

PORT PROJECT

FIELD COPY

CD
Creegan+D'Angelo
INFRASTRUCTURE
ENGINEERS

170 Columbus Ave., Suite 240
San Francisco, CA 94133
Tel (415) 834-2010
Fax (415) 834-2011
www.cdengineers.com



STRUCTURAL DESIGN CRITERIA

BUILDING CODES

- 2010 CALIFORNIA BUILDING CODE WITH PORT OF SAN FRANCISCO AMENDMENTS.

GENERAL

- CONTRACTOR SHALL VERIFY ALL DIMENSIONS, ELEVATIONS, AND CONDITIONS OF THE SITE AND EXISTING CONDITIONS PRIOR TO COMMENCING CONSTRUCTION. IF THERE ARE ANY DISCREPANCIES BETWEEN THE EXISTING CONDITIONS AND THESE DRAWINGS AND SPECIFICATIONS, THE CONTRACTOR SHALL NOTIFY THE OWNER IMMEDIATELY IN WRITING. IN NO CASE SHALL DIMENSIONS BE SCALED FROM PLANS, SECTIONS OR DETAILS ON THESE DRAWINGS.

- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE 2010 CALIFORNIA BUILDING CODE, INCLUDING THE PORT OF SAN FRANCISCO BUILDING CODE AMENDMENTS.

- ALL OMISSIONS AND CONFLICTS BETWEEN THE VARIOUS ELEMENTS OF THE WORKING DRAWINGS AND/OR SPECIFICATIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER BEFORE PROCEEDING WITH ANY WORK SO INVOLVED.

- THE CONTRACTOR SHALL LOCATE AND PROTECT ALL EXISTING UTILITY LINES AND CONNECTIONS INCLUDING SEWER, WATER, GAS, AND ELECTRIC SERVICES BEFORE AND DURING HIS WORK.

- WHERE A CONSTRUCTION DETAIL IS NOT SHOWN OR NOTED, THE DETAIL SHALL BE THE SAME AS FOR OTHER SIMILAR WORK.

- NO PIPES, DUCTS, SLEEVES, CHASES, ETC., SHALL BE PLACED IN SLABS, BEAMS, OR WALLS UNLESS SPECIFICALLY SHOWN OR NOTED, NOR SHALL ANY STRUCTURAL MEMBER BE CUT FOR PIPES, DUCTS, ETC., UNLESS OTHERWISE NOTED. CONTRACTOR SHALL OBTAIN PRIOR APPROVAL FOR INSTALLATION OF ANY ADDITIONAL PIPES, DUCTS, ETC.

- CONTRACTOR AGREES THAT HE SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS; AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD THE OWNER AND THE ENGINEER HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE OWNER OR THE ENGINEER.

- CONTRACTOR SHALL TAKE PRECAUTIONARY MEASURES TO ENSURE THAT ALL PROPERTY IS PROTECTED DURING THIS OPERATION. ANY DAMAGE OR CHANGED CONDITIONS SHALL BE REPAIRED AND RESTORED TO A CONDITION EQUAL TO THAT EXISTING AT THE COMMENCEMENT OF THE WORK. CONTRACTOR SHALL RESTORE ANY DAMAGE AT HIS OWN EXPENSE.

- SUBMIT REQUESTS FOR MODIFICATIONS TO THE CONTRACT DOCUMENTS IN WRITING. SHOP DRAWINGS SUBMITTED FOR REVIEW DO NOT CONSTITUTE "REQUEST IN WRITING" UNLESS IT IS CLEARLY NOTED THAT SPECIFIC CHANGES ARE BEING REQUESTED.

- DISCOVERY AND MANAGEMENT OF HAZARDOUS MATERIALS IN EXISTING CONSTRUCTION IS THE RESPONSIBILITY OF THE CONTRACTOR. THE DESIGNER HAS NOT PERFORMED INVESTIGATIONS TO DETERMINE THE PRESENCE OF HAZARDOUS MATERIALS. IF HAZARDOUS MATERIALS ARE DISCOVERED, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE OWNER AND CEASE WORK UNTIL CONDITIONS CAN BE MAINTAINED IN COMPLIANCE WITH ALL APPLICABLE REGULATIONS. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT PERSONNEL WITHIN THE WORK AREA ARE PROTECTED FROM EXPOSURE TO HAZARDOUS MATERIALS.

STRUCTURAL OBSERVATIONS

STRUCTURAL OBSERVATIONS, AS REQUIRED BY SECTION 1709, WILL BE UNDERTAKEN BY PERSONNEL UNDER THE SUPERVISION OF THE ENGINEER OF RECORD. STRUCTURAL OBSERVATIONS ARE SEPARATE FROM THE SPECIAL INSPECTIONS OUTLINED ABOVE.

THE PURPOSE OF THE STRUCTURAL OBSERVATIONS IS TO REVIEW THE OVERALL PROGRESS OF THE CONSTRUCTION AND ASCERTAIN ITS GENERAL COMPLIANCE WITH THE CONSTRUCTION DOCUMENTS, THESE GENERAL NOTES, AND OTHER SPECIFICATIONS WHERE APPLICABLE. OBSERVATIONS WILL BE NOTED IN REGULAR SITE REPORTS ISSUED TO, AT A MINIMUM, THE OWNER, GENERAL CONTRACTOR, AND BUILDING OFFICIAL.

UNLESS OTHERWISE AGREED UPON, THE ENGINEER OF RECORD WILL BE ENGAGED TO PROVIDE, AT A MINIMUM, A LEVEL OF CONSTRUCTION INVOLVEMENT NEEDED TO OBSERVE THE FOLLOWING CONSTRUCTION MILESTONES DURING THE CONSTRUCTION PROCESS:

- CONCRETE REINFORCEMENT AND CONSTRUCTION
- CONSTRUCTION/ERECTION OF STEEL FRAMING
- CONSTRUCTION OF COLD FORMED STEEL WALLS

ADDITIONAL ENGINEERING INVOLVEMENT MAY BE DESIRED, ANY AGREEMENT TO THAT EFFECT SHOULD BE MADE PRIOR TO THE START OF CONSTRUCTION.

THE CONTRACTOR SHALL NOTIFY THE ENGINEER A MINIMUM OF 2 DAYS PRIOR TO TIME OF OBSERVATION.

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PORT OF SAN FRANCISCO
DEPARTMENT OF ENGINEERING

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DATE: 9/24/12
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CHIEF HARBOR ENGINEER

SCALE:
AS NOTED
SHEET OF SHEETS
X OF XX

PIER 29
FIRE DAMAGE AND EMERGENCY REPAIRS
VAULT MODIFICATIONS
GENERAL NOTES

CONTRACT NO.
DRAWING NO.
S1.0
FILE NO.
XXXX-29-S
REV. NO.
XX

SPECIAL INSPECTIONS

- IN ADDITION TO THE INSPECTIONS REQUIRED BY CBC SECTION 108, A "SPECIAL" INSPECTOR, EMPLOYED BY THE OWNER, SHALL OBSERVE THE WORK LISTED BELOW FOR CONFORMANCE WITH THESE PLANS AND SPECIFICATIONS. SPECIAL INSPECTIONS SHALL BE "CONTINUOUS" UNLESS NOTED AS "PERIODIC".

- THE SPECIAL INSPECTOR SHALL BE APPROVED BY THE BUILDING OFFICIAL AND QUALIFIED TO PERFORM INSPECTIONS OF THE PARTICULAR TYPE OF CONSTRUCTION OR OPERATION.

- THE SPECIAL INSPECTOR SHALL FURNISH INSPECTION REPORTS TO THE BUILDING OFFICIAL, ENGINEER, ARCHITECT, AND OWNER. ALL WORK IN NON-CONFORMANCE WITH THE PLANS AND SPECIFICATIONS SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION; THEN, IF UNCORRECTED, TO THE OWNER AND BUILDING OFFICIAL.

- THE SPECIAL INSPECTOR SHALL SUBMIT A FINAL SIGNED REPORT STATING WHETHER THE WORK REQUIRING SPECIAL INSPECTIONS WAS, TO THE BEST OF HIS KNOWLEDGE, IN CONFORMANCE WITH THE APPROVED PLANS AND SPECIFICATIONS AND THE APPLICABLE WORKMANSHIP PROVISIONS OF THE CBC.

- THE FOLLOWING WORK REQUIRES SPECIAL INSPECTION IN ACCORDANCE WITH CHAPTER 17 OF THE CBC:

CONCRETE FORMWORK: SHAPE, LOCATION AND DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED SHALL BE PERIODICALLY INSPECTED.

EPOXIED DOWELS AND ANCHORS IN CONCRETE: THE SPECIAL INSPECTOR SHALL PROVIDE CONTINUOUS INSPECTION DURING DRILLING AND PREPARATION OF HOLES AND INSTALLATION OF EPOXIED DOWELS & ANCHORS PER SECTION 4.4.3 OF ICC ESR-2508.

REINFORCING STEEL: THE SPECIAL INSPECTOR SHALL INSPECT ALL REINFORCEMENT IN-PLACE FOR CONFORMANCE WITH THE APPROVED PLANS PRIOR TO CLOSING OF FORMS OR DELIVERY OF CONCRETE TO THE JOBSITE.

