FIRE PROTECTION ABBREVIATIONS

A/E	ARCHITECT / ENGINEER	NC	NORMALLY CLOSED
AFF	ABOVE FINISH FLOOR	NIC	NOT IN CONTRACT
AFG	ABOVE FINISH GRADE	NO	NORMALLY OPEN
AP	ACCESS PANEL	NOM.	NOMINAL
AS	AUTOMATIC SPRINKLER	NTC	NOT TO SCALE
ASD	AUTOMATIC SPRINKLER DRAIN		
ASR	AUTOMATIC SPRINKLER RISER	OC	ON CENTER
		OD	OUTSIDE DIAMETER
BFP	REDUCED PRESSURE BACKFLOW PREVENTER	PA	PASCAL
BHP	BREAK HORSEPOWER	PD	PRESSURE DROP OR DIFFERENCE
BSP	BLACK STEEL PIPE	PG	PRESSURE GAGE
		PPSI	POUNDS PER SQUARE INCH
C	CELSIUS	PSIA	POUNDS PER SQUARE INCH ATMOSPHERE
CV	CONTROL VALVE	PSIG	POUNDS PER SQUARE INCH GAUGE
DN	DOWN		
DOE	DEPARTMENT OF ENERGY		
DWG	DRAWING	SPR	SPRINKLER LINE
		SQFT	SQUARE FEET
EL	ELEVATION		
ESC	ESCUTCHEON	TDH	TOTAL DYNAMIC HEAD
EX	EXISTING	TEMP	TEMPERATURE
		TYP	TYPICAL
F	FAHRENHEIT		
FDC	FIRE DEPARTMENT (HOSE) CONNECTION		
FS	FLOW SWITCH		
GAL	GALLON		
GPM	GALLONS PER MINUTE		
HP	HORSEPOWER		
L/S	LITER PER SECOND		

FIRE PROTECTION PIPING SYMBOLS

—EXSP—EXSP—EXSP—	EXISTING SPRINKLER LINE
—SP—SP—SP—	SPRINKLER LINE

DRAWING SYMBOLS

2 / F105	DETAIL NUMBER
	DRAWING NUMBER WHERE DRAWN
A / F105	SECTION LETTER
	DRAWING NUMBER WHERE SHOWN
26–F 3	BUILDING NO. WHERE EQUIPMENT IS LOCATED.
	EQUIPMENT ABBREVIATION (PUMP)
	PUMP NO.3 IN BUILDING NO.26
	TYPICAL UNIT NO.

GENERAL FIRE PROTECTION SYMBOLS

	DIRECTION OF PIPE PITCH (DOWN)
	DIRECTION OF FLOW
	ANCHOR
	REDUCER OR INCREASER
	ECCENTRIC REDUCER
	TOP CONNECTION, 45° OR 90°
	BOTTOM CONNECTION, 45° OR 90°
	SIDE CONNECTION
	CAPPED OUTLET
	RISE OR DROP IN PIPE
	UNION
	PIPE UP
	PIPE DOWN
	POINT OF CONNECTION BETWEEN NEW AND EXISTING WORK
	LIMIT OF DEMOLITION

FIRE PROTECTION VALVE SYMBOLS

	GATE VALVE
	CHECK VALVE
	BALL VALVE

FIRE PROTECTION CRITERIA

A. MODIFY EXISTING SPRINKLER SYSTEM AS REQUIRED IN ORDER TO ACCOMMODATE RENOVATED AREA(S) AS INDICATED ON DRAWINGS. ALL MODIFIED AREAS, UPON COMPLETION OF WORK, SHALL CONFORM TO THE LATEST REQUIREMENTS OF THE NATIONAL FIRE PROTECTION ASSOCIATION (NFPA 13), DEPARTMENT OF DEFENSE INSTRUCTIONS, AND OWNER'S FIRE INSURANCE UNDERWRITERS.

B. THE INFORMATION SHOWN ON THE DRAWINGS AND LISTED IN THE SPECIFICATIONS SHALL NOT BE INTERPRETED AS TO INSTRUCT THE CONTRACTOR TO NOT FOLLOW THE APPLICABLE CODES OR LOCAL AMENDMENTS. WHERE THE INFORMATION PROVIDED IS BELIEVED NOT TO BE IN CONFORMANCE WITH THE CODE REQUIREMENTS, THE CONTRACTOR SHALL NOTIFY THE ARCHITECT AND ENGINEER FOR CLARIFICATION PRIOR TO THE SUBMISSION OF THIS BID PROPOSAL.

C. ALL FIRE PROTECTION PIPING, EQUIPMENT, DEVICES, AND SPRINKLER HEADS SHOWN ON FIRE PROTECTION DRAWINGS ARE FOR ILLUSTRATIVE PURPOSES ONLY TO REPRESENT THE GENERAL SCOPE OF WORK. FINAL FIRE PROTECTION SYSTEM DESIGN AND LAYOUT (INCLUDING SPRINKLER HEAD QUANTITIES AND LOCATIONS AND THEIR SPECIFIC SPACING REQUIREMENTS) IS THE SOLE RESPONSIBILITY OF THE FIRE PROTECTION CONTRACTOR. INSTALLATION DRAWINGS SHOWING THE ENTIRE FIRE PROTECTION SYSTEM(S) SHALL BE GENERATED BY THE FIRE PROTECTION CONTRACTOR. COORDINATE WITH THE ARCHITECTURAL DRAWINGS FOR THE BUILDING'S ARCHITECTURAL AND STRUCTURAL FEATURES.

D. REFERENCES IN THIS PERFORMANCE CRITERIA OR IN THE SPECIFICATIONS TO NFPA STANDARDS AS DESIGN AND INSTALLATION GUIDANCE OF FIRE PROTECTION SYSTEMS, INVOKE ALL OF THE SECTIONS, SUBSECTIONS, EXCEPTIONS AND ADVISORY PROVISION OF THE STANDARDS THAT ARE APPLICABLE TO THE PROJECT'S REQUIREMENTS; THEY ARE HEREBY INCLUDED IN THE PROJECT CRITERIA AND SPECIFICATIONS AS IF REPEATED IN THEIR ENTIRETY, AND ARE REFERENCED TO CONVEY THE MINIMUM ACCEPTABLE PERFORMANCE AND INSTALLATION REQUIREMENTS.

E. REFERENCES TO PROVIDING SPRINKLERS PER THE REQUIREMENTS OF NFPA MANDATES THAT ALL BUILDING AREAS SHALL BE PROVIDED WITH COMPLETE, FULL SPRINKLER PROTECTION, UNLESS SPECIFIC NOTATION IS MADE TO THE CONTRARY ON THE DRAWINGS OR IN THE SPECIFICATIONS.

F. THE ENTIRE AREA OF WORK SHALL BE FULLY SPRINKLERED. FIRE PROTECTION SYSTEM SHALL CONSIST OF A WET PIPE SPRINKLER SYSTEM.

G. THE WET PIPE SPRINKLER SYSTEM SHALL BE HYDRAULICALLY DESIGNED AND SHALL BE BASED UPON A MINIMUM OF 0.1 GPM PER SQ. FT OVER THE MOST REMOTE 1,500 SQ. FT AREA WITH SPRINKLER HEADS SPACED AT A MAXIMUM OF 225 SQ. FT. PER HEAD.

H. UNLESS NOTED OTHERWISE, SPRINKLER HEADS IN FINISHED CEILINGS SHALL BE ADJUSTABLE, SEMI–RECESSED WITH CHROME ESCUTCHEON. FOR OTHER AREAS WHERE CEILINGS ARE NOT INSTALLED. EXTENDED COVERAGE HEADS SHALL BE USED WHERE APPLICABLE AND SHALL BE INSTALLED IN ACCORDANCE WITH THEIR SPECIFIC LISTING(S). SPRINKLER HEADS INSTALLED IN LIGHT HAZARD AREAS SHALL BE QUICK RESPONSE.

I. SPRINKLER HEADS SHALL BE CENTERED IN CEILING TILES ON THE LONG AND SHORT AXIS OF THE TILE. SPRINKLER HEADS SHALL NOT BE CLOSER THAN 12 INCHES TO AIR DIFFUSERS AND GRILLES IN FINISHED CEILINGS.

J. THE TOTAL PROJECT FIRE FLOW IS APPROXIMATELY 165 GPM.

K. A WATER FLOW TEST SHALL BE CONDUCTED BY THE FIRE PROTECTION CONTRACTOR ON THE WATER DISTRIBUTION SYSTEM TO DETERMINE THE RATE OF FLOW AND PRESSURES AVAILABLE FOR SYSTEM DESIGN AND FOR FIRE FIGHTING PURPOSES. HYDRAULIC WATER SUPPLY DATA USED IN THE FIRE PROTECTION CONTRACTOR'S HYDRAULIC CALCULATIONS SHALL BE TAKEN FROM FLOW TEST(S) CONDUCTED NOT MORE THAN NINE MONTHS PRIOR TO THE COMMENCEMENT OF THE SYSTEM INSTALLATION.

L. PLASTIC PIPE SHALL NOT BE PERMITTED.

M. SPRINKLER SYSTEMS SHALL BE PROVIDED WITH DRAINS AS REQUIRED BY NFPA 13. AUXILIARY DRAINS SHALL BE PROVIDED FOR ALL SYSTEM LOW POINTS. PIPING SHALL BE EXTENDED AS REQUIRED (WITH SUFFICIENT SLOPE) FROM THE DRAIN CONNECTION TO THE BUILDING EXTERIOR. IF PHYSICAL CONSTRAINTS WITHIN THE BUILDING WILL NOT ALLOW DRAIN LINES TO BE EXTENDED TO THE EXTERIOR, THEY SHALL BE PIPED TO A DRAIN CONNECTION WITHIN THE BUILDING CAPABLE OF RECEIVING SYSTEM DRAINAGE FLOW WHEN THE DRAIN VALVE IS IN THE FULL OPEN POSITION.

N. COORDINATE WITH ELECTRICAL AND HVAC DRAWINGS FOR LIGHT FIXTURES, SPEAKERS, DIFFUSERS, GRILLES AND OTHER CEILING MOUNTED DEVICES.

O. COORDINATE SPRINKLER PIPING, EQUIPMENT, HEADS, APPURTENANCES, ETC. WITH THAT OF OTHER TRADES SO THAT SPRINKLER WORK WILL BE INSTALLED IN THE MOST DIRECT MANNER AND SO THAT INTERFERENCE BETWEEN PIPING, DUCTS, EQUIPMENT, AND ARCHITECTURAL OR STRUCTURAL FEATURES WILL BE AVOIDED. SPRINKLER PIPING, EQUIPMENT, HEADS, APPURTENANCES, ETC. INSTALLED IN AN ARBITRARY MANNER WITHOUT REGARD FOR WORK OF OTHER TRADES WILL BE REJECTED IN ANY SITUATION WHERE AN UNDESIRABLE CONDITION OR AN UNFAIR HARDSHIP FOR OTHER TRADES, OR OWNER, RESULTS.

P. SPRINKLER SHOP DRAWINGS AND HYDRAULIC CALCULATIONS BEARING THE DESIGNER'S SIGNATURE AND EITHER A PROFESSIONAL ENGINEER'S SEAL OR NICET III CERTIFICATION NUMBER SHALL BE PREPARED AND SUBMITTED TO THE FOLLOWING:

FORT DETRICK FIRE & EMERGENCY SERVICES
OWNER'S FIRE INSURANCE UNDERWRITER.

