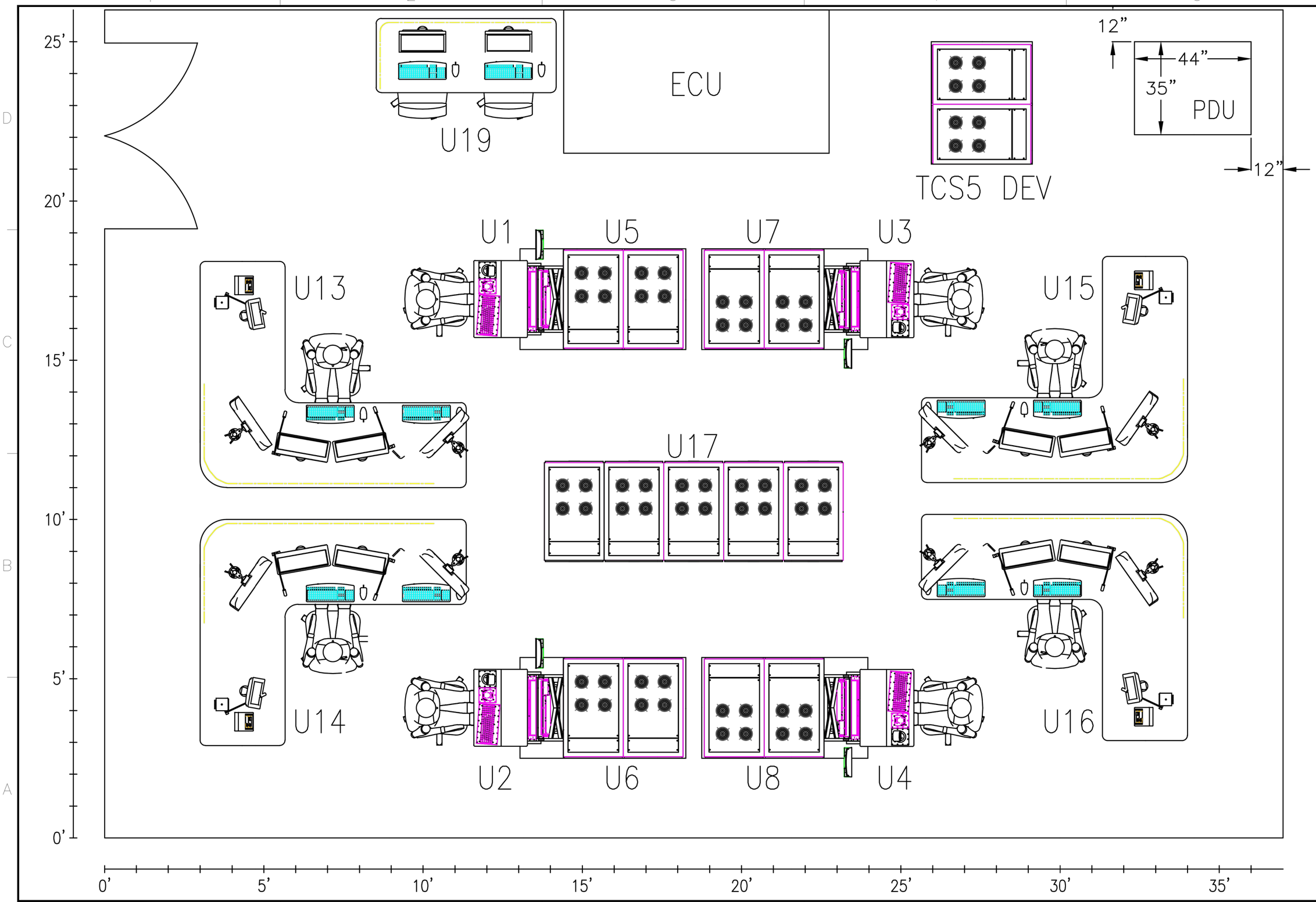


SYM	DESCRIPTION	DATE	APPR

NAVFAC

PRELIMINARY
NOT FOR CONSTRUCTION

SEAL

A/E INFO

APPROVED

FOR COMMANDER NAVFAC

ACTIVITY

XXXXX

SATISFACTORY TO DATE 04/05/15

DES XXX | DRW XXX | CHK XXX

<<PM/DM>> K. PATEL

BRANCH MANAGER XX

CHIEF ENG/ARCH XXX

<<CADD>> XX

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
WASHINGTON

NAVAL FACILITIES ENGINEERING COMMAND ~ <<AGENCY>>

NAVAL AIR STATION PAX RIVER, MD
<<BASE - CITY, STATE>>

B-2187 PROVIDE ELECT. UPGRADES FOR LAB 1B41

FLOOR PLAN WITH UNIT NUMBERS

SCALE: AS NOTED

EPROJECT NO.: 1384145

CONSTR. CONTR. NO.
######-##-#-####

