCT DN. THROUGH ROOF, TERMINATE ON ROOF WITH ROOF JACK. SEE DETAIL #21/M6.01.
6. ROOF MOUTNED SPLIT SYSTEM (OUTDOOR) HEAT PUMP UNIT, SEE SCHEDULE SHEET M5.01 FOR INFORMATION. SEE DETAIL #6/M6.01.

PBK

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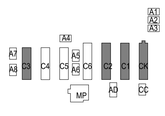
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FINLEY ES HVAC UPGRADE & MODERNIZATION

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Westminster, CA 92683

DSA SUBMITTAL

DSA APPL NO.: 04-121814 DSA FILE NO.: 30-43



KEY PLAN NORTH: PLAN TRUE

Consultant

REGISTERED PROFESSIONAL ENGINEER
REX DAVID WANG
No.M36155
Exp.09-30-2024
STATE OF CALIFORNIA

Architect

CLIENT
WESTMINSTER SCHOOL DISTRICT

DATE	PROJECT NUMBER
12-28-2022	220307

REVISIONS

No.	Description	Date
1	Addendum #1	10/09/2023

DSA SUBMITTAL

MECHANICAL ROOF PLANS

M4.01

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M5.01 - MECHANICAL SCHEDULES

ROOFTOP PACKAGED AIR CONDITIONING (HEAT PUMP) UNIT SCHEDULE

UNIT	MANUFACTURER & MODEL NO.	CFM	TONNAGE	TYPE	ESP (IN. WG)	COOLING CAP (MBH) TOTAL	COOLING CAP (MBH) SENS.	EVAP. ENT. AIR TEMP. (°F) DB	EVAP. ENT. AIR TEMP. (°F) WB	EVAP. LEAV. AIR TEMP. (°F) DB	EVAP. LEAV. AIR TEMP. (°F) WB	ENT. COND. TEMP. (°F) SUMMER DB	ENT. COND. TEMP. (°F) SUMMER WB	ENT. COND. TEMP. (°F) WINTER DB	EER SEER	HEATING CAPACITIES (MBH) TOTAL	HEATING CAPACITIES (MBH) INTEGRATED	COP HIGH TEMP.	COP LOW TEMP.	HSPF	INDOOR FAN NO.	INDOOR FAN RPM	INDOOR FAN HP/BHP	INDOOR FAN DRIVE	COMPRESSOR NO.	COMPRESSOR RLA	COMPRESSOR LRA	POWER EXHAUST PART #	POWER EXHAUST CFM	POWER EXHAUST HP	POWER EXHAUST FLA	POWER EXHAUST MCA	POWER EXHAUST MOCP	POWER EXHAUST V	POWER EXHAUST PHASE	POWER EXHAUST HZ	POWER EXHAUST OPER. WT. (LBS)	ELECTRICAL OFM NO.	ELECTRICAL OFM (FLA)	ELECTRICAL IFM (FLA)	ELECTRICAL V	ELECTRICAL PHASE	ELECTRICAL HZ	ELECTRICAL UNIT MCA	ELECTRICAL UNIT MCOP	FILTERS (IN.) MERV 13	OPER. WT. (LBS) (UNIT + CURB)	OSA CFM	ANCHORAGE DETAIL	REMARKS
AC C1-1	CARRIER 50FCQM05	1,600	4.0	VERTICAL	1.0	49.40	42.68	80.3	64.4	55.5	54.0	88.0	68.0	41.0	- 14.3	41.91	41.0	3.7	2.3	8.2	1	1680	3.0/ 0.51	Direct	1	13.7	83	MICROMETL PECD-SRT12CB-D2DH-2LH	1,600	1/2	3.9	4.9	8.8	230	3	60	191	1	1.5	5.0	230	3	60	24	30	(4) 16"x16"x2"	595 + 347 = 942	360	2 M6.01	1 2 3 4 5 7 8 9 10 11 12 13
AC C1-2	CARRIER 50FCQM05	1,600	4.0	VERTICAL	1.0	49.40	42.68	80.3	64.4	55.5	54.0	88.0	68.0	41.0	- 14.3	41.91	41.0	3.7	2.3	8.2	1	1680	3.0/ 0.51	Direct	1	13.7	83	MICROMETL PECD-SRT12CB-D2DH-2LH	1,600	1/2	3.9	4.9	8.8	230	3	60	191	1	1.5	5.0	230	3	60	24	30	(4) 16"x16"x2"	595 + 347 = 942	360	2 M6.01	1 2 3 4 5 7 8 9 10 11 12 13
AC C1-3	CARRIER 50FCQM05	1,600	4.0	VERTICAL	1.0	49.40	42.68	80.3	64.4	55.5	54.0	88.0	68.0	41.0	- 14.3	41.91	41.0	3.7	2.3	8.2	1	1680	3.0/ 0.51	Direct	1	13.7	83	MICROMETL PECD-SRT12CB-D2DH-2LH	1,600	1/2	3.9	4.9	8.8	230	3	60	191	1	1.5	5.0	230	3	60	24	30	(4) 16"x16"x2"	595 + 347 = 942	360	2 M6.01	1 2 3 4 5 7 8 9 10 11 12 13
AC C2-1	CARRIER 50FCQM05	1,600	4.0	VERTICAL	1.0	49.40	42.68	80.3	64.4	55.5	54.0	88.0	68.0	41.0	- 14.3	41.91	41.0	3.7	2.3	8.2	1	1680	3.0/ 0.51	Direct	1	13.7	83	MICROMETL PECD-SRT12CB-D2DH-2LH	1,600	1/2	3.9	4.9	8.8	230	3	60	191	1	1.5	5.0	230	3	60	24	30	(4) 16"x16"x2"	595 + 347 = 942	360	2 M6.01	1 2 3 4 5 7 8 9 10 11 12 13
AC C2-2	CARRIER 50FCQM05	1,600	4.0	VERTICAL	1.0	49.40	42.68	80.3	64.4	55.5	54.0	88.0	68.0	41.0	- 14.3	41.91	41.0	3.7	2.3	8.2	1	1680	3.0/ 0.51	Direct	1	13.7	83	MICROMETL PECD-SRT12CB-D2DH-2LH	1,600	1/2	3.9	4.9	8.8	230	3	60	191	1	1.5	5.0	230	3	60	24	30	(4) 16"x16"x2"	595 + 347 = 942	360	2 M6.01	1 2 3 4 5 7 8 9 10 11 12 13
AC C2-3	CARRIER 50FCQM05	1,600	4.0	VERTICAL	1.0	49.40	42.68	80.3	64.4	55.5	54.0	88.0	68.0	41.0	- 14.3	41.91	41.0	3.7	2.3	8.2	1	1680	3.0/ 0.51	Direct	1	13.7	83	MICROMETL PECD-SRT12CB-D2DH-2LH	1,600	1/2	3.9	4.9	8.8	230	3	60	191	1	1.5	5.0	230	3	60	24	30	(4) 16"x16"x2"	595 + 347 = 942	360	2 M6.01	1 2 3 4 5 7 8 9 10 11 12 13
AC C3-1	CARRIER 50FCQM06	2,000	5.0	VERTICAL	1.0	61.62	55.91	80.8	64.4	54.8	54.0	88.0	68.0	41.0	- 14.3	51.69	50.56	3.8	2.3	8.2	1	1790	3.0/ 0.6	Direct	1	16.0	110	MICROMETL PECD-SRT12CB-D2DH-2L1	2,000	1	6.4	8.0	14.4	230	3	60	191	1	1.5	7.2	230	3	60	29	40	(4) 16"x16"x2"	610 + 347 = 957	360	2 M6.01	1 2 3 4 5 6 7 8 9 10 11 12 13
AC C3-2	CARRIER 50FCQM06	2,000	5.0	VERTICAL	1.0	61.62	55.91	80.8	64.4	54.8	54.0	88.0	68.0	41.0	- 14.3	51.69	50.56	3.8	2.3	8.2	1	1790	3.0/ 0.6	Direct	1	16.0	110	MICROMETL PECD-SRT12CB-D2DH-2L1	2,000	1	6.4	8.0	14.4	230	3	60	191	1	1.5	7.2	230	3	60	29	40	(4) 16"x16"x2"	610 + 347 = 957	360	2 M6.01	1 2 3 4 5 6 7 8 9 10 11 12 13
AC C3-3	CARRIER 50FCQM05	1,600	4.0	VERTICAL	1.0	49.40	42.68	80.3	64.4	55.5	54.0	88.0	68.0	41.0	- 14.3	41.91	41.0	3.7	2.3	8.2	1	1680	3.0/ 0.51	Direct	1	13.7	83	MICROMETL PECD-SRT12CB-D2DH-2LH	1,600	1/2	3.9	4.9	8.8	230	3	60	191	1	1.5	5.0	230	3	60	24	30	(4) 16"x16"x2"	595 + 347 = 942	170	2 M6.01	1 2 3 4 5 7 8 9 10 11 12 13
AC C4-1	CARRIER 50FCQM06	2,000	5.0	VERTICAL	1.0	61.62	55.91	80.8	64.4	54.8	54.0	88.0	68.0	41.0	- 14.3	51.69	50.56	3.8	2.3	8.2	1	1790	3.0/ 0.6	Direct	1	16.0	110	MICROMETL PECD-SRT12CB-D2DH-2L1	2,000	1	6.4	8.0	14.4	230	3	60	191	1	1.5	7.2	230	3	60	29	40	(4) 16"x16"x2"	610 + 347 = 957	360	2 M6.01	1 2 3 4 5 6 7 8 9 10 11 12 13
AC C4-2	CARRIER 50FCQM05	1,600	4.0	VERTICAL	1.0	49.40	42.68	80.3	64.4	55.5	54.0	88.0	68.0	41.0	- 14.3	41.91	41.0	3.7	2.3	8.2	1	1680	3.0/ 0.51	Direct	1	13.7	83	MICROMETL PECD-SRT12CB-D2DH-2LH	1,600	1/2	3.9	4.9	8.8	230	3	60	191	1	1.5	5.0	230	3	60	24	30	(4) 16"x16"x2"	595 + 347 = 942	360	2 M6.01	1 2 3 4 5 7 8 9 10 11 12 13
AC C4-3	CARRIER 50FCQM05	1,600	4.0	VERTICAL	1.0	49.40	42.68	80.3	64.4	55.5	54.0	88.0	68.0	41.0	- 14.3	41.91	41.0	3.7	2.3	8.2	1	1680	3.0/ 0.51	Direct	1	13.7	83	MICROMETL PECD-SRT12CB-D2DH-2LH	1,600	1/2	3.9	4.9	8.8	230	3	60	191	1	1.5	5.0	230	3	60	24	30	(4) 16"x16"x2"	595 + 347 = 942	220	2 M6.01	1 2 3 4 5 7 8 9 10 11 12 13
AC C5-1	CARRIER 50FCQM06	2,000	5.0	VERTICAL	1.0	61.62	55.91	80.8	64.4	54.8	54.0	88.0	68.0	41.0	- 14.3	51.69	50.56	3.8	2.3	8.2	1	1790	3.0/ 0.6	Direct	1	16.0	110	MICROMETL PECD-SRT12CB-D2DH-2L1	2,000	1	6.4	8.0	14.4	230	3	60	191	1	1.5	7.2	230	3	60	29	40	(4) 16"x16"x2"	610 + 347 = 957	360	2 M6.01	1 2 3 4 5 6 7 8 9 10 11 12 13
AC C5-2	CARRIER 50FCQM05	1,600	4.0	VERTICAL	1.0	49.40	42.68	80.3	64.4	55.5	54.0	88.0	68.0	41.0	- 14.3	41.91	41.0	3.7	2.3	8.2	1	1680	3.0/ 0.51	Direct	1	13.7	83	MICROMETL PECD-SRT12CB-D2DH-2LH	1,600	1/2	3.9	4.9	8.8	230	3	60	191	1	1.5	5.0	230	3	60	24	30	(4) 16"x16"x2"	595 + 347 = 942	360	2 M6.01	1 2 3 4 5 7 8 9 10 11 12 13
AC C5-3	CARRIER 50FCQM05	1,600	4.0	VERTICAL	1.0	49.40	42.68	80.3	64.4	55.5	54.0	88.0	68.0	41.0	- 14.3	41.91	41.0	3.7	2.3	8.2	1	1680	3.0/ 0.51	Direct	1	13.7	83	MICROMETL PECD-SRT12CB-D2DH-2LH	1,600	1/2	3.9	4.9	8.8	230	3	60	191	1	1.5	5.0	230	3	60	24	30	(4) 16"x16"x2"	595 + 347 = 942	220	2 M6.01	1 2 3 4 5 7 8 9 10 11 12 13
AC C6-1	CARRIER 50FCQM05	1,600	4.0	VERTICAL	1.0	49.40	42.68	80.3	64.4	55.5	54.0	88.0	68.0	41.0	- 14.3	41.91	41.0	3.7	2.3	8.2	1	1680	3.0/ 0.51	Direct	1	13.7	83	MICROMETL PECD-SRT12CB-D2DH-2LH	1,600	1/2	3.9	4.9	8.8	230	3	60	191	1	1.5	5.0	230	3	60	24	30	(4) 16"x16"x2"	595 + 347 = 942	130	2 M6.01	1 2 3 4 5 7 8 9 10 11 12 13
AC C6-2	CARRIER 50FCQM05	1,600	4.0	VERTICAL	1.0	49.40	42.68	80.3	64.4	55.5	54.0	88.0	68.0	41.0	- 14.3	41.91	41.0	3.7	2.3	8.2	1	1680	3.0/ 0.51	Direct	1	13.7	83	MICROMETL PECD-SRT12CB-D2DH-2LH	1,600	1/2	3.9	4.9	8.8	230	3	60	191	1	1.5	5.0	230	3	60	24	30	(4) 16"x16"x2"	595 + 347 = 942	360	2 M6.01	1 2 3 4 5 7 8 9 10 11 12 13
AC C6-3	CARRIER 50FCQM05	1,600	4.0	VERTICAL	1.0	49.40	42.68	80.3	64.4	55.5	54.0	88.0	68.0	41.0	- 14.3	41.91	41.0	3.7	2.3	8.2	1	1680	3.0/ 0.51	Direct	1	13.7	83	MICROMETL PECD-SRT12CB-D2DH-2LH	1,600	1/2	3.9	4.9	8.8	230	3	60	191	1	1.5	5.0	230	3	60	24	30	(4) 16"x16"x2"	595 + 347 = 942	360	2 M6.01	1 2 3 4 5 7 8 9 10 11 12 13
AC C6-4	CARRIER 50FCQM05	1,600	4.0	VERTICAL	1.0	49.40	42.68	80.3	64.4	55.5	54.0	88.0	68.0	41.0	- 14.3	41.91	41.0	3.7	2.3	8.2	1	1680	3.0/ 0.51	Direct	1	13.7	83	MICROMETL PECD-SRT12CB-D2DH-2LH	1,600	1/2	3.9	4.9	8.8	230	3	60	191	1	1.5	5.0	230	3	60	24	30	(4) 16"x16"x2"	595 + 347 = 942	360	2 M6.01	1 2 3 4 5 7 8 9 10 11 12 13
AC CK-1	CARRIER 50FCQM05	1,600	4.0	VERTICAL	1.0	49.40	42.68	80.3	64.4	55.5	54.0	88.0	68.0	41.0	- 14.3	41.91	41.0	3.7	2.3	8.2	1	1680	3.0/ 0.51	Direct	1	13.7	83	MICROMETL PECD-SRT12CB-D2DH-2LH	1,600	1/2	3.9	4.9	8.8	230	3	60	191	1	1.5	5.0	230	3	60	24	30	(4) 16"x16"x2"	595 + 347 = 942	360	2 M6.01	1 2 3 4 5 7 9 10 11 12 13
AC CK-2	CARRIER 50FCQM07	2,400	6.0	VERTICAL	1.0	74.96	65.59	80.0	64.3	54.6	53.8	88.0	68.0	41.0	11.2 15.0	58.89	57.63	3.6	2.4	-	1	2008	3.0/ 0.84	Direct	1	18	136	MICROMETL PECD-SRT12CB-D2DH-2L1	2,400	1.0	6.4	8.0	14.4	230	3	60	191	1	1.5	7.8	230	3	60	32	45	(4) 16"x16"x2"	640	415	2 M6.01	1 2 3 4 5 6 7 8 9 10 11 12 13
AC CK-3	CARRIER 50FCQM07	2,400	6.0	VERTICAL	1.0	74.96	65.59	80.0	64.3	54.6	53.8	88.0	68.0	41.0	11.2 15.0	58.89	57.63	3.6	2.4	-	1	2008	3.0/ 0.84	Direct	1	18	136	MICROMETL PECD-SRT12CB-D2DH-2L1	2,400	1.0	6.4	8.0	14.4	230	3	60	191	1	1.5	7.8	230	3	60	32	45	(4) 16"x16"x2"	640	440	2 M6.01	1 2 3 4 5 6 7 8 9 10 11 12 13

NOTES:
1. SCHEDULED LOADS INCLUDE FAN AND MOTOR HEAT.
2. PROVIDE ANTI-RECYCLE TIMER, CRANKCASE HEATER, LOW AMBIENT KIT AND HIGH CAPACITY FILTER RACK.
3. PROVIDE FACTORY "MICROMETL" MODULATING ECONOMIZER WITH POWER EXHAUST. AC UNIT SHALL HAVE C02 CONTROL. PROVIDE WITH LOCKING MESH COVER. POWER EXHAUST SHALL BE PROVIDED WITH A SEAPARTE DISCONNECT SWITCH, FIELD WIRED BY ELECTRICAL.
4. PROVIDE VIBRATION ISOLATORS.
5. BYPASS UNIT ANTI-RECYCLE TIMER WHEN ANTI-RECYCLE FUNCTION IS INCLUDED IN THE THERMOSTAT.
6. OVERALL SMOKE DETECTION SYSTEM PROVIDED BY ELECTRICAL FOR ALL UNITS TO SHUT-OFF UPON DETECTION OF SMOKE AND SIGNAL THE FIRE ALARM SYSTEM, INSTALL IN STRICT ACCORDANCE WITH THE 2019 CALIFORNIA MECHANICAL CODE, SECTION 608. REFER TO ELECTRICAL PLANS AND MECHANICAL TO CONNECT TO ELECTRICAL RELAY. PRIOR TO MECHANICAL PERMIT FINAL, A SMOKE DETECTOR SYSTEM SHUT-OFF TEST WILL BE REQUIRED.
7. PROVIDE WITH FACTORY MOUNTED NON-FUSED DISCONNECT SWITCH.
8. PROVIDE FACTORY CONDENSER COIL GUARDS.
9. PROVIDE T-24 COMPLIANT INTERNET PROGRAMMABLE THERMOSTAT "NT" MODEL X7C WITH DEMAND CONTROL VENTILATION (DCV), C02 SENSORS.
10. UNITS SHALL HAVE DUCT FLEX CONNECTIONS INSTALLED WITHIN ROOF CURB.
11. ALL AC UNITS SHALL HAVE R-410A REFRIGERANT.
12. PROVIDE WITH FACTORY MOUNTED NON-POWERED CONVENIENT OUTLET.
13. UNIT SHALL BE INSTALLED ON A LEVELED BUILT-UP CURB (PROVIDED BY OTHERS).

