



Martin Elementary School Modernization
Project No. 01-19
Addendum No. 2
DSA Appl. # 01-116977
April 2, 2019

ADDENDUM NO. 2

The following changes, additions, deletions, or corrections shall become a part of the Contract Documents for the project named above and all other conditions shall remain the same. The bidders shall be responsible for transmitting this information to all affected subcontractors and suppliers prior to the closing of bids. Acknowledge receipt of this Addendum in spaces provided on the Bid Form. Failure to acknowledge will subject Bidder to disqualification.

Changes to Project Manual:

Item No. AD-2.1: Specification Section 00 10 00 TABLE OF CONTENTS

A. **Replace** with the attached.

Item No. AD-2.2: Specification Section 00 31 19 EXISTING CONDITIONS

A. **Add** per the **Attached**.

Item No. AD-2.3: Specification Section 00 73 56 HAZARDOUS MATERIAL PROCEDURES AND REQUIREMENTS

A. **Add** per the **Attached**.

Item No. AD-2.4: Specification Section 01 32 13 SCHEDULING OF WORK

B. **Replace** with the attached.

Item No. AD-2.5: Specification Section 07 13 50 SHEET MEMBRANE WATERPROOFING

A. Product **Substitution**: Section 07 13 50, 2.1 MATERIALS. Subject to receipt of a formal product substitution request from the Contractor, per Specification Section 01 25 13, Product Options and Substitutions, use of W.R. Meadows "Precon" in lieu of Grace "Preprufe 300R" is tentatively approved.

Item No. AD-2.6: Specification Section 10 21 13 PHENOLIC TOILET COMPARTMENTS

A. Product **Substitution**: Requested by Scranton Products for HDPE panels not approved. Per SSFUSD design standards, solid phenolic panels will be required.

Item No. AD-2.7: Specification Section 08 51 13 ALUMINUM WINDOWS

- A. **Change** Paragraph 2.7.A to Read: Factory applied Kawneer Permadiize Hardcoat Finishes – color to be Platinum Ice or equal approved.
- B. Product **Substitution**: Subject to receipt of a formal product substitution request, per Specification Section 01 25 13, Product Options and Substitutions, use of EFCO windows in lieu of Kawneer,8225TL Series, is tentatively approved.

Item No. AD-2.8: Specification Section 11 12 00 PARKING CONTROL EQUIPMENT

- A. **Replace** in its entirety, with the **Attached**.

Item No. AD-2.9: Specification Section 12 49 40 ROLLER SHADES

- A. **Change** Paragraph 2.2.A.3. to Read:

- a. Fabric: ThermoVeil Basket Weave, 2 by 2 dense basket-weave pattern. Light transmission to be selected from manufacturer's standard range.
-OR-
- b. Fabric: EcoVeil, TPO fabric, Cradle to Cradle Certified, non-PVC, 1 X 1, basket-weave pattern. Light transmission to be selected from manufacturer's standard range.
-OR-
- c. Fabric: SoHo, 2 x 2 basket-weave pattern of fine yarn PVC and polyester blend. Light transmission to be selected from manufacturer's standard range.

Item No. AD-2.10: Specification Section 28 13 00 ACCESS CONTROL (FOR PARKING CONTROL GATE).

- A. **Remove** section.

Item No. AD-2.11: Specification Section 32 31 13 CHAIN LINK FENCES AND GATES

- A. **Add** per the **Attached**.

Changes to Drawings:

Item No. AD-2.12: **General: Remove** all existing curtain blinds and curtain tracks in buildings B, C, D, E & F.

Item No. AD-2.13: Drawing Sheet A1.01 SITE DEMOLITION PLANS – Detail 13.

- A. **Add** Keynotes D2.23 & D2.30. See **Attached** ASK-01.

Item No. AD-2.14: Drawing Sheet A1.02 OVERALL AND ENLARGED SITE PLANS – Detail 25.

A. **Add** Gates G9 & G10. See **Attached** ASK-02.

Item No. AD-2.15: Drawing Sheet A1.02b ENLARGED SITE PLANS

- A. **Add** Detail 11 GATE BARRIER POST FOOTING DETAILS. See **Attached** ASK-03.
- B. Detail 27/-: **Revise** Note 3 to Read 'PARKING BARRIER OPERATOR. SEE DETAIL 11/-.'

Item No. AD-2.16: Drawing Sheet A1.05 SITE DETAILS – Detail 10

- A. **Revise** CONC STEPS AND HANDRAIL detail. See **Attached** ASK-04.

Item No. AD-2.17: Drawing Sheet A1.06 SITE DETAILS – Detail 6

- A. **Revise** GATE SCHEDULE details. See **Attached** ASK-05.

Item No. AD-2.18: Drawing Sheet A2.01 DEMOLITION FLOOR PLANS BUILDINGS A & E – Detail 12

- A. **Add** Keynote D2.02 to DEMOLITION FLOOR PLAN - BUILDING E to align with Demo Elevation Details 11 & 21/A3.03 for building E. See **Attached** A2.01.

Item No. AD-2.19: Drawing Sheet A2.02 DEMOLITION FLOOR PLANS BUILDINGS B, C, D & F

- A. **Replace** with the **Attached**.

Item No. AD-2.20: Drawing Sheet A2.01 DEMOLITION FLOOR PLANS BUILDINGS A & E

- A. **Replace** with the **Attached**.

Drawing Sheet A2.25 DOOR & SIGNAGE SCHEDULE

- A. **Replace** with the **Attached**.

Item No. AD-2.21: Drawing Sheet A2.31 WINDOW/LOUVER SCHEDULE

- A. **Replace** all Window Frame Finishes from 'MILL' to 'KYN', to align with specifications.
- B. **Replace** 'MILL' in SCHEDULE LEGEND to Read: 'KYN = ALUMIUNUM KYNAR FINISH, SEE SPECIFICATIONS'

Item No. AD-2.22: Drawing Sheet A3.02 EXTERIOR ELEVATIONS DEMO - BUILDINGS B & C

- A. **Replace** with the **Attached**.

Item No. AD-2.23: Drawing Sheet A3.03 EXTERIOR ELEVATIONS DEMO AND NEW - BUILDINGS D, E & F

A. **Replace** with the **Attached**.

Item No. AD-2.24: Drawing Sheet A3.05 EXTERIOR ELEVATIONS NEW - BUILDINGS B & C

A. **Replace** with the **Attached**.

Item No. AD-2.25: Drawing Sheet A2.41 FINISH PLANS - BUILDINGS A & E – Detail 25

A. **Revise** Sheet Title to Read: FINISH PLANS - BUILDINGS A, E AND TYPICAL PORTABLE CLASSROOM.

B. **Remove** VCT note. See **Attached** ASK-07

C. **Add** Detail 22 for a typical portable classroom floor finishes plan. See **Attached** ASK-06.

Item No. AD-2.26: Drawing Sheet A2.42 FINISH PLANS - BUILDINGS B, C, D & F – Detail 23

A. **Revise** Finishes at north door entries. See **Attached** ASK-08.

Item No. AD-2.27: Drawing Sheet A3.01 EXTERIOR ELEVATIONS DEMO - BUILDING A – Detail 23

A. **Revise** EXTERIOR ELEVATIONS DEMO - BUILDING A. See **Attached** ASK-09.

Item No. AD-2.28: Drawing Sheet A3.04 EXTERIOR ELEVATIONS NEW - BUILDING A – Detail 23

A. **Revise** graphic of benches to match specification. See **Attached** ASK-10.

Item No. AD-2.29: Drawing Sheet A8.05 WINDOW DETAILS AND EXTERIOR ASSEMBLIES – Detail 7

A. **Revise** detail to replace existing insect screen with new. See **Attached** ASK-11.

Item No. AD-2.30: Drawing Sheet A1.02b ENLARGED SITE PLANS – Detail 25

A. **Add** Keynote 06.17. See **Attached** ASK-12.

Item No. AD-2.31: Drawing Sheet M6.01 CONTROLS – MECHANICAL

A. **Replace** with the **Attached**.

Item No. AD-2.32: Drawing Sheet PD2.01 DEMOLITION FLOOR PLANS - BLDGS A & E - PLUMBING

A. **Replace** with the **Attached**.

Item No. AD-2.33: Drawing Sheet P2.01 OVERALL FLOOR PLANS – BLDGS A & E – PLUMBING

A. **Replace** with the **Attached**.

Item No. AD-2.34: Drawing Sheet P2.02 OVERALL FLOOR PLANS – BLDGS B, C, D & F – PLUMBING

A. **Replace** with the **Attached**.

Item No. AD-2.35: Drawing Sheet E1.01 SITE PLAN – ELECTRICAL

A. **Replace** with the **Attached**.

Item No. AD-2.36: Drawing Sheet F1.01 SITE PLAN - FIRE ALARM

A. **Replace** with the **Attached**.

Item No. AD-2.37: Drawing Sheet C2.2 PARTIAL GRADING, PAVING AND PLUMBING PLAN

A. **Revise** SS line to extend along north side of Bldg B. See **Attached** CSK-01.

Item No. AD-2.38: Drawing Sheet C2.3 PARTIAL PAVING AND GRADING PLAN

A. **Add** Callout 18/C3.0 (CSK-03) for reference to bollard detail. See **Attached** CSK-02.

Item No. AD-2.39: Drawing Sheet C3.0 CIVIL DETAILS

A. **Add** Detail 18 BOLLARD DETAIL. See **Attached** CSK-03.

Attachments:

1. Site Walk Agenda and Sign-In Sheet from March 27, 2019
2. 00 10 00 TABLE OF CONTENTS
3. 00 31 19 EXISTING CONDITIONS
4. 00 73 56 HAZARDOUS MATERIAL PROCEDURES AND REQUIREMENTS
5. 01 32 13 SCHEDULING OF WORK
6. 11 12 00 PARKING CONTROL EQUIPMENT
7. 32 31 13 CHAIN LINK FENCES AND GATES
8. A2.01 DEMOLITION FLOOR PLANS BUILDINGS A & E
9. A2.02 DEMOLITION FLOOR PLANS BUILDINGS B, C, D & F
10. A2.25 DOOR & SIGNAGE SCHEDULE
11. A3.02 EXTERIOR ELEVATIONS DEMO - BUILDINGS B & C
12. A3.03 EXTERIOR ELEVATIONS DEMO AND NEW - BUILDINGS D, E & F
13. A3.05 EXTERIOR ELEVATIONS NEW - BUILDINGS B & C
14. ADDENDUM 02_ASK-01_REF A1.01
15. ADDENDUM 02_ASK-02_REF A1.02

16. ADDENDUM 02_ASK-03_REF A1.02b
17. ADDENDUM 02_ASK-04_REF A1.05
18. ADDENDUM 02_ASK-05_REF A1.06
19. ADDENDUM 02_ASK-06_REF A2.41
20. ADDENDUM 02_ASK-07_REF A2.41
21. ADDENDUM 02_ASK-08_REF A2.41
22. ADDENDUM 02_ASK-09_REF A3.01
23. ADDENDUM 02_ASK-10_REF A3.04
24. ADDENDUM 02_ASK-11_REF A8.05
25. ADDENDUM 02_ASK-12_REF A1.02b
26. ADDENDUM 02_CSK-01_REF C2.2
27. ADDENDUM 02_CSK-02_REF C2.3
28. ADDENDUM 02_CSK-03_REF C3.0
29. E1.01 - SITE PLAN - ELECTRICAL
30. F1.01 - SITE PLAN - FIRE ALARM
31. PD2.01 DEMOLITION FLOOR PLANS - BLDGS A & E - PLUMBING
32. P2.01 OVERALL FLOOR PLANS - BLDGS A & E - PLUMBING
33. P2.02 OVERALL FLOOR PLANS - BLDGS B, C, D & F - PLUMBING
34. ADDENDUM 02_REFERENCE DRAWING S3
35. ADDENDUM 02_REFERENCE DRAWING S6
36. ADDENDUM 02_REFERENCE DRAWING S7

End of Addendum No. 2



Project 01-19: Martin Elementary School Modernization

Site Walk: March 27, 2019: 10:00 am

1. Prequalification: not required
2. All questions answer in addendum
3. Scope of work
4. Contract time: 305 days
 - a. Long lead items: windows
5. Construction cost estimate: \$3.75M
6. South San Francisco Project Construction Hours:
Hours of construction are as follows:
Monday – Friday: 8:00 am – 8:00 pm
Saturday: 9:00 am – 8:00 pm
Sunday 10:00 am to 6:00 pm

Noise Restrictions are as follows

- (d) Construction. Construction, alteration, repair or landscape maintenance activities which are authorized by a valid city permit shall be allowed on weekdays between the hours of eight a.m. and eight p.m., on Saturdays between the hours of nine a.m. and eight p.m., and on Sundays and holidays between the hours of ten a.m. and six p.m., or at such other hours as may be authorized by the permit, if they meet at least one of the following noise limitations:

- (1) No individual piece of equipment shall produce a noise level exceeding ninety dB at a distance of twenty-five feet. If the device is housed within a structure or trailer on the property, the measurement shall be made outside the structure at a distance as close to twenty-five feet from the equipment as possible.



Site Walk: March 27, 2019, 10:00 am

Project 01-19: Martin Elementary School Modernization

Name	Organization/Title	Phone No.	E-Mail
Victoria Vargas	SSFUSD Bond Construction Manager	650.246-5974	vvargas@ssfusd.org
Craig Durand <i>CHARLES MILLER</i>	HY Architects	510.446.2222	cdurand@hy-arch.com <i>cmiller@</i>
Olivia Ahn	HY Architects	510.446.2222	oahn@hy-arch.com
<i>Drew Hamm</i>	<i>BHM Construction/Project Manager</i>	<i>707 643 4580</i>	<i>bids@bhmconstruction.com</i>
<i>Allen Ayler</i>	<i>CWS Construction</i>	<i>415 209 0219</i>	<i>Charlie Stach gupit.com</i>
<i>Kiana Polanco</i>	<i>Southwest Construction</i>	<i>650 877 0717</i>	<i>KP@southwestcpm.com</i>
<i>Bill Zhao</i>	<i>BH IRONWORKS Inc</i>	<i>415-987 5922</i>	<i>bill@bhiron.com</i>
<i>LUKE WIENS</i>	<i>FLEXGROUND PROD. MGR</i>	<i>916.990-2013</i>	<i>LUKE@FLEXGROUND.COM</i>
<i>Bill Hickey</i>	<i>TRINET CONSTRUCTION</i>	<i>415 895 7814</i>	<i>BHTRINET@yahoo.co-</i>

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EXISTING CONDITIONS

1. Summary

This document describes existing conditions at or near the Project, and use of information available regarding existing conditions. This document is **not** part of the Contract Documents. See General Conditions for definition(s) of terms used herein.

2. Reports and Information on Existing Conditions

- a. Documents providing a general description of the Site and conditions of the Work may have been collected by the South San Francisco Unified School District ("District"), its consultants, contractors, and tenants. These documents may, but are not required to, include previous contracts, contract specifications, tenant improvement contracts, as-built drawings, utility drawings, and information regarding underground facilities.
- b. Information regarding existing conditions may be inspected at the District offices or the Construction Manager's offices, if any, and copies may be obtained at cost of reproduction and handling upon Bidder's agreement to pay for such copies. These reports, documents, and other information are **not** part of the Contract Documents. These reports, documents, and other information do **not** excuse Contractor from fulfilling Contractor's obligation to independently investigate any or all existing conditions or from using reasonable prudent measures to avoid damaging existing improvements.
- c. Information regarding existing conditions may also be included in the Project Manual, but shall **not** be considered part of the Contract Documents.
- d. Prior to commencing this Work, Contractor and the District's representative shall survey the Site to document the condition of the Site. Contractor will record the survey in digital videotape format and provide an electronic copy to the District within fourteen (14) days of the survey.
- e. Contractor may also document any pre-existing conditions in writing, provided that both the Contractor and the District's representative agree on said conditions and sign a memorandum documenting the same.
- f. The reports and other data or information regarding existing conditions and underground facilities at or contiguous to the Project are the following:
 1. Asbestos & Lead (Pb) Report Limited Pre-Demolition/Renovation Survey & Evaluation by Protech Consulting and Engineering dated April 1, 2019 (attached at end of document).

3. Use of Information

- a. Information regarding existing conditions was obtained only for use of District and its consultants, contractors, and tenants for planning and design and is **not** part of the Contract Documents.
- b. District does not warrant, and makes no representation regarding, the accuracy or thoroughness of any information regarding existing conditions. Bidder represents and agrees that in submitting a bid it is not relying on any information regarding existing conditions supplied by District.
- c. Under no circumstances shall District be deemed to warrant or represent existing above-ground conditions, as-built conditions, or other actual conditions, verifiable by independent investigation. These conditions are verifiable by Bidder by the performance of its own independent investigation that Bidder must perform as a condition to bidding and Bidder should not and shall not rely on this information or any other information supplied by District regarding existing conditions.
- d. Any information shown or indicated in the reports and other data supplied herein with respect to existing underground facilities at or contiguous to the Project may be based upon information and data furnished to District by the District's employees and/or consultants or builders of such underground facilities or others. District does not assume responsibility for the completeness of this information, and Bidder is solely responsible for any interpretation or conclusion drawn from this information.
- e. District shall be responsible only for the general accuracy of information regarding underground facilities, and only for those underground facilities that are owned by District, and only where Bidder has conducted the independent investigation required of it pursuant to the Instructions to Bidders, and discrepancies are not apparent.

4. Investigations/Site Examinations

- a. Before submitting a bid, each Bidder is responsible for conducting or obtaining any additional or supplementary examinations, investigations, explorations, tests, studies, and data concerning conditions (surface, subsurface, and underground facilities) at or contiguous to the Site or otherwise, that may affect cost, progress, performance, or furnishing of Work or that relate to any aspect of the means, methods, techniques, sequences, or procedures of construction to be employed by Bidder and safety precautions and programs incident thereto or that Bidder deems necessary to determine its Bid for performing and furnishing the Work in accordance with the time, price, and other terms and conditions of Contract Documents.
- b. On request, District will provide each Bidder access to the Site to conduct such examinations, investigations, explorations, tests, and studies, as each Bidder deems necessary for submission of a bid. Bidders must fill all holes and clean up and restore the Site to its former condition upon completion of its explorations, investigations, tests, and studies. Such investigations and Site examinations may be performed during any and all Site visits indicated in

the Notice to Bidders and only under the provisions of the Contract Documents, including, but not limited to, proof of insurance and obligation to indemnify against claims arising from such work, and District's prior approval.

END OF DOCUMENT



1208 MAIN STREET, REDWOOD CITY, CA 94063
P: (650) 569-4020 • F: (650) 569-4023 • E: hazinspect@yahoo.com

ASBESTOS ABATEMENT PROJECT SPECIFICATION

ASBESTOS ABATEMENT PROJECT

Martin Elementary School

Buildings A, B, C, D, E, & F

35 School Street

South San Francisco, California

Materials Associated with 022619 Hazmat Demo Plans

PREPARED FOR

South San Francisco Unified School District

398 B Street

South San Francisco, CA 94080

PREPARED BY:

PROTECH CONSULTING AND ENGINEERING

April 2019



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HAZ-MAT PROJECT SPECIFICATION

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ASBESTOS ABATEMENT

PART 1 - GENERAL AND ADMINISTRATIVE REQUIREMENTS

1.00 DESCRIPTION

- A. The asbestos abatement contractor shall furnish all labor, material, facilities, equipment, services, employee training and testing, permits and agreements necessary to perform the work required for asbestos removal, encapsulation, decontamination, disposal, and all other work in accordance with these specifications, the latest regulations from the US. Environmental Protection Agency (EPA), Cal-EPA, the Occupational Safety and Health Administration (OSHA), the State of California Department of Industrial Relations (Cal/OSHA), the recommendations of the National Institute of Occupational Safety and Health (NIOSH), and any other applicable federal state and local government regulations. Whenever there is a conflict or overlap of the above references, the most stringent provision shall apply.
- B. Contractor must visit the work site to obtain first-hand knowledge of all existing conditions including ACM quantities. Contractor is responsible for all unusual conditions or deviations from the specifications that exist at the time of their site examination, and such conditions must be reflected in the bid proposal. Contractor will not be given extra payments above the accepted bid prices for conditions that can be determined by examining the site, all Contract Documents, and drawings prior to the submission of proposals.
- C. No signs may be displayed on or about the Owner's property (except those required by law) without the Owner's specific approval; the size, content, and location to be as specified by the Owner. Advertising signs displaying the word "asbestos" or implying asbestos abatement are prohibited at the work site or around the facility.

1.01 DESCRIPTION OF WORK

- A. The work specified herein includes the abatement, encapsulation, and disposal of ACM/ACCM by qualified persons who are knowledgeable, trained, and certified to perform such work in compliance with all applicable federal, state, and local codes and regulations.

1. Pre-Abatement Tasks

- a. Submit required pre-job submittals prior to mobilization
- b. Construct needed temporary facilities
- c. Individually tested and certify HEPA equipped air filtration devices with 0.3 μ m dioctylphthalate (DOP) particles
- d. Individually fit test each worker with appropriate respiratory protection.
- e. Seal and/or lock-out HVAC supply duct servicing abatement work areas
- f. Install GFI power sources

2. Work Area Preparation

- a. Perform non-asbestos pre-cleaning
- b. Pre-clean work area surfaces affected by asbestos dust, debris, fall-out or contamination.
- c. Prepare work area containment systems as specified
- d. Initiate negative air, HEPA filtration machinery
- e. Construct decontamination facilities as specified
- f. Install magnehelic gage with continuous disc chart recorder
- g. **Where necessary, remove and dispose of non-ACM building components,**

finishes, fixtures, etc. that are scheduled for demolition to access all ACM/ACCM.

3. Asbestos Abatement Activities

- a. Maintain negative pressure inside of the asbestos abatement work areas for eight hours prior to any ACM removal.
- b. Wet removal all ACM as specified. **Where necessary, remove and dispose of non-ACM building components, finishes, fixtures, etc. that are scheduled for demolition to access all ACM/ACCM.**
- c. Detail clean all barriers and work area surfaces.
- d. Following final inspection of the work area, perform encapsulation of all work areas surfaces.
- e. Following visual and final clearance, remove all barriers and check for any residual ACM debris.
- f. Demobilize from site.
- g. Submit all project close-out submittal documents.

4. Asbestos Abatement Scope of Work

- a. The work specified herein includes the removal of various ACM's at the subject site.
- b. The Contractor shall wet remove and dispose of all asbestos-containing building materials as follows:

Bldg. A (Rooms 15-22)			
Material Description		Material Location(s)	Approx Quantity
1.	White smooth drywall joint tape and compound	- Partial walls in custodial closet, around classroom doors, wall adjacent to furnace in Room 21 - Restroom walls & ceiling in Art Therapy Room	Approx. 2500 sq ft.
Bldg. B (Rooms 1-4)			
Material Description		Material Location(s)	Approx Quantity
1.	Black mastic below Non ACM tan 12 x 12" floor tile	Observed in room 1 & 2 below sinks (may be present below all wood cabinetry)	10 sq. ft. Observed. Expect more

1.02 DEFINITIONS

Abatement - Procedures to control fiber release from asbestos-containing building materials. Includes removal, enclosure or encapsulation.

Aggressive method - means removal or disturbance of building material by sanding, abrading, grinding or other method that breaks, crumbles, or disintegrates intact ACM.

Air Monitoring - The process of measuring the asbestos fiber content of a specific volume of air in a stated period of time using methods approved or recommended by OSHA, EPA, NIOSH or other method approved by Owner or Consultant.

Amended water - means water to which surfactant (wetting agent) has been added to increase the ability of the liquid to penetrate ACM.

Asbestos - includes chrysotile, amosite, crocidolite, tremolite asbestos, anthophyllite asbestos, actinolite asbestos, and any of these minerals that has been chemically treated and/or altered. For purposes of this standard, "asbestos" includes PACM, as defined below.

Asbestos-Containing Building Material (ACBM): Means any construction material which contains greater than 1% asbestos.

Asbestos-Containing Construction Material (ACCM): Means any construction material that contains $\frac{1}{10}$ of 1% to 1% asbestos by weight.

Asbestos-containing material (ACM) - means any material containing more than one percent asbestos.

Assistant Secretary - means the Assistant Secretary of Labor for Occupational Safety and Health, U.S. Department of Labor, or designee.

Authorized person - means any person authorized by the employer and required by work duties to be present in regulated areas.

Building/facility owner - is the legal entity, including a lessee, which exercises control over management and record keeping functions relating to a building and/or facility in which activities covered by this standard take place.

Certified Industrial Hygienist (CIH) - means one certified in the practice of industrial hygiene by the American Board of Industrial Hygiene.

Class I asbestos work - means activities involving the removal of TSI and surfacing ACM and PACM.

Class II asbestos work - means activities involving the removal of ACM which is not thermal system insulation or surfacing material. This includes, but is not limited to, the removal of asbestos-containing wallboard, floor tile and sheeting, roofing and siding shingles, and construction mastics.

Class III asbestos work - means repair and maintenance operations, where "ACM", including-TSI and surfacing, is likely to ACM and PACM, may be disturbed.

Class IV asbestos work - means maintenance and custodial activities during which employees contact but do not disturb ACM or PACM and activities to clean up dust, waste and debris resulting from Class I, II, and III activities.

Clean room - means an uncontaminated room having facilities for the storage of employees' street clothing and uncontaminated materials and equipment.

Closely resemble- means that the major workplace conditions which have contributed to the levels of historic asbestos exposure, are no more protective than conditions of the current workplace.

Competent person - means, in addition to the definition in 29 CFR 1926.32 (f), one who is capable of identifying existing asbestos hazards in the workplace and selecting the appropriate control strategy for asbestos exposure, who has the authority to take prompt corrective measures to eliminate them, as specified in 29 CFR 1926.32(f): in addition, for Class I and Class II work who is specially trained in a training course which meets the criteria of EPA's Model Accreditation Plan (40 CFR 763) for supervisor, or its equivalent and, for Class II and Class IV work, who is trained in a manner consistent with EPA requirements for training of local education agency maintenance and custodial staff as set forth at [40 CFR 763.92 (a)(2)].

Consultant - For the purpose of the work described herein, ProTech Consulting and Engineering shall be the Consultant.

Critical barrier - means one or more layers of plastic sealed over all openings into a work area or any other similarly placed physical barrier sufficient to prevent airborne asbestos in a work area from migrating to an adjacent area.

Decontamination area - means an enclosed area adjacent and connected to the regulated area and consisting of an equipment room, shower area, and clean room, which is used for the decontamination of workers, materials, and equipment that are contaminated with asbestos.

Demolition - means the wrecking or taking out of any load-supporting structural member and any related razing, removing, or stripping of asbestos products.

Director - means the Director, National Institute for Occupational Safety and Health, U.S. Department of Health and Human Services, or designee.

Disturbance - means activities that disrupt the matrix of ACM or PACM, crumble or pulverize ACM or PACM, or generate visible debris from ACM or PACM. This term includes activities that disrupt the matrix of ACM or PACM, render ACM or PACM friable, or generate visible debris. Disturbance includes cutting away small amounts of ACM and PACM, no greater than the amount which can be contained in one standard sized glove bag or waste bag in order to access a building component. In no event shall the amount of ACM or PACM so disturbed exceed that which can be contained in one glove bag or waste bag which shall not exceed 60 inches in length and width.

Employee exposure - means that exposure to airborne asbestos that would occur if the employee were not using respiratory protective equipment.

Equipment room (change room) - means a contaminated room located within the decontamination area that is supplied with impermeable bags or containers for the disposal of contaminated protective clothing and equipment.

Fiber - means a particulate form of asbestos, 5 micrometers or longer, with a length-to-diameter ratio of at least 3 to 1.

Glovebag - means not more than a 60 x 60 inch impervious plastic bag-like enclosure affixed around an asbestos-containing material, with glove-like appendages through which material and tools may be handled.

High-efficiency particulate air (HEPA) - filter means a filter capable of trapping and retaining at least 99.97 percent of all mono-dispersed particles of 0.3 micrometers in diameter.

Homogeneous area - means an area of surfacing material or thermal system insulation that is uniform in color and texture.

Industrial hygienist - means a professional qualified by education, training, and experience to anticipate, recognize, evaluate and develop controls for occupational health hazards.

Intact - means that the ACM has not crumbled, been pulverized, or otherwise deteriorated so that the asbestos it is no longer likely to be bound with its matrix.

Modification - means a changed or altered procedure, material or component of a control system, which replaces a procedure, material or component of a required system. Omitting a procedure or

component, or reducing or diminishing the stringency or strength of a material or component of the control system is not a "modification" for purposes of paragraph (g)(6) of this section.

Negative Initial Exposure Assessment - means a demonstration by the employer, which complies with the criteria in paragraph (f)(2)(iii) of this section, that employee exposure during an operation is expected to be consistently below the PEL.

PACM - means "presumed asbestos containing material".

Permissible Exposure Level (PEL) - A level of airborne fibers specified by OSHA as an occupational exposure standard for asbestos. It is 0.1 fibers per cubic centimeter of air, 8-hour time weighted average, as measured by phase contrast microscopy.

Presumed Asbestos Containing Material - means thermal system insulation and surfacing material found in buildings constructed no later than 1980. The designation of a material as "PACM" may be rebutted pursuant to paragraph (k)(5) of this section.

Project Designer - means a person who has successfully completed the training requirements for an abatement project designer established by 40 U.S.C. Sec. 763.90(g).

Regulated area - means: an area established by the employer to demarcate areas where Class I, II, and III asbestos work is conducted, and any adjoining area where debris and waste from such asbestos work accumulate; and a work area within which airborne concentrations of asbestos, exceed or there is a reasonable possibility they may exceed the permissible exposure limit.

Requirements for regulated areas are set out in paragraph (e) of this section.

Removal - means all operations where ACM, ACCM, ACBM, and/or PACM is taken out or stripped from structures or substrates, and includes demolition operations.

Renovation - means the modifying of any existing structure, or portion thereof.

Repair - means overhauling, rebuilding, reconstructing, or reconditioning of structures or substrates, including encapsulation or other repair of ACM or PACM attached to structures or substrates.

Surfacing material - means material that is sprayed, troweled-on or otherwise applied to surfaces (such as acoustical plaster on ceilings and fireproofing materials on structural members, or other materials on surfaces for acoustical, fireproofing, and other purposes).

Surfacing ACM - means surfacing material which contains more than 1% asbestos.

Thermal system insulation (TSI) - means ACM applied to pipes, fittings, boilers, breaching, tanks, ducts or other structural components to prevent heat loss or gain.

Thermal system insulation ACM - is thermal system insulation which contains more than 1% asbestos.

1.03 ASBESTOS HAZARD

A Asbestos-containing material when damaged or disturbed is subject to fiber releases. Wet methods are a primary means of controlling fiber release. Strict compliance with each of the provisions outlined in these specifications for the encapsulation, repair and handling of asbestos-containing material is of great importance, because:

1. The inhalation of airborne asbestos fibers can cause very serious often fatal diseases.

2. Workers may not be aware they are inhaling asbestos fibers.
 3. Symptoms of the diseases do not appear for many years.
 4. Only the contractor and his employees can prevent the inhalation of asbestos fibers which can lead to the development of asbestos-related disease.
 5. No insurance is available to provide for asbestos related disease.
- B. Proposition 65 Notice: Under California Health and Safety Code Sections 25249.5 through 25249.13, asbestos has been listed as a chemical known to the State of California to cause cancer. As a Contractor, you and your employees will be working in areas in which asbestos-containing materials are present. This notice constitutes the warning of the presence of a known carcinogen required by Proposition 65. It is your duty to follow all requirements of Proposition 65.

1.04 CONTRACTOR QUALIFICATIONS

- A. Licensing, Certification:
The Contractor shall possess all required licenses, registrations, and credentials to perform the work of this specification. All credentials shall be valid, current and in good standing prior to, and throughout all work performed by Contractor. Credentials shall include but not necessarily be limited to: asbestos license issued by the California State Contractors Licensing Board and Department of Occupational Safety and Health Administration (DOSH asbestos registration).
- B. Personnel training:
The work specified herein shall be performed by under the direct management and supervision of a competent person and technicians/workers who are trained, knowledgeable and qualified in the state-of-the-art techniques of asbestos abatement, handling and subsequent cleaning of contaminated areas.
- C. Project oversight and supervision:
The Contractor must provide a full-time General Superintendent who is experienced in administration and supervision of asbestos abatement projects including work practices, protective measures for building and personnel, disposal procedures, etc. This person shall be the Contractor's Competent Person as required by 40 CFR Part 763 and OSHA in CCR Title 8, § 1529. The Competent person shall be the Contractor's representative responsible for compliance with all applicable federal, state and local regulations, particularly those relating to asbestos-containing material. This person must have completed a course at an EPA Training Center or equivalent certificate course in asbestos abatement procedures, have had a minimum of two (2) years on-the-job training and meet any additional requirements set forth in CCR Title 8, § 1529 for a Competent Person.

1.05 NOTICES AND RECORD KEEPING

- A. Contractor shall maintain for at least thirty (30) years, a record for each asbestos project in which the Contractor engages. Each record shall include the following information: The name, address, and social security number of all personnel involved with the project, the name address and social security number of the OSHA "Competent Person" who will supervise the work, the amount of asbestos material that was removed, repaired, encapsulated or disturbed, the commencement and completion date of the work, copies of

Hazardous Waste Manifest(s), personal air monitoring results and any other appropriate information.

B. Special Reports:

Except as otherwise indicated, submit special reports directly to Owner within one day of occurrence requiring special report, with copy to Owner's Representative and others affected by occurrence.

C. Reporting Unusual Events:

When an event of unusual and significant nature occurs at the site (examples: failure of negative pressure system, rupture of temporary enclosures), prepare and submit a special report listing chain of events, persons participating, response by Contractor's personnel, evaluation of results or effects, and similar pertinent information. When such events are known or predictable in advance, advise Owner in advance at earliest possible date.

D. Reporting Accidents:

Prepare and submit reports of significant accidents, at site and anywhere else work is in progress. Record and document data and actions; comply with industry standards. For this purpose, a significant accident is defined to include events where personal injury is sustained, or property loss of substance is sustained, or where the event posed a significant threat of loss or personal injury.

E. Daily Logs and Journals:

During the work, Contractor shall maintain a daily log which will be kept at the job site. Items to be included in the daily log shall include but are not limited to the following:

1. Meetings; purpose, attendees, discussions, items of resolution (brief)
2. Visitations; authorized and unauthorized
3. Sign-in sheets of all personnel entering and leaving the work area
5. Personal air monitoring results

1.06 PROJECT SUBMITTALS AND ON SITE DOCUMENTS

A. Pre-Job Submittals:

Before the start of work, submit the following to the Owner's Representative for review. No work shall begin until these submittals have been approved by the Owner or Owner's representative.

1. Work Plan which contains specific information related to site preparation and containment construction, asbestos abatement/removal procedures and hazardous waste handling, load-out and disposal procedures. The Work Plan must also include an Emergency Contingency Plan which, at a minimum, addresses procedures which shall be followed in the event of an accident, breach of containment, power failure, water leakage and fire.
2. Written Respiratory Protection Program that complies with OSHA requirements CCR Title 8, § 1529, CCR subchapter 7 § 5144, CFR 1926.1101 and ANSI Z88.2 -1980 "Practices for Respiratory Protection".
3. Detailed schedule of work to be performed; schedule shall include abatement activities and dates.
4. Waste Transportation and Active Asbestos Waste:

Submit copies of proof of all EPA, DOT, and DHS, licenses, registrations, and certifications for all hazardous waste haulers and active asbestos waste sites intended for use on this project. Provide the name, address, telephone number, contact for each vendor entity.

5. Personnel Training:

Provide documentation that certifies the training qualifications of the qualified competent Person and all workers who will be assigned to this project. Personnel training for this project shall comply with the training requirements of 40 CFR Part 763 and CCR Title 8, § 1529.

6. Employee Medical Examinations:

Provide proof of medical examination conducted within the last 12 months in compliance with OSHA regulations, CCR Title 8, § 1529 for each worker who will be assigned to this project.

7. Notifications:

Provide documentation that the Contractor has obtained all applicable permits and made required notifications from/to all appropriate regulating agencies, including, but not limited to the CAL/OSHA temporary work-site notification and the BAAQMD NESHAPs notification, and any applicable local agencies.

8. Licenses:

Submit copies of: valid California State contractors license, California State asbestos certification, DOSH registration and all State and Local licenses and permits necessary to carry out the work of this specification.

9. Material Safety Data Sheets:

Submit the Material Safety Data Sheet, or equivalent, in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200) for materials, chemicals, and supplies proposed for use during the work of this specification.

B. Post-Job Submittals:

Upon completion of the project, the Contractor shall provide 2 copies of all project documentation to the Owner. Post-job submittals shall be provided for final acceptance of the work by the Owner prior to final payment to the Contractor and normal termination of the Contract. This project documentation should include, but is not limited to:

1. A complete record, certified by the testing laboratory, of all personal air monitoring results with 8-hour TWA data.
2. All hazardous waste manifests and/or waste shipment records documenting the acceptance of all asbestos waste generated during the project from the designated land fill. The contractor must provide documentation that the designated land fill has been made aware that the materials disposed at its site contains asbestos.
3. All field documentation including daily logs, journals, visitors log, DOP test results, special report, etc.
4. Supporting documentation for completion as indicated in these contract documents.
5. Submit a statement showing an accounting of any changes to the Contract Sum.
6. Any and all documents delivered with the pre-job submittal package that that were updated, altered or amended in any way during the project.

7. Employee training, fit test, and medical certificates for any and all personnel who performed work on the project whose certificates were not provided in the pre-job submittal package.

C. On-Site Records

The following records shall be maintained on-site and available for review throughout the entire course of the Work:

1. All pre-job submittal list above.
2. Personal air monitoring results, including 30 minute excursion sampling results and calculated 8 hour TWA exposures for Contractor employees
3. Work Area entry/exit log for each day and each shift of the Work
6. Contractor's IIPP and Hazard Communication Programs
7. Respiratory Protection Program
8. Confined Space Entry Program (if applicable).
9. The contractor will post in a visible place inside or directly outside (as is most convenient) of the clean room a copy of:
 - Emergency phone numbers.
 - Written work plan and Emergency Contingency Plan.
 - Required DOSH postings
 - Fire extinguisher locations and inspection data.

1.07 REFERENCE DOCUMENTS

- A. All work specified in this document shall conform to the following applicable codes, ordinances, rules, regulations, orders and standards. Where conflicting or overlapping requirements or specifications exist, the more stringent requirements shall apply.
- B. The Contractor shall assume full responsibility and liability for the compliance with all applicable Federal, State, and local regulations, standards and guidance documents pertaining to work practices, hauling, disposal, and protection of workers, visitors to the site, and person occupying areas adjacent to the site.
- C. Laws and Regulations: Compliance is required with applicable federal, state, municipal, and local regulations, including but not limited to:
 1. Federal laws and regulations: Occupational Safety and Health Act, 29 USC 651 et seq., and all applicable Occupational Safety and Health Administration (OSHA) regulations thereunder; Clean Air Act, 42 USC 7401 et seq., and all applicable U.S. Environmental Protection Agency (EPA) regulations thereunder; Hazardous Materials Transportation Act, 49 USC 1801 et seq., and all applicable Department of Transportation (DOT) regulations thereunder.
 2. State of California laws and regulations: Hazardous Substances Information and Training Act, Labor Code 6360 et seq.; Labor Code 6401.7, 6408, 6501.5 through 6501.9, 6503.5, 6505.5, 9021.5, 9030; all applicable regulations of the Department of Industrial Relations (DIR) including 8 CCR 340 through 342, 1531, 1509, 3202, 5144,

5156 through 5158, 5194, 5208 and 1529; Hazardous Waste Control Law, Health and Safety Code 25100 et seq., and all applicable Department of Toxic Substances Control (DTSC) regulations thereunder, including 22 CCR Div. 4.5 et seq.; Safe Drinking Water and Toxic Enforcement Act of 1986, Health & Safety Code 25249.5 et seq., and all applicable regulations thereunder, including 22 CCR 12100 et seq.; Bus. & Prof. Code 7058.5 and corresponding regulations, including 16 CCR Ch. 8.

3. Local laws and regulations: Bay Area Air Quality Management District (BAAQMD), Regulation 11, Rule 2.

D. Codes, Standards and Guidance Documents

1. National and State Fire Code, Electrical Code, Plumbing Code, Building Code, and other related codes where applicable.
2. ASTM - American Society for Testing and Materials
3. ANSI - American National Standards Institute
4. ULI - Underwriters Laboratories, Inc.

1.08 CONSULTANT / OWNERS REPRESENTATIVE

At the Owner's option, ProTech Consulting and Engineering may act as The Consultant and will be the Owner's Representative to Perform the following:

- A. Have free access to all asbestos work areas.
- B. To assist in interpretation of procedures.
- C. To advise on all provisions of the contract documents pertaining to the control of asbestos.
- D. Advise client on work stoppage if a situation presenting a health hazard to workers or Owner's employees or occupants of the building is observed. The Consultant shall not have authority to stop work without the client's approval.
- E. To act as Owner's liaison in technical matters involving the asbestos-related work.
- F. To perform air sampling inside the asbestos work area during the project. The Contractor shall cooperate fully with Consultant, consultant's agents and employees, and ensure cooperation of his/her workers during collection of air samples and work area inspections.
- G. Consultant's role in advising the Owner on environmental health matters does not relieve the Contractor's obligation to comply with all applicable Federal, State, and local regulations, standards and guidance documents. Air monitoring results generated by Consultant shall not be used by the Contractor to represent compliance with regulatory agency requirements for monitoring of worker's exposure to airborne asbestos, nor shall any other activity on the part of Consultant represent the Contractor's compliance with applicable health and safety regulations.

PART 2 - MATERIALS AND EQUIPMENT

2.00 MATERIALS

- A. The Contractor shall provide all materials and equipment necessary to complete the Work in accordance with applicable regulations and this Specification. Equipment shall be free of asbestos-contamination resulting from use at previous job sites.
- B. Deliver all materials in original packages, containers, or bundles bearing the name of the manufacturer and the brand name.
- C. Store all materials subject to damage off the ground, away from wet or damp surfaces, and under cover sufficient to prevent damage of contamination. Damaged or deteriorating materials shall not be used and shall be removed from the premises. Materials that become contaminated shall be disposed of in accordance with this specification and applicable regulations.
- D. All enclosures shall be constructed of non-combustible materials. Rigid barriers, if applicable, shall have a minimum fire rating of 1 hour.
- E. The use of chemicals to remove asbestos-containing mastics or adhesives may not be a terpene based solvent.
- F. Ground Fault Circuit Interrupters shall be used on all equipment and temporary circuits.
- G. Electrical extension cords shall be of appropriate rigidity and gauge for intended use and shall have an operative ground prong.
- H. Electrical outlets and extension cords shall be provided by the Contractor for the purpose of air monitoring by the Owner or Owner's Representative. The Owner or Owner's Representative shall specify where the electrical outlets are needed, both inside and outside of the Regulated Area. Two electrical outlets shall be provided per designated area.
- I. Contractor shall have on-site at all times a minimum of one 2A, 10 B:C (or larger) fire extinguisher. For large work areas, Contractor shall provide one fire extinguisher per 10,000 sq. ft, and locate fire extinguishers no further than 75 feet apart, starting from decontamination area entry way. The fire extinguishers shall have been inspected and certified as operative within the past 12 months.
- J. The Contractor shall supply a fully stocked First Aid Kit in a visible place inside or directly outside (as is most convenient) of the clean room. The First Aid Kit shall remain on the job site at all times.
- K. Adhesive tape shall be capable of sealing joints of adjacent sheet of polyethylene and for use in attachment of polyethylene sheet to finished or unfinished surfaces of similar materials and shall be capable of adhering under dry and wet conditions, including use of amended water.
- L. Protective devices such as, but not limited to, disposable clothing, respirators, gloves, hard hats, etc. shall be used.
- M. Encapsulant materials shall be the bridging and penetrating type and conform with the following characteristics:
 - 1. Encapsulants shall not be solvent-based or utilize a hydrocarbon in the liquid in which the solid parts of the encapsulant are suspended.

2. Encapsulant shall not be flammable.
- N. Spray Cement: Provide spray adhesive in aerosol cans which is specifically formulated to stick tenaciously to sheet polyethylene.
- O. Polyethylene waste bags/containers shall be at least 6 mil's thick. All waste containers shall be leak-tight and bare appropriate labeling as required by this specification and/or applicable regulatory requirements.

2.01 TOOLS AND EQUIPMENT

- A. Provide suitable tools for removal of asbestos-containing materials and encapsulations of substrate as required.
- B. Provide sufficient number of HEPA-filtered vacuum cleaners equipped with pick-up adapters, steel floor wands, crevice tools, and carpet tools.
- C. Airless sprayers capable of spraying amended water shall be provided in sufficient number to allow continuous uninterrupted work.
- D. Asbestos filtration devices shall utilize high efficiency particulate air (HEPA) filtration systems.
- E. Transportation equipment, as required, shall be suitable for loading, temporary storage, and unloading of contaminated waste without exposure to persons or property, and shall be quiet in motion if used within the building.

PART 3 - EXECUTION

3.00 PROHIBITED ACTIVITIES

- A. The following work practices and engineering controls are prohibited and shall not be used under any circumstances:
1. High-speed abrasive disc saws that are not equipped at point of cut with HEPA filtered exhaust devices.
 2. Compressed air used to removed asbestos, unless the compressed air is used in conjunction with an enclosed HEPA filtered ventilation system designed to capture the dust cloud created by the compressed air.
 3. Dry sweeping, shoveling or other dry clean-up of dust and debris containing asbestos.
 4. Employee rotation as a means of reducing employee exposure to asbestos.
- B. Smoking, eating, drinking, applying cosmetics and chewing tobacco in regulated areas is prohibited. Hot work is prohibited unless authorized by Owner.

3.01 PERSONAL PROTECTION

- A. Because there is no known safe level of exposure to asbestos, it is prudent to reduce worker's exposure to as low a level as possible. Proper respiratory protection is critical in minimizing exposure. No worker shall be exposed to levels greater than 0.01 f/cc over an 8 hour time weighted average as determined by the protection factor of the respirator worn and the work area fiber concentration. In any event, respirator selection shall comply with the minimum requirements required by DOSH per CCR Title 8, § 1529. The following table has been included to aid in determining the proper level of respiratory protection.

Airborne concentration of fibrous dust	Required respirator
Not in excess of 1 f/cc (10 X PEL), or otherwise as required independent of exposure pursuant to (h)(2)(iv)	Half-mask air purifying respirator other than a disposable respirator, equipped with high efficiency filters.
Not in excess of 5 f/cc (50 X PEL)	Full facepiece air-purifying respirator equipped with high efficiency filters.
Not in excess of 10 f/cc (100 X PEL)	Any powered air-purifying respirator equipped with high efficiency filters or any supplied air respirator operated in continuous flow mode.
Not in excess of 100 f/cc (1,000 X PEL)	Full facepiece supplied air respirator operated in pressure demand mode.
Greater than 100 f/cc (1,000 X PEL) or unknown concentration	Full facepiece supplied air respirator operated in pressure demand mode, equipped with an auxiliary positive pressure self-contained breathing apparatus.

- B. The Contractor shall provide each employee with personally issued respirators equipped with high efficiency particulate filters. Respirators shall be approved by NIOSH to be worn in the designated work area and/or whenever a potential exposure to asbestos exists. A sufficient supply of filters shall be provided for replacement as required by the workers or applicable regulations. Disposable respirators shall not be used.

- C. The Contractor shall provide medical examinations for all employees who may encounter an airborne fiber level of 0.1 f/cc or greater for an eight-hour time-weighted average. In the absence of specific airborne fiber data, provide medical examinations for all workers who will enter the work area and who will be required to wear respiratory protection for reason. Examinations shall meet OSHA requirements as set forth in CCR Title 8, § 1529.
- D. The Contractor shall require that a respirator be worn by any person in any regulated work area. Respirators shall be worn at all times, regardless of activity until the area has been cleared for re-occupancy.
- E. During encapsulation operations or usage of other organic base aerosols (e.g., spray glue, expanding foam), workers shall be provided with combination cartridges consisting of organic vapor and HEPA section.
- F. The use of single-use, disposable, or quarter-face respirators for any purpose shall be prohibited.
- G. Fit Testing: Provide initial fitting of respiratory protection during a respiratory protection course of training as per CCR Title 8, § 1529. Fit the type(s) of respirator(s) to be actually worn by each individual. Allow an individual to use only those respirators for which he/she has been trained and fitted.
- H. Additional Protective Equipment:
 - 1. Coveralls: Provide disposable full-body coveralls and disposable head covers, and require that they be worn by all workers in the work area. Provide a sufficient number for all required changes, for all workers in the work area.
 - 2. Boots: Provide work boots with non-skid soles, for all workers. Provide boots at no cost to workers. Do not allow boots to be removed from the work area for any reason, after being contaminated with asbestos-containing material. Dispose of boots as asbestos contaminated waste at the end of the work.
 - 3. Goggles: Provide eye protective (goggles) as required by OSHA for all workers involved in scraping, spraying, or any other activity which may potentially cause eye injury.
 - 4. Gloves: Provide work gloves to all workers whose work may require protection of the hands and require that they be worn in the work area. Do not remove gloves from work area and dispose of as asbestos contaminated waste at the end of the work.
 - 5. Respirators, disposable coveralls, head covers, and footwear covers shall be provided by the contractor for the Owner, Owner's Representative, Project Administrator, and other authorized representatives who may inspect the job site. Provide two (2) respirators and six (6) complete coveralls and, where applicable, six (6) respirator filter changes per day.

3.02 AIR MONITORING

- A. Compliance Air Monitoring:
 - 1. Personal air monitoring "Exposure Monitoring". should be performed by the contractor as required to meet OSHA requirements as required by CCR Title 8, § 1529. Maintain an average airborne fiber counts within the regulated work area as follows:

Type of Work	Fiber Counts Standard
Work performed within a full negative pressure enclosure system.	0.5 fibers per cubic centimeter (f/cc) over an 8 hour Time Weighted Average (TWA)
Work performed in a regulated area but not in a full negative pressure enclosure system.	0.1 fibers per cubic centimeter (f/cc) over an 8 hour Time Weighted Average (TWA)
Work performed in open areas – glovebag removal, roof abatement, exterior siding removal, etc.	0.01 fibers per cubic centimeter (f/cc) over an 8 hour Time Weighted Average (TWA)

- 2.. The contractor shall maintain an average airborne fiber count inside of the abatement work area that does not exceed the standard specified above. If fiber counts rise above the standard for any sample taken, revise work procedures to lower fiber counts. If the time-weighted average (TWA) fiber count for any work shift or eight-hour period exceeds the standard, stop all work, **leave negative air system in operation** and notify Owner's Representative. Do not recommence work until authorization in given in writing by the Owner's Representative.

B. Environmental Air Monitoring:

1. At the Owner's option, the Owner's representative will conduct environmental monitoring as the Owner's Representative and as the Owner's Air Sampling Specialist throughout the course of the project. The purpose of environmental (area) air monitoring by the Owner's Representative will be to detect faults in the work area isolation.
2. If environmental air samples exceed 0.01 fibers/CC or are statistically higher than pre-abatement air samples, the Contractor shall:
 - * Immediately and automatically stop all work
 - Evacuate affected areas
 - Regulate and isolate affected areas
 - Decontaminate affected areas in accordance with this specification.
 - Leave critical barriers in place until final visual and air clearance is given.
 - Perform all such required cleaning or decontamination at no additional cost to the Owner.

C. Clearance Air Monitoring:

1. Following visual clearance of work areas by the Owner's Representative, air sample will be taken to determine compliance with work area clearance standards. Work areas will be considered cleared when the following criterion are met:

	Air Sample Analysis - Type	Clearance Standard
a.	Transmission Electron Microscopy (TEM) collected under aggressive conditions.	less than 70 s/mm ²
b.	Phase Contrast Microscopy (PCM) collected under aggressive conditions.	less than 0.01 f/cc
c.	No air samples required for open air work	N/A

2. The contractor may conduct his own air monitoring and laboratory testing if he elects to do so. The cost of such air monitoring and laboratory testing shall be at the contractor's expense.

3.03 SAFETY PROCEDURES FOR POWER AND LIGHTING

- A. The use of wet methods for removal, repair, encapsulation or cleaning procedures increases the potential for electrical shock when working around electrical panels, conduit, light fixtures, alarm systems, junction boxes, transformers, etc. In coordination with the Owner, de-energize as much electrical equipment as possible to prevent electrical shock to employees performing the work. The Contractor shall use the following precautions:
1. Use non-conductive tools and vacuum attachments.
 2. Utilize "hot line" covers over energized cables and power lines when possible.
 3. Ensure all electrical equipment in use is properly grounded before the job starts. Check outlets, wiring, extension cords and power pickups.
 4. Avoid stringing wiring across floors. Elevate wiring if possible.
 5. Ensure electrical outlets are tightly sealed and taped to avoid water spray.
 6. Determine operating voltages of equipment and lines before working on or near energized parts.
 7. Energized parts must be insulated or guarded from employee contact and other conductive objects. Extension cords must be three-wire type and connected to a Ground Fault Interrupter (GFI) circuit.
 8. Lock or secure de-energized circuits at panel and post warning signs.

3.04 TEMPORARY FACILITIES

- A. Use qualified tradesmen for installation of temporary services and facilities. Locate temporary services and facilities where they will serve the entire project adequately and result in minimum interference with the performance of the work and operations of the building.
- B. Relocate, modify and extend services and facilities as required during the course of work so as to accommodate the entire work of the project. Provide new or used materials and equipment that are undamaged, clean and in serviceable condition. Provide only materials and equipment that are recognized as being suitable for the intended use, by compliance with appropriate standards.
1. Electrical
Temporary electrical services (if required) shall comply with applicable NEMA, NECA and UL standards and governing regulations for materials and layout of temporary electric service. Provide receptacle outlets equipped with ground fault circuit interrupters, reset button and pilot light, for plug-in connection of power tools and equipment. Use only grounded extension cords; use "hard-service" cords where exposed to abrasion and traffic. Use single lengths or use waterproof connectors to connect separate lengths of electric cords, if single lengths will not reach areas of work.
 2. Fire Protection
Contractor shall have on-site at all times a minimum of one 2A, 10 B:C (or larger) fire extinguisher. For large work areas, Contractor shall provide one fire extinguisher per 10,000 sq. ft, and locate fire extinguishers no further than 75 feet apart, starting from

decontamination area entry way. The fire extinguishers shall have been inspected and certified as operative within the past 12 months.

3. General

At the completion of abatement work, clean all construction aids within the work area and/or wrap in one layer of 6 mil polyethylene sheet and seal before removal from the work area.

3.05 CONTROL WORK AREA ACCESS

- A. The area where asbestos abatement work takes place is considered an asbestos contaminated area. The contaminated work area must be isolated from the balance of the building and decontaminated at the completion of the asbestos control work. Critical barriers shall be constructed by applying a double layer of 6 mil plastic sheeting, in an airtight fashion, over all penetrations into and out of the asbestos work area. Penetrations shall include, but are not limited to all doors, openings, holes, penetrations, windows, vents, and drains.
- B. Permit Access to the work area only through the Decontamination Unit. All other means of access shall be closed off and sealed and warning signs displayed on the clean side of the sealed access.
- C. Warning signs that demarcate the regulated area shall be posted in accordance with Title 8, CCR, Section 1529 (k) (6). Signs shall be posted at all work area entrance and on the public side of all work area barriers that may be accessible to otherwise unknowing persons. Warning signs shall be posted in locations that would allow any person to read the signs from any approach to the work area. The warning signs shall bear the following language:

DANGER
ASBESTOS
CANCER AND LUNG DISEASE HAZARD
AUTHORIZED PERSONNEL ONLY RESPIRATORS AND PROTECTION CLOTHING ARE
REQUIRED IN THIS AREA

3.06 WORK AREA PREPARATION

A. Work Area

- 1. The abatement contractor must completely isolate the work area from other parts of the building so as to prevent asbestos-containing dust or debris from passing beyond the isolated/regulated area.
- 2. All movable items of furnishings, equipment, etc., shall be secured in a clean uncontaminated room and covered with plastic sheeting. All non-movable items to be left in place shall be covered with 6 mil. polyethylene sheeting and sealed with duct tape.

B. HVAC System

- 1. Where possible, disable Ventilating Systems or any other system bringing air into or out of the work area. Disable system by disconnecting wires, removing circuit breakers, by lockable switch or other positive means that will prevent accidental premature restarting of equipment.
- 2. Isolate the Heating Ventilating and Air Conditioning (HVAC) systems to prevent airflow into or out of the work area. Seal all openings to ducts, fans, louvers, plenums, etc. with

two layers of 6 mil. polyethylene sheeting and duct tape. Shut-down and isolation of the HVAC system prior to the start of any asbestos disturbance work. Contractor shall repair any damage to duct work, grilles, dampers, louvers or other HVAC equipment at the completion of the work.

3. HVAC equipment openings which can not be properly sealed (due to forced air pressure) with polyethylene sheeting and duct tape. Will be hard sealed using 1/4 inch plywood or equivalent and mechanically sealed over air flow openings. Covered all hard sealed HVAC openings with two layers of 6 mil. polyethylene sheeting and duct tape

B. Clean Barriers

Impermeable dropcloths shall be placed on surfaces beneath all removal activity. All objects within the regulated area shall be covered with impermeable dropcloths or plastic sheeting which is secured by duct tape or an equivalent.

C. Pre-Cleaning

1. General (non-asbestos) Pre-Cleaning
Perform a general pre-cleaning of the entire work area prior to and following work areas set-up and containment so that it is generally free of non-asbestos trash, plastic, cardboard, debris, and gross amounts dust, etc. The work area shall be as clean as possible to give abatement workers an unencumbered working environment and limit the amount of asbestos waste to be disposed of.
2. Asbestos Pre-Cleaning
Pre-clean all surfaces that have been affected by asbestos dust, debris, fall-out or contamination. Pre-cleaning shall include HEPA vacuuming and wet wiping of all affected surfaces.

D. Class II Materials:

1. Resilient Flooring and Wall Materials **Not Used**
 - a. Critical barriers shall be constructed by applying a double layer of 6 mil plastic sheeting, in an airtight fashion, over all penetrations into the Work Area. Penetrations shall include, but are not limited to all entryways, windows, vents and drains. In addition to plastic sheeting, rigid cover plates may be required on HVAC supply and return vents or other HVAC air duct openings located within the Regulated Area.
 - b. A double layer of 6 mil plastic sheeting shall be installed on all Work Area wall surfaces. The plastic shall extend from the flooring surface interface up to a minimum of half the wall height and all edges of the plastic shall be sealed in an airtight fashion with duct tape or equivalent materials.
 - c. An Equipment Room constructed of 6 mil plastic or equivalent with air locks consisting of double layers of plastic sheeting shall be connected to the Work Area for personnel entry/exit. The Equipment Room shall be equipped with labeled waste bags for disposal of contaminated protective clothing.
 - d. A sufficient number of HEPA filtered air machines shall be installed within the Work Area to maintain a pressure differential of **minus 0.025** column inches of water across the critical barriers at all times and a minimum of 4 air changes per hour. Air machines shall be placed in a configuration which allows thorough ventilation of the Work Area and movement of contaminated air away from the breathing zone of

abatement workers. Air machine exhaust shall be directed outside of buildings, where applicable, and away from occupied areas. Exact location(s) of air machine exhaust shall be arranged between Owner or Owner's Representative and Contractor prior to start of work.

- e. A manometer equipped with a 24 hour recorder shall be installed to continuously monitor pressure differential inside the Work Area. Air machines shall remain in operation 24 hours a day until final clearance of the Work Area has been achieved.
- f. Electric circuits located within the Work Area shall be sealed with plastic, deactivated or equipped with ground-fault circuit interrupters.
- g. Where it is not feasible to establish a containment as described above, or when all work is performed outside of buildings, a substitute containment which meets the purpose and intent of a full containment may be constructed if the substitute containment is in compliance with all applicable regulatory requirements and approved by Owner.

2. Sheetrock walls and ceilings

- a. Critical barriers shall be constructed by applying a double layer of 6 mil plastic sheeting, in an airtight fashion, over all penetrations into the Work Area. Penetrations shall include, but are not limited to all entryways, windows, vents and drains. In addition to plastic sheeting, rigid cover plates may be required on HVAC supply and return vents or other HVAC air duct openings located within the Regulated Area.
- b. A double layer of 6 mil plastic sheeting shall be installed on all Work Area floor (and other non-work) surfaces. All plastic seams/edges shall be sealed in an airtight fashion with duct tape or equivalent materials.
- c. A three stage decontamination area shall be connected to the NPE for personnel entry/exit of the Work Area and include an Equipment Room, Shower Area and Clean Room.
- d. A sufficient number of HEPA filtered air machines shall be installed within the Work Area to maintain a pressure differential of **minus 0.025** column inches of water across the critical barriers at all times and a minimum of 4 air changes per hour. Air machines shall be placed in a configuration which allows thorough ventilation of the Work Area and movement of contaminated air away from the breathing zone of abatement workers. Air machine exhaust shall be directed outside of buildings, where applicable, and away from occupied areas. Exact location(s) of air machine exhaust shall be arranged between Owner or Owner's Representative and Contractor prior to start of work.
- e. A manometer equipped with a 24 hour recorder shall be installed to continuously monitor pressure differential inside the Work Area. Air machines shall remain in operation 24 hours a day until final clearance of the Work Area has been achieved.
- f. Electric circuits located within the Work Area shall be sealed with plastic, deactivated or equipped with ground-fault circuit interrupters.
- g. Where it is not feasible to establish a containment as described above, or when all work is performed outside of buildings, a substitute containment which meets the purpose and intent of a full containment may be constructed if the substitute

containment is in compliance with all applicable regulatory requirements and approved by Owner.

3. Door Caulking **Not Used**

- a. A double layer 6 mil plastic sheeting drop cloth shall be installed directly beneath the work to be performed and shall be of sufficient dimensions to capture all debris generated as a result of the work.
- b. Wet methods shall be used to remove window putty as necessary. Adequately wet asbestos-containing materials during stripping, removal, and/or tooling to reduce fiber dispersal into the air. Accomplish wetting by a fine spray (mist) of amended water or removal encapsulant. Saturate material sufficiently to wet to the substrate without causing excess dripping. Spray material repeatedly during the work process to maintain a continuously wet condition.
- c. All debris and waste generated during removal shall be promptly cleaned-up and packaged in leak-tight containers.
- d. Asbestos-containing material shall NOT be dropped or thrown to the ground. All packaged ACM shall be carried or passed to the ground by hand, hoist, or crane.
- e. Upon being lowered, unwrapped material shall be transferred to a closed receptacle in such manner so as to preclude the dispersion of dust.

4. Transite door panel, Fire doors: **Not Used**

- a. A single layer of 6 mil plastic sheeting drop cloth shall be installed directly beneath the work to be performed and shall be of sufficient dimensions to capture all debris generated as a result of the work.
- b. ACM containing components shall be removed in an intact without disturbing the ACM. If for any reason intact removal is not possible and ACM will be disturbed, stop all work until an alternative plan is approved by the Owner's representative.
- c. All debris and waste generated during removal shall be promptly cleaned-up and packaged in leak-tight containers.

3.07 PRESSURE DIFFERENTIAL SYSTEM

- A. The contractor shall supply sufficient number of HEPA air filtration devices (AFD) units to continually maintain a pressure differential across all barriers of **minus 0.25** column inches of water. The contractor shall demonstrate that the negative air pressure standard can be maintained throughout project duration. No gross removal of asbestos materials may be initiated until negative air pressure is maintained for a period of eight hours.
- B. A manometer equipped with a 24 hour disc recorder shall be installed to continuously monitor pressure differential inside of the asbestos work area. Air filtration machines shall remain in operation 24-hours a day until final clearance of the work area has been achieved.
- C. No work involving the removal or disturbance of asbestos shall commence until the specified negative pressure level is met.

- D. AFD(s) shall be operated and maintained in accordance with the manufacturers specifications and guidelines. Proper operation shall include appropriate use and maintenance of the two stage pre-filter and primary HEPA filtration system.
- E. Negative Air exhaust: Locate exhaust unit(s) so that makeup air enters work area primarily through decontamination facilities and traverses work area as much as possible.
- F. To the extent feasible, vent all AFD exhaust to the outside of building. The Contractor shall ensure that AFD exhaust does not spill directly into occupied areas.
- G. Start operation of HEPA filtered AFD fan units before beginning work (before any asbestos containing material is disturbed). After abatement work has begun, run units continuously to maintain a constant negative pressure until decontamination of the work area is complete. Do not turn off units at the end of the work shift or when abatement operations temporarily stop. Do not shut down pressured differential air system during encapsulating procedures, unless authorized by the Consultant in writing.
- H. Post Abatement: Prior to final air testing, remove pre-filter and wipe out inside lip of HEPA filtered fan unit.
- I. When a final inspection and the results of final air tests indicate that the area has been decontaminated, exhaust units may be removed from the work area. Before removal from the work area, remove and properly dispose of pre-filter, and seal intake to the machine with 6 mil polyethylene to prevent environmental contamination from the filters.
- J. Each filter shall be individually tested on site and certified to have an efficiency of not less than 99.97% when challenged with 0.3 μ m dioctylphthalate (DOP) particles (or equivalent media). Testing shall be conducted in accordance with Military Standard Number 282 and Army Instructional Manual 136-300-175 A (or equivalent method). Each filter shall bear a UL586 label to indicate ability to perform under specified conditions. A copy of this section shall be supplied to the test conductor.

