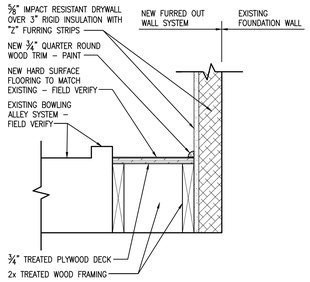
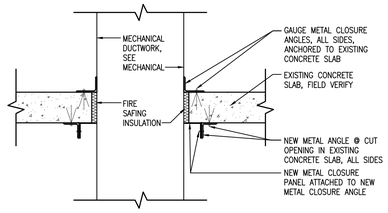
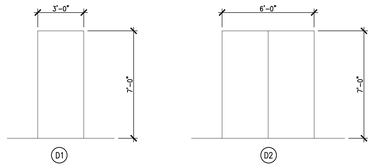


5 A-101 **SECTION DETAIL**
SCALE: 1 1/2" = 1'-0"



4 A-101 **PENETRATION DETAIL TYP. MECHANICAL DUCT**
SCALE: 1" = 1'-0"



3 A-101 **DOOR ELEVATIONS**
SCALE: 1/4" = 1'-0"

DOOR SCHEDULE

DOOR OPENING	LOCATION	DOOR SIZE (WxHxT)	DOOR MATERIAL	DOOR FINISH	DOOR ELEVATION	DOOR GLASS	FRAME MATERIAL	FRAME ELEVATION	FRAME GLASS	FRAME DETAILS HEAD	FRAME DETAILS JAMB	FRAME DETAILS SILL	LABEL UL RATING	STC RATING	HARDWARE SET #	REMARKS/ABBREVIATIONS
101A	REC ROOM	3'-0"x7'-0"x1-3/4"	HH	PT	D1	–	EXISTING FRAME TO REMAIN						–	–	2	INSULATED DOOR UNIT
101B	REC ROOM	3'-0"x7'-0"x1-3/4"	HH	PT	D1	–	EXISTING FRAME TO REMAIN						–	–	2	INSULATED DOOR UNIT
201A	GYMNASIUM	PR. 3'-0"x7'-0"x1-3/4"	HH	PT	D2	–	EXISTING FRAME TO REMAIN						–	–	1	INSULATED DOOR UNIT
201B	GYMNASIUM	PR. 3'-0"x7'-0"x1-3/4"	HH	PT	D2	–	EXISTING FRAME TO REMAIN						–	–	1	INSULATED DOOR UNIT
201C	GYMNASIUM	PR. 3'-0"x7'-0"x1-3/4"	HH	PT	D2	–	EXISTING FRAME TO REMAIN						–	–	1	INSULATED DOOR UNIT

NOTE: COORDINATE DOOR HARDWARE REQUIREMENTS WITH OWNER FOR ALL DOORS.

AL = ALUMINUM
HM = HOLLOW METAL
SS = STAINLESS STEEL
WD = WOOD
PF = PREFINISHED

PT = PAINTED
PL = PLASTIC LAMINATE
INS = INSULATED GLASS
L = LAMINATED GLASS
T = TEMPERED GLASS

GENERAL NOTES:

A. ALL DIMENSIONS ARE FROM FACE OF FINISHED WALL TO FACE OF FINISHED WALL. ANY DIMENSIONS NOT SHOWN OR DEEMED QUESTIONABLE ARE TO BE VERIFIED BY ARCHITECT/DESIGNER. DO NOT SCALE DRAWINGS.

B. PROVIDE WOOD BLOCKING SUPPORTS AS REQUIRED FOR ALL SURFACE MOUNTED ITEMS.

C. COORDINATE WORK OF THIS TRADE WITH OTHER TRADES.

D. DOOR AND FRAME NUMBERS MAY OR MAY NOT CORRESPOND TO ROOM NUMBERS. WHERE MORE THAN ONE DOOR OCCURS IN A ROOM, AN ALPHABETICAL SUFFIX HAS BEEN ADDED. DOOR NUMBERS STARTING WITH "D0" ARE USED IN MULTIPLE LOCATIONS.

E. PROVIDE MISCELLANEOUS METAL SUPPORT FOR ALL CEILING SUSPENDED ITEMS.

F. APPLY SEALANT AT ALL JUNCTURES BETWEEN DIFFERENT MATERIALS.

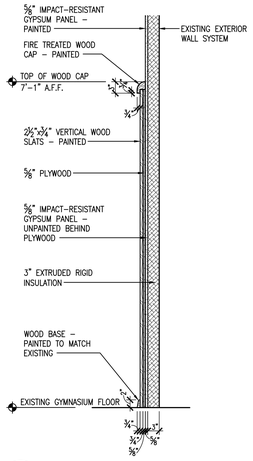
G. APPLY SEALANT AT ALL PLUMBING FIXTURES AT JUNCTURE WITH WALL.

H. ALL STEEL STUDS ARE TO BE BRACED ACCORDING TO MANUFACTURER'S LIMITING HEIGHT L/240.

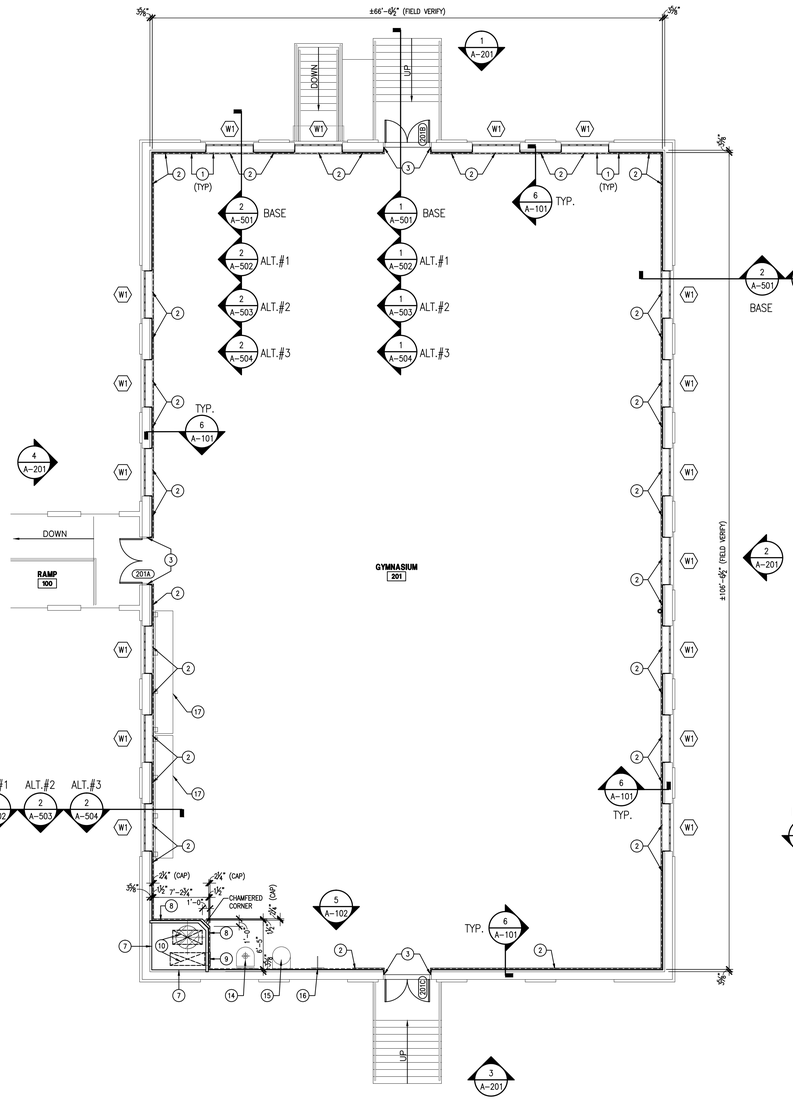
I. ALL DOORS MUST BE INSTALLED WITH AT LEAST THE MINIMUM MANEUVERING CLEARANCE AT THE DOOR APPROACH PER THE MOST CURRENT AMERICANS WITH DISABILITIES ACT.

PLAN NOTES

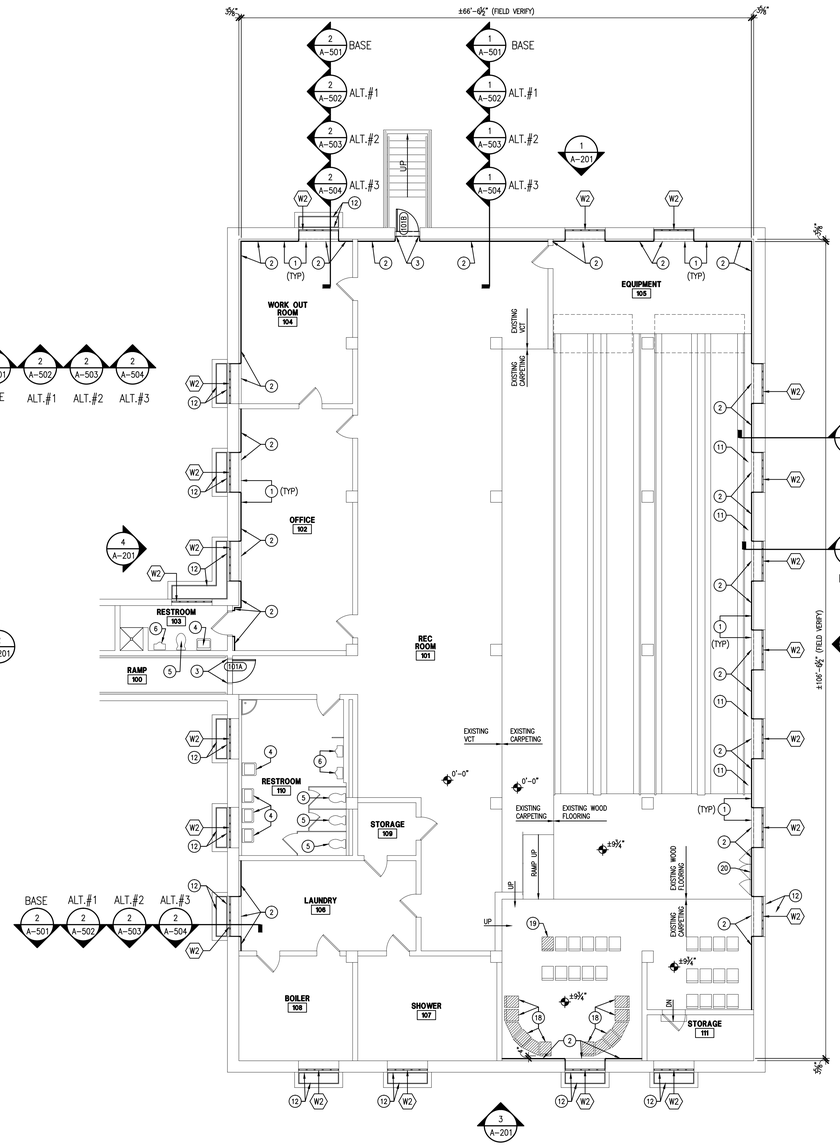
1. ALIGN FINISH FACES.
2. NEW 3" EXTRUDED RIGID INSULATION WITH 5/8" IMPACT-RESISTANT GYPSUM PANEL ONE SIDE.
3. PREPARE EXISTING DOOR FRAME TO RECEIVE NEW DOOR UNIT, SEE DOOR SCHEDULE.
4. NEW LAVATORY, SEE PLUMBING DRAWINGS.
5. NEW WATER CLOSET, SEE PLUMBING DRAWINGS.
6. NEW URINAL, SEE PLUMBING DRAWINGS.
7. NEW 3" EXTRUDED RIGID INSULATION WITHOUT 5/8" IMPACT-RESISTANT GYPSUM PANEL AT THIS LOCATION ONLY.
8. NEW 3 5/8" METAL STUDS @ 16" O.C. WITH 5/8" IMPACT-RESISTANT GYPSUM PANEL ONE SIDE FROM FLOOR TO EXISTING WOOD CEILING SYSTEM ABOVE.
9. NEW RETURN AIR GRILLE, SEE MECHANICAL DRAWINGS.
10. NEW MECHANICAL DUCTWORK, SEE MECHANICAL DRAWINGS.
11. NEW WALKWAY BETWEEN EXISTING BOWLING ALLEY SYSTEM AND EXISTING FOUNDATION WALL SYSTEM, SEE DETAIL 5/A-101.
12. EXISTING STEEL WINDOW WELL GRATING SYSTEM IS TO BE MODIFIED (WHERE APPLICABLE) AND REINSTALLED – FIELD VERIFY.
13. NEW VERTICAL WOOD SLAT / PLYWOOD FURR-OUT WALL SYSTEM, SEE DETAIL 6/A-101.
14. REINSTALL EXISTING PUNCHING BAG UNIT @ 6'-0" A.F.F. TO BOTTOM OF WALL MOUNTED WOOD PLATE, SEE ELEVATION 5/A-102.
15. REINSTALL EXISTING ARM EXERCISING UNIT @ 2'-7" A.F.F. TO BOTTOM OF WALL MOUNTED WOOD PLATE, SEE ELEVATION 5/A-102.
16. REINSTALL EXISTING BIG BALL HOOP @ 10'-0" A.F.F. TO RIM, SEE ELEVATION 5/A-102.
17. REINSTALL EXISTING WOODEN BLEACHER SYSTEM – FIELD VERIFY.
18. REINSTALL EXISTING MULTI-SEATING UNITS. COORDINATE WITH OWNER FOR PROPER LOCATION.
19. REINSTALL SINGLE SEAT UNIT. COORDINATE WITH OWNER FOR PROPER LOCATION.
20. REINSTALL EXISTING ENCLOSED BULLETIN BOARD SYSTEM.



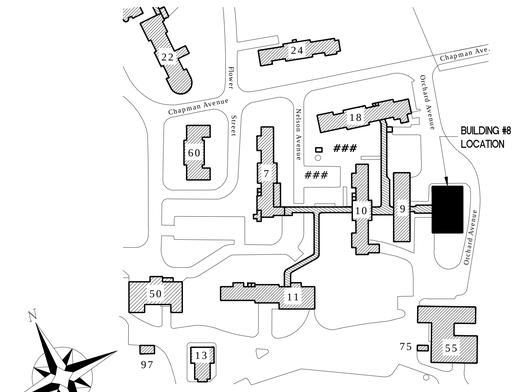
6 A-101 **SECTION DETAIL**
SCALE: 3/4" = 1'-0"



2 A-101 **NEW GYMNASIUM FLOOR PLAN**
SCALE: 1/8" = 1'-0"



1 A-101 **NEW LOWER LEVEL FLOOR PLAN**
SCALE: 1/8" = 1'-0"



KEY PLAN
SCALE: NTS

100% CONSTRUCTION DOCUMENTS

Revisions	Date

ENGINEERS:

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Apogee Project # 2011 135
Apogee COA# PC80800089

Professional Stamp/Seal

ARCHITECT:

CSO Architects
ARCHITECTURE • INTERIOR DESIGN
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Main 317.848.7800 - Fax 317.574.0957 - csoinc.net

Drawing Title: NEW WORK FLOOR PLANS

Approved: Robert Nash, CO
Approved:
Approved: Andrew Mercker, COTR
Approved:

Project Title: ENERGY IMPROVEMENTS & AIR CONDITIONING BUILDING #8, GYM

Building No.: 8
Scale: AS SHOWN
Drawn/Checked: NVW

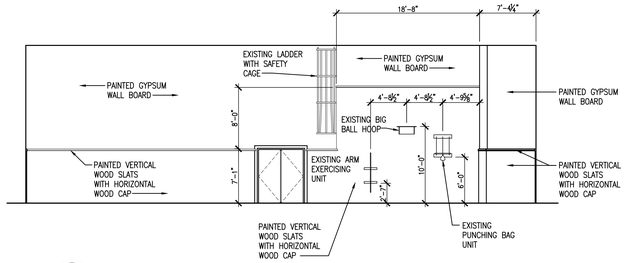
Location: VA MEDICAL CENTER, ENGINEERING BLDG #52, RM 201, 1700 E. 38TH ST, MARION, IN 46953

Date: 09/19/11
Project No.: 610-10-100
DRAWING NO.: A-101
Dwg. 4 of 10

VA NIHCS Engineering
Department of Veterans Affairs

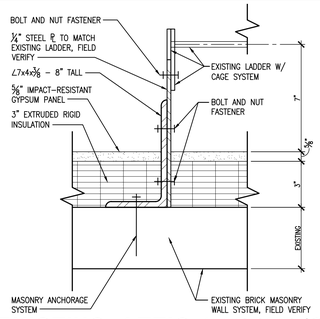
VA FORM 08-6231, FEB. 1983

*U.S. GOVERNMENT PRINTING OFFICE: 1983-400-285



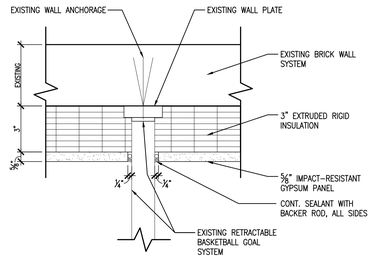
5 / A-102 SOUTH WALL ELEVATION - INTERIOR

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



4 / A-102 EXISTING ATTIC LADDER/CAGE REINSTALLATION PLAN DETAIL

SCALE: 3" = 1'-0"



3 / A-102 EXISTING BASKETBALL GOAL FUR-OUT PLAN DETAIL

SCALE: 3" = 1'-0"

GENERAL CEILING NOTES:

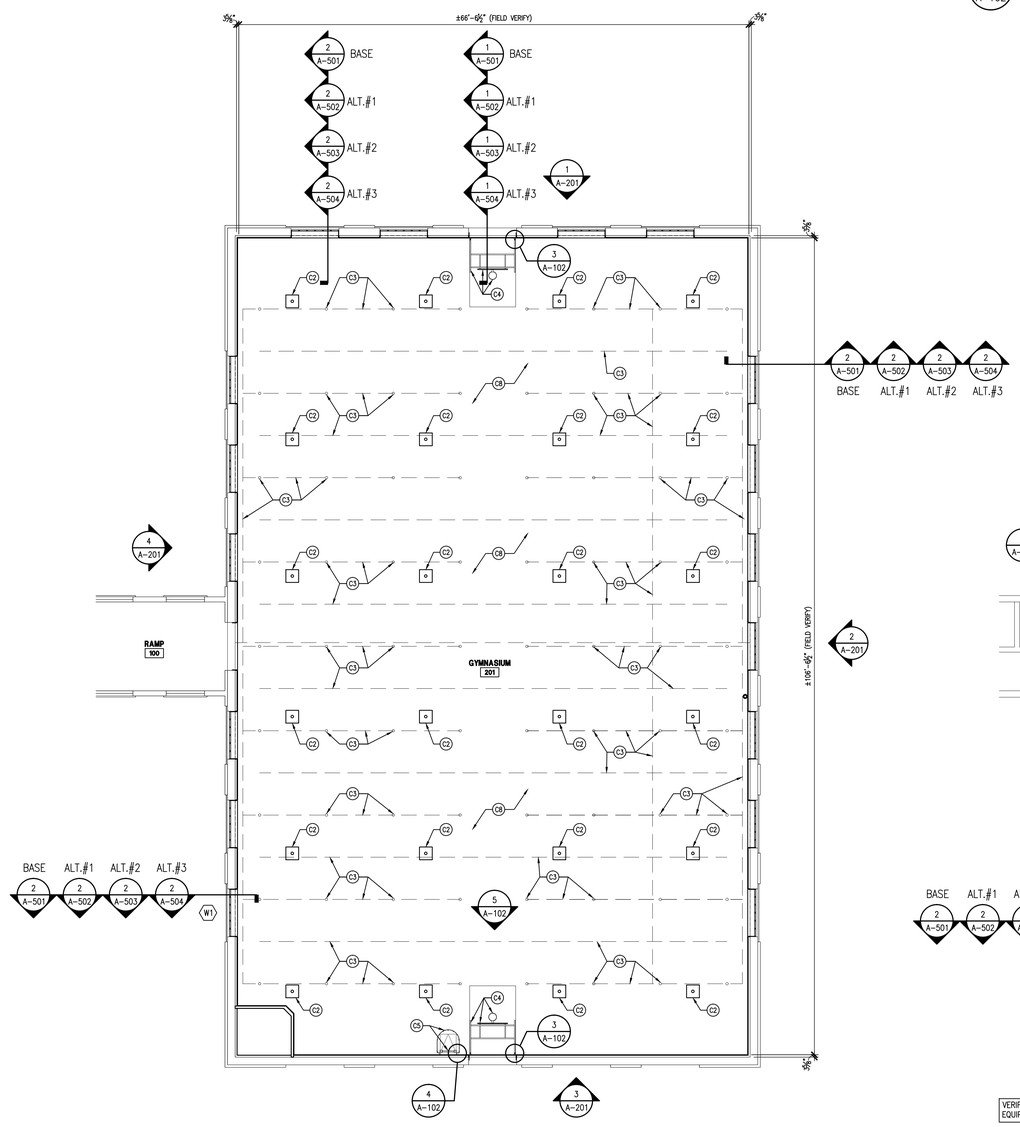
1. LIGHTS, DIFFUSERS AND SPRINKLER HEADS ARE SHOWN FOR LOCATION ONLY. SEE ENGINEERING DRAWINGS FOR ADDITIONAL INFORMATION.
2. PROVIDE MISCELLANEOUS METAL SUPPORT FOR ALL CEILING SUSPENDED ITEMS.