EPOXY GROUTING OF DOWELS AND ANCHORS

- EPOXY GROUTING WILL BE USED IN ALL LOCATIONS WHERE EITHER ANCHOR RODS, ALL-THREAD ROD OR REBAR ARE BEING EMBEDDED INTO HARDENED CONCRETE.
- ALL EPOXY SHALL BE SIMPSON SET-XP ADHESIVE (ICC EVALUATION REPORT ESR-2508). ALTERNATIVES WILL BE CONSIDERED UPON REQUEST AND SUBMISSION OF SPECIFICATIONS AND ICC NUMBER AND REPORT.
- IN CONCRETE, HOLES SHALL BE DRILLED WITH ROTARY HAMMER UNLESS NOTED OTHERWISE. HOLE SIZE SHALL BE 1/8" IN DIAMETER LARGER THAN ROD OR BAR SIZE. IMMEDIATELY BEFORE APPLYING EPOXY GROUT, HOLES SHALL BE REAMED WITH A CIRCULAR WIRE BRUSH AND THEN BLOWN OUT WITH OIL-FREE COMPRESSED AIR. REFER TO INSTALLATION DETAILS AND HOLE PREPARATION INSTRUCTIONS IN ICC ESR-2508.
- BAR OR ROD SHALL BE SLOWLY INSERTED AND TURNED A MINIMUM OF ONE ROTATION. DO NOT PULL UP AND DOWN ON DOWEL WHEN INSTALLING. REMOVE ANY EPOXY GROUT AROUND HOLE BEFORE IT HAS SET.
- DO NOT DISTURB, LOAD OR TORQUE ANCHOR UNTIL COMPLETELY CURED. REFER TO CURE SCHEDULE IN ICC ESR-2508

TESTING

- ALL TESTING SHALL BE PERFORMED BY AN APPROVED TESTING LABORATORY, EMPLOYED BY THE OWNER AND SHALL BE DONE IN ACCORDANCE WITH APPLICABLE PROVISIONS OF THE CALIFORNIA BUILDING CODE AND INDICATED PROVISIONS OF THE CBC STANDARDS AND ASTM STANDARDS. COSTS OF REQUIRED RETESTING SHALL BE PAID FOR BY THE CONTRACTOR.

- TEST REPORTS SHALL BE FURNISHED TO THE BUILDING DEPARTMENT, OWNER, ARCHITECT, AND ENGINEER FOR ALL TESTING. TEST RESULTS NOT IN CONFORMANCE WITH THE PLANS AND SPECIFICATIONS SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE OWNER AND CLEARLY IDENTIFIED IN THE TEST REPORTS.

- THE FOLLOWING WORK REQUIRES TESTING:

CONCRETE: (3) COMPRESSION CYLINDERS PER DAY PER (100) C.Y. TEST ONE CYLINDER AT 7 DAYS, ONE AT 28 DAYS, AND KEEP (1) AS SPARE.

CAST IN PLACE CONCRETE

MATERIALS:

- CEMENT SHALL CONFORM TO ASTM C 150, TYPE I OR TYPE II.
- AGGREGATES FOR NORMAL WEIGHT CONCRETE SHALL CONFORM TO ASTM C 33. MAXIMUM SIZE OF AGGREGATE SHALL BE 3/4".
- AGGREGATES FOR LIGHTWEIGHT CONCRETE SHALL CONFORM TO ASTM C 330.
- READY-MIX CONCRETE SHALL BE MIXED AND DELIVERED IN ACCORDANCE WITH ASTM C 94. SUBMIT AND OBTAIN APPROVAL OF ALL MIX DESIGNS PRIOR TO PLACING CONCRETE.
- CONCRETE MIXES SHALL HAVE THE FOLLOWING PROPERTIES:

APPLICATION	DESIGN STRENGTH (1)	CEMENT CONTENT (2)	MAX. AGG. (3)	W/C RATIO (4)	MAX. SLUMP (5)
WALLS	3,000	517	3/4"	0.55	4
SLABS, LANDINGS, SIDEWALKS	4,000	585	3/4"	0.45	3

NOTES: (1)MINIMUM 28 DAY COMPRESSIVE STRENGTH, PSI; (2)MINIMUM CEMENT CONTENT IN POUNDS PER CUBIC YARD OF CONCRETE; (3)MAXIMUM COARSE AGGREGATE SIZE IN INCHES; (4)MAXIMUM WATER-CEMENT RATIO; (5)SLUMP INCHES.

- ADMIXTURES SHALL COMPLY WITH ASTM C 494 AND BE OF A TYPE THAT INCREASES THE WORKABILITY OF THE CONCRETE BUT SHALL NOT BE CONSIDERED TO REDUCE THE SPECIFIED MINIMUM CEMENT CONTENT. (CALCIUM CHLORIDE SHALL NOT BE USED.)

- BAR REINFORCEMENT SHALL BE ASTM A615, GRADE 60, UNLESS OTHERWISE NOTED.

EXECUTION:

- CONCRETE WORK SHALL CONFORM TO REQUIREMENTS OF ACI 304 - "RECOMMENDED PRACTICE FOR MEASURING, MIXING, TRANSPORTING, AND PLACING CONCRETE".
- REFER TO STRUCTURAL DRAWINGS AND DRAWINGS OF OTHER DISCIPLINES FOR MOLDS, GROOVES, ORNAMENTS, CLIPS, ANCHORS, INSERTS, OR GROUNDS REQUIRED TO BE CAST INTO CONCRETE.
- NO CONDUIT PLACED IN A CONCRETE SLAB SHALL HAVE AN OUTSIDE DIAMETER GREATER THAN 1/3 THE THICKNESS OF THE SLAB. NO CONDUIT SHALL BE EMBEDDED IN A SLAB THAT IS LESS THAN 5" THICK. EXCEPT FOR LOCAL OFFSETS, MIN. CLEAR DISTANCE BETWEEN CONDUITS SHALL BE 6".
- NO CONDUIT SHALL BE PLACED IN THE CONCRETE TOPPING OVER THE STEEL DECKING WITHOUT PRIOR APPROVAL OF THE ENGINEER.
- PROJECTING CORNERS OF SLABS, BEAMS, WALLS, COLUMNS, ETC., SHALL BE FORMED WITH A 3/4" CHAMFER UNLESS OTHERWISE NOTED.
- DESIGN AND CONSTRUCTION OF FORMWORK SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE PERFORMED IN ACCORDANCE WITH ACI 347- "RECOMMENDED PRACTICE FOR CONCRETE FORMWORK".
- FORMS MAY BE REMOVED WHEN FIELD-CURED CYLINDERS ACHIEVE 75% OF THE SPECIFIED 28-DAY STRENGTH, BUT NOT SOONER THAN THE TIMES INDICATED IN ACI 347. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO MAKE AND PAY FOR THE COSTS OF ANY SUPPLEMENTAL STRENGTH TESTS.
- UNLESS OTHERWISE NOTED, CONCRETE FLOORS SHALL BE SCREED TO AN EVEN PLANE, FLOATED, AND STEEL-TROWELED TO A SMOOTH FINISH. PROVIDE JOINTS AS SHOWN ON THE DRAWINGS.
- ALL CONCRETE SHALL BE THOROUGHLY COMPACTED BY A MECHANICAL VIBRATOR DURING THE OPERATION OF PLACING AND SHALL BE THOROUGHLY WORKED AROUND REINFORCEMENT AND EMBEDDED FIXTURES AND INTO CORNERS OF FORMS.

EXECUTION (CONTINUED):

- CONCRETE NOT IN CONTACT WITH FORMS SHALL BE CURED FOR A PERIOD OF AT LEAST SEVEN DAYS TO PREVENT PREMATURE DRYING. USE ANY OF THE FOLLOWING METHODS:

- APPLICATION OF ABSORPTIVE MATS OR FABRIC KEPT CONTINUOUSLY WET
- APPLICATION OF WATERPROOF SHEET MATERIALS CONFORMING TO ASTM C 171
- APPLICATION OF A CURING COMPOUND CONFORMING TO ASTM C 309. THE COMPOUND SHALL BE APPLIED IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE MANUFACTURER IMMEDIATELY AFTER ANY WATER SHEEN WHICH MAY DEVELOP AFTER FINISHING HAS DISAPPEARED FROM THE CONCRETE SURFACE. IT SHALL NOT BE USED ON ANY SURFACE AGAINST WHICH ADDITIONAL CONCRETE OR OTHER MATERIAL IS TO BE BONDED UNLESS IT IS PROVEN THAT THE CURING COMPOUND WILL NOT PREVENT BOND, OR UNLESS POSITIVE MEASURES ARE TAKEN TO REMOVE IT COMPLETELY FROM AREAS TO RECEIVE BONDED APPLICATIONS.

- REINFORCING DETAILING, BENDING, AND PLACING SHALL BE IN ACCORDANCE WITH ACI 315 AND ACI 318.

