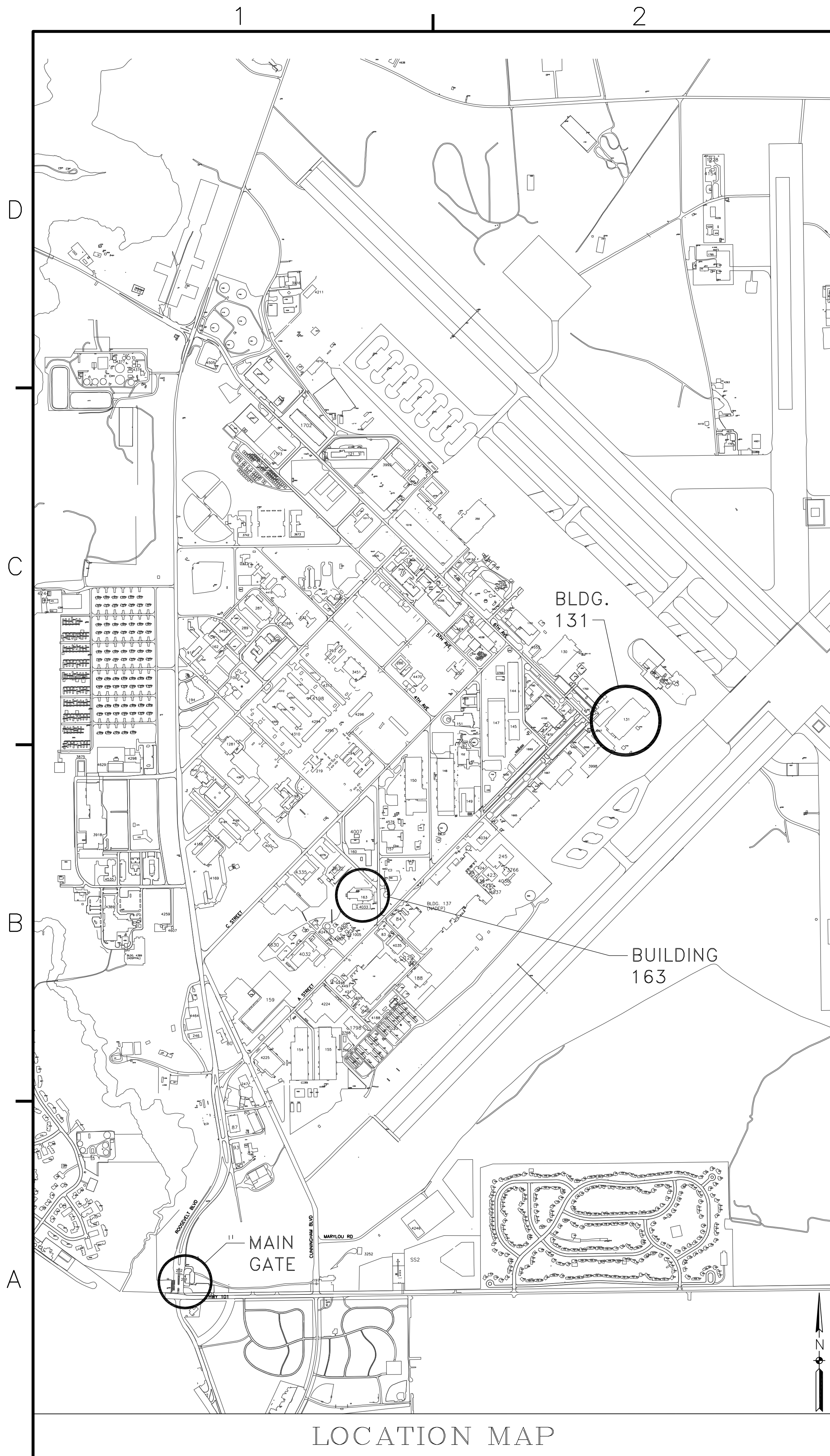
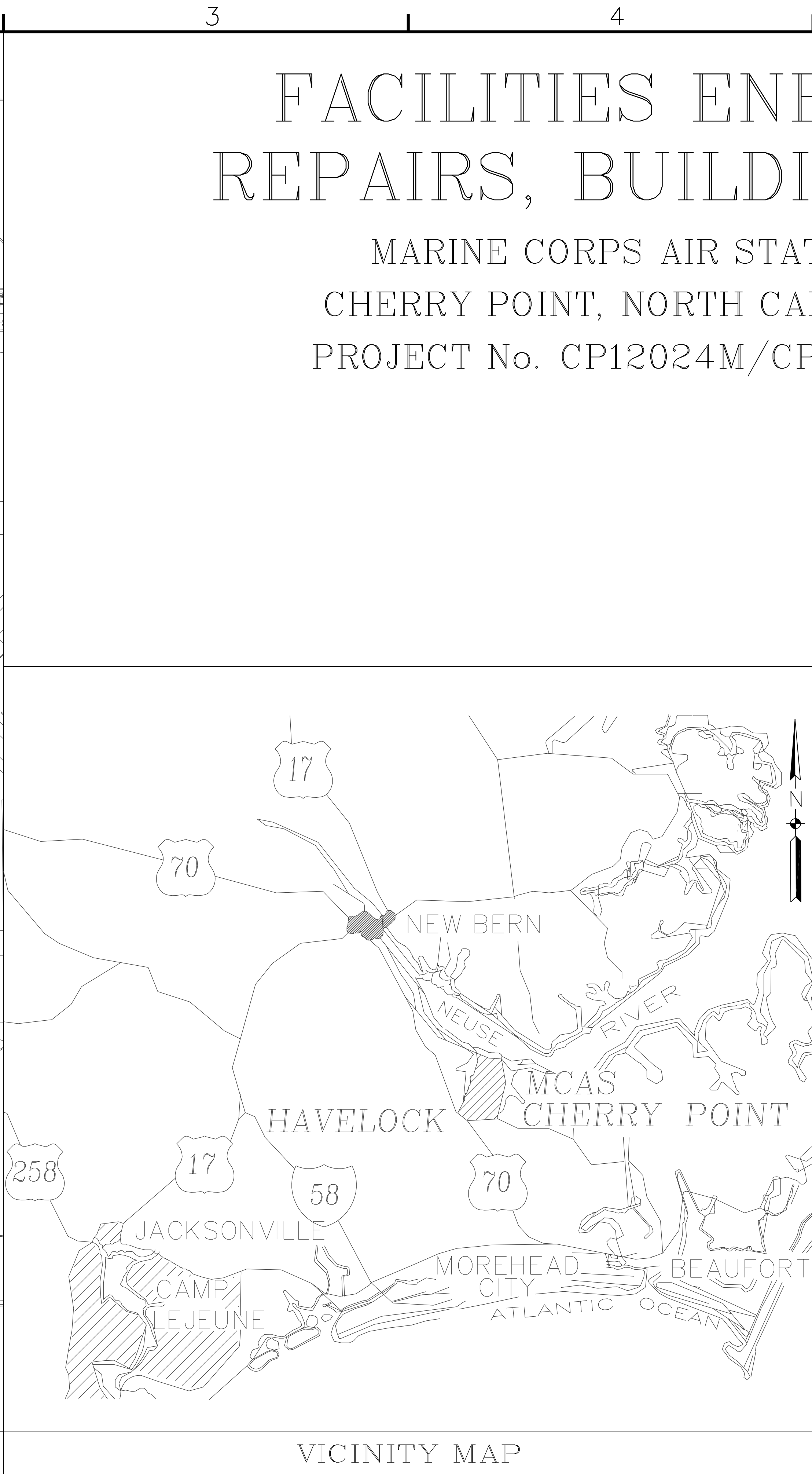


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LOCATION MAP



VICINITY MAP

# FACILITIES ENERGY REPAIRS, BUILDING 131

MARINE CORPS AIR STATION,  
CHERRY POINT, NORTH CAROLINA  
PROJECT No. CP12024M/CP12024R

APPROVED		DATE	APPR
ACTIVITY - SATISFACTORY TO			
APPROVED		DATE	APPR
FOR EFD FOR COMMANDER NAVFAC			
DATE			
SER	DESIGN	EFD	
KLB	DRAWN		
SGR	REVIEW		
SGR	OC		
SGR	CHEF ARCH/ ENGR.		
PROJECT MANAGER		PEC	
FIRE PROTECTION		SAH	
BRANCH MANAGER		PEC	
DESIGN DIRECTOR		JEF	
DEPARTMENT OF THE NAVY MARINE CORPS AIR STATION, CHERRY POINT, N.C. FACILITIES ENERGY REPAIRS, BUILDING 131 COVER SHEET			
CODE ID. NO.	80091	SIZE	D
SCALE:	AS SHOWN		
FED. NO.	WR6059407		
STA. PROJ. NO.	CP12024M/CP12024R		
SPEC. NO.			
CONSTR. CONTR. NO.			
NAVFAC DRAWING NO.			
12618363			
SHEET 1 OF 124			
<b>G-001</b>			

BOWMAN, FOSTER & ASSOC.  
 CONSULTING ENGINEERS  
 #4 INTERSTATE CORP. CENTER  
 NORFOLK, VA 23502  
 2424 26th ROAD SOUTH  
 ARLINGTON, VA 22206

APPROVED	DATE	APPR
ACTIVITY - SATISFACTORY TO		
APPROVED	DATE	APPR
FOR EFD FOR COMMANDER NAVFAC		
DATE		
SER	DESIGN	EFD
KLB	DRAWN	
SGR	REVIEW	
SGR	OC	
SGR	CHEF ARCH/ ENGR.	
PROJECT MANAGER		PEC
FIRE PROTECTION		SAH
BRANCH MANAGER		PEC
DESIGN DIRECTOR		JEF

DRAWING REVISION JULY 2003



BFA File Name: G:\2010\10-0050 B-131 ENERGY\SUBMITTALS\FINAL SUBMITTAL 7-12-12\BOUND CAD\12618364.dwg Plot Date: Jul 11, 2012 - 12:02pm Lost Saved By: kbennett

### INDEX OF DRAWINGS

NAVFAC DRAWING No:	SHEET NUMBER	SHEET TITLE	NAVFAC DRAWING No:	SHEET NUMBER	SHEET TITLE
12618363	G-001	COVER SHEET	12618425	M-103	PARTIAL FIRST FLOOR DUCTWORK PLAN - NEW WORK
12618364	G-002	INDEX OF DRAWINGS	12618426	M-104	PARTIAL FIRST FLOOR DUCTWORK PLAN - NEW WORK
12618365	G-003	FIRST FLOOR PHASING PLAN	12618427	M-105	PARTIAL FIRST FLOOR DUCTWORK PLAN - NEW WORK
12618366	G-004	SECOND FLOOR PHASING PLAN	12618428	M-106	PARTIAL FIRST FLOOR DUCTWORK PLAN - NEW WORK
12618367	H-101	FIRST FLOOR SAMPLE AND MATERIAL LOCATIONS	12618429	M-107	PARTIAL SECOND FLOOR DUCTWORK PLAN - NEW WORK
12618368	H-102	SECOND FLOOR SAMPLE AND MATERIAL LOCATIONS	12618430	M-108	PARTIAL SECOND FLOOR DUCTWORK PLAN - NEW WORK
12618369	H-103	ROOF SAMPLE AND MATERIAL LOCATIONS	12618431	M-109	PARTIAL FIRST FLOOR PIPING PLAN - NEW WORK
12618370	S-001	GENERAL NOTES	12618432	M-110	PARTIAL FIRST FLOOR PIPING PLAN - NEW WORK
12618371	S-101	PARTIAL ROOF FRAMING PLAN	12618433	M-111	PARTIAL FIRST FLOOR PIPING PLAN - NEW WORK
12618372	S-102	PARTIAL & ENLARGED ROOF FRAMING PLANS	12618434	M-112	PARTIAL FIRST FLOOR PIPING PLAN - NEW WORK
12618373	S-103	ENLARGED STAIR PLANS	12618435	M-113	PARTIAL FIRST FLOOR PIPING PLAN - NEW WORK
12618374	S-201	SECTIONS & DETAILS	12618436	M-114	PARTIAL FIRST FLOOR PIPING PLAN - NEW WORK
12618375	S-202	SECTIONS & DETAILS	12618437	M-115	PARTIAL SECOND FLOOR PIPING PLAN - NEW WORK
12618376	A-100	GENERAL NOTES, ABBREVIATIONS AND SYMBOLS	12618438	M-116	PARTIAL SECOND FLOOR PIPING PLAN - NEW WORK
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12618378	AD102	PARTIAL FIRST FLOOR REFLECTED CEILING PLAN - DEMOLITION	12618440	M-118	PARTIAL ROOF PLAN - NEW WORK
12618379	AD103	SECOND FLOOR REFLECTED CEILING PLAN - DEMOLITION	12618441	M-119	MEZZANINE ROOF PLAN - NEW WORK
12618380	AD104	PARTIAL ROOF PLAN - DEMOLITION	12618442	M-401	ENLARGED FIRST FLOOR PLAN - NEW WORK
12618381	AD105	PARTIAL ROOF PLAN - DEMOLITION	12618443	M-402	ENLARGED FIRST FLOOR PLAN - NEW WORK
12618382	AD201	ELEVATIONS - DEMOLITION	12618444	M-501	DETAILS
12618383	AD901	PHOTOS	12618445	M-502	DETAILS
12618384	A-101	PARTIAL FIRST FLOOR REFLECTED CEILING PLAN - NEW WORK	12618446	M-503	DETAILS
12618385	A-102	PARTIAL FIRST FLOOR REFLECTED CEILING PLAN - NEW WORK	12618447	M-504	DETAILS
12618386	A-103	PARTIAL FIRST FLOOR REFLECTED CEILING PLAN - NEW WORK	12618448	M-505	DETAILS
12618387	A-104	PARTIAL FIRST FLOOR REFLECTED CEILING PLAN - NEW WORK	12618449	M-506	DETAILS
12618388	A-105	PARTIAL FIRST FLOOR REFLECTED CEILING PLAN - NEW WORK	12618450	M-601	SCHEDULES
12618389	A-106	PARTIAL FIRST FLOOR REFLECTED CEILING PLAN - NEW WORK	12618451	M-602	SCHEDULES
12618390	A-107	SECOND FLOOR REFLECTED CEILING PLAN - NEW WORK	12618452	M-603	SCHEDULES
12618391	A-108	SECOND FLOOR REFLECTED CEILING PLAN - NEW WORK	12618453	M-604	SCHEMATICS
12618392	A-109	PARTIAL ROOF PLAN - NEW WORK	12618454	M-605	SCHEMATICS
12618393	A-110	PARTIAL ROOF PLAN - NEW WORK	12618455	M-701	CONTROLS
12618394	A-201	ELEVATIONS - NEW WORK	12618456	M-702	CONTROLS
12618395	A-501	ROOF DETAILS	12618457	M-703	CONTROLS
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12618397	A-503	STAIR DETAILS	12618459	M-705	CONTROLS
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12618399	A-601	WINDOW TYPES AND DETAILS	12618461	M-901	PHOTOGRAPHS
12618400	FA001	LEGEND, NOTES AND RISER DIAGRAM	12618462	M-902	PHOTOGRAPHS
12618401	FA501	DETAILS	12618463	E-001	LEGEND AND ABBREVIATIONS
12618402	M-001	LEGEND AND ABBREVIATIONS	12618464	ED101	PARTIAL FIRST FLOOR LIGHTING PLAN - DEMOLITION
12618403	MD101	PARTIAL FIRST FLOOR DUCTWORK PLAN - DEMOLITION	12618465	ED102	PARTIAL FIRST FLOOR LIGHTING PLAN - DEMOLITION
12618404	MD102	PARTIAL FIRST FLOOR DUCTWORK PLAN - DEMOLITION	12618466	ED103	SECOND FLOOR LIGHTING PLANS - DEMOLITION
12618405	MD103	PARTIAL FIRST FLOOR DUCTWORK PLAN - DEMOLITION	12618467	ED104	PARTIAL FIRST FLOOR HVAC POWER PLAN - DEMOLITION
12618406	MD104	PARTIAL FIRST FLOOR DUCTWORK PLAN - DEMOLITION	12618468	ED105	PARTIAL FIRST FLOOR HVAC POWER PLAN - DEMOLITION
12618407	MD105	PARTIAL FIRST FLOOR DUCTWORK PLAN - DEMOLITION	12618469	ED106	SECOND FLOOR HVAC POWER PLANS - DEMOLITION
12618408	MD106	PARTIAL FIRST FLOOR DUCTWORK PLAN - DEMOLITION	12618470	ED107	PARTIAL ROOF PLAN - DEMOLITION
12618409	MD107	PARTIAL SECOND FLOOR DUCTWORK PLAN - DEMOLITION	12618471	ED108	PARTIAL ROOF PLAN - DEMOLITION
12618410	MD108	PARTIAL SECOND FLOOR DUCTWORK PLAN - DEMOLITION	12618472	ED109	MEZZANINE ROOF PLAN - DEMOLITION
12618411	MD109	PARTIAL FIRST FLOOR PIPING PLAN - DEMOLITION	12618473	ED401	ENLARGED FIRST FLOOR PLAN - DEMOLITION
12618412	MD110	PARTIAL FIRST FLOOR PIPING PLAN - DEMOLITION	12618474	E-101	PARTIAL FIRST FLOOR LIGHTING PLAN - NEW WORK
12618413	MD111	PARTIAL FIRST FLOOR PIPING PLAN - DEMOLITION	12618475	E-102	PARTIAL FIRST FLOOR LIGHTING PLAN - NEW WORK
12618414	MD112	PARTIAL FIRST FLOOR PIPING PLAN - DEMOLITION	12618476	E-103	SECOND FLOOR LIGHTING PLANS - NEW WORK
12618415	MD113	PARTIAL FIRST FLOOR PIPING PLAN - DEMOLITION	12618477	E-104	PARTIAL FIRST FLOOR HVAC POWER PLAN - NEW WORK
12618416	MD114	PARTIAL FIRST FLOOR PIPING PLAN - DEMOLITION	12618478	E-105	PARTIAL FIRST FLOOR HVAC POWER PLAN - NEW WORK
12618417	MD115	PARTIAL ROOF PLAN - DEMOLITION	12618479	E-106	SECOND FLOOR HVAC POWER PLANS - NEW WORK
12618418	MD116	PARTIAL ROOF PLAN - DEMOLITION	12618480	E-107	PARTIAL ROOF PLAN - NEW WORK
12618419	MD117	MEZZANINE ROOF PLAN - DEMOLITION	12618481	E-108	PARTIAL ROOF PLAN - NEW WORK
12618420	MD401	ENLARGED FIRST FLOOR PLAN - DEMOLITION	12618482	E-401	ENLARGED FIRST FLOOR PLAN - NEW WORK
12618421	MD402	ENLARGED FIRST FLOOR PLAN - DEMOLITION	12618483	E-501	DETAILS
12618422	MD403	ENLARGED FIRST FLOOR PLAN - DEMOLITION	12618484	E-502	DETAILS
12618423	M-101	PARTIAL FIRST FLOOR DUCTWORK PLAN - NEW WORK	12618485	E-601	SCHEDULES
12618424	M-102	PARTIAL FIRST FLOOR DUCTWORK PLAN - NEW WORK	12618486	E-901	PHOTOGRAPHS

DATE	APPROVED	
DESCRIPTION		
SYMBOL		
BOWMAN, FOSTER & ASSOC. CONSULTING ENGINEERS #4 INTERSTATE CORP. CENTER NORFOLK, VA 23502 2424 26th ROAD SOUTH ARLINGTON, VA 22206		
APPROVED _____ 10-0050		
ACTIVITY - SATISFACTORY TO _____		
DATE _____		
APPROVED _____		
FOR EFD FOR COMMANDER NAVFAC		
DATE _____		
A/E	DESIGN	EFD
CML	DESIGN	
KLK	DRAWN	
SGR	REVIEW	
SGR	OC	
SGR	CHIEF ARCH/ ENGR.	
PROJECT MANAGER	PEC	
FIRE PROTECTION	SAH	
BRANCH MANAGER	PEC	
DESIGN DIRECTOR	JEF	
NAVFAC DRAWING NO. 12618364		
SHEET 2 OF 124		
<b>G-002</b>		
DRAWING REVISION JULY 2003		

D

D

C

C

B

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A

1

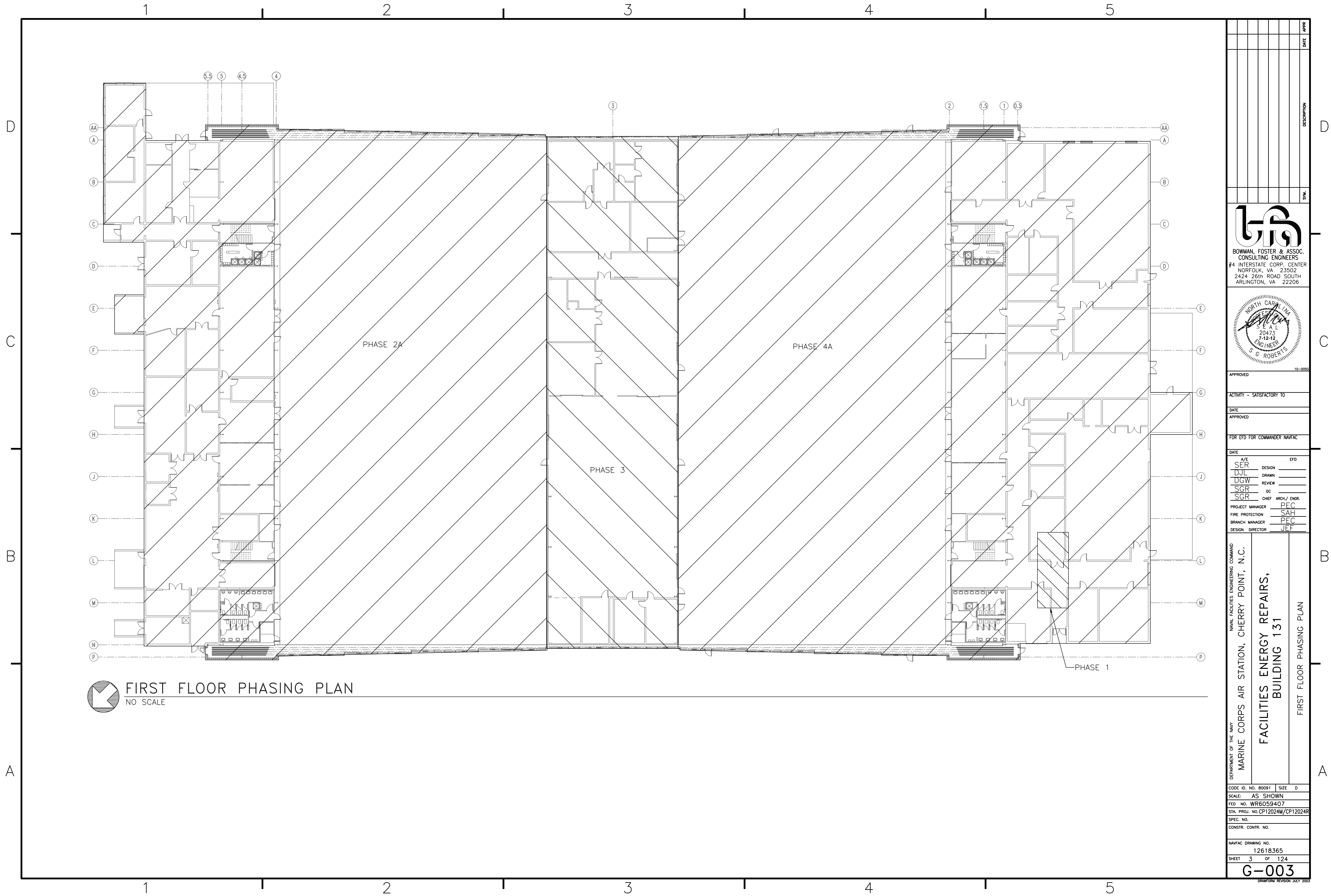
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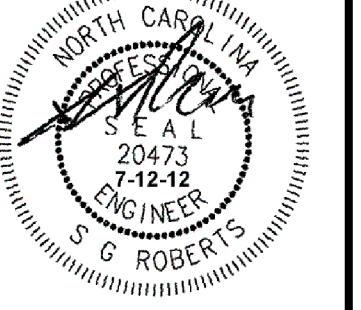
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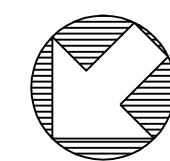
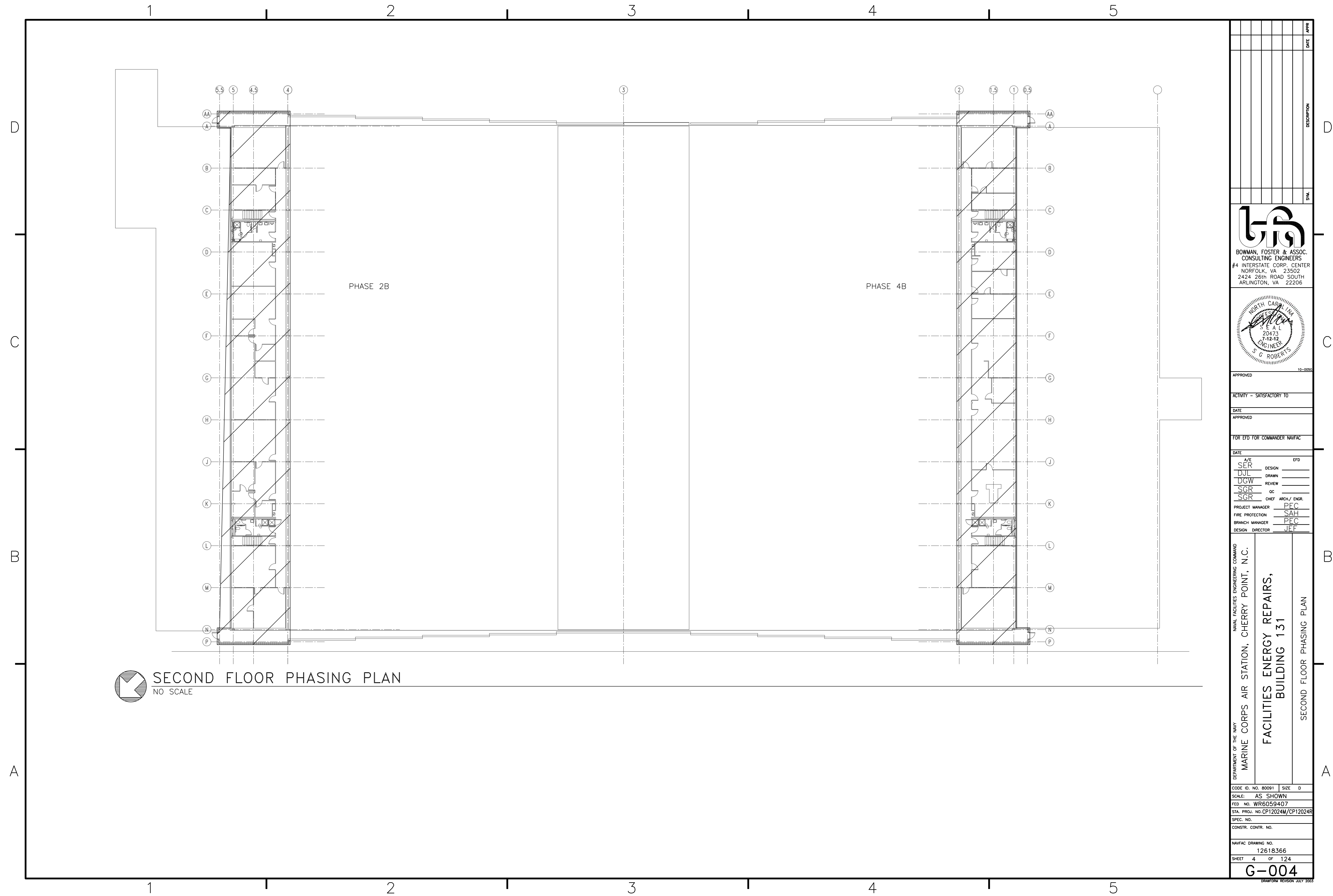
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 **FIRST FLOOR PHASING PLAN**  
NO SCALE

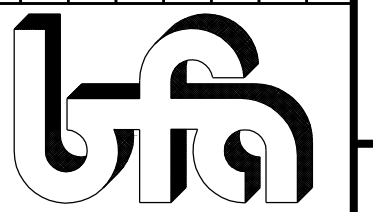
SYMBOL	DESCRIPTION	DATE	APPROVED
 <b>BOWMAN, FOSTER &amp; ASSOC.</b> CONSULTING ENGINEERS #4 INTERSTATE CORP. CENTER NORFOLK, VA 23502 2424 26th ROAD SOUTH ARLINGTON, VA 22206			
 NORTH CAROLINA PROFESSIONAL ENGINEER 20473 7-12-12 G. ROBERTS			
APPROVED			
ACTIVITY - SATISFACTORY TO			
DATE			
APPROVED			
FOR EFD FOR COMMANDER NAVFAC			
DATE			
A/E	DESIGN	EFD	
SER			
DJL	DRAWN		
DGW	REVIEW		
SGR	OC		
SGR	CHIEF ARCH/ ENGR.		
	PROJECT MANAGER	PEC	
	FIRE PROTECTION	SAH	
	BRANCH MANAGER	PEC	
	DESIGN DIRECTOR	JEF	
DEPARTMENT OF THE NAVY MARINE CORPS AIR STATION, CHERRY POINT, N.C. <b>FACILITIES ENERGY REPAIRS,          BUILDING 131</b> FIRST FLOOR PHASING PLAN			
CODE ID. NO. B0091   SIZE D SCALE: AS SHOWN FED. PROJ. NO. WR6059407 STA. PROJ. NO. CP12024M/CP12024R SPEC. NO. CONSTR. CONTR. NO.			
NAVFAC DRAWING NO. 12618365 SHEET 3 OF 124 <b>G-003</b> <small>DRAWING REVISION JULY 2003</small>			



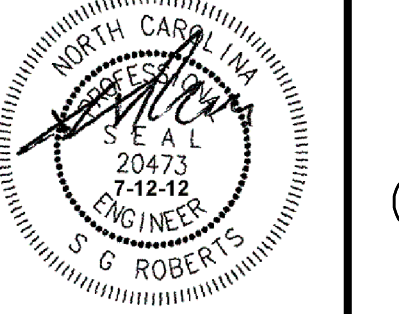


SECOND FLOOR PHASING PLAN

NO SCALE



BOWMAN, FOSTER & ASSOC.  
CONSULTING ENGINEERS  
#4 INTERSTATE CORP. CENTER  
NORFOLK, VA 23502  
2424 26th ROAD SOUTH  
ARLINGTON, VA 22206



APPROVED	10-0050	
ACTIVITY - SATISFACTORY TO		
DATE		
APPROVED		
FOR EFD FOR COMMANDER NAVFAC		
DATE		
A/E	DESIGN	EFD
SER		
DJL	DRAWN	
DGW	REVIEW	
SGR		
SGR	OC	
SGR	CHIEF ARCH./ ENGR.	
PROJECT MANAGER	PEC	
FIRE PROTECTION	SAH	
BRANCH MANAGER	PEC	
DESIGN DIRECTOR	JEF	

DEPARTMENT OF THE NAVY  
NAVAL FACILITIES ENGINEERING COMMAND  
MARINE CORPS AIR STATION, CHERRY POINT, N.C.

FACILITIES ENERGY REPAIRS,  
BUILDING 131

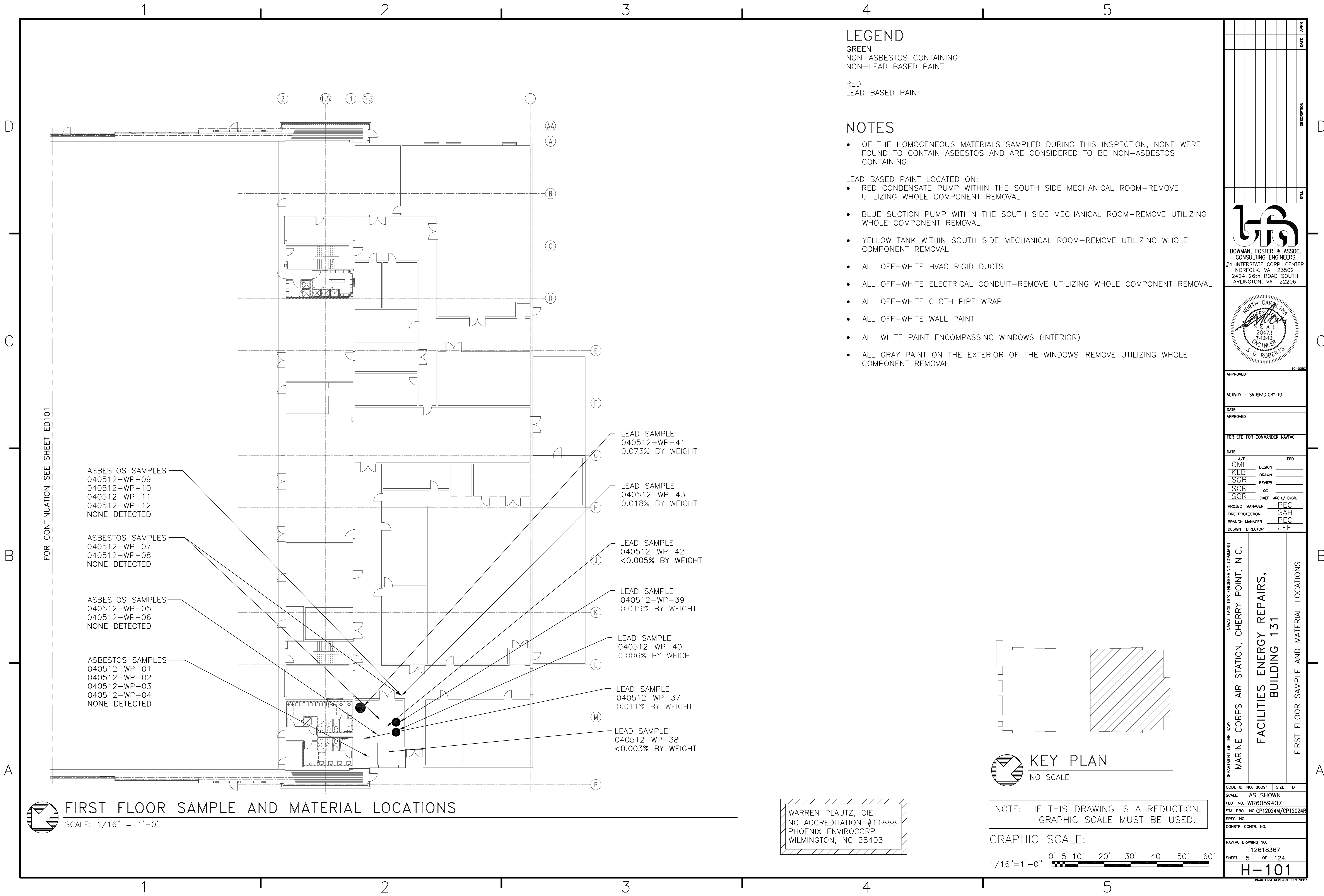
SECOND FLOOR PHASING PLAN

CODE ID. NO. B0091	SIZE D
SCALE:	AS SHOWN
FED. PROJ. NO. WR6059407	
STA. PROJ. NO. CP12024M/CP12024R	
SPEC. NO.	
CONSTR. CONTR. NO.	
NAVFAC DRAWING NO.	
12618366	
SHEET 4	OF 124

G-004



BFA File Name G:\2010\10-0050 B-131 ENERGY\SUBMITTALS\FINAL SUBMITTAL 7-12-12\BOUND CAD\12618367.dwg Plot Date: Jul 11, 2012 - 12:03pm Lost Saved By: kbennett



**LEGEND**

- GREEN  
NON-ASBESTOS CONTAINING  
NON-LEAD BASED PAINT
- RED  
LEAD BASED PAINT

**NOTES**

- OF THE HOMOGENEOUS MATERIALS SAMPLED DURING THIS INSPECTION, NONE WERE FOUND TO CONTAIN ASBESTOS AND ARE CONSIDERED TO BE NON-ASBESTOS CONTAINING
- LEAD BASED PAINT LOCATED ON:
  - RED CONDENSATE PUMP WITHIN THE SOUTH SIDE MECHANICAL ROOM—REMOVE UTILIZING WHOLE COMPONENT REMOVAL
  - BLUE SUCTION PUMP WITHIN THE SOUTH SIDE MECHANICAL ROOM—REMOVE UTILIZING WHOLE COMPONENT REMOVAL
  - YELLOW TANK WITHIN SOUTH SIDE MECHANICAL ROOM—REMOVE UTILIZING WHOLE COMPONENT REMOVAL
  - ALL OFF-WHITE HVAC RIGID DUCTS
  - ALL OFF-WHITE ELECTRICAL CONDUIT—REMOVE UTILIZING WHOLE COMPONENT REMOVAL
  - ALL OFF-WHITE CLOTH PIPE WRAP
  - ALL OFF-WHITE WALL PAINT
  - ALL WHITE PAINT ENCOMPASSING WINDOWS (INTERIOR)
  - ALL GRAY PAINT ON THE EXTERIOR OF THE WINDOWS—REMOVE UTILIZING WHOLE COMPONENT REMOVAL

FOR CONTINUATION SEE SHEET ED101

ASBESTOS SAMPLES  
040512-WP-09  
040512-WP-10  
040512-WP-11  
040512-WP-12  
NONE DETECTED

ASBESTOS SAMPLES  
040512-WP-07  
040512-WP-08  
NONE DETECTED

ASBESTOS SAMPLES  
040512-WP-05  
040512-WP-06  
NONE DETECTED

ASBESTOS SAMPLES  
040512-WP-01  
040512-WP-02  
040512-WP-03  
040512-WP-04  
NONE DETECTED

LEAD SAMPLE  
040512-WP-41  
0.073% BY WEIGHT

LEAD SAMPLE  
040512-WP-43  
0.018% BY WEIGHT

LEAD SAMPLE  
040512-WP-42  
<0.005% BY WEIGHT

LEAD SAMPLE  
040512-WP-39  
0.019% BY WEIGHT

LEAD SAMPLE  
040512-WP-40  
0.006% BY WEIGHT

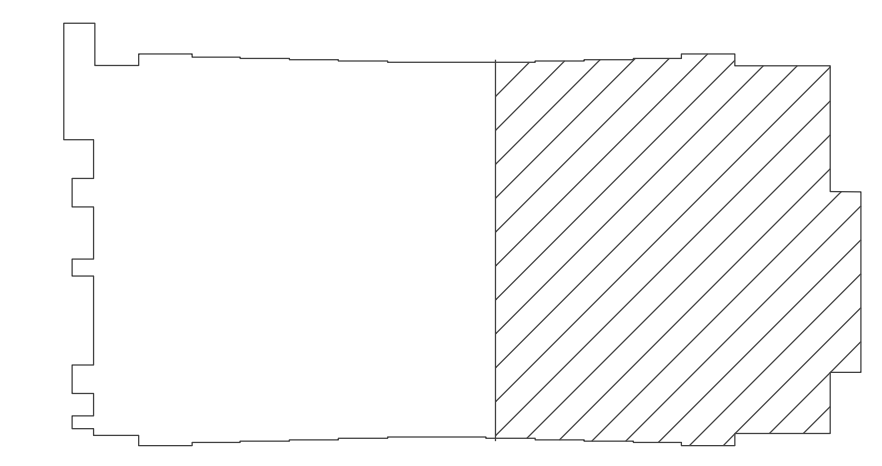
LEAD SAMPLE  
040512-WP-37  
0.011% BY WEIGHT

LEAD SAMPLE  
040512-WP-38  
<0.003% BY WEIGHT

**FIRST FLOOR SAMPLE AND MATERIAL LOCATIONS**

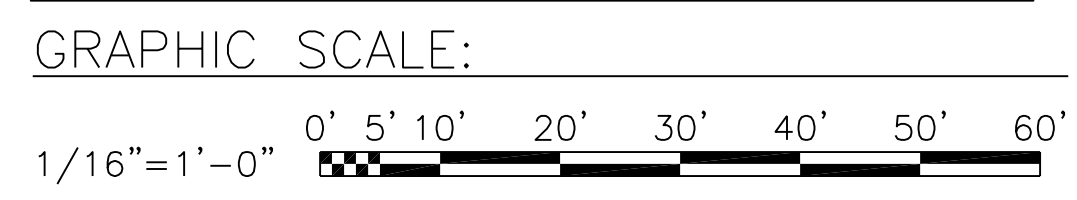
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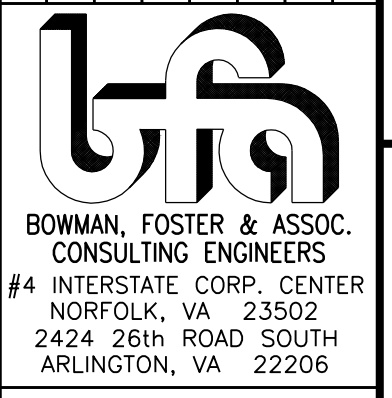
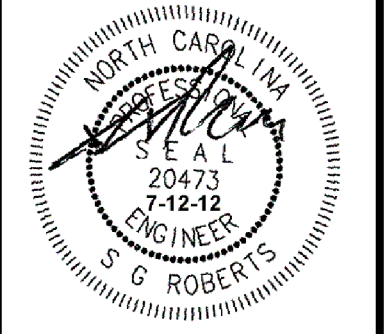
WARREN PLAUTZ, CIE  
NC ACCREDITATION #11888  
PHOENIX ENVIROCORP  
WILMINGTON, NC 28403



**KEY PLAN**  
NO SCALE

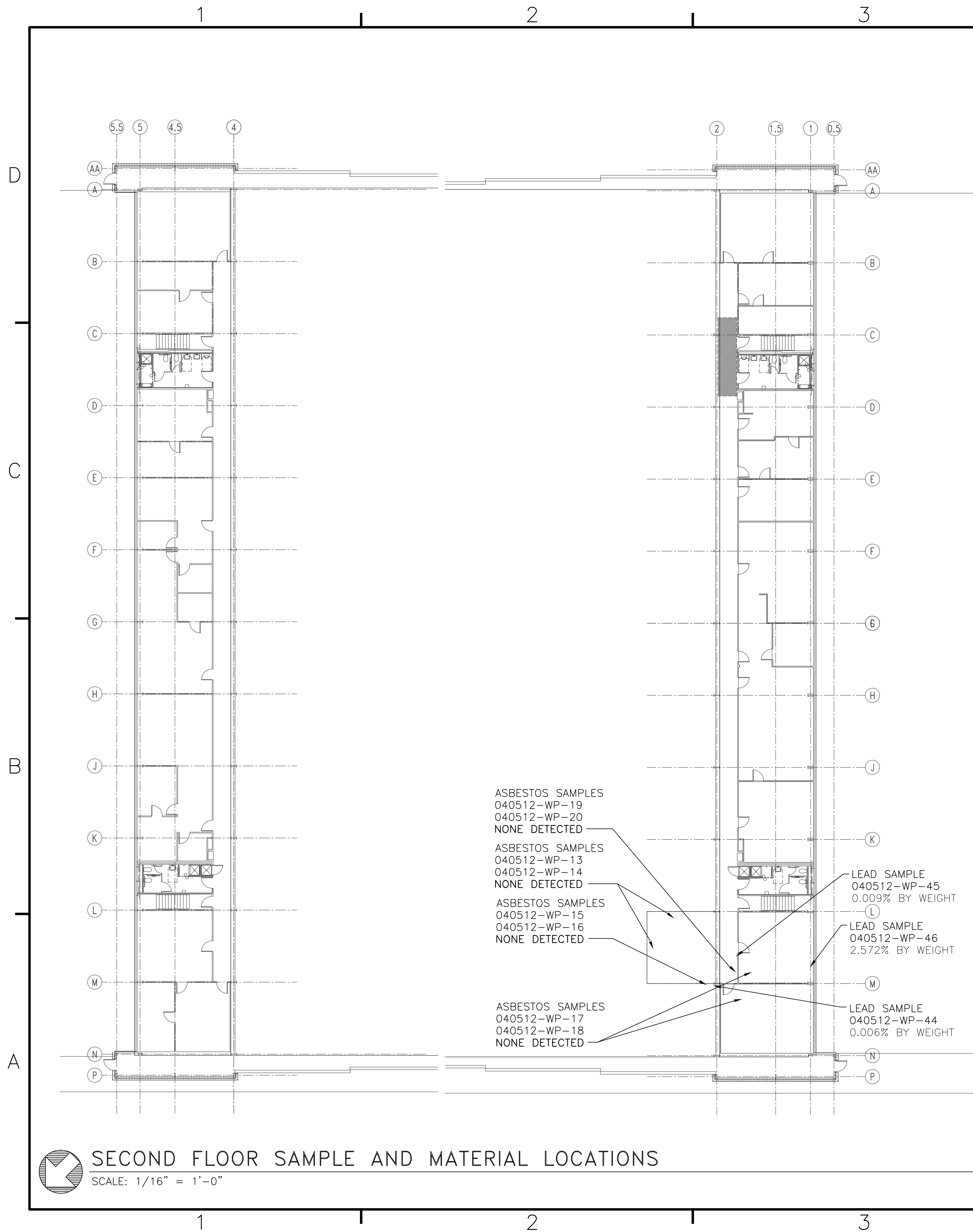
NOTE: IF THIS DRAWING IS A REDUCTION, GRAPHIC SCALE MUST BE USED.



	DATE
	APPROVED
	DESCRIPTION
	SYMBOL
 <p><b>BOWMAN, FOSTER &amp; ASSOC.</b> CONSULTING ENGINEERS #4 INTERSTATE CORP. CENTER NORFOLK, VA 23502 2424 26th ROAD SOUTH ARLINGTON, VA 22206</p>	
	
APPROVED	
ACTIVITY - SATISFACTORY TO	
DATE	
APPROVED	
FOR EFD FOR COMMANDER NAVFAC	
DATE	
A/E	EFD
CML	DESIGN
KLB	DRAWN
SGR	REVIEW
SGR	OC
SGR	CHIEF ARCH/ ENGR.
PROJECT MANAGER	PEC
FIRE PROTECTION	SAH
BRANCH MANAGER	PEC
DESIGN DIRECTOR	JEF
DEPARTMENT OF THE NAVY MARINE CORPS AIR STATION, CHERRY POINT, N.C. <b>FACILITIES ENERGY REPAIRS,                  BUILDING 131</b> FIRST FLOOR SAMPLE AND MATERIAL LOCATIONS	
CODE ID. NO. 80091   SIZE 0	
SCALE: AS SHOWN	
FED. NO. WR6059407	
STA. PROJ. NO. CP12024M/CP12024R	
SPEC. NO.	
CONSTR. CONTR. NO.	
NAVFAC DRAWING NO.	
12618367	
SHEET 5 OF 124	
<b>H-101</b>	
DRAWING REVISION JULY 2003	



BFA File name G:\2010\10-0050 B-131 ENERGY\SUBMITTALS\FINAL SUBMITTAL 7-12-12\BOUND CAD\12618368.dwg Plot Date: Jul 11, 2012 - 12:03pm Lost Saved By: kbennett



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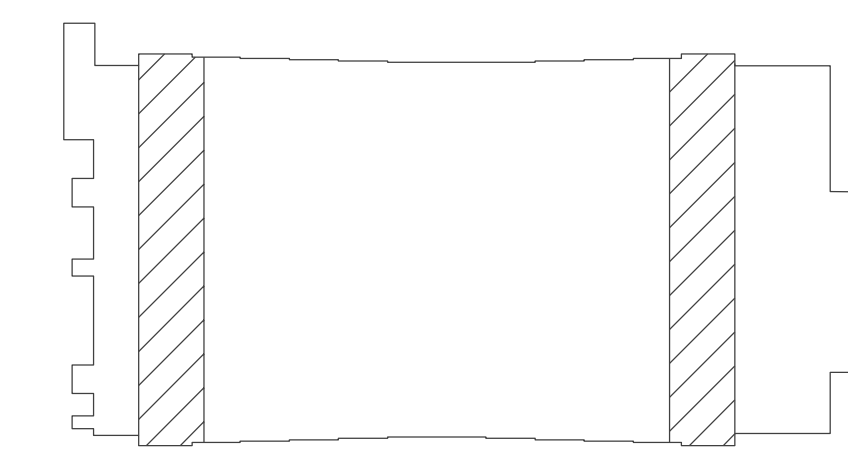
GREEN  
NON-ASBESTOS CONTAINING  
NON-LEAD BASED PAINT

RED  
LEAD BASED PAINT

### NOTES

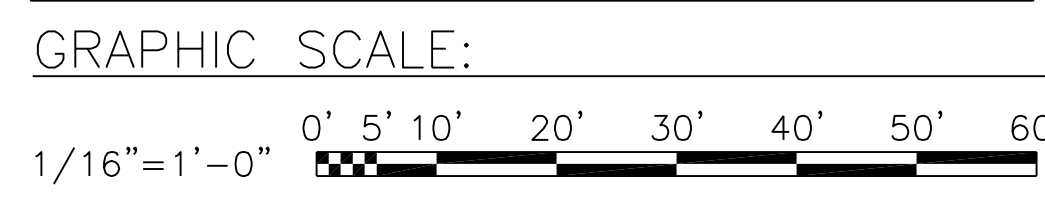
- OF THE HOMOGENEOUS MATERIALS SAMPLED DURING THIS INSPECTION, NONE WERE FOUND TO CONTAIN ASBESTOS AND ARE CONSIDERED TO BE NON-ASBESTOS CONTAINING
- LEAD BASE PAINT LOCATED ON:
  - ALL OFF-WHITE HVAC RIGID DUCTS
  - ALL OFF-WHITE ELECTRICAL CONDUIT-REMOVE UTILIZING WHOLE COMPONENT REMOVAL
  - ALL OFF-WHITE CLOTH PIPE WRAP
  - ALL OFF-WHITE WALL PAINT
  - ALL WHITE PAINT ENCOMPASSING WINDOWS(INTERIOR)
  - ALL GRAY PAINT ON THE EXTERIOR OF THE WINDOWS-REMOVE UTILIZING WHOLE COMPONENT REMOVAL

DATE	APPROVED
DESCRIPTION	SYMBOL
BOWMAN, FOSTER & ASSOC. CONSULTING ENGINEERS #4 INTERSTATE CORP. CENTER NORFOLK, VA 23502 2424 26th ROAD SOUTH ARLINGTON, VA 22206	
APPROVED	10-0050
ACTIVITY - SATISFACTORY TO	
DATE	
APPROVED	
FOR EFD FOR COMMANDER NAVFAC	
DATE	
A/E	DESIGN
CML	DESIGN
KLB	DRAWN
SGR	REVIEW
SGR	OC
SGR	CHIEF ARCH/ ENGR.
PROJECT MANAGER	PEC
FIRE PROTECTION	SAH
BRANCH MANAGER	PEC
DESIGN DIRECTOR	JEF
DEPARTMENT OF THE NAVY MARINE CORPS AIR STATION, CHERRY POINT, N.C. <b>FACILITIES ENERGY REPAIRS,          BUILDING 131</b> SECOND FLOOR SAMPLE AND MATERIAL LOCATIONS	
CODE ID. NO. 80091	SIZE 0
SCALE: AS SHOWN	
FED. NO. WR6059407	
STA. PROJ. NO. CP12024M/CP12024R	
SPEC. NO.	
CONSTR. CONTR. NO.	
NAVFAC DRAWING NO.	12618368
SHEET 6	OF 124
<b>H-102</b> <small>DRAWING REVISION JULY 2003</small>	



**KEY PLAN**  
NO SCALE

NOTE: IF THIS DRAWING IS A REDUCTION,  
GRAPHIC SCALE MUST BE USED.

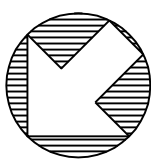
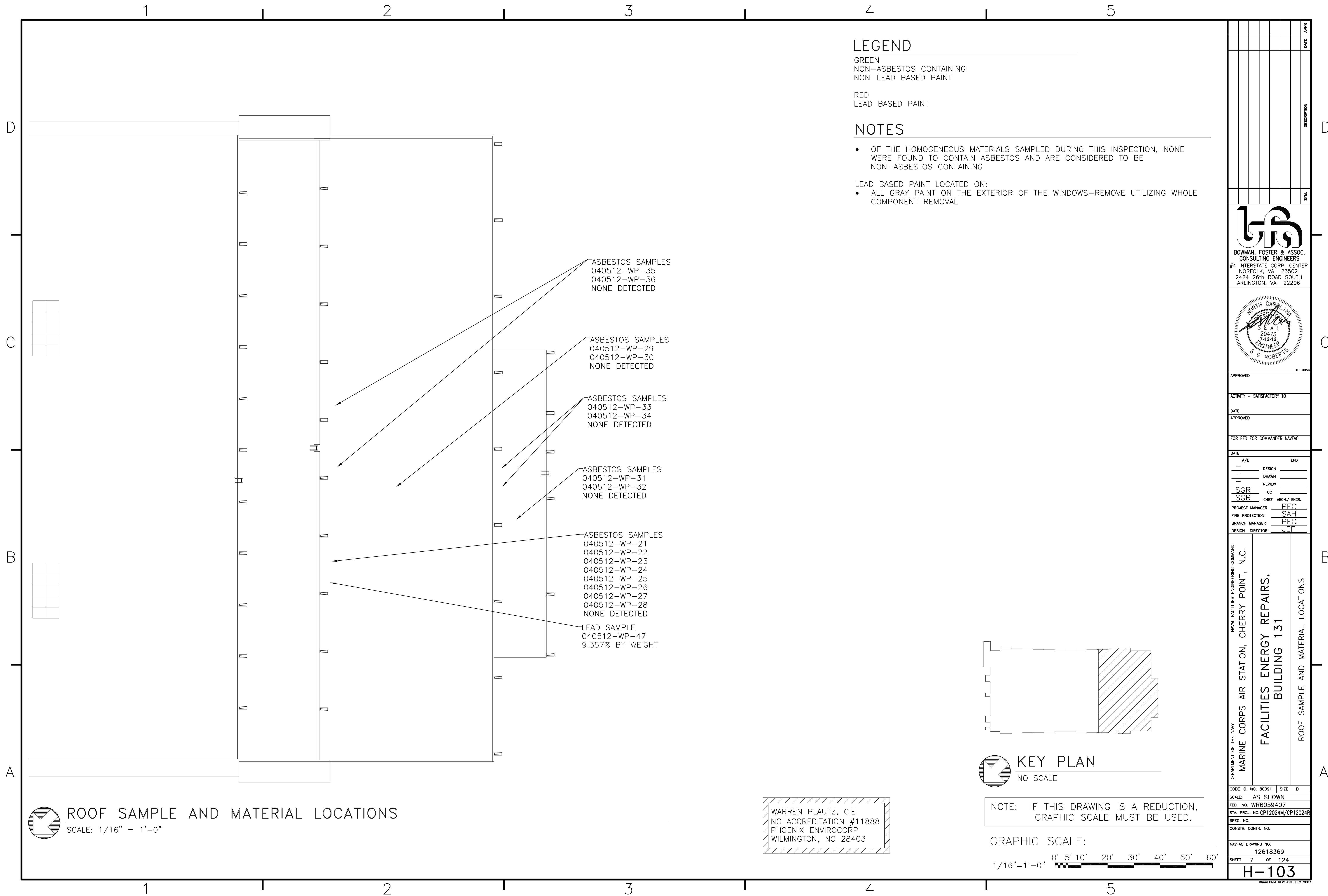


WARREN PLAUTZ, CIE  
 NC ACCREDITATION #11888  
 PHOENIX ENVIROCORP  
 WILMINGTON, NC 28403

**SECOND FLOOR SAMPLE AND MATERIAL LOCATIONS**  
SCALE: 1/16" = 1'-0"



BFA File Name G:\2010\10-0050 B-131 ENERGY\SUBMITTALS\FINAL SUBMITTAL 7-12-12\BOUND CAD\12618369.dwg Plot Date: Jul 11, 2012 - 12:04pm Lost Saved By: kbennett



### ROOF SAMPLE AND MATERIAL LOCATIONS

SCALE: 1/16" = 1'-0"

WARREN PLAUTZ, CIE  
NC ACCREDITATION #11888  
PHOENIX ENVIROCORP  
WILMINGTON, NC 28403

### LEGEND

GREEN  
NON-ASBESTOS CONTAINING  
NON-LEAD BASED PAINT

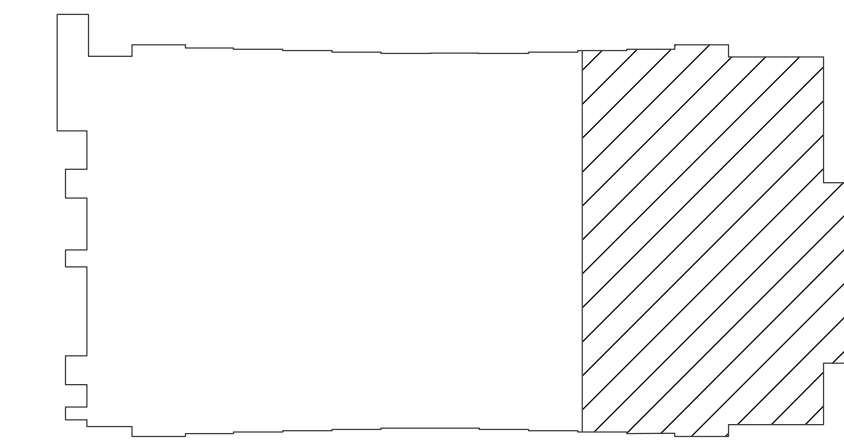
RED  
LEAD BASED PAINT

### NOTES

- OF THE HOMOGENEOUS MATERIALS SAMPLED DURING THIS INSPECTION, NONE WERE FOUND TO CONTAIN ASBESTOS AND ARE CONSIDERED TO BE NON-ASBESTOS CONTAINING

LEAD BASED PAINT LOCATED ON:

- ALL GRAY PAINT ON THE EXTERIOR OF THE WINDOWS-REMOVE UTILIZING WHOLE COMPONENT REMOVAL




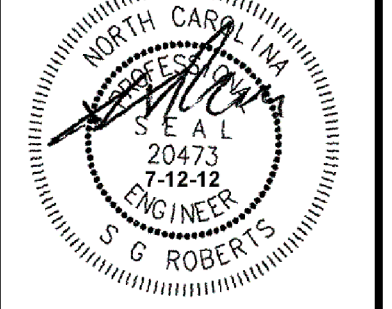
### KEY PLAN

NO SCALE

NOTE: IF THIS DRAWING IS A REDUCTION, GRAPHIC SCALE MUST BE USED.

GRAPHIC SCALE:



DATE	
DESCRIPTION	
SYMBOL	
 <b>BOWMAN, FOSTER &amp; ASSOC.</b> CONSULTING ENGINEERS #4 INTERSTATE CORP. CENTER NORFOLK, VA 23502 2424 26th ROAD SOUTH ARLINGTON, VA 22206	
 NORTH CAROLINA PROFESSIONAL ENGINEER G. ROBERTS	
APPROVED	10-0050
ACTIVITY - SATISFACTORY TO	
DATE	
APPROVED	
FOR EFD FOR COMMANDER NAVFAC	
DATE	
A/E	EFD
DESIGN	
DRAWN	
REVIEW	
SGR	OC
SGR	CHEF ARCH/ ENGR.
PROJECT MANAGER	PEC
FIRE PROTECTION	SAH
BRANCH MANAGER	PEC
DESIGN DIRECTOR	JEF
DEPARTMENT OF THE NAVY MARINE CORPS AIR STATION, CHERRY POINT, N.C. <b>FACILITIES ENERGY REPAIRS,          BUILDING 131</b> ROOF SAMPLE AND MATERIAL LOCATIONS	
CODE ID. NO. 80091	SIZE 0
SCALE:	AS SHOWN
FED. PROJ. NO. WR6059407	
STA. PROJ. NO. CP12024M/CP12024R	
SPEC. NO.	
CONSTR. CONTR. NO.	
NAVFAC DRAWING NO.	12618369
SHEET	7 OF 124
<b>H-103</b>	
<small>DRAWING REVISION JULY 2003</small>	



**GENERAL STRUCTURAL NOTES:**

1. THE CONTRACTOR SHALL COORDINATE AND VERIFY ALL DIMENSIONS WITH THE ARCHITECTURAL DRAWINGS PRIOR TO STARTING CONSTRUCTION. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT/ENGINEER.
2. THE STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH THE ARCHITECTURAL, MECHANICAL, ELECTRICAL, PLUMBING AND CIVIL DRAWINGS (IF DRAWINGS ARE APPLICABLE) THAT COMPRISE THE COMPLETE DOCUMENT SET FOR THIS PROJECT. THE CONTRACTOR SHALL VERIFY THE REQUIREMENTS OF OTHER TRADES AS TO SLEEVES, CHASES, ANCHORS, INSERTS, HANGERS, HOLES, ETC. TO BE PLACED IN THE STRUCTURAL WORK.
3. THE CONTRACTOR SHALL EXERCISE ALL PRECAUTIONS NECESSARY TO MAINTAIN ALL AREAS OF WORK IN A SAFE CONDITION THROUGHOUT CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLYING WITH ALL APPLICABLE SAFETY PRECAUTIONS AND REGULATIONS THAT MAY BE REQUIRED.
4. WHERE A SECTION OR DETAIL IS SHOWN FOR ONE CONDITION, IT SHALL APPLY TO ALL LIKE AND SIMILAR CONDITIONS.
5. UNDER NO CIRCUMSTANCES SHALL THE CONTRACT DRAWINGS BE REPRODUCED AND USED AS SHOP DRAWINGS.
6. THE REFERENCE DATUM (ELEVATION = 0'-0") FOR ELEVATIONS SHOWN ON THESE DRAWINGS SHALL BE FINISHED FLOOR ELEVATION.
7. READ IN CONJUNCTION WITH THE PHASING PLANS.

**DESIGN LOADS:**

1. THE STRUCTURE WAS DESIGNED IN ACCORDANCE WITH THE 2005 EDITION OF THE AMERICAN SOCIETY OF CIVIL ENGINEERS (ASCE 7-05), "MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES". THE FOLLOWING LOADS IN ADDITION TO THE DEAD LOADS OF THE PERMANENT MATERIALS AND CONSTRUCTION WERE USED.

ROOF LIVE LOAD	20 PSF
SNOW LOADS:	
GROUND SNOW LOAD	Pg = 10 PSF
SNOW IMPORTANCE	Is = 1.0
THERMAL CATEGORY	Ct = 1.0 (HEATED)
SNOW EXPOSURE FACTOR	Ce = 1.0 (PARTIALLY EXPOSED)
WIND LOADS:	
BASIC WIND SPEED (3 SECOND GUST)	130 MPH
IMPORTANCE FACTOR	1.0
WIND EXPOSURE	C
INTERNAL PRESSURE COEFFICIENT	+/- 0.18 (ENCLOSED)
OCCUPANCY CATEGORY	II
SEISMIC LOADS:	
SEISMIC USE GROUP	II
IMPORTANCE FACTOR	1.0
SPECTRAL RESPONSE COEFFICIENTS	
SS	0.16
S1	0.07
SDS	0.17
SD1	0.10
DESIGN CATEGORY	B
SITE CLASS	D

**DESIGN CRITERIA AND GOVERNING CODES:**

1. UFC 1-200-01 "GENERAL BUILDING REQUIREMENTS"
2. UFC 3-301-01 "STRUCTURAL ENGINEERING"
3. 2009 EDITION OF THE INTERNATIONAL BUILDING CODE (IBC)
4. 2005 EDITION OF THE AMERICAN SOCIETY OF CIVIL ENGINEERS (ASCE 7-05), "MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES"
5. THIRTEENTH EDITION OF THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC), "MANUAL OF STEEL CONSTRUCTION", ALLOWABLE STRESS DESIGN AND "ALLOWABLE STRESS DESIGN SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR 490 BOLTS"
6. LATEST EDITION OF THE AMERICAN STANDARDS OF TESTING OF MATERIALS (ASTM), "STANDARDS IN BUILDING CODES", VOLUME I AND II
7. LATEST EDITION OF THE AMERICAN WELDING SOCIETY (AWS), "STRUCTURAL WELDING CODE"
8. LATEST EDITION OF THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) STANDARDS

**CAST-IN-PLACE CONCRETE NOTES:**

1. CAST-IN-PLACE CONCRETE FOR THIS STRUCTURE HAS BEEN DESIGNED IN ACCORDANCE WITH THE AMERICAN CONCRETE INSTITUTE (ACI) "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE AND COMMENTARY" ACI 318-08 AND ACI 318R-08.
2. CONCRETE SHALL BE NORMAL WEIGHT AND SHALL OBTAIN 28 DAY COMPRESSIVE STRENGTH OF 3000 PSI. ALL FLOOR SLAB CONCRETE SHALL BE AIR ENTRAINED WITH 3.5% TO 6.5% AIR.
3. REINFORCING MATERIALS SHALL BE AS FOLLOWS:
  - A) REINFORCING BARS - ASTM A615, GRADE 60, DEFORMED.
  - B) WELDED WIRE FABRIC - ASTM A185, WELDED STEEL WIRE FABRIC. PROVIDE SHEET TYPE, ROLL TYPE NOT ACCEPTABLE.
4. ALL REINFORCING STEEL AND EMBEDDED ITEMS SUCH AS ANCHOR BOLTS AND WELD PLATES SHALL BE ACCURATELY PLACED IN THE POSITIONS SHOWN AND ADEQUATELY TIED AND SUPPORTED BEFORE CONCRETE IS PLACED TO PREVENT DISPLACEMENT BEYOND PERMITTED TOLERANCES.
5. MINIMUM CONCRETE COVER FOR REINFORCING STEEL AS INDICATED ON THE DRAWINGS SHALL GOVERN WHEN IN CONFLICT WITH ACI 318-08.

**STRUCTURAL STEEL NOTES:**

1. ALL STRUCTURAL STEEL WIDE FLANGE SHAPES SHALL BE IN ACCORDANCE WITH ASTM A992 GRADE 50 KSI SPECIFICATIONS UNLESS OTHERWISE NOTED. ALL STRUCTURAL STEEL ANGLES, PLATES AND MISCELLANEOUS MEMBERS SHALL BE IN ACCORDANCE WITH ASTM A36 GRADE 36 KSI SPECIFICATIONS. ALL STRUCTURAL PIPING SHALL BE IN ACCORDANCE WITH ASTM A53, GRADE B. ALL STRUCTURAL TUBING SHALL BE IN ACCORDANCE WITH ASTM A500, GRADE B.
2. ALL STRUCTURAL STEEL WORK SHALL CONFORM TO THE THIRTEENTH EDITION OF THE MANUAL OF STEEL CONSTRUCTION OF THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION.
3. ALL FIELD BOLTED SHEAR CONNECTIONS SHALL BE BEARING TYPE CONNECTIONS (THREADS INCLUDED IN THE SHEAR PLANE) WITH A MINIMUM OF (2)-3/4 INCH DIAMETER ASTM A325 HIGH STRENGTH BOLT UNLESS OTHERWISE NOTED.
4. ALL WELDING SHALL BE IN ACCORDANCE WITH AWS D1.1, "STRUCTURAL WELDING CODE - STEEL". WELD ELECTRODES SHALL BE E70XX.
5. STRUCTURAL STEEL EXPOSED TO WEATHER SHALL BE PAINTED WITH TNEC HI-BUILD EPOXOLINE, SERIES 66, PRIME AND INTERMEDIATE COATS AND ENDURA-SHIELD II, SERIES 1074, FINISH COAT. TOTAL PAINT THICKNESS SHALL NOT BE LESS THAN 10 MILS. ALL PAINTING SHALL BE DONE IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTION.

NO.	DATE	DESCRIPTION

**Bowman, Foster & Assoc.**  
 CONSULTING ENGINEERS  
 #4 INTERSTATE CORP. CENTER  
 NORFOLK, VA 23502  
 2424 26th ROAD SOUTH  
 ARLINGTON, VA 22206



APPROVED	10-0055
ACTIVITY - SATISFACTORY TO	
DATE	
APPROVED	
FOR EFD FOR COMMANDER NAVFAC	
DATE	
A/E	EFD
MF DESIGN	
CAD DRAWN	
MF REVIEW	
SGR oc	
SGR	CHIEF ARCH/ ENGR.
PROJECT MANAGER	PEC
FIRE PROTECTION	SAH
BRANCH MANAGER	PEC
DESIGN DIRECTOR	JFF

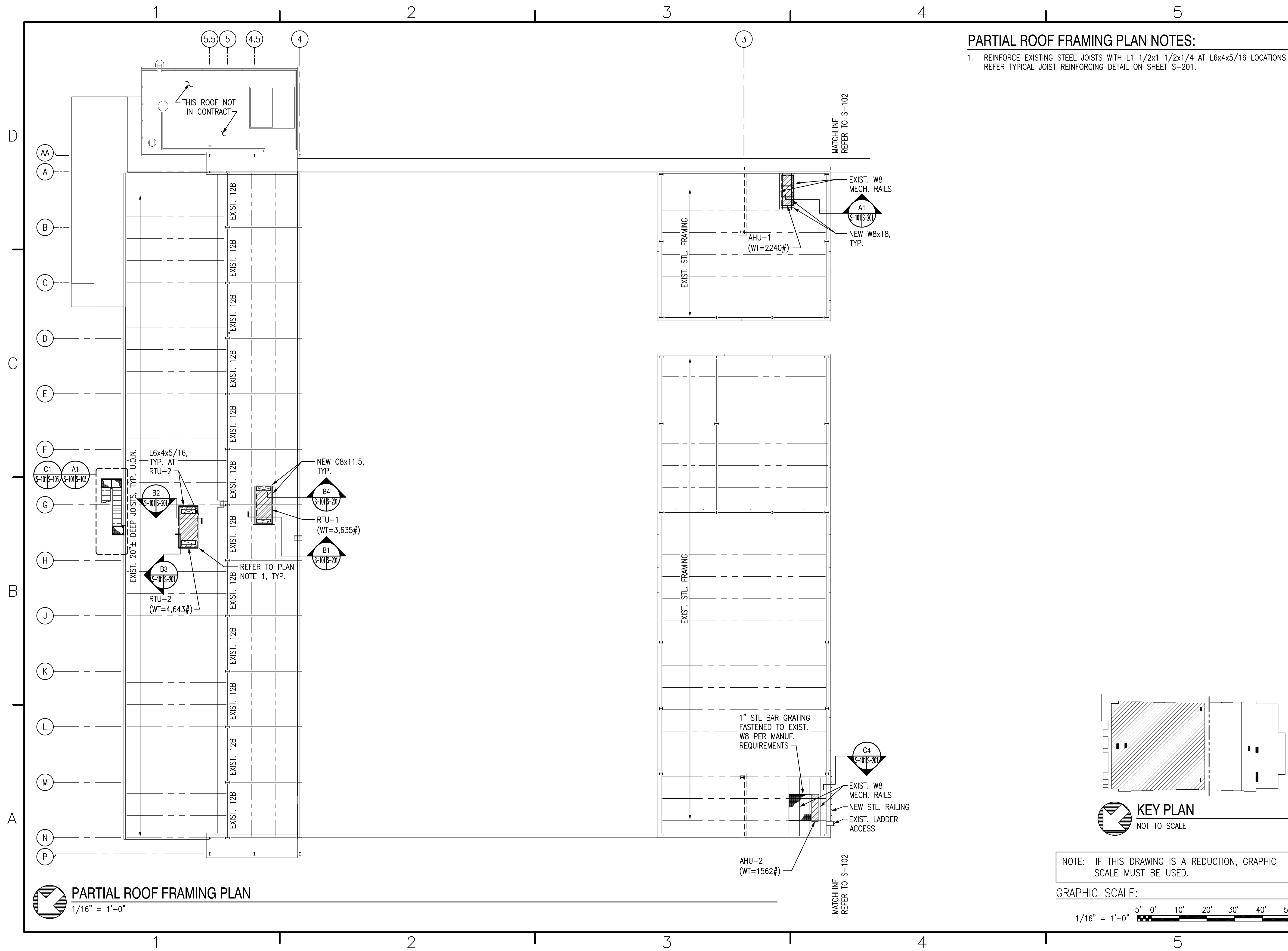
DEPARTMENT OF THE NAVY  
 MARINE CORPS AIR STATION, CHERRY POINT, N.C.  
 NAVAL FACILITIES ENGINEERING COMMAND  
**FACILITIES ENERGY REPAIRS,  
 BUILDING 131**  
 GENERAL NOTES

CODE ID. NO. 80091	SIZE D
SCALE:	AS SHOWN
FED. NO. WR6059407	
STA. PROJ. NO. CP12024M	
SPEC. NO.	
CONSTR. CONTR. NO.	
NAVFAC DRAWING NO.	12618370
SHEET 8	OF 124
<b>S-001</b>	

BFA Filename F:\2012\12-082\DWGS\12-082\_S-001.dwg Plot Date: Jul 09, 2012 - 10:45am Last Saved By: jdelacruz



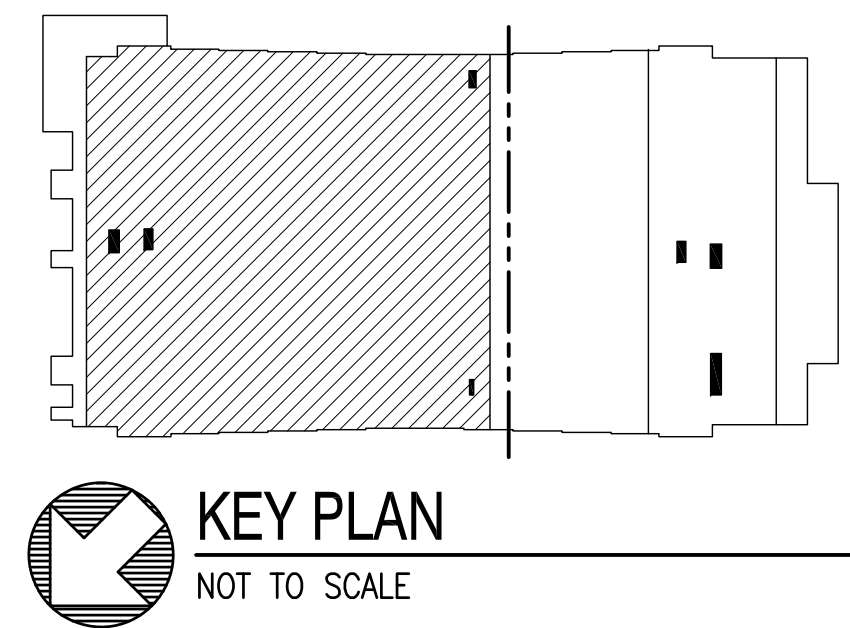
BFA Filename F:\2012\12-082\DWGS\12-082\_S-101.dwg Plot Date: Jul 09, 2012 - 10:45am Last Saved By: jdelacruz



**PARTIAL ROOF FRAMING PLAN NOTES:**

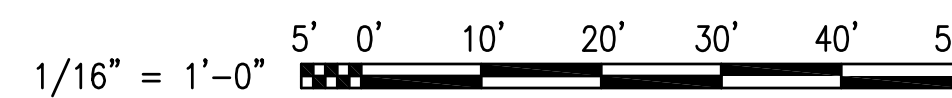
1. REINFORCE EXISTING STEEL JOISTS WITH L1 1/2x1 1/2x1/4 AT L6x4x5/16 LOCATIONS. REFER TYPICAL JOIST REINFORCING DETAIL ON SHEET S-201.

**PARTIAL ROOF FRAMING PLAN**  
1/16" = 1'-0"



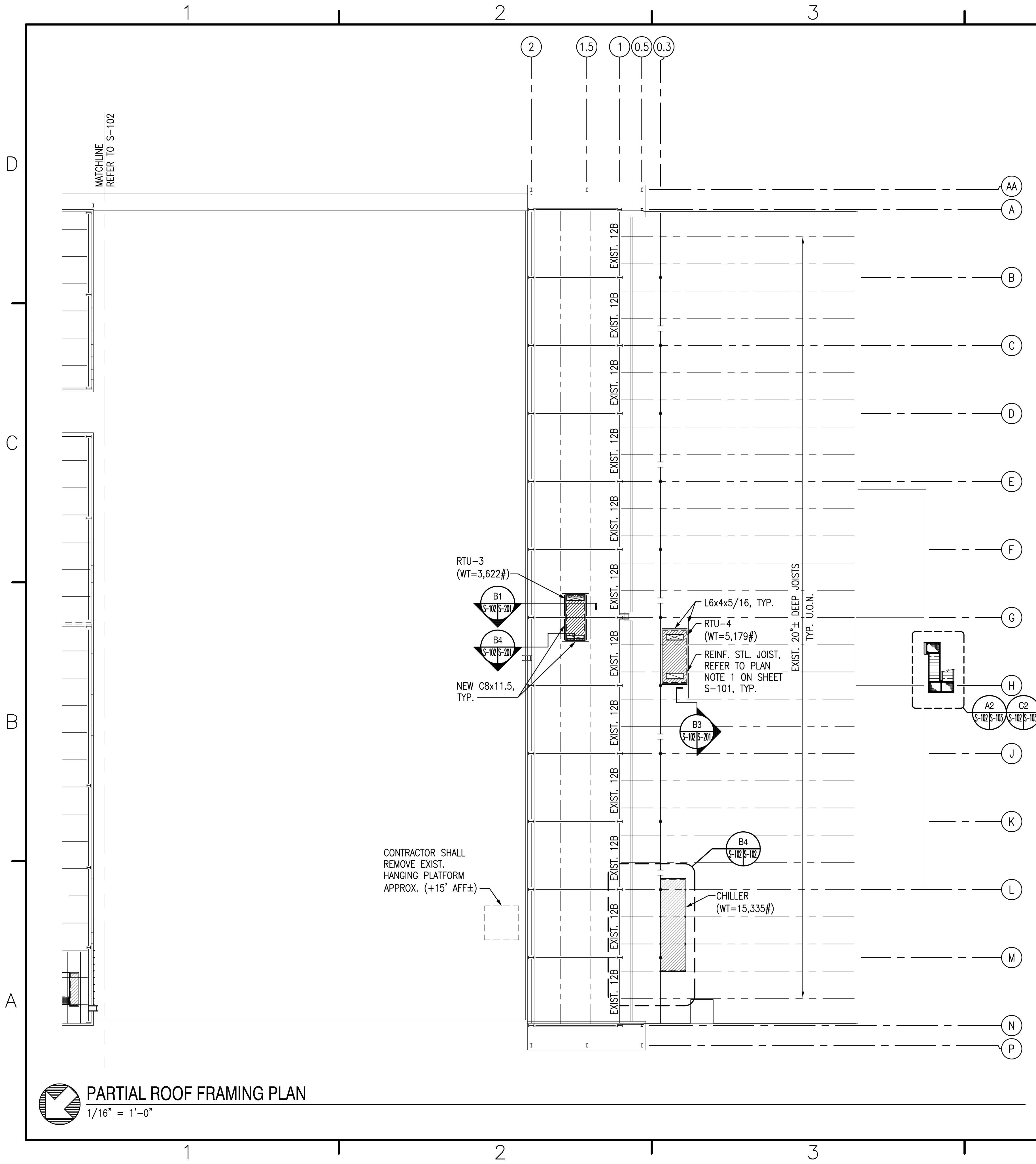
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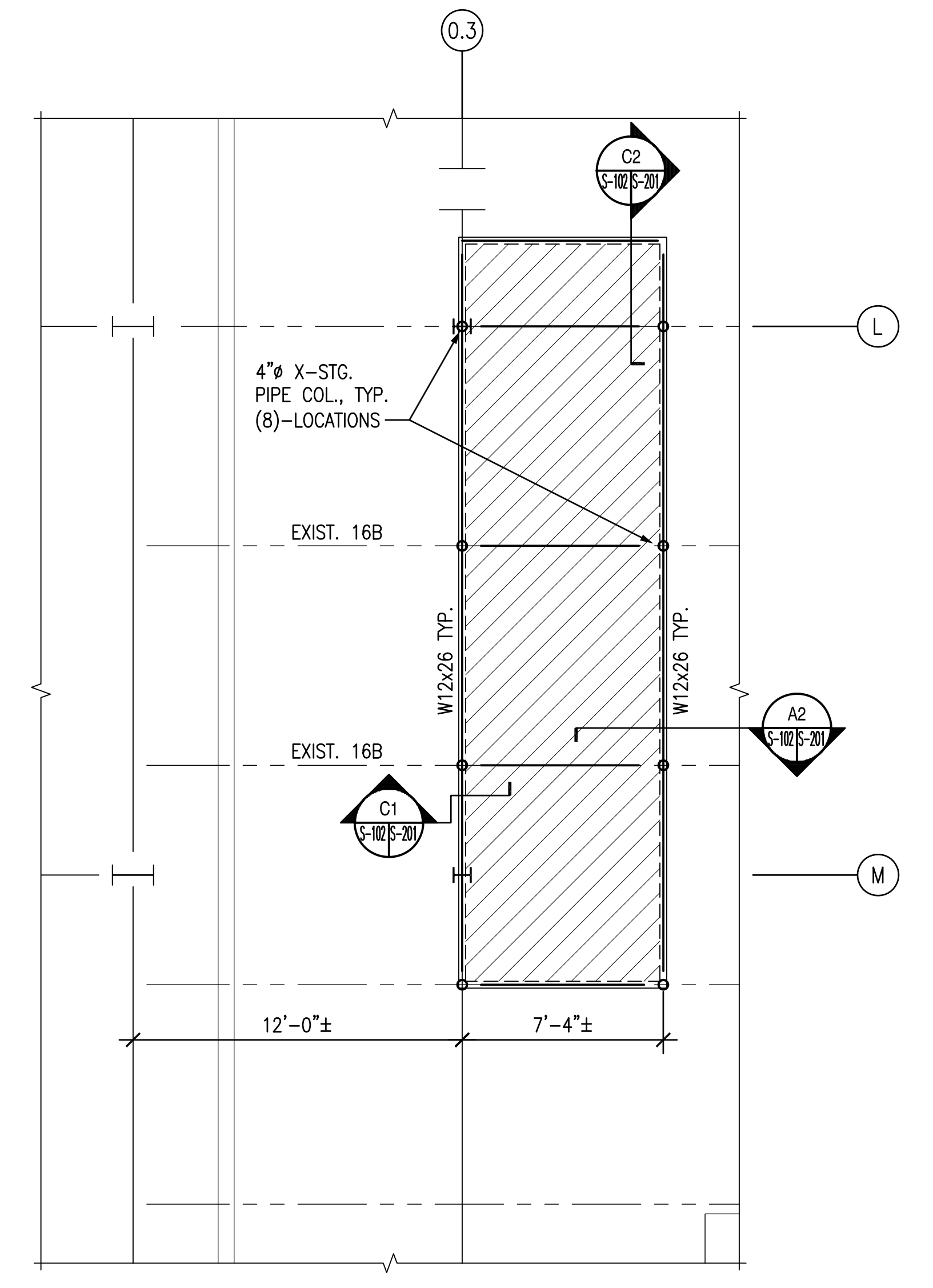


DATE		APPROVAL	DESCRIPTION
DATE		APPROVAL	
<p>BOWMAN, FOSTER &amp; ASSOC. CONSULTING ENGINEERS #4 INTERSTATE CORP. CENTER NORFOLK, VA 23502 2424 26th ROAD SOUTH ARLINGTON, VA 22206</p>			
APPROVED	10-0050		
ACTIVITY - SATISFACTORY TO	DATE		
APPROVED	DATE		
FOR EFD FOR COMMANDER NAVFAC			
DATE	A/E	EFD	
MF	DESIGN		
CAD	DRAWN		
MF	REVIEW		
SGR	OC		
SGR	CHIEF ARCH/ENGR.		
PROJECT MANAGER	PEC		
FIRE PROTECTION	SAH		
BRANCH MANAGER	PEC		
DESIGN DIRECTOR	JEF		
NAVAL FACILITIES ENGINEERING COMMAND MARINE CORPS AIR STATION, CHERRY POINT, N.C.			
<b>FACILITIES ENERGY REPAIRS, BUILDING 131</b>			
PARTIAL ROOF FRAMING PLAN			
CODE ID. NO. B0091		SIZE	D
SCALE: AS SHOWN			
FED. PROJ. NO. WR6059407			
STA. PROJ. NO. CP12024M			
SPEC. NO.			
CONSTR. CONTR. NO.			
NAVFAC DRAWING NO. 12618371			
SHEET 9 OF 124			
<b>S-101</b>			

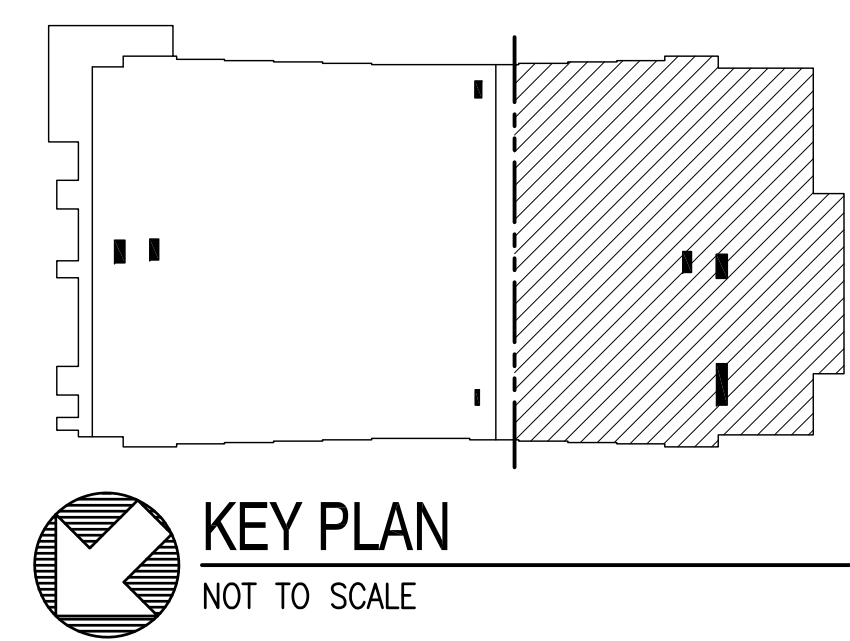
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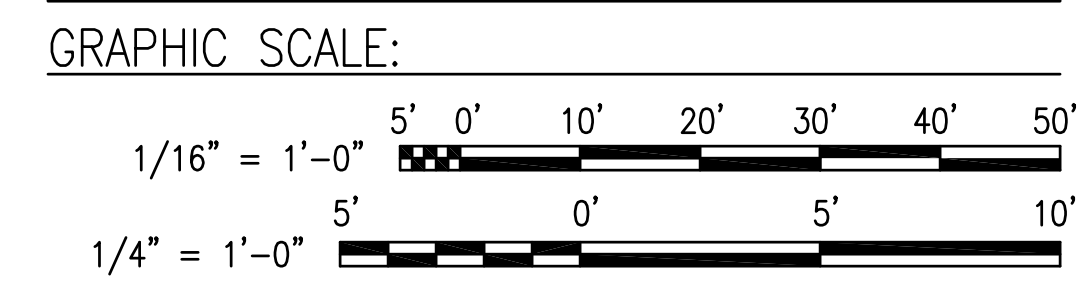
**PARTIAL ROOF FRAMING PLAN**  
1/16" = 1'-0"



**ENLARGED ROOF FRAMING PLAN**  
1/4" = 1'-0"



NOTE: IF THIS DRAWING IS A REDUCTION, GRAPHIC SCALE MUST BE USED.

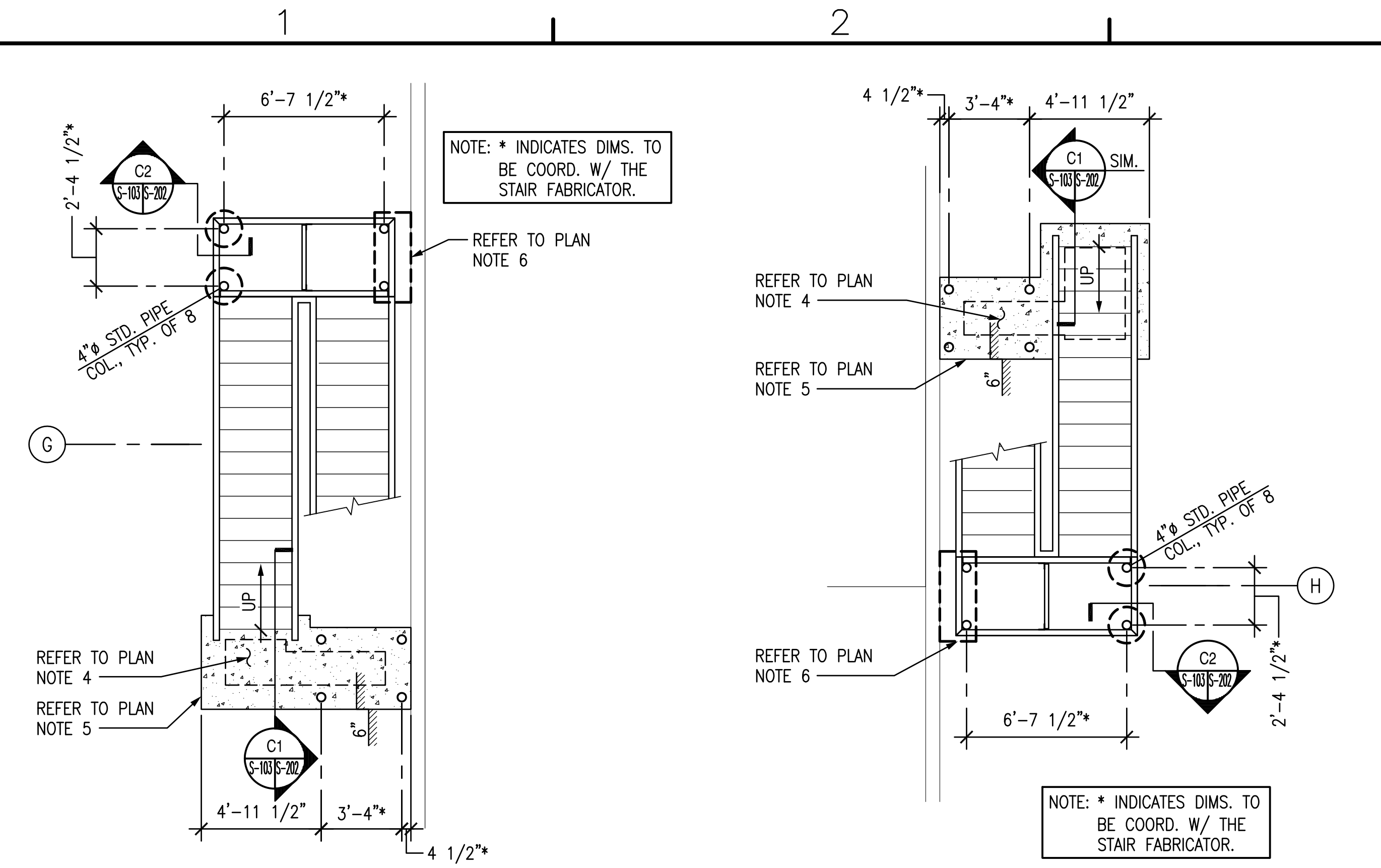


	DATE	
	APPR	
	SYL	
	DESCRIPTION	
<b>BOWMAN, FOSTER &amp; ASSOC.</b> CONSULTING ENGINEERS #4 INTERSTATE CORP. CENTER NORFOLK, VA 23502 2424 26th ROAD SOUTH ARLINGTON, VA 22206		
APPROVED		
ACTIVITY - SATISFACTORY TO		
DATE		
APPROVED		
FOR EPD FOR COMMANDER NAVFAC		
DATE		
A/E	DESIGN	EPD
MF	CAD	DRAWN
MF	REVIEW	
SGR	oc	
SGR	CHIEF ARCH/ ENGR.	
PROJECT MANAGER	PEC	
FIRE PROTECTION	SAH	
BRANCH MANAGER	PEC	
DESIGN DIRECTOR	JFF	
DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND MARINE CORPS AIR STATION, CHERRY POINT, N.C. <b>FACILITIES ENERGY REPAIRS,          BUILDING 131</b> PARTIAL & ENLARGED ROOF FRAMING PLANS		
CODE ID. NO. 80091    SIZE    0 SCALE: AS SHOWN FED. NO. WR6059407 STA. PROJ. NO. CP12024M SPEC. NO. CONSTR. CONTR. NO.		
NAVFAC DRAWING NO. 12618372 SHEET 10 OF 124 <b>S-102</b> <small>DRAWING REVISION JULY 2003</small>		



**ENLARGED STAIR FOUNDATION PLAN NOTES:**

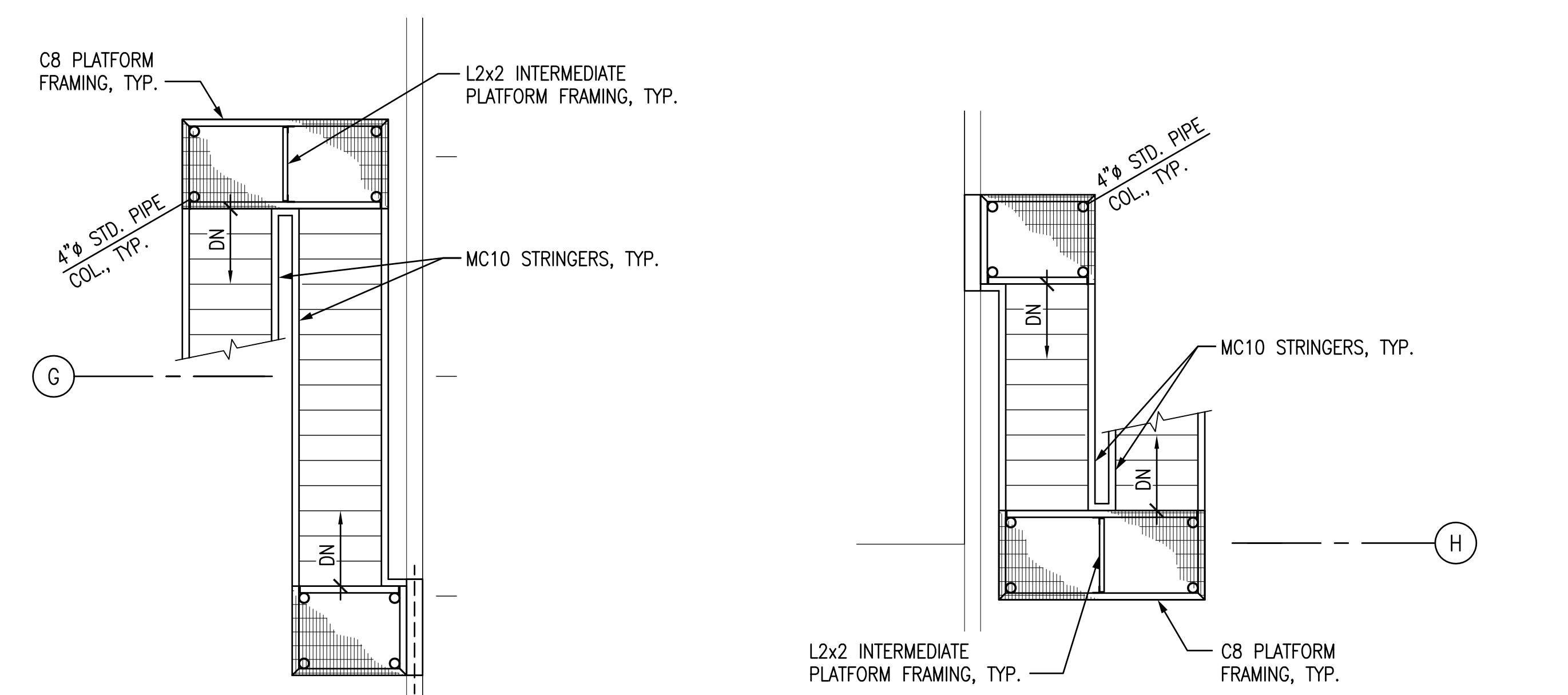
1. REFER TO THE ARCHITECTURAL DRAWINGS FOR DEMOLITION NOT NOTED.
2. CONTRACTOR SHALL COORDINATE DIMENSIONS NOT NOTED WITH THE ARCHITECTURAL DRAWINGS.
3. CONTRACTOR SHALL IN NO WAY DAMAGE ANY BUILDING COMPONENT TO REMAIN. IF DAMAGE OCCURS, IT SHALL BE REPAIRED OR REPLACED (TO THE SATISFACTION OF THE OWNER) AT THE CONTRACTOR'S EXPENSE.
4. CONCRETE LANDING CONSTRUCTION SHALL CONSIST OF A 4" THICK CONCRETE SLAB-ON-GRADE REINFORCED WITH 6x6-W1.4xW1.4 WELDED WIRE FABRIC OVER 4" POROUS FILL.
5. PROVIDE 12" WIDE CONCRETE TURNED DOWN FOUNDATION WALL REINFORCED WITH #4 BARS AT 12" ON CENTER, EACH WAY. REFER TO SECTIONS ON SHEET S-202 FOR DEPTH OF FOUNDATION WALL.
6. PROVIDE 18" WIDE x 6'-0" LONG x 3'-6" DEEP CONCRETE FOUNDATION REINFORCED WITH #4 BARS AT 12" ON CENTER, EACH WAY CENTERED UNDER STAIR LANDING COLUMNS



**ENLARGED STAIR FOUNDATION PLAN C1**  
1/4" = 1'-0"

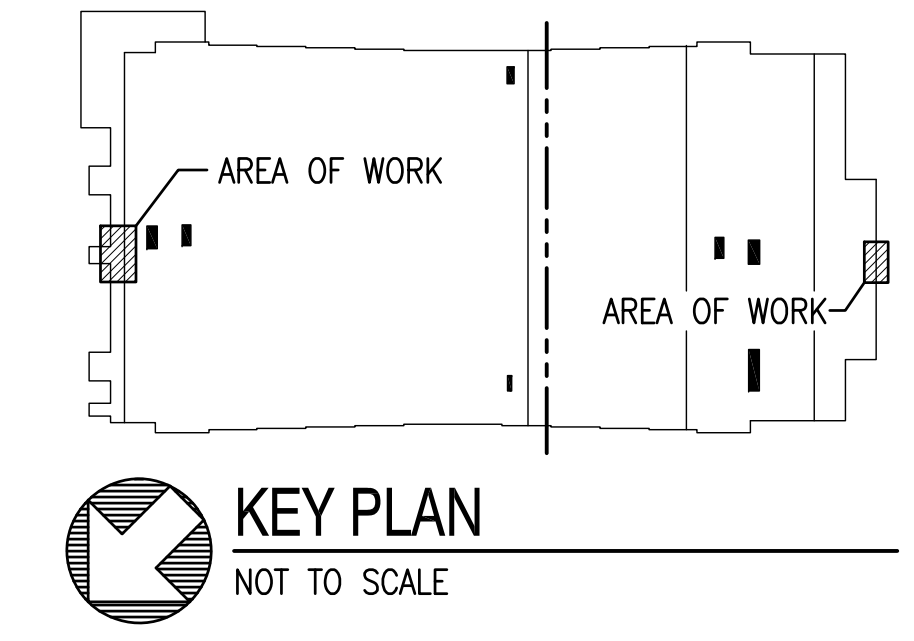
**ENLARGED STAIR FOUNDATION PLAN C2**  
1/4" = 1'-0"

NOTE: CONTRACTOR SHALL PROVIDE SHOP DRAWINGS FOR STAIRWELL IN CONFORMANCE W/ INTERNATIONAL BUILDING CODE (IBC) & THE NATIONAL ASSOCIATION OF ARCHITECTURAL METAL MANUFACTURER'S (NAAMM) W/ CALCULATIONS SEALED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF NORTH CAROLINA.



**ENLARGED STAIR FRAMING PLAN A1**  
1/4" = 1'-0"

**ENLARGED STAIR FRAMING PLAN A2**  
1/4" = 1'-0"



NOTE: IF THIS DRAWING IS A REDUCTION, GRAPHIC SCALE MUST BE USED.

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

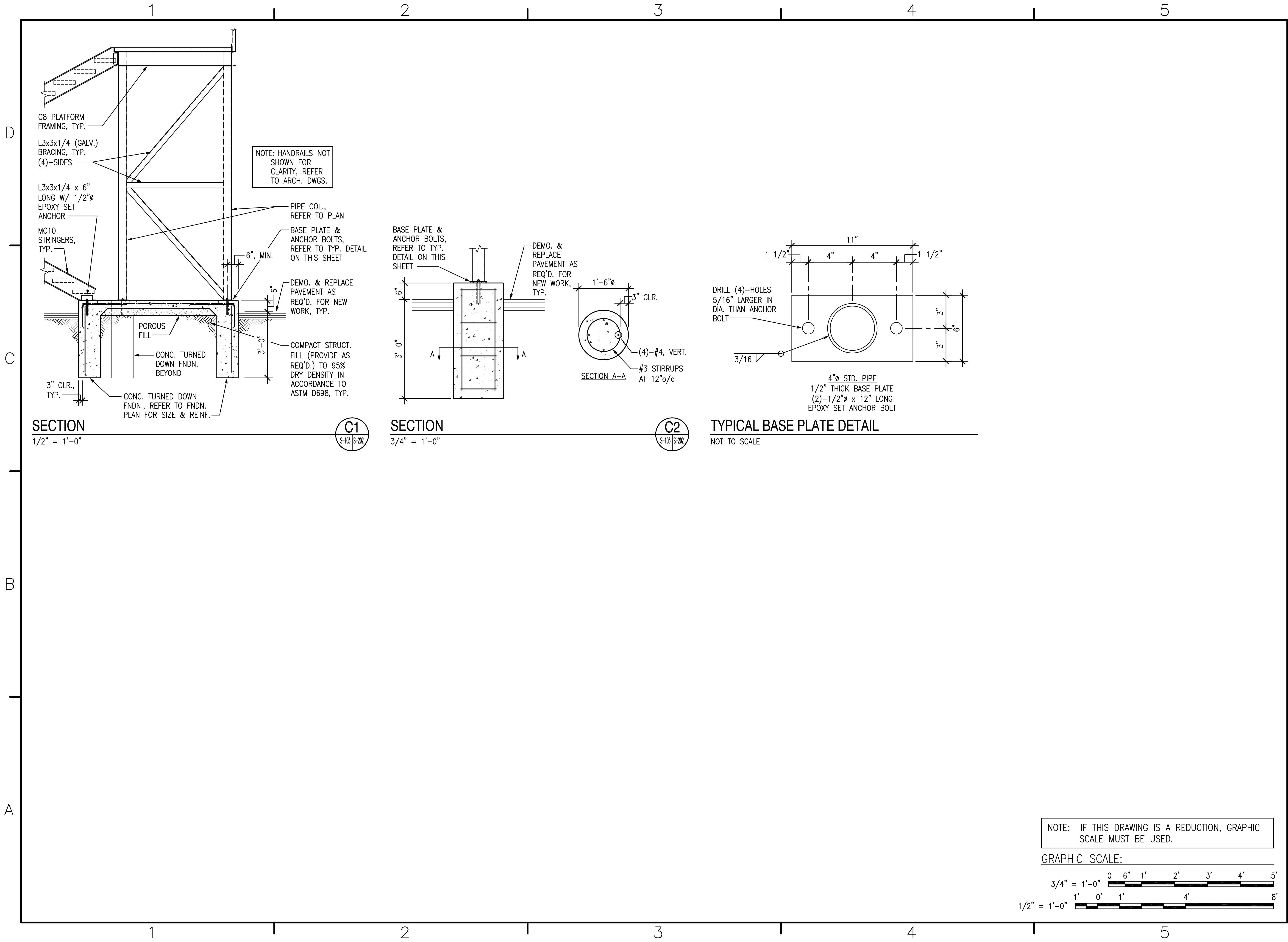
DATE	APPR
DESCRIPTION	SYN
BOWMAN, FOSTER & ASSOC. CONSULTING ENGINEERS #4 INTERSTATE CORP. CENTER NORFOLK, VA 23502 2424 26th ROAD SOUTH ARLINGTON, VA 22206	
APPROVED	10-0050
ACTIVITY - SATISFACTORY TO	
DATE	
APPROVED	
FOR EFD FOR COMMANDER NAVFAC	
DATE	
A/E	EFD
MF	DESIGN
CAD	DRAWN
MF	REVIEW
SGR	OC
SGR	CHIEF ARCH/ ENGR.
PROJECT MANAGER	PEC
FIRE PROTECTION	SAH
BRANCH MANAGER	PEC
DESIGN DIRECTOR	JEF
DEPARTMENT OF THE NAVY MARINE CORPS AIR STATION, CHERRY POINT, N.C. NAVAL FACILITIES ENGINEERING COMMAND FACILITIES ENERGY REPAIRS, BUILDING 131 ENLARGED STAIR PLANS	
CODE ID. NO. 80091	SIZE D
SCALE:	AS SHOWN
FED. NO. WR6059407	
STA. PROJ. NO. CP12024M	
SPEC. NO.	
CONSTR. CONTR. NO.	
NAVFAC DRAWING NO. 12618373	
SHEET 11 OF 124	
<b>S-103</b>	
DRAWING REVISION JULY 2003	

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BFA Filename F:\2012\12-082\DWGS\12-082\_S-202.dwg Plot Date: Jul 09, 2012 - 10:45am Last Saved BY: jdelacruz



NOTE: HANDRAILS NOT SHOWN FOR CLARITY, REFER TO ARCH. DWGS.

C8 PLATFORM FRAMING, TYP.  
 L3x3x1/4 (GALV.) BRACING, TYP. (4)-SIDES  
 L3x3x1/4 x 6" LONG W/ 1/2" Ø EPOXY SET ANCHOR  
 MC10 STRINGERS, TYP.  
 PIPE COL., REFER TO PLAN  
 BASE PLATE & ANCHOR BOLTS, REFER TO TYP. DETAIL ON THIS SHEET  
 DEMO. & REPLACE PAVEMENT AS REQ'D. FOR NEW WORK, TYP.  
 DEMO. & REPLACE PAVEMENT AS REQ'D. FOR NEW WORK, TYP.  
 POROUS FILL  
 CONC. TURNED DOWN FNDN. BEYOND  
 3" CLR., TYP.  
 CONC. TURNED DOWN FNDN., REFER TO FNDN. PLAN FOR SIZE & REINF.  
 COMPACT STRUCT. FILL (PROVIDE AS REQ'D.) TO 95% DRY DENSITY IN ACCORDANCE TO ASTM D698, TYP.

**SECTION C1**  
 1/2" = 1'-0"

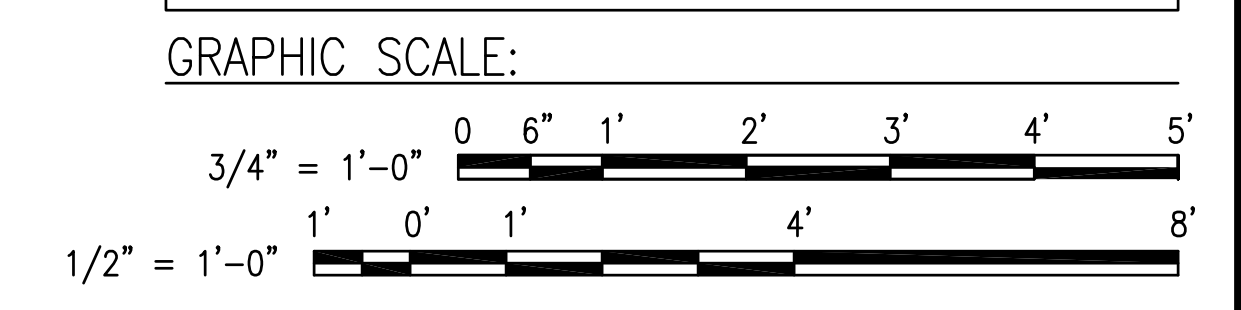
BASE PLATE & ANCHOR BOLTS, REFER TO TYP. DETAIL ON THIS SHEET  
 DEMO. & REPLACE PAVEMENT AS REQ'D. FOR NEW WORK, TYP.  
 1'-6" Ø  
 3" CLR.  
 (4)-#4, VERT.  
 #3 STIRRUPS AT 12" o/c

**SECTION C2**  
 3/4" = 1'-0"

11"  
 1 1/2"  
 4" 4" 1 1/2"  
 DRILL (4)-HOLES 5/16" LARGER IN DIA. THAN ANCHOR BOLT  
 3/16"  
 4" Ø STD. PIPE  
 1/2" THICK BASE PLATE  
 (2)-1/2" Ø x 12" LONG EPOXY SET ANCHOR BOLT

**TYPICAL BASE PLATE DETAIL**  
 NOT TO SCALE

NOTE: IF THIS DRAWING IS A REDUCTION, GRAPHIC SCALE MUST BE USED.



NO.	DATE	APPR.	DESCRIPTION

 <b>BOWMAN, FOSTER &amp; ASSOC.</b> CONSULTING ENGINEERS #4 INTERSTATE CORP. CENTER NORFOLK, VA 23502 2424 26th ROAD SOUTH ARLINGTON, VA 22206
 NORTH CAROLINA PROFESSIONAL ENGINEER AND E. McPHERSON 13627 7-12-12 STATE SEAL NO.
APPROVED _____ DATE _____ ACTIVITY - SATISFACTORY TO _____ APPROVED _____ FOR EPD FOR COMMANDER NAVFAC _____ DATE _____ A/E _____ EFD _____ MF DESIGN _____ CAD DRAWN _____ MF REVIEW _____ SGR OC _____ SGR CHIEF ARCH/ ENGR. _____ PROJECT MANAGER PEC _____ FIRE PROTECTION SAH _____ BRANCH MANAGER PEC _____ DESIGN DIRECTOR JEF _____
DEPARTMENT OF THE NAVY MARINE CORPS AIR STATION, CHERRY POINT, N.C. FACILITIES ENERGY REPAIRS, BUILDING 131 SECTIONS & DETAILS
CODE ID. NO. B0091    SIZE D SCALE: AS SHOWN FED. NO. WR6059407 STA. PROJ. NO. CP12024M SPEC. NO. _____ CONSTR. CONTR. NO. _____ NAVFAC DRAWING NO. 12618375 SHEET 13 OF 124 <b>S-202</b> <small>DRAWING REVISION JULY 2003</small>

BFA Filename Z:\Government\G-163-G-Energy Improvements Bldg. 131\4. FINAL DRAWINGS\ARCH\A-100 - GENERAL NOTES, ABBREVIATIONS AND SYMBOLS.dwg Plot Date: Jul 09, 2012 - 2:44pm Last Saved By: nathan

### GENERAL DEMOLITION NOTES

- WHERE DEMOLITION IS INDICATED ON THE DRAWINGS, OR REQUIRED FOR INSTALLATION OF NEW CONSTRUCTION, REMOVE EXISTING CONSTRUCTION (i.e.-AREAS OF FLOORS, WALLS CEILINGS, ETC.) AS REQUIRED TO PERFORM THE WORK INDICATED.
- WHERE DEMOLITION WORK HAS OCCURRED & RESTORATION OF FLOORS, WALLS, CEILINGS ETC. IS REQUIRED (i.e.-EXISTING CONSTRUCTION TO REMAIN EXPOSED TO VIEW), PATCH &/OR REPAIR SURFACES TO MATCH EXISTING ADJACENT SURFACE CONDITIONS & FINISHES TO REMAIN SO THAT THE DIFFERENCE IS NOT DISCERNIBLE FROM A DISTANCE OF TEN FEET.
- UNLESS OTHERWISE NOTED THE CONTRACTOR SHALL MATCH EXISTING CONDITIONS. NEW MATERIALS AND INSTALLATION SHALL BE SIMILAR IN COLOR, SIZE, SHAPE, TEXTURE AND QUALITY TO THE EXISTING MATERIALS.
- PROTECT ALL WINDOWS AND DOORS TO REMAIN, FREE OF DUST, DIRT AND DAMAGE. PROTECT ALL ELECTRICAL AND MECHANICAL EQUIPMENT FROM DIRT AND DAMAGE.
- THE DEMOLITION PLAN DRAWINGS WERE CREATED FROM RECORD DRAWINGS AND FIELD WORK, AND ARE INTENDED TO SHOW THE GENERAL CONDITIONS WHICH ARE EXPECTED TO OCCUR. VERIFY ALL CONDITIONS BEFORE PROCEEDING WITH THE DEMOLITION WORK IN ANY AREA. DEMOLITION OF ANY NONSTRUCTURAL ITEMS MAY PROCEED AS INDICATED. WHERE DISCREPANCIES INVOLVE STRUCTURAL ITEMS, SUPPORT STRUCTURE AND REPORT SUCH DIFFERENCES TO THE CONTRACTING OFFICER AND SECURE INSTRUCTIONS BEFORE PROCEEDING IN THE AFFECTED AREA.
- PATCHING: ALL HOLES IN WALLS, FLOORS AND CEILING AND OTHER PARTS OF THE STRUCTURE AFFECTED BY THIS CONTRACT REGARDLESS OF WHETHER OR NOT MATERIAL OR EQUIPMENT IS REMOVED OR REPLACED SHALL BE SEALED, PAINTED, CAULKED OR PLUGGED NEATLY WITH ORIGINAL TYPE OF MATERIALS TO MATCH THE EXISTING PART OF THE STRUCTURE SO INVOLVED.
- BEFORE PROCEEDING WITH ANY WORK ON THIS CONTRACT IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE ALL NECESSARY SAFEGUARDS TO MAINTAIN ALL PARTS OF THE PROJECT UNDER THIS CONTRACT IN A SAFE CONDITION AT ALL TIMES DURING THE PROCESS OF CONSTRUCTION AND TO PROTECT FROM DAMAGE THOSE PORTIONS OF THE EXISTING BUILDING WHICH ARE TO REMAIN.
- REFER TO MECHANICAL AND ELECTRICAL DRAWINGS FOR ADDED DEMOLITION NOTES AND INFORMATION.
- CONTRACTOR SHALL PROVIDE ALL NECESSARY BARRICADES AND OTHER FORMS OF PROTECTION AS REQUIRED TO PROTECT PERSONNEL AND BUILDING OCCUPANTS FROM INJURY DUE TO DEMOLITION WORK.
- THE CONTRACTOR SHALL CAREFULLY STUDY AND COMPARE THE DOCUMENTS WITH EACH OTHER AND SHALL AT ONCE REPORT TO THE CONTRACTING OFFICER ANY ERRORS AND INCONSISTENCIES OR OMISSIONS DISCOVERED.

### GENERAL WORK NOTES

- WHERE DISCREPANCIES IN THE CONTRACT DOCUMENTS, DRAWINGS OR SPECIFICATIONS ARE DISCOVERED BY THE CONTRACTOR PRIOR TO BID, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE CONTRACTING OFFICER AND REQUEST CLARIFICATION. CONTRACTOR INTERPRETATIONS OF DRAWINGS, DETAILS OR SPECIFICATIONS SHALL BE BASED UPON THE MOST RESTRICTIVE OR DIFFICULT SOLUTIONS AND SHALL BE CONSIDERED AS INCLUDED IN CONTRACTOR'S BID PROPOSAL. POST BID OR POST CONTRACT REQUESTS FOR INFORMATION (RFI) ARE NOT CONSIDERED AS BASIS FOR CHANGE ORDER UNLESS SO CLARIFIED OR DOCUMENTED AS PART OF ORIGINAL BID PROPOSAL PACKAGE.
- UNLESS OTHERWISE INDICATED, ALL NOTES, DETAILS AND FEATURES DRAWN FOR ONE CONDITION SHALL BE APPLICABLE TO COMMON CONDITIONS WITHIN THE SCOPE OF WORK WHETHER OR NOT IT IS SPECIFICALLY INDICATED.
- ALL DIMENSIONS OF EXISTING FEATURES AND ITEMS ARE APPROXIMATE. THE CONTRACTOR SHALL FIELD VERIFY ALL CONDITIONS AND DIMENSIONS, AND SHALL BRING ANY DISCREPANCIES TO THE ATTENTION OF THE CONTRACTING OFFICER PRIOR TO THE COMMENCEMENT OF DEMOLITION OR NEW WORK.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DIMENSIONS, ELEVATIONS AND SEQUENCES OF WORK NECESSARY FOR THE PROPER CONSTRUCTION AND ALIGNMENT OF THE NEW PORTIONS OF THE WORK TO THE EXISTING PORTIONS OF THE PROJECT. THE CONTRACTOR SHALL MAKE ALL MEASUREMENTS NECESSARY FOR THE PROPER EXECUTION, FABRICATION AND ERECTION OF ALL NEW WORK.
- ALL DIMENSIONS ARE FACE OF STUD AND/OR FACE OF MASONRY TO FACE OF STUD AND/OR MASONRY, UNLESS NOTED OTHERWISE
- ON ALL ARCHITECTURAL DRAWING SHEETS, ALL MATERIALS NOTED ARE NEW UNLESS SPECIFICALLY NOTED AS EXISTING. ALL MATERIALS NOTED AS EXISTING SHALL REMAIN UNLESS SPECIFICALLY NOTED TO BE REMOVED.
- PATCHING: WHERE EXTERIOR AND INTERIOR DEMOLITION WORK HAS OCCURRED & RESTORATION OF FLOORS, WALLS, CEILINGS ETC. IS REQUIRED (i.e.-EXISTING STRUCTURES TO REMAIN EXPOSED TO VIEW), PATCH &/OR REPAIR SURFACES TO MATCH EXISTING ADJACENT SURFACE CONDITIONS IN COLOR, SHAPE, SIZE, TEXTURE & QUALITY. WHERE PATCHING OCCURS, PAINT THAT WALL AND/OR CEILING FROM WALL TO WALL AND FROM FLOOR TO CEILING.
- THE GOVERNMENT WILL REMOVE PERSONNEL ITEMS, EQUIPMENT AND FURNITURE FROM WORK SITE PRIOR TO THE START OF EACH CONSTRUCTION PHASE. THE CONTRACTOR SHALL GIVE AT LEAST FOUR (4) WEEKS ADVANCE NOTICE TO THE GOVERNMENT PRIOR TO CONTRACTOR BEGINNING WORK OF EACH PHASE.
- CONTRACTOR SHALL ENSURE THAT DEMOLITION WORK DOES NOT INTERFERE WITH OR PROHIBIT THE CONTINUING OCCUPATION OF ADJACENT BUILDING OPERATIONS. THIS INCLUDES BUT IS NOT LIMITED TO THE SELECTIVE DEMOLITION OF CEILINGS, ELECTRICAL AND MECHANICAL SYSTEMS. CONTRACTOR SHALL INFORM OWNER A MINIMUM OF 72 HOURS PRIOR TO DEMOLITION ACTIVITIES THAT WILL AFFECT NORMAL OPERATION OF BUILDING.
- READ IN CONJUNCTION WITH THE PHASING PLANS.