CEILING LEGEND:

- EXISTING 2' x 4' SUSPENDED ACOUSTIC PANEL CEILING SYSTEM
- REFER TO ELECTRICAL DRAWINGS FOR LIGHTING SPECIFICATIONS & LOCATIONS
- EXISTING FIRE SPRINKLER HEAD AND PIPING TO REMAIN

CEILING PLAN NOTES:

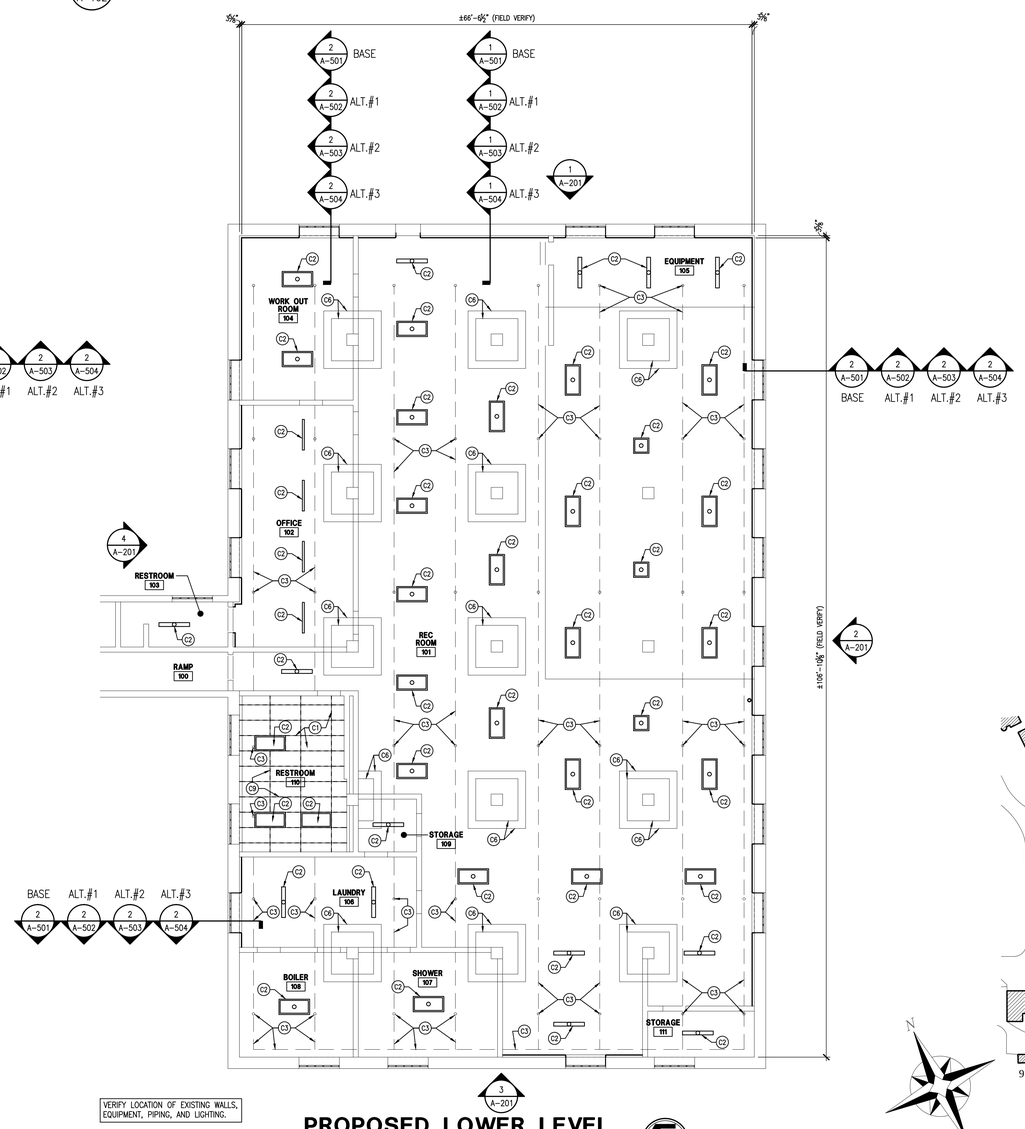
- C1 EXISTING SUSPENDED LAY-IN ACOUSTIC CEILING SYSTEM.
- C2 NEW LIGHT FIXTURE, SEE ELECTRICAL DRAWINGS.
- C3 EXISTING SUSPENDED FIRE SPRINKLER HEAD AND PIPING SYSTEM.
- C4 REINSTALLED EXISTING BASKETBALL GOAL SYSTEM.
- C5 REINSTALL EXISTING ATTIC LADDER WITH SAFETY CAGE SYSTEM IN THE SAME LOCATION – FIELD VERIFY, SEE DETAIL 4/A-102.
- C6 EXISTING DIAGONAL COLUMN TOP CAP.
- C7 EXISTING FIRE SPRINKLER RISER TO GYMNASIUM LEVEL TO REMAIN AND BE PROTECTED.
- C8 PAINT EXISTING CEILING SURFACE. COORDINATE COLOR WITH OWNER.
- C9 NEW SUSPENDED ACOUSTICAL LAY-IN CEILING SYSTEM TO MATCH EXISTING,



2 / A-102 PROPOSED GYMNASIUM REFLECTED CEILING PLAN

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

NORTH

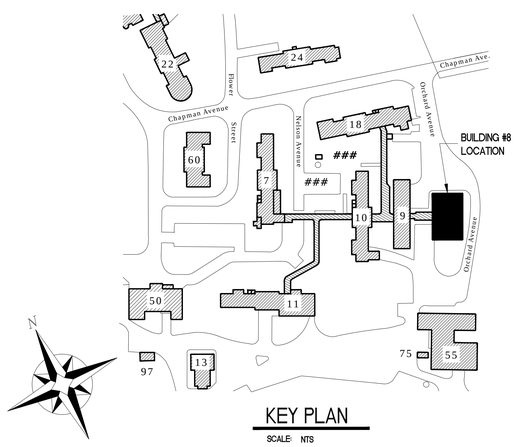


VERIFY LOCATION OF EXISTING WALLS, EQUIPMENT, PIPING, AND LIGHTING.

1 / A-102 PROPOSED LOWER LEVEL REFLECTED CEILING PLAN

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

NORTH



KEY PLAN

SCALE: NTS

100% CONSTRUCTION DOCUMENTS

Revisions	Date

ENGINEERS:

APOGEE Consulting Group, PA
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Apogee Project # 2011 135
Apogee COA# PC80800089

Professional Stamp/Seal

ARCHITECT:

CSO Architects
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Drawing Title: NEW WORK REFLECTED CEILING PLANS

Project Title: ENERGY IMPROVEMENTS & AIR CONDITIONING BUILDING #8, GYM

Date: 09/19/11

Project No.: 610-10-100

Approved: Robert Nash, CO

Approved:

Approved: Andrew Mercker, COTR

Approved:

Building No.: 8

Scale: AS SHOWN

Drawn/Checked: NVW

Location: VA MEDICAL CENTER ENGINEERING BLDG #52, RM 201 1700 E. 38TH ST. MARION, IN 46953

DRAWING NO. A-102

Dwg. 5 of 10

VA NIHCS Engineering

Department of Veterans Affairs

VA FORM 08-6231, FEB. 1983

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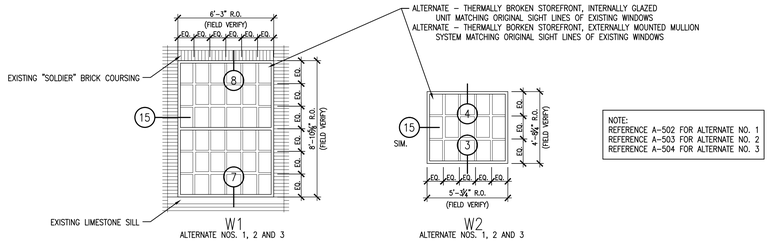
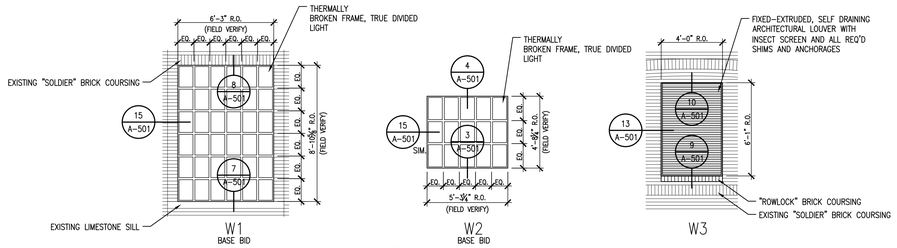


W1
ALTERNATE NOS. 1, 2 AND 3

W2
ALTERNATE NOS. 1, 2 AND 3

NOTE:
REFERENCE A-502 FOR ALTERNATE NO. 1
REFERENCE A-503 FOR ALTERNATE NO. 2
REFERENCE A-504 FOR ALTERNATE NO. 3



W1
BASE BID

W2
BASE BID

W3

5 / A-201 **WINDOW ELEVATIONS**
SCALE: 1/4" = 1'-0"

GENERAL NOTES:

A. ALL DIMENSIONS ARE FROM FACE OF FINISHED WALL TO FACE OF FINISHED WALL. ANY DIMENSIONS NOT SHOWN OR DEEMED QUESTIONABLE ARE TO BE VERIFIED BY ARCHITECT/DESIGNER. DO NOT SCALE DRAWINGS.

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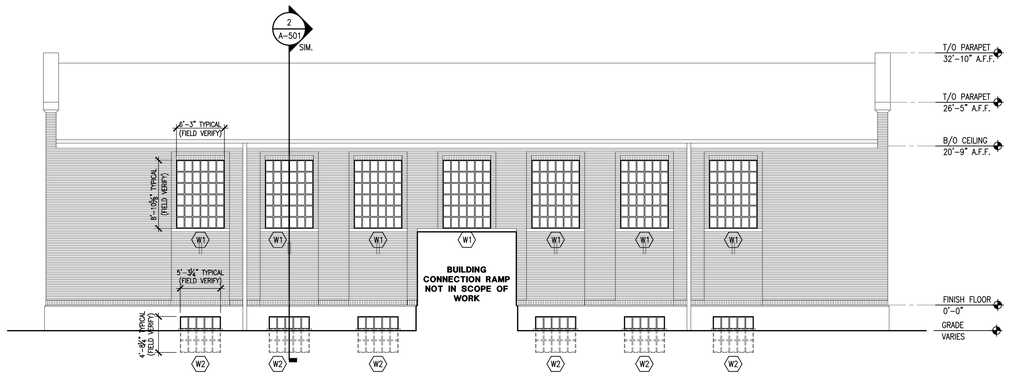
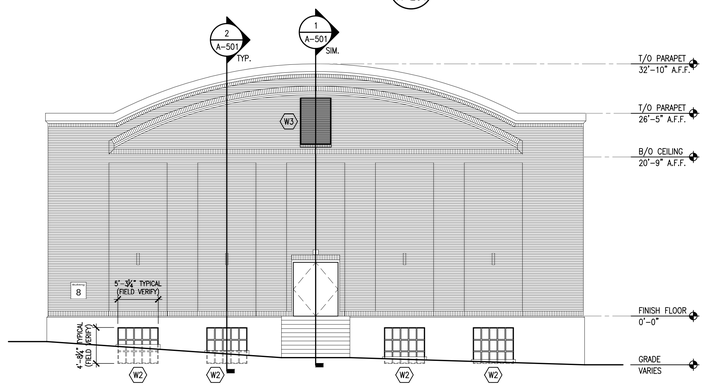
G. APPLY SEALANT AT ALL PLUMBING FIXTURES AT JUNCTURE WITH WALL.

H. ALL STEEL STUDS ARE TO BE BRACED ACCORDING TO MANUFACTURER'S LIMITING HEIGHT L/240.

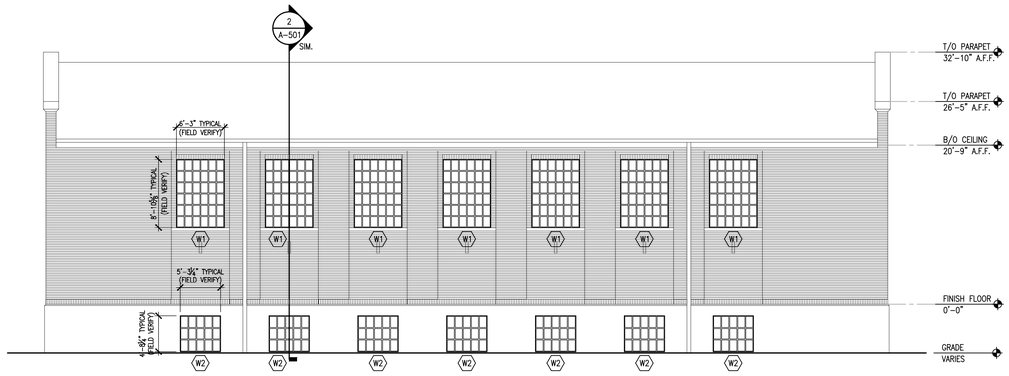
I. ALL DOORS MUST BE INSTALLED WITH AT LEAST THE MINIMUM MANEUVERING CLEARANCE AT THE DOOR APPROACH PER THE MOST CURRENT AMERICANS WITH DISABILITIES ACT.



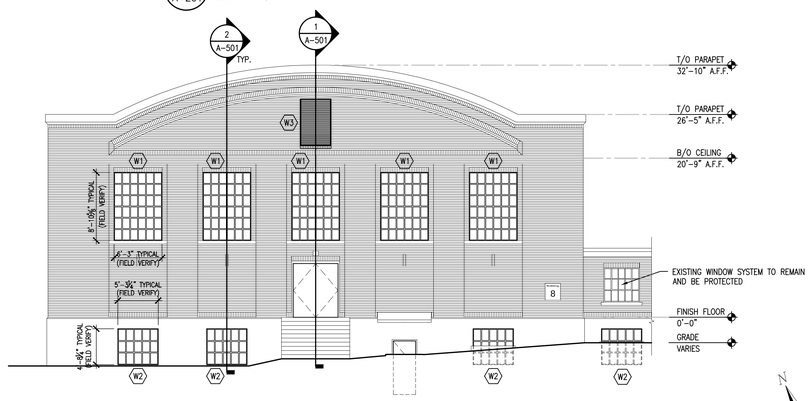
4 / A-201 **WEST ELEVATION**
SCALE: 1/8" = 1'-0"



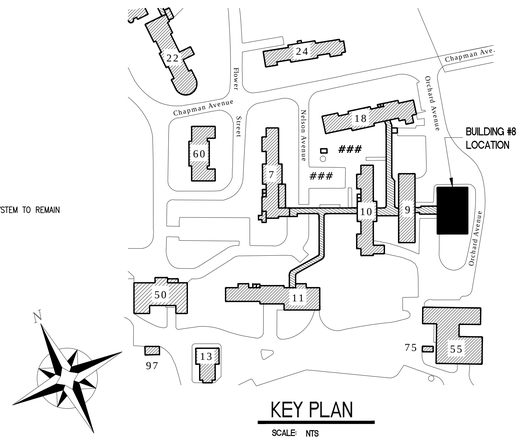
3 / A-201 **SOUTH ELEVATION**
SCALE: 1/8" = 1'-0"



2 / A-201 **EAST ELEVATION**
SCALE: 1/8" = 1'-0"



1 / A-201 **NORTH ELEVATION**
SCALE: 1/8" = 1'-0"



KEY PLAN
SCALE: NTS

100% CONSTRUCTION DOCUMENTS

Revisions	Date

ENGINEERS:
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Apogee Project # 2011 135
Apogee COA# PC80800089

Professional Stamp/Seal

ARCHITECT:
CSO Architects
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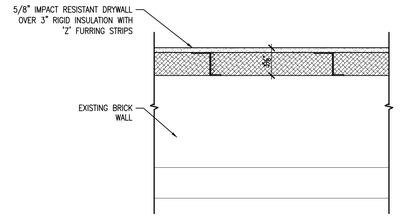
Drawing Title: EXTERIOR ELEVATIONS
Project Title: ENERGY IMPROVEMENTS & AIR CONDITIONING BUILDING #8, GYM
Date: 09/19/11
Project No.: 610-10-100
Approved: Robert Nash, CO
Approved:
Building No.: 8
Scale: AS SHOWN
Drawn/Checked: NVW
Approved: Andrew Mercker, COTR
Approved:
Location: VA MEDICAL CENTER ENGINEERING BLDG #52, RM 201 1700 E. 38TH ST. MARION, IN 46953
DRAWING NO. A-201
Dwg. 6 of 10