- REINFORCING STEEL SHALL BE PROVIDED WITH THE FOLLOWING MINIMUM AMOUNTS OF COVER FOR CAST-IN-PLACE CONCRETE:

- CONCRETE DEPOSITED AGAINST EARTH.....3"
- CONCRETE SURFACE (FORMED) EXPOSED.....2"
TO EARTH OR WEATHER.
- #11 BARS AND SMALLER IN SLABS, WALLS.....3/4"
AND JOISTS OF CONCRETE NOT EXPOSED
TO EARTH OR WEATHER
- PRIMARY REINFORCEMENT, TIES, STIRRUPS.....1-1/2"
AND SPIRALS IN BEAMS AND COLUMNS NOT
EXPOSED TO EARTH OR WEATHER

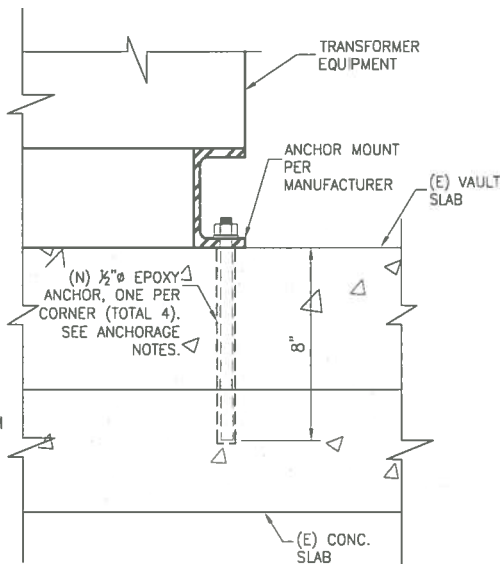
- ALL REINFORCING STEEL, ANCHOR BOLTS, DOWELS, AND INSERTS SHALL BE WELL SECURED IN POSITION PRIOR TO PLACING CONCRETE OR GROUT.

- LAP SPLICES OF REINFORCING BARS IN CONCRETE SHALL BE A MINIMUM OF 12" AND SHALL BE CLASS B TENSION SPLICES AS DEFINED IN ACI 318 UNLESS OTHERWISE NOTED.

- THE CONTRACTOR SHALL CONTACT ARCHITECT AND STRUCTURAL ENGINEER TO OBSERVE AND ACCEPT PLACEMENT OF ALL REINFORCING ANCHOR BOLTS, CONDUITS & OTHER EMBEDMENTS PRIOR TO CONCRETE POURING.

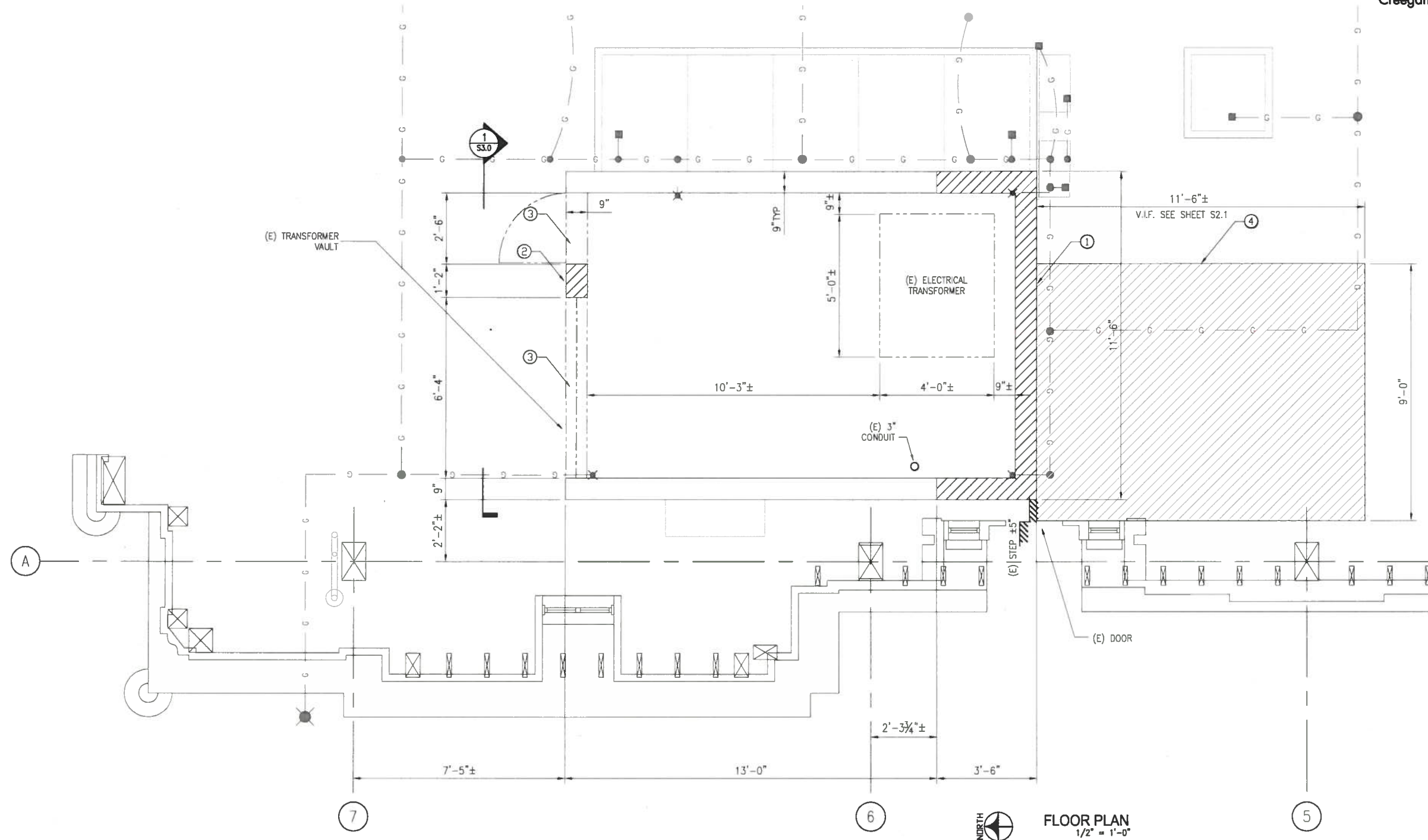
ANCHORAGE NOTES:

- INSTALL ANCHORS AS SHOWN USING SIMPSON SET-XP EPOXY ADHESIVE PER ICC EVALUATION REPORT ESR-2508.
- ANCHOR ROD SHALL BE ASTM F1554 GR 36.
- PROVIDE SPECIAL INSPECTION PER PORT CODE PROCEDURE FORM PCP-14.



TYPICAL ANCHOR DETAIL
3'-1'-0"
EPOXY ANCHOR DETAIL

B-2012-0285
FIELD COPY



KEY NOTES

- ① DEMO (E) CONC. VAULT WALLS & ROOF
- ② DEMO (E) CONC. PILASTER
- ③ REMOVE (E) DOORS AND LOUVERS
- ④ DEMO (E) AC OVERLAY



FLOOR PLAN
 1/2" = 1'-0"

APPROVED
 SEP 26 2012
PORT
 OF SAN FRANCISCO

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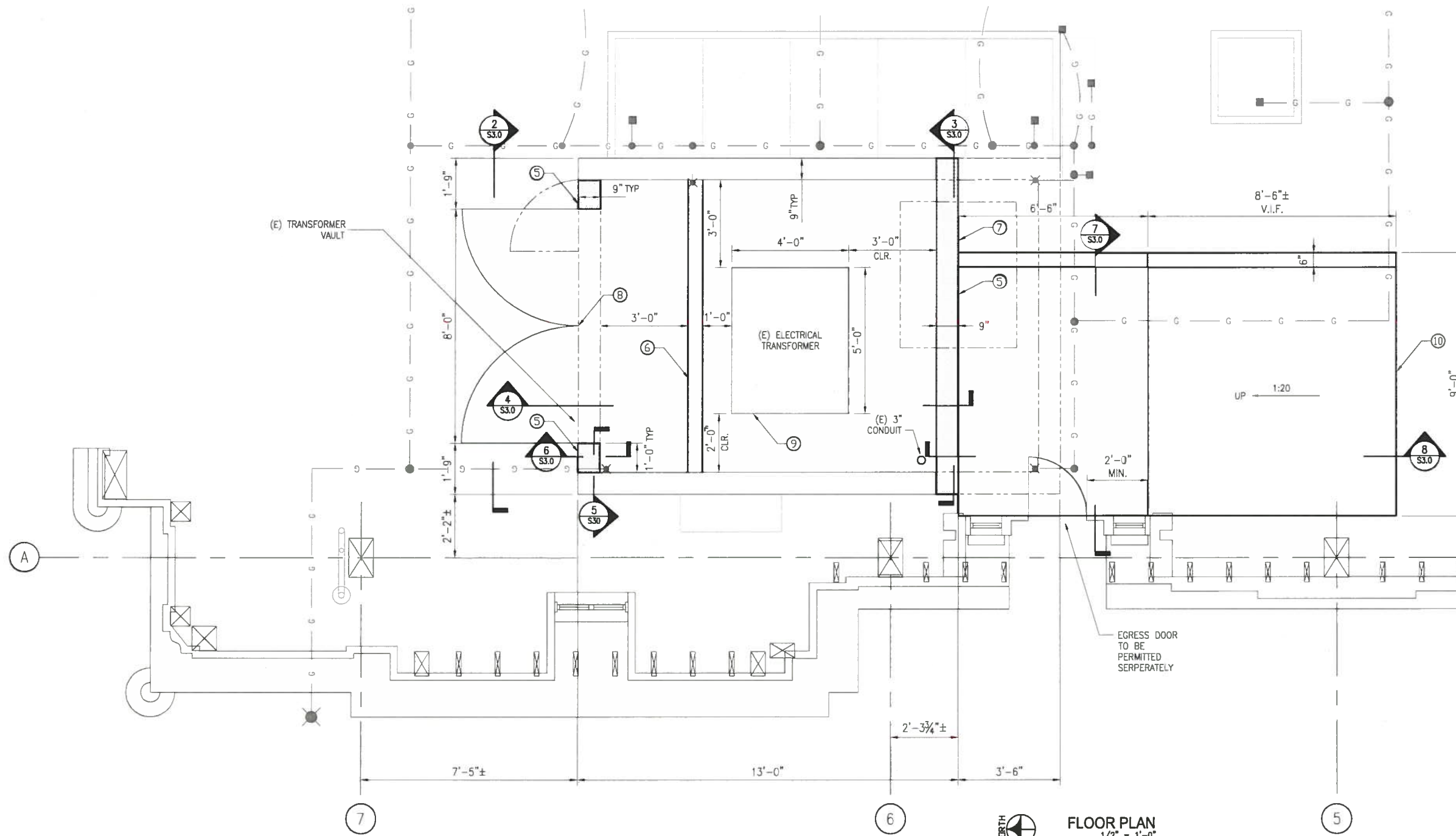
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 [Signature]
 CHIEF HARBOR ENGINEER

SCALE:
 AS NOTED
 SHEET OF SHEETS

PIER 29
FIRE DAMAGE AND EMERGENCY REPAIRS
VAULT MODIFICATIONS
DEMOLITION FLOOR PLAN

CONTRACT NO.
 DRAWING NO. S2.0
 FILE NO. XXXX-29-S
 REV. NO.