Q. COPIES OF SUBMITTAL LETTERS REQUESTING PLANS REVIEW AND APPROVAL ADDRESSED TO THE AGENCIES IDENTIFIED ABOVE SHALL BE SUBMITTED WITH SHOP DRAWINGS AND HYDRAULIC CALCULATIONS TO THE ARCHITECT. SHOP DRAWINGS WILL NOT BE REVIEWED UNTIL SUBMITTAL LETTERS HAVE BEEN RECEIVED. SUBMIT COPIES OF INSURANCE COMPANY AND FIRE MARSHAL'S LETTERS OF APPROVAL AND ANY ADDITIONAL REVIEW COMMENTS TO THE ARCHITECT.

Revisions:	Date

CONSULTANTS:

Barton Associates
Consulting Engineers
Susquehanna Commerce Center
North Building
221 West Philadelphia Street
York, PA 17401
Tel.: (717) 845–7654
Web: www.ba–inc.com
We Make Buildings Work.
YORK | STATE COLLEGE

PROJECT No.	DRAWN BY:	DESIGNED BY:	CHECKED BY:
2013012.00	EPS	EPS	DJB

Copyright © 2013 Barton Associates, Inc.

STATE OF MARYLAND ERIC P. SELLERS No. 35002 PROFESSIONAL ENGINEER

ARCHITECT/ENGINEERS:

SAA architects
600 North Hartley Street, Suite 150
York, PA 17404
T 717.843.3200 F 717.699.0205
www.saaarchitects.com

Drawing Title: SYMBOLS & ABBREVIATIONS

Approved: Project Director

Project Title: ADD AUDIOLOGY BOOTH TO FORT DETRICK

Location: FORT DETRICK, FREDERICK, MD

Date	Checked	Drawn
05.17.2013	-	-

Project Number: 613-13-113

Building Number: 613GG

Drawing Number: 613GG-F001

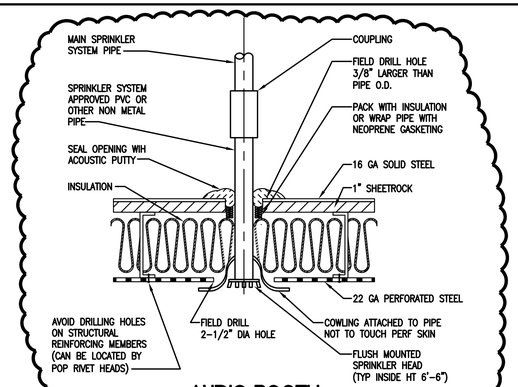
Dwg. 5 of 12

Office of Construction and Facilities Management

Department of Veterans Affairs

VA FORM 08–6231

R:\2013012–00\DWGS\613GG–F001.dwg,5/17/2013 9:12:28 AM,Marlena R. MacPherson

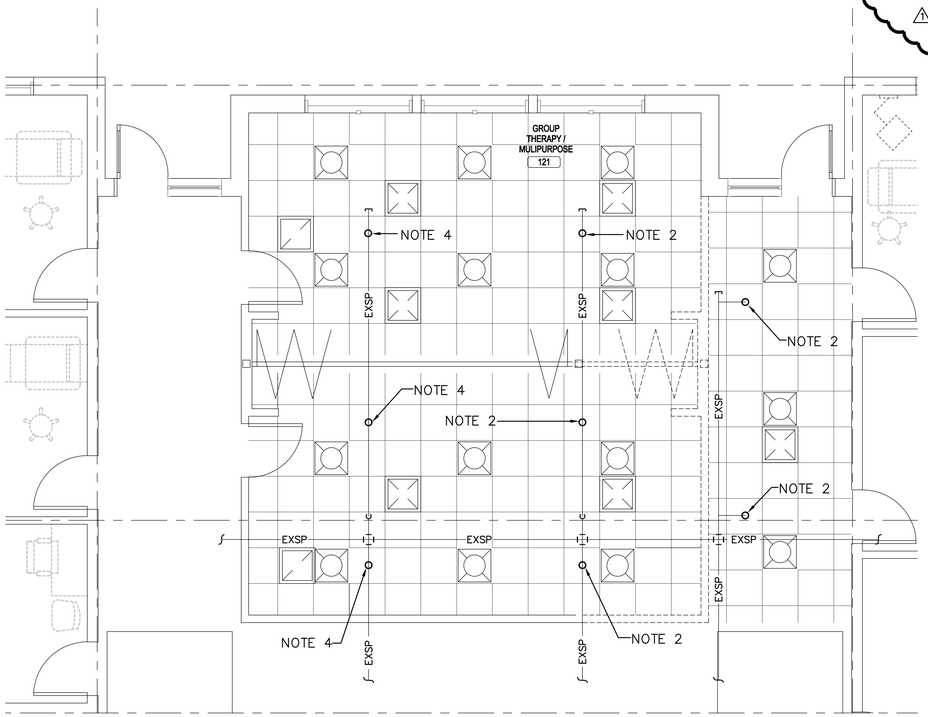


AUDIO BOOTH SPRINKLER PENETRATION

A5 NTS

NOTES:

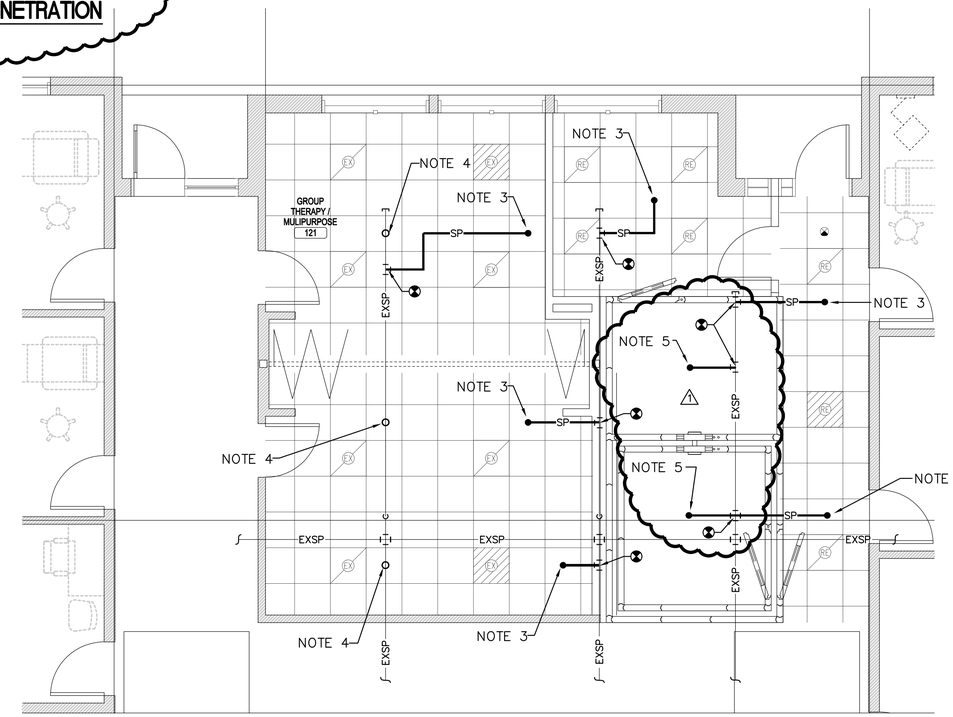
1. ALL EXISTING FIRE PROTECTION EQUIPMENT AND PIPING SHALL REMAIN UNLESS NOTED OTHERWISE.
2. REMOVE EXISTING SPRINKLER HEAD. CAP PIPING AT CONNECTION TO BRANCH MAIN FOR EXTENSION TO NEW SPRINKLER HEAD.
3. EXTEND SPRINKLER PIPING FROM EXISTING BRANCH MAIN TO NEW SPRINKLER HEAD LOCATION.
4. EXISTING SPRINKLER HEAD AND PIPING SHALL REMAIN.
5. FURNISH AND INSTALL SPRINKLER HEAD TO SERVE AUDIO BOOTH. PENETRATE BOOTH IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND DETAIL A5 ON THIS SHEET. COORDINATE EXACT LOCATION OF SPRINKLER HEAD WITH AUDIO BOOTH MANUFACTURER.



PARTIAL FIRST FLOOR PLAN – DEMOLITION – FIRE PROTECTION

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

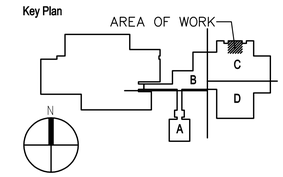
NOTE 1



PARTIAL FIRST FLOOR PLAN – FIRE PROTECTION

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

Key Plan



Revisions:	Date
1 REVISION 1	06.25.13

CONSULTANTS:

Barton Associates
Consulting Engineers
Susquehanna Commerce Center North Building
221 West Philadelphia Street
York, PA 17401
Tel.: (717) 845-7654
Web: www.ba-inc.com
We Make Buildings Work.
YORK | STATE COLLEGE

PROJECT No.	DRAWN BY:	DESIGNED BY:	CHECKED BY:
2013012.00	EPS	EPS	DJB

Copyright © 2013 Barton Associates, Inc.

STATE OF MARYLAND ERIC P. SELLERS No. 35002 PROFESSIONAL ENGINEER

ARCHITECT/ENGINEERS:

SAA architects
600 North Hartley Street, Suite 150
T 717.843.3200 F 717.699.0205
York, PA 17404
www.saaarchitects.com

Drawing Title: PARTIAL DEMOLTION & FIRST FLOOR PLAN - FIRE PROTECTION

Approved: Project Director

Project Title: ADD AUDIOLOGY BOOTH TO FORT DETRICK

Location: FORT DETRICK, FREDERICK, MD

Date	Checked	Drawn
05.17.2013	-	-

Project Number: 613-13-113

Building Number: 613GG

Drawing Number: 613GG-F101

Dwg. 6 of 12

Office of Construction and Facilities Management

Department of Veterans Affairs

VA FORM 08-6231

R:\2013012-00\DWGS\613GG-F101.dwg,6/26/2013 10:32:14 AM,Tim P. Miller

GENERAL NOTES

1. ALL PIPING AND DUCTS IN FINISHED ROOMS OR SPACES SHALL BE CONCEALED IN A FURRED CHASE OR ABOVE THE HARD SUSPENDED CEILING.
2. THE FIRST FIGURE OF DUCT SIZE INDICATES DIMENSION OF FACE SHOWN OR INDICATED. DUCT SIZES ARE NET INSIDE DIMENSIONS.
3. ACCESS PANELS IN HARD SUSPENDED CEILINGS ARE REQUIRED FOR ALL VALVES, TRAPS, DAMPERS, CLEANOUTS, CONTROLS, ETC. ACCESS PANELS SHALL BE FURNISHED AND INSTALLED UNDER THE ARCHITECTURAL SPECIFICATIONS.
4. TOTAL STATIC PRESSURE NOTED IN THE SCHEDULES INCLUDES DUCT SYSTEM, TERMINAL UNITS, FILTERS, COILS, ETC.
5. DIFFUSER, REGISTER AND GRILLE SIZES SHOWN ON FLOOR PLANS ARE NECK SIZES.
6. REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR EXACT LOCATIONS OF CEILING DIFFUSERS, REGISTERS, AND GRILLES.