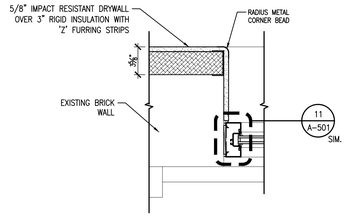
VA NIHCS Engineering
Department of Veterans Affairs

VA FORM 08-6231, FEB. 1983

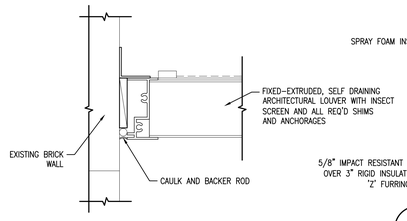
*U.S. GOVERNMENT PRINTING OFFICE: 1983-400-285



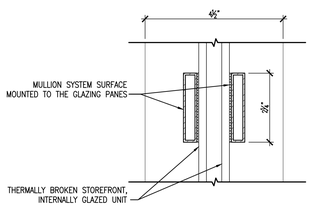
16 A-501 **INSULATION PLAN DETAIL** SCALE: 1 1/2" = 1'-0"



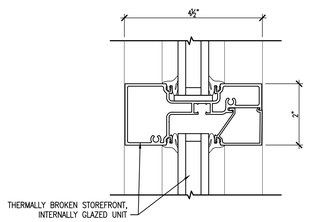
15 A-501 **WINDOW JAMB DETAIL** SCALE: 1 1/2" = 1'-0"



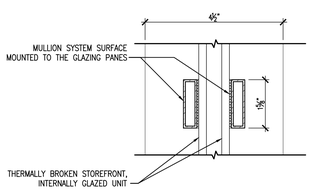
13 A-501 **LOUVER JAMB DETAIL** SCALE: 6" = 1'-0"



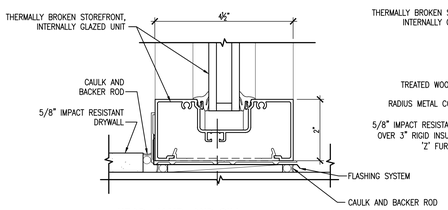
18 A-501 **MULLION ENLARGED DETAIL** SCALE: 6" = 1'-0"



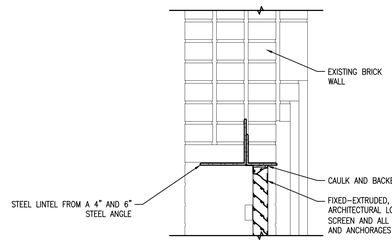
12 A-501 **MULLION ENLARGED DETAIL** SCALE: 6" = 1'-0"



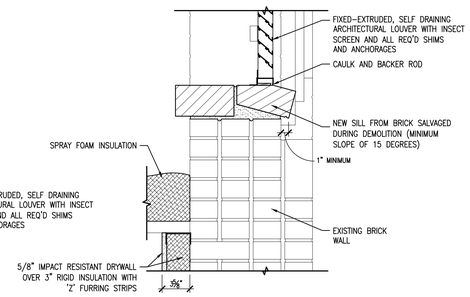
17 A-501 **MULLION ENLARGED DETAIL** SCALE: 6" = 1'-0"



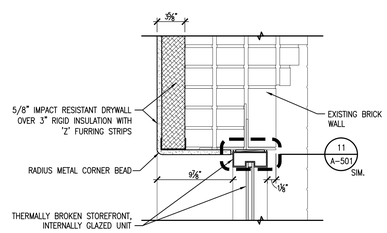
11 A-501 **HEAD, JAMB, AND SILL ENLARGED DETAIL** SCALE: 6" = 1'-0"



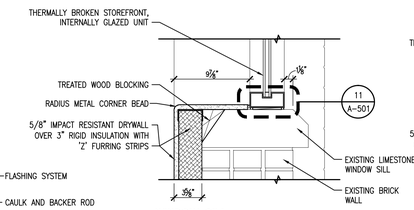
10 A-501 **LOUVER SILL DETAIL** SCALE: 1 1/2" = 1'-0"



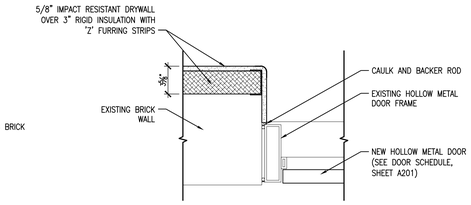
9 A-501 **LOUVER SILL DETAIL** SCALE: 1 1/2" = 1'-0"



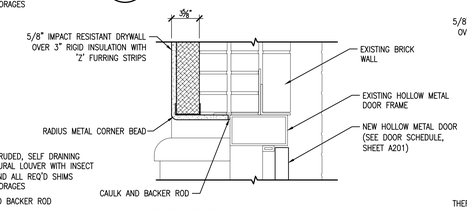
8 A-501 **WINDOW HEAD DETAIL** SCALE: 1 1/2" = 1'-0"



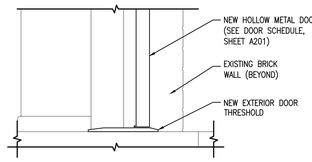
7 A-501 **WINDOW SILL DETAIL** SCALE: 1 1/2" = 1'-0"



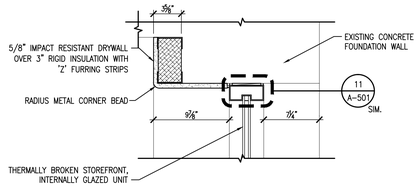
14 A-501 **DOOR JAMB DETAIL** SCALE: 1 1/2" = 1'-0"



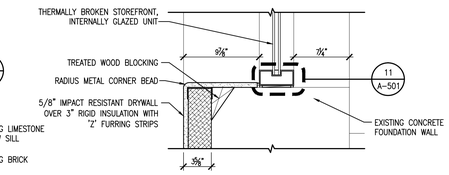
6 A-501 **DOOR HEAD DETAIL** SCALE: 1 1/2" = 1'-0"



5 A-501 **DOOR THRESHOLD DETAIL** SCALE: 1 1/2" = 1'-0"



4 A-501 **WINDOW HEAD DETAIL** SCALE: 1 1/2" = 1'-0"



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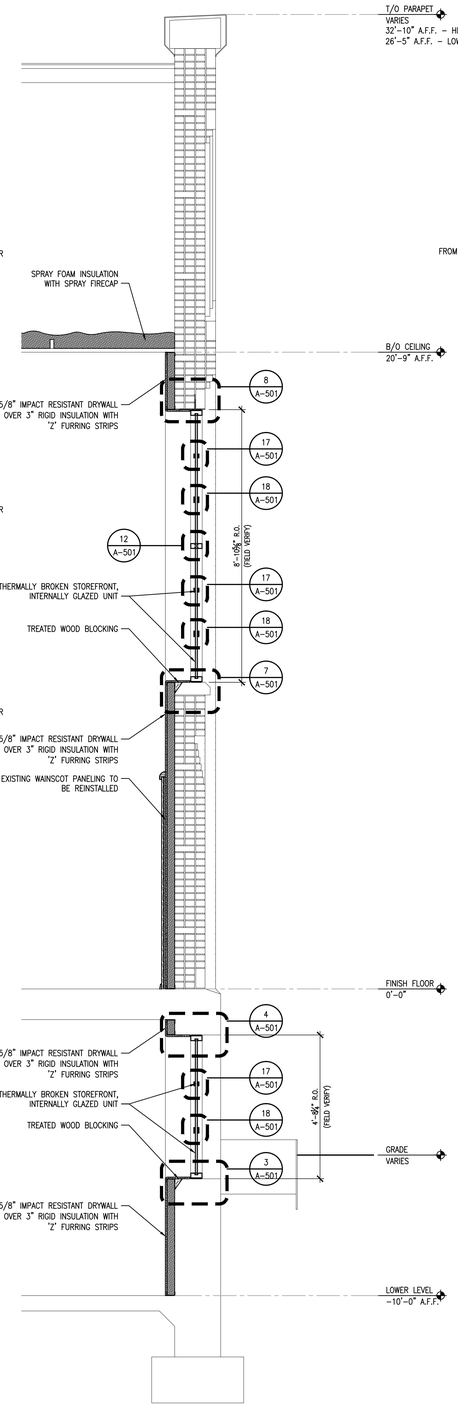
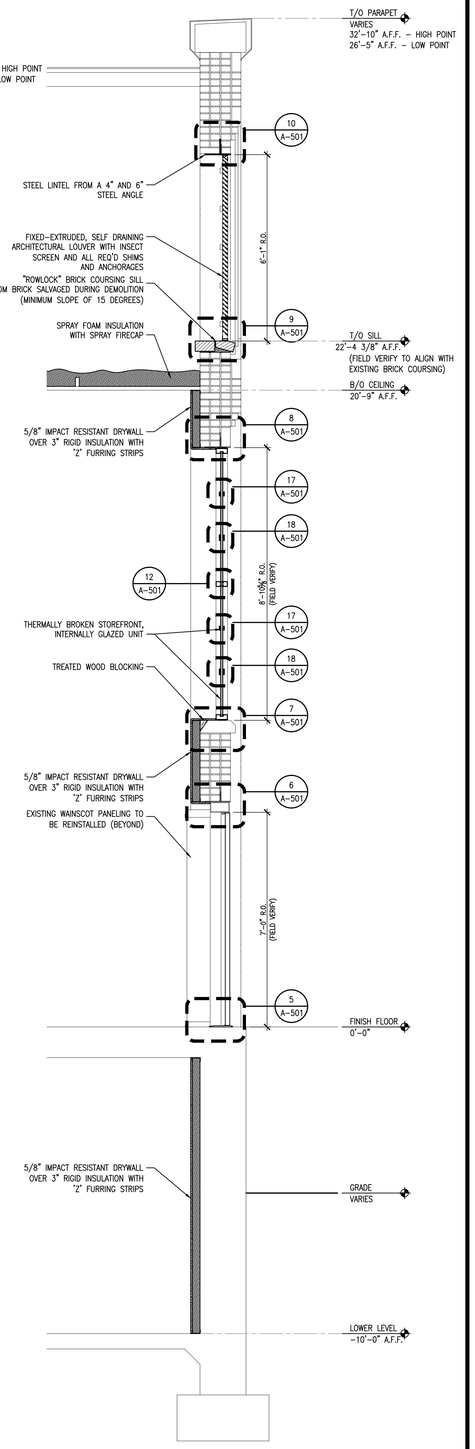


2 A-501 **WALL SECTION** SCALE: 1/2" = 1'-0"



1 A-501 **WALL SECTION** SCALE: 1/2" = 1'-0"

100% CONSTRUCTION DOCUMENTS

Revisions	Date

ENGINEERS:

APOGEE Consulting Group, PA
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Indianapolis, IN 46240
(317) 819-0200 Fax (919) 858-7423
Apogee Project # 2011 135
Apogee COA# PC80800089

Professional Stamp/Seal

ARCHITECT:

CSO Architects
ARCHITECTURE • INTERIOR DESIGN
8831 Keystone Crossing - Indianapolis, IN 46240
Main 317.848.7800 - Fax 317.574.0957 - csoinc.net

Drawing Title: NEW WORK WALL SECTIONS AND DETAILS - BASE BID

Project Title: ENERGY IMPROVEMENTS & AIR CONDITIONING BUILDING #8, GYM

Date: 09/19/11
Project No. 610-10-100

Approved: Robert Nash, CO
Approved:
Approved: Andrew Mercker, COTR
Approved:

Building No. 8
Scale AS SHOWN
Drawn/Checked NVW

Location: VA MEDICAL CENTER, ENGINEERING BLDG #52, RM 201, 1700 E. 38TH ST, MARION, IN 46953

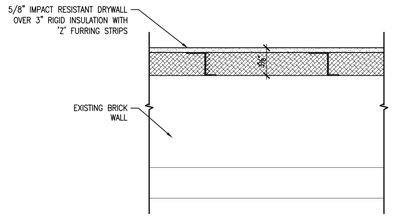
DRAWING NO. A-501
Dwg. 7 of 10

VA NIHCS Engineering

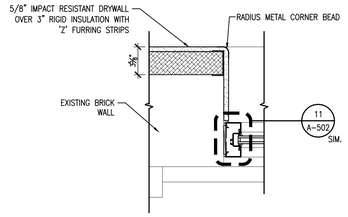
Department of Veterans Affairs

VA FORM 08-6231, FEB. 1983

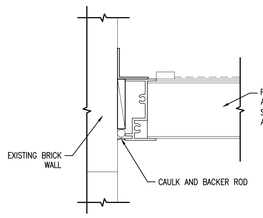
*U.S. GOVERNMENT PRINTING OFFICE: 1983-400-285



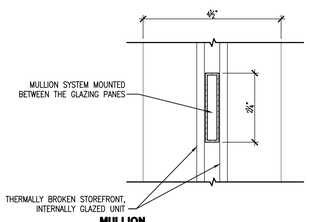
16 A-502 **INSULATION PLAN DETAIL** SCALE: 1 1/2" = 1'-0"



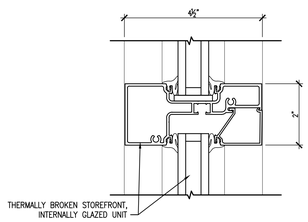
15 A-502 **WINDOW JAMB DETAIL** SCALE: 1 1/2" = 1'-0"



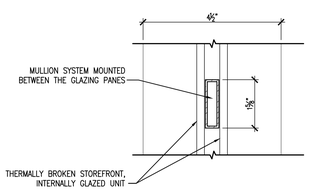
13 A-502 **LOUVER JAMB DETAIL** SCALE: 6" = 1'-0"



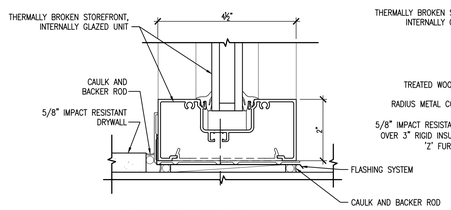
18 A-502 **MULLION ENLARGED DETAIL** SCALE: 6" = 1'-0"



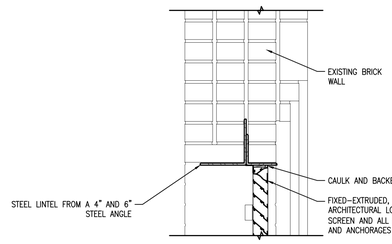
12 A-502 **MULLION ENLARGED DETAIL** SCALE: 6" = 1'-0"



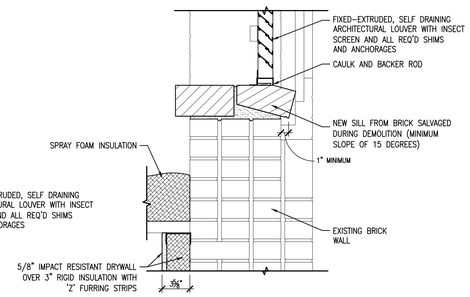
17 A-502 **MULLION ENLARGED DETAIL** SCALE: 6" = 1'-0"



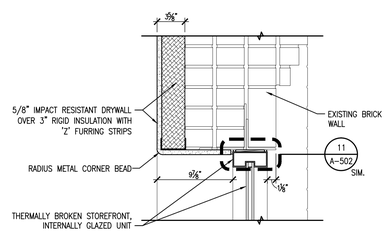
11 A-502 **HEAD, JAMB, AND SILL ENLARGED DETAIL** SCALE: 6" = 1'-0"



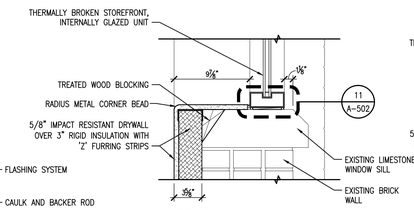
10 A-502 **LOUVER SILL DETAIL** SCALE: 1 1/2" = 1'-0"



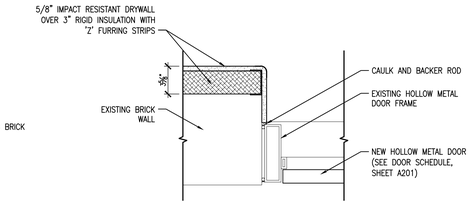
9 A-502 **LOUVER SILL DETAIL** SCALE: 1 1/2" = 1'-0"



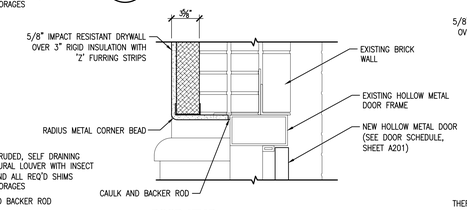
8 A-502 **WINDOW HEAD DETAIL** SCALE: 1 1/2" = 1'-0"



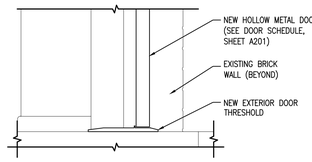
7 A-502 **WINDOW SILL DETAIL** SCALE: 1 1/2" = 1'-0"



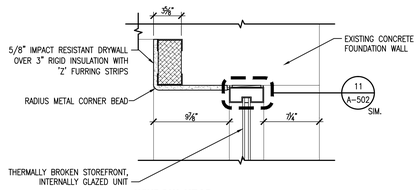
14 A-502 **DOOR JAMB DETAIL** SCALE: 1 1/2" = 1'-0"



6 A-502 **DOOR HEAD DETAIL** SCALE: 1 1/2" = 1'-0"



5 A-502 **DOOR THRESHOLD DETAIL** SCALE: 1 1/2" = 1'-0"



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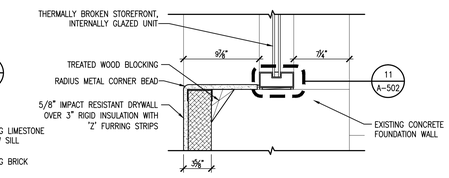

