



CITY OF PACIFIC GROVE

Community Development Department – Planning Division

300 Forest Avenue, Pacific Grove, CA 93950

Tel: 831.648.3190 • Fax: 831.648.3184 • www.cityofpacificgrove.org/cedd

Permit Application

Application # AP 16-219

Date: 3/21/16

Total Fees: 2865.08

Received by: WL

APPLICANT/OWNER:	Project Address: <u>120 OCEAN VIEW BOULEVARD</u> APN: <u>006-741-006</u>	
	Project Description: <u>BUNKS BUILDING MECHANICAL UPGRADE – REPLACE WEATHERED ROOFTOP AHU IN-KIND; ADD BUILDING-MOUNTED ACCESS LADDER WITH SAFETY CAGE. PAINT ALL TO MATCH EXISTING (ROOFTOP) OR ADJACENT (BUILDING WALL), AS APPROPRIATE</u>	
PLANNING STAFF USE ONLY:	Applicant Owner	
	Name: <u>PAUL DAVIS PARTNERSHIP, LLP</u> <u>STANFORD UNIVERSITY</u>	
	Phone: <u>831.373.2784 x213</u> <u>650.444.4427</u>	
	Email: <u>heatherm@pauldavispartnership.com</u> <u>jflorez@stanford.edu</u>	
	Mailing Address: <u>286 EL DORADO STREET</u> <u>340 BONAIR SIDING</u> <u>MONTEREY CA 93940</u> <u>STANFORD CA 94305-7273</u>	
Permit Request: <u>ATTN: HEATHER MARQUARD</u> <u>ATTN: JON FLOREZ</u>		
<input type="checkbox"/> CRD: Counter Determination <input type="checkbox"/> AUP: Administrative UP <input type="checkbox"/> IHS: Initial Historic Screening <input type="checkbox"/> AVAR: Administrative VAR <input checked="" type="checkbox"/> AP: Architectural Permit <input type="checkbox"/> UP-A: UP Amendment <input type="checkbox"/> HPP: Historic Preservation <input type="checkbox"/> VAR-A: VAR Amendment <input type="checkbox"/> AAP: Administrative AP <input type="checkbox"/> AUP-A: AUP Amendment <input type="checkbox"/> HD: Historic Determination <input type="checkbox"/> AVAR-A: AVAR Amendment <input type="checkbox"/> ADC: AP Design Change <input type="checkbox"/> SU: Second Unit <input type="checkbox"/> TPD: Tree Permit W/ Dev't <input type="checkbox"/> MMP: Mitigation Monitoring <input type="checkbox"/> SP: Sign Permit <input type="checkbox"/> LLA: Lot Line Adjustment <input type="checkbox"/> PUU: Undocumented Unit <input type="checkbox"/> Stormwater Permit <input type="checkbox"/> UP: Use Permit <input type="checkbox"/> LM: Lot Merger <input type="checkbox"/> VAR: Variance <input type="checkbox"/> Other:		
CEQA Determination: <input checked="" type="checkbox"/> Exempt <input type="checkbox"/> Initial Study & Mitigated Negative Declaration <input type="checkbox"/> Environmental Impact Report		
Review Authority: <input type="checkbox"/> Staff <input type="checkbox"/> HRC <input type="checkbox"/> ZA <input type="checkbox"/> PC <input type="checkbox"/> SPRC <input type="checkbox"/> CC <input checked="" type="checkbox"/> ARB <input type="checkbox"/> _____		
Active Permits: <input type="checkbox"/> Active Planning Permit <input type="checkbox"/> Active Building Permit <input type="checkbox"/> Active Code Violation Permit #: _____		
Overlay Zones: <input type="checkbox"/> Butterfly Zone <input checked="" type="checkbox"/> Coastal Zone <input checked="" type="checkbox"/> Area of Special Biological Significance (ASBS) <input type="checkbox"/> Environmentally Sensitive Habitat Area (ESHA)		
Property Information Lot: _____ Block: _____ Tract: _____ ZC: <u>U</u> GP: <u>OSI</u> Lot Size: _____ <input type="checkbox"/> Historic Resources Inventory <input checked="" type="checkbox"/> Archaeologically Sensitive Area		
Staff Use Only: <u>per 23.70.060.C.2.</u>		

CERTIFICATION – I, the undersigned, under penalty of perjury, depose and certify that I am the applicant for this request, that the property owner approves this application and that all statements contained herein, including all documents and plans submitted in connection with this application, are true and accurate to the best of my knowledge.

Applicant Signature: Heather Marquard

Date: 4 MARCH 2016

Owner Signature (Required): (AUTHORIZATION TO ACT AS AGENT ON FILE) **Date:** _____



CITY OF PACIFIC GROVE

Community Economic Development Department – Planning Division

300 Forest Avenue, Pacific Grove, CA 93950

T : 831.648.3183 • F : 831.648.3184 • www.ci.pg.ca.us/cdd

ARCHITECTURAL PERMIT #16-219

FOR A BUILDING LOCATED AT THE STANFORD UNIVERSITY'S HOPKINS MARINE STATION AT 120 OCEAN VIEW BOULEVARD TO ALLOW THE ADDITION OF TWO (2) BUILDING-MOUNTED ACCESS LADDERS (15 FEET HEIGHT X 2 FEET WIDTH) WITH SAFETY CAGE AND TO REPLACE THE ROOFTOP AIR HANDLING UNIT WITH AN IN-KIND UNIT AND ASSOCIATED ITEMS (9 FEET 7.5 INCHES LENGTH X 5 FEET 3.5 INCHES WIDTH X 4 FEET 9.5 INCHES HEIGHT).

FACTS

1. The subject site is located at 120 Ocean View Boulevard, Pacific Grove, 93950 (APN 006-741-006)
2. The subject site has a designation of OSI on the adopted City of Pacific Grove General Plan Land Use Map.
3. The subject site is developed with the Blinks Building at the Stanford University's Hopkins Marine Station.
4. The project site is located in the Unclassified (U) zoning district.
5. The subject site is located in the California Coastal Commission's Coastal Zone.
6. The subject site is located in the Archaeologically Sensitive Area.
7. The subject site is located in the Area of Special Biological Significance Watershed.
8. This project has been determined to be CEQA Exempt under CEQA Guidelines, Section 15301, Class 1.

FINDINGS

1. The proposed project, including the ladder, will be attached to the building 4 inches above ground and therefore will not disturb the ground, and;
2. The proposed development will meet the development regulations set forth in the U zoning district, and;
3. The architecture and general appearance of the completed project is compatible with the neighborhood because the proposed exterior will be compatible with the size, scale and proportions of the existing building and other buildings in the neighborhood, and;
4. The completed project will neither be detrimental to the orderly and harmonious development of the city nor impair the desirability of investment or occupation in the neighborhood because the project will be improving the subject property.

PERMIT

Architectural Permit (AP) #16-219 to allow:

1. The installation of two (2) building-mounted access ladders (15 feet height x 2 feet width) with safety cage
2. The replacement of a rooftop air handling unit with an in-kind unit and associated items (9 feet 7.5 inches length x 5 feet 3.5 inches width x 4 feet 9.5 inches height)

Per P.G.M.C. 23.70.060(c)(2)

CONDITIONS OF APPROVAL

1. **Conditions of Approval in Plans:** All conditions of approval for the Planning permit(s) shall be printed on a full size sheet and included with the construction plan set submitted to the Building Department.
2. **Tree Protection Standards During Construction:** Pursuant to Municipal Code Chapters 12.20 and 12.30, and the *Urban Forestry Standards*, all trees that are otherwise protected and will be impacted as a result of Development, both proposed for pruning or removal and where the development will impact the critical root zone of the tree are protected. Prior to issuance of the building permit, the Project

Arborist shall review grading, drainage, utility, building and landscape plans to determine impacts to individual Trees, to determine required minimum Tree protection standards during construction.

3. **Archaeological Resources:** If archaeological resources or human remains are unexpectedly discovered during construction, work shall be halted on the project parcel until it can be evaluated by a qualified professional archaeologist. If the find is determined to be significant, appropriate mitigation measures shall be formulated, with the approval of the lead agency, and implemented.
4. **Permit Expiration.** This permit shall expire and be null and void if a building permit has not been applied for within one (1) year from and after the date of approval. Application for extension of this approval must be made prior to the expiration date.
5. **Construction Compliance.** All construction must occur in strict compliance with the proposal as set forth in the application, subject to any special conditions of approval herein. Any deviation from approvals must be reviewed and approved by staff, and may require Architectural Review Board approval.
6. **Terms and Conditions.** These terms and conditions shall run with the land, and it is the intention of the CEDD Director and the Permittee to bind all future owners and possessors of the subject property to the terms and conditions, unless amended. Amendments to this permit may be achieved only if an application is made and approved, pursuant to the Zoning Code.
7. **Public Works, Fire and Building.** Review and approval by the Public Works, Fire and Building Departments are required prior to issuance of a building permit. Work taking place in the public right-of-way shall require an encroachment permit prior to issuance of the building permit.
8. **Conformance to Plans.** Development of the site shall conform to approved plans for “Roche Residence” dated 2/12/2016, on file with the Community Development Department, with the exception of any subsequently approved changes.
9. **Lighting:** All exterior lighting must conform to Architectural Review Guidelines Nos. 10,11,12

NOW, THEREFORE, BE IT RESOLVED BY THE ARCHITECTURAL REVIEW BOARD OF THE CITY OF PACIFIC GROVE:

1. The Board determines that each of the Findings set forth above is true and correct, and by this reference incorporates those Findings as an integral part of this Permit.
2. The Board authorizes Approval of AP 16-219 to allow the addition of two (2) building-mounted access ladders (15 feet height x 2 feet width) with safety cage and to replace the rooftop air handling unit with an in-kind unit and associated items (9 feet 7.5 inches length x 5 feet 3.5 inches width x 4 feet 9.5 inches height).
3. This permit shall become effective upon the expiration of the 10-day appeal period.
4. This permit shall not take effect until the owner acknowledges and agrees to all terms and conditions and agrees to conform to and comply with those terms and conditions.

PASSED AND ADOPTED AT A REGULAR MEETING OF THE ARCHITECTURAL REVIEW BOARD OF THE CITY OF PACIFIC GROVE ON THE 12TH DAY OF APRIL, 2016, BY THE FOLLOWING VOTE:

AYES:

NOES:

ABSENT:

APPROVED:

Rick Steres, Chair

The undersigned hereby acknowledge and agree to the approved terms and conditions, and agree to fully conform to, and comply with, said terms and conditions.

Jon Florez, Stanford University

Date



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NOTICE OF EXEMPTION FROM CEQA

Property Address/Location: 120 Ocean View Boulevard, Pacific Grove, CA 93950

Project Description: AP 16-219

Description: For a building located at the Stanford University's Hopkins Marine Station to allow the addition of two (2) building-mounted access ladders (15 feet height x 2 feet width) with safety cage and to replace the rooftop air handling unit with an in-kind unit and associated items (9 feet 7.5 inches length x 5 feet 3.5 inches width x 4 feet 9.5 inches height).

APN: 006-741-006

ZC: U GP: OSI

Applicant Name: Heather Marquadt, Paul Davis Partnership, LLP Phone #: (831) 373-2784 x213

Mailing Address: 286 El Dorado Street, Monterey, CA 93940

Email Address: heatherm@pauldavispartnership.com

Public Agency Approving Project: City of Pacific Grove, Monterey County, California

Exempt Status (Check One):

- Ministerial (Sec. 21080(b)(1):15268))
- Declared Emergency (Sec. 21080(b)(3): 15269(a))
- Emergency Project (Sec. 21080(b)(4); 15269(b)(c))
- Categorical Exemption

Type and Section Number: Section 15301 Class 1 Categorical Exemption

Exemption Findings:

The project includes addition of two building-mounted access ladders with a safety cage, and to replace an air handling unit with an in-kind unit and associated items, and therefore qualifies for a Class 1 Exemption from CEQA requirements, pursuant to Section 15301 – Existing Facilities.

The proposed alterations do not present any unusual circumstances that would result in a potentially significant environmental impact.

Contact: Wendy Lao, Assistant Planner **Contact Phone:** (831) 648-3185

Signature:

Date: April 4, 2016



EXISTING EAST ELEVATION (no change)



EXISTING NORTH ELEVATION (proposed impact: side view of access ladder behind tree at right)



EXISTING SOUTH ELEVATION (no change)



**EXISTING WEST (NORTHWEST)
ELEVATION**

(proposed impact: new access ladder with cage mounted to building – located more toward inside corner where green door is shown, hidden by large existing tree in view from west and Ocean View street front)

Item 6b

**EXISTING WEST (SOUTHWEST)
ELEVATION**

(no change)





EXISTING VIEW FROM OCEAN VIEW BOULEVARD (proposed impact: new roof access ladder would be unseen as location is behind existing large evergreen tree at center of photo)

STANFORD UNIVERSITY - HOPKINS MARINE STATION

BLINKS BUILDING MECHANICAL UPGRADE

PACIFIC GROVE, CALIFORNIA

Project / Owner:

STANFORD UNIVERSITY,
HOPKINS MARINE STATION

BLINKS BUILDING MECHANICAL UPGRADE

120 OCEAN VIEW BLVD
PACIFIC GROVE, CA 93950

APN: 006-741-006
STANFORD PROJECT:
Z16033

THE PAUL DAVIS PARTNERSHIP
ARCHITECTS & PLANNERS

The Paul Davis Partnership, LLP
286 Eldorado Street
Monterey, CA 93940
(831) 373-2784 FAX (831) 373-7459
EMAIL: info@pauldavispartnership.com



Drawn By: HMM
Drawing Date: 2.12.16
Project Number: 1600

Revisions:

Sheet Title:

PROJECT INFORMATION

Sheet Number:

A0.1

MATERIALS	PROJECT DIRECTORY	CODE ANALYSIS	PROJECT INFORMATION	SHEET INDEX
<p>CONCRETE</p> <p>CERAMIC TILE OR TILE PAVERS IN PLAN VIEW (SEE FINISH SCHEDULE)</p> <p>MASONRY</p> <p>BATT INSULATION IN SECTION</p> <p>RIGID INSULATION IN SECTION</p> <p>FINISH WOOD MEMBER IN SECTION</p> <p>CONTINUOUS WOOD MEMBER IN SECTION</p> <p>WOOD BLOCKING BETWEEN FRAMING MEMBERS IN SECTION</p> <p>PLYWOOD IN SECTION</p> <p>STEEL IN SECTION</p> <p>ACOUSTIC TILE CEILING MATERIAL IN SECTION</p>	<p>PROJECT OWNER: STANFORD UNIVERSITY ZONE PROJECT MANAGEMENT 340 BONAIR SIDING STANFORD, CALIFORNIA 94305-7273 PHONE: 650.736.8377 FAX: 650.723.0582 CONTACT: JON FLOREZ EMAIL: jflorez@stanford.edu</p> <p>PROPERTY OCCUPANT: STANFORD UNIVERSITY HOPKINS MARINE STATION 120 OCEAN VIEW BOULEVARD PACIFIC GROVE, CALIFORNIA 93950 PHONE: 831.655.6249 CONTACT: JUDY THOMPSON EMAIL: judyt@stanford.edu</p> <p>PROJECT ARCHITECT THE PAUL DAVIS PARTNERSHIP, LLP 286 EL DORADO STREET MONTEREY, CA. 93940 PHONE: 831.373.2784 FAX: 831.373.7459 CONTACT: PAUL W. DAVIS, AIA EMAIL: paulw@pauldavispartnership.com ALTERNATE: HEATHER M. MARQUARD, AIA, LEED AP ALT. EMAIL: heatherm@pauldavispartnership.com</p> <p>STRUCTURAL ENGINEER UYEDA AND ASSOCIATES 2600 GARDEN ROAD, SUITE 305 MONTEREY, CA 93940 PHONE: 831.376.3181 FAX: 831.373.3188 CONTACT: YUTAKA UYEDA, RE EMAIL: yutaka@uyeda-se.com</p> <p>MECHANICAL ENGINEER AXIOM ENGINEERS 22 LOWER RAGSDALE, SUITE A MONTEREY, CA 93940 PHONE: 831.649.8000 FAX: 831.649.8038 CONTACT: SCOTT STROSHANE, PE, LEED AP EMAIL: scottst@axiomengineers.com</p> <p>ELECTRICAL ENGINEER AURUM CONSULTING ENGINEERS 60 GARDEN COURT, SUITE 210 MONTEREY, CA 93940 PHONE: 831.646.3330 FAX: 831.646.3336 CONTACT: STEVE CATE EMAIL: steve@acemb.com</p>	<p>APPLICABLE CODES:</p> <p>2013 Building Standards Administrative Code, Part 1, CBSC 2013 California Building Code (CBC) Part 2, CBSC (2006 IBC & California Amendments) 2013 California Electrical Code (CEC) Part 3, CBSC (2005 NEC & California Amendments) 2013 California Mechanical Code (CMC) Part 4, CBSC (2006 UMC & California Amendments) 2013 California Plumbing Code (CPC), Part 5 CBSC (2006 UPC & California Amendments) 2013 California Energy Code, Part 6 CBSC 2013 California Fire Code, Part 9 CBSC (2006 IFC & California Amendments) 2013 California Referenced Standards, Part 12, CBSC Title 19 C.C.R., Public Safety, SFM Regulations 2013 Americans with Disabilities Act (ADA), Title II or Title III NFPA 13, Automatic Sprinkler System, 2013 edition NFPA 72, Natl Fire Alarm Code, (Ca Amended) 2013 Edition (See UL Standard 1971 for "Visual Devices")</p> <p>THE INTENT OF THE PLANS AND SPECIFICATIONS IS TO RECONSTRUCT THE SERVICES IN ACCORDANCE WITH THE CALIFORNIA BUILDING STANDARDS CODE, TITLES 19 AND 24, CALIFORNIA CODE OF REGULATIONS. SHOULD ANY CONDITIONS DEVELOP NOT COVERED BY THE APPROVED PLANS AND SPECIFICATIONS WHEREIN THE FINISHED WORK WILL NOT COMPLY WITH TITLE 24, CALIFORNIA CODE OF REGULATIONS, A CHANGE ORDER DETAILING AND SPECIFYING THE REQUIRED WORK SHALL BE SUBMITTED TO AND APPROVED BY THE OWNER BEFORE PROCEEDING WITH THE WORK.</p>	<p>LOCATION: 120 OCEAN VIEW BOULEVARD, PACIFIC GROVE, CALIFORNIA 93950 APN: 006-741-006 ZONING: U (Unclassified District) AREA: BUILDING 90-100 (BLINKS)</p> <p>DESCRIPTION OF WORK: REPLACE WEATHERED ROOFTOP AIR HANDLING UNIT AND ASSOCIATED ITEMS WITH MORE DURABLE AND ENERGY EFFICIENT IN-KIND SYSTEMS. SPECIFICALLY, AIR HANDLING UNIT; BOOSTER FAN; DISCONNECT; SERVICE OUTLETS. A PERMANENT BUILDING-MOUNTED LADDER WITH SAFETY CAGE WILL BE INCLUDED, TO ENHANCE WORKPLACE SAFETY AND MAINTENANCE ACCESS. ALL NEW ROOFTOP ITEMS WILL BE PAINTED GREEN TO MATCH EXISTING ITEMS; THE LADDER FINISH COLOR WILL MATCH THE BUILDING.</p> <p>NOTE THERE IS NO CHANGE TO BUILDING SIZE OR OCCUPANCY; PARKING SIZE OR LOCATION; AND LANDSCAPE OR PAVING COVERAGE OR TYPES PROPOSED. ALL WORK IS PLANNED WITHIN AREAS THAT HAVE BEEN PREVIOUSLY DEVELOPED, GRADED, AND INVESTIGATED FOR ARCHEOLOGICAL OR PALEONTOLOGICAL RESOURCES. ROOFTOP DRAINAGE AMOUNTS AND SYSTEMS ARE MAINTAINED AS EXISTING.</p>	<p>ARCHITECTURAL A0.1 PROJECT INFORMATION A1.1 SITE PLAN A3.1 ROOF PLAN A8.1 EXTERIOR DETAILS</p> <p>MECHANICAL M0.1 LEGENDS AND NOTES - MECHANICAL M0.2 SCHEDULES - MECHANICAL M0.3 DETAILS - MECHANICAL M0.5 SPECIFICATIONS - MECHANICAL M1.1 ROOF PLAN - MECHANICAL DEMOLITION M2.0 FIRST FLOOR PLAN - MECHANICAL REFERENCE M2.1 ROOF PLAN - MECHANICAL NEW</p> <p>ELECTRICAL E0.1 SYMBOLS, ABBREV., CODES, STANDARDS, & SHEET INDEX E1.1 ELECTRICAL DETAILS, SPECIFICATIONS, & PANELBOARD SCHEDULES E3.1 ELECTRICAL DEMOLITION PLAN E4.1 POWER PLAN</p>
		<p>DEFERRED SUBMITTALS</p> <p>DEFERRED SUBMITTALS ARE DEFINED AS THOSE PORTIONS OF THE DESIGN THAT ARE NOT SUBMITTED AT THE TIME OF APPLICATION AND THAT ARE TO BE SUBMITTED TO THE BUILDING OFFICIAL WITHIN A SPECIFIED PERIOD.</p> <p>UNLESS OTHERWISE NOTED, SUBMITTAL DOCUMENTS FOR DEFERRED SUBMITTAL ITEMS SHALL BE SUBMITTED TO THE ARCHITECT OR ENGINEER OF RECORD WHO SHALL REVIEW THEM AND FORWARD THEM TO THE BUILDING OFFICIAL WITH A NOTATION INDICATING THAT THE DEFERRED SUBMITTAL DOCUMENTS HAVE BEEN REVIEWED AND THAT THEY HAVE BEEN FOUND TO BE IN GENERAL CONFORMANCE WITH THE DESIGN OF THE BUILDING. THE DEFERRED SUBMITTAL ITEMS SHALL NOT BE INSTALLED UNTIL THEIR DESIGN AND SUBMITTAL DOCUMENTS HAVE BEEN APPROVED BY THE BUILDING OFFICIAL. SUBMITTALS TO BE PREPARED BY QUALIFIED INDIVIDUALS AND STAMPED/SIGNED BY STATE LICENSED INDIVIDUALS QUALIFIED FOR SUBJECT WORK.</p> <p>DEFERRED SUBMITTALS FOR THIS PROJECT INCLUDE:</p> <ul style="list-style-type: none"> NONE 	<p>PROJECT REQUIREMENTS</p> <ol style="list-style-type: none"> ALL WORK SHALL COMPLY WITH THE APPLICABLE SECTIONS OF THE 2013 EDITION OF THE CALIFORNIA BUILDING CODE, PLUMBING CODE, MECHANICAL CODE, UNIFORM FIRE CODE, ELECTRICAL CODE, AND OF TITLE 24 OF THE STATE OF CALIFORNIA AND THE REQUIREMENTS OF THE CALIFORNIA COASTAL COMMISSION AND THE CITY OF PACIFIC GROVE. DIMENSIONS SHALL TAKE PRECEDENCE OVER SCALE AT ALL TIMES AND LARGE-SCALE DETAILS SHALL TAKE PRECEDENCE OVER SMALLER SCALE DETAILS. THE CONTRACTOR SHALL VERIFY ALL DETAILS AND DIMENSIONS AND SHALL BE HELD RESPONSIBLE FOR THE CORRECTNESS OF SAME. COMPLY WITH ALL REQUIREMENTS OF THE UNIVERSITY'S SECURITY, LIFE SAFETY, AND FIRE MARSHAL OFFICE STANDARDS AND GUIDELINES. ALL STAGING, SCAFFOLDING, ETC SHALL BE DESIGNED, FURNISHED, ERECTED, MAINTAINED, AND DISMANTLED BY THE GENERAL CONTRACTOR AND BE IN CONFORMANCE WITH ALL APPLICABLE CODE REQUIREMENTS AND REGULATIONS AT ALL TIMES. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL BRACING REQUIRED DURING CONSTRUCTION. THE CONTRACTOR SHALL NOT STORE CONSTRUCTION MATERIALS OR OPERATE EQUIPMENT IN A MANNER SUCH THAT THE DESIGN LIVE LOADS ARE EXCEEDED. NO CONSTRUCTION EQUIPMENT SHALL BE STORED ON OVERHANGING FRAMING. CONTRACTOR TO PROVIDE ALL BLOCKING OR SUPPORT FRAMING REQUIRED FOR MECHANICAL, ELECTRICAL EQUIPMENT, ACCESSORIES AND TRIM, EQUIPMENT, ETC. ALL OPENINGS AROUND DUCTS AND PIPES AT THE CEILING AND FLOOR LEVELS THAT ARE WITHIN THE AREA OF WORK AND AFFECTED BY CONSTRUCTION SHALL BE FIREBLOCKED WITH NONCOMBUSTIBLE MATERIALS PER CBC 717.2.5. COMPLY WITH THE RECOMMENDED DESIGN APPROACHES OF THE SHEET METAL AND AIR CONDITIONING NATIONAL CONTRACTORS ASSOCIATION (SMACNA) "IAQ GUIDELINE FOR OCCUPIED BUILDINGS UNDER CONSTRUCTION" SHOULD THE PROJECT WORK REQUIRE PHASING IN ORDER TO MAINTAIN CONTINUOUS OPERATIONS, VERIFY ALL PHASING SCHEDULES AND AFFECTED AREAS OF SITE AND BUILDING WITH THE OWNER PRIOR TO FINALIZING AND IMPLEMENTING A PHASED PLAN. THE UNIVERSITY REQUIRES THE ABILITY TO FULLY UTILIZE ALL SPACES WITHIN THE BUILDING THROUGHOUT THE CONSTRUCTION PERIOD. CONTRACTOR SHALL HIRE SPECIAL INSPECTOR FOR WORK, AS REQUIRED BY UNIVERSITY. REPORTS FROM INSPECTIONS MUST BE ROUTED TO ENTIRE PROJECT TEAM. ENSURE INSPECTIONS AT APPROPRIATE INTERVALS AND DATES, AS NEEDED. 	<p>VICINITY MAP</p>

ABBREVIATIONS	SYMBOLS	SITE PLAN (NTS)
<p>A AND ANGLE AT CENTERLINE PLATE DBL. DOUBLE DIAMETER OR ROUND PERPENDICULAR PARALLEL POUND OR NUMBER EXISTING A.B. ANCHOR BOLT A.B.S. ACRYLONITRILE BUTADIENE STYRENE A.C. ASPHALTIC CONCRETE A.C.T. ACOUSTICAL CEILING TILE AC AIR CONDITIONING ACOUS. ACOUSTICAL ADJ. ADJUSTABLE, ADJACENT AGGR. AGGREGATE ALUM. ALUMINUM ANOD. ANODIZED A.P.A. AMERICAN PLYWOOD ASSOCIATION APPROX. APPROXIMATE ARCH. ARCHITECT (URAL)</p> <p>BD. BOARD BIT. BITUMINOUS BUILDG. BUILDING BLK. BLOCK BLDG. BLOCKING B.M. BENCH MARK BM. BEAM BOT. BOTTOM BRO. BEARING BWN. BETWEEN B.W. BOTH WAYS</p> <p>CAB. CABINET C.B. CATCH BASIN C.C.B.R. CLOSED CELL BACKER ROD CEM. CEMENT CER. CERAMIC C.F. CUBIC FOOT C.I. CAST IRON CLG. CALLING CLG. CEILING CL. CLOSET CLR. CLEAR (ANCE) COL. COLUMN COMP. COMPOSITION CONC. CONCRETE CONN. CONNECT (ION) CONSTR. CONSTRUCT (ION) CONT. CONTINUOUS CORR. CORRUGATED CSMT. CASEMENT CSWK. CASIWORK C.T. CERAMIC TILE</p> <p>CTR. COUNTER COUNTERSINK CY. CUBIC YARD DBL. DOUBLE DEPT. DEPARTMENT DET. DETAIL D.O. DOUGLAS FIR D.H. DOUBLE HUNG DIAG. DIAGONAL DIA. DIAMETER DIMEN. DIMENSION DISP. DISPENSER DN. DOWN DRWG. DRAWING D.S. DOWNSPOUT DWR. DRAWER E. EAST EA. EACH ELEV. ELEVATION, ELEVATOR ELEC. ELECTRIC (AL) EMER. EMERGENCY ENCL. ENCLOSURE EQUIP. EQUIPMENT EXIST. (E) EXISTING EXH. EXHAUST EXP. EXPOSED, EXPANSION EXT. EXTERIOR F.A. FIRE ALARM FAST. FASTEN, FASTENER F.B. FLAT BAR F.D. FLOOR DRAIN FDN. FOUNDATION F.E.C. FIRE EXTINGUISHER CABINET FIBERGL. FIBERGLASS FIN. FINISH (ED) F.H.M.S. FLAT HEAD MACHINE SCREW F.H.W.S. FLAT HEAD WOOD SCREW FLASH. FLASHING FLR. FLOOR (ING) FLUOR. FLUORESCENT F.O. FACE OF F.O.C. FACE OF CONCRETE F.O.F. FACE OF FINISH F.O.M. FACE OF MASONRY F.O.S. FACE OF STUDS F.P. FIREPLACE F.S. FULL SIZE FT. FOOT OR FEET FOOTING FURR. FURRED (ING) G.A. GAUGE GALV. GALVANIZED G.B. GRAB BAR G.I. GALVANIZED IRON GL. GLASS, GLAZING GR. GRADE, GRADING G.W.B. GYPSUM WALLBOARD</p> <p>H.B. HOSE BIB HBO. HARDBOARD H.C. HOLLOW CORE HDR. HEADER H.D.W. HARDWOOD HDWR. HARDWARE H.M. HOLLOW METAL HORIZ. HORIZONTAL HGT. HEIGHT H.T.G. HEATING H.W. HOT WATER HVAC. HEATING, VENTILATING, AND AIR CONDITIONING</p> <p>I.C.B.O. INTERNATIONAL CONFERENCE OF BUILDING OFFICIALS INSUL. INSULATION INT. INTERIOR INV. INVERT JAN. JANITOR J.H. JOIST HANGER JOINT KIT. KITCHEN L. LONG LENGTH LAM. LAMINATE, LAMINATED LAV. LAVATORY L.B. LAG BOLT LOC. LOCATE, LOCATION L.W. LIGHT WEIGHT MAS. MASONRY MAT. MATERIAL (S) MAX. MAXIMUM M.B. MACHINE BOLT M.C. MEDICINE CABINET M.H. MAN HOLE MECH. MECHANICAL MEMB. MEMBRANE MEZZ. MEZZANINE MFR. MANUFACTURE (ER) MIN. MINIMUM MIR. MIRROR MISC. MISCELLANEOUS MOLD. MOLDING M.I.W. MALLEABLE IRON WASHER M.O. MASONRY OPENING MTD. MOUNTED MTL. METAL MULL. MULLION N. NORTH (N) NEW NAT. NATURAL N.I.C. NOT IN CONTRACT NOM. NOMINAL SH. SHELF, SHELVING SHR. SHOWER</p> <p>O. OVER OBSCURE O.C. ON CENTER OD. OUTSIDE DIAMETER O.F.C.I. OWNER FURNISH, CONTRACTOR INSTALL. OFF. OFFICE O.H.M.S. OVERHEAD MACHINE SCREW O.H.W.S. OVERHEAD WOOD SCREW OPNG. OPENING OPP. OPPOSITE O.S.B. ORIENTED STRAND BOARD P.A.F. POWER ACTUATED FASTENER PART. BD. PARTICLE BOARD P.G. PAINT GRADE PERF. PERFORATED P.L. POUNDS PER LINEAL FOOT PLY. PLYWOOD PL. LAM. PLASTIC LAMINATE PLAS. PLASTER PLY. PLYWOOD PR. PAIR P.S.F. POUNDS PER SQUARE FOOT P.S.I. POUNDS PER SQUARE INCH P.T. PRESSURE TREATED PART. PARTITION P.T.D. PAPER TOWEL DISPENSER P.V.C. POLYVINYL CHLORIDE R. RISER (S) R.A. RETURN AIR RAD. RADIUS R.D. ROOF DRAIN REG. REGISTER REF. REFRIGERATOR REINFC. REINFORCED, REINFORCING REQU. REQUIRED REQMT. REQUIREMENT RESIL. RESILIENT R.H.M.S. ROUND HEAD METAL SCREW R.H.W.S. ROUND HEAD WOOD SCREW ROOM R.O. ROUGH OPENING R.O.W. RIGHT OF WAY RESAW. RESAW RUB. RUBBER RWD. REDWOOD R.W.L. RAIN WATER LEADER S. SOUTH S.B. SOLID BLOCKING S.C. SOLID CORE SCHED. SCHEDULE SECT. SECTION S.D. STORM DRAIN SECT. SECTION SERV. SERVICE S.F. SQUARE FEET (FOOT) S.G. STAIN GRADE SH. SHELF, SHELVING SHR. SHOWER</p> <p>SHT. SHEET SHTG. SHEATHING SIM. SIMILAR S.O.H. SIMILAR OPPOSITE HAND S.S. STAINLESS STEEL S.M. SHEET METAL S.M.S. SHEET METAL SCREW S.P.ECS. SPECIFICATIONS SD. SQUARE STD. STANDARD STAG. STAGGERED STOR. STORAGE STRUCT. STRUCTURAL SUSP. SUSPENDED SYML. SYMMETRICAL SYS. SYSTEM T. TREAD (S) T.B. TOWEL BAR T.C. TOP OF CURB TEL. TELEPHONE TEMP. TEMPERED T.E.N. TYPICAL EDGE NAILING T & G TONGUE AND GROOVE T.G.R. TOP OF GRATE THK. THICK (NESS) THRESH. THRESHOLD T.O.P. TOP OF T.P. TOP OF PAVEMENT T.P.H. TOLER PAPER HOLDER T.V. TELEVISION T.W. TOP OF WALL TYP. TYPICAL U.B.C. UNIFORM BUILDING CODE UNDERWRITER'S LABORATORIES U.O.N. UNLESS OTHERWISE NOTED UR. URINAL V.B. VAPOR BARRIER VAR. VARIAS VERT. VERTICAL V.G. VERTICAL GRAIN V.T. VINYL TILE W. WEST W. WIDE WIDTH W. WITH W.C. WATER CLOSET WD. WOOD W.D.W. WINDOW W.H. WATER HEATER W.I.C. WOODWORK INSTITUTE OF CALIFORNIA W/O. WITHOUT W.P. WATERPROOF W.R. WATER RESISTANT W.S. WOOD SCREW W.SCT. WAINSCOT WT. WEIGHT W.W.M. WELDED WIRE MESH</p>	<p>DETAIL KEY 2 A6 A7 A8 C A8 OFFICE B201 WORK POINT, CONTROL POINT, OR DATUM POINT MATCHLINE DEMO PLAN NOTE SYMBOL FLOOR PLAN NOTE SYMBOL DOOR NUMBER WINDOW SYMBOL EQUIPMENT SYMBOL REVISION</p>	<p>SITE PLAN (NTS)</p> <p>(E) ACCESSIBLE PARKING INDICATES GENERAL WORK AREA ONLY. REFER TO PLANS FOR DETAILED INFORMATION</p>

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STANFORD UNIVERSITY TREE AND SHRUB PROTECTION GUIDELINES

1. THE UNIVERSITY MAINTAINS STRICT REQUIREMENTS WHICH INCLUDE THE POINTS LISTED BELOW AND ADDITIONAL PROCEDURES AS DETAILED IN THE FDG SPECIFICATIONS GUIDELINE 01532 TREE AND SHRUB PROTECTION.