AIR TERMINAL SYMBOLS

TERMINAL UNIT WITH REHEAT COIL

CONTROLS SYMBOLS

T — ROOM THERMOSTAT/TRANSMITTER – WALL MOUNT

DRAWING SYMBOLS

2 / H4 — DETAIL NUMBER; DRAWING NUMBER WHERE DRAWN

26–SF 3 — BUILDING NO. WHERE EQUIPMENT IS LOCATED; EQUIPMENT ABBREVIATION (SUPPLY FAN); SUPPLY FAN NO. 3 IN BUILDING NO. 26; TYPICAL UNIT NO.

26–TU–1–1 — BUILDING NO. WHERE EQUIPMENT IS LOCATED; ITEM (TERMINAL UNIT SHOWN); ITEM NUMBER (TERMINAL UNIT NO. 1); SERVED BY AIR HANDLER UNIT NO. 1

DUCTWORK SYMBOLS

UP / DN	SUPPLY DUCT (UP & DOWN)
UP / DN	RETURN DUCT (UP & DOWN)
	ROUND AND SQUARE 4–WAY CEILING DIFFUSERS
	SQUARE 2–WAY CEILING DIFFUSERS
	EXHAUST OR RETURN CEILING REGISTER OR GRILLE
	CONNECT NEW DUCT TO EXISTING DUCT
R	INCLINED RISE, IN DIRECTION OF AIR FLOW
D	INCLINED DROP, IN DIRECTION OF AIR FLOW
	LIMIT OF DEMOLITION
FC	FLEXIBLE CONNECTION, EQUIPMENT, VIBRATION, OR SEISMIC

DUCTWORK SYMBOLS

	VANED ELBOW (PROVIDE ALL SQUARE OR RECTANGULAR ELBOWS WITH VANES EVEN IF SYMBOL IS MISSING)
	VANED ELBOW (SHORT RADIUS)
	STANDARD RADIUS ELBOW (LONG RADIUS)
10x8	NEW DUCT (INSIDE DIMENSIONS: WIDTH x DEPTH)
	EXISTING DUCT TO REMAIN
	EXISTING DUCT TO BE REMOVED
VD	MANUAL VOLUME DAMPER
45° SUPPLY	STANDARD BRANCH SUPPLY OR RETURN, NO SPLITTER (45° TAP)
45° RETURN	

ABBREVIATIONS

A/E	ARCHITECT / ENGINEER
AD	ACCESS DOOR
AHU	AIR–HANDLING UNIT
AMP	AMPERGE
APD	AIR PRESSURE DROP
ARI	AIR CONDITIONING AND REFRIGERATION INSTITUTE
ASME	AMERICAN SOCIETY OF MECHANICAL ENGINEERS
BTU	BRITISH THERMAL UNIT
BTUH	BRITISH THERMAL UNIT PER HOUR
CD	CEILING DIFFUSER
CD–1	CONSTRUCTION DOCUMENTS (SUBMISSION1)
CD–2	CONSTRUCTION DOCUMENTS (SUBMISSION2)
CFM	CUBIC FEET PER MINUTE
DB	DECIBELS
Db	DRY–BULB TEMPERATURE
DD–1	DESIGN DEVELOPMENT (SUBMISSION1)
DD–2	DESIGN DEVELOPMENT (SUBMISSION2)
DDC	DIRECT DIGITAL CONTROLS
DIA	DIAMETER
EAT	ENTERING AIR TEMPERATURE
ENT	ENTERING
EX.	EXISTING
F	FAHRENHEIT
FC	FLEXIBLE CONNECTION
FPM	FEET PER MINUTE
FV	FACE VELOCITY
IN WC	INCH WATER COLUMN
kW	KILOWATT
LAT	LEAVING AIR TEMPERATURE
NC	NOISE CRITERIA
PD	PRESSURE DROP
PSI	POUNDS PER SQUARE INCH
RA	RETURN AIR
RG	RETURN GRILLE
SA	SUPPLY AIR
SD–1	SCHEMATIC DESIGN (SUBMISSION1)
SD–2	SCHEMATIC DESIGN (SUBMISSION2)
TSTAT	THERMOSTAT
UL	UNDERWRITERS LABORATORY
VAV	VARIABLE AIR VOLUME
VD	VOLUME DAMPER (MANUAL OPPOSED BLADE)
W	WATTS

Revisions:	Date

CONSULTANTS:

Barton Associates, Inc.
Consulting Engineers
Susquehanna Commerce Center
North Building
221 West Philadelphia Street
York, PA 17401
Tel.: (717) 845–7654
Web: www.ba–inc.com
We Make Buildings Work.
YORK | STATE COLLEGE

PROJECT No.	DRAWN BY:	DESIGNED BY:	CHECKED BY:
2013012.00	RGG	RGG	DJB

COPYRIGHT © 2013 BARTON ASSOCIATES, INC.

STATE OF MARYLAND — RUSSELL G. GRAY — No. 42398 — PROFESSIONAL ENGINEER

ARCHITECT/ENGINEERS:

SAA architects
600 North Hartley Street, Suite 150
York, PA 17404
T 717.843.3200 F 717.699.0205
www.saaarchitects.com

Drawing Title: SYMBOLS & ABBREVIATIONS

Approved: Project Director

Project Title: ADD AUDIOLOGY BOOTH TO FORT DETRICK

Location: FORT DETRICK, FREDERICK, MD

Date: 05.17.2013 | Checked: - | Drawn: -

Project Number: 613-13-113

Building Number: 613GG

Drawing Number: 613GG-M001

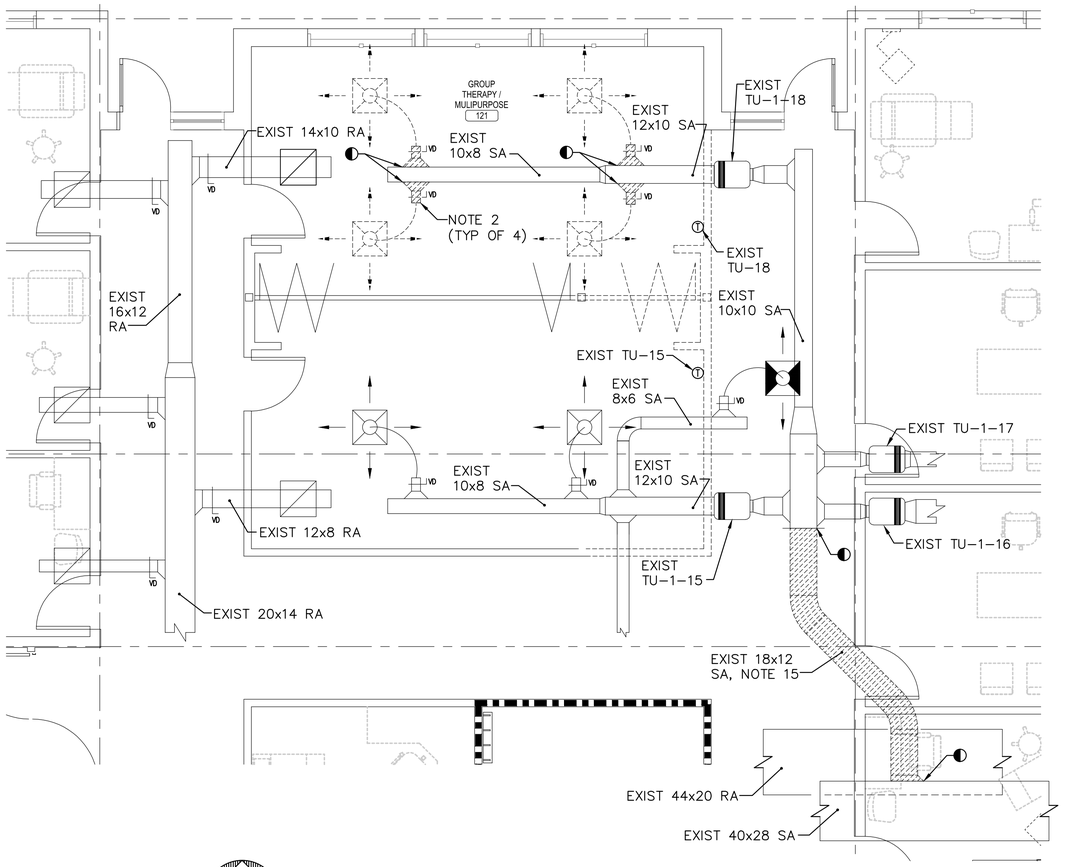
Dwg. 7 of 12

Office of Construction and Facilities Management

Department of Veterans Affairs

VA FORM 08–6231

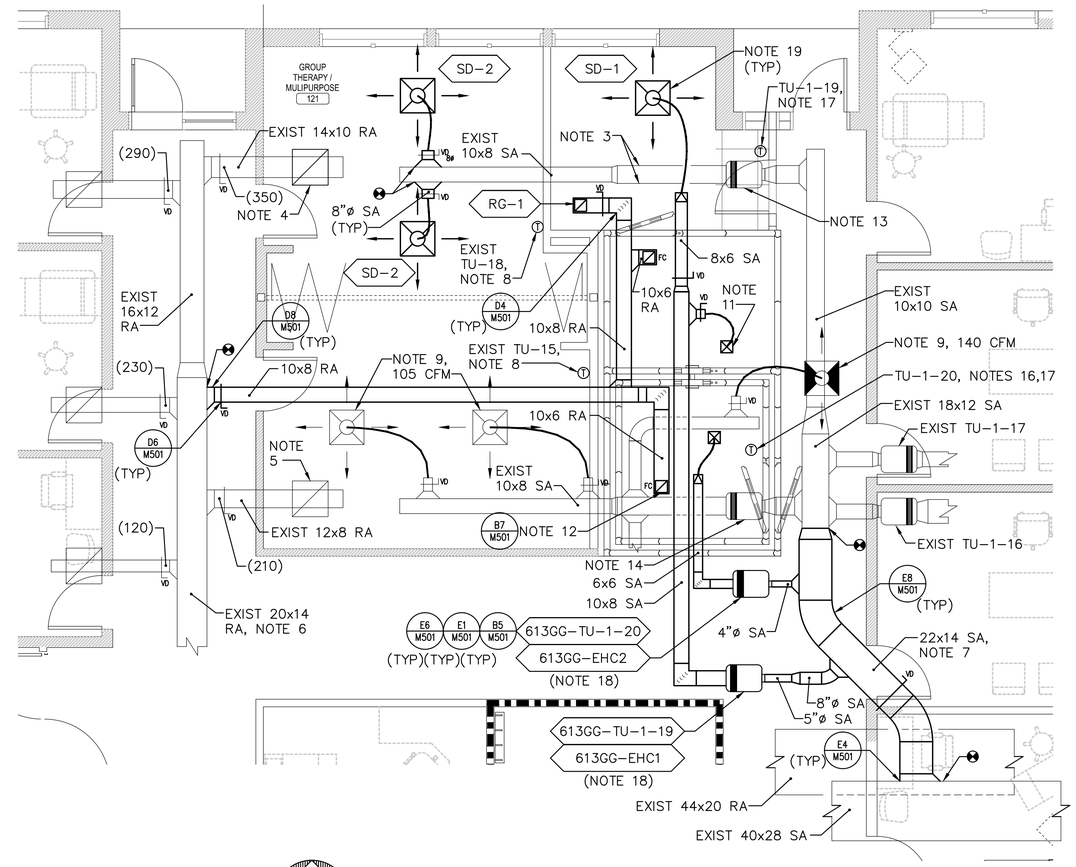
R:\2013012-00\DWGS\613GG-M001.dwg,5/17/2013 9:07:37 AM,Marlena R. MacPherson