VRF SYSTEM INDOOR FAN COIL UNIT SCHEDULE

UNIT	MANUFACTURER AND MODEL NO.	SERVICE/ LOCATION	TYPE	CAPACITY (MBH) COOLING TOTAL	CAPACITY (MBH) COOLING SENSIBLE	CAPACITY (MBH) HEATING	OSA TEMP. (°F) SUMMER (DB/WB)	OSA TEMP. (°F) WINTER (DB)	EAT. (°F) (DB/WB)	SUPPLY FAN CFM (H/M/L)	SUPPLY FAN E.S.P. (IN.)	FLOW SELECTOR BOX MANUFACTURER & MODEL NO.	FLOW SELECTOR BOX VOLTAGE	FLOW SELECTOR BOX CURRENT DRAW (AMP)	FLOW SELECTOR BOX MOCP	FLOW SELECTOR BOX TOTAL WT. (LBS.)	ELECTRICAL VOLTAGE	ELECTRICAL UNIT FLA	ELECTRICAL UNIT MCA	ELECTRICAL MOCP	OPER. WT. (LBS.)	ANCHORAGE DETAIL	REMARKS
FC ADM-1	TOSHIBA/CARRIER MMD-AP0126BHPUL	ADMIN. 'ADM' WORKROOM AD1	CONSEALED DUCT	12.0	9.0	13.5	88.0/68.0	41.0	80.0/67.0	395/ 329/ 263	0.4	230V/1ø/60HZ	TOSHIBA/CARRIER RBM-Y0383FUL	<1	15	11	230V/1ø/60HZ	0.88	1.1	15	60	20 M6.01	
FC ADM-2	TOSHIBA/CARRIER MMD-AP0366BHPUL	ADMIN. 'ADM' RECEPTION/CLERK AD3	CONSEALED DUCT	36.0	28.44	40.0	88.0/68.0	41.0	80.0/67.0	1,130/ 954/ 812	0.6	230V/1ø/60HZ	TOSHIBA/CARRIER RBM-Y0613FUL	<1	15	13	230V/1ø/60HZ	2.71	3.39	15	100	20 M6.01	
FC ADM-3	TOSHIBA/CARRIER MMD-AP0126BHPUL	ADMIN. 'ADM' OFFICE AD4	CONSEALED DUCT	12.0	28.44	40.0	88.0/68.0	41.0	80.0/67.0	-/ -/ -	0.4	230V/1ø/60HZ	TOSHIBA/CARRIER RBM-Y0383FUL	<1	15	11	230V/1ø/60HZ	0.88	1.1	15	60	20 M6.01	
FC ADM-4	TOSHIBA/CARRIER MMD-AP0126BHPUL	ADMIN. 'ADM' NURSE AD6	CONSEALED DUCT	12.0	28.44	40.0	88.0/68.0	41.0	80.0/67.0	-/ -/ -	0.4	230V/1ø/60HZ	TOSHIBA/CARRIER RBM-Y0383FUL	<1	15	11	230V/1ø/60HZ	1.85	2.31	15	100	20 M6.01	

NOTES:
1. PROVIDE WITH CONDENSATE DRAIN PAN (PRIMARY AND SECONDARY) FOR FAN COIL UNIT AND ASSOCIATED PIPING.
2. PROVIDE WITH FACTORY FURNISHED & INSTALLED CONDENSATE DRAIN LIFT PUMP (CONDENSATE PUMP SHALL BE POWERED THRU INDOOR FAN COIL UNIT).
3. SIZE REFRIGERANT LINES PER MANUFACTURERS RECOMMENDATIONS.
4. PROVIDE T-24 COMPLIANT INTERNET PROGRAMMABLE THERMOSTAT.
5. CONCEALED/DUCTGED FAN COIL UNIT.
6. PROVIDE DISCONNECT SWITCH.
7. PROVIDE WITH MDEDIUM STATIC MOTOR.

SPLIT SYSTEM (INDOOR) FAN COIL UNIT SCHEDULE

UNIT	MANUFACTURER AND MODEL NO.	CAPACITY (MBH) COOLING (TOTAL/SENSIBLE)	CAPACITY (MBH) HEATING	OSA TEMP. (°F) SUMMER (DB/WB)	OSA TEMP. (°F) WINTER (DB)	EAT. (°F) (DB/WB)	LAT. (°F) (DB/WB)	SUPPLY FAN CFM	SUPPLY FAN E.S.P. (IN.)	ELECTRICAL VOLTAGE	ELECTRICAL UNIT MCA	ELECTRICAL MOCP	OPER. WT. (LBS.)	ANCHORAGE DETAIL	REMARKS
FC C1-1	CARRIER 40MBCQ12	12.0	12.0	91.0/68.0	36.0	57.6	109.7	400 H 340 M 280 L	-	208V/ 1Ø / 60HZ	0.2	6	40	19 M6.01	1 2 3 4 5 6
FC C2-1	CARRIER 40MBCQ12	12.0	12.0	91.0/68.0	36.0	57.6	109.7	400 H 340 M 280 L	-	208V/ 1Ø / 60HZ	0.2	6	40	19 M6.01	1 2 3 4 5 6

NOTES:
1. PROVIDE WITH CONDENSATE DRAIN PAN (PRIMARY AND SECONDARY) FOR FAN COIL UNIT AND ASSOCIATED PIPING.
2. PROVIDE WITH FACTORY FURNISHED & INSTALLED CONDENSATE DRAIN LIFT PUMP (CONDENSATE PUMP SHALL BE POWERED THRU INDOOR FAN COIL UNIT).
3. SIZE REFRIGERANT LINES PER MANUFACTURERS RECOMMENDATIONS.
4. PROVIDE T-24 COMPLAINT INTERNET PROGRAMMABLE THERMOSTAT.
5. CASSETTE TYPE DUCTLESS FAN COIL UNIT, POWERED BY OUTDOOR HEAT PUMP.
6. PROVIDE WITH MDEDIUM STATIC MOTOR.

SPLIT SYSTEM (OUTDOOR) HEAT PUMP UNIT SCHEDULE

UNIT	MANUFACTURER AND MODEL NO.	COOLING CAP. (MBH) COOLING (TOTAL/SENSIBLE)	COOLING CAP. (MBH) HEATING	COP/ HSPF	AMB. TEMP.(°F) SUMMER (DB/WB)	AMB. TEMP.(°F) WINTER (DB)	E.E.R. I.E.E.R.	ELECTRICAL COMPRESSOR QTY.	ELECTRICAL COMPRESSOR RLA	ELECTRICAL OUTDOOR FAN QTY.	ELECTRICAL MCA	ELECTRICAL MOCP	ELECTRICAL VOLTAGE	OPER WT. (LBS)	ANCHORAGE DETAIL	REMARKS
HP C1-1	CARRIER 38MARBQ12AA3	12.0	12.0	3.22/ 10.6	91.0/68.0	36.0	12.7 EER 21.5 SEER	1	8.5	1	15	15	208V / 1Ø / 60HZ	75	6 M6.01	
HP C2-1	CARRIER 38MARBQ12AA3	12.0	12.0	3.22/ 10.6	91.0/68.0	36.0	12.7 EER 21.5 SEER	1	8.5	1	15	15	208V / 1Ø / 60HZ	75	6 M6.01	

NOTES:
1. PROVIDE CRANKCASE HEATER, HIGH & LOW PRESSURE SWITCHES.
2. PROVIDE LOW AMBIENT KIT.
3. PROVIDE 3/4" EXPAND METAL CONDENSING COIL GUARD.
4. PROVIDE MINIMUM CLEARANCE AROUND EACH UNIT PER THE MANUFACTURER'S RECOMMENDATIONS.
5. SIZE REFRIGERANT (R410A) LINES PER MANUFACTURERS RECOMMENDATIONS. PROVIDE LONG LINE KIT IF REQUIRED.
6. PROVIDE HAIL-GUARD.
7. PROVIDE WITH HOUSEKEEPING PAD.
8. ALL HEAT PUMP UNITS ARE ROOF MOUNTED.

VRF SYSTEM OUTDOOR HEAT RECOVERY UNIT SCHEDULE

UNIT	MANUFACTURER AND MODEL NO.	TYPE	COOLING CAP. (MBH) COOLING (TOTAL/SENSIBLE)	COOLING CAP. (MBH) HEATING	COP	AMB. TEMP.(°F) SUMMER (DB/WB)	AMB. TEMP.(°F) WINTER (DB)	SCHE	E.E.R. I.E.E.R.	ELECTRICAL COMPRESSOR QTY.	ELECTRICAL COMPRESSOR RLA	ELECTRICAL OUTDOOR FAN QTY.	ELECTRICAL MCA	ELECTRICAL MOCP	ELECTRICAL VOLTAGE	OPER WT. (LBS)	ANCHORAGE DETAIL	REMARKS
HP ADM-1	TOSHIBA/CARRIER MMY-MAP0726FT2P-UL	ROOF MOUNTED	69.0	77.0	3.42	88.0/68.0	41.0	26.9	12.6 19.5	2	-	2	47	50	230V / 3Ø / 60HZ	600	6 M6.01	

NOTES:
1. PROVIDE CRANKCASE HEATER, HIGH & LOW PRESSURE SWITCHES.
2. PROVIDE LOW AMBIENT KIT.
3. PROVIDE 3/4" EXPAND METAL CONDENSING COIL GUARD.
4. PROVIDE MINIMUM CLEARANCE AROUND EACH UNIT PER THE MANUFACTURER'S RECOMMENDATIONS.
5. SIZE REFRIGERANT (R410A) LINES PER MANUFACTURERS RECOMMENDATIONS. PROVIDE LONG LINE KIT IF REQUIRED.
6. PROVIDE HAIL-GUARD.
7. PROVIDE WITH HOUSEKEEPING PAD.
8. ALL HEAT PUMP UNITS ARE ROOF MOUNTED.
9. PROVIDE UNIT WITH HEAT RECOVERY.

FANS SCHEDULE

UNIT	MANUFACTURER & MODEL NO.	SERVICE	TYPE	CFM	SP IN W.G.	FAN RPM	MOTOR HP/ BHP	MOTOR FLA	MOTOR VOLT	MOTOR PH	MOTOR HZ	SONES	OPER WT. (LBS)	ANCHORAGE DETAIL	REMARKS
EF ADM-1	GREENHECK SP-A50-90-VG	BUILDING "ADM" MEN'S TOILET AD9	CEILING/SUSPENDED	70	0.25	838	6 WATTS	0.29	115	1	60	2.0	15	11 M6.01	2 5 6 8 9 10
EF ADM-2	GREENHECK SP-A50-90-VG	BUILDING "ADM" WOMEN'S TOILET AD12	CEILING/SUSPENDED	70	0.25	838	6 WATTS	0.29	115	1	60	2.0	15	11 M6.01	2 5 6 8 9 10
EF ADM-3	GREENHECK SP-A50-90-VG	BUILDING "ADM" UNISEX ACC. TOILET AD5	CEILING/SUSPENDED	70	0.25	838	6 WATTS	0.29	115	1	60	2.0	15	11 M6.01	2 5 6 8 9 10
EF C1-1	GREENHECK GB100HP-4	BUILDING "C1" GIRL'S TOILET C1-1	ROOF MOUNTED	350	0.5	1326	1/4 0.09	5.8	115	1	60	5.5	75	25 M6.01	1 2 3 4 6 8
EF C2-1	GREENHECK GB100-4	BUILDING "C2" BOY'S TOILET C2-1	ROOF MOUNTED	420	0.5	1151	1/4 0.09	5.8	115	1	60	3.9	75	25 M6.01	1 2 3 4 6 8
EF C3-1	GREENHECK GB100HP-4	BUILDING "C3" GIRL'S TOILET C3-1	ROOF MOUNTED	350	0.5	1326	1/4 0.09	5.8	115	1	60	5.5	75	25 M6.01	1 2 3 4 6 8
EF C4-1	GREENHECK GB100HP-4	BUILDING "C4" JANITORS C4-1	ROOF MOUNTED	350	0.5	1326	1/4 0.09	5.8	115	1	60	5.5	75	25 M6.01	1 2 3 4 6 8
EF C5-1	GREENHECK GB100-4	BUILDING "C5" BOY'S TOILET C5-1	ROOF MOUNTED	420	0.5	1151	1/4 0.09	5.8	115	1	60	3.9	75	25 M6.01	1 2 3 4 6 8
EF CK-1	GREENHECK SP-A50-90-VG	BUILDING "CK" JANITOR CK-4	CEILING/SUSPENDED	70	0.25	838	6 WATTS	0.29	115	1	60	2.0	15	11 M6.01	2 4 6 8
EF CK-2	GREENHECK SP-A50-90-VG	BUILDING "CK" KG TOILET CK-2A	CEILING/SUSPENDED	70	0.25	838	6 WATTS	0.29	115	1	60	2.0	15	11 M6.01	2 4 6 8
EF CK-3	GREENHECK SP-A50-90-VG	BUILDING "CK" KG TOILET CK-3A	CEILING/SUSPENDED	70	0.25	838	6 WATTS	0.29	115	1	60	2.0	15	11 M6.01	2 4 6 8
EF CK-4	GREENHECK SP-A50-90-VG	BUILDING "CK" KG TOILET CK-2	CEILING/SUSPENDED	70	0.25	838	6 WATTS	0.29	115	1	60	2.0	15	11 M6.01	2 4 6 8
EF CK-5	GREENHECK SP-A50-90-VG	BUILDING "CK" KG TOILET CK-3	CEILING/SUSPENDED	70	0.25	838	6 WATTS	0.29	115	1	60	2.0	15	11 M6.01	2 4 6 8
SF ADM-1	GREENHECK SQ-90	BUILDING "ADM" ADMIN. AREA	CEILING MOUNTED INLINE	300	0.507	1550	1/10 0.06	-	115	1	60	7.4	50	11 M6.01	3 5 6 7

NOTES:
1. PROVIDE FACTORY ROOF CURB. SLOPE TO MATCH EXISTING ROOF SLOPE, AS REQUIRED.
2. FAN SHALL OPERATE ON A TIME CLOCK SCHEDULE PROVIDED BY THE SCHOOL DISTRICT.
3. PROVIDE BACKDRAFT DAMPER FOR ALL FANS.
4. INTERLOCK FAN WITH A/C UNIT SERVING ADJAMENT CLASSROOM.
5. INTERLOCK SUPPLY FAN WITH ALL FAN COIL UNITS SERVING ADMIN. AREA.
6. PROVIDED FACTORY SOLID STATE CONTROLLER MOUNTED WITHIN THE FAN'S CASING.
7. PROVIDE WITH MERV 13 FILTERS.
8. PROVIDE WITH FACTORY SEISMIC HANKING KIT.
9. PROVIDE WITH FACTORY WHITE GRILLE.
10. PROVIDE WITH FACTORY BACKDRAFT DAMPER.

AIR DISTRIBUTION SCHEDULE

SYMBOL	TYPE	MAKE & MODEL	DESCRIPTION
A	CEILING SUPPLY	TITUS MODEL MCD	MODULAR CORE DIFFUSER WITH FRAME FOR LAY-IN T-BAR CEILING, FLUSH FACE MOUNTING.
B	CEILING RETURN	TITUS MODEL PAR	PERFORATED FACE DIFFUSER WITH FRAME FOR LAY-IN T-BAR CEILING, FLUSH FACE MOUNTING.
C	CEILING SUPPLY	TITUS MODEL MCD	MODULAR CORE DIFFUSER WITH RAPID MOUNT FRAME MODEL TRM FOR SURFACE MOUNTING.
D	CEILING RETURN/EXHASUT	TITUS MODEL 50F	EGG CRATE GRILLE REGISTER WITH RAPID MOUNT FRAME TRM FOR SURFACE MOUNTING.
E	SIDEWALL SUPPLY	TITUS MODEL 1700	DOUBLE DEFLECTION HORIZONTAL 5° DOWN FRONT GRILLE WITH 1/2" BLADE SPACING, FRAME FOR WALL MOUNTING.
F	CEILING SUPPLY	TITUS MODEL ML-38-2B	ALUMINUM LINEAR SLOT DIFFUSER, 3/4" SLOT,4-SLOT, PATTERN CONTROLLER, FLANGED BORDER FOR SURFACE MOUNTING, OPTIONAL PLENUM IN 2,3,4 OR 5 FOOT SECTIONS PER PLANS, COLOR PER ARCHITECT.

NOTES:
1. REFER TO THE FLOOR PLANS FOR NECK SIZE, CFM, AIR DIFFUSION PATTERN AND FIRE/DAMPER, IF REQUIRED.
2. PROVIDE AIR CONTROL GRID FOR ALL CEILING SUPPLY DIFFUSERS SET AT 90°.

PBK

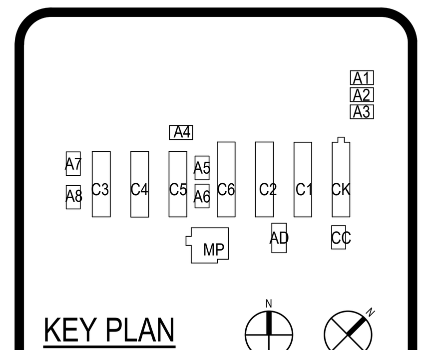
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FINLEY ES HVAC UPGRADE & MODERNIZATION

PROJECT ADDRESS:
13521 Edwards St.,
Westminster, CA 92683

DSA SUBMITTAL
DSA APPL NO.: 04-121814 DSA FILE NO.: 30-43



KEY PLAN
NORTH: PLAN TRUE

Consultant



Architect

CLIENT
WESTMINSTER SCHOOL DISTRICT

DATE	PROJECT NUMBER
12-28-2022	220307

REVISIONS

No.	Description	Date
1	Addendum #1	10/09/2023

DSA SUBMITTAL

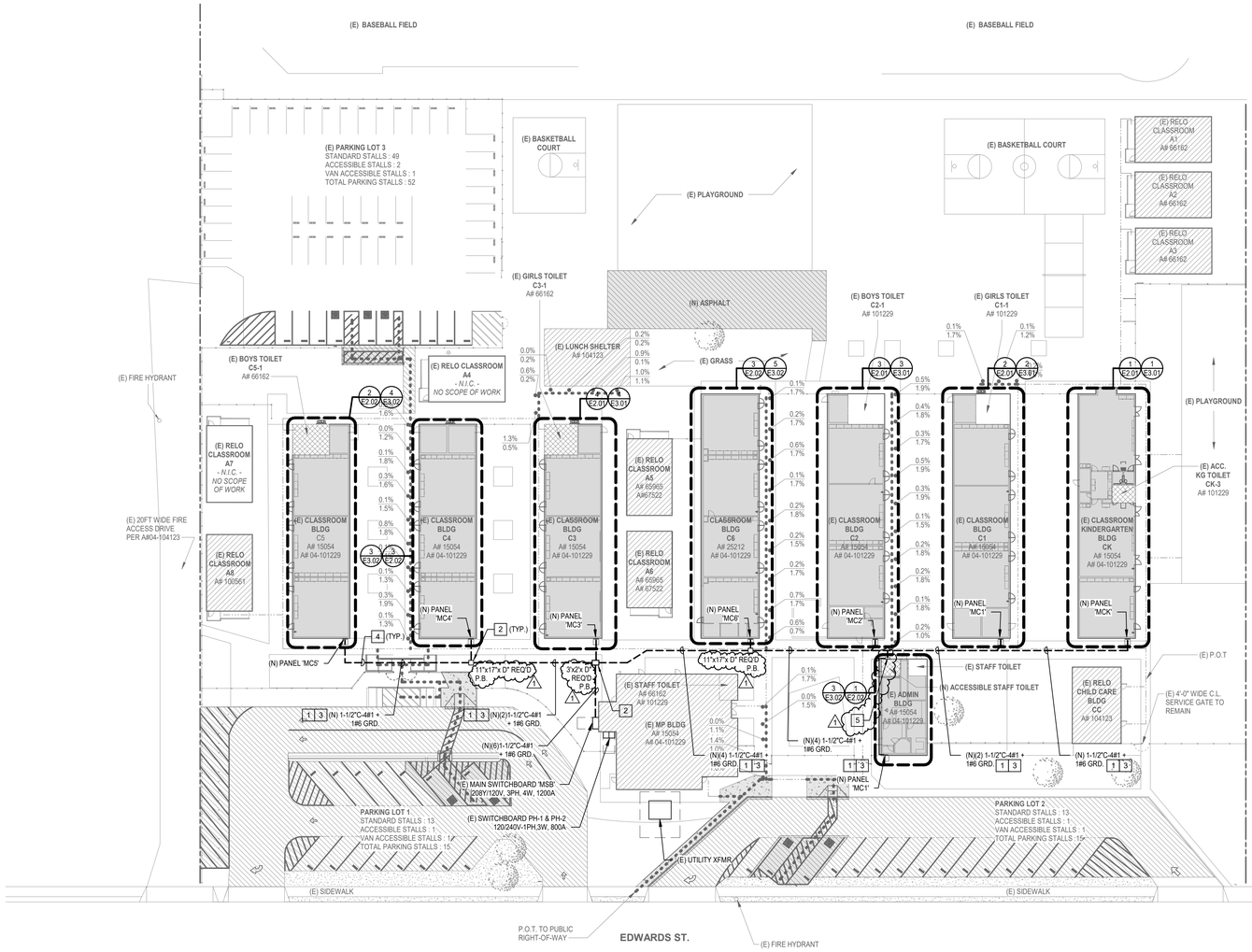
MECHANICAL SCHEDULES

M5.01

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E1.01 - ELECTRICAL SITE PLAN

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GENERAL NOTES

1. THE EXISTING BUILDING INCLUDING PORTIONS OF THE RENOVATED AREA SHALL REMAIN IN SERVICE DURING THE CONSTRUCTION PHASE OF THIS PROJECT. ANY MODIFICATIONS TO THE EXISTING ELECTRICAL SYSTEMS THAT MAY REQUIRE THE TEMPORARY INTERRUPTION OF EXISTING SERVICES SHALL BE COORDINATED AND PRE-SCHEDULED WITH THE OWNER'S REPRESENTATIVE PRIOR TO STARTING ANY WORK.
2. COORDINATE ROUTING FOR ALL UNDERGROUND ELECTRICAL BRANCH CIRCUITS AND FEEDERS WITH OTHER DISCIPLINES PRIOR TO TRENCHING.
3. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO EXISTING UTILITIES CAUSED BY INSTALLATION OF NEW WORK.
4. CONTRACTOR SHALL BE RESPONSIBLE TO DEMOLISH TEMPORARY INFRASTRUCTURE SERVING THE INTERIM HOUSING AND BRING IT BACK TO ORIGINAL CONDITION, UPON COMPLETION OF THE MODERNIZATION PROJECT.