### ABBREVIATIONS

+00	HEIGHT ABOVE FINISHED FLOOR OR GRADE	HM	HOLLOW METAL
AC	AIR CONDITIONER	HT	HEIGHT
ADMIN	ADMINISTRATION	HW	HOT WATER
AFF	ABOVE FINISHED FLOOR	HORIZ	HORIZONTAL
ALUM	ALUMINUM	HR	HOUR
ACT	ACOUSTICAL CEILING TILE	HDW	HARDWARE
APPROX	APPROXIMATELY	LT	LIGHT
@	AT	MAT	MATERIAL
BK, BLOCK	MASONRY BLOCK	MAX	MAXIMUM
B.O.	BOTTOM OF	MECH	MECHANICAL
BOTT	BOTTOM	MFR	MANUFACTURER
BRG	BEARING	MIN	MINIMUM
CAP	CAPACITY	MO	MASONRY OPENING
CFM	CUBIC FEET PER MINUTE	MRGWB	MOISTURE RESISTANT GYPSUM WALLBOARD
CLG	CEILING	MTL	METAL
☉	CENTERLINE	NO	NUMBER
CJ	CONTROL JOINT	NIC	NOT IN CONTRACT
CL	CLOSET	NTS	NOT TO SCALE
CMU	CONCRETE MASONRY UNIT	OC	ON CENTER
CO	CLEANOUT	O.F. OF...	OUTSIDE FACE OF....
COL	COLUMN	OPNG	OPENING
CONC	CONCRETE	PEJ	PREFORMED EXPANSION JOINT
CONT	CONTINUOUS	P.LAM	PLASTIC LAMINATE
CORR	CORRIDOR	PLAS	PLASTER
CT	CERAMIC TILE	PT	PAINT
DIA	DIAMETER	PTD	PAINTED
DF	DRINKING FOUNTAIN	REINF	REINFORCED
DN	DOWN	REQ'D	REQUIRED
DO	DOOR OPENING	RM	ROOM
DR	DOOR	STOR	STORAGE
DTL	DETAIL	STRUCT	STRUCTURAL
DWG (S)	DRAWING (DRAWINGS)	SC	SOLID CORE
EA	EACH	SHT	SHEET
EXIST	EXISTING	SIM	SIMILAR
ELEC	ELECTRIC	SPEC'D	SPECIFIED
ELEV	ELEVATION	SS	SERVICE SINK
EQ	EQUAL	S.S.	STAINLESS STEEL
ETR	EXISTING TO REMAIN	STD	STANDARD
EXP JT	EXPANSION JOINT	STL	STEEL
EXT	EXTERIOR	SURF	SURFACE
EWC	ELECTRIC WATER COOLER	SUSP	SUSPENDED
FF	FINISHED FLOOR	THK	THICK
FIN	FINISHED	T.O	TOP OF
FLR	FLOOR	TOT	TOTAL
FOS	FACE OF STUD	TPO	THERMOPLASTIC POLYOLEFIN
FR	FIRE RATED	TR	TREAD
FTG	FOOTING	TYP	TYPICAL
FV	FIELD VERIFY	UON	UNLESS OTHERWISE NOTED
GA	GAUGE	VB	VINYL BASE
GFGI	GOVERNMENT FURNISHED/ GOVERNMENT INSTALLED	VCT	VINYL COMPOSITION TILE
GL	GLASS	VGWB	VINYL FACED GWB
GND	GROUND	VTR	VENT THROUGH ROOF
GWB	GYPSUM WALLBOARD	VVC	VINYL WALL COVERING
		VERT	VERTICAL
		W	WIDTH

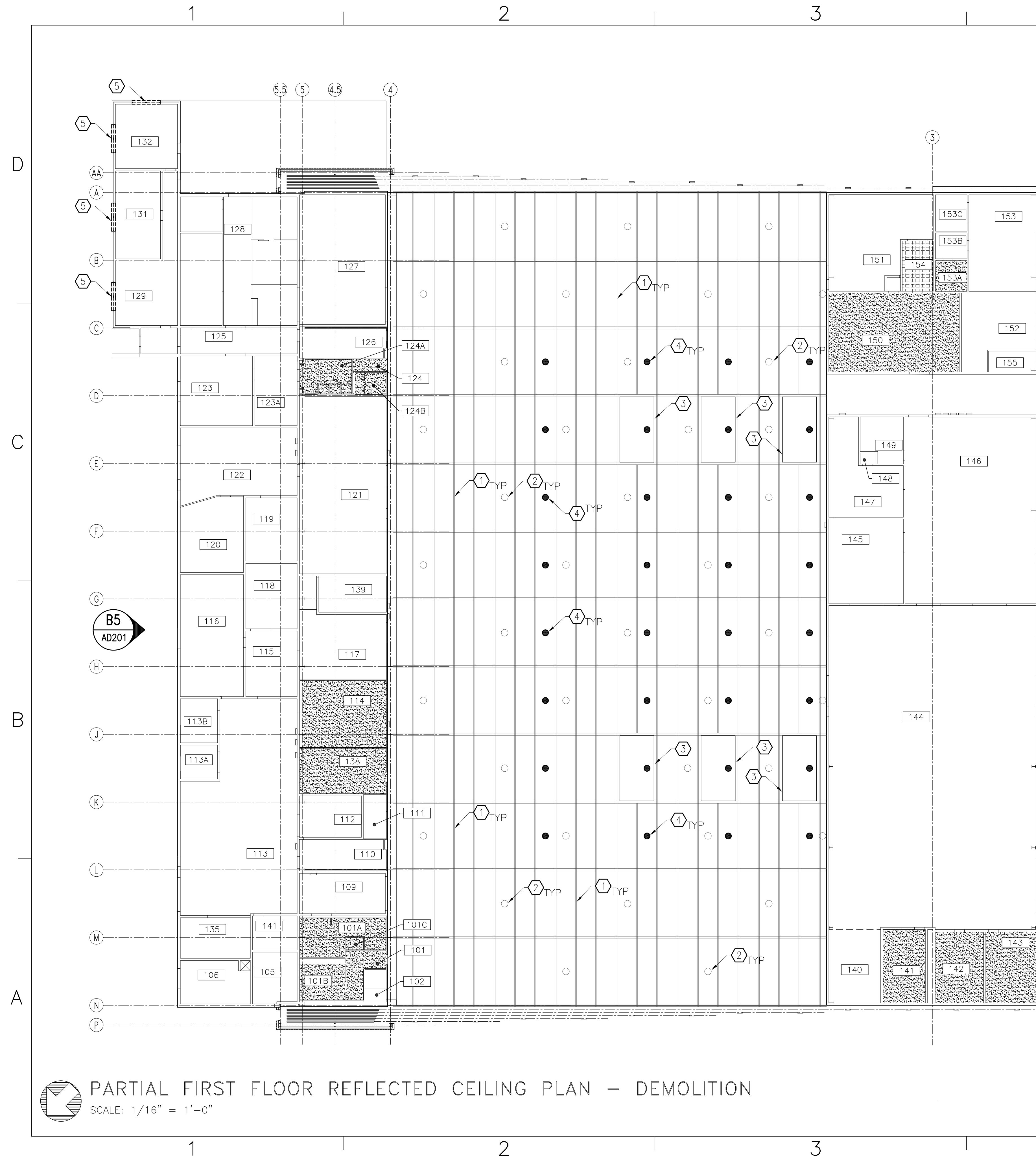
### SYMBOL LEGEND

SECTION NUMBER  
SHEET CUT FROM  
ELEVATION/PHOTO  
SHEET CUT FROM  
DEMOLITION NOTES  
ROOM NUMBER  
NEW WORK NOTES  
REVISION NUMBER  
WINDOW TYPE

DATE	APPR
DESCRIPTION	
SYN	
 BOWMAN, FOSTER & ASSOC. CONSULTING ENGINEERS #4 INTERSTATE CORP. CENTER NORFOLK, VA 23502 2424 26TH ROAD SOUTH ARLINGTON, VA 22206	
 APPROVED	
ACTIVITY - SATISFACTORY TO	
DATE	
APPROVED	
FOR EPD FOR COMMANDER NAVFAC	
DATE	
A/E	EPD
NLS DESIGN	
KAF DRAWN	
NLS REVIEW	
SGR	OC
SGR	CHIEF ARCH/ ENGR.
	PEC
FIRE PROTECTION	SAH
BRANCH MANAGER	PEC
DESIGN DIRECTOR	JEF
DEPARTMENT OF THE NAVY MARINE CORPS AIR STATION, CHERRY POINT, N.C. <b>FACILITIES ENERGY REPAIRS,          BUILDING 131</b> GENERAL NOTES, ABBREVIATIONS AND SYMBOLS	
CODE ID. NO. 80091	SIZE D
SCALE: AS SHOWN	
FED. NO. WR6059407	
STA. PROJ. NO. CP12024M/CP12024R	
SPEC. NO.	
CONSTR. CONTR. NO.	
NAVFAC DRAWING NO. 12618376	
SHEET 14 OF 124	
<b>A-100</b>	
DRAWING REVISION JULY 2003	



BFA File name Z:\\_Government\G-163-G-Energy Improvements Bldg. 131\4. FINAL DRAWINGS\ARCH\AD101 - PARTIAL FIRST FLOOR REFLECTED CEILING PLAN - DEMOLITION.dwg Plot Date: Jul 09, 2012 - 2:44pm Last Saved By: nothton



### DEMOLITION NOTES

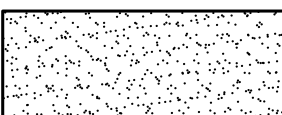
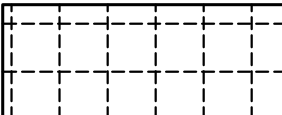
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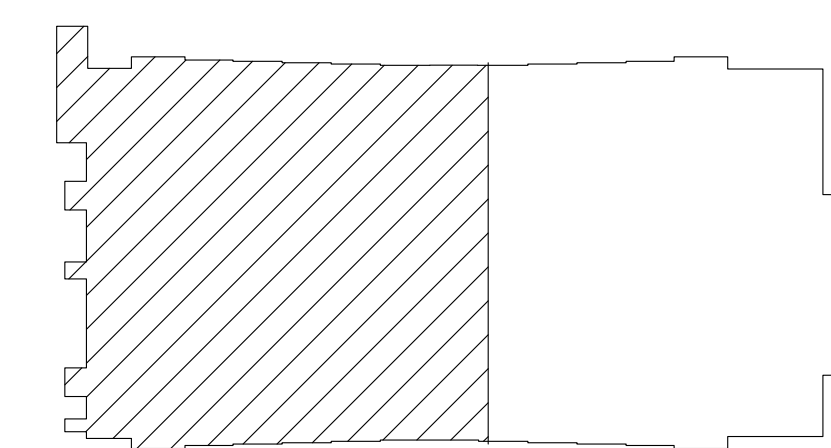
GENERAL: ALL EXISTING CEILINGS TO BE DEMOLISHED FOR INSTALLATION OF NEW MECHANICAL EQUIPMENT.

- ① EXISTING ROOF STRUCTURE TO REMAIN
- ② APPROXIMATE LOCATION OF EXISTING LIGHT FIXTURES TO REMAIN
- ③ REMOVE SKYLIGHT AND ROOF CURB, COMPLETE
- ④ APPROXIMATE LOCATION OF NEW SOLAR TUBES. SOLAR TUBE LOCATIONS TO BE COORDINATED WITH EXISTING STRUCTURAL MEMBERS AND EXISTING LIGHT FIXTURES.
- ⑤ REMOVE ALUMINUM WINDOW, COMPLETE

### LEGEND

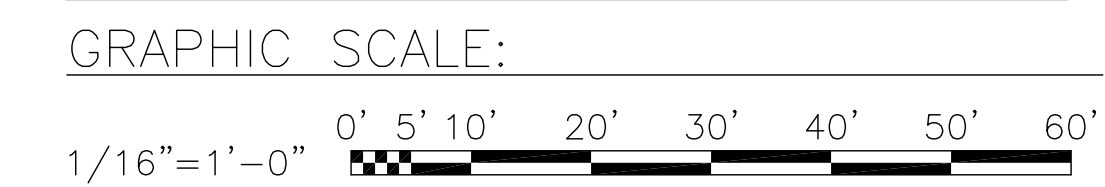
THIS SHEET ONLY

-  GYPSUM CEILING TO BE DEMOLISHED
-  ACT & GRID TO BE DEMOLISHED


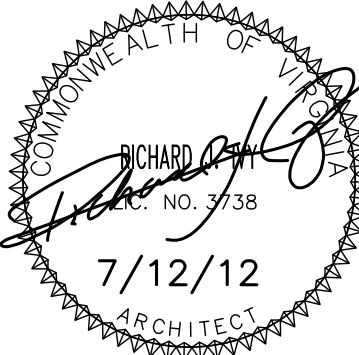


**KEY PLAN**  
NO SCALE

NOTE: IF THIS DRAWING IS A REDUCTION, GRAPHIC SCALE MUST BE USED.



 **PARTIAL FIRST FLOOR REFLECTED CEILING PLAN - DEMOLITION**  
SCALE: 1/16" = 1'-0"

DATE	APPR.	DESCRIPTION	
 <b>BOWMAN, FOSTER &amp; ASSOC.</b> CONSULTING ENGINEERS #4 INTERSTATE CORP. CENTER NORFOLK, VA 23502 2424 26TH ROAD SOUTH ARLINGTON, VA 22206			
 APPROVED RICHARD [Signature] ARCHITECT NO. 7138 7/12/12 10-0055			
ACTIVITY - SATISFACTORY TO			
DATE	APPROVED	FOR EPD FOR COMMANDER NAVFAC	
DATE	A/E	EPD	
	NLS	DESIGN	
	KAF	DRAWN	
	NLS	REVIEW	
	SGR	QC	
	SGR	CHIEF ARCH/ ENGR.	
	PROJECT MANAGER	PEC	
	FIRE PROTECTION	SAH	
	BRANCH MANAGER	PEC	
	DESIGN DIRECTOR	JFF	
DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND MARINE CORPS AIR STATION, CHERRY POINT, N.C. <b>FACILITIES ENERGY REPAIRS,          BUILDING 131</b> PARTIAL FIRST FLOOR REFLECTED CEILING PLAN - DEMOLITION			
CODE ID. NO.	80091	SIZE	D
SCALE:	AS SHOWN		
FED. NO.	WR6059407		
STA. PROJ. NO.	CP12024M/CP12024R		
SPEC. NO.			
CONSTR. CONTR. NO.			
NAVFAC DRAWING NO.			12618377
SHEET	15	OF	124
			<b>AD101</b>
			<small>DRAWING REVISION JULY 2003</small>

## DEMOLITION NOTES


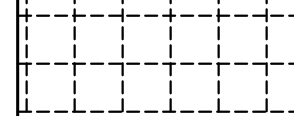
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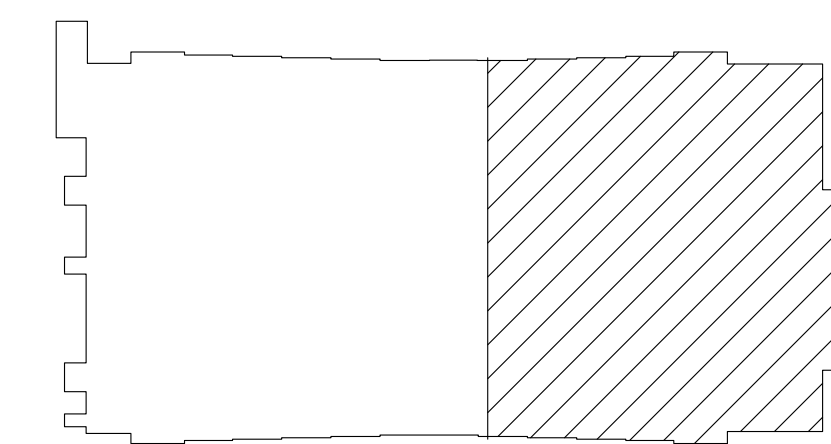
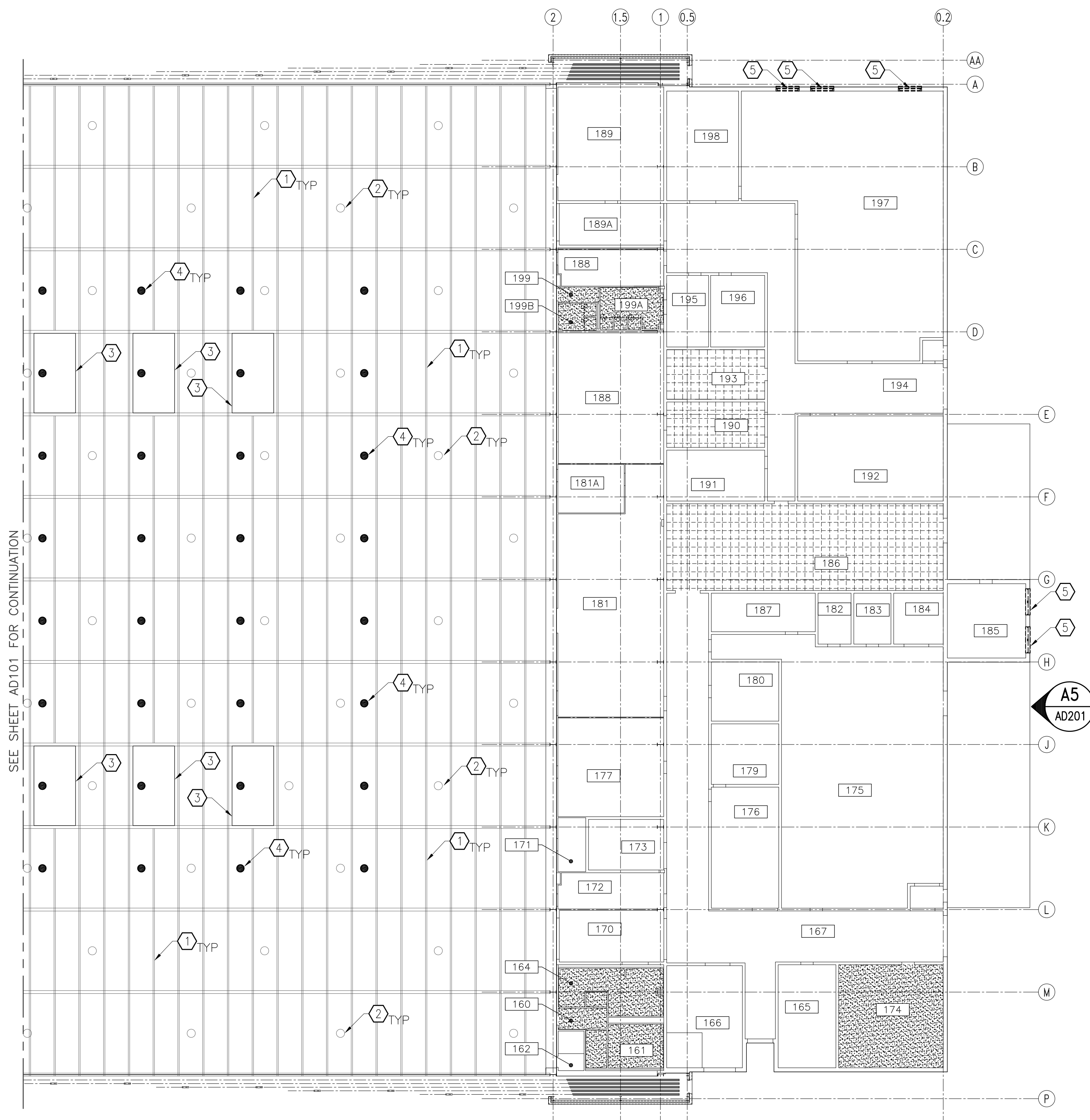
GENERAL: ALL EXISTING CEILINGS TO BE DEMOLISHED FOR INSTALLATION OF NEW MECHANICAL EQUIPMENT.

- ① EXISTING ROOF STRUCTURE TO REMAIN
- ② APPROXIMATE LOCATION OF EXISTING LIGHT FIXTURES TO REMAIN
- ③ REMOVE SKYLIGHT AND ROOF CURB, COMPLETE
- ④ APPROXIMATE LOCATION OF NEW SOLAR TUBES. SOLAR TUBE LOCATIONS TO BE COORDINATED WITH EXISTING STRUCTURAL MEMBERS AND EXISTING LIGHT FIXTURES.
- ⑤ REMOVE ALUMINUM WINDOW, COMPLETE

## LEGEND

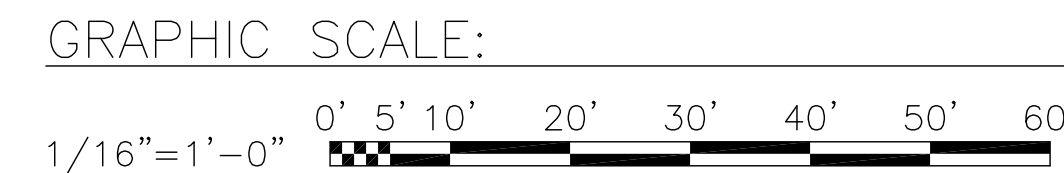
THIS SHEET ONLY

-  GYPSUM CEILING TO BE DEMOLISHED
-  ACT & GRID TO BE DEMOLISHED



**KEY PLAN**  
NO SCALE

NOTE: IF THIS DRAWING IS A REDUCTION, GRAPHIC SCALE MUST BE USED.



**PARTIAL FIRST FLOOR REFLECTED CEILING PLAN - DEMOLITION**  
SCALE: 1/16" = 1'-0"

DATE		APPR
DESCRIPTION		
SYML		
<b>lf</b>		
BOWMAN, FOSTER & ASSOC. CONSULTING ENGINEERS #4 INTERSTATE CORP. CENTER NORFOLK, VA 23502 2424 26TH ROAD SOUTH ARLINGTON, VA 22206		
APPROVED		
ACTIVITY - SATISFACTORY TO		
DATE		
APPROVED		
FOR EPD FOR COMMANDER NAVFAC		
DATE	A/E	EPD
	NLS	DESIGN
	KAF	DRAWN
	NLS	REVIEW
	SGR	QC
	SGR	CHIEF ARCH/ ENGR.
PROJECT MANAGER	PEC	
FIRE PROTECTION	SAH	
BRANCH MANAGER	PEC	
DESIGN DIRECTOR	JFF	
DEPARTMENT OF THE NAVY	NAVAL FACILITIES ENGINEERING COMMAND	
MARINE CORPS AIR STATION, CHERRY POINT, N.C.	FACILITIES ENERGY REPAIRS, BUILDING 131	
PARTIAL FIRST FLOOR REFLECTED CEILING PLAN - DEMOLITION		
CODE ID. NO. 80091	SIZE	D
SCALE:	AS SHOWN	
FED. NO.	WR6059407	
STA. PROJ. NO.	CP12024M/CP12024R	
SPEC. NO.		
CONSTR. CONTR. NO.		
NAVFAC DRAWING NO.	12618378	
SHEET	16	OF 124
<b>AD102</b>		
<small>DRAWFORM REVISION JULY 2003</small>		

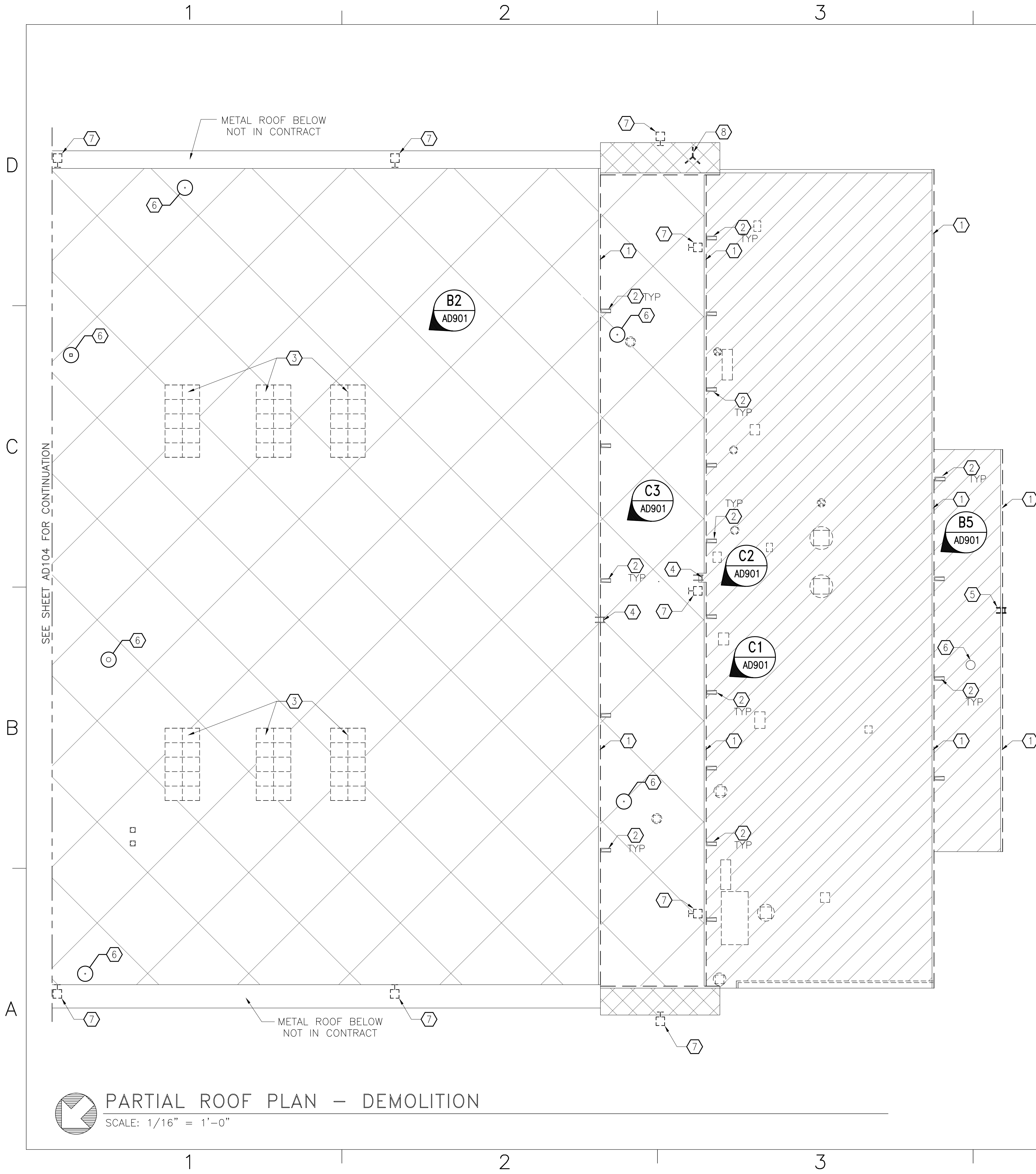








BFA Filename Z:\\_Government\G-163-G-Energy Improvements Bldg. 131\4. FINAL DRAWINGS\ARCH\AD105 - PARTIAL ROOF PLAN - DEMOLITION.dwg Plot Date: Jul 09, 2012 - 2:43pm Last Saved By: nathan



**GENERAL NOTES**

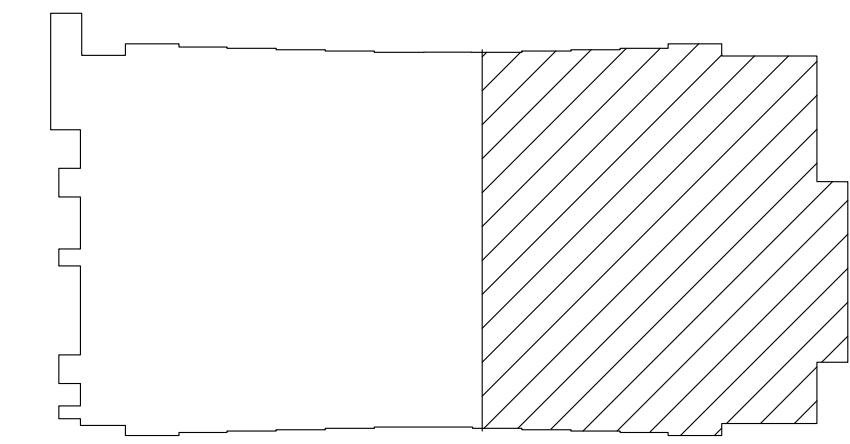
THIS SHEET ONLY  
 SEE MECHANICAL SHEETS FOR DEMOLITION OF ALL ROOF TOP EQUIPMENT, VENT, PIPES, ETC  
 REMOVE ALL UNUSED MISCELLANEOUS METAL STANDS AND CAPPED OFF PENETRATIONS COMPLETELY.

**DEMOLITION NOTES**

- THIS SHEET ONLY
- ① REMOVE ALL GUTTERS & DOWNSPOUTS
  - ② ALL CONCRETE SPLASH BLOCKS TO BE STORED & REINSTALLED
  - ③ REMOVE SKYLIGHT AND ROOF CURB, COMPLETE
  - ④ REMOVE LADDER, STORE AND REINSTALL WHEN RE-ROOFING IS COMPLETE, THEN REPAINT
  - ⑤ REMOVE LADDER COMPLETE
  - ⑥ MECHANICAL EQUIPMENT TO REMAIN, SEE MECHANICAL SHEETS FOR MORE INFORMATION
  - ⑦ REMOVE LIGHT FIXTURES, SEE ELECTRICAL DRAWINGS FOR MORE INFORMATION
  - ⑧ REMOVE METAL STAND

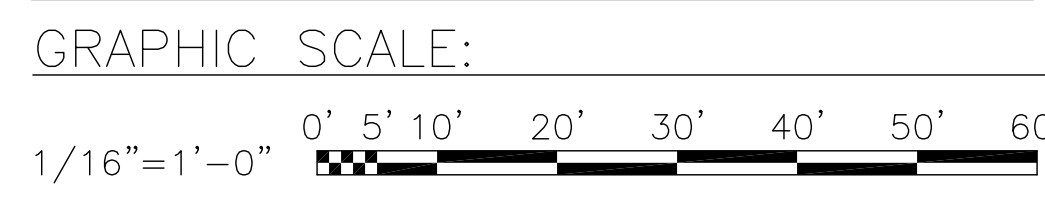
**LEGEND**

- THIS SHEET ONLY
- REMOVE ASPHALT BUILT-UP ROOFING SYSTEM AND INSULATION DOWN TO EXISTING METAL DECK
  - REMOVE ASPHALT BUILT-UP ROOFING SYSTEM AND INSULATION DOWN TO EXISTING WOOD DECK



**KEY PLAN**  
NO SCALE

NOTE: IF THIS DRAWING IS A REDUCTION, GRAPHIC SCALE MUST BE USED.



**PARTIAL ROOF PLAN - DEMOLITION**  
SCALE: 1/16" = 1'-0"

DATE	APPR
DESCRIPTION	
SYN	
BOWMAN, FOSTER & ASSOC. CONSULTING ENGINEERS #4 INTERSTATE CORP. CENTER NORFOLK, VA 23502 2424 26TH ROAD SOUTH ARLINGTON, VA 22206	
APPROVED	
ACTIVITY - SATISFACTORY TO	
DATE	
APPROVED	
FOR EPD FOR COMMANDER NAVFAC	
DATE	
A/E	EPD
NLS	DESIGN
KAF	DRAWN
NLS	REVIEW
SGR	QC
SGR	CHIEF ARCH/ ENGR.
PROJECT MANAGER	PEC
FIRE PROTECTION	SAH
BRANCH MANAGER	PEC
DESIGN DIRECTOR	JFF
DEPARTMENT OF THE NAVY MARINE CORPS AIR STATION, CHERRY POINT, N.C. <b>FACILITIES ENERGY REPAIRS,          BUILDING 131</b> PARTIAL ROOF PLAN - DEMOLITION	
CODE ID. NO. 80091	SIZE D
SCALE: AS SHOWN	
FED. NO. WR6059407	
STA. PROJ. NO. CP12024M/CP12024R	
SPEC. NO.	
CONSTR. CONTR. NO.	
NAVFAC DRAWING NO.	12618381
SHEET	19 OF 124
<b>AD105</b>	
DRAWFORM REVISION JULY 2003	

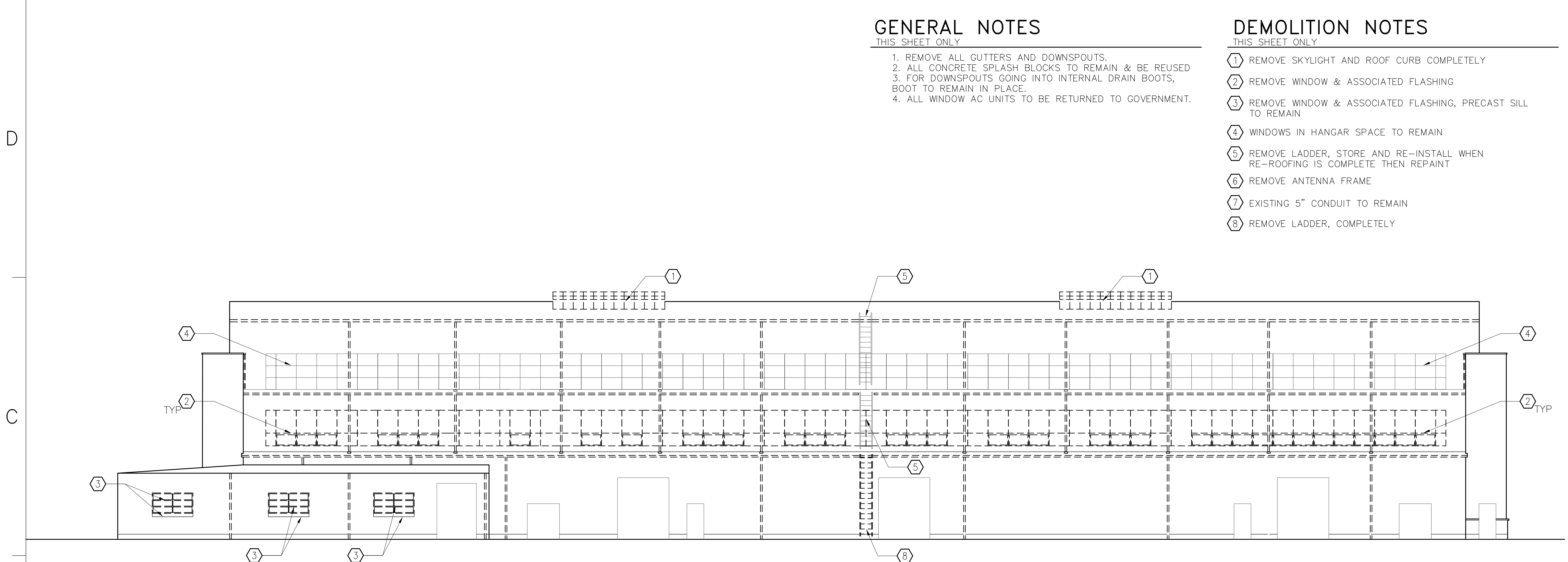
BFA File: Z:\\_Government\G-163-G-Energy Improvements Bldg. 131\4. FINAL DRAWINGS\ARCH\AD201 - ELEVATIONS - DEMOLITION.dwg Plot Date: Jul 09, 2012 - 2:42pm Last Saved By: nathan

### GENERAL NOTES

- THIS SHEET ONLY
1. REMOVE ALL GUTTERS AND DOWNSPOUTS.
  2. ALL CONCRETE SPLASH BLOCKS TO REMAIN & BE REUSED
  3. FOR DOWNSPOUTS GOING INTO INTERNAL DRAIN BOOTS, BOOT TO REMAIN IN PLACE.
  4. ALL WINDOW AC UNITS TO BE RETURNED TO GOVERNMENT.

### DEMOLITION NOTES

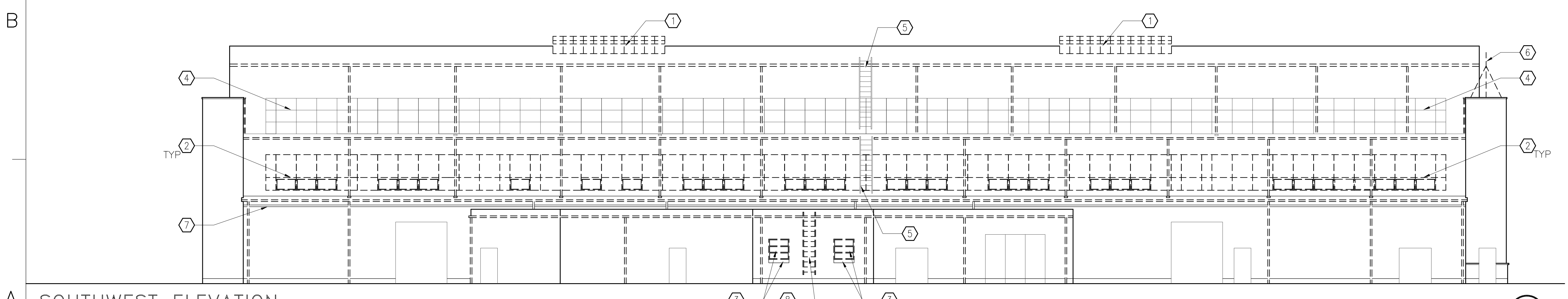
- THIS SHEET ONLY
- 1 REMOVE SKYLIGHT AND ROOF CURB COMPLETELY
  - 2 REMOVE WINDOW & ASSOCIATED FLASHING
  - 3 REMOVE WINDOW & ASSOCIATED FLASHING, PRECAST SILL TO REMAIN
  - 4 WINDOWS IN HANGAR SPACE TO REMAIN
  - 5 REMOVE LADDER, STORE AND RE-INSTALL WHEN RE-ROOFING IS COMPLETE THEN REPAINT
  - 6 REMOVE ANTENNA FRAME
  - 7 EXISTING 5" CONDUIT TO REMAIN
  - 8 REMOVE LADDER, COMPLETELY



NORTHEAST ELEVATION

NO SCALE

AD101, AD103 (B5)



SOUTHWEST ELEVATION

NO SCALE

AD102, AD103 (A5)

DATE	APPR	SYL	DESCRIPTION

**BFA**  
**BOWMAN, FOSTER & ASSOC.**  
 CONSULTING ENGINEERS  
 #4 INTERSTATE CORP. CENTER  
 NORFOLK, VA 23502  
 2424 26TH ROAD, SOUTH  
 ARLINGTON, VA 22206

COMMUNEAL TH  
 RICHARD [Signature]  
 No. 738  
 7/12/12  
 ARCHITECT  
 10-0055

APPROVED	
ACTIVITY - SATISFACTORY TO	
DATE	
APPROVED	
FOR EPD FOR COMMANDER NAVFAC	
DATE	
A/E	EPD
NLS	DESIGN
KAF	DRAWN
NLS	REVIEW
SGR	OC
SGR	CHIEF ARCH/ ENGR.
PROJECT MANAGER	PEC
FIRE PROTECTION	SAH
BRANCH MANAGER	PEC
DESIGN DIRECTOR	JFF

NAVAL FACILITIES ENGINEERING COMMAND  
 MARINE CORPS AIR STATION, CHERRY POINT, N.C.  
 FACILITIES ENERGY REPAIRS,  
 BUILDING 131  
 ELEVATIONS - DEMOLITION

CODE ID. NO.	80091	SIZE	D
SCALE:	AS SHOWN		
FED. NO.	WR6059407		
STA. PROJ. NO.	CP12024M/CP12024R		
SPEC. NO.			
CONSTR. CONTR. NO.			
NAVFAC DRAWING NO.	12618382		
SHEET	20	OF	124
AD201			
DRAWING REVISION: JULY 2003			



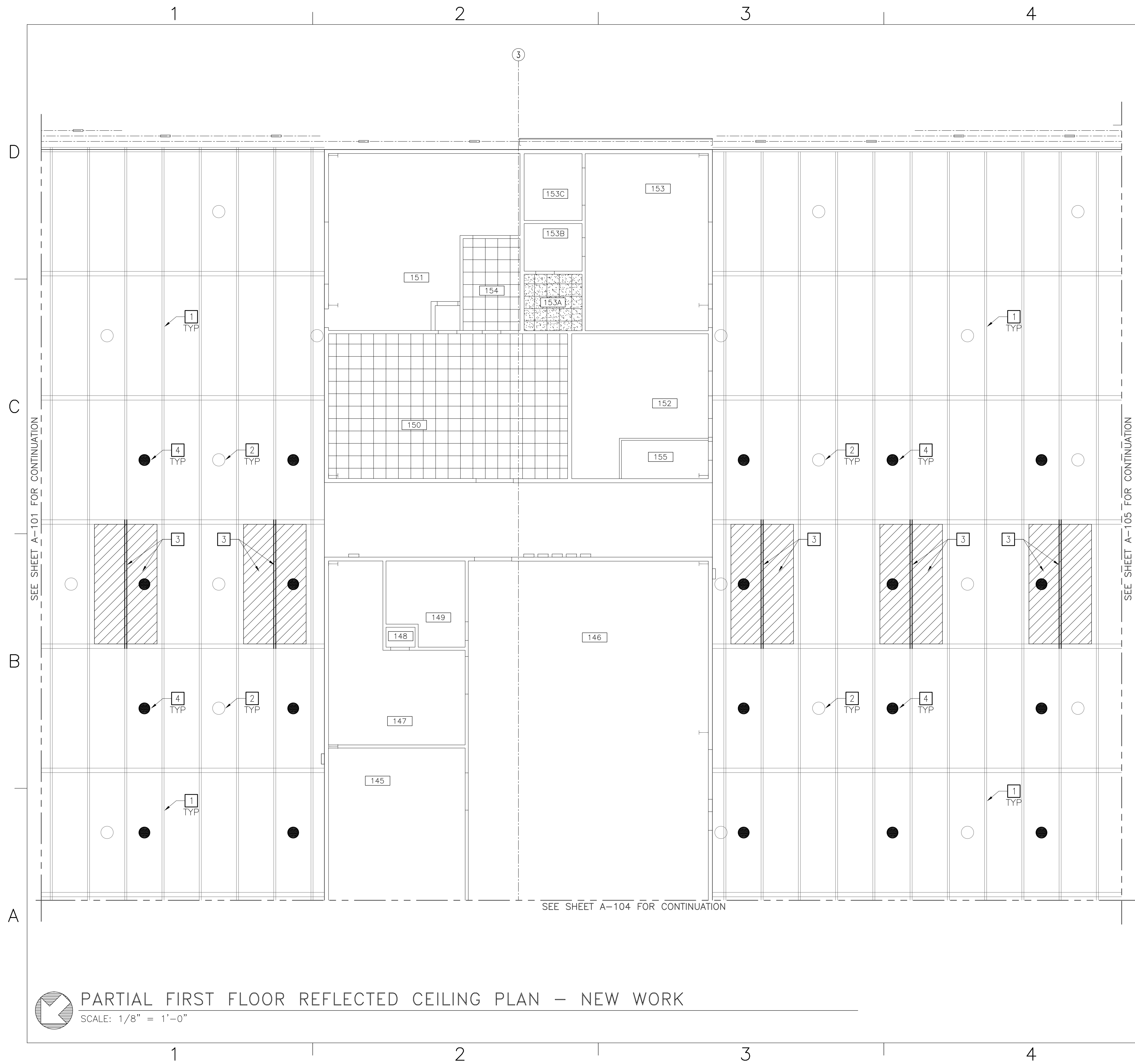












### NEW WORK NOTES

THIS SHEET ONLY

#### GENERAL:

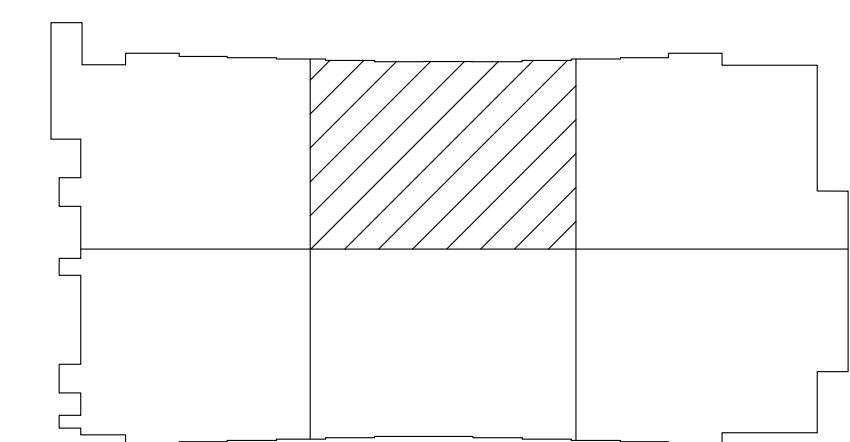
- ALL NEW CEILINGS TO BE INSTALLED AT EXISTING CEILING HEIGHT. TYPICAL HEIGHT IS 8'-0", FIELD VERIFY
- SEE MECHANICAL AND ELECTRICAL PLANS FOR LIGHT FIXTURES AND MECHANICAL EQUIPMENT COORDINATION ON THE FIRST FLOOR.

- EXISTING ROOF STRUCTURE TO REMAIN
- APPROXIMATE LOCATION OF EXISTING LIGHT FIXTURES TO REMAIN
- NEW METAL DECK AND STEEL BEAM, SEE DETAIL A4 ON A-502 FOR MORE INFORMATION
- APPROXIMATE LOCATION OF NEW SOLAR TUBES. SOLAR TUBE LOCATIONS TO BE COORDINATED WITH EXISTING STRUCTURAL MEMBERS AND EXISTING LIGHT FIXTURES.

### LEGEND

THIS SHEET ONLY

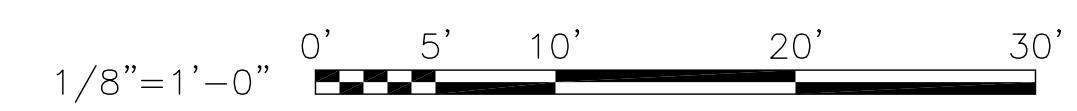
- NEW 2'-0" x 2'-0" CEILING TILE
- NEW 2'-0" x 2'-0" CEILING GRID WITH MOISTURE RESISTANT TILE




**KEY PLAN**  
NO SCALE

NOTE: IF THIS DRAWING IS A REDUCTION, GRAPHIC SCALE MUST BE USED.

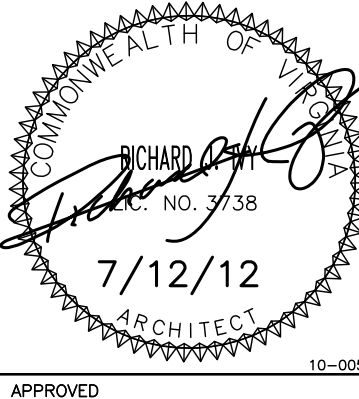
GRAPHIC SCALE:



DATE	APPROVAL	DESCRIPTION	SYMBOL



**BOWMAN, FOSTER & ASSOC.**  
CONSULTING ENGINEERS  
#4 INTERSTATE CORP. CENTER  
NORFOLK, VA 23502  
2424 26TH ROAD, SOUTH  
ARLINGTON, VA 22206



RICHARD [Signature]  
NO. 738  
7/12/12  
ARCHITECT

APPROVED	
ACTIVITY - SATISFACTORY TO	
DATE	
APPROVED	
FOR EPD FOR COMMANDER NAVFAC	
DATE	
A/E DESIGN	EPD
NLS	
KAF	DRAWN
NLS	REVIEW
SGR	QC
SGR	CHIEF ARCH/ ENGR.
PROJECT MANAGER	PEC
FIRE PROTECTION	SAH
BRANCH MANAGER	PEC
DESIGN DIRECTOR	JEF

DEPARTMENT OF THE NAVY  
NAVAL FACILITIES ENGINEERING COMMAND  
MARINE CORPS AIR STATION, CHERRY POINT, N.C.

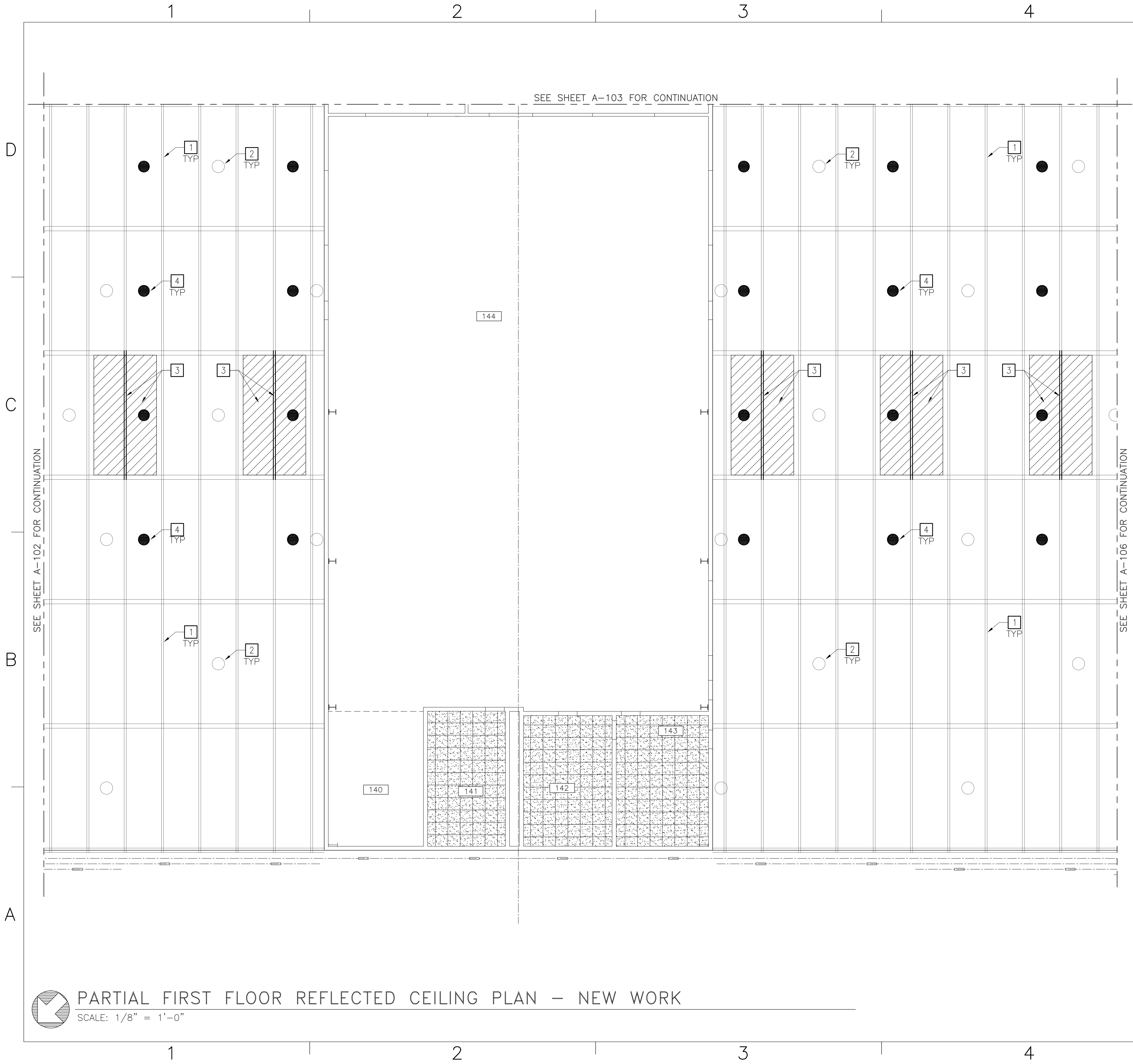
**FACILITIES ENERGY REPAIRS,  
BUILDING 131**

PARTIAL FIRST FLOOR REFLECTED CEILING PLAN - NEW WORK

CODE ID. NO. 80091	SIZE D
SCALE:	AS SHOWN
FED. NO.	WR6059407
STA. PROJ. NO.	CP12024M/CP12024R
SPEC. NO.	
CONSTR. CONTR. NO.	

NAVFAC DRAWING NO.	12618386
SHEET	24 OF 124
<b>A-103</b>	
DRAWING REVISION JULY 2003	

BFA File name Z:\\_Government\G-163-G-Energy Improvements Bldg. 131\4. FINAL DRAWINGS\ARCH\A-104 - PARTIAL FIRST FLOOR REFLECTED CEILING PLAN - NEW WORK.dwg Plot Date: Jul 09, 2012 - 2:41pm Last Saved By: nathan



SEE SHEET A-103 FOR CONTINUATION

SEE SHEET A-102 FOR CONTINUATION

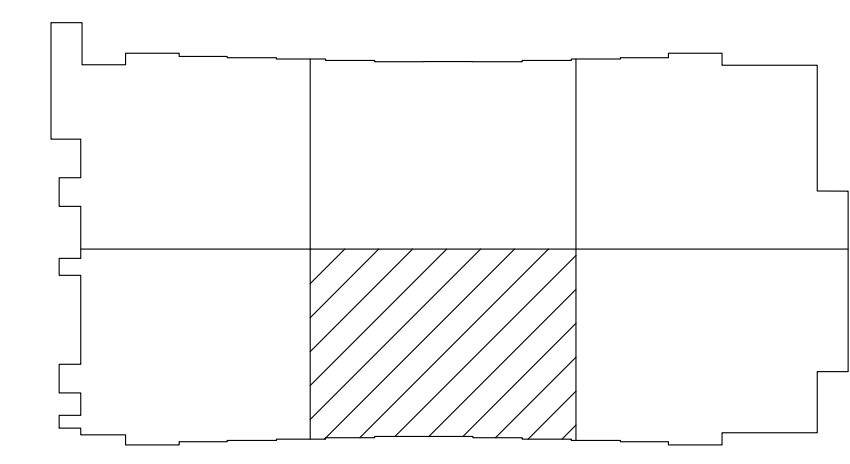
### NEW WORK NOTES

- THIS SHEET ONLY
- GENERAL:
- ALL NEW CEILINGS TO BE INSTALLED AT EXISTING CEILING HEIGHT. TYPICAL HEIGHT IS 8'-0", FIELD VERIFY
  - SEE MECHANICAL AND ELECTRICAL PLANS FOR LIGHT FIXTURES AND MECHANICAL EQUIPMENT COORDINATION ON THE FIRST FLOOR.
- EXISTING ROOF STRUCTURE TO REMAIN
  - APPROXIMATE LOCATION OF EXISTING LIGHT FIXTURES TO REMAIN
  - NEW METAL DECK AND STEEL BEAM, SEE DETAIL A4 ON A-502 FOR MORE INFORMATION
  - APPROXIMATE LOCATION OF NEW SOLAR TUBES. SOLAR TUBE LOCATIONS TO BE COORDINATED WITH EXISTING STRUCTURAL MEMBERS AND EXISTING LIGHT FIXTURES.

### LEGEND

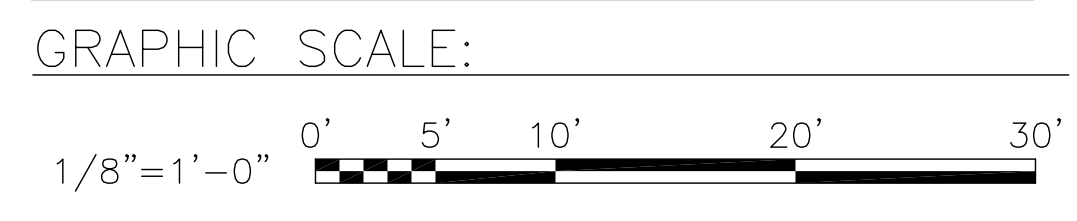
THIS SHEET ONLY

NEW 2'-0" x 2'-0" CEILING GRID WITH MOISTURE RESISTANT TILE



KEY PLAN  
NO SCALE

NOTE: IF THIS DRAWING IS A REDUCTION, GRAPHIC SCALE MUST BE USED.



DATE	APPR	DESCRIPTION

BOWMAN, FOSTER & ASSOC.  
CONSULTING ENGINEERS  
#4 INTERSTATE CORP. CENTER  
NORFOLK, VA 23502  
2424 26th ROAD SOUTH  
ARLINGTON, VA 22206

RICHARD J. GALT  
NO. 7138  
7/12/12  
ARCHITECT

APPROVED	
ACTIVITY - SATISFACTORY TO	
DATE	
APPROVED	
FOR EPD FOR COMMANDER NAVFAC	
DATE	
A/E	DESIGN
NLS	
KAF	DRAWN
NLS	
SGR	REVIEW
SGR	
SGR	OC
SGR	CHIEF ARCH/ ENGR.
PROJECT MANAGER	PEC
FIRE PROTECTION	SAH
BRANCH MANAGER	PEC
DESIGN DIRECTOR	JFF

DEPARTMENT OF THE NAVY  
NAVAL FACILITIES ENGINEERING COMMAND  
MARINE CORPS AIR STATION, CHERRY POINT, N.C.  
**FACILITIES ENERGY REPAIRS,  
BUILDING 131**  
PARTIAL FIRST FLOOR REFLECTED CEILING PLAN -  
NEW WORK

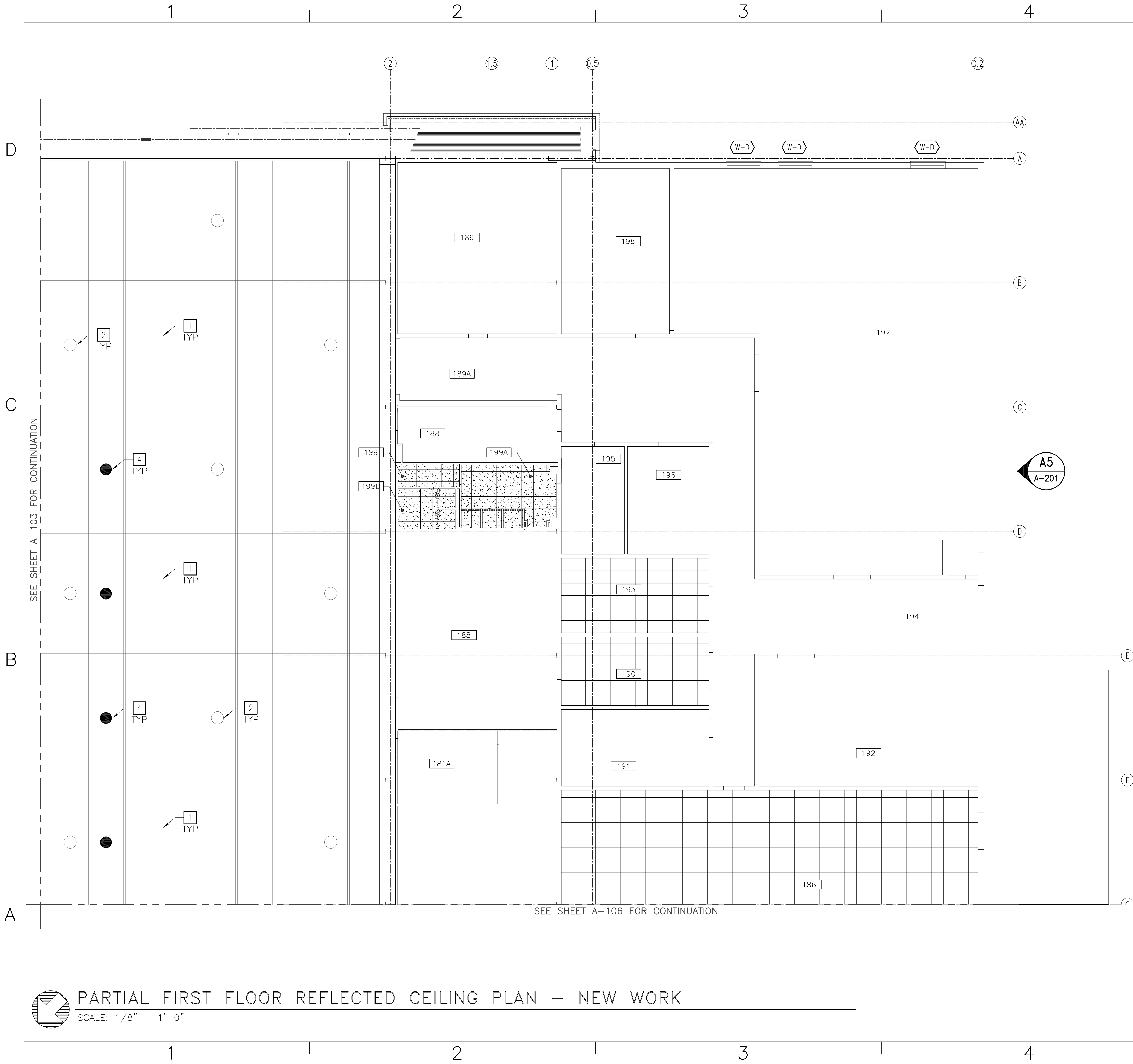
CODE ID. NO. 80091	SIZE D
SCALE:	AS SHOWN
FED. NO. WR6059407	
STA. PROJ. NO. CP12024M/CP12024R	
SPEC. NO.	
CONSTR. CONTR. NO.	

NAVFAC DRAWING NO.	12618387
SHEET	25 OF 124
<b>A-104</b>	

DRAWFORM REVISION JULY 2003

PARTIAL FIRST FLOOR REFLECTED CEILING PLAN - NEW WORK  
SCALE: 1/8" = 1'-0"

BFA File name Z:\\_Government\G-163-G-Energy Improvements Bldg. 131\4. FINAL DRAWINGS\ARCH\A-105 -PARTIAL FIRST FLOOR REFLECTED CEILING PLAN - NEW WORK.dwg Plot Date: Jul 09, 2012 - 2:41pm Last Saved By: nathan

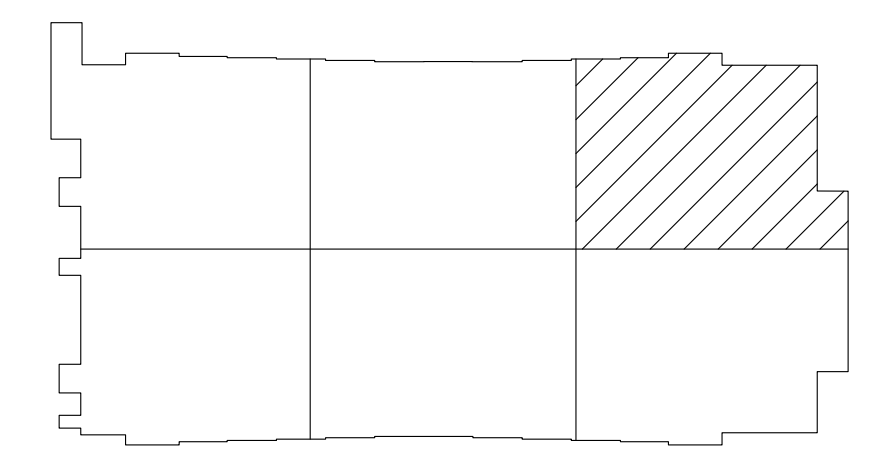


### NEW WORK NOTES

- THIS SHEET ONLY
- GENERAL:
- ALL NEW CEILINGS TO BE INSTALLED AT EXISTING CEILING HEIGHT. TYPICAL HEIGHT IS 8'-0", FIELD VERIFY
  - SEE MECHANICAL AND ELECTRICAL PLANS FOR LIGHT FIXTURES AND MECHANICAL EQUIPMENT COORDINATION ON THE FIRST FLOOR.
- EXISTING ROOF STRUCTURE TO REMAIN
  - APPROXIMATE LOCATION OF EXISTING LIGHT FIXTURES TO REMAIN
  - NOT USED
  - APPROXIMATE LOCATION OF NEW SOLAR TUBES. SOLAR TUBE LOCATIONS TO BE COORDINATED WITH EXISTING STRUCTURAL MEMBERS AND EXISTING LIGHT FIXTURES.

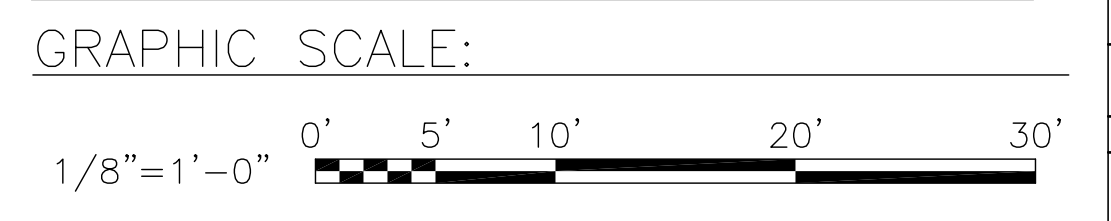
### LEGEND

- THIS SHEET ONLY
- NEW 2'-0" x 2'-0" CEILING TILE
  - NEW 2'-0" x 2'-0" CEILING GRID WITH MOISTURE RESISTANT TILE



KEY PLAN  
NO SCALE

NOTE: IF THIS DRAWING IS A REDUCTION, GRAPHIC SCALE MUST BE USED.



DATE		APPR		SYL	DESCRIPTION

**BOWMAN, FOSTER & ASSOC.**  
CONSULTING ENGINEERS  
#4 INTERSTATE CORP. CENTER  
NORFOLK, VA 23502  
2424 26TH ROAD SOUTH  
ARLINGTON, VA 22206

APPROVED	
ACTIVITY - SATISFACTORY TO	
DATE	
APPROVED	
FOR EPD FOR COMMANDER NAVFAC	
DATE	
A/E	DESIGN
NLS	
KAF	DRAWN
NLS	
SGR	REVIEW
SGR	
SGR	OC
SGR	CHEF ARCH/ ENGR.
PROJECT MANAGER	PEC
FIRE PROTECTION	SAH
BRANCH MANAGER	PEC
DESIGN DIRECTOR	JFF

DEPARTMENT OF THE NAVY  
 MARINE CORPS AIR STATION, CHERRY POINT, N.C.  
**FACILITIES ENERGY REPAIRS,  
 BUILDING 131**  
 PARTIAL FIRST FLOOR REFLECTED CEILING PLAN -  
 NEW WORK

CODE ID. NO. 80091	SIZE D
SCALE: AS SHOWN	
FED. NO. WR6059407	
STA. PROJ. NO. CP12024M/CP12024R	
SPEC. NO.	
CONSTR. CONTR. NO.	
NAVFAC DRAWING NO. 12618388	
SHEET 26 OF 124	
<b>A-105</b>	DRAWN REVISION JULY 2003

**PARTIAL FIRST FLOOR REFLECTED CEILING PLAN - NEW WORK**  
SCALE: 1/8" = 1'-0"



BFA Filename Z:\Government\G-163-G-Energy Improvements Bldg. 131\4. FINAL DRAWINGS\ARCH\A-106 - PARTIAL FIRST FLOOR REFLECTED CEILING PLAN - NEW WORK.dwg Plot Date: Jul 09, 2012 - 2:41pm Last Saved By: nathan



SEE SHEET A-105 FOR CONTINUATION

SEE SHEET A-104 FOR CONTINUATION

### PARTIAL FIRST FLOOR REFLECTED CEILING PLAN - NEW WORK

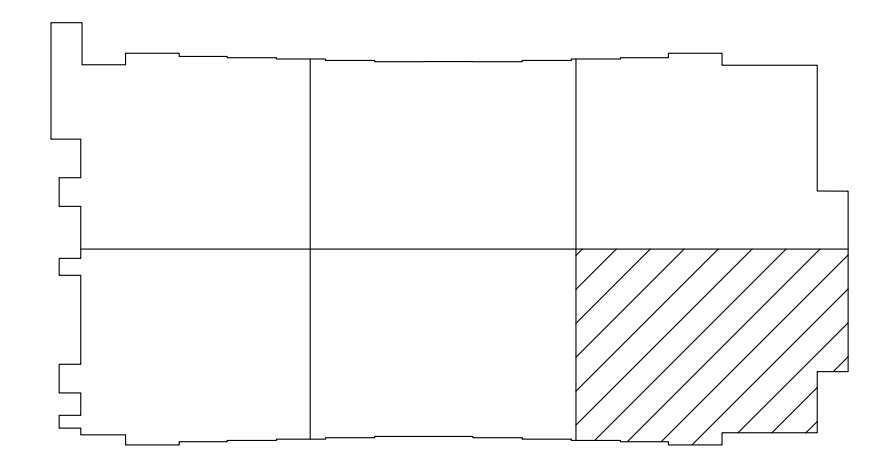
SCALE: 1/8" = 1'-0"

### NEW WORK NOTES

- THIS SHEET ONLY
- GENERAL:**
- ALL NEW CEILINGS TO BE INSTALLED AT EXISTING CEILING HEIGHT. TYPICAL HEIGHT IS 8'-0", FIELD VERIFY
  - SEE MECHANICAL AND ELECTRICAL PLANS FOR LIGHT FIXTURES AND MECHANICAL EQUIPMENT COORDINATION ON THE FIRST FLOOR.
- 1** EXISTING ROOF STRUCTURE TO REMAIN
  - 2** APPROXIMATE LOCATION OF EXISTING LIGHT FIXTURES TO REMAIN
  - 3** NOT USED
  - 4** APPROXIMATE LOCATION OF NEW SOLAR TUBES. SOLAR TUBE LOCATIONS TO BE COORDINATED WITH EXISTING STRUCTURAL MEMBERS AND EXISTING LIGHT FIXTURES.

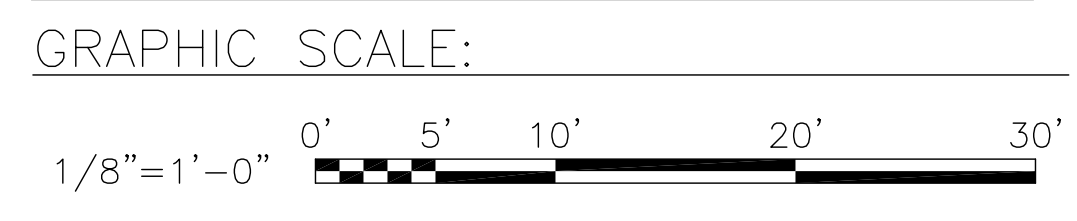
### LEGEND

- THIS SHEET ONLY
- NEW 2'-0" x 2'-0" CEILING GRID WITH MOISTURE RESISTANT TILE




KEY PLAN  
NO SCALE

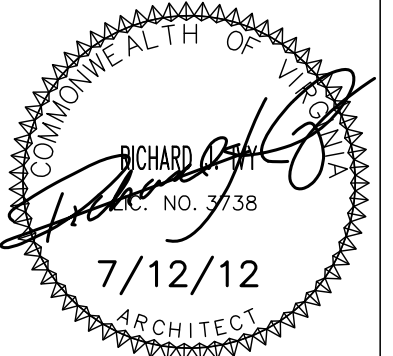
NOTE: IF THIS DRAWING IS A REDUCTION, GRAPHIC SCALE MUST BE USED.



DATE	APPR
DESCRIPTION	
SYN	



**BOWMAN, FOSTER & ASSOC.**  
CONSULTING ENGINEERS  
#4 INTERSTATE CORP. CENTER  
NORFOLK, VA 23502  
2424 26TH ROAD SOUTH  
ARLINGTON, VA 22206



APPROVED

ACTIVITY - SATISFACTORY TO

DATE

APPROVED

FOR EPD FOR COMMANDER NAVFAC

DATE	A/E	ED
	NLS	DESIGN
	KAF	DRAWN
	NLS	REVIEW
	SGR	OC
	SGR	CHIEF ARCH/ENGR.
		PROJECT MANAGER
		FIRE PROTECTION
		BRANCH MANAGER
		DESIGN DIRECTOR

NAVAL FACILITIES ENGINEERING COMMAND  
MARINE CORPS AIR STATION, CHERRY POINT, N.C.

**FACILITIES ENERGY REPAIRS,  
BUILDING 131**

PARTIAL FIRST FLOOR REFLECTED CEILING PLAN - NEW WORK

CODE ID. NO. 80091 SIZE D

SCALE: AS SHOWN

FED. NO. WR6059407

STA. PROJ. NO. CP12024M/CP12024R

SPEC. NO.

CONSTR. CONTR. NO.

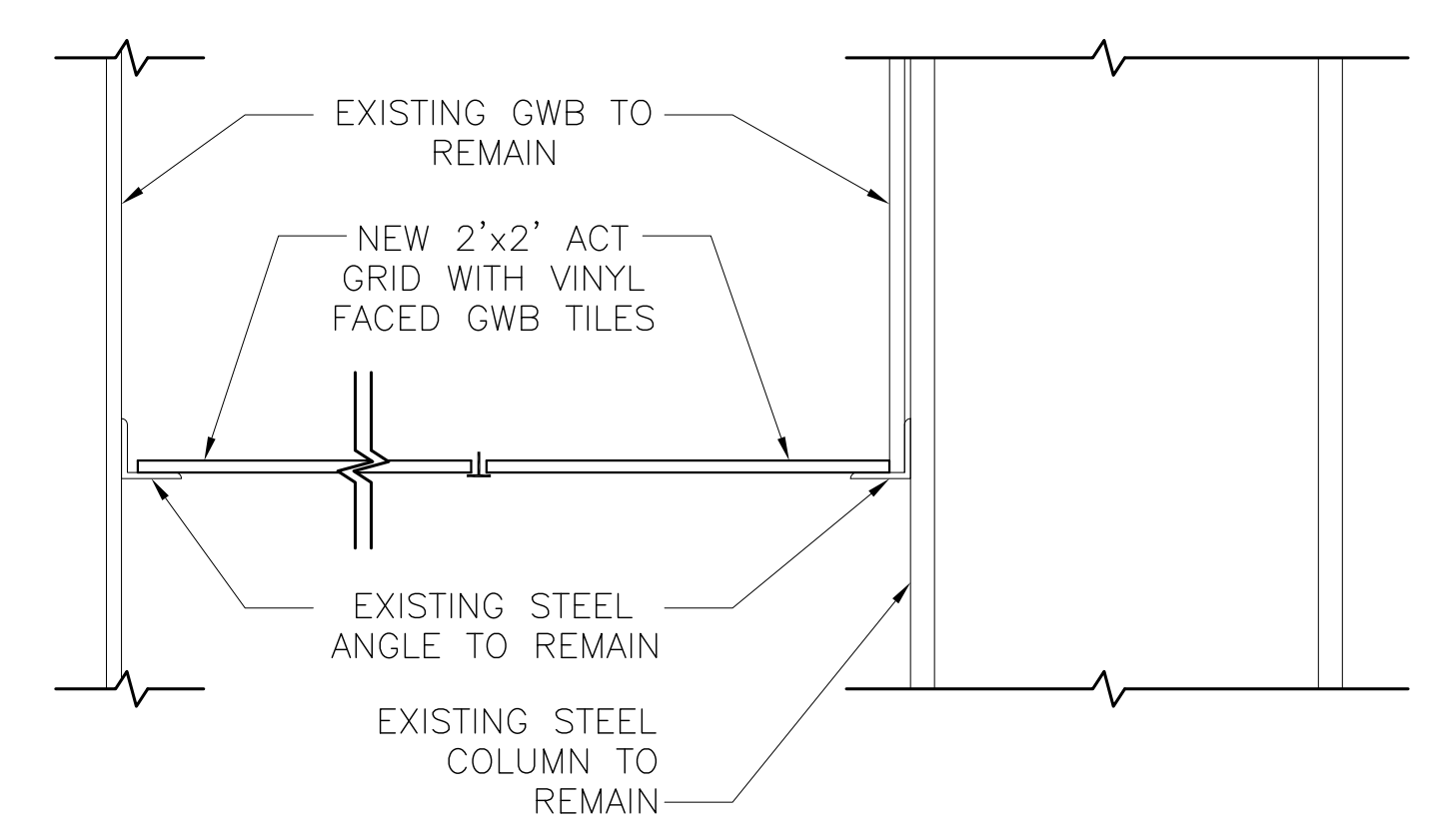
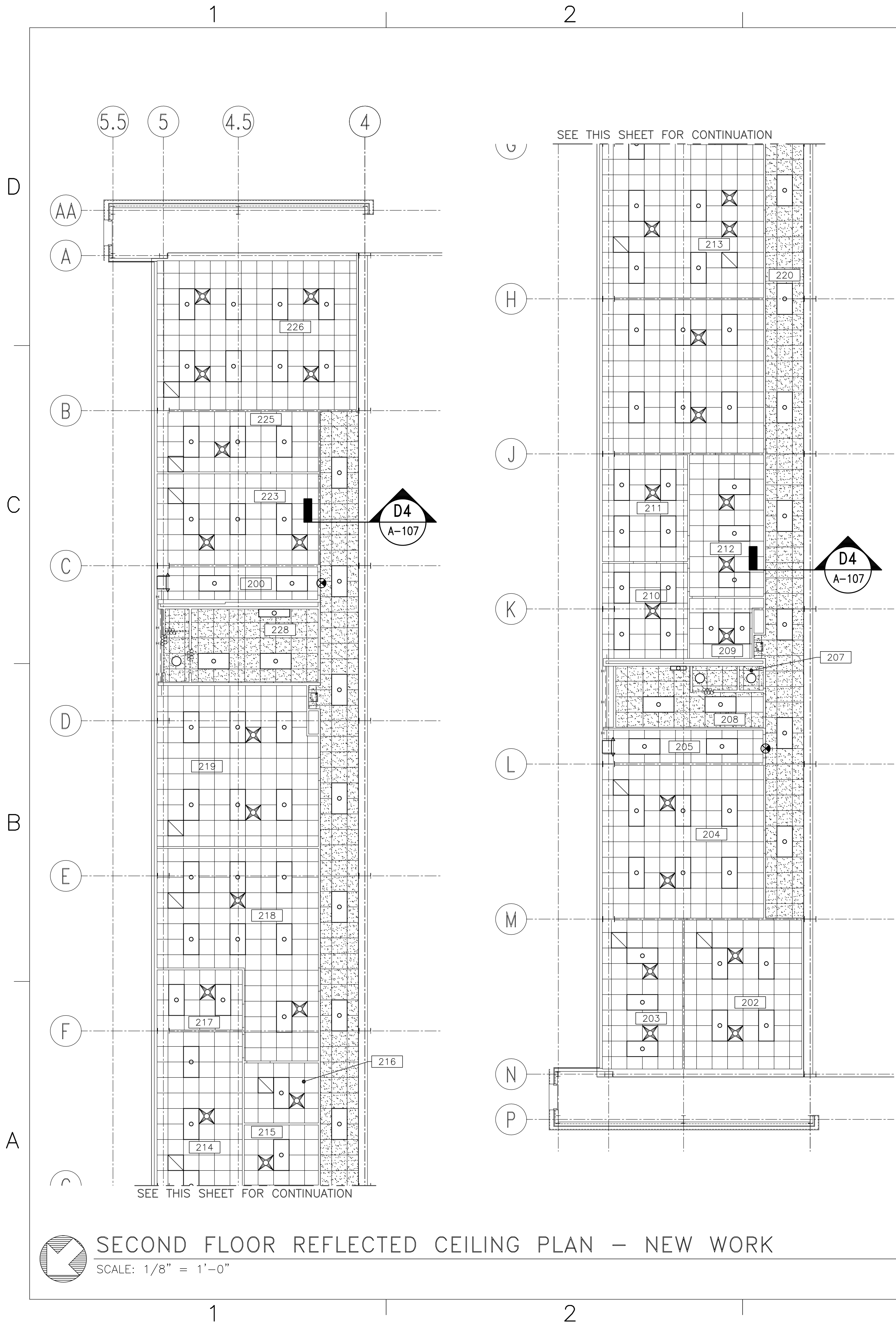
NAVFAC DRAWING NO. 12618389

SHEET 27 OF 124

**A-106**

DRAWING REVISION JULY 2003

BFA Filename Z:\\_Government\G-163-G-Energy Improvements Bldg. 131\4. FINAL DRAWINGS\ARCH\A-107 - SECOND FLOOR REFLECTED CEILING PLAN - NEW WORK.dwg Plot Date: Jul 09, 2012 - 2:40pm Last Saved By: nathn



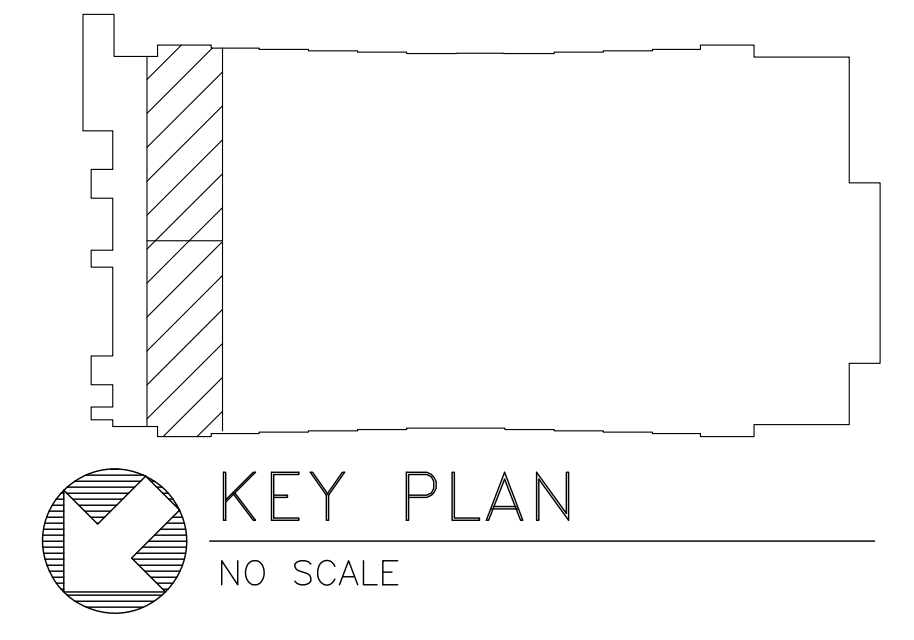
CORRIDOR CEILING DETAIL SCALE: 1-1/2" = 1'-0" A-107, A-108 D4

NEW WORK NOTES THIS SHEET ONLY

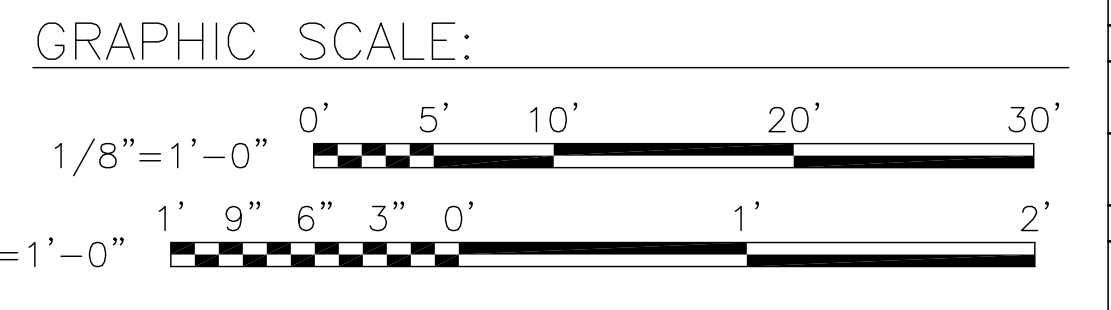
GENERAL: ALL NEW CEILINGS TO BE INSTALLED AT EXISTING CEILING HEIGHT. TYPICAL HEIGHT IS 8'-0", FIELD VERIFY.

LEGEND THIS SHEET ONLY

- NEW 2'-0" x 2'-0" CEILING TILE
NEW 2'-0" x 2'-0" CEILING GRID WITH MOISTURE RESISTANT TILE
MECH. DIFFUSER, SEE MECH. DWGS FOR MORE INFO.
MECH. RETURN, SEE MECH. DWGS FOR MORE INFO.
2'-0" x 4'-0" LAY-IN LIGHT FIXTURE, SEE ELEC. DWGS FOR MORE INFO.
RECESSED DOWNLIGHT, SEE ELEC DWGS FOR MORE INFO
EXIT LIGHT, SEE ELEC DWG FOR MORE INFO
EMERGENCY LIGHT, SEE ELEC DWGS FOR MORE INFO



NOTE: IF THIS DRAWING IS A REDUCTION, GRAPHIC SCALE MUST BE USED.



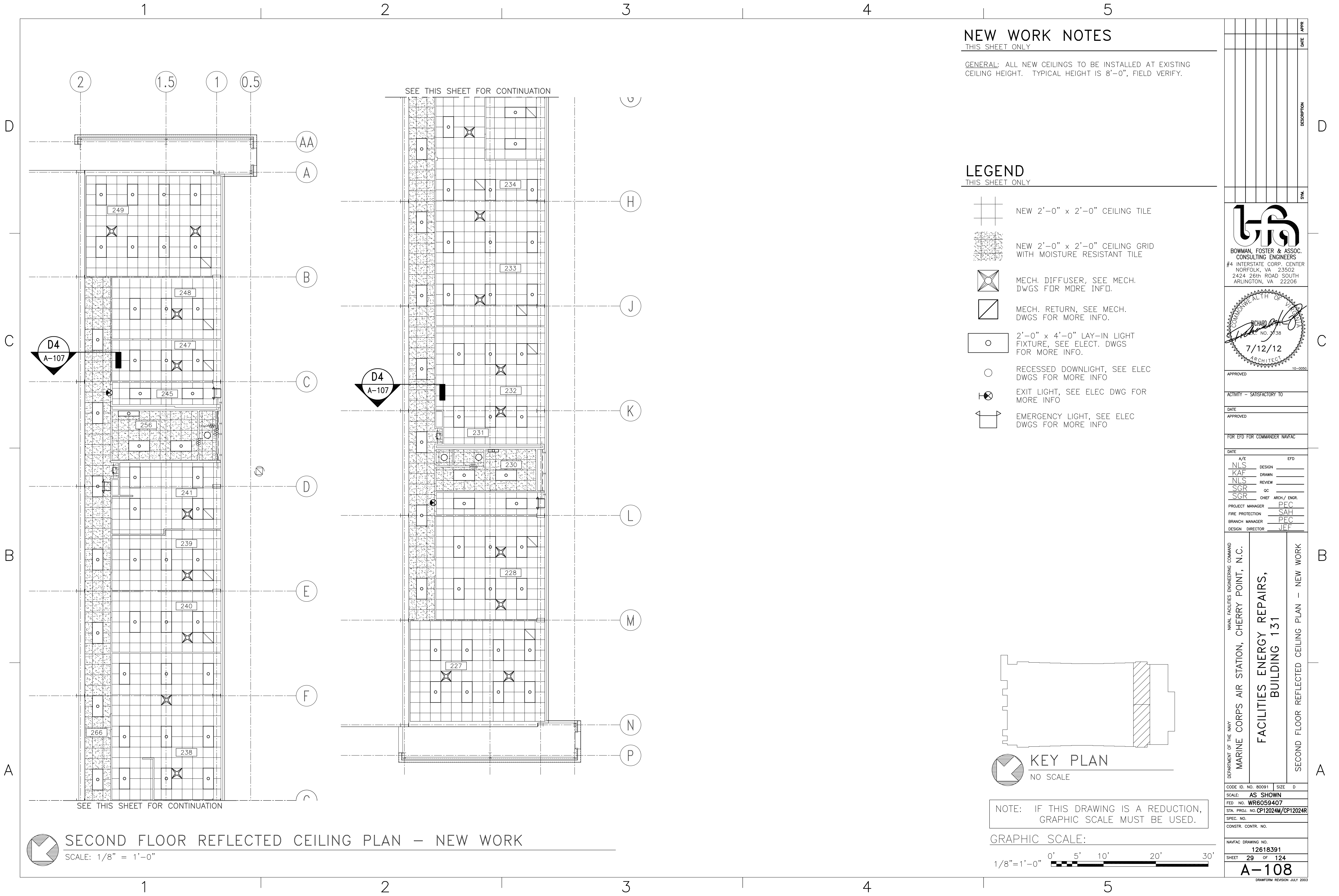
SECOND FLOOR REFLECTED CEILING PLAN - NEW WORK SCALE: 1/8" = 1'-0"

Approval table with columns for DATE, APPR, and SYM. Includes company logo for BOWMAN, FOSTER & ASSOC., CONSULTING ENGINEERS, and project information for NAVY FACILITIES ENGINEERING COMMAND.

NAVAL FACILITIES ENGINEERING COMMAND
MARINE CORPS AIR STATION, CHERRY POINT, N.C.
FACILITIES ENERGY REPAIRS, BUILDING 131
SECOND FLOOR REFLECTED CEILING PLAN - NEW WORK

Table with columns for CODE ID, FEED NO., STA. PROJ., SPEC. NO., CONSTR. CONTR. NO., NAVFAC DRAWING NO., SHEET, and DRAWING REVISION.

BFA Filename Z:\\_Government\G-163-G-Energy Improvements Bldg. 131\4. FINAL DRAWINGS\ARCH\A-108 - SECOND FLOOR REFLECTED CEILING PLAN - NEW WORK.dwg Plot Date: Jul 09, 2012 - 2:40pm Last Saved By: nathan

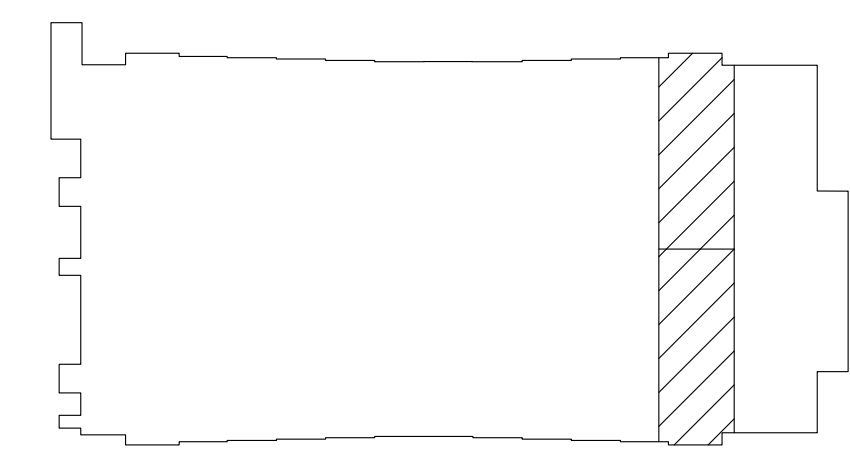


### NEW WORK NOTES

THIS SHEET ONLY  
 GENERAL: ALL NEW CEILINGS TO BE INSTALLED AT EXISTING CEILING HEIGHT. TYPICAL HEIGHT IS 8'-0", FIELD VERIFY.

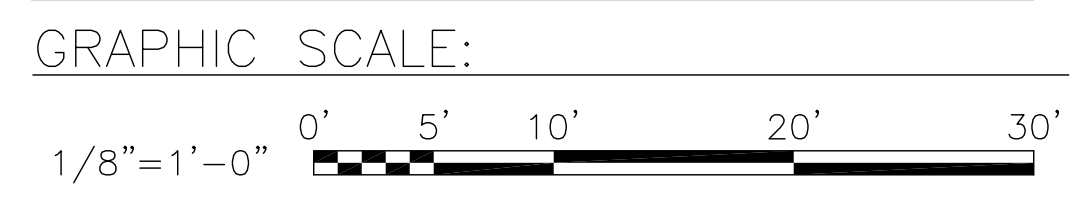
### LEGEND

- THIS SHEET ONLY
- NEW 2'-0" x 2'-0" CEILING TILE
  - NEW 2'-0" x 2'-0" CEILING GRID WITH MOISTURE RESISTANT TILE
  - MECH. DIFFUSER, SEE MECH. DWGS FOR MORE INFO.
  - MECH. RETURN, SEE MECH. DWGS FOR MORE INFO.
  - 2'-0" x 4'-0" LAY-IN LIGHT FIXTURE, SEE ELEC. DWGS FOR MORE INFO.
  - RECESSED DOWNLIGHT, SEE ELEC DWGS FOR MORE INFO
  - EXIT LIGHT, SEE ELEC DWG FOR MORE INFO
  - EMERGENCY LIGHT, SEE ELEC DWGS FOR MORE INFO



KEY PLAN  
NO SCALE

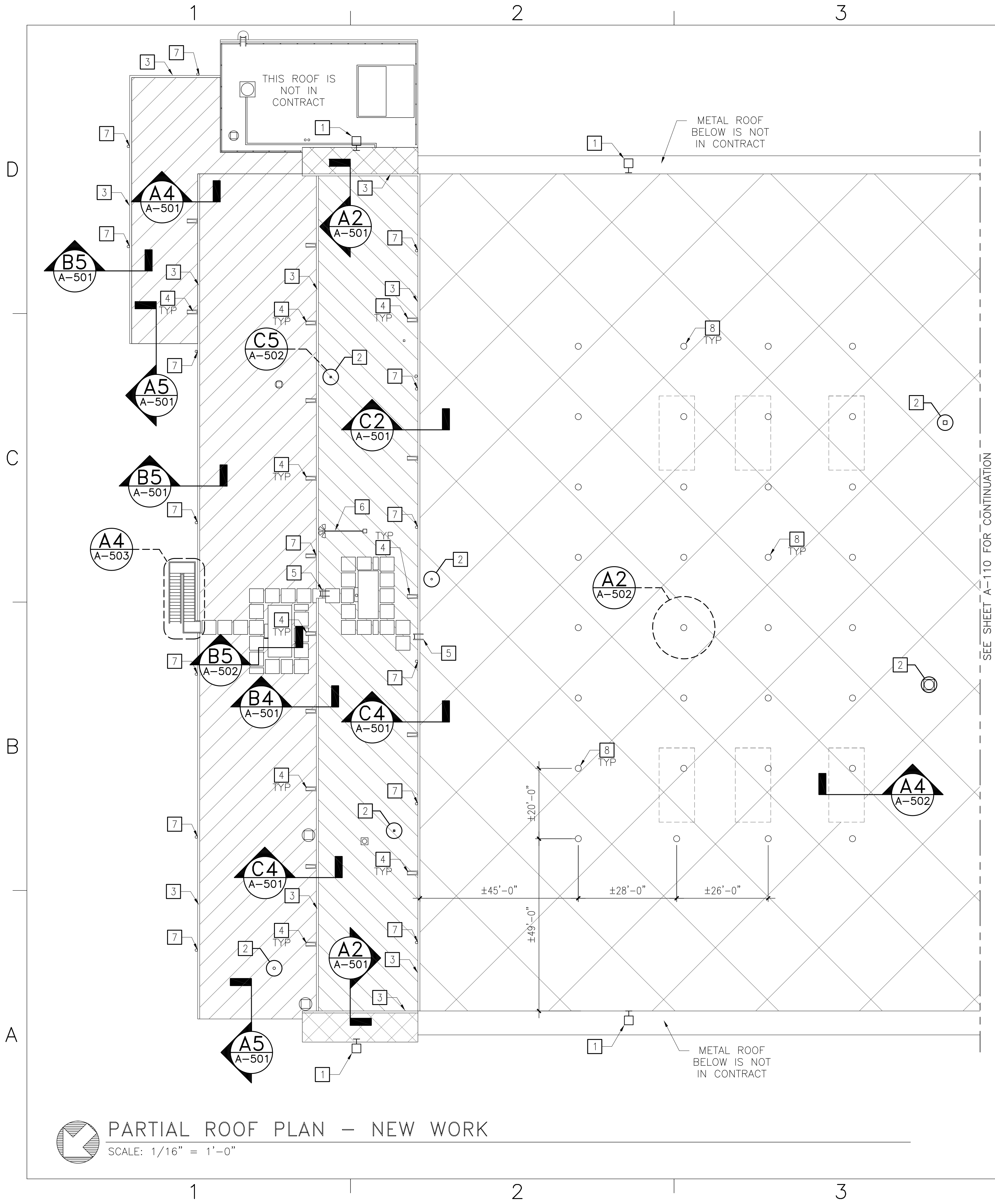
NOTE: IF THIS DRAWING IS A REDUCTION, GRAPHIC SCALE MUST BE USED.



APPR	DATE	SYMBOL	DESCRIPTION	DATE	APPR	DATE
<b>BOWMAN, FOSTER &amp; ASSOC.</b> CONSULTING ENGINEERS #4 INTERSTATE CORP. CENTER NORFOLK, VA 23502 2424 26TH ROAD SOUTH ARLINGTON, VA 22206						
APPROVED						
ACTIVITY - SATISFACTORY TO						
DATE						
APPROVED						
FOR EPD FOR COMMANDER NAVFAC						
DATE						
A/E	DESIGN	EPD				
NLS	KAF	DRWN				
NLS	SGR	OC				
SGR	OC	ARCH/ ENGR.				
PROJECT MANAGER	PEC					
FIRE PROTECTION	SAH					
BRANCH MANAGER	PEC					
DESIGN DIRECTOR	JFF					
DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND MARINE CORPS AIR STATION, CHERRY POINT, N.C. <b>FACILITIES ENERGY REPAIRS,                  BUILDING 131</b> SECOND FLOOR REFLECTED CEILING PLAN - NEW WORK						
CODE ID. NO. 80091 SIZE D						
SCALE: AS SHOWN						
FEED NO. WR6059407						
STA. PROJ. NO. CP12024M/CP12024R						
SPEC. NO.						
CONSTR. CONTR. NO.						
NAVFAC DRAWING NO. 12618391						
SHEET 29 OF 124						
<b>A-108</b>						
DRAWFORM REVISION JULY 2003						



BFA File name Z:\\_Government\G-163-G-Energy Improvements Bldg. 131\4. FINAL DRAWINGS\ARCH\A-109 - PARTIAL ROOF PLAN - NEW WORK.dwg Plot Date: Jul 09, 2012 - 2:39pm Last Saved By: nation



### GENERAL NOTES

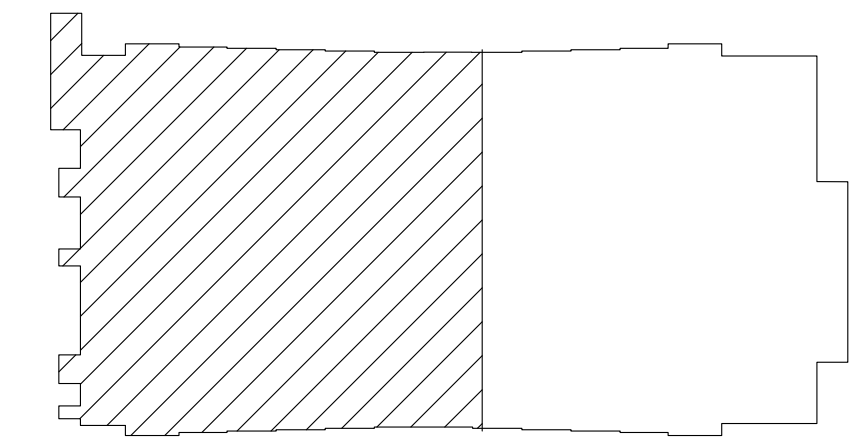
THIS SHEET ONLY  
 1. FIELD VERIFY AND COORDINATE SOLAR TUBE LOCATIONS WITH EXISTING ELECTRICAL, MECHANICAL & STRUCTURAL SYSTEMS INSIDE HANGER

### NEW WORK NOTES

- THIS SHEET ONLY
- 1 NEW LIGHT FIXTURE, SEE ELECTRICAL DRAWINGS FOR MORE INFORMATION
  - 2 EXISTING MECHANICAL AND PLUMBING EQUIPMENT TO REMAIN, SEE MECHANICAL SHEETS FOR MORE INFORMATION
  - 3 INSTALL NEW PREFINISHED 7"Wx5"D ALUMINUM GUTTERS
  - 4 REINSTALL EXISTING CONCRETE SPLASH BLOCK OVER ADDITIONAL PLY OF ROOFING FOR PROTECTION
  - 5 REINSTALL NEWLY PAINTED EXISTING LADDER
  - 6 REINSTALL LOUD SPEAKERS
  - 7 INSTALL NEW PREFINISHED 5"x4" ALUMINUM DOWNSPOUT INTO EXISTING DRAIN BOOT
  - 8 NEW SOLAR TUBE. COORDINATE SOLAR TUBE LOCATION WITH EXISTING LIGHT FIXTURES AND EXISTING ROOF STRUCTURE TO REMAIN.

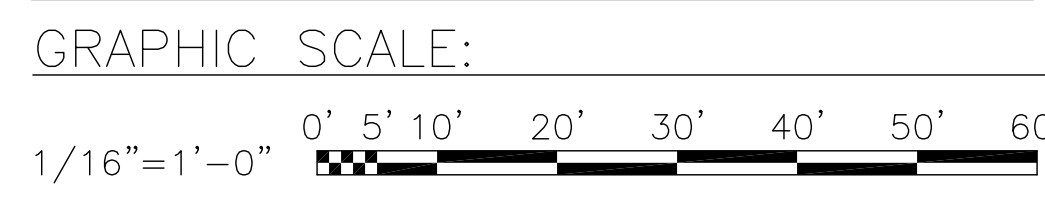
### LEGEND

- THIS SHEET ONLY
- 21" DIA SOLAR TUBE WITH HURRICANE RESISTANT DOME
  - EXISTING CONCRETE SPLASH BLOCK
  - 4'-0"x4'-0" ROOF WALK PAD, MIN 6" BETWEEN PADS
  - INSTALL R38 INSULATION & 2 PLY SBS MODIFIED BITUMINOUS ROOFING SYSTEM W/COVER BOARD OVER EXISTING METAL DECK. APPLY PROTECTIVE COATING ON ROOFING SYSTEM.
  - INSTALL R15 INSULATION & 2 PLY SBS MODIFIED BITUMINOUS ROOFING SYSTEM W/COVER BOARD & 1/2" GYPSUM OVER EXISTING WOOD DECK. APPLY PROTECTIVE COATING ON ROOFING SYSTEM.
  - INSTALL R15 INSULATION & 2 PLY SBS MODIFIED BITUMINOUS ROOFING SYSTEM W/COVER BOARD & 1/2" GYPSUM OVER EXISTING WOOD DECK



KEY PLAN  
NO SCALE

NOTE: IF THIS DRAWING IS A REDUCTION, GRAPHIC SCALE MUST BE USED.



PARTIAL ROOF PLAN - NEW WORK  
SCALE: 1/16" = 1'-0"

DATE	APPR
DATE	SYN
BOWMAN, FOSTER & ASSOC. CONSULTING ENGINEERS #4 INTERSTATE CORP. CENTER NORFOLK, VA 23502 2424 26TH ROAD SOUTH ARLINGTON, VA 22206	
APPROVED	
ACTIVITY - SATISFACTORY TO	
DATE	
APPROVED	
FOR EPD FOR COMMANDER NAVFAC	
DATE	
A/E	EPD
NLS	DESIGN
KAF	DRAWN
NLS	REVIEW
SGR	OC
SGR	CHIEF ARCH/ ENGR.
PROJECT MANAGER	PEC
FIRE PROTECTION	SAH
BRANCH MANAGER	PEC
DESIGN DIRECTOR	JEF
DEPARTMENT OF THE NAVY MARINE CORPS AIR STATION, CHERRY POINT, N.C. NAVAL FACILITIES ENGINEERING COMMAND FACILITIES ENERGY REPAIRS, BUILDING 131 PARTIAL ROOF PLAN - NEW WORK	
CODE ID. NO. 80091	SIZE D
SCALE: AS SHOWN	
FED. NO. WR6059407	
STA. PROJ. NO. CP12024M/CP12024R	
SPEC. NO.	
CONSTR. CONTR. NO.	
NAVFAC DRAWING NO.	12618392
SHEET	30 OF 124
<b>A-109</b> DRAWING REVISION JULY 2003	





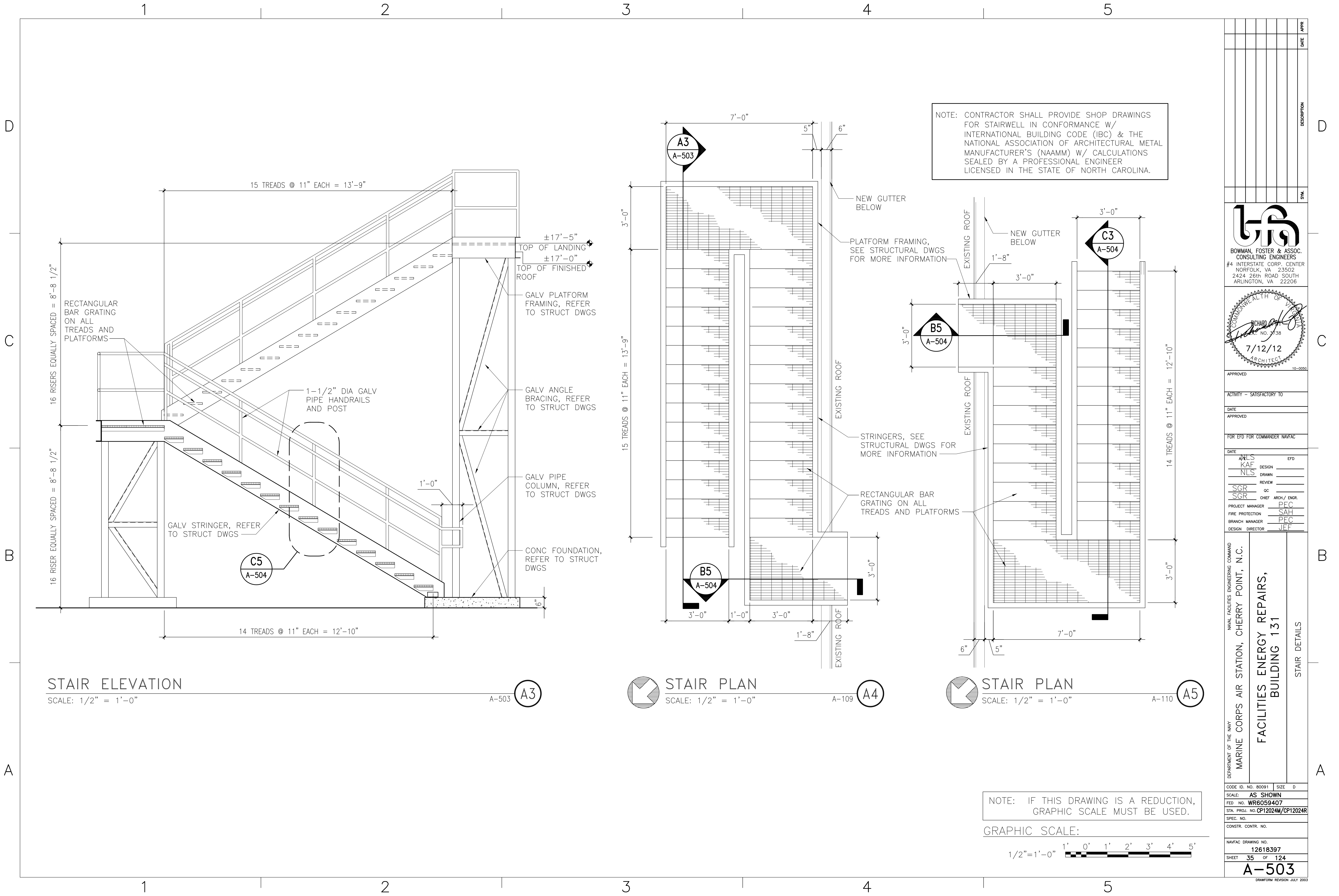








BFA File Name Z:\\_Government\G-163-G-Energy Improvements Bldg. 131\4. FINAL DRAWINGS\ARCH\A-503 - STAIR DETAILS.dwg Plot Date: Jul 09, 2012 - 2:57pm Last Saved By: nathan



NOTE: CONTRACTOR SHALL PROVIDE SHOP DRAWINGS FOR STAIRWELL IN CONFORMANCE W/ INTERNATIONAL BUILDING CODE (IBC) & THE NATIONAL ASSOCIATION OF ARCHITECTURAL METAL MANUFACTURER'S (NAAMM) W/ CALCULATIONS SEALED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF NORTH CAROLINA.

NOTE: IF THIS DRAWING IS A REDUCTION, GRAPHIC SCALE MUST BE USED.



NO.	DATE	DESCRIPTION	APPR.

**Bowman, Foster & Assoc. Consulting Engineers**  
 #4 INTERSTATE CORP. CENTER  
 NORFOLK, VA 23502  
 2424 26TH ROAD SOUTH  
 ARLINGTON, VA 22206

**Professional Seal:**  
 RICHARD A. BOWMAN  
 ARCHITECT  
 No. 7138  
 7/12/12  
 10-0055

APPROVED: \_\_\_\_\_  
 ACTIVITY - SATISFACTORY TO  
 DATE APPROVED: \_\_\_\_\_  
 FOR EPD FOR COMMANDER NAVFAC  
 DATE: \_\_\_\_\_  
 AVLS DESIGN EFD  
 KAF DRAWN  
 NLS REVIEW  
 SGR OC  
 SGR CHIEF ARCH/ ENGR.  
 PROJECT MANAGER PEC  
 FIRE PROTECTION SAH  
 BRANCH MANAGER PEC  
 DESIGN DIRECTOR JEF

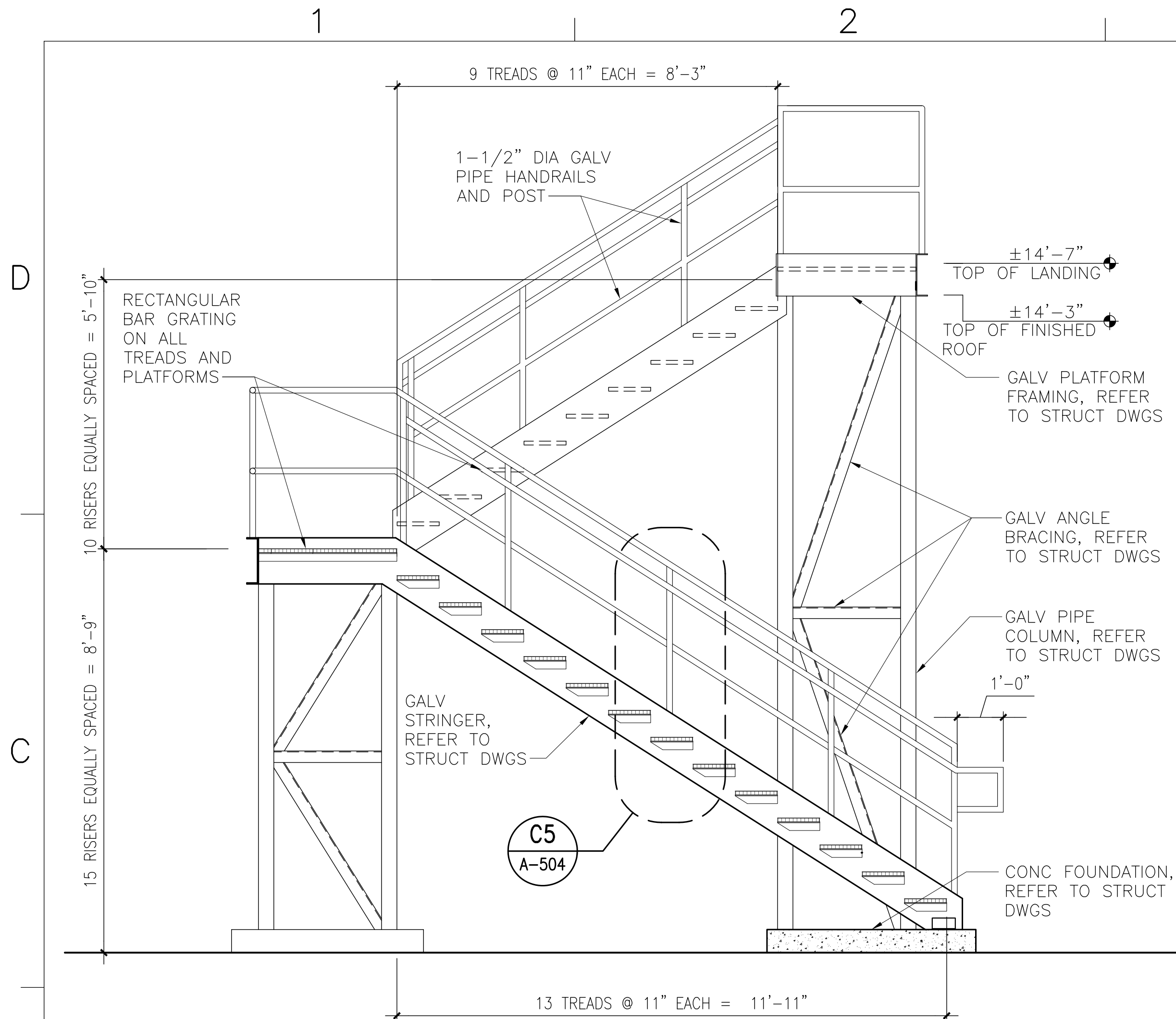
NAVY FACILITIES ENGINEERING COMMAND  
 MARINE CORPS AIR STATION, CHERRY POINT, N.C.  
**FACILITIES ENERGY REPAIRS,  
 BUILDING 131**  
 STAIR DETAILS

DEPARTMENT OF THE NAVY  
 CODE ID. NO. 80091 SIZE D  
 SCALE: AS SHOWN  
 FED. NO. WR6059407  
 STA. PROJ. NO. CP12024M/CP12024R  
 SPEC. NO.  
 CONSTR. CONTR. NO.

NAVFAC DRAWING NO. 12618397  
 SHEET 35 OF 124  
**A-503**  
DRAWN/REVISED JULY 2003



BFA File name Z:\\_Government\163-G-Energy Improvements Bldg. 131\4. FINAL DRAWINGS\ARCH\A-504 - STAIR DETAILS.dwg Plot Date: Jul 09, 2012 - 2:57pm Last Saved By: nathan

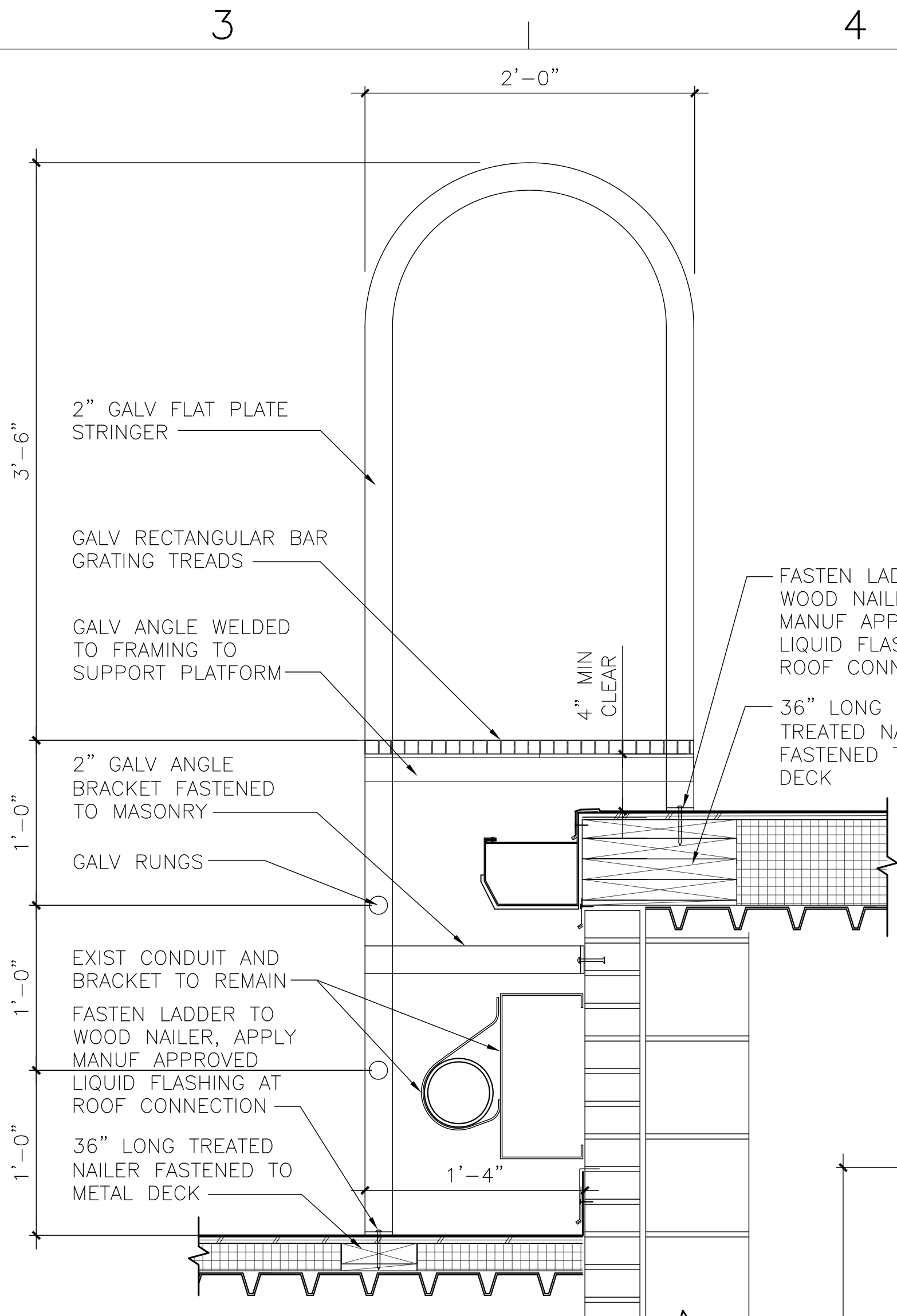


**STAIR ELEVATION**

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

A-503 (C3)

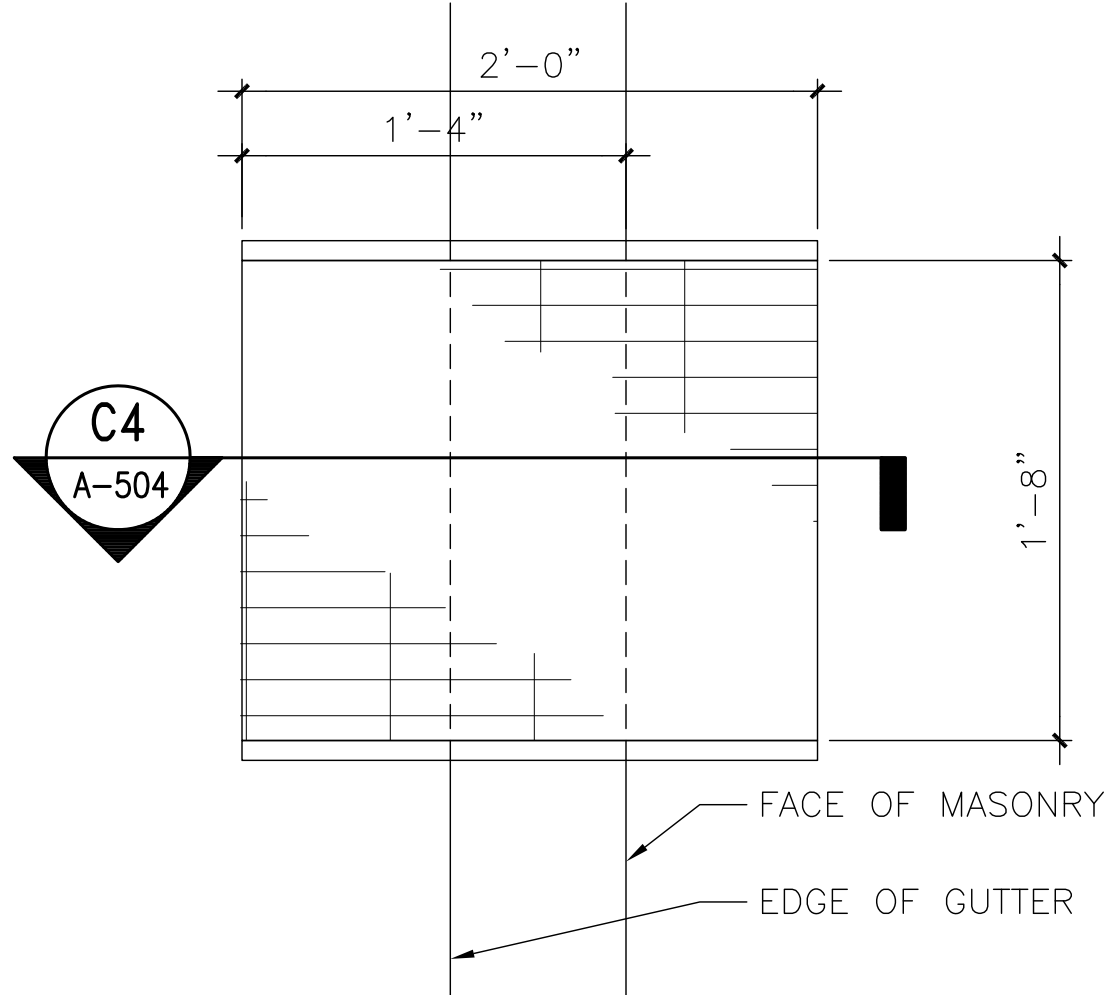
NOTE: CONTRACTOR SHALL PROVIDE SHOP DRAWINGS FOR STAIRWELL IN CONFORMANCE W/ INTERNATIONAL BUILDING CODE (IBC) & THE NATIONAL ASSOCIATION OF ARCHITECTURAL METAL MANUFACTURER'S (NAAMM) W/ CALCULATIONS SEALED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF NORTH CAROLINA.



**LADDER SECTION**

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

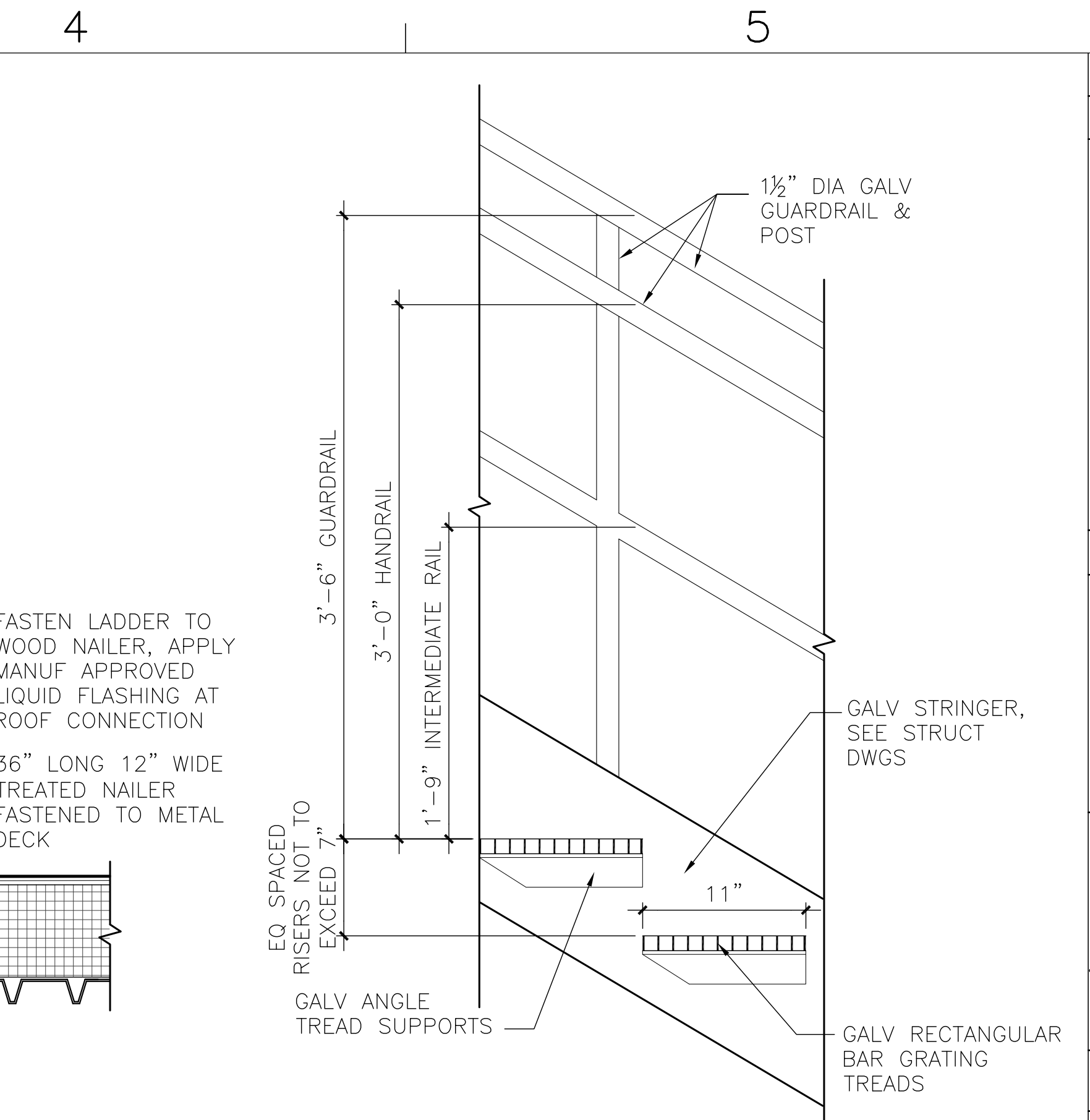
A-504 (C4)



**LADDER PLAN**

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

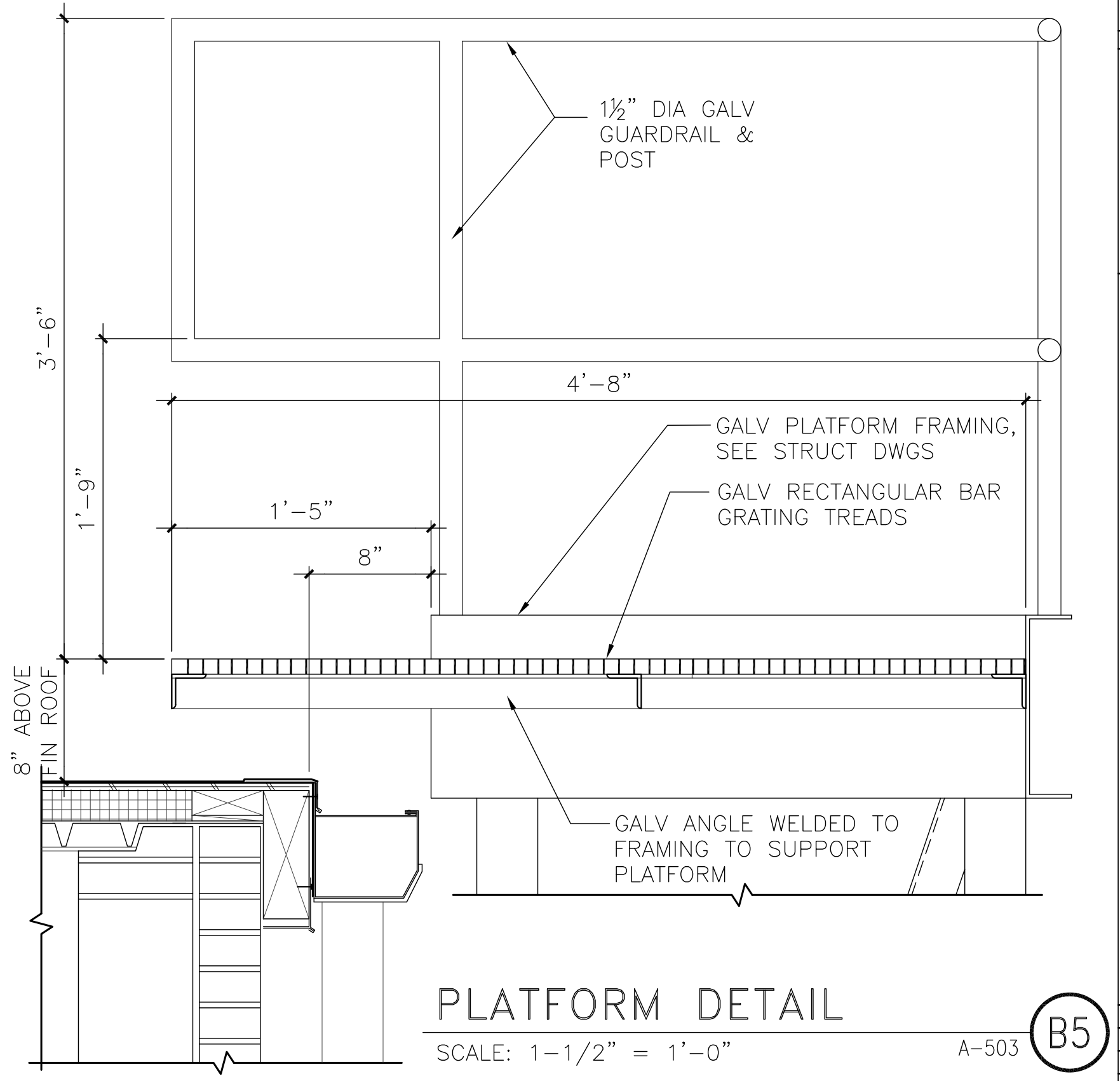
A-110 (B4)



**RAILING/TREAD DETAIL**

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

A-503, A-504 (C5)

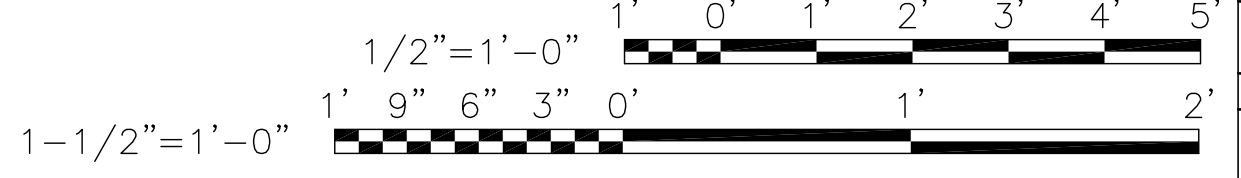


**PLATFORM DETAIL**

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

A-503 (B5)

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



NOTE: IF THIS DRAWING IS A REDUCTION, GRAPHIC SCALE MUST BE USED.