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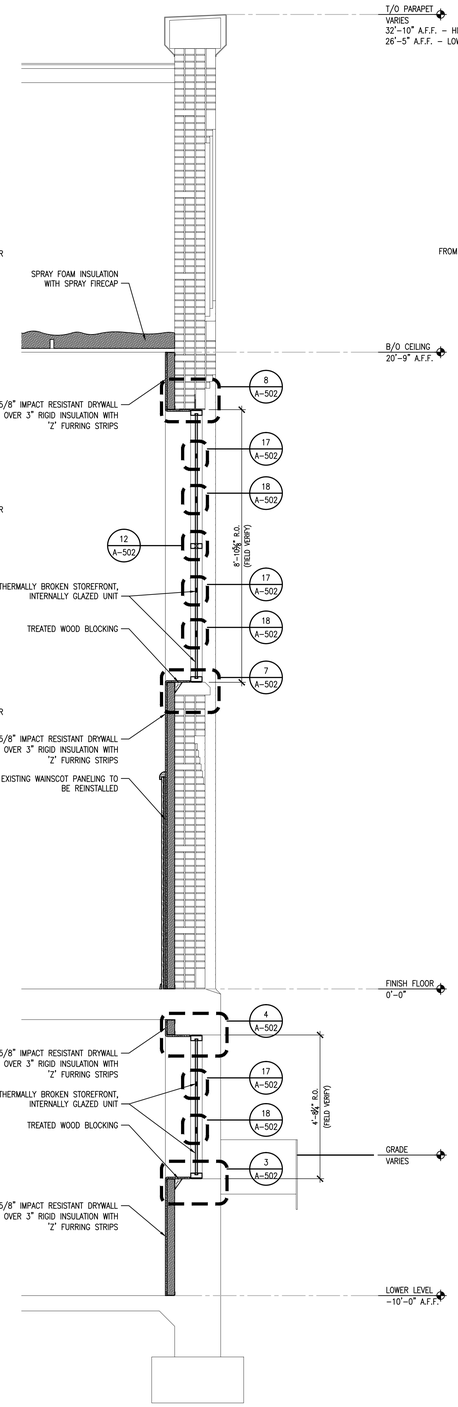
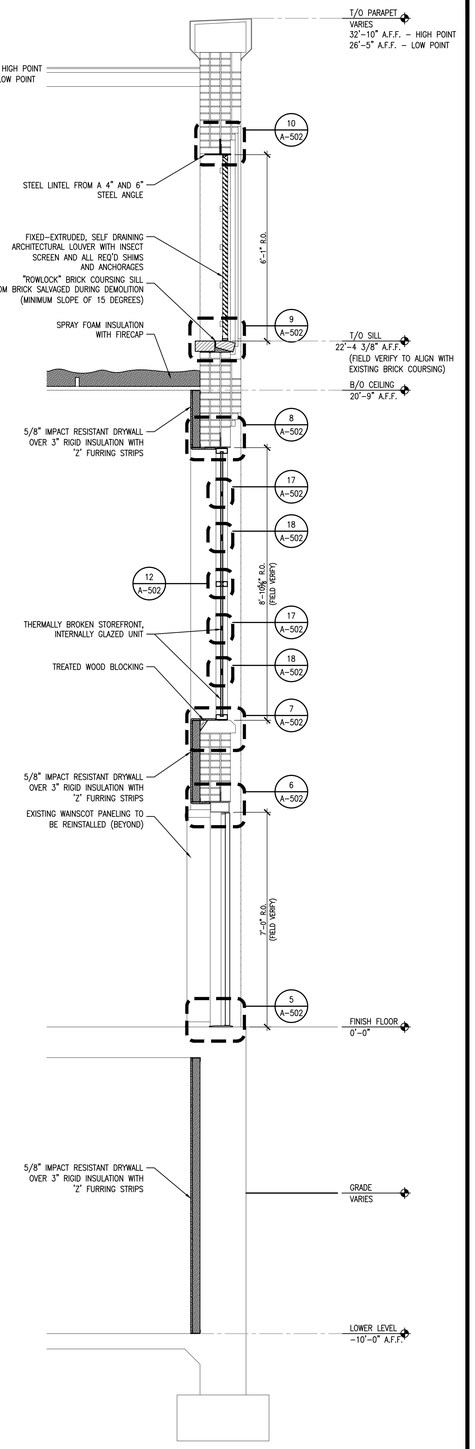


2 A-502 **WALL SECTION** SCALE: 1/2" = 1'-0"



1 A-502 **WALL SECTION** SCALE: 1/2" = 1'-0"

100% CONSTRUCTION DOCUMENTS

Revisions	Date

ENGINEERS:

APOGEE Consulting Group, PA
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Indianapolis, IN 46240
(317) 819-0200 Fax (919) 858-7423
Apogee Project # 2011 135
Apogee COA# PC80800089

Professional Stamp/Seal

ARCHITECT:

CSO Architects
ARCHITECTURE • INTERIOR DESIGN
8831 Keystone Crossing - Indianapolis, IN 46240
Main 317.848.7800 - Fax 317.574.0957 - csoinc.net

Drawing Title: NEW WORK WALL SECTIONS AND DETAILS - ALTERNATE

Project Title: ENERGY IMPROVEMENTS & AIR CONDITIONING BUILDING #8, GYM

Date: 09/19/11
Project No. 610-10-100

Approved: Robert Nash, CO
Approved:
Approved: Andrew Mercker, COTR
Approved:

Building No. 8
Scale AS SHOWN
Drawn/Checked NVW

Location: VA MEDICAL CENTER, ENGINEERING BLDG #52, RM 201, 1700 E. 38TH ST, MARION, IN 46953

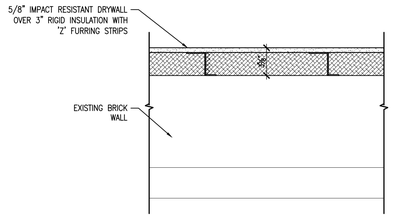
DRAWING NO. A-502
Dwg. 8 of 10

VA NIHCS Engineering

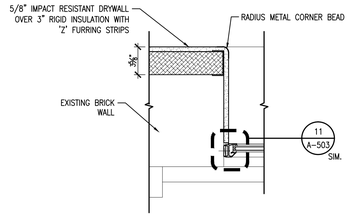
Department of Veterans Affairs

VA FORM 08-6231, FEB. 1983

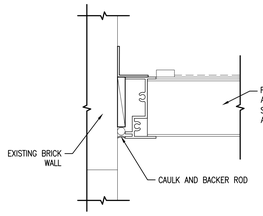
*U.S. GOVERNMENT PRINTING OFFICE: 1983-400-285



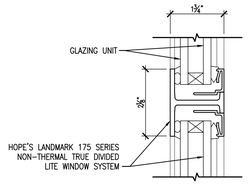
16 A-503 **INSULATION PLAN DETAIL** SCALE: 1 1/2" = 1'-0"



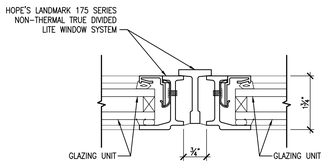
15 A-503 **WINDOW JAMB DETAIL** SCALE: 1 1/2" = 1'-0"



13 A-503 **LOUVER JAMB DETAIL** SCALE: 6" = 1'-0"



18 A-503 **MUNTIN ENLARGED DETAIL** SCALE: 6" = 1'-0"



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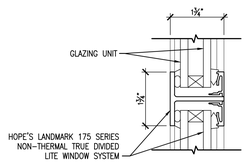
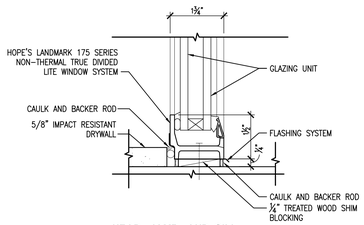
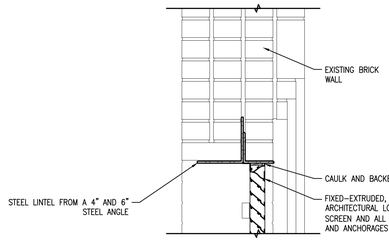


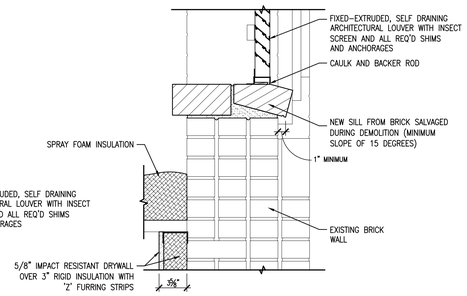
17 A-503 **MUNTIN ENLARGED DETAIL** SCALE: 6" = 1'-0"



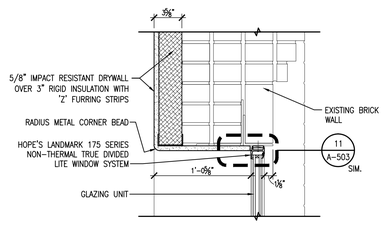
11 A-503 **HEAD, JAMB, AND SILL ENLARGED DETAIL** SCALE: 6" = 1'-0"



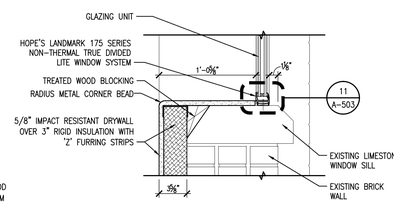
10 A-503 **LOUVER SILL DETAIL** SCALE: 1 1/2" = 1'-0"



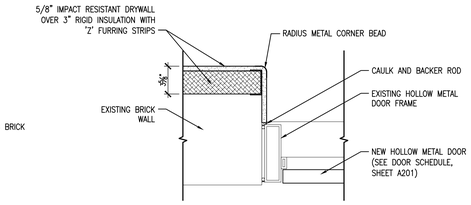
9 A-503 **LOUVER SILL DETAIL** SCALE: 1 1/2" = 1'-0"



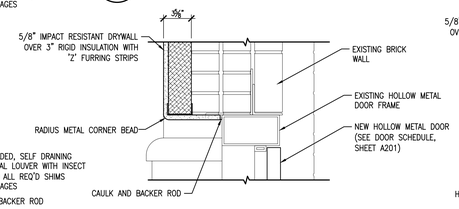
8 A-503 **WINDOW HEAD DETAIL** SCALE: 1 1/2" = 1'-0"



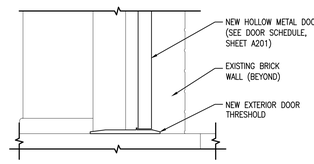
7 A-503 **WINDOW SILL DETAIL** SCALE: 1 1/2" = 1'-0"



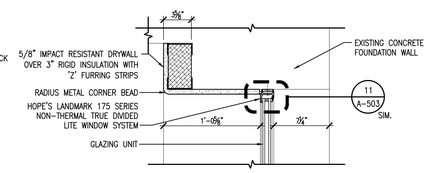
14 A-503 **DOOR JAMB DETAIL** SCALE: 1 1/2" = 1'-0"



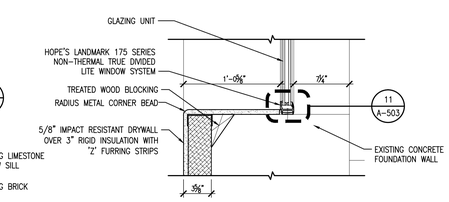
6 A-503 **DOOR HEAD DETAIL** SCALE: 1 1/2" = 1'-0"



5 A-503 **DOOR THRESHOLD DETAIL** SCALE: 1 1/2" = 1'-0"



4 A-503 **WINDOW HEAD DETAIL** SCALE: 1 1/2" = 1'-0"



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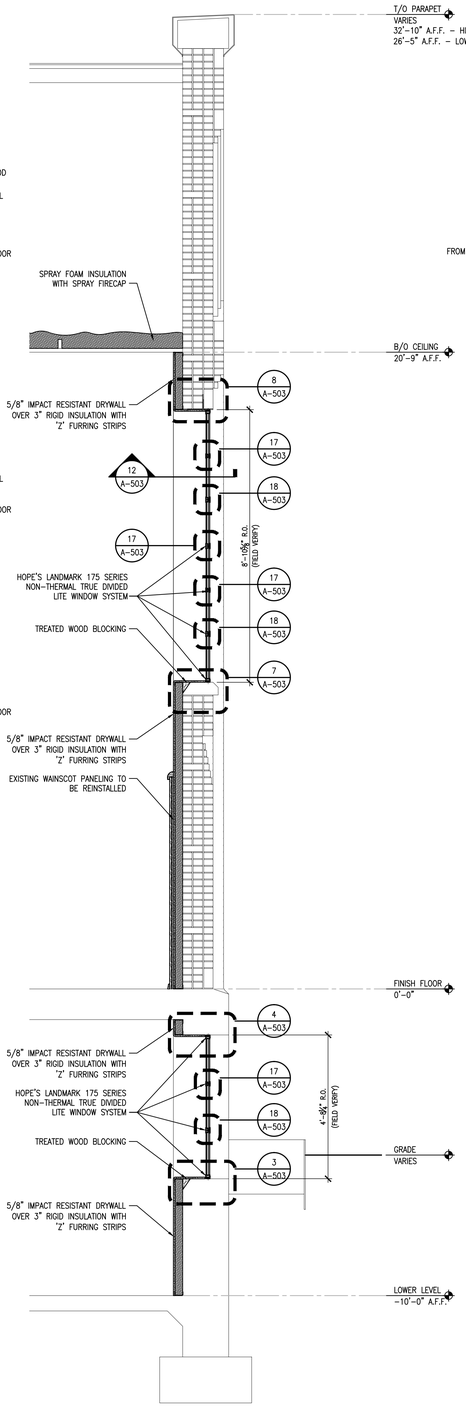
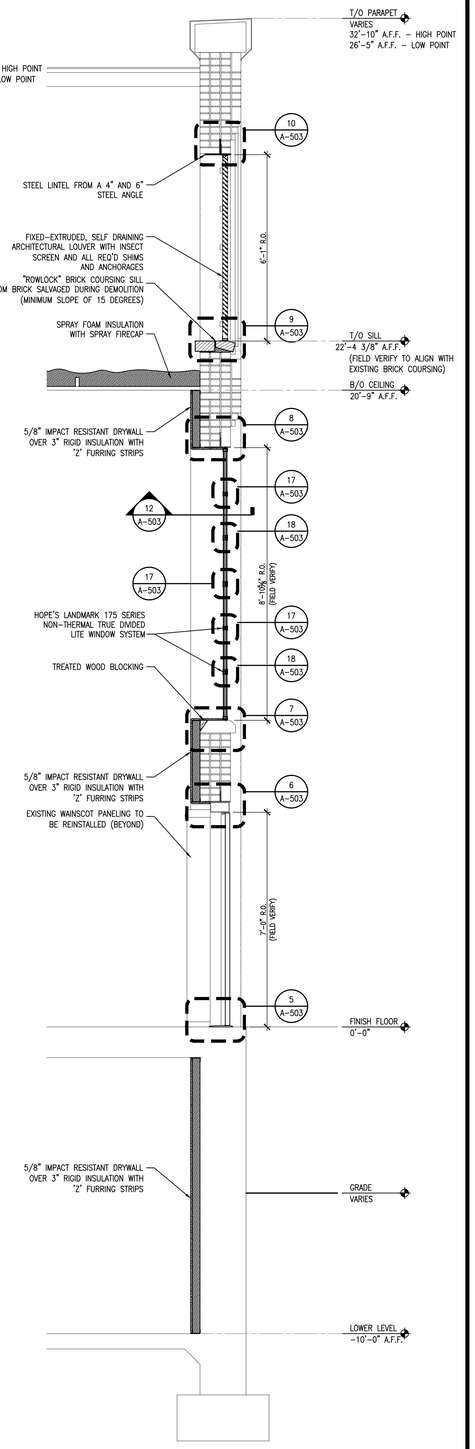


2 A-503 **WALL SECTION** SCALE: 1/2" = 1'-0"



1 A-503 **WALL SECTION** SCALE: 1/2" = 1'-0"

100% CONSTRUCTION DOCUMENTS

Revisions	Date

ENGINEERS:

APOGEE Consulting Group, PA
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Indianapolis, IN 46240
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Approved: Andrew Mercker, COTR
Approved:

Building No. 8
Scale AS SHOWN
Drawn/Checked NVW

Location: VA MEDICAL CENTER, ENGINEERING BLDG #52, RM 201, 1700 E. 38TH ST, MARION, IN 46953

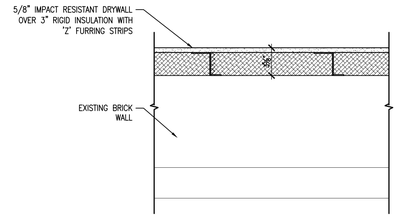
DRAWING NO. A-503
Dwg. 9 of 10

VA NIHCS Engineering

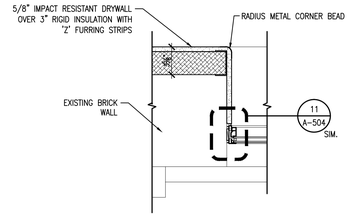
Department of Veterans Affairs

VA FORM 08-6231, FEB. 1983

*U.S. GOVERNMENT PRINTING OFFICE: 1983-400-285



16 A-504 **INSULATION PLAN DETAIL**
SCALE: 1 1/2" = 1'-0"



15 A-504 **WINDOW JAMB DETAIL**
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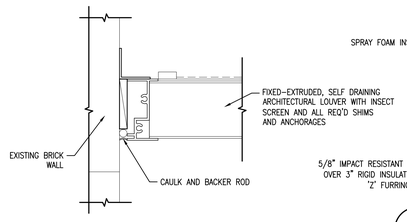
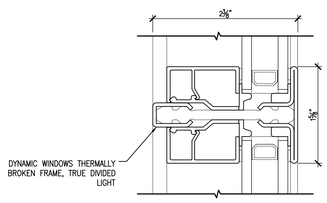
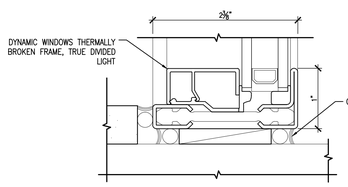


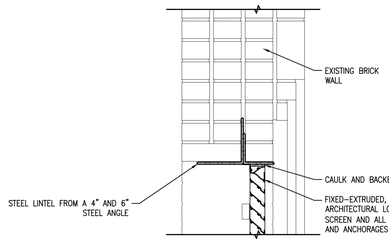
13 A-504 **LOUVER JAMB DETAIL**
SCALE: 6" = 1'-0"



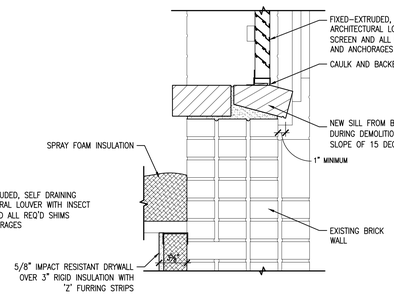
12 A-504 **MULLION ENLARGED DETAIL**
SCALE: 1'-0" = 1'-0"



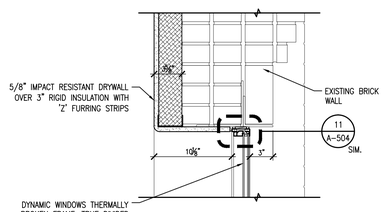
11 A-504 **HEAD, JAMB, AND SILL ENLARGED DETAIL**
SCALE: 1'-0" = 1'-0"



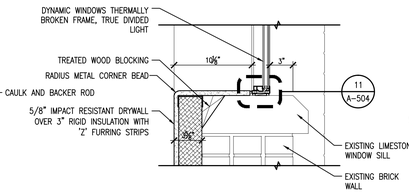
10 A-504 **LOUVER SILL DETAIL**
SCALE: 1 1/2" = 1'-0"