3.08 ASBESTOS ABATEMENT

- A. The Contractor shall:
 - 1. Clearly mark and label all emergency exits located within the Regulated Area. Emergency exits shall be kept free of obstructions at all times. A razor knife or other cutting tool shall be posted in the vicinity of each emergency exit located within the Regulated Area and used to facilitate quick exit of the Work Area in an emergency situation.
 - 2. Receive authorization from the Owner or Owner's Representative prior to initiating any asbestos removal activity. Owner or Owner's Representative shall conduct a pre-abatement inspection to ensure compliance with the Specification prior to authorizing start of any asbestos removal activities.
 - 3. Inspect the integrity of all Regulated Area barriers and smoke test for leaks at the beginning of each shift. Any detected leaks shall be sealed prior to start of work.
 - 4. Maintain a log of all personnel entering the Regulated Area. The Contractor shall not allow any person to enter the Regulated Area without prior approval of Owner or Owner's Representative. This includes Contractor employees newly assigned to the job site.

5. Provide authorized visitors with protective clothing, whenever they are required to enter the Regulated Area.
6. Ensure that each worker and authorized visitor shall follow the approved procedures established by the Contractor and the Owner.
7. Perform all work regardless of exposure using:
 - a. HEPA vacuum cleaners
 - b. wet methods
 - c. Prompt clean-up and disposal of asbestos in leak-tight containers
8. Remove all existing asbestos-containing building materials as identified in the project scope of work as follows:
 - a. Adequately wet asbestos- containing materials to be removed prior to stripping and/or tooling to reduce fiber dispersal into the air. Accomplish wetting by a fine spray (mist) of amended water or removal encapsulant.
 - b. Saturate material sufficiently to wet to the substrate without causing excess dripping. Allow time for water or removal encapsulant to penetrate material thoroughly.
 - c. Spray material repeatedly during the work process to maintain a continuously wet condition.
 - d. Mist work area continuously with amended water whenever necessary to reduce airborne fiber levels.
 - e. Waste shall be packaged prior to each break and at the end of each shift. If applicable, Contractor shall make arrangements with Owner to store ACM waste in a secured area until waste can be removed from the job site.
9. Ensure that the level of respiratory protection worn by Contractor's employees is adequate to protect the employees from exposure to airborne asbestos fibers above the Permissible Exposure Limits.
10. Ensure airborne asbestos fiber levels inside the Work Area do not exceed a ceiling limit of 1 fiber per cubic centimeter (f/cc), as determined by personal or area air sampling, regardless of the level of respiratory protection worn by Contractors employees. If this level is exceeded, Contractor shall take immediate action to reduce airborne fiber concentrations. If this level is exceeded for 2 consecutive shifts, the Contractor shall cease asbestos removal operations and perform necessary clean-up to reduce the airborne asbestos fiber level to below 0.2 f/cc as indicated by subsequent air samplings.
11. Conduct personal exposure monitoring and provide monitoring results within 24 hours after samples are collected to Owner or Owner's Representative.
12. Notify Owner or Owner's representative immediately in the event of a breach of the containment barrier or spill of ACM outside of the Regulated Area. Take protective measures to ensure occupants adjacent to the spill or breach are not exposed to asbestos.
13. In the event of a breach of the containment barrier or spill of ACM outside of the Regulated Area, immediately stop work, repair the breach and clean-up the spilled material using wet methods and HEPA vacuuming.

14. In the event that a non-work area becomes contaminated with asbestos, the Contractor shall immediately and automatically stop all work. If the contaminated area is inside the building and outside of critical barriers, the Contractor shall erect new critical barriers to isolate the affected area from the balance of the building. Erect Critical Barriers at the next existing structural isolation of the involved space (e.g. wall, ceiling, floor, etc.). Decontaminate the affected area in accordance with this specification. Leave critical barriers in place until final visual and air clearance is given.
15. That Contractor shall perform all required cleaning and/or decontamination at no additional cost to the Owner.
16. Shall not encapsulate abated surfaces until the work area has passed final inspection as determined by the Owner or Owner's Representative.

3.09 ENTERING THE WORK AREA

- A. Worker decontamination area(s) shall be contiguous to the work area and shall be located location(s) where workers enter or exit the work area. The decontamination area(s) will be placed at the most strategic location(s) to allow easy access and usage for personnel and shall capable of withstanding crew usage without deterioration for the entire duration of the project; PPE; tools and equipment.
- B. Decontamination area(s) shall be equipped with a clean water source for each crew member (a bucket of water for shared uses shall not be permitted); clean, dry towels, HEPA equipped vacuum cleaner; storage area for workers street clothing.
- C. Contractor shall keep the change area clean and dry. Damp wipe and HEPA vacuum all surfaces throughout the shift and as needed and at the end each shift.
- D. Require all workers to adhere to the following personal decontamination procedures whenever they leave the work area. Upon entering the asbestos abatement project, **remove street cloths** in the clean change room and put on a respirator and clean protective clothing. Before exiting the work area, the following procedures are required;
 1. Remove gross contamination from clothing via HEPA vacuum.
 2. Deposit contaminated clothing in labeled disposal container.
 3. Still wearing the respirator clean the outside of the respirator and body with clean water.
 4. Remove respirator and wash face with clean water.
 5. Remove filters from respirator, if breathing has becomes restricted or as often as the user feels is needful. Dispose of the filter elements in the container supplied for this purpose.
 6. Wash and rinse the inside of the respirator.
 9. Drying off and put on street cloths.

3.10 PACKAGING, LABELING, AND DISPOSAL OF ASBESTOS WASTE

- A. It is the responsibility of the Contractor to comply with current Federal, State and local regulations concerning the waste handling, transportation, and disposal of ACM/ACCM.

B. Asbestos Waste Packaging

1. All ACM/ACCM and ACM/ACCM-contaminated materials, supplies, clothing, debris, etc. shall adequately wetted and be placed into leak-proof disposal containers.
2. Personal protective equipment (PPE) i.e. suites/coveralls, respirator cartridges, etc. shall be packaged, labeled, and disposed of with the asbestos removed during use of the PPE.
3. All friable and non-friable asbestos waste shall be thoroughly wetted with amended water and placed in a clear, 6 mil pre-labeled asbestos waste bag, goosenecked and sealed with duct tape. The bag shall then be placed into another 6 mil pre-labeled asbestos waste bag, also goosenecked and taped. Labeling shall conform to Title 8, CCR, Section 1529.
4. Mastic removal solvent shall not be combined with other asbestos-containing waste. Contractor shall ensure that drummed mastic solvent waste contains no free standing liquid.

C. Labeling

1. Asbestos disposal containers to be labeled as follows:
 - a. All ACM containing waste shall be labeled:

DANGER

CONTAINS ASBESTOS FIBERS
AVOID CREATING DUST
CANCER AND LUNG DISEASE HAZARD

- b. In addition, all Hazardous ACM waste shall include the following labels:

HAZARDOUS WASTE

STATE AND FEDERAL LAW
PROHIBITS IMPROPER DISPOSAL
IF FOUND, CONTACT THE NEAREST
POLICE OR PUBLIC SAFETY
AUTHORITY OR THE CALIFORNIA
DEPARTMENT OF
TOXIC SUBSTANCE CONTROL

Generator's Name
Address
Manifest No.

RQ, Asbestos, 9, NA2212, III

Cal/EPA & DOT Diamond Label

D. Disposal

1. Obtain any required permits and provide any required notices to the appropriate federal, state and local EPA agencies.
2. Waste manifest forms and/or waste shipment records shall be provided by the Contractor and include all information required by law.
3. Carefully load containerized waste on sealed trucks or other appropriate vehicles for transport. Exercise care before and during transport, to insure that no unauthorized persons have access to the material. Take bags from the work area directly to a sealed truck or dumpster
4. Asbestos-containing hazardous waste materials shall be transported in a completely enclosed shipping container, open truck beds with tarpoline covers are not allowed unless first loaded in sealed drums. Double bagged material may be transported on open trucks if they are loaded in sealed drums. Label drums with same warning labels as bags. Uncontaminated drums may be reused. Treat drums that have been contaminated as asbestos-containing waste and dispose of in accordance with this specification. If the waste shipment consists of non-friable, non-hazardous waste only, the materials may be transported to other than Class II waste sites.
5. Advise the sanitary landfill operator at least twenty-four hours in advance of transport of the quantity of friable and non-friable asbestos material to be delivered.
6. Waste water from wet stripping, shower room, and worker and equipment decontamination systems shall be filtered through a filtration treatment system capable of removing all particles 5 microns or greater in size before it is discharged into the sanitary sewer system.
7. At the burial site sealed plastic bags may be carefully dumped from the truck. If bags are broken or damaged leave bags of ACM waste in the truck and clean entire truck and contents using procedures set forth earlier in these documents.
8. Submit copies of all manifests, waste shipment records, and landfill receipts to Owner.

3.11 PROJECT DECONTAMINATION

- A. Work of This Section includes the decontamination of all surfaces of the work area, all equipment in the Work Area and the air in the Work Area which may have been contaminated during abatement activities or which may previously have had elevated fiber counts due to friable asbestos-containing materials in the space.
 1. Carry out a final cleaning of all surfaces within the abatement work area including items of tools, scaffolding and/or staging equipment. Use of damp cleaning methods and mopping, and/or a High Efficiency Particulate Air (HEPA) Filtered vacuum shall be used.
 2. Do not perform dry dusting or dry sweeping.
 3. Use each surface of a cleaning cloth one time only and then dispose of as contaminated waste.
 4. Remove unneeded tools and equipment from the abatement work area via the decontamination unit. Ensure that all equipment leaving the work area has been decontaminated and wrapped in 4 mil plastic sheeting.

- B. Following a visual inspection by the Owner's representative perform encapsulation of the abatement area. Abated substrate is to be encapsulated with a white pigmented bridging encapsulant. Apply encapsulant using an airless sprayer in accordance with the manufacturers recommendations. Apply encapsulant liberally over the abated surfaces sufficient to completely cover all areas affected by the work.
- C. Maintain negative air pressure for 24 hours to allow negative air machines to clean air of airborne asbestos fibers. Before final air monitoring remove pre-filters and wipe out inside lip of HEPA filtered fan unit.

3.12 FINAL INSPECTION/CLEARANCE

- A. The Owners Representative shall conduct a final inspection of the work area upon completion of all abatement and clean-up tasks. The contractor shall notify the Owner or Owner's Representative at least 24 hours in advance of the project completion.
- B. The Contractor shall not encapsulate abated surfaces until the work area has passed final inspection as determined by the Owner's representative. The Owner's Representative shall inspect work area surfaces for asbestos residue and debris. If any such debris, residue, dust or other matter is found repeat final cleaning and continue decontamination procedure at no additional cost to the owner.
- C. Following successful completion of final inspection, the Contractor shall apply an encapsulating agent to all abated surfaces. The Owner's Representative will not conduct final air clearance sampling until the encapsulating agent is completely dry.
- D. The Owner's Representative shall conduct final air clearance as specified and notify the Contractor of results in a timely fashion. In the event that air clearance is not achieved, the Contractor shall re-clean and re-encapsulate the work areas prior to final clearance retake. All costs and fees associated with re-cleaning and re-testing of the work area will be paid by the Contractor.
- E. Upon successful completion of final air clearance, as determined by the Owner's Representative, the Contractor shall remove all remaining equipment and plastic sheeting from the work area and restore the abatement work areas and all affected areas to pre-abatement conditions. Any small quantities of residual material found upon removal of the plastic sheeting shall be removed with a HEPA filtered vacuum cleaner and local area protection. If significant quantities, as determined by the Owner's Representative, are found then the entire area affected shall be decontaminated as specified herein.

END OF SECTION



APPENDIX 1

Appendix 1

Lead-Based & Lead-Containing Materials

Instructions to All Contractors/Bidders

Martin Elementary School

Buildings A to F

35 School Street

South San Francisco, California

For:

South San Francisco Unified School District

398 B Street

South San Francisco, CA 94080

PART 1 - INTRODUCTION

1.0 GENERAL

- A. This section deals with general requirements and procedures in conjunction with lead-containing materials as identified by ProTech Consulting & Engineering in our reports titled Asbestos & Lead (Pb) Report, Limited Pre-Demolition/Renovation Survey & Evaluation, report number **212-MA19**. Refer to this report for the representative building materials found to contain lead.
- B. This specification delineates the basic safety and work requirements for the project. The provisions set forth in this specification will apply as minimum rules to be followed by the contractor, its employees, and any sub-contractors. The sub-contractors may elect to modify these provisions, but only to upgrade or increase the safety requirements, and only with concurrence of the Owner and/or Owner's representative.
- C. Contractor must visit the work site to obtain first-hand knowledge of all existing conditions. Contractor is responsible for all unusual conditions or deviations from the specifications that exist at the time of their site examination, and such conditions must be reflected in the bid proposal. Contractor will not be given extra payments above the accepted bid prices for conditions that can be determined by examining the site and all Contract Documents prior to the submission of proposals.

1.1 SCOPE OF WORK

- A. The work of this specification includes the removal, handling, packaging, and disposal of materials containing lead (Pb) as identified by ProTech Consulting & Engineering.
- B. Each contractor who performs work at this site and impacts painted/coated surfaces shall:
 - 1. Review lead-paint inspection data to assess if their particular work will impact lead-based paint (LBP) and/or lead-paint containing paint (LCP);

2. Ensure that all work is performed in accordance with applicable regulatory standards, this specification and other applicable contract documents;

Lead Based Paint/Coating Components by XRF and Paint Chip	
Component	General location
Ceramic wall tiles	Bldg. E staff restrooms
Ceramic baseboards	Bldg. B Kindergarten restrooms
Wood & metal window components	All buildings

- C. One type of lead-related construction materials have been found to be present at this project as follows:

Types of Lead Materials			
Lead Level		Analysis Type	Standard
1.	High Lead: Lead-based paint/materials (LBP)	By XRF:	≥1 mg/cm ² or greater
		By Paint Chip:	≥0.5 weight % or 5,000 mg/kg

- D. For purposes of this project, any coated surfaces/components for which no data are available shall be assumed to contain detectable lead for Cal OSHA compliance purposes. The Contractor may, at Contractor's sole expense, perform additional paint testing and analysis by Atomic absorption (AA) spectroscopy to exclude building components from the special lead handling requirements of this specification. Deviations from this specification as a result of such testing must be submitted by the Contractor in writing. Deviations shall be subject to the review and approval of the Owner's Representative.
- E. The Contractor shall obtain any necessary building or waste permits and notify local authorities if jurisdiction requires it.

1.2 CONTRACTOR QUALIFICATIONS

- A. The work specified herein shall be performed by competent persons trained, knowledgeable and qualified in the state-of-the-art techniques of lead-related construction work, handling and subsequent cleaning of lead contaminated areas.
- B. Project Supervisor – Competent Person:
The Contractor must provide a full-time General supervisor who is experienced in administration and supervision of lead-related construction projects. The supervisor shall possess current credentials as follows:

- Certification issued by the California Department of Public Health

The Contractor's competent person shall be capable of preventing, eliminating and identifying existing lead hazards associated with the project. The supervisor shall have a working knowledge of, and the ability to read, understand and correctly interpret all the project documents and applicable regulatory standards. The Supervisor shall be trained, as required by Cal OSHA, and be CDPH certified. In addition, the Supervisor shall demonstrate that he/she has a minimum of two (2) years on-the-job experience.

- C. Training – Lead Worker:
All workers assigned to tasks involving lead-related work shall possess current credentials as follows:
- Training required by Cal OSHA per Title 8 CCR 1532.1.
 - Certification issued by the California Department of Public Health
- D. Licensing, Certification:
- The Contractor must hold a current, valid license issued by the California State Contractors Licensing Board.
- E. Reporting Unusual Events:
When an event of unusual and significant nature occurs at the site (examples: failure of the containment system, injury, environmental exposure, etc.), prepare and submit a special report listing chain of events, persons participating, response by Contractor's personnel, evaluation of results or effects, and similar pertinent information. When such events are known or predictable in advance, advise Owner in advance at earliest possible date. Except as otherwise indicated, submit special reports directly to Owner within one day of occurrence requiring special report, with copy to Owner's Representative and others affected by occurrence.
- F. Reporting Accidents:
Prepare and submit reports of significant accidents, at site and anywhere else work is in progress. Record and document data and actions; comply with industry standards. For this purpose, a significant accident is defined to include events where personal injury is sustained, or property loss of substance is sustained, or where the event posed a significant threat of loss or personal injury.
- G. Daily Logs and Journals:
During the work, Contractor shall maintain a daily log which will be kept at the job site. Items to be included in the daily log shall include but are not limited to the following:
1. Meetings; purpose, attendees, discussions, items of resolution (brief)
 2. Visitations; authorized and unauthorized
 3. Sign-in sheets of all personnel entering and leaving the work area
 5. Personal air monitoring results – submit within 24 hours of sample collection

1.3 PRE-JOB SUBMITTALS

Before the start of work, submit the following to the Owner's Representative for review. No work shall begin until these submittals have been approved by the Owner or Owner's representative.

- A. Written Compliance program.
Prior to commencement of the job the Contractor shall establish and implement a written compliance program to achieve compliance with Cal OSHA requirements and HUD guidelines. The written programs shall be available at the worksite for examination and copying. The written plan shall include at least the following:
1. A description of each activity in which lead is emitted; e.g. equipment used, material involved, controls in place, crew size, employee job responsibilities, operating procedures and maintenance practices;

2. A description of the specific means that will be employed to achieve compliance and, where engineering controls are required engineering plans and studies used to determine methods selected for controlling exposure to lead;
 3. A report of the technology considered in meeting the PEL;
 4. Air monitoring data which documents the source of lead emissions;
 5. A detailed schedule;
 6. A work practice program which includes items required by Cal OSHA and prescribed by HUD.
 7. An administrative control schedule as required by Cal OSHA
 8. A description of arrangements made among contractors on multi-contractor sites with respect to informing affected employees of potential exposure to lead and of regulated areas.
 9. Other relevant information.
 10. Schedule of frequent and regular inspections of job sites, regulated areas, materials, and equipment to be made by a supervisor.
 11. Include in the plan specific procedures for decontamination and work area isolation and set-up. Provide diagrams showing negative air placement (if applicable), decontamination locations, staging areas and waste bag-out areas. Note that nothing in this specification should impede safe exiting or providing of adequate medical attention in the event of an emergency.
- B. Waste Transport/Active Asbestos Waste Site
Submit copies of proof of all EPA, DOT, and DHS, licenses, registrations, and certifications for all hazardous waste haulers and active lead waste sites intended for use on this project.
- C. Worker Documentation:
Provide current documentation for each qualified competent Person and workers who will be assigned to the project. Submit documentation as follows:
1. Cal OSHA and CDPH Training Certification.
 2. Biological - blood lead test for all Workers prior to project commencement.
 3. Physician medical release for each Worker – written approval to don respiratory protection without restriction.
 3. Respiratory fit test documentation.
- D. Notifications:
Submit copies of any required notifications sent to federal, state and/or local agencies as required by applicable local, state and federal regulations.
- E. Permits:
Submit copies of any required permits required by state and/or local regulations.
- F. Licenses:
Submit copies of: valid California State Contractors License, and Local licenses and permits necessary to carry out the work of this contract.
- G. Material Safety Data Sheets:

Submit the Material Safety Data Sheet, or equivalent, in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200) for applicable material proposed for use on the work including but not limited to encapsulant, surfactant, spray adhesive etc. Include a separate attachment for each sheet indicating the specific worker protective equipment proposed for use with the material indicated.

1.4 PUBLIC SAFETY AND PUBLIC CONVENIENCE

- A. The Contractor(s) shall take all necessary measures to ensure the safety of the general public and adjacent residents throughout the course of this project. The Contractor shall take adequate measures to make the building or work areas inaccessible to the public (such as temporary fencing if necessary).
- B. The Contractor shall ensure that lead (in any form) does not contaminate the project site or adjacent property during this demolition process.

1.5 REGULATIONS

- A. Contractors are required to follow all Federal, State, and local standards that regulate lead-related construction work and lead disposal including but not limited to: the California Department of Public Health, U.S. Environmental Protection Agency (EPA), the California Department of Occupational Safety and Health (Cal-OSHA), and any other applicable federal, state and local government regulations pertaining to lead containing materials, lead-based paints (LBP) and other lead-containing wastes.
- B. The Contractor and all subcontractors shall ensure that each employee who will or may handle, impact, or otherwise disturb lead or encounter lead contaminated areas:
 - 1 Receive proper and sufficient Cal OSHA and CDPH compliant training.
 - 2 Receive proper and sufficient personal protection equipment
- C. Lead-based paint and lead-containing paint materials and waste shall be handled in accordance with applicable laws and regulation. In the event of conflict, the more stringent requirement will apply. The Contractor(s) is alerted to, and shall become familiar with all laws and regulations regarding the generation, management, handling, characterization and disposal of lead (Hazardous materials) including:
 - 1 Environmental Protection Agency National Ambient Air Quality
 - 2 Standards, as applicable (40 CFR 61)
 - 3 Occupational Safety and Health Administration (inclusive of OSHA 29 CFR 1919.134 and 1926.62)
 - 4 California Department of Occupational Safety and Health (inclusive of Cal/OSHA 8 CCR 1532.1, 3203, 5155, 5194, 5216)
 - 5 California Environmental Protection Agency (Cal-EPA), (22 CCR Section 66000, et seq.)
 - 6 California Department of Public Health (17 CCR Sections 3500061000)
 - 7 Resources Conservation and Recovery Act (42 U.S.C. Section 6901 et seq., and regulations 40CFR part 260 et seq.)
 - 8 California Health and Safety Code (Division 20 and regulations, and 22 CCR section 66000 et seq.).
 - 9 Resource Conservation and Recovery Act
 - 10 Federal Occupational Safety and Health Administration (Fed/OSHA) (29CFR 1910.134 and 1926.62)
 - 11 Federal Environmental Protection Agency (Fed/EPA) (40 CFR50 et seq.) Federal Department of Transportation (49 CFR)
 - 12 Other applicable federal, state, and local governmental regulations pertaining to lead

hazards and lead waste.

PART 2 - WORKER PROTECTION

2.0 DESCRIPTION

- A. This program is essential in minimizing risk of lead exposure to workers. The Contractor will minimize exposure to hazards through the use of engineering controls and good work practices. Respirators will not to be used as the primary or sole means of protection. Work practices and engineering controls will be implemented to reduce employee exposure to the greatest extent possible. Wetting the materials thoroughly will be the major engineering control. A negative air machine is running to help eliminate some of the air-borne lead materials. All debris will be cleaned up promptly.
- B. Worker Protection will include respirator protection, protective clothing, gloves, and equipment, housekeeping, hygiene practices and medical surveillance.
- C. Inhalation of lead dust and fumes, and ingestion resulting from contact with lead-contaminated food, cigarettes, clothing, or other objects, are the major routes of worker exposure to lead. Once absorbed, lead accumulates in the blood, soft tissues, and bones, with the highest accumulation initially in the liver and kidneys. Lead is stored in the bones for decades, and may cause toxic effects in adults as it is slowly released overtime. Chronic overexposure to lead results in damage to the kidneys, the central nervous system, the reproductive system, and the blood-forming organs. Adverse health effects in adults include: abdominal discomfort, anemia, colic, constipation, excessive tiredness, fine tremors, headache, high blood pressure, irritability, loss of appetite, muscle joint pain, sexual impotence, pigmentation on the gums, and others.
- D. There are two primary routes of lead poisoning in occupation settings, they are;
 - 1. Ingestion:
Ingestion generally occurs by normal hand-to-mouth activity (such as eating) after hands have been in contact with lead dust or contaminated items.
 - 2. Inhalation:
Inhalation, or breathing of airborne lead generally occurs when lead coated surfaces or lead contaminated dust is disturbed and lead dust is released into the working environment.
- E. Employers of employees who perform lead-related work are responsible for the development and implementation of a worker protection program in accordance with Title 8 CCR 1532.1. This program is essential in minimizing the worker risk of lead exposure.
- F. The most effective way to protect workers is to minimize exposure through the use of engineering controls and good work practices. It is OSHA policy that respirators are not to be used as the sole means of protection when engineering controls are feasible to reduce employee exposure.
- G. At a minimum, the following elements should be included in the employer's worker protection program for employees exposed to lead.
 - Hazard Determination

- Worker Protection including: respirator protection, protective clothing and equipment, housekeeping, hygiene practices and medical surveillance.
- Worker Training and record keeping

2.1 WORKER EXPOSURE

- A. The Contractor will limit airborne exposure to lead dusts in the workplace to the greatest extent possible with engineering controls and/or respiratory protection.
- B. Initial monitoring will be performed that is representative of each affected employees 8-hour time weighted average (TWA) exposure to lead. The contractor shall collect full-shift personal air samples for affected employees that is representative of daily exposure to lead. Personal exposure monitoring shall include one sample for each job classification in each work area. Employee lead exposures shall be monitored by the Contractor in accordance with Cal OSHA standard Title 8 CCR 1532.1.
- C. If the initial monitoring shows exposure levels to be below the Action Level of $30 \mu\text{g}/\text{m}^3$, no further exposure assessment is required unless there is a change of equipment, process, control methods, personnel, or a new task is initiated.
- D. If the action level (AL) of 30 micrograms per cubic meter of air ($\mu\text{g}/\text{m}^3$) is exceeded, without regard to respiratory protection, compliance activities with Title 8 CCR 1532.1 will be implemented. Exposures above the permissible exposure limit (PEL) of $50 \mu\text{g}/\text{m}^3$ will not be permitted. Proper respiratory protection will be enforced to maintain exposure limits below the PEL (see respiratory protection).

2.2 MONITORING

- A. Personal monitoring
 1. Personal air monitoring shall be the responsibility of the Contractor. The contractor shall collect full-shift personal air samples representative of each affected employee and each lead-related work task. Initial monitoring will be performed that is representative of each affected employees 8-hour time weighted average (TWA) exposure to lead. Daily personal monitoring will be performed on a minimum of 20% of the employees for each lead-related work activity. The Contractor shall post personal air monitoring results on the job site within 48 hours from collection. Employees will be given the opportunity to observe monitoring results.
 2. If the initial monitoring shows exposure levels to be below the Action Level of $30 \mu\text{g}/\text{m}^3$ for a particular activity, the Contractor shall implement a periodic monitoring schedule (for that particular activity).
 3. Additional monitoring is required if there is a change of equipment, process, control methods, personnel, or a new task is initiated.
- B. Environmental Monitoring
 1. Air sampling may be conducted in areas adjacent to lead related work activities to document and monitor the effectiveness of engineering control procedures. Air samples shall be collected at the perimeter (outside) of active lead-related construction work. Perimeter monitoring will be performed to detect contamination outside of the regulated work area as a result of inadequate engineering controls and/or work practices. Samples may be collected as needed immediately adjacent to the lead abatement work

in locations most vulnerable to contamination migration. Environmental air sampling, when conducted will be performed by the Owner's Representative.

2. If the environmental monitoring yields results in excess of 30 micrograms per cubic meter of air (ug/m³) or background levels (which ever is greater) as established by pre-construction monitoring, the Contractor shall extend the regulated area to include all affected areas. The Contractor shall contaminate all areas until HUD clearance criterion can be established.

2.3 RESPIRATORY PROTECTION

- A. Until an exposure assessment is made by the Contractor, all employee performing lead-related trigger activities shall be treated as if exposed above the personal exposure limit (PEL, 50 mg/m³) based on the following table:

Trigger Activity	Anticipated Exposure (µm/m ³)
- Manual demolition - Manual scraping and sanding - Heat gun use - Use of power tools with dust collection systems - Spray painting with lead paint - Any other activity that the employer has any reason to believe that an employee may be exposed in excess of the PEL.	Greater than 50
- Using lead containing mortar - Lead burning - Rivet busting - Power tool cleaning without dust collection system - Clean-up of dry abrasive blast residue.	Greater than 500
- Abrasive blasting - Welding - Cutting - Torch burning.	Greater than 2500

- B. The following respiratory protection is required for exposure to lead aerosols:

Anticipated Exposure	Required Respirator
Greater than 50 µm/m ³	Half-mask, air purifying
Greater than 500 µm/m ³	Full-face, air purifying, or Tight fitting PAPR, or Supplied air, contiguous flow
Greater than 2500 µm/m ³	Supplied air, pressure demand

- C. All respirators are required to be equipped with high efficient particulate air (HEPA) filters.
- D. When chemicals and/or other restorable hazards are introduced into the project appropriate respiratory protection and other personal protective equipment will be utilized in accordance with manufacture and MSDS recommendations.
- E. Respirators (NIOSH-approved) will be provided by Contractor when such equipment is deemed necessary to protect the health of the employee. Contractor shall provide respiratory

protection devices which are applicable and suitable for the purpose intended. Contractor shall be responsible for the establishment and maintenance of the respiratory program.

- F. Employees are required to wear a respirator when employee exposure to lead exceeds the PEL. The employer will provide a respirator to the employee at no cost. The employer will provide respirator training to all employees who wear a respirator. Medical exams per Title 8 CCR 1532.1 and CCR Subchapter 7. General Industry Safety Orders § 5144 will be provided at no cost to all employees who wear a respirator. The employee will be fit tested at initial assignment and at every 6 months, or after weight gain/loss of 15 pounds or more, growing/shaving mustache, facial deformation-dental work. The employer shall institute a written respiratory protection program.
- G. For the safe use of any respirator, it is essential that the user be properly instructed in its operation and maintenance. Both supervisors and employees of Contractor, and its sub-contractors, shall be so instructed. Employees of Contractor, and its sub-contractors, shall be instructed and trained in the proper selection and use of respirators and their limitations. The Contractor employee, and those of sub-contractors, shall use the provided respirator in accordance with instructions and training received. All training shall be documented with records retained in the employee's training files.
- H. A written Respiratory Protection Program which complies with 29 CFR, part 1910, section 134, and California Code of Regulations (CCR) Title 8 CCR, sections 1532.1 will be maintained and kept on site throughout the project.

2.4 PERSONAL PROTECTIVE EQUIPMENT

- A. Until an exposure assessment is performed by the Contractor, the Contractor shall implement employee protective measures as described in Title 8 CCR 1532.1:
 - 1. Appropriate respiratory protection
 - 2. Appropriate personal protective clothing and equipment
 - 3. Appropriate change areas
 - 4. Appropriate hand wash facilities
 - 5. Biological monitoring (blood testing)
 - 6. Appropriate training
- B. The Contractor will provide protective clothing to all employees potentially exposed to lead dusts during the work shift. Clean protective clothing will be provided to the employee on a daily basis at no cost to the employee. Lead contaminated work clothing will be removed in change rooms before lunch and at the end of the work shift. Soiled work clothes will be stored in closed, labeled containers. Waste work clothes will be sampled for lead content prior to disposal.
- C. Protective goggles, gloves, hard-hats , disposable clothing, etc. will be provided to all employees potentially exposed to lead dusts or debris during the work shift.

2.5 MEDICAL MONITORING

- A. Blood Testing:
 - 1. Contractor(s) shall implement a biological monitoring program for this project. The program will consist of biological monitoring (blood testing) and analysis for lead and zinc protoporphyrin levels.

2. Employee's will be tested immediately be the start of the project, no employees shall be assigned to this project whose blood lead is at or above 40 µg/dl.

B. Physical Examination:

1. Contractor(s) whose employees who are required to don respiratory protection shall implement a Medical Surveillance Program. Employees must be cleared by the examining physician to wear a respirator and protective clothing while performing their project duties.
2. All personnel on-site shall have successfully completed a pre-placement or periodic medical examination in accordance with established Contractor policies and procedures, and consistent with the provisions of the OSHA respiratory standard 29 CFR 1910.134 and Cal OSHA lead standard Title 8, 1532.1.

2.6 EMPLOYEE INFORMATION AND TRAINING

The Contractor will provide an information and training program, at least annually, to all employees potentially exposed to lead. This program will inform employees of the health hazards associated with lead exposure, the contents of Title 8 Section 1532.1, the proper selection, fitting and use of respirators, the medical surveillance program, the employees access to records, engineering controls and work practices associated with the employees job assignment

2.7 RECORD KEEPING

The Contractor will keep records of all exposure monitoring for airborne lead. The records shall include the following information for each sample: date collected, sample number, duration, result, analytical method, activity represented, employees names and Sis's represented, type of respiratory protection used.

PART 3 - EXECUTION

3.1 REGULATED AREAS

- A. The Contractor will establish a regulated area where lead may be impacted and/or disturbed. Only authorized personnel may enter the regulated area. All persons entering the regulated area will be supplied with and required to wear appropriate personal protective equipment and respiratory protection.
- B. Warning signs will be posted at the entrance to each regulated area. The sign will read as follows:

WARNING
LEAD WORK AREA
POISON
NO SMOKING OR EATING
AUTHORIZED PERSONNEL ONLY

3.2 CAL OSHA COMPLAINECE

- A. All Contractors/employers whose employees may impact or perform trigger activity associated with lead-based paint or lead containing materials shall comply with the requirements, standards and work practices codified by Cal OSHA lead construction standard per CCR Title 8 § 1532.1. Each Contractor/employer shall:
1. Make an assessment as to the applicability of the Cal OSHA lead construction standard relative their specific work. Cal OSHA standards are designed to regulate and enforce on-the-job worker safety. Employers are required by law to ensure that employees are not exposed to airborne lead levels which exceed the permissible exposure limit (PEL). The standard requires worker exposure monitoring, medical surveillance, training, special work practices, etc.
 2. Contractors/employers whose employees will be working on this project are required to assess lead exposure risk to their employees (as per Cal OSHA lead standard CCR Title 8 § 1532.1). In making this evaluation, contractors should:
 - a. Review all lead related documents and reports.
 - b. Become familiar and comply with Cal OSHA and other applicable lead regulations.
 - c. Make an assessment to determine potential worker exposure relative to the various lead-related construction work to be performed.
 - d. Collect supplemental data/samples if necessary.
 - e. Assess and monitor worker lead exposure levels during the performance of lead trigger tasks or other activities that may potentially expose workers to levels above the Cal OSHA permissible exposure level.
 - f. Determine compliance requirement relative to DOSH notification rules.
 3. Cal OSHA requires compliance with their lead construction regulation when:
 - a. The permissible exposure limit (PEL) will or may be exceeded. The PEL is an exposure to airborne lead dust of 50 micrograms of lead per cubic meter of air (50 µg/m³) over an 8 hour time weighted average (TWA).
 - b. Employees perform "trigger activities" that impact a material containing lead in any detectable amount. Cal OSHA mandates that an employer assume the PEL will be exceeded when his/her employees conduct "trigger activities" involving lead.

Trigger Activity	
Level 1	• Manual demolition • Manual scraping and sanding • Heat gun use • Use of power tools with dust collection systems • Spray painting with lead paint • Any other activity that the employer has any reason to believe that an employee may be exposed in excess of the PEL.
Level 2	• Using lead containing mortar • Lead burning • Rivet busting • Power tool cleaning without dust collection system • Clean-up of dry abrasive blast residue.
Level 3	• Abrasive blasting

	• Welding • Cutting • Torch burning.
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4. If Cal OSHA lead compliance is required, contractor(s) shall adhere with the following requirements:
 - a. Construct Project Hygiene Facilities and implement decontamination policies in accordance with the Cal OSHA lead construction standard. Worker decontamination station shall be provided at all locations where worker enter or exit the work area. The decon station shall be placed at the most strategic location to allow easy worker access. The Contractor must install a filtering system for removing contaminants from the drained water. The system must have as a two stage cascading filtering system capable of filtering down to 5 μm or smaller. Filtered water may then be disposed of into the sanitary sewer. The Contractor shall maintain a supply of filters for the filtering system. The filters will be changed as often as needed to prevent the system from clogging.
 - b. Determine if any employee may be exposed to lead at or above the action level (30 mg/m^3). This assessment is made by taking at least one full shift personal air sample for each job classification.
 - c. Until an exposure assessment is made, any employee performing a trigger activity, shall be treated as if exposed above the personal exposure limit (PEL, 50 mg/m^3).
 - d. Until an exposure assessment is performed, the employer must implement employee protective measures per Cal OSHA - CCR Title 8 § 1532.1 including:
 - Appropriate respiratory protection
 - Appropriate personal protective clothing and equipment
 - Appropriate change areas
 - Appropriate hand wash facilities
 - Biological monitoring (blood testing)
 - Appropriate training
 - e. Implement engineering controls and work practice controls, including administrative controls, to reduce and maintain employee exposure to lead at or below the PEL or to the lowest feasible level. If engineering controls can not reduce exposures below the PEL, supplement controls with appropriate respiratory protection.
 - f. Prior to the job, establish and implement a written compliance program to ensure that no employee is exposed to lead above the PEL. The program must address the specific issues outlined in Cal OSHA - CCR Title 8 § 1532.1.
 - g. Respirator use is required when:
 - Employee exposure exceeds the PEL
 - Employee requests it
 - During the initial exposure assessment
 - h. If required, implement a respiratory protection program addressing the specific elements outlined in the OSHA respiratory protection standard (CCR Subchapter 7. General Industry Safety Orders § 5144).

- i. If required, implement a medical surveillance program for employees exposed on any day to lead at or above the action level. The medical surveillance program must address the specific elements in the standard including (but not limited to):
 - Initial medical surveillance consisting of biological monitoring (blood testing) and analysis for lead and zinc protoporphyrin levels.
 - Employee notification of blood test results.
 - Medical examinations and consultation under certain circumstances.
- j. Post appropriate warning signs (as prescribed in the standard) in each regulated area or work area where an employee's exposure to lead is above the PEL.
- k. The employer must establish and maintain an accurate record of:
 - Exposure assessment data
 - Medical surveillance data
 - Observation procedures
- l. Contractors/Employers whose employees disturbs more than 100 sq ft of lead-based paint (LBP) are required to submit written notification to Cal OSHA (per Health and Safety Code, Title 17 CCR Section 36000 (c)). The Cal OSHA LBP notification rule under requires 24-hour advance notice prior to LBP disturbance.

3.3 SITE PROTECTIVE CONTROLS

- A. Where containment is required to prevent migration of lead paint contaminants to another property, containment barriers shall be at least as effective at protecting human health and the environment as those contained in HUD's Guideline for the Evaluation and Control of Lead-Based Paint Hazards in Housing and Lead Paint Removal Guide published by the Steel Structure Painting Council.
- C. General Dust Controls: Implement engineering controls as necessary to reduce airborne exposures to lead to the greatest extent possible. Engineering controls shall include but not necessarily be limited to:
 - 1. Misting of the work area as necessary to eliminate visible emissions beyond the regulated area during active demolition.
 - 2. Collect all lead debris and lead contaminated waste for proper waste profiling, packaging, labeling, and disposal.
 - 3. Power tools used for lead-paint removal (if performed) shall be equipped with attached HEPA vacuums to collect lead dust emissions generated by the power tool(s).
 - 4. Install worker decontamination facilities immediately adjacent to the work area entry/exit.
 - 5. If any of the containment systems are damaged in any way, repairs will be made immediately.

3.4 METHODS OF COMPLIANCE

- A. The following work practices shall be used to reduce employee and environmental exposure during any/all work where exposure to lead could potentially exceed Cal OSHA's action level:

- 1) Wet removal of lead-containing materials.
- 2) Routine clean-up of loose lead containing debris.
- 3) Use of vacuum cleaners and Local exhaust ventilation machines equipped with high efficiency particulate air (HEPA) filters.
- 4) A containment system to control disbursement of leaded dust and debris.

3.5 CONTAMINATION

Should lead be detected outside of the regulated work area at or above 30 mg/m³ or in excess of baseline air sample or dust wipe levels, the area will be considered contaminated. The areas outside the work area will be HEPA vacuumed and wet wiped with a trisodium phosphate solution until clearance or baseline levels are achieved.

3.6 PERSONNEL AND EQUIPMENT DECONTAMINATION PROCEDURES

- A. When exiting the lead regulated work area, workers will remove gross contamination with a HEPA vacuum and dispose of work garments in a provided waste container dedicated for the disposal of lead-contaminated items. Workers will then proceed to a decontamination station equipped, at a minimum with running water, soap and disposable towels will be provided. All personnel exposed or potentially exposed to lead will be required to use the wash station at the beginning of each break, before lunch, and at the end of each shift to clean hands and face.
- B. All tools, equipment, and non-disposable items used inside the work area shall be completely decontaminated before removal from the regulated area. Decontamination shall be accomplished by HEPA vacuum (when possible) and wet wiping with a mild detergent and water solution.
- C. 3-Stage Decontamination Facility shall be provided IF workers are shown to be exposed at levels exceeding the permissible exposure limit (PEL).
 1. A 3-stage decontamination facility equipped with a shower unit (equipped with hot and cold running water) shall be constructed for any/all work where lead exposures are expected to exceed the PEL.
 2. The decontamination facility and decontamination procedures may be down-graded to a hand wash facility once (if) personal air monitoring data show all work activities generate lead exposures below the PEL.
 3. Worker decontamination station shall be provided at all locations where worker enter or exit the work area. The decon station shall be placed at the most strategic location to allow easy worker access
 - a. The 3-stage decontamination facility shall consist of the following
 - Clean Room: The clean room will be sized to accommodate the size of the work crew. If lockers are not available storage of the workers personal equipment and street clothing, the contractor may use plastic bags. The contractor must keep the change area clean and dry. Do not allow shower overflow water in the change room. Damp wipe all surfaces twice after each shift with a disinfectant.
 - Shower Room: The shower room shall be constructed with a minimum of a single shower or what ever is adequate for the size of the work crew. Each shower

head shall be supplied with hot and cold water. The shower shall be constructed to prevent leakage.

- Install a totally submersible waterproof sump pump with a integral float switch inside the collection water pan. Provide sump pump size to pump twice the flow capacity of all showers or hoses supplying the water to the sump. Install a sump capable of pumping debris, sand, plaster or other materials which may wash off during decontamination procedures.
 - The contractor must install a filtering system for removing contaminants from the drained water. The system must have as a two stage cascading filtering system capable of filtering down to **5 µm or smaller**. Filtered water may then be disposed of into the sanitary sewer.
 - The contractor shall maintain a supply of filters for the filtering system. The filters will be changed as often as needed to prevent the system from clogging.
- Equipment/Dirty Room: The equipment room will be used for storage of tools and equipment. Workers will remove dirty protective clothing in this space.
4. Each room of the decontamination unit will shall be constructed of materials that are leak-tight and air-tight. Each room shall be connected in succession separated by 6 mil polyethylene air locks. Access between any two rooms in the decontamination unit will be through air locks with at least 3 feet separating each curtained door way.
 5. Require all workers to adhere to the following personal decontamination procedures whenever they leave the work area. Upon entering the asbestos abatement project, **remove street cloths** in the clean change room and put on a respirator and clean protective clothing before entering the equipment room or work area. Before exiting the work area, the following procedures are required;
 - a. Remove gross contamination from clothing with a HEPA vacuum.
 - b. Proceed to the equipment room and remove all clothing except the respirator.
 - c. Deposit contaminated clothing in labeled disposal container.
 - d. Still wearing the respirator, proceed to the shower and clean the outside of the respirator with soap and water while showering.
 - e. Remove respirator.
 - f. Thoroughly wash and shampoo hair and body.
 - g. Remove filters from respirator, if breathing has becomes restricted or as often as the user feels is needful. Dispose of the filter elements in the container supplied for this purpose.
 - h. Wash and rinse the inside of the respirator.
 - i. Following showering and drying off, proceed directly to the clean change room and put on street cloths

- j. Contaminated footwear shall be stored in the equipment room or disposed of as contaminated waste or cleaned thoroughly inside and out using soap and water before removing from the shower area.

3.7 DAILY AND FINAL CLEANING OF LEAD WORK AREAS

- A. Contractor shall ensure that lead work areas undergo daily and final cleaning.
- B. Contractor shall conduct work area cleaning as follows:
 - 1. Work area cleaning shall begin with a thorough HEPA vacuuming of all surfaces, starting at the ceilings, proceeding down the walls and including window, doors and door trim and floor. The floor shall be vacuumed last, beginning at the farthest corners from the entrance to the work area.
 - 2. Contractor shall next wash or mop the same surfaces with a tri- sodium phosphate (TSP) detergent solution (five percent) or other equally effective cleaning agent and allow surfaces to dry.
 - 3. After TSP wash and dry cycle, HEPA vacuuming shall again be performed as noted above

3.8 PROJECT CLEARANCE

- A. The project shall not be deemed complete until the Contractor performs a final cleaning of the work area(s). Completion of the project will be determined by the Owner's representative during a visual inspection of the work area(s).
- B. Completion of the project may also be determined by the results of post clean dust and/or soil samples. At the Owners option, final wet wipe and/or soil samples may be collected and analyzed for lead content to establish conformity to clearance criteria. To be deemed acceptable, wipe samples must pass the clearance standards established by the U.S. EPA and CDPH.
- C. Should Contractor fail a visual inspection or fail to pass the testing criteria, Contractor shall reclean areas as directed by the Owner's representative. Contractor shall perform all recleaning at Contractors own expense.

3.9 WASTE CHARACTERIZATION, DISPOSAL AND MANIFESTING PROCEOURES

- A. All lead and lead-contaminated debris shall be collected and kept separate from all/any non-lead waste. Laboratory costs associated with analyses required for disposal, will be at the Contractor's expense. Lead-waste streams shall be tested to characterize hazard levels as follows:

Test 1 - California : SW846, Total Threshold Limit Concentration (TTLC)

If: TTLC is less than 50 mg/kg STOP testing - classify as non-hazardous waste.

If: TTLC is greater than 50 mg/kg but less than 1000 mg/kg perform test 2 to determine Cal-Haz status.

Test 2 - California : Waste Extraction Test (WET), Soluble Threshold Limit Concentration (STLC)

If: STLC is less than 5 mg/l - classify as a Non Hazardous Waste.

If: STLC is greater than 5 mg/l AND TTLC is greater than 100 – perform test 3 to determine RCRA requirements - classify as a California Hazardous Waste or RCRA Waste (pending TCLP)

Test 3 - Federal : Soluble Threshold Limit Concentration (TCLP)

If: TCLP is less than 5 mg/l - classify as non-RCRA waste.

If: TCLP is greater than 5 mg/l - classify as RCRA waste, stabilize waste.

- B. The contractor shall be responsible for the proper storage, packaging, labeling, manifesting, transportation, and disposal of lead containing and lead hazardous materials.
- C. Packing, labeling, transporting, and disposing of hazardous waste shall comply with Cal-EPA regulations under 22 CCR, including completion of the Uniform Hazardous Waste Manifest Form (OTSC 8022A and EPA 8700-22).
- D. Segregate, containerize, and characterize construction debris including rags, protective coveralls, polyethylene sheeting, and other consumable items. Waste will be packaged in accordance with the applicable U.S. Department of Transportation regulations included in 49 CFR Parts 173, 178, and 179.
- E. A "Waste Manifest" will be completed for disposal of hazardous waste. The Hazardous waste transporter will possess a valid EPA Transporter ID number. The Contractor's Supervisor will notify the Owner's Inspector at least 48 hours before the time that the Manifest is required to be signed by the Owner.
- F. Warning labels will be affixed to all waste containers that contain lead wastes in concentrations considered hazardous. The labels will conform to RCRA, DOT, and DTSC guidelines.
- G. Any lead contaminated water generated during the work for decontamination purposes will be filtered to 5 µm and drummed. If TTLC/STLC testing can prove that the water is non-hazardous, it will be discharged into the sanitary sewer system (pending approval from the local PUC). If the water is shown as hazardous per TTLC/STLC testing, it will be disposed as such.

PART 3 - DEFINITIONS

- A. Aerosol: A system consisting of particles, solid or liquid, suspended in air.
- B. Air Monitoring: The process of measuring the lead content of a specific volume of air.
- C. AL: Action level - employee exposure, without regard to the use of respirators, to an airborne concentration of lead of 30 micrograms per cubic meter of air (30 µg/m³) calculated as an 8-hour time-weighted average (TWA).

- D. Authorized Visitor: The Owner, Owner's Representative, testing lab personnel, emergency personnel or a representative of any federal, state, and local regulatory or other agency having authority over the project.
- E. Barrier: Impermeable membrane (e.g. Plastic) that captures, hold, or otherwise contains and inhibit the movement of dust.
- F. Blood Lead Monitoring: Each worker potentially exposed to hazardous levels of lead must routinely give a blood sample which is to be tested for lead.
- G. Breathing Zone: A hemisphere forward of the shoulders with a radius of approximately 6 to 9 inches.
- H. CDPH: California Department of Public Health previously known as California Department of Health Services (DHS).
- I. Ceiling Concentration: The concentration of an airborne substance that shall not be exceeded.
- J. Certified Industrial Hygienist (C.I.H.): An industrial hygienist certified in Comprehensive Practice by the American Board of Industrial Hygiene.
- K. Daily and Final Clean up: Process includes thorough HEPA vacuuming of all surfaces next wash or mop the same surfaces with a tri- sodium phosphate (TSP) detergent solution (five percent) or other equally effective cleaning agent and allow surfaces to dry. Then a second HEPA Vacuuming.
- L. Demolition: The wrecking or taking out of any building component, system, finish or assembly of a facility together with any related handling operations.
- M. Disposal Bag: A properly labeled leak-tight, 6-mil thick leak-tight plastic bag used for transporting lead waste from work area to disposal site.
- N. DHS: California Department of Health Services – now known as California Department of Public Health (CDPH).
- O. EBL: Elevated Blood-lead Level. For adult workers, OSHA set 40 micrograms of lead per deciliter of blood, and NIOSH set 25 micrograms per deciliter.
- P. Final Clean up: A minimum of a HEPA-vacuuming, wet wiping and a second HEPA-vacuuming is required. This procedure is repeated until area passes final inspection.
- Q. Final Inspection: After the final clean up is complete, the final inspection takes place which consists of the post-construction visual inspection.
- R. HEPA Filter: A High Efficiency Particulate Air (HEPA) filter capable of trapping and retaining 99.97% of airborne material greater than 0.3 microns in diameter.
- S. HEPA Filter Vacuum Collection Equipment (or Vacuum cleaner): High efficiency particulate air filtered vacuum collection equipment with a filter system capable of collecting and retaining lead dust. Filters should be 99.97% efficient for retaining particles greater than 0.3 microns in diameter.
- T. High-efficiency particulate air filter: (HEPA) refers to a filtering system capable of trapping and retaining 99.9% of all monodispersed particles 0.3 microns in diameter or larger.

- U. HUD: U. S. Department of Housing and Urban Development. Responsible for the Lead-Based Paint Guidelines for the Public and Indian Housing Authorities.
- V. LBP: Lead-Based Paint. Coating containing lead in concentrations at or above 1 milligrams of lead per square centimeter (mg/cm^2), 5000 ppm, or ,5% weight percent.
- W. LCP: Lead-Containing Paint. Coating containing detectable amounts of lead on concentrations below 1 milligrams of lead per square centimeter (mg/cm^2), 5000 ppm, or ,5% weight percent.
- X. Lead: metallic lead, all inorganic lead compounds, and organic lead soaps. Excluded from this definition are all other organic lead compounds.
- Y. Medical Removal: An employee must be removed from any job with lead exposure. When the employees blood level levels reach certain regulator levels prescribed by Cal OSHA.
- Z. Micrograms: Is one millionth of a gram. This is used for reporting lead concentrations in wipe samples (micrograms per square foot) and blood level (micrograms per deciliter).
- AA. Negative Pressure Respirator: A respirator in which the air pressure inside the respiratory-inlet covering is positive during exhalation in relation to the air pressure of the outside atmosphere and negative during inhalation in relation to the air pressure of the outside atmosphere.
- BB. Negative Pressure Ventilation System: A differential and ventilation system used to reduce atmospheric pressure within the work area relative to areas outside the work area.
- CC. NIOSH: National Institute of Occupational Safety and Health (NIOSH), U.S. Department of Health and Human Services or designee.
- DD. Owner's Representative: The Owner's Representative will represent the Owner during construction. The Owner's Representative will advise and consult with the Owner. The owner's instructors to the Contractor will be forwarded through the Owner's Representative.
- EE. PEL: Permissible exposure limit - employee exposure, without regard to the use of respirators, to an airborne concentration of lead of 30 micrograms per cubic meter of air ($50 \text{ mg}/\text{m}^3$) calculated as an 8-hour time-weighted average (TWA).
- FF. Personal Monitoring: Sampling of the lead concentrations within the breathing zone of an employee.
- GG. Post-construction Visual Inspection: Inspector insures that lead-related construction work has been completed.
- HH. Protection Factor: The ratio of the ambient concentration of an airborne substance tot he concentration of the substance inside the respirator at the breathing zone of the wearer. The protection factor is a measure of the degree of protection provided by a respirator to the wearer.
- II. Respirator: A device designed to protect the wearer form the inhalation of harmful atmospheres.
- JJ. Supervisor: one who is capable of identifying existing and predictable lead hazards in the surroundings or working conditions and who has authorization to take prompt corrective

measures to eliminate them. Supervisors shall be trained, as required by Cal OSHA, and, when required, be CDPH certified.

KK. Time Weighted Average (TWA): The average concentration of a contaminant air during a specific time period.

LL. TSP: Trisodium Phosphate. Contractor may elect to use an equivalent Detergent.

MM. Visible Emissions: Any emissions containing particulate material that are visually detectable with the aid of instruments. This does not include condensed uncombined water vapor.

NN. Wet Cleaning: The process of reducing lead dust contamination from building surfaces and objects by using cloths, mops, or other cleaning utensils which have been dampened with water in a minimum of 5% TSP solution (or equivalent detergent). Wash water should be changed frequently. Dry sweeping is prohibited. Dispose of all cleaning materials in an appropriate manner.

OO. Wipe Sample: A commercial wipe pre-moistened with a non-alcohol wetting agent is used to clean a set surface area, usually one square foot, to test for lead. These are taken mostly during the Pilot Project and during the Final Inspection.

PP. Work Area: The area where lead-related activities are performed which is defined and/or isolated to prevent the spread of lead dust or debris, and entry by unauthorized personnel.



APPENDIX 2

ASBESTOS & LEAD (PB) REPORT

LIMITED PRE-DEMOLITION/RENOVATION SURVEY & EVALUATION

DATE:	April 1, 2019	PROJECT NO.:	212-MA19
REQUESTED BY: (CLIENT)	South San Francisco USD 398 B Street South San Francisco, CA. 94080		
PROJECT:	Martin Elementary School 35 School Street South San Francisco, CA.		
PROJECT DESCRIPTION:	Public School		
SERVICES AREA(S):	Asbestos and Lead Inspection of Materials associated with: 022619 HazMat for Martin Elementary School Modernization project information.		

On March 25, 2019, **ProTech Consulting & Engineering, Inc.** performed a building survey to identify asbestos-containing materials (ACM) and presence of Lead based paint (Pb) at the subject project. The survey was conducted in an effort to comply with pre-demolition/renovation regulatory requirements.

Environmental consulting services were conducted by ProTech's licensed and accredited staff as follows:

CONSULTANT	DISCIPLINE	ISSUING AGENCY	CERTIFICATION NO.
Ron Mason	Asbestos Lead IAQ	Cal OSHA CDPH EAA	96-1903 198 1-10-03
Emanuel Dounias	Asbestos Lead	Cal OSHA CDPH	00-2766 13059
Bob Newman	Asbestos IAQ	Cal OSHA UC Berkley	00-2767 10-03
Ryan Cozart	Asbestos Lead	Cal OSHA CDPH	10-4634 26433

SERVICES REQUESTED BY CLIENT

Asbestos Survey

Consulting services were limited by the client to the following scope of services:

- Performed a visual survey of the project to identify, document, and assess suspect asbestos-containing materials (ACM).

- Collected representative samples to confirm or rebut the presence of ACM.
- Submitted necessary samples to a certified laboratory for analysis by standard polarized light microscopy (PLM) to determine asbestos content.
- Assess the friability and abatement classification of identified ACM;
- Prepared this written report presenting an evaluation and assessment of the data.

ProTech is only responsible for the specific scope of work as stated. No other services are intended or implied.

LBP Survey

- Performed a visual survey of the project to identify, document, and assess suspect lead-based paint (LBP).
- Tested painted/coated surfaces using a calibrated X-ray fluorescence analyzer (XRF).
- Collected representative confirmational paint chip samples to confirm or rebut the presence of lead. Submitted paint chip samples to a certified laboratory for analysis.
- Prepared this written report presenting an evaluation and assessment of the data.

RESULTS & REGULATORY ASSESSMENT

Asbestos types are abbreviated as follows: Chr = Chrysotile; Amo = Amosite; Cro = Crocidolite; Tre = Tremolite; Act = Actinolite.

<i>Asbestos-Containing Materials (ACM)</i>							
MATERIAL DESCRIPTION		MATERIAL, SYSTEM, LOCATION	SMPL NOS.	APPROX. QUANT.	LAB RESULT	REGULATORY ASSESSMENT	
						CAL OSHA	EPA/AQMD
Bldg. A (Rooms 15-22)							
1	White smooth drywall, joint tape and compound	Partial walls in custodial closet, around classroom doors, wall adjacent furnace in room 21	01, 02*, 03*	2500 sq ft.	None detected to <1% Chr	Class II Abatement	Non-friable
2	White smooth drywall	Restroom walls and ceiling in art therapy room	20	600 sq ft.	<1% Chr	Class II Abatement	Non-friable
Bldg. B (rooms 1-4)							
1	Black mastic below NON ACM Tan 12 x 12 vinyl floor tile	Observed in rooms 1 & 2 below sinks (may be present below all wood cabinetry)	13	10 sq ft observed	2% Chr	Class II Abatement	Non-friable

* No asbestos detected in sample

<i>Non-Asbestos Materials</i>		
No asbestos was detected in the following materials.		
MATERIAL DESCRIPTION	MATERIAL LOCATION(S)	SAMPLE NUMBERS
Bldg. A (Rooms 15-22)		
1 Tan 12 x 12 vinyl floor tile with yellow mastic	Rooms 15, 16, 17, 18, 29, 22	04, 05, 06, 07, 08
2 Blue 12 x 12 vinyl floor tile with mastic	Room 19, art therapy, room 16 mixed with carpet	09, 10, 11
3 Blue 2 layers of 12 x 12 vinyl floor tile with yellow mastic	Custodial closet	12
4 White stair tread with mastic	Hallway stairs	14, 15, 16
5 Tan baseboard mastic	Throughout	17, 18, 19
Bldg. B (rooms 1-4)		
1 Smooth drywall, joint tape and compound	Walls for mechanical closets	01, 02, 03
2 Tan and brown baseboard mastic	Mixed throughout	04, 05
3 Yellow carpet mastic with gray leveling compound	Below all carpet	06, 07, 08, 09
4 Blue 12 x 12 vinyl floor tile with yellow mastic	Room entries, sink areas and storage room between rooms 1 & 2	10, 11, 12
5 Gray ceramic tile mortar	Rooms 1 & 2 restroom floors	14
6 Gray concrete below ceramic tile mortar	Rooms 1 & 2 restroom floors	15
7 Gray concrete below ceramic tile mortar	Entry door thresholds for all rooms	16, 17

8	Yellow splash panel and mastic	Rooms 1 & 2 restroom walls	18
9	Gray sink under coating	Sinks in rooms 3 & 4 only	19
10	Gray exterior window glazing	All windows	20, 21, 22
11	Gray rough opening caulking	Around entry doors	23, 24
Bldg. C			
1	Smooth drywall, joint tape and compound	Walls for mechanical closets	01, 02, 03
2	Blue 12 x 12 vinyl floor tile with yellow mastic	Entries and sink areas in all rooms	04, 05, 06
3	Yellow carpet mastic	Below all carpet	07, 08, 09
4	Tan baseboard mastic	Throughout all rooms	10, 11, 12
5	Gray concrete	Thresholds for west entry doors	13, 14
6	Exterior window glazing	All windows	15, 16, 17
Bldg. D & F			
1	Smooth drywall, joint tape and compound	Dividing wall in rooms 14, walls for mechanical closets in rooms F13 & 14	01, 02, 03
2	Blue 12 x 12 vinyl floor tile and mastic and residual mastic	Adjacent entry doors to D-12	04
3	Gray 12 x 12 vinyl floor tile with yellow mastic	Rooms F13 & 14 mixed with carpet	05, 06
4	Yellow carpet mastic with residual black mastic	D12 below carpet	07
5	Yellow carpet mastic	Below carpets in rooms F13 & 14	08, 09
6	Tan baseboard mastic	Throughout	10, 11
7	Gray sink under coating	Sinks in D12 and F13	12, 13, 14
8	Gray exterior window glazing	All windows	15, 16, 17
Bldg. E			
1	Smooth drywall, joint tape and compound	Build out walls in principals office, perimeter wall in nurses office	01, 02, 03
2	Blue 12 x 12 vinyl floor tile and mastic and residual mastic	Throughout mixed with carpet	04, 05, 06
3	Tan sheet flooring with mastic	Restroom by nurses office	07
4	Yellow carpet mastic	Below all carpets	08, 09
5	Tan baseboard mastic	Throughout	10, 11
6	Gray epoxy flooring	Exterior staff restroom floors	12
7	White ceramic tile mortar	Exterior staff restroom wall	13
8	White plaster	Walls and ceilings in storage	14
9	Gray exterior window glazing	All windows	15, 16

ACM Note: Confirmation of <1% PLM Results

Materials (listed in the ACM table) reported as <1% asbestos have NOT been subjected to confirmational analysis (by PLM point-count or other) analysis to confirm. Confirmational analysis is required to handle/treat these materials as <1% asbestos. Confirmation is required because the standard PLM analysis is not sensitive enough to accurately determine asbestos content at or below 1%.

In certain situations, there may be an economic advantage to confirming that a material contains less than 1% asbestos. ProTech will consult with the client and at client's request, will evaluate the benefits and costs associated with confirmation sampling.

Samples are discarded after 30 days. If point count analysis is requested after sample disposal, additional samples will need to be collected at additional cost.

ACM Note: Conflicting Laboratory Results

The EPA has a specific protocol for sampling suspect asbestos building materials. In general, it recommends collecting multiple samples (often a minimum of three) of each suspect asbestos material. Multiple samples are recommended by the EPA to increase the statistical reliability of the results and to minimize the potential for field or laboratory error.

Sometimes, multiple samples representing a particular material will yield both positive and negative results. When this happens, the negative sample result(s) are superseded by the positive results. Once a single positive sample is identified, the material represented by the sampling is treated as an asbestos-containing material.

However, if additional sampling data, as-built plans, or other reliable data can adequately explain or confirm that area(s) that tested positive are different (not homogeneous) from areas that tested negative, this information can be used to more accurately quantify ACM and define the scope of an asbestos abatement job.

LEAD

Painted/coated surfaces were tested in the field using an X-Ray fluorescence (XRF) spectrum analyzer and/or sampled (paint chips) and submitted to a certified laboratory for analysis by atomic absorption spectroscopy (AAS). Lead paint samples fell in to 1 of 3 types - as follows:

Types of Lead Materials		
LEAD TYPES	DEFINITION	LEAD CONTENT STANDARD
LBP	Lead-based paint (or material)	By XRF: 1 mg/cm ² or greater By Paint Chip: 0.5 weight % or 5,000 mg/kg (at or above)
LCM	Lead containing material (or paint)	By XRF: <1 mg/cm ² By Paint Chip: Below 0.5 wt % of 5,000 mg/kg
ND	No lead detected	By XRF: Requires paint chip confirmation By Paint Chip: No lead Detected or <0.006 wt %

Lead Based Paint/Coating Components by XRF and Paint Chip

Component	General location
Ceramic wall tiles	Bldg. E staff restrooms
Ceramic baseboards	Bldg. B Kindergarten restrooms
Wood and metal window components	All buildings

Lead-Based Paint (LBP) – By XRF

XRF READINGS	• 12 (Twelve) XRF readings tested positive for lead-based paint/coating (see XRF report).
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Lead-Containing Material (LCM) – By XRF

XRF READINGS	• 8 (Eight) XRF readings tested positive for low levels of lead (see XRF) report.
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Non-Lead – By XRF

XRF READINGS	• 111 (one-hundred eleven) XRF readings tested negative (no lead detected) for the presence of lead (see XRF report). (Note: Cal OSHA does not accept XRF to prove “non-lead” – paint-chip lab analysis is required)
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ASBESTOS REGULATORY NOTES

Cal OSHA (DOSH)

Asbestos-Containing Material (ACM): A material is an asbestos containing material (ACM) when the sample aggregate or any one of its layers (analyzed individually) contains greater than 1% asbestos. Cal OSHA does **not** allow composite analysis (mixing layers of materials together).

Less than 1% Asbestos: Materials containing less than 1% asbestos are not regulated by most governmental agencies. However, Cal OSHA is not one of those agencies. The Cal OSHA asbestos standard must be followed for work involving materials that contain a concentration of asbestos as low as **0.1%**.

If a material can be shown to contain less than 1% asbestos by PLM point count (or other approved method), it can be treated as an asbestos-containing construction material (ACCM). ACCM is a term Cal OSHA uses to describe materials containing **less than 1%** (but greater than 0.1%) asbestos. In certain situations, there may be some economic advantages to making this characterization. The decision to do so is evaluated on a case-by-case basis at the client's request.

Less than 0.1% Asbestos: If a material can be shown to contain less than **0.1%** asbestos by an approved method, it can be treated as a non-asbestos material. In certain situations, there may be some economic advantages to making this characterization. The decision to do so is evaluated on a case-by-case basis at the client's request.

Class I Asbestos Work: Cal OSHA prescribes specific work practices involving the removal of asbestos-containing insulation and surfacing (i.e. sprayed-on) materials.

Class II Asbestos Work: Cal OSHA prescribes specific work practices involving the removal of ACM which is not insulation or surfacing material. This includes, but is not limited to, the removal of asbestos-containing wallboard, floor tile and sheeting, roofing, cement products, and construction mastics.

EPA/AQMD

Asbestos-Containing Material (ACM): Any building material which contains commercial asbestos in an amount greater than 1%.

Less than 1% Asbestos: Materials that are found to contain less than 1% asbestos by standard polarized light microscopy (PLM) may be considered non-asbestos (by EPA/AQMD) if confirmation analysis is performed. To be treated as a non-asbestos material, the EPA and AQMD require analytical verification by PLM Point Count (or better). This verification is required because the standard PLM analysis is not sensitive enough to accurately determine asbestos content at or below 1%. In certain situations, there may be some cost advantages to making this characterization. The decision to do so is evaluated on a case-by-case basis at the client's request.

