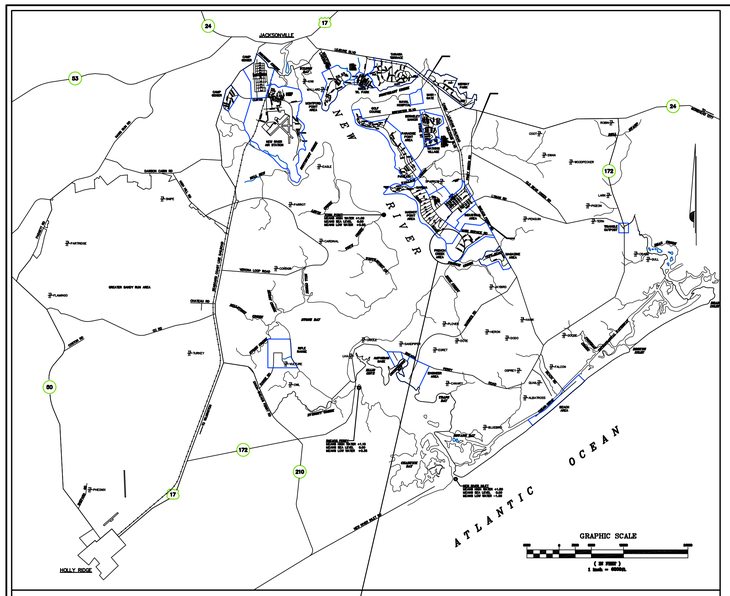
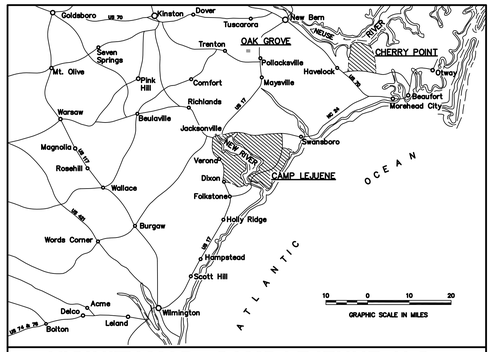
STRUCTURAL AND HVAC RENOVATION
FC574 BARRACK
MARINE CORPS BASE CAMP LEJEUNE N.C.



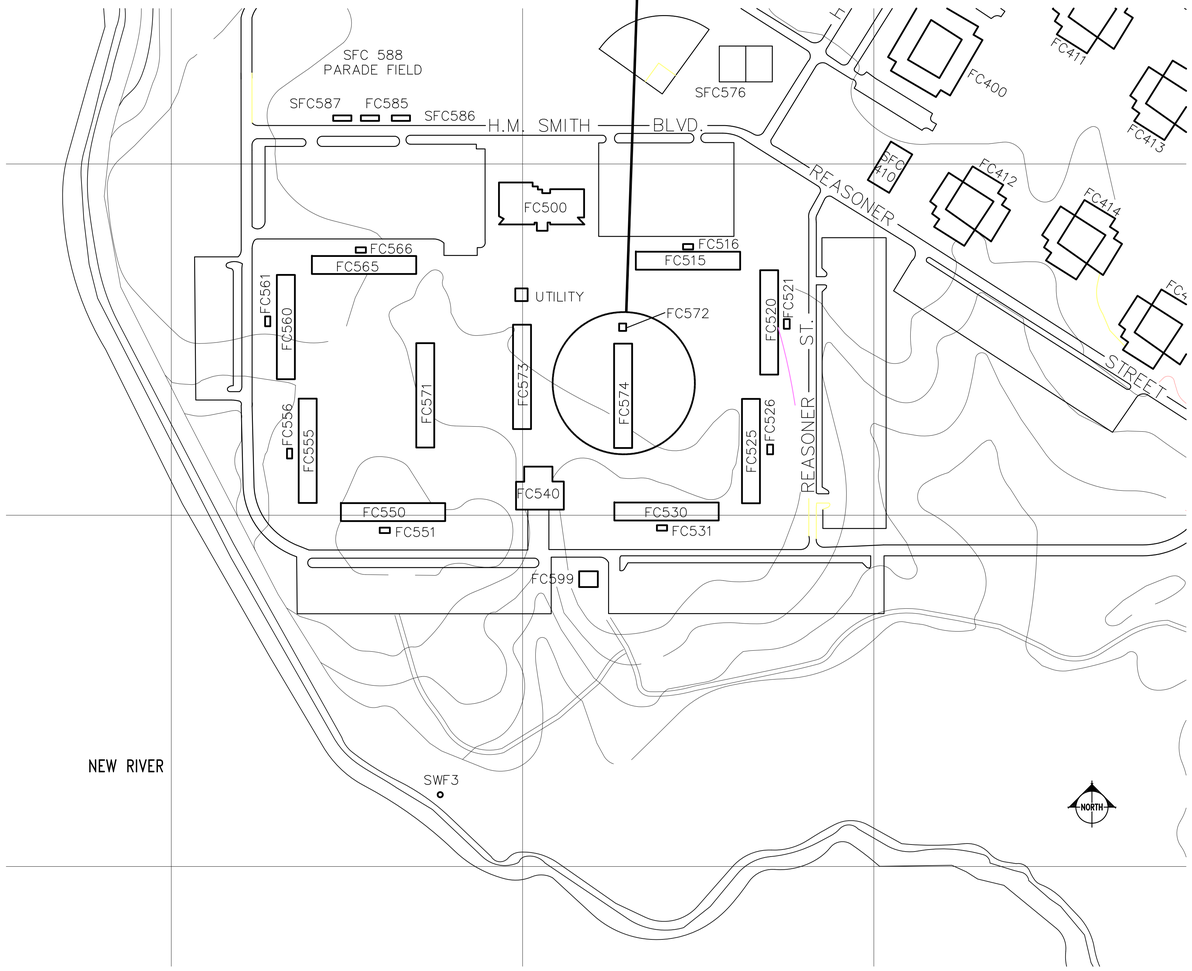
LOCATION MAP – U.S. MARINE CORPS BASE, CAMP LEJEUNE, N.C.
SCALE: 1" = 6000'



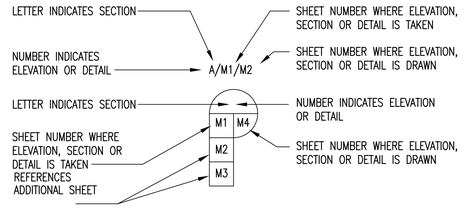
VICINITY MAP - CAMP LEJEUNE, N.C.

SHEET #	NAVFAC #	PLATE #	SHEET TITLE
01 OF 72	60006286	G-001	TITLE SHEET
02 OF 72	60006287	C-101	SITE PLAN
03 OF 72	60006288	C-501	DETAILS
04 OF 72	60006289	A-101	FIRST FLOOR PLAN
05 OF 72	60006290	A-102	SECOND FLOOR PLAN
06 OF 72	60006291	A-103	THIRD FLOOR PLAN
07 OF 72	60006292	A-104	REFLECTED CEILING PLAN
08 OF 72	60006293	A-105	ROOF PLAN
09 OF 72	60006294	A-201	ELEVATIONS
10 OF 72	60006295	A-301	BUIDING SECTION AND DETAILS
11 OF 72	60006296	A-302	SECTION DETAILS
12 OF 72	60006297	A-401	DETAILS
13 OF 72	60006298	A-402	DETAILS
14 OF 72	60006299	A-403	EXPANSION JOINT DEMOLITION & CONSTRUCTION DETAILS
15 OF 72	60006300	A-601	DOOR SCHEDULE & ROOM FINISH SCHEDULE
16 OF 72	60006301	A-602	HEAD, JAMB, AND SILL DETAILS
17 OF 72	60006302	LS-001	LIFE SAFETY CODE COMPLIANCE SUMMARY
18 OF 72	60006303	LS-101	LIFE SAFETY FLOOR PLANS
19 OF 72	60006304	F-001	SPRINKLER NOTES AND SITE PLAN
20 OF 72	60006305	F-101	SPRINKLER SYSTEM FIRST FLOOR PLAN
21 OF 72	60006306	F-102	SPRINKLER SYSTEM SECOND FLOOR PLAN
22 OF 72	60006307	F-103	SPRINKLER SYSTEM THIRD FLOOR PLAN
23 OF 72	60006308	FA-001	FIRE ALARM NOTES AND LEGEND
24 OF 72	60006309	FA-101	FIRE ALARM FIRST FLOOR PLAN
25 OF 72	60006310	FA-102	FIRE ALARM SECOND FLOOR PLAN
26 OF 72	60006311	FA-103	FIRE ALARM THIRD FLOOR PLAN
27 OF 72	60006312	MS-101	MECHANICAL PIPING SITE PLAN (EXISTING)
28 OF 72	60006313	MS-102	GEOTHERMAL WELL FIELD SITE PLAN
29 OF 72	60006314	MD-101	MECAHNICAL DEMOLITION PLAN
30 OF 72	60006315	MD-102	ROOF MECAHNICAL DEMOLITION PLAN
31 OF 72	60006316	MD-401	ENLARGED MECHANICAL DEMOLITION PLANS
32 OF 72	60006317	MD-402	ENLARGED MECHANICAL DEMOLITION PLANS
33 OF 72	60006318	MD-403	ENLARGED FIRST FLOOR MECHANICAL DEMOLITION PLAN
34 OF 72	60006319	MH-101	MECHANICAL NEW WORK PLANS
35 OF 72	60006320	MH-102	ATTIC MECHANICAL NEW WORK PLAN
36 OF 72	60006321	MH-401	ENLARGED MECHANICAL NEW WORK PLANS
37 OF 72	60006322	MH-402	ENLARGED MECHANICAL NEW WORK PLANS
38 OF 72	60006323	MH-403	ENLARGED FIRST FLOOR MECHANICAL NEW WORK PLAN
39 OF 72	60006324	MP-401	ENLARGED MECHANICAL PIPING NEW WORK PLANS
40 OF 72	60006325	M-101	BUILDING 572 MECHANICAL DEMOLITION AND NEW WORK PLAN
41 OF 72	60006326	M-102	MECHANICAL DETAILS
42 OF 72	60006327	M-103	MECHANICAL DETAILS
43 OF 72	60006328	M-104	MECHANICAL DETAILS
44 OF 72	60006329	M-501	MECHANICAL DETAILS
45 OF 72	60006330	M-502	MECHANICAL DETAILS
46 OF 72	60006331	M-601	CONTROL DRAWINGS AND SEQUENCE OF OPERATION
47 OF 72	60006332	M-602	CONTROL DRAWINGS AND SEQUENCE OF OPERATION
48 OF 72	60006333	M-603	MECHANICAL DEMOLITION AND NEW WORK ISOMETRIC RISER DIAGRAMS
49 OF 72	60006334	M-604	MECHANICAL SCHEDULES
50 OF 72	60006335	PD-101	PLUMBING DEMOLITION PLAN
51 OF 72	60006336	P-101	PLUMBING NEW WORK PLAN
52 OF 72	60006337	P-401	ENLARGED PLUMBING SUPPLY AND DWV NEW WORK PLANS
53 OF 72	60006338	P-402	ENLARGED PLUMBING PIPING NEW WORK PLANS
54 OF 72	60006339	P-501	PLUMBING DETAILS
55 OF 72	60006340	P-601	PLUMBING ISOMETRICS AND SCHEDULE
56 OF 72	60006341	E-001	ELECTRICAL LEGEND AND GENERAL NOTES
57 OF 72	60006342	ED-101	ELECTRICAL DEMOLITION PLAN
58 OF 72	60006343	ED-401	ENLARGED ELECTRICAL DEMOLITION PLAN
59 OF 72	60006344	ED-402	ENLARGED ELECTRICAL DEMOLITION PLAN
60 OF 72	60006345	ED-403	ENLARGED FIRST FLOOR ELECTRICAL DEMOLITION PLAN
61 OF 72	60006346	E-101	ELECTRICAL NEW WORK PLAN
62 OF 72	60006347	E-102	ATTIC ELECTRICAL NEW WORK PLAN AND SCHEMATIC
63 OF 72	60006348	E-103	BUILDING 572 ELECTRICAL DEMOLITION AND NEW WORK PLAN
64 OF 72	60006349	E-401	ENLARGED ELECTRICAL NEW WORK PLAN
65 OF 72	60006350	E-402	ENLARGED ELECTRICAL NEW WORK PLAN
66 OF 72	60006351	E-403	ENLARGED FIRST FLOOR ELECTRICAL NEW WORK PLAN
67 OF 72	60006352	E-501	ELECTRICAL LIGHTING DETAILS
68 OF 72	60006353	E-502	ELECTRICAL LIGHTING DETAILS
69 OF 72	60006354	E-503	ELECTRICAL DETAILS
70 OF 72	60006355	E-601	ELECTRICAL PANEL SCHEDULES
71 OF 72	60006356	E-602	ELECTRICAL PANEL SCHEDULES
72 OF 72	60006357	E-603	ELECTRICAL RISER DIAGRAMS

LOCATION OF BUILDING FC574



ABBREVIATIONS
MIN MINIMUM



Elevation, Section or Detail Symbol

ROBERT T. BELANGIA REGISTERED ARCHITECT 4068 NORTH CAROLINA NEW BERN NC
13 August 2010

MAINE BELANGIA FAULKENBERRY ARCHITECTS, PA
MBFA NO.: 1001
1710 Bridgen Ave. New Bern, NC 28560
tel. 252.633.5000 fax 252.633.5004
www.mbfarchitects.com

MAINE BELANGIA FAULKENBERRY ARCHITECTURAL CORPORATION P.A. REGISTERED NORTH CAROLINA CERT. NO. 679 New Bern NC

G-001

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA

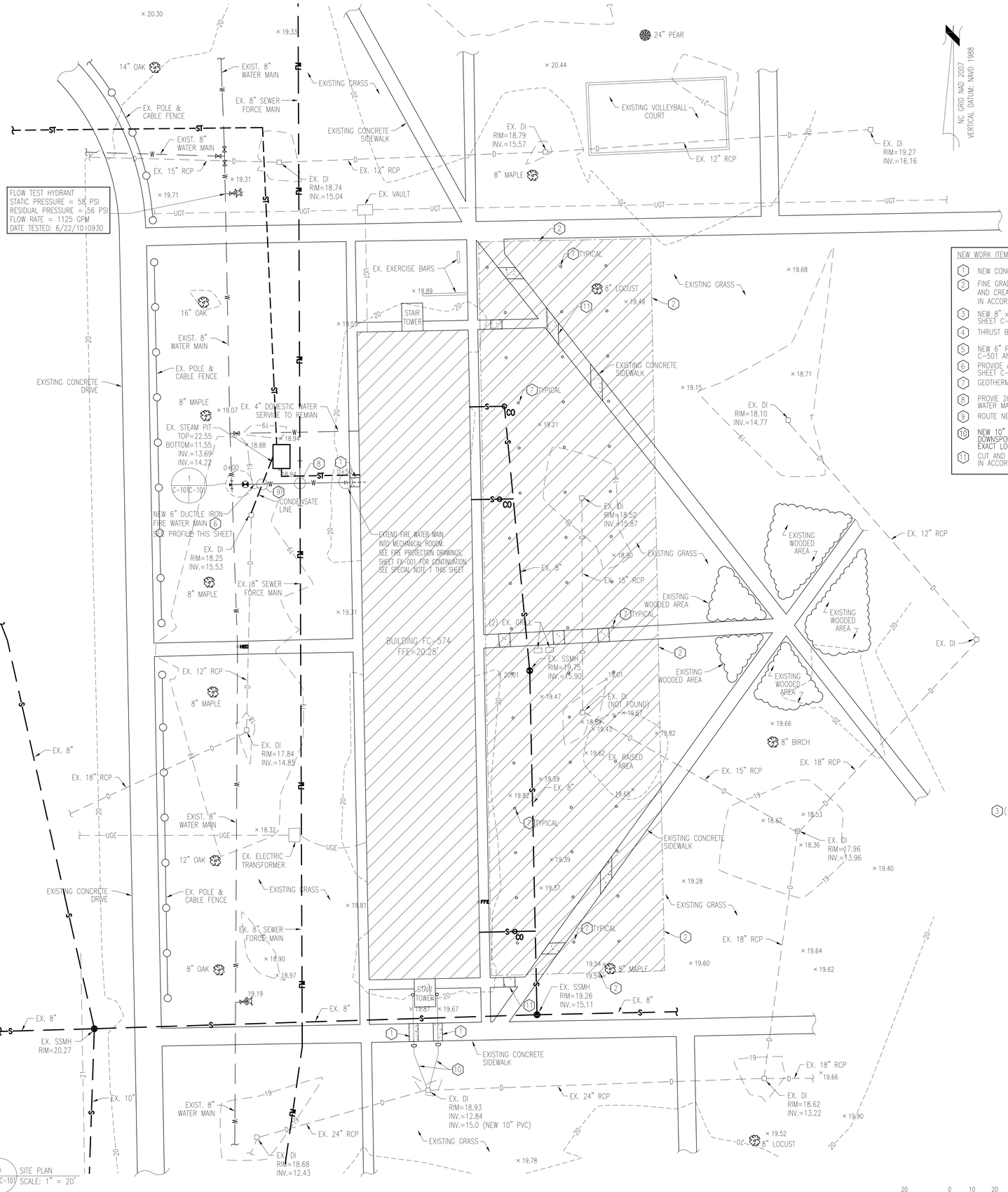
STRUCTURAL AND HVAC RENOVATION – FC574 BARRACK
TITLE SHEET

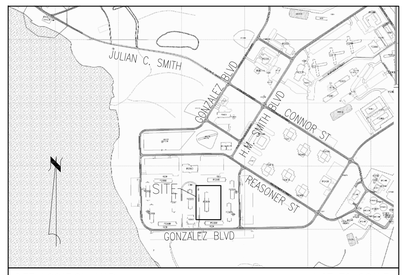
DES.	RTB
DR.	SLA
CHK.	RTB
SUBMITTED BY:	
DESIGN DIR.	
APPROVED: PWO OR OICC	DATE
SATISFACTORY TO:	DATE

SIZE	CODE IDENT NO.	NAVFAC DRAWING NO.
F	80091	60006286

CONST. CONTR. NO. N40085-10-B-0010
SCALE: AS NOTED | SPEC. 05-10-0010 | SHEET 01 OF 72

REVISIONS			
SYM		DATE	APPROVED





SITE LOCATION MAP — NOT TO SCALE

NEW WORK ITEMS (THIS SHEET):

1. NEW CONCRETE SIDEWALK – SEE DETAIL A, SHEET C-501.
2. FINE GRADE AND COMPACT GEOTHERMAL WELL AREA TO REMOVE SURFACE IRREGULARITES AND CREATE POSITIVE DRAINAGE. RE-ESTABLISH VEGEATATION ON ALL DISTURBED AREAS IN ACCORDANCE WITH PROJECT VEGETATION PLAN. SEE DETAIL B, SHEET C-501
3. NEW 8" x 6" TAPPING SADDLE & VALVE – SEE DETAIL C, SHEET C-501 AND SPECIFICATIONS.
4. THRUST BLOCK – SEE DETAIL D, SHEET C-501.
5. NEW 6" POST INDICATOR VALVE – SEE DETAIL E, SHEET C-501 AND SPECIFICATIONS.
6. PROVIDE ALL TRENCHING IN ACCORDANCE WITH DETAIL F, SHEET C-501.
7. GEOTHERMAL WELLS. SEE SHEET MS-101.
8. PROVIE 20LF 8" DUCTILE IRON SEWER MAIN CENTERED AT CROSSING. ROUTE NEW WATER MAIN BELOW EXISTING FORCE MAIN. PROVIDE 24" MINIMUM VERTICAL SEPARATION.
9. ROUTE NEW FIRE WATER BELOW STEAM CONDENSATE DRAIN.
10. NEW 10" PVC ROOF LEADER. PROVIDE 10" 90° ELBOW TO CONNECT TO 10" PVC DOWNSPOUT. CONNECT TO EXISTING DROP INLET. SEE ARCHITECTURAL PLANS FOR EXACT LOCATION.
11. CUT AND PATCH SIDEWALK TO INSTALL GEOTHERMAL WELL FIELD PIPING. PATCH SIDEWALK IN ACCORDANCE WITH DETAIL A, SHEET C-501. (TYPICAL OF 10).

SPECIAL NOTE:

1. THE CONTRACTOR SHALL PROVIDE A REDUCED PRESSURE DOUBLE CHECK BACKFLOW ASSEMBLY (RPZ) ON THE FIRE MAIN RISER IN THE MECHANICAL ROOM. THE RPZ SHALL MEET AMERICAN SOCIETY OF SANITARY ENGINEERING (ASSE) STANDARD AND CARRY THE ASSE SEAL OR APPEAR ON THE UNIVERSITY OF CALIFORNIA APPROVED LIST.

SPECIAL SEEDING NOTE:

THE ANGLE FOR GRADED SLOPES AND FILL SHALL BE NO GREATER THAN THE ANGLE THAT CAN BE RETAINED BY VEGETATIVE COVER OR OTHER ADEQUATE EROSION CONTROL DEVICES OR STRUCTURES. IN ANY EVENT, SLOPES LEFT EXPOSED WILL, WITHIN 21 CALENDAR DAYS OF COMPLETION OF ANY PHASE OF GRADING, BE PLANTED OR OTHERWISE PROVIDED WITH TEMPORARY OR PERMANENT GROUND COVER, DEVICES, OR STRUCTURES SUFFICIENT TO RESTRAIN EROSION. ADDITIONALLY, WITHIN 15 WORKING DAYS OR 90 CALENDAR DAYS FROM THE COMPLETION OF THE PROJECT (WHICHEVER IS SHORTER), PERMANENT GROUND COVER SHALL BE ESTABLISHED.

GENERAL CONSTRUCTION NOTES:

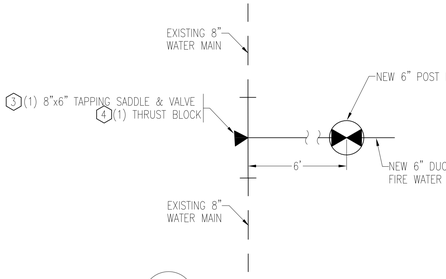
1. THE LOCATION AND DEPTHS OF EXISTING UTILITIES SHOWN ARE APPROXIMATE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SCANNING THE AREA OF WORK TO IDENTIFY TO HIS OWN SATISFACTION THE EXTENT OF UTILITIES PRESENT INCLUDING THE UTILITIES INDICATED TO BE PRESENT, THOSE NOT SHOWN, AND THOSE SHOWN TO BE IN A DIFFERENT LOCATION.
2. PHYSICAL SITE FEATURES OUTSIDE THE AREA OF WORK OR THOSE FEATURES NOT RELEVANT TO THE WORK BEING PERFORMED ARE NOT SHOWN FOR CLARITY.
3. ALL EXISTING VEGETATED AREAS DISTURBED DURING CONSTRUCTION SHALL BE REVEGETATED IN ACCORDANCE WITH THE PROJECT VEGETATION PLAN, SEE DETAIL B, SHEET C-501.

ABBREVIATIONS

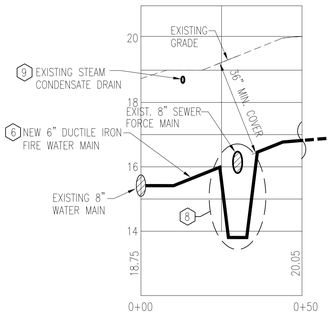
C/L	CENTER LINE
DIA, ø	DIAMETER
DI	DROP INLET
ELEV	ELEVATION
EX, EXIST	EXISTING
HOR	HORIZONTAL
INV	INVERT
MAX	MAXIMUM
MH	MANHOLE
MIN	MINIMUM
OHE	OVERHEAD ELECTRIC
OC	ON CENTER
PSF	POUND SQUARE FOOT
RCP	REINFORCED CONCRETE PIPE
SF	SQUARE FEET
SLT	SILT FENCE
STA	STATION
SSMH	SANITARY SEWER MANHOLE
TBM	TEMPORARY BENCHMARK
TW	TOP OF WALK
TYP	TYPICAL
VERT	VERTICAL
WWF	WELDED WIRE FABRIC
&	AND
±	PLUS OR MINUS
%	PERCENT

CIVIL LEGEND

EXISTING	DESCRIPTION	NEW
	WATER VALVE	
	THRUST BLOCK	
	SANITARY SEWER MANHOLE	
CO	SANITARY SEWER CLEANOUT	
	STORM DRAIN	
	FIRE HYDRANT	
	ELECTRIC METER	
	PEDESTAL	
	POWER POLE	
	LIGHT POLE	
	GUY WIRE	
S	SANITARY SEWER (GRAVITY)	
FM	SANITARY SEWER (FORCE MAIN)	
D	STORM SEWER	
W	DOMESTIC WATER	
FW	FIRE WATER	FW
ST	UNDERGROUND STEAM	
OHE	OVERHEAD ELECTRICAL	
UGE	UNDERGROUND ELECTRICAL	
UGC	UNDERGROUND CABLE	
UGT	UNDERGROUND COMMUNICATIONS	
	CONCRETE	
	ASPHALT	
	TEMPORARY BENCHMARK	
+ 5.00	SPOT ELEVATIONS	
– 5.00 –	CONTOUR LINES	
	TREE	
	SILT FENCE	
	SURVEY CONTROL POINT	
	SOURCE/DESTINATION UNKNOWN	



1 C-101 / C-101 — ENLARGED VIEW–FIRE WATER MAIN CONNECTION
SCALE: NOT TO SCALE



2 C-101 / C-101 — FIRE WATER MAIN – PROFILE
HOR. SCALE: 1"=20'
VERT. SCALE: 1"=2'

A C-101 / C-101 — SITE PLAN
SCALE: 1" = 20'

GRAPHIC SCALE: 1" = 20' (20 0 10 20 40)

AVOLIS ENGINEERING, P.A.
P.O. BOX 15564
NEW BERN, NC 28561
PH.(252) 633-0068, FAX (252) 633-6507

AE PROJECT # 10016

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 15738 9/3/10 KEVIN L. AVOLIS

MBFA NO.: 0909

MAUNE BELANGIA FAULKENBERRY ARCHITECTS PA
317-C POLLOCK STREET NEW BERN, NC

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA

C-101

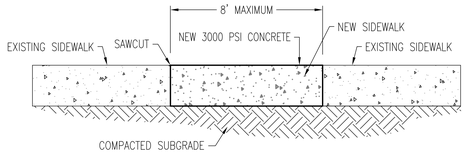
MAJOR INTERIOR AND EXTERIOR REPAIRS, BUILDING FC-574

SITE PLAN

DES.	J.K. AVOLIS, P.E.
DR.	MSP/WFF
CHK.	J.C. AVOLIS, P.E.
SUBMITTED BY:	
DESIGN DIR.	
APPROVED: PWO OR OICC	DATE
SATISFACTORY TO:	DATE

SIZE	CODE IDENT NO.	NAVFAC DRAWING NO.
F	80091	60006287
		CONST. CONTR. NO. N40085-10-D-0010
SCALE:	SPEC. 05-10-0010	SHEET 02 OF 72

REVISIONS			
SYM		DATE	APPROVED



TYPICAL REPAIR OF CONCRETE SIDEWALK CUT

NOTE: REMOVE CONCRETE SIDEWALK AT JOINTS WHEN JOINTS ARE LOCATED WITHIN 5 FEET OF AREA OF WORK. CONCRETE FINISH & JOINT PATTERN SHALL MATCH EXISTING.

A C-101 C-501 CUT & PATCH NOT TO SCALE

VEGETATIVE SEEDING
AFTER COMPLETION OF GRADING ACTIVITIES AND THE CONSTRUCTION OF SWALES, ALL EXPOSED AREAS SHALL BE SEEDED TO THE FOLLOWING SPECIFICATIONS:

SEED BED

LIME	1-1/2 TON PER ACRE
FERTILIZER	1/2-TON PER ACRE

SEED

RYE GRAIN	50 LBS PER ACRE
TALL FESCUE	100 LBS PER ACRE

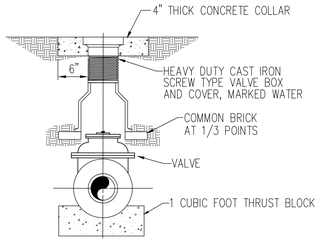
MAY THROUGH AUGUST:

CENTIPEDE	5 LBS PER ACRE

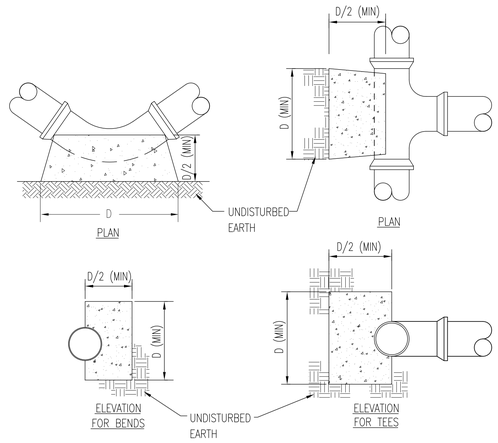
PROCEDURE
STRAW MULCH SHALL BE APPLIED AT A RATE WHICH WILL INSURE APPROXIMATELY 75% COVERAGE OF THE SEEDED AREA. THE STRAW AND SOWN SEED WILL BE LIGHTLY DISCED INTO THE BED TO GIVE IT FURTHER RESISTENCE TO BLOWING AND WASHING.
THE CONTRACTOR SHALL GUARANTEE A FULL STAND OF GRASS OVER THE ENTIRE DISTURBED AREA. IF NECESSARY THE CONTRACTOR WILL WET DOWN THE AREAS TO ASSIST IN SEED GERMINATION OR AID IN GROWTH IN TIMES OF EXCESSIVELY DRY WEATHER. A STAND OF GRASS WILL BE CONSIDERED ACCEPTABLE WHEN THE ENTIRE STAND OF GRASS IS AT LEAST FOUR INCHES HIGH AND HAS ACHIEVED AT LEAST 95% COVERAGE OF DISTURBED AREAS. RESEEDING WILL BE REQUIRED AS NECESSARY BY THE CONTRACTOR TO OBTAIN THE SPECIFIED STAND OF GRASS.

SPECIAL SEEDING NOTE:
THE ANGLE FOR GRADED SLOPES AND FILL SHALL BE NO GREATER THAN THE ANGLE THAT CAN BE RETAINED BY VEGETATIVE COVER OR OTHER ADEQUATE EROSION CONTROL DEVICES OR STRUCTURES. IN ANY EVENT, SLOPES LEFT EXPOSED WILL, WITHIN 21 CALENDAR DAYS OF COMPLETION OF ANY PHASE OF GRADING, BE PLANTED OR OTHERWISE PROVIDED WITH TEMPORARY OR PERMANENT GROUND COVER, DEVICES, OR STRUCTURES SUFFICIENT TO RESTRAIN EROSION. ADDITIONALLY, WITHIN 15 WORKING DAYS OR 90 CALENDAR DAYS FROM THE COMPLETION OF THE PROJECT (WHICHEVER IS SHORTER), PERMANENT GROUND COVER SHALL BE ESTABLISHED.

B C-101 C-501 VEGETATION PLAN NOT TO SCALE

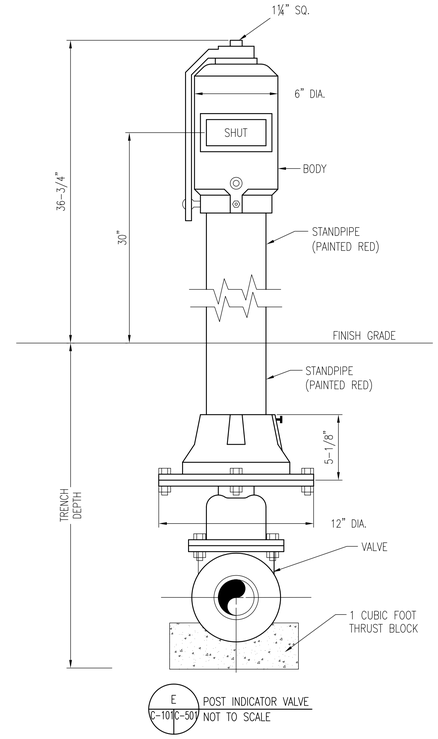


C C-101 C-501 VALVE AND VALVE BOX NOT TO SCALE

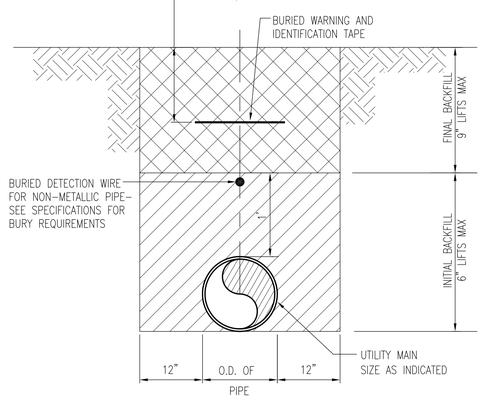


THRUST BLOCK DIMENSION D (IN FEET)					
NOM. PIPE DIA.	DEAD END	90° BEND	45° BEND	22 1/2° BEND	11 1/4° BEND
2"–4"	1.3	1.6	1.2	0.9	0.8
6"	2.1	2.3	1.7	1.2	0.8
8"	2.5	2.8	2.2	1.5	1.0

D C-101 C-501 THRUST BLOCK NOT TO SCALE



E C-101 C-501 POST INDICATOR VALVE NOT TO SCALE



PIPE TRENCH WITHOUT BEDDING

F C-101 C-501 PIPE TRENCH SECTION NOT TO SCALE

AE PROJECT # 10016

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P.O. BOX 15564
NEW BERN, NC 28561
PH.(252) 633-0068, FAX (252) 633-6507

NORTH CAROLINA REGISTERED PROFESSIONAL SEAL 15738 ENGINEER JOHN KEVIN AVOLIS 10-15-13

MBFA NO.: 0909

MAUNE BELANGIA FAULKENBERRY ARCHITECTS PA
317-2 POLLOCK STREET NEW BERN, NC

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA

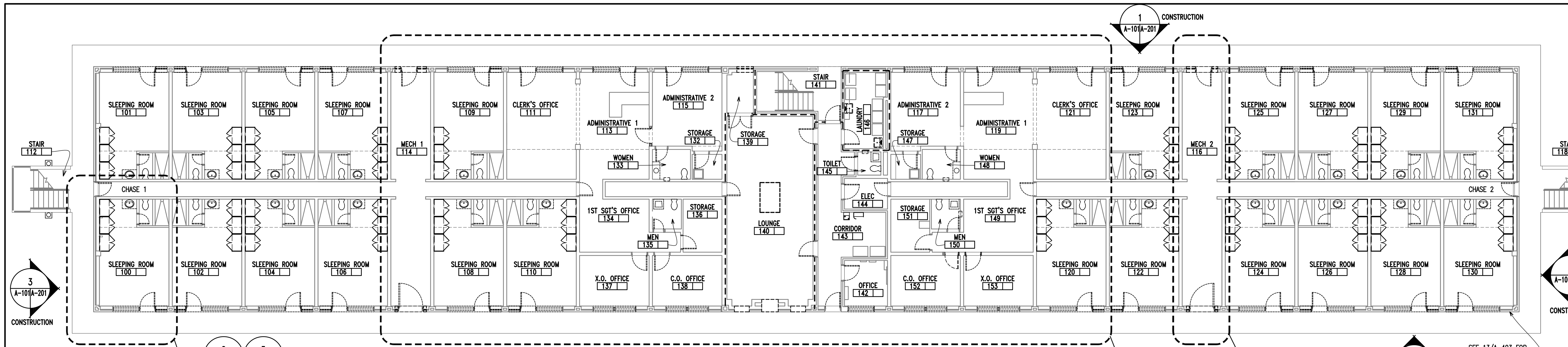
C-501

MAJOR INTERIOR AND EXTERIOR REPAIRS, BUILDING FC-574

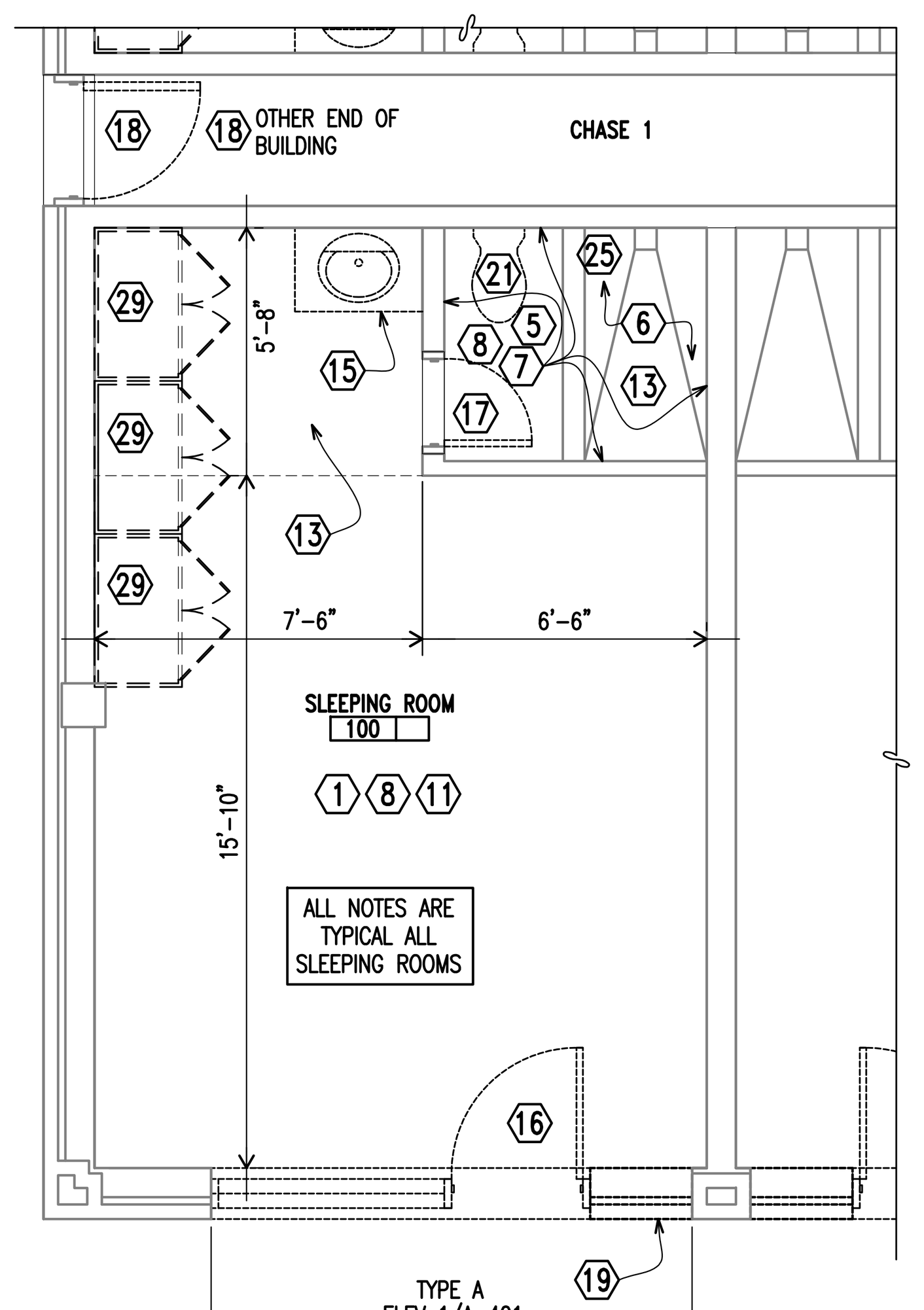
DETAILS

DES.	J.K. AVOLIS, P.E.
DR.	MSP/WFF
CHK.	J.C. AVOLIS, P.E.
SUBMITTED BY:	
DESIGN DIR.	
APPROVED: PWO OR OICC	DATE
SATISFACTORY TO:	DATE

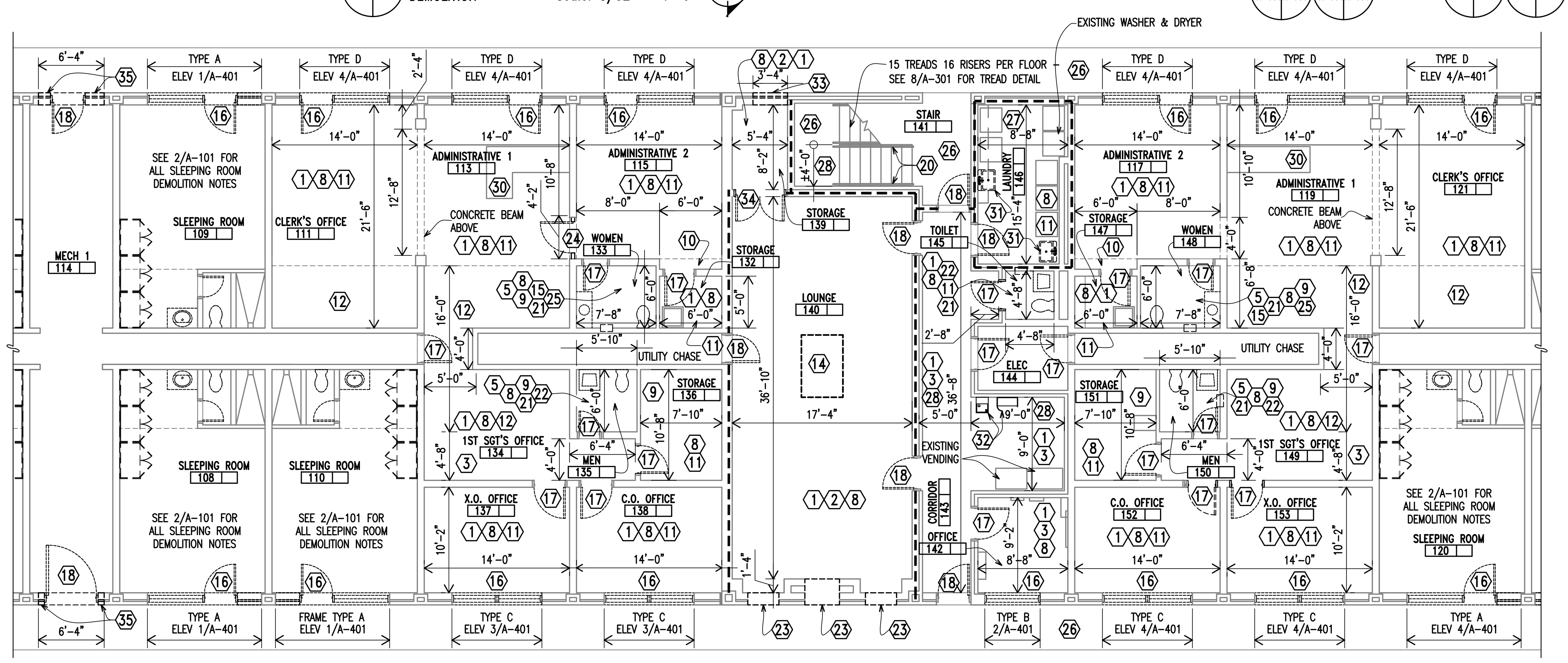
SIZE	CODE IDENT NO.	NAVFAC DRAWING NO.
F	80091	60006288
CONST. CONTR. NO. N40085-10-D-0010		
SCALE:	SPEC. 05-10-0010	SHEET 03 OF 72



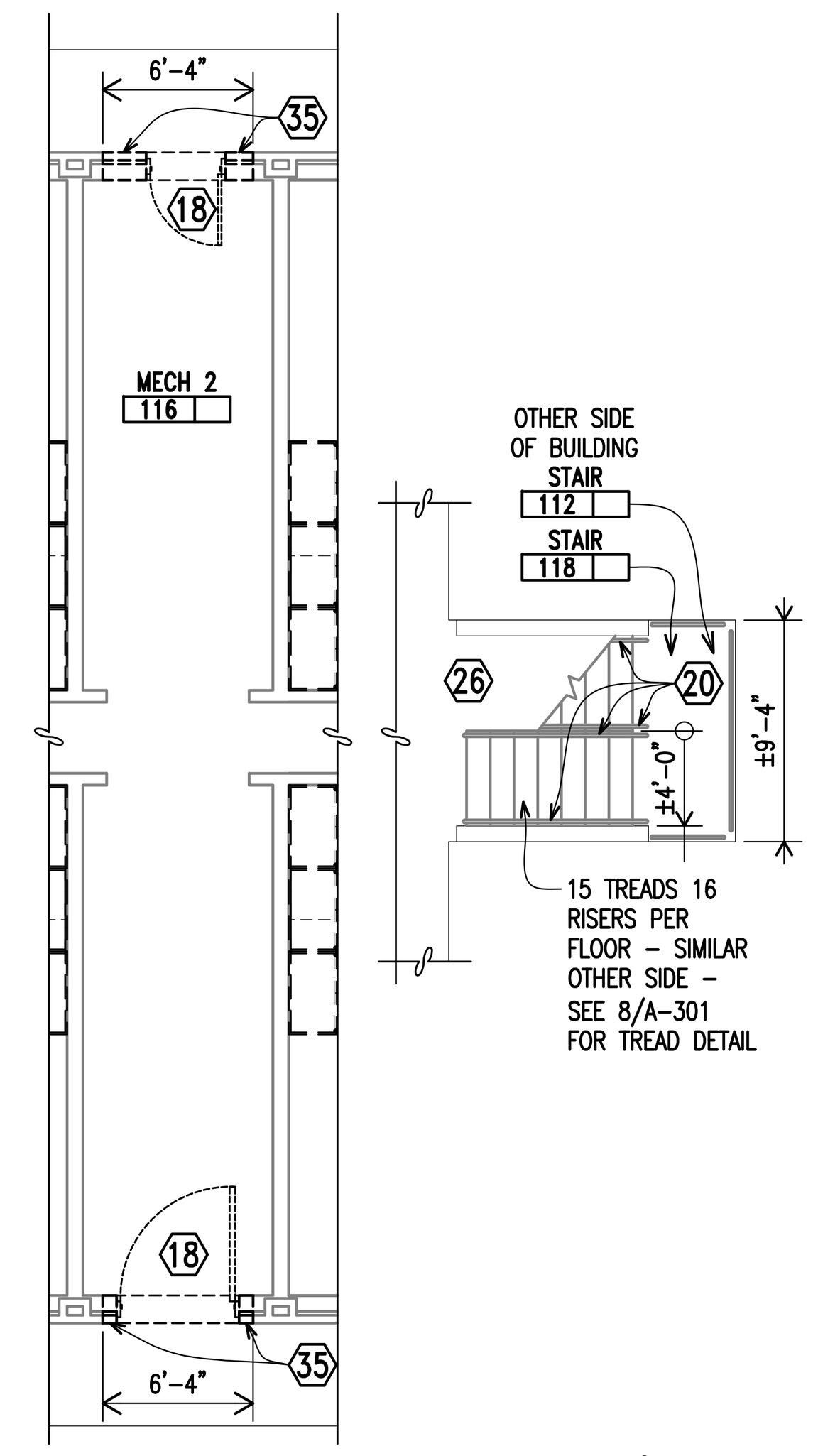
1 A-101|A-101 **FIRST FLOOR PLAN** DEMOLITION Scale: 3/32" = 1'-0"



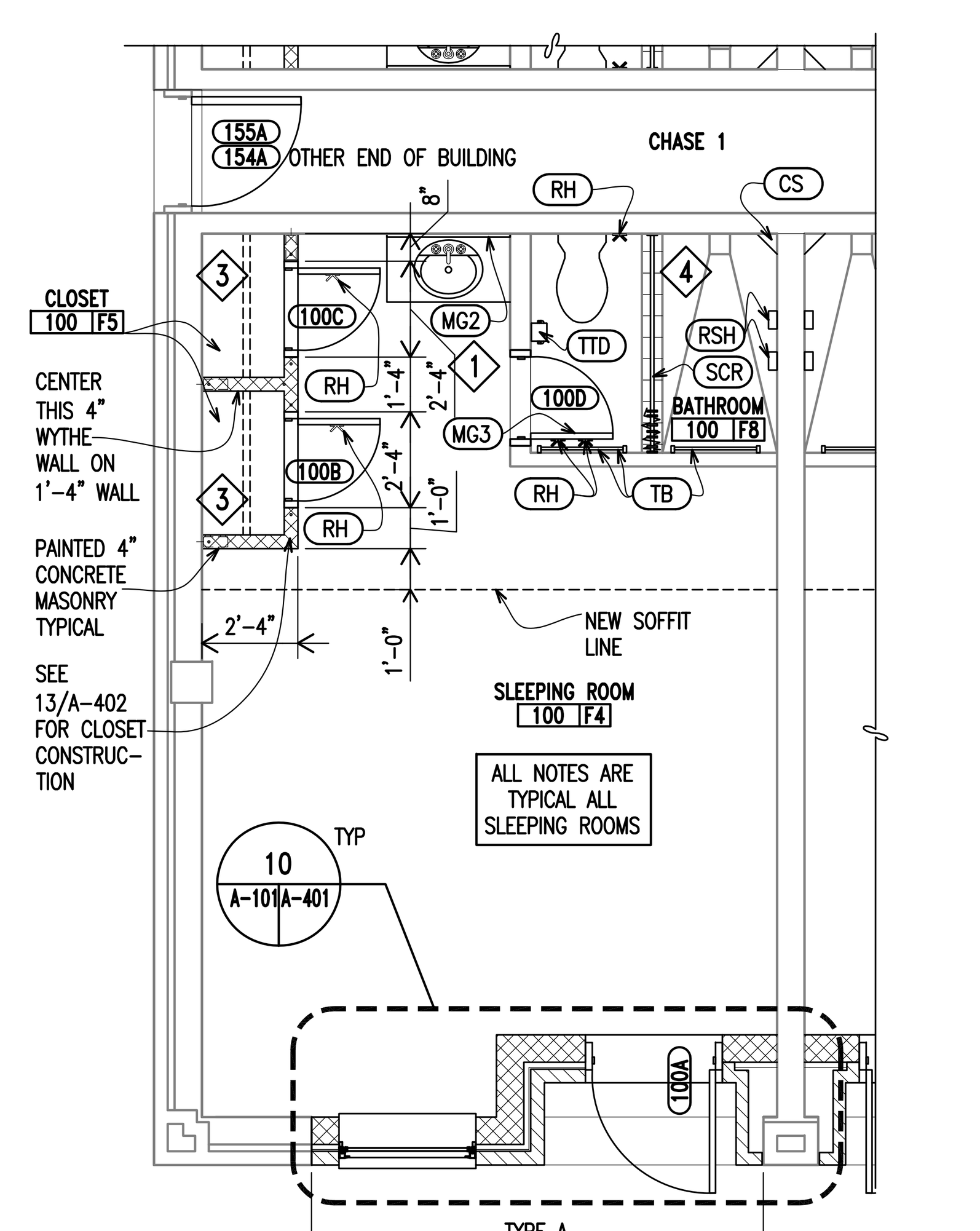
2 A-101|A-101 **SLEEPING ROOM** DEMOLITION Scale: 1/4" = 1'-0"



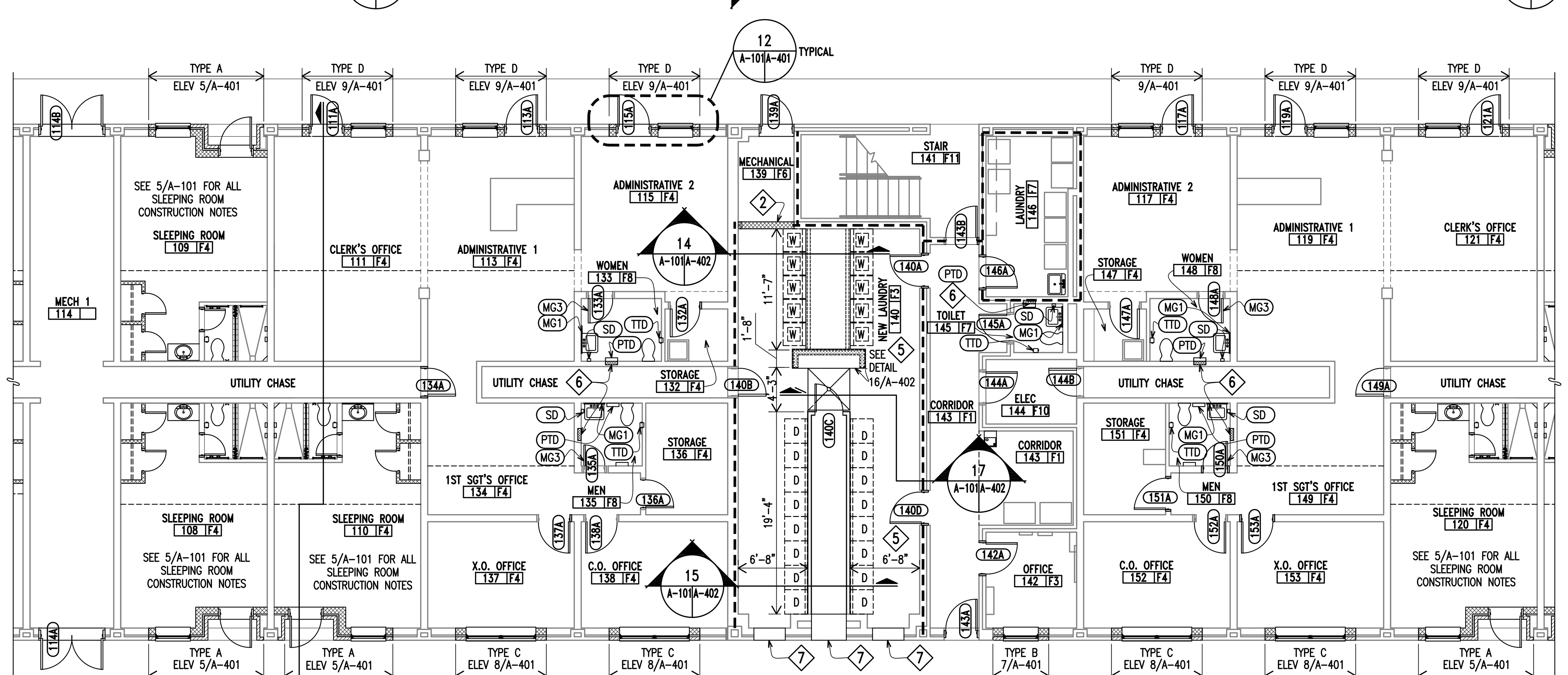
3 A-101|A-101 **ADMINISTRATIVE PLAN** DEMOLITION Scale: 1/8" = 1'-0"



4 A-101|A-101 **MECHANICAL ROOM #2 / STAIR** DEMOLITION Scale: 1/8" = 1'-0"



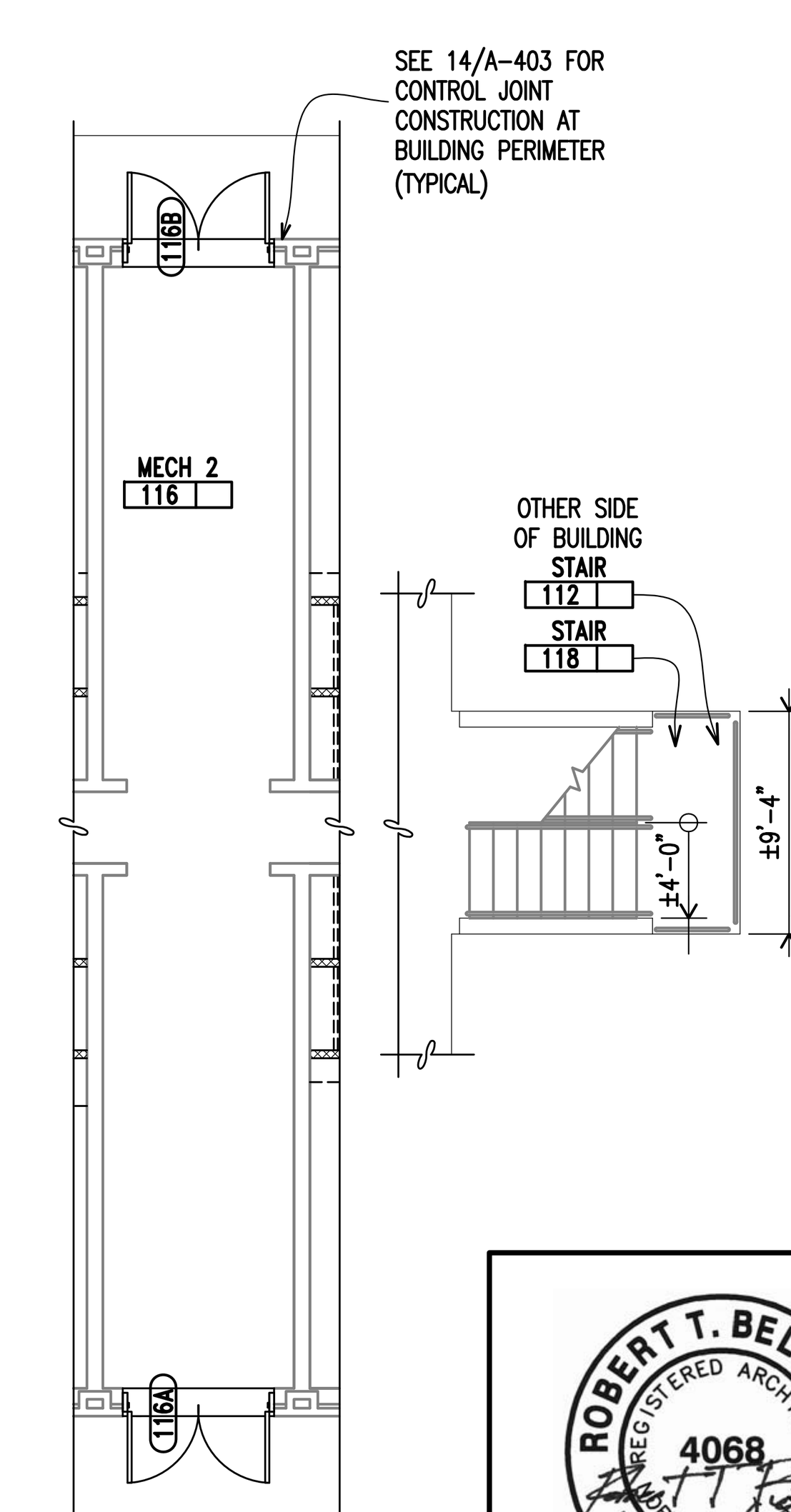
5 A-101|A-101 **SLEEPING ROOM** CONSTRUCTION Scale: 1/4" = 1'-0"



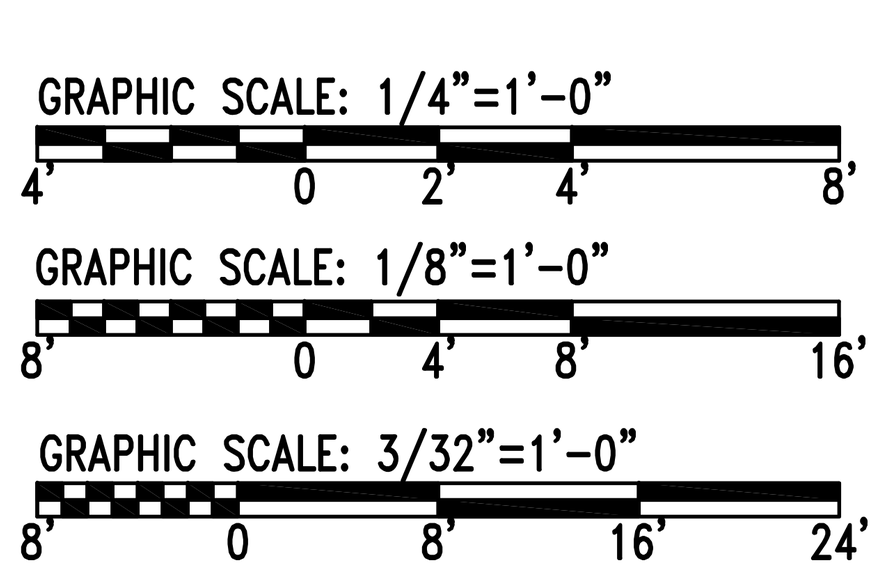
6 A-101|A-101 **ADMINISTRATIVE PLAN** CONSTRUCTION Scale: 1/8" = 1'-0"

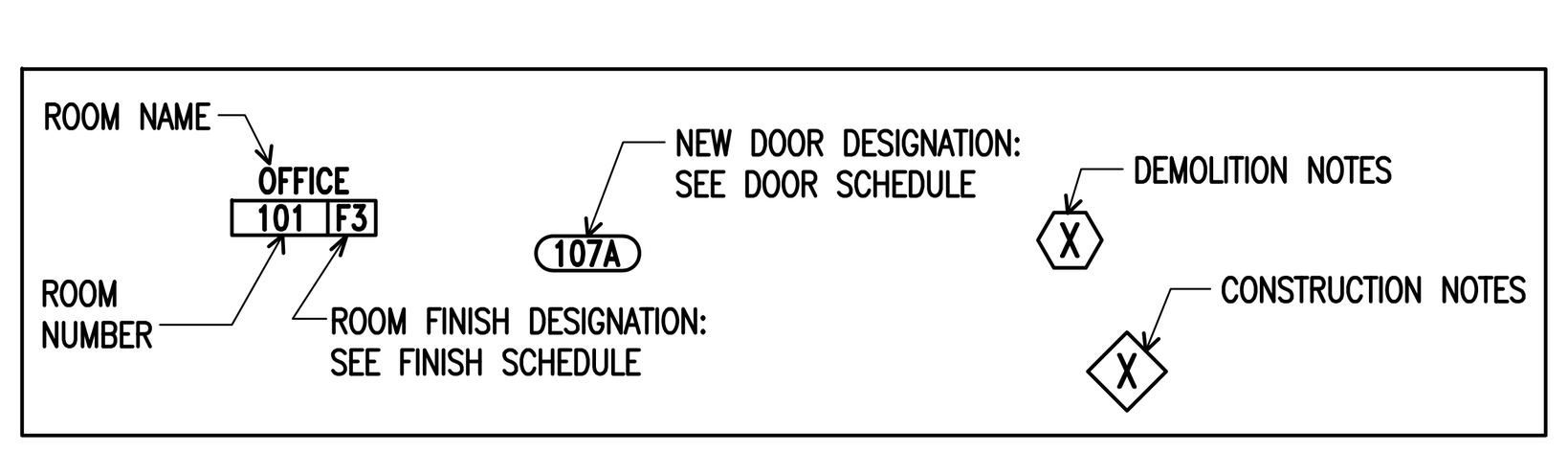
PROVIDE FINISHES SHOWN IN ROOM FINISH SCHEDULE
SEE DEMOLITION PLAN FOR DIMENSIONS

NOTE: EXISTING FIRE EXTINGUISHERS ARE TO REMAIN



7 A-101|A-101 **MECHANICAL ROOM #2** CONSTRUCTION Scale: 1/8" = 1'-0"





TOILET ACCESSORY SCHEDULE

MARK	DESCRIPTION	MARK	DESCRIPTION
CS	SOLID POLYMER CORNER SHELF (3) PER SLEEPING ROOM BATHROOM	RH	DOUBLE ROBE HOOK (4) PER SLEEPING ROOM
TTD	WALL MOUNTED TOILET TISSUE DISPENSER	TB	TOWEL BAR: 24" (3) PER SLEEPING ROOM BATHROOM
RSH	CERAMIC TILE RECESSED SOAP HOLDER (2) PER SLEEPING ROOM BATHROOM	MG1	WALL MOUNTED MIRROR: 24" X 36"
SD	SOAP DISPENSER	MG2	WALL MOUNTED MIRROR: 36" X 36"
SCR	SHOWER ROD AND CURTAIN WITH HOOKS: WIDTH OF OPENING +/- 5'-4"	MG3	DOOR MOUNTED 17" X 60" MIRROR
		PTD	SURFACE MOUNTED TOWEL DISPENSER

GENERAL NOTES

1. SEE REFLECTED CEILING PLAN A-104 FOR AREAS TO RECEIVE NEW CEILING FINISHES, MATERIALS, HEIGHTS, ETC. SEE FINISH SCHEDULE SHEET A-601 FOR ALL MATERIAL AND COLOR SELECTIONS, AS PER FINISH DESIGNATIONS FOR EACH IDENTIFIED ROOM ON THE CONSTRUCTION PLAN. WHERE DOORS ARE INDICATED AS NUMBERED IN THE CONSTRUCTION PLAN, REFER TO THE DOOR SCHEDULE SHEET A-601 FOR NEW DOOR DESCRIPTIONS.
2. THE CONTRACTOR SHALL PHOTOGRAPH, TAG, RECORD THE LOCATION OF, REMOVE FROM THE BUILDING, AND STORE EACH PIECE OF FURNITURE. THE CONTRACTOR SHALL PROVIDE AN ELECTRONIC COPY OF THE FURNITURE CONDITION PICTURES AND FURNITURE LOCATIONS TO THE GOVERNMENT ON CD. TYPICAL SLEEPING ROOM INCLUDES BUT IS NOT LIMITED TO: (3) METAL WARDROBES, (3) METAL RACKS, (3) MATTRESSES, (3) DESKS, (3) DESK CHAIRS, (3) NIGHT TABLES, AND (3) LAMPS, REFRIGERATOR, MICROWAVE, (2) MIRRORS, RUGS, DRAPERIES, AND COMFORTERS. THE CONTRACTOR SHALL PROTECT EACH ITEM REMOVED FROM DAMAGE. THE CONTRACTOR SHALL PLACE ALL ITEMS REMOVED BACK IN THE BUILDING WITH EXCEPTION OF THE WARDROBES AND MIRRORS AND MATTRESSES, RUGS, DRAPERIES, AND COMFORTERS PRIOR TO PROJECT COMPLETION. CONTRACTOR SHALL DISPOSE OF ALL MATTRESSES AT A PERMITTED SOLID WASTE LANDFILL. CONTRACTOR WILL COORDINATE WITH BASE RECYCLING (452-4214) FOR TRANSPORTATION OF ALL AREA RUGS, DRAPERIES, AND COMFORTERS TO BLDG. 982 (PINEY GREEN ROAD) FOR RECYCLING. THE CONTRACTOR SHALL OFFER THE WARDROBES AND MIRRORS TO THE GOVERNMENT. IF THE GOVERNMENT REFUSES THE WARDROBES AND MIRRORS, THE CONTRACTOR SHALL DISPOSE OF THE WARDROBES AND MIRRORS.
3. THE CONTRACTOR IS TO PROVIDE OPENINGS IN MECHANICAL ROOM FLOORS FOR NEW VERTICAL DUCTWORK. SEE SHEETS MH-102 FOR MECHANICAL RISER.
4. WHERE DUCTWORK, PIPING, OR WIRING IS REMOVED, PATCH ALL HOLES IN WALLS AND CEILING WITH LIKE MATERIAL.

GENERAL CONSTRUCTION NOTES

1. EXISTING DOOR FRAMES THAT ARE TO REMAIN ARE STEEL, WIRE BRUSH, CLEAN, AND PREPARE (BOTH SIDES) OF ALL FRAMES FOR NEW PAINT
2. FINISHES. PAINT ALL DOOR FRAMES.
3. DIMENSIONS ARE +/_ VERIFY ALL DIMENSIONS.
4. EXISTING INTERIOR WALLS ARE PAINTED CONCRETE MASONRY UNLESS NOTED OTHERWISE
5. – – – – 1 HOUR RATED WALL

KEYED DEMOLITION NOTES

1. REMOVE EXISTING RESILIENT TILE. CLEAN AND PREPARE EXISTING CONCRETE SLAB FOR NEW FLOOR FINISHES.
2. REMOVE EXISTING 2'X2' ACOUSTICAL CEILING AND SUSPENSION SYSTEM INCLUDING BUT NOT LIMITED TO: ACOUSTICAL CEILING TILES, SUSPENSION SYSTEM, WIRES, HANGERS, ETC.
3. REMOVE EXISTING 2'X4' ACOUSTICAL CEILING AND SUSPENSION SYSTEM INCLUDING BUT NOT LIMITED TO: ACOUSTICAL CEILING TILES, SUSPENSION SYSTEM, WIRES, HANGERS, ETC.
4. REMOVE EXISTING CARPET – CLEAN AND PREPARE EXISTING CONCRETE SLAB FOR NEW FLOOR FINISH.
5. REMOVE EXISTING THIN SET CERAMIC FLOOR TILE. PREPARE EXISTING CONCRETE SLAB FOR NEW FLOOR FINISH. REMOVE EXISTING MARBLE THRESHOLDS.
6. REMOVE EXISTING CERAMIC FLOOR TILE, CEMENT MORTAR BED AND SHOWER PAN MEMBRANE. PREPARE EXISTING CONCRETE SLAB FOR NEW FLOOR FINISH. SEE A-402 FOR DEMOLITION DETAILS.
7. REMOVE EXISTING THIN SET CERAMIC WALL TILE. PREPARE EXISTING WALLS FOR NEW WALL FINISH.
8. CLEAN AND PREPARE EXISTING PAINTED CONCRETE MASONRY WALLS FOR NEW PAINT FINISHES.
9. CLEAN AND PREPARE EXISTING PAINTED GYPSUM BOARD CEILING FOR NEW PAINT FINISHES.
10. CLEAN AND PREPARE EXISTING PAINTED (TEXTURED) SHEET METAL HVAC DUCT FOR NEW PAINT FINISHES.
11. CLEAN AND PREPARE EXISTING PAINTED (TEXTURED) PRECAST CONCRETE CHANNEL CEILING FOR NEW FINISHES.
12. CLEAN AND PREPARE EXISTING PAINTED (TEXTURED) GYPSUM BOARD CEILING FOR NEW PAINT FINISHES.
13. REMOVE EXISTING METAL SOFFIT AND METAL FRAMING TO PERMIT INSTALLATION OF NEW MECHANICAL EQUIPMENT.
14. REMOVE CONCRETE SLAB FOR INSTALLATION OF FLOOR DRAIN AND UNDER FLOOR WASTE PIPING.
15. REMOVE EXISTING WOOD VANITY CABINET INCLUDING BUT NOT LIMITED TO PORCELAIN SINK, PLUMBING TRIM, PLASTIC LAMINATE COUNTERTOP, AND WALL MOUNTED MIRROR ABOVE.
16. REMOVE EXISTING STEEL FRAME. INCLUDED IN STEEL FRAME IS THE FOLLOWING: ALUMINUM WINDOW, BLIND, DRAPES, METAL INFILL PANEL, AND DOOR WHERE SHOWN. PREPARE REMAINING ROUGH OPENING FOR NEW WALL INSTALLATION.
17. REMOVE EXISTING STEEL DOOR INCLUDING HINGES AND HARDWARE. SEE DOOR SCHEDULE ON SHEET A-601 FOR NEW DOOR REQUIREMENTS.
18. REMOVE EXISTING STEEL DOOR FRAME AND DOOR AND PREPARE WALL FOR NEW DOOR FRAME AND DOOR.
19. REMOVE PORTION OF CONCRETE MASONRY AND BRICK MASONRY WALL ± 8'-8" TO PERMIT CONSTRUCTION OF NEW ENTRY – TYPICAL
20. WIRE BRUSH STEEL RAILS IN ALL STAIRWELLS, REMOVE FLAKING PAINT, AND PREPARE SURFACE FOR NEW PAINT – PAINT ALL STEEL RAILS AND GUARDRAILS IN ALL STAIRWELLS: 4 CONTINUOUS RAILS AT CENTER OF STAIR, 1 CONTINUOUS RAIL AT WALLS, AND GUARDRAIL AT TOP OF SIMILAR TO EXTERIOR RAILING.
21. REMOVE EXISTING PLUMBING FIXTURES SEE PLUMBING DRAWINGS FOR ADDITIONAL INFORMATION.
22. REMOVE EXISTING WALL MOUNTED SINK. REMOVE TOILET ACCESSORIES INCLUDING 24" X 36" WALL MOUNTED MIRROR, SOAP DISPENSER, AND RECESSED PAPER TOWEL TRASH RECEPTACLE WHERE PRESENT.
23. REMOVE PORTION OF CONCRETE MASONRY AND BRICK MASONRY TO PERMIT INSTALLATION OF NEW LOURVER. SEE MECHANICAL DRAWINGS FOR SIZES.
24. REMOVE EXISTING INFILL WOOD FRAME PARTITION ± 7'-0" HIGH WITH GYPSUM BOARD FINISHES INCLUDING WOOD DOOR AND FRAME, HARDWARE, AND BASE.
25. REMOVE EXISTING TOILET ACCESSORIES INCLUDING BUT NOT LIMITED TO: TOILET TISSUE DISPENSER, SOAP DISPENSER, TOWEL BARS, SHOWER ROD AND SHOWER CURTAIN. (WHERE PRESENT)
26. POWERWASH ALL EXISTING CONCRETE WALKING SURFACES ON ENTIRE BUILDING INCLUDING ALL STAIR RISERS AND TREADS, AND PREPARE FOR SEALER OR DECORATIVE CONCRETE COATING WHERE INDICATED.
27. CLEAN AND PREPARE EXISTING CONCRETE SLAB FOR NEW FLOOR FINISHES.
28. SCRUB AND RINSE ALL EXISTING INTERIOR BRICK MASONRY WITH BIODEGRADABLE CLEANER TO REMOVE BIOLOGICAL DEPOSITS AND DIRT.
29. REMOVE EXISTING METAL WARDROBE LOCKERS ±10'-6" LONG X 7'-7" HIGH.
30. REMOVE AND STORE WOOD COUNTER DURING CONSTRUCTION. RE-LAMINATE COUNTER PRIOR TO RE-INSTALLATION AT END OF CONSTRUCTION.
31. REMOVE EXISTING LAUNDRY SINK. SEE PLUMBING DRAWINGS FOR ADDITIONAL INFORMATION.
32. REMOVE EXISTING WALL MOUNTED DRINKING FOUNTAIN AND BOOTH WHERE PRESENT. PREPARE FOR INSTALLATION OF NEW DRINKING FOUNTAIN.
33. REMOVE EXISTING BRICK AND CONCRETE MASONRY WALL TO CREATE A NEW FINISHED ROUGH OPENING TO ACCOMMODATE NEW DOOR AND FRAME ± 7'-4"H. REMOVE MASONRY TO 8" BELOW THE FINISHED FLOOR AND SEE SHEET A-602 FOR DETAILS. REMOVE ADDITIONAL MASONRY AT JAMBS AND THE HEAD TO PERMIT BONDING OF NEW MASONRY INTO EXISTING MASONRY AND TO PERMIT THE INSTALLATION OF NEW LINTEL AT THE HEAD.
34. REMOVE EXISTING DOOR AND FRAME AND PREPARE OPENING FOR NEW CONCRETE MASONRY IN-FILL WALL.
35. REMOVE EXISTING BRICK AND CONCRETE MASONRY WALL TO CREATE A NEW FINISHED ROUGH OPENING TO ACCOMMODATE NEW DOOR AND FRAME ± 8'-8"H. REMOVE MASONRY TO 8" BELOW THE FINISHED FLOOR AND SEE SHEET A-602 FOR DETAILS. REMOVE ADDITIONAL MASONRY AT JAMBS AND THE HEAD TO PERMIT BONDING OF NEW MASONRY INTO EXISTING MASONRY.

KEYED CONSTRUCTION NOTES

1. PROVIDE NEW 36" WIDE PLASTIC LAMINATE VANITY WITH PREMIUM SPECKLED COLOR SOLID SURFACE COUNTERTOP AND PORCELAIN DROP IN BOWL.
2. PROVIDE 8" CONCRETE MASONRY ±6'-8" HIGH, INFILL WIDTH VARIES, SEE PLAN – PAINT WALL BOTH SIDES.
3. SEE SHEET A-402 FOR CLOSET DETAILS AND ELEVATIONS.
4. SEE SHEET A-402 FOR BATHROOM DETAILS AND ELEVATIONS.
5. WASHERS AND DRYERS ARE NOT IN CONTRACT.
6. PROVIDE CONCRETE MASONRY IN AREA WHERE RECESSED PAPER TOWEL DISPENSER WAS REMOVED.
7. PROVIDE 3" X 3" X ¼" GALVANIZED STEEL LINTEL MINIMUM BEARING 8" EACH SIDE FOR BRICK MASONRY OPENING, AND 8" BOND BEAM WITH (2) #4 BARS AND 3000 PSI PEA GRAVEL GROUT AT CONCRETE MASONRY OPENING. SEE MECHANICAL DRAWINGS FOR LOUVER SIZES.

ROBERT T. BELANGIA REGISTERED ARCHITECT 4068 NORTH CAROLINA NEW BERN NC — 13 August 2010

MAUNE BELANGIA FAULKENBERRY ARCHITECTS, PA — MBFA NO.: 1001 — 317-C Pollock Street, New Bern, NC 28560, Tel. 252.637.6373, Fax 252.637.3259, www.mbfarchitects.com

MAUNE BELANGIA FAULKENBERRY ARCHITECTS, P.A. REGISTERED ARCHITECTURAL CORPORATION CERT. NO. 679 NORTH CAROLINA New Bern NC

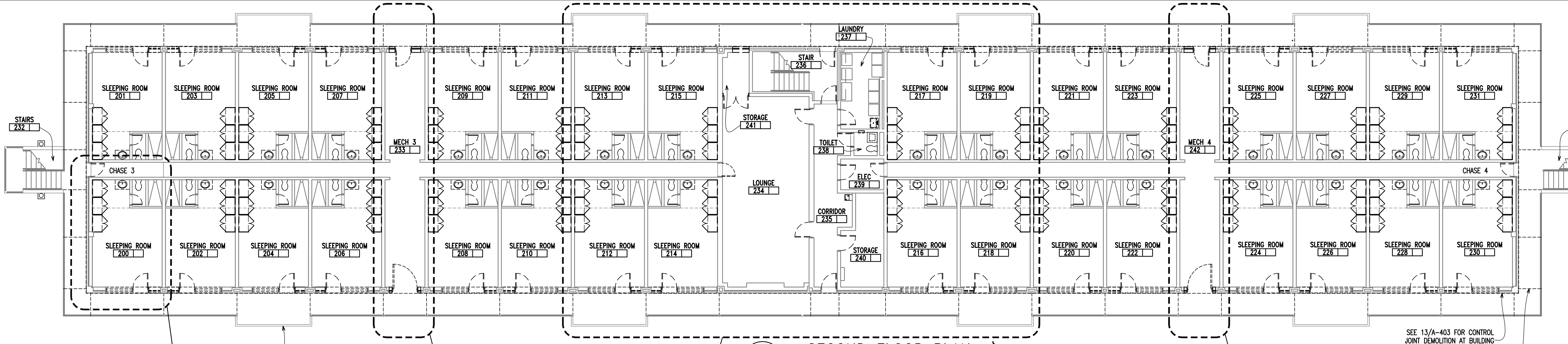
A-101

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA

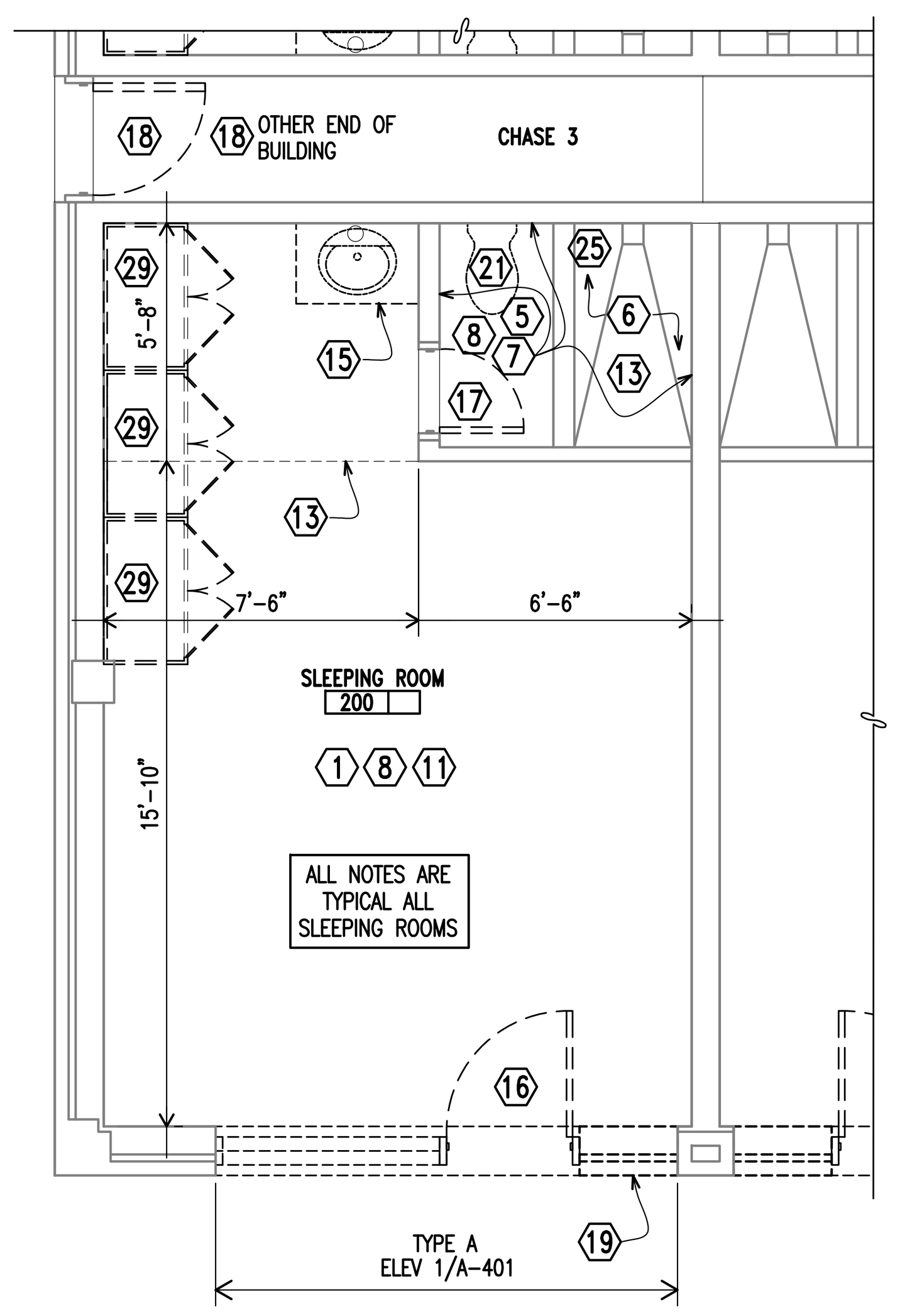
STRUCTURAL AND HVAC RENOVATION – FC574 BARRACK

FIRST FLOOR PLAN

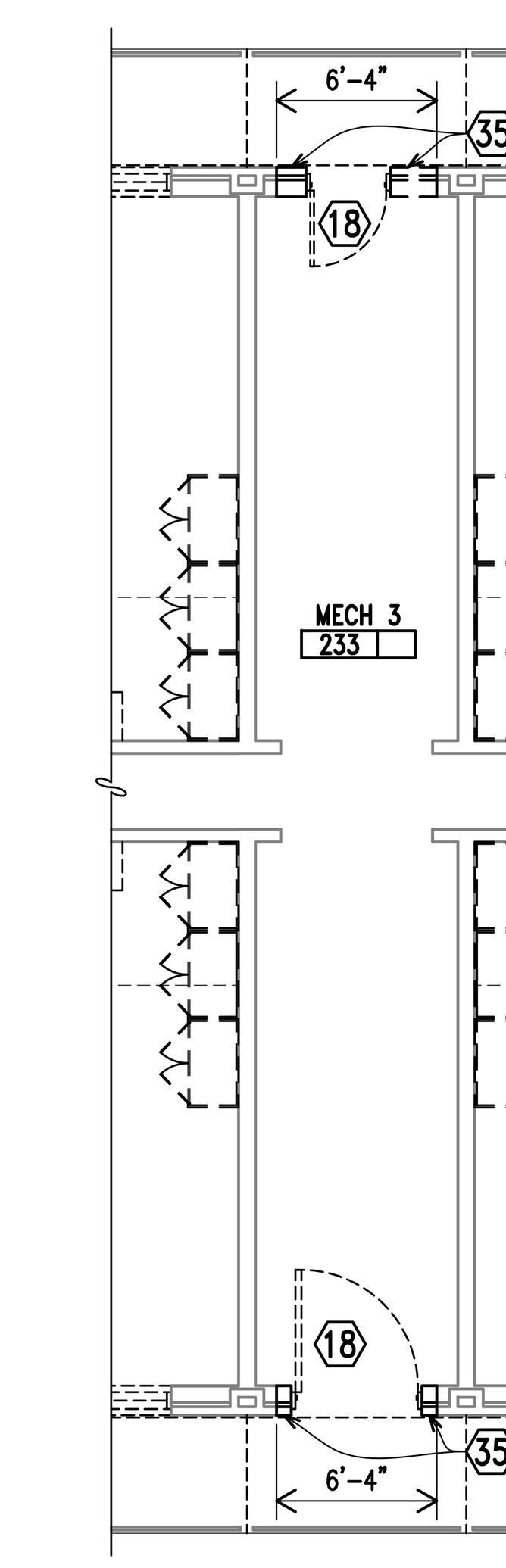
DES.	RTB
DR.	SLA
CHK.	RTB
SUBMITTED BY:	
DESIGN DIR.	
APPROVED: PWO OR OICC	DATE
SATISFACTORY TO:	DATE
SIZE	F
CODE IDENT NO.	80091
NAVFAC DRAWING NO.	60006289
CONST. CONTR. NO.	N40085-10-B-0010
SCALE:	AS NOTED
SPEC.	05-10-0010
SHEET	04 OF 72



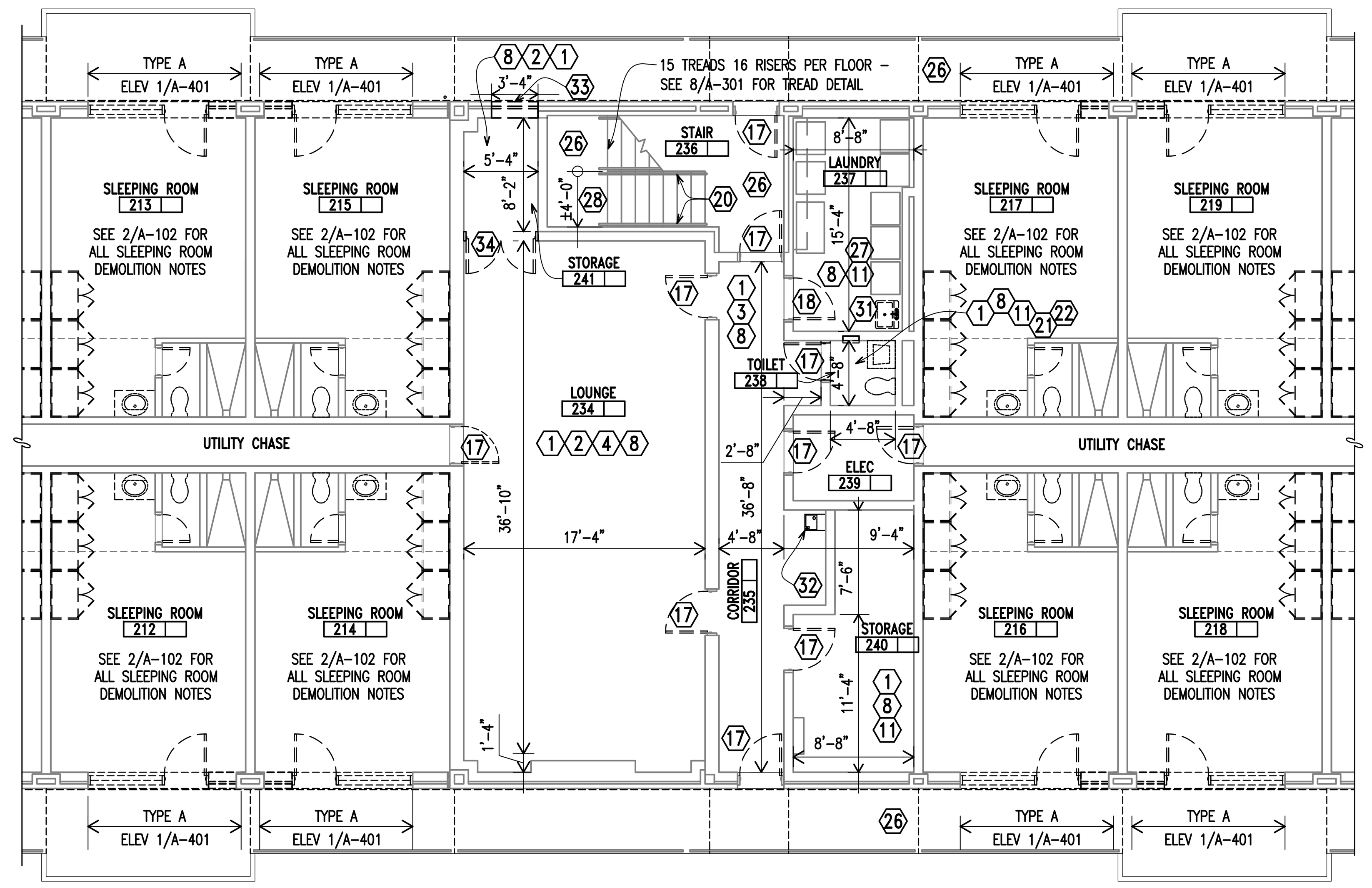
1 A-102 | A-102 SECOND FLOOR PLAN
DEMOLITION Scale: 3/32" = 1'-0"



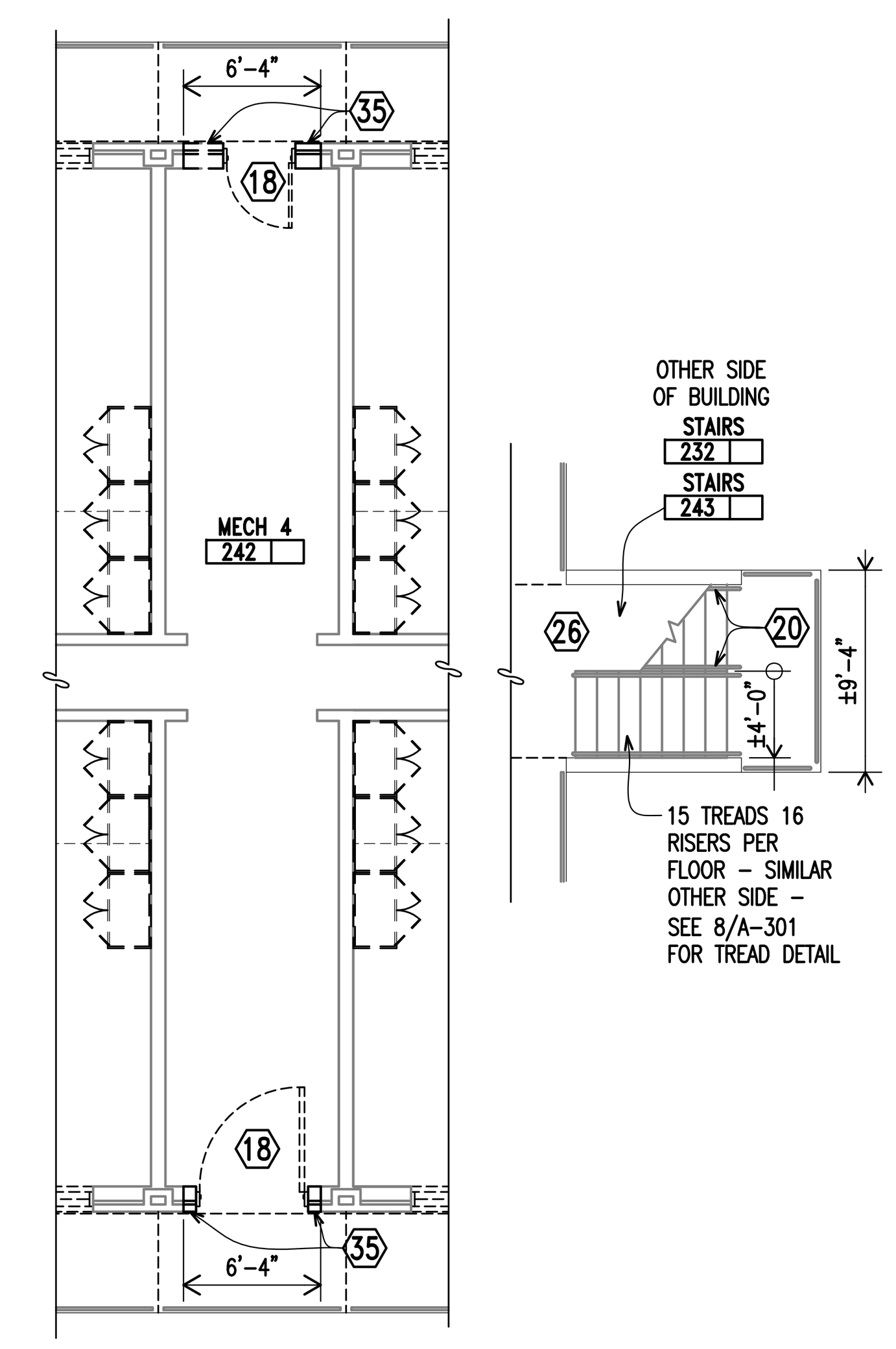
2 A-102 | A-102 SLEEPING ROOM
DEMOLITION Scale: 1/4" = 1'-0"
ALL DIMENSIONS ARE +/-