KEY NOTES

1. PROVIDE UNDERGROUND CONDUIT AND WIRING.
2. PROVIDE AND INSTALL IN-GROUND H-20 TRAFFIC RATED PULLBOX . SIZE PER NEC 314.28(A). REFER TO DETAIL 3/E6.01 FOR CONDUIT PLACEMENT DETAIL.
3. SEE SINGLE LINE DIAGRAM FOR WIRE SIZING AND QUANTITY ON SHEET E5.01.
4. SAWCUT, TRENCH AND EXCAVATE AS REQUIRED TO INSTALL CONDUITS AND FEEDERS AS INDICATED. BACKFILL, TAMP AND RESURFACE TO ORIGINAL CONDITION. STUB UP INTO EXTERIOR ABOVE GROUND JUNCTION BOX AND CONNECT LOAD SIDE TO NEW PANELBOARD. REFER TO DETAIL 6/E6.01 FOR FURTHER CONDUIT TRENCHING REQUIREMENTS.
5. PROVIDE 12"x12"x4" WALL MOUNTED PULLBOX, NEMA 3R RATED ENCLOSURE.

1 ELECTRICAL SITE PLAN
1" = 30'-0"

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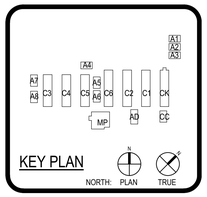
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FINLEY ES HVAC UPGRADE & MODERNIZATION

PROJECT ADDRESS:
13521 Edwards St.
Westminster, CA 92683

DSA SUBMITTAL

DSA APPL NO.: 04-121614 DSA FILE NO.: 30-43



KEY PLAN NORTH: PLAN TRUE

Consultant

REGISTERED PROFESSIONAL ENGINEER RONALD C. DE LA CRUZ No. E 23576 Exp. 09-30-2025 ELECTRICAL STATE OF CALIFORNIA

Architect

CLIENT
WESTMINSTER SCHOOL DISTRICT

DATE	PROJECT NUMBER
12-28-2022	220307

REVISIONS

No.	Description	Date
1	ADDENDUM #1	10/06/2023

DSA SUBMITTAL

ELECTRICAL SITE PLAN

E1.01

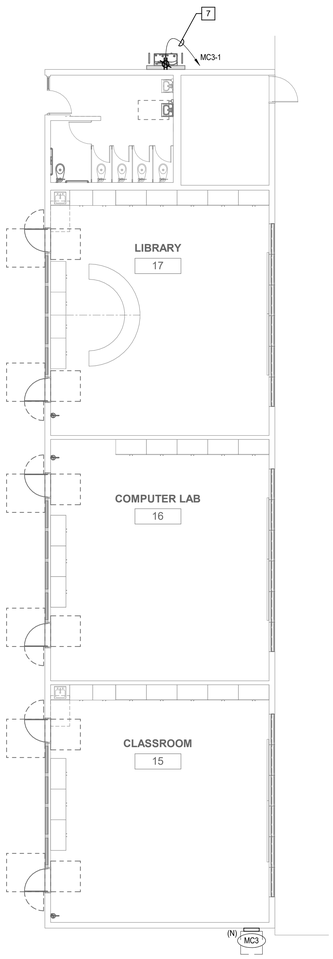
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GENERAL NOTES

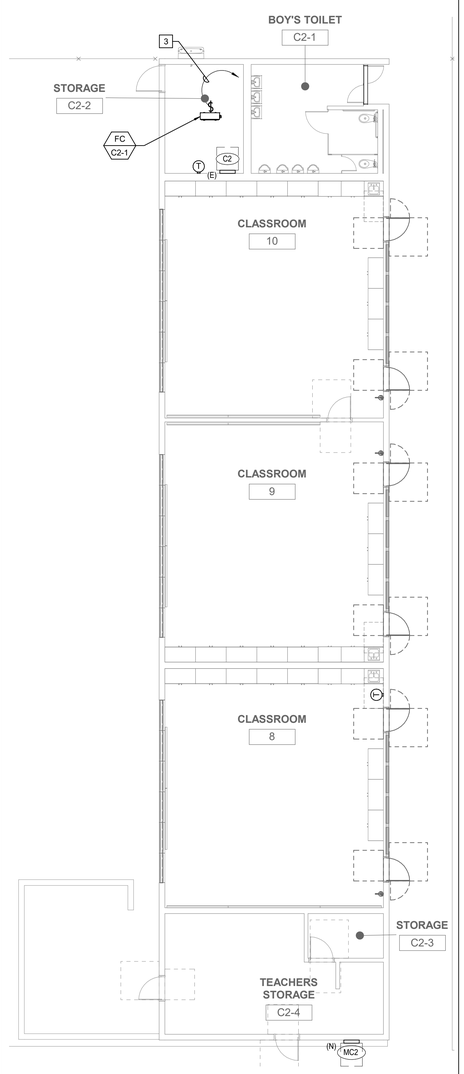
1. THE EXISTING BUILDING INCLUDING PORTIONS OF THE RENOVATED AREA SHALL REMAIN IN SERVICE DURING THE CONSTRUCTION PHASE OF THIS PROJECT. ANY MODIFICATIONS TO THE EXISTING ELECTRICAL SYSTEMS THAT MAY REQUIRE THE TEMPORARY INTERRUPTION OF EXISTING SERVICES SHALL BE COORDINATED AND PRE-SCHEDULED WITH THE OWNER'S REPRESENTATIVE PRIOR TO STARTING ANY WORK.
2. ALL EXISTING POWER/DATA OUTLETS SHALL REMAIN AND BE PROTECTED IN PLACE UNLESS OTHERWISE NOTED.
3. ALL EXISTING CEILING MOUNTED DEVICES SHALL BE REMOVED, STORED AND PROTECTED FOR RE-INSTALLATION.
4. FOR ALL EXISTING CIRCUITS AND DEVICES THAT ARE TO REMAIN, CONTRACTOR TO INCLUDE IN THEIR BID TO REMOVE AND REPLACE ALL MC CABLES ABOVE CEILING SPACES. INTERCEPT ALL CONDUITS ABOVE THE CEILING, PROVIDE NEW HOMERUNS WITH MINIMUM 3/4" EMT AND NEW WIRING THAT MATCHES THE EXISTING, BACK TO THE PANEL SOURCE.

KEY NOTES

1. EXISTING POWER/DATA OUTLETS SHALL REMAIN AND BE PROTECTED IN PLACE.
2. PROVIDE LOCAL DISCONNECT SWITCH TO NEW MECHANICAL UNITS.
3. NEW FAN COIL IS POWERED FROM OUTDOOR HEAT PUMP, PROVIDE 2#12 + 1#12 GRD., STUB UP TO ROOFTOP PACKAGE UNIT.
4. PROVIDE 120V POWER CONNECTION TO SUPPLY FAN.
5. NEW 208/120V-3PH PANEL DEDICATED TO NEW MECHANICAL EQUIPMENT.
6. NEW WALL MOUNTED PULLBOX, 12"x12"xDEPTH REQ'D.
7. PROVIDE 120V POWER CONNECTION TO NEW DRINKING FOUNTAIN. INSTALL 20A/1P GFCI TYPE CIRCUIT BREAKER IN PANEL AND GFCI TYPE RECEPTACLE AT DRINKING FOUNTAIN. 3/4"C-2#12 + 1#12 GRD.
8. PROVIDE 120V POWER CONNECTION TO NEW EXHAUST FAN/S, PROVIDE LOCAL DISCONNECT SWITCH, 3/4"C-2#12 + 1#12 GRD.

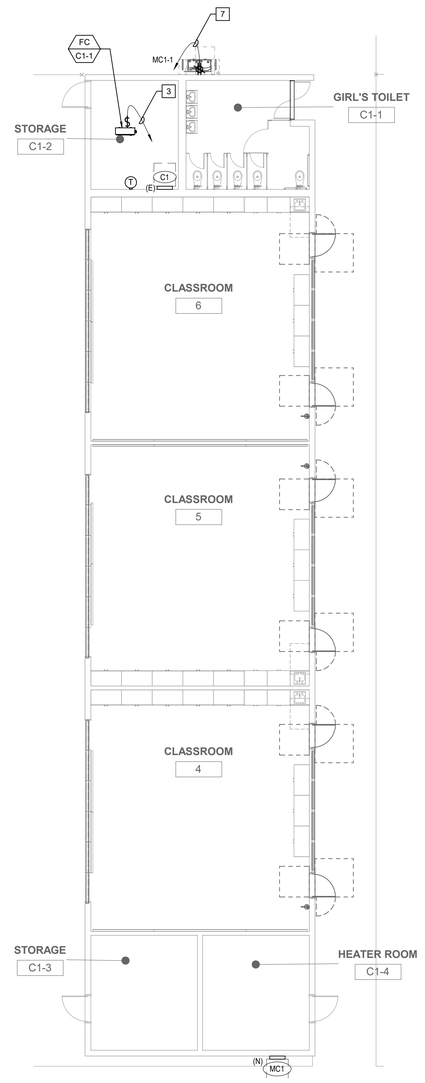


4 POWER PLAN - BUILDING C3
1/8" = 1'-0"

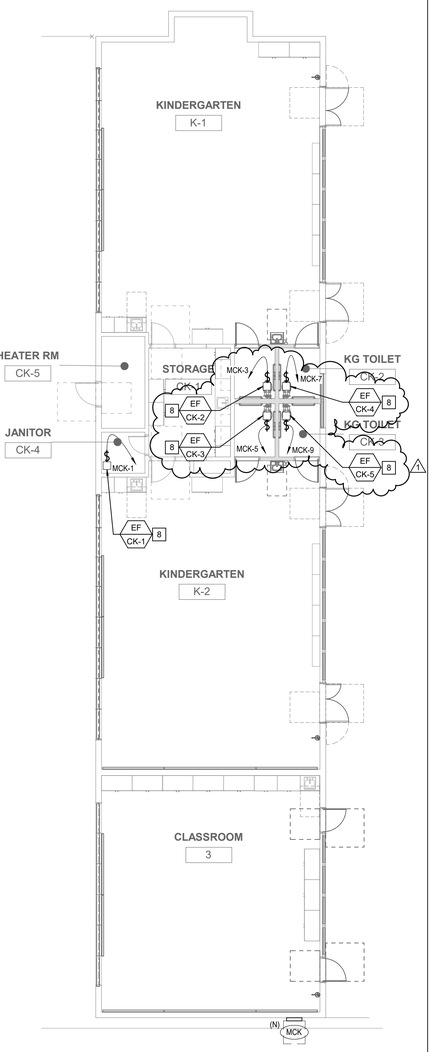


FOR REFERENCE ONLY

3 POWER PLAN - BUILDING C2
1/8" = 1'-0"



2 POWER PLAN - BUILDING C1
1/8" = 1'-0"



1 POWER PLAN - BUILDING CK
1/8" = 1'-0"

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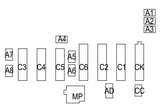
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DSA SUBMITTAL

DSA APPL NO.: 04-121814 DSA FILE NO.: 30-43



KEY PLAN
NORTH: PLAN TRUE

Consultant

REGISTERED PROFESSIONAL ENGINEER
RONALD C DELA CRUZ
No. E 23576
Exp. 09-30-2025
ELECTRICAL
STATE OF CALIFORNIA

Architect

CLIENT
WESTMINSTER SCHOOL DISTRICT

DATE	PROJECT NUMBER
12-28-2022	220307

REVISIONS

No.	Description	Date
1	ADDENDUM #1	10/06/2023

DSA SUBMITTAL

ELECTRICAL POWER PLANS

E2.01

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E2.02 - ELECTRICAL POWER PLANS

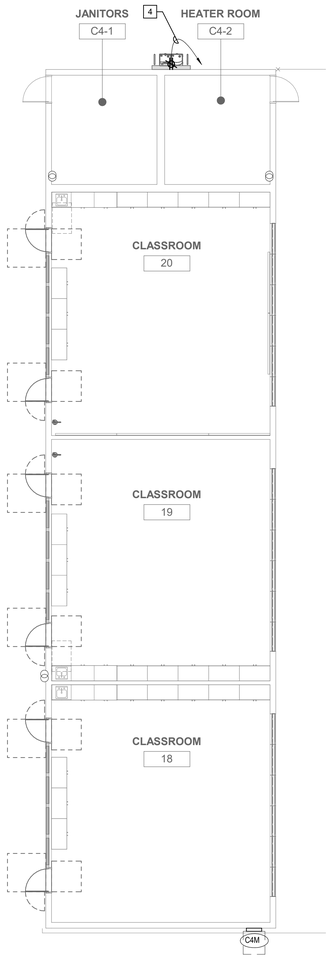
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GENERAL NOTES

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2. ALL EXISTING POWER/DATA OUTLETS SHALL REMAIN AND BE PROTECTED IN PLACE UNLESS OTHERWISE NOTED.
3. ALL EXISTING CEILING MOUNTED DEVICES SHALL BE REMOVED, STORED AND PROTECTED FOR RE-INSTALLATION.
4. FOR ALL EXISTING CIRCUITS AND DEVICES THAT ARE TO REMAIN, CONTRACTOR TO INCLUDE IN THEIR BID TO REMOVE AND REPLACE ALL MC CABLES ABOVE CEILING SPACES. INTERCEPT ALL CONDUITS ABOVE THE CEILING, PROVIDE NEW HOMERUNS WITH MINIMUM 3/4" EMT AND NEW WIRING THAT MATCHES THE EXISTING, BACK TO THE PANEL SOURCE.

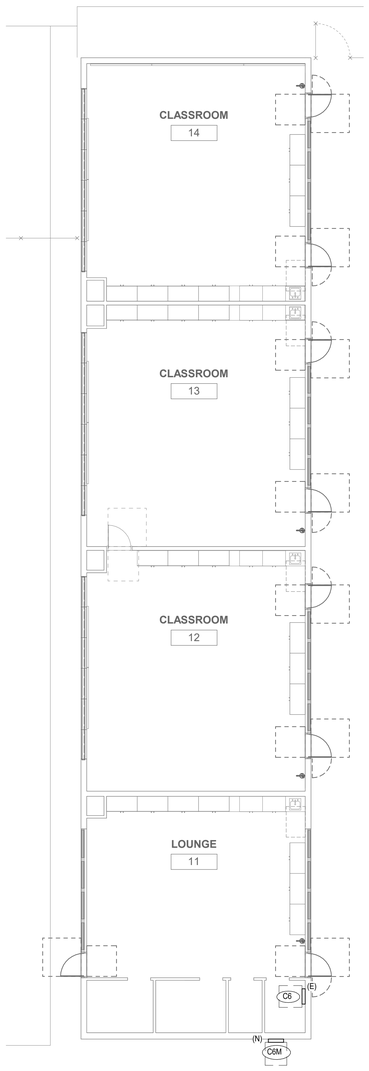
KEY NOTES

1. PROVIDE LOCAL DISCONNECT SWITCH TO NEW MECHANICAL UNITS.
2. NEW FAN COIL IS POWERED FROM OUTDOOR HEAT PUMP, PROVIDE 2#12 + 1#12 GRD., STUB UP TO ROOFTOP PACKAGE UNIT.
3. PROVIDE 120V POWER CONNECTION TO SUPPLY FAN, 3/4"C-2#12 + 1#12 GRD.
4. PROVIDE 120V POWER CONNECTION TO NEW DRINKING FOUNTAIN. INSTALL 20A/1P GFCI TYPE CIRCUIT BREAKER IN NEAREST 120V PANEL AND GFCI TYPE RECEPTACLE AT DRINKING FOUNTAIN. 3/4"C-2#12 + 1#12 GRD.
5. PROVIDE 120V POWER CONNECTION TO NEW EXHAUST FAN/S, PROVIDE LOCAL DISCONNECT SWITCH, 3/4"C-2#12 + 1#12 GRD.



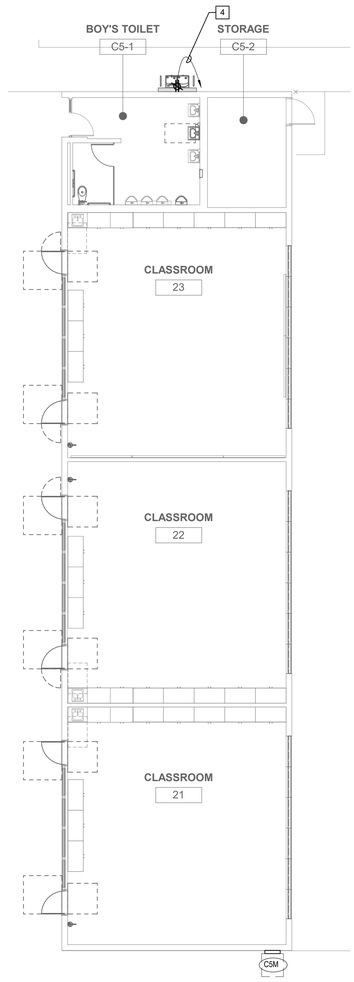
FOR REFERENCE ONLY

4 POWER PLAN - BUILDING C4 — 1/8" = 1'-0"

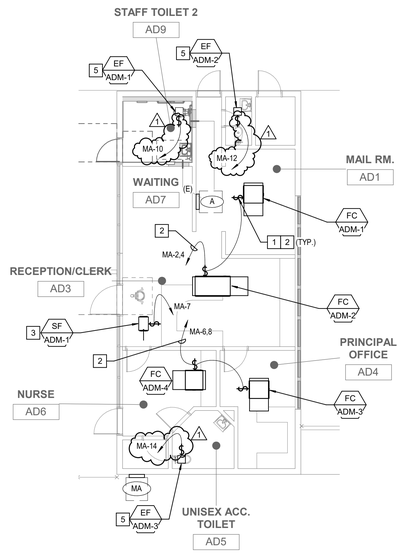


FOR REFERENCE ONLY

3 POWER PLAN - BUILDING C6 — 1/8" = 1'-0"



2 POWER PLAN - BUILDING C5 — 1/8" = 1'-0"



1 POWER PLAN - ADMIN BLDG — 1/8" = 1'-0"

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10/9/2023 3:22:28 PM

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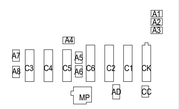
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Rancho Cucamonga, CA 91730
909.987-0909
leafengineers.com

FINLEY ES HVAC UPGRADE & MODERNIZATION

PROJECT ADDRESS:
13521 Edwards St.
Westminster, CA 92683

DSA SUBMITTAL

DSA APPL NO.: 04-121814 DSA FILE NO.: 30-43



KEY PLAN NORTH: PLAN TRUE

Consultant

REGISTERED PROFESSIONAL ENGINEER
RONALD C. DE LA CRUZ
No. E 23576
Exp. 09-30-2025
ELECTRICAL
STATE OF CALIFORNIA

Architect

CLIENT
WESTMINSTER SCHOOL DISTRICT

DATE	PROJECT NUMBER
12-28-2022	220307

REVISIONS

No.	Description	Date
1	ADDENDUM #1	10/06/2023

DSA SUBMITTAL

ELECTRICAL POWER PLANS

E2.02

E4.01 - ELECTRICAL ROOF PLANS

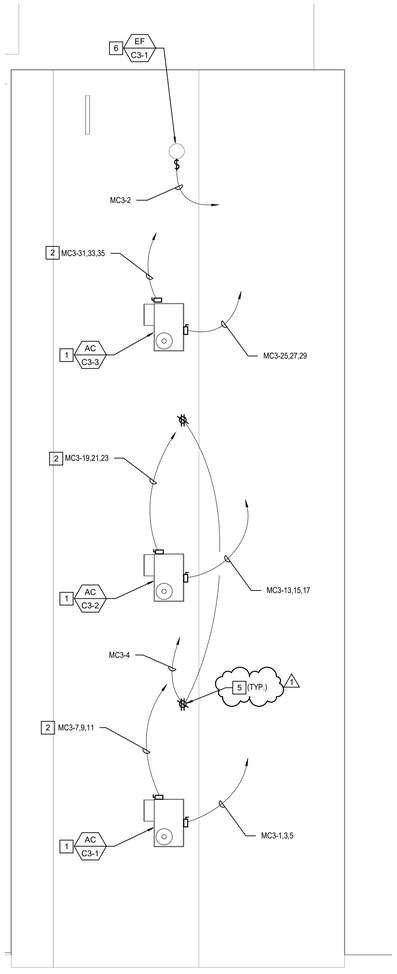
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GENERAL NOTES

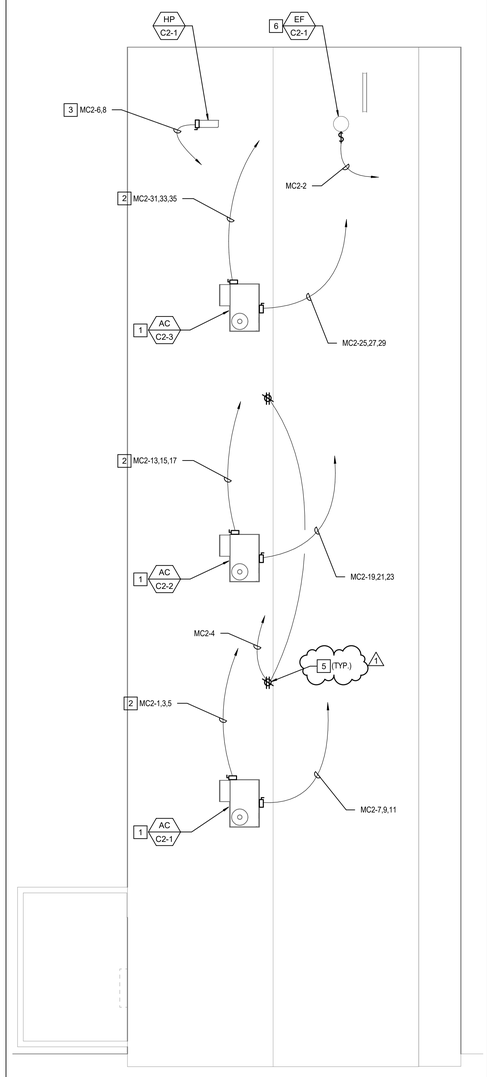
1. THE EXISTING BUILDING INCLUDING PORTIONS OF THE RENOVATED AREA SHALL REMAIN IN SERVICE DURING THE CONSTRUCTION PHASE OF THIS PROJECT. ANY MODIFICATIONS TO THE EXISTING ELECTRICAL SYSTEMS THAT MAY REQUIRE THE TEMPORARY INTERRUPTION OF EXISTING SERVICES SHALL BE COORDINATED AND PRE-SCHEDULED WITH THE OWNER'S REPRESENTATIVE PRIOR TO STARTING ANY WORK.
2. ALL ELECTRICAL EQUIPMENT/DEVICES ON THE ROOF SHALL BE WEATHER PROOF, NEMA 3R AND +8" ABOVE FINISHED ROOF LEVEL AND ROOF PENETRATIONS SHALL BE FLASHED.