Regulated Asbestos-Containing Material (RACM): RACM includes friable (easily crumbled) ACM, or Category I nonfriable ACM that has or will become friable or that has been subjected to sanding, drilling, grinding, cutting, or abrading, or Category II nonfriable ACM that may become or has become crumbled, pulverized, or reduced to powder.

Friable: Materials that can be crumbled, pulverized, or reduced to powder, when dry, by hand pressure.

Non-Friable: Materials that **cannot** be easily crumbled, pulverized, or reduced to powder, when dry, by hand pressure. Non-friable materials are categorized by EPA/AQMD as follows:

- Category I Nonfriable ACM: Asbestos-containing packings, gaskets, resilient floor coverings, mastics and asphalt roofing products.
- Category II Nonfriable ACM: Asbestos-containing material, excluding Category I nonfriable asbestos-containing material, that, when dry, and in its present form, cannot be crumbled, pulverized, or reduced to powder by hand pressure.

LEAD REGULATORY NOTES

Lead-Based Paint (LBP)

MATERIAL DESCRIPTION		REGULATORY ASSESSMENT GOVERNING REGULATIONS
1.	Lead-based paint components (LBP)	• Cal OSHA standards apply if LBP will be disturbed by employees/workers • CDPH standards apply if lead “abatement” is performed • DTSC requires characterization of waste and proper disposal • US EPA standards apply if LBP is disturbed in a children occupied site
2.	Lead containing materials (LCM)	• Cal OSHA standards apply if LCM will be disturbed by employees • CDPH standards apply if worker exposure standards are exceeded • DTSC requires characterization of waste and proper disposal
3.	No Lead Detected by XRF	• Cal OSHA standards apply unless paint chip laboratory analysis confirms non-lead
4.	No Lead Detected by Paint-chip	• No regulations apply

Regulatory Assessment Notes

California Occupational Safety & Health Administration (Cal OSHA):

- Regulates any detectable amount of lead (does not have to be LBP) when trigger tasks are performed
- Requires worker training
- Regulates employee safety during lead-related work
- Enforces proper work practices
- Requires notification when 100 sq ft (or more) of LBP is disturbed.

California Department of Public Health (CDPH):

- Regulates “abatement” of Lead-based paint
- Requires *accredited* training for workers and supervisors
- Provides certification of workers and supervisors performing abatement
- Mandates lead abatement be performed in accordance with US HUD guidelines
- Defines “abatement” as an action performed for the purpose and intent of reducing or eliminating a lead “hazard”
- Requires notification when abatement is performed

California Department of Toxic Substance Control (DTSC):

- Regulates disposal of lead waste
- Requires testing of waste stream to characterize hazard level

US Environmental Protection Agency (US EPA):

- Regulates Lead-based paint in child occupied facilities

- Regulates work involving the disturbance of as little as 6 sq ft of interior & 20 sq ft exterior LBP
- Requires *accredited* training for workers and supervisors
- Requires certification of companies performing LBP work
- Mandates minimal work practices

LEAD DISCUSSION

Lead-Based Paint & Lead Containing Materials

Lead-based paint (LBP) is defined as a material/coating/paint which contains a lead content at or in excess of 5,000 parts per million (PPM), 0.5% by weight, or 1 mg/cm² (by XRF). Materials containing a lead content below these levels are not considered LBP and are not considered a hazard by most regulatory agencies. However, the dust from materials containing low levels of lead can produce a lead hazard if enough lead dust accumulates.

Cal OSHA Trigger Tasks

Cal OSHA defines lead paint at the Consumer Product Safety Commission's (CPAC) level of 600 ppm for non-trigger tasks. However, Cal OSHA regulates **any detectable amount of lead** when trigger tasks are conducted.

The following table lists the Cal OSHA trigger tasks, presumed exposure and the type of respiratory protection that is required while performing those tasks:

CAL OSHA TRIGGER TASK	PRESUMED EXPOSURE	REQUIRED RESPIRATORY PROTECTION
• Manual demolition • Manual scraping and sanding • Heat gun use • Use of power tools with dust collection systems • Spray painting with lead paint • Any other activity that the employer has any reason to believe that an employee may be exposed in excess of the PEL.	50-100 µm/m ³	Half-mask, air purifying
• Using lead containing mortar • Lead burning • Rivet busting • Power tool cleaning without dust collection system • Clean-up of dry abrasive blast residue.	500-2500 µm/m ³	Full-face, air purifying, or Tight fitting PAPR, or Supplied air, contiguous flow
• Abrasive blasting • Welding • Cutting • Torch burning.	>2500 µm/m ³	Supplied air, pressure demand

SURVEY & REPORT LIMITATIONS

- Scope of work limitations were established by the Client to include items of interest and concern to the Client. *ProTech* is only responsible for the specific scope of work performed. No other services are intended or implied.

- This report has been prepared for the exclusive use of ProTech's client and is not intended for use by any other party. The scope of work and results presented in this report may not be appropriate for uses by any other party. Any use by a third party of this report shall be at their own risk and shall constitute a release and an agreement to defend and indemnify ProTech from any and all liability in connection therewith whether arising out of *ProTech's* negligence or otherwise.
- This project may contain undiscovered asbestos in areas that were not accessible or identified during ProTech's survey. Suspect asbestos may be discovered during demolition, renovation, or maintenance. If suspect asbestos is discovered, stop all work that could impact asbestos to allow properly trained personnel to perform sampling and or removal.
- This report and its evaluations/conclusions are based on the current condition of the project. This report does not assess or anticipate future events that may impact or damage asbestos materials. Future changes in the condition of asbestos materials will require a new assessment by a certified asbestos consultant/technician.
- The quantities of asbestos stated in this report are approximations. This report is not a work plan or project specification. Contractors should not rely on this document for bidding purposes.
- Reasonable efforts were made to examine below **carpeted areas and resilient floor coverings** to determine and quantify the presence of suspect asbestos materials. ProTech accepts no liability for additional materials or under-reporting of asbestos materials which exist below other floor coverings.
- **Glass fiber insulated mechanical systems** were inspected as completely as possibly without destroying the integrity of the glass fiber insulation. The condition and presence or absence of asbestos associated with mechanical systems is assumed to be consistent with those areas exposed and examined during our inspection. However, ProTech does not guarantee that this is the case.
- ProTech does not represent this **limited survey** as a comprehensive inspection or evaluation. ProTech recommends that an expanded, comprehensive asbestos survey be conducted at this site if renovation or demolition activities are expected to impact any building materials other than those specifically addressed in this report.
- Because this survey was conducted in an **occupied building**, intrusive inspection methods were limited. Specific care and caution were observed to:
 1. Avoid significant aesthetic impact to architectural finishes.
 2. Avoid disturbing tenants and patrons.
 3. Avoid disturbing tenant spaces.

SURVEY APPROACH

Inspection & Sample Collection

ProTech performed a survey of the project to identify and document accessible suspect asbestos. Identified suspect asbestos materials categorized by homogenous area and sampled. Samples were collected by misting small areas with water, then cutting or scraping the sample from the substrate with an appropriate sampling tool. Whenever possible, samples were collected from areas previously damaged or deteriorating. No building systems, components, or structures were demolished to obtain samples of potentially hidden ACM.

Each suspect bulk sample was sealed in its own Zip-lock plastic container and labeled with a unique identification number. Sampling tools were individually cleaned before and after each sample was collected to avoid sample cross contamination. Decontamination was accomplished using single-use, pre-moistened cloths.

Sample information was recorded on ProTech's chain-of-custody form. This form accompanied the samples to a laboratory possessing accreditation from the National Voluntary Laboratory Accreditation Program (NVLAP). Samples were submitted to Forensic Analytical Services, Inc. of Hayward, California.

Sample Analysis

Bulk sample analysis was conducted in accordance with the EPA interim method for determination of asbestos in bulk materials. Samples were first examined by a stereoscopic microscope for determination of homogeneity and preliminary evaluation of composition and presence of fibers. Fibers observed during this examination were then mounted in various refractive index oils and examined in polarized light. During this examination, all minerals and/or man-made materials were identified and the percentages of each were estimated and/or counted.

Evaluation of Asbestos-Containing Materials

In evaluating each asbestos material, the adhesion of the asbestos material to the underlying substrate, deterioration, and damage from vandalism or any other cause was assessed. Evidence of debris on horizontal surfaces, hanging material, dislodged chunks, scraping, indentations, cracking, etc. would be indicators of poor material condition.

Accidental or deliberate physical contact with asbestos materials can result in damage. Inspectors looked for any evidence that asbestos-containing materials had been disturbed. Indicators such as: finger marks in the material, graffiti, pieces dislodged or missing, scraping marks from movable equipment, or furniture, or an accumulation of suspect asbestos dust or debris on floors, shelves, or other horizontal surfaces indicate poor material condition.

Asbestos-containing materials may deteriorate as a result of either the quality of the installation or environmental factors which affect the cohesive strength of the asbestos-containing material or the strength of the adhesion to the substrate. Deterioration can result in an accumulation of dust on the

surface of the asbestos-containing material, delamination of the material, or an adhesive failure of the material where it pulls away from the substrate and either hangs loosely or falls to the floor and exposes the substrate. Inspectors touch the asbestos-containing material to determine if dust is released when the material is lightly brushed or rubbed.

CONCLUSIONS & RECOMMENDATIONS

Asbestos Removal

ACM should be removed prior to activity that may disturb it. Prior to ACM disturbance/removal, the following should be performed:

	Task	Task Description	Fee
1.	Prepare Project Specification	Prepare a written scope of work & instructions to bidders (site plans not included).	\$800.00 - \$1,200.00
2.	Bid Review and Contractor Selection	Select qualified contractors (prospective bidders), review bids and award contract.	\$680.00
3.	Project Monitoring & Oversight	Monitoring asbestos abatement work and document contractor compliance.	Pricing upon request
4.	Project Clearance	Perform final inspection and collect air samples to certify work area clearance.	Pricing upon request

Excluded Items

Materials or areas excluded from this inspection should be inspected and sampled if future activities will impact the excluded items. [Additional consulting services would include a more intrusive inspection methods and additional sampling](#)

LEAD

- Cal OSHA worker protection rules, CDPH certification requirements, US EPA standards, and DTSC disposal requirements need to be assessed by each contractor/employer who performs work on this project.
- Contractors, whose employees work at this site, are required to assess if their work will be subject to the requirements of the Cal OSHA lead construction standard (CCR Title 8 § 1532). Cal OSHA standards are designed to regulate and enforce on-the-job worker safety. Employers are required by law to ensure that employees are not exposed to airborne lead levels which exceed the permissible exposure limit (PEL). The standard requires worker exposure monitoring, medical surveillance, training, special work practices, etc.
- Each contractor/employer who bids and/or performs work at the site will need to assess potential lead exposure to employees performing their particular scope of work. Contractors who perform work at this site may need to obtain additional data (beyond the data presented in this report) during their assessment and Cal OSHA compliance planning. Individual contractors/sub-contractors should be allowed access to the project to obtain any needed data (samples, consultation, etc.) to complete their employee exposure assessment.

- ProTech recommends that the building owner and/or general contractor disseminate this report as well as any other lead-related information to all prospective contractors bidding work at the subject site.
- Contractors, whose employees disturbs more than 100 sq ft of lead-based paint (LBP), are required to submit written notification to Cal OSHA (per Health and Safety Code, Title 17 CCR Section 36000 (c)). The Cal OSHA LBP notification rule requires 24-hour advance notice prior to LBP disturbance.
- Any work performed at the site where LBP or LCP is likely to be disturbed should be performed by a contractor trained and qualified to perform lead-related construction work. Any work that exceeds Cal OSHA's permissible exposure limit or is performed to remediate a lead hazard must be conducted by CDPH certified personnel. All lead related work should be conducted employing lead work practices in accordance with HUD guidelines.



1208 Main Street, Redwood City, CA 94063
Phone: (650) 569-4020 Fax: (650) 569-4023
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Consulting & Engineering

Environmental Services

Page 1 of 1
Job # 212-MA19
P.O. # 0326.212.16

General Information

Date: 03.26.2019
Job ID: MARTIN E. SCHOOL
35 SCHOOL ST., SSF
BLDG. E
Collected By: RN/RC
Lab: FAS1

Analysis Requested

- ☐ PCM NIOSH 7400
☐ TEM
☐ AHERA
☐ Level 2
☐ Bulk Quantitative
☐ Bulk Qualitative
☒ PLM BULK - EPA/600/R/116
☐ Lead
☐ AA
☐ TTLC
☐ STLC
☐ TCLP
☐ Mold
☐ Other

Turn Around Time

- ☐ Rush
☐ 12 hours
☐ 24 hours
☒ 48 hours
☐ 3-5 days
☐

Special Instructions

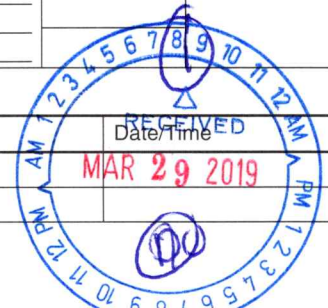
☐ Prior Positive

Filter Type: ☐ MCE, 0.8 μ m, 25mm ☐ MCE, 0.45 μ m, 25mm ☐ MCE, 0.8 μ m, 37mm ☐ Other

Sample # Date	Sample Type	Sample Protocol	Location / Activity / Material Description	Time On/Off	LPM	Total Min. Total Vol. Fibers/Fields	Results
# <u>01-03</u>	☐ Post ☐ Area ☐ Background ☐ Personal ☐ Blank ☐ Bulk	☐ Amb. ☐ ALS ☐ Agg.	<u>SRTC - SMOOTH</u>	on _____ off _____ pump# _____	on _____ end _____ Ave _____ Roto# _____		
# <u>04-06</u>	☐ Post ☐ Area ☐ Background ☐ Personal ☐ Blank ☐ Bulk	☐ Amb. ☐ ALS ☐ Agg.	<u>12X12 VFT w/ MASTIC</u>	on _____ off _____ pump# _____	on _____ end _____ Ave _____ Roto# _____		
# <u>07</u>	☐ Post ☐ Area ☐ Background ☐ Personal ☐ Blank ☐ Bulk	☐ Amb. ☐ ALS ☐ Agg.	<u>SHEETFLOORING</u>	on _____ off _____ pump# _____	on _____ end _____ Ave _____ Roto# _____		
# <u>08-09</u>	☐ Post ☐ Area ☐ Background ☐ Personal ☐ Blank ☐ Bulk	☐ Amb. ☐ ALS ☐ Agg.	<u>CARPET MASTIC</u>	on _____ off _____ pump# _____	on _____ end _____ Ave _____ Roto# _____		
# <u>10-11</u>	☐ Post ☐ Area ☐ Background ☐ Personal ☐ Blank ☐ Bulk	☐ Amb. ☐ ALS ☐ Agg.	<u>BB MASTIC</u>	on _____ off _____ pump# _____	on _____ end _____ Ave _____ Roto# _____		
# <u>12</u>	☐ Post ☐ Area ☐ Background ☐ Personal ☐ Blank ☐ Bulk	☐ Amb. ☐ ALS ☐ Agg.	<u>EPOXY FLOOR</u>	on _____ off _____ pump# _____	on _____ end _____ Ave _____ Roto# _____		
# <u>13</u>	☐ Post ☐ Area ☐ Background ☐ Personal ☐ Blank ☐ Bulk	☐ Amb. ☐ ALS ☐ Agg.	<u>MORTAR</u>	on _____ off _____ pump# _____	on _____ end _____ Ave _____ Roto# _____		
# <u>14</u>	☐ Post ☐ Area ☐ Background ☐ Personal ☐ Blank ☐ Bulk	☐ Amb. ☐ ALS ☐ Agg.	<u>PLASTER</u>	on _____ off _____ pump# _____	on _____ end _____ Ave _____ Roto# _____		
# <u>15-16</u>	☐ Post ☐ Area ☐ Background ☐ Personal ☐ Blank ☐ Bulk	☐ Amb. ☐ ALS ☐ Agg.	<u>GLAZING</u>	on _____ off _____ pump# _____	on _____ end _____ Ave _____ Roto# _____		

CHAIN OF CUSTODY

Relinquished By: _____	Date/Time: <u>03.26.2019</u>	Received By: _____	Date/Time: <u>MAR 29 2019</u>
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Bulk Asbestos Analysis

(EPA Method 40CFR, Part 763, Appendix E to Subpart E and EPA 600/R-93-116, Visual Area Estimation)
NVLAP Lab Code: 101459-0

Protech Consulting & Engineers Inc.
Project Manager

1208 Main St.
Redwood City, CA 94063

Client ID: 1454
Report Number: B275129
Date Received: 03/29/19
Date Analyzed: 04/01/19
Date Printed: 04/02/19
First Reported: 04/02/19

Job ID/Site: 212-MA19, 0326-212-16 - Martin E. School, 35 School St., SSF, Bldg. E

FALI Job ID: 1454
Total Samples Submitted: 16
Total Samples Analyzed: 16

Date(s) Collected: 03/26/2019

Sample ID	Lab Number	Asbestos Type	Percent in Layer	Asbestos Type	Percent in Layer	Asbestos Type	Percent in Layer
01	12146052						
Layer: White Drywall			ND				
Layer: White Joint Compound			ND				
Layer: White Tape			ND				
Layer: White Joint Compound			ND				
Layer: Paint			ND				
Total Composite Values of Fibrous Components:		Asbestos (ND)					
Cellulose (20 %) Fibrous Glass (10 %)							
02	12146053						
Layer: White Drywall			ND				
Layer: White Joint Compound			ND				
Layer: White Tape			ND				
Layer: White Joint Compound			ND				
Layer: Paint			ND				
Total Composite Values of Fibrous Components:		Asbestos (ND)					
Cellulose (20 %) Fibrous Glass (10 %)							
03	12146054						
Layer: White Drywall			ND				
Layer: White Joint Compound			ND				
Layer: White Tape			ND				
Layer: White Joint Compound			ND				
Layer: Paint			ND				
Total Composite Values of Fibrous Components:		Asbestos (ND)					
Cellulose (20 %) Fibrous Glass (10 %)							
04	12146055						
Layer: Blue Tile			ND				
Layer: Yellow Mastic			ND				
Total Composite Values of Fibrous Components:		Asbestos (ND)					
Cellulose (Trace)							
05	12146056						
Layer: Blue Tile			ND				
Layer: Yellow Mastic			ND				
Layer: White Skimcoat/Joint Compound			ND				
Total Composite Values of Fibrous Components:		Asbestos (ND)					
Cellulose (Trace)							

Client Name: Protech Consulting & Engineers Inc.**Report Number:** B275129**Date Printed:** 04/02/19

Sample ID	Lab Number	Asbestos Type	Percent in Layer	Asbestos Type	Percent in Layer	Asbestos Type	Percent in Layer
06	12146057						
Layer: Blue Tile			ND				
Layer: Yellow Mastic			ND				
Total Composite Values of Fibrous Components:		Asbestos (ND)					
Cellulose (Trace)							
07	12146058						
Layer: Off-White Sheet Flooring			ND				
Layer: Fibrous Backing			ND				
Layer: Black Mastic			ND				
Total Composite Values of Fibrous Components:		Asbestos (ND)					
Cellulose (20 %) Fibrous Glass (5 %) Synthetic (10 %)							
08	12146059						
Layer: Yellow Mastic			ND				
Total Composite Values of Fibrous Components:		Asbestos (ND)					
Cellulose (Trace)							
09	12146060						
Layer: Yellow Mastic			ND				
Total Composite Values of Fibrous Components:		Asbestos (ND)					
Cellulose (Trace)							
10	12146061						
Layer: Off-White Mastic			ND				
Total Composite Values of Fibrous Components:		Asbestos (ND)					
Cellulose (Trace)							
11	12146062						
Layer: Off-White Mastic			ND				
Total Composite Values of Fibrous Components:		Asbestos (ND)					
Cellulose (Trace)							
12	12146063						
Layer: Grey Cementitious Material			ND				
Layer: Paint			ND				
Total Composite Values of Fibrous Components:		Asbestos (ND)					
Cellulose (Trace)							
13	12146064						
Layer: Paint			ND				
Total Composite Values of Fibrous Components:		Asbestos (ND)					
Cellulose (Trace)							
14	12146065						
Layer: White Plaster			ND				
Layer: Paint			ND				
Total Composite Values of Fibrous Components:		Asbestos (ND)					
Cellulose (Trace)							

Client Name: Protech Consulting & Engineers Inc.

Report Number: B275129

Date Printed: 04/02/19

Sample ID	Lab Number	Asbestos Type	Percent in Layer	Asbestos Type	Percent in Layer	Asbestos Type	Percent in Layer
15	12146066						
Layer: Grey Non-Fibrous Material			ND				
Layer: Paint			ND				
Total Composite Values of Fibrous Components:		Asbestos (ND)					
Cellulose (Trace)							
16	12146067						
Layer: Grey Non-Fibrous Material			ND				
Layer: Paint			ND				
Total Composite Values of Fibrous Components:		Asbestos (ND)					
Cellulose (Trace)							



Tad Thrower, Laboratory Supervisor, Hayward Laboratory

Note: Limit of Quantification ('LOQ') = 1%. 'Trace' denotes the presence of asbestos below the LOQ. 'ND' = 'None Detected'.

Analytical results and reports are generated by Forensic Analytical Laboratories Inc. (FALI) at the request of and for the exclusive use of the person or entity (client) named on such report. Results, reports or copies of same will not be released by FALI to any third party without prior written request from client. This report applies only to the sample(s) tested. Supporting laboratory documentation is available upon request. This report must not be reproduced except in full, unless approved by FALI. The client is solely responsible for the use and interpretation of test results and reports requested from FALI. Forensic Analytical Laboratories Inc. is not able to assess the degree of hazard resulting from materials analyzed. FALI reserves the right to dispose of all samples after a period of thirty (30) days, according to all state and federal guidelines, unless otherwise specified. All samples were received in acceptable condition unless otherwise noted.

General Information

Date: 03.26.2019
Job ID: MARTIN E. SCHOOL
35 SCHOOL ST, SSF
BLDG. B
Collected By: RN/ED
Lab: FAS1

Analysis Requested

- ☐ PCM NIOSH 7400
☐ TEM
☐ AHERA
☐ Level 2
☐ Bulk Quantitative
☐ Bulk Qualitative
☒ PLM BULK - EPA/600/R/116
☐ Lead
☐ AA
☐ TTLC
☐ STLC
☐ TCLP
☐ Mold
☐ Other

Turn Around Time

- ☐ Rush
☐ 12 hours
☐ 24 hours
☒ 48 hours
☐ 3-5 days
☐

Special Instructions

☐ Prior Positive

Filter Type: ☐ MCE, 0.8 µm, 25mm ☐ MCE, 0.45µm, 25mm ☐ MCE, 0.8µm, 37mm ☐ Other

Sample # Date	Sample Type	Sample Protocol	Location / Activity / Material Description	Time On/Off	LPM	Total Min. Total Vol. Fibers/Fields	Results
# 01-03	☐ Post ☐ Area ☐ Background ☐ Personal ☐ Blank ☐ Bulk	☐ Amb. ☐ ALS ☐ Agg.	SRTE - SMOOTH	on _____ off _____ pump# _____	on _____ end _____ Ave _____ Roto# _____		
# 04-05	☐ Post ☐ Area ☐ Background ☐ Personal ☐ Blank ☐ Bulk	☐ Amb. ☐ ALS ☐ Agg.	BB MASTIC	on _____ off _____ pump# _____	on _____ end _____ Ave _____ Roto# _____		
# 06-09	☐ Post ☐ Area ☐ Background ☐ Personal ☐ Blank ☐ Bulk	☐ Amb. ☐ ALS ☐ Agg.	CARPET MASTIC	on _____ off _____ pump# _____	on _____ end _____ Ave _____ Roto# _____		
# 10-13	☐ Post ☐ Area ☐ Background ☐ Personal ☐ Blank ☐ Bulk	☐ Amb. ☐ ALS ☐ Agg.	12x12 VFT w/ MASTIC	on _____ off _____ pump# _____	on _____ end _____ Ave _____ Roto# _____		
# 14	☐ Post ☐ Area ☐ Background ☐ Personal ☐ Blank ☐ Bulk	☐ Amb. ☐ ALS ☐ Agg.	MORTAR	on _____ off _____ pump# _____	on _____ end _____ Ave _____ Roto# _____		
# 15	☐ Post ☐ Area ☐ Background ☐ Personal ☐ Blank ☐ Bulk	☐ Amb. ☐ ALS ☐ Agg.	CONCRETE	on _____ off _____ pump# _____	on _____ end _____ Ave _____ Roto# _____		
# 16-17	☐ Post ☐ Area ☐ Background ☐ Personal ☐ Blank ☐ Bulk	☐ Amb. ☐ ALS ☐ Agg.	↓ ↓	on _____ off _____ pump# _____	on _____ end _____ Ave _____ Roto# _____		
# 18	☐ Post ☐ Area ☐ Background ☐ Personal ☐ Blank ☐ Bulk	☐ Amb. ☐ ALS ☐ Agg.	SPLASH PNL. + MASTIC	on _____ off _____ pump# _____	on _____ end _____ Ave _____ Roto# _____		
# 19	☐ Post ☐ Area ☐ Background ☐ Personal ☐ Blank ☐ Bulk	☐ Amb. ☐ ALS ☐ Agg.	SINK UNDERCOATING	on _____ off _____ pump# _____	on _____ end _____ Ave _____ Roto# _____		
# 20-22	☐ Post ☐ Area ☐ Background ☐ Personal ☐ Blank ☐ Bulk	☐ Amb. ☐ ALS ☐ Agg.	GLAZING	on _____ off _____ pump# _____	on _____ end _____ Ave _____ Roto# _____		
# 23-24	☐ Post ☐ Area ☐ Background ☐ Personal ☐ Blank ☐ Bulk	☐ Amb. ☐ ALS ☐ Agg.	CAULK	on _____ off _____ pump# _____	on _____ end _____ Ave _____ Roto# _____		

CHAIN OF CUSTODY

Relinquished By: <u>[Signature]</u>	Date/Time	Received By: <u>cygm</u>	Date/Time <u>8:30 am</u>
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Bulk Asbestos Analysis

(EPA Method 40CFR, Part 763, Appendix E to Subpart E and EPA 600/R-93-116, Visual Area Estimation)
NVLAP Lab Code: 101459-0

Protech Consulting & Engineers Inc.
Project Manager

1208 Main St.
Redwood City, CA 94063

Client ID: 1454
Report Number: B275132
Date Received: 03/29/19
Date Analyzed: 04/02/19
Date Printed: 04/02/19
First Reported: 04/02/19

Job ID/Site: 212-MA19, 0326-212-24 - Martin E. School, 35 School St., SSF, Bldg. B

FALI Job ID: 1454
Total Samples Submitted: 24
Total Samples Analyzed: 24

Date(s) Collected: 03/26/2019

Sample ID	Lab Number	Asbestos Type	Percent in Layer	Asbestos Type	Percent in Layer	Asbestos Type	Percent in Layer
1	12146071						
Layer: White Drywall			ND				
Layer: White Joint Compound			ND				
Layer: White Tape			ND				
Layer: White Joint Compound			ND				
Layer: Paint			ND				
Total Composite Values of Fibrous Components:		Asbestos (ND)					
Cellulose (20 %) Fibrous Glass (10 %)							
2	12146072						
Layer: White Drywall			ND				
Layer: White Joint Compound			ND				
Layer: White Tape			ND				
Layer: White Joint Compound			ND				
Layer: Paint			ND				
Total Composite Values of Fibrous Components:		Asbestos (ND)					
Cellulose (20 %) Fibrous Glass (10 %)							
3	12146073						
Layer: White Drywall			ND				
Layer: White Joint Compound			ND				
Layer: White Tape			ND				
Layer: White Joint Compound			ND				
Layer: Paint			ND				
Total Composite Values of Fibrous Components:		Asbestos (ND)					
Cellulose (20 %) Fibrous Glass (10 %)							
4	12146074						
Layer: Tan/ Brown Mastic			ND				
Total Composite Values of Fibrous Components:		Asbestos (ND)					
Cellulose (Trace)							
5	12146075						
Layer: Tan/ Brown Mastic			ND				
Total Composite Values of Fibrous Components:		Asbestos (ND)					
Cellulose (Trace)							

Client Name: Protech Consulting & Engineers Inc.**Report Number:** B275132**Date Printed:** 04/02/19

Sample ID	Lab Number	Asbestos Type	Percent in Layer	Asbestos Type	Percent in Layer	Asbestos Type	Percent in Layer
6	12146076						
Layer: Brown Mastic			ND				
Total Composite Values of Fibrous Components:		Asbestos (ND)					
Cellulose (Trace)	Synthetic (3 %)						
7	12146077						
Layer: Brown Mastic			ND				
Total Composite Values of Fibrous Components:		Asbestos (ND)					
Cellulose (Trace)	Synthetic (3 %)						
8	12146078						
Layer: Brown Mastic			ND				
Total Composite Values of Fibrous Components:		Asbestos (ND)					
Cellulose (Trace)	Synthetic (3 %)						
9	12146079						
Layer: Brown Mastic			ND				
Total Composite Values of Fibrous Components:		Asbestos (ND)					
Cellulose (Trace)	Synthetic (3 %)						
10	12146080						
Layer: Purple Tile			ND				
Layer: Tan Mastic			ND				
Total Composite Values of Fibrous Components:		Asbestos (ND)					
Cellulose (Trace)							
11	12146081						
Layer: Purple Tile			ND				
Layer: Tan Mastic			ND				
Total Composite Values of Fibrous Components:		Asbestos (ND)					
Cellulose (Trace)							
12	12146082						
Layer: Purple Tile			ND				
Layer: Tan Mastic			ND				
Total Composite Values of Fibrous Components:		Asbestos (ND)					
Cellulose (Trace)							
13	12146083						
Layer: Off-White Tile			ND				
Layer: Black Mastic		Chrysotile	2 %				
Total Composite Values of Fibrous Components:		Asbestos (Trace)					
Cellulose (Trace)							
14	12146084						
Layer: Grey Mortar			ND				
Total Composite Values of Fibrous Components:		Asbestos (ND)					
Cellulose (Trace)							

Client Name: Protech Consulting & Engineers Inc.**Report Number:** B275132**Date Printed:** 04/02/19

Sample ID	Lab Number	Asbestos Type	Percent in Layer	Asbestos Type	Percent in Layer	Asbestos Type	Percent in Layer
15	12146085						
Layer: Grey Cementitious Material			ND				
Layer: Paint			ND				
Total Composite Values of Fibrous Components: Cellulose (Trace)		Asbestos (ND)					
16	12146086						
Layer: Grey Cementitious Material			ND				
Layer: Paint			ND				
Total Composite Values of Fibrous Components: Cellulose (Trace)		Asbestos (ND)					
17	12146087						
Layer: Grey Cementitious Material			ND				
Layer: Paint			ND				
Total Composite Values of Fibrous Components: Cellulose (Trace)		Asbestos (ND)					
18	12146088						
Layer: Tan Mastic			ND				
Layer: Tan Fibrous Material			ND				
Layer: Paint			ND				
Total Composite Values of Fibrous Components: Cellulose (90 %)		Asbestos (ND)					
19	12146089						
Layer: Grey Semi-Fibrous Coating			ND				
Total Composite Values of Fibrous Components: Cellulose (15 %)		Asbestos (ND)					
20	12146090						
Layer: Off-White Non-Fibrous Material			ND				
Total Composite Values of Fibrous Components: Cellulose (Trace)		Asbestos (ND)					
21	12146091						
Layer: Off-White Non-Fibrous Material			ND				
Total Composite Values of Fibrous Components: Cellulose (Trace)		Asbestos (ND)					
22	12146092						
Layer: Off-White Non-Fibrous Material			ND				
Total Composite Values of Fibrous Components: Cellulose (Trace)		Asbestos (ND)					
23	12146093						
Layer: White Non-Fibrous Material			ND				
Total Composite Values of Fibrous Components:		Asbestos (ND)					

Client Name: Protech Consulting & Engineers Inc.

Report Number: B275132

Date Printed: 04/02/19

Sample ID	Lab Number	Asbestos Type	Percent in Layer	Asbestos Type	Percent in Layer	Asbestos Type	Percent in Layer
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24	12146094						
Layer: White Non-Fibrous Material			ND				

Total Composite Values of Fibrous Components: **Asbestos (ND)**



Tad Thrower, Laboratory Supervisor, Hayward Laboratory

Note: Limit of Quantification ('LOQ') = 1%. 'Trace' denotes the presence of asbestos below the LOQ. 'ND' = 'None Detected'.

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Phone: (650) 569-4020 Fax: (650) 569-4023
info@protech-cal.com

Consulting & Engineering

Environmental Services

Page 1 of 1
Job # 212.MA19
P.O. # 0326.212.19

General Information

Date: 03.26.2019
Job ID: MARTIN E. SCHOOL
35 SCHOOL ST., SSF
BLDG. A
Collected By: RN/RC
Lab: FAS1

Analysis Requested

- ☐ PCM NIOSH 7400
☐ TEM
☐ AHERA
☐ Level 2
☐ Bulk Quantitative
☐ Bulk Qualitative
☒ PLM BULK - EPA/600/R/116
☐ Lead
☐ AA
☐ TTLC
☐ STLC
☐ TCLP
☐ Mold
☐ Other _____

Turn Around Time

- ☐ Rush
☐ 12 hours
☐ 24 hours
☒ 48 hours
☐ 3-5 days
☐ _____

Special Instructions

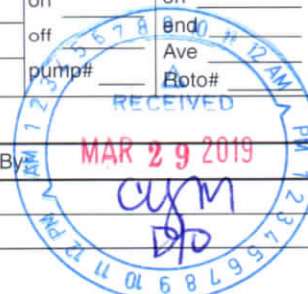
☐ Prior Positive

Filter Type: ☐ MCE, 0.8 μ m, 25mm ☐ MCE, 0.45 μ m, 25mm ☐ MCE, 0.8 μ m, 37mm ☐ Other _____

Sample # Date	Sample Type	Sample Protocol	Location / Activity / Material Description	Time On/Off	LPM	Total Min. Total Vol. Fibers/Fields	Results
# <u>01-03</u>	☐ Post ☐ Area ☐ Background ☐ Personal ☐ Blank ☐ Bulk	☐ Amb. ☐ ALS ☐ Agg.	<u>SRTC - SMOOTH</u>	on _____ off _____ pump# _____	on _____ end _____ Ave _____ Roto# _____		
# <u>04-08</u>	☐ Post ☐ Area ☐ Background ☐ Personal ☐ Blank ☐ Bulk	☐ Amb. ☐ ALS ☐ Agg.	<u>12X12 VFT w/MASTIC</u>	on _____ off _____ pump# _____	on _____ end _____ Ave _____ Roto# _____		
# <u>09-11</u>	☐ Post ☐ Area ☐ Background ☐ Personal ☐ Blank ☐ Bulk	☐ Amb. ☐ ALS ☐ Agg.	<u>↓ ↓</u>	on _____ off _____ pump# _____	on _____ end _____ Ave _____ Roto# _____		
# <u>12</u>	☐ Post ☐ Area ☐ Background ☐ Personal ☐ Blank ☐ Bulk	☐ Amb. ☐ ALS ☐ Agg.	<u>2 LAYERS OF 12X12 VFT + MASTIC</u>	on _____ off _____ pump# _____	on _____ end _____ Ave _____ Roto# _____		
# <u>13</u>	☐ Post ☐ Area ☐ Background ☐ Personal ☐ Blank ☐ Bulk	☐ Amb. ☐ ALS ☐ Agg.	<u>STAIR TREAD</u>	on _____ off _____ pump# _____	on _____ end _____ Ave _____ Roto# _____		
# <u>14-16</u>	☐ Post ☐ Area ☐ Background ☐ Personal ☐ Blank ☐ Bulk	☐ Amb. ☐ ALS ☐ Agg.	<u>MASTIC - CARPET</u>	on _____ off _____ pump# _____	on _____ end _____ Ave _____ Roto# _____		
# <u>17-19</u>	☐ Post ☐ Area ☐ Background ☐ Personal ☐ Blank ☐ Bulk	☐ Amb. ☐ ALS ☐ Agg.	<u>MASTIC - BB</u>	on _____ off _____ pump# _____	on _____ end _____ Ave _____ Roto# _____		
# <u>20</u>	☐ Post ☐ Area ☐ Background ☐ Personal ☐ Blank ☐ Bulk	☐ Amb. ☐ ALS ☐ Agg.	<u>SRTC - SMOOTH</u>	on _____ off _____ pump# _____	on _____ end _____ Ave _____ Roto# _____		
#	☐ Post ☐ Area ☐ Background ☐ Personal ☐ Blank ☐ Bulk	☐ Amb. ☐ ALS ☐ Agg.		on _____ off _____ pump# _____	on _____ end _____ Ave _____ Roto# _____		

CHAIN OF CUSTODY

Relinquished By:	Date/Time	Received By:	Date/Time
<u>[Signature]</u>	<u>03.26.2019</u>	<u>[Signature]</u>	<u>8:50</u>





Bulk Asbestos Analysis

(EPA Method 40CFR, Part 763, Appendix E to Subpart E and EPA 600/R-93-116, Visual Area Estimation)

NVLAP Lab Code: 101459-0

Protech Consulting & Engineers Inc.
Project Manager

1208 Main St.
Redwood City, CA 94063

Client ID: 1454
Report Number: B275133
Date Received: 03/29/19
Date Analyzed: 04/02/19
Date Printed: 04/02/19
First Reported: 04/02/19

Job ID/Site: 212-MA19, 0326-212-19 - Martin E. School, 35 School St., SSF, Bldg. A

FALI Job ID: 1454
Total Samples Submitted: 20
Total Samples Analyzed: 20

Date(s) Collected: 03/26/2019

Sample ID	Lab Number	Asbestos Type	Percent in Layer	Asbestos Type	Percent in Layer	Asbestos Type	Percent in Layer
01	12146095						
Layer: White Drywall			ND				
Layer: Off-White Joint Compound		Chrysotile	2 %				
Layer: Paint			ND				
Total Composite Values of Fibrous Components:		Asbestos (Trace)					
Cellulose (20 %)	Fibrous Glass (10 %)						
02	12146096						
Layer: White Drywall			ND				
Layer: White Joint Compound			ND				
Layer: White Tape			ND				
Layer: White Joint Compound			ND				
Layer: Paint			ND				
Total Composite Values of Fibrous Components:		Asbestos (ND)					
Cellulose (20 %)	Fibrous Glass (10 %)						
03	12146097						
Layer: White Drywall			ND				
Layer: White Joint Compound			ND				
Layer: White Tape			ND				
Layer: White Joint Compound			ND				
Layer: Paint			ND				
Total Composite Values of Fibrous Components:		Asbestos (ND)					
Cellulose (20 %)	Fibrous Glass (10 %)						
04	12146098						
Layer: Off-White Tile			ND				
Layer: Yellow Mastic			ND				
Total Composite Values of Fibrous Components:		Asbestos (ND)					
Cellulose (Trace)							
05	12146099						
Layer: Off-White Tile			ND				
Layer: Yellow Mastic			ND				
Total Composite Values of Fibrous Components:		Asbestos (ND)					
Cellulose (Trace)							

Client Name: Protech Consulting & Engineers Inc.**Report Number:** B275133**Date Printed:** 04/02/19

Sample ID	Lab Number	Asbestos Type	Percent in Layer	Asbestos Type	Percent in Layer	Asbestos Type	Percent in Layer
06	12146100						
Layer: Off-White Tile			ND				
Layer: Yellow Mastic			ND				
Total Composite Values of Fibrous Components:		Asbestos (ND)					
Cellulose (Trace)							
07	12146101						
Layer: Off-White Tile			ND				
Layer: Yellow Mastic			ND				
Total Composite Values of Fibrous Components:		Asbestos (ND)					
Cellulose (Trace)							
08	12146102						
Layer: Off-White Tile			ND				
Layer: Yellow Mastic			ND				
Total Composite Values of Fibrous Components:		Asbestos (ND)					
Cellulose (Trace)							
09	12146103						
Layer: Purple Tile			ND				
Layer: Yellow Mastic			ND				
Total Composite Values of Fibrous Components:		Asbestos (ND)					
Cellulose (Trace)							
10	12146104						
Layer: Purple Tile			ND				
Layer: Yellow Mastic			ND				
Total Composite Values of Fibrous Components:		Asbestos (ND)					
Cellulose (Trace)							
11	12146105						
Layer: Purple Tile			ND				
Layer: Yellow Mastic			ND				
Total Composite Values of Fibrous Components:		Asbestos (ND)					
Cellulose (Trace)							
12	12146106						
Layer: Purple Tile			ND				
Layer: Yellow Mastic			ND				
Layer: Off-White Tile			ND				
Layer: Yellow Mastic			ND				
Total Composite Values of Fibrous Components:		Asbestos (ND)					
Cellulose (Trace)							
13	12146107						
Layer: White Non-Fibrous Material			ND				
Layer: Tan Mastic			ND				
Total Composite Values of Fibrous Components:		Asbestos (ND)					

Client Name: Protech Consulting & Engineers Inc.

Report Number: B275133

Date Printed: 04/02/19

Sample ID	Lab Number	Asbestos Type	Percent in Layer	Asbestos Type	Percent in Layer	Asbestos Type	Percent in Layer
14	12146108						
Layer: Tan Mastic			ND				
Total Composite Values of Fibrous Components: Synthetic (2 %)		Asbestos (ND)					
15	12146109						
Layer: Tan Mastic			ND				
Total Composite Values of Fibrous Components: Synthetic (2 %)		Asbestos (ND)					
16	12146110						
Layer: Tan Mastic			ND				
Total Composite Values of Fibrous Components: Synthetic (2 %)		Asbestos (ND)					
17	12146111						
Layer: Tan Mastic			ND				
Total Composite Values of Fibrous Components: Cellulose (Trace)		Asbestos (ND)					
18	12146112						
Layer: Tan Mastic			ND				
Total Composite Values of Fibrous Components: Cellulose (Trace)		Asbestos (ND)					
19	12146113						
Layer: Tan Mastic			ND				
Total Composite Values of Fibrous Components: Cellulose (Trace)		Asbestos (ND)					
20	12146114						
Layer: White Drywall			ND				
Layer: Off-White Joint Compound		Chrysotile	2 %				
Layer: White Tape			ND				
Layer: Off-White Joint Compound		Chrysotile	2 %				
Layer: Paint			ND				
Total Composite Values of Fibrous Components: Cellulose (20 %) Fibrous Glass (10 %)		Asbestos (Trace)					



Tad Thrower, Laboratory Supervisor, Hayward Laboratory

Note: Limit of Quantification ('LOQ') = 1%. 'Trace' denotes the presence of asbestos below the LOQ. 'ND' = 'None Detected'.

Analytical results and reports are generated by Forensic Analytical Laboratories Inc. (FALI) at the request of and for the exclusive use of the person or entity (client) named on such report. Results, reports or copies of same will not be released by FALI to any third party without prior written request from client. This report applies only to the sample(s) tested. Supporting laboratory documentation is available upon request. This report must not be reproduced except in full, unless approved by FALI. The client is solely responsible for the use and interpretation of test results and reports requested from FALI. Forensic Analytical Laboratories Inc. is not able to assess the degree of hazard resulting from materials analyzed. FALI reserves the right to dispose of all samples after a period of thirty (30) days, according to all state and federal guidelines, unless otherwise specified. All samples were received in acceptable condition unless otherwise noted.

General Information

Date: 03.26.2019
Job ID: MARTIN E. SCHOOL
35 SCHOOL ST., SSF
BUILDINGS D & F
Collected By: RN/ED
Lab: FAS

Analysis Requested

- ☐ PCM NIOSH 7400
☐ TEM
☐ AHERA
☐ Level 2
☐ Bulk Quantitative
☐ Bulk Qualitative
☒ PLM BULK - EPA/600/R/116
☐ Lead
☐ AA
☐ TTLC
☐ STLC
☐ TCLP
☐ Mold
☐ Other

Turn Around Time

- ☐ Rush
☐ 12 hours
☐ 24 hours
☒ 48 hours
☐ 3-5 days
☐

Special Instructions

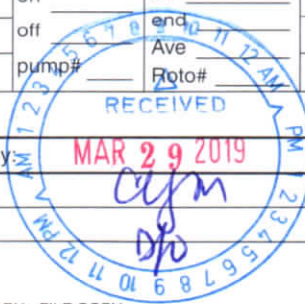
☐ Prior Positive

Filter Type: ☐ MCE, 0.8 μ m, 25mm ☐ MCE, 0.45 μ m, 25mm ☐ MCE, 0.8 μ m, 37mm ☐ Other

Sample # Date	Sample Type	Sample Protocol	Location / Activity / Material Description	Time On/Off	LPM	Total Min. Total Vol. Fibers/Fields	Results
# <u>01-03</u>	☐ Post ☐ Area ☐ Background ☐ Personal ☐ Blank ☐ Bulk	☐ Amb. ☐ ALS ☐ Agg.	<u>SRTC- SMOOTH</u>	on _____ off _____ pump# _____	on _____ end _____ Ave _____ Roto# _____		
# <u>04-06</u>	☐ Post ☐ Area ☐ Background ☐ Personal ☐ Blank ☐ Bulk	☐ Amb. ☐ ALS ☐ Agg.	<u>12X12 VFT W/ MASTIC</u>	on _____ off _____ pump# _____	on _____ end _____ Ave _____ Roto# _____		
# <u>07-09</u>	☐ Post ☐ Area ☐ Background ☐ Personal ☐ Blank ☐ Bulk	☐ Amb. ☐ ALS ☐ Agg.	<u>CARPET MASTIC</u>	on _____ off _____ pump# _____	on _____ end _____ Ave _____ Roto# _____		
# <u>10-11</u>	☐ Post ☐ Area ☐ Background ☐ Personal ☐ Blank ☐ Bulk	☐ Amb. ☐ ALS ☐ Agg.	<u>BB MASTIC</u>	on _____ off _____ pump# _____	on _____ end _____ Ave _____ Roto# _____		
# <u>12-14</u>	☐ Post ☐ Area ☐ Background ☐ Personal ☐ Blank ☐ Bulk	☐ Amb. ☐ ALS ☐ Agg.	<u>SINK UNDERLOADING</u>	on _____ off _____ pump# _____	on _____ end _____ Ave _____ Roto# _____		
# <u>15-17</u>	☐ Post ☐ Area ☐ Background ☐ Personal ☐ Blank ☐ Bulk	☐ Amb. ☐ ALS ☐ Agg.	<u>GLAZING</u>	on _____ off _____ pump# _____	on _____ end _____ Ave _____ Roto# _____		
#	☐ Post ☐ Area ☐ Background ☐ Personal ☐ Blank ☐ Bulk	☐ Amb. ☐ ALS ☐ Agg.		on _____ off _____ pump# _____	on _____ end _____ Ave _____ Roto# _____		
#	☐ Post ☐ Area ☐ Background ☐ Personal ☐ Blank ☐ Bulk	☐ Amb. ☐ ALS ☐ Agg.		on _____ off _____ pump# _____	on _____ end _____ Ave _____ Roto# _____		
#	☐ Post ☐ Area ☐ Background ☐ Personal ☐ Blank ☐ Bulk	☐ Amb. ☐ ALS ☐ Agg.		on _____ off _____ pump# _____	on _____ end _____ Ave _____ Roto# _____		

CHAIN OF CUSTODY

Relinquished By: <u>[Signature]</u>	Date/Time: <u>03.26.2019</u>	Received By: <u>[Signature]</u>	Date/Time: <u>8:30</u>
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Bulk Asbestos Analysis

(EPA Method 40CFR, Part 763, Appendix E to Subpart E and EPA 600/R-93-116, Visual Area Estimation)

NVLAP Lab Code: 101459-0

Protech Consulting & Engineers Inc.
Project Manager

1208 Main St.
Redwood City, CA 94063

Client ID: 1454
Report Number: B275134
Date Received: 03/29/19
Date Analyzed: 04/01/19
Date Printed: 04/02/19
First Reported: 04/02/19

Job ID/Site: 212-MA19, 0326-212-17 - Martin E. School, 35 School St., SSF, Bldg. D +F

FALI Job ID: 1454
Total Samples Submitted: 17
Total Samples Analyzed: 17

Date(s) Collected: 03/26/2019

Sample ID	Lab Number	Asbestos Type	Percent in Layer	Asbestos Type	Percent in Layer	Asbestos Type	Percent in Layer
01	12146119						
Layer: White Drywall			ND				
Layer: White Joint Compound			ND				
Layer: White Tape			ND				
Layer: White Joint Compound			ND				
Layer: Paint			ND				
Total Composite Values of Fibrous Components:		Asbestos (ND)					
Cellulose (20 %)	Fibrous Glass (10 %)						
02	12146120						
Layer: White Drywall			ND				
Layer: White Joint Compound			ND				
Layer: Paint			ND				
Total Composite Values of Fibrous Components:		Asbestos (ND)					
Cellulose (20 %)	Fibrous Glass (10 %)						
03	12146121						
Layer: White Drywall			ND				
Layer: White Tape			ND				
Layer: White Joint Compound			ND				
Layer: Paint			ND				
Total Composite Values of Fibrous Components:		Asbestos (ND)					
Cellulose (20 %)	Fibrous Glass (10 %)						
04	12146122						
Layer: Blue Tile			ND				
Layer: Black/Yellow Mastic			ND				
Total Composite Values of Fibrous Components:		Asbestos (ND)					
Cellulose (Trace)							
05	12146123						
Layer: Blue Tile			ND				
Layer: Yellow Mastic			ND				
Total Composite Values of Fibrous Components:		Asbestos (ND)					
Cellulose (Trace)							

Client Name: Protech Consulting & Engineers Inc.**Report Number:** B275134**Date Printed:** 04/02/19

Sample ID	Lab Number	Asbestos Type	Percent in Layer	Asbestos Type	Percent in Layer	Asbestos Type	Percent in Layer
06	12146124						
Layer: Grey Tile			ND				
Layer: Yellow Mastic			ND				
Total Composite Values of Fibrous Components: Cellulose (Trace)		Asbestos (ND)					
07	12146125						
Layer: Black Mastic			ND				
Total Composite Values of Fibrous Components: Cellulose (Trace)		Asbestos (ND)					
08	12146126						
Layer: Tan Mastic			ND				
Total Composite Values of Fibrous Components: Cellulose (Trace)		Asbestos (ND)					
09	12146127						
Layer: Tan Mastic			ND				
Total Composite Values of Fibrous Components: Cellulose (Trace)		Asbestos (ND)					
10	12146128						
Layer: Purple Non-Fibrous Material			ND				
Layer: Tan Mastic			ND				
Total Composite Values of Fibrous Components: Cellulose (Trace)		Asbestos (ND)					
11	12146129						
Layer: Tan Mastic			ND				
Total Composite Values of Fibrous Components: Cellulose (Trace)		Asbestos (ND)					
12	12146130						
Layer: Grey Semi-Fibrous Material			ND				
Total Composite Values of Fibrous Components: Cellulose (10 %)		Asbestos (ND)					
13	12146131						
Layer: Grey Semi-Fibrous Material			ND				
Total Composite Values of Fibrous Components: Cellulose (2 %)		Asbestos (ND)					
14	12146132						
Layer: Grey Semi-Fibrous Material			ND				
Total Composite Values of Fibrous Components: Cellulose (2 %)		Asbestos (ND)					
15	12146133						
Layer: Grey Non-Fibrous Material			ND				
Layer: Paint			ND				
Total Composite Values of Fibrous Components: Cellulose (Trace)		Asbestos (ND)					

Client Name: Protech Consulting & Engineers Inc.

Report Number: B275134

Date Printed: 04/02/19

Sample ID	Lab Number	Asbestos Type	Percent in Layer	Asbestos Type	Percent in Layer	Asbestos Type	Percent in Layer
16	12146134						
Layer: Grey Non-Fibrous Material			ND				
Layer: Paint			ND				
Total Composite Values of Fibrous Components:		Asbestos (ND)					
Cellulose (Trace)							
17	12146135						
Layer: Grey Non-Fibrous Material			ND				
Layer: Paint			ND				
Total Composite Values of Fibrous Components:		Asbestos (ND)					
Cellulose (Trace)							



Tad Thrower, Laboratory Supervisor, Hayward Laboratory

Note: Limit of Quantification ('LOQ') = 1%. 'Trace' denotes the presence of asbestos below the LOQ. 'ND' = 'None Detected'.

Analytical results and reports are generated by Forensic Analytical Laboratories Inc. (FALI) at the request of and for the exclusive use of the person or entity (client) named on such report. Results, reports or copies of same will not be released by FALI to any third party without prior written request from client. This report applies only to the sample(s) tested. Supporting laboratory documentation is available upon request. This report must not be reproduced except in full, unless approved by FALI. The client is solely responsible for the use and interpretation of test results and reports requested from FALI. Forensic Analytical Laboratories Inc. is not able to assess the degree of hazard resulting from materials analyzed. FALI reserves the right to dispose of all samples after a period of thirty (30) days, according to all state and federal guidelines, unless otherwise specified. All samples were received in acceptable condition unless otherwise noted.

General Information

Date: 03.26.2019
Job ID: MARTIN E. SCHOOL
35 SCHOOL ST., SSF
BLOG. C
Collected By: RN/RC
Lab: FAS1

Analysis Requested

- ☐ PCM NIOSH 7400
☐ TEM
☐ AHERA
☐ Level 2
☐ Bulk Quantitative
☐ Bulk Qualitative
☐ PLM BULK - EPA/600/R/116
☐ Lead
☐ AA
☐ TTLC
☐ STLC
☐ TCLP
☐ Mold
☐ Other

Turn Around Time

- ☐ Rush
☐ 12 hours
☐ 24 hours
☐ 48 hours
☐ 3-5 days
☐

Special Instructions

☐ Prior Positive

Filter Type: ☐ MCE, 0.8 µm, 25mm ☐ MCE, 0.45µm, 25mm ☐ MCE, 0.8µm, 37mm ☐ Other

Sample # Date	Sample Type	Sample Protocol	Location / Activity / Material Description	Time On/Off	LPM	Total Min. Total Vol. Fibers/Fields	Results
# <u>01-03</u>	☐ Post ☐ Area ☐ Background ☐ Personal ☐ Blank ☐ Bulk	☐ Amb. ☐ ALS ☐ Agg.	<u>SRTE - SMOOTH</u>	on _____ off _____ pump# _____	on _____ end _____ Ave _____ Roto# _____		
# <u>04-06</u>	☐ Post ☐ Area ☐ Background ☐ Personal ☐ Blank ☐ Bulk	☐ Amb. ☐ ALS ☐ Agg.	<u>12X12 VFT w/MASTIC</u>	on _____ off _____ pump# _____	on _____ end _____ Ave _____ Roto# _____		
# <u>07-09</u>	☐ Post ☐ Area ☐ Background ☐ Personal ☐ Blank ☐ Bulk	☐ Amb. ☐ ALS ☐ Agg.	<u>CAKRET MASTIC</u>	on _____ off _____ pump# _____	on _____ end _____ Ave _____ Roto# _____		
# <u>10-12</u>	☐ Post ☐ Area ☐ Background ☐ Personal ☐ Blank ☐ Bulk	☐ Amb. ☐ ALS ☐ Agg.	<u>BB MASTIC</u>	on _____ off _____ pump# _____	on _____ end _____ Ave _____ Roto# _____		
# <u>13-14</u>	☐ Post ☐ Area ☐ Background ☐ Personal ☐ Blank ☐ Bulk	☐ Amb. ☐ ALS ☐ Agg.	<u>CONCRETE</u>	on _____ off _____ pump# _____	on _____ end _____ Ave _____ Roto# _____		
# <u>15-16</u>	☐ Post ☐ Area ☐ Background ☐ Personal ☐ Blank ☐ Bulk	☐ Amb. ☐ ALS ☐ Agg.	<u>GLAZING</u>	on _____ off _____ pump# _____	on _____ end _____ Ave _____ Roto# _____		
#	☐ Post ☐ Area ☐ Background ☐ Personal ☐ Blank ☐ Bulk	☐ Amb. ☐ ALS ☐ Agg.		on _____ off _____ pump# _____	on _____ end _____ Ave _____ Roto# _____		
#	☐ Post ☐ Area ☐ Background ☐ Personal ☐ Blank ☐ Bulk	☐ Amb. ☐ ALS ☐ Agg.		on _____ off _____ pump# _____	on _____ end _____ Ave _____ Roto# _____		
#	☐ Post ☐ Area ☐ Background ☐ Personal ☐ Blank ☐ Bulk	☐ Amb. ☐ ALS ☐ Agg.		on _____ off _____ pump# _____	on _____ end _____ Ave _____ Roto# _____		

CHAIN OF CUSTODY

Relinquished By: <u>[Signature]</u>	Date/Time: <u>03.26.2019</u>	Received By: <u>[Signature]</u>	Date/Time: _____
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Bulk Asbestos Analysis

(EPA Method 40CFR, Part 763, Appendix E to Subpart E and EPA 600/R-93-116, Visual Area Estimation)

NVLAP Lab Code: 101459-0

Protech Consulting & Engineers Inc.
Project Manager

1208 Main St.
Redwood City, CA 94063

Client ID: 1454
Report Number: B275180
Date Received: 03/29/19
Date Analyzed: 04/01/19
Date Printed: 04/01/19
First Reported: 04/01/19

Job ID/Site: 212-MA19, 0326-212-17 - Martin E School, 35 School St., SSF, Bldg.C

FALI Job ID: 1454
Total Samples Submitted: 17
Total Samples Analyzed: 17

Date(s) Collected: 03/26/2019

Sample ID	Lab Number	Asbestos Type	Percent in Layer	Asbestos Type	Percent in Layer	Asbestos Type	Percent in Layer
1	12146471						
Layer: White Drywall			ND				
Layer: White Joint Compound			ND				
Layer: White Tape			ND				
Layer: White Joint Compound			ND				
Layer: Paint			ND				
Total Composite Values of Fibrous Components:		Asbestos (ND)					
Cellulose (20 %) Fibrous Glass (10 %)							
2	12146472						
Layer: White Drywall			ND				
Layer: White Joint Compound			ND				
Layer: White Tape			ND				
Layer: White Joint Compound			ND				
Layer: Paint			ND				
Total Composite Values of Fibrous Components:		Asbestos (ND)					
Cellulose (20 %) Fibrous Glass (10 %)							
3	12146473						
Layer: White Drywall			ND				
Layer: White Joint Compound			ND				
Layer: White Tape			ND				
Layer: White Joint Compound			ND				
Layer: Paint			ND				
Total Composite Values of Fibrous Components:		Asbestos (ND)					
Cellulose (20 %) Fibrous Glass (10 %)							
4	12146474						
Layer: Blue Tile			ND				
Layer: Yellow Mastic			ND				
Total Composite Values of Fibrous Components:		Asbestos (ND)					
Cellulose (Trace)							
5	12146475						
Layer: Blue Tile			ND				
Layer: Yellow Mastic			ND				
Total Composite Values of Fibrous Components:		Asbestos (ND)					
Cellulose (Trace)							

Client Name: Protech Consulting & Engineers Inc.**Report Number:** B275180**Date Printed:** 04/01/19

Sample ID	Lab Number	Asbestos Type	Percent in Layer	Asbestos Type	Percent in Layer	Asbestos Type	Percent in Layer
6	12146476						
Layer: Blue Tile			ND				
Layer: Yellow Mastic			ND				
Total Composite Values of Fibrous Components: Cellulose (Trace)		Asbestos (ND)					
7	12146477						
Layer: Yellow Mastic			ND				
Total Composite Values of Fibrous Components: Cellulose (Trace)		Asbestos (ND)					
8	12146478						
Layer: Yellow Mastic			ND				
Total Composite Values of Fibrous Components: Cellulose (Trace)		Asbestos (ND)					
9	12146479						
Layer: Yellow Mastic			ND				
Total Composite Values of Fibrous Components: Cellulose (Trace)		Asbestos (ND)					
10	12146480						
Layer: Yellow Mastic			ND				
Layer: Brown Mastic			ND				
Total Composite Values of Fibrous Components: Cellulose (Trace)		Asbestos (ND)					
11	12146481						
Layer: Yellow Mastic			ND				
Layer: Brown Mastic			ND				
Total Composite Values of Fibrous Components: Cellulose (Trace)		Asbestos (ND)					
12	12146482						
Layer: Yellow Mastic			ND				
Layer: Brown Mastic			ND				
Total Composite Values of Fibrous Components: Cellulose (Trace)		Asbestos (ND)					
13	12146483						
Layer: Grey Cementitious Material			ND				
Total Composite Values of Fibrous Components: Cellulose (Trace)		Asbestos (ND)					
14	12146484						
Layer: Grey Cementitious Material			ND				
Total Composite Values of Fibrous Components: Cellulose (Trace)		Asbestos (ND)					

Client Name: Protech Consulting & Engineers Inc.

Report Number: B275180

Date Printed: 04/01/19

Sample ID	Lab Number	Asbestos Type	Percent in Layer	Asbestos Type	Percent in Layer	Asbestos Type	Percent in Layer
15	12146485						
Layer: White Putty			ND				
Layer: Paint			ND				
Total Composite Values of Fibrous Components:		Asbestos (ND)					
Cellulose (Trace)							
16	12146486						
Layer: White Putty			ND				
Layer: Paint			ND				
Total Composite Values of Fibrous Components:		Asbestos (ND)					
Cellulose (Trace)							
17	12146487						
Layer: Grey Putty			ND				
Layer: Paint			ND				
Total Composite Values of Fibrous Components:		Asbestos (ND)					
Cellulose (Trace)							



Tad Thrower, Laboratory Supervisor, Hayward Laboratory

Note: Limit of Quantification ('LOQ') = 1%. 'Trace' denotes the presence of asbestos below the LOQ. 'ND' = 'None Detected'.

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LEGEND

HOW TO READ THE REPORT

Wall A, is the front wall of the building.

Walls B, C and D go clockwise around the building or room

REPORTS

Summary-- Gives only those readings at or above the action level of 1.0mg/cm².

Detailed Report—Gives all reading by room and component.

Readings are not in numerical order. This report also gives comments

PAINT CONDITION

I=Intact

F=Fair

P=Poor

Comments

There were 124 readings taken, including calibrations, using the RMD XRF instrument. 12 of the readings registered at or above the action level of 1.0mg/cm². A contractor practicing Lead Safe Practices should do any repairs or repainting of the actionable areas.

“ A copy of this summary report must be provided to new lessees and purchasers of this property under Federal Law (24 CFR part 35 and 40 CFR part 745) before they become obligated under lease or sales contract. The complete report must also be provided to new purchasers and it must be made available to new tenants. Landlords and sellers are also required to distribute an educational pamphlet and include standard warning language in their leases or sales contracts to ensure that parents have the information they need to protect their children from lead-based paint hazards.”

Emanuel Dounias
DPH 13095

Date

LEAD PAINT INSPECTION REPORT

REPORT NUMBER: S#03425 - 03/26/19 10:55

INSPECTION FOR:
South San Francisco USD
398 B Street
S. San Francisco, CA 94080

PERFORMED AT: Martin Elementary School
35 School Street
S. San Francisco, California

INSPECTION DATE: 03/26/19

INSTRUMENT TYPE: R M D
MODEL LPA-1
XRF TYPE ANALYZER
Serial Number: 03425

ACTION LEVEL: 1.0 mg/cm**2

OPERATOR LICENSE: California General

STATEMENT: Lead paint survey as agreed.
No representations are made for any areas not tested.