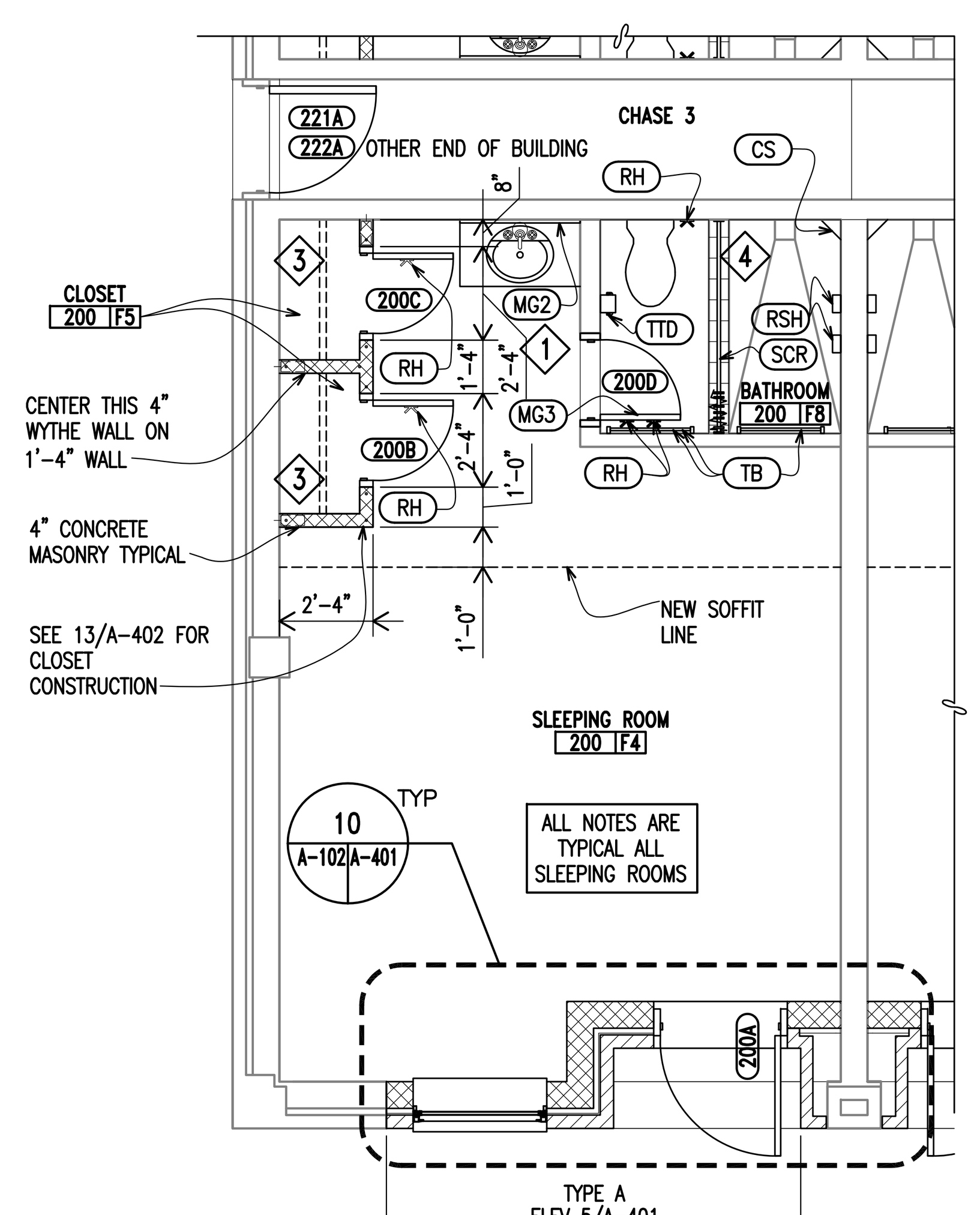
3 A-102 | A-102 MECHANICAL ROOM #3
DEMOLITION Scale: 1/8" = 1'-0"



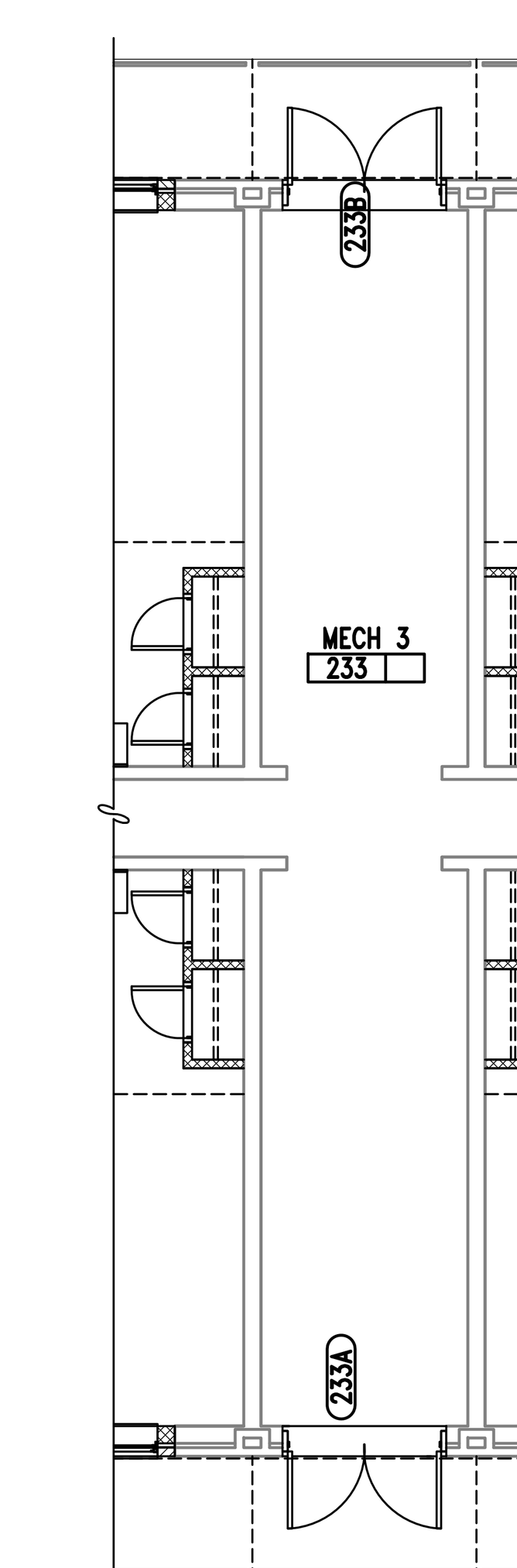
4 A-102 | A-102 LOUNGE/LAUNDRY PLAN
DEMOLITION Scale: 1/8" = 1'-0"
ALL DIMENSIONS ARE +/-



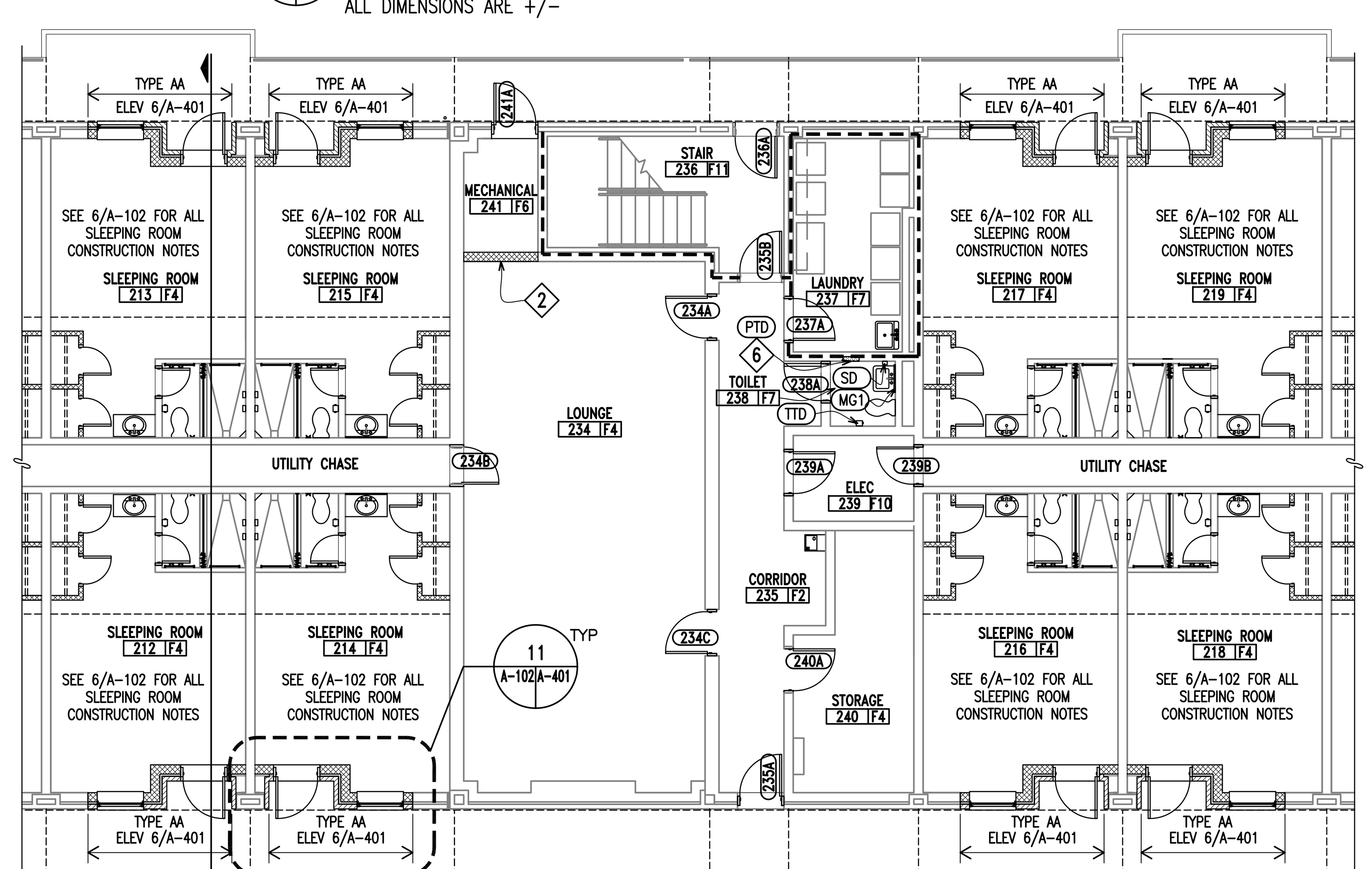
5 A-102 | A-102 MECHANICAL ROOM #4 / STAIR
DEMOLITION Scale: 1/8" = 1'-0"



6 A-102 | A-102 SLEEPING ROOM
CONSTRUCTION Scale: 1/4" = 1'-0"

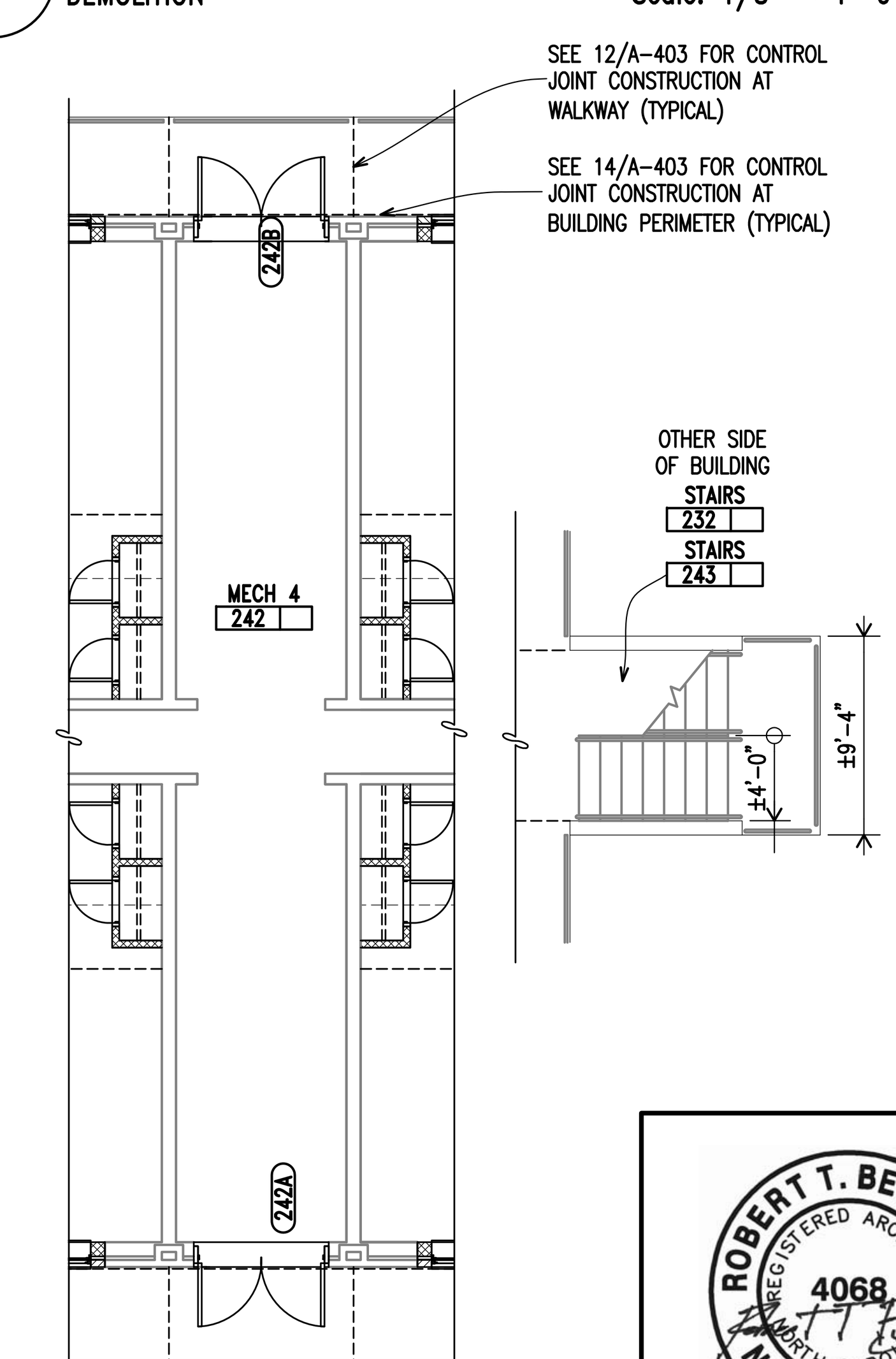


7 A-102 | A-102 MECHANICAL ROOM #3
CONSTRUCTION Scale: 1/8" = 1'-0"

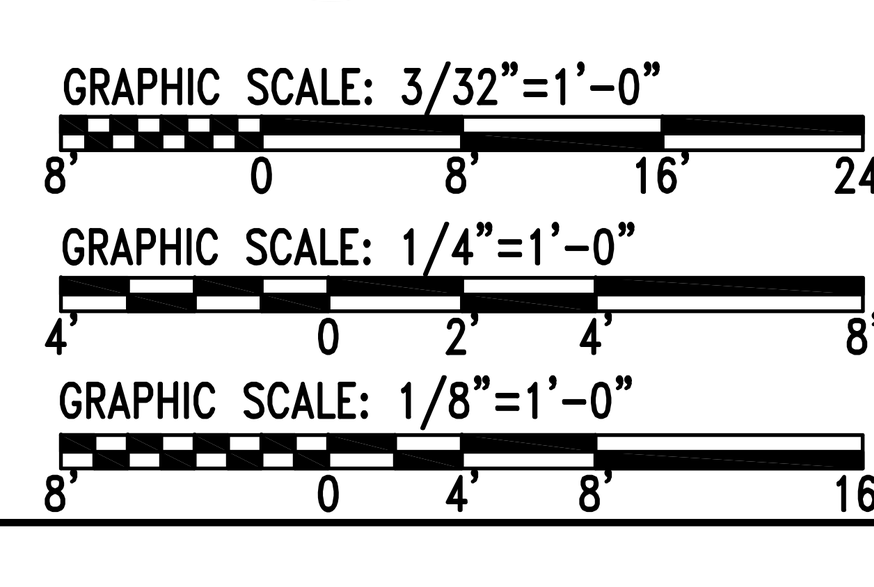


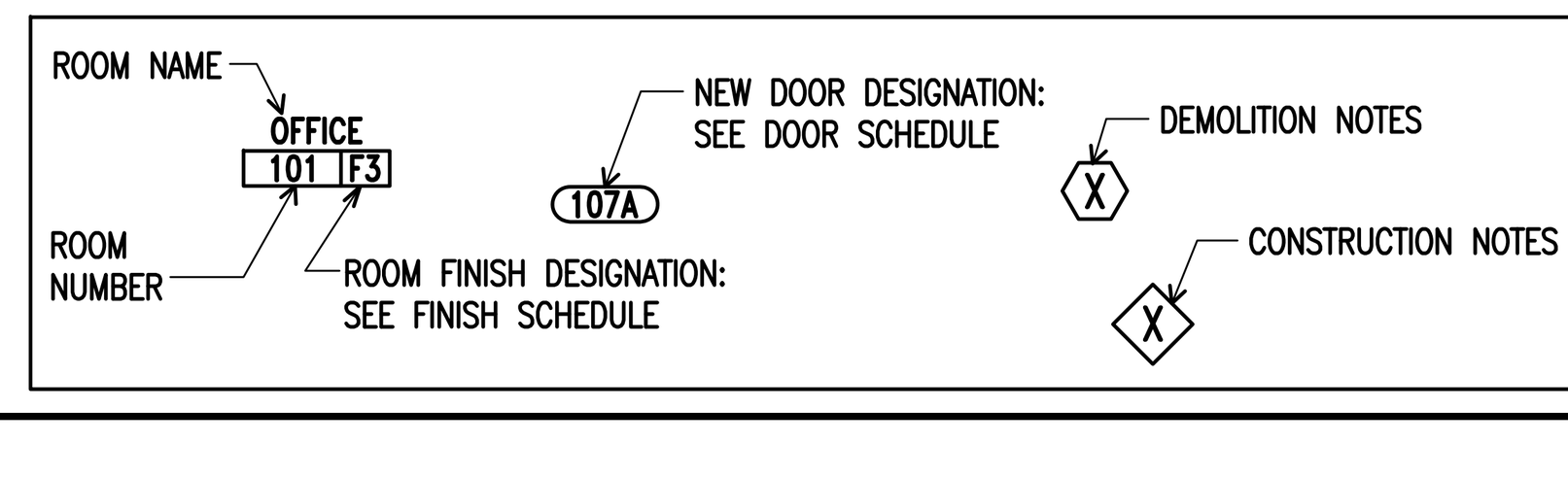
8 A-102 | A-102 LOUNGE/LAUNDRY PLAN
CONSTRUCTION Scale: 1/8" = 1'-0"

PROVIDE FINISHES SHOWN IN ROOM FINISH SCHEDULE
SEE DEMOLITION PLAN FOR DIMENSIONS



9 A-102 | A-102 MECHANICAL ROOM #4
CONSTRUCTION Scale: 1/8" = 1'-0"





NOTE: EXISTING FIRE EXTINGUISHERS ARE TO REMAIN

TOILET ACCESSORY SCHEDULE

MARK	DESCRIPTION	MARK	DESCRIPTION
CS	SOLID POLYMER CORNER SHELF (3) PER SLEEPING ROOM BATHROOM	RH	DOUBLE ROBE HOOK (4) PER SLEEPING ROOM
TTD	WALL MOUNTED TOILET TISSUE DISPENSER	TB	TOWEL BAR: 24" (3) PER SLEEPING ROOM BATHROOM
RSH	CERAMIC TILE RECESSED SOAP HOLDER (2) PER SLEEPING ROOM BATHROOM	MG1	WALL MOUNTED MIRROR: 24" X 36"
SD	SOAP DISPENSER	MG2	WALL MOUNTED MIRROR: 36" X 36"
SCR	SHOWER ROD AND CURTAIN WITH HOOKS: WIDTH OF OPENING +/- 5'-4"	MG3	DOOR MOUNTED 17" X 60" MIRROR
		PTD	SURFACE MOUNTED TOWEL DISPENSER

GENERAL NOTES

1. SEE REFLECTED CEILING PLAN A-104 FOR AREAS TO RECEIVE NEW CEILING FINISHES, MATERIALS, HEIGHTS, ETC. SEE FINISH SCHEDULE SHEET A-601 FOR ALL MATERIAL AND COLOR SELECTIONS, AS PER FINISH DESIGNATIONS FOR EACH IDENTIFIED ROOM ON THE CONSTRUCTION PLAN. WHERE DOORS ARE INDICATED AS NUMBERED IN THE CONSTRUCTION PLAN, REFER TO THE DOOR SCHEDULE SHEET A-601 FOR NEW DOOR DESCRIPTIONS.
2. THE CONTRACTOR SHALL PHOTOGRAPH, TAG, RECORD THE LOCATION OF, REMOVE FROM THE BUILDING, AND STORE EACH PIECE OF FURNITURE. THE CONTRACTOR SHALL PROVIDE AN ELECTRONIC COPY OF THE FURNITURE CONDITION PICTURES AND FURNITURE LOCATIONS TO THE GOVERNMENT ON CD. TYPICAL SLEEPING ROOM INCLUDES BUT IS NOT LIMITED TO: (3) METAL WARDROBES, (3) METAL RACKS, (3) MATTRESSES, (3) DESKS, (3) DESK CHAIRS, (3) NIGHT TABLES, AND (3) LAMPS, REFRIGERATOR, MICROWAVE, (2) MIRRORS, RUGS, DRAPERIES, AND COMFORTERS. THE CONTRACTOR SHALL PROTECT EACH ITEM REMOVED FROM DAMAGE. THE CONTRACTOR SHALL PLACE ALL ITEMS REMOVED BACK IN THE BUILDING WITH EXCEPTION OF THE WARDROBES AND MIRRORS AND MATTRESSES, RUGS, DRAPERIES, AND COMFORTERS PRIOR TO PROJECT COMPLETION. CONTRACTOR SHALL DISPOSE OF ALL MATTRESSES AT A PERMITTED SOLID WASTE LANDFILL. CONTRACTOR WILL COORDINATE WITH BASE RECYCLING (452-4214) FOR TRANSPORTATION OF ALL AREA RUGS, DRAPERIES, AND COMFORTERS TO BLDG. 982 (PINEY GREEN ROAD) FOR RECYCLING. THE CONTRACTOR SHALL OFFER THE WARDROBES AND MIRRORS TO THE GOVERNMENT. IF THE GOVERNMENT REFUSES THE WARDROBES AND MIRRORS, THE CONTRACTOR SHALL DISPOSE OF THE WARDROBES AND MIRRORS.
3. THE CONTRACTOR IS TO PROVIDE OPENINGS IN MECHANICAL ROOM FLOORS FOR NEW VERTICAL DUCTWORK. SEE SHEETS MH-102 FOR MECHANICAL RISER.
4. WHERE DUCTWORK, PIPING, OR WIRING IS REMOVED, PATCH ALL HOLES IN WALLS AND CEILING WITH LIKE MATERIAL.

GENERAL CONSTRUCTION NOTES

1. EXISTING DOOR FRAMES THAT ARE TO REMAIN ARE STEEL, WIRE BRUSH, CLEAN, AND PREPARE (BOTH SIDES) OF ALL FRAMES FOR NEW PAINT
2. FINISHES. PAINT ALL DOOR FRAMES.
3. DIMENSIONS ARE +/_ VERIFY ALL DIMENSIONS.
4. EXISTING INTERIOR WALLS ARE PAINTED CONCRETE MASONRY UNLESS NOTED OTHERWISE
5. – – – – 1 HOUR RATED WALL

KEYED DEMOLITION NOTES

1. REMOVE EXISTING RESILIENT TILE. CLEAN AND PREPARE EXISTING CONCRETE SLAB FOR NEW FLOOR FINISHES.
2. REMOVE EXISTING 2'X2' ACOUSTICAL CEILING AND SUSPENSION SYSTEM INCLUDING BUT NOT LIMITED TO: ACOUSTICAL CEILING TILES, SUSPENSION SYSTEM, WIRES, HANGERS, ETC.
3. REMOVE EXISTING 2'X4' ACOUSTICAL CEILING AND SUSPENSION SYSTEM INCLUDING BUT NOT LIMITED TO: ACOUSTICAL CEILING TILES, SUSPENSION SYSTEM, WIRES, HANGERS, ETC.
4. REMOVE EXISTING CARPET – CLEAN AND PREPARE EXISTING CONCRETE SLAB FOR NEW FLOOR FINISH.
5. REMOVE EXISTING THIN SET CERAMIC FLOOR TILE. PREPARE EXISTING CONCRETE SLAB FOR NEW FLOOR FINISH. REMOVE EXISTING MARBLE THRESHOLDS.
6. REMOVE EXISTING CERAMIC FLOOR TILE, CEMENT MORTAR BED AND SHOWER PAN MEMBRANE. PREPARE EXISTING CONCRETE SLAB FOR NEW FLOOR FINISH. SEE A-402 FOR DEMOLITION DETAILS.
7. REMOVE EXISTING THIN SET CERAMIC WALL TILE. PREPARE EXISTING WALLS FOR NEW WALL FINISH.
8. CLEAN AND PREPARE EXISTING PAINTED CONCRETE MASONRY WALLS FOR NEW PAINT FINISHES.
9. CLEAN AND PREPARE EXISTING PAINTED GYPSUM BOARD CEILING FOR NEW PAINT FINISHES. (NOT USED ON THIS SHEET)
10. CLEAN AND PREPARE EXISTING PAINTED (TEXTURED) SHEET METAL HVAC DUCT FOR NEW PAINT FINISHES. (NOT USED ON THIS SHEET)
11. CLEAN AND PREPARE EXISTING PAINTED (TEXTURED) PRECAST CONCRETE CHANNEL CEILING FOR NEW FINISHES.
12. CLEAN AND PREPARE EXISTING PAINTED (TEXTURED) GYPSUM BOARD CEILING FOR NEW PAINT FINISHES. (NOT USED ON THIS SHEET)
13. REMOVE EXISTING METAL SOFFIT AND METAL FRAMING TO PERMIT INSTALLATION OF NEW MECHANICAL EQUIPMENT.
14. REMOVE CONCRETE SLAB FOR INSTALLATION OF FLOOR DRAIN AND UNDER FLOOR WASTE PIPING. (NOT USED ON THIS SHEET)
15. REMOVE EXISTING WOOD VANITY CABINET INCLUDING BUT NOT LIMITED TO PORCELAIN SINK, PLUMBING TRIM, PLASTIC LAMINATE COUNTERTOP, AND WALL MOUNTED MIRROR ABOVE.
16. REMOVE EXISTING STEEL FRAME. INCLUDED IN STEEL FRAME IS THE FOLLOWING: ALUMINUM WINDOW, BLIND, DRAPES, METAL INFILL PANEL, AND DOOR WHERE SHOWN. PREPARE REMAINING ROUGH OPENING FOR NEW WALL INSTALLATION.
17. REMOVE EXISTING STEEL DOOR INCLUDING HINGES AND HARDWARE. SEE DOOR SCHEDULE ON SHEET A-601 FOR NEW DOOR REQUIREMENTS.
18. REMOVE EXISTING STEEL DOOR FRAME AND DOOR AND PREPARE WALL FOR NEW DOOR FRAME AND DOOR.
19. REMOVE PORTION OF CONCRETE MASONRY AND BRICK MASONRY WALL ± 8'-8" TO PERMIT CONSTRUCTION OF NEW ENTRY – TYPICAL
20. WIRE BRUSH STEEL RAILS IN ALL STAIRWELLS, REMOVE FLAKING PAINT, AND PREPARE SURFACE FOR NEW PAINT – PAINT ALL STEEL RAILS AND GUARDRAILS IN ALL STAIRWELLS: 4 CONTINUOUS RAILS AT CENTER OF STAIR, 1 CONTINUOUS RAIL AT WALLS, AND GUARDRAIL AT TOP OF SIMILAR TO EXTERIOR RAILING.
21. REMOVE EXISTING PLUMBING FIXTURES SEE PLUMBING DRAWINGS FOR ADDITIONAL INFORMATION.
22. REMOVE EXISTING WALL MOUNTED SINK. REMOVE TOILET ACCESSORIES INCLUDING 24" X 36" WALL MOUNTED MIRROR, SOAP DISPENSER, AND RECESSED PAPER TOWEL TRASH RECEPTACLE WHERE PRESENT.
23. REMOVE PORTION OF CONCRETE MASONRY AND BRICK MASONRY TO PERMIT INSTALLATION OF NEW LOURVER. SEE MECHANICAL DRAWINGS FOR SIZES. (NOT USED ON THIS SHEET)
24. REMOVE EXISTING INFILL WOOD FRAME PARTITION ± 7'-0" HIGH WITH GYPSUM BOARD FINISHES INCLUDING WOOD DOOR AND FRAME, HARDWARE, AND BASE.
25. REMOVE EXISTING TOILET ACCESSORIES INCLUDING BUT NOT LIMITED TO: TOILET TISSUE DISPENSER, SOAP DISPENSER, TOWEL BARS, SHOWER ROD AND SHOWER CURTAIN. (WHERE PRESENT)
26. POWERWASH ALL EXISTING CONCRETE WALKING SURFACES ON ENTIRE BUILDING INCLUDING ALL STAIR RISERS AND TREADS, AND PREPARE FOR SEALER OR DECORATIVE CONCRETE COATING WHERE INDICATED.
27. CLEAN AND PREPARE EXISTING CONCRETE SLAB FOR NEW FLOOR FINISHES.
28. SCRUB AND RINSE ALL EXISTING INTERIOR BRICK MASONRY WITH BIODEGRADABLE CLEANER TO REMOVE BIOLOGICAL DEPOSITS AND DIRT.
29. REMOVE EXISTING METAL WARDROBE LOCKERS ±10'-6" LONG X 7'-7" HIGH.
30. REMOVE AND STORE WOOD COUNTER DURING CONSTRUCTION. RE-LAMINATE COUNTER PRIOR TO RE-INSTALLATION AT END OF CONSTRUCTION. (NOT USED ON THIS SHEET)
31. REMOVE EXISTING LAUNDRY SINK. SEE PLUMBING DRAWINGS FOR ADDITIONAL INFORMATION.
32. REMOVE EXISTING WALL MOUNTED DRINKING FOUNTAIN AND BOOTH WHERE PRESENT. PREPARE FOR INSTALLATION OF NEW DRINKING FOUNTAIN.
33. REMOVE EXISTING BRICK AND CONCRETE MASONRY WALL TO CREATE A NEW FINISHED ROUGH OPENING TO ACCOMMODATE NEW DOOR AND FRAME ± 7'-4"H. REMOVE MASONRY TO 8" BELOW THE FINISHED FLOOR AND SEE SHEET A-602 FOR DETAILS. REMOVE ADDITIONAL MASONRY AT JAMBS AND THE HEAD TO PERMIT BONDING OF NEW MASONRY INTO EXISTING MASONRY AND TO PERMIT THE INSTALLATION OF NEW LINTEL AT THE HEAD.
34. REMOVE EXISTING DOOR AND FRAME AND PREPARE OPENING FOR NEW CONCRETE MASONRY IN-FILL WALL.
35. REMOVE EXISTING BRICK AND CONCRETE MASONRY WALL TO CREATE A NEW FINISHED ROUGH OPENING TO ACCOMMODATE NEW DOOR AND FRAME ± 8'-8"H. REMOVE MASONRY TO 8" BELOW THE FINISHED FLOOR AND SEE SHEET A-602 FOR DETAILS. REMOVE ADDITIONAL MASONRY AT JAMBS TO PERMIT BONDING OF NEW MASONRY INTO EXISTING MASONRY.

KEYED CONSTRUCTION NOTES

1. PROVIDE NEW 36" WIDE PLASTIC LAMINATE VANITY WITH PREMIUM SPECKLED COLOR SOLID SURFACE COUNTERTOP AND PORCELAIN DROP IN BOWL.
2. PROVIDE 8" CONCRETE MASONRY ±6'-8" HIGH, INFILL WIDTH VARIES, SEE PLAN – PAINT WALL BOTH SIDES.
3. SEE SHEET A-402 FOR CLOSET DETAILS AND ELEVATIONS.
4. SEE SHEET A-402 FOR BATHROOM DETAILS AND ELEVATIONS.
5. WASHERS AND DRYERS ARE NOT IN CONTRACT.
6. PROVIDE CONCRETE MASONRY IN AREA WHERE RECESSED PAPER TOWEL DISPENSER WAS REMOVED.
7. PROVIDE 3" X 3" X 1/4" GALVANIZED STEEL LINTEL MINIMUM BEARING 8" EACH SIDE FOR BRICK MASONRY OPENING, AND 8" BOND BEAM WITH (2) #4 BARS AND 3000 PSI PEA GRAVEL GROUT AT CONCRETE MASONRY OPENING. SEE MECHANICAL DRAWINGS FOR LOUVER SIZES. (NOT USED ON THIS SHEET)

ROBERT T. BELANGIA REGISTERED ARCHITECT 4068 NORTH CAROLINA NEW BERN NC
13 August 2010

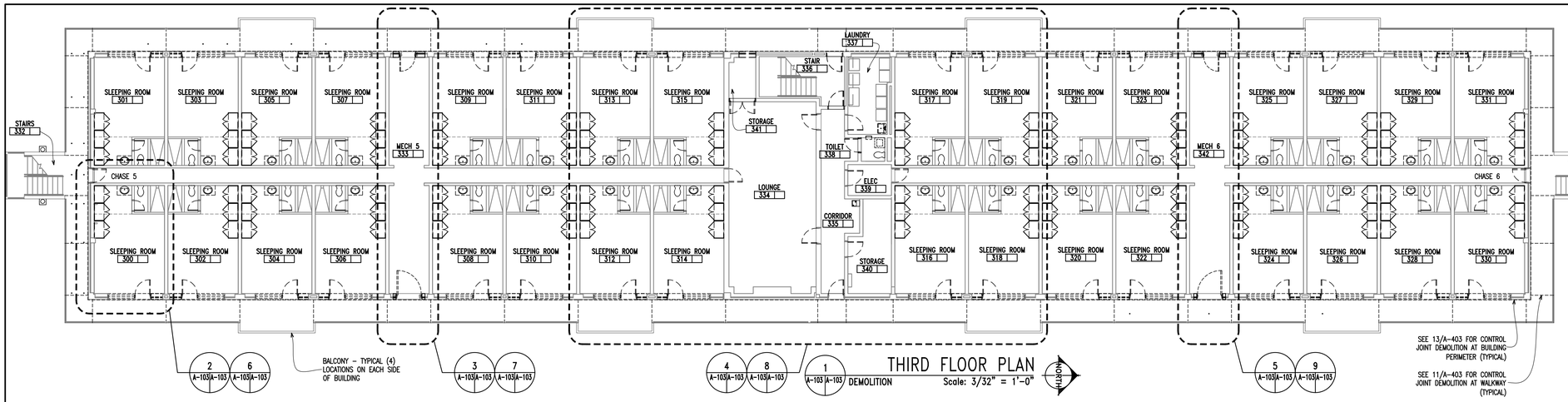
MBFA NO.: 1001
MAUNE BELANGIA FAULKENBERRY ARCHITECTS, PA
317-C Pollock Street New Bern, NC 28560 Tel. 252.637.6373 Fax 252.637.3259 www.mbfarchitects.com

MAUNE BELANGIA FAULKENBERRY ARCHITECTS, P.A. REGISTERED ARCHITECTURAL CORPORATION CERT. NO. 679 NORTH CAROLINA New Bern NC

A-102

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA

DES. RTB	STRUCTURAL AND HVAC RENOVATION – FC574 BARRACK		
DR. SLA			
CHK. RTB			
SUBMITTED BY:			
DESIGN DIR.	SECOND FLOOR PLAN		
APPROVED: PWO OR OICC DATE	SIZE F	CODE IDENT NO. 80091	NAVFAC DRAWING NO. 60006290
SATISFACTORY TO: DATE			CONST. CONTR. NO. N40085-10-B-0010
	SCALE: AS NOTED	SPEC. 05-10-0010	SHEET 05 OF 72



THIRD FLOOR PLAN

1 A-103/A-103 DEMOLITION Scale: 3/32" = 1'-0"

NORTH

GENERAL NOTES

1. SEE REFLECTED CEILING PLAN A-104 FOR AREAS TO RECEIVE NEW CEILING FINISHES, MATERIALS, HEIGHTS, ETC. SEE FINISH SCHEDULE SHEET A-601 FOR ALL MATERIAL AND COLOR SELECTIONS, AS PER FINISH DESIGNATIONS FOR EACH IDENTIFIED ROOM ON THE CONSTRUCTION PLAN. WHERE DOORS ARE INDICATED AS NUMBERED IN THE CONSTRUCTION PLAN, REFER TO THE DOOR SCHEDULE SHEET A-601 FOR NEW DOOR DESCRIPTIONS.
2. THE CONTRACTOR SHALL PHOTOGRAPH, TAG, RECORD THE LOCATION OF, REMOVE FROM THE BUILDING, AND STORE EACH PIECE OF FURNITURE. THE CONTRACTOR SHALL PROVIDE AN ELECTRONIC COPY OF THE FURNITURE CONDITION PICTURES AND FURNITURE LOCATIONS TO THE GOVERNMENT ON CD. TYPICAL SLEEPING ROOM INCLUDES BUT IS NOT LIMITED TO: (3) METAL WARDROBES, (3) METAL RACKS, (3) MATTRESSES, (3) DESKS, (3) DESK CHAIRS, (3) NIGHT TABLES, AND (3) LAMPS, REFRIGERATOR, MICROWAVE, (2) MIRRORS, RUGS, DRAPERIES, AND COMFORTERS. THE CONTRACTOR SHALL PROTECT EACH ITEM REMOVED FROM DAMAGE. THE CONTRACTOR SHALL PLACE ALL ITEMS REMOVED BACK IN THE BUILDING WITH EXCEPTION OF THE WARDROBES AND MIRRORS AND MATTRESSES, RUGS, DRAPERIES, AND COMFORTERS PRIOR TO PROJECT COMPLETION. CONTRACTOR SHALL DISPOSE OF ALL MATTRESSES AT A PERMITTED SOLID WASTE LANDFILL. CONTRACTOR WILL COORDINATE WITH BASE RECYCLING (452–4214) FOR TRANSPORTATION OF ALL AREA RUGS, DRAPERIES, AND COMFORTERS TO BLDG. 982 (PINEY GREEN ROAD) FOR RECYCLING. THE CONTRACTOR SHALL OFFER THE WARDROBES AND MIRRORS TO THE GOVERNMENT. IF THE GOVERNMENT REFUSES THE WARDROBES AND MIRRORS, THE CONTRACTOR SHALL DISPOSE OF THE WARDROBES AND MIRRORS.
3. THE CONTRACTOR IS TO PROVIDE OPENINGS IN MECHANICAL ROOM FLOORS FOR NEW VERTICAL DUCTWORK. SEE SHEETS MH–102 FOR MECHANICAL RISER.
4. WHERE DUCTWORK, PIPING, OR WIRING IS REMOVED, PATCH ALL HOLES IN WALLS AND CEILING WITH LIKE MATERIAL.

GENERAL CONSTRUCTION NOTES

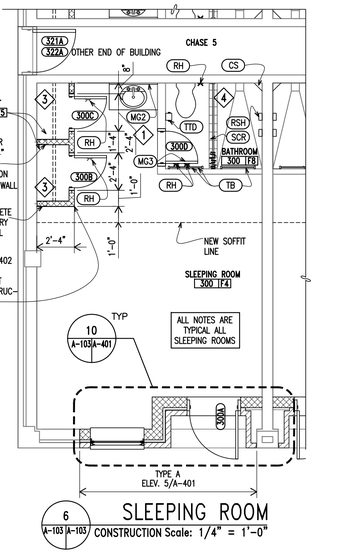
1. EXISTING DOOR FRAMES THAT ARE TO REMAIN ARE STEEL, WIRE BRUSH, CLEAN, AND PREPARE (BOTH SIDES) OF ALL FRAMES FOR NEW PAINT FINISHES. PAINT ALL DOOR FRAMES.
2. DIMENSIONS ARE +/_ VERIFY ALL DIMENSIONS.
3. EXISTING INTERIOR WALLS ARE PAINTED CONCRETE MASONRY UNLESS NOTED OTHERWISE
4. - — — — - 1 HOUR RATED WALL

KEYED DEMOLITION NOTES

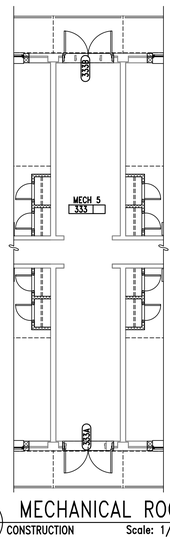
1. REMOVE EXISTING RESILIENT TILE. CLEAN AND PREPARE EXISTING CONCRETE SLAB FOR NEW FLOOR FINISHES.
2. REMOVE EXISTING 2'X2' ACOUSTICAL CEILING AND SUSPENSION SYSTEM INCLUDING BUT NOT LIMITED TO: ACOUSTICAL CEILING TILES, SUSPENSION SYSTEM, WIRES, HANGERS, ETC.
3. REMOVE EXISTING 2'X4' ACOUSTICAL CEILING AND SUSPENSION SYSTEM INCLUDING BUT NOT LIMITED TO: ACOUSTICAL CEILING TILES, SUSPENSION SYSTEM, WIRES, HANGERS, ETC.
4. REMOVE EXISTING CARPET – CLEAN AND PREPARE EXISTING CONCRETE SLAB FOR NEW FLOOR FINISH.
5. REMOVE EXISTING THIN SET CERAMIC FLOOR TILE. PREPARE EXISTING CONCRETE SLAB FOR NEW FLOOR FINISH. REMOVE EXISTING MARBLE THRESHOLDS.
6. REMOVE EXISTING CERAMIC FLOOR TILE, CEMENT MORTAR BED AND SHOWER PAN MEMBRANE. PREPARE EXISTING CONCRETE SLAB FOR NEW FLOOR FINISH. SEE A–402 FOR DEMOLITION DETAILS.
7. REMOVE EXISTING THIN SET CERAMIC WALL TILE. PREPARE EXISTING WALLS FOR NEW WALL FINISH.
8. CLEAN AND PREPARE EXISTING PAINTED CONCRETE MASONRY WALLS FOR NEW PAINT FINISHES.
9. CLEAN AND PREPARE EXISTING PAINTED GYPSUM BOARD CEILING FOR NEW PAINT FINISHES. (NOT USED ON THIS SHEET)
10. CLEAN AND PREPARE EXISTING PAINTED (TEXTURED) SHEET METAL HVAC DUCT FOR NEW PAINT FINISHES. (NOT USED ON THIS SHEET)
11. CLEAN AND PREPARE EXISTING PAINTED (TEXTURED) PRECAST CONCRETE CHANNEL CEILING FOR NEW FINISHES.
12. CLEAN AND PREPARE EXISTING PAINTED (TEXTURED) GYPSUM BOARD CEILING FOR NEW PAINT FINISHES. (NOT USED ON THIS SHEET)
13. REMOVE EXISTING METAL SOFFIT AND METAL FRAMING TO PERMIT INSTALLATION OF NEW MECHANICAL EQUIPMENT.
14. REMOVE CONCRETE SLAB FOR INSTALLATION OF FLOOR DRAIN AND UNDER FLOOR WASTE PIPING. (NOT USED ON THIS SHEET)
15. REMOVE EXISTING WOOD VANITY CABINET INCLUDING BUT NOT LIMITED TO PORCELAIN SINK, PLUMBING TRIM, PLASTIC LAMINATE COUNTERTOP, AND WALL MOUNTED MIRROR ABOVE.
16. REMOVE EXISTING STEEL FRAME. INCLUDED IN STEEL FRAME IS THE FOLLOWING: ALUMINUM WINDOW, BLIND, DRAPES, METAL INFILL PANEL, AND DOOR WHERE SHOWN. PREPARE REMAINING ROUGH OPENING FOR NEW WALL INSTALLATION.
17. REMOVE EXISTING STEEL DOOR INCLUDING HINGES AND HARDWARE. SEE DOOR SCHEDULE ON SHEET A–601 FOR NEW DOOR REQUIREMENTS.
18. REMOVE EXISTING STEEL DOOR FRAME AND DOOR AND PREPARE WALL FOR NEW DOOR FRAME AND DOOR.
19. REMOVE PORTION OF CONCRETE MASONRY AND BRICK MASONRY WALL ± 8'–8" TO PERMIT CONSTRUCTION OF NEW ENTRY – TYPICAL
20. WIRE BRUSH STEEL RAILS IN ALL STAIRWELLS, REMOVE FLAKING PAINT, AND PREPARE SURFACE FOR NEW PAINT – PAINT ALL STEEL RAILS AND GUARDRAILS IN ALL STAIRWELLS: 4 CONTINUOUS RAILS AT CENTER OF STAIR, 1 CONTINUOUS RAIL AT WALLS, AND GUARDRAIL AT TOP OF SIMILAR TO EXTERIOR RAILING.
21. REMOVE EXISTING PLUMBING FIXTURES SEE PLUMBING DRAWINGS FOR ADDITIONAL INFORMATION.
22. REMOVE EXISTING WALL MOUNTED SINK. REMOVE TOILET ACCESSORIES INCLUDING 24" X 36" WALL MOUNTED MIRROR, SOAP DISPENSER, AND RECESSED PAPER TOWEL TRASH RECEPTACLE WHERE PRESENT.
23. REMOVE PORTION OF CONCRETE MASONRY AND BRICK MASONRY TO PERMIT INSTALLATION OF NEW LOUVRER. SEE MECHANICAL DRAWINGS FOR SIZES. (NOT USED ON THIS SHEET)
24. REMOVE EXISTING INFILL WOOD FRAME PARTITION ± 7'–0" HIGH WITH GYPSUM BOARD FINISHES INCLUDING WOOD DOOR AND FRAME, HARDWARE, AND BASE. (NOT USED ON THIS SHEET)
25. REMOVE EXISTING TOILET ACCESSORIES INCLUDING BUT NOT LIMITED TO: TOILET TISSUE DISPENSER, SOAP DISPENSER, TOWEL BARS, SHOWER ROD AND SHOWER CURTAIN. (WHERE PRESENT)
26. POWERWASH ALL EXISTING CONCRETE WALKING SURFACES ON ENTIRE BUILDING INCLUDING ALL STAIR RISERS AND TREADS, AND PREPARE FOR SEALER OR DECORATIVE CONCRETE COATING WHERE INDICATED.
27. CLEAN AND PREPARE EXISTING CONCRETE SLAB FOR NEW FLOOR FINISHES.
28. SCRUB AND RINSE ALL EXISTING INTERIOR BRICK MASONRY WITH BIODEGRADABLE CLEANER TO REMOVE BIOLOGICAL DEPOSITS AND DIRT.
29. REMOVE EXISTING METAL WARDOROBE LOCKERS ±10'–6" LONG X 7'–7" HIGH.
30. REMOVE AND STORE WOOD COUNTER DURING CONSTRUCTION. RE–LAMINATE COUNTER PRIOR TO RE–INSTALLATION AT END OF CONSTRUCTION. (NOT USED ON THIS SHEET)
31. REMOVE EXISTING LAUNDRY SINK. SEE PLUMBING DRAWINGS FOR ADDITIONAL INFORMATION.
32. REMOVE EXISTING WALL MOUNTED DRINKING FOUNTAIN AND BOOTH WHERE PRESENT. PREPARE FOR INSTALLATION OF NEW DRINKING FOUNTAIN.
33. REMOVE EXISTING BRICK AND CONCRETE MASONRY WALL TO CREATE A NEW FINISHED ROUGH OPENING TO ACCOMMODATE NEW DOOR AND FRAME ± 7'–4"H. REMOVE MASONRY TO 8" BELOW THE FINISHED FLOOR AND SEE SHEET A–602 FOR DETAILS. REMOVE ADDITIONAL MASONRY AT JAMBS AND THE HEAD TO PERMIT BONDING OF NEW MASONRY INTO EXISTING MASONRY AND TO PERMIT THE INSTALLATION OF NEW LINTEL AT THE HEAD.
34. REMOVE EXISTING DOOR AND FRAME AND PREPARE OPENING FOR NEW CONCRETE MASONRY IN–FILL WALL.
35. REMOVE EXISTING BRICK AND CONCRETE MASONRY WALL TO CREATE A NEW FINISHED ROUGH OPENING TO ACCOMMODATE NEW DOOR AND FRAME ± 8'–8"H. REMOVE MASONRY TO 8" BELOW THE FINISHED FLOOR AND SEE SHEET A–602 FOR DETAILS. REMOVE ADDITIONAL MASONRY AT JAMBS TO PERMIT BONDING OF NEW MASONRY INTO EXISTING MASONRY.

KEYED CONSTRUCTION NOTES

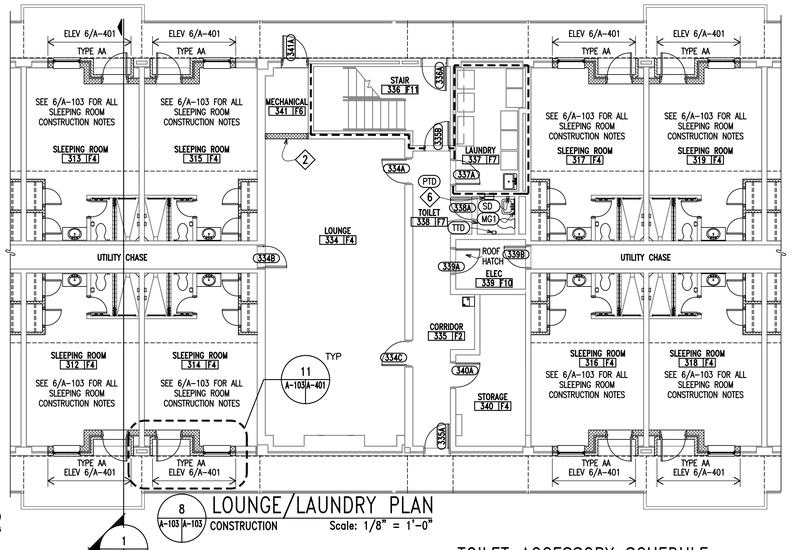
1. PROVIDE NEW 36" WIDE PLASTIC LAMINATE VANITY WITH PREMIUM SPECKLED COLOR SOLID SURFACE COUNTERTOP AND PORCELAIN DROP IN BOWL.
2. PROVIDE 8" CONCRETE MASONRY ±6'–8" HIGH, INFILL WIDTH VARIES, SEE PLAN – PAINT WALL BOTH SIDES.
3. SEE SHEET A–402 FOR CLOSET DETAILS AND ELEVATIONS.
4. SEE SHEET A–402 FOR BATHROOM DETAILS AND ELEVATIONS.
5. WASHERS AND DRYERS ARE NOT IN CONTRACT.
6. PROVIDE CONCRETE MASONRY IN AREA WHERE RECESSED PAPER TOWEL DISPENSER WAS REMOVED.
7. PROVIDE 3" X 3" X ¼" GALVANIZED STEEL LINTEL MINIMUM BEARING 8" EACH SIDE FOR BRICK MASONRY OPENING, AND 8" BOND BEAM WITH (2) #4 BARS AND 3000 PSI PEA GRAVEL GROUT AT CONCTRETE MASONRY OPENING. SEE MECHANICAL DRAWINGS FOR LOUVER SIZES.(NOT USED ON THIS SHEET)



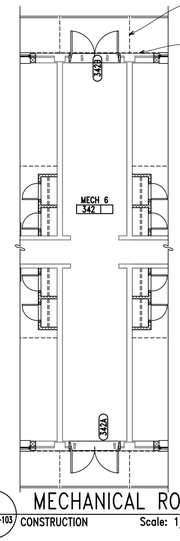
2 A-103/A-103 SLEEPING ROOM
DEMOLITION Scale: 1/4" = 1'–0"
ALL DIMENSIONS ARE +/–



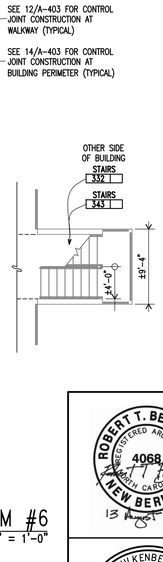
3 A-103/A-103 MECHANICAL ROOM #5
DEMOLITION Scale: 1/8" = 1'–0"



4 A-103/A-103 LOUNGE/LAUNDRY PLAN
DEMOLITION Scale: 1/8" = 1'–0"
ALL DIMENSIONS ARE +/–



5 A-103/A-103 MECHANICAL ROOM #6
DEMOLITION Scale: 1/8" = 1'–0"



6 A-103/A-103 SLEEPING ROOM
CONSTRUCTION Scale: 1/4" = 1'–0"

7 A-103/A-103 MECHANICAL ROOM #5
CONSTRUCTION Scale: 1/8" = 1'–0"

8 A-103/A-103 LOUNGE/LAUNDRY PLAN
CONSTRUCTION Scale: 1/8" = 1'–0"

1 A-103/A-301

9 A-103/A-103 MECHANICAL ROOM #6
CONSTRUCTION Scale: 1/8" = 1'–0"

GRAPHIC SCALE: 1/4"=1'–0"
4' 0 2' 4' 8'

GRAPHIC SCALE: 1/8"=1'–0"
8' 0 4' 8' 16'

GRAPHIC SCALE: 3/32"=1'–0"
8' 0 8' 16' 24'

ROOM NAME
OFFICE 101 FF3
ROOM NUMBER
ROOM FINISH DESIGNATION: SEE FINISH SCHEDULE
NEW DOOR DESIGNATION: SEE DOOR SCHEDULE
107A
DEMOLITION NOTES
X
CONSTRUCTION NOTES
X

NOTE: EXISTING FIRE EXTINGUISHERS ARE TO REMAIN

TOILET ACCESSORY SCHEDULE

MARK	DESCRIPTION	MARK	DESCRIPTION
CS	SOLID POLYMER CORNER SHELF (3) PER SLEEPING ROOM BATHROOM	RH	DOUBLE ROBE HOOK (4) PER SLEEPING ROOM
TTD	WALL MOUNTED TOILET TISSUE DISPENSER	TB	TOWEL BAR: 24" (3) PER SLEEPING ROOM BATHROOM
RSH	CERAMIC TILE RECESSED SOAP HOLDER (2) PER SLEEPING ROOM BATHROOM	MG1	WALL MOUNTED MIRROR: 24" X 36"
SD	SOAP DISPENSER	MG2	WALL MOUNTED MIRROR: 36" X 36"
		MG3	DOOR MOUNTED 17" X 60" MIRROR

ROBERT T. BELANGIA REGISTERED ARCHITECT 4068 NORTH CAROLINA NEW BERN NC. 13 August 2010

MAUNE BELANGIA FAULKENBERRY ARCHITECTS, PA
1101 Pollock Street New Bern, NC 28560
NC.252.0201 Fax 252.638.2206
www.mbfarchitects.com

MBFA NO.: 1001

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA

MAUNE BELANGIA FAULKENBERRY ARCHITECTURAL CORPORATION CERT. NO. 679 NORTH CAROLINA New Bern NC. P.A.'S

DES.	RTB
DR.	SLA
CHK.	RTB
SUBMITTED BY:	
DESIGN DIR.	
APPROVED: PWO OR OICC	DATE
SATISFACTORY TO:	DATE

STRUCTURAL AND HVAC RENOVATION – FC574 BARRACK

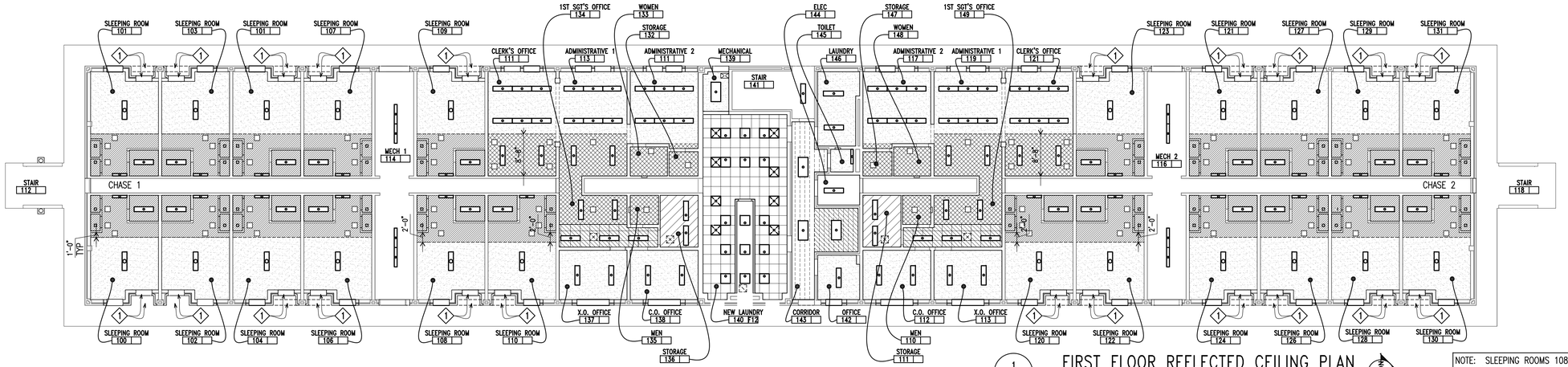
THIRD FLOOR PLAN

SIZE	CODE IDENT NO.	NAVFAC DRAWING NO.
F	80091	60006291

CONST. CONTR. NO. N40085–10–B–0010

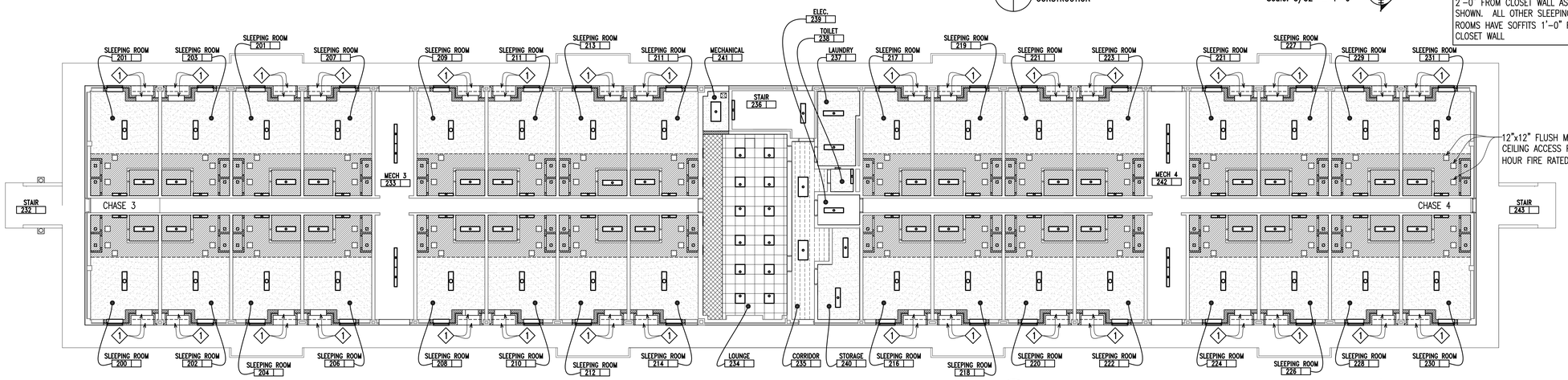
SCALE: AS NOTED | SPEC. 05–10–0010 | SHEET 06 OF 72

A-103

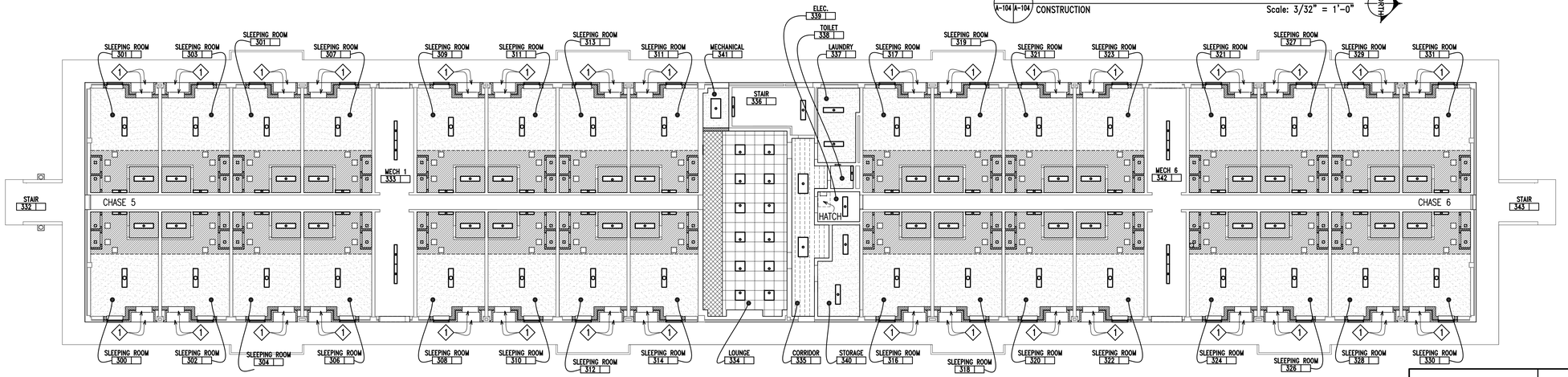


1 A-104 A-104 FIRST FLOOR REFLECTED CEILING PLAN
CONSTRUCTION Scale: 3/32" = 1'-0"

NOTE: SLEEPING ROOMS 108, 110, 120, AND 122 HAVE SOFFITS 2'-0" FROM CLOSET WALL AS SHOWN. ALL OTHER SLEEPING ROOMS HAVE SOFFITS 1'-0" FROM CLOSET WALL



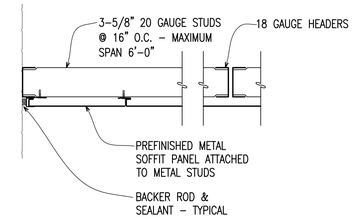
2 A-104 A-104 SECOND FLOOR REFLECTED CEILING PLAN
CONSTRUCTION Scale: 3/32" = 1'-0"



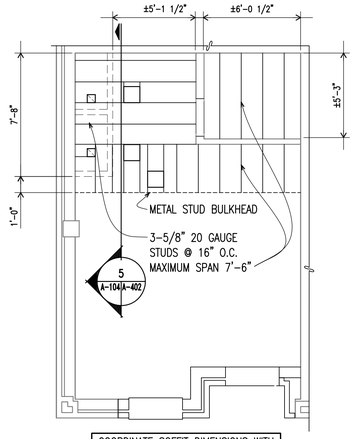
3 A-104 A-104 THIRD FLOOR REFLECTED CEILING PLAN
CONSTRUCTION Scale: 3/32" = 1'-0"

KEYED CEILING NOTES

- ½ HOUR RATED – NEW PAINTED GYPSUM BOARD CEILING – 7'-0" A.F.F.
- NEW PAINTED GYPSUM BOARD CEILING – 6'-10" A.F.F.
- NEW PAINTED GYPSUM BOARD CEILING – 7'-8" A.F.F.
- PAINT EXISTING PAINTED (TEXTURED) PRECAST CONCRETE CHANNEL CEILING – 8'-8" A.F.F.
- NEW METAL FLUSH PANEL CEILING, SEE DETAIL 4/A-104 – 8'-0" A.F.F.
- NEW METAL FLUSH PANEL CEILING, SEE DETAIL 4/A-104 – 7'-8" A.F.F.
- NEW ACOUSTIC CEILING – 8'-0" A.F.F.
- NEW ACOUSTIC CEILING – 7'-0" A.F.F.
- 1 CLEAN AND PREPARE EXISTING TEXTURED PAINTED PRECAST CONCRETE, UNPAINTED PRECAST CONCRETE, AND NEW CONCRETE FOR NEW CONCRETE SKIM COAT. PROVIDE CONCRETE SKIM COAT AT SLEEPING ROOM ENTRANCES TO MATCH EXISTING CONCRETE CEILING PLANKS.



4 A-104 A-104 METAL SOFFIT DETAIL
Scale: 1 1/2"= 1'-0"



COORDINATE SOFFIT DIMENSIONS WITH MECHANICAL EQUIPMENT.

1 A-104 A-104 SOFFIT FRAMING PLAN
CONSTRUCTION Scale: 1/4"= 1'-0"

GRAPHIC SCALE: 1-1/2"=1'-0" (1' 6" 3" 0 1')
GRAPHIC SCALE: 1/4"=1'-0" (4' 0 2' 4' 8')
GRAPHIC SCALE: 3/32"=1'-0" (8' 0 8" 16' 24')

ROBERT T. BELANGIA REGISTERED ARCHITECT 4068 NORTH CAROLINA NEW BERN NC 13 August 2010

MAUNE BELANGIA FAULKENBERRY ARCHITECTS, PA
2114 Trent Road New Bern, NC 28560
tel 252.633.2191 fax 252.633.2199
www.mbfarchitects.com
MBFA NO.: 1001

MAINE BELANGIA FAULKENBERRY ARCHITECTURAL CORPORATION CERT. NO. 679 NORTH CAROLINA New Bern NC

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA

STRUCTURAL AND HVAC RENOVATION – FC574 BARRACK

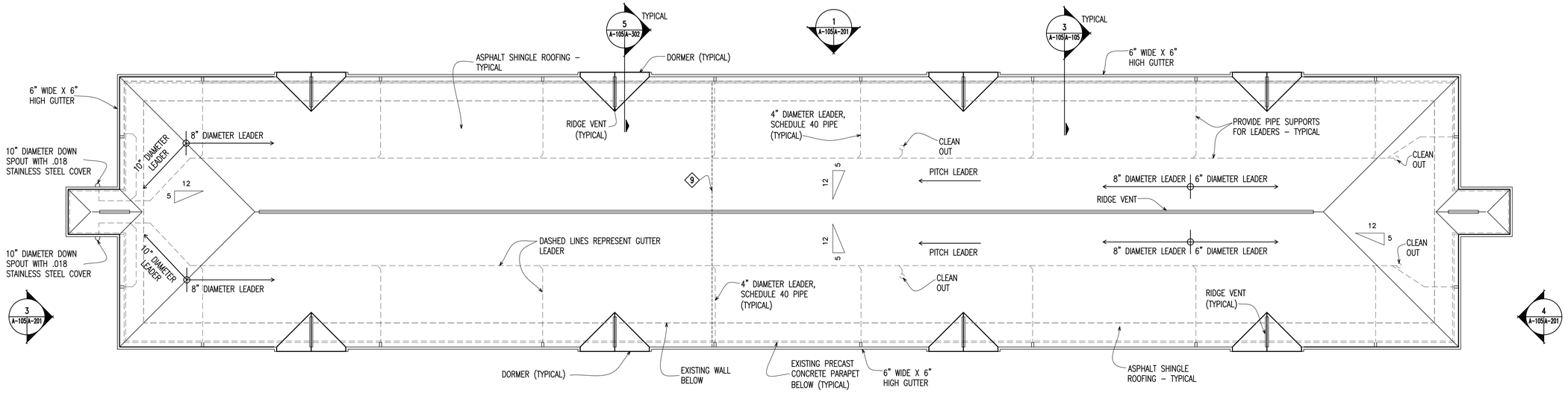
REFLECTED CEILING PLAN

DES.	RTB
DR.	SLA
CHK.	RTB
SUBMITTED BY:	
DESIGN DIR.	
APPROVED: PWO OR OICC	DATE
SATISFACTORY TO:	DATE

SIZE	CODE IDENT NO.	NAVFAC DRAWING NO.
F	80091	60006292
SCALE: AS NOTED	SPEC. 05-10-0010	CONST. CONTR. NO. N40085-10-B-0010

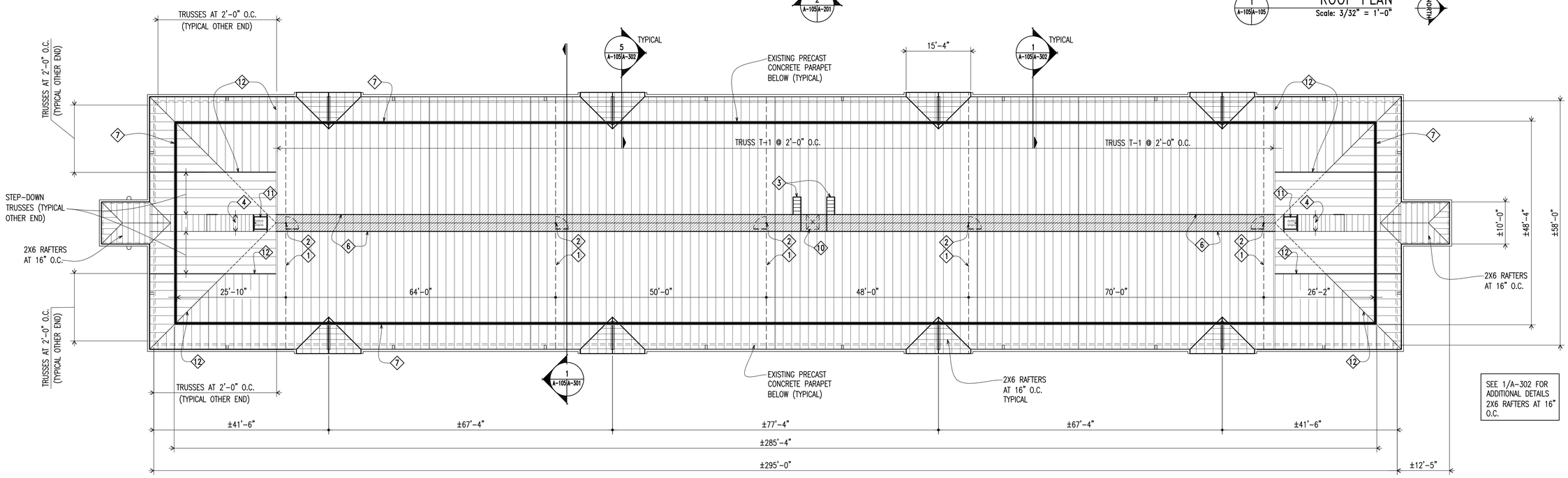
SHEET 07 OF 72

A-104



1 A-105/A-105 **ROOF PLAN** Scale: 3/32" = 1'-0"

NORTH



2 A-105/A-105 **ROOF FRAMING PLAN** Scale: 3/32" = 1'-0"

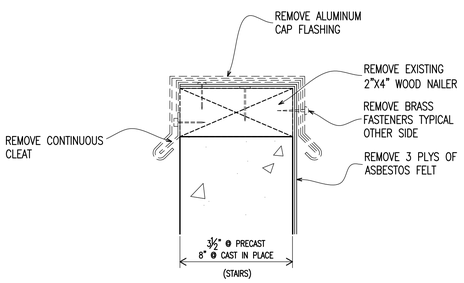
NORTH

PRE-FABRICATED WOOD TRUSS NOTES:

1. PRE-FABRICATED WOOD TRUSSES SHALL BE DESIGNED FOR THE FOLLOWING UNIFORMLY DISTRIBUTED LOADS:
   TOP CHORD DEAD LOAD = 10 PSF
   BOTTOM CHORD DEAD LOAD = 5 PSF
   TOP CHORD LIVE LOAD = 20 PSF
   CATWALK LIVE LOAD = 40 PSF
   TOP CHORD UPLIFT = 10 PSF
2. TRUSSES SHALL BE DESIGNED FOR THE FOLLOWING DEFLECTION CRITERIA:
   SPAN / TOTAL LOAD DEFLECTION = 240
   SPAN / LIVE LOAD DEFLECTION = 360
3. TRUSSES SHALL BE DESIGNED FOR PROFILES AND SPANS AS SHOWN ON PLAN, SECTIONS, AND ELEVATIONS.
4. TRUSS MANUFACTURER SHALL ADVISE ARCHITECT OF ANY DISCREPANCIES PRIOR TO PREPARATION OF TRUSS SHOP DRAWINGS.

KEYED NOTES:

1. DRAFTSTOP – SEE DETAIL 3/A-301
2. 3'-0" X 7'-0" X 1-3/4" STEEL DOOR. SEE #401A ON A-601
3. NEW 22-1/2" WIDE WOOD STAIR WITH 2X12 TREADS AND STRINGERS – BETWEEN TRUSSES
4. 2X6 FRAMING @ 16" O.C. (TYPICAL)
5. NOT USED
6. LINE OF CATWALK IN TRUSSES (4'-0" WIDE – 3/4" OSB) SEE 1/A-301
7. 2X6 WOOD STUD KNEE WALL – SEE DETAIL 1/A-302
8. NOT USED
9. ROOF EXPANSION JOINT – SEE DETAIL 5/A-201
10. REMOVE EXISTING HATCH AND PROVIDE NEW 2 HR RATED ATTIC ACCESS HATCH IN EXISTING OPENING – SEE 2/A-301
11. SPACE TRUSSES AT 3'-0" TO PERMIT INSTALLATION OF FUTURE ROOF HATCH. PROVIDE 2X6 PURLINS @ 16" O.C.
12. GIRDER TRUSS



3 A-105/A-105 **PARAPET DETAIL** DEMOLITION Scale: 3" = 1'-0"

GRAPHIC SCALE: 3"=1'-0" (0, 3", 6", 1')

GRAPHIC SCALE: 3/32"=1'-0" (8', 0, 8, 16', 24')

ROBERT T. BELANGIA REGISTERED ARCHITECT 4068 NORTH CAROLINA NEW BERN NC 13 August 2010

MAINE BELANGIA FAULKENBERRY ARCHITECTS, PA
MBFA NO.: 1001
CHOA Box 3 New Bern, NC 28560 Tel. 252.633.2929 Fax 252.633.2930 www.mbfarchitects.com

MAINE BELANGIA FAULKENBERRY ARCHITECTURAL CORPORATION REGISTERED ARCHITECTS P.A. CERT. NO. 679 NORTH CAROLINA New Bern, NC

A-105

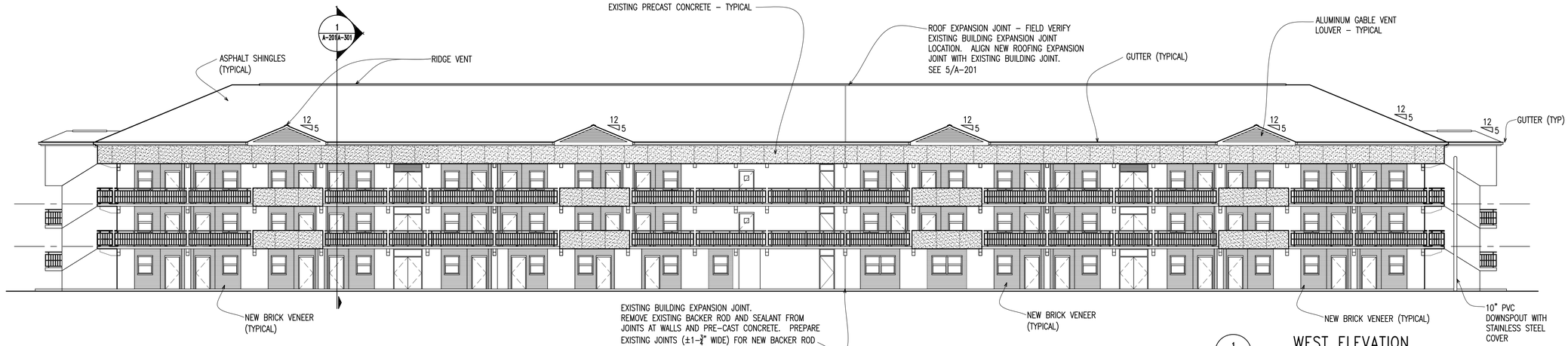
DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA

STRUCTURAL AND HVAC RENOVATION – FC574 BARRACK

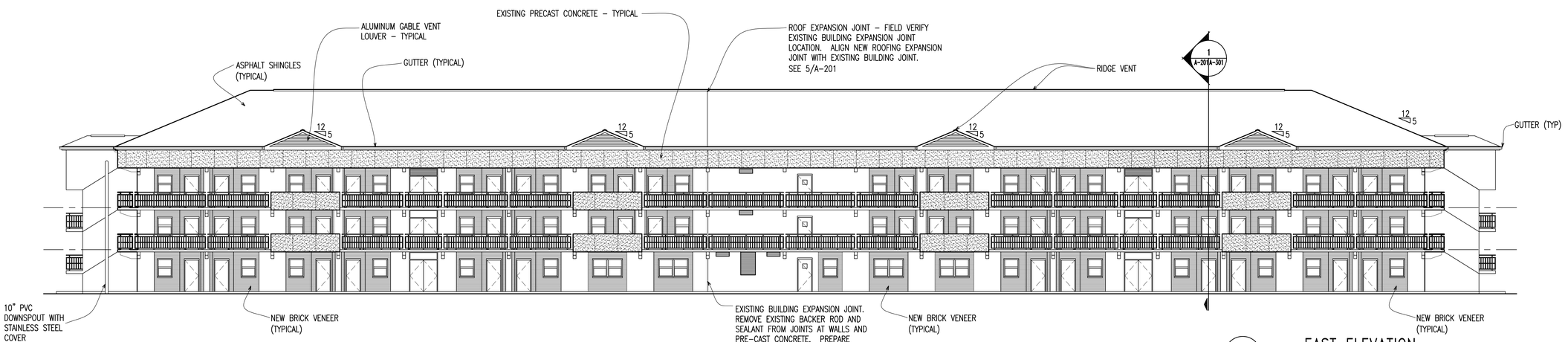
ROOF PLAN

DES.	RTB
DR.	SLA
CHK.	RTB
SUBMITTED BY:	
DESIGN DIR.	
APPROVED: PWO OR OICC	DATE
SATISFACTORY TO:	DATE

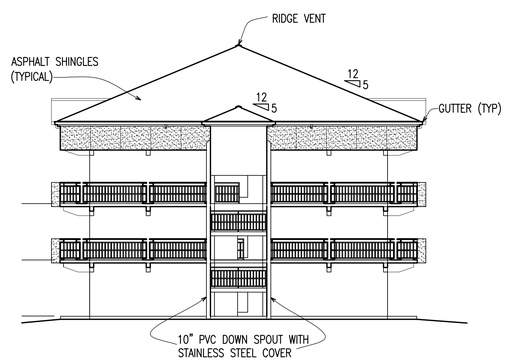
SIZE F | CODE IDENT NO. 80091 | NAVFAC DRAWING NO. 60006293
CONST. CONTR. NO. N40085-10-B-0010
SCALE: AS NOTED | SPEC. 05-10-0010 | SHEET 08 OF 72



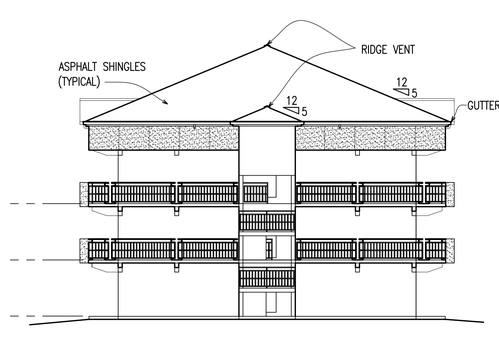
1 A-105 A-201 CONSTRUCTION
WEST ELEVATION
Scale: 3/32" = 1'-0"
A-101 A-102 A-103



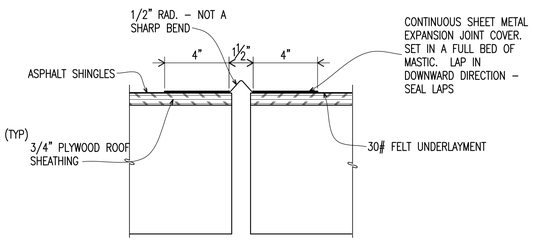
2 A-105 A-201 CONSTRUCTION
EAST ELEVATION
Scale: 3/32" = 1'-0"
A-101 A-102 A-103



3 A-105 A-201 CONSTRUCTION
SOUTH ELEVATION
Scale: 3/32" = 1'-0"
A-101 A-102 A-103



4 A-105 A-201 CONSTRUCTION
NORTH ELEVATION
Scale: 3/32" = 1'-0"
A-101 A-102 A-103



5 A-105 A-201 CONSTRUCTION
EXPANSION JOINT
Scale: 1-1/2" = 1'-0"

GRAPHIC SCALE: 1-1/2"=1'-0"
1' 6" 3" 0 1'

GRAPHIC SCALE: 3/32"=1'-0"
8' 0 8' 16' 24'

ROBERT T. BELANGIA REGISTERED ARCHITECT 4068 NORTH CAROLINA NEW BERN NC
13 August 2010

MAUNE BELANGIA FAULKENBERRY ARCHITECTS, PA
2114 Main Street New Bern, NC 28560 tel 252.633.2929 www.mbfarchitects.com
MBFA NO.: 1001

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA

MAUNE BELANGIA FAULKENBERRY ARCHITECTS, P.A. CERT. NO. 679 NORTH CAROLINA CORPORATION New Bern NC

DES.	RTB
DR.	SLA
CHK.	RTB
SUBMITTED BY:	
DESIGN DIR.	
APPROVED: PWO OR OICC	DATE
SATISFACTORY TO:	DATE

STRUCTURAL AND HVAC RENOVATION – FC574 BARRACK

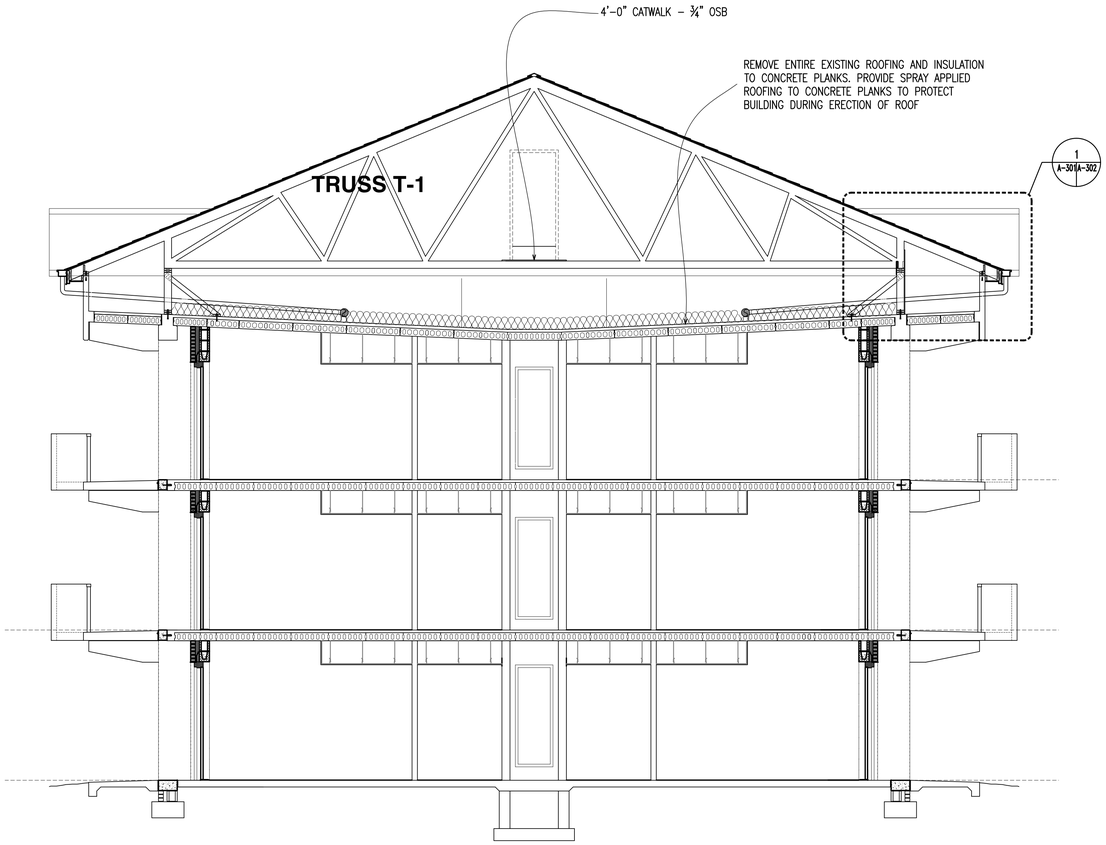
ELEVATIONS

SIZE	CODE IDENT NO.	NAVFAC DRAWING NO.
F	80091	60006294

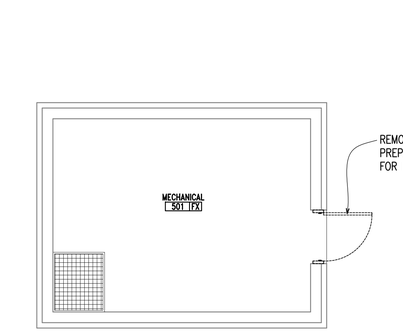
CONST. CONTR. NO. N40085-10-B-0010

SCALE: AS NOTED | SPEC. 05-10-0010 | SHEET 09 OF 72

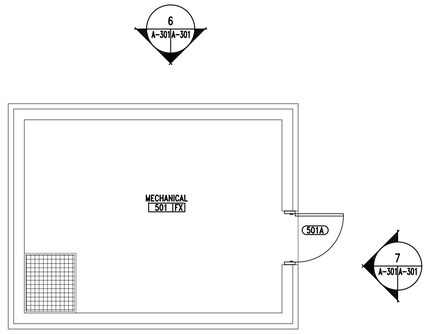
A-201



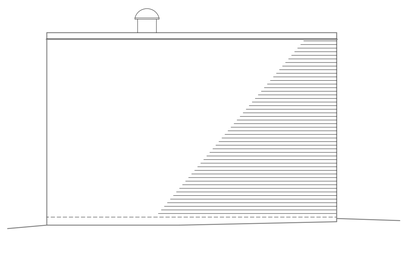
1 A-101A-301 — TYPICAL TRANSVERSE SECTION
Scale: 1/4" = 1'-0"
A-102, A-103, A-201



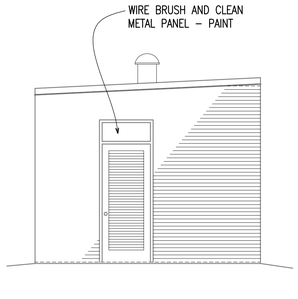
4 A-301A-301 — FC572 FLOOR PLAN
DESTRUCTION Scale: 1/4" = 1'-0"



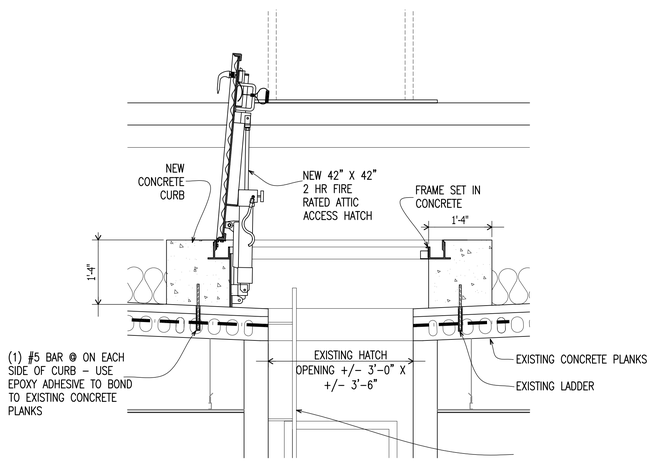
5 A-301A-301 — FC572 FLOOR PLAN
CONSTRUCTION Scale: 1/4" = 1'-0"



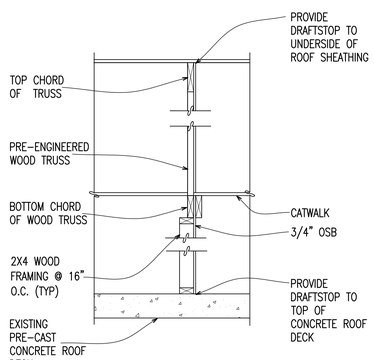
6 A-301A-301 — EAST ELEVATION
FC572 Scale: 1/4" = 1'-0"



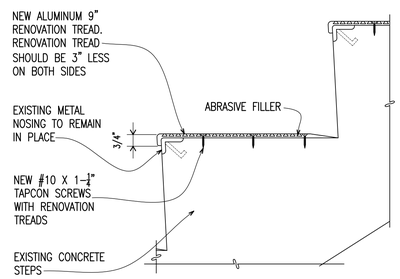
7 A-301A-301 — NORTH ELEVATION
FC572 Scale: 1/4" = 1'-0"



2 A-301A-301 — 2 HR FIRE RATED ATTIC ACCESS
Scale: 3/4" = 1'-0"



3 A-105A-301 — SECTION AT DRAFTSTOP
Scale: 3/4" = 1'-0"



8 A-101A-301 — STAIR TREAD SECTION
Scale: 3" = 1'-0"
A-102, A-103

GRAPHIC SCALE: 1/4"=1'-0" (4' 0 2' 4' 8')
GRAPHIC SCALE: 3/4"=1'-0" (1' 0 1' 2' 3')
GRAPHIC SCALE: 1-1/2"=1'-0" (1' 6" 3" 0 1')

ROBERT T. BELANGIA REGISTERED ARCHITECT 4068 NORTH CAROLINA NEW BERN NC 13 August 2010

MBFA NO.: 1001

MAUNE BELANGIA FAULKENBERRY ARCHITECTS, PA
1240 Bob Stone Drive, New Bern, NC 28562
Tel. 252.633.2001 Fax 252.633.2005
www.mbfarchitects.com

MAINE BELANGIA FAULKENBERRY ARCHITECTS, P.A. REGISTERED ARCHITECTURAL CORPORATION NORTH CAROLINA CERT. NO. 679 New Bern, N.C.