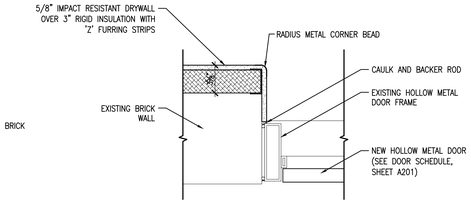
9 A-504 **LOUVER SILL DETAIL**
SCALE: 1 1/2" = 1'-0"



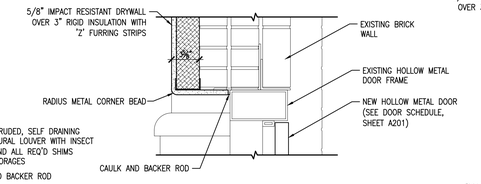
8 A-504 **WINDOW HEAD DETAIL**
SCALE: 1 1/2" = 1'-0"



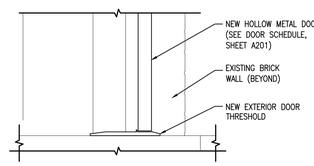
7 A-504 **WINDOW SILL DETAIL**
SCALE: 1 1/2" = 1'-0"



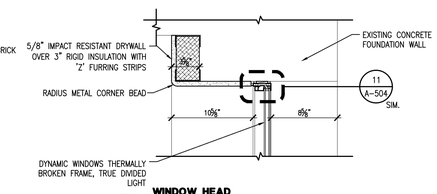
14 A-504 **DOOR JAMB DETAIL**
SCALE: 1 1/2" = 1'-0"



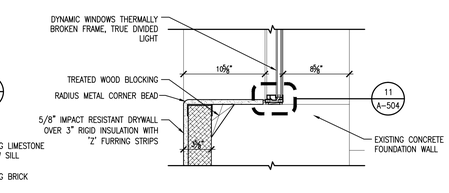
6 A-504 **DOOR HEAD DETAIL**
SCALE: 1 1/2" = 1'-0"



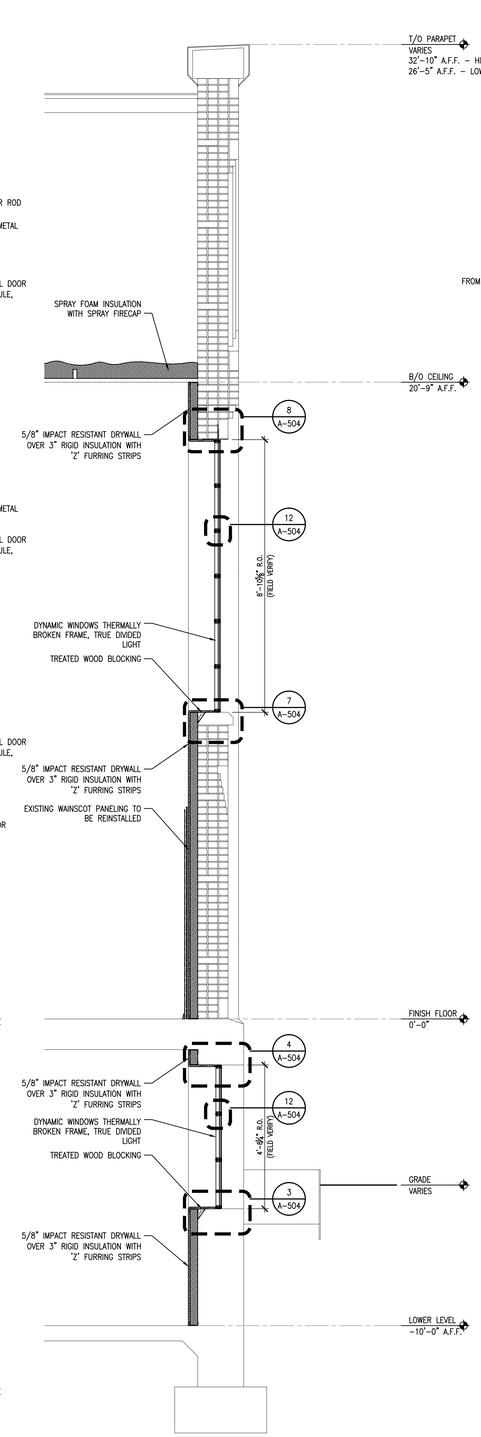
5 A-504 **DOOR THRESHOLD DETAIL**
SCALE: 1 1/2" = 1'-0"



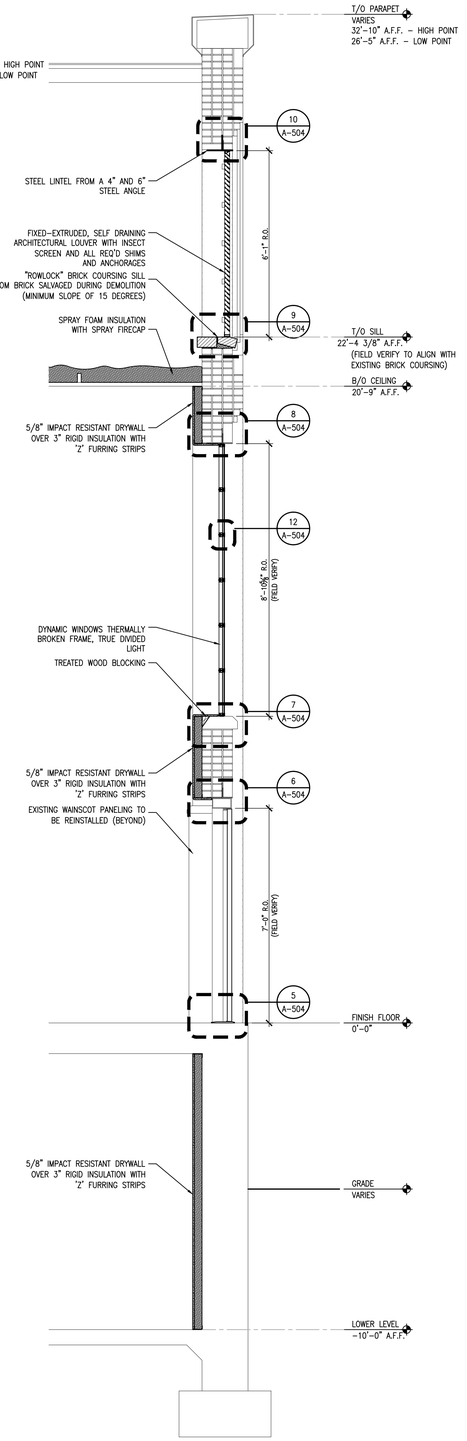
4 A-504 **WINDOW HEAD DETAIL**
SCALE: 1 1/2" = 1'-0"



3 A-504 **WINDOW SILL DETAIL**
SCALE: 1 1/2" = 1'-0"



2 A-504 **WALL SECTION**
SCALE: 1/2" = 1'-0"



1 A-504 **WALL SECTION**
SCALE: 1/2" = 1'-0"

100% CONSTRUCTION DOCUMENTS

Revisions	Date

ENGINEERS:
APOGEE Consulting Group, PA
8831 Keystone Crossing
Indianapolis, IN 46240
(317) 819-0200 Fax (919) 858-7423
Apogee Project # 2011 135
Apogee COA# PC80800089

Professional Stamp/Seal

ARCHITECT:
CSO Architects
ARCHITECTURE • INTERIOR DESIGN
8831 Keystone Crossing - Indianapolis, IN 46240
Main 317.848.7800 - Fax 317.574.0957 - csoinc.net

Drawing Title: NEW WORK WALL SECTIONS AND DETAILS - ALTERNATE

Project Title: ENERGY IMPROVEMENTS & AIR CONDITIONING BUILDING #8, GYM

Date: 09/19/11
Project No.: 610-10-100

Approved: Robert Nash, CO
Approved:
Approved: Andrew Mercker, COTR
Approved:

Building No.: 8
Scale: AS SHOWN
Drawn/Checked: NVW

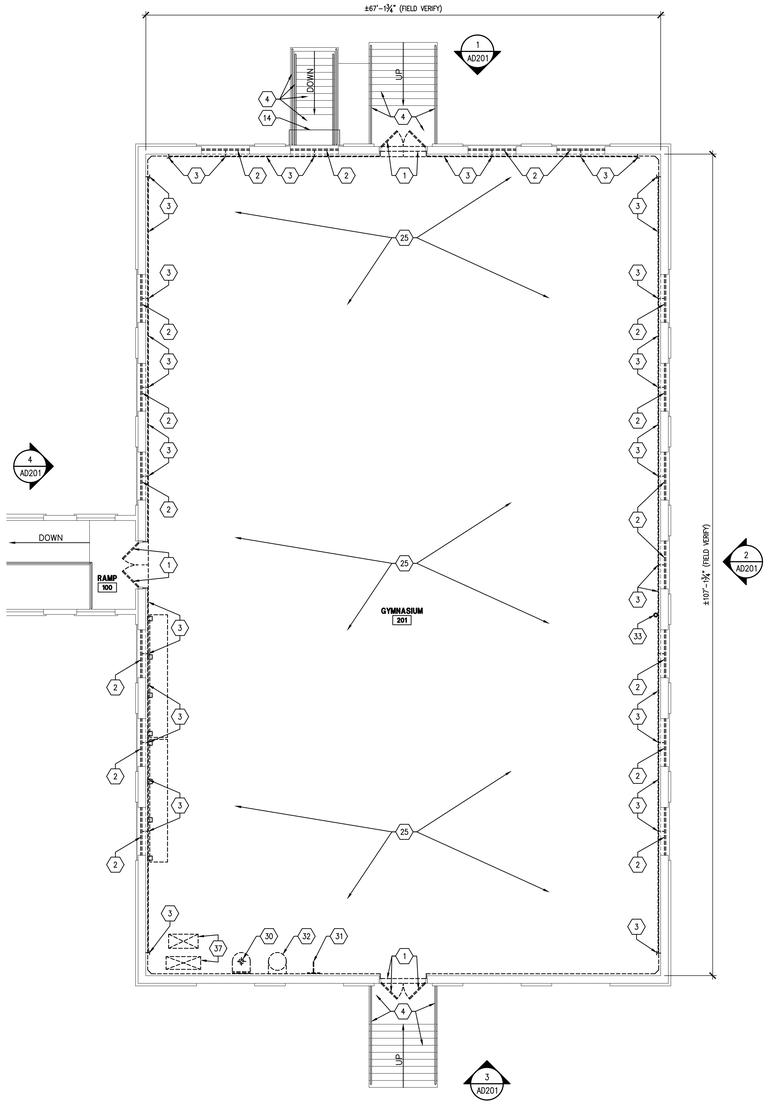
Location: VA MEDICAL CENTER, ENGINEERING BLDG #52, RM 201, 1700 E. 38TH ST, MARION, IN 46953

DRAWING NO. A-504
Dwg. 10 of 10

VA NIHCS Engineering
Department of Veterans Affairs

VA FORM 08-6231, FEB. 1983

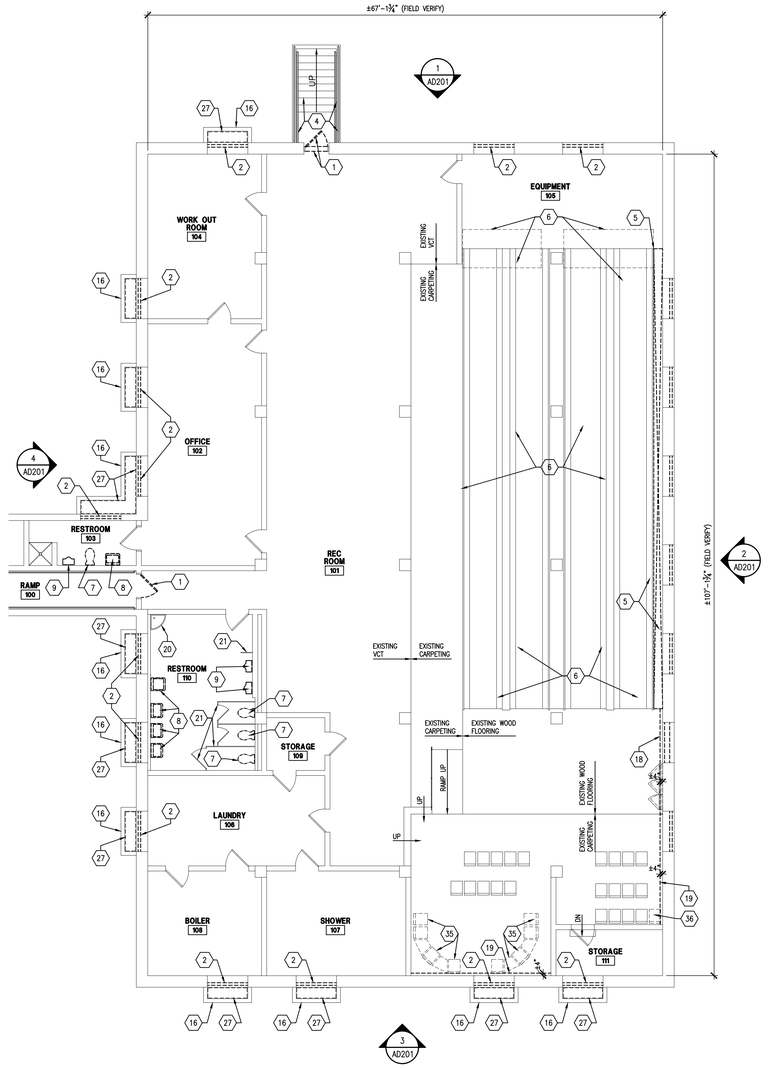
*U.S. GOVERNMENT PRINTING OFFICE: 1983-400-285



EXISTING GYMNASIUM DEMOLITION FLOOR PLAN

2 AD101 SCALE: 1/8" = 1'-0"

NORTH



EXISTING LOWER LEVEL DEMOLITION FLOOR PLAN

1 AD101 SCALE: 1/8" = 1'-0"

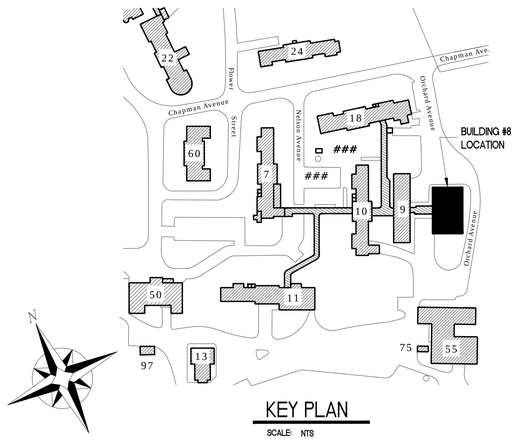
NORTH

DEMOLITION GENERAL NOTES:

A. HEAVY DASHED LINES INDICATE STRUCTURE, WALLS AND ITEMS TO BE DEMOLISHED UNLESS NOTED OTHERWISE.
B. SOLID LINES INDICATE STRUCTURE, WALLS AND ITEMS TO REMAIN, UNLESS NOTED OTHERWISE.
C. PROTECT ALL FINISHES AND OTHER ITEMS TO REMAIN. WHERE DAMAGE OCCURS, PATCH AND REPAIR OR OTHERWISE RESTORE TO ITS ORIGINAL CONDITION.
D. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONSTRUCTION AND RELATED CONDITIONS PRIOR TO STARTUP OF DEMOLITION OR NEW CONSTRUCTION.
E. COORDINATE EXTENTS AND EXACT DIMENSIONS WITH EXTENTS AND EXACT DIMENSIONS OF NEW WORK.
F. ANY AND ALL DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE ARCHITECT AND OWNER.
G. REMOVE ALL MISCELLANEOUS EQUIPMENT ATTACHED TO WALLS, FLOORS AND CEILINGS TO BE DEMOLISHED. COORDINATE WITH THE OWNER FOR ITEMS TO BE SALVAGED OR RE-INSTALLED.
H. REMOVE ANY ITEMS NOT SPECIFICALLY IDENTIFIED TO BE REMOVED WHICH MUST OBVIOUSLY BE DEMOLISHED TO ACCOMMODATE NEW WORK. VERIFY WITH ARCHITECT.
I. ALL OPENINGS, VOIDS, OR DAMAGED SURFACES LEFT BY THE REMOVAL OF EXISTING CONSTRUCTION, EQUIPMENT, PIPING, DUCTS, WINDOWS, ETC., SHALL BE PATCHED AND REPAIRED TO MATCH SURROUNDING WORK. PREPARE TO RECEIVE NEW FINISHES AS REQUIRED.
J. REMOVE ALL MASTIC, ADHESIVES, FASTENERS AND OTHER MATERIALS WHERE FINISHES (SUCH AS FLOORING, BASE) AND EQUIPMENT (SUCH AS CASEWORK, TACKBOARDS, MECHANICAL ITEMS, ETC.) HAVE BEEN REMOVED AT EXISTING SURFACES TO REMAIN.
K. CONSTRUCT DUST AND SOUND CONTROL BARRIERS PRIOR TO THE START OF WORK.
L. SEE SPECIFICATIONS FOR ASSIGNMENT OF RESPONSIBILITIES PERTAINING TO PATCHING AND REPAIR WORK REQUIRED OF EACH TRADE.
M. DEMOLITION WORK TO BE COMPLETED BY MECHANICAL/PLUMBING, ELECTRICAL TRADES IS SHOWN ON OTHER SHEETS IN THIS SET OF CONTRACT DOCUMENTS. THE CONTRACTOR SHALL REVIEW THE DEMOLITION WORK OF OTHER TRADES TO DETERMINE WHERE SUCH WORK COULD AFFECT HIS WORK AND SHALL COORDINATE HIS WORK WITH THE WORK OF ALL OTHER TRADES.
N. ONCE EXISTING WINDOW WELL GRATING SYSTEM HAS BEEN REMOVED, INVENTORIED AND STORED FOR REINSTALLATION, THE CONTRACTOR IS TO THOROUGHLY REMOVE ALL DEBRIS (TRASH, LEAVES, ETC.) FROM THE EXISTING WINDOW WELLS.