SIGNED _____ DATE _____
ProTech Consulting & Engineering
1208 Main Street
Redwood City, Ca. 94063
Phone: 650-569-4020
Fax: 650-569-4023

SEQUENTIAL REPORT OF LEAD PAINT INSPECTION FOR:

Inspection Date: 03/26/19
 Report Date: 4/2/2019
 Abatement Level: 1.0
 Report No. S#03425 - 03/26/19 10:55
 Total Readings: 134
 Job Started: 03/26/19 10:55
 Job Finished: 03/26/19 16:09

Martin Elementary School
 35 School Street
 S. San Francisco, California

Read No.	Rm	Room Name	Wall	Structure	Location	Member	Paint Cond	Substrate	Paint Color	Lead (mg/cm ²)	Mode
1		CALIBRATION								0.8	TC
2		CALIBRATION								0.7	TC
3		CALIBRATION								0.8	TC
4	001	Bldg A	A	Wall	L Ctr		I	Drywall	White	-0.2	QM
5	001	Bldg A	A	Wall	L Rgt		I	Drywall	White	-0.2	QM
6	001	Bldg A	C	Wall	U Ctr		I	Drywall	White	-0.1	QM
7	001	Bldg A	A	Window	Ctr Sill		I	Wood	White	-0.1	QM
8	001	Bldg A	A	Window	Ctr Rgt casing		I	Metal	White	-0.7	QM
9	001	Bldg A	C	Window	Ctr Sill		I	Wood	White	-0.3	QM
10	001	Bldg A	B	Window	Ctr Sill		I	Wood	White	-0.1	QM
11	001	Bldg A	B	Window	Ctr Rgt casing		I	Wood	White	-0.2	QM
12	001	Bldg A	D	Window	Lft Rgt casing		I	Wood	White	-0.2	QM
13	001	Bldg A	D	Window	Lft Sash		I	Metal	White	-0.4	QM
14	001	Bldg A	D	Cabinet	Ctr		I	Wood	White	-0.2	QM
15	001	Bldg A	C	Door	Lft U Ctr		I	Wood	Beige	-0.3	QM
16	001	Bldg A	C	Door	Lft Rgt casing		I	Wood	Beige	-0.1	QM
17	001	Bldg A	A	Door	Lft Rgt casing		I	Metal	Beige	-0.1	QM
18	001	Bldg A	A	Door	Lft U Ctr		I	Wood	Beige	-0.3	QM
19	001	Bldg A	D	Wall	L Ctr		I	Wood	White	-0.3	QM
20	001	Bldg A	A	Wall	U Lft		I	Wood	White	-0.3	QM
21	001	Bldg A	B	Wall	L Ctr		I	Wood	White	-0.1	QM
22	001	Bldg A	C	Wall	L Ctr		I	Wood	White	-0.1	QM
23	001	Bldg A	C	Baseboard	Ctr		I	Vinyl	Tan	-0.4	QM
24	001	Bldg A	A	Baseboard	Ctr		I	Vinyl	Tan	-0.3	QM
25	001	Bldg A	A	Door	Ctr U Ctr		I	Wood	Beige	-0.1	QM
26	001	Bldg A	A	Door	Ctr Rgt casing		I	Wood	Pink	0.0	QM
27	001	Bldg A	A	Window	Lft Rgt casing		I	Wood	Gray	>9.9	QM
28	001	Bldg A	A	Window	Lft Sash		I	Metal	White	-0.6	QM
29	001	Bldg A	A	Louvers	Lft		I	Metal	White	-0.3	QM
30	001	Bldg A	B	Window	Ctr Sill		I	Metal	White	1.9	QM
31	001	Bldg A	B	Window	Ctr Sash		I	Metal	White	-0.5	QM
32	001	Bldg A	B	Window	Ctr Rgt casing		I	Wood	Gray	>9.9	QM
33	001	Bldg A	B	Wall	L Ctr		I	Stucco	Gray	0.0	QM
34	001	Bldg A	B	Wall	L Ctr		I	Stucco	Gray	-0.1	QM
35	001	Bldg A	D	Wall	L Ctr		I	Stucco	Gray	-0.2	QM
36	001	Bldg A	C	Wall	L Ctr		I	Stucco	Gray	-0.3	QM
37	002	Bldg B	C	Wall	U Ctr		I	Wood	White	-0.2	QM
38	002	Bldg B	C	Wall	U Lft		I	Wood	White	-0.2	QM
39	002	Bldg B	B	Wall	U Lft		I	Wood	White	-0.2	QM
40	002	Bldg B	A	Wall	U Lft		I	Wood	White	-0.3	QM
41	002	Bldg B	D	Wall	L Ctr		I	Wood	White	-0.1	QM
42	002	Bldg B	C	Column	Rgt U column		I	Metal	White	0.0	QM
43	002	Bldg B	C	Column	Rgt U column		I	Metal	White	-0.1	QM
44	002	Bldg B	C	Door	Ctr U Ctr		I	Wood	Beige	-0.3	QM
45	002	Bldg B	C	Door	Ctr Lft casing		I	Wood	White	-0.3	QM
46	002	Bldg B	C	Door	Lft Rgt casing		I	Wood	Pink	0.1	QM
47	002	Bldg B	C	Door	Lft U Ctr		I	Wood	Beige	-0.1	QM
48	002	Bldg B	A	Door	Ctr Rgt casing		I	Wood	Pink	-0.1	QM
49	002	Bldg B	A	Door	Ctr U Ctr		I	Wood	Beige	-0.3	QM
50	002	Bldg B	A	Window	Rgt Sash		I	Metal	White	0.0	QM
51	002	Bldg B	C	Window	Ctr Sash		I	Metal	White	-0.1	QM

52	002 Bldg B	C	Baseboard		Ctr	I	Ceramic	Tan	>9.9	QM
53	002 Bldg B	C	Floor			I	Ceramic	Tan	-0.6	QM
54	002 Bldg B	C	Wall	L	Ctr	I	Stucco	Gray	-0.4	QM
55	002 Bldg B	C	Wall	L	Lft	I	Stucco	Gray	-0.5	QM
56	002 Bldg B	C	Window		Rgt Sash	I	Metal	Gray	0.0	QM
57	002 Bldg B	C	Window		Lft Sash	I	Metal	Gray	0.0	QM
58	002 Bldg B	C	Door		Ctr Rgt casing	I	Wood	Pink	0.3	QM
59	002 Bldg B	C	Door		Ctr U Ctr	I	Wood	Beige	-0.1	QM
60	002 Bldg B	A	Door		Ctr U Ctr	I	Wood	Beige	-0.3	QM
61	002 Bldg B	A	Door		Ctr Rgt casing	I	Wood	Pink	1.0	QM
62	002 Bldg B	A	Window		Ctr Sill	I	Wood	Gray	0.0	QM
63	002 Bldg B	A	Window		Ctr Sash	I	Metal	Gray	1.0	QM
64	002 Bldg B	A	Window		Rgt Sill	I	Wood	Gray	0.0	QM
65	003 Bldg C	B	Wall	L	Rgt	I	Wood	White	-0.1	QM
66	003 Bldg C	D	Wall	L	Ctr	I	Wood	White	-0.2	QM
67	003 Bldg C	A	Wall	U	Ctr	I	Wood	White	-0.1	QM
68	003 Bldg C	C	Wall	L	Rgt	I	Drywall	White	-0.2	QM
69	003 Bldg C	B	Wall	L	Lft	I	Drywall	White	-0.4	QM
70	003 Bldg C	A	Column		Ctr U column	I	Metal	White	-0.1	QM
71	003 Bldg C	A	Column		Lft U column	I	Metal	White	-0.1	QM
72	003 Bldg C	A	Window		Lft Rgt casing	I	Metal	White	-0.1	QM
73	003 Bldg C	A	Window		Rgt Sash	I	Metal	White	0.0	QM
74	003 Bldg C	A	Door		Lft Rgt casing	I	Wood	Pink	0.0	QM
75	003 Bldg C	A	Door		Lft U Ctr	I	Wood	Beige	-0.2	QM
76	003 Bldg C	D	Door		Lft U Ctr	I	Wood	Beige	-0.4	QM
77	003 Bldg C	D	Door		Lft Rgt casing	I	Wood	Pink	-0.1	QM
78	003 Bldg C	C	Wall	L	Ctr	I	Stucco	Gray	-0.2	QM
79	003 Bldg C	C	Window		Ctr Sill	I	Wood	Gray	0.1	QM
80	003 Bldg C	C	Window		Ctr Sash	I	Metal	Gray	0.0	QM
81	003 Bldg C	C	Door		Rgt Rgt casing	I	Wood	Pink	0.4	QM
82	003 Bldg C	C	Door		Rgt U Ctr	I	Wood	Beige	-0.3	QM
83	003 Bldg C	B	Wall	L	Rgt	I	Stucco	Gray	-0.3	QM
84	003 Bldg C	A	Wall	L	Ctr	I	Stucco	Gray	-0.2	QM
85	003 Bldg C	A	Window		Lft Sash	I	Metal	Gray	0.0	QM
86	003 Bldg C	A	Window		Ctr Sash	I	Metal	Gray	-0.1	QM
87	003 Bldg C	A	Window		Rgt Sash	I	Metal	Gray	-0.1	QM
88	004 Bldg D	D	Wall	U	Ctr	I	Wood	White	-0.2	QM
89	004 Bldg D	B	Wall	U	Ctr	I	Wood	White	-0.3	QM
90	004 Bldg D	C	Baseboard		Ctr	I	Vinyl	White	-0.1	QM
91	004 Bldg D	C	Door		Ctr Rgt casing	I	Wood	Pink	0.0	QM
92	004 Bldg D	C	Door		Ctr U Ctr	I	Wood	Beige	-0.3	QM
93	004 Bldg D	A	Window		Ctr Rgt casing	I	Metal	White	0.1	QM
94	004 Bldg D	A	Window		Ctr Sill	I	Concrete	White	-0.3	QM
95	004 Bldg D	A	Door		Ctr Rgt casing	I	Wood	Pink	-0.2	QM
96	004 Bldg D	A	Door		Ctr U Ctr	I	Wood	Beige	-0.1	QM
97	004 Bldg D	A	Window		Lft Sash	I	Metal	Gray	1.6	QM
98	004 Bldg D	A	Wall	L	Rgt	I	Stucco	Gray	0.1	QM
99	005 Bldg E	D	Wall	U	Ctr	I	Wood	White	-0.3	QM
100	005 Bldg E	C	Wall	U	Lft	I	Wood	White	-0.3	QM
101	005 Bldg E	A	Wall	U	Rgt	I	Wood	White	-0.1	QM
102	005 Bldg E	C	Window		Lft Rgt jamb	I	Wood	White	0.3	QM
103	005 Bldg E	C	Window		Lft Sash	I	Wood	White	0.0	QM
104	005 Bldg E	B	Wall	L	Ctr	I	Wood	White	-0.2	QM
105	005 Bldg E	C	Door		Lft U Ctr	I	Wood	Beige	-0.3	QM
106	005 Bldg E	C	Door		Lft Rgt casing	I	Wood	Beige	-0.2	QM
107	005 Bldg E	D	Door		Ctr U Ctr	I	Wood	Beige	-0.3	QM
108	005 Bldg E	D	Door		Ctr Lft casing	I	Wood	Beige	-0.1	QM
109	005 Bldg E	C	Window		Lft Rgt casing	I	Wood	White	0.3	QM
110	005 Bldg E	C	Window		Lft Sash	I	Metal	White	-0.1	QM
111	005 Bldg E	B	Wall	L	Rgt	I	Ceramic	Tan	>9.9	QM
112	005 Bldg E	B	Floor			I	Concrete	Tan	-0.3	QM
113	005 Bldg E	A	Wall	L	Lft	I	Wood	Gray	-0.2	QM
114	005 Bldg E	A	Door		Lft Rgt casing	I	Wood	Pink	-0.2	QM
115	005 Bldg E	A	Door		Lft U Ctr	I	Wood	Beige	-0.2	QM
116	005 Bldg E	A	Window		Ctr Sash	I	Metal	Gray	0.0	QM

117	005 Bldg E	C	Window	Ctr	Sash	I	Metal	Gray	1.0	QM
118	005 Bldg E	C	Window		Ctr Sill	I	Wood	Gray	3.2	QM
119	005 Bldg E	C	Wall	L	Ctr	I	Wood	Gray	-0.2	QM
120	006 Bldg F	D	Wall	U	Rgt	I	Wood	White	-0.3	QM
121	006 Bldg F	B	Wall	U	Rgt	I	Wood	White	-0.2	QM
122	006 Bldg F	A	Window		Lft Sash	I	Metal	White	-0.1	QM
123	006 Bldg F	A	Door		Lft Rgt casing	I	Wood	Pink	-0.1	QM
124	006 Bldg F	A	Door		Lft U Ctr	I	Wood	Beige	-0.3	QM
125	006 Bldg F	A	Window		Rgt Sash	I	Metal	White	0.1	QM
126	006 Bldg F	B	Wall	L	Ctr	I	Drywall	White	-0.1	QM
127	006 Bldg F	C	Wall	L	Ctr	I	Wood	Gray	-0.2	QM
128	006 Bldg F	C	Window		Ctr Sill	I	Wood	Gray	2.2	QM
129	006 Bldg F	C	Window		Ctr Sash	I	Metal	Gray	1.9	QM
130	006 Bldg F	A	Wall	L	Ctr	I	Wood	Gray	-0.2	QM
131	006 Bldg F	A	Wall	L	Lft	I	Stucco	Gray	-0.4	QM
132	CALIBRATION								0.8	TC
133	CALIBRATION								0.7	TC
134	CALIBRATION								0.7	TC

----- End of Readings -----

SUMMARY REPORT OF LEAD PAINT INSPECTION FOR:

Inspection Date:	03/26/19	Martin Elementary School
Report Date:	4/2/2019	35 School Street
Abatement Level:	1.0	S. San Francisco, California
Report No.	S#03425 - 03/26/19 10:55	
Total Readings:	134	Actionable: 12
Job Started:	03/26/19 10:55	
Job Finished:	03/26/19 16:09	

Read No.	Wall	Structure	Location	Member	Paint Cond	Substrate	Paint Color	Lead (mg/cm ²)	Mode
Exterior Room 001 Bldg A									
027	A	Window	Lft	Rgt casing	I	Wood	Gray	>9.9	QM
032	B	Window	Ctr	Rgt casing	I	Wood	Gray	>9.9	QM
030	B	Window	Ctr	Sill	I	Metal	White	1.9	QM
Exterior Room 002 Bldg B									
063	A	Window	Ctr	Sash	I	Metal	Gray	1.0	QM
061	A	Door	Ctr	Rgt casing	I	Wood	Pink	1.0	QM
Exterior Room 004 Bldg D									
097	A	Window	Lft	Sash	I	Metal	Gray	1.6	QM
Exterior Room 005 Bldg E									
117	C	Window	Ctr	Sash	I	Metal	Gray	1.0	QM
118	C	Window	Ctr	Sill	I	Wood	Gray	3.2	QM
Exterior Room 006 Bldg F									
129	C	Window	Ctr	Sash	I	Metal	Gray	1.9	QM
128	C	Window	Ctr	Sill	I	Wood	Gray	2.2	QM
Interior Room 002 Bldg B									
052	C	Baseboard	Ctr		I	Ceramic	Tan	>9.9	QM
Interior Room 005 Bldg E									
111	B	Wall	L	Rgt	I	Ceramic	Tan	>9.9	QM

----- End of Readings -----

DETAILED REPORT OF LEAD PAINT INSPECTION FOR:

Inspection Date:	03/26/19	Martin Elementary School
Report Date:	4/2/2019	35 School Street
Abatement Level:	1.0	S. San Francisco, California
Report No.	S#03425 - 03/26/19 10:55	
Total Readings:	134	
Job Started:	03/26/19 10:55	
Job Finished:	03/26/19 16:09	

Read No.	Wall	Structure	Location	Member	Paint Cond	Substrate	Paint Color	Lead (mg/cm ²)	Mode
Exterior Room 001 Bldg A									
027	A	Window	Lft	Rgt casing	I	Wood	Gray	>9.9	QM
028	A	Window	Lft	Sash	I	Metal	White	-0.6	QM
026	A	Door	Ctr	Rgt casing	I	Wood	Pink	0.0	QM
025	A	Door	Ctr	U Ctr	I	Wood	Beige	-0.1	QM
029	A	Louvers	Lft		I	Metal	White	-0.3	QM
033	B	Wall	L Ctr		I	Stucco	Gray	0.0	QM
034	B	Wall	L Ctr		I	Stucco	Gray	-0.1	QM
032	B	Window	Ctr	Rgt casing	I	Wood	Gray	>9.9	QM
031	B	Window	Ctr	Sash	I	Metal	White	-0.5	QM
030	B	Window	Ctr	Sill	I	Metal	White	1.9	QM
036	C	Wall	L Ctr		I	Stucco	Gray	-0.3	QM
035	D	Wall	L Ctr		I	Stucco	Gray	-0.2	QM
Exterior Room 002 Bldg B									
063	A	Window	Ctr	Sash	I	Metal	Gray	1.0	QM
062	A	Window	Ctr	Sill	I	Wood	Gray	0.0	QM
064	A	Window	Rgt	Sill	I	Wood	Gray	0.0	QM
061	A	Door	Ctr	Rgt casing	I	Wood	Pink	1.0	QM
060	A	Door	Ctr	U Ctr	I	Wood	Beige	-0.3	QM
055	C	Wall	L Lft		I	Stucco	Gray	-0.5	QM
054	C	Wall	L Ctr		I	Stucco	Gray	-0.4	QM
057	C	Window	Lft	Sash	I	Metal	Gray	0.0	QM
056	C	Window	Rgt	Sash	I	Metal	Gray	0.0	QM
058	C	Door	Ctr	Rgt casing	I	Wood	Pink	0.3	QM
059	C	Door	Ctr	U Ctr	I	Wood	Beige	-0.1	QM
Exterior Room 003 Bldg C									
084	A	Wall	L Ctr		I	Stucco	Gray	-0.2	QM
085	A	Window	Lft	Sash	I	Metal	Gray	0.0	QM
086	A	Window	Ctr	Sash	I	Metal	Gray	-0.1	QM
087	A	Window	Rgt	Sash	I	Metal	Gray	-0.1	QM
083	B	Wall	L Rgt		I	Stucco	Gray	-0.3	QM
078	C	Wall	L Ctr		I	Stucco	Gray	-0.2	QM
080	C	Window	Ctr	Sash	I	Metal	Gray	0.0	QM
079	C	Window	Ctr	Sill	I	Wood	Gray	0.1	QM
081	C	Door	Rgt	Rgt casing	I	Wood	Pink	0.4	QM
082	C	Door	Rgt	U Ctr	I	Wood	Beige	-0.3	QM
Exterior Room 004 Bldg D									
098	A	Wall	L Rgt		I	Stucco	Gray	0.1	QM
097	A	Window	Lft	Sash	I	Metal	Gray	1.6	QM
095	A	Door	Ctr	Rgt casing	I	Wood	Pink	-0.2	QM
096	A	Door	Ctr	U Ctr	I	Wood	Beige	-0.1	QM
Exterior Room 005 Bldg E									
113	A	Wall	L Lft		I	Wood	Gray	-0.2	QM
116	A	Window	Ctr	Sash	I	Metal	Gray	0.0	QM
114	A	Door	Lft	Rgt casing	I	Wood	Pink	-0.2	QM
115	A	Door	Lft	U Ctr	I	Wood	Beige	-0.2	QM
119	C	Wall	L Ctr		I	Wood	Gray	-0.2	QM

117	C	Window	Ctr	Sash	I	Metal	Gray	1.0	QM
118	C	Window	Ctr	Sill	I	Wood	Gray	3.2	QM

Exterior Room 006 Bldg F

131	A	Wall	L Lft		I	Stucco	Gray	-0.4	QM
130	A	Wall	L Ctr		I	Wood	Gray	-0.2	QM
127	C	Wall	L Ctr		I	Wood	Gray	-0.2	QM
129	C	Window	Ctr	Sash	I	Metal	Gray	1.9	QM
128	C	Window	Ctr	Sill	I	Wood	Gray	2.2	QM

Interior Room 001 Bldg A

004	A	Wall	L Ctr		I	Drywall	White	-0.2	QM
005	A	Wall	L Rgt		I	Drywall	White	-0.2	QM
020	A	Wall	U Lft		I	Wood	White	-0.3	QM
024	A	Baseboard	Ctr		I	Vinyl	Tan	-0.3	QM
008	A	Window	Ctr	Rgt casing	I	Metal	White	-0.7	QM
007	A	Window	Ctr	Sill	I	Wood	White	-0.1	QM
017	A	Door	Lft	Rgt casing	I	Metal	Beige	-0.1	QM
018	A	Door	Lft	U Ctr	I	Wood	Beige	-0.3	QM
021	B	Wall	L Ctr		I	Wood	White	-0.1	QM
011	B	Window	Ctr	Rgt casing	I	Wood	White	-0.2	QM
010	B	Window	Ctr	Sill	I	Wood	White	-0.1	QM
022	C	Wall	L Ctr		I	Wood	White	-0.1	QM
006	C	Wall	U Ctr		I	Drywall	White	-0.1	QM
023	C	Baseboard	Ctr		I	Vinyl	Tan	-0.4	QM
009	C	Window	Ctr	Sill	I	Wood	White	-0.3	QM
016	C	Door	Lft	Rgt casing	I	Wood	Beige	-0.1	QM
015	C	Door	Lft	U Ctr	I	Wood	Beige	-0.3	QM
019	D	Wall	L Ctr		I	Wood	White	-0.3	QM
012	D	Window	Lft	Rgt casing	I	Wood	White	-0.2	QM
013	D	Window	Lft	Sash	I	Metal	White	-0.4	QM
014	D	Cabinet	Ctr		I	Wood	White	-0.2	QM

Interior Room 002 Bldg B

040	A	Wall	U Lft		I	Wood	White	-0.3	QM
050	A	Window	Rgt	Sash	I	Metal	White	0.0	QM
048	A	Door	Ctr	Rgt casing	I	Wood	Pink	-0.1	QM
049	A	Door	Ctr	U Ctr	I	Wood	Beige	-0.3	QM
039	B	Wall	U Lft		I	Wood	White	-0.2	QM
038	C	Wall	U Lft		I	Wood	White	-0.2	QM
037	C	Wall	U Ctr		I	Wood	White	-0.2	QM
052	C	Baseboard	Ctr		I	Ceramic	Tan	>9.9	QM
053	C	Floor			I	Ceramic	Tan	-0.6	QM
051	C	Window	Ctr	Sash	I	Metal	White	-0.1	QM
046	C	Door	Lft	Rgt casing	I	Wood	Pink	0.1	QM
047	C	Door	Lft	U Ctr	I	Wood	Beige	-0.1	QM
045	C	Door	Ctr	Lft casing	I	Wood	White	-0.3	QM
044	C	Door	Ctr	U Ctr	I	Wood	Beige	-0.3	QM
042	C	Column	Rgt	U column	I	Metal	White	0.0	QM
043	C	Column	Rgt	U column	I	Metal	White	-0.1	QM
041	D	Wall	L Ctr		I	Wood	White	-0.1	QM

Interior Room 003 Bldg C

067	A	Wall	U Ctr		I	Wood	White	-0.1	QM
072	A	Window	Lft	Rgt casing	I	Metal	White	-0.1	QM
073	A	Window	Rgt	Sash	I	Metal	White	0.0	QM
074	A	Door	Lft	Rgt casing	I	Wood	Pink	0.0	QM
075	A	Door	Lft	U Ctr	I	Wood	Beige	-0.2	QM
071	A	Column	Lft	U column	I	Metal	White	-0.1	QM
070	A	Column	Ctr	U column	I	Metal	White	-0.1	QM
069	B	Wall	L Lft		I	Drywall	White	-0.4	QM
065	B	Wall	L Rgt		I	Wood	White	-0.1	QM
068	C	Wall	L Rgt		I	Drywall	White	-0.2	QM
066	D	Wall	L Ctr		I	Wood	White	-0.2	QM
077	D	Door	Lft	Rgt casing	I	Wood	Pink	-0.1	QM

076	D	Door	Lft	U Ctr	I	Wood	Beige	-0.4	QM
Interior Room 004 Bldg D									
093	A	Window	Ctr	Rgt casing	I	Metal	White	0.1	QM
094	A	Window	Ctr	Sill	I	Concrete	White	-0.3	QM
089	B	Wall	U Ctr		I	Wood	White	-0.3	QM
090	C	Baseboard	Ctr		I	Vinyl	White	-0.1	QM
091	C	Door	Ctr	Rgt casing	I	Wood	Pink	0.0	QM
092	C	Door	Ctr	U Ctr	I	Wood	Beige	-0.3	QM
088	D	Wall	U Ctr		I	Wood	White	-0.2	QM
Interior Room 005 Bldg E									
101	A	Wall	U Rgt		I	Wood	White	-0.1	QM
104	B	Wall	L Ctr		I	Wood	White	-0.2	QM
111	B	Wall	L Rgt		I	Ceramic	Tan	>9.9	QM
112	B	Floor			I	Concrete	Tan	-0.3	QM
100	C	Wall	U Lft		I	Wood	White	-0.3	QM
102	C	Window	Lft	Rgt jamb	I	Wood	White	0.3	QM
109	C	Window	Lft	Rgt casing	I	Wood	White	0.3	QM
103	C	Window	Lft	Sash	I	Wood	White	0.0	QM
110	C	Window	Lft	Sash	I	Metal	White	-0.1	QM
106	C	Door	Lft	Rgt casing	I	Wood	Beige	-0.2	QM
105	C	Door	Lft	U Ctr	I	Wood	Beige	-0.3	QM
099	D	Wall	U Ctr		I	Wood	White	-0.3	QM
108	D	Door	Ctr	Lft casing	I	Wood	Beige	-0.1	QM
107	D	Door	Ctr	U Ctr	I	Wood	Beige	-0.3	QM
Interior Room 006 Bldg F									
122	A	Window	Lft	Sash	I	Metal	White	-0.1	QM
125	A	Window	Rgt	Sash	I	Metal	White	0.1	QM
123	A	Door	Lft	Rgt casing	I	Wood	Pink	-0.1	QM
124	A	Door	Lft	U Ctr	I	Wood	Beige	-0.3	QM
126	B	Wall	L Ctr		I	Drywall	White	-0.1	QM
121	B	Wall	U Rgt		I	Wood	White	-0.2	QM
120	D	Wall	U Rgt		I	Wood	White	-0.3	QM
Calibration Readings									
001								0.8	TC
002								0.7	TC
003								0.8	TC
132								0.8	TC
133								0.7	TC
134								0.7	TC
---- End of Readings ----									

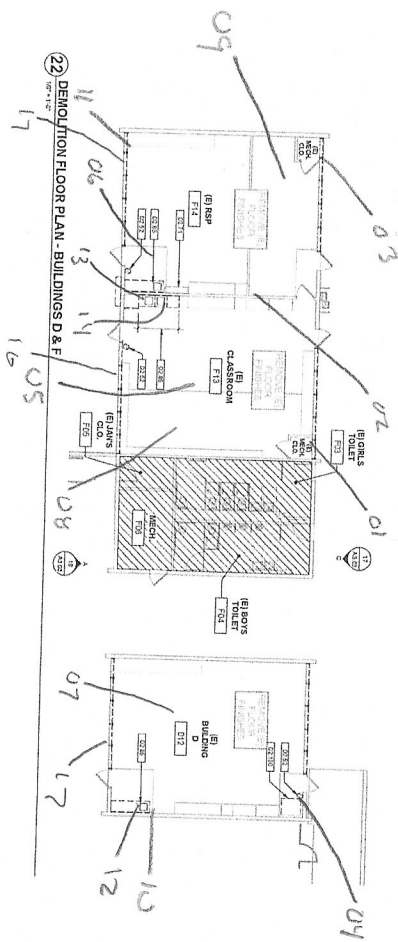
DISTRIBUTION REPORT OF LEAD PAINT INSPECTION FOR:

Inspection Date:	03/26/19	Martin Elementary School
Report Date:	4/2/2019	35 School Street
Abatement Level:	1.0	S. San Francisco, California
Report No.	S#03425 - 03/26/19 10:55	
Total Reading Sets:	128	
Job Started:	03/26/19 10:55	
Job Finished:	03/26/19 16:09	

Structure	Structure Distribution				
	Total	Positive	Negative	Inconclusive	
Baseboard	4	1 <25%>	3 <75%>	0 <0%>	
Cabinet	1	0 <0%>	1 <100%>	0 <0%>	
Column U column	4	0 <0%>	4 <100%>	0 <0%>	
Door Lft casing	2	0 <0%>	2 <100%>	0 <0%>	
Door Rgt casing	15	1 <7%>	14 <93%>	0 <0%>	
Door U Ctr	17	0 <0%>	17 <100%>	0 <0%>	
Floor	2	0 <0%>	2 <100%>	0 <0%>	
Louvers	1	0 <0%>	1 <100%>	0 <0%>	
Wall	42	1 <2%>	41 <98%>	0 <0%>	
Window Rgt casing	8	2 <25%>	6 <75%>	0 <0%>	
Window Rgt jamb	1	0 <0%>	1 <100%>	0 <0%>	
Window Sash	21	4 <19%>	17 <81%>	0 <0%>	
Window Sill	10	3 <30%>	7 <70%>	0 <0%>	
Inspection Totals:	128	12 < 9%>	116 < 91%>	0 < 0%>	



APPENDIX 3



Architectural floor plan of a building demolition project. The plan shows four classrooms (A, B, C, D), a storage area, and a student area. Handwritten annotations include room numbers 01 through 22, a compass rose indicating North, and a scale bar. The plan is oriented with North at the top.

Room labels and annotations:

- CLASSROOM 4 (01, 20, 06)
- CLASSROOM 3 (02, 21, 16, 07, 19, 04, 10)
- CLASSROOM 2 (03, 22, 17, 13, 14, 15, 18, 09)
- CLASSROOM 1 (05, 12, 08)
- STORAGE (06, 07, 08, 09, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22)
- STUDENT (01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22)

Compass rose: N, S, E, W

Scale bar: 0' 10' 20' 30' 40' 50' 60' 70' 80' 90' 100'

25 DEMOLITION FLR PLAN - BUILDING E
1:20' & 4:20'

DEMO KEYNOTES ☐ 23[illegible]

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AC FS \$
DATE

(5) NOT ACCESSIBLE DRINKING FOUNTAIN TO REMAIN

(5) NOT ACCESSIBLE DRINKING FOUNTAIN TO REMAIN

REMOVE BLYCON FINISH

(A) MOIST PIERCED WALLS TO BE REINFORCED

(B) WALLS TO REMAIN UNPIERCED DURING CONSTRUCTION

(C) DOOR TO REMAIN

(D) DOOR TO BE REINFORCED

REMOVE BLYCON FINISH

(A) MOVED FINISHED WALLS TO BE RECONSTRUCTED

(B) WALLS TO REMAIN AND SET DURING CONSTRUCTION

(C) ROOM TO REMAIN

(D) ROOM TO BE RECONSTRUCTED

HYSER YAMADA Architects, Inc.
200 - 20th Ave.
Oakland, CA 94612
510.464.2222 ext. 110 or 444

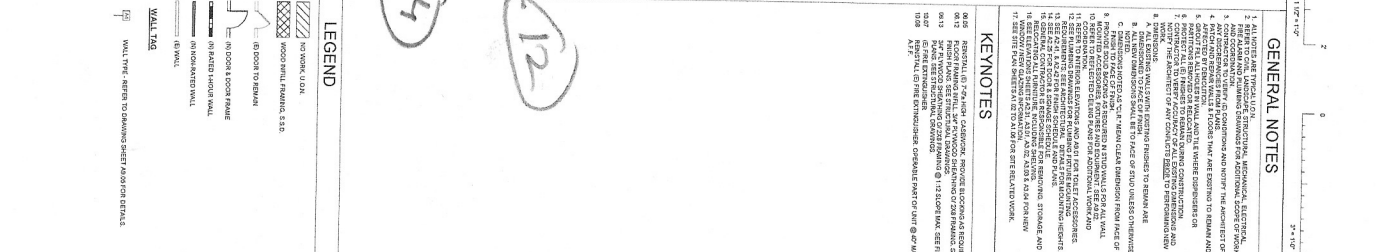
MARTIN B. ELEMENTARY SCHOOL
35 SCHOOL BLVD. SOUTH SAN FRANCISCO, CA 94080

Project
MARTIN ELEMENTARY SCHOOL MODERNIZATION

Owner
DEMOLITION FLOOR PLANS BUILDINGS B, C, D & F

Drawn To Scale

Serial: As indexed Drawn By: CA Checked By: CD Issue Date: 02/02/18 and Variants: none	Serial: A2.02
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4. **ALLOCATION OF PERSONS TO THE PROJECT**
The project manager must assign the appropriate personnel, determine the number of persons to be assigned, and determine the training needs of the personnel. The project manager should determine the personnel's knowledge, skills, and experience and determine whether the personnel are available. The project manager should determine the personnel's location and determine whether the personnel are available. The project manager should determine the personnel's location and determine whether the personnel are available.
5. **DEVELOPMENT OF THE PROJECT PLAN**
The project manager should develop a project plan that includes the project's objectives, scope, schedule, budget, and resources. The project manager should develop a project plan that includes the project's objectives, scope, schedule, budget, and resources. The project manager should develop a project plan that includes the project's objectives, scope, schedule, budget, and resources. The project manager should develop a project plan that includes the project's objectives, scope, schedule, budget, and resources.
6. **IMPLEMENTATION OF THE PROJECT**
The project manager should implement the project plan and monitor the project's progress. The project manager should implement the project plan and monitor the project's progress. The project manager should implement the project plan and monitor the project's progress. The project manager should implement the project plan and monitor the project's progress.
7. **EVALUATION OF THE PROJECT**
The project manager should evaluate the project's performance and determine whether the project has been completed successfully. The project manager should evaluate the project's performance and determine whether the project has been completed successfully. The project manager should evaluate the project's performance and determine whether the project has been completed successfully. The project manager should evaluate the project's performance and determine whether the project has been completed successfully.

06.05	REINSTATE (1) 7-9% HIGH CASEWORK, PROVIDE BLOCKING AS REQUIRED
06.12	FLOOR FINISH UNTIL 3" PLWOOD STRIPPING OR 2" FINISHING & FINISH PLANKS, SEE STRUCTURAL DRAWINGS
06.13	3" PLWOOD STRIPPING @ 2" FINISHING @ 1:12 SLOPE MAX. SEE FINISH PLANS, SEE STRUCTURAL DRAWINGS
10.07	(1) FIRE EXTINGUISHER
10.08	REINSTATE (2) FIRE EXTINGUISHER, OPERABLE PART OF UNIT @ 47 W. A.T.F.

06.05	REINSTATE (1) 7-9% HIGH CASEWORK, PROVIDE BLOCKING AS REQUIRED
06.12	FLOOR FINISH UNTIL 3" PLWOOD SHEATHING OR 2" PLANKING & FINISH PLANK. SEE STRUCTURAL DRAWINGS
06.13	3" PLWOOD SHEATHING OR 2" PLANKING @ 1:12 SLOPE MAX. SEE FINISH PLANS, SEE STRUCTURAL DRAWINGS
10.07	(1) FIRE EXTINGUISHER
10.08	REINSTATE (2) FIRE EXTINGUISHER, OPERABLE PART OF UNIT @ 47 W. A.T.F.

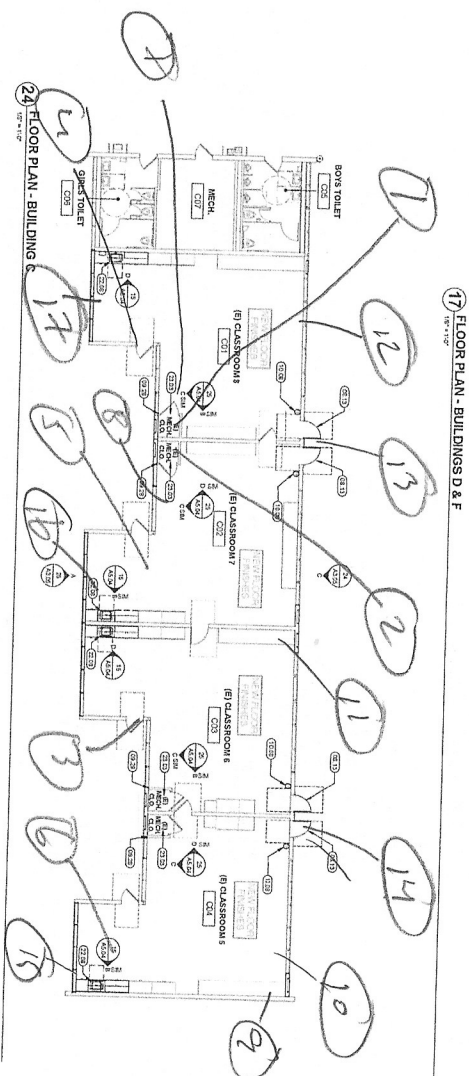
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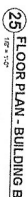
  	Oldland, CA 90412 510.440.2222 ext.310, 440, 721115
H17 Architects Project number Facility MARTIN ELEMENTARY SCHOOL 35 SCHOOL STREET, SOUTH SAN FRANCISCO, CA 94080 Project	45

SCHOOL MODERNIZATION
OVERALL FLOOR PLANS
BUILDINGS A & E
Sheet T109

Client Project Number:	Client Proj:
Scale: As indicated	Sheet
Drawn By: OA	
Checked By: CD	
A2.10	



24 FLOOR PLAN - BUILDING C



25 FLOOR PLAN - BUILDING B

[illegible]

02-26 RD 2383, CEDAR TO REMAIN, PROTECT.
08-13 RD 2383, CEDAR TO REMAIN, PROTECT.
09-26 RD 2383, CEDAR TO REMAIN, PROTECT.
14-26 RD 2383, CEDAR TO REMAIN, PROTECT.
22-26 RD 2383, CEDAR TO REMAIN, PROTECT.
23-26 RD 2383, CEDAR TO REMAIN, PROTECT.

NO WORK U.O.N.

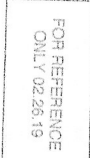
DOOR TO HALL

RELOCATED DOOR & SPON PLATE

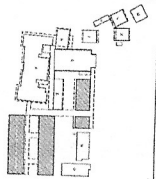
IN NON-SAVED WALL

WALL TAG

WALL TAGS - REFER TO DRAWING SHEET 2A 05 FOR DETAILS



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DATE _____



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Oakland, CA 94612
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www.hysa.com

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703 441 1100

MARTIN ELEMENTARY
SCHOOL, MODERNIZATION
10000 STREET, SUITE 100
FALLS CHURCH, VA 22031
703 441 1100

Overall Floor Plans
BUILDINGS B, C, D & F

HAZARDOUS MATERIALS
PROCEDURES & REQUIREMENTS

1. Summary

This document includes information applicable to hazardous materials and hazardous waste abatement.

2. Notice of Hazardous Waste or Materials

- a. Contractor shall give notice in writing to the District, the Construction Manager, and the Architect promptly, before any of the following materials are disturbed, and in no event later than twenty-four (24) hours after first observance, of any:
 - (1) Material that Contractor believes may be a material that is hazardous waste or hazardous material, as defined in section 25117 of the Health and Safety Code, that is required to be removed to a Class I, Class II, or Class III disposal site in accordance with provisions of existing law;
 - (2) Other material that may present a substantial danger to persons or property exposed thereto in connection with Work at the site.
- b. Contractor's written notice shall indicate whether the hazardous waste or material was shown or indicated in the Contract Documents to be within the scope of Work, and whether the materials were brought to the site by Contractor, its Subcontractors, suppliers, or anyone else for whom Contractor is responsible. As used in this section the term "hazardous materials" shall include, without limitation, asbestos, lead, Polychlorinated biphenyl (PCB), petroleum and related hydrocarbons, and radioactive material.
- c. In response to Contractor's written notice, the District shall investigate the identified conditions.
- d. If the District determines that conditions do not involve hazardous materials or that no change in terms of Contract is justified, the District shall so notify Contractor in writing, stating reasons. If the District and Contractor cannot agree on whether conditions justify an adjustment in Contract Price or Contract Time, or on the extent of any adjustment, Contractor shall proceed with the Work as directed by the District.
- e. If after receipt of notice from the District, Contractor does not agree to resume Work based on a reasonable belief it is unsafe, or does not agree to resume Work under special conditions, then District may order such portion of Work that is in connection with such hazardous condition or such affected area to be deleted from the Work, or performed by others, or District may invoke its rights to terminate the Contract in whole or in part. District will determine entitlement to or the amount or extent of an adjustment, if any, in

Contract Price or Contract Time as a result of deleting such portion of Work, or performing the Work by others.

- f. If Contractor stops Work in connection with any hazardous condition and in any area affected thereby, Contractor shall immediately redeploy its workers, equipment, and materials, as necessary, to other portions of the Work to minimize delay and disruption.

3. Additional Warranties and Representations

- a. Contractor represents and warrants that it, its employees, and its subcontractors and their employees, shall at all times have the required levels of familiarity with the Site and the Work, training, and ability to comply fully with all applicable laws and contractual requirements for safe and expeditious performance of the Work, including whatever training is or may be required regarding the activities to be performed (including, but not limited to, all training required to address adequately the actual or potential dangers of Contract performance).
- b. Contractor represents and warrants that it, its employees, and its subcontractors and their employees, shall at all times have and maintain in good standing any and all certifications and licenses required by applicable federal, state, and other governmental and quasi-governmental requirements applicable to the Work.
- c. Contractor represents and warrants that it has studied carefully all requirements of the Specifications regarding procedures for demolition, hazardous waste abatement, or safety practices, specified in the Contract, and prior to submitting its bid, has either (a) verified to its satisfaction that the specified procedures are adequate and sufficient to achieve the results intended by the Contract Documents, or (b) by way of approved "or equal" request or request for clarification and written Addenda, secured changes to the specified procedures sufficient to achieve the results intended by the Contract Documents. Contractor accepts the risk that any specified procedure will result in a completed Project in full compliance with the Contract Documents.

4. Monitoring and Testing

- a. District reserves the right, in its sole discretion, to conduct air monitoring, earth monitoring, Work monitoring, and any other tests (in addition to testing required under the agreement or applicable law), to monitor Contract requirements of safe and statutorily compliant work methods and (where applicable) safe re-entry level air standards under state and federal law upon completion of the job, and compliance of the work with periodic and final inspection by public and quasi-public entities having jurisdiction.
- b. Contractor acknowledges that District has the right to perform, or cause to be performed, various activities and tests including, but not limited to, pre-abatement, during abatement, and post-abatement air monitoring, that District shall have no obligation to perform said activities and tests, and that a portion of said activities and tests may take place prior to the completion of

the Work by Contractor. In the event District elects to perform these activities and tests, Contractor shall afford District ample access to the Site and all areas of the Work as may be necessary for the performance of these activities and tests. Contractor will include the potential impact of these activities or tests by District in the Contract Price and the Scheduled Completion Date.

- c. Notwithstanding District's rights granted by this paragraph, Contractor may retain its own industrial hygiene consultant at Contractor's own expense and may collect samples and may perform tests including, but not limited to, pre-abatement, during abatement, and post-abatement personal air monitoring, and District reserves the right to request documentation of all such activities and tests performed by Contractor relating to the Work and Contractor shall immediately provide that documentation upon request.

5. Compliance with Laws

- a. Contractor shall perform safe, expeditious, and orderly work in accordance with the best practices and the highest standards in the hazardous waste abatement, removal, and disposal industry, the applicable law, and the Contract Documents, including, but not limited to, all responsibilities relating to the preparation and return of waste shipment records, all requirements of the law, delivering of all requisite notices, and obtaining all necessary governmental and quasi-governmental approvals.
- b. Contractor represents that it is familiar with and shall comply with all laws applicable to the Work or completed Work including, but not limited to, all federal, state, and local laws, statutes, standards, rules, regulations, and ordinances applicable to the Work relating to:
 - (1) The protection of the public health, welfare and environment;
 - (2) Storage, handling, or use of asbestos, PCB, lead, petroleum based products, radioactive material, or other hazardous materials;
 - (3) The generation, processing, treatment, storage, transport, disposal, destruction, or other management of asbestos, PCB, lead, petroleum, radioactive material, or hazardous waste materials or other waste materials of any kind; and
 - (4) The protection of environmentally sensitive areas such as wetlands and coastal areas.

6. Disposal

- a. Contractor has the sole responsibility for determining current waste storage, handling, transportation, and disposal regulations for the job Site and for each waste disposal facility. Contractor must comply fully at its sole cost and expense with these regulations and any applicable law. District may, but is not obligated to, require submittals with this information for it to review consistent with the Contract Documents.

- b. Contractor shall develop and implement a system acceptable to District to track hazardous waste from the Site to disposal, including appropriate "Hazardous Waste Manifests" on the EPA form, so that District may track the volume of waste it put in each landfill and receive from each landfill a certificate of receipt.
- c. Contractor shall provide District with the name and address of each waste disposal facility prior to any disposal, and District shall have the express right to reject any proposed disposal facility. Contractor shall not use any disposal facility to which District has objected. Contractor shall document actual disposal or destruction of waste at a designated facility by completing a disposal certificate or certificate of destruction forwarding the original to the District.

7. Permits

- a. Before performing any of the Work, and at such other times as may be required by applicable law, Contractor shall deliver all requisite notices and obtain the approval of all governmental and quasi-governmental authorities having jurisdiction over the Work. Contractor shall submit evidence satisfactory to District that it and any disposal facility:
 - (1) have obtained all required permits, approvals, and the like in a timely manner both prior to commencement of the Work and thereafter as and when required by applicable law; and
 - (2) are in compliance with all such permits, approvals and the regulations.

For example, before commencing any work in connection with the Work involving asbestos-containing materials, or PCBs, or other hazardous materials subject to regulation, Contractor agrees to provide the required notice of intent to renovate or demolish to the appropriate state or federal agency having jurisdiction, by certified mail, return receipt requested, or by some other method of transmittal for which a return receipt is obtained, and to send a copy of that notice to District. Contractor shall not conduct any Work involving asbestos-containing materials or PCBs unless Contractor has first confirmed that the appropriate agency having jurisdiction is in receipt of the required notification. All permits, licenses, and bonds that are required by governmental or quasi-governmental authorities, and all fees, deposits, tap fees, offsite easements, and asbestos and PCB disposal facilities expenses necessary for the prosecution of the Work, shall be procured and paid for by Contractor. Contractor shall give all notices and comply with the all applicable laws bearing on the conduct of the Work as drawn and specified. If Contractor observes or reasonably should have observed that Plans and Specifications and other Contract Documents are at variance therewith, it shall be responsible for promptly notifying District in writing of such fact. If Contractor performs any Work contrary to applicable laws, it shall bear all costs arising therefrom.

- b. In the case of any permits or notices held in District's name or of necessity to be made in District's name, District shall cooperate with Contractor in securing the permit or giving the notice, but the Contractor shall prepare for District review and execution upon approval, all necessary applications, notices, and other materials.

8. Indemnification

To the fullest extent permitted by law, the indemnities and limitations of liability expressed throughout the Contract Documents apply with equal force and effect to any claims or liabilities imposed or existing by virtue of the removal, abatement, and disposal of hazardous waste. This includes, but is not limited to, liabilities connected to the selection and use of a waste disposal facility, a waste transporter, personal injury, property damage, loss of use of property, damage to the environment or natural resources, or "disposal" and "release" of materials associated with the Work (as defined in 42 U.S.C. § 9601 *et seq.*).

9. Termination

District shall have an absolute right to terminate for default immediately without notice and without an opportunity to cure should Contractor knowingly or recklessly commit a material breach of the terms of the Contract Documents, or any applicable law, on any matter involving the exposure of persons or property to hazardous waste. However, if the breach of contract exposing persons or property to hazardous waste is due solely to an ordinary, unintentional, and non-reckless failure to exercise reasonable care, then the procedures for termination for cause shall apply without modification.

END OF DOCUMENT

SECTION 11 12 00 PARKING CONTROL EQUIPMENT

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Parking gates and operators.
- B. Sensors and accessories

1.2 RELATED SECTIONS

- A. Section 03 10 00 Concrete Formwork and Accessories
- B. Section 03 30 00 Cast-in-Place Concrete
- C. Section 26 05 19 Low-Voltage Electrical
- D. Section 26 05 33 Underground Ducts And Raceways For Electrical

1.3 REFERENCES

- A. Underwriters Laboratories (UL): UL 325 – Standard for Safety for Door, Drapery, Gate, Louver, and Window Operators and Systems.
- B. Underwriters Laboratories (UL): UL 991 – Standard for Tests for Safety Related Controls Employing Solid-State Devices.
- C. American Society Testing Materials (ASTM): ASTM F2200 – Standard Specification for Automated Vehicular Gate Construction.
- D. National Electrical Manufacturers Association (NEMA): NEMA ICS 6 – Industrial Control Systems: Enclosures.

1.4 SUBMITTALS

- A. Submit under provisions of Section 01 33 00.
- B. Shop Drawings: Submit shop drawings showing layout, profiles, and product components, including anchorage, edge connections, and accessories.
 - 1. Operation, installation, and maintenance manuals including wire diagrams.
 - 2. Risers, layouts, and special wiring diagrams showing any changes to standard drawings.
- C. Product Data: Manufacturers data sheets on each product to be used, including:

1. Preparation instructions and recommendations.
2. Storage and handling requirements.
3. Installation methods.

1.5 OPERATION AND MAINTENANCE DATA

- A. Submit under provisions of Section 01 70 00.
- B. Submit operation data for gate controls.
- C. Submit maintenance data for gate operator.

1.6 QUALIFICATIONS

- A. Installer: Company specializing in installing the Work of this Section with minimum three years documented experience, approved by manufacturer.
 1. Provide documentation of maintenance and repair service availability for emergency conditions.
 2. Provide quarterly maintenance for one year following Substantial Completion of the Project.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Deliver, store and protect products to site under provisions of Section 01 87 00.
- B. Store products indoors in manufacturer's original containers and packaging with labels clearly identifying product name and manufacturer. Protect from damage.

1.8 SEQUENCING AND SCHEDULING

- A. Coordinate Work under provisions of Section 01 31 19.
- B. Coordinate requirements and installation of electrical Work.

1.9 WARRANTY

- A. Provide one year warranty under provisions of Section 01 70 00.
- B. Warranty: Include coverage of gate operator and controls minimum five year. .

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Acceptable Manufacturer:

1. Basis of Design: Westco Parking Technologies (1-800-978-4621)
2. Approved equal.

B. Basis of Design Product

1. Model # WPTMEGA-ARM-T
: Barrier Gate with 12 ft Gate arm Power backup
2. Model # WPT-DET1
: Detector
3. Model # WPT-PED
: Pedestal for Card Reader
4. Model# WPT505R-RKWL
: Stand-alone Proximity Card Reader System with 3ft Read range and 10,000 card capacity
5. Model #WPT-AK-11
: Stand-alone Keypad with 12 Keys and 480 Code Capacity
6. Model# WPTRKCM-02
: Credit Card Style Proximity Card provide 150. Include programming.
7. Access Control Lock Box with Knox 3501 Key Switch (for Local Fire Authority Access)
8. Card Reader Post: Custom fabricated with mounting plate adequate to fit card reader, keypad and LFA access box. Fully welded steel construction with black powder coating.
9. Include Programming deck for controller.

2.2 PARKING / BARRIER GATE OPERATOR

A. Microprocessor based solid-state control board interacting with card readers, RF transmitters, access control systems, ticket machines, other activating devices as required, external devices for pedestrian sensing (photo-eyes) and vehicle (loop) sensing systems. Control board shall include built-in down timer (1-25 seconds), built-in ports for two (2) plug-in loop detectors, Up input memory buffer, down command options, programming switches to set various operating modes

1. Compliance: Compliant to UL 325, UL 991 and CSA C22.2 No. 247 and listed by Intertek Testing Laboratories NA, Inc. (ETL), a Nationally Recognized Testing Laboratory.
 - a. This model is intended for use in Class II, III and IV vehicular barrier gate applications.
2. Warranty (1) year manufacturer's standard warranty.
3. Operator speed: 90-degrees in approximately 1.5 seconds.

4. Enclosure: 14 gage zinc steel with stainless steelbase, powder coated, full gloss RAL 9010 White.
5. Electronic torque motor with lever drive system.
6. Configuration: Left or right hand mount. In the event of an obstruction close by the barrier gate, operator can be reversed to allow access to cabinet door.
7. Direct drive gate operator.
8. Convenience Outlets: Two (2) 115 VAC for accessory transformers.
9. Electrical Power Requirements: 60Hz. 120 VAC @ 120Watts
10. 24in W x 24in L x 36in D Concrete Foundation.

2.3 GATE ARM

- A. Gate Arms: Fully retroreflectorized on both sides, vertical stripes alternately red and white at 16-inch intervals as required by the Manual on Uniform Traffic Control Devices (MUTCD).
 - 1. 12-foot, 4-inch Octagonal

2.4 PEDESTRIAN PROTECTION

- A. Photo-electric eye / auxiliary loop detector relay switch.
 - 1. Loop detector used in conjunction with photo-eye.
 - 2. Photo Eye: provide thru-beam photo eye in conjunction with down loop. Provide all necessary under ground wiring for photo eye system.

2.5 ACCESSORIES:

- A. Arm Breakaway kit.
- B. Plug-in loop detectors.
- C. Electric reversing edge – reverses rotation of arm on contact with an obstruction.
- D. Backup power inverter – allows systems to remain in operation upon loss of primary power.
- E. Local Fire Authority Control Lock Box.
 - 1. Provide Access Control Lock Box with Knox Key Switch. Verify with Local Fire Authority for proper lock keying.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify that surfaces and openings are ready to receive Work.
- B. Verify field measurements are as shown on Shop Drawings.
- C. Verify that required utilities are available, in proper locations, and ready for use.
- D. Beginning of installation means installer accepts existing conditions.

3.2 INSTALLATION

- A. Installed by a qualified technician who is certified by the Institute of Door Dealer Education and Accreditation (IDEA) as a Certified Automatic Gate Operator Installer (CAGOI).
- B. Unit shall be mounted, firmly secured, plumb and level, as required.

- C. Wiring shall be uniform and in accordance with national electric codes and manufacturers instructions.
- D. All splices shall be in easily accessible junction boxes or on terminal boards.
- E. All cable runs in all junction boxes shall be tagged and identified.
- F. Coordinate all work with other effected trades and contractors.

3.3 SYSTEM INITIALIZING AND PROGRAMMING

- a. System shall be turned on and adjustment made to meet requirements of specifications and on-site conditions.
- b. System shall function as specified.

3.4 SYSTEM TEST PROCEDURES

- a. System shall be completely tested to assure that all components and accessories are hooked-up and in working order.
- b. System shall be pre-tested by contractor and certified to function in accordance with plans and specifications.
- c. System shall be tested in presence of owner's representative.

3.5 OWNER INSTRUCTIONS

- A. Installation contractor shall conduct up to (1) hour of instruction in use and operation of the system to designated owner representatives, within (30) days of acceptance.
- B. Installation contractor shall conduct up to (1) hour of technical training, in troubleshooting and service of the system, to designated owner representatives within (90) days of system acceptance.

3.6 MAINTENANCE

- A. Provide District with all Installation and Maintenance manuals.

END OF SECTION

SECTION 32 31 13

CHAIN LINK FENCES AND GATES

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Fence framework, fabric, and accessories.
- B. Excavation for post bases.
- C. Concrete anchorage for posts, and center drop for gates, and mow strip, where indicated.
- D. Manual gates and related hardware.

1.2 REFERENCES

- A. ASTM A90 - Standards Test Method for Weight of Coating on Zinc-Coated (Galvanized) Iron or Steel Articles.
- B. ASTM A392 - Zinc-Coated Steel Chain Link Fence Fabric.
- C. ASTM A428 - Weight of Coating on Aluminum-coated Iron or Steel Articles.
- D. ASTM A569 - Standard Specification for Steel, Carbon, Hot-Rolled Sheet and Strip Commercial Quality.
- E. ASTM F567 - Installation of Chain Link Fence.
- F. ASTM F900 - Standard Specification for Industrial and Commercial Swing Gates.
- G. ASTM F1083 - Pipe, Steel, Hot-dipped Zinc-coated (Galvanized) Welded for Fence Structures.
- H. ASTM F1184 - Industrial and Commercial Horizontal Slide Gates.
- I. ASTM F1234 - Protective Coatings on Steel Framework for Fences.
- J. Chain Link Fence Manufacturers Institute - Chain Link Fence Wind Load Guide for Selection of Line Post and Line Post Spacing.

1.3 QUALITY ASSURANCE

- A. Manufacturer: Company specializing in commercial quality chain link fencing with three years documented experience.
- B. Installation: Comply with ASTM F567.

1.4 SUBMITTALS

- A. Submit under provisions of Section 01 33 00, unless specified otherwise.
- B. Shop Drawings: Include plan layout, grid, spacing of components, accessories, fittings, hardware, anchorages, and schedule of components.
- C. Submit manufacturer's installation instructions.
- D. Submit two samples 12 x 12 inches in size, illustrating fence fabric finish.
- E. Submit project record documents under provisions of Section 01 70 00. Accurately record actual locations of property perimeter posts relative to property lines and easements.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Framework: ASTM F1083; Schedule 40 steel pipe, standard weight, one piece without joints, finish same as fabric.
- B. Acceptable Equivalent: ASTM A569; Class 1A pipe with minimum yield strength of 50,000 pounds per square inch as manufactured by Allied Tube and Conduit Fence Division, (800) 882-5543, or approved equal.
- C. Fabric: ASTM A392, Class 1, zinc coated wire fabric.

2.2 CONCRETE MIX

- A. Concrete: As specified in Section 03 30 00.

2.3 COMPONENTS

- A. Line and terminal posts and footing size and depth shall be sized and spaced according to Table 1, set forth below. Component sizes for fences with requirements not shown in Table 1 shall be calculated using the Chain Link Fence Manufacturers Institute - Chain Link Fence Wind Load Guide for Selection of Line Post and Line Post Spacing or by using the Wind Load Calculator at www.wheatland.com.

TABLE 1 (Assumes Wind Speed MPH = 85)						
2" Fabric - 9 Gauge						
Fence Height (Ft.)	End Post	Line Post	Post Spacing	Footing Diameter End Post	Footing Diameter Line Post	Footing Depth
0-4	2-3/8"	1-7/8"	10'	12"	12"	24"
>4-8	2-7/8"	2-3/8"	10'	12"	12"	36"
>8-12	3-1/2"	2-7/8"	10'	16"	12"	54"
1" Fabric - 9 Gauge – Vinyl Coated						
0-4	2-3/8"	1-7/8"	10'	12"	12"	24"
>4-6	2-7/8"	2-3/8"	10'	12"	12"	30"
>6-8	3-1/2"	2-7/8"	10'	16"	12"	36"
>8-10	3-1/2"	2-7/8"	8'	16"	12"	48"

- B. Top and Brace Rail: 1-5/8 inch NPS, plain end, sleeve coupled steel pipe.
- C. Fabric: 1" and 2 inch diamond mesh steel wire, interwoven, 9 gage thick, top and bottom selvage knuckle end closed. All fencing in contact with buildings or in areas which permit easy access to buildings and roofs shall be 1-1/4-inch fabric.
- D. Caps: Cast steel or malleable iron, galvanized; sized to post dimension, set screw retained.
- E. Fittings: Galvanized steel sleeves, bands, clips, rail ends, tension bars, fasteners and fittings.
- F. Tension Wire: 7 gage thick steel, single strand.
- G. Swinging Gates: Constructed of tubular members welded at all corners in conformance with ASTM F900 and the following:
 - 1. Gate Posts: 3 inch NPS steel pipe for gates up to 6 foot for a single gate or a single leaf of a double gate. 4 inch NPS steel pipe for gates over 6 feet and up to 12' in width. 6-5/8 inch NPS steel pipe for for gates over 12'.
 - 2. Gate Frames: 1-7/8 inch NPS steel pipe, for welded fabrication with vertical intermediate brace at maximum 6 foot spacing and horizontal brace on all gates.
 - 3. Gate Fabric: To match adjacent fencing.
 - 4. Gate Hardware: Fork type latch with gravity drop and provision for padlock; center gate stop and drop rod where indicated, three 180 degree gate hinges per leaf.

- a. Hinge Closer: Master Halco Spring-Type, Die-Cast Aluminum Gate Closer

2.4 FINISHES

- A. 2" Fabric: Galvanized: ASTM F1234; 1.8 oz/sq ft coating for Schedule 40 pipe. ASTM A90; 1.0 oz/sq ft coating for Class 1A pipe.
- B. 2" Fabric facing Markham Ave at Kinder yard: Vinyl coating with vertical slats
- C. 1" Fabric: Vinyl coating, 7 mils thick. Color to be selected by Architect from manufacturer's standard colors.
- D. Accessories: Same finish as framing.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install framework, fabric, accessories and gates in accordance with ASTM F567.
- B. Provide fence of height indicated.
- C. Space line posts at intervals according to Table 1.
- D. Set terminal, gate and corner posts plumb, in 12 inch diameter concrete footings with top of footing 6 inches below finish grade. Slope top of concrete for water runoff. Footing depth below finish grade: As indicated in Table 1. Form and place mow strip, where indicated, carefully aligning with the fence. Bottom of footing shall be 6" below bottom of post.
- E. Provide top rail through line post tops and splice with 7 inch long rail sleeves.
- F. Brace each gate and corner post back to adjacent line post with horizontal center brace rail and diagonal truss rods. Install brace rail, one bay from end and gate posts.
- G. Install center and bottom brace rail on corner and gate leaves.
- H. Stretch fabric between terminal posts or at intervals of 100 feet maximum whichever is less.
- I. Do not stretch fabric until concrete has cured 28 days.
- J. Position bottom of fabric 2 inches above finished grade.
- H. Fasten fabric to top rail, line posts, braces, and bottom tension wire with wire ties maximum 15 inches on centers.
- I. Attach fabric to end, corner, and gate posts with tension bars and tension bar clips.

- J. Install bottom tension wire stretched taut between terminal posts.
- K. Install gates with fabric to match fence. Install three hinges per leaf, latch, catches, drop bolt.
- M. Provide concrete center drop to foundation depth and drop rod retainers at center of double gate openings.

3.2 ERECTION TOLERANCES

- A. Maximum Variation from Plumb: 1/4 inch.
- B. Maximum Offset from True Position: 1 inch.
- C. Components shall not infringe adjacent property lines.

END OF SECTION



Revisions				
No.	Revisions	By	Date	Appr.

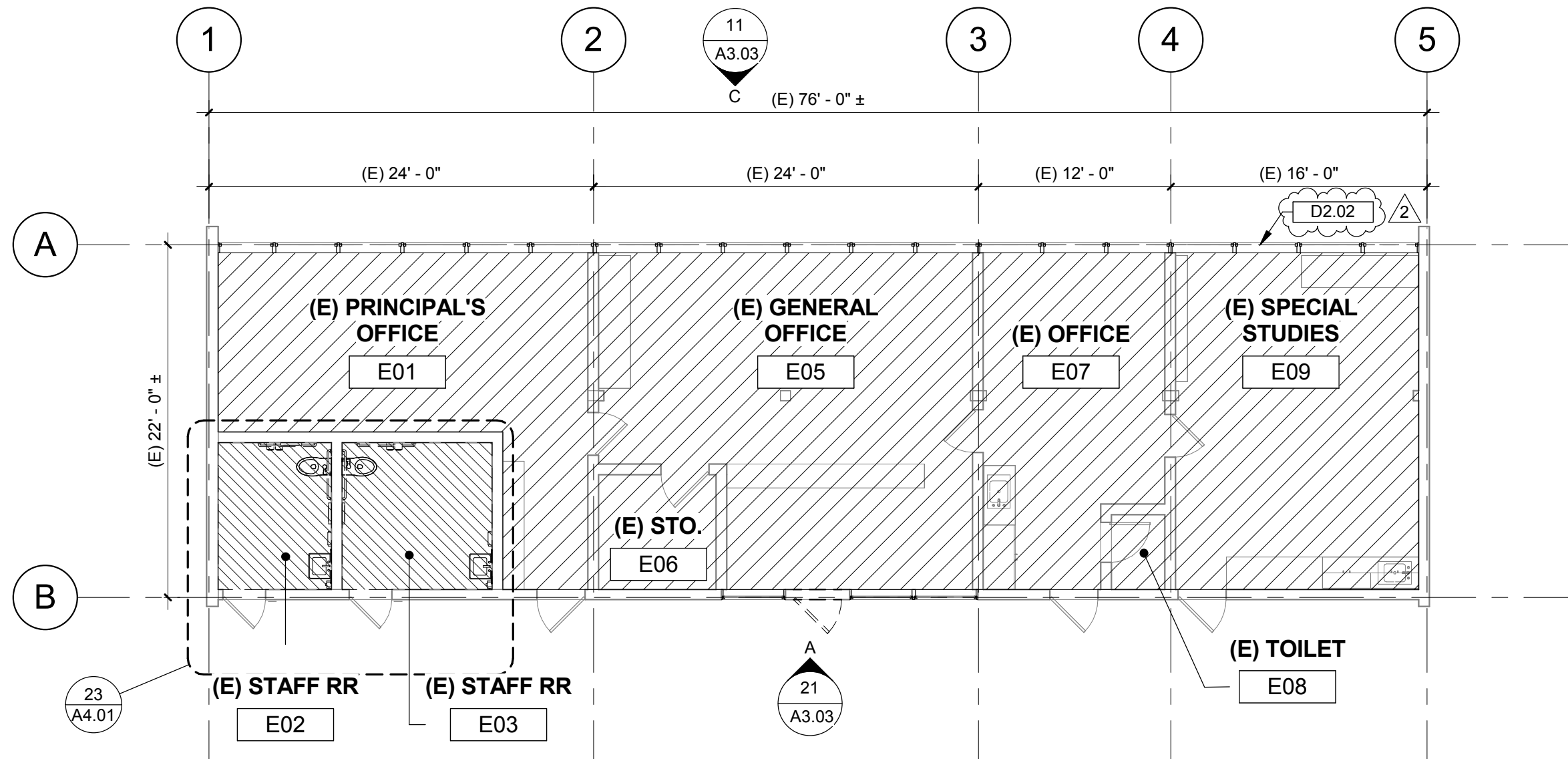
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GENERAL NOTES

- ALL NOTES ARE TYPICAL U.O.N.
- REFER TO STRUCTURAL, MECHANICAL, ELECTRICAL, FIRE ALARM AND PLUMBING DRAWINGS FOR ADDITIONAL SCOPE OF WORK AND COORDINATION.
- CONTRACTOR TO VERIFY (E) CONDITIONS AND NOTIFY THE ARCHITECT OF ANY DISCREPANCIES FROM PLANS. CONTRACTOR TO VERIFY (E) CONDITIONS AND NOTIFY THE ARCHITECT OF ANY DISCREPANCIES FROM PLANS.
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DEMO KEYNOTES

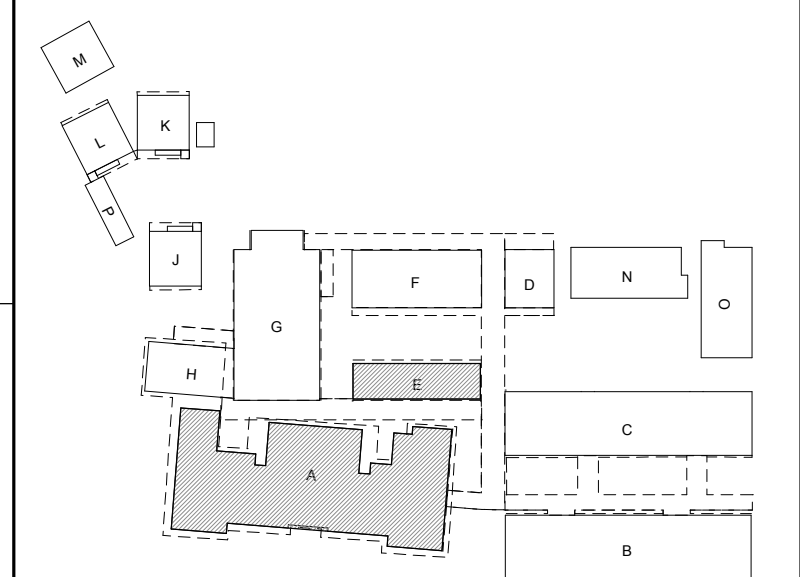
- D2.02 REMOVE (E) STEEL FRAMED WINDOWS. TYP. ALL U.O.N.
- D2.04 REMOVE (E) FLOOR FINISH. PROTECT (E) WOOD SUB-FLOOR TO REMAIN.
- D2.50 PROTECT AND STORE WHEN REMOVING (E) PIN BOARD IN CORRIDOR FOR REINSTALLATION.
- D2.51 PROTECT AND STORE WHEN REMOVING (E) COAT RACK AND SHELVING ABOVE FOR REINSTALLATION.
- D2.52 PROTECT AND STORE WHEN REMOVING (E) FIRE EXTINGUISHER FOR REINSTALLATION.
- D2.60 PROTECT AND STORE WHEN REMOVING (E) 7'-0"± HIGH CASEWORK FOR REINSTALLATION.
- D2.75 REMOVE (E) DOOR AND ASSOCIATED FRAMING.
- D2.81 REMOVE (E) WOOD FRAMED RAMP, ASSOCIATED HANDRAILS AND PORTION OF UPPER LANDING.
- D2.82 REMOVE (E) WOOD FRAMED STAIRS AND ASSOCIATED HANDRAILS.
- D2.84 REMOVE (E) FLOOR FINISHES.
- D2.127 PROTECT AND STORE WHEN REMOVING (E) SHELVES AND COAT RACKS FOR REINSTALLATION.