2. THE ROOT ZONE OF ALL TREES MUST BE PROTECTED ON ALL CONSTRUCTION PROJECTS, AS DESCRIBED BELOW. A TREE'S ROOT ZONE IS DEFINED AS THE AREA FROM THE TRUNK OUT TO 10' BEYOND THE DRIPLINE.

3. A STANFORD GROUNDS SERVICES CERTIFIED ARBORIST SHALL BE CONTACTED TO EVALUATE ALL WORK WITHIN ANY TREES ROOT ZONES.

4. ALL TREES TO REMAIN ON A PROJECT SHALL HAVE PROTECTIVE FENCING INSTALLED PER THE TREE PROTECTION DRAWING INCLUDED IN THE PLAN SET.

5. PROTECTIVE FENCING SHALL BE CHAIN LINK ON SECURE FOOTINGS, OR IMBEDDED AS REQUIRED BY THE CAMPUS PLANNING AND DESIGN OFFICE OR STANFORD GROUNDS SERVICES CERTIFIED ARBORIST, THAT WILL NOT FALL OVER ONTO TREES.

6. PROTECTIVE FENCING SHALL BE PLACED AT THE OUTER EDGE OF THE ROOT ZONE, 10' BEYOND THE TREE DRIPLINE WHEREVER POSSIBLE AS SHOWN ON TREE PROTECTION DRAWING. IF PROJECT CONSTRAINTS DO NOT ALLOW FOR FENCING AT THE OUTER EDGE OF THE ROOT ZONE, FENCING MUST BE PLACED AS CLOSE TO THIS AS POSSIBLE AND APPROVED AFTER IT IS IN PLACE BY A STANFORD UNIVERSITY GROUNDS SERVICES CERTIFIED ARBORIST.

7. LAYDOWN, STAGING AND PARKING AREAS SHALL BE APPROVED BY THE STANFORD UNIVERSITY ARCHITECT/CAMPUS PLANNING DEPARTMENT AND SHALL BE SHOWN ON THE PLANS IF WITHIN THE PROJECT LIMIT AREA, OR ON THE CONSTRUCTION LOGISTICS PLAN IF OUTSIDE THE PROJECT LIMIT AREA. ALL TREE PROTECTION GUIDELINES APPLY TO TREES IN LAYDOWN, STAGING AND PARKING AREAS AS WELL AS TO TREES WITHIN THE PROJECT LIMITS.

8. CONSTRUCTION MATERIALS/EQUIPMENT/PERSONAL VEHICLES SHALL NOT BE STORED, PARKED OR TEMPORARILY PLACED IN THE ROOT ZONE OF ANY TREES. NOTHING SHALL BE STORED OR PLACED TEMPORARILY WITHIN PROTECTIVE FENCING, TO AVOID SOIL COMPACTION AND SOIL CONTAMINATION UNDER TREES. ROOT ZONES OF TREES SHALL NOT BE DRIVEN OVER. PROVIDE ALTERNATIVE ROUTES FOR CONSTRUCTION TRAFFIC OF ANY KIND INCLUDING CARS, PEOPLE, TRACTORS, EQUIPMENT, CRANES, OR ANY OTHER TRAFFIC AND ALL STAGING OR STORAGE AREAS.

9. PROTECT OVERHANGING TREE CANOPIES FROM CONSTRUCTION DAMAGE. IF DRIVE AISLES ARE ANTICIPATED UNDER LOW CANOPIES CALL FOR AN EVALUATION BY A STANFORD GROUNDS SERVICES CERTIFIED ARBORIST TO DETERMINE APPROPRIATE MEASURES.

10. THERE SHALL BE NO GRADE CHANGE WITHIN A MINIMUM OF TEN FEET OF THE TRUNK OF EXISTING TREES, AND PREFERABLY NONE WITHIN THE ENTIRE ROOT ZONE. NATIVE OAKS ARE PARTICULARLY SENSITIVE TO GRADE CHANGES.

11. NO RINSING, CLEANING EQUIPMENT OR DUMPING CONSTRUCTION LIQUID MATERIALS SHALL BE ALLOWED IN THE TREE ROOT ZONE. CARE SHALL BE TAKEN IN CLEANING UP EQUIPMENT. THERE SHALL BE NO STORAGE OF DUMPSTERS OR ACCUMULATED DEBRIS FROM DEMOLITION ON OR AROUND THE ROOT ZONES OF EXISTING TREES AND SHRUBS.

12. EXISTING TREES SHALL BE MONITORED WEEKLY AND IRRIGATED AS NEEDED DURING THE COURSE OF CONSTRUCTION.

13. NO LIME OR OTHER SOIL TREATMENT SHALL BE APPLIED WITHOUT THE CONSENT OF A STANFORD GROUNDS SERVICES CERTIFIED ARBORIST.

14. ALL TRENCHING SHALL CONFORM TO THE FOLLOWING GUIDELINES:
A. A STANFORD GROUNDS SERVICES CERTIFIED ARBORIST IS REQUIRED TO BE PRESENT TO SUPERVISE ANY TRENCHING, DIGGING OR EXCAVATION OF ANY KIND WITHIN A TREE'S ROOT ZONE.
B. ROOTS LARGER THAN 2 INCHES IN DIAMETER SHALL NOT BE SEVERED WITHOUT CALLING A STANFORD GROUNDS SERVICES CERTIFIED ARBORIST FOR CUTTING OR REVIEW.
C. TUNNELING OR BORING UNDER ROOTS RATHER THAN PRUNING IS PREFERRED.
D. DIGGING WITHIN A TREE'S ROOT ZONE SHALL BE AVOIDED. IF IT IS NECESSARY, HAND DIGGING SHALL BE USED FOR ANY TRENCHING WITHIN THE TREE'S ROOT ZONE UNLESS OTHERWISE APPROVED BY A SGSCA.
E. ALL ROOTS THAT NEED TO BE CUT SHALL BE PRUNED CLEANLY, NOT TORN.

THE PRECEDING GUIDELINES SHALL BE CONSIDERED MINIMUM REQUIREMENTS. THE GREATER THE DISTANCE OF TREE PROTECTION PROVIDED THE GREATER THE INSTANCE OF TREE SUCCESS IN CONSTRUCTION AREAS.

GENERAL NOTES

- ALL EXISTING VEGETATION AND SAND/ SOIL TO BE MAINTAINED ON SITE AND PROTECTED FROM DAMAGE, EROSION, SEDIMENTATION, TARP AND/OR OTHERWISE PROTECT AS NEEDED. SEE STANFORD UNIVERSITY TREE AND SHRUB PROTECTION GUIDELINES, THIS SHEET.
- DIRT, DEBRIS, CONSTRUCTION WASTE, SEDIMENT, PARTICULATES, ETC. FROM ANY DEMOLITION, CONSTRUCTION, AND RENOVATION ACTIVITY, INCLUDING SITE PREP, CONTRACTOR WORK AREA DELINEATION, AND FINAL FINISHING OR CLEANING SHALL BE CONTAINED AND REMOVED IN A COORDINATED AND DELIBERATE FASHION WITH FINAL REMOVAL TO A LICENSED LOCATION ACCEPTABLE TO OWNER AND ALL AUTHORITIES HAVING JURISDICTION.
- CONTRACTOR MUST PROVIDE SCAFFOLDING AND AREA OF WORK BARRIERS - BOTH INTERIOR AND EXTERIOR, AS APPROPRIATE - TO CONTAIN ALL DUST, DEBRIS, PARTICULATES, ETC., INCLUDING THAT WHICH MAY FLOW VERTICALLY. BARRIERS SHALL INCLUDE BLACK MESH AT SCAFFOLDING ALONG EXTERIOR AND FULLY SEALED AIR-TIGHT EDGES AT INTERIOR. SCAFFOLDING IS REQUIRED TO BE DESIGNED COMPLETE WITH FULL CANOPIES (AND HARD BARRIER PROTECTION) AT ALL DOORS; ALL DOORS ARE REQUIRED TO ALLOW FOR EGRESS AS BUILDING WILL BE REGULARLY OCCUPIED THROUGHOUT PROJECT DURATION. FOR INTERIOR BARRIERS REFERENCE SMACNA GUIDELINES FOR OCCUPIED BUILDINGS UNDER CONSTRUCTION. ALL AREA OF WORK BARRIERS SHALL BE MAINTAINED IN FULLY FUNCTIONAL CONDITION THROUGHOUT THE COURSE OF CONTRACTOR ACTIVITIES. (PLEASE NOTE, WORK WITHIN THE OCCUPIED SPACES OF THE BUILDING INTERIOR IS NOT ANTICIPATED ON THIS PROJECT AND SHALL BE APPROVED BY OWNER PRIOR TO PROCEEDING.)

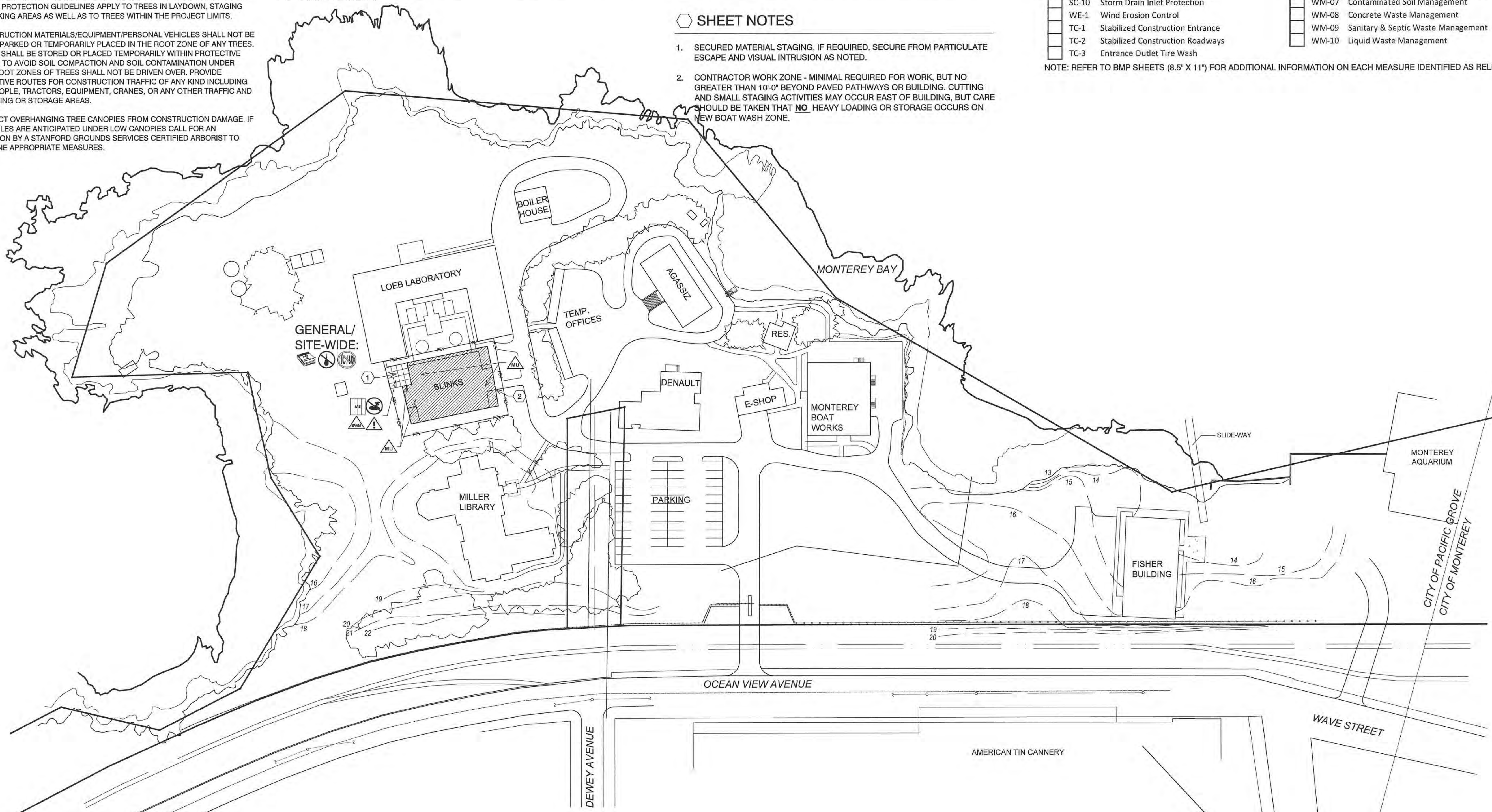
SHEET NOTES

- SECURED MATERIAL STAGING, IF REQUIRED. SECURE FROM PARTICULATE ESCAPE AND VISUAL INTRUSION AS NOTED.
- CONTRACTOR WORK ZONE - MINIMAL REQUIRED FOR WORK, BUT NO GREATER THAN 10'-0" BEYOND PAVED PATHWAYS OR BUILDING. CUTTING AND SMALL STAGING ACTIVITIES MAY OCCUR EAST OF BUILDING, BUT CARE SHOULD BE TAKEN THAT NO HEAVY LOADING OR STORAGE OCCURS ON NEW BOAT WASH ZONE.

The BMPs listed here have been considered for use with this project. The Contractor is responsible for implementing and maintaining all of the necessary BMPs as required by the local jurisdiction having authority, including the BMPs relevant to the project work as

X	SS-01	Scheduling	X	NS-01	Water Conservation Practices
X	SS-02	Preservation of Existing Vegetation		NS-02	Dewatering Operations
	SS-03	Hydraulic Mulch		NS-03	Paving and Grinding Operations
	SS-04	Hydroseeding		NS-04	Temporary Stream Crossing
	SS-05	Soil Binders		NS-05	Clear Water Diversion
	SS-06	Straw Mulch	X	NS-06	Illicit Connection/ Illegal Discharge Detection and Reporting
	SS-07	Geotextiles, Plastic Covers and Erosion		NS-07	Potable Water
	SS-08	Wood Mulching		NS-08	Vehicle and Maintenance Cleaning
	SS-09	Earth Dikes, Drainage Swales & Lined Ditches		NS-09	Vehicle and Equipment Fueling
	SS-10	Outlet Protection & Velocity Dissipation Devices		NS-10	Vehicle and Equipment Maintenance
	SS-11	Slope Drains		NS-11	Pile Driving
	SS-12	Streambank Stabilization		NS-12	Concrete Curing
	SC-01	Silt Fence		NS-13	Material and Equipment Use Over Water
	SC-02	Sediment Desilting Basin		NS-14	Concrete Finishing
	SC-03	Sediment Trap		NS-15	Structure Demolition/Removal Over or Adjacent to Water
	SC-04	Check Dams	X	WM-01	Material Delivery and Storage
	SC-05	Fiber Rolls	X	WM-02	Material Use
	SC-06	Gravel Bag Berm	X	WM-03	Stockpile Management
	SC-07	Street Sweeping and Vacuuming	X	WM-04	Spill Prevention and Control
	SC-08	Sandbag Barrier	X	WM-05	Solid Waste Management
	SC-09	Straw Bale Barrier	X	WM-06	Hazardous Waste Management
	SC-10	Storm Drain Inlet Protection		WM-07	Contaminated Soil Management
	WE-1	Wind Erosion Control		WM-08	Concrete Waste Management
	TC-1	Stabilized Construction Entrance		WM-09	Sanitary & Septic Waste Management
	TC-2	Stabilized Construction Roadways		WM-10	Liquid Waste Management
	TC-3	Entrance Outlet Tire Wash			

NOTE: REFER TO BMP SHEETS (8.5" X 11") FOR ADDITIONAL INFORMATION ON EACH MEASURE IDENTIFIED AS RELEVANT TO THIS WORK.



Project / Owner:

STANFORD UNIVERSITY, HOPKINS MARINE STATION

BLINKS BUILDING MECHANICAL UPGRADE

120 OCEAN VIEW BLVD
PACIFIC GROVE, CA 93950

APN: 006-741-006
STANFORD PROJECT:
Z16033

THE PAUL DAVIS PARTNERSHIP

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Drawn By: HMM
Drawing Date: 2.12.16
Project Number: 1600

Revisions:

Sheet Title:
SITE PLAN

Sheet Number:



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STANFORD UNIVERSITY, HOPKINS MARINE STATION

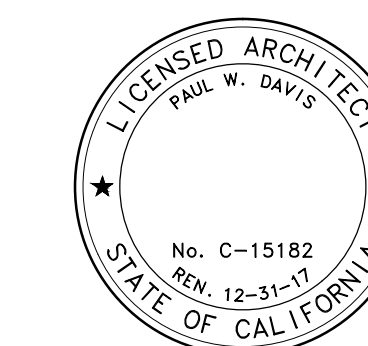
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Sheet Title:
ROOF PLAN

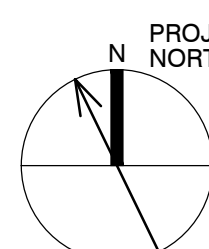
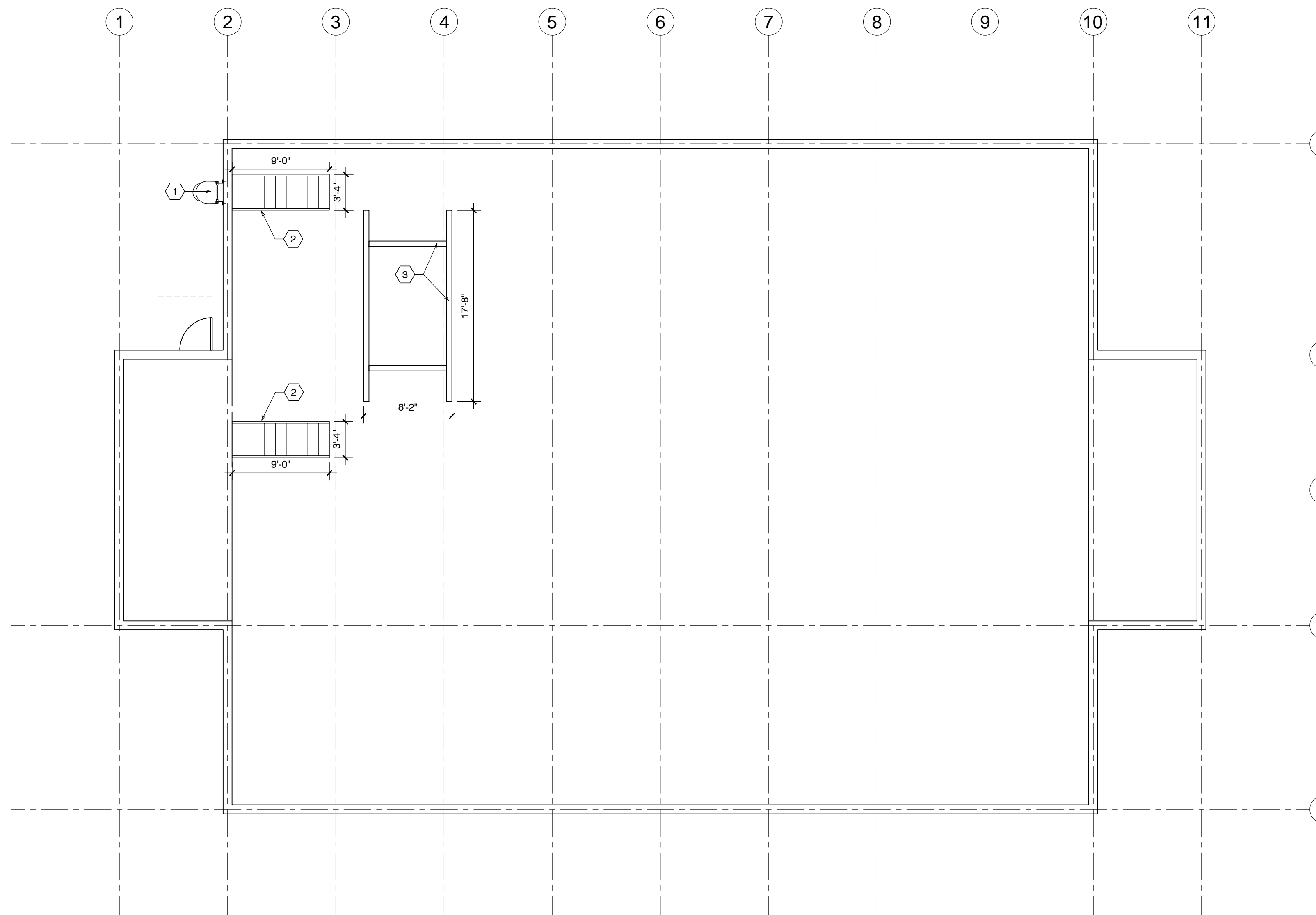
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SHEET NOTES (ALL PRODUCTS/ SYSTEMS ARE NEW, CF/CI UNLESS OTHERWISE NOTED)

- FURNISH AND INSTALL NEW ROOF ACCESS LADDER WITH INTEGRAL SAFETY CAGE - ALUMINUM WITH FACTORY FINISH POWDER COAT FROM MANUFACTURER'S STANDARD COLOR PALETTE TO BEST MATCH ADJACENT WALL FINISH. (O'KEEFFE'S 534 LOW PARAPET WITH WALK-THROUGH RAIL EXTENSIONS WITH OPTIONS: A) FACTORY FINISH POWDER COAT, B) OFF-FLOOR MOUNTING BRACKET, C) SECURITY DOOR) CONNECT LADDER TO EXISTING CMU BLOCK WALL PER MANUFACTURER'S INSTRUCTIONS AND ENSURE ALL FASTENERS ARE PAINTED OR OF CORROSION-RESISTANT MATERIAL. COMPLETELY FILL HOLES IN CMU BLOCK AS NECESSARY. LOCATION SHOWN IS PREFERRED, BUT SHALL BE VERIFIED IN FIELD TO ENSURE EXACT LOCATION AND CONNECTION TO STAIRWAY FROM LADDER AND PARAPET TO MAIN ROOF SURFACE; VERIFY FINAL LOCATION WITH OWNER PRIOR TO INSTALLATION. SEE 4 ON A8.1.
- FURNISH AND INSTALL NEW ROOFTOP 'CROSSOVER' STAIRS IN MANUFACTURER'S STANDARD HOT-DIPPED GALVANIZED STEEL TO ALLOW FOR ACCESS TO/FROM ROOF ACCESS LADDER AND AQUARIUM ROOFTOP. STAIR UNITS SHALL BE FULLY PAINTED BY THE PAINTING SUBCONTRACTOR PRIOR TO INSTALLATION; CONFIRM PAINT PRODUCT AND COLOR WITH OWNER PRIOR TO PROCEEDING. CROSSOVER STAIRS ARE DESIGN-BUILD DEFERRED SUBMITTAL WITH MANUFACTURER PROVIDING DESIGN TO MEET EXISTING CONDITIONS AND STAMPED, SIGNED DRAWINGS FROM THEIR IN-HOUSE STRUCTURAL ENGINEER FOR CONTRACTOR'S DEFERRED SUBMITTAL TO AUTHORITIES HAVING JURISDICTION. MANUFACTURER IS PHP SYSTEMS/DESIGN. CONTACT JASON FULTON AT 713.628.9225 OR JASON@PHPSD.COM. SEE 5 ON A8.1.
- FURNISH AND INSTALL ALL NECESSARY STRUCTURAL SUPPORT FOR NEW ROOFTOP AHU. ALL PRODUCTS SHALL BE STRUCTURAL GRADE REDWOOD WITH STAINLESS STEEL CONNECTIONS AND FASTENERS. SEE DETAILS 1, 2 ON A8.1 FOR ADDITIONAL INFORMATION.

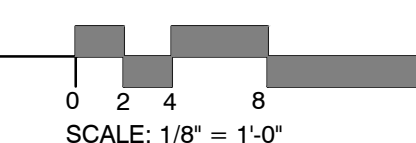
GENERAL NOTES

- ALL ITEMS DESIGNATED ON PLAN SHALL BE FURNISHED AND INSTALLED BY CONTRACTOR UNLESS NOTED OTHERWISE
- FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO BEGINNING WORK. CONTRACTOR SHALL NOTIFY OWNER OF ANY DISCREPANCIES BETWEEN DOCUMENTS AND FIELD CONDITIONS PRIOR TO PROCEEDING WITH THE WORK. CLARIFY ANY QUESTIONS REGARDING MATERIAL REMOVAL WITH OWNER BEFORE PROCEEDING.
- PROTECT ALL EXISTING ITEMS THAT ARE NOT SCHEDULED FOR REMOVAL. CONTRACTOR SHALL PATCH AND/OR REPAIR ANY DAMAGE CAUSED TO ITEMS SCHEDULED TO REMAIN. IF PATCH/REPAIR IS DEEMED IMPOSSIBLE OR INSUFFICIENT, CONTRACTOR SHALL REPLACE DAMAGED ITEM WITH BRAND NEW TO MATCH ALL AESTHETIC AND FUNCTIONAL ASPECTS OF EXISTING ITEM.
- ALL EXISTING VEGETATION AND SAND/ SOIL TO BE MAINTAINED ON SITE AND PROTECTED FROM DAMAGE, EROSION, SEDIMENTATION, TARP AND/OR OTHERWISE PROTECT AS NEEDED.
- DIRT, DEBRIS, CONSTRUCTION WASTE, SEDIMENT, PARTICULATES, ETC. FROM ANY DEMOLITION, CONSTRUCTION, AND RENOVATION ACTIVITY, INCLUDING SITE PREP, CONTRACTOR WORK AREA DELINEATION, AND FINAL FINISHING OR CLEANING SHALL BE CONTAINED AND REMOVED IN A COORDINATED AND DELIBERATE FASHION WITH FINAL REMOVAL TO A LICENSED LOCATION ACCEPTABLE TO OWNER AND ALL AUTHORITIES HAVING JURISDICTION.
- CONTRACTOR MUST PROVIDE SCAFFOLD, FENCING AND AREA OF WORK BARRIERS TO CONTAIN ALL DUST, DEBRIS, PARTICULATES, ETC., INCLUDING THAT WHICH MAY FLOW VERTICALLY. BARRIERS SHALL INCLUDE BLACK MESH AT SCAFFOLD PERIMETER AND CHAIN LINK FENCING ALONG WORK ZONE PERIMETER, PER STANFORD UNIVERSITY STANDARDS. ALL AREA OF WORK BARRIERS SHALL BE MAINTAINED IN FULLY FUNCTIONAL CONDITION THROUGHOUT THE COURSE OF CONTRACTOR ACTIVITIES.
- EXACT LOCATIONS OF UTILITIES SHALL BE VERIFIED PRIOR TO COMMENCEMENT OF ANY WORK.
- CLEAN PROJECT AREA DAILY, OR MORE FREQUENTLY IF NEEDED TO MAINTAIN SAFE AND CLEAN WORK ZONE
- OWNER'S EHS SHALL DECONTAMINATE THE FUME HOOD PRIOR TO START OF WORK; OWNER'S LBRE SHALL RE-CERTIFY FUME HOOD AFTER WORK IS COMPLETE. PLEASE NOTIFY OWNER OF WORK SCHEDULE SO THESE ACTIVITIES CAN BE SCHEDULED IN ADVANCE - AT LEAST 72 HOURS NOTICE IS REQUIRED TO SCHEDULE THESE ACTIVITIES. SEE MECHANICAL DRAWINGS FOR MORE INFORMATION ON EXISTING FUME HOOD.