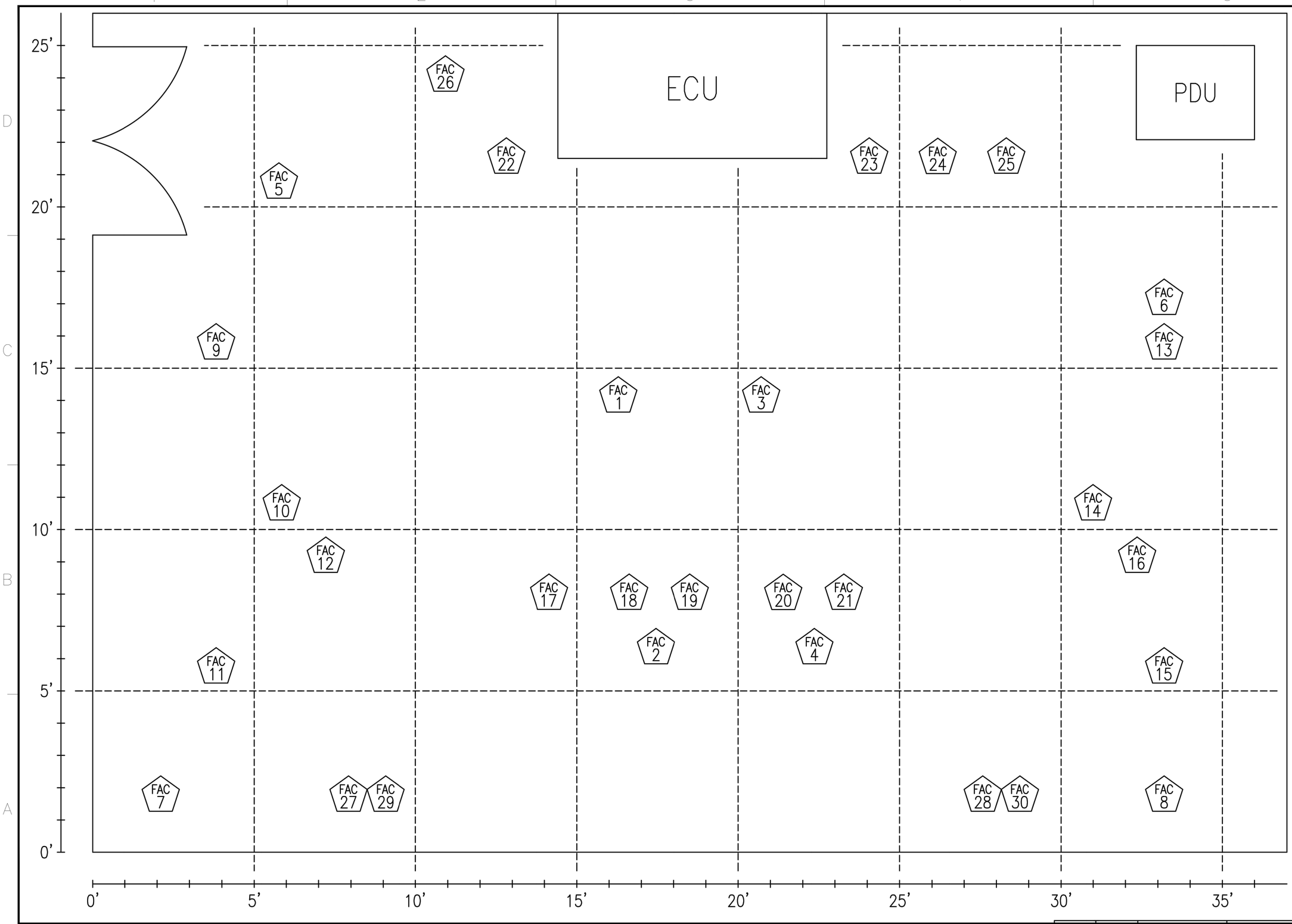
NAVFAC DRAWING NO.
1384145E1

SHEET 01 OF ##

#-###

DRAWFORM REVISION: 10 MARCH 2009

FILE NAME: C:\Users\kolpesh.d.patel\Documents\2015\B-2187 Provide Electrical Upgrades for Lab 1B41\H RFP or SOW\1384145E1 Floor Plan (NAVFAC).dwg LAYOUT NAME: Full Size PLOTTED: Monday, May 04, 2015 - 1:07pm USER: kolpesh.d.patel



SYM	DESCRIPTION	DATE	APPR

NAVFAC

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ACTIVITY

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SATISFACTORY TO DATE 04/05/15

DES XXX | DRW XXX | CHK XXX

<<PM/DM>> K. PATEL

BRANCH MANAGER XX

CHIEF ENG/ARCH XXX

<<XXX>> XX

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
WASHINGTON

NAVAL FACILITIES ENGINEERING COMMAND ~ <<AGENCY>>
<<BASE - CITY, STATE>>

NAVAL AIR STATION PAX RIVER, MD

B-2187 PROVIDE ELECT. UPGRADES FOR LAB 1B41

POWER OUTLET LOCATIONS

SCALE: AS NOTED

EPROJECT NO.: 1384145

CONSTR. CONTR. NO.
######-##-#-####

NAVFAC DRAWING NO.
1384145E2

SHEET 02 OF ##

#-###

DRAWFORM REVISION: 10 MARCH 2009

FILE NAME: C:\Users\kdpatel\Documents\2015\B-2187 Provide Electrical Upgrades for Lab 1B41\RI RFP or SOW\1384145E2 Power Outlet Locations (NAVFAC).dwg LAYOUT NAME: Full Size PLOTTED: Monday, May 04, 2015 - 2:05pm USER: kdpatel.d.patel