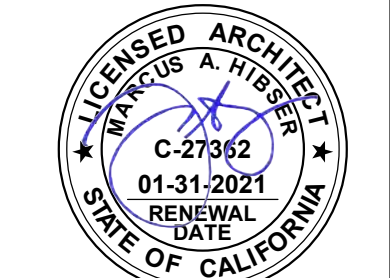
12 DEMOLITION FLOOR PLAN - BUILDING E
1/8" = 1'-0"

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HY Architects Project number: 4539

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MARTIN ELEMENTARY SCHOOL
35 SCHOOL STREET, SOUTH SAN FRANCISCO, CA 94080

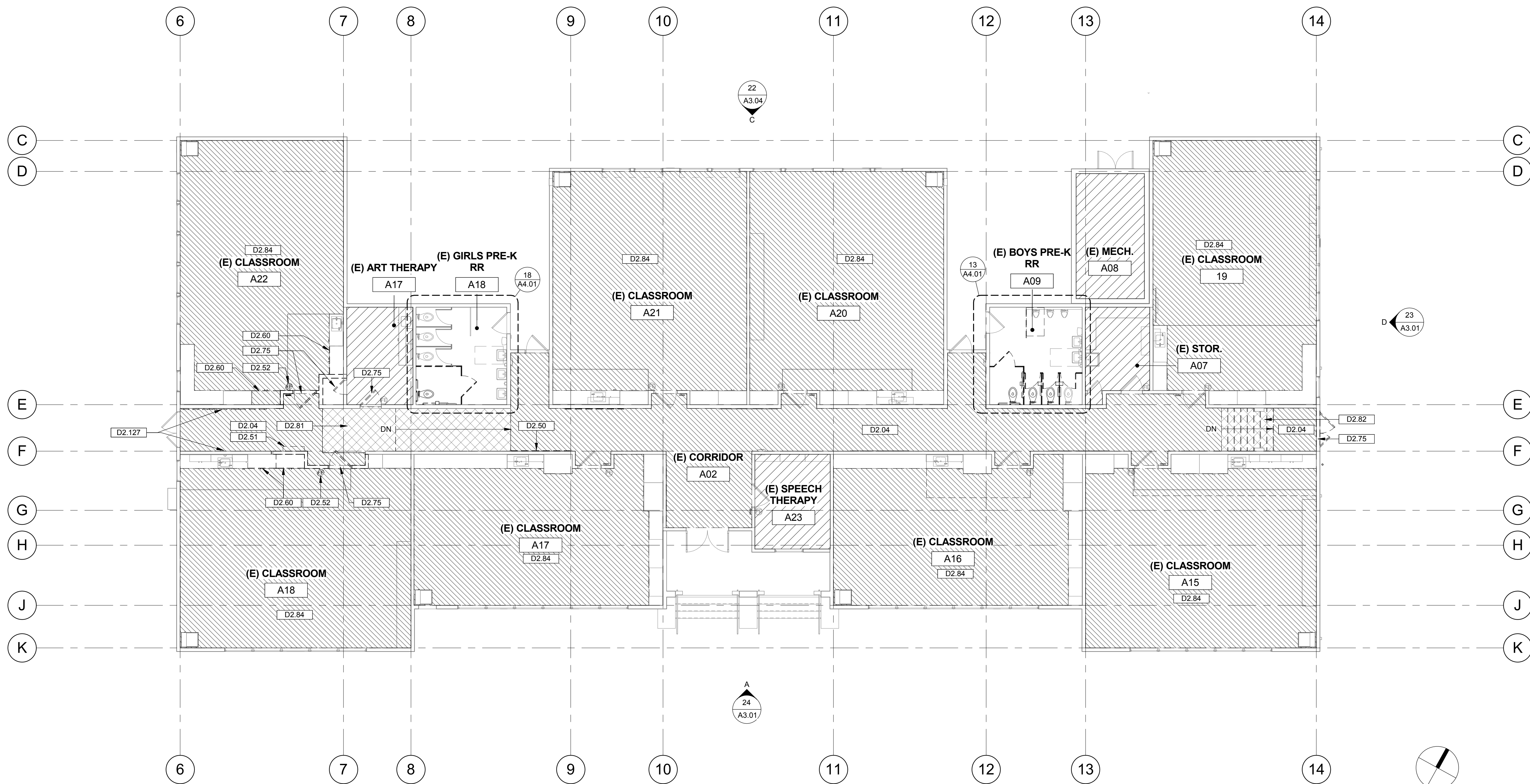
Project
MARTIN ELEMENTARY SCHOOL MODERNIZATION

Sheet Title
DEMOLITION FLOOR PLANS BUILDINGS A & E

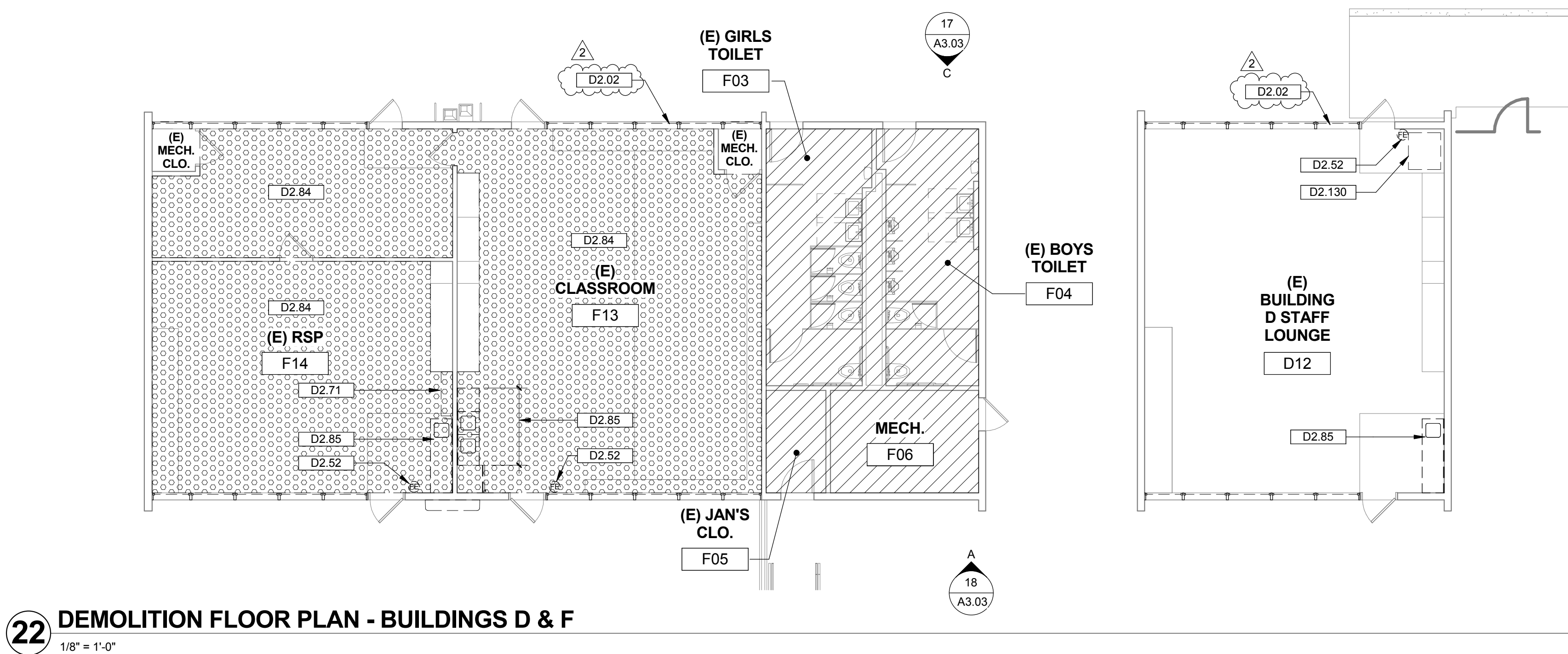
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Issue Date: 03/11/19
Revit Version: 2017

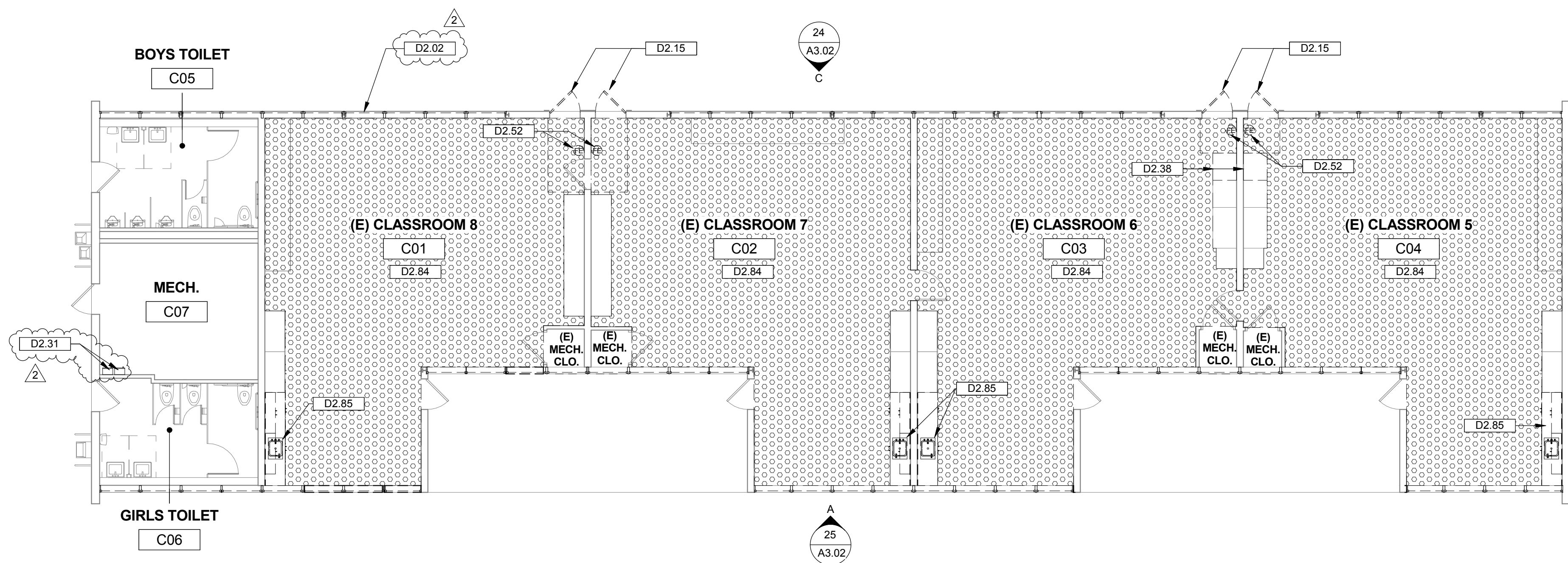
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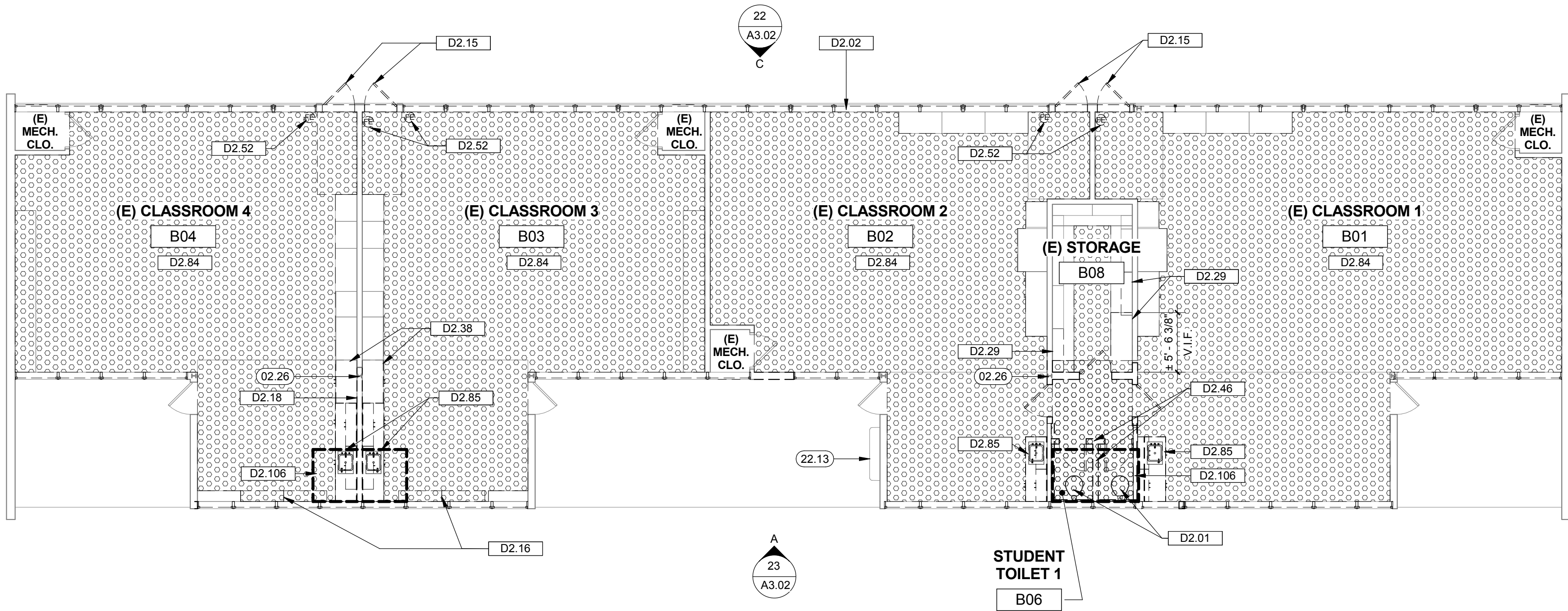
25 DEMOLITION PLAN - BUILDING A
1/8" = 1'-0"

IF THIS SHEET IS NOT 30"x42", IT IS
A REDUCED PRINT SCALE ACCORDINGLY

22 DEMOLITION FLOOR PLAN - BUILDINGS D & F
1/8" = 1'-0"



24 DEMOLITION FLOOR PLAN - BUILDING C
1/8" = 1'-0"



25 DEMOLITION FLR PLAN - BUILDING B
1/8" = 1'-0"

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DEMO KEYNOTES

- D2.02 REMOVE (E) TANK TOILET - S.P.D.
- D2.02 REMOVE (E) STEEL FRAMED WINDOWS, TYP. ALL U.O.N.
- D2.15 PROTECT AND STORE WHEN REMOVING (E) DOOR, ASSOCIATED HARDWARE AND ROOM SIGNAGE FOR REINSTALLATION. PROTECT (E) WOOD FRAME TO REMAIN, STORE AND PROTECT. REMOVE (E) 3/4" CONCRETE INTEGRAL THRESHOLD.
- D2.16 REMOVE (E) CASEWORK FOR REINSTALLATION, TYP.
- D2.18 REMOVE (E) PARTITION.
- D2.29 PROTECT (E) CASEWORK WHEN REMOVING PORTION OF (E) UPPER AND BASE CASEWORK FOR TRIMMING AND NEW END REINFORCEMENT.
- D2.31 REMOVE (2) (E) ABANDONED INTERCOM PANELS AND ASSOCIATED CONDUITS. PATCH (E) FINISHES.
- D2.38 REMOVE (E) CASEWORK.
- D2.46 DEMOLISH (E) WOOD STUD PARTITION AND ASSOCIATED 6" CONC. CURB. PROTECT (E) CONC. SLAB TO REMAIN.
- D2.52 PROTECT AND STORE WHEN REMOVING (E) FIRE EXTINGUISHER FOR REINSTALLATION.
- D2.71 REMOVE (E) WALL MOUNTED SHELF CASEWORK.
- D2.84 REMOVE (E) FLOOR FINISHES.
- D2.85 REMOVE (E) SINK AND ASSOCIATED UPPER AND LOWER CASEWORK IN PREPARATION FOR NEW INSTALLATION. PROTECT AND STORE WHEN REMOVING (E) SOAP DISPENSER AND PAPER TOWEL DISPENSER FOR REUSE. S.P.D.
- D2.106 DEMO PORTION OF FLOOR FOR (N) TOILET FIXTURES. SEE PLUMBING DRAWINGS.
- D2.130 REMOVE (E) VENDING MACHINE AND RETURN TO OWNER.

EXISATING KEYNOTES

- D2.26 (E) STEEL COLUMN TO REMAIN, PROTECT.
- D2.13 (E) NON-ACCESSIBLE DRINKING FOUNTAIN TO REMAIN.

LEGEND

- NO WORK, U.O.N.
- REMOVE (E) FLOOR FINISH AND ASSOCIATED RUBBER BASE. PROTECT (E) CONC SUB-FLOOR TO REMAIN
- (E) WOOD FRAMED WALLS TO BE DEMOLISHED
- (E) WALLS TO REMAIN, PROTECT DURING CONSTRUCTION
- (E) DOOR TO REMAIN
- (E) DOOR TO BE REMOVED

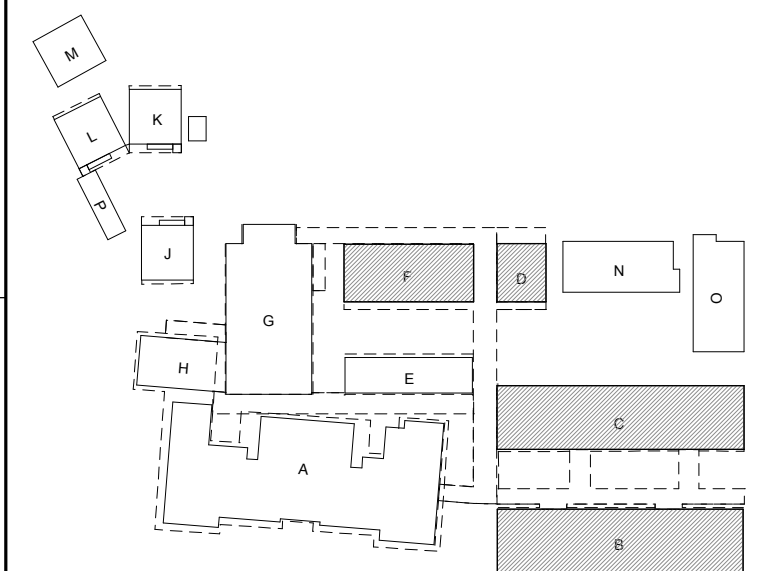


Revisions				
No.	Revisions	By	Date	Appr.

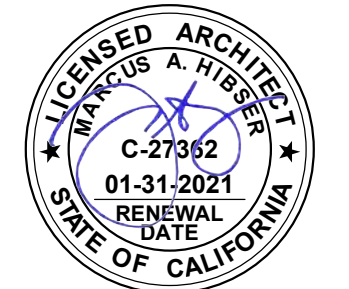
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Architect/Engineer Of Record:



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HY Architects Project number: 4539

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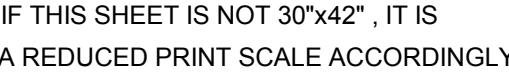
Project
MARTIN ELEMENTARY SCHOOL MODERNIZATION

Sheet Title
DEMOLITION FLOOR PLANS
BUILDINGS B, C, D & F

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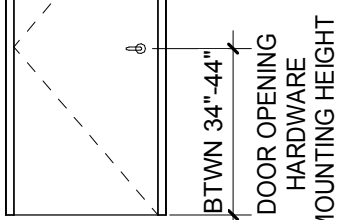
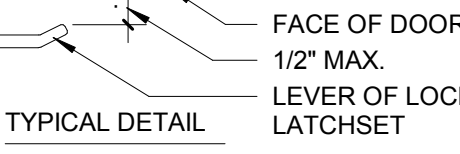
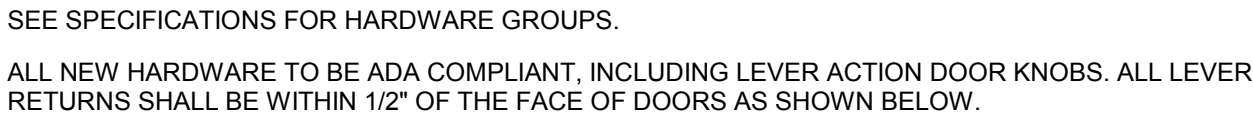
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Checked By: CD
Issue Date: 03/11/19
Revit Version: 2017

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1. WHERE DIMENSIONS ARE NOT PROVIDED ON DWGS. OTHER THAN THE FLOOR PLANS TO LOCATE DOOR OPENINGS, APPLY THE FOLLOWING RULES, IN ORDER, TO DETERMINE THE LOCATION OF DOOR OPENINGS:

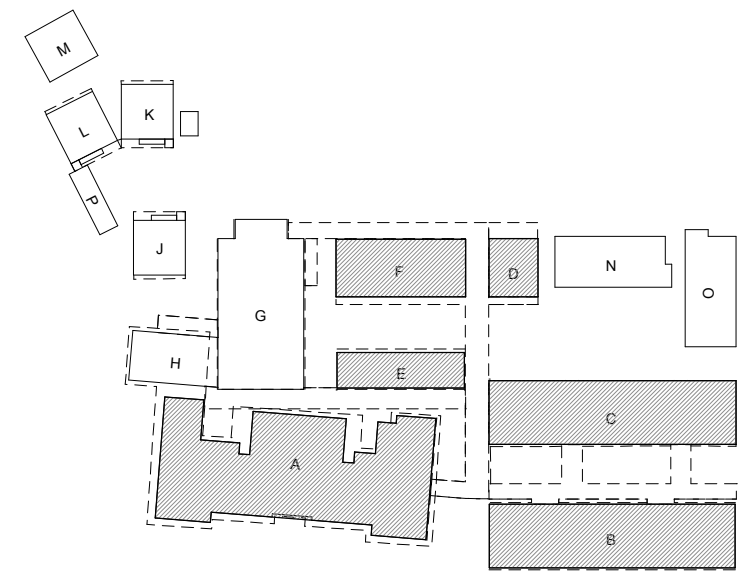
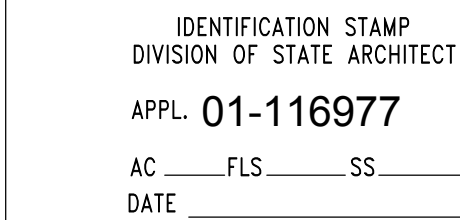


1. DOOR MARK: SPECIFIC NUMBER ASSIGNED TO INDIVIDUAL DOOR.

NOTE
ALL NEW AND EXISTING DOORS AND FRAMES LISTED TO BE PAINTED, U.O.N.

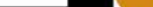
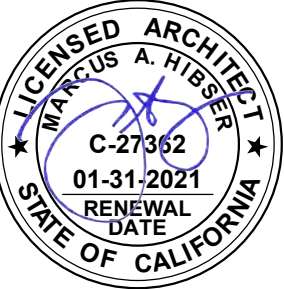
ABBREVIATIONS

HM	HOLLOW METAL
WD	WOOD
E)	EXISTING
TG	TEMPERED GLASS
FR	FIRE-RESISTIVE SAFETY GLAZING



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Facility

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35 SCHOOL STREET, SOUTH SAN
FRANCISCO, CA 94080

Project

MARTIN ELEMENTARY
SCHOOL MODERNIZATION

Sheet Title

DOOR & SIGNAGE SCHEDULE

Client Project Number: _____ Client Proj. # _____

Scale: As indicated

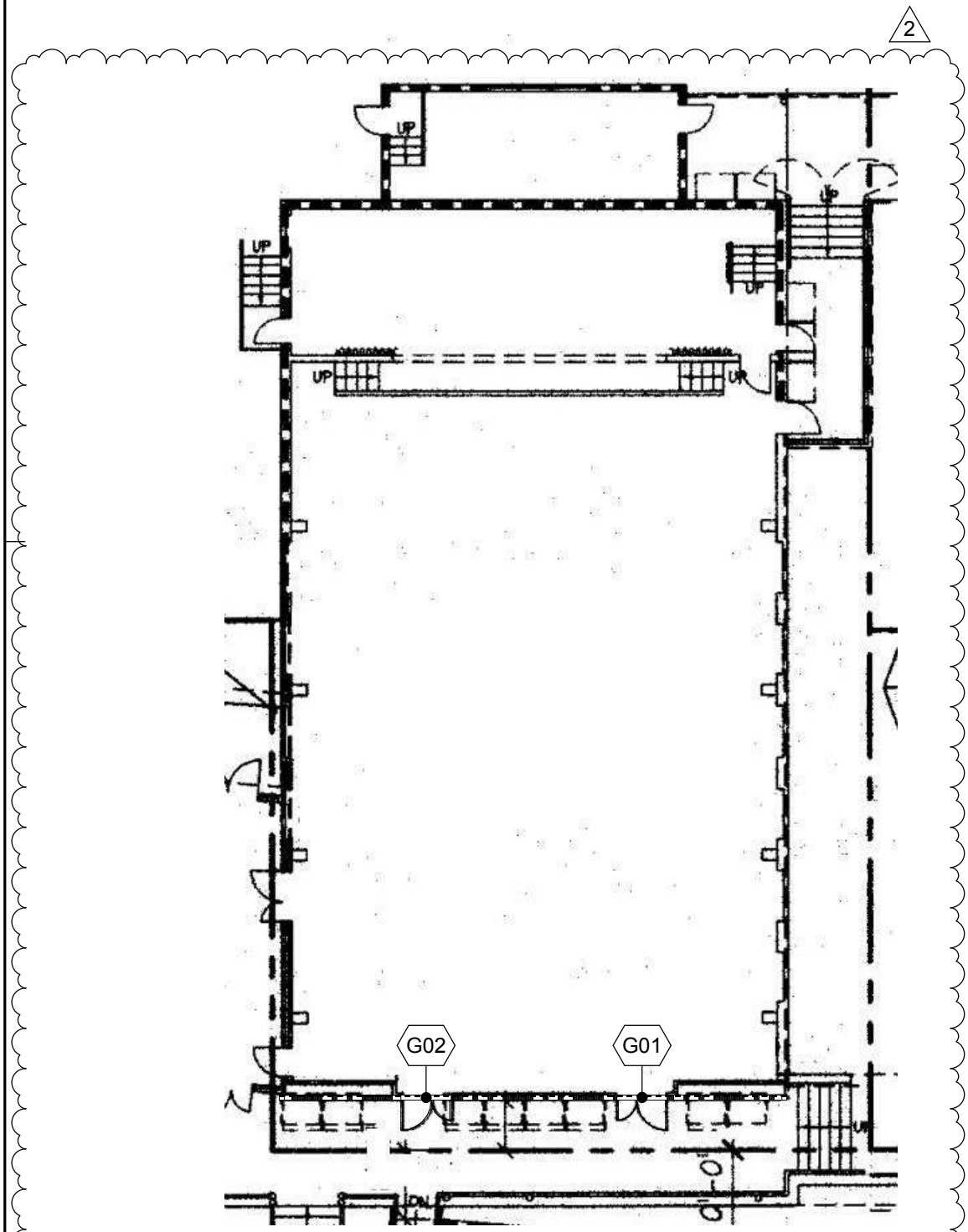
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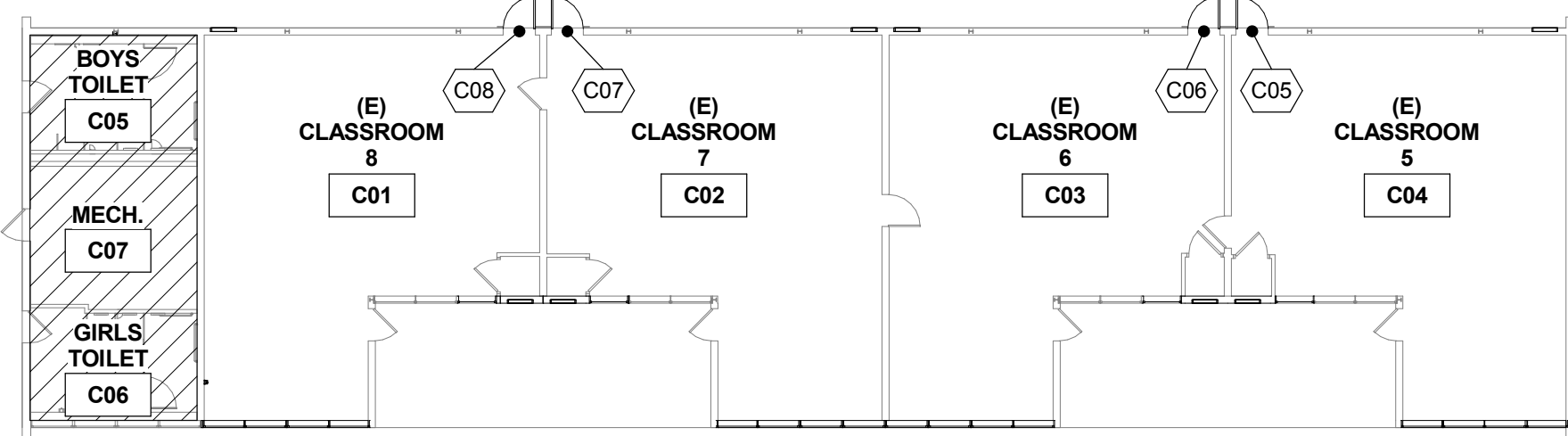
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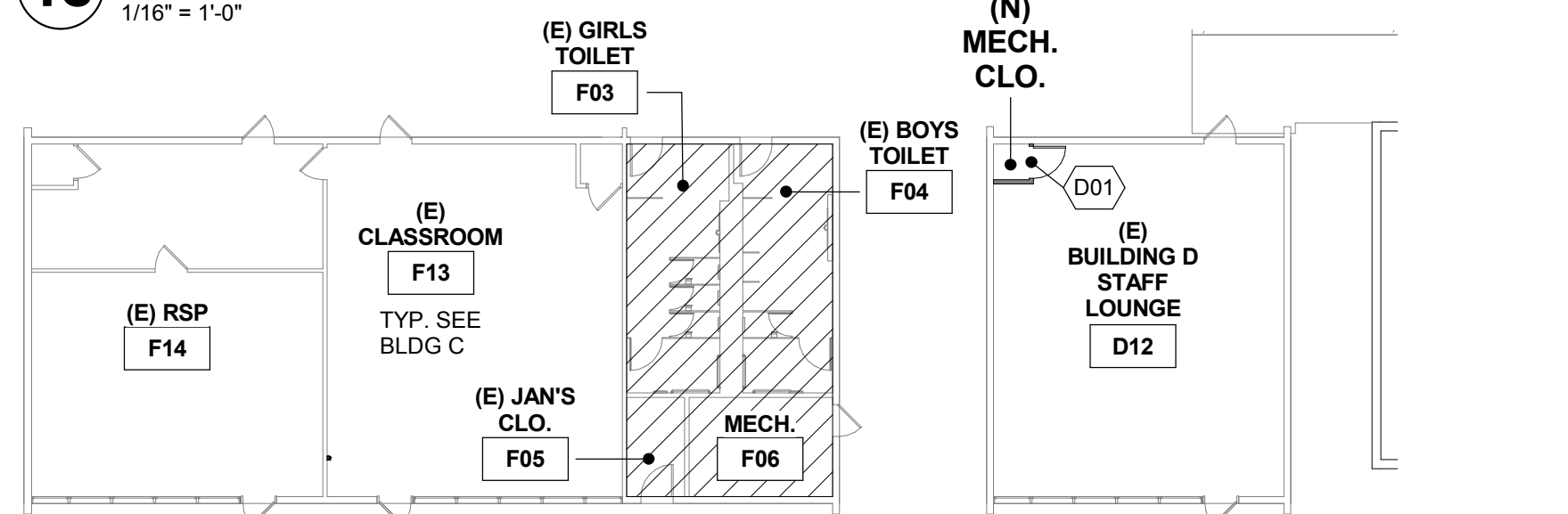
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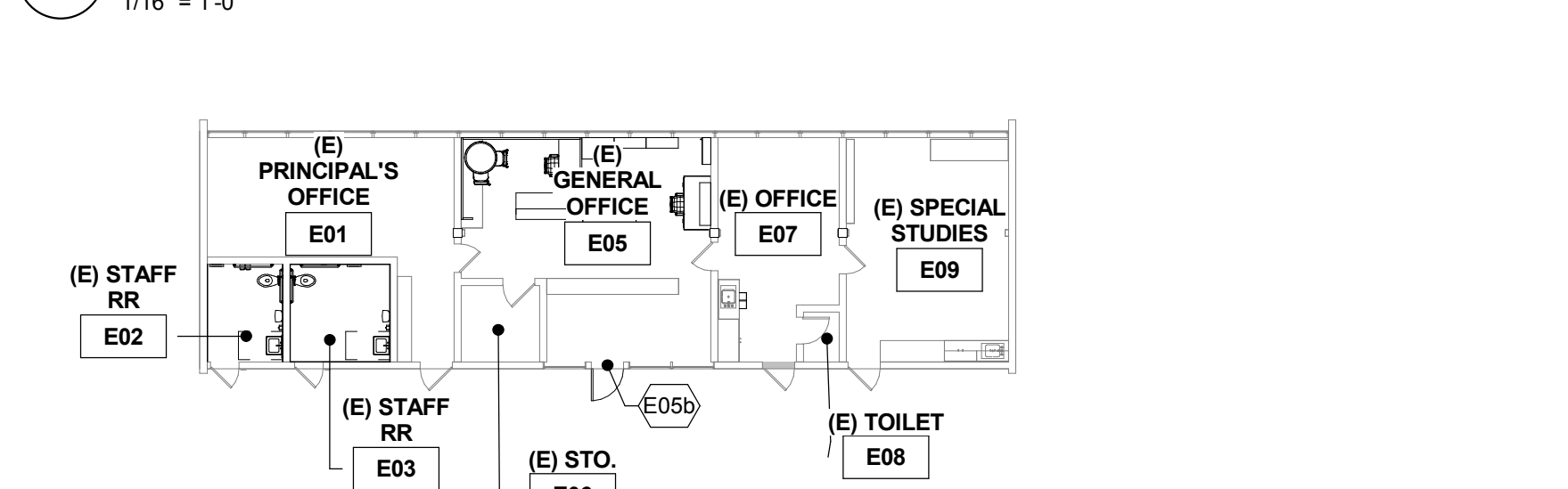
28 FLOOR PLAN - BUILDING A
12" = 1'-0"



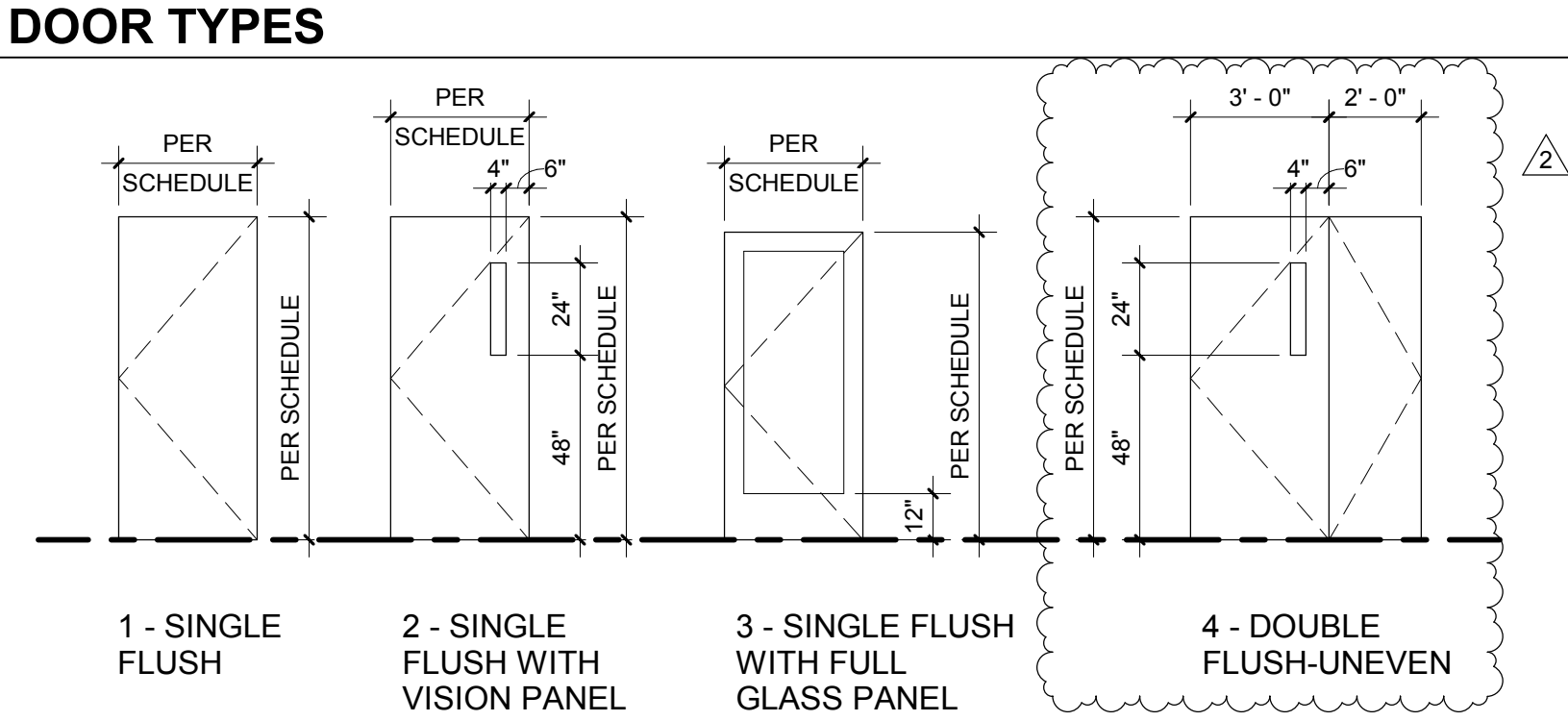
18 FLOOR PLAN - BUILDING C
1/16" = 1'-0"



19 FLOOR PLAN - BUILDINGS D & F
1/16" = 1'-0"



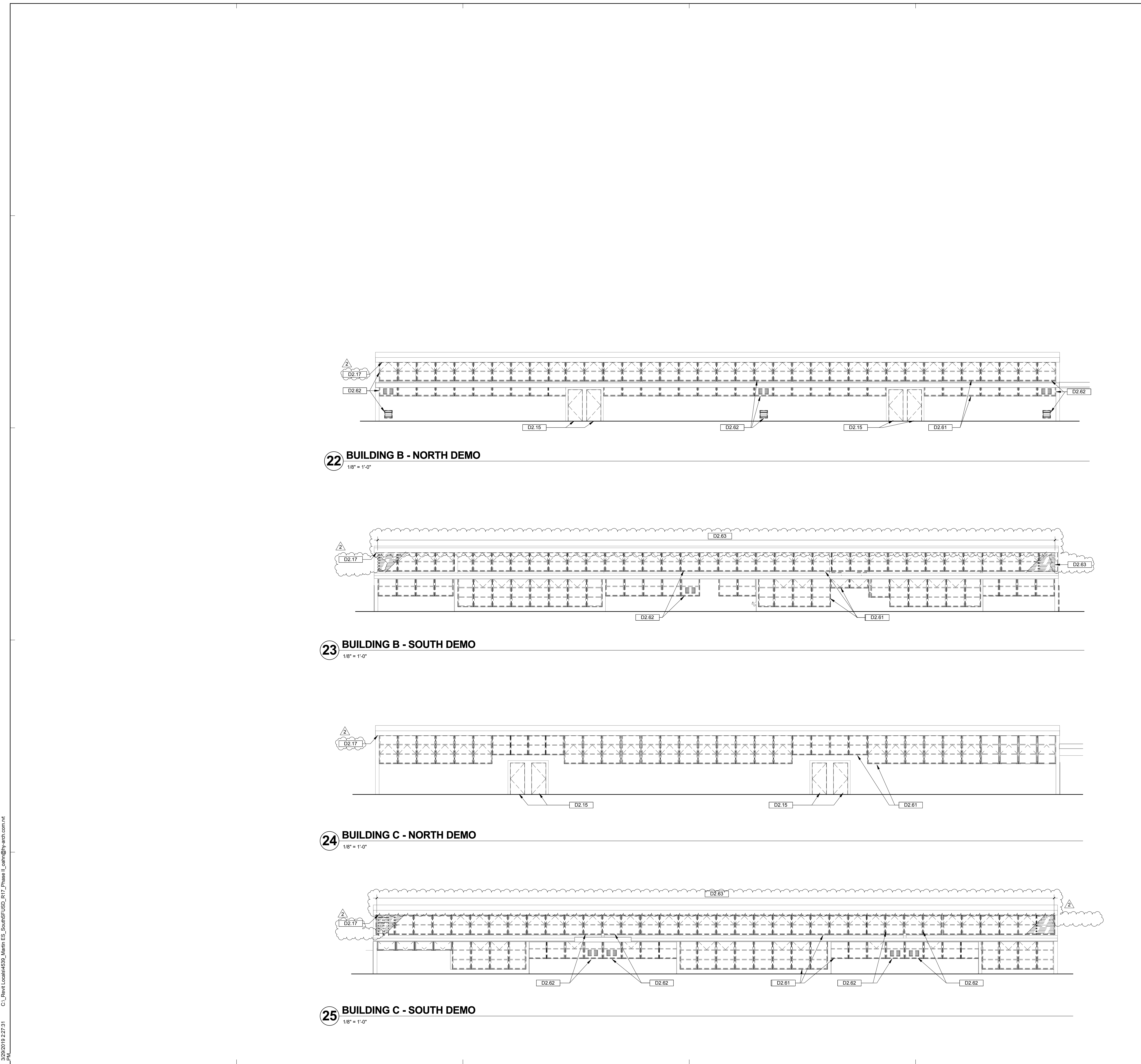
20 FLOOR PLAN - BUILDING E
1/16" = 1'-0"



The image contains two technical drawings, labeled A and B, showing cross-sections of door and window framing.

Drawing A: DOOR
 This drawing shows a cross-section of a door frame. The top horizontal member is labeled "WIDTH PER DOOR SCHEDULE" with a dimension of "1'-0\"". The vertical members are labeled "DOOR SCHEDULE" with a dimension of "1'-0\"". The frame is anchored to the structure with "FRAME ANCHOR, (2) #6 x 3/8\" MIN STEEL SHEET METAL OR SELF TAPPING SCREWS, TYP." and "SILL ANCHOR 2 3/8\" LAG SCREWS, TYP." The door is shown with a height dimension of "EQ." (equal to the frame height).

Drawing B: SINGLE DOOR W/ SIDELIGHT
 This drawing shows a cross-section of a single door with a sidelight. The top horizontal member is labeled "WIDTH PER DOOR SCHEDULE" with a dimension of "1'-6\"". The vertical members are labeled "DOOR SCHEDULE" with a dimension of "1'-0\"". The frame is anchored to the structure with "FRAME ANCHOR, (2) #6 x 3/8\" MIN STEEL SHEET METAL OR SELF TAPPING SCREWS, TYP." and "SILL ANCHOR 2 3/8\" LAG SCREWS, TYP." The door is shown with a height dimension of "EQ." (equal to the frame height). The sidelight is shown with a height dimension of "2'-7 1/8\"".

IF THIS SHEET IS NOT 30"x42", IT IS
A REDUCED PRINT SCALE ACCORDINGLY

GENERAL NOTES

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- REFER TO STRUCTURAL, MECHANICAL, ELECTRICAL, FIRE ALARM AND PLUMBING DRAWINGS FOR ADDITIONAL SCOPE OF WORK AND COORDINATION.
- CONTRACTOR TO VERIFY (E) CONDITIONS AND NOTIFY THE ARCHITECT OF ANY DISCREPANCIES FROM PLANS.
- PATCH AND REPAIR WALLS THAT ARE EXISTING TO REMAIN AND AFFECTED BY DEMOLITION.
- PROTECT ALL (E) FINISHES TO REMAIN DURING CONSTRUCTION.
- CONTRACTOR TO VERIFY ACCURACY OF ALL EXISTING DIMENSIONS AND NOTIFY THE ARCHITECT OF ANY CONFLICTS PRIOR TO PERFORMING NEW WORK.
- DIMENSIONS NOTED AS "CLR." MEAN CLEAR DIMENSION FROM FACE OF FINISH TO FACE OF FINISH.
- SEE DIVISION 1 FOR ALLOWANCE AND UNIT COST REQUIREMENTS FOR DRY ROT REPLACEMENT.

KEYNOTES

DEMO

D2.15

PROTECT AND STORE WHEN REMOVING (E) DOOR, ASSOCIATED HARDWARE AND ROOM SIGNAGE FOR REINSTALLATION. PROTECT (E) WOOD FRAME TO REMAIN. STORE AND PROTECT. REMOVE (E) 3/4" CONCRETE INTEGRAL THRESHOLD.

D2.17

REMOVE (E) INSECT SCREEN AND ASSOCIATED TRIM AT SOFFIT.

D2.61

REMOVE (E) STEEL FRAMED WINDOWS, TYP U.O.N.

D2.62

REMOVE (E) STEEL FRAMED WINDOWS AND LOUVERS

D2.63

REMOVE (E) EXTERIOR STEEL LOUVER SYSTEM. DEDUCTIVE ALTERNATIVE (1).

Revisions

No.	Revisions	By	Date	Appr.
2	Bid Addendum 2		04/02/19	

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IDENTIFICATION STAMP
DIVISION OF STATE ARCHITECT
APPL: 01-116977
AC: FLS SS
DATE

M

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C

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B

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Architect/Engineer Of Record:

LICENSED ARCHITECT
ARCHITECT
C-27562
01-31-2021
RENEWAL
DATE
STATE OF CALIFORNIA

HY

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HY Architects Project number: 4539

Facility
MARTIN ELEMENTARY SCHOOL
35 SCHOOL STREET, SOUTH SAN FRANCISCO, CA 94080

Project
MARTIN ELEMENTARY SCHOOL MODERNIZATION

Sheet Title
EXTERIOR ELEVATIONS
DEMO - BUILDINGS B & C

Client Project Number: Client Proj. #

Scale: As indicated
Drawn By: OA
Checked By: CD
Issue Date: 03/11/19
Revit Version: 2017

Sheet
A3.02

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A REDUCED PRINT SCALE ACCORDINGLY



Revisions			
No.	Revisions	By	Date

2	Bid Addendum 2		04/02/19
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GENERAL NOTES

- ALL NOTES ARE TYPICAL U.O.N.
- SEE A1.03 & A1.04 FOR MAIN ENTRY TO CAMPUS. FOR ADDITIONAL INFORMATION.
- REFER TO STRUCTURAL, MECHANICAL, ELECTRICAL, FIRE ALARM AND PLUMBING DRAWINGS FOR ADDITIONAL SCOPE OF WORK AND COORDINATION.
- CONTRACTOR TO VERIFY (E) CONDITIONS AND NOTIFY THE ARCHITECT OF ANY DISCREPANCIES FROM PLANS.
- PATCH AND REPAIR WALLS TO MATCH THAT ARE EXISTING TO REMAIN AND AFFECTED BY DEMOLITION. NEW PAINT COLORS TO BE AGREED BY ARCHITECT. NEW PAINT COLORS TO BE AGREED BY ARCHITECT.
- PROTECT ALL (E) FINISHES TO REMAIN DURING CONSTRUCTION.
- CONTRACTOR TO VERIFY ACCURACY OF ALL EXISTING DIMENSIONS AND NOTIFY THE ARCHITECT OF ANY CONFLICTS PRIOR TO PERFORMING NEW WORK. DIMENSIONS NOTED AS "CLR." MEAN CLEAR DIMENSION FROM FACE OF FINISH TO FACE OF FINISH.
- SEE ROOF PLAN FOR SLOPES AND ADDITIONAL INFORMATION.
- SEE WINDOW AND DOOR SCHEDULE FOR ADDITIONAL INFORMATION.
- SEE CIVIL DRAWINGS FOR SITE GRADING.
- FLASHSEAL WATER TIGHT ALL WALL PENETRATIONS WHERE MECHANICAL DUCTING, PIPING, ETC. PENETRATE THE BUILDING.
- FOR EXTERIOR WALL SIGNAGE SEE DOOR SCHEDULE.
- OPERABLE WINDOWS TO PROTRUDE 4" MAX FROM FACE OF WALL CURB WHEN FULLY OPENED.
- SEE DIVISION 1 FOR ALLOWANCE AND UNIT COST REQUIREMENTS FOR DRY ROT REPLACEMENT.

DEMO KEYNOTES

- DEMO
- D2.02 REMOVE (E) STEEL FRAMED WINDOWS, TYP. ALL U.O.N.
 - D2.17 REMOVE (E) INSECT SCREEN AND ASSOCIATED TRIM AT SOFFIT.
 - D2.61 REMOVE (E) STEEL FRAMED WINDOWS, TYP. U.O.N.
 - D2.62 REMOVE (E) STEEL FRAMED WINDOWS AND LOUVERS.
 - D2.63 REMOVE (E) EXTERIOR STEEL LOUVER SYSTEM, DEDUCTIVE ALTERNATIVE (1).
 - D2.65 REMOVE (E) INTERIOR STEEL LOUVER SYSTEM, DEDUCTIVE ALTERNATIVE (1).
 - D2.66 REMOVE (E) DRINKING FOUNTAIN, CAP ALL SERVICES BEHIND FINISH.

REMODEL KEYNOTES

- REMODEL
- 08.01 (N) ALUMINUM FRAMED WINDOW, SEE WINDOW SCHEDULE, TYP.
 - 08.20 DRAINABLE LOUVER, SEE A2.31 FOR LOCATIONS AND DETAILS, S.M.D. FOR ADDITIONAL IN TAKE AND RELIEF INFORMATION.
 - 08.21 ALUMINUM FRAMED WINDOW, TYP. U.O.N. SEE WINDOW SCHEDULE.
 - 08.31 (N) CONTINUOUS SCREEN AND TRIM @ SOFFIT, SEE DETAIL 7/A8.05.
 - 08.24 (N) WOOD FRAMED INFILL, PAINT TO MATCH (E) ADJACENT BOARD AND BATTEN EXTERIOR AND GYP. BD. INTERIOR, S.S.D.
 - 09.37 PATCH AND PREPARE (E) EXTERIOR WOOD TRIM FOR NEW PAINT, TYP WHERE OCCURS ON ENTIRE BUILDING. SEE EXT PAINT NOTES.
 - 09.38 PATCH AND PREPARE (E) EXTERIOR METAL TRIM, FASCIA, GUTTERS AND RAIN WATER LEADERS FOR NEW PAINT WHERE OCCURS ON ENTIRE BUILDING. SEE EXT PAINT NOTES.
 - 09.41 PATCH AND PREPARE (E) EXTERIOR PAINTED CONC FOR NEW PAINT, TYP WHERE OCCURS ON ENTIRE BUILDING. SEE EXT PAINT NOTES.
 - 09.42 PATCH AND PREPARE (E) EXTERIOR BOARD AND BATTENS. SEE EXT PAINT NOTES.

PAINT LEGEND

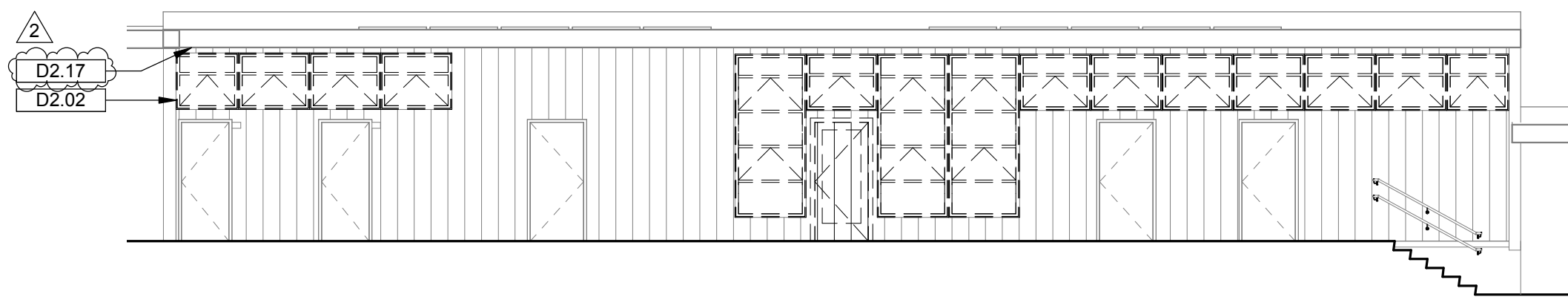
- EP1 EXTERIOR PAINT: GREY PEARL DEC795
- EP2 EXTERIOR PAINT: FRESH EGGPLANT DEC744
- ALL FASCIA = EP2 UON
- DOOR = EP2 UON
- ALL METAL PAINTED COLUMN = EP2 UON
- ALL BUILDING ROOF OVERHANGS AND UNDERSIDE OF WALKWAYS AND PORTICO = EP1 UON

EXTERIOR PAINTING NOTES

- PAINT ENTIRE EXTERIOR OF ALL EXISTING BUILDINGS, INCLUDING BUILDING OVERHANGS, COLUMNS, PAINT ALLEXISTING VOERED WALKWAY AND PORTICO STRUCTURES, INCLUDING:
 - BUILDING A
 - BUILDING B
 - BUILDING C
 - BUILDING D
 - BUILDING E
 - BUILDING F
 - BUILDING G, INCLUDING METAL ROOF
 - BUILDING H
 - BUILDING J
 - BUILDING K
 - BUILDING L
 - BUILDING M
 - ALL COVERED WALKWAYS
- POWER SPRAY WASH ALL BUILDING SURFACES THAT ARE TO BE PAINTED.
- CLEAN AND PREPARE ALL EXISTING SURFACES PER SPECIFICATIONS.
- LISTED BELOW ARE SURFACES TO RECEIVE PAINT AND ARE SPECIFIC TO THE BUILDINGS AND STRUCTURES IDENTIFIED ABOVE. ALL SURFACES TO BE PAINTED PER SPECIFICATIONS. CONTRACTOR TO REFER TO DRAWINGS AND SPECIFICATIONS FOR POSSIBLE ADDITIONAL SURFACES TO RECEIVE PAINT NOT LISTED BELOW.
 - ALL EXPOSED PIPES, CONDUITS & EXPOSED WOOD BLOCKING
 - ALL EXTERIOR CABINETS, ENCLOSURE ATTACHED TO BUILDINGS OR FREE STANDING
 - ALL WOOD SIDING AND TRIM
 - ALL EXPOSED METAL FLASHING, GUTTERS & DOWN SPOUTS
 - ALL BUILDING COVERED WALKWAY & PORTICO CEMENT PLASTER SOFFITS AND CEILINGS, UON.
- CONTRACTOR TO SURVEY AND FIELD MEASURE/VERIFY ALL BUILDING CONDITIONS TO QUANTIFY SCOPE OF THIS PROJECT PRIOR TO SUBMITTING BID.
- REMOVE AND REINSTALL ALL BUILDING SIGNAGE AS REQUIRED FOR WORK.
- PROTECT ALL WALL MOUNTED LIGHTING FIXTURES AND DEVICES DURING WORK.
- PROTECT PLANTING ADJACENT TO BUILDING EXTERIOR DURING WORK.

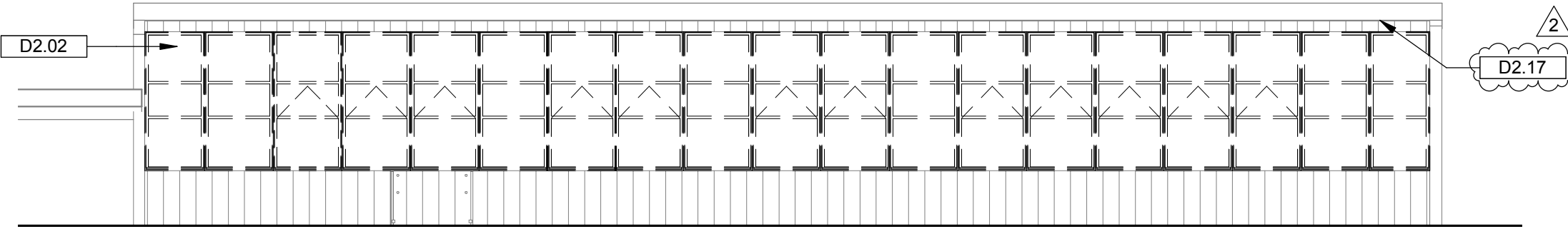
LEGEND

- A1 WINDOW MARK, SEE WINDOW SCHEDULE A2.31
- OPERABLE WINDOW
- WINDOW WITH OBSCURED GLAZING
- AREA OF WALL WITH INFILL, PATCH AND PAINT.