PARTIAL FIRST FLOOR PLAN – DEMOLITION – MECHANICAL

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

NOTE 1



PARTIAL FIRST FLOOR PLAN – MECHANICAL

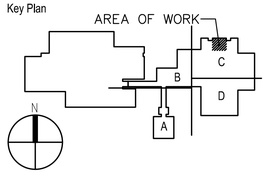
SCALE:1/4"=1'-0"

NOTE 10

NOTES:

1. UNLESS NOTED OTHERWISE, ALL MECHANICAL ITEMS SHALL REMAIN.
2. EXISTING DUCT TAP, VOLUME DAMPER, FLEXIBLE DUCTWORK, AND DIFFUSER SHALL BE REMOVED TO LOCATION SHOWN.
3. DUCT SHALL BE PATCHED WITH SHEETMETAL, SEALED AIRTIGHT, AND INSULATED TO MATCH ADJACENT.
4. REBALANCE RETURN REGISTER TO 350 CFM.
5. REBALANCE RETURN REGISTER TO 210 CFM.
6. REBALANCE EXISTING RETURN BRANCH DUCTS TO CFM INDICATED IN PARENTHESIS.
7. REBALANCE SUPPLY BRANCH DUCT TO 2,240 CFM.
8. EXISTING THERMOSTATS SHALL BE RELOCATED TO THE NEW WALL. EXTEND CONTROL WIRING AS REQUIRED.
9. EXISTING CEILING DIFFUSER SHALL BE RELOCATED IN THE CEILING GRID TO LOCATION SHOWN. EXTEND FLEXIBLE DUCTWORK AS REQUIRED. REBALANCE TO CFM INDICATED.
10. UNLESS NOTED OTHERWISE, FLEXIBLE DUCTWORK SHALL BE THE SAME SIZE AS THE DIFFUSER INLET CONNECTION.
11. SUPPLY AIR TO SOUND BOOTH SHALL BE BALANCED TO 75 CFM. FURNISH AND INSTALL A SQUARE TO ROUND FITTING FOR CONNECTION OF FLEXIBLE DUCTWORK TO THE SOUND BOOTH. FLEXIBLE DUCTWORK TO THE SOUND BOOTH SHALL BE 6"ø. TYPICAL FOR ALL BOOTH SUPPLY CONNECTIONS.
12. 10x10 RA DOWN TO SOUND BOOTH RETURN CONNECTION. TRANSITION TO BOOTH CONNECTION SIZE IN DROP. FURNISH AND INSTALL A VOLUME DAMPER IN THE DROP. FINAL CONNECTION TO BOOTH SHALL HAVE A FLEXIBLE CONNECTOR. TYPICAL FOR ALL BOOTH RETURN CONNECTIONS.
13. REBALANCE EXISTING VAV BOX TU-1-18 TO A MAXIMUM COOLING FLOWRATE OF 350 CFM, A MINIMUM COOLING FLOWRATE OF 270 CFM, AND HEATING FLOWRATE OF 270 CFM.
14. REBALANCE EXISTING VAV BOX TU-1-15 TO A MAXIMUM COOLING FLOWRATE OF 475 CFM, A MINIMUM COOLING FLOWRATE OF 385 CFM, AND HEATING FLOWRATE OF 385 CFM.
15. EXISTING DUCTWORK AND APPURTENANCES SHALL BE REMOVED FROM POINT INDICATED BACK TO MAIN.
16. COORDINATE WITH SOUND BOOTH MANUFACTURER FOR THERMOSTAT LOCATION AND INSTALLATION REQUIREMENTS.
17. FOR CONTINUITY AND INTEGRATION, THE THERMOSTATS SHALL BE THE SAME MAKE AND MODEL AS THE EXISTING UNITS SERVING THE REMAINDER OF THE BUILDING.
18. FOR CONTINUITY AND INTEGRATION, THE VAV BOXES SHALL BE THE SAME MAKE AND MODEL AS THE EXISTING UNITS SERVING THE REMAINDER OF THE BUILDING.
19. FOR CONTINUITY AND INTEGRATION, ALL GRILLES, REGISTERS, AND DIFFUSERS SHALL BE THE SAME MAKE AND MODEL AS THE EXISTING UNITS SERVING THE REMAINDER OF THE BUILDING.

Key Plan



Revisions:	Date

CONSULTANTS:

Barton Associates, Inc.
Consulting Engineers
Susquehanna Commerce Center
North Building
221 West Philadelphia Street
York, PA 17401
Tel.: (717) 845-7654
Web: www.ba-inc.com
We Make Buildings Work.
YORK | STATE COLLEGE

PROJECT No.	DRAWN BY:	DESIGNED BY:	CHECKED BY:
2013012.00	RGG	RGG	DJB

Copyright © 2013 Barton Associates, Inc.

STATE OF MARYLAND — RUSSELL G. GRAY — No. 42396 — PROFESSIONAL ENGINEER

ARCHITECT/ENGINEERS:

SAAarchitects
600 North Hartley Street, Suite 150
York, PA 17404
T 717.843.3200 F 717.699.0205
www.saaarchitects.com

Drawing Title: PARTIAL DEMOLTION & FIRST FLOOR PLAN - MECHANICAL

Approved: Project Director

Project Title: ADD AUDIOLOGY BOOTH TO FORT DETRICK

Location: FORT DETRICK, FREDERICK, MD

Date: 05.17.2013 | Checked: - | Drawn: -

Project Number: 613-13-113

Building Number: 613GG

Drawing Number: 613GG-M101

Dwg. 8 of 12

Office of Construction and Facilities Management

Department of Veterans Affairs

VA FORM 08-6231

R:\2013012-00\DWGS\613GG-M101.dwg,5/17/2013 9:06:53 AM,Marlena R. MacPherson

SINGLE DUCT AIR TERMINAL UNIT SCHEDULE

MARK	LOCATION	AREA AND/OR ROOM SERVED	SYSTEM AIR HANDLING	SIZE	COOLING AIR FLOW MAX CFM	COOLING AIR FLOW MAX [L/s]	COOLING AIR FLOW MIN CFM	COOLING AIR FLOW MIN [L/s]	ADDITIONAL SOUND ATTENUATION REQUIRED	CONTROL TYPE	CONTROL SEQUENCE	REHEAT HW	REHEAT ELEC	REHEAT NONE	PERIMETER SUPPLEMENTAL HEAT LINK	REMARKS
613GG-TU-1-19	CORRIDOR C03	BOOTH/OFFICE	EXISTING AHU-1	5"	305	[140]	155	[73]	NONE	VAV	5 DEGREE DEADBAND	-	X	-	NONE	613GG-EHC1 ELECTRIC REHEAT COIL
613GG-TU-1-20	CORRIDOR C03	BOOTH	EXISTING AHU-1	4"	75	[35]	75	[35]	NONE	VAV	5 DEGREE DEADBAND	-	X	-	NONE	613GG-EHC2 ELECTRIC REHEAT COIL

AIR DEVICE SCHEDULE (SUPPLY)

MARK	TYPE	AIR FLOW MIN CFM	AIR FLOW MIN [L/s]	AIR FLOW MAX CFM	AIR FLOW MAX [L/s]	MAX APD IN WG	MAX APD [Pa]	MOUNTING	PANEL/FRAME SIZE IN x IN	PANEL/FRAME SIZE [mm x mm]	NECK SIZE IN	NECK SIZE [mm]	NC	DAMPER	FINISH	REMARKS
SD-1	LOUVERED FACE	0	[ ]	230	[110]	0.100	[25]	CEILING	24 x 24	[600 x 600]	8 ø	[203 ø]	10	OPPOSED BLADE	WHITE	-----
SD-2	LOUVERED FACE	0	[ ]	175	[83]	0.100	[25]	CEILING	24 x 24	[600 x 600]	8 ø	[203 ø]	10	OPPOSED BLADE	WHITE	-----

NOTES
1. SEE FLOOR PLAN FOR THROW PATTERN.
2. SEE DETAIL FOR DAMPER IN BRANCH DUCT SERVING EACH DIFFUSER.
3. PROVIDE SQUARE TO ROUND ADAPTER.

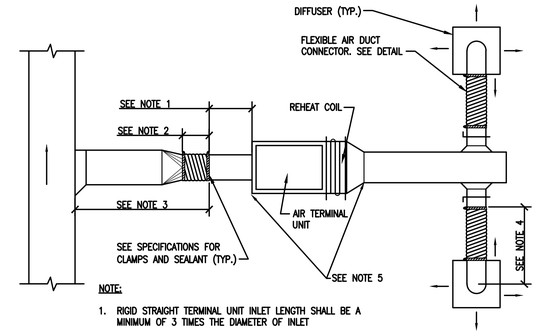
AIR DEVICE SCHEDULE (RETURN)

MARK	TYPE	AIR FLOW MIN CFM	AIR FLOW MIN [L/s]	AIR FLOW MAX CFM	AIR FLOW MAX [L/s]	MAX APD IN WG	MAX APD [Pa]	MOUNTING	PANEL/FRAME SIZE IN x IN	PANEL/FRAME SIZE [mm x mm]	NECK SIZE IN x IN	NECK SIZE [mm x mm]	NC	DAMPER	FINISH	REMARKS
RG-1	PERFORATED	0	[ ]	230	[110]	0.088	22.000	CEILING	24 x 24	[600 x 600]	8 x 8	[200 x 200]	13	OPPOSED BLADE	WHITE	-----

NOTE
PROVIDE SQUARE TO ROUND ADAPTER.

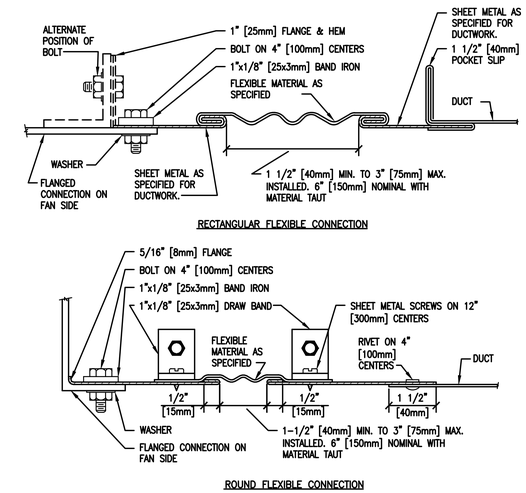
ELECTRIC TERMINAL UNIT MOUNTED HEATING COIL SCHEDULE

MARK	LOCATION	SYSTEM AND/OR SERVICE	TYPE	AIR FLOW CFM	AIR FLOW [L/s]	EAT °F	EAT [°C]	LAT °F	LAT [°C]	APD IN WG	APD [Pa]	CAPACITY BTUH	CAPACITY [W]	POWER PHASE	POWER VOLT	CONTROL TYPE	REMARKS
613GG-EHC1	613GG-TU-1-19	EXISTING AHU-1	VAV REHEAT COIL	305	[140]	55	[13]	96	[36]	0.043	[11]	6824	[2000]	1	208	2-STEP	-
613GG-EHC2	613GG-TU-1-20	EXISTING AHU-1	VAV REHEAT COIL	75	[35]	55	[13]	97	[36]	0.020	[5]	3412	[1000]	1	208	2-STEP	-

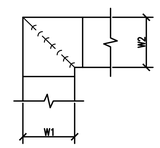


NOTE:
1. RIGID STRAIGHT TERMINAL UNIT INLET LENGTH SHALL BE A MINIMUM OF 3 TIMES THE DIAMETER OF INLET
2. A FLEXIBLE AIR DUCT CONNECTOR IS NOT MANDATORY FOR INLET TO THIS BOX, BUT ALLOWED TO ACCOMMODATE MINOR OFFSETS. MAXIMUM LENGTH 3'–0" [900mm].
3. A BRANCH DUCT SERVING AN INDIVIDUAL BOX MAY BE THE SAME SIZE AS THE BOX INLET, PROVIDED THE EQUIVALENT LENGTH OF THE BRANCH DUCT, AS SHOWN, DOES NOT EXCEED 10 FEET (3 METERS). FOR LONGER LENGTHS, INCREASE THE DUCT SIZE AND PROVIDE A DUCT TRANSITION TO MAINTAIN THE DUCT STATIC PRESSURE DROP AT OR BELOW 0.2"/100' [1.64Pa/m].
4. FLEXIBLE AIR DUCT CONNECTORS, WHEN USED FROM TERMINAL UNIT SUPPLY AIR DUCT TO DIFFUSER, SHALL NOT EXCEED 5'–0" [1500mm]. USE RIGID ELBOWS FOR CHANGE OF DIRECTION GREATER THAN 45'.
5. COMPONENT ARRANGEMENT MAY VARY BY MANUFACTURER. PROVIDE INSULATION W/VAPOR BARRIER FOR CONNECTING DUCT SECTIONS.