DEMOLITION NOTES:

1. CAREFULLY REMOVE EXISTING DOOR AND DOOR THRESHOLD. REPAIR, PAINT, AND PREPARE EXISTING DOOR FRAME TO RECEIVE NEW DOOR UNIT.
2. CAREFULLY REMOVE EXISTING WINDOW SYSTEM. REPAIR, PAINT, AND PREPARE EXISTING OPENING TO RECEIVE NEW WINDOW SYSTEM.
3. CAREFULLY REMOVE EXISTING WINDOW OPERATING SYSTEM, TAG, INVENTORY AND TURN OVER TO THE OWNER.
4. EXISTING CONCRETE STAIRS AND METAL RAILING SYSTEM TO REMAIN AND BE PROTECTED.
5. CAREFULLY REMOVE AND SALVAGE EXISTING RAISED WOODEN WALKWAY SYSTEM AND PREPARE EXISTING WALL TO RECEIVE NEW CONSTRUCTION.
6. EXISTING BOWLING ALLEY EQUIPMENT TO REMAIN AND BE PROTECTED.
7. REMOVE EXISTING WATER CLOSET, SEE PLUMBING DRAWINGS.
8. REMOVE EXISTING LAVATORY, SEE PLUMBING DRAWINGS.
9. REMOVE EXISTING URINAL, SEE PLUMBING DRAWINGS.
10. CAREFULLY REMOVE EXISTING LADDER WITH SAFETY CAGE SYSTEM, INVENTORY AND STORE FOR REINSTALLATION.
11. EXISTING RETRACTABLE BASKETBALL GOAL SYSTEM TO REMAIN AND BE PROTECTED.
12. EXISTING FIRE SPRINKLER PIPING SYSTEM TO REMAIN AND BE PROTECTED.
13. REMOVE EXISTING LIGHT FIXTURES, SEE ELECTRICAL DRAWINGS.
14. EXISTING CANOPY SYSTEM TO REMAIN AND BE PROTECTED.
15. EXISTING MECHANICAL SYSTEM TO BE REMOVED, SEE MECHANICAL DRAWINGS.
16. EXISTING CONCRETE WINDOW WELL UNITS TO REMAIN AND BE PROTECTED.
17. EXISTING SUSPENDED LAY-IN CEILING SYSTEM TO REMOVED.
18. REMOVE PORTION OF EXISTING BOWLING ALLEY RAISED WOOD FLOORING SYSTEM TO ACCOMMODATE NEW WALL INSULATION SYSTEM, FIELD VERIFY.
19. REMOVE PORTION OF RAISED FLOORING SYSTEM TO ACCOMMODATE NEW WALL INSULATION SYSTEM, FIELD VERIFY.
20. EXISTING FLOOR MOP SINK TO REMAIN AND BE PROTECTED.
21. EXISTING TOILET PARTITION AND URINAL SCREEN TO REMAIN AND BE PROTECTED.
22. EXISTING DIAGONAL COLUMN TOP CAP TO REMAIN AND BE PROTECTED.
23. REMOVE EXISTING VENTILATION LOUVERS.
24. REMOVE BRICK TO ACCOMMODATE EXTENT OF NEW WORK. SALVAGE BRICK FOR REUSE DURING CONSTRUCTION. CONTRACTOR SHALL PROVIDE TEMPORARY SUPPORT IN AREA AS NECESSARY TO INSTALL NEW LINTELS. PATCH EXISTING BRICK TO MATCH EXISTING.
25. EXISTING GYMNASIUM FLOORING SYSTEM TO REMAIN AND BE PROTECTED.
26. EXISTING ATTIC ACCESS DOOR SYSTEM TO REMAIN AND BE PROTECTED.
27. EXISTING STEEL WINDOW WELL GRATING TO BE REMOVED, INVENTORIED AND STORED FOR REINSTALLATION – FIELD VERIFY.
28. EXISTING WINDOW SYSTEM TO REMAIN AND BE PROTECTED.
29. EXISTING ENCLOSED BULLETIN BOARD SYSTEM TO BE REMOVED, INVENTORIED AND STORED FOR REINSTALLATION – FIELD VERFY.
30. EXISTING PUNCHING BAG EXERCISE UNIT TO BE REMOVED, INVENTORIED AND STORED FOR REINSTALLATION – FIELD VERIFY.
31. EXISTING ARM EXERCISING UNIT TO BE REMOVED, INVENTORIED AND STORED FOR REINSTALLATION – FIELD VERIFY.
32. EXISTING BIG BALL HOOP UNIT TO BE REMOVED, INVENTORIED AND STORED FOR REINSTALLATION – FIELD VERIFY.
33. EXISTING FIRE SPRINKLER RISER FROM LOWER LEVEL TO GYMNASIUM LEVEL REMAIN AND BE PROTECTED – FIELD VERIFY.
34. EXISTING WOOD BLEACHER SYSTEM TO BE CAREFULLY REMOVED, INVENTORIED AND STORED FOR REINSTALLATION – FIELD VERIFY.
35. EXISTING SEATING UNITS TO BE REMOVED, INVENTORIED AND STORED FOR REINSTALLATION – FIELD VERIFY.
36. EXISTING SINGLE SEAT UNIT TO BE REMOVED, INVENTORIED AND STORED FOR REINSTALLATION – FIELD VERIFY.
37. PORTION OF EXISTING FLOOR SYSTEM TO BE CAREFULLY REMOVED AND



KEY PLAN

SCALE: NTS

100% CONSTRUCTION DOCUMENTS

Revisions	Date

ENGINEERS:

APOGEE Consulting Group, PA
8831 Keystone Crossing
Indianapolis, IN 46240
(317) 819-0200 Fax (919) 858-7423
Apogee Project # 2011 135
Apogee COA# PC80800089

Professional Stamp/Seal

ARCHITECT:

CSO Architects
ARCHITECTURE • INTERIOR DESIGN
8831 Keystone Crossing - Indianapolis, IN 46240
Main 317.848.7800 - Fax 317.574.0957 - csoinc.net

Drawing Title: DEMOLITION FLOOR PLANS

Project Title: ENERGY IMPROVEMENTS & AIR CONDITIONING BUILDING #8, GYM

Approved: Robert Nash, CO
Approved:
Approved: Andrew Mercker, COTR
Approved:

Building No. 8 | Scale AS SHOWN | Drawn/Checked NVW

Location: VA MEDICAL CENTER, ENGINEERING BLDG #52, RM 201, 1700 E. 38TH ST, MARION, IN 46953

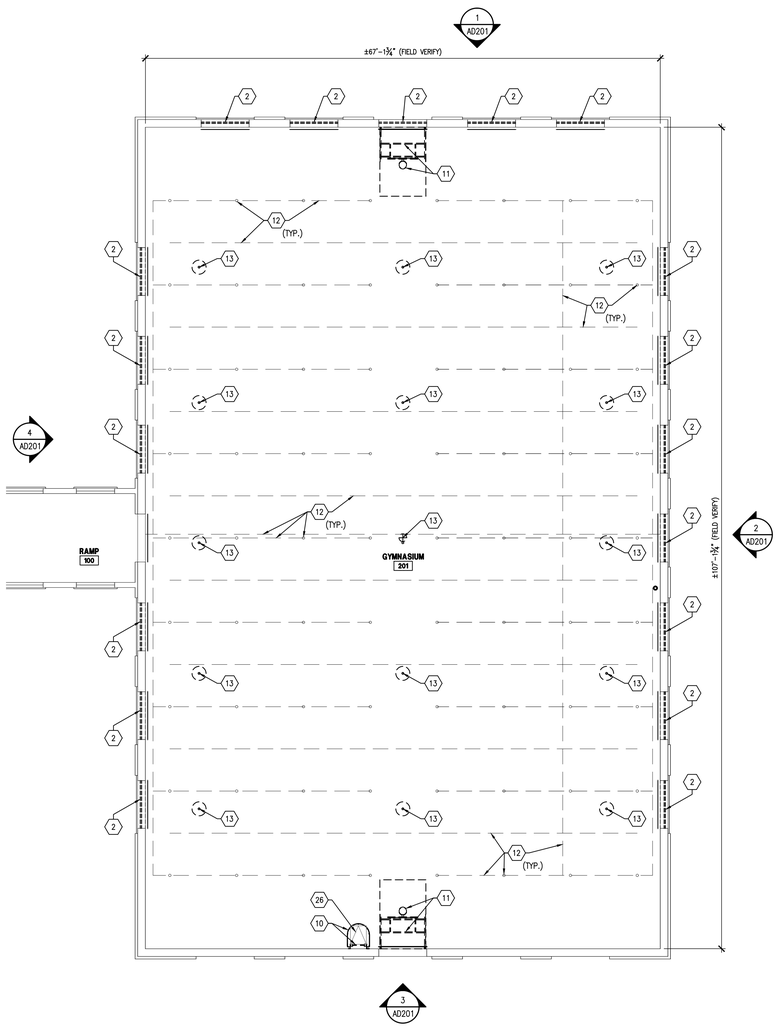
Date 09/19/11
Project No. 610-10-100
DRAWING NO. AD101
Dwg. 1 of 10

VA NIHCS Engineering

Department of Veterans Affairs

VA FORM 08-6231, FEB. 1983

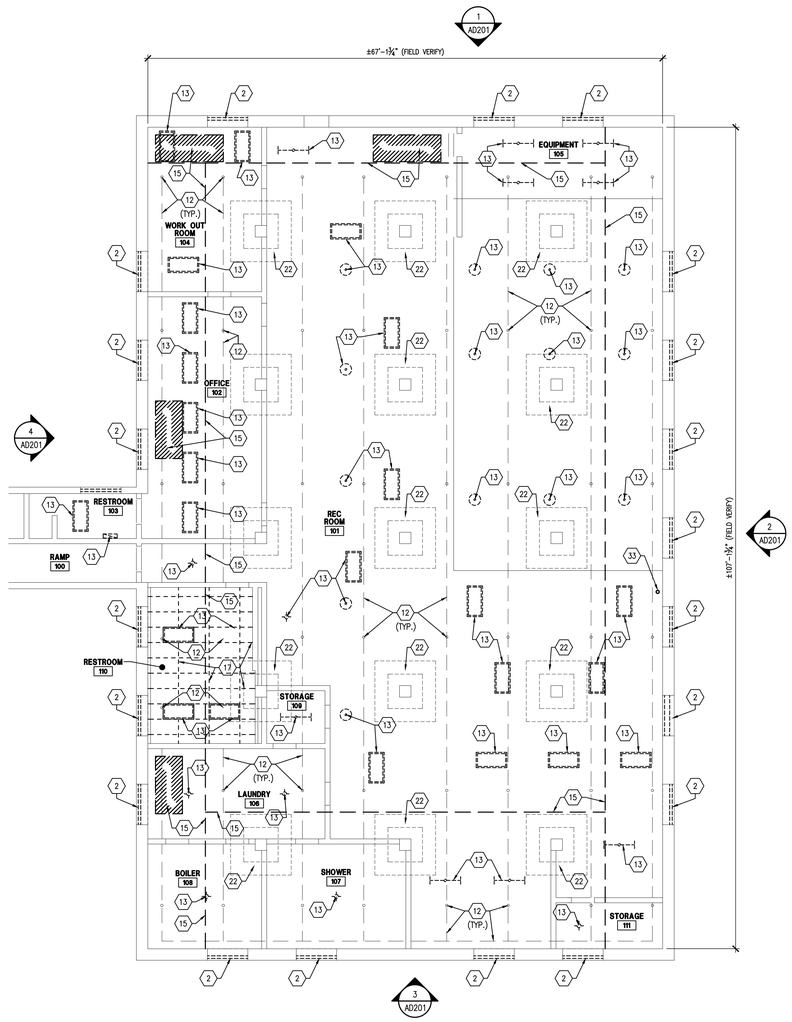
*U.S. GOVERNMENT PRINTING OFFICE: 1983-400-285



GYMNASIUM REFLECTED CEILING DEMOLITION PLAN

2 AD102 SCALE: 1/8" = 1'-0"

NORTH



VERIFY LOCATION OF EXISTING WALLS, EQUIPMENT, PIPING, AND LIGHTING.

LOWER LEVEL REFLECTED CEILING DEMOLITION PLAN

1 AD102 SCALE: 1/8" = 1'-0"

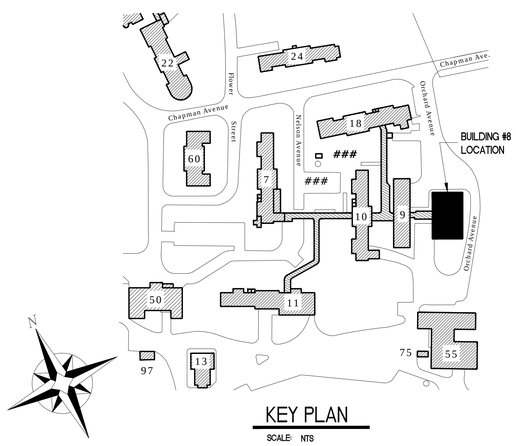
NORTH

DEMOLITION GENERAL NOTES:

A. HEAVY DASHED LINES INDICATE STRUCTURE, WALLS AND ITEMS TO BE DEMOLISHED UNLESS NOTED OTHERWISE.
B. SOLID LINES INDICATE STRUCTURE, WALLS AND ITEMS TO REMAIN, UNLESS NOTED OTHERWISE.
C. PROTECT ALL FINISHES AND OTHER ITEMS TO REMAIN. WHERE DAMAGE OCCURS, PATCH AND REPAIR OR OTHERWISE RESTORE TO ITS ORIGINAL CONDITION.
D. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONSTRUCTION AND RELATED CONDITIONS PRIOR TO STARTUP OF DEMOLITION OR NEW CONSTRUCTION.
E. COORDINATE EXTENTS AND EXACT DIMENSIONS WITH EXTENTS AND EXACT DIMENSIONS OF NEW WORK.
F. ANY AND ALL DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE ARCHITECT AND OWNER.
G. REMOVE ALL MISCELLANEOUS EQUIPMENT ATTACHED TO WALLS, FLOORS AND CEILINGS TO BE DEMOLISHED. COORDINATE WITH THE OWNER FOR ITEMS TO BE SALVAGED OR RE-INSTALLED.
H. REMOVE ANY ITEMS NOT SPECIFICALLY IDENTIFIED TO BE REMOVED WHICH MUST OBVIOUSLY BE DEMOLISHED TO ACCOMMODATE NEW WORK. VERIFY WITH ARCHITECT.
I. ALL OPENINGS, VOIDS, OR DAMAGED SURFACES LEFT BY THE REMOVAL OF EXISTING CONSTRUCTION, EQUIPMENT, PIPING, DUCTS, WINDOWS, ETC., SHALL BE PATCHED AND REPAIRED TO MATCH SURROUNDING WORK. PREPARE TO RECEIVE NEW FINISHES AS REQUIRED.
J. REMOVE ALL MASTIC, ADHESIVES, FASTENERS AND OTHER MATERIALS WHERE FINISHES (SUCH AS FLOORING, BASE) AND EQUIPMENT (SUCH AS CASEWORK, TACKBOARDS, MECHANICAL ITEMS, ETC.) HAVE BEEN REMOVED AT EXISTING SURFACES TO REMAIN.
K. CONSTRUCT DUST AND SOUND CONTROL BARRIERS PRIOR TO THE START OF WORK.
L. SEE SPECIFICATIONS FOR ASSIGNMENT OF RESPONSIBILITIES PERTAINING TO PATCHING AND REPAIR WORK REQUIRED OF EACH TRADE.
M. DEMOLITION WORK TO BE COMPLETED BY MECHANICAL/PLUMBING, ELECTRICAL TRADES IS SHOWN ON OTHER SHEETS IN THIS SET OF CONTRACT DOCUMENTS. THE CONTRACTOR SHALL REVIEW THE DEMOLITION WORK OF OTHER TRADES TO DETERMINE WHERE SUCH WORK COULD AFFECT HIS WORK AND SHALL COORDINATE HIS WORK WITH THE WORK OF ALL OTHER TRADES.
N. ONCE EXISTING WINDOW WELL GRATING SYSTEM HAS BEEN REMOVED, INVENTORIED AND STORED FOR REINSTALLATION, THE CONTRACTOR IS TO THOROUGHLY REMOVE ALL DEBRIS (TRASH, LEAVES, ETC.) FROM THE EXISTING WINDOW WELLS.

DEMOLITION NOTES:

1. CAREFULLY REMOVE EXISTING DOOR AND DOOR THRESHOLD. REPAIR, PAINT, AND PREPARE EXISTING DOOR FRAME TO RECEIVE NEW DOOR UNIT.
2. CAREFULLY REMOVE EXISTING WINDOW SYSTEM. REPAIR, PAINT, AND PREPARE EXISTING OPENING TO RECEIVE NEW WINDOW SYSTEM.
3. CAREFULLY REMOVE EXISTING WINDOW OPERATING SYSTEM, TAG, INVENTORY AND TURN OVER TO THE OWNER.
4. EXISTING CONCRETE STAIRS AND METAL RAILING SYSTEM TO REMAIN AND BE PROTECTED.
5. CAREFULLY REMOVE AND SALVAGE EXISTING RAISED WOODEN WALKWAY SYSTEM AND PREPARE EXISTING WALL TO RECEIVE NEW CONSTRUCTION.
6. EXISTING BOWLING ALLEY EQUIPMENT TO REMAIN AND BE PROTECTED.
7. REMOVE EXISTING WATER CLOSET, SEE PLUMBING DRAWINGS.
8. REMOVE EXISTING LAVATORY, SEE PLUMBING DRAWINGS.
9. REMOVE EXISTING URINAL, SEE PLUMBING DRAWINGS.
10. CAREFULLY REMOVE EXISTING LADDER WITH SAFETY CAGE SYSTEM, INVENTORY AND STORE FOR REINSTALLATION.
11. EXISTING RETRACTABLE BASKETBALL GOAL SYSTEM TO REMAIN AND BE PROTECTED.
12. EXISTING FIRE SPRINKLER PIPING SYSTEM TO REMAIN AND BE PROTECTED.
13. REMOVE EXISTING LIGHT FIXTURES, SEE ELECTRICAL DRAWINGS.
14. EXISTING CANOPY SYSTEM TO REMAIN AND BE PROTECTED.
15. EXISTING MECHANICAL SYSTEM TO BE REMOVED, SEE MECHANICAL DRAWINGS.
16. EXISTING CONCRETE WINDOW WELL UNITS TO REMAIN AND BE PROTECTED.
17. EXISTING SUSPENDED LAY-IN CEILING SYSTEM TO REMOVED.
18. REMOVE PORTION OF EXISTING BOWLING ALLEY RAISED WOOD FLOORING SYSTEM TO ACCOMMODATE NEW WALL INSULATION SYSTEM, FIELD VERIFY.
19. REMOVE PORTION OF RAISED FLOORING SYSTEM TO ACCOMMODATE NEW WALL INSULATION SYSTEM, FIELD VERIFY.
20. EXISTING FLOOR MOP SINK TO REMAIN AND BE PROTECTED.
21. EXISTING TOILET PARTITION AND URINAL SCREEN TO REMAIN AND BE PROTECTED.
22. EXISTING DIAGONAL COLUMN TOP CAP TO REMAIN AND BE PROTECTED.
23. REMOVE EXISTING VENTILATION LOUVERS.
24. REMOVE BRICK TO ACCOMMODATE EXTENT OF NEW WORK. SALVAGE BRICK FOR REUSE DURING CONSTRUCTION. CONTRACTOR SHALL PROVIDE TEMPORARY SUPPORT IN AREA AS NECESSARY TO INSTALL NEW LINTELS. PATCH EXISTING BRICK TO MATCH EXISTING.
25. EXISTING GYMNASIUM FLOORING SYSTEM TO REMAIN AND BE PROTECTED.
26. EXISTING ATTIC ACCESS DOOR SYSTEM TO REMAIN AND BE PROTECTED.
27. EXISTING STEEL WINDOW WELL GRATING TO BE REMOVED, INVENTORIED AND STORED FOR REINSTALLATION – FIELD VERIFY.
28. EXISTING WINDOW SYSTEM TO REMAIN AND BE PROTECTED.
29. EXISTING ENCLOSED BULLETIN BOARD SYSTEM TO BE REMOVED, INVENTORIED AND STORED FOR REINSTALLATION – FIELD VERIFY.
30. EXISTING PUNCHING BAG EXERCISE UNIT TO BE REMOVED, INVENTORIED AND STORED FOR REINSTALLATION – FIELD VERIFY.
31. EXISTING ARM EXERCISING UNIT TO BE REMOVED, INVENTORIED AND STORED FOR REINSTALLATION – FIELD VERIFY.
32. EXISTING BIG BALL HOOP UNIT TO BE REMOVED, INVENTORIED AND STORED FOR REINSTALLATION – FIELD VERIFY.
33. EXISTING FIRE SPRINKLER RISER FROM LOWER LEVEL TO GYMNASIUM LEVEL REMAIN AND BE PROTECTED – FIELD VERIFY.
34. EXISTING WOOD BLEACHER SYSTEM TO BE CAREFULLY REMOVED, INVENTORIED AND STORED FOR REINSTALLATION – FIELD VERIFY.
35. EXISTING SEATING UNITS TO BE REMOVED, INVENTORIED AND STORED FOR REINSTALLATION – FIELD VERIFY.
36. EXISTING SINGLE SEAT UNIT TO BE REMOVED, INVENTORIED AND STORED FOR REINSTALLATION – FIELD VERIFY.
37. PORTION OF EXISTING FLOOR SYSTEM TO BE CAREFULLY REMOVED AND RESUPPORTED FOR NEW MECHANICAL DUCTWORK. COORDINATE SIZE OF OPENINGS WITH MECHANICAL DRAWINGS. SEE STRUCTURAL DRAWINGS.