KEY NOTES

- ⑤ RECONSTRUCT (N) CONCRETE WALLS
- ⑥ CONSTRUCT (N) CONCRETE CURB
- ⑦ INSTALL (N) LOUVERS & FIRE DAMPERS (TOTAL 2)
- ⑧ INSTALL (N) 3-HR DOUBLE DOOR
- ⑨ RELOCATE TRANSFORMER AND INSTALL ANCHORAGE
- ⑩ CONSTRUCT (N) CONCRETE LANDING

FLOOR PLAN
1/2" = 1'-0"

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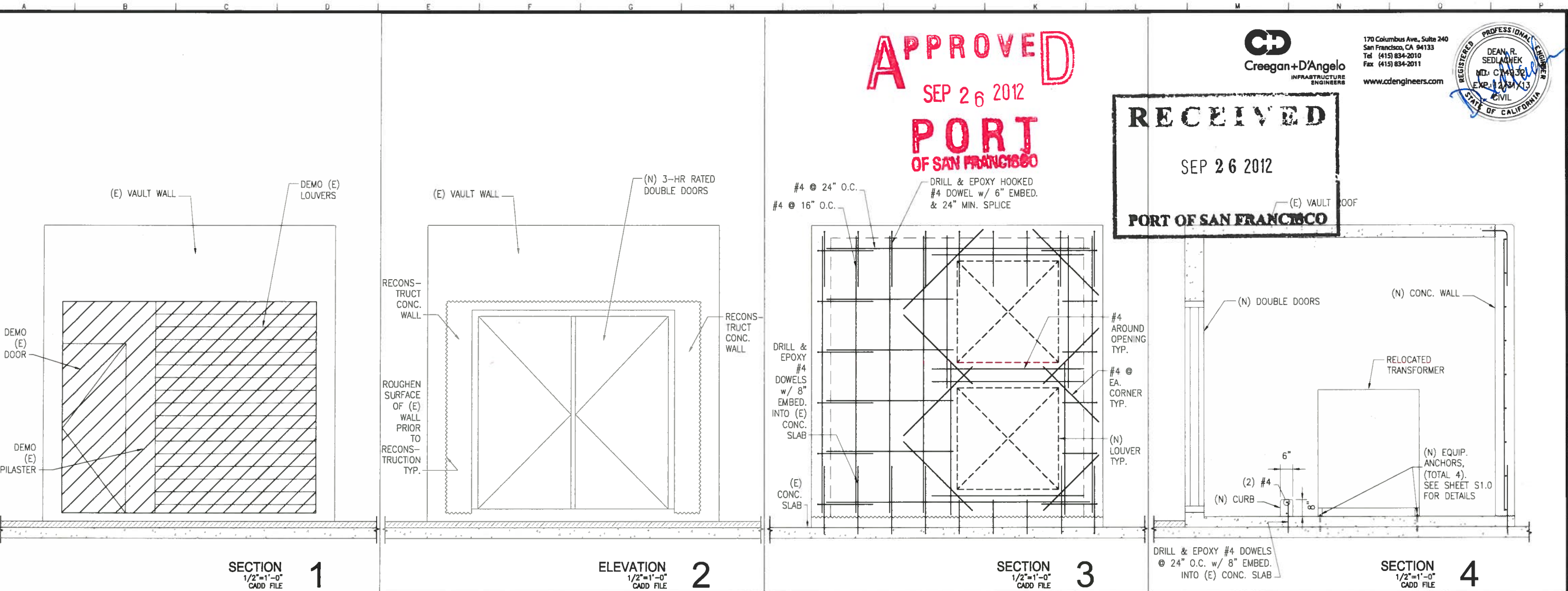
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DATE: 9/24/12
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CHIEF HARBOR ENGINEER

SCALE:
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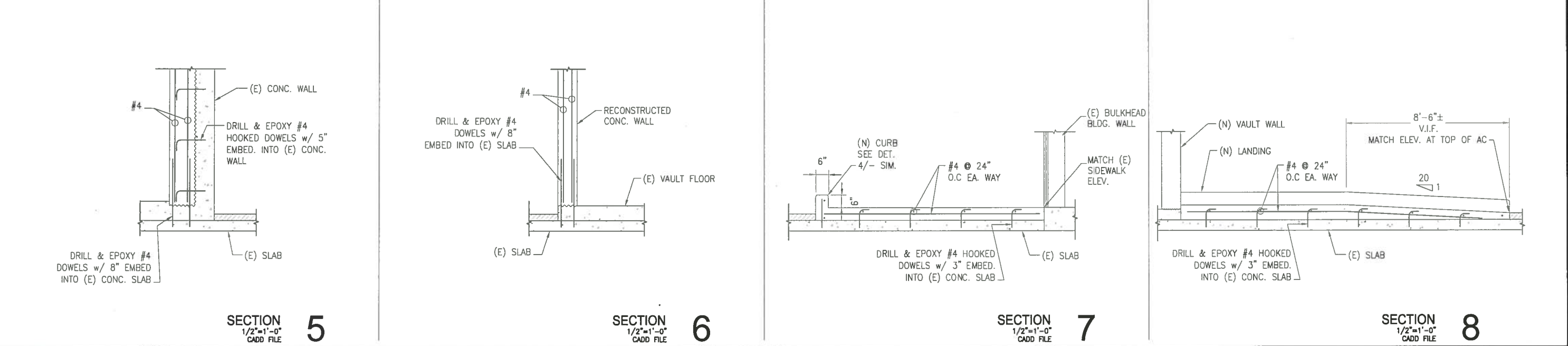
PIER 29
FIRE DAMAGE AND EMERGENCY REPAIRS
VAULT MODIFICATIONS
FLOOR PLAN



CONTRACT NO.
DRAWING NO. S2.1
FILE NO. XXXX-29-S
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CD
Creegan+D'Angelo
INFRASTRUCTURE ENGINEERS
170 Columbus Ave., Suite 240
San Francisco, CA 94133
Tel (415) 834-2010
Fax (415) 834-2011
www.cdengineers.com

REGISTERED PROFESSIONAL ENGINEER
DEAN R. SEDLACEK
NO. C44332
EXP. 12/31/13
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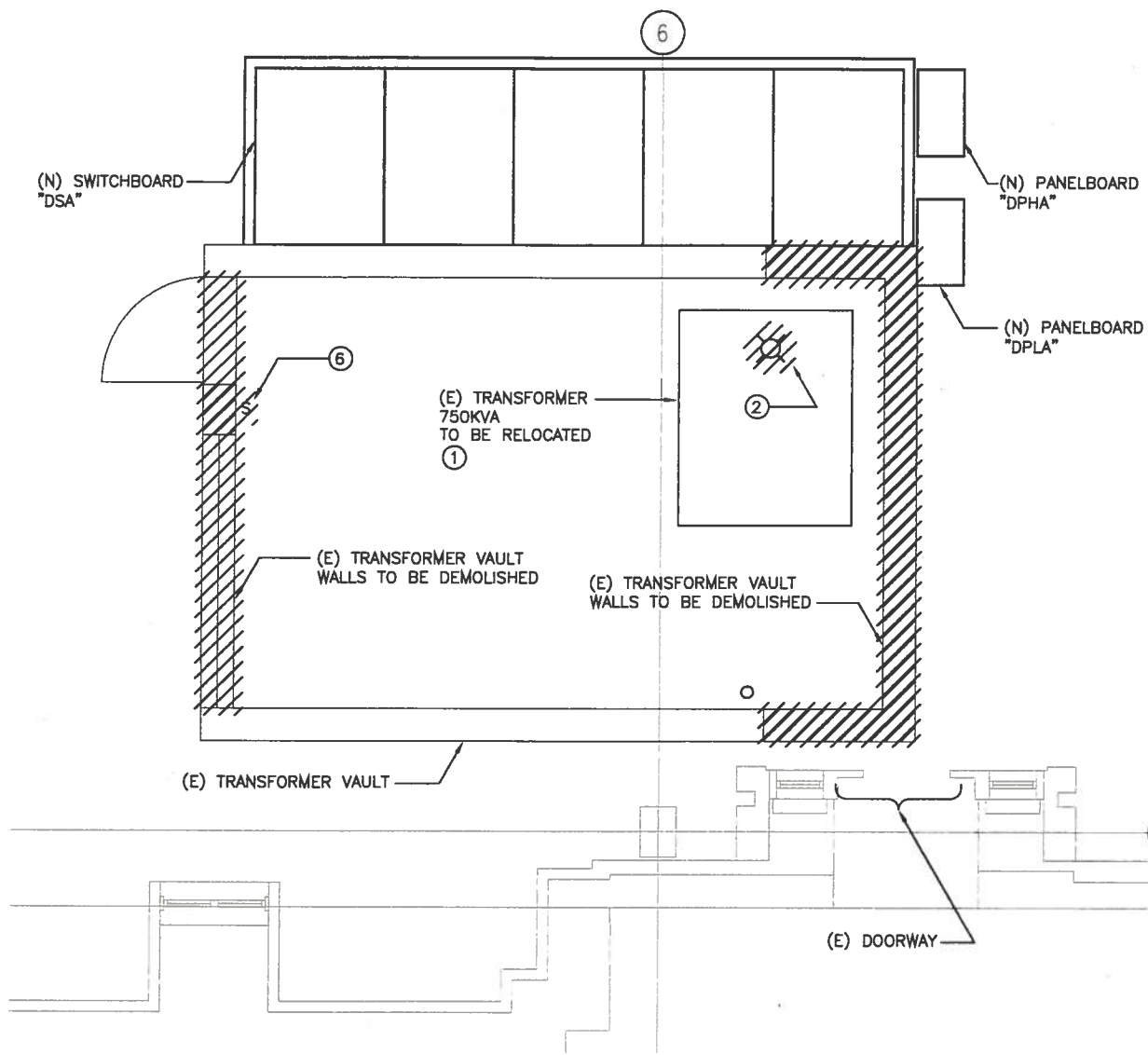
KEY NOTES:

- RELOCATE TRANSFORMER PER PLAN 2 ON THIS DWG.
- DEMOLISH (E) LIGHT FIXTURE, AND LIGHT SWITCH BACK TO SOURCE.
- PROVIDE (N) INDUSTRIAL GRADE, WALL MOUNTED, DUAL LAMP, 4', T8, FLUORESCENT LIGHT FIXTURE WITH GUARD WIRE AND LIGHT SWITCH AND CIRCUIT TO PANELBOARD "DPLA" WITH 3#12, #12G, 3/4"C. MOUNT FIXTURE 12" BELOW CEILING.
- CUT GROUND RODS BELOW GRADE AND PROVIDE GROUND WELLS FOR (E) GROUND RODS PER 1 ON DWG. E3.1. RECONNECT ALL (E) GROUND CONNECTIONS AND (N) GROUND CONNECTIONS PER DWG. E2.2.
- PAINT 3" STRIP ON FLOOR INDICATING "KEEP AREA CLEAR".
- PROVIDE CABLE GRIPS FOR EACH PRIMARY SIDE CABLE AND SUPPORT FORM CEILING.
- PROVIDE DRIP LOOP FOR SECONDARY SIDE CABLES AND SUPPORT WITH UNISTRUT ON WALL.

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SEP 26 2012

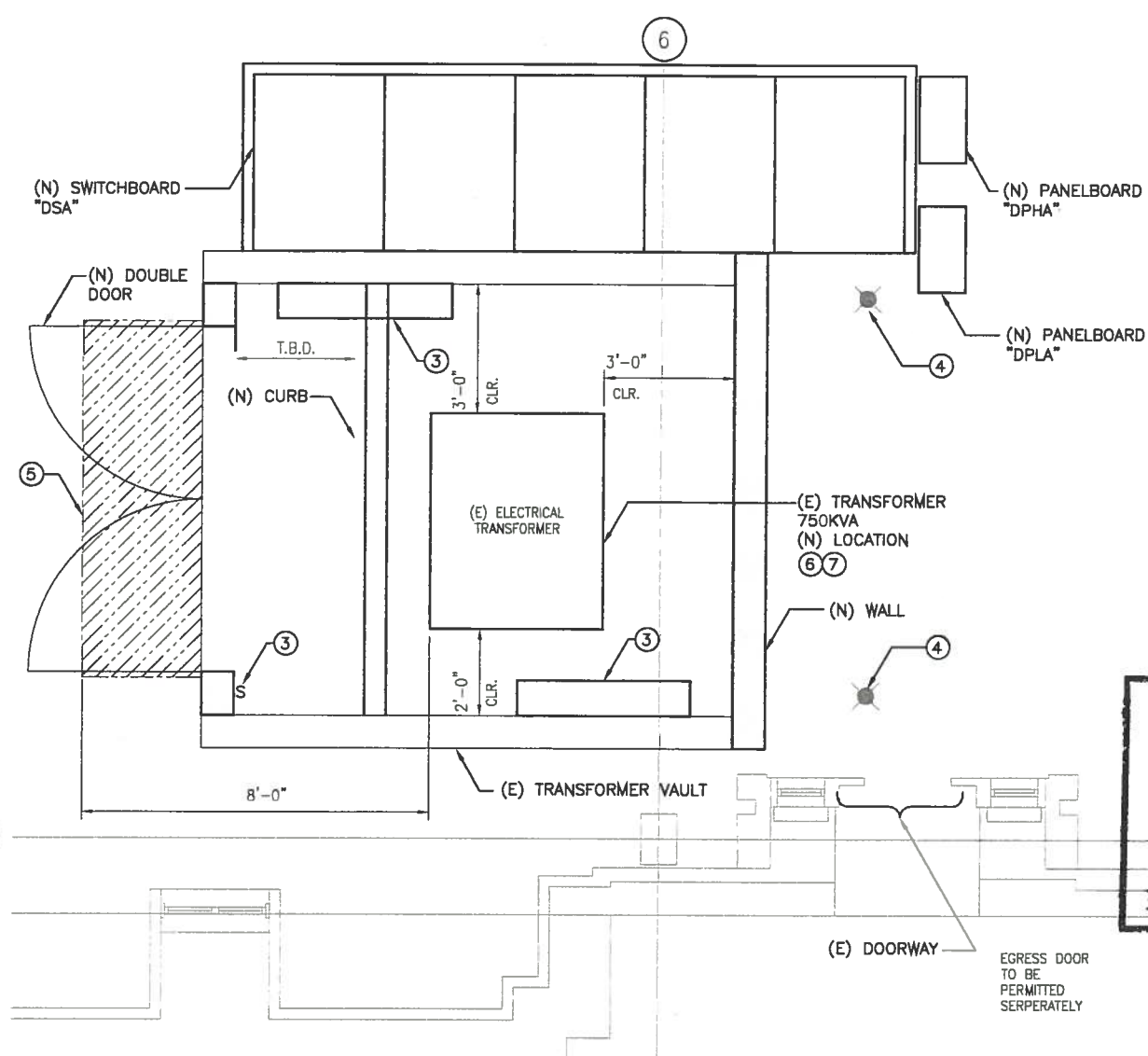
PORT OF SAN FRANCISCO



TRANSFORMER VAULT ENLARGED DEMOLITION PLAN

1/2"=1'-0"

1



TRANSFORMER VAULT ENLARGED NEW WORK PLAN

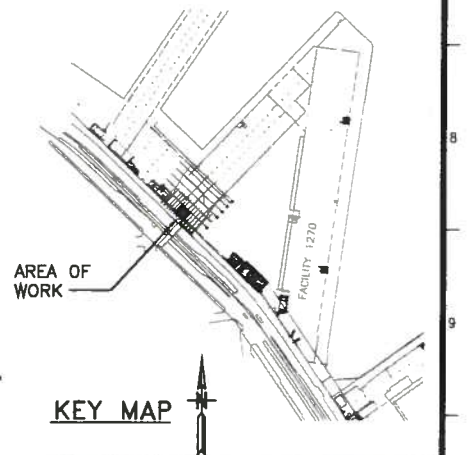
1/2"=1'-0"

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APPROVED

SEP 26 2012

PORT OF SAN FRANCISCO



KEY MAP



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PORT OF SAN FRANCISCO
DEPARTMENT OF ENGINEERING

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BY: PW
DRAWN: DATE: 09/18/12
CHECKED: DATE: 09/18/12
GC

APPROVED BY
SAN FRANCISCO PORT COMMISSION
DATE: 9/26/12
CHIEF HARBOR ENGINEER

SCALE:
1/2"=1'-0"
SHEET OF SHEETS
- OF -

PIER 29
FIRE DAMAGE AND EMERGENCY REPAIRS
ELECTRICAL
ENLARGED TRANSFORMER VAULT
DEMOLITION & NEW WORK PLANS

CONTRACT NO.
DRAWING NO. E1.3
FILE NO. XXXX-29-E
REV. NO.