B5 DUCT CONNECTIONS - AIR TERMINAL UNITS
NTS

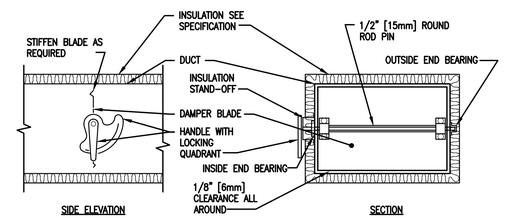


B7 FLEXIBLE DUCT CONNECTIONS
NTS



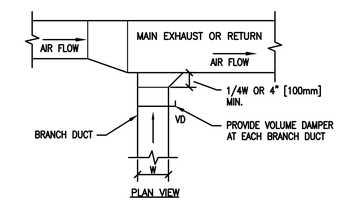
NOTE:
1. ALL VANE ELBOWS SHALL BE CONSTRUCTED AND INSTALLED AS DETAILED BY SMACNA.
2. WHEN W1 DOES NOT EQUAL W2, VANE SHALL BE SINGLE THICKNESS VANE TYPE REGARDLESS OF W DIMENSION.
3. ALL SINGLE THICKNESS VANES SHALL HAVE A 2" [50mm] RADIUS, 1 1/2" [40mm] MAXIMUM SPACE BETWEEN VANES AND A 3/4" [20mm] TRAILING EDGE.
4. WHEN W EQUALS W2 AND W1 IS GREATER THAN 20" [500mm] VANES SHALL BE DOUBLE VANE TYPE.

D4 DUCTWORK SQUARE VANE ELBOWS
NTS

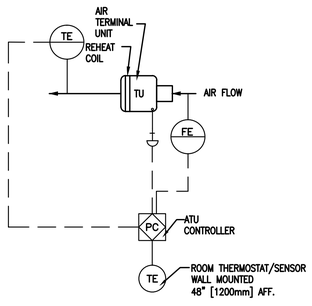


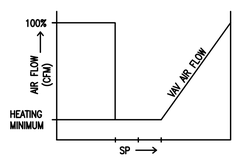
NOTE:
1. DELETE INSULATION STAND–OFF ON DUCTWORK WITHOUT EXTERIOR INSULATION.
2. DETAIL SHOWS SINGLE BLADE DAMPER. DAMPER INSTALLATION SHALL BE SIMILAR FOR MULTI–BLADE DAMPERS & ROUND DAMPERS.

D6 VOLUME DAMPER DETAIL
NTS



D8 EXHAUST OR RETURN BRANCH DUCTWORK
NTS

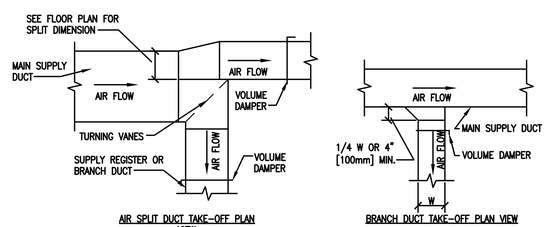




VAV BOX CONTROL SEQUENCE
W/DEADBAND

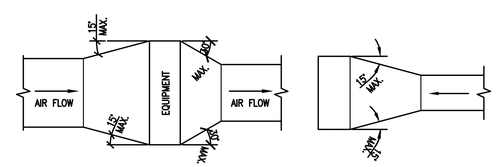
A. SET POINTS SHALL BE SET AS FOLLOWS:
COOLING 75°F (ADJ)
HEATING 70°F(ADJ)
DEADBAND OF 5° F BETWEEN HEATING AND COOLING SET POINTS WILL BE MAINTAINED.
B. UPON FALL IN SPACE TEMPERATURE THE VAV DAMPER WILL MODULATE TO MINIMUM POSITION.
C. UPON FURTHER DROP IN SPACE TEMPERATURE THE ELECTRIC REHEAT COIL WILL STAGE TO MAINTAIN SET POINT ± .5° F.
D. THE REVERSE SHALL OCCUR ON THE RISE IN SPACE TEMPERATURE.

E1 VARIABLE VOLUME AIR TERMINAL UNIT CONTROL DIAGRAM
NTS



AIR SPLIT DUCT TAKE–OFF PLAN VIEW
BRANCH DUCT TAKE–OFF PLAN VIEW

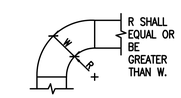
E4 SUPPLY DUCTWORK TAKE-OFFS
NTS



TYPICAL DUCTWORK TRANSITION WITH EQUIPMENT MOUNTED IN DUCT PLAN OR SIDE VIEW
TYPICAL DUCTWORK TRANSITION PLAN OR SIDE VIEW

NOTE:
UNLESS OTHERWISE INDICATED ON PLANS, MAXIMUM ANGLES SHOWN SHALL APPLY.

E6 DUCTWORK TRANSITIONS (WITH EQUIPMENT MOUNTED IN DUCT)
NTS



STANDARD RADIUS OR LONG RADIUS ELBOW

NOTE:
1. THE INTERIOR SURFACE OF ALL RADIUS ELBOWS SHALL BE MADE ROUND.

E8 DUCTWORK RADIUS ELBOWS
NTS

Revisions:	Date

CONSULTANTS:

Barton Associates, Inc.
Consulting Engineers
Susquehanna Commerce Center
North Building
221 West Philadelphia Street
York, PA 17401
Tel.: (717) 845-7654
Web: www.ba-inc.com
We Make Buildings Work.
YORK | STATE COLLEGE

PROJECT No.	DRAWN BY:	DESIGNED BY:	CHECKED BY:
2013012.00	RGG	RGG	DJB

Copyright © 2013 Barton Associates, Inc.

STATE OF MARYLAND RUSSELL G. GRAY No. 42398 PROFESSIONAL ENGINEER

ARCHITECT/ENGINEERS:

SAA architects
600 North Hartley Street, Suite 150
T 717.843.3200 F 717.699.0205
York, PA 17404
www.saaarchitects.com

Drawing Title: DETAILS & SCHEDULES

Approved: Project Director

Project Title: ADD AUDIOLOGY BOOTH TO FORT DETRICK

Location: FORT DETRICK, FREDERICK, MD

Date: 05.17.2013 | Checked: - | Drawn: -

Project Number: 613-13-113

Building Number: 613GG

Drawing Number: 613GG-M501

Dwg. 9 of 12

Office of Construction and Facilities Management

Department of Veterans Affairs

VA FORM 08-6231

R:\2013012-00\DWGS\613GG-M501.dwg,5/17/2013 9:05:09 AM,Marlena R. MacPherson

ELECTRICAL SYMBOLS - LIGHTING PLAN

$3 SWITCH
BLANK = SINGLE POLE
3 = THREE-WAY
D = DIMMER
LV= LOW VOLTAGE
LM= LOW VOLTAGE MASTER
PB= PUSH BUTTON STATION
T = TIMER OPERATED
Mo= OCCUPANCY SENSOR
4 = FOUR-WAY
K = KEY OPERATED
L = LOCK
P = WITH PILOT LIGHT
RC= REMOTE CONTROL

(L) LIGHT FIXTURE, FLUORESCENT EMERGENCY; LETTER INDICATES TYPE.

(EX) LIGHT FIXTURE, RECESSED FLUORESCENT, 2'x2' [610x610mm]; EXISTING LIGHT FIXTURE TO REMAIN.

(RE) LIGHT FIXTURE, RECESSED FLUORESCENT, 2'x2' [610x610mm]; RELOCATED EXISTING LIGHT FIXTURE.

(ER) LIGHT FIXTURE, RECESSED FLUORESCENT, 2'x2' [610x610mm]; EXISTING LIGHT FIXTURE TO BE REMOVED AND RELOCATED AS SHOWN ON DRAWINGS.

EX LIGHT FIXTURE, EXTERIOR; EXISTING LIGHT FIXTURE TO REMAIN.

EXIT SIGN. DARKENED AREA INDICATES FACE. DIRECTIONAL ARROWS AS SHOWN ON DRAWINGS.

ELECTRICAL SYMBOLS - POWER PLAN

JUNCTION BOX

(OS) OCCUPANCY SENSOR

BRANCH CIRCUIT HOMERUN. LINES INDICATE NUMBER OF CIRCUITS, NEUTRAL, AND SWITCH LEG CONDUCTORS. ONE SEPARATE GREEN GROUNDING CONDUCTOR SHALL BE PROVIDED FOR EACH HOMERUN; NOT SHOWN

WA CEILING OUTLET, DATA COMMUNICATION, WIRELESS ACCESS

WH TELEPHONE JACK, WALL HUNG 44 INCHES AFF

TELEPHONE JACK, WALL MOUNTED 18 INCHES AFF

DATA JACK, WALL MOUNTED 18 INCHES AFF

TELEPHONE/DATA JACK, WALL MOUNTED 18 INCHES AFF

PUSH BUTTON

DP# DISTRIBUTION PANEL

LP LIGHTING PANEL

EXISTING PANELBOARD, SURFACE MOUNTED – 120/208V/3 PHASE/4W TO REMAIN, UNLESS NOTED.

(C) RECEPTACLE, CLOCK HANGER

RECEPTACLE, DUPLEX

RECEPTACLE, DUPLEX ON EMERGENCY POWER

RECEPTACLE, DUPLEX WITH GROUND FAULT CIRCUIT INTERRUPTER

RECEPTACLE, QUADRAPLEX

RECEPTACLE, DUPLEX, FLUSH WITH OR ABOVE FINISHED CEILING

RECEPTACLE, SINGLE

S RECEPTACLE, SINGLE WITH SWITCH

RECEPTACLE, SPECIAL PURPOSE
A = 120V, 20A, 1 PHASE, 2-POLE, 3W, NEMA 5-20R.
B = 208V, 20A, 1 PHASE, 2-POLE, 3W, NEMA 6-20R.
C = 120V, 30A, 1 PHASE, 2-POLE, 3W, NEMA 5-30R.
D = 208V, 30A, 1 PHASE, 2-POLE, 3W, NEMA 6-30R.
E = 208V, 60A, 1 PHASE, 3-POLE, 4W, NEMA 14-60R.
F = 208V, 30A, 3 PHASE, 3-POLE 4W, NEMA 15-30R.
G = 208V, 50A, 3 PHASE, 3 POLE, 4W, NEMA 15-30R.
H = 208V, 60A, 3 PHASE, 3 POLE, 4W, NEMA 15-60R.