KEY NOTES

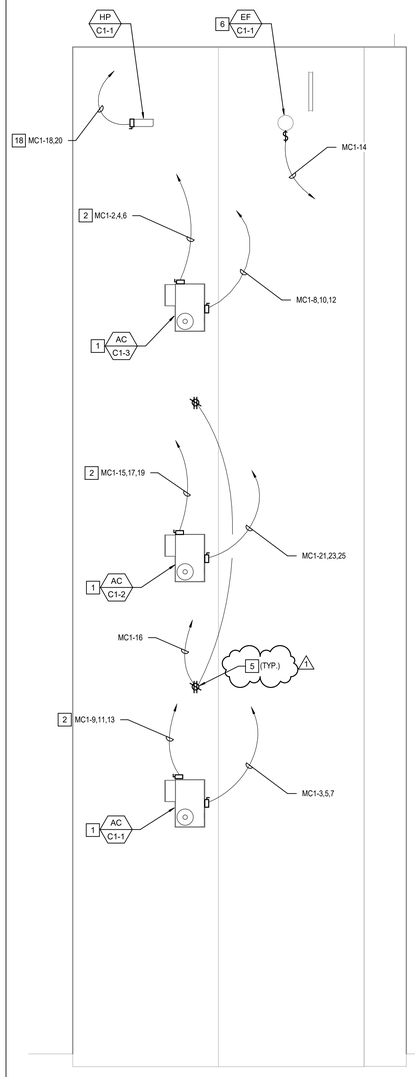
1. PROVIDE 208V/3PH POWER CONNECTION TO AC UNIT, 1"C-3#10+1#10 GRD. (TYP.)
2. PROVIDE 208V/3PH POWER CONNECTION TO POWER EXHAUST. 3/4"C-3#12+1#12 GRD. (TYP.)
3. PROVIDE 208V/1PH POWER CONNECTION TO HP UNITS, 3/4"C 3#12 + 1#12 GRD. (TYP.)
4. FUSED DISCONNECT SWITCH, NEMA 3R FACTORY MOUNTED BY MECHANICAL. SEE MECHANICAL SCHEDULES FOR ADDITIONAL INFORMATION.
5. PROVIDE NEW ROOF TOP RECEPTACLE (WP) GFCI TYPE.
6. PROVIDE 120V/1PH POWER CONNECTION TO EXHAUST FAN, 3/4"C - 2#12 + 1#12 GRD. (TYP.)



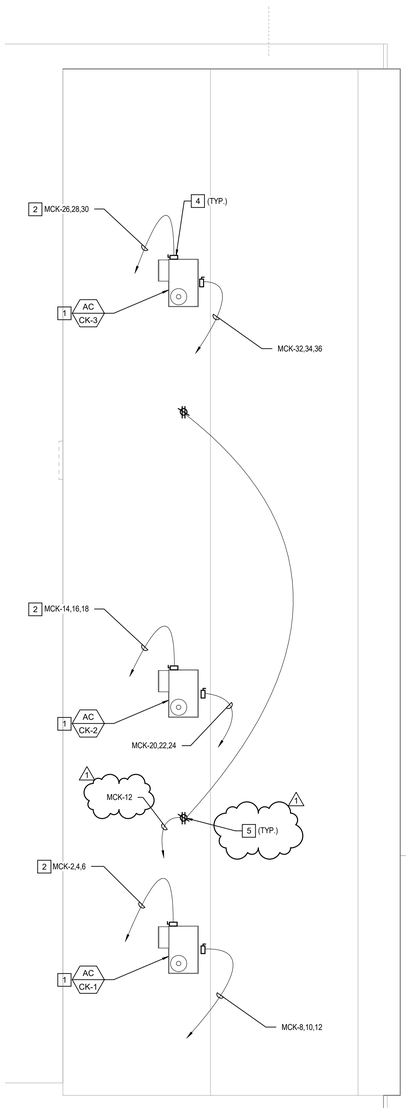
4 ELECTRICAL ROOF PLAN - BLDG C3
1/8" = 1'-0"



3 ELECTRICAL ROOF PLAN - BLDG C2
1/8" = 1'-0"



2 ELECTRICAL ROOF PLAN - BLDG C1
1/8" = 1'-0"



1 ELECTRICAL ROOF PLAN - BLDG CK
1/8" = 1'-0"

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FINLEY ES HVAC UPGRADE & MODERNIZATION

PROJECT ADDRESS:
13521 Edwards St.
Westminster, CA 92683

DSA SUBMITTAL

DSA APPL NO.: 04-121814 DSA FILE NO.: 30-43

A1 A2 A3 A4 A7 A8 C3 C4 C5 A5 A6 C6 C2 C1 CK MP A9 C7

KEY PLAN NORTH: PLAN TRUE

Consultant

REGISTERED PROFESSIONAL ENGINEER RONALD C DELA CRUZ No. E 23576 Exp. 09-30-2025 ELECTRICAL STATE OF CALIFORNIA

Architect

CLIENT
WESTMINSTER SCHOOL DISTRICT

DATE	PROJECT NUMBER
12-28-2022	220307

REVISIONS

No.	Description	Date
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DSA SUBMITTAL

ELECTRICAL ROOF PLANS

E4.01

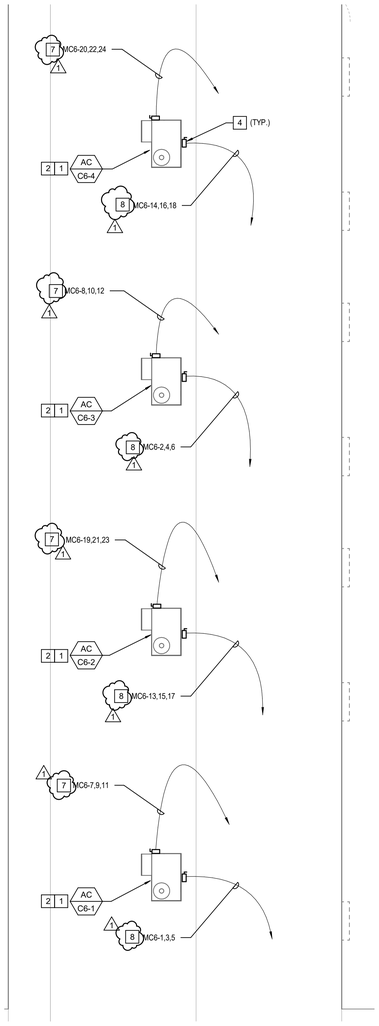
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GENERAL NOTES

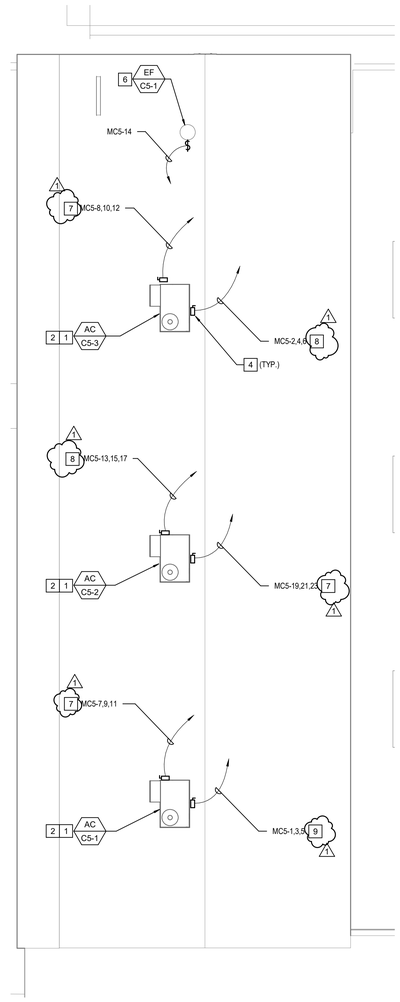
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2. ALL ELECTRICAL EQUIPMENT/DEVICES ON THE ROOF SHALL BE WEATHER PROOF, NEMA 3R AND +8" ABOVE FINISHED ROOF LEVEL AND ROOF PENETRATIONS SHALL BE FLASHED.

KEY NOTES

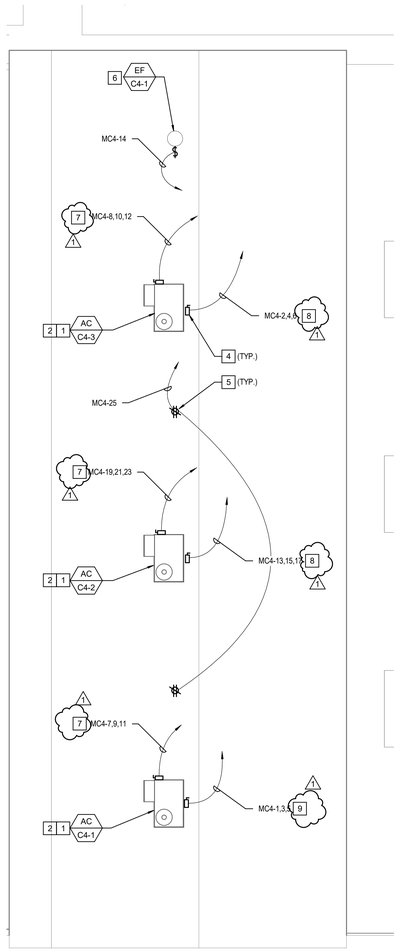
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4. FUSED DISCONNECT SWITCH, NEMA 3R FACTORY MOUNTED BY MECHANICAL. SEE MECHANICAL SCHEDULES FOR ADDITIONAL INFORMATION.
5. PROVIDE NEW ROOF TOP RECEPTACLE (WP) GFCI TYPE.
6. PROVIDE 120V/1PH POWER CONNECTION TO EXHAUST FAN, 3/4"C - 2#12 + 1#12 GRD. (TYP.)
7. 1"C-3#12 + 1#12 GRD.
8. 1"C-3#10 + 1#10 GRD.
9. 1"C-3#8 + 1#8 GRD.



4 ELECTRICAL ROOF PLAN - BLDG C6
1/8" = 1'-0"



3 ELECTRICAL ROOF PLAN - BLDG C5
1/8" = 1'-0"



2 ELECTRICAL ROOF PLAN - BLDG C4
1/8" = 1'-0"

1 ELECTRICAL ROOF PLAN - ADMIN BLDG
1/8" = 1'-0"

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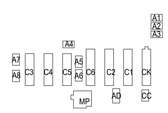
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FINLEY ES HVAC UPGRADE & MODERNIZATION

PROJECT ADDRESS:
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DSA SUBMITTAL

DSA APPL NO.: 04-121814 DSA FILE NO.: 30-43



Consultant

REGISTERED PROFESSIONAL ENGINEER
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No. E 23576
Exp. 09-30-2025
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STATE OF CALIFORNIA

Architect

CLIENT
WESTMINSTER SCHOOL DISTRICT

DATE	PROJECT NUMBER
12-28-2022	220307

REVISIONS

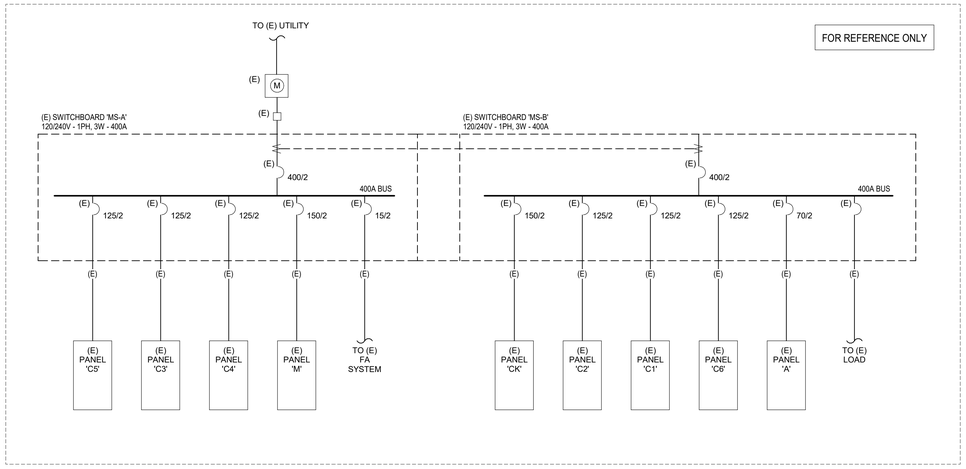
No.	Description	Date
1	ADDENDUM #1	10/06/2023

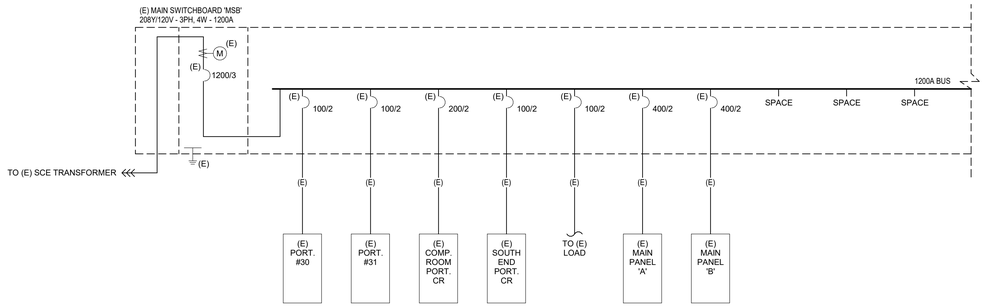
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ELECTRICAL ROOF PLANS

E4.02

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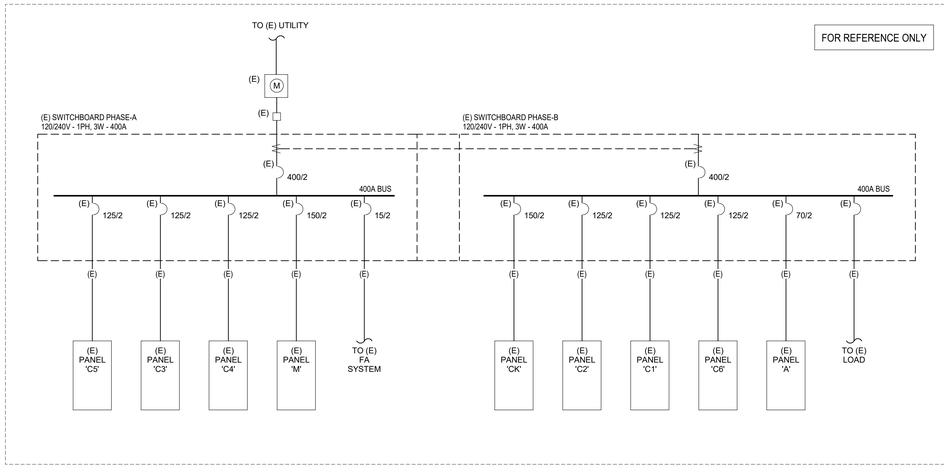
ELECTRICAL ONE-LINE DIAGRAM NOTES:

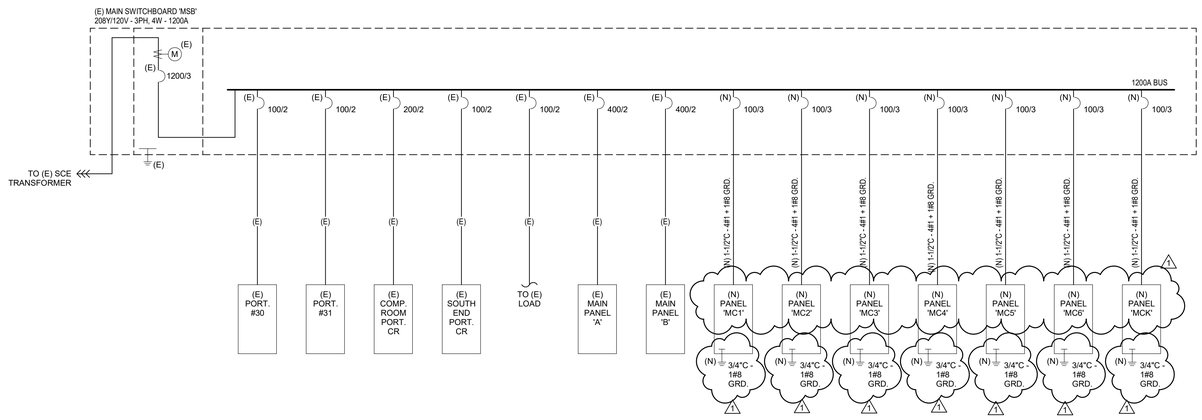
#. INDICATES GENERAL NOTE.
(#) INDICATES KEYED NOTE.

1. REFER TO RISER DIAGRAM FOR FEEDER WIRE / CONDUIT SIZES AND FOR ALL FEEDER SIZES NOT SHOWN ON THIS SHEET.

(1) NEC 285 SURGE PROTECTIVE DEVICE. RE: DIVISION 26 SPECIFICATIONS FOR ADDITIONAL INFORMATION.

1 ELECTRICAL ONE-LINE DIAGRAM - EXISTING
NOT TO SCALE





ELECTRICAL ONE-LINE DIAGRAM NOTES:

#. INDICATES GENERAL NOTE.
(#) INDICATES KEYED NOTE.

1. ALL NEW PANELBOARDS SHALL BE NEMA 3R RATED ENCLOSURES.

(1) NEC 285 SURGE PROTECTIVE DEVICE. RE: DIVISION 26 SPECIFICATIONS FOR ADDITIONAL INFORMATION.