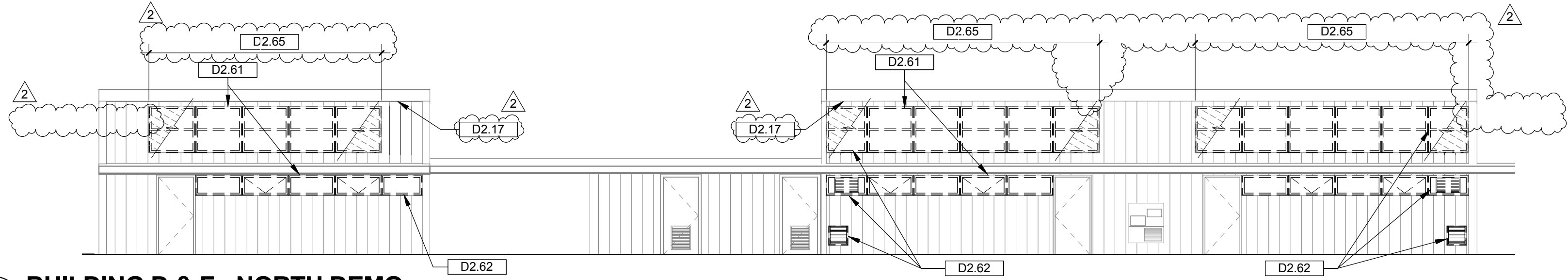
21 BUILDING E - SOUTH DEMO

1/8" = 1'-0"



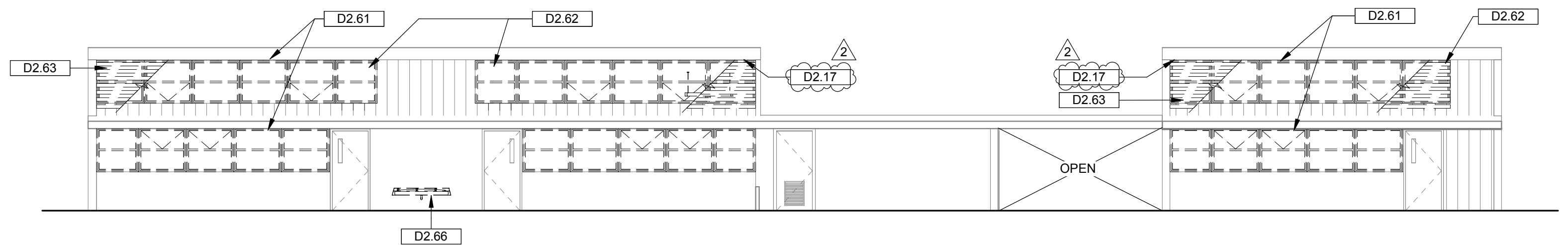
11 BUILDING E - NORTH DEMO

1/8" = 1'-0"



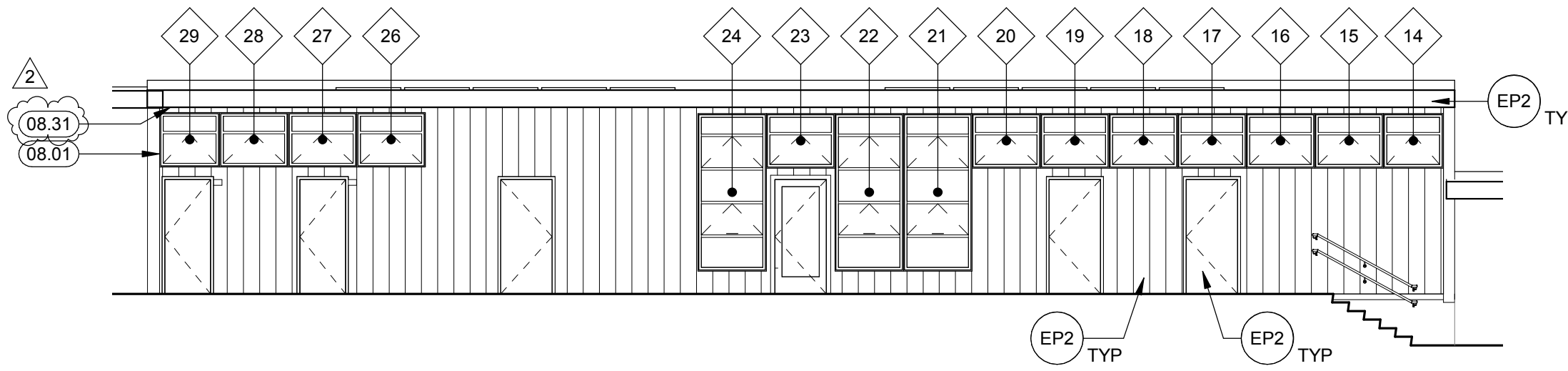
17 BUILDING D & F - NORTH DEMO

1/8" = 1'-0"



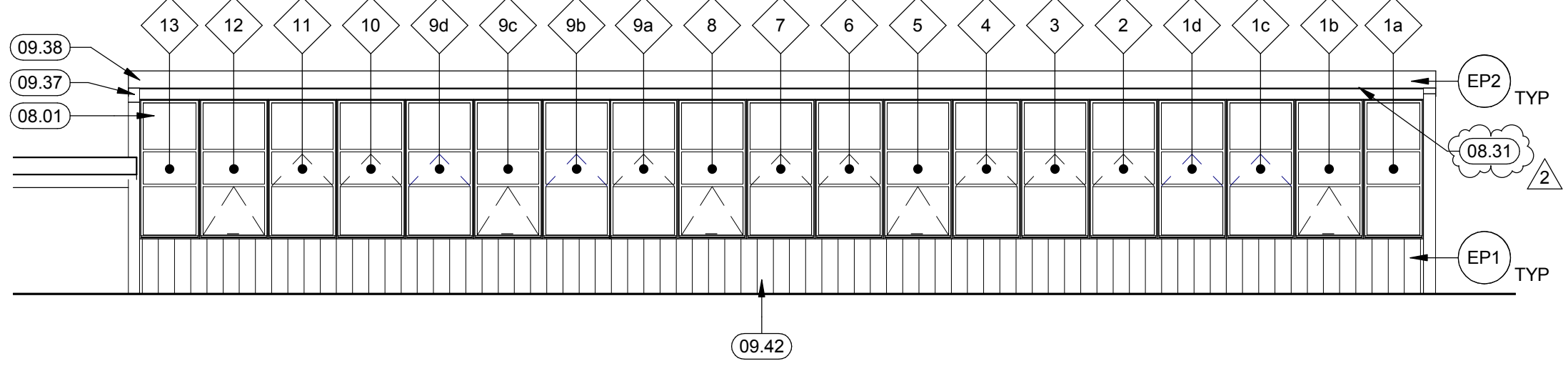
18 BUILDING D & F - SOUTH DEMO

1/8" = 1'-0"



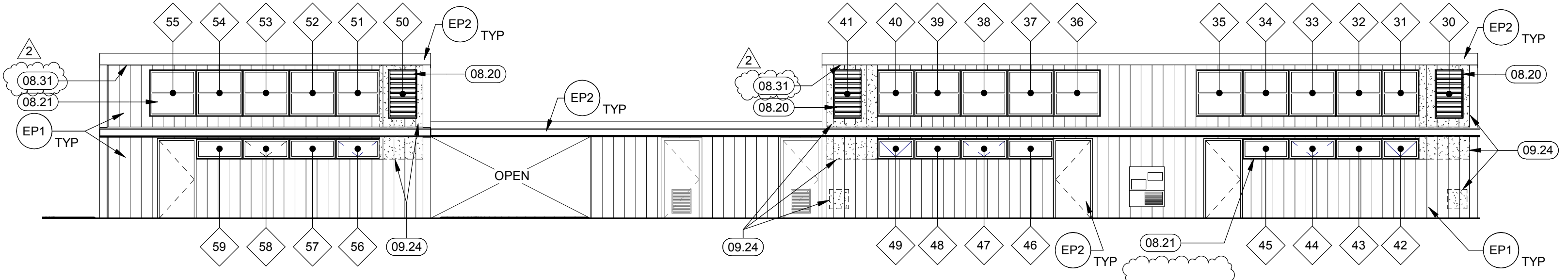
23 BUILDING E - SOUTH NEW

1/8" = 1'-0"



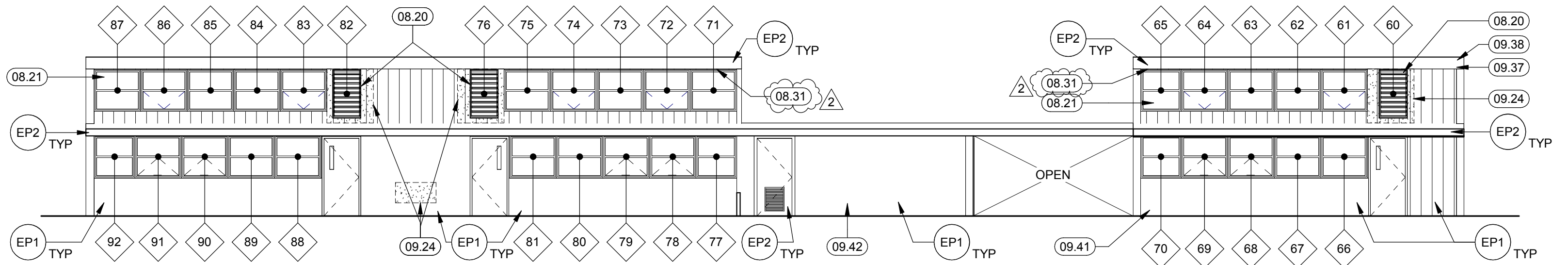
13 BUILDING E - NORTH NEW

1/8" = 1'-0"



19 BUILDING D & F - NORTH NEW

1/8" = 1'-0"



20 BUILDING D & F - SOUTH NEW

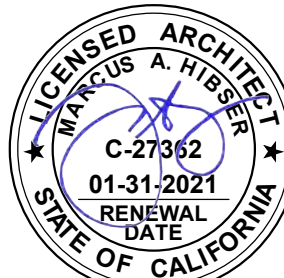
1/8" = 1'-0"

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Architect/Engineer Of Record:



HY HIBSER YAMAUCHI
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300 - 27th Street
Oakland, CA 94612
510.446.2222 tel | 510.446.2211 fax

HY Architects Project number: 4539

Facility
MARTIN ELEMENTARY SCHOOL
35 SCHOOL STREET, SOUTH SAN
FRANCISCO, CA 94080

Project
MARTIN ELEMENTARY
SCHOOL MODERNIZATION

Sheet Title
EXTERIOR ELEVATIONS
DEMO AND NEW - BUILDINGS
D, E & F

Client Project Number: Client Proj. #

Scale: As indicated

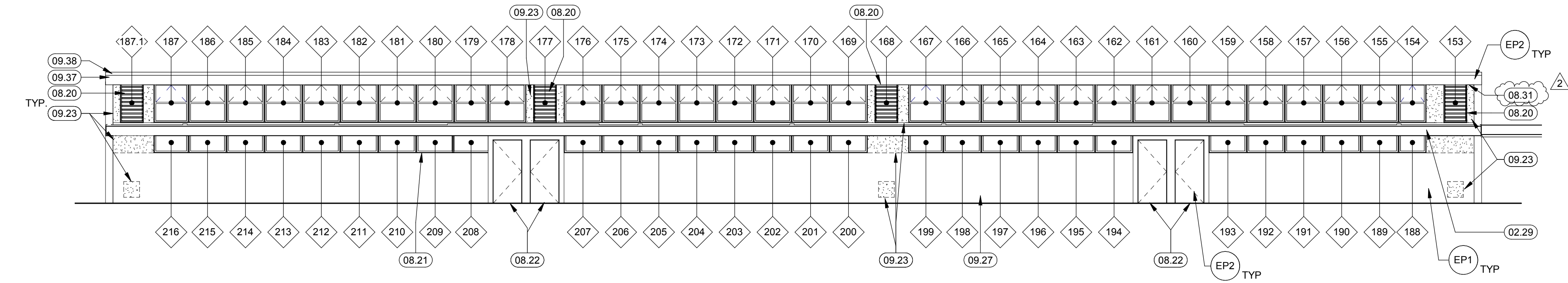
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Checked By: CD

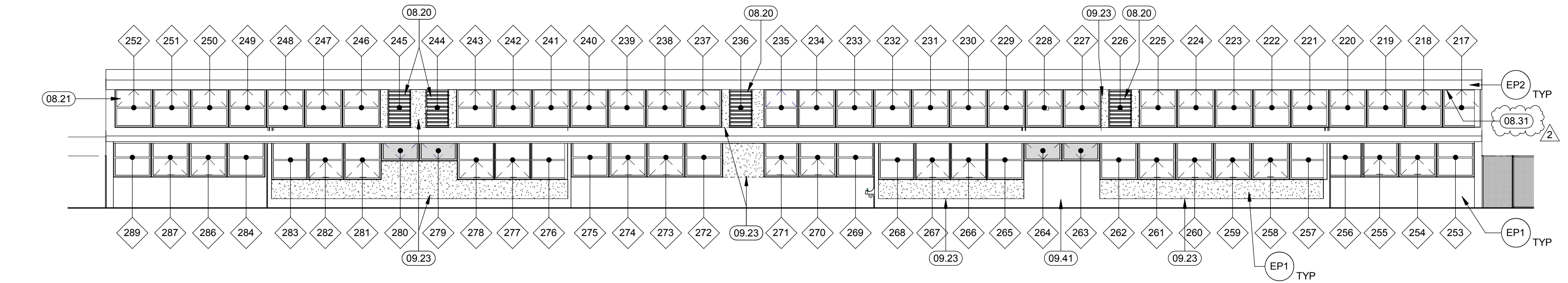
Issue Date: 03/11/19

Revit Version: 2017

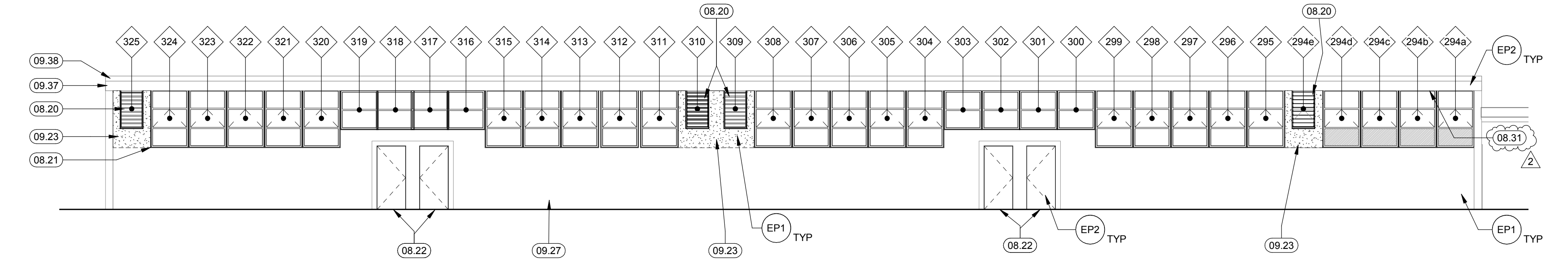
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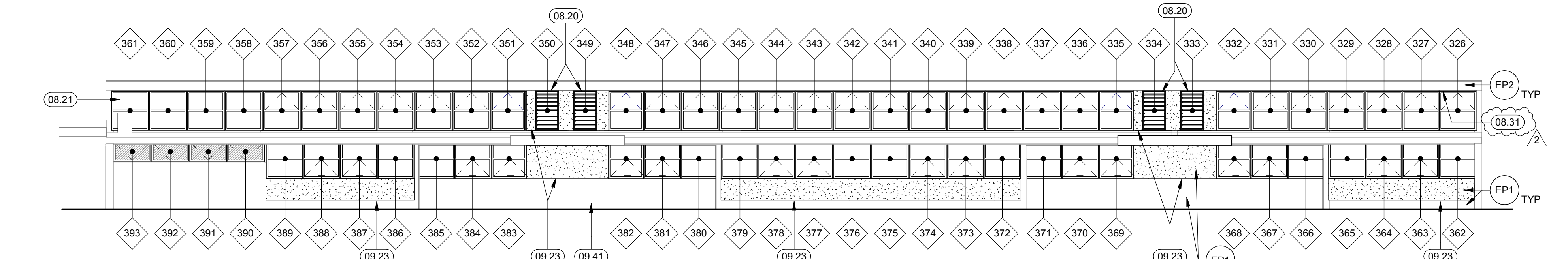
22 BUILDING B - NORTH NEW
1/8" = 1'-0"



23 BUILDING B - SOUTH NEW
1/8" = 1'-0"



24 BUILDING C - NORTH NEW
1/8" = 1'-0"



25 BUILDING C - SOUTH NEW
1/8" = 1'-0"

GENERAL NOTES

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- SEE CIVIL DRAWINGS FOR SITE GRADING.
- FLASHSEAL WATER TIGHT ALL WALL PENETRATIONS WHERE MECHANICAL DUCTING, PIPING, ETC. PENETRATE THE BUILDING.
- FOR EXTERIOR WALL SIGNAGE SEE DOOR SCHEDULE.
- OPERABLE WINDOWS TO PROTRUDE 4" MAX FROM FACE OF WALL CURB WHEN FULLY OPENED.
- SEE DIVISION 1 FOR ALLOWANCE AND UNIT COST REQUIREMENTS FOR DRY ROT REPLACEMENT.

KEYNOTES

- 02.29 (E) COVERED WALK.
- 08.20 DRAINABLE LOUVER. SEE A2.31 FOR LOCATIONS AND DETAILS. S.M.D. FOR ADDITIONAL INTAKE AND RELIEF INFORMATION.
- 08.21 ALUMINUM FRAMED WINDOW, TYP. U.O.N. SEE WINDOW SCHEDULE.
- 08.22 REINSTALL (E) DOOR IN (E) DOOR FRAME - OPP. HAND FOR ACCESSIBLE CLEARANCES. PATCH AND PAINT (E) FRAME IF TO MATCH (E) ADJACENT FINISHES.
- 08.31 (N) CONTINUOUS SCREEN AND TRIM @ SOFFIT, SEE DETAIL 7/A8.05.
- 09.23 (N) WOOD FRAMED INFILL. PAINT TO MATCH (E) ADJACENT CEMENT PLASTER OR PAINTED CONCRETE EXTERIOR AND OYP. SD. INTERIOR. S.S.D.
- 09.27 PATCH AND PREPARE EXTERIOR WALLS FOR NEW PAINT (E) CEMENT PLASTER. TYP FOR ENTIRE BUILDING. SEE EXT PAINT NOTES.
- 09.37 PATCH AND PREPARE (E) EXTERIOR WOOD TRIM FOR NEW PAINT, TYP WHERE OCCURS ON ENTIRE BUILDING. SEE EXT PAINT NOTES.
- 09.38 PATCH AND PREPARE (E) EXTERIOR METAL TRIM, FASCIA, GUTTERS AND RAIN WATER LEADERS FOR NEW PAINT WHERE OCCURS ON ENTIRE BUILDING. SEE EXT PAINT NOTES.
- 09.41 PATCH AND PREPARE (E) EXTERIOR PAINTED CONC FOR NEW PAINT, TYP WHERE OCCURS ON ENTIRE BUILDING. SEE EXT PAINT NOTES.

PAINT LEGEND

- EP1 EXTERIOR PAINT: GREY PEARL DEC795
- EP2 EXTERIOR PAINT: FRESH EGGPLANT DEC744
- ALL FASCIA = EP2 UON
- DOOR = EP2 UON
- ALL METAL PAINTED COLUMN = EP2 UON
- ALL BUILDING ROOF OVERHANGS AND UNDERSIDE OF WALKWAYS AND PORTICO = EP1 UON

EXTERIOR PAINTING NOTES

- PAINT ENTIRE EXTERIOR OF ALL EXISTING BUILDINGS, INCLUDING BUILDING OVERHANGS, COLUMNS, PAINT ALLEXISTING VOERED WALKWAY AND PORTICO STRUCTURES, INCLUDING:
 - BUILDING A
 - BUILDING B
 - BUILDING C
 - BUILDING D
 - BUILDING E
 - BUILDING F
 - BUILDING G, INCLUDING METAL ROOF
 - BUILDING H
 - BUILDING J
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- CONTRACTOR TO SURVEY AND FIELD MEASURE/VERIFY ALL BUILDING CONDITIONS TO QUANTIFY SCOPE OF THIS PROJECT PRIOR TO SUBMITTING BID.
- REMOVE AND REINSTALL ALL BUILDING SIGNAGE AS REQUIRED FOR WORK.
- PROTECT ALL WALL MOUNTED LIGHTING FIXTURES AND DEVICES DURING WORK.
- PROTECT PLANTING ADJACENT TO BUILDING EXTERIOR DURING WORK.

LEGEND

- A1 WINDOW MARK, SEE WINDOW SCHEDULE A2.31
- OPERABLE WINDOW
- WINDOW WITH OBSCURED GLAZING
- AREA OF WALL WITH INFILL, PATCH AND PAINT.



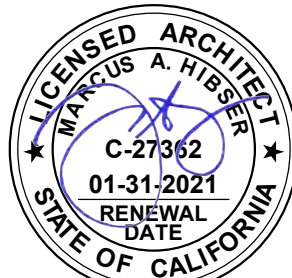
Revisions				
No.	Revisions	By	Date	Appr.
2	Bid Addendum 2		04/02/19	

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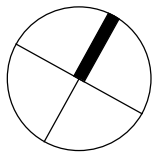
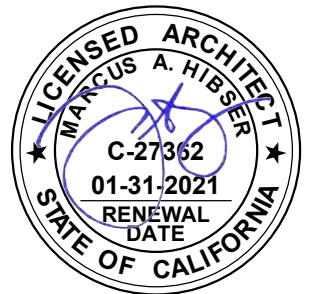
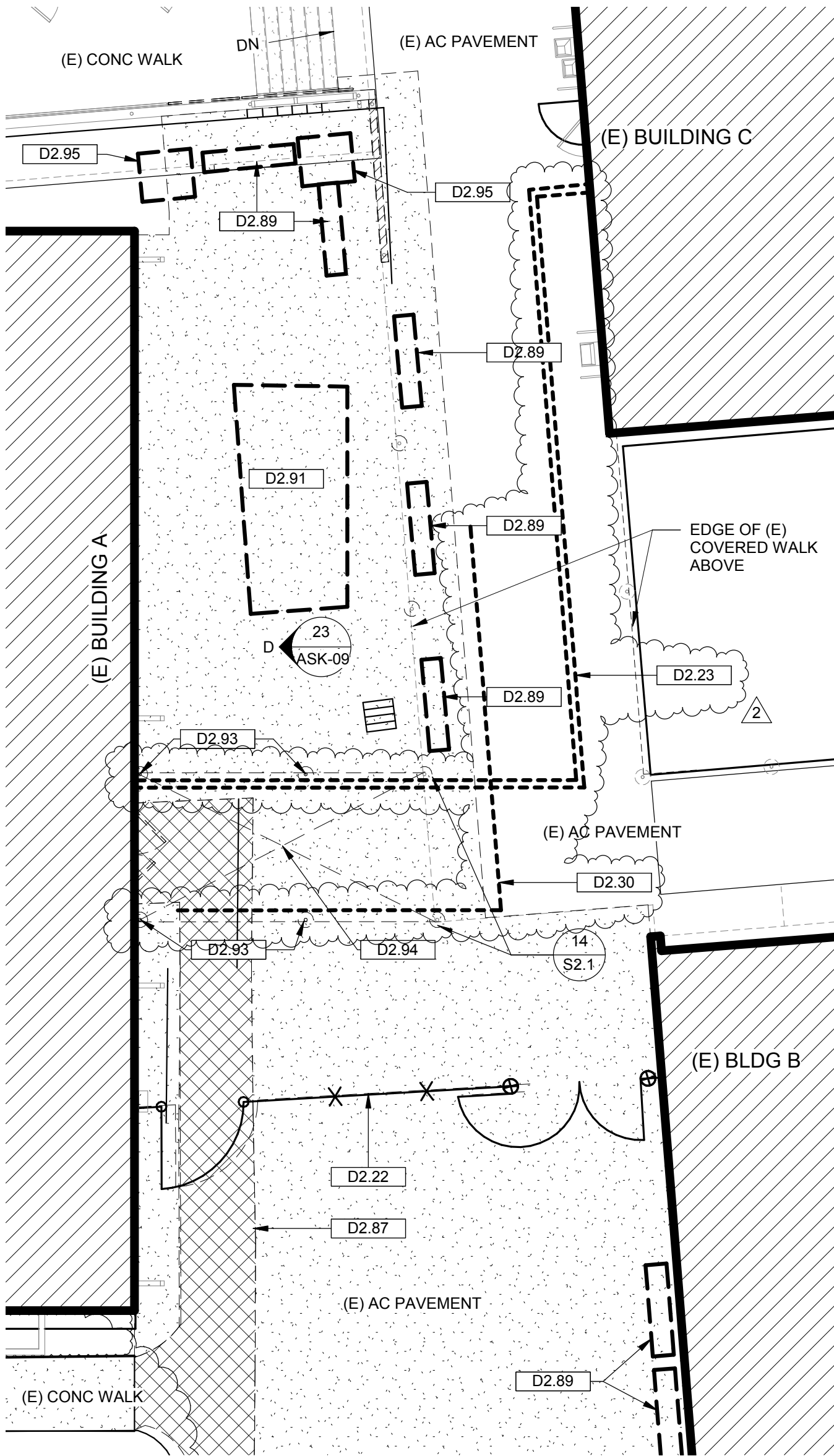
Project
MARTIN ELEMENTARY
SCHOOL MODERNIZATION

Sheet Title
EXTERIOR ELEVATIONS NEW
- BUILDINGS B & C

Client Project Number: Client Proj. #

Scale: As indicated
Drawn By: OA
Checked By: CD
Issue Date: 03/11/19
Revit Version: 2017

A3.05



PARTIAL ENLARGED DEMO SITE PLAN - (E) MAIN ENTRY TO CAMPUS

13

1/8" = 1'-0"

KEYNOTES

DEMO →

2

- D2.23 REMOVE (2) (E) ABANDONED INTERCOM CONDUITS ALONG COVERED WALK BACK TO (E) MECH ROOM C07.
D2.30 REMOVE (E) ABANDONED GAS PIPE ALONG COVERED WALK.



HYA Job No. 4539

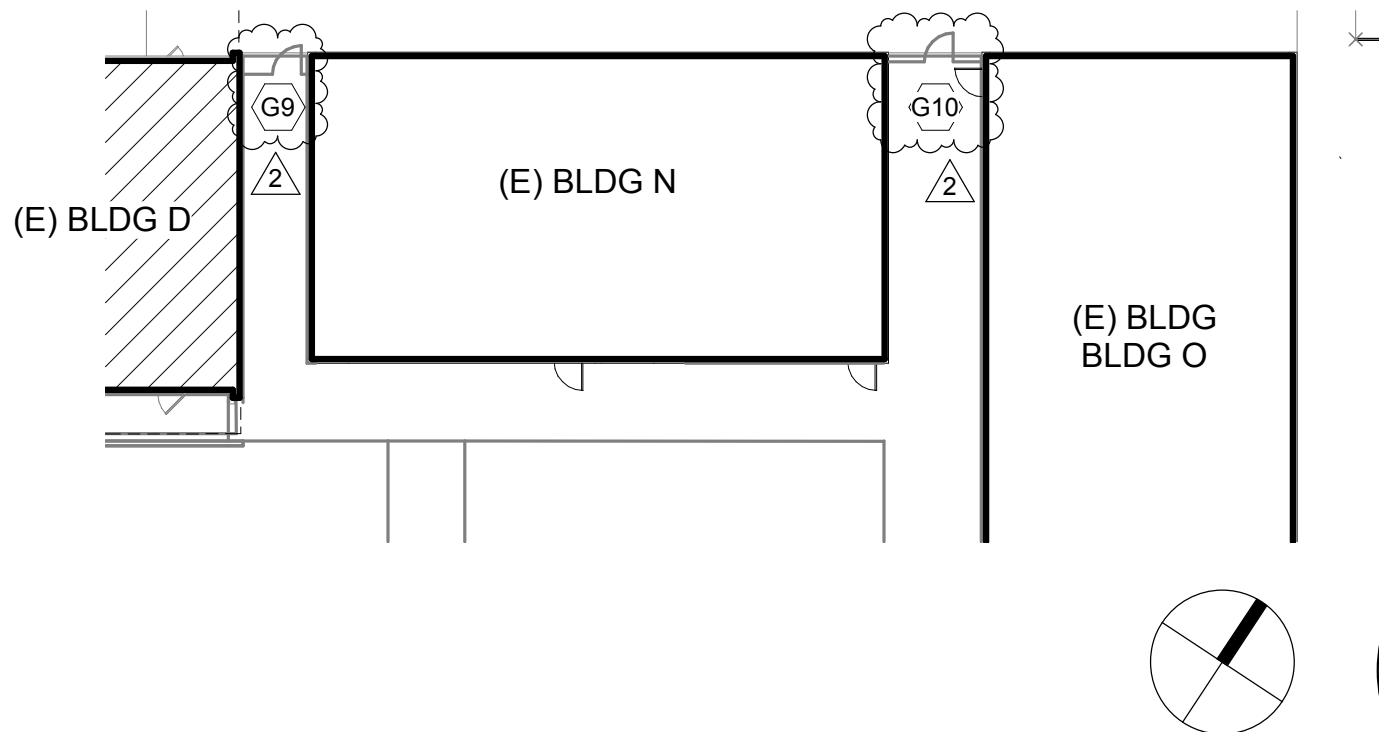
Project: MARTIN ELEMENTARY SCHOOL MODERNIZATION
MARTIN ELEMENTARY SCHOOL
35 SCHOOL STREET, SOUTH SAN FRANCISCO, CA 94080



HIBSER YAMAUCHI
Architects, Inc.

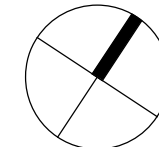
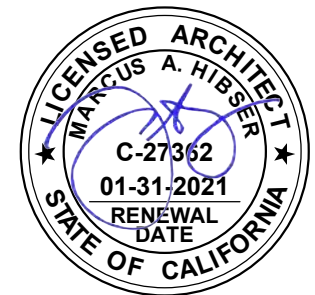
300 - 27th Street
Oakland, CA 94612
510.446.2222 tel; 510.446.2211 fax

DSA APPL. #01-116977
DSA FILE # 41-28
DATE: 04/02/19
REF.: 13/A1.01
SCALE: 1/8" = 1'-0"
DRAWN BY: OA
SHEET:
ASK-01



25 PARTIAL SITE PLAN

1" = 20'-0"

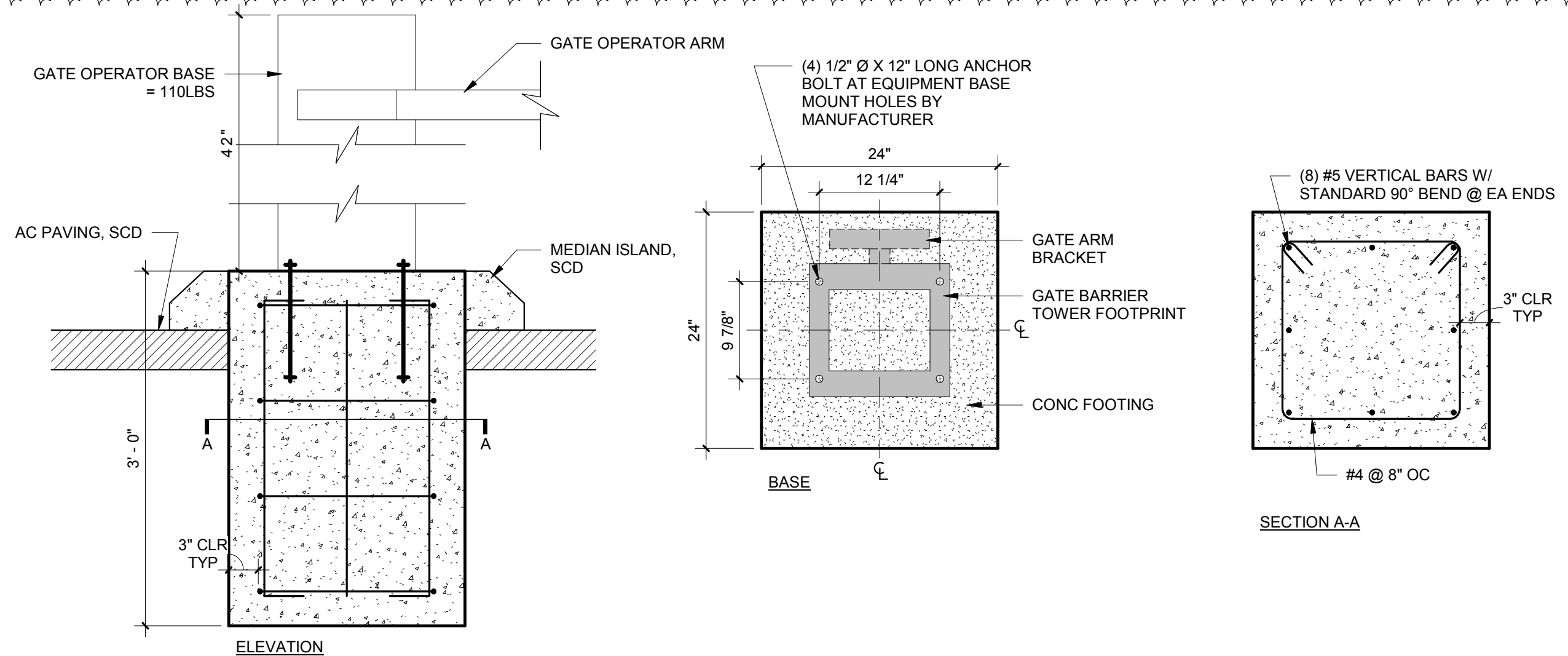


HYA Job No. 4539

Project: MARTIN ELEMENTARY SCHOOL MODERNIZATION
MARTIN ELEMENTARY SCHOOL
35 SCHOOL STREET, SOUTH SAN FRANCISCO, CA 94080

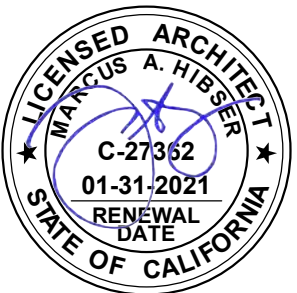
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DSA APPL. #01-116977
DSA FILE # 41-28
DATE: 04/02/19
REF.: 25/A1.02
SCALE: 1" = 20'-0"
DRAWN BY: OA
SHEET:
ASK-02



11 GATE BARRIER POST FOOTING DETAILS

1" = 1'-0"

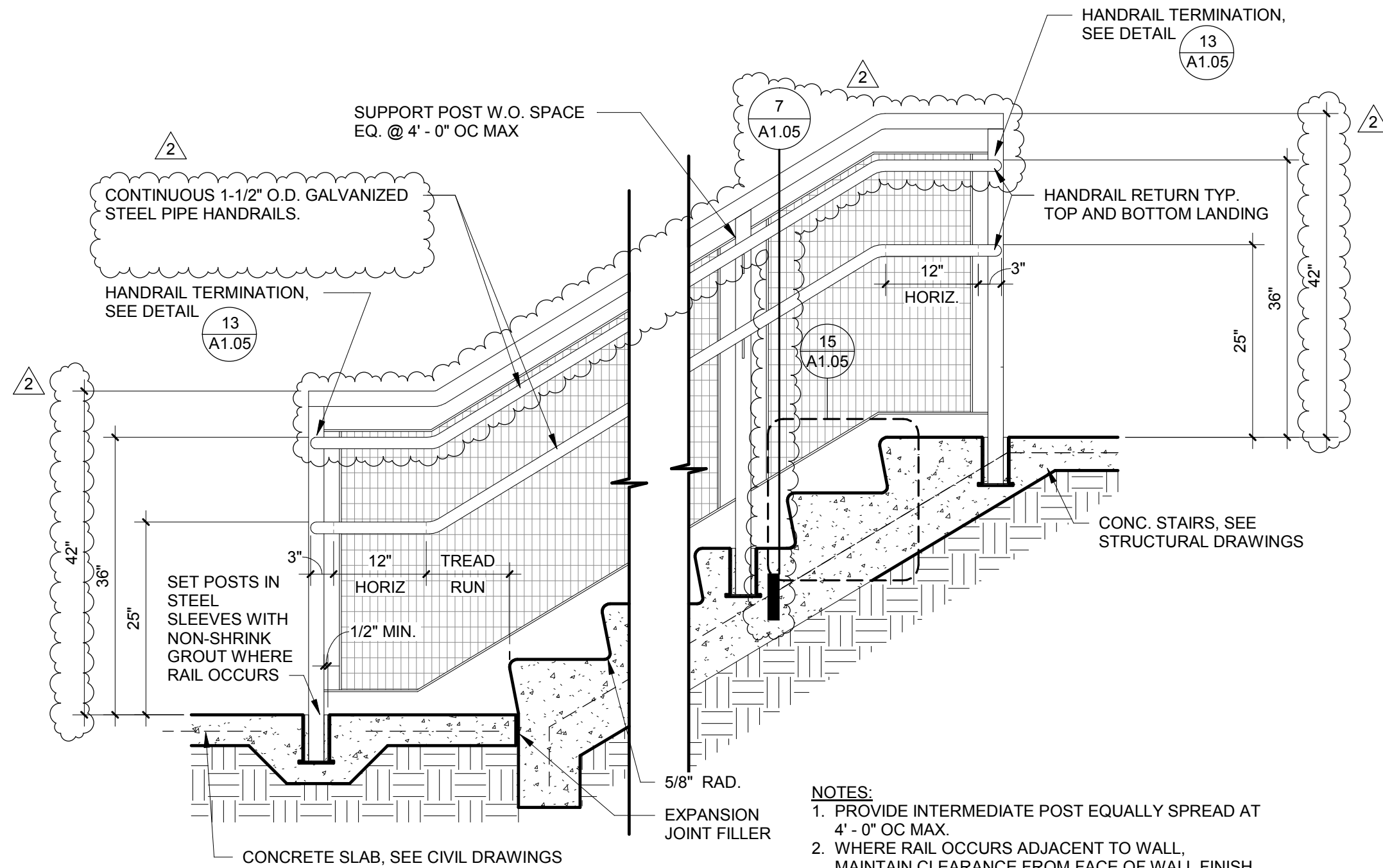


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MARTIN ELEMENTARY SCHOOL
35 SCHOOL STREET, SOUTH SAN FRANCISCO, CA 94080

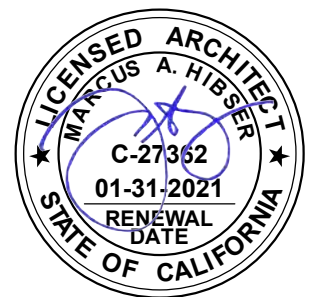


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DSA FILE # 41-28
DATE: 04/02/19
REF.: A1.02b
SCALE: 1" = 1'-0"
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SHEET: ASK-03



10 CONC STEPS AND HANDRAIL

3/4" = 1'-0"



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35 SCHOOL STREET, SOUTH SAN FRANCISCO, CA 94080



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DSA FILE # 41-28
DATE: 04/02/19
REF.: 10/A1.05
SCALE: 3/4" = 1'-0"
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SHEET: ASK-04

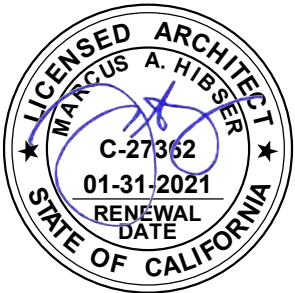
GATE MARK	SIZE		TYPE	MODE	CANE BOLT (●)	LEVER HARDWARE (●)	PAD-LOCKABLE GATE LATCH (●)	PANIC HARDWARE (●)	KICK PLATE (●)	CLOSER (●)	SEE DETAIL	NOTES
	WIDTH PER LEAF	HEIGHT										
G1	3'-6"/3'-6"	7'-6"	CUST	PAIR	●	●	●	●	●		7 / A1.06 9/A1.06 8 / A1.06 10/A1.06	-
G2	3'-0"	7'-6"	CUST	SGL.		●		●	●		7 / A1.06 9/A1.06 SIM 8 / A1.06 10/A1.06 SIM	
G3	9'-0"	7'-6"	CUST	SGL.	●	●					7 / A1.06 9/A1.06 SIM 8 / A1.06 10/A1.06 SIM	
G4	4'-0"	6'-0"	C.L.	SGL.		●		●	●		25B/A1.06	V.I.F.
G5	4'-0"	5'-0"	C.L.	SGL.		●		●	●		25A/A1.06	V.I.F.
G6	3'-0"/9'-9"±	7'-0"	C.L.	PAIR	●	●	●	●	●	●	25C/A1.06	V.I.F.
G7	3'-0"/7'-3"±	7'-0"	C.L.	PAIR	●	●	●	●	●	●	25C/A1.06	V.I.F.
G8	3'-5"/3'-5"±	6'-0"	C.L.	PAIR	●	●	●	●	●	●	25D/A1.06	V.I.F., HINGE CLOSER
G9	(E) 3'-0"	(E) 5'-0"	C.L.	SGL.		(E)		(E)	(E)	●		HINGE CLOSER
G10	(E) 3'-0"	(E) 5'-0"	C.L.	SGL.		(E)		(E)	(E)	●		HINGE CLOSER

GATE TYPES

C.L. CHAIN LINK GATE
CUST CUSTOM METAL GATE

6 GATE SCHEDULE

12" = 1'-0"

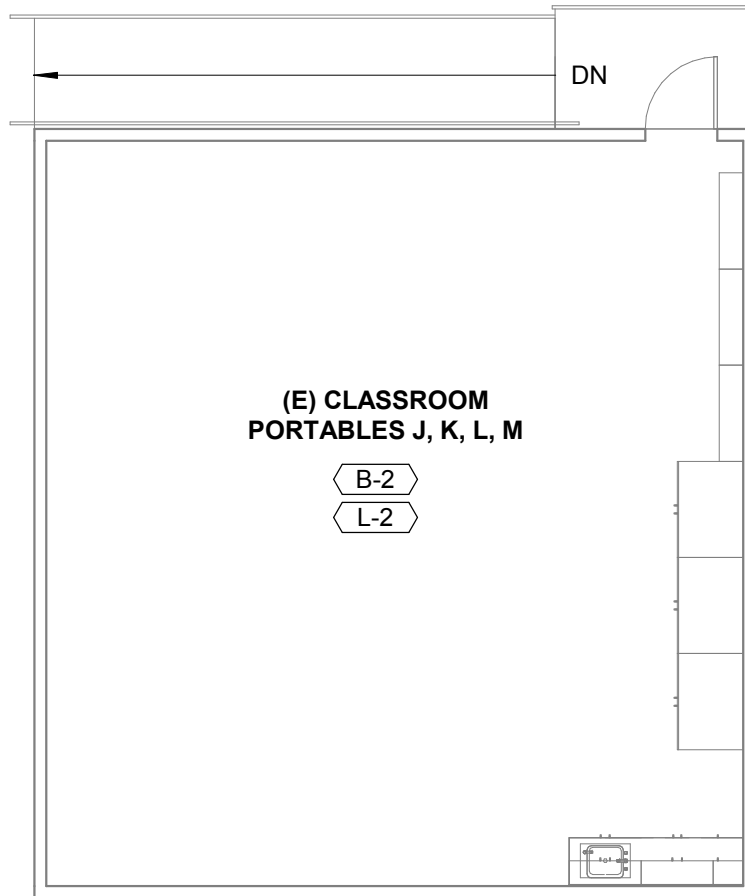


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DSA FILE # 41-28
DATE: 04/02/19
REF.: 6/A1.06
SCALE: 12" = 1'-0"
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SHEET:
ASK-05

2



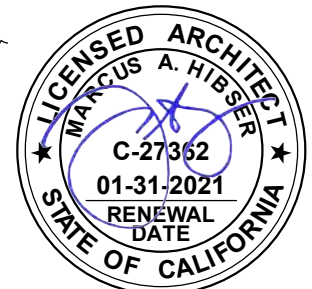
(E) CLASSROOM
PORTABLES J, K, L, M

B-2
L-2

22

FINISH FLOOR PLAN - TYPICAL PORTABLE

1/8" = 1'-0"



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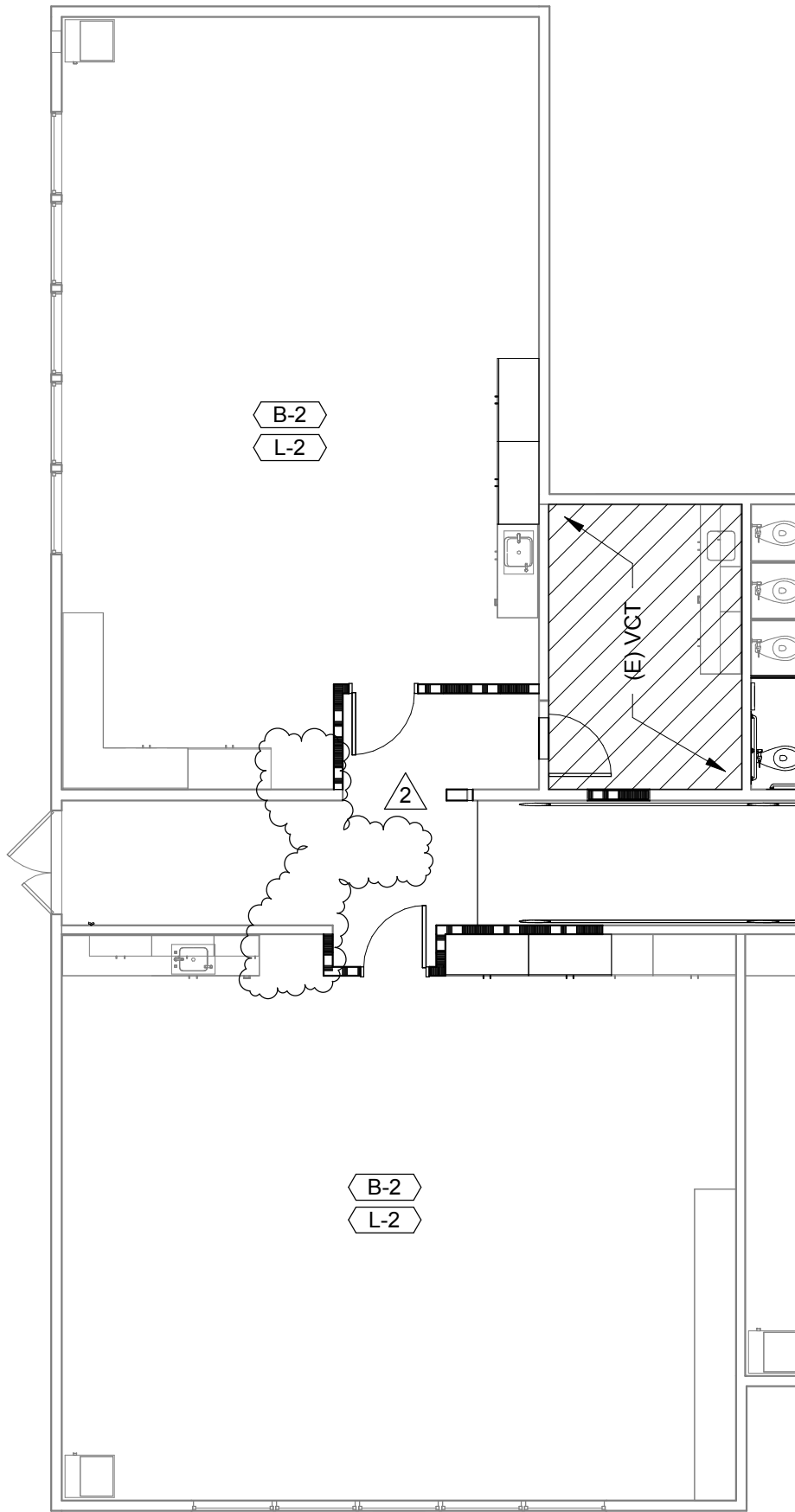
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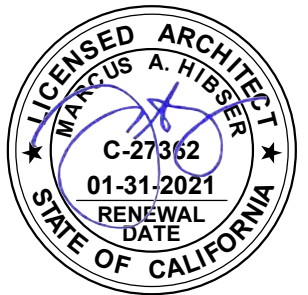
ASK-06



25

PARTIAL FLOOR PLAN - BUILDING A

1/8" = 1'-0"



HYA Job No. 4539

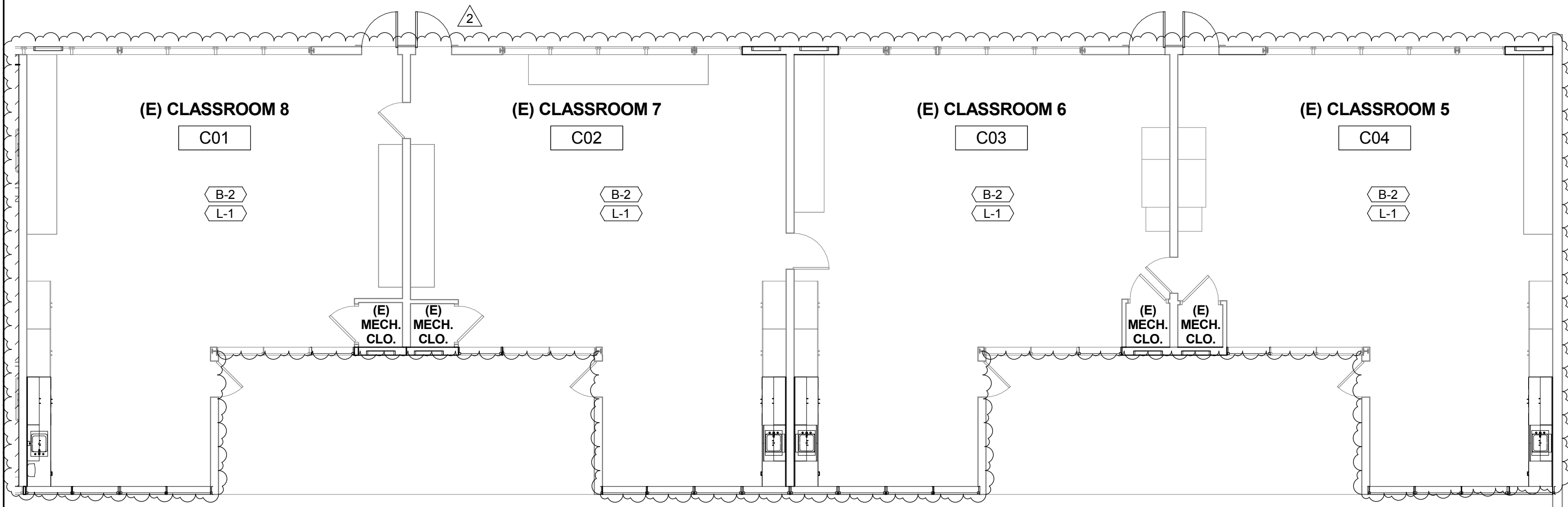
Project: MARTIN ELEMENTARY SCHOOL MODERNIZATION
MARTIN ELEMENTARY SCHOOL
35 SCHOOL STREET, SOUTH SAN FRANCISCO, CA 94080



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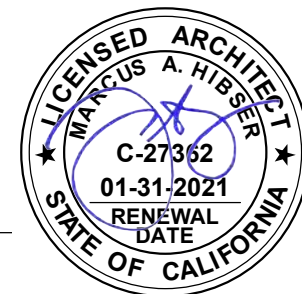
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DSA FILE # 41-28
DATE: 04/02/19
REF.: 25/A2.41
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DRAWN BY: OA
SHEET:
ASK-07



23

PARTIAL FLOOR PLAN - BUILDING C

1/8" = 1'-0"

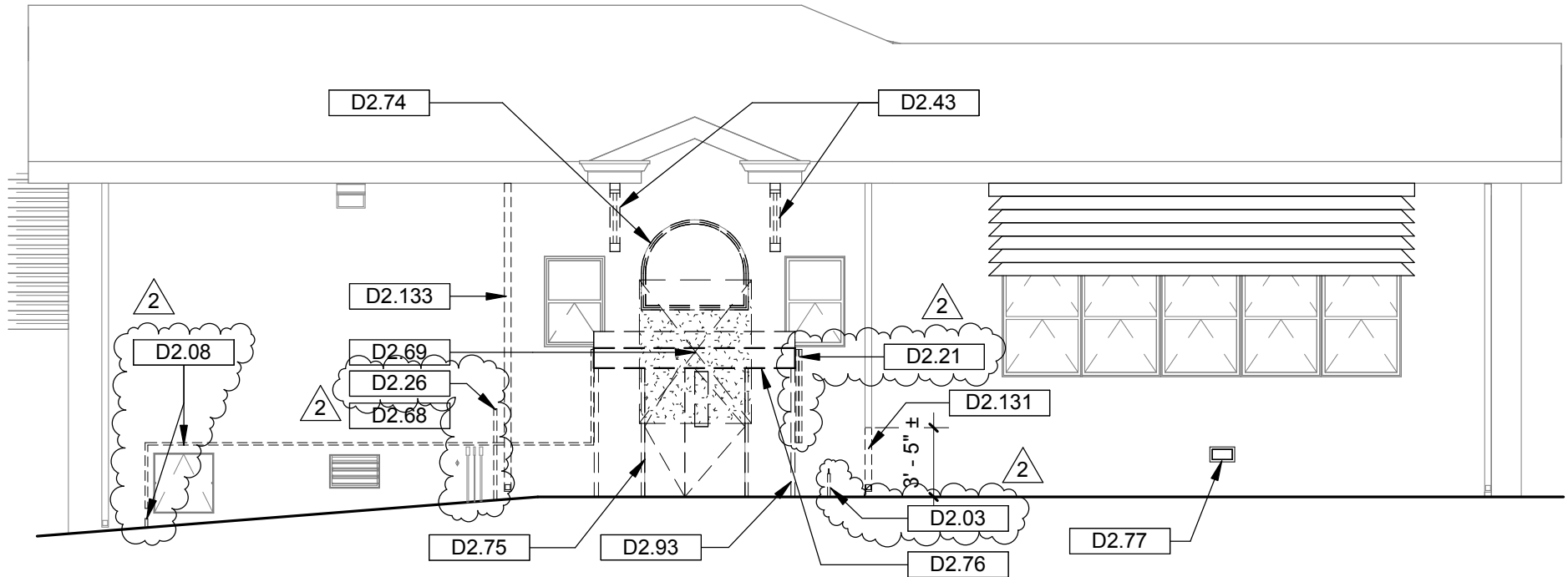


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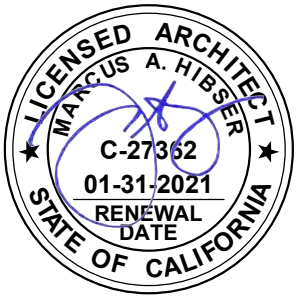


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DSA FILE # 41-28
DATE: 04/02/19
REF.: 23/A2.42
SCALE: 1/8" = 1'-0"
DRAWN BY: OA
SHEET:
ASK-08



23 BUILDING A - DEMO EAST ELEVATION

1/8" = 1'-0"



KEYNOTES

DEMO →

- D2.08 REMOVE (E) ABANDONED GAS PIPE. PATCH (E) CEMENT PLASTER AT WALL.
- D2.21 REMOVE (2) (E) ABANDONED INTERCOM CONDUITS BACK TO (E) MECH ROOM C07. PATCH (E) FINISHES.
- D2.26 REMOVE (E) FENCE POST AND ASSOCIATED FOOTING.
- D2.03 REMOVE (E) PIPE.

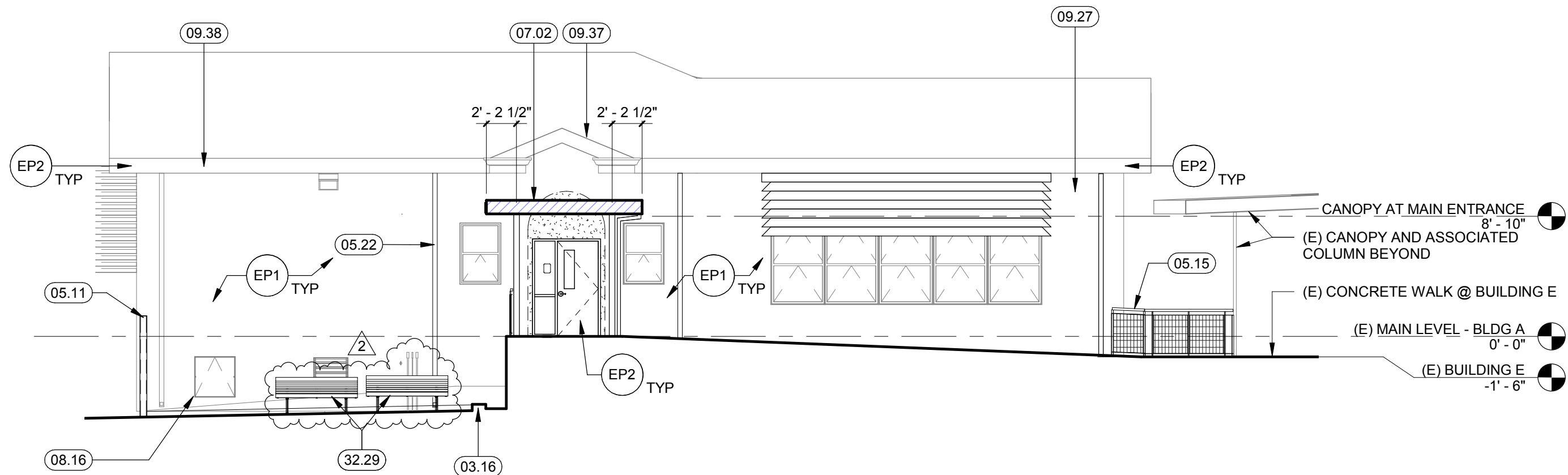


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35 SCHOOL STREET, SOUTH SAN FRANCISCO, CA 94080

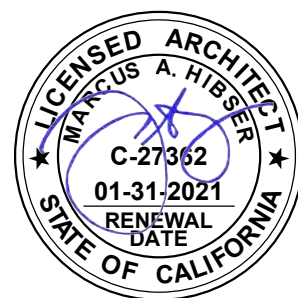
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DSA FILE # 41-28
DATE: 04/02/19
REF.: 23/A3.01
SCALE: 1/8" = 1'-0"
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SHEET:
ASK-09



23 BUILDING A - NEW EAST ELEVATION

1/8" = 1'-0"



KEYNOTES

REMODEL →

2

05.22 GSM RWL, PAINT PER EXTERIOR PAINT NOTES.

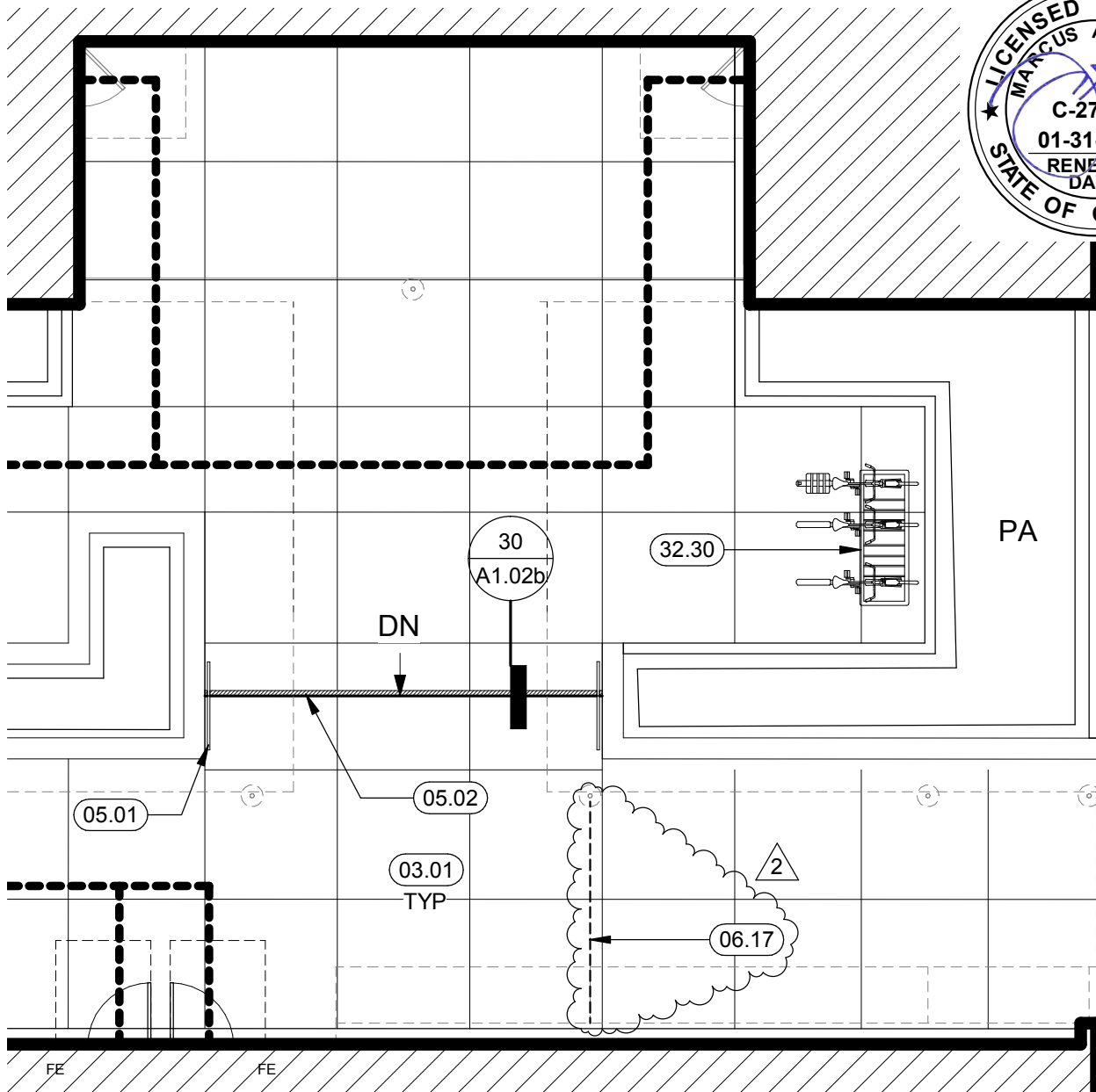
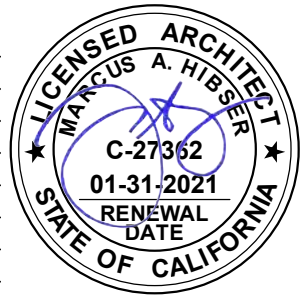


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ASK-10



25 PARTIAL SITE PLAN -K-1 COURTYARD

1/8" = 1'-0"

KEYNOTES

REMODEL →

2

06.17 EXISTING 6X8 BEAM AT COVERED WALK. REPLACE DRY ROT BEAM IN-KIND W/ PRESSURE TREATED WOOD. SEE REF DRAWINGS S3, S6 & S7.



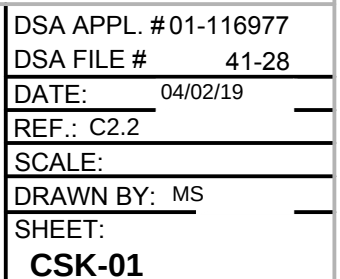
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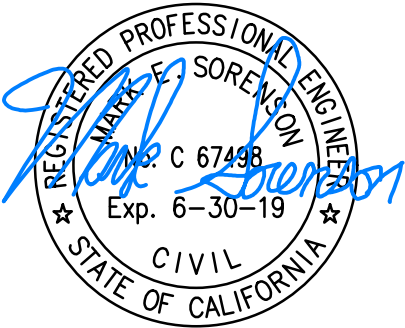
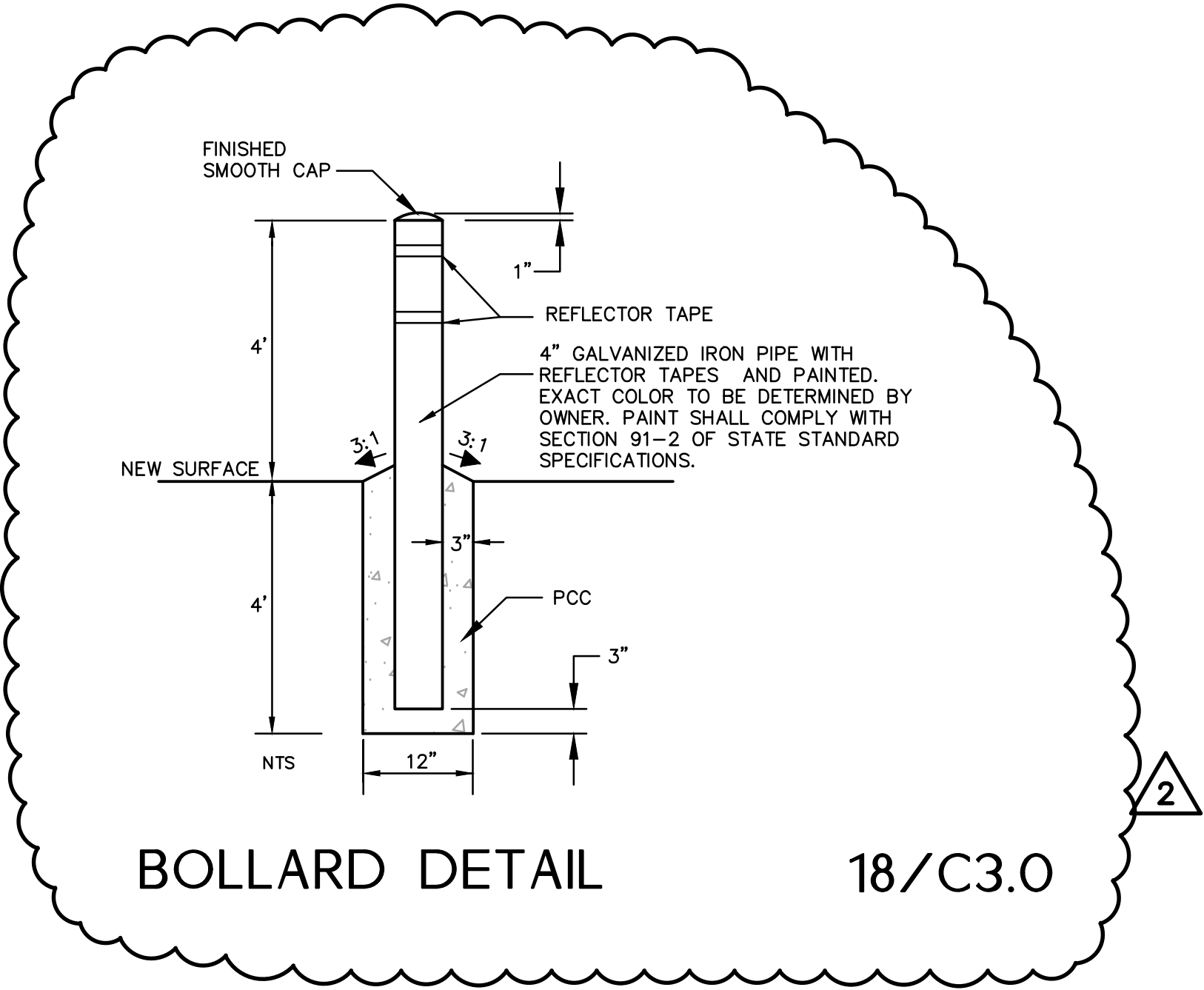
Project: MARTIN ELEMENTARY SCHOOL MODERNIZATION
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SHEET:
ASK-12



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DATE: 04/02/19
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CSK-03

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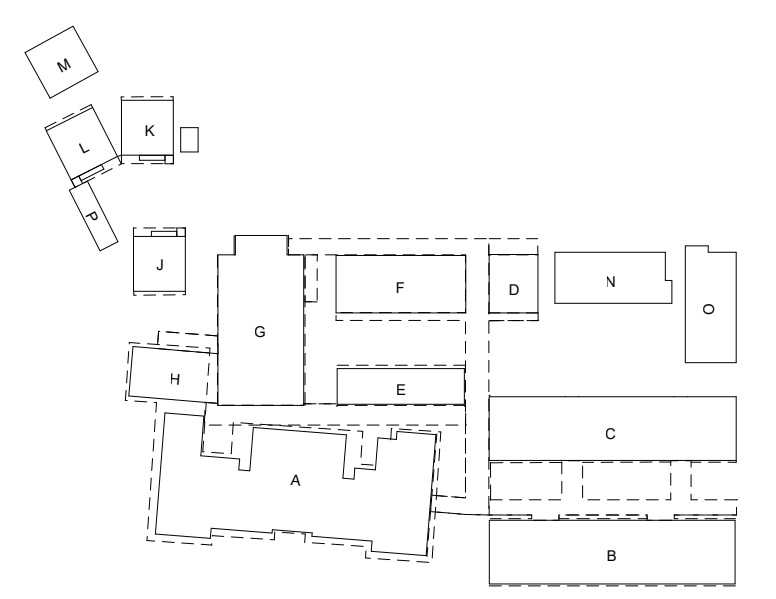
Revisions				
No.	Revisions	By	Date	Appr.
2	ADDENDUM 2		04/02/19	

DSA APPROVAL

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Architect/Engineer Of Record:



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HY Architects Project number: Project Number

Facility
MARTIN ELEMENTARY SCHOOL
35 SCHOOL STREET, SOUTH SAN FRANCISCO, CA 94080

Project

MARTIN ELEMENTARY SCHOOL MODERNIZATION

Sheet Title

CONTROLS - MECHANICAL

Client Project Number: Client Proj. #

Scale: 12" = 1'-0"

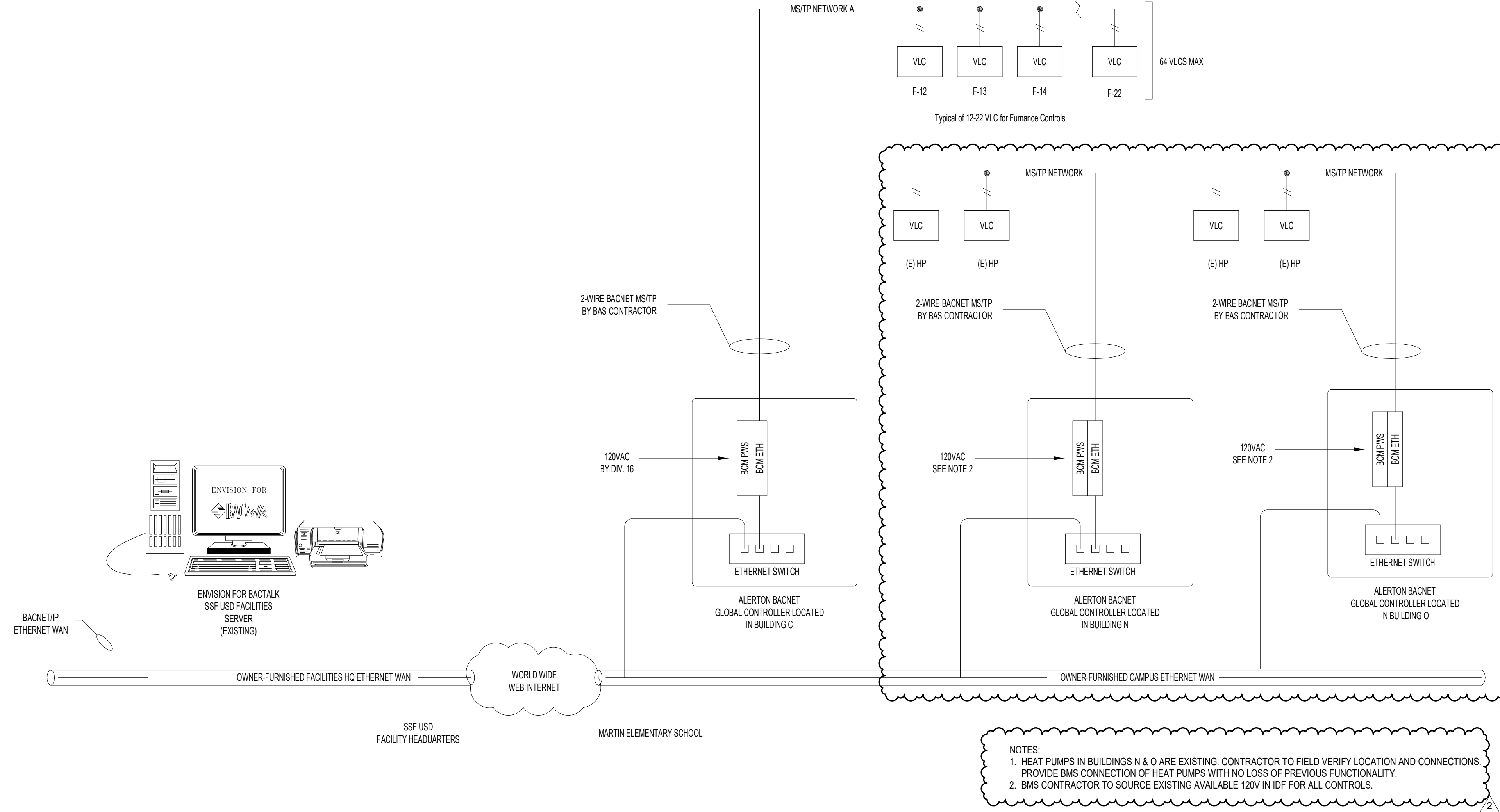
Drawn By: Integral Group

Checked By: Integral Group

Issue Date: 09/11/2018

Revit Version: 2017

M6.01



- NOTES:
- HEAT PUMPS IN BUILDINGS N & O ARE EXISTING. CONTRACTOR TO FIELD VERIFY LOCATION AND CONNECTIONS. PROVIDE BMS CONNECTION OF HEAT PUMPS WITH NO LOSS OF PREVIOUS FUNCTIONALITY.
 - BMS CONTRACTOR TO SOURCE EXISTING AVAILABLE 120V IN IDF FOR ALL CONTROLS.