ELECTRICAL SYMBOLS - POWER PLAN

DISCONNECT SWITCH, FUSED

DISCONNECT SWITCH, UNFUSED

STARTER, COMBINATION WITH DISCONNECT SWITCH

STARTER OR MOTOR CONTROLLER

VFD VARIABLE FREQUENCY DRIVE

TC TIME CLOCK

VENTILATOR OR FAN COIL UNIT OUTLET

CONDUIT TERMINATED 6" [152mm] AFF IN STANDARD BOX FOR EXTENSION TO EQUIPMENT AS DIRECTED.

CONDUIT TERMINATED W/COUPLING (FLUSH W/FINISHED FLOOR) FOR EXTENSION TO EQUIPMENT AS DIRECTED.

$M SWITCH
F = FUSED SWITCH
L = LOCK
M = MANUAL MOTOR STARTING
MP= MOTOR SNAP WITH PILOT LIGHT (THERMAL TYPE)
PB= PUSH BUTTON STATION
K = KEY OPERATED

(S) SOUND/PAGING SYSTEM SPEAKER

(F) FIRE ALARM STROBE, WALL MOUNTED.

(F) FIRE ALARM STROBE, CEILING MOUNTED.

(C) SECURITY SYSTEM CAMERA

WA WIRELESS ANTENNA

EXISTING RECEPTACLE, DUPLEX, TO BE REMOVED

EXISTING TELEPHONE/DATA JACK, TO BE REMOVED

ELECTRICAL ABBREVIATIONS

1PH	SINGLE-PHASE
1P	SINGLE POLE
2/C	TWO-CONDUCTOR
3/C	THREE-CONDUCTOR
3PH	THREE-PHASE
4/C	FOUR-CONDUCTOR
4W	FOUR-WIRE
A/C UNIT	AIR CONDITIONING UNIT
A/E	ARCHITECT/ENGINEER
AAP	ALARM ANNUNCIATOR PANEL
AC	ALTERNATING CURRENT OR ARMORED CABLE
ACC	ACCESSIBLE
ADDL	ADDITIONAL
ADJ	ADJACENT, ADJOINING
ADO	AUTOMATIC DOOR OPENER
AF	AMPERE FRAME OR AMP FUSE
AFC	ABOVE FINISHED COUNTER, AUTOMATIC FREQUENCY CONTROL, OR AVAILABLE FAULT CURRENT
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AH	AMPERE HOUR
AHJ	AUTHORITY HAVING JURISDICTION
AIC	AMPERE INTERRUPTING CAPACITY
ALT	ALTERNATE
AMB OR A	AMBIENT
AMP	AMPERE
ARCH	ARCHITECT
ASC	AMPS SHORT CIRCUIT
AT	AMPERE TRIP
ATS	AUTOMATIC TRANSFER SWITCH
AUTO	AUTOMATIC
AV	AUDIO VISUAL
BAT	BATTERY
BC	BARE COPPER
BD	BOARD
BFF	BELOW FINISH FLOOR
BIL	BASIC INSULATION LEVEL
BLDG	BUILDING
BPIP	BOILER PLANT INSTRUMENTATION PANEL
BRKR	BREAKER
BYP	BY PASS
C	CONDUIT
CAB	CABINET
CALC	CALCULATE
CAP	CAPACITY
CAT	CATALOG
CATV	COMMUNITY ANTENNA TELEVISION
CCR	CONTROL CONTACTOR
CCTV	CLOSED CIRCUIT TELEVISION
cd	CANDELA
CD	CONSTRUCTION DOCUMENTS
CF	CONTRACTOR FURNISHED
CF/CI	CONTRACTOR FURNISHED/CONTRACTOR INSTALLED
CF/OI	CONTRACTOR FURNISHED/OWNER INSTALLED
CFE	CONTRACTOR FURNISHED EQUIPMENT
CHW	CHILLED WATER
CHWP	CHILLED WATER PUMP
CKT	CIRCUIT
CKT BRKR	CIRCUIT BREAKER
CLF	CURRENT LIMITING FUSE
CLG	CEILING
CMU	CONCRETE MASONRY UNIT
COAX	COAX CABLE
COMM	COMMUNICATION
COMPT	COMPARTMENT
CONC	CONCRETE
CONT	CONTINUE
CONTR	CONTRACTOR
COORD	COORDINATE
CPT	CONTROL POWER TRANSFORMER
CRI	COLOR RENDERING INDEX
CT	CURRENT TRANSFORMER
CTV	CABLE TELEVISION
CU	COPPER
CU FT	CUBIC FEET
CUR	CURRENT
DB	DECIBEL OR DIRECT BURIAL
DC	DIRECT CURRENT
DCP	DIMMER CONTROL PANEL
DEG C	DEGREES CELSIUS
DEG F	DEGREES FAHRENHEIT
DEMO	DEMOLITION
DIAG	DIAGRAM
DISC	DISCONNECT
DISTR	DISTRIBUTION
DISTR PNL	DISTRIBUTION PANEL
DMR SW	DIMMER SWITCH
DN	DOWN
DPDT	DOUBLE POLE, DOUBLE THROW
DPST	DOUBLE POLE, SINGLE THROW
DRSW	DOOR SWITCH
DS	DISCONNECT SWITCH
DWG	DRAWING
EC	EMPTY CONDUIT
EG	EQUIPMENT GROUND
EL	ELEVATION
ELEC	ELECTRIC OR ELECTRICAL
ELEV	ELEVATOR
EMCP	EMERGENCY MONITORING CONTROL PANEL
EMER	EMERGENCY
EMI	ELECTROMAGNETIC INTERFERENCE
EMT	ELECTRICAL METALLIC TUBING
ENCL	ENCLOSURE
EPO	EMERGENCY POWER OFF
EPRF	EXPLOSION PROOF
ER	EXISTING TO BE REMOVED AND/OR RELOCATED
ESMT	EASEMENT
EWC	ELECTRIC WATER COOLER
EWH	ELECTRIC WATER HEATER
EX	EXISTING TO REMAIN
EXIST	EXISTING
FA	FIRE ALARM
FAAP	FIRE ALARM ANNUNCIATOR PANEL
FABL	FIRE ALARM BELL
FABX	FIRE ALARM BOX
FACP	FIRE ALARM CONTROL PANEL
FC	FOOTCANDLE
FI	FILM ILLUMINATOR
FIXT	FIXTURE
FLA	FULL LOAD AMPS
FLEX	FLEXIBLE METALLIC CONDUIT
FLT	FLOODLIGHT
FLUOR	FLUORESCENT
FLUOR FIX	FLUORESCENT FIXTURE
FOUTT	TELEPHONE FLOOR OUTLET
FP	FIRE PROTECTION
FT	FEET OR FOOT
FU SW	FUSED SWITCH
FVNR	FULL VOLTAGE NON-REVERSING
FVR	FULL VOLTAGE REVERSING
G OR GND	GROUND OR GENERATOR
GEN	GENERATOR
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GTB	GROUND TERMINAL BOX
HID	HIGH INTENSITY DISCHARGE
HOA	HAND-OFF-AUTOMATIC
HP	HORSEPOWER
HT	HEIGHT
HZ	HERTZ
IESNA	ILLUMINATION ENGINEERING SOCIETY OF NORTH AMERICA
IMC	INTERMEDIATE METAL CONDUIT
INCAND	INCANDESCENT
IR	INFRARED
IWH	INSTANTANEOUS WATER HEATER
J-BOX	JUNCTION BOX
kV	KILOVOLT
kVA	KILOVOLT AMPERE
kVAH	KILOVOLT AMPERE PER HOUR
kVAR	KILOVOLT AMPERE REACTIVE
kW	KILOWATT
kWH	KILOWATT HOUR
kWHM	KILOWATT HOUR METER
LED	LIGHT EMITTING DIODE
LF	LINEAR FEET (FOOT)
LM	LUMEN
LP	LIGHT POLE
LPS	LOW PRESSURE SODIUM
LRA	LOCKED ROTOR AMPS
LTCP	LOCAL TEMPERATURE CONTROL PANEL
LT	LIGHT
LTG	LIGHTING
LTG PNL	LIGHTING PANEL
LTNG	LIGHTNING
LV	LOW VOLTAGE
MATV	MASTER ANTENNA TELEVISION SYSTEM
MAX	MAXIMUM
MC	METAL-CLAD
MCA	MINIMUM CIRCUIT AMPS
MCB	MAIN CIRCUIT BREAKER
MCC	MOTOR CONTROL CENTER
MDP	MAIN DISTRIBUTION PANEL
MECH	MECHANICAL
MG	MOTOR GENERATOR
MH	MANHOLE
MIN	MINIMUM
MOCP	MAXIMUM OVERCURRENT PROTECTION
MLO	MAIN LUGS ONLY
MT	MOUNT
MTD	MOUNTED
MTG	MOUNTING
MTS	MANUAL TRANSFER SWITCH
MV	MEDIUM VOLTAGE
MVA	MEGAVOLT-AMPERE
MW	MEGAWATT MICROWAVE
NA	NOT APPLICABLE
NEC	NATIONAL ELECTRICAL CODE
NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
NEUT OR N	NEUTRAL
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
NIC	NOT IN CONTRACT
NL	NIGHT LIGHT
NO	NORMALLY OPEN
NS	NO SCALE
NTS	NOT TO SCALE
OC	ON CENTER
OD	OUTSIDE DIAMETER
OL	OVERLOAD
P	POLE
PA	PUBLIC ADDRESS
PB	PANELBOARD, PULL BOX, OR PUSHBUTTON
PBPU	PREFABRICATED BEDSIDE PATIENT UNIT
PCB	POLYCHLORINATED BIPHENYL
PEC	PHOTOELECTRIC CELL
PED	PEDESTAL
PEND	PENDANT
PF	POWER FACTOR
PH	PHASE
PNL	PANEL
POD	POWER OPERATED DAMPER
PT	POTENTIAL TRANSFORMER
PTRV	POWER TYPE ROOF VENTILATION
PVC	POLYVINYL CHLORIDE (PLASTIC)
PWR	POWER
RCP	REFLECTED CEILING PLAN
RE	RELOCATED DEVICE
REC	RECESSED
RECPT	RECEPTACLE
RGS	RIGID GALVANIZED STEEL
RM	ROOM
RMS	ROOT MEAN SQUARE
REQD	REQUIRED
SCC	SHORT CIRCUIT CAPACITY
SES	SERVICE ENTRANCE SECTION
SD	SMOKE DETECTOR
SF	SQUARE FOOT (FEET)
SHT	SHEET
SI	INTERNATIONAL SYSTEM OF UNITS
SPEC	SPECIFICATION
SPST	SINGLE POLE, SINGLE THROW
SURF	SURFACE
SW	SWITCH
SWBD	SWITCHBOARD
SWGR	SWITCHGEAR
TC	TIME CLOCK
TEL	TELEPHONE
TP	TWISTED PAIR
TPS	TWISTED PAIR SHIELDED
TTB	TELEPHONE TERMINAL BOARD
TV	TELEVISION
TYP	TYPICAL
UFD	UNDERFLOOR DUCT
UGND	UNDERGROUND
UL	UNDERWRITERS LABORATORY
UON	UNLESS OTHERWISE NOTED
UPS	UNINTERRUPTIBLE POWER SUPPLY
UTIL	UTILITY
V	VOLT
VA	VOLT AMPERE
VAR	VOLT AMPERE REACTIVE
VFD	VARIABLE FREQUENCY DRIVE
VOLT	VOLTAGE
W	WATT
WH	WATER HEATER
WP	WEATHERPROOF
XFER	TRANSFER
XFMR	TRANSFORMER

Revisions:	Date

CONSULTANTS:

Barton Associates, Inc.
Consulting Engineers
Susquehanna Commerce Center
North Building
221 West Philadelphia Street
York, PA 17401
Tel.: (717) 845-7654
Web: www.ba-inc.com
We Make Buildings Work.
YORK | STATE COLLEGE

PROJECT No.	DRAWN BY:	DESIGNED BY:	CHECKED BY:
2013012.00	JNK	TK	DJM

Copyright © 2013 Barton Associates, Inc.