POWER OUTLET DEFINITIONS

ROOM	LOAD DESCRIPTION	VAC	CB VALUE	Hz	POLES	CONNECTOR TYPE	CIRCUIT REF	MINI. WIRE SIZE	CONDUIT SIZE	CONDUIT TYPE
1B41	UNIT 5-CREWSTATION 1	208	30	60	3	L21-30	FAC-1	#8	1″	EMT
	UNIT 6- CREWSTATION 2	208	30		3	L21-30	FAC-2	#8	1″	
	UNIT 7- CREWSTATION 3	208	30		3	L21-30	FAC-3	#8	1″	
	UNIT 8- CREWSTATION 4	208	30		3	L21-30	FAC-4	#8	1″	
	UNIT 9- AIR VEHICLE 1	208	30		3	L21-30	FAC-5	#8	1″	
	UNIT 10- AIR VEHICLE 2	208	30		3	L21-30	FAC-6	#8	1″	
	UNIT 11- AIR VEHICLE 3	208	30		3	L21-30	FAC-7	#8	1″	
	UNIT 12- AIR VEHICLE 4	208	30		3	L21-30	FAC-8	#8	1″	
	UNIT 13- IOS 1 RACK	120	20		1	L5-20	FAC-9	#10	3/4″	
	UNIT 13- IOS 1 DESK	120	20		1	L5-20	FAC-10	#10	3/4″	
	UNIT 14- IOS 2 RACK	120	20		1	L5-20	FAC-11	#10	3/4″	
	UNIT 14- IOS 2 DESK	120	20		1	L5-20	FAC-12	#10	3/4″	
	UNIT 15- IOS 3 RACK	120	20		1	L5-20	FAC-13	#10	3/4″	
	UNIT 15- IOS 3 DESK	120	20		1	L5-20	FAC-14	#10	3/4″	
	UNIT 16- IOS 4 RACK	120	20		1	L5-20	FAC-15	#10	3/4″	
	UNIT 16- IOS 4 DESK	120	20		1	L5-20	FAC-16	#10	3/4″	
	UNIT 17- CONTROL RACK 1	120	20		1	L5-20	FAC-17	#10	3/4″	
	UNIT 17- CONTROL RACK 2	208	30		3	L21-30	FAC-18	#8	1″	
	UNIT 17- CONTROL RACK 3	208	30		3	L21-30	FAC-19	#8	1″	
	UNIT 17- CONTROL RACK 4	120	20		1	L5-20	FAC-20	#10	3/4″	
	UNIT 17- CONTROL RACK 5	208	30		3	L21-30	FAC-21	#8	1″	
	UNIT 18- IMAGE GENERATOR 1	208	30		3	L21-30	FAC-22	#8	1″	
	UNIT 18- IMAGE GENERATOR 2	208	30		3	L21-30	FAC-23	#8	1″	
	UNIT 18- IMAGE GENERATOR 3	208	30		3	L21-30	FAC-24	#8	1″	
	UNIT 18- IMAGE GENERATOR 4	208	30		3	L21-30	FAC-25	#8	1″	
	UNIT 19- SSE/MAINTENANCE DESK	120	20		1	L5-20	FAC-26	#10	3/4″	
	UNIT 20- UTILITY	208	30		3	L21-30	FAC-27	#8	1″	
	UNIT 20-UTILITY	208	30		3	L21-30	FAC-28	#8	1″	
	UNIT 20-UTILITY	120	20		1	L5-20	FAC-29	#10	3/4″	
	UNIT 20-UTILITY	120	20		1	L5-20	FAC-30	#10	3/4″	

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SATISFACTORY TO DATE 04/05/15

DES XXX DRW XXX CHK XXX

<<PM/DM>> K. PATEL

BRANCH MANAGER XX

CHIEF ENG/ARCH XXX

<<XXX>> XX

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND ~ <<AGENCY>>
WASHINGTON <<BASE - CITY, STATE>>
NAVAL AIR STATION PAX RIVER, MD

B-2187 PROVIDE ELECT. UPGRADES FOR LAB 1B41

POWER OUTLET DEFINITIONS

SCALE: AS NOTED

EPROJECT NO.: 1384145

CONSTR. CONTR. NO. ######-##-#-####

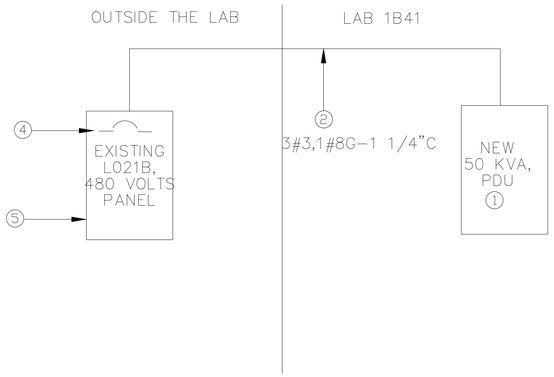
NAVFAC DRAWING NO. 1384145E3

SHEET 03 OF ##

#-###

DRAWFORM REVISION: 10 MARCH 2009

FILE NAME: C:\Users\xdpesh.d.patel\Documents\2015\B-2187 Provide Electrical Upgrades for Lab 1B41\IH RFP or SOW\1384145E3 Power Outlet Definitions (NAVFAC).dwg LAYOUT NAME: Full Size PLOTTED: Monday, May 04, 2015 - 2:01pm USER: kxdpesh.d.patel



ELECTRICAL RISER DIAGRAM

ELECTRICAL NOTES:

1. PROVIDE AND INSTALL NEW 50 KVA PDU WHICH INCLUDES STEP DOWN TRANSFORMER, ENERGY MANAGEMENT SYSTEM, TWO 42 POLES ELECTRICAL PANEL BOARDS, TOTAL 17-30 AMPS (3 POLES) AND TOTAL 13-20 AMPS (1 POLE) CIRCUIT BREAKERS.