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MECHANICAL LEGEND

SYMBOL	ABBREV.	DESCRIPTION
●	POC	POINT OF CONNECTION
○	POD	POINT OF DEMOLITION
Ⓜ		FURNISHED AND INSTALLED BY MECHANICAL
Ⓜⓔ		FURNISHED BY MECHANICAL AND INSTALLED BY ELECTRICAL
ⓔ		FURNISHED AND INSTALLED BY ELECTRICAL
▨		WALL LOUVER
FD	FD	FIRE DAMPER
ⓑ		SECTION OR DETAIL LETTER/NUMBER
MX.X		TO THE SHEET THE SECTION/DETAIL IS ON
		WHERE THE SECTION/DETAIL WAS TAKEN FROM

ABBREVIATIONS

ABBREV.	DESCRIPTION
AFF	ABOVE FINISHED FLOOR
(E)	EXISTING
IW	INDIRECT WASTE
MSS SP-58	PIPE HANGERS AND SUPPORTS-MATERIALS, DESIGN AND MANUFACTURE
MSS SP-59	PIPE HANGERS AND SUPPORTS-SELECTION AND APPLICATION
(N)	NEW
NTS	NOT TO SCALE
OD	OUTSIDE DIAMETER
SMACNA	SHEET METAL AND AIR CONDITIONING CONTRACTORS NATIONAL ASSOCIATION
SS	STAINLESS STEEL
TYP	TYPICAL

DRAWING LIST

DRAWING #	DRAWING TITLE
MO.1	MECHANICAL ABBREVIATIONS, LEGEND, SPECIFICATIONS AND GENERAL NOTES
M1.1	MECHANICAL DEMOLITION AND NEW WORK PARTIAL FLOOR PLANS
M2.1	MECHANICAL DETAILS

DESIGN CRITERIA – TRANSFORMER VAULT VENTILATION

PIER 29

DEMOLITION WORK:

REMOVE TWO EXISTING VENTILATION LOUVERS AND ASSOCIATED APPURTENANCES.

NEW WORK:

1. INSTALL TWO NEW VENTILATION LOUVERS AND ASSOCIATED APPURTENANCES FOR NATURAL CIRCULATION OF AIR TO BULKHEAD AREA WITH SIZE TO MEET TRANSFORMER CAPACITY PER 2011 NEC SECTION 450.45.
2. INSTALL NEW FIRE DAMPERS AND ASSOCIATED APPURTENANCES FOR NEW VENTILATION OPENINGS.

DUCT ACCESSORIES

FIRE DAMPERS:

- A. MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS BY ONE OF THE FOLLOWING:
 1. RUSKIN COMPANY.
 2. POTTORFF.
 3. AIR BALANCE INC.; A DIVISION OF MESTEK, INC.
- B. BASIS-OF-DESIGN PRODUCT: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCT INDICATED ON DRAWINGS OR COMPARABLE PRODUCT BY ONE OF THE FOLLOWING:

- C. TYPE: DYNAMIC; RATED AND LABELED ACCORDING TO UL 555 BY AN NRTL.
- D. CLOSING RATING IN MAXIMUM 4-INCH WG PRESSURE CLASS AND 2000-FPM VELOCITY.
- E. FIRE RATING: 1-1/2 HOURS.
- F. FRAME: CURTAIN TYPE WITH BLADES INSIDE AIRSTREAM; 304 STAINLESS STEEL -FORMED INTO A STRUCTURAL HAT CHANNEL FRAME.
- G. MOUNTING SLEEVE: FACTORY OR FIELD-INSTALLED, GALVANIZED SHEET STEEL.
 1. MINIMUM THICKNESS: 20 GAGE AND OF LENGTH TO SUIT APPLICATION WITH THERMAL INSULATION ON FOUR SIDES.
- H. MOUNTING ORIENTATION: VERTICAL AS INDICATED.
- I. BLADES: 304 STAINLESS STEEL WITH THREE LONGITUDINAL GROOVES FOR REINFORCEMENT.
- J. AXLES: 304 STAINLESS STEEL.
- K. HEAT-RESPONSIVE DEVICE: 165 DEG F RATED, FUSIBLE LINKS.

WALL LOUVERS:

- A. MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS BY ONE OF THE FOLLOWING:
 1. ARCHITECTURAL LOUVERS
 2. RUSKIN COMPANY.
 3. APPROVED EQUAL
- B. BASIS-OF-DESIGN PRODUCT: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCT INDICATED ON DRAWINGS OR COMPARABLE PRODUCT BY ONE OF THE FOLLOWING:

- C. GENERAL: LOUVERS SHALL BE STATIONARY DRAINABLE TYPE WITH MINIMUM 57% FREE AREA BASED ON A 48" HIGH X 48" WIDTH SIZE, AND LOUVER COMPONENTS SHALL BE FACTORY ASSEMBLED BY THE LOUVER MANUFACTURER.
- D. TYPE: RATED AND LABELED AMCA CERTIFIED RATINGS SEAL FOR AIR PERFORMANCE & WATER PENETRATION.
- E. FRAME: EXTRUDED ALUMINUM WITH 0.081" NOMINAL WALL THICKNESS
- F. BLADES: EXTRUDED ALUMINUM WITH 0.081" NOMINAL WALL THICKNESS.
- G. BIRDSCREEN: 3/4" X 0.051" EXPANDED ALUMINUM IN REMOVABLE FRAME.

INSTALLATION:

- A. INSTALL EQUIPMENT ACCESSORIES OF MATERIALS SUITED TO EQUIPMENT MATERIALS; USE GALVANIZED-STEEL ACCESSORIES IN GALVANIZED-STEEL, STAINLESS-STEEL ACCESSORIES IN STAINLESS-STEEL, AND ALUMINUM ACCESSORIES IN ALUMINUM.
- B. INSTALL FIRE DAMPERS ACCORDING TO UL LISTING.
- C. INSTALL EQUIPMENT IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
- D. OPERATE FIRE DAMPERS TO VERIFY FULL RANGE OF MOVEMENT AND VERIFY THAT PROPER HEAT-RESPONSE DEVICE IS INSTALLED.

GENERAL NOTES

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FINAL VERIFICATION AND COORDINATION OF EXISTING CONDITIONS AND ALL OTHER TRADES. VERIFY ALL EXISTING CONDITIONS IN THE FIELD PRIOR TO PURCHASING EQUIPMENT. ADVISE THE PORT IN WRITING IN THE EVENT A CONFLICT OCCURS BETWEEN THE REQUIREMENTS OF THE CONTRACT DOCUMENTS AND ACTUAL FIELD CONDITIONS. THE CONTRACTOR SHALL BEAR ALL COSTS FOR RELOCATION OF EQUIPMENT, PIPING, ETC., FROM FAILURE TO PROPERLY COORDINATE INSTALLATIONS AND ADVISE OF THE CONFLICT IN WRITING PRIOR TO INSTALLATION.
2. IN CASE OF DIFFERENCE BETWEEN BUILDING CODES, SPECIFICATIONS, INDUSTRY STANDARDS, UTILITY COMPANY REGULATIONS, FIRE INSURANCE CARRIER'S REQUIREMENTS AND CONTRACT DOCUMENTS, THE MOST STRINGENT SHALL GOVERN. PROMPTLY NOTIFY THE PORT IN WRITING OF ANY SUCH DIFFERENCE.
3. EQUIPMENT AND DUCTWORK AS SHOWN ON DRAWINGS ARE SCHEMATIC AND SHALL BE FABRICATED AND INSTALLED ON ACTUAL FIELD MEASUREMENT. DO NOT SCALE DRAWINGS FOR EXACT LOCATION OF EQUIPMENT. COORDINATE WITH OTHER TRADES AS REQUIRED.
4. PLANS ARE BASED ON ANTICIPATED EQUIPMENT SIZE AND CONFIGURATION. CONTRACTOR SHALL MODIFY ARRANGEMENT TO SUIT ACTUAL PURCHASED EQUIPMENT AS REQUIRED FOLLOWING THE CRITERIA ESTABLISHED BY THESE PLANS. DEPARTURES FROM THE CONTRACT DRAWING RESULTING FROM CHANGES IN EQUIPMENT SIZES AND CONFIGURATIONS, OR RE-ARRANGEMENTS TO ACCOMMODATE FIELD CONDITIONS SHALL BE SUBMITTED IN DETAIL FOR PORT'S APPROVAL.
5. CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTION AND SHALL REPAIR ADJACENT EXISTING AND/OR NEW SURFACES, AREAS AND PROPERTY THAT MAY BE DAMAGED AS A RESULT OF ANY DEMOLITION AND/OR NEW WORK.
6. HANDLE, STORE AND INSTALL ALL EQUIPMENT PER MANUFACTURER'S INSTRUCTIONS. ALL EQUIPMENT SHALL BE PROTECTED FROM THE WEATHER ELEMENTS.
7. CONTRACTOR SHALL BE RESPONSIBLE FOR THE COMPLETE FUNCTIONALITY OF THE EQUIPMENT INCLUDING ELECTRICAL AND CONTROL ITEMS ASSOCIATED WITH THE PROJECT.
8. PROVIDE EQUIPMENT CLEARANCES IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND INSTRUCTIONS.
9. CONTRACTOR IS TO MAINTAIN RECORDED "AS-BUILT" INFORMATION ON ALL EXISTING SERVICES UNCOVERED DURING CONSTRUCTION AND ALL NEW SERVICES BEING INSTALLED. "AS-BUILT" INFORMATION SHALL BE CLEARLY MARKED IN COLORED PENCIL ON A PRINT OF THE CONTRACT DRAWING. RECORDED INFORMATION SHALL INCLUDE ROUTING AND INVERT ELEVATIONS. AT THE COMPLETION OF THE CONTRACT, THE CONTRACTOR SHALL TURN RECORDED "AS-BUILT" INFORMATION OVER TO THE PORT AND CONTRACTOR TO BE COORDINATED WITH AS BUILT REQUIREMENTS IN SPECIFICATION.
10. CERTAIN VERTICAL AND HORIZONTAL OFFSETS ARE SHOWN IN PIPING ON PLANS TO INDICATE THE GENERAL POSITION RELATIONSHIP OF THE SYSTEMS. PROVIDE ADDITIONAL OFFSETS SIMILAR TO THOSE SHOWN, AS REQUIRED TO COORDINATE WITH INSTALLATION REQUIREMENTS OF OTHER SYSTEMS.
11. THE EXISTING SYSTEMS SHOWN ON THE DRAWINGS ARE BASED ON INFORMATION CONTAINED IN THE ORIGINAL DESIGN "AS-BUILT" DOCUMENTS AND ON A LIMITED FIELD SURVEY.
12. NOT ALL EXISTING SYSTEMS ARE SHOWN TO AID DRAWING INTERPRETATION CLARITY.
13. COORDINATE INSTALLATION OF ALL EQUIPMENT AND DUCTWORK WITH OTHER TRADES PRIOR TO INSTALLATION.
14. LOCATION OF MECHANICAL UTILITIES ARE BASED ON THE EXISTING DRAWINGS AND LIMITED SITE SURVEY. EXISTING DRAWINGS AND SURVEYS MAY BE INACCURATE OR INCOMPLETE. THE SUBCONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL EXISTING CONDITIONS AND DIMENSIONS IN THE FIELD AND NOT RELY SOLELY ON DRAWINGS.
15. CONTRACTOR TO PROVIDE SUBMITTALS IN ACCORDANCE WITH SPECIFICATION REQUIREMENTS.
16. VERIFY AT PROJECT SITE EXACT SIZE, LOCATION, INVERT ELEVATION, AND CLEARANCE OF ALL EXISTING SERVICES BEING EXTENDED, RELOCATED, OR REMOVED.

