

PORT OF TACOMA

TOTE ADMINISTRATION BUILDING HVAC UPGRADE PROJECT NO. 098034 CONTRACT NO. 070083

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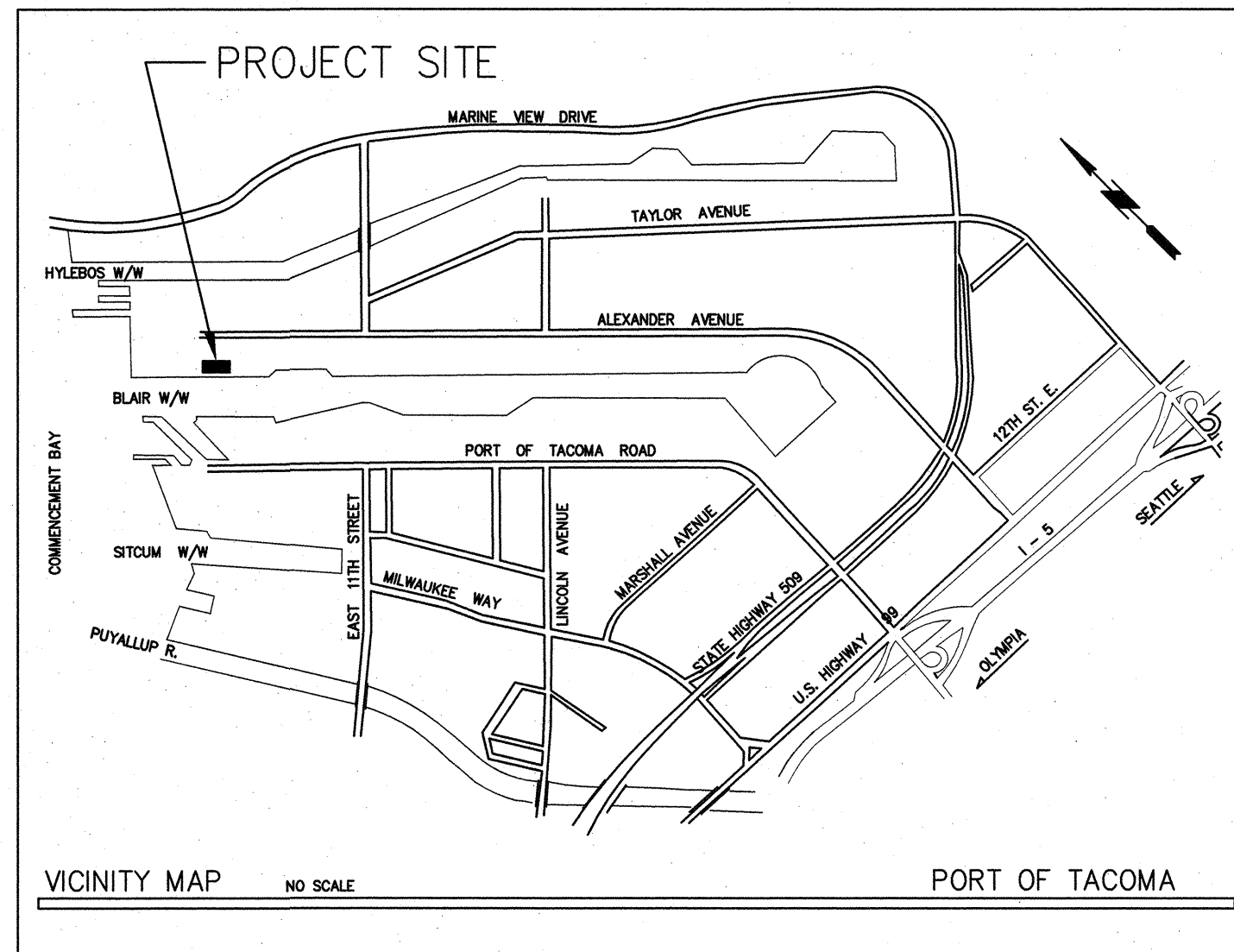
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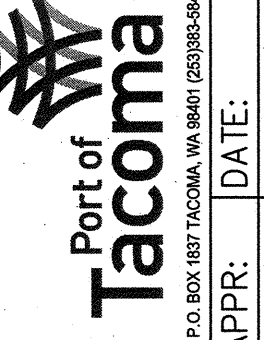
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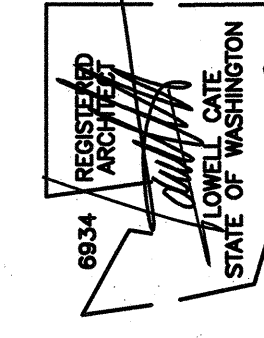
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DRAWING LIST			
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in partial fulfillment of the contract for the
design of the HVAC upgrade for the Tote Administration Building



APPROVED: *Thais Howard*
THAIS HOWARD, PE
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PMJ
9-24-15
DIRECTOR ENG. DATE
PRINTED BY: creed Sep 21, 2015
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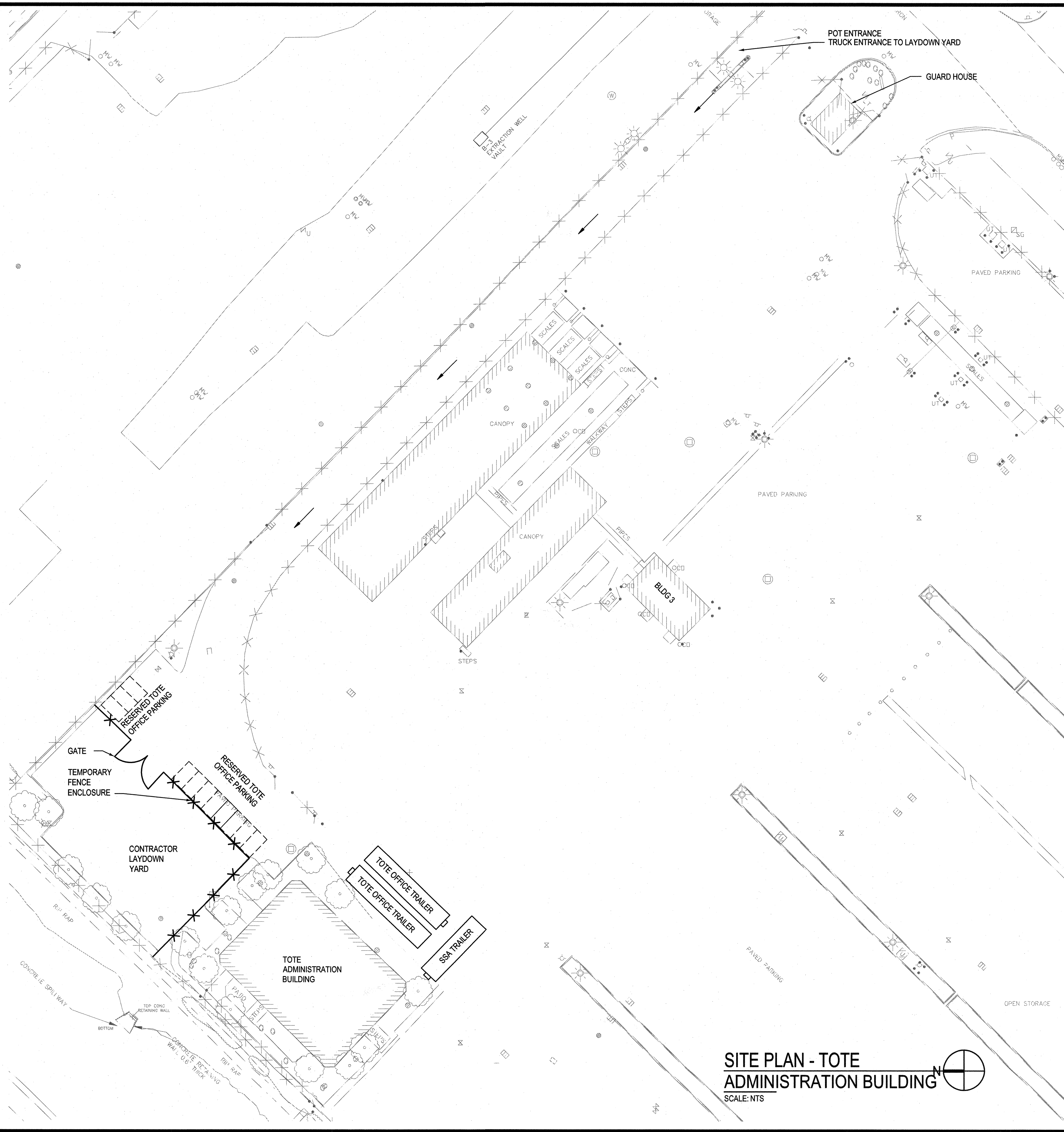
TOTE ADMINISTRATION BUILDING
HVAC UPGRADE
COVER SHEET

TOWNSHIP: 21N RANGE: 3E SECTION: 27
DATE-HRZ: WA83-SF VERT: MLLW 19.39' @ Tide 22.19.33
DRAWING SCALE: AS NOTED

6545
SHT# 1 OF 27
G1
CONT/CONS: 070083
M. ID: 098034
PHASE: BID SET

BINDING EDGE

PORT OF TACOMA FILE: P-435-1403 TOTE HVAC System Replacement\DWG\Arch\A0.1



PROJECT INFORMATION

CONSTRUCTION DATE
CONSTRUCTION DATE: 1983

EXISTING BUILDING AREA	
FIRST FLOOR:	5,645 SF
SECOND FLOOR:	5,482 SF
TOTAL AREA	11,127 SF

CODE INFORMATION

ORIGINAL BUILDING DESIGN CODE
1982 UBC

CONSTRUCTION TYPE

- TYPE 5B
- OPEN OFFICE SYSTEM WITH 1-HR RATED CORE WALLS (CORRIDOR)
- 1-HR RATED FLOOR ASSEMBLY

OCCUPANCY CLASSIFICATION

EXISTING OCCUPANCY GROUP (NO CHANGES)
BUSINESS GROUP (B)

CURRENT PROJECT SCOPE IBC CODE ISSUES

CODE: 2012 IBC

DUCT PENETRATIONS OF 1-HR RATED FLOOR ASSEMBLY CONCEALED INSIDE OF NON-RATED GWB CHASE WALL CONSTRUCTION.

717.6 HORIZONTAL ASSEMBLIES. PENETRATIONS BY DUCTS AND AIR TRANSFER OPENINGS OF A FLOOR, FLOOR/CEILING ASSEMBLY OR THE CEILING MEMBRANE OF A ROOF/CEILING ASSEMBLY SHALL BE PROTECTED BY A SHAFT ENCLOSURE THAT COMPLIES WITH SECTION 713 OR SHALL COMPLY WITH SECTIONS 717.6.1 THROUGH 717.6.3.

717.6.1 THROUGH PENETRATIONS. IN OCCUPANCIES OTHER THAN GROUPS 1-2 AND 1-3, A DUCT CONSTRUCTED OF APPROVED MATERIALS IN ACCORDANCE WITH THE INTERNATIONAL MECHANICAL CODE THAT PENETRATES A FIRE-RESISTANCE-RATED FLOOR/CEILING ASSEMBLY THAT CONNECTS NOT MORE THAN TWO STORIES IS PERMITTED WITHOUT SHAFT ENCLOSURE PROTECTION, PROVIDED A LISTED FIRE DAMPER IS INSTALLED AT THE FLOOR LINE OR THE DUCT IS PROTECTED IN ACCORDANCE WITH SECTION 714.4. FOR AIR TRANSFER OPENINGS, SEE SECTION 712.1.8.

ENERGY CODE

ENERGY CODE

CODE: 2012 WA STATE ENERGY CODE

THE CURRENT PROJECT SCOPE IS PRIMARILY FOCUSED ON REPAIR AND REPLACEMENT OF THE EXISTING MAIN DUCT (FIBERGLASS DUCT BOARD) SYSTEM. IN ADDITION, FOUR HEAT-PUMP UNITS ARE BEING INSTALLED TO IMPROVE OVERALL SYSTEM EFFICIENCY AND INCREASE COMFORT IN THE BUILDING'S CORNER OFFICES. PER PRIOR AGREEMENT, SINCE THE CURRENT PROJECT SCOPE IS LIMITED TO REPAIR AND EFFICIENCY IMPROVEMENT, THE CITY OF TACOMA HAS INDICATED THAT OTHER BUILDING ENVELOPE COMPONENTS (WINDOWS, INSULATION, ETC.) ARE NOT REQUIRED TO MEET THE STATE OF WA 2012 ENERGY CODE. ANY NEW EQUIPMENT WILL MEET ENERGY CODE REQUIREMENTS.

CONSTRUCTION NOTES

- ACCESS INTO THE LAYDOWN YARD WILL REQUIRE TRANSPORTATION WORKER IDENTIFICATION CREDENTIAL (TWIC) AND NOTIFICATION TO TOTE SECURITY. TWIC REQUIRED OUTSIDE OF FENCED PROJECT AREA IN TOTE OPERATIONS YARD. NO CONSTRUCTION PERSONNEL TO ENTER SECURED AREA WITHOUT PRIOR ARRANGEMENTS WITH PORT OF TACOMA AND TOTE. TWIC WILL ONLY BE REQUIRED FOR WORK OUTSIDE OF THE BUILDING AND LAYDOWN YARD, I.E. FOR TRAILERS SET-UP AND FOR PULLING COMM CABLE TO THE GUARD HOUSE.
- PROVIDE TEMPORARY TOTE AND SSA OFFICE TRAILERS IN LOCATIONS SHOWN. SET TRAILER ELEVATIONS TO PROVIDE FOR SANITARY SEWER POSITIVE DRAINAGE TO POINT OF CONNECTION. SEE G2 AND G3 FOR TRAILER INSTALLATION.
- PROVIDE TEMPORARY UTILITIES INCLUDING POWER, DATA/COMMUNICATIONS, PHONE, WATER AND SANITARY SEWER TO EACH TRAILER.



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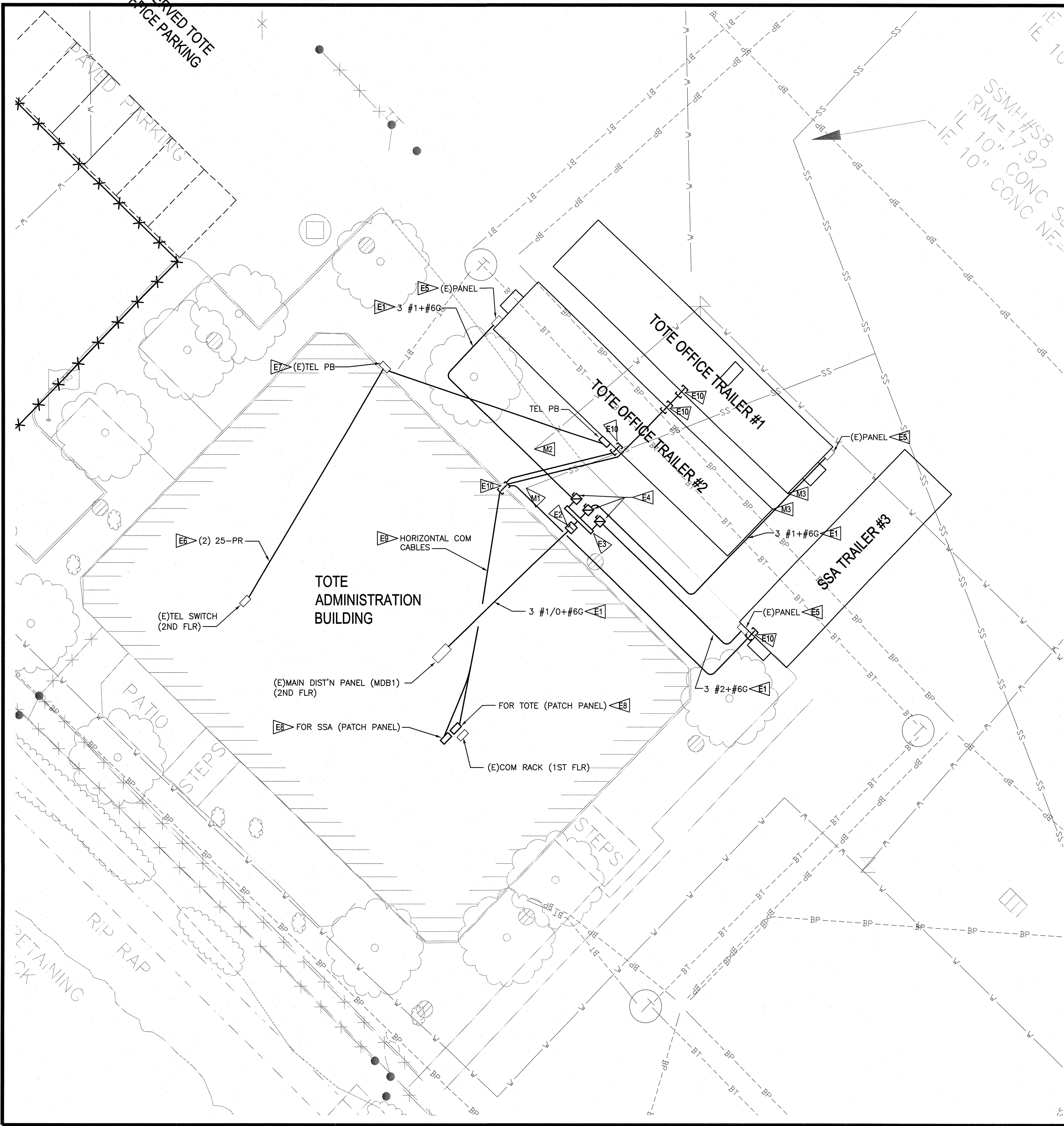
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PMJ	PROJ. ENGR	DATE
9-24-15	May 28, 2015	
DIRECTOR ENG. DATE		
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TACOMA, WA 98401-1837		

TOTE ADMINISTRATION BUILDING
HVAC UPGRADE
BUILDING AND CODE INFORMATION

6545
A0.1
SHT# 2 OF 27
CONT./CONS: 069591
M. ID: 098034
PHASE: 100%

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PORT OF TACOMA FILE: P:435-1403 TOTE HVAC System Replacement(DWGArch)098034-G2



GENERAL NOTES

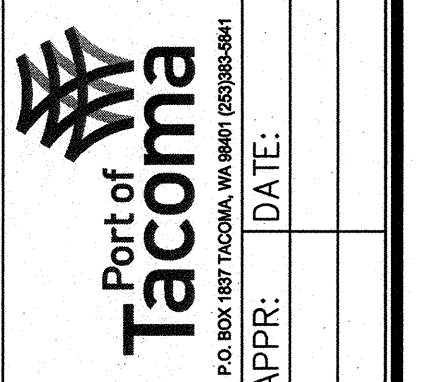
1. SEE SPECIFICATION SECTION 01 50 00 TEMPORARY FACILITIES AND CONTROLS.

CONSTRUCTION NOTES

- MECHANICAL**
- M1 POINT OF CONNECTION TO SITE SANITARY SEWER. CONNECT TEMPORARY SANITARY SEWER TO SANITARY CLEAN-OUT; PRIOR TO CONNECTION, REMOVE CONCRETE COLLAR, LOWER CLEAN-OUT TO 0'-2" ABOVE GRADE AND CAST NEW 2'-0" SQUARE BY 0'-8" DEEP CONCRETE COLLAR; RESTORE CLEAN-OUT AT COMPLETION.
 - M2 POINT OF CONNECTION TO SITE WATER. PROVIDE TEMPORARY CONNECTION FROM TRAILERS TO BUILDING YARD HYDRANT. UPON PROJECT COMPLETION, REMOVE TEMPORARY WATER CONNECTION.
 - M3 SET TRAILER ELEVATION ABOVE GRADE TO PROVIDE MINIMUM SLOPE OF 1/4" PER FOOT FOR TEMPORARY TRAILER SANITARY WASTE PIPE DRAINAGE BACK TO SANITARY CLEANOUT.

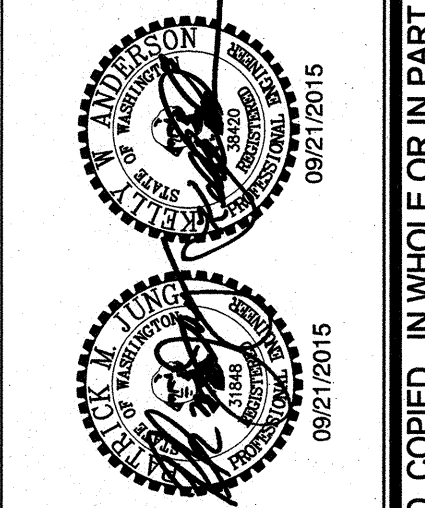
- ELECTRICAL**
- E1 PROVIDE TEMPORARY FEEDER. DETERMINE ROUTING IN FIELD.
 - E2 PROVIDE TEMPORARY TRANSFORMER. PROVIDE CONCRETE PAD.
 - E3 PROVIDE TEMPORARY NEMA 3R BUS GUTTER.
 - E4 PROVIDE TEMPORARY NEMA 3R FUSIBLE DISCONNECT SWITCH WITH FUSES.
 - E5 PROVIDE TEMPORARY CONNECTION TO PORTABLE TRAILER.
 - E6 PROVIDE TEMPORARY TELEPHONE CABLES. ROUTE IN EXISTING TEL CONDUIT DOWN TO EXISTING EXTERIOR PULL BOX AND TERMINATE IN NEW PUNCHDOWN BLOCKS IN NEW TEL PB MOUNTED ON TRAILER.
 - E7 PROVIDE KNOCKOUT FOR CABLE ROUTING. PROVIDE KNOCKOUT FILLER UPON REMOVAL OF TEMPORARY CABLES.
 - E8 PROVIDE TEMPORARY PATCH PANEL. MOUNT ON WALL BEHIND EXISTING COM RACK.
 - E9 PROVIDE TEMPORARY CABLES TO PORTABLE TRAILERS. ROUTE IN CRAWLSPACE, PULL THROUGH NEW COM PB ON TRAILER TO WORKSTATION OUTLETS.
 - E10 PROVIDE CONDUIT SLEEVE FOR COM CABLE PATHWAY.

- NOTES:**
1. REMOVE ALL TEMPORARY FEEDERS AND LOW VOLTAGE CABLES UPON COMPLETION OF HVAC UPGRADE IN TOTE ADMINISTRATION BUILDING. REPAIR DAMAGED WALLS, CEILINGS, LANDSCAPE, ETC., TO MATCH EXISTING FINISH.
 2. ALL EXTERIOR CABLING SHALL BE INSTALLED IN CONDUIT SYSTEM.
 3. REMOVE CONCRETE PADS, UPON COMPLETION OF PROJECT.
 4. REMOVE ALL TEMPORARY UTILITIES UPON COMPLETION OF PROJECT. RESTORE LANDSCAPE TO MATCH EXISTING.