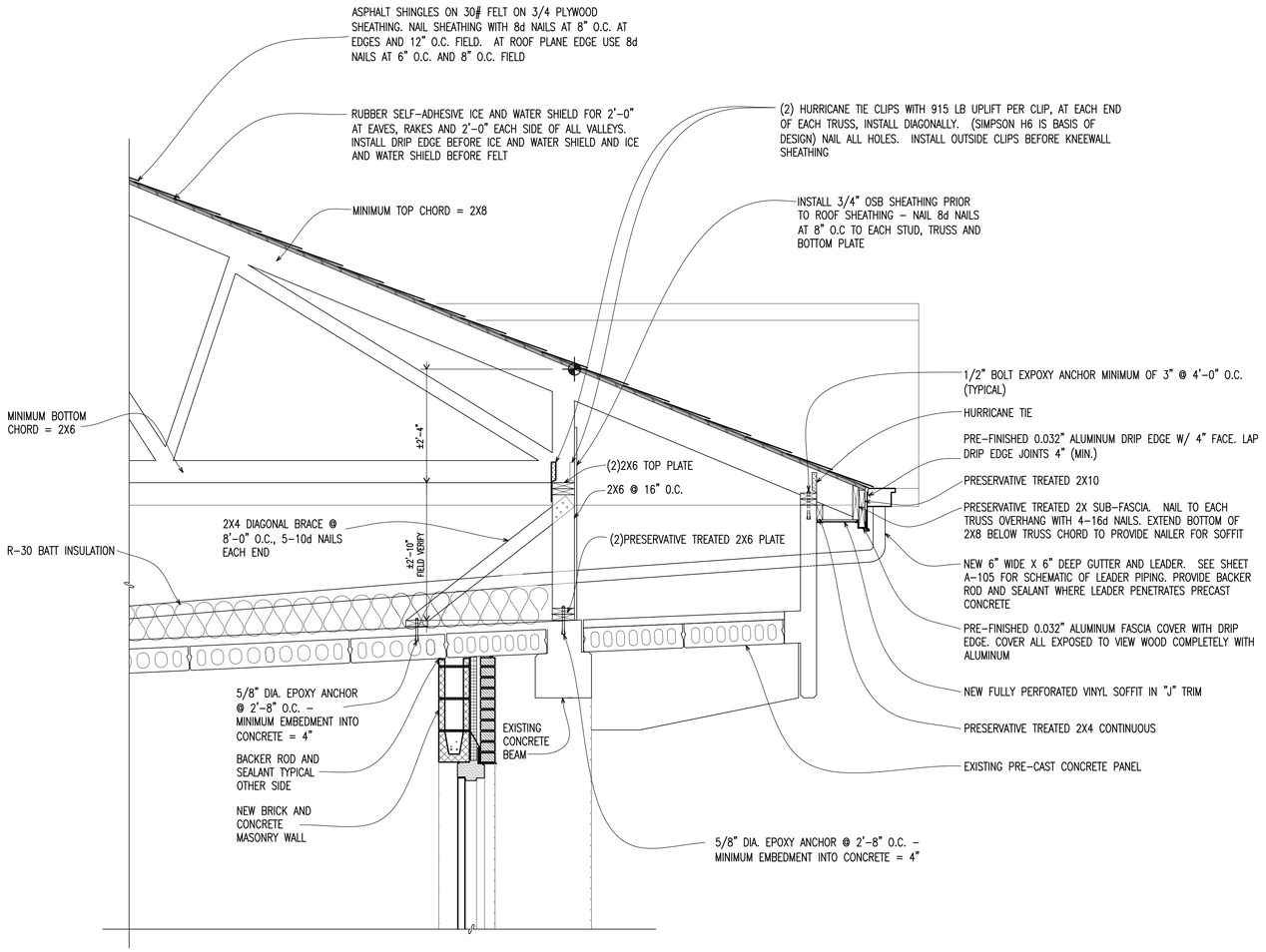
DES. RTB
DR. SLA
CHK. RTB
SUBMITTED BY:
DESIGN DIR.
APPROVED: PWO OR OICC DATE
SATISFACTORY TO: DATE

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA

A-301

STRUCTURAL AND HVAC RENOVATION - FC574 BARRACK
BUILDING SECTION & DETAILS

SIZE F | CODE IDENT NO. 80091 | NAVFAC DRAWING NO. 60006295
CONST. CONTR. NO. N40085-10-B-0010
SCALE: AS NOTED | SPEC. 05-10-0010 | SHEET 10 OF 72



1 / A-301A-302 — **TRUSS BEARING SECTION**
Scale: 3/4" = 1'-0"

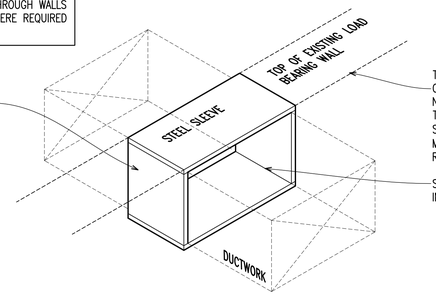
2 / A-105A-302 — **NOT USED**
Scale: 3/4" = 1'-0"

3 / A-301A-302 — **NOT USED**
Scale: 1-1/2" = 1'-0"

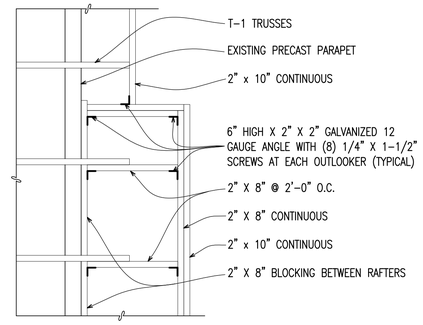
CONTRACTOR SHALL PROVIDE WELDED STEEL PLATE DUCT SLEEVES AT ALL LOCATIONS WHERE DUCTWORK PASSES THROUGH LOAD BEARING WALLS. AT MOST LOCATIONS, EXISTING PENETRATIONS THROUGH WALLS EXIST. EXISTING PENETRATIONS SHALL BE ENLARGED WHERE REQUIRED TO ACCOMMODATE NEW DUCTWORK SIZES

DUCT SLEEVES SHALL BE CONSTRUCTED OF 1/2" STEEL PLATE, WELDED IN A RECTANGULAR 4 SIDED SLEEVE AS SHOWN, SIZED TO ACCOMMODATE SPECIFIC DUCTS AS SPECIFIED ON THE MECHANICAL PLANS, INCLUDING DUCT INSULATION WHERE IT IS CALLED FOR

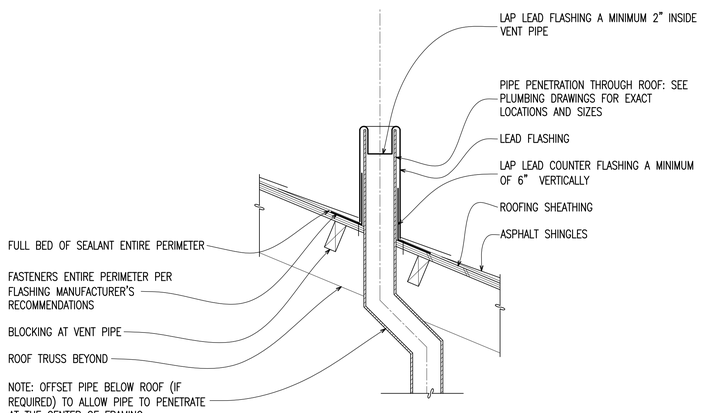
NOTE: SLEEVES ARE ONLY REQUIRED WHERE DUCTS PENETRATE LOAD BEARING WALLS. ALL 8" CONCRETE MASONRY WALLS AND 6" CONCRETE MASONRY MECHANICAL CHASE WALLS SHALL BE CONSIDERED TO BE LOAD BEARING, ALL OTHER WALLS SHALL BE CONSIDERED TO BE NON-LOAD BEARING



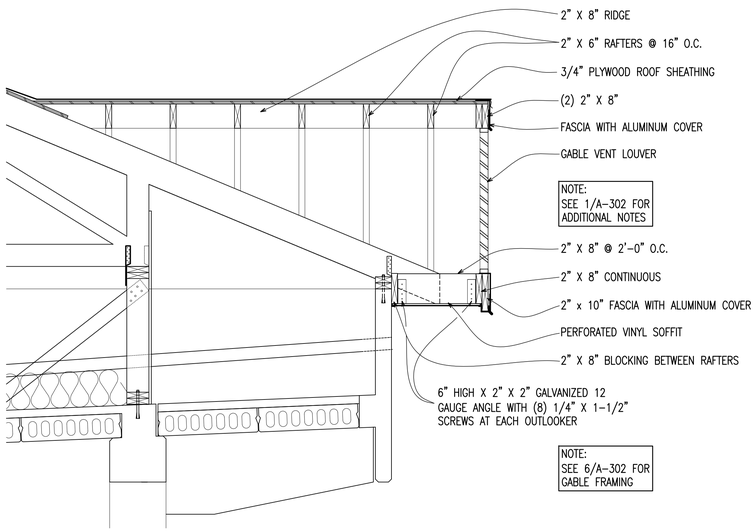
12 / A-302 — **DUCT SLEEVE DETAIL**
Scale: 1-1/2" = 1'-0"



6 / A-302A-302 — **FRAMING AT GABLE**
Scale: 3/4" = 1'-0"



4 / A-301A-302 — **THROUGH THE ROOF VENT**
Scale: 1-1/2" = 1'-0"



5 / A-105A-302 — **SECTION AT GABLE**
Scale: 3/4" = 1'-0"

GRAPHIC SCALE: 3/4"=1'-0" (1' 0 1' 2' 3')

GRAPHIC SCALE: 1-1/2"=1'-0" (1' 6" 3" 0 1')

ROBERT T. BELANGIA — REGISTERED ARCHITECT — 4068 — NORTH CAROLINA — NEW BERN NC — 13 August 2010

MAINE BELANGIA FAULKENBERRY ARCHITECTS, P.A. — REGISTERED ARCHITECTURAL CORPORATION — CERT. NO. 679 — NORTH CAROLINA — New Bern, N.C.

MBFA NO.: 1001

MAINE BELANGIA FAULKENBERRY ARCHITECTS, PA
124 Middle Street New Bern, NC 28560 TEL 252.633.2929 FAX 252.633.2930 www.mbfarchitects.com

A-302

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA

STRUCTURAL AND HVAC RENOVATION - FC574 BARRACK

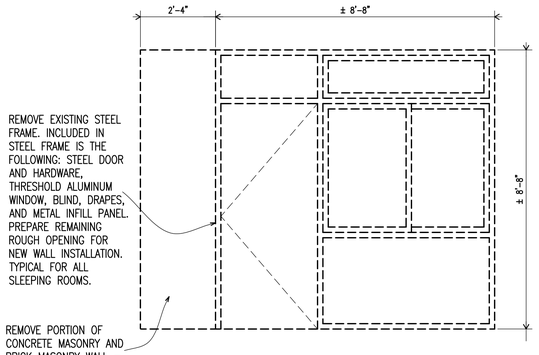
SECTION DETAILS

DES. RTB	
DR. SLA	
CHK. RTB	
SUBMITTED BY:	
DESIGN DIR.	
APPROVED: PWO OR OICC	DATE
SATISFACTORY TO:	DATE

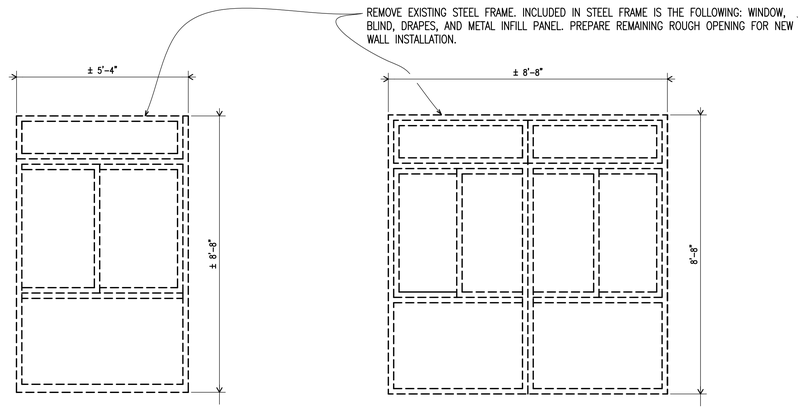
SIZE	CODE IDENT NO.	NAVFAC DRAWING NO.
F	80091	60006296

CONST. CONTR. NO. N40085-10-B-0010

SCALE: AS NOTED | SPEC. 05-10-0010 | SHEET 11 OF 72



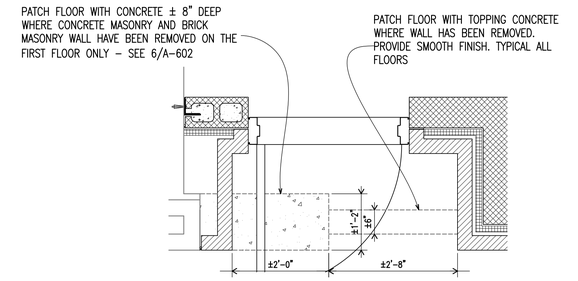
1 A-101A-401 DEMOLITION — TYPE A – ELEVATION
A-102 A-103 — Scale: 1/2" = 1'-0"



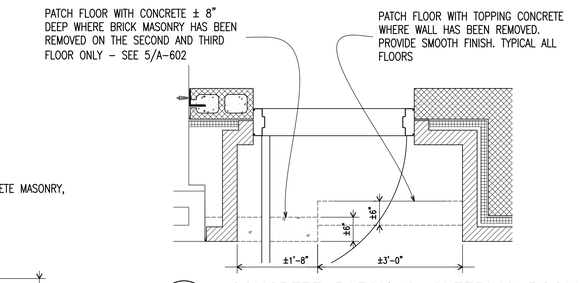
2 A-101A-401 DEMOLITION — TYPE B – ELEVATION — Scale: 1/2" = 1'-0"

3 A-101A-401 DEMOLITION — TYPE C – ELEVATION — Scale: 1/2" = 1'-0"

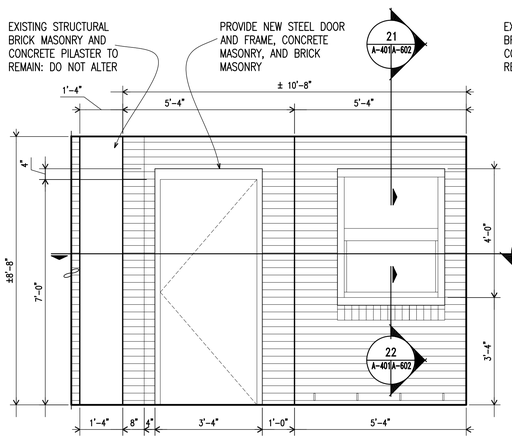
4 A-101A-401 DEMOLITION — TYPE D – ELEVATION — Scale: 1/2" = 1'-0"



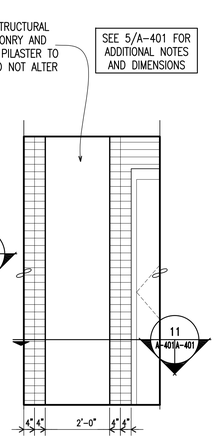
13 A-401A-401 1ST FLOOR — CONCRETE PATCH @ SLEEPING ROOMS — Scale: 3/4" = 1'-0"



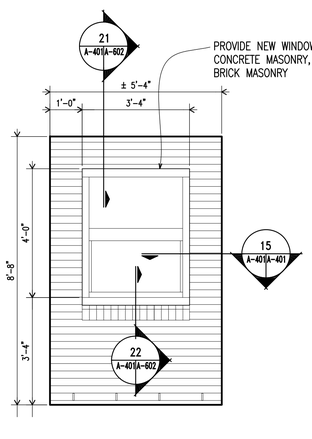
14 A-401A-401 2ND & 3RD FLOORS — CONCRETE PATCH @ SLEEPING ROOMS — Scale: 3/4" = 1'-0"



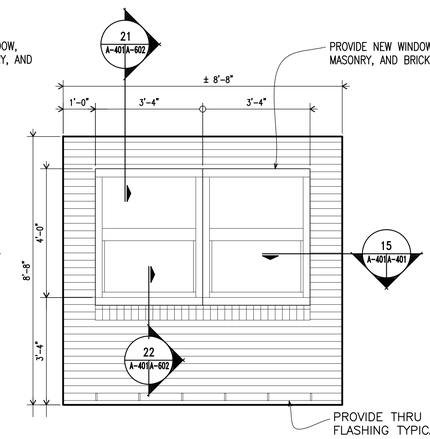
5 A-401A-401 CONSTRUCTION — TYPE A – ELEVATION
A-101 A-102 A-103 — Scale: 1/2" = 1'-0"



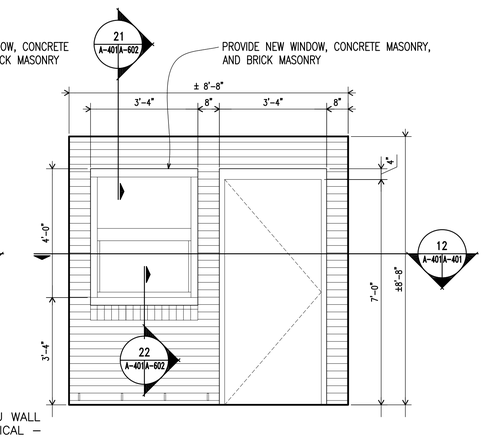
6 A-401A-401 CONSTRUCTION — TYPE AA – ELEV
A-101 A-102 A-103 — Scale: 1/2" = 1'-0"



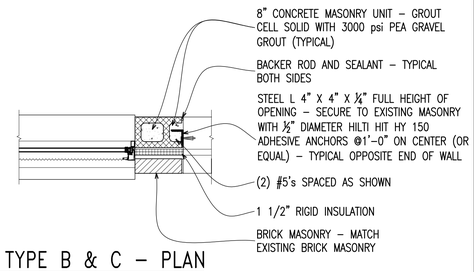
7 A-101A-401 CONSTRUCTION — TYPE B – ELEVATION — Scale: 1/2" = 1'-0"



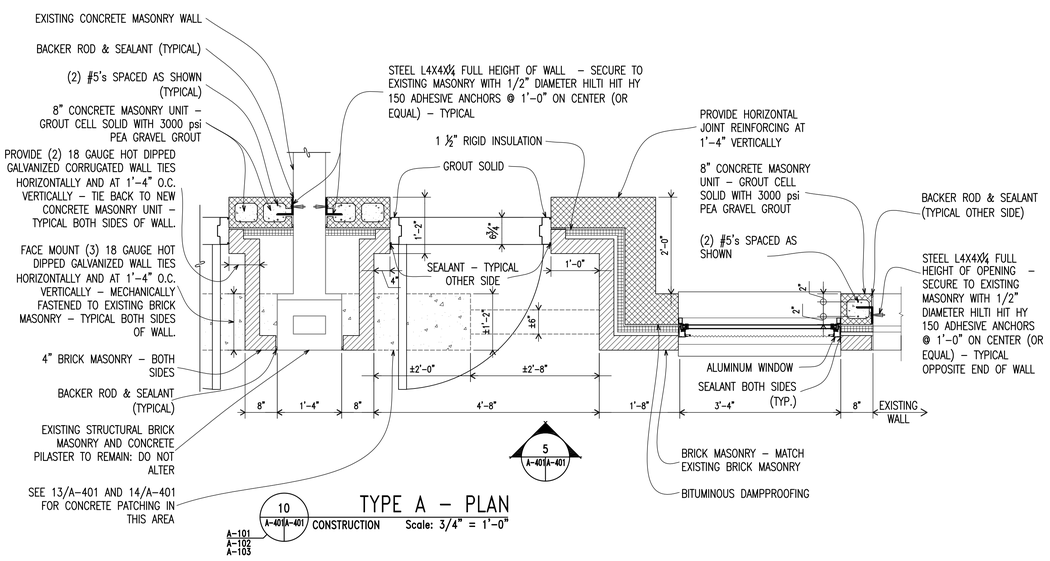
8 A-101A-401 CONSTRUCTION — TYPE C – ELEVATION — Scale: 1/2" = 1'-0"



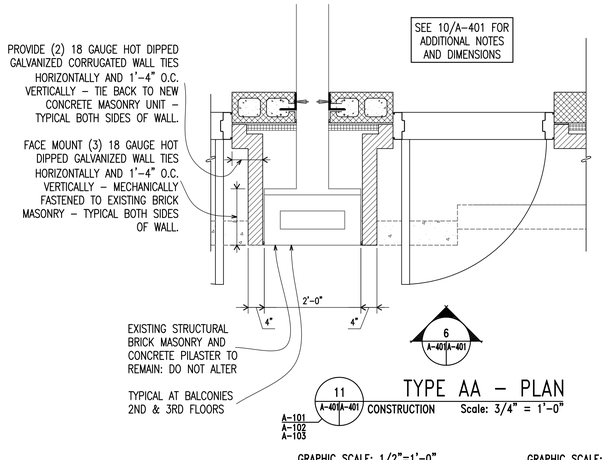
9 A-401A-401 CONSTRUCTION — TYPE D – ELEVATION
A-101 — Scale: 1/2" = 1'-0"



15 A-401A-401 CONSTRUCTION — TYPE B & C – PLAN — Scale: 3/4" = 1'-0"

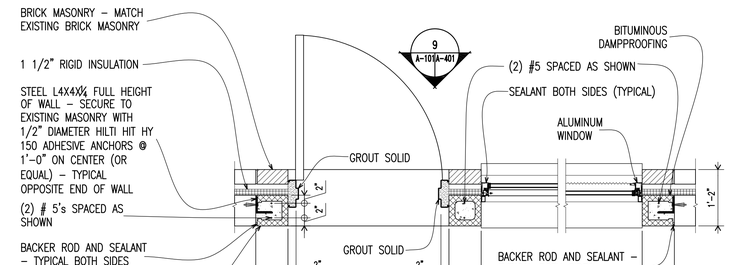


10 A-401A-401 CONSTRUCTION — TYPE A – PLAN
A-101 A-102 A-103 — Scale: 3/4" = 1'-0"



6 A-401A-401

11 A-401A-401 CONSTRUCTION — TYPE AA – PLAN
A-101 A-102 A-103 — Scale: 3/4" = 1'-0"



12 A-401A-401 CONSTRUCTION Scale: 3/4" = 1'-0"
A-101

GRAPHIC SCALE: 1/2"=1'-0" (2' 0 1' 2' 4')

GRAPHIC SCALE: 3/4"=1'-0" (1' 0 1' 2' 3')

ROBERT T. BELANGIA REGISTERED ARCHITECT 4068 NORTH CAROLINA NEW BERN NC 13 August 2010

MAINE BELANGIA FAULKENBERRY ARCHITECTS, PA
MBFA NO.: 1001
CIVIL Bob Drive New Bern, NC 28560 TEL (252) 633-2030 FAX (252) 633-2031 www.mbfaarchitects.com

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA

MAINE BELANGIA FAULKENBERRY ARCHITECTS, P.A. CERT. NO. 679 NORTH CAROLINA CORPORATION New Bern, N.C.

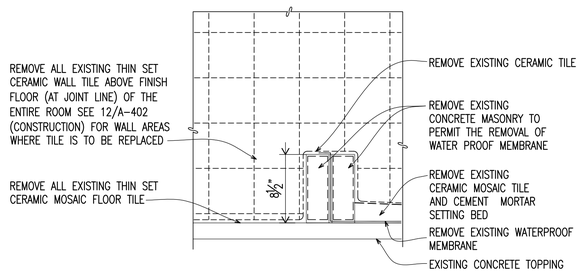
STRUCTURAL AND HVAC RENOVATION – FC574 BARRACK

DETAILS

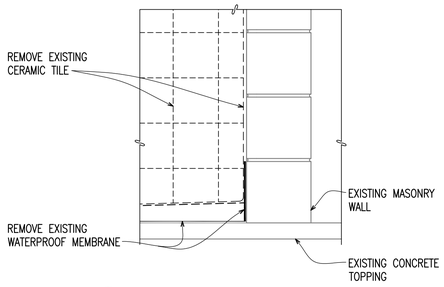
DES.	RTB
DR.	SLA
CHK.	RTB
SUBMITTED BY:	
DESIGN DIR.	
APPROVED: PWO OR OICC	DATE
SATISFACTORY TO:	DATE

SIZE F | CODE IDENT NO. 80091 | NAVFAC DRAWING NO. 60006297 | CONST. CONTR. NO. N40085-10-B-0010 | SCALE: AS NOTED | SPEC. 05-10-0010 | SHEET 12 OF 72

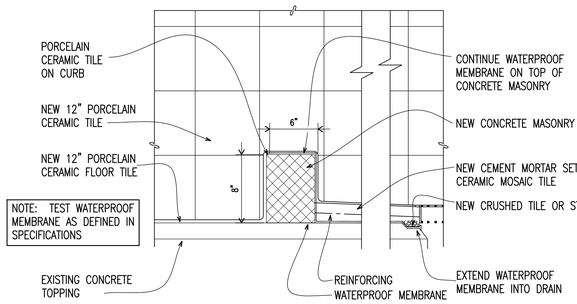
A-401



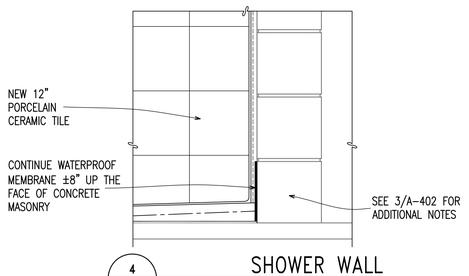
1 A-402/A-402 DEMOLITION — SHOWER CURB — Scale: 1-1/2"" = 1'-0"



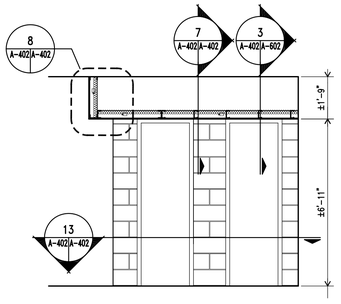
2 A-402/A-402 DEMOLITION — SHOWER WALL — Scale: 1-1/2"" = 1'-0"



3 A-402/A-402 CONSTRUCTION — SHOWER CURB — Scale: 1-1/2"" = 1'-0"



4 A-402/A-402 CONSTRUCTION — SHOWER WALL — Scale: 1-1/2"" = 1'-0"



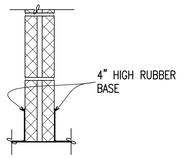
5 CONSTRUCTION — CLOSET ELEVATIONS — Scale: 3/8" = 1'-0"

SOFFIT/BULKHEAD – 30 MINUTE FIRE RATED

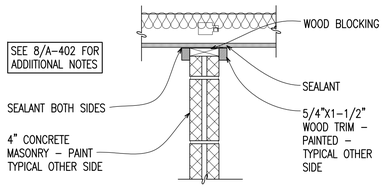
GYPSUM BOARD: SHALL BE 5/8" THICK, WITH SQUARE, BEVELED OR TAPERED EDGES, APPLIED VERTICALLY OR HORIZONTALLY. VERTICAL JOINTS CENTERED OVER STUDS. ATTACHED TO STEEL STUDS WITH 1-1/4" LONG, TYPE S-12, STEEL SCREWS SPACED 8" O.C. AT THE PERIMETER OF THE BOARD AND 12" O.C. IN THE FIELD OF THE BOARD WHEN APPLIED VERTICALLY AND 8" O.C. AT THE PERIMETER OF THE BOARD AND IN THE FIELD OF THE BOARD WHEN APPLIED HORIZONTALLY.

JOINTS: TREATED WITH GLASS FIBER TAPE AND LATEX MODIFIED PORTLAND CEMENT MORTAR OR ANSI A136 TYPE 1 ORGANIC ADHESIVE.

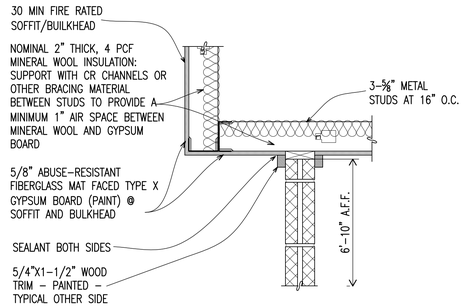
JOINT TAPE COMPOUND: VINYL, DRY OR PREMIXED JOINT COMPOUND, APPLIED IN TWO COATS TO JOINTS AND SCREW HEADS; OPTIONAL NOMINAL 2" WIDE PAPER OR FIBERGLASS TAPE, CENTERED OVER JOINTS AND EMBEDDED IN FIRST LAYER OF COMPOUND.



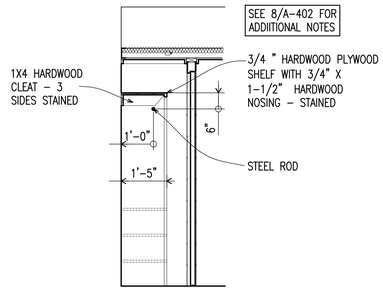
6 A-402/A-402 CONSTRUCTION — CLOSET WALL — Scale: 1/2" = 1'-0"



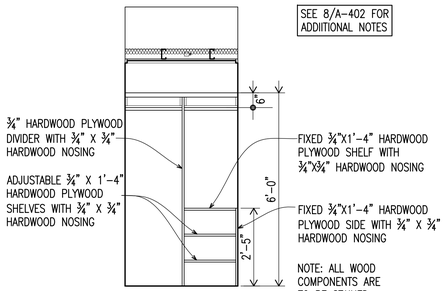
7 A-402/A-402 CONSTRUCTION — CLOSET DETAIL — Scale: 1-1/2" = 1'-0"



8 A-402/A-402 CONSTRUCTION — SOFFIT DETAIL — Scale: 1-1/2" = 1'-0"

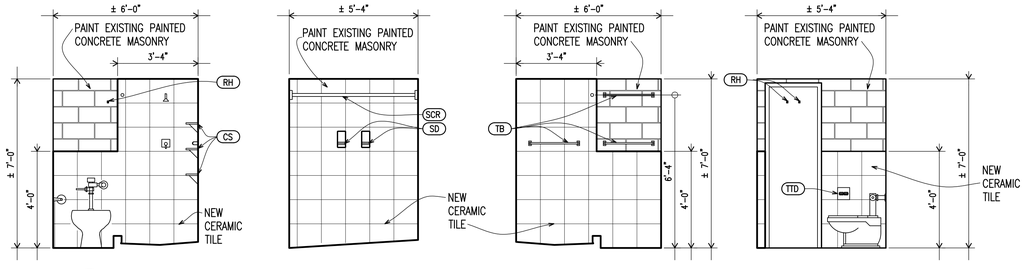


9 A-402/A-402 CONSTRUCTION — CLOSET DETAIL — Scale: 1/2" = 1'-0"

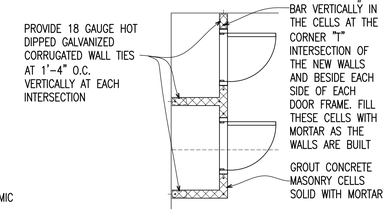


10 A-402/A-402 CONSTRUCTION — CLOSET DETAIL — Scale: 1/2" = 1'-0"

11 A-402/A-402 CONSTRUCTION — CLOSET ELEVATIONS — Scale: 3/8" = 1'-0"



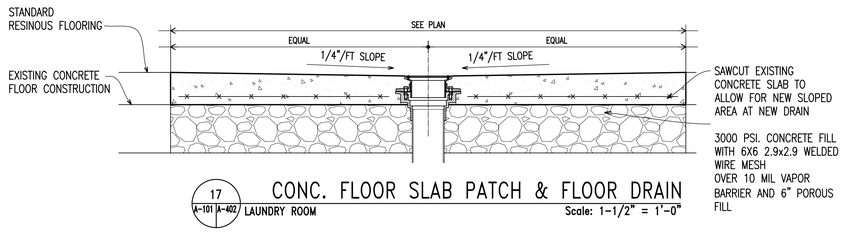
12 A-101/A-402 — A-102, A-103 — BATHROOM ELEVATIONS — Scale: 3/8" = 1'-0"



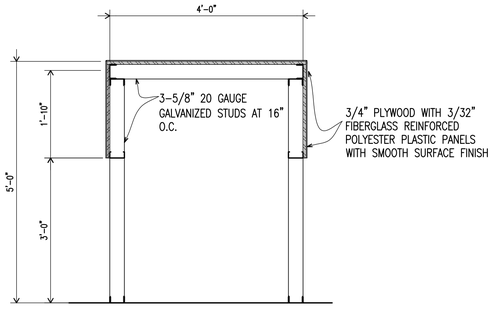
13 A-101/A-402 CONSTRUCTION — CLOSET PLAN DETAIL — Scale: 3/8" = 1'-0"

TOILET ACCESSORY SCHEDULE

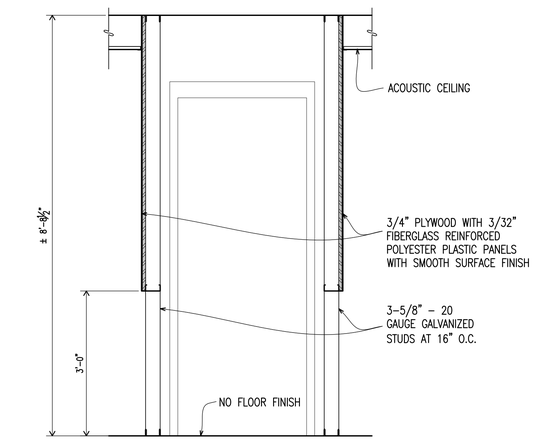
MARK	DESCRIPTION
CS	SOLID POLYMER CORNER SHELF (3) PER SLEEPING ROOM BATHROOM
TTD	WALL MOUNTED TOILET TISSUE DISPENSER
RSH	CERAMIC TILE RECESSED SOAP HOLDER (2) PER SLEEPING ROOM BATHROOM
SD	SOAP DISPENSER
SCR	SHOWER ROD AND CURTAIN WITH HOOKS: WIDTH OF OPENING +/- 5'-4"
RH	DOUBLE ROBE HOOK (4) PER SLEEPING
TB	TOWEL BAR: 24" (3) PER SLEEPING ROC
MG1	WALL MOUNTED MIRROR: 24" X 36"
MG2	WALL MOUNTED MIRROR: 36" X 36"
MG3	DOOR MOUNTED 17" X 60" MIRROR
PTD	SURFACE MOUNTED TOWEL DISPENSER



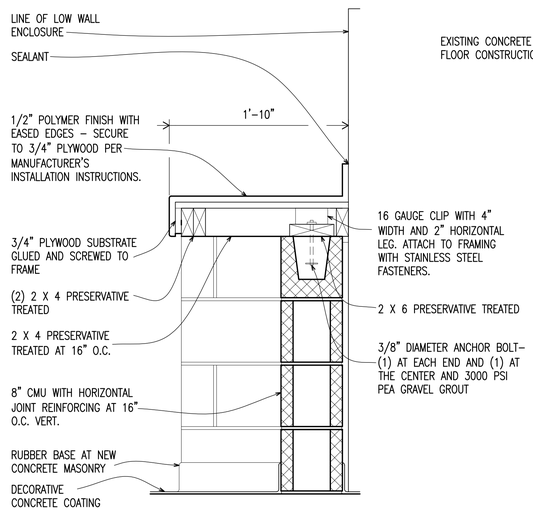
17 A-101/A-402 LAUNDRY ROOM — CONC. FLOOR SLAB PATCH & FLOOR DRAIN — Scale: 1-1/2" = 1'-0"



14 A-101/A-402 LAUNDRY ROOM — SECTION THRU WASHER AREA LOW WALL — Scale: 3/4" = 1'-0"



15 A-101/A-402 LAUNDRY ROOM — SECTION THRU DRYER AREA FULL WALL — Scale: 3/4" = 1'-0"



16 A-101/A-402 LAUNDRY ROOM — SECTION THRU CLOTHES FOLDING TABLE — Scale: 1-1/2" = 1'-0"

GRAPHIC SCALE: 1/2"=1'-0" (2' 0 1' 2' 4')
GRAPHIC SCALE: 3/4"=1'-0" (1' 0 1' 2' 3')
GRAPHIC SCALE: 3/8"=1'-0" (3' 0 2' 6')
GRAPHIC SCALE: 1-1/2"=1'-0" (1' 6" 3" 0 1')

ROBERT T. BELANGIA REGISTERED ARCHITECT 4068 NORTH CAROLINA NEW BERN NC 13 August 2010

MAUNE BELANGIA FAULKENBERRY ARCHITECTS, PA — 1747 Trent Road, New Bern, NC 28562 — Tel 252.633.2200 — Fax 252.633.2299 — www.mbfarchitects.com

MBFA NO.: 1001

MAUNE BELANGIA FAULKENBERRY ARCHITECTURAL CORPORATION P.A. — CERT. NO. 679 — REGISTERED NORTH CAROLINA — New Bern NC

DES. RTB
DR. SLA
CHK. RTB
SUBMITTED BY:
DESIGN DIR.
APPROVED: PWO OR OICC — DATE
SATISFACTORY TO: — DATE

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA

STRUCTURAL AND HVAC RENOVATION – FC574 BARRACK

DETAILS

SIZE F | CODE IDENT NO. 80091 | NAVFAC DRAWING NO. 60006298
CONST. CONTR. NO. N40085-10-B-0010
SCALE: AS NOTED | SPEC. 05-10-0010 | SHEET 13 OF 72

A-402



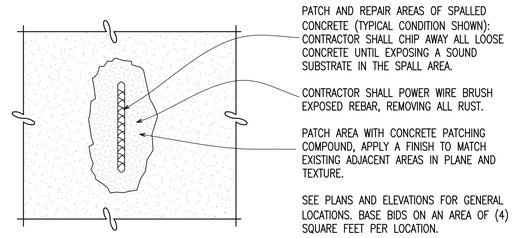
1 / A-403/A-403 TYPICAL SPALLING CONCRETE REPAIR
24 LOCATIONS AT ±2½" DIAMETER X ±½" DEEP N.T.S.



3 / A-403/A-403 TYPICAL SPALLING CONCRETE REPAIR
30 LOCATIONS AT ±4" DIAMETER X ±1" DEEP N.T.S.

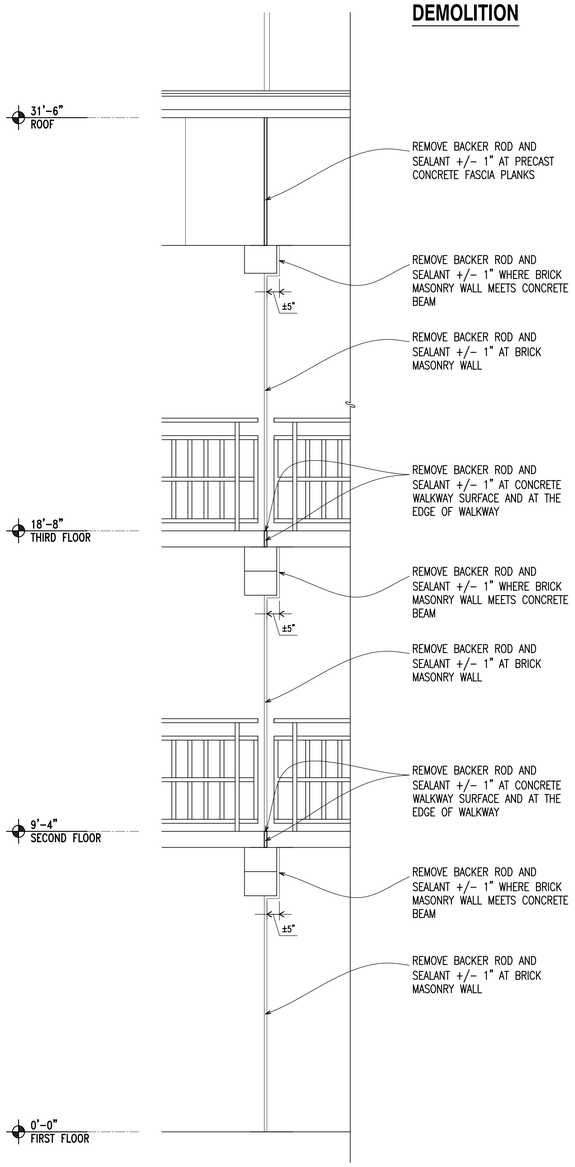


5 / A-403/A-403 TYPICAL CRACKED MASONRY REPAIR
2 LOCATIONS AT ±12" IN LENGTH N.T.S.



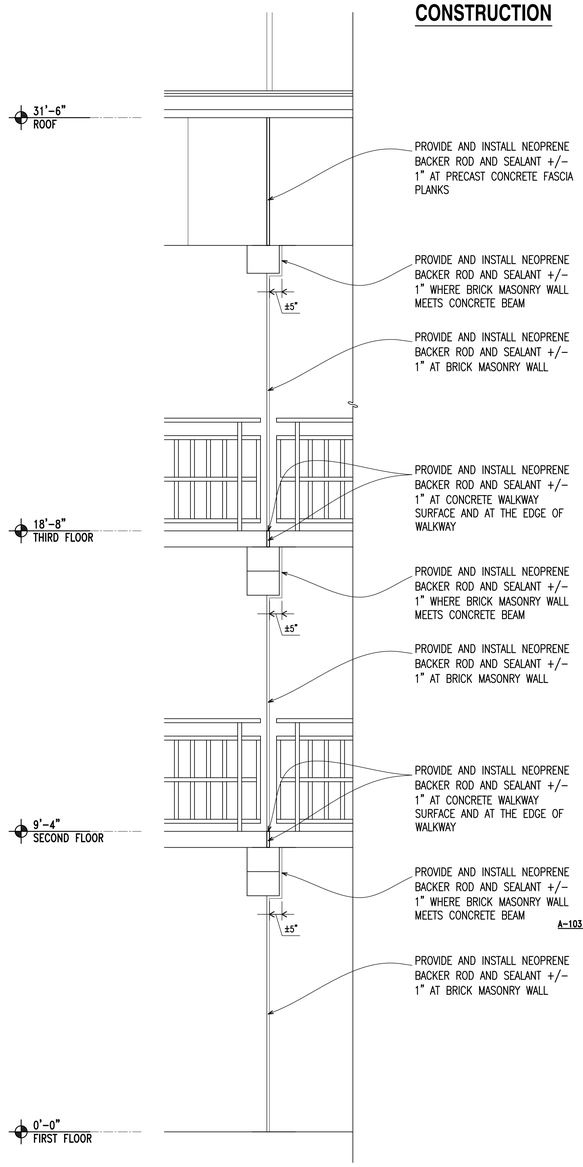
7 / A-403/A-403 TYPICAL SPALLING CONCRETE REPAIR
N.T.S.

DEMOLITION



2 / A-403/A-403 TYPICAL EXPANSION JOINT REPAIR BUILDING ELEVATION
DEMOLITION Scale: 1/2" = 1'-0"

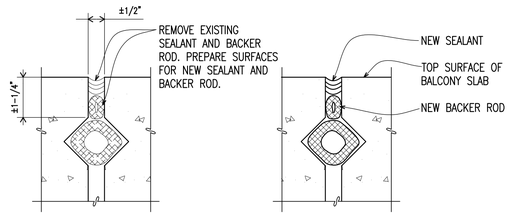
CONSTRUCTION



4 / A-403/A-403 TYPICAL EXPANSION JOINT REPAIR BUILDING ELEVATION
CONSTRUCTION Scale: 1/2" = 1'-0"

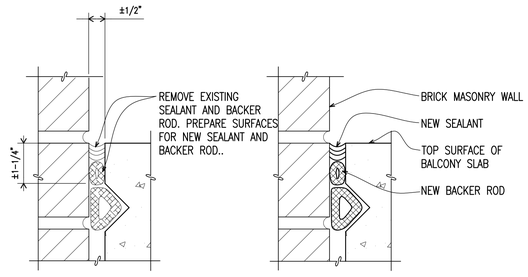


6 / A-403/A-403 TYPICAL CRACKED MASONRY REPAIR
2 LOCATIONS AT ±12" IN LENGTH N.T.S.



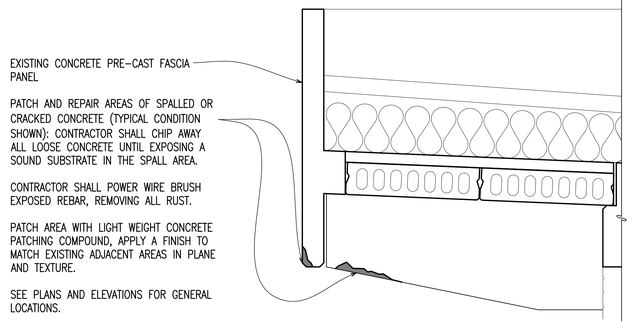
11 / A-102/A-403 CONTROL JOINT
A-103 DEMOLITION Scale: 6" = 1'-0"

12 / A-102/A-403 CONTROL JOINT
A-103 CONSTRUCTION Scale: 6" = 1'-0"

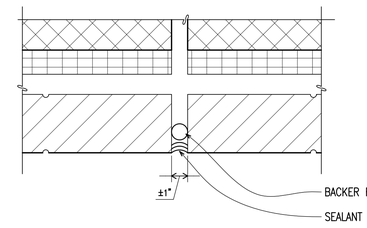


13 / A-102/A-403 CONTROL JOINT
A-102 A-103 DEMOLITION Scale: 6" = 1'-0"

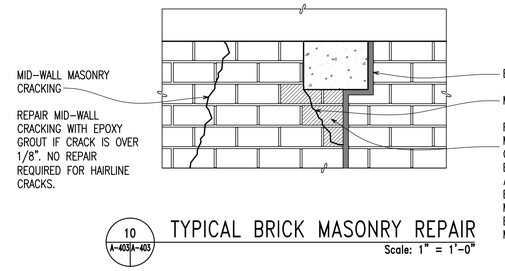
14 / A-102/A-403 CONTROL JOINT
A-102 A-103 CONSTRUCTION Scale: 6" = 1'-0"



8 / A-403/A-403 TYPICAL SPALLING CONCRETE REPAIR
FASCIA 1" = 1'-0"



9 / A-403/A-403 TYPICAL EXPANSION JOINT
Scale: 3" = 1'-0"



10 / A-403/A-403 TYPICAL BRICK MASONRY REPAIR
Scale: 1" = 1'-0"

ROBERT T. BELANGIA REGISTERED ARCHITECT 4068 NORTH CAROLINA NEW BERN NC 13 August 2010

MSFA NO.: 1001

MAINE BELANGIA FAULKENBERRY ARCHITECTS, PA
1 Pollock Street New Bern, NC 28560 tel 252.633.2691 fax 252.633.2691 www.mbfarchitects.com

MAINE BELANGIA FAULKENBERRY ARCHITECTURAL CORPORATION CERT. NO. 679 REGISTERED ARCHITECTS P.A. NORTH CAROLINA New Bern NC

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA

A-403

STRUCTURAL AND HVAC RENOVATION – FC574 BARRACK

EXPANSION JOINT DEMOLITION & CONSTRUCTION DETAILS

DES. RTB			
DR. SLA			
CHK. RTB			
SUBMITTED BY:			
DESIGN DIR.			
APPROVED: PWO OR OICC	DATE	SIZE: F	CODE IDENT NO.: 80091
SATISFACTORY TO:	DATE	NAVFAC DRAWING NO.: 60006299	
		CONST. CONTR. NO. N40085-10-B-0010	
SCALE: AS NOTED		SPEC. 05-10-0010	SHEET 14 OF 72

SIGNAGE SCHEDULE

NOTE: NOT ALL ROOMS WITHIN THE BUILDING MAY BE SCHEDULED FOR SIGNAGE. SEE SIGN TYPES BELOW FOR TYPICAL MOUNTING REQUIREMENTS.

THIS PORTION TO BE COMPLETED BY ROICC DURING SIGN SUBMITTAL. (ACTUAL ROOM NUMBER, ACTUAL ROOM NAME)

ARCHITECT'S ROOM NUMBER	ARCHITECT'S ROOM NAME	ACTUAL ROOM NUMBER	ACTUAL ROOM NAME	SIGN TYPE	REMARKS
100	SLEEPING ROOM			D	
101	SLEEPING ROOM			D	
102	SLEEPING ROOM			D	
103	SLEEPING ROOM			D	
104	SLEEPING ROOM			D	
105	SLEEPING ROOM			D	
106	SLEEPING ROOM			D	
107	SLEEPING ROOM			D	
108	SLEEPING ROOM			D	
109	SLEEPING ROOM			D	
110	SLEEPING ROOM			D	
111	CLERK'S OFFICE			A	
113	ADMINISTRATIVE 1			A	
114	MECHANICAL 1			B	1
115	ADMINISTRATIVE 2			A	
116	MECHANICAL 2			B	
117	ADMINISTRATIVE 2			A	
118	STAIR			B	1
119	ADMINISTRATIVE 1			A	
120	SLEEPING ROOM			D	
121	CLERK'S OFFICE			A	
122	SLEEPING ROOM			D	
123	SLEEPING ROOM			D	
124	SLEEPING ROOM			D	
125	SLEEPING ROOM			D	
126	SLEEPING ROOM			D	
127	SLEEPING ROOM			D	
128	SLEEPING ROOM			D	
129	SLEEPING ROOM			D	
130	SLEEPING ROOM			D	
131	SLEEPING ROOM			D	
–	CHASE 1			B	2
–	CHASE 2			B	2
132	STORAGE			B	
133	WOMEN			C	
134	1ST SGT			A	
135	MEN			C	
136	STORAGE			B	
137	X.O. OFFICE			A	
138	C.O. OFFICE			A	
139	STORAGE			B	
140	LOUNGE			B	1
141	STAIR			B	
142	OFFICE			A	
143	CORRIDOR				
144	ELEC. CLOSET			B	
145	TOILET			B	
146	LAUNDRY			B	
147	STORAGE			B	
148	WOMEN			C	
149	1ST SGT			A	
150	MEN			C	
151	STORAGE			B	
152	C.O. OFFICE			A	
153	X.O. OFFICE			A	
200	SLEEPING ROOM			D	
201	SLEEPING ROOM			D	
202	SLEEPING ROOM			D	
203	SLEEPING ROOM			D	
204	SLEEPING ROOM			D	
205	SLEEPING ROOM			D	
206	SLEEPING ROOM			D	
207	SLEEPING ROOM			D	
208	SLEEPING ROOM			D	
209	SLEEPING ROOM			D	
210	SLEEPING ROOM			D	
211	SLEEPING ROOM			D	
212	SLEEPING ROOM			D	
213	SLEEPING ROOM			D	
214	SLEEPING ROOM			D	
215	SLEEPING ROOM			D	
216	SLEEPING ROOM			D	
217	SLEEPING ROOM			D	

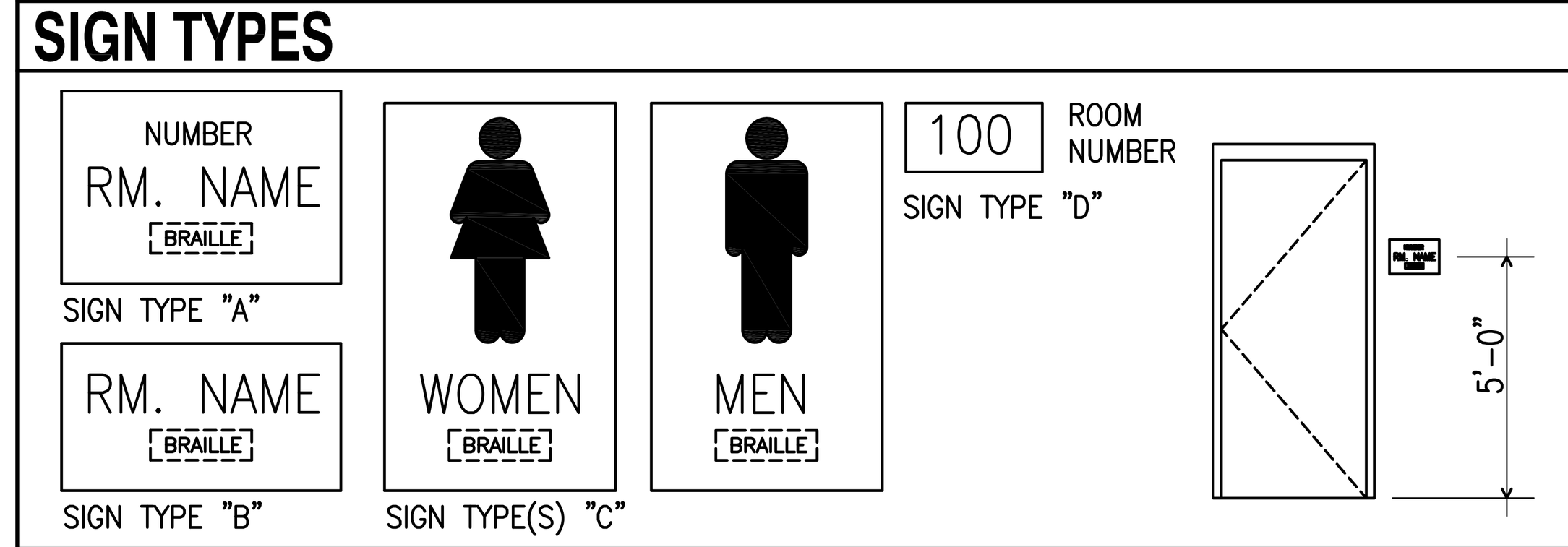
THIS PORTION TO BE COMPLETED BY ROICC DURING SIGN SUBMITTAL.

ARCHITECT'S ROOM NUMBER	ARCHITECT'S ROOM NAME	ACTUAL ROOM NUMBER	ACTUAL ROOM NAME	SIGN TYPE	REMARKS
218	SLEEPING ROOM			D	
219	SLEEPING ROOM			D	
220	SLEEPING ROOM			D	
221	SLEEPING ROOM			D	
222	SLEEPING ROOM			D	
223	SLEEPING ROOM			D	
224	SLEEPING ROOM			D	
225	SLEEPING ROOM			D	
226	SLEEPING ROOM			D	
227	SLEEPING ROOM			D	
228	SLEEPING ROOM			D	
229	SLEEPING ROOM			D	
230	SLEEPING ROOM			D	
231	SLEEPING ROOM			D	
232	STAIR			B	1
233	MECHANICAL 3			B	1
–	CHASE 3			B	1
–	CHASE 4			B	1
234	LOUNGE			B	1
235	CORRIDOR				
236	STAIR			B	1
237	LAUNDRY			B	
238	TOILET			B	
239	ELEC. CLOSET			B	
240	STORAGE			B	
241	STORAGE			B	
242	MECHANICAL 4			B	1
300	SLEEPING ROOM			D	
301	SLEEPING ROOM			D	
302	SLEEPING ROOM			D	
303	SLEEPING ROOM			D	
304	SLEEPING ROOM			D	
305	SLEEPING ROOM			D	
306	SLEEPING ROOM			D	
307	SLEEPING ROOM			D	
308	SLEEPING ROOM			D	
309	SLEEPING ROOM			D	
310	SLEEPING ROOM			D	
311	SLEEPING ROOM			D	
312	SLEEPING ROOM			D	
313	SLEEPING ROOM			D	
314	SLEEPING ROOM			D	
315	SLEEPING ROOM			D	
316	SLEEPING ROOM			D	
317	SLEEPING ROOM			D	
318	SLEEPING ROOM			D	
319	SLEEPING ROOM			D	
320	SLEEPING ROOM			D	
321	SLEEPING ROOM			D	
322	SLEEPING ROOM			D	
323	SLEEPING ROOM			D	
324	SLEEPING ROOM			D	
325	SLEEPING ROOM			D	
326	SLEEPING ROOM			D	
327	SLEEPING ROOM			D	
328	SLEEPING ROOM			D	
329	SLEEPING ROOM			D	
330	SLEEPING ROOM			D	
331	SLEEPING ROOM			D	
332	STAIR			B	1
333	MECHANICAL 5			B	1
–	CHASE 5			B	1
–	CHASE 6			B	1
334	LOUNGE			B	1
335	CORRIDOR				
336	STAIR			B	1
337	LAUNDRY			B	
338	TOILET			B	
339	ELEC. CLOSET			B	
340	STORAGE			B	
341	STORAGE			B	
342	MECHANICAL 6			B	1

REMARKS

1. 2 DOORS
2. 3 DOORS

SIGN TYPES



NOTE: SIGNS SHALL CONFORM TO ALL SPECIFICATION REQUIREMENTS AND THOSE OF THE AMERICANS WITH DISABILITIES ACT.

MOUNT SIGNS AS SHOWN, TO THE LATCH SIDE OF THE DOOR OF THE INTENDED SPACE

DOOR SCHEDULE

NOTE: SILL DETAIL OMITTED IF FLOORING IS CONTINUOUS ON EACH SIDE OF DOOR UNLESS INDICATED OTHERWISE.
NOTE: FIELD VERIFY EXISTING DOOR AND FRAME DIMENSIONS PRIOR TO SUBMITTING SHOP DRAWINGS.

MARK	DOOR TYPE	WIDTH	HT.	THK.	MATERIAL	GLAZING	HDWE SET	FRAME TYPE	DETAILS: HEAD	JAMB	SILL	FRAME MATERIAL	REMARKS	DOOR/FRAME FIRE RATING (WHERE APPLICABLE)
FIRST FLOOR														
100A	F	3'-0"	7'-0"	1-3/4"	STEEL		HW-1	B	1/A-602	10/A-401	1/A-602	STEEL		
100B	L	2'-0"	6'-8"	1-3/4"	STEEL		HW-2	A	3/A-602	4/A-602	–	STEEL		
100C	L	2'-0"	6'-8"	1-3/4"	STEEL		HW-2	A	3/A-602	4/A-602	–	STEEL		
100D	F	2'-0"	6'-8"	1-3/4"	STEEL		HW-3	EXIST	EXISTING	EXISTING	12/A-602	STEEL		
DOORS 100A, 100B, 100C, 100D TYPICAL ALL SLEEPING ROOMS ON FIRST FLOOR.														
111A	F	3'-0"	7'-0"	1-3/4"	STEEL		HW-4	B	2/A-602	12/A-401	2/A-602	STEEL		
113A	F	3'-0"	7'-0"	1-3/4"	STEEL		HW-4	B	2/A-602	12/A-401	2/A-602	STEEL		
114A	F	6'-0"	7'-0"	1-3/4"	STEEL		HW-5	F	10/A-602	18/A-602	2/A-602	STEEL		
114B	F	6'-0"	7'-0"	1-3/4"	STEEL		HW-5	F	10/A-602	18/A-602	2/A-602	STEEL		
115A	F	3'-0"	7'-0"	1-3/4"	STEEL		HW-4	B	2/A-602	12/A-401	2/A-602	STEEL		
116A	F	6'-0"	7'-0"	1-3/4"	STEEL		HW-5	F	10/A-602	18/A-602	2/A-602	STEEL		
116B	F	6'-0"	7'-0"	1-3/4"	STEEL		HW-5	F	10/A-602	18/A-602	2/A-602	STEEL		
117A	F	3'-0"	7'-0"	1-3/4"	STEEL		HW-4	B	2/A-602	12/A-401	2/A-602	STEEL		
119A	F	3'-0"	7'-0"	1-3/4"	STEEL		HW-4	B	2/A-602	12/A-401	2/A-602	STEEL		
121A	F	3'-0"	7'-0"	1-3/4"	STEEL		HW-4	B	2/A-602	12/A-401	2/A-602	STEEL		
132A	F	2'-8"	6'-8"	1-3/4"	STEEL		HW-6	EXIST	EXISTING	EXISTING	–	STEEL		
133A	F	2'-4"	6'-8"	1-3/4"	STEEL		HW-7	EXIST	EXISITNG	EXISTING	12/A-602	STEEL		
134A	F	2'-8"	6'-0"	1-3/4"	STEEL		HW-8	E	EXISTING	EXISTING	EXISTING	STEEL		
135A	F	2'-4"	6'-8"	1-3/4"	STEEL		HW-7	EXIST	EXISTING	EXISTING	12/A-602	STEEL		
136A	F	3'-0"	6'-8"	1-3/4"	STEEL		HW-6	EXIST	EXISTING	EXISITNG	–	STEEL		
137A	F	3'-0"	6'-8"	1-3/4"	STEEL		HW-9	EXIST	EXISTING	EXISTING	–	STEEL	UNDER-CUT DOOR	
138A	F	3'-0"	6'-8"	1-3/4"	STEEL		HW-9	EXIST	EXISTING	EXISTING	–	STEEL	UNDER-CUT DOOR	
139A	F	3'-0"	7'-0"	1-3/4"	STEEL		HW-10	H	10/A-602	18/A-602	2/A-602	STEEL		
140A	N	3'-0"	6'-8"	1-3/4"	STEEL	TEMPERED	HW-11	J	13/A-602	13/A-602	12/A-602	STEEL		1 HR
140B	F	2'-8"	6'-0"	1-3/4"	STEEL		HW-12	E	6/A-602	6/A-602	6/A-602	STEEL		1 HR
140C	F	2'-8"	6'-8"	1-3/4"	STEEL		HW-13	C	8/A-602	9/A-602	–	STEEL		
140D	N	3'-0"	6'-8"	1-3/4"	STEEL	TEMPERED	HW-11	J	13/A-602	13/A-602	12/A-602	STEEL		1 HR
142A	G	3'-0"	6'-8"	1-3/4"	STEEL	TEMPERED	HW-9	EXIST	EXISTING	EXISTING	–	STEEL		
143A	N	3'-0"	7'-0"	1-3/4"	STEEL	TEMPERED/LAMINATED	HW-14	D	19/A-602	20/A-602	2/A-602	STEEL		
143B	N	3'-0"	6'-8"	1-3/4"	STEEL	TEMPERED/LAMINATED	HW-20	C	7/A-602	7/A-602	2/A-602	STEEL		1 HR
144A	F	3'-0"	6'-8"	1-3/4"	STEEL		HW-6	EXIST	EXISTING	EXISTING	12/A-602	STEEL		
144B	F	2'-8"	6'-0"	1-3/4"	STEEL		HW-8	EXIST	EXISTING	EXISTING	EXISTING	STEEL		
145A	F	2'-8"	6'-8"	1-3/4"	STEEL		HW-15	EXIST	EXISTING	EXISTING	12/A-602	STEEL		
146A	N	3'-0"	6'-8"	1-3/4"	STEEL	TEMPERED	HW-16	J	7/A-602	7/A-602	12/A-602	STEEL		1 HR
147A	F	2'-8"	6'-8"	1-3/4"	STEEL	TEMPERED	HW-6	EXIST	EXISTING	EXISTING	–	STEEL		
148A	F	2'-4"	6'-8"	1-3/4"	STEEL		HW-7	EXIST	EXISTING	EXISTING	12/A-602	STEEL		
149A	F	2'-8"	6'-0"	1-3/4"	STEEL		HW-8	EXIST	EXISTING	EXISTING	EXISTING	STEEL		
150A	F	3'-0"	6'-8"	1-3/4"	STEEL		HW-7	EXIST	EXISTING	EXISTING	12/A-602	STEEL		
151A	F	3'-0"	6'-8"	1-3/4"	STEEL		HW-6	EXIST	EXISTING	EXISTING	–	STEEL		
152A	F	3'-0"	6'-8"	1-3/4"	STEEL		HW-9	EXIST	EXISTING	EXISTING	–	STEEL	UNDER-CUT DOOR	
153A	F	3'-0"	6'-8"	1-3/4"	STEEL		HW-9	EXIST	EXISTING	EXISTING	EXISTING	STEEL	UNDER-CUT DOOR	
154A	F	2'-10"	6'-8"	1-3/4"	STEEL		HW-19	H	17/A-602	18/A-602	2/A-602	STEEL	FRAME SIM (3'-2")	
155A	F	2'-10"	6'-8"	1-3/4"	STEEL		HW-19	H	17/A-602	18/A-602	2/A-602	STEEL	FRAME SIM (3'-2")	
SECOND FLOOR														
200A	F	3'-0"	7'-0"	1-3/4"	STEEL		HW-1	B	1/A-602	10/A-401	1/A-602	STEEL		
200B	L	2'-0"	6'-8"	1-3/4"	STEEL		HW-2	A	3/A-602	4/A-602	–	STEEL		
200C	L	2'-0"	6'-8"	1-3/4"	STEEL		HW-2	A	3/A-602	4/A-602	–	STEEL		
200D	F	2'-0"	6'-8"	1-3/4"	STEEL		HW-3	EXIST	EXISTING	EXISTING	12/A-602	STEEL		
DOORS 200A, 200B, 200C, 200D TYPICAL ALL SLEEPING ROOMS ON SECOND FLOOR.														
221A	F	2'-10"	6'-8"	1-3/4"	STEEL		HW-19	H	17/A-602	18/A-602	2/A-602	STEEL	FRAME SIM (3'-2")	
222A	F	2'-10"	6'-8"	1-3/4"	STEEL		HW-19	H	17/A-602	18/A-602	2/A-602	STEEL	FRAME SIM (3'-2")	
233A	F	6'-0"	7'-0"	1-3/4"	STEEL		HW-5	F	10/A-602	18/A-401	2/A-602	STEEL		
233B	F	6'-0"	7'-0"	1-3/4"	STEEL		HW-5	F	10/A-602	18/A-401	2/A-602	STEEL		
234A	N	3'-0"	6'-8"	1-3/4"	STEEL	TEMPERED	HW-17	EXIST	EXISTING	EXISTING	12/A-602	STEEL		

FINISH SCHEDULE

MATERIALS ARE NEW UNLESS NOTED AS EXISTING

MARK	FLOOR	BASE	WALLS	CEILING	REMARKS
F1	STANDARD RESINOUS FLOORING	EXISTING GLAZED CONCRETE MASONRY	EXISTING BRICK MASONRY – CLEAN	SUSPENDED METAL PANEL	(1)
F2	STANDARD RESINOUS FLOORING	EXISTING GLAZED CONCRETE MASONRY	EXISTING PAINTED CONCRETE MASONRY – PAINT	SUSPENDED METAL PANEL	(1)
F3	STANDARD RESINOUS FLOORING	EXISTING GLAZED CONCRETE MASONRY	EXISTING PAINTED CONCRETE MASONRY – PAINT	2 X 2 SUSPENDED ACOUSTIC CEILING TILE	(1)
F4	RESILIENT TILE	EXISTING GLAZED CONCRETE MASONRY	EXISTING PAINTED CONCRETE MASONRY – PAINT	PAINT EXISTING PAINTED (TEXTURED) PRECAST CONCRETE PANELS	(2)(4)
F5	RESILIENT TILE	4" RUBBER BASE	CONCRETE MASONRY – PAINT	5/8" ABUSE RESISTANT FIBERGLASS-MAT FACED GYPSUM BOARD SOFFIT – PAINT	
F6	EXISTING CONCRETE-SEAL	EXISTING GLAZED CONCRETE MASONRY	EXISTING PAINTED CONCRETE MASONRY – PAINT	PAINT EXISTING PAINTED (TEXTURED) PRECAST CONCRETE PANELS	
F7	STANDARD RESINOUS FLOORING	EXISTING GLAZED CONCRETE MASONRY	EXISTING PAINTED CONCRETE MASONRY – PAINT	PAINT EXISTING PAINTED (TEXTURED) PRECAST CONCRETE PANELS	
F8	PORCELAIN TILE	PORCELAIN TILE	EXISTING PAINTED CONCRETE MASONRY – PAINT PORCELAN TILE WAINSCOT – SEE ELEVATIONS	5/8" ABUSE RESISTANT FIBERGLASS-MAT FACED GYPSUM BOARD SOFFIT – PAINT	
F9	NOT USED	NOT USED	NOT USED	NOT USED	
F10	EXISTING CONCRETE	–	EXISTING UNPAINTED CONCRETE MASONRY	EXISTING PRECAST CONCRETE PANELS	
F11	STANDARD RESINOUS FLOORING	–	EXISTING BRICK MASONRY – CLEAN	–	(3)

FINISH REMARKS

(1) SEE REFLECTED CEILING PLAN FOR LAYOUT
(2) PAINT 5/8" ABUSE RESISTANT FIBERGLASS-MAT FACED GYPSUM BOARD SOFFIT
(3) STANDARD RESINOUS FLOORING ON STAIR LANDINGS ONLY
(4) 2X2 SUSPENDED ACOUSTIC CEILING TILES WHERE SHOWN ON A-104

GENERAL NOTES

SEE COLOR & MATERIAL SELECTIONS.
ALL DOORS AND DOOR FRAMES ARE TO BE PAINTED.

COLOR & MATERIAL SELECTIONS

SEE PLANS AND PLAN NOTES FOR ALL MATERIAL DESCRIPTIONS AND INTENDED LOCATIONS FOR INSTALLATIONS.

NAMES INDICATED FOR COLORS, TEXTURES AND PATTERNS OF MATERIALS ARE FOR THE PURPOSE OF SELECTION ONLY. OTHER MANUFACTURER'S MATERIALS MAY BE ACCEPTABLE PROVIDED MATERIALS CLOSELY APPROXIMATE COLORS, TEXTURES AND PATTERNS INDICATED AND CONFORM TO ALL SPECIFICATION REQUIREMENTS.

PAINT:
- WALLS & INTERIOR DOORS & FRAMES: ICI "CONTEMPORARY WHITE" 20Y 66/066.
- EXTERIOR DOORS & FRAMES: MATCH EXISTING

FLOORING PRODUCTS:
- VCT: TARKETT "WHITE/BEIGE" #1317

ACOUSTICAL CEILINGS:
- ACOUSTICAL PANEL CEILINGS: ARMSTRONG FINE FISSURED OPEN PLAN NO. 1728, 2'x2' COLOR: WHITE (WH)

PORCELAIN TILE: FLOORS AND WALLS – 12"X12"
SHOWER FLOOR – MOSAIC TILE
- AMERICAN OLEAN HIGHLAND RIDGE "DESERT" HR5D
- COLOR BODY PORCELAIN DALTILE – ASPEN LODGE, "MORNING BREEZE" AL60
- MARAZZI – WALNUT CANYON "CREAM"

LAMINATE:
- LAMIN-ART # 3028-T "HAVANA WALNUT"

SOLID SURFACE COUNTERTOP:
- CORIAN "CIRRUS WHITE"

DOOR SCHEDULE

NOTE: SILL DETAIL OMITTED IF FLOORING IS CONTINUOUS ON EACH SIDE OF DOOR UNLESS INDICATED OTHERWISE.
NOTE: FIELD VERIFY EXISTING DOOR AND FRAME DIMENSIONS PRIOR TO SUBMITTING SHOP DRAWINGS.

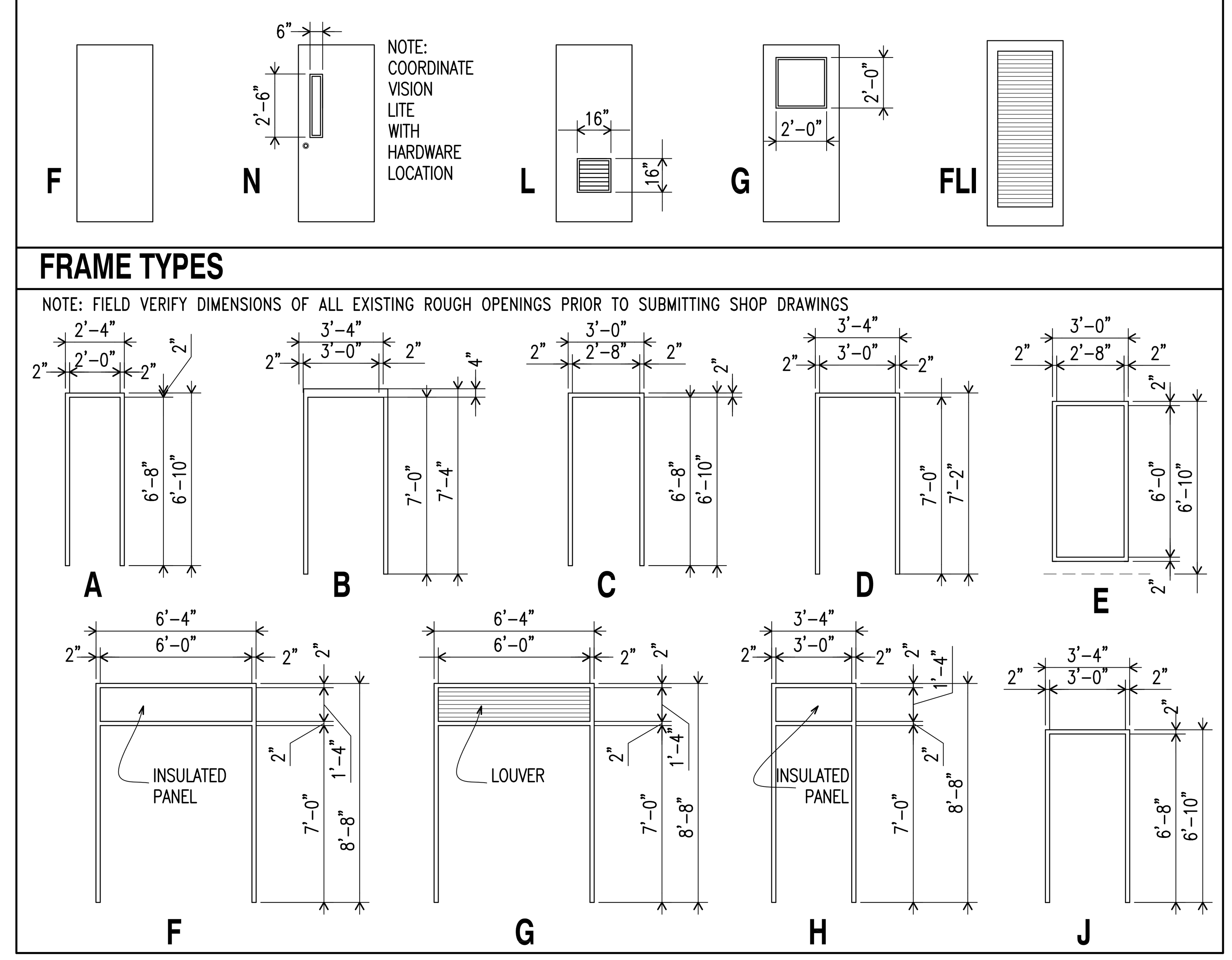
MARK	DOOR TYPE	WIDTH	HT.	THK.	MATERIAL	GLAZING	HDWE SET	FRAME TYPE	DETAILS: HEAD	JAMB	SILL	FRAME MATERIAL	REMARKS	DOOR/FRAME FIRE RATING (WHERE APPLICABLE)
SECOND FLOOR CONTINUED														
234B	F	2'-8"	6'-0"	1-3/4"	STEEL		HW-8	EXIST	EXISTING	EXISTING	EXISTING	STEEL		
234C	N	3'-0"	6'-8"	1-3/4"	STEEL	TEMPERED	HW-17	EXIST	EXISTING	EXISTING	12/A-602	STEEL		
235A	N	3'-0"	7'-0"	1-3/4"	STEEL	TEMPERED/LAMINATED	HW-14	EXIST	EXISTING	EXISTING	11/A-602	STEEL		
235B	N	3'-0"	6'-8"	1-3/4"	STEEL	TEMPERED/LAMINATED	HW-21	EXIST	EXISTING	EXISTING	12/A-602	STEEL		1 HR
236A	N	3'-0"	7'-0"	1-3/4"	STEEL	TEMPERED/LAMINATED	HW-14	EXIST	EXISTING	EXISTING	11/A-602	STEEL		
237A	N	3'-0"	6'-8"	1-3/4"	STEEL	TEMPERED	HW-16	J	6/A-602	6/A-602	12/A-602	STEEL		1 HR
238A	F	2'-8"	6'-8"	1-3/4"	STEEL		HW-15	EXIST	EXISTING	EXISTING	12/A-602	STEEL		
239A	F	3'-0"	6'-8"	1-3/4"	STEEL		HW-6	EXIST	EXISTING	EXISTING	12/A-602	STEEL		
239B	F	2'-8"	6'-0"	1-3/4"	STEEL		HW-8	EXIST	EXISTING	EXISTING	EXISTING	STEEL		
240A	F	3'-0"	6'-8"	1-3/4"	STEEL		HW-6	EXIST	EXISTING	EXISTING	12/A-602	STEEL		
241A	F	3'-0"	7'-0"	1-3/4"	STEEL		HW-10	H	10/A-602	18/A-602	2/A-602	STEEL		
242A	F	6'-0"	7'-0"	1-3/4"	STEEL		HW-5	F	10/A-602	18/A-602	2/A-602	STEEL		
242B	F	6'-0"	7'-0"	1-3/4"	STEEL		HW-5	F	10/A-602	18/A-602	2/A-602	STEEL		
THIRD FLOOR														
300A	F	3'-0"	7'-0"	1-3/4"	STEEL		HW-1	B	1/A-602	10/A-401	1/A-602	STEEL		
300B	L	2'-0"	6'-8"	1-3/4"	STEEL		HW-2	A	3/A-602	4/A-602	–	STEEL		
300C	L	2'-0"	6'-8"	1-3/4"	STEEL		HW-2	A	3/A-602	4/A-602	–	STEEL		
300D	F	2'-0"	6'-8"	1-3/4"	STEEL		HW-3	EXIST	EXISTING	EXISTING	12/A-602	STEEL		
DOORS 300A, 300B, 300C, 300D TYPICAL ALL SLEEPING ROOMS ON SECOND FLOOR.														
321A	F	2'-10"	6'-8"	1-3/4"	STEEL		HW-19	H	17/A-602	18/A-602	2/A-602	STEEL	FRAME SIM (3'-2")	
322A	F	2'-10"	6'-8"	1-3/4"	STEEL		HW-19	H	17/A-602	18/A-602	2/A-602	STEEL	FRAME SIM (3'-2")	
333A	F	6'-0"	7'-0"	1-3/4"	STEEL		HW-5	G	10/A-602	18/A-602	2/A-602	STEEL		
333B	F	6'-0"	7'-0"	1-3/4"	STEEL		HW-5	G	10/A-402	18/A-602	2/A-602	STEEL		
334A	N	3'-0"	6'-8"	1-3/4"	STEEL	TEMPERED	HW-17	EXIST	EXISTING	EXISTING	12/A-602	STEEL		
334B	F	2'-8"	6'-0"	1-3/4"	STEEL		HW-8	EXIST	EXISTING	EXISTING	EXISTING	STEEL		
334C	N	3'-0"	6'-8"	1-3/4"	STEEL	TEMPERED	HW-17	EXIST	EXISTING	EXISTING	12/A-602	STEEL		
335A	N	3'-0"	7'-0"	1-3/4"	STEEL	TEMPERED/LAMINATED	HW-14	EXIST	EXISTING	EXISTING	11/A-602	STEEL		
335B	N	3'-0"	6'-8"	1-3/4"	STEEL	TEMPERED/LAMINATED	HW-21	EXIST	EXISTING	EXISTING	12/A-602	STEEL		1 HR
336A	N	3'-0"	7'-0"	1-3/4"	STEEL	TEMPERED/LAMINATED	HW-14	EXIST	EXISTING	EXISTING	11/A-602	STEEL		
337A	N	3'-0"	6'-8"	1-3/4"	STEEL	TEMPERED	HW-16	J	6/A-602	6/A-602	12/A-602	STEEL		1 HR
338A	F	2'-8"	6'-8"	1-3/4"	STEEL		HW-15	EXIST	EXISTING	EXISTING	12/A-602	STEEL		
339A	F	3'-0"	6'-8"	1-3/4"	STEEL		HW-6	EXIST	EXISTING	EXISTING	12/A-602	STEEL		
339B	F	2'-8"	6'-0"	1-3/4"	STEEL		HW-8	EXIST	EXISTING	EXISTING	EXISTING	STEEL		
340A	F	3'-0"	6'-8"	1-3/4"	STEEL		HW-6	EXIST	EXISTING	EXISTING	12/A-602	STEEL		
341A	F	3'-0"	7'-0"	1-3/4"	STEEL		HW-10	H	10/A-602	18/A-602	2/A-602	STEEL		
342A	F	6'-0"	7'-0"	1-3/4"	STEEL		HW-5	G	10/A-602	18/A-602	2/A-602	STEEL		
342B	F	6'-0"	7'-0"	1-3/4"	STEEL		HW-5	G	10/A-602	18/A-602	2/A-602	STEEL		
ATTIC														
401A	F	3'-0"	6'-8"	1-3/4"	STEEL		HW-18	D	5/A-602	5/A-602	5/A-602	STEEL		
BUILDING HP574														
501A	FLI	3'-0"	6'-8"	1-3/4"	STEEL		HW-10	EXIST	EXISTING	EXISTING	EXISTING	STEEL		

DOOR TYPES

NOTE: FIELD VERIFY DIMENSIONS OF EXISTING FRAMES WHICH ARE TO RECEIVE NEW DOORS PRIOR TO SUBMITTING SHOP DRAWINGS FOR DOORS AND DOOR HARDWARE

FRAME TYPES

NOTE: FIELD VERIFY DIMENSIONS OF ALL EXISTING ROUGH OPENINGS PRIOR TO SUBMITTING SHOP DRAWINGS



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

ROBERT T. BELANGIA REGISTERED ARCHITECT 4068 NORTH CAROLINA NEW BERN NC
13 August 2010

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MAUNE BELANGIA FAULKENBERRY ARCHITECTS, PA
317-C Pollock Street New Bern, NC 28560 Tel. 252.637.6373 Fax 252.637.3259 www.mbfarchitects.com

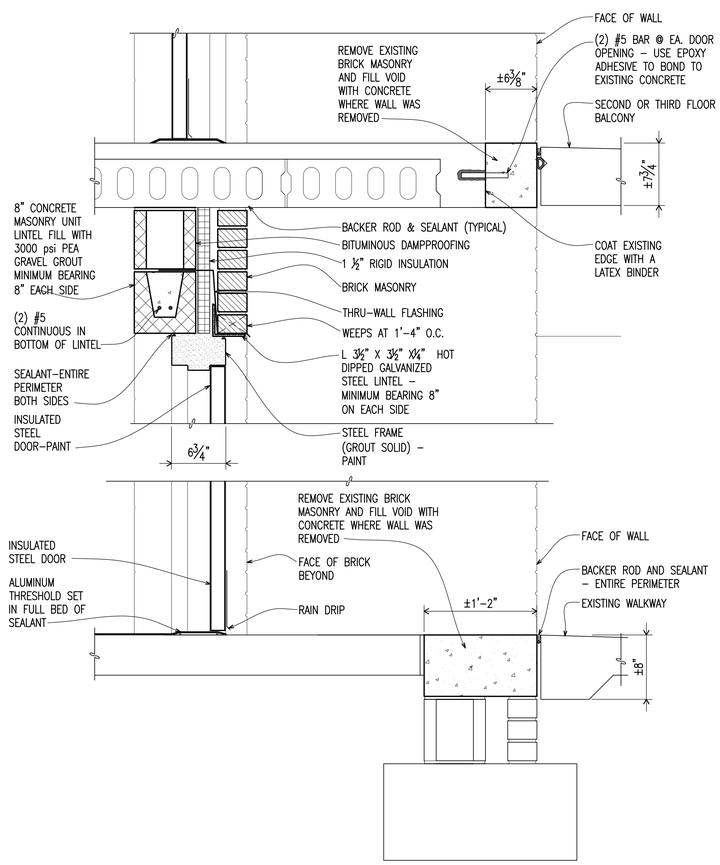
A-601

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA

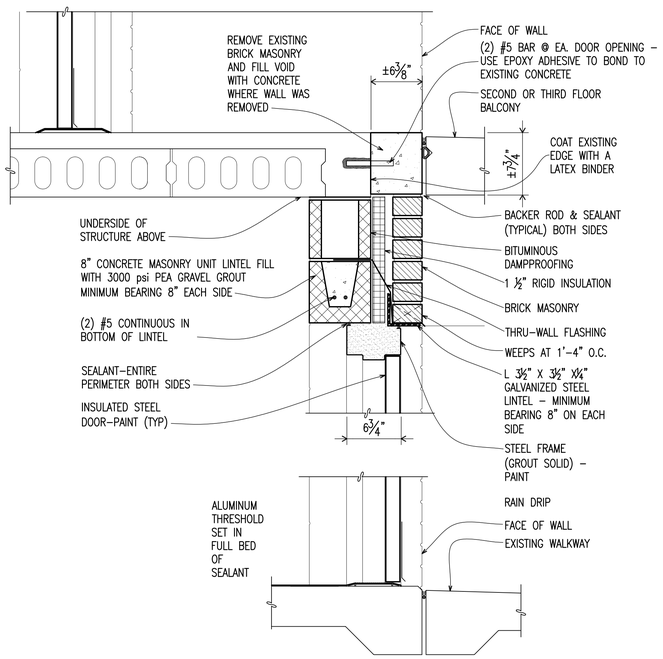
STRUCTURAL AND HVAC RENOVATION – FC574 BARRACK

DOOR SCHEDULE & ROOM FINISH SCHEDULE

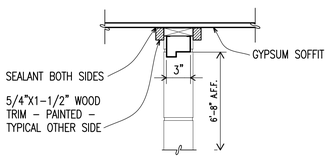
DES. RTB	SIZE F	CODE IDENT NO. 80091	NAVFAC DRAWING NO. 60006300
DR. SLA			CONST. CONTR. NO. N40085-10-B-0010
CHK. RTB	SCALE: AS NOTED	SPEC. 05-10-0010	SHEET 15 OF 72
SUBMITTED BY:			
DESIGN DIR.			
APPROVED: PWO OR OICC DATE			
SATISFACTORY TO: DATE			



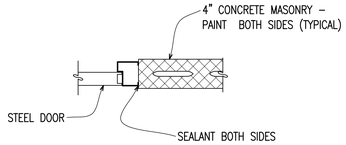
1 A–402/A–602 EXTERIOR DOOR — **DOOR HEAD/SILL** Scale: 1–1/2" = 1'–0"



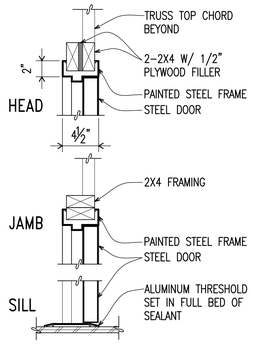
2 A–402/A–602 EXTERIOR DOOR — **DOOR HEAD/SILL** Scale: 1–1/2" = 1'–0"



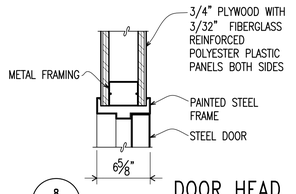
3 A–402/A–602 CONSTRUCTION — **DOOR HEAD** Scale: 1–1/2" = 1'–0"



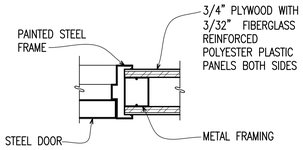
4 A–402/A–602 CONSTRUCTION — **DOOR JAMB** Scale: 1–1/2" = 1'–0"



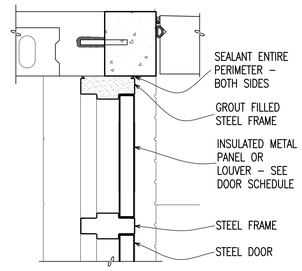
5 A–601A–602 ATTIC — **DRAFT STOP DOOR** Scale: 1–1/2" = 1'–0"



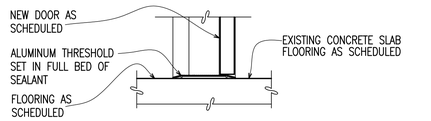
8 A–402/A–602 CONSTRUCTION — **DOOR HEAD** Scale: 1–1/2" = 1'–0"



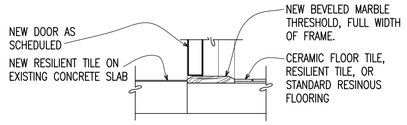
9 A–402/A–602 CONSTRUCTION — **DOOR JAMB** Scale: 1–1/2" = 1'–0"



10 A–402/A–602 MECHANICAL ROOM — **DOOR HEAD** Scale: 1 1/2" = 1'–0"



11 A–601A–602 Scale: 1–1/2" = 1'–0" — **SILL**

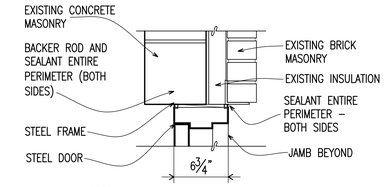


12 A–402/A–602 RESTROOMS — **SILL** Scale: 1–1/2" = 1'–0"

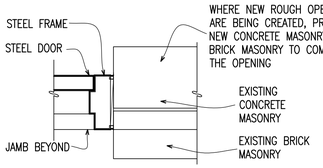
14 A–601A–602 — **NOT USED** Scale: 1–1/2" = 1'–0"

15 A–601A–602 — **NOT USED** Scale: 1–1/2" = 1'–0"

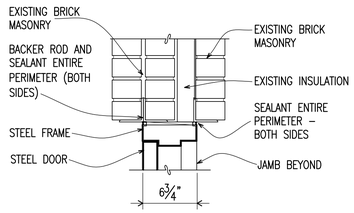
16 A–601A–602 — **NOT USED** Scale: 1–1/2" = 1'–0"



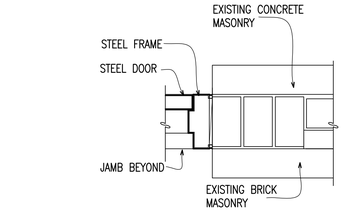
17 A–601A–602 — **DOOR HEAD** Scale: 1–1/2" = 1'–0"



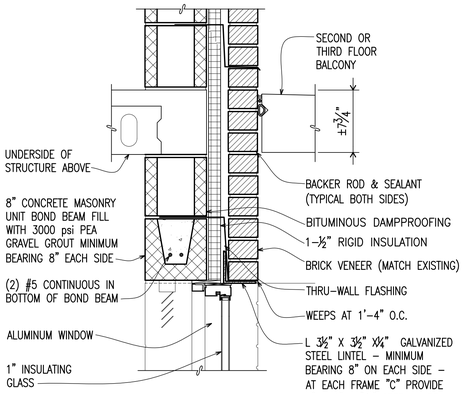
18 A–601A–602 — **DOOR JAMB** Scale: 1–1/2" = 1'–0"



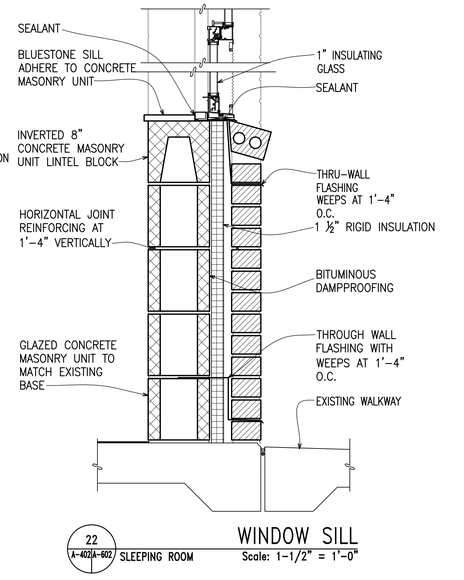
19 A–601A–602 — **DOOR HEAD** Scale: 1–1/2" = 1'–0"



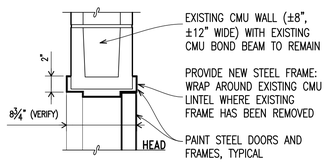
20 A–601A–602 — **DOOR JAMB** Scale: 1–1/2" = 1'–0"



21 A–402/A–602 SLEEPING ROOM — **WINDOW HEAD** Scale: 1–1/2" = 1'–0"

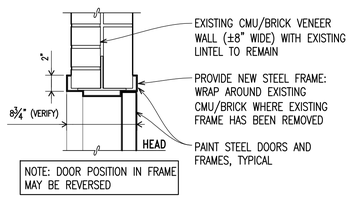


22 A–402/A–602 SLEEPING ROOM — **WINDOW SILL** Scale: 1–1/2" = 1'–0"



SEE DOOR SCHEDULE FOR FIRE RATED FRAME LOCATIONS

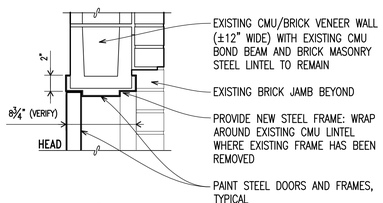
6 A–402/A–602 CONSTRUCTION — **DOOR HEAD / JAMB** Scale: 1–1/2" = 1'–0"



NOTE: DOOR POSITION IN FRAME MAY BE REVERSED

SEE DOOR SCHEDULE FOR FIRE RATED FRAME LOCATIONS

7 A–402/A–602 CONSTRUCTION — **DOOR HEAD/JAMB** Scale: 1–1/2" = 1'–0"



SEE DOOR SCHEDULE FOR FIRE RATED FRAME LOCATIONS

13 A–601A–602 — **DOOR HEAD / JAMB** Scale: 1–1/2" = 1'–0"

ROBERT T. BELANGIA REGISTERED ARCHITECT 4068 NEW BERN NC NORTH CAROLINA 13 August 2010

MAUNE BELANGIA FAULKENBERRY ARCHITECTS, PA
121 Middle Street New Bern, NC 28560 Tel 252.633.2220 Fax 252.633.2223 www.mbfarchitects.com

MAUNE BELANGIA FAULKENBERRY ARCHITECTURAL CORPORATION NORTH CAROLINA CERT. NO. 679 New Bern N.C.

MBFA NO.: 1001

A-602

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA

STRUCTURAL AND HVAC RENOVATION – FC574 BARRACK

HEAD JAMB, AND SILL DETAILS

DES. RTB	
DR. SLA	
CHK. RTB	
SUBMITTED BY:	
DESIGN DIR.	
APPROVED: PWO OR OICC	DATE
SATISFACTORY TO:	DATE

SIZE F | CODE IDENT NO. 80091 | NAVFAC DRAWING NO. XXXXXXXX
CONST. CONTR. NO. N40085–10–B–0010
SCALE: AS NOTED | SPEC. 05–10–0010 | SHEET 14 OF 72

CODE COMPLIANCE SUMMARY:

1. GENERAL
THE BARRACKS BUILDING IS A THREE-STORY STRUCTURE. THE BUILDING IS USED FOR RESIDENTIAL USE WITH INCIDENTAL BUSINESS AND STORAGE AREAS.