ROOF PLAN

SCALE: 1/8" = 1'-0"



A3.1

Project / Owner:

STANFORD UNIVERSITY, HOPKINS MARINE STATION

BLINKS BUILDING MECHANICAL UPGRADE

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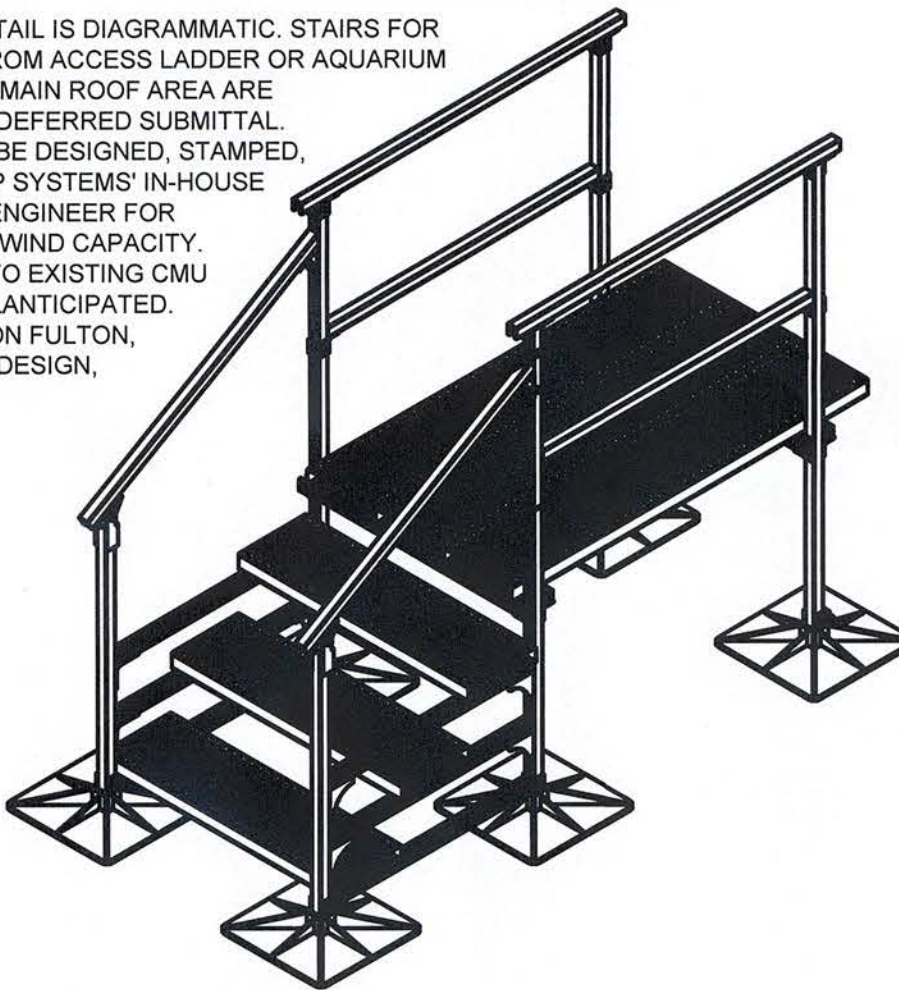
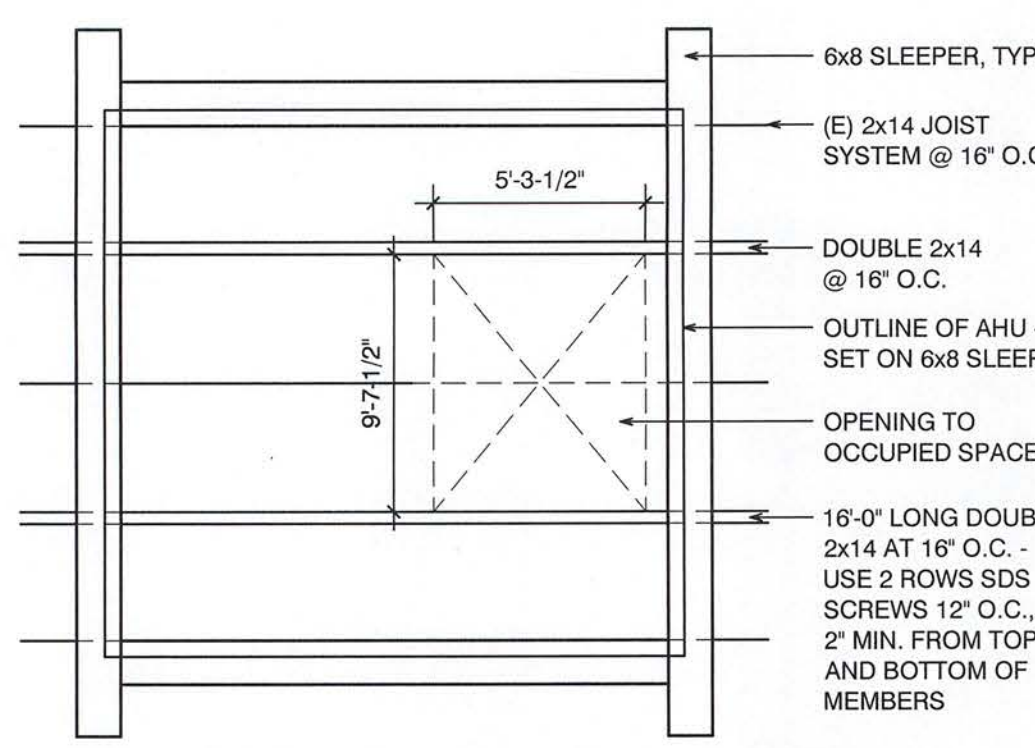
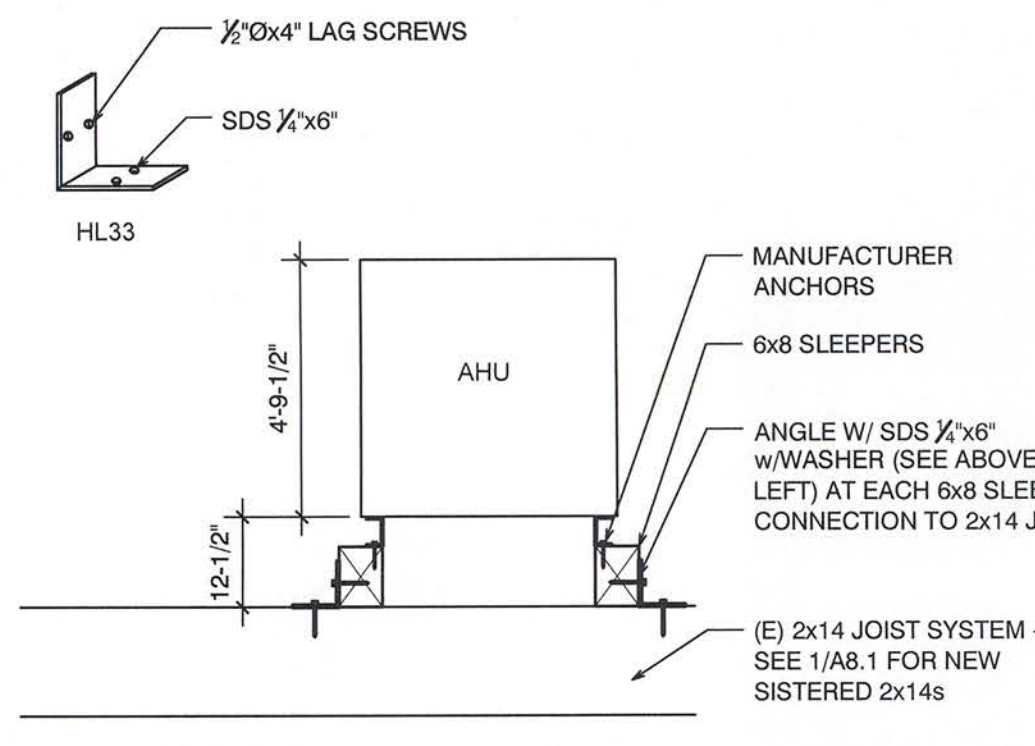
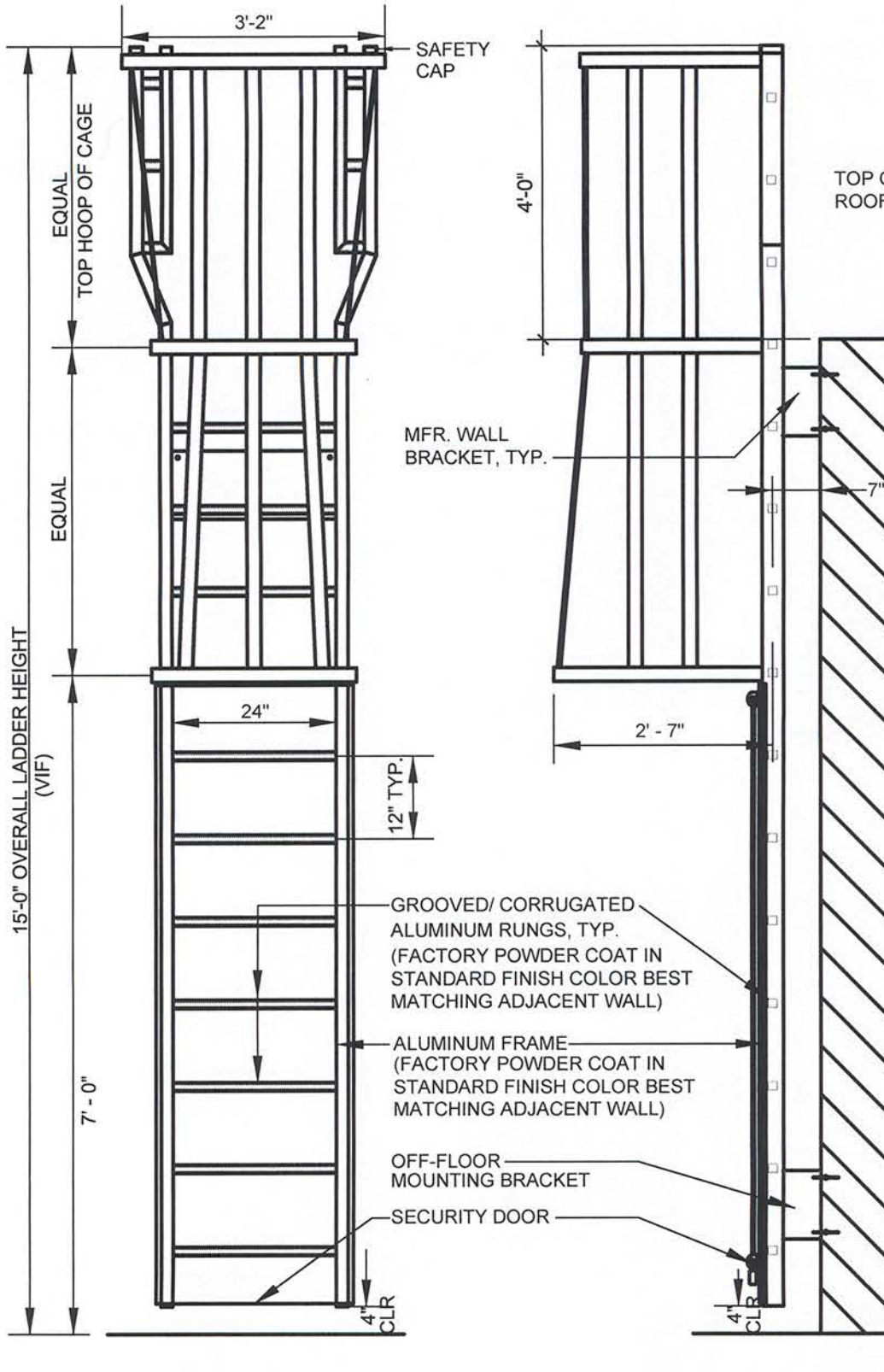
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Sheet Title: EXTERIOR DETAILS

Sheet Number:

A8.1

17	13	9	<p>NOTE: THIS DETAIL IS DIAGRAMMATIC. STAIRS FOR TRANSITION FROM ACCESS LADDER OR AQUARIUM ROOFTOPS TO MAIN ROOF AREA ARE DESIGN-BUILD DEFERRED SUBMITTAL. STAIRS SHALL BE DESIGNED, STAMPED, SIGNED BY PHP SYSTEMS' IN-HOUSE STRUCTURAL ENGINEER FOR SEISMIC, HIGH-WIND CAPACITY. CONNECTION TO EXISTING CMU PARAPET WALL ANTICIPATED. CONTACT JASON FULTON, PHP SYSTEMS DESIGN, 713.678.9225.</p>  <p>5 ROOF-TO-ROOF STEPS SCALE: N.T.S.</p>	<p>(Structural for AHU)</p>  <p>1 STRUCTURAL FOR AHU - PLAN SCALE: N.T.S.</p> <p>NOTE: ALL ITEMS FURNISHED AND INSTALLED NEW UNLESS OTHERWISE. ALL NEW WOOD SHALL BE STRUCTURAL GRADE REDWOOD; ALL NEW FASTENERS SHALL BE STAINLESS STEEL (316L).</p>
18	14	10	6	 <p>2 STRUCTURAL FOR AHU - ELEVATION SCALE: N.T.S.</p> <p>NOTE: ALL ITEMS FURNISHED AND INSTALLED NEW UNLESS OTHERWISE. ALL NEW WOOD SHALL BE STRUCTURAL GRADE REDWOOD; ALL NEW FASTENERS SHALL BE STAINLESS STEEL (316L).</p>
19	15	11	7	<p>Roof/Access Ladder Cage</p>  <p>4 ROOF ACCESS LADDER WITH CAGE SCALE: N.T.S.</p>
20	16	12	8	

Project / Owner:
**STANFORD UNIVERSITY,
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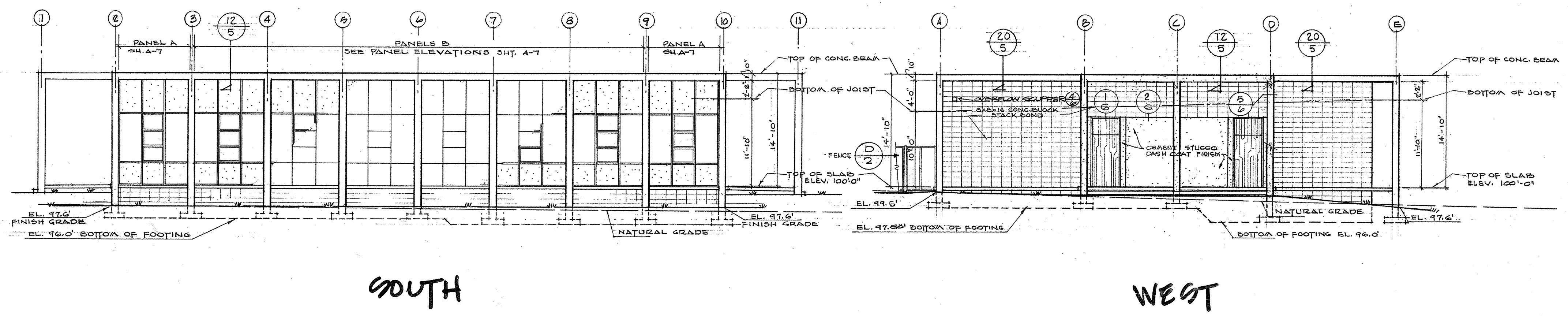
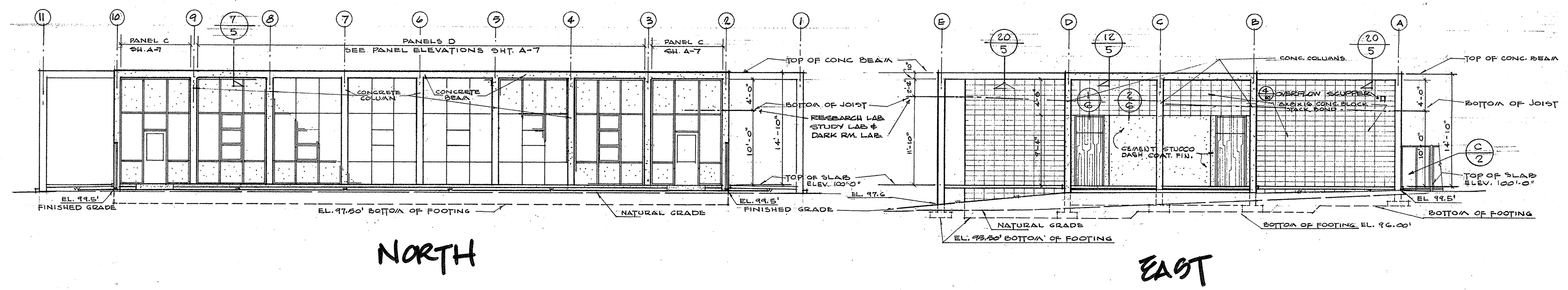
**BLINKS BUILDING
MECHANICAL UPGRADE**

120 OCEAN VIEW BLVD
PACIFIC GROVE, CA 93950

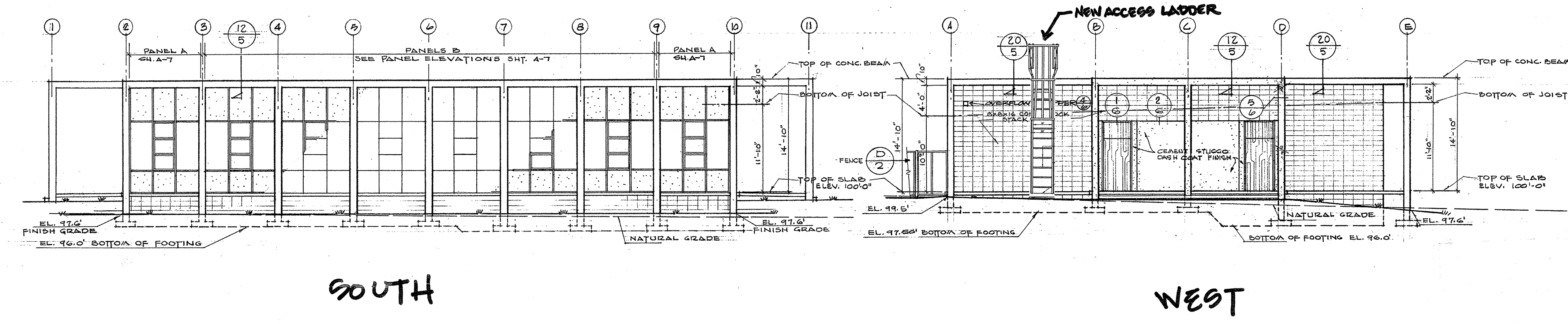
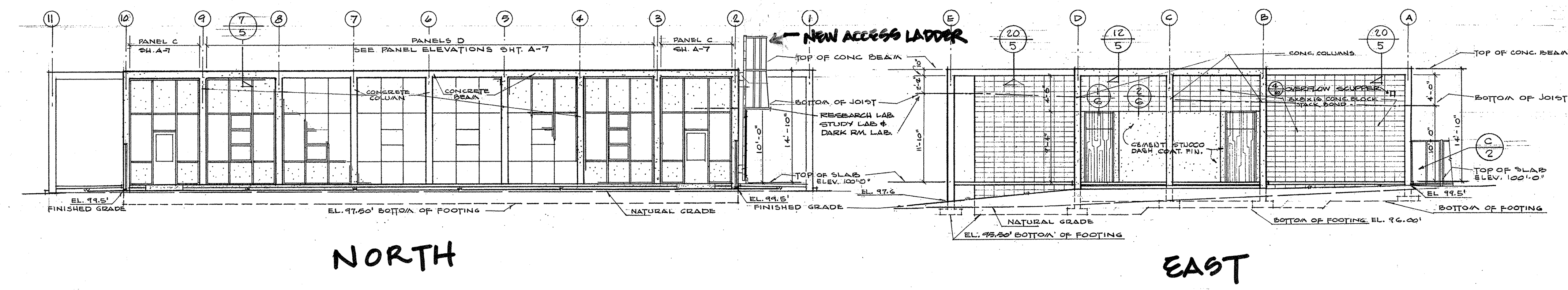
APN: 006-741-006
STANFORD PROJECT:
Z16033

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EXISTING ELEVATIONS
SCALE: NTS



PROPOSED ELEVATIONS (NOTES IN STANDARD FONT ARE REFERENCE TO ORIGINAL BUILDING PROJECT ONLY; NOTES IN BOLD BLACK FONT REFER TO CURRENT PROJECT)
SCALE: NTS

Drawn By: HMM
Drawing Date: 2.12.16
Project Number: 1600
Revisions:

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**EXHIBIT -
ELEVATIONS**

Sheet Number:

X-EX.EL

STANFORD UNIVERSITY, HOPKINS MARINE STATION

BLINKS BUILDING MECHANICAL UPGRADE

120 OCEAN VIEW BLVD PACIFIC GROVE, CA 93950

APN: 006-741-006 STANFORD PROJECT: Z16033

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Drawing Date: 3-1-16

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Sheet Title:

LEGENDS AND NOTES - MECHANICAL

Sheet Number:



M0.1

GENERAL NOTES:

- 1. THIS PROJECT IS A REMODEL... 2. ASBESTOS ABATEMENT BY OTHERS... 3. MECHANICAL CONTRACTOR SHALL NOTIFY... 4. REMOVE ALL ABANDONED PIPING... 5. ABANDON IN PLACE BEHIND NEW FINISHES... 6. CUTTING OR CORING OF STRUCTURAL MEMBERS... 7. CONTRACTOR SHALL VERIFY THAT THE ELECTRICAL CONNECTIONS... 8. ALL CONTROL WIRING SHALL BE IN CONDUIT... 9. PROVIDE SHOP DRAWINGS OF ALL MECHANICAL LAYOUTS... 10. FLASHING AND WEATHERPROOFING AT EXTERIOR PENETRATIONS... 11. COORDINATE WITH OWNER ON SPACE REQUIRED... 12. LABEL ALL PIECES OF EQUIPMENT WITH MARK MATCHING SCHEDULE... 13. ALL DUCTS, REGISTERS, EQUIPMENT, ETC. SHOWN IS NEW... 14. THE HEATING, VENTILATION AND AIR CONDITIONING SYSTEM(S)... 15. THE INDOOR AND OUTDOOR DESIGN CONDITIONS ARE THOSE ESTABLISHED FOR PACIFIC GROVE BY THE CALIFORNIA ENERGY CODE AS FOLLOWS:

OUTDOOR CONDITIONS SUMMER: 79F DB / 60.3F WB WINTER: 37F DB

INDOOR CONDITIONS SUMMER: 72F DB ±2F WINTER: 72F DB ±2F

IF THE OUTDOOR TEMPERATURES ARE HIGHER OR LOWER THAN DESIGN TEMPERATURES ESTABLISHED BY THE CALIFORNIA ENERGY CODE, THERE IS THE POTENTIAL THAT THE INSTALLED HVAC SYSTEM WILL NOT BE ABLE TO MAINTAIN THE DESIRED INDOOR TEMPERATURE...

- 16. ALL DUCT MOUNTED SMOKE DETECTORS SHALL BE ADDRESSABLE TYPE AND COMPATIBLE WITH FIRE ALARM SYSTEM... 17. ADHESIVES, SEALANTS AND CAULKS USED INDOORS SHALL NOT EXCEED THE FOLLOWING VOLATILE ORGANIC COMPOUND LIMITS PER TITLE 24, PART 11, SECTION 5.504... 19. HVAC EQUIPMENT SHALL NOT CONTAIN CFC'S OR HALONS PER TITLE 24, PART 11, SECTION 5.508... 20. AT THE TIME OF ROUGH INSTALLATION, OR DURING STORAGE ON THE CONSTRUCTION SITE AND UNTIL FINAL STARTUP... 21. AIR BALANCE - PRIOR TO THE START OF CONSTRUCTION, MECHANICAL CONTRACTOR SHALL ENGAGE A TEST AND BALANCE CONTRACTOR...

ALTERNATES:

ADD ALTERNATE NO. 1 - CONTRACTOR SHALL REPLACE EXISTING GALVANIZED STEEL FLASHING AT THE RETURN AIR DUCT OPENING WITH NEW TYPE 316L STAINLESS STEEL FLASHING.

HVAC DUCT LEGEND

Table with 6 columns: SINGLE LINE SYMBOL, DOUBLE LINE SYMBOL, DESCRIPTION, SINGLE LINE SYMBOL, DOUBLE LINE SYMBOL, DESCRIPTION. Contains 17 items (1-17) describing various duct components like elbows, tees, and diffusers.

HVAC LEGEND

Table with 5 columns: SYMBOL, ABBRV., IDENTIFICATION, ABBRV., IDENTIFICATION. Lists abbreviations for various HVAC components such as AIR DUCT, BALANCING DAMPER, HEATING WATER SUPPLY, etc.

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Drawing Date: 3-1-16

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Sheet Title:

SCHEDULES - MECHANICAL

Sheet Number:

M0.2

AIR CONDITIONERS

MARK	COOLING		OUTSIDE AIR		RETURN AIR OA MIX		SUPPLY AIR		SUPPLY FAN			HEATING BTUH INPUT	COMPRESSOR		CONDENSER FANS			ELECTRICAL SERVICE	WEIGHT (lb)	MAKE & MODEL	REMARKS			
	SENSIBLE	TOTAL	CFM	DB	WB	DB	WB	DB	WB	ACFM	ESP		RPM	BHP	HP	NUM	RLA					NUM	HP	FLA
AC-1	120,200	175,600	2,880	79	60.3	77	61	55	54	4,680	1.0"	6.74	2.68	5.0	HC-1	2	25	2	1/4	1.5	208/3	1,525	CARRIER 50TC-D16A3FS-2U2G0	①②③④⑤⑥⑦⑧⑨⑩⑪⑫⑬

- UNIT MCA = 86 A; UNIT MOCF = 100 A; UNIT EER @ ARI CONDITIONS = 10.8; UNIT IEER = 12.6.
- PROVIDE UNIT MOUNTED 120V WP-GFCI SERVICE RECEPTACLE.
- UNIT CASING SHALL BE TYPE 316L STAINLESS STEEL. ALL FASTENERS, NUTS, BOLTS, SCREWS, WASHERS, ETC. SHALL BE MADE OF TYPE 316L STAINLESS STEEL. EXTERIOR OF CASING SHALL BE COATED WITH DOUBLE LAYER EPOXY SYSTEM: BASE COAT - PPG AMERLOCK; TOP COAT - PPG AMERSHIELD IN FOREST GREEN COLOR GN-1. COATING TO BE APPLIED BY GORILLA COATINGS, CORP.
- CONDENSER AND EVAPORATOR COILS SHALL BE COPPER/COPPER, AND SHALL BE COATED WITH LUVATA INSITU ES2 CORROSION RESISTANT COATING APPLIED BY GORILLA COATINGS, CORP.
- ALL AIR STREAM COMPONENTS SHALL BE COATED WITH LUVATA INSITU ES2 GORILLA COATINGS. CORROSION RESISTANT COATING APPLIED BY GORILLA COATINGS, CORP. CURB SHALL HAVE HORIZONTAL TRACK TO ACCEPT HEATING COIL HC-1.
- UNIT TO BE CONFIGURED FOR VERTICAL SUPPLY DISCHARGE, AND HORIZONTAL RETURN INLET.
- MECHANICAL CONTRACTOR SHALL HIRE RFI COMMUNICATIONS AND SECURITY SYSTEMS SAN JOSE TO FURNISH AND MOUNT NEW DUCT MOUNTED SMOKE DETECTOR. RFI SHALL WIRE SMOKE DETECTOR TO FIRE ALARM CONTROL PANEL. MECHANICAL CONTRACTOR SHALL WIRE SMOKE DETECTOR TO SHUT DOWN AHU SUPPLY FAN PER 2013 CMC 608. RFI CONTACT: MARK RICHARDSON, MRichardson@RFI.COM, PHONE (408) 298-5400.
- PROVIDE VFD ON AHU SUPPLY FAN TO ALLOW SOFT START OF EQUIPMENT. WIRING BETWEEN VFD AND SUPPLY FAN MOTOR SHALL BE WITH SHIELDED CABLE.
- PROVIDE RTU OPEN MULTI-PROTOCOL CONTROLLER. PROVIDE REMOTE CONTROL PANEL WITH TOUCH-SCREEN INTERFACE. INSTALL REMOTE CONTROL PANEL IN NEMA3R FRP ENCLOSURE ON WALL OF BOILER ROOM. REMOTE CONTROL PANEL SHALL ALLOW ADJUSTMENT OF SCHEDULE AND SETPOINTS, AND SHALL DISPLAY OUTDOOR AIR TEMPERATURE, RETURN AIR TEMPERATURE, DISCHARGE AIR TEMPERATURE, ALL UNIT ALARMS, DAMPER POSITIONS, FAN STATUS, AND CONTROL VALVE POSITION.

COILS

MARK	AIR SIDE				WATER SIDE				COIL SIZE			FINS/IN	WT LBS	MAKE & MODEL	REMARKS		
	CFM	ESP	EDBF	EWBF	LDBF	LWBF	GPM	EWTF	LWTF	MAX PD	HIGH					WIDE	ROWS
HC-1	4,680	0.24"	40	-	80	-	7.0	180	140	5 FT	30	34	2	8	85	4WC-12-30x34x2-BCU	①②③④

- COIL SHALL BE COPPER/COPPER, AND COATED WITH LUVATA INSITU ES2 CORROSION RESISTANT COATING APPLIED BY GORILLA COATINGS, CORP.
- COIL CASING SHALL BE 16 GAUGE, TYPE 316L STAINLESS STEEL
- COIL CONNECTIONS SHALL BE 1-1/4" MPT
- MOUNTED IN ADAPTER CURB BELOW AC-1.

SOUND ATTENUATOR SCHEDULE

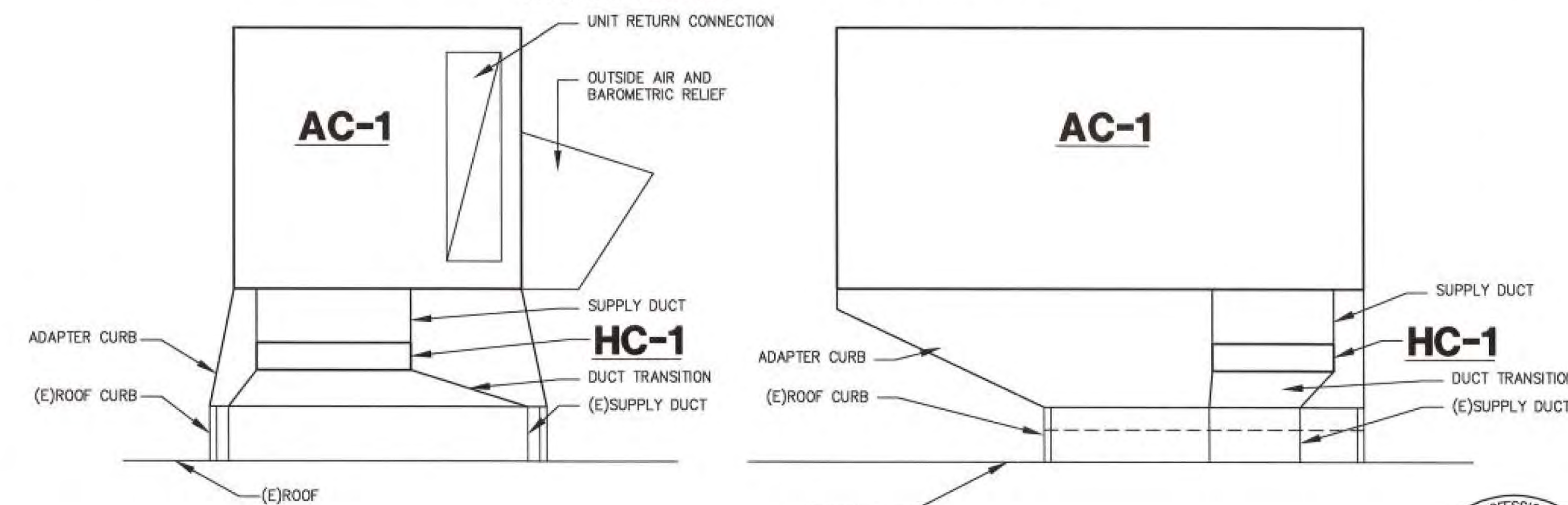
MARK	AREA SERVED/ LOCATION	CFM	FACE VEL FPM	APD IN. WG	MINIMUM INSERTION LOSS - dB								W x H x L	WT LBS	REMARKS
					OCTAVE BAND CENTER FREQUENCY - HZ										
					63	125	250	500	1K	2K	4K	8K			
SA1-1	LAB AREA EXHAUST	2,080	620	0.08	7	12	25	34	47	47	35	25	40"φ x 48"	365	①②③④

- VIBRO ACOUSTICS MODEL 24x40-LV-F1x48
- ALL SILENCER METAL COMPONENTS SHALL BE FABRICATED FROM TYPE 316L STAINLESS STEEL.
- PROVIDE TEDLAR LINER OVER FIBERGLASS MEDIA
- PROVIDE OPTIONAL SUPPORT LEGS FOR MOUNTING SOUND ATTENUATOR TO ROOF.