2. CONNECT THE PDU TO AN EXISTING L021B, 480 VOLTS PANEL BOARD.

3. UTILIZE EXISTING WIRE WAYS AND INSTALL NEW WIRES, CONDUITS AND OTHER ASSOCIATED EQUIPMENT TO PROVIDE THE POWER TO THE INDIVIDUAL EQUIPMENT IN THE LAB 1B41 PER DRAWINGS 1384145E1, 1384145E2 AND 1384145E3.

4. PROVIDE AND INSTALL 70 AMPS, 480 VOLTS CIRCUIT BREAKER AND CONNECT IT TO THE PDU.

5. UPDATE THE PANEL DIRECTORY.

GENERAL NOTES:

1. REGULATORY REQUIREMENTS:

   1.1 NFPA 1: FIRE CODE (LATEST EDITION)
   1.2 NFPA 70: NATIONAL ELECTRIC CODE (NEC) (LATEST EDITION)
   1.3 NFPA 70E: STANDARD FOR ELECTRICAL SAFETY IN THE WORKPLACE (LATEST EDITION)
   1.4 NFPA 72: NATIONAL FIRE ALARM AND SIGNALING CODE (LATEST EDITION)
   1.5 NFPA 101: LIFE SAFETY CODE (LATEST EDITION)
   1.6 UFC 3-501-01: ELECTRICAL ENGINEERING (LATEST EDITION)
   1.7 UFC 3-520-01: INTERIOR ELECTRICAL SYSTEM (LATEST EDITION)
   1.8 NECA 100-2006: SYMBOLS FOR ELECTRICAL CONSTRUCTION DRAWINGS (LATEST EDITION)

2. ANY CONFLICT BETWEEN SPECIFICATIONS, CODES, SOW (STATEMENT OF WORK) AND DRAWINGS THE MOST STRINGENT REQUIREMENT SHALL RULE.

3. DRAWINGS ARE SCHEMATIC IN NATURE AND DO NOT INTEND TO GIVE EXACT DIMENSIONS. ALL MEASUREMENTS SHALL BE FIELD DETERMINED BY ACTUAL CONDITIONS. COORDINATE AND MAINTAIN WORKING SPACE REQUIREMENT PER NEC.

4. CONTRACTOR SHALL COORDINATE ALL WORK WITH THE OWNER. THE CONTRACTOR SHALL TAKE INTO ACCOUNT SPECIAL OPERATING REQUIREMENTS WHICH MAY AFFECT NORMAL WORKING AND ACCESS CONDITIONS.

5. THE CONTRACTOR SHALL FURNISH ALL PERMITS AND TESTS REQUIRED.

6. ALL DEVICES SHALL BE MOUNTED AT HEIGHTS WHICH COMPLY WITH ADA REQUIREMENTS.

7. LOCATION OF ALL EQUIPMENT IS TENTATIVE. FINAL LOCATIONS SHALL SUIT SPACE AND EQUIPMENT CONDITIONS. COORDINATE AND MAINTAIN WORKING SPACE REQUIREMENT PER NEC.

8. ALL MATERIALS PROVIDED BY SUBCONTRACTOR SHALL BE IN CONFORMANCE WITH THE 'BUY AMERICAN ACT-FAR 25.000'.

9. PROVIDE ALL ADDITIONAL AUXILIARY EQUIPMENT SUCH AS CONDUIT SUPPORT DEVICES, BOXES, CLAMPS, ETC. NOT SPECIFICALLY SHOWN ON THESE DRAWINGS, BUT NECESSARY FOR A COMPLETE INSTALLATION.

10. WHERE NEW CONDUCTORS AND/OR CONDUIT SYSTEM ARE INSTALLED, LENGTH AND ROUTING OF CONDUCTORS AND/OR CONDUIT SYSTEMS SHALL BE DETERMINED IN THE FIELD BY THE ELECTRICAL CONTRACTOR.