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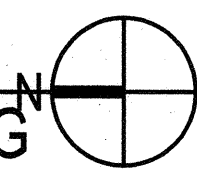
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 PRINTED BY: creed Sep 21, 2015
 PORT ADDRESS: ONE SITCUM PLAZA
 TACOMA, WA 98401-1837

**TOTE ADMINISTRATION BUILDING
 HVAC UPGRADE
 SITE CONSTRUCTION**

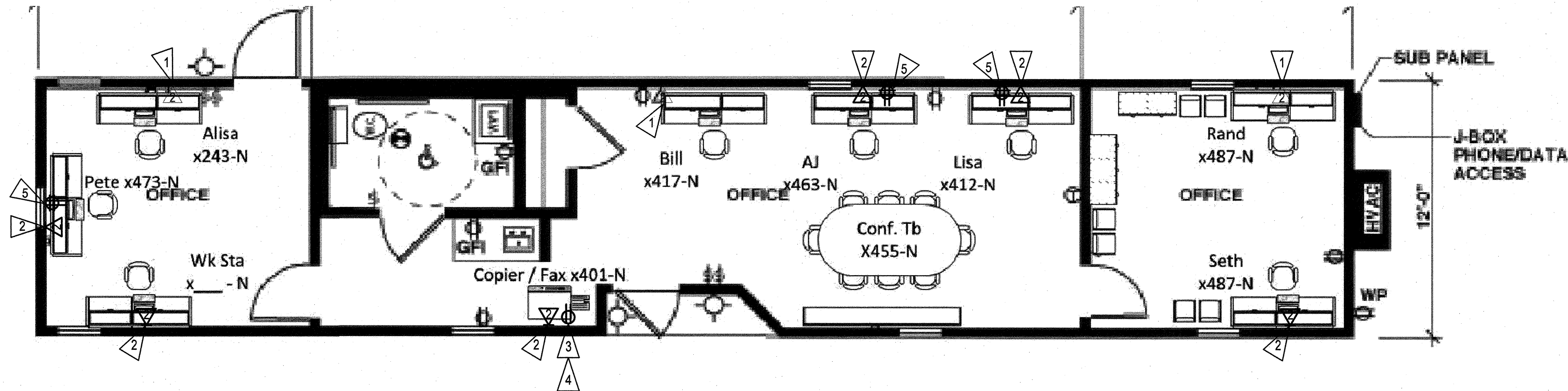
TOWNSHIP: 21N RANGE: 3E SECTION: 27
 DAT-HRZ: WA83-SF VERT:
 PARCEL: 1A DRAWING SCALE: 1/4" = 1'-0"

6545
G2
 SHT# 3 OF 27
 CONT/CONS: 070083
 M. ID: 098034
 PHASE: BID SET

**SITE PLAN - TOTE
 ADMINISTRATION BUILDING**
 SCALE: 1" = 10'-0"

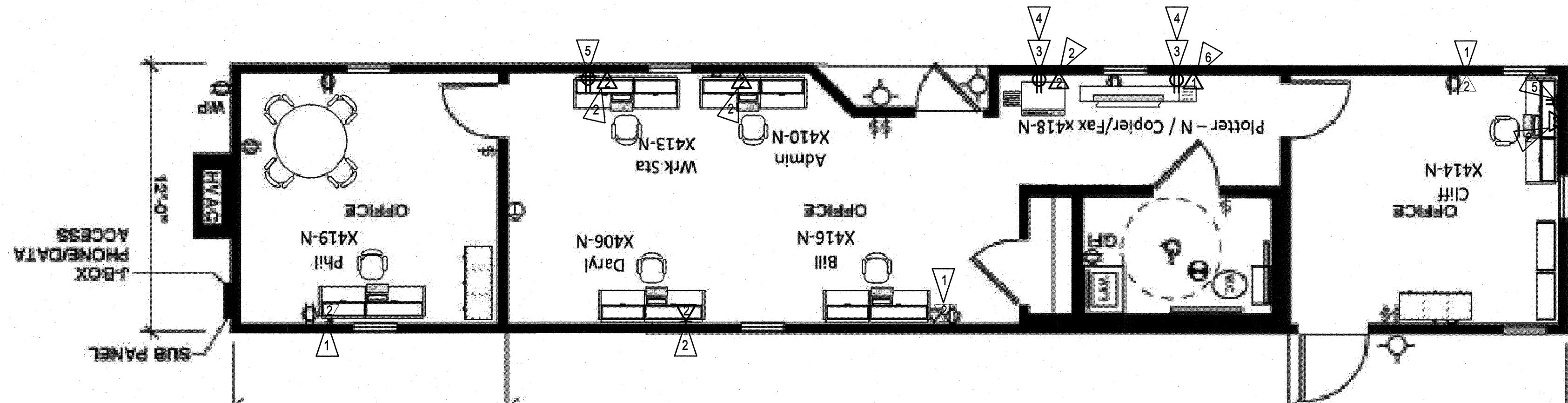


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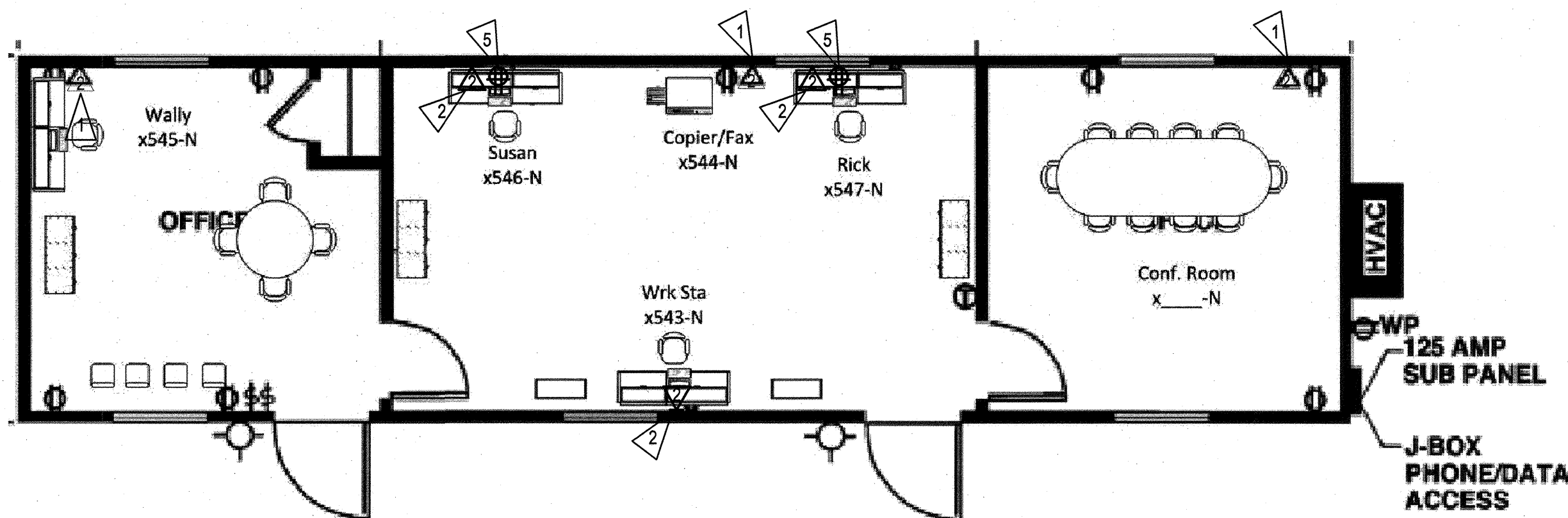
TEMPORARY PORTABLE TRAILER #1 PLAN - POWER & ANCILLARY

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



TEMPORARY PORTABLE TRAILER #2 PLAN - POWER & ANCILLARY

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



TEMPORARY PORTABLE TRAILER #3 PLAN - POWER & ANCILLARY

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

GENERAL NOTES

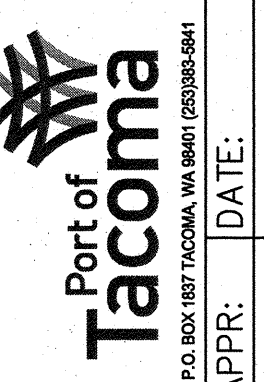
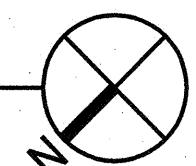
1. TERMINATE TELEPHONE CABLING IN NEW 66-PUNCHDOWN BLOCKS.
2. TERMINATE HORIZONTAL CABLING IN NEW PATCH PANELS IN COMPUTER RM 1-126.
3. ROUTE OPEN CABLES VERTICALLY ON WALL AND IN ACCESSIBLE CEILING SPACE.
4. PROVIDE CABLE SUPPORTS, 48" ON CENTER.
5. COORDINATE TELEPHONE SYSTEM REQUIREMENTS WITH EXISTING VENDOR.
6. COORDINATE DATA COMMUNICATIONS SYSTEM REQUIREMENTS WITH TOTE AND SEA STAR IT GROUPS.
7. CONNECT A MAXIMUM OF FOUR DUPLEX RECEPTACLES PER CIRCUIT.
8. PROVIDE CONNECTIONS TO NEW CONVENIENCE RECEPTACLES FROM EXISTING PANELS. PROVIDE CIRCUIT BREAKERS TO MATCH EXISTING SCCR AS REQUIRED.
9. SEE SPECIFICATION SECTION 01 50 00 TEMPORARY FACILITIES AND CONTROLS.
10. CONTRACTOR SHALL RELOCATE ALL FURNITURE FROM TOTE BUILDING.

CONSTRUCTION NOTES:

- 1. PROVIDE TEL AND DATA OUTLETS IN EXISTING OUTLET BOX. PROVIDE TEL AND HORIZONTAL CABLING IN EXISTING CONDUIT STUB. ROUTE OPEN CABLES IN ACCESSIBLE CEILING SPACE.
- 2. PROVIDE SURFACE MOUNT OUTLET BOX. PROVIDE TEL AND DATA OUTLETS. PROVIDE TEL AND HORIZONTAL CABLES.
- 3. PROVIDE SURFACE MOUNT OUTLET BOX. PROVIDE 20A DUPLEX RECEPTACLE.
- 4. CONNECT TO DEDICATED CIRCUIT.
- 5. PROVIDE SURFACE MOUNT OUTLET BOX. PROVIDE 20A FOURPLEX RECEPTACLE.
- 6. PROVIDE SURFACE MOUNT OUTLET BOX. PROVIDE DATA OUTLET. PROVIDE HORIZONTAL CABLE.

SITE PLAN - TOTE PORTABLE TRAILERS

SCALE: NTS



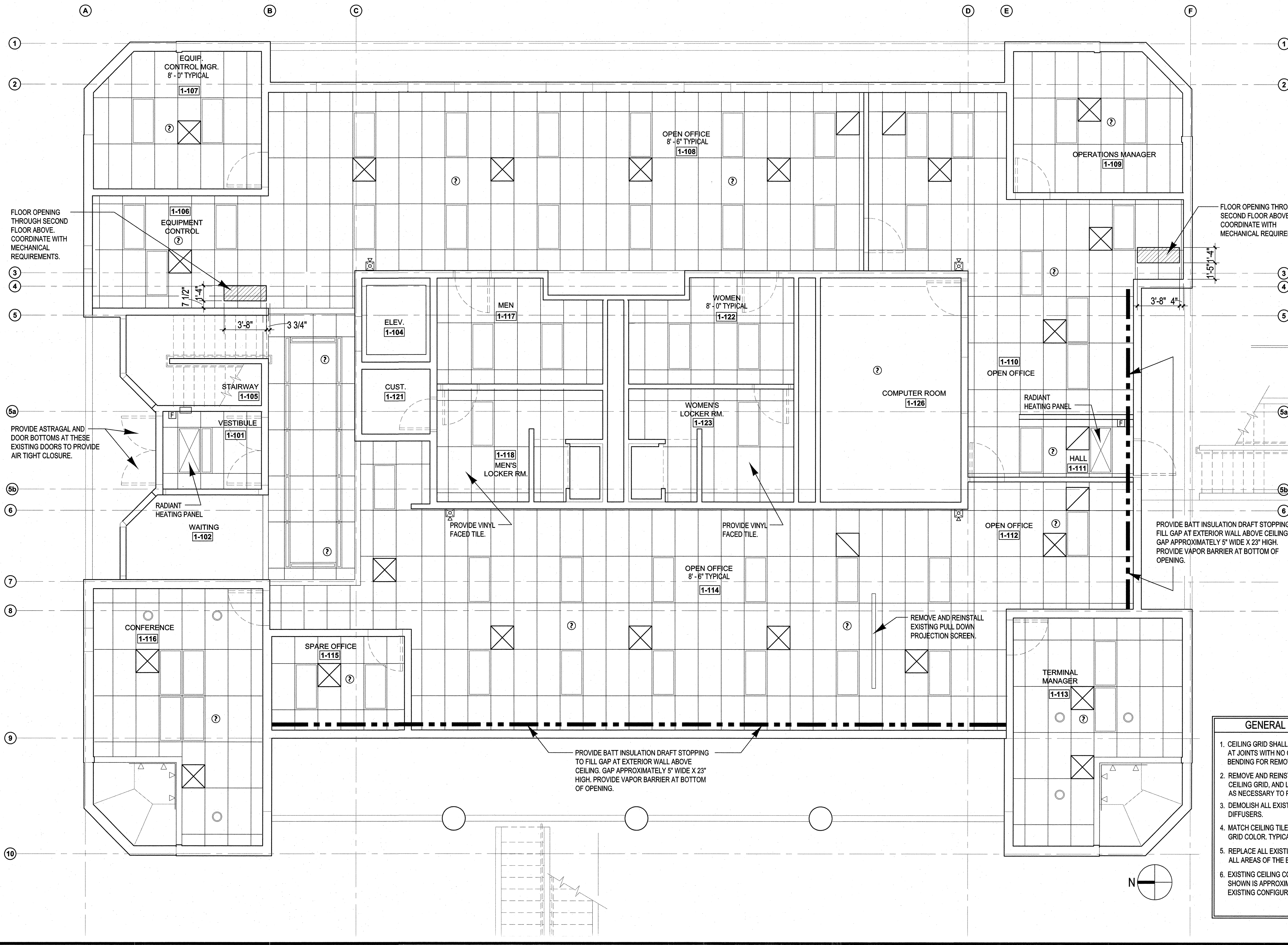
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	TACOMA, WA 98401-1837	

6545	TOTE ADMINISTRATION BUILDING		
	HVAC UPGRADE		
G4	TEMPORARY PORTABLE TRAILER PLAN		
	POWER AND ANCILLARY		
CONT/CONS:	TOWNSHIP: 21N	RANGE: 3E	SECTION: 27
M. ID:	070083	098034	
PHASE: BID SET	DAT-HRZ: WA83-SF	VERT: MLLW 19.39' @ Tide 22 1933	DRAWING SCALE: AS NOTED
	PARCEL: 1A		

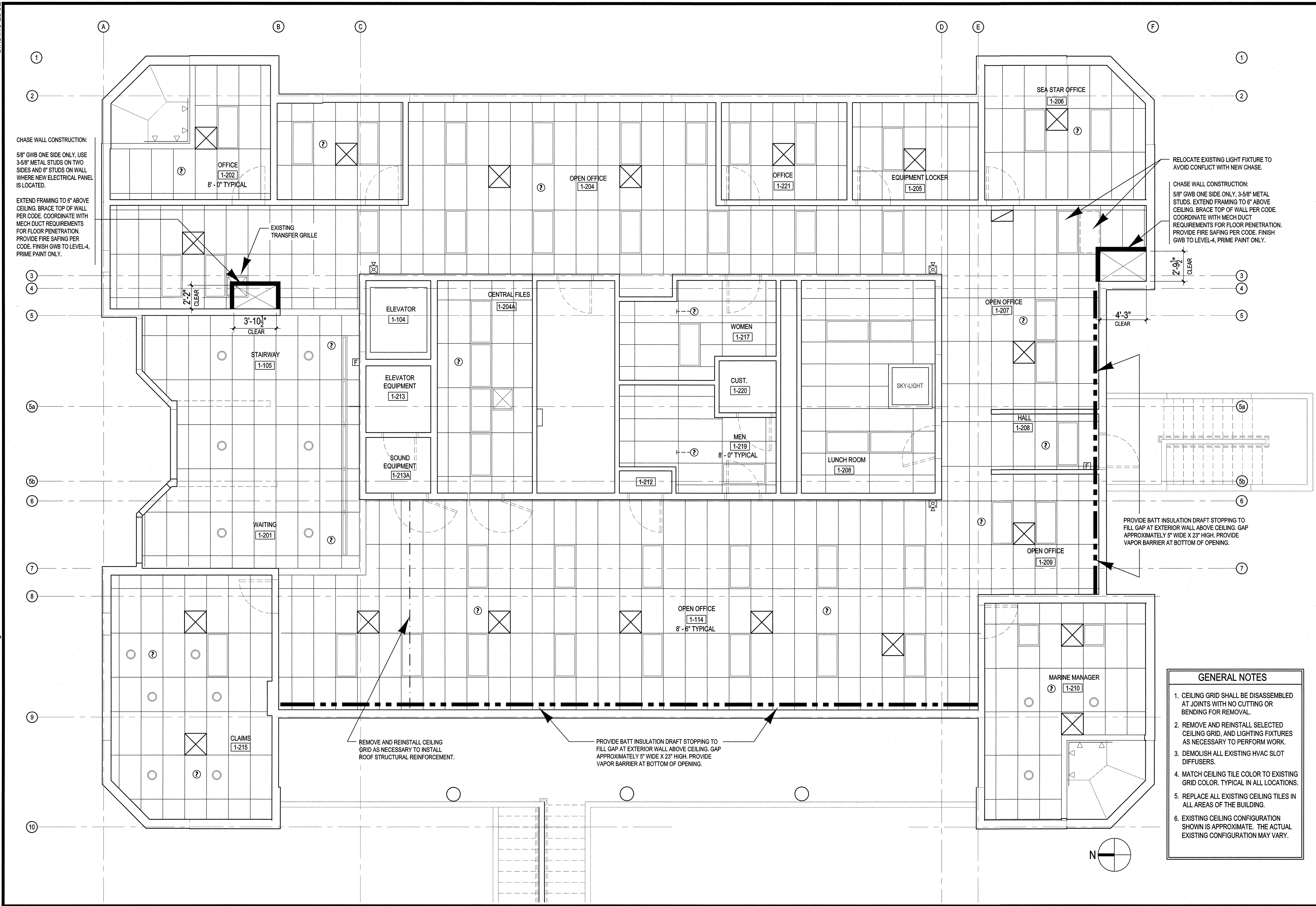
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- GENERAL NOTES**
1. CEILING GRID SHALL BE DISASSEMBLED AT JOINTS WITH NO CUTTING OR BENDING FOR REMOVAL.
 2. REMOVE AND REINSTALL SELECTED CEILING GRID, AND LIGHTING FIXTURES AS NECESSARY TO PERFORM WORK.
 3. DEMOLISH ALL EXISTING HVAC SLOT DIFFUSERS.
 4. MATCH CEILING TILE COLOR TO EXISTING GRID COLOR. TYPICAL IN ALL LOCATIONS.
 5. REPLACE ALL EXISTING CEILING TILES IN ALL AREAS OF THE BUILDING.
 6. EXISTING CEILING CONFIGURATION SHOWN IS APPROXIMATE. THE ACTUAL EXISTING CONFIGURATION MAY VARY.

6545 A1.1 SHT # 6 OF 27	CONT/CONS: 070083 M. ID: 098034 PHASE: BID SET	TOWNSHIP: 21N DAT-HRZ: WA83-SF PARCEL: 1A	RANGE: 3E SECTION: 27 DRAWING SCALE: 1/4"=1'-0"	APPROVED: <i>[Signature]</i> DIRECTOR ENG. DATE: 9-29-15 PRINTED BY: Lowell Sep 21, 2015 PORT ADDRESS: ONE SITCUM PLAZA TACOMA, WA 98401-1837	REGISTERED ARCHITECT LOWELL CATE STATE OF WASHINGTON 6834	6021 12th street east suite 201 tacoma, wa 98403 phone: 253.922.9037 fax: 253.922.6499 © HELIX DESIGN GROUP, INC. all rights reserved. is part of the drawings or information to be used in any way without the express written permission of Helix Design Group, Inc.	Port of Tacoma P.O. BOX 1837 TACOMA, WA 98401-1837
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CHASE WALL CONSTRUCTION:
5/8" GWB ONE SIDE ONLY, USE 3-5/8" METAL STUDS ON TWO SIDES AND 6" STUDS ON WALL WHERE NEW ELECTRICAL PANEL IS LOCATED.

EXTEND FRAMING TO 6" ABOVE CEILING. BRACE TOP OF WALL PER CODE. COORDINATE WITH MECH DUCT REQUIREMENTS FOR FLOOR PENETRATION. PROVIDE FIRE SAFING PER CODE. FINISH GWB TO LEVEL-4, PRIME PAINT ONLY.

RELOCATE EXISTING LIGHT FIXTURE TO AVOID CONFLICT WITH NEW CHASE.

CHASE WALL CONSTRUCTION:
5/8" GWB ONE SIDE ONLY, 3-5/8" METAL STUDS. EXTEND FRAMING TO 6" ABOVE CEILING. BRACE TOP OF WALL PER CODE. COORDINATE WITH MECH DUCT REQUIREMENTS FOR FLOOR PENETRATION. PROVIDE FIRE SAFING PER CODE. FINISH GWB TO LEVEL-4, PRIME PAINT ONLY.