KEY PLAN

SCALE: NTS

100% CONSTRUCTION DOCUMENTS

Revisions	Date

ENGINEERS:

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Drawing Title: REFLECTED CEILING DEMOLITION PLANS

Project Title: ENERGY IMPROVEMENTS & AIR CONDITIONING BUILDING #8, GYM

Date: 09/19/11

Project No.: 610-10-100

Approved: Robert Nash, CO

Approved:

Building No.: 8

Scale: AS SHOWN

Drawn/Checked: NVW

Approved: Andrew Mercker, COTR

Approved:

Location: VA MEDICAL CENTER, ENGINEERING BLDG #52, RM 201, 1700 E. 38TH ST., MARION, IN 46953

DRAWING NO. AD102

Dwg. 2 of 10

VA NIHCS Engineering

Department of Veterans Affairs

VA FORM 08-6231, FEB. 1983

*U.S. GOVERNMENT PRINTING OFFICE: 1983-400-285

DEMOLITION GENERAL NOTES:

A. HEAVY DASHED LINES INDICATE STRUCTURE, WALLS AND ITEMS TO BE DEMOLISHED UNLESS NOTED OTHERWISE.
B. SOLID LINES INDICATE STRUCTURE, WALLS AND ITEMS TO REMAIN, UNLESS NOTED OTHERWISE.
C. PROTECT ALL FINISHES AND OTHER ITEMS TO REMAIN. WHERE DAMAGE OCCURS, PATCH AND REPAIR OR OTHERWISE RESTORE TO ITS ORIGINAL CONDITION.
D. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONSTRUCTION AND RELATED CONDITIONS PRIOR TO STARTUP OF DEMOLITION OR NEW CONSTRUCTION.
E. COORDINATE EXTENTS AND EXACT DIMENSIONS WITH EXTENTS AND EXACT DIMENSIONS OF NEW WORK.
F. ANY AND ALL DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE ARCHITECT AND OWNER.
G. REMOVE ALL MISCELLANEOUS EQUIPMENT ATTACHED TO WALLS, FLOORS AND CEILINGS TO BE DEMOLISHED. COORDINATE WITH THE OWNER FOR ITEMS TO BE SALVAGED OR RE-INSTALLED.
H. REMOVE ANY ITEMS NOT SPECIFICALLY IDENTIFIED TO BE REMOVED WHICH MUST OBVIOUSLY BE DEMOLISHED TO ACCOMMODATE NEW WORK. VERIFY WITH ARCHITECT.
I. ALL OPENINGS, VOIDS, OR DAMAGED SURFACES LEFT BY THE REMOVAL OF EXISTING CONSTRUCTION, EQUIPMENT, PIPING, DUCTS, WINDOWS, ETC., SHALL BE PATCHED AND REPAIRED TO MATCH SURROUNDING WORK. PREPARE TO RECEIVE NEW FINISHES AS REQUIRED.
J. REMOVE ALL MASTIC, ADHESIVES, FASTENERS AND OTHER MATERIALS WHERE FINISHES (SUCH AS FLOORING, BASE) AND EQUIPMENT (SUCH AS CASEWORK, TACKBOARDS, MECHANICAL ITEMS, ETC.) HAVE BEEN REMOVED AT EXISTING SURFACES TO REMAIN.
K. CONSTRUCT DUST AND SOUND CONTROL BARRIERS PRIOR TO THE START OF WORK.
L. SEE SPECIFICATIONS FOR ASSIGNMENT OF RESPONSIBILITIES PERTAINING TO PATCHING AND REPAIR WORK REQUIRED OF EACH TRADE.
M. DEMOLITION WORK TO BE COMPLETED BY MECHANICAL/PLUMBING, ELECTRICAL TRADES IS SHOWN ON OTHER SHEETS IN THIS SET OF CONTRACT DOCUMENTS. THE CONTRACTOR SHALL REVIEW THE DEMOLITION WORK OF OTHER TRADES TO DETERMINE WHERE SUCH WORK COULD AFFECT HIS WORK AND SHALL COORDINATE HIS WORK WITH THE WORK OF ALL OTHER TRADES.
N. ONCE EXISTING WINDOW WELL GRATING SYSTEM HAS BEEN REMOVED, INVENTORIED AND STORED FOR REINSTALLATION, THE CONTRACTOR IS TO THOROUGHLY REMOVE ALL DEBRIS (TRASH, LEAVES, ETC.) FROM THE EXISTING WINDOW WELLS.

DEMOLITION NOTES:

1. CAREFULLY REMOVE EXISTING DOOR AND DOOR THRESHOLD. REPAIR, PAINT, AND PREPARE EXISTING DOOR FRAME TO RECEIVE NEW DOOR UNIT.
2. CAREFULLY REMOVE EXISTING WINDOW SYSTEM. REPAIR, PAINT, AND PREPARE EXISTING OPENING TO RECEIVE NEW WINDOW SYSTEM.
3. CAREFULLY REMOVE EXISTING WINDOW OPERATING SYSTEM, TAG, INVENTORY AND TURN OVER TO THE OWNER.
4. EXISTING CONCRETE STAIRS AND METAL RAILING SYSTEM TO REMAIN AND BE PROTECTED.
5. CAREFULLY REMOVE AND SALVAGE EXISTING RAISED WOODEN WALKWAY SYSTEM AND PREPARE EXISTING WALL TO RECEIVE NEW CONSTRUCTION.
6. EXISTING BOWLING ALLEY EQUIPMENT TO REMAIN AND BE PROTECTED.
7. REMOVE EXISTING WATER CLOSET, SEE PLUMBING DRAWINGS.
8. REMOVE EXISTING LAVATORY, SEE PLUMBING DRAWINGS.
9. REMOVE EXISTING URINAL, SEE PLUMBING DRAWINGS.
10. CAREFULLY REMOVE EXISTING LADDER WITH SAFETY CAGE SYSTEM, INVENTORY AND STORE FOR REINSTALLATION.
11. EXISTING RETRACTABLE BASKETBALL GOAL SYSTEM TO REMAIN AND BE PROTECTED.
12. EXISTING FIRE SPRINKLER PIPING SYSTEM TO REMAIN AND BE PROTECTED.
13. REMOVE EXISTING LIGHT FIXTURES, SEE ELECTRICAL DRAWINGS.
14. EXISTING CANOPY SYSTEM TO REMAIN AND BE PROTECTED.
15. EXISTING MECHANICAL SYSTEM TO BE REMOVED, SEE MECHANICAL DRAWINGS.
16. EXISTING CONCRETE WINDOW WELL UNITS TO REMAIN AND BE PROTECTED.
17. EXISTING SUSPENDED LAY-IN CEILING SYSTEM TO REMOVED.
18. REMOVE PORTION OF EXISTING BOWLING ALLEY RAISED WOOD FLOORING SYSTEM TO ACCOMMODATE NEW WALL INSULATION SYSTEM, FIELD VERIFY.
19. REMOVE PORTION OF RAISED FLOORING SYSTEM TO ACCOMMODATE NEW WALL INSULATION SYSTEM, FIELD VERIFY.
20. EXISTING FLOOR MOP SINK TO REMAIN AND BE PROTECTED.
21. EXISTING TOILET PARTITION AND URINAL SCREEN TO REMAIN AND BE PROTECTED.
22. EXISTING DIAGONAL COLUMN TOP CAP TO REMAIN AND BE PROTECTED.
23. REMOVE EXISTING VENTILATION LOUVERS.
24. REMOVE BRICK TO ACCOMMODATE EXTENT OF NEW WORK. SALVAGE BRICK FOR REUSE DURING CONSTRUCTION. CONTRACTOR SHALL PROVIDE TEMPORARY SUPPORT IN AREA AS NECESSARY TO INSTALL NEW LINTELS. PATCH EXISTING BRICK TO MATCH EXISTING.
25. EXISTING GYMNASIUM FLOORING SYSTEM TO REMAIN AND BE PROTECTED.
26. EXISTING ATTIC ACCESS DOOR SYSTEM TO REMAIN AND BE PROTECTED.
27. EXISTING STEEL WINDOW WELL GRATING TO BE REMOVED, INVENTORIED AND STORED FOR REINSTALLATION – FIELD VERIFY.
28. EXISTING WINDOW SYSTEM TO REMAIN AND BE PROTECTED.
29. EXISTING ENCLOSED BULLETIN BOARD SYSTEM TO BE REMOVED, INVENTORIED AND STORED FOR REINSTALLATION – FIELD VERIFY.
30. EXISTING PUNCHING BAG EXERCISE UNIT TO BE REMOVED, INVENTORIED AND STORED FOR REINSTALLATION – FIELD VERIFY.
31. EXISTING ARM EXERCISING UNIT TO BE REMOVED, INVENTORIED AND STORED FOR REINSTALLATION – FIELD VERIFY.
32. EXISTING BIG BALL HOOP UNIT TO BE REMOVED, INVENTORIED AND STORED FOR REINSTALLATION – FIELD VERIFY.
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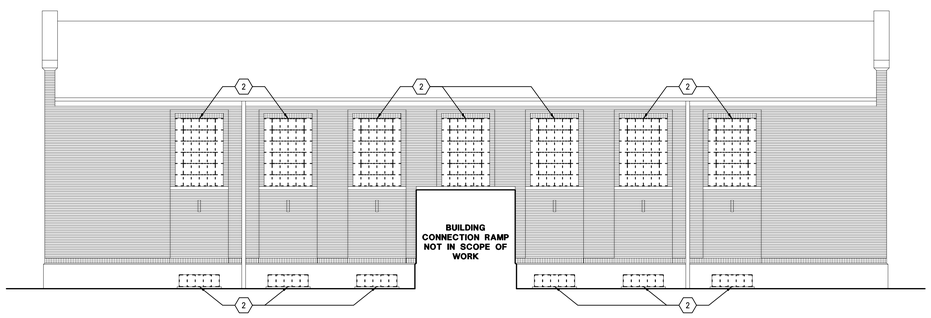
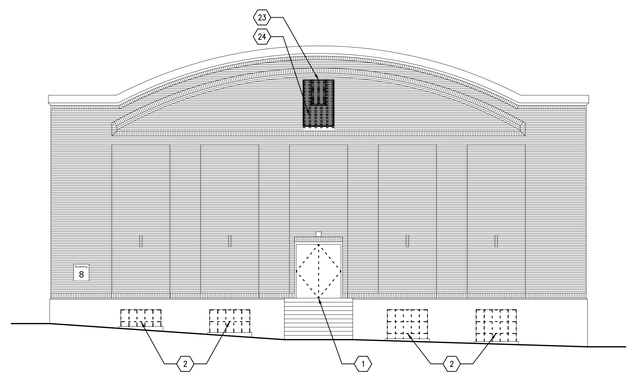
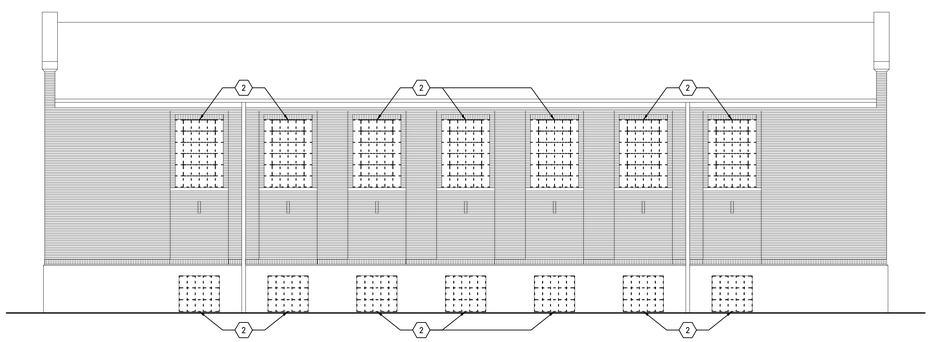


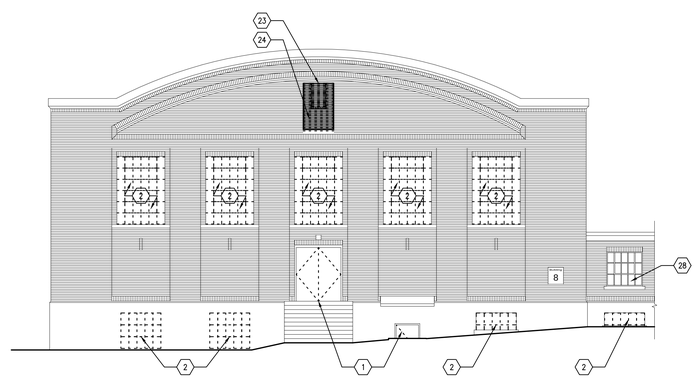
4 AD201 DEMOLITION **WEST ELEVATION**
SCALE: 1/8" = 1'-0"



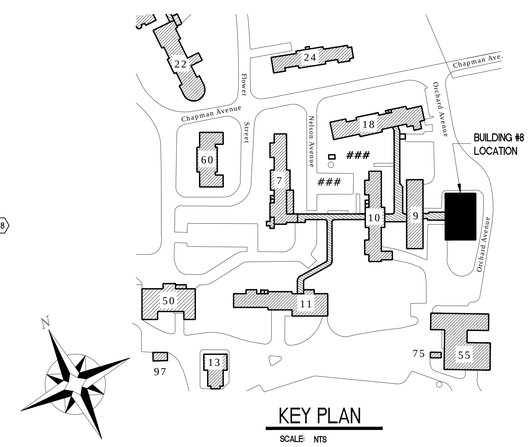
3 AD201 DEMOLITION **SOUTH ELEVATION**
SCALE: 1/8" = 1'-0"



2 AD201 DEMOLITION **EAST ELEVATION**
SCALE: 1/8" = 1'-0"



1 AD201 DEMOLITION **NORTH ELEVATION**
SCALE: 1/8" = 1'-0"



KEY PLAN
SCALE: NTS

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Revisions	Date

ENGINEERS:

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Apogee COA# PC80800089

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Drawing Title: DEMOLITION - EXTERIOR ELEVATIONS

Project Title: ENERGY IMPROVEMENTS & AIR CONDITIONING BUILDING #8, GYM

Date: 09/19/11
Project No.: 610-10-100

Approved: Robert Nash, CO
Approved:
Approved: Andrew Mercker, COTR
Approved:

Building No.: 8
Scale: AS SHOWN
Drawn/Checked: NVW

Location: VA MEDICAL CENTER, ENGINEERING BLDG #52, RM 201, 1700 E. 38TH ST, MARION, IN 46953

DRAWING NO. AD201
Dwg. 3 of 10

VA NIHCS Engineering

Department of Veterans Affairs

VA FORM 08-6231, FEB. 1983

*U.S. GOVERNMENT PRINTING OFFICE: 1983-400-285

GENERAL NOTES

1. ALL ELECTRICAL DEVICES, FIXTURES, EQUIPMENT AND FEEDERS SHALL BE INSTALLED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS, THE MANUFACTURER'S RECOMMENDED INSTALLATION PROCEDURES, ALL APPLICABLE LOCAL AND STATE CODES, AMERICAN DISABILITIES ACT AND WITH THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE.
2. PROVIDE ADDITIONAL SUPPORT FOR DEVICES, FIXTURES, EQUIPMENT AND FEEDERS WHERE THE BUILDING CONSTRUCTION IS NOT SUITABLE FOR DIRECT MOUNTING.
3. FIRESTOP, DRAFTSTOP, SMOKESTOP AND/OR PROTECT THE ANNULAR SPACE AROUND ALL PENETRATIONS THROUGH WALLS, PARTITIONS, FLOORS, CEILING, AND ROOFS IN ACCORDANCE WITH THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE, UL LISTING REQUIREMENT AND THE APPLICABLE BUILDING CODES. REFER TO THE ARCHITECTURAL DRAWINGS AND THE OWNER'S EXISTING AS-BUILT/RECORD DRAWINGS, VERIFY CONSTRUCTION RATINGS AND PROVIDE PENETRATION ASSEMBLIES SUITABLE FOR PARTICULAR CONSTRUCTION.
4. VERIFY CEILING SYSTEMS AND PROVIDE MOUNTING ACCESSORIES, TRIMS AND ALL REQUIRED MOUNTING HARDWARE TO SUIT THE PARTICULAR INSTALLATION.
5. PROTECT EXISTING UNDERGROUND AND BUILDING INTERIOR UTILITIES DURING CONSTRUCTION.
6. BRANCH CIRCUIT CONDUCTORS SHALL BE 12 AWG MINIMUM.
7. COORDINATE ANY AND ALL WORK WITH ALL OTHER TRADES PRIOR TO INSTALLATION SO AS TO AVOID CONFLICT DURING CONSTRUCTION.
8. ALL PANELS SHALL HAVE TYPED, COMPLETED DIRECTORIES INDICATING EQUIPMENT SERVED AND ROOM NUMBER (AS INDICATED ON FINAL BUILDING ROOM SIGNAGE) OF EQUIPMENT LOCATION, OR SPARE, OR SPACE.
9. MANUFACTURER'S NAME AND MODEL NUMBER ARE GIVEN FOR DESCRIPTIVE PURPOSES, TO INDICATE A QUALITY STANDARD AND ARE NOT INTENDED TO LIMIT PRODUCTS TO A PARTICULAR MANUFACTURER. PRODUCTS DEEMED EQUAL AND APPROVED BY THE DESIGNER WILL BE ACCEPTED.
10. ALL FEEDERS AND CIRCUITRY SHALL BE TORQUED PER THE PANEL, BREAKER, AND/OR PARTICULAR EQUIPMENT MANUFACTURER'S SPECIFICATIONS.
11. CIRCUITRY TO SWITCHES, RECEPTACLES, AND ALL OTHER DEVICES SHALL BE TERMINATED ON THE DEVICE'S SCREW TERMINALS.
12. MOUNTING HEIGHTS INDICATED ARE TO CENTER OF DEVICE, OUTLET, FIXTURE, OR EQUIPMENT UNLESS NOTED OTHERWISE.
13. ALL WIRE TERMINATIONS SHALL BE RATED FOR 75 DEGREE C.
14. ALL CONDUCTORS SHALL HAVE THHN/THWN INSULATION, UNLESS OTHERWISE NOTED.
15. ALL CONDUIT SHALL BE EMT OR LFMC, UNLESS OTHERWISE NOTED.
16. ALL ELECTRICAL MATERIALS, DEVICES, APPLIANCES AND EQUIPMENT SHALL BE LABEL LISTED BY AN APPROVED THIRD PARTY TESTING AGENCY.
17. THE CONTRACTOR SHALL CONTACT THE LOCAL POWER COMPANY AND OBTAIN, IN WRITING, THE AVAILABLE FAULT CURRENT OF THE UTILITY TRANSFORMER. THE CONTRACTOR SHALL ENSURE THAT ALL ELECTRICAL EQUIPMENT HAS AN AMP INTERRUPTING CAPACITY (AIC) GREATER THAN THE AVAILABLE FAULT CURRENT AT ANY POINT IN THE ELECTRICAL DISTRIBUTION SYSTEM.