EXHAUST FANS

MARK	LOCATION	CFM	ESP	MOTOR HP	FAN V/PH	FAN RPM	WT LBS	MAKE & MODEL	REMARKS
EF-1	ROOF	2,080	1.5"	1.5	208/3	1,010	100	IPF COLASIT CMV-315eco	①②③⑥
EF-2	ROOF	600	1.5"	0.75	120/1	2,608	50	IPF COLASIT CMV-160eco	①②③⑥
EF-3	ROOF	350	0.5"	0.15	120/1	VAR	47	ENERVEX RSV 200	④⑤

- FAN SHALL BE DIRECT DRIVE WITH SEPARATE VFD. VFD SHALL BE MOUNTED IN FRP NEMA 3R ENCLOSURE. WIRING BETWEEN VFD AND MOTOR SHALL BE WITH SHIELDED CABLE.
- FAN CASING AND IMPELLER SHALL BE FABRICATED FROM POLYPROPYLENE. FAN SHALL BE ORIENTED IN UP BLAST CONFIGURATION WITH RIGHT-HAND DRIVE (RD 0). PROVIDE CASING WITH DRAIN PLUG.
- PROVIDE TEFC MOTOR WITH WEATHER HOOD. PROVIDE AEGIS RINGS ON MOTOR. PROVIDE FLANGED INLET AND OUTLET CONNECTIONS, AND STAINLESS STEEL SUPPORT SET.
- ATTACH FAN TO EXISTING 8"φ TYPE B VENT PER MANUFACTURER'S MOUNTING INSTRUCTIONS.
- SET FAN TO MAINTAIN DRAFT BASED ON REQUIREMENTS OF EXISTING BOILER AND WATER HEATER.
- ALL METAL COMPONENTS AND FASTENERS SHALL BE FABRICATED FROM TYPE 316L STAINLESS STEEL.

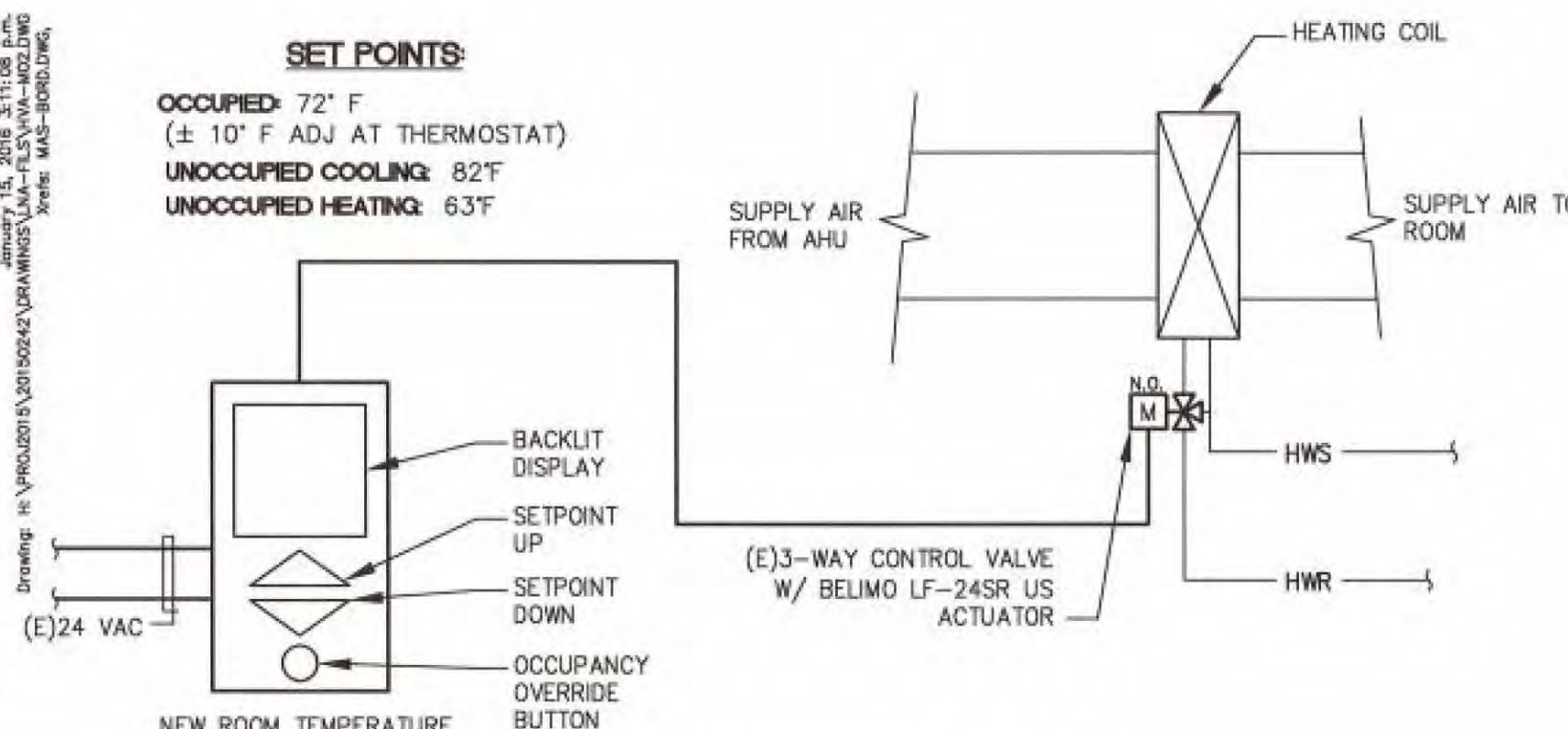


ATTACH AHU TO ADAPTER CURB WITH #10 STAINLESS STEEL SHEET METAL SCREWS, 6" O.C.
ATTACH ADAPTER CURB TO (E) ROOF CURB WITH #10 STAINLESS STEEL SHEET METAL SCREWS, 6" O.C.



SET POINTS:

OCCUPIED: 72° F
(± 10° F ADJ AT THERMOSTAT)
UNOCCUPIED COOLING: 82° F
UNOCCUPIED HEATING: 63° F

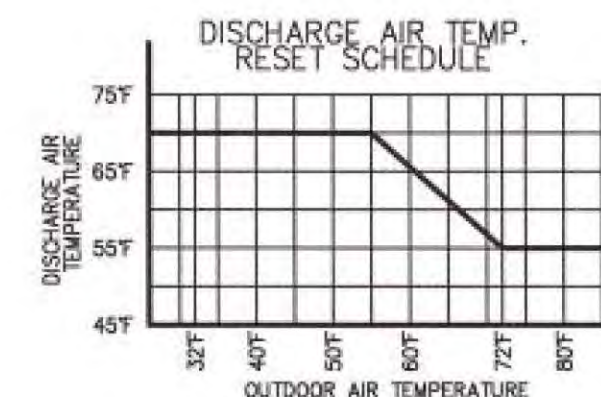
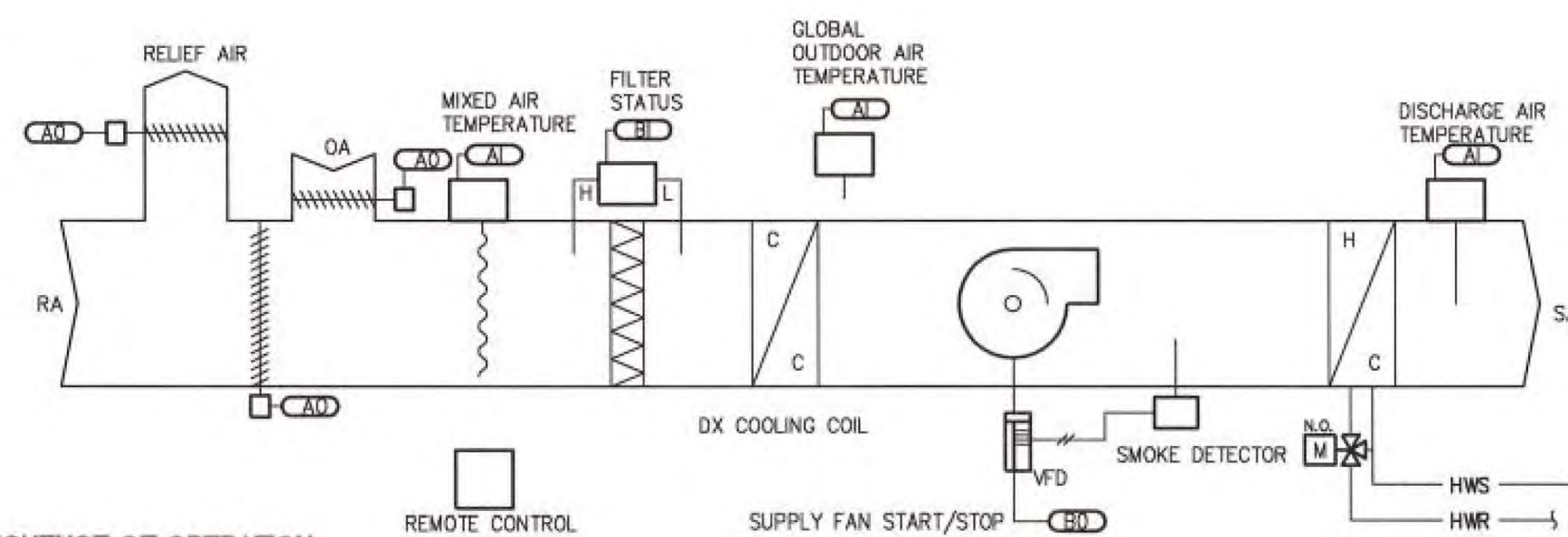


SEQUENCE OF OPERATION

- WHEN ZONE IS IN COOLING MODE, THE HOT WATER VALVE(S) BY-PASSES FLOW AROUND COIL(S) ASSOCIATED WITH THE ZONE THERMOSTAT.
- WHEN ZONE IS IN DEADBAND MODE, THE HOT WATER VALVE(S) BY-PASSES FLOW AROUND COIL(S) ASSOCIATED WITH THE ZONE THERMOSTAT.
- WHEN ZONE IS IN HEATING MODE, THE HOT WATER VALVE(S) ALLOWS FLOW THROUGH THE COIL(S) ASSOCIATED WITH THE ZONE THERMOSTAT.
- DURING BUILDING WARM UP, ZONE HEATING COIL CONTROL VALVE IS OPENED TO ALLOW FULL FLOW THROUGH THE COIL. ONCE SPACE TEMPERATURE SET POINT IS REACHED, ZONE HEATING COIL CONTROL VALVE IS RETURNED TO LOCAL THERMOSTAT.
- OCCUPANCY OVERRIDE BUTTON AT SPACE THERMOSTAT WILL OPERATE AIR HANDLING UNIT IN OCCUPIED MODE FOR 120 MINUTES.

2 ZONE HEATING COIL

M0.2 RHC-1,3,5, RHC-2, RHC-4, RHC-6, RHC-7,8,9, RHC-10, RHC-11, RHC-12,13, RHC-14, RHC-15, RHC-16, RHC-17,18



SEQUENCE OF OPERATION

REMOTE CONTROL PANEL INTERFACE:

- TOUCH SCREEN REMOTE CONTROL PANEL (LOCATED IN BOILER ROOM) WILL SEND THE UNIT CONTROLLER OCCUPIED, UNOCCUPIED, OPTIMAL START, NIGHT HEAT / COOL AND TIMED OVERRIDE COMMANDS. THE REMOTE CONTROL PANEL WILL SEND DISCHARGE AIR TEMPERATURE SETPOINT TO UNIT CONTROLLER. IF COMMUNICATIONS IS LOST WITH THE REMOTE CONTROL PANEL, THE UNIT CONTROLLER WILL OPERATE IN THE OCCUPIED HEATING MODE USING ITS DEFAULT SETPOINTS.
- OCCUPIED:
DURING OCCUPIED PERIODS THE SUPPLY FAN WILL RUN CONTINUOUSLY. THE OUTSIDE AIR AND RELIEF AIR DAMPERS WILL OPEN TO THEIR MINIMUM POSITIONS, AND THE RETURN AIR VFD DAMPER WILL OPEN TO ITS MAXIMUM POSITION TO MAINTAIN MINIMUM VENTILATION REQUIREMENTS. SUPPLY FAN VFD PROVIDES SOFT START.
 - COOLING:
WHEN THE UNIT IS IN COOLING MODE, DX REFRIGERATION CYCLES TO MAINTAIN DISCHARGE AIR TEMPERATURE SETPOINT BASED ON RESET SCHEDULE.
 - ECONOMIZER:
1. IF UNIT IS IN COOLING MODE, AND OUTDOOR AIR TEMPERATURE IS 45° F OR HIGHER AND OUTDOOR AIR TEMPERATURE IS LESS THAN RETURN AIR TEMPERATURE, OUTDOOR AIR DAMPER IS MODULATED UP TO 100% TO REDUCE MIXED AIR TEMPERATURE. MIXED AIR TEMPERATURE 55° F MINIMUM; EQUAL TO DISCHARGE AIR TEMPERATURE SETPOINT AS POSSIBLE.
2. IF MIXED AIR TEMPERATURE IS LESS THAN OR EQUAL TO DISCHARGE AIR TEMPERATURE SET POINT MECHANICAL COOLING IS LOCKED OUT.
3. IF OUTDOOR AIR TEMPERATURE IS GREATER THAN RETURN AIR TEMPERATURE OUTDOOR AIR DAMPER IS RETURNED TO MINIMUM POSITION.
 - HEATING:
WHEN THE UNIT IS IN HEATING MODE, MECHANICAL COOLING IS LOCKED OUT. HEATING COIL CONTROL VALVE MODULATES TO MAINTAIN HEATING DISCHARGE AIR TEMPERATURE SETPOINT.
- UNOCCUPIED (NIGHT SETBACK):
WHEN THE AVERAGE SPACE TEMPERATURE, BASED ON FEEDBACK FROM THE SPACE TEMPERATURE SENSORS, IS ABOVE THE UNOCCUPIED COOLING SETPOINT (85° F ADJ.) AND THE OUTDOOR AIR TEMPERATURE IS BELOW THE SPACE TEMPERATURE, THE SUPPLY FAN WILL START, AND THE OUTSIDE AIR DAMPER WILL OPEN TO ALLOW FREE COOLING. WHEN THE AVERAGE SPACE TEMPERATURE AND OUTDOOR AIR TEMPERATURE ARE ABOVE THE UNOCCUPIED COOLING SETPOINT (85° F ADJ.) THE SUPPLY FAN WILL STOP, THE OUTSIDE AIR DAMPER WILL REMAIN CLOSED AND THE DX REFRIGERATION WILL RUN. WHEN THE AVERAGE SPACE TEMPERATURE FALLS BELOW THE UNOCCUPIED COOLING SETPOINT (85° F ADJ.) MINUS THE UNOCCUPIED DIFFERENTIAL (4° F ADJ.) THE SUPPLY FAN AND DX REFRIGERATION WILL STOP. WHEN THE AVERAGE SPACE TEMPERATURE FALLS BELOW UNOCCUPIED HEATING SETPOINT (60° F ADJ.) THE SUPPLY FAN WILL START, THE OUTSIDE AIR DAMPER WILL REMAIN CLOSED AND HEATING COIL CONTROL VALVE WILL OPEN. WHEN THE AVERAGE SPACE TEMPERATURE RISES ABOVE THE UNOCCUPIED HEATING SETPOINT PLUS THE UNOCCUPIED DIFFERENTIAL (4° F ADJ.) THE SUPPLY FAN AND THE HEATING COIL CONTROL VALVE WILL CLOSE.
- MORNING WARM-UP:
DURING OPTIMAL START, IF THE SPACE TEMPERATURE IS BELOW THE OCCUPIED HEATING SETPOINT, A MORNING WARM UP SEQUENCE WILL BE ACTIVATED. THE SUPPLY FAN WILL START, THE MECHANICAL COOLING WILL BE LOCKED OUT. THE HEATING WATER VALVES ON THE AHU HEATING COIL AND THE ZONE HEATING COILS WILL OPEN, THE OUTSIDE AIR DAMPER WILL REMAIN CLOSED. WHEN THE SPACE THERMOSTAT SETPOINTS ARE REACHED, THE ZONES WILL RETURN TO OCCUPIED MODE OF OPERATION. ONCE ALL THE ZONES HAVE RETURNED TO OCCUPIED MODE OF OPERATION, THE AHU WILL RETURN TO OCCUPIED MODE OF OPERATION.
- SAFETY SHUTDOWN:
WHEN OCCUPIED, AHU SUPPLY FAN SHALL SHUT DOWN WHENEVER THE DUCT SMOKE DETECTOR ALARMS (CMC 608).
- FILTER STATUS:
A DIFFERENTIAL PRESSURE SWITCH WILL MONITOR THE DIFFERENTIAL PRESSURE ACROSS THE FILTER WHEN THE FAN IS RUNNING. IF THE SWITCH CLOSURES DURING NORMAL OPERATION A DIRTY FILTER ALARM WILL BE ANNUNCIATED AT THE REMOTE CONTROL PANEL.
- FAULT DETECTION AND DIAGNOSTICS (2013 CEC 120.2(i))
THE FOLLOWING TEMPERATURE SENSORS SHALL BE PERMANENTLY INSTALLED TO MONITOR SYSTEM OPERATION: OUTSIDE AIR, SUPPLY AIR AND RETURN AIR. TEMPERATURE SENSORS SHALL HAVE AN ACCURACY OF ±2° OVER THE RANGE OF 40° TO 80°. REFRIGERANT PRESSURE SENSORS SHALL HAVE AN ACCURACY OF ±3% OF FULL SCALE. THE CONTROLLER SHALL HAVE THE CAPABILITY OF DISPLAYING THE VALUE OF EACH SENSOR AT THE REMOTE CONTROL PANEL.

THE CONTROLLER SHALL PROVIDE SYSTEM STATUS BY INDICATING THE FOLLOWING CONDITIONS:

- FREE COOLING AVAILABLE
- ECONOMIZER ENABLED
- COMPRESSOR ENABLED
- HEATING ENABLED
- MIXED AIR LOW LIMIT CYCLE ACTIVE

UNIT CONTROLLER SHALL MANUALLY INITIATE EACH OPERATING MODE SO THAT THE OPERATION OF COMPRESSORS, ECONOMIZERS, FANS AND HEATING SYSTEM CAN BE INDEPENDENTLY TESTED AND VERIFIED. THE FAULTS SHALL BE REPORTED TO A FAULT MANAGEMENT APPLICATION ACCESSIBLE BY DAY-TO-DAY OPERATING OR SERVICE PERSONNEL. THE FDD SYSTEM SHALL DETECT THE FOLLOWING FAULTS:

- AIR TEMPERATURE SENSOR FAILURE/FAULT.
- NOT ECONOMIZING WHEN IT SHOULD
- ECONOMIZING WHEN IT SHOULD NOT
- DAMPER NOT MODULATING
- EXCESS OUTDOOR AIR.

1 AIR HANDLING UNIT CONTROL SCHEMATIC

M0.2 AHU-1

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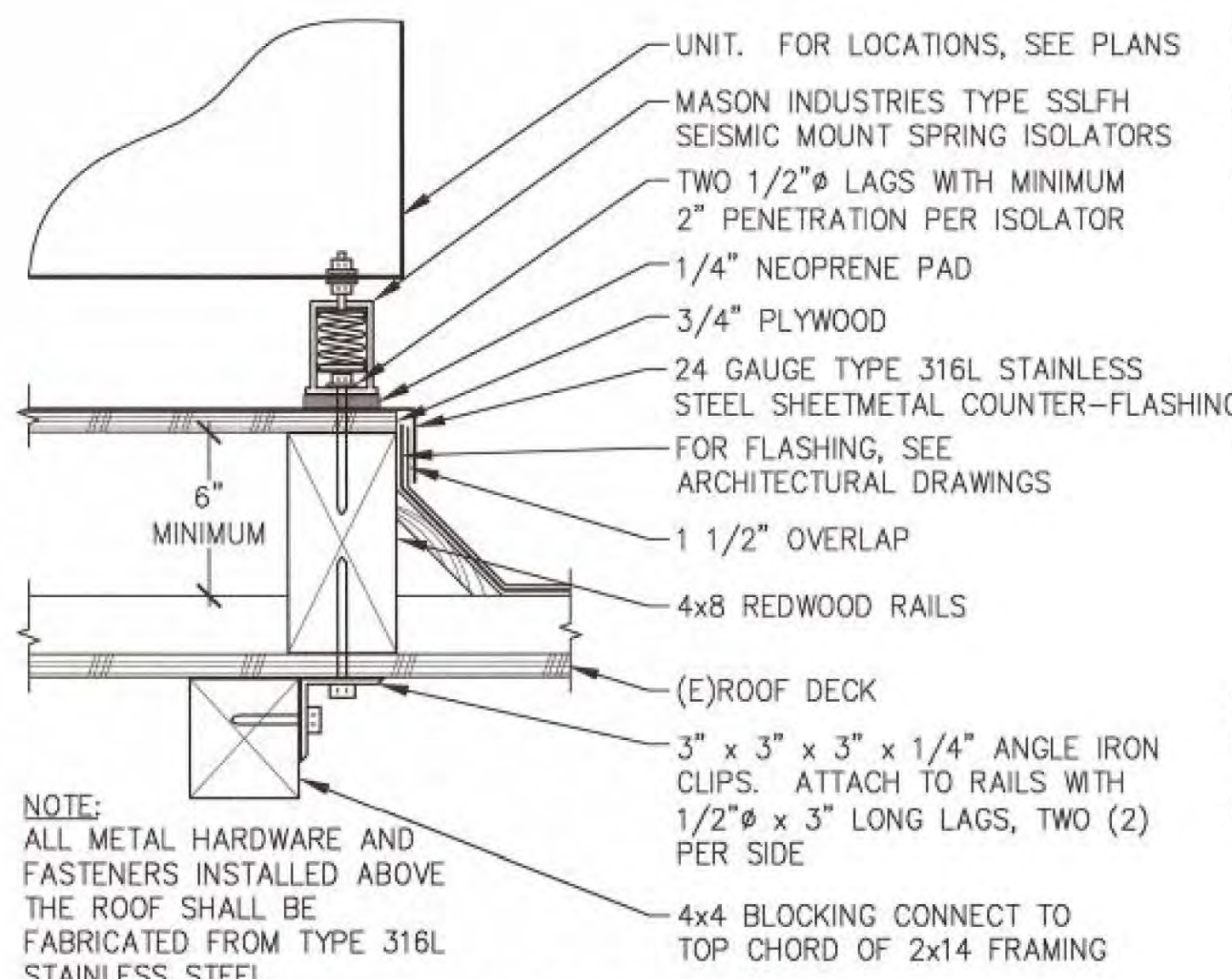
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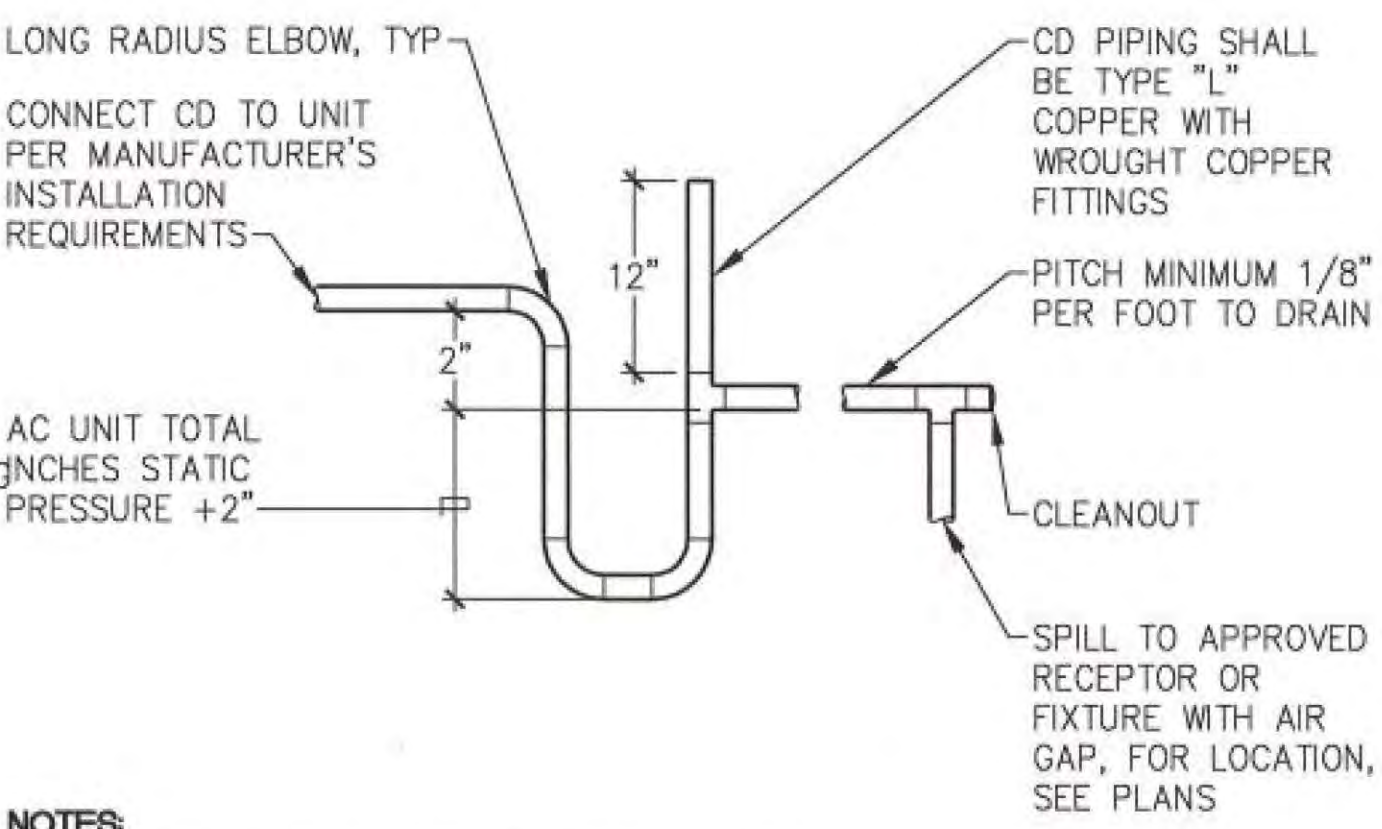
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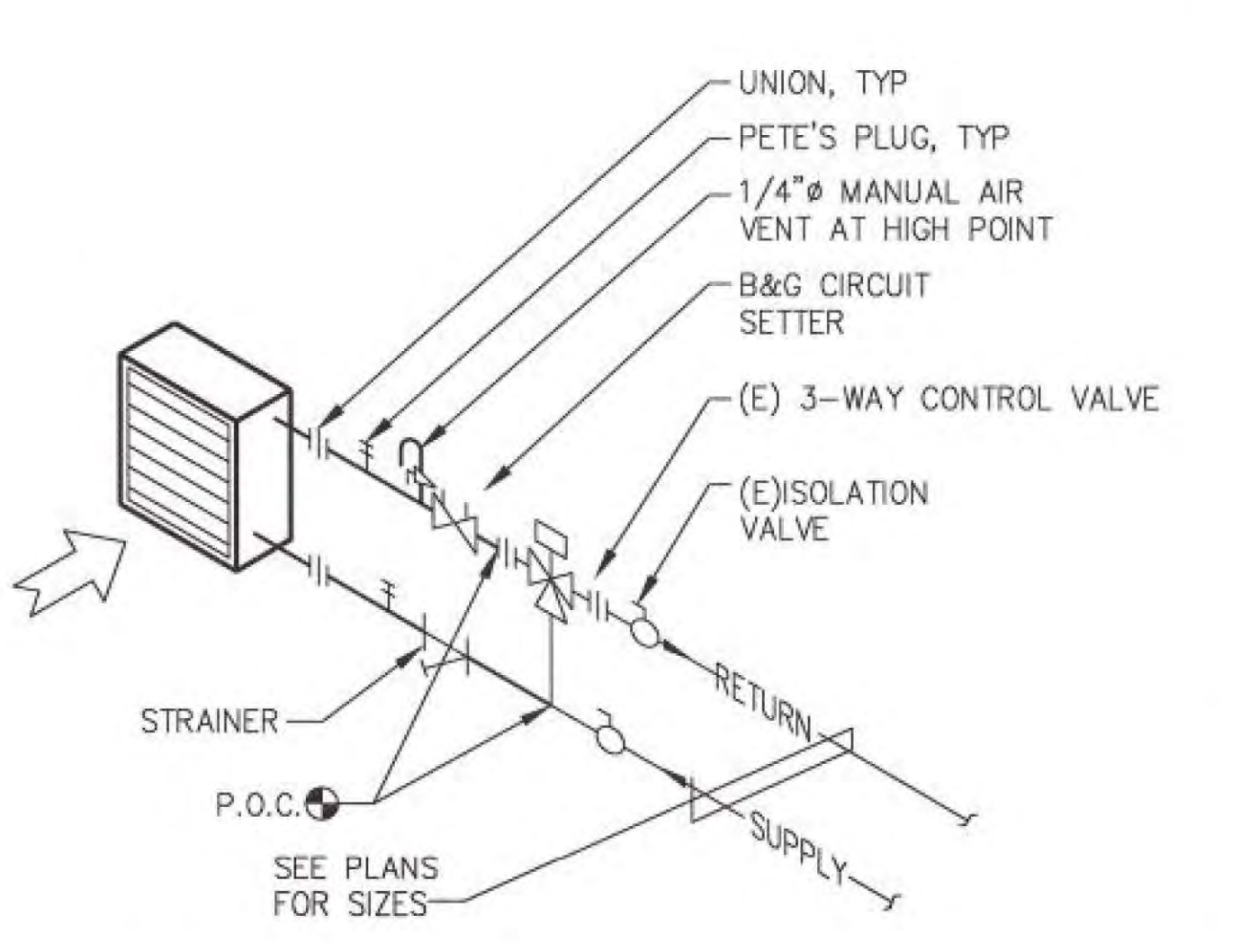
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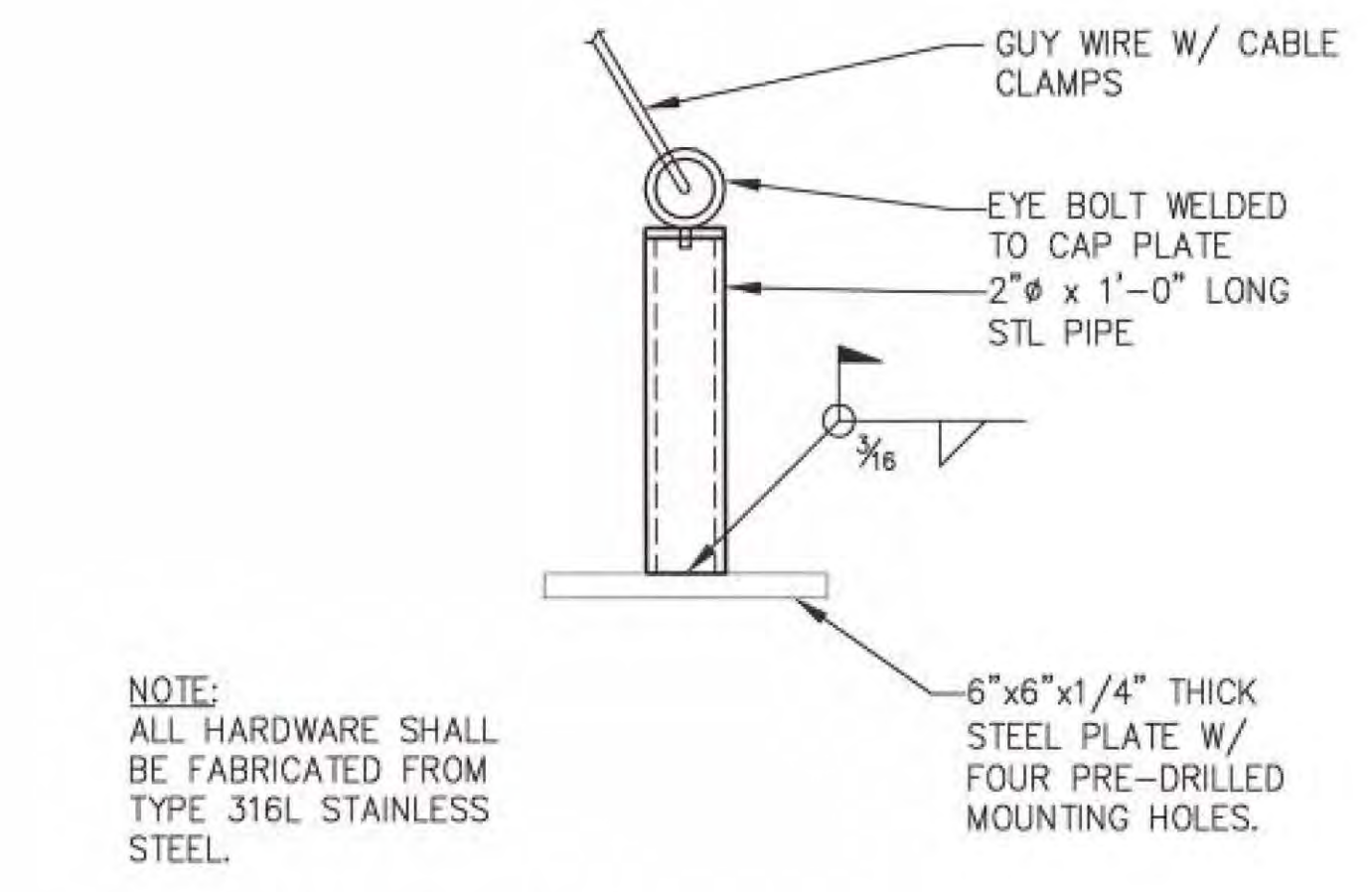
7 UTILITY FAN MOUNTING
M0.3 NO SCALE EF-2