NO. 1	DATE	APPR.
NO. 2	DATE	APPR.
NO. 3	DATE	APPR.
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NO. 46	DATE	APPR.
NO. 47	DATE	APPR.
NO. 48	DATE	APPR.
NO. 49	DATE	APPR.
NO. 50	DATE	APPR.

**Bowman, Foster & Assoc.**  
CONSULTING ENGINEERS  
#4 INTERSTATE CORP. CENTER  
NORFOLK, VA 23502  
2424 26TH ROAD SOUTH  
ARLINGTON, VA 22206

**ARCHITECT**  
RICHARD J. BOWMAN  
No. 738  
7/12/12  
10-0055

APPROVED

ACTIVITY - SATISFACTORY TO

DATE APPROVED

FOR EPD FOR COMMANDER NAVFAC

DATE

AVLS DESIGN EFD  
KAF DRAWN  
NLS REVIEW  
SGR OC  
SGR CHIEF ARCH/ ENGR.  
PROJECT MANAGER PEC  
FIRE PROTECTION SAH  
BRANCH MANAGER PEC  
DESIGN DIRECTOR JEF

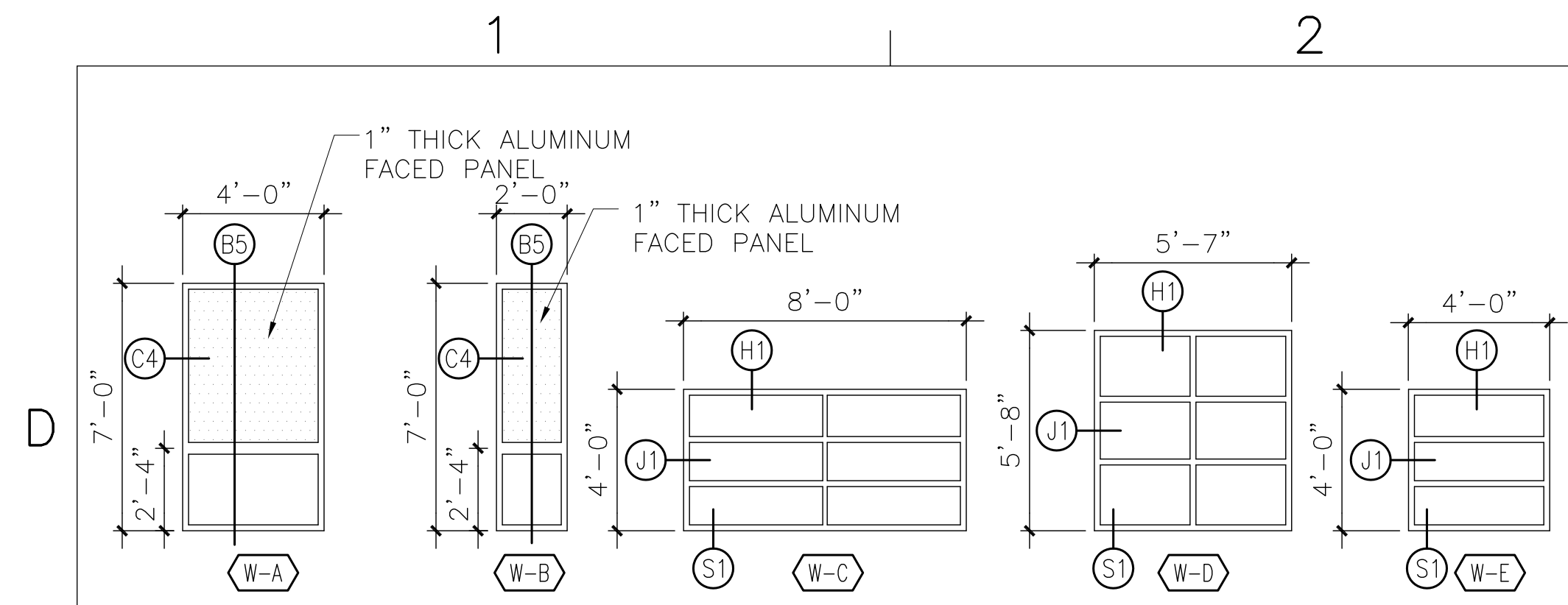
NAVAL FACILITIES ENGINEERING COMMAND  
MARINE CORPS AIR STATION, CHERRY POINT, N.C.  
**FACILITIES ENERGY REPAIRS,  
BUILDING 131**  
STAIR DETAILS

DEPARTMENT OF THE NAVY

CODE ID. NO. 80091 SIZE D  
SCALE: AS SHOWN  
FEED NO. WR6059407  
STA. PROJ. NO. CP12024M/CP12024R  
SPEC. NO.  
CONSTR. CONTR. NO.

NAVFAC DRAWING NO. 12618398  
SHEET 36 OF 124  
**A-504**  
DRAWING REVISION JULY 2003

BFA Filename Z:\\_Government\G-163-G-Energy Improvements Bldg. 131\4. FINAL DRAWINGS\ARCH\A-601 - WINDOW TYPES AND DETAILS.dwg Plot Date: Jul 09, 2012 - 2:35pm Last Saved By: nathan

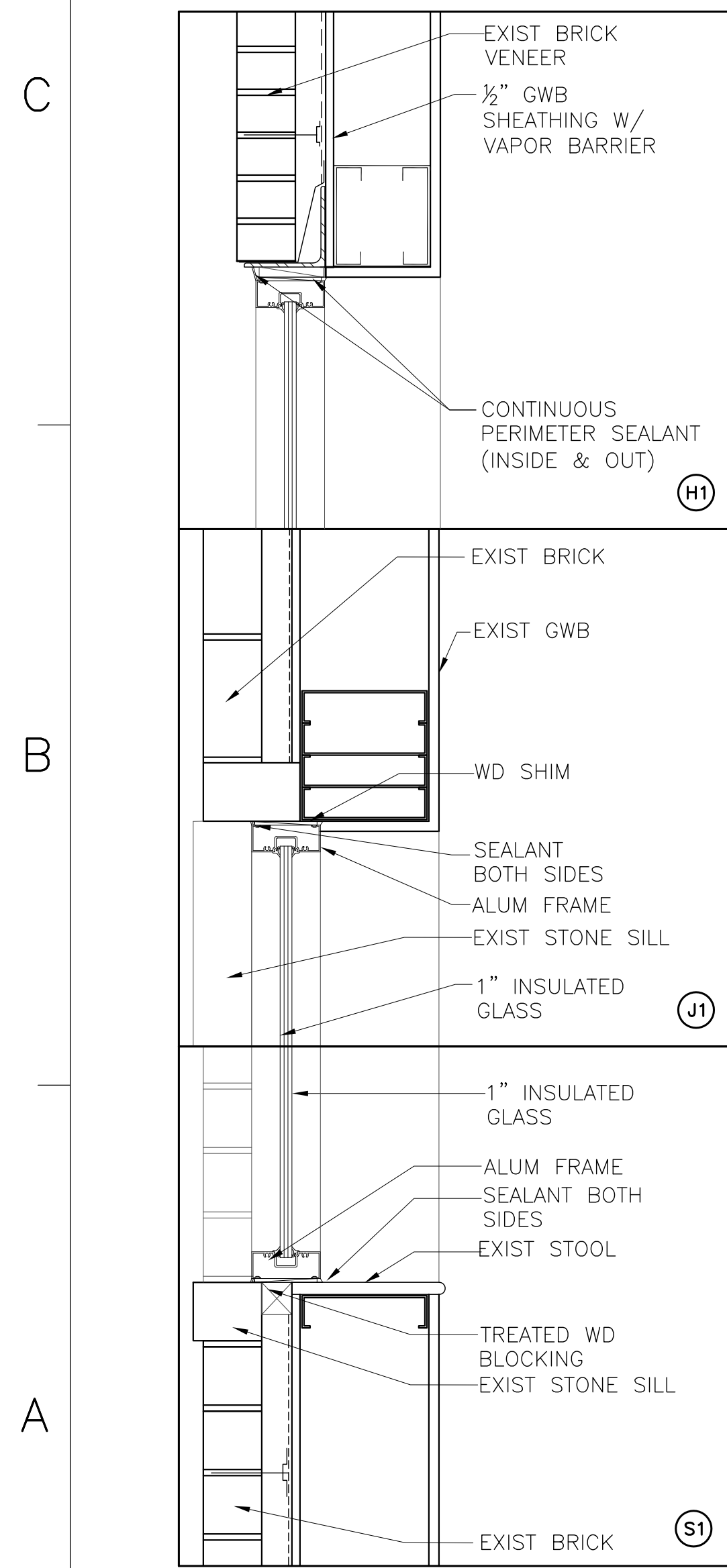


**WINDOW TYPES**

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

A-101, A-105, A-106, A-201

**(D2)**

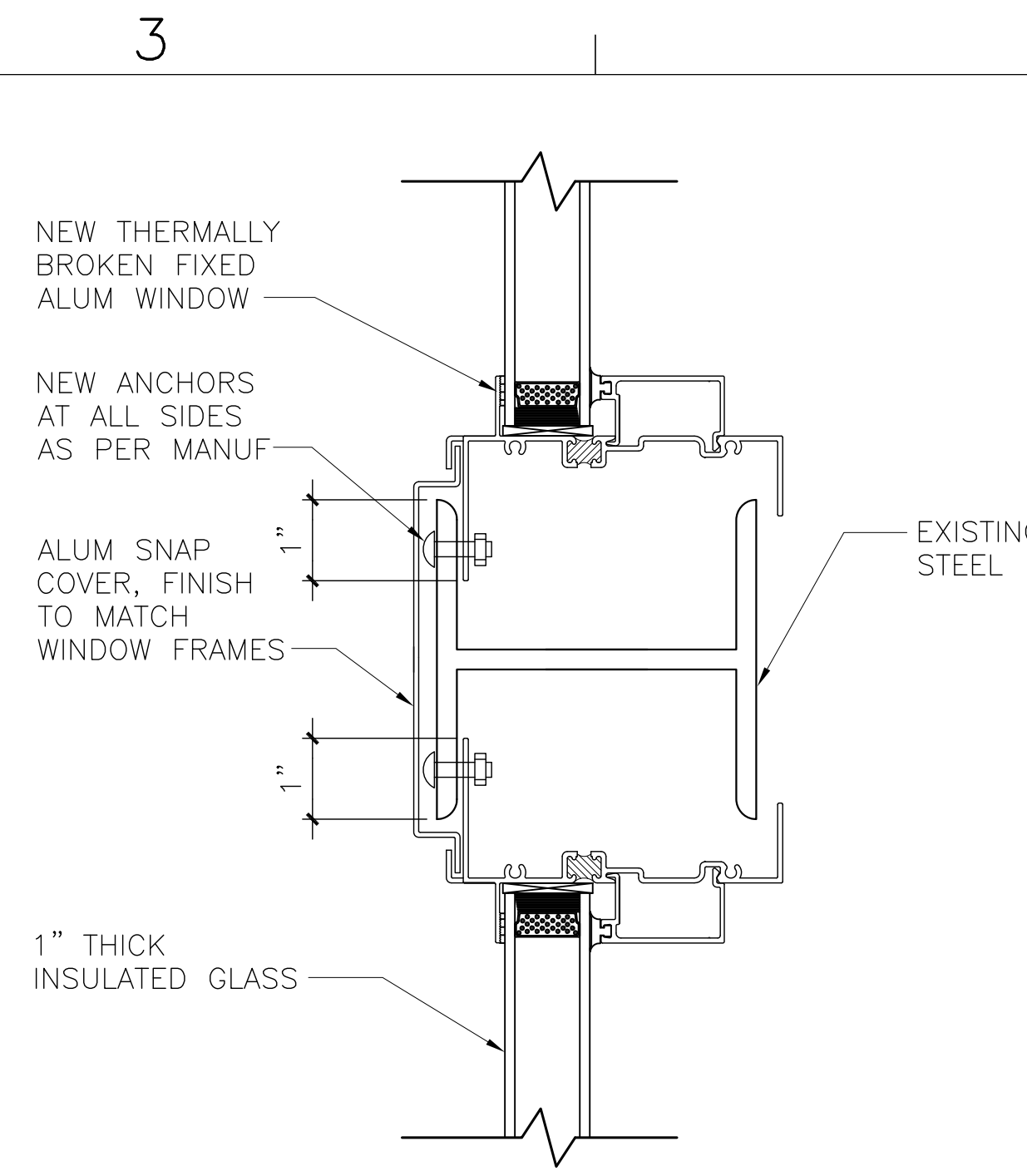


**WINDOW DETAILS**

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

A-601

**(A1)**

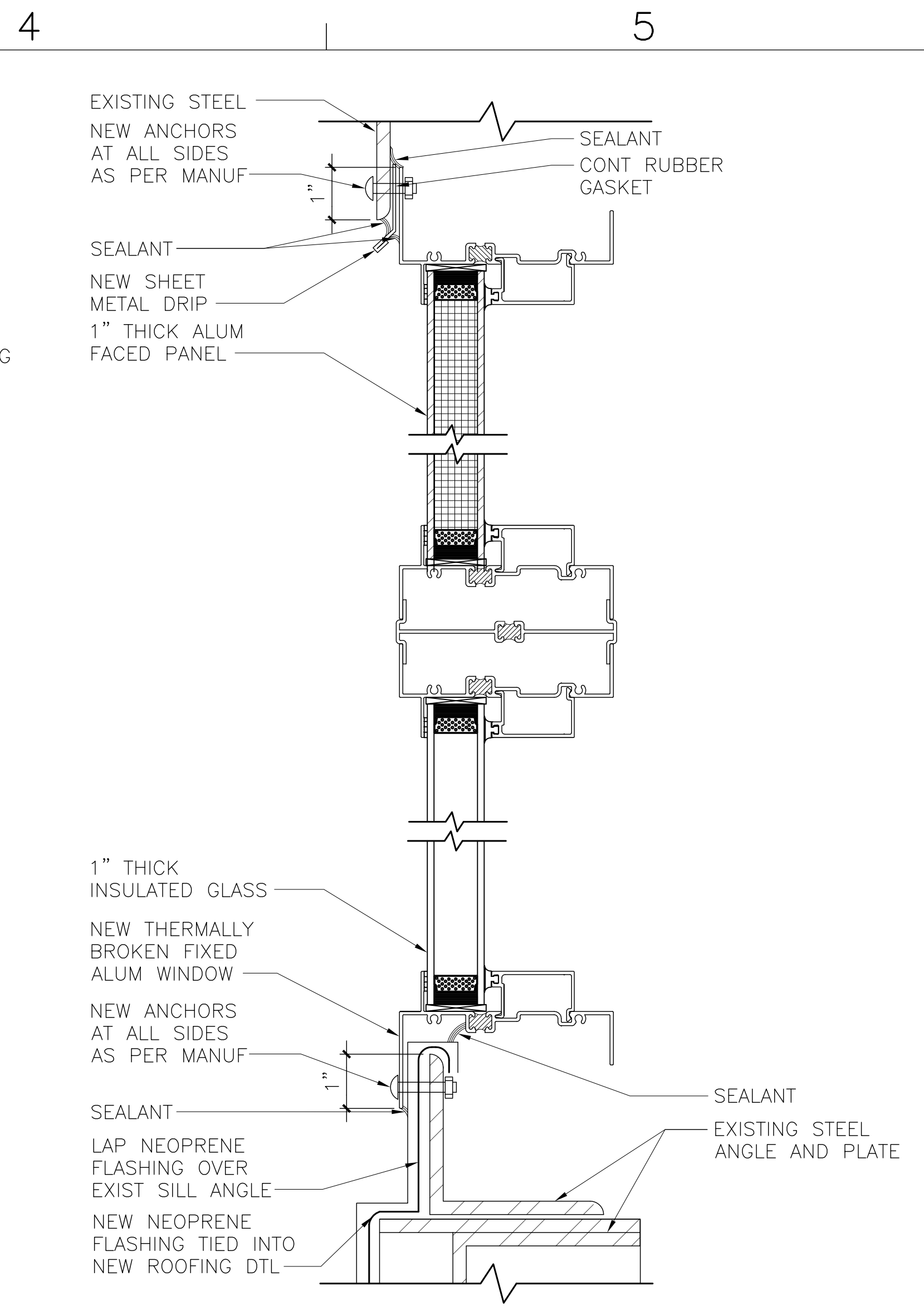


**WINDOW JAMB DETAIL**

SCALE: 6" = 1'-0"

A-601

**(C4)**



**WINDOW HEAD, MULLION, SILL DETAIL**

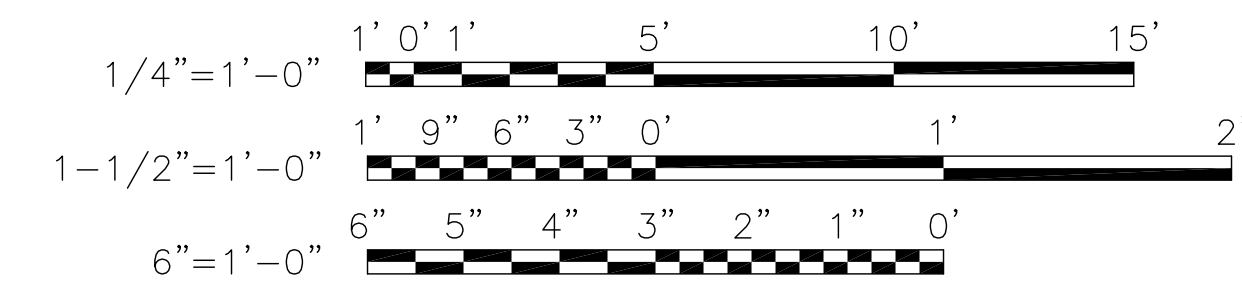
SCALE: 6" = 1'-0"

A-601

**(B5)**

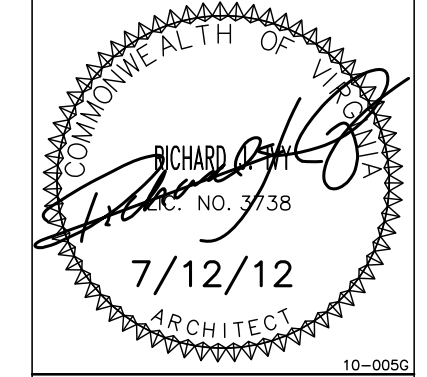
NOTE: IF THIS DRAWING IS A REDUCTION, GRAPHIC SCALE MUST BE USED.

**GRAPHIC SCALE:**



NO.	DATE	APPR.

**BFA**  
 BOWMAN, FOSTER & ASSOC.  
 CONSULTING ENGINEERS  
 #4 INTERSTATE CORP. CENTER  
 NORFOLK, VA 23502  
 2424 26TH ROAD SOUTH  
 ARLINGTON, VA 22206



APPROVED	10-0055		
ACTIVITY - SATISFACTORY TO			
DATE			
APPROVED			
FOR EFD FOR COMMANDER NAVFAC			
DATE			
A/E	NLS	DESIGN	EFD
KAF	DRWN		
NLS	REVIEW		
SGR	OC		
SGR	CHEF ARCH/ ENGR.	PEC	
PROJECT MANAGER	SAH	PEC	
FIRE PROTECTION	PEC	PEC	
BRANCH MANAGER	JFF	DESIGN DIRECTOR	

DEPARTMENT OF THE NAVY  
 MARINE CORPS AIR STATION, CHERRY POINT, N.C.  
**FACILITIES ENERGY REPAIRS,  
 BUILDING 131**  
 WINDOW TYPES AND DETAILS

CODE ID. NO. 80091	SIZE D
SCALE: AS SHOWN	
FED. NO. WR6059407	
STA. PROJ. NO CP12024M/CP12024R	
SPEC. NO.	
CONSTR. CONTR. NO.	
NAVFAC DRAWING NO.	12618399
SHEET	37 OF 124
<b>A-601</b>	

DRAWN REVISION JULY 2003

### FIRE ALARM LEGEND

- MANUAL PULL STATION
- VISUAL ONLY
- HORN/STROBE
- FIRE ALARM CONTROL PANEL WITH INTEGRATED MASS NOTIFICATION
- MONITOR MODULE
- DUCT DETECTOR
- FLOW SWITCH
- TAMPER SWITCH
- PRESSURE SWITCH
- EX SUBSCRIPT: EXISTING DEVICE TO REMAIN
- ADDRESSABLE CHARGER POWER SUPPLY
- SLC SIGNALING LINE CIRCUIT

### LIFE SAFETY LEGEND

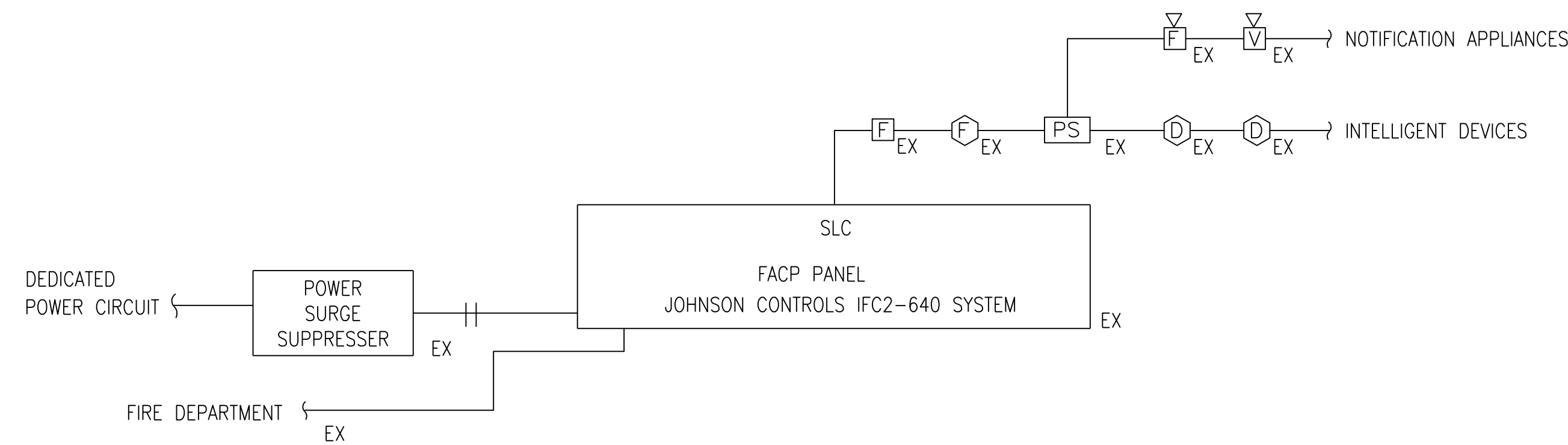
- OCCUPANT DOOR CAPACITY/CALCULATED OCCUPANT LOAD
- OCCUPANT LOAD
- CPT COMMON PATH OF TRAVEL
- DEC DISTANCE
- TTD DEAD END CORRIDOR DISTANCE
- NU TOTAL TRAVEL DISTANCE
- NORMALLY UNOCCUPIED
- 132 sf DIRECTION OF TRAVEL
- FIRE RATED WALL - 1 HOUR
- FIRE RATED WALL - 2 HOUR

### FIRE ALARM NOTES

- APPLICABLE CODES: NFPA 72, NATIONAL FIRE ALARM CODE, 2010 EDITION.
- EXISTING FIRE ALARM PANEL IS TIED INTO BASE FIRE ALARM RECEIVING SYSTEM.
- POWER SUPPLY: PRIMARY POWER SUPPLY: 120 VAC FROM BUILDING SERVICE, SECONDARY POWER SUFFICIENT FOR 48 HOURS OF STANDBY AND 15 MINUETS OF ALARM. SECONDARY POWER SUPPLY VIA BATTERIES SIZED BY CALCULATIONS THAT ARE EXISTING. PERFORM NEW CALCULATIONS BASED ON NEW DEVICES ONLY.
- MANUAL PULL STATIONS ARE EXISTING AND SHALL REMAIN.
- VISUAL NOTIFICATION APPLIANCES ARE EXISTING AND SHALL REMAIN.
- EXISTING SMOKE DUCT DETECTORS SHALL REMAIN.
- EXISTING EXTERIOR HORN/STROBE SHALL REMAIN.
- PROVIDE NEW DUCT SMOKE DETECTORS FOR AHU-1, RTU-1, RTU-2, RTU-3 AND RTU-4 ON THE SUPPLY SIDE OF THE DUCT. DETECTORS SHALL BE LISTED FOR USE WITH THE EXISTING FACP.
- DETECTORS SHALL BE LISTED FOR HIGH AIR VELOCITIES WHERE APPLICABLE.
- REFER TO MECHANICAL SHEETS FOR DEVICE QUANTITIES AND LOCATIONS.
- PROVIDE A REMOTE TEST STATION FOR EACH UNIT. REFER TO SPECIFICATIONS FOR DETAILS.
- RISER DIAGRAM SHOWN FOR REFERENCE AND DOES NOT DEPICT ALL DEVICES.
- EXISTING SPRINKLER CONTROL VALVE AND MAIN WATER SUPPLY SWITCHES SHALL REMAIN.

### GENERAL NOTES

- READ IN CONJUNCTION WITH THE PHASING PLAN.



### FIRE ALARM RISER DIAGRAM

NO SCALE

### SYSTEM INPUTS

MANUAL PULL STATION	X				X			X
DUCT DETECTOR	X		X	X				X
AC POWER FAILURE		X	X		X			
LOW BATTERY VOLTAGE		X	X			X		
CIRCUIT FAULT		X	X			X		
SPRINKLER CONTROL VALVE SUPERVISORY SWITCHES		X	X				X	
MAIN WATER SUPPLY SUPERVISORY SWITCHES		X	X				X	
DEVICE OR CONTROL COMPONENT COMMON TROUBLE		X	X				X	
AC POWER FAILURE		X	X				X	
LOW BATTERY VOLTAGE		X	X				X	
CIRCUIT FAULT		X	X				X	

### FIRE ALARM MATRIX

NO SCALE

### SYSTEM OUTPUTS

	ANNUNCIATION AT CONTROL PANEL			SYSTEM RESPONSE		FIRE DEPARTMENT NOTIFICATION			EVACUATION SIGNALS
	1	2	3	4	5	8	9	10	11
INDICATION BY ZONE OR POINT									
AUDIO-VISUAL FIRE ALARM									
AUDIO-VISUAL TROUBLE/SUPERVISORY INDICATION BY ZONE OR POINT									
AUDIO-VISUAL COMMON TROUBLE INDICATION									
SHUT DOWN RESPECTIVE HVAC UNIT									
SYSTEM DIVERTS TO BATTERY BACKUP									
FIRE ALARM									
COMMON TROUBLE CONDITION									
COMMON SUPERVISORY CONDITION									
FIRE EVACUATION AUDIO-VISUAL SIGNALS (THROUGH MAIN FACP)									

DATE	
DESCRIPTION	
SYMBOL	
BOWMAN, FOSTER & ASSOC. CONSULTING ENGINEERS #4 INTERSTATE CORP. CENTER NORFOLK, VA 23502 2424 26th ROAD SOUTH ARLINGTON, VA 22206	
APPROVED	10-0055
ACTIVITY - SATISFACTORY TO	
DATE	
APPROVED	
FOR EFD FOR COMMANDER NAVFAC	
DATE	
A/E	EFD
DGW	DESIGN
DJL	DRAWN
SGR	REVIEW
SGR	OC
SGR	CHIEF ARCH./ ENGR.
PROJECT MANAGER	PEC
FIRE PROTECTION	SAH
BRANCH MANAGER	PEC
DESIGN DIRECTOR	JEF
DEPARTMENT OF THE NAVY MARINE CORPS AIR STATION, CHERRY POINT, N.C. <b>FACILITIES ENERGY REPAIRS,                  BUILDING 131</b> LEGEND, NOTES AND RISER DIAGRAM	
CODE ID. NO. 80091	SIZE 0
SCALE: AS SHOWN	
FED. NO. WR6059407	
STA. PROJ. NO. CP12024M/CP12024R	
SPEC. NO.	
CONSTR. CONTR. NO.	
NAVFAC DRAWING NO.	12618400
SHEET 38	OF 124
<b>FA001</b>	
DRAWING REVISION: JULY 2003	

BFA File Name G:\2010\10-0050 B-131 ENERGY\SUBMITTALS\FINAL SUBMITTAL 7-12-12\BOUND CAD\12618400.dwg Plot Date: Jul 11, 2012 - 12:04pm Lost Saved By: kbennett

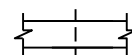



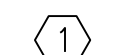
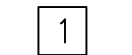





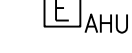





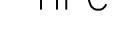

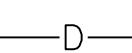


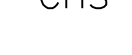
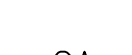




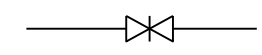
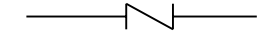
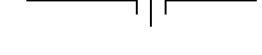
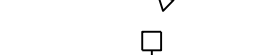

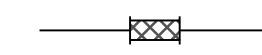
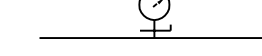
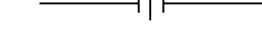


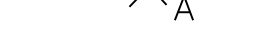


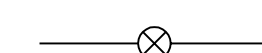
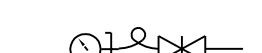


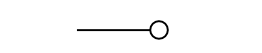
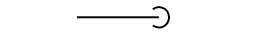
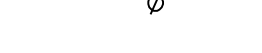
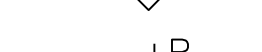
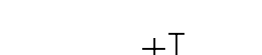





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# MECHANICAL LEGEND

**NOTE:**  
 LIGHT LINEWEIGHT SYMBOLS INDICATE EXISTING DEVICES, EQUIPMENT, PIPING, ETC. TO REMAIN. HEAVY LINEWEIGHT SYMBOLS INDICATES NEW DEVICES, EQUIPMENT, TO BE PROVIDED AND OR INSTALLED. HEAVY & DASHED LINEWEIGHT SYMBOLS INDICATE DEVICES, EQUIPMENT, PIPING, ETC. TO BE REMOVED.

- |                                                                                     |                                                                                                    |
|-------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|
|    | MANUAL BALANCING DAMPER WITH LOCKING QUADRANT                                                      |
|    | FLEXIBLE DUCT CONNECTION                                                                           |
|    | MOTORIZED CONTROL DAMPER                                                                           |
|    | ELBOW WITH TURNING VANES                                                                           |
|    | DEMOLITION NOTE MARK                                                                               |
|    | NEW WORK NOTE MARK                                                                                 |
|    | GRILLE OR DIFFUSER MARK - SEE SCHEDULE SHEET M-601                                                 |
|    | POINT OF CONNECTION-NEW TO EXISTING                                                                |
|    | SUPPLY DUCT SECTION                                                                                |
|    | RETURN                                                                                             |
|    | EXHAUST DUCT SECTION                                                                               |
|    | EMERGENCY SHUTDOWN SWITCH MOUNTED 60" ABOVE FLOOR. SUBSCRIPT INDICATES EQUIPMENT BEING CONTROLLED. |
|    | DIFFERENTIAL PRESSURE SENSOR                                                                       |
|    | THERMOSTAT/SENSOR-WALL MOUNTED 60" ABOVE FLOOR. SUBSCRIPT INDICATES EQUIPMENT BEING CONTROLLED     |
|    | SMOKE DETECTOR                                                                                     |
|  | DUCT TURNING DOWN                                                                                  |
|  | HIGH-PRESSURE STEAM SUPPLY PIPING                                                                  |
|  | HIGH-PRESSURE CONDENSATE                                                                           |
|  | LOW-PRESSURE STEAM SUPPLY PIPING                                                                   |
|  | LOW-PRESSURE CONDENSATE RETURN PIPING                                                              |
|  | CONDENSATE DRAIN PIPING                                                                            |
|  | HOT WATER SUPPLY PIPING                                                                            |
|  | HOT WATER RETURN PIPING                                                                            |
|  | CHILLED WATER SUPPLY PIPING                                                                        |
|  | CHILLED WATER RETURN PIPING                                                                        |
|  | COMPRESSED AIR                                                                                     |


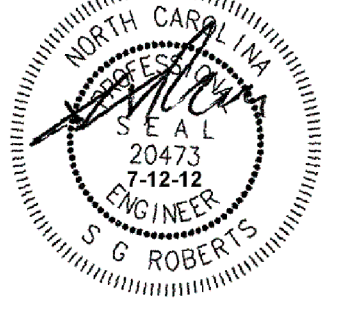
- |                                                                                      |                                             |
|--------------------------------------------------------------------------------------|---------------------------------------------|
|    | GATE VALVE                                  |
|    | CHECK VALVE                                 |
|    | BUTTERFLY VALVE                             |
|    | STRAINER WITH BLOWDOWN VALVE                |
|    | 2-WAY AUTO CONTROL VALVE                    |
|    | THERMOMETER                                 |
|    | FLEXIBLE PIPING CONNECTION                  |
|    | PRESSURE GAUGE SHUT-OFF COCK                |
|    | UNION                                       |
|    | PIPE SLOPE (DOWN IN ARROW DIRECTION)        |
|    | ECCENTRIC PIPE REDUCER                      |
|    | PIPE ANCHOR                                 |
|    | PIPE CAP                                    |
|    | PIPE GUIDE                                  |
|    | DIRECTION OF FLOW                           |
|    | STEAM CONDENSATE TRAP ASSEMBLY              |
|    | PRESSURE GAUGE WITH PIGTAIL & SHUTOFF VALVE |
|   | THERMOMETER WELL                            |
|  | 3-WAY IN PLAN VIEW                          |
|  | PIPE TURNS UP                               |
|  | PIPE TURNS DOWN                             |
|  | DIAMETER                                    |
|  | PLUG-TYPE BALANCING VALVE                   |
|  | PRESSURE TAP                                |
|  | THERMOWELL                                  |

# GENERAL NOTE

1. COORDINATE ALL MECHANICAL NEW AND DEMOLITION WORK WITH PHASING PLAN.

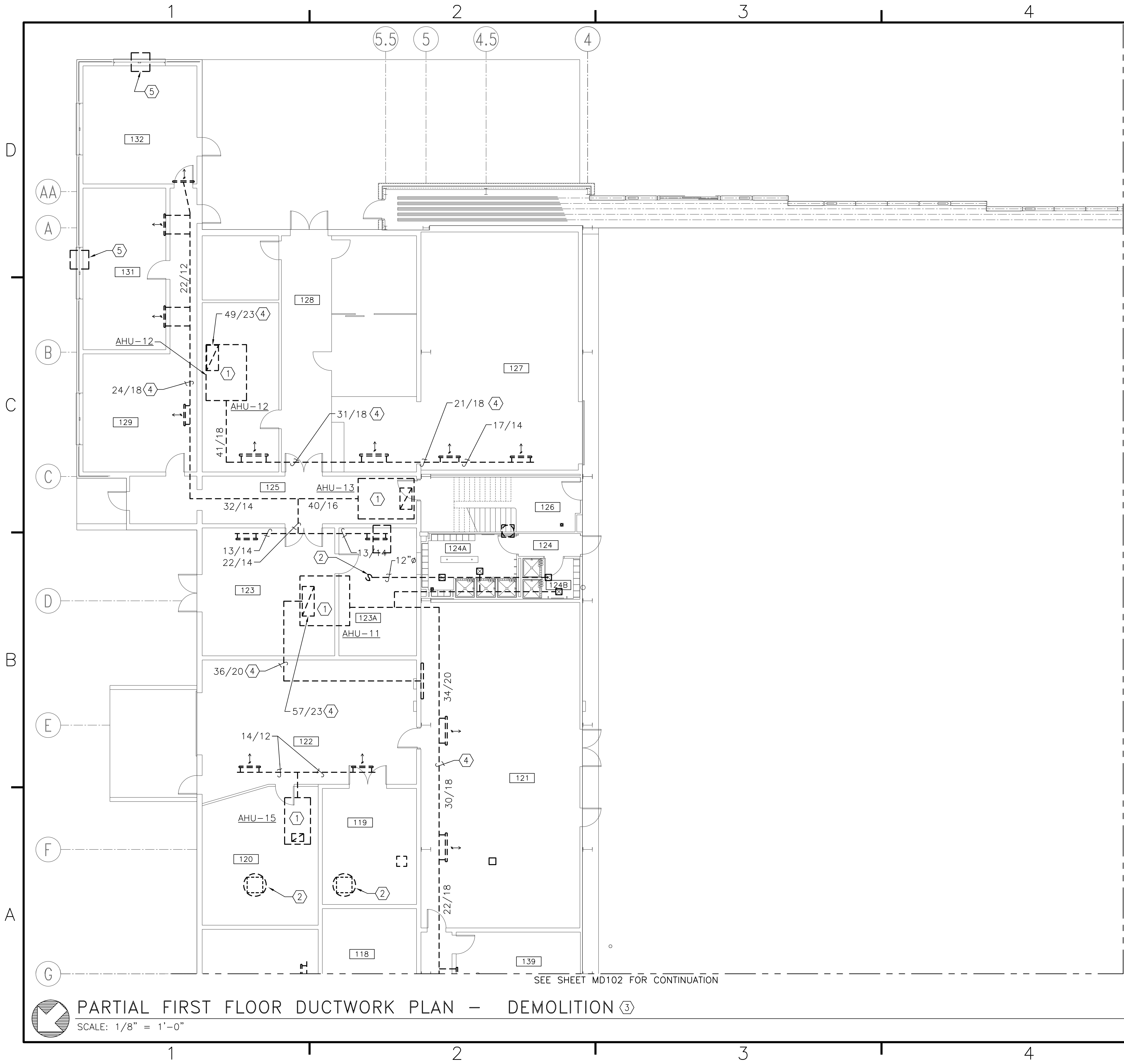
# ABBREVIATIONS

AHU-1	AIR HANDLING UNIT DESIGNATION	MSI-1	DUCTLESS SPLIT SYSTEM AIR HANDLER DESIGNATION (INDOOR UNIT)
APD	AIR PRESSURE DROP	MSO-1	DUCTLESS SPLIT SYSTEM DESIGNATION (OUTDOOR UNIT)
AS-1	AIR SEPARATOR	OA	OUTSIDE AIR
CFM	CUBIC FEET PER MINUTE	PH	PHASE
CH-1	CHILLER DESIGNATION	PRV	PRESSURE REDUCING VALVE
CLG	COOLING	PRV-1	PRESSURE REDUCING VALVE STATION
CP-1	STEAM CONDENSATE PUMP DESIGNATION	PS-1	PHOTOELECTRIC SENSOR
CSF-1	CHEMICAL SHOT FEEDER	PSIG	POUNDS PER SQUARE INCH GAUGE
EAT	ENTERING AIR TEMPERATURE	PTAC	PARTIAL THROUGH AIR CONDITIONER
EF-1	EXHAUST FAN DESIGNATION	P-1	CIRCULATING PUMP
ESP	EXTERNAL STATIC PRESSURE	RA	RETURN AIR
FD	FIRE DAMPER	RL	REFRIGERANT LIQUID
*FDB	DEGREES FAHRENHEIT DRY BULB	RLA	RATED LOAD AMPS
*FWB	DEGREES FAHRENHEIT WET BULB	RM	ROOM
FLA	FULL LOAD AMPS	RPM	REVOLUTIONS PER MINUTE
FPM	FEET PER MINUTE	RS	REFRIGERANT SUCTION
FT	FEET	RTU-1	ROOF TOP UNIT AIR HANDLER
GPM	GALLONS PER MINUTE	SA	SUPPLY AIR
HP	HORSEPOWER	SCT	SATURATED CONDENSING TEMPERATURE
HTG	HEATING	TS	TIP SPEED
KW	KILOWATTS	VAV	VARIABLE AIR VOLUME
LAT	LEAVING AIR TEMPERATURE	VFD	VARIABLE FREQUENCY DRIVE
LBS/HR	POUNDS PER HOUR	UH-1	UNIT HEATER DESIGNATION
L-1	OUTSIDE AIR LOUVER DESIGNATION	UON	UNLESS OTHERWISE NOTED
MBH	THOUSAND BRITISH THERMAL UNITS PER HOUR	"WC	INCH WATER COLUMN
MCA	MINIMUM CIRCUIT AMPS		
MFS	MAXIMUM FUSE SIZE		
MOCP	MAXIMUM OVER CURRENT PROTECTION		

DATE	APPROVED
DESCRIPTION	
SYMBOL	
 BOWMAN, FOSTER & ASSOC. CONSULTING ENGINEERS #4 INTERSTATE CORP. CENTER NORFOLK, VA 23502 2424 26th ROAD SOUTH ARLINGTON, VA 22206	
 NORTH CAROLINA PROFESSIONAL ENGINEER G. ROBERTS	
APPROVED	10-0050
ACTIVITY - SATISFACTORY TO	
DATE	
APPROVED	
FOR EFD FOR COMMANDER NAVFAC	
DATE	
A/E	DESIGN
CML	DESIGN
KLB	DRAWN
JDH	REVIEW
SGR	OC
SGR	CHEF ARCH/ ENGR.
PROJECT MANAGER	PEC
FIRE PROTECTION	SAH
BRANCH MANAGER	PEC
DESIGN DIRECTOR	JEF
DEPARTMENT OF THE NAVY MARINE CORPS AIR STATION, CHERRY POINT, N.C. FACILITIES ENERGY REPAIRS, BUILDING 131 LEGEND AND ABBREVIATIONS	
CODE ID. NO. 80091	SIZE 0
SCALE:	AS SHOWN
FED. NO. WR6059407	
STA. PROJ. NO. CP12024M/CP12024R	
SPEC. NO.	
CONSTR. CONTR. NO.	
NAVFAC DRAWING NO.	12618402
SHEET 40	OF 124
<b>M-001</b> DRAWING REVISION JULY 2003	



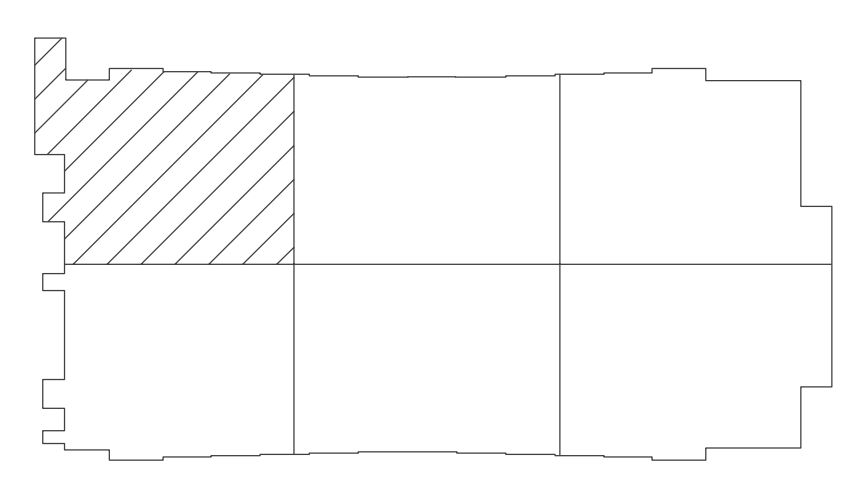
BFA Filename G:\2010\10-0050 B-131 ENERGY\SUBMITTALS\FINAL SUBMITTAL 7-12-12\BOUND CAD\12618403.dwg Plot Date: Jul 11, 2012 - 12:37pm Last Saved By: kbennett



**DEMOLITION NOTES**  
(THIS SHEET ONLY)

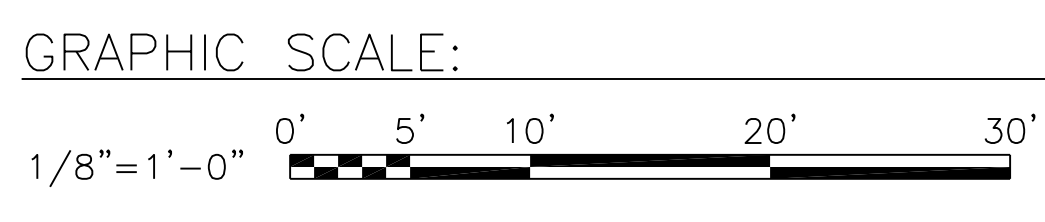
- ① REMOVE EXISTING AIR HANDLING UNIT TO INCLUDE ASSOCIATED CONTROLS, THERMOSTATS, CONDENSATE DRAINS, DAMPERS, AND ALL APPURTENANCES COMPLETE. AIR HANDLING UNITS INSTALLED APPROXIMATELY 10' AFF.
- ② REMOVE EXISTING EXHAUST FAN AND ASSOCIATED DUCTWORK COMPLETE.
- ③ SOME DIMENSIONS REFLECT RECORD DRAWING CONDITIONS. CONTRACTOR TO FIELD VERIFY ALL DIMENSIONS PRIOR TO COMMENCING CONSTRUCTION.
- ④ REMOVE EXISTING DUCTWORK AND ASSOCIATED DIFFUSERS, REGISTERS, AND GRILLS COMPLETE.
- ⑤ REMOVE EXISTING PTAC UNIT FROM WINDOW. RECOVER REFRIGERANT IN ACCORDANCE WITH EPA REGULATIONS.

SEE SHEET MD103 FOR CONTINUATION



**KEY PLAN**  
NO SCALE

NOTE: IF THIS DRAWING IS A REDUCTION, GRAPHIC SCALE MUST BE USED.

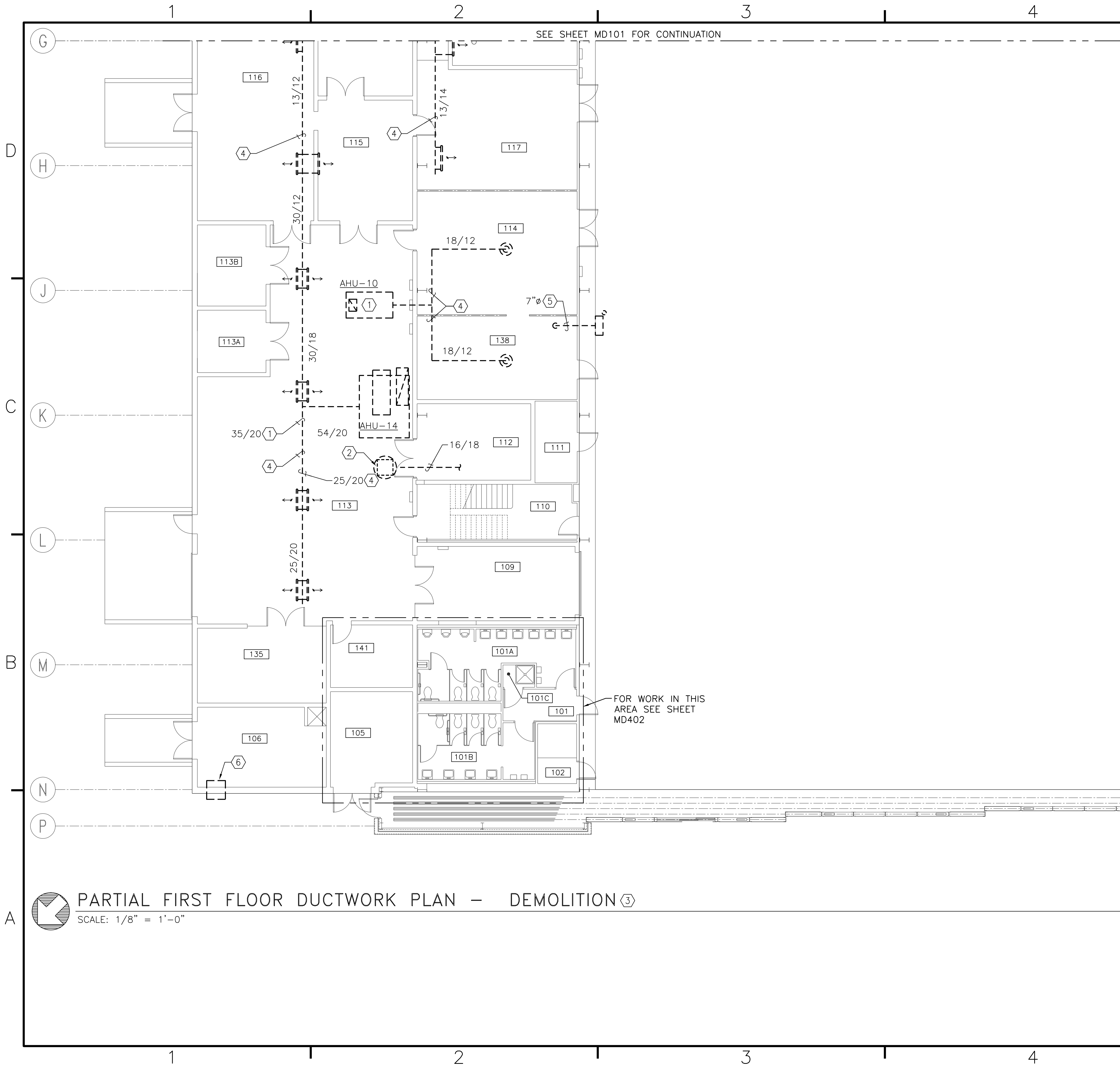


**PARTIAL FIRST FLOOR DUCTWORK PLAN - DEMOLITION** ③  
SCALE: 1/8" = 1'-0"

<b>lfa</b>	BOWMAN, FOSTER & ASSOC. CONSULTING ENGINEERS #4 INTERSTATE CORP. CENTER NORFOLK, VA 23502 2424 26th ROAD SOUTH ARLINGTON, VA 22206						
APPROVED							
ACTIVITY - SATISFACTORY TO							
DATE							
APPROVED							
FOR EFD FOR COMMANDER NAVFAC							
DATE							
A/E	DESIGN	EFD					
CML	KLFB	JDH					
SGR	OC	SGR					
PROJECT MANAGER	SAH	PEC					
FIRE PROTECTION	SAH	PEC					
BRANCH MANAGER	SAH	PEC					
DESIGN DIRECTOR	JEF						
DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND MARINE CORPS AIR STATION, CHERRY POINT, N.C. <b>FACILITIES ENERGY REPAIRS,          BUILDING 131</b> PARTIAL FIRST FLOOR DUCTWORK PLAN - DEMOLITION							
CODE ID. NO. 80091	SIZE	D					
SCALE:	AS SHOWN						
FED. NO.	WR6059407						
STA. PROJ. NO.	CP12024M/CP12024R						
SPEC. NO.							
CONSTR. CONTR. NO.							
NAVFAC DRAWING NO.	12618403						
SHEET	41 OF 124						
<b>MD101</b>							
DRAWING REVISION JULY 2003							



BFA Filename G:\2010\10-0050 B-131 ENERGY\SUBMITTALS\FINAL SUBMITTAL 7-12-12\BOUND CAD\12618404.dwg Plot Date: Jul 11, 2012 - 12:38pm Lost Saved By: kbennett

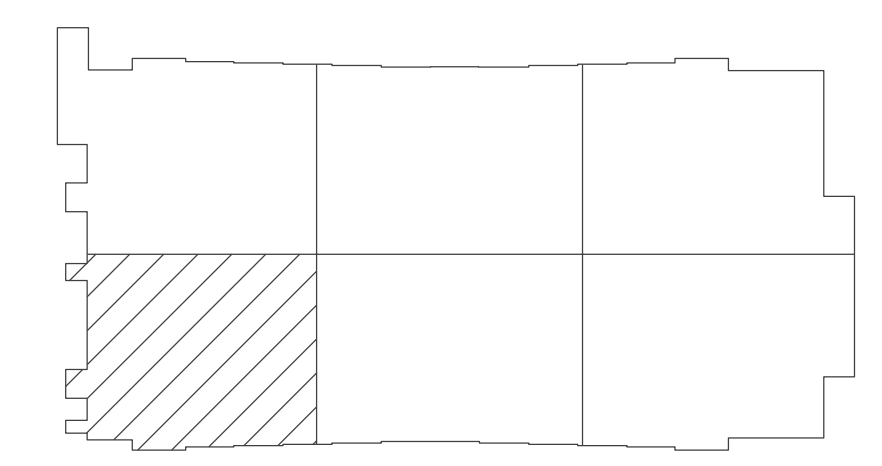


**PARTIAL FIRST FLOOR DUCTWORK PLAN - DEMOLITION** ③  
 SCALE: 1/8" = 1'-0"

**DEMOLITION NOTES**  
 (THIS SHEET ONLY)

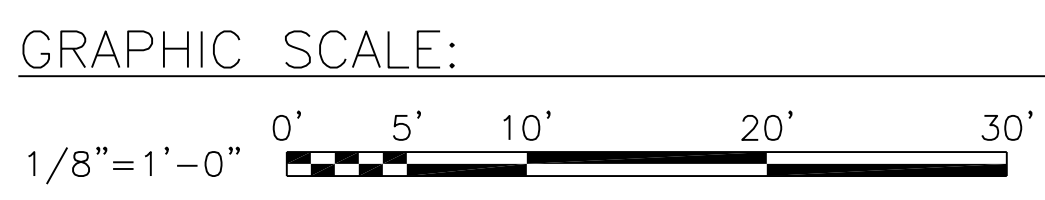
- ① REMOVE EXISTING AIR HANDLING UNIT TO INCLUDE ASSOCIATED CONTROLS, THERMOSTATS, CONDENSATE DRAINS, DAMPERS, AND ALL APPURTENANCES COMPLETE. AIR HANDLING UNITS INSTALLED APPROXIMATELY 10' AFF.
- ② REMOVE EXISTING EXHAUST DUCTWORK COMPLETE.
- ③ SOME DIMENSIONS REFLECT RECORD DRAWING CONDITIONS. CONTRACTOR TO FIELD VERIFY ALL DIMENSIONS PRIOR TO COMMENCING CONSTRUCTION.
- ④ REMOVE EXISTING DUCTWORK AND ASSOCIATED DIFFUSERS, REGISTERS, AND GRILLS COMPLETE.
- ⑤ REMOVE EXISTING CENTRIFUGAL EXHAUST FAN AND ASSOCIATED DUCTWORK COMPLETE. FILL IN AND SEAL EXISTING DUCT PENETRATION THROUGH WALL. EXISTING WALL IS CMU BLOCK. EXHAUST DUCTWORK ROUTES UP THROUGH HANGER AND PENETRATES ROOF.
- ⑥ REMOVE EXISTING PTAC UNIT FROM EXTERIOR WALL. COVER EXISTING PENETRATION WITH METAL PANEL. FILL IN EXISTING HOLE AND SEAL. MATCH EXISTING INTERIOR FINISHES. RECOVER REFRIGERANT IN ACCORDANCE WITH EPA REGULATIONS. SEE "PHOTO 5 - BUILDING 131 NORTH EAST CORNER" FOR MORE INFORMATION.

SEE SHEET MD104 FOR CONTINUATION



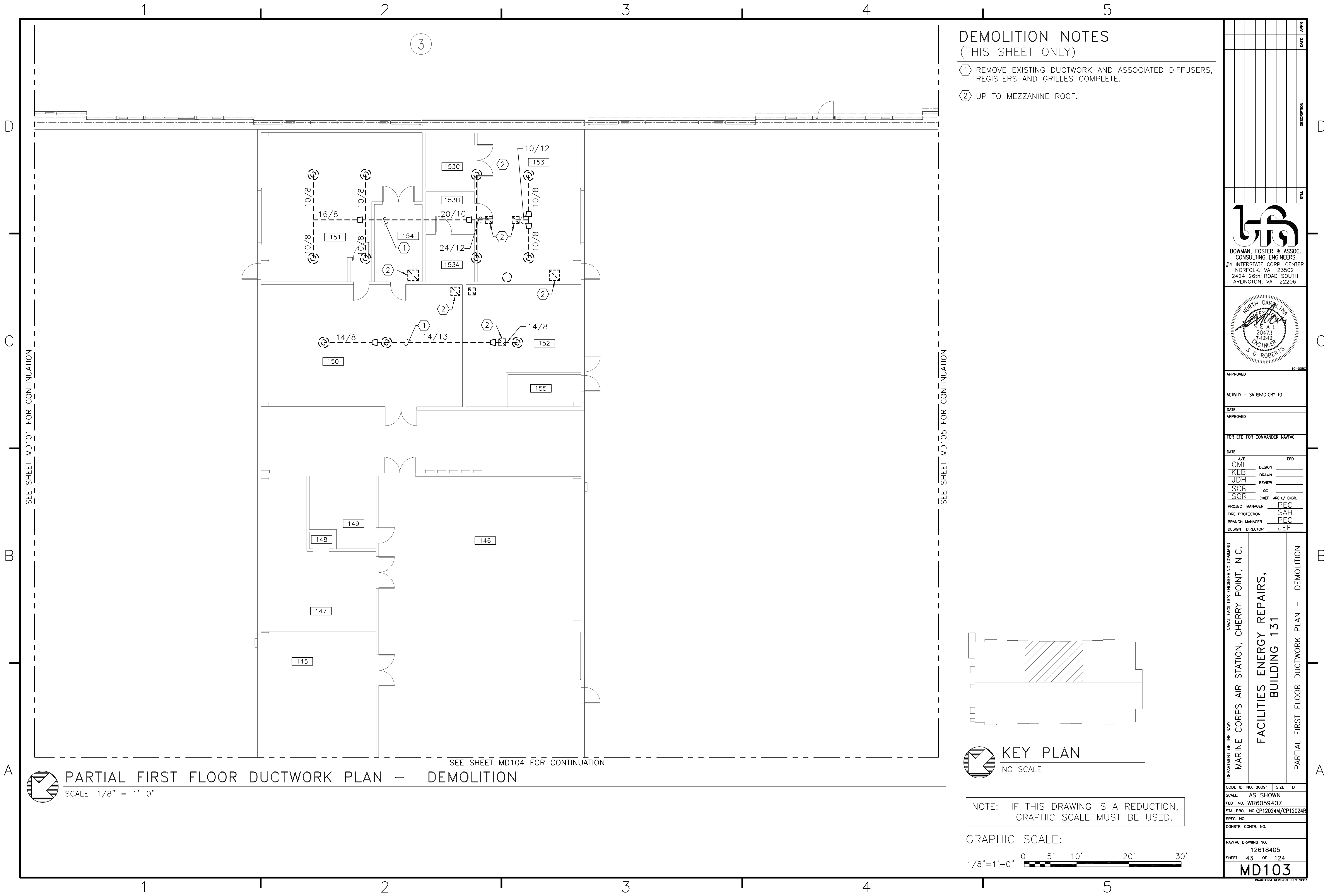
**KEY PLAN**  
 NO SCALE

NOTE: IF THIS DRAWING IS A REDUCTION, GRAPHIC SCALE MUST BE USED.



DATE	APPR	
DESCRIPTION	D	
SYMBOL	C	
 BOWMAN, FOSTER & ASSOC. CONSULTING ENGINEERS #4 INTERSTATE CORP. CENTER NORFOLK, VA 23502 2424 26th ROAD SOUTH ARLINGTON, VA 22206		
 NORTH CAROLINA PROFESSIONAL ENGINEER #20473 7-12-12 G. ROBERTS		
APPROVED	10-0005	
ACTIVITY - SATISFACTORY TO		
DATE		
APPROVED		
FOR EFD FOR COMMANDER NAVFAC		
DATE		
A/E	DESIGN	EFD
CML	DRAWN	
KLB	REVIEW	
JDH	OC	
SGR	CHEF ARCH/ ENGR.	
SGR	PROJECT MANAGER	PEC
	FIRE PROTECTION	SAH
	BRANCH MANAGER	PEC
	DESIGN DIRECTOR	JEF
DEPARTMENT OF THE NAVY MARINE CORPS AIR STATION, CHERRY POINT, N.C. NAVAL FACILITIES ENGINEERING COMMAND <b>FACILITIES ENERGY REPAIRS,</b> <b>BUILDING 131</b> PARTIAL FIRST FLOOR DUCTWORK PLAN - DEMOLITION		
CODE ID. NO. 80091	SIZE	D
SCALE:	AS SHOWN	
FED. NO. WR6059407		
STA. PROJ. NO. CP12024M/CP12024R		
SPEC. NO.		
CONSTR. CONTR. NO.		
NAVFAC DRAWING NO.	12618404	
SHEET	42	OF 124
<b>MD102</b>		
<small>DRAWING REVISION JULY 2003</small>		

BFA File Name G:\2010\10-0050 B-131 ENERGY\SUBMITTALS\FINAL SUBMITTAL 7-12-12\BOUND CAD\12618405.dwg Plot Date: Jul 11, 2012 - 12:39pm Lost Saved By: kbennett



### DEMOLITION NOTES (THIS SHEET ONLY)

- ① REMOVE EXISTING DUCTWORK AND ASSOCIATED DIFFUSERS, REGISTERS AND GRILLES COMPLETE.
- ② UP TO MEZZANINE ROOF.

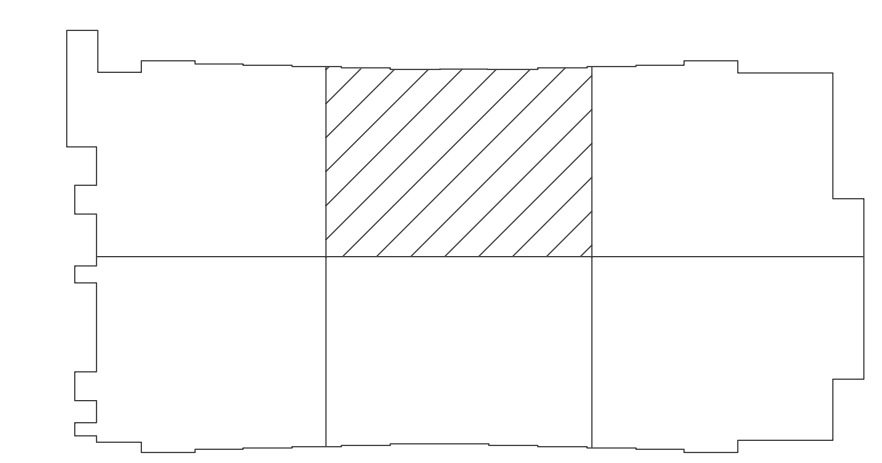
SEE SHEET MD101 FOR CONTINUATION

SEE SHEET MD105 FOR CONTINUATION

SEE SHEET MD104 FOR CONTINUATION

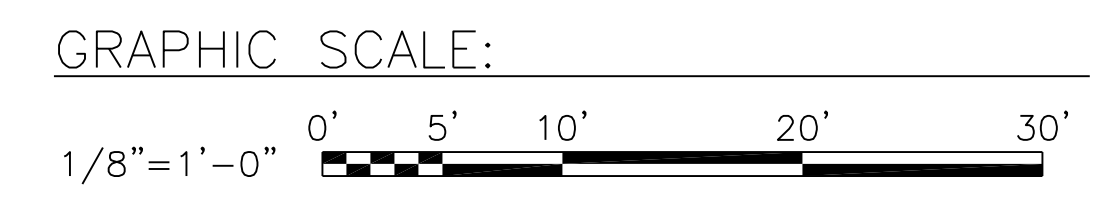
## PARTIAL FIRST FLOOR DUCTWORK PLAN - DEMOLITION

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

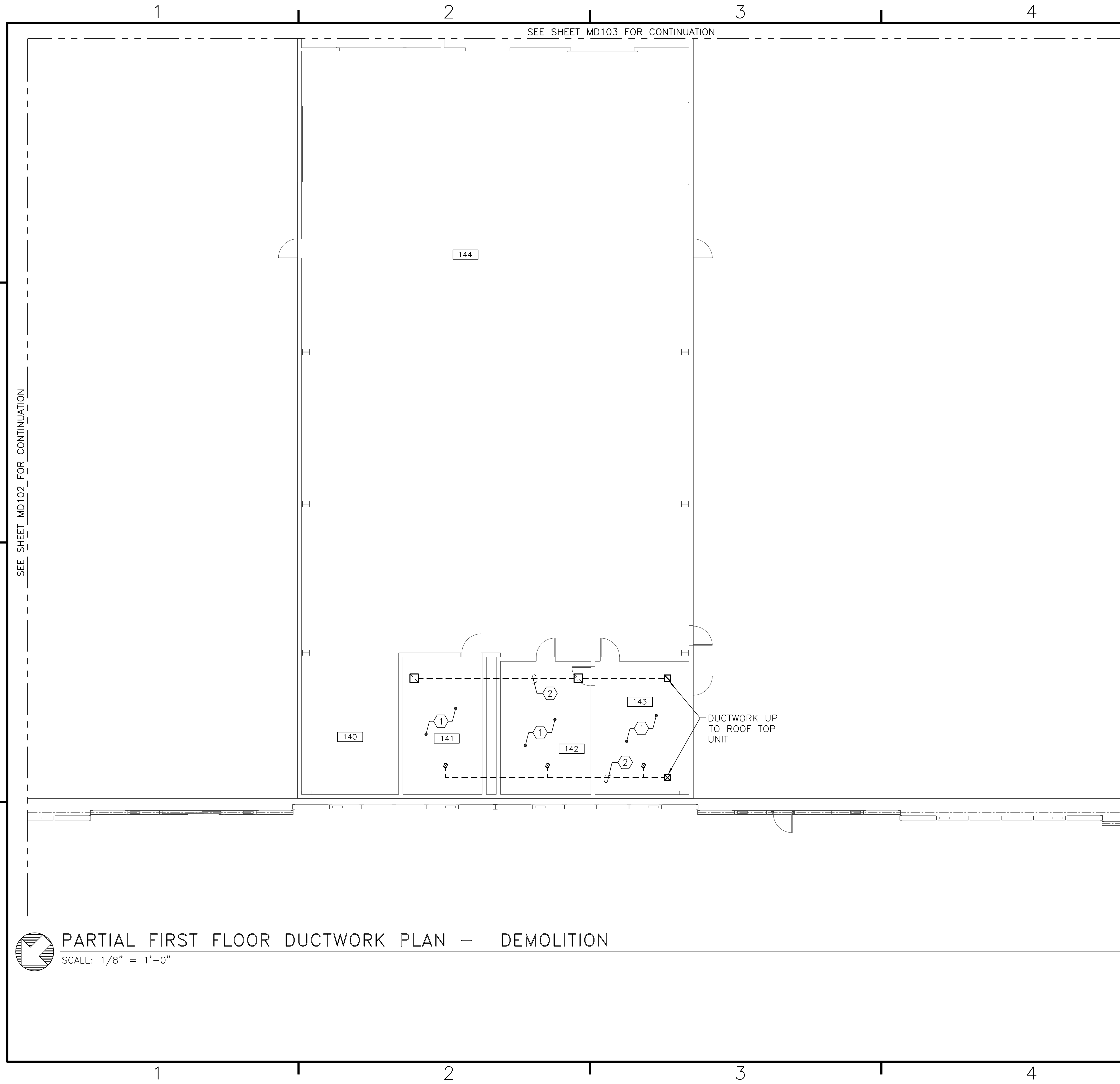


**KEY PLAN**  
NO SCALE

NOTE: IF THIS DRAWING IS A REDUCTION, GRAPHIC SCALE MUST BE USED.



DATE	APPR
DESCRIPTION	
SYN	
BOWMAN, FOSTER & ASSOC. CONSULTING ENGINEERS #4 INTERSTATE CORP. CENTER NORFOLK, VA 23502 2424 26th ROAD SOUTH ARLINGTON, VA 22206	
APPROVED 10-0050	
ACTIVITY - SATISFACTORY TO	
DATE	
APPROVED	
FOR EFD FOR COMMANDER NAVFAC	
DATE	
A/E	EFD
CML	DESIGN
KLB	DRAWN
JDH	REVIEW
SGR	OC
SGR	CHIEF ARCH/ ENGR.
PROJECT MANAGER	PEC
FIRE PROTECTION	SAH
BRANCH MANAGER	PEC
DESIGN DIRECTOR	JEF
DEPARTMENT OF THE NAVY MARINE CORPS AIR STATION, CHERRY POINT, N.C. NAVAL FACILITIES ENGINEERING COMMAND FACILITIES ENERGY REPAIRS, BUILDING 131 PARTIAL FIRST FLOOR DUCTWORK PLAN - DEMOLITION	
CODE ID. NO. 80091	SIZE 0
SCALE: AS SHOWN	
FED. PROJ. NO. WR6059407	
STA. PROJ. NO. CP12024M/CP12024R	
SPEC. NO.	
CONSTR. CONTR. NO.	
NAVFAC DRAWING NO. 12618405	
SHEET 43 OF 124	
<b>MD103</b>	
DRAWING REVISION JULY 2003	



SEE SHEET MD103 FOR CONTINUATION

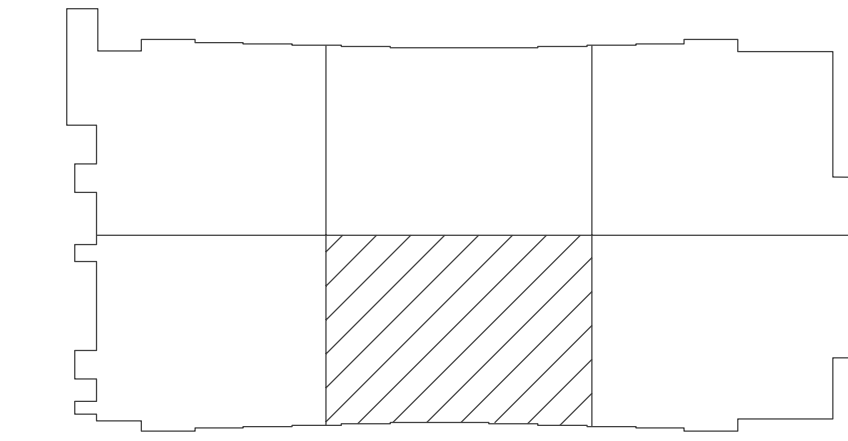
SEE SHEET MD102 FOR CONTINUATION

SEE SHEET MD106 FOR CONTINUATION

DEMOLITION NOTES  
(THIS SHEET ONLY)

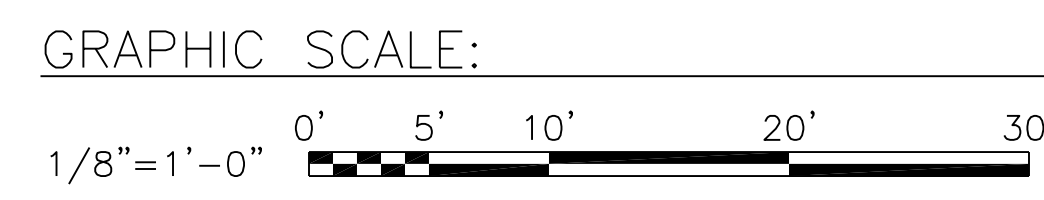
- ① HARD CEILING WITH NO ACCESS DOORS. CEILING HEIGHT 8' 3" AFF. COORDINATE CEILING DEMOLITION WITH ARCHITECTURAL DRAWINGS.
- ② REMOVE EXISTING DUCTWORK AND ASSOCIATED DIFFUSERS, REGISTERS AND GRILLES.

PARTIAL FIRST FLOOR DUCTWORK PLAN - DEMOLITION  
SCALE: 1/8" = 1'-0"



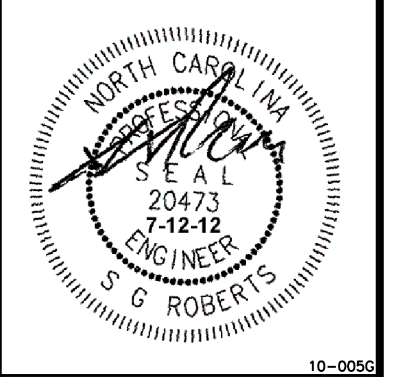
KEY PLAN  
NO SCALE

NOTE: IF THIS DRAWING IS A REDUCTION, GRAPHIC SCALE MUST BE USED.



DATE	APPR	DESCRIPTION	SYN

**BOWMAN, FOSTER & ASSOC.**  
CONSULTING ENGINEERS  
#4 INTERSTATE CORP. CENTER  
NORFOLK, VA 23502  
2424 26th ROAD SOUTH  
ARLINGTON, VA 22206



APPROVED

ACTIVITY - SATISFACTORY TO

DATE

APPROVED

FOR EFD FOR COMMANDER NAVFAC

DATE

A/E	DESIGN	EFD
CML	DESIGN	
KLB	DRAWN	
JDH	REVIEW	
SGR	OC	
SGR	CHEF ARCH/ ENGR.	

PROJECT MANAGER	PEC
FIRE PROTECTION	SAH
BRANCH MANAGER	PEC
DESIGN DIRECTOR	JEF

DEPARTMENT OF THE NAVY  
NAVAL FACILITIES ENGINEERING COMMAND  
MARINE CORPS AIR STATION, CHERRY POINT, N.C.

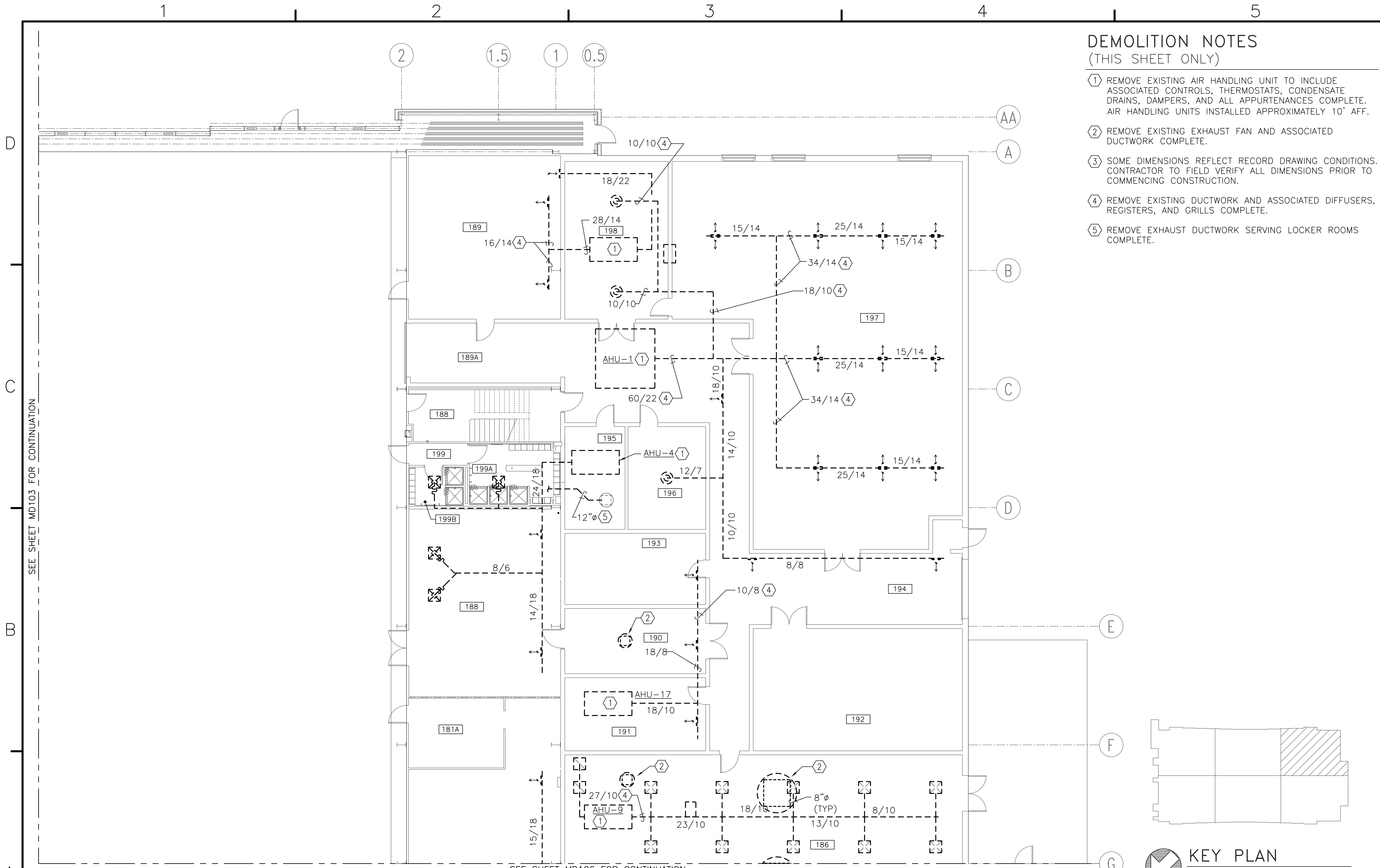
**FACILITIES ENERGY REPAIRS,  
BUILDING 131**

PARTIAL FIRST FLOOR DUCTWORK PLAN - DEMOLITION

CODE ID. NO. B0091	SIZE 0
SCALE:	AS SHOWN
FED. NO. WR6059407	
STA. PROJ. NO. CP12024M/CP12024R	
SPEC. NO.	
CONSTR. CONTR. NO.	
NAVFAC DRAWING NO.	12618406
SHEET	44 OF 124
<b>MD104</b>	



BFA File Name G:\2010\10-0050 B-131 ENERGY\SUBMITTALS\FINAL SUBMITTAL 7-12-12\BOUND CAD\12618407.dwg Plot Date: Jul 11, 2012 - 12:39pm Last Saved By: kbennett



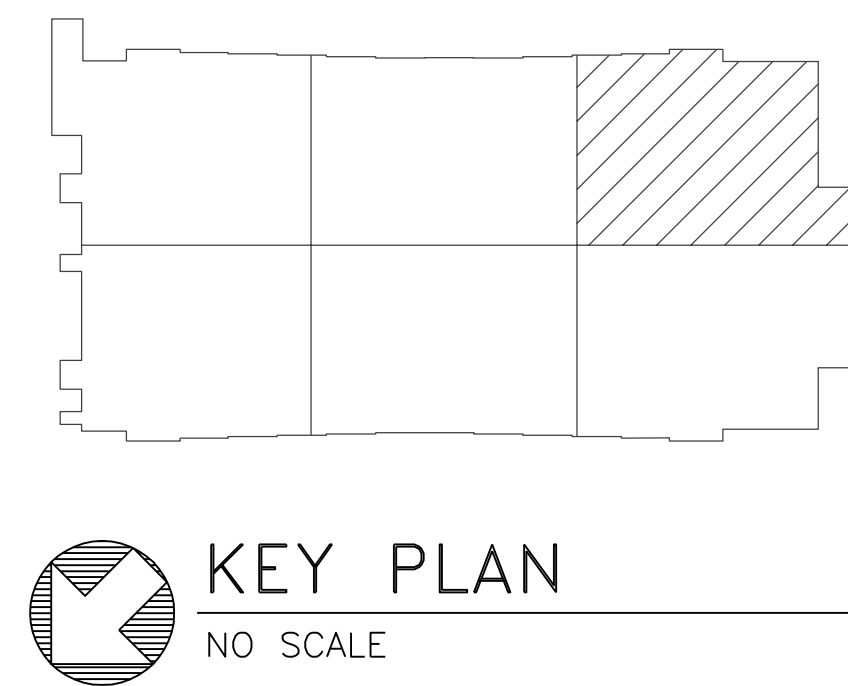
**DEMOLITION NOTES**  
(THIS SHEET ONLY)

- ① REMOVE EXISTING AIR HANDLING UNIT TO INCLUDE ASSOCIATED CONTROLS, THERMOSTATS, CONDENSATE DRAINS, DAMPERS, AND ALL APPURTENANCES COMPLETE. AIR HANDLING UNITS INSTALLED APPROXIMATELY 10' AFF.
- ② REMOVE EXISTING EXHAUST FAN AND ASSOCIATED DUCTWORK COMPLETE.
- ③ SOME DIMENSIONS REFLECT RECORD DRAWING CONDITIONS. CONTRACTOR TO FIELD VERIFY ALL DIMENSIONS PRIOR TO COMMENCING CONSTRUCTION.
- ④ REMOVE EXISTING DUCTWORK AND ASSOCIATED DIFFUSERS, REGISTERS, AND GRILLS COMPLETE.
- ⑤ REMOVE EXHAUST DUCTWORK SERVING LOCKER ROOMS COMPLETE.

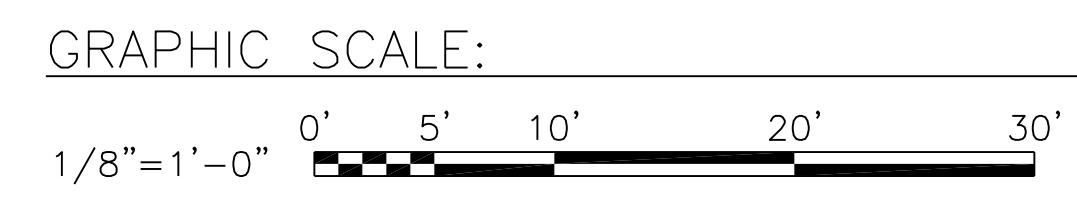
SEE SHEET MD103 FOR CONTINUATION

SEE SHEET MD106 FOR CONTINUATION

**PARTIAL FIRST FLOOR DUCTWORK PLAN - DEMOLITION**  
SCALE: 1/8" = 1'-0"

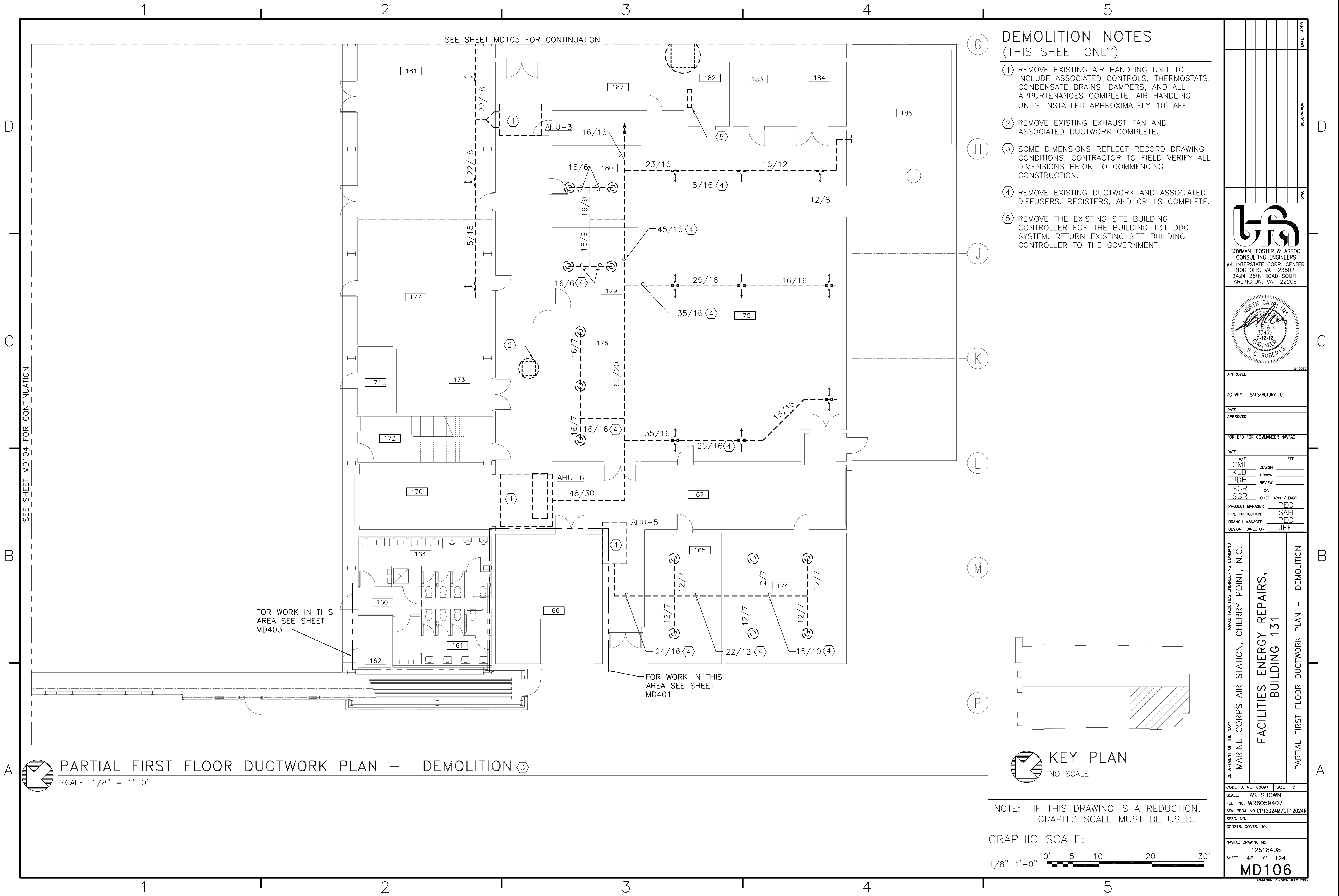


NOTE: IF THIS DRAWING IS A REDUCTION, GRAPHIC SCALE MUST BE USED.



	DATE
	APPROVED
<b>BOWMAN, FOSTER &amp; ASSOC.</b> CONSULTING ENGINEERS #4 INTERSTATE CORP. CENTER NORFOLK, VA 23502 2424 26th ROAD SOUTH ARLINGTON, VA 22206	
APPROVED	
ACTIVITY - SATISFACTORY TO	
DATE	
APPROVED	
FOR EFD FOR COMMANDER NAVFAC	
DATE	
A/E	EFD
CML	DESIGN
KLB	DRAWN
JDH	REVIEW
SGR	OC
SGR	CHIEF ARCH/ ENGR.
PROJECT MANAGER	PEC
FIRE PROTECTION	SAH
BRANCH MANAGER	PEC
DESIGN DIRECTOR	JEF
DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND MARINE CORPS AIR STATION, CHERRY POINT, N.C.	
<b>FACILITIES ENERGY REPAIRS,          BUILDING 131</b>	
PARTIAL FIRST FLOOR DUCTWORK PLAN - DEMOLITION	
CODE ID. NO. 80091    SIZE 0 SCALE: AS SHOWN FED. PROJ. NO. WR6059407 STA. PROJ. NO. CP12024M/CP12024R SPEC. NO. CONSTR. CONTR. NO.	
NAVFAC DRAWING NO. 12618407 SHEET 45 OF 124	
<b>MD105</b> <small>DRAWING REVISION JULY 2003</small>	

BFA File Name G:\2010\10-0050 B-131 ENERGY\SUBMITTALS\FINAL SUBMITTAL 7-12-12\BOUND CAD\12618408.dwg Plot Date: Jul 11, 2012 - 12:40pm Last Saved By: kbennett



- ### DEMOLITION NOTES (THIS SHEET ONLY)
- REMOVE EXISTING AIR HANDLING UNIT TO INCLUDE ASSOCIATED CONTROLS, THERMOSTATS, CONDENSATE DRAINS, DAMPERS, AND ALL APPURTENANCES COMPLETE. AIR HANDLING UNITS INSTALLED APPROXIMATELY 10' AFF.
  - REMOVE EXISTING EXHAUST FAN AND ASSOCIATED DUCTWORK COMPLETE.
  - SOME DIMENSIONS REFLECT RECORD DRAWING CONDITIONS. CONTRACTOR TO FIELD VERIFY ALL DIMENSIONS PRIOR TO COMMENCING CONSTRUCTION.
  - REMOVE EXISTING DUCTWORK AND ASSOCIATED DIFFUSERS, REGISTERS, AND GRILLS COMPLETE.
  - REMOVE THE EXISTING SITE BUILDING CONTROLLER FOR THE BUILDING 131 DDC SYSTEM. RETURN EXISTING SITE BUILDING CONTROLLER TO THE GOVERNMENT.

**APPROVED**

ACTIVITY - SATISFACTORY TO

DATE

APPROVED

FOR EFD FOR COMMANDER NAVFAC

DATE

A/E	DESIGN	EFD
CML	DESIGN	
KLB	DRAWN	
JDH	REVIEW	
SGR	OC	
SGR	CHEF ARCH/ ENGR.	
PROJECT MANAGER	PFC	
FIRE PROTECTION	SAH	
BRANCH MANAGER	PFC	
DESIGN DIRECTOR	JEF	

NAV FACILITIES ENGINEERING COMMAND

MARINE CORPS AIR STATION, CHERRY POINT, N.C.

**FACILITIES ENERGY REPAIRS, BUILDING 131**

PARTIAL FIRST FLOOR DUCTWORK PLAN - DEMOLITION

10-0050

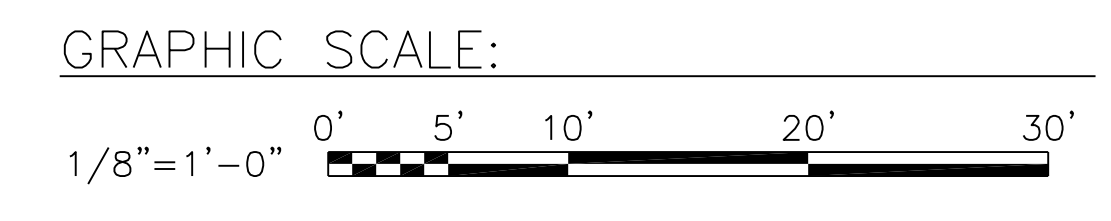
**PARTIAL FIRST FLOOR DUCTWORK PLAN - DEMOLITION** (3)

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

**KEY PLAN**

NO SCALE

NOTE: IF THIS DRAWING IS A REDUCTION, GRAPHIC SCALE MUST BE USED.



CODE ID. NO. 80091 | SIZE 0

SCALE: AS SHOWN

FED. NO. WR6059407

STA. PROJ. NO. CP12024M/CP12024R

SPEC. NO.

CONSTR. CONTR. NO.

NAVFAC DRAWING NO. 12618408

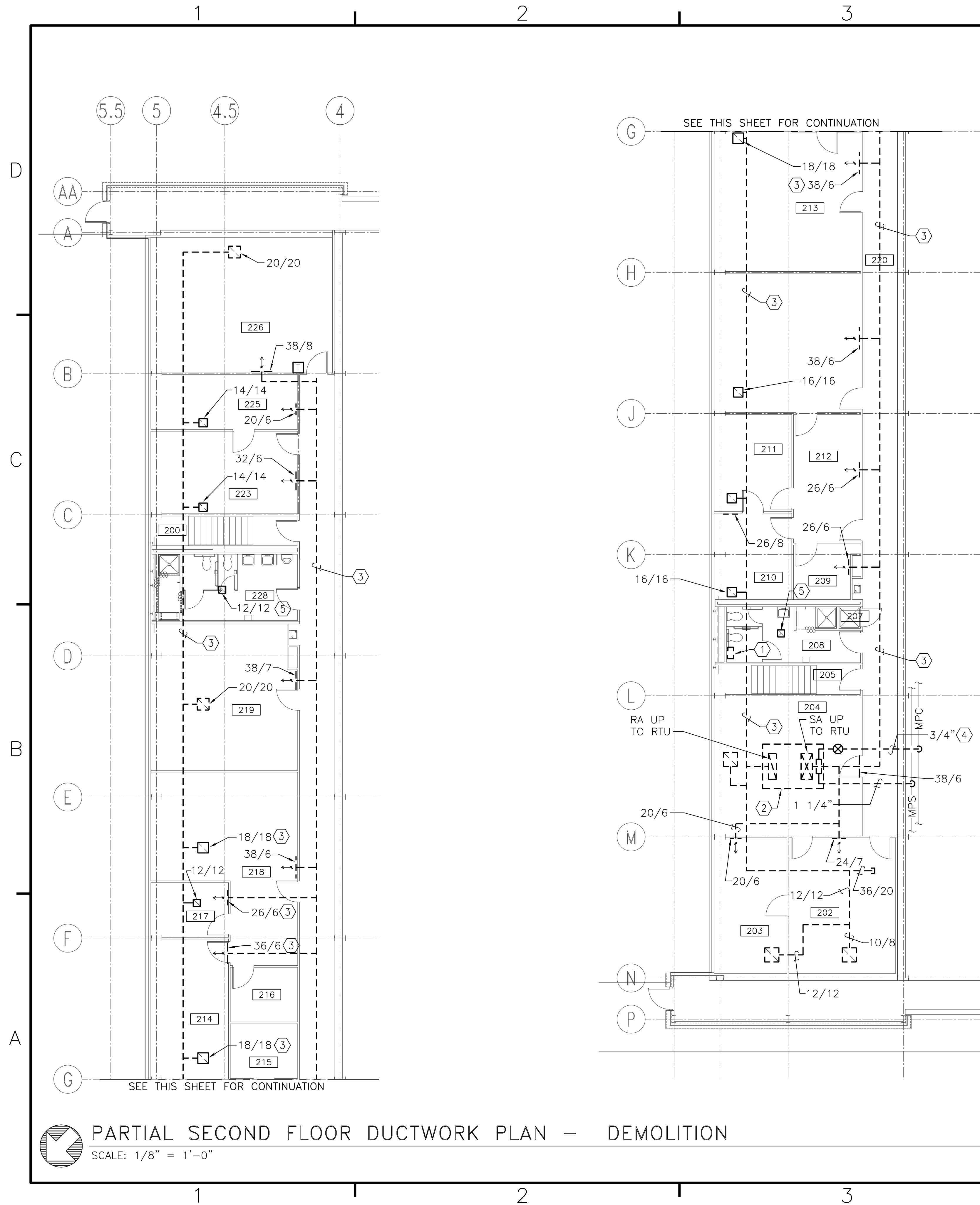
SHEET 46 OF 124

**MD106**

DRAWING REVISION JULY 2003



BFA File name G:\2010\10-0050 B-131 ENERGY\SUBMITTALS\FINAL SUBMITTAL 7-12-12\BOUND CAD\12618409.dwg Plot Date: Jul 11, 2012 - 12:40pm Lost Saved By: kbennett



**DEMOLITION NOTES**  
(THIS SHEET ONLY)

- ① REMOVE STEAM UNIT HEATER, PIPING, CONTROLS AND ALL APPURTENANCES COMPLETE.
- ② FOOT PRINT OF ROOF TOP UNIT.
- ③ REMOVE EXISTING DUCTWORK AND ASSOCIATED DIFFUSERS, REGISTERS, AND GRILLS COMPLETE.
- ④ REMOVE STEAM AND CONDENSATE PIPING TO INCLUDE ALL VALVES, STEAM TRAPS, AND ALL APPURTENANCES COMPLETE.
- ⑤ REMOVE EXISTING EXHAUST FAN AND ASSOCIATED DUCTWORK COMPLETE.

DATE	DESCRIPTION

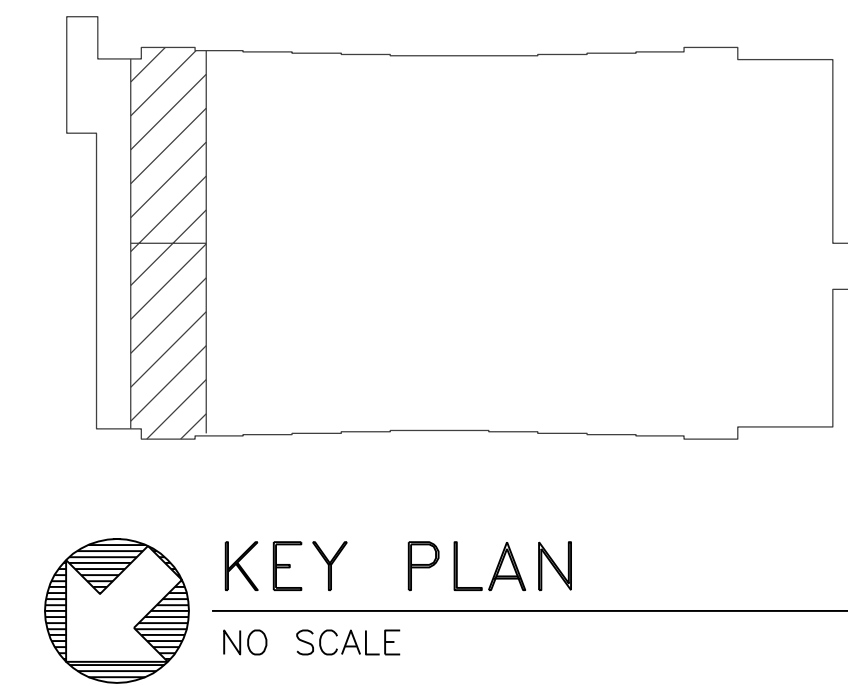
**BFA**  
**BOWMAN, FOSTER & ASSOC.**  
 CONSULTING ENGINEERS  
 #4 INTERSTATE CORP. CENTER  
 NORFOLK, VA 23502  
 2424 26th ROAD SOUTH  
 ARLINGTON, VA 22206



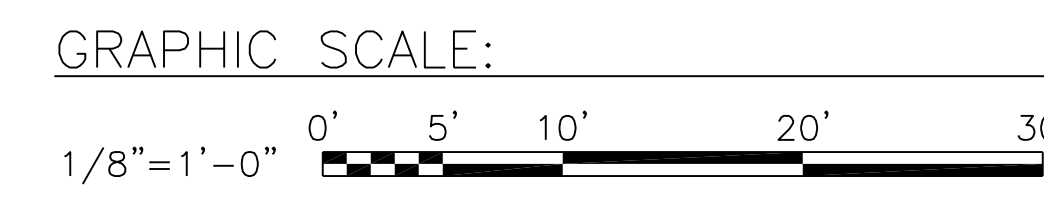
APPROVED		
ACTIVITY - SATISFACTORY TO		
DATE		
APPROVED		
FOR EFD FOR COMMANDER NAVFAC		
DATE		
A/E	DESIGN	EFD
CML	DRAWN	
KLB	REVIEW	
JDH	OC	
SGR	CHEF ARCH/ ENGR.	
SGR	PROJECT MANAGER	PEC
	FIRE PROTECTION	SAH
	BRANCH MANAGER	PEC
	DESIGN DIRECTOR	JEF

DEPARTMENT OF THE NAVY  
 NAVAL FACILITIES ENGINEERING COMMAND  
 MARINE CORPS AIR STATION, CHERRY POINT, N.C.  
**FACILITIES ENERGY REPAIRS,**  
**BUILDING 131**  
 PARTIAL SECOND FLOOR DUCTWORK PLAN - DEMOLITION

CODE ID. NO. B0091	SIZE	D
SCALE:	AS SHOWN	
FED. PROJ. NO.	WR6059407	
STA. PROJ. NO.	CP12024M/CP12024R	
SPEC. NO.		
CONSTR. CONTR. NO.		
NAVFAC DRAWING NO.	12618409	
SHEET	47	OF 124
<b>MD107</b>		

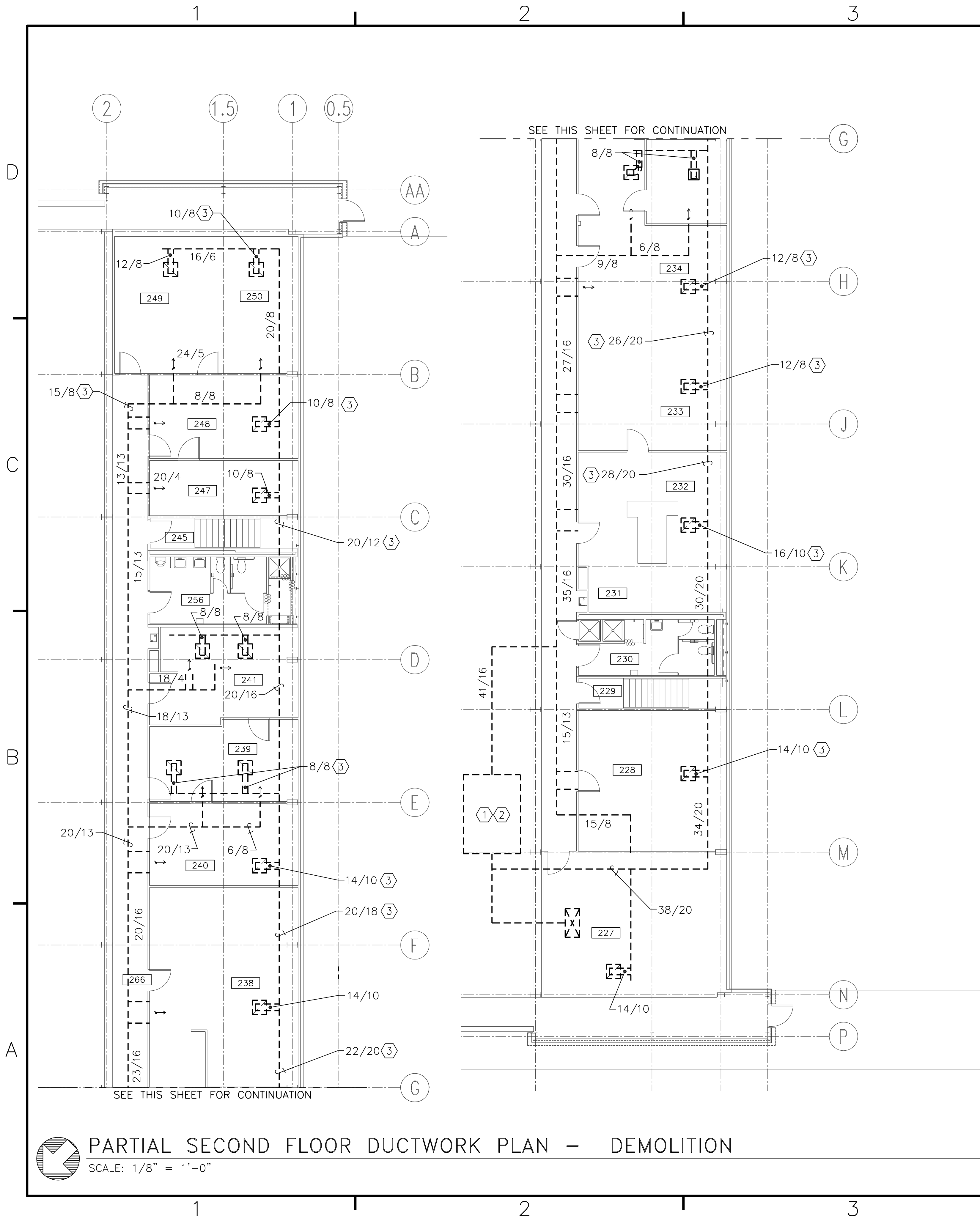


NOTE: IF THIS DRAWING IS A REDUCTION, GRAPHIC SCALE MUST BE USED.





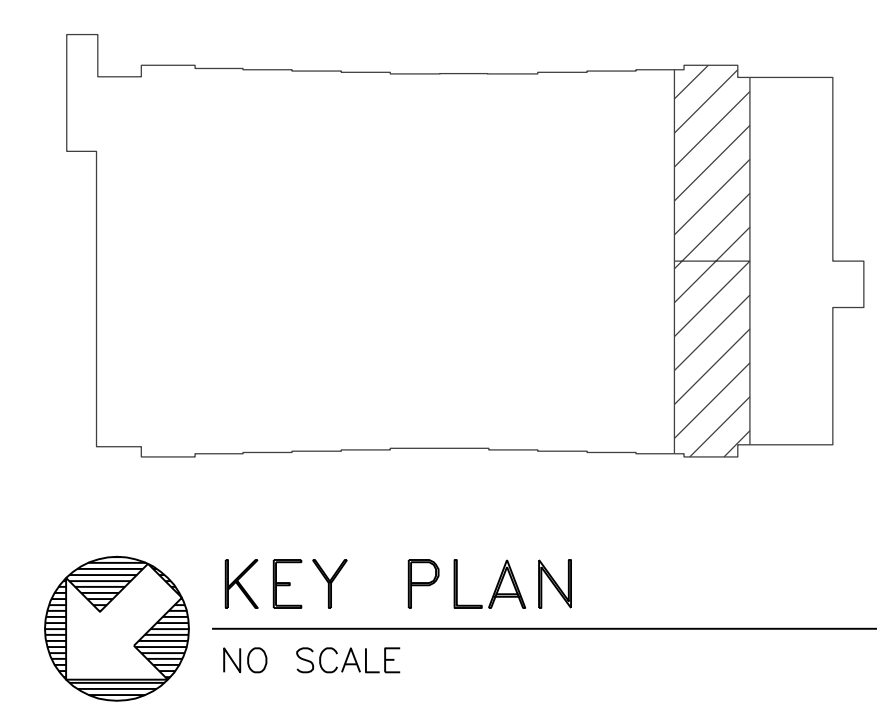
BFA Filename G:\2010\10-0050 B-131 ENERGY\SUBMITTALS\FINAL SUBMITTAL 7-12-12\BOUND CAD\12618410.dwg Plot Date: Jul 11, 2012 - 12:41pm Last Saved By: kbennett



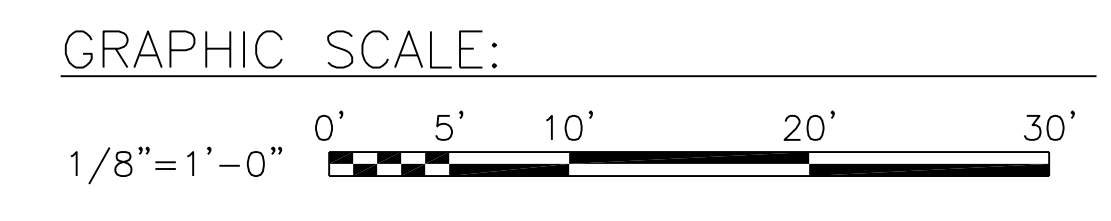
### DEMOLITION NOTES (THIS SHEET ONLY)

- ① REMOVE EXISTING AIR HANDLING UNIT TO INCLUDE ALL CONTROLS, THERMOSTATS, DAMPERS AND ALL APPURTENANCES COMPLETE.
- ② REMOVE EXISTING STRUCTURAL FRAME.
- ③ REMOVE EXISTING DUCTWORK AND ASSOCIATED DIFFUSERS, REGISTERS, AND GRILLS COMPLETE.

DATE	APPROVED
DESCRIPTION	SYMBOL
BOWMAN, FOSTER & ASSOC. CONSULTING ENGINEERS #4 INTERSTATE CORP. CENTER NORFOLK, VA 23502 2424 26th ROAD SOUTH ARLINGTON, VA 22206	
APPROVED	DATE
ACTIVITY - SATISFACTORY TO	DATE
APPROVED	DATE
FOR EFD FOR COMMANDER NAVFAC	
DATE	DATE
A/E	DESIGN
CML	EFD
KLB	DRAWN
JDH	REVIEW
SGR	OC
SGR	CHEF ARCH/ENGR.
PROJECT MANAGER	PFC
FIRE PROTECTION	SAH
BRANCH MANAGER	PFC
DESIGN DIRECTOR	JEF
DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND MARINE CORPS AIR STATION, CHERRY POINT, N.C. <b>FACILITIES ENERGY REPAIRS,                  BUILDING 131</b> PARTIAL SECOND FLOOR DUCTWORK PLAN - DEMOLITION	
CODE ID. NO. 80091	SIZE 0
SCALE: AS SHOWN	
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STA. PROJ. NO. CP12024M/CP12024R	
SPEC. NO.	
CONSTR. CONTR. NO.	
NAVFAC DRAWING NO.	12618410
SHEET 48	OF 124
<b>MD108</b>	
DRAWING REVISION JULY 2003	

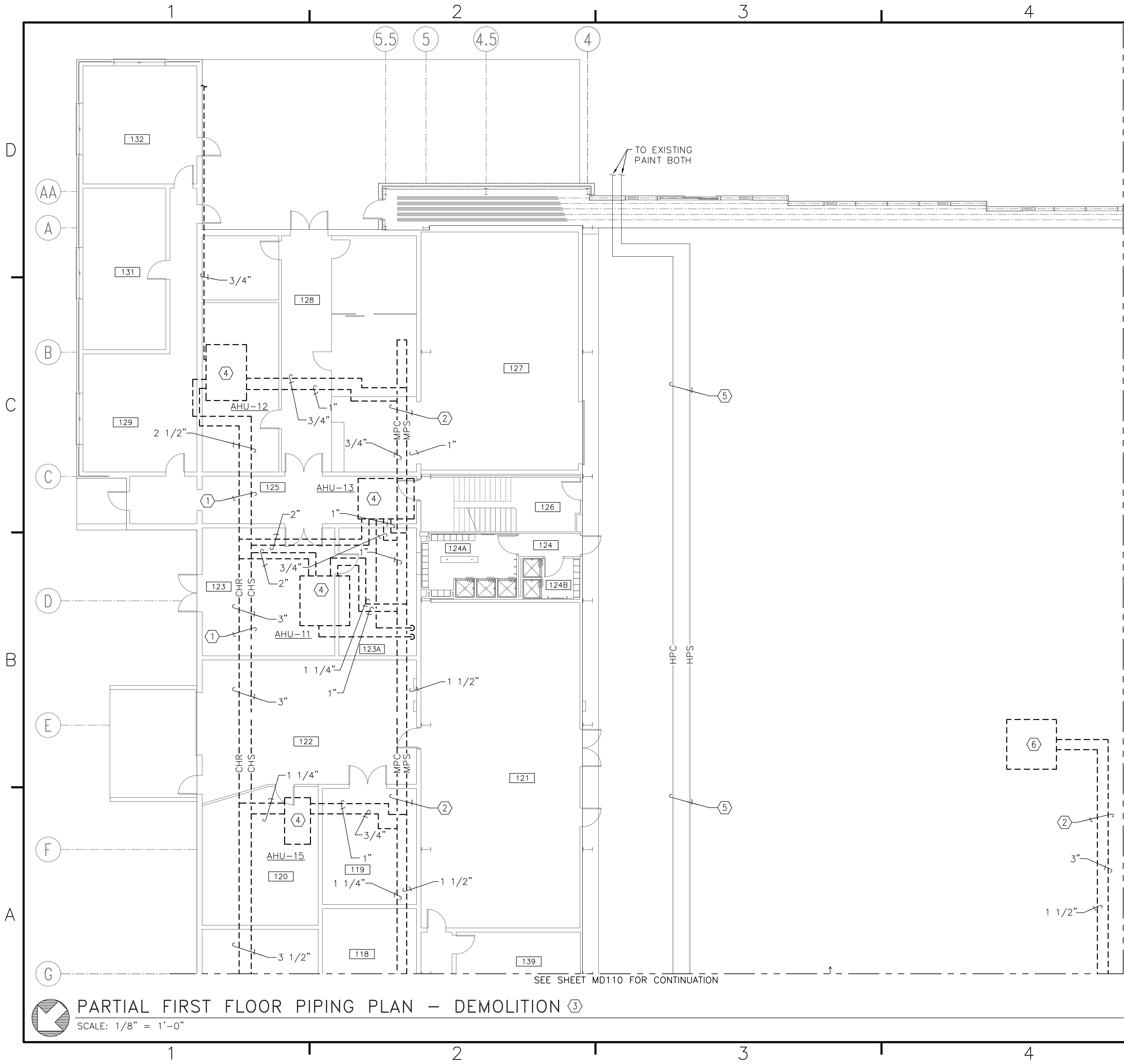


NOTE: IF THIS DRAWING IS A REDUCTION, GRAPHIC SCALE MUST BE USED.



PARTIAL SECOND FLOOR DUCTWORK PLAN - DEMOLITION  
SCALE: 1/8" = 1'-0"

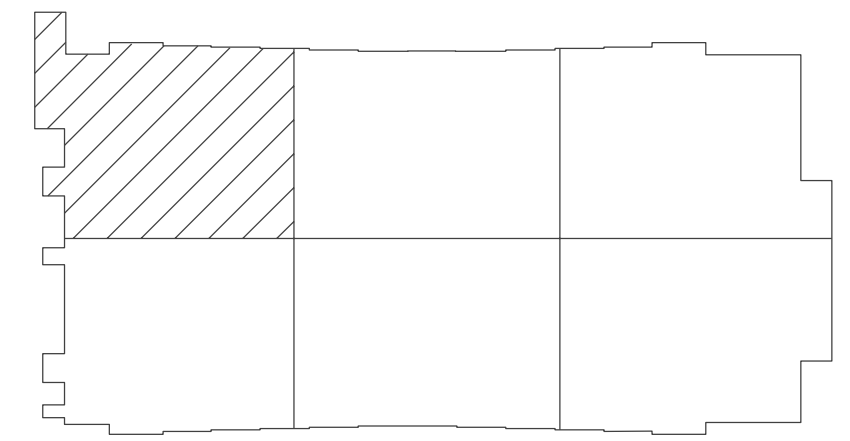
BFA File Name G:\2010\10-0050 B-131 ENERGY\SUBMITTALS\FINAL SUBMITTAL 7-12-12\BOUND CAD\12618411.dwg Plot Date: Jul 11, 2012 - 12:42pm Last Saved By: kbennett



### DEMOLITION NOTES (THIS SHEET ONLY)

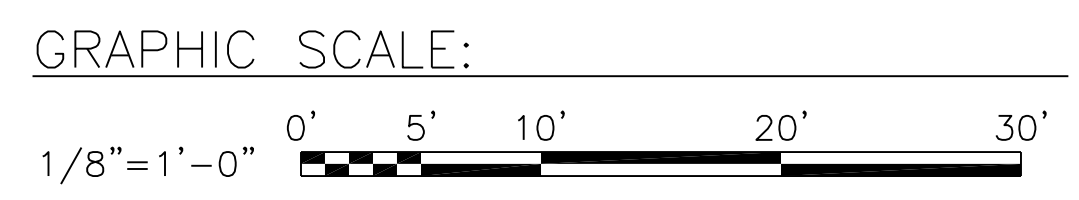
- ① UNLESS OTHERWISE NOTED, REMOVE ALL CHILLED WATER SUPPLY AND RETURN PIPING TO INCLUDE ALL ASSOCIATED HANGERS, SUPPORTS, VALVES AND SPECIALITIES COMPLETE.
- ② UNLESS OTHERWISE NOTED, REMOVE ALL STEAM AND CONDENSATE PIPING TO INCLUDE ALL ASSOCIATED HANGERS, SUPPORTS, TRAPS, VALVES AND SPECIALITIES COMPLETE.
- ③ SOME DIMENSIONS REFLECT RECORD DRAWING CONDITIONS. CONTRACTOR TO FIELD VERIFY ALL DIMENSIONS PRIOR TO COMMENCING CONSTRUCTION.
- ④ REMOVE EXISTING AIR HANDLING UNIT TO INCLUDE ALL CONTROL VALVES AND APPURTENANCES COMPLETE. REMOVE ASSOCIATED HVAC CONDENSATE DRAIN PIPING.
- ⑤ EXISTING HIGH PRESSURE STEAM AND CONDENSATE PIPING SERVING EXISTING PAINT BOOTH TO REMAIN.
- ⑥ REMOVE EXISTING HEATING AND VENTILATING UNIT MANUFACTURED BY TRANE. UNIT MOUNTED APPROXIMATELY 33' AFF. COORDINATE REMOVAL WITH EXISTING HANGER BAY EQUIPMENT.

SEE SHEET MD111 FOR CONTINUATION



**KEY PLAN**  
NO SCALE

NOTE: IF THIS DRAWING IS A REDUCTION, GRAPHIC SCALE MUST BE USED.



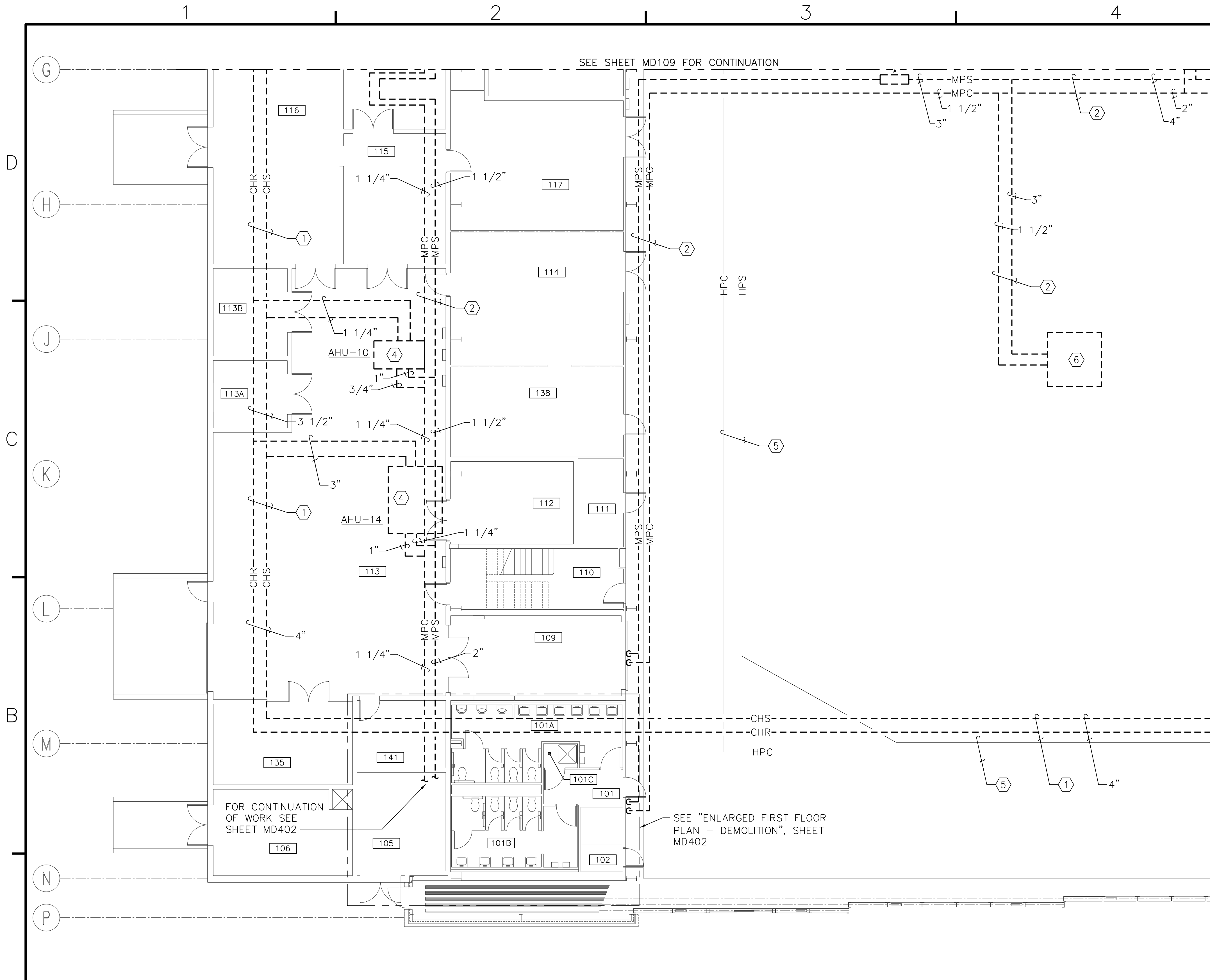
**PARTIAL FIRST FLOOR PIPING PLAN - DEMOLITION** ③  
SCALE: 1/8" = 1'-0"

SEE SHEET MD110 FOR CONTINUATION

DATE			
DESCRIPTION			
SYN			
BOWMAN, FOSTER & ASSOC. CONSULTING ENGINEERS #4 INTERSTATE CORP. CENTER NORFOLK, VA 23502 2424 26th ROAD SOUTH ARLINGTON, VA 22206			
APPROVED	10-0050		
ACTIVITY - SATISFACTORY TO			
DATE			
APPROVED			
FOR EFD FOR COMMANDER NAVFAC			
DATE			
A/E	DESIGN	EFD	
CML	DESIGN		
KLB	DRAWN		
JDH	REVIEW		
SGR	OC		
SGR	CHIEF ARCH./ ENGR.		
PROJECT MANAGER	PEC		
FIRE PROTECTION	SAH		
BRANCH MANAGER	PEC		
DESIGN DIRECTOR	JEF		
NAVAL FACILITIES ENGINEERING COMMAND			
DEPARTMENT OF THE NAVY			
MARINE CORPS AIR STATION, CHERRY POINT, N.C.			
FACILITIES ENERGY REPAIRS, BUILDING 131			
PARTIAL FIRST FLOOR PIPING PLAN - DEMOLITION			
CODE ID. NO.	80091	SIZE	D
SCALE:	AS SHOWN		
FED. PROJ. NO.	WR6059407		
STA. PROJ. NO.	CP12024M/CP12024R		
SPEC. NO.			
CONSTR. CONTR. NO.			
NAVFAC DRAWING NO.	12618411		
SHEET	49	OF	124
<b>MD109</b>			
DRAWING REVISION JULY 2003			



BFA File name G:\2010\10-0050 B-131 ENERGY\SUBMITTALS\FINAL SUBMITTAL 7-12-12\BOUND CAD\12618412.dwg Plot Date: Jul 11, 2012 - 12:42pm Lost Saved By: kbennett



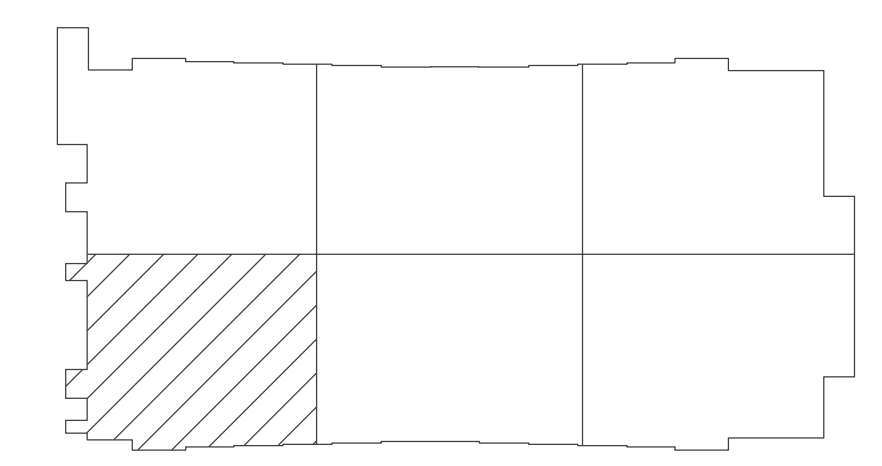
### DEMOLITION NOTES (THIS SHEET ONLY)

- ① UNLESS OTHERWISE NOTED, REMOVE ALL CHILLED WATER SUPPLY AND RETURN PIPING TO INCLUDE ALL ASSOCIATED HANGERS, SUPPORTS, VALVES AND SPECIALITIES COMPLETE.
- ② UNLESS OTHERWISE NOTED, REMOVE ALL STEAM AND CONDENSATE PIPING TO INCLUDE ALL ASSOCIATED HANGERS, SUPPORTS, TRAPS, VALVES AND SPECIALITIES COMPLETE.
- ③ SOME DIMENSIONS REFLECT RECORD DRAWING CONDITIONS. CONTRACTOR TO FIELD VERIFY ALL DIMENSIONS PRIOR TO COMMENCING CONSTRUCTION.
- ④ REMOVE EXISTING AIR HANDLING UNIT TO INCLUDE ALL CONTROL VALVES AND APPURTENANCES COMPLETE. REMOVE ASSOCIATED HVAC CONDENSATE DRAIN PIPING.
- ⑤ EXISTING HIGH PRESSURE STEAM AND CONDENSATE PIPING SERVING EXISTING PAINT BOOTH TO REMAIN.
- ⑥ REMOVE EXISTING HEATING AND VENTILATING UNIT MANUFACTURED BY TRANE. UNIT MOUNTED APPROXIMATELY 33' AFF. COORDINATE REMOVAL WITH EXISTING HANGER BAY EQUIPMENT.