STATE OF MARYLAND
DAVID J. MYERS
No. 40963
PROFESSIONAL ENGINEER

ARCHITECT/ENGINEERS:

SAA architects
600 North Hartley Street, Suite 150
T 717.843.3200 F 717.699.0205
York, PA 17404
www.saaarchitects.com

Drawing Title: SYMBOLS & ABBREVIATIONS

Approved: Project Director

Project Title: ADD AUDIOLOGY BOOTH TO FORT DETRICK

Location: FORT DETRICK, FREDERICK, MD

Date: 05.17.2013 | Checked: - | Drawn: -

Project Number: 613-13-113

Building Number: 613GG

Drawing Number: 613GG-E001

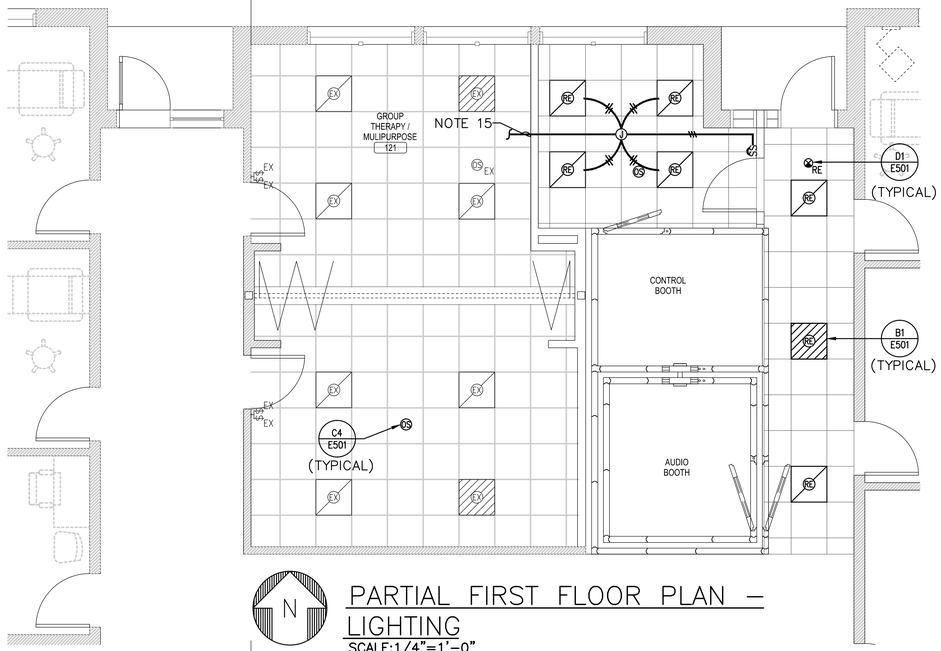
Dwg. 10 of 12

Office of Construction and Facilities Management

Department of Veterans Affairs

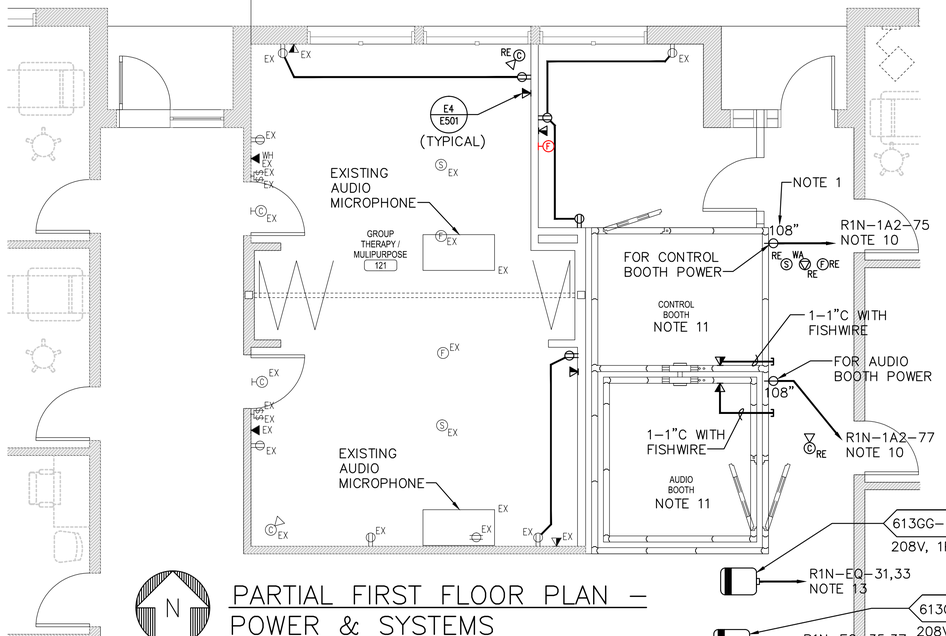
VA FORM 08-6231

R:\2013012-00\DWGS\613GG-E001.dwg,5/17/2013 9:14:47 AM,Marlena R. MacPherson



PARTIAL FIRST FLOOR PLAN – LIGHTING

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

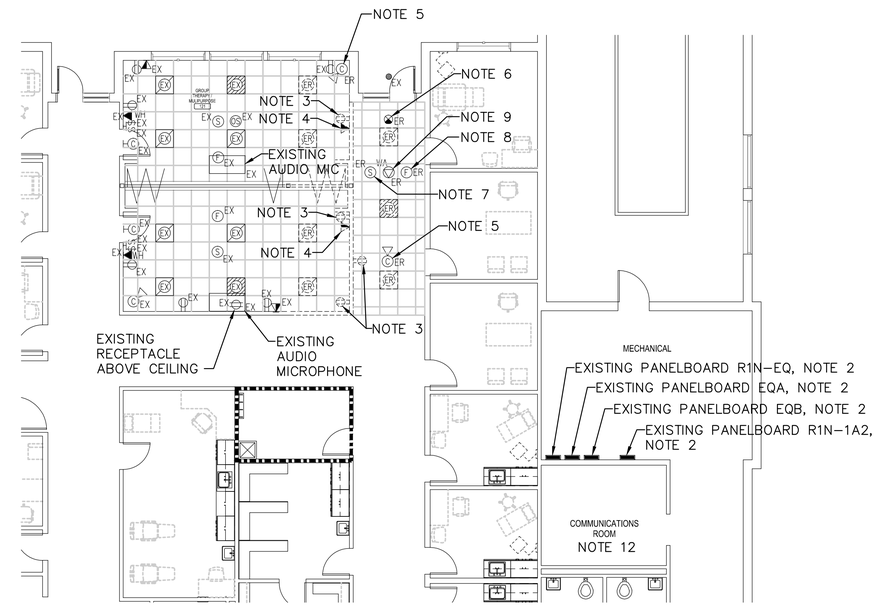


PARTIAL FIRST FLOOR PLAN – POWER & SYSTEMS

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

NOTES:

1. INDICATES HEIGHT AFF, TYPICAL
2. EXISTING PANELBOARD SHALL REMAIN. SHOWN FOR REFERENCE ONLY.
3. REMOVE EXISTING RECEPTACLE, OUTLET BOX AND ALL CONDUIT AND WIRING BACK TO FIRST JUNCTION BOX ABOVE FINISHED CEILING. RE–CONNECT ALL THROUGH–WIRING TO LOADS NOT AFFECTED BY DEMOLITION WORK. IF RECEPTACLE IS CONNECTED TO HOMERUN WIRING FROM PANELBOARD, REFER TO GENERAL DEMOLITION NOTE "A" ON THIS DRAWING.
4. REMOVE EXISTING TELE/DATA OUTLET AND ALL CONDUIT BACK TO ABOVE FINISHED CEILING. REMOVE ALL TELEPHONE WIRING BACK TO EXISTING PUNCHDOWN BLOCKS. REMOVE ALL DATA WIRING BACK TO EXISTING PATCH PANEL. COORDINATE REMOVAL OF ALL WIRING WITH OWNER TO ENSURE TELEPHONE AND DATA SYSTEM REMAIN FULLY OPERATIONAL DURING DEMOLITION WORK.
5. REMOVE EXISTING CAMERA AND ASSOCIATED DOME AND TEMPORARILY SUPPORT FROM STRUCTURAL CEILING DURING DEMOLITION PORTION OF PROJECT. REMOVE ALL SECURITY SYSTEM WIRING BACK TO EXISTING HEAD END EQUIPMENT. DURING CONSTRUCTION PORTION OF PROJECT, RE–LOCATE CAMERA AND ASSOCIATED DOME AS SHOWN ON "PARTIAL FIRST FLOOR PLAN – POWER & SYSTEMS". FURNISH AND INSTALL WIRING FROM EXISTING HEAD END EQUIPMENT TO RELOCATED CAMERA. WIRING TYPE SHALL MATCH EXISTING.
6. REMOVE EXISTING EXIT SIGN AND TEMPORARILY SUPPORT FROM STRUCTURAL CEILING DURING DEMOLITION PORTION OF PROJECT. TEMPORARY LOCATION SHALL ALLOW FULLY CODE COMPLIANT VISIBLITY OF EXIT SIGN. DURING CONSTRUCTION PORTION OF PROJECT, RE–LOCATE EXIT SIGN AS SHOWN ON "PARTIAL FIRST FLOOR PLAN – POWER & SYSTEMS". FURNISH AND INSTALL CONDUIT AND WIRING, EXTEND TO RE–LOCATED EXIT SIGN AND CONNECT. CONDUIT AND WIRE SIZE SHALL MATCH EXISTING.
7. REMOVE EXISTING CEILING SPEAKER AND TEMPORARILY SUPPORT FROM STRUCTURAL CEILING DURING DEMOLITION PORTION OF PROJECT. DURING CONSTRUCTION PORTION OF PROJECT, RE–LOCATE SPEAKER AS SHOWN ON "PARTIAL FIRST FLOOR PLAN – POWER & SYSTEMS".
8. REMOVE EXISTING FIRE ALARM DEVICE AND TEMPORARILY SUPPORT FROM STRUCTURAL CEILING DURING DEMOLITION PORTION OF PROJECT. DURING CONSTRUCTION PORTION OF PROJECT, RE–LOCATE FIRE ALARM DEVICE AS SHOWN ON "PARTIAL FIRST FLOOR PLAN – POWER & SYSTEMS".
9. REMOVE EXISTING IT ANTENNA AND TEMPORARILY SUPPORT FROM STRUCTURAL CEILING DURING DEMOLITION PORTION OF PROJECT. DURING CONSTRUCTION PORTION OF PROJECT, RE–LOCATE FIRE IT ANTENNA AS SHOWN ON "PARTIAL FIRST FLOOR PLAN – POWER & SYSTEMS".
10. CONNECT TO SPARE 20A, 1 POLE CIRCUIT BREAKER IN EXISTING PANELBOARD.
11. AUDIO BOOTH/CONTROL BOOTH HAS SINGLE–POINT CORD/PLUG CONNECTION TOP OF BOOTH.
12. EXISTING IT PUNCHDOWN PANELS, EXISTING TELEPHONE PUNCHDOWN BLOCKS AND EXISTING FIRE ALARM MAIN CONTROL PANEL ARE LOCATED IN THIS ROOM.
13. FURNISH AND INSTALL 20A, 2 POLE CIRCUIT BREAKER IN EXISTING PANELBOARD FOR THIS BRANCH CIRCUIT AND CONNECT. AIC RATING OF BREAKER SHALL BE GREATER THAN OR EQUAL TO AIC RATING OF EXISTING PANELBOARD.
14. VAV BOX HAS INTEGRAL LOCAL DISCONNECT.
15. FURNISH AND INSTALL CONDUIT AND WIRING AND CONNECT TO UNSWITCHED PORTION OF EXISTING LIGHTING BRANCH CIRCUIT IN GROUP THERAPY/MULTI–PURPOSE, 121.