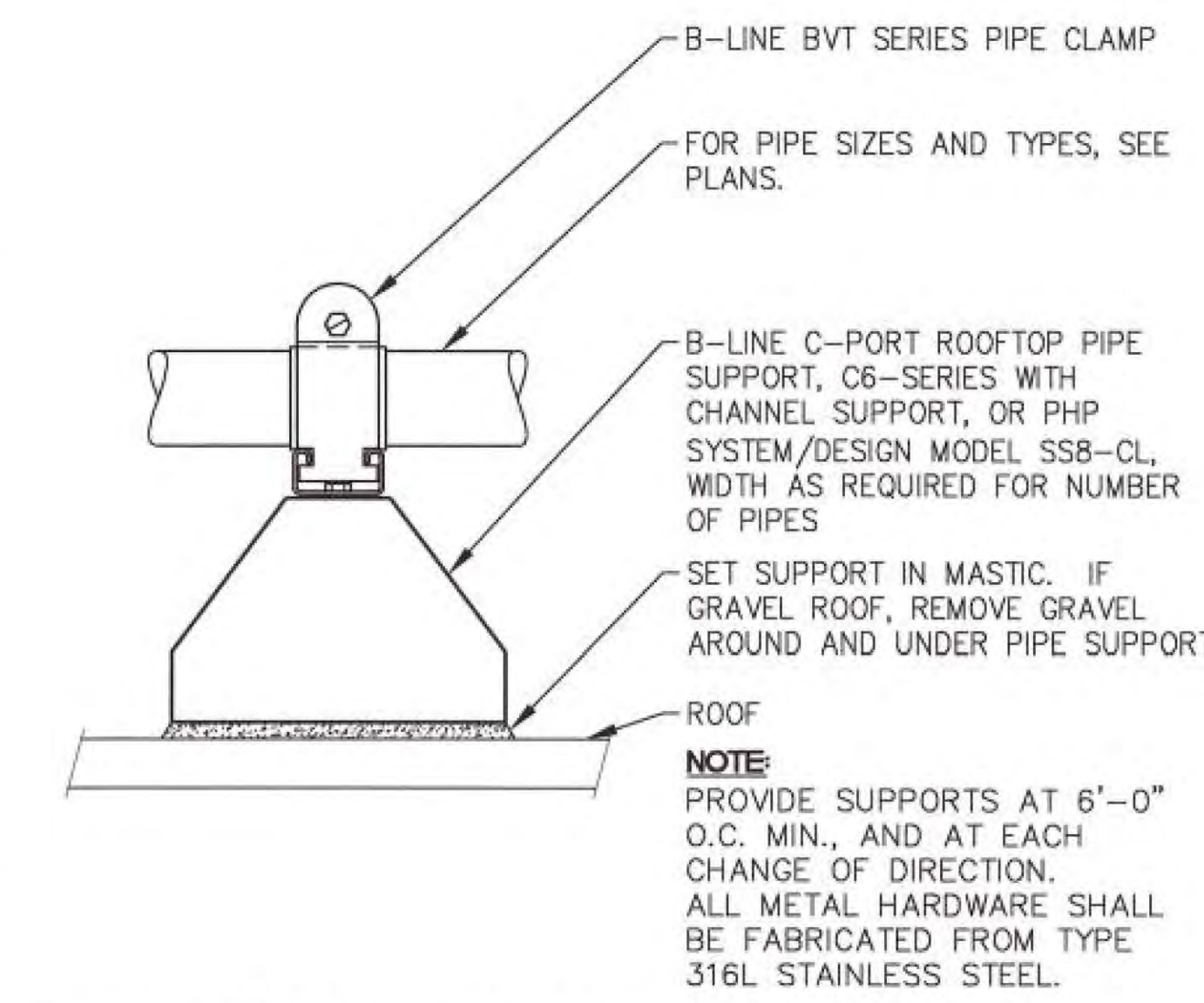
4 CONDENSATE TRAP
M0.3 NO SCALE



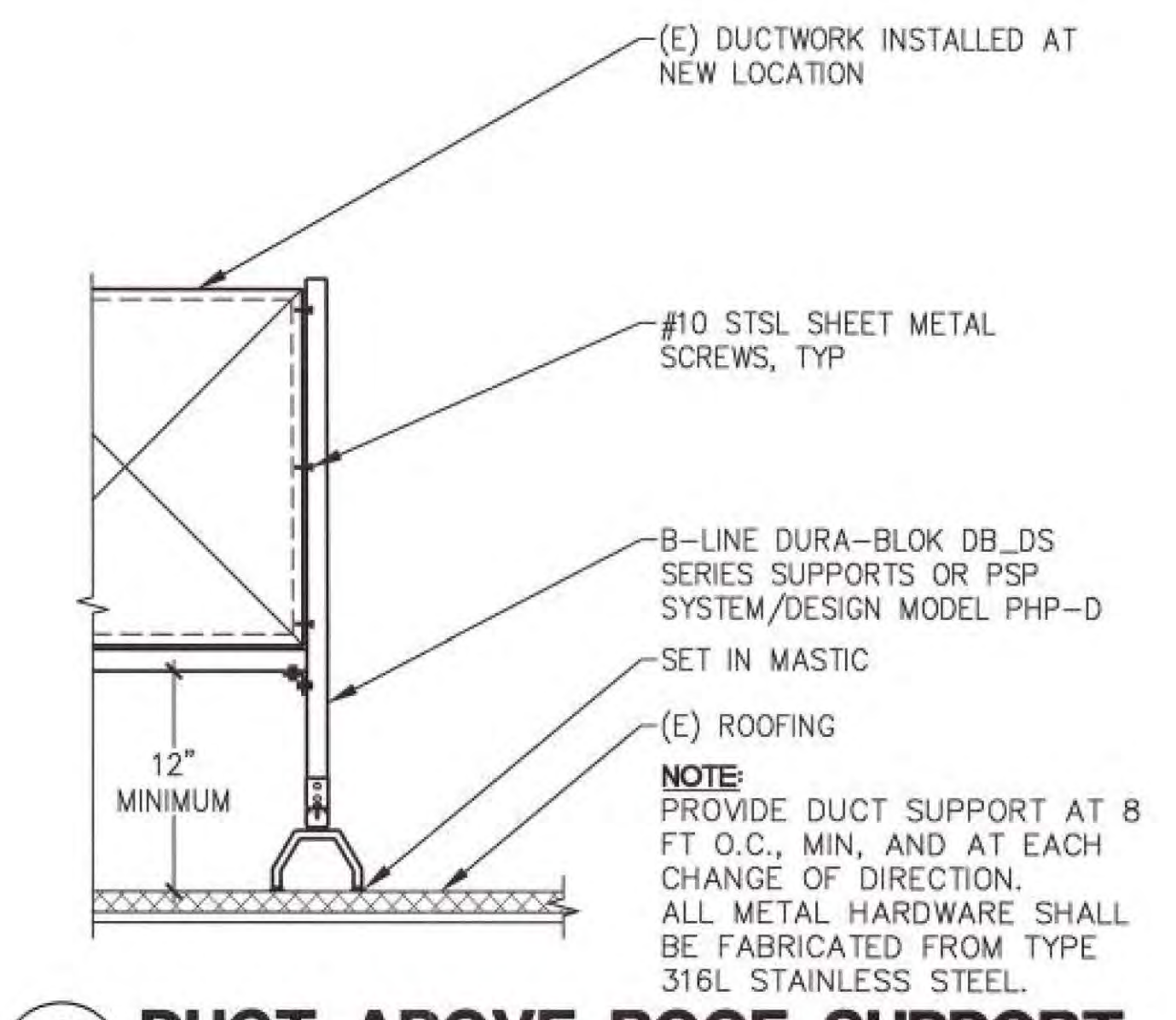
1 COIL PIPING
M0.3 NO SCALE AHU HEATING COIL



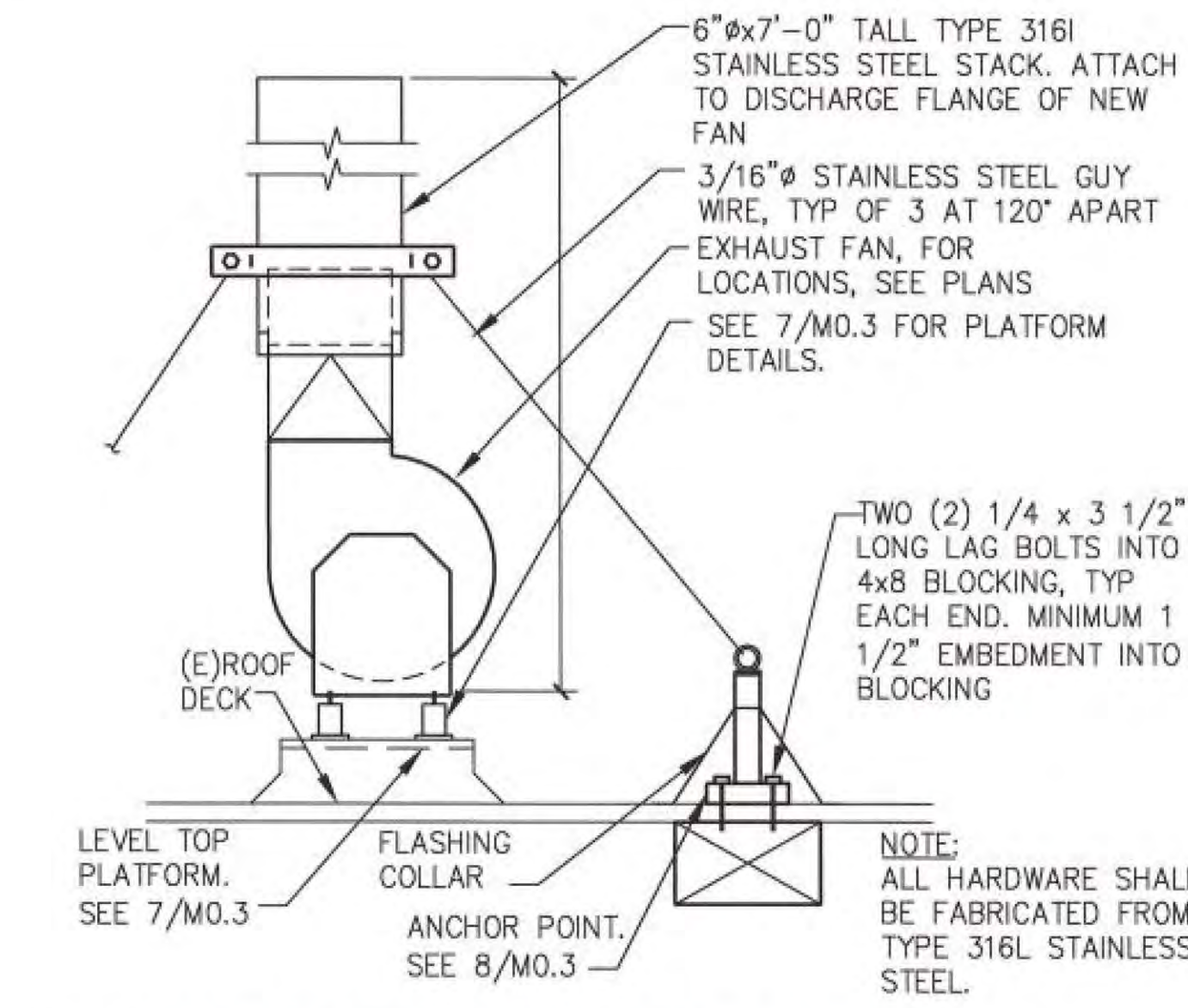
8 GUY WIRE BOTTOM ATTACHMENT
M0.3 NO SCALE EF-2



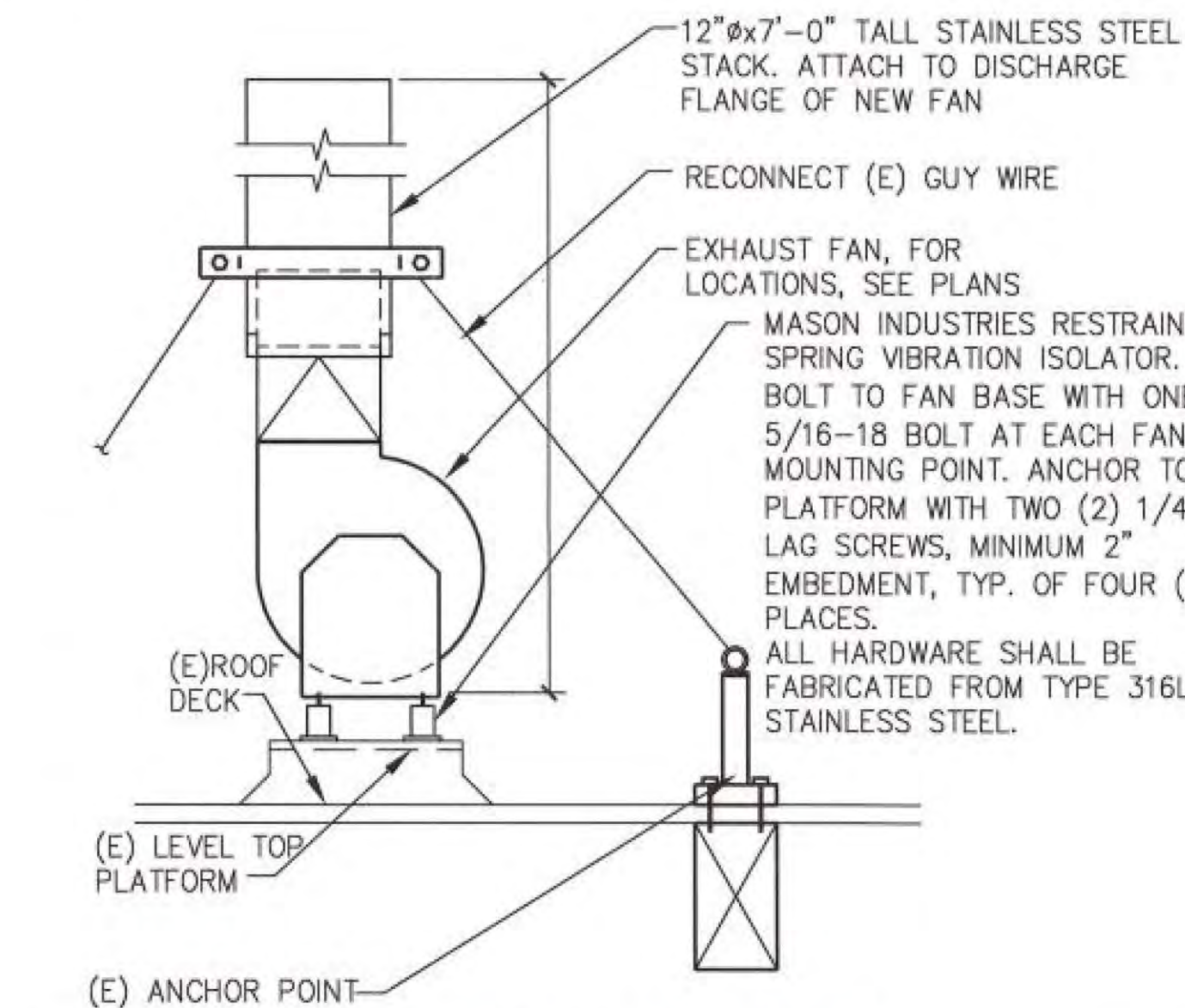
5 PIPE SUPPORT ON ROOF
M0.3 NO SCALE



2 DUCT ABOVE ROOF SUPPORT
M0.3 NO SCALE



6 EXHAUST FAN MOUNTING
M0.3 NO SCALE EF-2



3 EXHAUST FAN MOUNTING
M0.3 NO SCALE EF-1



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STANFORD UNIVERSITY, HOPKINS MARINE STATION

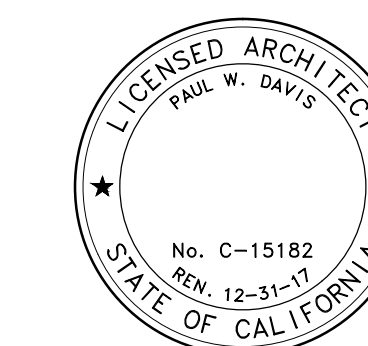
BLINKS BUILDING MECHANICAL UPGRADE

120 OCEAN VIEW BLVD
PACIFIC GROVE, CA 93950

APN: 006-741-006
STANFORD PROJECT:
Z16033

THE PAUL DAVIS PARTNERSHIP ARCHITECTS & PLANNERS

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Drawn By: HMM
Drawing Date: 2.12.16
Project Number: 1600

Revisions:

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Sheet Title:
ROOF PLAN

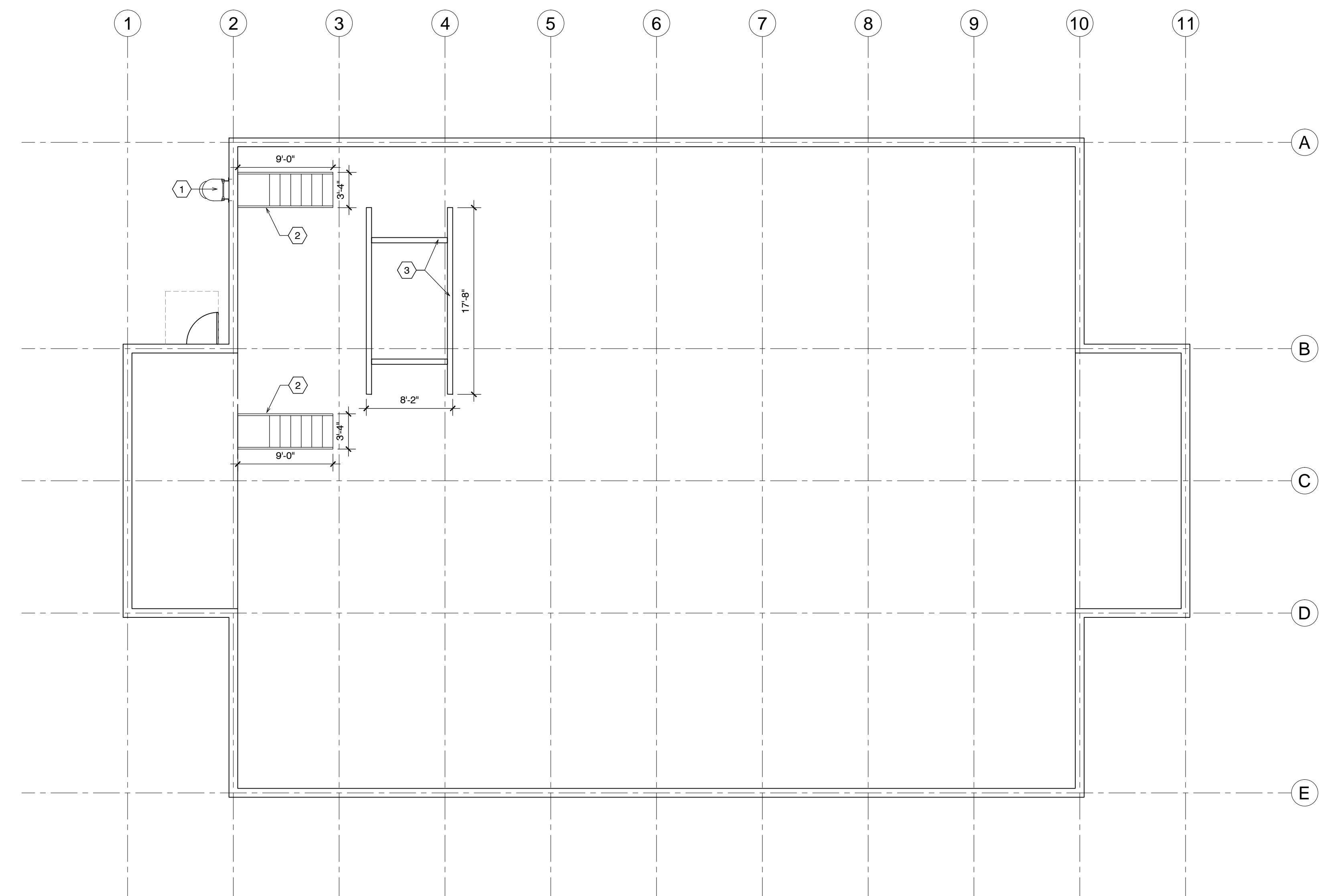
Sheet Number:

SHEET NOTES (ALL PRODUCTS/ SYSTEMS ARE NEW, CF/CI UNLESS OTHERWISE NOTED)

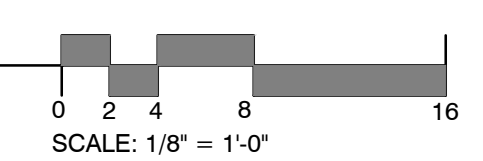
- FURNISH AND INSTALL NEW ROOF ACCESS LADDER WITH INTEGRAL SAFETY CAGE - ALUMINUM WITH FACTORY FINISH POWDER COAT FROM MANUFACTURER'S STANDARD COLOR PALETTE TO BEST MATCH ADJACENT WALL FINISH. (O'KEEFFE'S 534 LOW PARAPET WITH WALK-THROUGH RAIL EXTENSIONS WITH OPTIONS: A) FACTORY FINISH POWDER COAT, B) OFF-FLOOR MOUNTING BRACKET, C) SECURITY DOOR) CONNECT LADDER TO EXISTING CMU BLOCK WALL PER MANUFACTURER'S INSTRUCTIONS AND ENSURE ALL FASTENERS ARE PAINTED OR OF CORROSION-RESISTANT MATERIAL. COMPLETELY FILL HOLES IN CMU BLOCK AS NECESSARY. LOCATION SHOWN IS PREFERRED, BUT SHALL BE VERIFIED IN FIELD TO ENSURE EXACT LOCATION AND CONNECTION TO STAIRWAY FROM LADDER AND PARAPET TO MAIN ROOF SURFACE; VERIFY FINAL LOCATION WITH OWNER PRIOR TO INSTALLATION. SEE 4 ON A8.1.
- FURNISH AND INSTALL NEW ROOFTOP 'CROSSOVER' STAIRS IN MANUFACTURER'S STANDARD HOT-DIPPED GALVANIZED STEEL TO ALLOW FOR ACCESS TO/FROM ROOF ACCESS LADDER AND AQUARIUM ROOFTOP. STAIR UNITS SHALL BE FULLY PAINTED BY THE PAINTING SUBCONTRACTOR PRIOR TO INSTALLATION; CONFIRM PAINT PRODUCT AND COLOR WITH OWNER PRIOR TO PROCEEDING. CROSSOVER STAIRS ARE DESIGN-BUILD DEFERRED SUBMITTAL WITH MANUFACTURER PROVIDING DESIGN TO MEET EXISTING CONDITIONS AND STAMPED, SIGNED DRAWINGS FROM THEIR IN-HOUSE STRUCTURAL ENGINEER FOR CONTRACTOR'S DEFERRED SUBMITTAL TO AUTHORITIES HAVING JURISDICTION. MANUFACTURER IS PHP SYSTEMS/DESIGN. CONTACT JASON FULTON AT 713.628.9225 OR JASON@PHPSD.COM. SEE 5 ON A8.1.
- FURNISH AND INSTALL ALL NECESSARY STRUCTURAL SUPPORT FOR NEW ROOFTOP AHU. ALL PRODUCTS SHALL BE STRUCTURAL GRADE REDWOOD WITH STAINLESS STEEL CONNECTIONS AND FASTENERS. SEE DETAILS 1, 2 ON A8.1 FOR ADDITIONAL INFORMATION.

GENERAL NOTES

- ALL ITEMS DESIGNATED ON PLAN SHALL BE FURNISHED AND INSTALLED BY CONTRACTOR UNLESS NOTED OTHERWISE
- FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO BEGINNING WORK. CONTRACTOR SHALL NOTIFY OWNER OF ANY DISCREPANCIES BETWEEN DOCUMENTS AND FIELD CONDITIONS PRIOR TO PROCEEDING WITH THE WORK. CLARIFY ANY QUESTIONS REGARDING MATERIAL REMOVAL WITH OWNER BEFORE PROCEEDING.
- PROTECT ALL EXISTING ITEMS THAT ARE NOT SCHEDULED FOR REMOVAL. CONTRACTOR SHALL PATCH AND/OR REPAIR ANY DAMAGE CAUSED TO ITEMS SCHEDULED TO REMAIN. IF PATCH/REPAIR IS DEEMED IMPOSSIBLE OR INSUFFICIENT, CONTRACTOR SHALL REPLACE DAMAGED ITEM WITH BRAND NEW TO MATCH ALL AESTHETIC AND FUNCTIONAL ASPECTS OF EXISTING ITEM.
- ALL EXISTING VEGETATION AND SAND/ SOIL TO BE MAINTAINED ON SITE AND PROTECTED FROM DAMAGE, EROSION, SEDIMENTATION, TARP AND/OR OTHERWISE PROTECT AS NEEDED.
- DIRT, DEBRIS, CONSTRUCTION WASTE, SEDIMENT, PARTICULATES, ETC. FROM ANY DEMOLITION, CONSTRUCTION, AND RENOVATION ACTIVITY, INCLUDING SITE PREP, CONTRACTOR WORK AREA DELINEATION, AND FINAL FINISHING OR CLEANING SHALL BE CONTAINED AND REMOVED IN A COORDINATED AND DELIBERATE FASHION WITH FINAL REMOVAL TO A LICENSED LOCATION ACCEPTABLE TO OWNER AND ALL AUTHORITIES HAVING JURISDICTION.
- CONTRACTOR MUST PROVIDE SCAFFOLD, FENCING AND AREA OF WORK BARRIERS TO CONTAIN ALL DUST, DEBRIS, PARTICULATES, ETC., INCLUDING THAT WHICH MAY FLOW VERTICALLY. BARRIERS SHALL INCLUDE BLACK MESH AT SCAFFOLD PERIMETER AND CHAIN LINK FENCING ALONG WORK ZONE PERIMETER, PER STANFORD UNIVERSITY STANDARDS. ALL AREA OF WORK BARRIERS SHALL BE MAINTAINED IN FULLY FUNCTIONAL CONDITION THROUGHOUT THE COURSE OF CONTRACTOR ACTIVITIES.
- EXACT LOCATIONS OF UTILITIES SHALL BE VERIFIED PRIOR TO COMMENCEMENT OF ANY WORK.
- CLEAN PROJECT AREA DAILY, OR MORE FREQUENTLY IF NEEDED TO MAINTAIN SAFE AND CLEAN WORK ZONE
- OWNER'S EHS SHALL DECONTAMINATE THE FUME HOOD PRIOR TO START OF WORK; OWNER'S LBRE SHALL RE-CERTIFY FUME HOOD AFTER WORK IS COMPLETE. PLEASE NOTIFY OWNER OF WORK SCHEDULE SO THESE ACTIVITIES CAN BE SCHEDULED IN ADVANCE - AT LEAST 72 HOURS NOTICE IS REQUIRED TO SCHEDULE THESE ACTIVITIES. SEE MECHANICAL DRAWINGS FOR MORE INFORMATION ON EXISTING FUME HOOD.



PROJECT NORTH
ROOF PLAN
SCALE: 1/8" = 1'-0"



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STATE OF CALIFORNIA
MECHANICAL SYSTEMS
 CERTIFICATE OF COMPLIANCE
 Mechanical Systems
 Project Name: Blinks Building Mechanical Upgrade Date Prepared: February 24, 2016
 NRCC-MCH-01-E (Page 3 of 4)

C. MECHANICAL HVAC ACCEPTANCE FORMS (check box for required forms)
 Test Performed By:
 Designer: This form is to be used by the designer and attached to the plans. Listed below are all the acceptance tests for HVAC systems. The designer is required to check the applicable boxes for all acceptance tests that apply and list all equipment that requires an acceptance test. All equipment of the same type that requires a test, list the equipment description and the number of systems.
 Installing Contractor: The contractor who installed the equipment is responsible to either conduct the acceptance test themselves or have a qualified entity run the test for them. If more than one person has responsibility for the acceptance testing, each person shall sign and submit the Certificate of Acceptance applicable to the portion of the construction or installation for which they are responsible. The following tests require a
 Enforcement Agency:
 Plancheck - The NRCC-MCH-01-E form is not considered a completed form and is not to be accepted by the building department unless the correct boxes are checked.
 Inspector - Before occupancy permit is granted all newly installed process systems must be tested to ensure proper operations.