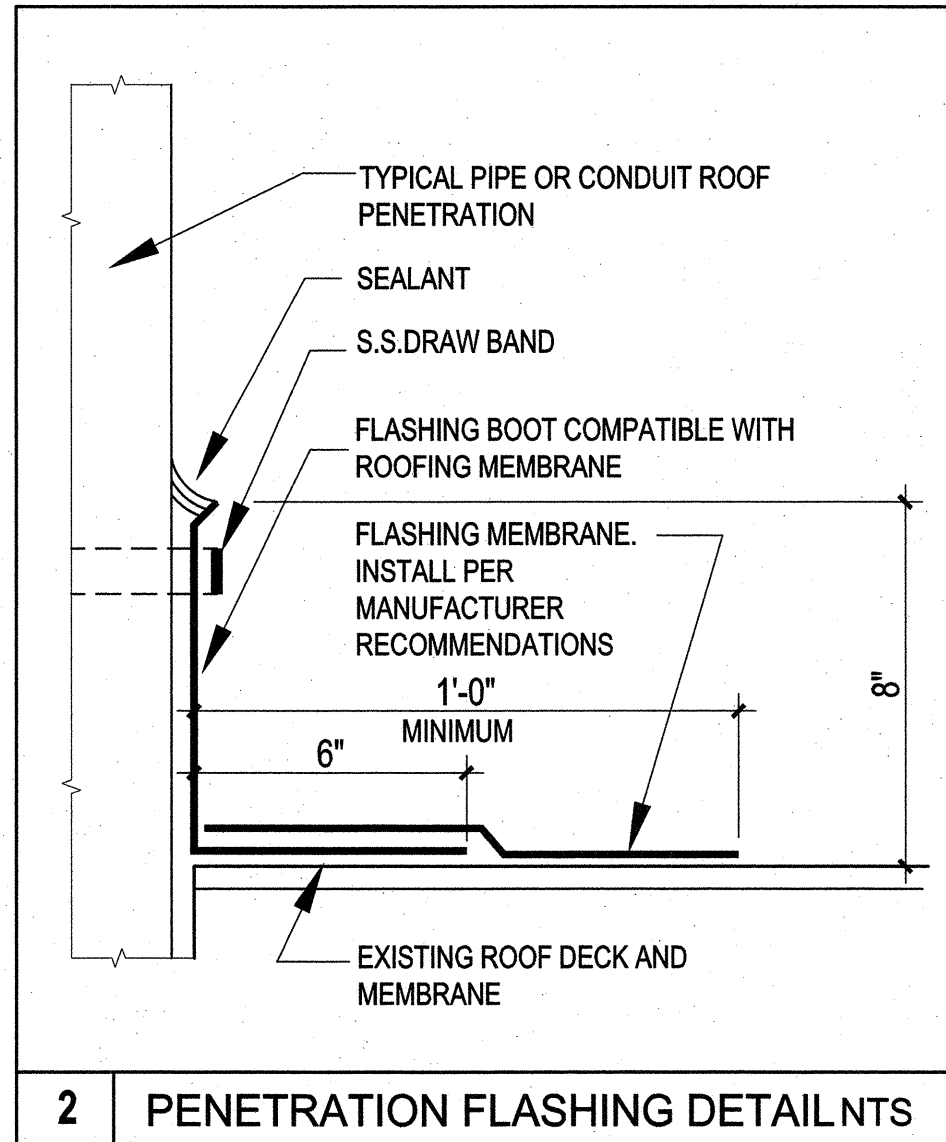
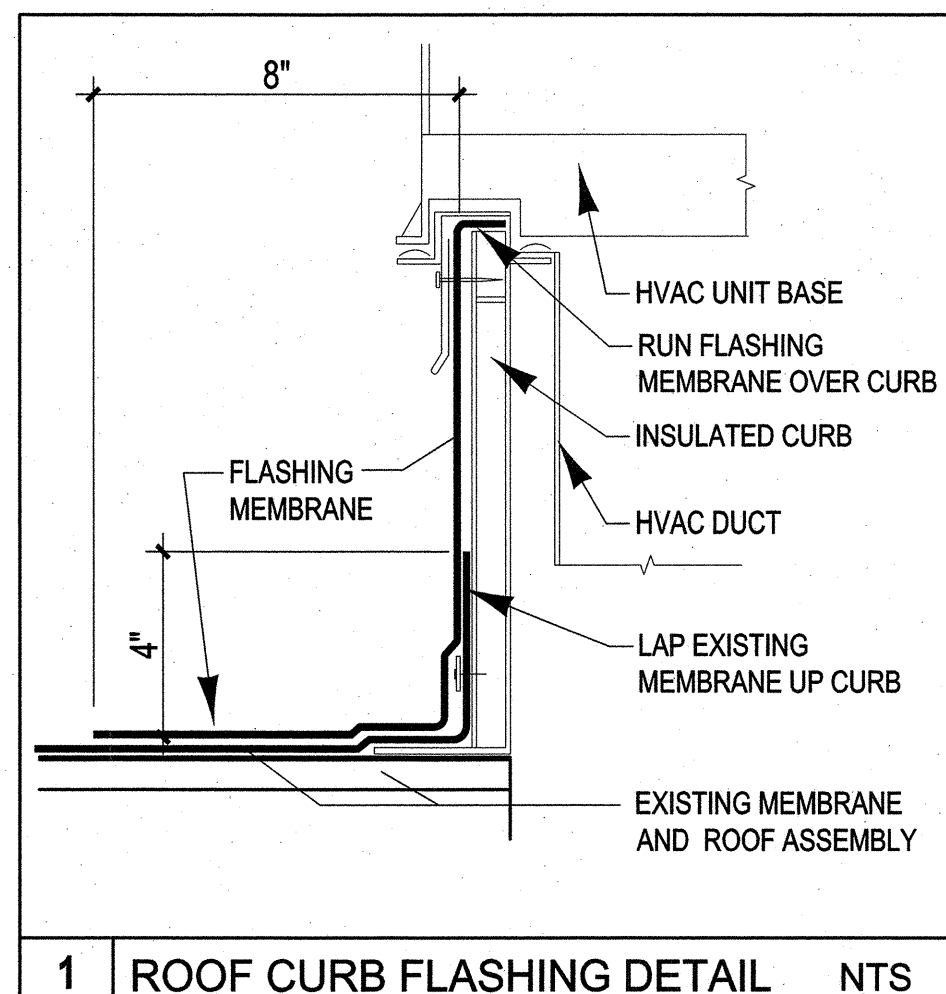
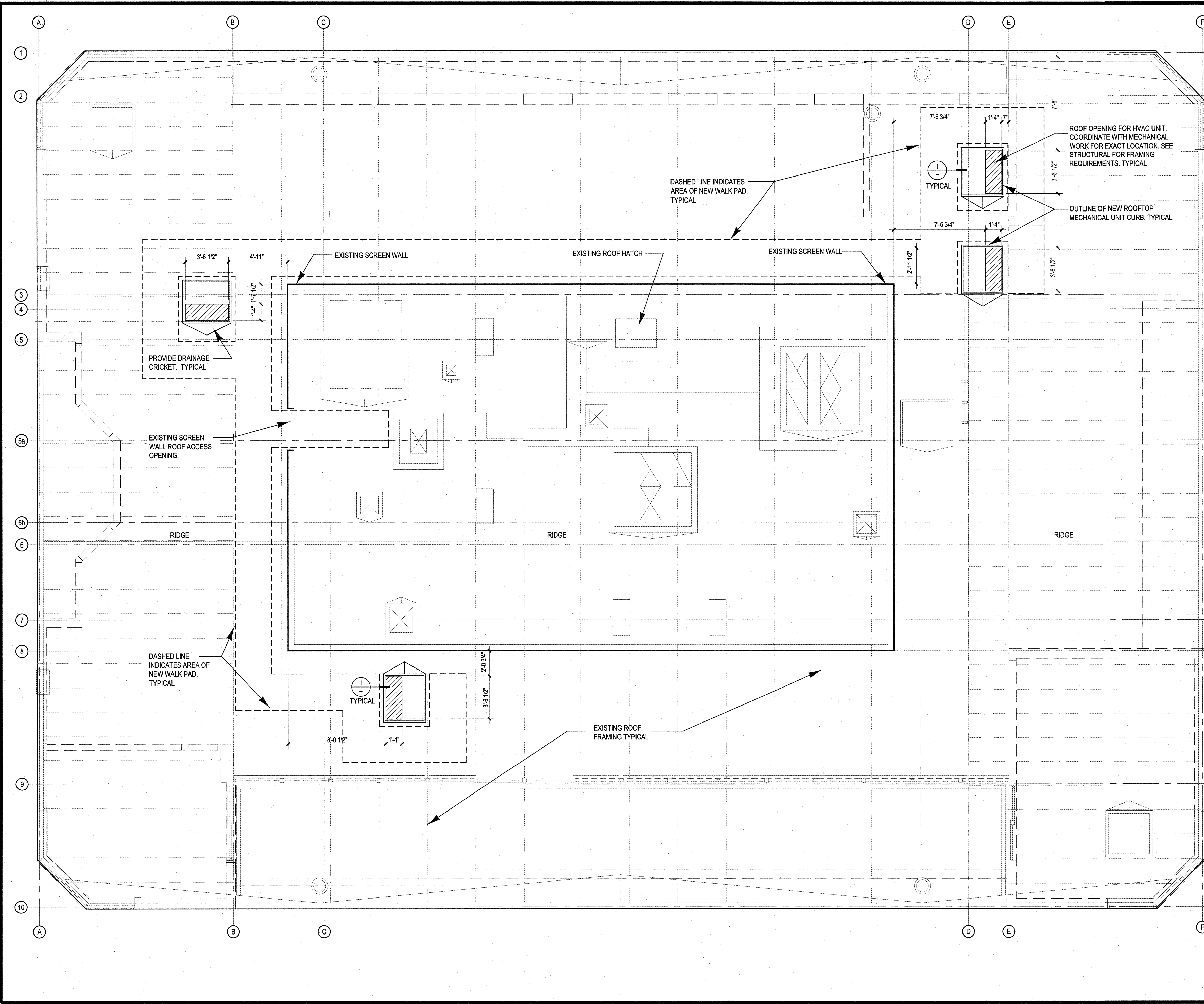
PROVIDE BATT INSULATION DRAFT STOPPING TO FILL GAP AT EXTERIOR WALL ABOVE CEILING. GAP APPROXIMATELY 5" WIDE X 23" HIGH. PROVIDE VAPOR BARRIER AT BOTTOM OF OPENING.

REMOVE AND REINSTALL CEILING GRID AS NECESSARY TO INSTALL ROOF STRUCTURAL REINFORCEMENT.

PROVIDE BATT INSULATION DRAFT STOPPING TO FILL GAP AT EXTERIOR WALL ABOVE CEILING. GAP APPROXIMATELY 5" WIDE X 23" HIGH. PROVIDE VAPOR BARRIER AT BOTTOM OF OPENING.

- GENERAL NOTES**
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 6. EXISTING CEILING CONFIGURATION SHOWN IS APPROXIMATE. THE ACTUAL EXISTING CONFIGURATION MAY VARY.

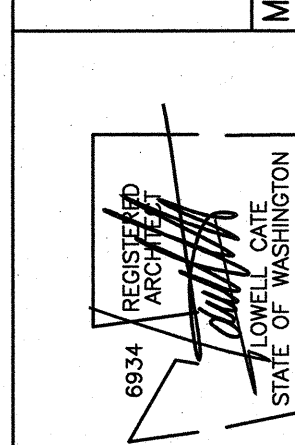
<p>6545 A1.2 SHT # 7 OF 27</p>	<p>TOTE ADMINISTRATION BUILDING HVAC SYSTEM UPGRADE</p>		<p>LC 09/21/15</p>
	<p>SECOND FLOOR - REFLECTED CEILING PLAN ARCHITECTURAL</p>		<p>CHECKED BY DATE</p>
<p>TOWNSHIP: 21N RANGE: 3E SECTION: 27</p>		<p>PROJ. ENGR DATE</p>	
<p>DAT-HRZ: WAB3-SF VERT: 1A</p>		<p>DATE</p>	
<p>PARCEL: 1A</p>		<p>PRINTED BY: Lowell Sep 21, 2015</p>	
<p>PHASE: BID SET</p>		<p>PORT ADDRESS: ONE SITCUM PLAZA TACOMA, WA 98401-1837</p>	
<p>CONT/CONS: 070083</p>		<p>APPROVED: <i>[Signature]</i></p>	
<p>M. ID: 098034</p>		<p>DIRECTOR ENG. DATE: 9-2-15</p>	
<p>PHASE: BID SET</p>		<p>PMJ</p>	
<p>DATE: 09/21/15</p>		<p>REGISTERED ARCHITECT LOWELL CATE STATE OF WASHINGTON 6834</p>	
<p>DATE: 09/21/15</p>		<p>6021 12th street east suite 201 tacoma, wa 98401 phone: 253 922 9037 fax: 253 922 6499 © HELIX DESIGN GROUP, INC. all rights reserved. no part of this document may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording, or by any information storage and retrieval system, without the prior written permission of Helix Design Group, Inc.</p>	
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<p>DATE: 09/21/15</p>		<p>MARK: REVISION: BY: APPR: DATE:</p>	



6545 A1.3 SHT # 8 OF 27	TOTE ADMINISTRATION BUILDING HVAC SYSTEM UPGRADE ROOF PLAN ARCHITECTURAL		APPROVED: <i>[Signature]</i> PMJ 9-29-15	LC 09/21/15 CHECKED BY: <i>[Signature]</i>	DATE:
	CONT./CONS: 070083 M. ID: 098034 PHASE: BID SET	TOWNSHIP: 21N DAT-HRZ: WA83-SF PARCEL: 1A	RANGE: 3E VERT:	SECTION: 27	PROJECT: 21, 2015 PRINTED BY: Lowell Sep 21, 2015 PORT ADDRESS: ONE SITCUM PLAZA TACOMA, WA 98401-1837

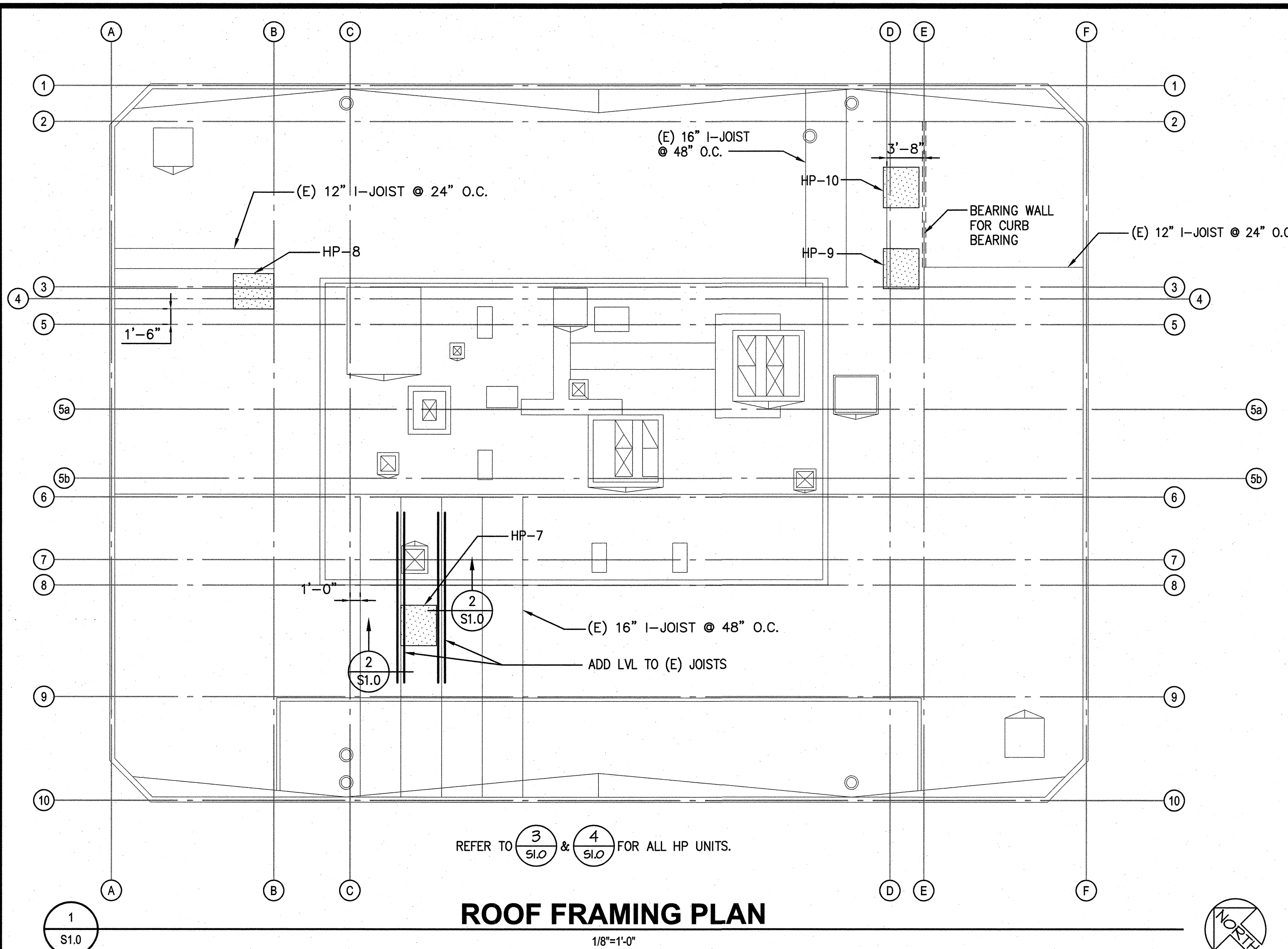


6021 12th Street east
 suite 201
 tacoma, wa 98424
 tel: 253.922.9037
 fax: 253.922.6499



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PORT OF TACOMA FILE: G:\2014 Jobs\14105.01 TOTE Admin Bldg Roof Top HVAC Supp\DWG\1410501s10



ROOF FRAMING PLAN
1/8"=1'-0"

GENERAL NOTES

ANY DISCREPANCIES FOUND AMONG THE DRAWINGS, THE SPECIFICATIONS, THESE GENERAL NOTES AND THE SITE CONDITIONS SHALL BE REPORTED TO THE ARCHITECT, WHO SHALL CORRECT SUCH DISCREPANCY IN WRITING. ANY WORK DONE BY THE CONTRACTOR AFTER DISCOVERY OF SUCH DISCREPANCY SHALL BE DONE AT THE CONTRACTOR'S RISK. THE CONTRACTOR SHALL VERIFY AND COORDINATE DIMENSIONS AMONG ALL DRAWINGS PRIOR TO PROCEEDING WITH ANY WORK OR FABRICATION. THE STRUCTURE HAS BEEN DESIGNED TO RESIST CODE SPECIFIED VERTICAL AND LATERAL FORCES AFTER THE CONSTRUCTION OF ALL STRUCTURAL ELEMENTS HAS BEEN COMPLETED. STABILITY OF THE STRUCTURE PRIOR TO COMPLETION IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR.

STANDARDS
ALL METHODS, MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE 2012 INTERNATIONAL BUILDING CODE (IBC) AS AMENDED AND ADOPTED BY THE LOCAL BUILDING OFFICIAL OR APPLICABLE JURISDICTION.

DESIGN CRITERIA

VERTICAL LOADS

AREA	DESIGN DEAD LOAD	LIVE LOAD
ROOF	15 PSF	25 PSF
MECHANICAL UNITS	800#	

LATERAL FORCES

WIND:
110 MPH WITH EXPOSURE C.

SEISMIC: (ASCE 7-10) $V = C_s W$
WHERE $F_p = \frac{0.4 a_p S_{ps} W_p}{(I_p)} (1 + 2 \frac{Z}{A})$

$a_p = 1.0$
 $R_p = 2.5$
 $I_p = 1.0$
 $S_{ps} = 0.90$
 $Z/A = 1.0$

CARPENTRY

FRAMING LUMBER:

SOLID SAWN. "DOUG FIR-LARCH" NO. 1

LAMINATED VENEER LUMBER (LVL): 1.8E AND $F_b = 2000$ PSI MINIMUM. BY REDBUILT OR APPROVED SUBMITTED PRODUCT SUBSTITUTION, WITH ICC ACCEPTANCE.

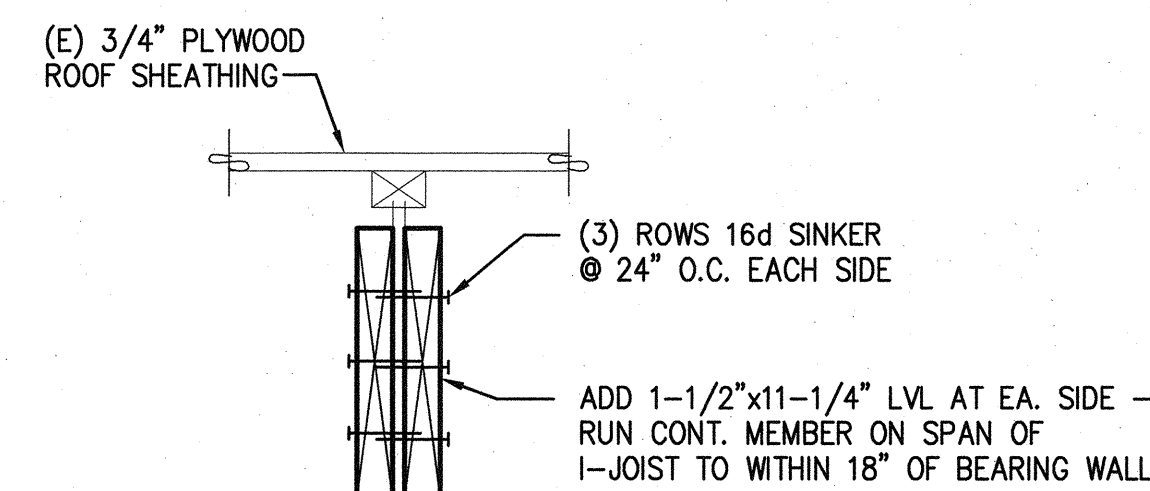
FRAMING CONNECTORS: SHALL CONFORM TO CURRENT EVALUATION REPORT AND BE MANUFACTURED BY SIMPSON STRONG-TIE COMPANY, SAN LEANDRO, CA., OR PRE-APPROVED EQUAL. PROVIDE MAXIMUM SIZE AND QUANTITY OF NAILS OR BOLTS PER MANUFACTURER, EXCEPT AS NOTED OTHERWISE. PROVIDE LEAD HOLES AS REQUIRED TO PREVENT SPLITTING OF WOOD MEMBERS.

LAG SCREWS: SHALL CONFORM TO ANSI/ASME STANDARD B18.2.1. LAG SCREWS SHALL BE OF A DIAMETER INDICATED ON DRAWINGS WITH A MINIMUM OF 8x DIA. EMBEDMENT IN SUPPORTING MEMBER UNLESS NOTED OTHERWISE. CLEARANCE HOLE FOR THE SHANK SHALL BE THE SAME DIAMETER AS THE SHANK AND THE SAME DEPTH OF PENETRATION AS THE UNTHREADED PORTION OF THE SHANK. THE LEAD HOLE FOR THE THREADED PORTION SHALL HAVE A DIAMETER EQUAL TO 60 TO 75 PERCENT OF THE SHANK DIAMETER AND A LENGTH EQUAL TO AT LEAST THE LENGTH OF THE THREADED PORTION. THE THREADED PORTION OF THE SCREW SHALL BE INSERTED IN ITS LEAD HOLE BY TURNING WITH A WRENCH. SOAP OR OTHER LUBRICANT SHALL BE USED ON THE SCREWS OR IN THE LEAD HOLE TO FACILITATE INSERTION AND PREVENT DAMAGE TO THE SCREW. LAG SCREW SHALL NOT BE DRIVEN WITH A HAMMER.

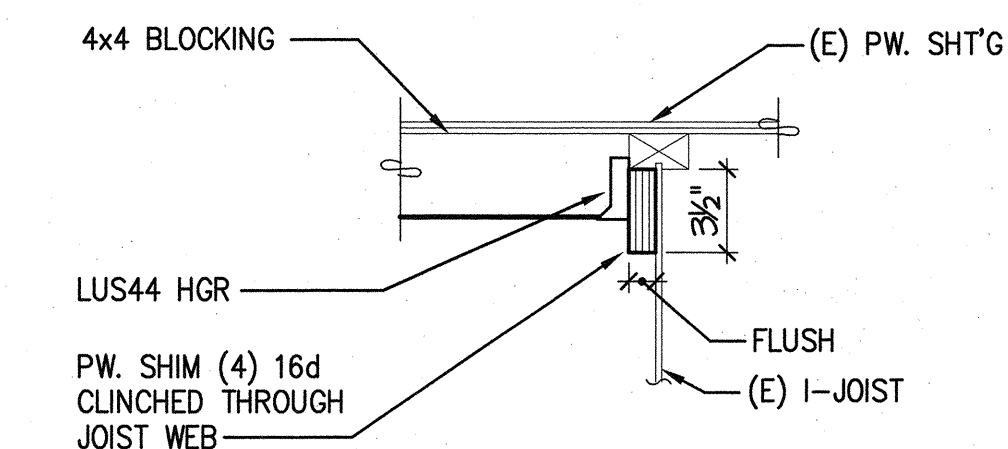
STATEMENT OF SPECIAL INSPECTIONS:

SPECIAL INSPECTION: SPECIAL INSPECTION SHALL BE PROVIDED PER THE REQUIREMENTS OF IBC SECTION 1704 AND AS NOTED HEREIN.