Y&E ENGINEERS, INC.
7700 Edgemoor Drive, Suite 120, Oakland, CA 94621
Phone: (916) 353-1050 Fax: (916) 353-1057



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OF SAN FRANCISCO

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TABLE OF REVISIONS				
CHECK WITH TRACING TO SEE IF YOU HAVE LATEST REVISION				

REFERENCE INFORMATION
& FILE NO. OF SURVEYS

SAN FRANCISCO PORT COMMISSION
PORT OF SAN FRANCISCO
DEPARTMENT OF ENGINEERING

DESIGNED: DATE: 08/29/12
AK
DRAWN: DATE: 08/29/12
PW
CHECKED: DATE: 08/29/12
PM

APPROVED BY
SAN FRANCISCO PORT COMMISSION
DATE: 9/24/12
[Signature]
CHIEF HARBOR ENGINEER

SCALE:
NTS
SHEET OF SHEETS
OF

PIER 29
FIRE DAMAGE AND EMERGENCY REPAIRS
MECHANICAL
ABBREVIATIONS, LEGEND, SPECIFICATIONS
AND GENERAL NOTES

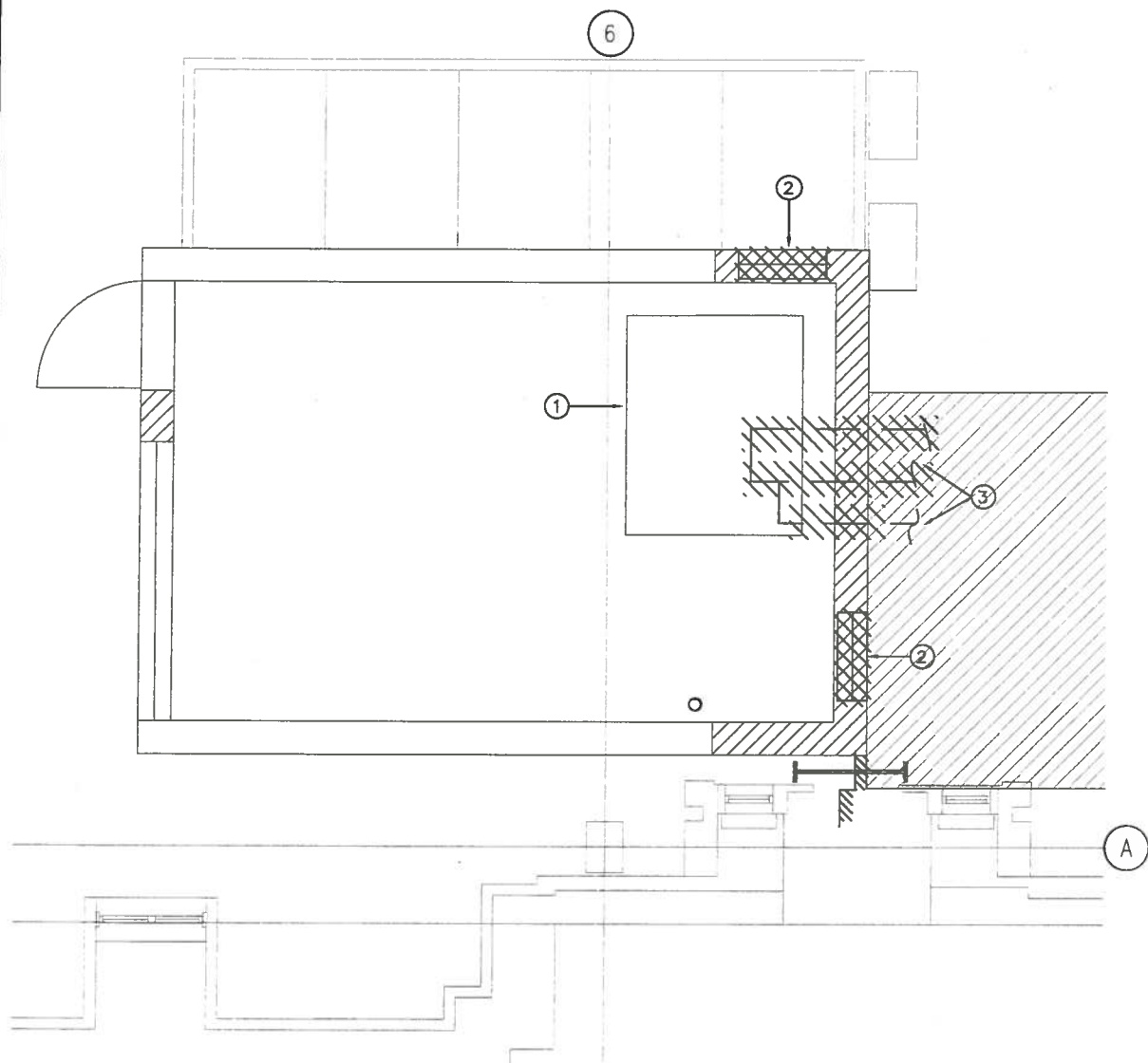
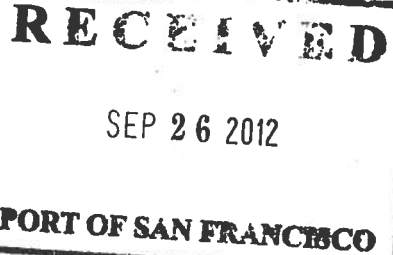
CONTRACT NO.
DRAWING NO.
MO.1
FILE NO.
XXXX-29-E
REV. NO.

DEMOLITION KEY NOTES:

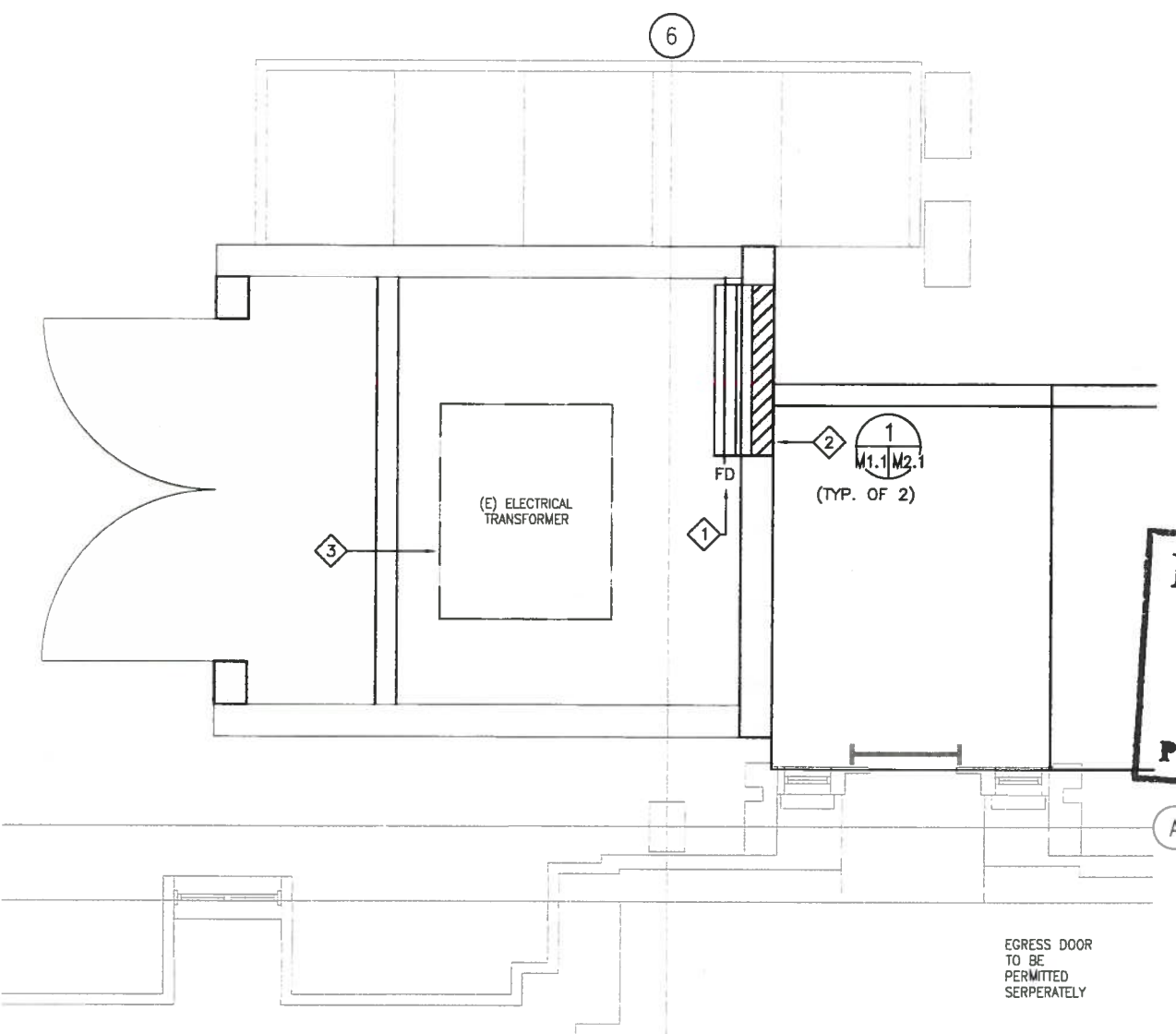
- ① (E) 750 KVA TRANSFORMER TO BE RE-LOCATED. SEE ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION.
- ② REMOVE (E) WALL LOUVER ASSEMBLY.
- ③ (E) ELECTRICAL BUSWAY AND WIRING TERMINATIONS TO BE REMOVED AS PART OF ELECTRICAL WORK. SEE ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION.