Test Description	MCH-12A	MCH-13A	MCH-14A	MCH-15A	MCH-16A	MCH-17A	MCH-18A	
Equipment Requiring Testing or Verification	# of units	Fault Detection & Diagnostics for DX Units	Automatic Fault Detection & Diagnostics for Air & Zone	Distributed Energy Storage DX AC Systems	Thermal Energy Storage (TES) Systems	Supply Air Temperature Reset Controls	Condenser Water Reset Controls	ECMS
AC-1	1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

CA Building Energy Efficiency Standards - 2013 Nonresidential Compliance May 2015

STATE OF CALIFORNIA
MECHANICAL SYSTEMS
 CERTIFICATE OF COMPLIANCE
 Mechanical Systems
 Project Name: Blinks Building Mechanical Upgrade Date Prepared: February 24, 2016
 NRCC-MCH-01-E (Page 4 of 4)

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT
 1. I certify that this Certificate of Compliance documentation is accurate and complete.
 Documentation Author Name: Robert S. Strohane, P.E.
 Company: Axiom Engineers, Inc.
 Address: 22 Lower Ragsdale Drive, Suite A
 City/State/Zip: Monterey, CA 93940
 Phone: (831) 649-8000
 Signature Date: 3/4/2016
 CEJ HERS Certification Identification (if applicable):
 Phone: (831) 649-8000

RESPONSIBLE PERSON'S DECLARATION STATEMENT
 I certify the following under penalty of perjury, under the laws of the State of California:
 1. The information provided on this Certificate of Compliance is true and correct.
 2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer).
 3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
 4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
 5. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.
 Responsible Designer Name: Robert S. Strohane, P.E.
 Company: Axiom Engineers, Inc.
 Address: 22 Lower Ragsdale Drive, Suite A
 City/State/Zip: Monterey, CA 93940
 License: M-33439
 Phone: (831) 649-8000
 Date Signed: 3/4/2016

CA Building Energy Efficiency Standards - 2013 Nonresidential Compliance May 2015

STATE OF CALIFORNIA
MECHANICAL SYSTEMS
 CERTIFICATE OF COMPLIANCE
 Mechanical Systems
 Project Name: Blinks Building Mechanical Upgrade Date Prepared: February 24, 2016
 NRCC-MCH-01-E (Page 1 of 4)

A. MECHANICAL COMPLIANCE FORMS & WORKSHEETS (check box if worksheet is included)
 For detailed instructions on the use of this and all Energy Efficiency Standards compliance forms, refer to the 2013 Nonresidential Manual
 Note: The Enforcement Agency may require all forms to be incorporated onto the building plans.

YES	NO	Form/Worksheet #	Title
<input checked="" type="checkbox"/>	<input type="checkbox"/>	NRCC-MCH-01-E (Part 1 of 3)	Certificate of Compliance, Declaration. Required on plans for all submittals.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	NRCC-MCH-01-E (Part 2 of 3)	Certificate of Compliance, Required Acceptance Tests (MCH-02A to 11A). Required on plans for all submittals.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	NRCC-MCH-01-E (Part 3 of 3)	Certificate of Compliance, Required Acceptance Tests (MCH-12A to 18A). Required on plans where applicable.
<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCC-MCH-02-E (Part 1 of 2)	Mechanical Dry Equipment Summary is required for all submittals with Central Air Systems. It is optional on plans.
<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCC-MCH-02-E (Part 2 of 2)	Mechanical Wet Equipment Summary is required for all submittals with chilled water, hot water or condenser water systems. It is optional on plans.
<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCC-MCH-03-E	Mechanical Ventilation and Reheat is required for all submittals with multiple zone heating and cooling systems. It is optional on plans.
<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCC-MCH-07-E (Part 1 of 2)	Power Consumption of Fans. Required on plans where applicable.
<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCC-MCH-07-E (Part 2 of 2)	Power Consumption of Fans, Declaration. Required on plans where applicable.

CA Building Energy Efficiency Standards - 2013 Nonresidential Compliance May 2015

STATE OF CALIFORNIA
MECHANICAL SYSTEMS
 CERTIFICATE OF COMPLIANCE
 Mechanical Systems
 Project Name: Blinks Building Mechanical Upgrade Date Prepared: February 24, 2016
 NRCC-MCH-01-E (Page 2 of 4)

B. MECHANICAL HVAC ACCEPTANCE FORMS (check box for required forms)
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 Enforcement Agency:
 Plancheck - The NRCC-MCH-01-E form is not considered a completed form and is not to be accepted by the building department unless the correct boxes are checked.
 Inspector - Before occupancy permit is granted all newly installed process systems must be tested to ensure proper operations.

Test Description	MCH-02A	MCH-03A	MCH-04A	MCH-05A	MCH-06A	MCH-07A	MCH-08A	MCH-09A	MCH-10A	MCH-11A	
Equipment Requiring Testing or Verification	# of Units	Outdoor Air	Single Zone Unitary	Air Distribution Ducts	Economizer Controls	Demand Control Ventilation (DCV)	Supply Fan VAV	Valve Leakage Test	Supply Water Temp. Reset	Hydronic System Variable Flow Control	Automatic Demand Shed Control
AC-1	1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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CA Building Energy Efficiency Standards - 2013 Nonresidential Compliance May 2015

Project / Owner:
STANFORD UNIVERSITY, HOPKINS MARINE STATION
BLINKS BUILDING MECHANICAL UPGRADE

120 OCEAN VIEW BLVD PACIFIC GROVE, CA 93950

APN: 006-741-006 STANFORD PROJECT: Z16033

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 ARCHITECTS & PLANNERS

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 286 Eldorado Street
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 EMAIL: info@pauldavispartnership.com

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fr. (831) 649-8038

AXIOM ENGINEERS LEE & ASSOCIATES CONSULTING ENGINEERS

AE Project #: 20150242 22 Lower Ragsdale Dr., Suite A Monterey, California 93940-5788

Drawn By: CAD
 Drawing Date: 3-1-16
 Project Number: 1600

Revisions:

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Sheet Title:
TITLE 24 - MECHANICAL

Sheet Number:



M0.4

Project / Owner:

STANFORD UNIVERSITY, HOPKINS MARINE STATION

BLINKS BUILDING MECHANICAL UPGRADE

120 OCEAN VIEW BLVD
PACIFIC GROVE, CA 93950

APN: 006-741-006
STANFORD PROJECT:
Z16033

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vc: (831) 649-8000
fx: (831) 649-8038
email: mail@axiomengineers.com

AXIOM ENGINEERS LEE & ASSOCIATES
CONSULTING ENGINEERS

AE Project #: 20150242
22 Lower Ragsdale Dr., Suite A
Monterey, California 93940-5788

Drawn By: CAD
Drawing Date: 3-1-16
Project Number: 1600

Revisions:

Sheet Title:

SPECIFICATIONS - MECHANICAL

Sheet Number:

M0.5



SECTION 230130.51 – HVAC AIR-DISTRIBUTION SYSTEM CLEANING

PART 1 – GENERAL

1.1 SUMMARY

- A. SECTION INCLUDES CLEANING HVAC AIR-DISTRIBUTION EQUIPMENT, DUCTS, PLENUMS, AND SYSTEM COMPONENTS.

1.2 QUALITY ASSURANCE

- A. UL COMPLIANCE: COMPLY WITH UL 181 AND UL 181A FOR FIBROUS-GLASS DUCTS.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION

3.1 PREPARATION

- A. USE THE EXISTING SERVICE OPENINGS, AS REQUIRED FOR PROPER CLEANING, AT VARIOUS POINTS OF THE HVAC SYSTEM FOR PHYSICAL AND MECHANICAL ENTRY AND FOR INSPECTION.
- B. COMPLY WITH NADCA ACR 2006, "GUIDELINES FOR CONSTRUCTING SERVICE OPENINGS IN HVAC SYSTEMS" SECTION.

3.2 CLEANING

- A. COMPLY WITH NADCA ACR 2006.
- B. REMOVE VISIBLE SURFACE CONTAMINANTS AND DEPOSITS FROM WITHIN THE HVAC SYSTEM.
- C. SYSTEMS AND COMPONENTS TO BE CLEANED:
 1. AIR DEVICES FOR SUPPLY AND RETURN AIR.
 2. AIR-TERMINAL UNITS.
 3. DUCTWORK:
 - a. SUPPLY-AIR DUCTS, INCLUDING TURNING VANES AND REHEAT COILS, TO THE AIR-HANDLING UNIT.
 - b. RETURN-AIR DUCTS TO THE AIR-HANDLING UNIT.
 - c. EXHAUST-AIR DUCTS.
 4. AIR-HANDLING UNITS:
 - a. INTERIOR SURFACES OF THE UNIT CASING.
 - b. COIL SURFACES COMPARTMENT.
 - c. CONDENSATE DRAIN PANS.
 - d. FANS, FAN BLADES, AND FAN HOUSINGS.
 5. FILTERS AND FILTER HOUSINGS.
- D. COLLECT DEBRIS REMOVED DURING CLEANING. ENSURE THAT DEBRIS IS NOT DISPERSED OUTSIDE THE HVAC SYSTEM DURING THE CLEANING PROCESS.
- E. PARTICULATE COLLECTION:
 1. FOR PARTICULATE COLLECTION EQUIPMENT, INCLUDE ADEQUATE FILTRATION TO CONTAIN DEBRIS REMOVED. LOCATE EQUIPMENT DOWNWIND AND AWAY FROM ALL AIR INTAKES AND OTHER POINTS OF ENTRY INTO THE BUILDING.
 2. HEPA FILTRATION WITH 99.97 PERCENT COLLECTION EFFICIENCY FOR PARTICLES SIZED 0.3 MICROMETER OR LARGER SHALL BE USED WHERE THE PARTICULATE COLLECTION EQUIPMENT IS EXHAUSTING INSIDE THE BUILDING.
- F. CONTROL ODORS AND MIST VAPORS DURING THE CLEANING AND RESTORATION PROCESS.
- G. MARK THE POSITION OF MANUAL VOLUME DAMPERS AND AIR-DIRECTIONAL MECHANICAL DEVICES INSIDE THE SYSTEM PRIOR TO CLEANING. RESTORE THEM TO THEIR MARKED POSITION ON COMPLETION OF CLEANING.
- H. SYSTEM COMPONENTS SHALL BE CLEANED SO THAT ALL HVAC SYSTEM COMPONENTS ARE VISIBLY CLEAN. ON COMPLETION, ALL COMPONENTS MUST BE RETURNED TO THOSE SETTINGS RECORDED JUST PRIOR TO CLEANING OPERATIONS.
- I. CLEAN ALL AIR-DISTRIBUTION DEVICES, REGISTERS, GRILLES, AND DIFFUSERS.
- J. CLEAN VISIBLE SURFACE CONTAMINATION DEPOSITS ACCORDING TO NADCA ACR 2006 AND THE FOLLOWING:
 1. CLEAN AIR-HANDLING UNITS, AIRSTREAM SURFACES, COMPONENTS, CONDENSATE COLLECTORS, AND DRAINS.
 2. ENSURE THAT A SUITABLE OPERATIVE DRAINAGE SYSTEM IS IN PLACE PRIOR TO BEGINNING WASH-DOWN PROCEDURES.
 3. CLEAN EVAPORATOR COILS, REHEAT COILS, AND OTHER AIRSTREAM COMPONENTS.
- K. DUCT SYSTEMS:
 1. CREATE SERVICE OPENINGS IN THE HVAC SYSTEM AS NECESSARY TO ACCOMMODATE CLEANING.
 2. MECHANICALLY CLEAN DUCT SYSTEMS SPECIFIED TO REMOVE ALL VISIBLE CONTAMINANTS SO THAT THE SYSTEMS ARE CAPABLE OF PASSING THE HVAC SYSTEM CLEANLINESS TESTS (SEE NADCA ACR 2006).
- L. DEBRIS REMOVED FROM THE HVAC SYSTEM SHALL BE DISPOSED OF ACCORDING TO APPLICABLE FEDERAL, STATE, AND LOCAL REQUIREMENTS.
- M. MECHANICAL CLEANING METHODOLOGY:
 1. SOURCE-REMOVAL CLEANING METHODS: THE HVAC SYSTEM SHALL BE CLEANED USING SOURCE-REMOVAL MECHANICAL CLEANING METHODS DESIGNED TO EXTRACT CONTAMINANTS FROM WITHIN THE HVAC SYSTEM AND TO SAFELY REMOVE THESE CONTAMINANTS FROM THE FACILITY. NO CLEANING METHOD, OR COMBINATION OF METHODS, SHALL BE USED THAT COULD POTENTIALLY DAMAGE COMPONENTS OF THE HVAC SYSTEM OR NEGATIVELY ALTER THE INTEGRITY OF THE SYSTEM.
 - a. USE CONTINUOUSLY OPERATING VACUUM-COLLECTION DEVICES TO KEEP EACH SECTION BEING CLEANED UNDER NEGATIVE PRESSURE.
 - b. CLEANING METHODS THAT REQUIRE MECHANICAL AGITATION DEVICES TO DISLodge DEBRIS THAT IS ADHERED TO INTERIOR SURFACES OF HVAC SYSTEM COMPONENTS SHALL BE EQUIPPED TO SAFELY REMOVE THESE DEVICES. CLEANING METHODS SHALL NOT DAMAGE THE INTEGRITY OF HVAC SYSTEM COMPONENTS OR DAMAGE POROUS SURFACE MATERIALS SUCH AS DUCT AND PLENUM LINERS.
 2. CLEANING MINERAL-FIBER INSULATION COMPONENTS:
 - a. FIBROUS-GLASS THERMAL OR ACOUSTICAL INSULATION ELEMENTS PRESENT IN EQUIPMENT OR DUCTWORK SHALL BE THOROUGHLY CLEANED WITH HEPA VACUUMING EQUIPMENT WHILE THE HVAC SYSTEM IS UNDER CONSTANT NEGATIVE PRESSURE AND SHALL NOT BE PERMITTED TO GET WET ACCORDING TO NADCA ACR 2006.
 - b. CLEANING METHODS USED SHALL NOT CAUSE DAMAGE TO FIBROUS-GLASS COMPONENTS AND WILL RENDER THE SYSTEM CAPABLE OF PASSING THE HVAC SYSTEM CLEANLINESS TESTS (SEE NADCA ACR 2006).

- c. FIBROUS MATERIALS THAT BECOME WET SHALL BE DISCARDED AND REPLACED.
- N. COIL CLEANING:
 1. MEASURE STATIC-PRESSURE DIFFERENTIAL ACROSS EACH COIL.
 2. SEE NADCA ACR 2006, "COIL SURFACE CLEANING" SECTION. TYPE 1, OR TYPE 1 AND TYPE 2, CLEANING METHODS SHALL BE USED TO RENDER THE COIL VISIBLY CLEAN AND CAPABLE OF PASSING COIL CLEANING VERIFICATION (SEE APPLICABLE NADCA ACR 2006).
 3. COIL DRAIN PANS SHALL BE SUBJECT TO NADCA ACR 2006, "NON-POROUS SURFACES CLEANING VERIFICATION." ENSURE THAT CONDENSATE DRAIN PANS ARE OPERATIONAL.
 4. ELECTRIC-RESISTANCE COILS SHALL BE DE-ENERGIZED, LOCKED OUT, AND TAGGED BEFORE CLEANING.
 5. CLEANING METHODS SHALL NOT CAUSE ANY APPRECIABLE DAMAGE TO, CAUSE DISPLACEMENT OF, INHIBIT HEAT TRANSFER, OR CAUSE EROSION OF THE COIL SURFACE OR FINS, AND SHALL COMPLY WITH COIL MANUFACTURER'S WRITTEN RECOMMENDATIONS WHEN AVAILABLE.
 6. RINSE THOROUGHLY WITH CLEAN WATER TO REMOVE ANY LATENT RESIDUES.

3.3 RESTORATION

- A. RESTORE AND REPAIR HVAC AIR-DISTRIBUTION EQUIPMENT, DUCTS, PLENUMS, AND COMPONENTS ACCORDING TO NADCA ACR 2006, "RESTORATION AND REPAIR OF MECHANICAL SYSTEMS" SECTION.
- B. COMPLY WITH SECTION 233113 "METAL DUCTS" AND SECTION 233300 "AIR DUCT ACCESSORIES" FOR DUCT MATERIALS, ACCESSORIES, AND HARDWARE REQUIRED FOR WORK OF THIS SECTION.
- C. ENSURE THAT CLOSURES DO NOT HINDER OR ALTER AIRFLOW.
- D. NEW CLOSURE MATERIALS, INCLUDING INSULATION, SHALL MATCH OPENED MATERIALS AND SHALL HAVE REMOVABLE CLOSURE PANELS FITTED WITH GASKETS AND FASTENERS.
- E. RESEAL FIBROUS-GLASS DUCTS. COMPLY WITH REQUIREMENTS IN SECTION 233116 "NONMETAL DUCTS."

END OF SECTION 230130.51

SECTION 230593 – TESTING, ADJUSTING, AND BALANCING FOR HVAC

1.1 SUMMARY

- A. TAB FOR THE FOLLOWING:
 1. BALANCING AIR SYSTEMS:
 - a. CONSTANT-VOLUME AIR SYSTEMS.
 2. BALANCING HYDRONIC PIPING SYSTEMS:
 - a. CONSTANT-FLOW HYDRONIC SYSTEMS.
 3. TAB EQUIPMENT:
 - a. MOTORS.
 - b. BOILERS.
 - c. PUMPS.
 - d. HEAT-TRANSFER COILS.
 4. TAB EXISTING SYSTEMS AND EQUIPMENT.
 5. CONTROL SYSTEM VERIFICATION.

1.2 QUALITY ASSURANCE

- A. TAB AGENT QUALIFICATIONS: NEBB CERTIFIED.

1.3 EXECUTION

- A. TOLERANCES: PLUS OR MINUS 10 PERCENT OF DESIGN VALUES.

END OF SECTION 230593

SECTION 232113 – HYDRONIC PIPING

1.1 PERFORMANCE REQUIREMENTS

- A. MINIMUM WORKING PRESSURES AND TEMPERATURES:
 1. HOT-WATER HEATING PIPING: AT 200 DEG F.

1.2 QUALITY ASSURANCE

- A. QUALITY STANDARD: ASME B31.9.

1.3 PIPING APPLICATIONS

- A. HOT-WATER HEATING PIPING, ABOVEGROUND, NPS 2 AND SMALLER, SHALL BE THE FOLLOWING:
 1. COPPER TUBING AND BRAZED JOINTS. INSULATE PIPING WITH 2" OF FIBERGLASS PIPE INSULATION. PROVIDE ALUMINUM JACKET OVER PIPING INSULATION.
- B. CONDENSATE-DRAIN PIPING: COPPER TUBING, WROUGHT-COPPER FITTINGS, AND SOLDERED JOINTS.

END OF SECTION 232113

SECTION 233113 – METAL DUCTS

1.1 MATERIALS

- A. SINGLE-WALL RECTANGULAR DUCTS AND FITTINGS.
- B. SINGLE-WALL ROUND DUCTS AND FITTINGS.
- C. SHEET METAL MATERIALS:
 1. TYPE 316L STAINLESS SHEET STEEL.
- D. SEALANT MATERIALS:
 1. WATER-BASED JOINT AND SEAM SEALANT.
 2. FLANGED JOINT SEALANT.

1.2 DUCT CLEANING

- A. CLEAN EXISTING DUCT SYSTEM(S) BEFORE TESTING, ADJUSTING, AND BALANCING PER SECTION 230130.51.

1.3 DUCT SCHEDULE

- A. ALL DUCTS SHALL BE TYPE 316L STAINLESS STEEL WITH FLANGED JOINTS.

END OF SECTION 233113

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 January 14, 2016 09:11:08 AM
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Project / Owner:

STANFORD UNIVERSITY, HOPKINS MARINE STATION

BLINKS BUILDING MECHANICAL UPGRADE

120 OCEAN VIEW BLVD
PACIFIC GROVE, CA 93950

APN: 006-741-006
STANFORD PROJECT:
Z16033

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Drawn By: CAD
Drawing Date: 3-1-16
Project Number: 1600

Revisions:

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Sheet Title:

ROOF PLAN - MECHANICAL DEMOLITION

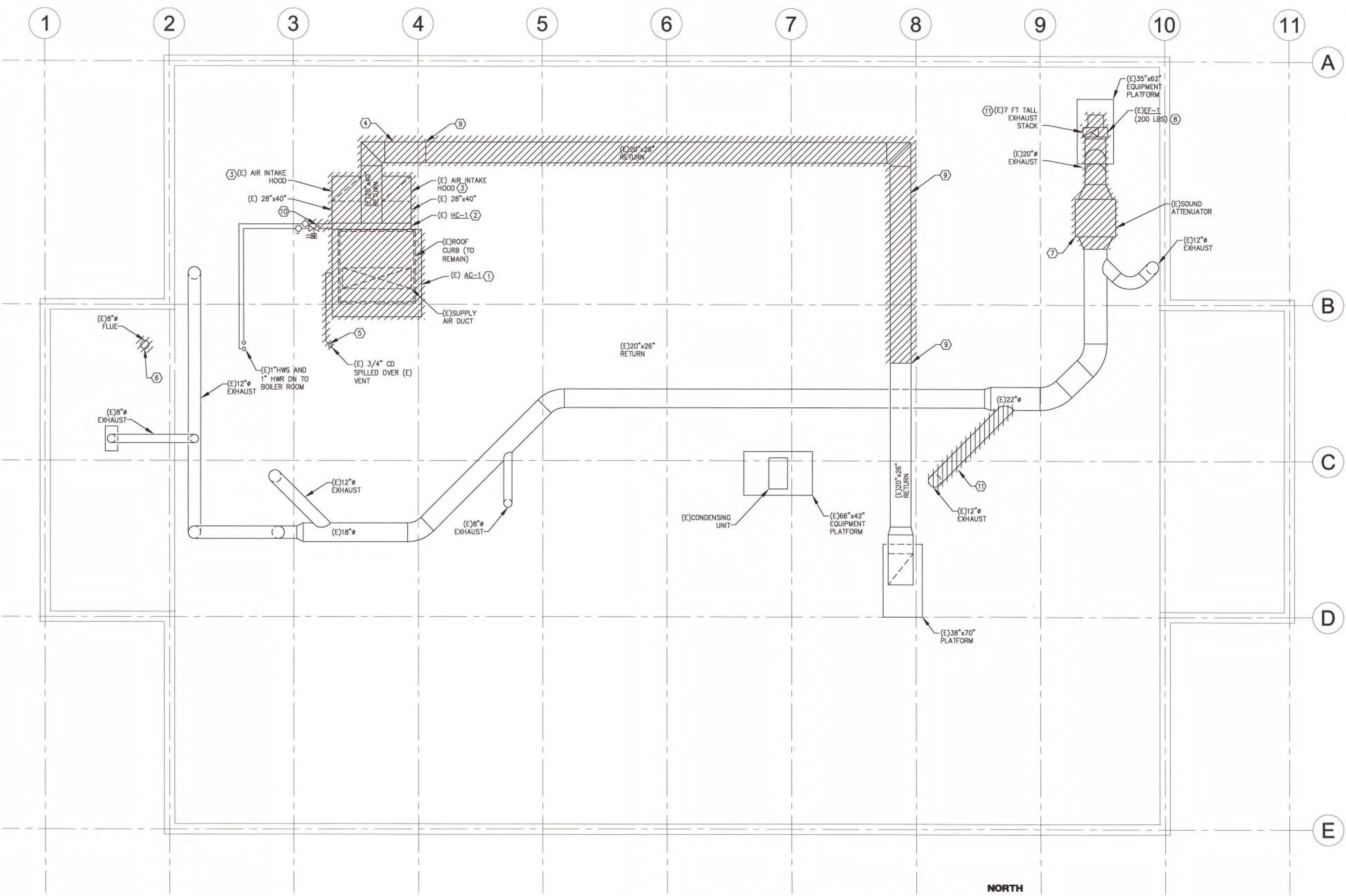
Sheet Number:

M1.1

DEMOLITION NOTES:

- ① DISCONNECT AND REMOVE EXISTING ROOF TOP AIR HANDLING UNIT. EXISTING ROOF CURB TO REMAIN IN PLACE FOR REUSE.
- ② DISCONNECT AND REMOVE EXISTING HOT WATER PREHEAT COIL.
- ③ DISCONNECT AND REMOVE EXISTING AIR INTAKE HOODS.
- ④ REMOVE EXISTING STAINLESS STEEL RETURN AIR DUCTWORK.
- ⑤ REMOVE EXISTING CONDENSATE DRAIN PIPING.
- ⑥ REMOVE EXISTING B-VENT FLUE CAP. PREPARE EXISTING FLUE TO MOUNT NEW STACK EXHAUST FAN, EF-2.
- ⑦ REMOVE EXISTING SOUND ATTENUATOR AS PART OF ADD ALTERNATE NO. 3.
- ⑧ REMOVE EXISTING UTILITY SET EXHAUST FAN, STAINLESS STEEL EXHAUST STACK, AND GALVANIZED STEEL EXHAUST DUCT INDICATED AS PART OF ADD ALTERNATE NO. 3.
- ⑨ REMOVE EXISTING STAINLESS STEEL RETURN AIR DUCTWORK AND SAVE FOR REINSTALLATION AT NEW LOCATION SHOWN ON DRAWING M2.1.
- ⑩ REMOVE EXISTING HWS PIPING BETWEEN SHUT-OFF VALVE AND EXISTING HEATING COIL. REMOVE EXISTING HWR PIPING BETWEEN CONTROL VALVE AND EXISTING COIL.
- ⑪ REMOVE (E) EXHAUST AIR DUCTWORK FROM DUCT COLLAR AT FUME HOOD ON FIRST FLOOR TO POINT SHOWN ON ROOF PLAN. PATCH (E) EXHAUST DUCTWORK THAT REMAINS.

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ROOF PLAN - MECHANICAL DEMOLITION
SCALE: 1/4" = 1'-0"



Project / Owner:

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HOPKINS MARINE STATION**

BLINKS BUILDING MECHANICAL UPGRADE

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Drawing Date: 3-1-16
Project Number: 1600

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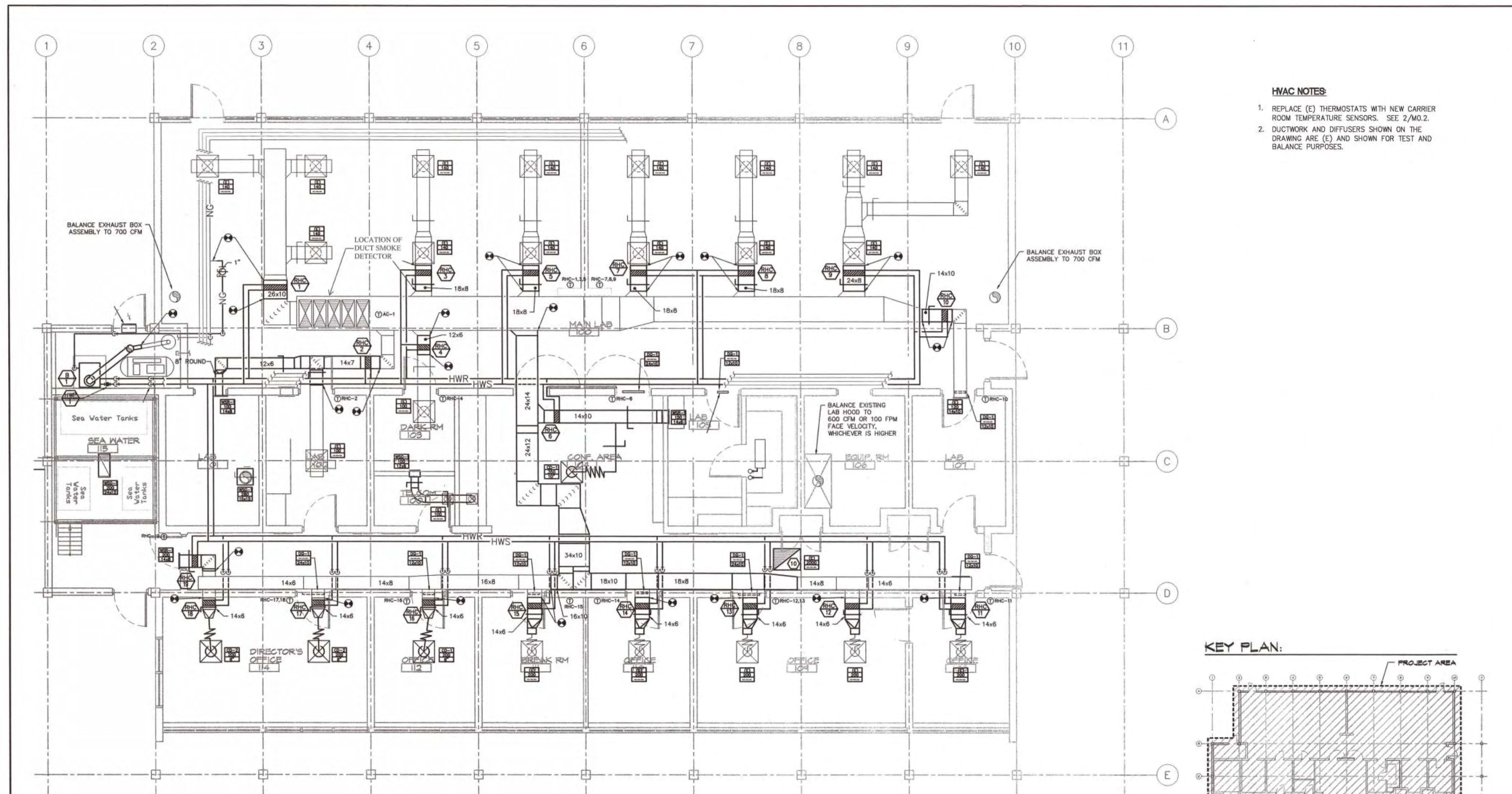
Sheet Title:

FIRST FLOOR PLAN - MECHANICAL REFERENCE

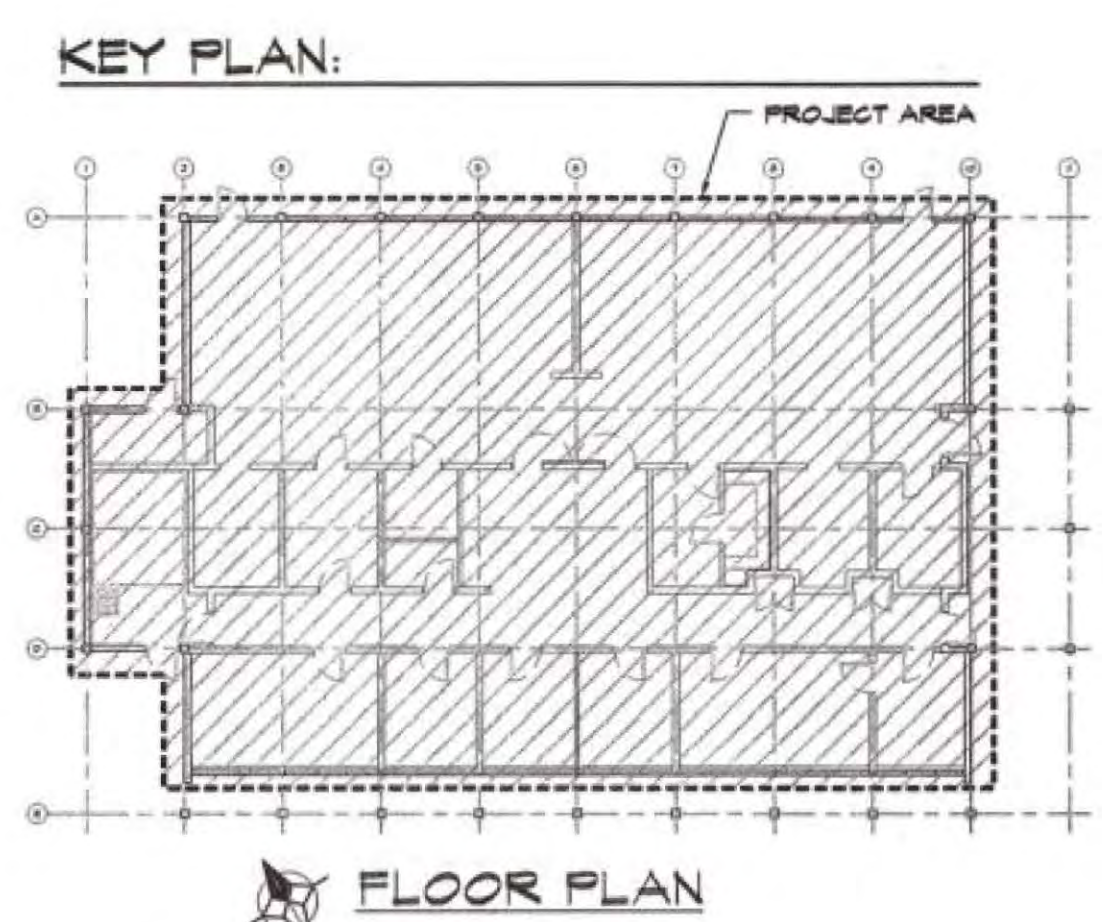
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- HVAC NOTES:**
1. REPLACE (E) THERMOSTATS WITH NEW CARRIER ROOM TEMPERATURE SENSORS. SEE 2/MO.2.
 2. DUCTWORK AND DIFFUSERS SHOWN ON THE DRAWING ARE (E) AND SHOWN FOR TEST AND BALANCE PURPOSES.