2. APPLICABLE CODES:
a. NFPA 101 – LIFE SAFETY CODE (LSC), 2009 EDITION
b. INTERNATIONAL BUILDING CODE (IBC), 2006 EDITION
c. UFC 3-600-01 – FIRE PROTECTION ENGINEERING FOR FACILITIES, 26 SEPTEMBER 2006
d. UFC 3-600-10N – FIRE PROTECTION ENGINEERING, AUGUST 2007
e. UFC 4-010-01 – DOD MINIMUM ANTITERRORISM STANDARDS FOR BUILDINGS, 14 JULY 2009
f. UFC 4-021-01 – MASS NOTIFICATION SYSTEMS, 9 APRIL 2008

3. USE GROUP/OCCUPANCY:
GROUP R-2: RESIDENTIAL, B: BUSINESS (IBC 310 & 304)
HOTELS AND DORMITORIES (LSC 3.3.178)

4. FIRE PROTECTION SYSTEMS:
NFPA 13R AUTOMATIC SPRINKLER SYSTEM (UFC 3-600-01, 4-2.2)
FIRE ALARM EVACUATION SYSTEM (UFC 3-600-01, 5-3.1)
MASS NOTIFICATION SYSTEM (UFC 4-010-01, UFC 4-021-01)

5. CONSTRUCTION TYPE: TYPE III-B

6. ALLOWABLE AREA & HEIGHT:
BASIC AREA (IBC TABLE 503) 16,000 SQ. FT.
BASIC ALLOWABLE STORIES/HEIGHT: 4 ST./55 FT.
WITH SPRINKLER INCREASES (IBC 504.2) 4 ST./60 FT.

7. ACTUAL AREA & HEIGHT:
TOTAL FOOTPRINT FLOOR AREA 15,067 SQ. FT.
TOTAL BUILDING HEIGHT 3 STORIES

8. FIRE RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS:
(IBC TABLE 601, TYPE III-B CONSTRUCTION)
STRUCTURAL FRAME,
INCL. COLUMNS, GIRDERS & TRUSSES 0 HR
BEARING WALLS, INTERIOR 0 HR
BEARING WALLS, EXTERIOR 2 HR
NON-BEARING WALLS, INTERIOR & EXTERIOR 0 HR
FLOOR CONSTRUCTION 0 HR
ROOF CONSTRUCTION 0 HR

9. INTERIOR WALL & CEILING FINISH:
(LSC 10.2, LSC 28.3.3.2)
EXIT ENCLOSURES: MINIMUM CLASS B
ACCESS CORRIDORS: MINIMUM CLASS C
CLASSIFIED IN ACCORDANCE WITH ASTM E 84, AS FOLLOWS:
CLASS A: FLAME SPREAD 0-25; SMOKE-DEVELOPED 0-450
CLASS B: FLAME SPREAD 26-75; SMOKE-DEVELOPED 0-450
CLASS C: FLAME SPREAD 76-200; SMOKE-DEVELOPED 0-450
DROP-OUT CEILINGS (FOAM-GRID PANELS) ARE NOT PERMITTED [UFC 3-600-01, 2-6.1.1].

10. FLOOR FINISH:
(LSC 10.2, LSC 28.3.3.3)
EXITS AND EXIT ACCESS CORRIDORS: NO REQUIREMENT
INTERIOR FLOOR FINISH SHALL BE DETERMINED BY NFPA 253 STANDARD METHOD OF TEST FOR CRITICAL RADIANT FLUX OF FLOOR COVERING SYSTEMS USING A RADIANT HEAT ENERGY SOURCE AND CLASSIFIED AS FOLLOWS:
CLASS I: CRITICAL RADIANT FLUX NOT LESS THAN 0.45 W/CM2
CLASS II: CRITICAL RADIANT FLUX NOT LESS THAN 0.22 W/CM2

11. UNIT SEPARATION
EACH SLEEPING ROOM SHALL BE SEPARATED FROM OTHER SLEEPING ROOMS BY WALLS AND FLOORS CONSTRUCTED AS FIRE BARRIERS HAVING A FIRE RESISTANCE RATING OF NOT LESS THAN ½ HOUR [LSC 28.3.7.2].

DOORS THAT OPEN ON TO EXTERIOR EXIT ACCESS BALCONIES SHALL BE SELF-CLOSING AND SELF-LATCHING. [LSC 28.3.6.2.3].

12. EXTERIOR WAYS OF EXIT ACCESS
EXTERIOR EXIT ACCESS BALCONIES REQUIRE NO SEPARATION FROM THE INTERIOR OF THE BUILDING WHEN DEAD ENDS ON THE EXTERIOR EXIT ACCESS DO NOT EXCEED 20 FT. [LSC 7.5.3.3].

13. OUTSIDE STAIRS
OUTSIDE STAIRS SERVING AN EXIT ACCESS BALCONY THAT HAS TWO REMOTE OUTSIDE STAIRWAYS SHALL BE PERMITTED TO BE UNPROTECTED. [LSC 7.2.2.6.3.1(1)].

14. HAZARDOUS AREAS
LAUNDRY ROOMS OVER 100 SQ. FT. [LSC TABLE 28.3.2.2.2] WILL BE SEPARATED FROM OTHER AREAS BY 1-HOUR FIRE-RATED PARTITIONS AND SPRINKLERS

STORAGE ROOMS OVER 100 SQ. FT. [LSC TABLE 28.3.2.2.2] WILL BE SEPARATED FROM OTHER AREAS BY PARTITIONS THAT RESIST PASSAGE OF SMOKE

15. MEANS OF EGRESS:
OCCUPANT LOAD FACTORS (LSC TABLE 7.3.1.2)
RESIDENTIAL USE: 200 SQ. FT./PERSON
BUSINESS USE: 100 SQ. FT./PERSON
COMMON PATH OF TRAVEL: (LSC 28.2.5.4):
RESIDENTIAL USE: 50 FT
TRAVEL DISTANCE: (LSC 28.2.6):
WITHIN A GUEST ROOM TO CORRIDOR DOOR: 125 FT
FROM GUEST ROOM DOOR TO EXIT: 200 FT
DEAD END CORRIDOR: (IBC 1017.3): 50 FT
CAPACITY OF EXITS: (LSC TABLE 7.3.3.1):
LEVEL COMPONENTS (WIDTH/PERSON) 0.2 IN (5 MM)/PERSON

16. ADDITIONAL LIFE SAFETY CRITERIA:
EMERGENCY LIGHTING SYSTEMS
SHALL BE PROVIDED IN ACCORDANCE WITH LSC 7.9 [LSC 28.2.9.1].
MEANS OF EGRESS
SHALL BE PROVIDED WITH SIGNS IN ACCORDANCE WITH LSC 7.10 [LSC 28.2.10].
SIGNS MUST HAVE LETTERING ON AN OPAQUE BACKGROUND. INTERNALLY ILLUMINATED SIGNS MUST BE LIGHT EMITTING DIODE (LED) TYPE, ELECTROLUMINESCENCE (LEC), OR COLD CATHODE TYPE. INCANDESCENT FIXTURES ARE NOT PERMITTED.
RADIOLUMINOUS EXIT SIGNS ARE NOT PERMITTED [UFC 3-600-01, 2-5.2].
PORTABLE FIRE EXTINGUISHERS
NEW PORTABLE FIRE EXTINGUISHERS WILL BE PROVIDED IN THE BUSINESS OCCUPANCY [LSC 39.3.5.8] AREAS ON THE FIRST FLOOR, AND IN THE MECHANICAL ROOMS AND LAUNDRY ROOMS. PORTABLE FIRE EXTINGUISHERS ARE NOT REQUIRED IN SPRINKLERED HOTEL AND DORMITORIES OCCUPANCIES [LSC 28.3.5.8]. FIRE EXTINGUISHERS MUST BE PROVIDED IN SEMI-RECESSED ENCLOSED CABINETS WITH THE EXCEPTION THAT FIRE EXTINGUISHER CABINETS ARE NOT REQUIRED IN THE MECHANICAL ROOM [UFC 3-600-01, 4-9.1].

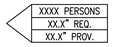
17. FIRE DEPARTMENT (EMERGENCY) VEHICLE ACCESS:
RESIDENTIAL BUILDINGS SHALL BE PROVIDED WITH ALL-WEATHER GROUND ACCESS TO 3 SIDES OF THE BUILDING WITH A MINIMUM OF 2 SIDES HAVING ACCESS TO SLEEPING ROOMS TO ALLOW EMERGENCY VEHICLES UNIMPEDED ACCESS TO THE BUILDING. ALL-WEATHER GROUND ACCESS MUST BE PAVED, START FROM THE ROAD, AND TERMINATE NO FARTHER THAN 33 FT (10 M) FROM THE BUILDING. (UFC 3-600-01, 2-10.1)

ALL FORCE PROTECTION EQUIPMENT, SUCH AS BOLLARDS OR GATES, MUST NOT REQUIRE MORE THAN ONE PERSON TO REMOVE OR OPEN. ACCESS MAY REQUIRE FIRE APPARATUS TO DRIVE OVER A CURB. ANY LOCKING DEVICE CONTROLLING VEHICLE ACCESS MUST BE UNDER CONTROL OF THE FIRE DEPARTMENT OR 24-HOUR SECURITY PERSONNEL LOCATED AT THE FACILITY. DIMENSIONS OF FIRE LANES AND TURNAROUNDS SHALL COMPLY WITH NFPA 1, UNIFORM FIRE CODE. (UFC 3-600-01, 2-10.2)

ALL FIRE DEPARTMENT CONNECTIONS SHALL BE PROVIDED WITH SUITABLE ALL-WEATHER GROUND ACCESS SURFACE FOR PUMPER APPARATUS WITHIN 150 FT (45 M). (UFC 3-600-01, 2-10.4)

FIRE DEPARTMENT ACCESS ROADS SHALL BE PROVIDED SUCH THAT ANY PORTION OF THE FACILITY OR ANY PORTION OF THE EXTERIOR WALL OF THE FIRST STORY OF THE BUILDING IS LOCATED NOT MORE THAN 450 FT (137 M) FROM FIRE DEPARTMENT ACCESS ROADS AS MEASURED BY AN APPROVED ROUTE AROUND THE EXTERIOR OF THE BUILDING. (NFPA 1 18.2.3.2.2.1)

LEGEND:

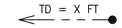


OCCUPANT LOAD USING EXITS
REQUIRED EXIT WIDTH (IN.)
PROVIDED EXIT WIDTH (IN.)


EXIT SIGN



NEW FIRE EXTINGUISHER (2A:10B:C)



TRAVEL DISTANCE (FT.)

1/2 HOUR FIRE RESISTANCE RATING

1 HOUR FIRE RESISTANCE RATING

Use Groups	Area (ft^2)	No. of Sleeping Rooms	Occupant Load Factors [LSC 7.3.1.2] ft^2/person	Number of Occupants (persons)	Exit Capacity Provided (persons)
First Floor					
Business	4,895		100	49	**320**
Residential	-	22	2 persons/room	44	
First Floor Total				**93**	
Second Floor					
Business	1,551		100	16	
Residential	-	32	2 persons/room	64	
Second Floor Total				**80**	**480**
Third Floor					
Business	1,551		100	16	
Residential	-	32	2 persons/room	64	
Third Floor Total				**80**	**480**

	Despription		Width		Egress Capacity Factors (inches/person)		Egress Capacity Provided (Inches)	
Floor Level	**Doors**	**Stairs**	**Doors**	**Stairs**	**Doors**	**Stairs**	**Doors**	**Stairs**
1	Door A		32		0.2		**160**	
1	Door B		32		0.2		**160**	
Total Egress Capacity Business Area of First Floor							**320**	
	Despription		Width		Egress Capacity Factors (inches/person)		Egress Capacity Provided (Inches)	
Floor Level	**Doors**	**Stairs**	**Doors**	**Stairs**	**Doors**	**Stairs**	**Doors**	**Stairs**
2		Stair A		48		0.3		160
2	Door B	Stair B	32	48	0.2	0.3	160	160
2		Stair C		48		0.3		160
Total Egress Capcity for Second Floor							**480**	
	Despription		Width		Egress Capacity Factors (inches/person)		Egress Capacity Provided (Inches)	
Floor Level	**Doors**	**Stairs**	**Doors**	**Stairs**	**Doors**	**Stairs**	**Doors**	**Stairs**
3		Stair A		48		0.3		160
3	Door B	Stair B	32	48	0.2	0.3	160	160
3		Stair C		48		0.3		160
Total Egress Capacity for Third Floor							**480**	

LS-001

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MAUNE BELANGIA FAULKENBERRY ARCHITECTS, PA
317 Chadbourn Street Wilmington, NC 28401 Tel. 910.251.0555 Fax. 910.251.0559 www.mbfarchitects.com

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA

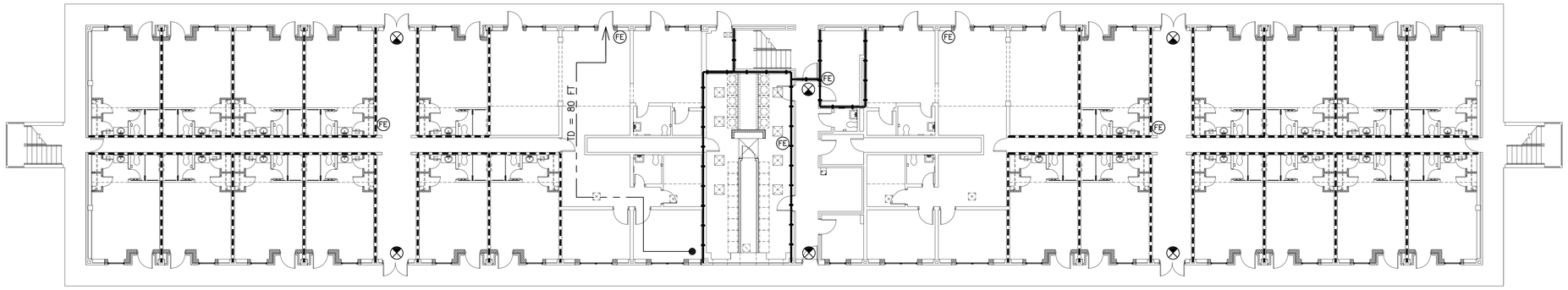
COMMONWEALTH OF VIRGINIA
ALISON WAKELIN
Lic. No. 037705
PROFESSIONAL ENGINEER
8/15/10

DES. AJW
DR. RC/DG/JB
CHK. AK/CS
SUBMITTED BY:
DESIGN DIR.
APPROVED: PWO OR OICC DATE
SATISFACTORY TO: DATE

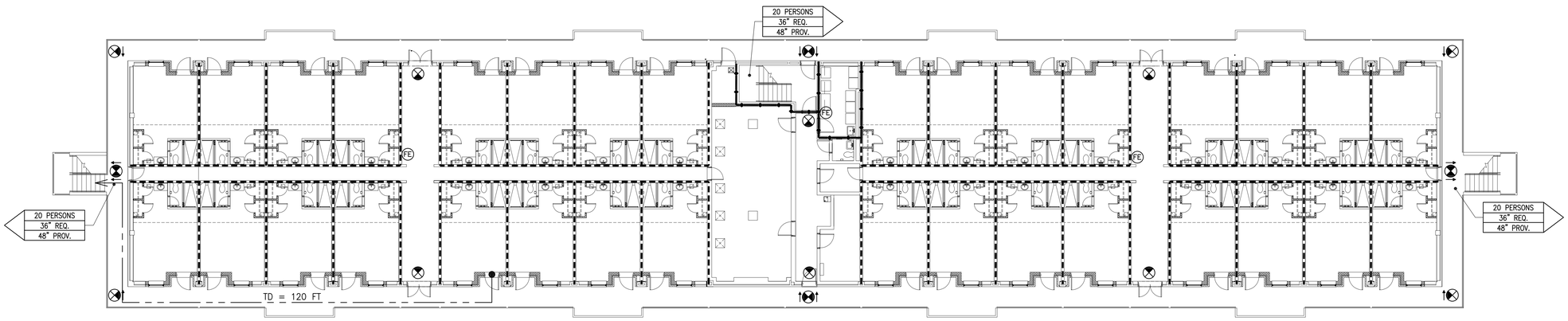
STRUCTURAL AND HVAC
RENOVATION – FC574 BARRACK

LIFE SAFETY CODE COMPLIANCE SUMMERY

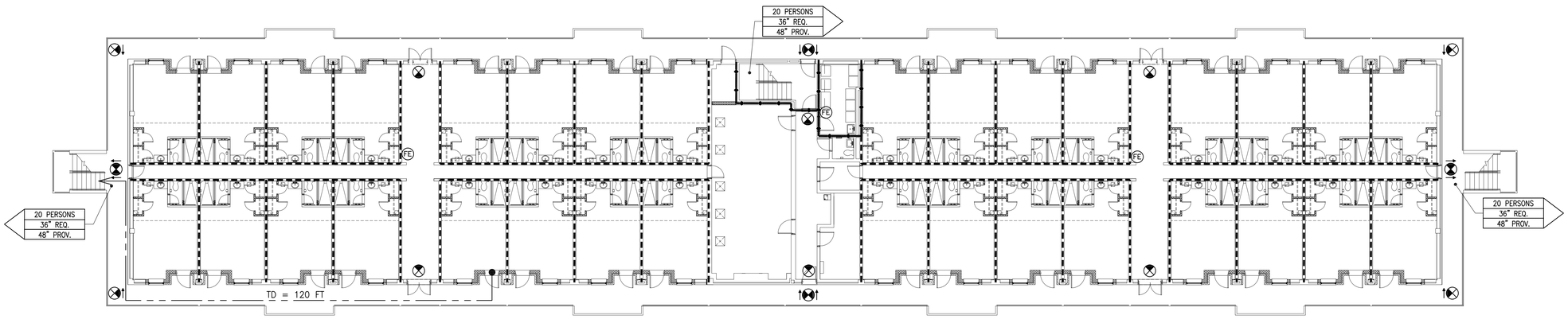
SIZE F | CODE IDENT NO. 80091 | NAVFAC DRAWING NO. 60006302
CONST. CONTR. NO. N40085-10-B-0010
SCALE: AS NOTED | SPEC. 05-10-0010 | SHEET 17 OF 72



1 LS-101 LS-101 FIRST FLOOR PLAN
CONSTRUCTION Scale: 3/32" = 1'-0"
NORTH



2 LS-101 LS-101 SECOND FLOOR PLAN
CONSTRUCTION Scale: 3/32" = 1'-0"
NORTH



3 LS-101 LS-101 THIRD FLOOR PLAN
CONSTRUCTION Scale: 3/32" = 1'-0"
NORTH

GRAPHIC SCALE: 3/32"=1'-0"
8' 0 8' 16' 24'

LS-101

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DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA

STRUCTURAL AND HVAC RENOVATION – FC574 BARRACK

LIFE SAFETY FLOOR PLANS

COMMONWEALTH OF VIRGINIA
ALISON WAKELIN
Lic. No. 037705
8/13/10
PROFESSIONAL ENGINEER

DES.	AJW
DR.	RC/DG/JB
CHK.	AK/CS
SUBMITTED BY:	
DESIGN DIR.	
APPROVED: PWO OR OICC	DATE
SATISFACTORY TO:	DATE

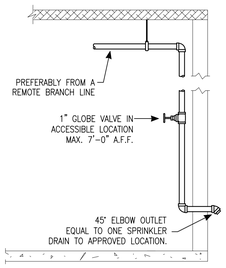
SIZE	CODE IDENT NO.	NAVFAC DRAWING NO.
F	80091	60006303

CONST. CONTR. NO. N40085-10-B-0010

SCALE: AS NOTED | SPEC. 05-10-0010 | SHEET 18 OF 72

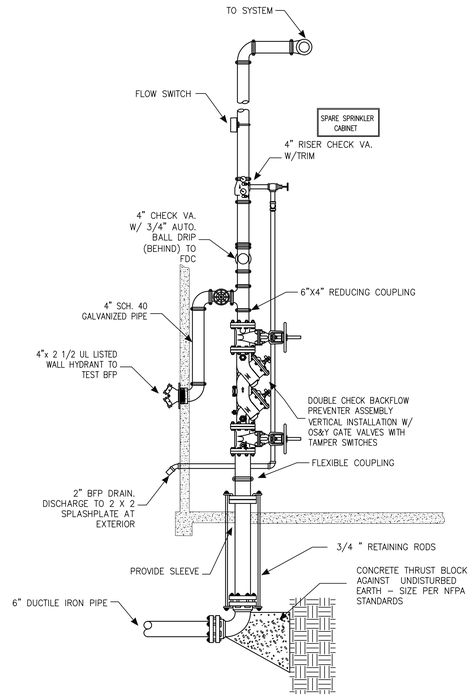
GENERAL NOTES:

1. THE SCOPE OF WORK INCLUDES PROVIDING COMPLETE NEW SPRINKLER SYSTEMS FOR THE BUILDING. SPRINKLER SYSTEM SHALL BE PROVIDED PER NFPA 13R, 2010 AND NFPA 13, 2010.
2. THE SPRINKLER SYSTEM SERVICE MAIN SHALL BE PROVIDED WITH AN EXTERIOR POST INDICATOR VALVE. LOCATE PIV WHERE INDICATED ON CIVIL DRAWINGS.
3. CONTRACTOR SHALL MAKE PROVISIONS TO ENSURE ADEQUATE DRAINAGE OF ALL PIPING IN ACCORDANCE WITH NFPA 13 (SECTIONS 8.16.2.4 AND 8.16.2.5).
4. SPRINKLER SYSTEMS SHALL BE HYDRAULICALLY CALCULATED. CALCULATIONS SHALL BEGIN AT THE LOCATION OF THE WATER FLOW TEST. ALLOW 12 PSI PRESSURE LOSS IN CALCULATION FOR BACKFLOW PREVENTER.
5. ONLY LISTED AND APPROVED DEVICES AND MATERIALS AS SPECIFIED IN NFPA 13R OR NFPA 13 SHALL BE INSTALLED THROUGHOUT THE SYSTEM, UNLESS OTHERWISE NOTED.
6. ONLY LISTED AND APPROVED NEW SPRINKLERS SHALL BE EMPLOYED IN THE INSTALLATION OF THE SPRINKLER SYSTEM.
7. THESE DRAWINGS ARE DIAGRAMMATIC IN NATURE AND ARE NOT INTENDED TO SHOW THE EXACT LOCATIONS OF COMPONENTS, NOR SHOW ALL SYSTEM COMPONENTS. CONTRACTOR SHALL PROVIDE ADDITIONAL OFFSETS OR FITTINGS REQUIRED FOR PROPER INSTALLATION, COORDINATION WITH OTHER TRADES, AND/OR TO MAINTAIN PROPER CLEARANCES. CONTRACTOR SHALL ALSO VERIFY STRUCTURAL, MECHANICAL, AND ELECTRICAL INSTALLATIONS AND DRAWINGS TO AVOID OBSTRUCTIONS OR INTERFERENCE WITH FIRE PROTECTION PIPING AND SPRINKLERS.
8. THE LOCATION OF THE DRAIN RISER AND DRAIN DISCHARGE SHALL BE COORDINATED WITH THE GOVERNMENT. ALL DRAINS SHALL DISCHARGE TO A 2 BY 2 SPLASHPLATE AT THE BUILDING EXTERIOR.
9. EXPOSED PIPING SHALL NOT BE PERMITTED, UNLESS SPECIFICALLY APPROVED IN WRITING BY THE OWNERS REPRESENTATIVE (EXCEPT IN AREAS WITH NO FINISHED CEILING).
10. ADEQUATE CLEARANCE, AS DEFINED BY NFPA 13R, SHALL BE PROVIDED BETWEEN SPRINKLERS AND HEAT GENERATING DEVICES.
11. ALL PENETRATIONS THROUGH FIRE RESISTANCE RATED ASSEMBLIES SHALL BE SLEEVED AND SEALED WITH AN UNDERWRITERS LABORATORIES (UL) LISTED FIRE STOPPING SYSTEM.
12. ALL CORE DRILLING SHALL BE COORDINATED WITH STRUCTURAL ENGINEER.
13. ENTIRE SYSTEM SHALL BE FLUSHED AND HYDROSTATICALLY TESTED @ 200 PSI FOR 2 HOURS AS PER NFPA 13.
14. REFER TO PROJECT SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS AND INFORMATION.
15. ALL PIPE SIZES INDICATED ON DRAWINGS ARE APPROXIMATE. ACTUAL PIPE SIZES SHALL BE DETERMINED VIA HYDRAULIC CALCULATIONS BY CONTRACTOR.
16. THE COMPONENTS OF HANGER ASSEMBLIES THAT DIRECTLY ATTACH TO THE PIPE OR TO THE BUILDING SHALL BE LISTED.
17. SPRINKLER CONTRACTOR SHALL COORDINATE WITH FIRE ALARM CONTRACTOR FOR CONNECTION TO FIRE ALARM SYSTEM AND TRANSMISSION TO CENTRAL STATION.
18. DESIGN CRITERIA FOR INSIDE THE SLEEPING ROOMS SHALL BE PER NFPA 13R SECTION 7.1.
19. DESIGN CRITERIA FOR OUTSIDE THE SLEEPING ROOMS SHALL BE PER NFPA 13.
20. SPRINKLERS NEED NOT BE PROVIDED FOR OPEN BALCONIES AND OPEN EXTERIOR STAIRS. PROVIDE DRY SIDEWALL SPRINKLERS FED FROM THE WET PIPE SYSTEM AS NECESSARY FOR INTERIOR STAIR.



INSPECTOR'S TEST CONNECTION — 1 (F-001 | F-001)

SCALE = N.T.S.



SPRINKLER RISER DETAIL — 2 (F-001 | F-101)

SCALE = N.T.S.

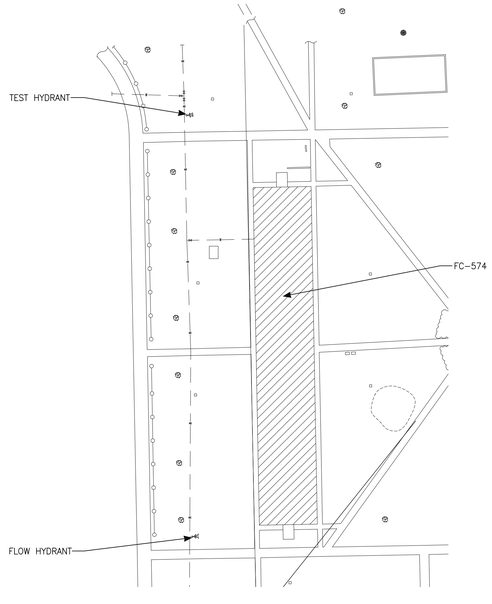
LEGEND:

- OVERHEAD SPRINKLER PIPING
- UNDERGROUND PIPING
- OUTLINE INDICATES EXTENT OF SPRINKLER SYSTEM
- OUTLINE INDICATES EXTENT OF INDEPENDENTLY VALVED SPRINKLER SYSTEM
- OS&Y GATE VALVE
- CHECK VALVE
- 5" STORZ FIRE DEPARTMENT CONNECTION
- PIPE TEE
- CHANGE IN ELEVATION – TEE DOWN
- PIPE ELBOW
- CHANGE IN ELEVATION – ELBOW DOWN
- PIPE UP
- SYSTEM RISER
- NIPPLE AND CAP – FLUSHING CONNECTION
- WALL HYDRANT
- FDC — FIRE DEPARTMENT CONNECTION
- BFP — BACKFLOW PREVENTER
- RSIDENTIAL SIDEWALL SPRINKLER
- RESIDENTIAL RECESSED PENDENT SPRINKLER

FIRE HYDRANT FLOW TEST DATA			
STATIC PRESSURE PSI	RESIDUAL PRESSURE PSI	FLOW RATE GPM	DATE TESTED
58	56	1,125	6/22/10 0930 HRS

HYDRANT FLOW TEST DATA

SCALE = N.T.S.



NORTH — SITE PLAN
Scale: N.T.S.

F-001

MBFA NO.: 1001
MAUNE BELANGIA FAULKENBERRY ARCHITECTS, PA
317 Market Street New Bern, NC 28560 Tel. 252.633.1929 www.mbfarchitects.com

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA

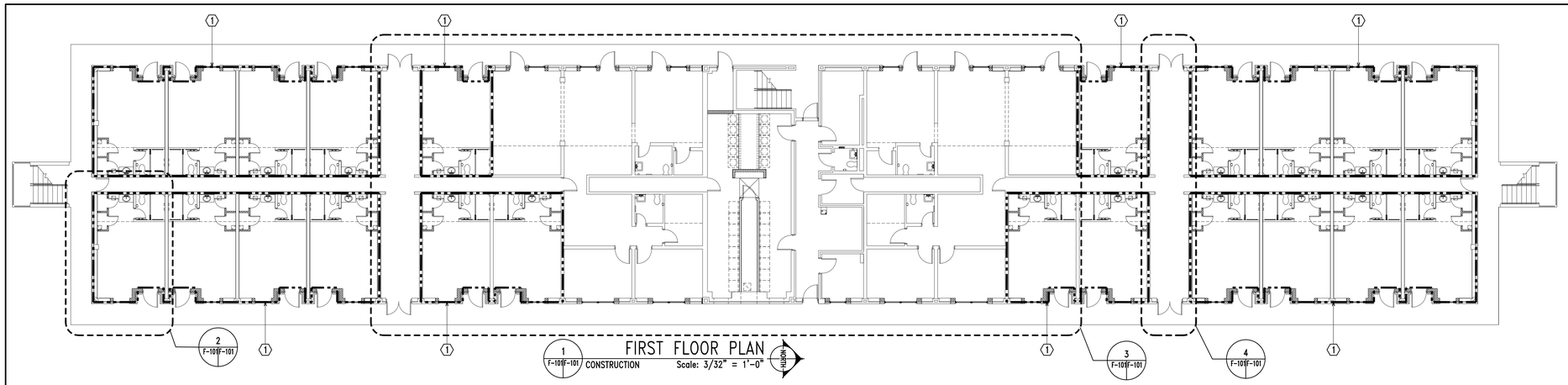
STRUCTURAL AND HVAC RENOVATION – FC574 BARRACK

SPRINKLER NOTES AND SITE PLAN

COMMONWEALTH OF VIRGINIA — ALISON WAKELIN Lic. No. 037705 — PROFESSIONAL ENGINEER
8/13/10

DES. AJW	
DR. RC/DG/JB	
CHK. AK/CS	
SUBMITTED BY:	
DESIGN DIR.	
APPROVED: PWO OR OICC	DATE
SATISFACTORY TO:	DATE

SIZE	CODE IDENT NO.	NAVFAC DRAWING NO.
F	80091	60006304
		CONST. CONTR. NO. N40085-10-B-0010
SCALE: AS NOTED	SPEC. 05-10-0010	SHEET 19 OF 72



1 F-101F-101 FIRST FLOOR PLAN CONSTRUCTION Scale: 3/32" = 1'-0"

SHEET NOTES

1. PROVIDE RESIDENTIAL SPRINKLERS FOR EACH SLEEPING ROOM.
2. PROVIDE QUICK RESPONSE SPRINKLERS IN ALL NON-RESIDENTAIL AREAS.
3. 6" FIRE SERVICE MAIN. SEE CIVIL DRAWINGS FOR CONTINUATION AND LOCATION OF POST INDICATOR VALVE.
4. WALL HYDRANT FOR BACKFLOW PREVENTER TESTING.
5. FIRE DEPARTMENT CONNECTION.

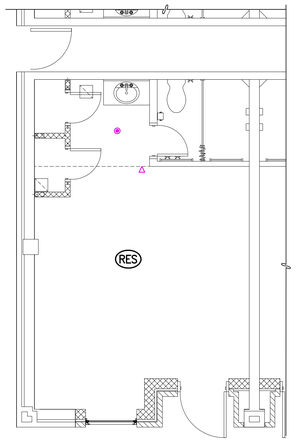
OCCUPANCY HAZARD LEGEND

- ALL AREAS ARE RESIDENTIAL HAZARD UNLESS OTHERWISE NOTED.

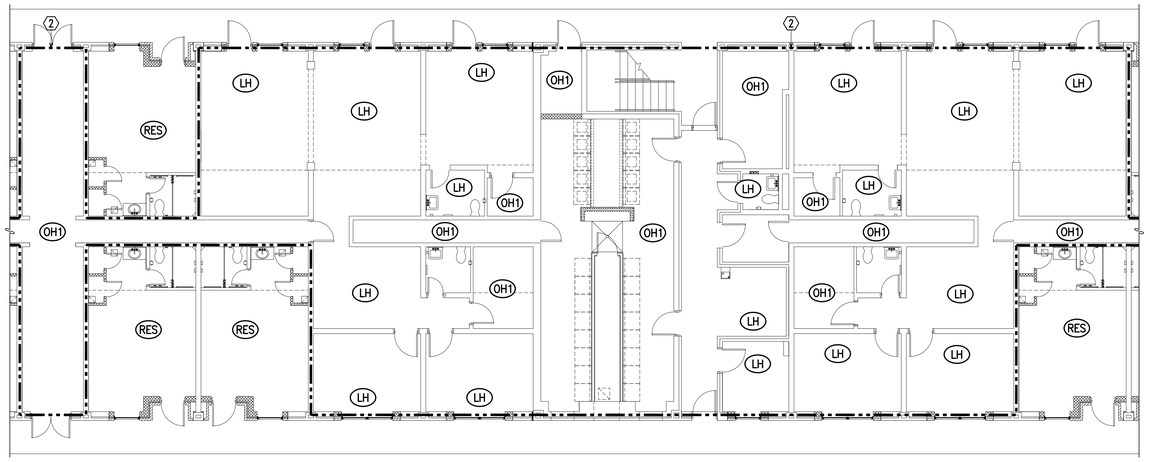
(RES) RESIDENTIAL HAZARD
0.05 gpm/ft², ALL SPRINKLERS WITHIN A COMPARTMENT UP TO A MAXIMUM OF 4 SPRINKLERS

(LH) LIGHT HAZARD
0.10 gpm/ft², OVER AN AREA OF 1,800 ft²

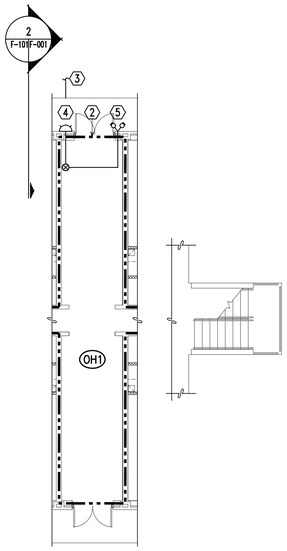
(OH1) ORDINARY HAZARD 1
0.15 gpm/ft², OVER AN AREA OF 1,800 ft²



2 F-101F-101 SLEEPING ROOM CONSTRUCTION Scale: 1/4" = 1'-0"



3 F-101F-101 ADMINISTRATIVE PLAN CONSTRUCTION Scale: 1/8" = 1'-0"



4 F-101F-101 MECHANICAL ROOM #2 CONSTRUCTION Scale: 1/8" = 1'-0"

GRAPHIC SCALE: 3/32"=1'-0" (8' 0 8' 16' 24')

GRAPHIC SCALE: 1/8"=1'-0" (8' 0 4' 8' 16')

GRAPHIC SCALE: 1/4"=1'-0" (4' 0 2' 4' 8')

F-101

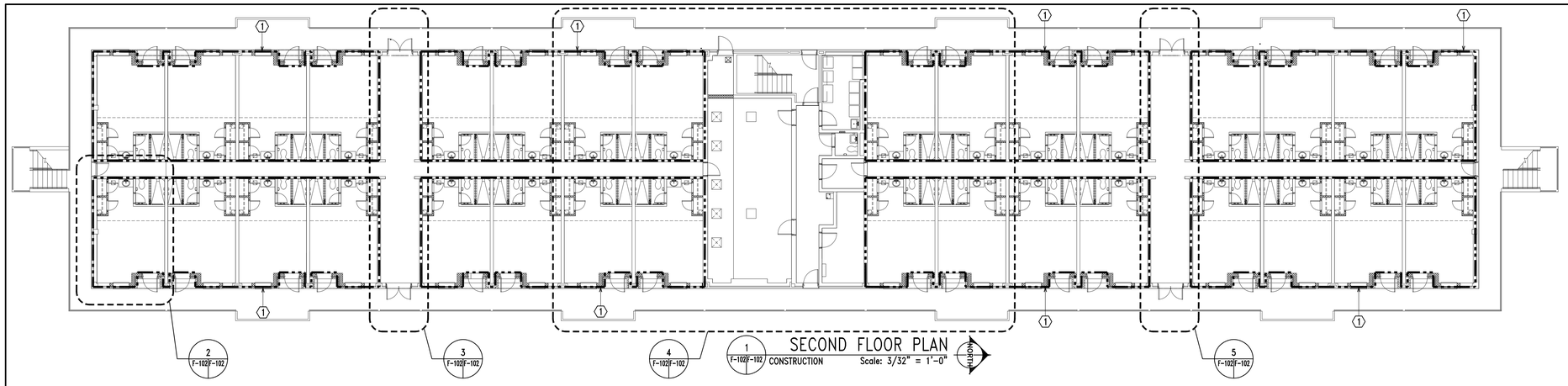
MBFA NO.: 1001

MAUNE BELANGIA FAULKENBERRY ARCHITECTS, PA
124 Hubert Blvd. Fax (910) 455-3999
Jacksonville, NC 28540 Tel. (910) 455-3999
www.mbfarchitects.com

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA

COMMONWEALTH OF VIRGINIA
ALISON WAKELIN
Lic. No. 037705
8/13/10
PROFESSIONAL ENGINEER

DES. AJW	STRUCTURAL AND HVAC RENOVATION – FC574 BARRACK
DR. RC/DG/JB	
CHK. AK/CS	
SUBMITTED BY:	SPRINKLER SYSTEM FIRST FLOOR PLAN
DESIGN DIR.	
APPROVED: PWO OR OICC DATE	SIZE: F — CODE IDENT NO: 80091 — NAVFAC DRAWING NO.: 60006305
SATISFACTORY TO: DATE	CONST. CONTR. NO. N40085-10-B-0010
SCALE: AS NOTED	SPEC. 05-10-0010 — SHEET 20 OF 72



1 F-102 F-102 SECOND FLOOR PLAN
CONSTRUCTION Scale: 3/32" = 1'-0"

SHEET NOTES

1. PROVIDE RESIDENTIAL SPRINKLERS FOR EACH SLEEPING ROOM.
2. PROVIDE QUICK RESPONSE SPRINKLERS IN ALL NON-RESIDENTAIL AREAS.
3. SPRINKLER RISER FROM BELOW

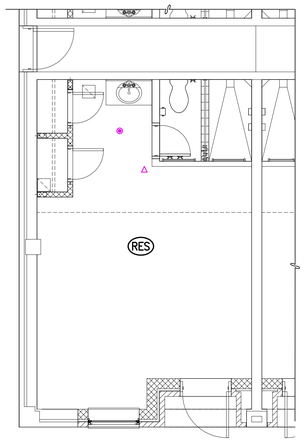
OCCUPANCY HAZARD LEGEND

- ALL AREAS ARE RESIDENTIAL HAZARD UNLESS OTHERWISE NOTED.

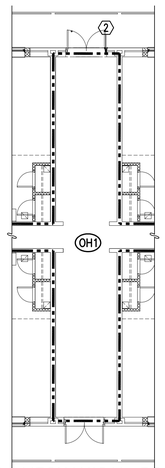
RES — RESIDENTIAL HAZARD
0.05 gpm/ft², ALL SPRINKLERS WITHIN A COMPARTMENT UP TO A MAXIMUM OF 4 SPRINKLERS

LH — LIGHT HAZARD
0.10 gpm/ft², OVER AN AREA OF 1,800 ft²

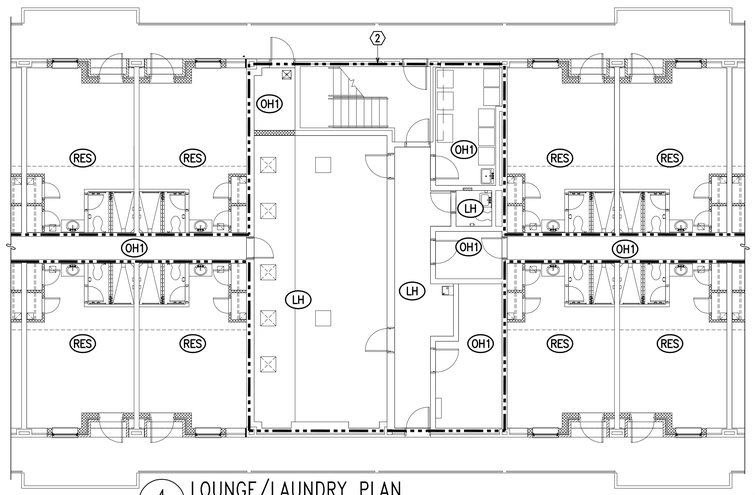
OH1 — ORDINARY HAZARD 1
0.15 gpm/ft², OVER AN AREA OF 1,800 ft²



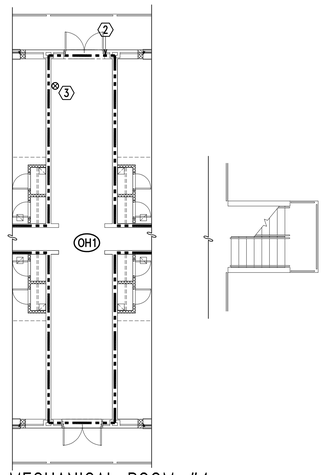
2 F-102 F-102 SLEEPING ROOM
CONSTRUCTION Scale: 1/4" = 1'-0"



3 F-102 F-102 MECHANICAL ROOM #3
CONSTRUCTION Scale: 1/8" = 1'-0"



4 F-102 F-102 LOUNGE/LAUNDRY PLAN
CONSTRUCTION Scale: 1/8" = 1'-0"



5 F-102 F-102 MECHANICAL ROOM #4
CONSTRUCTION Scale: 1/8" = 1'-0"

GRAPHIC SCALE: 1/4"=1'-0"
4' 0 2' 4' 8'

GRAPHIC SCALE: 1/8"=1'-0"
8' 0 4' 8' 16'

GRAPHIC SCALE: 3/32"=1'-0"
8' 0 8' 16' 24'

F-102

MBFA NO.: 1001

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DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA

COMMONWEALTH OF VIRGINIA
ALISON WAKELIN
Lic. No. 037705
8/13/10
PROFESSIONAL ENGINEER

DES.	AJW
DR.	RC/DG/JB
CHK.	AK/CS
SUBMITTED BY:	
DESIGN DIR.	
APPROVED: PWO OR OICC	DATE
SATISFACTORY TO:	DATE

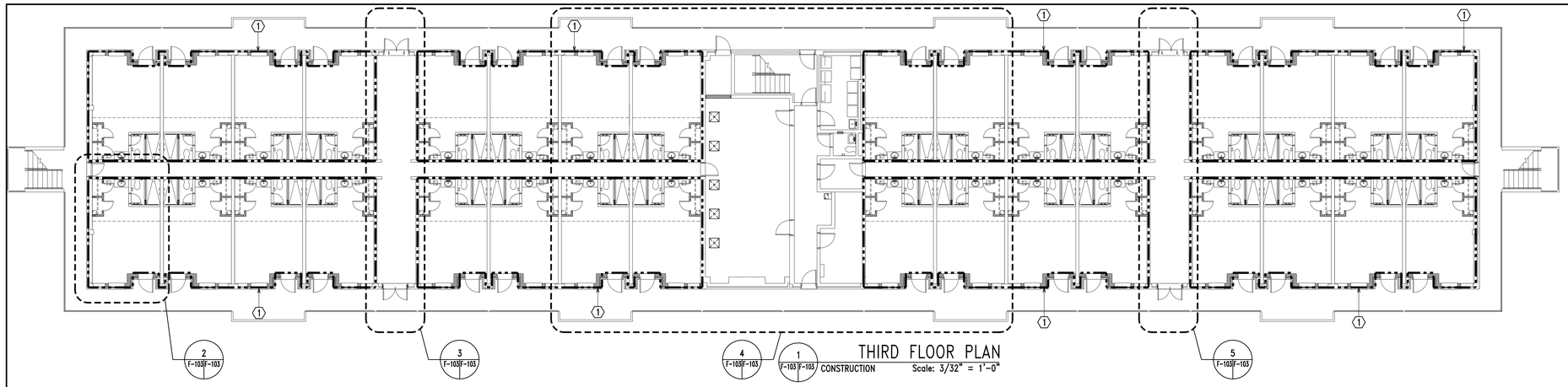
STRUCTURAL AND HVAC RENOVATION – FC574 BARRACK

SPRINKLER SYSTEM
SECOND FLOOR PLAN

SIZE	CODE IDENT NO.	NAVFAC DRAWING NO.
F	80091	60006306

CONST. CONTR. NO. N40085-10-B-0010

SCALE: AS NOTED | SPEC. 05-10-0010 | SHEET 21 OF 72



THIRD FLOOR PLAN
CONSTRUCTION Scale: 3/32" = 1'-0"

SHEET NOTES

1. PROVIDE RESIDENTIAL SPRINKLERS FOR EACH SLEEPING ROOM.
2. PROVIDE QUICK RESPONSE SPRINKLERS IN ALL NON-RESIDENTIAL AREAS.
3. SPRINKLER RISER FROM BELOW

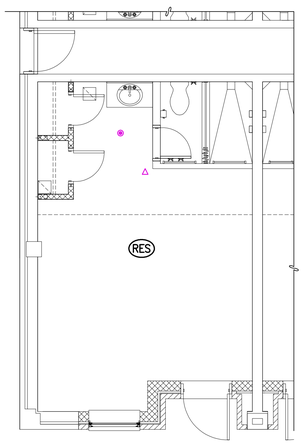
OCCUPANCY HAZARD LEGEND

- ALL AREAS ARE RESIDENTIAL HAZARD UNLESS OTHERWISE NOTED.

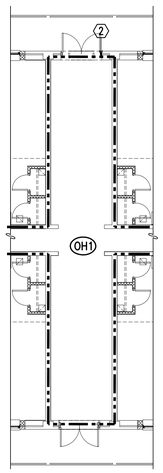
(RES) RESIDENTIAL HAZARD
0.05 gpm/ft², ALL SPRINKLERS WITHIN A COMPARTMENT UP TO A MAXIMUM OF 4 SPRINKLERS

(LH) LIGHT HAZARD
0.10 gpm/ft², OVER AN AREA OF 1,800 ft²

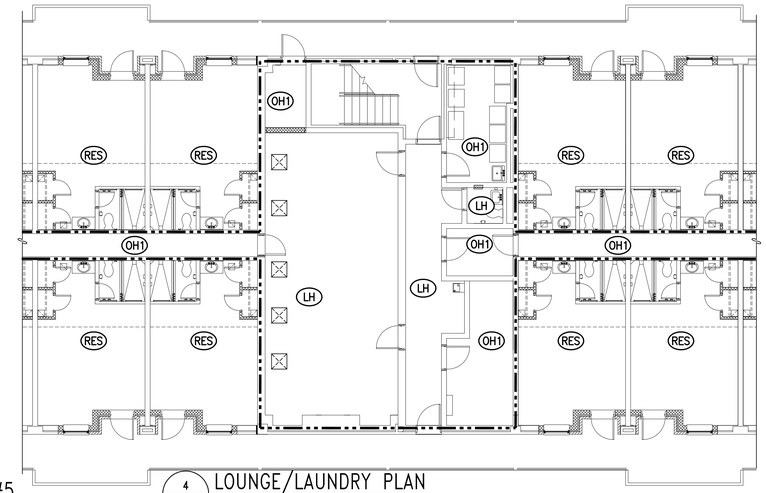
(OH1) ORDINARY HAZARD 1
0.15 gpm/ft², OVER AN AREA OF 1,800 ft²



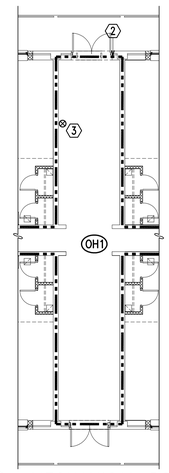
2 F-103 F-103 SLEEPING ROOM
CONSTRUCTION Scale: 1/4" = 1'-0"



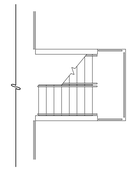
3 F-103 F-103 MECHANICAL ROOM #5
CONSTRUCTION Scale: 1/8" = 1'-0"



4 F-103 F-103 LOUNGE/LAUNDRY PLAN
CONSTRUCTION Scale: 1/8" = 1'-0"



5 F-103 F-103 MECHANICAL ROOM #6
CONSTRUCTION Scale: 1/8" = 1'-0"



GRAPHIC SCALE: 1/4"=1'-0"
4' 0 2' 4' 8'

GRAPHIC SCALE: 1/8"=1'-0"
8' 0 4' 8' 16'

GRAPHIC SCALE: 3/32"=1'-0"
8' 0 8' 16' 24'

COMMONWEALTH OF VIRGINIA
ALISON WAKELIN
Lic. No. 037705
8/13/10
PROFESSIONAL ENGINEER

F-103

MBFA NO.: 1001
MAUNE BELANGIA FAULKENBERRY ARCHITECTS, PA
317 Church Street Tel. 252.637.1101 Fax. 252.637.1105 Newbern, NC 28560 www.mbfarchitects.com

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA

DES. AJW	
DR. RC/DG/JB	
CHK. AK/CS	
SUBMITTED BY:	
DESIGN DIR.	
APPROVED: PWO OR OICC	DATE
SATISFACTORY TO:	DATE

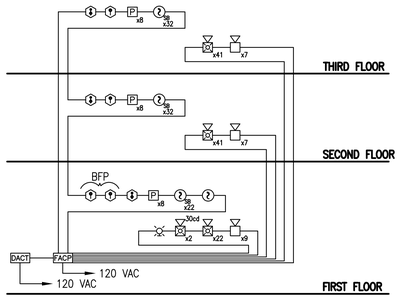
STRUCTURAL AND HVAC
RENOVATION - FC574 BARRACK

SPRINKLER SYSTEM
THIRD FLOOR PLAN

SIZE	CODE IDENT NO.	NAVFAC DRAWING NO.
F	80091	60006307
		CONST. CONTR. NO. N40085-10-B-0010
SCALE: AS NOTED	SPEC. 05-10-0010	SHEET 22 OF 72

GENERAL NOTES:

1. PROVIDE A COMPLETE AND OPERATIONAL ANALOG ADDRESSABLE FIRE ALARM SYSTEM FOR THE BUILDING.
2. THE FIRE ALARM SYSTEM SHALL BE A VOICE NOTIFICATION SYSTEM AND SHALL ALSO PROVIDE MASS NOTIFICATION FOR THE BUILDING.
3. APPLICABLE CODES:
   NFPA 72, NATIONAL FIRE ALARM CODE, 2010 EDITION
   NFPA 70, NATIONAL ELECTRIC CODE, 2008 EDITION
   UFC 3-600-01, FIRE PROTECTION ENGINEERING FOR FACILITIES, 14 JULY 2009
   UFC 3-600-10N, FIRE PROTECTION ENGINEERING, AUGUST 2007
   UFC 4-021-01, DESIGN AND OEM: MASS NOTIFICATION SYSTEM, 9 APRIL 2008
4. REFER TO SPECIFICATION FOR ADDITIONAL INFORMATION. IF CONFLICTS OCCUR BETWEEN THE SPECIFICATION AND NFPA 72 THE MOST STRINGENT REQUIREMENT SHALL APPLY.
5. FIRE ALARM INITIATING DEVICE CIRCUITS LEAVING THE BUILDING SHALL BE PROVIDED WITH SURGE PROTECTION LISTED IN ACCORDANCE WITH UL 1449 AND SATISFYING THE REQUIREMENTS OF IEEE C62.41.
6. ALL FIRE ALARM WIRING SHALL BE INSTALLED IN METAL RACEWAY. DO NOT INSTALL ANY OTHER WIRING IN FIRE ALARM RACEWAY.
7. THE INSTALLING CONTRACTOR SHALL COORDINATE WITH OTHER TRADES FOR THE FINAL LOCATION OF DUCT MOUNTED SMOKE DETECTORS AND CONTROL CIRCUITS FOR HVAC UNIT SHUTDOWN.
8. NOTIFICATION APPLIANCES THAT ARE WALL MOUNTED SHALL BE INSTALLED 80" – 96" ABOVE THE FINISHED FLOOR OR 6" BELOW THE CEILING, WHICHEVER IS LOWER.
9. MANUAL FIRE ALARM STATIONS SHALL BE MOUNTED 4' ABOVE THE FINISHED FLOOR.
10. VISUAL NOTIFICATION APPLIANCES SHALL BE SYNCHRONIZED WHEN IN THE SAME FIELD OF VIEW WITH A FLASH RATE BETWEEN 1 HZ AND 2 HZ.
11. AUDIBLE DEVICES SHALL PROVIDE A CIS SCORE GREATER THAN 0.7 IN EACH AREA WHERE BUILDING OCCUPANTS ARE NORMALLY FOUND.
12. THE DRAWINGS ARE CONCEPTUAL IN NATURE. THEY DO NOT SHOW THE EXACT LOCATION OF COMPONENTS NOR SHOW ALL SYSTEM COMPONENTS. THE INSTALLING CONTRACTOR SHALL PROVIDE ADDITIONAL COMPONENTS FOR A PROPERLY INSTALLED AND FUNCTIONAL SYSTEM.
13. FIRE ALARM CIRCUITS SHALL BE CLASS A.
14. ALL FIRE ALARM CONDUIT SHALL BE CONCEALED.



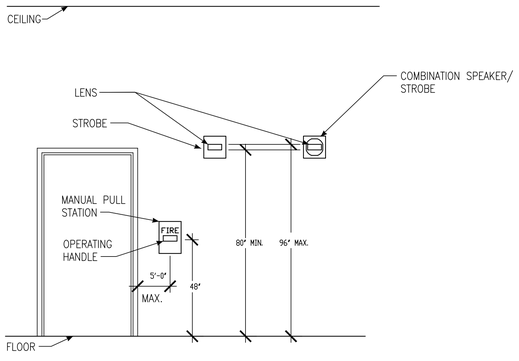
RISER NOTES:
1. ALL STROBES 15cd UNLESS NOTED OTHERWISE.

FIRE ALARM RISER

SCALE = N.T.S.

LEGEND:

FACP	FIRE ALARM CONTROL PANEL
DACT	DIGITAL ALARM COMMUNICATOR TRANSMITTER
MM	MONITOR MODULE
P	MANUAL PULL STATION
S	SMOKE DETECTOR (SUBSCRIPT INDICATES SOUNDER BASE)
D	DUCT SMOKE DETECTOR
S	WALL MOUNTED SPEAKER/STROBE (SUPERSCRIPT INDICATES CANDELA RATING, 15cd UNLESS NOTED OTHERWISE)
	WALL MOUNTED SPEAKER
T	TAMPER SWITCH
F	WATER FLOW SWITCH
S	WALL MOUNTED STROBE (SUPERSCRIPT INDICATES CANDELA RATING, 15cd UNLESS NOTED OTHERWISE)
WP	WEATHER PROOF



TYPICAL MOUNTING HEIGHTS FOR WALL MOUNTED DEVICES

SCALE = N.T.S.

	SYSTEM INPUTS	ANNUNCIATION AT LOCAL PANELS: Audio-Visual Fire Alarm Indication by Device	Audio-Visual Supervisory Indication by Device	Audio-Visual Trouble Indication by Device	TRANSMIT SIGNALS TO FIRE DEPARTMENT: Common Alarm Signal Per Building	Common Supervisory Signal Per Building	Common Trouble Signal Per Building	AUXILIARY FUNCTIONS: Shut Down Associated AHU Supply & Recirc. Fans	Activate Audio Signal For Smoke Detector	EVACUATION SIGNALS: Facility Fire Evacuation Audio-Visual Signal
	FIRE ALARMS	A	B	C	C	D	E	F	G	J
1	Manual Fire Alarm Stations	X			X					X
2	Spot-Type Smoke Detectors	X			X					X
3	In-Duct Smoke Detectors	X			X			X		X
4	Water Flow Switches	X			X					X
	SUPERVISORY SIGNALS									
5	Valve Supervisory Switch		X			X				
6	In Room Smoke Detector		X			X			X	
	TROUBLE CONDITIONS									
7	Fire Alarm AC Power Failure			X			X			
8	Fire Alarm System Low Battery			X			X			
9	Open Circuit			X			X			
10	Ground Fault			X			X			
11	Short Circuit			X			X			

NOTES:
1. Fire alarm signals and trouble alarm signals shall be clearly differentiated at the fire alarm control panel(s).

FIRE ALARM MATRIX

COMMONWEALTH OF VIRGINIA
ALISON WAKELIN
Lic. No. 037705
8/15/10
PROFESSIONAL ENGINEER

MBFK NO.: 1001
MAUNE BELANGIA FAULKENBERRY ARCHITECTS, PA
317 Market Street, New Bern, NC 28560, Tel. 252.633.2525, Fax 252.633.2529, www.mbfkarchitects.com

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA

STRUCTURAL AND HVAC RENOVATION – FC574 BARRACK

FIRE ALARM NOTES AND LEGEND

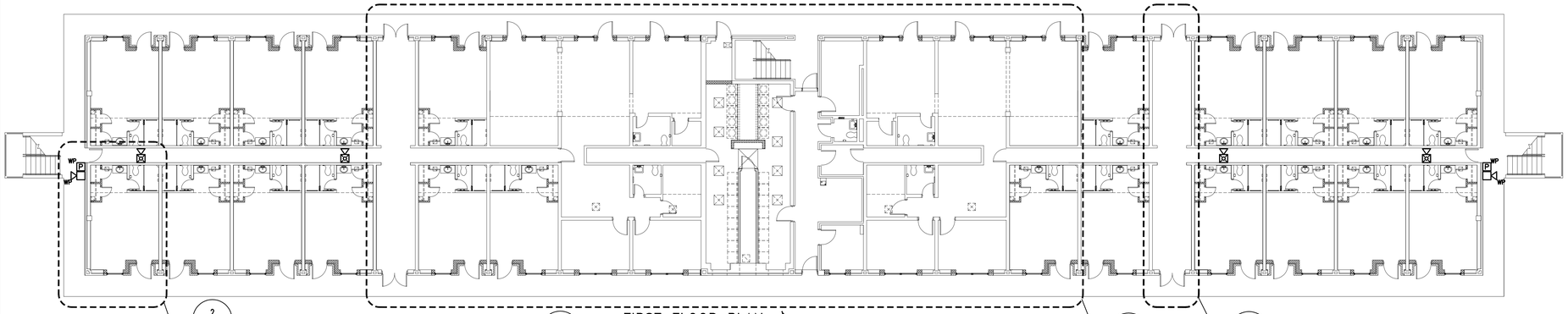
DES.	AJW
DR.	RC/DG/JB
CHK.	AK/CS
SUBMITTED BY:	
DESIGN DIR.	
APPROVED: PWO OR OICC	DATE
SATISFACTORY TO:	DATE

SIZE	CODE IDENT NO.	NAVFAC DRAWING NO.
F	80091	60006308
		CONST. CONTR. NO. N40085-10-B-0010
SCALE: AS NOTED	SPEC. 05-10-0010	SHEET 23 OF 72

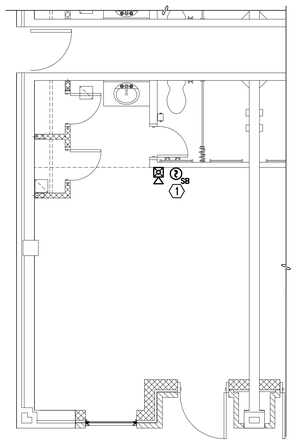
FA-001

SHEET NOTES

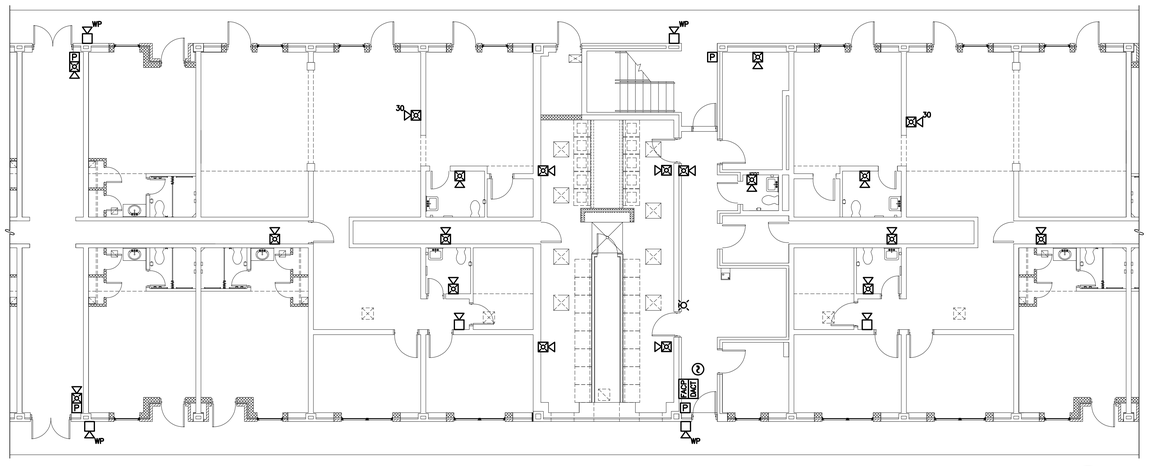
1. THIS LAYOUT IS TYPICAL FOR ALL SLEEPING ROOMS.



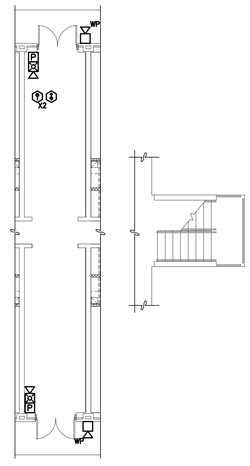
1 FA-101 FA-101 FIRST FLOOR PLAN
CONSTRUCTION Scale: 3/32" = 1'-0"
NORTH



2 FA-101 FA-101 SLEEPING ROOM
CONSTRUCTION Scale: 1/4" = 1'-0"



3 FA-101 FA-101 ADMINISTRATIVE PLAN
CONSTRUCTION Scale: 1/8" = 1'-0"
NORTH



4 FA-101 FA-101 MECHANICAL ROOM #2
CONSTRUCTION Scale: 1/8" = 1'-0"

GRAPHIC SCALE: 3/32"=1'-0"
8' 0 8' 16' 24'

GRAPHIC SCALE: 1/8"=1'-0"
8' 0 4' 8' 16'

GRAPHIC SCALE: 1/4"=1'-0"
4' 0 2' 4' 8'

FA-101

MBFA NO.: 1001

MAUNE BELANGIA FAULKENBERRY ARCHITECTS, PA

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA

COMMONWEALTH OF VIRGINIA
ALISON WAKELIN
Lic. No. 037705
8/13/10
PROFESSIONAL ENGINEER

DES.	AJW
DR.	RC/DG/JB
CHK.	AK/CS
SUBMITTED BY:	
DESIGN DIR.	
APPROVED: PWO OR OICC	DATE
SATISFACTORY TO:	DATE

STRUCTURAL AND HVAC RENOVATION – FC574 BARRACK

FIRE ALARM
FIRST FLOOR PLAN

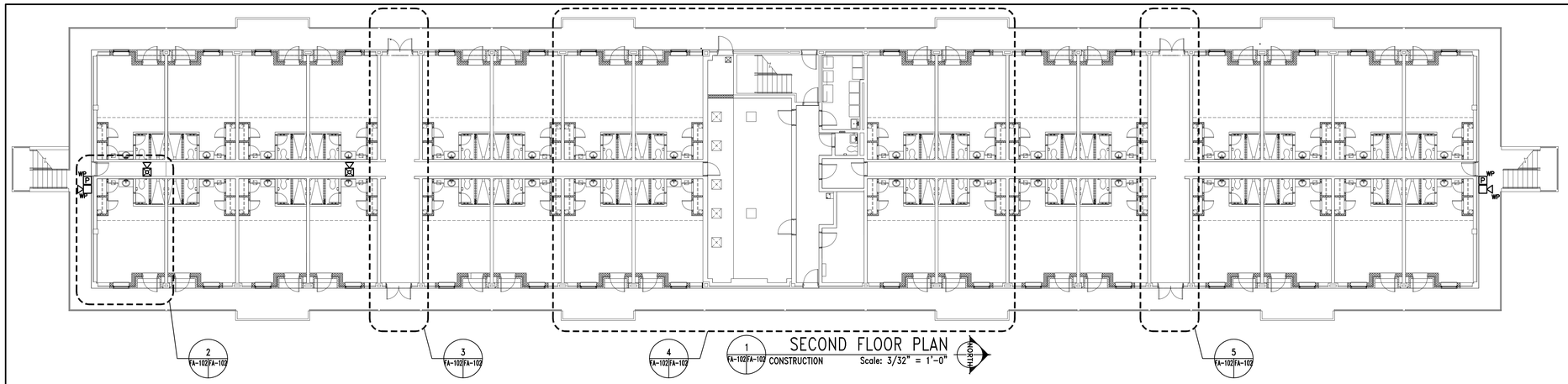
SIZE	CODE IDENT NO.	NAVFAC DRAWING NO.
F	80091	60006309

CONST. CONTR. NO. N40085-10-B-0010

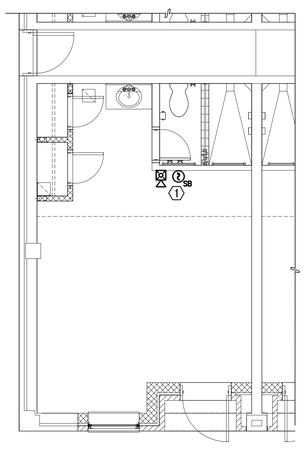
SCALE: AS NOTED | SPEC. 05-10-0010 | SHEET 24 OF 72

SHEET NOTES

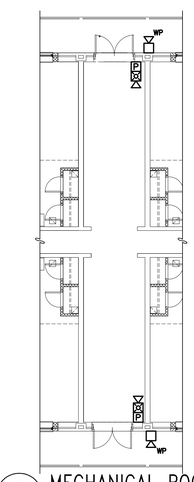
1. THIS LAYOUT IS TYPICAL FOR ALL SLEEPING ROOMS.



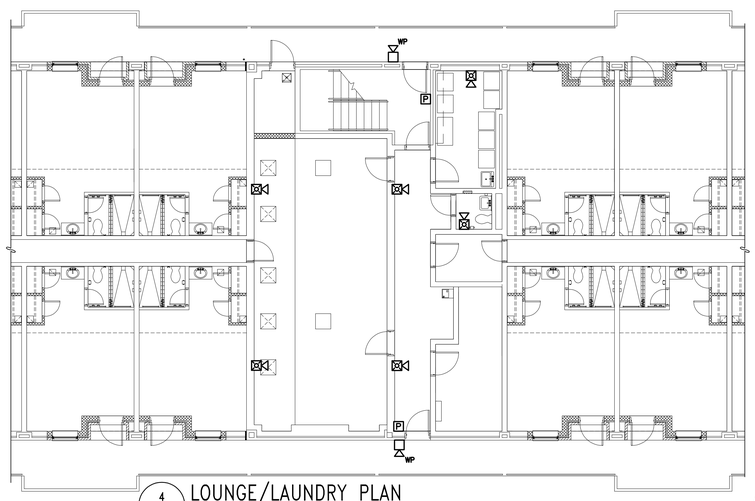
1 FA-102/FA-102 CONSTRUCTION — SECOND FLOOR PLAN — Scale: 3/32" = 1'-0"



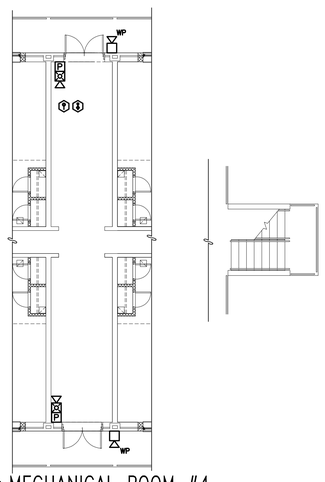
2 FA-102/FA-102 CONSTRUCTION — SLEEPING ROOM — Scale: 1/4" = 1'-0"



3 FA-102/FA-102 CONSTRUCTION — MECHANICAL ROOM #3 — Scale: 1/8" = 1'-0"



4 FA-102/FA-102 CONSTRUCTION — LOUNGE/LAUNDRY PLAN — Scale: 1/8" = 1'-0"



5 FA-102/FA-102 CONSTRUCTION — MECHANICAL ROOM #4 — Scale: 1/8" = 1'-0"

GRAPHIC SCALE: 1/4"=1'-0" (4' 0 2' 4' 8')

GRAPHIC SCALE: 1/8"=1'-0" (8' 0 4' 8' 16')

GRAPHIC SCALE: 3/32"=1'-0" (8' 0 8' 16' 24')

FA-102

MBFA NO.: 1001

MAUNE BELANGIA FAULKENBERRY ARCHITECTS, PA

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA

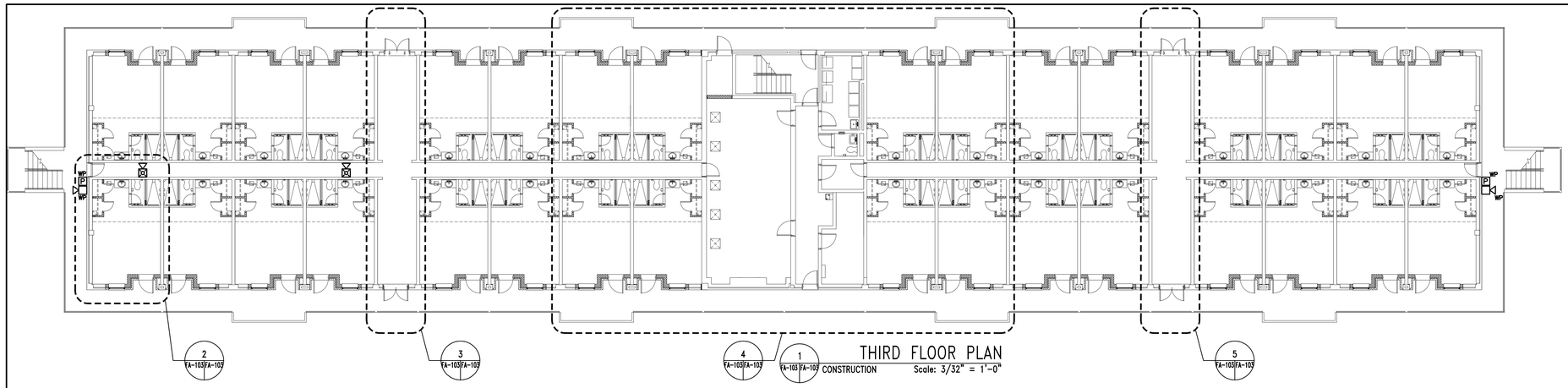
COMMONWEALTH OF VIRGINIA
ALISON WAKELIN
Lic. No. 037705
8/13/10
PROFESSIONAL ENGINEER

DES.	AJW
DR.	RC/DG/JB
CHK.	AK/CS
SUBMITTED BY:	
DESIGN DIR.	
APPROVED: PWO OR OICC	DATE
SATISFACTORY TO:	DATE

STRUCTURAL AND HVAC
RENOVATION – FC574 BARRACK

FIRE ALARM
SECOND FLOOR PLAN

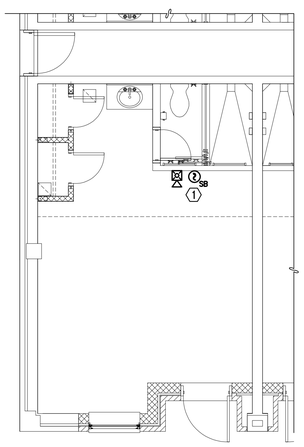
SIZE	CODE IDENT NO.	NAVFAC DRAWING NO.
F	80091	60006310
		CONST. CONTR. NO. N40085-10-B-0010
SCALE: AS NOTED	SPEC. 05-10-0010	SHEET 25 OF 72



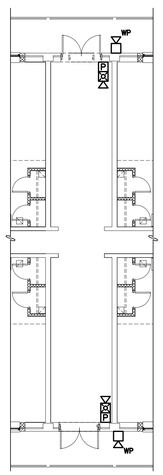
THIRD FLOOR PLAN
CONSTRUCTION Scale: 3/32" = 1'-0"

SHEET NOTES

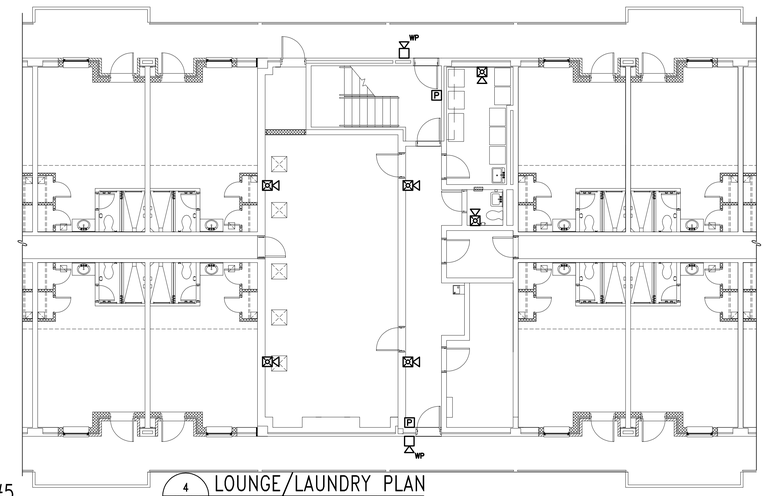
1. THIS LAYOUT IS TYPICAL FOR ALL SLEEPING ROOMS.



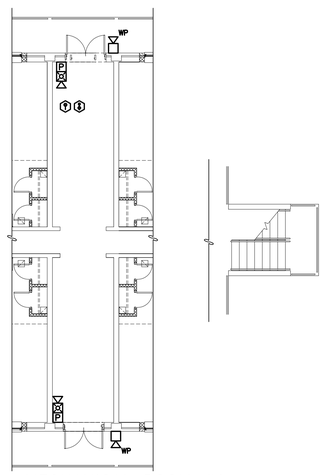
SLEEPING ROOM
2 FA-103 FA-103 CONSTRUCTION Scale: 1/4" = 1'-0"



MECHANICAL ROOM #5
3 FA-103 FA-103 CONSTRUCTION Scale: 1/8" = 1'-0"



LOUNGE/LAUNDRY PLAN
4 FA-103 FA-103 CONSTRUCTION Scale: 1/8" = 1'-0"



MECHANICAL ROOM #6
5 FA-103 FA-103 CONSTRUCTION Scale: 1/8" = 1'-0"

GRAPHIC SCALE: 1/4"=1'-0"
4' 0 2' 4' 8'

GRAPHIC SCALE: 1/8"=1'-0"
8' 0 4' 8' 16'

GRAPHIC SCALE: 3/32"=1'-0"
8' 0 8' 16' 24'

COMMONWEALTH OF VIRGINIA
ALISON WAKELIN
Lic. No. 037705
8/13/10
PROFESSIONAL ENGINEER

MBFA NO.: 1001

MAUNE BELANGIA FAULKENBERRY ARCHITECTS, PA

317 Market Street Wilmington, NC 28401 Tel. 910.251.0555 Fax 910.251.0559 www.mbfarchitects.com

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA

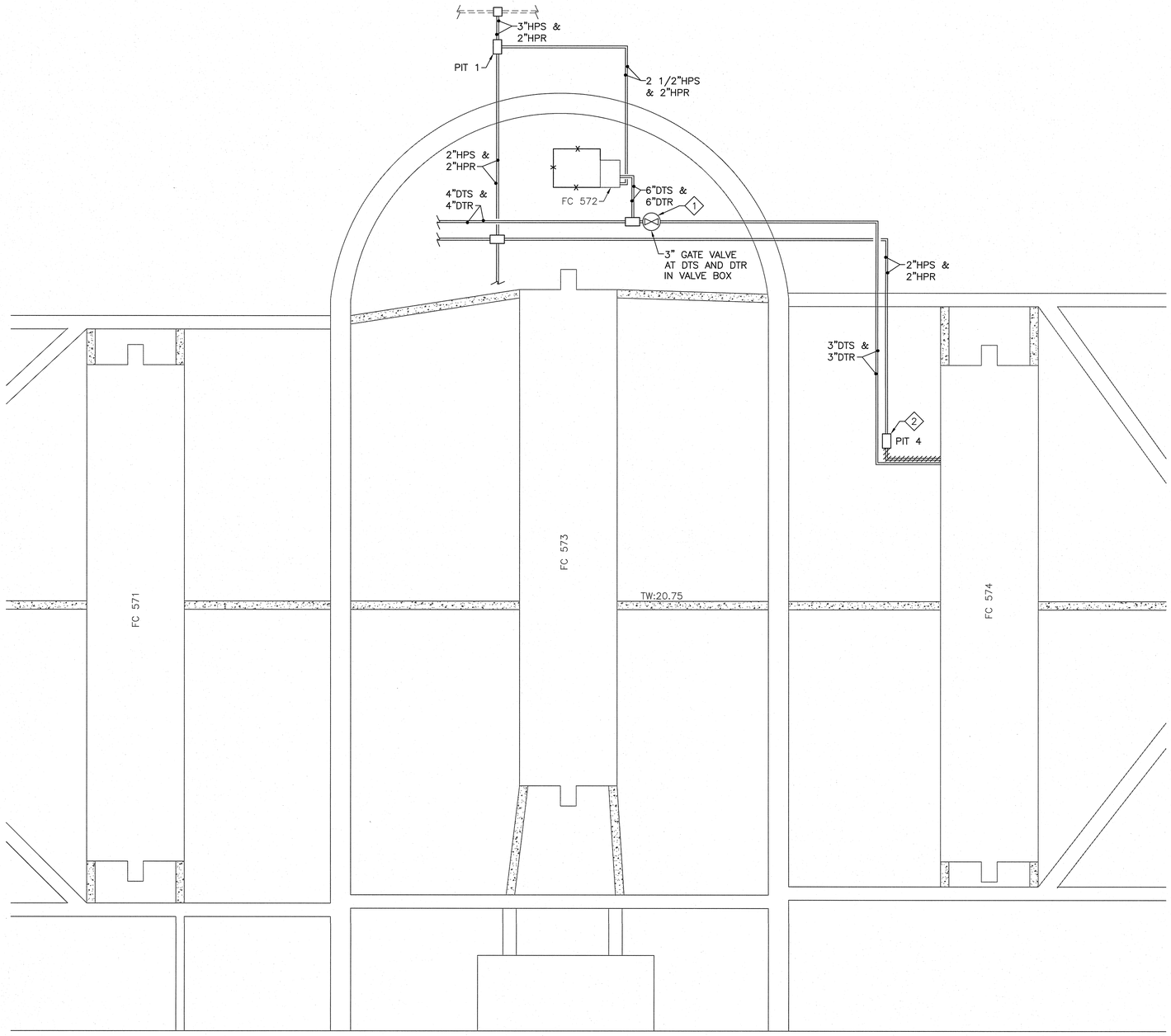
DES. AJW
DR. RC/DG/JB
CHK. AK/CS
SUBMITTED BY:
DESIGN DIR.
APPROVED: PWO OR OICC DATE
SATISFACTORY TO: DATE

STRUCTURAL AND HVAC
RENOVATION – FC574 BARRACK

FIRE ALARM
THIRD FLOOR PLAN

FA-103

SIZE	CODE IDENT NO.	NAVFAC DRAWING NO.
F	80091	60006311
		CONST. CONTR. NO. N40085-10-B-0010
SCALE: AS NOTED	SPEC. 05-10-0010	SHEET 26 OF 72



MECHANICAL PIPING SITE PLAN (EXISTING)
SCALE: 1" = 30'-0"

30' 0 30' 60'
SCALE: 1" = 30'
GRAPHIC SCALE

LEGEND

	MECHANICAL TO BE REMOVED
—x—	FENCE
⋈	GATE VALVE
HPS	HIGH PRESSURE SUPPLY (STEAM)
HPR	HIGH PRESSURE RETURN (CONDENSATE)
DTS	DUAL TEMPERATURE SUPPLY
DTR	DUAL TEMPERATURE RETURN

GENERAL NOTES:

1. DRAWINGS ARE DIAGRAMMATIC IN NATURE AND ARE NOT TO BE SCALED FOR DIMENSIONS, UNLESS DIMENSIONED.
2. COORDINATE LOCATION OF MECHANICAL WORK WITH OTHER TRADES TO AVOID CONFLICTS AND INTERFERENCES.
3. ALL EQUIPMENT AND PIPE SHALL BE SUPPORTED FROM BUILDING STRUCTURE ABOVE, UNLESS OTHERWISE NOTED.

DEMOLITION KEY NOTES:

1. CONTRACTOR SHALL CLOSE ISOLATION VALVES AND PERMANENTLY BLANK FLANGE TO DISABLE DTS & DTR PIPING TO FC574. BELOW GRADE PIPING TO REMAIN ABANDONED IN PLACE.
2. CONTRACTOR SHALL REMOVE STEAM AND CONDENSATE PIPING, CONTROLS, VALVES, AND EQUIPMENT FROM FC574 BACK TO PIT 4 AND PERMANENTLY BLANK OR CAP ALL STEAM AND CONDENSATE PIPING IN PIT 4.

MS-101

CEMS Engineering, Inc.
3509 Iron Horse Drive
Ladson, SC 29456
(P)843.875.3637
(F)843.875.4509
www.cemsengineering.com
CEMS Project #081585
Project Manager: P. Mahaffey

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA

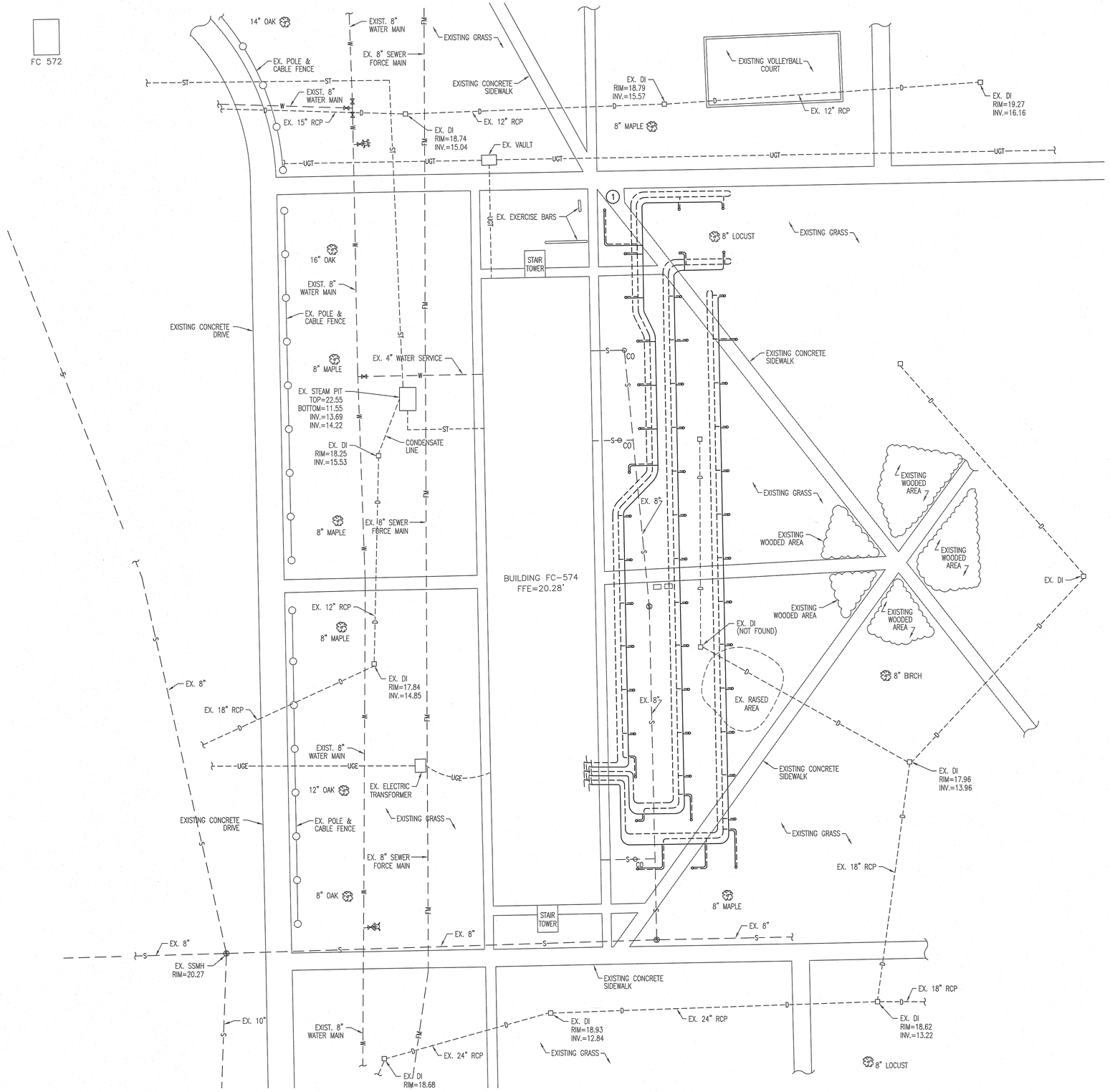
STRUCTURAL & HVAC RENOVATION
FC574 BARRACK

MECHANICAL PIPING SITE PLAN (EXISTING)

DES.	J. CARR
DR.	J. BARNES
CHK.	P. MAHAFFEY
SUBMITTED BY:	
DESIGN DIR.	
APPROVED: PWO OR OICC	DATE
SATISFACTORY TO:	DATE

SEAL 32273 NORTH CAROLINA PROFESSIONAL ENGINEER

SIZE	CODE IDENT NO.	NAVFAC DRAWING NO.	
F	80091	60006312	
CONST. CONTR. NO. N40085-10-B-0010			
SCALE:	SPEC. 10-B-0010	SHEET 27 OF 72	



GEOTHERMAL WELL FIELD SITE PLAN
SCALE: 1" = 20'-0"

20' 0 20' 40'
SCALE: 1" = 20'
GRAPHIC SCALE

LEGEND

----S----	SANITARY SEWER (GRAVITY)
----FM----	SANITARY SEWER (FORCE MAIN)
----D----	STORM SEWER
-------W-------	DOMESTIC WATER
-------ST-------	UNDERGROUND STEAM
------OHE------	OVERHEAD ELECTRICAL
------UGE------	UNDERGROUND ELECTRICAL
------UGT------	UNDERGROUND COMMUNICATIONS
————	GEOTHERMAL WELL FIELD WATER SUPPLY
- - - - - - - -	GEOTHERMAL WELL FIELD WATER RETURN
o	GEOTHERMAL WELL
DC	DRY COOLER

GENERAL NOTES:

1. MARK ALL EXISTING SITE UTILITIES IN AREAS WHERE NEW WORK IS CONDUCTED. WELL DRILLER TO COORDINATE WELL LOCATIONS WITH EXISTING UTILITIES SHOWN ON THIS DRAWING AND FOUND IN THE FIELD.
2. NO PARKING OF VEHICLES OR STORAGE OF MATERIALS, EQUIPMENT, AND SUPPLIES SHALL OCCUR UNDER, WITHIN, OR AROUND ANY TREE CANOPIES. IF THESE SPACES MUST BE USED, TREES IN THE LAYDOWN AREAS MUST BE PROTECTED.
3. CONTRACTOR TO ROUTE PIPING AROUND TREES AND BUSHES.
4. SEE SHEET M-502 FOR PIPE SIZING AND ROUTING DETAILS FOR GEOTHERMAL WATER SUPPLY AND RETURN LINES. WELLS TO BE SPACED AS SHOWN ON THIS SHEET.

NEW WORK KEYNOTES:

(1) GEOTHERMAL TEST BORE TO BE USED IN WELL FIELD.

MS-102

CEMS Engineering, Inc.
3509 Iron Horse Drive
Ladson, SC 29456
(P)843.875.3637
(F)843.875.4509
www.cemsengineering.com
CEMS Project #0815RS
Project Manager: P. Mahaffey

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA

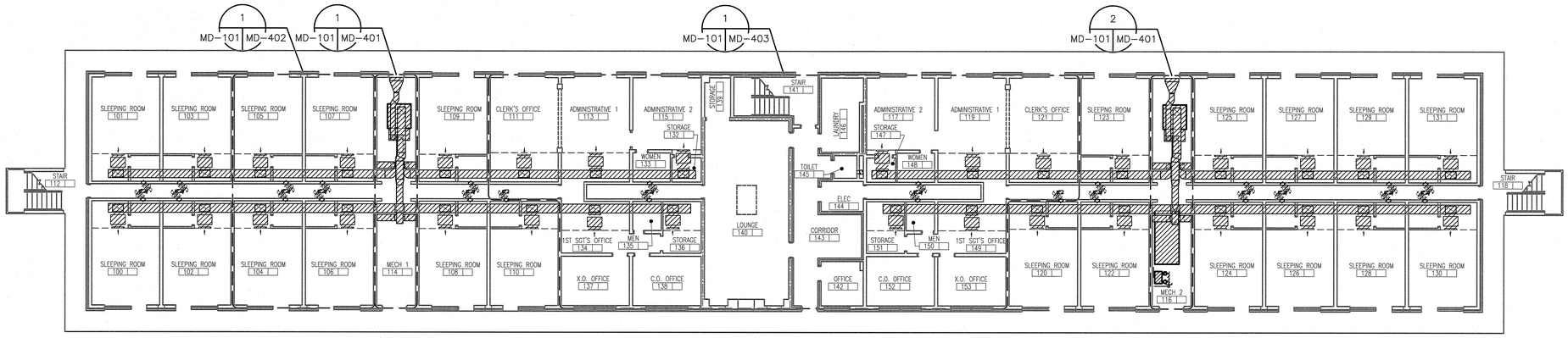
STRUCTURAL & HVAC RENOVATION
FC574 BARRACK

GEOTHERMAL WELL FIELD SITE PLAN

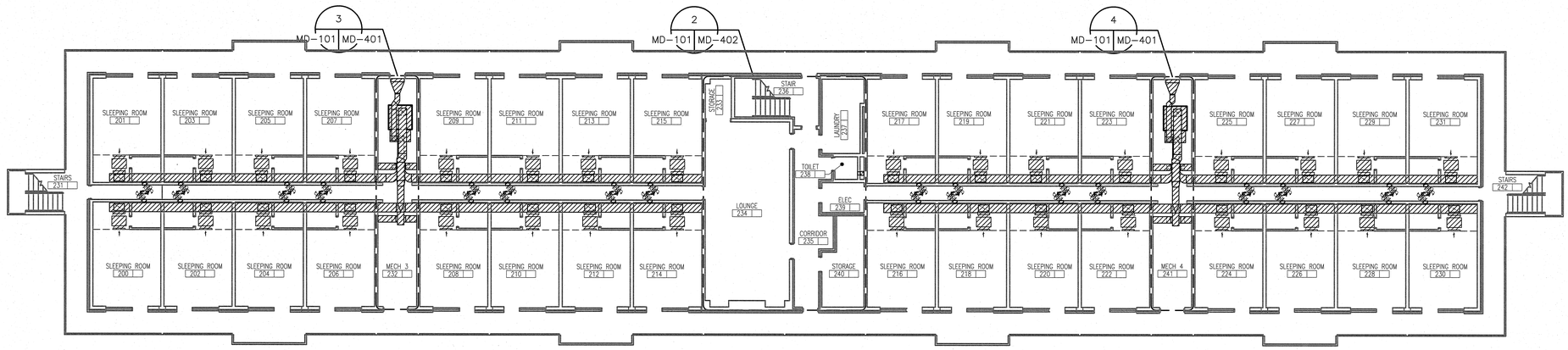
DES. J. CARR	
DR. J. BARNES	
CHK. P. MAHAFFEY	
SUBMITTED BY:	
DESIGN DIR.	
APPROVED: PWO OR OICC	DATE
SATISFACTORY TO:	DATE

NORTH CAROLINA SEAL 38273 PROFESSIONAL ENGINEER P. MAHAFFEY

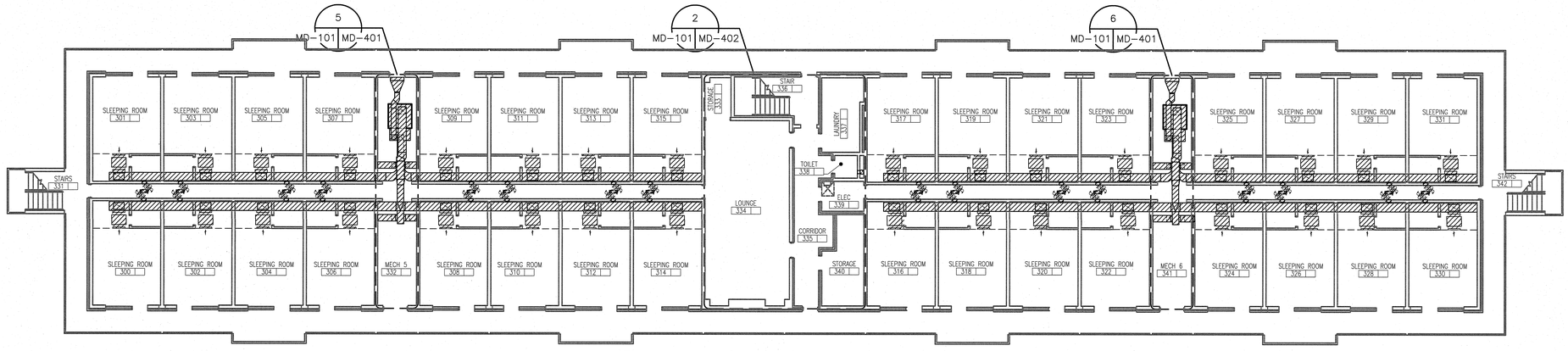
SIZE F | CODE IDENT NO. 80091 | NAVFAC DRAWING NO. 60006313
CONST. CONTR. NO. N40085-10-B-0010
SCALE: | SPEC. 10-B-0010 | SHEET 28 OF 72



FIRST FLOOR MECHANICAL DEMOLITION PLAN
SCALE: 3/32" = 1'-0"



SECOND FLOOR MECHANICAL DEMOLITION PLAN
SCALE: 3/32" = 1'-0"



THIRD FLOOR MECHANICAL DEMOLITION PLAN
SCALE: 3/32" = 1'-0"

LEGEND

DUCTWORK/MECHANICAL TO BE REMOVED

GENERAL DEMOLITION NOTES:

1. REMOVAL OF EQUIPMENT, DUCTWORK, PIPING, ETC. IS TO INCLUDE ALL ASSOCIATED HANGERS, SUPPORTS, BRACKETS, CONTROLS, AIR DEVICES, EQUIPMENT FOUNDATION/MOUNTING PADS AND APPURTENANCES PHYSICALLY ATTACHED AT THE COMMENCEMENT OF DEMOLITION, UNLESS NOTED OTHERWISE.
2. CONCEALED/BURIED PIPING MAY BE ABANDONED IN PLACE SO LONG AS IT DOES NOT INTERFERE WITH NEW WORK, UNLESS NOTED OTHERWISE.
3. ALL EQUIPMENT REMOVED, NOT INDICATED TO BE REUSED SHALL BECOME THE PROPERTY OF THE CONTRACTOR, UNLESS NOTED OTHERWISE, AND SHALL BE TRANSPORTED BY THE CONTRACTOR OFF SITE.
4. EXISTING EQUIPMENT INDICATED TO BE REUSED SHALL BE CLEANED AND SERVICED PRIOR TO REUSE.