2 ELECTRICAL ONE-LINE DIAGRAM - NEW
NOT TO SCALE

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FINLEY ES HVAC UPGRADE & MODERNIZATION

PROJECT ADDRESS:
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DSA SUBMITTAL

DSA APPL NO.: 04-121814 DSA FILE NO.: 30-43

KEY PLAN
NORTH: PLAN TRUE

Consultant
REGISTERED PROFESSIONAL ENGINEER
RONALD C. DELA CRUZ
No. E 23576
Exp. 09-30-2025
ELECTRICAL
STATE OF CALIFORNIA

Architect

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DATE	PROJECT NUMBER
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ELECTRICAL SINGLE LINE DIAGRAM & SCHEDULES

E5.01

0" 1"

Job:Finley ES Modernization — Job No.220307AR

Mounting:**SURFACE** — Main Type:**MCB (100A)** — Neutral:**100%** — Voltage: **208Y/120V-3PH 4W** — Main Size: **125 AMPS** — AIC Rating:**10000** — Ground:**Equipment Ground** — Lugs:**SINGLE**

PANEL: **MA** — ALL LOADS IN VA

Ltg.	Recept	Motor	Heat	Cool	Other	Kitchen	S/S	Description	Amp/P	Wire	Cir. No.	Ph	Cir. No.	Wire	Amp/P	Description	Ltg.	Recept	Motor	Heat	Cool	Other	Kitchen	S/S
		1615					0.00	HP 'ADM-1'	30/3	10	**1**	**A**	**2**	12	15/2	FC 'ADM-1' & 'ADM-2'			467					0.00
		1615					0.00	----	--	10	**3**	**B**	**4**	12	--	----			467					0.00
		1615					0.00	----	--	10	**5**	**C**	**6**	12	15/2	FC 'ADM-3' & 'ADM-4			354					0.00
		200					0.00	SF 'ADM-1'	15/1	12	**7**	**A**	**8**	12	--	----			354					0.00
	360						0.00	Rooftop Recept.	20/1	12	**9**	**B**	**10**	12	20/1	EF 'ADM-1'			200					0.00
							1.00	SPARE	20/1		**11**	**C**	**12**	12	20/1	EF 'ADM-2'			200					0.00
							1.00	SPARE	20/1		**13**	**A**	**14**	12	20/1	EF 'ADM-3'			200					0.00
							1.00	SPARE	20/1		**15**	**B**	**16**		20/1	SPARE								1.00
							1.00	SPARE	20/1		**17**	**C**	**18**		20/1	SPARE								1.00
							1.00	SPARE	20/1		**19**	**A**	**20**		20/1	SPARE								1.00
							1.00	SPARE	20/1		**21**	**B**	**22**		20/1	SPARE								1.00
							1.00	SPARE	20/1		**23**	**C**	**24**		20/1	SPARE								1.00
							1.00	SPARE	20/1		**25**	**A**	**26**		20/1	SPARE								1.00
							0.00	SPACE			**27**	**B**	**28**			SPACE								0.00
							0.00	SPACE			**29**	**C**	**30**			SPACE								0.00
							0.00	SPACE			**31**	**A**	**32**			SPACE								0.00
							0.00	SPACE			**33**	**B**	**34**			SPACE								0.00
							0.00	SPACE			**35**	**C**	**36**			SPACE								0.00
							0.00	SPACE			**37**	**A**	**38**			SPACE								0.00
							0.00	SPACE			**39**	**B**	**40**			SPACE								0.00
							0.00	SPACE			**41**	**C**	**42**			SPACE								0.00
0	360	5046	0	0	0	0	8.00	**TOTALS**								**TOTALS**	0	0	2242	0	0	0	0	6.00

LOAD SUMMARY

Ltg.	Recept	Motor	Heat	Cool	Other	Kitchen	S/S	Description
0.0	0.4	7.3	0.0	0.0	0.0	0.0	14.0	Connected KVA
1.25	**	1.00	1.00	1.00	1.00	0.65	0.50	*Design Factors
0.0	0.4	7.3	0.0	0.0	0.0	0.0	7.0	Design KVA

Phase Load

Ph	KVA
A	2.8
B	2.6
C	2.2

Panel Remarks: *NEW PANEL*

*Input div. factor per descriptions as required for calculations.
**100% of 1st 10 KVA, 50% of remaining.

PANEL: **MA**

	Con. KVA	Con. Amps		Des. KVA	Des. Amps
TOTAL	21.6	60.1		14.6	40.7

Date: 10/9/2023 — By: N.OROPEZA

Job:Finley ES Modernization — Job No.220307AR

Mounting:**SURFACE** — Main Type:**MCB (200A)** — Neutral:**100%** — Voltage: **208Y/120V-3PH 4W** — Main Size: **225 AMPS** — AIC Rating:**42000** — Ground:**Equipment Ground** — Lugs:**SINGLE**

PANEL: **MC3** — ALL LOADS IN VA

Ltg.	Recept	Motor	Heat	Cool	Other	Kitchen	S/S	Description	Amp/P	Wire	Cir. No.	Ph	Cir. No.	Wire	Amp/P	Description	Ltg.	Recept	Motor	Heat	Cool	Other	Kitchen	S/S
		2011					0.00	AC 'C3-1'	40/3	8	**1**	**A**	**2**	12	15/1	EF 'C3-1'			40					0.00
		2011					0.00	----	--	8	**3**	**B**	**4**	12	20/1	Rooftop Recept.		360						0.00
		2011					0.00	----	--	8	**5**	**C**	**6**	12	20/1	SPARE								1.00
		555					0.00	AC 'C3-1' PWR EXH	15/3	12	**7**	**A**	**8**	12	15/3	AC 'C4-3' PWR EXH.								0.00
		555					0.00	----	--	12	**9**	**B**	**10**	12	--	----								0.00
		555					0.00	----	--	12	**11**	**C**	**12**	12	--	----								0.00
		1664					0.00	AC 'C4-2'	30/3	10	**13**	**A**	**14**	12	15/1	EF 'C4-1'			1664					0.00
		1664					0.00	----	--	10	**15**	**B**	**16**		20/1	SPARE			1664					0.00
		1664					0.00	----	--	10	**17**	**C**	**18**		20/1	SPARE			1664					0.00
		340					0.00	AC 'C4-2' PWR EXH.	15/3	12	**19**	**A**	**20**		20/1	SPARE			340					0.00
		340					0.00	----	--	12	**21**	**B**	**22**		20/1	SPARE			340					0.00
		340					0.00	----	--	12	**23**	**C**	**24**		20/1	SPARE			340					0.00
							1.00	SPARE	20/1		**25**	**A**	**26**			SPACE								0.00
							1.00	SPARE	20/1		**27**	**B**	**28**			SPACE								0.00
							1.00	SPARE	20/1		**29**	**C**	**30**			SPACE								0.00
							1.00	SPARE	20/1		**31**	**A**	**32**			SPACE								0.00
							0.00	SPACE			**33**	**B**	**34**			SPACE								0.00
							0.00	SPACE			**35**	**C**	**36**			SPACE								0.00
							0.00	SPACE			**37**	**A**	**38**			SPACE								0.00
							0.00	SPACE			**39**	**B**	**40**			SPACE								0.00
							0.00	SPACE			**41**	**C**	**42**			SPACE								0.00
0	0	21403	0	0	0	0	0.00	**TOTALS**								**TOTALS**	0	360	40	0	0	0	0	7.00

LOAD SUMMARY

Ltg.	Recept	Motor	Heat	Cool	Other	Kitchen	S/S	Description
0.0	0.4	21.4	0.0	0.0	0.0	0.0	7.0	Connected KVA
1.25	**	1.00	1.00	1.00	1.00	0.65	0.50	*Design Factors
0.0	0.4	21.4	0.0	0.0	0.0	0.0	3.5	Design KVA

Phase Load

Ph	KVA
A	7.2
B	7.5
C	7.1

Panel Remarks: *NEW PANEL*

*Input div. factor per descriptions as required for calculations.
**100% of 1st 10 KVA, 50% of remaining.

PANEL: **MC3**

	Con. KVA	Con. Amps		Des. KVA	Des. Amps
TOTAL	28.8	79.9		25.3	70.2

Date: 10/9/2023 — By: N.OROPEZA

Job:Finley ES Modernization — Job No.220307AR

Mounting:**SURFACE** — Main Type:**MCB (100A)** — Neutral:**100%** — Voltage: **208Y/120V-3PH 4W** — Main Size: **125 AMPS** — AIC Rating:**10000** — Ground:**Equipment Ground** — Lugs:**SINGLE**

PANEL: **MC1** — ALL LOADS IN VA

Ltg.	Recept	Motor	Heat	Cool	Other	Kitchen	S/S	Description	Amp/P	Wire	Cir. No.	Ph	Cir. No.	Wire	Amp/P	Description	Ltg.	Recept	Motor	Heat	Cool	Other	Kitchen	S/S
	200						0.00	DRINKING FOUNTAIN	20/1	12	**1**	**A**	**2**	8	40/3	AC 'C1-3'								0.00
							0.00	AC 'C1-1'	40/3	8	**3**	**B**	**4**	8	--	----								0.00
							0.00	---	--	8	**5**	**C**	**6**	8	--	----								0.00
							0.00	---	--	8	**7**	**A**	**8**	12	15/3	AC 'C1-3' PWR EXH								0.00
							0.00	AC 'C1-1' PWR EXH	15/3	12	**9**	**B**	**10**	12	--	----								0.00
							0.00	---	--	12	**11**	**C**	**12**	12	--	----								0.00
							0.00	---	--	12	**13**	**A**	**14**	12	15/1	EF 'C1-1'			40					0.00
							0.00	AC 'C1-2'	40/3	8	**15**	**B**	**16**	12	20/1	Rooftop Recept.		360						0.00
							0.00	---	--	8	**17**	**C**	**18**	12	20/2	HP 'C1-1'			1560					0.00
							0.00	---	--	8	**19**	**A**	**20**	12	--	---			1560					0.00
							0.00	AC 'C1-2' PWR EXH	15/3	12	**21**	**B**	**22**		20/1	SPARE								1.00
							0.00	---	--	12	**23**	**C**	**24**		20/1	SPARE								1.00
							0.00	---	--	12	**25**	**A**	**26**		20/1	SPARE								1.00
							1.00	SPARE	20/1		**27**	**B**	**28**			SPACE								0.00
							1.00	SPARE	20/1		**29**	**C**	**30**			SPACE								0.00
							1.00	SPARE	20/1		**31**	**A**	**32**			SPACE								0.00
							1.00	SPARE	20/1		**33**	**B**	**34**			SPACE								0.00
							0.00	SPACE			**35**	**C**	**36**			SPACE								0.00
							0.00	SPACE			**37**	**A**	**38**			SPACE								0.00
							0.00	SPACE			**39**	**B**	**40**			SPACE								0.00
							0.00	SPACE			**41**	**C**	**42**			SPACE								0.00
0	200	0	0	0	0	0	4.00	**TOTALS**								**TOTALS**	0	360	3160	0	0	0	0	3.00

LOAD SUMMARY

Ltg.	Recept	Motor	Heat	Cool	Other	Kitchen	S/S	Description
0.0	0.6	3.2	0.0	0.0	0.0	0.0	7.0	Connected KVA
1.25	**	1.00	1.00	1.00	1.00	0.65	0.50	*Design Factors
0.0	0.6	3.2	0.0	0.0	0.0	0.0	3.5	Design KVA

Phase Load

Ph	KVA
A	1.8
B	0.4
C	1.6

Panel Remarks: *NEW PANEL*

*Input div. factor per descriptions as required for calculations.
**100% of 1st 10 KVA, 50% of remaining.

PANEL: **MC1**

	Con. KVA	Con. Amps		Des. KVA	Des. Amps
TOTAL	10.7	29.8		7.2	20.0

Date: 10/9/2023 — By: N.OROPEZA

Job:Finley ES Modernization — Job No.220307AR

Mounting:**SURFACE** — Main Type:**MCB (100A)** — Neutral:**100%** — Voltage: **208Y/120V-3PH 4W** — Main Size: **125 AMPS** — AIC Rating:**10000** — Ground:**Equipment Ground** — Lugs:**SINGLE**

PANEL: **MC4** — ALL LOADS IN VA

Ltg.	Recept	Motor	Heat	Cool	Other	Kitchen	S/S	Description	Amp/P	Wire	Cir. No.	Ph	Cir. No.	Wire	Amp/P	Description	Ltg.	Recept	Motor	Heat	Cool	Other	Kitchen	S/S
		2011					0.00	AC 'C4-1'	40/3	8	**1**	**A**	**2**	10	30/3	AC 'C4-3'			1664					0.00
		2011					0.00	----	--	8	**3**	**B**	**4**	10	--	----			1664					0.00
		2011					0.00	----	--	8	**5**	**C**	**6**	10	--	----			1664					0.00
		555					0.00	AC 'C4-1' PWR EXH.	15/3	12	**7**	**A**	**8**	12	15/3	AC 'C4-3' PWR EXH.			340					0.00
		555					0.00	----	--	12	**9**	**B**	**10**	12	--	----			340					0.00
		555					0.00	----	--	12	**11**	**C**	**12**	12	--	----			340					0.00
		1664					0.00	AC 'C4-2'	30/3	10	**13**	**A**	**14**	12	15/1	EF 'C4-1'			200					0.00
		1664					0.00	----	--	10	**15**	**B**	**16**		20/1	SPARE								1.00
		1664					0.00	----	--	10	**17**	**C**	**18**		20/1	SPARE								1.00
		340					0.00	AC 'C4-2' PWR EXH.	15/3	12	**19**	**A**	**20**		20/1	SPARE								1.00
		340					0.00	----	--	12	**21**	**B**	**22**		20/1	SPARE								1.00
		340					0.00	----	--	12	**23**	**C**	**24**		20/1	SPARE								1.00
							1.00	SPARE	20/1		**25**	**A**	**26**			SPACE								0.00
							1.00	SPARE	20/1		**27**	**B**	**28**			SPACE								0.00
							1.00	SPARE	20/1		**29**	**C**	**30**			SPACE								0.00
							1.00	SPARE	20/1		**31**	**A**	**32**			SPACE								0.00
							0.00	SPACE			**33**	**B**	**34**			SPACE								0.00
							0.00	SPACE			**35**	**C**	**36**			SPACE								0.00
							0.00	SPACE			**37**	**A**	**38**			SPACE								0.00
							0.00	SPACE			**39**	**B**	**40**			SPACE								0.00
							0.00	SPACE			**41**	**C**	**42**			SPACE								0.00
0	0	13707	0	0	0	0	4.00	**TOTALS**								**TOTALS**	0	0	6211	0	0	0	0	5.00

LOAD SUMMARY

Ltg.	Recept	Motor	Heat	Cool	Other	Kitchen	S/S	Description
0.0	0.0	19.9	0.0	0.0	0.0	0.0	9.0	Connected KVA
1.25	**	1.00	1.00	1.00	1.00	0.65	0.50	*Design Factors
0.0	0.0	19.9	0.0	0.0	0.0	0.0	4.5	Design KVA

Phase Load

Ph	KVA
A	6.8
B	6.6
C	6.6

Panel Remarks: *NEW PANEL*

*Input div. factor per descriptions as required for calculations.
**100% of 1st 10 KVA, 50% of remaining.

PANEL: **MC4**

	Con. KVA	Con. Amps		Des. KVA	Des. Amps
TOTAL	28.9	80.3		24.4	67.8

Date: 10/9/2023 — By: N.OROPEZA

Job:Finley ES Modernization — Job No.220307AR

Mounting:**SURFACE** — Main Type:**MCB (100A)** — Neutral:**100%** — Voltage: **208Y/120V-3PH 4W** — Main Size: **125 AMPS** — AIC Rating:**10000** — Ground:**Equipment Ground** — Lugs:**SINGLE**

PANEL: **MC2** — ALL LOADS IN VA

Ltg.	Recept	Motor	Heat	Cool	Other	Kitchen	S/S	Description	Amp/P	Wire	Cir. No.	Ph	Cir. No.	Wire	Amp/P	Description	Ltg.	Recept	Motor	Heat	Cool	Other	Kitchen	S/S
		2011					0.00	AC 'C2-1'	40/3	8	**1**	**A**	**2**	12	15/1	EF 'C3-1'			40					0.00
		2011					0.00	---	--	8	**3**	**B**	**4**	12	20/1	Rooftop Recept.		360						0.00
		2011					0.00	---	--	8	**5**	**C**	**6**	12	20/2	HP 'C1-1'			1560					0.00
		555					0.00	AC 'C2-1' PWR EXH	15/3	12	**7**	**A**	**8**	12	--	----			1560					0.00
		555					0.00	---	--	12	**9**	**B**	**10**		20/1	SPARE								1.00
		555					0.00	---	--	12	**11**	**C**	**12**		20/1	SPARE								1.00
		2011					0.00	AC 'C2-2'	40/3	8	**13**	**A**	**14**		20/1	SPARE								1.00
		2011					0.00	---	--	8	**15**	**B**	**16**		20/1	SPARE								1.00
		2011					0.00	---	--	8	**17**	**C**	**18**		20/1	SPARE								1.00
		555					0.00	AC 'C2-2' PWR EXH	15/3	12	**19**	**A**	**20**		20/1	SPARE								1.00
		555					0.00	---	--	12	**21**	**B**	**22**		20/1	SPARE								1.00
		555					0.00	---	--	12	**23**	**C**	**24**		20/1	SPARE								1.00
		1664					0.00	AC 'C2-3'	30/3	10	**25**	**A**	**26**		20/1	SPARE								1.00
		1664					0.00	---	--	10	**27**	**B**	**28**		20/1	SPARE								1.00
		1664					0.00	---	--	10	**29**	**C**	**30**		20/1	SPARE								1.00
		340					0.00	AC 'C2-3' PWR EXH	15/3	12	**31**	**A**	**32**		20/1	SPARE								1.00
		340					0.00	---	--	12	**33**	**B**	**34**		20/1	SPARE								1.00
		340					0.00	---	--	12	**35**	**C**	**36**		20/1	SPARE								1.00
							0.00	SPACE			**37**	**A**	**38**			SPACE								0.00
							0.00	SPACE			**39**	**B**	**40**			SPACE								0.00
							0.00	SPACE			**41**	**C**	**42**			SPACE								0.00
0	0	21403	0	0	0	0	0.00	**TOTALS**								**TOTALS**	0	360	3160	0	0	0	0	14.00

LOAD SUMMARY

Ltg.	Recept	Motor	Heat	Cool	Other	Kitchen	S/S	Description
0.0	0.4	24.6	0.0	0.0	0.0	0.0	14.0	Connected KVA
1.25	**	1.00	1.00	1.00	1.00	0.65	0.50	*Design Factors
0.0	0.4	24.6	0.0	0.0	0.0	0.0	7.0	Design KVA

Phase Load

Ph	KVA
A	8.7
B	7.5
C	8.7

Panel Remarks: *NEW PANEL*

*Input div. factor per descriptions as required for calculations.
**100% of 1st 10 KVA, 50% of remaining.

PANEL: **MC2**

	Con. KVA	Con. Amps		Des. KVA	Des. Amps
TOTAL	38.9	108.0		31.9	88.6

Date: 10/9/2023 — By: N.OROPEZA

Job:Finley ES Modernization — Job No.220307AR

Mounting:**SURFACE** — Main Type:**MCB (100A)** — Neutral:**100%** — Voltage: **208Y/120V-3PH 4W** — Main Size: **125 AMPS** — AIC Rating:**10000** — Ground:**Equipment Ground** — Lugs:**SINGLE**

PANEL: **MC5** — ALL LOADS IN VA

Ltg.	Recept	Motor	Heat	Cool	Other	Kitchen	S/S	Description	Amp/P	Wire	Cir. No.	Ph	Cir. No.	Wire	Amp/P	Description	Ltg.	Recept	Motor	Heat	Cool	Other	Kitchen	S/S
		2011					0.00	AC 'C5-1'	40/3	8	**1**	**A**	**2**	10	30/3	AC 'C5-3'			1664					0.00
		2011					0.00	----	--	8	**3**	**B**	**4**	10	--	----			1664					0.00
		2011					0.00	----	--	8	**5**	**C**	**6**	10	--	----			1664					0.00
		555					0.00	AC 'C5-1' PWR EXH.	15/3	12	**7**	**A**	**8**	12	15/3	AC 'C5-3' PWR EXH.			340					0.00
		555					0.00	----	--	12	**9**	**B**	**10**	12	--	----			340					0.00
		555					0.00	----	--	12	**11**	**C**	**12**	12	--	----			340					0.00
		1664					0.00	AC 'C5-2'	30/3	10	**13**	**A**	**14**	12	15/1	EF 'C5-1'			200					0.00
		1664					0.00	----	--	10	**15**	**B**	**16**		20/1	SPARE								1.00
		1664					0.00	----	--	10	**17**	**C**	**18**		20/1	SPARE								1.00
		340					0.00	AC 'C5-2' PWR EXH.	15/3	12	**19**	**A**	**20**		20/1	SPARE								1.00
		340					0.00	----	--	12	**21**	**B**	**22**		20/1	SPARE								1.00
		340					0.00	----	--	12	**23**	**C**	**24**		20/1	SPARE								1.00
							1.00	SPARE	20/1		**25**	**A**	**26**			SPACE								0.00
							1.00	SPARE	20/1		**27**	**B**	**28**			SPACE								0.00
							1.00	SPARE	20/1		**29**	**C**	**30**			SPACE								0.00
							1.00	SPARE	20/1		**31**	**A**	**32**			SPACE								0.00
							0.00	SPACE			**33**	**B**	**34**			SPACE								0.00
							0.00	SPACE			**35**	**C**	**36**			SPACE								0.00
							0.00	SPACE			**37**	**A**	**38**			SPACE								0.00
							0.00	SPACE			**39**	**B**	**40**			SPACE								0.00
							0.00	SPACE			**41**	**C**	**42**			SPACE								0.00
0	0	13707	0	0	0	0	4.00	**TOTALS**								**TOTALS**	0	0	6211	0	0	0	0	5.00

LOAD SUMMARY

Ltg.	Recept	Motor	Heat	Cool	Other	Kitchen	S/S	Description
0.0	0.0	19.9	0.0	0.0	0.0	0.0	9.0	Connected KVA
1.25	**	1.00	1.00	1.00	1.00	0.65	0.50	*Design Factors
0.0	0.0	19.9	0.0	0.0	0.0	0.0	4.5	Design KVA

Phase Load

Ph	KVA
A	6.8
B	6.6
C	6.6

Panel Remarks: *NEW PANEL*

*Input div. factor per descriptions as required for calculations.
**100% of 1st 10 KVA, 50% of remaining.