1 HVAC CONSTRUCTION PLAN
M-1 SCALE: 1/4" = 1'-0"

REVISIONS		APPR.	DATE
0	6/27/03	RECORD DRAWINGS	

DESIGNED BY:	GP	8/6/02
DRAWN BY:	GP	8/6/02
CHECKED BY:	GP	8/6/02
APPROVED BY:		
PROJECT MANAGER:	BRIAN CARILLI	

 GORDON-PRILL, INC. Architecture-Engineering-Management 1245 PEAR AVENUE MOUNTAIN VIEW CA 94043-1431 (650)-335-1990 FAX (650)-335-1988 105 EAST PINE ST MISSOULA MONTANA 59806 (406) 721-5936	 STANFORD UNIVERSITY PALUMBI LAB PROJECT #2380 HOPKINS MARINE STATION HVAC CONSTRUCTION PLAN BUILDING NUMBER: 90-100	DRAWING NO.
		REV 0

FIRST FLOOR PLAN - MECHANICAL EXISTING
SCALE: 1/4" = 1'-0" (FOR REFERENCE)



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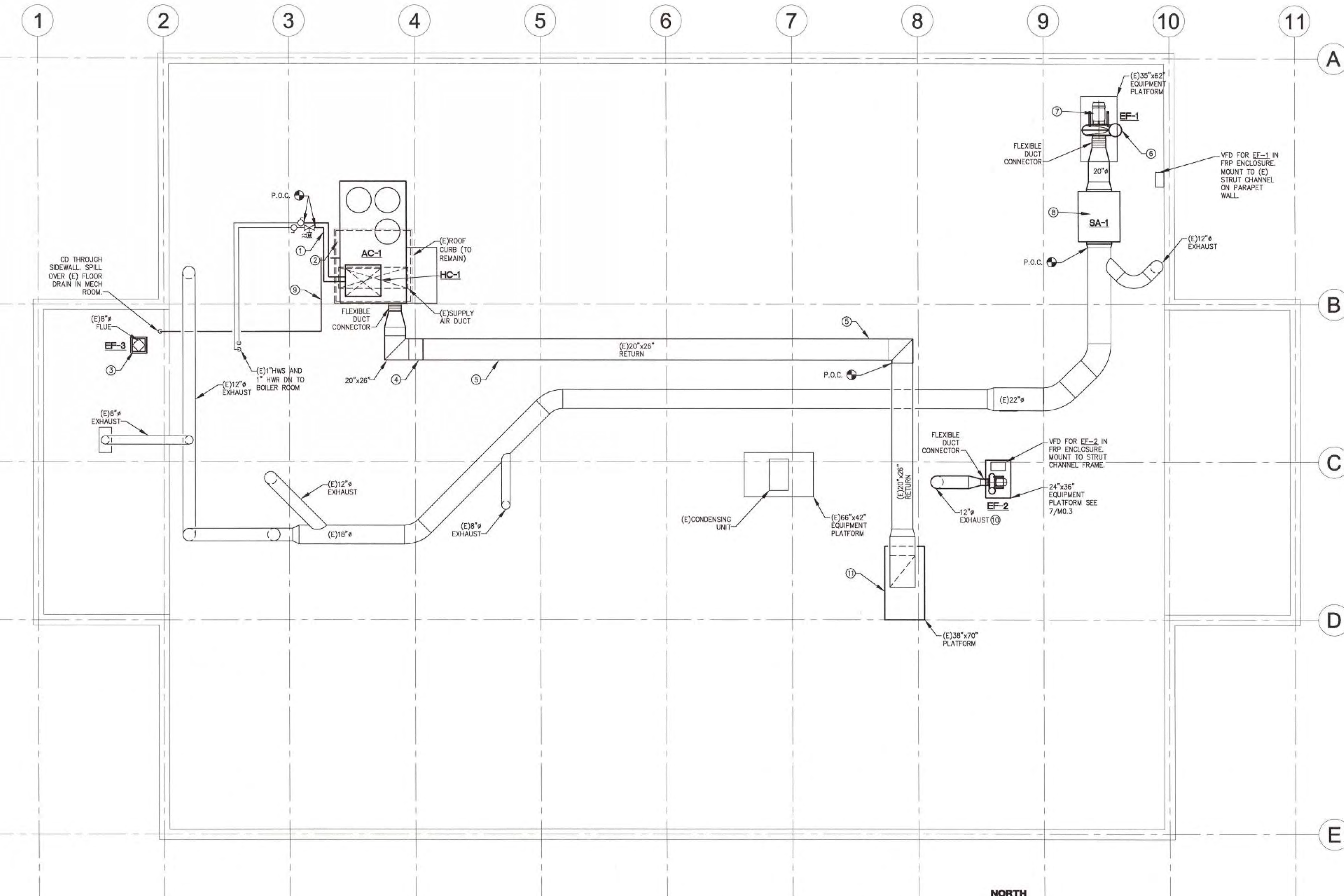
ROOF PLAN - MECHANICAL NEW

Sheet Number:

M2.1

HVAC NOTES:

- 1 CONNECT NEW 1" HWS PIPING BETWEEN (E) SHUT-OFF VALVE AND NEW HC-1. CONNECT NEW 1" HWR PIPING BETWEEN (E) MOTORIZED CONTROL VALVE AND NEW HC-1.
- 2 MOUNT NEW AIR HANDLING UNIT AND ADAPTER CURB ON EXISTING ROOF CURB.
- 3 MOUNT NEW STACK EXHAUST FAN EF-2 ON EXISTING 8" B-VENT BOILER AND WATER HEATER FLUE.
- 4 NEW TYPE 316L STAINLESS STEEL RETURN AIR DUCTWORK.
- 5 REINSTALL (E) STAINLESS STEEL RETURN AIR DUCTWORK IN THIS LOCATION. PROVIDE NEW DUCT SUPPORTS. SEE 2/MO.3.
- 6 INSTALL NEW 12" x 7'-0" TALL TYPE 316L STAINLESS STEEL EXHAUST STACK ON NEW EXHAUST FAN EF-1. BRACE STACK USING EXISTING GUY WIRE BRACING. SEE 3/MO.3.
- 7 INSTALL NEW EXHAUST FAN EF-1 ON EXISTING EQUIPMENT PLATFORM. PROVIDE NEW GALVANIZED STEEL EXHAUST DUCTWORK BETWEEN SOUND ATTENUATOR AND EXHAUST FAN INLET.
- 8 INSTALL NEW SOUND ATTENUATOR.
- 9 INSTALL NEW 3/4" CONDENSATE DRAIN PIPING. DISCHARGE PIPING INTO FLOOR DRAIN IN MECH RM. SEE 4/MO.3 AND 5/MO.3.
- 10 CONNECT NEW 12" EXHAUST DUCT TO EXISTING FUME HOOD DUCT COLLAR. COORDINATE RECERTIFICATION OF FUME HOOD BY LBRE HVAC AIR FLOW TECHNICIANS WITH JON FLOREZ AND JUDY THOMPSON.
- 11 ADD ALTERNATE NO. 1 - CONTRACTOR SHALL REPLACE EXISTING GALVANIZED STEEL FLASHING AROUND 38"x70" PLATFORM, AT THE RETURN AIR DUCT OPENING, WITH NEW TYPE 316L STAINLESS STEEL FLASHING.



ROOF PLAN - MECHANICAL NEW

SCALE: 1/4" = 1'-0"



STANFORD UNIVERSITY, HOPKINS MARINE STATION

BLINKS BUILDING MECHANICAL UPGRADE

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APN: 006-741-006 STANFORD PROJECT: Z16033

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Drawn By: HMM

Drawing Date: 2.12.16

Project Number: 1600

Revisions:

Sheet Title:

SYMBOLS, ABBREV., CODES, STANDARDS & SHEET INDEX

Sheet Number:

GENERAL CONSTRUCTION NOTES

- 1. CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE CODES AND REGULATIONS. MATERIALS AND EQUIPMENT SHALL BE U.L. LISTED AND LABELED FOR THE APPLICATION.
2. THE CONTRACTOR SHALL OBTAIN AND PAY FOR ALL PERMITS, LICENSES AND INSPECTION FEES REQUIRED BY THIS CONTRACT WORK.
3. CONTRACTOR SHALL VISIT THE PROJECT SITE PRIOR TO BIDDING AND ALLOW FOR ALL FIELD CONDITIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ELECTRICAL WORK NOTED AND CALLED OUT ON ALL CONTRACT DOCUMENTS. THE CONTRACTOR SHALL OBTAIN INFORMATION AND BE FAMILIAR WITH ALL OTHER TRADES WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION BETWEEN OTHER TRADES ON PROJECT.
4. CONTRACTOR SHALL BE RESPONSIBLE FOR THE SAFETY OF PERSONS AND PROPERTY AND SHALL PROVIDE INSURANCE COVERAGE AS NECESSARY FOR LIABILITY AND PERSONAL, PROPERTY DAMAGE, TO FULLY PROTECT THE OWNER, ARCHITECT AND ENGINEER FROM ANY AND ALL CLAIMS RESULTING FROM THIS WORK.
5. CONTRACTOR SHALL MAINTAIN RECORD DRAWINGS AT THE PROJECT SITE INDICATING ALL MODIFICATIONS TO ELECTRICAL SYSTEMS. THE CONTRACTOR SHALL AT THE CONCLUSION OF THE PROJECT PROVIDE ACCURATE "AS-BUILT" DRAWINGS ACCEPTABLE TO THE ARCHITECT.
6. ALL MATERIALS PROVIDED TO THE PROJECT SHALL BE NEW. THE CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE AND INSTALL ALL INCIDENTAL MATERIALS REQUIRED FOR A COMPLETE INSTALLATION.
7. CONTRACTOR SHALL PROVIDE TO THE ARCHITECT A CONSTRUCTION SCHEDULE OF ELECTRICAL WORK. THE CONSTRUCTION SCHEDULE SHALL IDENTIFY ALL SIGNIFICANT MILESTONES WITH COMPLETION DATES.
8. CONTRACTOR SHALL PROVIDE ALL REQUIRED "CUTTING, PATCHING, EXCAVATION, BACKFILL AND REPAIRS" NECESSARY TO RESTORE DAMAGED SURFACES TO EQUAL OR BETTER THAN ORIGINAL CONDITIONS EXISTING AT START OF WORK.
9. CONTRACTOR SHALL BE RESPONSIBLE FOR PAINTING ALL EXPOSED CONDUITS AND ELECTRICAL EQUIPMENT. REFER TO ARCHITECTS PAINTING SECTION FOR REQUIREMENTS.
10. ALL ELECTRICAL EQUIPMENT INSTALLED OUTDOORS SHALL BE WEATHERPROOF. EXTERIOR CONDUITS RUN INTO BUILDINGS SHALL BE INSTALLED WITH FLASHING, CAULKED AND SEALED. CONDUITS FOR EXTERIOR ELECTRICAL DEVICES SHALL BE RUN INSIDE BUILDING UNLESS OTHERWISE NOTED ON DRAWINGS.
11. ALL CONDUITS UNLESS OTHERWISE NOTED ON DRAWINGS SHALL HAVE AS A MINIMUM: TWO (2) #12s WITH ONE (1) #12 GROUND. "TICK" MARKS SHOWN ON CIRCUITRY ARE FOR ROUGH ESTIMATING ONLY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL WIRES AND WIRE SIZES REQUIRED BY LATEST CODE.
12. ALL BRANCH CIRCUITS SHALL HAVE INDIVIDUAL NEUTRALS. SHARED NEUTRALS ON MULTIWIRED CIRCUITS IS NOT ALLOWED.
13. COORDINATE ALL CONDUIT RUNS, ELECTRICAL EQUIPMENT AND PANELS WITH ALL OTHER WORK TO AVOID CONFLICTS.
14. CONTRACTOR SHALL PROVIDE IN EVERY NEW EMPTY CONDUIT A DRAW STRING FOR USE IN FUTURE CONSTRUCTION.
15. ALL CONDUIT SHALL BE CONCEALED WHERE POSSIBLE. CUT AND PATCH EXISTING WALLS WHERE NECESSARY. WHERE IT IS NECESSARY TO CUT OR BORE EXISTING STRUCTURAL WALLS FOR NEW ELECTRICAL WORK OBTAIN PERMISSION FROM THE ARCHITECT PRIOR TO STARTING WORK. REUSE (E) CONDUIT WHERE POSSIBLE.
16. WHERE IT IS NOT POSSIBLE TO REUSE (E) CONDUIT OR RUN (N) CONCEALED CONDUIT USE NON-METALLIC SURFACE RACEWAY AND BOXES. ROUTING OF ALL NON-METALLIC RACEWAYS SHALL BE APPROVED BY THE ARCHITECT OR OWNER'S REPRESENTATIVE PRIOR TO ROUGH-IN.
17. EXTENSION RINGS OR RESET BOXES TO BE FLUSH WITH NEW WALL THICKNESS.
18. EXISTING WIRING SHOWN HAS BEEN TAKEN FROM OLD PLANS AND IS ASSUMED TO BE CORRECT. ELECTRICAL CONTRACTOR SHALL FIELD VERIFY ACTUAL CONDITIONS AND MAKE ADJUSTMENTS TO SUIT ACTUAL CONDITIONS AND TO MEET THE INTENT OF THE CONTRACT DOCUMENTS.
19. WHERE NON-METALLIC SHEATHED CONDUCTORS ARE FOUND, THE CONTRACTOR SHALL REMOVE TO FULLEST EXTENT PER THE GENERAL DEMOLITION NOTES AND REPLACE WITH CONDUIT. METAL CLAD CABLE WILL BE PERMITTED ON A CASE-BY-CASE BASIS ONLY BY WRITTEN APPROVAL FROM THE ARCHITECT.
20. ALL INSTALLATION OF EXPOSED SURFACE MOUNTED RACEWAY IN PUBLIC AREAS SHALL BE REVIEWED BY ELECTRICAL ENGINEER BEFORE ROUGH-IN. CONTRACTOR IS TO DETERMINE THE ACCESSIBILITY OF ATTIC, FURRED SPACE, HOLLOW MULLIONS, ETC. IN EACH AREA AND REVIEW WITH ENGINEER. IF SYSTEM CAN BE ROUTED CONCEALED EITHER BY FISHING OR ACCESSIBILITY, CONTRACTOR IS TO DO SO. IF INACCESSIBILITY IS DETERMINED, CONTRACTOR SHALL INSTALL SURFACE MOUNTED RACEWAY IN THE MOST AESTHETICALLY PLEASING MEANS AS DETERMINED BY THE ENGINEER. NO ALLOWANCE FOR ADDITIONAL COMPENSATION DUE TO ROUTING AS DIRECTED BY THE ENGINEER WILL BE MADE.

ELECTRICAL SYMBOLS & ABBREVIATIONS

SYMBOLS & ABBREVIATIONS SHOWN ARE FOR GENERAL USE. DISREGARD THOSE WHICH DO NOT APPEAR ON THE PLANS.

Table of electrical symbols and abbreviations including: Fluorescent or LED luminaire, Emergency or night light, Strip fluorescent or LED luminaire, Luminaire - recessed, Recessed wall washer, Luminaire - surface mounted, Luminaire - pole or post mounted, Luminaire - wall mounted, Bollard or path light, Exit light, Track lighting, Emergency light, Digital dual technology emergency light, Lighting control occupancy sensor, Dimmer load controller, Plug load controller, Room lighting controller, Lighting control panel, Digital daylight sensor, Single pole switch, Three way switch, Four way switch, Manual motor starter, Key operated switch, Lighting dimmer, Digital on/off switch, Digital multi scene lighting switch, Digital dual technology wall occ. sensor, Wall occupancy sensor, Double switched wall occupancy sensor, Dimming dual technology wall switch occupancy sensor, 2-button dimming dual technology wall switch occupancy sensor, Security door contacts, Security motion detector, CCTV camera, Security system keypad, Door bell pushbutton, Door chime with LED, Convenience receptacle, Duplex convenience receptacle, GFCI convenience receptacle, Duplex GFCI convenience receptacle, Dedicated receptacle with dedicated neutral, Receptacle double duplex, Half switched receptacle, Single receptacle, Convenience receptacle - duplex ceiling mounted, Letter indicates duplex half controlled receptacle, Letter indicates duplex fully controlled receptacle, Floor mounted duplex receptacle, Floor mounted box, Power outlet, Power pole, Voice/data wall outlet, Data wall outlet, Floor mounted voice/data outlet, TV outlet, Interior speakers ceiling mounted, Interior speakers wall mounted, Clock +8-0" aff U.O.N. verify before installation, Thermostat, Panelboard - flush mounted, Equipment panel - flush mounted, Panelboard - surface mounted, Equipment panel - surface mounted, Meter w/ current transformer, Junction box - ceiling or wall mounted, Motor connection, Non-fused disconnect switch, Fused disconnect switch, Magnetic starter, Circuit breaker, Ground rod with groundwell box, Ground electrode, Normally open contact, Normally closed contact, Transformer, Pullbox, Flex conduit with connection, Conduit - up, Conduit - down, Conduit emergency system, Conduit - telephone, Conduit - television, Low voltage wiring, Surface metal or non-metallic raceway, Conduit - concealed in walls or ceiling, Conduit - existing, Conduit - below slab or underground, Capped conduit, stub-out, Conduit continuation, Conduit - home run to panel, terminal cabinet, etc. runs marked with crosshatches, Sheet note reference symbol, Schedule symbol.

ABBREVIATIONS

Table of abbreviations: AMPERE, ABOVE FINISHED FLOOR, ALUMINUM ARCHITECT, AMERICAN WIRE GAUGE, BREAKER, CONDUIT, CABLE TV, CIRCUIT BREAKER, CLOSED CIRCUIT TV CIRCUIT, CENTER LINE, CEILING, CONDUIT ONLY, CENTER, DIMMER, DIMENSION, DISTRIBUTION, EXISTING, ELECTRICAL CONTRACTOR, EVENING LIGHT, EMERGENCY, EMT, METALLIC TUBING, EQUIPMENT, FIRE ALARM, FIRE ALARM CONTROL PANEL, FOOT CANDLE, FINISH, FLOOR, FLUORESCENT, FUTURE, GENERAL CONTRACTOR, GFCI, GFI, GND, G, GALVANIZED RIGID, STEEL, HEIGHT, INTERCOM, INTERMEDIATE DISTRIBUTION FRAME, INCANDESCENT, JUNCTION BOX, KILOWATT, KILOWOLT AMPERES, KILOWATT, LIGHTING CONTROL, LIGHTING, LOW VOLTAGE, THOUSAND, CIRCULAR MILS, MAIN DISTRIBUTION FRAME, MECH., METAL HALIDE, MAIN LUGS ONLY, MOUNTED, MOUNTING, NEW, NOT IN CONTRACT, NOT IN ELECTRICAL CONTRACT, NIGHT LIGHT, NUMBER, NOMINAL, NOT TO SCALE, OAH, OVERALL HEIGHT, OC, ON CENTER, OH, OVERHEAD, PA, PUBLIC ADDRESS, PB, PULL BOX, PF, POWER FACTOR, PH, PHASE, PIR, PASSIVE INFRARED, PNL, PANEL, PV, PHOTOVOLTAIC, PVC, POLYVINYL CHLORIDE, PWR, POWER, (R), EXISTING TO BE REMOVED, (RP), REMOVABLE POLE, RECPTS, RECEPTACLES, REQD, REQUIRED, REOMT, REQUIREMENT(S), SHT, SHEET, S.L.D., SINGLE LINE DIAGRAM, STC, SYSTEMS TERMINATION CABINET, SW, SWITCH, SWBD, SWITCHBOARD, TTB, TELEPHONE TERMINAL, TYP, TYPICAL, UNLESS OTHERWISE NOTED, UG, UNDERGROUND, V, VOLT, W, WATT, W/ WITH, WP, WEATHERPROOF, XFMR, TRANSFORMER

FIRE ALARM

Table of fire alarm symbols: MANUAL PULL STATION, STROBE ONLY, HORN ONLY, MINI HORN, HORN/STROBE, HEAT DETECTOR, SMOKE DETECTOR, DUCT SMOKE DETECTOR, TAMPER SWITCH, FLOW SWITCH, POST INDICATING VALVE, FIRE SMOKE DAMPER, BELL (GONG), FIRE ALARM CONTROL PANEL, AUXILIARY POWER SUPPLY, FIRE SYSTEM ANNUCIATOR, FIRE ALARM TRANSDUCER OR TRANSMITTER, ELEVATOR STATUS/RECALL, FIRE ALARM COMMUNICATOR, REMOTE ANNUCIATORS, END OF LINE

GENERAL DEMOLITION NOTES

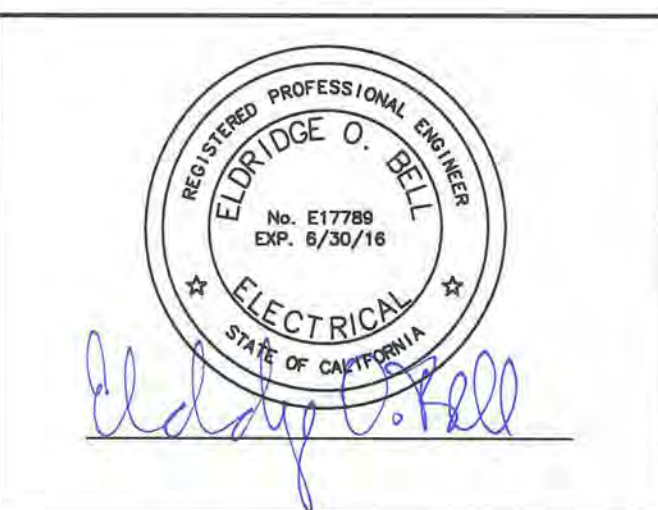
- A. CONTRACTOR SHALL FIELD VERIFY EXTENT OF ELECTRICAL DEMOLITION AND QUANTITIES OF ELECTRICAL TO BE REMOVED AS DICTATED BY THE REQUIREMENTS OF THE PROJECT.
B. REMOVAL SHALL INCLUDE WIRING, RACEWAY, BOXES, SWITCHES, LIGHT FIXTURES, ETC. AS INDICATED ON THE PLANS AND AS REQUIRED BY THESE DEMOLITION NOTES.
C. RACEWAYS ASSOCIATED WITH ELECTRICAL BEING DEMOLISHED WHICH ARE CONCEALED IN EXISTING REMAINING WALLS MAY BE ABANDONED IN PLACE. REMOVE WIRING FROM CONDUIT.
D. RACEWAYS ASSOCIATED WITH ELECTRICAL BEING DEMOLISHED WHICH ARE EXPOSED SHALL BE REMOVED.
E. WHERE REMOVAL OF EQUIPMENT OR WIRING IS INDICATED, IT SHALL INCLUDE ALL ASSOCIATED WIRING BACK TO LAST ACTIVE REMAINING OUTLET, DEVICE, FIXTURE OR PANEL.
F. ELECTRICAL CONTRACTOR SHALL INSURE THAT ALL REMAINING ACTIVE CIRCUITS, DEVICES, OUTLETS, LIGHT FIXTURES, ETC. HAVE NOT BEEN DISCONNECTED OR MADE INOPERATIVE DURING DEMOLITION. ELECTRICAL CONTRACTOR SHALL RESTORE ALL INTERRUPTED OR DISCONNECTED CIRCUITS TO OPERATION.
G. ELECTRICAL CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL REMOVED ELECTRICAL EQUIPMENT AND MATERIAL.
H. NO REMOVED EQUIPMENT OR MATERIAL SHALL BE REUSED AS PART OF NEW WORK, U.O.N.
I. EXISTING REMAINING CONCEALED RACEWAYS MAY BE REUSED FOR NEW WORK PROVIDED THEY MEET ALL REQUIREMENTS OF THE SPECIFICATION FOR NEW WORK.
J. EXISTING FLUSH OUTLETS MAY BE REUSED FOR NEW WORK PROVIDED THEY MEET ALL REQUIREMENTS OF THE SPECIFICATION FOR NEW WORK, MEET THE REQUIREMENTS OF THE CURRENT C.E.C. FOR VOLUME AND COINCIDE WITH LOCATION SHOWN FOR THE NEW WORK.
K. EXISTING WIRING SHOWN HAS BEEN TAKEN FROM OLD PLANS AND IS ASSUMED TO BE CORRECT. ELECTRICAL CONTRACTOR SHALL FIELD VERIFY ACTUAL CONDITIONS AND MAKE ADJUSTMENTS TO SUIT ACTUAL CONDITIONS AND TO MEET THE INTENT OF THE CONTRACT DOCUMENTS.
L. COORDINATE WITH OWNER PRIOR TO START OF DEMOLITION TO MINIMIZE POWER INTERRUPTIONS, WORK MAY HAVE TO OCCUR DURING NON-REGULAR BUSINESS HOURS. COORDINATE IN WRITING WITH OWNER ONE WEEK PRIOR TO PLANNED POWER INTERRUPTIONS.

APPLICABLE CODES & STANDARDS

- CODES:
1. 2013 CALIFORNIA ADMINISTRATIVE CODE C.C.R., TITLE 24, PART 1.
2. 2013 CALIFORNIA BUILDING CODE (CBC) C.C.R., TITLE 24, VOL. 1 & 2 BASED ON THE 2012 INTERNATIONAL BUILDING CODE (IBC) WITH CALIFORNIA AMENDMENTS.
3. 2013 CALIFORNIA RESIDENTIAL CODE C.C.R., TITLE 24, PART 2.5 BASED ON THE 2012 INTERNATIONAL RESIDENTIAL CODE WITH CALIFORNIA AMENDMENTS.
4. 2013 CALIFORNIA ELECTRICAL CODE (CEC) C.C.R., TITLE 24, PART 3 BASED ON THE 2011 NATIONAL ELECTRICAL CODE (NEC) WITH CALIFORNIA AMENDMENTS.
5. 2013 CALIFORNIA MECHANICAL CODE (CMC) C.C.R., TITLE 24, PART 4 BASED ON THE 2012 UNIFORM MECHANICAL CODE (UMC) WITH CALIFORNIA AMENDMENTS.
6. 2013 CALIFORNIA PLUMBING CODE (CPC) C.C.R., TITLE 24, PART 5 BASED ON THE 2012 UNIFORM PLUMBING CODE (UPC) WITH CALIFORNIA AMENDMENTS.
7. 2013 CALIFORNIA ENERGY CODE C.C.R., TITLE 24, PART 6.
8. 2013 CALIFORNIA FIRE CODE (CFC) C.C.R., TITLE 24, PART 9 BASED ON THE 2012 INTERNATIONAL FIRE CODE (IFC) WITH CALIFORNIA AMENDMENTS.
9. 2013 CALIFORNIA GREEN BUILDING STANDARDS CODE C.C.R., TITLE 24, PART 11.
10. 2013 CALIFORNIA REFERENCED STANDARDS CODE C.C.R., TITLE 24, PART 12.
11. TITLE 19 C.C.R., PUBLIC SAFETY, STATE FIRE MARSHAL REGULATIONS.
12. NATIONAL FIRE ALARM CODE (NFPA 72) 2013.
13. CITY OF PACIFIC GROVE ORDINANCES, CODES, AND REGULATIONS.
STANDARDS:
1. AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)
2. ELECTRONICS INDUSTRIES ASSOCIATION (EIA)
3. INSTITUTE OF ELECTRICAL AND ELECTRONIC ENGINEERS (IEEE)
4. NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION (NEMA)
5. NATIONAL ELECTRICAL TESTING ASSOCIATION (NETA)
6. UNDERWRITER LABORATORIES (UL)
7. CALIFORNIA OCCUPATIONAL SAFETY AND HEALTH ACT STANDARDS (CAL/OSHA)

SHEET INDEX

Table of sheet index: E0.1 SYMBOLS, ABBREVIATIONS, CODES, STANDARDS, NOTES & SHEET INDEX. E1.1 ELECTRICAL DETAILS, SPECIFICATIONS & PANELBOARD SCHEDULES. E3.1 ELECTRICAL DEMOLITION PLAN. E4.1 POWER PLAN.



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E0.1

Project / Owner:

STANFORD UNIVERSITY, HOPKINS MARINE STATION

BLINKS BUILDING MECHANICAL UPGRADE

120 OCEAN VIEW BLVD PACIFIC GROVE, CA 93950

APN: 006-741-006 STANFORD PROJECT: Z16033

THE PAUL DAVIS PARTNERSHIP ARCHITECTS & PLANNERS

The Paul Davis Partnership, LLP 286 Eldorado Street Monterey, CA 93940 (831) 373-2784 FAX (831) 373-7459 EMAIL: info@pauldavispartnership.com

Drawn By: HMM Drawing Date: 2.12.16 Project Number: 1600

Revisions:

Sheet Title:

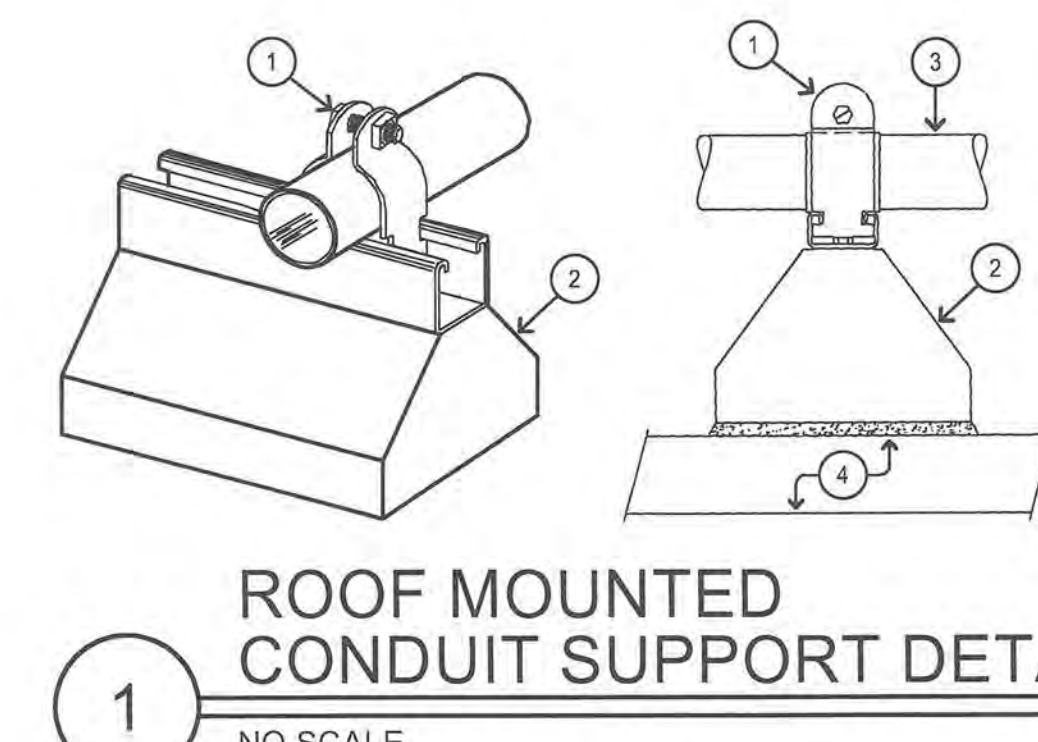
ELECTRICAL DETAILS, SPECIFICATIONS & PANELBOARD SCHEDULES

Sheet Number:

E1.1

The use of these plans and specifications is restricted to the original site for which they were prepared, and publication thereof is expressly limited to such use. No use, reproduction or publication by any method in whole or in part is prohibited. Title to the plans and specifications remain with the architect, and visual contact with them constitutes prima facie evidence of the acceptance of the restrictions.