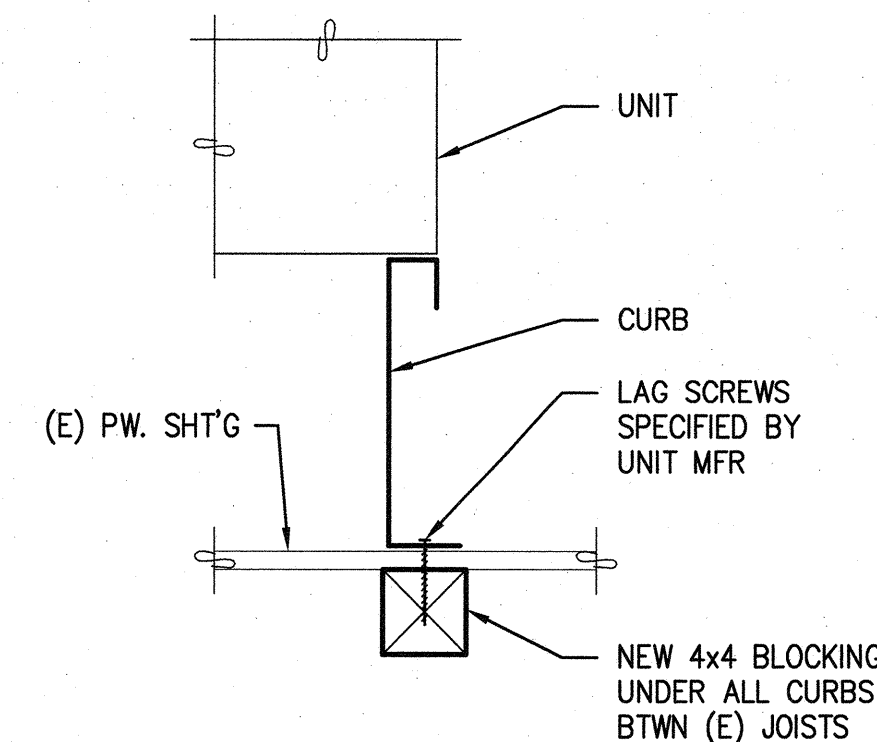
STRUCTURAL SYSTEM	VERIFICATION AND INSPECTION	CONTINUOUS	PERIODIC	REFERENCES
WOOD FRAMING	INSPECTIONS BY BUILDING DEPARTMENT		x	IBC 1705.10.1, 1705.11.2



DETAIL 2
1-1/2"=1'-0"



DETAIL 4
1-1/2"=1'-0"



DETAIL 3
1-1/2"=1'-0"

Port of Tacoma
P.O. BOX 887 TACOMA, WA 98401 (206)395-8441

APPR: DATE:

811 Pine Avenue, Suite 208
Tacoma, Washington 98402
Tel: 206.262.8979

1200 Pacific Avenue, Suite 701
Tacoma, Washington 98402
Tel: 252.832.7477

PCS
Structural Solutions

MARK: REVISION:

APPROVED: *Michael S. Howard*
DIRECTOR, ENGR. DATE: 9-24-15

CHECKED BY: DATE: 9/21/15
PROJ. ENGR. DATE: 9/21/15
PRINTED BY: Michael S. Sep 18, 2015
PORT ADDRESS: ONE SITCUM PLAZA
TACOMA, WA 98401-1837

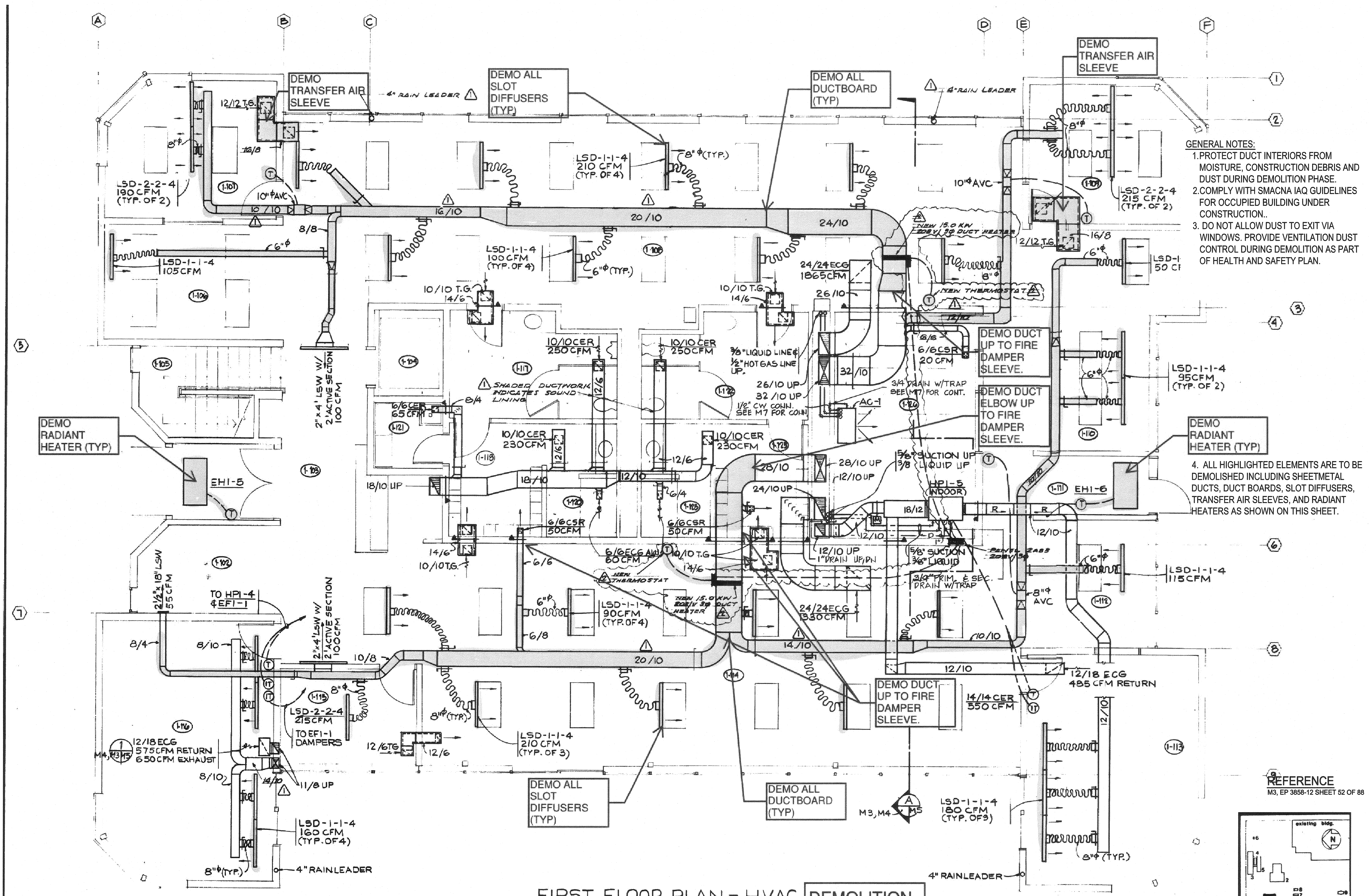
**TOTE ADMINISTRATION BUILDING
HVAC SYSTEM REPLACEMENT
ROOF FRAMING PLAN AND DETAIL**

TOWNSHIP: SECTION:
RANGE: MLLW 19.39' @ Tide 22 1933
DATE-HRZ: WA63-SF VERT:
DRAWING SCALE: AS NOTED

CONT/CONS: 069591
M. ID:
PHASE: BID

S1.0
SH 9 OF 27

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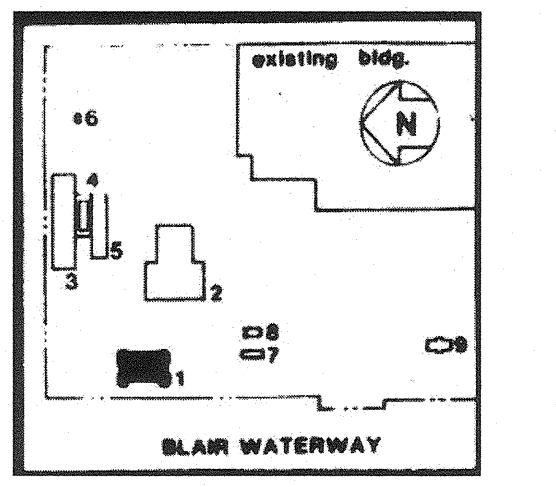


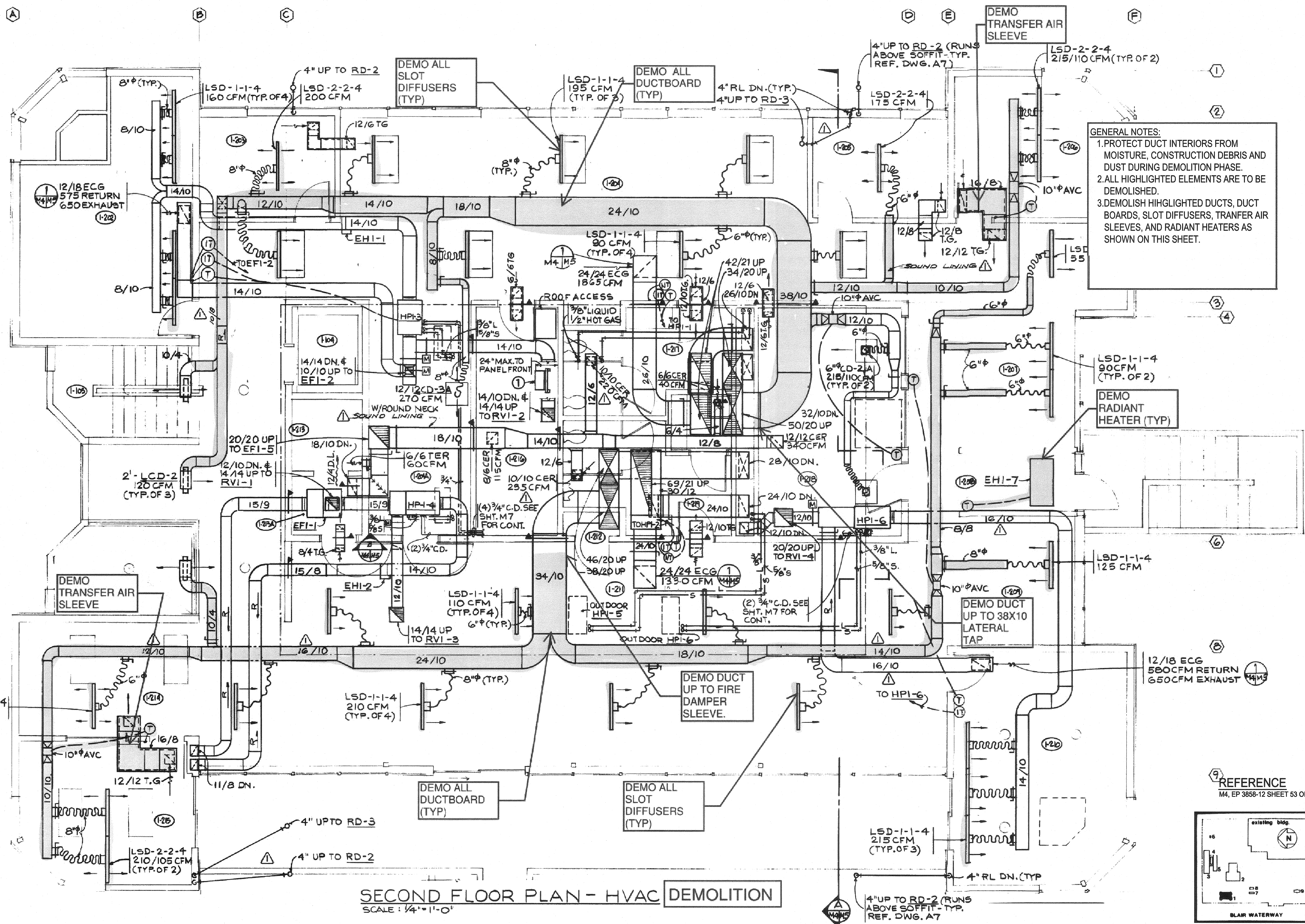
FIRST FLOOR PLAN - HVAC DEMOLITION
 SCALE: 1/4" = 1'-0"

- GENERAL NOTES:**
1. PROTECT DUCT INTERIORS FROM MOISTURE, CONSTRUCTION DEBRIS AND DUST DURING DEMOLITION PHASE.
 2. COMPLY WITH SMACNA IAQ GUIDELINES FOR OCCUPIED BUILDING UNDER CONSTRUCTION.
 3. DO NOT ALLOW DUST TO EXIT VIA WINDOWS. PROVIDE VENTILATION DUST CONTROL DURING DEMOLITION AS PART OF HEALTH AND SAFETY PLAN.
 4. ALL HIGHLIGHTED ELEMENTS ARE TO BE DEMOLISHED INCLUDING SHEETMETAL DUCTS, DUCT BOARDS, SLOT DIFFUSERS, TRANSFER AIR SLEEVES, AND RADIANT HEATERS AS SHOWN ON THIS SHEET.

600 Stewart St., Ste. 1400 Seattle, Washington 98101 Tel: 206.267.1700 Fax: 206.267.1701	
SAZAN GROUP P.O. BOX 1817 TACOMA, WA 98401-1817	BY: _____ APPR: _____ DATE: _____
09/21/2015	
CHECKED BY: _____ DATE: _____	PROJECT ENGR: _____ DATE: _____
APPROVED: <i>[Signature]</i> DIRECTOR ENGR. DATE: 9/29/15	PRINTED BY: _____ PORT ADDRESS: ONE SITCOM PLAZA TACOMA, WA 98401-1837
TOTE ADMINISTRATION BUILDING HVAC SYSTEM UPGRADE FIRST FLOOR PLAN HVAC DEMOLITION	SECTION: 27 RANGE: 3E TOWNSHIP: 21N DAT-HRZ: WA83-SF PARCEL: 1A
6545 D1 SHT# 10 OF 27	SECTION: 27 RANGE: 3E TOWNSHIP: 21N DAT-HRZ: WA83-SF PARCEL: 1A
CONT/CONS: 070083 M. ID: 098034 PHASE: BID SET	SECTION: 27 RANGE: 3E TOWNSHIP: 21N DAT-HRZ: WA83-SF PARCEL: 1A
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REFERENCE
 M3, EP 3858-12 SHEET 52 OF 88

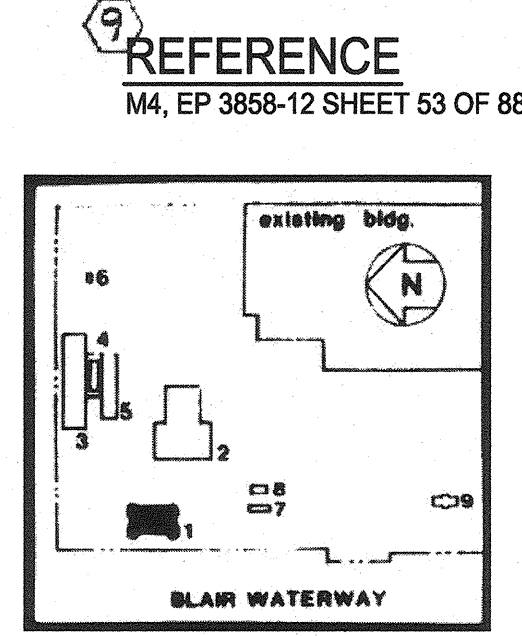




GENERAL NOTES:

1. PROTECT DUCT INTERIORS FROM MOISTURE, CONSTRUCTION DEBRIS AND DUST DURING DEMOLITION PHASE.
2. ALL HIGHLIGHTED ELEMENTS ARE TO BE DEMOLISHED.
3. DEMOLISH HIGHLIGHTED DUCTS, DUCT BOARDS, SLOT DIFFUSERS, TRANSFER AIR SLEEVES, AND RADIANT HEATERS AS SHOWN ON THIS SHEET.

SECOND FLOOR PLAN - HVAC DEMOLITION
SCALE: 1/4" = 1'-0"



6545

D2

SHT# 11 OF 27

TOTE ADMINISTRATION BUILDING

HVAC SYSTEM UPGRADE

SECOND FLOOR PLAN

HVAC DEMOLITION

APPROVED: *[Signature]*

PMU 9-29-15

CHECKED BY: _____ DATE: _____

DIRECTOR ENGR. DATE: _____ PROJ. ENGR. DATE: _____

PRINTED BY: creed Sep 21, 2015

PORT ADDRESS: ONE SITCUM PLAZA

TACOMA, WA 98401-1837

MARK: _____ REVISION: _____ BY: _____ DATE: _____

APPR: _____

TOWNSHIP: 21N SECTION: 27

RANGE: 3E

DAT-HRZ: WA83-SF VERT: MLLW 19.39' @ Tide 22 1933

PARCEL: 1A DRAWING SCALE: AS NOTED

600 Stewart St., Ste 1400
Seattle, Washington 98101

Tel: 206.287.1700
Fax: 206.287.1700

SAZAN GROUP

Port of Tacoma, WA 98154

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SYMBOLS LEGEND - GENERAL	
SYMBOL	DESCRIPTION
	DRAWING CONSTRUCTION ("FLAG") NOTE
	EQUIPMENT IDENTIFIER
	MATCHLINE/MATCHLINE
	REVISION CLOUD (ENCIRCLES DRAWING CHANGES MADE SINCE THE PREVIOUS RELEASE)
	REVISION REFERENCE
	EXISTING TO BE REMOVED (CROSSED)
	HEAVY LINEWEIGHT INDICATES NEW WORK
	LIGHT LINEWEIGHT INDICATES EXISTING INFORMATION
	POINT OF CONNECTION (POC) BETWEEN NEW AND EXISTING POINT OF CONNECTION
	NECK SIZE FLOW - CFM GRILLE, REGISTER OR DIFFUSER TAG
	DETAIL REFERENCE DETAIL IDENTIFICATION NUMBER SHEET WHERE DETAIL IS DRAWN
	ELEVATION REFERENCE ELEVATION IDENTIFICATION NUMBER SHEET WHERE ELEVATION IS DRAWN
	SECTION REFERENCE SECTION IDENTIFICATION NUMBER SHEET WHERE SECTION IS DRAWN
	NORTH REFERENCE

SYMBOLS LEGEND - AIR HANDLING	
SYMBOL	DESCRIPTION
	POSITIVE PRESSURE DUCT - TURNING TOWARD
	POSITIVE PRESSURE DUCT - TURNING AWAY
	NEGATIVE PRESSURE DUCT - TURNING TOWARD
	NEGATIVE PRESSURE DUCT - TURNING AWAY
	ROUND DUCT - TURNING TOWARD
	ROUND DUCT - TURNING AWAY
	FLAT-OVAL DUCT - TURNING TOWARD
	FLAT-OVAL DUCT - TURNING AWAY
	INCLINE RISE (R) OR DROP (D) IN DIRECTION OF ARROW
	FLEXIBLE CONNECTION
	ACCESS DOOR (AD) OR ACCESS PANEL (AP)
	VOLUME DAMPER
	FIRE DAMPER
	SMOKE DAMPER
	FIRE SMOKE DAMPER
	MOTOR OPERATED DAMPER
	BACKDRAFT DAMPER
	FLEXIBLE DUCT

SYMBOLS LEGEND - AIR HANDLING	
SYMBOL	DESCRIPTION
	ROUND, 90° ELBOW, R/W OR R/D = 1.5
	RECTANGULAR, 90° ELBOW, R/W OR R/D = 1.5
	RECTANGULAR OR ROUND, 90° ELBOW, R/W OR R/D = 1.5
	SQUARE CORNER ELBOW WITH TURNING VANES
	45° BRANCH CONNECTION
	RECTANGULAR BRANCH TO RECTANGULAR DUCT CONNECTION WITH 45° TAPER
	ROUND OR RECTANGULAR BRANCH TO ROUND OR RECTANGULAR DUCT CONNECTION
	ROUND BRANCH TO RECTANGULAR DUCT CONNECTION
	ROUND BRANCH TO ROUND DUCT CONNECTION
	TRANSITION OR REDUCER - NOTED FOT (FLAT ON TOP) OR FOB (FLAT ON BOTTOM) IF REQUIRED
	RECTANGULAR TO ROUND TRANSITION
	ROUND DUCT TURNING DOWN / AWAY

SYMBOLS LEGEND - AIR HANDLING	
SYMBOL	DESCRIPTION
	EQUIPMENT WITH EQUIPMENT IDENTIFICATION
	THERMOSTAT
	DIFFUSER IDENTIFIER CONNECTION SIZE AIR FLOW (CFM) DIFFUSER TYPE MARK
	CEILING SUPPLY DIFFUSER
	CEILING RETURN DIFFUSER
	AIRFLOW, SUPPLY
	AIRFLOW, RETURN

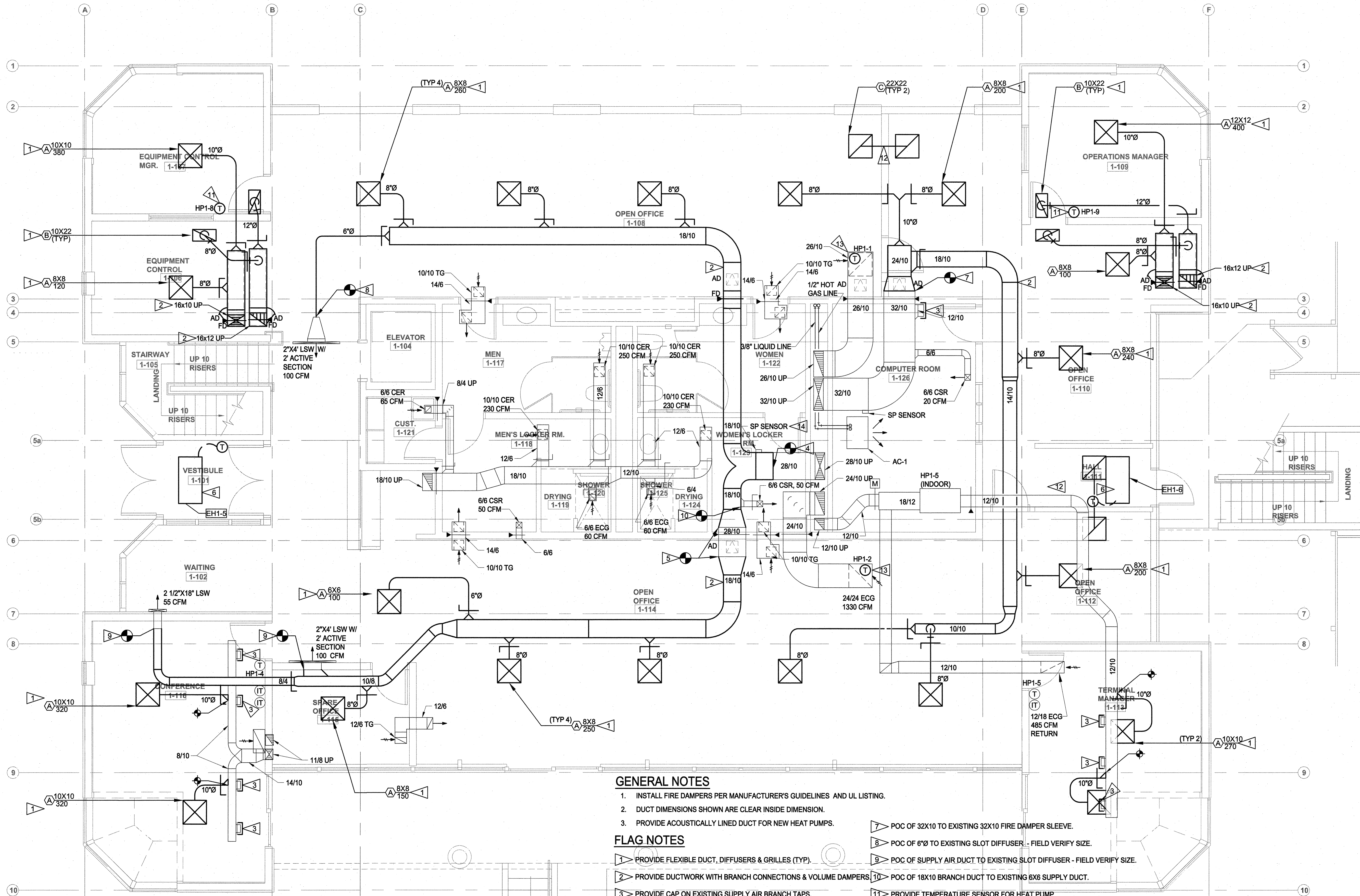
SYMBOLS LEGEND - PIPING & AIRFLOW DIAGRAMS	
SYMBOL	DESCRIPTION
	PIPING OR DUCTED AIRFLOW
	NON-DUCTED AIRFLOW
	ELECTRICAL CONNECTION
	FLOW CONTINUATION ARROW
	COMPLEX INTERLOCK (ELEC., PNEUMATIC, ETC.)
	CONNECTION TO CENTRAL MONITORING AND CONTROL SYSTEM (CMCS)
	PUMP
	CENTRIFUGAL FAN
	ELECTRIC MOTOR/STARTER ASSEMBLY
	ELECTRIC MOTOR OPERATOR (VALVES AND DAMPERS)
	FLOOR DRAIN
	FUNNEL DRAIN
	FLOW DIRECTION