11. PROVIDE PROTECTIVE COVERING OVER PANELS AND EQUIPMENT DURING CONSTRUCTION.

12. CONTRACTOR SHALL MAKE ALL NECESSARY TESTS TO ENSURE THAT THE ENTIRE INSTALLATION IS FREE FROM IMPROPER GROUNDS AND FROM SHORTED AND/OR OPEN CIRCUITS BEFORE ANY CIRCUITS ARE PLACED IN OPERATION.

13. ALL MATERIALS SHALL BE NEW, CLEAN AND RATED FOR USE IN THE AREA IN WHICH IS TO BE INSTALLED.

14. ALL WALL AND FLOOR PENETRATIONS SHALL BE SEALED WITH UL LISTED FIRE SEALANT IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. CONDUIT SHALL NOT PENETRATE 4 HOUR FIRE WALLS. CONDUIT SHALL BE INSTALLED BELOW GRADE UNDER 4 HOUR FIRE WALLS.

15. DO NOT USE SPLIT-BOLT CONNECTORS.

16. ALL EQUIPMENT MUST BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.

17. COMPLETED AS BUILT DRAWINGS SHALL BE PRESENTED PRIOR TO FINAL INSPECTION.

18. EACH ELECTRICAL APPARATUS SUCH AS WIREWAY, PANELBOARDS, SINGLE ENCLOSED CIRCUIT BREAKERS, EACH CIRCUIT BREAKER IN A SWITCHBOARD, TRANSFORMERS, AND DISCONNECTING SWITCHES SHALL HAVE ENGRAVED-LAMINATE PLASTIC IDENTIFICATION PLATES. IDENTIFICATION SHALL IDENTIFY THE EQUIPMENT SERVED AND CIRCUIT AND PANEL FROM WHICH IT IS SERVED. EQUIPMENT SHALL BE IDENTIFIED BY DESIGNATION USED ON ELECTRICAL AND MECHANICAL DRAWINGS. LABEL SHALL BE SIMILAR TO THAT SHOWN.

19. ALL WORK SHALL WARRANTED FOR ONE YEAR FROM DATE OF ACCEPTANCE BY THE GOVERNMENT.

20. PARTIAL SUBMITTAL SHALL NOT BE ACCEPTABLE. SHOP DRAWINGS OF A SPECIFIC ITEM OR SYSTEM SHALL BE IN ON SUBMITTAL.
21. A SUBMITTAL THAT HAS BEEN REVIEWED AND APPROVED DOES NOT REMOVE LIABILITY FROM THE CONTRACTOR TO MEET THE REQUIREMENTS OF THE CONTRACT DOCUMENTS.

SYM	DESCRIPTION	DATE	APPR

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SATISFACTORY TO DATE 04/05/15

DES XXX	DRW XXX	CHK XXX

<<PM/DM>>	K. PATEL
BRANCH MANAGER	XX
CHIEF ENG/ARCH	XXX
<<XXX>>	XX

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
WASHINGTON

NAVAL FACILITIES ENGINEERING COMMAND ~ <<AGENCY>>
<<BASE - CITY, STATE>>

NAVAL AIR STATION PAX RIVER, MD

B-2187 PROVIDE ELECT. UPGRADES FOR LAB 1B41

POWER RISER DIAGRAM

SCALE: AS NOTED

EPROJECT NO.: 1384145

CONSTR. CONTR. NO.
######-##-#-####

NAVFAC DRAWING NO.
1384145E4

SHEET 04 OF ##

#-###

DRAWFORM REVISION: 10 MARCH 2009

FILE NAME: C:\Users\kdpatel\Documents\2015\B-2187 Provide Electrical Upgrades for Lab 1B41\IH RFP or SOW\1384145E4 Power Riser Diagram and Details (NAVFAC).dwg LAYOUT NAME: Full Size PLOTTED: Thursday, May 07, 2015 - 9:51am USER: kdpatel-d.patel