PANEL: **MC5**

	Con. KVA	Con. Amps		Des. KVA	Des. Amps
TOTAL	28.9	80.3		24.4	67.8

Date: 10/9/2023 — By: N.OROPEZA

PBK

ARCHITECT — PBK Architects, Inc.
COSTA MESA — PBK.com
600 Anton Boulevard, Suite 1375
Costa Mesa, CA 92626
P 949-548-5000

CONSULTANT — LEAF Engineers
LEAF ENGINEERS
8163 Rochester Avenue, Suite 100
Rancho Cucamonga, CA 91730
909.987-0909
leafengineers.com

FINLEY ES HVAC UPGRADE & MODERNIZATION

PROJECT ADDRESS:
13521 Edwards St.
Westminster, CA 92683

DSA SUBMITTAL

DSA APPL NO.: 04-121814 DSA FILE NO.: 30-43



KEY PLAN — NORTH: PLAN TRUE

Consultant

REGISTERED PROFESSIONAL ENGINEER RONALD C DELA CRUZ No. E 23576 Exp. 09-30-2025 STATE OF ELECTRICAL CALIFORNIA

Architect

CLIENT
WESTMINSTER SCHOOL DISTRICT

DATE	PROJECT NUMBER
12-28-2022	220307

REVISIONS

No.	Description	Date
1	ADDENDUM #1	10/06/2023

DSA SUBMITTAL

ELECTRICAL SCHEDULES

FILE PATH: Z:\Projects\...
10/9/2023 3:22:37 PM

E5.02

Job:Finley ES Modernization — Job No.:220307AR

Mounting:**SURFACE** — Main Type:**MCB (100A)** — Neutral:**100%** — Voltage:**208Y/120V-3PH 4W** — Main Size:**125 AMPS** — AIC Rating:**10000** — Ground:**Equipment Ground** — Lugs:**SINGLE**

PANEL: **MC6** — **ALL LOADS IN VA**

Ltg.	Recept	Motor	Heat	Cool	Other	Kitchen	S/S	Description	Amp/P	Wire	Cir. No.	Ph	Cir. No.	Wire	Amp/P	Description	Ltg.	Recept	Motor	Heat	Cool	Other	Kitchen	S/S
		1664					0.00	AC 'C6-1'	30/3	10	1	A	2	10	30/3	AC 'C6-3'			1664					0.00
		1664					0.00	----	--	10	3	B	4	10	--	----			1664					0.00
		1664					0.00	----	--	10	5	C	6	10	--	----			1664					0.00
		610					0.00	AC 'C6-1' PWR EXH.	15/3	12	7	A	8	12	15/3	AC 'C6-3' PWR EXH.			610					0.00
		610					0.00	----	--	12	9	B	10	12	--	----			610					0.00
		610					0.00	----	--	12	11	C	12	12	--	----			610					0.00
		1664					0.00	AC 'C6-2'	30/3	10	13	A	14	10	30/3	AC 'C6-4'			1664					0.00
		1664					0.00	----	--	10	15	B	16	10	--	----			1664					0.00
		1664					0.00	----	--	10	17	C	18	10	--	----			1664					0.00
		610					0.00	AC 'C6-2' PWR EXH.	15/3	12	19	A	20	12	15/3	AC 'C6-4' PWR EXH.			610					0.00
		610					0.00	----	--	12	21	B	22	12	--	----			610					0.00
		610					0.00	----	--	12	23	C	24	12	--	----			610					0.00
	360						0.00	Rooftop Recept.	20/1	12	25	A	26		20/1	SPARE								1.00
							1.00	SPARE	20/1		27	B	28		20/1	SPARE								1.00
							1.00	SPARE	20/1		29	C	30		20/1	SPARE								1.00
							1.00	SPARE	20/1		31	A	32		20/1	SPARE								1.00
							1.00	SPARE	20/1		33	B	34		20/1	SPARE								1.00
							0.00	SPACE			35	C	36			SPACE								0.00
							0.00	SPACE			37	A	38			SPACE								0.00
							0.00	SPACE			39	B	40			SPACE								0.00
							0.00	SPACE			41	C	42			SPACE								0.00
0	360	13645	0	0	0	0	4.00	**TOTALS**								**TOTALS**	0	0	13645	0	0	0	0	5.00

LOAD SUMMARY

Ltg.	Recept	Motor	Heat	Cool	Other	Kitchen	S/S	Description
0.0	0.4	27.3	0.0	0.0	0.0	0.0	9.0	Connected KVA
1.25	**	1.00	1.00	1.00	1.00	0.65	0.50	*Design Factors
0.0	0.4	27.3	0.0	0.0	0.0	0.0	4.5	Design KVA

Phase Load

Ph	KVA
A	9.5
B	9.1
C	9.1

Panel Remarks: *NEW PANEL*

*Input div. factor per descriptions as required for calculations.
**100% of 1st 10 KVA, 50% of remaining.

PANEL: **MC6**

	Con. KVA	Con. Amps		Des. KVA	Des. Amps
TOTAL	36.6	101.7		32.1	89.2

Date: 10/9/2023 — By: N.OROPEZA

Job:Finley ES Modernization — Job No.:220307AR

Mounting:**SURFACE** — Main Type:**MCB (100A)** — Neutral:**100%** — Voltage:**208Y/120V-3PH 4W** — Main Size:**125 AMPS** — AIC Rating:**10000** — Ground:**Equipment Ground** — Lugs:**SINGLE**

PANEL: **MCK** — **ALL LOADS IN VA**

Ltg.	Recept	Motor	Heat	Cool	Other	Kitchen	S/S	Description	Amp/P	Wire	Cir. No.	Ph	Cir. No.	Wire	Amp/P	Description	Ltg.	Recept	Motor	Heat	Cool	Other	Kitchen	S/S
		40					0.00	EF 'CK-1'	15/1	12	1	A	2	8	40/3	AC 'CK-1'			2011					0.00
		40					0.00	EF 'CK-2'	15/1	12	3	B	4	8	--	---			2011					0.00
		40					0.00	EF 'CK-3'	15/1	12	5	C	6	8	--	---			2011					0.00
		40					0.00	EF 'CK-4'	20/1	12	7	A	8	12	15/3	AC 'CK-1' PWR EXH			555					0.00
		40					0.00	EF 'CK-5'	20/1	12	9	B	10	12	--	---			555					0.00
	360						0.00	Rooftop Recpt.	20/1	12	11	C	12	12	--	---			555					0.00
							1.00	SPARE	20/1		13	A	14	8	40/3	AC 'CK-2'			2011					0.00
							1.00	SPARE	20/1		15	B	16	8	--	---			2011					0.00
							1.00	SPARE	20/1		17	C	18	8	--	---			2011					0.00
							1.00	SPARE	20/1		19	A	20	12	15/3	AC 'CK-2' PWR EXH			555					0.00
							0.00	SPACE			21	B	22	12	--	---			555					0.00
							0.00	SPACE			23	C	24	12	--	---			555					0.00
							0.00	SPACE			25	A	26	8	30/3	AC 'CK-3'			1664					0.00
							0.00	SPACE			27	B	28	8	--	---			1664					0.00
							0.00	SPACE			29	C	30	8	--	---			1664					0.00
							0.00	SPACE			31	A	32	12	15/3	AC 'CK-3' PWR EXH			340					0.00
							0.00	SPACE			33	B	34	12	--	---			340					0.00
							0.00	SPACE			35	C	36	12	--	---			340					0.00
							0.00	SPACE			37	A	38			SPACE								0.00
							0.00	SPACE			39	B	40			SPACE								0.00
							0.00	SPACE			41	C	42			SPACE								0.00
0	360	200	0	0	0	0	4.00	**TOTALS**								**TOTALS**	0	0	21403	0	0	0	0	0.00

LOAD SUMMARY

Ltg.	Recept	Motor	Heat	Cool	Other	Kitchen	S/S	Description
0.0	0.4	21.6	0.0	0.0	0.0	0.0	4.0	Connected KVA
1.25	**	1.00	1.00	1.00	1.00	0.65	0.50	*Design Factors
0.0	0.4	21.6	0.0	0.0	0.0	0.0	2.0	Design KVA

Phase Load

Ph	KVA
A	7.2
B	7.2
C	7.5

Panel Remarks: *NEW PANEL*

*Input div. factor per descriptions as required for calculations.
**100% of 1st 10 KVA, 50% of remaining.

PANEL: **MCK**

	Con. KVA	Con. Amps		Des. KVA	Des. Amps
TOTAL	26.0	72.1		24.0	66.5

Date: 10/9/2023 — By: N.OROPEZA

TYPE	DESCRIPTION	VOLTAGE	MOUNTING	MANUFACTURER & NO.	REMARKS
FX-A	2X4 TROFFER	MVOLT	RECESSED	LITHONIA LIGHTING EPANL 2X4 4000LM 80CRI 35K MIN1 MVOLT	
FX-AE	2X4 TROFFER - EMERG.	MVOLT	RECESSED	LITHONIA LIGHTING EPANL 2X4 4000LM 80CRI 35K MIN1 MVOLT E10WCP	PROVIDE 90 MIN. EMERGENCY BATTERY BACKUP 'E10WCP'
FX-B	1X4 TROFFER	MVOLT	RECESSED	LITHONIA LIGHTING EPANL 1X4 4000LM 80CRI 35K MIN1 MVOLT	
FX-BE	1X4 TROFFER - EMERG.	MVOLT	RECESSED	LITHONIA LIGHTING EPANL 1X4 4000LM 80CRI 35K MIN1 MVOLT E10WCP	PROVIDE 90 MIN. EMERGENCY BATTERY BACKUP 'E10WCP'
FX-C	2X4 TROFFER	MVOLT	SURFACE	LITHONIA LIGHTING EPANL 2X4 4000LM 80CRI 35K MIN1 MVOLT	PROVIDE SURFACE MOUNT KIT 'SMKSH'.
FX-D	5" DOWNLIGHT	MVOLT	SURFACE	JUNO LIGHTING JSF 5IN 07LM 35K 90CRI 120 FRPC WH E10WLCP	PROVIDE EMERGENCY BATTERY BACKUP 'E10WLCP'
FX-E	1X4 TROFFER	MVOLT	SURFACE	LITHONIA LIGHTING EPANL 1X4 4000LM 80CRI 35K MIN1 MVOLT	PROVIDE SURFACE MOUNT KIT 'SMKSH'.
FX-EE	1X4 TROFFER	MVOLT	SURFACE	LITHONIA LIGHTING EPANL 1X4 4000LM 80CRI 35K MIN1 MVOLT E10WCP	PROVIDE 90 MIN. EMERGENCY BATTERY BACKUP 'E10WCP'
FX-EX	EMERGENCY EXIT	MVOLT	SURFACE	LITHONIA LIGHTING LE S 1 R EL N SD - WITH MOUNTING KIT 'ELA WG1'	COORDINATE WITH MANUFACTURER AND ARCHITECT PRIOR TO PROCUREMENT.

3 LIGHT FIXTURE SCHEDULE
NOT TO SCALE

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FINLEY ES HVAC UPGRADE & MODERNIZATION

PROJECT ADDRESS:
13521 Edwards St.
Westminster, CA 92683

DSA SUBMITTAL

DSA APPL NO.: 04-121814 DSA FILE NO.: 30-43

A1 A2 A3 A4 A5 A6 A7 A8 A9 C1 C2 C3 C4 C5 C6 CK CC MP

KEY PLAN — NORTH: PLAN TRUE

Consultant

REGISTERED PROFESSIONAL ENGINEER — RONALD C. DE LA CRUZ — No. E 23576 — Exp. 09-30-2025 — ELECTRICAL — STATE OF CALIFORNIA

Architect

CLIENT
WESTMINSTER SCHOOL DISTRICT

DATE	PROJECT NUMBER
12-28-2022	220307

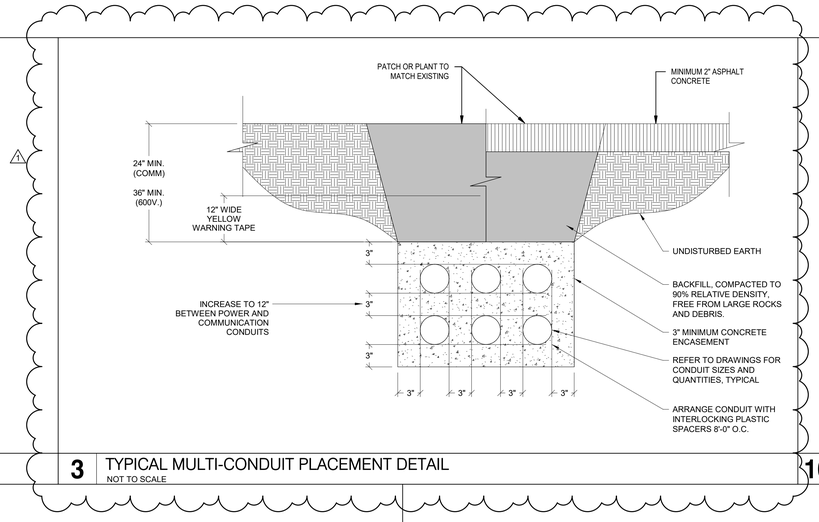
REVISIONS

No.	Description	Date
1	ADDENDUM #1	10/06/2023

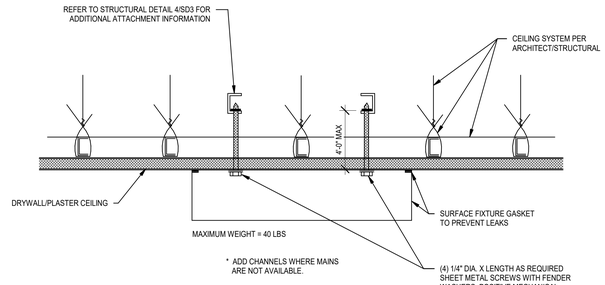
DSA SUBMITTAL

ELECTRICAL SCHEDULES

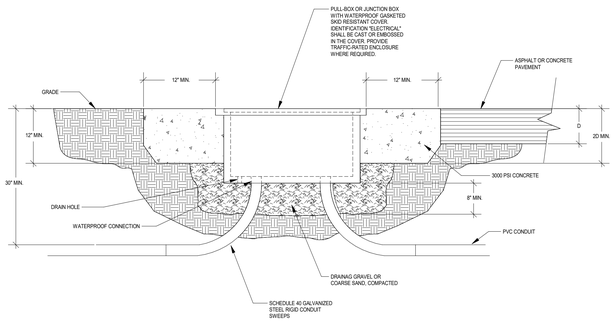
E5.03



3 TYPICAL MULTI-CONDUIT PLACEMENT DETAIL
NOT TO SCALE



10 SURFACE MOUNTED FIXTURE DETAIL
NOT TO SCALE

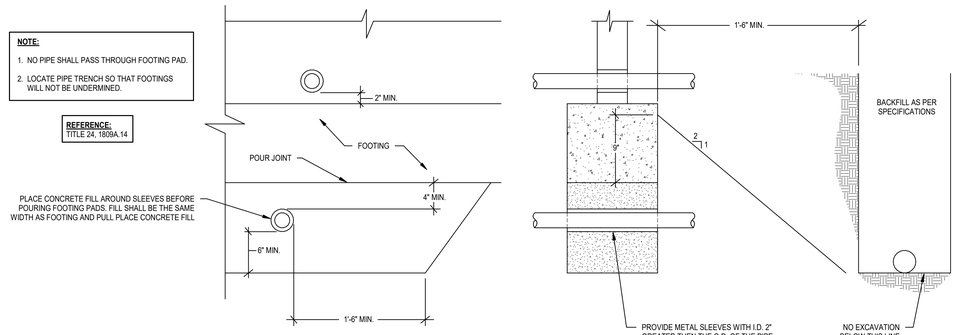


4 EXTERIOR JUNCTION BOX
NOT TO SCALE

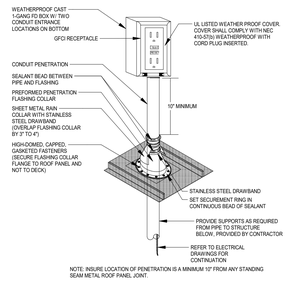
NOTE:

1. NO PIPE SHALL PASS THROUGH FOOTING PAD.
2. LOCATE PIPE TRENCH SO THAT FOOTINGS WILL NOT BE UNDERMINED.

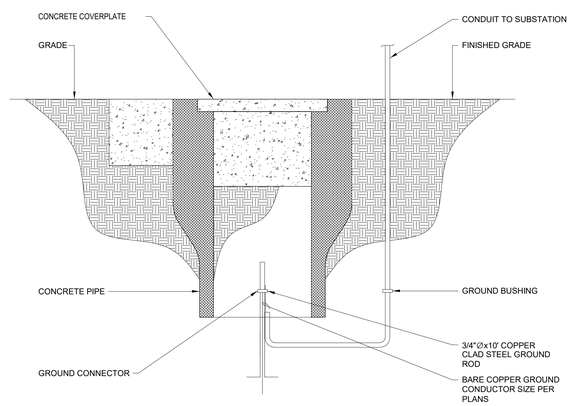
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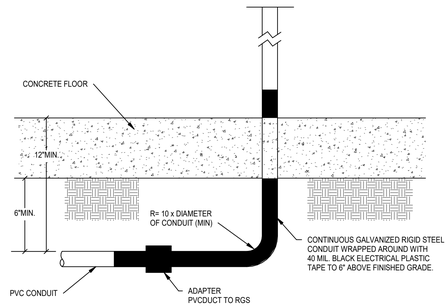
7 TYPICAL PIPE TRENCH/FOOTING DETAIL
NOT TO SCALE



2 CONDUIT ROOF PENETRATION DETAIL (RECEPTACLE)
NOT TO SCALE



5 GROUND ROD DETAIL
NOT TO SCALE



1 CONDUIT RISER DETAIL
NOT TO SCALE

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DSA SUBMITTAL

DSA APPL NO.: 04-121814 DSA FILE NO.: 30-43

A1 A2 A3 A4 A5 A6 A7 A8 A9 B C1 C2 C3 C4 C5 C6 CK CC MP

KEY PLAN
NORTH: PLAN TRUE

Consultant

REGISTERED PROFESSIONAL ENGINEER
RONALD C. DE LA CRUZ
No. E 23576
Exp. 09-30-2025
ELECTRICAL
STATE OF CALIFORNIA

Architect

CLIENT
WESTMINSTER SCHOOL DISTRICT

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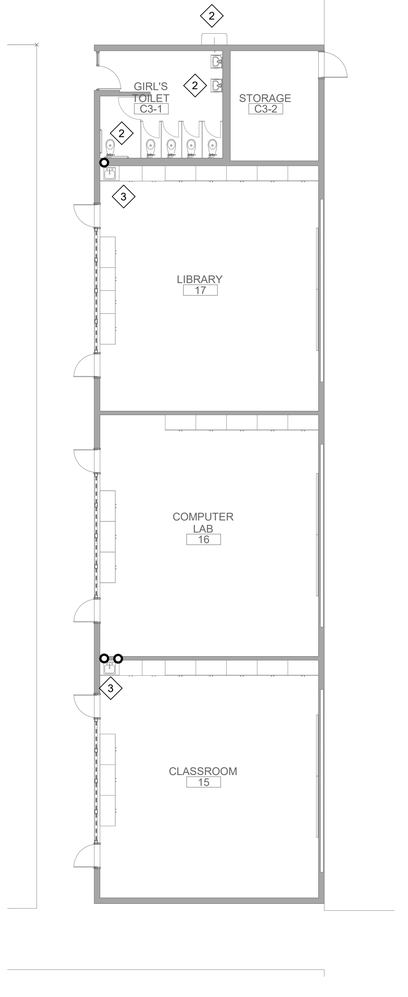
ELECTRICAL DETAILS