SYMBOLS LEGEND - PIPING	
SYMBOL	DESCRIPTION
	PIPE TURNING DOWN / AWAY
	PIPE TURNING UP / TOWARDS

ENERGY CODE COMPLIANCE NOTES

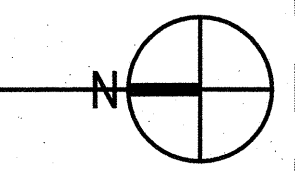
- MECHANICAL VENTILATION COMPLIES WITH SECTION 401.2 OF THE INTERNATIONAL MECHANICAL CODE INCLUDING FLOW REDUCTION CAPABILITY TO THE CODE MINIMUM.
- PERFORM LOAD CALCULATIONS IN ACCORDANCE WITH ASHRAE STANDARD 183 OR CHAPTER 3 OF THE WASHINGTON STATE ENERGY CODE (WSEC) SECTION C403.2.1.
- THE OUTPUT CAPACITY OF HEATING AND COOLING EQUIPMENT AND SYSTEMS DOES NOT EXCEED CALCULATED LOADS PER SECTION C403.2.2 OF THE WSEC.
- ZONE TEMPERATURE CONTROL PROVIDES A DEADBAND OF AT LEAST 5°F IN ACCORDANCE WITH SECTION C403.2.4.2 OF THE WSEC.
- THERMOSTATS ARE 7 DAY PROGRAMMABLE WITH MANUAL OVERRIDE FOR TEMPORARY OPERATION UP TO TWO HOURS IN ACCORDANCE WITH SECTION C403.2.4.3 OF THE WSEC.
- THERMOSTATS ARE PART OF A DDC SYSTEM THAT PROVIDES THE TIME CLOCK AND SETBACK REQUIREMENTS OF SECTION C403.2.4.3 OF THE WSEC.
- HVAC SYSTEMS SHALL HAVE OPTIMUM START CONTROLS PER SECTION C403.2.4.3.3 OF THE WSEC.
- OUTSIDE AIR INTAKES AND EXHAUST DUCTS SERVING CONDITIONED SPACE SHALL BE EQUIPPED WITH MOTORIZED DAMPERS WHICH CLOSE AUTOMATICALLY WHEN SYSTEM IS OFF OR UPON POWER FAILURE. DAMPER LEAKAGE RATE SHALL COMPLY WITH SECTION C402.4.5.2 OF THE WSEC.
- ALL DUCTWORK SHALL BE CONSTRUCTED AND SEALED PER SECTION C403.2.7.3, C402 LEAKAGE REQUIREMENTS AND INTERNATIONAL BUILDING CODE VAPOR RETARDER REQUIREMENTS.
- ALL LOW PRESSURE DUCT SYSTEMS SHALL BE SEALED TO A LEAKAGE RATE NOT TO EXCEED 6% OF THE FAN FLOW.
- ALL DUCT AND PIPING SYSTEMS SHALL BE INSULATED PER SECTION C403.2.7.2 & TABLE C403.2.8 OF THE WSEC. PROTECTION OF PIPE INSULATION EXPOSED TO WEATHER SHALL COMPLY WITH SECTION C403.2.8.1 OF THE WSEC.
- MECHANICAL SYSTEMS COMMISSIONING COMPLIES WITH COMPLETION REQUIREMENTS, SECTION C403.2.9 OF THE WSEC.
- EACH HVAC SYSTEM WITH FRACTIONAL HP FAN MOTORS SHALL HAVE A MINIMUM MOTOR EFFICIENCY OF 70% WHEN RATED IN ACCORDANCE WITH DOE 10 C.F.R. 431 AND SHALL HAVE THE MEANS TO ADJUST MOTOR SPEED IN ACCORDANCE WITH SECTION C403.2.10.3 & C403.2.10.13 OF THE WSEC.
- INTEGRATED ECONOMIZER CONTROL SHALL COMPLY WITH SECTION C403.4.1.3 OF THE WSEC.
- ECONOMIZER HEATING SYSTEM IMPACT SHALL COMPLY WITH SECTION C403.4.1.4 OF THE WSEC.

<p>6545 M1 SHT# 12 OF 27</p>	<p>TOTE ADMINISTRATION BUILDING HVAC SYSTEM UPGRADE LEGEND</p>		<p>APPROVED: <i>[Signature]</i> DATE: 9-29-15</p>	<p>CHECKED BY: <i>[Signature]</i> DATE: 9/21/2015</p>
	<p>CONTR/CONS: 070083 M. ID: 098034 PHASE: BID SET</p>	<p>TOWNSHIP: 21N RANGE: 3E SECTION: 27</p>	<p>DATE: 09/21/2015</p>	<p>PROJECT: HVAC SYSTEM UPGRADE</p>
<p>PORT OF TACOMA 600 Stewart St., Ste 1400 Seattle, Washington 98101 Tel: 206.267.1700 Fax: 206.267.1701</p>		<p>SAZAN GROUP P.O. BOX 1887 TACOMA, WA 98401-1887</p>		
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FIRST FLOOR PLAN - HVAC

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



GENERAL NOTES

1. INSTALL FIRE DAMPERS PER MANUFACTURER'S GUIDELINES AND UL LISTING.
2. DUCT DIMENSIONS SHOWN ARE CLEAR INSIDE DIMENSION.
3. PROVIDE ACOUSTICALLY LINED DUCT FOR NEW HEAT PUMPS.

FLAG NOTES

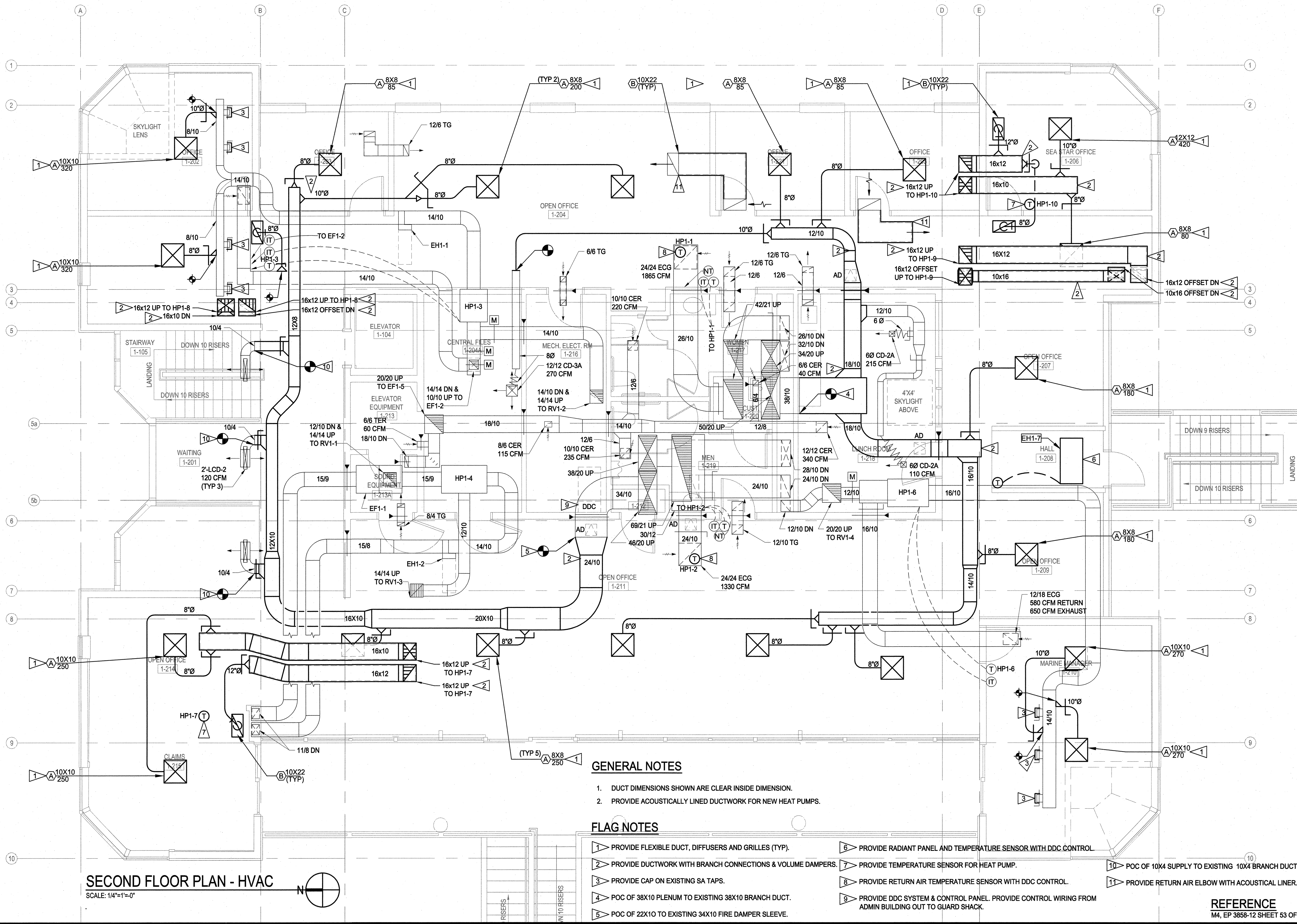
- | | |
|---|--|
| 1. PROVIDE FLEXIBLE DUCT, DIFFUSERS & GRILLES (TYP). | 7. POC OF 32X10 TO EXISTING 32X10 FIRE DAMPER SLEEVE. |
| 2. PROVIDE DUCTWORK WITH BRANCH CONNECTIONS & VOLUME DAMPERS. | 8. POC OF 6"Ø TO EXISTING SLOT DIFFUSER - FIELD VERIFY SIZE. |
| 3. PROVIDE CAP ON EXISTING SUPPLY AIR BRANCH TAPS. | 9. POC OF SUPPLY AIR DUCT TO EXISTING SLOT DIFFUSER - FIELD VERIFY SIZE. |
| 4. POC OF 18X10 WYE TO EXISTING 28X10 BRANCH DUCT. | 10. POC OF 18X10 BRANCH DUCT TO EXISTING 6X6 SUPPLY DUCT. |
| 5. POC OF 28X10 TO EXISTING 28X10 FIRE DAMPER SLEEVE. | 11. PROVIDE TEMPERATURE SENSOR FOR HEAT PUMP. |
| 6. PROVIDE RADIANT PANEL AND TEMPERATURE SENSOR WITH DDC CONTROL. | 12. PROVIDE RETURN AIR TRANSFER DUCT AND GRILLES. |
| | 13. PROVIDE RETURN AIR TEMPERATURE SENSOR WITH DDC CONTROL. |
| | 14. RE-INSTALL EXISTING DUCT STATIC PRESSURE SENSOR. |

REFERENCE
M3, EP 3858-12 SHEET 52 OF 88

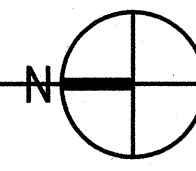
<p>6545</p> <p>M2</p> <p>SHT# 13 OF 27</p>	<p>TOTE ADMINISTRATION BUILDING</p> <p>HVAC SYSTEM REPLACEMENT</p> <p>FIRST FLOOR PLAN</p>		<p>CHECKED BY: <i>[Signature]</i></p> <p>DATE: 4-29-15</p>	<p>DATE: 4-29-15</p>
	<p>TOWNSHIP: 21N</p> <p>RANGE: 3E</p> <p>SECTION: 27</p>		<p>PROJECT ENGR: <i>[Signature]</i></p> <p>DATE: 9/21/2015</p>	
<p>CONTRACT/CONS: 070083</p> <p>M. ID: 098034</p> <p>PHASE: BID SET</p>		<p>PRINTED BY: <i>[Signature]</i></p> <p>DATE: 9/21/2015</p> <p>PORT ADDRESS: ONE SITCUM PLAZA</p> <p>TACOMA, WA 98401-1837</p>		<p>DATE: 09/21/2015</p>
<p>SAZAN GROUP</p> <p>600 Stewart St., Ste 1400 Seattle, Washington 98101</p> <p>Tel: 206.267.1700 Fax: 206.267.1701</p>		<p>MARK: <i>[Signature]</i></p> <p>REVISION: <i>[Signature]</i></p> <p>BY: <i>[Signature]</i></p> <p>APPR: <i>[Signature]</i></p> <p>DATE: <i>[Signature]</i></p>		<p>DATE: 09/21/2015</p>



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SECOND FLOOR PLAN - HVAC
SCALE: 1/4"=1'-0"



GENERAL NOTES

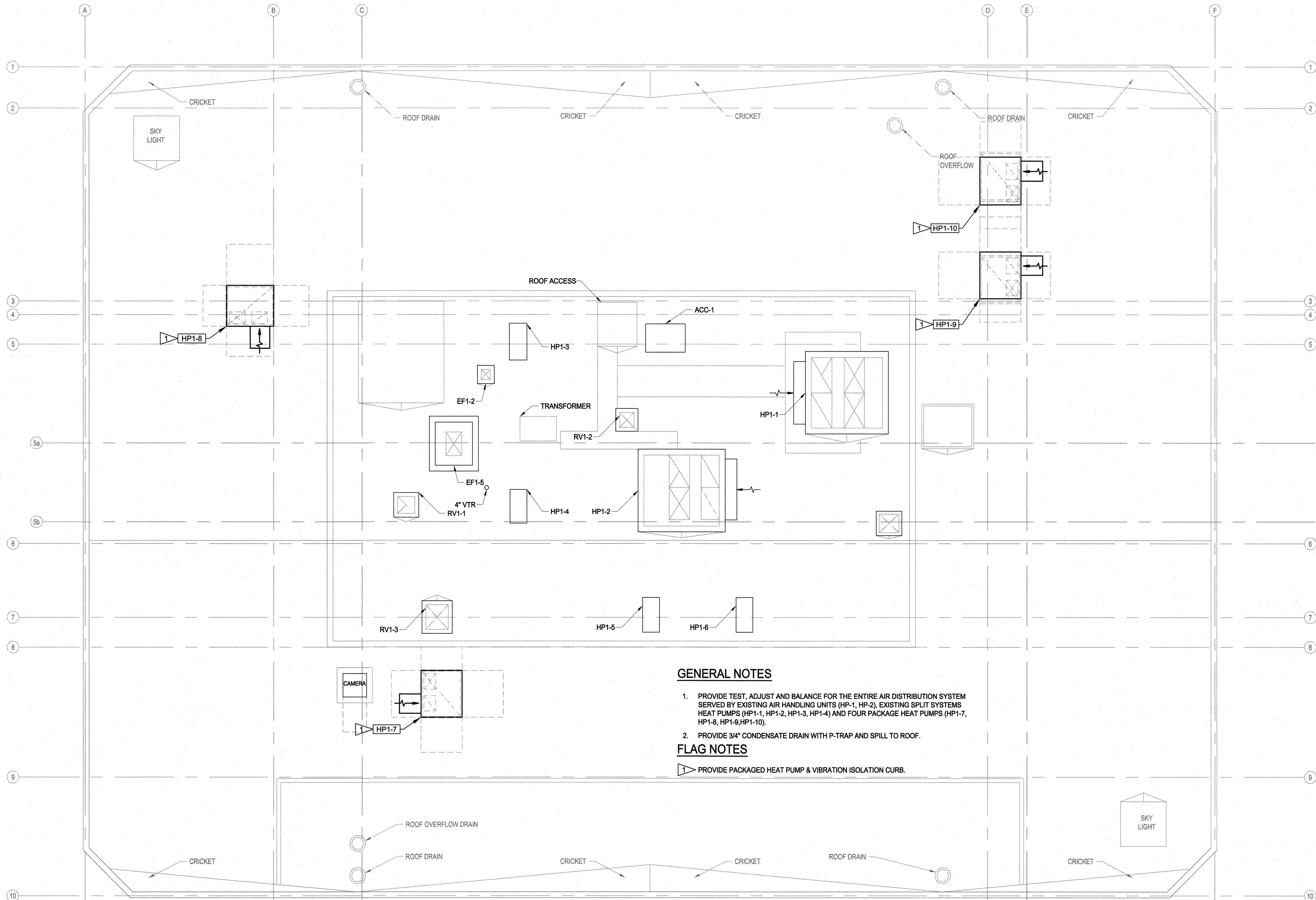
1. DUCT DIMENSIONS SHOWN ARE CLEAR INSIDE DIMENSION.
2. PROVIDE ACOUSTICALLY LINED DUCTWORK FOR NEW HEAT PUMPS.

FLAG NOTES

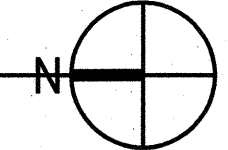
- | | |
|--|--|
| 1 PROVIDE FLEXIBLE DUCT, DIFFUSERS AND GRILLES (TYP). | 6 PROVIDE RADIANT PANEL AND TEMPERATURE SENSOR WITH DDC CONTROL. |
| 2 PROVIDE DUCTWORK WITH BRANCH CONNECTIONS & VOLUME DAMPERS. | 7 PROVIDE TEMPERATURE SENSOR FOR HEAT PUMP. |
| 3 PROVIDE CAP ON EXISTING SA TAPS. | 8 PROVIDE RETURN AIR TEMPERATURE SENSOR WITH DDC CONTROL. |
| 4 POC OF 38X10 PLENUM TO EXISTING 38X10 BRANCH DUCT. | 9 PROVIDE DDC SYSTEM & CONTROL PANEL. PROVIDE CONTROL WIRING FROM ADMIN BUILDING OUT TO GUARD SHACK. |
| 5 POC OF 22X10 TO EXISTING 34X10 FIRE DAMPER SLEEVE. | 10 POC OF 10X4 SUPPLY TO EXISTING 10X4 BRANCH DUCT. |
| | 11 PROVIDE RETURN AIR ELBOW WITH ACOUSTICAL LINER. |

REFERENCE
M4, EP 3858-12 SHEET 53 OF 88

<p>6545 M3 SHT# 14 OF 27</p>	<p>TOTE ADMINISTRATION BUILDING HVAC SYSTEM REPLACEMENT SECOND FLOOR PLAN HVAC</p>		<p>APPROVED: <i>[Signature]</i> DATE: 4-28-15</p>
	<p>CONTRACT: 070083 M. ID: 098034 PHASE: BID SET</p>	<p>TOWNSHIP: 21N DATE: 09/21/2015</p>	<p>SECTION: 27 RANGE: 3E VERT. M.L.W. 19.39 @ Tide 22 19.33 DRAWING SCALE: AS NOTED</p>
<p>SAZAN GROUP 600 Stewart St., Ste 1400 Seattle, Washington 98101 Tel: 206.267.1700 Fax: 206.267.1701</p>		<p>PROJECT: 1-206 DATE: 09/21/2015</p>	
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ROOF PLAN - HVAC
SCALE: 1/4"=1'-0"



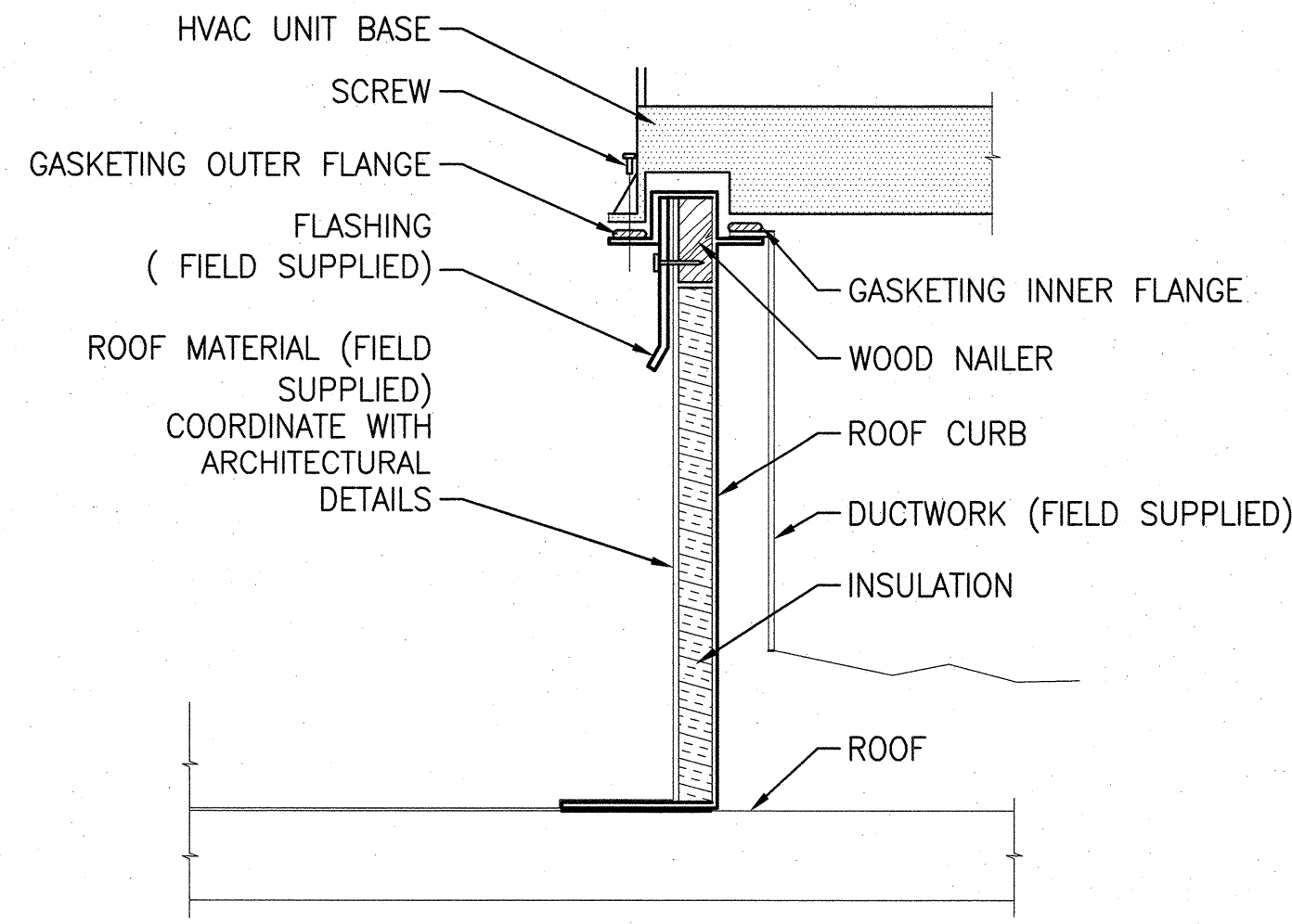
GENERAL NOTES

1. PROVIDE TEST, ADJUST AND BALANCE FOR THE ENTIRE AIR DISTRIBUTION SYSTEM SERVED BY EXISTING AIR HANDLING UNITS (HP-1, HP-2), EXISTING SPLIT SYSTEMS HEAT PUMPS (HP1-1, HP1-2, HP1-3, HP1-4) AND FOUR PACKAGE HEAT PUMPS (HP1-7, HP1-8, HP1-9, HP1-10).
2. PROVIDE 3/4" CONDENSATE DRAIN WITH P-TRAP AND SPILL TO ROOF.