SEE SHEET MD112 FOR CONTINUATION

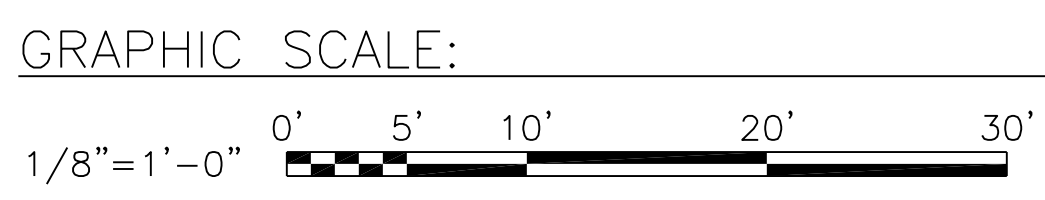
SEE SHEET MD109 FOR CONTINUATION


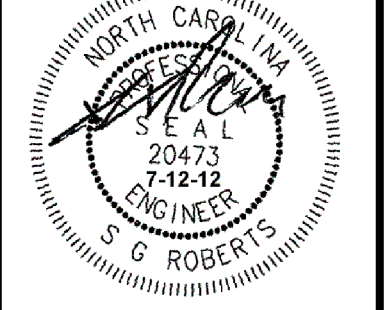
**PARTIAL FIRST FLOOR PIPING PLAN - DEMOLITION**  
SCALE: 1/8" = 1'-0"



**KEY PLAN**  
NO SCALE

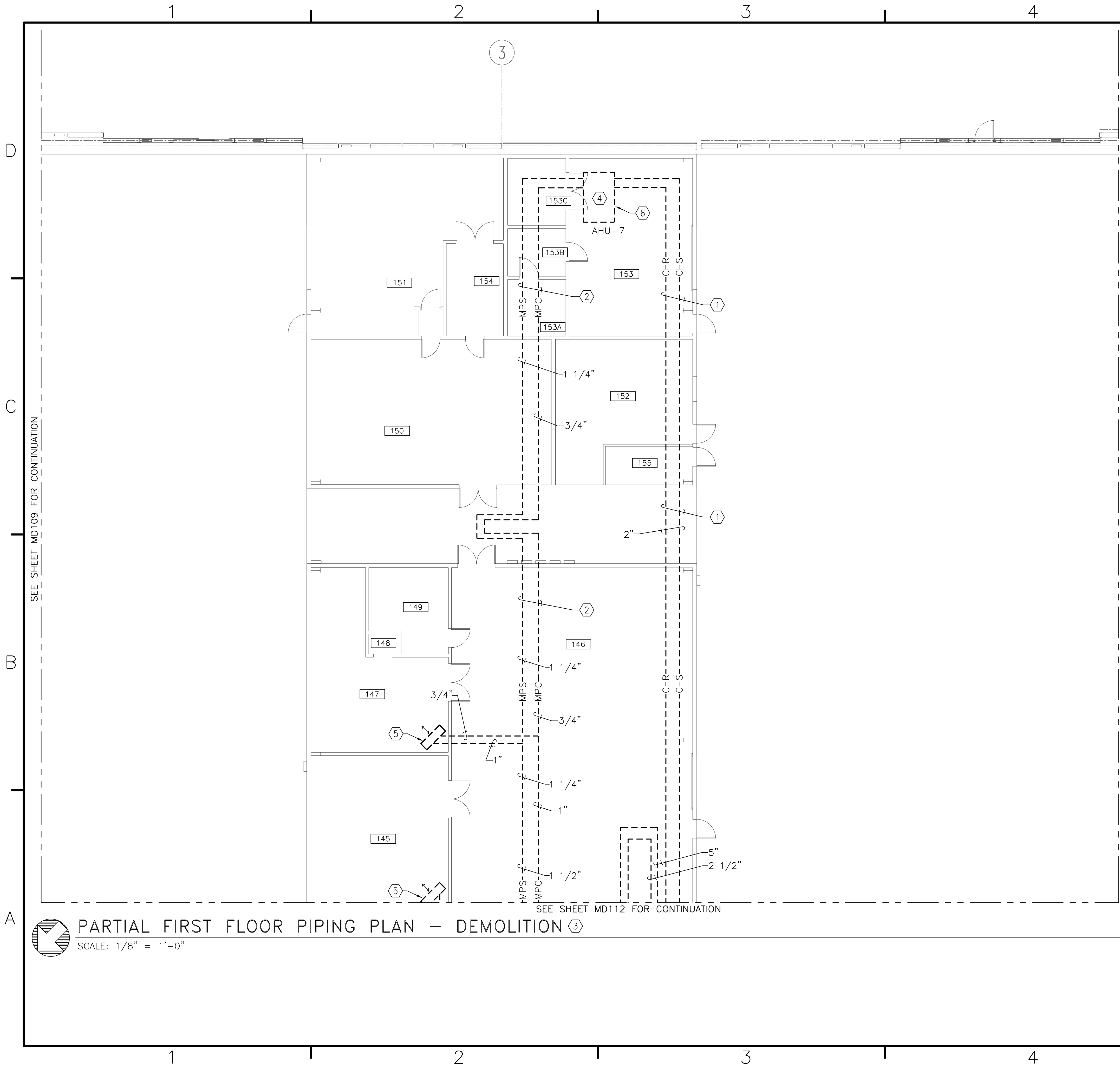
NOTE: IF THIS DRAWING IS A REDUCTION, GRAPHIC SCALE MUST BE USED.



DATE	APPROVED
DESCRIPTION	DATE
SYMBOL	DATE
 <b>BOWMAN, FOSTER &amp; ASSOC.</b> CONSULTING ENGINEERS #4 INTERSTATE CORP. CENTER NORFOLK, VA 23502 2424 26TH ROAD SOUTH ARLINGTON, VA 22206	
 <small>10-0050</small>	
APPROVED	
ACTIVITY - SATISFACTORY TO	
DATE	
APPROVED	
FOR EFD FOR COMMANDER NAVFAC	
DATE	
A/E	DESIGN
CML	EFD
KLB	DRAWN
JDH	REVIEW
SGR	OC
SGR	CHEF ARCH/ ENGR.
PROJECT MANAGER	PEC
FIRE PROTECTION	SAH
BRANCH MANAGER	PEC
DESIGN DIRECTOR	JEF
DEPARTMENT OF THE NAVY MARINE CORPS AIR STATION, CHERRY POINT, N.C. <b>FACILITIES ENERGY REPAIRS,          BUILDING 131</b> PARTIAL FIRST FLOOR PIPING PLAN - DEMOLITION	
CODE ID. NO. B0091	SIZE 0
SCALE: AS SHOWN	
FED. PROJ. NO. WR6059407	
STA. PROJ. NO. CP12024M/CP12024R	
SPEC. NO.	
CONSTR. CONTR. NO.	
NAVFAC DRAWING NO.	
12618412	
SHEET 50 OF 124	
<b>MD110</b>	
<small>DRAWING REVISION JULY 2003</small>	



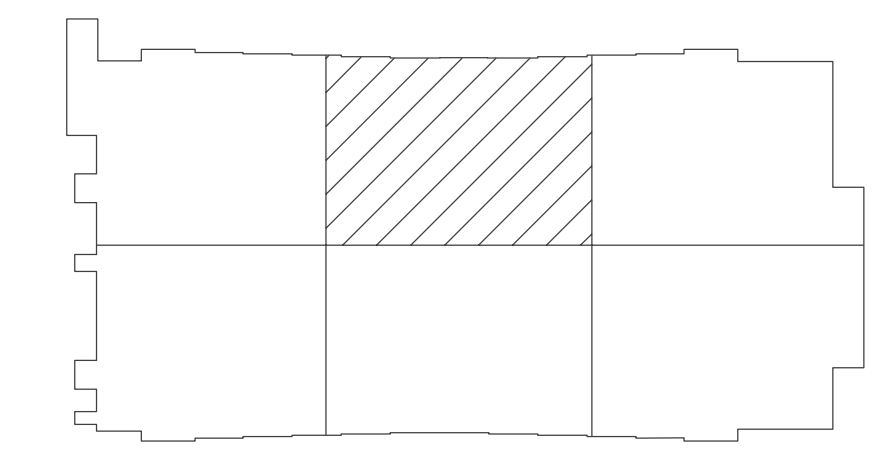
BFA File Name G:\2010\10-0050 B-131 ENERGY\SUBMITTALS\FINAL SUBMITTAL 7-12-12\BOUND CAD\12618413.dwg Plot Date: Jul 11, 2012 - 12:42pm Lost Saved By: kbennett



**PARTIAL FIRST FLOOR PIPING PLAN - DEMOLITION**  
 SCALE: 1/8" = 1'-0"

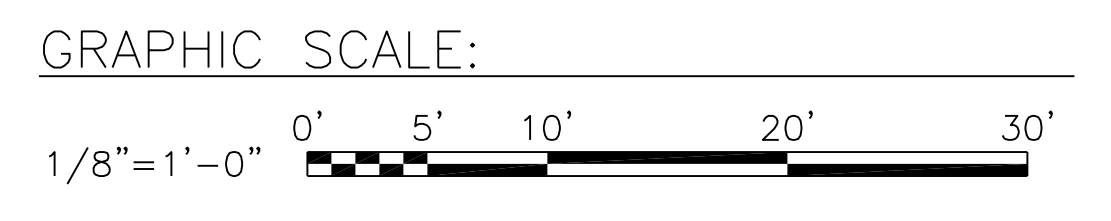
**DEMOLITION NOTES**  
 (THIS SHEET ONLY)

- ① UNLESS OTHERWISE NOTED, REMOVE ALL CHILLED WATER SUPPLY AND RETURN PIPING TO INCLUDE ALL ASSOCIATED HANGERS, SUPPORTS, VALVES AND SPECIALITIES COMPLETE.
- ② UNLESS OTHERWISE NOTED, REMOVE ALL STEAM AND CONDENSATE PIPING TO INCLUDE ALL ASSOCIATED HANGERS, SUPPORTS, TRAPS, VALVES AND SPECIALITIES COMPLETE.
- ③ SOME DIMENSIONS REFLECT RECORD DRAWING CONDITIONS. CONTRACTOR TO FIELD VERIFY ALL DIMENSIONS PRIOR TO COMMENCING CONSTRUCTION.
- ④ REMOVE EXISTING AIR HANDLING UNIT TO INCLUDE ALL CONTROL VALVES AND APPURTENANCES COMPLETE. REMOVE ASSOCIATED HVAC CONDENSATE DRAIN PIPING.
- ⑤ REMOVE EXISTING UNIT HEATERS AND THERMOSTATS COMPLETE.
- ⑥ UNIT LOCATED ON MEZZANINE ROOF.



**KEY PLAN**  
 NO SCALE

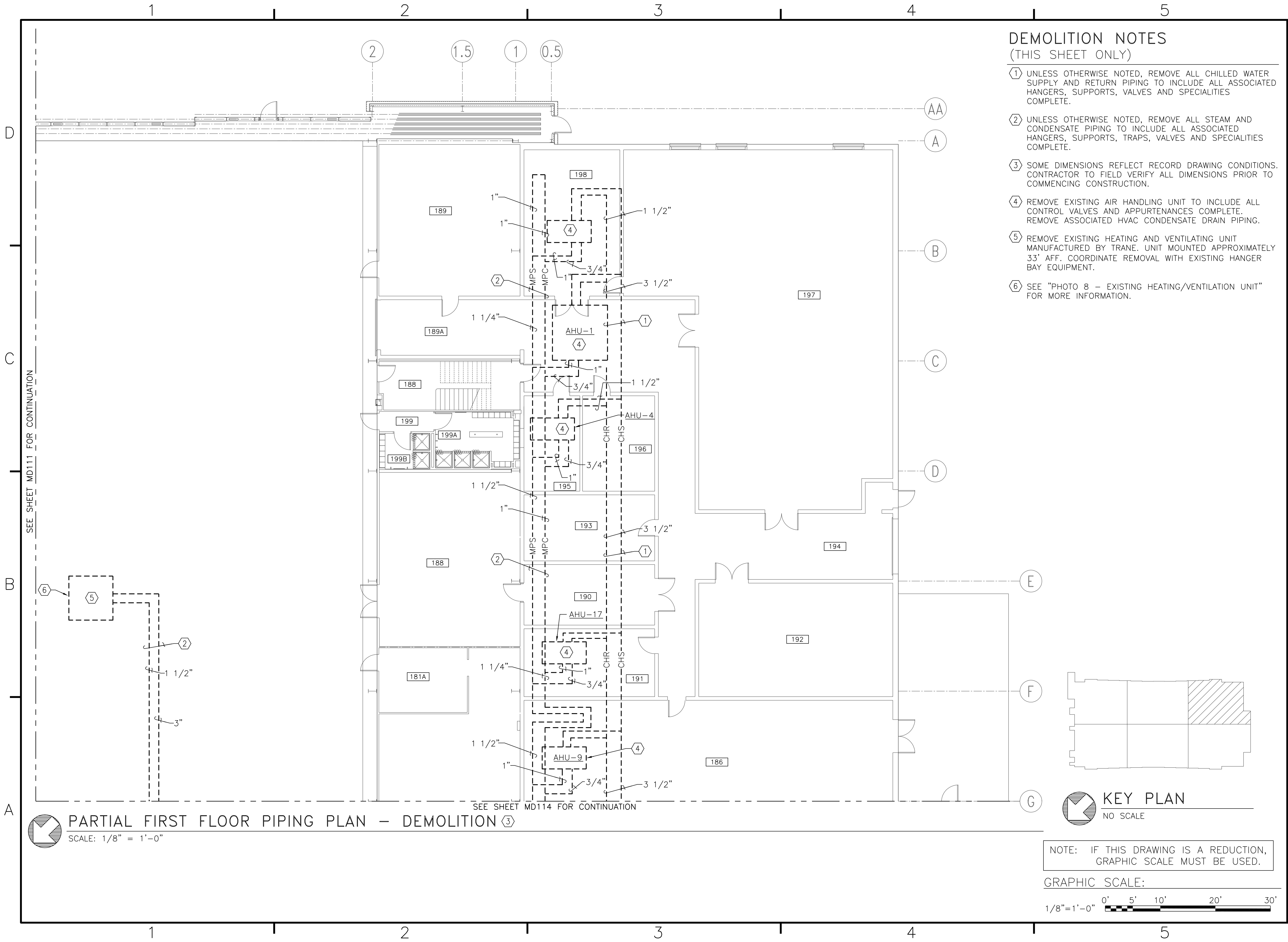
NOTE: IF THIS DRAWING IS A REDUCTION, GRAPHIC SCALE MUST BE USED.



DATE	APPR
DESCRIPTION	
SYN	
BOWMAN, FOSTER & ASSOC. CONSULTING ENGINEERS #4 INTERSTATE CORP. CENTER NORFOLK, VA 23502 2424 26th ROAD SOUTH ARLINGTON, VA 22206	
APPROVED _____ ACTIVITY - SATISFACTORY TO _____ DATE _____ APPROVED _____ FOR EFD FOR COMMANDER NAVFAC _____ DATE _____ A/E DESIGN EFD _____ CML DRAWN _____ KLB REVIEW _____ JDH REVIEW _____ SGR OC _____ SGR CHIEF ARCH/ ENGR. _____ PROJECT MANAGER PEC _____ FIRE PROTECTION SAH _____ BRANCH MANAGER PEC _____ DESIGN DIRECTOR JEF _____	
DEPARTMENT OF THE NAVY MARINE CORPS AIR STATION, CHERRY POINT, N.C. <b>FACILITIES ENERGY REPAIRS,                  BUILDING 131</b> PARTIAL FIRST FLOOR PIPING PLAN - DEMOLITION	
CODE ID. NO. 80091	SIZE 0
SCALE: AS SHOWN	
FED. NO. WR6059407	
STA. PROJ. NO. CP12024M/CP12024R	
SPEC. NO.	
CONSTR. CONTR. NO.	
NAVFAC DRAWING NO. 12618413	
SHEET 51 OF 124	
<b>MD111</b>	
DRAWING REVISION JULY 2003	

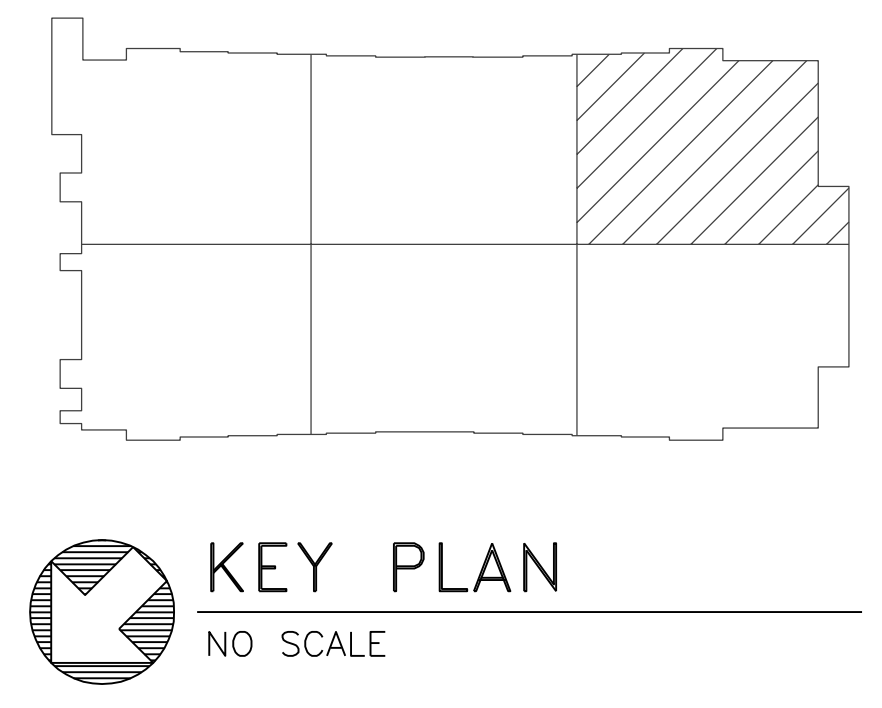


BFA File Name G:\2010\10-0050 B-131 ENERGY\SUBMITTALS\FINAL SUBMITTAL 7-12-12\BOUND CAD\12618415.dwg Plot Date: Jul 11, 2012 - 12:43pm Lost Saved By: kbennett



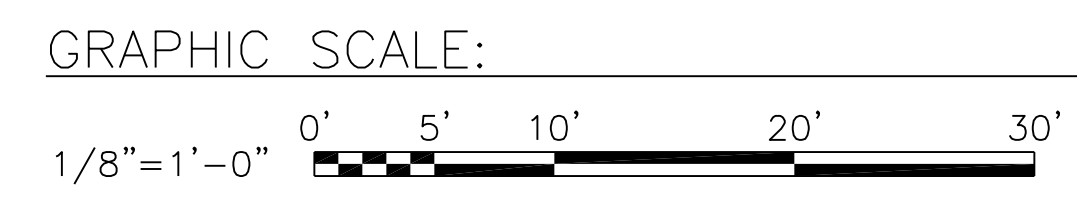
### DEMOLITION NOTES (THIS SHEET ONLY)

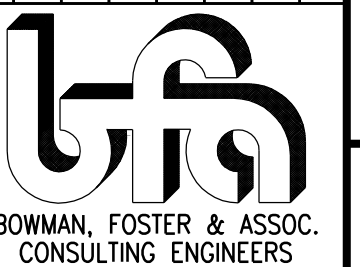
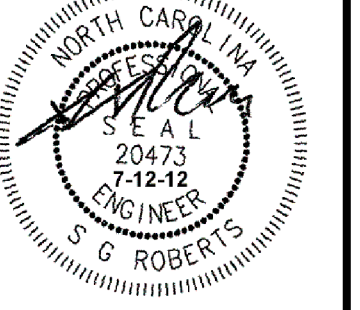
- ① UNLESS OTHERWISE NOTED, REMOVE ALL CHILLED WATER SUPPLY AND RETURN PIPING TO INCLUDE ALL ASSOCIATED HANGERS, SUPPORTS, VALVES AND SPECIALITIES COMPLETE.
- ② UNLESS OTHERWISE NOTED, REMOVE ALL STEAM AND CONDENSATE PIPING TO INCLUDE ALL ASSOCIATED HANGERS, SUPPORTS, TRAPS, VALVES AND SPECIALITIES COMPLETE.
- ③ SOME DIMENSIONS REFLECT RECORD DRAWING CONDITIONS. CONTRACTOR TO FIELD VERIFY ALL DIMENSIONS PRIOR TO COMMENCING CONSTRUCTION.
- ④ REMOVE EXISTING AIR HANDLING UNIT TO INCLUDE ALL CONTROL VALVES AND APPURTENANCES COMPLETE. REMOVE ASSOCIATED HVAC CONDENSATE DRAIN PIPING.
- ⑤ REMOVE EXISTING HEATING AND VENTILATING UNIT MANUFACTURED BY TRANE. UNIT MOUNTED APPROXIMATELY 33' AFF. COORDINATE REMOVAL WITH EXISTING HANGER BAY EQUIPMENT.
- ⑥ SEE "PHOTO 8 - EXISTING HEATING/VENTILATION UNIT" FOR MORE INFORMATION.



**PARTIAL FIRST FLOOR PIPING PLAN - DEMOLITION**  
SCALE: 1/8" = 1'-0"

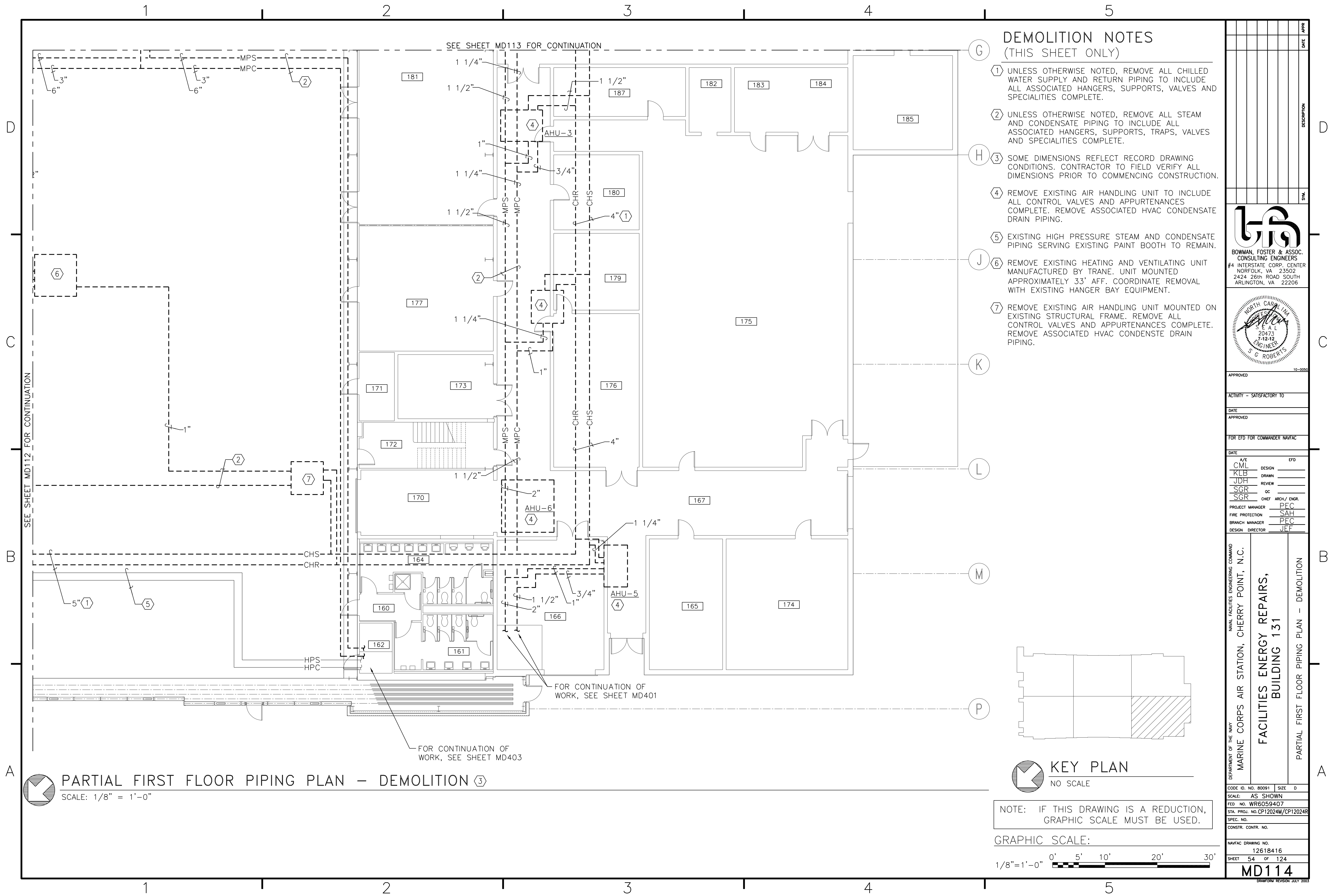
NOTE: IF THIS DRAWING IS A REDUCTION, GRAPHIC SCALE MUST BE USED.



	DATE
	APPROVED
	DESCRIPTION
	SYMBOL
	
<b>BOWMAN, FOSTER &amp; ASSOC.</b> CONSULTING ENGINEERS #4 INTERSTATE CORP. CENTER NORFOLK, VA 23502 2424 26th ROAD SOUTH ARLINGTON, VA 22206	
	
APPROVED	
ACTIVITY - SATISFACTORY TO	
DATE	
APPROVED	
FOR EFD FOR COMMANDER NAVFAC	
DATE	
A/E	EFD
CML	DESIGN
KLB	DRAWN
JDH	REVIEW
SGR	OC
SGR	CHIEF ARCH/ ENGR.
PROJECT MANAGER	PEC
FIRE PROTECTION	SAH
BRANCH MANAGER	PEC
DESIGN DIRECTOR	JEF
DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND MARINE CORPS AIR STATION, CHERRY POINT, N.C.	
<b>FACILITIES ENERGY REPAIRS,          BUILDING 131</b>	
PARTIAL FIRST FLOOR PIPING PLAN - DEMOLITION	
CODE ID. NO. 80091    SIZE 0 SCALE: AS SHOWN FED. PROJ. NO. WR6059407 STA. PROJ. NO. CP12024M/CP12024R SPEC. NO. CONSTR. CONTR. NO.	
NAVFAC DRAWING NO. 12618415 SHEET 53 OF 124	
<b>MD113</b> <small>DRAWING REVISION JULY 2003</small>	

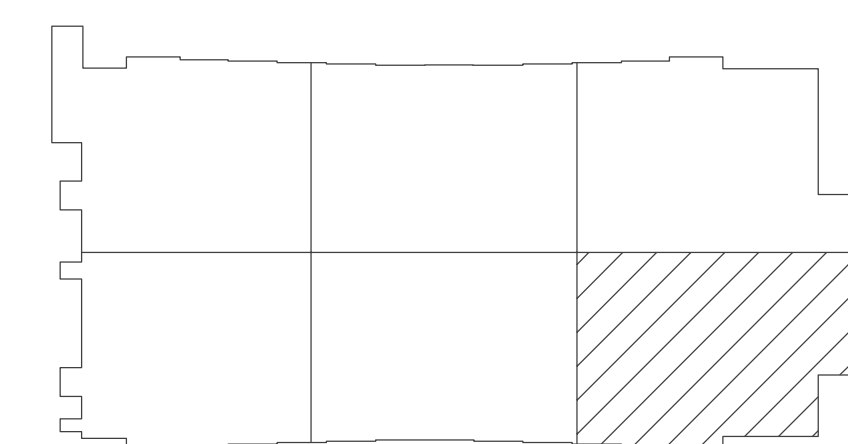


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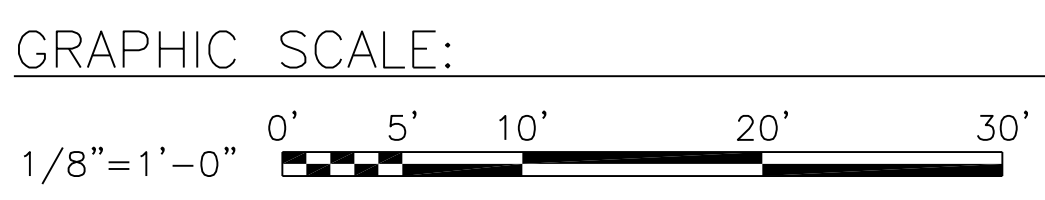


**DEMOLITION NOTES (THIS SHEET ONLY)**

- 1 UNLESS OTHERWISE NOTED, REMOVE ALL CHILLED WATER SUPPLY AND RETURN PIPING TO INCLUDE ALL ASSOCIATED HANGERS, SUPPORTS, VALVES AND SPECIALTIES COMPLETE.
- 2 UNLESS OTHERWISE NOTED, REMOVE ALL STEAM AND CONDENSATE PIPING TO INCLUDE ALL ASSOCIATED HANGERS, SUPPORTS, TRAPS, VALVES AND SPECIALTIES COMPLETE.
- 3 SOME DIMENSIONS REFLECT RECORD DRAWING CONDITIONS. CONTRACTOR TO FIELD VERIFY ALL DIMENSIONS PRIOR TO COMMENCING CONSTRUCTION.
- 4 REMOVE EXISTING AIR HANDLING UNIT TO INCLUDE ALL CONTROL VALVES AND APPURTENANCES COMPLETE. REMOVE ASSOCIATED HVAC CONDENSATE DRAIN PIPING.
- 5 EXISTING HIGH PRESSURE STEAM AND CONDENSATE PIPING SERVING EXISTING PAINT BOOTH TO REMAIN.
- 6 REMOVE EXISTING HEATING AND VENTILATING UNIT MANUFACTURED BY TRANE. UNIT MOUNTED APPROXIMATELY 33' AFF. COORDINATE REMOVAL WITH EXISTING HANGER BAY EQUIPMENT.
- 7 REMOVE EXISTING AIR HANDLING UNIT MOUNTED ON EXISTING STRUCTURAL FRAME. REMOVE ALL CONTROL VALVES AND APPURTENANCES COMPLETE. REMOVE ASSOCIATED HVAC CONDENSATE DRAIN PIPING.

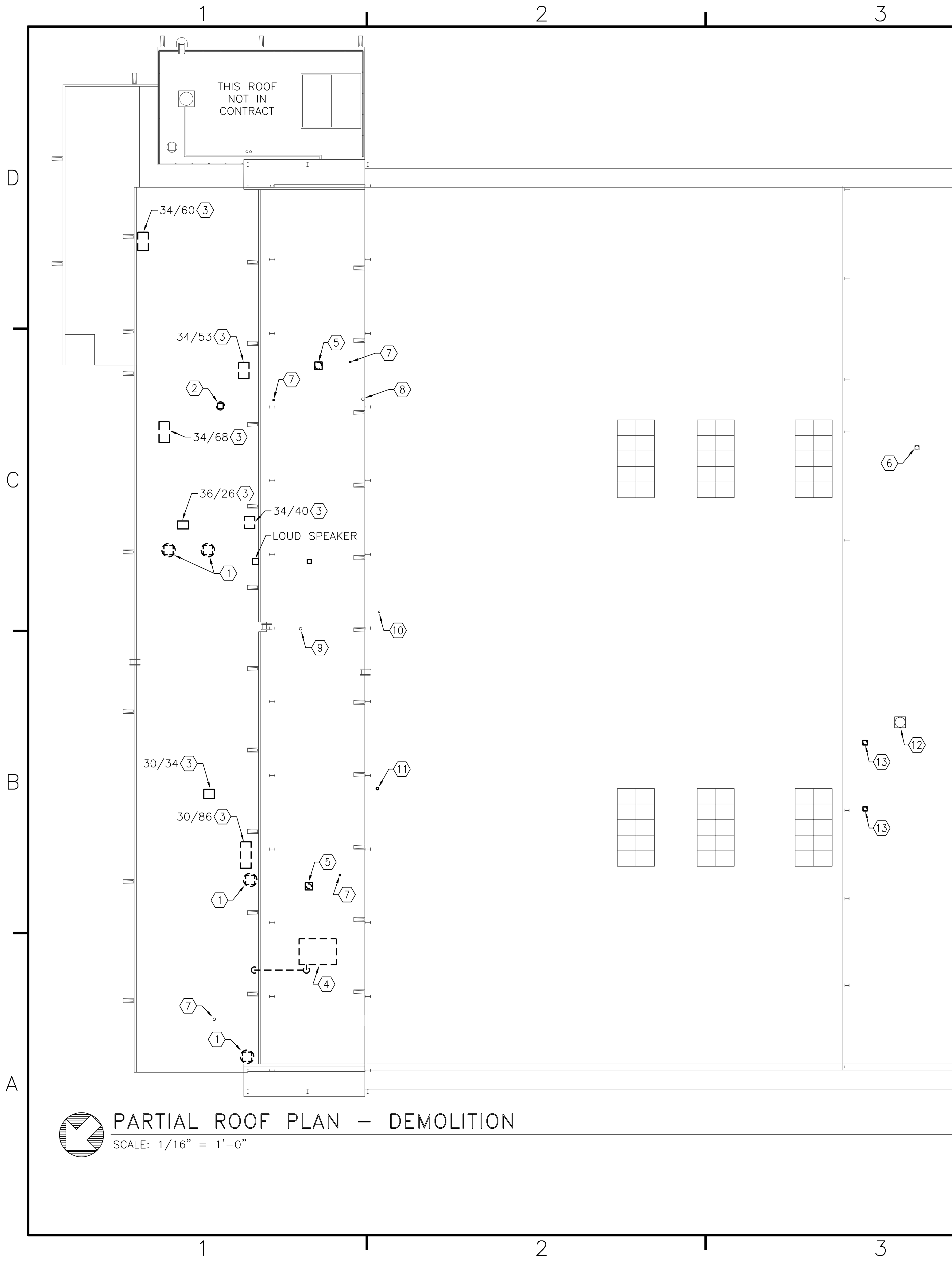


NOTE: IF THIS DRAWING IS A REDUCTION, GRAPHIC SCALE MUST BE USED.



DATE	APPROVED
DESCRIPTION	APPROVED
SYMBOL	APPROVED
BOWMAN, FOSTER & ASSOC. CONSULTING ENGINEERS #4 INTERSTATE CORP. CENTER NORFOLK, VA 23502 2424 26th ROAD SOUTH ARLINGTON, VA 22206	
APPROVED	DATE
ACTIVITY - SATISFACTORY TO	DATE
APPROVED	DATE
FOR EFD FOR COMMANDER NAVFAC	DATE
A/E	DESIGN
CM	DESIGN
KL	DRAWN
JD	REVIEW
SG	OC
SG	CHIEF ARCH/ ENGR.
PROJECT MANAGER	PEC
FIRE PROTECTION	SAH
BRANCH MANAGER	PEC
DESIGN DIRECTOR	JEF
DEPARTMENT OF THE NAVY MARINE CORPS AIR STATION, CHERRY POINT, N.C.	
FACILITIES ENERGY REPAIRS, BUILDING 131	
PARTIAL FIRST FLOOR PIPING PLAN - DEMOLITION	
CODE ID. NO. R0091	SIZE 0
SCALE: AS SHOWN	
FED. NO. WR6059407	
STA. PROJ. NO. CP12024M/CP12024R	
SPEC. NO.	
CONSTR. CONTR. NO.	
NAVFAC DRAWING NO. 12618416	
SHEET 54	OF 124
<b>MD114</b>	
DRAWN/REVISION JULY 2003	

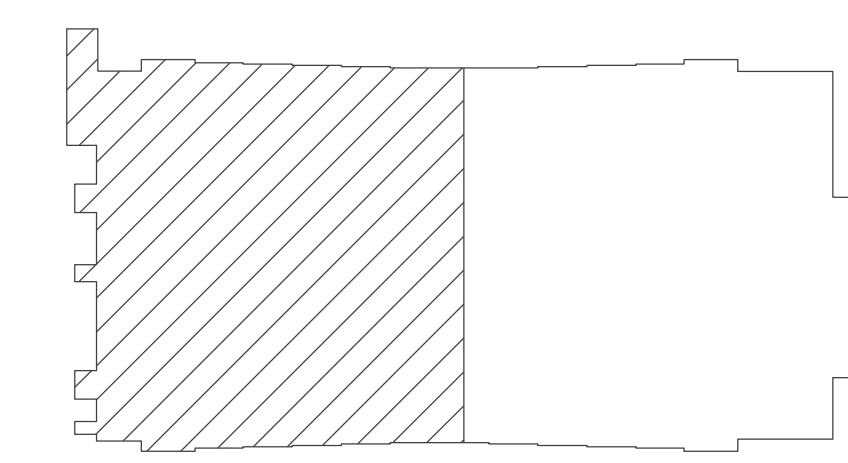
BFA File name G:\2010\10-0050 B-131 ENERGY\SUBMITTALS\FINAL SUBMITTAL 7-12-12\BOUND CAD\12618417.dwg Plot Date: Jul 11, 2012 - 12:44pm Lost Saved By: kbennett



**PARTIAL ROOF PLAN - DEMOLITION**  
SCALE: 1/16" = 1'-0"

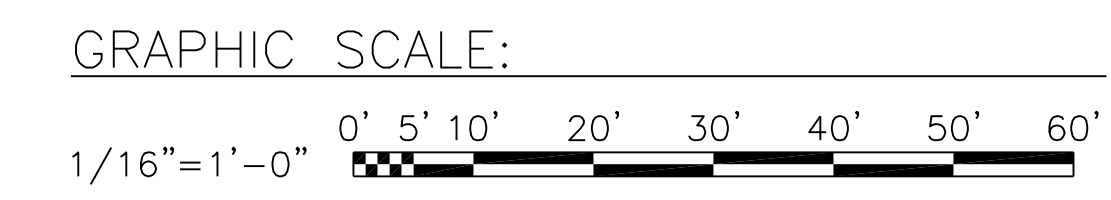
**DEMOLITION NOTES**  
(THIS SHEET ONLY)

- ① REMOVE EXISTING ROOF MOUNTED POWER VENTILATOR AND ASSOCIATED 30"X30" ROOF CURB COMPLETE.
- ② REMOVE EXISTING ROOF MOUNTED POWER VENTILATOR AND ASSOCIATED 18"X18" ROOF CURB COMPLETE.
- ③ REMOVE EXISTING GOOSENECK DUCTWORK AND ASSOCIATED ROOF CURB COMPLETE.
- ④ REMOVE EXISTING ROOFTOP UNIT AND ASSOCIATED CURB MANUFACTURED BY TRANE, MODEL TCD210 F400AA. REMOVE ASSOCIATED DUCTWORK, DRAIN PIPING, CONTROLS AND ALL APPURTENANCES COMPLETE.
- ⑤ REMOVE EXISTING ROOF MOUNTED POWER VENTILATOR AND ASSOCIATED 24"X24" ROOF CURB.
- ⑥ EXISTING 15"X15" ROOF CURB TO REMAIN.
- ⑦ EXISTING 4" CAST IRON VENT AND ASSOCIATED 6"X6" CURB TO REMAIN.
- ⑧ EXISTING 1" GALVANIZED PIPE TO REMAIN.
- ⑨ EXISTING 3" CAST IRON VENT AND ASSOCIATED 6"X6" CURB TO REMAIN.
- ⑩ EXISTING 6"Ø DUCT TO REMAIN.
- ⑪ REMOVE EXISTING 8"Ø DUCT.
- ⑫ EXISTING 36"X36" ROOF CURB AND ASSOCIATED DUCTWORK TO REMAIN.
- ⑬ REMOVE EXISTING 15"X15" ROOF CURB AND ASSOCIATED DUCTWORK.

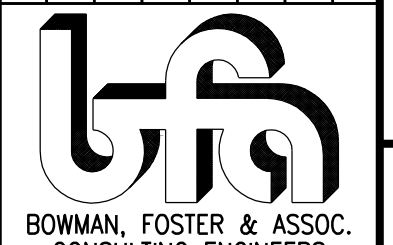


**KEY PLAN**  
NO SCALE

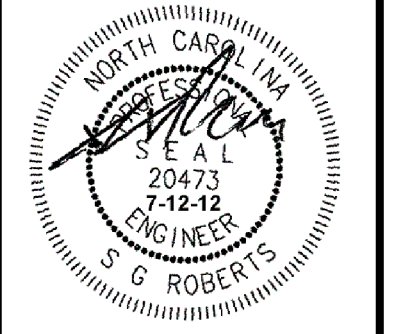
NOTE: IF THIS DRAWING IS A REDUCTION, GRAPHIC SCALE MUST BE USED.



DATE	APPROVED	DESCRIPTION

**BOWMAN, FOSTER & ASSOC.**  
CONSULTING ENGINEERS  
#4 INTERSTATE CORP. CENTER  
NORFOLK, VA 23502  
2424 26th ROAD SOUTH  
ARLINGTON, VA 22206



APPROVED \_\_\_\_\_  
ACTIVITY - SATISFACTORY TO \_\_\_\_\_  
DATE \_\_\_\_\_  
APPROVED \_\_\_\_\_  
FOR EFD FOR COMMANDER NAVFAC \_\_\_\_\_  
DATE \_\_\_\_\_  
A/E DESIGN EFD  
CML DRAWN \_\_\_\_\_  
KLB REVIEW \_\_\_\_\_  
JDH REVIEW \_\_\_\_\_  
SGR OC \_\_\_\_\_  
SGR CHIEF ARCH/ ENGR.  
PROJECT MANAGER PEC  
FIRE PROTECTION SAH  
BRANCH MANAGER PEC  
DESIGN DIRECTOR JEF

DEPARTMENT OF THE NAVY  
NAVAL FACILITIES ENGINEERING COMMAND  
MARINE CORPS AIR STATION, CHERRY POINT, N.C.  
**FACILITIES ENERGY REPAIRS,  
BUILDING 131**  
PARTIAL ROOF PLAN - DEMOLITION

CODE ID. NO. 80091 | SIZE D  
SCALE: AS SHOWN  
FED. PROJ. NO. WRF6059407  
STA. PROJ. NO. CP12024M/CP12024R  
SPEC. NO. \_\_\_\_\_  
CONSTR. CONTR. NO. \_\_\_\_\_

NAVFAC DRAWING NO. 12618417  
SHEET 55 OF 124  
**MD115**  
DRAWING REVISION JULY 2003

BFA File: C:\2010\10-0050 B-131 ENERGY\SUBMITTALS\FINAL SUBMITTAL 7-12-12\BOUND CAD\12618418.dwg Plot Date: Jul 11, 2012 - 12:45pm Lost Saved By: kbennett

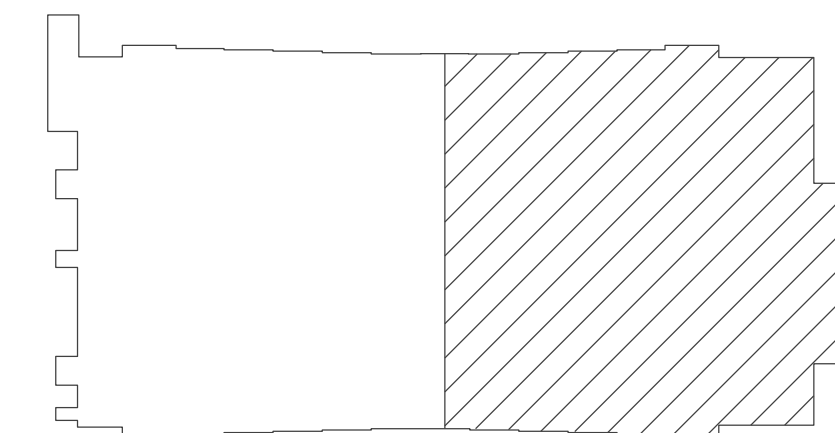


### DEMOLITION NOTES (THIS SHEET ONLY)

- ① REMOVE EXISTING COOLING TOWER MANUFACTURED BY MARLEY, MODEL NC3211EM TO INCLUDE ALL PIPING VALVES AND ALL APPURTENANCES COMPLETE.
- ② REUSE EXISTING 16" Ø DUCT TO REMAIN.
- ③ REUSE EXISTING 8" Ø DUCT AND ASSOCIATED 10"X10" ROOF CURB COMPLETE TO REMAIN.
- ④ REMOVE EXISTING ROOF MOUNTED POWER VENTILATOR AND ASSOCIATED 24"X24" ROOF CURB COMPLETE.
- ⑤ EXISTING VENT PIPING AND ASSOCIATED ROOF CURB TO REMAIN.
- ⑥ REMOVE EXISTING ROOF MOUNTED POWER VENTILATOR AND ASSOCIATED 54"X54" ROOF CURB COMPLETE.
- ⑦ REMOVE EXISTING GOOSENECK DUCTWORK AND ASSOCIATED ROOF CURB COMPLETE.
- ⑧ REMOVE EXISTING ROOF MOUNTED POWER VENTILATOR AND ASSOCIATED 40"X40" ROOF CURB COMPLETE.
- ⑨ REMOVE EXISTING ROOF MOUNTED POWER VENTILATOR AND ASSOCIATED 30"X30" ROOF CURB COMPLETE.
- ⑩ REMOVE EXISTING ROOF MOUNTED POWER VENTILATOR AND ASSOCIATED 20"X20" ROOF CURB COMPLETE.
- ⑪ REMOVE EXISTING CAPPED 25/25 DUCTWORK AND ASSOCIATED ROOF CURB COMPLETE.
- ⑫ EXISTING FLUE TO REMAIN.
- ⑬ REMOVE EXISTING 10" Ø DUCTS AND ASSOCIATED 18"X18" ROOF CURB COMPLETE.

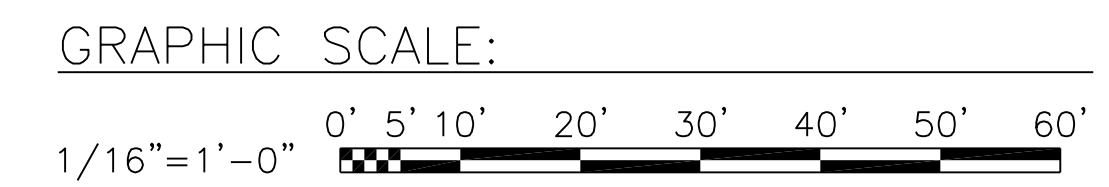
### GENERAL NOTE (THIS SHEET ONLY)

- 1. UNLESS OTHERWISE NOTED, EXISTING HOSE BIBBS TO REMAIN.



**KEY PLAN**  
NO SCALE

NOTE: IF THIS DRAWING IS A REDUCTION, GRAPHIC SCALE MUST BE USED.

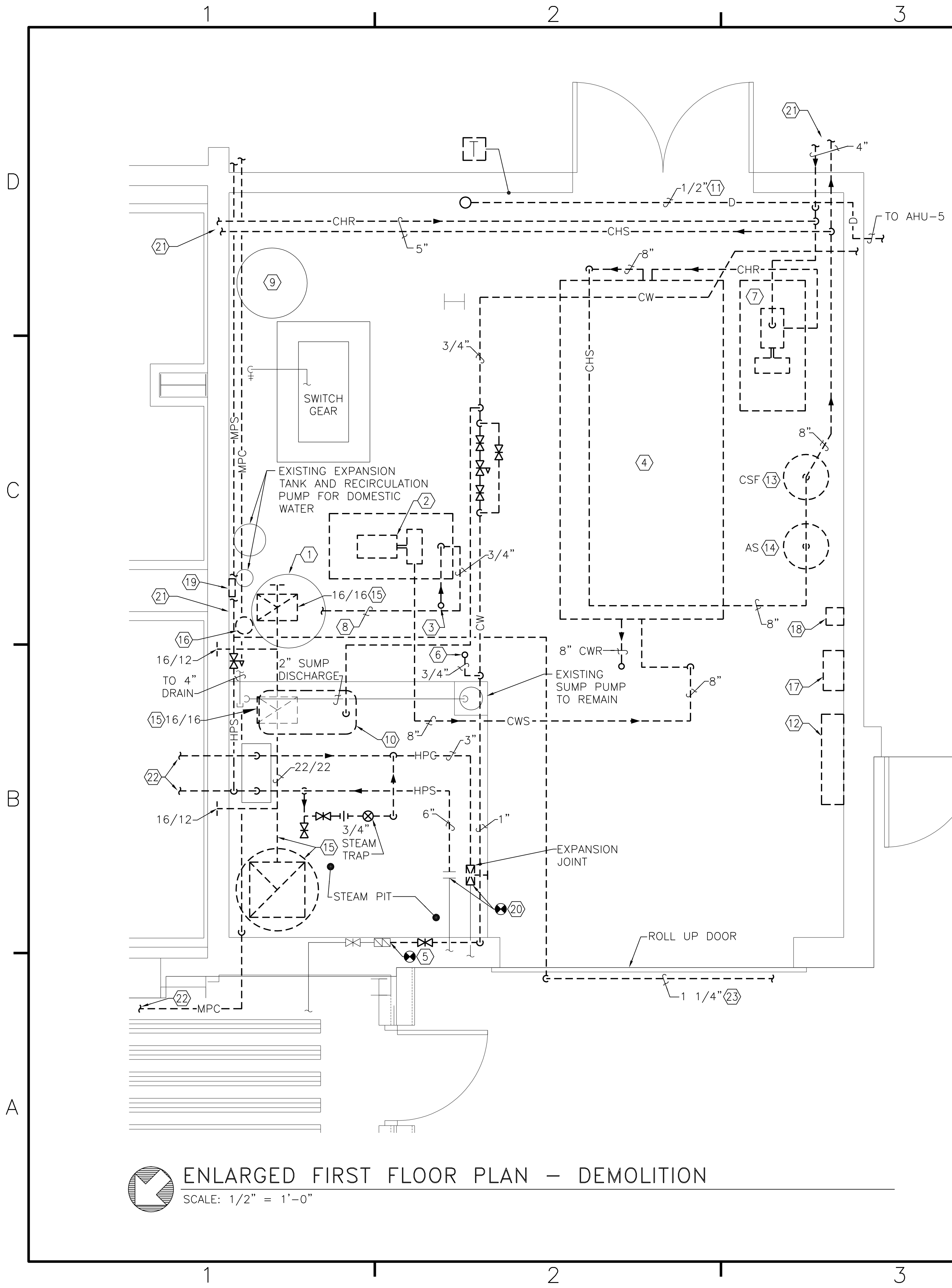


DATE	APPROVED
DESCRIPTION	SYMBOL
BOWMAN, FOSTER & ASSOC. CONSULTING ENGINEERS #4 INTERSTATE CORP. CENTER NORFOLK, VA 23502 2424 26TH ROAD SOUTH ARLINGTON, VA 22206	
APPROVED	10-0058
ACTIVITY - SATISFACTORY TO	
DATE	
APPROVED	
FOR EFD FOR COMMANDER NAVFAC	
DATE	
A/E	EFD
CML	DESIGN
KLB	DRAWN
JDH	REVIEW
SGR	OC
SGR	CHIEF ARCH./ ENGR.
PROJECT MANAGER	PEC
FIRE PROTECTION	SAH
BRANCH MANAGER	PEC
DESIGN DIRECTOR	JEF
NAVAL FACILITIES ENGINEERING COMMAND MARINE CORPS AIR STATION, CHERRY POINT, N.C. <b>FACILITIES ENERGY REPAIRS,          BUILDING 131</b> PARTIAL ROOF PLAN - DEMOLITION	
CODE ID. NO. B0091	SIZE 0
SCALE: AS SHOWN	
FED. PROJ. NO. WR6059407	
STA. PROJ. NO. CP12024M/CP12024R	
SPEC. NO.	
CONSTR. CONTR. NO.	
NAVFAC DRAWING NO. 12618418	
SHEET 56 OF 124	
<b>MD116</b>	
<small>DRAWING REVISION JULY 2003</small>	





BFA File Name G:\2010\10-0050 B-131 ENERGY\NAVIGATOR\FACILITIES IMPROVEMENTS, BUILDING 131\Sheets\MD401 ENLARGED FIRST FLOOR PLAN - DEMOLITION.dwg Plot Date: Jul 11, 2012 - 1:33pm Lost Saved By: kbennett

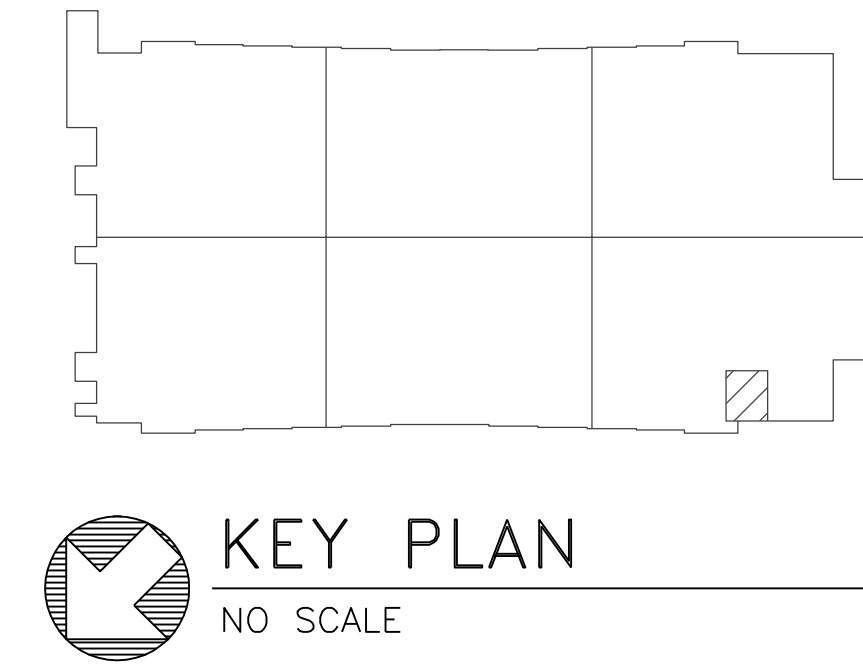


### GENERAL NOTES (THIS SHEET ONLY)

- UNLESS OTHERWISE NOTED, REMOVE ALL CONDENSER WATER SUPPLY AND RETURN PIPING TO INCLUDE ALL VALVES AND APPURTENANCES COMPLETE.
- UNLESS OTHERWISE NOTED, REMOVE ALL CHILLED WATER SUPPLY AND RETURN PIPING TO INCLUDE ALL VALVES AND APPURTENANCES COMPLETE.
- ALL EQUIPMENT AND PIPING ASSOCIATED WITH DOMESTIC WATER TO REMAIN.

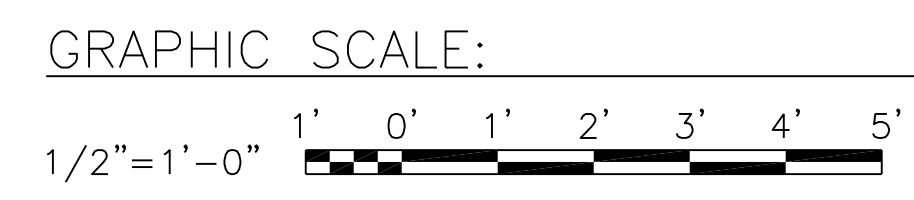
### DEMOLITION NOTES (THIS SHEET ONLY)

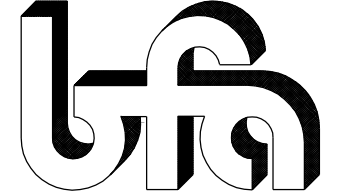
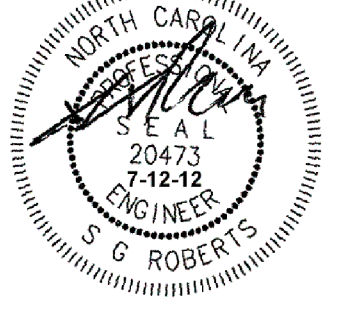
- LOCHINVAR DOMESTIC WATER HEATER M/N HVX18-200, 480V, 22 AMPS 1 ELEMENT @18KW 200 GALS TO REMAIN.
- REMOVE EXISTING BASE MOUNTED 15 HP CENTRIFUGAL PUMP FOR THE CONDENSER WATER SYSTEM.
- REMOVE PIPING ROUTED THROUGH CEILING TO COOLING TOWER.
- REMOVE EXISTING CHILLER AND ALL APPURTENANCES COMPLETE. TRANE M/N RTHB255FLF/S/N U99J01688 460V, 220RLA, 275MCA, MAX FUSE 500. SEE "PHOTO 10 - EXISTING MECHANICAL ROOM" FOR MORE INFORMATION.
- EXISTING 1" REDUCED PRESSURE BFP TO REMAIN.
- REMOVE EXISTING DOMESTIC WATER TO COOLING TOWER.
- REMOVE EXISTING BASE MOUNTED 30 HP CENTRIFUGAL PUMP FOR THE CHILLED WATER SYSTEM. PUMP MANUFACTURED BY BALDOR M/N M2335T, 1750 RPM.
- REMOVE EXISTING CHEMICAL FEED SYSTEM AND ALL APPURTENANCES COMPLETE.
- EXISTING TANK TO REMAIN. DIMENSIONS APPROXIMATELY 18"Ø X 77" HEIGHT.
- REMOVE EXISTING EXPANSION TANK FOR CHILLED WATER SYSTEM. EXPANSION TANK MOUNTED APPROXIMATELY 8' AFF.
- REMOVE EXISTING CONDENSATE DRAIN FROM EXISTING AIR HANDLING UNIT.
- REMOVE JOHNSON CONTROL DDC CONTROL PANEL METASYS COMPATIBLE. SEE "PHOTO 7 - EXISTING DDC CONTROL PANEL" FOR MORE INFORMATION.
- REMOVE EXISTING CHEMICAL SHOT FEEDER.
- REMOVE EXISTING AIR SEPARATOR.
- REMOVE EXHAUST DUCTWORK FOR THE REFRIGERANT MONITORING SYSTEM.
- REMOVE 5 GALLON CHEMICAL CONTAINER.
- REMOVE REFRIGERANT ALARM MONITOR TRANE TRUSENSE MG.
- REMOVE SILENCE ALARM FOR REFRIGERANT MONITORING.
- REMOVE COOLING TOWER CONTROLLER WALCHEM.
- REMOVE HIGH PRESSURE STEAM AND CONDENSATE PIPING TO POINT INDICATED.
- FOR CONTINUATION OF WORK, SEE SHEET MD114.
- FOR CONTINUATION OF WORK, SEE SHEET MD403.
- UNLESS OTHERWISE NOTED, REMOVE ALL EXTERIOR STEAM VENT AND RELIEF PIPING COMPLETE.
- REMOVE EXISTING EXHAUST DUCTWORK COMPLETE.



**ENLARGED FIRST FLOOR PLAN - DEMOLITION**  
SCALE: 1/2" = 1'-0"

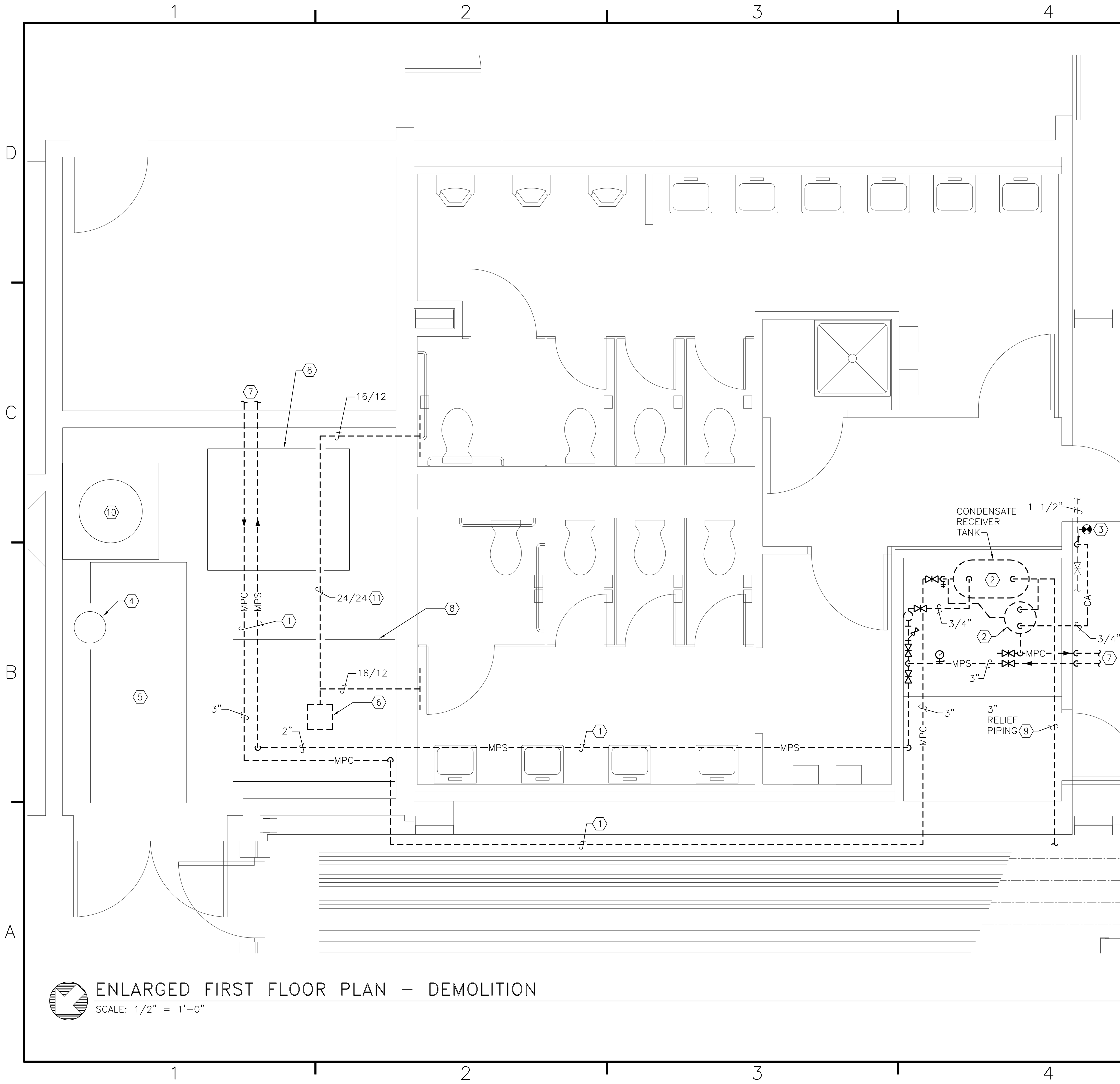
NOTE: IF THIS DRAWING IS A REDUCTION, GRAPHIC SCALE MUST BE USED.



DATE	APPROVED
DESCRIPTION	DATE
 <b>BOWMAN, FOSTER &amp; ASSOC.</b> CONSULTING ENGINEERS #4 INTERSTATE CORP. CENTER NORFOLK, VA 23502 2424 26th ROAD SOUTH ARLINGTON, VA 22206	
 NORTH CAROLINA PROFESSIONAL ENGINEER No. 20473 7-12-12 G. ROBERTS	
APPROVED	DATE
ACTIVITY - SATISFACTORY TO	DATE
APPROVED	DATE
FOR EFD FOR COMMANDER NAVFAC	
DATE	EFD
A/E	DESIGN
CML	KLFB
KLFB	DRAWN
JDH	REVIEW
SGR	OC
SGR	CHIEF ARCH/ ENGR.
PROJECT MANAGER	PEC
FIRE PROTECTION	SAH
BRANCH MANAGER	PEC
DESIGN DIRECTOR	JEF
DEPARTMENT OF THE NAVY MARINE CORPS AIR STATION, CHERRY POINT, N.C. <b>FACILITIES ENERGY REPAIRS,          BUILDING 131</b> ENLARGED FIRST FLOOR PLAN - DEMOLITION	
CODE ID. NO. 80091	SIZE 0
SCALE: AS SHOWN	
FED. NO. WR6059407	
STA. PROJ. NO. CP12024M/CP12024R	
SPEC. NO.	
CONSTR. CONTR. NO.	
NAVFAC DRAWING NO.	12618420
SHEET 5B	OF 124
<b>MD401</b>	
DRAWING REVISION JULY 2003	

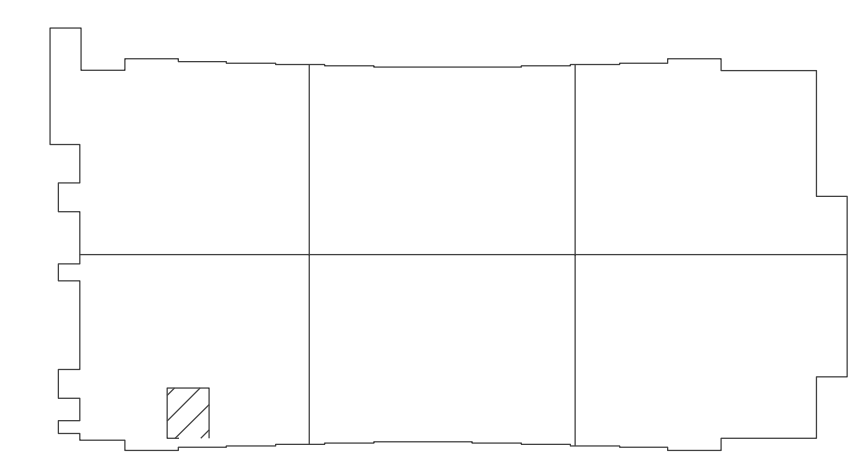


BFA File Name G:\2010\10-0050 B-131 ENERGY\SUBMITTALS\FINAL SUBMITTAL 7-12-12\BOUND CAD\12618421.dwg Plot Date: Jul 11, 2012 - 12:46pm Lost Saved By: kbennett



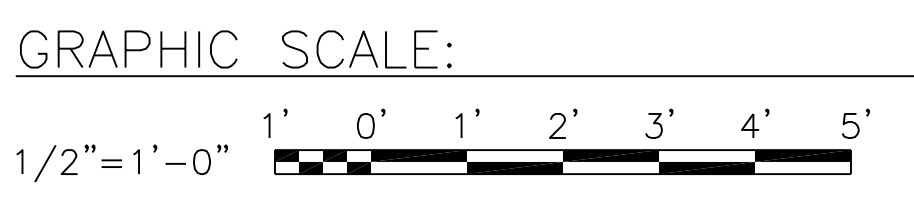
**DEMOLITION NOTES (THIS SHEET ONLY)**

- ① UNLESS OTHERWISE NOTED, REMOVE ALL STEAM AND CONDENSATE PIPING COMPLETE.
- ② REMOVE EXISTING CONDENSATE RECEIVER AND PUMP PACKAGE MANUFACTURED BY SPIRAX SARCO.
- ③ REMOVE COMPRESSED AIR PIPING UP TO POINT INDICATED. ISOLATE AND CAP EXISTING COMPRESSED AIR PIPING.
- ④ EXISTING DOMESTIC WATER EXPANSION TANK TO REMAIN.
- ⑤ EXISTING CEILING MOUNTED AIR COMPRESSOR RECEIVER TO REMAIN.
- ⑥ REMOVE EXHAUST DUCTWORK COMPLETE.
- ⑦ FOR CONTINUATION OF WORK, SEE SHEET MD110.
- ⑧ EXISTING FLOOR MOUNTED AIR COMPRESSOR TO REMAIN.
- ⑨ UNLESS OTHERWISE NOTED, REMOVE ALL EXTERIOR STEAM VENT AND RELIEF PIPING COMPLETE.
- ⑩ EXISTING LOCHINVAR 200 GALLON DOMESTIC WATER HEATER TO REMAIN.
- ⑪ REMOVE EXISTING EXHAUST DUCTWORK AND ASSOCIATED GRILLES COMPLETE.


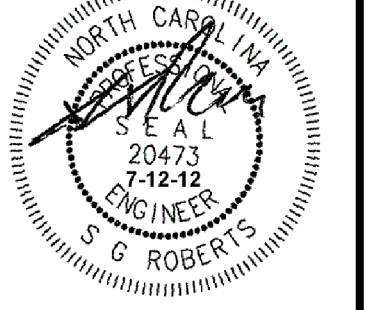


**KEY PLAN**  
NO SCALE

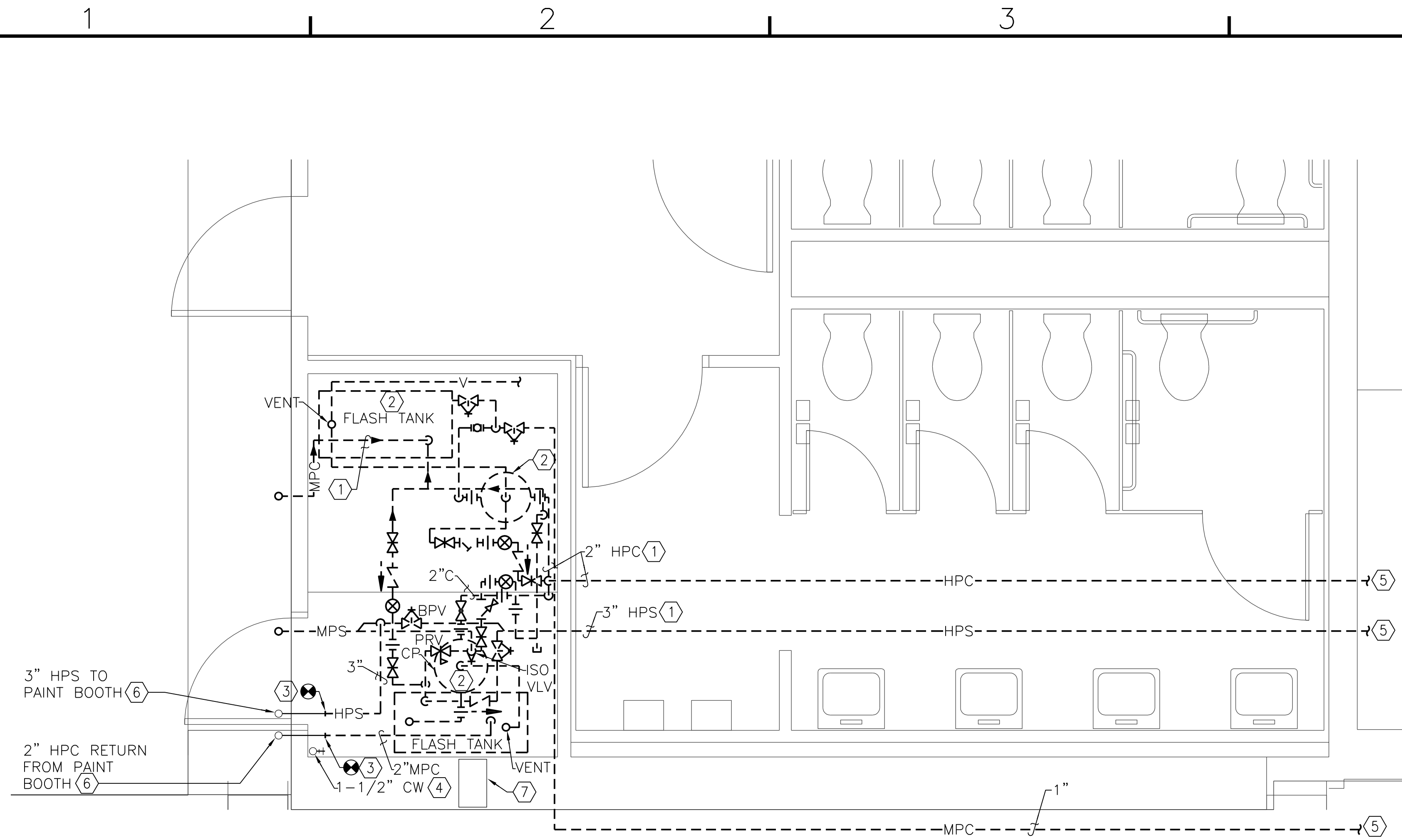
NOTE: IF THIS DRAWING IS A REDUCTION, GRAPHIC SCALE MUST BE USED.



**ENLARGED FIRST FLOOR PLAN - DEMOLITION**  
SCALE: 1/2" = 1'-0"

DATE	APPROVED	DESCRIPTION	DATE	APPROVED	DESCRIPTION	DATE	APPROVED
 <b>BOWMAN, FOSTER &amp; ASSOC.</b> CONSULTING ENGINEERS #4 INTERSTATE CORP. CENTER NORFOLK, VA 23502 2424 26th ROAD SOUTH ARLINGTON, VA 22206							
 NORTH CAROLINA PROFESSIONAL ENGINEER G. ROBERTS 20473 7-12-12							
APPROVED							
ACTIVITY - SATISFACTORY TO							
DATE							
APPROVED							
FOR EFD FOR COMMANDER NAVFAC							
DATE							
A/E		DESIGN		EFD			
CML		KLB		JDH		SGR	
KLB		JDH		SGR		SGR	
JDH		SGR		SGR		SGR	
SGR		SGR		SGR		SGR	
SGR		SGR		SGR		SGR	
PROJECT MANAGER		ARCH./ ENGR.		PFC		SAH	
PFC		SAH		PFC		SAH	
FIRE PROTECTION		SAH		PFC		SAH	
SAH		PFC		SAH		PFC	
BRANCH MANAGER		PFC		SAH		PFC	
PFC		SAH		PFC		SAH	
DESIGN DIRECTOR		JEF		PFC		SAH	
JEF		PFC		SAH		PFC	
DEPARTMENT OF THE NAVY MARINE CORPS AIR STATION, CHERRY POINT, N.C. <b>FACILITIES ENERGY REPAIRS,          BUILDING 131</b> ENLARGED FIRST FLOOR PLAN - DEMOLITION							
CODE ID. NO. 80091 SIZE 0							
SCALE: AS SHOWN							
FED. PROJ. NO. WR6059407							
STA. PROJ. NO. CP12024M/CP12024R							
SPEC. NO.							
CONSTR. CONTR. NO.							
NAVFAC DRAWING NO. 12618421							
SHEET 59 OF 124							
<b>MD402</b>							
DRAWING REVISION JULY 2003							

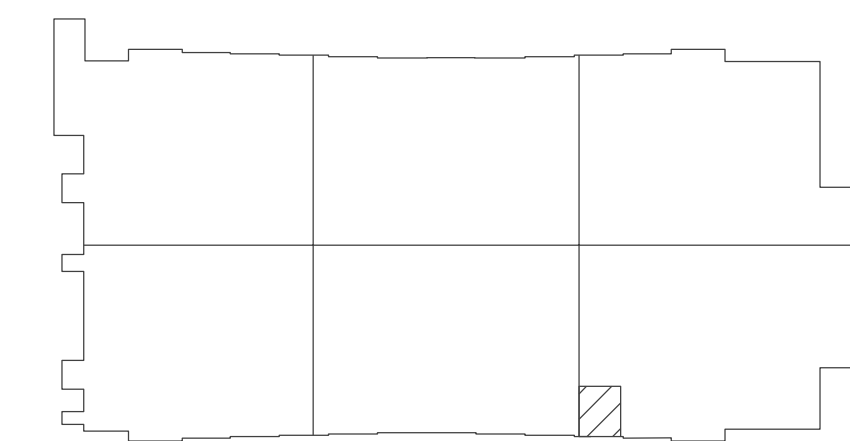




**DEMOLITION NOTES (THIS SHEET ONLY)**

- ① UNLESS OTHERWISE NOTED, REMOVE ALL STEAM AND CONDENSATE PIPING COMPLETE.
- ② REMOVE EXISTING CONDENSATE RECEIVER AND PUMP PACKAGE.
- ③ EXISTING HIGH PRESSURE STEAM AND CONDENSATE SERVING PAINT BOOTH TO REMAIN.
- ④ EXISTING DOMESTIC WATER PIPING TO REMAIN.
- ⑤ FOR CONTINUATION OF WORK, SEE SHEET MD401.
- ⑥ FOR CONTINUATION OF WORK, SEE SHEET MD114.
- ⑦ EXISTING SIDEWALL EXHAUST FAN TO REMAIN.

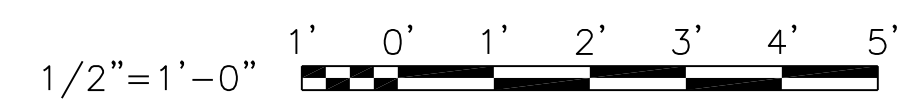
**ENLARGED FIRST FLOOR PLAN - DEMOLITION**  
 SCALE: 1/2" = 1'-0"



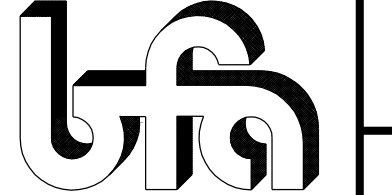
**KEY PLAN**  
NO SCALE

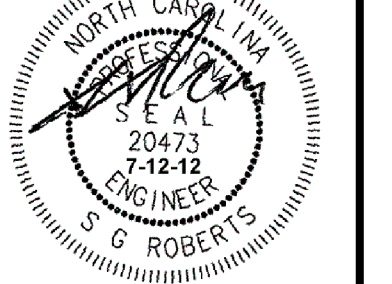
NOTE: IF THIS DRAWING IS A REDUCTION, GRAPHIC SCALE MUST BE USED.

GRAPHIC SCALE:



DATE	DESCRIPTION	SYMBOL	BY

  
**BOWMAN, FOSTER & ASSOC.**  
 CONSULTING ENGINEERS  
 #4 INTERSTATE CORP. CENTER  
 NORFOLK, VA 23502  
 2424 26TH ROAD SOUTH  
 ARLINGTON, VA 22206

  
 APPROVED  
 10-0006

ACTIVITY - SATISFACTORY TO	DATE	APPROVED
FOR EFD FOR COMMANDER NAVFAC	DATE	APPROVED

A/E	DESIGN	EFD
CML		
KLB	DRAWN	
JDH	REVIEW	
SGR		
SGR	OC	
SGR	CHIEF ARCH./ ENGR.	
PROJECT MANAGER	PEC	
FIRE PROTECTION	SAH	
BRANCH MANAGER	PEC	
DESIGN DIRECTOR	JEF	

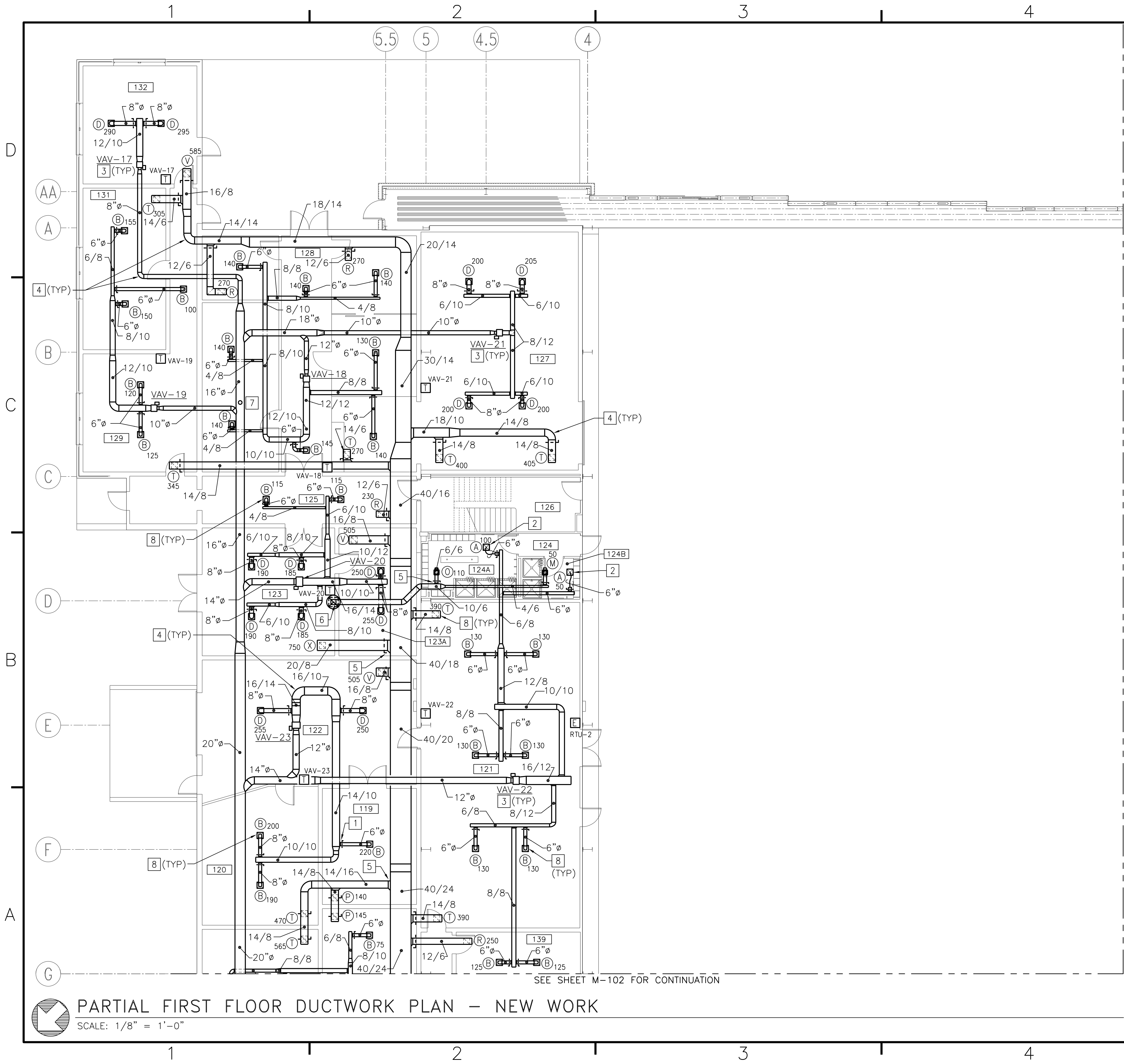
DEPARTMENT OF THE NAVY  
 MARINE CORPS AIR STATION, CHERRY POINT, N.C.  
**FACILITIES ENERGY REPAIRS, BUILDING 131**  
 ENLARGED FIRST FLOOR PLAN - DEMOLITION

CODE ID. NO. 80091	SIZE 0
SCALE: AS SHOWN	
FED. NO. WR6059407	
STA. PROJ. NO. CP12024M/CP12024R	
SPEC. NO.	
CONSTR. CONTR. NO.	
NAVFAC DRAWING NO.	12618422
SHEET 60	OF 124
<b>MD403</b>	

DRAWN BY REVISION JULY 2003

BFA File name G:\2010\10-0050 B-131 ENERGY\SUBMITTALS\FINAL SUBMITTAL 7-12-12\BOUND CAD\12618422.dwg Plot Date: Jul 11, 2012 - 12:46pm Lost Saved By: kbennett

BFA File Name: G:\2010\10-0050 B-131 ENERGY\SUBMITTALS\FINAL SUBMITTAL 7-12-12\BOUND CAD\12618423.dwg Plot Date: Jul 11, 2012 - 1:07pm Lost Saved By: kbennett



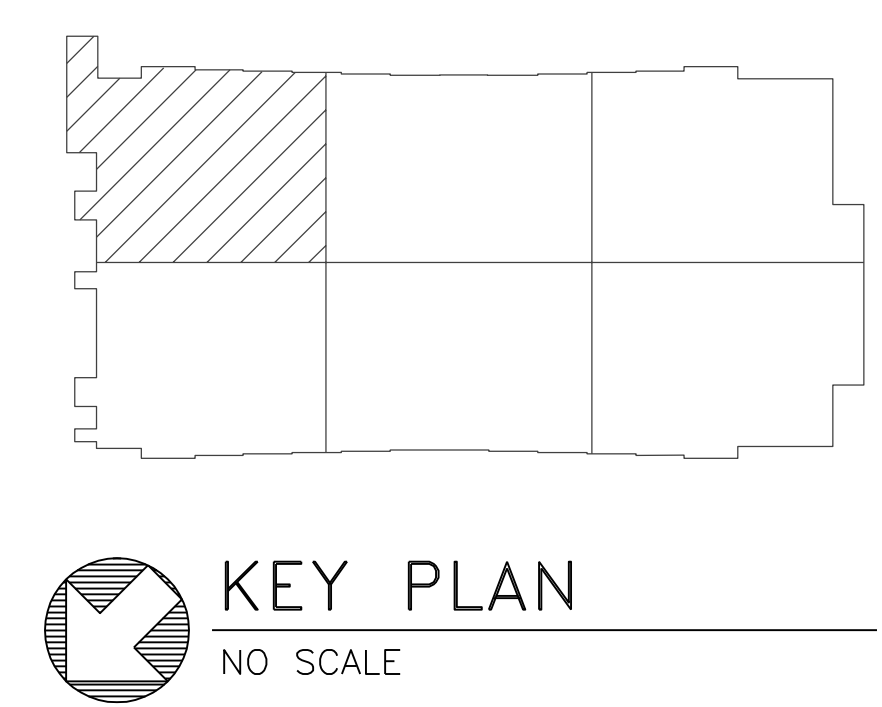
**GENERAL NOTES**  
(THIS SHEET ONLY)

1. DUCTWORK, VAV BOXES, HANGERS, ETC SHALL BE RUN ABOVE LAY-IN CEILING.
2. UNLESS OTHERWISE NOTED, FOR ALL EXPOSED SUPPLY DIFFUSERS, SEE "EXPOSED BRANCH CONNECTION DIFFUSER DETAIL", C5/M-506.
3. UNLESS OTHERWISE NOTED, SEE "VOLUME DAMPER DETAIL", C5/M-502 FOR ALL RETURN AIR BALANCING DAMPERS.

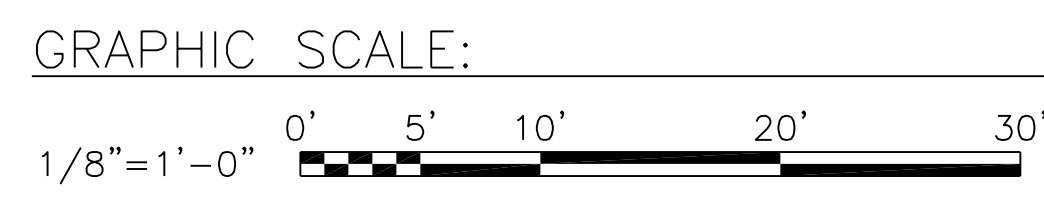
**CONSTRUCTION NOTES**  
(THIS SHEET ONLY)

- 1 SEE "TYPICAL BRANCH CONNECTION" C2/M-501.
- 2 SEE "AIR TERMINAL INSTALLATION DETAIL" C3/M-501.
- 3 SEE "VAV TERMINAL UNIT DETAIL" A2/M-503.
- 4 SEE DUCTWORK RADIUS ELBOWS" C5/M-503.
- 5 SEE "RETURN BRANCH DUCTWORK" A5/M-504.
- 6 10/6 UP TO EF-7 ON ROOF.
- 7 PROVIDE DUCT MOUNTED SUPPLY AIR STATIC PRESSURE SENSOR.
- 8 SEE "EXPOSED BRANCH CONNECTION DIFFUSER DETAIL", C5/M-506.

SEE SHEET M-103 FOR CONTINUATION



NOTE: IF THIS DRAWING IS A REDUCTION, GRAPHIC SCALE MUST BE USED.



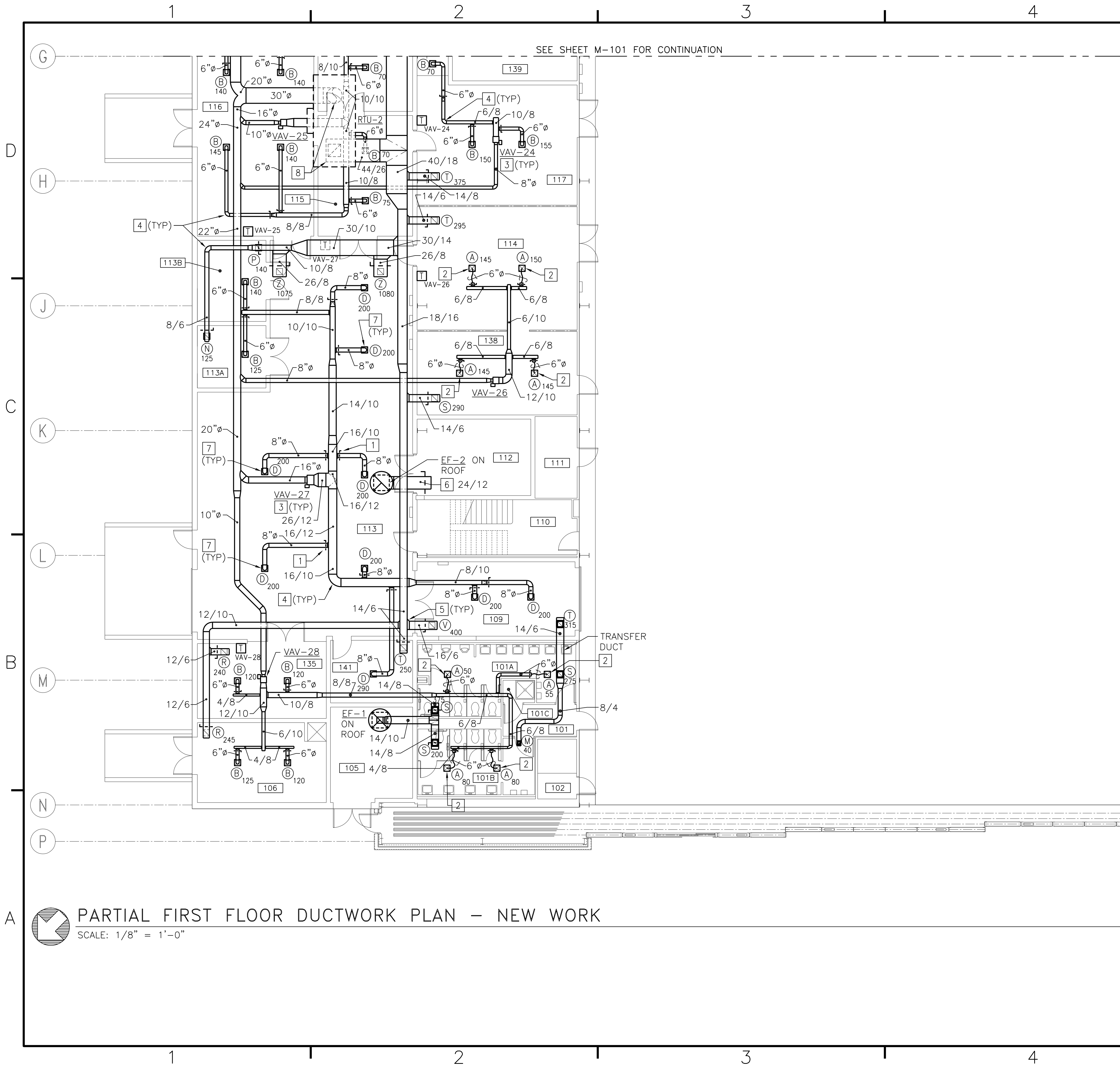
**PARTIAL FIRST FLOOR DUCTWORK PLAN - NEW WORK**  
SCALE: 1/8" = 1'-0"

SEE SHEET M-102 FOR CONTINUATION

DATE	APPROVED
DESCRIPTION	SYMBOL
BOWMAN, FOSTER & ASSOC. CONSULTING ENGINEERS #4 INTERSTATE CORP. CENTER NORFOLK, VA 23502 2424 26TH ROAD SOUTH ARLINGTON, VA 22206	
APPROVED	10-0000
ACTIVITY - SATISFACTORY TO	
DATE	
APPROVED	
FOR EFD FOR COMMANDER NAVFAC	
DATE	
A/E	DESIGN
CML	EFD
KLB	DRAWN
JDH	REVIEW
SGR	OC
SGR	CHIEF ARCH/ ENGR.
PROJECT MANAGER	PEC
FIRE PROTECTION	SAH
BRANCH MANAGER	PEC
DESIGN DIRECTOR	JEF
DEPARTMENT OF THE NAVY MARINE CORPS AIR STATION, CHERRY POINT, N.C. <b>FACILITIES ENERGY REPAIRS,          BUILDING 131</b> PARTIAL FIRST FLOOR DUCTWORK PLAN - NEW WORK	
CODE ID. NO. R0091	SIZE 0
SCALE:	AS SHOWN
FED. PROJ. NO. WR6059407	
STA. PROJ. NO. CP12024M/CP12024R	
SPEC. NO.	
CONSTR. CONTR. NO.	
NAVFAC DRAWING NO.	12618423
SHEET	61 OF 124
<b>M-101</b>	
DRAWING REVISION JULY 2003	



BFA File Name G:\2010\10-0050 B-131 ENERGY\SUBMITTALS\FINAL SUBMITTAL 7-12-12\BOUND CAD\12618424.dwg Plot Date: Jul 11, 2012 - 1:07pm Lost Saved By: kbennett



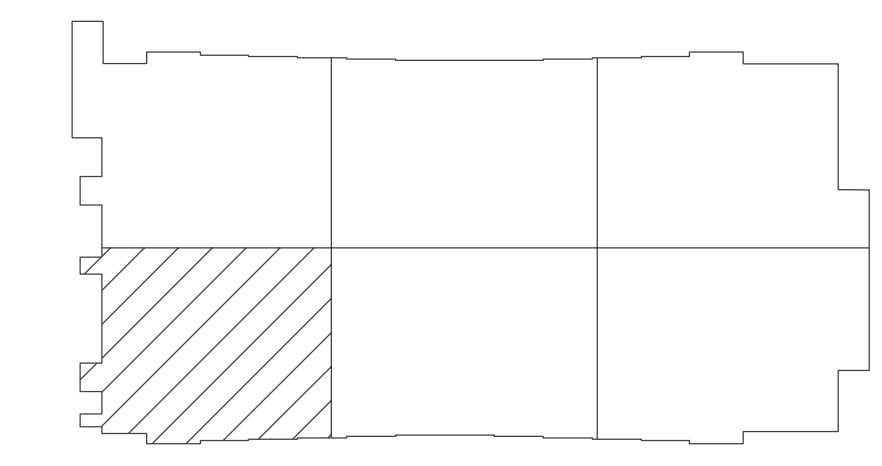
**PARTIAL FIRST FLOOR DUCTWORK PLAN - NEW WORK**  
SCALE: 1/8" = 1'-0"

### GENERAL NOTES (THIS SHEET ONLY)

1. DUCTWORK, VAV BOXES, HANGERS, ETC SHALL BE RUN ABOVE LAY-IN CEILING.
2. UNLESS OTHERWISE NOTED, FOR ALL EXPOSED SUPPLY DIFFUSERS, SEE "EXPOSED BRANCH CONNECTION DIFFUSER DETAIL", C5/M-506.
3. UNLESS OTHERWISE NOTED, SEE "VOLUME DAMPER DETAIL", C5/M-502 FOR ALL RETURN AIR BALANCING DAMPERS.

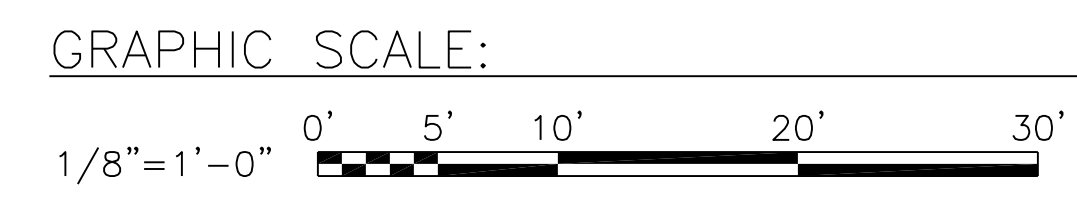
### CONSTRUCTION NOTES (THIS SHEET ONLY)


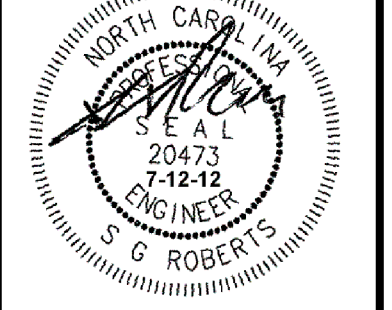
- 1 SEE "TYPICAL BRANCH CONNECTION" C2/M-501.
- 2 SEE "AIR TERMINAL INSTALLATION DETAIL" C3/M-501.
- 3 SEE "VAV TERMINAL UNIT DETAIL" A2/M-503.
- 4 SEE DUCTWORK RADIUS ELBOWS" C5/M-503.
- 5 SEE "RETURN BRANCH DUCTWORK" A5/M-504.
- 6 30/30 DUCT UP TO EF-2. PROVIDE INSECT SCREEN IN OPEN END OF DUCT.
- 7 SEE "EXPOSED BRANCH CONNECTION DIFFUSER DETAIL" C5/M-506.
- 8 TRANSITION DUCT TO SIZE OF UNIT OPENING.



**KEY PLAN**  
NO SCALE

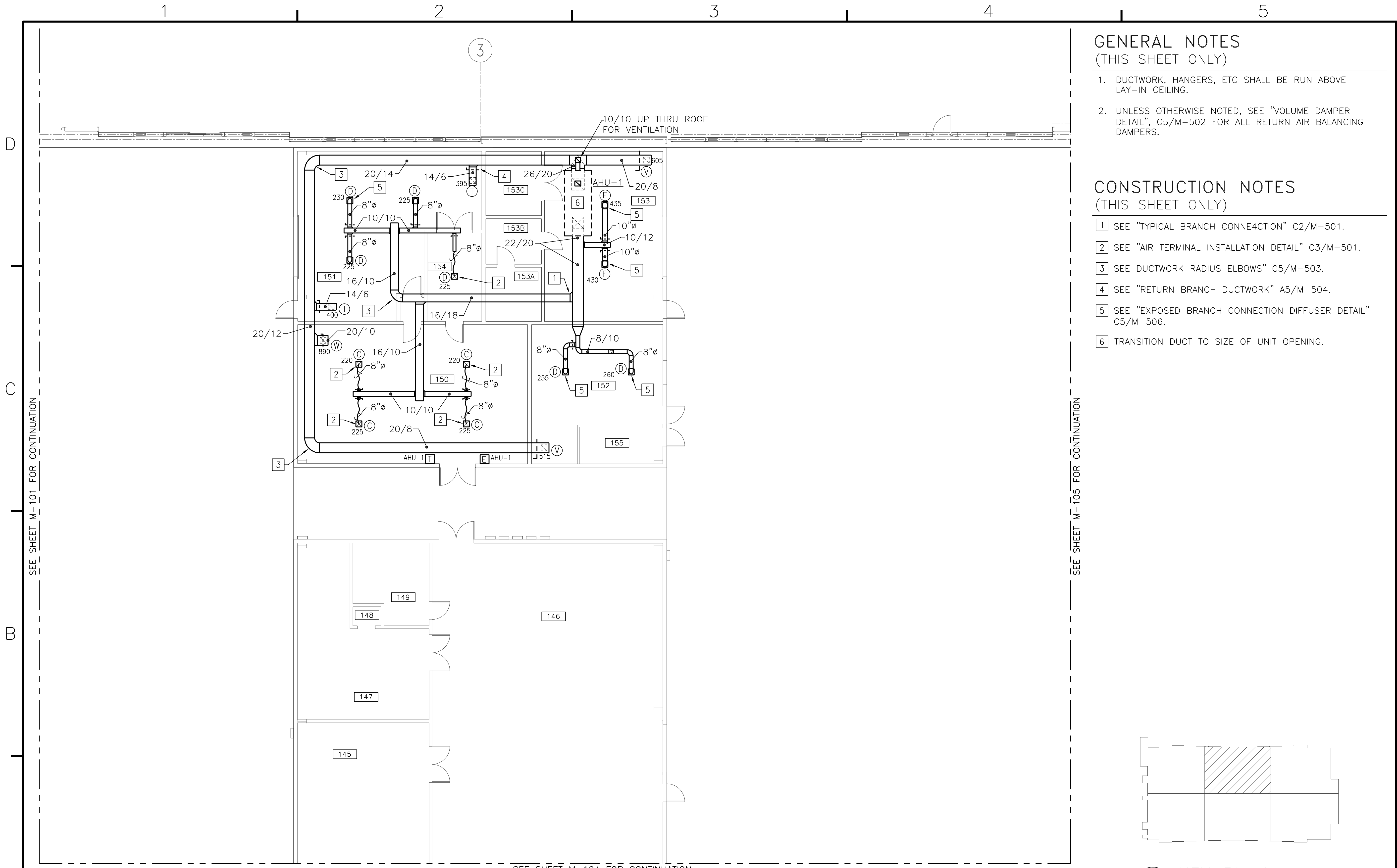
NOTE: IF THIS DRAWING IS A REDUCTION, GRAPHIC SCALE MUST BE USED.



DATE	APPROVED
DESCRIPTION	DATE
SYMBOL	DATE
 <b>BOWMAN, FOSTER &amp; ASSOC.</b> CONSULTING ENGINEERS #4 INTERSTATE CORP. CENTER NORFOLK, VA 23502 2424 26th ROAD SOUTH ARLINGTON, VA 22206	
 NORTH CAROLINA PROFESSIONAL ENGINEER G. ROBERTS	
APPROVED	10-0000
ACTIVITY - SATISFACTORY TO	
DATE	
APPROVED	
FOR EFD FOR COMMANDER NAVFAC	
DATE	
A/E	DESIGN
CML	EFD
KLB	DRAWN
JDH	REVIEW
SGR	OC
SGR	CHEF ARCH/ ENGR.
PROJECT MANAGER	PEC
FIRE PROTECTION	SAH
BRANCH MANAGER	PEC
DESIGN DIRECTOR	JEF
DEPARTMENT OF THE NAVY MARINE CORPS AIR STATION, CHERRY POINT, N.C. <b>FACILITIES ENERGY REPAIRS,          BUILDING 131</b> PARTIAL FIRST FLOOR DUCTWORK PLAN - NEW WORK	
CODE ID. NO. 80091	SIZE 0
SCALE:	AS SHOWN
FED. PROJ. NO. WR6059407	
STA. PROJ. NO. CP12024M/CP12024R	
SPEC. NO.	
CONSTR. CONTR. NO.	
NAVFAC DRAWING NO.	12618424
SHEET	62 OF 124
<b>M-102</b>	
DRAWING REVISION JULY 2003	



BFA File Name G:\2010\10-0050 B-131 ENERGY\SUBMITTALS\FINAL SUBMITTAL 7-12-12\BOUND CAD\12618425.dwg Plot Date: Jul 11, 2012 - 1:06pm Lost Saved By: kbennett

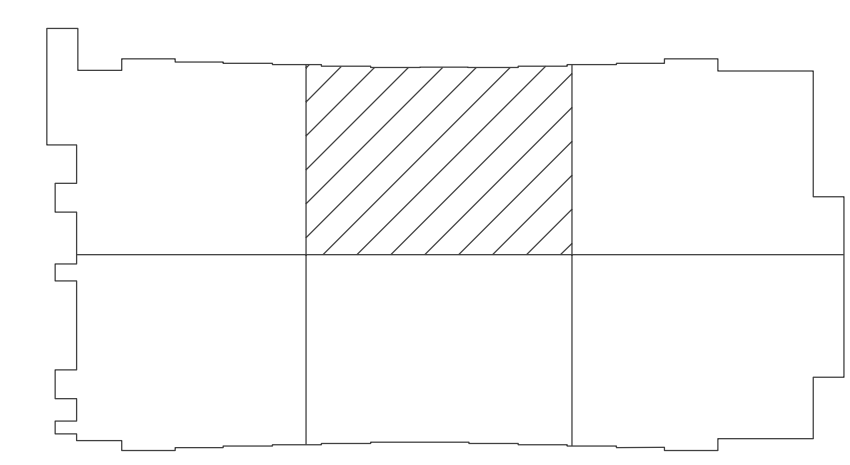


### GENERAL NOTES (THIS SHEET ONLY)

1. DUCTWORK, HANGERS, ETC SHALL BE RUN ABOVE LAY-IN CEILING.
2. UNLESS OTHERWISE NOTED, SEE "VOLUME DAMPER DETAIL", C5/M-502 FOR ALL RETURN AIR BALANCING DAMPERS.

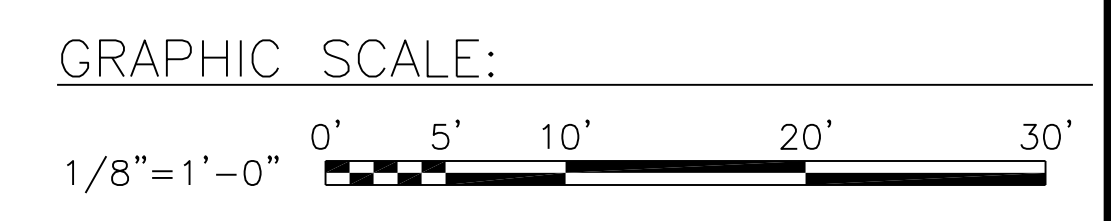
### CONSTRUCTION NOTES (THIS SHEET ONLY)

- 1 SEE "TYPICAL BRANCH CONNECTION" C2/M-501.
- 2 SEE "AIR TERMINAL INSTALLATION DETAIL" C3/M-501.
- 3 SEE DUCTWORK RADIUS ELBOWS" C5/M-503.
- 4 SEE "RETURN BRANCH DUCTWORK" A5/M-504.
- 5 SEE "EXPOSED BRANCH CONNECTION DIFFUSER DETAIL" C5/M-506.
- 6 TRANSITION DUCT TO SIZE OF UNIT OPENING.



**KEY PLAN**  
NO SCALE

NOTE: IF THIS DRAWING IS A REDUCTION, GRAPHIC SCALE MUST BE USED.



**PARTIAL FIRST FLOOR DUCTWORK PLAN - NEW WORK**  
SCALE: 1/8" = 1'-0"

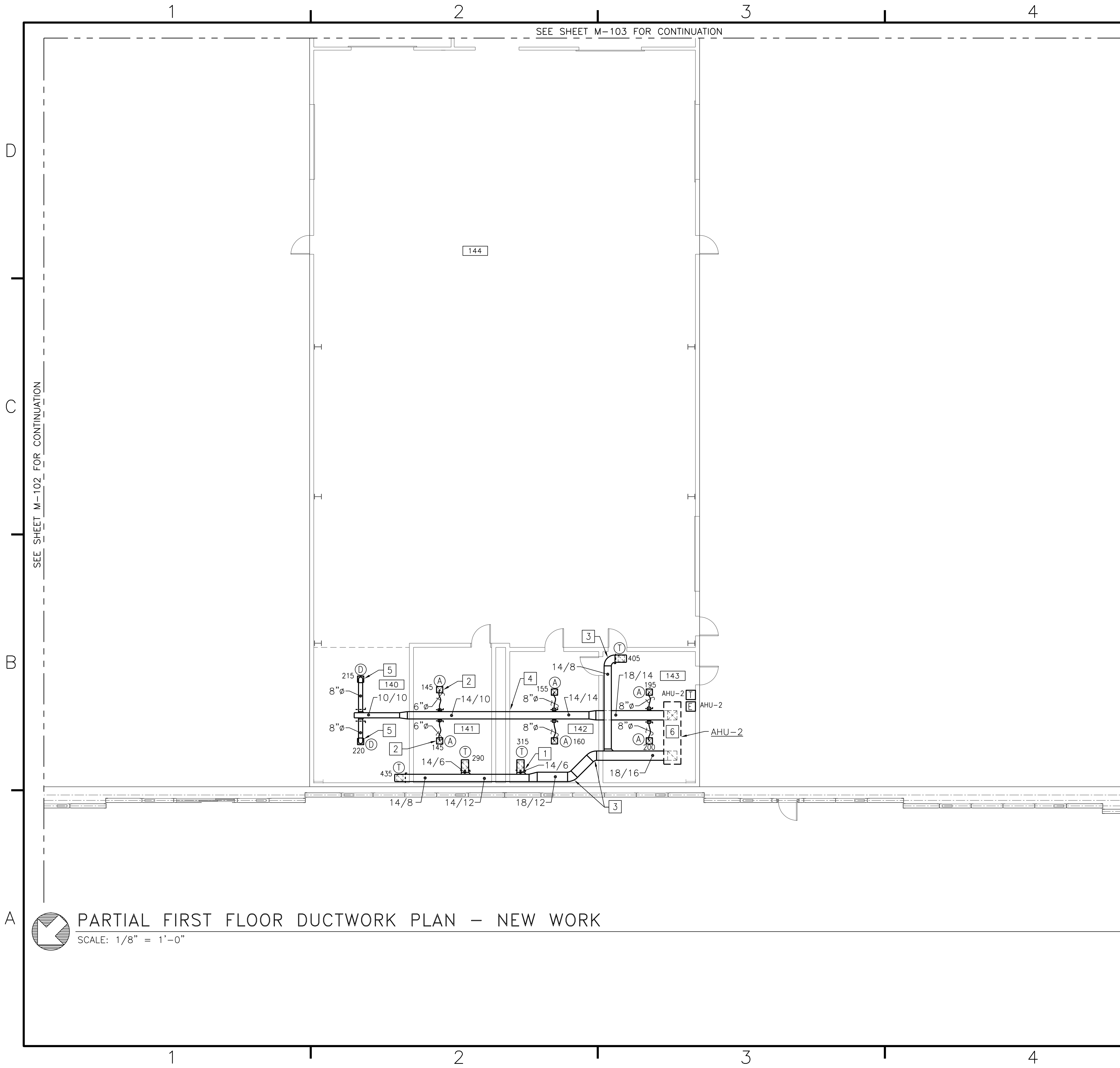
DATE	APPROVED
DESCRIPTION	APPROVED
SYMBOL	APPROVED
BOWMAN, FOSTER & ASSOC. CONSULTING ENGINEERS #4 INTERSTATE CORP. CENTER NORFOLK, VA 23502 2424 26TH ROAD SOUTH ARLINGTON, VA 22206	
APPROVED	DATE
ACTIVITY - SATISFACTORY TO	DATE
APPROVED	DATE
FOR EFD FOR COMMANDER NAVFAC	DATE
A/E	DESIGN
CML	DESIGN
KLB	DRAWN
JDH	REVIEW
SGR	OC
SGR	OC
SGR	CHIEF ARCH/ ENGR.
PROJECT MANAGER	PEC
FIRE PROTECTION	SAH
BRANCH MANAGER	PEC
DESIGN DIRECTOR	JEF
DEPARTMENT OF THE NAVY MARINE CORPS AIR STATION, CHERRY POINT, N.C. <b>FACILITIES ENERGY REPAIRS,          BUILDING 131</b> PARTIAL FIRST FLOOR DUCTWORK PLAN - NEW WORK	
CODE ID. NO. 80091	SIZE 0
SCALE: AS SHOWN	
FED. PROJ. NO. WFG059407	
STA. PROJ. NO. CP12024M/CP12024R	
SPEC. NO.	
CONSTR. CONTR. NO.	
NAVFAC DRAWING NO.	12618425
SHEET	63 OF 124
<b>M-103</b>	
<small>DRAWING REVISION JULY 2003</small>	

SEE SHEET M-101 FOR CONTINUATION

SEE SHEET M-105 FOR CONTINUATION

SEE SHEET M-104 FOR CONTINUATION

BFA File Name G:\2010\10-0050 B-131 ENERGY\SUBMITTALS\FINAL SUBMITTAL 7-12-12\BOUND CAD\12618426.dwg Plot Date: Jul 11, 2012 - 1:06pm Lost Saved By: kbennett



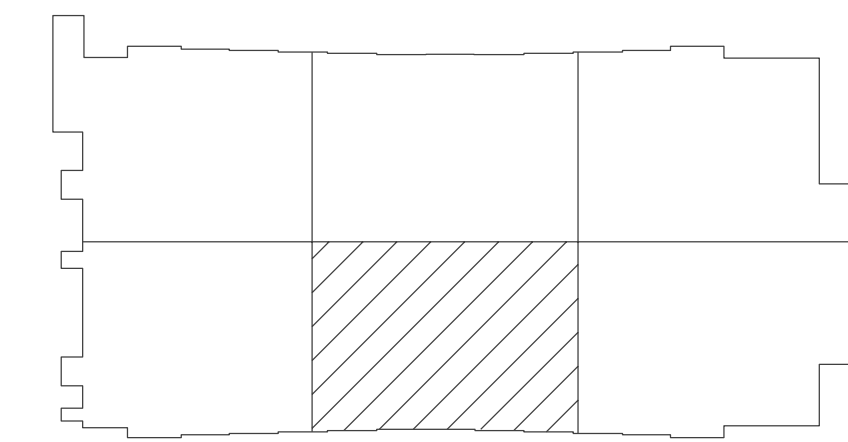
**PARTIAL FIRST FLOOR DUCTWORK PLAN - NEW WORK**  
SCALE: 1/8" = 1'-0"

**GENERAL NOTES**  
(THIS SHEET ONLY)

1. DUCTWORK, HANGERS, ETC SHALL BE RUN ABOVE LAY-IN CEILING.
2. UNLESS OTHERWISE NOTED, SEE "VOLUME DAMPER DETAIL", C5/M-502 FOR ALL RETURN AIR BALANCING DAMPERS.

**CONSTRUCTION NOTES**  
(THIS SHEET ONLY)

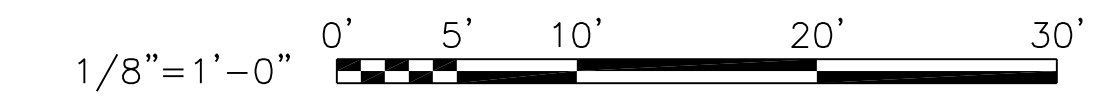
- 1] SEE "RETURN BRANCH DUCTWORK" A5/M-504.
- 2] SEE "AIR TERMINAL INSTALLATION DETAIL" C3/M-501.
- 3] SEE DUCTWORK RADIUS ELBOWS" C5/M-503.
- 4] SEE "DUCTWORK WALL SLEEVE DETAIL" B2/M-502.
- 5] SEE "EXPOSED BRANCH CONNECTION DIFFUSER DETAIL" C5/M-506.
- 6] TRANSITION DUCT TO SIZE OF UNIT OPENING.


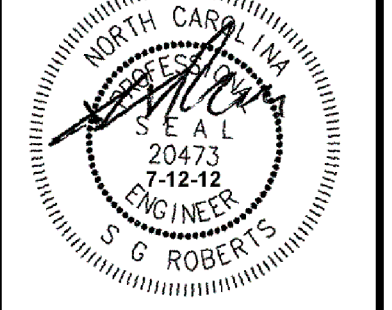


**KEY PLAN**  
NO SCALE

NOTE: IF THIS DRAWING IS A REDUCTION, GRAPHIC SCALE MUST BE USED.

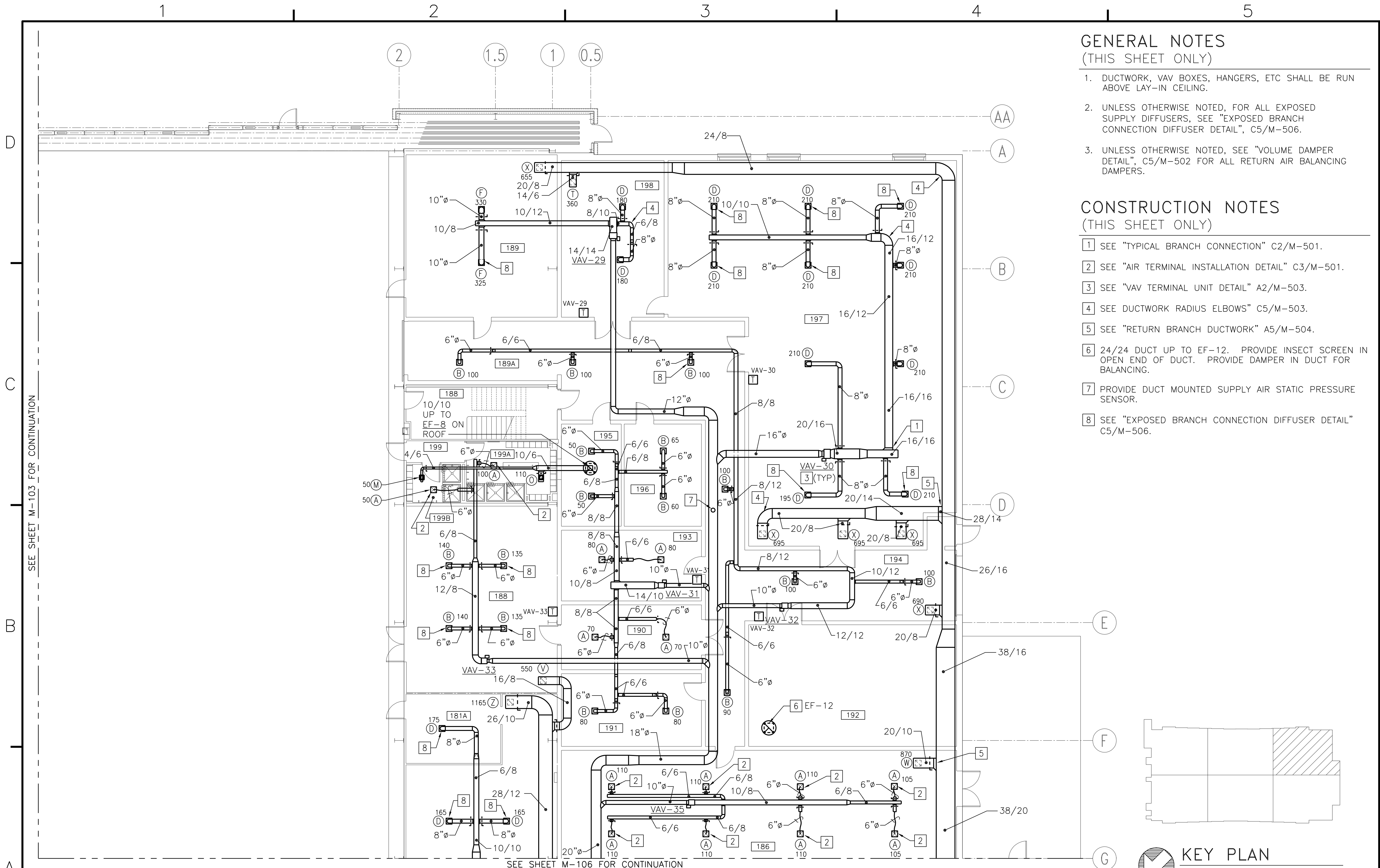
GRAPHIC SCALE:



DATE	APPROVED
DESCRIPTION	APPROVED
SYMBOL	APPROVED
 <b>BOWMAN, FOSTER &amp; ASSOC.</b> CONSULTING ENGINEERS #4 INTERSTATE CORP. CENTER NORFOLK, VA 23502 2424 26th ROAD SOUTH ARLINGTON, VA 22206	
 NORTH CAROLINA PROFESSIONAL ENGINEER G. ROBERTS	
APPROVED	10-0050
ACTIVITY - SATISFACTORY TO	
DATE	
APPROVED	
FOR EFD FOR COMMANDER NAVFAC	
DATE	
A/E	DESIGN
CML	DESIGN
KLB	DRAWN
JDH	REVIEW
SGR	OC
SGR	OC
SGR	CHIEF ARCH/ ENGR.
PROJECT MANAGER	PEC
FIRE PROTECTION	SAH
BRANCH MANAGER	PEC
DESIGN DIRECTOR	JEF
DEPARTMENT OF THE NAVY MARINE CORPS AIR STATION, CHERRY POINT, N.C. <b>FACILITIES ENERGY REPAIRS,          BUILDING 131</b> PARTIAL FIRST FLOOR DUCTWORK PLAN - NEW WORK	
CODE ID. NO. 80091	SIZE 0
SCALE:	AS SHOWN
FED. PROJ. NO. WR6059407	
STA. PROJ. NO. CP12024M/CP12024R	
SPEC. NO.	
CONSTR. CONTR. NO.	
NAVFAC DRAWING NO.	12618426
SHEET	64 OF 124
<b>M-104</b>	
DRAWING REVISION JULY 2003	



BFA File Name: G:\2010\10-0050 B-131 ENERGY\SUBMITTALS\FINAL SUBMITTAL 7-12-12\BOUND CAD\12618427.dwg Plot Date: Jul 11, 2012 - 1:05pm Last Saved By: kbennett



### GENERAL NOTES (THIS SHEET ONLY)

1. DUCTWORK, VAV BOXES, HANGERS, ETC SHALL BE RUN ABOVE LAY-IN CEILING.
2. UNLESS OTHERWISE NOTED, FOR ALL EXPOSED SUPPLY DIFFUSERS, SEE "EXPOSED BRANCH CONNECTION DIFFUSER DETAIL", C5/M-506.
3. UNLESS OTHERWISE NOTED, SEE "VOLUME DAMPER DETAIL", C5/M-502 FOR ALL RETURN AIR BALANCING DAMPERS.

### CONSTRUCTION NOTES (THIS SHEET ONLY)

- 1 SEE "TYPICAL BRANCH CONNECTION" C2/M-501.
- 2 SEE "AIR TERMINAL INSTALLATION DETAIL" C3/M-501.
- 3 SEE "VAV TERMINAL UNIT DETAIL" A2/M-503.
- 4 SEE DUCTWORK RADIUS ELBOWS" C5/M-503.
- 5 SEE "RETURN BRANCH DUCTWORK" A5/M-504.
- 6 24/24 DUCT UP TO EF-12. PROVIDE INSECT SCREEN IN OPEN END OF DUCT. PROVIDE DAMPER IN DUCT FOR BALANCING.
- 7 PROVIDE DUCT MOUNTED SUPPLY AIR STATIC PRESSURE SENSOR.
- 8 SEE "EXPOSED BRANCH CONNECTION DIFFUSER DETAIL" C5/M-506.

SEE SHEET M-103 FOR CONTINUATION

SEE SHEET M-106 FOR CONTINUATION

## PARTIAL FIRST FLOOR DUCTWORK PLAN - NEW WORK

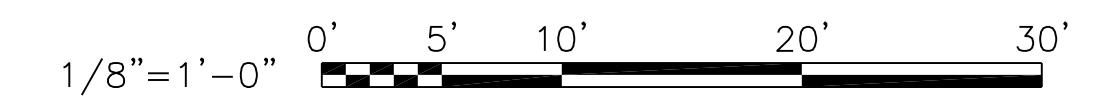
SCALE: 1/8" = 1'-0"

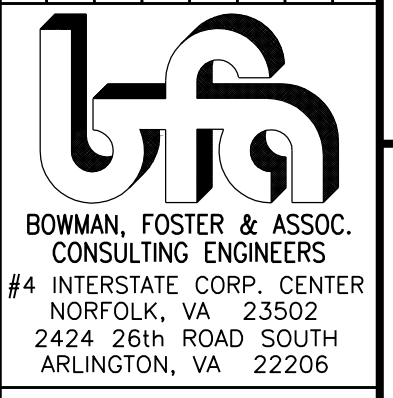
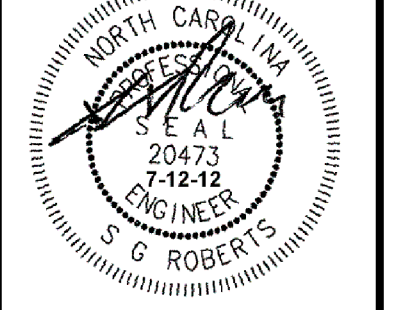
## KEY PLAN

NO SCALE

NOTE: IF THIS DRAWING IS A REDUCTION, GRAPHIC SCALE MUST BE USED.