2 ALERTON BAS SYSTEM
N.T.S.

FURNACE UNIT WITH ECONOMIZER & DEMAND CONTROL VENTILATION

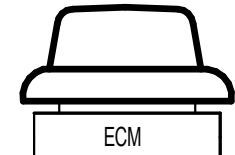
- SYSTEM OVERVIEW**
 - THE FURNACE UNIT PROVIDES HEATING AND VENTILATION TO EACH ZONE AND IS CAPABLE OF FULL OA ECONOMIZATION. VARIABLE SPEED BLOWER CONTROL IS VIA THE MANUFACTURER-PROVIDED ONBOARD CONTROLLER.
 - EACH FURNACE UNIT WILL BE CONTROLLED BY ALERTON V/LC-651R CONTROLLERS COMPLETE WITH A T-STAT, DISCHARGE AIR SENSORS, AND SWITCHING RELAYS, PER THE DISTRICT'S REQUEST. CO2 SENSORS TO ALSO BE PROVIDED.
 - EACH V/LC-651R CONTROLLER WILL BE CONNECTED TO ONE BOM GLOBAL CONTROLLER. THE BOM GLOBAL CONTROLLER WILL CONNECT TO THE WIDE AREA NETWORK CONTROLLED BY DISTRICT.
 - DAMPER ACTUATORS BASIS OF DESIGN TO BE BELIMO.
- UNIT FAN OPERATION**
 - WHEN THE ZONE IS IN OCCUPIED MODE THE FAN SHALL RUN CONTINUOUSLY AT THE SPEED REQUIRED FOR HEATING, COOLING, OR WARM-UP OPERATION.
 - DURING THE UNOCCUPIED MODE AS DETERMINED BY EMS TIME SCHEDULE, THE UNIT FAN CYCLES WITH DEMAND AND THE TEMPERATURE IS CONTROLLED BY THE UNOCCUPIED SPACE TEMPERATURE HEATING AND COOLING SETPOINTS.
- MINIMUM OUTDOOR AIR VENTILATION**
 - DURING OCCUPIED MODE, THE ECONOMIZER DAMPER SHALL BE COMMANDED BY THE EMS UNITARY CONTROLLER TO MAINTAIN A POSITION WHICH SATISFIES THE MINIMUM OUTDOOR AIR VENTILATION REQUIREMENTS FOR THE ZONE. OA MIN DAMPER POSITION(S) DETERMINED BY AIR-BALANCING CONTRACTOR.
- DEMAND CONTROL VENTILATION**
 - EMS UNITARY CONTROLLER WILL BE CONNECTED TO A WALL MOUNTED CO2 SENSOR TO MONITOR ZONE CO2 CONCENTRATION.
 - DURING OCCUPIED MODE THE CONTROLLER SHALL LINEARLY RESET THE OUTSIDE AIR DAMPER MINIMUM POSITION BETWEEN OA MIN AND FULLY OPEN TO MAINTAIN THE CO2 CONCENTRATION BELOW 1,000 PPM.
- HEATING OPERATION**
 - THE CONTROLLER COMPARES THE HEATING SETPOINT WITH THE SPACE TEMPERATURE AND DETERMINES A NEED-HEATING CONTROL SIGNAL TO STAGE A GAS REGULATING VALVE ON THE UNIT.
 - IF IN OCCUPIED MODE, ECONOMIZER DAMPER TO BE COMMANDED TO DCV MIN DURING HEATING MODE. DCV MIN IS ≥ OA MIN. IF IN UNOCCUPIED MODE, ECONOMIZER DAMPER TO BE COMMANDED CLOSED.
 - THE FURNACE MUST RECEIVE 60 DEG F AIR FOR PROPER FUNCTION. MIN HEATING SETPOINT SHALL BE 70 DEG F.
- COOLING OPERATION**
 - THE CONTROLLER COMPARES THE COOLING SETPOINT WITH THE SPACE TEMPERATURE AND DETERMINES A NEED-COOLING CONTROL SIGNAL TO SHUT OFF THE BURNER.
 - ECONOMIZER DAMPER TO BE COMMANDED TO MAX CFM SETPOINT AND RETURN AIR DAMPER TO BE COMMANDED CLOSED DURING COOLING MODE.
- MORNING WARM-UP**
 - THE EMS SHALL SCHEDULE THE ZONE TO BE IN OCCUPIED MODE ONE HOUR PRIOR TO THE ACTUAL TIME OF ANTICIPATED OCCUPANCY.
 - DURING MORNING WARM-UP, THE CONTROLLER SHALL SET THE OUTSIDE AIR DAMPER TO CLOSED AND THE RETURN AIR DAMPER TO FULLY OPEN.
 - THE TEMPERATURE SETPOINT SHALL BE NO LESS THAN 70 DEG. F.
- RETURN AIR DAMPER**
 - THE RA DAMPER SHALL MODULATE INVERSELY WITH ECONOMIZER DAMPER FROM FULLY CLOSED WHEN ECONOMIZER DAMPER IS FULLY OPEN, TO FULLY OPEN WHEN ECONOMIZER IS FULLY CLOSED.
- FAULT DETECTION DIAGNOSTICS**
 - THE EMS DDC CONTROLLER SHALL MONITOR THE FOLLOWING AND BROADCAST RESULTS VIA EMS NETWORK:
 - TEMPERATURE SENSOR FAILURE/FAULT
- MONITORING - THE FOLLOWING CONDITIONS SHALL BE MONITORED AND DISPLAYED AT EMS OPERATOR WORKSTATION:**
 - SUPPLY AIR TEMPERATURE.
 - ROOM TEMPERATURE.
 - ROOM HUMIDITY.
 - ROOM CO2 CONCENTRATION.
 - CURRENT MODE (HEATING/FAN).
 - SUPPLY AIR TEMPERATURE ATTAINED LAST TIME UNIT WAS IN HEATING.
 - CURRENT COMMAND STATUS OF FAN, AND GAS VALVE.
 - RUN TIME METERS ON FAN AND HEAT.
 - FAN STATUS THRU CURRENT SWITCH.

SEQUENCE OF OPERATION: SCHEDULED EXHAUST FAN
ALL SUGGESTED SETPOINTS AND SETTINGS SHALL BE USER ADJUSTABLE IN BAS GRAPHICS.

1. SCHEDULING
EACH SCHEDULED EXHAUST FAN SHALL HAVE AN INDEPENDENT, USER ADJUSTABLE 24 HOUR, 365 DAY OCCUPIED/UNOCCUPIED SCHEDULE. THE INITIAL SCHEDULE SHALL BE OCCUPIED EVERY DAY FROM 8 AM TO 5 PM.

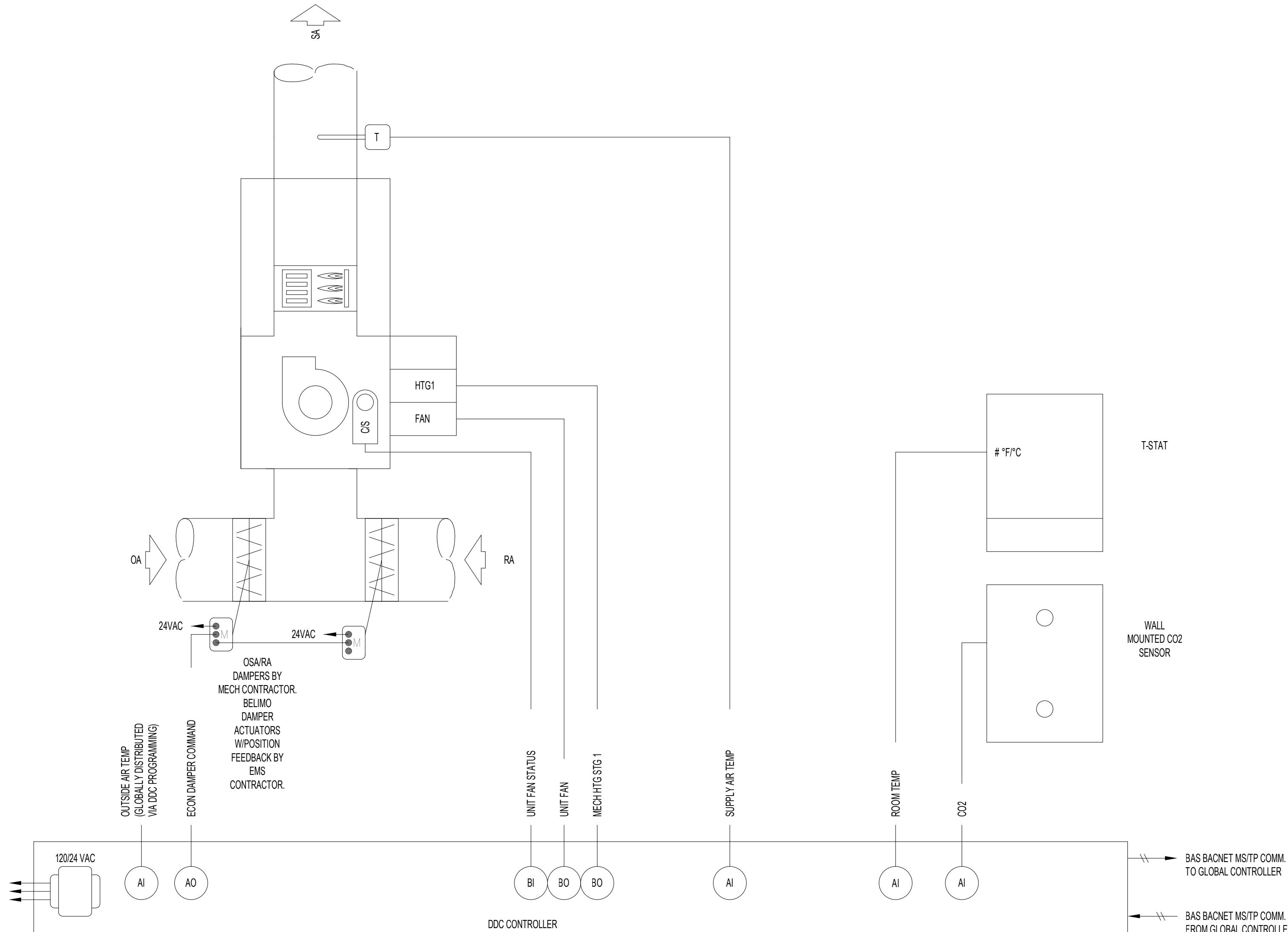
2. FAN CONTROL
THE EXHAUST FAN SPEED SHALL BE SET AT BALANCE TO THE SPEED INDICATED IN THE SCHEDULE. THE FAN SHALL BE COMMANDED TO RUN DURING SCHEDULED OCCUPIED HOURS.

3. ALARMS
FAN MOTOR FAULT:
IF AN EXHAUST FAN FAILS TO GO TO COMMANDED CONDITION, AN ALARM SHALL BE GENERATED STATING "EXHAUST FAN <NAME> FAILURE" WHERE <NAME> IS REPLACED WITH THE NAME OF THE FAN GENERATING THE ALARM.



SCHEDULED EXHAUST FAN CONTROL POINTS		
POINT DESCRIPTION	FAN MOTOR STATUS	FAN START/STOP
POINT TYPE	BI	BO
TREND POINT	X	X
TREND INTERVAL (1 MINUTE)	X	X
TREND STORAGE POINT (1 YEAR)	X	X
HARDWIRED(H) / CALCULATED(C) / NETWORKED(N)	H	H

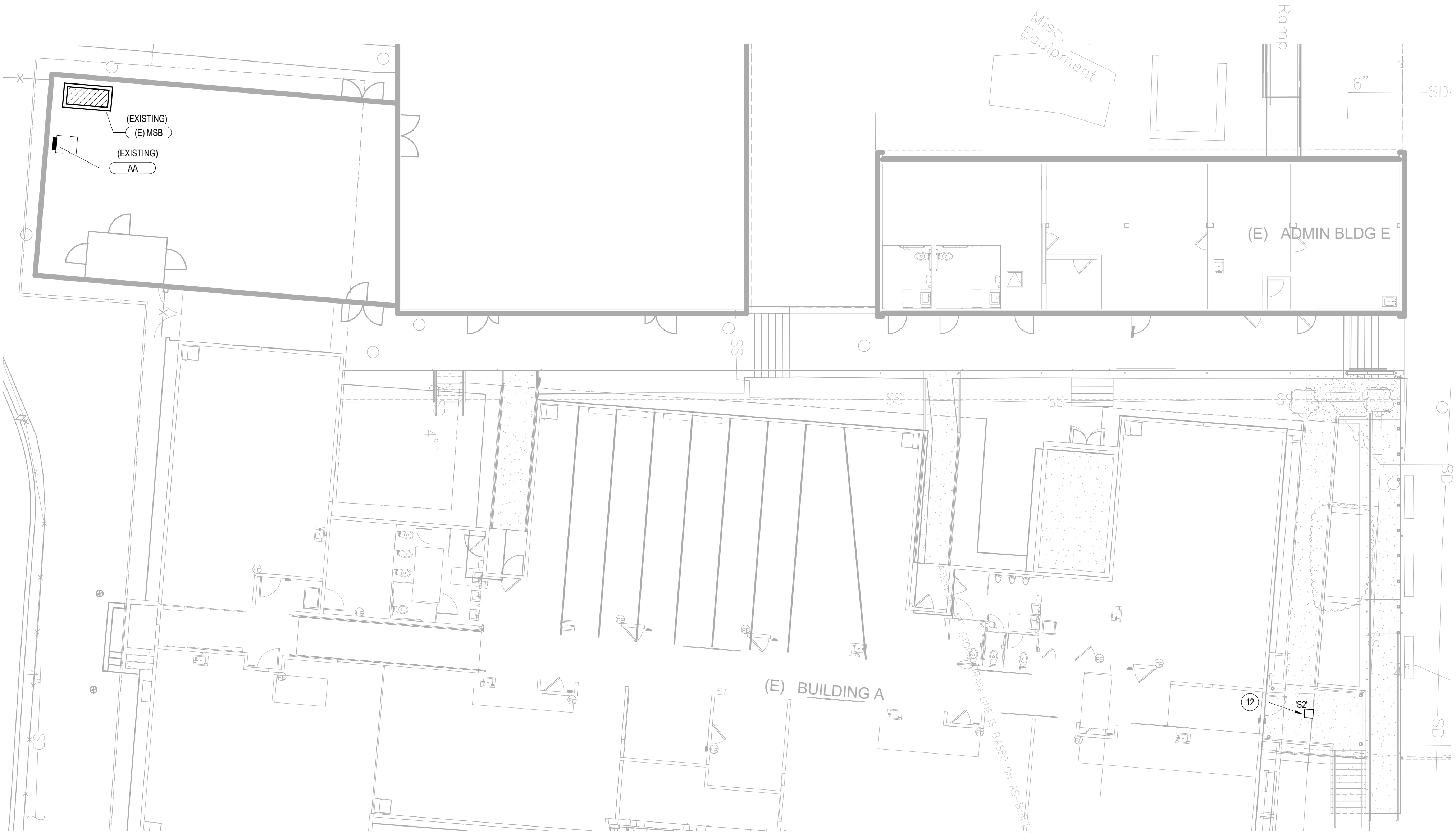
1 FURNACE WITH DEMAND CONTROL VENTILATION
N.T.S.



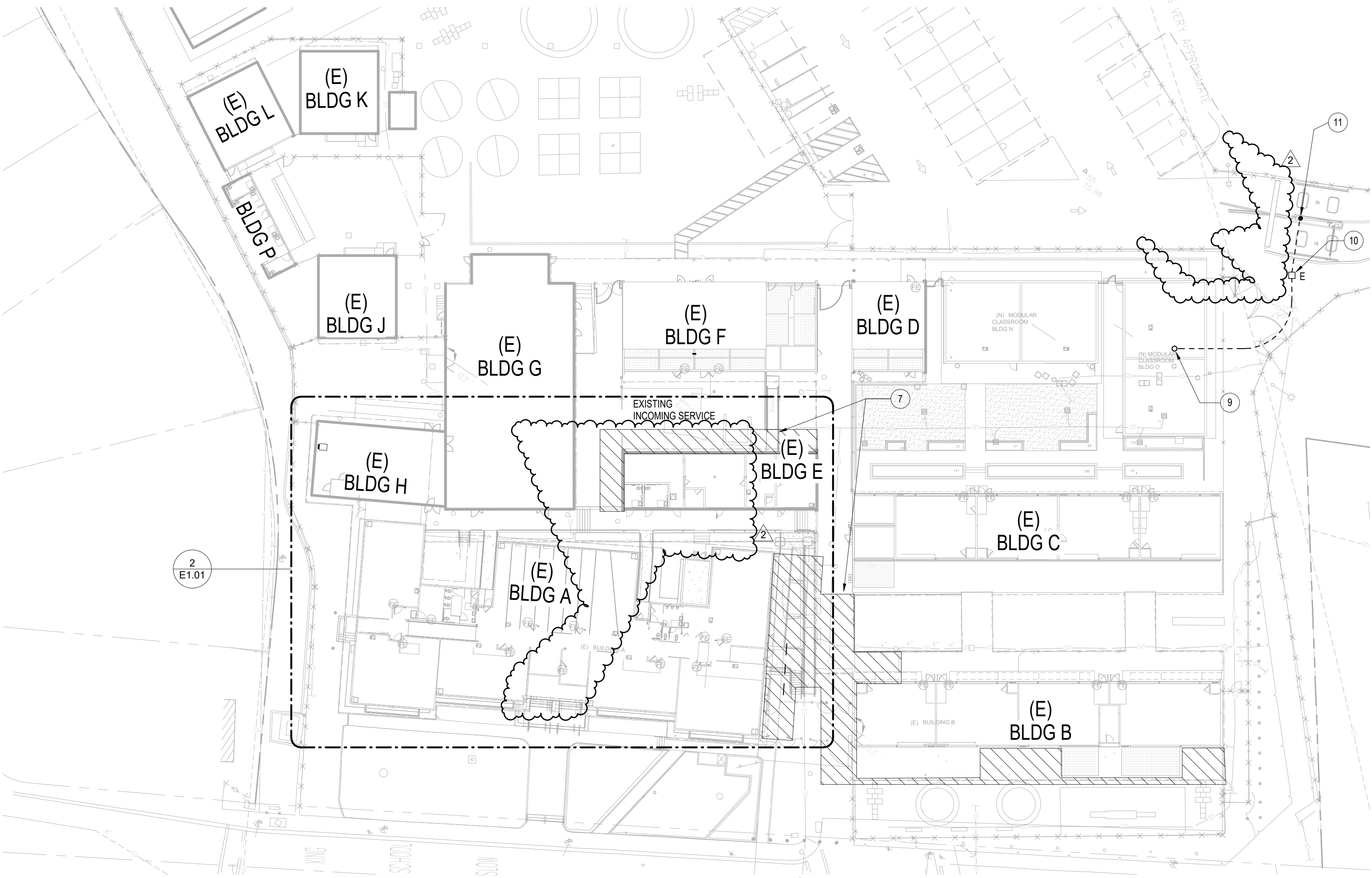
3 EXHAUST FAN CONTROL
N.T.S.



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2 ENLARGED SITE PLAN
1" = 10'-0"



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

GENERAL NOTES

- PROVISIONS SHALL BE MADE TO DISCONNECT EXISTING EQUIPMENT AND RECONNECT NEW EQUIPMENT WITH MINIMAL POWER DISRUPTION.
- PROVIDE SEPARATE PULL BOXES FOR POWER AND COMMUNICATIONS CONDUIT. LABEL IN GRADE POWER PULL BOXES AS "ELECTRICAL". LABEL IN GRADE COMMUNICATIONS PULL BOXES AS "SIGNAL".
- CONCEAL ALL CONDUIT, UNLESS OTHERWISE NOTED.
- AREA MAY CONTAIN UNDERGROUND RACEWAY. SITE LOCATE ALL EXISTING UNDERGROUND RACEWAY IN THIS AREA BEFORE TRENCHING. MAINTAIN EXTREME CARE WHEN TRENCHING.
- COORDINATE EXACT LOCATIONS OF ALL ARCHITECTURAL, MECHANICAL, PLUMBING, LANDSCAPING AND CIVIL EQUIPMENT WITH ARCHITECTURAL, MECHANICAL, PLUMBING, LANDSCAPING AND CIVIL DRAWINGS.
- SIZE FUSES FOR ALL FUSED SWITCHES PER SUPPLIED EQUIPMENT MANUFACTURER'S RECOMMENDATIONS.
- CERTAIN FEEDER AND BRANCH CIRCUIT WIRE SIZES HAVE BEEN OVERSIZED TO COMPENSATE FOR VOLTAGE DROP. SPlice WIRES TO COMPATIBLE SIZES FOR TERMINATION, ADJACENT TO EQUIPMENT CONNECT AS REQUIRED.
- CONTRACTOR SHALL SIZE ALL IN GRADE PULL BOXES PER APPLICABLE CODE OR STANDARD, OR FOR THEIR CONVENIENCE FOR PULLING WIRE, WHOEVER IS LARGER.
- ALL SITE LUMINAIRES SHALL BE ON EMERGENCY POWER VIA LIGHTING INVERTER POWER. SITE LUMINAIRES SHALL BE CONTROLLED VIA ASTRONOMICAL TIME CLOCK, LIGHTING INVERTERS AND TIME CLOCKS LOCATED IN BLDG A AND E. SEE NEW PLANS.
- UNLESS OTHERWISE NOTED, EXTERIOR LUMINAIRES SHALL BE FLUSH WITH EXTERIOR WALL WITH CONCEALED CONDUIT. REFER TO DETAIL 1066/01.
- HATCHED AREAS ARE N.I.C. (NOT IN CONTRACT).

SHEET NOTES

- NOT USED.
- NOT USED.
- NOT USED.
- NOT USED.
- NOT USED.
- NOT USED.
- RE-ROUTE EXISTING EXPOSED SITE CONDUITS IN SCOPED AREAS VIA UNDERGROUND TRENCHES. FIELD VERIFY EXISTING SYSTEM AFFECTED BY RE-ROUTING WORK. COORDINATE WITH CIVIL ENGINEER AND ARCHITECT.
- NOT USED.
- 1" C. STUB UP TO (E) ELECTRICAL PANEL. CONNECT TO NEAREST AVAILABLE SPARE 120V CIRCUIT VIA 20A/1P BREAKER.
- PULL BOX MIN INNER DIMENSIONS 14" X 8".
- CONNECT COMPLETE TO GATE.
- CONNECT TO EXISTING EXTERIOR LIGHTING CIRCUIT AND ASSOCIATED TIME CLOCK CONTROL IN VICINITY. LUMINAIRE WITH INTEGRAL BATTERY PACK.

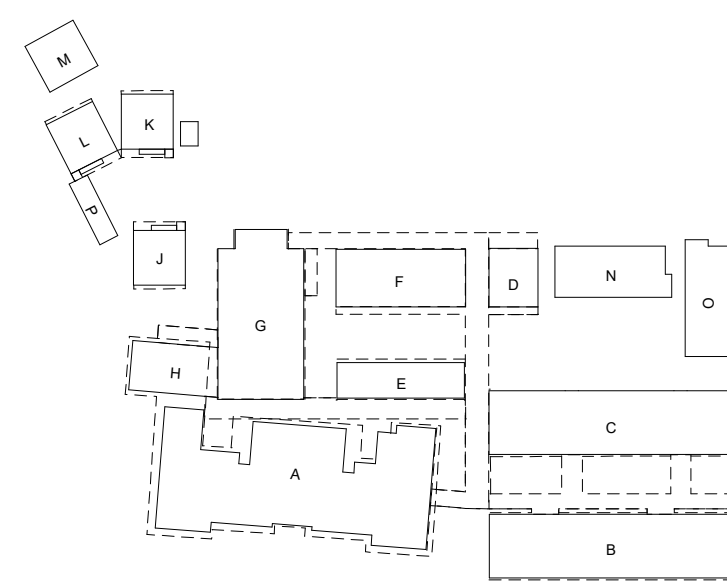


Revisions				
No.	Revisions	By	Date	Appr.
2	ADDENDUM 2		04/02/19	

DSA APPROVAL

IDENTIFICATION STAMP
DIVISION OF STATE ARCHITECT
APPL. 01-116977
AC FLS SS
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INTEGRAL GROUP
427 13th Street
Oakland, CA 94612
510.663.2070 Telephone
E-Mail: info@integralgroup.com
www.integralgroup.com



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Architect/Engineer Of Record:



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510.446.2222 tel | 510.446.2211 fax

HY Architects Project number: Project Number

Facility

MARTIN ELEMENTARY SCHOOL
35 SCHOOL STREET, SOUTH SAN
FRANCISCO, CA 94080

Project

MARTIN ELEMENTARY
SCHOOL MODERNIZATION

Sheet Title

SITE PLAN - ELECTRICAL

Client Project Number: Client Proj. #

Scale: As indicated

Drawn By: Integral Group

Checked By: Integral Group

Issue Date: 09/11/2018

Revit Version: 2017

E1.01

C:\Users\jmartin\Documents\G:\MFP-MARTIN ES-R17_116602\USWORK.dwg 3/26/2019 11:37:16



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Revisions			
No.	Revisions	By	Date
2	ADDENDUM 2		04/02/19

GENERAL NOTES

- THERE SHALL BE NO UNDERGROUND SPLICES, U.O.N.
- LABEL IN-GRADE FIRE ALARM PULL BOXES AS "FIRE ALARM".
- ALL EXTERIOR UNDERGROUND FIRE ALARM CONDUIT SHALL BE A MINIMUM 1" U.O.N.
- CONCEAL ALL CONDUIT TO THE EXTENT POSSIBLE.
- AREA MAY CONTAIN EXISTING UNDERGROUND SYSTEMS. CONTRACTOR SHALL LOCATE AND COORDINATE CONDUIT ROUTES WITH EXISTING UNDERGROUND SYSTEMS PRIOR TO COMMENCING WORK.
- CONNECT ALL POST INDICATOR VALVES, WATER FLOW TAMPER SWITCHES, AND BACKFLOW PREVENTORS VIA ADDRESSABLE MODULE.
- CONDUIT PATH SHOWN FOR REFERENCE ONLY. CONTRACTOR SHALL COORDINATE WITH BUILDING TO DETERMINE CONDUIT ROUTE. ALL FIRE ALARM ROUTES SHALL BE ROUTED IN CONDUIT.
- DIRECT BORE UNDER DRIVEWAY. COORDINATE WITH EXISTING UNDERGROUND SYSTEMS AND BORE ROUTE PRIOR TO BORING.
- FIRE ALARM CONDUITS SHALL SHARE A TRENCH WITH OTHER COMMUNICATION SYSTEMS. SEE ELECTRICAL SITE PLAN FOR MORE INFORMATION.

SHEET NOTES

- CHRISTY #N/IS STEEL TRAFFIC RATED PULL BOX. LABEL "FIRE ALARM".
- IS FACP DONE UNDER DSA APPLICATION #01-116602 MODERNIZATION PROJECT. LOCATION SHOWN FOR REFERENCE ONLY.
- IS CONDUIT. RUN NEW CABLES TO IN/OUT DEVICES IN BUILDING RESTROOMS.



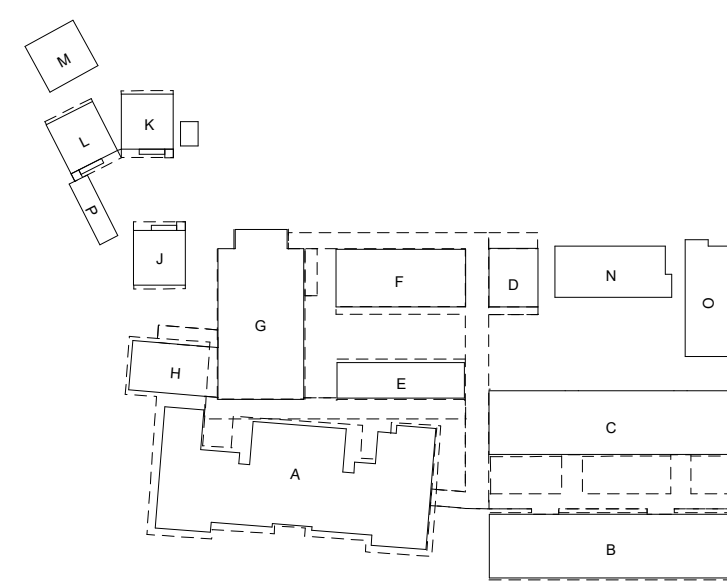
SITE PLAN - FIRE ALARM

1" = 30'-0"

DSA APPROVAL

IDENTIFICATION STAMP
DIVISION OF STATE ARCHITECT
APPL. 01-116977
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DATE

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HY Architects Project number: Project Number

Facility

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Project

MARTIN ELEMENTARY
SCHOOL MODERNIZATION

Sheet Title

SITE PLAN - FIRE ALARM

Client Project Number: Client Proj. #

Scale: As indicated

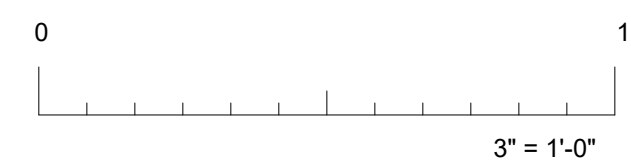
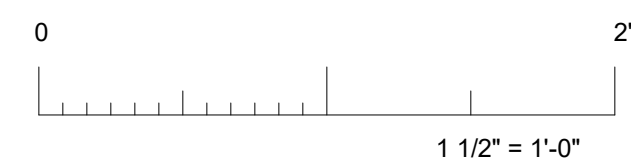
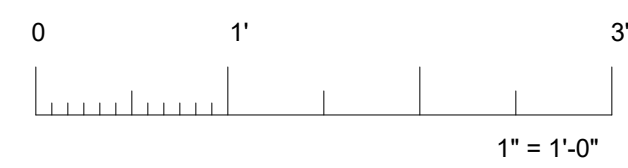
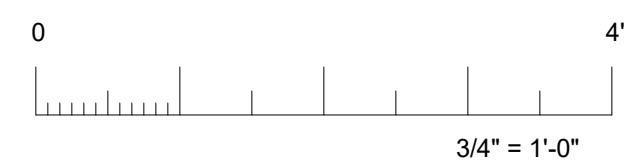
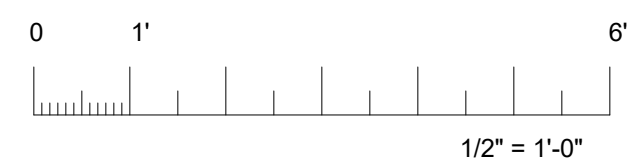
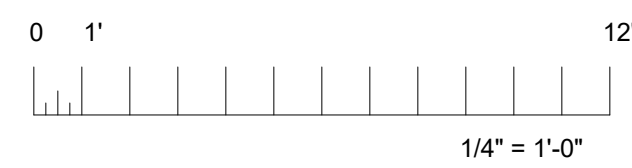
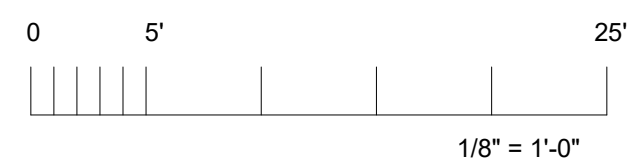
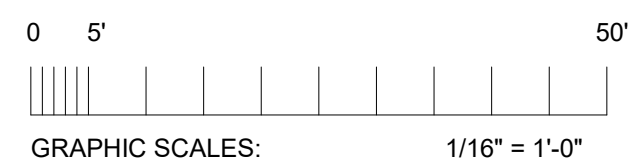
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Issue Date: 09/11/2018

Revit Version: 2017

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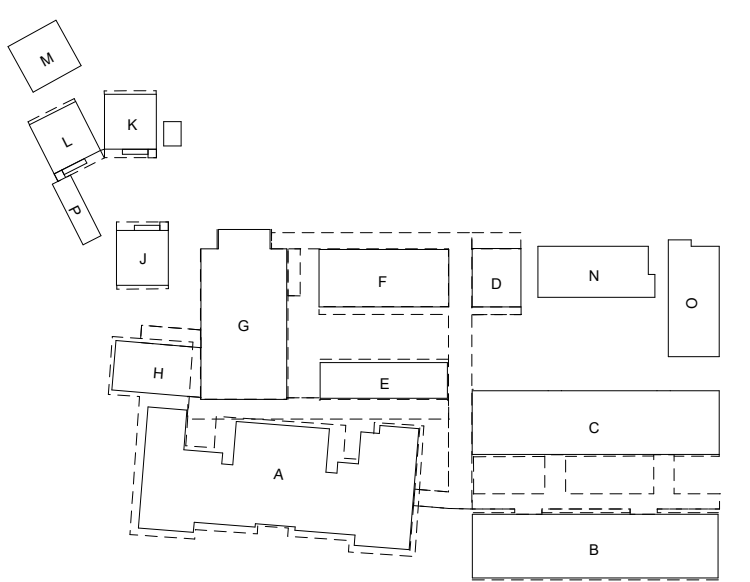
Revisions				
No.	Revisions	By	Date	Appr.
2	ADDENDUM 2		04/02/19	

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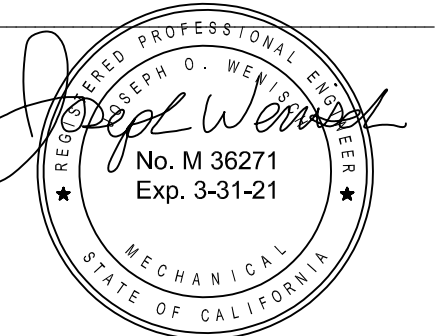


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HY Architects Project number: Project Number

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Project

MARTIN ELEMENTARY
SCHOOL MODERNIZATION

Sheet Title

DEMOLITION FLOOR PLANS –
BLDGS A & E - PLUMBING

Client Project Number:	Client Proj. #
------------------------	----------------

Scale: As indicated

Drawn By: Integral Group

Checked By: Integral Group

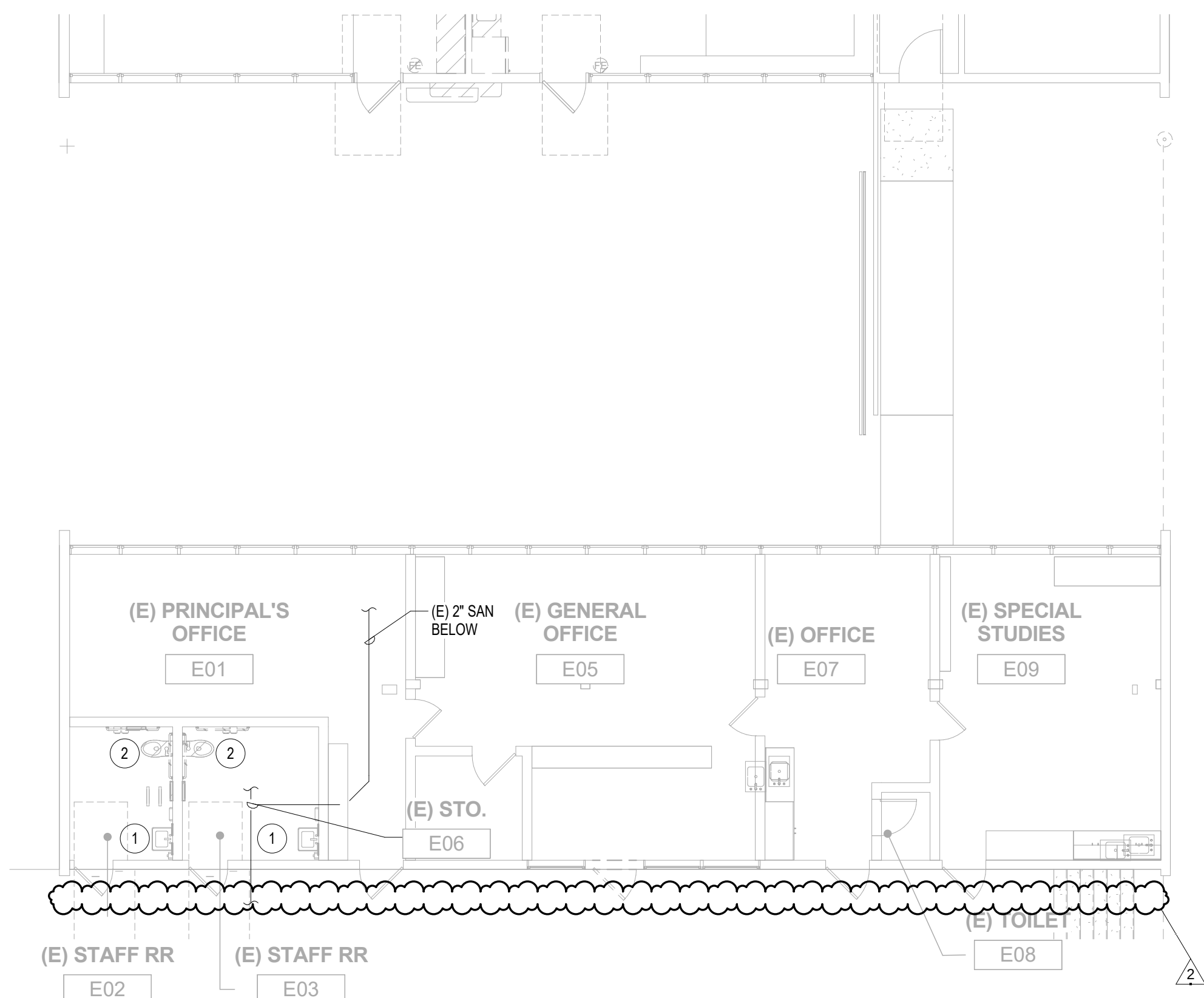
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Revit Version: 2017

PD2.01

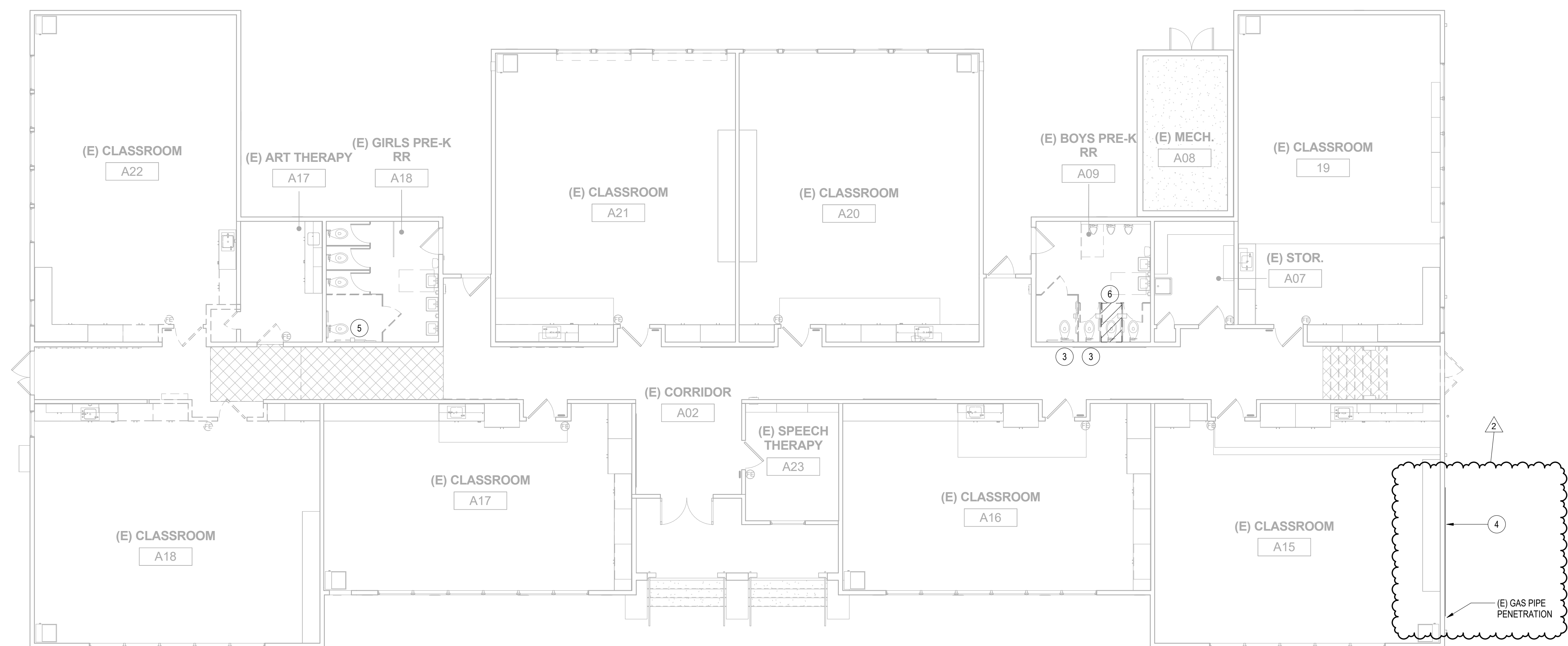
DEMOLITION GENERAL NOTES

- A. COORDINATE EXACT LOCATIONS OF ALL ARCHITECTURAL, PLUMBING EQUIPMENT WITH ARCHITECTURAL, PLUMBING DRAWINGS.
- B. AFTER INSTALLATION OF NEW FIXTURES, PIPING, VALVING, GC TO PATCH AND REPAIR ALL WALL/FLOOR SURFACES AND FINISHES TO MATCH SURROUNDING WALL/FLOORS.
- C. ALL PLUMBING WORK SHOWN IN DRAWINGS IS DIMENSIONAL ONLY.
- D. PLUMBING CONTRACTOR IS RESPONSIBLE FOR PROVIDING A FULLY FUNCTIONAL PLUMBING SYSTEM BASED ON THE PLUMBING DRAWINGS AND SPECIFICATIONS PROVIDED.
- E. PIPING TO BE INSULATED ACCORDING TO CODE PER SPECIFICATIONS.



DEMOLITION FLOOR PLAN - BUILDING E - PLUMBING

② $1/8" = 1'-0"$



DEMOLITION FLOOR PLAN - BUILDING A - PLUMBING

① $1/8'' = 1'-0''$



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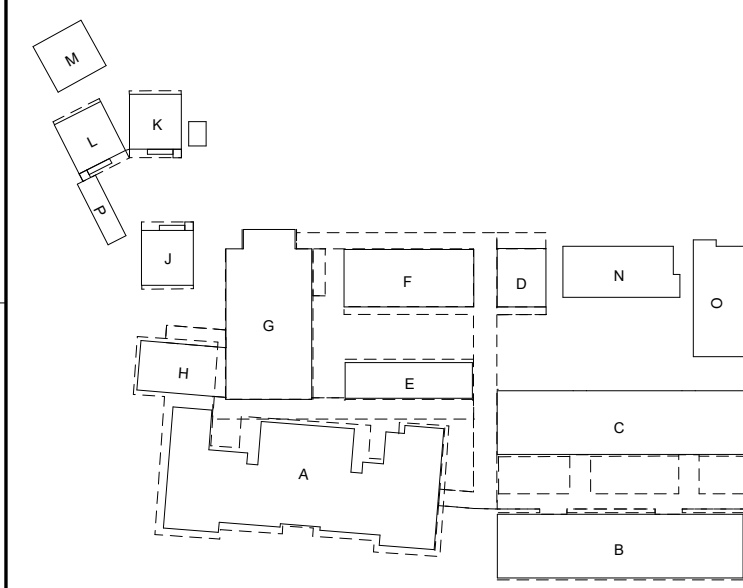
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No.	Revisions	By	Date	Appr.
2	ADDENDUM 2		04/02/19	

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Facility

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Project

MARTIN ELEMENTARY
SCHOOL MODERNIZATION

Sheet Title

OVERALL FLOOR PLANS –
BLDGS A & E - PLUMBING

Client Project Number: Client Proj. #

Scale: As indicated
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Checked By: Integral Group
Issue Date: 09/11/2018
Revit Version: 2017

P2.01

GENERAL NOTES

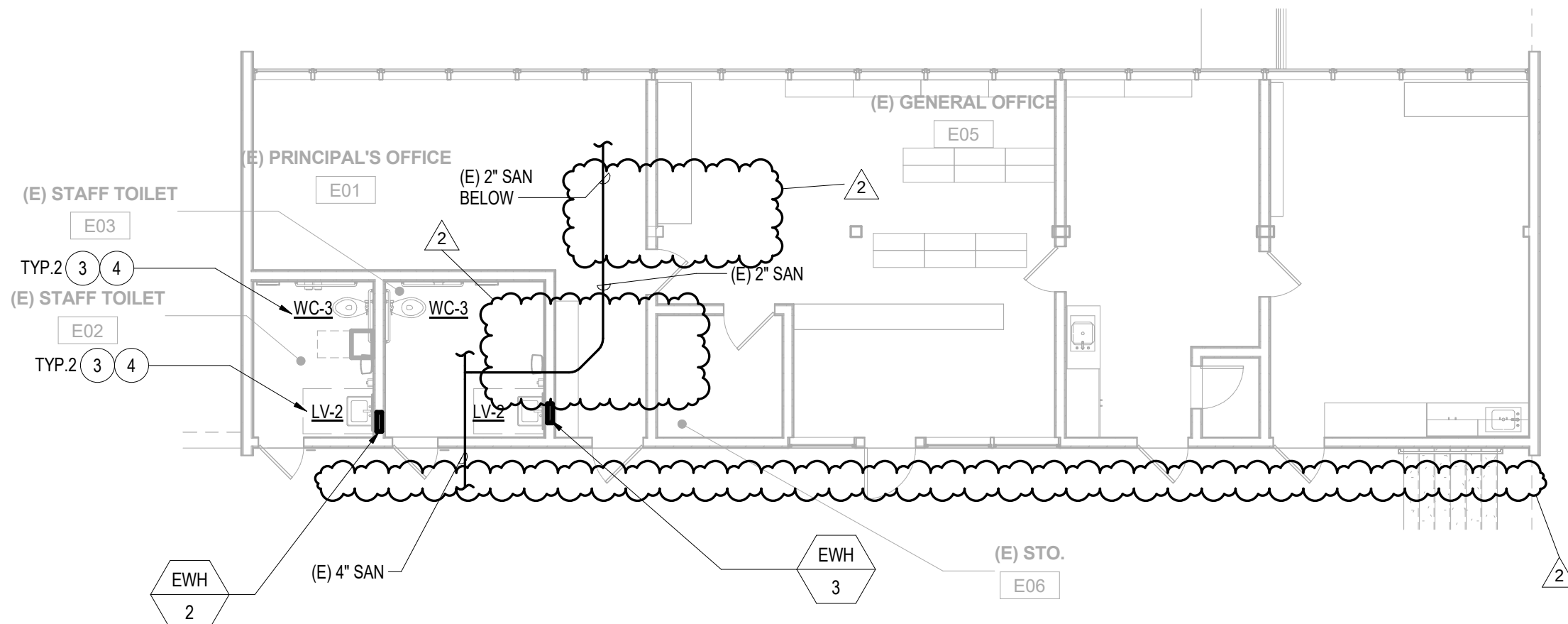
- COORDINATE EXACT LOCATIONS OF ALL ARCHITECTURAL, PLUMBING EQUIPMENT WITH ARCHITECTURAL, PLUMBING DRAWINGS.
- AFTER INSTALLATION OF NEW FIXTURES, PIPING, VALVING, GC TO PATCH AND REPAIR ALL WALL/FLOOR SURFACES AND FINISHES TO MATCH SURROUNDING WALL/FLOORS.
- ALL PLUMBING WORK SHOWN IN DRAWINGS IS DIAGRAMMATICAL ONLY.
- PLUMBING CONTRACTOR IS RESPONSIBLE FOR PROVIDING A FULLY FUNCTIONAL PLUMBING SYSTEM BASED ON THE PLUMBING DRAWINGS AND SPECIFICATIONS PROVIDED.
- ALL PIPING TO BE INSULATED ACCORDING TO CODE PER SPECIFICATIONS.

SHEET NOTES

- REINSTALL WATER CLOSETS IN NEW LOCATIONS ONE IS TO BE CAPPED, AND THE OTHER TWO WILL SHIFT SLIGHTLY FROM ITS ORIGINAL POSITION. MODIFY AS NEEDED.
- NOTE NOT USED.
- CONNECT TO EXISTING SANITARY AND VENT PIPING. EXTEND NEW WASTE PIPING BRANCH INTO PLUMBING WALL. MODIFY AS NEEDED.
- EXISTING PIPE TO REMAIN WITH NEW UTILITIES TO CONNECT FROM EXISTING TO NEW LOCATION. MODIFY AS NEEDED.
- NOTE NOT USED.

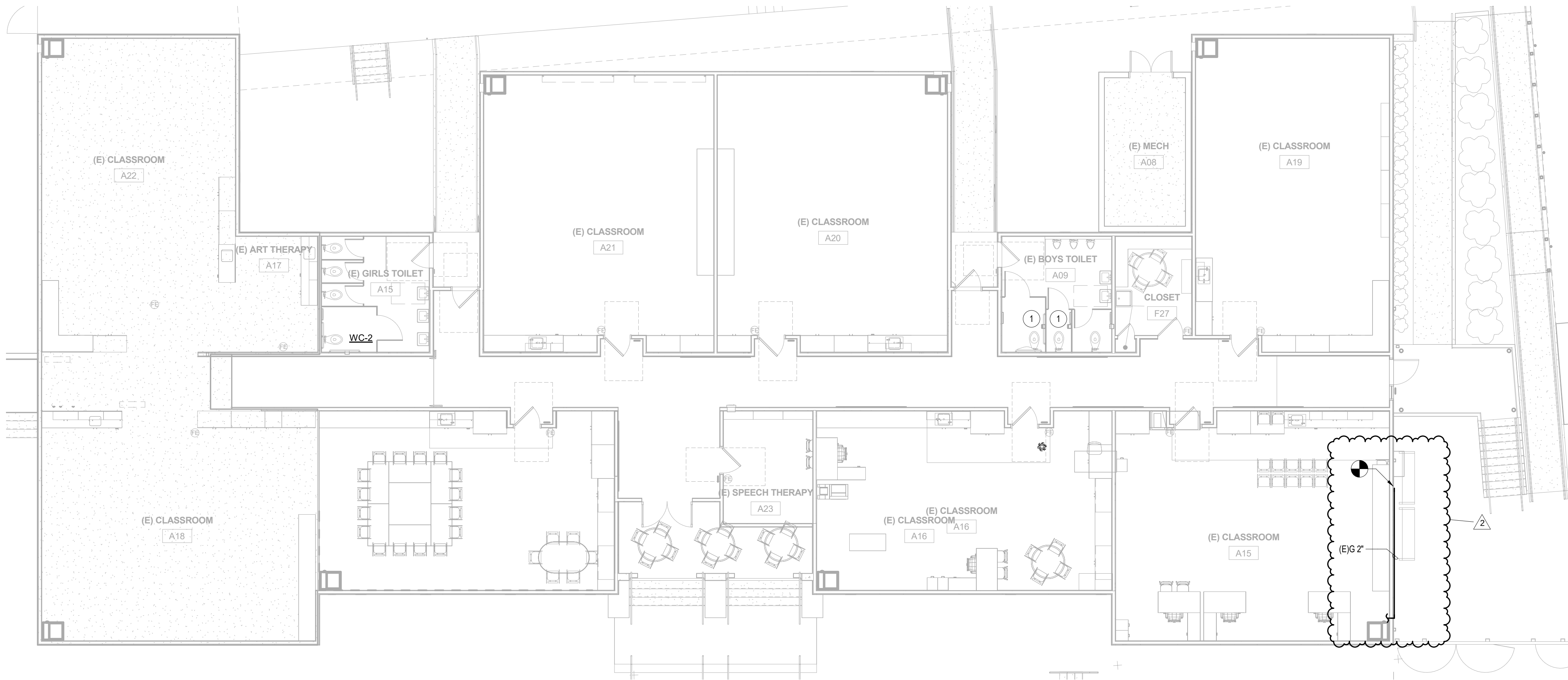
FLOOR PLAN - BUILDING E - PLUMBING

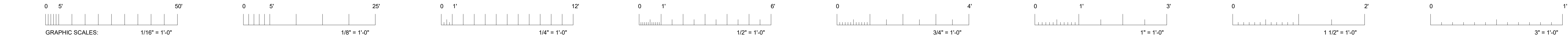
1/8" = 1'-0"



FLOOR PLAN - BUILDING A - PLUMBING

1/8" = 1'-0"



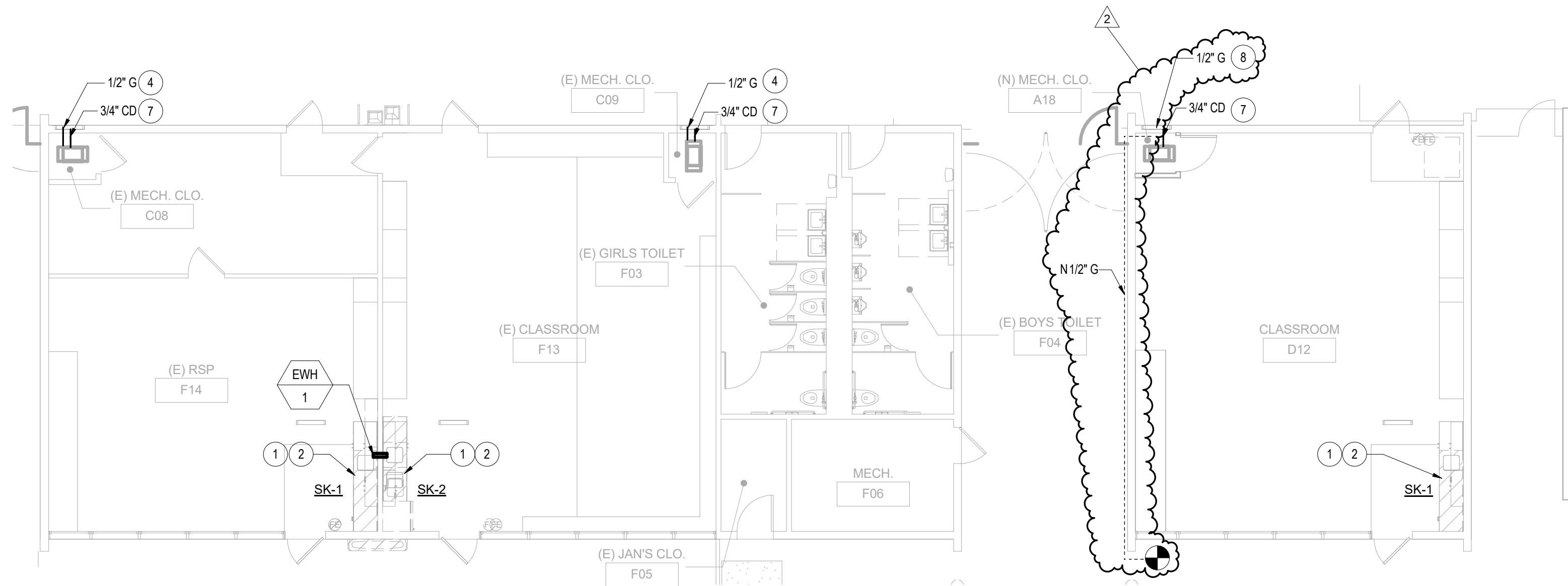


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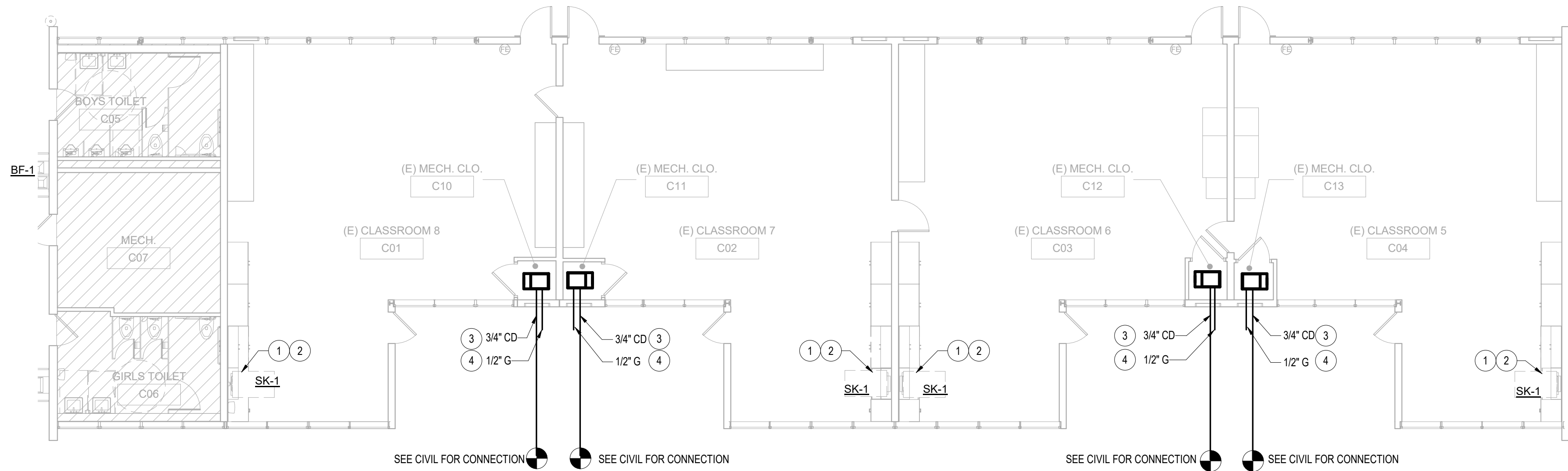
GENERAL NOTES

- COORDINATE EXACT LOCATIONS OF ALL ARCHITECTURAL, PLUMBING EQUIPMENT WITH ARCHITECTURAL, PLUMBING DRAWINGS.
- AFTER INSTALLATION OF NEW FIXTURES, PIPING, VALVING, GC TO PATCH AND REPAIR ALL WALL/FLOOR SURFACES AND FINISHES TO MATCH SURROUNDING WALL/FLOORS.
- ALL PLUMBING WORK SHOWN IN DRAWINGS IS DIAGRAMMATICAL ONLY.
- PLUMBING CONTRACTOR IS RESPONSIBLE FOR PROVIDING A FULLY FUNCTIONAL PLUMBING SYSTEM BASED ON THE PLUMBING DRAWINGS AND SPECIFICATIONS PROVIDED.
- ALL PIPING TO BE INSULATED ACCORDING TO CODE PER SPECIFICATIONS.



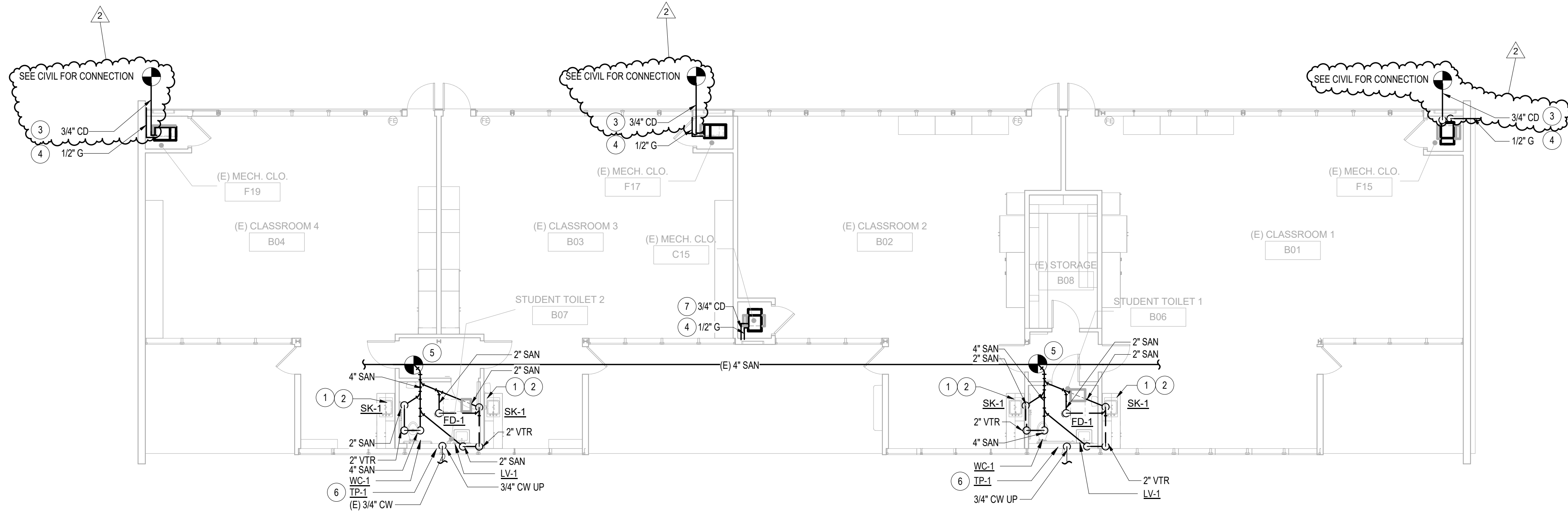
FLOOR PLAN - BUILDINGS D & F - PLUMBING

1/8" = 1'-0"



FLOOR PLAN - BUILDING C - PLUMBING

1/8" = 1'-0"



FLOOR PLAN - BUILDING B - PLUMBING

1/8" = 1'-0"

SHEET NOTES

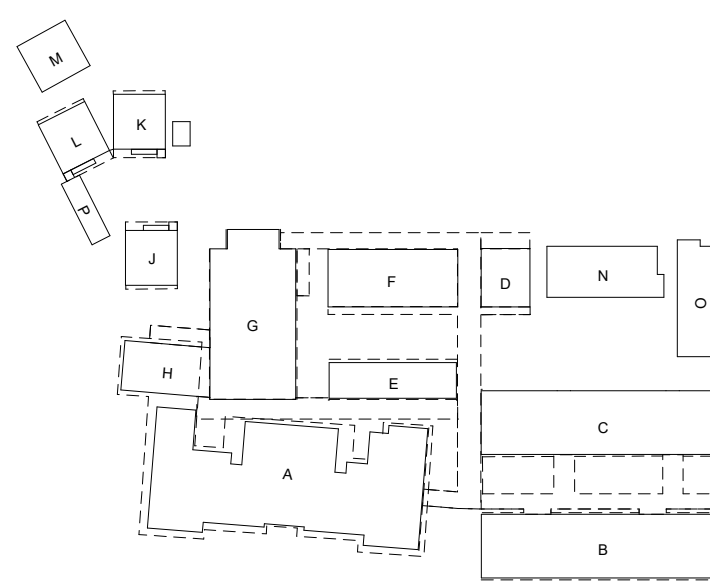
- CONNECT TO EXISTING SANITARY AND VENT PIPING. EXTEND NEW WASTE PIPING BRANCH INTO PLUMBING WALL. MODIFY AS NEEDED.
- EXISTING PIPE, TO REMAIN WITH NEW UTILITIES TO CONNECT FROM EXISTING TO NEW LOCATION. MODIFY AS NEEDED.
- FURNACE CONDENSATE TO CONNECT TO SANITARY LINE, S.C.D.
- CONNECT GAS LINE TO NEW FURNACE. PROVIDE SHUT-OFF VALVE AND DIRT LEG. MODIFY GAS PIPING AS REQUIRED FOR INSTALLATION OF NEW FURNACE.
- POC TO FIXTURES.
- PROVIDE TRAP PRIMER AT AT FLOOR DRAINS. SEE DETAIL SP6.01.
- FURNACE CONDENSATE TO DRY WELL. REFER TO PLUMBING DETAILS SP6.01.
- CONNECT GAS LINE TO NEW FURNACE. PROVIDE SHUT-OFF VALVE AND DIRT LEG. EXTEND GAS LINE TO UNDER SIDE OF EXISTING COVERED WALKWAY. ATTACHED TO WALKWAY AND CONNECT TO EXISTING CAPPED GAS LINE AT SOUTHWEST CORNER OF BUILDING D.