E6.01

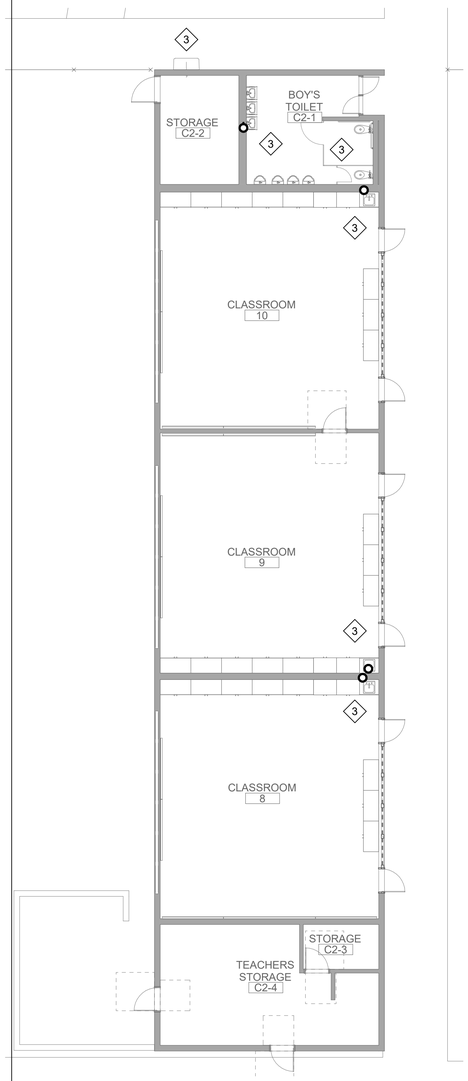
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DEMO KEY NOTES

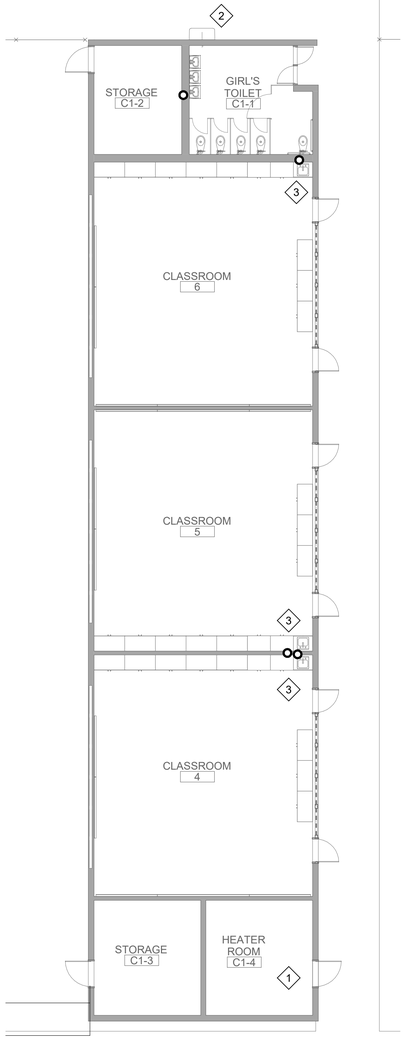
1. MECHANICAL EQUIPMENT TO BE DEMOLISHED. REFER TO HVAC PLANS. CAP EXISTING 1-1/2" GAS AND 2" MAKE UP WATER TO MECHANICAL BOILER
2. EXISTING PLUMBING FIXTURE TO BE REMOVED AND REPLACED. CAP SEWER, VENT AND WATER LINE TEMPORARILY FOR NEW REPLACEMENT.
3. EXISTING PLUMBING FIXTURE TO REMAIN
4. EXISTING TOILET ROOM WALLS TO BE DEMOLISHED AND RECONFIGURED. REMOVE PLUMBING FIXTURES. REMOVE AND REPLACE EXISTING SEWER BELOW FLOOR (WITHIN SCOPE), CAP VENT AND WATER LINE ABOVE CEILING.



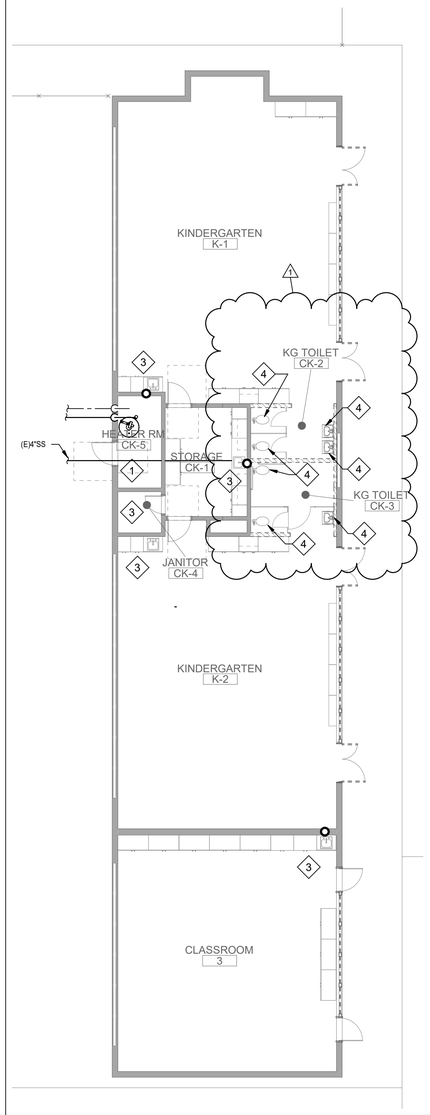
4 FLOOR PLAN - BUILDING C3 - DEMO
1/8" = 1'-0"



3 FLOOR PLAN - BUILDING C2 - DEMO
1/8" = 1'-0"



2 FLOOR PLAN - BUILDING C1 - DEMO
1/8" = 1'-0"



1 FLOOR PLAN - BUILDING CK - DEMO
1/8" = 1'-0"

CONSTRUCTION NOTES

1. FOR CONTINUATION OF ALL UTILITIES SEE BUILDING AS-BUILTS
2. BEFORE COMMENCEMENT OF WORK , THE CONTRACTOR SHALL VERIFY THE EXACT LOCATIONS, ELEVATIONS AND CHARACTERISTICS OF ALL UTILITIES AND PIPING BY PHYSICAL EXCAVATION AND SHALL IMMEDIATELY NOTIFY THE ARCHITECT OF ANY DISCREPANCIES
3. THE CONTRACTOR SHALL FIELD VERIFY ALL EXISTING UTILITIES AND POINTS OF CONNECTIONS PRIOR TO BIDDING THE PROJECT.
4. WHERE PLANS INDICATE NEW FIXTURES OR EQUIPMENT CONNECTING TO EXISTING SERVICES, PLUMBING CONTRACTOR SHALL MODIFY AND OR EXTEND EXISTING PIPING OR ROUGH INS AS REQUIRED TO SUIT THE NEW FIXTURE.

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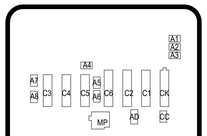
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DSA SUBMITTAL

DSA APPL NO.: 04-121814 DSA FILE NO.: 30-43



Consultant

REGISTERED PROFESSIONAL ENGINEER
REX DAVID WANG
No.M36155
Exp.09-30-2024
MECHANICAL
STATE OF CALIFORNIA

Architect

CLIENT
WESTMINSTER SCHOOL DISTRICT

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DSA SUBMITTAL

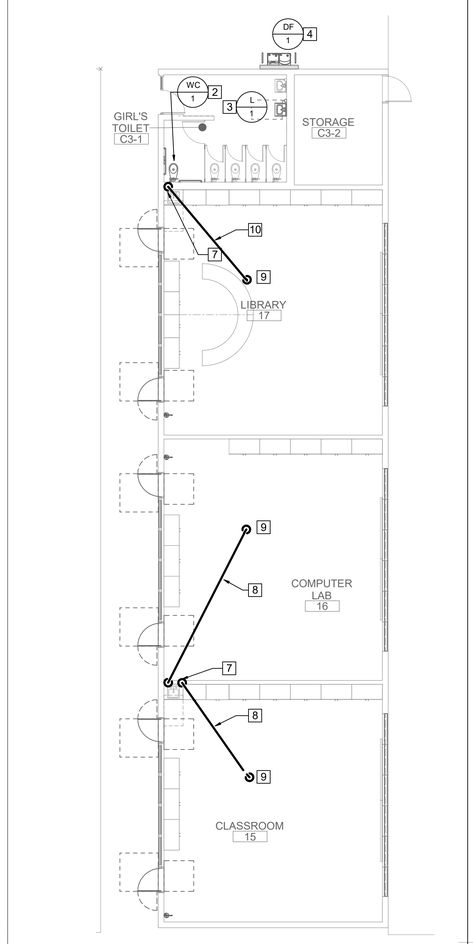
PLUMBING DEMOLITION FLOOR PLANS

PD2.01

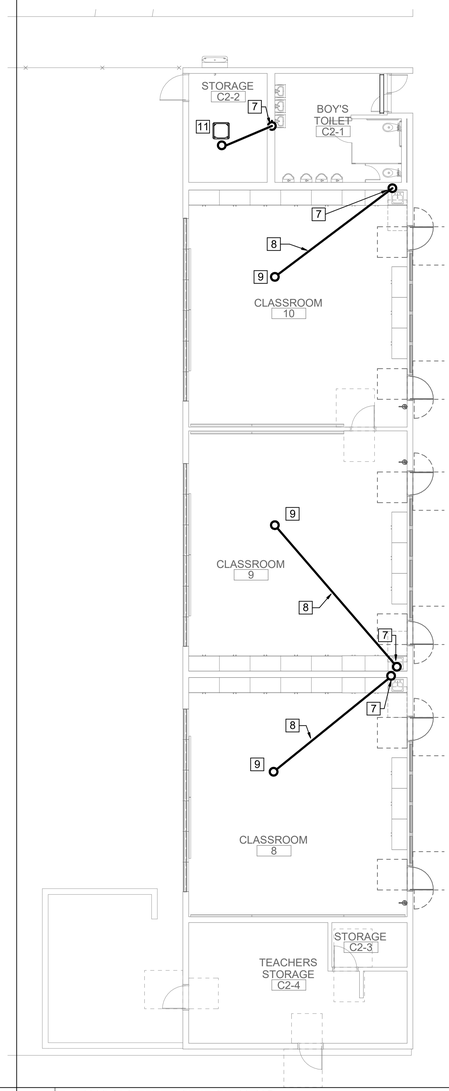
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P2.01 - PLUMBING FLOOR PLANS

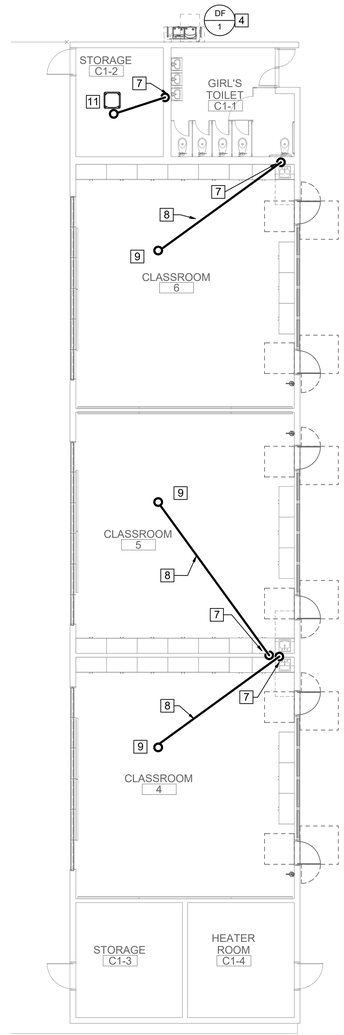
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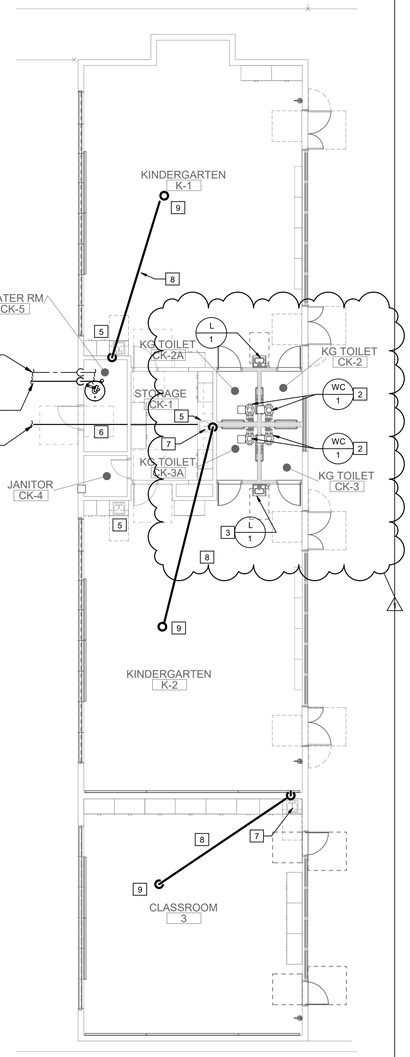
4 FLOOR PLAN - BUILDING C3
1/8" = 1'-0"



3 FLOOR PLAN - BUILDING C2
1/8" = 1'-0"



2 FLOOR PLAN - BUILDING C1
1/8" = 1'-0"



1 FLOOR PLAN - BUILDING CK
1/8" = 1'-0"

KEY NOTES

1. PIPING ABOVE IN ATTIC SPACE
2. ROUGH IN AND CONNECT 4" SANITARY SEWER , 2" VENT AND 1 -1/4" CW TO WATER CLOSET. WHERE PLANS INDICATE NEW FIXTURES OR EQUIPMENT CONNECTING TO EXISTING SERVICES, PLUMBING CONTRACTOR SHALL MODIFY AND/OR EXTEND EXISTING PIPING OR ROUGH-INS AS REQUIRED TO SUIT THE NEW FIXTURE.
3. LAVATORY AND FAUCET TO BE INSTALLED ACCESSIBLE COMPLIANT. PLUMBING CONTRACTOR TO SUPPLY & INSTALL NEW ANGLE STOP, SINK SUPPLY, COMPLETE WITH LOOSE KEY, CHROME ESCUTCHEON PLATE COMPRESSION INLET, HEAVY DUTY OUTLET RISER. ROUGH IN AND CONNECT 2" SANITARY SEWER , 2" VENT AND 1/2" CW, WHERE PLANS INDICATE NEW FIXTURES OR EQUIPMENT CONNECTING TO EXISTING SERVICES, PLUMBING CONTRACTOR SHALL MODIFY AND/OR EXTEND EXISTING PIPING OR ROUGH-INS AS REQUIRED TO SUIT THE NEW FIXTURE.
4. DRINKING FOUNTAIN POC TO (E) 2" SS AND 2" VENT AND (E) 3/4" CW . WHERE PLANS INDICATE NEW FIXTURES OR EQUIPMENT CONNECTING TO EXISTING SERVICES, PLUMBING CONTRACTOR SHALL MODIFY AND/OR EXTEND EXISTING PIPING OR ROUGH-INS AS REQUIRED TO SUIT THE NEW FIXTURE.
5. EXISTING PLUMBING FIXTURE
6. EXISTING WATER HEATER
7. 3/4" CONDENSATE FROM ABOVE. DROP DN. IN WALL TO LAV TAIL PIECE SEE DETAIL 01/ P6.01
8. 3/4" CONDENSATE IN ATTIC SPACE SLOPE @ 1%
9. 3/4" CONDENSATE UP TO A/C UNIT ON ROOF.
10. SINK AND FAUCET TO BE INSTALLED ACCESSIBLE COMPLIANT. PLUMBING CONTRACTOR TO SUPPLY & INSTALL NEW ANGLE STOP, SINK SUPPLY, COMPLETE WITH LOOSE KEY, CHROME ESCUTCHEON PLATE COMPRESSION INLET, HEAVY DUTY OUTLET RISER. ROUGH IN AND CONNECT 2" SANITARY SEWER , 2" VENT AND 1/2" H/ CW, WHERE PLANS INDICATE NEW FIXTURES OR EQUIPMENT CONNECTING TO EXISTING SERVICES, PLUMBING CONTRACTOR SHALL MODIFY AND/OR EXTEND EXISTING PIPING OR ROUGH-INS AS REQUIRED TO SUIT THE NEW FIXTURE.
11. NEW FAN COIL UNITS (BY MECHANICAL) PROVIDE CONDENSATE TRAP AND VENT AS REQUIRED SEE DETAIL 03 / P6.01

CONSTRUCTION NOTES

1. FOR CONTINUATION OF ALL UTILITIES SEE BUILDING AS-BUILTS
2. BEFORE COMMENCEMENT OF WORK , THE CONTRACTOR SHALL VERIFY THE EXACT LOCATIONS, ELEVATIONS AND CHARACTERISTICS OF ALL UTILITIES AND PIPING BY PHYSICAL EXCAVATION AND SHALL IMMEDIATLEY NOTIFY THE ARCHITECT OF ANY DISCREPANCIES
3. THE CONTRACTOR SHALL FIELD VERIFY ALL EXISTING UTILITIES AND POINTS OF CONNECTIONS PRIOR TO BIDDING THE PROJECT.
4. WHERE PLANS INDICATE NEW FIXTURES OR EQUIPMENT CONNECTING TO EXISTING SERVICES, PLUMBING CONTRACTOR SHALL MODIFY AND OR EXTEND EXISTING PIPING OR ROUGH INS AS REQUIRED TO SUIT THE NEW FIXTURE.

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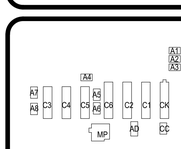
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FINLEY ES HVAC UPGRADE & MODERNIZATION

PROJECT ADDRESS:
13521 Edwards St.
Westminster, CA 92683

DSA SUBMITTAL

DSA APPL NO.: 04-121614 DSA FILE NO.: 30-43



KEY PLAN
NORTH: PLAN TRUE

Consultant



Architect

CLIENT
WESTMINSTER SCHOOL DISTRICT

DATE	PROJECT NUMBER
12-28-2022	220307

REVISIONS

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1	ADDENDUM 1	10/09/2023

DSA SUBMITTAL

PLUMBING FLOOR PLANS

P2.01

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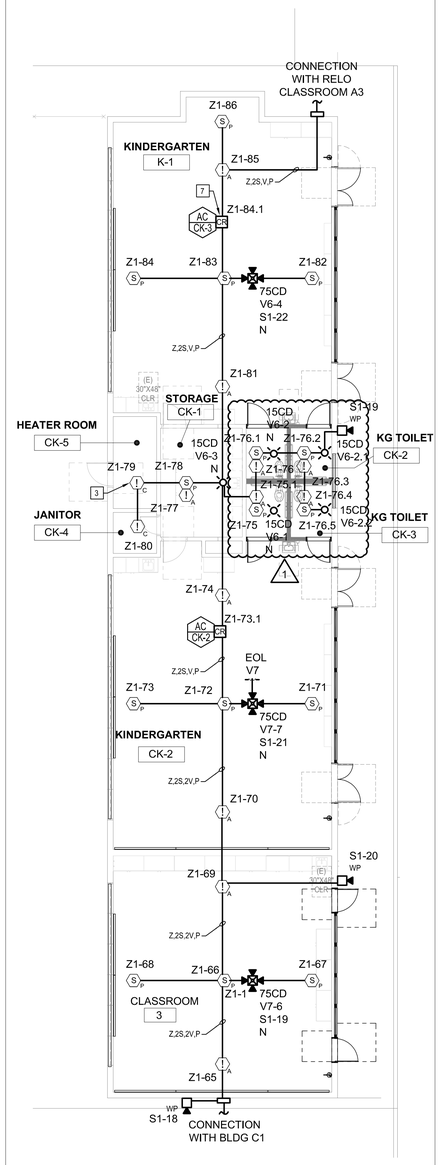
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GENERAL NOTES

1. ALL SPEAKER TAP SETTING SHALL BE SET AT 1/2 WATT FOR INTERIOR SPEAKER AND 2 WATT FOR EXTERIOR SPEAKERS UNLESS NOTED OTHERWISE (U.N.O.)
2. PROVIDE 24 VDC POWER FROM FACP TO ALL CO DETECTOR BASES.
3. RUN FIRE ALARM CABLES IN CONDUIT CONCEALED IN WALLS AND CEILING WHEN POSSIBLE. EXPOSED CONDUITS ARE NOT ACCEPTABLE.
4. SMOKE ALARMS AND SMOKE DETECTORS SHALL NOT BE INSTALLED WITHIN 36 IN. (910 MM) HORIZONTAL PATH FROM THE SUPPLY REGISTERS OF A FORCED AIR HEATING OR COOLING SYSTEM AND SHALL BE INSTALLED OUTSIDE OF THE DIRECT AIRFLOW FROM THOSE REGISTERS PER CBC 907.2.11.8.
5. DEMOLISH AND REMOVE ALL THE EXISTING FIRE ALARM DEVICES WHETHER SHOWN ON THE PLAN OR NOT AND REPLACE WITH BLANK COVER PLATES IF NECESSARY. DISCONNECT AND REMOVE ALL THE EXISTING CABLES BACK TO CONTROL PANEL.
6. EXISTING FIRE ALARM SYSTEM SHALL BE OPERTIONAL UNTIL NEW SYSTEMS ARE FULLY FUNCTIONAL.
7. FOR ALL HEAT DETECTORS THAT ARE LOCATED ABOVE CEILING/ATTIC SPACES, CONTRACTOR SHALL PROVIDE STICKER AND LABEL "HD" AT THE REFLECTED CEILING DIRECTLY BELOW THE DEVICE TO INDICATE LOCATION.
8. ELECTRICAL CONTRACTOR SHALL FURNISH ACCESS PANELS TO AREAS THAT REQUIRE ACCESS FOR ATTIC HEAT DETECTOR, SERVICING, TROUBLESHOOTING, ETC.