   WHERE EQUIPMENT, DUCTWORK OR PIPING IS REMOVED AND NOT REPLACED, PATCH AND FINISH AREAS TO MATCH ADJACENT SURFACES.
6. SEE ENLARGED PLANS FOR EQUIPMENT REMOVAL.

24"0 4' 8' 16'
SCALE: 3/32" = 1'-0"
GRAPHIC SCALE

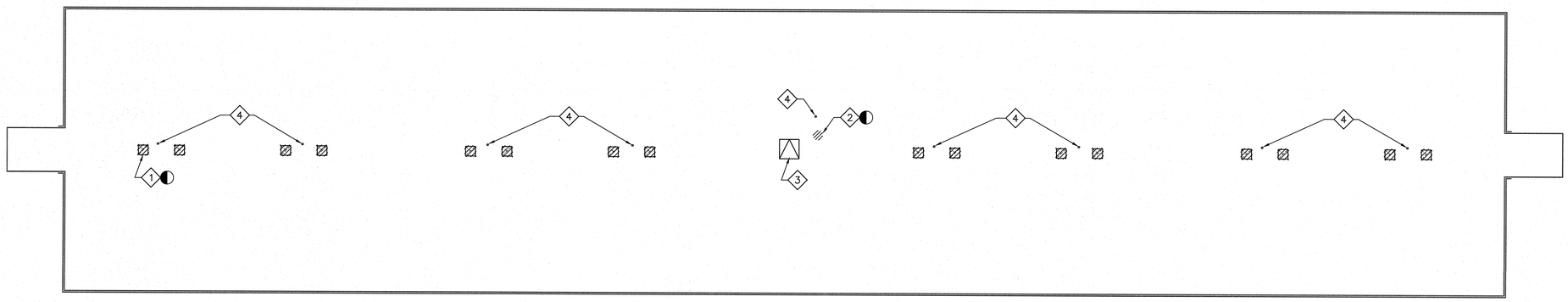
MD-101

CEMS Engineering, Inc.
3509 Iron Horse Drive
Ladson, SC 29456
(P)843.875.3637
(F)843.875.4509
www.cemsengineering.com
CEMS Project #081588
Project Manager: P. Mahaffey

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA

DES. J. CARR	STRUCTURAL & HVAC RENOVATION
DR. J. BARNES	FC574 BARRACK
CHK. P. MAHAFFEY	
SUBMITTED BY:	MECHANICAL DEMOLITION PLAN
DESIGN DIR.	
APPROVED: PWO OR OICC DATE	SIZE F · CODE IDENT NO. 80091 · NAVFAC DRAWING NO. 60006314
SATISFACTORY TO: DATE	CONST. CONTR. NO. N40085-10-B-0010
	SCALE: AS NOTED · SPEC. 10-B-0010 · SHEET 29 OF 72

SEAL 32273 REGISTERED PROFESSIONAL ENGINEER



ROOF MECHANICAL DEMOLITION PLAN
SCALE: 3/32" = 1'-0"

LEGEND:

- POINT OF DISCONNETION BETWEEN EXISTING TO REMAIN AND EXISTING TO BE REMOVED
- EXISTING PLUMBING VENT
- EXHAUST DUCT/VENT

DEMOLITION KEYNOTES:

1. REMOVE EXISTING CURB MOUNTED RELIEF VENT. EXISTING CURB AND 12x12 EXHAUST DUCT TO REMAIN. TYPICAL FOR 16.
2. EXISTING ROOF EXHAUST FAN TO BE REMOVED. EXISTING CURB AND 10x10 EXHAUST DUCT DOWN TO REMAIN.
3. EXISTING ROOF HATCH TO REMAIN.
4. EXISTING 4" VENT THRU ROOF TO BE EXTENDED UP THRU NEW ROOF – SEE DETAIL ON SHEET P-501.

24"0 4' 8' 16'
SCALE: 3/32" = 1'-0"
GRAPHIC SCALE

MD-102

CEMS Engineering, Inc.
3309 Iron Horse Drive
Ladson, SC 29456
(P)843.875.3637
(F)843.875.4509
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CEMS Project #081585
Project Manager: P. Mahaffey

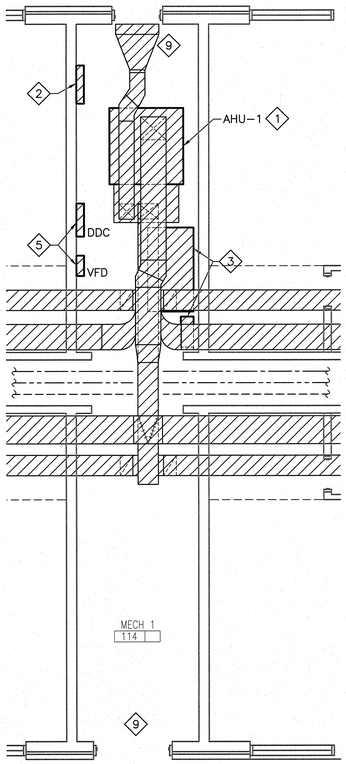
DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA

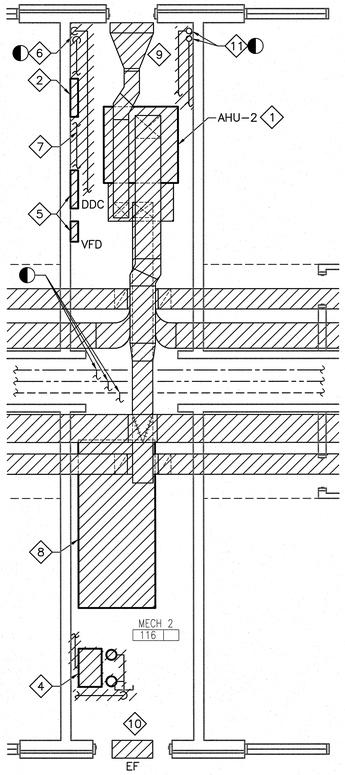
STRUCTURAL & HVAC RENOVATION
FC574 BARRACK

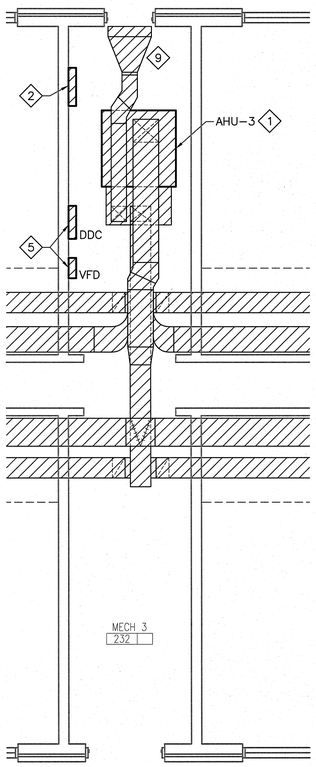
ROOF MECHANICAL DEMOLITION PLAN

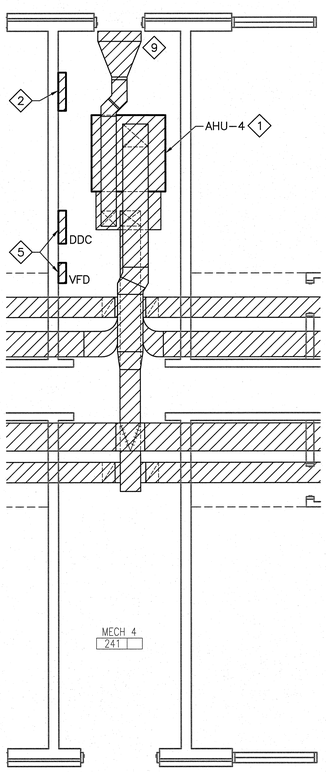
DES. J. CARR	
DR. J. BARNES	
CHK. P. MAHAFFEY	
SUBMITTED BY:	
DESIGN DIR.	
APPROVED: PWO OR OICC	DATE
SATISFACTORY TO:	DATE

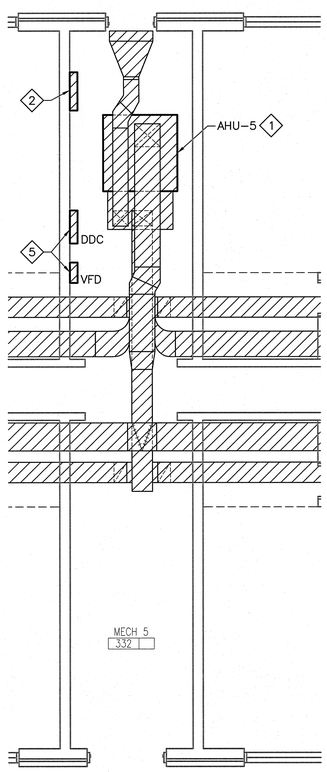
SIZE	CODE IDENT NO.	NAVFAC DRAWING NO.	
F	80091	60006315	
CONST. CONTR. NO. N40085-10-B-0010			
SCALE: AS NOTED	SPEC. 10-B-0010	SHEET 30 OF 72	

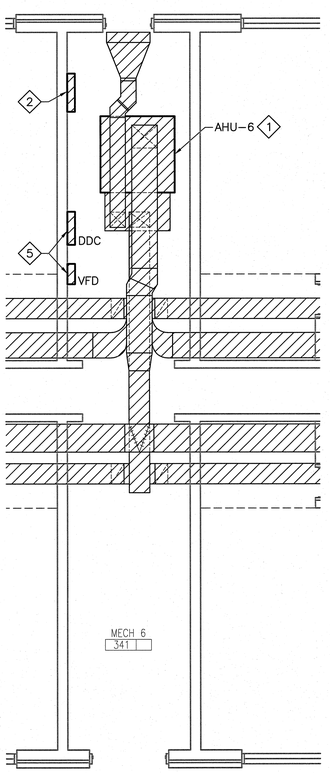












1 MD-101 MD-401 ENLARGED MECHANICAL DEMOLITION PLAN
SCALE: 1/4" = 1'-0"

2 MD-101 MD-401 ENLARGED MECHANICAL DEMOLITION PLAN
SCALE: 1/4" = 1'-0"

3 MD-101 MD-401 ENLARGED MECHANICAL DEMOLITION PLAN
SCALE: 1/4" = 1'-0"

4 MD-101 MD-401 ENLARGED MECHANICAL DEMOLITION PLAN
SCALE: 1/4" = 1'-0"

5 MD-101 MD-401 ENLARGED MECHANICAL DEMOLITION PLAN
SCALE: 1/4" = 1'-0"

6 MD-101 MD-401 ENLARGED MECHANICAL DEMOLITION PLAN
SCALE: 1/4" = 1'-0"

LEGEND

////	TO BE REMOVED
AHU	AIR HANDLING UNIT
◐	POINT OF DISCONNECTION BETWEEN EXISTING TO REMAIN AND EXISTING TO BE REMOVED
DDC	DIRECT DIGITAL CONTROLS
VFD	VARIABLE FREQUENCY DRIVE
——-——	DOMESTIC COLD WATER, CW
——--——	DOMESTIC HOT WATER, HW
------	DOMESTIC HOT WATER RECIRC, HWR
DTS	DUAL TEMPERATURE SUPPLY
DTR	DUAL TEMPERATURE RETURN
EF	EXHAUST FAN

DEMOLITION KEYNOTES:

1. REMOVE AIR HANDLER, DUCTWORK, DUAL TEMPERATURE PIPING, CONTROLS, EQUIPMENT PAD, AND ALL ASSOCIATED PIPING IN THEIR ENTIRETY.
2. REMOVE PNEUMATIC CONTROL CABINET AND ASSOCIATED CONTROL AIR TUBING BACK TO AIR COMPRESSOR.
3. REMOVE AIR COMPRESSOR, AIR DRYER AND ALL ASSOCIATED CONTROL AIR TUBING. TURN OVER AIR COMPRESSOR TO GOVERNMENT.
4. REMOVE ELECTRIC CONDENSATE PUMP AND MOTORS.
5. REMOVE DDC AND VFD CONTROLS AND ALL ASSOCIATED CONDUIT AND WIRING.
6. REMOVE ALL STEAM PIPING, AND ALL ASSOCIATED DEVICES. REMOVE ALL VALVES AND CAP PIPING FLUSH WITH FLOOR.
7. REMOVE ALL LOW PRESSURE STEAM PIPING AND PRV AND ALL ASSOCIATED PIPING COMPONENTS.
8. REMOVE HEAT EXCHANGER, STORAGE TANK, AND ALL ASSOCIATED PIPING. DOMESTIC COLD WATER, DOMESTIC HOT WATER, AND DOMESTIC HOT WATER RECIRC PIPING TO BE CUT BACK TO MAIN LINES RUNNING THE LENGTH OF THE BUILDING. PIPING TO BE PREPARED FOR ATTACHMENT OF NEW PIPING.
9. PROVIDE 1" INSULATED SHEET METAL CAP ON BACK OF OUTSIDE AIR LOUVER.
10. REMOVE EXHAUST FAN AND ALL ASSOCIATED WIRING AND CONTROLS. PROVIDE 1" INSULATED SHEET METAL CAP ON BACK OF OUTSIDE AIR LOUVER.
11. REMOVE DTS/DTR PIPING BACK TO FLOOR PENETRATION. PIPING TO BE CAPPED FLUSH WITH FLOOR.

12"0 2' 4' 8'
SCALE: 1/4" = 1'-0"
GRAPHIC SCALE

MD-401

CEMS Engineering, Inc.
3509 Iron Horse Drive
Ladson, SC 29456
(P)843.875.3637
(F)843.875.4509
www.cemsengineering.com
CEMS Project #0815SS
Project Manager: P. Mahaffey

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA

STRUCTURAL & HVAC RENOVATION
FC574 BARRACK

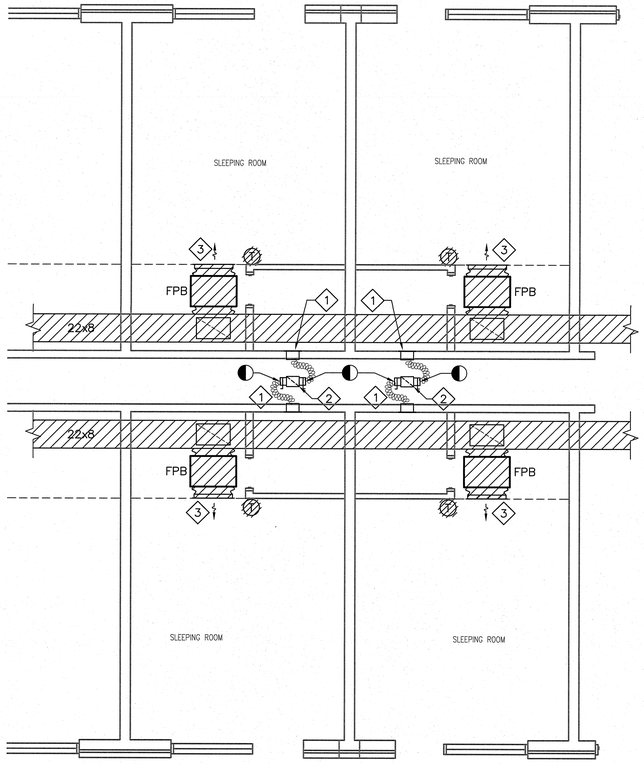
ENLARGED MECHANICAL DEMOLITION PLANS

DES.	J. CARR
DR.	J. BARNES
CHK.	P. MAHAFFEY
SUBMITTED BY:	
DESIGN DIR.	
APPROVED: PWO OR OICC	DATE
SATISFACTORY TO:	DATE

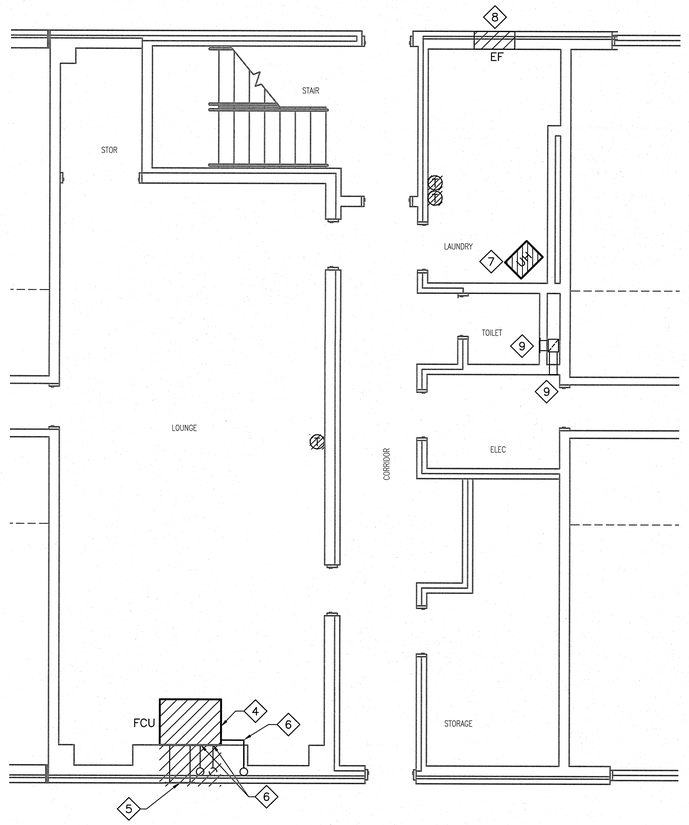
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 39279 PAUL MAHAFFEY

SIZE	CODE IDENT NO.	NAVFAC DRAWING NO.
F	80091	60006316

CONST. CONTR. NO. N40085-10-B-0010
SCALE: AS NOTED | SPEC. 10-B-0010 | SHEET 31 OF 72



1 MD-101 MD-402 ENLARGED MECHANICAL DEMOLITION PLAN
SCALE: 1/4" = 1'-0"



2 MD-101 MD-402 ENLARGED SECOND AND THIRD FLOOR MECHANICAL DEMOLITION PLAN
SCALE: 1/4" = 1'-0"

LEGEND

//////	TO BE REMOVED
FCU	FAN COIL UNIT
FPB	FAN POWERED BOX
UH	UNIT HEATER
EF	EXHAUST FAN
◐	POINT OF DISCONNECTION BETWEEN EXISTING TO REMAIN AND EXISTING TO BE REMOVED
(T)	THERMOSTAT
DTS	DUAL TEMPERATURE SUPPLY
DTR	DUAL TEMPERATURE RETURN

DEMOLITION KEYNOTES:

1. REMOVE EXISTING WALL MOUNTED EXHAUST FAN AND RELATED 4"ø FLEX DUCT. REMOVE FLEX DUCT BACK TO EXISTING EXHAUST RISER. SEE RISER DIAGRAM. RE-USE EXISTING WALL OPENING.
2. EXISTING EXHAUST RISER TO REMAIN.
3. REMOVE EXISTING FAN POWERED BOX (FPB), PNEUMATIC CONTROLS, RELATED CONTROL TUBING, ALL ASSOCIATED DUCTWORK, GRILLES, AND DIFFUSERS.
4. REMOVE EXISTING FAN COIL UNIT AND RELATED PNEUMATIC CONTROLS.
5. REMOVE EXISTING OUTSIDE AIR INTAKE. PROVIDE 1" INSULATED SHEET METAL CAP ON BACK OF OUTSIDE AIR LOUVER.
6. DISCONNECT EXISTING FAN COIL UNIT FROM EXISTING DTS/DTR AND CONDENSATE PIPING AT WALL. PROVIDE AND INSTALL PERMANENT CAPS TO CONDENSATE AND DTS/DTR PIPING FLUSH TO WALL.
7. REMOVE UNIT HEATER, THERMOSTAT, CONTROL WIRING, AND PIPING BACK TO WALL. PROVIDE AND INSTALL PERMANENT CAPS FLUSH TO WALL.
8. REMOVE EXHAUST FAN, GRAVITY SHUTTER AND ALL ASSOCIATED WIRING AND CONTROLS. PROVIDE AND INSTALL 1" INSULATED SHEET METAL CAP ON BACK OF LOUVER.
9. EXHAUST GRILLE AND RISER TO REMAIN.

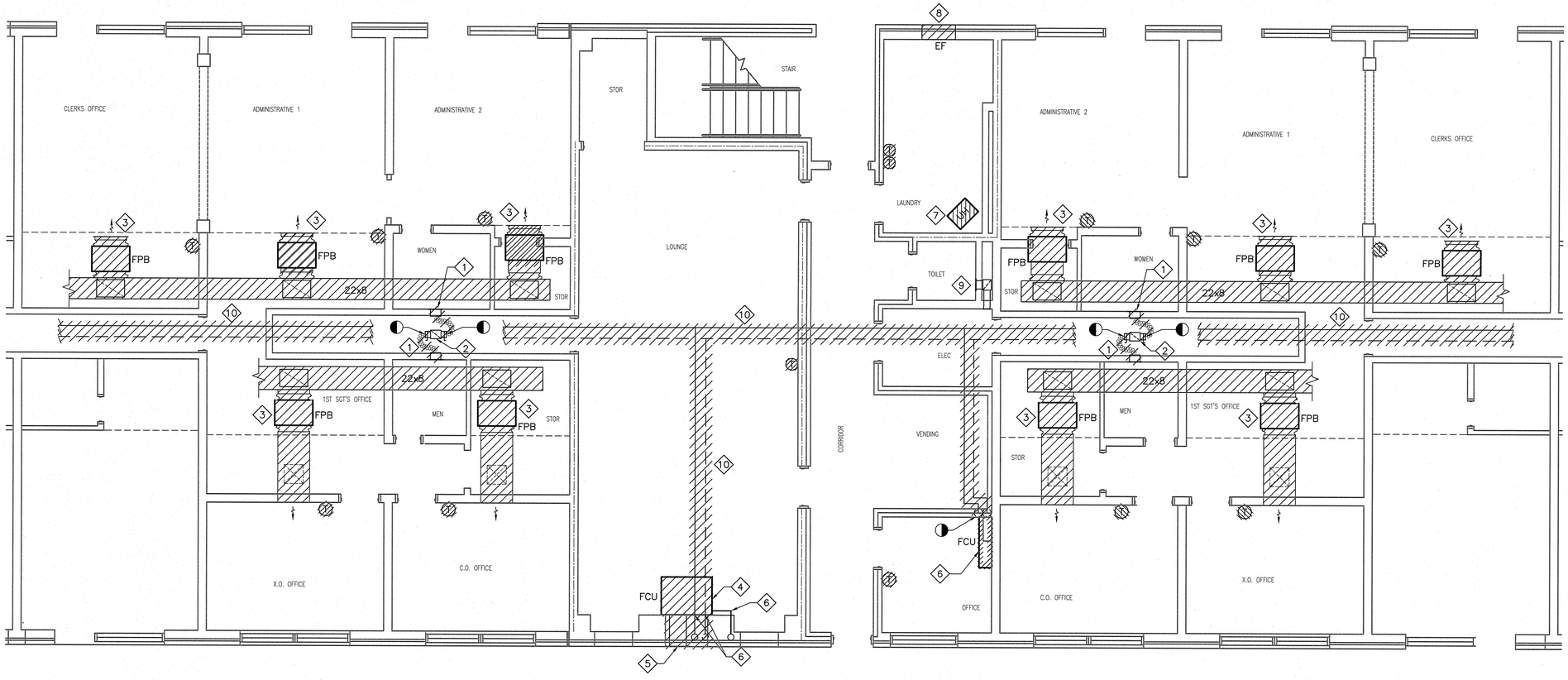
12"0 2' 4' 8'
SCALE: 1/4" = 1'-0"
GRAPHIC SCALE

MD-402

CEMS Engineering, Inc.
3509 Iron Horse Drive
Ladson, SC 29456
(P)843.875.3637
(F)843.875.4509
www.cemsengineering.com
CEMS Project #08158S
Project Manager: P. Mahaffey

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA

DES. J. CARR	STRUCTURAL & HVAC RENOVATION
DR. J. BARNES	FC574 BARRACK
CHK. P. MAHAFFEY	
SUBMITTED BY:	ENLARGED MECHANICAL DEMOLITION PLANS
DESIGN DIR.	
APPROVED: PWO OR OICC DATE	SIZE F · CODE IDENT NO. 80091 · NAVFAC DRAWING NO. 60006317
SATISFACTORY TO: DATE	CONST. CONTR. NO. N40085-10-B-0010
	SCALE: AS NOTED · SPEC. 10-B-0010 · SHEET 32 OF 72



1 ENLARGED FIRST FLOOR MECHANICAL DEMOLITION PLAN
MD-101 MD-403 SCALE: 1/4" = 1'-0"

LEGEND

////	TO BE REMOVED
FCU	FAN COIL UNIT
FPB	FAN POWERED BOX
UH	UNIT HEATER
EF	EXHAUST FAN
DTS	DUAL TEMPERATURE SUPPLY
DTR	DUAL TEMPERATURE RETURN
◐	POINT OF DISCONNECTION BETWEEN EXISTING TO REMAIN AND EXISTING TO BE REMOVED
(T)	THERMOSTAT

DEMOLITION KEYNOTES:

1. REMOVE EXISTING WALL MOUNTED EXHAUST FAN AND RELATED 4"ø FLEX DUCT. REMOVE FLEX DUCT BACK TO EXISTING EXHAUST RISER. SEE RISER DIAGRAM. RE-USE EXISTING WALL OPENING.
2. EXISTING EXHAUST RISER TO REMAIN.
3. REMOVE EXISTING FAN POWERED BOX (FPB), PNEUMATIC CONTROLS, RELATED CONTROL TUBING, ALL ASSOCIATED DUCTWORK, GRILLES, AND DIFFUSERS.
4. REMOVE EXISTING FAN COIL UNIT AND RELATED PNEUMATIC CONTROLS.
5. REMOVE EXISTING OUTSIDE AIR INTAKE. PROVIDE 1" INSULATED SHEET METAL CAP ON BACK OF OUTSIDE AIR LOUVER.
6. DISCONNECT EXISTING FAN COIL UNIT FROM EXISTING DTS/DTR AND CONDENSATE PIPING AT WALL. PROVIDE AND INSTALL PERMANENT CAPS TO CONDENSATE AND DTS/DTR PIPING FLUSH TO WALL.
7. REMOVE UNIT HEATER, THERMOSTAT, CONTROL WIRING, AND PIPING BACK TO WALL. PROVIDE AND INSTALL PERMANENT CAPS FLUSH TO WALL.
8. REMOVE EXHAUST FAN, GRAVITY SHUTTER, AND ALL ASSOCIATED WIRING AND CONTROLS. PROVIDE AND INSTALL 1" INSULATED SHEET METAL CAP ON BACK OF LOUVER.
9. EXHAUST GRILLE AND RISER TO REMAIN.
10. REMOVE ALL DTS/DTR PIPING IN THE BUILDING.

12" 0 2' 4' 8'
SCALE: 1/4" = 1'-0"
GRAPHIC SCALE

MD-403

CEMS Engineering, Inc.
3509 Iron Horse Drive
Ladson, SC 29456
(P)843.875.3637
(F)843.875.4509
www.cemsengineering.com
CEMS Project #08158S
Project Manager: P. Mahaffey

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA

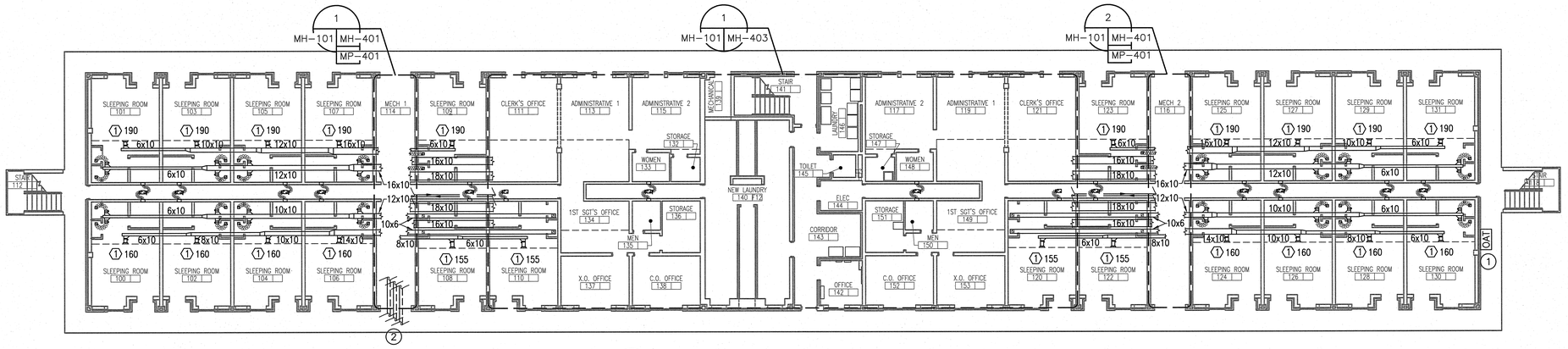
STRUCTURAL & HVAC RENOVATION
FC574 BARRACK

ENLARGED FIRST FLOOR MECHANICAL DEMOLITION PLAN

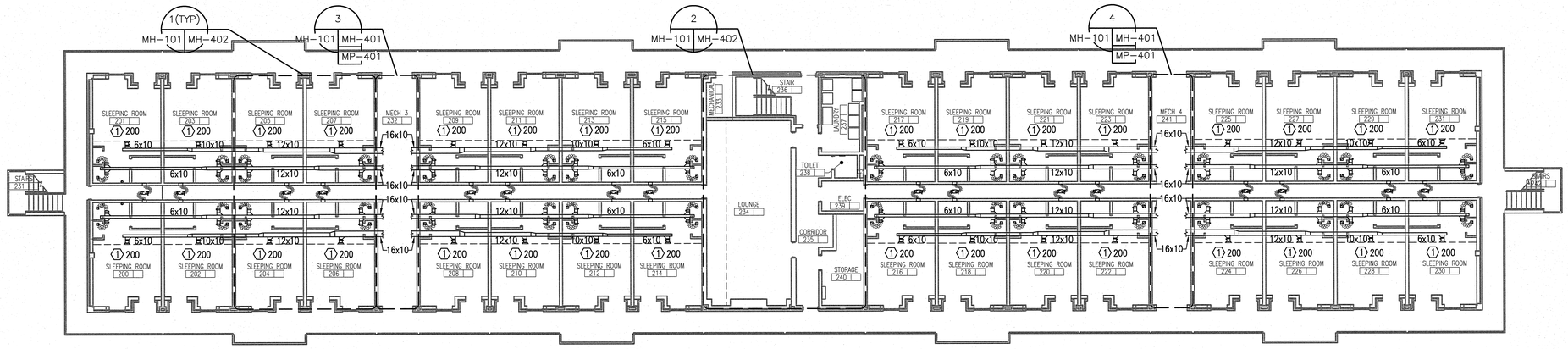
DES. J. CARR	
DR. J. BARNES	
CHK. P. MAHAFFEY	
SUBMITTED BY:	
DESIGN DIR.	
APPROVED: PWO OR OICC	DATE
SATISFACTORY TO:	DATE

SEAL 32273 REGISTERED PROFESSIONAL ENGINEER MAHAFFEY

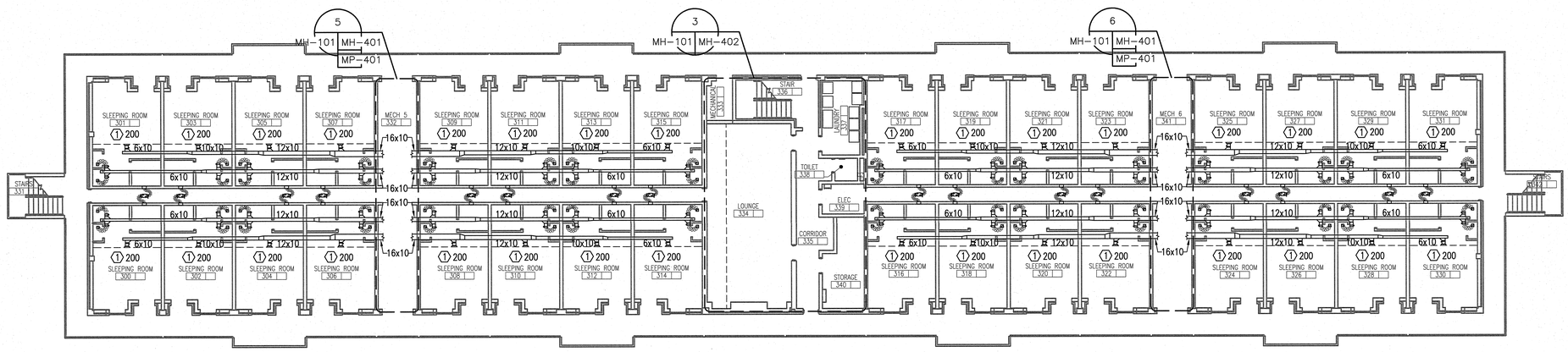
SIZE	CODE IDENT NO.	NAVFAC DRAWING NO.	
F	80091	60006318	
CONST. CONTR. NO. N40085-10-B-0010			
SCALE: AS NOTED	SPEC. 10-B-0010	SHEET 33 OF 72	



FIRST FLOOR MECHANICAL NEW WORK PLAN
SCALE: 3/32" = 1'-0"



SECOND FLOOR MECHANICAL NEW WORK PLAN
SCALE: 3/32" = 1'-0"



THIRD FLOOR MECHANICAL NEW WORK PLAN
SCALE: 3/32" = 1'-0"

LEGEND

- SOFFIT
- GEOTHERMAL WATER SUPPLY
- GEOTHERMAL WATER RETURN
- SIDEWALL SUPPLY GRILLE
- EXHAUST DUCT
- RETURN GRILLE
- 45° TAKE OFF
- FLEXIBLE DUCT
- VD — MANUAL VOLUME DAMPER
- OAT — OUTDOOR AIR TEMPERATURE SENSOR

GENERAL NOTES:

1. DRAWINGS ARE DIAGRAMMATIC IN NATURE AND ARE NOT TO BE SCALED FOR DIMENSIONS, UNLESS DIMENSIONED.
2. COORDINATE LOCATION OF MECHANICAL WORK WITH OTHER TRADES TO AVOID CONFLICTS AND INTERFERENCES.
3. ALL EQUIPMENT, PIPE AND DUCTWORK SHALL BE SUPPORTED FROM BUILDING STRUCTURE ABOVE, UNLESS OTHERWISE NOTED.
4. DUCTWORK SHALL BE GALVANIZED STEEL FABRICATED AND INSTALLED IN ACCORDANCE WITH SMACNA STANDARDS.
5. DUCT SIZES INDICATED ARE NET FREE INSIDE DIMENSIONS.

KEYNOTES:

(1) PROVIDE AND INSTALL OUTDOOR AIR TEMPERATURE SENSOR IN WEATHERPROOF ENCLOSURE. PROVIDE AND INSTALL SHIELDS TO SHADE SENSOR FROM DIRECT SUNLIGHT.

(2) SEE SHEET MS-102 FOR GEOTHERMAL WELL FIELD PIPING CONTINUATION.

24"0 4' 8' 16'
SCALE: 3/32" = 1'-0"
GRAPHIC SCALE

MH-101

CEMS Engineering, Inc.
3509 Iron Horse Drive
Ladson, SC 29456
(P)843.875.3637
(F)843.875.4559
www.cemsengineering.com
CEMS Project #081583
Project Manager: P. Mahaffey

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA

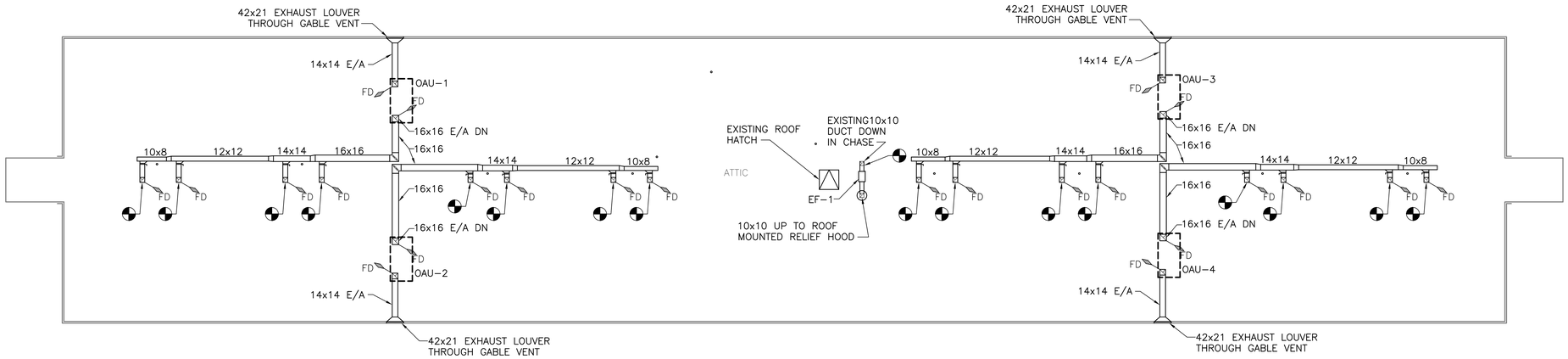
STRUCTURAL & HVAC RENOVATION
FC574 BARRACK

MECHANICAL NEW WORK PLAN

DES. J. CARR	
DR. J. BARNES	
CHK. P. MAHAFFEY	
SUBMITTED BY:	
DESIGN DIR.	
APPROVED: PWO OR OICC	DATE
SATISFACTORY TO:	DATE

SIZE	CODE IDENT NO.	NAVFAC DRAWING NO.
F	80091	60006319

CONST. CONTR. NO. N40085-10-B-0010
SCALE: AS NOTED | SPEC. 10-B-0010 | SHEET 34 OF 72



ATTIC MECHANICAL NEW WORK PLAN
SCALE: 3/32" = 1'-0"

LEGEND

EF	EXHAUST FAN
OAU	OUTDOOR AIR UNIT
E/A	EXHAUST AIR
FD	HORIZONTAL FIRE DAMPER
	POINT OF CONNECTION BETWEEN NEW AND EXISTING
	EXTEND EXISTING PLUMBING VENT UP THRU ROOF SEE DETAIL SHEET P-501.
	EXHAUST DUCT
VD	MANUAL VOLUME DAMPER
	45° TAKE OFF

GENERAL NOTE:

1. EXTEND ALL NEW AND EXISTING PLUMBING VENTS THRU NEW ROOF. SEE DETAIL ON SHEET P-501.
2. OUTDOOR AIR UNITS 1 THRU 4 LOCATED IN MECHANICAL ROOMS BELOW.

24"0 4' 8' 16'
SCALE: 3/32" = 1'-0"
GRAPHIC SCALE

1 08/20/10 FINALS COMMENT REVISIONS

MH-102

CEMS Engineering, Inc.
3509 Iron Horse Drive
Ladson, SC 29456
(P)843.875.3637
(F)843.875.4509
www.cemsengineering.com
CEMS Project #08156S
Project Manager: P. Mahaffey

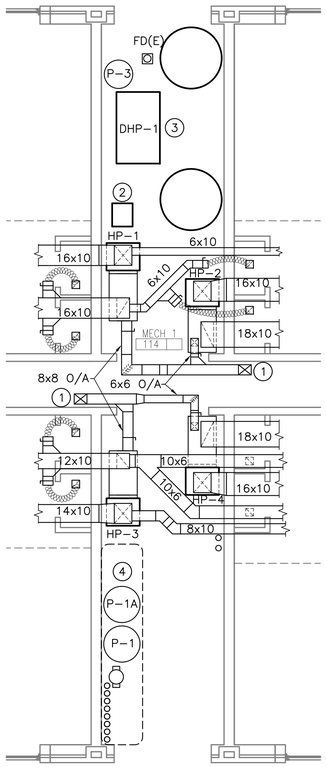
DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA

STRUCTURAL & HVAC RENOVATION
FC574 BARRACK

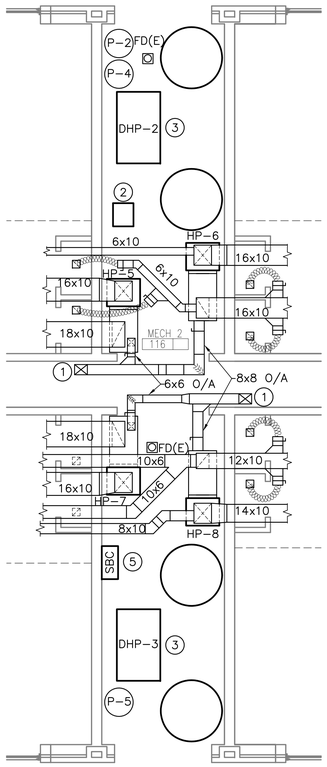
ATTIC MECHANICAL NEW WORK PLAN

DES. J. CARR
DR. J. BARNES
CHK. P. MAHAFFEY
SUBMITTED BY:
DESIGN DIR.
APPROVED: PWO OR OICC DATE
SATISFACTORY TO: DATE

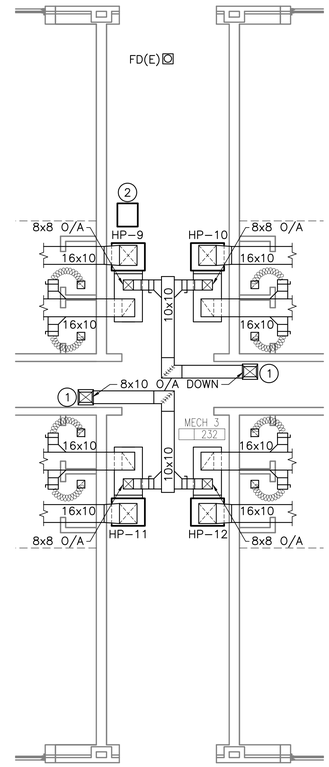
SIZE F | CODE IDENT NO. 80091 | NAVFAC DRAWING NO. 60006320
CONST. CONTR. NO. N40085-10-B-0010
SCALE: AS NOTED | SPEC. 10-B-0010 | SHEET 35 OF 72



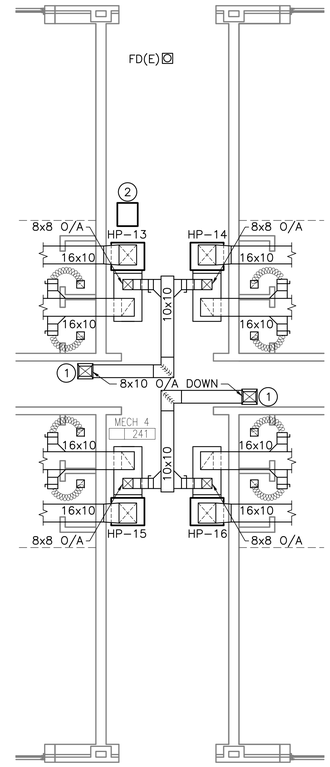
1 ENLARGED MECHANICAL NEW WORK PLAN
MH-101 | MH-401 SCALE: 1/4" = 1'-0"



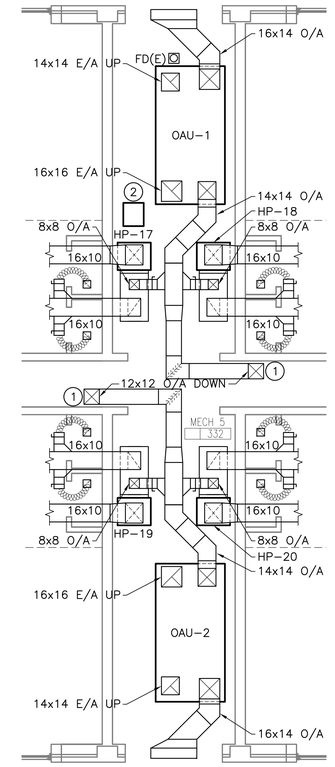
2 ENLARGED MECHANICAL NEW WORK PLAN
MH-101 | MH-401 SCALE: 1/4" = 1'-0"



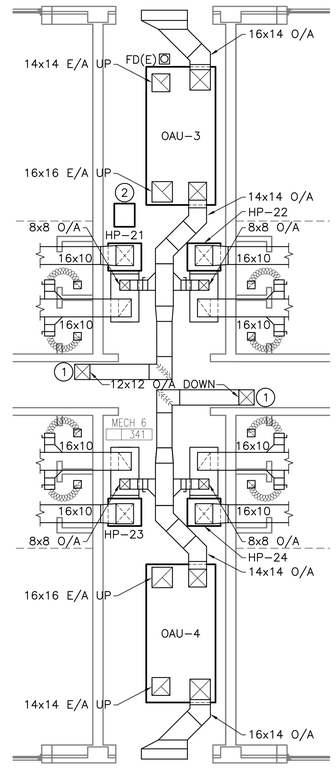
3 ENLARGED MECHANICAL NEW WORK PLAN
MH-101 | MH-401 SCALE: 1/4" = 1'-0"



4 ENLARGED MECHANICAL NEW WORK PLAN
MH-101 | MH-401 SCALE: 1/4" = 1'-0"



5 ENLARGED MECHANICAL NEW WORK PLAN
MH-101 | MH-401 SCALE: 1/4" = 1'-0"



6 ENLARGED MECHANICAL NEW WORK PLAN
MH-101 | MH-401 SCALE: 1/4" = 1'-0"

LEGEND

-----	SOFFIT
HP	GEOTHERMAL HEAT PUMP
OAU	OUTDOOR AIR UNIT
DHP	DOMESTIC GEOTHERMAL HEAT PUMP
O/A	OUTSIDE AIR
E/A	EXHAUST AIR
	EXHAUST DUCT
	RETURN GRILLE
	FLEXIBLE DUCT
VD	MANUAL VOLUME DAMPER
	45° TAKE OFF
FD	FLOOR DRAIN
(E)	EXISTING
SBC	SITE BUILDING CONTROLLER

NEW WORK KEYNOTES:

1. NEW OUTSIDE AIR DUCT DOWN WITH FIRE DAMPER AT EACH FLOOR. SEE ISOMETRIC DIAGRAMS SHEET M-603. SEE ARCHITECTURAL DRAWINGS FOR OPENING DETAILS.
2. PROVIDE DEHUMIDIFIER IN EACH MECHANICAL ROOM (6 TOTAL). DEHUMIDIFIER SHALL REMOVE MINIMUM 50 PINTS/DAY, BE ENERGY STAR QUALIFIED, AND HARD PIPED TO FLOOR DRAIN. DEHUMIDIFIER SHALL OPERATE DOWN TO 55°F ROOM TEMPERATURE.
3. SEE SHEET M-502 FOR DOMESTIC HOT WATER GEOTHERMAL HEAT PUMP AND HOT WATER STORAGE TANK DETAILS.
4. SEE SHEET M-501 FOR GEOTHERMAL PUMP DETAIL. SEE SHEET M-502 FOR HEADER PIPING DETAIL.
5. INSTALL SITE BUILDING CONTROLLER.

12"0 2' 4' 8'
SCALE: 1/4" = 1'-0"
GRAPHIC SCALE

1 08/25/10 OUTDOOR AIR RISER UPDATE

MH-401

CEMS ENGINEERING
CEMS Engineering, Inc.
3509 Iron Horse Drive
Ladson, SC 29456
(P)843.875.3637
(F)843.875.4509
www.cemsengineering.com
CEMS Project #08158S
Project Manager: P. Mahaffey

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA

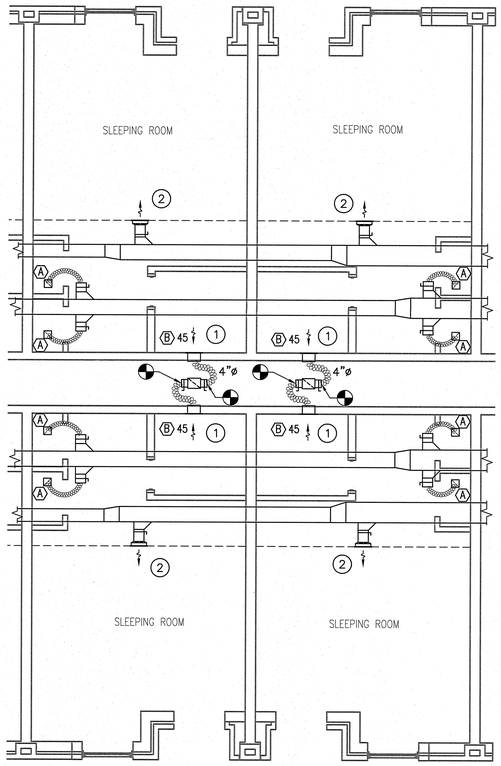
STRUCTURAL & HVAC RENOVATION
FC574 BARRACK

ENLARGED MECHANICAL NEW WORK PLANS

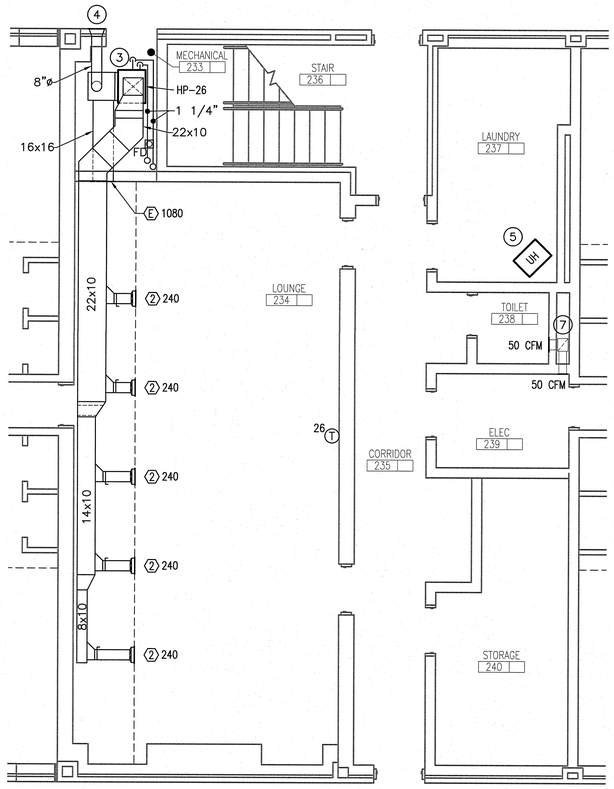
DES. J. CARR	
DR. J. BARNES	
CHK. P. MAHAFFEY	
SUBMITTED BY:	
DESIGN DIR.	
APPROVED: PWO OR OICC	DATE
SATISFACTORY TO:	DATE

SEAL 32273 REGISTERED PROFESSIONAL ENGINEER PAUL C. MAHAFFEY

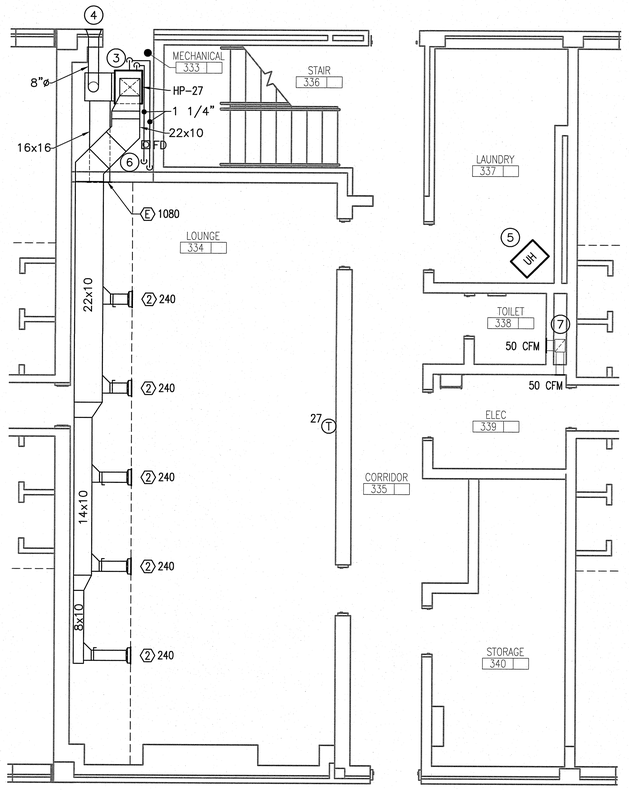
SIZE F	CODE IDENT NO. 80091	NAVFAC DRAWING NO. 60006321
		CONST. CONTR. NO. N40085-10-B-0010
SCALE: AS NOTED	SPEC. 10-B-0010	SHEET 36 OF 72



1 — TYPICAL ENLARGED ROOM NEW WORK PLAN
MH-101 | MH-402 SCALE: 1/4" = 1'-0"



2 — ENLARGED SECOND FLOOR MECHANICAL NEW WORK PLAN
MH-101 | MH-402 SCALE: 1/4" = 1'-0"



3 — ENLARGED THIRD FLOOR MECHANICAL NEW WORK PLAN
MH-101 | MH-402 SCALE: 1/4" = 1'-0"

LEGEND:

- - - - -	SOFFIT
HP	GEOTHERMAL HEAT PUMP
◔	POINT OF CONNECTION BETWEEN NEW AND EXISTING
(T)	THERMOSTAT
UH	UNIT HEATER
———	GEOTHERMAL WATER SUPPLY
———o	PIPE TURNING UP
———ɔ	PIPE TURNING DOWN

NEW WORK KEYNOTES:

1. PROVIDE AND INSTALL NEW EXHAUST GRILLE AND NEW FLEX DUCT TO RISER. SEE RISER DIAGRAM SHEET M-603. PROVIDE SQUARE TO ROUND TRANSITION TO NEW GRILLE AT EXISTING WALL OPENING.
2. SEE SHEET MH-101 FOR SPECIFIC GRILL CALL OUTS, CFMS, AND DUCT SIZING.
3. ROUTE CONDENSATE TO FLOOR DRAIN.
4. PROVIDE AND INSTALL NEW OUTDOOR AIR DUCT AND LOUVER, LOUVER TO BE 12x12.
5. PROVIDE AND INSTALL NEW 5KW UNIT HEATER, 208/3/60. UNIT HEATER SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS INCLUDING MOUNTING CLEARENCE AND MOUNTING HEIGHT REQUIREMENTS. UNIT HEATER TO ENERGIZE WHEN ROOM TEMPERATURE DROPS BELOW 65°F.
6. PROVIDE AND INSTALL AUTOMATIC AIR VENTS TO GEOTHERMAL WATER SUPPLY INLET AND OUTLET PIPING DIRECTLY ABOVE ELBOWS AT THE HIGHEST POINT.
7. EXISTING EXHAUST RISER AND GRILLES.

12"0 2' 4' 8'
SCALE: 1/4" = 1'-0"
GRAPHIC SCALE

MH-402

CEMS Engineering, Inc.
3509 Iron Horse Drive
Ladson, SC 29456
(P)843.875.3637
(F)843.875.4509
www.cemsengineering.com
CEMS Project #08158S
Project Manager: P. Mahaffey

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA

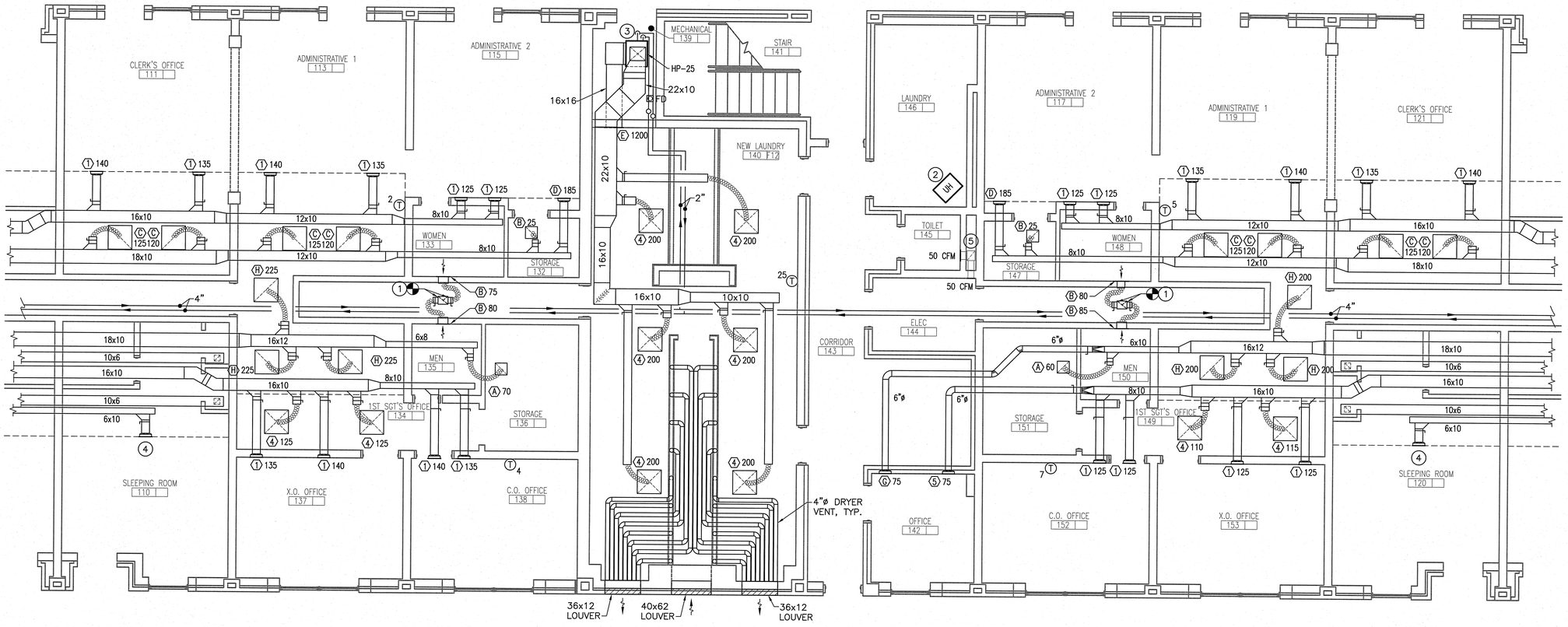
STRUCTURAL & HVAC RENOVATION
FC574 BARRACK

ENLARGED MECHANICAL NEW WORK PLANS

DES. J. CARR	
DR. J. BARNES	
CHK. P. MAHAFFEY	
SUBMITTED BY:	
DESIGN DIR.	
APPROVED: PWO OR OICC	DATE
SATISFACTORY TO:	DATE

SEAL 32273 REGISTERED PROFESSIONAL ENGINEER NORTH CAROLINA

SIZE	CODE IDENT NO.	NAVFAC DRAWING NO.	
F	80091	60006322	
CONST. CONTR. NO. N40085-10-B-0010			
SCALE: AS NOTED	SPEC. 10-B-0010	SHEET 37 OF 72	



1 / MH-101 | MH-403 ENLARGED FIRST FLOOR MECHANICAL NEW WORK PLAN
SCALE: 1/4" = 1'-0"

LEGEND

- SOFFIT
- FIRE RATED WALL
- GEOTHERMAL WATER SUPPLY
- CONDENSATE PIPING
- TYP. TYPICAL
- POINT OF CONNECTION BETWEEN NEW AND EXISTING
- UH UNIT HEATER
- EXHAUST DUCT
- SIDEWALL SUPPLY GRILLE
- SIDEWALL RETURN GRILLE
- (T) THERMOSTAT
- FLEXIBLE DUCT
- VD MANUAL VOLUME DAMPER
- 45° TAKE OFF
- PIPE TURNING UP
- SQUARE TO ROUND TRANSITION

NEW WORK KEYNOTES:

1. INSTALL NEW EXHAUST GRILLE AND NEW FLEX DUCT TO RISER. SEE RISER DIAGRAM SHEET M-603. PROVIDE SQUARE TO ROUND TRANSITION TO NEW GRILLE AT EXISTING WALL OPENING.
2. INSTALL NEW 5KW UNIT HEATER, 208/3/60. UNIT HEATER SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS INCLUDING MOUNTING CLEARENCE AND MOUNTING HEIGHT REQUIREMENTS. UNIT HEATER TO ENERGIZE WHEN ROOM TEMPERATURE DROPS BELOW 65°F.
3. ROUTE CONDENSATE TO FLOOR DRAIN.
4. SEE SHEET MH-101 FOR SPECIFIC GRILL CALL OUTS, CFMS, AND DUCT SIZING.
5. EXISTING EXHAUST RISER AND GRILLES.

12"0 2' 4' 8'
SCALE: 1/4" = 1'-0"
GRAPHIC SCALE

MH-403

CEMS Engineering, Inc.
3509 Iron Horse Drive
Ladson, SC 29456
(P)843.875.3637
(F)843.875.4509
www.cemsengineering.com
CEMS Project #081588
Project Manager: P. Mahaffey

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA

STRUCTURAL & HVAC RENOVATION
FC574 BARRACK

ENLARGED FIRST FLOOR MECHANICAL NEW WORK PLAN

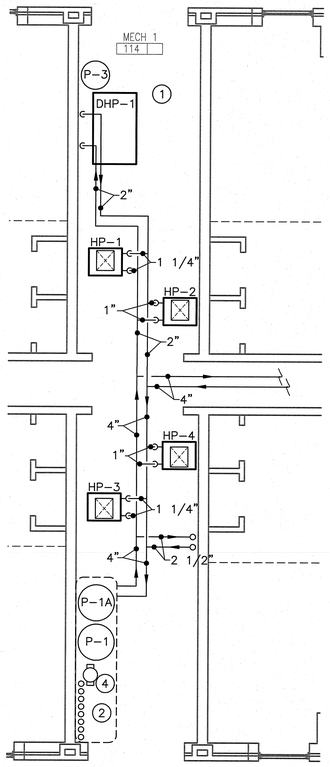
DES.	J. CARR
DR.	J. BARNES
CHK.	P. MAHAFFEY
SUBMITTED BY:	
DESIGN DIR.	
APPROVED: PWO OR OICC	DATE
SATISFACTORY TO:	DATE

SEAL 32273 REGISTERED PROFESSIONAL ENGINEER N. CAROLINA

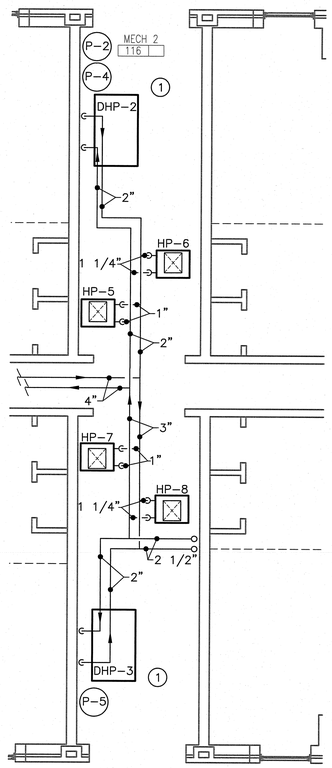
SIZE	CODE IDENT NO.	NAVFAC DRAWING NO.
F	80091	60006323

CONST. CONTR. NO. N40085-10-B-0010

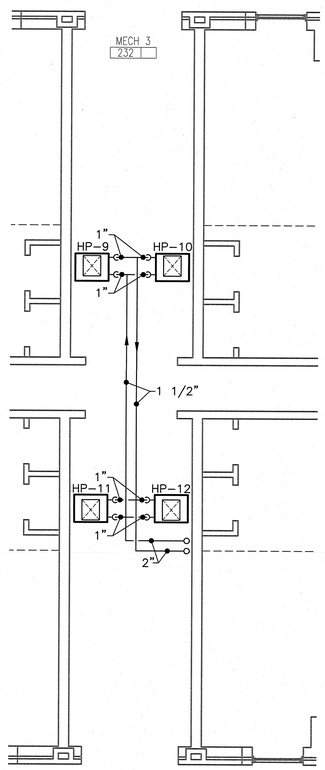
SCALE: AS NOTED | SPEC. 10-B-0010 | SHEET 38 OF 72



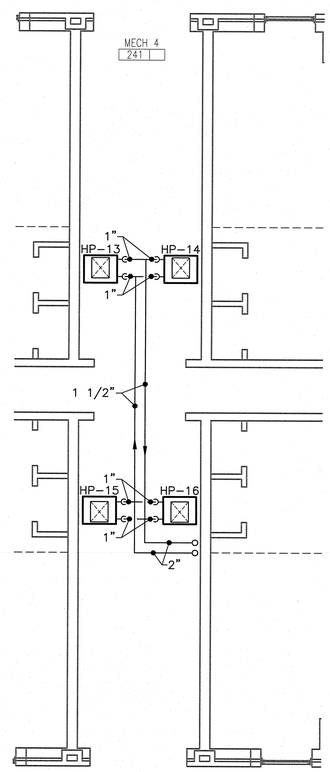
1 MH-101 MP-401 ENLARGED MECHANICAL NEW WORK PLAN
SCALE: 1/4" = 1'-0"



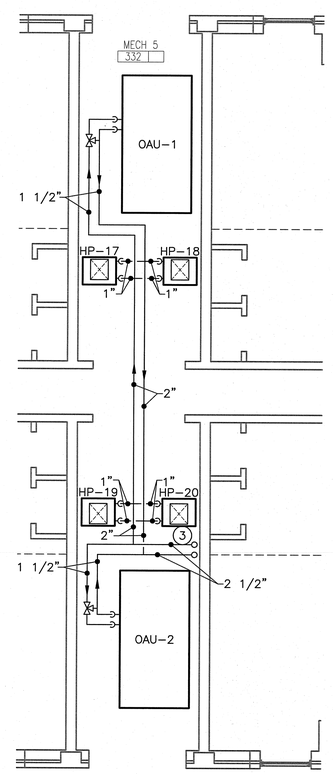
2 MH-101 MP-401 ENLARGED MECHANICAL NEW WORK PLAN
SCALE: 1/4" = 1'-0"



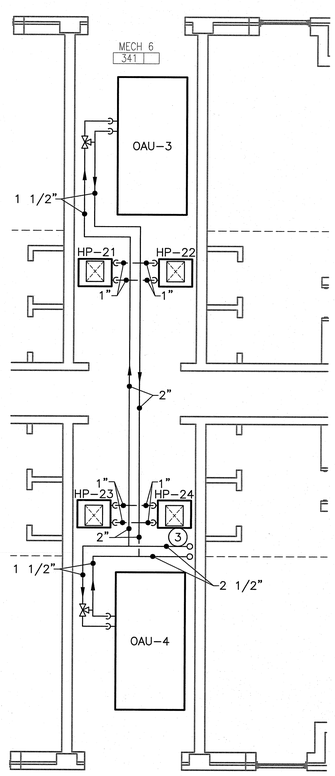
3 MH-101 MP-401 ENLARGED MECHANICAL NEW WORK PLAN
SCALE: 1/4" = 1'-0"



4 MH-101 MP-401 ENLARGED MECHANICAL NEW WORK PLAN
SCALE: 1/4" = 1'-0"



5 MH-101 MP-401 ENLARGED MECHANICAL NEW WORK PLAN
SCALE: 1/4" = 1'-0"



6 MH-101 MP-401 ENLARGED MECHANICAL NEW WORK PLAN
SCALE: 1/4" = 1'-0"

LEGEND

-----	SOFFIT
———	GEOTHERMAL WATER SUPPLY
HP	GEOTHERMAL HEAT PUMP
OAU	OUTDOOR AIR UNIT
DHP	DOMESTIC GEOTHERMAL HEAT PUMP
P	PUMP
———o	PIPE TURNING UP
———⊃	PIPE TURNING DOWN
⋈	3-WAY CONTROL VALVE

GENERAL NEW WORK NOTE:

1. ALL GEOTHERMAL WATER PIPING IN BUILDING TO BE INSULATED PER SPECIFICATIONS.

NEW WORK KEYNOTES:

(1) SEE SHEET M-502 FOR DOMESTIC GEOTHERMAL HEAT PUMP AND HOT WATER STORAGE TANK DETAILS.

(2) SEE SHEET M-502 FOR HEADER PIPING DETAIL.

(3) INSTALL AUTOMATIC AIR VENTS TO GEOTHERMAL SUPPLY INLET AND OUTLET PIPING AT HIGHEST POINT IN ROOM.

(4) INSTALL GEOTHERMAL PUMP, DIRT AND AIR SEPARATOR, AND EXPANSION TANK. SEE SHEET M-501 FOR DETAILS.

12"0 2' 4' 8'
SCALE: 1/4" = 1'-0"
GRAPHIC SCALE

MP-401

CEMS Engineering, Inc.
3509 Iron Horse Drive
Ladson, SC 29456
(P)843.875.3637
(F)843.875.4509
www.cemsengineering.com
CEMS Project #081568
Project Manager: P. Mahaffey

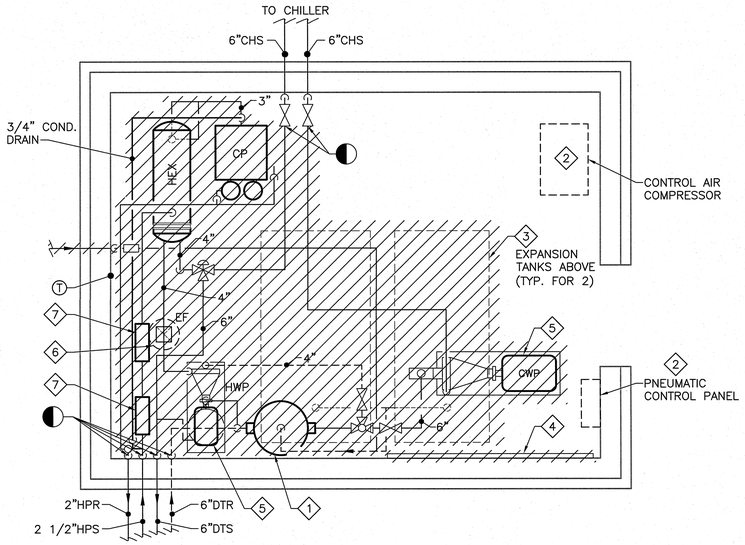
DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA

DES. J. CARR
DR. J. BARNES
CHK. P. MAHAFFEY
SUBMITTED BY:
DESIGN DIR.
APPROVED: PWO OR OICC DATE
SATISFACTORY TO: DATE

STRUCTURAL & HVAC RENOVATION
FC574 BARRACK

ENLARGED MECHANICAL PIPING NEW WORK PLANS

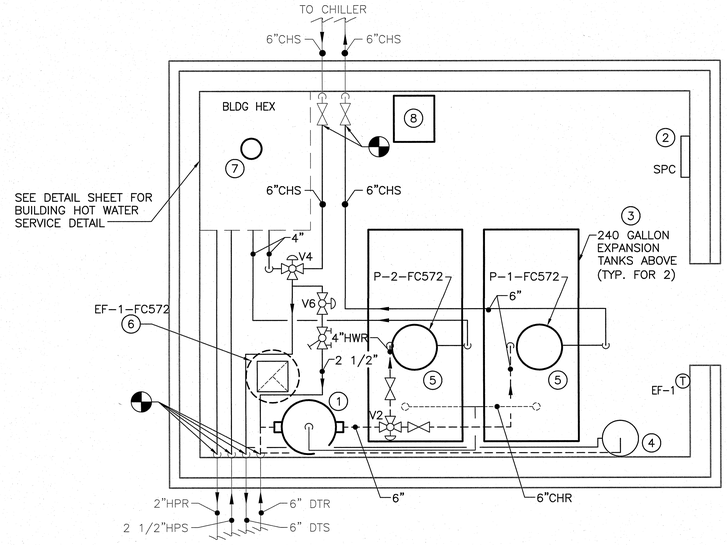
SIZE F | CODE IDENT NO. 80091 | NAVFAC DRAWING NO. 60006324
CONST. CONTR. NO. N40085-10-B-0010
SCALE: AS NOTED | SPEC. 10-B-0010 | SHEET 39 OF 72



BUILDING FC572 MECHANICAL DEMOLITION PLAN
SCALE: 1/2" = 1'-0"

DEMOLITION KEYNOTES:

1. REMOVE INLINE AIR SEPARATOR.
2. REMOVE PNEUMATIC CONTROLS, TUBING, AIR COMPRESSOR, DRYER COMPLETE.
3. REMOVE TWO 240 GALLON EXPANSION TANKS.
4. REMOVE CHEMICAL FEED SYSTEM.
5. REMOVE HOT AND CHILLED WATER PUMPS.
6. REMOVE ROOF MOUNTED EXHAUST FAN.
7. REMOVE PRV, CONDENSATE PUMP, PIPING, AND HEX AS INDICATED.



BUILDING FC572 MECHANICAL NEW WORK PLAN
SCALE: 1/2" = 1'-0"

NEW WORK KEYNOTES:

1. PROVIDE AND INSTALL NEW INLINE COMBINATION AIR/DIRT SEPARATOR. MOUNT AS HIGH AS POSSIBLE. SEE DETAIL SHEET M-102.
2. PROVIDE AND INSTALL NEW SITE PLANT CONTROLLER.
3. PROVIDE AND INSTALL TWO (2) NEW BLADDER TYPE EXPANSION TANKS. SEE DETAIL SHEET M-102.
4. PROVIDE AND INSTALL NEW CHEMICAL FEED SYSTEM. SEE DETAIL SHEET M-103.
5. PROVIDE AND INSTALL NEW PUMP. SEE DETAIL SHEET M-103.
6. PROVIDE AND INSTALL NEW ROOF MOUNTED EXHAUST FAN. SEE DETAIL SHEET M-103.
7. PROVIDE AND INSTALL NEW BUILDING HEAT EXCHANGER (BLDG HEX). SEE DETAIL SHEET M-102.
8. PROVIDE DEHUMIDIFIER IN MECHANICAL BUILDING. DEHUMIDIFIER SHALL REMOVE MINIMUM 50 PINTS/DAY, BE ENERGY STAR QUALIFIED, AND HARD PIPED TO FLOOR DRAIN. DEHUMIDIFIER SHALL OPERATE DOWN TO 55°F ROOM TEMPERATURE.

LEGEND

//////	TO BE REMOVED/DEMOLISHED
———	SUPPLY PIPING
- - - - - -	RETURN PIPING
T	THERMOSTAT
	GATE VALVE
	3-WAY CONTROL VALVE
	CIRCUIT SETTER
COND.	CONDENSATE
CHR	CHILLED WATER RETURN
CHS	CHILLED WATER SUPPLY
HWR	HOT WATER RETURN
HWS	HOT WATER SUPPLY
HPR	HIGH PRESSURE RETURN
HPS	HIGH PRESSURE SUPPLY
DTR	DUAL TEMPERATURE RETURN
DTS	DUAL TEMPERATURE SUPPLY
SPC	SITE PLANT CONTROLLER
CWP	CHILLED WATER PUMP
HWP	HOT WATER PUMP
TYP.	TYPICAL
CP	CONDENSATE PUMP
P	PUMP
EF	EXHAUST FAN
	POINT OF CONNECTION BETWEEN NEW AND EXISTING
	POINT OF DISCONNECTION BETWEEN EXISTING TO REMAIN AND EXISTING TO BE REMOVED
	TWO-WAY CONTROL VALVE

FAN SCHEDULE

MARK	AREA SERVED	TYPE	CFM	SP. IN. WATER	FAN RPM	MOTOR	V/ø/HZ	DRIVE	CONTROL	NOTES
EF-1-FC572	MECHANICAL BUILDING	ROOF	1000	0.20	1550	1/4 HP	120/1/60	DIRECT	THERMOSTAT	①②③

NOTES:

1. PROVIDE WITH INTEGRAL BACKDRAFT DAMPERS AND BIRDSCREEN.
2. PROVIDE WITH SINGLE POINT POWER CONNECTION.
3. PROVIDE WITH INTEGRAL DISCONNECT SWITCH.

PUMP SCHEDULE

TAG	SERVICE	TYPE	FLOW (GPM)	HEAD (FT)	RPM	PUMP MIN. (EFF)	MOTOR DATA			
							HP	VOLTS	PHASE	HZ
P-1-FC572	CHILLED WATER CONSTANT SPEED	FLOOR MOUNTED INLINE PUMPS	345	75	1750	70%	15	480	3	60
P-2-FC572	HOT WATER CONSTANT SPEED	FLOOR MOUNTED INLINE PUMPS	100	50	1750	60%	5	480	3	60

12" 0 1' 2' 4'
SCALE: 1/2" = 1'-0"
GRAPHIC SCALE

M-101

CEMS Engineering, Inc.
3509 Iron Horse Drive
Ladson, SC 29456
(P)843.875.3837
(F)843.875.4509
www.cemsengineering.com
CEMS Project #081585
Project Manager: P. Mahaffey

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA

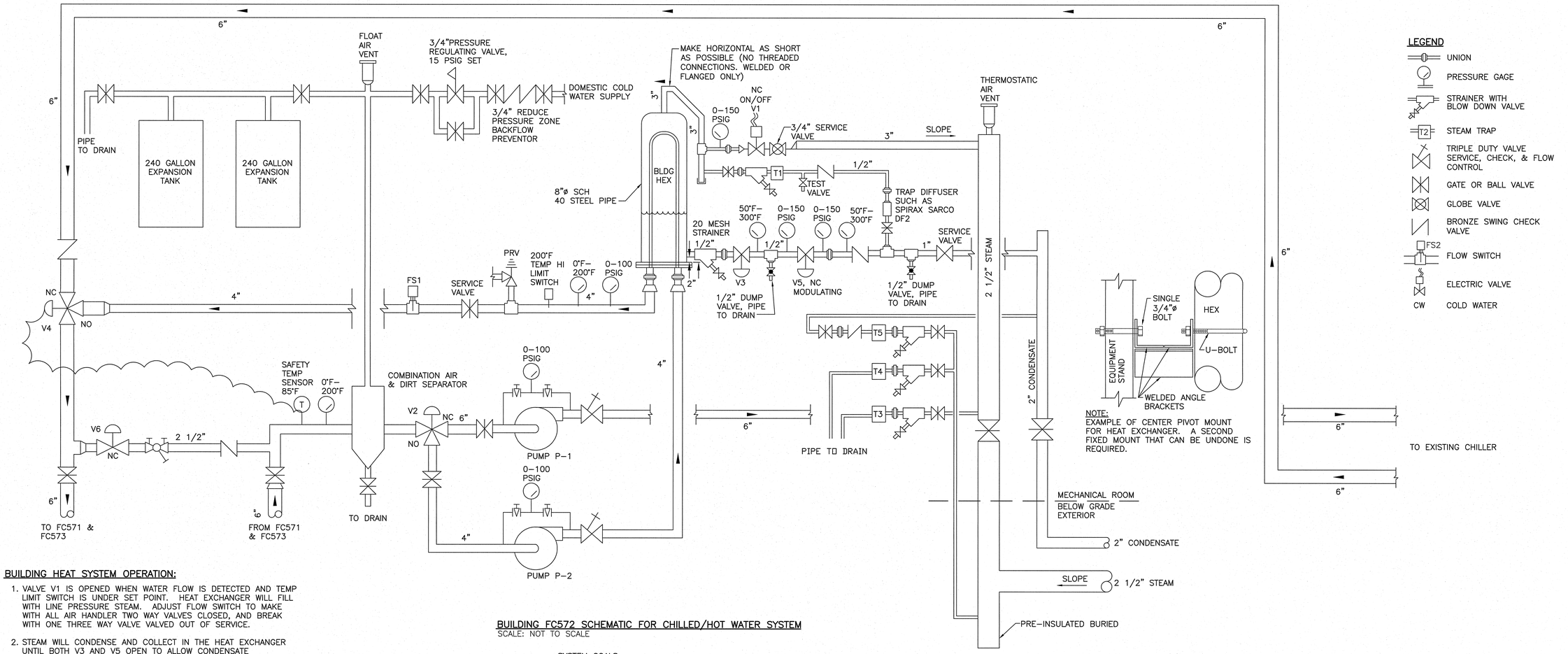
STRUCTURAL & HVAC RENOVATION
FC574 BARRACK

BUILDING 572 MECHANICAL DEMOLITION AND NEW WORK PLAN

DES. J. CARR	
DR. J. BARNES	
CHK. P. MAHAFFEY	
SUBMITTED BY:	
DESIGN DIR.	
APPROVED: PWO OR OICC	DATE
SATISFACTORY TO:	DATE

SEAL 32273

SIZE F | CODE IDENT NO. 80091 | NAVFAC DRAWING NO. 60006325
CONST. CONTR. NO. N40085-10-B-0010
SCALE: AS NOTED | SPEC. 10-B-0010 | SHEET 40 OF 72



BUILDING HEAT SYSTEM OPERATION:

1. VALVE V1 IS OPENED WHEN WATER FLOW IS DETECTED AND TEMP LIMIT SWITCH IS UNDER SET POINT. HEAT EXCHANGER WILL FILL WITH LINE PRESSURE STEAM. ADJUST FLOW SWITCH TO MAKE WITH ALL AIR HANDLER TWO WAY VALVES CLOSED, AND BREAK WITH ONE THREE WAY VALVE VALVED OUT OF SERVICE.
2. STEAM WILL CONDENSE AND COLLECT IN THE HEAT EXCHANGER UNTIL BOTH V3 AND V5 OPEN TO ALLOW CONDENSATE DISCHARGE.
3. CONTROL IS ACHEIVED BY MODULATING V5 BY HEATED WATER TEMPERATURE. RESTRICTING THE OULET OF CONDENSATE WILL BACK UP THE WATER LEVEL IN THE HEAT EXCHANGER THEREBY REDUCING THE HEAT EXCHANGER AREA, AND REDUCING HEAT TRANSFER.
4. V3 MODULATE TO ACT AS A HIGH LIMIT TO ENSURE SUBCOOLED CONDENSATE AND PROTECT AGAINST A RUNAWAY CONDITION IN THE EVENT OF V5 OPEN FAILURE.
5. SEE SHEET M-104 INTERFACE WITH PLANT DDC.

BUILDING FC572 SCHEMATIC FOR CHILLED/HOT WATER SYSTEM

SCALE: NOT TO SCALE

SYSTEM GOALS:
- -THIS IS A CLOSED STEAM SYSTEM
- -REDUCES FLASH STEAM LOSS
- -SUBCOOLS CONDENSATE
- -REDUCES WATER HAMMER BY USING VERTICAL HEAT EXCHANGER
- -RETURNS CONDENSATE TO CENTRAL PLANT WITH STEAM PRESSURE, ELIMINATING NEED FOR CONDENSATE PUMP
- -ELIMINATES NEED FOR PRESSURE REGULATING VALVE

HEAT EXCHANGER SCHEDULE

ID	SERVICE	CONDENSING CAPACITY	STEAM PSIG	WATER				TUBING	REMARKS
				GPM	PSIG	PSID	EWT		
BLDG HEX	BUILDING HEAT	1,200 MBTH	150	100	30	2	160°F	SINGLE WALL	-VERTICAL SHELL AND TUBE, TWO PASS. -TOTAL TUBE LENGTH IS CONDENSING SURFACE AREA PLUS 70% FOR SUBCOOLING AREA. -SHELL MAY BE FACTORY OR SHOP FABRICATED. -TUBE SHEET SHALL BE SERRATED AND DOUBLE REAMED, OR BRAZED. -SHALL BE MOUNTED SUCH THAT IT MAY BE PIVOTTED FROM A CENTER MOUNTING POINT TO PULL THE TUBE BUNDLE AFTER DISCONNECTING STEAM, CONDENSATE, AND WATER UNIONS.

VALVE SCHEDULE

ID	SERVICE	TYPE		CAPACITY	RATED PSID	SERVICE PSIG/TEMP	REMARKS
V1	BLDG HEAT	ELECTRIC ACTUATED STEAM BALL	2 POSITION 2 WAY	1500 #/HR	25	150/365°F	SPRING RETURN NORMALY CLOSED. OPENS WITH 120V FROM HI LIMIT SWITCH AND FLOW SWITCH. BALL VALVE WITH ACTUATOR AND VALVE STEM EXTENSION. DO NOT MOUNT ACTUATOR ABOVE VALVE.
V2	CHANGE-OVER	ELECTRIC ACTUATED, DDC CONTROLLED	MODULATING 3 WAY			40/200°F	
V3	BLDG HEAT	HEAT ACTUATED TRAP	MODULATING 2 WAY	1.3 Cv		150/300°F	-INLINE TEMPERATURE CONTROL VALVE -200°F SET TEMPERATURE -SUCH AS THERM-OMEGA-TECH HAT
V4	CHANGE-OVER	ELECTRIC ACTUATED, DDC CONTROLLED	MODULATING 3 WAY			40/200°F	
V5	BLDG HEAT	ELECTRIC ACTUATED, DDC CONTROLLED	MODULATING 2 WAY	.5 Cv		150/300°F	
V6	BY-PASS	ELECTRIC ACTUATED, DDC CONTROLLED	MODULATING 2 WAY	.5 Cv		0-200°F	
PRV	BLDG HEAT	PRESSURE RELIEF VALVE	SAFETY	2,700 MBTH	45 PSIG SET		

STEAM TRAP SCHEDULE

ID	TYPE	#/HR CAP	RATED PSID	MAX PSID	REMARKS
T1	FLOAT & THERMOSTATIC	280	10	150	
T2	FLOAT & THERMOSTATIC	280	10	150	
T3	FLOAT & THERMOSTATIC	500	5	15	TRAP SHALL LOCKOUT AT 15 PSIG. TRAP BODY AND MECHANISMS SHALL BE RATED FOR 150 PSI.
T4	FLOAT & THERMOSTATIC	500	5	15	
T5	INVERTED BUCKET TRAP	100	75	150	

CEMS Engineering, Inc.
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Ladson, SC 29456
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CEMS Project #08158S
Project Manager: P. Mahaffey

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA

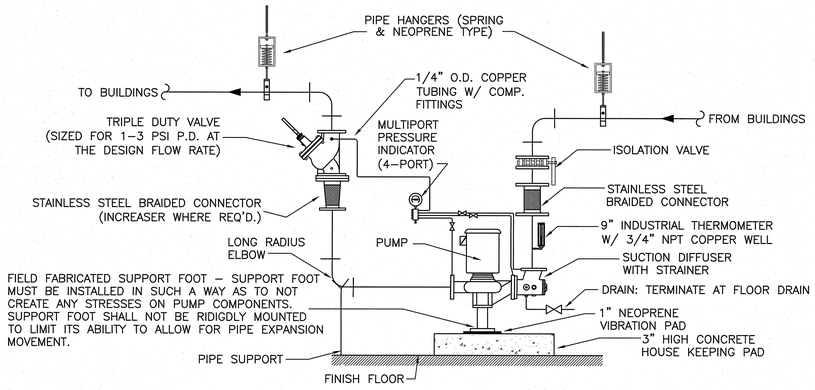
STRUCTURAL & HVAC RENOVATION
FC574 BARRACK

MECHANICAL DETAILS

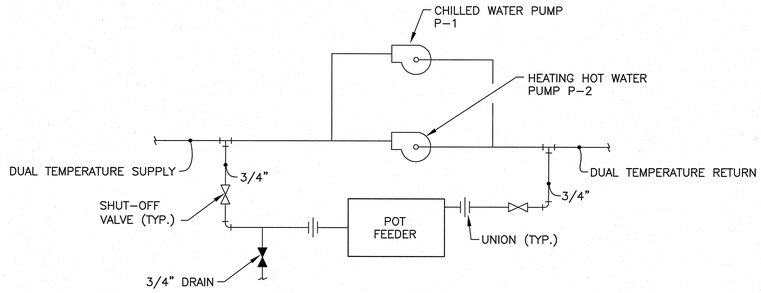
DES. J. CARR
DR. J. BARNES
CHK. P. MAHAFFEY
SUBMITTED BY:
DESIGN DIR.
APPROVED: PWO OR OICC DATE
SATISFACTORY TO: DATE

SIZE F | CODE IDENT NO. 80091 | NAVFAC DRAWING NO. 60006326
CONST. CONTR. NO. N40085-10-B-0010
SCALE: AS NOTED | SPEC. 10-B-0010 | SHEET 41 OF 72

M-102

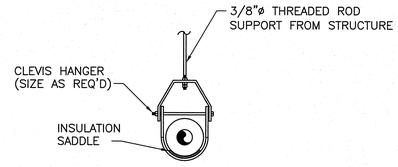


FC572 PUMP DETAIL
SCALE: NOT TO SCALE



CHEMICAL FEED DETAIL
SCALE: NOT TO SCALE

TYPICAL ROOF EXHAUST DETAIL
SCALE: NOT TO SCALE



TYPICAL PIPE SUPPORT DETAIL
SCALE: NOT TO SCALE

M-103

CEMS Engineering, Inc.
3309 Iron Horse Drive
Ladson, SC 29456
(P)843.875.3637
(F)843.875.4509
www.cemsengineering.com
CEMS Project #081583
Project Manager: P. Mahaffey

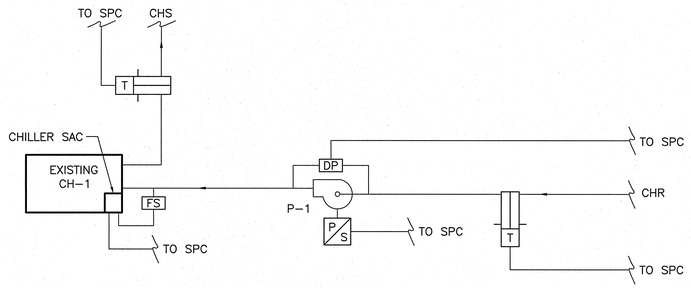
DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA

DES. J. CARR
DR. J. BARNES
CHK. P. MAHAFFEY
SUBMITTED BY:
DESIGN DIR.
APPROVED: PWO OR OICC DATE
SATISFACTORY TO: DATE

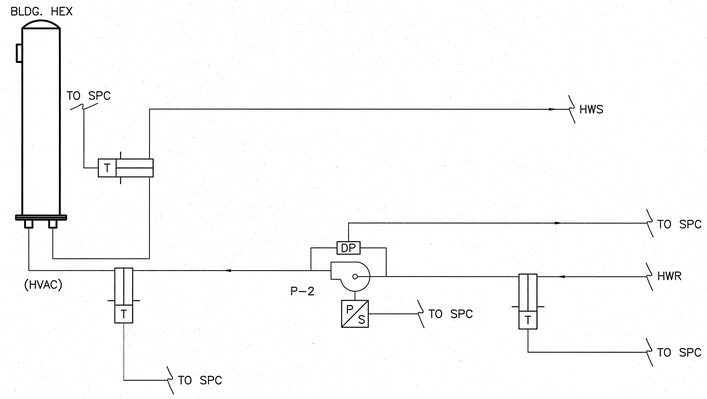
STRUCTURAL & HVAC RENOVATION
FC574 BARRACK
MECHANICAL DETAILS

SIZE	CODE IDENT NO.	NAVFAC DRAWING NO.
F	80091	60006327

CONST. CONTR. NO. N40085-10-B-0010
SCALE: AS NOTED | SPEC. 10-B-0010 | SHEET 42 OF 72

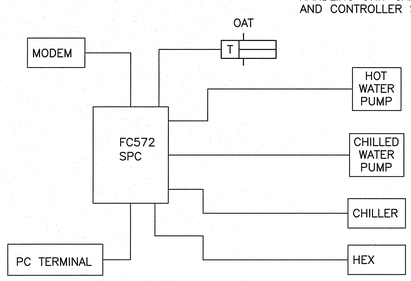


BUILDING FC572 CHILLED WATER SYSTEM CONTROL DIAGRAM
SCALE: NOT TO SCALE



BUILDING FC572 BLDG. HEX SYSTEM CONTROL DIAGRAM
SCALE: NOT TO SCALE

NOTE: EACH AHU TCU SHALL CONTAIN AN INTERFACE SO THAT EACH VAV BOX SERVED BY IT'S RESPECTIVE AIR HANDLING UNIT CAN BE MONITORED AND CONTROLLER SEPERATELY.