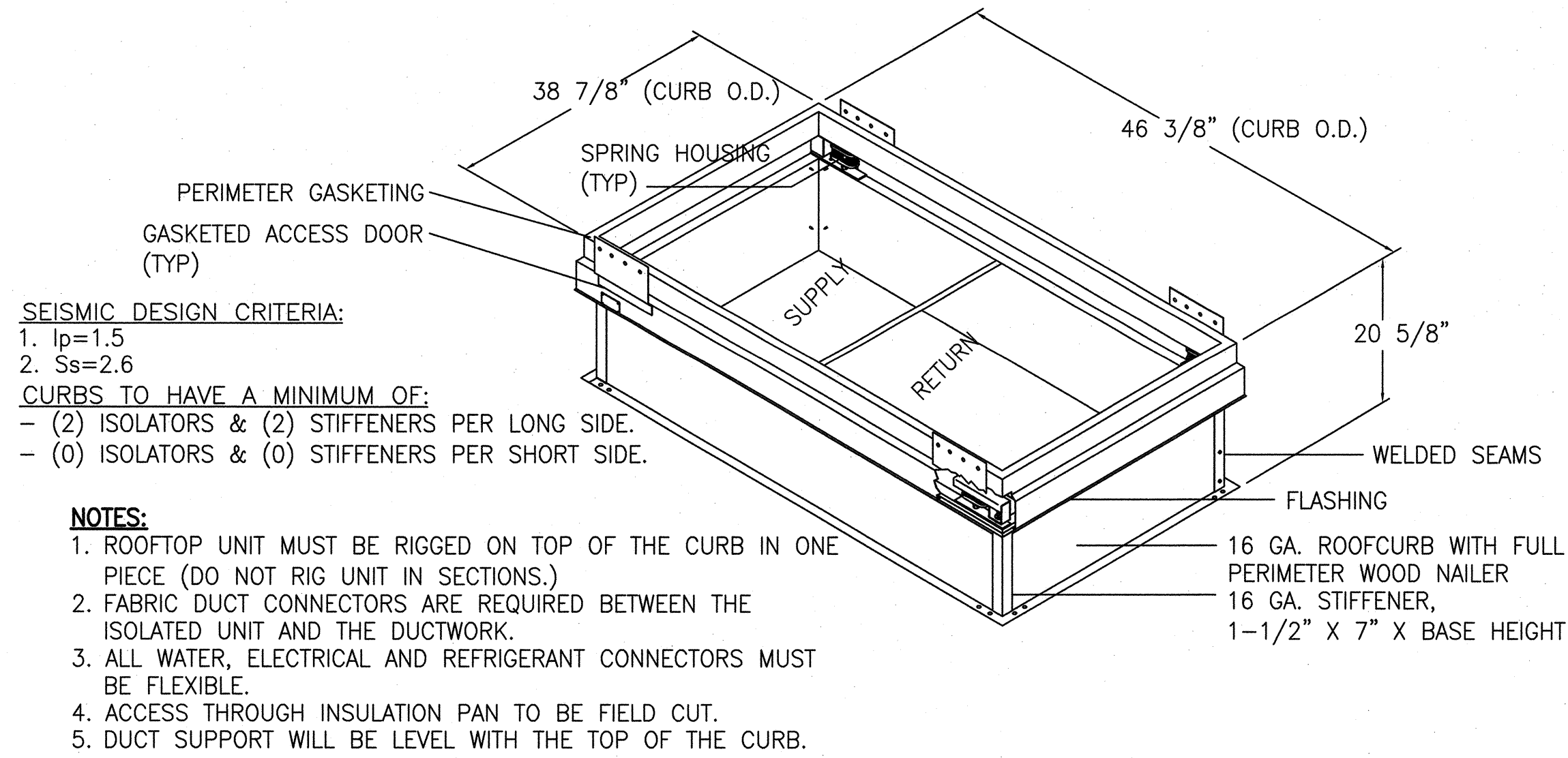
FLAG NOTES

- 1 PROVIDE PACKAGED HEAT PUMP & VIBRATION ISOLATION CURB.

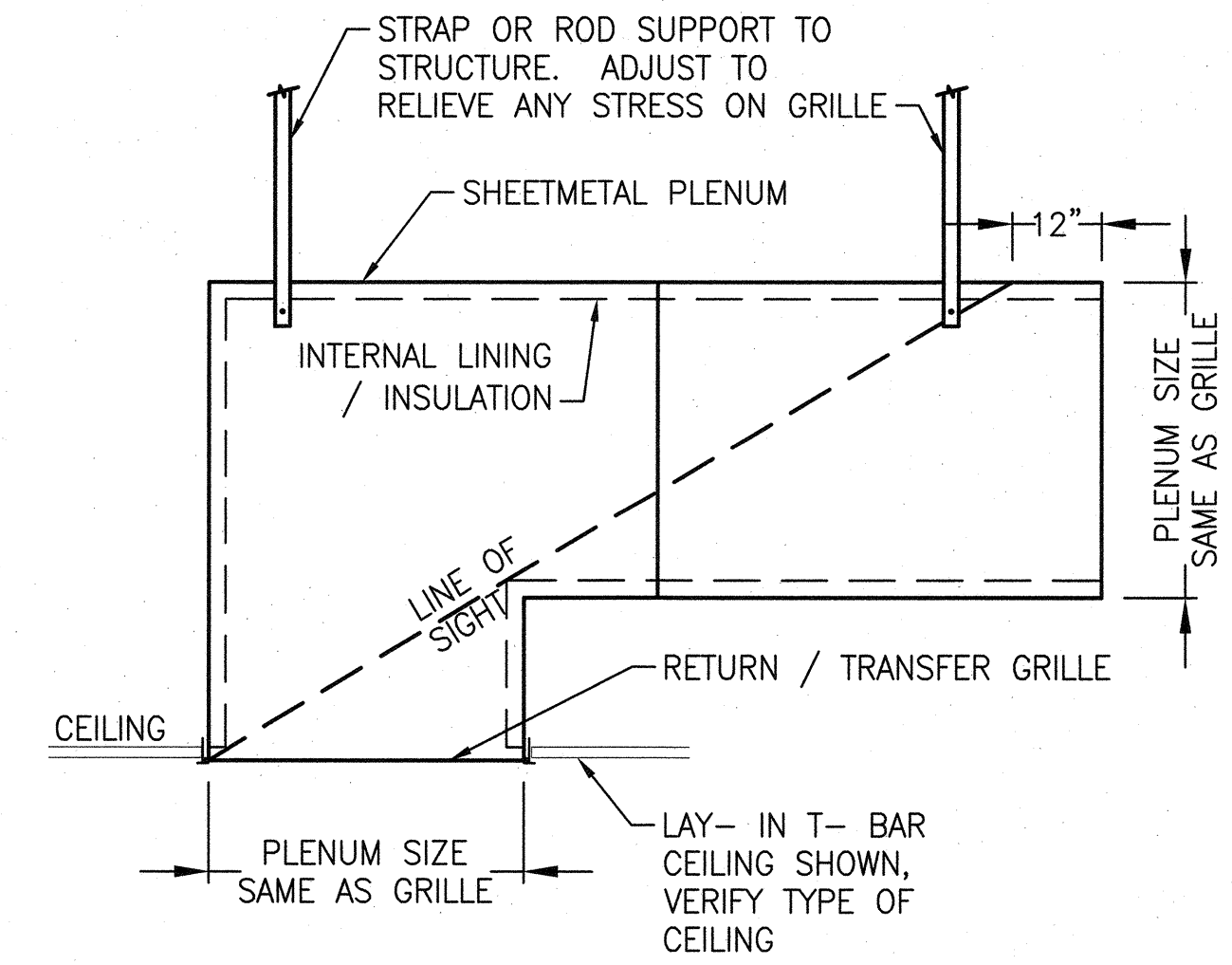
<p>6545 M4 SHT# 15 OF 27</p>	<p>TOTE ADMINISTRATION BUILDING HVAC SYSTEM REPLACEMENT ROOF PLAN HVAC</p>		<p>CHECKED BY: <i>[Signature]</i> DATE: 9-29-15</p>
	<p>CONT/CONS: 070083</p>	<p>TOWNSHIP: 21N</p>	<p>RANGE: 3E</p>
<p>M. ID: 098034</p>	<p>DATE-HRZ: WA83-SF</p>	<p>VERT: MLLW 19.39 @ Tide 22 1933</p>	<p>PROJ. ENGR DATE: 21, 2015</p>
<p>PHASE: BID SET</p>	<p>PARCEL: 1A</p>	<p>DRAWING SCALE: AS NOTED</p>	<p>PORT ADDRESS: ONE SITCUM PLAZA TACOMA, WA 98401-1837</p>
<p>6545 M4 SHT# 15 OF 27</p>		<p>APPROVED: <i>[Signature]</i> PMJ</p>	<p>DATE: 09/21/2015</p>
<p>6545 M4 SHT# 15 OF 27</p>		<p>SAZAN GROUP 800 Stewart St., Ste 1400 Seattle, Washington 98101 Tel 206.267.1700 Fax 206.267.1701</p>	<p>Port of Tacoma P.O. BOX 1837 TACOMA, WA 98401-1837</p>
<p>REFERENCE M5, EP 3858-12 SHEET 54 OF 88</p>		<p>MARK: REVISION: BY: APPR: DATE:</p>	<p>THIS DRAWING IS THE PROPERTY OF THE PORT OF TACOMA AND SHALL NOT BE USED ON OTHER WORK, DISCLOSED, COPIED, IN WHOLE OR IN PART, WITHOUT WRITTEN PERMISSION</p>



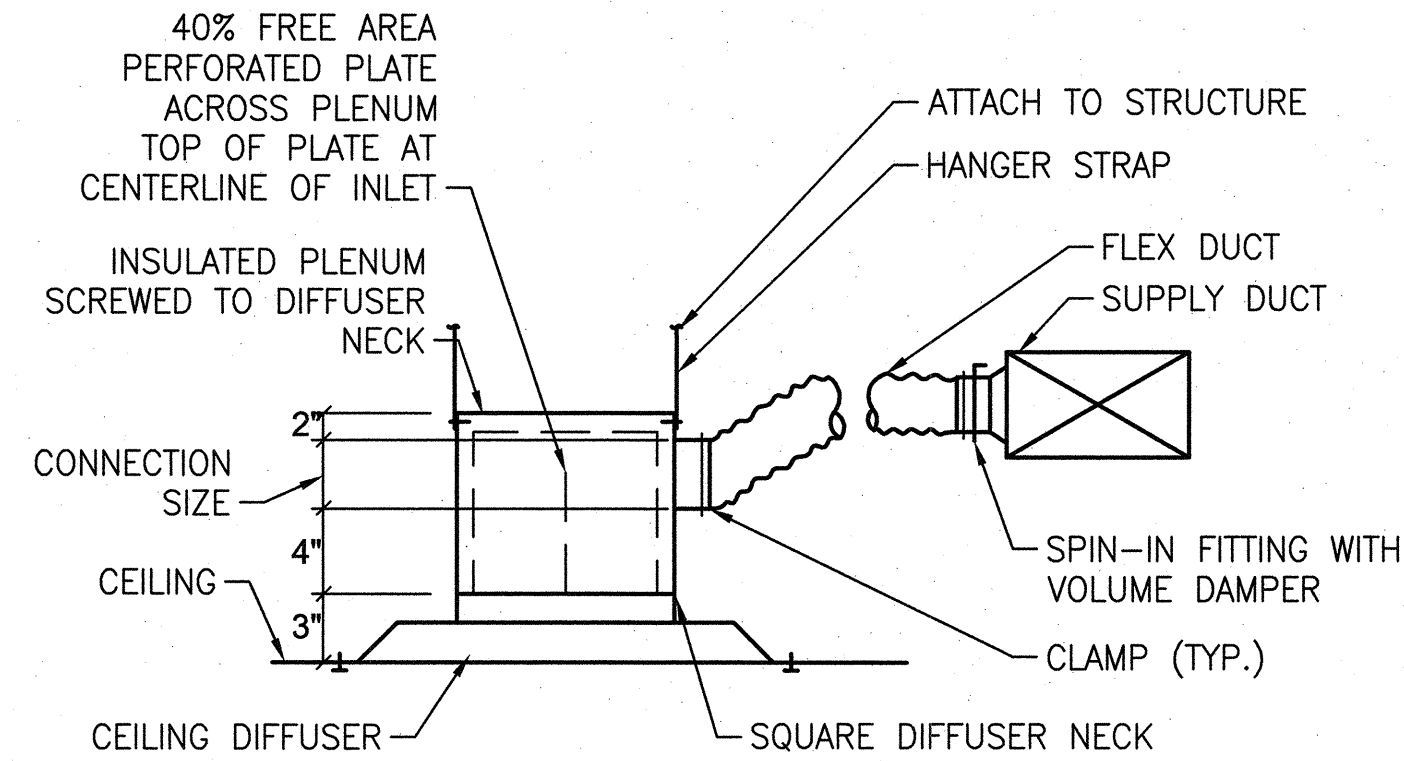
INSTALLATION OF CURB SUPPORT ROOF MOUNTED EQUIPMENT DETAIL 1
SCALE: NTS



ISOLATION ROOFCURB DETAIL 2
SCALE: NTS

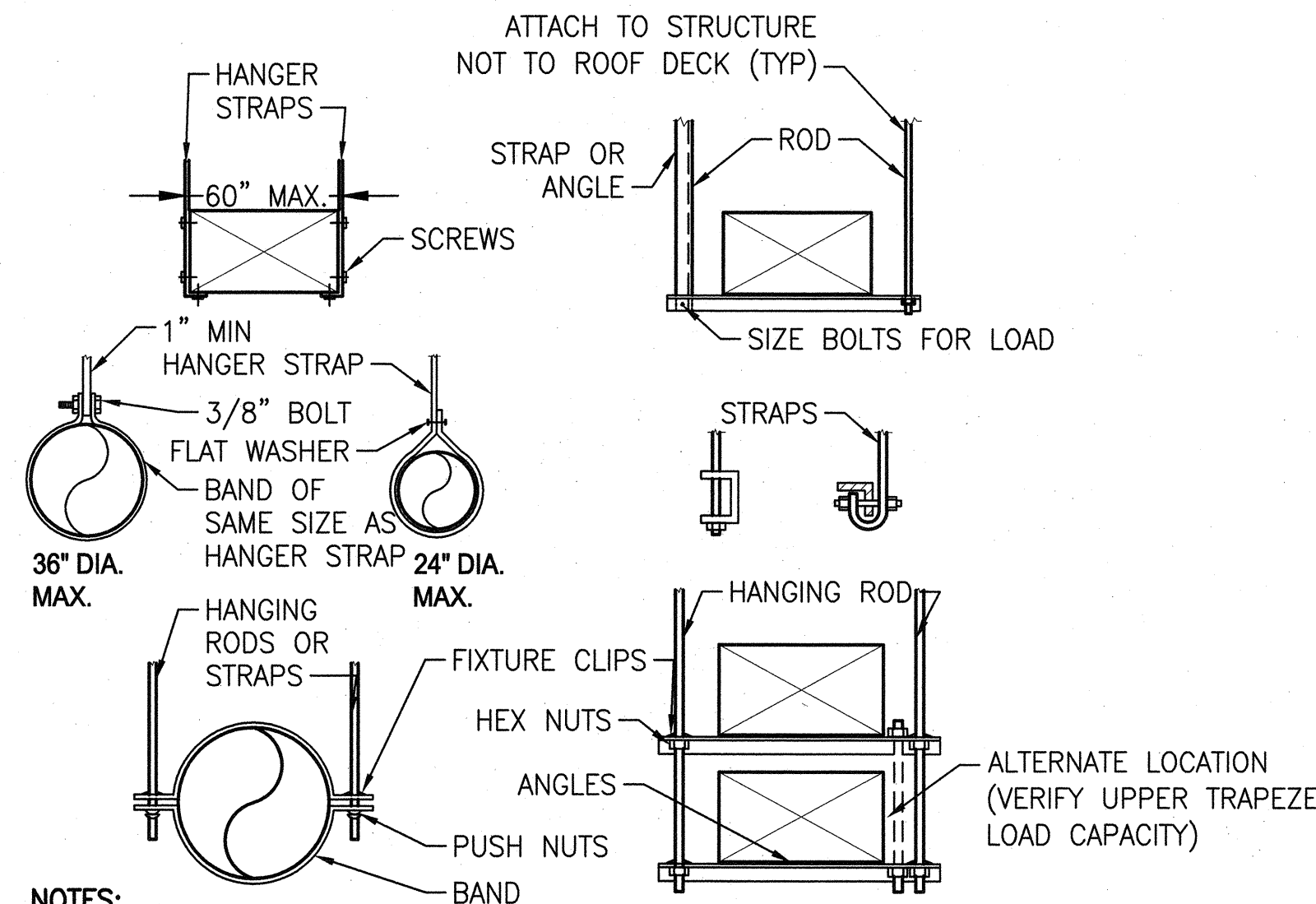


RETURN AIR GRILLE DETAIL 3
SCALE: NTS



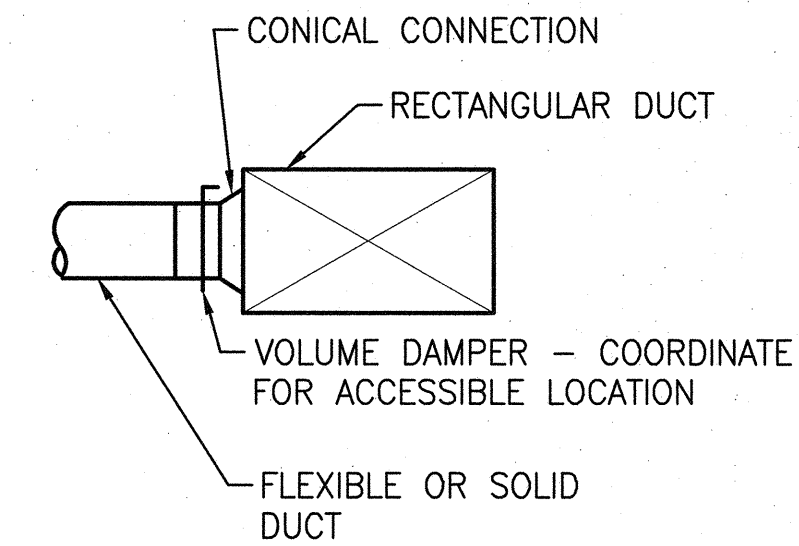
- NOTES:**
1. SET DIFFUSER FOR HORIZONTAL THROW.
 2. BALANCER TO ADJUST THROW FOR POSITION IN SPACE FOR ONE, TWO, THREE, OR FOUR-WAY THROWS, DEPENDING ON COMFORT.
 3. DO NOT CONNECT FLEXIBLE DUCT DIRECTLY TO DIFFUSER.

CEILING DIFFUSER DETAIL 4
SCALE: NTS

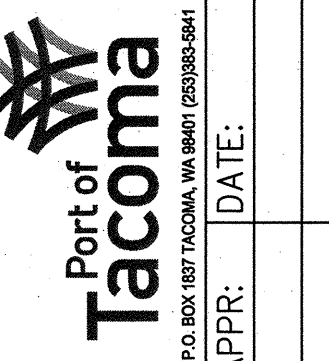


- NOTES:**
1. REINFORCEMENT MAY BE USED FOR ATTACHMENT IF IT QUALIFIES FOR BOTH DUTIES.
 2. DO NOT EXCEED ALLOWABLE LOAD LIMITS.
 3. CEILING SPACE IS VERY LIMITED. COORDINATE LAYOUT WITH OTHER TRADES PRIOR TO INSTALLATION.

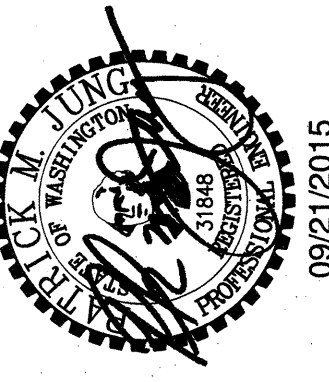
DUCT SUPPORT / HANGING DETAIL 5
SCALE: NTS



ROUND - RECTANGULAR DUCT CONNECTION DETAIL 6
SCALE: NTS



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APPROVED: *[Signature]*
DIRECTOR ENGR. DATE: 9-24-15
PROJECT: TOTE ADMINISTRATION BUILDING HVAC SYSTEM REPLACEMENT
PRINTED BY: creed Sep 21, 2015
PORT ADDRESS: ONE SITCUM PLAZA
TACOMA, WA 98401-1837

TOTE ADMINISTRATION BUILDING
HVAC SYSTEM REPLACEMENT
MECHANICAL DETAILS

TOWNSHIP: 21N RANGE: 3E SECTION: 27
DATE: 09/22/2015
DRAWING SCALE: AS NOTED

6545
M5
SHT# 16 OF 27
CONT/CONS: 070083
M. ID: 098034
PHASE: BID SET

PORT OF TACOMA FILE: P:\435-1403 TOTE HVAC System Replacement\DWG\Mech\098034-M6

ELECTRIC RADIANT CEILING PANEL SCHEDULE

EQUIP. NO	LOCATION	BASIS OF DESIGN MANUFACTURER	BASIS OF DESIGN MODEL NUMBER	TYPE	CAPACITY (KW)	THERMOST AT SETTING (°F)	ELECTRIC AL		REMARKS
							V/PH/Hz		
EH1-5	VESTIBULE 101	QMARK	CP751	24" X 48"	0.75	68	120	1 / 60	1,2
EH1-6	HALL 111	QMARK	CP751	24" X 48"	0.75	68	120	1 / 60	1,2
EH1-7	HALL 208	QMARK	CP751	24" X 48"	0.75	68	120	1 / 60	1,2

REMARKS:

1. PROVIDE WITH QRF2448 - RECESS MOUNT FRAME FOR 24" X 48" PANEL IN T-BAR GRID.
2. PROVIDE WITH POWER RELAY, UNIVERSAL HANGING CLIPS, STANDARD COLOR-WHITE.