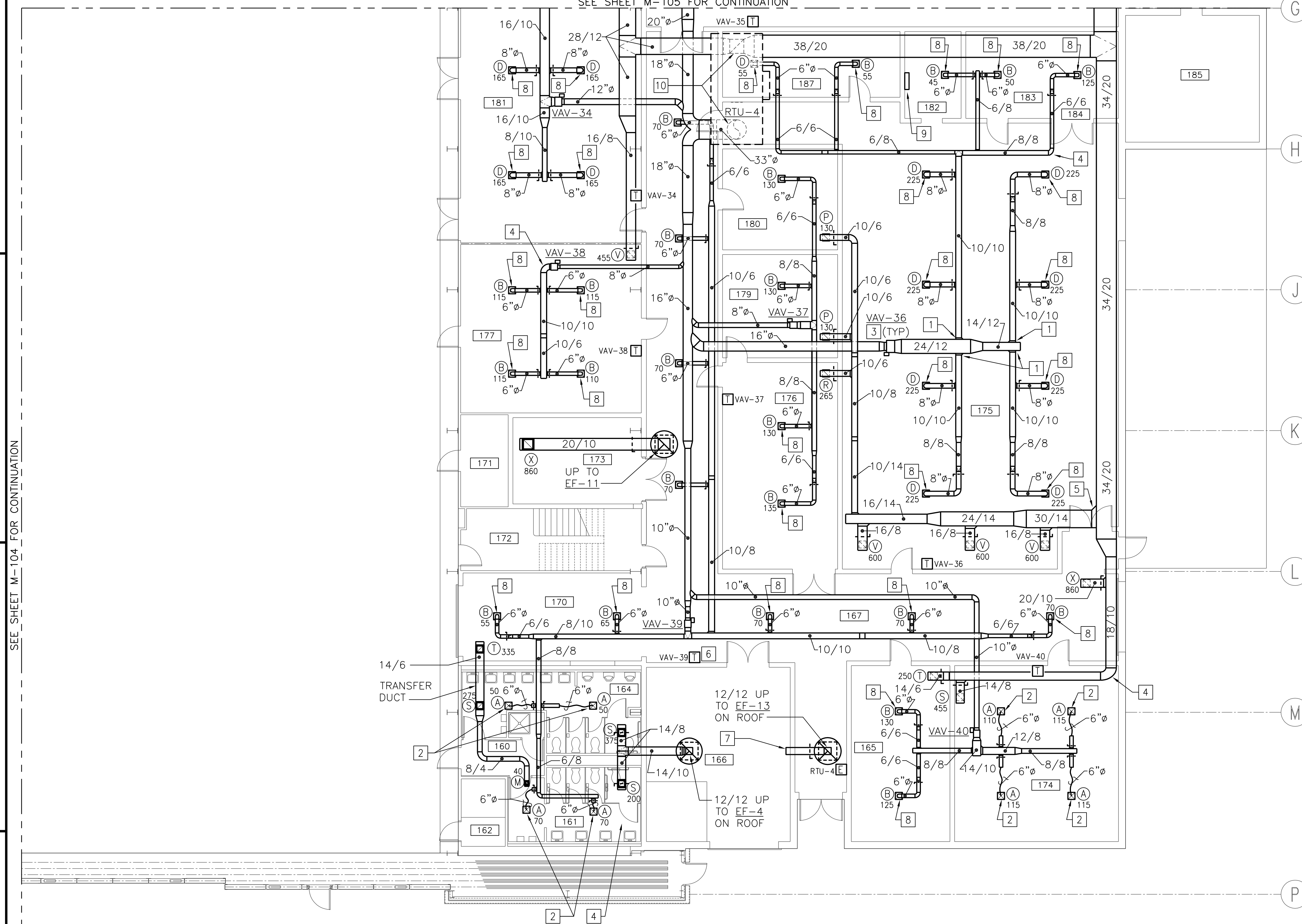
GRAPHIC SCALE:



DATE	APPROVED
DESCRIPTION	APPROVED
SYMBOL	APPROVED
 BOWMAN, FOSTER & ASSOC. CONSULTING ENGINEERS #4 INTERSTATE CORP. CENTER NORFOLK, VA 23502 2424 26th ROAD SOUTH ARLINGTON, VA 22206	
 NORTH CAROLINA PROFESSIONAL ENGINEER G. ROBERTS 20473 7-12-12	
APPROVED	10-0050
ACTIVITY - SATISFACTORY TO	
DATE	
APPROVED	
FOR EFD FOR COMMANDER NAVFAC	
DATE	
A/E	EFD
CML	DESIGN
KLB	DRAWN
JDH	REVIEW
SGR	OC
SGR	CHIEF ARCH/ ENGR.
PROJECT MANAGER	PFC
FIRE PROTECTION	SAH
BRANCH MANAGER	PFC
DESIGN DIRECTOR	JEF
DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND MARINE CORPS AIR STATION, CHERRY POINT, N.C. <b>FACILITIES ENERGY REPAIRS,          BUILDING 131</b> PARTIAL FIRST FLOOR DUCTWORK PLAN - NEW WORK	
CODE ID. NO. 80091	SIZE 0
SCALE:	AS SHOWN
FED. PROJ. NO. WR6059407	
STA. PROJ. NO. CP12024M/CP12024R	
SPEC. NO.	
CONSTR. CONTR. NO.	
NAVFAC DRAWING NO.	12618427
SHEET	65 OF 124
<b>M-105</b>	
DRAWING REVISION JULY 2003	



BFA File Name G:\2010\10-0050 B-131 ENERGY\SUBMITTALS\FINAL SUBMITTAL 7-12-12\BOUND CAD\12618428.dwg Plot Date: Jul 11, 2012 - 1:05pm Last Saved By: kbennett

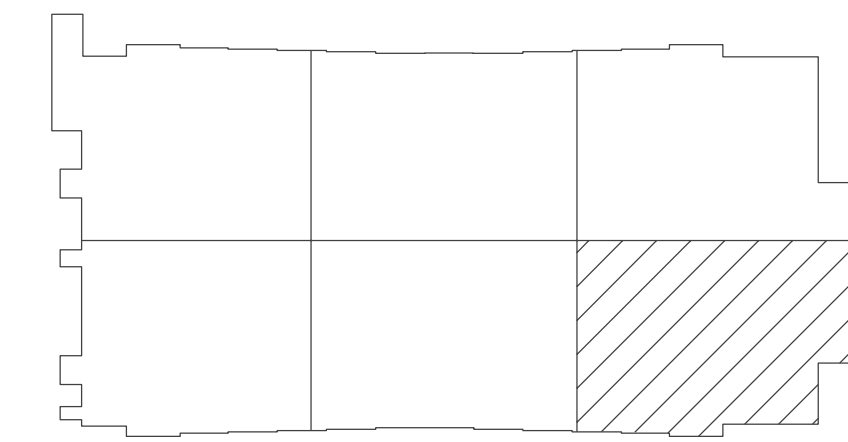


### GENERAL NOTES (THIS SHEET ONLY)

1. DUCTWORK, VAV BOXES, HANGERS, ETC SHALL BE RUN ABOVE LAY-IN CEILING.
2. UNLESS OTHERWISE NOTED, FOR ALL EXPOSED SUPPLY DIFFUSERS, SEE "EXPOSED BRANCH CONNECTION DIFFUSER DETAIL", C5/M-506.
3. UNLESS OTHERWISE NOTED, SEE "VOLUME DAMPER DETAIL", C5/M-502 FOR ALL RETURN AIR BALANCING DAMPERS.

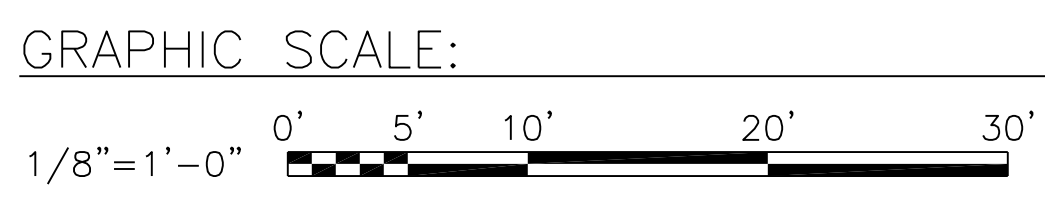
### CONSTRUCTION NOTES (THIS SHEET ONLY)

- 1 SEE "TYPICAL BRANCH CONNECTION" C2/M-501.
- 2 SEE "AIR TERMINAL INSTALLATION DETAIL" C3/M-501.
- 3 SEE "VAV TERMINAL UNIT DETAIL" A2/M-503.
- 4 SEE DUCTWORK RADIUS ELBOWS" C5/M-503.
- 5 SEE "RETURN BRANCH DUCTWORK" A5/M-504.
- 6 PROVIDE LOCK BOX FOR THERMOSTAT.
- 7 EXTEND 12/12 EXHAUST DUCT INTO MECHANICAL ROOM. COVER OPEN END OF DUCT WITH INSECT SCREEN.
- 8 SEE "EXPOSED BRANCH CONNECTION DIFFUSER DETAIL" C5/M-506.
- 9 PROVIDE SITE BUILDING CONTROLLER FOR THE BUILDING DDC SYSTEM.
- 10 TRANSITION DUCT TO SIZE OF UNIT OPENING.


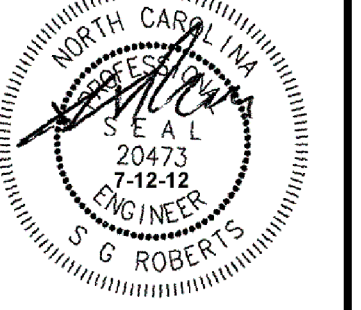


KEY PLAN  
NO SCALE

NOTE: IF THIS DRAWING IS A REDUCTION, GRAPHIC SCALE MUST BE USED.

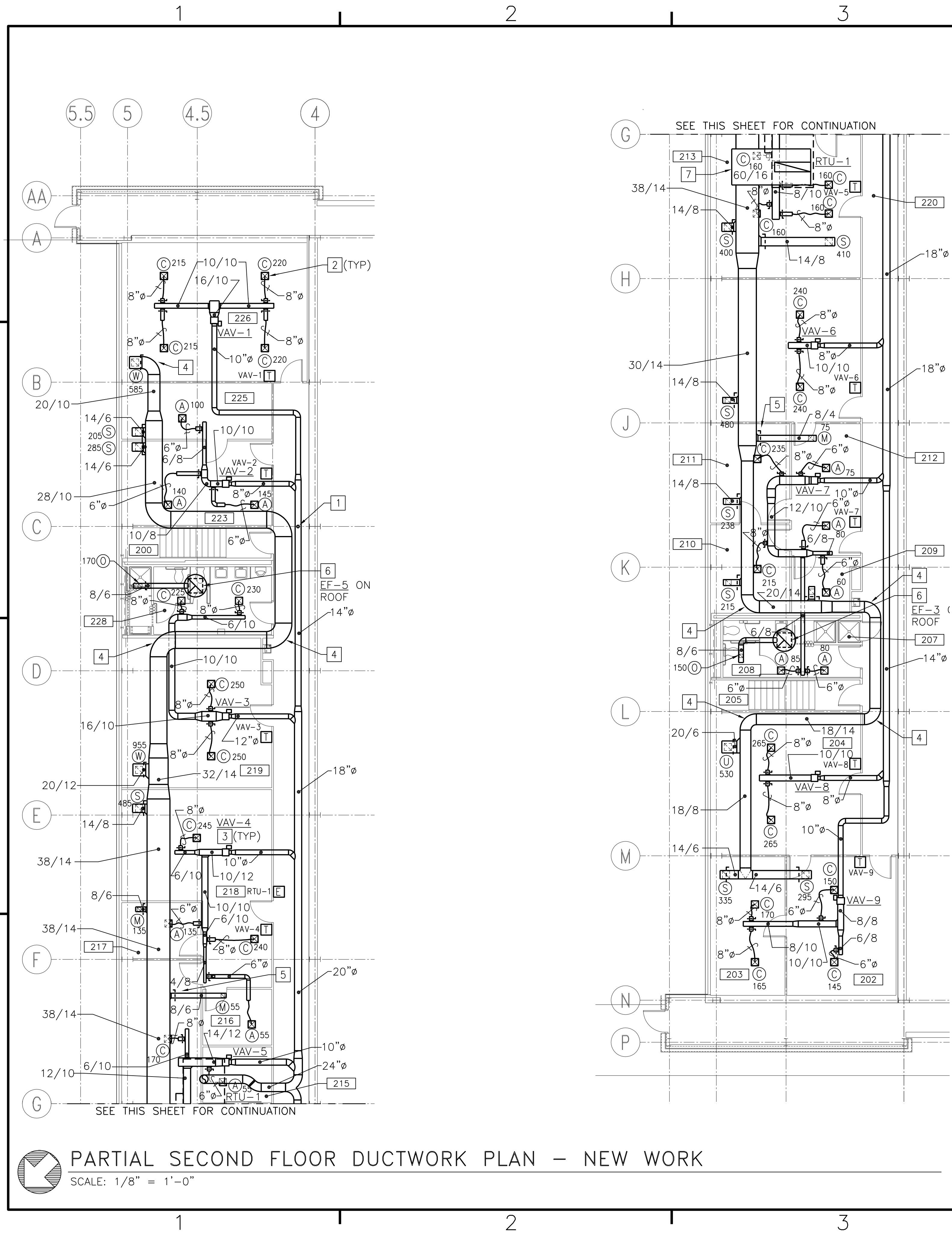


**PARTIAL FIRST FLOOR DUCTWORK PLAN - NEW WORK**  
SCALE: 1/8" = 1'-0"

DATE	APPROVED
DESCRIPTION	SYMBOL
 BOWMAN, FOSTER & ASSOC. CONSULTING ENGINEERS #4 INTERSTATE CORP. CENTER NORFOLK, VA 23502 2424 26th ROAD SOUTH ARLINGTON, VA 22206	
	
APPROVED	10-0050
ACTIVITY - SATISFACTORY TO	
DATE	
APPROVED	
FOR EFD FOR COMMANDER NAVFAC	
DATE	
A/E	EFD
CML	DESIGN
KLB	DRAWN
JDH	REVIEW
SGR	OC
SGR	CHIEF ARCH/ ENGR.
PROJECT MANAGER	PFC
FIRE PROTECTION	SAH
BRANCH MANAGER	PFC
DESIGN DIRECTOR	JEF
DEPARTMENT OF THE NAVY MARINE CORPS AIR STATION, CHERRY POINT, N.C. <b>FACILITIES ENERGY REPAIRS,          BUILDING 131</b> PARTIAL FIRST FLOOR DUCTWORK PLAN - NEW WORK	
CODE ID. NO. 80091	SIZE 0
SCALE: AS SHOWN	
FED. PROJ. NO. WFG059407	
STA. PROJ. NO. CP12024M/CP12024R	
SPEC. NO.	
CONSTR. CONTR. NO.	
NAVFAC DRAWING NO.	12618428
SHEET	66 OF 124
<b>M-106</b>	
DRAWING REVISION JULY 2003	



BFA File name: G:\2010\10-0050 B-131 ENERGY\NAVIGATOR\FACILITIES ENERGY IMPROVEMENTS, BUILDING 131\Sheets\M-107 PARTIAL SECOND FLOOR DUCTWORK PLAN - NEW WORK.dwg Plot Date: Jul 11, 2012 - 1:40pm Lost Saved By: kbennett



**PARTIAL SECOND FLOOR DUCTWORK PLAN - NEW WORK**

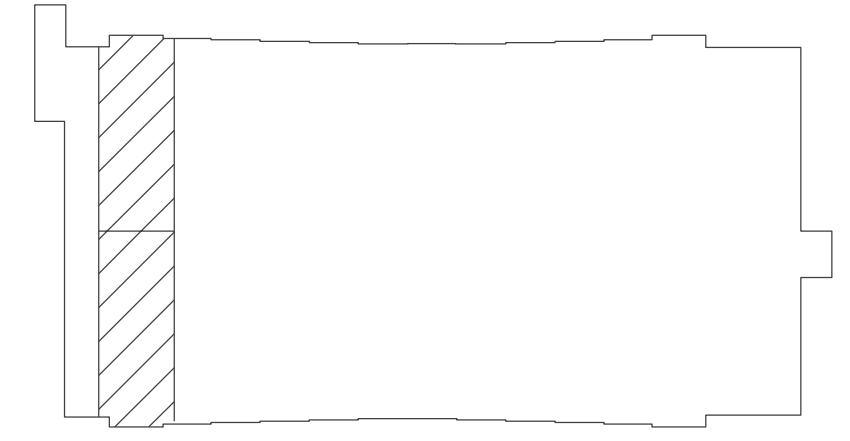
SCALE: 1/8" = 1'-0"

**GENERAL NOTES**

- (THIS SHEET ONLY)
- DUCTWORK, VAV BOXES, HANGERS, ETC SHALL BE RUN ABOVE LAY-IN CEILING.
  - UNLESS OTHERWISE NOTED, SEE "VOLUME DAMPER DETAIL", C5/M-502 FOR ALL RETURN AIR BALANCING DAMPERS.

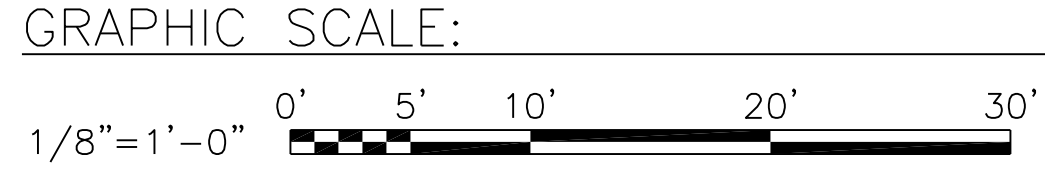
**CONSTRUCTION NOTES**

- (THIS SHEET ONLY)
- PROVIDE DUCT MOUNTED SUPPLY AIR STATIC PRESSURE SENSOR.
  - SEE "AIR TERMINAL INSTALLATION DETAIL" C3/M-501.
  - SEE "VAV TERMINAL UNIT DETAIL" A2/M-503.
  - SEE DUCTWORK RADIUS ELBOWS" C5/M-503.
  - SEE "RETURN BRANCH DUCTWORK" A5/M-504.
  - COORDINATE GRILLE LOCATION WITH LIGHTING AND REFLECTED CEILING LAYOUT.
  - TRANSITION DUCT TO SIZE OF UNIT OPENING.



**KEY PLAN**  
NO SCALE

NOTE: IF THIS DRAWING IS A REDUCTION, GRAPHIC SCALE MUST BE USED.



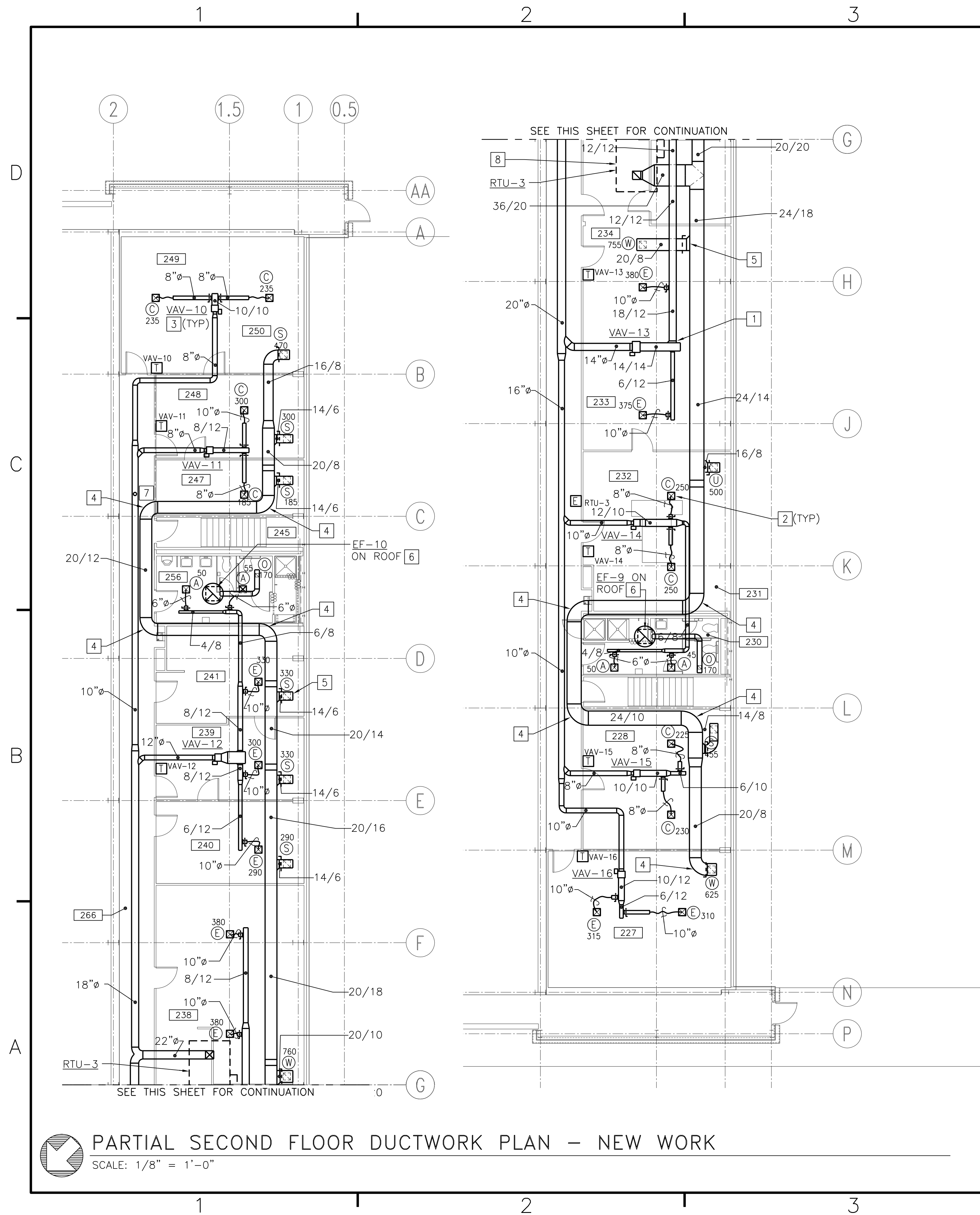
REVISION		DATE	APPR

<b>BOWMAN, FOSTER &amp; ASSOC.</b> CONSULTING ENGINEERS			
#4 INTERSTATE CORP. CENTER NORFOLK, VA 23502 2424 26th ROAD SOUTH ARLINGTON, VA 22206			
APPROVED			
ACTIVITY - SATISFACTORY TO		DATE	
APPROVED		FOR EFD FOR COMMANDER NAVFAC	
DATE		A/E	
DESIGN		EFD	
DRAWN			
REVIEW			
OC			
ARCH/ ENGR.			
PROJECT MANAGER		PFC	
FIRE PROTECTION		SAH	
BRANCH MANAGER		PFC	
DESIGN DIRECTOR		JEF	

DEPARTMENT OF THE NAVY  
NAVAL FACILITIES ENGINEERING COMMAND  
MARINE CORPS AIR STATION, CHERRY POINT, N.C.  
**FACILITIES ENERGY REPAIRS,  
BUILDING 131**  
PARTIAL SECOND FLOOR DUCTWORK PLAN - NEW WORK

NAVAFAC DRAWING NO. 12618429  
SHEET 67 OF 124  
**M-107**  
DRAWING REVISION: JULY 2003

BFA File Name G:\2010\10-0050 B-131 ENERGY\SUBMITTALS\FINAL SUBMITTAL 7-12-12\BOUND CAD\12618430.dwg Plot Date: Jul 11, 2012 - 1:03pm Lost Saved BY: kbennett

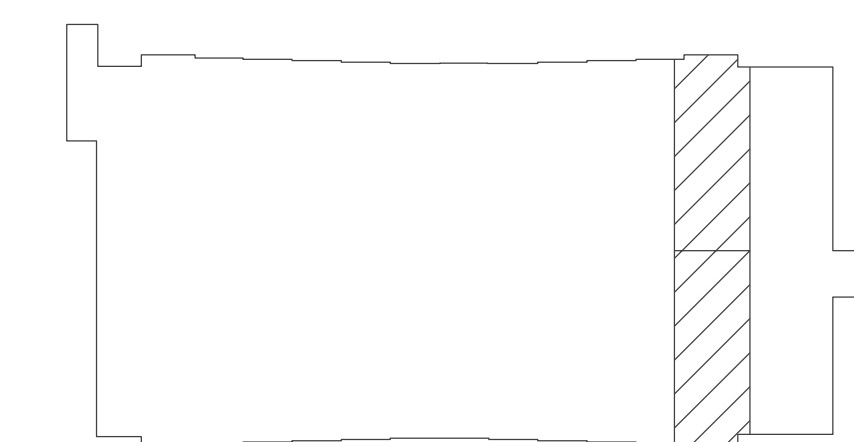


**GENERAL NOTES**  
(THIS SHEET ONLY)

1. DUCTWORK, VAV BOXES, HANGERS, ETC SHALL BE RUN ABOVE LAY-IN CEILING.
2. UNLESS OTHERWISE NOTED, SEE "VOLUME DAMPER DETAIL", C5/M-502 FOR ALL RETURN AIR BALANCING DAMPERS.

**CONSTRUCTION NOTES**  
(THIS SHEET ONLY)

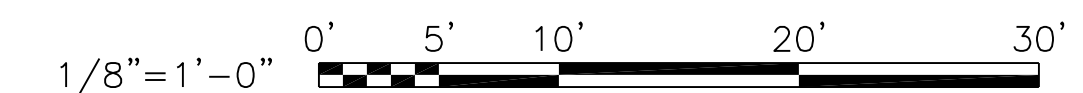
- 1 SEE "TYPICAL BRANCH CONNECTION" C2/M-501.
- 2 SEE "AIR TERMINAL INSTALLATION DETAIL" C3/M-501.
- 3 SEE "VAV TERMINAL UNIT DETAIL" A2/M-503.
- 4 SEE DUCTWORK RADIUS ELBOWS" C5/M-503.
- 5 SEE "RETURN BRANCH DUCTWORK" A5/M-504.
- 6 COORDINATE GRILLE LOCATION WITH LIGHTING AND REFLECTED CEILING LAYOUT.
- 7 PROVIDE DUCT MOUNTED SUPPLY AIR STATIC PRESSURE SENSOR.
- 8 TRANSITION DUCT TO SIZE OF UNIT OPENING.



**KEY PLAN**  
NO SCALE

NOTE: IF THIS DRAWING IS A REDUCTION, GRAPHIC SCALE MUST BE USED.

GRAPHIC SCALE:



**PARTIAL SECOND FLOOR DUCTWORK PLAN - NEW WORK**  
SCALE: 1/8" = 1'-0"

NO.	DESCRIPTION	DATE	APPR.

**BOWMAN, FOSTER & ASSOC.**  
CONSULTING ENGINEERS  
#4 INTERSTATE CORP. CENTER  
NORFOLK, VA 23502  
2424 26TH ROAD SOUTH  
ARLINGTON, VA 22206

**G. ROBERTS**  
ENGINEER  
20473  
7-12-12

APPROVED	DATE	
ACTIVITY - SATISFACTORY TO		
APPROVED	DATE	
FOR EFD FOR COMMANDER NAVFAC		
DATE		
A/E	DESIGN	EFD
CML	DRAWN	
KLB	REVIEW	
JDH	OC	
SGR	CHEF	ARCH/ ENGR.
SGR	PROJECT MANAGER	PFC
	FIRE PROTECTION	SAH
	BRANCH MANAGER	PFC
	DESIGN DIRECTOR	JEF

NAVAL FACILITIES ENGINEERING COMMAND  
MARINE CORPS AIR STATION, CHERRY POINT, N.C.

**FACILITIES ENERGY REPAIRS,  
BUILDING 131**

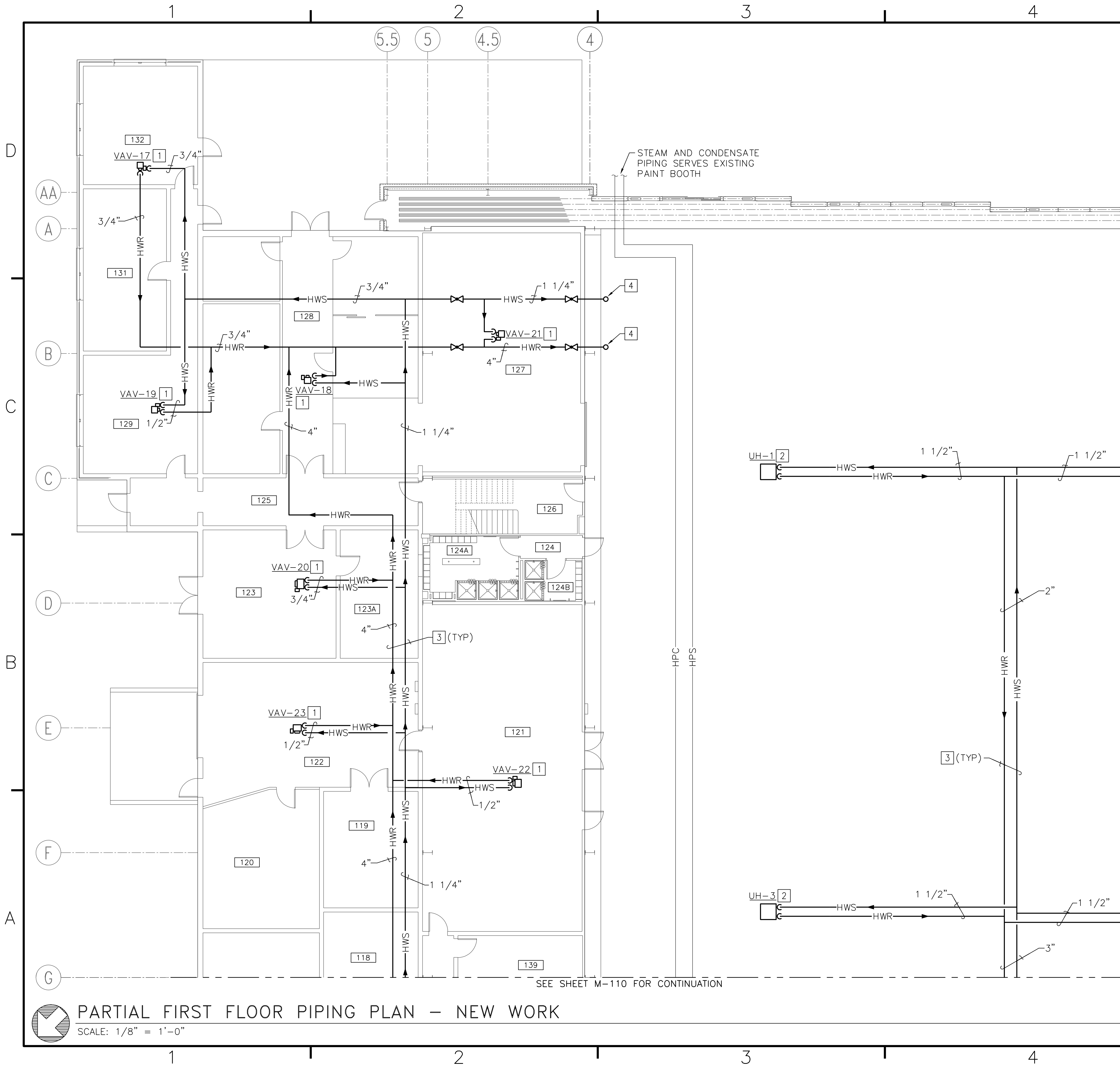
PARTIAL SECOND FLOOR DUCTWORK PLAN - NEW WORK

CODE ID. NO. 80091	SIZE 0
SCALE: AS SHOWN	
FED. PROJ. NO. WR6059407	
STA. PROJ. NO. CP12024M/CP12024R	
SPEC. NO.	
CONSTR. CONTR. NO.	
NAVFAC DRAWING NO. 12618430	
SHEET 6B OF 124	
<b>M-108</b>	

DRAWING REVISION JULY 2003



BFA File Name G:\2010\10-0050 B-131 ENERGY\SUBMITTALS\FINAL SUBMITTAL 7-12-12\BOUND CAD\12618431.dwg Plot Date: Jul 11, 2012 - 1:03pm Last Saved By: kbennett



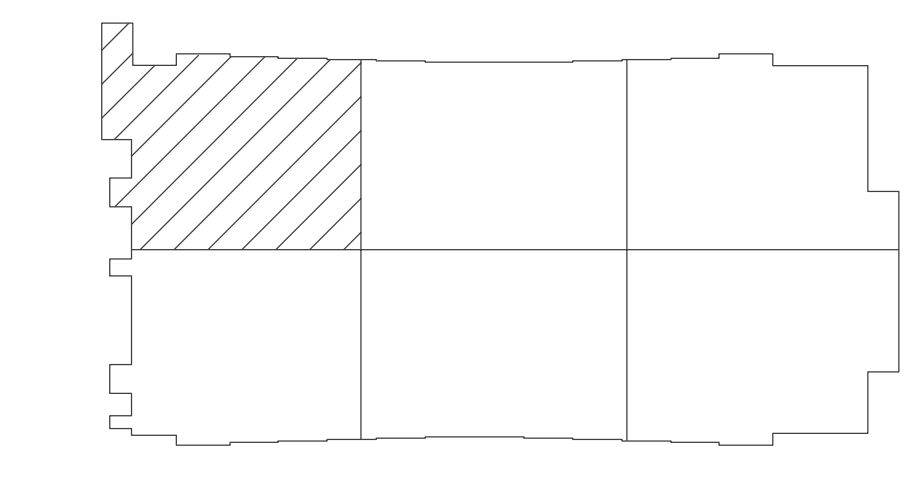
**GENERAL NOTES (THIS SHEET ONLY)**

1. HANGER BAY MECHANICAL EQUIPMENT AND EXPOSED CHILLED AND HOT WATER PIPING SHALL BE INSTALLED NO LOWER THAN THE BOTTOM CHORD OF THE EXISTING ROOF TRUSSES FOR CLEARANCE OF AVIATION EQUIPMENT. BOTTOM OF EXISTING ROOF TRUSSES IS APPROXIMATELY 32' AFF.
2. UNLESS OTHERWISE NOTED, SEE "VOLUME DAMPER DETAIL", C5/M-502 FOR ALL RETURN AIR BALANCING DAMPERS.

**CONSTRUCTION NOTES (THIS SHEET ONLY)**

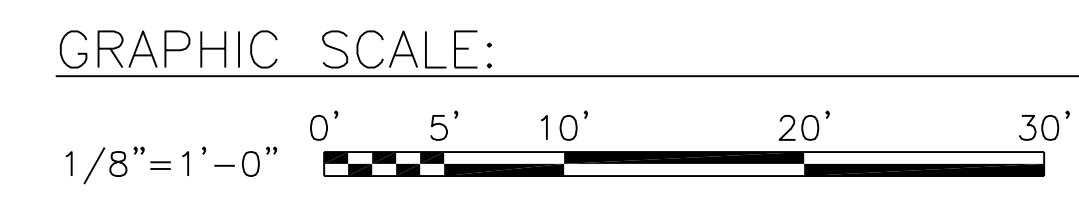
- [1] SEE "VAV TERMINAL UNIT DETAIL", A2/M-503.
- [2] SEE "VERTICAL HOT WATER UNIT HEATER DETAIL", A2/M-502 FOR THE HIGH BAY AREAS. COORDINATE LOCATION WITH SOLAR TUBES AND EXISTING TRUSSES.
- [3] SUPPORT ALL PIPING VIA HANGERS. SEE "PIPING HANGER DETAIL", A5/M-502.
- [4] UP TO SECOND FLOOR, SEE SHEET M-115 FOR CONTINUATION OF WORK.

SEE SHEET M-111 FOR CONTINUATION

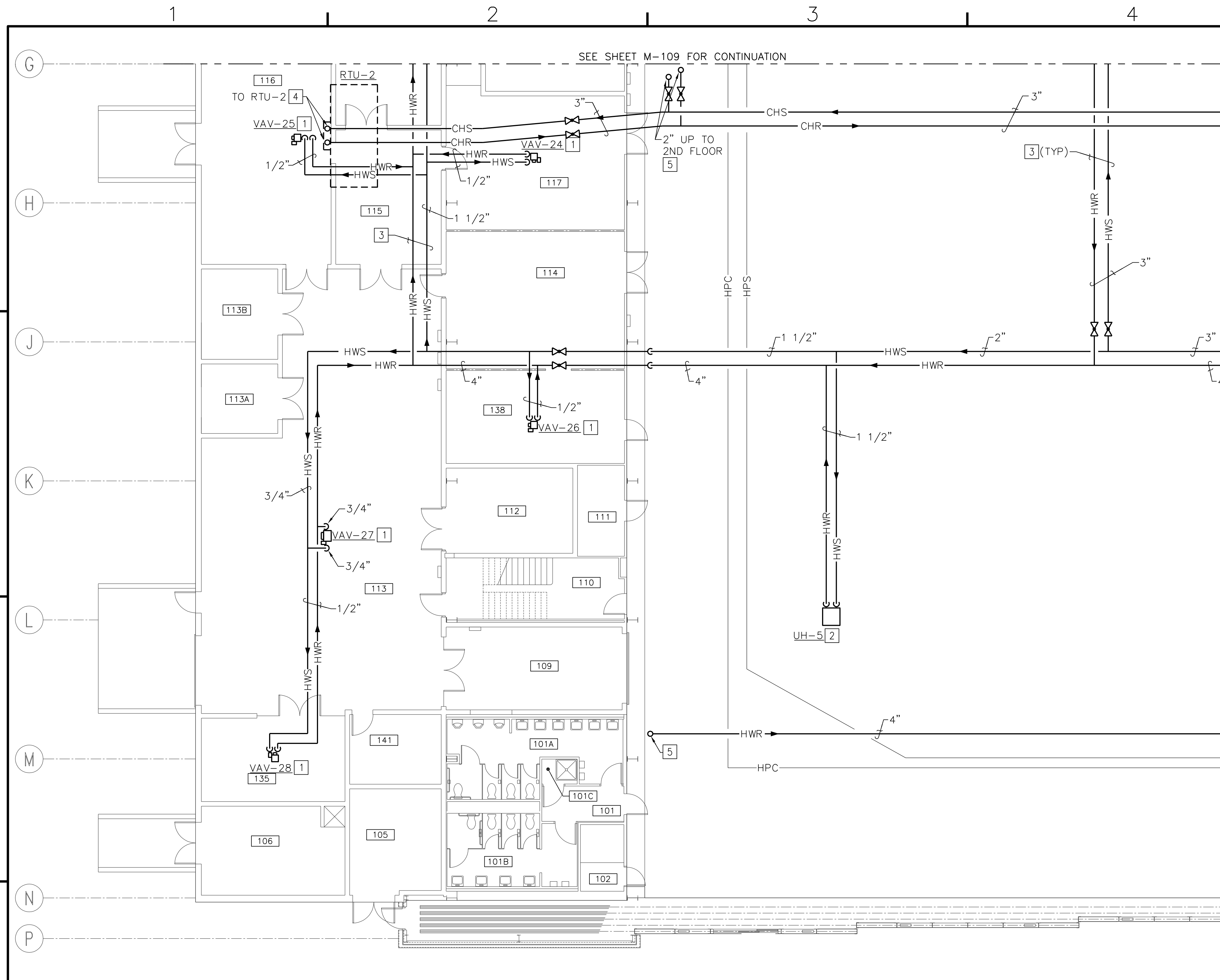


**KEY PLAN**  
NO SCALE

NOTE: IF THIS DRAWING IS A REDUCTION, GRAPHIC SCALE MUST BE USED.



DATE	APPR
DESCRIPTION	
SYN	
<b>BFA</b>	
BOWMAN, FOSTER & ASSOC. CONSULTING ENGINEERS #4 INTERSTATE CORP. CENTER NORFOLK, VA 23502 2424 26TH ROAD SOUTH ARLINGTON, VA 22206	
APPROVED	
ACTIVITY - SATISFACTORY TO	
DATE	
APPROVED	
FOR EFD FOR COMMANDER NAVFAC	
DATE	
A/E	EFD
CML	DESIGN
KLB	DRAWN
JDH	REVIEW
SGR	OC
SGR	CHIEF ARCH/ ENGR.
PROJECT MANAGER	PEC
FIRE PROTECTION	SAH
BRANCH MANAGER	PEC
DESIGN DIRECTOR	JEF
NAVAL FACILITIES ENGINEERING COMMAND MARINE CORPS AIR STATION, CHERRY POINT, N.C. <b>FACILITIES ENERGY REPAIRS,          BUILDING 131</b> PARTIAL FIRST FLOOR PIPING PLAN - NEW WORK	
CODE ID. NO. 80091	SIZE 0
SCALE: AS SHOWN	
FED. PROJ. NO. WFG059407	
STA. PROJ. NO. CP12024M/CP12024R	
SPEC. NO.	
CONSTR. CONTR. NO.	
NAVFAC DRAWING NO.	
12618431	
SHEET 69 OF 124	
<b>M-109</b>	
DRAWING REVISION JULY 2003	



**GENERAL NOTES (THIS SHEET ONLY)**

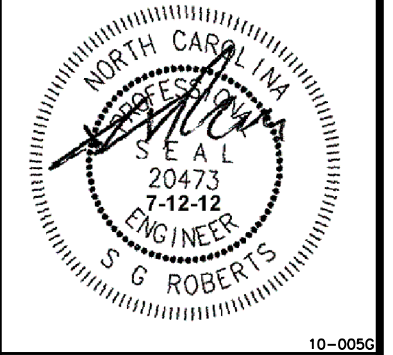
1. HANGER BAY MECHANICAL EQUIPMENT AND EXPOSED CHILLED AND HOT WATER PIPING SHALL BE INSTALLED NO LOWER THAN THE BOTTOM CHORD OF THE EXISTING ROOF TRUSSES FOR CLEARANCE OF AVIATION EQUIPMENT. BOTTOM OF EXISTING ROOF TRUSSES IS APPROXIMATELY 32' AFF.

**CONSTRUCTION NOTES (THIS SHEET ONLY)**

1. SEE "VAV TERMINAL UNIT DETAIL", A2/M-503.
2. SEE "VERTICAL HOT WATER UNIT HEATER", A2/M-502 FOR THE HIGH BAY AREAS. COORDINATE LOCATION WITH SOLAR TUBES AND EXISTING TRUSSES.
3. SUPPORT ALL PIPING VIA HANGERS. SEE "PIPING HANGER DETAIL", A5/M-502.
4. ROUTE PIPING UP THRU ROOF CURB TO RTU-2. FOR COIL CONNECTION, SEE "COIL PIPING DETAIL", C2/M-503.
5. SEE SHEET M-115 FOR CONTINUATION OF WORK.

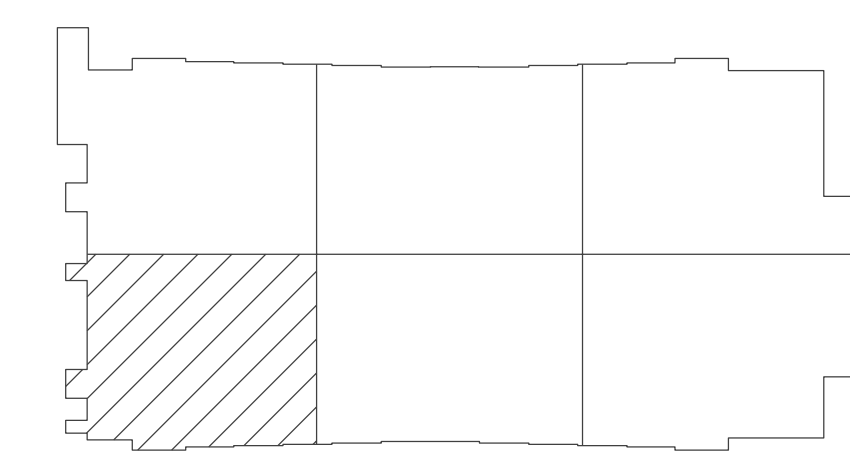
DATE	APPROVED	DESCRIPTION

**Bowman, Foster & Assoc.**  
CONSULTING ENGINEERS  
#4 INTERSTATE CORP. CENTER  
NORFOLK, VA 23502  
2424 26th ROAD SOUTH  
ARLINGTON, VA 22206



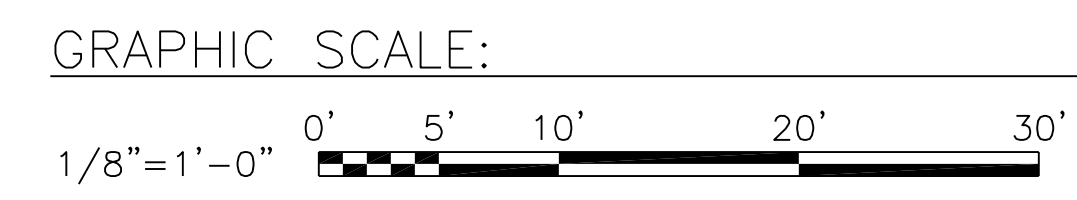
APPROVED		10-0000
ACTIVITY - SATISFACTORY TO		
DATE		
APPROVED		
FOR EFD FOR COMMANDER NAVFAC		
DATE		
A/E	DESIGN	EFD
CML		
KLB	DRAWN	
JDH	REVIEW	
SGR	OC	
SGR	CHEF ARCH/ ENGR.	
PROJECT MANAGER	PEC	
FIRE PROTECTION	SAH	
BRANCH MANAGER	PEC	
DESIGN DIRECTOR	JEF	

SEE SHEET M-112 FOR CONTINUATION



**KEY PLAN**  
NO SCALE

NOTE: IF THIS DRAWING IS A REDUCTION, GRAPHIC SCALE MUST BE USED.

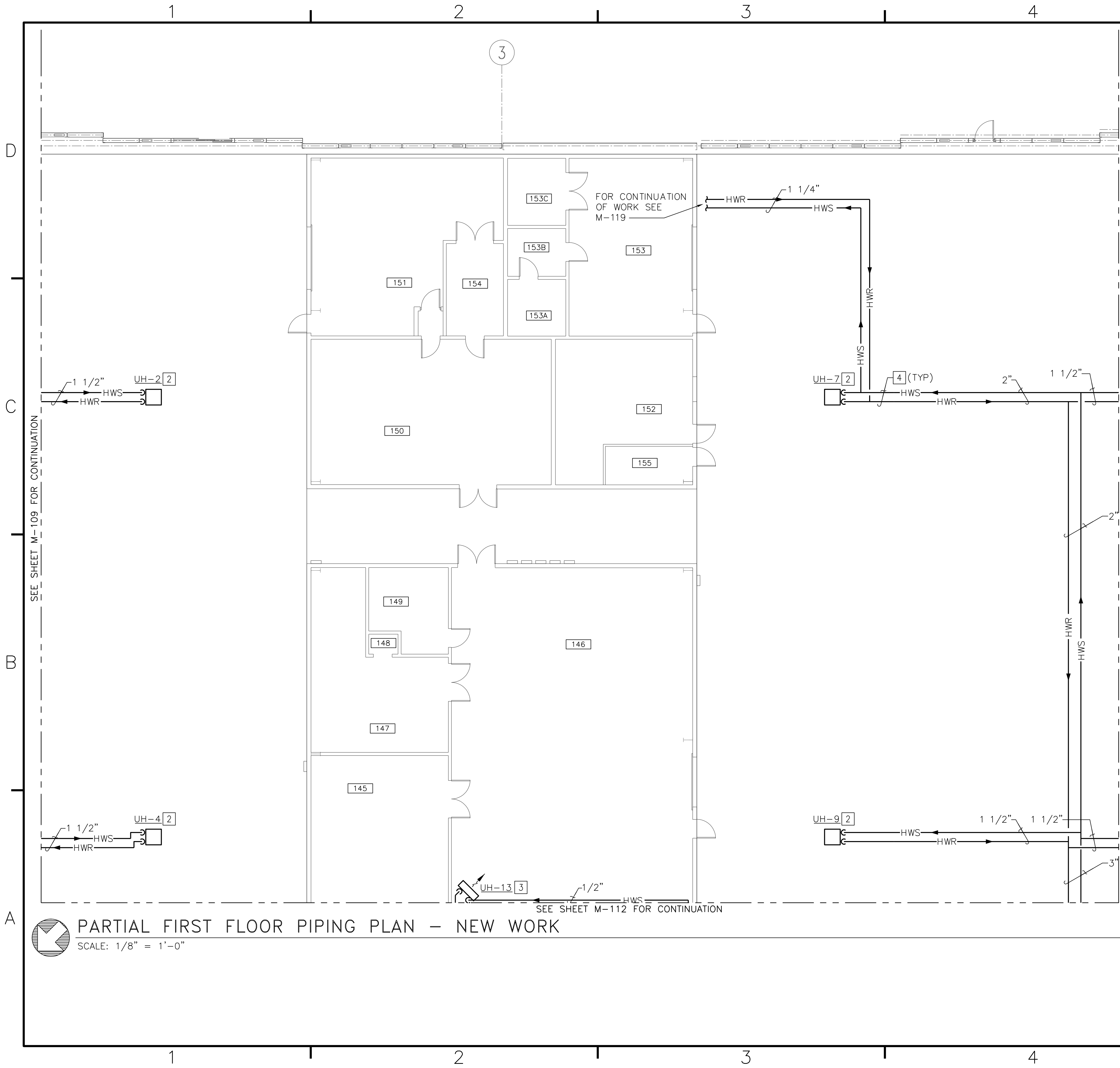


**PARTIAL FIRST FLOOR PIPING PLAN - NEW WORK**  
SCALE: 1/8" = 1'-0"

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DEPARTMENT OF THE NAVY  
NAVAL FACILITIES ENGINEERING COMMAND  
MARINE CORPS AIR STATION, CHERRY POINT, N.C.  
**FACILITIES ENERGY REPAIRS, BUILDING 131**  
PARTIAL FIRST FLOOR PIPING PLAN - NEW WORK  
M-110  
NAVAC DRAWING NO. 12618432  
SHEET 70 OF 124  
DRAWN/REVISED: JULY 2003

BFA File Name G:\2010\10-0050 B-131 ENERGY\SUBMITTALS\FINAL SUBMITTAL 7-12-12\BOUND CAD\12618433.dwg Plot Date: Jul 11, 2012 - 1:02pm Lost Saved By: kbennett



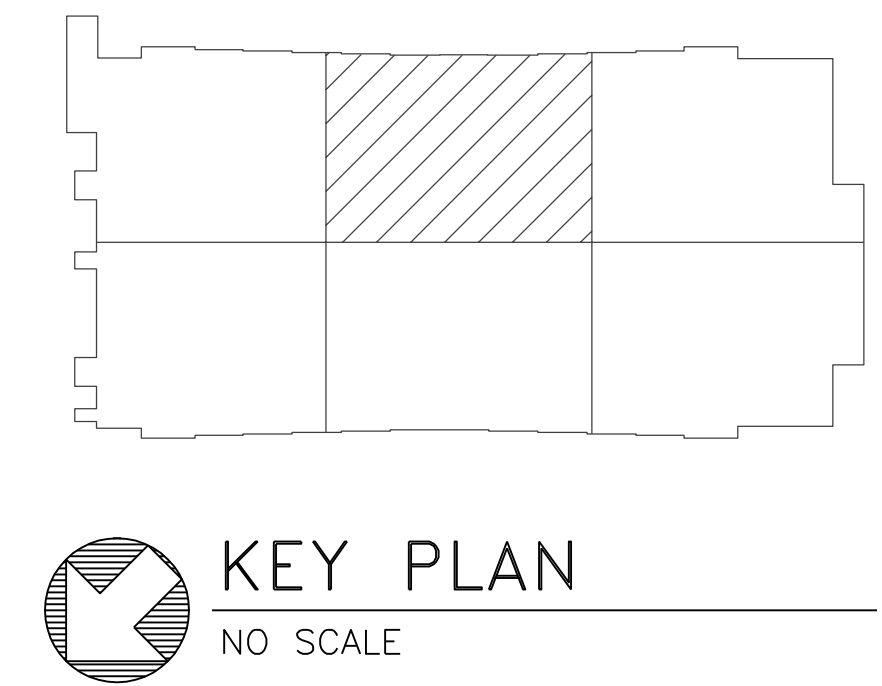
**PARTIAL FIRST FLOOR PIPING PLAN - NEW WORK**  
 SCALE: 1/8" = 1'-0"

**GENERAL NOTES (THIS SHEET ONLY)**

- 1. HANGER BAY MECHANICAL EQUIPMENT AND EXPOSED CHILLED AND HOT WATER PIPING SHALL BE INSTALLED NO LOWER THAN THE BOTTOM CHORD OF THE EXISTING ROOF TRUSSES FOR CLEARANCE OF AVIATION EQUIPMENT. BOTTOM OF EXISTING ROOF TRUSSES IS APPROXIMATELY 32' AFF.

**CONSTRUCTION NOTES (THIS SHEET ONLY)**

- [1] SEE "COIL PIPING DETAIL", C2/M-503.
- [2] SEE "VERTICAL HOT WATER UNIT HEATER", A2/M-502 FOR THE HIGH BAY AREAS. COORDINATE LOCATION WITH SOLAR TUBES AND EXISTING TRUSSES.
- [3] SEE "HORIZONTAL HOT WATER HEATER", C4/M-503 FOR THE HIGH BAY AREAS.
- [4] SUPPORT ALL PIPING VIA HANGERS. SEE "PIPING HANGER DETAIL", A5/M-502.



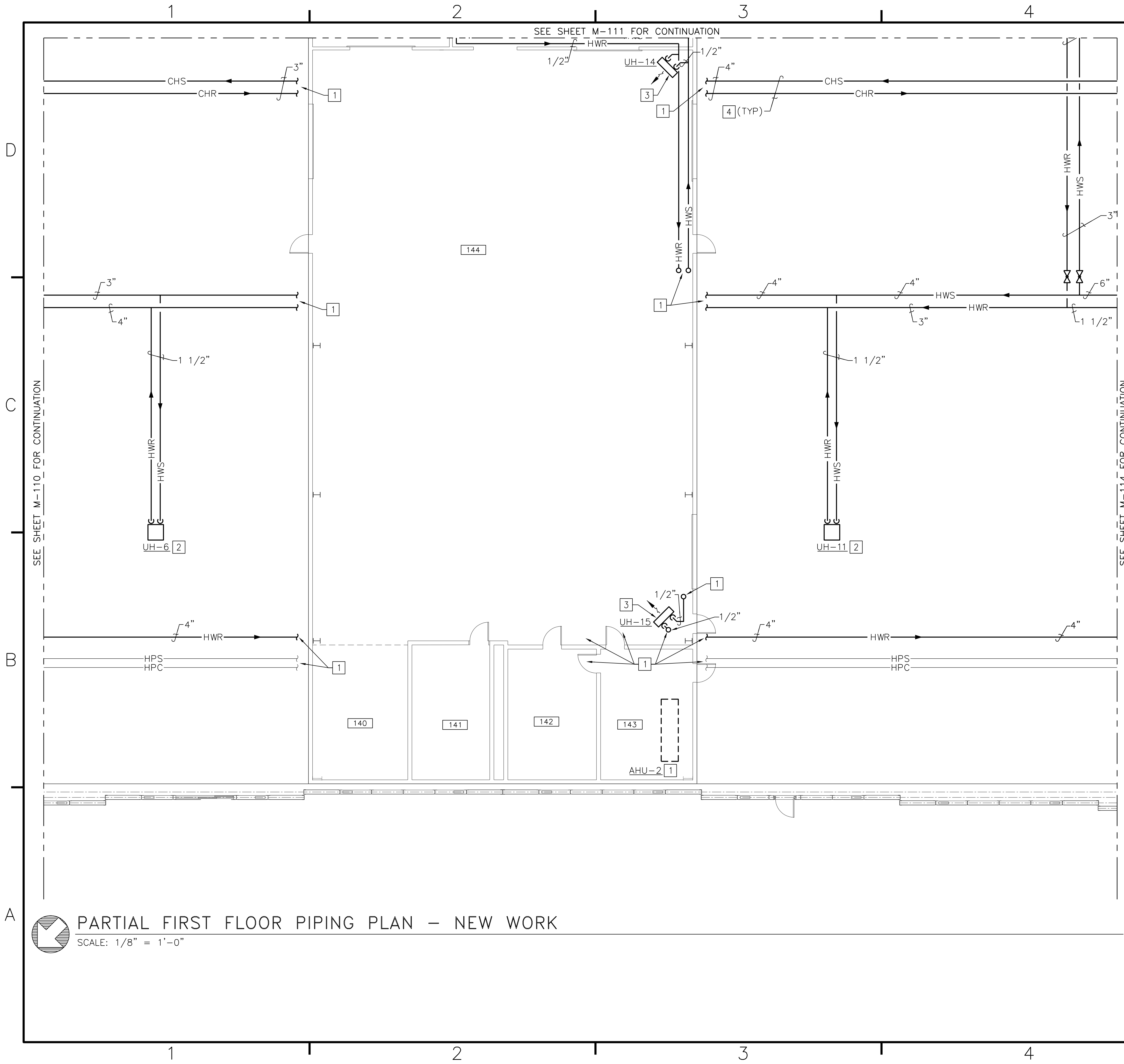
NOTE: IF THIS DRAWING IS A REDUCTION, GRAPHIC SCALE MUST BE USED.

GRAPHIC SCALE:  
 1/8"=1'-0" 0' 5' 10' 20' 30'

<b>APPROVED</b>									
ACTIVITY - SATISFACTORY TO									
DATE									
APPROVED									
FOR EFD FOR COMMANDER NAVFAC									
DATE									
A/E	DESIGN	EFD							
CML	DRAWN								
KLB	REVIEW								
JDH	OC								
SGR	ARCH/ ENGR.								
SGR	PFC								
PROJECT MANAGER		SAH							
FIRE PROTECTION		PFC							
BRANCH MANAGER		JEF							
DESIGN DIRECTOR									
DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND MARINE CORPS AIR STATION, CHERRY POINT, N.C. <b>FACILITIES ENERGY REPAIRS,                  BUILDING 131</b> PARTIAL FIRST FLOOR PIPING PLAN - NEW WORK									
CODE ID. NO. B0091		SIZE 0							
SCALE: AS SHOWN									
FED. PROJ. NO. WR6059407									
STA. PROJ. NO. CP12024M/CP12024R									
SPEC. NO.									
CONSTR. CONTR. NO.									
NAVFAC DRAWING NO. 12618433									
SHEET 71 OF 124									
<b>M-111</b>									
DRAWING REVISION JULY 2003									



BFA File: G:\2010\10-0050 B-131 ENERGY\SUBMITTALS\FINAL SUBMITTAL 7-12-12\BOUND CAD\12618434.dwg Plot Date: Jul 11, 2012 - 1:01pm Last Saved By: kbennett



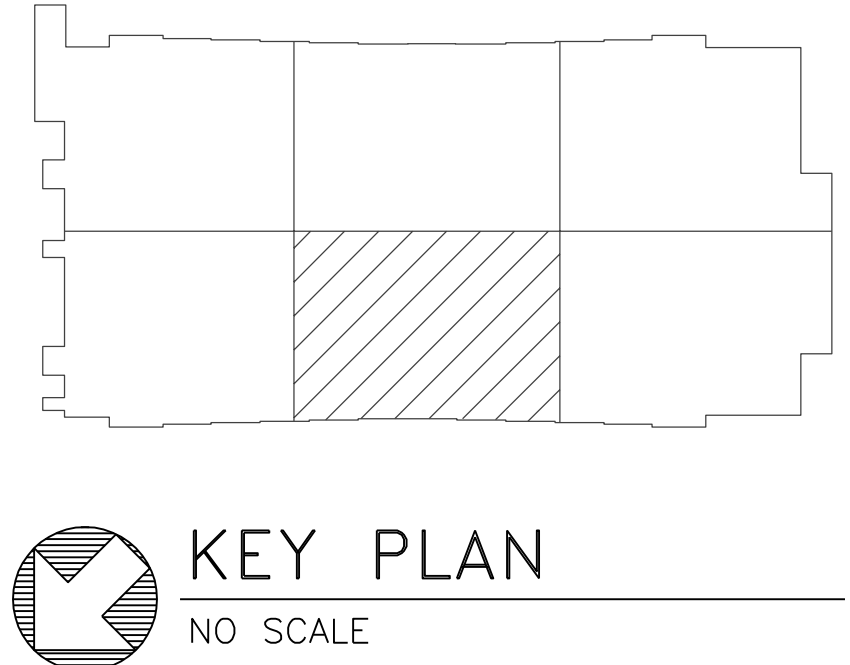
GENERAL NOTES (THIS SHEET ONLY)

- 1. HANGER BAY MECHANICAL EQUIPMENT AND EXPOSED CHILLED AND HOT WATER PIPING SHALL BE INSTALLED NO LOWER THAN THE BOTTOM CHORD OF THE EXISTING ROOF TRUSSES FOR CLEARANCE OF AVIATION EQUIPMENT. BOTTOM OF EXISTING ROOF TRUSSES IS APPROXIMATELY 32' AFF.

CONSTRUCTION NOTES (THIS SHEET ONLY)

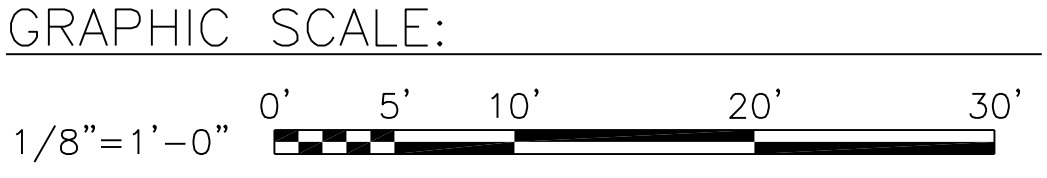
- 1] FOR CONTINUATION OF WORK SEE SHEET M-119.
- 2] SEE "VERTICAL HOT WATER HEATER", A2/M-502 FOR THE HIGH BAY AREAS. COORDINATE LOCATION WITH SOLAR TUBES AND EXISTING TRUSSES.
- 3] SEE "HORIZONTAL HOT WATER UNIT HEATER", C4/M-503 FOR THE HIGH BAY AREAS.
- 4] SUPPORT ALL PIPING VIA HANGERS. SEE "PIPING HANGER DETAIL", A5/M-502.

PARTIAL FIRST FLOOR PIPING PLAN - NEW WORK SCALE: 1/8" = 1'-0"



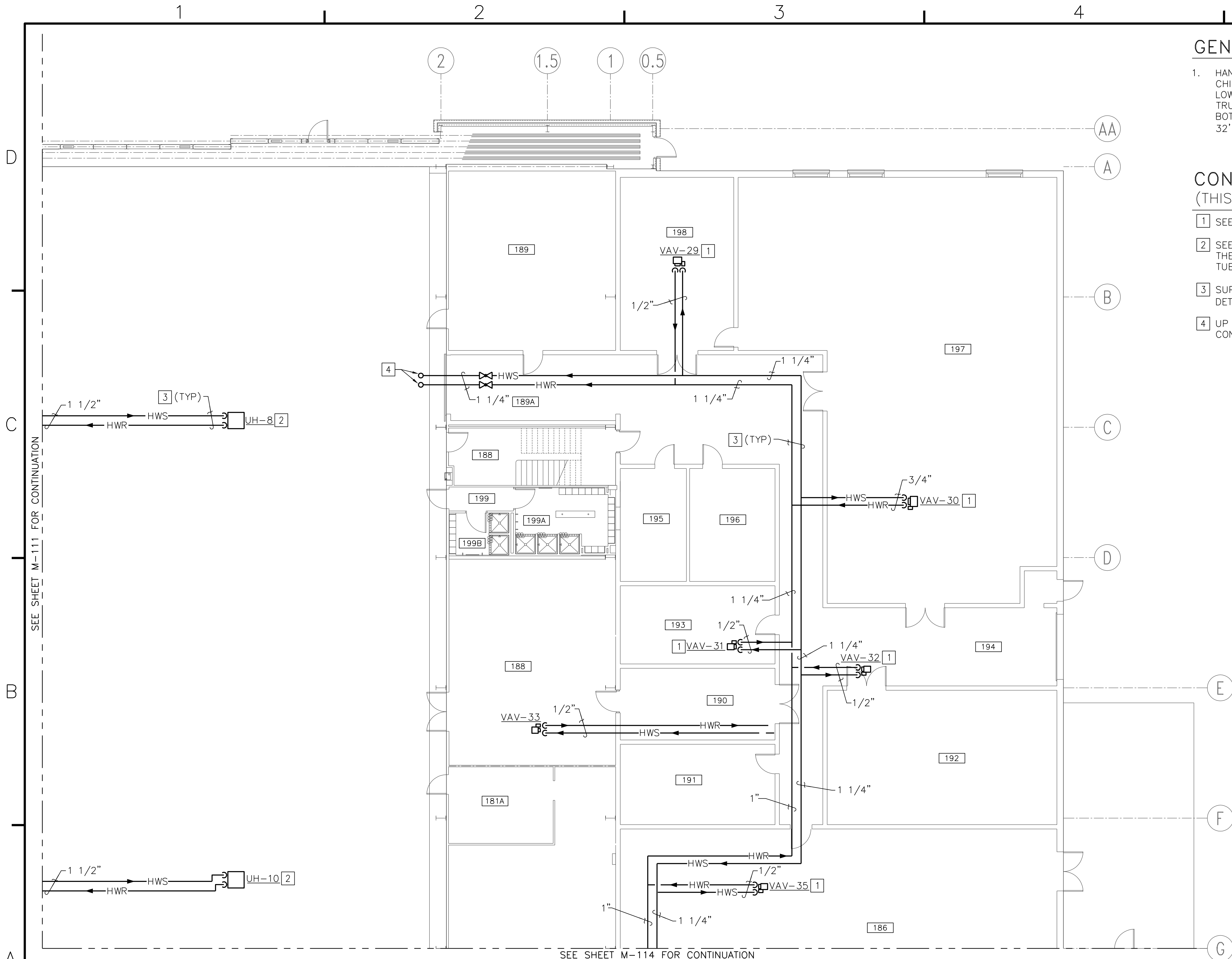
KEY PLAN NO SCALE

NOTE: IF THIS DRAWING IS A REDUCTION, GRAPHIC SCALE MUST BE USED.



Approval table with columns for DATE and DESCRIPTION. Includes project title: FACILITIES ENERGY REPAIRS, BUILDING 131, PARTIAL FIRST FLOOR PIPING PLAN - NEW WORK. Includes project manager and design director names. Includes drawing number M-112 and sheet number 72 OF 124.

BFA File Name G:\2010\10-0050 B-131 ENERGY\SUBMITTALS\FINAL SUBMITTAL 7-12-12\BOUND CAD\12618435.dwg Plot Date: Jul 11, 2012 - 1:01pm Last Saved By: kbennett

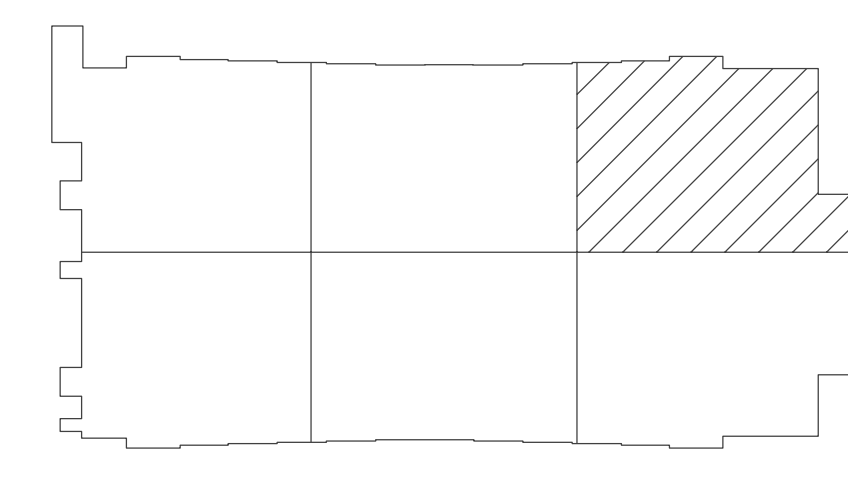


**GENERAL NOTES (THIS SHEET ONLY)**

1. HANGER BAY MECHANICAL EQUIPMENT AND EXPOSED CHILLED AND HOT WATER PIPING SHALL BE INSTALLED NO LOWER THAN THE BOTTOM CHORD OF THE EXISTING ROOF TRUSSES FOR CLEARANCE OF AVIATION EQUIPMENT. BOTTOM OF EXISTING ROOF TRUSSES IS APPROXIMATELY 32' AFF.

**CONSTRUCTION NOTES (THIS SHEET ONLY)**

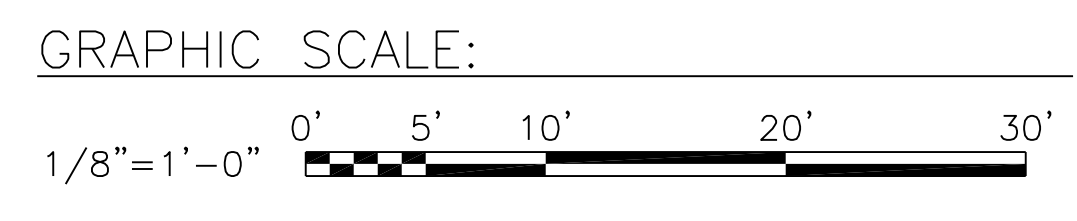
1. SEE "VAV TERMINAL UNIT DETAIL", A2/M-503.
2. SEE "VERTICAL HOT WATER UNIT HEATER", A2/M-502 FOR THE HIGH BAY AREAS. COORDINATE LOCATION WITH SOLAR TUBES AND EXISTING TRUSSES.
3. SUPPORT ALL PIPING VIA HANGERS. SEE "PIPING HANGER DETAIL", A5/M-502.
4. UP TO SECOND FLOOR, SEE SHEET M-116 FOR CONTINUATION OF WORK.



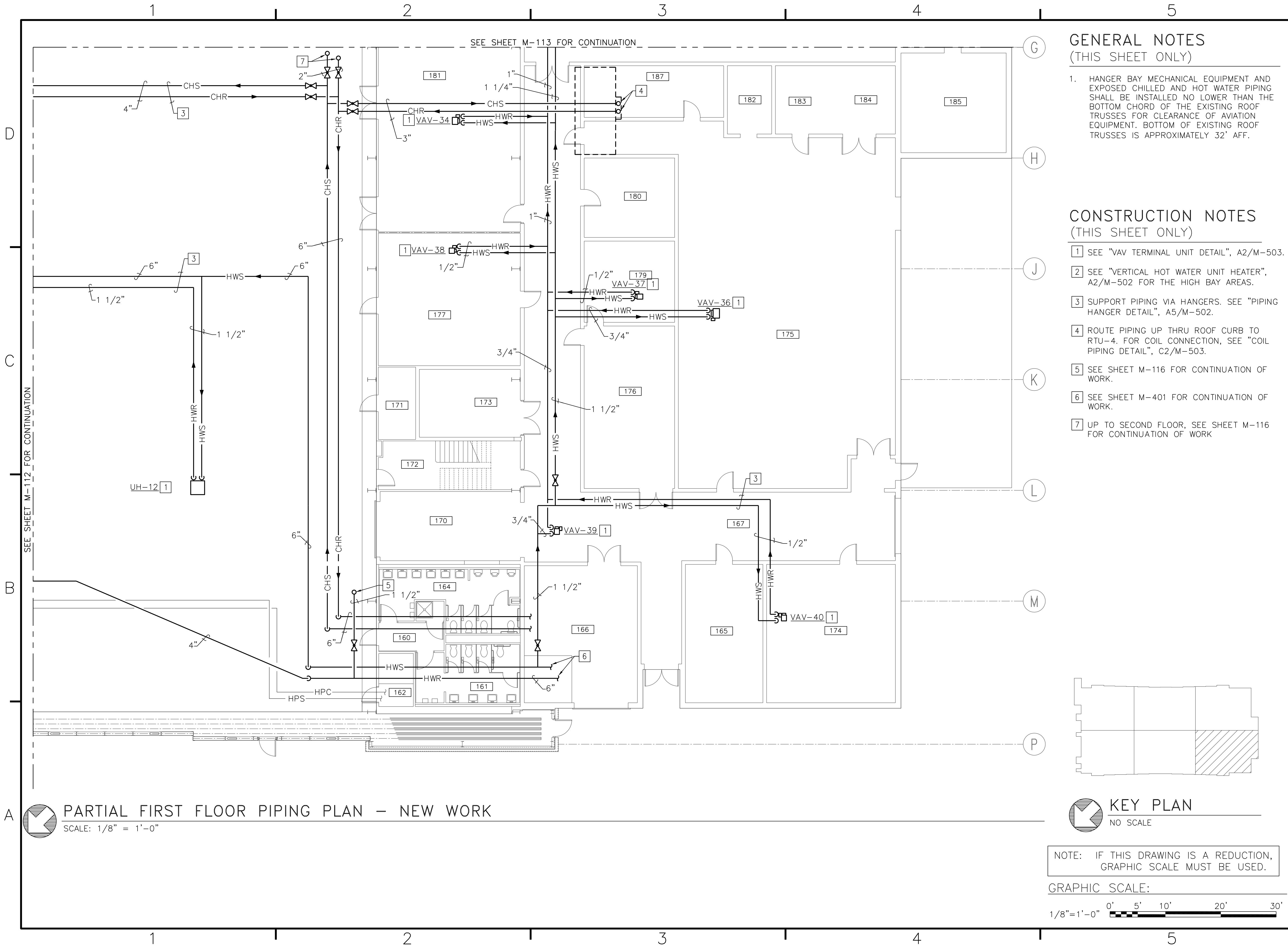
**KEY PLAN**  
NO SCALE

**PARTIAL FIRST FLOOR PIPING PLAN - NEW WORK**  
SCALE: 1/8" = 1'-0"

NOTE: IF THIS DRAWING IS A REDUCTION, GRAPHIC SCALE MUST BE USED.



DATE	APPROVED
DESCRIPTION	SYMBOL
BOWMAN, FOSTER & ASSOC. CONSULTING ENGINEERS #4 INTERSTATE CORP. CENTER NORFOLK, VA 23502 2424 26th ROAD SOUTH ARLINGTON, VA 22206	
APPROVED	10-0050
ACTIVITY - SATISFACTORY TO	
DATE	APPROVED
FOR EFD FOR COMMANDER NAVFAC	
DATE	
A/E	DESIGN
CML	EFD
KLB	DRAWN
JDH	REVIEW
SGR	OC
SGR	CHEF ARCH/ ENGR.
PROJECT MANAGER	PEC
FIRE PROTECTION	SAH
BRANCH MANAGER	PEC
DESIGN DIRECTOR	JEF
DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND MARINE CORPS AIR STATION, CHERRY POINT, N.C.	
<b>FACILITIES ENERGY REPAIRS,                  BUILDING 131</b>	
PARTIAL FIRST FLOOR PIPING PLAN - NEW WORK	
CODE ID. NO. B0091	SIZE 0
SCALE: AS SHOWN	
FED. NO. WR6059407	
STA. PROJ. NO. CP12024M/CP12024R	
SPEC. NO.	
CONSTR. CONTR. NO.	
NAVFAC DRAWING NO.	12618435
SHEET 73 OF 124	
<b>M-113</b>	
DRAWING REVISION JULY 2003	



**GENERAL NOTES**  
(THIS SHEET ONLY)

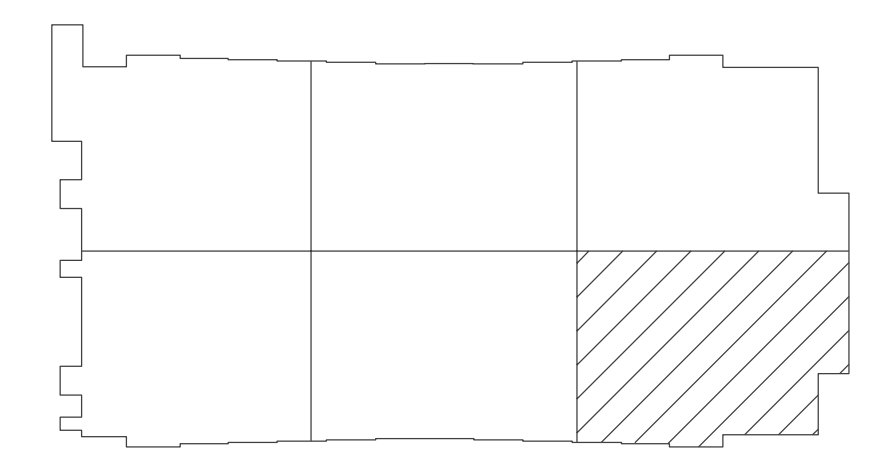
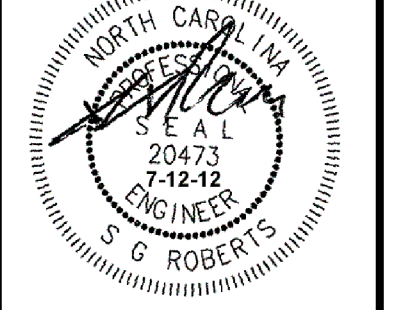
1. HANGER BAY MECHANICAL EQUIPMENT AND EXPOSED CHILLED AND HOT WATER PIPING SHALL BE INSTALLED NO LOWER THAN THE BOTTOM CHORD OF THE EXISTING ROOF TRUSSES FOR CLEARANCE OF AVIATION ROOF EQUIPMENT. BOTTOM OF EXISTING ROOF TRUSSES IS APPROXIMATELY 32' AFF.

**CONSTRUCTION NOTES**  
(THIS SHEET ONLY)

- 1 SEE "VAV TERMINAL UNIT DETAIL", A2/M-503.
- 2 SEE "VERTICAL HOT WATER UNIT HEATER", A2/M-502 FOR THE HIGH BAY AREAS.
- 3 SUPPORT PIPING VIA HANGERS. SEE "PIPING HANGER DETAIL", A5/M-502.
- 4 ROUTE PIPING UP THRU ROOF CURB TO RTU-4. FOR COIL CONNECTION, SEE "COIL PIPING DETAIL", C2/M-503.
- 5 SEE SHEET M-116 FOR CONTINUATION OF WORK.
- 6 SEE SHEET M-401 FOR CONTINUATION OF WORK.
- 7 UP TO SECOND FLOOR, SEE SHEET M-116 FOR CONTINUATION OF WORK.

<b>APPROVED</b>							
ACTIVITY - SATISFACTORY TO							
DATE							
APPROVED							
FOR EFD FOR COMMANDER NAVFAC							
DATE							
A/E	DESIGN	EFD					
CML	KLB	JDH					
SGR	OC	SGR					
SGR	OC	SGR					
PROJECT MANAGER	ARCH/ENGR.						
PCF	SAH						
FIRE PROTECTION	PCF						
BRANCH MANAGER	JEF						
DESIGN DIRECTOR	JEF						
DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND MARINE CORPS AIR STATION, CHERRY POINT, N.C. <b>FACILITIES ENERGY REPAIRS,                  BUILDING 131</b> PARTIAL FIRST FLOOR PIPING PLAN - NEW WORK							
CODE ID. NO. B0091   SIZE 0							
SCALE: AS SHOWN							
FED. PROJ. NO. W6059407							
STA. PROJ. NO. CP12024M/CP12024R							
SPEC. NO.							
CONSTR. CONTR. NO.							
NAVFAC DRAWING NO. 12618436							
SHEET 74 OF 124							
<b>M-114</b>							

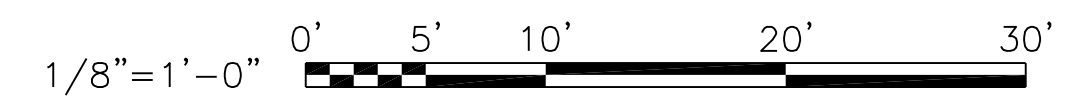
**Bowman, Foster & Assoc.**  
CONSULTING ENGINEERS  
#4 INTERSTATE CORP. CENTER  
NORFOLK, VA 23502  
2424 26th ROAD SOUTH  
ARLINGTON, VA 22206



**KEY PLAN**  
NO SCALE

NOTE: IF THIS DRAWING IS A REDUCTION, GRAPHIC SCALE MUST BE USED.

GRAPHIC SCALE:

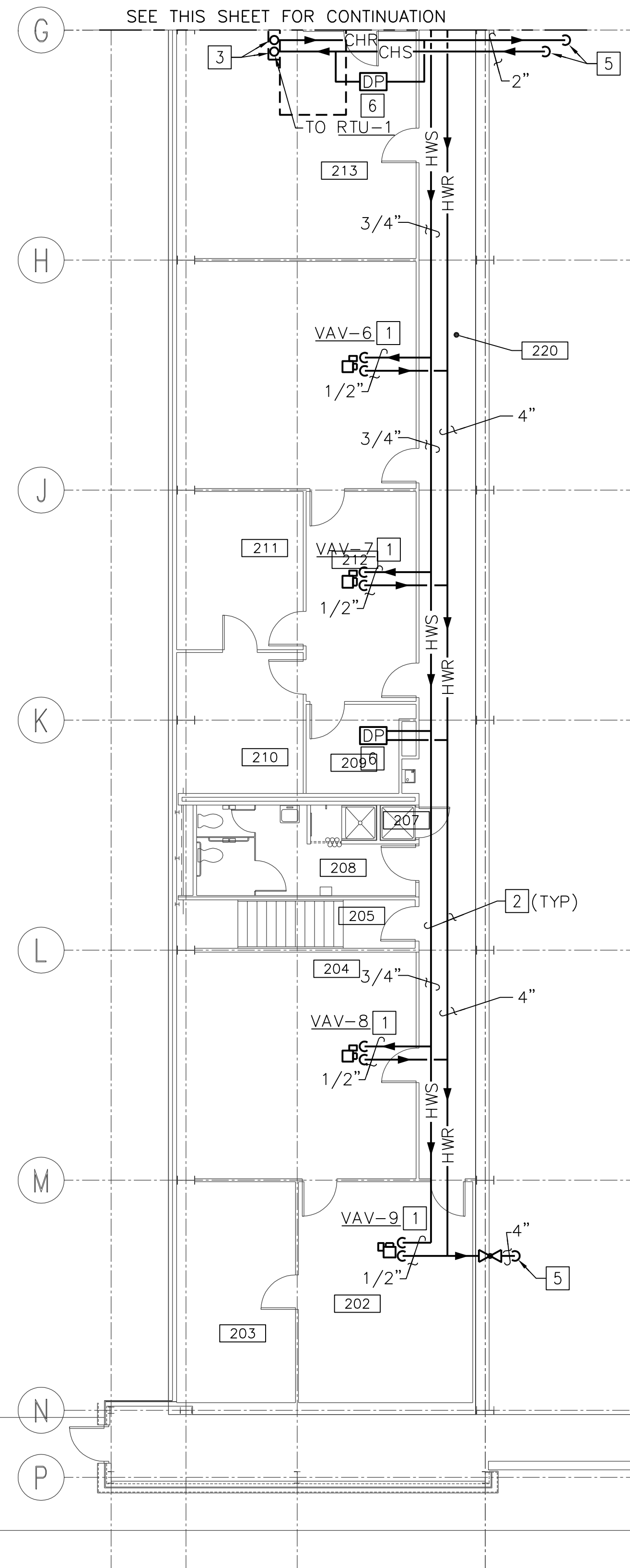
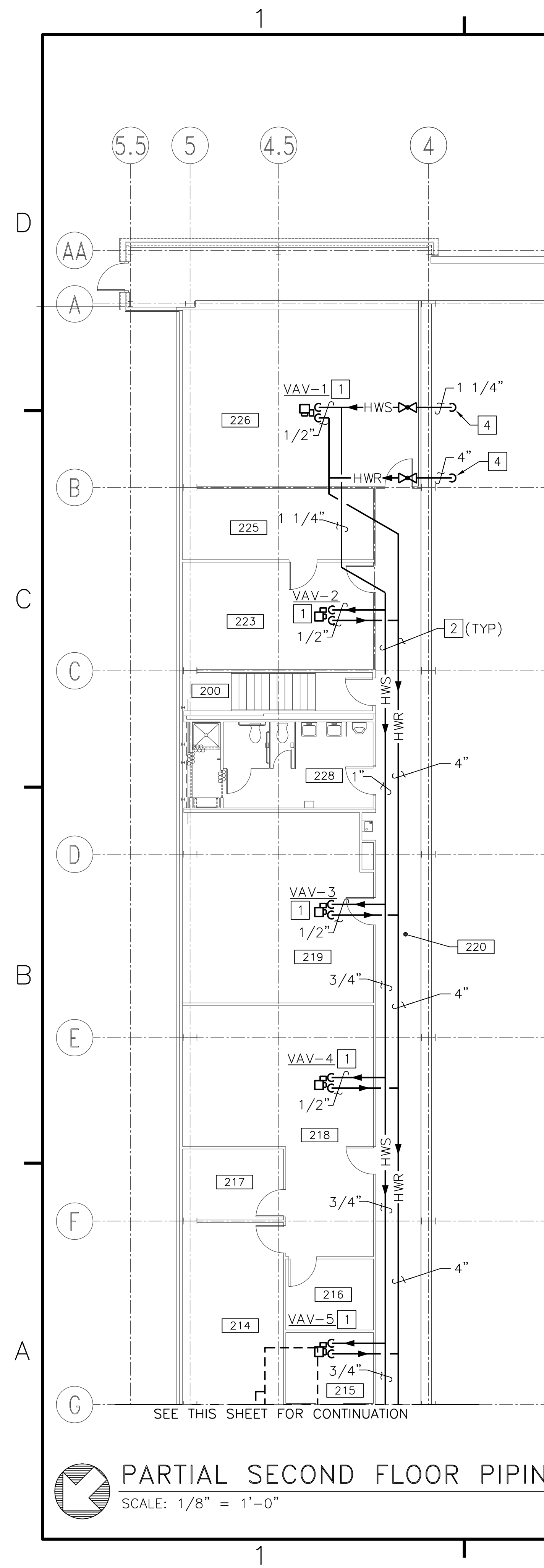


**PARTIAL FIRST FLOOR PIPING PLAN - NEW WORK**

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



BFA File name G:\2010\10-0050 B-131 ENERGY\SUBMITTALS\FINAL SUBMITTAL 7-12-12\BOUND CAD\12618437.dwg Plot Date: Jul 11, 2012 - 1:00pm Lost Saved By: kbennett

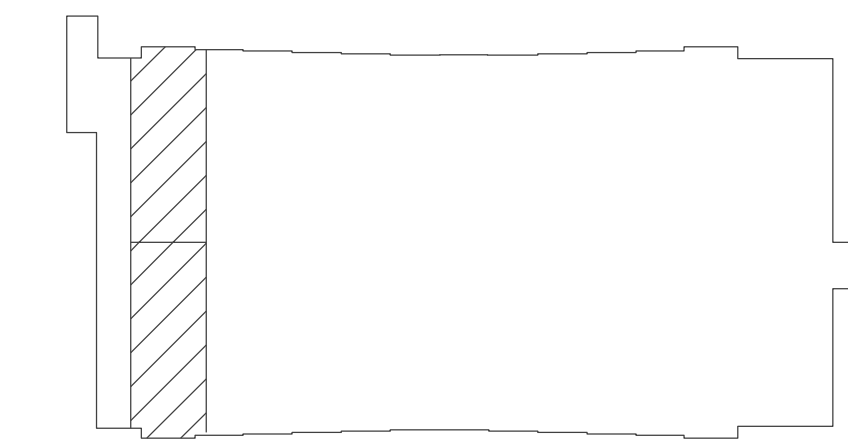


### GENERAL NOTES (THIS SHEET ONLY)

1. ROUTE CHILLED AND HOT WATER PIPING ABOVE LAY IN CEILING SPACE.

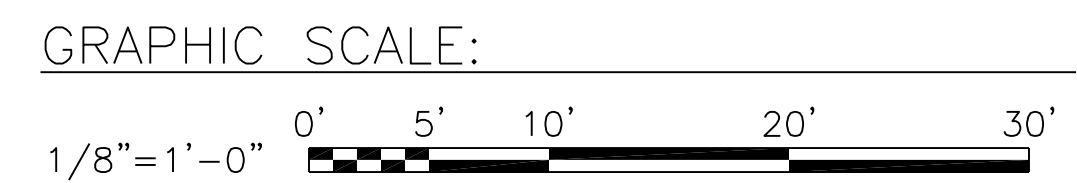
### CONSTRUCTION NOTES (THIS SHEET ONLY)

- 1 SEE "VAV TERMINAL UNIT DETAIL", A2/M-503.
- 2 SUPPORT PIPING WITH HANGERS. SEE "PIPING HANGER DETAIL", A5/M-502.
- 3 ROUTE PIPING UP THRU ROOF CURB TO RTU-1. FOR COIL CONNECTION SEE "COIL PIPING DETAIL", C2/M-503.
- 4 SEE SHEET M-109 FOR CONTINUATION OF WORK.
- 5 SEE SHEET M-110 FOR CONTINUATION OF WORK.
- 6 PROVIDE DIFFERENTIAL PRESSURE SENSOR. SEE "DIFFERENTIAL PRESSURE SENSOR DETAIL", D5/M-505.


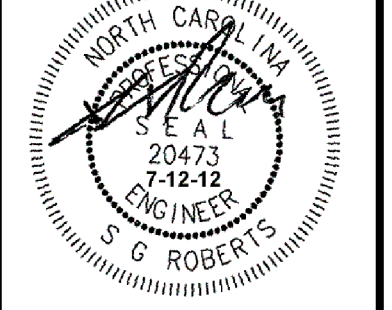


**KEY PLAN**  
NO SCALE

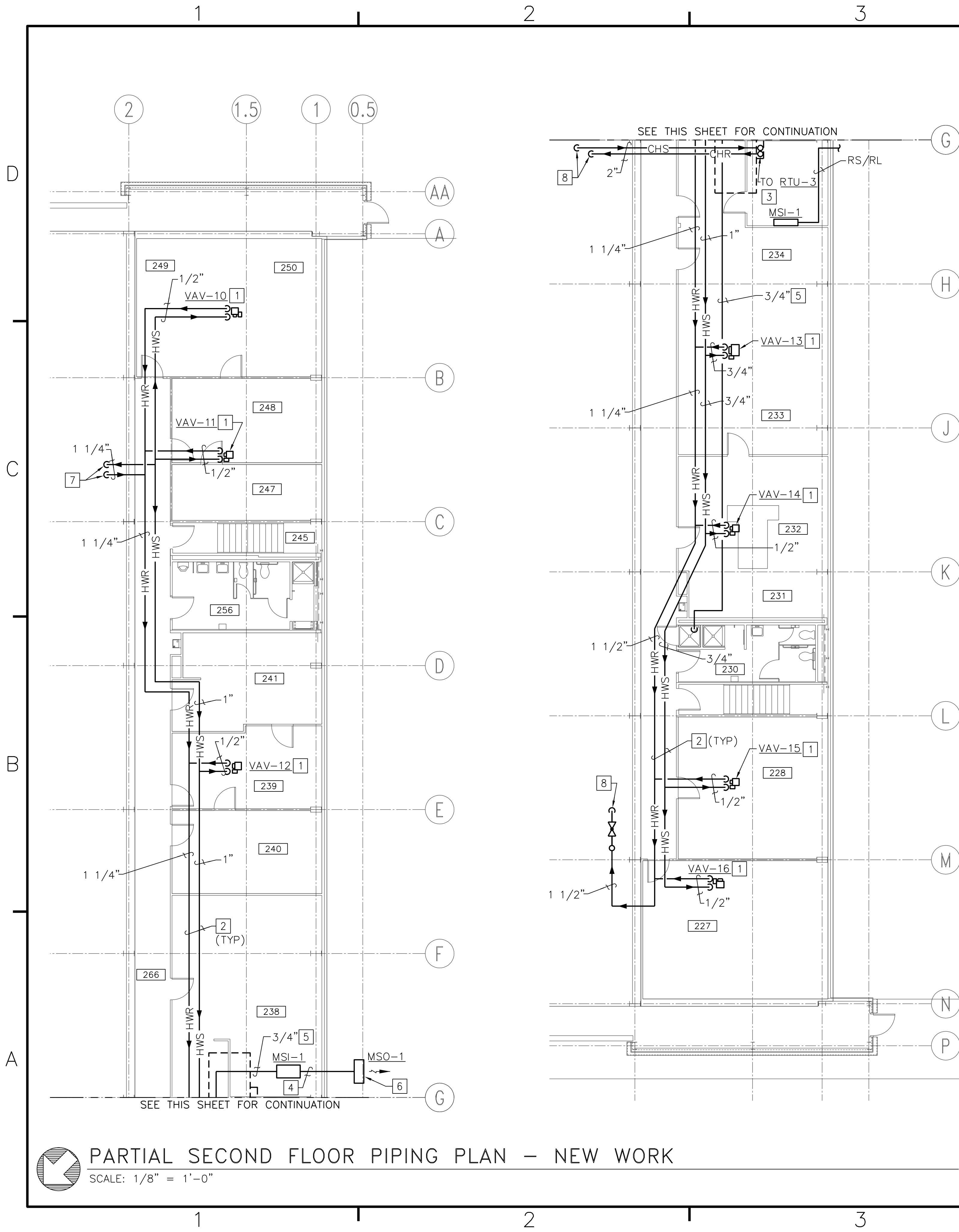
NOTE: IF THIS DRAWING IS A REDUCTION, GRAPHIC SCALE MUST BE USED.



**PARTIAL SECOND FLOOR PIPING PLAN - NEW WORK**  
SCALE: 1/8" = 1'-0"

DATE	APPR
DESCRIPTION	SYN
 BOWMAN, FOSTER & ASSOC. CONSULTING ENGINEERS #4 INTERSTATE CORP. CENTER NORFOLK, VA 23502 2424 26th ROAD SOUTH ARLINGTON, VA 22206	
 NORTH CAROLINA PROFESSIONAL ENGINEER G. ROBERTS	
APPROVED	10-0000
ACTIVITY - SATISFACTORY TO	
DATE	
APPROVED	
FOR EFD FOR COMMANDER NAVFAC	
DATE	
A/E	DESIGN
CML	
KLB	DRAWN
JDH	REVIEW
SGR	OC
SGR	CHEF ARCH/ENGR.
PROJECT MANAGER	PEC
FIRE PROTECTION	SAH
BRANCH MANAGER	PEC
DESIGN DIRECTOR	JEF
DEPARTMENT OF THE NAVY	
NAVAL FACILITIES ENGINEERING COMMAND	
MARINE CORPS AIR STATION, CHERRY POINT, N.C.	
<b>FACILITIES ENERGY REPAIRS, BUILDING 131</b>	
PARTIAL SECOND FLOOR PIPING PLAN - NEW WORK	
CODE ID. NO. 80091	SIZE 0
SCALE:	AS SHOWN
FED. PROJ. NO. WRF6059407	
STA. PROJ. NO. CP12024M/CP12024R	
SPEC. NO.	
CONSTR. CONTR. NO.	
NAVFAC DRAWING NO.	12618437
SHEET	75 OF 124
<b>M-115</b>	
DRAWING REVISION: JULY 2003	

BFA Filename G:\2010\10-0050 B-131 ENERGY\SUBMITTALS\FINAL SUBMITTAL 7-12-12\BOUND CAD\12618438.dwg Plot Date: Jul 11, 2012 - 12:59pm Lost Saved By: kbennett

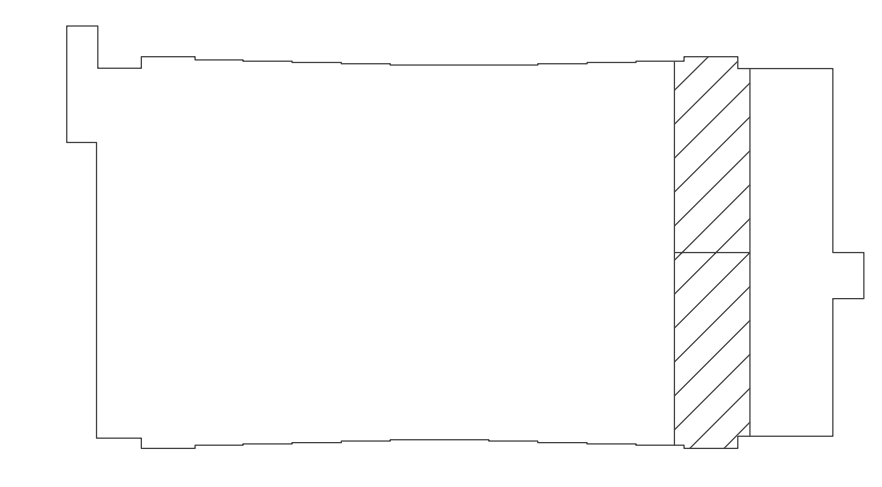


**GENERAL NOTES (THIS SHEET ONLY)**

- ROUTE CHILLED AND HOT WATER PIPING ABOVE LAY IN CEILING SPACE.

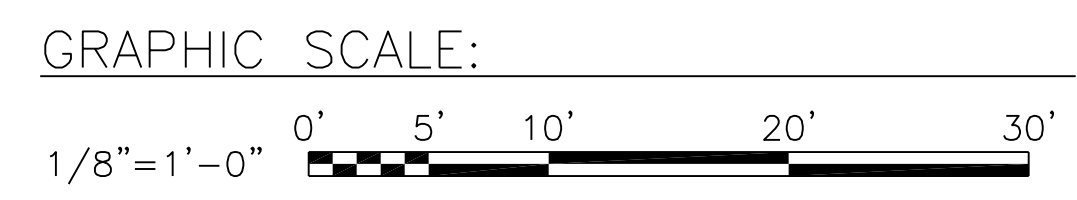
**CONSTRUCTION NOTES (THIS SHEET ONLY)**

- SEE "VAV TERMINAL UNIT DETAIL", A2/M-503.
- SUPPORT PIPING WITH HANGERS. SEE "PIPING HANGER DETAIL", A5/M-502.
- ROUTE PIPING UP THRU ROOF CURB TO RTU-3. FOR COIL CONNECTION SEE "COIL PIPING DETAIL", C2/M-503.
- SEE "DUCTLESS SPLIT SYSTEM DETAIL", A2/M-501. MOUNT INDOOR UNIT 6' AFF.
- ROUTE CONDENSATE DRAIN TO NEAREST MOP SINK.
- INSTALL CONDENSING UNIT ON ROOF.
- SEE SHEET M-113 FOR CONTINUATION OF WORK.
- SEE SHEET M-114 FOR CONTINUATION OF WORK.



**KEY PLAN**  
NO SCALE

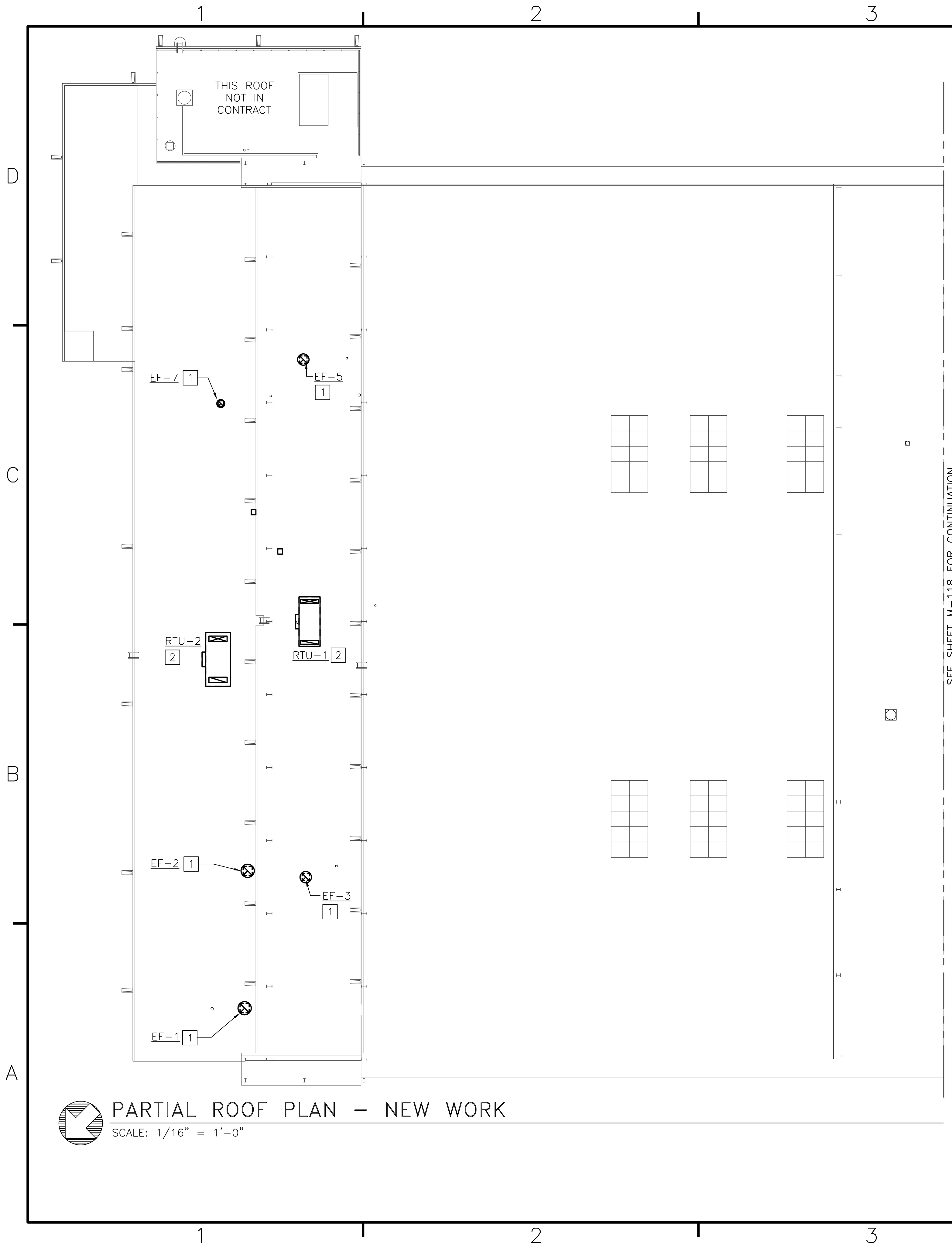
NOTE: IF THIS DRAWING IS A REDUCTION, GRAPHIC SCALE MUST BE USED.



**PARTIAL SECOND FLOOR PIPING PLAN - NEW WORK**  
SCALE: 1/8" = 1'-0"

DATE	APPR	
DESCRIPTION		
SYMBOL		
BOWMAN, FOSTER & ASSOC. CONSULTING ENGINEERS #4 INTERSTATE CORP. CENTER NORFOLK, VA 23502 2424 26th ROAD SOUTH ARLINGTON, VA 22206		
APPROVED	10-0050	
ACTIVITY - SATISFACTORY TO		
DATE		
APPROVED		
FOR EFD FOR COMMANDER NAVFAC		
DATE		
A/E	DESIGN	EFD
CML	DRAWN	
KLB	REVIEW	
JDH	OC	
SGR	CHIEF ARCH/ ENGR.	
SGR	PROJECT MANAGER	PEC
	FIRE PROTECTION	SAH
	BRANCH MANAGER	PEC
	DESIGN DIRECTOR	JEF
DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND MARINE CORPS AIR STATION, CHERRY POINT, N.C. <b>FACILITIES ENERGY REPAIRS,                  BUILDING 131</b> PARTIAL SECOND FLOOR PIPING PLAN - NEW WORK		
CODE ID. NO. 80091	SIZE 0	
SCALE:	AS SHOWN	
FED. PROJ. NO. WR6059407		
STA. PROJ. NO. CP12024M/CP12024R		
SPEC. NO.		
CONSTR. CONTR. NO.		
NAVFAC DRAWING NO.	12618438	
SHEET	76 OF 124	
<b>M-116</b>		
DRAWING REVISION JULY 2003		

BFA File Name G:\2010\10-0050 B-131 ENERGY\SUBMITTALS\FINAL SUBMITTAL 7-12-12\BOUND CAD\12618439.dwg Plot Date: Jul 11, 2012 - 12:59pm Lost Saved By: kbennett



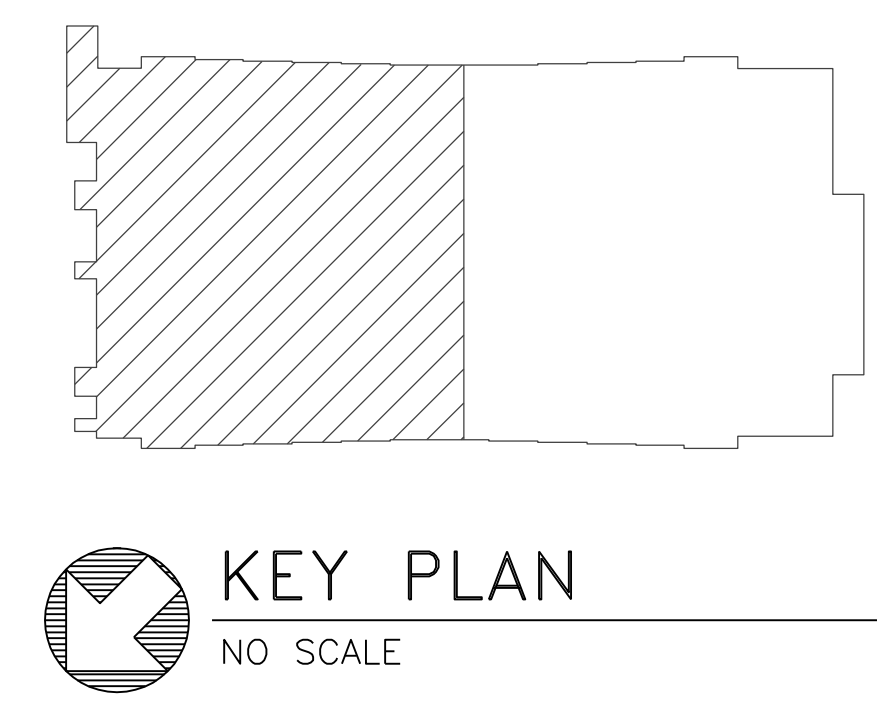
**GENERAL NOTES (THIS SHEET ONLY)**

- LOCATE ALL ROOF MOUNTED APPLIANCES, EQUIPMENT, AND FANS A MINIMUM OF 10 FEET FROM THE ROOF EDGE.

**CONSTRUCTION NOTES (THIS SHEET ONLY)**

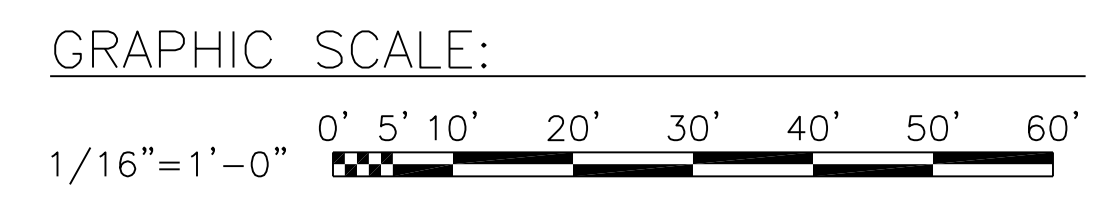
- SEE "DOWN BLAST EXHAUST FAN DETAIL" C5/M-501.
- SEE "ROOF TOP AIR HANDLING UNIT DETAIL", A5/M-503. HEAT TRACE ALL EXTERIOR CHILLED WATER PIPING. SEE "HEAT TRACING DETAIL", A4/M-502. PROVIDE 5 WATTS PER FOOT MINIMUM. RELOCATE EXISTING SANITARY VENTS AS REQUIRED. LOCATE VENTS AND EXHAUST FANS 10' MINIMUM FROM OUTSIDE AIR INTAKE HOODS.

**PARTIAL ROOF PLAN - NEW WORK**  
SCALE: 1/16" = 1'-0"



**KEY PLAN**  
NO SCALE

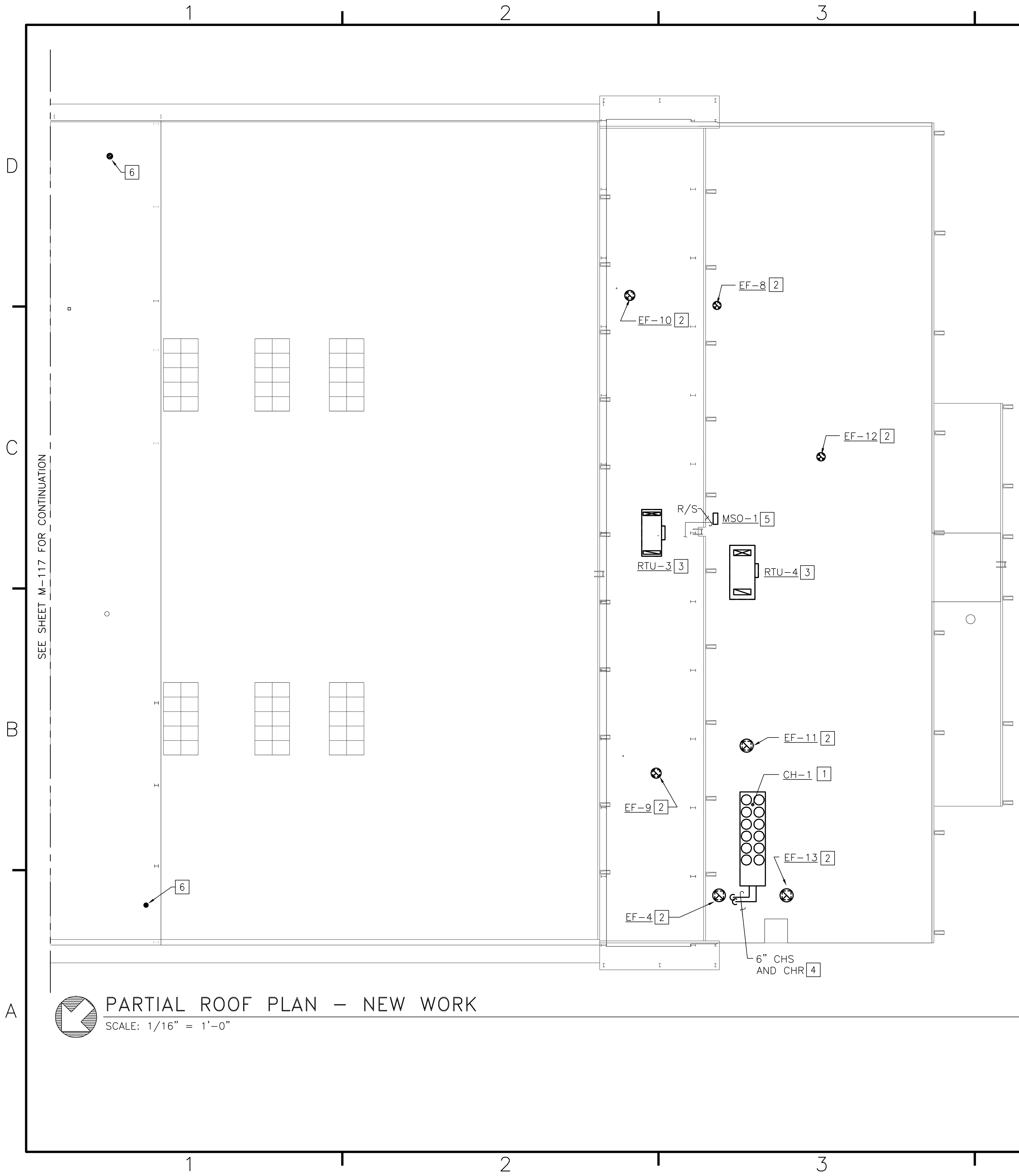
NOTE: IF THIS DRAWING IS A REDUCTION, GRAPHIC SCALE MUST BE USED.



DATE	APPR	
DESCRIPTION		
SYN		
BOWMAN, FOSTER & ASSOC. CONSULTING ENGINEERS #4 INTERSTATE CORP. CENTER NORFOLK, VA 23502 2424 26th ROAD SOUTH ARLINGTON, VA 22206		
APPROVED	10-0050	
ACTIVITY - SATISFACTORY TO		
DATE		
APPROVED		
FOR EFD FOR COMMANDER NAVFAC		
DATE		
A/E	DESIGN	EFD
CML		
KLB	DRAWN	
JDH	REVIEW	
SGR	OC	
SGR	CHEF ARCH/ ENGR.	
PROJECT MANAGER	PEC	
FIRE PROTECTION	SAH	
BRANCH MANAGER	PEC	
DESIGN DIRECTOR	JEF	
DEPARTMENT OF THE NAVY MARINE CORPS AIR STATION, CHERRY POINT, N.C. NAVAL FACILITIES ENGINEERING COMMAND <b>FACILITIES ENERGY REPAIRS,                  BUILDING 131</b> PARTIAL ROOF PLAN - NEW WORK		
CODE ID. NO. 80091	SIZE	D
SCALE:	AS SHOWN	
FED. PROJ. NO. WRF6059407		
STA. PROJ. NO. CP12024M/CP12024R		
SPEC. NO.		
CONSTR. CONTR. NO.		
NAVFAC DRAWING NO.	12618439	
SHEET	77	OF 124
<b>M-117</b>		
DRAWN FOR REVISION JULY 2003		



BFA File Name G:\2010\10-0050 B-131 ENERGY\SUBMITTALS\FINAL SUBMITTAL 7-12-12\BOUND CAD\12618440.dwg Plot Date: Jul 11, 2012 - 12:58pm Lost Saved By: kbennett



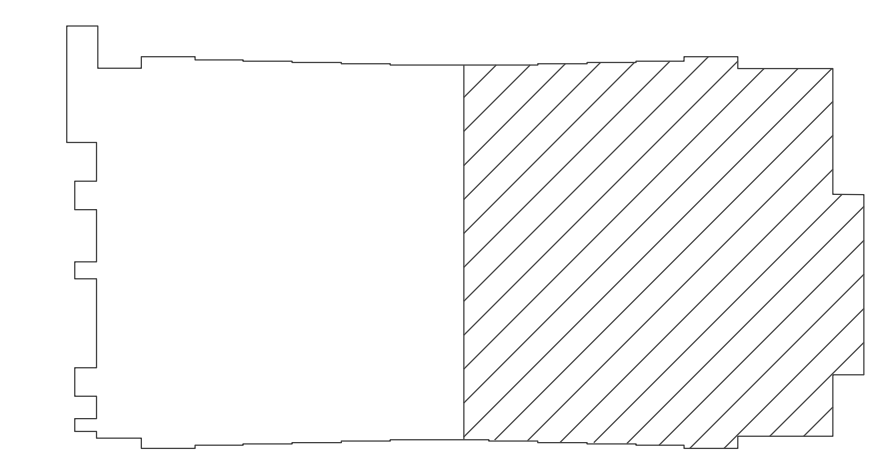
**PARTIAL ROOF PLAN - NEW WORK**  
SCALE: 1/16" = 1'-0"

**GENERAL NOTES (THIS SHEET ONLY)**

- LOCATE ALL ROOF MOUNTED APPLIANCES, EQUIPMENT, AND FANS A MINIMUM OF 10 FEET FROM THE ROOF EDGE.

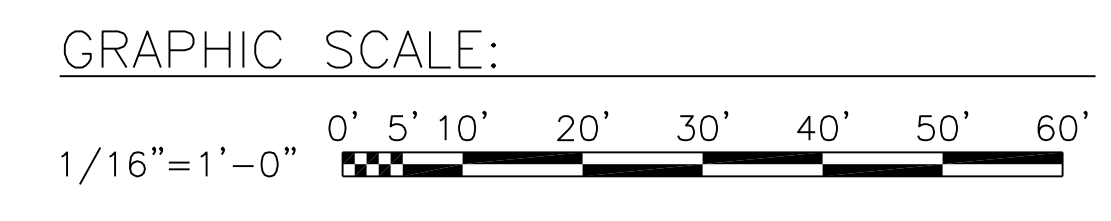
**CONSTRUCTION NOTES (THIS SHEET ONLY)**

- PROVIDE AIR COOLED CHILLER ON ROOF. SEE "AIR COOLED CHILLER DETAIL", A3/M-505. PIPING SHALL BE ROUTED ON ROOF FOR CONNECTION TO CH-1. SEE "AIR COOLED CHILLER PIPING CONNECTIONS DETAIL", A5/M-501.
- SEE "DOWN BLAST EXHAUST FAN DETAIL" C5/M-501.
- SEE "ROOF TOP AIR HANDLING UNIT DETAIL", A5/M-503. HEAT TRACE ALL EXTERIOR CHILLED WATER PIPING. SEE "HEAT TRACING DETAIL", A4/M-502. PROVIDE 5 WATTS PER FOOT MINIMUM. RELOCATE EXISTING SANITARY VENTS AS REQUIRED. LOCATE VENTS AND EXHAUST FANS 10' MINIMUM FROM OUTSIDE AIR INTAKE HOODS.
- HEAT TRACE ALL EXTERIOR CHILLED WATER PIPING. SEE "HEAT TRACING DETAIL", A4/M-502. PROVIDE 8 WATTS PER FOOT MINIMUM.
- PROVIDE (2) 4"x4" PRESSURE TREATED LUMBER SECTIONS FOR MSO-1 SUPPORT. UNIT SHALL BE MOUNTED TO LUMBER BY MANUFACTURERS RECOMMENDED FASTENERS. LUMBER SHALL BE ANCHORED TO ROOF SYSTEM. SEE SHEET M-116 FOR CONTINUATION OF WORK.
- SEE "GRAVITY ROOF HOOD INSTALLATION DETAIL", A5/M-505. GRAVITY ROOF HOODS SHALL PROVIDE OUTSIDE AIR TO AHU-1 AND AHU-2. COORDINATE EXACT LOCATION WITH EXISTING ROOF TRUSSES. LOCATE THE GRAVITY HOODS A MINIMUM OF 10 FEET FROM THE ROOF EDGE.



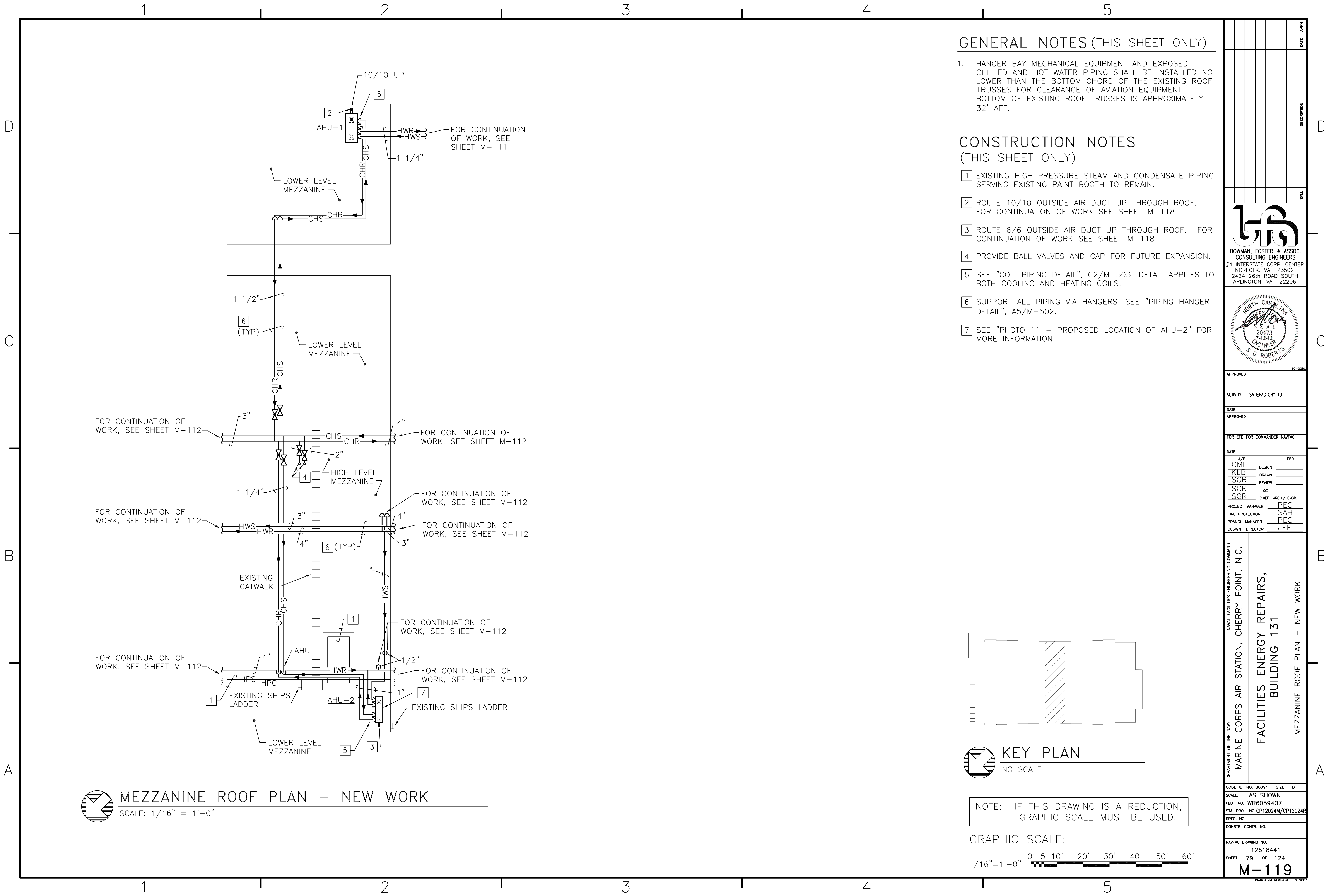
**KEY PLAN**  
NO SCALE

NOTE: IF THIS DRAWING IS A REDUCTION, GRAPHIC SCALE MUST BE USED.



DATE	APPROVED
DESCRIPTION	SYMBOL
 <b>BOWMAN, FOSTER &amp; ASSOC.</b> CONSULTING ENGINEERS #4 INTERSTATE CORP. CENTER NORFOLK, VA 23502 2424 26th ROAD SOUTH ARLINGTON, VA 22206	
 <b>G. ROBERTS</b> 10-0050	
APPROVED	DATE
ACTIVITY - SATISFACTORY TO	APPROVED
FOR EFD FOR COMMANDER NAVFAC	DATE
A/E	DESIGN
CML	EFD
KLB	DRAWN
JDH	REVIEW
SGR	OC
SGR	CHEF ARCH/ ENGR.
PROJECT MANAGER	PEC
FIRE PROTECTION	SAH
BRANCH MANAGER	PEC
DESIGN DIRECTOR	JEF
DEPARTMENT OF THE NAVY MARINE CORPS AIR STATION, CHERRY POINT, N.C. <b>FACILITIES ENERGY REPAIRS,          BUILDING 131</b> PARTIAL ROOF PLAN - NEW WORK	
CODE ID. NO. 80091	SIZE 0
SCALE: AS SHOWN	
FED. NO. WR6059407	
STA. PROJ. NO. CP12024M/CP12024R	
SPEC. NO.	
CONSTR. CONTR. NO.	
NAVFAC DRAWING NO.	
12618440	
SHEET 78 OF 124	
<b>M-118</b>	
DRAWING REVISION JULY 2003	

BFA File Name G:\2010\10-0050 B-131 ENERGY\NAVIGATOR FACILITIES ENERGY IMPROVEMENTS, BUILDING 131\Sheets\M-119 MEZZANINE ROOF PLAN - NEW WORK.dwg Plot Date: Jul 11, 2012 - 2:17pm Last Saved By: kbennett



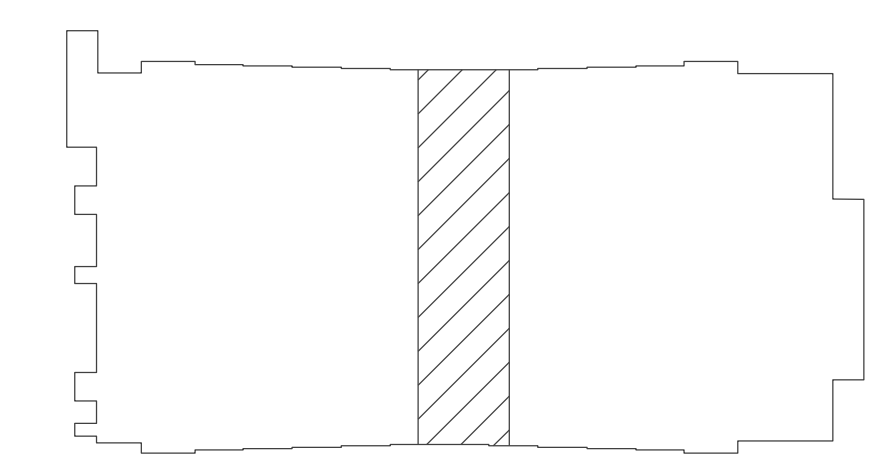
**MEZZANINE ROOF PLAN - NEW WORK**  
SCALE: 1/16" = 1'-0"

**GENERAL NOTES (THIS SHEET ONLY)**

- HANGER BAY MECHANICAL EQUIPMENT AND EXPOSED CHILLED AND HOT WATER PIPING SHALL BE INSTALLED NO LOWER THAN THE BOTTOM CHORD OF THE EXISTING ROOF TRUSSES FOR CLEARANCE OF AVIATION EQUIPMENT. BOTTOM OF EXISTING ROOF TRUSSES IS APPROXIMATELY 32' AFF.