SYSTEM NETWORK
SCALE: NOT TO SCALE

SITE PLANT CONTROLLER:

SITE PLANT CONTROLLER SHALL COMMUNICATE WITH EMCS BASE WIDE MONITORING SYSTEM.

HEATING COOLING CHANGEOVER SEQUENCE OF OPERATION:

THE DUAL TEMPERATURE WATER SYSTEM CHANGEOVER FROM HEATING TO COOLING SHALL BE MADE BY A MANUAL HEAT/COOL SWITCH. IN THE HEATING MODE: THE CHILLER AND CHILLED WATER PUMP WILL BE DE-ENERGIZED AND THE HOT WATER PUMP AND BUILDING HEX WILL BE ENERGIZED. HOT WATER TEMPERATURE SHALL BE RESET BY THE OUTSIDE AIR TEMPERATURE. IN THE COOLING MODE: THE HOT WATER PUMP AND BUILDING HEX WILL BE DE-ENERGIZED AND THE CHILLED WATER PUMP AND CHILLER (VIA SAFETIES) WILL BE ENERGIZED. THE CHILLER SHALL BE KEPT OFFLINE UNTIL THE WATER TEMPERATURE IS BELOW 85°F. SEE DIAGRAM SHEET M-102 FOR FURTHER DETAILS.

CHILLED WATER SYSTEM (EXISTING CH-1, PUMP P-1) SEQUENCE OF OPERATION (SEE CHILLED WATER SYSTEM CONTROL DIAGRAM):

GENERAL:
AN EXISTING CHILLER STAND-ALONE CONTROLLER (SAC) SHALL CONTROL THE CHILLER AND THE BUILDING'S CHILLED WATER PUMPS. THE CHILLER STAND-ALONE CONTROLLER SHALL BE SUPPLIED BY THE CHILLER MANUFACTURER WITH SOFTWARE TO SUPPORT FEATURES AND STRATEGIES DESCRIBED BELOW.

THE INDIVIDUAL CHILLER SAC SHALL PROVIDE ITS OWN INTERNALLY GENERATED STAGING COMMANDS.

THE CHILLER SAC SHALL INTERFACE WITH SITE BUILDING CONTROLLER FOR MONITORING HARDWARE INPUTS. THE SPC SHALL BE ABLE TO RESET THE CHILLED WATER LEAVING SETPOINT.

THE CHILLER SAC SHALL INCLUDE BUT NOT BE LIMITED TO THE FOLLOWING:
PHASE UNBALANCE PROTECTION, OVER/UNDER VOLTAGE PROTECTION, PHASE LOSS PROTECTION, DELAY OF BREAK TIMER, NON CRITICAL FAULT DELAY, PROGRAMMABLE AUTO/MANUAL RESTART AND LOAD AND LINE SIDE MONITORING.

PROVIDE CHILLED WATER PUMP WITH A HAND-OFF-AUTO SWITCH. IN THE "HAND" POSITION, THE PUMPS SHALL BE CONTROLLED MANUALLY.

START-UP:
SYSTEM START-UP SHALL BE INITIATED BY THE PLANT CONTROLLER. PUMP SHALL START-UP WITH THE CHILLER.

CHILLER STAGING:
THE CHILLER SAC SHALL PROVIDE INTERNALLY GENERATED STAGING COMMANDS COORDINATED TO MAINTAIN SUPPLY CHILLED WATER TEMPERATURE OF 44°F (ADJUSTABLE). THE CHILLER SHALL NOT OPERATE UNTIL SYSTEM FLOW IS PROVEN.

FEATURES:
THE FOLLOWING FEATURES SHALL BE PROVIDED WITH THE CHILLER CONTROLLER:
SECURITY PROTECTED, SYSTEM ACCESS THROUGH THE PANEL KEYBOARD AND DISPLAY.
DISPLAY OF SYSTEM SUPPLY WATER TEMP, RETURN WATER TEMP, ACTIVE SETPOINT, PUMP STATUS, AND SYSTEM ENABLE (AUTO/STOP).

SAFETY FEATURES:
THE SPC SHALL DISABLE THE CHILLER AND DISPLAY AN ALARM WHEN WATER TEMPERATURE IS ABOVE 85°F OR BELOW 33°F. EXISTING CHILLER HEAT TAPE TO BE TIED INTO NEW SPC.

BUILDING HEAT EXCHANGER HOT WATER SYSTEM (BLDG HEX, PUMP P-2) SEQUENCE OF OPERATION:

PLANT CONTROLLER SHALL INTERFACE WITH CONTROL VALVES AS SEQUENCED ON DETAIL SHEET M-102 FOR STARTING/STOPPING PUMP AND FOR MONITORING HARDWARE INPUTS.

PROVIDE HOT WATER PUMP WITH A HAND-OFF-AUTO SWITCH. IN THE "HAND" POSITION, THE PUMPS SHALL BE CONTROLLED MANUALLY.

CONTROL LEGEND

CHS	CHILLED WATER SUPPLY
CHR	CHILLED WATER RETURN
TCU	TERMINAL CONTROL UNIT
P/S	PUMP START/STOP
HWS	HOT WATER SUPPLY
HWR	HOT WATER RETURN
CH	CHILLER
P	PUMP
OAT	OUTDOOR AIR TEMPERATURE SENSOR
SPC	SITE PLANT CONTROLLER
DP	DIFFERENTIAL PRESSURE SENSOR
T	TEMPERATURE SENSOR
FS	FREEZESTAT

M-104

CEMS Engineering, Inc.
3309 Iron Horse Drive
Ladson, SC 29456
(P)843.875.3637
(F)843.875.4509
www.comsengineering.com
CEMS Project #08158S
Project Manager: P. Mahaffey

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA

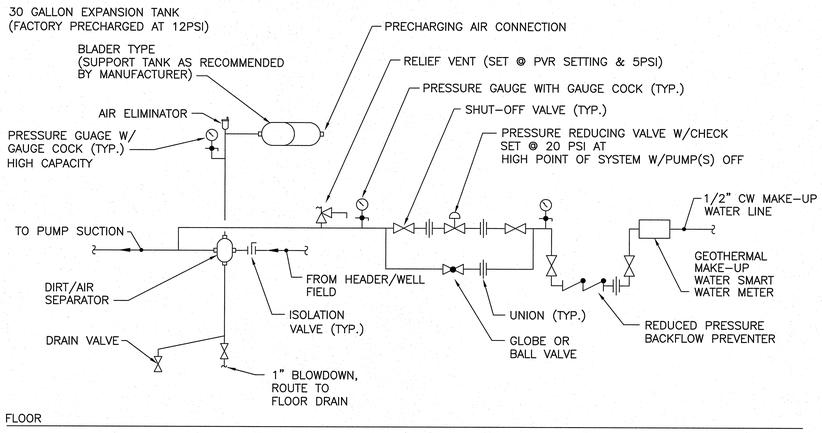
STRUCTURAL & HVAC RENOVATION
FC574 BARRACK

CONTROL DRAWINGS AND SEQUENCE OF OPERATION

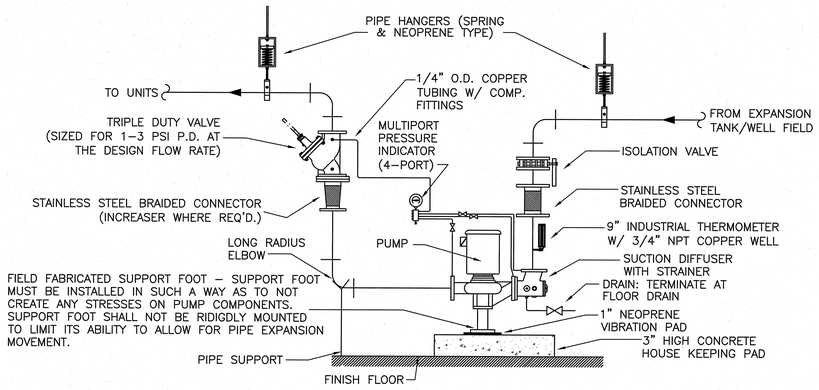
DES. J. CARR	
DR. J. BARNES	
CHK. P. MAHAFFEY	
SUBMITTED BY:	
DESIGN DIR.	
APPROVED: PWO OR OICC	DATE
SATISFACTORY TO:	DATE

SEAL 32273 NORTH CAROLINA REGISTERED PROFESSIONAL ENGINEER

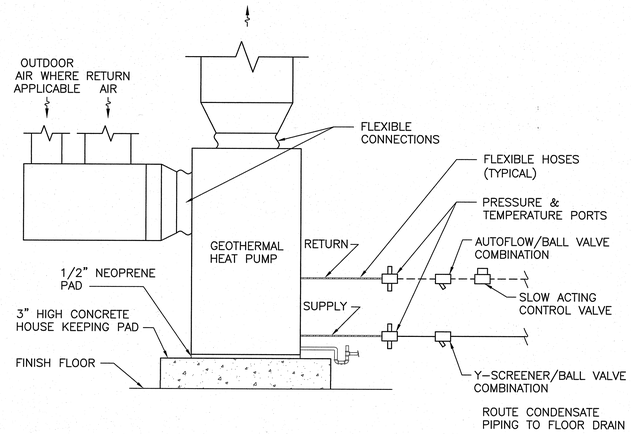
SIZE F	CODE IDENT NO. 80091	NAVFAC DRAWING NO. 60006328
		CONST. CONTR. NO. N40085-10-B-0010
SCALE: NONE	SPEC. 10-B-0010	SHEET 43 OF 72



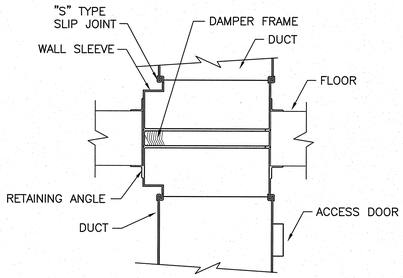
EXPANSION TANK/DIRT AND AIR SEPARATOR DETAIL
SCALE: NOT TO SCALE



GEOTHERMAL PUMP DETAIL
SCALE: NOT TO SCALE



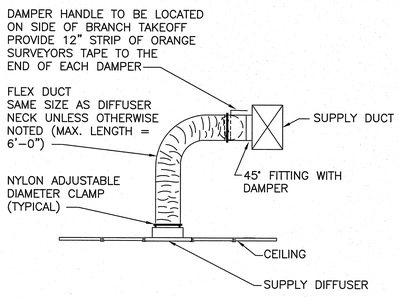
GEOTHERMAL HEAT PUMP PIPING DETAIL
SCALE: NOT TO SCALE



NOTE: MOUNTING ANGLES SHALL BE A MINIMUM OF 1-1/2" x 1-1/2" x 16 GAGE, BOLTED WITH 1/4" X 20 BOLTS, WELDED, OR SCREWED WITH NO. 10 SCREWS TO DAMPER FRAME. USE MINIMUM OF TWO FASTENERS PER SIDE, ONE FASTENER 1/2" FROM EACH CORNER WITH MAXIMUM FASTENER SPACING OF 8-1/2".

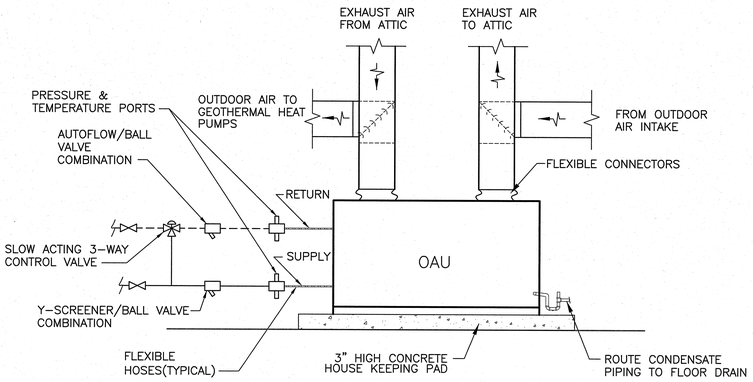
CLEARANCE OF THE DAMPER SLEEVE FROM THE WALL OPENING SHALL BE A MINIMUM OF 1/8" PER FOOT OF WIDTH OR HEIGHT. THE SLEEVE MAY REST ON THE BOTTOM OF THE OPENING, AND NEED NOT BE CENTERED.

HORIZONTAL FIRE DAMPER DETAIL
SCALE: NOT TO SCALE

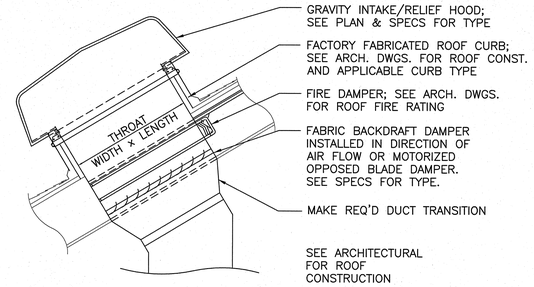


NOTE:
PROVIDE HARD DUCTWORK AS REQUIRED TO MAINTAIN MAXIMUM LENGTH OF 6'-0" ON FLEX DUCT. FLEX DUCT SHALL BE USED ONLY FOR STRAIGHT RUNS, ANY TRANSITIONS SHALL BE HARD DUCTED.

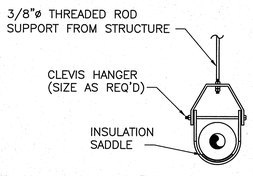
TYPICAL FLEX DUCT DIFFUSER DETAIL
SCALE: NOT TO SCALE



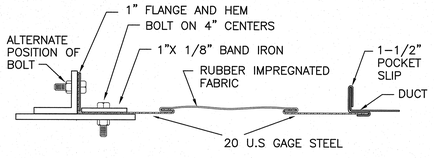
GEOTHERMAL OUTSIDE AIR UNIT DETAIL
SCALE: NOT TO SCALE



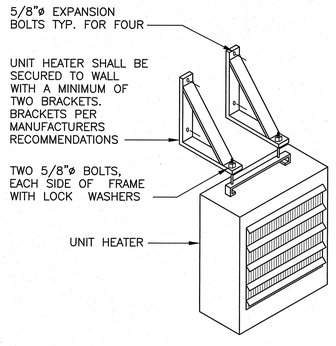
GRAVITY INTAKE/RELIEF HOOD DETAIL
SCALE: NOT TO SCALE



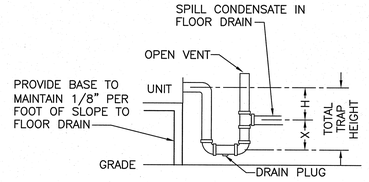
TYPICAL PIPE SUPPORT DETAIL
SCALE: NOT TO SCALE



TYPICAL FLEXIBLE CONNECTION
SCALE: NOT TO SCALE



ELECTRIC UNIT HEATER
SCALE: NOT TO SCALE



X=1/2 H
H=MIN. 3" PLUS CASING S.P.
D=PIPE DIAMETER
TOTAL TRAP HEIGHT=X+H+1.5D

TYPICAL CONDENSATE DRAIN DETAIL
SCALE: NOT TO SCALE

M-501

CEMS Engineering, Inc.
3509 Iron Horse Drive
Ladson, SC 29456
(P)843.875.3637
(F)843.875.4509
www.camsengineering.com
CEMS Project #08158S
Project Manager: P. Mahaffey

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA

STRUCTURAL & HVAC RENOVATION
FC574 BARRACK

MECHANICAL DETAILS

DES. J. CARR	
DR. J. BARNES	
CHK. P. MAHAFFEY	
SUBMITTED BY:	
DESIGN DIR.	
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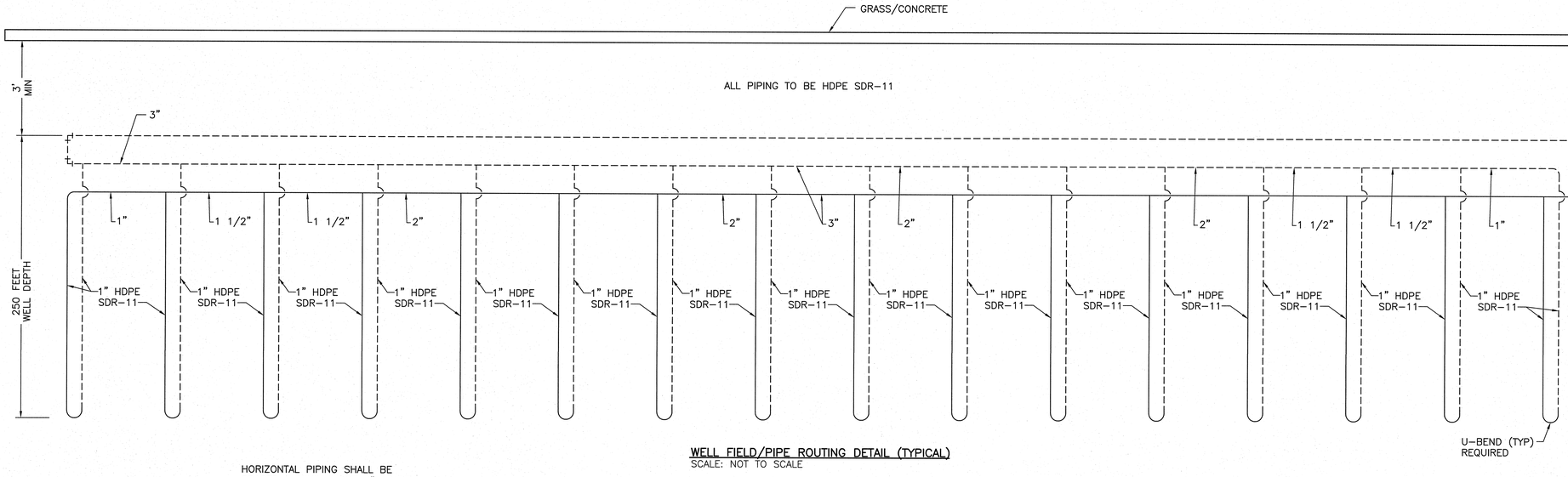
SIZE	CODE IDENT NO.	NAVFAC DRAWING NO.
F	80091	60006329

CONST. CONTR. NO. N40085-10-B-0010
SCALE: AS NOTED SPEC. 10-B-0010 SHEET 44 OF 72



WELL FIELD/PIPE ROUTING DETAIL (TYPICAL)
SCALE: NOT TO SCALE

EARTH LOOP FLUSHING AND FILLING:

BEFORE CONNECTION TRENCHES ARE BACKFILLED, THE LOOP SYSTEM SHALL BE TESTED IN ACCORDANCE WITH INTERNATIONAL MECHANICAL CODE (HYDRO TO 100 PSI FOR 30 MINUTES NO LEAKS ALLOWED).

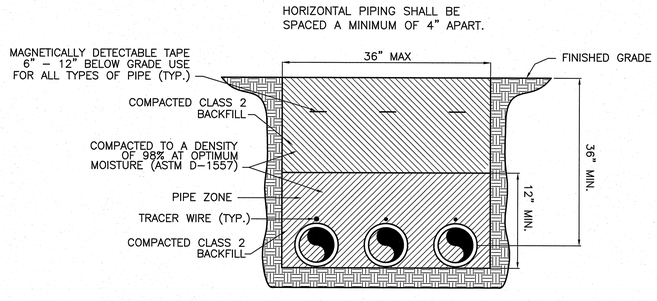
PIPING SYSTEM SHALL ALSO BE FLUSHED/PURGED WITH WATER TO REMOVE ANY DEBRIS/AIR TRAPPED IN THE CLOSED-LOOP PIPING SYSTEM PER MANUFACTURERS INSTRUCTIONS. FLUSH SYSTEM UNTIL WATER CLARITY CAN BE VERIFIED FREE OF DEBRIS AND AIR

WARNING: DO NOT FLUSH SYSTEM THROUGH HEAT PUMP HEAT EXCHANGER. CLOSE ISOLATION VALVES BEFORE FLUSHING SYSTEM.

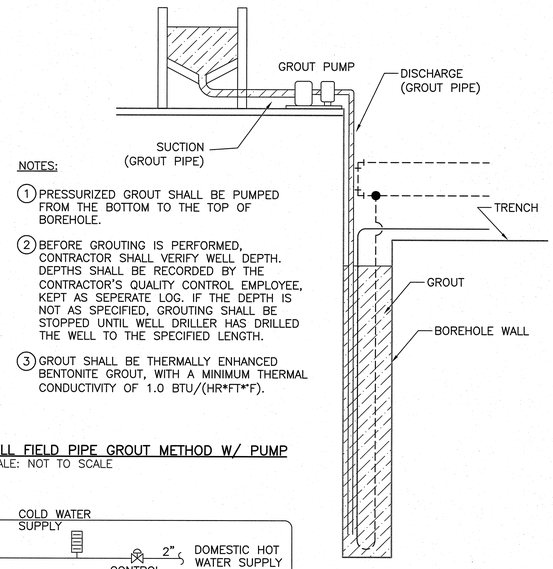
HORIZONTAL PIPING SHALL BE SPACED A MINIMUM OF 4" APART.

SEE SHEET MS-102 FOR WELL SPACING.

WELL FIELD AND BUILDING SYSTEM PURGING OF DEBRIS AND AIR WILL REQUIRE A MINIMUM FLOW RATE OF 140 GPM AT 82 FT OF HEAD. WELL FIELD AND BUILDING TO BE PURGED SEPARATELY. PURGING OF BUILDING WILL REQUIRE 4 PHASES, EACH PHASE WILL REQUIRE ONE OUTSIDE AIR UNIT BYPASS VALVE OPEN WITH THE OTHERS CLOSED. PURGING OF WELL FIELD WILL REQUIRE ISOLATING WELL FIELD BRANCHES AT THE VALVE HEADER. PURGE EACH BRANCH SEPARATELY.



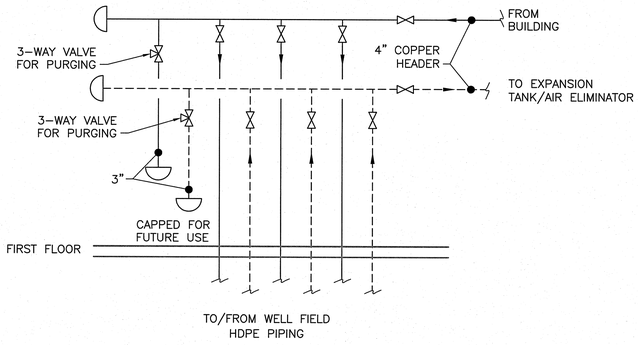
BURIED GEOTHERMAL PIPE DETAIL
SCALE: NOT TO SCALE



NOTES:

1. PRESSURIZED GROUT SHALL BE PUMPED FROM THE BOTTOM TO THE TOP OF BOREHOLE.
2. BEFORE GROUTING IS PERFORMED, CONTRACTOR SHALL VERIFY WELL DEPTH. DEPTHS SHALL BE RECORDED BY THE CONTRACTOR'S QUALITY CONTROL EMPLOYEE, KEPT AS SEPERATE LOG. IF THE DEPTH IS NOT AS SPECIFIED, GROUTING SHALL BE STOPPED UNTIL WELL DRILLER HAS DRILLED THE WELL TO THE SPECIFIED LENGTH.
3. GROUT SHALL BE THERMALLY ENHANCED BENTONITE GROUT, WITH A MINIMUM THERMAL CONDUCTIVITY OF 1.0 BTU/(HR*FT*°F).

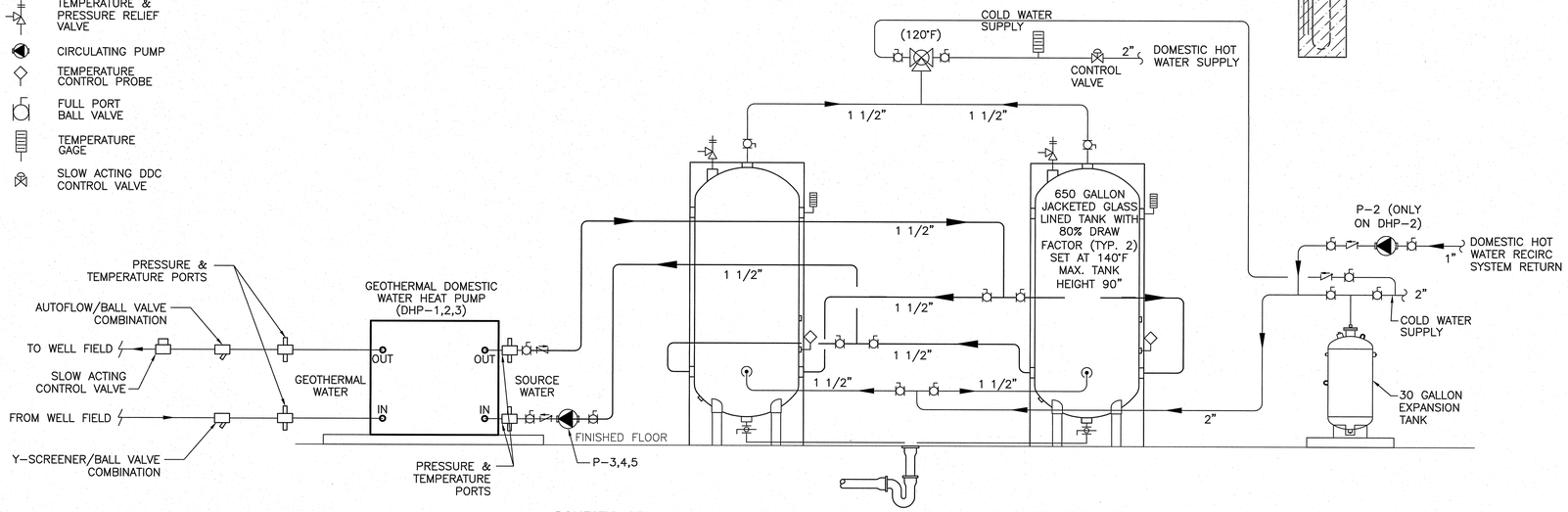
WELL FIELD PIPE GROUT METHOD W/ PUMP
SCALE: NOT TO SCALE



HEADER PIPING DETAIL
SCALE: NOT TO SCALE

LEGEND

- SLOW ACTING CONTROL VALVE
- AUTOMATIC THERMOSTATIC MIXING VALVE
- CHECK VALVE
- TEMPERATURE & PRESSURE RELIEF VALVE
- CIRCULATING PUMP
- TEMPERATURE CONTROL PROBE
- FULL PORT BALL VALVE
- TEMPERATURE GAGE
- SLOW ACTING DDC CONTROL VALVE



DOMESTIC GEOTHERMAL HEAT PUMP AND HOT WATER STORAGE TANK PIPING DIAGRAM
SCALE: NOT TO SCALE

M-502

CEMS Engineering, Inc.
3509 Iron Horse Drive
Ladson, SC 29456
(P)843.875.3637
(F)843.875.4509
www.cemsengineering.com
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MECHANICAL DETAILS

DES.	J. CARR
DR.	J. BARNES
CHK.	P. MAHAFFEY
SUBMITTED BY:	
DESIGN DIR.	
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SIZE	CODE IDENT NO.	NAVFAC DRAWING NO.
F	80091	60006330

CONST. CONTR. NO. N40085-10-B-0010

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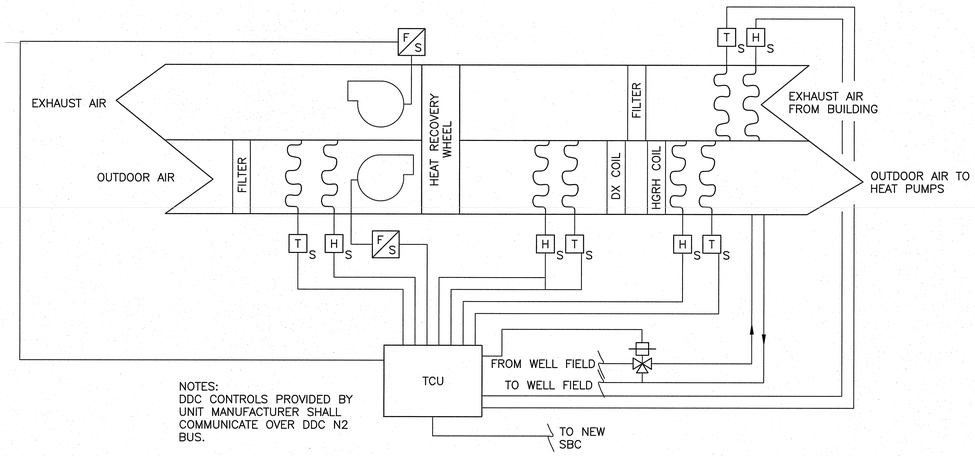
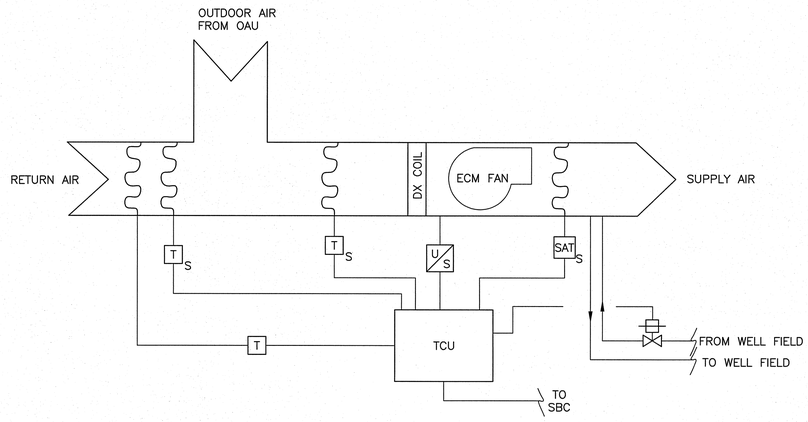
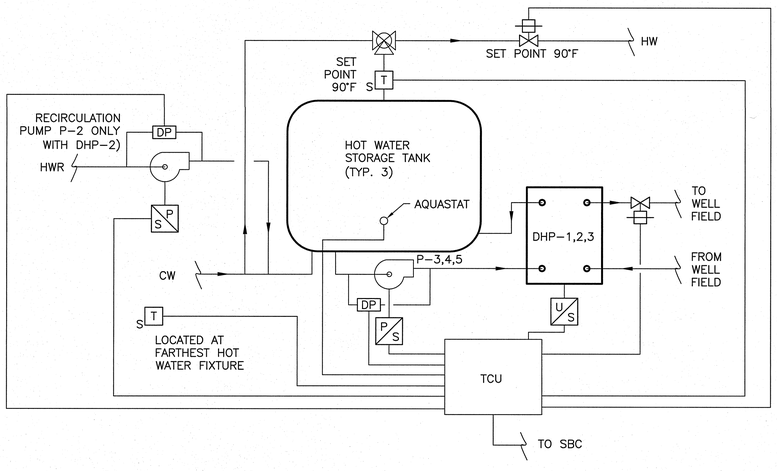


OUTDOOR AIR UNIT (OAU TYPICAL) CONTROL DIAGRAM
SCALE: NOT TO SCALE



GEOTHERMAL HEAT PUMP (HP TYPICAL) CONTROL DIAGRAM
SCALE: NOT TO SCALE



DOMESTIC GEOTHERMAL WATER SOURCE HEAT PUMP CONTROL DIAGRAM
SCALE: NOT TO SCALE

SEQUENCE OF OPERATION:

BUILDING CONSISTS OF LOCALIZED COOLING/HEATING SYSTEMS CONSISTING OF GEOTHERMAL HEAT PUMPS (HP). DOMESTIC HOT WATER WILL BE GENERATED VIA A WATER TO WATER GEOTHERMAL HEAT PUMP (DHP). EACH HP, OAU, AND DHP WILL BE CONNECTED TO A COMMON GEOTHERMAL WELL FIELD.

OUTDOOR AIR UNIT (GEOTHERMAL HEAT PUMP) SEQUENCE OF OPERATION:

A PROGRAMMABLE CONTROLLER CAPABLE OF STANDALONE OPERATION WILL CONTROL THE OUTDOOR AIR UNIT (OAU), SUBJECT TO OCCUPANCY SCHEDULES AND OCCUPANCY OVERRIDES THROUGH THE SUPERVISORY BUILDING CONTROLLER (SBC).

GENERAL: THE OAU CONSISTS OF A BUILT-UP FAN HOUSING, A HEATING/COOLING COIL WITH HOT GAS REHEAT AND A HEAT RECOVERY WHEEL PRETREATING OUTDOOR AIR CONTROLLED THROUGH THE DDC SYSTEM.

THE SEQUENCE OF OPERATION SHALL BE INITIATED BY THE DDC SYSTEM SCHEDULE.

IN THE OCCUPIED MODE, THE UNIT FANS AND HEAT RECOVERY WHEEL SHALL RUN CONTINUOUSLY.

IN THE UNOCCUPIED MODE THE UNIT SHALL BE DE-ENERGIZED.

3-WAY CONTROL VALVE: UPON A CALL FOR HEATING OR COOLING, THE 3-WAY CONTROL VALVE SHALL PROVIDE THE SCHEDULED FLOW RATE TO THE RESPECTIVE OAU. IN THE EVENT THAT HEATING OR COOLING IS NOT NEEDED, THE 3-WAY CONTROL VALVE SHALL ACT AS A GEOTHERMAL WATER BYPASS.

HEATING MODE: UNIT SHALL HEAT AIR TO 65°F. UNIT SHALL BE IN HEATING MODE WHEN OUTDOOR AIR IS 50°F OR BELOW.

COOLING MODE: UNIT SHALL COOL AIR TO 53°F TO DEHUMIDIFY, FOLLOWED BY HOT GAS REHEAT TO DISCHARGE OUTDOOR AIR AT 65°F. UNIT SHALL BE IN COOLING MODE WHEN OUTDOOR AIR IS 65°F OR ABOVE.

SAFETIES: UPON AN ALARM SIGNAL FROM THE SITE BUILDING CONTROLLER (SBC) THE UNIT SHALL DE-ENERGIZE.

WHEN OPERATING STATUS OF UNIT IS NOT PROVEN THE CONTROLLER SHALL DE-ENERGIZE THE UNIT AND AN ALARM SHALL BE DISPLAYED AT THE OPERATOR'S WORKSTATION.

GEOTHERMAL HEAT PUMP (HP) SEQUENCE OF OPERATION:

A PROGRAMMABLE CONTROLLER CAPABLE OF STANDALONE OPERATION WILL CONTROL THE GEOTHERMAL WATER SOURCE HEAT PUMP (HP), SUBJECT TO OCCUPANCY SCHEDULES AND OCCUPANCY OVERRIDES THROUGH THE SITE BUILDING CONTROLLER (SBC).

THE SEQUENCE OF OPERATION SHALL BE INITIATED BY THE DDC SYSTEM SCHEDULE.

IN THE OCCUPIED MODE THE UNIT SHALL MAINTAIN 75°F IN COOLING MODE AND 70°F IN HEATING MODE. THE UNIT SHALL PROVIDE 53°F DISCHARGE AIR TEMPERATURE IN COOLING AND 85°F IN HEATING. EACH HEAT PUMP SHALL BE PROVIDED WITH A RETURN DUCT MOUNTED THERMISTOR UPSTREAM OF THE INTRODUCTION OF OUTSIDE AIR. SPACE TEMPERATURE SHALL BE CONTROLLED BY THE SBC. EACH HP SHALL CONTINUALLY CIRCULATE AIR AT THE SPECIFIED MIN CFM ON SHEET M-604. UPON A CALL FOR HEATING OR COOLING, THE FAN SPEED SHALL BE CONTROLLED BY THE UNIT, THE CORRESPONDING SLOW ACTING CONTROL VALVE SHALL OPEN AND THE UNIT SHALL BE FULLY OPERATIONAL PER THE UNITS INTERNAL CONTROLS. WHEN THE SPACE TEMPERATURE IS SATISFIED THE COMPRESSOR SHALL DE-ENERGIZE AND THE SPECIFIED MIN CFMS SHALL BE MAINTAINED FOR CIRCULATION.

IN UNOCCUPIED MODE THE UNIT SHALL MAINTAIN 80°F IN COOLING MODE AND 60°F IN HEATING MODE.

SAFETIES: UPON AN ALARM SIGNAL FROM THE SITE BUILDING CONTROLLER (SBC) THE UNIT SHALL DE-ENERGIZE.

WHEN OPERATING STATUS OF UNIT IS NOT PROVEN THE CONTROLLER SHALL DE-ENERGIZE THE UNIT AND AN ALARM SHALL BE DISPLAYED AT THE OPERATOR'S WORKSTATION.

DOMESTIC WATER TO WATER GEOTHERMAL HEAT PUMP SYSTEM (DHP-1,2,3, PUMPS P-3,4,5 AND P-2 RECIRC PUMP) SEQUENCE OF OPERATION:

OCCUPIED MODE: DOMESTIC HOT WATER STORAGE TANKS SHALL MAINTAIN A TANK TEMPERATURE OF 140°F. IF TANK TEMPERATURE FALLS BELOW 135°F THE RESPECTIVE SLOW ACTING CONTROL VALVE SHALL BE OPENED AND THE RESPECTIVE DHP AND PUMP FOR EACH HOT WATER STORAGE TANK SHALL BE ENERGIZED. WHEN TANK TEMPERATURE REACHES 145°F THE RESPECTIVE SLOW ACTING CONTROL VALVE SHALL BE CLOSED AND THE RESPECTIVE DHP AND PUMP SHALL BE DE-ENERGIZED.

UNOCCUPIED MODE: ALL DHPS, ASSOCIATED PUMPS, AND RECIRCULATION PUMP SHALL BE DE-ENERGIZED.

RECIRCULATION PUMP: RECIRCULATION PUMP(P-2) SHALL BE ENERGIZED IN OCCUPIED MODE IF THE TEMPERATURE SENSOR LOCATED AT THE FARTHEST HOT WATER RECEIVING FIXTURE INDICATES HOT WATER TEMPERATURES BELOW 105°F. IN THE EVENT THAT THE RECIRCULATION PUMP IS ENERGIZED THE PUMP SHALL RUN FOR 3 MINUTES BEFORE DE-ENERGIZING.

IN THE EVENT THAT THE TANK LEAVING WATER TEMPERATURE FROM A GIVEN HOT WATER TANK SYSTEM IS DETECTED BELOW 90°F THE ASSOCIATED 2-WAY CONTROL VALVE ON THE HOT WATER SUPPLY LINE SHALL BE CLOSED UNTIL TEMPERATURES ABOVE 100°F ARE PROVEN AT THE ASSOCIATED TEMPERATURE SENSOR.

SITE BUILDING CONTROLLER SHALL INTERFACE WITH EQUIPMENT FOR STARTING/STOPPING DHPS, PUMPS, ALL EQUIPMENT AND FOR MONITORING HARDWARE INPUTS.

PROVIDE HOT WATER PUMPS WITH A HAND-OFF-AUTO SWITCH. IN THE "HAND" POSITION, THE PUMPS SHALL BE CONTROLLED MANUALLY.

CONTROL LEGEND

———	GEOTHERMAL WATER SUPPLY	T	DUCT TEMPERATURE SENSOR
TCU	TERMINAL CONTROL UNIT	P/S	PUMP START/STOP
ECM	ELECTRONICALLY COMMUTATED MOTOR		AUTOMATIC THERMOSTATIC MIXING VALVE
OAU	OUTDOOR AIR UNIT	CW	DOMESTIC COLD WATER
HP	GEOTHERMAL HEAT PUMP	HW	DOMESTIC HOT WATER
DHP	DOMESTIC GEOTHERMAL HEAT PUMP	HWR	HOT WATER RECIRCULATION
DDC	DIRECT DIGITAL CONTROLS	HGRH	HOT GAS REHEAT
U/S	UNIT START/STOP		SLOW ACTING 2-WAY CONTROL VALVE
SAT S	SUPPLY AIR TEMPERATURE SENSOR		SLOW ACTING 3-WAY CONTROL VALVE
DP	DIFFERENTIAL PRESSURE SENSOR		
T S	TEMPERATURE SENSOR		
H S	HUMIDITY SENSOR		
SBC	SUPERVISORY BUILDING CONTROLLER		

M-601

CEMS Engineering, Inc.
3509 Iron Horse Drive
Ladson, SC 29456
(P)843.875.3637
(F)843.875.4509
www.cemsengineering.com
CEMS Project #08158S
Project Manager: P. Mahaffey

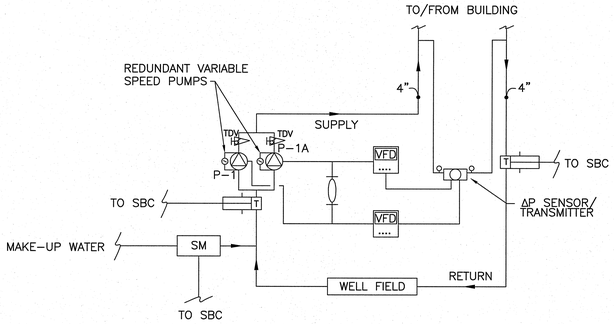
DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA

STRUCTURAL & HVAC RENOVATION
FC574 BARRACK

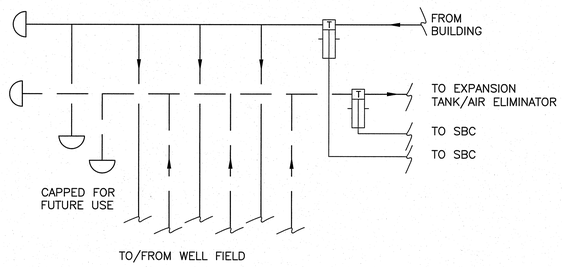
CONTROL DRAWINGS AND SEQUENCE OF OPERATION

DES. J. CARR	
DR. J. BARNES	
CHK. P. MAHAFFEY	
SUBMITTED BY:	
DESIGN DIR.	
APPROVED: PWO OR OICC	DATE
SATISFACTORY TO:	DATE

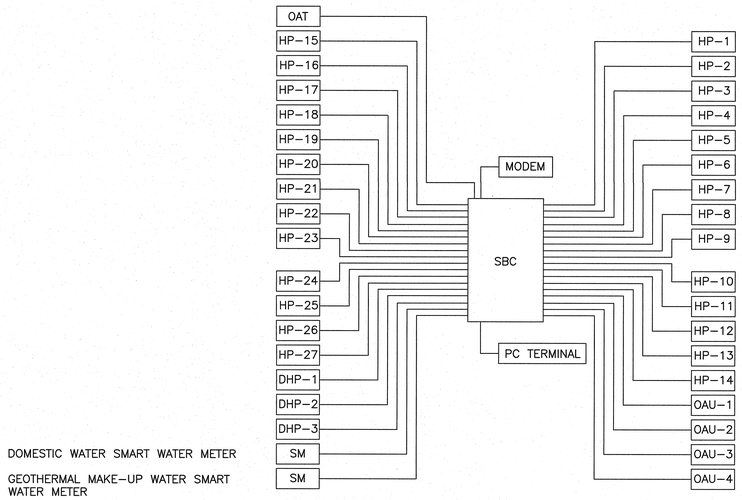
SIZE F | CODE IDENT NO. 80091 | NAVFAC DRAWING NO. 60006331
CONST. CONTR. NO. N40085-10-B-0010
SCALE: AS NOTED | SPEC. 10-B-0010 | SHEET 46 OF 72



GEOTHERMAL VARIABLE SPEED SYSTEM CONTROL DIAGRAM
SCALE: NOT TO SCALE



GEOTHERMAL HEADER CONTROL DIAGRAM
SCALE: NOT TO SCALE



DOMESTIC WATER SMART WATER METER

GEOTHERMAL MAKE-UP WATER SMART WATER METER

SYSTEM NETWORK
SCALE: NOT TO SCALE

GEOTHERMAL WATER SYSTEM (VARIABLE SPEED PUMPS P-1/P-1A) SEQUENCE OF OPERATION:

UPON A CALL FOR COOLING OR HEATING FROM ANY HP, DHP, OR OAU, THE GEOTHERMAL WATER SYSTEM SHALL BE ENABLED FOR OPERATION. THE PRIMARY SYSTEM LEAD PUMP SHALL START AND RUN CONTINUOUSLY. THE HEAT PUMPS ARE INTERLOCKED WITH THE PUMPS AND SHALL NOT START UNTIL FLOW IS PROVEN. UPON FAILURE OF THE LEAD PUMP, THE LAG PUMP SHALL START UNTIL THE FAILURE IS RESOLVED. LEAD OPERATION SHALL SWITCH WEEKLY AS TO EQUALIZE RUNTIME.

THE VARIABLE SPEED DRIVE PUMPS RESPOND TO A DIFFERENTIAL PRESSURE SENSOR/TRANSMITTER WHICH IS SENSING ACROSS TYPICAL SUPPLY-RETURN BRANCH. UPON AN INCREASE IN DIFFERENTIAL PRESSURE THE CONTROLLER WILL OPERATE THE PUMPS AT A LOWER SPEED TO MAINTAIN THE ADJUSTABLE SETPOINT. UPON A DECREASE IN DIFFERENTIAL PRESSURE THE CONTROLLER WILL OPERATE THE PUMPS AT A HIGHER SPEED TO MAINTAIN THE ADJUSTABLE SETPOINT. THE DIFFERENTIAL PRESSURE SENSOR SHALL BE LOCATED AT THE LAST PIPING CIRCUIT TO MAXIMIZE PUMP SAVINGS.

PROVIDE PUMPS WITH A HAND-OFF-AUTO SWITCH. IN THE "HAND" POSITION, THE PUMPS SHALL BE CONTROLLED MANUALLY. PUMPS SHALL BE PROVIDED WITH AN ALTERNATOR TO PROMOTE EVEN WEAR (PUMPS SHALL NOT OPERATE IN PARALLEL).

GEOTHERMAL WATER SUPPLY AND RETURN TEMPERATURES TO BE MONITORED. TEMPERATURE SENSORS SHOULD BE INSTALLED IN THE GEOTHERMAL WATER LINES IN MECHANICAL ROOM 232. ONE SENSOR TO BE LOCATED IN THE GEOTHERMAL SUPPLY LINE AFTER GROUPING IN VALVE HEADER AND BEFORE ENTERING THE PUMP. AN ADDITIONAL SENSOR SHALL BE PLACED IN THE GEOTHERMAL RETURN LINE BEFORE SPLITTING AT THE VALVE HEADER. TEMPERATURES TO BE RECORDED CONTINUOUSLY AT 5 MINUTE INTERVALS.

UPON DETECTION OF WATER FLOW THROUGH THE GEOTHERMAL MAKE-UP WATER SMART WATER METER AN ALARM SHALL BE DISPLAYED AT THE OPERATORS DESK, INDICATING A LEAK IN THE GEOTHERMAL WELL FIELD.

EMERGENCY SHUT DOWN:

A MOMENTARY SWITCH WITH COVER IN THE DUTY ROOM SHALL CAUSE ALL HEAT PUMPS, OUTDOOR AIR UNITS, AND DOMESTIC WATER HEAT PUMPS TO SHUT DOWN. THIS SHALL REQUIRE A RESET AT THE SUPERVISORY CONTROLLER OR A REMOTE RESET FROM THE EMCS SYSTEM.

SITE BUILDING CONTROLLER:

SITE BUILDING CONTROLLER SHALL COMMUNICATE WITH JCI BASE WIDE MONITORING SYSTEM.

CONTROL LEGEND

———	GEOTHERMAL WATER SUPPLY
—— ——	GEOTHERMAL WATER RETURN
DDC	DIRECT DIGITAL CONTROL
SBC	SITE BUILDING CONTROLLER
DHP	DOMESTIC GEOTHERMAL HEAT PUMP
SM	SMART METER
VFD	VARIABLE FREQUENCY DRIVE
HP	GEOTHERMAL HEAT PUMP
OAU	OUTDOOR AIR UNIT
T	TEMPERATURE SENSOR
	PUMP
TDV / HZ	TRIPLE DUTY VALVE
OAT	OUTDOOR AIR TEMPERATURE SENSOR
	SLOW ACTING 2-WAY CONTROL VALVE
	VARIABLE FREQUENCY DRIVE BYPASS

M-602

CEMS Engineering, Inc.
3509 Iron Horse Drive
Ladson, SC 29456
(P)843.875.3637
(F)843.875.4509
www.cemsengineering.com
CEMS Project #081685
Project Manager: P. Mahaffey

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA

STRUCTURAL & HVAC RENOVATION
FC574 BARRACK

CONTROL DRAWINGS AND SEQUENCE OF OPERATION

DES. J. CARR	
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SUBMITTED BY:	
DESIGN DIR.	
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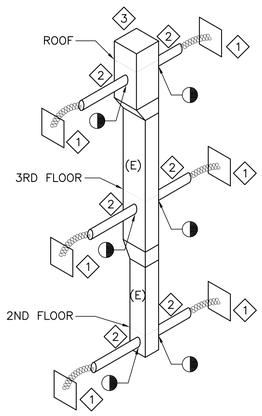
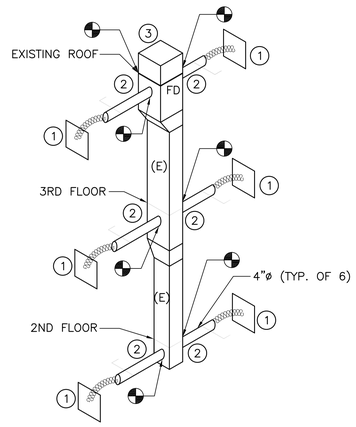
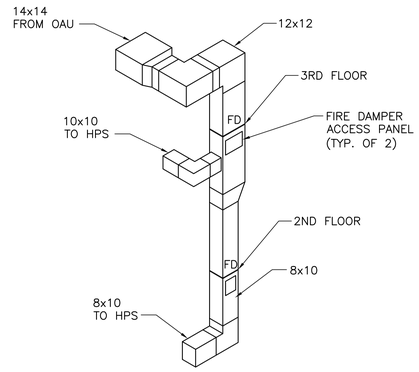
CONST. CONTR. NO. N40085-10-B-0010
SCALE: NOTED | SPEC. 10-B-0010 | SHEET 47 OF 72



TYPICAL EXHAUST RISER DIAGRAM – DEMOLITION
SCALE: NOT TO SCALE



TYPICAL EXHAUST RISER DIAGRAM – NEW WORK
SCALE: NOT TO SCALE



OUTDOOR AIR RISER (TYP. OF 4)
SCALE: NOT TO SCALE

LEGEND

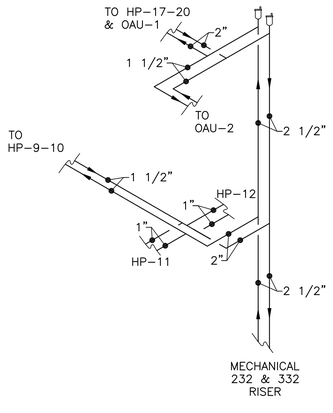
HP	GEOTHERMAL HEAT PUMPS
OAU	OUTDOOR AIR UNIT
———	GEOTHERMAL WATER SUPPLY
FD	HORIZONTAL FIRE DAMPER
(E)	EXISTING
	POINT OF CONNECTION BETWEEN NEW AND EXISTING
	POINT OF DISCONNETION BETWEEN EXISTING TO REMAIN AND EXISTING TO BE REMOVED
TYP.	TYPICAL
	MANUAL VOLUME DAMPER

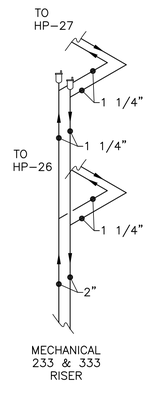
DEMOLITION KEYNOTES:

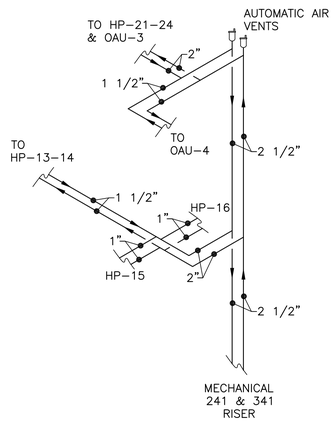
1. REMOVE EXISTING SIDEWALL EXHAUST GRILLE.
2. REMOVE EXISTING FLEX DUCT BACK TO EXISTING RISER.
3. CUT DOWN EXISTING EXHAUST RISER AS NEEDED FOR INSTALLATION OF NEW FIRE DAMPER AT THE EXISTING ROOF LINE.

NEW WORK KEYNOTES:

1. PROVIDE AND INSTALL NEW SIDEWALL EXHAUST GRILLE IN EXISTING WALL OPENING.
2. CONNECT NEW DUCT TO EXISTING RISER.
3. PROVIDE AND INSTALL FIRE DAMPER AT EXISTING ROOF LINE AND EXTEND NEW EXHAUST DUCT INTO ATTIC. SEE SHEET MH–102 FOR CONTINUATION.







PIPING RISER DIAGRAM
SCALE: NOT TO SCALE

1 08/25/10 OUTDOOR AIR RISER UPDATE

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CEMS Engineering, Inc.
3509 Iron Horse Drive
Ladson, SC 29456
(P)843.875.3637
(F)843.875.4509
www.cemsengineering.com
CEMS Project #08156S
Project Manager: P. Mahaffey

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
MARINE CORPS BASE
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STRUCTURAL & HVAC RENOVATION
FC574 BARRACK

MECHANICAL DEMOLITION AND NEW WORK
ISOMETRIC RISER DIAGRAMS

DES. J. CARR	
DR. J. BARNES	
CHK. P. MAHAFFEY	
SUBMITTED BY:	
DESIGN DIR.	
APPROVED: PWO OR OICC	DATE
SATISFACTORY TO:	DATE

SIZE	CODE IDENT NO.	NAVFAC DRAWING NO.
F	80091	60006333
		CONST. CONTR. NO. N40085–10–B–0010
SCALE: NONE	SPEC. 10–B–0010	SHEET 48 OF 72

PUMP SCHEDULE

TAG	SERVICE	TYPE	FLOW (GPM)	HEAD (FT)	RPM	PUMP MIN. (EFF)	MOTOR DATA					DESIGN BASIS
							DRIVES	HP	VOLTS	PHASE	HZ	
P-1, P-1A	GEOTHERMAL HEAT PUMP	GEOTHERMAL PUMPS	260	55	1750	69%	VARIABLE FREQUENCY	7.5	208	3	60	B&G 80
P-2	DOMESTIC HOT WATER RECIRC.	INLINE PUMPS	10	17.5	3300	60%	CONSTANT SPEED	1/6	120	1	60	B&G PL-36
P-3,4,5	DOMESTIC HEAT PUMP CIRCULATOR	INLINE PUMPS	23.8	13.0	3300	60%	CONSTANT SPEED	1/6	120	1	60	B&G PL-36

EXHAUST FAN SCHEDULE

MARK	AREA SERVED	TYPE	CFM	SP. IN. WATER	MOTOR	OPERATING POWER	FAN RPM	V/ø/HZ	DRIVE	MAX OPER. TEMP	CONTROL	NOTES	DESIGN BASIS
EF-1	RESTROOMS	IN-LINE CABINET	300	0.3	1/4 HP	0.04 HP	968	120/1/60	BELT	150°F	CONSTANT	①②③	GREENHECK BSQ-90-4

NOTES:

① PROVIDE WITH INTEGRAL BACKDRAFT DAMPERS.
② PROVIDE WITH SINGLE POINT POWER CONNECTION.
③ PROVIDE WITH INTEGRAL DISCONNECT SWITCH.

DESIGN CONDITIONS

	OUTDOOR	INDOOR
SUMMER	90°DB/79°WB	75°DB/50%RH
WINTER	23°DB	68°DB

AIR DISTRIBUTION SCHEDULE

MARK	1	2	3	4	5	A	B	C	D	E	F	G	H
DESCRIPTION	SIDE WALL GRILLE	SIDE-WALL GRILLE	SUPPLY DIFFUSER	SUPPLY DIFFUSER	SIDE WALL GRILLE	RETURN GRILLE	EXHAUST GRILLE	RETURN GRILLE	SIDE-WALL GRILLE	RETURN GRILLE	RETURN GRILLE	RETURN GRILLE	RETURN GRILLE
MATERIAL	ALUM.	ALUM.	ALUM.	ALUM.	ALUM.	ALUM.	ALUM.	ALUM.	ALUM.	ALUM.	ALUM.	ALUM.	ALUM.
FINISH	WHITE	WHITE	WHITE	WHITE	WHITE	WHITE	WHITE	WHITE	WHITE	WHITE	WHITE	WHITE	WHITE
DUCT CONNECTION SIZE	8"ø	8"ø	8"ø	8"ø	6"ø	6"ø	4"ø	8"ø	8"ø	16x16	4"ø	6"ø	10"ø
FACE SIZE	8x12	8x16	24x24	24x24	4x8	12x12	8x8	24x24	10x16	20x20	8x8	10x16	24x24
MAXIMUM NC	30	30	30	30	30	30	30	30	30	30	30	30	30
FACE STYLE	RECT	RECT	SQUARE	SQUARE	RECT	SQUARE	SQUARE	SQUARE	RECT	SQUARE	SQUARE	RECT	SQUARE
FACE BLADE ARRANGEMENT (grilles & registers only)	N/A	N/A	N/A	N/A	N/A	PERF-ORATED	0° HORIZ	PERF-ORATED	35° HORIZ	35° HORIZ	0° HORIZ	35° HORIZ	PERF-ORATED
MOUNTING	SURFACE	SURFACE	SURFACE	LAY-IN	SURFACE	SURFACE	SURFACE	SURFACE	SURFACE	SURFACE	LAY-IN	SURFACE	SURFACE
PATTERN (diffusers only)	THREE WAY	THREE WAY	N/A	N/A	THREE WAY	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
DAMPERS	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

NOTES:

1. A LIMITED AMOUNT OF AVAILABLE CEILING AREA MAY REQUIRE THE CEILING BE CUT TO ACCOMMODATE A SMALL GRILLE FACE IN LAY-IN AS WELL AS SURFACE MOUNT. CONTRACTOR IS RESPONSIBLE FOR VERIFYING CEILING TYPE AND AVAILABLE SPACE WITH ARCHITECTURAL AND ELECTRICAL DRAWINGS.
2. AIR DISTRIBUTION CALL-OUT (1) CFM — MARK — CFM

DOMESTIC WATER HEAT PUMP SCHEDULE

TAG	SERVICE	TYPE	LOAD FLOW (GPM)	SOURCE FLOW (GPM)	ENTERING LOAD FLUID (F)	LEAVING LOAD FLUID (F)	ENTERING SOURCE FLUID (F)	HEATING CAPACITY (MBTUH)	COP	REFRIGERANT	PRES. DROP (FT HD)	SET POINT TEMP (°F)	SYS. VOLTS	DESIGN BASIS
DHP-1,2,3	DOMESTIC HOT WATER	GEOTHERMAL HEAT PUMP	23.8	18.5	120	130	70	119.2	4.48	R-134A	9.0	140	208/60/3	HEAT HARVESTER #SS-10

WATER SOURCE HEAT PUMP SCHEDULE

TAG	MIN CFM	O/A CFM	ENTERING AIR	E.S.P. I.W.G.	COOLING LEAVING AIR	FULL LOAD COOLING CAPACITY @ 85°F ENTERING WATER (MBTUH)				PARTIAL LOAD COOLING CAPACITY @ 85°F ENTERING WATER (MBTUH)				HEATING LEAVING AIR	FULL LOAD HEATING CAPACITY @ 60°F ENTERING WATER (MBTUH)			PARTIAL LOAD HEATING CAPACITY @ 60°F ENTERING WATER (MBTUH)			SYS. VOLTS	WATER FLOW (GPM)	PRES. DROP (FT HD)	DESIGN BASIS
						CFM	TOTAL	SENS.	EER	CFM	TOTAL	SENS.	EER		CFM	CAP.	COP	CFM	CAP.	COP				
HP-9-24	400	180	80°F DB/67°F WB	0.4	53.0 °F	800	27.0	19.7	15.9	640	19.7	14.5	18.6	85 °F	800	21.7	5.1	640	17.4	6.0	208/60/1	5.0	1.9	FLORIDA HEAT PUMP #AP025
HP-1, 6	400	225	80°F DB/67°F WB	0.4	53.0 °F	950	27.3	21.6	15.5	750	19.9	15.8	18.0	85 °F	950	25.8	5.1	750	20.3	6.0	208/60/1	8.0	4.4	FLORIDA HEAT PUMP #AP025
HP-3, 8	400	270	80°F DB/67°F WB	0.4	53.0 °F	950	27.3	21.6	15.5	750	19.9	15.8	18.0	85 °F	950	25.8	5.1	750	20.3	6.0	208/60/1	8.0	4.4	FLORIDA HEAT PUMP #AP025
HP-2, 5	0	100	80°F DB/67°F WB	0.4	53.0 °F	800	27.0	19.7	15.9	640	19.7	14.5	18.6	85 °F	800	21.7	5.1	640	17.4	6.0	208/60/1	5.0	1.9	FLORIDA HEAT PUMP #AP025
HP-4	0	55	80°F DB/67°F WB	0.4	53.0 °F	800	27.0	19.7	15.9	640	19.7	14.5	18.6	85 °F	800	21.7	5.1	640	17.4	6.0	208/60/1	5.0	1.9	FLORIDA HEAT PUMP #AP025
HP-7	0	65	80°F DB/67°F WB	0.4	53.0 °F	800	27.0	19.7	15.9	640	19.7	14.5	18.6	85 °F	800	21.7	5.1	640	17.4	6.0	208/60/1	5.0	1.9	FLORIDA HEAT PUMP #AP025
HP-25	0	0	80°F DB/67°F WB	0.4	53.0 °F	1200	36.5	28.9	15.2	900	26.2	21.0	20.7	85 °F	1200	32.6	5.0	900	24.4	5.0	208/60/1	9.0	5.4	FLORIDA HEAT PUMP #AP035
HP-26, 27	0	120	80°F DB/67°F WB	0.4	53.0 °F	1200	36.5	28.9	15.2	900	26.2	21.0	20.7	85 °F	1200	32.6	5.0	900	24.4	5.0	208/60/1	9.0	5.4	FLORIDA HEAT PUMP #AP035

NOTES:

1. PROVIDE WITH SINGLE POINT POWER CONNECTION.
2. EER REQUIREMENTS ARE MINIMUM ARI STANDARDS AND SHALL INCLUDE FAN MOTOR HEAT ADDITION.
3. FAN SECTIONS SHALL BE FACTORY PROVIDED WITH INTERNAL VIBRATION ISOLATION.
4. PROVIDE HEAT PUMPS WITH MINIMUM R-6 INSULATION ON WALL PANELS.
5. PROVIDE UNITS WITH 2" THICK DISPOSABLE FILTERS.
6. PROVIDE WITH FACTORY INSTALLED STAINLESS STEEL DRAIN PAN AND FLOAT SWITCH FOR AUTOMATIC SHUT DOWN OF UNIT UPON HIGH CONDENSATE LEVELS.
7. PROVIDE UNITS WITH ECM (ELECTRONICALLY COMMUTATED MOTORS) FANS AND TWO STAGE REFRIGERATION SYSTEMS.
8. UNITS TO HAVE BACNET CAPABLE DDC CONTROLS (PROVIDED BY UNIT MANUFACTURER OR CONTROLS CONTRACTOR).
9. MIN CFM FOR CONTINUOUS FAN ONLY OPERATION.

OUTDOOR AIR WATER SOURCE HEAT PUMP SCHEDULE

TAG	SUPPLY FAN				EXHAUST FAN		ROTARY HEAT WHEEL					COOLING CAPACITY @ 95°F ENTERING WATER (MBTUH)						EER WITH WHEEL	HEATING CAPACITY @ 60°F ENTERING WATER (MBTUH)				SYS. VOLTS	FILTER	NOTES	GROUND WATER FLOW (GPM)	PRES. DROP (FT HD)	DESIGN BASIS
	SUPPLY CFM	EXHAUST CFM	HP	ESP IN WG	HP	ESP IN WG	EFFECTIVENESS	SUPPLY °FDB/°FWB		EXHAUST °FDB/°FWB		O/A ENTR. °FDB/°FWB	MAX COIL FACE VELOCITY (FPM)	COIL LEAVING AIR °FDB/°FWB	REHEAT LEAVING AIR °F	TOTAL	SENS.		O/A ENTR. °FDB/°FWB	LEAVING AIR	CAP.	COP						
								SUMMER	WINTER	SUMMER	WINTER																	
OAU-1,2,3	1045	1045	0.5	0.2	0.5	0.5	80%	90.0/79.0 78.0/66.4	23.0/19.3 59.1/47.5	75.0/50% 87.0/76.2	68.0/35% 31.9/27.3	80.3/71.5	300	53/53	65.0	52.4	31.1	21.7	52.3/43.1	65.0 °F	14.5	3.0	208/60/3	2" PLEATED	①②③④⑤⑥⑦⑧⑨	11.2	9.0	GREENHECK ERCH-20M-15
OAU-4	1055	1055	0.5	0.2	0.5	0.5	80%	90.0/79.0 78.0/66.4	23.0/19.3 59.1/47.5	75.0/50% 87.0/76.2	68.0/35% 31.9/27.3	80.3/71.5	300	53/53	65.0	52.4	31.1	21.7	52.3/43.1	65.0 °F	14.5	3.0	208/60/3	2" PLEATED	①②③④⑤⑥⑦⑧⑨	11.2	9.0	GREENHECK ERCH-20M-15

NOTES:

① PROVIDE WITH SINGLE POINT POWER CONNECTION.
② EER REQUIREMENTS ARE MINIMUM ARI STANDARDS AND SHALL INCLUDE FAN MOTOR HEAT ADDITION.
③ FAN SECTIONS SHALL BE FACTORY PROVIDED WITH INTERNAL VIBRATION ISOLATION.
④ PROVIDE HEAT PUMPS WITH MINIMUM R-6 INSULATION ON WALL PANELS.
⑤ UNITS TO COME WITH SEA COAST CORROSION RESISTANT COATING.
⑥ PROVIDE WITH FACTORY INSTALLED DRAIN PAN AND FLOAT SWITCH FOR AUTOMATIC SHUT DOWN OF UNIT UPON HIGH CONDENSATE LEVELS.
⑦ UNIT SHALL BE FURNISHED WITH PREMIUM EFFICIENCY MOTORS.
⑧ UNIT SHALL BE FACTORY TESTED COMPLETE WITH ALL APPURTENANCES INTEGRAL. EACH UNIT SHALL INCLUDE OUTSIDE AIR AND EXHAUST AIR DAMPERS WITH ACTUATORS. UNIT CASING SHALL BE INTERNALLY INSULATED WITH A MINIMUM R VALUE OF 7 AND SHALL HAVE AN INTERNAL METAL LINER. UNITS SHALL BE PROVIDED IN SECTIONS AND ASSEMBLED WITHIN MECHANICAL ROOMS. COORDAINTE SERVICE ACCESS OPENINGS WITH PLAN LAYOUTS.
⑨ PROVIDE UNITS WITH HOT GAS REHEAT AND HOT GAS BYPASS.

M-604

CEMS Engineering, Inc.
3509 Iron Horse Drive
Ladson, SC 29456
(P)843.875.3637
(F)843.875.4509
www.cemsengineering.com
CEMS Project #08158S
Project Manager: P. Mahaffey

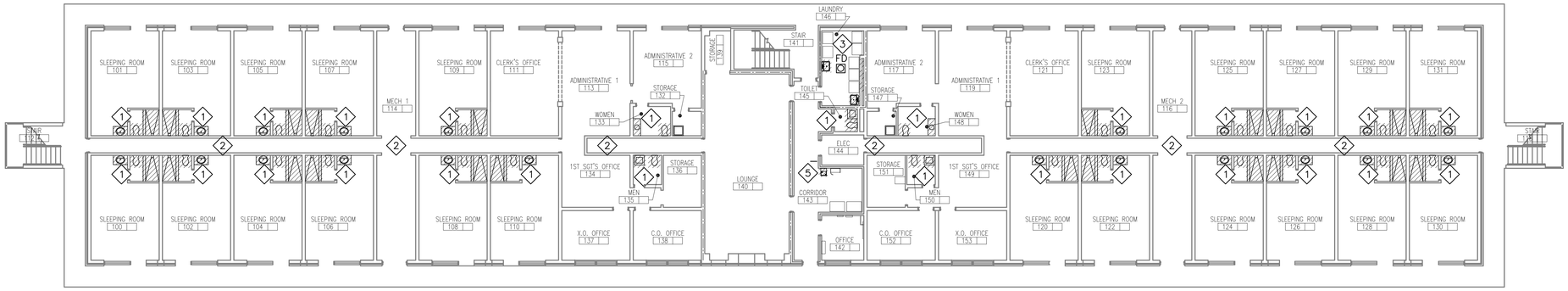
DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA

STRUCTURAL & HVAC RENOVATION
FC574 BARRACK

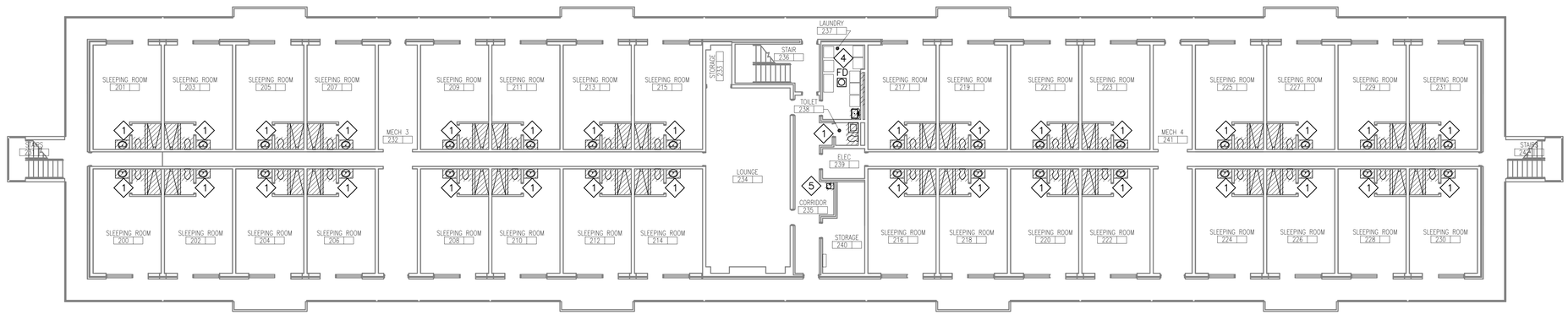
MECHANICAL SCHEDULES

DES. J. CARR
DR. J. BARNES
CHK. P. MAHAFFEY
SUBMITTED BY:
DESIGN DIR.
APPROVED: PWO OR OICC DATE
SATISFACTORY TO: DATE

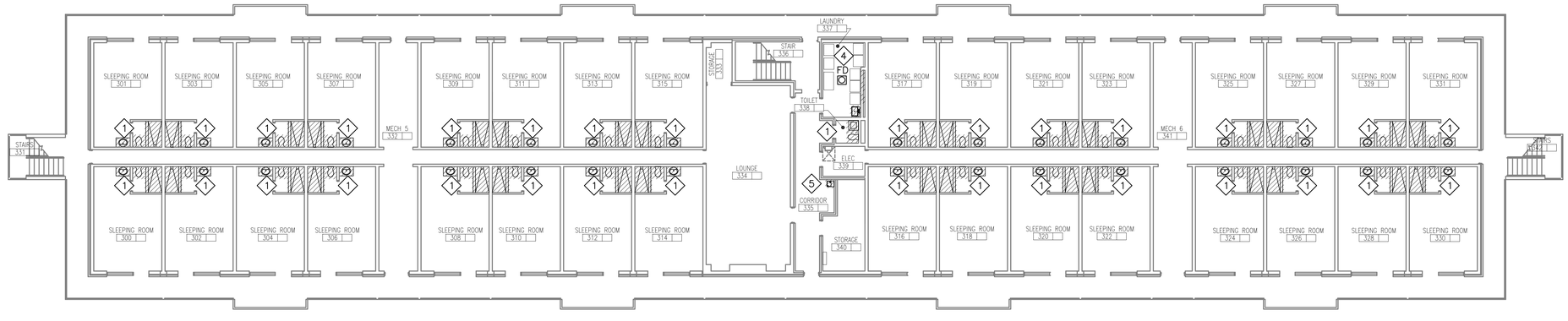
SIZE F | CODE IDENT NO. 80091 | NAVFAC DRAWING NO. 60006334
CONST. CONTR. NO. N40085-10-B-0010
SCALE: AS NOTED | SPEC. 10-B-0010 | SHEET 49 OF 72



FIRST FLOOR PLUMBING DEMOLITION PLAN
SCALE: 3/32" = 1'-0"



SECOND FLOOR PLUMBING DEMOLITION PLAN
SCALE: 3/32" = 1'-0"



THIRD FLOOR PLUMBING DEMOLITION PLAN
SCALE: 3/32" = 1'-0"

LEGEND

FD FLOOR DRAIN

TO BE REMOVED

GENERAL DEMOLITION NOTES:

1. LOCATIONS OF EQUIPMENT, PIPING, ETC. IS DIAGRAMMATIC ONLY AND IS NOT INTENDED TO SHOW EXACT LOCATION.
2. WHERE EQUIPMENT OR PIPING IS REMOVED AND NOT REPLACED, PATCH AND FINISH AREAS TO MATCH ADJACENT SURFACES.

DEMOLITION KEYNOTES:

1. REMOVE ALL EXISTING PLUMBING FIXTURES. SUPPLY AND DWV PIPING TO REMAIN FOR REUSE IN NEW WORK.
2. REMOVE PIPING INSULATION ON ALL DOMESTIC COLD WATER, DOMESTIC HOT WATER, AND DOMESTIC HOT WATER RECIRCULATION PIPING IN FIRST FLOOR CHASES AND MECHANICAL ROOMS. PREPARE PIPING FOR REINSULATION.
3. REMOVE ALL EXISTING PLUMBING FIXTURES, SUPPLY AND DWV PIPING TO REMAIN FOR REUSE IN NEW WORK. PIPING SERVING SINK ON SOUTH WALL TO BE CAPPED.
4. REMOVE ALL EXISTING PLUMBING FIXTURES, SUPPLY AND DWV PIPING TO REMAIN FOR REUSE IN NEW WORK.
5. REMOVE EXISTING WATER COOLER. SUPPLY AND DWV PIPING TO REMAIN FOR REUSE IN NEW WORK.

24"0 4' 8' 16'
SCALE: 3/32" = 1'-0"
GRAPHIC SCALE

1 08/20/10 FINALS COMMENT REVISIONS

PD-101

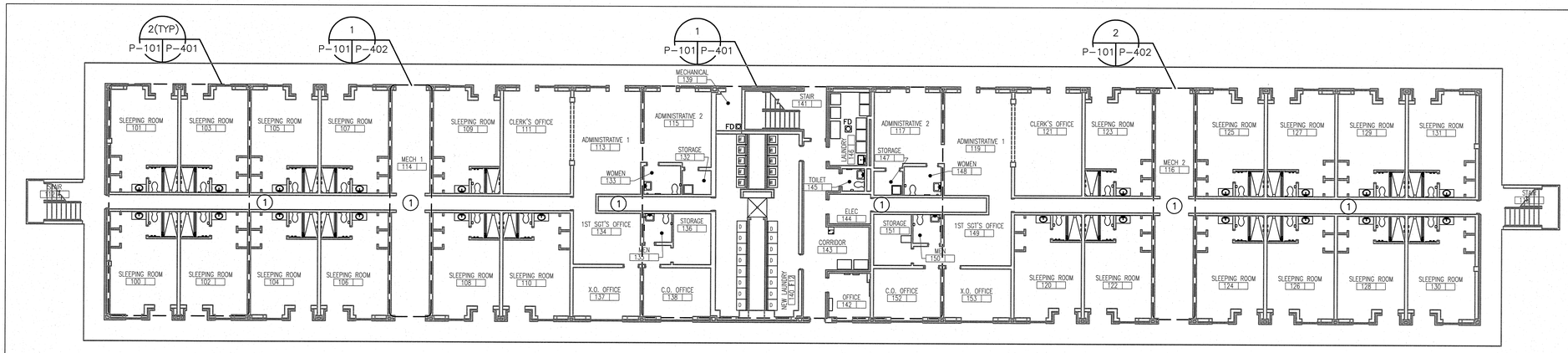
CEMS Engineering, Inc.
3509 Iron Horse Drive
Ladson, SC 29456
(P)843.875.3637
(F)843.875.4509
www.cemsengineering.com
CEMS Project #081585
Project Manager: P. Mahaffey

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA

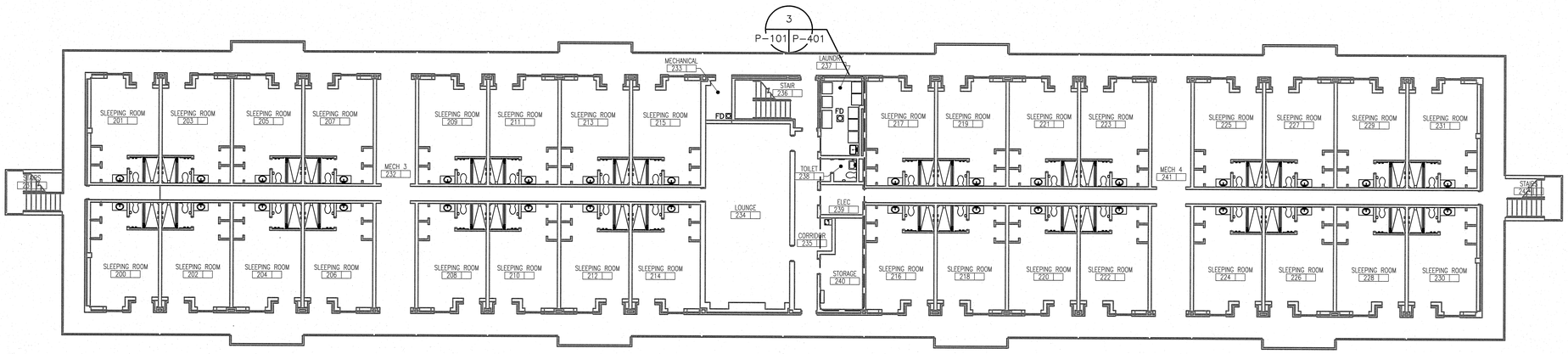
STRUCTURAL & HVAC RENOVATION
FC574 BARRACK

PLUMBING DEMOLITION PLAN

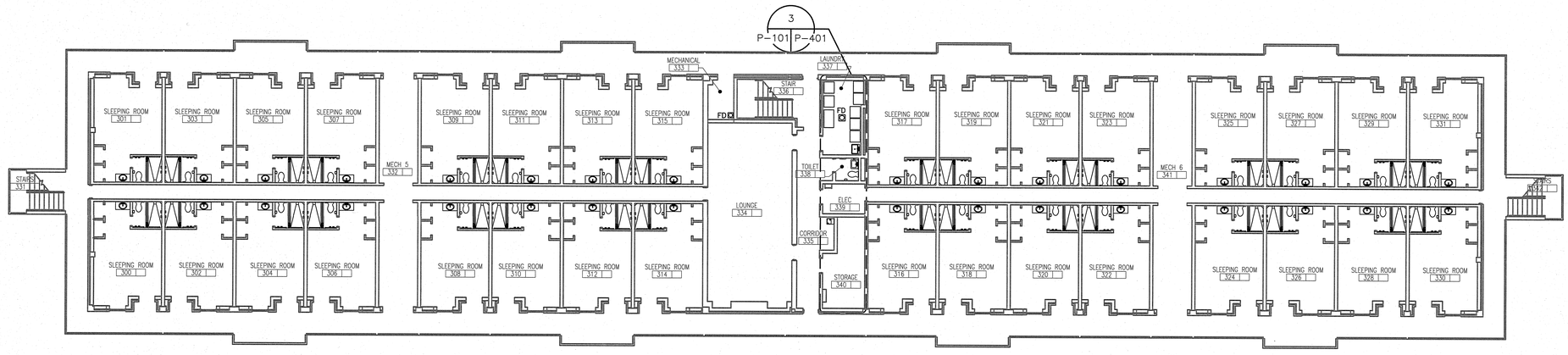
DES. J. CARR	
DR. J. BARNES	
CHK. P. MAHAFFEY	
SUBMITTED BY:	
DESIGN DIR.	
APPROVED: PWO OR OICC DATE	SIZE F / CODE IDENT NO. 80091 / NAVFAC DRAWING NO. 60006335
SATISFACTORY TO: DATE	CONST. CONTR. NO. N40085-10-B-0010
SCALE: AS NOTED	SPEC. 10-B-0010 / SHEET 50 OF 72



FIRST FLOOR PLUMBING NEW WORK PLAN
SCALE: 3/32" = 1'-0"



SECOND FLOOR PLUMBING NEW WORK PLAN
SCALE: 3/32" = 1'-0"



THIRD FLOOR PLUMBING NEW WORK PLAN
SCALE: 3/32" = 1'-0"

24"0 4' 8' 16'
SCALE: 3/32" = 1'-0"
GRAPHIC SCALE

LEGEND

FD FLOOR DRAIN

GENERAL NEW WORK NOTES:

1. LABOR, EQUIPMENT AND MATERIALS ARE TO BE PROVIDED TO COMPLETE THE PLUMBING WORK INDICATED ON THESE DRAWINGS AS REQUIRED BY LOCAL CODE AND ORDINANCES.
2. THE WORK SHALL INCLUDE WASTE, VENT, DOMESTIC COLD & HOT WATER PIPING, AS INDICATED ON THESE DRAWINGS. ALSO, THE HOOKUP OF FIXTURES SCHEDULED AND INSULATION OF PIPING SHALL BE INCLUDED.
3. ITEMS, SUCH AS FITTINGS, ETC. NOT MENTIONED BUT UNDERSTOOD TO BE NECESSARY TO COMPLETE THE PLUMBING SYSTEM SHALL BE INCLUDED.
4. SOIL, WASTE, VENT AND WATER PIPING MATERIALS MUST MEET OR EXCEED LOCAL CODES.
5. CLEAN OUTS FOR SOIL AND WASTE LINES AS SHOWN ON THE DRAWING MUST BE PROVIDED AND MEET OR EXCEED LOCAL CODES.
6. STUBS FOR THE DRAINAGE SYSTEM MUST BE CAPPED UNTIL FINISHED WORK IS INSTALLED.
7. WATER HAMMER ARRESTERS MUST BE PROVIDED IN ACCORDANCE WITH INTERNATIONAL PLUMBING CODES AND LOCAL ORDINANCES.
8. FLOOR DRAINS SHALL BE DEEP SEAL TRAP TYPE WITH 3/8" TRAP PRIMER CONNECTION TO NEAREST CW SOURCE.
9. TRAP PRIMER VALVES SHALL BE LOCATED BELOW THE FIXTURE INDICATED. PRIMER LINES TO FLOOR DRAINS SHALL BE ROUTED DOWN INSIDE WALL AND BELOW SLAB. SEE FLOOR PLANS AND RISER DIAGRAMS.
10. LOCATE PLUMBING FIXTURES PER ARCHITECTURAL DRAWINGS. PIPING IS SHOWN IN GENERAL LOCATION. EXACT LOCATION WILL BE DETERMINED BY JOB CONDITIONS.
11. INSTALLATION SHALL BE PER PLANS AND SPECIFICATIONS AND NORTH CAROLINA PLUMBING CODE. SEE SPECIFICATIONS FOR PRODUCT AND INSTALLATION REQUIREMENTS.
12. COORDINATE LOCATION OF PLUMBING WORK WITH OTHER TRADES TO AVOID CONFLICTS AND INTERFERENCES.
13. ALL EQUIPMENT, AND PIPE ABOVE CEILING SHALL BE SUPPORTED FROM BUILDING STRUCTURE ABOVE, UNLESS OTHERWISE NOTED.

NEW WORK KEYNOTES:

1. REINSULATE ALL DOMESTIC COLD WATER, DOMESTIC HOT WATER, AND DOMESTIC HOT WATER RECIRCULATION PIPING IN FIRST FLOOR CHASES AND MECHANICAL ROOMS.

P-101

CEMS Engineering, Inc.
3509 Iron Horse Drive
Ladson, SC 29456
(P)843.875.3637
(F)843.875.4509
www.cemsengineering.com
CEMS Project #08158S
Project Manager: P. Mahaffey

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA

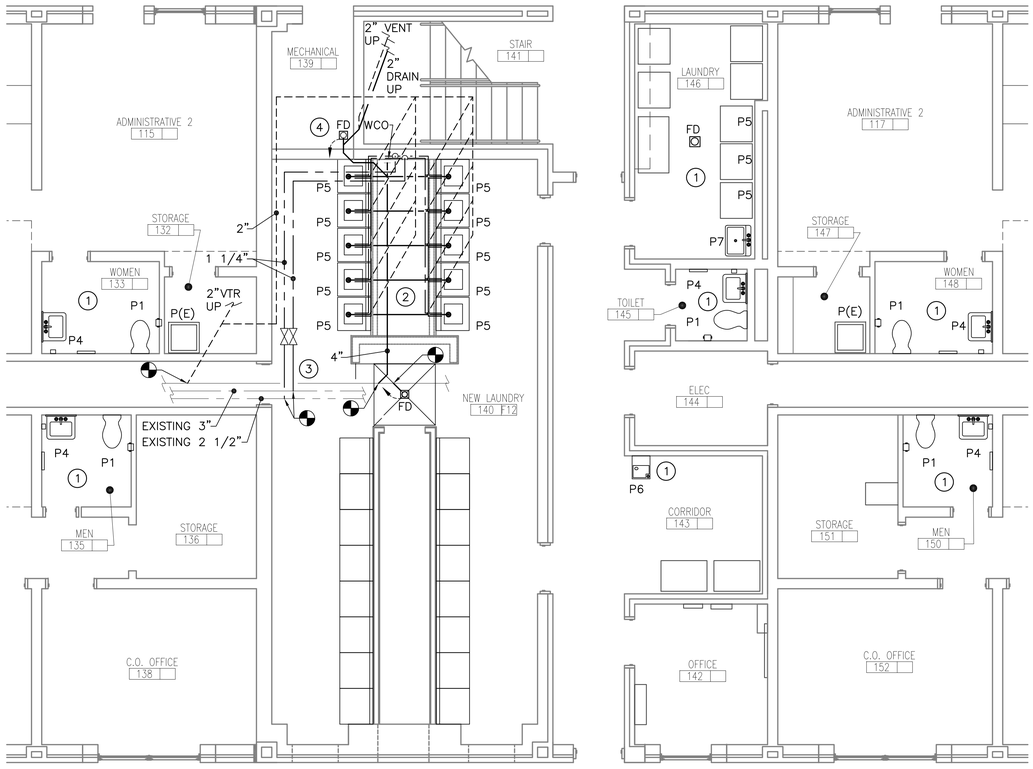
STRUCTURAL & HVAC RENOVATION
FC574 BARRACK

PLUMBING NEW WORK PLAN

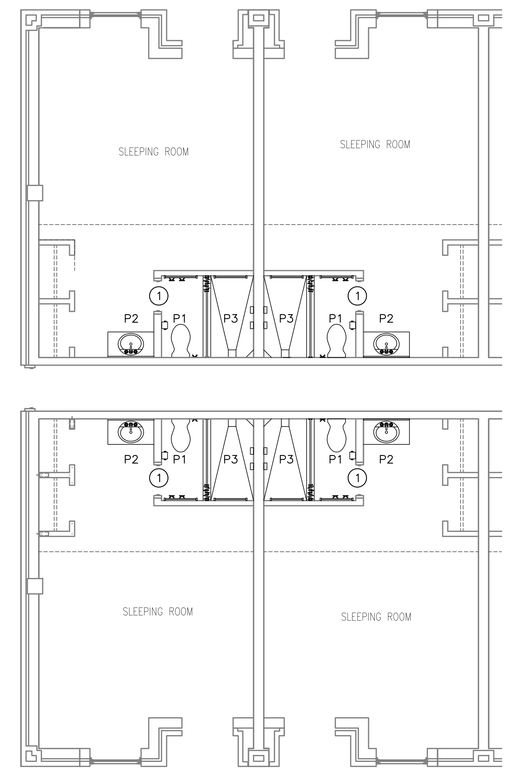
DES. J. CARR	
DR. J. BARNES	
CHK. P. MAHAFFEY	
SUBMITTED BY:	
DESIGN DIR.	
APPROVED: PWO OR OICC	DATE
SATISFACTORY TO:	DATE

SEAL 32273 REGISTERED PROFESSIONAL ENGINEER NORTH CAROLINA

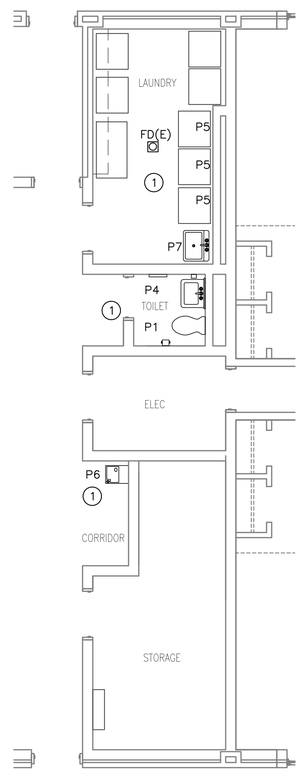
SIZE	CODE IDENT NO.	NAVFAC DRAWING NO.	
F	80091	60006336	
		CONST. CONTR. NO.	N40085-10-B-0010
SCALE: AS NOTED	SPEC. 10-B-0010	SHEET 51 OF 72	



1 ENLARGED FIRST FLOOR PLUMBING NEW WORK PLAN
P-101 P-401 SCALE: 1/4" = 1'-0"



2 ENLARGED PLUMBING NEW WORK PLAN
P-101 P-401 SCALE: 1/4" = 1'-0"



3 ENLARGED SECOND & THIRD FLOOR PLUMBING NEW WORK PLAN
P-101 P-401 SCALE: 1/4" = 1'-0"

LEGEND

- COLD WATER, CW
- HOT WATER. HW
- DRAIN
- VENT
- BRANCH ISOLATION VALVE
- WALL CLEANOUT
- PIPE TURNING DOWN
- P_ PLUMBING FIXTURE DESIGNATION
- FD FLOOR DRAIN W/TRAP PRIMER
- CONNECTION BETWEEN NEW AND EXISTING
- (E) EXISTING

NEW WORK KEYNOTES:

1. PROVIDE AND INSTALL NEW PLUMBING FIXTURES. CONNECT NEW FIXTURES TO EXISTING DWV AND SUPPLY PIPING.
2. REMOVE SLAB AS NECESSARY FOR INSTALLATION OF NEW WASTE PIPING. CONTRACTOR SHALL VERIFY LOCATION AND FLOW DIRECTION OF EXISTING WASTE BEFORE INSTALLATION OF NEW.
3. EXISTING COLD AND HOT WATER SUPPLY LINES OVER ALL COMMON AREAS TO BE RE-INSULATED. NEW COLD AND HOT WATER SUPPLY LINES OVER ALL COMMON AREAS TO BE INSULATED.
4. SEE P-601 FOR IDENTICAL FLOOR DRAINS INSTALLED IN ROOMS 233 AND 333.