DIFFUSER-GRILLE SCHEDULE

EQUIP. NO	LOCATION	SERVICE	BASIS OF DESIGN MANUFACTURER	BASIS OF DESIGN MODEL NUMBER	SIZE WXL IN	DESCRIPTION	NOISE CRITERIA	REMARKS
A	CEILING	SUPPLY DIFFUSER	TITUS	MCD	24X24	4-WAY ADJUSTABLE, MODULAR CORE DIFFUSER		1,2,3
B	CEILING	RETURN GRILLE	TITUS	50F	12X24	EGGCRATE RETURN GRILLE		1,3,4
C	CEILING	RETURN GRILLE	TITUS	50F	24X24	EGGCRATE RETURN GRILLE		1,3,4

REMARKS:

1. SEE MECHANICAL FLOOR PLANS FOR DUCT SIZE AND CFM
2. STEEL, WHITE, ROUND NECK, SEE MECHANICAL FLOOR PLANS FOR NECK SIZE
3. BORDER TO MATCH CEILING TYPE
4. STEEL, WHITE, CORE ONLY IN ACT, 1/2"X1/2"X1/2" GRID

AIR COOLED HEAT PUMP SCHEDULE

EQUIP. NO	LOCATION	SERVICE (ROOM)	MANUFACTURER	MODEL NUMBER	CAPACITY			SUPPLY FAN					COOLING				SUPPLEMENTAL HEATING			REMARKS		
					TOTAL CAPACITY TONS	CLG LOAD MBH		QTY	TYPE	SUPPLY AIR CFM	MIN OUTSIDE AIR CFM	MOTOR HP	EXT SP IN WG	EAT		LAT		EAT			TYPE	CAP KW
						TOTAL	SENSIBLE							DB DEG F	WB DEG F	DB DEG F	WB DEG F	DB DEG F	WB DEG F			
HP1-1	ROOF	SOUTH	YORK	XP150E18P	12.5	156.2	115.1	1	FC-CENT	3,300	390	3	0.8	80	67			74.8	86.2	ELECTRIC	30	EXISTING, 1
HP1-2	ROOF	NORTH	YORK	XP150E18P	12.5	156.2	115.1	1	FC-CENT	3,200	380	1.5	0.8	80	67			74.8	86.2	ELECTRIC	30	EXISTING, 1
HP1-3	ROOF	202	TRANE	38CQ020	1.5	17.6	7.3	1	FC-CENT	640	65	1/4	0.66	80	67							EXISTING, 1
HP1-4	ROOF	116	TRANE	38CQ020	1.5	17.6	7.3	1	FC-CENT	640	65	1/4	0.66	80	67							EXISTING, 1
HP1-5	ROOF	113	TRANE	38CQ015	1.3	14.7	6.65	1	FC-CENT	540	55	1/8	0.6	80	67					ELECTRIC	5	EXISTING, 1
HP1-6	ROOF	210	TRANE	38CQ020	1.5	17.6	7.3	1	FC-CENT	540	65	1/4	0.66	80	67					ELECTRIC	5	EXISTING, 1
HP-1-7	ROOF	215, 214	TRANE	4WCC4024	2.0	24.6	18.6	1	FC-CENT	500/580/740	50	1/3	0.5	80	67	60	57	65	89	ELECTRIC	3.76/5.0	1
HP-1-8	ROOF	107, 106	TRANE	4WCC4024	2.0	24.6	18.6	1	FC-CENT	500/580/740	50	1/3	0.5	80	67	60	57	65	89	ELECTRIC	3.76/5.0	1
HP-1-9	ROOF	109	TRANE	4WCC4024	2.0	24.6	18.6	1	FC-CENT	500/580/740	50	1/3	0.5	80	67	60	57	65	89	ELECTRIC	3.76/5.0	1
HP-1-10	ROOF	206	TRANE	4WCC4024	2.0	24.6	18.6	1	FC-CENT	500/580/740	50	1/3	0.5	80	67	60	57	65	89	ELECTRIC	3.76/5.0	1

REMARKS:

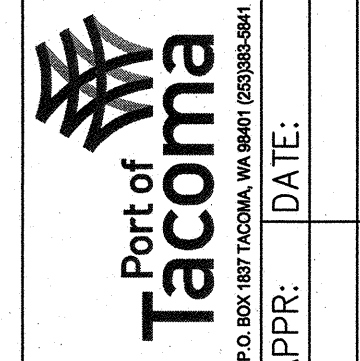
1. PROVIDE TEST, ADJUST AND BALANCE (TAB).

AIR COOLED HEAT PUMP SCHEDULE CONT'D

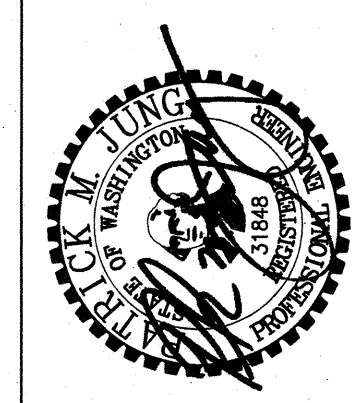
EQUIPMENT ID	CONDENSER FAN				CONDENSER COIL		ELECTRICAL			AIRSIDE ECONOMIZER YES / NO	SEER / EER	SOUND PRESSURE dBA	WEIGHT LBS	REMARKS
	CFM	TYPE	RPM	MOTOR HP	FACE AREA SF	ROWS FPI	MCA	MOCP	V/PH/Hz					
HP1-1	14,000	PROP	850	1/8	47.5	2/15	70.8	80	480/3	YES	/ 11.0	87	1,400	EXISTING
HP1-2	14,000	PROP	850	1/8	47.5	2/15	70.8	80	480/3	YES	/ 11.0	87	1,400	EXISTING
HP1-3				1/8					208/1		/ 7.3			EXISTING
HP1-4				1/8					208/1		/ 7.3			EXISTING
HP1-5				1/8					208/1		/ 6.65			EXISTING
HP1-6				1/8					208/1		/ 7.3			EXISTING
HP-1-7	2550	PROP	850	1/12	13.3	2/24	45	50	208-230/1/60	YES	14 / 12	66.4	328	1,2,3
HP-1-8	2550	PROP	850	1/12	13.3	2/24	45	50	208-230/1/60	YES	14 / 12	66.4	328	1,2,3
HP-1-9	2550	PROP	850	1/12	13.3	2/24	45	50	208-230/1/60	YES	14 / 12	66.4	328	1,2,3
HP-1-10	2550	PROP	850	1/12	13.3	2/24	45	50	208-230/1/60	YES	14 / 12	66.4	328	1,2,3

REMARKS:

1. PROVIDE WITH MICROMETL ISOLATION SPRING CURB MODEL 0403-1213E, 21" TALL
2. PROVIDE WITH 2" FILTER RACK, FACTORY RELIEF, HINGED ACCESS DOOR, 0-100% ECONOMIZER W/ BAROMETRIC RELIEF, RAIN HOOD & MOTORIZED DAMPER.
3. PROVIDE SIEMENS CONTROLLER.



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APPROVED: *S. J. Jung*
 PMJ 9-20-15
 DIRECTOR ENG. DATE
 PRINTED BY: creed Sep 21, 2015
 PORT ADDRESS: ONE SITCUM PLAZA
 TACOMA, WA 98401-1837

**TOTE ADMINISTRATION BUILDING
 HVAC SYSTEM REPLACEMENT
 SCHEDULES**

6545 M6
 SHT# 17 OF 27
 CONT/CONS: 070083
 M. ID: 098034
 PHASE: BID SET

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BINDING EDGE

SEQUENCE OF OPERATION

GENERAL:

- A. DDC UNITARY CONTROLLER INTEGRATED WITH OEM CONTROL PACKAGE TO CONTROL SPACE TEMPERATURE AND PROVIDE OCCUPIED/UNOCCUPIED SCHEDULING. THE FOLLOWING CONTROL SEQUENCES ARE PROVIDED BY THE DDC CONTROLLER.
- B. FULLY INTEGRATE THE NEW SYSTEM WITH THE EXISTING "FRONT END" COMPUTER, DATABASE, GRAPHIC SCREENS, ETC.

OCCUPIED MODE:

- A. COOLING SETPOINT: 75°F. HEATING SETPOINT: 70°F.
- B. SYSTEM IS ENABLED 6AM TO 6PM AND OPERATES ON SPACE LOAD DEMAND.
- C. FAN RUNS CONTINUOUSLY.
- D. THE CHANGEOVER VALVE IS OPERATED TO SWITCH HEAT PUMP BETWEEN HEATING AND COOLING MODE.
- E. THE COMPRESSOR IS ENABLED AND SWITCHED BETWEEN OFF, STAGE 1 AND STAGE 2 AS DEMAND INCREASES.
- F. THE MIXED AIR DAMPERS ARE USED FOR THE FIRST STAGE OF COOLING IF THE OUTSIDE AIR TEMPERATURE IS LOWER THAN THE RETURN AIR TEMPERATURE. IF THE OUTSIDE AIR TEMPERATURE IS GREATER THAN THE RETURN AIR TEMPERATURE, THE MIXING DAMPERS REMAIN AT MINIMUM VENTILATION POSITION AND THE MECHANICAL COOLING BECOMES THE FIRST STAGE OF COOLING.
- G. THE OUTSIDE AIR (OSA) ELECTRIC DUCT HEATER IS CONTROLLED TO MAINTAIN INCOMING OSA BETWEEN 38°F AND 48°F. THE ELECTRIC DUCT HEATER IS DISABLED IF THE FAN IS STOPPED OR IF OSA DAMPER IS MODULATING IN ECONOMIZER MODE (OPEN PAST MINIMUM POSITION). FIRST STAGE HEATING IS THE HEAT PUMP IN HEATING MODE. SECOND STAGE HEATING IS ELECTRIC RESISTANCE HEATING COIL.

UNOCCUPIED MODE:

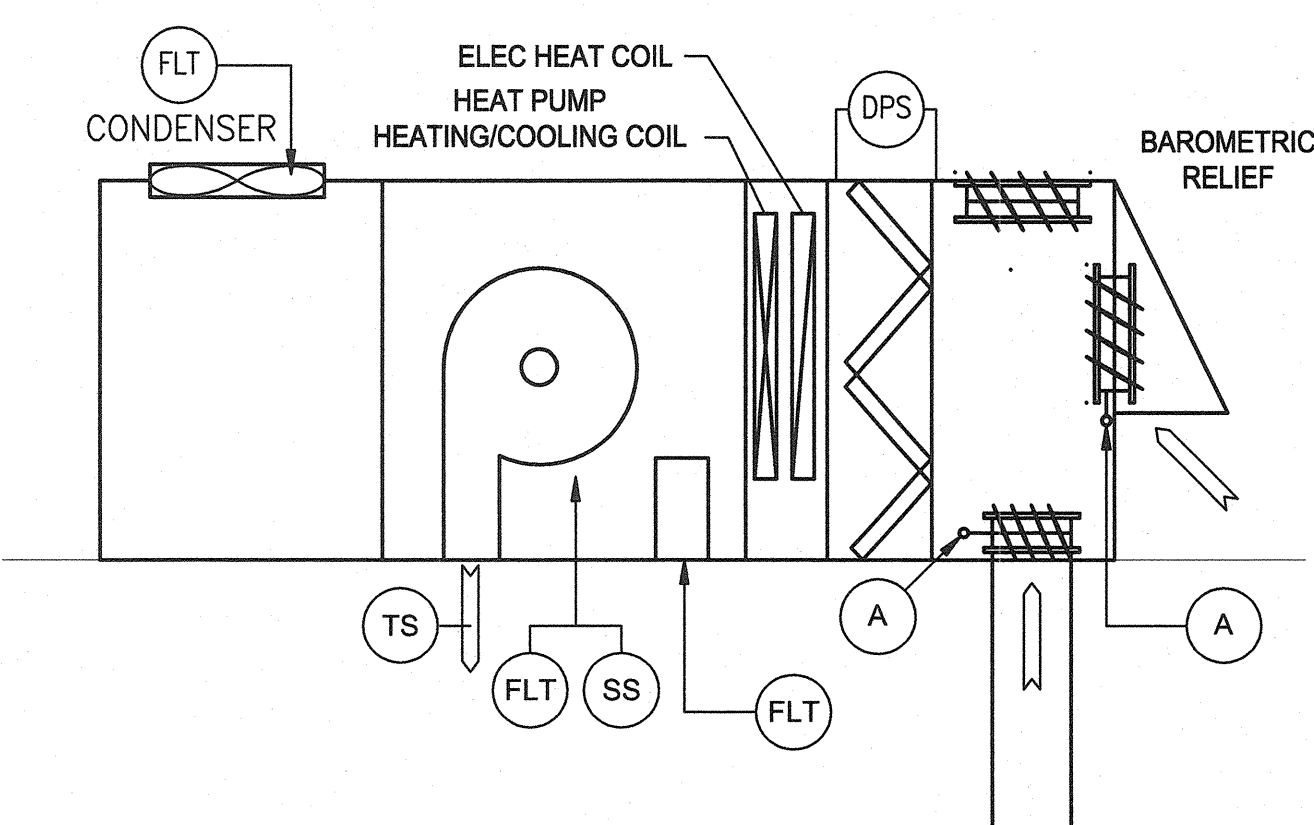
- A. THE HEAT PUMP WILL CYCLE ON AND OFF TO MAINTAIN ROOM TEMPERATURE OF 65°F. (ADJ.)

OCCUPANCY OVERRIDE:

- A. ACTIVATION OF ANY OVERRIDE SWITCH (LOCATED ON ZONE THERMOSTAT) WILL PUT HEAT PUMP INTO OCCUPIED MODE FOR AN ADJUSTABLE PERIOD (INITIALLY SET AT TWO HOURS).

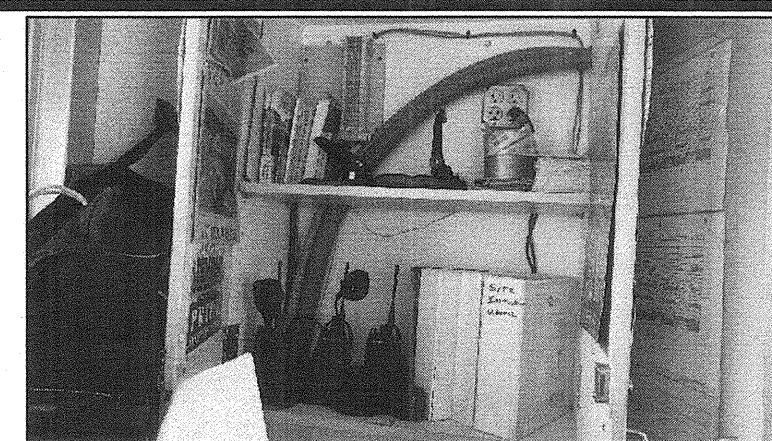
MAINTENANCE ALARM:

- A. IF THE DIFFERENTIAL PRESSURE ACROSS THE FILTER BANK EXCEEDS 0.9"W.C. (INITIAL SETTING, ADJUSTABLE), GENERATE A MAINTENANCE ALARM AT THE FRONT END COMPUTER.

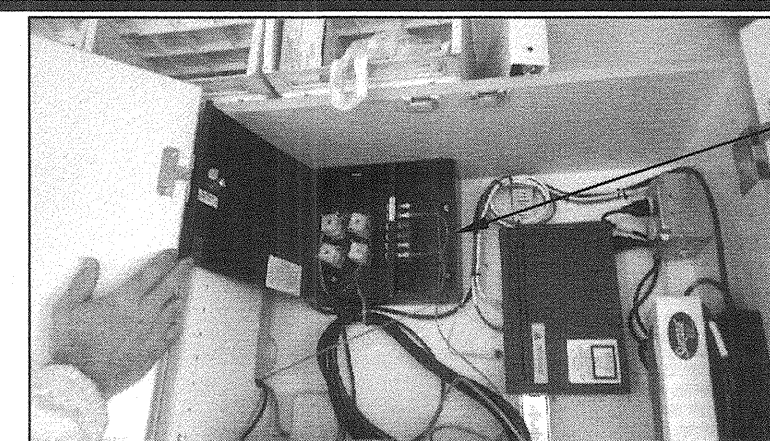


CONTROL SYMBOLS:

- SS START/STOP
- A ACTUATOR
- FLT FAULT
- TS TEMPERATURE SENSOR
- DPS DIFFERENTIAL PRESSURE SWITCH

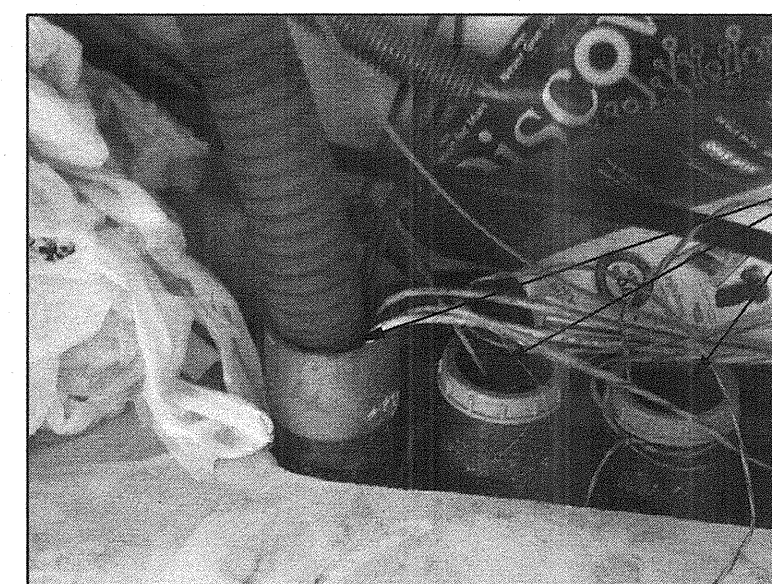


UPPER LEFT COMM CABINET

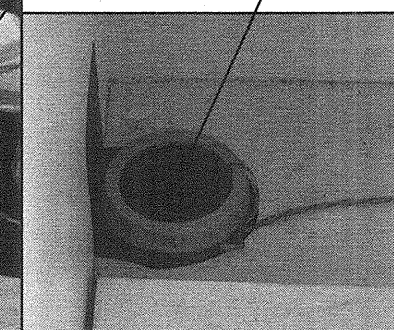


UPPER RIGHT COMM CABINET

FIBER PATCH PANEL



WIRE PATHWAY - LOWER LEFT COMM CABINET



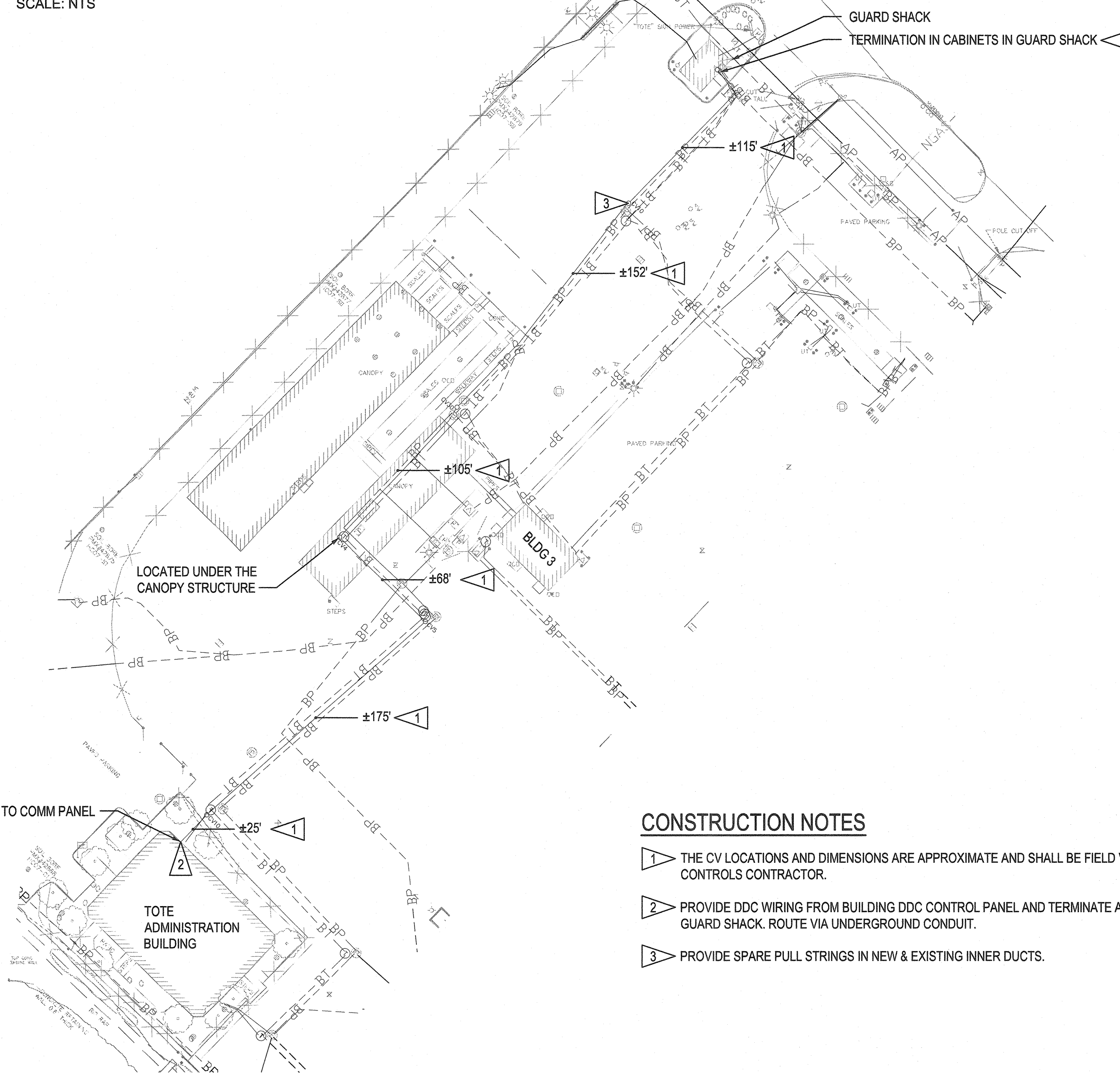
LOWER RIGHT COMM CABINET

CONSTRUCTION NOTES

- 1 PROVIDE CONTROL WIRING TO COMM CABINET VIA EXISTING 4" UNDERGROUND PIPE FROM VAULT CV10. PROVIDE (2) INNER DUCTS: (1) FOR SPARE & (1) FOR NEW CONTROL WIRING.
- 2 PROVIDE CONTROL WIRING FROM EXISTING 4" PIPE UP TO FIBER PATCH PANEL. ROUTE ACROSS LOWER CABINET, UP LEFT CABINET CORNER ADJACENT TO EXISTING WIRING AND ACROSS TO PANEL.
- 3 PROVIDE SPARE PULL STRINGS IN NEW AND EXISTING INNER DUCTS. PROVIDE LOOP IN EACH VAULT.