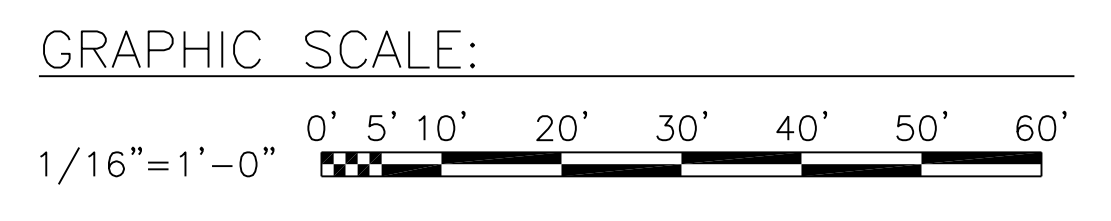
**CONSTRUCTION NOTES (THIS SHEET ONLY)**

- EXISTING HIGH PRESSURE STEAM AND CONDENSATE PIPING SERVING EXISTING PAINT BOOTH TO REMAIN.
- ROUTE 10/10 OUTSIDE AIR DUCT UP THROUGH ROOF. FOR CONTINUATION OF WORK SEE SHEET M-118.
- ROUTE 6/6 OUTSIDE AIR DUCT UP THROUGH ROOF. FOR CONTINUATION OF WORK SEE SHEET M-118.
- PROVIDE BALL VALVES AND CAP FOR FUTURE EXPANSION.
- SEE "COIL PIPING DETAIL", C2/M-503. DETAIL APPLIES TO BOTH COOLING AND HEATING COILS.
- SUPPORT ALL PIPING VIA HANGERS. SEE "PIPING HANGER DETAIL", A5/M-502.
- SEE "PHOTO 11 - PROPOSED LOCATION OF AHU-2" FOR MORE INFORMATION.



**KEY PLAN**  
NO SCALE

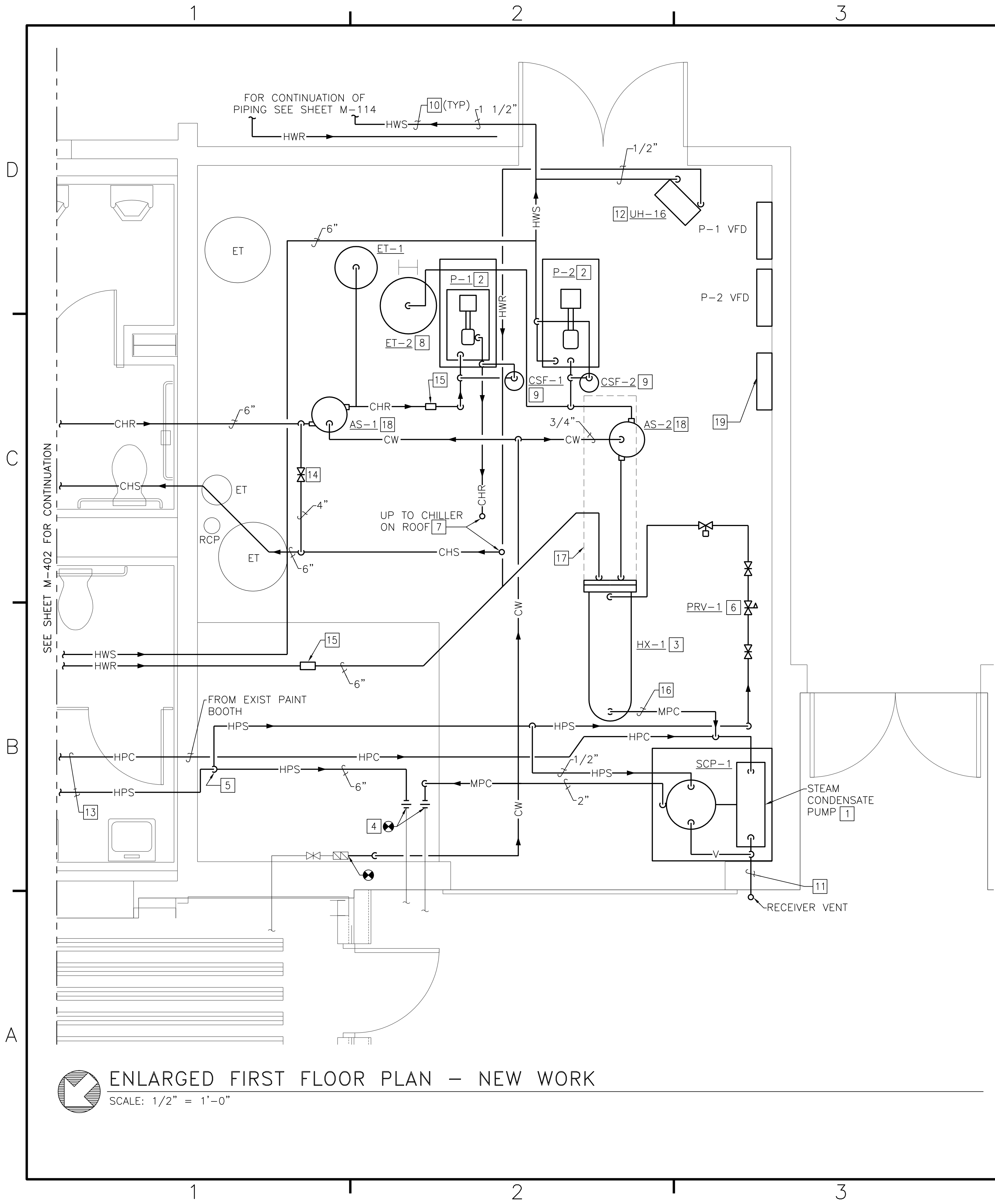
NOTE: IF THIS DRAWING IS A REDUCTION, GRAPHIC SCALE MUST BE USED.



DATE	APPROVED
DESCRIPTION	APPROVED
SYMBOL	APPROVED
BOWMAN, FOSTER & ASSOC. CONSULTING ENGINEERS #4 INTERSTATE CORP. CENTER NORFOLK, VA 23502 2424 26th ROAD SOUTH ARLINGTON, VA 22206	
APPROVED	10-0050
ACTIVITY - SATISFACTORY TO	
DATE	APPROVED
FOR EFD FOR COMMANDER NAVFAC	
DATE	
A/E	DESIGN
CML	EFD
KLB	DRAWN
SGR	REVIEW
SGR	OC
SGR	CHEF ARCH/ ENGR.
PROJECT MANAGER	PEC
FIRE PROTECTION	SAH
BRANCH MANAGER	PEC
DESIGN DIRECTOR	JEF
DEPARTMENT OF THE NAVY MARINE CORPS AIR STATION, CHERRY POINT, N.C. FACILITIES ENERGY REPAIRS, BUILDING 131 MEZZANINE ROOF PLAN - NEW WORK	
CODE ID. NO. 80091	SIZE 0
SCALE:	AS SHOWN
FED. NO. WR6059407	
STA. PROJ. NO. CP12024M/CP12024R	
SPEC. NO.	
CONSTR. CONTR. NO.	
NAVFAC DRAWING NO.	12618441
SHEET	79 OF 124
<b>M-119</b>	
DRAWING REVISION JULY 2003	

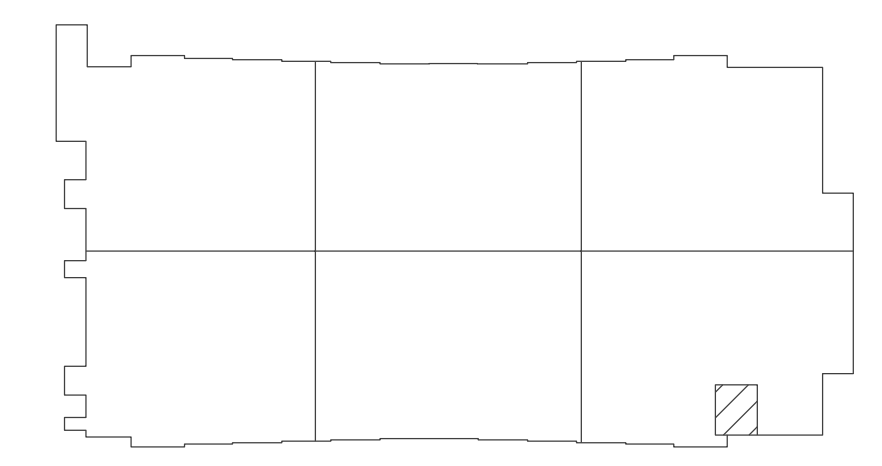


BFA File Name: G:\2010\10-0050 B-131 ENERGY\SUBMITTALS\FINAL SUBMITTAL 7-12-12\12-12\BOUND CAD\12618442.dwg Plot Date: Jul 11, 2012 - 12:58pm Last Saved By: kbennett



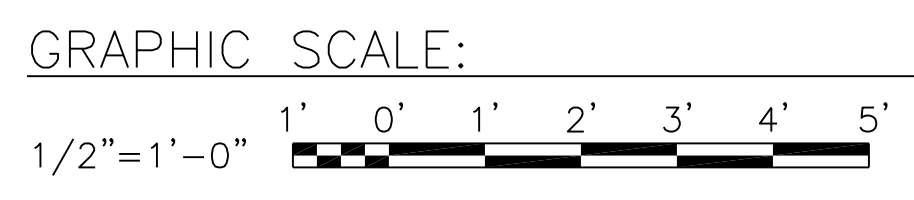
**CONSTRUCTION NOTES (THIS SHEET ONLY)**

- 1 PROVIDE STEAM CONDENSATE PUMP. MOTIVE STEAM SHALL BE HIGH PRESSURE STEAM. SEE "TYPICAL PIPING CONNECTIONS TO CONDENSATE PUMPS", A2/M-504.
- 2 PROVIDE BASE MOUNTED PUMP. SEE "PUMP DETAIL - END SUCTION TYPE", C3/M-504.
- 3 PROVIDE STEAM TO HOT WATER CONVERTOR. SEE "CONVERTOR SUPPORT DETAIL", C5/M-504. SEE "CONVERTOR PIPING DETAIL", B3/M-505.
- 4 CONNECT TO EXISTING BUILDING STEAM AND CONDENSATE SYSTEM. PIPING IS LOCATED IN STEAM PIT. SEE PHOTO 3, SHEET M-901 FOR MORE INFORMATION.
- 5 PROVIDE DRIP STEAM TRAP AT LOCATION WHERE STEAM MAIN TURNS UP FROM STEAM PIT. SEE "STEAM DRIP POCKET / STEAM TRAP ASSEMBLY", A4/M-506. PROVIDE VORTEX STEAM METER IN VERTICAL DIRECTION.
- 6 PROVIDE STEAM PRESSURE REDUCING STATION TO SERVE HX-1. SEE "STEAM PRESSURE REDUCING STATION DETAIL", A4/M-504.
- 7 ROUTE CHILLED WATER PIPING UP THROUGH ROOF FOR CONNECTION TO CH-1.
- 8 SEE "EXPANSION TANK/AIR SEPARATOR DETAIL", C2/M-502.
- 9 SEE "CHEMICAL SHOT FEEDER DETAIL" C4/M-502.
- 10 SUPPORT PIPING VIA HANGERS. SEE "PIPING HANGER DETAIL", A5/M-502.
- 11 SLEEVE PIPING THROUGH WALL. SEE "PIPE SLEEVE EXTERIOR WALL", C2/M-504.
- 12 SEE "HORIZONTAL HOT WATER UNIT HEATER DETAIL", C4/M-503.
- 13 PITCH ALL STEAM PIPING IN THE DIRECTION OF STEAM FLOW.
- 14 PROVIDE BYPASS VALVE FOR CHILLED WATER SYSTEM. SEE "CHILLED WATER BYPASS DETAIL", C5/M-505.
- 15 PROVIDE ULTRASONIC FLOW METER AND INSTALL PER MANUFACTURER'S RECOMMENDATIONS.
- 16 SEE SHEET M-604 FOR PIPE SIZES OF STEAM AND CONDENSATE PIPING.
- 17 DISTANCE FOR TUBE REMOVAL.
- 18 MOUNT AIR SEPARATORS AS HIGH AS PRACTICAL.
- 19 PROPOSED LOCATION OF MECHANICAL ROOM DDC PANEL.



**KEY PLAN**  
NO SCALE

NOTE: IF THIS DRAWING IS A REDUCTION, GRAPHIC SCALE MUST BE USED.

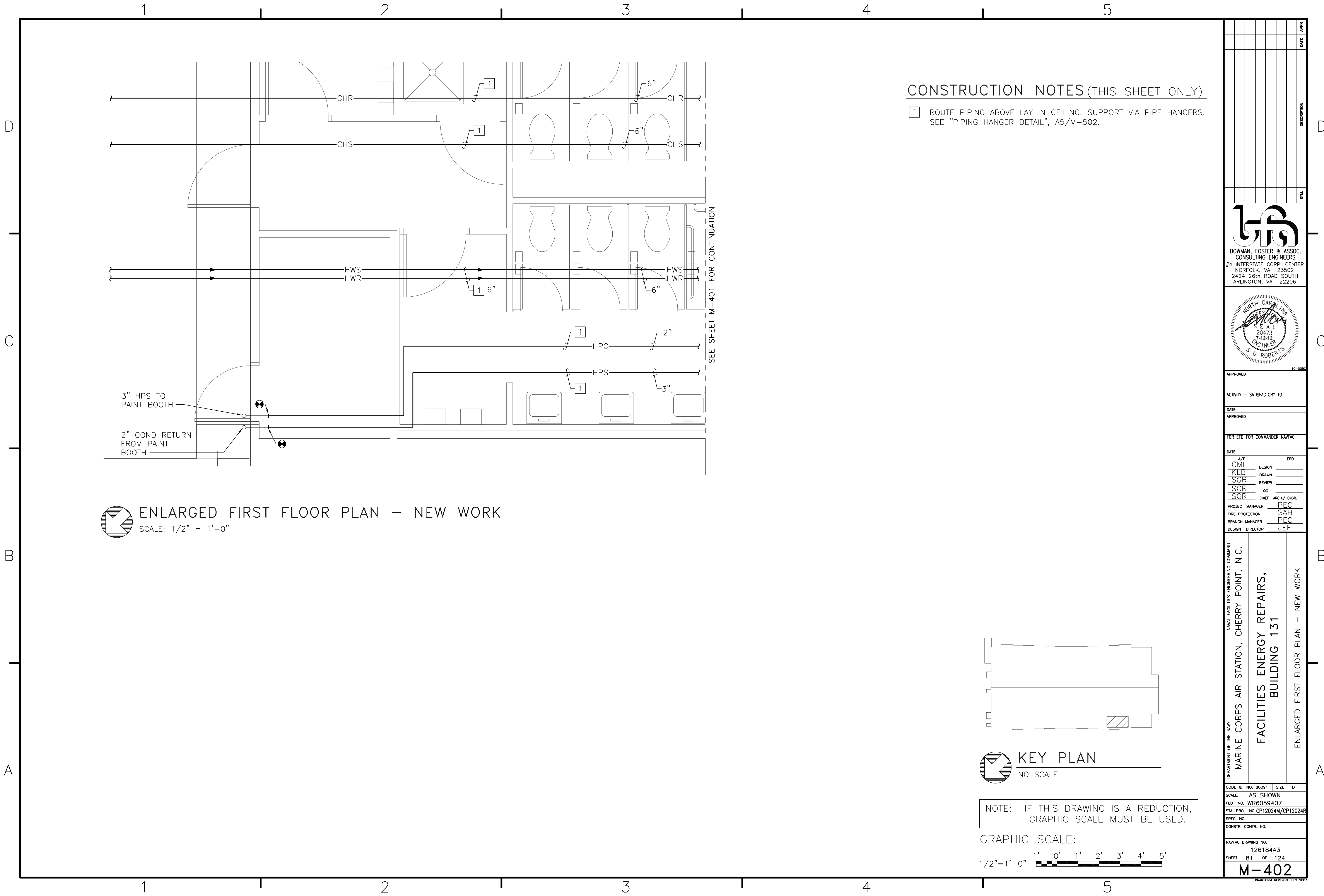


**ENLARGED FIRST FLOOR PLAN - NEW WORK**  
SCALE: 1/2" = 1'-0"

	DATE	
	DESCRIPTION	
	SYMBOL	
BOWMAN, FOSTER & ASSOC. CONSULTING ENGINEERS #4 INTERSTATE CORP. CENTER NORFOLK, VA 23502 2424 26TH ROAD SOUTH ARLINGTON, VA 22206		
APPROVED		
ACTIVITY - SATISFACTORY TO		
DATE		
APPROVED		
FOR EFD FOR COMMANDER NAVFAC		
DATE		
A/E	DESIGN	EFD
CML	KLBB	
JDH	REVIEW	
SGR	OC	
SGR	CHIEF ARCH/ENGR.	
PROJECT MANAGER	PEC	
FIRE PROTECTION	SAH	
BRANCH MANAGER	PEC	
DESIGN DIRECTOR	JEF	
DEPARTMENT OF THE NAVY MARINE CORPS AIR STATION, CHERRY POINT, N.C. <b>FACILITIES ENERGY REPAIRS,          BUILDING 131</b> ENLARGED FIRST FLOOR PLAN - NEW WORK		
CODE ID. NO. 80091    SIZE 0 SCALE: AS SHOWN FED. PROJ. NO. WR6059407 STA. PROJ. NO. CP12024M/CP12024R SPEC. NO. CONSTR. CONTR. NO.		
NAVFAC DRAWING NO. 12618442 SHEET 80 OF 124 <b>M-401</b> <small>DRAWING REVISION JULY 2003</small>		



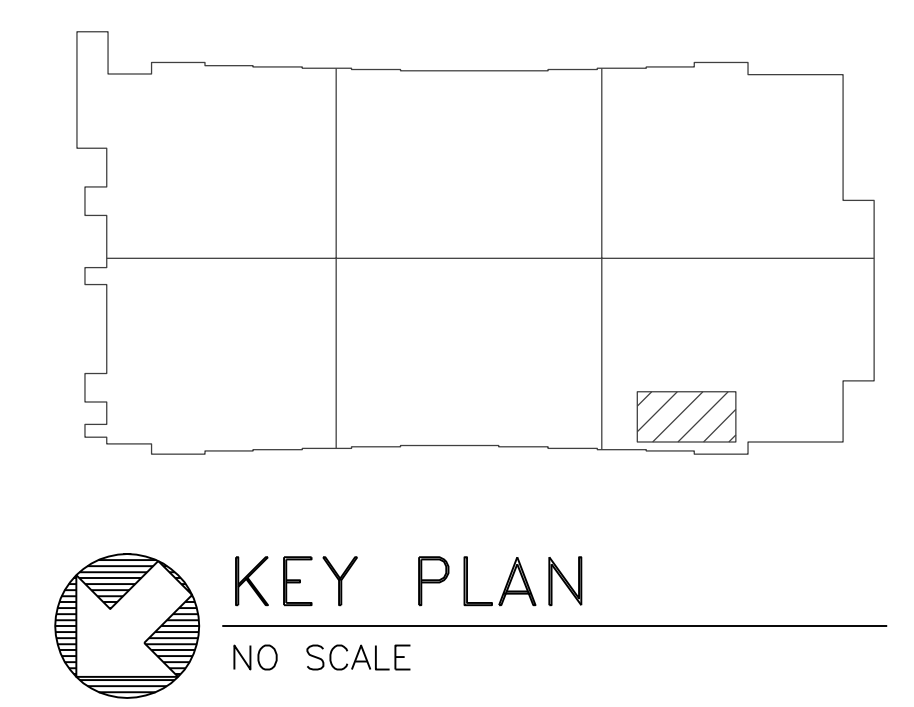
BFA File Name G:\2010\10-0050 B-131 ENERGY\SUBMITTALS\FINAL SUBMITTAL 7-12-12\BOUND CAD\12618443.dwg Plot Date: Jul 11, 2012 - 12:57pm Lost Saved By: kbennett



**CONSTRUCTION NOTES (THIS SHEET ONLY)**

1 ROUTE PIPING ABOVE LAY IN CEILING. SUPPORT VIA PIPE HANGERS. SEE "PIPING HANGER DETAIL", A5/M-502.

**ENLARGED FIRST FLOOR PLAN - NEW WORK**  
SCALE: 1/2" = 1'-0"

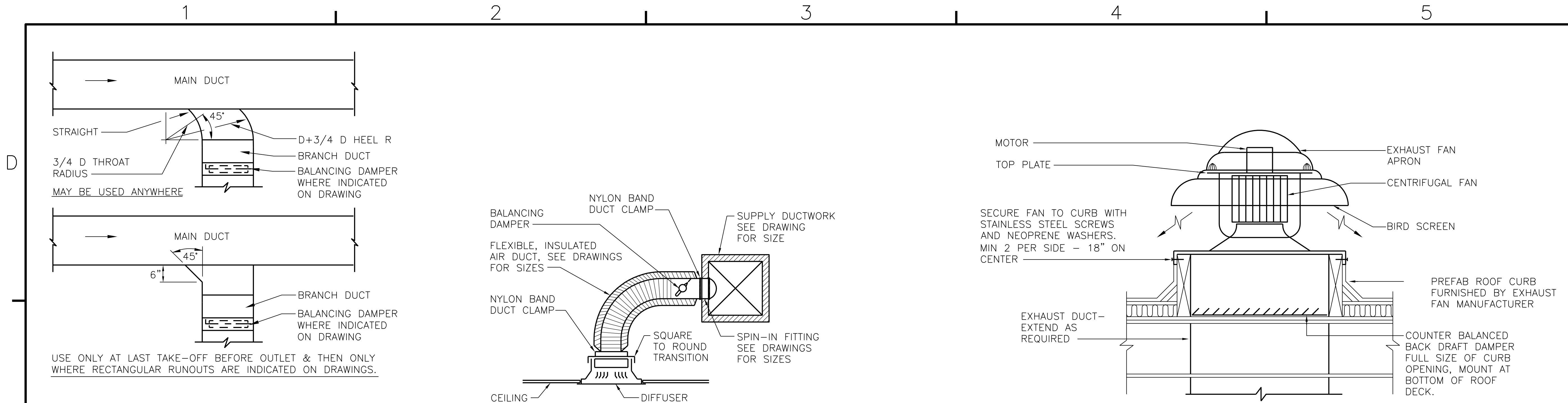


NOTE: IF THIS DRAWING IS A REDUCTION, GRAPHIC SCALE MUST BE USED.

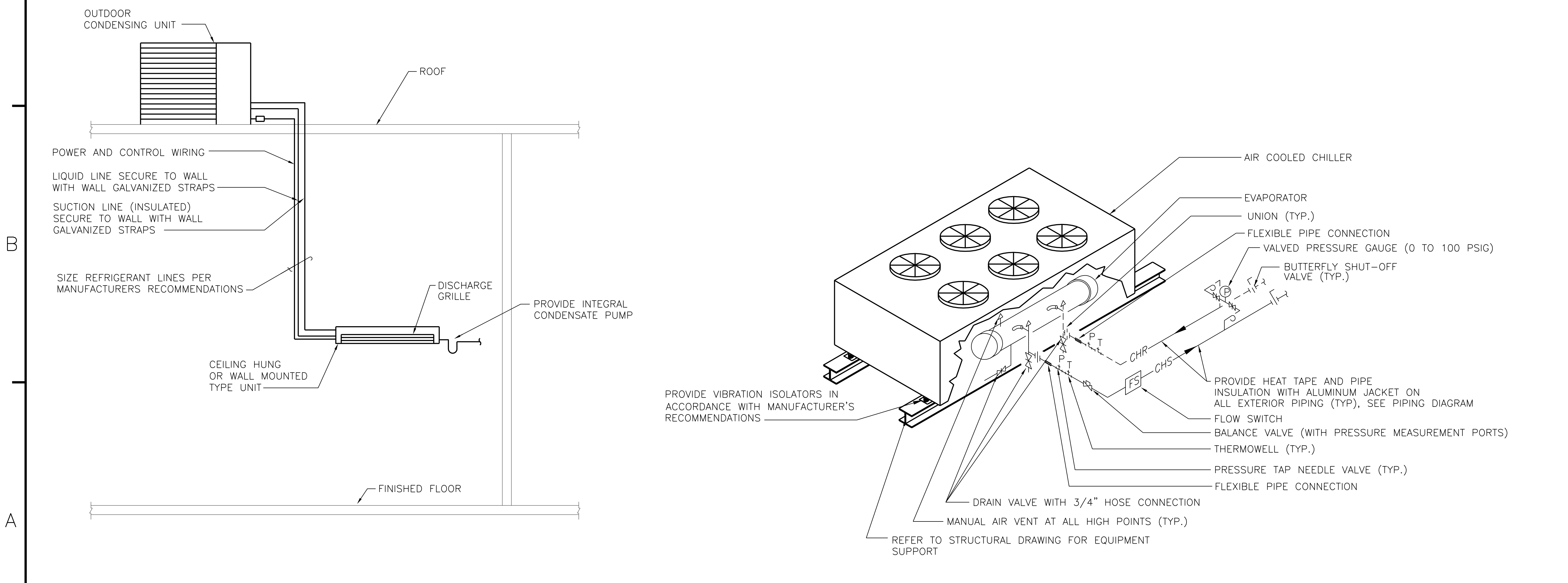
GRAPHIC SCALE:  
1/2" = 1'-0" 1' 0' 1' 2' 3' 4' 5'

DATE	APPROVED
DESCRIPTION	SYMBOL
BOWMAN, FOSTER & ASSOC. CONSULTING ENGINEERS #4 INTERSTATE CORP. CENTER NORFOLK, VA 23502 2424 26th ROAD SOUTH ARLINGTON, VA 22206	
APPROVED	10-0050
ACTIVITY - SATISFACTORY TO	
DATE	
APPROVED	
FOR EFD FOR COMMANDER NAVFAC	
DATE	
A/E	DESIGN
CML	EFD
KLB	DRAWN
SGR	REVIEW
SGR	OC
SGR	CHIEF ARCH/ ENGR.
PROJECT MANAGER	PEC
FIRE PROTECTION	SAH
BRANCH MANAGER	PEC
DESIGN DIRECTOR	JEF
DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND MARINE CORPS AIR STATION, CHERRY POINT, N.C. <b>FACILITIES ENERGY REPAIRS,                  BUILDING 131</b> ENLARGED FIRST FLOOR PLAN - NEW WORK	
CODE ID. NO. 80091	SIZE 0
SCALE: AS SHOWN	
FED. PROJ. NO. WR6059407	
STA. PROJ. NO. CP12024M/CP12024R	
SPEC. NO.	
CONSTR. CONTR. NO.	
NAVFAC DRAWING NO.	12618443
SHEET 81	OF 124
<b>M-402</b>	
DRAWN FOR REVISION JULY 2003	

BFA Filename G:\2010\10-0050 B-131 ENERGY\SUBMITTALS\FINAL SUBMITTAL 7-12-12\BOUND CAD\12618444.dwg Plot Date: Jul 11, 2012 - 12:57pm Lost Saved By: kbennett



**TYPICAL BRANCH CONNECTION** (C2) NO SCALE M-101, M-102, M-103, M-104, M-105, M-106, M-107, M-108  
**AIR TERMINAL INSTALLATION DETAIL** (C3) NO SCALE M-101, M-102, M-103, M-104, M-105, M-106, M-107, M-108  
**DOWN BLAST EXHAUST FAN DETAIL** (C5) NO SCALE M-117, M-118

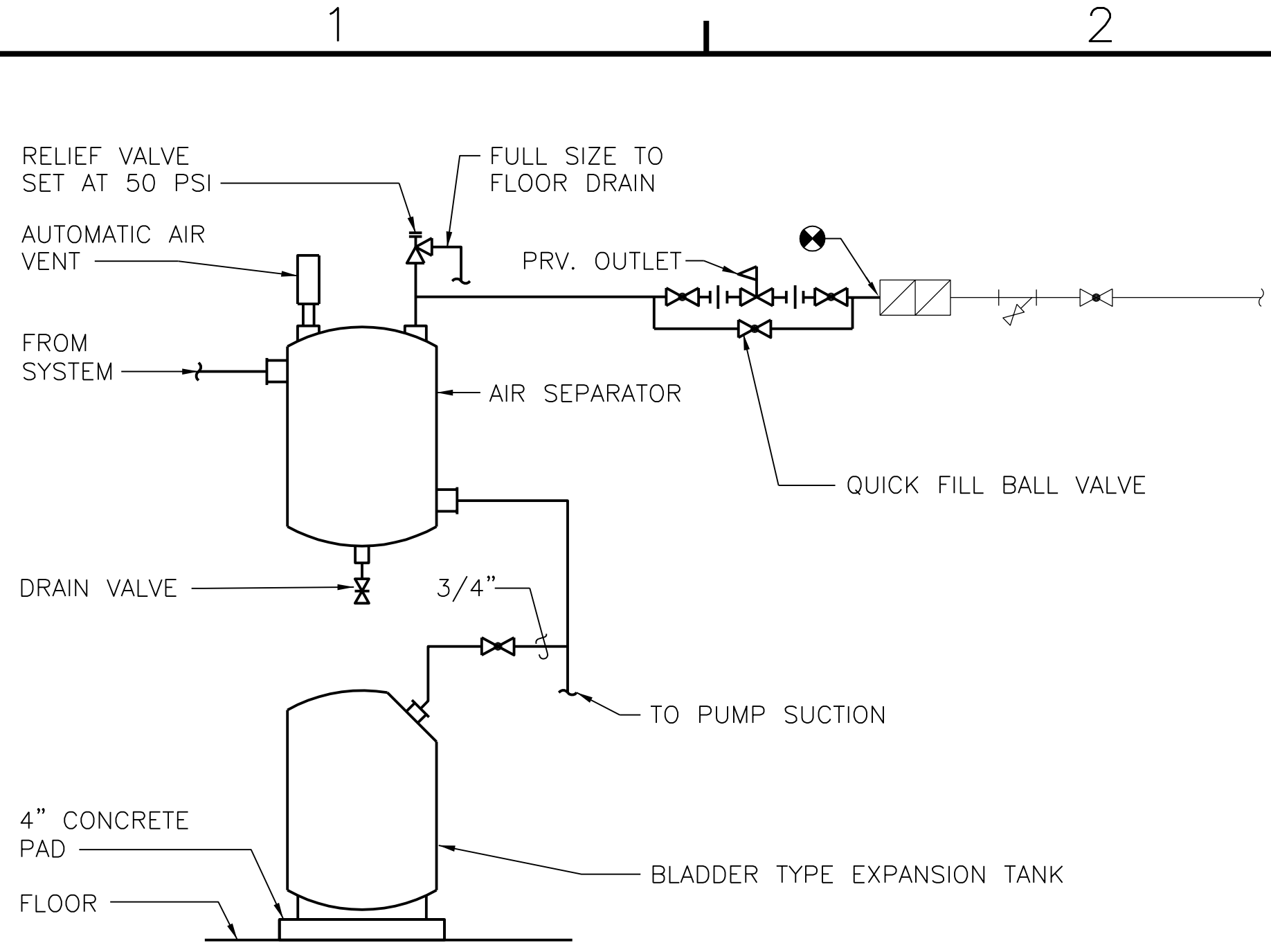


**DUCTLESS SPLIT SYSTEM DETAIL** (A2) NO SCALE M-116  
**AIR COOLED CHILLER PIPING CONNECTIONS DETAIL** (A5) NO SCALE (NON RATED WALLS) M-118

DATE	APPROVED
DESCRIPTION	APPROVED
SYMBOL	APPROVED
BOWMAN, FOSTER & ASSOC. CONSULTING ENGINEERS #4 INTERSTATE CORP. CENTER NORFOLK, VA 23502 2424 26th ROAD SOUTH ARLINGTON, VA 22206	
APPROVED	10-0050
ACTIVITY - SATISFACTORY TO	
DATE	
APPROVED	
FOR EFD FOR COMMANDER NAVFAC	
DATE	
A/E	EFD
CML	DESIGN
KLB	DRAWN
JDH	REVIEW
SGR	OC
SGR	CHEF ARCH/ ENGR.
PROJECT MANAGER	PEC
FIRE PROTECTION	SAH
BRANCH MANAGER	PEC
DESIGN DIRECTOR	JEF
DEPARTMENT OF THE NAVY MARINE CORPS AIR STATION, CHERRY POINT, N.C. NAVAL FACILITIES ENGINEERING COMMAND FACILITIES ENERGY REPAIRS, BUILDING 131 DETAILS	
CODE ID. NO. 80091	SIZE 0
SCALE:	AS SHOWN
FED. NO. WR6059407	
STA. PROJ. NO. CP12024M/CP12024R	
SPEC. NO.	
CONSTR. CONTR. NO.	
NAVFAC DRAWING NO.	12618444
SHEET	82 OF 124
<b>M-501</b> DRAWING REVISION JULY 2003	

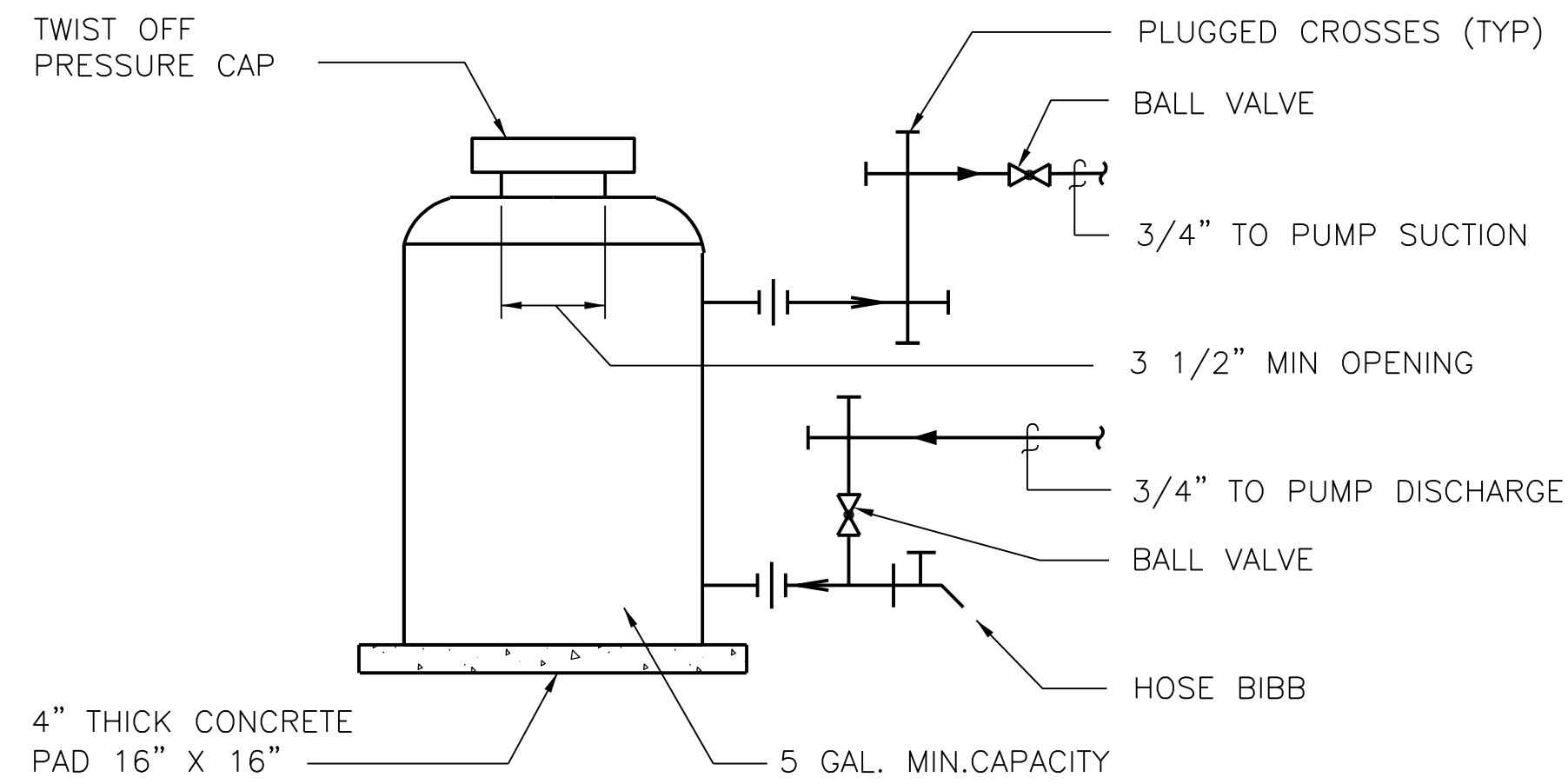


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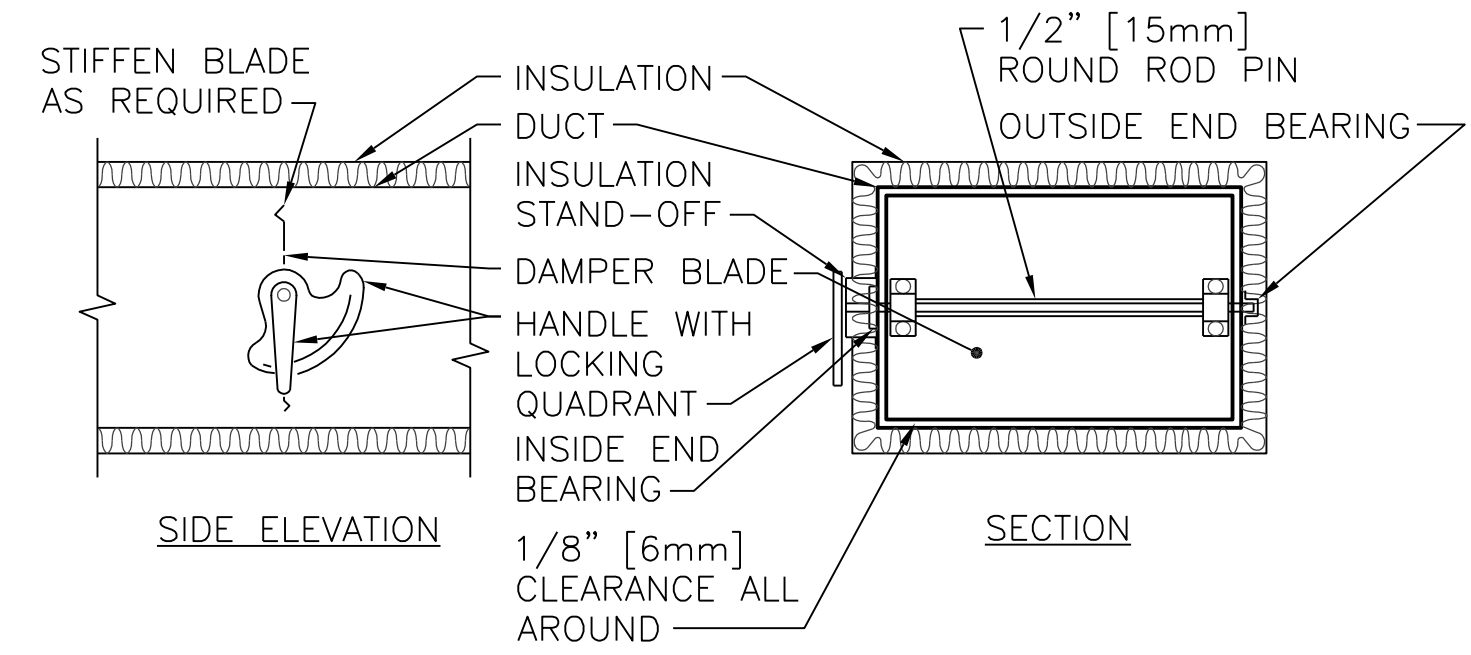
**EXPANSION TANK/AIR SEPARATOR DETAIL**

NO SCALE M-401 (C2)



**CHEMICAL SHOT FEEDER DETAIL**

NO SCALE M-401 (C4)

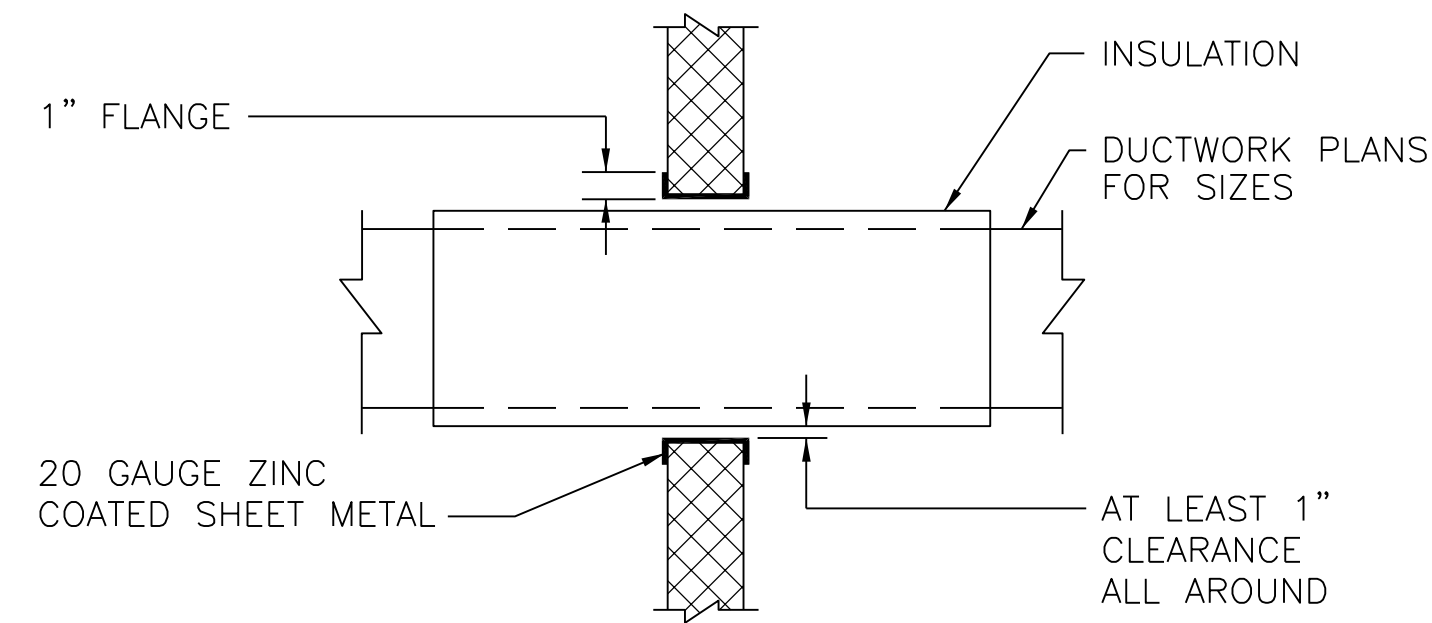


NOTE:

1. DELETE INSULATION STAND-OFF ON DUCTWORK WITHOUT EXTERIOR INSULATION.
2. DETAIL SHOWS SINGLE BLADE DAMPER. DAMPER INSTALLATION SHALL BE SIMILAR FOR MULTI-BLADE DAMPERS & ROUND DAMPERS.

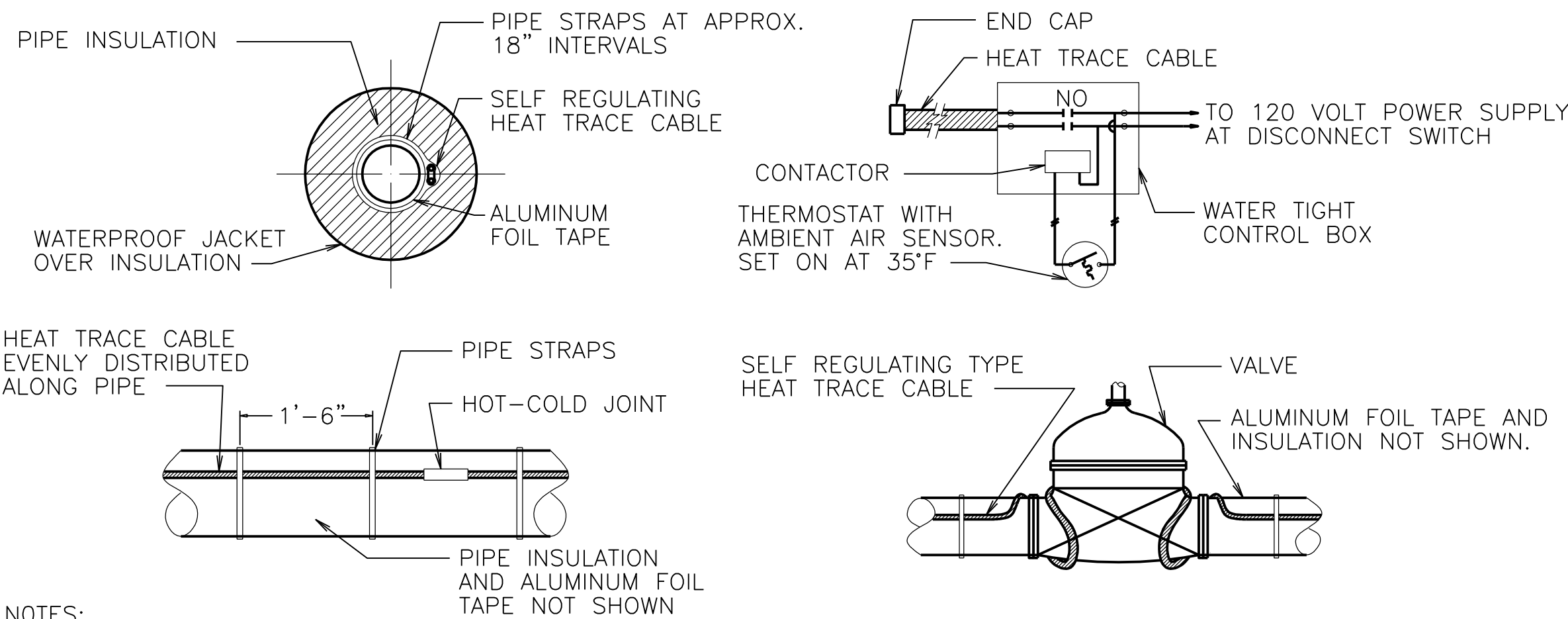
**VOLUME DAMPER DETAIL**

NO SCALE M-101, M-102, M-103, M-104, M-105, M-106, M-107, M-108 (C5)



**DUCTWORK WALL SLEEVE DETAIL**

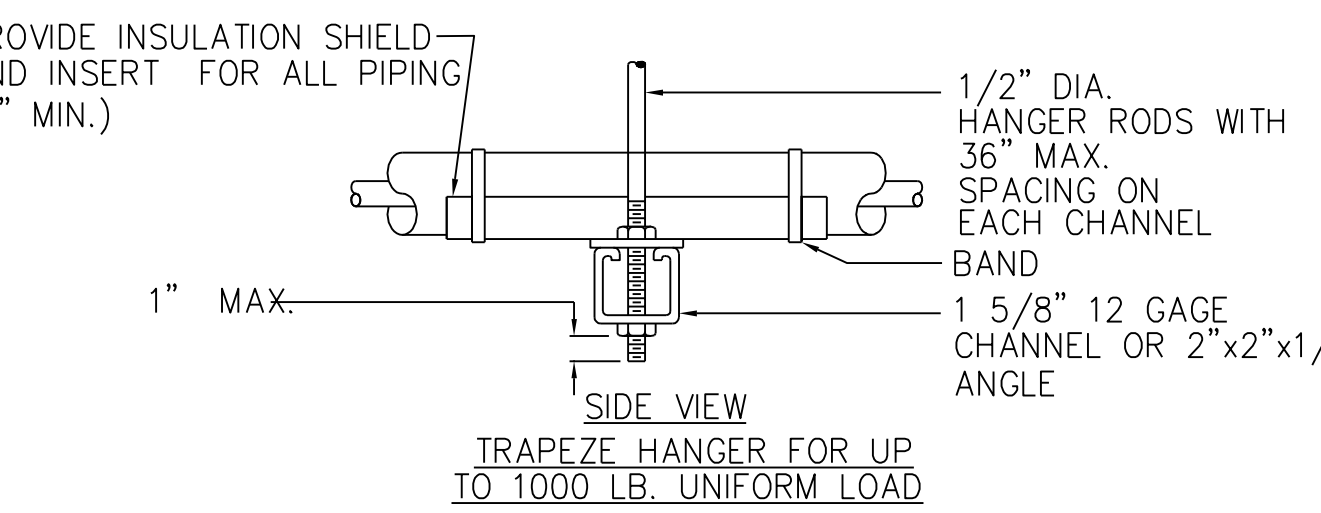
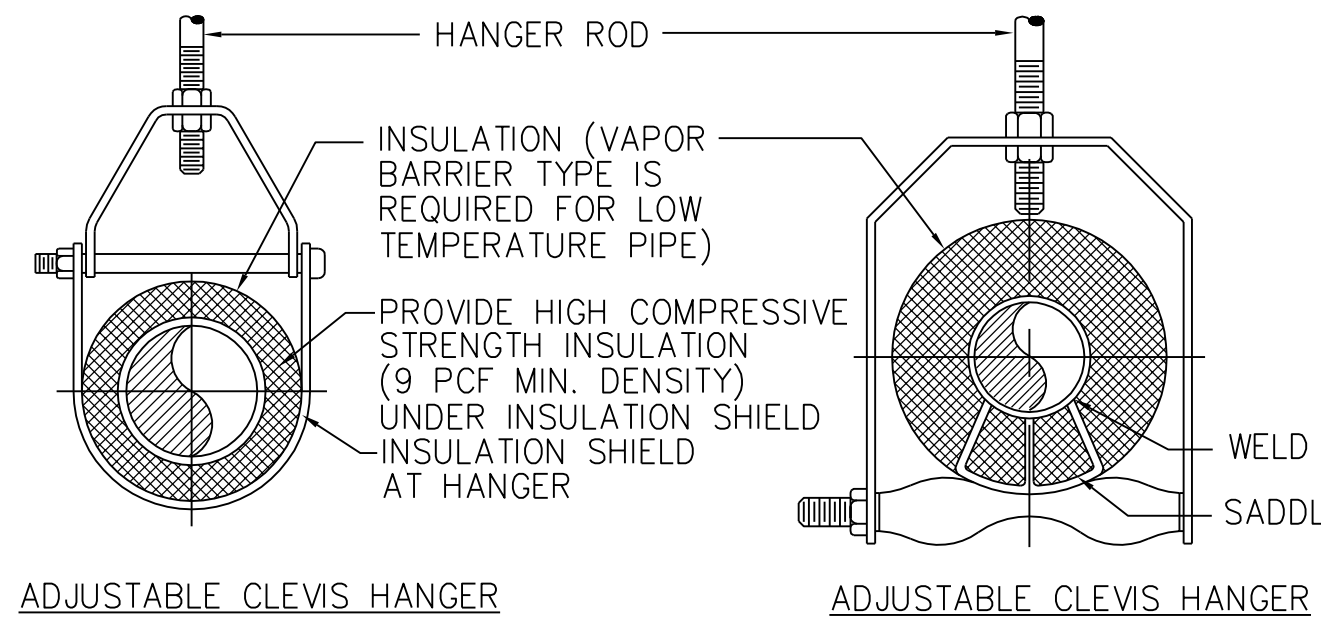
NO SCALE (NON RATED WALLS) M-104 (B2)



- NOTES:
1. PROVIDE WEATHER RESISTANT LABELING ON EXTERIOR OF JACKET IDENTIFYING PIPES AS BEING "ELECTRIC TRACED" WITH VOLTAGE INDICATED.

**HEAT TRACING DETAILS**

NO SCALE M-117, M-118 (A4)



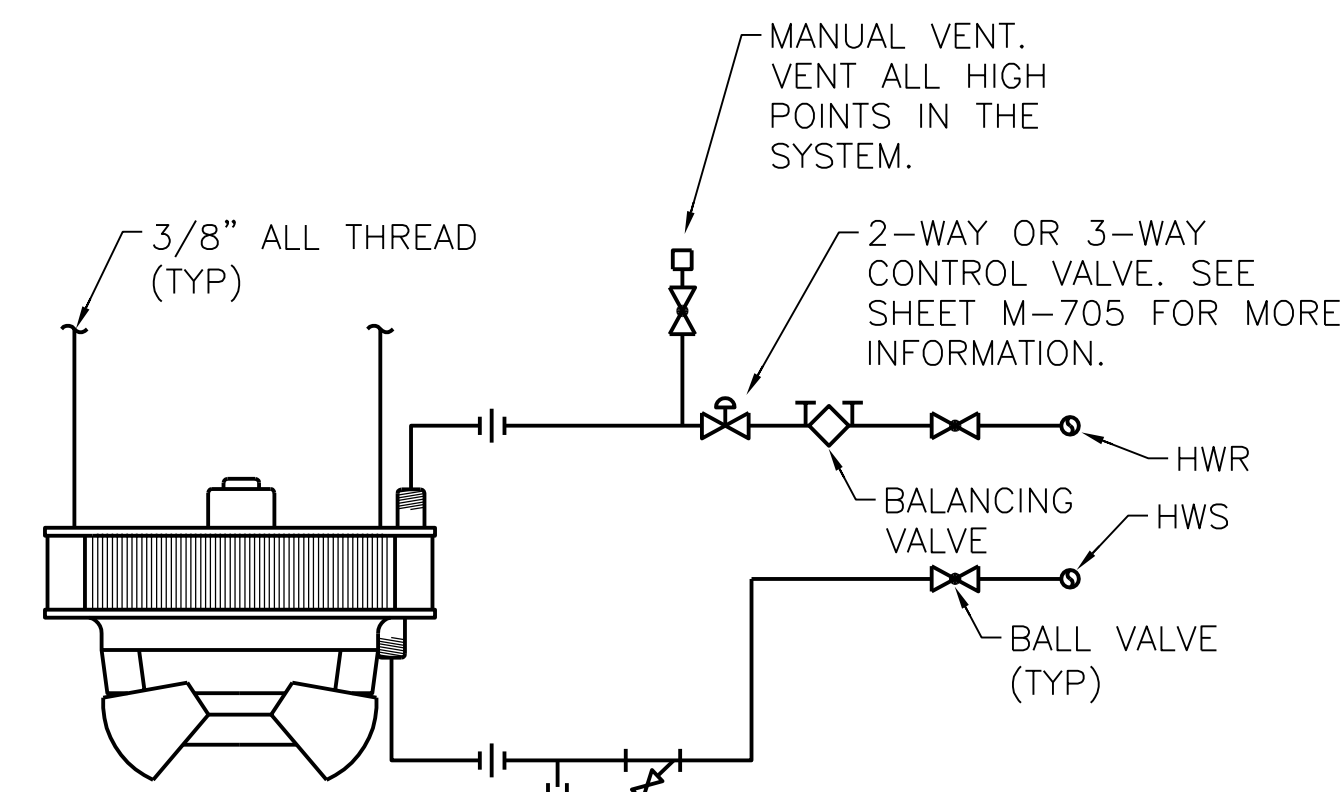
MAXIMUM PIPE/TUBING SUPPORT SPACING

NOM. SIZE IN.	THRU 3/4	1	1 1/4	1 1/2	2	2 1/2	3	4	5	6	8
PIPE FT.	7	7	9	10	11	12	14	16	17	19	
TUBING FT.	5 FT	6	7	8	8	9	10	12	13	14	16

NOTE: FOR TRAPEZE HANGER TAKE SPACING OF SMALLEST SIZE ON TRAPEZE.

**PIPING HANGER DETAIL**

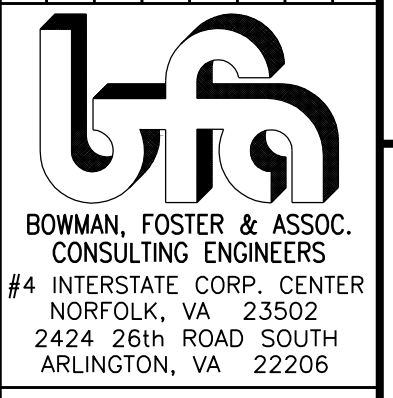
NO SCALE M-109, M-110, M-111, M-112, M-113, M-114, M-115, M-116, M-401 (A5)



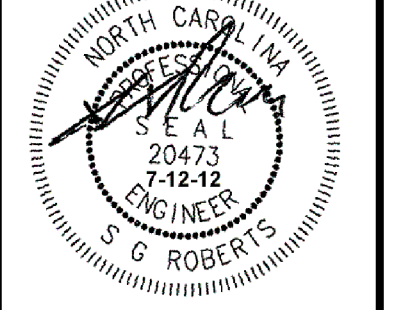
**VERTICAL HOT WATER UNIT HEATER DETAIL**

NO SCALE M-109, M-110, M-111, M-112, M-113, M-114 (A2)

DATE	APPR	DESCRIPTION



**BOWMAN, FOSTER & ASSOC.**  
CONSULTING ENGINEERS  
#4 INTERSTATE CORP. CENTER  
NORFOLK, VA 23502  
2424 26TH ROAD SOUTH  
ARLINGTON, VA 22206



**G. ROBERTS**  
REGISTERED PROFESSIONAL ENGINEER  
No. 20473  
7-12-12  
EXPIRES 7-12-15

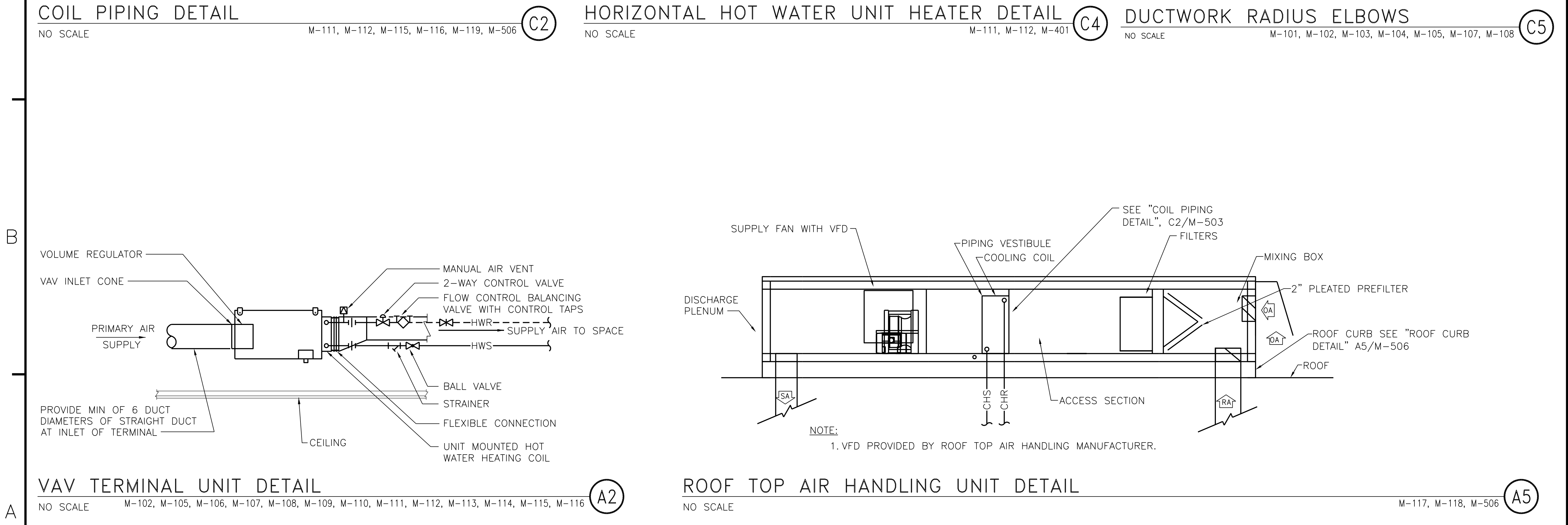
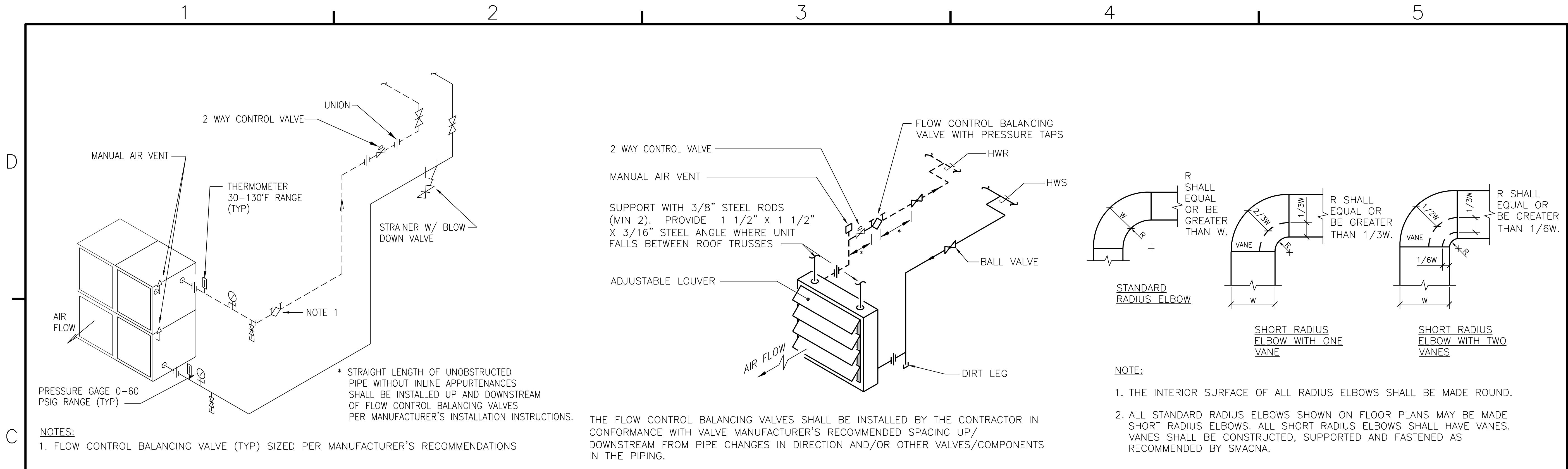
APPROVED	DATE
ACTIVITY - SATISFACTORY TO	DATE
FOR EFD FOR COMMANDER NAVFAC	DATE
A/E	EFD
CML	DESIGN
KLB	DRAWN
JDH	REVIEW
SGR	OC
SGR	CHIEF ARCH/ ENGR.
PROJECT MANAGER	PEC
FIRE PROTECTION	SAH
BRANCH MANAGER	PEC
DESIGN DIRECTOR	JEF


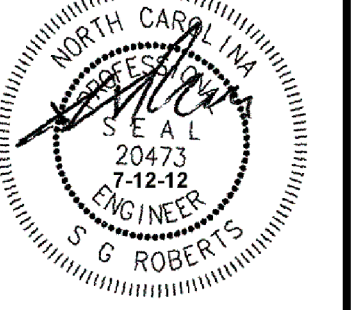
NAVAL FACILITIES ENGINEERING COMMAND  
MARINE CORPS AIR STATION, CHERRY POINT, N.C.  
**FACILITIES ENERGY REPAIRS,  
BUILDING 131**  
DETAILS

CODE ID. NO. 80091	SIZE D
SCALE: AS SHOWN	
FED. NO. WR6059407	
STA. PROJ. NO. CP12024M/CP12024R	
SPEC. NO.	
CONSTR. CONTR. NO.	
NAVFAC DRAWING NO.	
12618445	
SHEET 83 OF 124	
<b>M-502</b>	

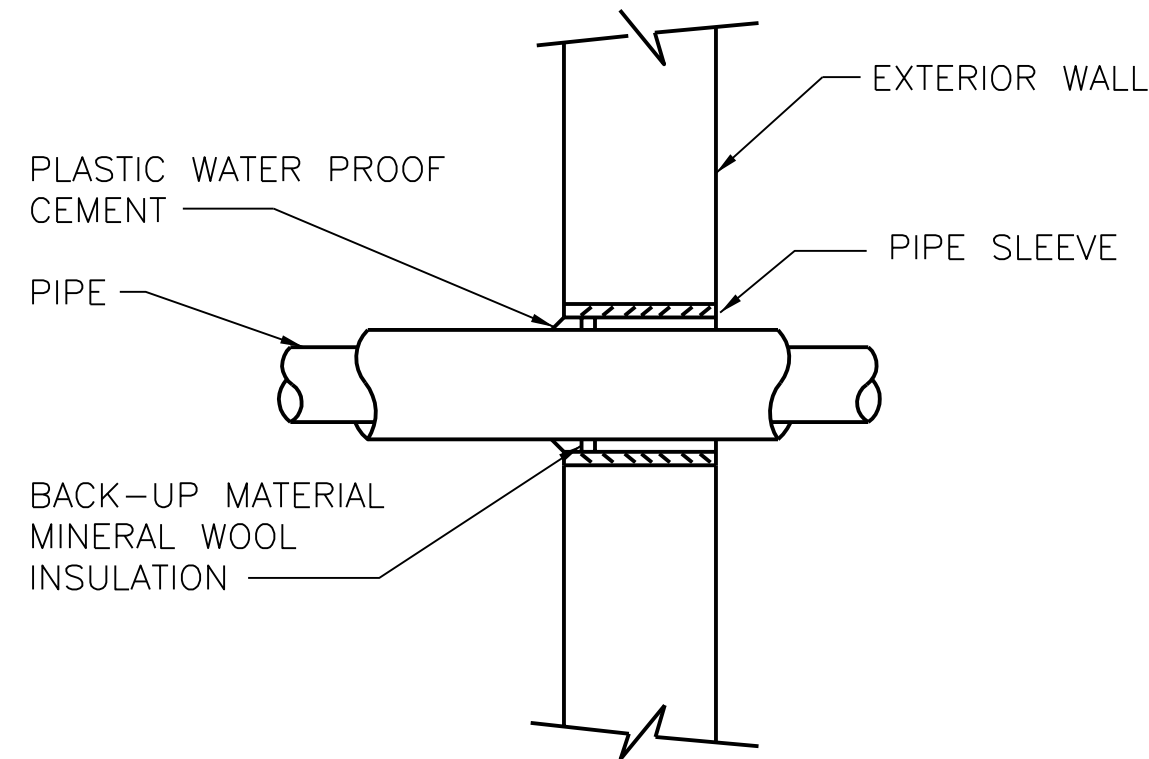


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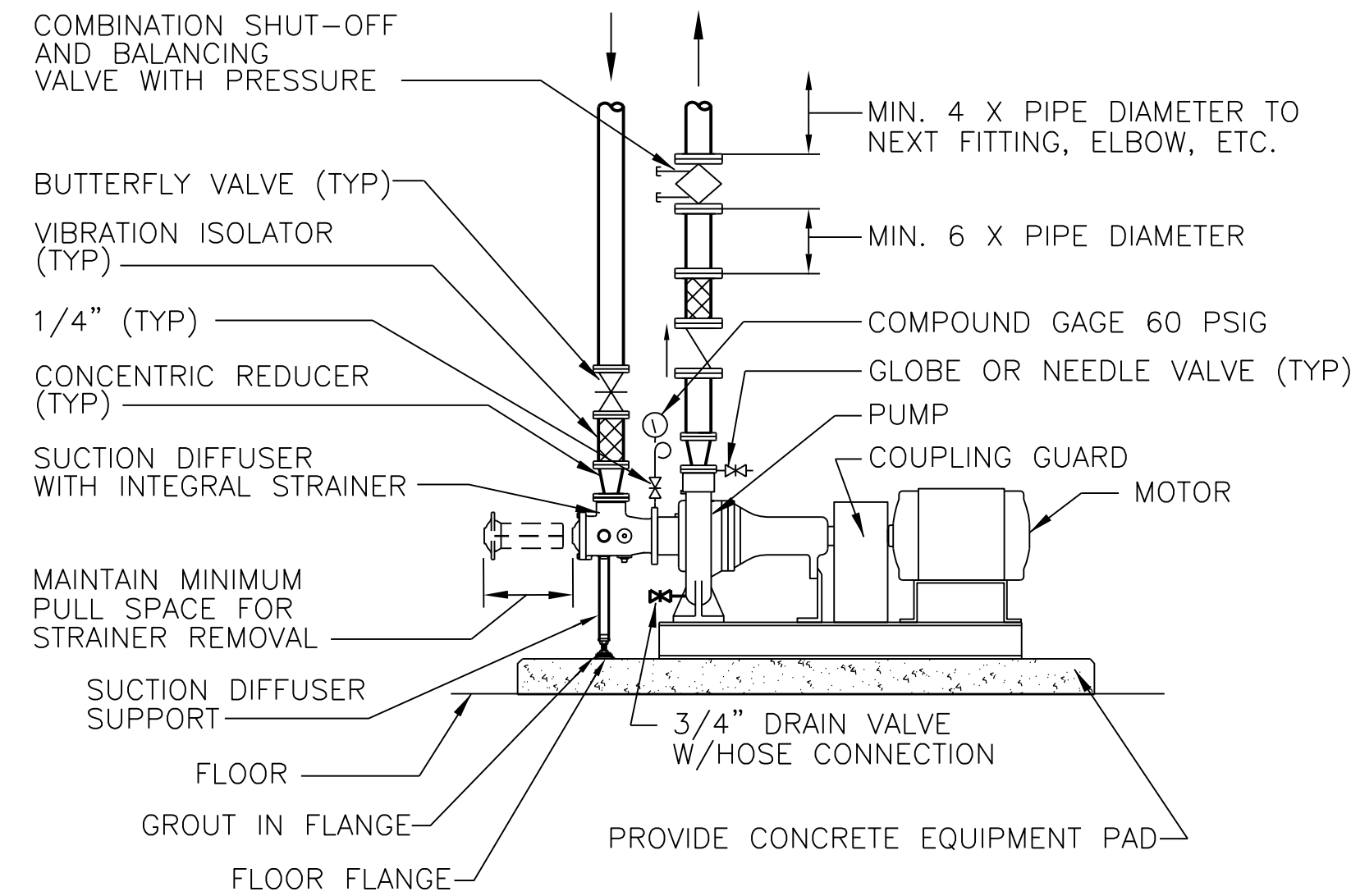


DATE	APPROVED
DESCRIPTION	SYMBOL
	
BOWMAN, FOSTER & ASSOC. CONSULTING ENGINEERS #4 INTERSTATE CORP. CENTER NORFOLK, VA 23502 2424 26th ROAD SOUTH ARLINGTON, VA 22206	
	
APPROVED	10-0050
ACTIVITY - SATISFACTORY TO	
DATE	
APPROVED	
FOR EFD FOR COMMANDER NAVFAC	
DATE	
A/E	EFD
CML	DESIGN
KLB	DRAWN
JDH	REVIEW
SGR	OC
SGR	CHEF ARCH/ ENGR.
PROJECT MANAGER	PEC
FIRE PROTECTION	SAH
BRANCH MANAGER	PEC
DESIGN DIRECTOR	JEF
DEPARTMENT OF THE NAVY MARINE CORPS AIR STATION, CHERRY POINT, N.C. FACILITIES ENERGY REPAIRS, BUILDING 131 DETAILS	
CODE ID. NO. 80091	SIZE 0
SCALE: AS SHOWN	
FED. PROJ. NO. WR6059407	
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SPEC. NO.	
CONSTR. CONTR. NO.	
NAVFAC DRAWING NO.	12618446
SHEET 84	OF 124
<b>M-503</b> <small>DRAWN FOR REVISION JULY 2003</small>	

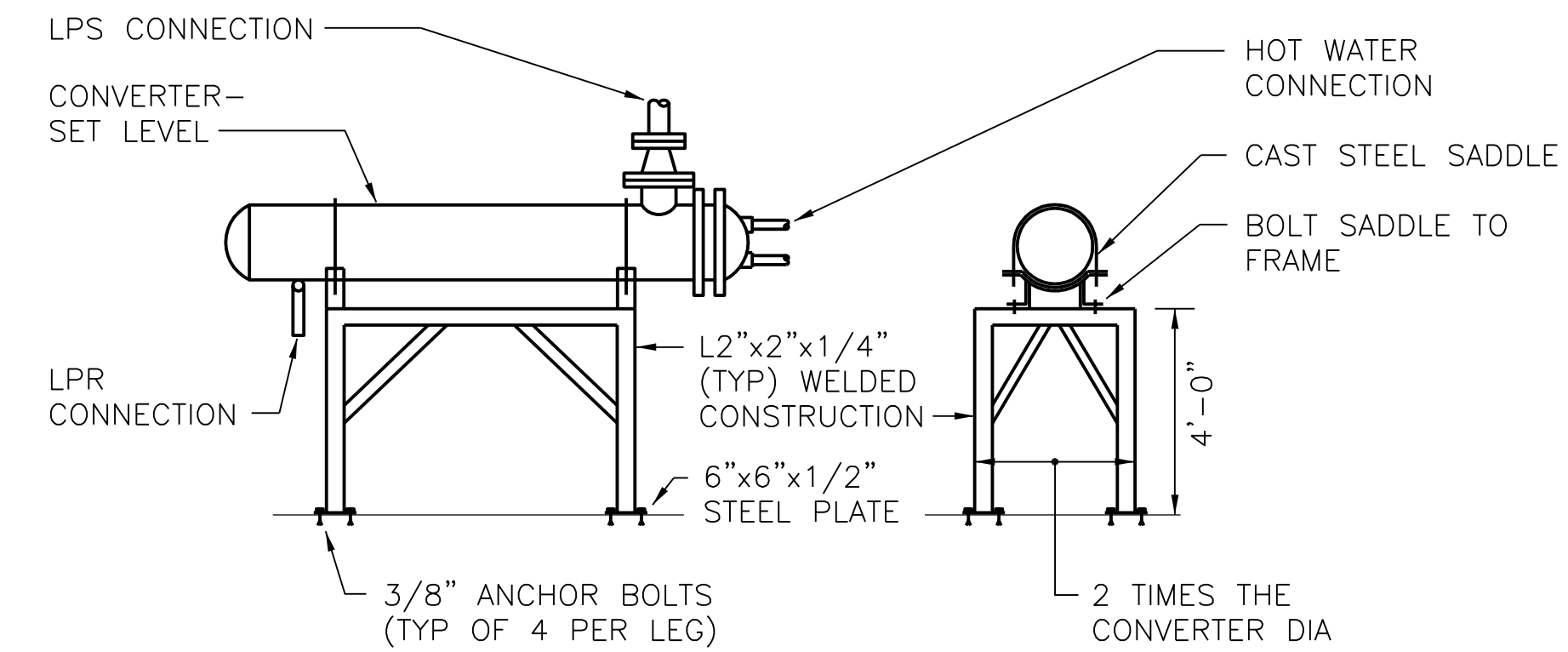
BFA File Name G:\2010\10-0050 B-131 ENERGY\NAVIGATOR\FACILITIES ENERGY IMPROVEMENTS, BUILDING 131\Sheets\M-504 DETAILS.dwg Plot Date: Jul 11, 2012 - 2:13pm Lost Saved By: kbennett



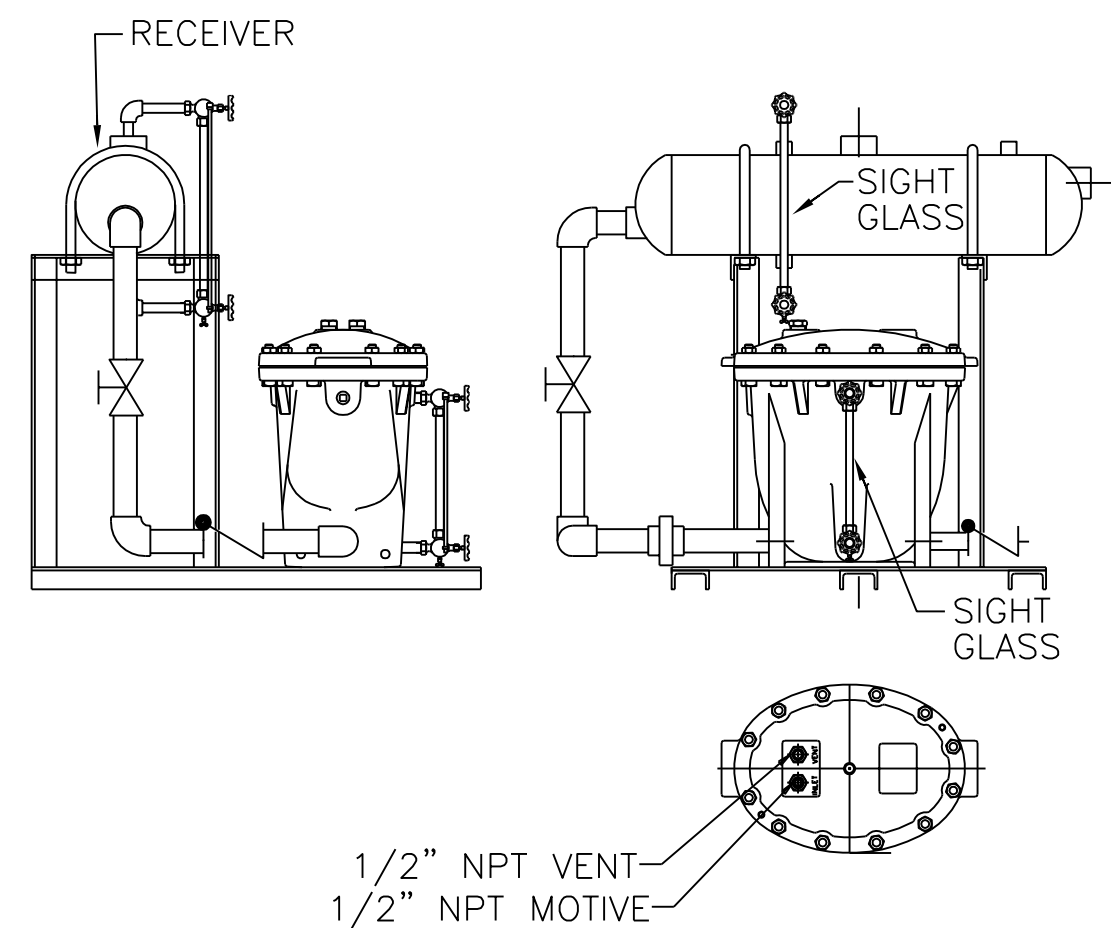
**PIPE SLEEVE EXTERIOR WALL**  
NO SCALE M-401 (C2)



**PUMP DETAIL - END SUCTION TYPE**  
NO SCALE M-401 (C3)

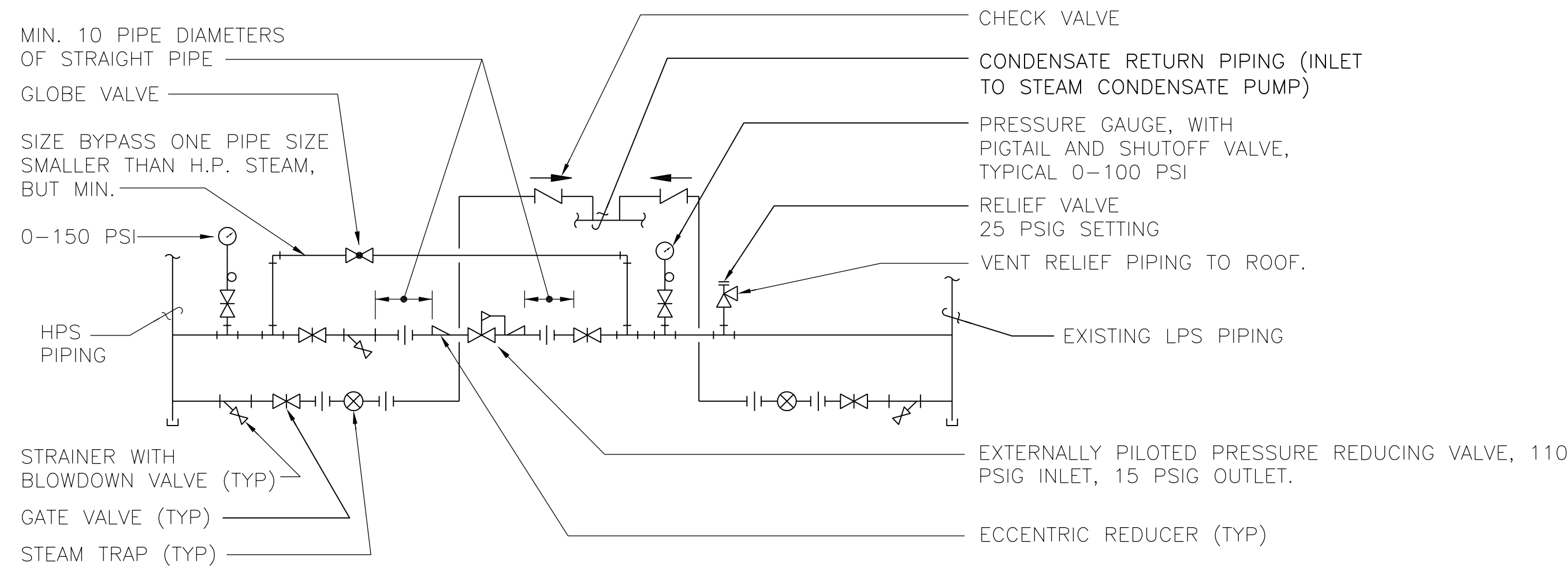


**CONVERTER SUPPORT DETAIL**  
NO SCALE M-401 (C5)

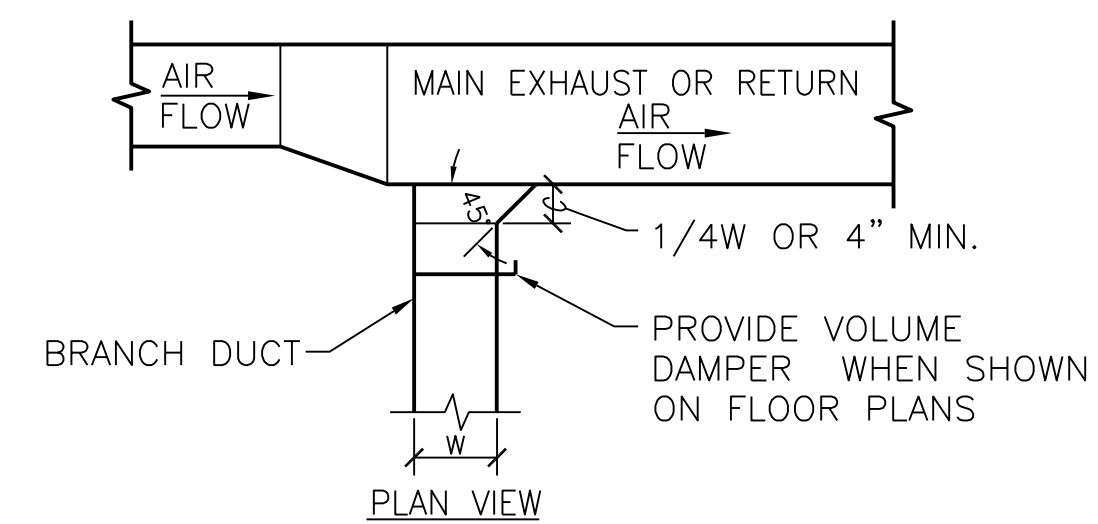


NOTES:  
1. RECEIVER ASME CODE 150 PSIG  
2. RECEIVER VOLUME = APPROXIMATELY 7 GALLONS.

**TYPICAL PIPING CONNECTIONS TO CONDENSATE PUMPS**  
NO SCALE M-401 (A2)



**STEAM PRESSURE REDUCING STATION PIPING DETAIL**  
NO SCALE M-401 (A4)

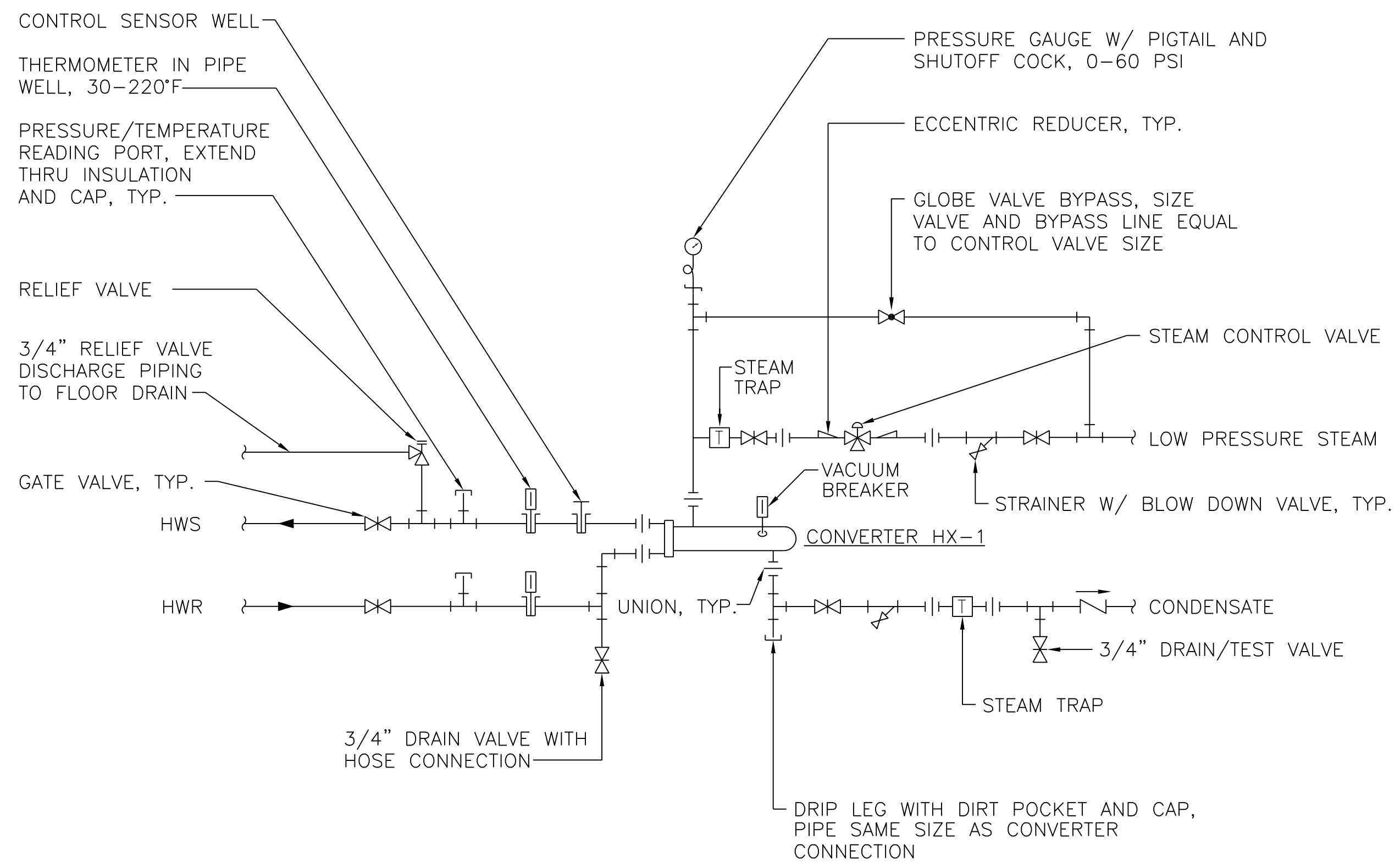


**RETURN BRANCH DUCTWORK**  
NO SCALE M-101, M-102, M-103, M-104, M-105, M-106, M-107, M-108 (A5)

DATE	APPROVED
DESCRIPTION	SYMBOL
BOWMAN, FOSTER & ASSOC. CONSULTING ENGINEERS #4 INTERSTATE CORP. CENTER NORFOLK, VA 23502 2424 26th ROAD SOUTH ARLINGTON, VA 22206	
APPROVED	10-0050
ACTIVITY - SATISFACTORY TO	
DATE	APPROVED
FOR EFD FOR COMMANDER NAVFAC	
DATE	
A/E	DESIGN
CML	DESIGN
KLB	DRAWN
JDH	REVIEW
SGR	OC
SGR	CHEF ARCH/ ENGR.
PROJECT MANAGER	PEC
FIRE PROTECTION	SAH
BRANCH MANAGER	PEC
DESIGN DIRECTOR	JEF
DEPARTMENT OF THE NAVY MARINE CORPS AIR STATION, CHERRY POINT, N.C. FACILITIES ENERGY REPAIRS, BUILDING 131 DETAILS	
CODE ID. NO. 80091	SIZE 0
SCALE:	AS SHOWN
FED. NO. WR6059407	
STA. PROJ. NO. CP12024M/CP12024R	
SPEC. NO.	
CONSTR. CONTR. NO.	
NAVFAC DRAWING NO.	12618447
SHEET	85 OF 124
<b>M-504</b>	
DRAWING REVISION JULY 2003	



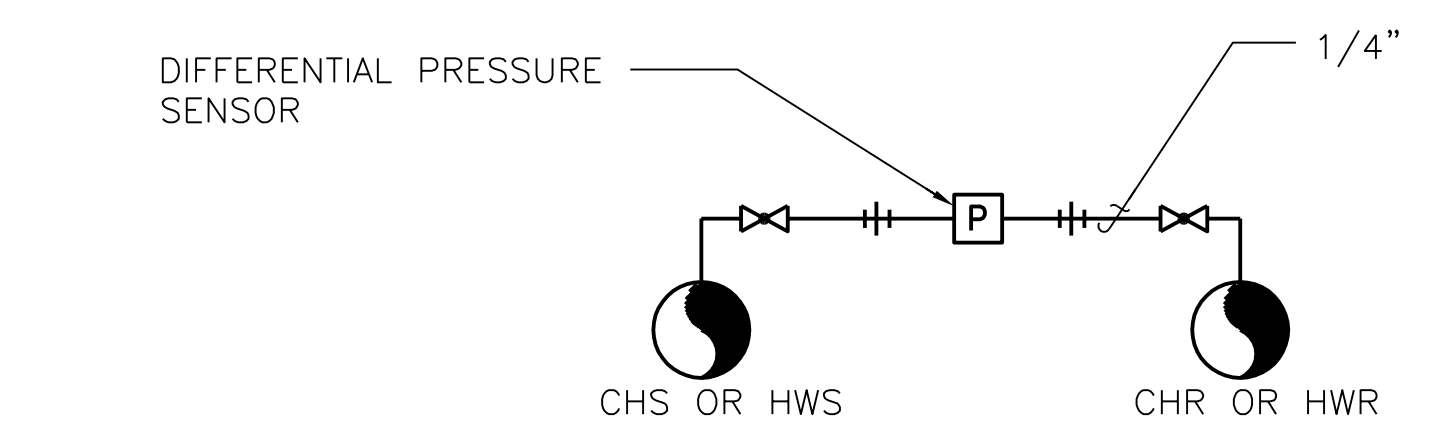
BFA Filename G:\2010\10-0050 B-131 ENERGY\SUBMITTALS\FINAL SUBMITTAL 7-12-12\BOUND CAD\12618448.dwg Plot Date: Jul 11, 2012 - 12:55pm Lost Saved By: kbennett



**CONVERTER PIPING DETAIL**

NO SCALE

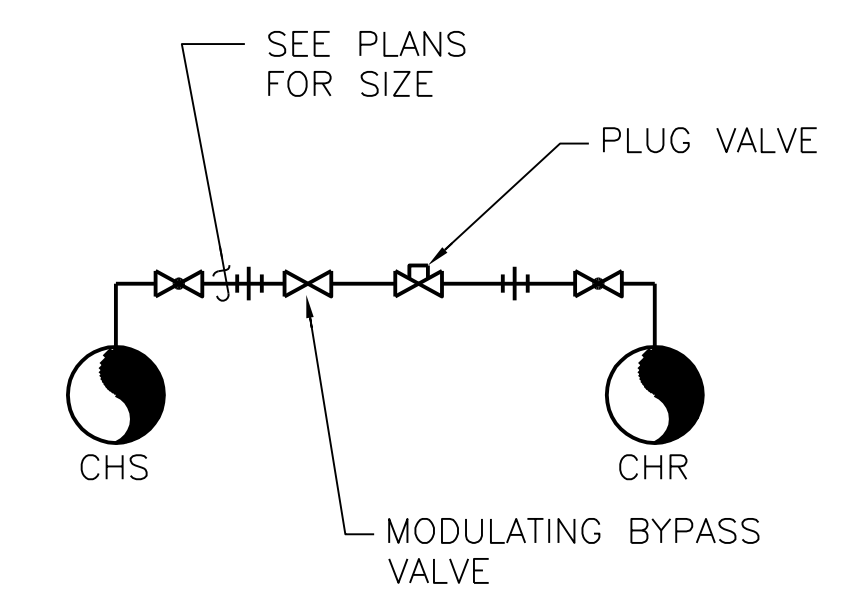
M-401 **(B3)**



**DIFFERENTIAL PRESSURE SENSOR DETAIL**

NO SCALE

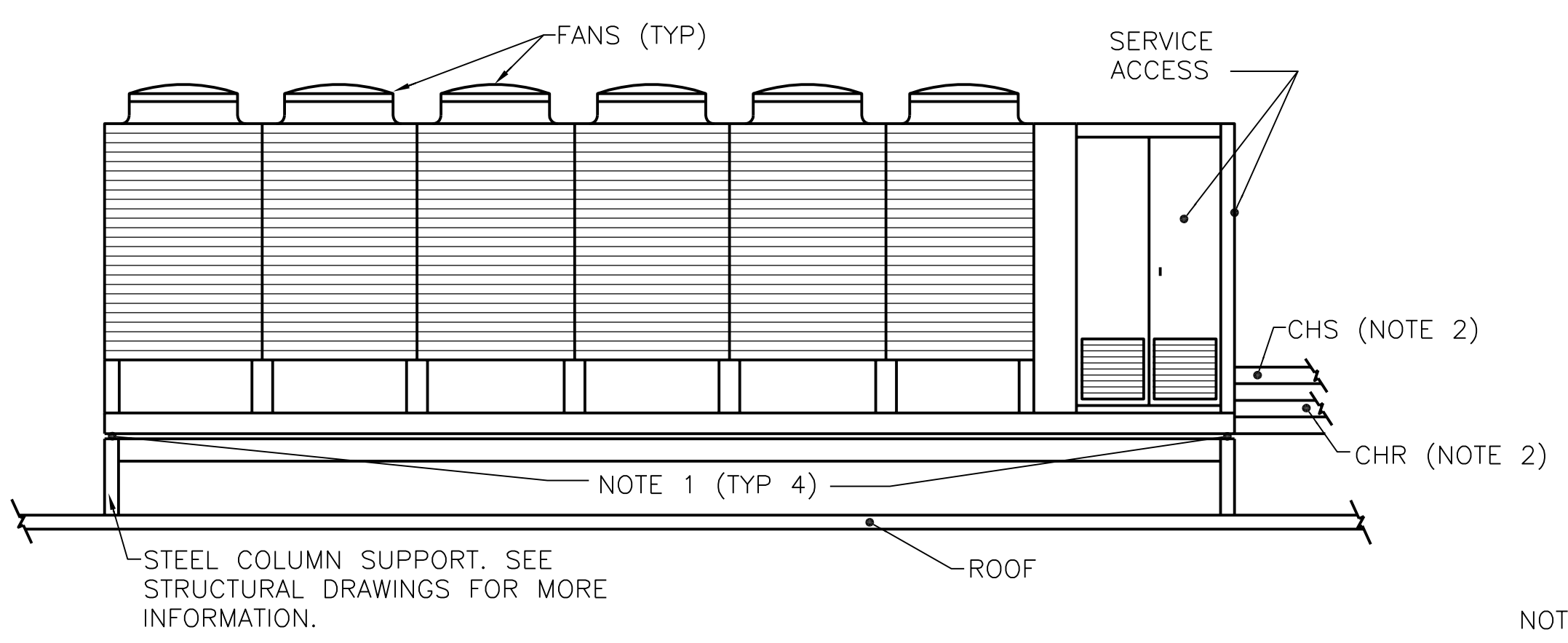
M-604, M-115 **(D5)**



**CHILLED WATER MODULATING BYPASS DETAIL**

NO SCALE

M-604 **(C5)**



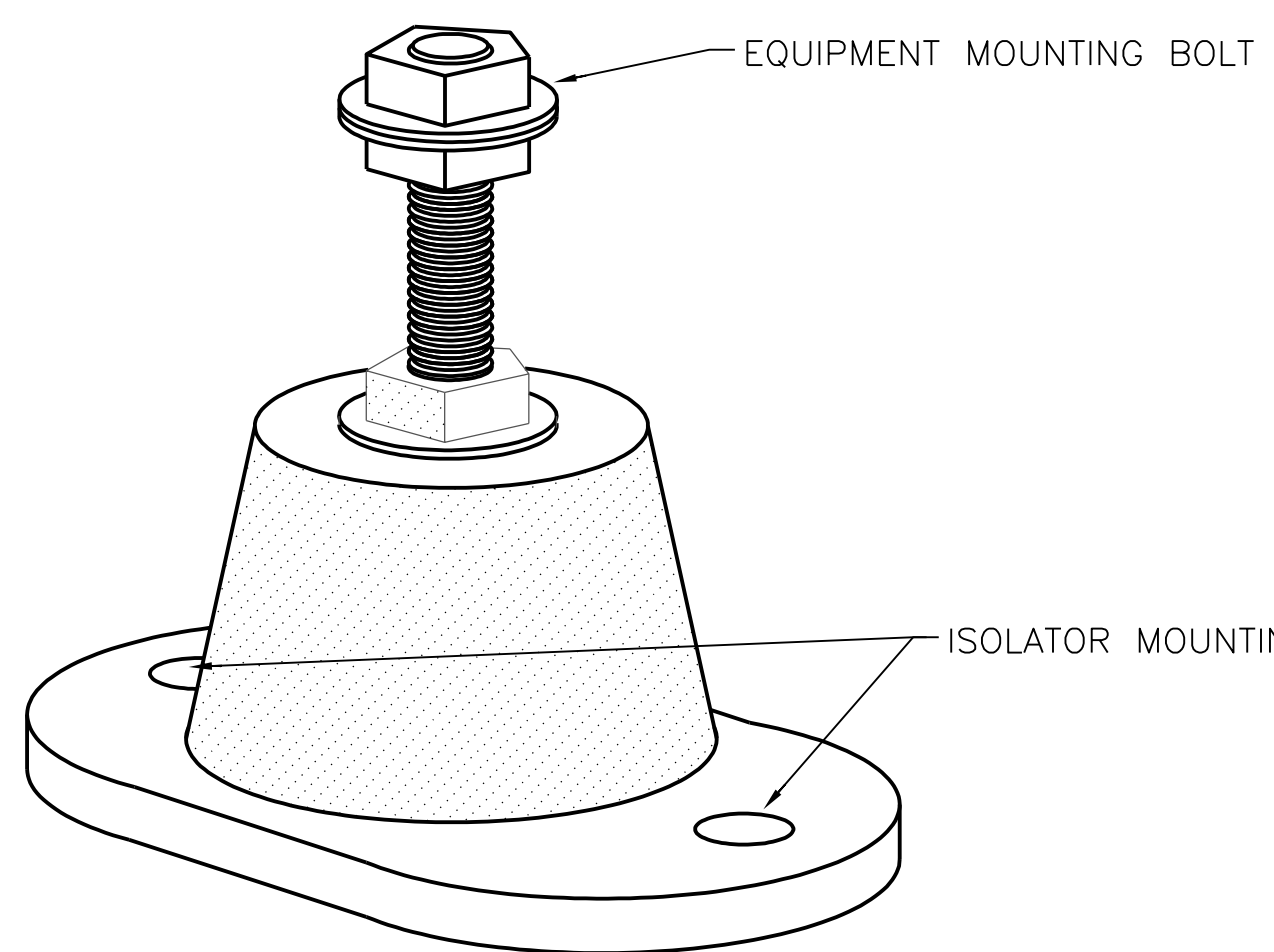
NOTES:

1. PROVIDE ELASTOMERIC ISOLATORS AT FOUR CORNERS OF STEEL FRAME. SEE "NEOPRENE ELASTOMERIC ISOLATOR INSTALLATION DETAIL", A4/M-505.
2. HEAT TRACE ALL EXPOSED CHILLED WATER PIPING ON THE ROOF.

**AIR COOLED CHILLER DETAIL**

NO SCALE

M-118 **(A3)**



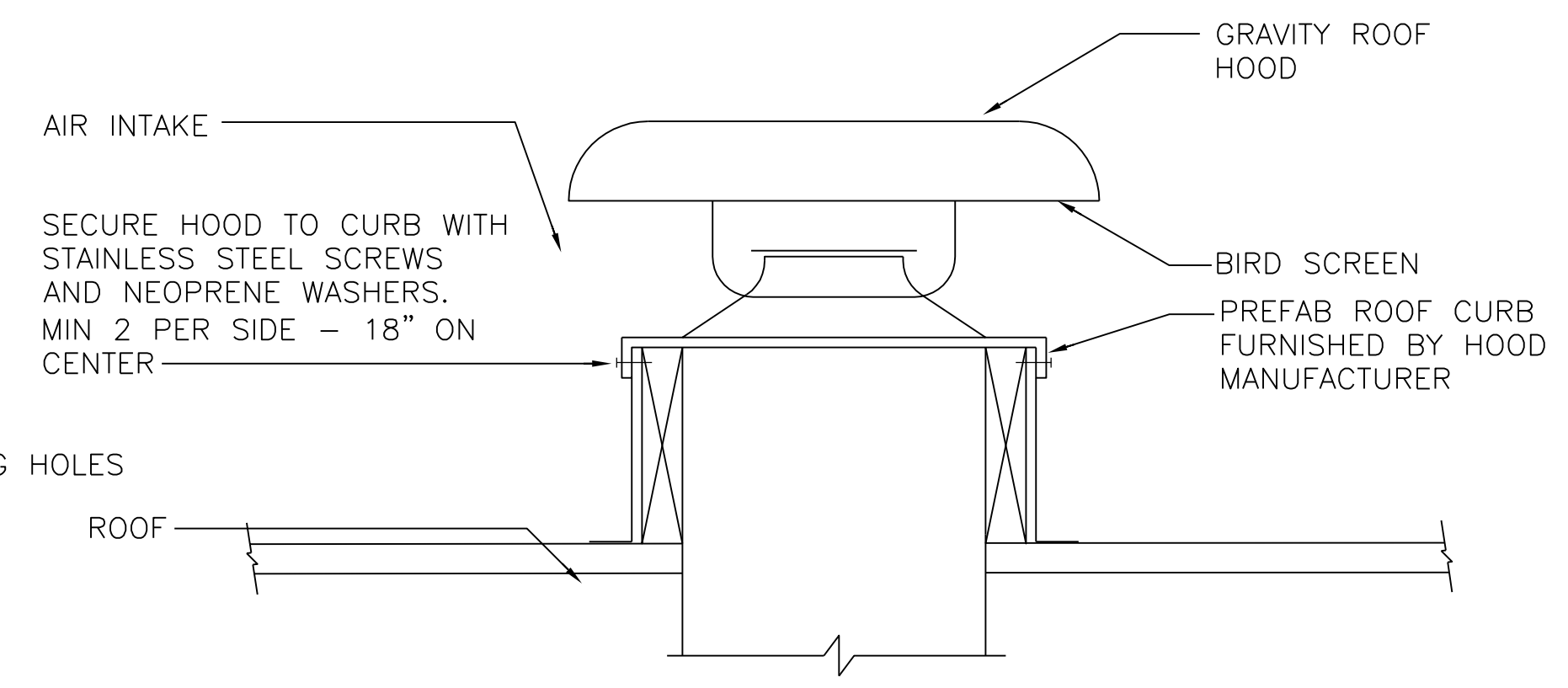
NOTES:

1. PLACE ELASTOMERIC ISOLATORS IN THEIR PROPER LOCATION AND ATTACH BOTTOM PLATE TO THE STRUCTURAL SUPPORT FRAME.
2. SET AIR COOLED CHILLER ON TOP OF ELASTOMERIC ISOLATORS
3. INSTALL AND SIZE PER MANUFACTURERS RECOMMENDATIONS.
4. MINIMUM HEIGHT SHALL BE 2.5 INCHES WITH A MINIMUM STATIC DEFLECTION OF 0.5".

**NEOPRENE ELASTOMERIC ISOLATOR INSTALLATION DETAIL**

NO SCALE

M-505 **(A4)**



**GRAVITY ROOF HOOD INSTALLATION DETAIL**

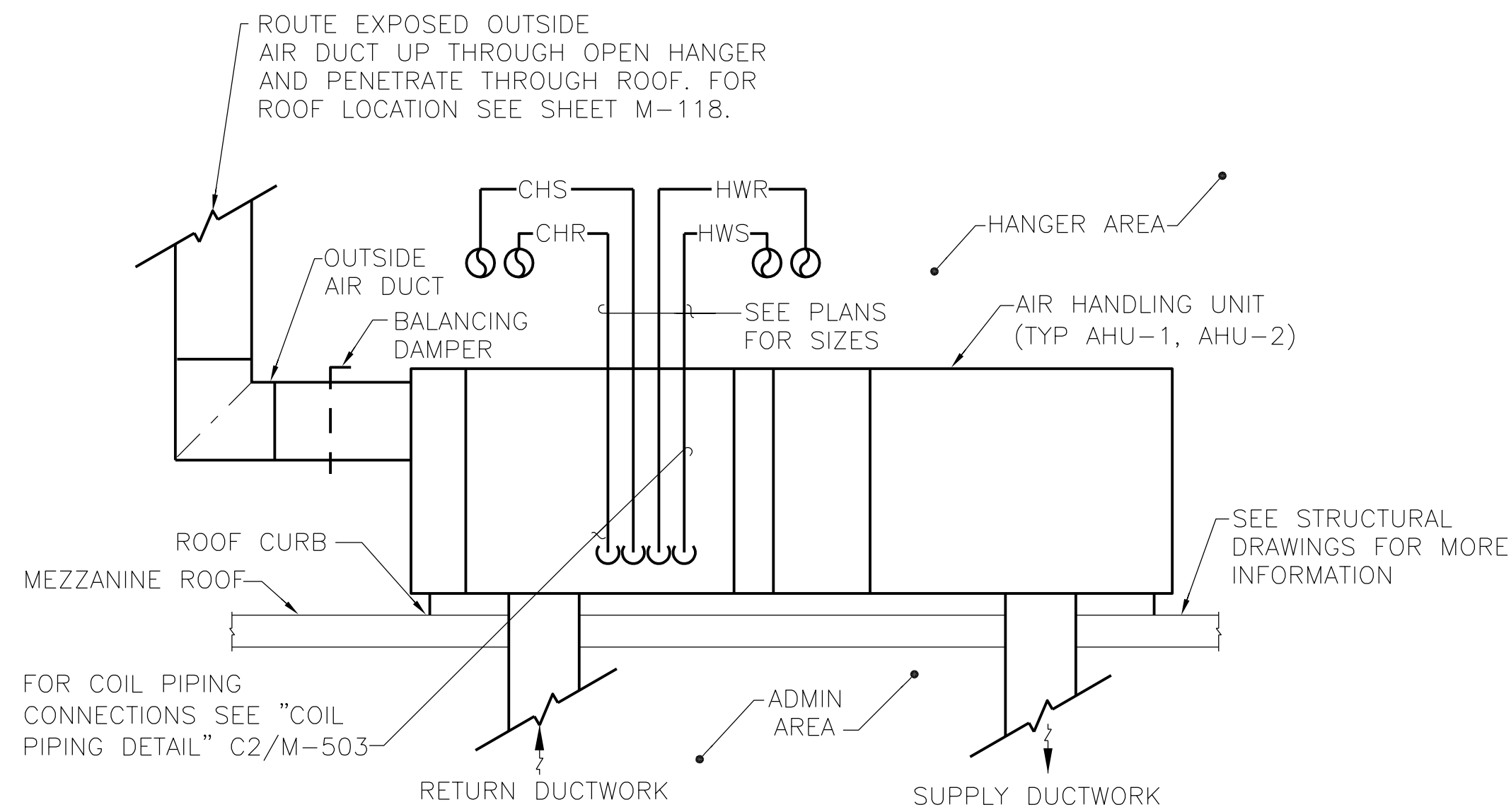
NO SCALE

M-118 **(A5)**

DATE	APPROVED
DESCRIPTION	SYMBOL
BOWMAN, FOSTER & ASSOC. CONSULTING ENGINEERS #4 INTERSTATE CORP. CENTER NORFOLK, VA 23502 2424 26th ROAD SOUTH ARLINGTON, VA 22206	
APPROVED	DATE
ACTIVITY - SATISFACTORY TO	
DATE	APPROVED
FOR EFD FOR COMMANDER NAVFAC	
DATE	
A/E	DESIGN
CML	EFD
KLB	DRAWN
JDH	REVIEW
SGR	OC
SGR	CHEF ARCH/ ENGR.
PROJECT MANAGER	PEC
FIRE PROTECTION	SAH
BRANCH MANAGER	PEC
DESIGN DIRECTOR	JEF
DEPARTMENT OF THE NAVY MARINE CORPS AIR STATION, CHERRY POINT, N.C. FACILITIES ENERGY REPAIRS, BUILDING 131 DETAILS	
CODE ID. NO. 80091	SIZE 0
SCALE:	AS SHOWN
FED. NO. WR6059407	
STA. PROJ. NO. CP12024M/CP12024R	
SPEC. NO.	
CONSTR. CONTR. NO.	
NAVFAC DRAWING NO.	12618448
SHEET	86 OF 124
<b>M-505</b>	
DRAWN/REVISED: JULY 2003	

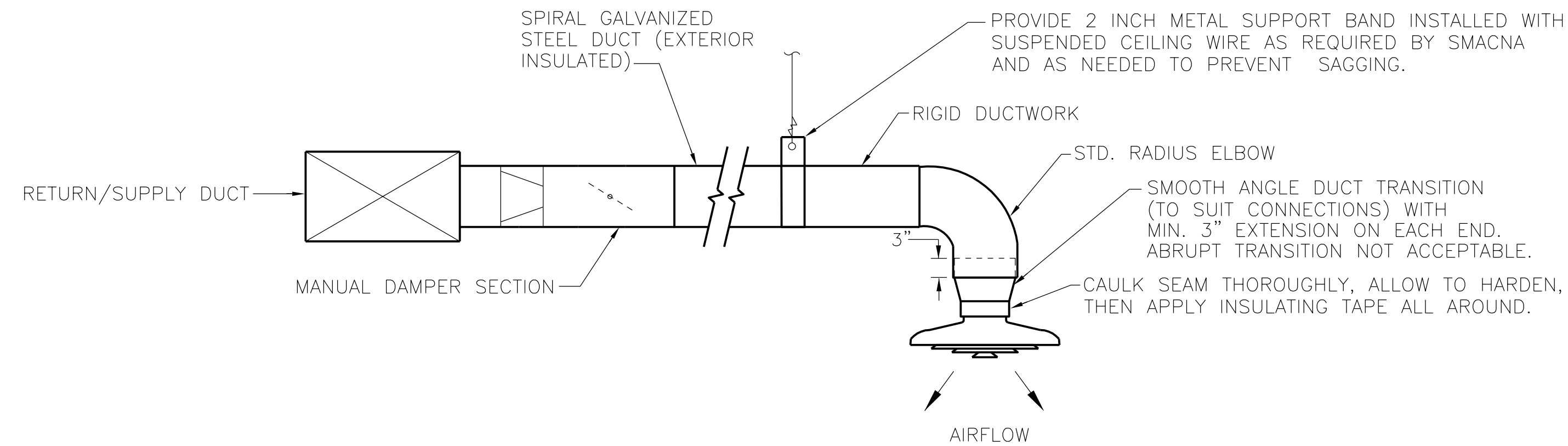


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AIR HANDLING UNIT INSTALLATION DETAIL  
NO SCALE

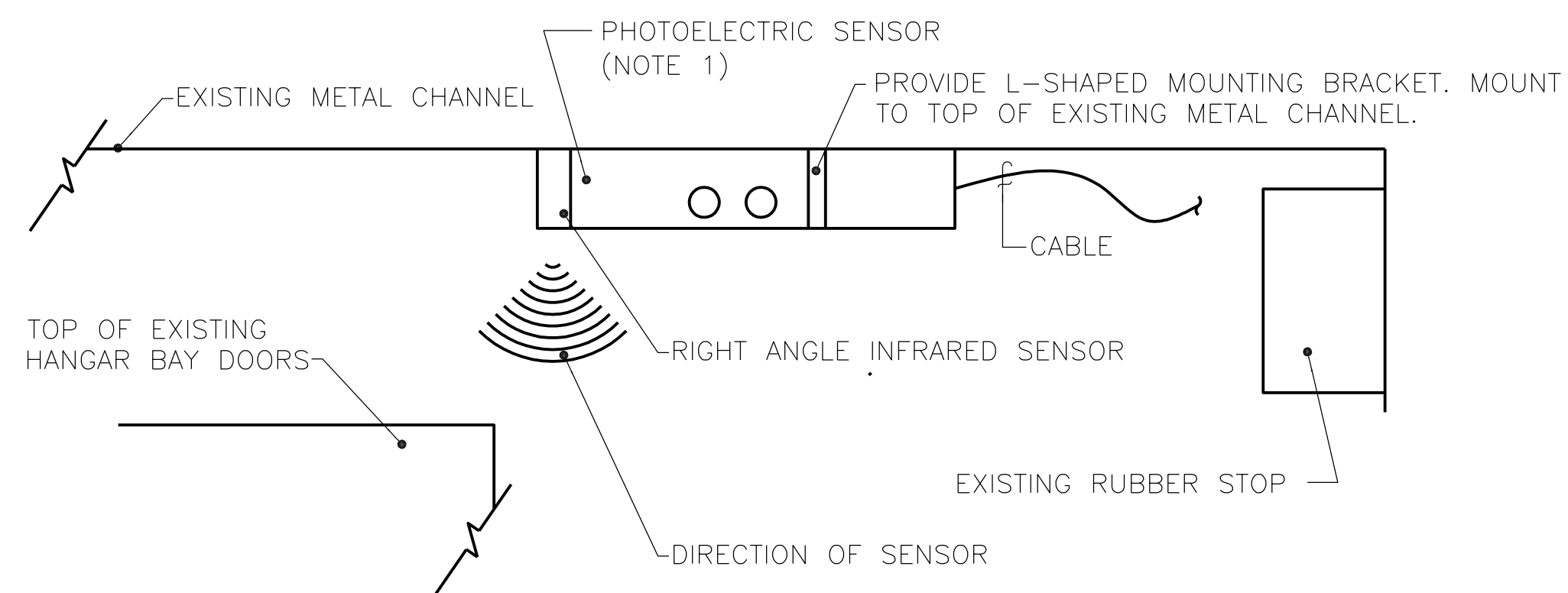
M-119 **A3**



NOTE:  
1. THE BRANCH TAKE-OFF FITTING AND DIFFUSER INLET SIZES SHALL BE EQUAL.

EXPOSED BRANCH CONNECTION DIFFUSER DETAIL  
NO SCALE

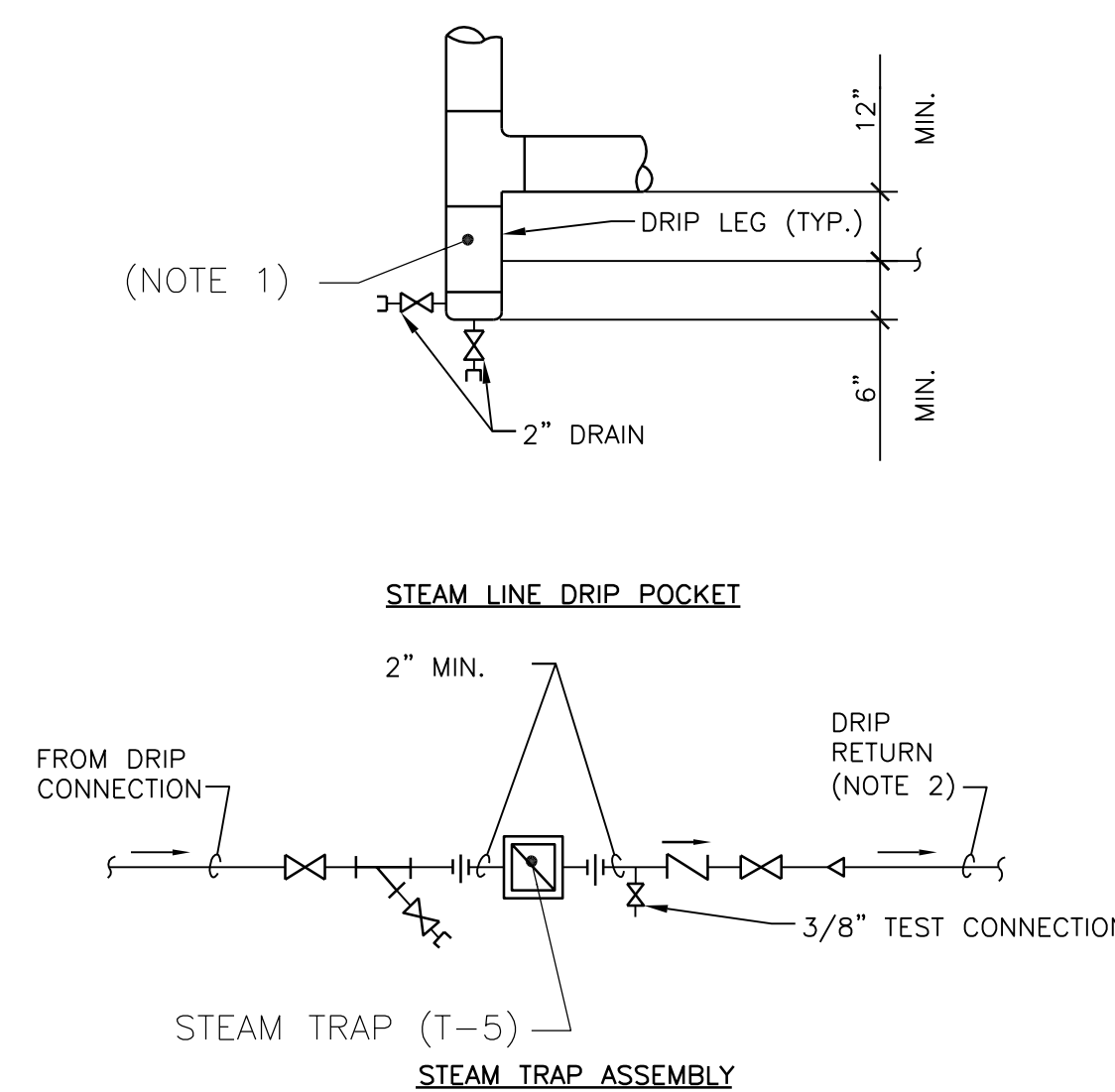
M-101, M-102, M-103, M-105, M-106 **C5**



NOTES:  
1. PHOTOELECTRIC SENSOR INSTALLATION SHALL NOT PROHIBIT FULL CLOSURE OF MECHANICAL HANGER BAY DOORS. UNIT SHALL ACCEPT A LOW VOLTAGE DC POWER SUPPLY AND BE COMPATIBLE WITH DDC SYSTEM. PHOTOELECTRIC SENSORS SHALL CONTROL OPERATION OF HANGER BAY UNIT HEATERS. SEE SHEET M-705 FOR MORE INFORMATION.

PHOTOELECTRIC SENSOR INSTALLATION DETAIL  
NO SCALE

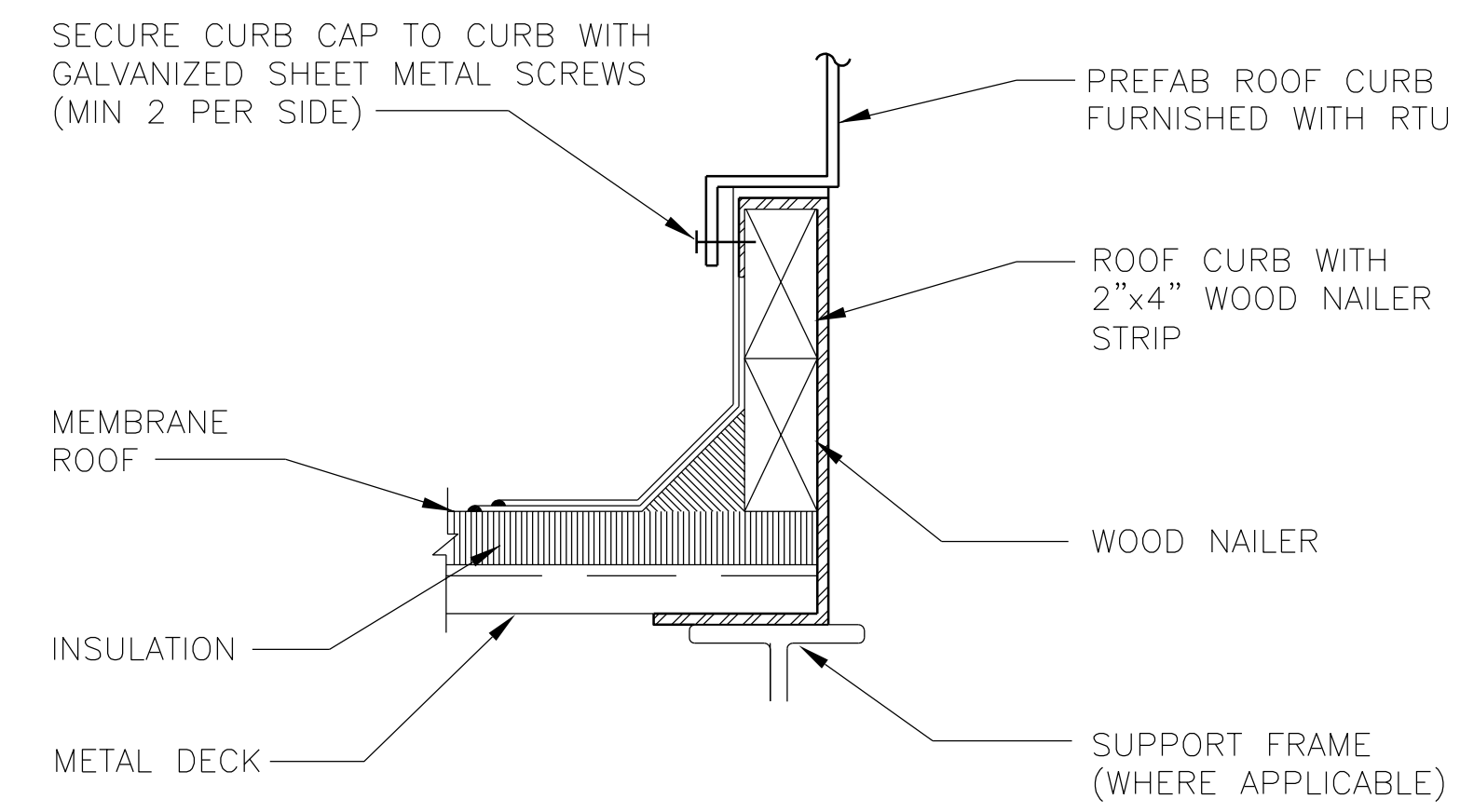
M-705 **A3**



NOTES:  
1. DRIP POCKET PIPE SIZE SAME AS STEAM MAIN UNLESS OTHERWISE NOTED. DRIP POCKET SHALL BE LOCATED IN EXISTING MECHANICAL ROOM STEAM PIT.  
2. CONNECT TO CONDENSATE RETURN MAIN.