PANELBOARD SCHEDULES (E) PANEL 3. Table with columns for Load, Phases (A, B, C), and various loads like HYDRONIC PUMP, FREEZER, and HVAC.



ROOF MOUNTED CONDUIT SUPPORT DETAIL NO SCALE

SECTION 26 05 73

GENERAL ELECTRICAL REQUIREMENTS

PART 1 - GENERAL

- 1.01 Description of Work: Furnish and install all required in-place equipment, conduits, conductors, cables and any miscellaneous materials for the satisfactory interconnection and operation of all associated electrical systems. 1.02 Submittals: As specified in Division 1. Submit to the Architect shop drawings, manufacturer's data and certificates for equipment, materials and finish, and pertinent details for each system specified. 1.03 Quality Assurance: Codes: All electrical equipment and materials, including installation and testing, shall conform to the latest editions of the following applicable codes: 1. California Electrical Code (CEC) 1. Occupational Safety and Health Act (OSHA) standards. 1.04 Contract Documents: A. Drawings: The Electrical Drawings shall govern the general layout of the completed construction. 1.05 Closeout Submittals: Manuals: Furnish manuals for equipment where manuals are specified in the equipment specifications or are specified in Division 1. 1.06 Coordination: Coordinate the electrical work with the other trades, code authorities, utilities and the Architect. 1.08 Safety and Inendmy: The Contractor is solely and completely responsible for conditions of the job site including safety of all persons and property during performance of the work. 1.09 Access Doors: The contractor shall install access panels as required where floors, walls or ceilings must be penetrated for access to electrical, control, fire alarm or other specified electrical devices. 1.10 Arc Flash: The contractor shall install a clearly visible arc flash warning to the inside door of all panelboards and industrial control panels, as well as to the front of all switchboards and motor control centers that are a part of this project. 1.11 All boxes and enclosures for emergency circuits shall be permanently marked with a readily visible red spray painted mark. PART 2 - PRODUCTS: 2.01 Nameplates: Identify each piece of equipment and related controls with a rigid laminated engraved plastic nameplate. Unless otherwise noted, nameplates shall be melamine plastic 0.125 inch thick, white with black center core.

2.02 Finish requirements:

- A. Equipment: Refer to each electrical equipment section of these Specifications for painting requirements of equipment enclosures. Repair any final paint finish which has been damaged or is otherwise unsatisfactory, to the satisfaction of the Architect. B. Wiring System: In finished areas, paint all exposed conduits, boxes and fittings to match the color of the surface to which they are affixed. PART 3 - EXECUTION: 3.01 Workmanship: All electrical equipment and materials shall be installed in a neat and workmanship manner in accordance with the "NECA-I Standard Practices For Good Workmanship in Electrical Contracting". Workmanship of the entire job shall be first class in every respect. 3.02 Equipment Installations: A. Provide the required insets, bolts and anchors, and securely attach all equipment and materials to their supports. B. Do all the cutting and patching necessary for the proper installation of work and repair any damage done. C. Earthquake restraints: all electrical equipment, including conduits over 2 inches in diameter, shall be braced or anchored to resist a horizontal force acting in any direction as per Table 24, part 2, table 16a-o, part 3. D. Structural work: All core drilling, bolt anchor insertion, or cutting of existing structural concrete shall be approved by a California registered structural consulting engineer prior to the execution of any construction. At all floor slabs and structural concrete walls to be drilled, cut or bolt anchors inserted, the contractor shall find and mark all reinforcing in both faces located by means of x-ray, pack-onmeter, or pushometer. Submit sketch showing location of rebar and proposed cuts, cores, or bolt anchor locations for approval. 3.03 Field Test: A. Perform equipment field tests and adjustments. Properly calibrate, adjust and operationally check all circuits and components, and demonstrate as ready for service. B. Operational Tests: Operationally test all circuits to demonstrate that the circuits and equipment have been properly installed and adjusted and are ready for full-time service. Demonstrate the proper functioning of circuits in all modes of operation, including alarm conditions. 3.04 Records: A. Maintain one copy of the contract Drawing Sheets on the site of the work for recording the "as built" condition. After completion of the work, the Contractor shall carefully mark the work as actually constructed, re-vising, deleting and adding to the Drawing Sheets as required. As built Drawings shall be delivered to the Architect within ten (10) days of completion of construction. 3.05 Clean Up: A. Upon completion of electrical work, remove all surplus materials, rubbish, and debris that accumulated during the construction work. Leave the entire area neat, clean, and acceptable to the Architect. 3.06 Mechanical and Plumbing Electrical Work: A. The requirements for electrical power and/or devices for all mechanical and plumbing equipment supplied and/or installed under this Contract shall be coordinated and verified with the following: 1. Mechanical and Plumbing Drawings. 2. Mechanical and Plumbing sections of these Specifications. 3. Manufacturers of the Mechanical and Plumbing equipment supplied. B. The coordination and verification shall include the voltage, ampacity, phase, location and type of disconnect, control, and connection required. Any changes that are required as a result of this coordination and verification shall be a part of this Contract. C. The Electrical Contractor shall furnish and install the following for all mechanical and plumbing equipment: 1. Line voltage conduit and wiring. 2. Disconnect switches. 3. Manual line motor starters. D. Automatic line voltage controls and magnetic starters shall be furnished by the Mechanical and/or Plumbing Contractor and installed and connected by the Electrical Contractor. When subcontracted for by the Mechanical and/or Plumbing Contractor, all line voltage control wiring installed by the Electrical Contractor shall be done per directions from the Mechanical and/or Plumbing Contractor. E. All low voltage control wiring for Mechanical and Plumbing equipment shall be installed in conduit. F. Manual motor starters, where required, shall have toggle type wiring with pilot light and melting alloy type overload relays, SQUARE D COMPANY, Class 2510, Type FG-1P (surface) or Type FS-1P (flush) or ITE, WESTINGHOUSE or GENERAL ELECTRIC equal. PART 1 - EXECUTION: 1.1 Grounding and Bonding: A. Grounding and bonding shall be as required by codes and local authorities. B. All electrical equipment shall be grounded, including, but not limited to, panel boards, terminal cabinets and outlet boxes. C. The ground pole of receptacles shall be connected to their outlet boxes by means of a copper ground wire connecting to a screw in the back of the box. D. A green insulated copper ground wire, sized to comply with codes, shall be installed in all conduit runs. E. All metal parts of pull boxes shall be grounded per code requirements. F. All ground conductors shall be green insulated copper. SECTION 26 05 22 CONDUITS, RACEWAYS AND FITTINGS: PART 1 - EXECUTION: 1.01 Conduit, Raceway and Fitting Installation: A. For conduit runs exposed to weather provide PVC conduit. B. For conduit runs underground, in concrete or masonry block wall and under concrete slabs, install minimum 1/2" size nonmetallic (PVC) with PVC elbows. Where conduits transition from underground or under slab to above grade install wrapped rigid metal (GRS) elbows and risers. C. For conduit runs concealed in steel or wood framed walls or in ceiling spaces or exposed in interior spaces above six feet over the finished floor, install EMT. D. Flexible metal conduit shall be used only for the connection of recessed lighting fixtures and motor connections unless otherwise noted on the Drawings. Liquid-tight steel flexible conduit shall be used for motor connections. E. The minimum size raceway shall be 1/2-inch unless indicated otherwise on the Drawings. F. Installation shall comply with the CEC. G. From pull point to pull point, the sum of the angles of all of the bends and offset shall not exceed 360 degrees. H. Conduit Support: Properly support all conduits as required by the NEC. Run all conduits concealed except where otherwise shown on the drawings. 1. Exposed Conduits: Support exposed conduits within three feet of any equipment or device and at intervals not exceeding NEC requirements; wherever possible, group conduits together and support on common supports. Support exposed conduits fastened to the surface of the concrete structure by one-hole clamps, or with channels. Use conduit spacers with one-hole clamps. a. Conduits attached to walls or columns shall be as unobtrusive as possible and shall avoid windows. Run all exposed conduits parallel or at right angles to building lines. b. Group exposed conduits together. Arrange such conduits uniformly and neatly. 2. Support all conduits within three feet of any junction box, coupling, bend or fixture. 3. Support conduit risers in shafts with Unistrut Superstrut, or approved equal, channels and straps. I. Moisture Seals: Provide in accordance with NEC paragraphs 230-8 and 300-5(g). J. Where PVC conduit transitions from underground to above grade, provide rigid steel 90's with risers. Rigid steel shall be half-spig wrapped with 20 mil tape and extend minimum 12" above grade. K. Provide a nylon pull cord in each empty raceway. L. Provide galvanized rigid steel factory fittings for galvanized rigid steel conduit. M. Slope all underground raceways to provide drainage; for example, slope conduit from equipment located inside a building to the pull box or manhole located outside the building. N. Conduits shall be blown out and swabbed prior to pulling wires. SECTION 26 05 16 LINE VOLTAGE WIRE AND CABLE: PART 1 - PRODUCTS: 1.01 Conductors: A. Conductors shall be copper, type THHN/THWN/MTW oil and flame resistant, 600 volt rated insulation. B. Conductors shall be stranded copper. C. Minimum power and control wire size shall be No. 12 AWG unless otherwise noted. D. All conductors used on this Project shall be of the same type and conductor material. 1.02 Terminations: A. Manufacturer - Terminals as manufactured by T&B, Burndy or equal. B. Wire Terminations - Stranded conductors shall be terminated in clamping type terminations which serve to contain all the strands of the conductor. Clamping of a stranded conductor around a screw type terminal is not allowed. For screw type terminations, use a fork type stake-on-termination on the stranded conductor. Use only a stake-on tool approved for the fork terminals selected. C. End Seals - Heat shrink plastic caps of proper size for the wire on which used. 1.03 Tape: A. Tape used for terminations and cable marking shall be compatible with the insulation and jacket of the cable and shall be of plastic material.

PART 2 - EXECUTION

- 2.01 Cable Installation: A. Clean Raceways - Clean all raceways prior to installation of cables as specified in Section 16110 26 05 42 - Conduits Raceway and Fittings. B. All wiring including low voltage wiring shall be installed in conduit. C. All feeder conductors shall be continuous from equipment to equipment. Splices in feeders are not permitted unless specifically noted or approved by the Electrical Engineer. D. All branch circuit wiring shall be run concealed in ceiling spaces, walls, below floors or in crawl spaces unless noted otherwise. 2.02 Cable Terminations and Splices: A. Splices - UL Listed wirenuts. B. Terminations - Shall comply with the following: 1. Make-up and form cable and orient terminals to minimize cable strain and stress on device being terminated on. 2. Burnish oxide from conductor prior to inserting in oxide breaking compound filled terminal. 2.03 Circuit and Conductor Identification: A. Color Coding - Provide color coding for all circuit conductors. Insulation color shall be white for neutrals and green for grounding conductors. Conductor colors shall be as follows: VOLTAGE 208/120V Phase A - Black Phase B - Red Phase C - Blue Neutral - White Ground - Green B. Color coding shall be in the conductor insulation for all conductors #10 AWG and smaller; for larger conductors, color shall be either in the insulation or in colored plastic tape applied at every location where the conductor is readily accessible. 1. Outlet boxes shall be installed at the locations shown on the drawings and specified herein. Make adjustments to locations as required by structural conditions and to suit coordination requirements of other trades. 2.04 Field Tests: A. All systems shall test free from short circuits and grounds, shall be free from mechanical and electrical defects, and shall show an insulation resistance between phase conductors and ground of not less than the requirements of the CEC. All circuits shall be tested for proper neutral connections. SECTION 26 05 33 OUTLET, JUNCTION AND PULL BOXES: PART 1 - PRODUCTS: 1.01 Junction and Pull boxes A. Conduit bodies: PVC. Conduit bodies with threaded conduit hubs and neoprene gasketed, cast iron covers. Bodies shall be used to facilitate pulling of conductors or to make changes in conduit direction when Splices are not permitted in conduit bodies. B. All conduit bodies, junction boxes, etc. installed on the exterior of the building shall be PVC. PART 2 - EXECUTION: 2.01 Outlet Boxes A. General: 1. All outlet boxes shall finish flush with building walls, ceilings and floors except in mechanical and electrical rooms above accessible ceiling or where exposed work is called for on the Drawings. 2. Install raised device covers (plaster rings) on all switch and receptacle outlet boxes installed in masonry or stud walls or in furred, suspended or exposed concrete ceilings. Covers shall be of a depth to suit the wall or ceiling finish. 3. Leave no unused openings in any box. Install close-up plugs as required to seal openings. B. Box Layout: 1. Outlet boxes shall be installed at the locations shown on the drawings or specified herein. Make adjustments to locations as required by structural conditions and to suit coordination requirements of other trades. 2.02 Junction and Pull Boxes A. General: 1. Install junction or pull boxes where required to limit bends in conduit runs to not more than 360 degrees or where pulling tension achieved would exceed the maximum allowance for the cable to be installed. Note that these boxes are not shown on the Drawings. 2. Leave no unused openings in any box. Install close-up plugs as required to seal openings. 3. Identify circuit numbers and panel on cover of junction box with black marker pen. SECTION 26 27 26 DEVICES WIRING: PART 1 - PRODUCTS: 1.01 Receptacles: A. General - Receptacles shall be heavy duty, high abuse, grounding type. B. Duplex Receptacles: 1. Receptacles shall be specification grade, rated 20 ampere, two-pole, 3-wire, 120 volt, NEMA 5-20 configuration, self-grounding with screw terminals. Color shall be as selected by the Architect. 2. Devices shall have a nylon face, back and side wire. 3. Manufacturer: Hubbell #RD20 Series, Leviton #825 Series. C. GFCI Receptacles: 1.Device shall be rated 20 ampere, 2-pole, 3-wire, 120 volt, conforming to NEMA 5-20 configuration. Face shall be nylon composition. Unit shall have an LED type red indicator light; test and reset push buttons. Color shall be as selected by the Architect. 2.GFCI component shall meet UL 943 Class A standards with a tripping time of 1/40 second at 5 milliamperes current unbalance. Operating range shall extend from -31°F to 158°F. Unit shall have transient voltage protection and shall be ceramic encapsulated for protection against moisture. 3.Manufacturer: Hubbell #GF20__LA Series, Leviton #7899 Series. 1.02 Switches: A. Switches shall be rated 20 amperes to 120/277 volts ac, U.O.N. Units shall be flush mounted, self-grounding, quiet operating toggle devices. Handle color shall be as selected by the Architect. B. Timed switches: Shall be as designed by Paragon Electric Company # ET2000F or Watt Stopper TS-200 rated for the voltage specified on drawings. Time out shall be adjustable from 5 minutes up to 12 hours. Unit shall be provided with warning alarm. 1.03 Plates: A. General - Plates shall be of the style and color to match the wiring devices, and of the required number of gangs. Plates shall conform with NEMA WD 1, UL 514 and FS W-45SA. Plates on finished walls shall be non-metallic or stainless steel. Plates on unfinished walls and on fittings shall be of zinc plated steel or case metal and shall have rounded corners and beveled edges. B. Non-Metallic: Plates shall be plain with beveled edges and shall be nylon or reinforced fiberglass. C. Stainless Steel: Plates shall be 940 inches thick with beveled edges and shall be manufactured from No. 430 alloy having a brushed or satin finish. D. Cast Metal: Plates shall be cast or malleable iron covers with gaskets so as to be moisture resistant or weatherproof. E. Blank Plates: Cover plates for future telephone outlets shall match adjacent device wall plates in appearance and construction. PART 2 - EXECUTION: 2.01 Tests: A. Receptacles: 1. After installation of receptacles, energize circuits and test each receptacle to detect lack of ground continuity, reversed polarity, and open neutral condition.

- DETAIL NOTES: 1. B-LINE BVT SERIES PIPE CLAMP. 2. B-LINE C-PORT ROOFTOP PIPE SUPPORT, C6-SERIES WITH CHANNEL SUPPORT OR PHP SYSTEM/DESIGN MODEL S88-CL WITH AS REQUIRED FOR NUMBER OF CONDUITS. 3. SEE DRAWINGS FOR CONDUIT. 4. ROOF.

REGISTERED PROFESSIONAL ENGINEER KNOWLEDGE O. BELL No. E17789 EXP. 6/30/16 ELECTRICAL STATE OF CALIFORNIA. ARUM CONSULTING ENGINEERS MONTEREY BAY, INC. Project No. 15338.00 80 Garden Court • Suite 210 • Monterey, CA 93940 T 831.646.3336 • F 831.646.3336 • www.aecmb.com

Project / Owner:

**STANFORD UNIVERSITY,
HOPKINS MARINE STATION**

**BLINKS BUILDING
MECHANICAL UPGRADE**

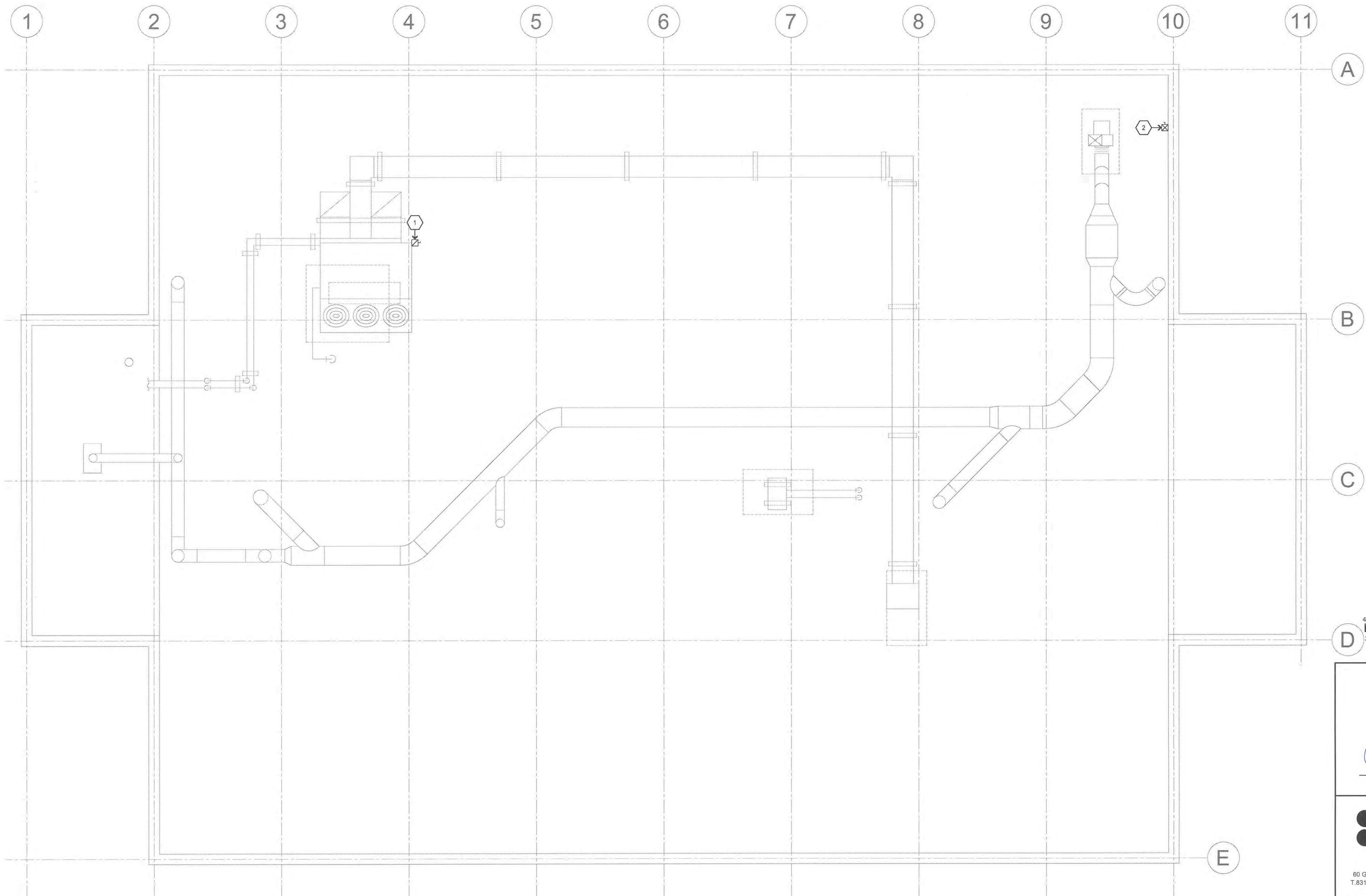
120 OCEAN VIEW BLVD
PACIFIC GROVE, CA 93950

APN: 006-741-006
STANFORD PROJECT:
Z16033

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- SHEET NOTES**
1. DEMOLISH EXISTING FUSED DISCONNECT PER GENERAL DEMOLITION NOTES ON SHEET E0.1. PROTECT AND PRESERVE EXISTING FEEDER, CONDUIT AND WIRE FOR RECONNECTION AS PART OF NEW WORK; SEE SHEET E4.1. DEMOLISH EXISTING CIRCUIT BREAKER, SEE PANELBOARD SCHEDULE ON SHEET E1.1 FOR NEW WORK.
 2. EXISTING MOTOR STARTER TO REMAIN; PRESERVE AND PROTECT DURING CONSTRUCTION DEMOLISH CONNECTION TO FAN MOTOR. DEMOLISH EXISTING CONDUCTORS AND CIRCUIT BREAKER PER THE GENERAL DEMOLITION NOTES ON SHEET E1.1.



Drawn By: HMM
 Drawing Date: 2.12.16
 Project Number: 1600

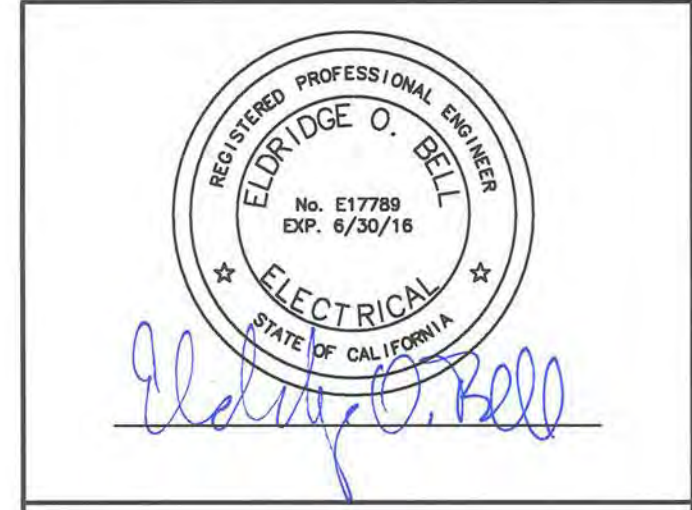
Revisions:

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Sheet Title:
**ELECTRICAL
DEMOLITION PLAN**

Sheet Number:

E3.1



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 MONTEREY BAY, INC.
 Project No. 15338.00
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STANFORD UNIVERSITY, HOPKINS MARINE STATION

BLINKS BUILDING MECHANICAL UPGRADE

120 OCEAN VIEW BLVD PACIFIC GROVE, CA 93950

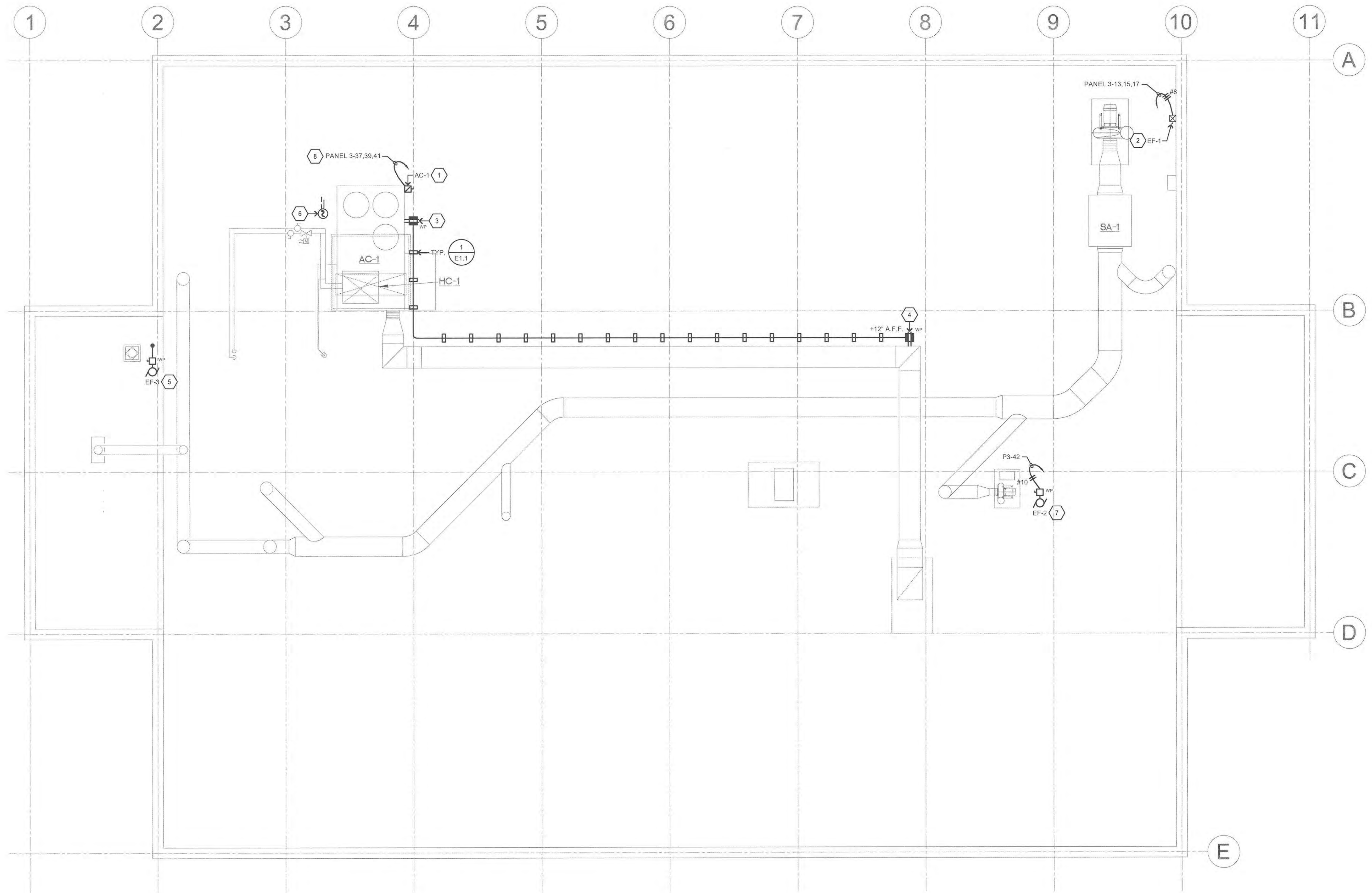
APN: 006-741-006 STANFORD PROJECT: Z16033

THE PAUL DAVIS PARTNERSHIP ARCHITECTS & PLANNERS

The Paul Davis Partnership, LLP 286 Eldorado Street Monterey, CA 93940 (831) 373-2784 FAX (831) 373-7459 EMAIL: info@pauldavispartnership.com

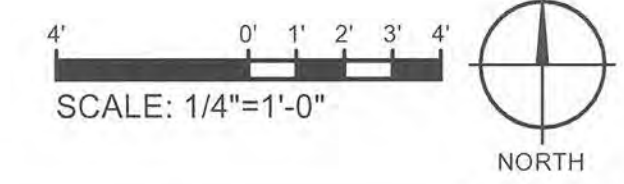
SHEET NOTES

- 1. PROVIDE AND INSTALL HEAVY DUTY 200A, 3-POLE FUSED DISCONNECT SWITCH WITH NEMA 4X FIBER GLASS ENCLOSURE; CONNECT TO EXISTING CIRCUIT.
2. INSTALL NEW BREAKER, SEE PANEL SCHEDULE SHEET E1.1. INSTALL NEW CONDUCTORS FOR CONNECTION OF EF-1, 208V, 3Ø, 1.5 HP. PROVIDE AND INSTALL SEALTITE FLEX CONNECTION BETWEEN EXISTING STARTER/DISCONNECT AND FAN MOTOR. CONTRACTOR SHALL PROVIDE AND INSTALL MOTOR MANUFACTURER'S RECOMMENDED OVERLOADS.
3. SERVICE OUTLET; PROVIDED WITH AIR CONDITIONER UNIT.
4. SERVICE OUTLET; MOUNT DUCT WORK SUPPORT STRUCTURE, PROVIDE AND INSTALL "IN-USE" TRIM.
5. CORE DRILL CONCRETE ROOF STRUCTURE TO RUN CONDUIT TO MECHANICAL ROOM TO CONNECT EXHAUST FAN EF-3; 120V, 1Ø, 0.15 HP. CONNECT TO EXISTING MECHANICAL ROOM RECEPTACLE. PROVIDE AND INSTALL MOTOR RATED SWITCH IN WEATHER PROOF PVC SWITCH BOX WITH WEATHER PROOF PVC SWITCH COVER PLATE. PROVIDE AND INSTALL ROOF JACK WITH ELASTOMERIC FLASHING STRIP. SEAL TO EXISTING ROOF MEMBRANE WITH NONHARDENING ROOF MASTIC.
6. SEE MECHANICAL DRAWINGS SHEET M0.2 AIR CONDITIONER NOTE #10 FOR CONNECTION OF DUCT SMOKE DETECTOR AND SHEET M0.1 GENERAL NOTE #16.
7. CORE DRILL CONCRETE ROOF STRUCTURE TO RUN CONDUIT TO PANEL "P3". TO CONNECT EXHAUST FAN EF-2; 120V, 3/4 HP. PROVIDE AND INSTALL MOTOR RATED SWITCH IN WEATHER PROOF PVC SWITCH BOX WITH WEATHERPROOF SWITCH COVER PLATE. PROVIDE AND INSTALL ROOF JACK WITH ELASTOMERIC FLASHING STRIP. SEAL TO EXISTING ROOF MEMBRANE WITH NONHARDENING ROOF MASTIC. PROVIDE AND INSTALL 25A SINGLE POLE BREAKER, NEW BREAKER SHALL MATCH EXISTING MFG & AIC RATINGS.
8. RE-CONNECT EXISTING CONDUCTORS.

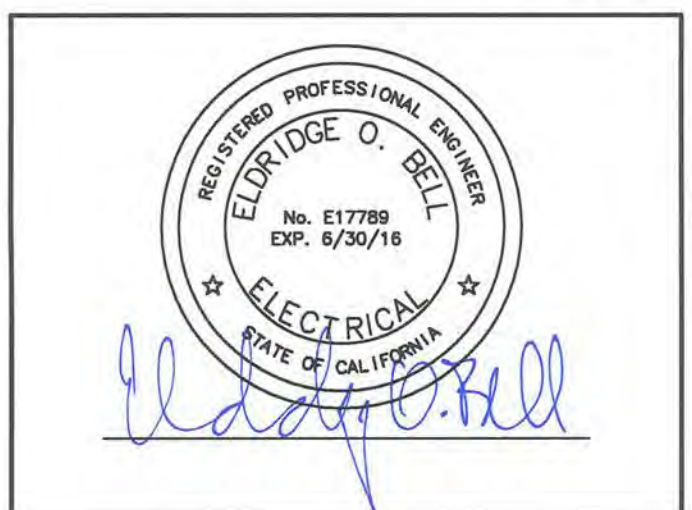


Drawn By: HMM
Drawing Date: 2.12.16
Project Number: 1600

Revisions:



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Sheet Title: POWER PLAN

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E4.1