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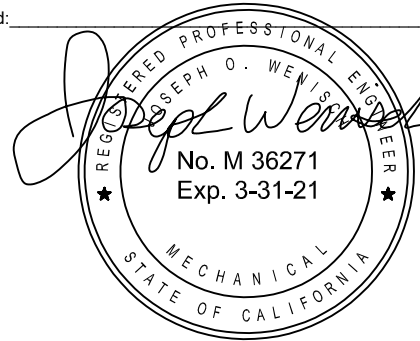


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Project

MARTIN ELEMENTARY
SCHOOL MODERNIZATION

Sheet Title

OVERALL FLOOR PLANS -
BLDGS B, C, D & F - PLUMBING

Client Project Number:

Client Proj. #

Scale: As indicated

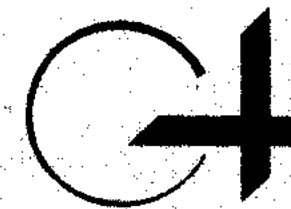
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CA 94080 USA
650-871-0709

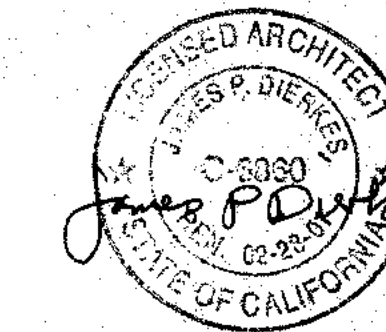
DASSE

DESIGN INC.
STRUCTURAL ENGINEERS
33 New Montgomery St., Suite 850
San Francisco, CA 94105
415/243-8400 - Fax 415/243-9185

S.S.F. UNIFIED
SCHOOL DISTRICT
398 B STREET
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CA 94080
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MARTIN
ELEMENTARY
SCHOOL
MODERNIZATION
PROJECT

35 SCHOOL STREET
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CA 94080



JAMES P. DIERKES
CA REG. C6860
PROJECT : 98258-02
FILE:

ISSUE DATE
ORS REVIEW 10-12-98

ORS BACKCHECK 03-15-99

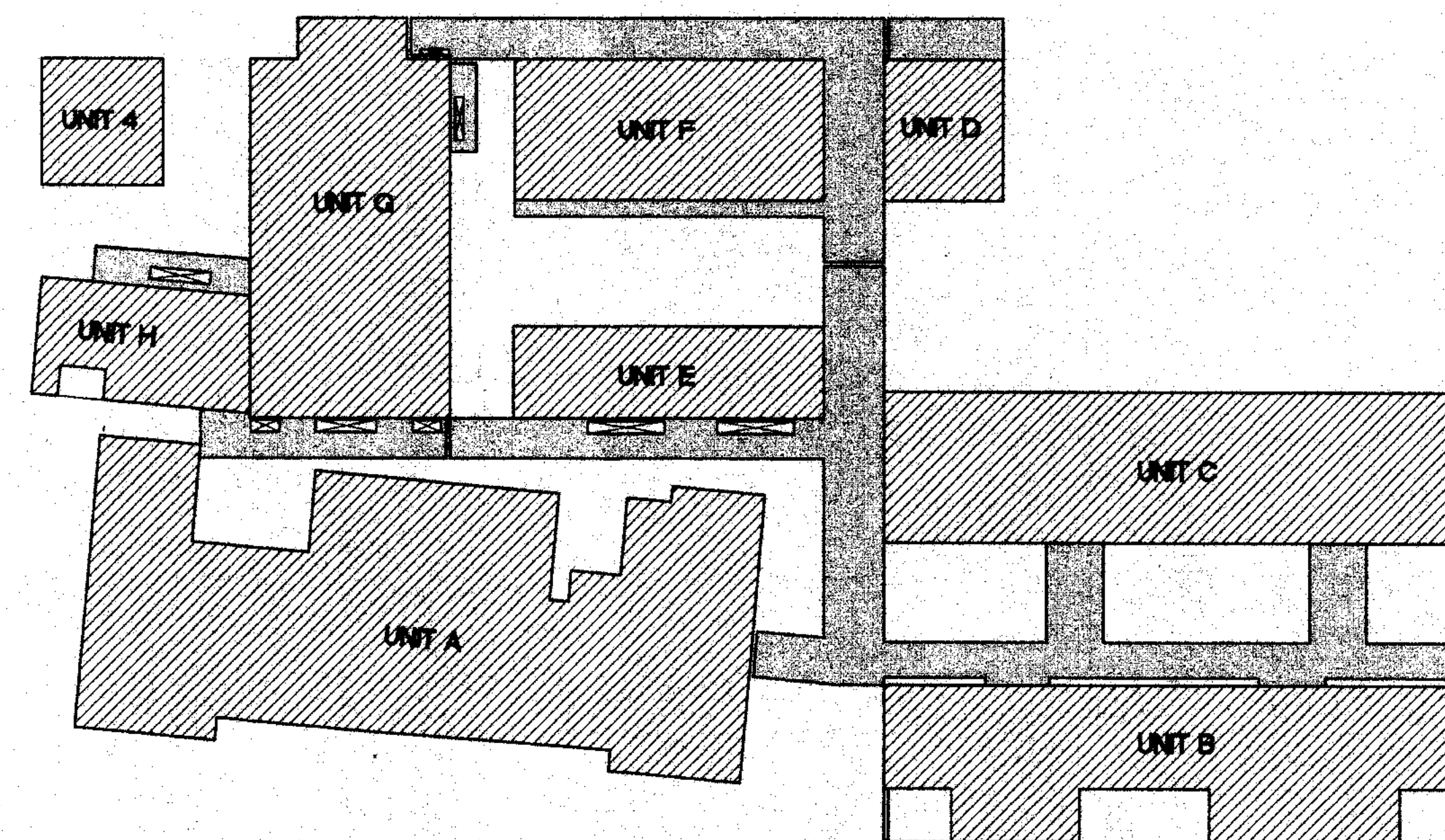
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DATE 10-24-98

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PARTIAL PLAN

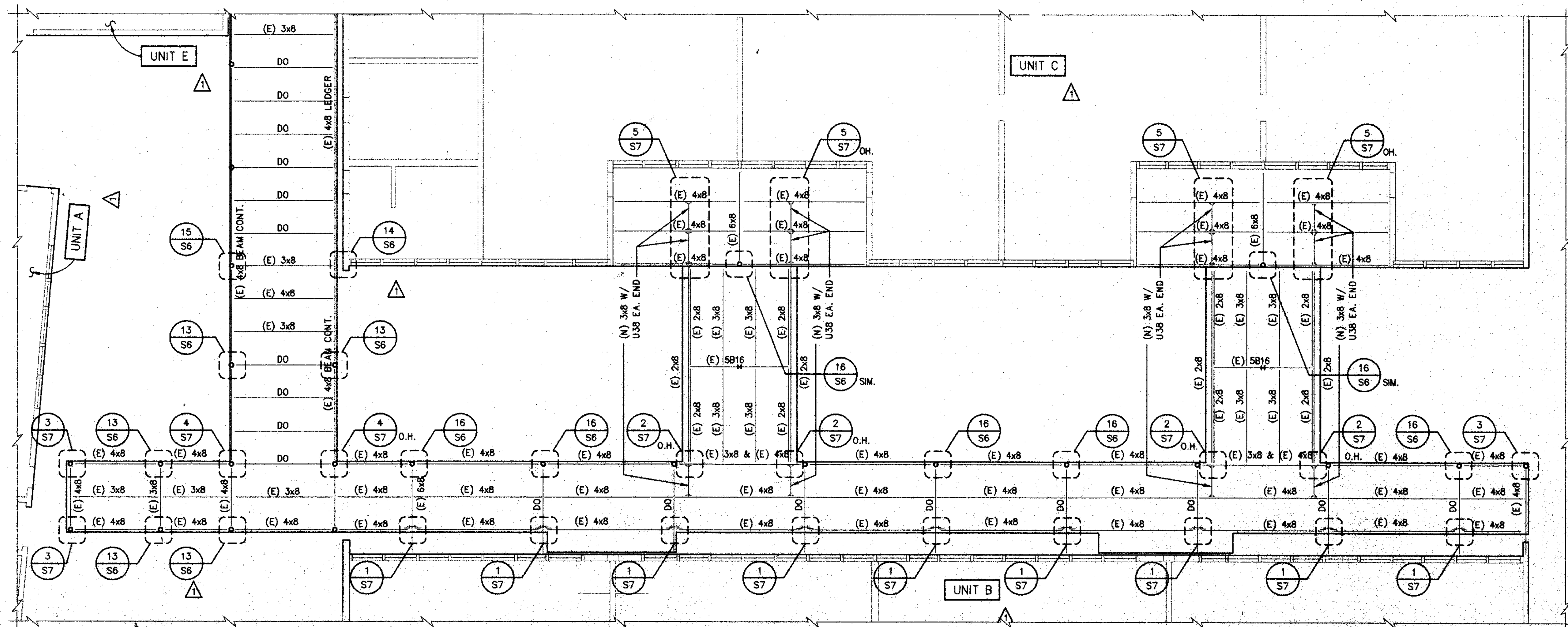
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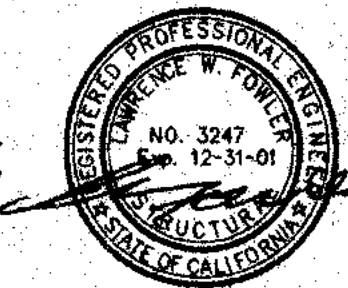
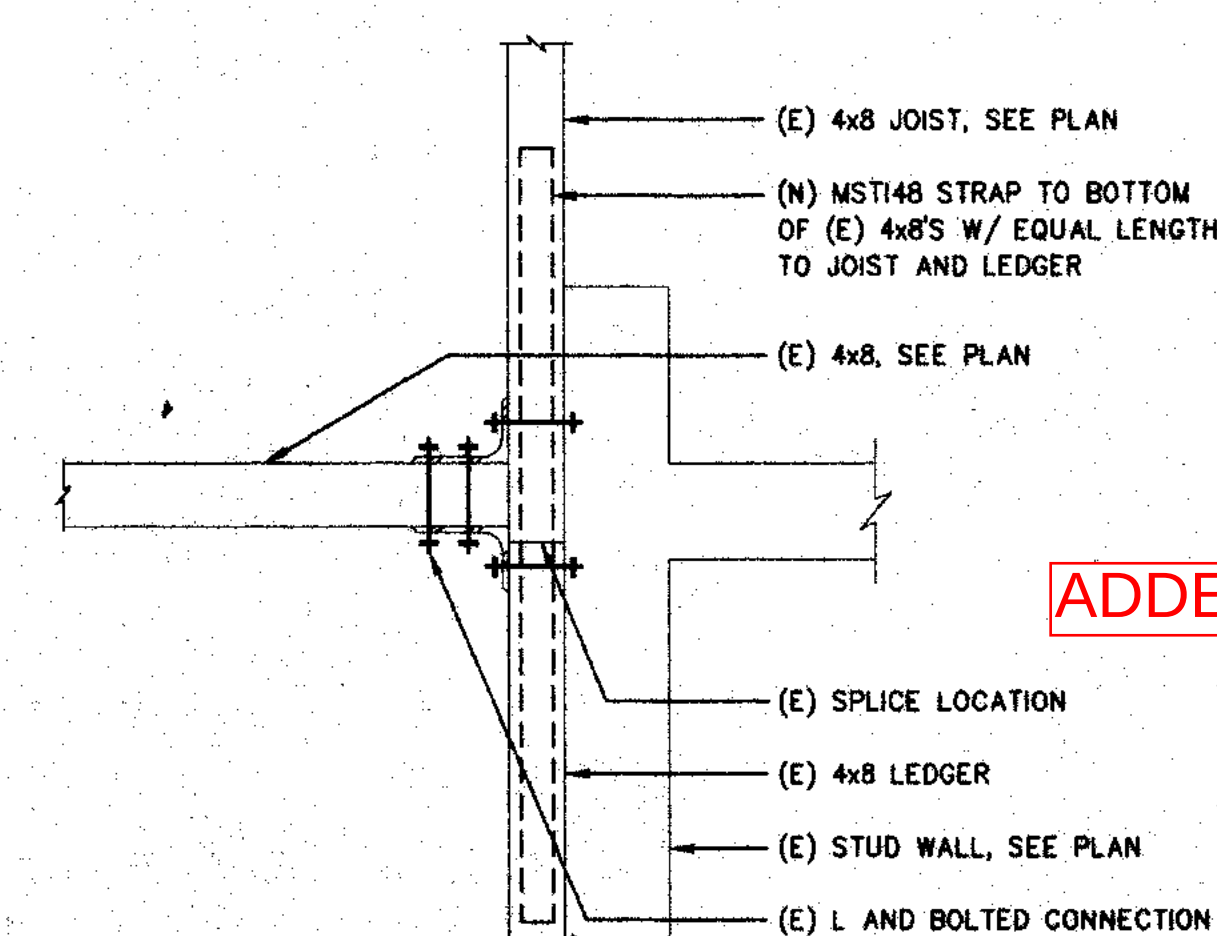
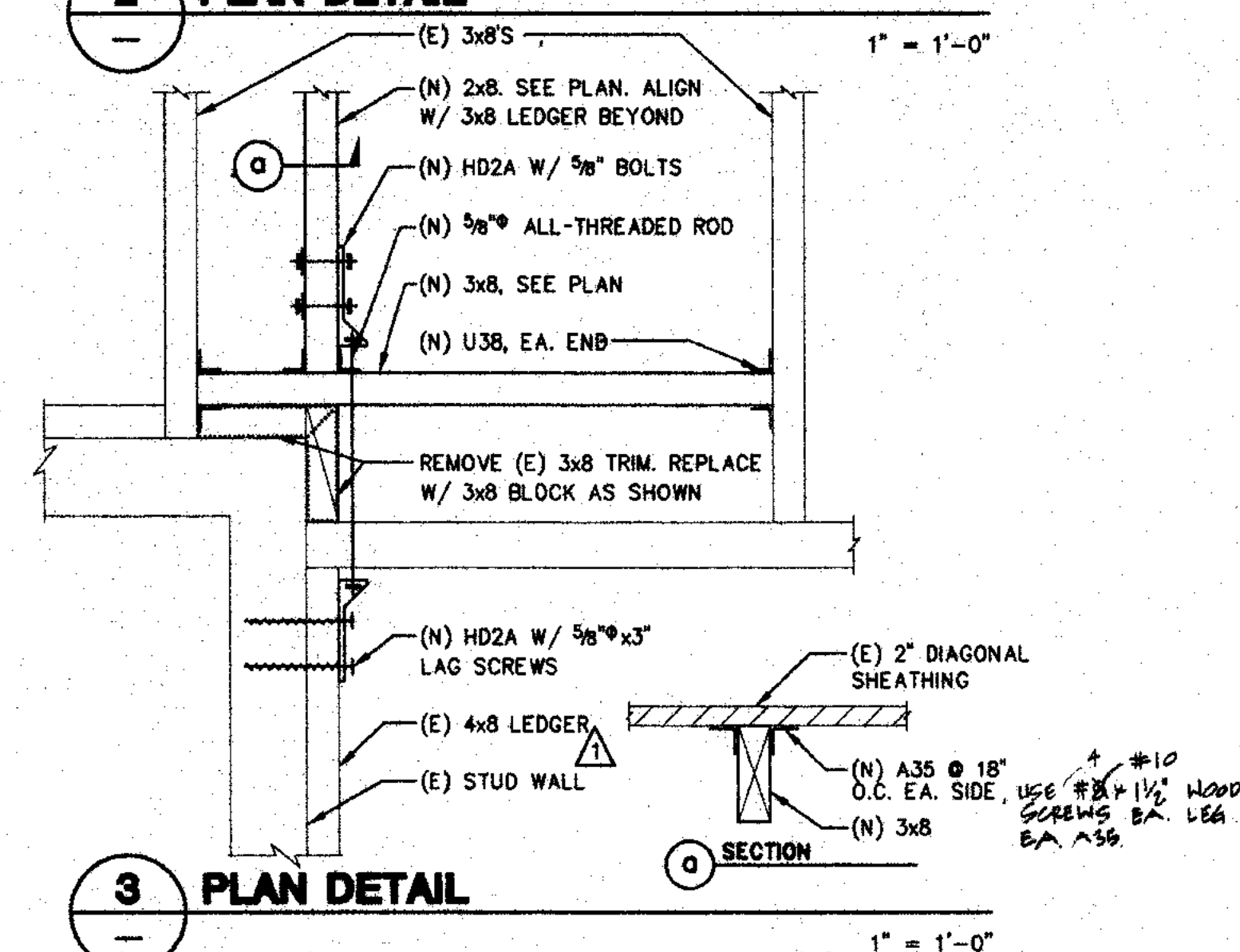
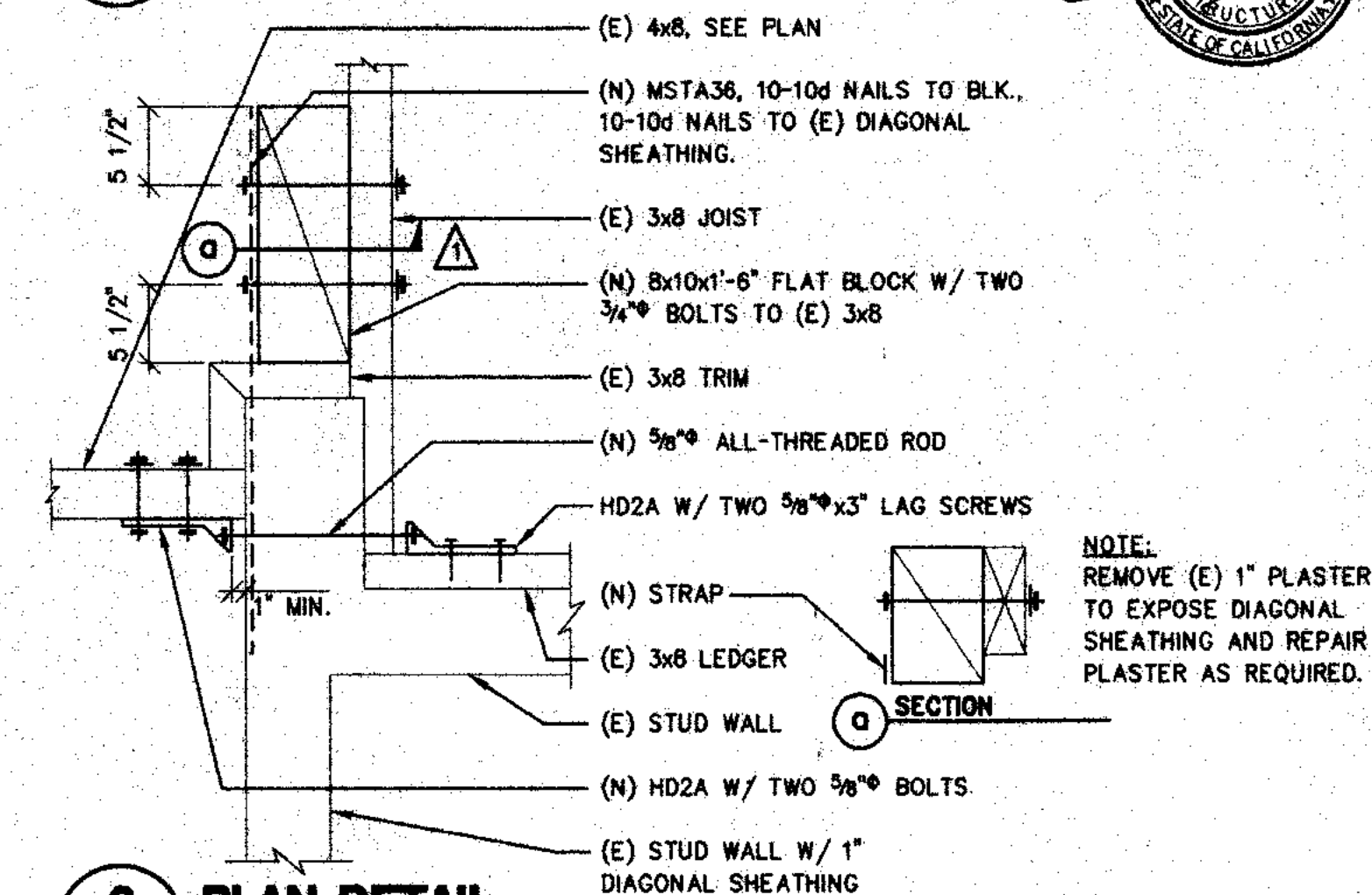
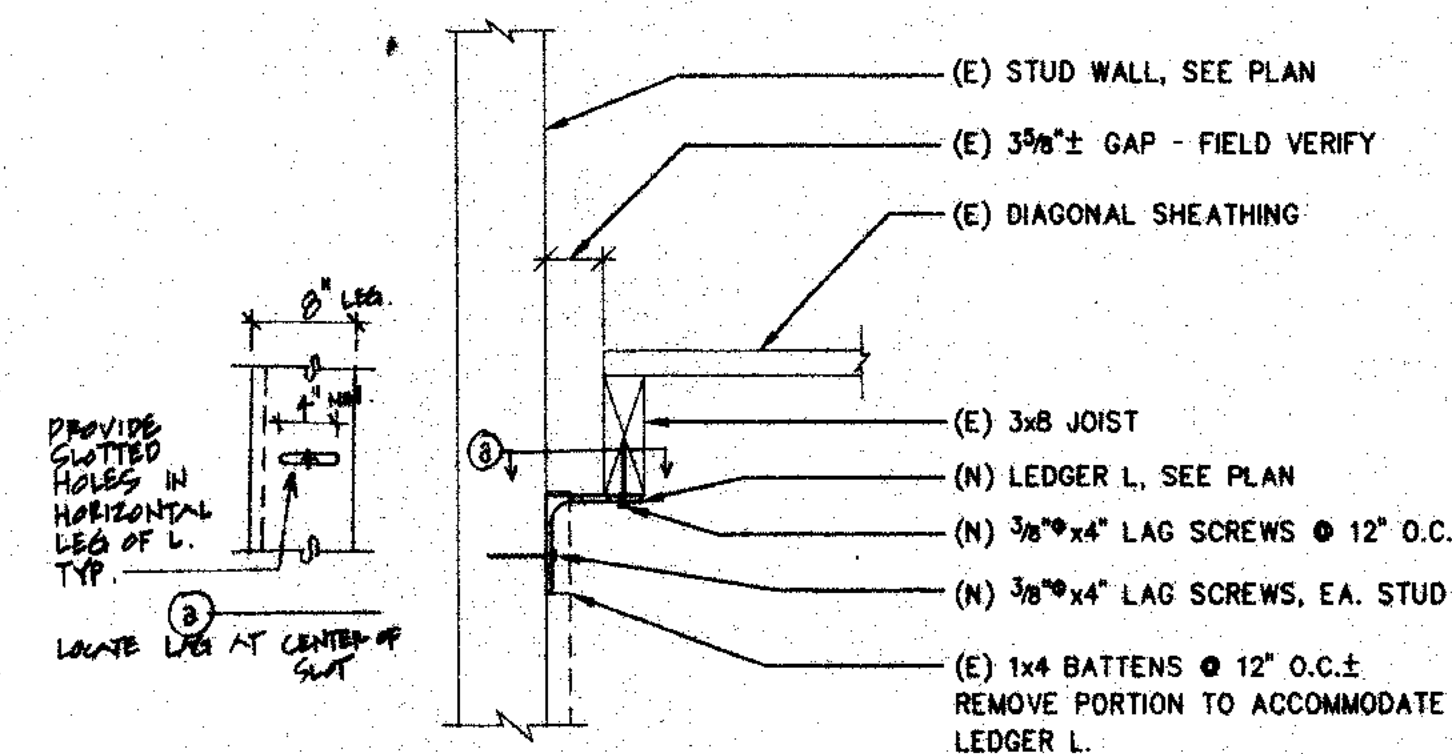
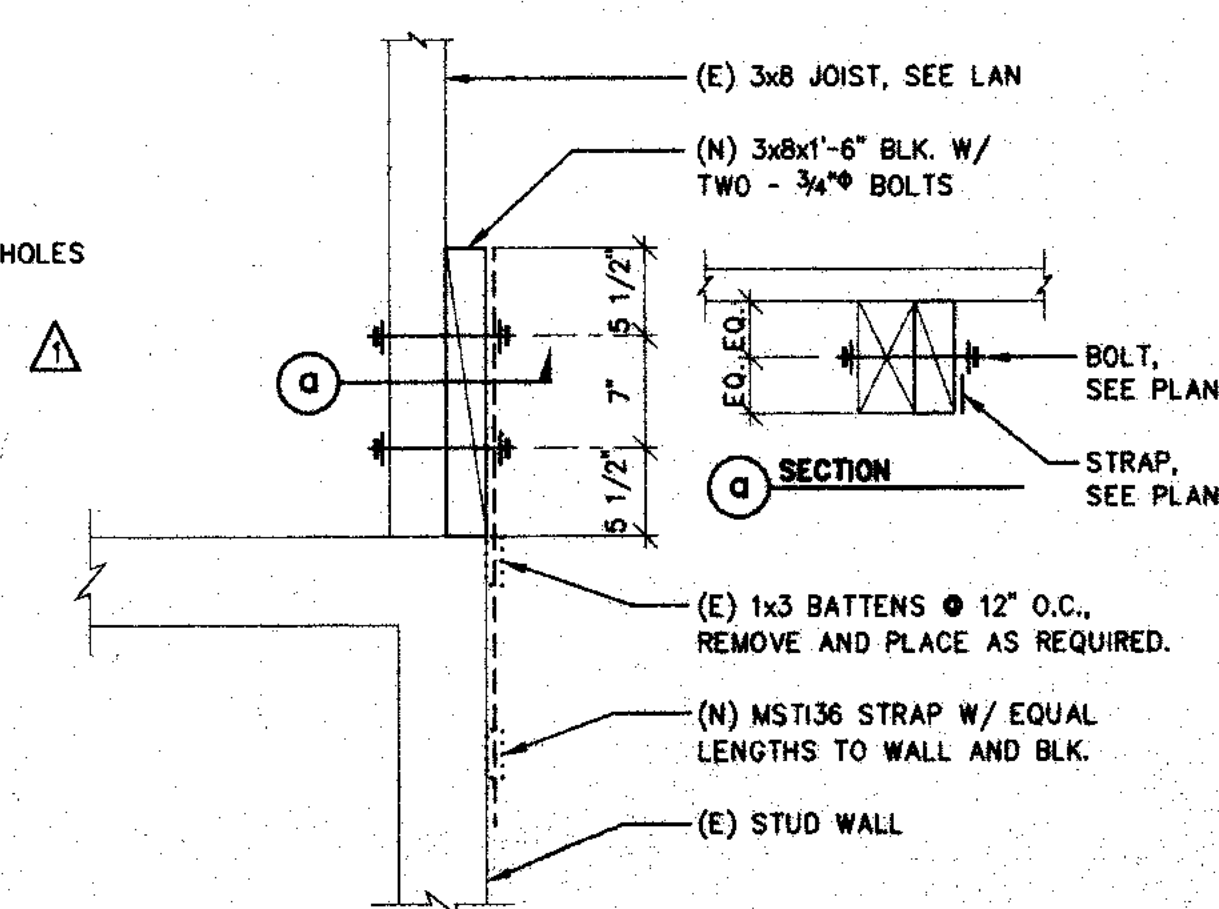
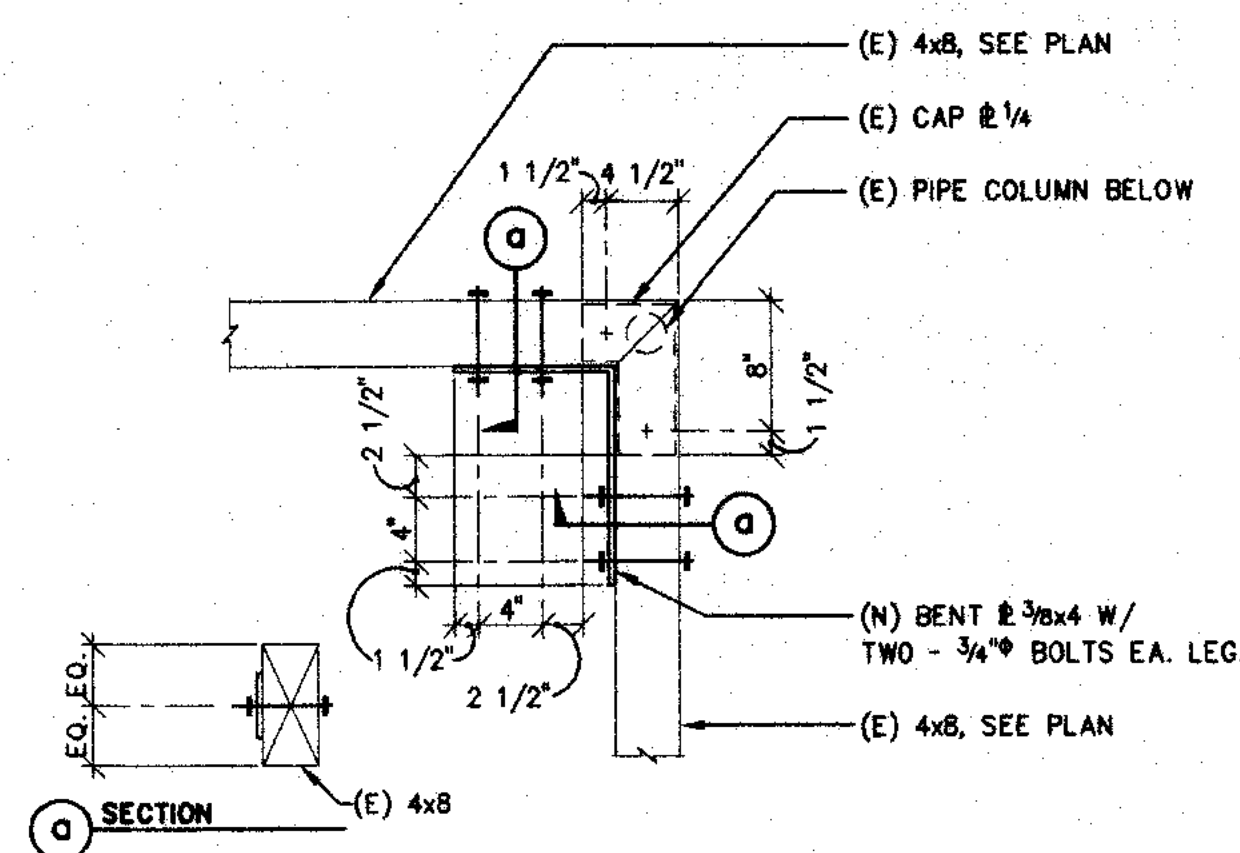
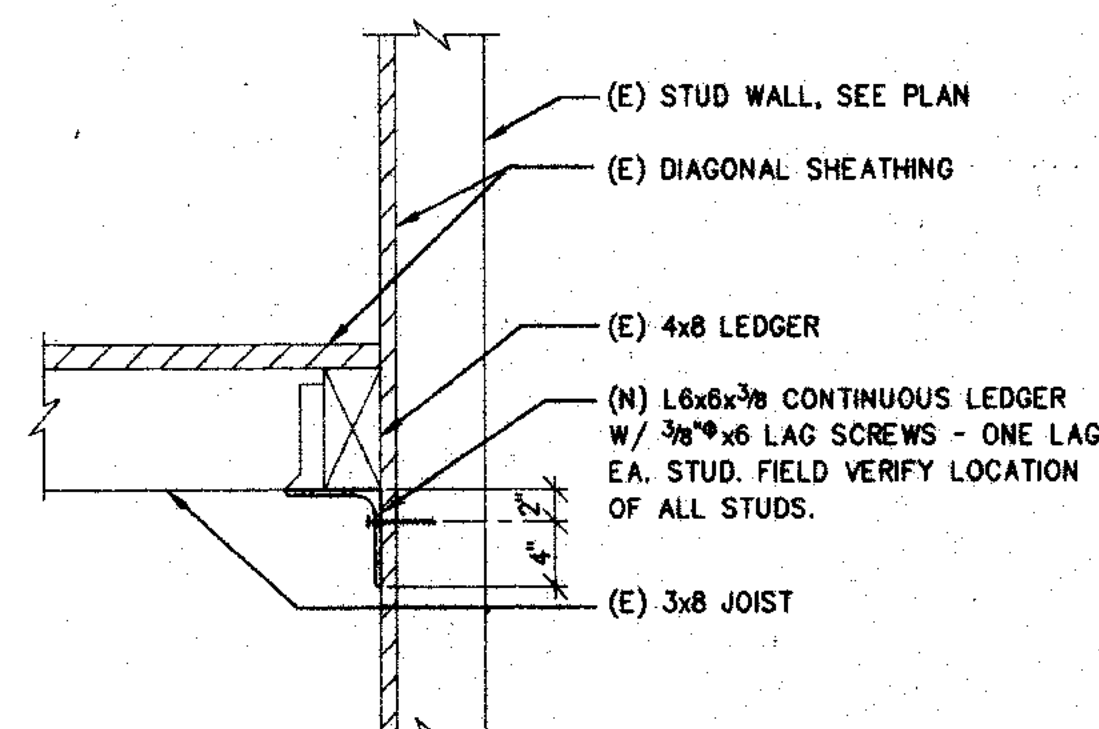
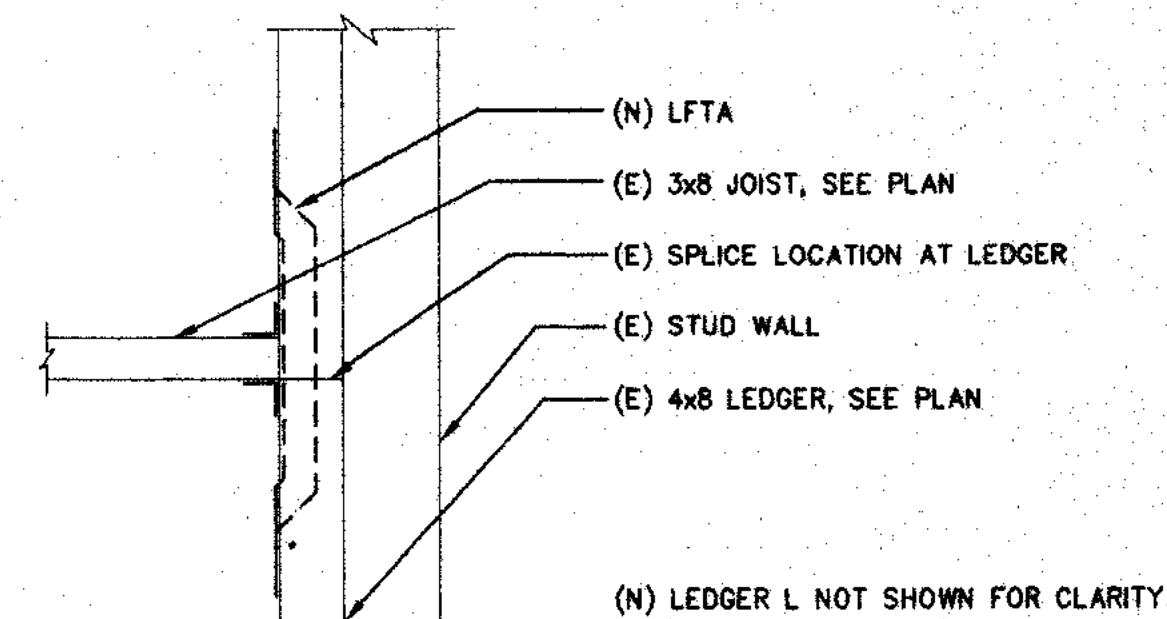
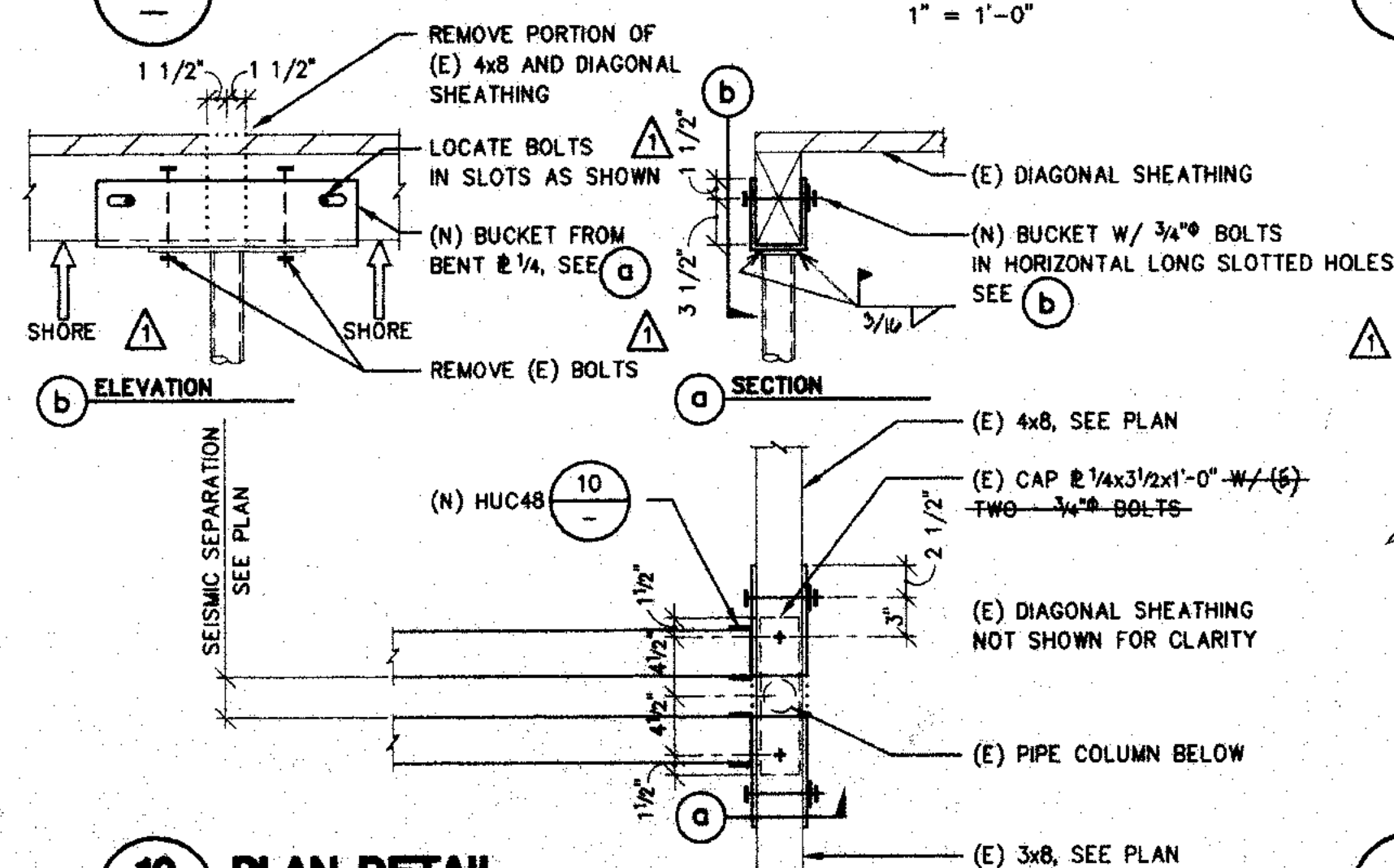
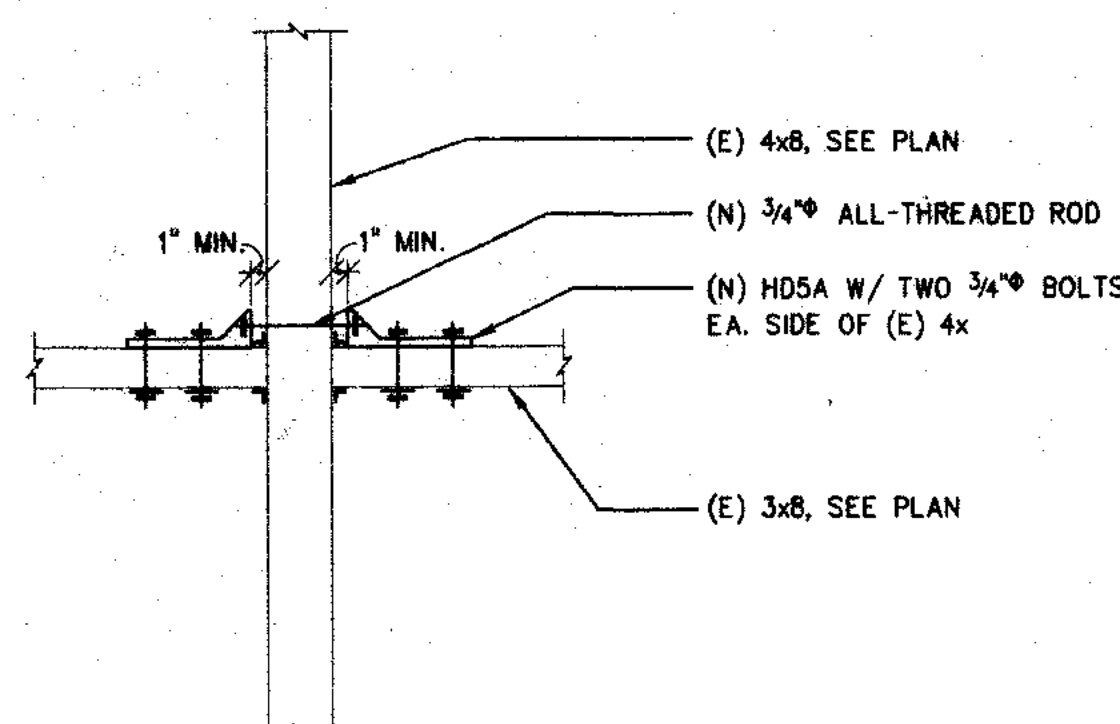
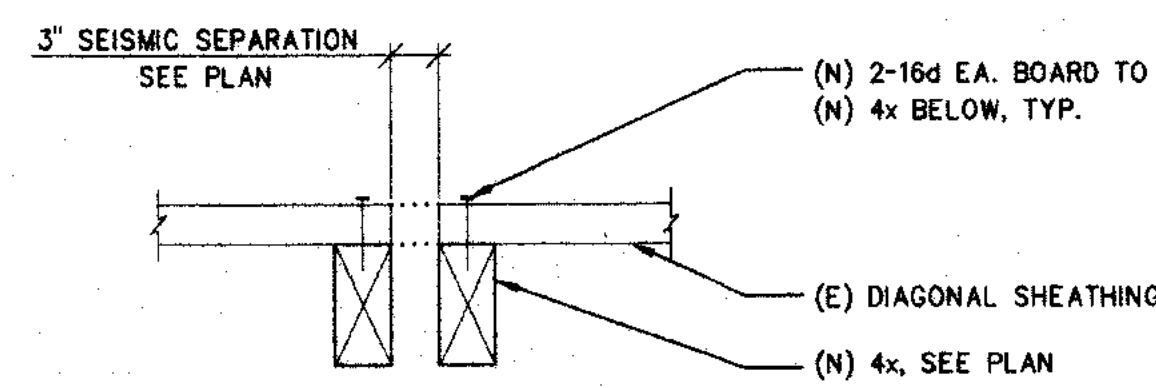
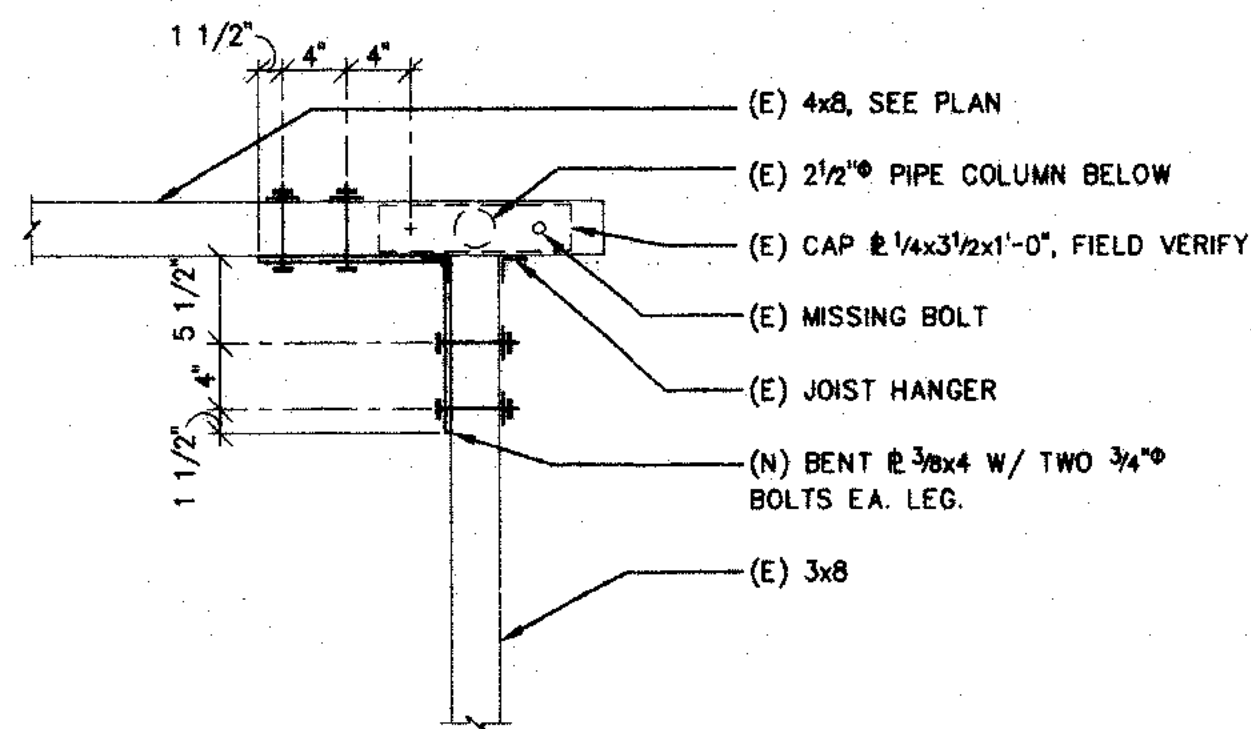
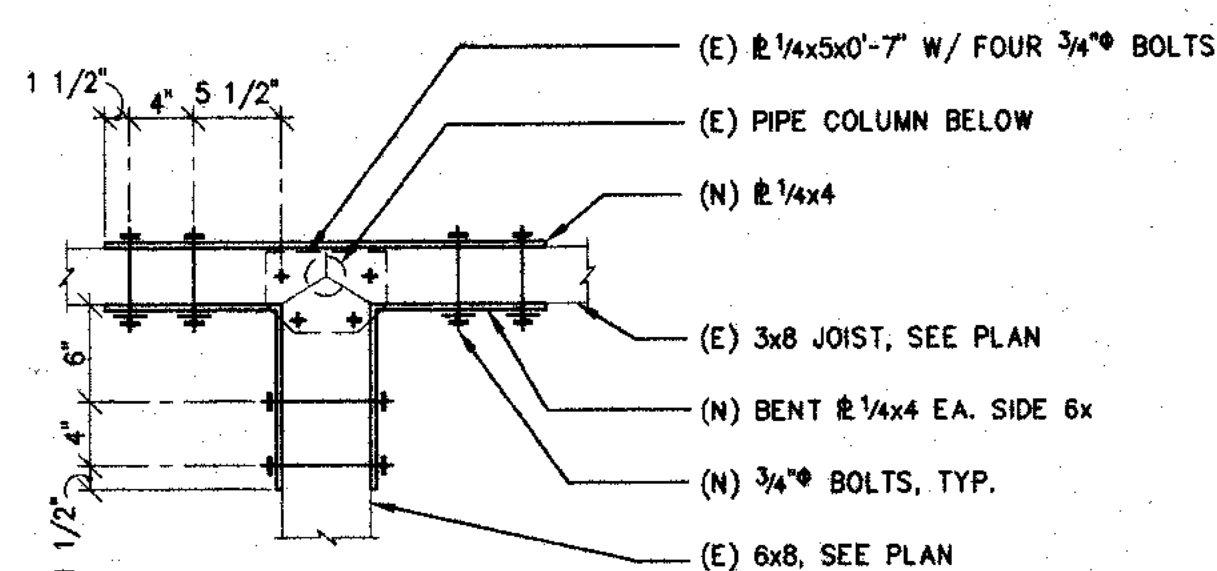
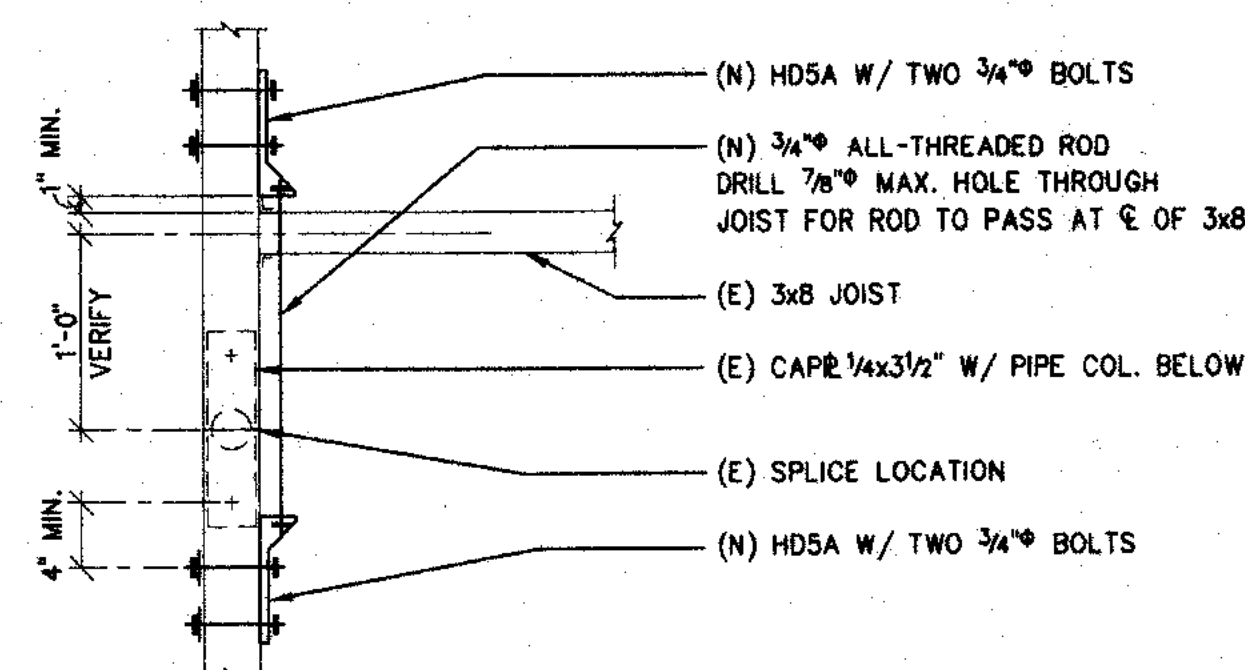
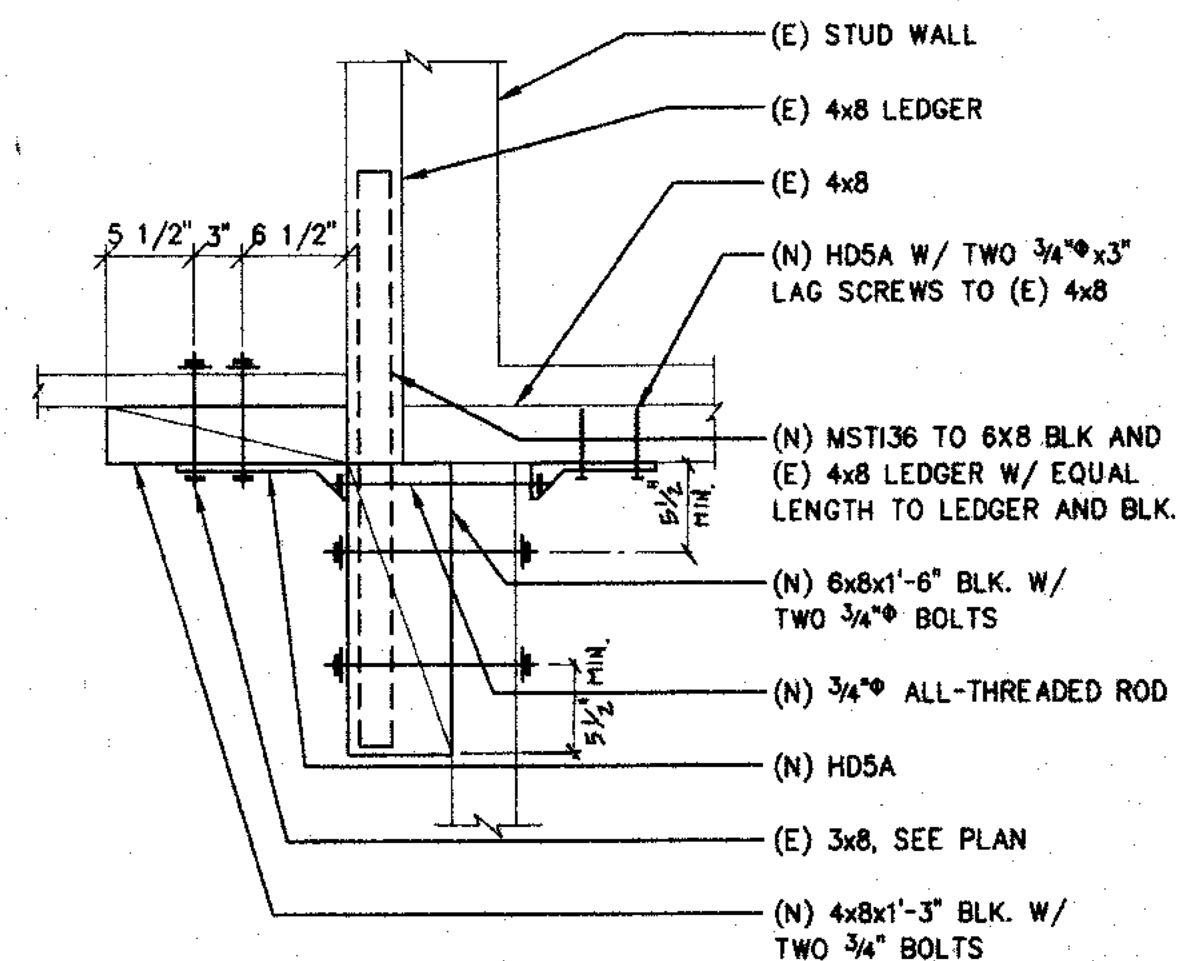
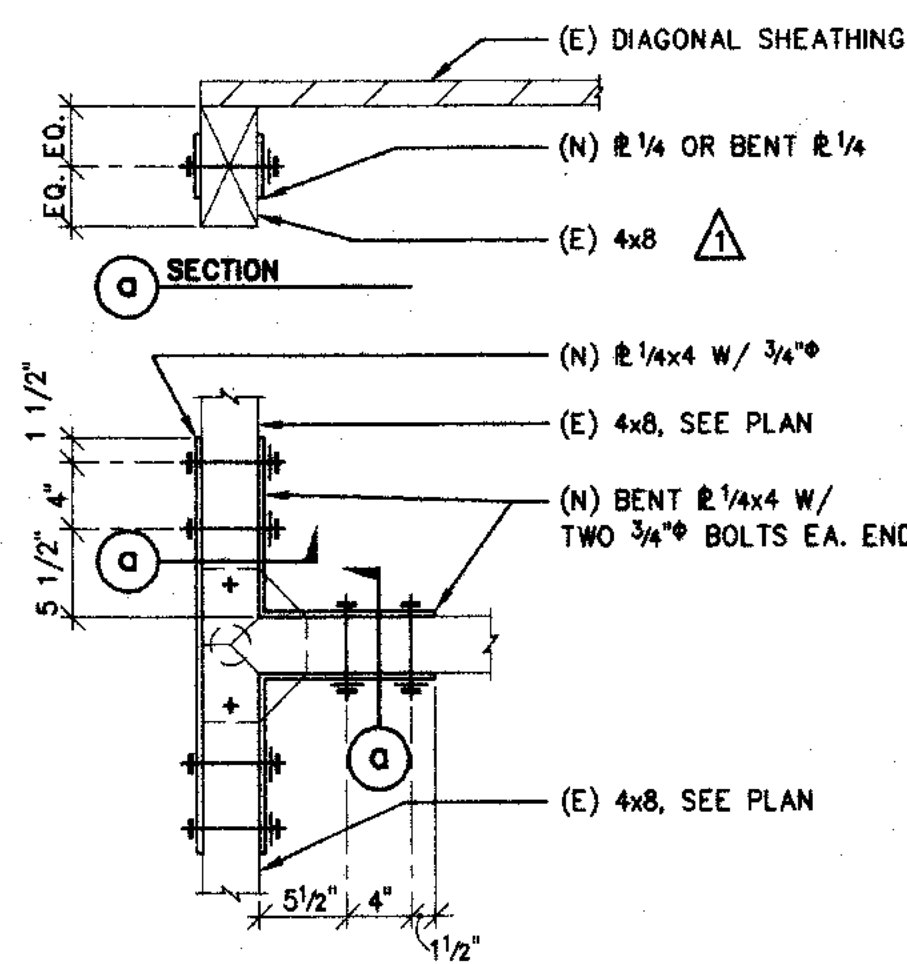


**BUILDING/COVERED WALKWAY
KEY PLAN**

1/32" = 1'-0"

LEGEND
[Hatched Box] (E) BUILDING
[Dotted Box] (E) COVERED WALKWAY ROOF STRUCTURE





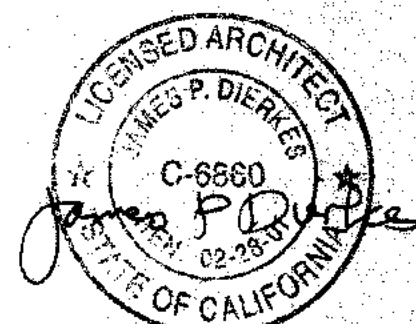
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MARTIN
ELEMENTARY
SCHOOL
MODERNIZATION
PROJECT

35 SCHOOL STREET
SO. SANFRANCISCO
CA. 94080



JAMES P. DIERKES
CA REG. C6860
PROJECT : 98258-02
FILE:

ISSUE DATE
ORS REVIEW 10-12-98

1 ORS BACKCHECK 03-15-99

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APPL 01 101083

AC _____ FLS _____ SS _____
DATE MAR 24 1968

SHEET TITLE AND NO.
DETAILS

FOR REFERENCE
ONLY

REF S6

FOOTNOTES:

Common nails shall be used u.n.o.

Nails spaced at 6 inches on center at edges, 12 inches at intermediate supports except 6 inches at all supports where spans are 48 inches or more. For nailing of plywood diaphragms and shear walls, refer to Section 2314A.3. Nails for wall sheathing shall be common.

Common or deformed shank.

Common.

Deformed shank.

Corrosion-resistant siding or casing nails conforming to the requirements of Section 2325A.1.

Fasteners spaced 3 inches on center at exterior edges and 6 inches on center at intermediate supports.

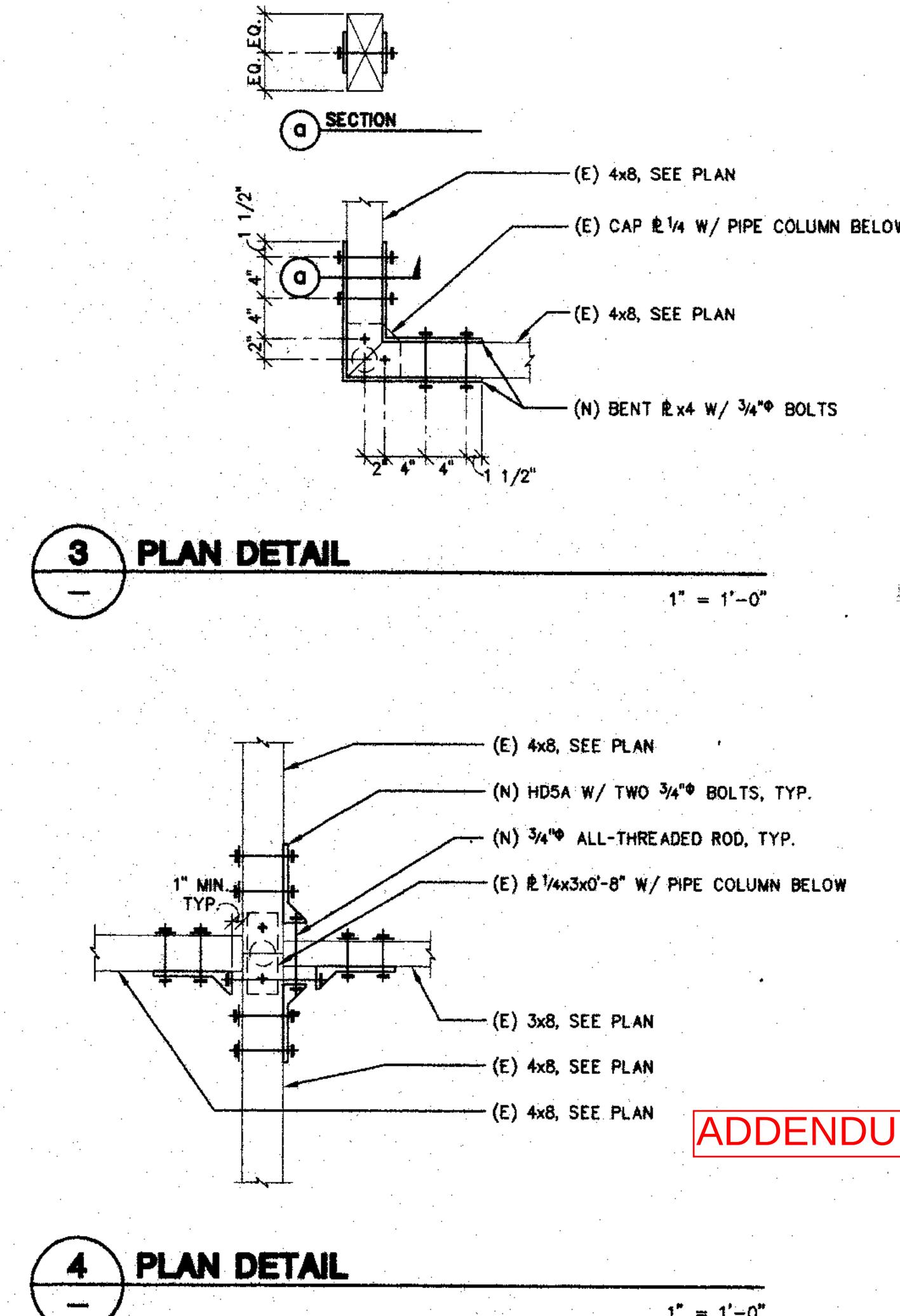
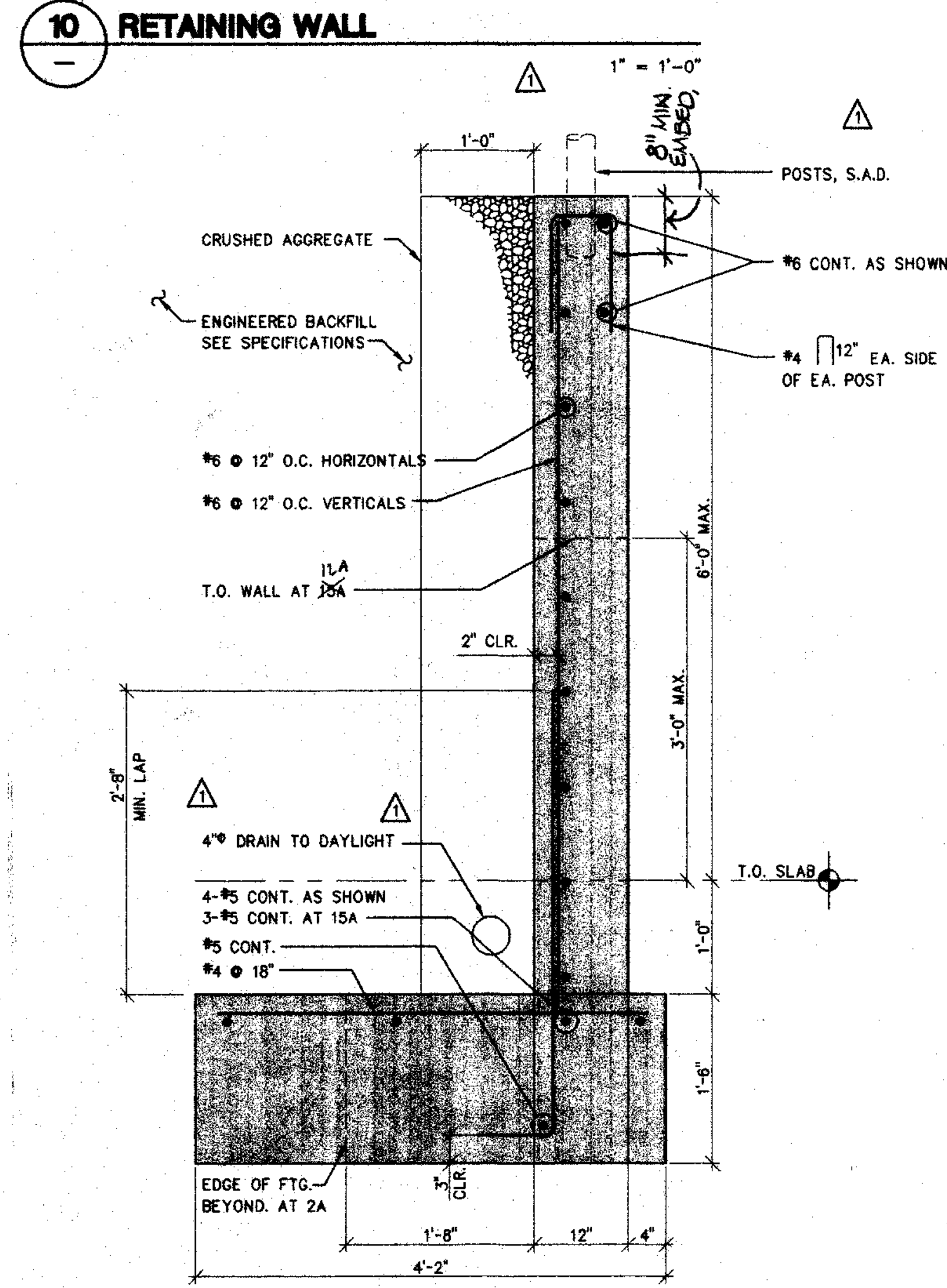
Corrosion-resistant roofing nails with 7/16-inch-diameter head and 1 1/2-inch length for 1/2-inch sheathing and 1 3/4 inch length for 25/32-inch sheathing conforming to the requirements of Section 2325A.1.

Corrosion-resistant staples with nominal 7/16 inch crown and 1 1/8 inch length for 1/2-inch sheathing and 1 1/2-inch length for 25/32-inch sheathing conforming to the requirements of Section 2325A.1.

Panel supports at 16" if straight axis in the long direction of the panel, unless otherwise marked. Casing or finish nails spaced 6" on panel edges, 12" at intermediate supports.

Section 2325A.1.

Panel supports at 24". Casing or finish nails spaced 6" on panel edges, 12" at intermediate supports.



REF **S7**