STEAM LINE DRIP POCKET / STEAM TRAP ASSEMBLY  
NO SCALE

M-401 **A4**



NOTE:  
1. ROOF CURB TO BE PROVIDED BY MANUFACTURER.  
2. SEE STRUCTURAL DRAWINGS FOR ADDITIONAL INFORMATION.  
3. ALL DUCTWORK PIPING AND WIRING SHALL BE CONFINED WITHIN THE ROOF CURB.

ROOF CURB  
NO SCALE

M-503 **A5**

					DATE	APPR
						DESCRIPTION
						SYN

**BFA**  
BOWMAN, FOSTER & ASSOC.  
CONSULTING ENGINEERS  
#4 INTERSTATE CORP. CENTER  
NORFOLK, VA 23502  
2424 26TH ROAD SOUTH  
ARLINGTON, VA 22206

**MARINE CORPS AIR STATION, CHERRY POINT, N.C.  
FACILITIES ENERGY REPAIRS,  
BUILDING 131**

DETAILS

DEPARTMENT OF THE NAVY

NAVFAC DRAWING NO. 12618449  
SHEET 87 OF 124  
**M-506**  
DRAWN REVISION JULY 2003

DATE	DESIGN	EFD
A/E	CML	
DRAWN	KLB	
REVIEW	SGR	
OC	SGR	
CHIEF ARCH/ ENGR.	SGR	
PROJECT MANAGER	SAH	PEC
FIRE PROTECTION	SAH	PEC
BRANCH MANAGER	SAH	PEC
DESIGN DIRECTOR	JEF	

CODE ID. NO. B0091 SIZE 0  
SCALE: AS SHOWN  
FED. NO. WR6059407  
STA. PROJ. NO. CP12024M/CP12024R  
SPEC. NO.  
CONSTR. CONTR. NO.

BFA File Name G:\2010\10-0050 B-131 ENERGY\SUBMITTALS\FINAL SUBMITTAL 7-12-12\12-12\BOUND CAD\12618450.dwg Plot Date: Jul 11, 2012 - 12:55pm Lost Saved By: kbennett

### CIRCULATING PUMP SCHEDULE

MARK	TYPE	WATER FLOW GPM	HEAD FT	MOTOR			RPM	EFFICIENCY	SYSTEM	REMARKS
				HP	VOLTS	PH				
P-1	BASE MOUNT	370	130	25	460	3	1750	72.7	CHILLED WATER	①
P-2	BASE MOUNT	343	140	25	460	3	1750	72.2	HOT WATER	①

NOTES:  
① PROVIDE VFD FOR A VARIABLE FLOW APPLICATION.

### AIR COOLED CHILLER SCHEDULE

MARK	CAPACITY TONS	WATER FLOW GPM	EWT °F	LWT °F	WPD FT	OA TEMPERATURE °F	NUMBER OF COMPRESSORS	ELECTRICAL SERVICE				REFRIGERANT TYPE	FULL LOAD EFFICIENCY (KW/TON)	IPLV (KW/TON)	REMARKS
								TOTAL RLA	MCA	MFS	VOLTS				
CH-1	154.1	370	55	45	9.4	92	2	273	329	400	460	R-134	①1.090	0.613	②③

REMARKS:  
① TEST IN ACCORDANCE WITH AHRI 550/590.  
② PROVIDE SINGLE POINT CONNECTION FOR ELECTRICAL POWER.  
③ PROVIDE OIL-LESS TURBOCOR COMPRESSORS. COMPRESSORS CAPACITY SHALL BE DETERMINED BY INTEGRATED VARIABLE SPEED DRIVE AND USE OF MAGNETIC BEARINGS COUPLED WITH A PERMANENT MAGNET MOTOR.

### DUCT CONSTRUCTION AND LEAK TEST SCHEDULE

MARK	DUCT PRESSURE CLASS				DUCT SEAL CLASS	DUCT LEAK CLASS	DUCT TEST PRESSURE	REMARKS
	SUPPLY DUCT "WC	RETURN DUCT "WC	EXHAUST DUCT "WC	OUTSIDE AIR DUCT "WC				
RTU-1, RTU-2, RTU-3, RTU-4	2"	1"	N/A	1/2"	A	6/3	2"	①
AHU-1, AHU-2	1"	1"	N/A	1/2"	A	6/3	N/A	
EXHAUST FAN DUCTWORK	N/A	N/A	1"	N/A	A	6/3	N/A	

REMARKS  
① TEST PER SHEET METAL & AIR CONDITIONING CONTRACTORS' NATIONAL ASSOCIATION (SMACNA). DUCT AIR LEAKAGE TESTING (DALT) IS REQUIRED FOR SUPPLY DUCTWORK LEAVING RTU-1, RTU-2, RTU-3, AND RTU-4 TO THE INLET OF THE VAV BOXES. DALT NOT REQUIRED FOR EXHAUST, RETURN, OR SUPPLY DUCTWORK DOWNSTREAM OF VAV BOXES.

### HVAC DESIGN DATA

OUTDOOR DESIGN TEMPERATURES	92.0 °F Db SUMMER 78.0 °F Wb SUMMER 24.0 °F Db WINTER	DESIGN ALTITUDE: 0 FT.		
INDOOR AREA DESIGN CONDITIONS	SUMMER		WINTER	
	Db °F	% HUMIDITY	Db °F	% HUMIDITY
OFFICE AND SHOP AREAS	75	50	70	30
HANGER AREAS	-	-	70	30

### STEAM CONDENSATE PUMP SCHEDULE

PUMP NO.	LOCATION	TYPE UNIT	LBS/HR	DISCHARGE PRESSURE	REMARKS
SCP-1	MECH ROOM	PRESSURE POWERED	6000	50	①

① DESIGN BASED ON ARMSTRONG, PT-206 PUMP TRAP RECEIVER PACKAGE.

### HOT WATER UNIT HEATER SCHEDULE

MARK	AIR FLOW CFM	MOTOR HP	FAN RPM	COIL CAPACITY (BASED ON EWT OF 180 °FDB)					MIN AIR THROW FT	MOUNTING HEIGHT FT	ELECTRICAL SERVICE		REMARKS
				TOTAL MBH	EAT °FDB	LAT °FDB	WATER PD FT	FLOW GPM			VOLTS	PH	
UH-01	6140	3/4	1140	230.0	70.0	104.6	3.5	23.0	30.0	34.0	208	3	①
UH-02	6140	3/4	1140	230.0	70.0	104.6	3.5	23.0	30.0	34.0	208	3	①
UH-03	6140	3/4	1140	230.0	70.0	104.6	3.5	23.0	30.0	34.0	208	3	①
UH-04	6140	3/4	1140	230.0	70.0	104.6	3.5	23.0	30.0	34.0	208	3	①
UH-05	6140	3/4	1140	230.0	70.0	104.6	3.5	23.0	30.0	34.0	208	3	①
UH-06	6140	3/4	1140	230.0	70.0	104.6	3.5	23.0	30.0	34.0	208	3	①
UH-07	6140	3/4	1140	230.0	70.0	104.6	3.5	23.0	30.0	34.0	208	3	①
UH-08	6140	3/4	1140	230.0	70.0	104.6	3.5	23.0	30.0	34.0	208	3	①
UH-09	6140	3/4	1140	230.0	70.0	104.6	3.5	23.0	30.0	34.0	208	3	①
UH-10	6140	3/4	1140	230.0	70.0	104.6	3.5	23.0	30.0	34.0	208	3	①
UH-11	6140	3/4	1140	230.0	70.0	104.6	3.5	23.0	30.0	34.0	208	3	①
UH-12	6140	3/4	1140	230.0	70.0	104.6	3.5	23.0	30.0	34.0	120	1	①
UH-13	500	0.02	1550	14.3	70.0	96.5	2.2	1.4	25.0	8.0	120	1	②
UH-14	500	0.02	1550	14.3	70.0	96.5	2.2	1.4	25.0	8.0	120	1	②
UH-15	500	0.02	1550	14.3	70.0	96.5	2.2	1.4	25.0	8.0	120	1	②
UH-16	500	0.02	1550	14.3	70.0	96.5	2.2	1.4	25.0	8.0	120	1	②

NOTES:  
① DESIGN BASED ON TRANE MODEL 384-P VERTICAL SERIES. PROVIDE LOUVER CONE DIFFUSER FOR HIGH BAY AREAS AND SET TO VERTICAL POSITION. MAXIMUM SPREAD IN FEET SHALL BE 37 FEET. DESIGN BASED AROUND ALL AIR PORTS OPEN.  
② DESIGN BASED ON TRANE MODEL S-A18 HORIZONTAL SERIES WITH LOUVER FIN.


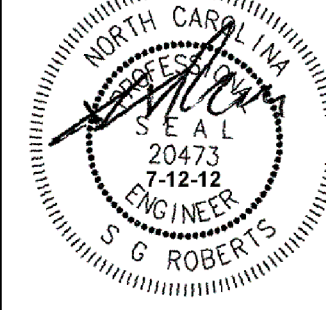
### DUCTLESS SPLIT SYSTEM INDOOR UNIT

MARK	LOCATION	ESP "WC	SUPPLY AIR CFM	OA CFM	COOLING		ELECTRICAL SERVICE
					TOTAL MBH	SENSIBLE MBH	
MSI-1	TELECOM ROOM	0.0	520	0.0	22.0	13.86	①②③

NOTES:  
① DUCTLESS SPLIT SYSTEM INDOOR UNITS POWERED VIA OUTDOOR UNIT.  
② WALL MOUNTED DUCTLESS SPLIT SYSTEM. PROVIDE CONDENSATE PUMP.  
③ PERFORMANCE DATA BASED ON INDOOR DESIGN CONDITIONS OF 80° FDB / 67° FWB AND OUTDOOR DESIGN DESIGN CONDITIONS OF 95° FDB / 75° FWB.

### DUCTLESS SPLIT SYSTEM OUTDOOR UNIT

MARK	SERVES	COOLING CAPACITY MBH	MIN SEER	ELECTRICAL				
				TOTAL FLA	MCA	MFS	VOLTS	PH
MSO-1	MSI-1	22.0	17.0	13.6	17.0	20	208	1

DATE	APPROVED	DATE
DESCRIPTION		
SYMBOL		
 <p>BOWMAN, FOSTER &amp; ASSOC. CONSULTING ENGINEERS #4 INTERSTATE CORP. CENTER NORFOLK, VA 23502 2424 26th ROAD, SOUTH ARLINGTON, VA 22206</p>		
		
APPROVED		
ACTIVITY - SATISFACTORY TO		
DATE		
APPROVED		
FOR EFD FOR COMMANDER NAVFAC		
DATE		
A/E	DESIGN	EFD
CML	DRAWN	
KLB	REVIEW	
JDH	OC	
SGR	CHIEF ARCH/ ENGR.	
SGR	PFC	
PROJECT MANAGER	SAH	
FIRE PROTECTION	PEC	
BRANCH MANAGER	PEC	
DESIGN DIRECTOR	JEF	
DEPARTMENT OF THE NAVY MARINE CORPS AIR STATION, CHERRY POINT, N.C. FACILITIES ENERGY REPAIRS, BUILDING 131 SCHEDULES		
CODE ID. NO. 80091	SIZE D	
SCALE: AS SHOWN		
FED. NO. WR6059407		
STA. PROJ. NO. CP12024M/CP12024R		
SPEC. NO.		
CONSTR. CONTR. NO.		
NAVFAC DRAWING NO.		
12618450		
SHEET 88 OF 124		
M-601		
DRAWING REVISION JULY 2003		



### EXHAUST FAN SCHEDULE

MARK	TYPE	AIR FLOW CFM	FAN DATA ESP "WC	MOTOR HP	ELECTRIC SERVICE		REMARKS
					VOLTS	PH	
EF-1	CENTRIFUGAL	575	.25	1/6	120	1	①
EF-2	CENTRIFUGAL	1500	.25	1	460	3	①
EF-3	CENTRIFUGAL	150	.25	1/60	120	1	①
EF-4	CENTRIFUGAL	575	.25	1/6	120	1	①
EF-5	CENTRIFUGAL	170	.25	1/60	120	1	①
EF-6	NOT USED						
EF-7	CENTRIFUGAL	160	.25	1/60	120	1	①
EF-8	CENTRIFUGAL	110	.25	1/60	120	1	①
EF-9	CENTRIFUGAL	150	.25	1/60	120	1	①
EF-10	CENTRIFUGAL	170	.25	1/60	120	1	①
EF-11	CENTRIFUGAL	860	.25	1/4	120	1	①
EF-12	CENTRIFUGAL	1260	.25	1/4	120	1	①
EF-13	CENTRIFUGAL	500	.25	1/6	120	1	①

NOTES:  
 ① PROVIDE WITH GRAVITY BACKDRAFT DAMPER, ROOF CURBS, AND SCR CONTROLLER FOR BALANCING.

### CHEMICAL SHOT FEEDER

MARK	CAPACITY GAL	MAX PRESSURE PSI	REMARKS
CSF-1	5	125	
CSF-2	5	125	

### HOT WATER CONVERTER SCHEDULE

MARK	TUBE SIDE			CAPACITY MBH	MAX PD FT	DIAMETER OF SHELL IN	LENGTH IN	REMARKS
	WATER FLOW GPM	EWTF	LWTF					
HX-1	343.0	160	180	3430	1.0	14	36	①

① PROVIDE SHELL AND TUBE STEAM INSTANTANEOUS HEAT EXCHANGER. BASED ON BELL AND GOSSETT MODEL # SU143-2.

### PHOTOELECTRIC SENSOR SCHEDULE

MARK	DIRECTION OF SENSOR	SENSING BEAM	NOMINAL RANGE IN	OPERATING VOLTAGE	REMARKS
PS-1	RIGHT ANGLE	INFRARED	9.0	10-30 DC	① ② ③
PS-2	RIGHT ANGLE	INFRARED	9.0	10-30 DC	① ② ③
PS-3	RIGHT ANGLE	INFRARED	9.0	10-30 DC	① ② ③
PS-4	RIGHT ANGLE	INFRARED	9.0	10-30 DC	① ② ③

① DESIGN BASED AROUND EATON CATALOG # 13103R6517 PERFECT PROX RIGHT ANGLE SENSOR. PROVIDE WITH MANUFACTURER SUPPLIED MOUNTING BRACKET.  
 ② LIMIT SWITCH INSTALLATION SHALL NOT PROHIBIT FULL CLOSURE OF MECHANICAL HANGAR BAY DOORS.  
 ③ UNIT SHALL BE COMPATIBLE WITH DDC SYSTEM.

### EXPANSION TANK SCHEDULE

EXPANSION TANK MARK	AIR SEPARATOR MARK	APPROX. SYSTEM VOLUME GAL	SYSTEM TEMP. RANGE		INITIAL PRESS. IN TANK PSIG	MAX. OPER. PRESS.	FILL PRESS. AT TANK		MIN. VOLUME GAL	MIN. ACCEPT VOLUME GAL	AIR SEPARATOR			PIPE SIZE TO TANK IN	COLD WATER FILL SIZE IN	SYSTEM	CONFIGURATION OF EXPANSION TANK	REMARKS
			MIN. °F	MAX. °F			RELIEF VALVE PSIG	AT TANK PSIG			DIAMETER IN	MAX. P.D. FT	BUILT-IN STRAINER REQUIRED					
ET-1	AS-1	1500	40	90	17.0	125	50	22	21.7	11.3	18	1.0	YES	3/4	3/4	CHILLED WATER	VERTICAL ①	
ET-2	AS-2	2280	40	200	17.0	125	50	22	76.4	59.1	18	1.0	YES	1	3/4	HOT WATER	VERTICAL ②	

NOTES:  
 ① BASED ON BELL AND GOSSETT MODEL D-40V PRESSURIZED DIAPHRAGM VERTICAL FLOOR MOUNTED EXPANSION TANK.  
 ② BASED ON BELL AND GOSSETT MODEL B-300 PRESSURIZED BLADDER VERTICAL FLOOR MOUNTED EXPANSION TANK.

### STEAM TRAP SCHEDULE

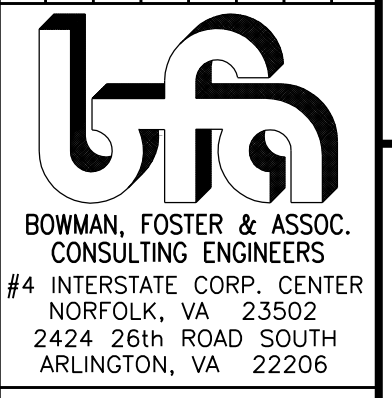
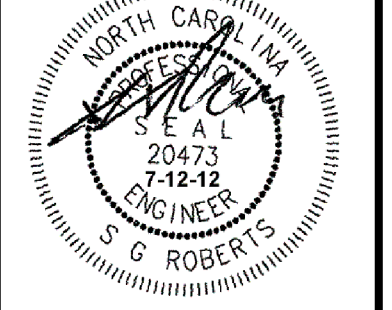
VALVE/TRAP NO.	BASIS OF DESIGN ①	CAPACITY AT MINIMUM DIFFERENTIAL PRESSURE LB./HR.	ORIFICE SIZE IN.	INLET PRESSURE PSIG	TRAP TYPE	CONNECTION PIPE SIZE IN.
T-1	FT125C	7350	0.29	115	F/T	2"
T-2	FT015C	6800	0.69	15	F/T	2"
T-3	FT015C	6800	0.69	15	F/T	2"
T-4	FT015C	6800	0.69	15	F/T	2"
T-5	FT125C	7350	0.29	115	F/T	2"

NOTES:  
 ① BASED ON HOFFMAN SPECIALTY SERIES FLOAT AND THERMOSTATIC TRAP.

### LOUVER, GRILLE, REGISTER & DIFFUSER SCHEDULE

MARK	TYPE	SERVICE	NECK SIZE	SIZE (INCHES)	MAX APD IN. WC	REMARKS
(A)	DIFFUSER	SUPPLY	6"φ	24"x24"	.09	① ③ ④
(B)	DIFFUSER	SUPPLY	6"φ	24"x24"	.09	② ③ ④
(C)	DIFFUSER	SUPPLY	8"φ	24"x24"	.09	① ③ ④
(D)	DIFFUSER	SUPPLY	8"φ	24"x24"	.09	② ③ ④
(E)	DIFFUSER	SUPPLY	10"φ	24"x24"	.09	① ③ ④
(F)	DIFFUSER	SUPPLY	10"φ	24"x24"	.09	② ③ ④
(M)	GRILLE	RETURN/EXHAUST	6"x6"	-	.08	① ③
(N)	GRILLE	RETURN/EXHAUST	6"x6"	-	.08	② ③
(O)	GRILLE	RETURN/EXHAUST	8"x8"	-	.08	① ③
(P)	GRILLE	RETURN/EXHAUST	8"x8"	-	.08	② ③
(Q)	GRILLE	RETURN/EXHAUST	10"x10"	-	.08	① ③
(R)	GRILLE	RETURN/EXHAUST	10"x10"	-	.08	② ③
(S)	GRILLE	RETURN/EXHAUST	12"x12"	-	.08	① ③
(T)	GRILLE	RETURN/EXHAUST	12"x12"	-	.08	② ③
(U)	GRILLE	RETURN/EXHAUST	15"x15"	-	.08	① ③
(V)	GRILLE	RETURN/EXHAUST	15"x15"	-	.08	② ③
(W)	GRILLE	RETURN/EXHAUST	18"x18"	-	.08	① ③
(X)	GRILLE	RETURN/EXHAUST	18"x18"	-	.08	② ③
(Y)	GRILLE	RETURN/EXHAUST	24"x24"	-	.08	① ③
(Z)	GRILLE	RETURN/EXHAUST	24"x24"	-	.08	② ③

NOTES:  
 ① PROVIDE 24"x24" LAY-IN FRAME.  
 ② DIFFUSER/GRILLE SHALL BE SUPPORTED BY DUCTWORK.  
 ③ ALL AIR DEVICES SHALL BE TESTED IAW ASHRAE STANDARD 70-91.  
 ④ DIFFUSERS SHALL BE 4 WAY BLOW.

DATE	APPROVED
DESCRIPTION	
SYMBOL	
	
BOWMAN, FOSTER & ASSOC. CONSULTING ENGINEERS #4 INTERSTATE CORP. CENTER NORFOLK, VA 23502 2424 26th ROAD SOUTH ARLINGTON, VA 22206	
	
APPROVED	10-0000
ACTIVITY - SATISFACTORY TO	
DATE	
APPROVED	
FOR EFD FOR COMMANDER NAVFAC	
DATE	
A/E	EFD
CML	DESIGN
KLB	DRAWN
JDH	REVIEW
SGR	OC
SGR	CHIEF ARCH/ ENGR.
PROJECT MANAGER	PEC
FIRE PROTECTION	SAH
BRANCH MANAGER	PEC
DESIGN DIRECTOR	JEF
NAVAL FACILITIES ENGINEERING COMMAND MARINE CORPS AIR STATION, CHERRY POINT, N.C. FACILITIES ENERGY REPAIRS, BUILDING 131 SCHEDULES	
CODE ID. NO. 80091	SIZE 0
SCALE:	AS SHOWN
FED. NO. WR6059407	
STA. PROJ. NO. CP12024M/CP12024R	
SPEC. NO.	
CONSTR. CONTR. NO.	
NAVFAC DRAWING NO.	12618451
SHEET	89 OF 124
<b>M-602</b>	
DRAWING REVISION JULY 2003	

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## SHUT OFF TYPE VAV BOX SCHEDULE



MARK	AIR HANDLING UNIT SERVED	VOLUME REGULATOR DATA					HEATING COIL DATA - 180 DEGREES F.						REMARKS
		INLET DIA INCHES	MAX COOLING AIRFLOW CFM	MIN COOLING AIRFLOW CFM	COOLING APD "WTR	COOLING INLET VELOCITY FT/MIN	HEATING AIRFLOW CFM	TOTAL MBH	E.A.T. (DEG.F.)	L.A.T (DEG.F.)	WATER FLOW (GPM)	COIL PRESSURE DROP FT WTR	
VAV-01	RTU-1	10	870	260	.304	1595	435	21.23	51.8	96.8	1.0	.11	1,2
VAV-02	RTU-1	8	490	145	.240	1404	245	12.17	51.8	99.6	1.0	.04	1,2
VAV-03	RTU-1	12	955	285	.130	1216	475	23.49	51.8	97.4	1.0	.1	1,2
VAV-04	RTU-1	10	675	205	.120	1238	340	15.01	51.8	95.2	1.0	.1	1,2
VAV-05	RTU-1	10	865	260	.301	1586	435	21.98	51.8	98.4	1.0	.12	1,2
VAV-06	RTU-1	8	480	145	.232	1375	240	11.84	51.8	97.3	1.0	.03	1,2
VAV-07	RTU-1	10	830	250	.281	1522	415	18.81	51.8	93.6	1.0	.1	1,2
VAV-08	RTU-1	8	530	160	.275	1518	265	12.07	51.8	90.9	1.0	.03	1,2
VAV-09	RTU-1	10	630	190	.180	1155	315	17.08	51.8	101.8	1.0	.1	1,2
VAV-10	RTU-3	8	470	140	.223	1346	235	10.96	51.9	95.0	1.0	.03	1,2
VAV-11	RTU-3	8	485	145	.236	1389	240	11.79	51.9	97.2	1.0	.03	1,2
VAV-12	RTU-3	12	1025	310	.276	1305	515	24.85	51.9	96.4	1.0	.1	1,2
VAV-13	RTU-3	14	1515	455	.230	1417	760	36.02	51.9	95.6	1.3	.1	1,2
VAV-14	RTU-3	10	595	180	.164	1091	300	15.32	51.9	99.0	1.0	.1	1,2
VAV-15	RTU-3	8	455	140	.211	1303	230	11.72	51.9	98.9	1.0	.03	1,2
VAV-16	RTU-3	10	625	190	.178	1146	315	18.24	51.9	105.3	1.0	.1	1,2
VAV-17	RTU-2	8	585	175	.327	1676	295	17.95	53.2	109.3	1.2	.13	1,2
VAV-18	RTU-2	12	1115	335	.315	1420	560	28.67	53.2	100.4	1.16	.1	1,2
VAV-19	RTU-2	10	650	195	.189	1192	325	16.39	53.2	99.7	1.0	.1	1,2
VAV-20	RTU-2	14	1485	450	.103	1389	745	30.7	53.2	91.2	1.1	.1	1,2
VAV-21	RTU-2	10	805	245	.268	1476	405	18.84	53.2	96.1	1.0	.1	1,2
VAV-22	RTU-2	12	1180	355	.147	1311	590	20.55	53.2	90.1	1.0	.04	1,2
VAV-23	RTU-2	12	1115	335	.315	1420	560	29.27	53.2	101.4	1.2	.1	1,2
VAV-24	RTU-2	8	375	115	.088	1074	190	8.61	53.2	96.9	1.0	.7	1,2
VAV-25	RTU-2	10	855	260	.295	1568	430	22.34	53.2	101.1	1.0	.13	1,2
VAV-26	RTU-2	8	585	180	.327	1676	295	11.68	53.2	89.7	1.0	.03	1,2
VAV-27	RTU-2	16	2155	650	.351	1543	1080	52.24	53.2	97.8	1.8	.2	1,2
VAV-28	RTU-2	10	750	225	.236	1375	375	17.00	53.2	111.0	1.0	.1	1,2
VAV-29	RTU-4	12	1015	305	.144	1291	510	26.77	52.9	81.83	1.0	.2	1,2
VAV-30	RTU-4	16	2085	630	.330	1493	1045	56.67	52.9	102.9	2.1	.22	1,2
VAV-31	RTU-4	10	685	210	.206	1256	345	13.88	52.9	101.0	1.0	.1	1,2
VAV-32	RTU-4	10	690	210	.208	1265	345	16.76	52.9	97.7	1.0	.1	1,2
VAV-33	RTU-4	10	700	210	.171	1576	350	10.92	52.9	93.1	1.0	.03	1,2
VAV-34	RTU-4	12	1165	350	.180	1483	585	22.71	52.9	88.7	1.0	.1	1,2
VAV-35	RTU-4	10	870	265	.304	1595	435	21.7	52.9	98.9	1.0	.12	1,2
VAV-36	RTU-4	16	2130	640	.343	1526	1065	54.17	52.9	99.8	1.9	.2	1,2
VAV-37	RTU-4	8	525	160	.157	1504	265	10.66	52.9	94.7	1.0	.03	1,2
VAV-38	RTU-4	8	455	140	.123	1303	230	8.93	52.9	101.0	1.0	.04	1,2
VAV-39	RTU-4	10	860	260	.298	1577	430	25.37	52.9	107.3	1.1	.22	1,2
VAV-40	RTU-4	10	710	215	.218	1302	360	19.48	52.9	102.8	1.0	.1	1,2

- NOTES:  
 1. SOUND DATA SHALL BE OBTAINED FROM TESTS CONDUCTED IN ACCORDANCE WITH ARI STANDARD 880-98.  
 2. WATER PRESSURE DROP IS IN FT. WATER

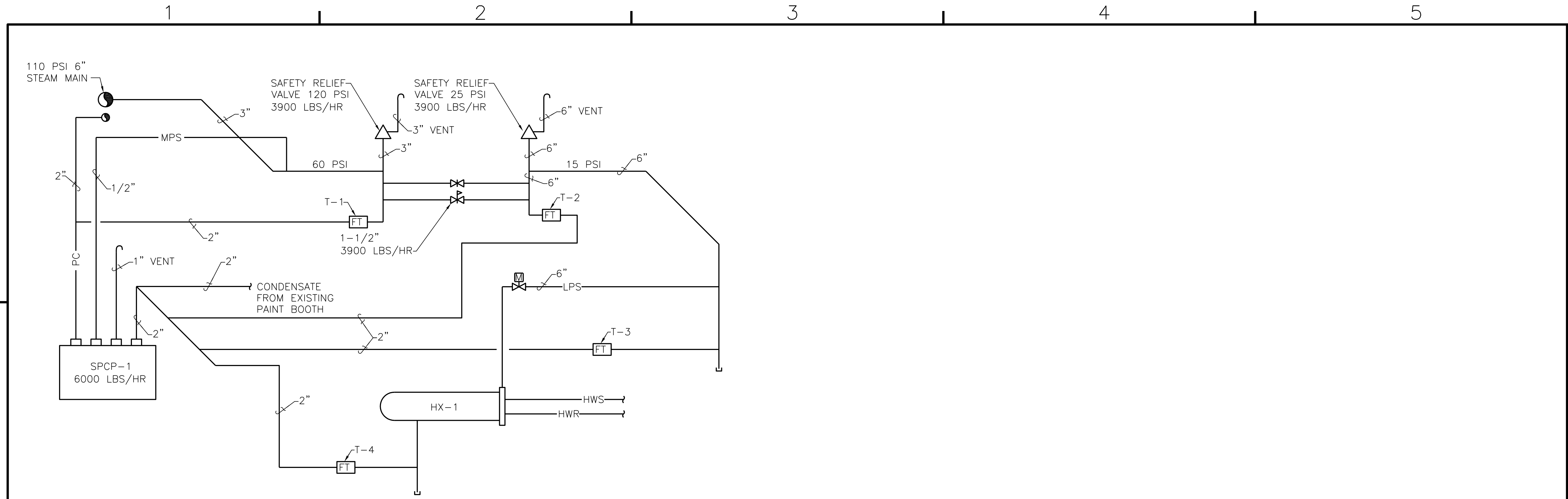
## AIR HANDLING UNIT SCHEDULE

MARK	FAN DATA				COOLING COIL DATA-CHILLED WATER (45°F EWT)								HEATING COIL DATA-HOT WATER (180°F EWT)					FILTER DATA			ELECTRICAL SERVICE		REMARKS		
	FAN CFM	OA CFM	ESP "WC	MOTOR HP	TOTAL MBH	SENSIBLE MBH	EAT		LAT		APD "WC	WPD FT	WATER FLOW GPM	TOTAL MBH	EAT		LAT	APD "WC	WPD FT	WATER FLOW GPM	FILTER TYPE	APD "WC CLEAN DIRTY		VOLTS	PH
AHU-1	3175	405	.5	3	128.1	87.7	79.8	67.5	54.64	54.63	0.14	1.3	25.7	32.3	50.0	84.74	1.9	1.3	12.1	MERV 8	.23	.90	208	3	(2) (4)
AHU-2	1435	120	.5	2	54.6	39.3	78.1	65.7	53.13	53.05	0.14	0.2	10.9	48.9	50.0	81.16	.2	.8	4.9	MERV 8	.23	.90	208	3	(2) (4)
RTU-1	6000	660	2.0	7.5	250.5	175.9	79.3	66.3	52.60	52.40	0.16	2.8	50.1		MERV 8	.23	.90	208	3	(1) (2) (3) (4) (5)					
RTU-2	10605	3940	2.0	15	539.2	309.1	83.6	72.2	57.15	57.13	0.19	3.9	107.8		MERV 8	.23	.90	460	3	(1) (2) (3) (4) (5)					
RTU-3	5590	520	2.0	7.5	225.0	166.2	78.8	65.3	51.72	51.70	0.15	2.7	45.0		MERV 8	.23	.90	208	3	(1) (2) (3) (4) (5)					
RTU-4	11520	4660	2.0	15	620.1	348.7	84.2	72.5	56.63	56.55	0.86	7.5	124.0		MERV 8	.23	.90	460	3	(1) (2) (3) (4) (5)					

- (1) PROVIDE VARIABLE FREQUENCY DRIVE FOR MOTORS. PROVIDE RTU-1, 2, 3, 4, WITH AN NEC APPROVED INTEGRAL DISCONNECT SWITCH.  
 (2) PROVIDE HORIZONTALLY MOUNTED DRAW THRU TYPE.  
 (3) NO PREHEAT OR HOT WATER COIL IN UNIT.  
 (4) PROVIDE MOTOR STARTER WITH NEMA 3R ENCLOSURE.  
 (5) PROVIDE RTU-1, 2, 3 & 4 WITH PIPING VESTIBULE FOR PIPING AND CONTROL PANEL.

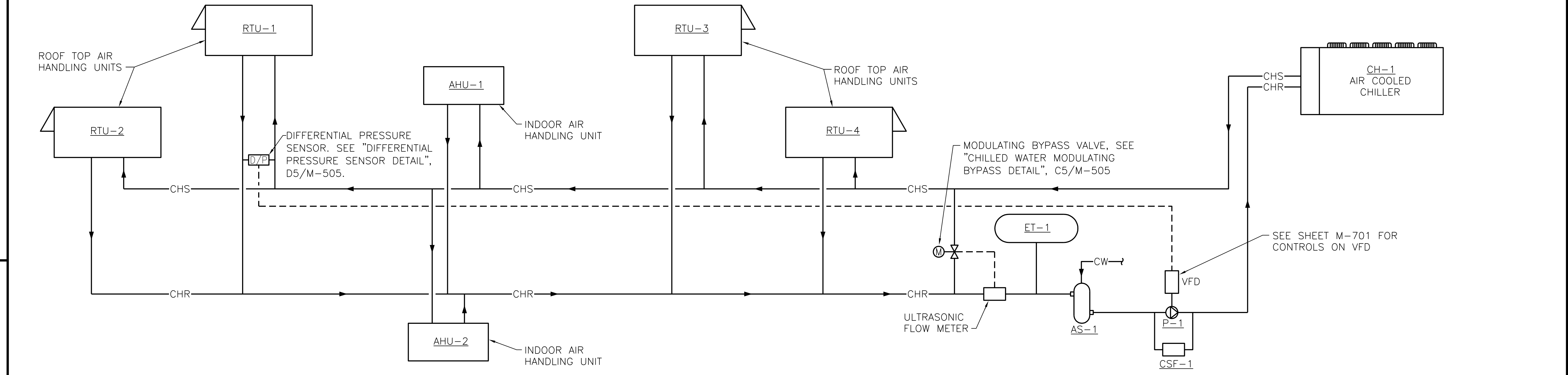
DATE	APPROVED	DESCRIPTION	SYMBOL
			
BOWMAN, FOSTER & ASSOC. CONSULTING ENGINEERS #4 INTERSTATE CORP. CENTER NORFOLK, VA 23502 2424 26TH ROAD SOUTH ARLINGTON, VA 22206			
			
APPROVED ACTIVITY - SATISFACTORY TO DATE APPROVED FOR EFD FOR COMMANDER NAVFAC DATE A/E DESIGN CML DRAWN KLB JDH REVIEW SGR OC SGR CHIEF ARCH/ ENGR. PROJECT MANAGER PFC FIRE PROTECTION SAH BRANCH MANAGER PFC DESIGN DIRECTOR JEF			
DEPARTMENT OF THE NAVY MARINE CORPS AIR STATION, CHERRY POINT, N.C. FACILITIES ENERGY REPAIRS, BUILDING 131 SCHEDULES			
CODE ID. NO. B0091    SIZE D SCALE: AS SHOWN FED. PROJ. NO. WR6059407 STA. PROJ. NO. CP12024M/CP12024R SPEC. NO. CONSTR. CONTR. NO.			
NAVFAC DRAWING NO. 12618452 SHEET 90 OF 124 <b style="font-size: 1.2em;">M-603</b> <small>DRAWING REVISION JULY 2003</small>			

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NOTES:  
1. ALL STEAM VENT AND RELIEF PIPING SHALL BE ROUTED TO THE EXTERIOR OF BUILDING 131.

**STEAM CONDENSATE PIPING SCHEMATIC**  
NO SCALE

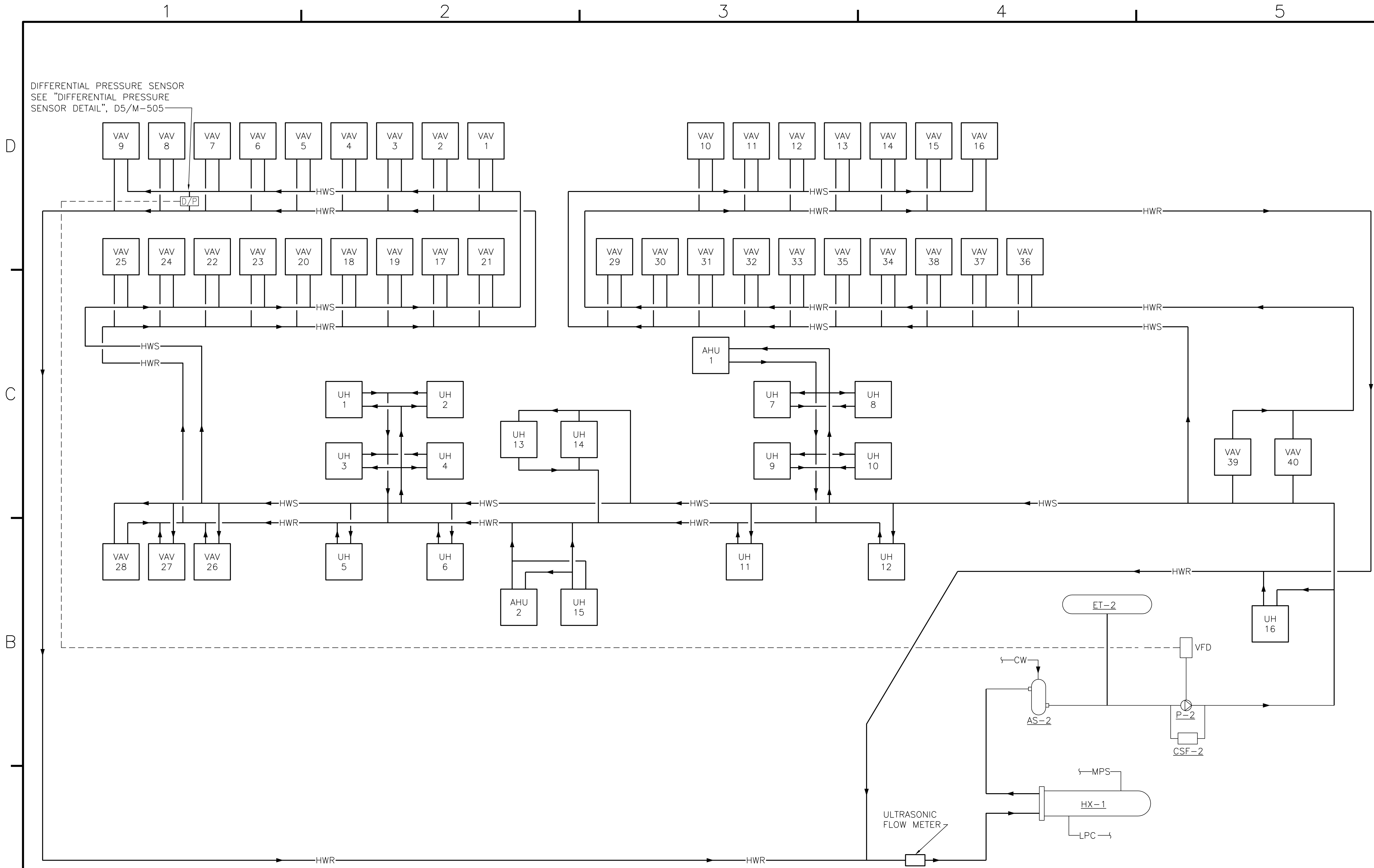


**CHILLED WATER SCHEMATIC**  
NO SCALE

DATE	APPROVED
DESCRIPTION	SYMBOL
BOWMAN, FOSTER & ASSOC. CONSULTING ENGINEERS #4 INTERSTATE CORP. CENTER NORFOLK, VA 23502 2424 26th ROAD SOUTH ARLINGTON, VA 22206	
APPROVED	10-0050
ACTIVITY - SATISFACTORY TO	
DATE	
APPROVED	
FOR EFD FOR COMMANDER NAVFAC	
DATE	
A/E	DESIGN
CML	DESIGN
KLB	DRAWN
JDH	REVIEW
SGR	OC
SGR	OC
SGR	CHIEF ARCH/ ENGR.
PROJECT MANAGER	PEC
FIRE PROTECTION	SAH
BRANCH MANAGER	PEC
DESIGN DIRECTOR	JEF
DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND MARINE CORPS AIR STATION, CHERRY POINT, N.C. FACILITIES ENERGY REPAIRS, BUILDING 131 SCHEMATICS	
CODE ID. NO. 80091	SIZE 0
SCALE:	AS SHOWN
FED. NO. WR6059407	
STA. PROJ. NO. CP12024M/CP12024R	
SPEC. NO.	
CONSTR. CONTR. NO.	
NAVFAC DRAWING NO.	12618453
SHEET	91 OF 124
<b>M-604</b>	
DRAWING REVISION JULY 2003	


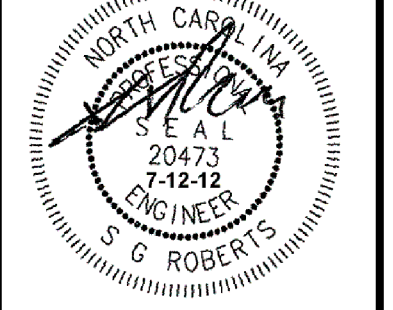


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**HOT WATER SCHEMATIC**

NO SCALE

	DATE	
	APPROVAL	
	DESCRIPTION	
	SYMBOL	
		
<p><b>BOWMAN, FOSTER &amp; ASSOC.</b> CONSULTING ENGINEERS #4 INTERSTATE CORP. CENTER NORFOLK, VA 23502 2424 26th ROAD SOUTH ARLINGTON, VA 22206</p>		
		
APPROVED		
ACTIVITY - SATISFACTORY TO		
DATE		
APPROVED		
FOR EFD FOR COMMANDER NAVFAC		
DATE		
A/E	DESIGN	EFD
CML	KLFB	
SGR	SGR	
SGR	oc	
SGR	oc	
PROJECT MANAGER	ARCH/ ENGR.	
FIRE PROTECTION	SAH	PEC
BRANCH MANAGER	SAH	PEC
DESIGN DIRECTOR	JEF	JEF
<p>DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND MARINE CORPS AIR STATION, CHERRY POINT, N.C.</p>		
<p><b>FACILITIES ENERGY REPAIRS, BUILDING 131</b></p>		
SCHEMATICS		
M-605		
<p>CODE ID. NO. 80091   SIZE 0 SCALE: AS SHOWN FED. NO. WR6059407 STA. PROJ. NO. CP12024M/CP12024R SPEC. NO. CONSTR. CONTR. NO.</p>		
<p>NAVFAC DRAWING NO. 12618454 SHEET 92 OF 124</p>		
<p><b>M-605</b> DRAWING REVISION JULY 2003</p>		

1 2 3 4 5

**GENERAL NOTE (ALL M-700 SERIES SHEETS)**

1. PROVIDE COMPLETE DDC SYSTEM AND TIE INTO EXISTING BASE WIDE DDC SYSTEM AT MCAS CHERRY POINT, NORTH CAROLINA. AFTER BUILDING 131 CONSTRUCTION IS COMPLETE, DDC SYSTEM SHALL FORM ONE COMPLETE SYSTEM THAT CAN BE MONITORED AND CONTROLLED REMOTELY AS PER SECTION 23 09 23.13 20.
2. PROVIDE BUILDING CONTROLLER AND LOCATE IN ROOM 182 AS INDICATED. RETURN EXISTING BUILDING DDC CONTROLLER TO THE GOVERNMENT.

**CONTROLS LEGEND**

- AI ANALOG INPUT
- AO ANALOG OUTPUT
- DI DIGITAL INPUT
- DO DIGITAL OUTPUT
- OA OUTSIDE AIR

**SEQUENCE OF OPERATION (THIS SHEET ONLY)**

AIR COOLED CHILLER (CH-1)

CHILLER - RUN CONDITIONS:

- THE CHILLED WATER SYSTEM SHALL BE ENABLED TO RUN WHENEVER:
- ANY CHILLED WATER COILS NEED COOLING (ADJ)
  - AND THE OUTSIDE AIR TEMPERATURE IS GREATER THAN 54°F (ADJ.).

TO PREVENT SHORT CYCLING, THE CHILLER SHALL RUN FOR AND BE OFF FOR MINIMUM ADJUSTABLE TIMES (BOTH USER DEFINABLE), UNLESS SHUTDOWN ON SAFETIES OR OUTSIDE AIR CONDITIONS.

CHILLER SHALL RUN SUBJECT TO ITS OWN INTERNAL SAFETIES AND CONTROLS.

THE CHILLER SHALL BE ENABLED AFTER A USER ADJUSTABLE TIME AFTER PUMP STATUS ARE PROVEN ON VIA FLOW SWITCH. THE CHILLER SHALL THEREFORE HAVE A USER ADJUSTABLE DELAY ON START.

THE DELAY TIME SHALL BE SET APPROPRIATELY TO ALLOW FOR ORDERLY CHILLED WATER SYSTEM START-UP, SHUTDOWN AND SEQUENCING. THE CHILLER SHALL RUN SUBJECT TO ITS OWN INTERNAL SAFETIES AND CONTROLS.

ALARMS SHALL BE PROVIDED AS FOLLOWS:

- CHILLER FAILURE: COMMANDED ON, BUT THE STATUS IS OFF.

CHILLED WATER SUPPLY SETPOINT:

THE CHILLER SHALL MAINTAIN A CHILLED WATER SUPPLY TEMPERATURE SETPOINT AS DETERMINED BY ITS OWN INTERNAL CONTROLS (PROVIDED BY OTHERS).

CHILLED WATER TEMPERATURE MONITORING:

THE FOLLOWING TEMPERATURES SHALL BE MONITORED:

- CHILLED WATER SUPPLY - SETPOINT 45° F (ADJ)
- CHILLED WATER RETURN

ALARMS SHALL BE PROVIDED AS FOLLOWS:

- HIGH CHILLED WATER SUPPLY TEMP: IF THE CHILLED WATER SUPPLY TEMPERATURE IS GREATER THAN 55°F (ADJ.).
- LOW CHILLED WATER SUPPLY TEMP: IF THE CHILLED WATER SUPPLY TEMPERATURE IS LESS THAN 38°F (ADJ.).

ENERGY MONITORING (BTU/HR METERING)

PROVIDE ENERGY MONITORING FOR THE CHILLED WATER SYSTEM. ENERGY MONITORING SHALL BE BASED ON THE FOLLOWING PARAMETERS:

- CHILLED WATER RETURN TEMPERATURE (DEG F)
- CHILLED WATER SUPPLY TEMPERATURE (DEG F)
- CHILLED WATER FLOW (GPM)

CALCULATE HEAT TRANSFER IN BTU/HR BASED ON THE FOLLOWING FORMULA:

BTU/HR (CHILLED WATER SYSTEM) = (500)\*(GPM)\*(CHILLED WATER RETURN TEMPERATURE - CHILLED WATER SUPPLY TEMPERATURE).

BUILDING 131 DDC CONTROL SYSTEM SHALL REPORT BTU / HR INSTANTANEOUSLY TO THE MCAS CHERRY POINT DDC CONTROL SYSTEM. TREND ENERGY MONITORING DATA (ADJ) FOR CONTINUOUS USE.

VFDS ON PUMPS P-1

CHILLED WATER DIFFERENTIAL PRESSURE CONTROL

THE VFD CONTROLLER SHALL MEASURE CHILLED WATER DIFFERENTIAL PRESSURE AND MODULATE THE CHILLED WATER PUMP (P-1) VFD IN SEQUENCE TO MAINTAIN ITS CHILLED WATER DIFFERENTIAL PRESSURE SETPOINT. THE FOLLOWING SETPOINTS ARE RECOMMENDED VALUES. ALL SETPOINTS SHALL BE FIELD ADJUSTED DURING THE TESTING AND BALANCING PERIOD TO MEET THE REQUIREMENTS OF ACTUAL FIELD CONDITIONS.

THE CONTROLLER SHALL MODULATE CHILLED WATER PUMP SPEEDS TO MAINTAIN A CHILLED WATER DIFFERENTIAL PRESSURE SETPOINT OF 12 PSI (ADJ.). VFD SHALL INCREASE SPEED IF DIFFERENTIAL PRESSURE DECREASES 2 PSI (ADJ) BELOW DIFFERENTIAL PRESSURE SETPOINT. VFD SHALL DECREASE SPEED IF DIFFERENTIAL PRESSURE INCREASES 2 PSI (ADJ) BELOW DIFFERENTIAL PRESSURE SETPOINT.

THE VFD MINIMUM SPEED SHALL NOT DROP BELOW MINIMUM FREQUENCY OF 20 HZ (ADJ).

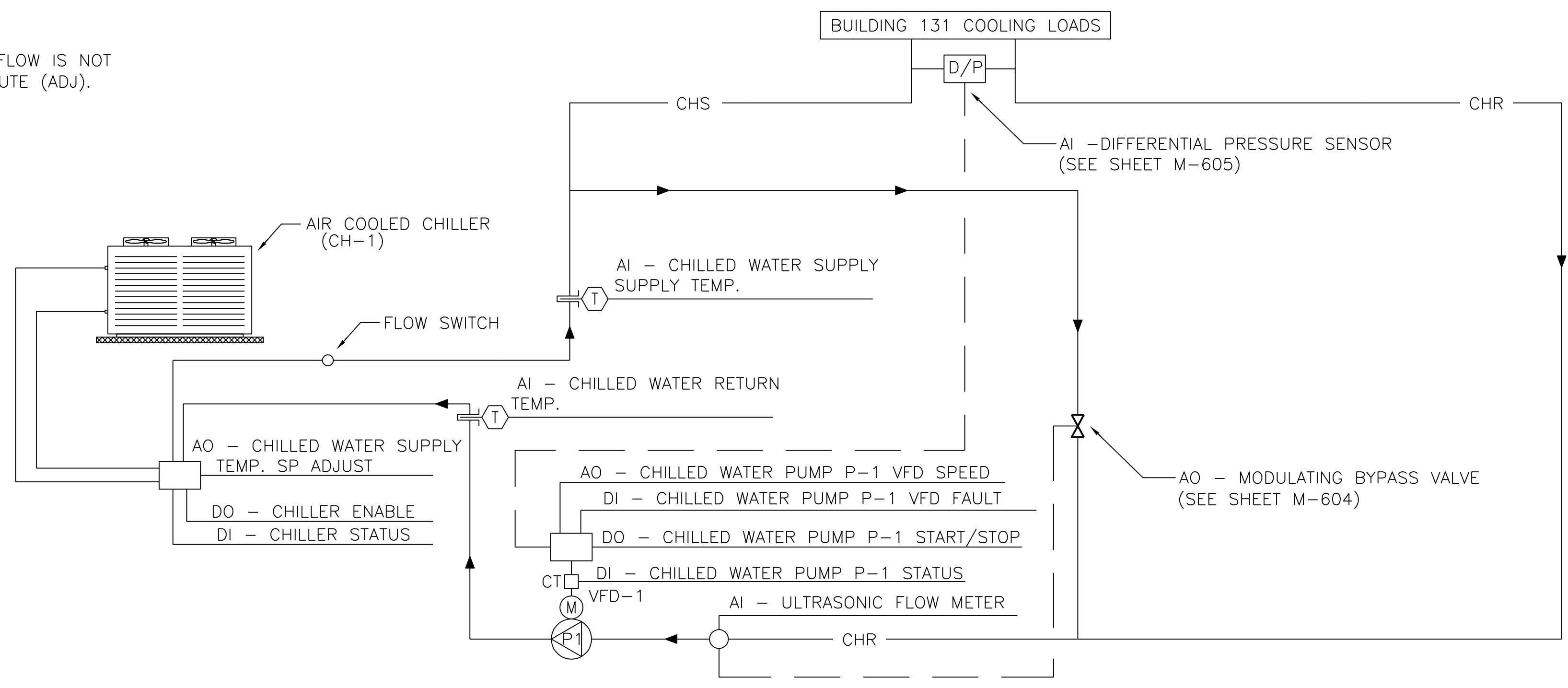
CHILLED WATER BYPASS VALVE

BYPASS VALVE SHALL BE CONTROLLED BY ULTRASONIC FLOW METER IN ORDER TO MAINTAIN MINIMUM CHILLED WATER FLOW FOR SAFE OPERATION. SET MIN. FLOW TO 195 GPM. (ADJ)

BYPASS VALVE SHALL ENSURE WATER FLOW IS NOT ALTERED GREATER THAN 10% PER MINUTE (ADJ).

**SYSTEM POINT LIST**

SYSTEM POINT DESCRIPTION	DESIGNATION	ANALOG										DIGITAL				SYSTEMS FEATURES										NOTES																				
		INPUT					OUTPUT					INPUT		OUTPUT		ALARMS					PROGRAMS																									
		TEMPERATURE	PRESSURE	RH	KW	GPM	CFM	PPM	PERCENT RLA	DDC	SETPOINT ADJ.	PNEU. TRANSDUCER STATUS ON/OFF	FILTER STATUS	STATUS OPEN/CLOS.	STATUS PRESSURE	STATUS OFF/ON	OPEN/CLOSE	LOCK OUT	ENABLE/DISABLE	HIGH ANALOG	LOW ANALOG	BINARY	SENSOR FAIL	FLOW FAIL	COMM. FAIL		DIAGNOSTICS	TIME SCHEDULING	OPT. START/STOP	DEMAND LIMITING	RESET	EVENT PROGRAM	DDC	ALARM INSTRUCT	MAINT. WK. ORD.	RUN TIME	EXP. MESSAGE	SET BACK/SET UP	NIGHT PURGE	TENANT BILLING	TOTALIZING	TIMED OVERRIDE				
DIFFERENTIAL PRESSURE	AI	X	X																	X	X	X																								
MODULATING BYPASS VALVE	AO									X	X																																			
P-1 VFD SPEED	AO									X	X																																			
CHILLED WATER PUMP P-1 STATUS	DI	X											X																																	
CHILLED WATER PUMP P-1 VFD FAULT	DI	X											X																																	
CHILLED WATER PUMP P-1 START/STOP	DO	X												X																																
AIR COOLED CHILLERS (CH-1)																																														
CHILLED WATER SUPPLY TEMP.	AI	X	X																	X	X	X																								
CHILLED WATER RETURN TEMP.	AI	X	X																	X	X	X																								
ULTRASONIC FLOW METER	AI	X			X																																									
CHILLED WATER SUPPLY TEMP. SP ADJ	AO	X								X	X									X	X	X																								
CHILLER STATUS	DI	X											X														X																			
CHILLER ENABLE	DO	X													X																															



**CONTROL POINTS DIAGRAM (THIS SHEET ONLY)**

NO SCALE

1 2 3 4 5

BFA Filename G:\2010\10-0050 B-131 ENERGY\SUBMITTALS\FINAL SUBMITTAL 7-12-12\12-BOUND CAD\12618455.dwg Plot Date: Jul 11, 2012 - 12:52pm Lost Saved By: kbennett

DATE
APPR

DATE
DESCRIPTION

DATE
SYN

**BOWMAN, FOSTER & ASSOC.**  
CONSULTING ENGINEERS  
#4 INTERSTATE CORP. CENTER  
NORFOLK, VA 23502  
2424 26th ROAD SOUTH  
ARLINGTON, VA 22206

APPROVED
10-0050

ACTIVITY - SATISFACTORY TO

DATE
APPROVED

FOR EFD FOR COMMANDER NAVFAC

DATE
A/E
EFD

CMI DESIGN
KLB DRAWN

SGR REVIEW
SGR OC

SGR CHIEF ARCH/ ENGR.

PROJECT MANAGER PFC

FIRE PROTECTION SAH

BRANCH MANAGER PFC

DESIGN DIRECTOR JEF

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND

MARINE CORPS AIR STATION, CHERRY POINT, N.C.

FACILITIES ENERGY REPAIRS, BUILDING 131

CONTROLS

CODE ID. NO. 80991
SIZE 0

SCALE: AS SHOWN

FED. PROJ. NO. WR6059407

STA. PROJ. NO. CP12024M/CP12024R

SPEC. NO.

CONSTR. CONTR. NO.

NAVFAC DRAWING NO. 12618455

SHEET 93 OF 124

**M-701**

DRAWING REVISION JULY 2003









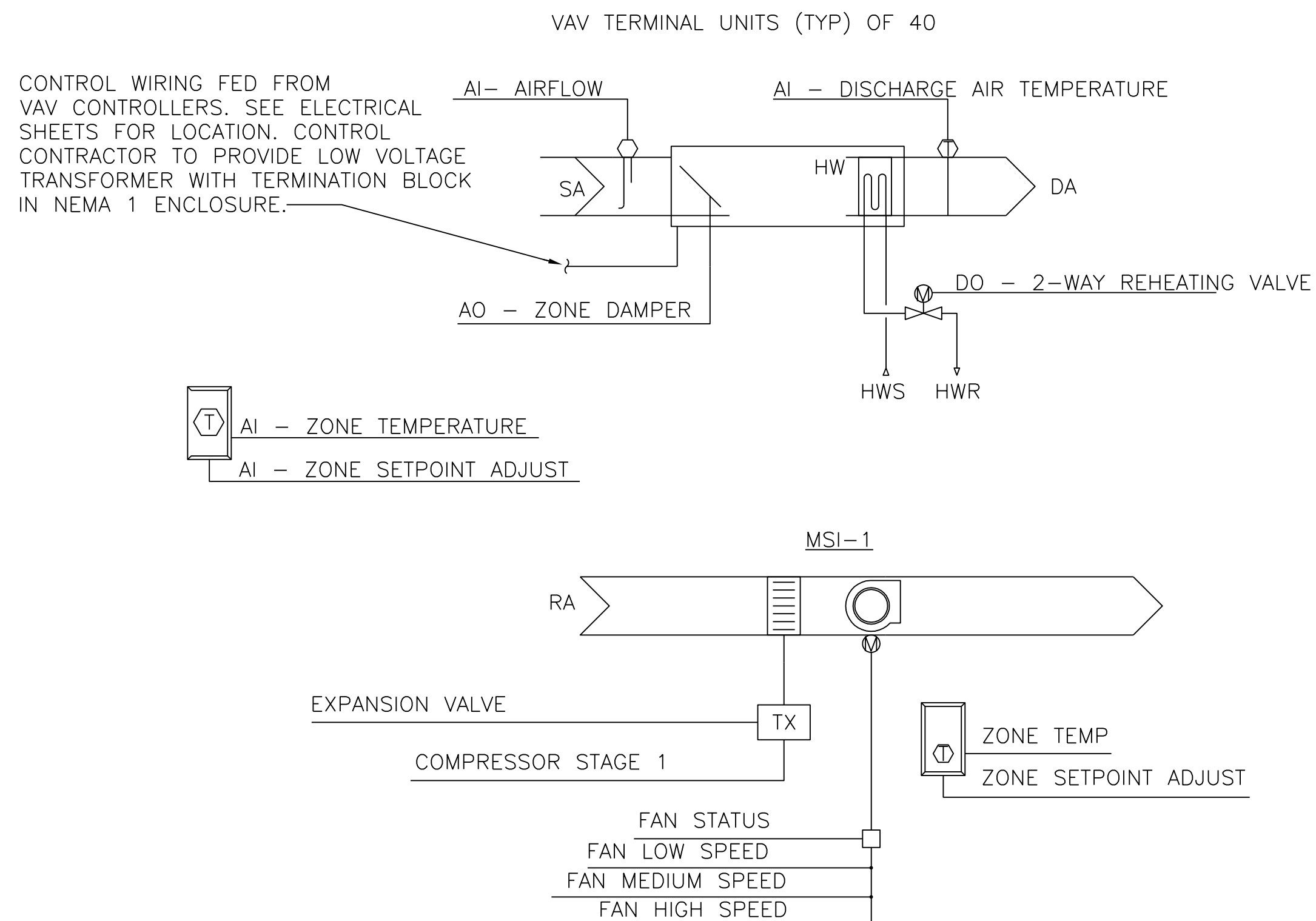












## CONTROL POINTS DIAGRAM

NO SCALE

## SEQUENCE OF OPERATION (THIS SHEET ONLY)

### VARIABLE AIR VOLUME - TERMINAL UNIT

#### RUN CONDITIONS - SCHEDULED WITH OCCUPANCY:

THE UNIT SHALL RUN CONTINUOUSLY AND SHALL MAINTAIN:

- A 75°F (ADJ.) COOLING SETPOINT
- A 70°F (ADJ.) HEATING SETPOINT.

ALARMS SHALL BE PROVIDED AS FOLLOWS:

- HIGH ZONE TEMP: IF THE ZONE TEMPERATURE IS GREATER THAN 3° F (ADJ) THE COOLING SETPOINT BY A USER DEFINABLE AMOUNT (ADJ.).
- LOW ZONE TEMP: IF THE ZONE TEMPERATURE IS LESS THAN 3° F (ADJ) THE HEATING SETPOINT BY A USER DEFINABLE AMOUNT (ADJ.).

#### ZONE SETPOINT ADJUST:

THE OCCUPANT SHALL BE ABLE TO ADJUST THE ZONE TEMPERATURE HEATING AND COOLING SETPOINTS AT THE ZONE SENSOR. RANGE OF ADJUSTMENT SHALL BE AS FOLLOWS:

COOLING SETPOINT RANGE 73-77 °F(ADJ)  
HEATING SETPOINT RANGE 68-72 °F (ADJ)

#### VARIABLE VOLUME TERMINAL UNIT - FLOW CONTROL:

THE UNIT SHALL MAINTAIN ZONE SETPOINTS BY CONTROLLING THE AIRFLOW THROUGH ONE OF THE FOLLOWING:

##### OCCUPIED:

- WHEN ZONE TEMPERATURE IS GREATER THAN ITS COOLING SETPOINT, THE ZONE DAMPER SHALL MODULATE BETWEEN THE MINIMUM COOLING AIRFLOW (ADJ.) AND THE MAXIMUM COOLING AIRFLOW (ADJ.) UNTIL THE ZONE IS SATISFIED.
- WHEN THE ZONE TEMPERATURE IS BETWEEN THE COOLING SETPOINT AND THE HEATING SETPOINT, THE ZONE DAMPER SHALL MAINTAIN THE MINIMUM SCHEDULED VALUES.
- WHEN ZONE TEMPERATURE IS LESS THAN ITS HEATING SETPOINT, THE CONTROLLER SHALL ENABLE HEATING AT THE HEATING AIRFLOW TO MAINTAIN THE ZONE TEMPERATURE AT ITS HEATING SETPOINT. THE CONTROLLER SHALL MEASURE THE ZONE TEMPERATURE AND CYCLE THE REHEATING COIL VALVE OPEN ON DROPPING TEMPERATURE TO MAINTAIN ITS HEATING SETPOINT.

##### UNOCCUPIED:

- WHEN THE ZONE IS UNOCCUPIED THE ZONE DAMPER SHALL CONTROL TO ITS MINIMUM SCHEDULED AIRFLOW (ADJ.).
- UNOCCUPIED COOLING SETPOINT - 85 °F (ADJ). SEQUENCE OF OPERATION WILL BE THE SAME AS OCCUPIED.
- UNOCCUPIED HEATING SETPOINT - 60 °F (ADJ). SEQUENCE OF OPERATION WILL BE THE SAME AS OCCUPIED.

#### 2-WAY REHEATING COIL VALVE: (2-POSITION OPEN/CLOSE)

THE CONTROLLER SHALL MEASURE THE ZONE TEMPERATURE AND OPEN ON DROPPING TEMPERATURE TO MAINTAIN ITS HEATING SETPOINT.

#### MINI SPLIT INDOOR UNIT (MSI-1) - COOLING ONLY

THE UNIT (REMOTE CONTROL) SHALL RUN ACCORDING TO A USER DEFINABLE TIME SCHEDULE IN THE FOLLOWING MODES. THE UNIT WILL BE USED TO COOL EXISTING TELECOM ROOM AND SHALL NOT TIE INTO THE BUILDING DDC SYSTEM.

##### SETPOINT:

- 72°F DB COOLING SETPOINT (ADJ)

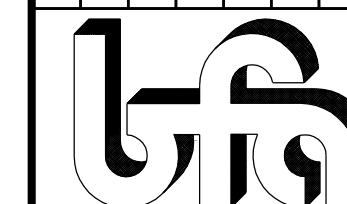
FAN- THE FAN SHALL RUN ANYTIME THE UNIT IS COMMANDED TO RUN, UNLESS SHUTDOWN ON SAFETIES. THE FAN SPEEDS SHALL BE INDEXED AS FOLLOWS: LOW SPEED SHALL RUN ANYTIME THE ZONE TEMPERATURE IS WITHIN SETPOINTS. MEDIUM SPEED SHALL RUN ANYTIME THE ZONE TEMPERATURE IS OUTSIDE OF SETPOINTS. HIGH SPEED SHALL RUN ANYTIME THE ZONE TEMPERATURE IS OUTSIDE OF SETPOINTS BY A USER DEFINABLE AMOUNT (ADJ).

##### COOLING- 1 COMPRESSOR STAGE

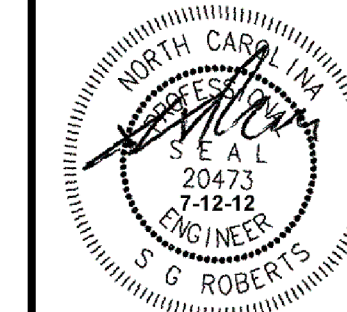
THE CONTROLLER SHALL MEASURE THE ZONE TEMPERATURE AND CYCLE THE COMPRESSOR TO MAINTAIN ITS SETPOINT. TO PREVENT SHORT CYCLING, THE STAGE SHALL HAVE A USER DEFINABLE (ADJ) MINIMUM RUNTIME. THE COMPRESSOR SHALL RUN SUBJECT TO ITS OWN INTERNAL SAFETIES AND CONTROLS.

## SYSTEM POINT LIST

SYSTEM POINT DESCRIPTION	DESIGNATION	GRAPHIC	ANALOG													DIGITAL				SYSTEMS FEATURES																														
			INPUT						OUTPUT							INPUT		OUTPUT		ALARMS					PROGRAMS																									
			TEMPERATURE	PRESSURE	RH	KW	GPM	CFM	PPM	PERCENT	RLA	DDC	SETPOINT ADJ.	POSITION	PNEL TRANSUCER	STATUS ON/OFF	FILTER STATUS	STATUS OPEN/CLOS.	STATUS PRESSURE	STATUS	OFF/ON	OPEN/CLOSE	LOCK OUT	ENABLE/DISABLE	HIGH ANALOG	LOW ANALOG	BINARY	PROOF	SENSOR FAIL	FLOW FAIL	COMM. FAIL	DIAGNOSTICS	TIME SCHEDULING	OPT. START/STOP	DEMAND LIMITING	RESET	EVENT PROGRAM	DDC	ALARM INSTRUCT	MAINT. WK. ORD.	RUN TIME	EXP. MESSAGE	SET BACK/SET UP	NIGHT PURGE	TENANT BILLING	RITUALIZING				
			RA	DA	AO	DO	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	
EQUIPMENT/CONDITION VAV TERMINAL BOXES (TYPICAL OF 40)																																																		
ZONE TEMPERATURE	AI	X	X																																															
ZONE SETPOINT ADJUST	AI	X	X																																															
AIRFLOW	AI	X			X																																													
DISCHARGE AIR TEMP.	AI	X	X																																															
ZONE DAMPER	AO	X							X	X																																								
2-WAY REHEATING VALVE	DO	X																X																																



BOWMAN, FOSTER & ASSOC.  
CONSULTING ENGINEERS  
#4 INTERSTATE CORP. CENTER  
NORFOLK, VA 23502  
2424 26th ROAD SOUTH  
ARLINGTON, VA 22206



APPROVED

ACTIVITY - SATISFACTORY TO

DATE

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DATE

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DESIGN

KLB

DRAWN

SGR

REVIEW

SGR

OC

SGR

CHIEF ARCH/ ENGR.

PROJECT MANAGER

SAH

FIRE PROTECTION

SAH

BRANCH MANAGER

PEC

DESIGN DIRECTOR

JEF

NAVAL FACILITIES ENGINEERING COMMAND  
MARINE CORPS AIR STATION, CHERRY POINT, N.C.

FACILITIES ENERGY REPAIRS,  
BUILDING 131  
CONTROLS

CODE ID. NO. 80091 | SIZE D

SCALE: AS SHOWN

FED. NO. WR6059407

STA. PROJ. NO. CP12024M/CP12024R

SPEC. NO.

CONSTR. CONTR. NO.

NAVFAC DRAWING NO.

12618460

SHEET 9B OF 124

M-706

DRAWING REVISION: JULY 2003



BFA File Name G:\2010\10-0050 B-131 ENERGY\NAVIGATOR\FACILITIES ENERGY IMPROVEMENTS, BUILDING 131\Sheets\M-901 PHOTOGRAPHS.dwg Plot Date: Jul 11, 2012 - 9:59am Lost Saved By: cluettel

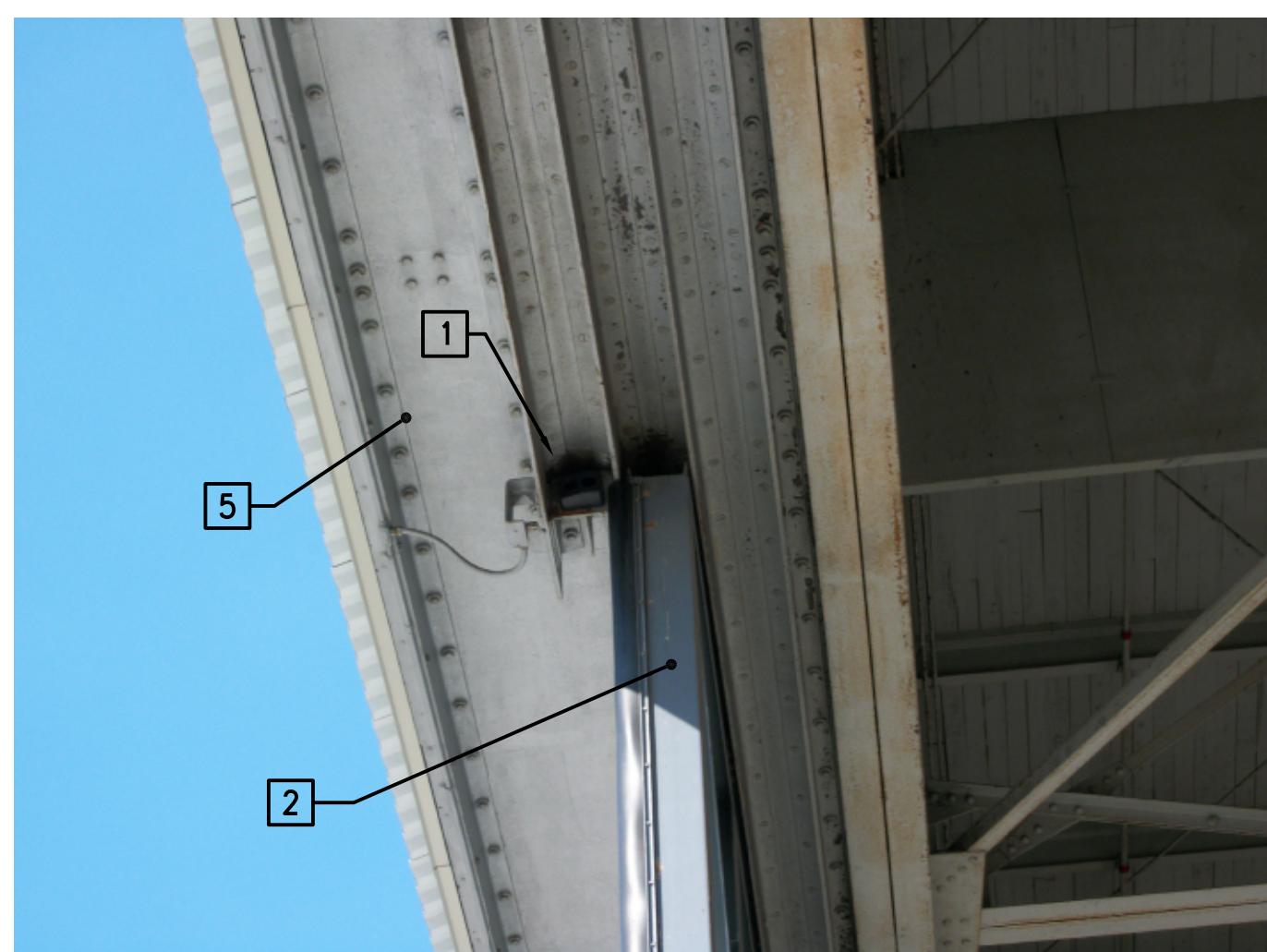


PHOTO 1  
HANGAR DOORS (EAST SIDE)

NO SCALE

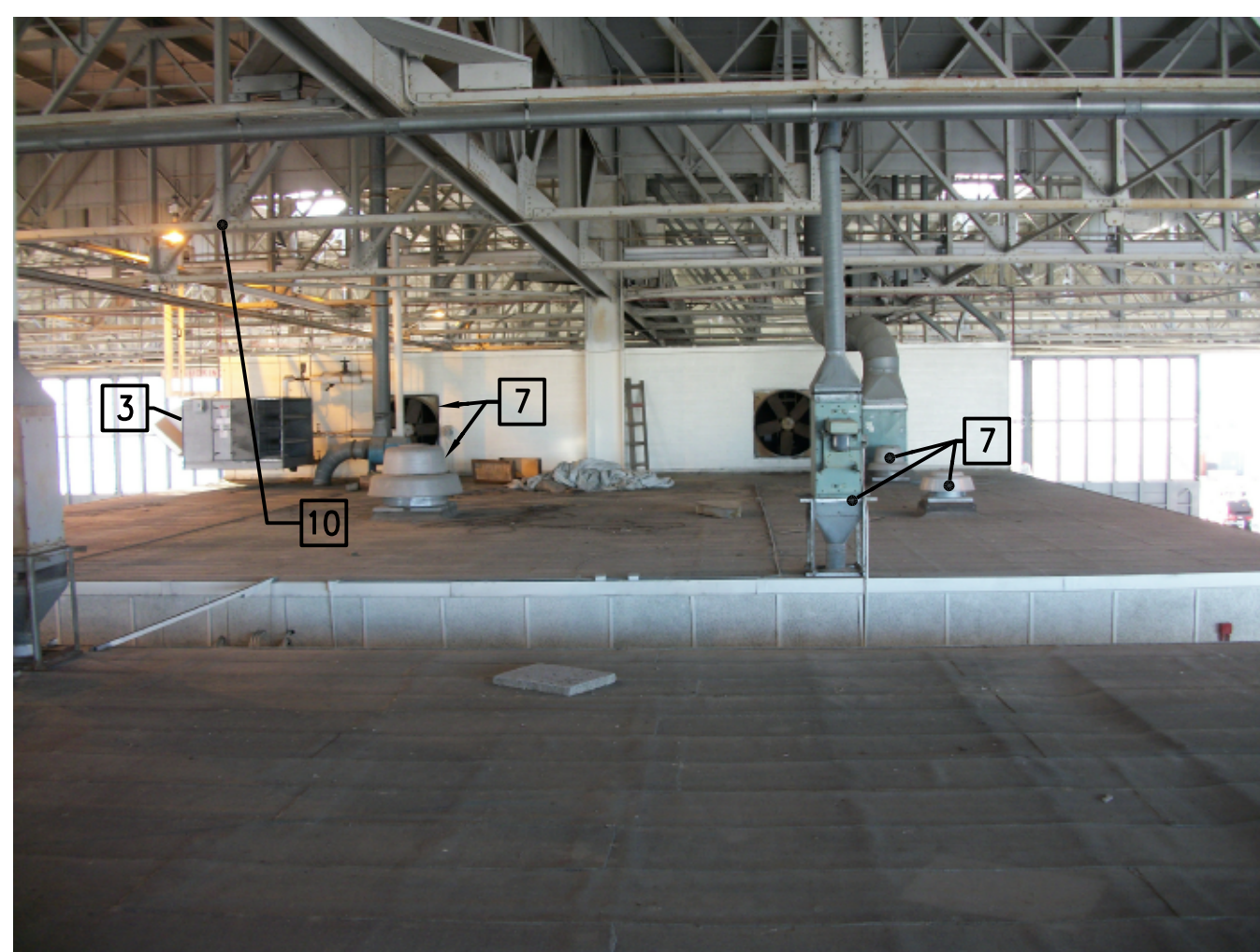


PHOTO 2  
MEZZANINE

NO SCALE

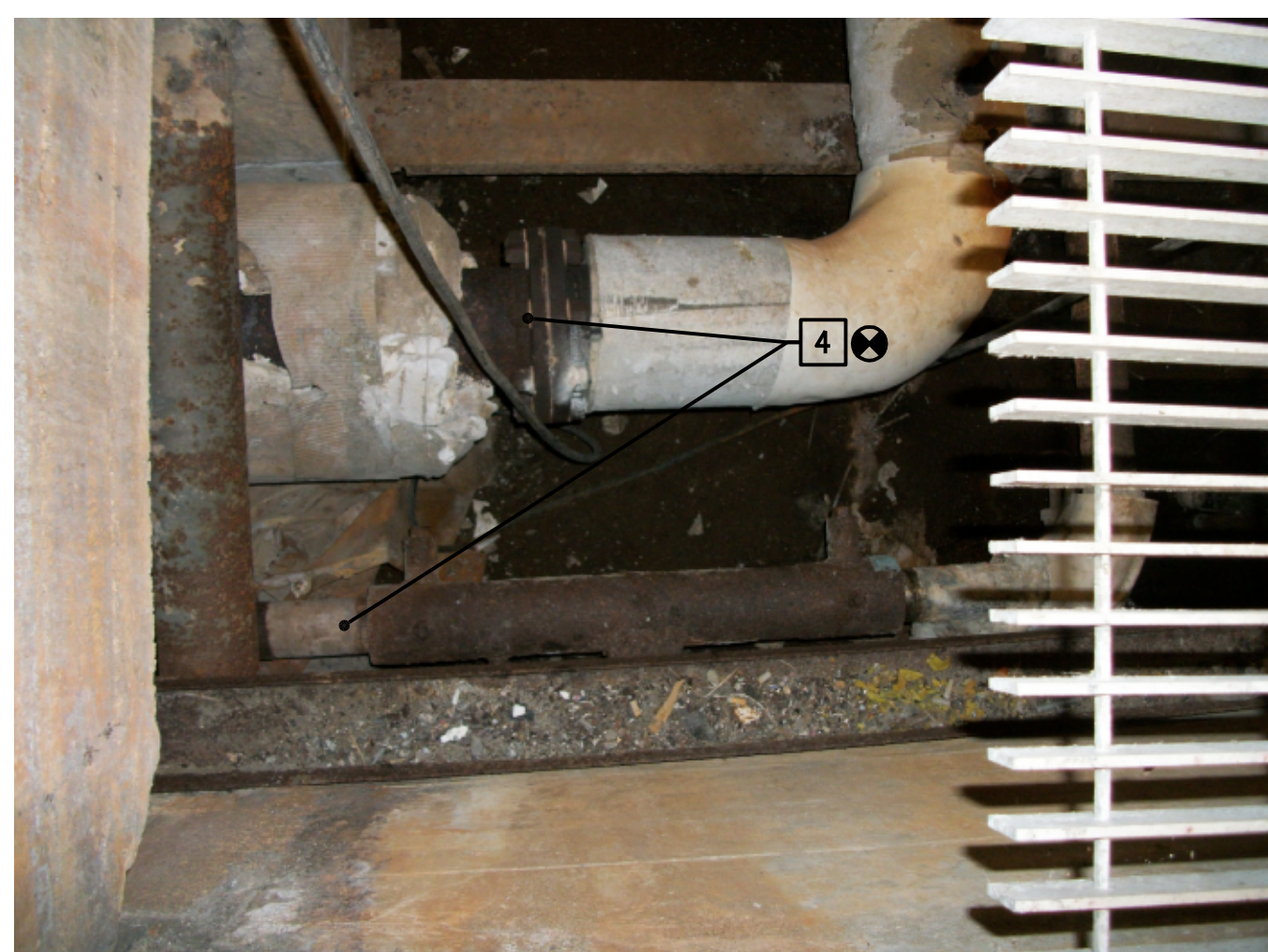


PHOTO 3 - BUILDING 131  
STEAM/CONDENSATE CONNECTION

NO SCALE

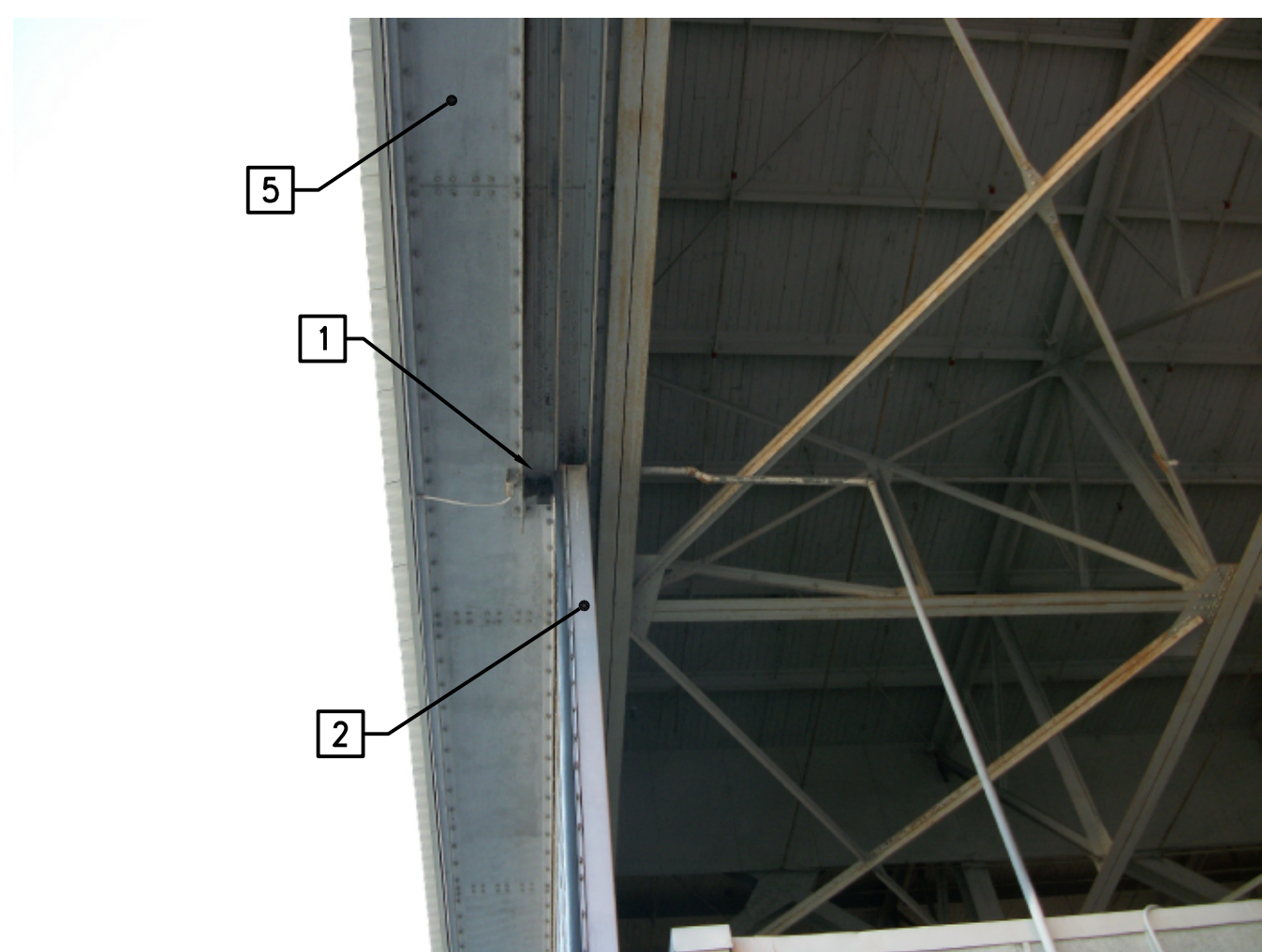


PHOTO 4  
HANGAR DOORS (WEST SIDE)

NO SCALE



PHOTO 5 - BUILDING 131  
NORTH EAST CORNER

NO SCALE



PHOTO 6  
MEZZANINE ROOF

NO SCALE


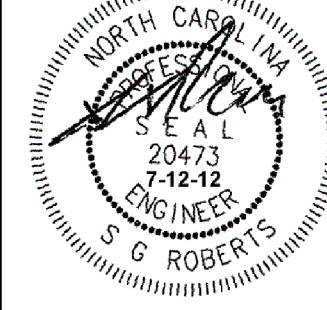


PHOTO 7  
EXISTING DDC CONTROL PANEL

NO SCALE

### CONSTRUCTION NOTES (THIS SHEET ONLY)

- 1 PROVIDE PHOTOELECTRIC SENSOR FOR UNIT HEATER OPERATION. LIMIT SWITCH SHALL ACTIVATE WHEN HANGAR DOORS ARE OPEN. LOCATE PHOTOELECTRIC SENSOR APPROXIMATELY 12 INCHES FROM EXISTING RUBBER STOP.
- 2 EXISTING HANGAR BAY DOORS TO REMAIN.
- 3 REMOVE EXISTING TRANE H/V UNIT TO INCLUDE ALL PIPING, SUPPORTS AND ALL APPURTENANCES COMPLETE.
- 4 PROVIDE STEAM AND CONDENSATE PIPING AND CONNECT TO EXISTING PIPING AS SHOWN. EXISTING PIPING LOCATED IN MECHANICAL ROOM 166.
- 5 BUILDING 131.
- 6 REMOVE EXISTING PTAC. PROVIDE METAL PANEL OVER EXISTING PENETRATION. AFTER METAL PANEL HAS BEEN INSTALLED SEAL AND WEATHERPROOF METAL PANEL.
- 7 EXISTING FANS LOCATED MEZZANINE TO REMAIN.
- 8 REMOVE EXISTING MCQUAY ROOF TOP UNIT AND ASSOCIATED DUCTWORK COMPLETE.
- 9 REMOVE EXISTING DDC CONTROL PANEL MANUFACTURED BY TRANE.
- 10 EXISTING ROOF TRUSSES. ALL PIPING AND EQUIPMENT SHALL BE INSTALLED ABOVE TRUSSES.

DATE	APPR
DESCRIPTION	
SYN	
 BOWMAN, FOSTER & ASSOC. CONSULTING ENGINEERS #4 INTERSTATE CORP. CENTER NORFOLK, VA 23502 2424 26th ROAD SOUTH ARLINGTON, VA 22206	
 APPROVED 10-0050	
ACTIVITY - SATISFACTORY TO	
DATE	
APPROVED	
FOR EFD FOR COMMANDER NAVFAC	
DATE	
A/E	EFD
CML	DESIGN
KLB	DRAWN
JDH	REVIEW
SGR	OC
SGR	CHEF ARCH/ ENGR.
PROJECT MANAGER	PEC
FIRE PROTECTION	SAH
BRANCH MANAGER	PEC
DESIGN DIRECTOR	JEF
DEPARTMENT OF THE NAVY MARINE CORPS AIR STATION, CHERRY POINT, N.C. FACILITIES ENERGY REPAIRS, BUILDING 131 PHOTOGRAPHS	
CODE ID. NO. 80091	SIZE D
SCALE: AS SHOWN	
FED. NO. WR6059407	
STA. PROJ. NO. CP12024M/CP12024R	
SPEC. NO.	
CONSTR. CONTR. NO.	
NAVFAC DRAWING NO. 12618461	
SHEET 99 OF 124	
<b>M-901</b>	
<small>DRAWING REVISION JULY 2003</small>	



BFA File Name G:\2010\10-0050 B-131 ENERGY\NAVIGATOR\FACILITIES ENERGY IMPROVEMENTS, BUILDING 131\Sheets\M-902 PHOTOGRAPHS.dwg Plot Date: Jul 11, 2012 - 10:00am Last Saved By: kbennett



PHOTO 8  
EXISTING HEATING/VENTILATING UNIT

NO SCALE



PHOTO 9  
CENTER BAY AREAS

NO SCALE

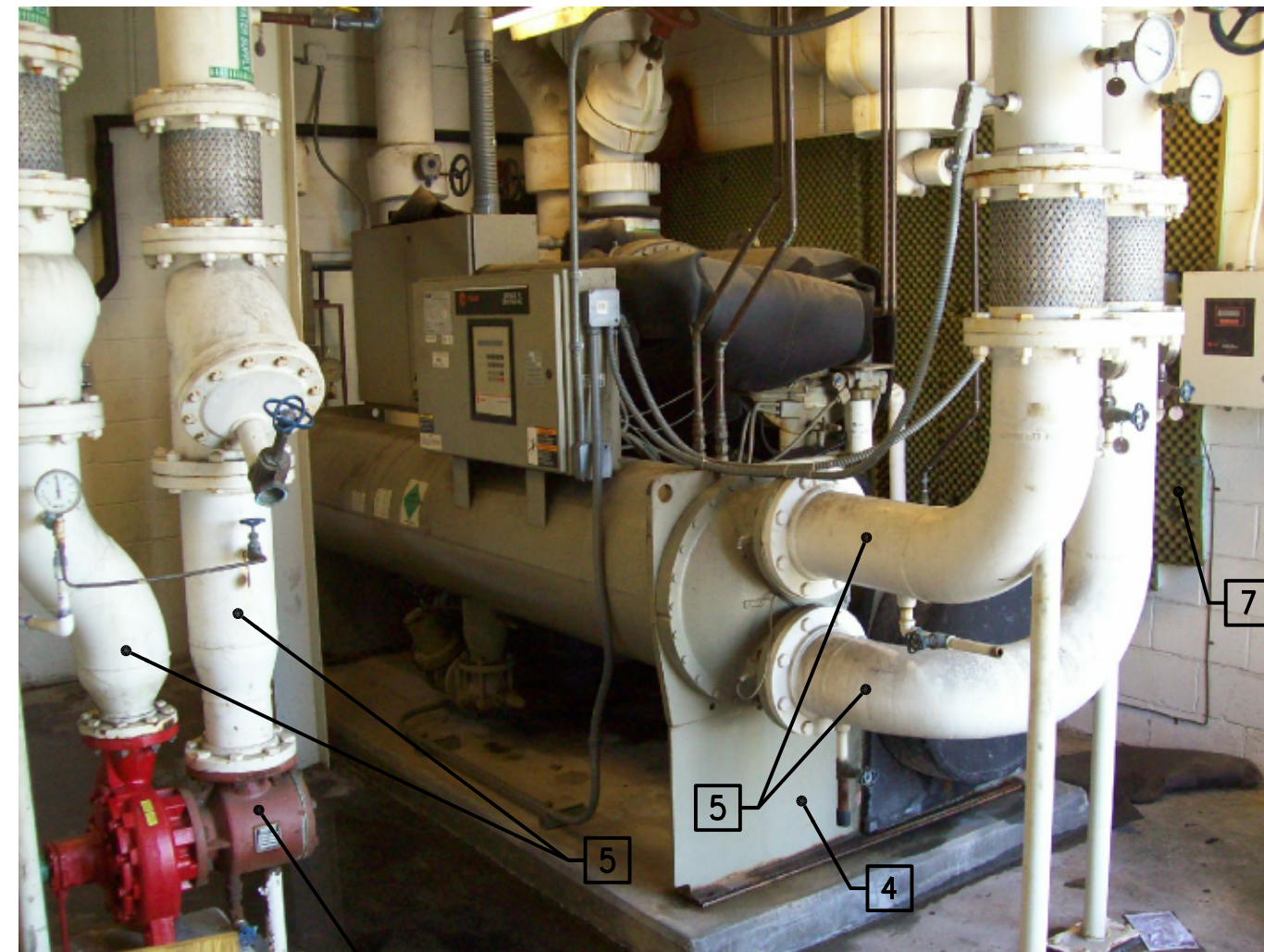


PHOTO 10  
EXISTING MECHANICAL ROOM

NO SCALE

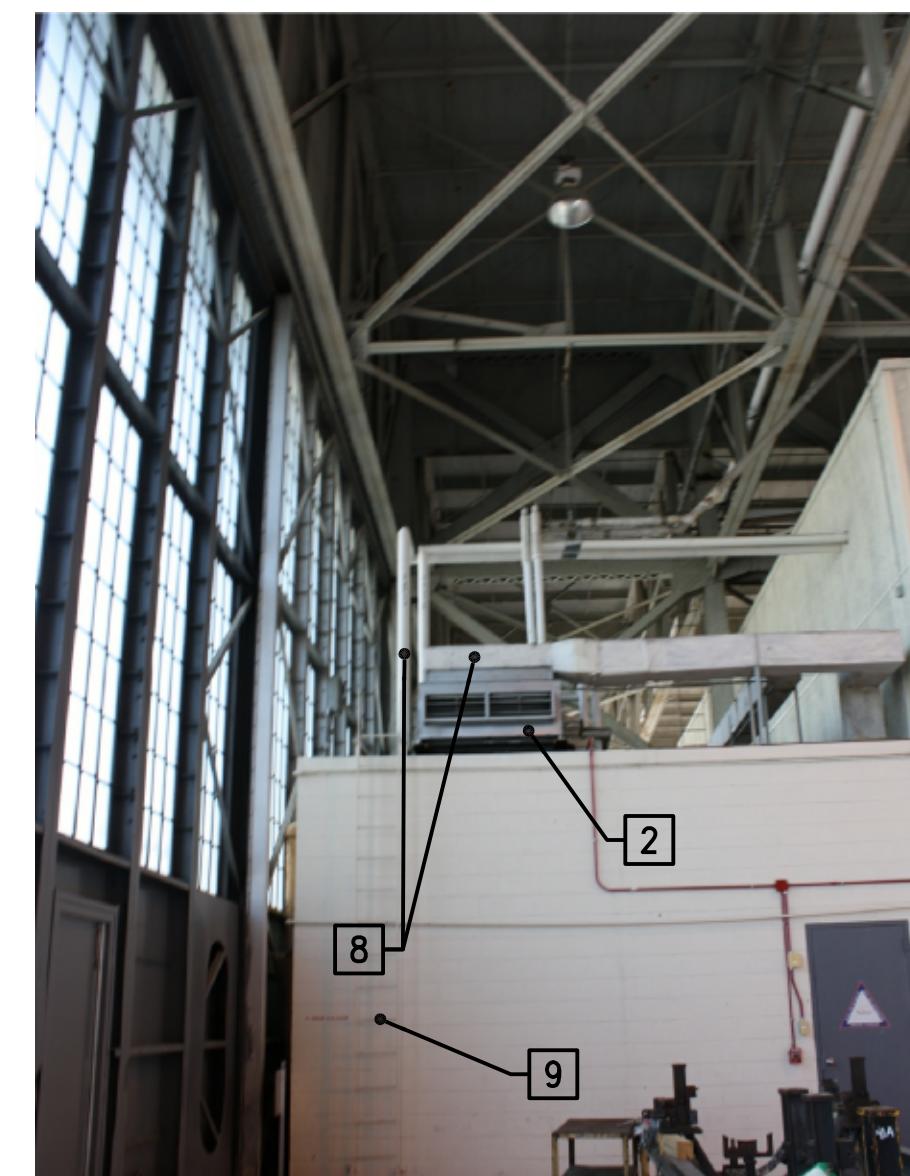

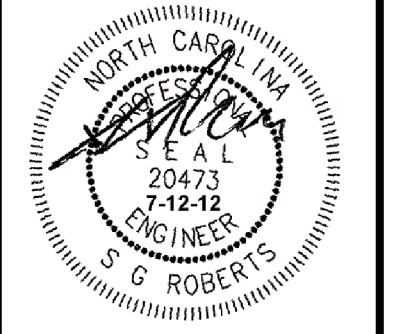


PHOTO 11  
PROPOSED LOCATION OF AHU-2

NO SCALE

### CONSTRUCTION NOTES (THIS SHEET ONLY)

- 1 REMOVE EXISTING TRANE H/V UNIT TO INCLUDE ALL PIPING, SUPPORTS AND ALL APPURTENANCES COMPLETE.
- 2 REMOVE EXISTING AIR HANDLING UNIT COMPLETE. AIR HANDLING UNIT MANUFACTURED BY WITT, MODEL # LHS06S.
- 3 HANGER BAY MECHANICAL EQUIPMENT AND EXPOSED CHILLED AND HOT WATER PIPING SHALL BE INSTALLED NO LOWER THAN THE BOTTOM CHORD OF THE EXISTING ROOF TRUSSES FOR CLEARANCE OF AVIATION EQUIPMENT. BOTTOM OF EXISTING ROOF TRUSSES IS APPROXIMATELY 32' AFF.
- 4 REMOVE EXISTING WATER COOLED CHILLER COMPLETE. CHILLER MANUFACTURED BY TRANE.
- 5 REMOVE ALL CONDENSER AND CHILLED WATER PIPING COMPLETE.
- 6 REMOVE EXISTING BASE MOUNTED 15 HP CONDENSER WATER PUMP.
- 7 REMOVE EXISTING WALL MOUNTED SOUND INSULATION LOCATED IN THE EXISTING MECHANICAL ROOM.
- 8 REMOVE EXISTING STEAM AND CHILLED WATER PIPING COMPLETE.
- 9 EXISTING LADDER TO REMAIN.

DATE	APPR
DESCRIPTION	
SYN	
 <b>BOWMAN, FOSTER &amp; ASSOC.</b> CONSULTING ENGINEERS #4 INTERSTATE CORP. CENTER NORFOLK, VA 23502 2424 26th ROAD SOUTH ARLINGTON, VA 22206	
 <small>10-0050</small>	
APPROVED	
ACTIVITY - SATISFACTORY TO	
DATE	
APPROVED	
FOR EFD FOR COMMANDER NAVFAC	
DATE	
A/E	DESIGN
CML	EFD
KLB	DRAWN
SGR	REVIEW
SGR	OC
SGR	CHIEF ARCH/ ENGR.
PROJECT MANAGER	PEC
FIRE PROTECTION	SAH
BRANCH MANAGER	PEC
DESIGN DIRECTOR	JFF
DEPARTMENT OF THE NAVY MARINE CORPS AIR STATION, CHERRY POINT, N.C. <b>FACILITIES ENERGY REPAIRS,          BUILDING 131</b> PHOTOGRAPHS	
CODE ID. NO. 80091	SIZE 0
SCALE:	AS SHOWN
FED. NO. WR6059407	
STA. PROJ. NO. CP12024M/CP12024R	
SPEC. NO.	
CONSTR. CONTR. NO.	
NAVFAC DRAWING NO.	12618462
SHEET	100 OF 124
<b>M-902</b>	
<small>DRAWING REVISION JULY 2003</small>	







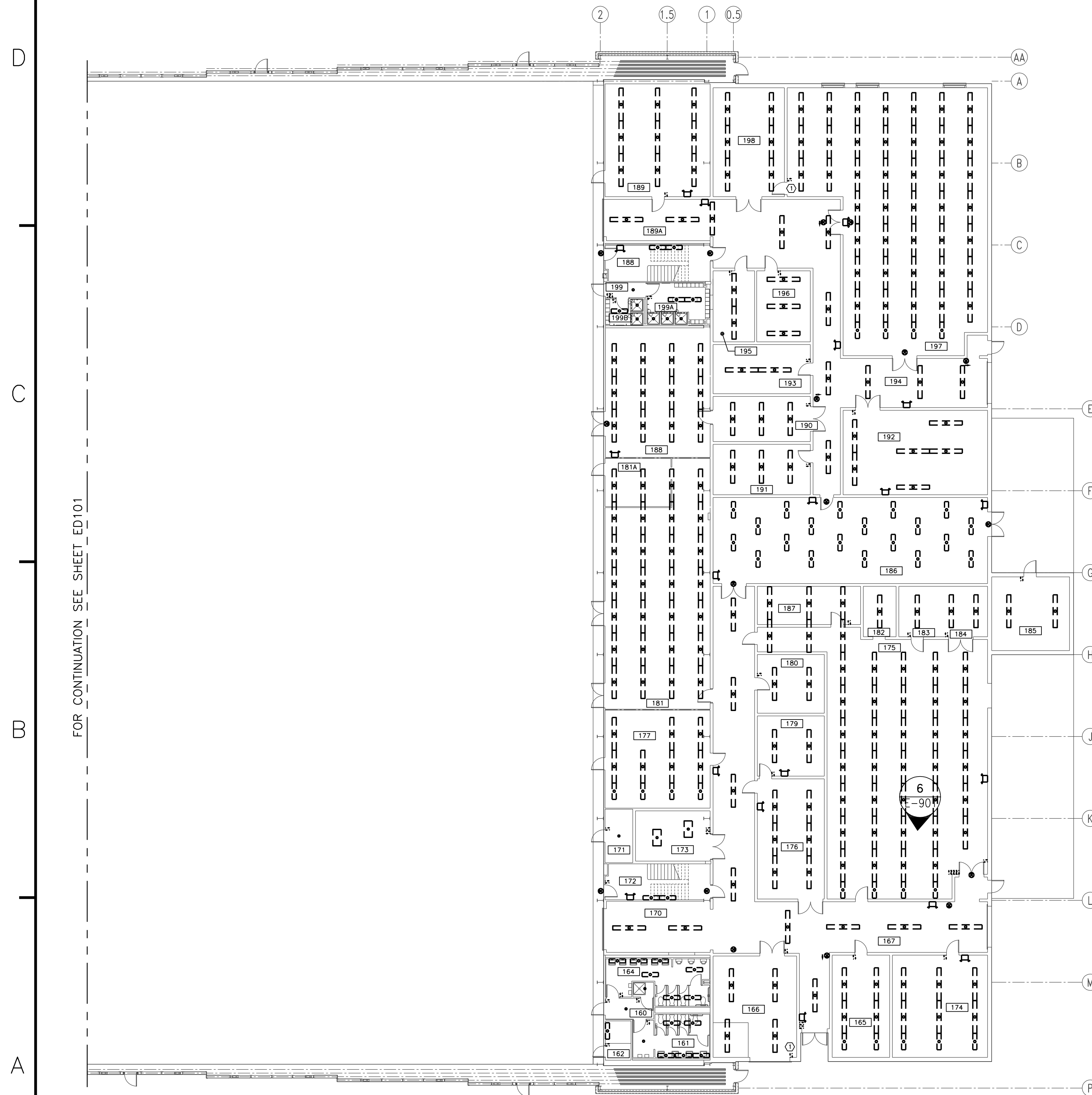


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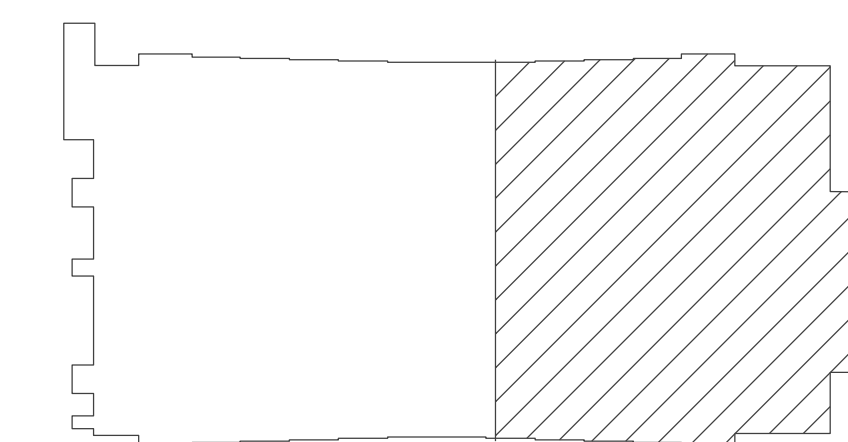
FOR CONTINUATION SEE SHEET ED101

### DEMOLITION NOTES (THIS SHEET ONLY)

- ① RELOCATE SWITCH TO NEW LOCATION. REFER TO NEW WORK SHEETS.
- ② COORDINATE WITH NEW WORK SHEETS FOR NEW LIGHT SWITCH LOCATIONS.

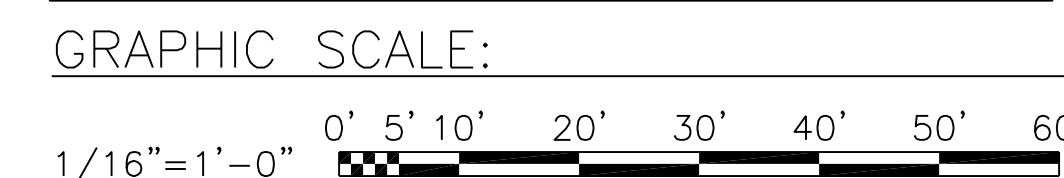



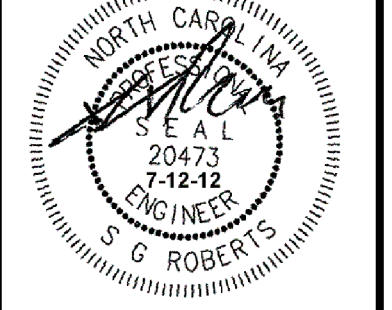
 PARTIAL FIRST FLOOR LIGHTING PLAN - DEMOLITION ②  
SCALE: 1/16" = 1'-0"



 KEY PLAN  
NO SCALE

NOTE: IF THIS DRAWING IS A REDUCTION, GRAPHIC SCALE MUST BE USED.



DATE	APPR
DESCRIPTION	
SYMBOL	
 BOWMAN, FOSTER & ASSOC. CONSULTING ENGINEERS #4 INTERSTATE CORP. CENTER NORFOLK, VA 23502 2424 26th ROAD SOUTH ARLINGTON, VA 22206	
 NORTH CAROLINA PROFESSIONAL ENGINEER G. ROBERTS 20473 7-12-12	
APPROVED	10-0050
ACTIVITY - SATISFACTORY TO	
DATE	
APPROVED	
FOR EFD FOR COMMANDER NAVFAC	
DATE	
A/E	EFD
SER	DESIGN
DJL	DRAWN
DGW	REVIEW
SGR	OC
SGR	CHIEF ARCH./ ENGR.
PROJECT MANAGER	PEC
FIRE PROTECTION	SAH
BRANCH MANAGER	PEC
DESIGN DIRECTOR	JEF
DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND MARINE CORPS AIR STATION, CHERRY POINT, N.C. <b>FACILITIES ENERGY REPAIRS,          BUILDING 131</b> PARTIAL FIRST FLOOR LIGHTING PLAN - DEMOLITION	
CODE ID. NO. 80091	SIZE 0
SCALE: AS SHOWN	
FED. NO. WR6059407	
STA. PROJ. NO. CP12024M/CP12024R	
SPEC. NO.	
CONSTR. CONTR. NO.	
NAVFAC DRAWING NO.	12618465
SHEET	103 OF 124
<b>ED102</b>	
DRAWING REVISION JULY 2003	



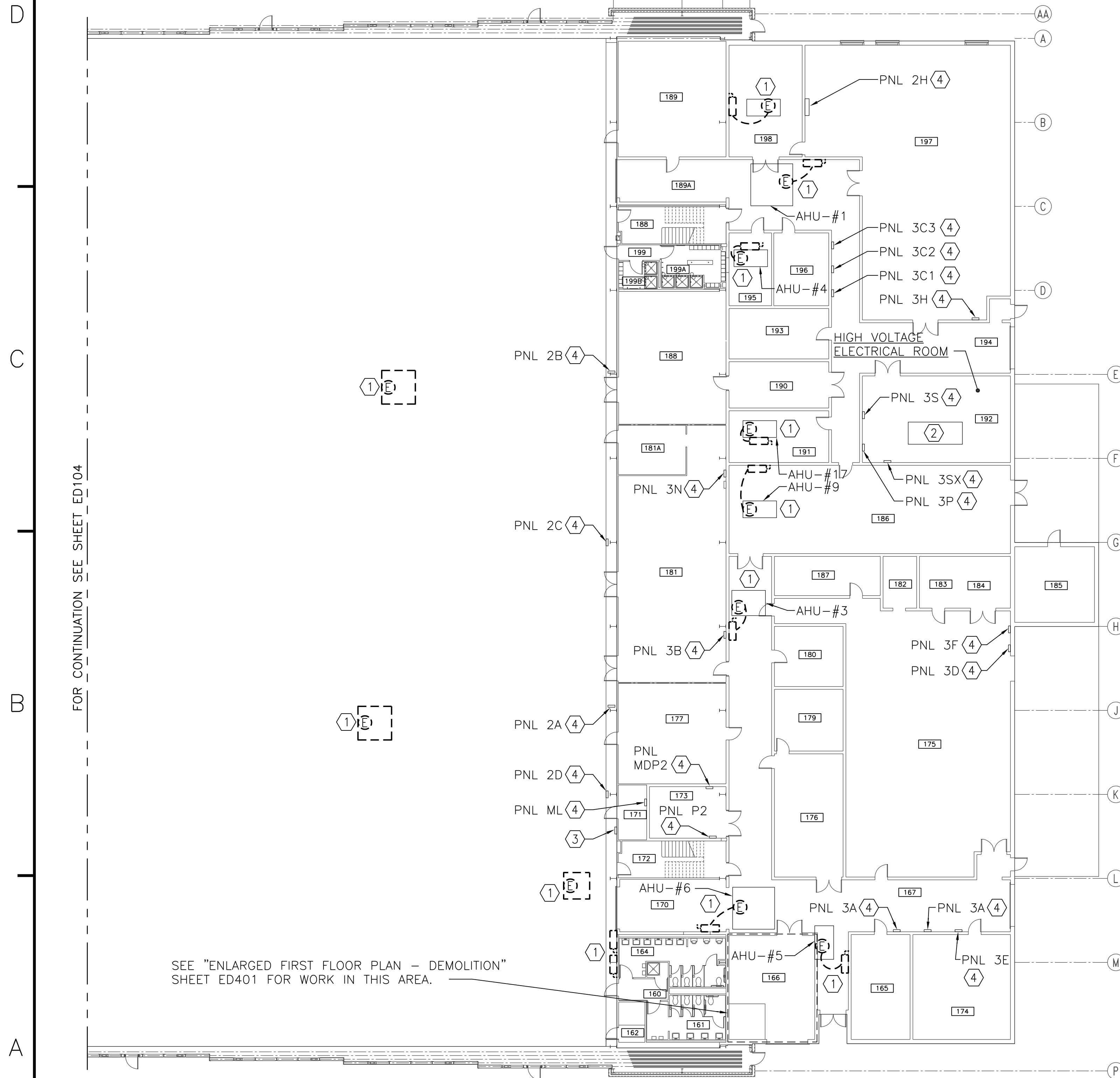




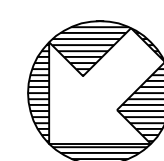


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FOR CONTINUATION SEE SHEET ED104



SEE "ENLARGED FIRST FLOOR PLAN - DEMOLITION" SHEET ED401 FOR WORK IN THIS AREA.

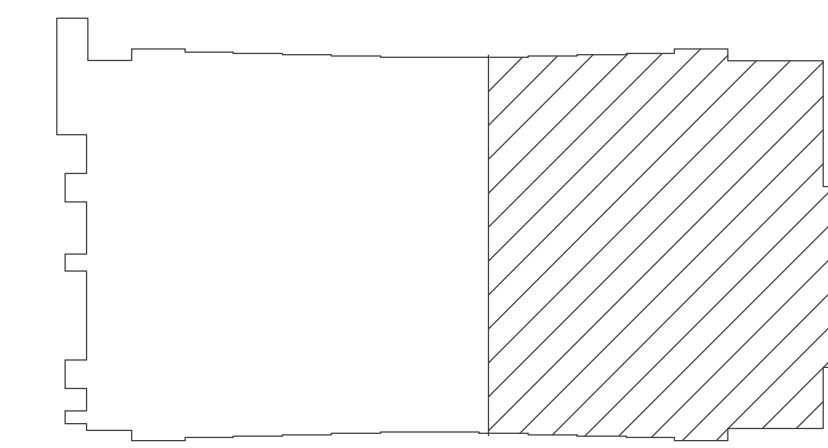


**PARTIAL FIRST FLOOR HVAC POWER PLAN - DEMOLITION**

SCALE: 1/16" = 1'-0"

**DEMOLITION NOTES (THIS SHEET ONLY)**

- ① DISCONNECT/REMOVE EXISTING ELECTRICAL POWER SUPPLY TO MECHANICAL EQUIPMENT, INCLUDING ALL WIRING, CONTROLS AND CONDUIT BACK TO ORIGINATING PANEL. COORDINATE DEMOLITION WITH MECHANICAL CONTRACTOR.
- ② EXISTING GE SWITCHBOARD, 2000A, 480Y/277V, 3Ø, 4W, 65 KAIC TO REMAIN.
- ③ DISCONNECT/REMOVE EXISTING AHU CONTACTORS/CONTROLS TO THE MECHANICAL AIR HANDLING UNITS. PANEL 2K TO REMAIN.
- ④ EXISTING PANELBOARDS TO REMAIN.


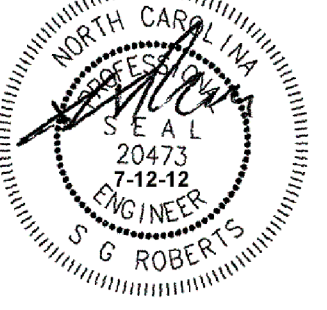


**KEY PLAN**  
NO SCALE

NOTE: IF THIS DRAWING IS A REDUCTION, GRAPHIC SCALE MUST BE USED.

GRAPHIC SCALE:

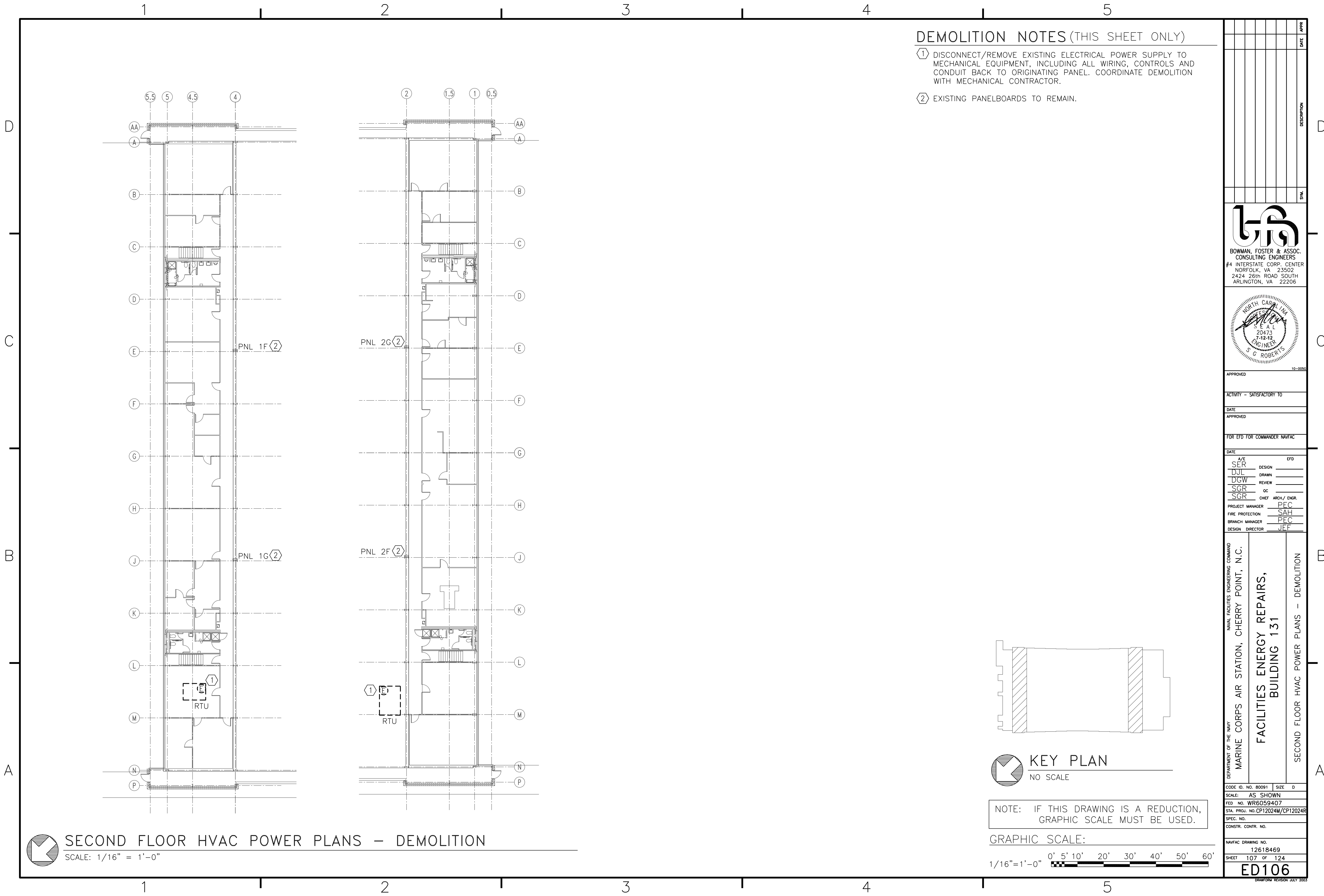


DATE	APPROVED
DESCRIPTION	APPROVED
SYMBOL	APPROVED
	
BOWMAN, FOSTER & ASSOC. CONSULTING ENGINEERS #4 INTERSTATE CORP. CENTER NORFOLK, VA 23502 2424 26th ROAD SOUTH ARLINGTON, VA 22206	
	
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OC	
ARCH/ ENGR.	
PROJECT MANAGER	PEC
FIRE PROTECTION	SAH
BRANCH MANAGER	PEC
DESIGN DIRECTOR	JEF
DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND MARINE CORPS AIR STATION, CHERRY POINT, N.C. <b>FACILITIES ENERGY REPAIRS,          BUILDING 131</b> PARTIAL FIRST FLOOR HVAC POWER PLAN - DEMOLITION	
CODE ID. NO. 80091	SIZE 0
SCALE: AS SHOWN	
FED. PROJ. NO. WR6059407	
STA. PROJ. NO. CP12024M/CP12024R	
SPEC. NO.	
CONSTR. CONTR. NO.	
NAVFAC DRAWING NO. 12618468	
SHEET 106 OF 124	
<b>ED105</b>	
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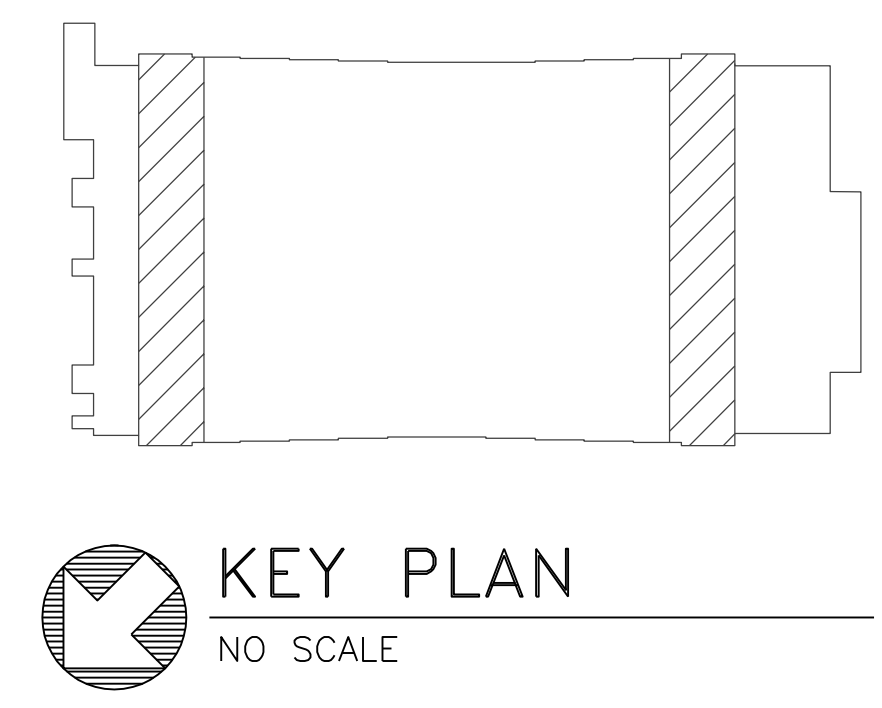
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### DEMOLITION NOTES (THIS SHEET ONLY)

- ① DISCONNECT/REMOVE EXISTING ELECTRICAL POWER SUPPLY TO MECHANICAL EQUIPMENT, INCLUDING ALL WIRING, CONTROLS AND CONDUIT BACK TO ORIGINATING PANEL. COORDINATE DEMOLITION WITH MECHANICAL CONTRACTOR.
- ② EXISTING PANELBOARDS TO REMAIN.



**SECOND FLOOR HVAC POWER PLANS - DEMOLITION**  
 SCALE: 1/16" = 1'-0"



NOTE: IF THIS DRAWING IS A REDUCTION, GRAPHIC SCALE MUST BE USED.