GUARD SHACK - COMM CABINET CONDUIT ROUTING

SCALE: NTS



CONSTRUCTION NOTES

- 1 THE CV LOCATIONS AND DIMENSIONS ARE APPROXIMATE AND SHALL BE FIELD VERIFIED BY CONTROLS CONTRACTOR.
- 2 PROVIDE DDC WIRING FROM BUILDING DDC CONTROL PANEL AND TERMINATE AT CABINET IN GUARD SHACK. ROUTE VIA UNDERGROUND CONDUIT.
- 3 PROVIDE SPARE PULL STRINGS IN NEW & EXISTING INNER DUCTS.

SITE PLAN - UNDERGROUND CONDUIT ROUTING

SCALE: NTS

SEQUENCE OF OPERATION AND CONTROL DIAGRAM - HEAT PUMP

SCALE: NTS

SEQUENCE OF OPERATION

GENERAL:

- A. CONNECT TO BUILDING DDC CONTROL SYSTEM, SIEMENS FRONT END.
- B. DDC SYSTEM SHALL COMMAND TO RUN AND MONITOR POINTS.

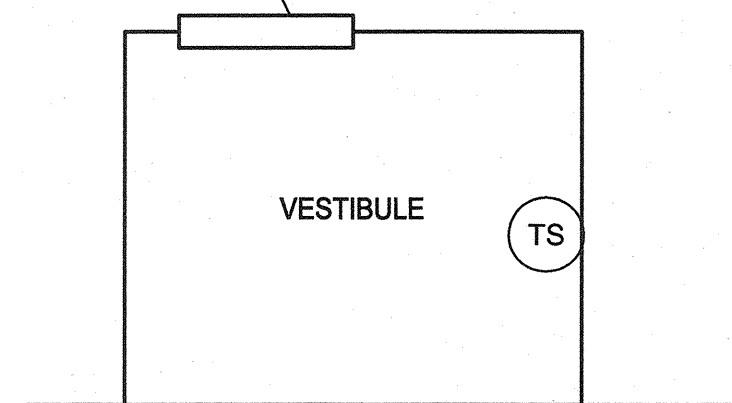
OCCUPIED MODE:

- A. RADIANT CEILING PANEL SHALL BE ENABLED WHEN ZONE TEMPERATURE FALLS BELOW SET POINT: 60°F.
- B. RADIANT CEILING PANEL SHALL BE DISABLED WHEN ZONE TEMPERATURE RISES ABOVE SET POINT: 65°F.

UNOCCUPIED MODE:

- A. THE RADIANT CEILING PANEL WILL CYCLE ON AND OFF TO MAINTAIN SPACE TEMPERATURE OF 55°F.

RADIANT CEILING PANEL



SEQUENCE OF OPERATION AND CONTROL DIAGRAM - RADIANT CEILING PANEL

SCALE: NTS

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DATE:

BY:

APPR:

CHECKED BY: *[Signature]*

DATE: 9-29-15

PROJECT ENGR: PMJ

DATE: 9-29-15

PRINTED BY: creed

DATE: Sep 21, 2015

PORT ADDRESS: ONE SITCUM PLAZA

TACOMA, WA 98401-1837

TOTE ADMINISTRATION BUILDING HVAC SYSTEM REPLACEMENT CONTROLS DIAGRAM

SECTION: 27

RANGE: 3E

TOWNSHIP: 21N

DAT-HRZ: WA83-SF

PARCEL: 1A

6545

M7

SHT# 18 OF 27

CONT/CONS: 070083

M. ID: 098034

PHASE: BID SET

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PORT OF TACOMA FILE: P:435-1403 TOTE HVAC System ReplacementDWG(Mech)098034-M7

LEGEND

Legend table listing symbols and their corresponding descriptions for electrical components and wiring methods.

ABBREVIATIONS

Abbreviations table listing symbols and their corresponding descriptions for electrical terms and units.

GENERAL NOTES

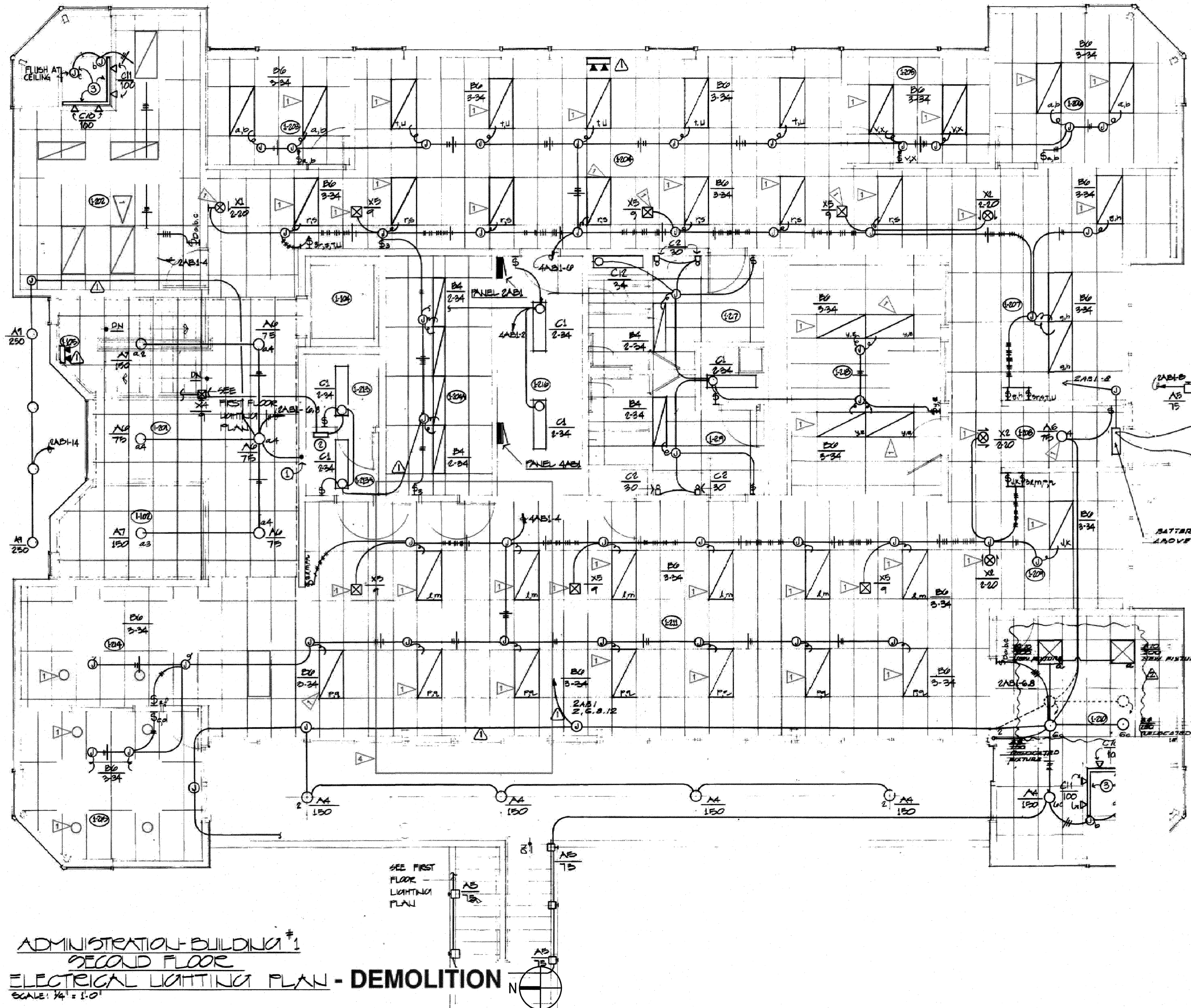
- General notes providing project requirements, coordination instructions, and safety guidelines.

DRAWING INDEX

Drawing index table listing drawing numbers and their corresponding titles.

Project information block including title 'TOTE ADMINISTRATION BUILDING HVAC UPGRADE', drawing number 'E1', and various approval and revision stamps.

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- DOWN TO SWITCH AT RECEPTION COUNTER ROOM 103. SEE LIGHTING SWITCHPLATE DETAIL SHEET E2.
- REMOTE BATTERY PACK FOR X4 LIGHT FIXTURES. EMERGENCY LITE (EUC) 20-077V.
- SEE ARCHITECTURAL DETAIL ON SHEET A16 FOR MOUNTING & LOCATION.

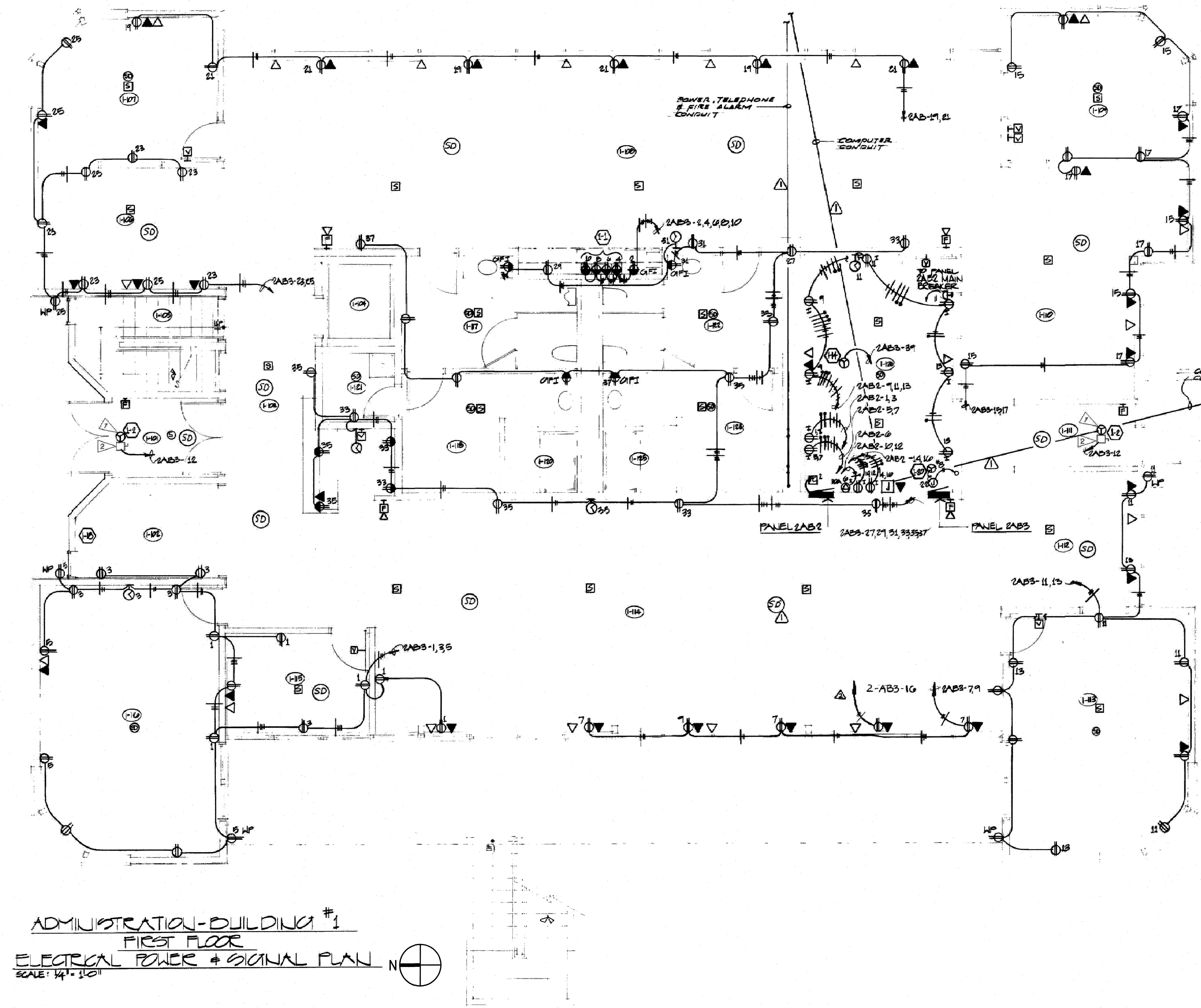
CONSTRUCTION NOTES:

- HVAC DUCT REPLACEMENT:
 - DISCONNECT AND REMOVE EXISTING LIGHT FIXTURE TO FACILITATE REMOVAL AND INSTALLATIONS OF HVAC DUCT SYSTEM.
 - STORE REMOVED LIGHT FIXTURE FOR REINSTALLATION.
 - MAINTAIN EXISTING BRANCH WIRING FOR RECONNECTION.
 - UPON COMPLETION OF HVAC DUCT REPLACEMENT REINSTALL PREVIOUSLY REMOVED LIGHT FIXTURE. RECONNECT TO EXISTING BRANCH WIRING.
 - TEST FIXTURE FOR FUNCTIONALITY.
- SEE ARCHITECTURAL REFLECTED CEILING PLAN FOR ADDITIONAL LIGHTING FIXTURES REMOVAL AND REINSTALLATION.
- RELOCATE/REROUTE EXISTING CONDUIT SYSTEMS AND LOW VOLTAGE SYSTEMS CABLING AS REQUIRED TO FACILITATE REMOVAL AND INSTALLATION OF HVAC DUCT SYSTEM AND STRUCTURAL FRAMING.
- RELOCATE/REROUTE EXISTING CONDUIT SYSTEMS AND LOW VOLTAGE SYSTEM AS REQUIRED TO FACILITATE INSTALLATION OF NEW LAMINATED VENEER LUMBER (LVL). SEE STRUCTURAL DWG S1.0
- ANY NON-OPERATIONAL LIGHT FIXTURES SHALL BE NOTED PRIOR TO REMOVAL.
- ANY NON-OPERATIONAL LIGHT FIXTURES AFTER REINSTALLATION SHALL BE REPLACED IN KIND BY THE CONTRACTOR.

ADMINISTRATION BUILDING #1
 SECOND FLOOR
 ELECTRICAL LIGHTING PLAN - DEMOLITION
 SCALE: 1/4" = 1'-0"

<p>Sazan Group 600 Stewart St., Ste 1400 Seattle, Washington 98101 Tel: 206.267.1700 Fax: 206.267.1701</p>	Port of Tacoma P.O. BOX 187 TACOMA, WA 98401-0187	BY: _____ DATE: _____
	MARK: _____ REVISION: _____	APPROV: _____ DATE: _____
	CHECKED BY: _____ DATE: _____	PROJECT ENGR: _____ DATE: _____
APPROVED: <i>Paul J. M. J.</i> PMJ 4-29-15	DIRECTOR ENG. DATE: _____ PRINTED BY: _____ PORT ADDRESS: ONE SITCOM PLAZA TACOMA, WA 98401-1837	SECTION: 27 RANGE: 3F TOWNSHIP: 21N DAT-HRZ: WA83-SF VERT: MLLW 19.39' @ Tide 22 1933 DRAWING SCALE: AS NOTED PARCEL: 1A
6545 E3 SH# 21 OF 27	TOTE ADMINISTRATION BUILDING HVAC UPGRADE SECOND FLOOR PLAN LIGHTING	CONT/CONS: 070083 M. ID: 098034 PHASE: BID SET

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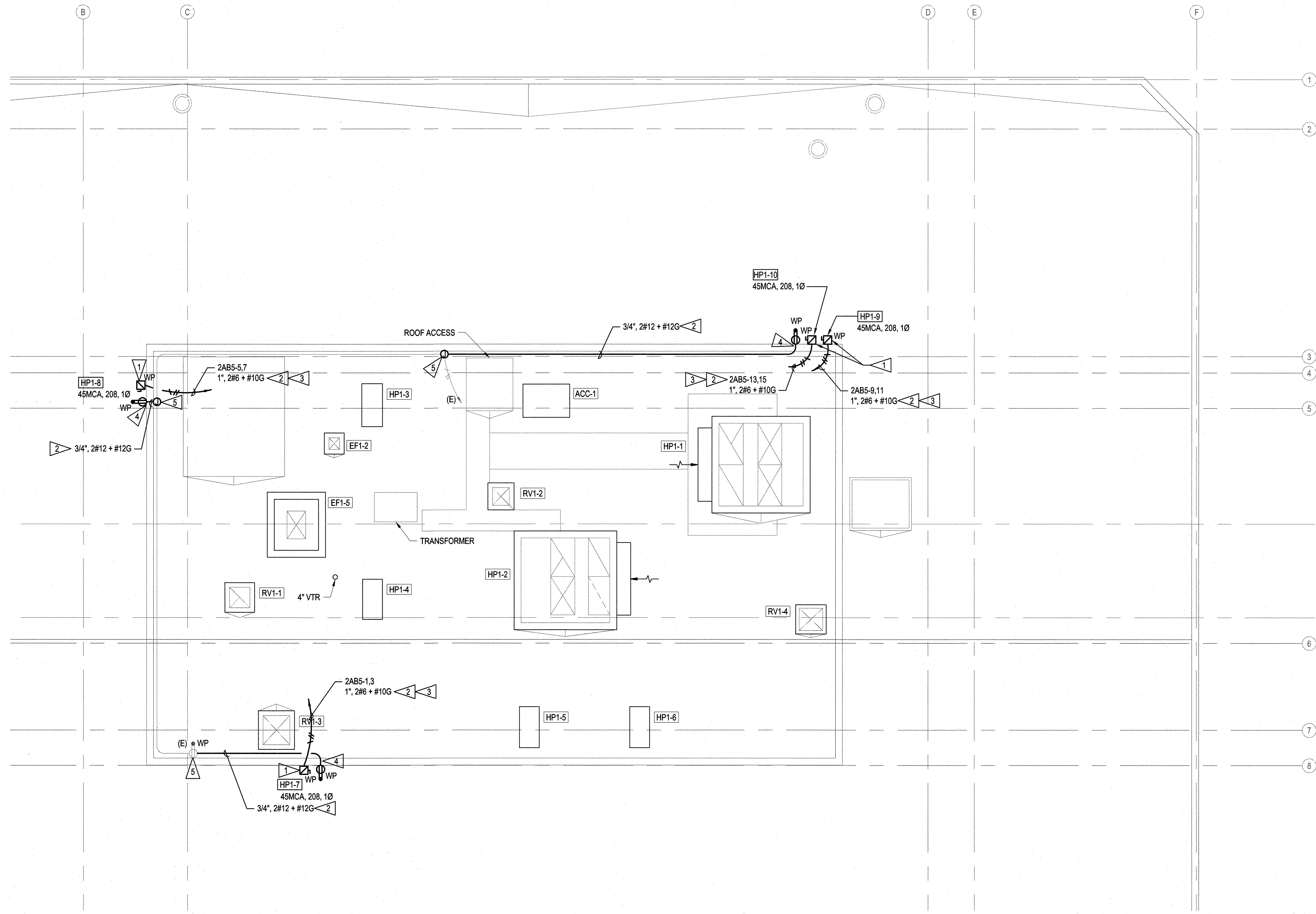
ADMINISTRATION-BUILDING #1
 FIRST FLOOR
 ELECTRICAL POWER & SIGNAL PLAN
 SCALE: 1/4" = 1'-0"

CONSTRUCTION NOTES:

- DISCONNECT AND REMOVE CONNECTIONS TO EXISTING RADIANT HEATER. MAINTAIN EXISTING BRANCH WIRING FOR RE-USE. COORDINATE REMOVAL WITH MECHANICAL.
- PROVIDE CONNECTIONS TO NEW RADIANT HEATER. PROVIDE NON-FUSIBLE DISCONNECT SWITCH. PROVIDE CONDUIT AND WIRES. COORDINATE EQUIPMENT LOCATION WITH MECHANICAL.

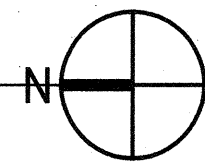
6545 E4 SHIF: 22 OF 27 CONT/CONS: 070083 M. ID: 098034 PHASE: BID SET	TOTE ADMINISTRATION BUILDING HVAC UPGRADE FIRST FLOOR PLAN POWER AND SIGNAL		APPROVED: <i>[Signature]</i> PMJ 9-29-15	CHECKED BY: <i>[Signature]</i> DATE: 9-29-15
	TOWNSHIP: 21N RANGE: 3E SECTION: 27 DAT-HRZ: WA83-SF VERT: MLLW 19.39 @ Tide 22 1933 PARCEL: 1A DRAWING SCALE: AS NOTED		DIRECTOR ENG. DATE: 9-29-15 PRINTED BY: creed Sep 21, 2015 PORT ADDRESS: ONE SITCUM PLAZA TACOMA, WA 98401-1837	PROJECT: 09/21/2015
SAZAN GROUP 600 Stewart St., Ste 1400 Seattle, Washington 98101 Tel: 206.267.1700 Fax: 206.267.1701		PORT of Tacoma P.O. BOX 887 TACOMA, WA 98403-0887		MARK: REVISION: BY: APPR: DATE:

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ROOF - POWER PLAN

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

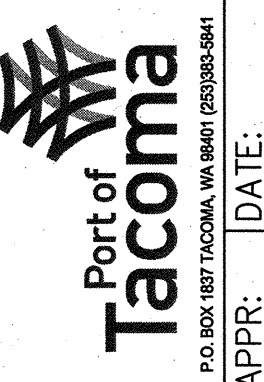


NOTES

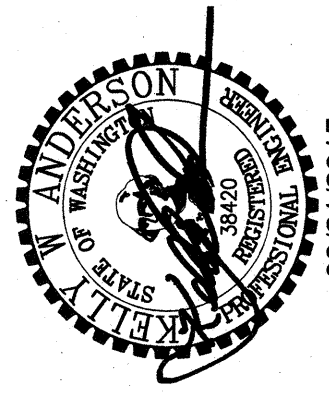
1. CONDUIT SYSTEMS EXPOSED IN OUTDOOR ENVIRONMENT SHALL BE RIGID STEEL CONDUIT.

CONSTRUCTION NOTES

1. PROVIDE STAINLESS STEEL ENCLOSURE FUSIBLE DISCONNECT SWITCH WITH CURRENT LIMITING DUAL ELEMENT TIME-DELAY FUSES. PROVIDE CONNECTION TO EQUIPMENT.
2. ROUTE CONDUIT ON THE INSIDE WALL OF ROOF SCREEN.
3. PROVIDE ROOF PENETRATION FOR CONDUIT ROUTING. PROVIDE ROOF JACK AND SEAL AROUND OPENING WATER-TIGHT.
4. PROVIDE PENETRATION THROUGH METAL SIDING FOR CONDUIT ROUTING.
5. INTERCEPT EXISTING BRANCH WIRING. EXTEND TO NEW DEVICE.



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APPROVED: *J. Anderson*
 PMJ 4-29-15
 DIRECTOR ENG. DATE
 PRINTED BY: creed Sep 21, 2015
 PORT ADDRESS: ONE SITOUIN PLAZA
 TACOMA, WA 98401-1837

TOTE ADMINISTRATION BUILDING
 HVAC UPGRADE
 ROOF PLAN
 POWER

6545
E8
 SH# 26 OF 27
 CONT/CONS: 070083
 M. ID: 098034
 PHASE: BID SET

TOWNSHIP: 21N
 RANGE: 3E
 SECTION: 27
 VERT: MLLW 19.89 @ Tdb 22 1933
 DAT-HRZ: W88-SF
 PARCEL: 1A
 DRAWING SCALE: AS NOTED

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