PLUMBING FIXTURE SCHEDULE

SYMBOL	FIXTURE	PIPE SIZES C W	PIPE SIZES H W	PIPE SIZES DRAIN	PIPE SIZES VENT	REMARKS
P1	DUAL FLUSH WATER CLOSET (FLUSH VALVE)	1"	--	3"	2"	SEE SPECIFICATIONS
P2	LAVATORY (COUNTER TOP)	1/2"	1/2"	1 1/4"	1 1/4"	SEE SPECIFICATIONS
P3	SHOWER	1/2"	1/2"	2"	2"	SEE SPECIFICATIONS
P4	LAVATORY (WALL HUNG)	1/2"	1/2"	1 1/4"	1 1/4"	SEE SPECIFICATIONS
P5	WASHER BOX	1/2"	1/2"	1 1/4"	1 1/4"	SEE SPECIFICATIONS
P6	WATER COOLER	1/2"	- -	1 1/4"	1 1/4"	SEE SPECIFICATIONS
P7	SERVICE SINK	1/2"	1/2"	2"	2	SEE SPECIFICATIONS
FD	FLOOR DRAIN	1/2"	- -	2"	1 1/2"	SEE SPECIFICATIONS
WCO	WALL CLEAN OUT	- -	- -	4"	- -	SEE SPECIFICATIONS

12"0 2' 4' 8'
SCALE: 1/4" = 1'-0"
GRAPHIC SCALE

1 08/20/10 FINALS COMMENT REVISIONS

P-401

CEMS Engineering, Inc.
3509 Iron Horse Drive
Ladson, SC 29456
(P)843.875.3637
(F)843.875.4509
www.cemsengineering.com
CEMS Project #08156S
Project Manager: P. Mahaffey

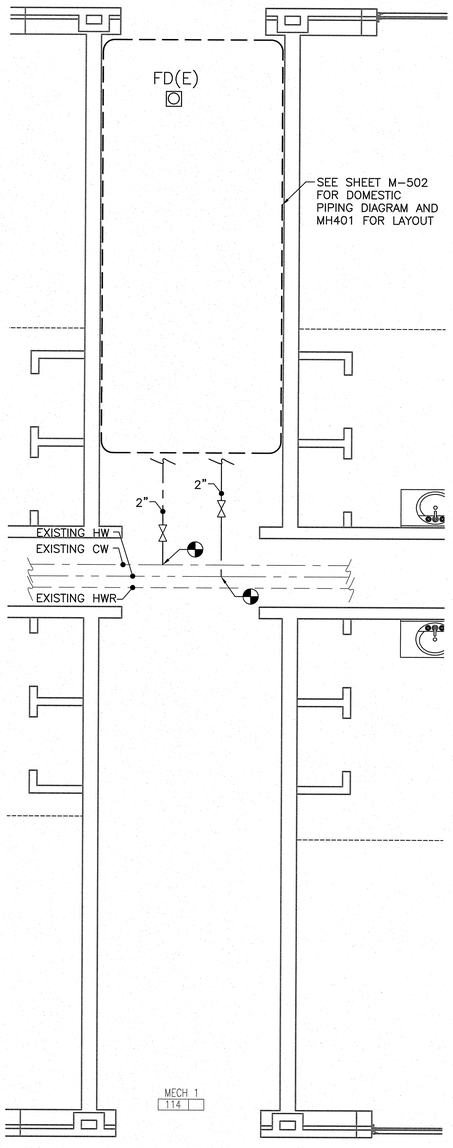
DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA

STRUCTURAL & HVAC RENOVATION
FC574 BARRACK

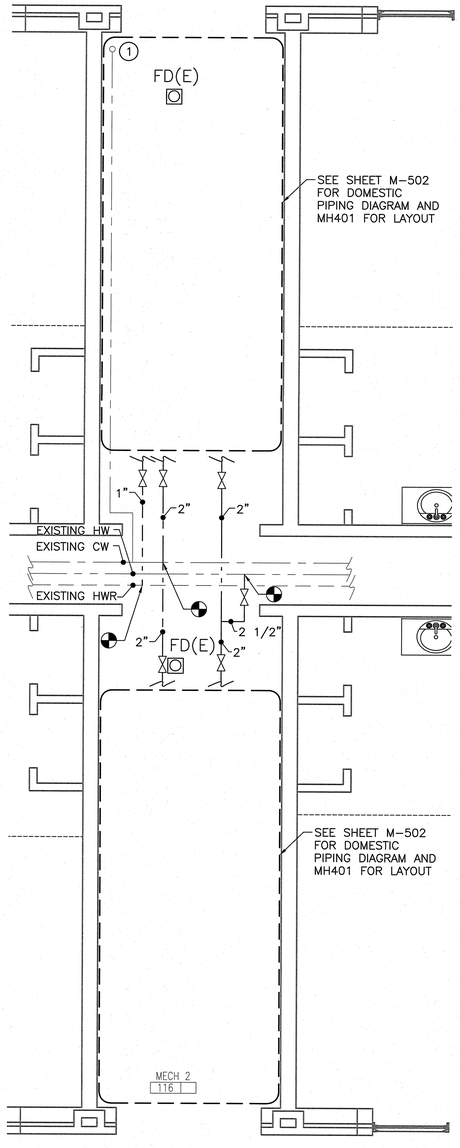
ENLARGED PLUMBING SUPPLY AND DWV NEW WORK PLANS

DES. B. BOZARD
DR. J. BARNES
CHK. P. MAHAFFEY
SUBMITTED BY:
DESIGN DIR.
APPROVED: PWO OR OICC DATE
SATISFACTORY TO: DATE

SIZE F | CODE IDENT NO. 80091 | NAVFAC DRAWING NO. 60006337
CONST. CONTR. NO. N40085-10-B-0010
SCALE: AS NOTED | SPEC. 10-B-0010 | SHEET 52 OF 72



1 P-101 P-402 ENLARGED PLUMBING PIPING NEW WORK PLAN
SCALE: 3/8" = 1'-0"



2 P-101 P-402 ENLARGED PLUMBING PIPING NEW WORK PLAN
SCALE: 3/8" = 1'-0"

LEGEND

— — —	COLD WATER, CW
— — —	HOT WATER, HW
— — — —	HOT WATER RECIRC, HWR
—⋈—	BRANCH ISOLATION VALVE
◐	CONNECTION BETWEEN NEW AND EXISTING
FD	FLOOR DRAIN
(E)	EXISTING

NEW WORK KEYNOTES:

(1) EXISTING DOMESTIC WATER SUPPLY TO THE BUILDING SHALL BE PROVIDED WITH NEW SMART WATER METER TO REPORT BACK TO SUPERVISORY BUILDING CONTROLLER.

12" 0 1' 2' 4'
SCALE: 3/8" = 1'-0"
GRAPHIC SCALE

P-402

CEMS Engineering, Inc.
3009 Iron Horse Drive
Ladson, SC 29456
(P)843.875.3637
(F)843.875.4509
www.cemsengineering.com
CEMS Project #081585
Project Manager: P. Mahaffey

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA

STRUCTURAL & HVAC RENOVATION
FC574 BARRACK

ENLARGED PLUMBING PIPING NEW WORK PLANS

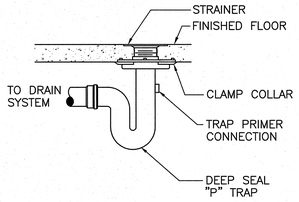
DES. J. CARR	
DR. J. CARR/J. BARNES	
CHK. P. MAHAFFEY	
SUBMITTED BY:	
DESIGN DIR.	
APPROVED: PWO OR OICC	DATE
SATISFACTORY TO:	DATE

SEAL 32273 REGISTERED MARINE ENGINEER

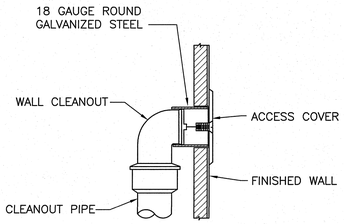
SIZE	CODE IDENT NO.	NAVFAC DRAWING NO.
F	80091	60006338

CONST. CONTR. NO. N40085-10-B-0010

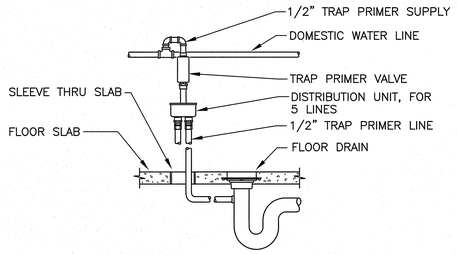
SCALE: AS NOTED | SPEC. 10-B-0010 | SHEET 53 OF 72



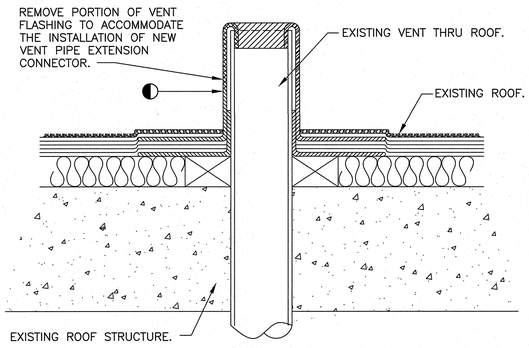
TYPICAL FLOOR DRAIN DETAIL
SCALE: NOT TO SCALE



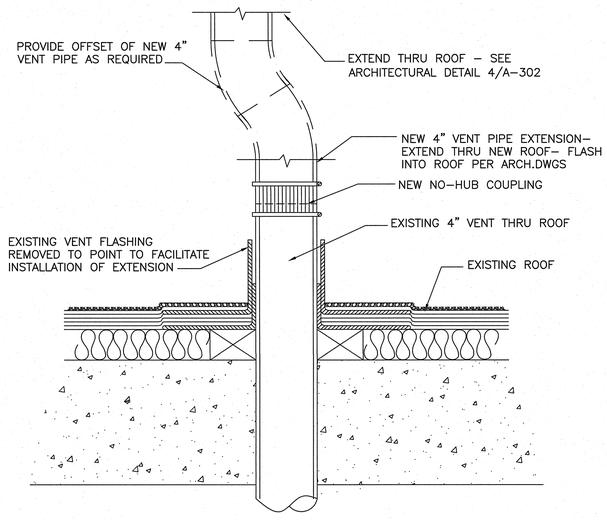
WALL CLEANOUT DETAIL
SCALE: NOT TO SCALE



TRAP SEAL PRIMER DETAIL
SCALE: NOT TO SCALE



EXISTING VENT THRU ROOF DETAIL
SCALE: NOT TO SCALE



EXISTING VENT EXTENSION DETAIL
SCALE: NOT TO SCALE

NOTE: CONTRACTOR SHALL HAVE THE OPTION OF PROVIDING NEW VENT EXTENSION PIPING TO MATCH EXISTING PIPE MATERIAL OR PROVIDING NEW PVC (SCHED 40) EXTENSION. THE NEW NO–HUB COUPLING SHALL PROVIDE A TIGHT SEAL BETWEEN EXISTING STEEL VENT AND NEW STEEL VENT EXTENSION.

P-501

CEMS Engineering, Inc.
3509 Iron Horse Drive
Ladson, SC 29456
(P)843.875.3637
(F)843.875.4209
www.cemsengineering.com
CEMS Project #081585
Project Manager: P. Mahaffey

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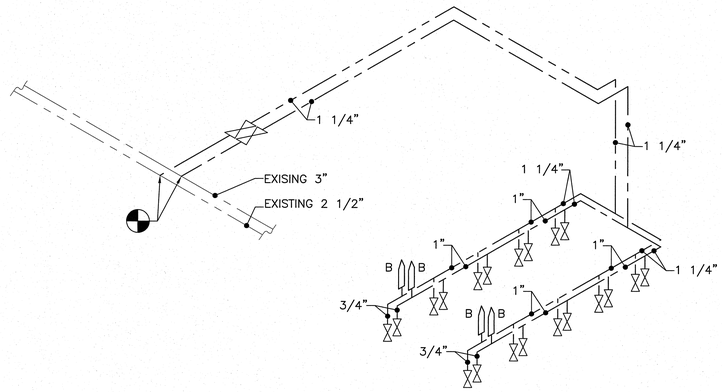
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA

STRUCTURAL & HVAC RENOVATION
FC574 BARRACK

PLUMBING DETAILS

DES. B. BOZARD	
DR. B. BOZARD	
CHK. P. MAHAFFEY	
SUBMITTED BY:	
DESIGN DIR.	
APPROVED: PWO OR OICC DATE	
SATISFACTORY TO: DATE	

SIZE	CODE IDENT NO.	NAVFAC DRAWING NO.	
F	80091	60006339	
		CONST. CONTR. NO. N40085–10–B–0010	
SCALE: AS NOTED	SPEC. 10–B–0010	SHEET 54 OF 72	

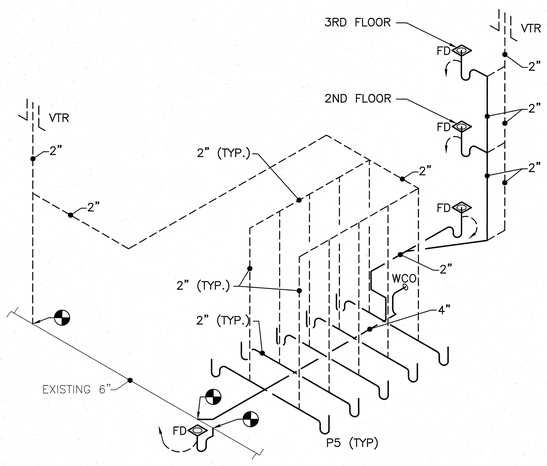


FIRST FLOOR LAUNDRY PLUMBING SUPPLY NEW WORK PLAN
SCALE: NOT TO SCALE

HAMMER ARRESTOR SCHEDULE			
ITEM	PDI UNIT	FIXTURE UNIT	MANUFACTURER
HA	B	12–32	JOSAM 75000 OR EQUIVALENT ZURN, SMITH

LEGEND

- COLD WATER, CW
- HOT WATER. HW
- DRAIN
- VENT
- FD — FLOOR DRAIN W/ TRAP PRIMER
- BRANCH ISOLATION VALVE
- P_ — PLUMBING FIXTURE DESIGNATION
- POINT OF CONNECTION BETWEEN NEW AND EXISTING
- WCO — WALL CLEANOUT
- VTR — VENT THROUGH ROOF
- TYP. — TYPICAL
- WATER HAMMER ARRESTER



FIRST FLOOR LAUNDRY PLUMBING DWV NEW WORK PLAN
SCALE: NOT TO SCALE

P-601

CEMS Engineering, Inc.
3509 Iron Horse Drive
Ladson, SC 29456
(P)843.875.3637
(F)843.875.4509
www.cemsengineering.com
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CHK. P. MAHAFFEY
SUBMITTED BY:
DESIGN DIR.
APPROVED: PWO OR OICC DATE
SATISFACTORY TO: DATE

STRUCTURAL & HVAC RENOVATION
FC574 BARRACK

PLUMBING ISOMETRICS AND SCHEDULE

SIZE F | CODE IDENT NO. 80091 | NAVFAC DRAWING NO. 60006340
CONST. CONTR. NO. N40085–10–B–0010
SCALE: AS NOTED | SPEC. 10–B–0010 | SHEET 55 OF 72

LEGEND

- (J) JUNCTION BOX (WITH OR WITHOUT EQUIPMENT CONNECTION)
- RECEPTACLE, 20A, 120 VOLT ('G' – INDICATES A GROUND FAULT RECEPTACLE. 'W' – INDICATES RAIN TIGHT WHILE IN USE)
- 20A, 120 VOLT RECEPTACLE, DEDICATED QUADRAPLEX
- DRYER RECEPTACLE, 125/250V NEMA 14–30R
- RECEPTACLE, 20A, 120 VOLT MOUNTED AT 48" AFF. ('G' – INDICATES A GROUND FAULT RECEPTACLE)
- $ SWITCH, 20A ('P'–SWITCH WITH LAMP "ON" WHEN OFF; '3'–THREEWAY; 'm'–MANUAL MOTOR STARTER SWITCH)
- DISCONNECT, NON–FUSED
- DISCONNECT, FUSED
- MOTOR STARTER
- CLOCK RECEPTACLE
- TV TELEVISION OUTLET (EXISTING)
- PHONE OUTLET (EXISTING)
- (M) MOTOR
- (E) EXHAUST FAN
- (F) FAN COIL UNIT
- (HW) HIGH WATER ALARM (EXISTING)
- A LIGHT FIXTURE WITH MARK, SEE FIXTURE SCHEDULE
- FLOURESCENT LIGHT FIXTURE, SEE FIXTURE SCHEDULE
- EXIT LIGHT, LED, BATTERY BACK–UP (DARKENED STECTION IS FACE SIDE)
- TVC TELEVISION CABINET
- IC INTERCOM CABINET
- ICM INTERCOM MASTER STATION
- TC TELEPHONE CABINET
- MTV MASTER TV CABINET
- MTC MASTER TELEPHONE CABINET
- UH UNIT HEATER
- LGT LIGHTING CONTROL
- TWO HEAD EMERGENCY LIGHT FIXTURE, SEE FIXTURE SCHEDULE

GENERAL ELECTRICAL NOTES (APPLIES TO ALL DRAWINGS):

1. ALL ELECTRICAL WORK IS TO BE DONE IN ACCORDANCE WITH THE CURRENT EDITION OF NFPA 70: NATIONAL ELECTRICAL CODE.
2. MATERIALS ARE TO BE NEW AND CONFORM TO THE STANDARDS OF THE UNDERWRITER'S LABORATORIES, INC. (U.L.) AND THE NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION (NEMA).
3. CONTRACTOR SHALL CONSIDER VOLTAGE DROP WHEN DETERMINING THE EXACT ROUTING OF BRANCH CIRCUIT AND FEEDER WIRING. ADJUST WIRE AND CONDUIT SIZE AS NECESSARY TO PREVENT A VOLTAGE DROP EXCEEDING 3% AT THE FURTHEST DEVICE LOCATION.
4. ALL PENETRATIONS THROUGH FIRE RATED WALLS, FLOORS AND SMOKE PARTITIONS SHALL BE SEALED WITH AN APPROVED FIRE PROOFING SEALANT OR U.L. LISTED PENETRATION DEVICE.
5. ELECTRICAL DRAWING IS GENERALLY DIAGRAMMATIC. COORDINATE WORK WITH ALL TRADES PRIOR TO START OF CONSTRUCTION. BRANCH CIRCUIT CONDUIT ROUTING SHALL BE COORDINATED IN THE FIELD BY THE CONTRACTOR TO MEET SPECIFICATIONS, CODE REQUIREMENTS, AND TO PROVIDE A NEAT, WORKMAN LIKE, FULLY OPERATIONAL SYSTEM.
6. PROVIDE A TYPED SCHEDULE IN PANELBOARDS CLEARLY DESCRIBING THE LOCATION AND TYPE OF LOAD BEING SERVED FOR ALL CIRCUITS.
7. CONTRACTOR IS TO BE AWARE OF ALL RULES, REGULATIONS, AND CODES REQUIRED FOR SUCCESSFUL COMPLETION OF CONSTRUCTION.
8. PROVIDE NECESSARY ACCESSORIES WITH LIGHT FIXTURES TO MATCH CEILING FINISH TYPE.
9. FIXTURE MOUNTING REQUIREMENTS TO BE COORDINATED WITH ARCHITECTURAL CEILING PLAN.
10. UNLESS NOTED OTHERWISE ALL ITEMS SHOWN ON NEW WORK SHEETS IS TO BE NEW AND INSTALLED.
11. CONTRACTOR TO VERIFY EXISTING CONDITIONS PRIOR TO START OF WORK.

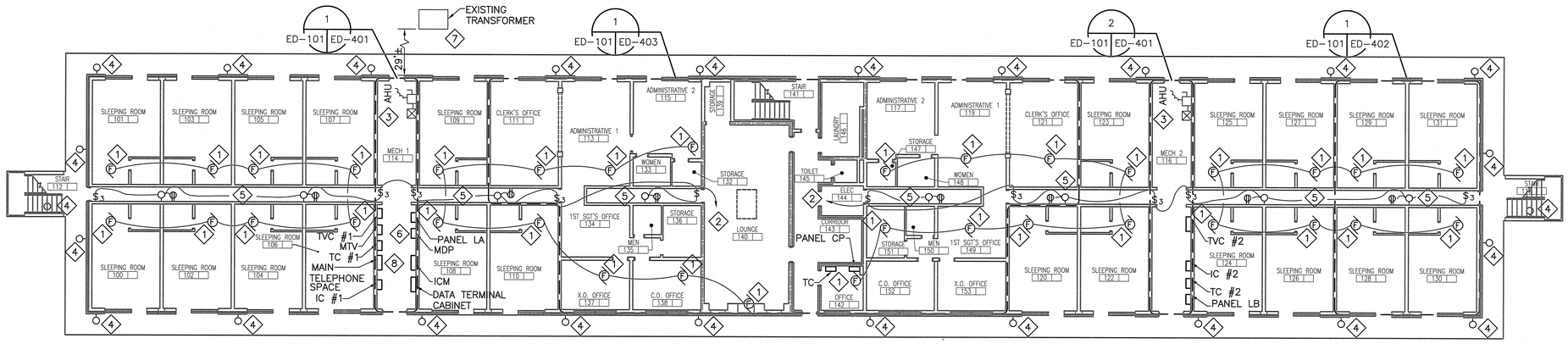
E-001

CEMS Engineering, Inc.
3509 Iron Horse Drive
Ladson, SC 29456
(P)843.875.3637
(F)843.875.4509
www.cemsengineering.com
CEMS Project #081585
Project Manager: P. Mahaffey

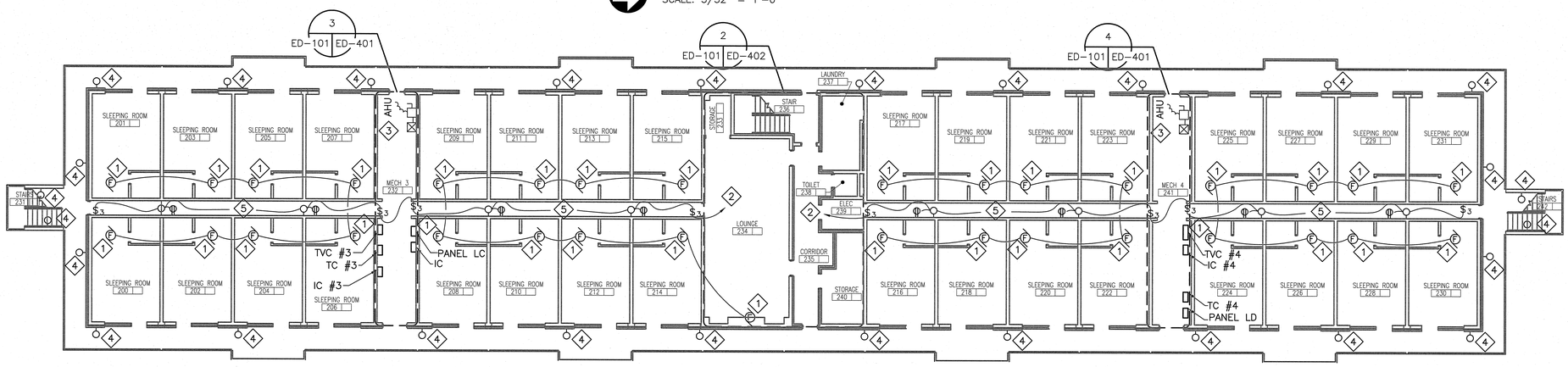
DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA

NORTH CAROLINA REGISTERED PROFESSIONAL ENGINEER SEAL 036498 ENGINEER JOSEPH K BONGIORNO

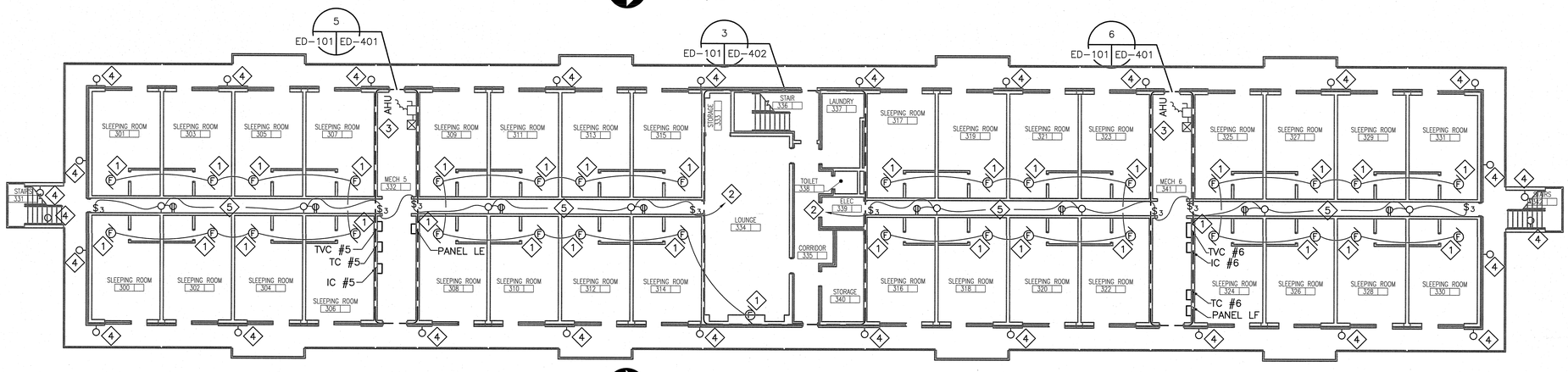
DES. R. ALVAR	STRUCTURAL & HVAC RENOVATION
DR. C. COOPER	FC574 BARRACK
CHK. J. BONGIORNO	
SUBMITTED BY:	ELECTRICAL LEGEND AND GENERAL NOTES
DESIGN DIR.	
APPROVED: PWO OR OICC DATE	SIZE F · CODE IDENT NO. 80091 · NAVFAC DRAWING NO. 60006341
SATISFACTORY TO: DATE	CONST. CONTR. NO. N40085–10–B–0010
	SCALE: NONE · SPEC. 10–B–0010 · SHEET 56 OF 72



FIRST FLOOR ELECTRICAL DEMOLITION PLAN
SCALE: 3/32" = 1'-0"



SECOND FLOOR ELECTRICAL DEMOLITION PLAN
SCALE: 3/32" = 1'-0"



THIRD FLOOR ELECTRICAL DEMOLITION PLAN
SCALE: 3/32" = 1'-0"

DEMOLITION KEYNOTES:

1. DISCONNECT POWER TO EXISTING FAN COIL UNIT TO BE REMOVED. REMOVE ASSOCIATED CONDUCTORS AND EXPOSED CONDUIT BACK TO SOURCE PANELBOARD.
2. EXISTING CONDUIT AND CONDUCTORS TO REMAIN AS SHOWN. DISCONNECT HOMERUN FROM EXISTING PANEL AND RECONNECT TO NEW PANELBOARD CIRCUIT # AS SHOWN ON SHEET E-101.
3. DISCONNECT POWER TO EXISTING AHU. REMOVE ALL ASSOCIATED MOTOR STARTER, CONDUITS, CONDUCTORS AND DISCONNECT BACK TO PANELBOARD.
4. REMOVE ALL EXTERIOR FIXTURES AND ASSOCIATED CONDUCTORS. BOXES AND CONDUIT TO REMAIN FOR RE-USE.
5. REMOVE INTERIOR CHASE LIGHT FIXTURES, SWITCHES, RECEPTACLES, AND DEVICE PLATES. BOXES, CONDUCTORS, AND CIRCUITS TO REMAIN.
6. REMOVE EXISTING 600A PANEL MDP.
7. REMOVE EXISTING 150KVA TRANSFORMER AND TURN OVER TO CONTRACTING OFFICER. EXISTING UNDERGROUND PRIMARY CONDUCTORS TO REMAIN FOR RE-USE. REMOVE EXISTING SECONDARY CONDUCTORS AND CONDUIT FEEDING PANEL MDP IN FC574. COORDINATE POWER OUTAGE WITH CONTRACTING OFFICER. PROVIDE MEANS OF MAINTAINING POWER TO BLDG 573 DURING FC574 OUTAGE.
8. REMOVE ALL COMMUNICATIONS CABLING AND EQUIPMENT MANAGED BY BASE TELEPHONE TO INCLUDE BUT NOT LIMITED TO: OFFICES. LOUNGES AND DUTY HUT. CONTACT BASE TELEPHONE REGARDING ANY COMMUNICATIONS QUESTIONS AT 910-451-9439 OR 910-451-4760.

GENERAL NOTES:

1. EXTERIOR FIXTURES ON SECOND AND THIRD FLOORS ARE FED FROM FIRST FLOOR CIRCUITS.
2. ALL EXISTING PANELBOARDS ARE TO BE RELOCATED UNLESS NOTED OTHERWISE. ALL EXISTING CIRCUITS ARE TO BE RENUMBERED AND REFED FROM NEW AND EXISTING PANELBOARDS AS SHOWN.
3. PANELBOARD CP IS EXISTING. ALL EXISTING CIRCUITS TO REMAIN AS IS.
4. ALL CABLE TV, INTERCOM, TELEPHONE CONDUIT, CONDUCTORS AND CABINETS ASSOCIATED WITH BEQ ROOMS TO REMAIN IN PLACE. PRESERVE AND PROTECT ALL ASSOCIATED COMMUNICATIONS CABLING, EQUIPMENT, AND JACK SET ASSEMBLIES. GENERAL CONTRACTOR WILL BE RESPONSIBLE FOR ANY DAMAGE OR REPAIRS NEEDED TO THE COMMUNICATIONS. COORDINATE WITH LOCAL TELEPHONE SERVICE PROVIDER REGARDING ANY BEQ ROOM PHONE LINE MOVES, ADDITIONS, OR CHANGES. ALL REPAIRS SHALL BE DONE BY A QUALIFIED COMMUNICATIONS SUBCONTRACTOR. CONTACT BASE TELEPHONE REGARDING ANY COMMUNICATIONS QUESTIONS AT 910-451-9439 OR 910-451-4760.
5. DEMOLITION PLAN IS DIAGRAMMATIC AND MAY NOT REPRESENT ALL ITEMS TO BE REMOVED.
6. REMOVE ALL EXIT AND EMERGENCY FIXTURES. EXISTING CONDUIT AND CONDUCTORS TO REMAIN FOR CONNECTION TO NEW EXIT AND EMERGENCY FIXTURES WHERE POSSIBLE.
7. REMOVE ALL COMMUNICATIONS CABLING, EQUIPMENT, AND JACK SET ASSEMBLIES ASSOCIATED WITH OFFICE AREAS AND AREAS SERVICED BY BASE TELEPHONE SYSTEM. CONTACT BASE TELEPHONE REGARDING ANY COMMUNICATIONS QUESTIONS AT 910-451-9439 OR 910-451-4760.

24"0 4' 8' 16'
SCALE: 3/32" = 1'-0"
GRAPHIC SCALE

ED-101

CEMS Engineering, Inc.
3509 Iron Horse Drive
Ladson, SC 29456
(P)843.875.3637
(F)843.875.4509
www.cemsengineering.com
CEMS Project #5815BS
Project Manager: P. Mahaffey

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA

STRUCTURAL & HVAC RENOVATION
FC574 BARRACK

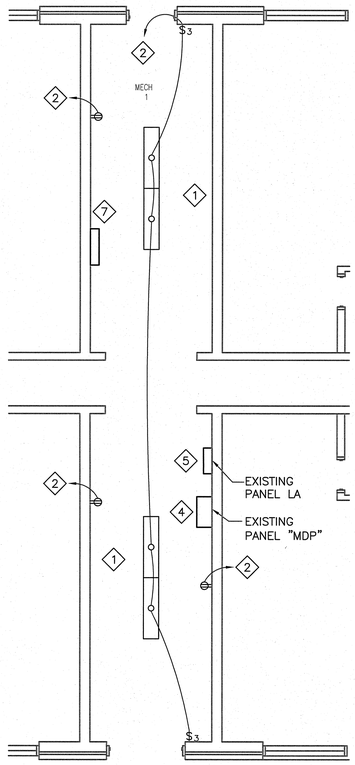
ELECTRICAL DEMOLITION PLAN

DES. R. ALVAR	
DR. C. COOPER	
CHK. J. BONGIORNO	
SUBMITTED BY:	
DESIGN DIR.	
APPROVED: PWO OR OICC	DATE
SATISFACTORY TO:	DATE

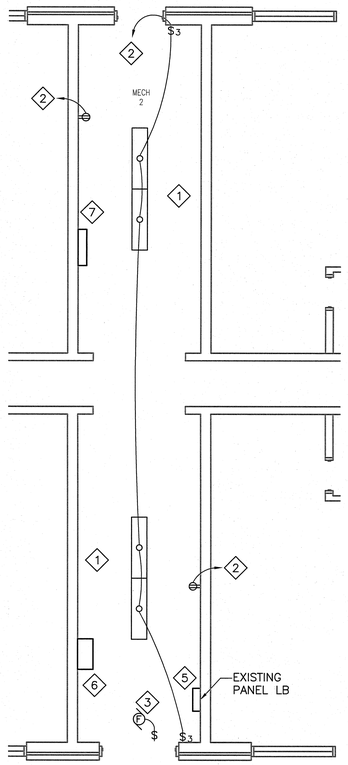
SEAL 036498 NORTH CAROLINA REGISTERED PROFESSIONAL ENGINEER JEFFREY R. BONGIORNO

SIZE	CODE IDENT NO.
F	80091

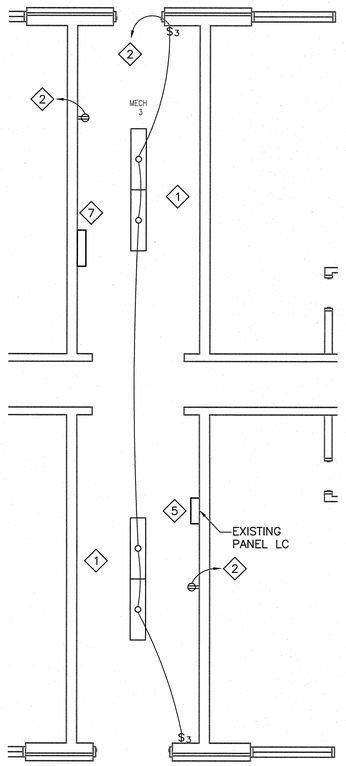
NAVFAC DRAWING NO. 60006342
CONST. CONTR. NO. N40085-10-B-0010
SCALE: AS NOTED | SPEC. 10-B-0010 | SHEET 57 OF 72



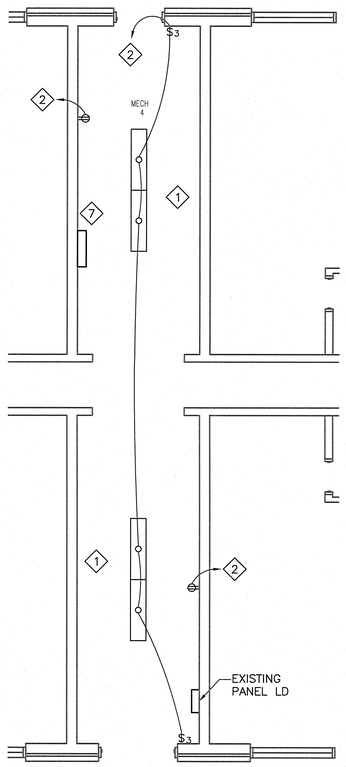
1 ED-101 ED-401 ENLARGED ELECTRICAL DEMOLITION PLAN
SCALE: 1/4" = 1'-0"



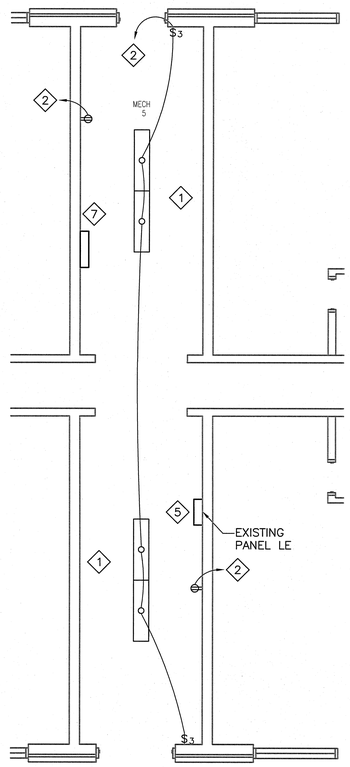
2 ED-101 ED-401 ENLARGED ELECTRICAL DEMOLITION PLAN
SCALE: 1/4" = 1'-0"



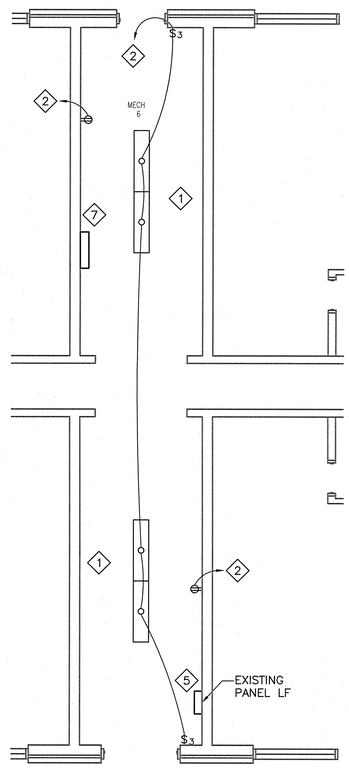
3 ED-101 ED-401 ENLARGED ELECTRICAL DEMOLITION PLAN
SCALE: 1/4" = 1'-0"



4 ED-101 ED-401 ENLARGED ELECTRICAL DEMOLITION PLAN
SCALE: 1/4" = 1'-0"



5 ED-101 ED-401 ENLARGED ELECTRICAL DEMOLITION PLAN
SCALE: 1/4" = 1'-0"



6 ED-101 ED-401 ENLARGED ELECTRICAL DEMOLITION PLAN
SCALE: 1/4" = 1'-0"

DEMOLITION KEYNOTES:

1. IN MECHANICAL ROOMS, REMOVE LIGHT FIXTURES, RECEPTACLES, SWITCHES, AND DEVICE PLATES. BOXES, CONDUIT, CONDUCTORS, AND CIRCUITS TO REMAIN.
2. EXISTING CIRCUIT TO REMAIN. DISCONNECT HOMERUN FROM EXISTING PANEL AND RECONNECT TO NEW PANELBOARD CIRCUIT # AS SHOWN ON SHEET E-401.
3. REMOVE EXISTING EXHAUST FAN, ASSOCIATED SWITCH, CONDUIT, AND CONDUCTORS BACK TO NEAREST JUNCTION BOX.
4. REMOVE EXISTING PANELBOARD MDP, ASSOCIATED CONDUCTORS, AND CONDUIT FROM EXISTING 150 KVA TRANSFORMER. REMOVE ASSOCIATED CONDUCTORS AND CONDUITS TO SUBPANELS.
5. REMOVE EXISTING PANELBOARDS AND STORE FOR RE-USE. EXISTING CONDUCTORS AND CIRCUITS RE-USED ARE TO BE RENUMBERED AND REFED FROM NEW AND EXISTING PANELBOARDS AS SHOWN IN NEW WORK.
6. DISCONNECT EXISTING CONDENSATE PUMP AND MOTORS. REMOVE ALL ASSOCIATED CONDUCTORS AND CONDUIT COMPLETE.
7. DISCONNECT EXISTING DDC AND VFD CONTROLS. REMOVE ALL ASSOCIATED CONDUCTORS AND CONDUIT COMPLETE.

12"0 2' 4' 8'
SCALE: 1/4" = 1'-0"
GRAPHIC SCALE

NORTH CAROLINA REGISTERED PROFESSIONAL ENGINEER SEAL 036498

ED-401

CEMS Engineering, Inc.
3509 Iron Horse Drive
Ladson, SC 29456
(P)843.875.3637
(F)843.875.4509
www.cemsengineering.com
CEMS Project #081585
Project Manager: P. Mahaffey

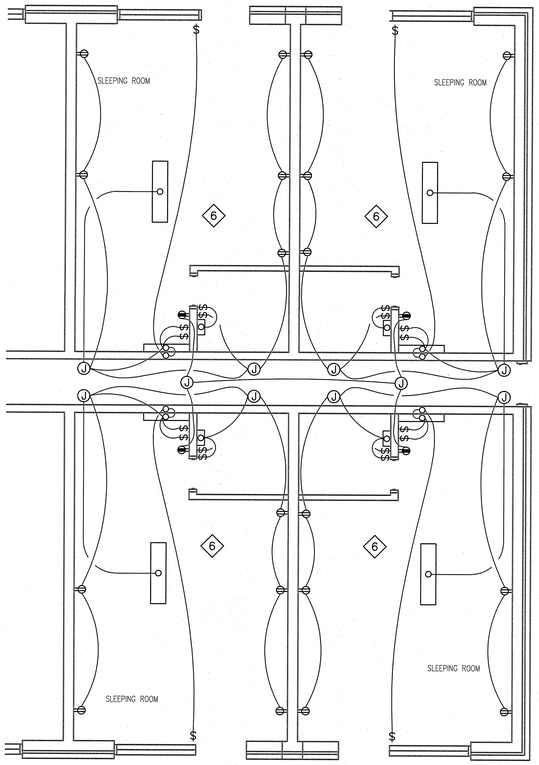
DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA

STRUCTURAL & HVAC RENOVATION
FC574 BARRACK

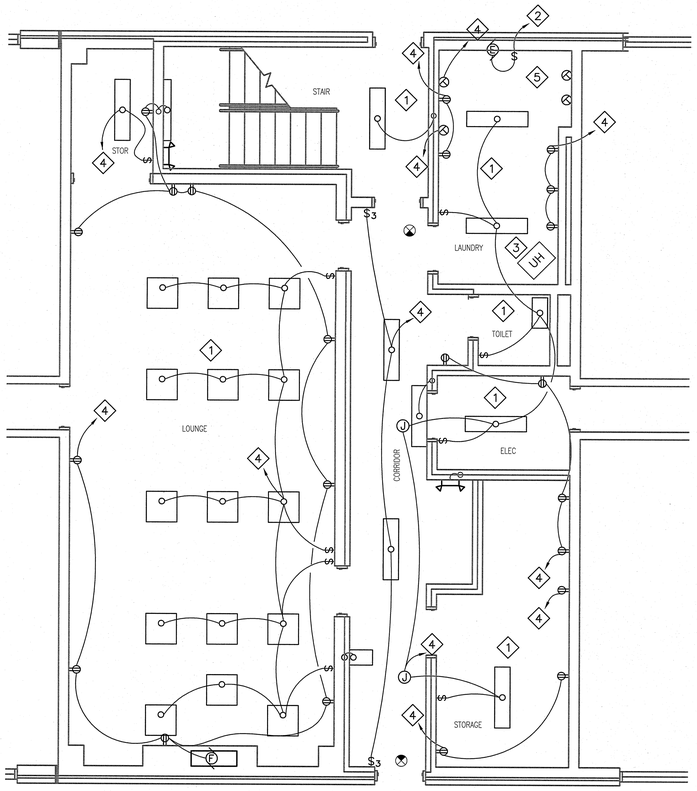
ENLARGED ELECTRICAL DEMOLITION PLAN

DES. R. ALVAR	
DR. C. COOPER	
CHK. J. BONGIORNO	
SUBMITTED BY:	
DESIGN DIR.	
APPROVED: PWO OR OICC	DATE
SATISFACTORY TO:	DATE

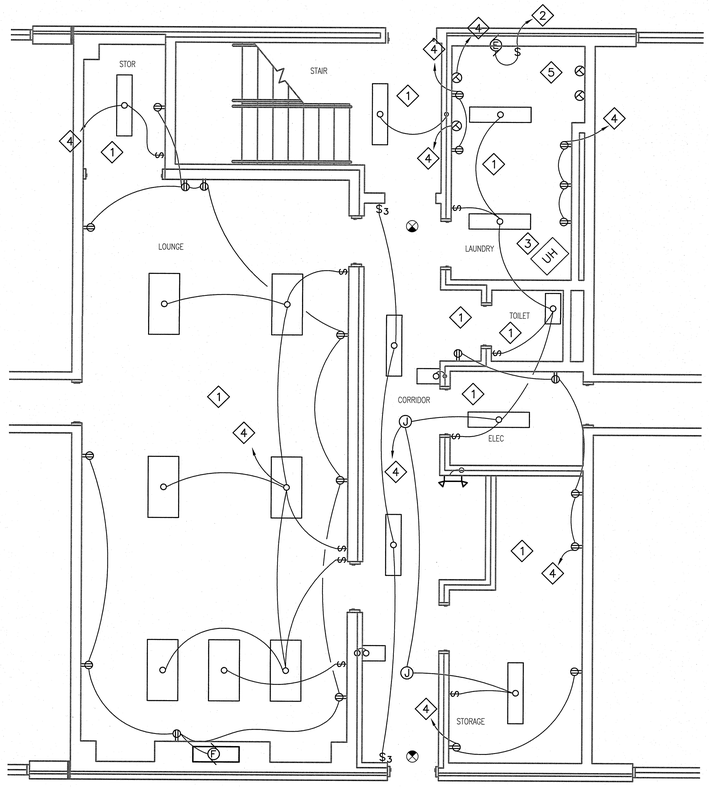
SIZE F | CODE IDENT NO. 80091 | NAVFAC DRAWING NO. 60006343
CONST. CONTR. NO. N40085-10-B-0010
SCALE: AS NOTED | SPEC. 10-B-0010 | SHEET 58 OF 72



1 ED-101 | ED-402 TYPICAL ENLARGED ROOM DEMOLITION PLAN
SCALE: 1/4" = 1'-0"



2 ED-101 | ED-402 ENLARGED SECOND FLOOR ELECTRICAL DEMOLITION PLAN
SCALE: 1/4" = 1'-0"



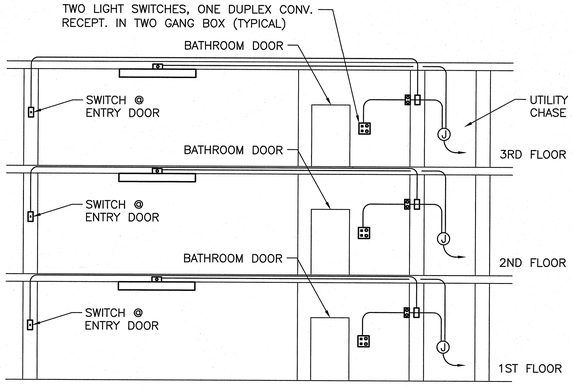
3 ED-101 | ED-402 ENLARGED THIRD FLOOR ELECTRICAL DEMOLITION PLAN
SCALE: 1/4" = 1'-0"

DEMOLITION KEYNOTES:

1. REMOVE LIGHT FIXTURES, RECEPTACLES, SWITCHES, AND DEVICE PLATES IN ROOM. UTILITY BOXES AND CONDUCTORS TO REMAIN.
2. DISCONNECT POWER TO EXHAUST FAN TO BE REMOVED. REMOVE ASSOCIATED CONDUCTORS AND EXPOSED CONDUIT BACK TO PANELBOARD.
3. REMOVE EXISTING UNIT HEATER ASSOCIATED CONDUCTORS BACK TO PANELBOARD.
4. EXISTING CIRCUITS TO REMAIN. DISCONNECT HOMERUN FROM EXISTING PANEL AND RECONNECT TO NEW PANELBOARD CIRCUIT # AS SHOWN ON SHEET E-402.
5. DISCONNECT TWO DRYER RECEPTACLES FROM SAME CIRCUIT. EACH DRYER RECEPTACLE WILL BE ON A DIFFERENT CIRCUIT. SEE SHEET E-402 FOR NEW CIRCUIT #.
6. IN SLEEPING ROOMS, REMOVE LIGHT FIXTURES, RECEPTACLES, SWITCHES AND DEVICE PLATES. REMOVE CONDUCTORS FROM DEVICE BOXES BACK TO PANELS. SEE SHEET E-402 FOR NEW WORK IN SLEEPING ROOMS.

GENERAL NOTES:

1. ALL CABLE TV, INTERCOM, TELEPHONE CONDUIT, CONDUCTORS AND CABINETS ASSOCIATED WITH BEQ ROOMS TO REMAIN IN PLACE. PRESERVE AND PROTECT ALL ASSOCIATED COMMUNICATIONS CABLING, EQUIPMENT, AND JACK SET ASSEMBLIES. GENERAL CONTRACTOR WILL BE RESPONSIBLE FOR ANY DAMAGE OR REPAIRS NEEDED TO THE COMMUNICATIONS. COORDINATE WITH LOCAL TELEPHONE SERVICE PROVIDER REGARDING ANY BEQ ROOM PHONE LINE MOVES, ADDITIONS, OR CHANGES. ALL REPAIRS SHALL BE DONE BY A QUALIFIED COMMUNICATIONS SUBCONTRACTOR. CONTACT BASE TELEPHONE REGARDING ANY COMMUNICATIONS QUESTIONS AT 910-451-9439 OR 910-451-4760.
2. DEMOLITION PLAN IS DIAGRAMMATIC AND MAY NOT REPRESENT ALL ITEMS TO BE REMOVED.
3. REMOVE ALL COMMUNICATIONS CABLING, EQUIPMENT, AND JACK SET ASSEMBLIES ASSOCIATED WITH OFFICE AREAS AND AREAS SERVICED BY BASE TELEPHONE SYSTEM. CONTACT BASE TELEPHONE REGARDING ANY COMMUNICATIONS QUESTIONS AT 910-451-9439 OR 910-451-4760.



SWITCH CONTROL LIGHTING FIXTURES IN SLEEPING ROOMS
SCALE: NOT TO SCALE

12"0 2' 4' 8'
SCALE: 1/4" = 1'-0"
GRAPHIC SCALE

NORTH CAROLINA REGISTERED PROFESSIONAL ENGINEER SEAL 036498 JOSEPH M. BONGIORNO

ED-402

CEMS Engineering, Inc.
3509 Iron Horse Drive
Ladson, SC 29456
(P)843.875.3637
(F)843.875.4509
www.cemsengineering.com
CEMS Project #08158S
Project Manager: P. Mahaffey

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA

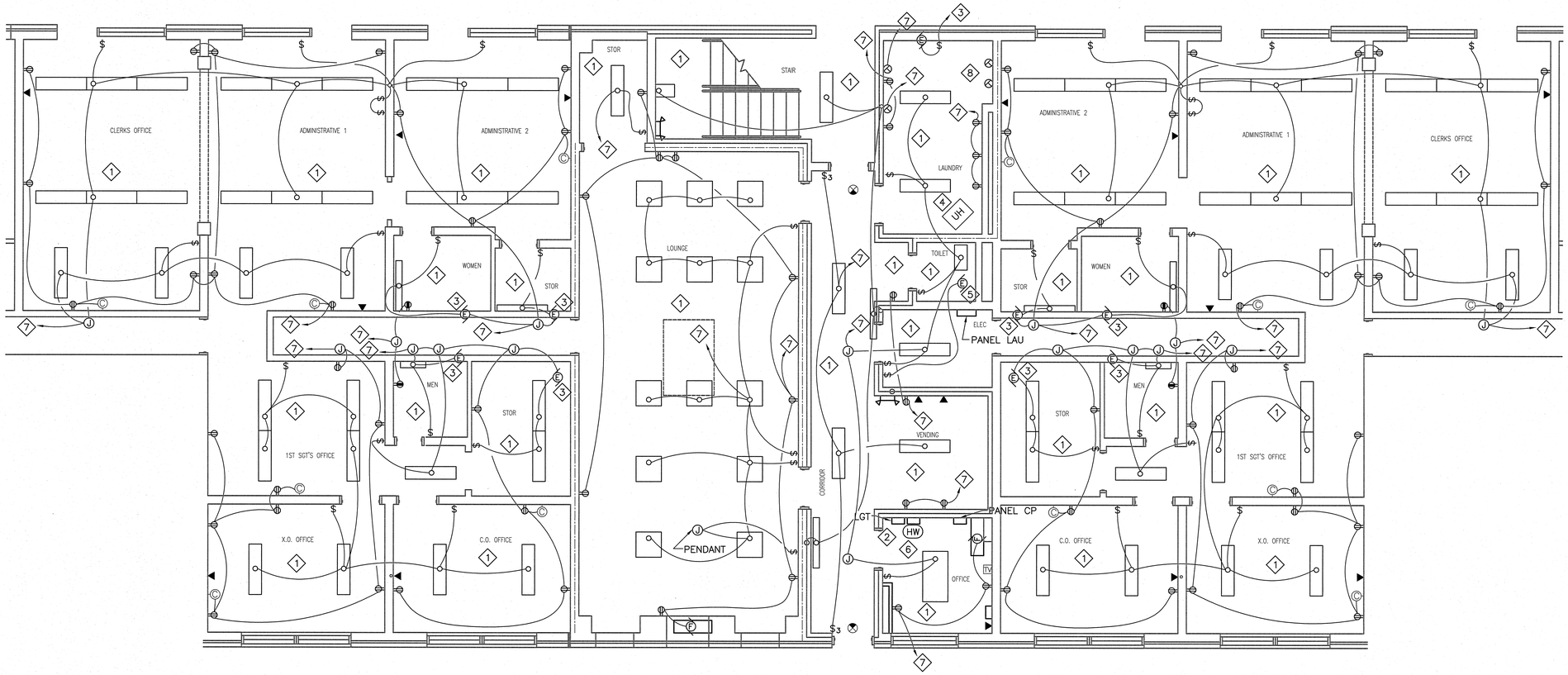
STRUCTURAL & HVAC RENOVATION
FC574 BARRACK

ENLARGED ELECTRICAL DEMOLITION PLAN

DES. R. ALVAR	
DR. C. COOPER	
CHK. J. BONGIORNO	
SUBMITTED BY:	
DESIGN DIR.	
APPROVED: PWO OR OICC	DATE
SATISFACTORY TO:	DATE

SIZE	CODE IDENT NO.	NAVFAC DRAWING NO.
F	80091	60006344

CONST. CONTR. NO. N40085-10-B-0010
SCALE: AS NOTED | SPEC. 10-B-0010 | SHEET 59 OF 72



1 / ED-101 | ED-403 ENLARGED FIRST FLOOR ELECTRICAL DEMOLITION PLAN
SCALE: 1/4" = 1'-0"

DEMOLITION KEYNOTES:

1. REMOVE LIGHT FIXTURES, RECEPTACLES, SWITCHES, AND DEVICE PLATES. UTILITY BOXES AND CONDUCTORS TO REMAIN.
2. REMOVE EXTERIOR LIGHTING TIME CLOCK AND CONTACTOR. SEE SHEETS E-102 AND E-403 FOR NEW WORK.
3. DISCONNECT POWER TO EXHAUST FAN TO BE REMOVED. REMOVE ASSOCIATED WIRING AND EXPOSED CONDUIT BACK TO PANELBOARD.
4. REMOVE EXISTING UNIT HEATER ASSOCIATED CONDUCTORS BACK TO PANELBOARD.
5. EXHAUST FAN ON ROOF TO BE REPLACED. DISCONNECT POWER AND RECONNECT NEW FAN TO EXISTING CIRCUIT.
6. SUMP PUMP AND HIGH WATER LEVEL ALARM TO REMAIN.
7. EXISTING CIRCUITS TO REMAIN. DISCONNECT HOMERUN FROM EXISTING PANEL AND RECONNECT TO NEW PANELBOARD CIRCUIT # AS SHOWN ON SHEET E-403.
8. DISCONNECT TWO DRYER RECEPTACLES FROM SAME CIRCUIT. EACH DRYER RECEPTACLE WILL BE ON A DIFFERENT CIRCUIT. SEE SHEET E-403 FOR NEW CIRCUIT #.

GENERAL NOTES:

1. ALL CABLE TV, INTERCOM, TELEPHONE CONDUIT, CONDUCTORS AND CABINETS ASSOCIATED WITH BEQ ROOMS TO REMAIN IN PLACE. PRESERVE AND PROTECT ALL ASSOCIATED COMMUNICATIONS CABLING, EQUIPMENT, AND JACK SET ASSEMBLIES. GENERAL CONTRACTOR WILL BE RESPONSIBLE FOR ANY DAMAGE OR REPAIRS NEEDED TO THE COMMUNICATIONS. COORDINATE WITH LOCAL TELEPHONE SERVICE PROVIDER REGARDING ANY BEQ ROOM PHONE LINE MOVES, ADDITIONS, OR CHANGES. ALL REPAIRS SHALL BE DONE BY A QUALIFIED COMMUNICATIONS SUBCONTRACTOR. CONTACT BASE TELEPHONE REGARDING ANY COMMUNICATIONS QUESTIONS AT 910-451-9439 OR 910-451-4760.
2. DEMOLITION PLAN IS DIAGRAMMATIC AND MAY NOT REPRESENT ALL ITEMS TO BE REMOVED.
3. REMOVE ALL COMMUNICATIONS CABLING, EQUIPMENT, AND JACK SET ASSEMBLIES ASSOCIATED WITH OFFICE AREAS AND AREAS SERVICED BY BASE TELEPHONE SYSTEM. CONTACT BASE TELEPHONE REGARDING ANY COMMUNICATIONS QUESTIONS AT 910-451-9439 OR 910-451-4760.

12" 0 2' 4' 8'
SCALE: 1/4" = 1'-0"

12" 0 1' 2' 4'
SCALE: 1/2" = 1'-0"
GRAPHIC SCALES

ED-403

CEMS Engineering, Inc.
3509 Iron Horse Drive
Ladson, SC 29456
(P)843.875.3637
(F)843.875.4509
www.cemsengineering.com
CEMS Project #081585
Project Manager: P. Mahaffey

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA

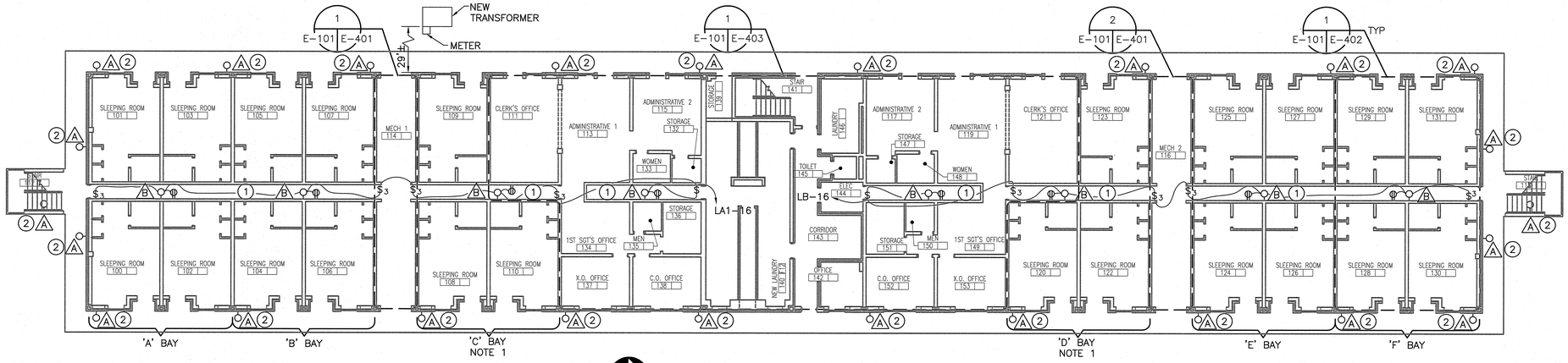
SEAL 036498

DES.	R. ALVAR
DR.	C. COOPER
CHK.	J. BONGIORNO
SUBMITTED BY:	
DESIGN DIR.	
APPROVED: PWO OR OICC	DATE
SATISFACTORY TO:	DATE

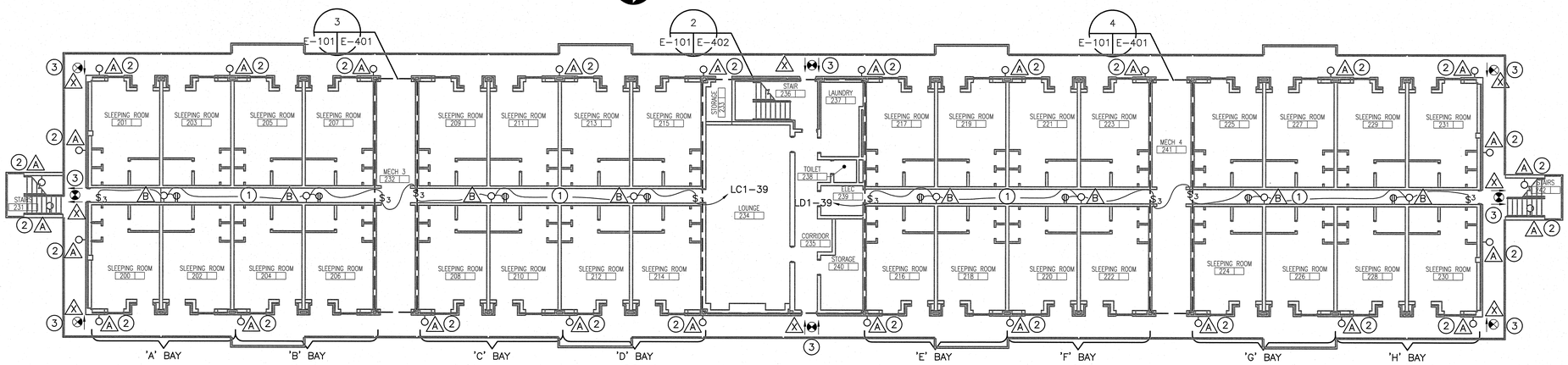
STRUCTURAL & HVAC RENOVATION
FC574 BARRACK
ENLARGED FIRST FLOOR ELECTRICAL DEMOLITION PLAN

SIZE	CODE IDENT NO.	NAVFAC DRAWING NO.
F	80091	60006345

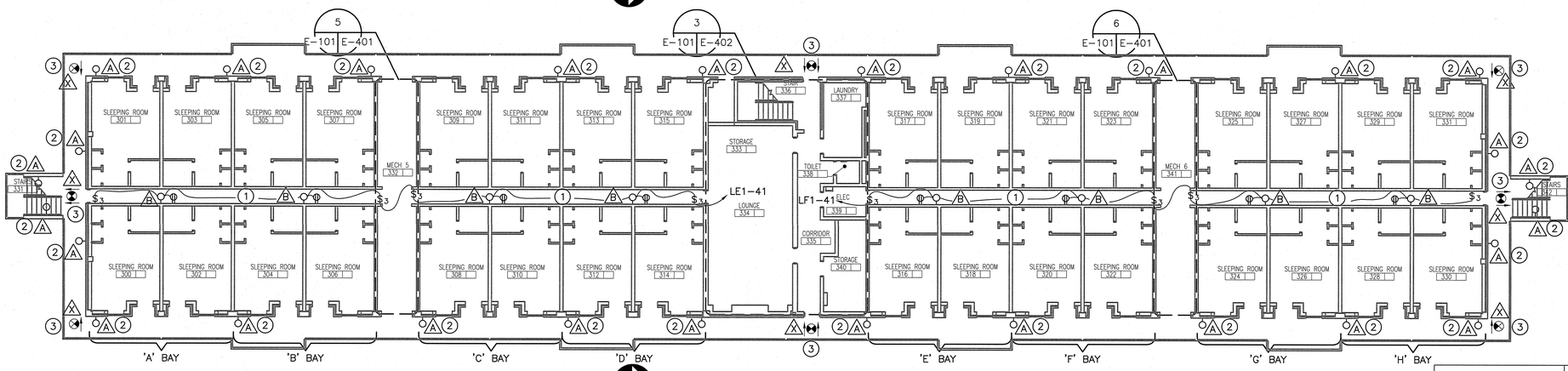
CONST. CONTR. NO. N40085-10-B-0010
SCALE: AS NOTED | SPEC. 10-B-0010 | SHEET 60 OF 72



FIRST FLOOR ELECTRICAL NEW WORK PLAN
SCALE: 3/32" = 1'-0"



SECOND FLOOR ELECTRICAL NEW WORK PLAN
SCALE: 3/32" = 1'-0"



THIRD FLOOR ELECTRICAL NEW WORK PLAN
SCALE: 3/32" = 1'-0"

NEW WORK KEYNOTES:

1. INSTALL NEW 'B' FIXTURES, RECEPTACLES, SWITCHES, AND DEVICE PLATES IN UTILITY CHASES. CONNECT TO EXISTING CONDUCTORS.
2. INSTALL NEW EXTERIOR 'A' FIXTURES AT EXISTING BOX LOCATION AND CONNECT TO EXISTING CIRCUIT WITH NEW CONDUCTORS IN EXISTING CONDUIT.
3. INSTALL NEW EXIT SIGNS ON EXTERIOR OF SECOND & THIRD FLOORS. RUN CONDUIT ON BOTTOM OF UPPER SLAB.

GENERAL NOTES:

1. 'C' BAY AND 'D' BAY ON FIRST FLOOR CONSIST OF THREE SLEEPING ROOMS ONLY.
2. ALL EXIT SIGNS TO BE ON CIRCUIT CP1-41.
3. INSTALL NEW 750KVA, 12.47KV-208Y/120V PAD-MOUNTED TRANSFORMER. RECONNECT CONDUCTORS FEEDING BLDG 574. SEE RISER DIAGRAM ON SHEET E-603 FOR WIRING REQUIREMENTS.

24"0 4' 8' 16'
SCALE: 3/32" = 1'-0"
GRAPHIC SCALE

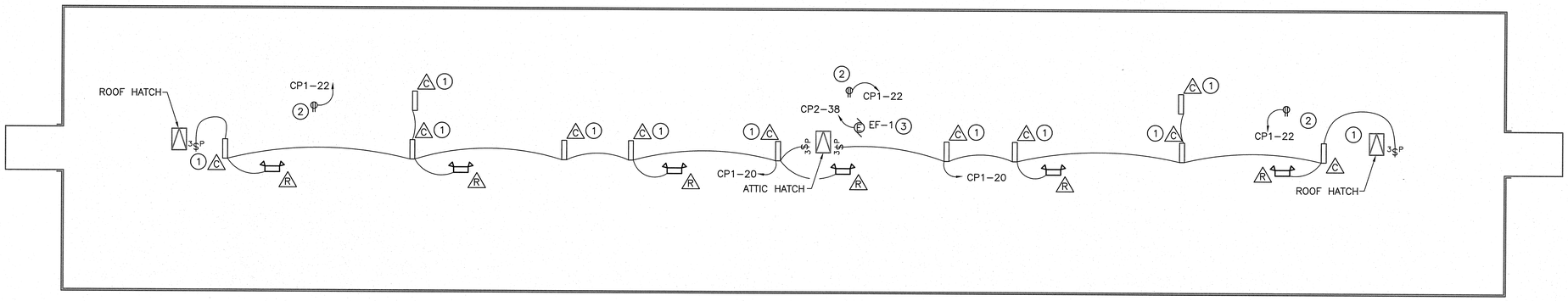
SEAL 036498

E-101

CEMS Engineering, Inc.
3509 Iron Horse Drive
Ladson, SC 29456
(P)843.875.3637
(F)843.875.4509
www.comsengineering.com
CEMS Project #081585
Project Manager: P. Mahaffey

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA

DES. R. ALVAR	STRUCTURAL & HVAC RENOVATION FC574 BARRACK
DR. C. COOPER	
CHK. J. BONGIORNO	
SUBMITTED BY:	
DESIGN DIR.	ELECTRICAL NEW WORK PLAN
APPROVED: PWO OR OICC DATE	SIZE F; CODE IDENT NO 80091; NAVFAC DRAWING NO. 60006346
SATISFACTORY TO: DATE	CONST. CONTR. NO. N40085-10-B-0010
SCALE: AS NOTED	SPEC. 10-B-0010; SHEET 61 OF 72



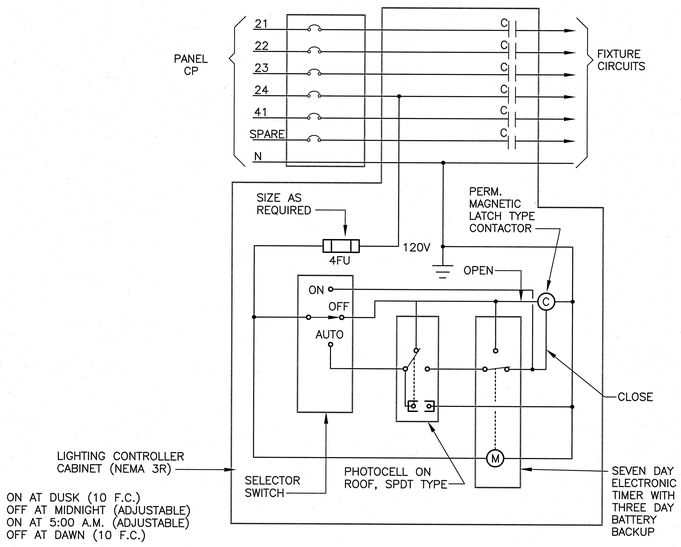
NEW WORK KEYNOTES:

1. INSTALL NEW FIXTURES, SWITCHES, CONDUIT AND 2#12, 1#12G, 1/2"C CIRCUIT IN ATTIC. ATTACH FIXTURES TO TRUSSES ABOVE WALKWAY OPENING. ATTACH SWITCH TO ROOF FRAME ADJACENT TO ROOF AND ATTIC HATCHES.
2. INSTALL NEW RECEPTACLES, UTILITY BOX, CONDUIT AND 2#12, 1#12G, 1/2"C CIRCUIT TO RECEPTACLE.
3. EF-1 PROVIDED WITH INTEGRAL DISCONNECT.

GENERAL NOTES:

1. TYPE 'R' FIXTURES TO BE FED FROM UNSWITCHED LEG OF NEAREST LIGHTING CIRCUIT.
2. ALL NEW AND EXISTING PENETRATIONS ARE TO BE FIRE STOPPED TO MEET 2 HOUR RATING.

ATTIC ELECTRICAL NEW WORK PLAN
SCALE: 3/32" = 1'-0"



EXTERIOR LIGHTING SCHEMATIC
SCALE: NOT TO SCALE

24"0 4' 8' 16'
SCALE: 3/32" = 1'-0"
GRAPHIC SCALE

E-102

CEMS Engineering, Inc.
3509 Iron Horse Drive
Ladson, SC 29456
(P)843.875.3637
(F)843.875.4509
www.cemsengineering.com
CEMS Project #08158S
Project Manager: P. Mahaffey

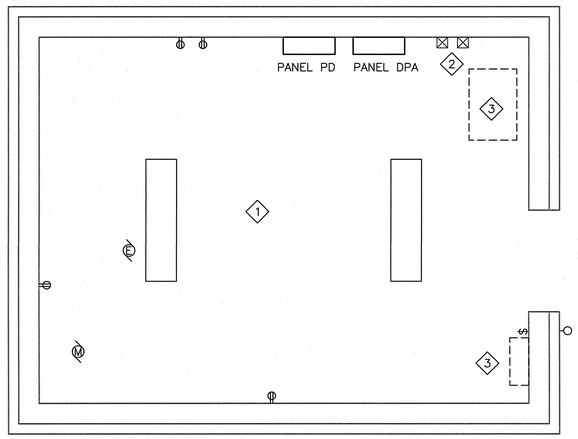
DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA

STRUCTURAL & HVAC RENOVATION
FC574 BARRACK

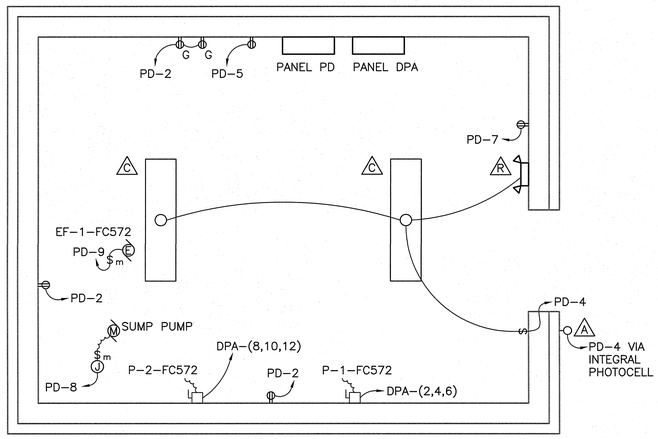
ATTIC ELECTRICAL NEW WORK PLAN AND SCHEMATIC

DES. R. ALVAR	
DR. C. COOPER	
CHK. J. BONGIORNO	
SUBMITTED BY:	
DESIGN DIR.	
APPROVED: PWO OR OICC	DATE
SATISFACTORY TO:	DATE

SIZE	CODE IDENT NO.	NAVFAC DRAWING NO.	
F	80091	60006347	
CONST. CONTR. NO. N40085-10-B-0010			
SCALE: AS NOTED	SPEC. 10-B-0010	SHEET 62 OF 72	



BUILDING FC572 ELECTRICAL DEMOLITION PLAN
SCALE: 1/2" = 1'-0"



BUILDING FC572 ELECTRICAL NEW WORK PLAN
SCALE: 1/2" = 1'-0"

GENERAL NOTES:

1. COORDINATE ELECTRICAL CONNECTIONS WITH MECHANICAL AND PLUMBING EQUIPMENT LOCATIONS.
2. EXISTING COMMUNICATIONS RELATED ITEMS/SYSTEMS ARE TO BE PRESERVED IN THEIR ENTIRETY. GENERAL CONTRACTOR WILL BE RESPONSIBLE FOR ANY DAMAGE OR REPAIRS NEEDED TO THE COMMUNICATIONS.
3. EXISTING PANELS DPA, PD AND ASSOCIATED TRANSFORMERS ARE TO REMAIN FOR RE-USE.
4. EXISTING SUMP PUMP AND HEAT TAPE TO BE PRESERVED FOR RE-USE IN NEW WORK. EQUIPMENT TO BE FED FROM NEW CIRCUITS AS INDICATED.

DEMOLITION KEYNOTES:

1. REMOVE ALL EXISTING EXHAUST FAN, SWITCHES, RECEPTACLES AND INTERIOR/EXTERIOR LIGHTS. REMOVE ASSOCIATED CONDUCTORS AND CONDUIT BACK TO PANEL PD.
2. DISCONNECT EXISTING HOT AND COLD WATER PUMPS. REMOVE ASSOCIATED CONDUCTORS AND CONDUITS BACK TO PANEL DPA.
3. DISCONNECT EXISTING CONTROLS. REMOVE ASSOCIATED CONDUCTORS AND CONDUITS COMPLETE.

NEW WORK KEYNOTES:

1. INSTALL NEW CIRCUIT BREAKER IN EXISTING PANELBOARD AS SHOWN.
2. RE-USE EXISTING BREAKERS FOR NEW CIRCUITING AS SHOWN.

PANEL NO. DPA (EXISTING)

VOLTAGE 277/480 PHASE 3 WIRE 4 BUS SIZE 600A MAIN CB. 600A

CKT. NO.	BRKR. SIZE	LOAD	VA		CKT. NO.	BRKR. SIZE	LOAD	VA	
1				A	2				
3	30	PANEL PD VIA XFMR	5740	B	4	70	P-1-FC572	17390	(1)
5				C	6				
7				A	8				
9	20	SPARE		B	10	25	P-2-FC572	6300	(1)
11				C	12				
13				A	14				
15	20	SPARE		B	16	70	SPARE		
17				C	18				
19				A	20				
21				B	22				
23				C	24				

TOTAL CONNECTED 29,430 VA
TOTAL DEMAND 29,430 VA 35 AMPS

PANEL NO. PD (EXISTING)

VOLTAGE 120/208 PHASE 1 WIRE 3 BUS SIZE 100A MAIN CB. 40A

	CKT. NO.	BRKR. SIZE	LOAD	VA		CKT. NO.	BRKR. SIZE	LOAD	VA	
	1	40	SPARE		A	2	20	RCPT	720	(2)
	3				B	4	20	LGTS AND EXHAUST FAN	500	(2)
(1)	5	20	DEHUMIDIFIER	600	A	6	20	HEAT TAPE	1920	(2)
(1)	7	20	SPC PANEL	600	B	8	20	SUMP PUMP	700	(2)
(1)	9	20	EF-1-FC572	700	A	10				
	11				B	12				
	13				A	14				
	15				B	16				
	17				A	18				
	19				B	20				
	21				A	22				
	23				B	24				

TOTAL CONNECTED 5,740 VA
TOTAL DEMAND 5,740 VA 16 AMPS

EQUIPMENT SCHEDULE

EQUIPMENT	FEEDER	DISCONNECT
P-1-FC572	3#4, #8G, 1 1/4"C	100/3/600V/NF/N1
P-2-FC572	3#12, #10G, 1/2"C	30/3/600V/NF/N1

12" 0 1' 2' 4'
SCALE: 1/2" = 1'-0"
GRAPHIC SCALE

NORTH CAROLINA REGISTERED PROFESSIONAL ENGINEER SEAL 036486 JEREMY N. BONGIORNO

E-103

CEMS Engineering, Inc.
3509 Iron Horse Drive
Ladson, SC 29456
(P)843.875.3637
(F)843.875.4509
www.cemsengineering.com
CEMS Project #08188S
Project Manager: P. Mahaffey
ENGINEERING

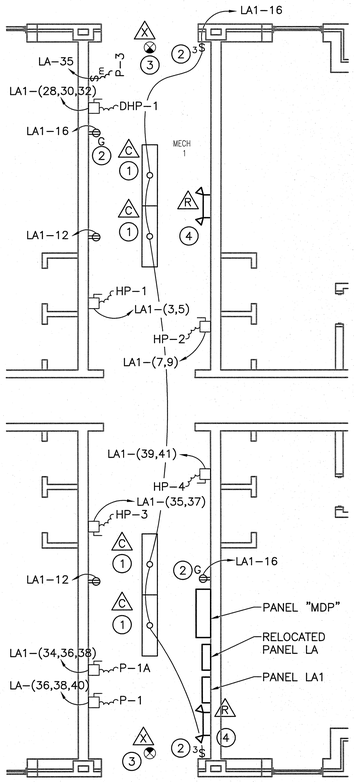
DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA

STRUCTURAL & HVAC RENOVATION
FC574 BARRACK

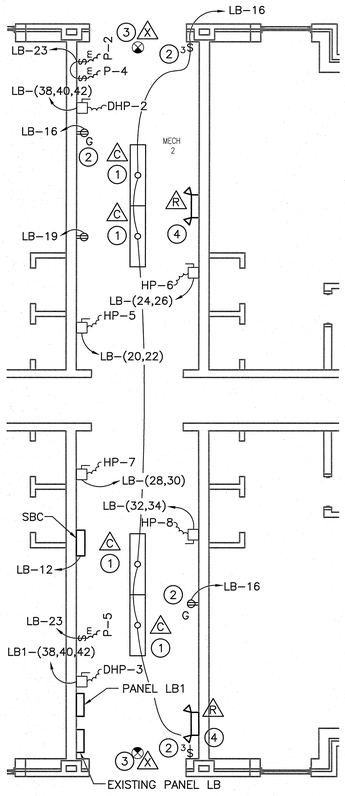
BUILDING 572 ELECTRICAL DEMOLITION AND NEW WORK PLANS

DES. R. ALVAR
DR. C. COOPER
CHK. J. BONGIORNO
SUBMITTED BY:
DESIGN DIR.
APPROVED: PWO OR OICC DATE
SATISFACTORY TO: DATE

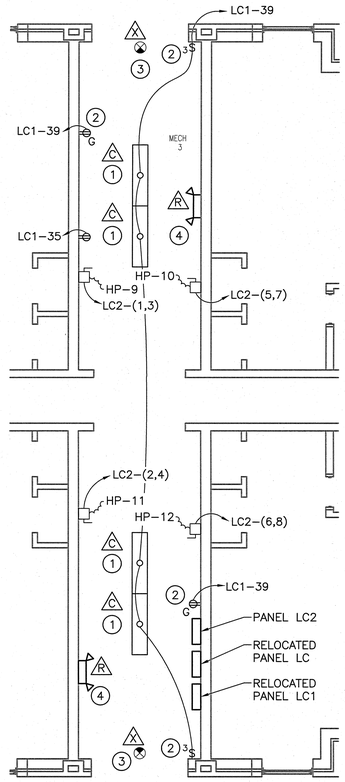
SIZE F | CODE IDENT NO. 80091 | NAVFAC DRAWING NO. 60006348
CONST. CONTR. NO. N40085-10-B-0010
SCALE: AS NOTED | SPEC. 10-B-0010 | SHEET 63 OF 72



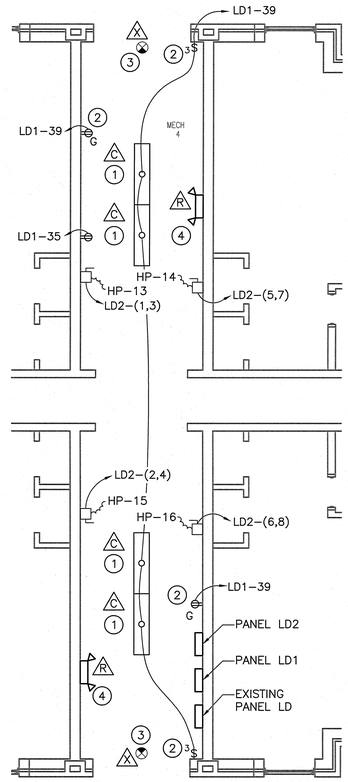
1 E-101 | E-401 ENLARGED ELECTRICAL NEW WORK PLAN
SCALE: 1/4" = 1'-0"



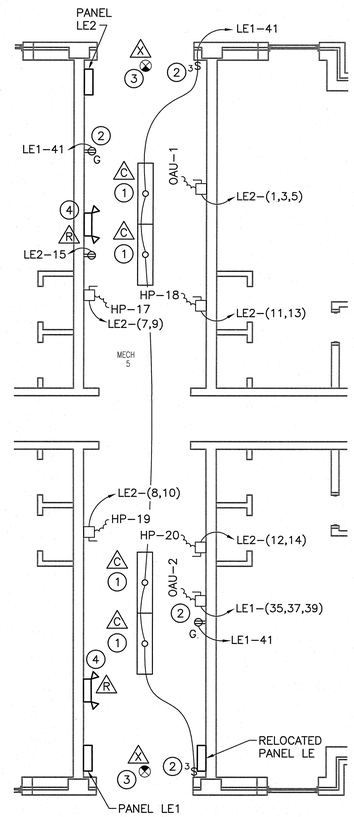
2 E-101 | E-401 ENLARGED ELECTRICAL NEW WORK PLAN
SCALE: 1/4" = 1'-0"



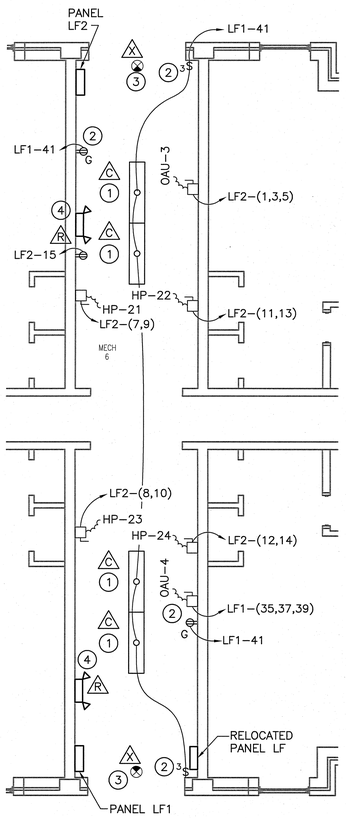
3 E-101 | E-401 ENLARGED ELECTRICAL NEW WORK PLAN
SCALE: 1/4" = 1'-0"



4 E-101 | E-401 ENLARGED ELECTRICAL NEW WORK PLAN
SCALE: 1/4" = 1'-0"



5 E-101 | E-401 ENLARGED ELECTRICAL NEW WORK PLAN
SCALE: 1/4" = 1'-0"



6 E-101 | E-401 ENLARGED ELECTRICAL NEW WORK PLAN
SCALE: 1/4" = 1'-0"

NEW WORK KEYNOTES:

1. REPLACE LIGHT FIXTURES IN MECHANICAL ROOMS AS SHOWN.
2. REPLACE RECEPTACLES, SWITCHES AND DEVICE PLATES AS SHOWN. CIRCUITRY TO REMAIN.
3. ALL EXIT SIGNS TO BE ON CIRCUIT CP1-41.
4. ALL TYPE R FIXTURES TO BE FED FROM UNSWITCHED LEG OF NEAREST LIGHTING CIRCUIT.

GENERAL NOTES:

1. COORDINATE ELECTRICAL CONNECTIONS WITH MECHANICAL AND PLUMBING EQUIPMENT LOCATIONS.

12"0 2' 4' 8'
SCALE: 1/4" = 1'-0"
GRAPHIC SCALE

E-401

CEMS Engineering, Inc.
3509 Iron Horse Drive
Ladson, SC 29456
(P)843.875.3637
(F)843.875.4509
www.cemsengineering.com
CEMS Project #08158S
Project Manager: P. Mahaffey

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA

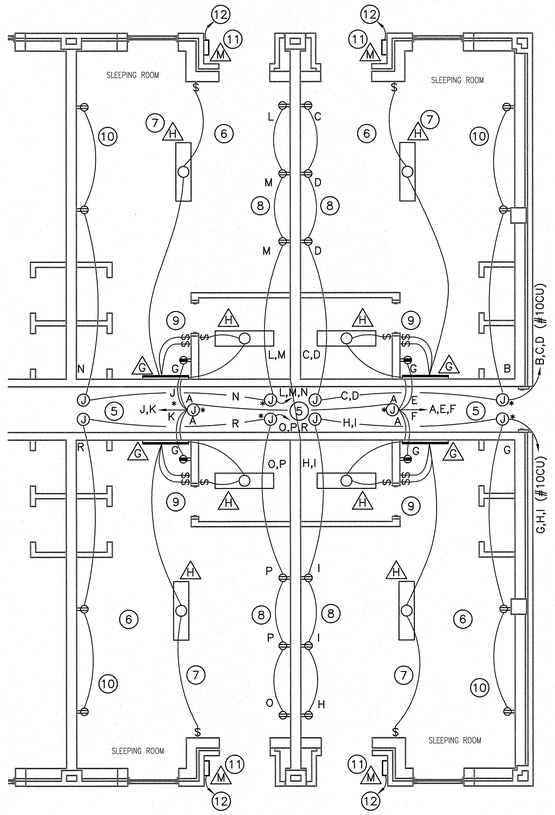
STRUCTURAL & HVAC RENOVATION
FC574 BARRACK

ENLARGED ELECTRICAL NEW WORK PLAN

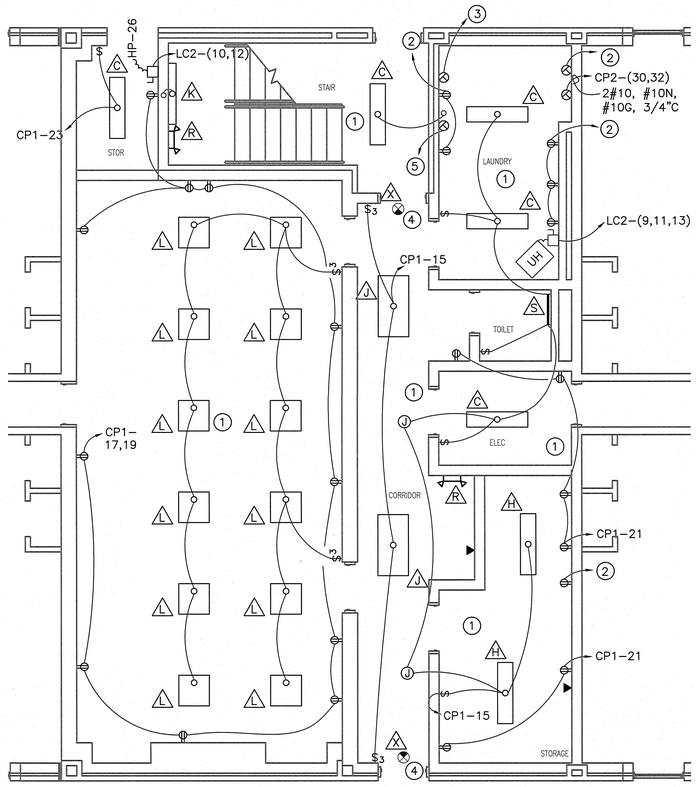
DES. R. ALVAR	
DR. C. COOPER	
CHK. J. BONGIORNO	
SUBMITTED BY:	
DESIGN DIR.	
APPROVED: PWO OR OICC	DATE
SATISFACTORY TO:	DATE

SEAL 036488 REGISTERED PROFESSIONAL ENGINEER JEREMY K. BONGIORNO

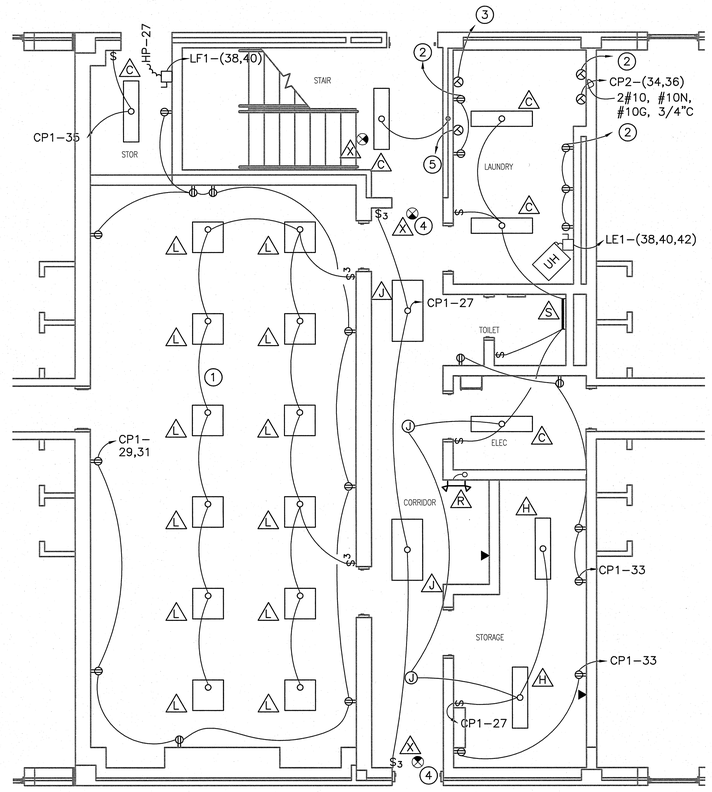
SIZE F | CODE IDENT NO. 80091 | NAVFAC DRAWING NO. 60006349
CONST. CONTR. NO. N40085-10-B-0010
SCALE: AS NOTED | SPEC. 10-B-0010 | SHEET 64 OF 72



1 E-101 E-402 ENLARGED ELECTRICAL NEW WORK PLAN (TYP)
SCALE: 1/4" = 1'-0"



2 E-101 E-402 ENLARGED ELECTRICAL NEW WORK PLAN
SCALE: 1/4" = 1'-0"



3 E-101 E-402 ENLARGED ELECTRICAL NEW WORK PLAN
SCALE: 1/4" = 1'-0"

NEW WORK KEYNOTES:

1. REPLACE ALL LIGHT FIXTURES, RECEPTACLES, SWITCHES AND DEVICE PLATES IN CORE AREAS. CIRCUITRY TO REMAIN.
2. EXISTING CIRCUITS IN PANEL CP TO REMAIN IN PLACE AS IS.
3. EXISTING CIRCUITS IN PANEL LAU TO REMAIN IN PLACE AS IS.
4. ALL EXIT SIGNS TO BE ON CIRCUIT CP1-41.
5. HOME RUNS WITH THREE CIRCUITS TO HAVE 3-#10, #10N, #10GRD IN 3/4"C, HOME RUNS WITH TWO CIRCUITS TO HAVE 2-#10, #10N, #10GRD FROM EXISTING JUNCTION BOXES TO PANEL BOARD.
6. INSTALL NEW RECEPTACLES, GFI RECEPTACLE, SWITCHES, DEVICE COVERS AND FIXTURES IN EACH ROOM.
7. INSTALL NEW 2-#12 SWITCH LEGS IN SURFACE MOUNTED RACEWAY FROM SWITCH TO NEW FIXTURE. INSTALL NEW 2-#12, #12G IN WIREMOLD RACEWAY TO NEW FIXTURE F. TIE INTO NEW HOME RUN OF FEEDER CIRCUIT.
8. INSTALL TWO NEW RECEPTACLE CIRCUITS IN EXISTING CONDUIT FROM EXISTING JUNCTION BOX TO NEW RECEPTACLES IN EXISTING RECEPTACLE BOX.
9. INSTALL NEW CIRCUIT FOR DOUBLE SWITCH FOR FIXTURE G. ONE SWITCH TO CONTROL UPLIGHT; SECOND SWITCH TO CONTROL DOWNLIGHT.
10. INSTALL NEW 2-#12, 1-#12G IN EXISTING CONDUIT FROM EXISTING JUNCTION BOX TO NEW RECEPTACLES IN EXISTING RECEPTACLE BOX.
11. INSTALL ONE TYPE M FIXTURE IN RECESSED DOORWAY AT EACH LIVING UNIT. FIXTURE TO BE RECESSED WALL MOUNTED.
12. CONNECT ALL TYPE M FIXTURES TO CIRCUIT CP-41 VIA LIGHTING CONTROLLER. ROUTE CONDUIT VERTICALLY FROM STACKED FIXTURES ON 1ST, 2ND, AND 3RD FLOORS TO ATTIC SPACE. ROUTE CONDUIT FROM ATTIC TO PANEL CP.