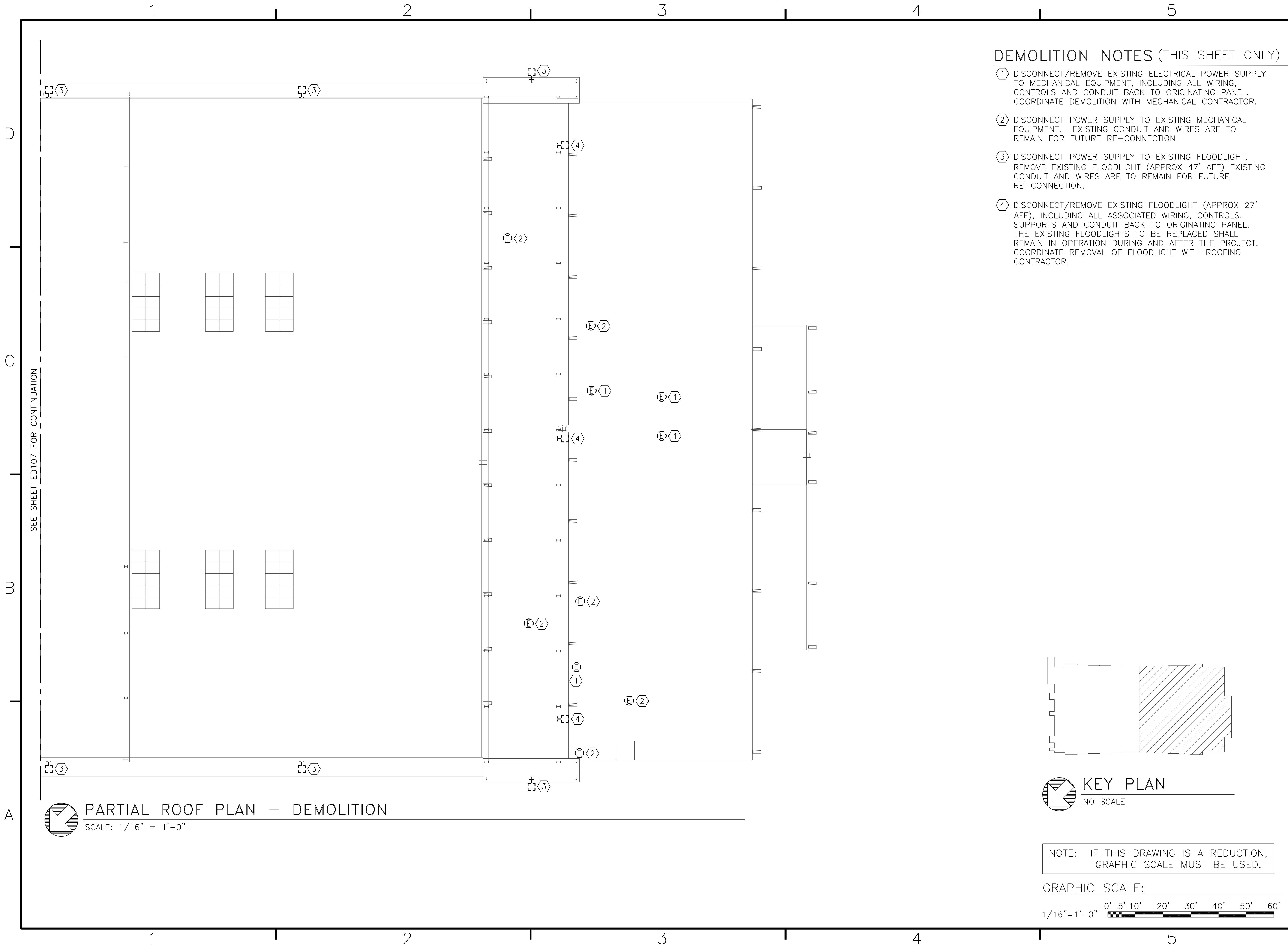
GRAPHIC SCALE:  
 1/16" = 1'-0"    0' 5' 10' 20' 30' 40' 50' 60'

DATE	APPR
DESCRIPTION	
SYMBOL	
<b>BOWMAN, FOSTER &amp; ASSOC.</b> CONSULTING ENGINEERS #4 INTERSTATE CORP. CENTER NORFOLK, VA 23502 2424 26th ROAD SOUTH ARLINGTON, VA 22206	
APPROVED	10-0050
ACTIVITY - SATISFACTORY TO	
DATE	
APPROVED	
FOR EFD FOR COMMANDER NAVFAC	
DATE	
A/E	EFD
SER	DESIGN
DJL	DRAWN
DGW	REVIEW
SGR	OC
SGR	CHIEF ARCH/ ENGR.
PROJECT MANAGER	PEC
FIRE PROTECTION	SAH
BRANCH MANAGER	PEC
DESIGN DIRECTOR	JEF
DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND MARINE CORPS AIR STATION, CHERRY POINT, N.C.	
<b>FACILITIES ENERGY REPAIRS,          BUILDING 131</b>	
SECOND FLOOR HVAC POWER PLANS - DEMOLITION	
CODE ID. NO. 80091	SIZE 0
SCALE: AS SHOWN	
FED. PROJ. NO. WR6059407	
STA. PROJ. NO. CP12024M/CP12024R	
SPEC. NO.	
CONSTR. CONTR. NO.	
NAVFAC DRAWING NO.	12618469
SHEET	107 OF 124
<b>ED106</b>	
<small>DRAWING REVISION JULY 2003</small>	





BFA File: G:\2010\10-0050 B-131 ENERGY\SUBMITTALS\FINAL SUBMITTAL 7-12-12\BOUND CAD\12618471.dwg Plot Date: Jul 11, 2012 - 11:35am Last Saved By: kbennett

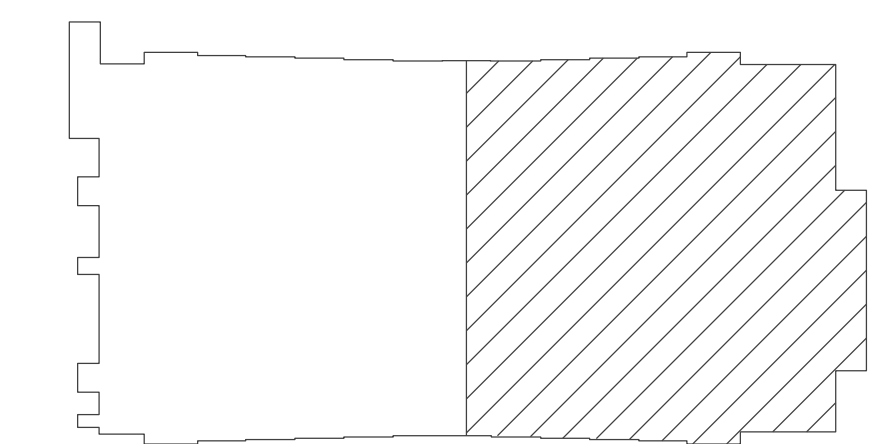


**DEMOLITION NOTES (THIS SHEET ONLY)**

- ① DISCONNECT/REMOVE EXISTING ELECTRICAL POWER SUPPLY TO MECHANICAL EQUIPMENT, INCLUDING ALL WIRING, CONTROLS AND CONDUIT BACK TO ORIGINATING PANEL. COORDINATE DEMOLITION WITH MECHANICAL CONTRACTOR.
- ② DISCONNECT POWER SUPPLY TO EXISTING MECHANICAL EQUIPMENT. EXISTING CONDUIT AND WIRES ARE TO REMAIN FOR FUTURE RE-CONNECTION.
- ③ DISCONNECT POWER SUPPLY TO EXISTING FLOODLIGHT. REMOVE EXISTING FLOODLIGHT (APPROX 47" AFF) EXISTING CONDUIT AND WIRES ARE TO REMAIN FOR FUTURE RE-CONNECTION.
- ④ DISCONNECT/REMOVE EXISTING FLOODLIGHT (APPROX 27' AFF), INCLUDING ALL ASSOCIATED WIRING, CONTROLS, SUPPORTS AND CONDUIT BACK TO ORIGINATING PANEL. THE EXISTING FLOODLIGHTS TO BE REPLACED SHALL REMAIN IN OPERATION DURING AND AFTER THE PROJECT. COORDINATE REMOVAL OF FLOODLIGHT WITH ROOFING CONTRACTOR.

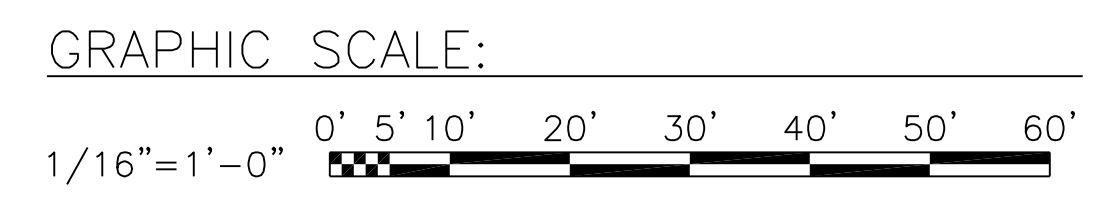
SEE SHEET ED107 FOR CONTINUATION


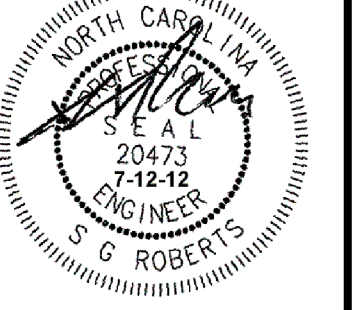
**PARTIAL ROOF PLAN - DEMOLITION**  
SCALE: 1/16" = 1'-0"



**KEY PLAN**  
NO SCALE

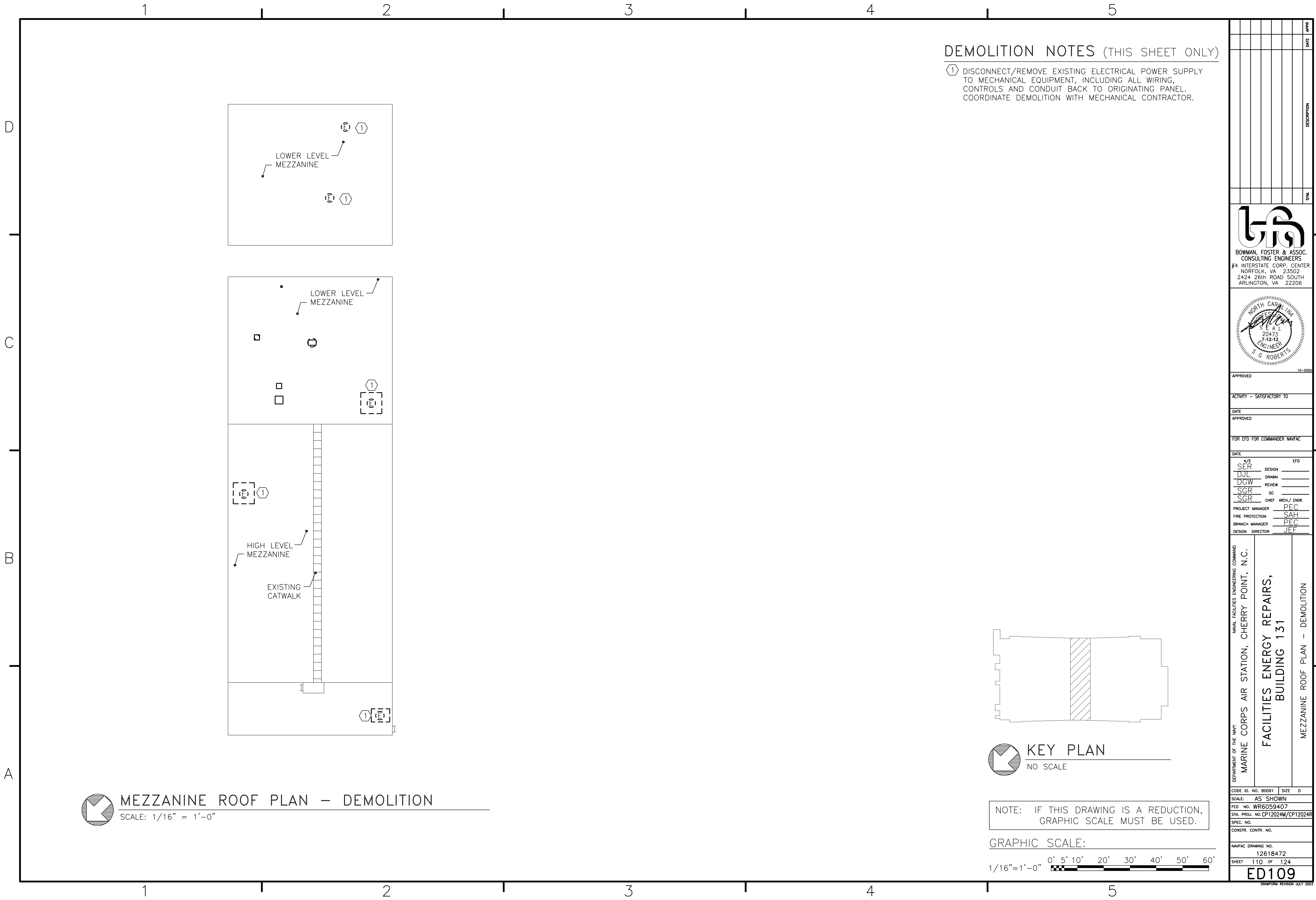
NOTE: IF THIS DRAWING IS A REDUCTION, GRAPHIC SCALE MUST BE USED.



DATE	APPR
DESCRIPTION	
SYMBOL	
 <b>BOWMAN, FOSTER &amp; ASSOC.</b> CONSULTING ENGINEERS #4 INTERSTATE CORP. CENTER NORFOLK, VA 23502 2424 26th ROAD SOUTH ARLINGTON, VA 22206	
 NORTH CAROLINA PROFESSIONAL ENGINEER G. ROBERTS	
APPROVED	10-0050
ACTIVITY - SATISFACTORY TO	
DATE	
APPROVED	
FOR EFD FOR COMMANDER NAVFAC	
DATE	
A/E	EFD
SER	DESIGN
DJL	DRAWN
DGW	REVIEW
SGR	OC
SGR	CHEF ARCH/ ENGR.
PROJECT MANAGER	PEC
FIRE PROTECTION	SAH
BRANCH MANAGER	PEC
DESIGN DIRECTOR	JEF
DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND MARINE CORPS AIR STATION, CHERRY POINT, N.C. <b>FACILITIES ENERGY REPAIRS,          BUILDING 131</b> PARTIAL ROOF PLAN - DEMOLITION	
CODE ID. NO. 80091	SIZE 0
SCALE: AS SHOWN	
FED. PROJ. NO. WR6059407	
STA. PROJ. NO. CP12024M/CP12024R	
SPEC. NO.	
CONSTR. CONTR. NO.	
NAVFAC DRAWING NO.	12618471
SHEET	109 OF 124
<b>ED108</b>	
<small>DRAWING REVISION JULY 2003</small>	

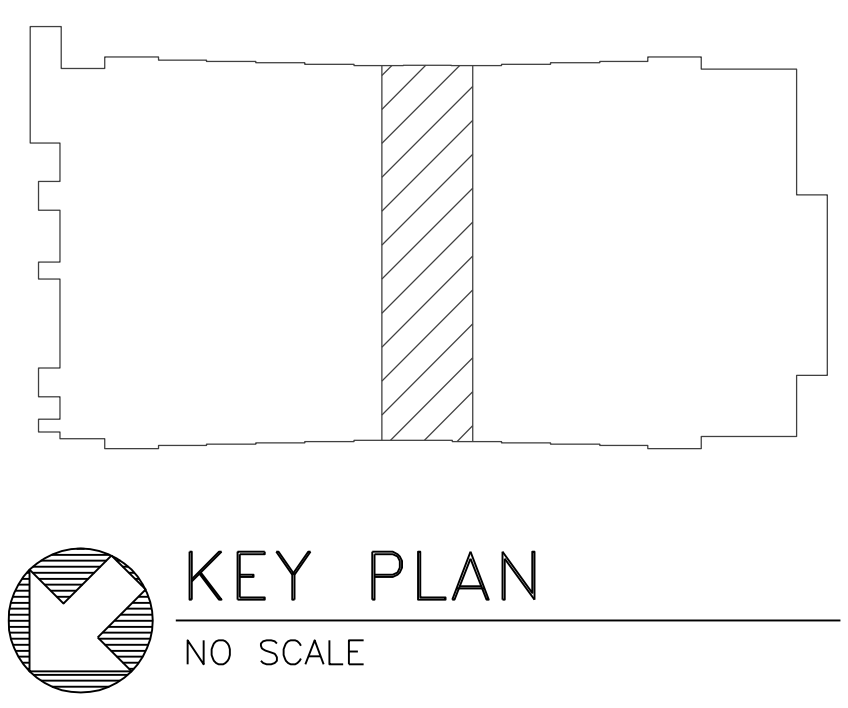


BFA File Name G:\2010\10-0050 B-131 ENERGY\SUBMITTALS\FINAL SUBMITTAL 7-12-12\BOUND CAD\12618472.dwg Plot Date: Jul 11, 2012 - 11:36am Lost Saved By: dlawson

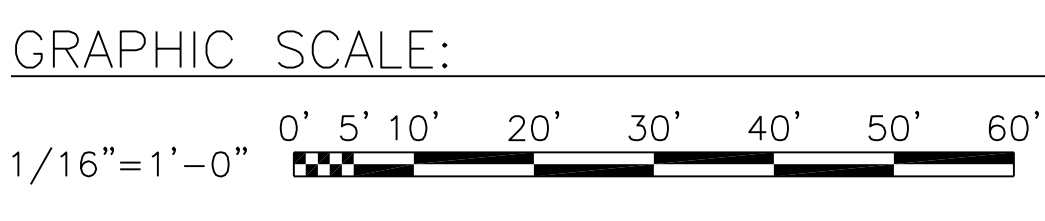


**DEMOLITION NOTES (THIS SHEET ONLY)**  
 (1) DISCONNECT/REMOVE EXISTING ELECTRICAL POWER SUPPLY TO MECHANICAL EQUIPMENT, INCLUDING ALL WIRING, CONTROLS AND CONDUIT BACK TO ORIGINATING PANEL. COORDINATE DEMOLITION WITH MECHANICAL CONTRACTOR.

 **MEZZANINE ROOF PLAN - DEMOLITION**  
 SCALE: 1/16" = 1'-0"

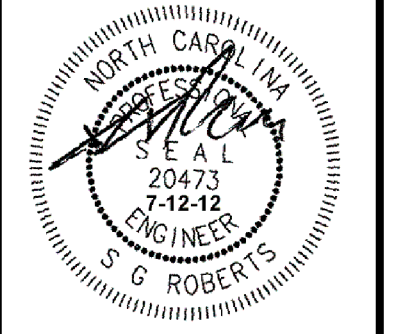


NOTE: IF THIS DRAWING IS A REDUCTION, GRAPHIC SCALE MUST BE USED.



DATE	APPR	DESCRIPTION

**BFA**  
 BOWMAN, FOSTER & ASSOC.  
 CONSULTING ENGINEERS  
 #4 INTERSTATE CORP. CENTER  
 NORFOLK, VA 23502  
 2424 26th ROAD SOUTH  
 ARLINGTON, VA 22206



APPROVED \_\_\_\_\_ DATE \_\_\_\_\_

ACTIVITY - SATISFACTORY TO \_\_\_\_\_

DATE \_\_\_\_\_ APPROVED \_\_\_\_\_

FOR EFD FOR COMMANDER NAVFAC

DATE \_\_\_\_\_

A/E	DESIGN	EFD
SR		
DJL	DRAWN	
DGW	REVIEW	
SGR	OC	
SGR	CHIEF ARCH./ ENGR.	
PROJECT MANAGER	PEC	
FIRE PROTECTION	SAH	
BRANCH MANAGER	PEC	
DESIGN DIRECTOR	JEF	

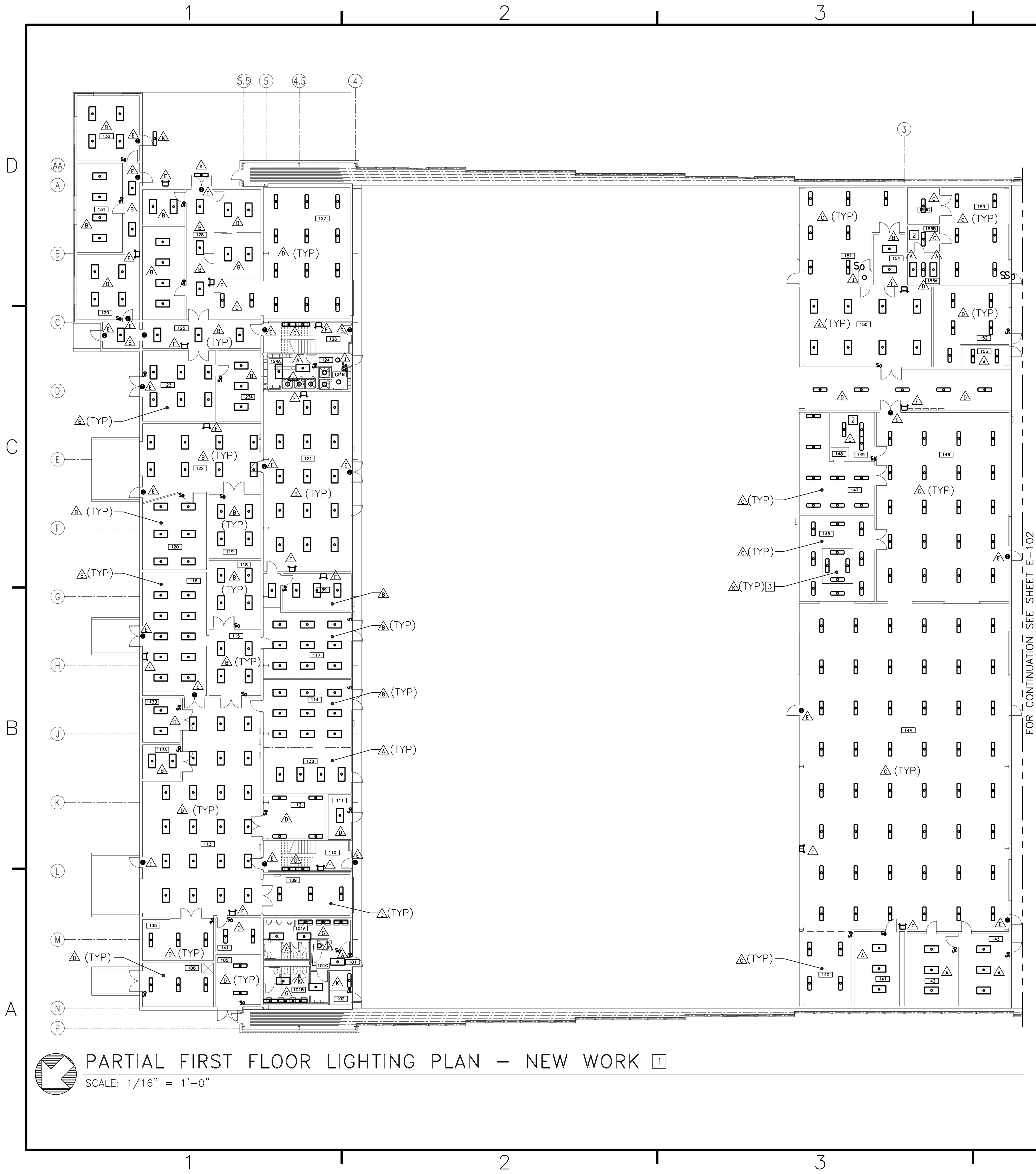
DEPARTMENT OF THE NAVY  
 NAVAL FACILITIES ENGINEERING COMMAND  
 MARINE CORPS AIR STATION, CHERRY POINT, N.C.  
**FACILITIES ENERGY REPAIRS,  
 BUILDING 131**  
 MEZZANINE ROOF PLAN - DEMOLITION

CODE ID. NO. 80091	SIZE D
SCALE: AS SHOWN	
FED. NO. WR6059407	
STA. PROJ. NO. CP12024M/CP12024R	
SPEC. NO.	
CONSTR. CONTR. NO.	
NAVFAC DRAWING NO. 12618472	
SHEET 110 OF 124	
<b>ED109</b>	





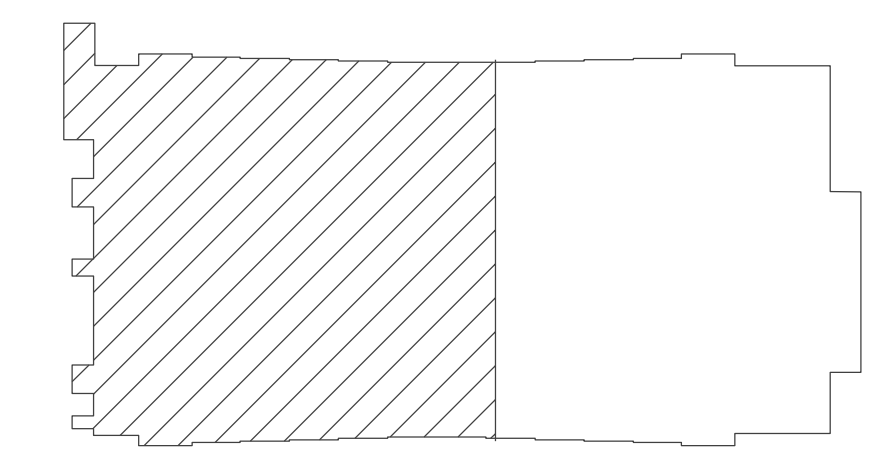
BFA Filename G:\2010\10-0050 B-131 ENERGY\SUBMITTALS\FINAL SUBMITTAL 7-12-12\BOUND CAD\12618474.dwg Plot Date: Jul 11, 2012 - 11:37am Lost Saved By: Iwesley



### CONSTRUCTION NOTES (THIS SHEET ONLY)

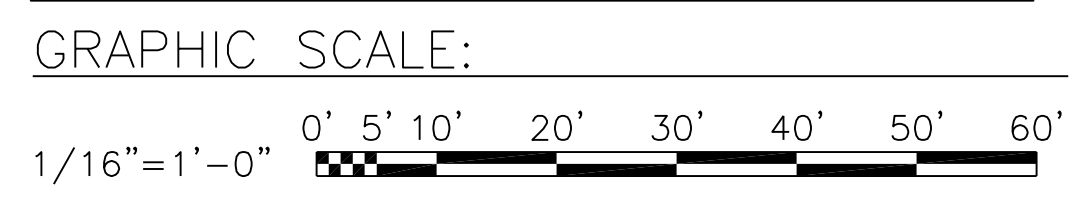
- 1 MODIFY ALL EXISTING CIRCUITS FOR NEW LIGHT FIXTURE LAYOUT AND COORDINATE WITH NEW/EXISTING SWITCH CONFIGURATION, UTILIZING EXISTING CIRCUITS.
- 2 INSTALL TYPE 'C' FIXTURES AT HIGH LEVEL, ABOVE THE PARTITIONED ROOMS.
- 3 FIXTURE TYPE K TO BE INSTALLED WITHIN HOOD.

**PARTIAL FIRST FLOOR LIGHTING PLAN - NEW WORK** 1  
 SCALE: 1/16" = 1'-0"



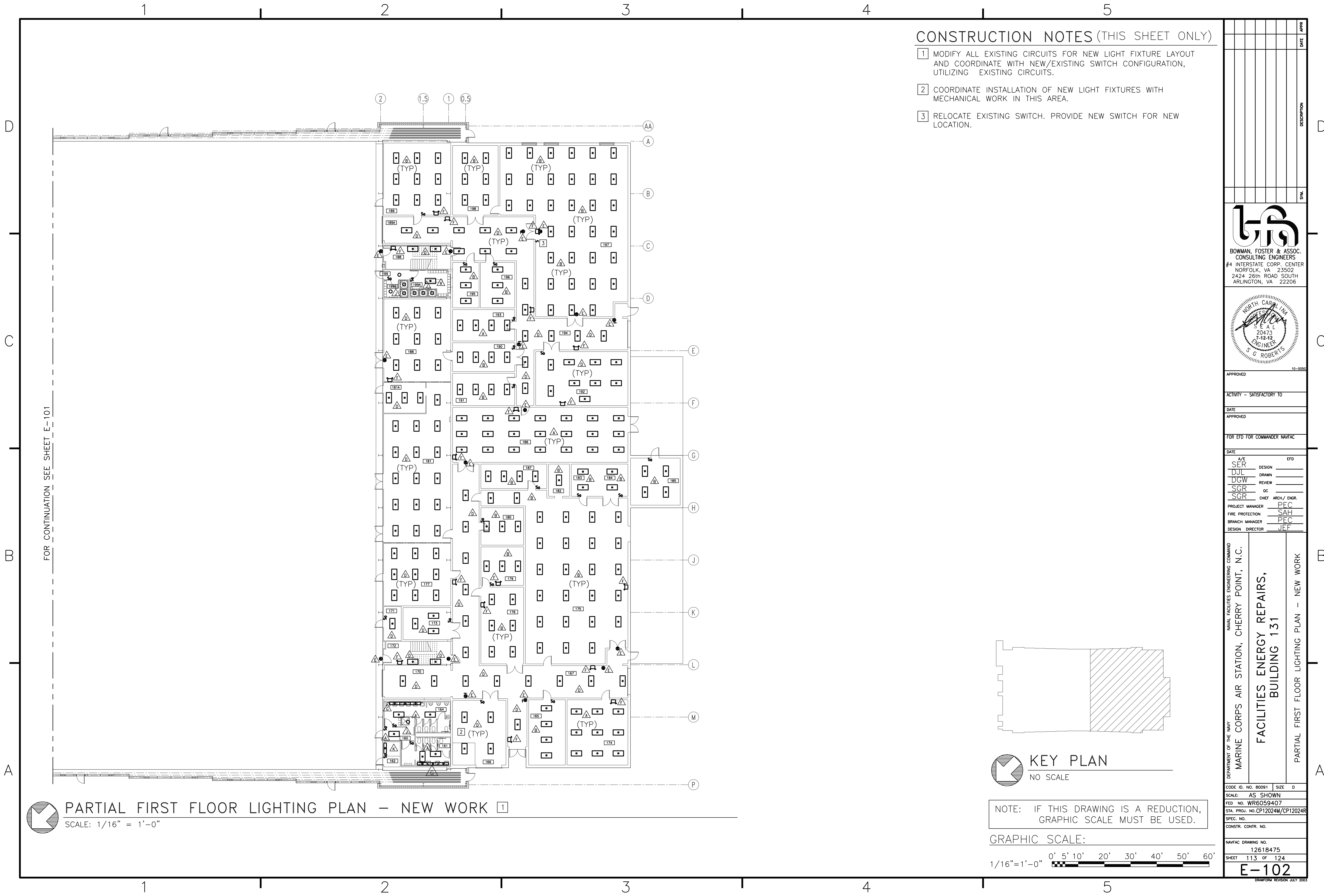
**KEY PLAN**  
 NO SCALE

NOTE: IF THIS DRAWING IS A REDUCTION, GRAPHIC SCALE MUST BE USED.



DATE	APPR	
DESCRIPTION		
SYMBOL		
BOWMAN, FOSTER & ASSOC. CONSULTING ENGINEERS #4 INTERSTATE CORP. CENTER NORFOLK, VA 23502 2424 26th ROAD SOUTH ARLINGTON, VA 22206		
APPROVED _____ 10-0050		
ACTIVITY - SATISFACTORY TO _____		
DATE _____		
APPROVED _____		
FOR EFD FOR COMMANDER NAVFAC		
DATE _____		
A/E	DESIGN	EFD
SER	DRAWN	
DJL	REVIEW	
DGW	OC	
SGR	CHEF ARCH/ ENGR.	
SGR	PROJECT MANAGER	PEC
	FIRE PROTECTION	SAH
	BRANCH MANAGER	PEC
	DESIGN DIRECTOR	JEF
DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND MARINE CORPS AIR STATION, CHERRY POINT, N.C.		
<b>FACILITIES ENERGY REPAIRS,          BUILDING 131</b>		
PARTIAL FIRST FLOOR LIGHTING PLAN - NEW WORK		
CODE ID. NO. 80091	SIZE	0
SCALE:	AS SHOWN	
FED. NO. WR6059407		
STA. PROJ. NO. CP12024M/CP12024R		
SPEC. NO.		
CONSTR. CONTR. NO.		
NAVFAC DRAWING NO. 12618474		
SHEET 112 OF 124		
<b>E-101</b>		
<small>DRAWING REVISION JULY 2003</small>		

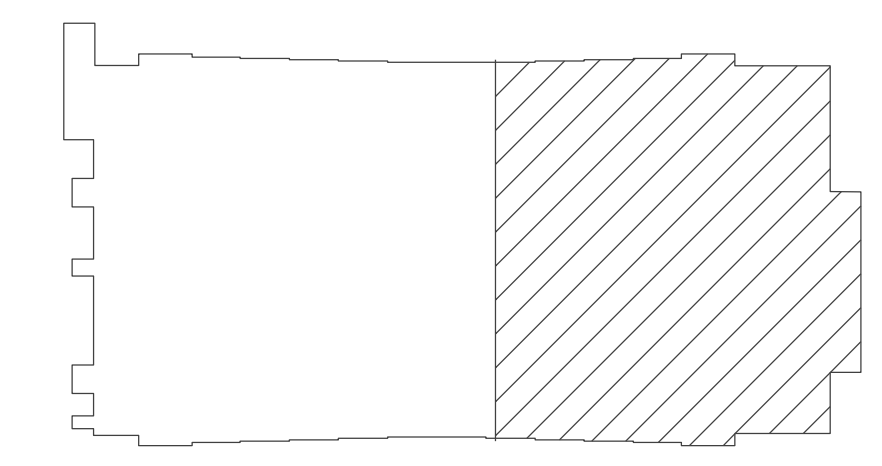
BFA File Name G:\2010\10-0050 B-131 ENERGY\SUBMITTALS\FINAL SUBMITTAL 7-12-12\BOUND CAD\12618475.dwg Plot Date: Jul 11, 2012 - 11:37am Lost Saved By: dlawson



**CONSTRUCTION NOTES (THIS SHEET ONLY)**

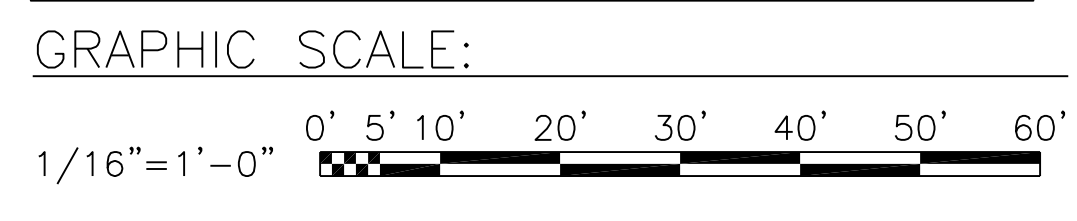
- 1 MODIFY ALL EXISTING CIRCUITS FOR NEW LIGHT FIXTURE LAYOUT AND COORDINATE WITH NEW/EXISTING SWITCH CONFIGURATION, UTILIZING EXISTING CIRCUITS.
- 2 COORDINATE INSTALLATION OF NEW LIGHT FIXTURES WITH MECHANICAL WORK IN THIS AREA.
- 3 RELOCATE EXISTING SWITCH. PROVIDE NEW SWITCH FOR NEW LOCATION.

**PARTIAL FIRST FLOOR LIGHTING PLAN - NEW WORK**  
 SCALE: 1/16" = 1'-0"



**KEY PLAN**  
 NO SCALE

NOTE: IF THIS DRAWING IS A REDUCTION, GRAPHIC SCALE MUST BE USED.



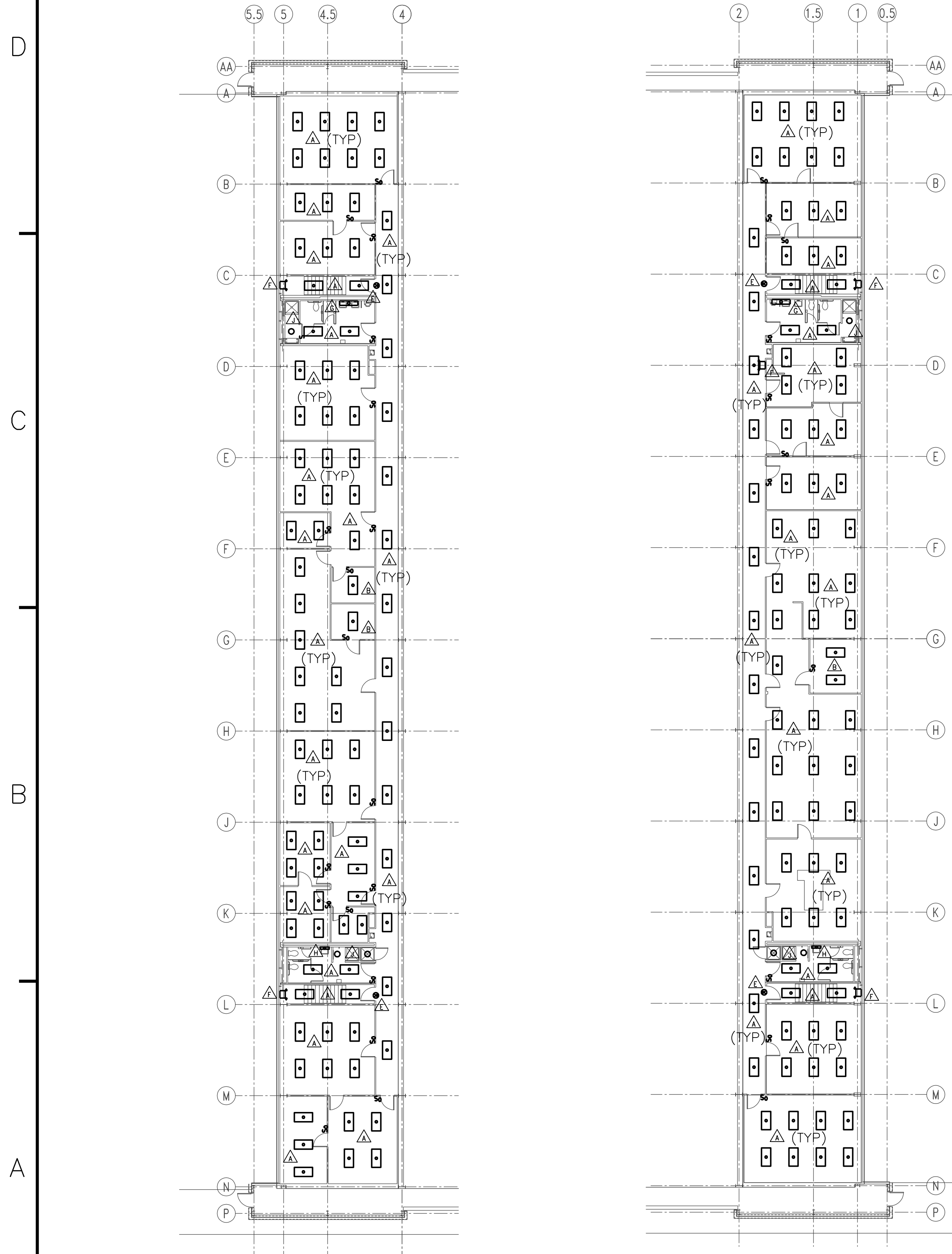
DATE	APPR
DESCRIPTION	
SYMBOL	
BOWMAN, FOSTER & ASSOC. CONSULTING ENGINEERS #4 INTERSTATE CORP. CENTER NORFOLK, VA 23502 2424 26th ROAD SOUTH ARLINGTON, VA 22206	
APPROVED	10-0050
ACTIVITY - SATISFACTORY TO	
DATE	
APPROVED	
FOR EFD FOR COMMANDER NAVFAC	
DATE	
A/E	
SER	DESIGN
DJL	DRAWN
DGW	REVIEW
SGR	OC
SGR	CHEF ARCH/ ENGR.
PROJECT MANAGER	PEC
FIRE PROTECTION	SAH
BRANCH MANAGER	PEC
DESIGN DIRECTOR	JEF
NAVAL FACILITIES ENGINEERING COMMAND	
MARINE CORPS AIR STATION, CHERRY POINT, N.C.	
<b>FACILITIES ENERGY REPAIRS, BUILDING 131</b>	
PARTIAL FIRST FLOOR LIGHTING PLAN - NEW WORK	
CODE ID. NO. B0091	SIZE 0
SCALE: AS SHOWN	
FED. PROJ. NO. WR6059407	
STA. PROJ. NO. CP12024M/CP12024R	
SPEC. NO.	
CONSTR. CONTR. NO.	
NAVFAC DRAWING NO.	12618475
SHEET	113 OF 124
<b>E-102</b>	
DRAWING REVISION JULY 2003	



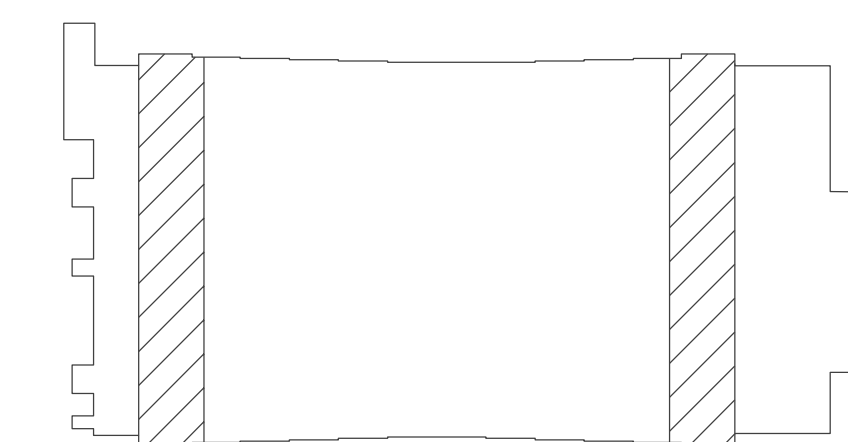
BFA File name G:\2010\10-0050 B-131 ENERGY\SUBMITTALS\FINAL SUBMITTAL 7-12-12\BOUND CAD\12618476.dwg Plot Date: Jul 11, 2012 - 11:36am Lost Saved By: dlawson

### CONSTRUCTION NOTES (THIS SHEET ONLY)

1 MODIFY ALL EXISTING CIRCUITS FOR NEW LIGHT FIXTURE LAYOUT AND COORDINATE WITH NEW/EXISTING SWITCH CONFIGURATION, UTILIZING EXISTING CIRCUITS.

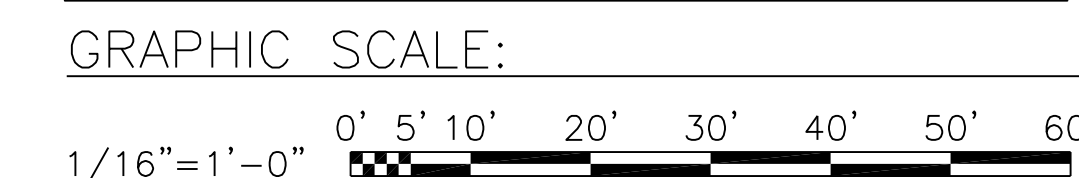



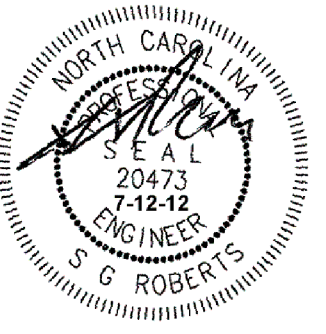
 SECOND FLOOR LIGHTING PLANS - NEW WORK 1  
SCALE: 1/16" = 1'-0"



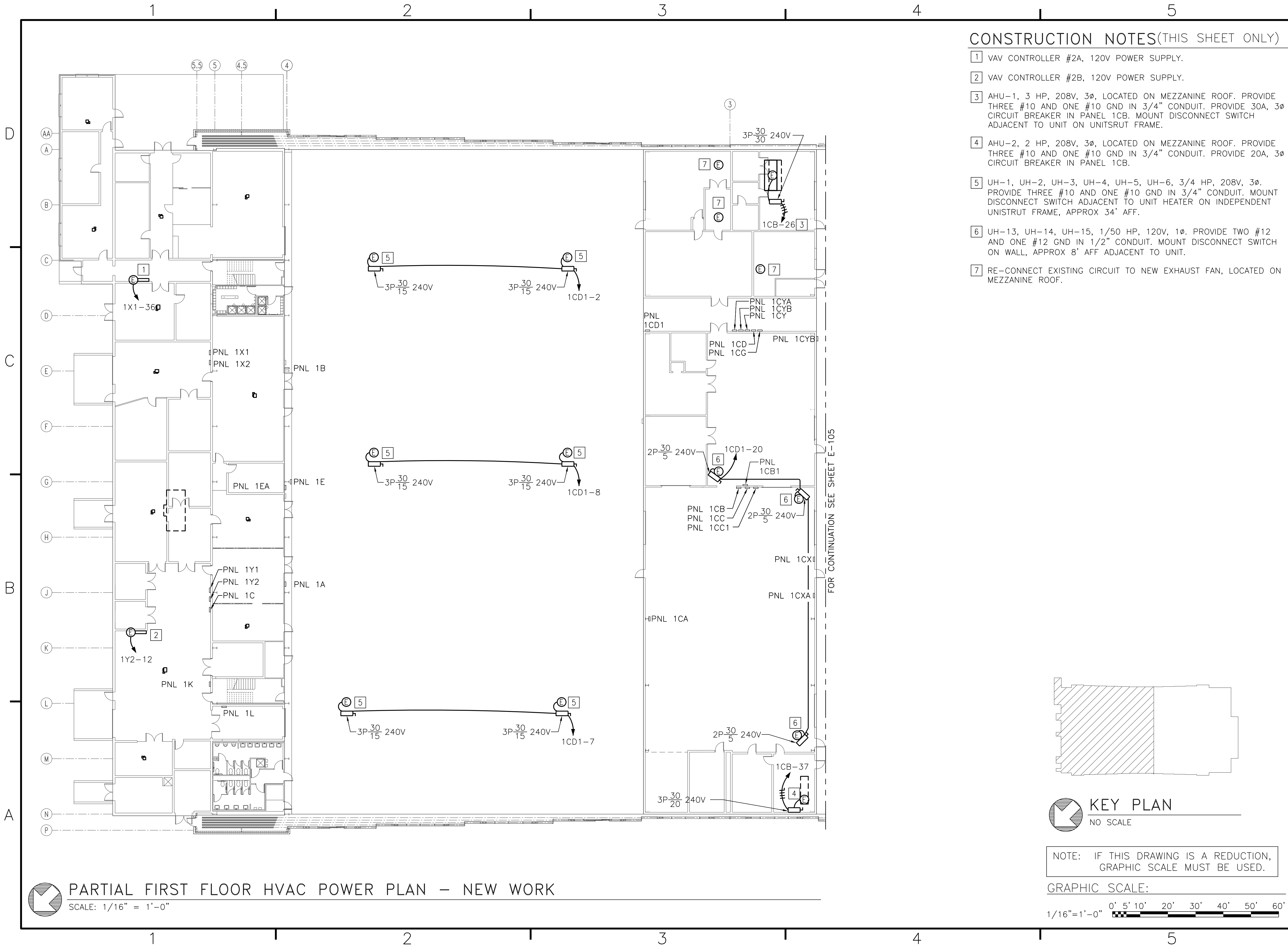
 KEY PLAN  
NO SCALE

NOTE: IF THIS DRAWING IS A REDUCTION, GRAPHIC SCALE MUST BE USED.




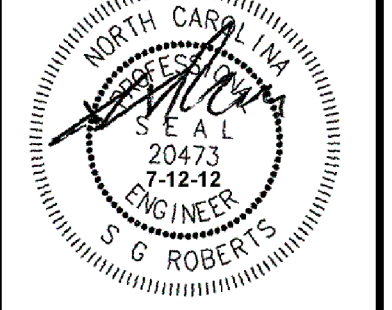
DATE	APPR
DESCRIPTION	
SYMBOL	
 <b>BOWMAN, FOSTER &amp; ASSOC.</b> CONSULTING ENGINEERS #4 INTERSTATE CORP. CENTER NORFOLK, VA 23502 2424 26th ROAD SOUTH ARLINGTON, VA 22206	
 NORTH CAROLINA PROFESSIONAL ENGINEER 20473 7-12-12 G. ROBERTS	
APPROVED	10-0050
ACTIVITY - SATISFACTORY TO	
DATE	
APPROVED	
FOR EFD FOR COMMANDER NAVFAC	
DATE	
A/E	EFD
SER	DESIGN
DJL	DRAWN
DGW	REVIEW
SGR	OC
SGR	CHIEF ARCH/ ENGR.
PROJECT MANAGER	PEC
FIRE PROTECTION	SAH
BRANCH MANAGER	PEC
DESIGN DIRECTOR	JEF
DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND MARINE CORPS AIR STATION, CHERRY POINT, N.C.	
<b>FACILITIES ENERGY REPAIRS,          BUILDING 131</b>	
SECOND FLOOR LIGHTING PLANS - NEW WORK	
CODE ID. NO. 80091	SIZE 0
SCALE:	AS SHOWN
FED. NO. WR6059407	
STA. PROJ. NO. CP12024M/CP12024R	
SPEC. NO.	
CONSTR. CONTR. NO.	
NAVFAC DRAWING NO.	12618476
SHEET	114 OF 124
<b>E-103</b>	
<small>DRAWING REVISION JULY 2003</small>	

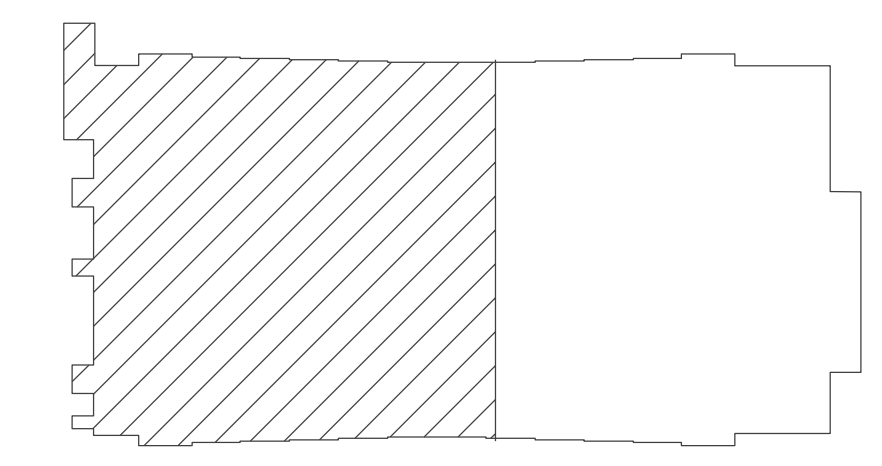
BFA File Name G:\2010\10-0050 B-131 ENERGY\SUBMITTALS\FINAL SUBMITTAL 7-12-12\BOUND CAD\12618477.DWG Plot Date: Jul 11, 2012 - 11:39am Last Saved By: dlawson



### CONSTRUCTION NOTES (THIS SHEET ONLY)

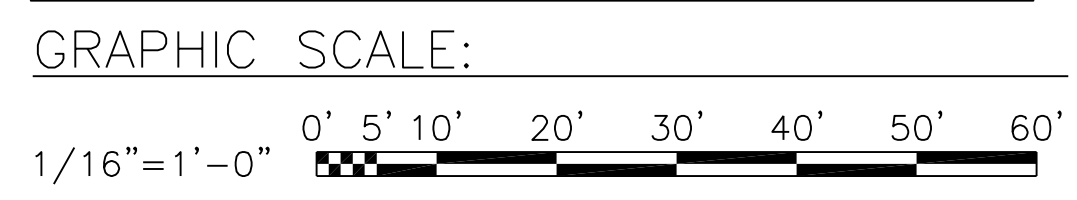
- 1 VAV CONTROLLER #2A, 120V POWER SUPPLY.
- 2 VAV CONTROLLER #2B, 120V POWER SUPPLY.
- 3 AHU-1, 3 HP, 208V, 3Ø, LOCATED ON MEZZANINE ROOF. PROVIDE THREE #10 AND ONE #10 GND IN 3/4" CONDUIT. PROVIDE 30A, 3Ø CIRCUIT BREAKER IN PANEL 1CB. MOUNT DISCONNECT SWITCH ADJACENT TO UNIT ON UNISTRUT FRAME.
- 4 AHU-2, 2 HP, 208V, 3Ø, LOCATED ON MEZZANINE ROOF. PROVIDE THREE #10 AND ONE #10 GND IN 3/4" CONDUIT. PROVIDE 20A, 3Ø CIRCUIT BREAKER IN PANEL 1CB.
- 5 UH-1, UH-2, UH-3, UH-4, UH-5, UH-6, 3/4 HP, 208V, 3Ø. PROVIDE THREE #10 AND ONE #10 GND IN 3/4" CONDUIT. MOUNT DISCONNECT SWITCH ADJACENT TO UNIT HEATER ON INDEPENDENT UNISTRUT FRAME, APPROX 34' AFF.
- 6 UH-13, UH-14, UH-15, 1/50 HP, 120V, 1Ø. PROVIDE TWO #12 AND ONE #12 GND IN 1/2" CONDUIT. MOUNT DISCONNECT SWITCH ON WALL, APPROX 8' AFF ADJACENT TO UNIT.
- 7 RE-CONNECT EXISTING CIRCUIT TO NEW EXHAUST FAN, LOCATED ON MEZZANINE ROOF.

DATE	APPROVED
DESCRIPTION	
SYMBOL	
 BOWMAN, FOSTER & ASSOC. CONSULTING ENGINEERS #4 INTERSTATE CORP. CENTER NORFOLK, VA 23502 2424 26th ROAD SOUTH ARLINGTON, VA 22206	
 NORTH CAROLINA PROFESSIONAL ENGINEER G. ROBERTS 20473 7-12-12	
APPROVED	10-0050
ACTIVITY - SATISFACTORY TO	
DATE	
APPROVED	
FOR EFD FOR COMMANDER NAVFAC	
DATE	
A/E	EFD
SER	DESIGN
DJL	DRAWN
DGW	REVIEW
SGR	OC
SGR	CHEF ARCH/ ENGR.
PROJECT MANAGER	PEC
FIRE PROTECTION	SAH
BRANCH MANAGER	PEC
DESIGN DIRECTOR	JEF
NAVAL FACILITIES ENGINEERING COMMAND MARINE CORPS AIR STATION, CHERRY POINT, N.C. <b>FACILITIES ENERGY REPAIRS,          BUILDING 131</b> PARTIAL FIRST FLOOR HVAC POWER PLAN - NEW WORK	
CODE ID. NO. 80091	SIZE 0
SCALE: AS SHOWN	
FED. NO. WR6059407	
STA. PROJ. NO. CP12024M/CP12024R	
SPEC. NO.	
CONSTR. CONTR. NO.	
NAVFAC DRAWING NO.	12618477
SHEET	115 OF 124
<b>E-104</b>	
<small>DRAWING REVISION JULY 2003</small>	



KEY PLAN  
NO SCALE

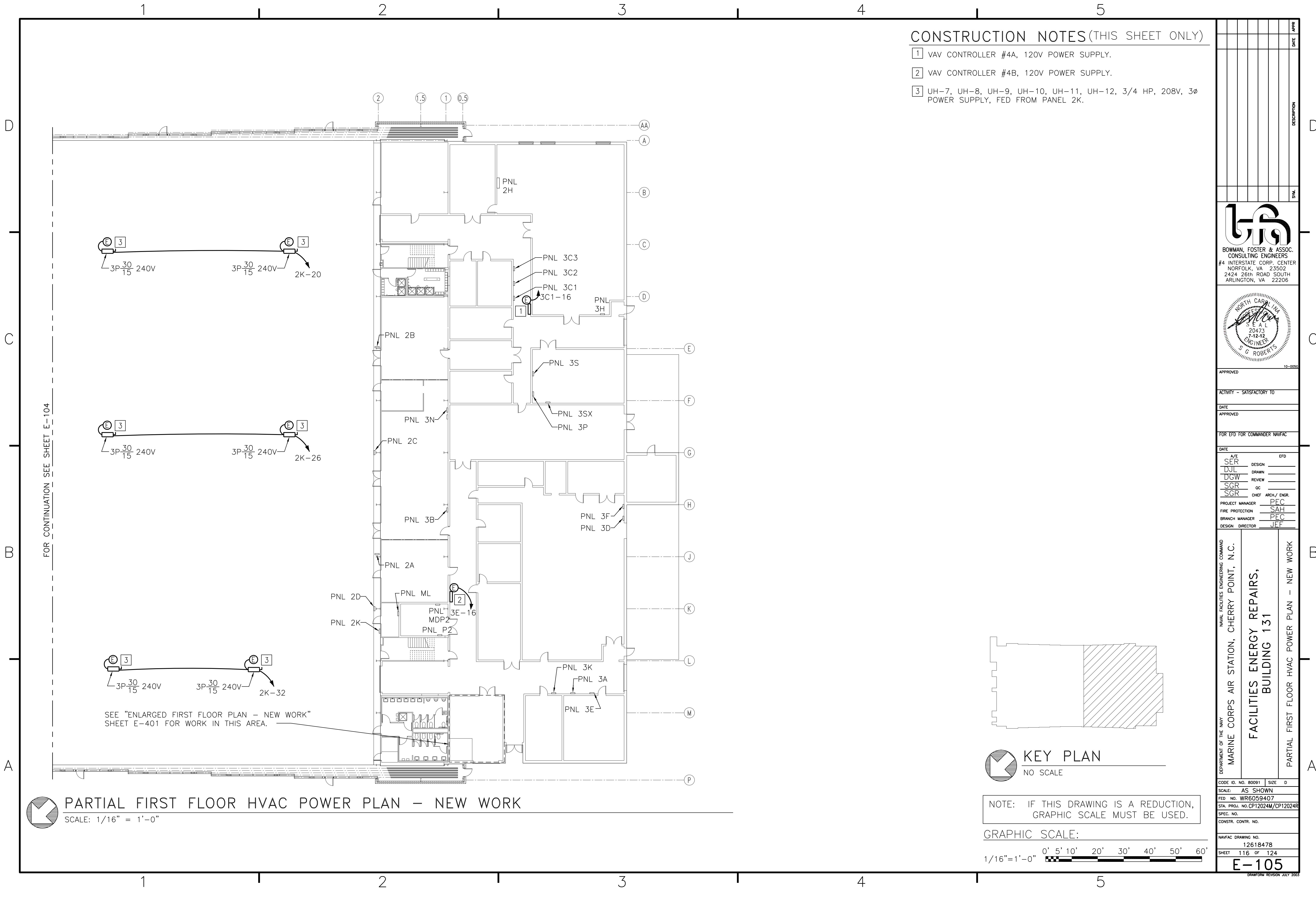
NOTE: IF THIS DRAWING IS A REDUCTION, GRAPHIC SCALE MUST BE USED.



 PARTIAL FIRST FLOOR HVAC POWER PLAN - NEW WORK  
SCALE: 1/16" = 1'-0"



BFA File name G:\2010\10-0050 B-131 ENERGY\SUBMITTALS\FINAL SUBMITTAL 7-12-12\12-12\BOUND CAD\12618478.dwg Plot Date: Jul 11, 2012 - 11:39am Lost Saved By: dlawson

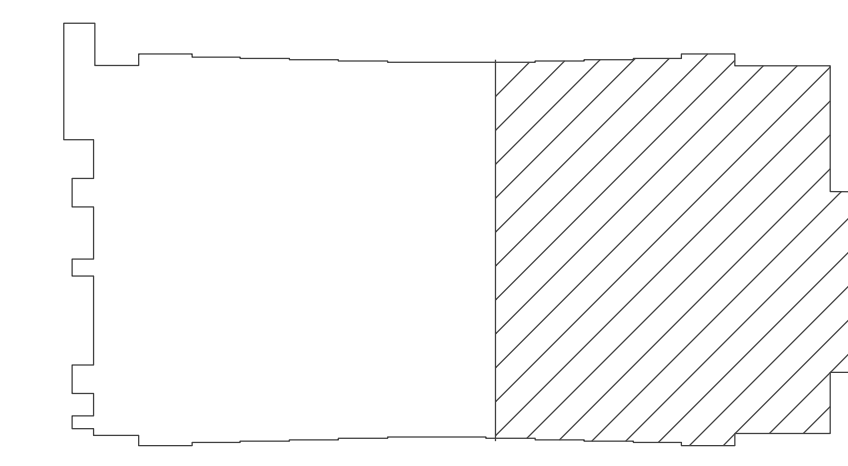


**CONSTRUCTION NOTES (THIS SHEET ONLY)**

- 1 VAV CONTROLLER #4A, 120V POWER SUPPLY.
- 2 VAV CONTROLLER #4B, 120V POWER SUPPLY.
- 3 UH-7, UH-8, UH-9, UH-10, UH-11, UH-12, 3/4 HP, 208V, 3ø POWER SUPPLY, FED FROM PANEL 2K.

FOR CONTINUATION SEE SHEET E-104

SEE "ENLARGED FIRST FLOOR PLAN - NEW WORK" SHEET E-401 FOR WORK IN THIS AREA.

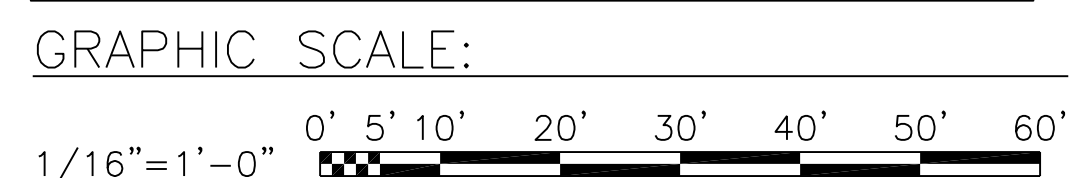


KEY PLAN  
NO SCALE

**PARTIAL FIRST FLOOR HVAC POWER PLAN - NEW WORK**

SCALE: 1/16" = 1'-0"

NOTE: IF THIS DRAWING IS A REDUCTION, GRAPHIC SCALE MUST BE USED.



DATE	APPROVED	DESCRIPTION

**BOWMAN, FOSTER & ASSOC.  
CONSULTING ENGINEERS**  
#4 INTERSTATE CORP. CENTER  
NORFOLK, VA 23502  
2424 26th ROAD SOUTH  
ARLINGTON, VA 22206

APPROVED \_\_\_\_\_ DATE \_\_\_\_\_

ACTIVITY - SATISFACTORY TO \_\_\_\_\_

DATE \_\_\_\_\_ APPROVED \_\_\_\_\_

FOR EFD FOR COMMANDER NAVFAC

DATE	A/E	SER	EFD
	DESIGN		
	DRAWN		
	REVIEW		
	OC		
	ARCH/ ENGR.		
	CHIEF		
	PROJECT MANAGER		
	FIRE PROTECTION		
	BRANCH MANAGER		
	DESIGN DIRECTOR		

DEPARTMENT OF THE NAVY  
 MARINE CORPS AIR STATION, CHERRY POINT, N.C.  
 NAVAL FACILITIES ENGINEERING COMMAND  
**FACILITIES ENERGY REPAIRS,  
BUILDING 131**  
 PARTIAL FIRST FLOOR HVAC POWER PLAN - NEW WORK

CODE ID. NO. R0091	SIZE 0
SCALE: AS SHOWN	
FED. NO. WR6059407	
STA. PROJ. NO. CP12024M/CP12024R	
SPEC. NO.	
CONSTR. CONTR. NO.	

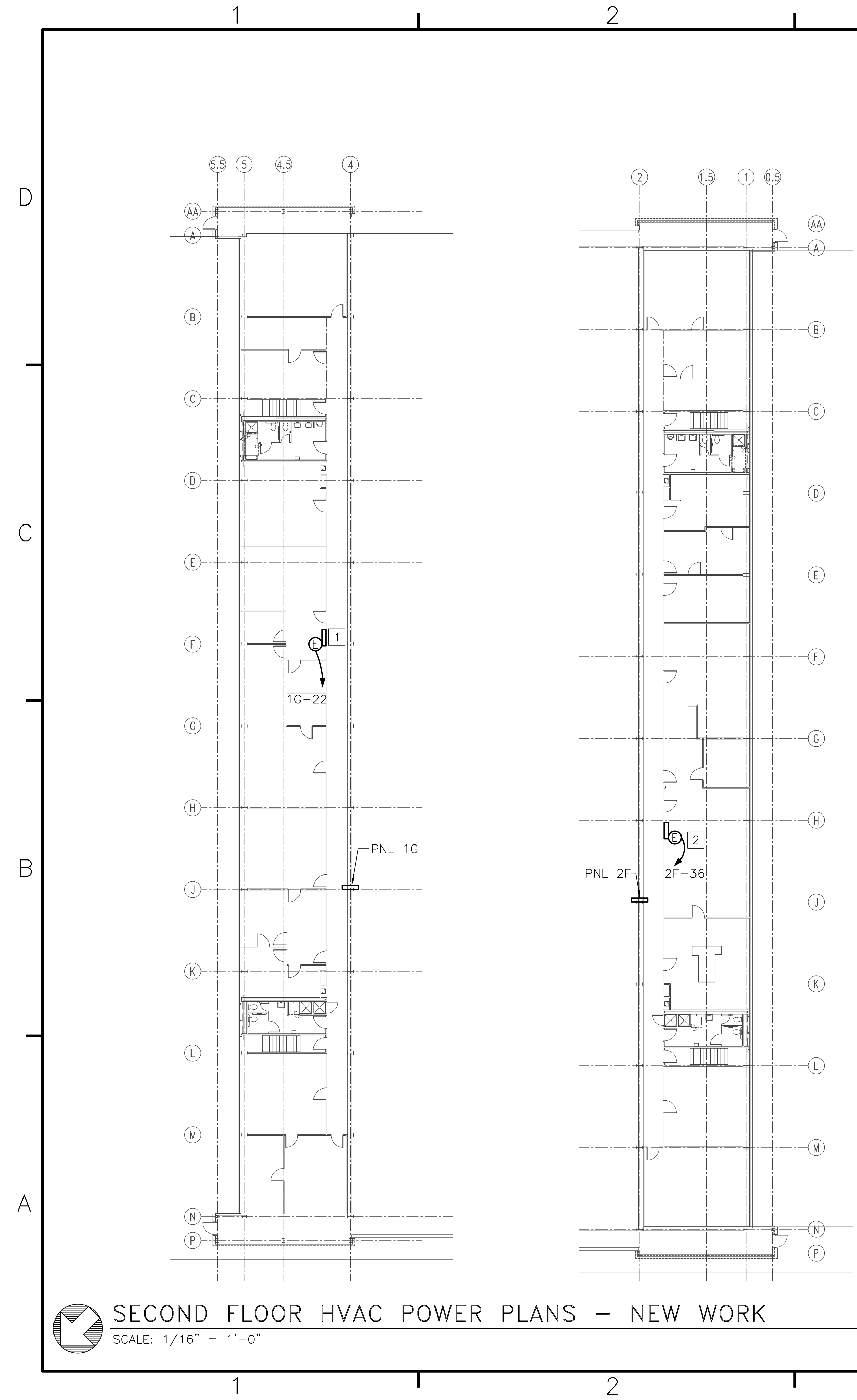
  

NAVFAC DRAWING NO. 12618478  
SHEET 116 OF 124  
**E-105**  
DRAWING REVISION JULY 2003

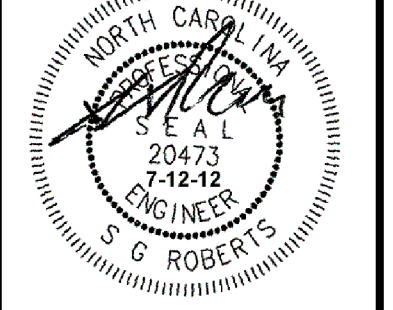
BFA File: 10-0050 B-131 ENERGY\SUBMITTALS\FINAL SUBMITTAL 7-12-12\BOUND CAD\12618479.dwg Plot Date: Jul 11, 2012 - 11:40am Lost Saved By: dlawson

### CONSTRUCTION NOTES (THIS SHEET ONLY)

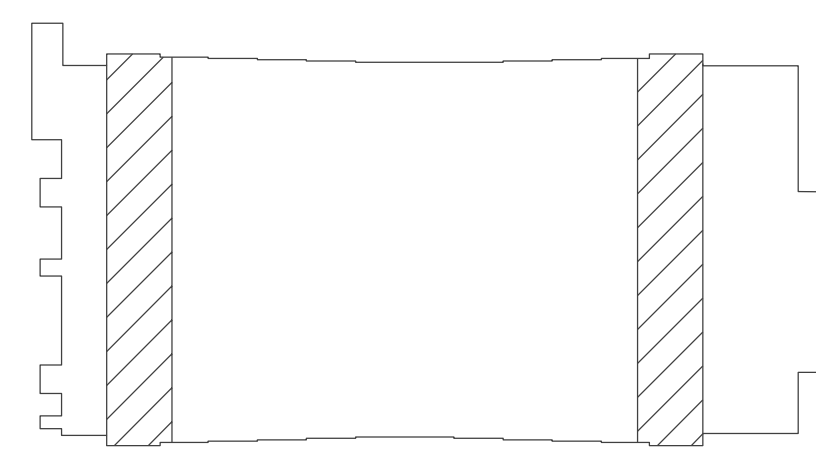
- 1 VAV CONTROLLER #1, 120V POWER SUPPLY.
- 2 VAV CONTROLLER #2, 120V POWER SUPPLY.




**Bowman, Foster & Assoc.**  
CONSULTING ENGINEERS  
#4 INTERSTATE CORP. CENTER  
NORFOLK, VA 23502  
2424 26th ROAD SOUTH  
ARLINGTON, VA 22206

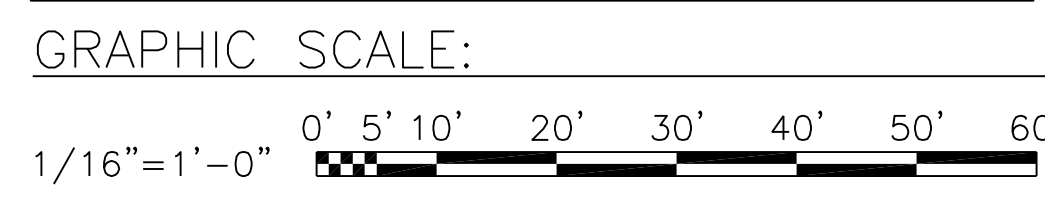


APPROVED	10-0050	
ACTIVITY - SATISFACTORY TO		
DATE		
APPROVED		
FOR EFD FOR COMMANDER NAVFAC		
DATE		
A/E	DESIGN	EFD
SER		
DJL	DRAWN	
DGW	REVIEW	
SGR	OC	
SGR	CHEF	ARCH/ ENGR.
PROJECT MANAGER	PEC	
FIRE PROTECTION	SAH	
BRANCH MANAGER	PEC	
DESIGN DIRECTOR	JEF	



**KEY PLAN**  
NO SCALE

NOTE: IF THIS DRAWING IS A REDUCTION,  
GRAPHIC SCALE MUST BE USED.



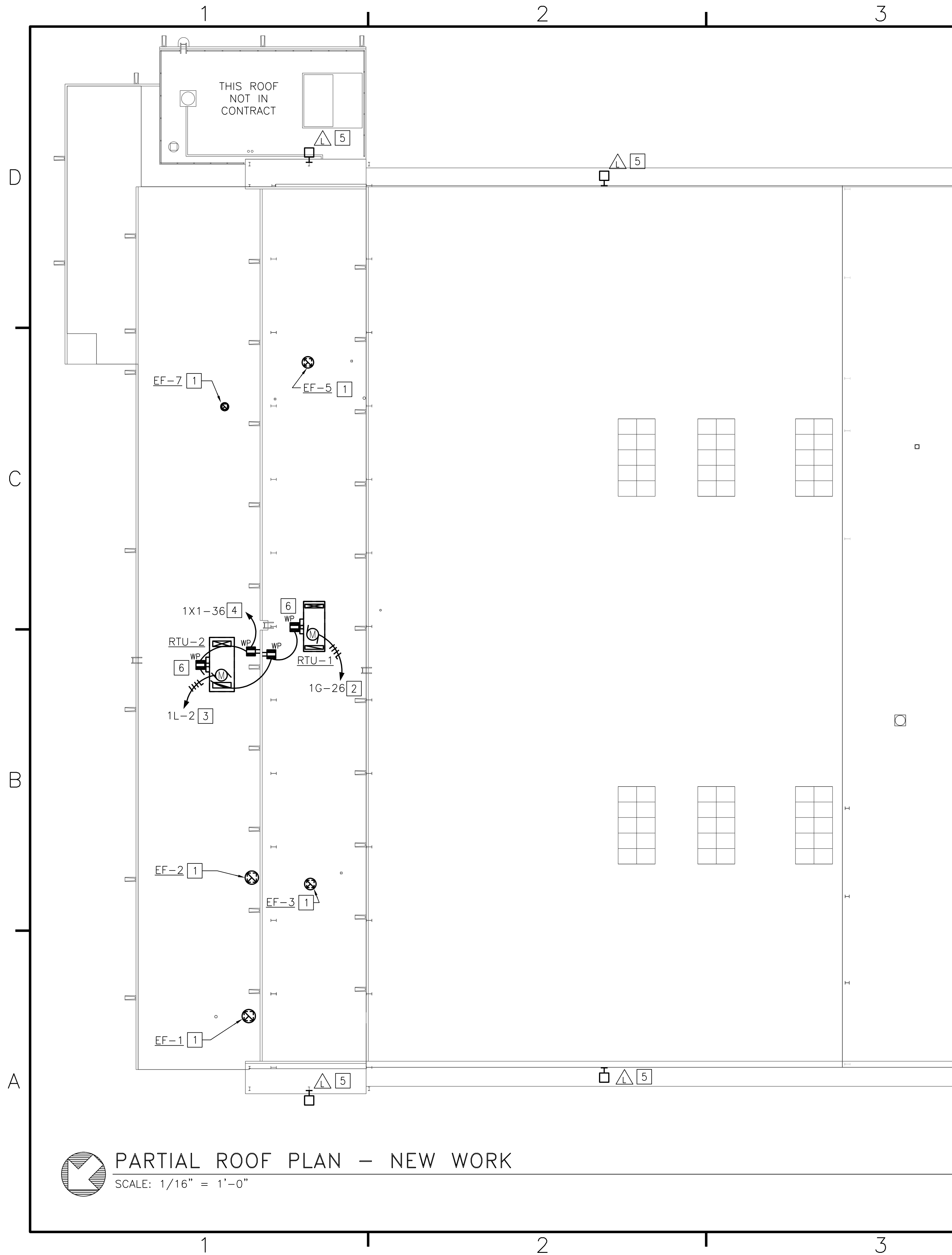
## SECOND FLOOR HVAC POWER PLANS - NEW WORK

SCALE: 1/16" = 1'-0"

CODE ID. NO. 80091	SIZE D
SCALE: AS SHOWN	
FED. PROJ. NO. WR6059407	
STA. PROJ. NO. CP12024M/CP12024R	
SPEC. NO.	
CONSTR. CONTR. NO.	
NAVFAC DRAWING NO. 12618479	
SHEET 117 OF 124	
<b>E-106</b>	
<small>DRAWING REVISION JULY 2003</small>	



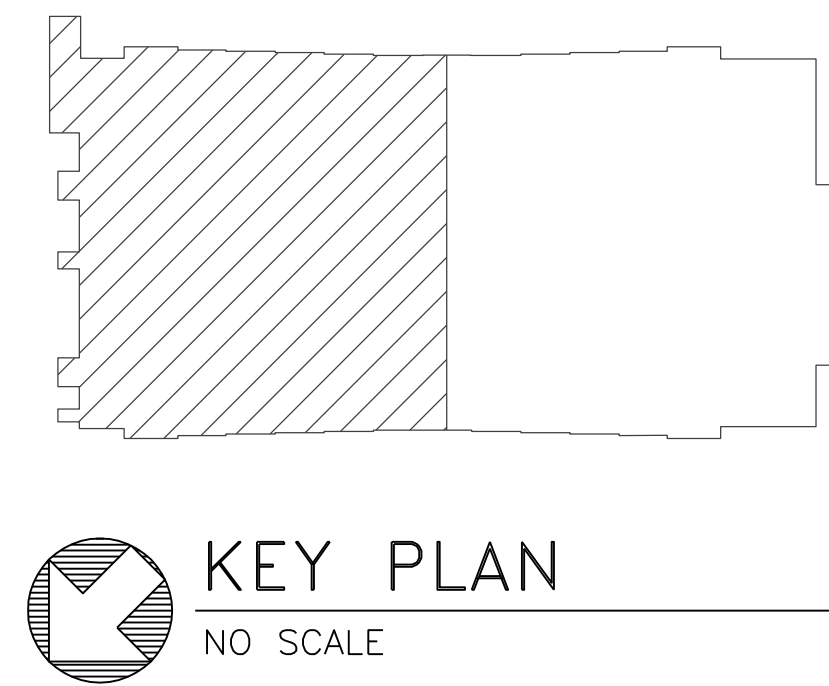
BFA File Name G:\2010\10-0050 B-131 ENERGY\SUBMITTALS\FINAL SUBMITTAL 7-12-12\BOUND CAD\12618480.dwg Plot Date: Jul 11, 2012 - 11:40am Lost Saved By: Iwesley



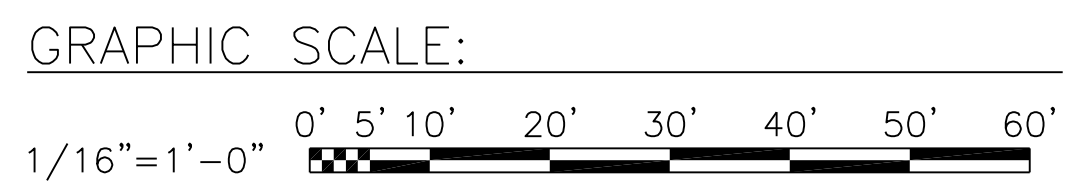
SEE SHEET E-108 FOR CONTINUATION

**CONSTRUCTION NOTES (THIS SHEET ONLY)**

- 1 RE-CONNECT EXISTING CIRCUIT TO NEW EXHAUST FAN.
- 2 RTU-1, 7.5 HP, 208V, 3Ø. PROVIDE THREE #8 AND ONE #8 GND IN 3/4" CONDUIT. MECHANICAL EQUIPMENT SHALL BE PROVIDED WITH INTEGRAL DISCONNECT SWITCH, FED FROM PANEL 1G. PROVIDE 40A, 3Ø CIRCUIT BREAKER IN PANEL 1G. PROVIDE 1" CONDUIT WITH PULL WIRE FROM MECHANICAL ROOM DDC CONTROL PANEL TO RTU-1. COORDINATE EQUIPMENT CONNECTION WITH MECHANICAL SHEETS.
- 3 RTU-2, 15 HP, 460V, 3Ø. PROVIDE THREE #8 AND ONE #8 GND IN 3/4" CONDUIT. MECHANICAL EQUIPMENT SHALL BE PROVIDED WITH INTEGRAL DISCONNECT SWITCH, FED FROM PANEL 1L. PROVIDE 50A, 3Ø CIRCUIT BREAKER IN PANEL 1L. PROVIDE 1" CONDUIT WITH PULL WIRE FROM MECHANICAL ROOM DDC CONTROL PANEL TO RTU-2. COORDINATE EQUIPMENT CONNECTION WITH MECHANICAL SHEETS.
- 4 PROVIDE TWO #10 AND ONE #10 GND IN 3/4" CONDUIT TO EXTERIOR RECEPTACLES. WEATHERPROOF GFI'S SHALL BE WEATHERPROOF "WHILE IN USE" TYPE.
- 5 RE-CONNECT EXISTING CIRCUIT TO NEW FLOODLIGHT. VERIFY EXISTING SWITCHING OF FLOODLIGHTS IS IN OPERATION.
- 6 PROVIDE WEATHERPROOF GFI, 'WHILE IN USE' TYPE, INSTALLED WITHIN RTU VESTIBULE, FOR TRACE HEATING.



NOTE: IF THIS DRAWING IS A REDUCTION, GRAPHIC SCALE MUST BE USED.



**PARTIAL ROOF PLAN - NEW WORK**  
SCALE: 1/16" = 1'-0"

NO.	REVISION	DATE

**BOWMAN, FOSTER & ASSOC.**  
CONSULTING ENGINEERS  
#4 INTERSTATE CORP. CENTER  
NORFOLK, VA 23502  
2424 26th ROAD SOUTH  
ARLINGTON, VA 22206

NORTH CAROLINA PROFESSIONAL ENGINEER'S SEAL  
 State of North Carolina  
 No. 20473  
 Exp. 7-12-12  
 J. G. ROBERTS

APPROVED	10-0006
ACTIVITY - SATISFACTORY TO	
DATE	
APPROVED	
FOR EFD FOR COMMANDER NAVFAC	
DATE	
A/E	EDD
SER	DESIGN
DJL	DRAWN
DGW	REVIEW
SGR	OC
SGR	CHIEF ARCH/ ENGR.
PROJECT MANAGER	PEC
FIRE PROTECTION	SAH
BRANCH MANAGER	PEC
DESIGN DIRECTOR	JEF

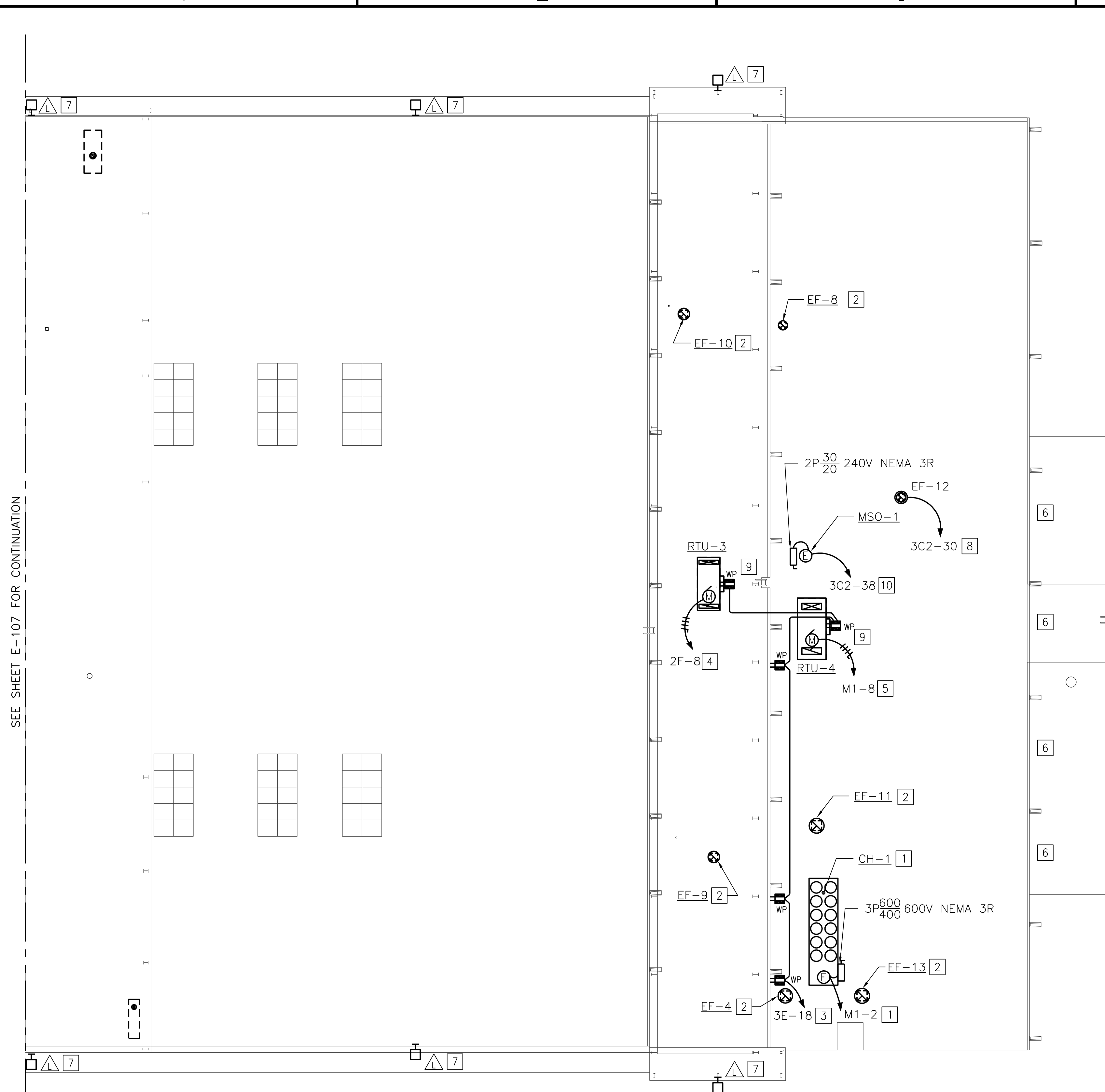
DEPARTMENT OF THE NAVY	NAVAL FACILITIES ENGINEERING COMMAND
MARINE CORPS AIR STATION, CHERRY POINT, N.C.	FACILITIES ENERGY REPAIRS,
	BUILDING 131
	PARTIAL ROOF PLAN - NEW WORK

CODE ID. NO. 80091	SIZE D
SCALE: AS SHOWN	
FED. PROJ. NO. WR6059407	
STA. PROJ. NO. CP12024M/CP12024R	
SPEC. NO.	
CONSTR. CONTR. NO.	
NAVFAC DRAWING NO.	12618480
SHEET 118 OF 124	
<b>E-107</b>	

DRAWING REVISION JULY 2003

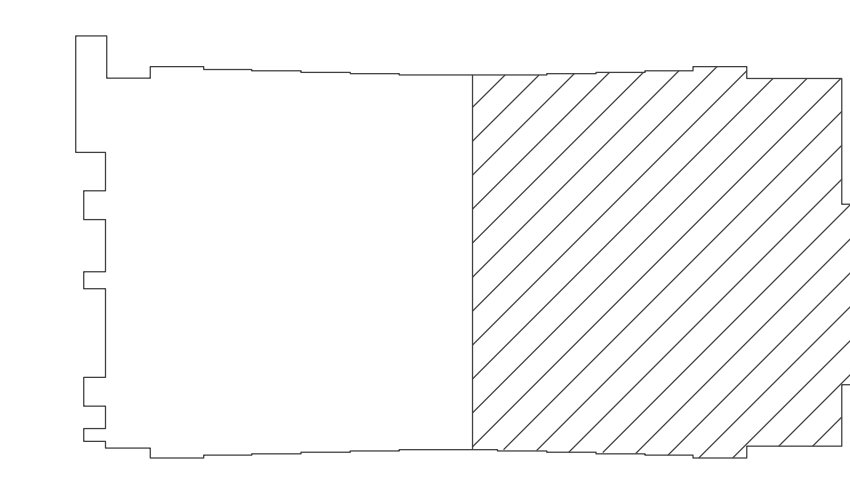
BFA File Name G:\2010\10-0050 B-131 ENERGY\SUBMITTALS\FINAL SUBMITTAL 7-12-12\BOUND CAD\12618481.dwg Plot Date: Jul 11, 2012 - 11:41am Last Saved By: Wesley

SEE SHEET E-107 FOR CONTINUATION



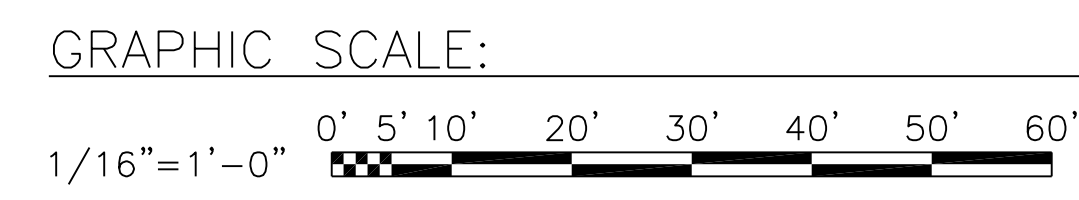
### CONSTRUCTION NOTES (THIS SHEET ONLY)

- 1 CHILLER, CH-1. PROVIDE THREE #500 KCMIL AND ONE #1/0 GND IN 3 1/2" CONDUIT, FED FROM PANEL M1, LOCATED IN THE MECHANICAL ROOM BELOW. PROVIDE 1" CONDUIT, WITH PULL WIRE FROM MECHANICAL ROOM DDC CONTROL CABINET TO CHILLER CH-1.
- 2 RE-CONNECT EXISTING CIRCUIT TO NEW EXHAUST FAN.
- 3 PROVIDE TWO #10 AND ONE #10 GND IN 3/4" CONDUIT TO EXTERIOR RECEPTACLE AT CHILLER LOCATION. WEATHERPROOF GFI'S SHALL BE WEATHERPROOF "WHILE IN USE" TYPE. ONE OUTLET SHALL BE DEDICATED FOR THE TRACE HEATING, ASSOCIATED WITH THE CHILLED WATER PIPE WORK.
- 4 RTU-3, 7.5 HP, 208V, 3Ø. PROVIDE THREE #8 AND ONE #8 GND IN 3/4" CONDUIT. MECHANICAL EQUIPMENT SHALL HAVE INTEGRAL DISCONNECT SWITCH, FED FROM PANEL 2F. PROVIDE 40A, 3Ø CIRCUIT BREAKER IN PANEL 2F. PROVIDE 1" CONDUIT WITH PULL WIRE FROM MECHANICAL ROOM DDC CONTROL CABINET TO RTU-3. COORDINATE EQUIPMENT CONNECTION WITH MECHANICAL SHEETS.
- 5 RTU-4, 15 HP, 460V, 3Ø. PROVIDE THREE #8 AND ONE #8 GND IN 3/4" CONDUIT. MECHANICAL EQUIPMENT SHALL HAVE INTEGRAL DISCONNECT SWITCH, FED FROM PANEL M1. LOCATED IN THE MECHANICAL ROOM. INSTALL CONDUIT IN CORRIDOR AT HIGH LEVEL, PENETRATE ROOF AT UNIT LOCATION. PROVIDE 1" CONDUIT WITH PULL WIRE FROM MECHANICAL ROOM DDC CONTROL CABINET TO RTU-4. COORDINATE EQUIPMENT CONNECTION WITH MECHANICAL SHEETS.
- 6 PROVIDE NEW BRACKETS TO SUPPORT EXISTING 6" CONDUIT, INSTALLED ON EDGE OF BUILDING.
- 7 RE-CONNECT EXISTING CIRCUIT TO NEW FLOODLIGHT. VERIFY EXISTING SWITCHING OF FLOODLIGHT IS IN OPERATION.
- 8 EF-12, 1/4 HP, 120V, 1Ø. PROVIDE TWO #10 AND ONE #12 GND IN 3/4" CONDUIT, FED FROM PANEL 3C2.
- 9 PROVIDE WEATHERPROOF GFI, 'WHILE IN USE' TYPE, INSTALLED WITHIN RTU VESTIBULE, FOR TRACE HEATING.
- 10 MSO-1, 13.6 FLA, 208V, 1Ø. PROVIDE TWO #10 AND ONE #10 GND IN 3/4" CONDUIT, FED FROM PANEL 3C2. PROVIDE 20A 2P, 1Ø CIRCUIT BREAKER IN PANEL 3C2. MOUNT DISCONNECT ON UNI-STRUT FRAME, ADJACENT TO UNIT.

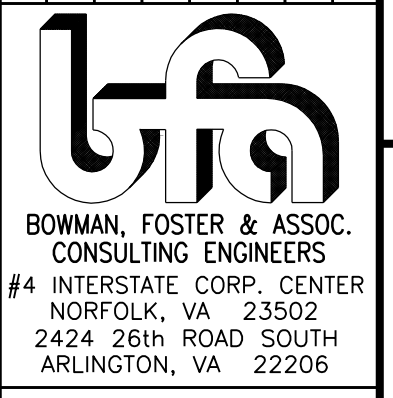
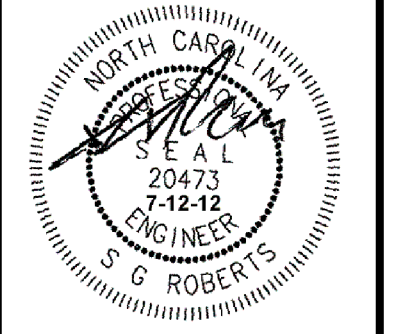


**KEY PLAN**  
NO SCALE

NOTE: IF THIS DRAWING IS A REDUCTION, GRAPHIC SCALE MUST BE USED.

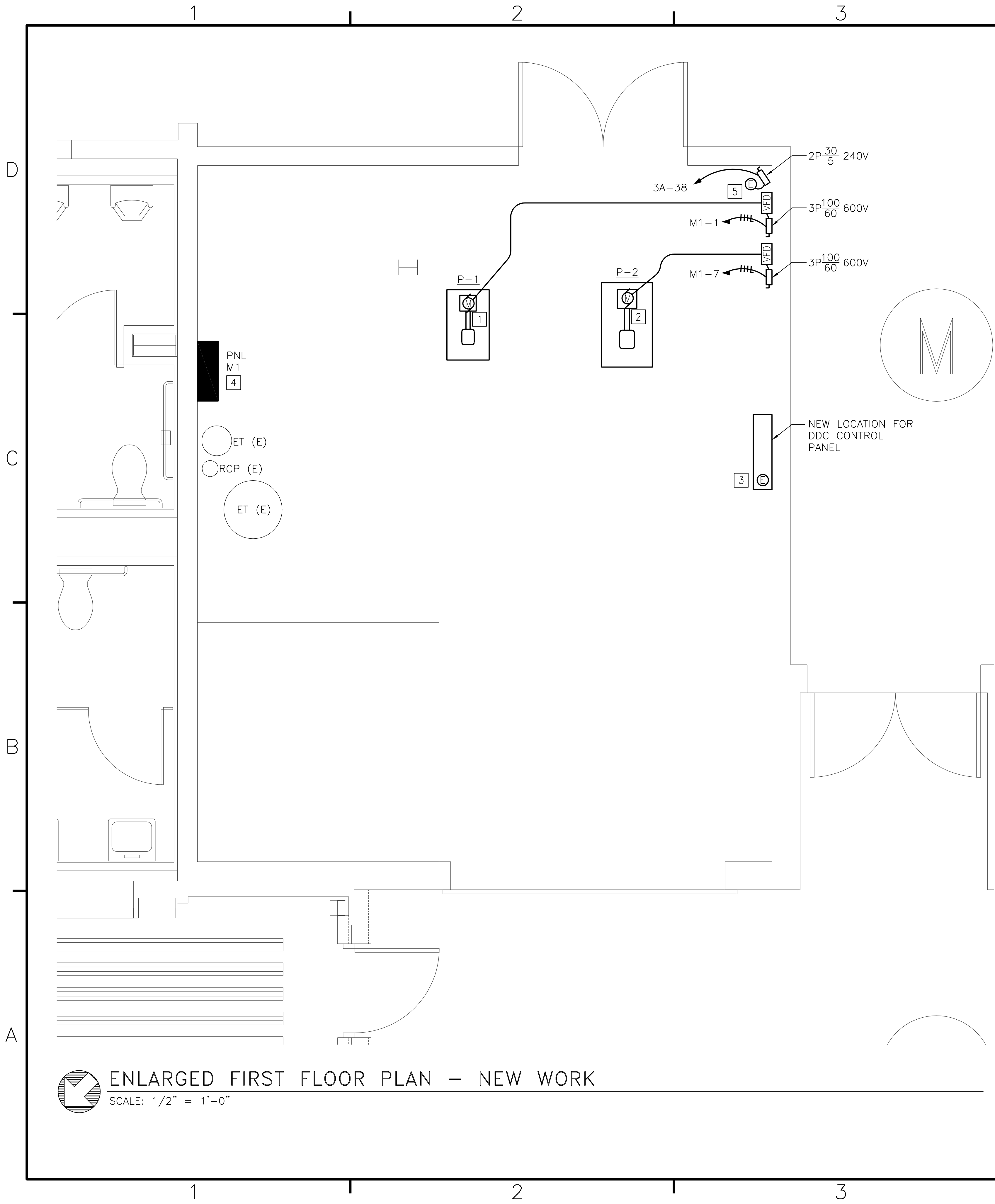


**PARTIAL ROOF PLAN - NEW WORK**  
SCALE: 1/16" = 1'-0"

DATE	APPR
DESCRIPTION	
SYMBOL	
 BOWMAN, FOSTER & ASSOC. CONSULTING ENGINEERS #4 INTERSTATE CORP. CENTER NORFOLK, VA 23502 2424 26th ROAD SOUTH ARLINGTON, VA 22206	
 NORTH CAROLINA PROFESSIONAL ENGINEER 20473 7-12-12 G. ROBERTS	
APPROVED	10-0050
ACTIVITY - SATISFACTORY TO	
DATE	
APPROVED	
FOR EFD FOR COMMANDER NAVFAC	
DATE	
A/E	EFD
SER	DESIGN
DJL	DRAWN
DGW	REVIEW
SGR	OC
SGR	CHIEF ARCH/ ENGR.
PROJECT MANAGER	PEC
FIRE PROTECTION	SAH
BRANCH MANAGER	PEC
DESIGN DIRECTOR	JEF
DEPARTMENT OF THE NAVY MARINE CORPS AIR STATION, CHERRY POINT, N.C. NAVAL FACILITIES ENGINEERING COMMAND <b>FACILITIES ENERGY REPAIRS,          BUILDING 131</b> PARTIAL ROOF PLAN - NEW WORK	
CODE ID. NO. 80091	SIZE 0
SCALE: AS SHOWN	
FED. PROJ. NO. WR6059407	
STA. PROJ. NO. CP12024M/CP12024R	
SPEC. NO.	
CONSTR. CONTR. NO.	
NAVFAC DRAWING NO.	12618481
SHEET	119 OF 124
<b>E-108</b>	
DRAWN FOR REVISION JULY 2003	



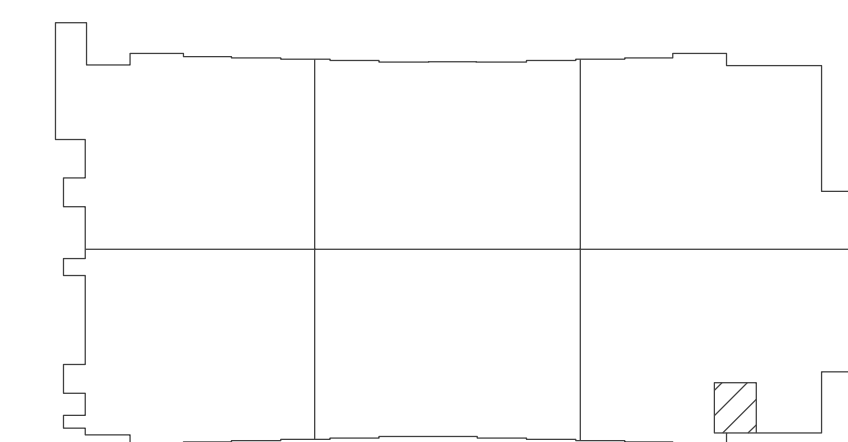
BFA File Name G:\2010\10-0050 B-131 ENERGY\SUBMITTALS\FINAL SUBMITTAL 7-12-12\BOUND CAD\12618482.dwg Plot Date: Jul 11, 2012 - 11:41:0m Last Saved By: dlowson



**CONSTRUCTION NOTES (THIS SHEET ONLY)**

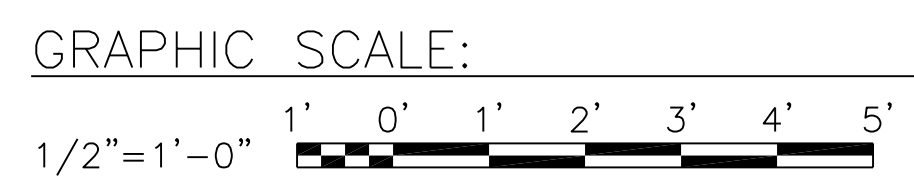
- 1 P-1, 460V, 3 $\phi$ , 25 HP, PROVIDE THREE #6 AND ONE #8 GND IN 1" CONDUIT, SUPPLIED FROM PANEL M1.
- 2 P-2, 460V, 3 $\phi$ , 25 HP, PROVIDE THREE #6 AND ONE #8 GND IN 1" CONDUIT, SUPPLIED FROM PANEL M1.
- 3 RE-LOCATE EXISTING DDC CONTROL PANEL POWER SUPPLY TO NEW LOCATION AND PROVIDE CONNECTION TO PANEL.
- 4 PROVIDE CABLE TAP BOX(END), RATED AT 800A, 600V, TO CONNECT TO THE EXISTING SQUARE-D ALUMINUM BUSWAY HORIZONTAL SECTION AT HIGH LEVEL. PROVIDE THREE (3) SETS OF FOUR #350 KCMIL AND ONE #1/0 GND IN 3" CONDUIT. ALL LUGS TO BE RATED FOR CU/AL TERMINATIONS. PROVIDE ALL REQUIRED HARDWARE AND ACCESSORIES AS RECOMMENDED BY THE MANUFACTURER. COORDINATE WITH MECHANICAL CONTRACTOR FOR INSTALLATION OF CABLE TAP BOX, AND ALL EQUIPMENT CONNECTIONS PRIOR TO INSTALLATION.
- 5 UH-16, 1/50 HP, 120V, 1 $\phi$ . PROVIDE TWO #12 AND ONE #12 GND IN 1/2" CONDUIT. MOUNT DISCONNECT SWITCH ON WALL, APPROX 8' AFF ADJACENT TO UNIT.

**ENLARGED FIRST FLOOR PLAN - NEW WORK**  
SCALE: 1/2" = 1'-0"



**KEY PLAN**  
NO SCALE

NOTE: IF THIS DRAWING IS A REDUCTION, GRAPHIC SCALE MUST BE USED.



	DATE
	DESCRIPTION
	SYMBOL
<p><b>BOWMAN, FOSTER &amp; ASSOC.</b> CONSULTING ENGINEERS #4 INTERSTATE CORP. CENTER NORFOLK, VA 23502 2424 26th ROAD SOUTH ARLINGTON, VA 22206</p>	
APPROVED	
ACTIVITY - SATISFACTORY TO	
DATE	
APPROVED	
FOR EFD FOR COMMANDER NAVFAC	
DATE	
A/E SER	EFD
DUL	DESIGN
DGW	DRAWN
SGR	REVIEW
SGR	OC
SGR	CHIEF ARCH/ ENGR.
PROJECT MANAGER	PEC
FIRE PROTECTION	SAH
BRANCH MANAGER	PEC
DESIGN DIRECTOR	JEF
<p>DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND MARINE CORPS AIR STATION, CHERRY POINT, N.C.</p>	
<p><b>FACILITIES ENERGY REPAIRS, BUILDING 131</b></p>	
<p>ENLARGED FIRST FLOOR PLAN - NEW WORK</p>	
<p>CODE ID. NO. 80091    SIZE 0</p>	
<p>SCALE: AS SHOWN</p>	
<p>FED. PROJ. NO. WR6059407</p>	
<p>STA. PROJ. NO. CP12024M/CP12024R</p>	
<p>SPEC. NO.</p>	
<p>CONSTR. CONTR. NO.</p>	
<p>NAVFAC DRAWING NO. 12618482</p>	
<p>SHEET 120 OF 124</p>	
<p><b>E-401</b></p>	
<p><small>DRAWING REVISION JULY 2003</small></p>	

1

**LUMINAIRE REQUIREMENTS:**

- 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 T5 LAMPS.
- FINISH - MULTI-STAGE PHOSPHATE BONDING TREATMENT FINISHED WITH HIGH REFLECTANCE (MINIMUM 85%), BAKED WHITE ENAMEL FINISH.
- LENS - 100% ACRYLIC, CLEAR PRISMATIC, PATTERN #12 WITH MINIMUM 0.125" THICKNESS.
- LAMPS - LINEAR FLUORESCENT T5, TYPICALLY WITH WATTAGES AS INDICATED. SEE LIGHTING FIXTURE SCHEDULE.
- 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.
- CERTIFICATION - UL LISTED AND LABELED.
- PHOTOMETRICS - MINIMUM VALUE OF COEFFICIENT OF UTILIZATION (CU) AND EFFICIENCY, GIVEN INTERIOR CAVITY REFLECTANCES OF 80-50-20:

2 LAMP (F28/T5)	
RCR	CU
1	80
2	71
3	64
4	57

EFFICIENCY - 77%

PRISMATIC LENS RECESSED 2' X 4' FLUORESCENT TROFFER

REVISED: AUGUST 2004 LIGHTING PLATE: SKETCH 2

2

**LUMINAIRE REQUIREMENTS:**

- 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.
- FINISH - MULTI-STAGE PHOSPHATE BONDING TREATMENT FINISHED WITH HIGH REFLECTANCE (MINIMUM 85%), BAKED WHITE ENAMEL FINISH.
- LENS - 100% ACRYLIC, CLEAR PRISMATIC. LENS SHALL BE ONE-PIECE INJECTION MOLDED, FULL 5-SIDED UNIT WITH LUMINOUS ENDS. PROVIDE EXTRUDED LENS AS OPTION IN LIEU OF INJECTION MOLDED LENS. PROVIDE SPRING-LOADED LATCHING SYSTEM TO SECURE LENS TO BASE HOUSING.
- LAMPS - LINEAR FLUORESCENT T5, TYPICALLY WITH WATTAGES AS INDICATED. SEE LIGHTING FIXTURE SCHEDULE.
- 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.
- CERTIFICATION - UL LISTED AND LABELED.
- PHOTOMETRICS - MINIMUM VALUE OF COEFFICIENT OF UTILIZATION (CU) AND EFFICIENCY, GIVEN INTERIOR CAVITY REFLECTANCES OF 80-50-20:

2 LAMP (F28/T5)	
RCR	CU
1	74
2	65
3	57
4	51

EFFICIENCY - 83%

FLUORESCENT WRAPAROUND - OFFICE/CLASSROOM AREAS

REVISED: AUGUST 2004 LIGHTING PLATE: SKETCH 3

3

**LUMINAIRE REQUIREMENTS:**

- HOUSING SHALL BE A MINIMUM OF 0.081" EXTRUDED ALUMINUM. STANDARD CHAIN SUSPENSION AS NOTED.
- OPTIC SYSTEM SHALL BE INTEGRAL WITH DIRECTIONAL TYPE LED'S
- POWER SUPPLY SHALL BE A 120V-277V UNIVERSAL-24V TORODIAL TYPE TRANSFORMER WITH DIMMING AND DAYHARVESTING CAPABILITIES. POWER CONSUMPTION SHALL BE A MAXIMUM OF 117 WATTS.
- LED SOURCE SHALL BE 3 BARS (135 LED'S WITH MINIMUM LUMEN OUTPUT OF 10,663 LUMENS AND 120 BEAM SPREAD. LED'S SHALL BE RATED 5000 KELVIN ON 1" CENTERS.
- CERTIFICATION SHALL BE UL/ETC LISTED AND LABELED WITH A 5-YEAR WARRANTY.

LED HIGH BAY LUMINAIRE

REVISED: AUGUST 2004 LIGHTING PLATE: SKETCH 4

4

**LUMINAIRE REQUIREMENTS:**

- 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.
- FINISH - MULTI-STAGE PHOSPHATE BONDING TREATMENT FINISHED WITH HIGH REFLECTANCE (MINIMUM 85%), BAKED WHITE ENAMEL FINISH.
- 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.
- LAMPS - LINEAR FLUORESCENT T5, TYPICALLY WITH WATTAGES AS INDICATED. SEE LIGHTING FIXTURE SCHEDULE.
- 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.
- CERTIFICATION - UL LISTED AND LABELED.
- PHOTOMETRICS - MINIMUM VALUE OF COEFFICIENT OF UTILIZATION (CU) AND EFFICIENCY, GIVEN INTERIOR CAVITY REFLECTANCES OF 80-50-20:

2 LAMP (F28/T5)	
RCR	CU
1	76
2	67
3	60
4	54

EFFICIENCY - 76%

FLUORESCENT WRAPAROUND - UTILITY AREAS

REVISED: AUGUST 2004 LIGHTING PLATE: SKETCH 4

5

**LUMINAIRE REQUIREMENTS:**

- HOUSING - DIE-FORMED, COLD-ROLLED STEEL. ENDCAPS WHEN USED SHALL BE MADE FROM SAME MATERIAL AS HOUSING EXCEPT WHEN OPTIONAL FINISH SUCH AS CHROME IS SPECIFIED.
- FINISH - MULTI-STAGE PHOSPHATE BONDING TREATMENT FINISHED WITH HIGH REFLECTANCE (MINIMUM 85%), BAKED WHITE ENAMEL FINISH.
- DIFFUSER - 100% ACRYLIC, CLEAR PRISMATIC, OR WHITE OPAL ACRYLIC. DECORATIVE TREATMENTS ON DIFFUSER ENDS OPTIONAL.
- LAMPS - LINEAR FLUORESCENT T5 TYPICALLY, WITH WATTAGES AS INDICATED. SEE LIGHTING FIXTURE SCHEDULE.
- 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.
- CERTIFICATION - UL LISTED AND LABELED.
- FIXTURE TYPES -  
TYPE A - 2' LENGTH WITH 1 OR 2 T5 FLUORESCENT LAMPS.  
TYPE B - 3' LENGTH WITH 1 OR 2 T5 FLUORESCENT LAMPS.  
TYPE C - 4' LENGTH WITH 1 OR 2 T5 FLUORESCENT LAMPS.

FLUORESCENT LIGHT/SURFACE & WALL MOUNT

REVISED: AUGUST 2004 LIGHTING PLATE: SKETCH 5 & 6

6

**LUMINAIRE REQUIREMENTS:**

- HOUSING - ONE-PIECE, DIE-STAMPED, COLD ROLLED STEEL OR ACRYLIC-ENAMELED ALUMINUM. PROVIDE WITH PRE-WIRED JUNCTION BOX HAVING SNAP-ON ACCESS COVER. ACCESS TO JUNCTION BOX FROM BELOW CEILING SHALL BE PROVIDED THROUGH FIXTURE AFTER REMOVAL OF REFLECTOR.
- REFLECTOR - ONE-PIECE, CLEAR, SPUN ALUMINUM, IRRIDESCENCE-SUPPRESSED.
- BALLAST - CLASS P, MULTI-VOLT (120V-277V INPUT), HIGH POWER FACTOR (≥.95), PROGRAMMED RAPID START ELECTRONIC TYPE WITH ≤10% TOTAL HARMONIC DISTORTION. BALLAST SHALL BE CAPABLE OF UNIVERSALLY OPERATING 26W OR 32 WATT LAMPS.
- LAMPS - MULTI-TUBE, COMPACT FLUORESCENT WITH 4-PIN BASE. PROVIDE WITH WATTAGES AS INDICATED. SEE LIGHTING FIXTURE SCHEDULE.
- LENS/TRIM - \* OPTIONS INCLUDE DROPPED OR FLAT OPAL LEXAN; DROPPED OR FLAT OPAL GLASS; OR FRESNEL GLASS. SEE LIGHTING FIXTURE SCHEDULE.
- CERTIFICATION - UL LISTED AND LABELED FOR DAMP LOCATIONS.

RECESSED COMPACT FLUORESCENT SHOWER LIGHT

REVISED: AUGUST 2004 LIGHTING PLATE: NL-38

7

**LUMINAIRE REQUIREMENTS:**

- HOUSING - ONE-PIECE, IMPACT-RESISTANT, FIBERGLASS REINFORCED POLYESTER WITH ENCLOSED COLD-ROLLED STEEL WIREWAY.
- FINISH - STEEL REFLECTOR WITH MULTI-STAGE PHOSPHATE BONDING TREATMENT FINISHED WITH HIGH REFLECTANCE (MINIMUM 85%), BAKED WHITE ENAMEL FINISH.
- 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.
- LAMPS - LINEAR FLUORESCENT T5, TYPICALLY WITH WATTAGES AS INDICATED. SEE LIGHTING FIXTURE SCHEDULE.
- 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.
- CERTIFICATION - UL LISTED AND LABELED. SUITABLE FOR DAMP OR WET LOCATION AS DESIGNATED IN LIGHTING FIXTURE SCHEDULE.
- PHOTOMETRICS - MINIMUM VALUE OF COEFFICIENT OF UTILIZATION (CU) AND EFFICIENCY, GIVEN INTERIOR CAVITY REFLECTANCES OF 80-50-20:

2 LAMP (F28/T5)	
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

DATE	APPROVED	DATE	APPROVED
DESCRIPTION	DATE	DESCRIPTION	DATE
SYMBOL	DATE	SYMBOL	DATE

BOWMAN, FOSTER & ASSOC.  
CONSULTING ENGINEERS  
#4 INTERSTATE CORP. CENTER  
NORFOLK, VA 23502  
2424 26th ROAD SOUTH  
ARLINGTON, VA 22206

APPROVED

ACTIVITY - SATISFACTORY TO

DATE

APPROVED

FOR EFD FOR COMMANDER NAVFAC

DATE

A/E	DESIGN	EFD
SER	DRAWN	
DJL	REVIEW	
DGW	OC	
SGR	CHEF ARCH/ ENGR.	
SGR	PROJECT MANAGER	PEC
	FIRE PROTECTION	SAH
	BRANCH MANAGER	PEC
	DESIGN DIRECTOR	JEF

DEPARTMENT OF THE NAVY  
MARINE CORPS AIR STATION, CHERRY POINT, N.C.  
NAVAL FACILITIES ENGINEERING COMMAND  
FACILITIES ENERGY REPAIRS,  
BUILDING 131  
DETAILS

CODE ID. NO. 80091 SIZE D  
SCALE: AS SHOWN  
FED. PROJ. NO. WFG059407  
STA. PROJ. NO. CP12024M/CP12024R  
SPEC. NO.  
CONSTR. CONTR. NO.

NAVFAC DRAWING NO.  
12618483  
SHEET 121 OF 124  
E-501  
DRAWN REVISION JULY 2003

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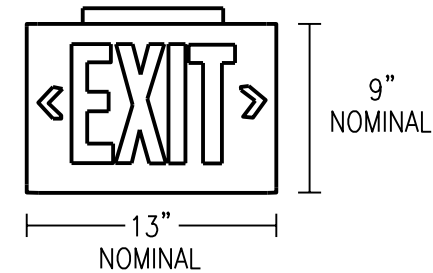
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2

3

4

5

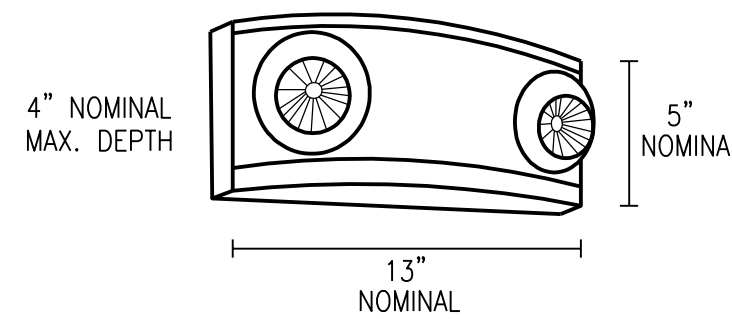


LUMINAIRE REQUIREMENTS:

- 1. HOUSING - DIE-CAST ALUMINUM OR HIGH-IMPACT, UV-STABILIZED, INJECTION-MOLDED THERMOPLASTIC. SINGLE OR DOUBLE-FACED AS INDICATED.
- 2. FINISH (ON CAST ALUMINUM HOUSING ONLY) - TEXTURED POWDER COAT FINISH. OPTIONS INCLUDE WHITE, WHITE WITH BRUSHED ALUMINUM FACE, BLACK, OR BLACK WITH BRUSHED ALUMINUM FACE.
- 3. LETTERS/CHEVRONS - MINIMUM 6" HIGH WITH 3/4" STROKE. RED OR GREEN LETTERS AS INDICATED. PROVIDE CHEVRONS AS INDICATED EITHER LEFT, RIGHT OR BOTH DIRECTIONS AS INDICATED. CHEVRONS PUNCHED OUT THROUGH HOUSING AS REQUIRED.
- 4. EMERGENCY PACK - SOLID-STATE, CONSTANT-CURRENT TYPE BATTERY CHARGER WITH MAINTENANCE-FREE, NICKEL-CADMUM BATTERY, AC-ON INDICATOR LAMP AND TEST SWITCH.
- 5. MOUNTING - UNIVERSAL MOUNTING KIT FOR CEILING, WALL OR END-OF-FIXTURE MOUNTING.
- 6. ILLUMINATION - PROVIDED BY RED, GREEN OR WHITE HIGH-OUTPUT LEDES INSIDE OF FIXTURE HOUSING. PROVIDE POLYSTYRENE DIFFUSER IN COLOR INDICATED WITH FREQUENCY-MATCHED SILKSCREEN COATING FOR MAXIMUM LED LIGHT OUTPUT.
- 7. CERTIFICATION - UL LISTED AND CERTIFIED FOR DAMP LOCATIONS.

LED EXIT SIGN

REVISED: AUGUST 2004 LIGHTING PLATE: NL-63

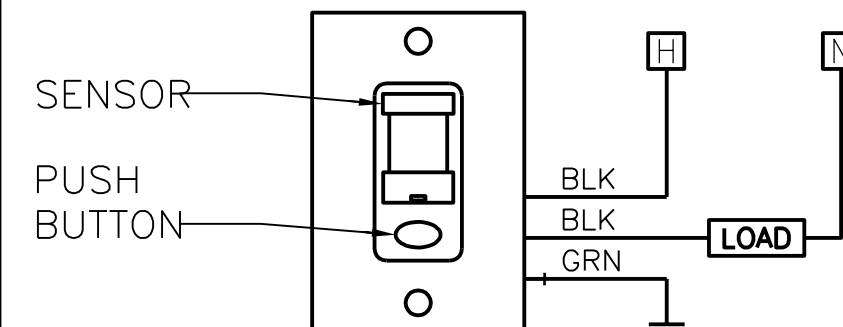


LUMINAIRE REQUIREMENTS:

- 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

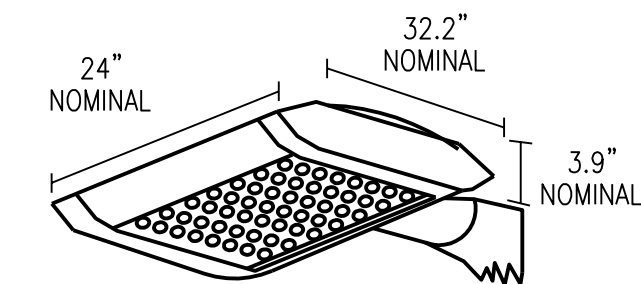


WALL SENSOR REQUIREMENTS:

- 1. SPECIFICATIONS - SENSOR MOUNTS IN SINGLE GANG SWITCH BOX, 30" TO 48" AFF. MAXIMUM SWITCH LOAD IS 800W @ 120VAC (1200W @ 277VAC) AT AN OPERATING TEMPERATURE OF 14°F TO 160°F IN 20% TO 90% NON-CONDENSING RELATIVE HUMIDITY.
- 2. FEATURES - SELF GROUNDING MOUNTING STRAP, NO MINIMUM LOAD, PROGRAMMABLE AND ADJUSTABLE TIME DELAY.
- 3. OPERATION - DUAL TECHNOLOGY SENSORS FIRST DETECT MOTION USING PASSIVE INFRARED AND THEN UTILIZE ULTRASONIC TO MONITOR CONTINUED OCCUPANCY. A SELF CONTAINED RELAY SWITCHES THE CONNECTED LIGHTING LOAD ON. A TIMER, PROGRAMMABLE FROM 30 SECONDS TO 20 MINUTES, KEEPS LIGHTS ON DURNING BRIEF PERIODS OF INACTIVITY. TIMER RESETS EVERY TIME OCCUPANCY IS DETECTED. SENSORS REQUIRES NO FIELD CALIBRATION OR SENSITIVITY ADJUSTMENTS.
- 4. ON MODES - "AUTOMATIC ON" - LIGHTS COME ON WHEN OCCUPANCY DETECTED; "MANUAL ON" - PRESS PUSH BUTTON TO TURN LIGHTS ON; "REDUCED TURN ON" - SENSOR IS SET TO ONLY DETECT LARGE MOTIONS AND IGNORES MOVEMENT OUTSIDE OF THE ROOM THEREBY ELIMINATING FALSE ON.
- 5. SWITCH MODES - "PREDICTIVE MODE OFF" - ALLOWS LIGHTS TO BE TURNED OFF VIA THE PUSH BUTTON AND SENSOR GOES INTO AUTOMATIC ON OPERATION. ONCE OCCUPANCY IS DETECTED, THE SENSOR GOES INTO PERMANENT OFF OPERATION, REQUIRING THE PUSH BUTTON TO BE PRESSED TO TURN THE LIGHTS ON; "PERMANENT OFF" - PRESSING PUSH BUTTON TURNS THE LIGHTS AND SENSOR OFF; PUSH BUTTON MUST BE PRESSED AGAIN TO TURN ON LIGHTS; "SWITCH DISABLE" - PREVENTS USER FROM MANUALLY TURNING OFF THE LIGHTS VIA THE PUSH BUTTON.
- 6. OPTIONS - PROVIDE PHOTOCCELL, LOW TEMP/HIGH HUMIDITY OPERATION, OR VANDAL RESISTANT LENS AS INDICATED ON THE DRAWINGS. VANDAL RESISTANT LENS SHALL NOT DECREASE DETECTION BY MORE THAN 50%.
- 7. CERTIFICATION - UL LISTED AND LABELED.

WALL SWITCH OCCUPANCY SENSOR - DUAL TECHNOLOGY (DT) TYPE

LIGHTING CONTROL PLATE: LC-2



LUMINAIRE REQUIREMENTS:

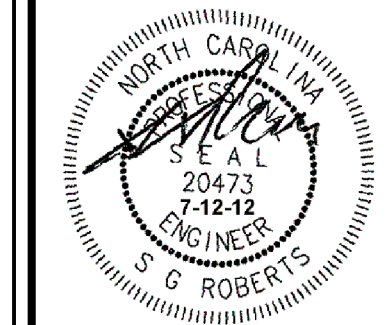
- 1. HOUSING SIZE - DIE-CAST ALUMINUM HOUSING WITH HIGH PERFORMANCE HEAT SINKS, DESIGNED SPECIFICALLY AND ONLY FOR LED LUMINAIRES. HOUSING MUST ALLOW FOR MODULAR UPGRADABILITY AND FIELD REPAIR OF ALL COMPONENTS.
- 2. 120V THRU 480V 50/60 Hz, CLASS 1 LED DRIVERS WITH POWER FACTOR >90% AND THD <20% AT FULL LOAD.
- 3. MULTIPLE DRIVE CURRENTS TO BE 350ma, 525ma OR 700ma FOR MAXIMUM OUTPUT FLEXIBILITY.
- 4. DESIGNED TO MOUNT ON 2-3/8" VERTICAL TENON OR DIRECT POLE MOUNT. MOUNTING SHALL HAVE ADJUSTABILITY FOR AIMING W/INTEGRAL 10kV SURGE PROTECTION.
- 5. MODULAR HOUSING DESIGN ALLOWING FOR MULTIPLE LUMEN OUTPUTS-W/LEAF/DEBRIS GUARD STANDARD.
- 6. EPA NOT TO EXCEED 0.80 PER FIXTURE - WEIGHT NOT TO EXCEED 50 LBS. PER FIXTURE (INCLUDING ARM).
- 7. LEDES ARE TO BE HIGH BRIGHTNESS, WHITE 5700K, MIN 70 CRI. USING NANO-OPTICS WITH N6, II, III, IV AND V DISTRIBUTION AVAILABLE - NO LENS. PROVIDE MINIMUM 14,400 DELIVERED LUMENS @50,000 HOURS - NOT TO EXCEED 172 WATTS PER FIXTURE. MUST MEET IESNA LM-79-L70 OF NOT LESS THAN 125,000 HRS. CERTIFIED PHOTOMETRIC DATA FOR TYPE II, III, IV & V FROM APPROVED INDEPENDENT DOE LAB - PER LM-79-08.
- 8. FINISH - E-COAT EPOXY PRIMER W/ULTRA DURABLE SILVER POWDER COAT TOPCOAT - COVERED BY MIN 5-YEAR WARRANTY.
- 9. CERTIFICATION - UL LISTED AND CERTIFIED FOR WET LOCATIONS.

LED AREA FLOOD LIGHT



APPROV
DATE
DESCRIPTION
SYMBOL

**BF**  
BOWMAN, FOSTER & ASSOC.  
CONSULTING ENGINEERS  
#4 INTERSTATE CORP. CENTER  
NORFOLK, VA 23502  
2424 26th ROAD SOUTH  
ARLINGTON, VA 22206



APPROVED	10-0055
ACTIVITY - SATISFACTORY TO	
DATE	APPROVED
FOR EFD FOR COMMANDER NAVFAC	
DATE	A/E EFD
SER DESIGN	
DJL DRAWN	
DGW REVIEW	
SGR oc	
SGR CHIEF ARCH/ ENGR.	
PROJECT MANAGER PFC	
FIRE PROTECTION SAH	
BRANCH MANAGER PFC	
DESIGN DIRECTOR JEF	

DEPARTMENT OF THE NAVY  
NAVAL FACILITIES ENGINEERING COMMAND  
MARINE CORPS AIR STATION, CHERRY POINT, N.C.  
**FACILITIES ENERGY REPAIRS,  
BUILDING 131**  
DETAILS

CODE ID. NO. 80091	SIZE 0
SCALE: AS SHOWN	
FED. NO. WR6059407	
STA. PROJ. NO. CP12024M/CP12024R	
SPEC. NO.	
CONSTR. CONTR. NO.	
NAVFAC DRAWING NO.	
12618484	
SHEET 122 OF 124	
<b>E-502</b>	

DRAWING REVISION JULY 2003

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PHOTO NO SCALE ED401 2



PHOTO NO SCALE ED101 3



PHOTO NO SCALE E 4



PHOTO NO SCALE ED101 5



PHOTO NO SCALE ED102 6

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SYMBOL	DATE	APPROVAL

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DEPARTMENT OF THE NAVY  
NAVAL FACILITIES ENGINEERING COMMAND  
MARINE CORPS AIR STATION, CHERRY POINT, N.C.  
**FACILITIES ENERGY REPAIRS,  
BUILDING 131**  
PHOTOGRAPHS

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NAVFAC DRAWING NO. 12618486	
SHEET 124 OF 124	
<b>E-901</b>	
<small>DRAWING REVISION JULY 2003</small>	

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