NEW WORK KEY NOTES:

- ① PROVIDE 1-1/2 HOUR FIRE RATING AUTOMATIC CLOSING FIRE DAMPER.
- ② PROVIDE 48" X 48" WEATHER-PROOF VENTILATION WALL LOUVER WITH BIRD SCREEN (4.80 SQ. FT. FREE AREA). MOUNT ONE ASSEMBLY NEAR THE FLOOR AND THE OTHER NEAR THE ROOF.
- ③ (E) 750 KVA TRANSFORMER NEW LOCATION. SEE ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION.

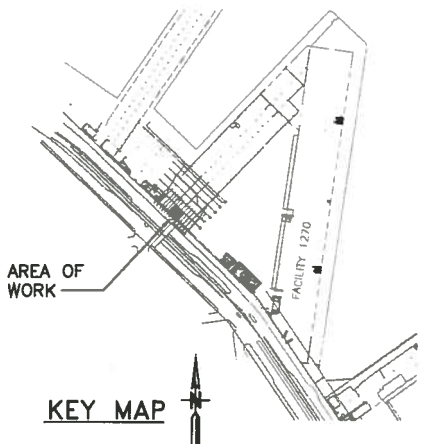


PIER 29 DEMOLITION PARTIAL FLOOR PLAN
1/2"=1'-0"



PIER 29 NEW WORK PARTIAL FLOOR PLAN
1/2"=1'-0"

APPROVED
SEP 26 2012
PORT OF SAN FRANCISCO



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

ENGINEERS, INC.
7700 Edgemoor Drive, Suite 120, Oakland, CA 94621
Phone: (510) 363-1050 Fax: (510) 363-1057



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DEPARTMENT OF ENGINEERING

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CHECKED: DATE: 08/29/12
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SAN FRANCISCO PORT COMMISSION
DATE: 9/26/12
[Signature]
CHIEF HARBOR ENGINEER

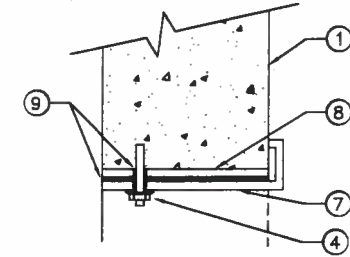
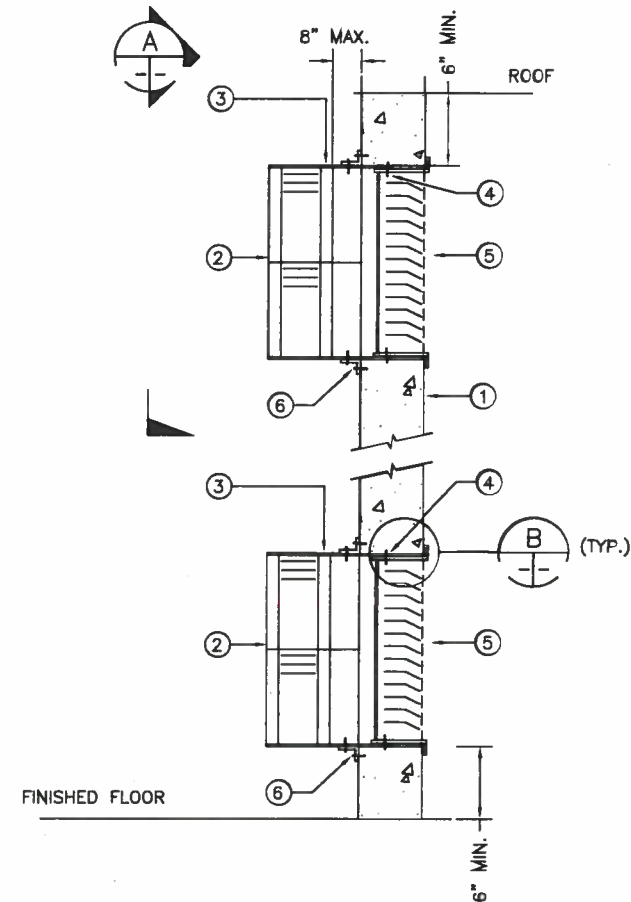
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1/2"=1'-0"
SHEET OF SHEETS
_ OF _

PIER 29
FIRE DAMAGE AND EMERGENCY REPAIRS
MECHANICAL
DEMOLITION AND NEW WORK
PARTIAL FLOOR PLANS

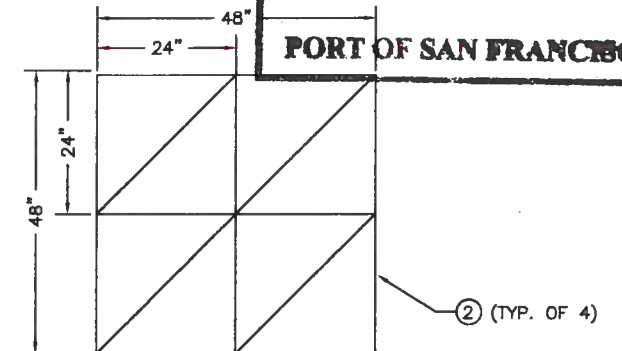
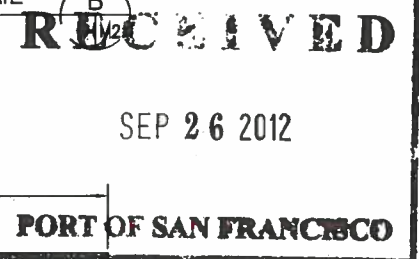
CONTRACT NO.
DRAWING NO. M1.1
FILE NO. XXXX-29-E
REV. NO.

DETAIL KEY NOTES:

- ① 6" THICK CONCRETE WALL.
- ② 1-1/2 HOUR FIRE RATING FIRE DAMPER.
- ③ SLEEVE ASSEMBLY WITH INSULATION (FACTORY SUPPLIED).
- ④ ATTACH TO STRUCTURE WITH STAINLESS STEEL ANCHOR BOLTS.
- ⑤ WALL VENTILATION LOUVER WITH BIRDSCREEN.
- ⑥ 1-1/2" X 1-1/2" X 20 GA GALVANIZED STEEL MOUNTING ANGLES. ATTACH TO DAMPER SLEEVE AND WALL.
- ⑦ EXTRUDED ALUMINUM LOUVER.
- ⑧ FIRE DAMPER GALVANIZED STEEL SLEEVE.
- ⑨ INSTALL INSULATION BETWEEN DISSIMILAR METALS INCLUDING INSULATING WASHERS AND SLEEVES IN THE BOLT HOLES TO PREVENT CONTACT BETWEEN DISSIMILAR METALS.



ENLARGED DETAIL
NTS



SECTION
NTS

WALL LOUVER DETAIL
NTS

DETAIL NOTES:

1. INSTALL LOUVERS AND FIRE DAMPERS PER MANUFACTURER'S GUIDELINES.
2. PROVIDE FIRE DAMPERS BY RUSKIN MODEL DFD35SS/OW OR APPROVED EQUAL.
3. PROVIDE LOUVERS BY RUSKIN MODEL ELF6375DXH OR APPROVED EQUAL.



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DATE: _____
CHIEF HARBOR ENGINEER

SCALE:
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SHEET OF SHEETS
_ OF _

PIER 29
FIRE DAMAGE AND EMERGENCY REPAIRS
MECHANICAL
DETAILS

CONTRACT NO.
DRAWING NO. M2.1
FILE NO. XXXX-29-E
REV. NO.