GENERAL NOTES:

1. ALL CABLE TV, INTERCOM, TELEPHONE CONDUIT CONDUCTORS AND CABINETS ASSOCIATED WITH BEQ ROOMS TO REMAIN IN PLACE PRESERVE AND PROTECT ALL COMMUNICATIONS CABLING, EQUIPMENT, AND JACK SET ASSEMBLIES. GENERAL CONTRACTOR WILL BE RESPONSIBLE FOR ANY DAMAGE OR REPAIRS NEEDED TO THE COMMUNICATIONS. COORDINATE WITH LOCAL TELEPHONE SERVICE PROVIDER REGARDING ANY BEQ ROOM PHONE LINE MOVES, ADDITIONS, OR CHANGES. ALL REPAIRS SHALL BE DONE BY A QUALIFIED COMMUNICATIONS SUBCONTRACTOR. CONTACT BASE TELEPHONE FOR ANY QUESTIONS AT 910-451-9439 OR 910-451-4760.
2. REPLACE ALL COMMUNICATIONS CABLING, EQUIPMENT, AND JACK SET ASSEMBLIES ASSOCIATED WITH COMMON AREAS AND OFFICES. COORDINATE WITH BASE TELEPHONE REGARDING PHONE LINES IN COMMON AREAS AND OFFICES. ALL WORK SHALL BE DONE BY A QUALIFIED COMMUNICATIONS SUBCONTRACTOR. CONTACT BASE TELEPHONE FOR ANY QUESTIONS 910-451-9439 OR 910-451-4760.
3. CIRCUITS FOR FOUR ROOM BAY:

   CIRCUIT A: LIGHTING CIRCUIT (FOUR ROOMS/CKT)

   CIRCUITS E,F,J,K: GFI RECEPTACLE AT SINK

   CIRCUITS B,G,N,R: RECEPTACLES ON LOCKER WALL

   CIRCUITS C,H,L,O: FRONT RECEPTACLE ON SHORT WALL

   CIRCUITS D,I,M,P: REMAINING RECEPTACLES ON SHORT WALL

   CIRCUIT DESIGNATOR Q NOT USED
4. HOMERUNS FROM '*' JUNCTION BOXES TO BE #10 CONDUCTORS IN 3/4"C.

12"0 2' 4' 8'
SCALE: 1/4" = 1'-0"
GRAPHIC SCALE

E-402

CEMS Engineering, Inc.
3509 Iron Horse Drive
Ladson, SC 29456
(P)843.875.3637
(F)843.875.4269
www.cemsengineering.com
CEMS Project #0815BS
Project Manager: P. Mahaffey

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MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA

DES. R. ALVAR	STRUCTURAL & HVAC RENOVATION FC574 BARRACK
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APPROVED: PWO OR OICC DATE	SIZE F · CODE IDENT NO. 80091 · NAVFAC DRAWING NO. 60006350
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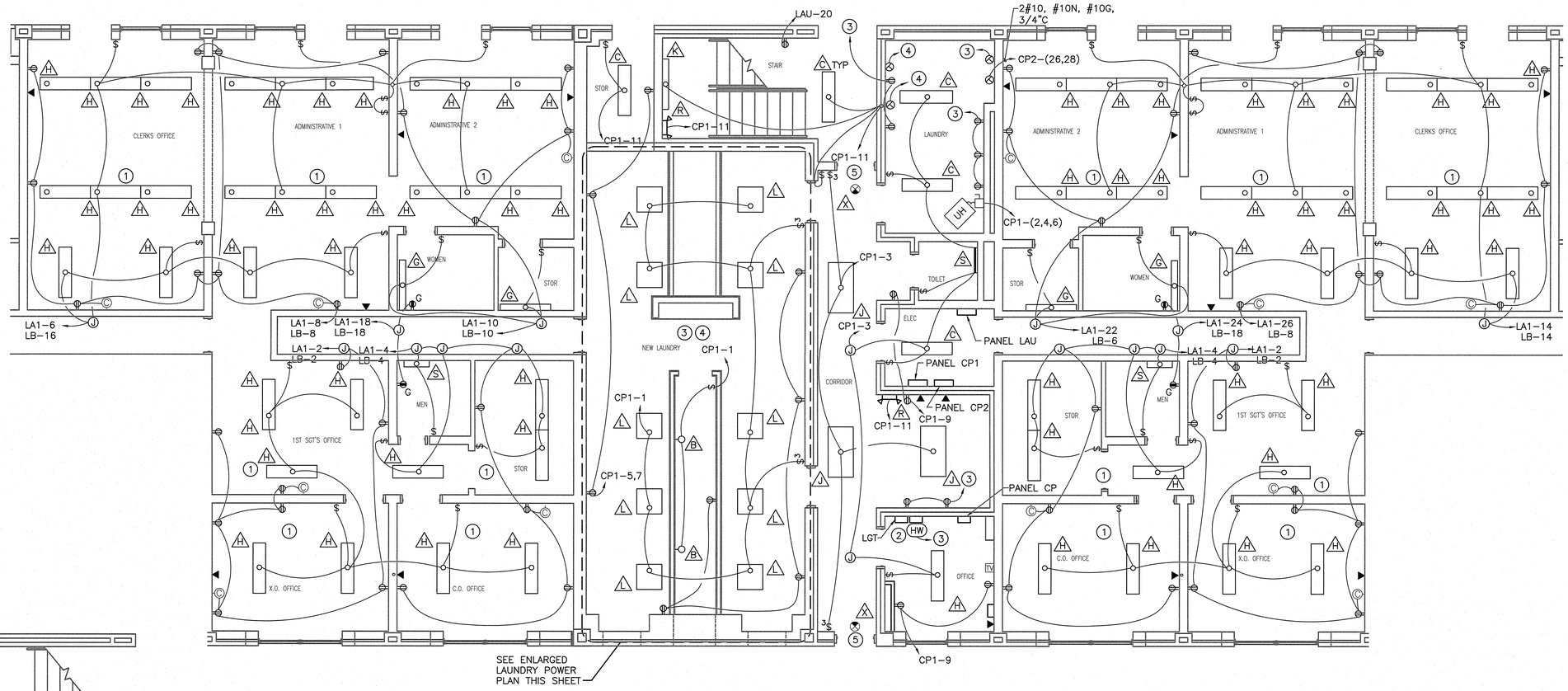
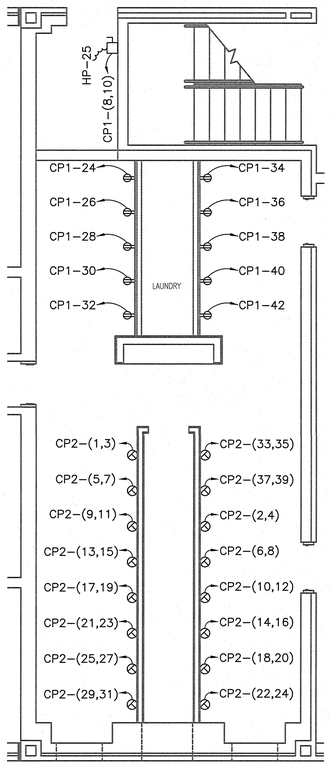
	SCALE: AS NOTED · SPEC. 10-B-0010 · SHEET 65 OF 72

SEAL 036498



1 / E-101 | E-403 ENLARGED FIRST FLOOR ELECTRICAL NEW WORK PLAN
SCALE: 1/4" = 1'-0"



ENLARGED LAUNDRY POWER PLAN
SCALE: 1/4" = 1'-0"

NEW WORK KEYNOTES:

1. REPLACE ALL LIGHT FIXTURES, RECEPTACLES, SWITCHES AND DEVICE PLATES, CIRCUITS TO REMAIN.
2. INSTALL NEW LIGHTING CONTROL PANEL WITH ELECTRONIC TIME CLOCK AND PHOTO ELECTRIC EYE CONTROL (SEE SHEET E-102). INTEGRAL CONTACTOR TO BE 6 POLE, 20 AMP RATED, MAGNETIC LATCH HOLD.
3. EXISTING CIRCUITS IN PANEL CP TO REMAIN IN PLACE AS IS.
4. EXISTING CIRCUITS IN PANEL LAU TO REMAIN IN PLACE AS IS.
5. ALL EXIT SIGNS TO BE ON CIRCUIT CP1-41.

GENERAL NOTES:

1. REPLACE ALL COMMUNICATIONS CABLING, EQUIPMENT, AND JACK SET ASSEMBLIES ASSOCIATED WITH COMMON AREAS AND OFFICES. COORDINATE WITH BASE TELEPHONE REGARDING PHONE LINES IN COMMON AREAS AND OFFICES. ALL WORK SHALL BE DONE BY A QUALIFIED COMMUNICATIONS SUBCONTRACTOR. CONTACT BASE TELEPHONE FOR ANY QUESTIONS 910-451-9439 OR 910-451-4760.

12" 0 2' 4' 8'
SCALE: 1/4" = 1'-0"

12" 0 1' 2' 4'
SCALE: 1/2" = 1'-0"
GRAPHIC SCALES

E-403

CEMS Engineering, Inc.
3509 Iron Horse Drive
Ladson, SC 29456
(P)843.875.3637
(F)843.875.4509
www.cemsengineering.com
CEMS Project #081585
Project Manager: P. Mahaffey

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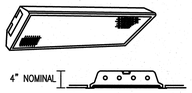
FC574 BARRACK
ENLARGED FIRST FLOOR ELECTRICAL NEW WORK PLAN

DES. R. ALVAR	
DR. C. COOPER	
CHK. J. BONGIORNO	
SUBMITTED BY:	
DESIGN DIR.	
APPROVED: PWO OR OICC	DATE
SATISFACTORY TO:	DATE

SIZE F | CODE IDENT NO 80091 | NAVFAC DRAWING NO. 60006351
CONST. CONTR. NO. N40085-10-B-0010
SCALE: AS NOTED | SPEC. 10-B-0010 | SHEET 66 OF 72



LUMINAIRE REQUIREMENTS:

1. HOUSING – DIE–FORMED, COLD–ROLLED STEEL, WITH REINFORCEMENT RIBS FOR RIGIDITY. ENDCAPS SECURED WITH TABS, SCREWS OR RIVETS. FIXTURE SHALL NOT PERMANENTLY DEFORM OUT OF "SQUARE" WHEN PICKED UP FROM ANY CORNER. DEPTH AS INDICATED UNLESS SPECIFICALLY MANUFACTURED FOR OPTIMAL USE WITH T8 LAMPS.
2. FINISH – MULTI–STAGE PHOSPHATE BONDING TREATMENT FINISHED WITH HIGH REFLECTANCE (MINIMUM 85%), BAKED WHITE ENAMEL FINISH.
3. LENS – 100% ACRYLIC, CLEAR PRISMATIC, PATTERN #12 WITH MINIMUM 0.125" THICKNESS.
4. LAMPS – LINEAR FLUORESCENT T8, TYPICALLY WITH WATTAGES AS INDICATED. SEE LIGHTING FIXTURE SCHEDULE.
5. BALLAST – CLASS P, THERMALLY–PROTECTED, HIGH POWER FACTOR (≥.95), ELECTRONIC TYPE WITH SOUND RATING A. SEE SPECIFICATION OR LIGHTING FIXTURE SCHEDULE FOR BALLAST OPTIONS AND SPECIFICS.
6. CERTIFICATION – UL LISTED AND LABELED.
7. PHOTOMETRICS – MINIMUM VALUE OF COEFFICIENT OF UTILIZATION (CU) AND EFFICIENCY, GIVEN INTERIOR CAVITY REFLECTANCES OF 80–50–20:

2 LAMP (F32/T8)

RCR	CU
1	80
2	71
3	64
4	57

EFFICIENCY – 77%

3 LAMP (F32/T8)

RCR	CU
1	79
2	70
3	63
4	56

EFFICIENCY – 75%

4 LAMP (F32/T8)

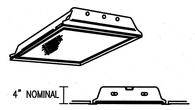
RCR	CU
1	78
2	68
3	61
4	54

EFFICIENCY – 71%

8. SEE NL–7 FOR OPTIONAL REQUIREMENTS ASSOCIATED WITH THIS FIXTURE. INCLUDE ALL INFORMATION IN LIGHTING FIXTURE SCHEDULE.

PRISMATIC LENS RECESSED 2' X 4' FLUORESCENT TROFFER

REVISED: AUGUST 2004 | LIGHTING PLATE: NL–1



LUMINAIRE REQUIREMENTS:

1. HOUSING – DIE–FORMED, COLD–ROLLED STEEL, WITH REINFORCEMENT RIBS FOR RIGIDITY. ENDCAPS SECURED WITH TABS, SCREWS OR RIVETS. FIXTURE SHALL NOT PERMANENTLY DEFORM OUT OF "SQUARE" WHEN PICKED UP FROM ANY CORNER. DEPTH AS INDICATED UNLESS SPECIFICALLY MANUFACTURED FOR OPTIMAL USE WITH T8 LAMPS.
2. FINISH – MULTI–STAGE PHOSPHATE BONDING TREATMENT FINISHED WITH HIGH REFLECTANCE (MINIMUM 85%), BAKED WHITE ENAMEL FINISH.
3. LENS – 100% ACRYLIC, CLEAR PRISMATIC, PATTERN #12 WITH MINIMUM 0.125" THICKNESS.
4. LAMPS – COMPACT FLUORESCENT TT5, OR LINEAR T8 TYPICALLY WITH WATTAGES AS INDICATED. SEE LIGHTING FIXTURE SCHEDULE.
5. BALLAST – CLASS P, THERMALLY–PROTECTED, HIGH POWER FACTOR (≥.95), ELECTRONIC TYPE WITH SOUND RATING A. SEE SPECIFICATION OR LIGHTING FIXTURE SCHEDULE FOR BALLAST OPTIONS AND SPECIFICS.
6. CERTIFICATION – UL LISTED AND LABELED.
7. PHOTOMETRICS – MINIMUM VALUE OF COEFFICIENT OF UTILIZATION (CU) AND EFFICIENCY, GIVEN INTERIOR CAVITY REFLECTANCES OF 80–50–20:

2 LAMP (F40/TT5)

RCR	CU
1	72
2	64
3	58
4	52

EFFICIENCY – 67%

3 LAMP (F40/TT5)

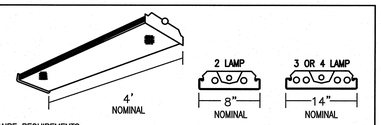
RCR	CU
1	66
2	59
3	53
4	47

EFFICIENCY – 62%

8. SEE NL–7 FOR OPTIONAL REQUIREMENTS ASSOCIATED WITH THIS FIXTURE. INCLUDE ALL INFORMATION IN LIGHTING FIXTURE SCHEDULE.

PRISMATIC LENS RECESSED 2' X 2' FLUORESCENT TROFFER

REVISED: AUGUST 2004 | LIGHTING PLATE: NL–3



LUMINAIRE REQUIREMENTS:

1. HOUSING – DIE–FORMED, COLD–ROLLED STEEL, WITH REINFORCEMENT RIBS FOR RIGIDITY. ENDCAPS SHALL BE SAME MATERIAL AS HOUSING, SECURED WITH TABS, SCREWS OR RIVETS. FIXTURE SHALL NOT PERMANENTLY DEFORM OUT OF "SQUARE" WHEN PICKED UP FROM ANY CORNER. ABLE TO BE FED FROM TOP OR END OF FIXTURE.
2. FINISH – MULTI–STAGE PHOSPHATE BONDING TREATMENT FINISHED WITH HIGH REFLECTANCE (MINIMUM 85%), BAKED WHITE ENAMEL FINISH.
3. LENS – 100% ACRYLIC, CLEAR PRISMATIC, LINEAR SIDE PRISMS AND PYRAMIDAL BOTTOM PRISMS FOR BRIGHTNESS CONTROL AND MINIMAL LAMP IMAGING, RESPECTFULLY. LENS SHALL BE CAPABLE OF BEING HINGED FROM EITHER SIDE.
4. LAMPS – LINEAR FLUORESCENT T8, TYPICALLY WITH WATTAGES AS INDICATED. SEE LIGHTING FIXTURE SCHEDULE.
5. BALLAST – CLASS P, THERMALLY–PROTECTED, HIGH POWER FACTOR (≥.95), ELECTRONIC TYPE WITH SOUND RATING A. SEE SPECIFICATION OR LIGHTING FIXTURE SCHEDULE FOR BALLAST OPTIONS AND SPECIFICS.
6. CERTIFICATION – UL LISTED AND LABELED.
7. PHOTOMETRICS – MINIMUM VALUE OF COEFFICIENT OF UTILIZATION (CU) AND EFFICIENCY, GIVEN INTERIOR CAVITY REFLECTANCES OF 80–50–20:

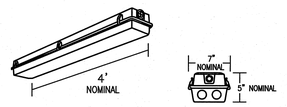
2 LAMP (F32/T8)

RCR	CU
1	76
2	67
3	60
4	54

EFFICIENCY – 76%

FLUORESCENT WRAPAROUND – UTILITY AREAS

REVISED: AUGUST 2004 | LIGHTING PLATE: NL–11



LUMINAIRE REQUIREMENTS:

1. HOUSING – ONE–PIECE, IMPACT–RESISTANT, FIBERGLASS REINFORCED POLYESTER WITH ENCLOSED COLD–ROLLED STEEL WIREWAY.
2. FINISH – STEEL REFLECTOR WITH MULTI–STAGE PHOSPHATE BONDING TREATMENT FINISHED WITH HIGH REFLECTANCE (MINIMUM 85%), BAKED WHITE ENAMEL FINISH.
3. LENS – 100% CLEAR ACRYLIC/DR OPTICAL DIFFUSER. STIPPLED INTERIOR SURFACES AND SMOOTH EXTERIOR. CLOSED CELL NEOPRENE GASKET WITH CAPTIVE NONMETALLIC, SNAP ACTION CAM LATCHES TO SECURE LENS TO HOUSING.
4. LAMPS – LINEAR FLUORESCENT T8, TYPICALLY WITH WATTAGES AS INDICATED. SEE LIGHTING FIXTURE SCHEDULE.
5. BALLAST – CLASS P, THERMALLY–PROTECTED, HIGH POWER FACTOR (≥.95), ELECTRONIC TYPE WITH SOUND RATING A. SEE SPECIFICATION OR LIGHTING FIXTURE SCHEDULE FOR BALLAST OPTIONS AND SPECIFICS.
6. CERTIFICATION – UL LISTED AND LABELED. SUITABLE FOR DAMP OR WET LOCATION AS DESIGNATED IN LIGHTING FIXTURE SCHEDULE.
7. PHOTOMETRICS – MINIMUM VALUE OF COEFFICIENT OF UTILIZATION (CU) AND EFFICIENCY, GIVEN INTERIOR CAVITY REFLECTANCES OF 80–50–20:

2 LAMP (F32/T8)

RCR	CU
1	78
2	67
3	58
4	51

EFFICIENCY – 76%

FIBERGLASS HOUSING DAMP/WET LOCATION FLUORESCENT

REVISED: AUGUST 2004 | LIGHTING PLATE: NL–19

LUMINAIRE REQUIREMENTS:

1. HOUSING – DIE–FORMED, HEAVY–GAUGE, COLD–ROLLED STEEL WITH ENDCAPS MADE FROM THE SAME MATERIAL AS HOUSING.
2. FINISH – MULTI–STAGE PHOSPHATE BONDING TREATMENT FINISHED WITH HIGH REFLECTANCE (MINIMUM 85%), BAKED WHITE ENAMEL FINISH. DARK BRONZE OR BLACK FINISH AVAILABLE. SEE LIGHTING FIXTURE SCHEDULE.
3. LENS – 100% ACRYLIC, HIGH–IMPACT, CLEAR PRISMATIC DIFFUSER.
4. LAMPS – LINEAR FLUORESCENT T8 TYPICALLY, WITH WATTAGES AS INDICATED. SEE LIGHTING FIXTURE SCHEDULE.
5. BALLAST – CLASS P, THERMALLY–PROTECTED, HIGH POWER FACTOR (≥.95), ELECTRONIC TYPE WITH SOUND RATING A. SEE SPECIFICATION OR LIGHTING FIXTURE SCHEDULE FOR BALLAST OPTIONS AND SPECIFICS.
6. CERTIFICATION – UL LISTED AND LABELED.
7. FIXTURE TYPES –

   TYPE A – 2' LENGTH W/ 2–T8 FLUORESCENT LAMPS
   TYPE B – 3' LENGTH W/ 2–T8 FLUORESCENT LAMPS
   TYPE C – 4' LENGTH W/ 2–T8 FLUORESCENT LAMPS

8. OPTIONS –

   FIXED UP AND DOWN LIGHT
   SWITCHED UP AND/OR DOWN LIGHT
   DOWN LIGHT ONLY WITH SOLID TOP

WALL–MOUNTED FLUORESCENT

REVISED: AUGUST 2004 | LIGHTING PLATE: NL–21

LUMINAIRE REQUIREMENTS:

1. HOUSING – DIE–CAST ALUMINUM WITH WHITE BAKED ENAMEL FINISH.
2. REFLECTOR – ONE–PIECE, SPECULAR ALUMINUM.
3. FACEPLATE – DIE–CAST ALUMINUM IN LOUVERED OR OPEN LENS DESIGN. FINISH OPTIONS INCLUDE BRUSHED SATIN FINISH, BRONZE, BLACK, OR WHITE. FACEPLATE SHALL INCLUDE PRISMATIC OR DIFFUSE GLASS LENS. PROVIDE FULLY GASKETED FACEPLATE WHEN USED IN DAMP OR WET ENVIRONMENTS.
4. BALLAST – CLASS P, MULTI–VOLT (120V–277V INPUT), HIGH POWER FACTOR (≥.95), PROGRAMMED RAPID START ELECTRONIC TYPE WITH ≤10% TOTAL HARMONIC DISTORTION.
5. LAMPS – MULTI–TUBE, COMPACT FLUORESCENT WITH 4–PIN BASE. PROVIDE WITH WATTAGES AS INDICATED. SEE LIGHTING FIXTURE SCHEDULE.
6. CERTIFICATION – UL LISTED AND LABELED FOR DAMP OR WET LOCATIONS AS INDICATED.

STEP/NIGHT LIGHT

REVISED: AUGUST 2004 | LIGHTING PLATE: NL–39

LUMINAIRE REQUIREMENTS:

1. HOUSING – ONE–PIECE, DIE–CAST ALUMINUM WITH BAKED–ON POLYESTER POWDER COAT FINISH IN BLACK.
2. DIFFUSER – CLEAR PRISMATIC, UV–STABILIZED, INJECTION–MOLDED POLYCARBONATE WITH MINIMUM 1/8" THICKNESS. DIFFUSER SECURED WITH TAMPER–RESISTANT STAINLESS STEEL SCREWS. BLACK HORIZONTAL FRONT EYELID FOR CUTOFF.
3. GASKET – ONE–PIECE, CLOSED–CELL NEOPRENE TO DISCOURAGE MOISTURE, INSECTS AND DEBRIS.
4. BALLAST – CLASS P, HIGH POWER FACTOR (≥.95), PROGRAMMED RAPID START ELECTRONIC TYPE WITH ≤10% TOTAL HARMONIC DISTORTION FOR COMPACT FLUORESCENT LAMPS.
5. LAMPS – MULTI–TUBE COMPACT FLUORESCENT WITH 4–PIN BASE OR INCANDESCENT. PROVIDE WITH WATTAGES AS INDICATED. SEE LIGHTING FIXTURE SCHEDULE.
6. CERTIFICATION – UL LISTED AND LABELED FOR WET LOCATIONS.

WALL–MOUNTED HIGH ABUSE FIXTURE

REVISED: AUGUST 2004 | LIGHTING PLATE: NL–48

E-501

CEMS Engineering, Inc.
3309 Iron Horse Drive
Ladson, SC 29456
(P)843.875.3637
(F)843.875.4509
www.cemsengineering.com
CEMS Project #08158S
Project Manager: P. Mahaffey

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA

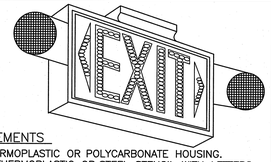
NORTH CAROLINA REGISTERED PROFESSIONAL ENGINEER SEAL 036498 JAMES K. BONGIORNO

DES. R. ALVAR
DR. C. COOPER
CHK. J. BONGIORNO
SUBMITTED BY:
DESIGN DIR.
APPROVED: PWO OR OICC DATE
SATISFACTORY TO: DATE

STRUCTURAL & HVAC RENOVATION
FC574 BARRACK

ELECTRICAL LIGHTING DETAILS

SIZE F | CODE IDENT NO. 80091 | NAVFAC DRAWING NO. 60006352
CONST. CONTR. NO. N40085–10–B–0010
SCALE: NONE | SPEC. 10–B–0010 | SHEET 67 OF 72



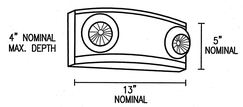
LUMINAIRE REQUIREMENTS

1. ALUMINUM, STEEL, THERMOPLASTIC OR POLYCARBONATE HOUSING.
2. BRUSHED ALUMINUM, THERMOPLASTIC OR STEEL STENCIL WITH LETTERS 6 INCHES TALL & 3/4 INCH WIDE STROKES AND PUNCH-OUT FACE FOR LED'S OR INTERNAL LED ILLUMINATION.
3. RED ILLUMINATION PROVIDED BY LIGHT EMITTING DIODES (LED). APPROXIMATELY 120 LED'S PER FACE. (NOT REQUIRED FOR INTERNALLY ILLUMINATED SIGNS,)
4. CLEAR PROTECTIVE NON-BREAKABLE LENS TO PROTECT LED'S. (NOT REQUIRED FOR INTERNALLY ILLUMINATED SIGNS,)
5. PROVIDE FAILURE, BROWN OUT PROTECTION & SURGE PROTECTION.
6. PROVIDE NI-CAD BATTERY POWER & SOLID STATE TYPE CHARGER.
7. PROVIDE UNIVERSAL ARROWS & BLANK-OFF PLATES.
8. PROVIDE SINGLE OR DOUBLE FACE AS INDICATED ON PLANS.
9. PROVIDE UNIVERSAL MOUNTING.
10. UNITS MOUNTED EXPOSED TO THE ELEMENTS OR IN CLASSIFIED AREAS SHALL HAVE UL LABEL AS INDICATED.
11. PROVIDE INTERNAL GREEN GROUNDING SCREW.
12. PROVIDE TEST BUTTON IN BOTTOM OF HOUSING.
13. PROVIDE INDICATOR LIGHTS IN FACE TO INDICATE WHEN UNIT IS ON NORMAL POWER OR ON BATTERY POWER.
14. HOUSING SHALL HAVE A MATTED WHITE FINISHED, EXCEPT AS SPECIFIED OTHERWISE.
15. LAMP HEADS (ROUND OR RECTANGULAR) AND SHALL BE FULLY ADJUSTABLE
16. SWITCHING AND CONTROLS-FULLY AUTOMATIC, 90 MINUTE OPERATION. COMPLETELY SOLID STATE WITH AUTO TRANSFER AND LOW VOLTAGE CUTOFF. TEST SWITCH AND HIGH RATE INDICATING LIGHT.

NOTES:
1. UNIT IS AVAILABLE WITH WET LABEL.
2. UNIT IS AVAILABLE WITH DAMP LABEL.

LED EXIT SIGN

SKETCH DATE NOV 1996 CLNC | STYLE NL-61A



LUMINAIRE REQUIREMENTS:

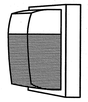
1. HOUSING - UV STABLE, FLAME-RATED, HIGH-IMPACT THERMOPLASTIC IN WHITE OR BLACK TEXTURED FINISH.
2. INTERNAL COMPONENTS - FULLY AUTOMATIC, SOLID STATE, CONSTANT VOLTAGE, CURRENT-LIMITED BATTERY CHARGER; MAINTENANCE-FREE LEAD-ACID BATTERY; AND BUILT-IN OVERLOAD AND LOW-VOLTAGE BATTERY PROTECTION.
3. EXTERIOR HOUSING INDICATORS - LED AC-ON INDICATOR AND INTEGRAL TEST SWITCH.
4. LAMP HEADS - UV STABLE, FLAME RATED POLYCARBONATE THERMOPLASTIC. MR16 HALOGEN LAMPS SHALL BE 5 WATTS, HIGH-OUTPUT OR AS INDICATED IN LIGHTING FIXTURE SCHEDULE.
5. MOUNTING - DIRECTLY TO 4" OCTAGONAL OR SQUARE OUTLET BOX.
6. CERTIFICATION - UL LISTED AND LABELED. COMPLIES WITH UL 924 AND NFPA 101 REQUIREMENTS. LISTED FOR DAMP LOCATIONS.
7. OPTIONS - VOLTMETER, VANDEL-RESISTANT SHIELD, SELF-DIAGNOSTIC/TESTING ELECTRONICS AND WIRE GUARD.

DECORATIVE EMERGENCY LIGHTING UNIT

REVISED: AUGUST 2004 | LIGHTING PLATE: NL-67

LUMINAIRE REQUIREMENTS

1. HOUSING SHALL BE ULTRA-VIOLET & IMPACT RESISTANT POLYCARBONATE DARK BRONZE. APPROX. 10"H X 5"W X 5"
2. PROVIDE WITH ALUMINUM OR POLYCARBONATE BACK PLATE.
3. PROVIDE POLYCARBONATE ULTRA-VIOLET RESISTANT PRISMATIC LENS.
4. PROVIDE HIGH POWER FACTOR ELECTRONIC BALLAST.
5. PROVIDE INTERNAL GREEN GROUNDING SCREW.
6. PROVIDE UL WET LABELED.
7. PROVIDE MAINTENANCE FREE, SEALED NICKEL CADMIUM BATTERY. BATTERIES SUPPLIED SHALL HAVE A 5 YEAR FULL WARRANTY. BATTERY CHARGER SHALL MEET UL 924 STANDARD.
8. POWER REQUIREMENTS: 120 VOLT, 0.15 AMPS, & 17 WATTS.



LAMP REQUIREMENTS
NORMAL ILLUMINATION: 1-13 WATT COMPACT FLUORESCENT,
EMERGENCY ILLUMINATION: 2-4 VOLT, 4 WATT DC INCADESCENT

EXTERIOR WALL MOUNT FLUORESCENT COMBINATION EMERGENCY LUMINAIRE

SKETCH DATE | STYLE NL-26A

LIGHTING FIXTURE SCHEDULE

FIXTURE SYMBOL	SKETCH NO. & TYPE	NUMBER AND TYPE OF LAMPS	VOLTAGE	MOUNTING	NOTES
A	NL-26A	NORM 1-F13 EMRG 2-4W INCAN	120	WALL MTD.	
B	NL-48	2-F9/T4	120	WALL MTD 8'-0" AFF	
C	NL-19	2-F32/T8	120	SURFACE CEILING	(1)
F	NL-21 TYPE B	2-F25/T8	120	WALL MTD.	(2)
G	NL-21 TYPE B	2-F25/T8	120	WALL MTD.	(3)
H	NL-11	2-F32/T8	120	SURFACE CEILING	(6)
J	NL-1	2-F32/T8	120	RECESSED CEILING	
K	NL-21 TYPE C	2-F25/T8	120	WALL MTD.	(3)
L	NL-3	2-F40/TT5	120	RECESSED CEILING	
M	NL-39	2-F7/T4	120	RECESSED WALL 6'-0" AFF	(4)
R	NL-67	2-12W HALOGEN	120	WALL MTD. 8'-0" AFF	
S	NL-21 TYPE A	2-F17/T8	120	WALL MTD.	(3)
X	NL-61A	LED	120	SURFACE CEILING	(5)

(1) PROVIDE FIXTURE LISTED FOR DAMP LOCATIONS.

(2) PROVIDE UP AND/OR DOWN LIGHT SWITCHED SEPARATELY.

(3) PROVIDE DOWN LIGHT ONLY.

(4) PROVIDE POLYCARBONATE FRONT LENS.

(5) PROVIDE VANDAL-RESISTANT, WET LOCATION, EXIT SIGN WITH CAST ALUMINUM HOUSING.

(6) PROVIDE WET LOCATION RATED FIXTURE IN SLEEPING ROOM SHOWERS. FIXTURE TO BE SUITABLE FOR SHOWER AREAS.

E-502

CEMS Engineering, Inc.
3509 Iron Horse Drive
Ladson, SC 29456
(P)843.875.3637
(F)843.875.4509
www.cemsengineering.com
CEMS Project #08158S
Project Manager: P. Mahaffey

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA

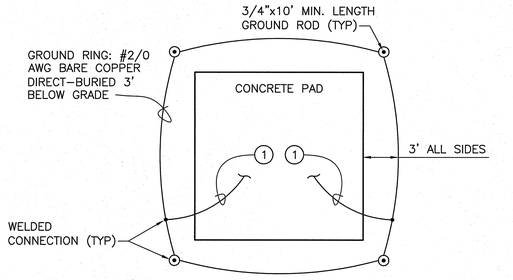
STRUCTURAL & HVAC RENOVATION
FC574 BARRACK

ELECTRICAL LIGHTING DETAILS

DES. R. ALVAR
DR. C. COOPER
CHK. J. BONGIORNO
SUBMITTED BY:
DESIGN DIR.
APPROVED: PWO OR OICC DATE
SATISFACTORY TO: DATE

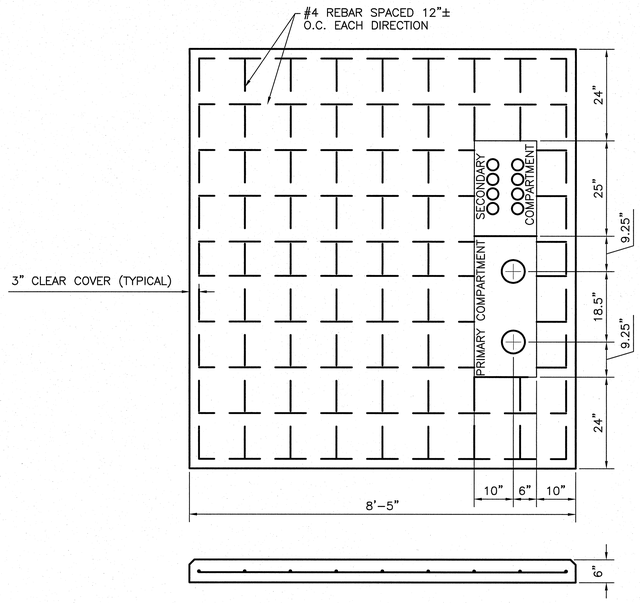
SEAL 036498 REGISTERED PROFESSIONAL ENGINEER JOHN T. BONGIORNO NORTH CAROLINA

SIZE F | CODE IDENT NO. 80091 | NAVFAC DRAWING NO. 60006353
CONST. CONTR. NO. N40085-10-B-0010
SCALE: NONE | SPEC. 10-B-0010 | SHEET 68 OF 72



(1) #1/0 AWG BARE COPPER IN 3/4" PVC TO GROUNDING LUG.

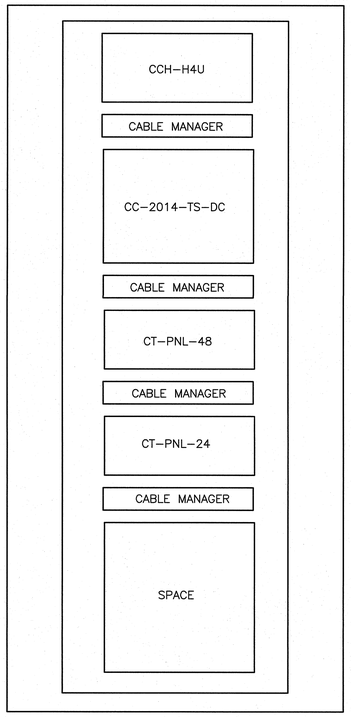
SERVICE TRANSFORMER
GROUNDING DETAIL
SCALE: NOT TO SCALE



NOTES:

1. CONCRETE SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 3000 PSI MAX. AGGREGATE SIZE 1".
2. STEEL REINFORCING BARS ARE TO BE INTERMEDIATE GRADE BILLET STEEL BARS WITH 40,000 PSI MINIMUM YIELD STRENGTH, CONFORMING TO A.S.T.M. A615 GRADE 40.
3. PROVIDE MIN. CLEARANCE FROM EDGE OF PAD, TO ANY BUILDING, PROPERTY LINE, WALL, OR ANY OTHER OBSTRUCTION IN ACCORDANCE WITH SPECIFICATIONS.
4. FINAL LOCATION OF CONCRETE PAD TO BE SPOTTED IN THE FIELD BY THE CONTRACTING OFFICER.
5. IF LOCATION IS SUBJECT TO FLOODING, PAD SHALL BE ELEVATED ABOVE WATER LEVEL.
6. LOCATION MUST HAVE HEAVY TRUCK ACCESS NOT MORE THAN 1' FROM PAD.
7. ALL CONDUITS TO EXTEND 1" ABOVE TOP OF PAD.

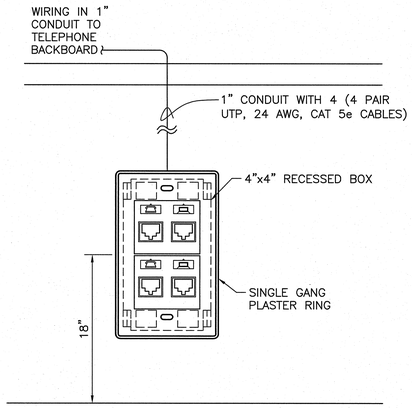
SERVICE TRANSFORMER PAD DETAIL
SCALE: NOT TO SCALE



NOTES:

1. PROVIDE TELEPHONE EQUIPMENT RACK PER CAMP LEJEUNE SPECIFICATIONS. COORDINATE WITH BASE TELEPHONE OFFICE.
2. CONTRACTOR TO TERMINATE WIRING AT OUTLETS AND TELEPHONE BOARD.

TELEPHONE SERVICE ENTRANCE EQUIPMENT RACK
SCALE: NOT TO SCALE



GENERAL NOTE:

1. ALL OF THE TELEPHONE/DATA WIRING IS TO BE HOMERUN FROM THE OUTLET BACK TO THE BACKBOARD. TO BE DONE WITH 1" CONDUIT THE ENTIRE LENGTH.

TELEPHONE/DATA OUTLET DETAIL (TYPICAL)
SCALE: NOT TO SCALE

E-503

CEMS Engineering, Inc.
3509 Iron Horse Drive
Ladson, SC 29456
(P)843.875.3637
(F)843.875.4509
www.cemsengineering.com
CEMS Project #081583
Project Manager: P. Mahaffey

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
MARINE CORPS BASE
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STRUCTURAL & HVAC RENOVATION
FC574 BARRACK

ELECTRICAL DETAILS

DES. R. ALVAR	
DR. C. COOPER	
CHK. J. BONGIORNO	
SUBMITTED BY:	
DESIGN DIR.	
APPROVED: PWO OR OICC	DATE
SATISFACTORY TO:	DATE

SIZE	CODE IDENT NO.	NAVFAC DRAWING NO.	
F	80091	60006354	
		CONST. CONTR. NO.	N40085-10-B-0010
SCALE: NONE	SPEC. 10-B-0010	SHEET 69 OF 72	

PANEL NO. MDP

VOLTAGE 120/208 PHASE 3 WIRE 4 BUS SIZE 1600A MAIN CB. 1600A

CKT. NO.	BRKR. SIZE	LOAD	VA		CKT. NO.	BRKR. SIZE	LOAD	VA
1				A	2			
3	225	PANEL LA	76415		4	225	PANEL LB	65657
5					6			
7					8			
9	225	PANEL LC	51292		10	225	PANEL LD	40671
11					12			
13					14			
15	225	PANEL LE	63312		16	225	PANEL LF	64022
17				C	18			
19				A	20			
21	225	PANEL CP	63660	B	22	300	PANEL CPI	127448
23				C	24			
25				A	26			
27				B	28			
29				C	30			
31				A	32			
33				B	34			
35				C	36			
37				A	38			
39				B	40			
41				C	42			

INTERRUPTING AMPERE CURRENT RATING FOR THIS ASSEMBLY SHALL BE 10,000 A. RMS SYM.

TOTAL CONNECTED 552,477 VA
TOTAL DEMAND 462,724 VA 1285 AMPS

PANEL NO. LA (EXISITING)

VOLTAGE 120/208 PHASE 3 WIRE 4 BUS SIZE 225A MAIN CB. 225A

CKT. NO.	BRKR. SIZE	LOAD	VA		CKT. NO.	BRKR. SIZE	LOAD	VA
1	20	BAY A – CIRCUIT A	1008	A	2	20	BAY B – CIRCUIT A	1008
3	20	BAY A – CIRCUIT B	360	B	4	20	BAY B – CIRCUIT B	360
5	20	BAY A – CIRCUIT C	185	C	6	20	BAY B – CIRCUIT C	185
7	20	BAY A – CIRCUIT D	360	A	8	20	BAY B – CIRCUIT D	360
9	20	BAY A – CIRCUIT E	300	B	10	20	BAY B – CIRCUIT E	300
11	20	BAY A – CIRCUIT F	300	C	12	20	BAY B – CIRCUIT F	300
13	20	BAY A – CIRCUIT G	360	A	14	20	BAY B – CIRCUIT G	360
15	20	BAY A – CIRCUIT H	185	B	16	20	BAY B – CIRCUIT H	185
17	20	BAY A – CIRCUIT I	360	C	18	20	BAY B – CIRCUIT I	360
19	20	BAY A – CIRCUIT J	300	A	20	20	BAY B – CIRCUIT J	300
21	20	BAY A – CIRCUIT K	300	B	22	20	BAY B – CIRCUIT K	300
23	20	BAY A – CIRCUIT L	185	C	24	20	BAY B – CIRCUIT L	185
25	20	BAY A – CIRCUIT M	360	A	26	20	BAY B – CIRCUIT M	360
27	20	BAY A – CIRCUIT N	360	B	28	20	BAY B – CIRCUIT N	360
29	20	BAY A – CIRCUIT O	185	C	30	20	BAY B – CIRCUIT O	185
31	20	BAY A – CIRCUIT P	360	A	32	20	BAY B – CIRCUIT P	360
33	20	BAY A – CIRCUIT R	360	B	34	20	BAY B – CIRCUIT R	360
35	20	P–3	530	C	36			
37				A	38	35	P–1	9108
(1) 39	100	PANEL LA1		B	40			
41				C	42	20	SPARE	

INTERRUPTING AMPERE CURRENT RATING FOR THIS ASSEMBLY SHALL BE EXISTING A. RMS SYM.

TOTAL CONNECTED 76,415 VA
TOTAL DEMAND 76,415 VA 212 AMPS

PANEL NO. LA1 (NEW)

VOLTAGE 120/208 PHASE 3 WIRE 4 BUS SIZE 225A MAIN CB. MLO

CKT. NO.	BRKR. SIZE	LOAD	VA		CKT. NO.	BRKR. SIZE	LOAD	VA
1	20	BAY C – CIRCUIT A	756	A	2	20	OFFICE SUITE	1920
3	30	HP–1	3910	B	4	20	OFFICE SUITE	1170
5				C	6	20	OFFICE SUITE	1540
7	30	HP–2	3910	A	8	20	OFFICE SUITE	1540
9				B	10	20	OFFICE SUITE	1490
11	20	BAY C – CIRCUIT F	300	C	12	20	DEHUMIDIFIER	600
13	20	BAY C – CIRCUIT G	360	A	14	20	OFFICE SUITE	1540
15	20	BAY C – CIRCUIT H	185	B	16	20	LGTS&RCPTS–CHASE, MECH RM	920
17	20	BAY C – CIRCUIT I	360	C	18	20	OFFICE SUITE–GFI RCPTS	360
19	20	BAY C – CIRCUIT J	300	A	20	20	EMERGENCY LIGHTS	200
21	20	BAY C – CIRCUIT K	300	B	22	20	OFFICE SUITE	1620
23	20	BAY C – CIRCUIT L	185	C	24	20	OFFICE SUITE	360
25	20	BAY C – CIRCUIT M	360	A	26	20	OFFICE SUITE	1620
27	20	BAY C – CIRCUIT N	360	B	28	60	DHP–1	14940
29	20	BAY C – CIRCUIT O	185	C	30			
31	20	BAY C – CIRCUIT P	360	A	32			
33	20	BAY C – CIRCUIT R	360	B	34	35	P–1A	9108
35	30	HP–3	3910	C	36			
37				A	38			
39	30	HP–4	3910	B	40	20	SPARE	
41				C	42	20	SPARE	

INTERRUPTING AMPERE CURRENT RATING FOR THIS ASSEMBLY SHALL BE 10,000 A. RMS SYM.

TOTAL CONNECTED 55,181 VA
TOTAL DEMAND 55,181 VA 153 AMPS

PANEL NO. LB (EXISTING)

VOLTAGE 120/208 PHASE 3 WIRE 4 BUS SIZE 225A MAIN CB. 225A

CKT. NO.	BRKR. SIZE	LOAD	VA		CKT. NO.	BRKR. SIZE	LOAD	VA
1	20	BAY D – CIRCUIT A	756	A	2	20	OFFICE SUITE	1920
3	20	BAY D – CIRCUIT B	360	B	4	20	OFFICE SUITE	1170
5	20	BAY D – CIRCUIT C	185	C	6	20	OFFICE SUITE	1540
7	20	BAY D – CIRCUIT D	360	A	8	20	OFFICE SUITE	1540
9	20	BAY D – CIRCUIT E	300	B	10	20	OFFICE SUITE	1490
11	20	BAY D – CIRCUIT F	300	C	12	20	SBC	600
13	20	BAY D – CIRCUIT G	360	A	14	20	OFFICE SUITE	800
15	20	BAY D – CIRCUIT H	185	B	16	20	LGTS&RCPTS–CHASE, MECH RM	920
17	20	BAY D – CIRCUIT I	360	C	18	20	OFFICE SUITE – GFI RCPTS	360
19	20	DEHUMIDIFIER	600	A	20	30	HP–5	3910
21	20	BAY D – CIRCUIT K	300	B	22			
23	20	P–2, 4, 5		C	24	30	HP–6	3910
25	20	SPARE		A	26			
27	20	SPARE		B	28	30	HP–7	3910
29	20	BAY D – CIRCUIT O	185	C	30			
31	20	BAY D – CIRCUIT P	360	A	32	30	HP–8	3910
33	20	BAY D – CIRCUIT R	360	B	34			
35				C	36			
37				A	38			
(1) 39	100	PANEL LB1	26796	B	40	60	DHP–2	14940
41				C	42			

INTERRUPTING AMPERE CURRENT RATING FOR THIS ASSEMBLY SHALL BE EXISTING A. RMS SYM.

TOTAL CONNECTED 65,657 VA
TOTAL DEMAND 65,657 VA 182 AMPS

PANEL NO. LB1 (NEW)

VOLTAGE 120/208 PHASE 3 WIRE 4 BUS SIZE 100A MAIN CB. MLO

CKT. NO.	BRKR. SIZE	LOAD	VA		CKT. NO.	BRKR. SIZE	LOAD	VA
1	20	BAY E – CIRCUIT A	1008	A	2	20	BAY F – CIRCUIT A	1008
3	20	BAY E – CIRCUIT B	360	B	4	20	BAY F – CIRCUIT B	360
5	20	BAY E – CIRCUIT C	185	C	6	20	BAY F – CIRCUIT C	185
7	20	BAY E – CIRCUIT D	360	A	8	20	BAY F – CIRCUIT D	360
9	20	BAY E – CIRCUIT E	300	B	10	20	BAY F – CIRCUIT E	300
11	20	BAY E – CIRCUIT F	300	C	12	20	BAY F – CIRCUIT F	300
13	20	BAY E – CIRCUIT G	360	A	14	20	BAY F – CIRCUIT G	360
15	20	BAY E – CIRCUIT H	185	B	16	20	BAY F – CIRCUIT H	185
17	20	BAY E – CIRCUIT I	360	C	18	20	BAY F – CIRCUIT I	360
19	20	BAY E – CIRCUIT J	300	A	20	20	BAY F – CIRCUIT J	300
21	20	BAY E – CIRCUIT K	300	B	22	20	BAY F – CIRCUIT K	300
23	20	BAY E – CIRCUIT L	185	C	24	20	BAY F – CIRCUIT L	185
25	20	BAY E – CIRCUIT M	360	A	26	20	BAY F – CIRCUIT M	360
27	20	BAY E – CIRCUIT N	360	B	28	20	BAY F – CIRCUIT N	360
29	20	BAY E – CIRCUIT O	185	C	30	20	BAY F – CIRCUIT O	185
31	20	BAY E – CIRCUIT P	360	A	32	20	BAY F – CIRCUIT P	360
33	20	BAY E – CIRCUIT R	360	B	34	20	BAY F – CIRCUIT R	360
35				C	36	20	EMERGENCY LIGHTS	200
37	20	SPARE		A	38			
39	20	SPARE		B	40	60	DHP–3	14940
41	20	SPARE		C	42			

INTERRUPTING AMPERE CURRENT RATING FOR THIS ASSEMBLY SHALL BE 10,000 A. RMS SYM.

TOTAL CONNECTED 26,796 VA
TOTAL DEMAND 26,796 VA 74 AMPS

PANEL NO. LC (EXISTING)

VOLTAGE 120/208 PHASE 3 WIRE 4 BUS SIZE 225A MAIN CB. 225A

CKT. NO.	BRKR. SIZE	LOAD	VA		CKT. NO.	BRKR. SIZE	LOAD	VA
1	20	BAY A – CIRCUIT A	1008	A	2	20	BAY B – CIRCUIT A	1008
3	20	BAY A – CIRCUIT B	360	B	4	20	BAY B – CIRCUIT B	360
5	20	BAY A – CIRCUIT C	185	C	6	20	BAY B – CIRCUIT C	185
7	20	BAY A – CIRCUIT D	360	A	8	20	BAY B – CIRCUIT D	360
9	20	BAY A – CIRCUIT E	300	B	10	20	BAY B – CIRCUIT E	300
11	20	BAY A – CIRCUIT F	300	C	12	20	BAY B – CIRCUIT F	300
13	20	BAY A – CIRCUIT G	360	A	14	20	BAY B – CIRCUIT G	360
15	20	BAY A – CIRCUIT H	185	B	16	20	BAY B – CIRCUIT H	185
17	20	BAY A – CIRCUIT I	360	C	18	20	BAY B – CIRCUIT I	360
19	20	BAY A – CIRCUIT J	300	A	20	20	BAY B – CIRCUIT J	300
21	20	BAY A – CIRCUIT K	300	B	22	20	BAY B – CIRCUIT K	300
23	20	BAY A – CIRCUIT L	185	C	24	20	BAY B – CIRCUIT L	185
25	20	BAY A – CIRCUIT M	360	A	26	20	BAY B – CIRCUIT M	360
27	20	BAY A – CIRCUIT N	360	B	28	20	BAY B – CIRCUIT N	360
29	20	BAY A – CIRCUIT O	185	C	30	20	BAY B – CIRCUIT O	185
31	20	BAY A – CIRCUIT P	360	A	32	20	BAY B – CIRCUIT P	360
33	20	BAY A – CIRCUIT R	360	B	34	20	BAY B – CIRCUIT R	360
35				C	36			
37				A	38			
(1) 39	100	PANEL LC1	13375	B	40	100	PANEL LC2	(1)
41				C	42			

INTERRUPTING AMPERE CURRENT RATING FOR THIS ASSEMBLY SHALL BE EXISTING A. RMS SYM.

TOTAL CONNECTED 51,292 VA
TOTAL DEMAND 51,292 VA 142 AMPS

PANEL NO. LC1 (NEW)

VOLTAGE 120/208 PHASE 3 WIRE 4 BUS SIZE 100A MAIN CB. MLO

CKT. NO.	BRKR. SIZE	LOAD	VA		CKT. NO.	BRKR. SIZE	LOAD	VA
1	20	BAY C – CIRCUIT A	1008	A	2	20	BAY D – CIRCUIT A	1008
3	20	BAY C – CIRCUIT B	360	B	4	20	BAY D – CIRCUIT B	360
5	20	BAY C – CIRCUIT C	185	C	6	20	BAY D – CIRCUIT C	185
7	20	BAY C – CIRCUIT D	360	A	8	20	BAY D – CIRCUIT D	360
9	20	BAY C – CIRCUIT E	300	B	10	20	BAY D – CIRCUIT E	300
11	20	BAY C – CIRCUIT F	300	C	12	20	BAY D – CIRCUIT F	300
13	20	BAY C – CIRCUIT G	360	A	14	20	BAY D – CIRCUIT G	360
15	20	BAY C – CIRCUIT H	185	B	16	20	BAY D – CIRCUIT H	185
17	20	BAY C – CIRCUIT I	360	C	18	20	BAY D – CIRCUIT I	360
19	20	BAY C – CIRCUIT J	300	A	20	20	BAY D – CIRCUIT J	300
21	20	BAY C – CIRCUIT K	300	B	22	20	BAY D – CIRCUIT K	300
23	20	BAY C – CIRCUIT L	185	C	24	20	BAY D – CIRCUIT L	185
25	20	BAY C – CIRCUIT M	360	A	26	20	BAY D – CIRCUIT M	360
27	20	BAY C – CIRCUIT N	360	B	28	20	BAY D – CIRCUIT N	360
29	20	BAY C – CIRCUIT O	185	C	30	20	BAY D – CIRCUIT O	185
31	20	BAY C – CIRCUIT P	360	A	32	20	BAY D – CIRCUIT P	360
33	20	BAY C – CIRCUIT R	360	B	34	20	BAY D – CIRCUIT R	360
35	20	DEHUMIDIFIER	600	C	36	20	EMERGENCY LIGHTS	200
37	20	SPARE		A	38	20	SPARE	
39	20	LGTS&RCPTS–CHASE, MECH RM	920	B	40	20	SPARE	
41	20	SPARE		C	42	20	SPARE	

INTERRUPTING AMPERE CURRENT RATING FOR THIS ASSEMBLY SHALL BE 10,000 A. RMS SYM.

TOTAL CONNECTED 13,375 VA
TOTAL DEMAND 13,375 VA 37 AMPS

PANEL NO. LC2 (NEW)

VOLTAGE 120/208 PHASE 3 WIRE 4 BUS SIZE 100A MAIN CB. MLO

CKT. NO.	BRKR. SIZE	LOAD	VA		CKT. NO.	BRKR. SIZE	LOAD	VA
1	30	HP–9	3910	A	2	30	HP–11	3910
3				B	4			
5	30	HP–10	3910	C	6	30	HP–12	3910
7				A	8			
9	20	UH 2ND FLOOR	5000	B	10	40	HP–26	5620
11				C	12			
13				A	14	20	SPARE	
15				B	16	20	SPARE	
17				C	18	20	SPARE	
19				A	20			
21				B	22			
23				C	24			

INTERRUPTING AMPERE CURRENT RATING FOR THIS ASSEMBLY SHALL BE 10,000 A. RMS SYM.

TOTAL CONNECTED 26,260 VA
TOTAL DEMAND 26,260 VA 73 AMPS

PANEL NO. LD (EXISTING)

VOLTAGE 120/208 PHASE 3 WIRE 4 BUS SIZE 225A MAIN CB. 225A

CKT. NO.	BRKR. SIZE	LOAD	VA		CKT. NO.	BRKR. SIZE	LOAD	VA
1	20	BAY E – CIRCUIT A	1008	A	2	20	BAY F – CIRCUIT A	1008
3	20	BAY E – CIRCUIT B	360	B	4	20	BAY F – CIRCUIT B	360
5	20	BAY E – CIRCUIT C	185	C	6	20	BAY F – CIRCUIT C	185
7	20	BAY E – CIRCUIT D	360	A	8	20	BAY F – CIRCUIT D	360
9	20	BAY E – CIRCUIT E	300	B	10	20	BAY F – CIRCUIT E	300
11	20	BAY E – CIRCUIT F	300	C	12	20	BAY F – CIRCUIT F	300
13	20	BAY E – CIRCUIT G	360	A	14	20	BAY F – CIRCUIT G	360
15	20	BAY E – CIRCUIT H	185	B	16	20	BAY F – CIRCUIT H	185
17	20	BAY E – CIRCUIT I	360	C	18	20	BAY F – CIRCUIT I	360
19	20	BAY E – CIRCUIT J	300	A	20	20	BAY F – CIRCUIT J	300
21	20	BAY E – CIRCUIT K	300	B	22	20	BAY F – CIRCUIT K	300
23	20	BAY E – CIRCUIT L	185	C	24	20	BAY F – CIRCUIT L	185
25	20	BAY E – CIRCUIT M	360	A	26	20	BAY F – CIRCUIT M	360
27	20	BAY E – CIRCUIT N	360	B	28	20	BAY F – CIRCUIT N	360
29	20	BAY E – CIRCUIT O	185	C	30	20	BAY F – CIRCUIT O	185
31	20	BAY E – CIRCUIT P	360	A	32	20	BAY F – CIRCUIT P	360
33	20	BAY E – CIRCUIT R	360	B	34	20	BAY F – CIRCUIT R	360
35				C	36			
37				A	38			
(1) 39	100	PANEL LD1	13375	B	40	100	PANEL LD2	15640 (1)
41				C	42			

INTERRUPTING AMPERE CURRENT RATING FOR THIS ASSEMBLY SHALL BE EXISTING A. RMS SYM.

TOTAL CONNECTED 40,671 VA
TOTAL DEMAND 40,671 VA 113 AMPS

PANEL NO. LD1 (NEW)

VOLTAGE 120/208 PHASE 3 WIRE 4 BUS SIZE 100A MAIN CB. MLO

CKT. NO.	BRKR. SIZE	LOAD	VA		CKT. NO.	BRKR. SIZE	LOAD	VA
1	20	BAY G – CIRCUIT A	1008	A	2	20	BAY H – CIRCUIT A	1008
3	20	BAY G – CIRCUIT B	360	B	4	20	BAY H – CIRCUIT B	360
5	20	BAY G – CIRCUIT C	185	C	6	20	BAY H – CIRCUIT C	185
7	20	BAY G – CIRCUIT D	360	A	8	20	BAY H – CIRCUIT D	360
9	20	BAY G – CIRCUIT E	300	B	10	20	BAY H – CIRCUIT E	300
11	20	BAY G – CIRCUIT F	300	C	12	20	BAY H – CIRCUIT F	300
13	20	BAY G – CIRCUIT G	360	A	14	20	BAY H – CIRCUIT G	360
15	20	BAY G – CIRCUIT H	185	B	16	20	BAY H – CIRCUIT H	185
17	20	BAY G – CIRCUIT I	360	C	18	20	BAY H – CIRCUIT I	360
19	20	BAY G – CIRCUIT J	300	A	20	20	BAY H – CIRCUIT J	300
21	20	BAY G – CIRCUIT K	300	B	22	20	BAY H – CIRCUIT K	300
23	20	BAY G – CIRCUIT L	185	C	24	20	BAY H – CIRCUIT L	185
25	20	BAY G – CIRCUIT M	360	A	26	20	BAY H – CIRCUIT M	360
27	20	BAY G – CIRCUIT N	360	B	28	20	BAY H – CIRCUIT N	360
29	20	BAY G – CIRCUIT O	185	C	30	20	BAY H – CIRCUIT O	185
31	20	BAY G – CIRCUIT P	360	A	32	20	BAY H – CIRCUIT P	360
33	20	BAY G – CIRCUIT R	360	B	34	20	BAY H – CIRCUIT R	360
35	20	DEHUMIDIFIER	600	C	36	20	EMERGENCY LIGHTS	200
37	20	SPARE		A	38	20	SPARE	
39	20	LGTS&RCPTS–CHASE, MECH RM	920	B	40	20	SPARE	
41	20	SPARE		C	42	20	SPARE	

INTERRUPTING AMPERE CURRENT RATING FOR THIS ASSEMBLY SHALL BE 10,000 A. RMS SYM.

TOTAL CONNECTED 13,375 VA
TOTAL DEMAND 13,375 VA 37 AMPS

PANEL NO. LD2 (NEW)

VOLTAGE 120/208 PHASE 3 WIRE 4 BUS SIZE 100A MAIN CB. MLO

CKT. NO.	BRKR. SIZE	LOAD	VA		CKT. NO.	BRKR. SIZE	LOAD	VA
1	30	HP–13	3910	A	2	30	HP–15	3910
3				B	4			
5	30	HP–14	3910	C	6	30	HP–16	3910
7				A	8			
9	20	SPARE		B	10			
11	20	SPARE		C	12			
13	20	SPARE		A	14			
15				B	16			
17				C	18			
19				A	20			
21				B	22			
23				C	24			

INTERRUPTING AMPERE CURRENT RATING FOR THIS ASSEMBLY SHALL BE 10,000 A. RMS SYM.

TOTAL CONNECTED 15,640 VA
TOTAL DEMAND 15,640 VA 43 AMPS

NEW WORK KEY NOTES:

(1) INSTALL NEW CIRCUIT BREAKER IN EXISTING PANELBOARD AS SHOWN.

NORTH CAROLINA REGISTERED LANDSCAPE ARCHITECT SEAL 036498 JEREMY R. BONGIORNO

E-601

CEMS Engineering, Inc.
3509 Iron Horse Drive
Ladson, SC 29456
(P)843.875.3637
(F)843.875.4509
www.comsengineering.com
CEMS Project #08158S
Project Manager: P. Mahaffey

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA

DES. R. ALVAR
DR. C. COOPER
CHK. J. BONGIORNO
SUBMITTED BY:
DESIGN DIR.
APPROVED: PWO OR OICC DATE
SATISFACTORY TO: DATE

STRUCTURAL & HVAC RENOVATION
FC574 BARRACK

ELECTRICAL PANEL SCHEDULES

SIZE D | CODE IDENT NO. F 80091 | NAVFAC DRAWING NO. 60006355
CONST. CONTR. NO. N40085–10–B–0010
SCALE: NONE | SPEC. 10–B–0010 | SHEET 70 OF 72

PANEL NO. LE (EXISTING)

VOLTAGE 120/208 PHASE 3 WIRE 4 BUS SIZE 225A MAIN CB. 225A

CKT. NO.	BRKR. SIZE	LOAD	VA		CKT. NO.	BRKR. SIZE	LOAD	VA
1	20	BAY A – CIRCUIT A	1008	A	2	20	BAY B – CIRCUIT A	1008
3	20	BAY A – CIRCUIT B	360	B	4	20	BAY B – CIRCUIT B	360
5	20	BAY A – CIRCUIT C	185	C	6	20	BAY B – CIRCUIT C	185
7	20	BAY A – CIRCUIT D	360	A	8	20	BAY B – CIRCUIT D	360
9	20	BAY A – CIRCUIT E	300	B	10	20	BAY B – CIRCUIT E	300
11	20	BAY A – CIRCUIT F	300	C	12	20	BAY B – CIRCUIT F	300
13	20	BAY A – CIRCUIT G	360	A	14	20	BAY B – CIRCUIT G	360
15	20	BAY A – CIRCUIT H	185	B	16	20	BAY B – CIRCUIT H	185
17	20	BAY A – CIRCUIT I	360	C	18	20	BAY B – CIRCUIT I	360
19	20	BAY A – CIRCUIT J	300	A	20	20	BAY B – CIRCUIT J	300
21	20	BAY A – CIRCUIT K	300	B	22	20	BAY B – CIRCUIT K	300
23	20	BAY A – CIRCUIT L	185	C	24	20	BAY B – CIRCUIT L	185
25	20	BAY A – CIRCUIT M	360	A	26	20	BAY B – CIRCUIT M	360
27	20	BAY A – CIRCUIT N	360	B	28	20	BAY B – CIRCUIT N	360
29	20	BAY A – CIRCUIT O	185	C	30	20	BAY B – CIRCUIT O	185
31	20	BAY A – CIRCUIT P	360	A	32	20	BAY B – CIRCUIT P	360
33	20	BAY A – CIRCUIT R	360	B	34	20	BAY B – CIRCUIT R	360
35				C	36			
37				A	38			
(1) 39	100	PANEL LE1	26596	B	40	100	PANEL LE2	25060 (1)
41				C	42			

INTERRUPTING AMPERE CURRENT RATING FOR THIS ASSEMBLY SHALL BE EXISTING A. RMS SYM.

TOTAL CONNECTED 63,312 VA
TOTAL DEMAND 63,312 VA 176 AMPS

PANEL NO. LE1 (NEW)

VOLTAGE 120/208 PHASE 3 WIRE 4 BUS SIZE 100A MAIN CB. MLO

CKT. NO.	BRKR. SIZE	LOAD	VA		CKT. NO.	BRKR. SIZE	LOAD	VA
1	20	BAY C – CIRCUIT A	1008	A	2	20	BAY D – CIRCUIT A	1008
3	20	BAY C – CIRCUIT B	360	B	4	20	BAY D – CIRCUIT B	360
5	20	BAY C – CIRCUIT C	185	C	6	20	BAY D – CIRCUIT C	185
7	20	BAY C – CIRCUIT D	360	A	8	20	BAY D – CIRCUIT D	360
9	20	BAY C – CIRCUIT E	300	B	10	20	BAY D – CIRCUIT E	300
11	20	BAY C – CIRCUIT F	300	C	12	20	BAY D – CIRCUIT F	300
13	20	BAY C – CIRCUIT G	360	A	14	20	BAY D – CIRCUIT G	360
15	20	BAY C – CIRCUIT H	185	B	16	20	BAY D – CIRCUIT H	185
17	20	BAY C – CIRCUIT I	360	C	18	20	BAY D – CIRCUIT I	360
19	20	BAY C – CIRCUIT J	300	A	20	20	BAY D – CIRCUIT J	300
21	20	BAY C – CIRCUIT K	300	B	22	20	BAY D – CIRCUIT K	300
23	20	BAY C – CIRCUIT L	185	C	24	20	BAY D – CIRCUIT L	185
25	20	BAY C – CIRCUIT M	360	A	26	20	BAY D – CIRCUIT M	360
27	20	BAY C – CIRCUIT N	360	B	28	20	BAY D – CIRCUIT N	360
29	20	BAY C – CIRCUIT O	185	C	30	20	BAY D – CIRCUIT O	185
31	20	BAY C – CIRCUIT P	360	A	32	20	BAY D – CIRCUIT P	360
33	20	BAY C – CIRCUIT R	360	B	34	20	BAY D – CIRCUIT R	360
35				C	36	20	EMERGENCY LIGHTS	200
37	35	OAU–2	8820	A	38			
39				B	40	20	UH 3RD FLOOR	5000
41	20	LGTS&RCPT–CHASE, MECH RM	920	C	42			

INTERRUPTING AMPERE CURRENT RATING FOR THIS ASSEMBLY SHALL BE 10,000 A. RMS SYM.

TOTAL CONNECTED 26,596 VA
TOTAL DEMAND 26,596 VA 74 AMPS

PANEL NO. LE2 (NEW)

VOLTAGE 120/208 PHASE 3 WIRE 4 BUS SIZE 100A MAIN CB. MLO

CKT. NO.	BRKR. SIZE	LOAD	VA		CKT. NO.	BRKR. SIZE	LOAD	VA
1				A	2			
3	35	OAU–1	8820	B	4			
5				C	6			
7	30	HP–17	3910	A	8	30	HP–19	3910
9				B	10			
11	30	HP–18	3910	C	12	30	HP–20	3910
13				A	14			
15	20	DEHUMIDIFIER	600	B	16			
17	20	SPARE		C	18			
19	20	SPARE		A	20			
21	20	SPARE		B	22			
23				C	24			

INTERRUPTING AMPERE CURRENT RATING FOR THIS ASSEMBLY SHALL BE 10,000 A. RMS SYM.

TOTAL CONNECTED 25,060 VA
TOTAL DEMAND 25,060 VA 70 AMPS

PANEL NO. LF (EXISTING)

VOLTAGE 120/208 PHASE 3 WIRE 4 BUS SIZE 225A MAIN CB. 225A

CKT. NO.	BRKR. SIZE	LOAD	VA		CKT. NO.	BRKR. SIZE	LOAD	VA
1	20	BAY E – CIRCUIT A	1,008	A	2	20	BAY F – CIRCUIT A	1,008
3	20	BAY E – CIRCUIT B	360	B	4	20	BAY F – CIRCUIT B	360
5	20	BAY E – CIRCUIT C	185	C	6	20	BAY F – CIRCUIT C	185
7	20	BAY E – CIRCUIT D	360	A	8	20	BAY F – CIRCUIT D	360
9	20	BAY E – CIRCUIT E	300	B	10	20	BAY F – CIRCUIT E	300
11	20	BAY E – CIRCUIT F	300	C	12	20	BAY F – CIRCUIT F	300
13	20	BAY E – CIRCUIT G	360	A	14	20	BAY F – CIRCUIT G	360
15	20	BAY E – CIRCUIT H	185	B	16	20	BAY F – CIRCUIT H	185
17	20	BAY E – CIRCUIT I	360	C	18	20	BAY F – CIRCUIT I	360
19	20	BAY E – CIRCUIT J	300	A	20	20	BAY F – CIRCUIT J	300
21	20	BAY E – CIRCUIT K	300	B	22	20	BAY F – CIRCUIT K	300
23	20	BAY E – CIRCUIT L	185	C	24	20	BAY F – CIRCUIT L	185
25	20	BAY E – CIRCUIT M	360	A	26	20	BAY F – CIRCUIT M	360
27	20	BAY E – CIRCUIT N	360	B	28	20	BAY F – CIRCUIT N	360
29	20	BAY E – CIRCUIT O	185	C	30	20	BAY F – CIRCUIT O	185
31	20	BAY E – CIRCUIT P	360	A	32	20	BAY F – CIRCUIT P	360
33	20	BAY E – CIRCUIT R	360	B	34	20	BAY F – CIRCUIT R	360
35				C	36			
37				A	38			
(1) 39	100	PANEL LF1	27306	B	40	100	PANEL LF2	25060
41				C	42			

INTERRUPTING AMPERE CURRENT RATING FOR THIS ASSEMBLY SHALL BE EXISTING A. RMS SYM.

TOTAL CONNECTED 64,022 VA
TOTAL DEMAND 64,022 VA 178 AMPS

PANEL NO. LF1 (NEW)

VOLTAGE 120/208 PHASE 3 WIRE 4 BUS SIZE 100A MAIN CB. MLO

CKT. NO.	BRKR. SIZE	LOAD	VA		CKT. NO.	BRKR. SIZE	LOAD	VA
1	20	BAY G – CIRCUIT A	1,008	A	2	20	BAY H – CIRCUIT A	1,008
3	20	BAY G – CIRCUIT B	360	B	4	20	BAY H – CIRCUIT B	360
5	20	BAY G – CIRCUIT C	185	C	6	20	BAY H – CIRCUIT C	185
7	20	BAY G – CIRCUIT D	360	A	8	20	BAY H – CIRCUIT D	360
9	20	BAY G – CIRCUIT E	300	B	10	20	BAY H – CIRCUIT E	300
11	20	BAY G – CIRCUIT F	300	C	12	20	BAY H – CIRCUIT F	300
13	20	BAY G – CIRCUIT G	360	A	14	20	BAY H – CIRCUIT G	360
15	20	BAY G – CIRCUIT H	185	B	16	20	BAY H – CIRCUIT H	185
17	20	BAY G – CIRCUIT I	360	C	18	20	BAY H – CIRCUIT I	360
19	20	BAY G – CIRCUIT J	300	A	20	20	BAY H – CIRCUIT J	300
21	20	BAY G – CIRCUIT K	300	B	22	20	BAY H – CIRCUIT K	300
23	20	BAY G – CIRCUIT L	185	C	24	20	BAY H – CIRCUIT L	185
25	20	BAY G – CIRCUIT M	360	A	26	20	BAY H – CIRCUIT M	360
27	20	BAY G – CIRCUIT N	360	B	28	20	BAY H – CIRCUIT N	360
29	20	BAY G – CIRCUIT O	185	C	30	20	BAY H – CIRCUIT O	185
31	20	BAY G – CIRCUIT P	360	A	32	20	BAY H – CIRCUIT P	360
33	20	BAY G – CIRCUIT R	360	B	34	20	BAY H – CIRCUIT R	360
35				C	36	20	EMERGENCY LIGHTS	200
37	35	OAU–4	8820	A	38	40	HP–27	5620
39				B	40			
41	20	LGTS&RCPT–CHASE, MECH RM	920	C	42	20	SPARE	

INTERRUPTING AMPERE CURRENT RATING FOR THIS ASSEMBLY SHALL BE 10,000 A. RMS SYM.

TOTAL CONNECTED 27,306 VA
TOTAL DEMAND 27,306 VA 76 AMPS

PANEL NO. LF2 (NEW)

VOLTAGE 120/208 PHASE 3 WIRE 4 BUS SIZE 100A MAIN CB. MLO

CKT. NO.	BRKR. SIZE	LOAD	VA		CKT. NO.	BRKR. SIZE	LOAD	VA
1				A	2			
3	35	OAU–3	8820	B	4			
5				C	6			
7	30	HP–21	3910	A	8	30	HP–23	3910
9				B	10			
11	30	HP–22	3910	C	12	30	HP–24	3910
13				A	14			
15	20	DEHUMIDIFIER	600	B	16			
17	20	SPARE		C	18			
19	20	SPARE		A	20			
21	20	SPARE		B	22			
23				C	24			

INTERRUPTING AMPERE CURRENT RATING FOR THIS ASSEMBLY SHALL BE 10,000 A. RMS SYM.

TOTAL CONNECTED 25,060 VA
TOTAL DEMAND 25,060 VA 70 AMPS

PANEL NO. CP1 (NEW)

VOLTAGE 120/208 PHASE 3 WIRE 4 BUS SIZE 400A MAIN CB. MLO

CKT. NO.	BRKR. SIZE	LOAD	VA		CKT. NO.	BRKR. SIZE	LOAD	VA
1	20	LGTS–1ST FL. LOBBY	1,200	A	2			
3	20	LGTS–1ST FL. CORE	660	B	4	20	UH 1ST FLOOR	5000
5	20	RCPT–1ST FL. LOBBY	1,080	C	6			
7	20	RCPT–1ST FL. LOBBY	700	A	8	40	HP–25	5620
9	20	RCPT–1ST FL. CORE	920	B	10			
11	20	LGTS–STAIRWELL EMER.	1,000	C	12	20	SPARE	
13	20	LGTS–2ND FL. LOBBY	1,200	A	14			
15	20	LGTS. 2ND FL. CORE	660	B	16	200	PANEL CP2	85700
17	20	RCPT–2ND FL. LOBBY	900	C	18			
19	20	RCPT–2ND FL. LOBBY	1,060	A	20	20	LGHTS–ATIC	1200
21	20	RCPT–2ND FL. CORE	1,180	B	22	20	RCPT–ATTIC	540
23	20	LGTS, UNIT HEATER	280	C	24	20	WASHER	1150
25	20	LGTS–3RD FL. LOBBY	1,260	A	26	20	WASHER	1150
27	20	LGTS–3RD FL. CORE	660	B	28	20	WASHER	1150
29	20	RCPT–3RD FL. LOBBY	900	C	30	20	WASHER	1150
31	20	RCPT–3RD FL. LOBBY	1,060	A	32	20	WASHER	1150
33	20	RCPT–3RD FL. CORE	1,180	B	34	20	WASHER	1150
35	20	LGTS, UNIT HEATER	280	C	36	20	WASHER	1150
* 37	20	MNS	600	A	38	20	WASHER	1150
* 39	20	FACP	600	B	40	20	WASHER	1150
41	20	EXIT SIGNS	500	C	42	20	WASHER	1150

INTERRUPTING AMPERE CURRENT RATING FOR THIS ASSEMBLY SHALL BE 10,000 A. RMS SYM.

TOTAL CONNECTED 127,448 VA
TOTAL DEMAND 76,048 VA 211 AMPS

* PROVIDE LOCKABLE CIRCUIT BREAKER. HANDLE TO BE RED IN COLOR.

PANEL NO. CP2 (NEW)

VOLTAGE 120/208 PHASE 3 WIRE 4 BUS SIZE 400A MAIN CB. MLO

CKT. NO.	BRKR. SIZE	LOAD	VA		CKT. NO.	BRKR. SIZE	LOAD	VA
1	30	DRYER	5000	A	2	30	DRYER	5000
3				B	4			
5	30	DRYER	5000	C	6	30	DRYER	5000
7				A	8			
9	30	DRYER	5000	B	10	30	DRYER	5000
11				C	12			
13	30	DRYER	5000	A	14	30	DRYER	5000
15				B	16			
17	30	DRYER	5000	C	18	30	DRYER	5000
19				A	20			
21	30	DRYER	5000	B	22	30	DRYER	5000
23				C	24			
25	30	DRYER	5000	A	26	30	DRYER	5000
27				B	28			
29	30	DRYER	5000	C	30	30	DRYER	5000
31				A	32			
33	30	DRYER	5000	B	34	30	DRYER	5000
35				C	36			
37	30	DRYER	5000	A	38	20	EF–1	700
39				B	40	20	SPARE	
41	20	SPARE		C	42	20	SPARE	

INTERRUPTING AMPERE CURRENT RATING FOR THIS ASSEMBLY SHALL BE 10,000 A. RMS SYM.

TOTAL CONNECTED 85,700 VA
TOTAL DEMAND 34,300 VA 95 AMPS

PANEL NO. CP (EXISTING)

VOLTAGE 120/208 PHASE 3 WIRE 4 BUS SIZE 225A MAIN CB. 225A

CKT. NO.	BRKR. SIZE	LOAD	VA		CKT. NO.	BRKR. SIZE	LOAD	VA
1	20	RCPT–1ST FL. VENDING	900	A	2	20	WASHER–1ST FL.	1200
3	20	RCPT–1ST FL. VENDING	900	B	4	20	WASHER–1ST FL.	1200
5	20	RCPT–1ST FL. VENDING	900	C	6	20	WASHER–1ST FL.	1200
7	20	WASHER–2ND FL.	1200	A	8	30	DRYER–1ST FL.	5000
9	20	WASHER–2ND FL.	1200	B	10			
11	20	WASHER–2ND FL.	1200	C	12	30	DRYER–2ND FL.	5000
13	20	ICE MACHINE–2ND FL.	900	A	14			
15	20	WASHER–3RD FL.	1200	B	16	30	DRYER–3RD FL.	5000
17	20	WASHER–3RD FL.	1200	C	18			
19	20	WASHER–3RD FL.	1200	A	20	20	SPARE	
21	20	OUTSIDE LIGHTS	360	B	22	20	OUTSIDE LIGHTS	360
23	20	OUTSIDE LIGHTS	360	C	24	20	OUTSIDE LIGHTS	360
25	20	RCPT–1ST FL. LAUNDRY	360	A	26	20	RCPT–2ND FL. LAUNDRY	360
27	20	SUMP PUMP	200	B	28	20	SUMP PUMP H WTR ALRM	100
29	20	SPARE		C	30	20	SPARE	
31	20	SPARE		A	32	20	SPARE	
33	20	SPARE		B	34	20	SPARE	
35	20	SPARE		C	36	20	SPARE	
37	20	RCPT–TBB	360	A	38	100	PANEL LAU	30000
39	20	RCPT–TBB	360	B	40			
41	20	ROOM ENTRY LGTS	1800	C	42			

INTERRUPTING AMPERE CURRENT RATING FOR THIS ASSEMBLY SHALL BE EXISTING A. RMS SYM.

TOTAL CONNECTED 63,660 VA
TOTAL DEMAND 51,660 VA 144 AMPS

PANEL NO. LAU (EXISTING)

VOLTAGE 120/208 PHASE 3 WIRE 4 BUS SIZE 100A MAIN CB. 100A

CKT. NO.	BRKR. SIZE	LOAD	VA		CKT. NO.	BRKR. SIZE	LOAD	VA
1				A	2	30	DRYER	5,000
3	100	MAIN		B	4			
5				C	6			
7	30	DRYER	5,000	A	8	30	DRYER	5,000
9				B	10			
11	30	DRYER	5,000	C	12	30	DRYER	5,000
13				A	14			
15				B	16	30	DRYER	5,000
17				C	18			
19				A	20			
21				B	22			
23				C	24			
25				A	26			
27				B	28			
29				C	30			
31				A	32			
33				B	34			
35				C	36			

INTERRUPTING AMPERE CURRENT RATING FOR THIS ASSEMBLY SHALL BE EXISTING A. RMS SYM.

TOTAL CONNECTED 30,000 VA
TOTAL DEMAND 18,000 VA 50 AMPS

EQUIPMENT SCHEDULE

EQUIPMENT	FEEDER	DISCONNECT
HP–1 THRU 24	2#10, #10G, 1/2"C	30/2/250V/NF/N1
HP–25 THRU 27	2#8, #10G, 1/2"C	60/2/250V/NF/N1
UH–1,2,3 FLOORS	3#12, #12G, 1/2"C	30/3/250V/NF/N1
DHP–1 THRU 3	3#6, #10G, 3/4"C	30/3/250V/NF/N1
OAU–1 THRU 4	3#8, #10G, 3/4"C	60/3/250V/NF/N1
P–1, 1A	3#8, #10G, 3/4"C	60/3/250V/NF/N1

NEW WORK KEY NOTES:

(1) INSTALL NEW CIRCUIT BREAKER IN EXISTING PANELBOARD AS SHOWN.

CEMS Engineering, Inc.
3509 Iron Horse Drive
Ladson, SC 29456
(P)843.875.3637
(F)843.875.4509
www.cemsengineering.com
CEMS Project #08158S
Project Manager: P. Mahaffey

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA

STRUCTURAL & HVAC RENOVATION
FC574 BARRACK

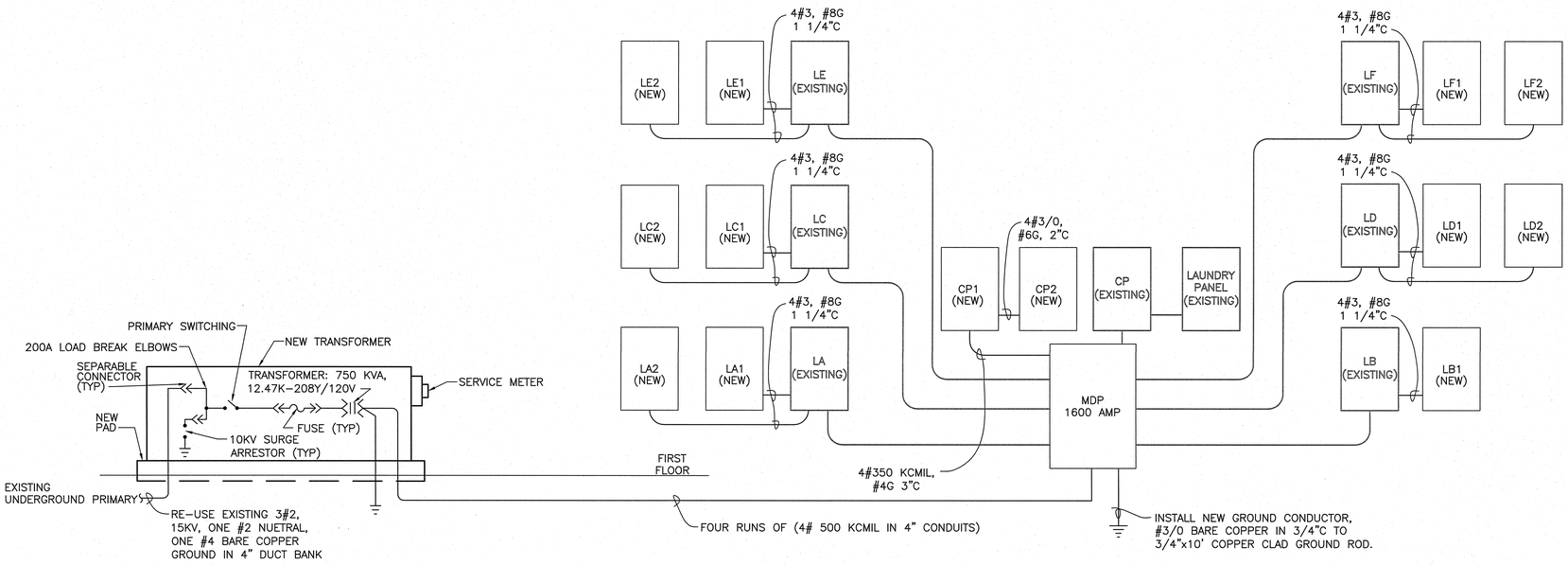
ELECTRICAL PANEL SCHEDULES

DES. R. ALVAR
DR. C. COOPER
CHK. J. BONGIORNO
SUBMITTED BY:
DESIGN DIR.
APPROVED: PWO OR OICC DATE
SATISFACTORY TO: DATE

SEAL 035486 NORTH CAROLINA REGISTERED PROFESSIONAL ENGINEER JEREMY N. BONGIORNO

SIZE F | CODE IDENT NO. 80091 | NAVFAC DRAWING NO. 60006356
CONST. CONTR. NO. N40085–10–B–0010
SCALE: NONE | SPEC. 10–B–0010 | SHEET 71 OF 72

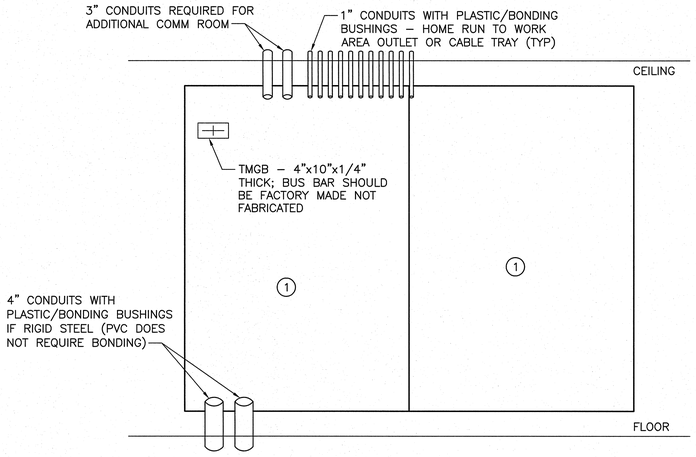
E-602



ELECTRICAL RISER DIAGRAM
NO SCALE

ELECTRICAL ONE–LINE RISER DIAGRAM GENERAL NOTES:

1. PANELBOARDS LA, LB, LC, LD, LE, AND LF ARE EXISITNG. PANELS ARE CUTLER–HAMMER TYPE PB WITH CC3225 MAIN CIRCUIT BREAKERS.
2. TRANSFORMER TO CONTAIN BIODEGRADIBLE DIELECTRIC FLUID.
3. INSTALL NEW METER AT PAD MOUNTED TRANSFORMER. PROVIDE A SOCKET–MOUNTED ELECTRONIC PROGRAMMABLE OUTDOOR WATTHOUR METER, SURFACE MOUNTED FLUSH AGAINST THE SIDE OF THE LOW–VOLTAGE COMPARTMENT. METER SHALL EITHER BE PROGRAMMED AT THE FACTORY OR SHALL BE PROGRAMMED IN THE FIELD. WHEN FIELD PROGRAMMING IS PERFORMED, TURN FIELD PROGRAMMING DEVICE OVER TO THE CONTRACTING OFFICER AT COMPLETION OF PROJECT. METER SHALL BE COORDINATED TO SYSTEM REQUIREMENTS.
   A. DESIGN: PROVIDE METER DESIGNED FOR USE ON A 3–PHASE, 4–WIRE, 208Y/120 VOLT SYSTEM 3 CURRENT TRANSFORMERS. INCLUDE NECESSARY KYZ PULSE INITIATION HARDWARE FOR ENERGY MONITORING AND CONTROL SYSTEM (EMCS).
   B. COORDINATION: PROVIDE METER COORDINATED WITH RATIOS OF CURRENT TRANSFORMERS AND TRANSFORMER SECONDARY VOLTAGE.
   C. CLASS: 20; FORM: 9S; ACCURACY: =/– 1.0 PERCENT; FINISH: CLASS II.
   D. COVER: POLYCARBONATE AND LOCKABLE TO PREVENT TAMPERING AND UNAUTHORIZED REMOVAL.
   E. KILOWATT–HOUR REGISTER: 5 DIGIT ELECTRONIC PROGRAMMABLE TYPE.
   F. DEMAND REGISTER
      (a) PROVIDE SOLID STATE
      (b) METER READING MULTIPLIER
         (1) INDICATE MULTIPLIER ON THE METER FACE.
      (c) DEMAND INTERVAL LENGTH: SHALL BE PROGRAMMED FOR 15 MINUTES WITH ROLLING DEMAND UP TO SIX SUBINTERVALS PER INTERVAL.
   G. METER FUSING: PROVIDE A FUSE BLOCK MOUNTED IN THE SECONDARY COMPARTMENT CONTAINING ONE FUSE PER PHASE TO PROTECT THE VOLTAGE INPUT TO THE WATTHOUR METER. SIZE FUSES AS RECOMMENDED BY THE METER MANUFACTURER.
   H. SOCKET: IEEE C12.7. PROVIDE NEMA TYPE 3R, BOX–MOUNTED SOCKET HAVING AUTOMATIC CIRCUIT–CLOSING BYPASS AND HAVING JAWS COMPATIBLE WITH REQUIREMENTS OF THE METER. COVER UNUSED HUB OPENINGS WITH BLANK HUB PLATES. PAINT BOX MUNSELL 7GY3.29/1.5 GREEN TO MATCH THE PAD–MOUNTED TRANSFORMER TO WHICH THE BOX–MOUNTED SOCKET IS ATTACHED. THE MUNSELL COLOR NOTATION IS SPECIFIED IN ASTM D 1535.



KEYNOTES:
(1) 4'x8' TELEPHONE BACKBOARD – PROVIDE MIN TWO VOID–FREE, INTERIOR GRADE PLYWOOD 3/4" THICK. BACKBOARDS SHALL BE FIRE RATED, WITH THE FIRE STAMP VISIBLE OR COVERED WITH TWO COATS OF GRAY OR A LIGHTER COLOR NONCONDUCTIVE FIRE–RETARDANT PAINT ON ALL SIDES. BOARDS SHOULD BE INSTALLED 4' WIDTH BY 8' HEIGHT SECURELY FASTENED TO THE WALL ANYWHERE EQUIPMENT IS TO BE MOUNTED.

GENERAL NOTES:

1. ALL METALIC CONDUIT AND EQUIPMENT MUST BE BONDED TO THE TMGB AND BUILDING GROUND PER TIA J–STD–607–A WITH MINIMUM #6 STRANDED GREEN SHEATH CONDUCTOR.
2. ALL CONDUITS NEED TO BE SECURELY MOUNTED, FIRE STOPPED, AND OVER LAP THE BACKBOARD BY 3–6".
3. IF WIRED BY BASE TELEPHONE; CONTRACTOR SHOULD INSTALL ALL EXCEPT THE BELOW AND ADD PULL STRINGS IN CONDUITS.
4. IF WIRED BY CONTRACTOR; INSTALL FOUR CAT5E/6A CABLES IN EACH 1" CONDUIT TO TYPICAL WORK AREA OUTLET; ALSO INSTALL ALL LADDER RACKS, PATCH PANELS, CABINETS, BUILDING PROTECTORS, OSP CABLE, RISER CABLE, AND EQUIPMENT IAW BASE TELE 27 10 00.

TELECOMMUNICATIONS BACKBOARD EXAMPLE
SCALE: NOT TO SCALE

KEYNOTES:
(1) GROUND FOR BACKBOARD TO BE MADE WITH #6 STRANDED COPPER IN 3/4"C TO COPPER BUS BAR.
(2) TWO 4" EMPTY CONDUITS WITH PULLSTRING TO EXISTING TELEPHONE ENTRANCE RISER POINT. CAP AND MARK FOR USE BY BASE TELEPHONE OFFICE. COORDINATE WITH BASE TELEPHONE OFFICE.
(3) PROVIDE 1/4" X 4" X 10" COPPER BUS BAR WITH INSULATING BRACKETS AT TELEPHONE BACKBOARD.

VOICE/DATA SYSTEM RISER
SCALE: NOT TO SCALE

E-603

CEMS Engineering, Inc.
3509 Iron Horse Drive
Ladson, SC 29456
(P)843.875.3637
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CEMS Project #081585
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ELECTRICAL RISER DIAGRAMS

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SEAL 036498 NORTH CAROLINA REGISTERED LANDSCAPE ARCHITECT JEFFREY K. BONGIORNO

SIZE	CODE IDENT NO.	NAVFAC DRAWING NO.
F	80091	60006357
		CONST. CONTR. NO. N40085–10–B–0010
SCALE: NONE	SPEC. 10–B–0010	SHEET 72 OF 72