PARTIAL FIRST FLOOR PLAN – DEMOLITION – ELECTRICAL

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

GENERAL NOTES - DEMOLITION

A. EXISTING EQUIPMENT, SUCH AS LIGHTING FIXTURES, WIRING DEVICES, CONDUITS, ETC., SHOWN ON PLANS TO BE REMOVED COMPLETELY. CUT/CAP CONDUITS AT THE AREA OF WORK PERIMETER AND REMOVE CONDUIT WITHIN THE WORK AREA, DISCONNECT WIRING AT THE OVERCURRENT PROTECTIRVE DEVICE AND REMOVE WIRING COMPLETELY FROM THE ABANDONED CONDUITS.

B. REMOVE ALL ACCESSIBLE ABANDONED WIRING OF ALL TYPES, OR CAP AND LABEL IN JUNCTION BOX FOR RE–USE, IN COMPLIANCE WITH THE NATIONAL ELECTRIC CODE.

C. MAINTAIN AND RESTORE, IF INTERRUPTED, ALL CONDUITS AND CONDUCTORS PASSING THROUGH RENOVATED AREAS AND SERVICING UNDISTURBED AREAS.

GENERAL NOTES

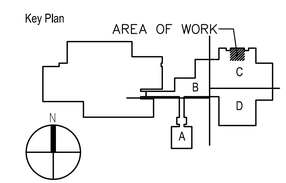
A. ALL FINAL LOCATIONS AND ARRANGEMENTS OF LIGHTING FIXTURES SHALL BE OBTAINED FROM THE ARCHITECTURAL REFLECTED CEILING PLAN.

B. LIGHTING FIXTURES WITH MORE THAN TWO LAMPS SHALL HAVE TWO OUTER LAMPS CONTROLLED WITH ONE SWITCH AND INNER LAMP(S) CONTROLLED BY A SECOND SWITCH.

C. (1) EACH BRANCH CIRCUIT HOMERUN SHALL HAVE NO MORE THAN THREE CIRCUITS. EACH BRANCH CIRCUIT HOMERUN SHALL HAVE A SEPARATE GREEN INSULATED EQUIPMENT GROUNDING CONDUCTOR.

D. MULTI–GANG BACKBOXES FOR DIFFERENT VOLTAGES AND TYPES OF EMERGENCY AND NORMAL BRANCH WIRING DEVICES SHALL HAVE DIVIDERS BETWEEN DEVICES.

Key Plan



Revisions:	Date

CONSULTANTS:

Barton Associates, Inc.
Consulting Engineers
Susquehanna Commerce Center North Building
221 West Philadelphia Street
York, PA 17401
Tel.: (717) 845-7654
Web: www.ba-inc.com
We Make Buildings Work.
YORK | STATE COLLEGE

PROJECT No.	DRAWN BY:	DESIGNED BY:	CHECKED BY:
2013012.00	JNK	TK	DJM

Copyright © 2013 Barton Associates, Inc.

STATE OF MARYLAND DAVID J. MYERS No. 40963 PROFESSIONAL ENGINEER

ARCHITECT/ENGINEERS:

SAAarchitects
600 North Hartley Street, Suite 150
York, PA 17404
T 717.843.3200 F 717.699.0205
www.saaarchitects.com

Drawing Title: PARTIAL DEMOLTION & FIRST FLOOR PLAN - LIGHTING, POWER & SYSTEMS

Approved: Project Director

Project Title: ADD AUDIOLOGY BOOTH TO FORT DETRICK

Location: FORT DETRICK, FREDERICK, MD

Date: 05.17.2013 | Checked: - | Drawn: -

Project Number: 613-13-113

Building Number: 613GG

Drawing Number: 613GG-E101

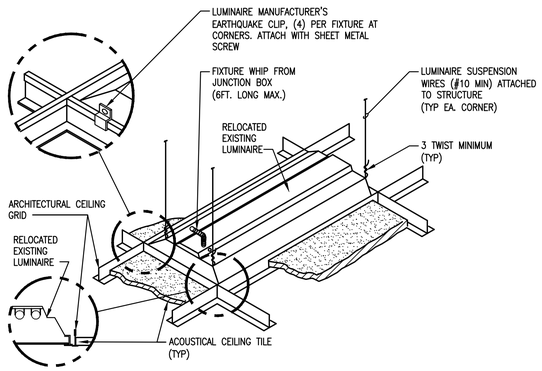
Dwg. 11 of 12

Office of Construction and Facilities Management

Department of Veterans Affairs

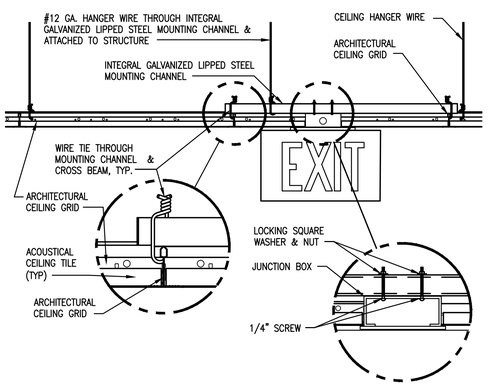
VA FORM 08-6231

R:\2013012-00\DWGS\613GG-E101.dwg,5/17/2013 9:14:32 AM,Marlena R. MacPherson



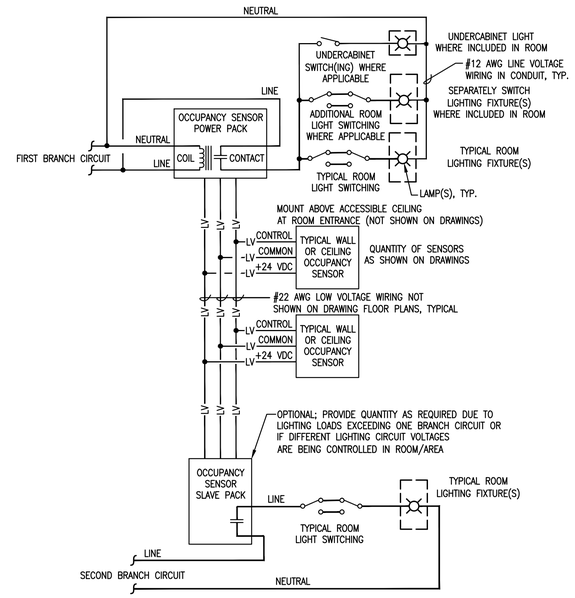
B1 LUMINAIRE MOUNTING - LAY-IN CEILING

NTS



D1 EXIT SIGN MOUNTING - LAY-IN CEILING

NTS

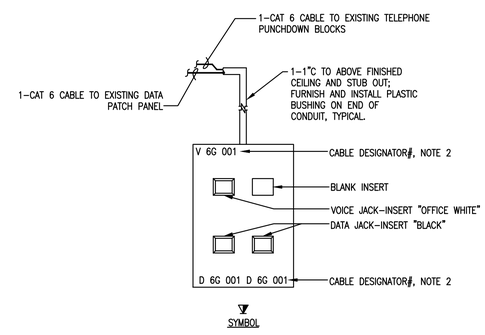


C4 TYPICAL OCCUPANCY CONTROLLED LIGHTING WIRING DIAGRAM

NTS NOTE 1

NOTES:

1. DIAGRAM INDICATES A TYPICAL LOW VOLTAGE OCCUPANCY AND/OR DAYLIGHT SENSING LIGHTING CONTROL SCHEME. FURNISH AND INSTALL ALL COMPONENTS (POWER PACKS, RELAYS, WIRING, ETC.) AS REQUIRED BY THE OCCUPANCY/DAYLIGHT SENSOR MANUFACTURER FOR A COMPLETE AND FULLY FUNCTIONAL SYSTEM.
2. CABLE DESIGNATOR NUMBERS ARE SPECIFICALLY DESIGNED TO REVEAL INFORMATION AT THE WORK STATION FACE PLATE. THE "V" INDICATES VOICE CABLE & "D" INDICATES DATA CABLE. THE NUMBER "6" INDICATES 6TH FLOOR OR "5" FOR 5TH FLOOR, ETC. THE LETTER "G" INDICATES THAT THE CABLE RUNS TO THE "G" TELECOM CLOSET. THE REMAINING NUMBERS "001" INDICATES THE ACTUAL CABLE NUMBER WITHIN THE EXISTING COMMUNICATIONS ROOM, THE CABLE DESIGNATORS SHALL OMIT THE "D" AND "V" AT THE BEGINNING.



E4 TYPICAL FOUR PORT TELEPHONE/DATA WALL OUTLET

NTS

Revisions:	Date

CONSULTANTS:

Barton Associates Consulting Engineers
Susquehanna Commerce Center North Building
221 West Philadelphia Street
York, PA 17401
Tel.: (717) 845-7654
Web: www.ba-inc.com
We Make Buildings Work.
YORK | STATE COLLEGE

PROJECT No.	DRAWN BY:	DESIGNED BY:	CHECKED BY:
2013012.00	JNK	TK	DJM

Copyright © 2012 Barton Associates, Inc.

STATE OF MARYLAND DAVID J. MYERS No. 40963 PROFESSIONAL ENGINEER

ARCHITECT/ENGINEERS:

SAA architects
600 North Hartley Street, Suite 150
T 717.843.3200 F 717.699.0205
York, PA 17404
www.saaarchitects.com

Drawing Title: DETAILS & SCHEDULES

Approved: Project Director

Project Title: ADD AUDIOLOGY BOOTH TO FORT DETRICK

Location: FORT DETRICK, FREDERICK, MD

Date: 05.17.2013 | Checked: - | Drawn: -

Project Number: 613-13-113

Building Number: 613GG

Drawing Number: 613GG-E501

Dwg. 12 of 12

Office of Construction and Facilities Management

Department of Veterans Affairs

VA FORM 08-6231

R:\2013012-00\DWGS\613GG-E501.dwg,5/17/2013 9:14:02 AM,Marlena R. MacPherson