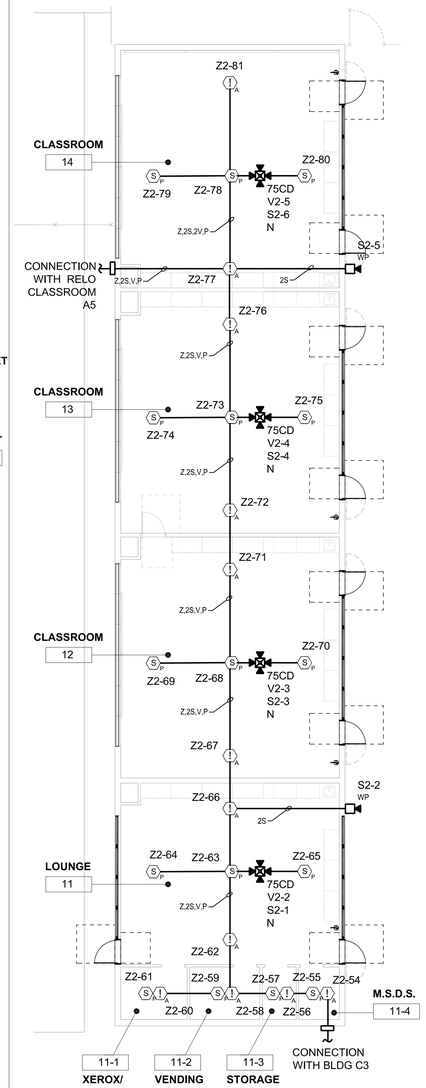
KEY NOTES

1. PROVIDE FIRE ALARM ADDRESSABLE SMOKE DETECTOR AS SHOWN (TYP).
2. PROVIDE FIRE ALARM ADDRESSABLE ATTIC HEAT DETECTOR AS SHOWN (TYP).
3. PROVIDE FIRE ALARM ADDRESSABLE CEILING MOUNTED HEAT DETECTOR AS SHOWN.
4. PROVIDE FIRE ALARM CEILING MOUNTED SPEAKER STROBE AS SHOWN (TYP).
5. PROVIDE FIRE ALARM CEILING MOUNTED STROBE AS SHOWN (TYP).
6. PROVIDE FIRE ALARM WEATHERPROOF SPEAKER AS SHOWN (TYP).
7. PROVIDE FIRE ALARM CONTROL RELAY/MULTI VOLTAGE RELAYS TO SHUT DOWN THE MECHANICAL UNITS LOCATED AT THE ROOF PER 2019 CMC (CALIFORNIA MECHANICAL CODE), SECTION 608 (TYP). CONTRACTOR TO FIELD VERIFY THE EXACT UNIT LOCATION.
8. NEW FIRE ALARM REMOTE ANNUNCIATOR AS SHOWN AND FIRE ALARM MANUAL PULL STATION RIGHT NEXT TO THE ANNUNCIATOR.
9. PROVIDE NEW VOICE EVAC FIRE ALARM CONTROL PANEL AS SHOWN.
10. LOCATION OF EXISTING FIRE ALARM CONTROL PANEL (A#04-100880). STAFF TOILET 2 AD9 REMODEL TO BE DONE AT THE LAST PHASE OF CONSTRUCTION TO ALLOW EXISTING FACP TO BE OPERATIONAL UNTIL REPLACED WITH THE NEW FACP.



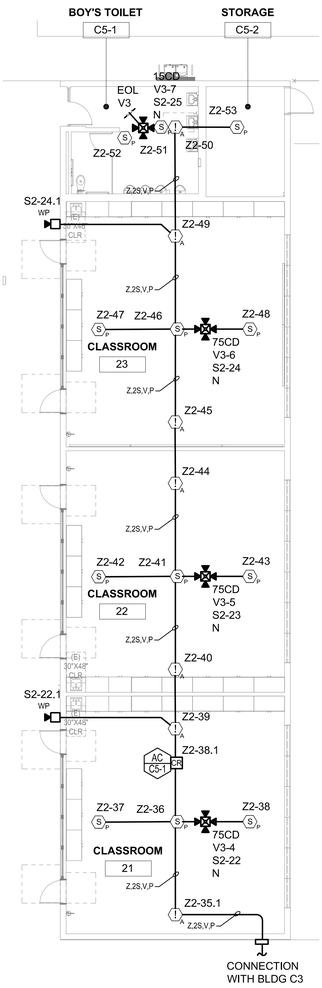
4 FLOOR PLAN - BUILDING CK

1/8" = 1'-0"



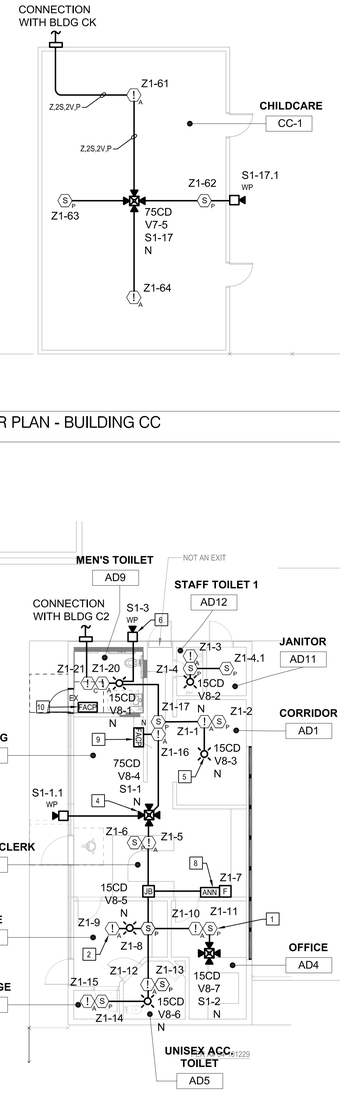
3 FLOOR PLAN - BUILDING C6

1/8" = 1'-0"



2 FLOOR PLAN - BUILDING C5

1/8" = 1'-0"



5 FLOOR PLAN - BUILDING CC

1/8" = 1'-0"

1 FLOOR PLAN - ADMIN BLDG

1/8" = 1'-0"

NORTH

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DSA SUBMITTAL

DSA APPL NO.: 04-121614 DSA FILE NO.: 30-43

WESTMINSTER SCHOOL DISTRICT

KEY PLAN

NORTH PLAN

Consultant

REGISTERED PROFESSIONAL ENGINEER RONALD C DELA CRUZ No. E 23576 Exp. 09-30-2025 ELECTRICAL STATE OF CALIFORNIA

Architect

CLIENT: WESTMINSTER SCHOOL DISTRICT

DATE: 12-28-2022 PROJECT NUMBER: 220307

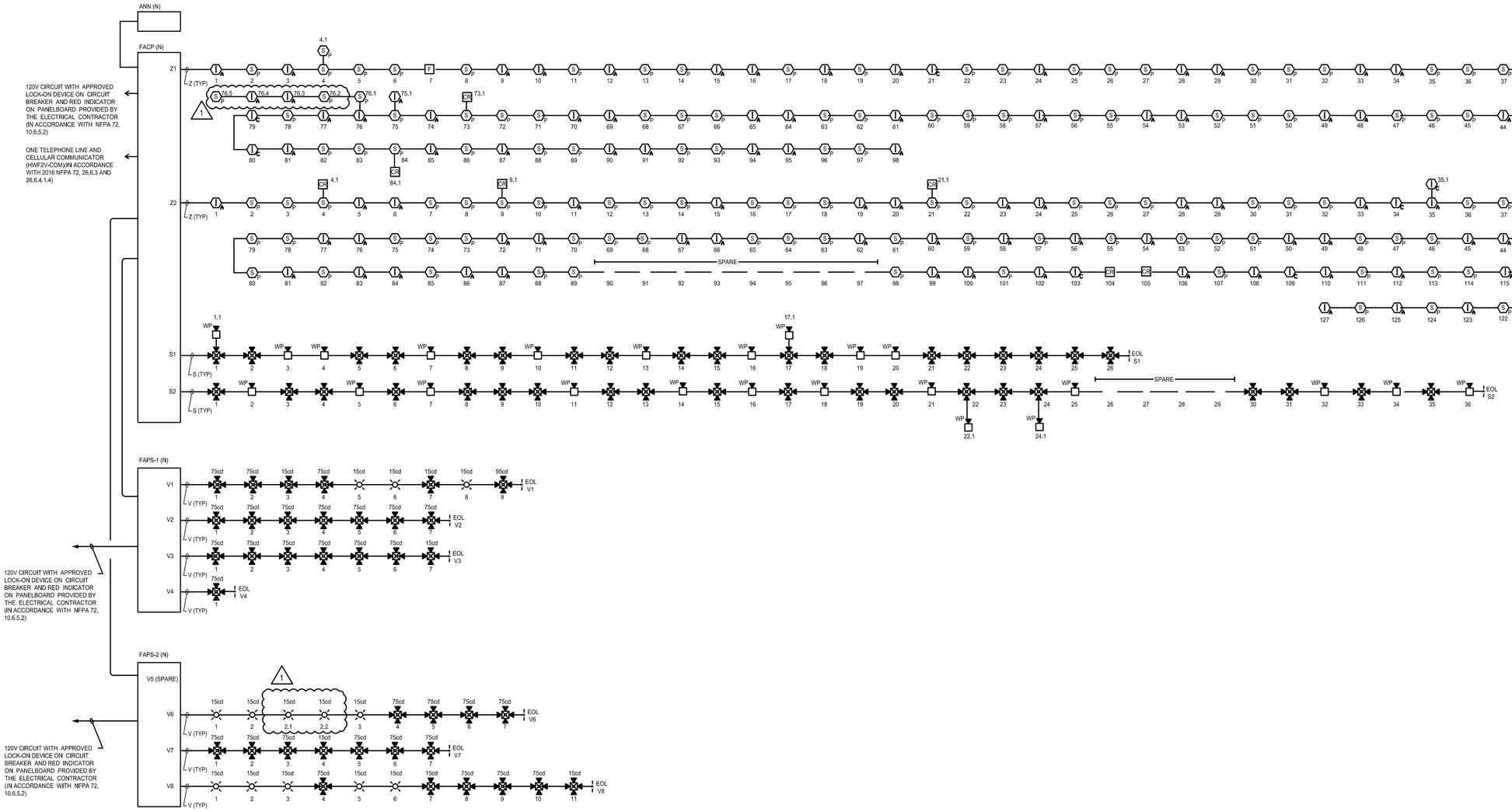
REVISIONS

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DSA SUBMITTAL

FIRE ALARM FLOOR PLANS

FA2.2



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NORTH: PLAN

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CLIENT
WESTMINSTER SCHOOL DISTRICT

DATE	PROJECT NUMBER
12-28-2022	220307

REVISIONS

No.	Description	Date
1	ADDENDUM #1	10/09/2023

DSA SUBMITTAL

FIRE ALARM RISER DIAGRAM

FA4.1

FACP BATTERY CALCULATION SHEET

FACP WITH VOICE EVAC
LOCATION: ADMIN

QUANTITY		UNIT STANDBY CURRENT(A)	TOTAL STANDBY CURRENT(A)	UNIT ALARM CURRENT(A)	TOTAL ALARM CURRENT(A)
1	MAIN BOARD	0.08100	0.08100	0.15000	0.15000
1	SUPPLEMENT BOARD	0.08100	0.08100	0.15000	0.15000
1	INTERFACE MAIN BOARD	0.05000	0.05000	0.09100	0.09100
1	INTERFACE SUPPLEMENT BOARD	0.05000	0.05000	0.09100	0.09100
1	120V POWER SUPPLY SUB-ASSEMPLY	0.05000	0.05000	0.05000	0.05000
1	DIGITAL COMMUNICATOR (DACT-E3)	0.01800	0.01800	0.01800	0.01800
1	ANNUNCIATOR	0.20000	0.20000	0.20000	0.20000
1	AMPLIFIER KIT	0.10300	0.10300	0.14000	0.14000
1	FIRE PHONE CARD	0.05300	0.05300	0.07500	0.07500
1	AMPLIFIER CARD	0.05200	0.05200	0.31500	0.31500
124	SMOKE DETECTOR	0.00020	0.02468	0.00200	0.24800
98	HEAT DETECTOR	0.00020	0.01950	0.00200	0.19600
1	PULL STATION	0.00000	0.00000	0.00300	0.00300
8	RELAY MODULE	0.00000	0.00000	0.00650	0.05200
	SUB TOTAL		0.782		1.779
	STANDBY CURRENT x 24 Hrs. (AH)		18.772 AH		
	ALARM CURRENT x 15 MINUTES (AH)		0.445 AH		
	TOTAL (AH)		19.217 AH		
	25% DERATING		4.804 AH		
	TOTAL DEMAND (AH)		24.021 AH		
	BATTERY REQUIRED		55 AH		

BATTERY CAPACITY CALCULATION SHEET

FAPS-1
LOCATION: C3

QUANTITY	Description	Unit Standby Current(A)	Total Standby Current(A)	Unit Alarm Current(A)	Total Alarm Current(A)
1	NAC TRIP	0.075	0.075	0.175	0.175
3	15cd ceiling strobes	0.000	0.000	0.071	0.213
3	15cd ceiling speaker/strobe	0.000	0.000	0.071	0.213
19	75cd ceiling speaker/strobe	0.000	0.000	0.153	2.907
1	95cd ceiling speaker/strobe	0.000	0.000	0.176	0.176
	Sub Total		0.075		3.684
	A - Battery Backup - Standby (Hour)	24			
	B - Battery Backup (minutes)	15			
	C - Allowable Error (%)	25			
	D - Total Standby Backup (Amp-Hour)	1.800			
	E - Total Alarm Backup (Amp-Hour)	0.921			
	F - Allowable Error (C x (D + E))	0.680			
	Total Amp-Hour Required (D + E + F)	3.401			
	Battery Submitted	7 Amp-Hour			

BATTERY CAPACITY CALCULATION SHEET

FAPS-2
LOCATION: C1

QUANTITY	Description	Unit Standby Current(A)	Total Standby Current(A)	Unit Alarm Current(A)	Total Alarm Current(A)
1	NAC TRIP	0.075	0.075	0.175	0.175
11	15cd ceiling strobes	0.000	0.000	0.060	0.660
3	15cd ceiling speaker/strobe	0.000	0.000	0.071	0.213
12	75cd ceiling speaker/strobe	0.000	0.000	0.153	1.836
	Sub Total		0.075		2.884
	A - Battery Backup - Standby (Hour)	24			
	B - Battery Backup (minutes)	15			
	C - Allowable Error (%)	25			
	D - Total Standby Backup (Amp-Hour)	1.800			
	E - Total Alarm Backup (Amp-Hour)	0.721			
	F - Allowable Error (C x (D + E))	0.630			
	Total Amp-Hour Required (D + E + F)	3.151			
	Battery Submitted	7 Amp-Hour			

STROBES WORST CASE VOLTAGE DROP

PANEL NAME	CIRCUIT NUMBER	CEILING STROBE 15cd 0.071	30cd 0.096	75cd 0.153	95cd 0.176	CEILING SPEAKER/STROBE 15cd 0.071	30cd 0.096	75cd 0.153	95cd 0.176	TOTAL CURRENT (AMPS)	TOTAL DISTANCE (FEET)	TOTAL VOLTAGE DROP (%)	TOTAL DEVICES
FAPS-1	V1	3				2		3	1	0.990	425	5.80%	9
	V2							7		1.071	510	7.53%	7
	V3					1		6		0.989	550	7.50%	7
	V4							1		0.153	200	0.42%	1
TOTAL		3	0	0	0	3	0	17	1				
FAPS-2	V5 (spare)									0.000	0	0.00%	0
	V6	6						4		1.038	415	5.94%	10
	V7					1		6		0.989	520	7.09%	7
	V8	5				2		4		1.109	410	6.27%	11
TOTAL		11	0	0	0	3	0	14	0				

BATTERY CALCULATION SHEET

AMP
LOCATION: ADMIN. BUILDING

QUANTITY		UNIT STANDBY CURRENT(A)	TOTAL STANDBY CURRENT(A)	UNIT ALARM CURRENT(A)	TOTAL ALARM CURRENT(A)
1	50 WATT AMPLIFIER	0.110	0.110	0.5810	0.5810
38	SPEAKER (1/2 W)	0.000	0.000	0.0071	0.2698
24	WP SPEAKER (2W)	0.000	0.000	0.0283	0.6792
	SUB TOTAL		0.110		1.530
	STANDBY CURRENT x 24 Hrs. (AH)		2.640 AH		
	ALARM CURRENT x 15 MINUTES (AH)		0.383 AH		
	TOTAL (AH)		3.023 AH		
	25% DERATING		0.756 AH		
	TOTAL DEMAND (AH)		3.778 AH		
	BATTERY REQUIRED		7 AH		

SPEAKER CIRCUIT LOAD CALCULATION

MFG. REC. MAXIMUM LOSS IS: -0.5dB

SPEAKER CIRCUIT DESCRIPTION		PANEL CIRCUIT NUMBER	WIRE GAUGE (18, 16,14 12)	CIRCUIT VOLTAGE (25 OR 70 VRMS)	APPLIANCES QUANTITIES / TAP VALUES SPEAKER TAPPED AT 0.25 WATTS	SPEAKER TAPPED AT 0.5 WATTS	SPEAKER TAPPED AT 1 WATTS	SPEAKER TAPPED AT 2 WATTS	TOTAL CIRCUIT LOAD (WATT)	ESTIMATED CIRCUIT LENGTH (FEET)	ACTUAL WIRE/LOSS (dB)	MAXIMUM ALLOWABLE CKT, LENGTH (FEET)	TOTAL CIRCUIT RESISTANCE (OHMS)
AMPLIFIER#	CIRCUIT LOCATION												
AMP	ADMIN,C2,C1,CK,PORTABLE,A1-3	S1	14 AWG	70		18		10	29.00	900	-0.25	1,630	4.64
	C6,C3,C4,C5,A(5,6,8)	S2	14 AWG	70		20		14	38.00	1000	-0.36	1,260	5.15
								TOTAL	67.00				

1 FIRE ALARM VOLTAGE DROP AND BATTERY CALCULATIONS
NOT TO SCALE

FILE PATH: Z:\Projects\...

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DSA SUBMITTAL

DSA APPL NO.: 04-121614 DSA FILE NO.: 30-43

KEY PLAN
NORTH: PLAN

Consultant

REGISTERED PROFESSIONAL ENGINEER RONALD C DELA CRUZ No. E 23576 Exp. 09-30-2025 ELECTRICAL STATE OF CALIFORNIA

Architect

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DATE 12-28-2022
PROJECT NUMBER 220307

REVISIONS

No.	Description	Date
1	ADDENDUM #1	10/09/2023

DSA SUBMITTAL

FIRE ALARM CALCULATIONS

FA5.1