ABBREVIATIONS

ABBREV.	DESCRIPTION
A	AMPERE
ADO	AUTOMATIC DOOR OPENER
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AIC	AMPS INTERRUPTING CAPACITY
ATS	AUTOMATIC TRANSFER SWITCH
AWG	AMERICAN WIRE GAUGE
BC	BARE COPPER
BFF	BELOW FINISHED FLOOR
CB	CIRCUIT BREAKER
cd	CANDELA
CKT	CIRCUIT
CND	CONDUIT
CU	COPPER
D	DEEP
DACT	DIGITAL ALARM COMMUNICATOR TERMINAL
DED	DEDICATED CIRCUIT
EC	EMPTY CONDUIT
EG	EQUIPMENT GROUND
EX, EXIST	EXISTING
EXT	EXTERIOR
FACP	FIRE ALARM CONTROL PANEL
FAAP	FIRE ALARM REMOTE ANNUNCIATOR PANEL
FMC	FLEXIBLE METAL CONDUIT
FSS	FUSED SAFETY SWITCH
GEC	GROUNDING ELECTRODE CONDUCTOR
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
H	HIGH
IBC	INTERNATIONAL BUILDING CODE
IG	ISOLATED GROUND
KW	KILOWATT
MBJ	MAIN BONDING JUMPER
MCB	MAIN CIRCUIT BREAKER
MDP	MAIN DISTRIBUTION PANEL
MLO	MAIN LUGS ONLY
N	NEUTRAL
NEC	NATIONAL ELECTRICAL CODE
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
NFSS	NON-FUSED SAFETY SWITCH
PC	PHOTOCELL
POD	POWER OPERATED DAMPER
R	RELOCATED
TCL	TOTAL CONNECTED LOAD
TDL	TOTAL DEMAND LOAD
TVSS	TRANSIENT VOLTAGE SURGE & SPIKE
TYP	TYPICAL
UL	UNDERWRITERS LABORATORIES
UNO	UNLESS NOTED OTHERWISE
UPS	UNINTERRUPTED POWER SUPPLY
W	WIRE
WP	WEATHERPROOF
XFMR	TRANSFORMER

ELECTRICAL LEGEND

	120V DUPLEX RECEPTACLE, MOUNTED 18" AFF. MODIFIERS FOR RECEPTACLES: GFI = GROUND FAULT CIRCUIT INTERRUPTER. WP = WEATHERPROOF
	120V QUAD RECEPTACLE, MOUNTED 18" AFF.
DED	DEDICATED DUPLEX RECEPTACLE
#	ANALOG TELCO LINE (FROM PHONE ROOM) *
#	TELCO PORT MOUNTED 18" AFF (ONE CAT 6 CABLE) *
#	TELCO/DATA PORT MOUNTED 18" AFF (TWO CAT 6 CABLES PER SYMBOL) *
	120V SIMPLEX RECEPTACLE, MOUNTED 18" AFF.
	220V DUPLEX RECEPTACLE, MOUNTED 18" AFF.
J	JUNCTION BOX
	FUSED DISCONNECT
	UNFUSED DISCONNECT
S	SINGLE POLE SWITCH, MOUNTED 44" AFF MODIFIERS FOR SWITCHES: 3 = THREE WAY 4 = FOUR WAY DM = DIMMER SWITCH OC = OCCUPANT SENSOR K = KEYED
	WIRING SYSTEM-BRANCH OR FEEDER CIRCUIT
	WIRING SYSTEM-SWITCHED BRANCH OR FEEDER CIRCUIT
	HOMERUN – 120V OR 277V **
	HOMERUN – 208V OR 480V **
PC	PHOTOELECTRIC CELL
	OCCUPANCY SENSOR SWITCHPACK
	CEILING MOUNTED DUAL TECHNOLOGY OCCUPANCY SENSOR
C	CLOCK

NOTES:
* – # REPLACED BY A NUMBER DENOTES THE NUMBER OF TELCO/DATA PORTS REQUIRED IN THIS LOCATION

** – BRANCH OR FEEDER CIRCUIT HOMERUN TO PANELBOARD, SWITCHBOARD, MOTOR CONTROL CENTER, ETC. SUBSCRIPT DENOTES PANELBOARD, SWITCHBOARD, MOTOR CONTROL CENTER, ETC. AND OVERCURRENT PROTECTION DEVICE NUMBER.

*** – SOME SYMBOLS MAY NOT BE USED IN THIS DRAWING SET.

LIGHT FIXTURE SCHEDULE

SYMBOL**	LABEL	# LAMPS	# OF BALLASTS	WATTS/ FIXTURE	VOLTAGE	DESCRIPTION	MANUFACTURER/CATALOG NUMBER *
	A	LED	---	22	120	2'x4' RECESSED LED TROFFER	CREE MODEL# CR24-22L-40K OR APPROVED EQUIVALENT
	B	LED	---	36	120	2'x4' SURFACE-MOUNTED LED	CREE MODEL# CR24-22L-40K OR APPROVED EQUIVALENT
	C	LED	---	35	120	2'x2' SURFACE-MOUNTED LED	CREE MODEL# CR22-32L-40K OR APPROVED EQUIVALENT
	D	LED	---	22	120	1'x4' SURFACE-MOUNTED LED	CREE MODEL# CR14-22L-40K OR APPROVED EQUIVALENT
	EX	LED	---	0.92	120	LED EMERGENCY SINGLE FACE EXIT SIGN WITH DIRECTIONAL INDICATOR AND BATTERY BACK UP	LITHONIA MODEL# LQM-S-W-3-R-120/277-ELN OR APPROVED EQUIVALENT
	EXL	2	---	3.3	120	LED EMERGENCY SINGLE FACE EXIT SIGN/DUAL LAMP MR24 EMERGENCY LIGHT COMBO WITH DIRECTIONAL INDICATOR AND BATTERY BACK UP	LITHONIA MODEL# LHQM-S-W-3-R-N OR APPROVED EQUIVALENT
	EL	2	---	1.2	120	DUAL LAMP MR24 EMERGENCY LIGHT WITH BATTERY BACK UP	LITHONIA MODEL# ELM2 OR APPROVED EQUIVALENT
	F	LED	---	44	120	LINEAR LED PENDANT LIGHT FIXTURE	LUNERA MODEL# 6400-DR-S-4000-MV-044 OR APPROVED EQUIVALENT
	G	LED	---	129	120	LOW-PROFILE, HIGH-OUTPUT, CONCENTRATED DOWNLIGHT LED FIXTURE WITH DIMMING DRIVER	PHILIPS/GARDCO MODEL# SFC-DIM-5R-140LA-NW-UNIV-NP OR APPROVED EQUIVALENT

* – CONTRACTOR TO VERIFY FIXTURE TYPES BEFORE ORDERING. ENGINEER SHALL NOT BE RESPONSIBLE FOR MISMATCHED OR INACCURATE PART NUMBERS.
** – EM – EMERGENCY BATTERY BACK UP (USE TWO LAMP EMERGENCY BALLAST WHERE ONLY A SINGLE FIXTURE IS VISIBLE)
NL – NIGHT LIGHT
QR – QUARTZ RESTRIKE
*** – NOTE: ALL FLUORESCENT LIGHT FIXTURES MUST HAVE INDIVIDUAL DISCONNECTING MEANS LOCATED AT EACH FIXTURE.

FIRE ALARM AND LIFE SAFETY SCHEDULE

SYMBOL	DESCRIPTION
	FIRE ALARM HORN/STROBE LIGHT-WALL MOUNTED SUCH THAT THE ENTIRE LENS IS NOT LESS THAN 80" AND NOT GREATER THAN 96" AFF.
	FIRE ALARM HORN/STROBE LIGHT-CEILING MOUNTED SUCH THAT THE ENTIRE LENS IS NOT GREATER THAN 10'-0" AFF.
	FIRE ALARM STROBE LIGHT-WALL MOUNTED SUCH THAT THE ENTIRE LENS IS NOT LESS THAN 80" AND NOT GREATER THAN 96" AFF.
F	MANUAL FIRE ALARM PULL STATION TO BE LOCATED WITHIN 5 FT OF THE EXIT DOORWAY OPENING; MOUNTED AT 48" AFF.
FACP	FIRE ALARM CONTROL PANEL
FAA	FIRE ALARM ANNUNCIATOR
S	SMOKE DETECTOR
H	HEAT DETECTOR
S D	SMOKE DUCT DETECTOR
FS	FLOW SWITCH
TS	TAMPER SWITCH
SFD	SMOKE FIRE DAMPERS

BUILDING CODE DATA

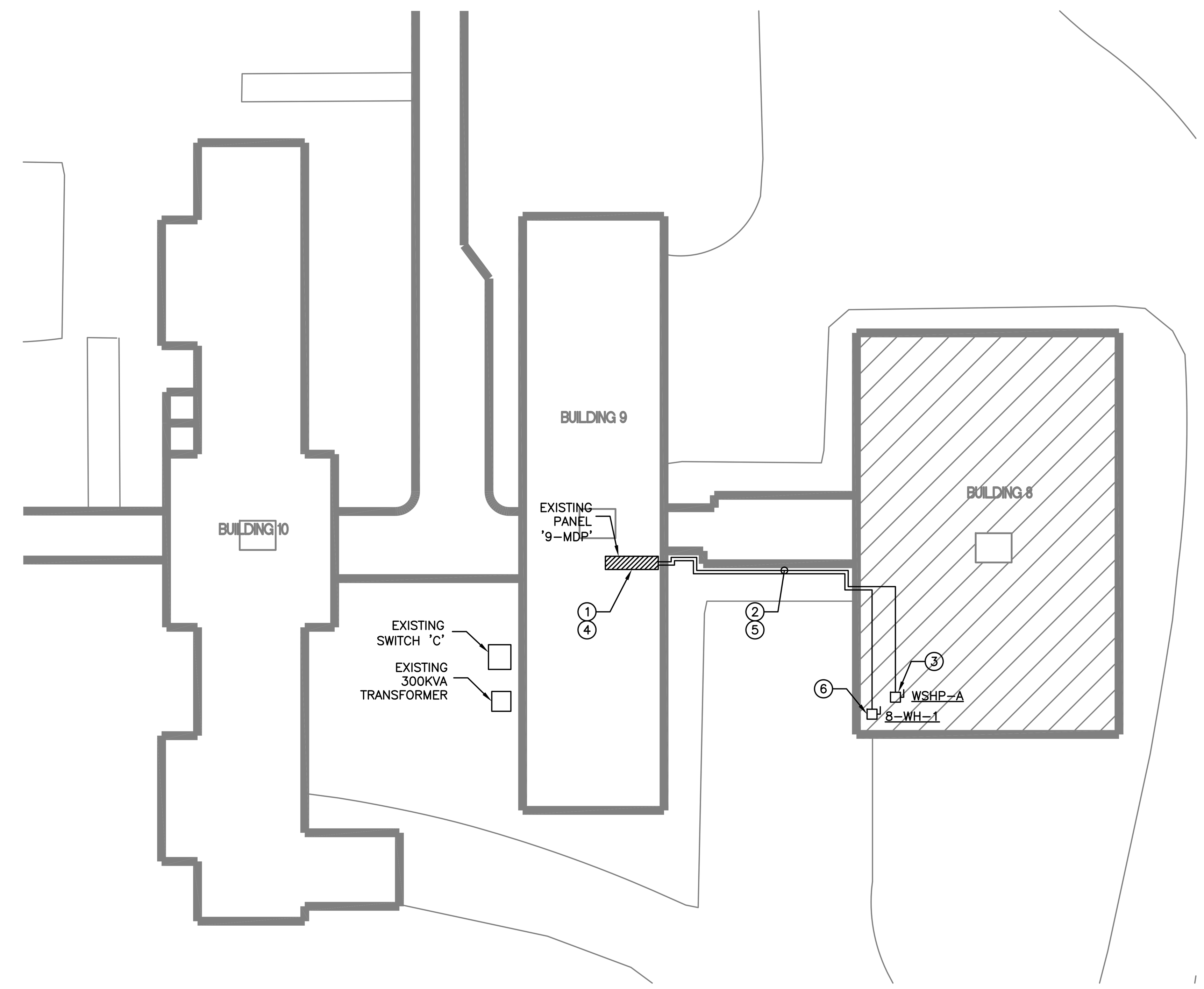
ELECTRICAL SYSTEM AND EQUIPMENT
METHOD OF COMPLIANCE: PRESCRIPTIVE PERFORMANCE

LIGHTING SCHEDULE
LAMP TYPE REQUIRED IN FIXTURE: REFER TO LIGHT FIXTURE SCHEDULE
NUMBER OF LAMPS IN FIXTURE: REFER TO LIGHT FIXTURE SCHEDULE
BALLAST TYPE USED IN THE FIXTURE: REFER TO LIGHT FIXTURE SCHEDULE
NUMBER OF BALLASTS IN FIXTURE: REFER TO LIGHT FIXTURE SCHEDULE
TOTAL WATTAGE PER FIXTURE: REFER TO LIGHT FIXTURE SCHEDULE
TOTAL INTERIOR WATTAGE SPECIFIED VS. ALLOWED: 4875 W SPECIFIED VS. 17051 W ALLOWED
TOTAL EXTERIOR WATTAGE SPECIFIED VS. ALLOWED: N/A

EQUIPMENT SCHEDULES WITH MOTORS (NOT USED FOR MECHANICAL SYSTEMS)
MOTOR HORSEPOWER: N/A
NUMBER OF PHASES: N/A
MINIMUM EFFICIENCY: N/A
MOTOR TYPE: N/A
NUMBER OF POLES: N/A

DESIGNER STATEMENT:
TO THE BEST OF MY KNOWLEDGE AND BELIEF, THE DESIGN OF THIS BUILDING COMPLIES WITH THE ELECTRICAL SYSTEM AND EQUIPMENT REQUIREMENTS OF ASHRAE/IESNA STANDARD 90.1-2004 ENERGY CODE.

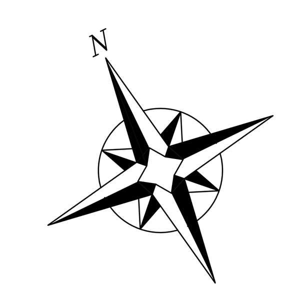
NAME: PATRICK B. TAYLOR
TITLE: PROFESSIONAL ENGINEER



SITE PLAN NOTES:

1. INSTALL A NEW 175A 3-POLE BREAKER IN AN EXISTING SPACE IN BUILDING 9 PANEL '9-MDP' LOCATED IN BASEMENT OF BUILDING 9.
2. INSTALL NEW 175A FEEDER, 3-2/0 AWG, 1-6 AWG EG, IN 2" CONDUIT, FROM PANEL '9-MDP' TO BASEMENT OF BUILDING 8 AND CONNECT TO NEW WSHP-A. ROUTE NEW CONDUIT ON OUTSIDE WALL OF CONNECTOR BUILDING AND FOLLOW EXISTING CONDUITS.
3. UNIT DISCONNECT AT WSHP-A BY UNIT MANUFACTURER. SEE E-103. VERIFY LOCATION WITH MECHANICAL DRAWINGS.
4. REMOVE EXISTING 100A 3-POLE BREAKER LABELED "505-1 & 501-1" IN PANEL '9-MDP' AND INSTALL A NEW 175A 3-POLE BREAKER IN IT'S PLACE AND LABEL "BUILDING 8 WATER HEATER".
5. INSTALL NEW 175A FEEDER, 3-2/0 AWG, 1-6 AWG EG, IN 2" CONDUIT, FROM PANEL '9-MDP' TO BASEMENT OF BUILDING 8 AND CONNECT TO NEW WATER HEATER 8-WH-1. ROUTE NEW CONDUIT ON OUTSIDE WALL OF CONNECTOR BUILDING AND FOLLOW EXISTING CONDUITS.
6. INSTALL A NEW 200A NON-FUSED DISCONNECT FOR NEW WATER HEATER 8-WH-1.

1 / E-001 ELECTRICAL SITE PLAN
SCALE: NTS



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Apogee Project # 2011 135
Apogee COA# PC80800089

Professional Stamp/Seal
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DEPARTMENT OF VETERANS AFFAIRS · UNITED STATES OF AMERICA

Drawing Title: GENERAL NOTES, ABBREVIATIONS, AND LEGENDS
Project Title: ENERGY IMPROVEMENTS & AIR CONDITIONING BUILDING #8, GYM
Date: 09/19/11
Project No.: 610-10-100
Building No.: 8
Scale: AS SHOWN
Drawn/Checked: SAE/PBT
Location: VA MEDICAL CENTER ENGINEERING BLDG #52, RM 201 1700 E. 38TH ST MARION, IN 46953
DRAWING NO. E-001
Dwg. 1 of 6

VA NIHCS Engineering
Department of Veterans Affairs

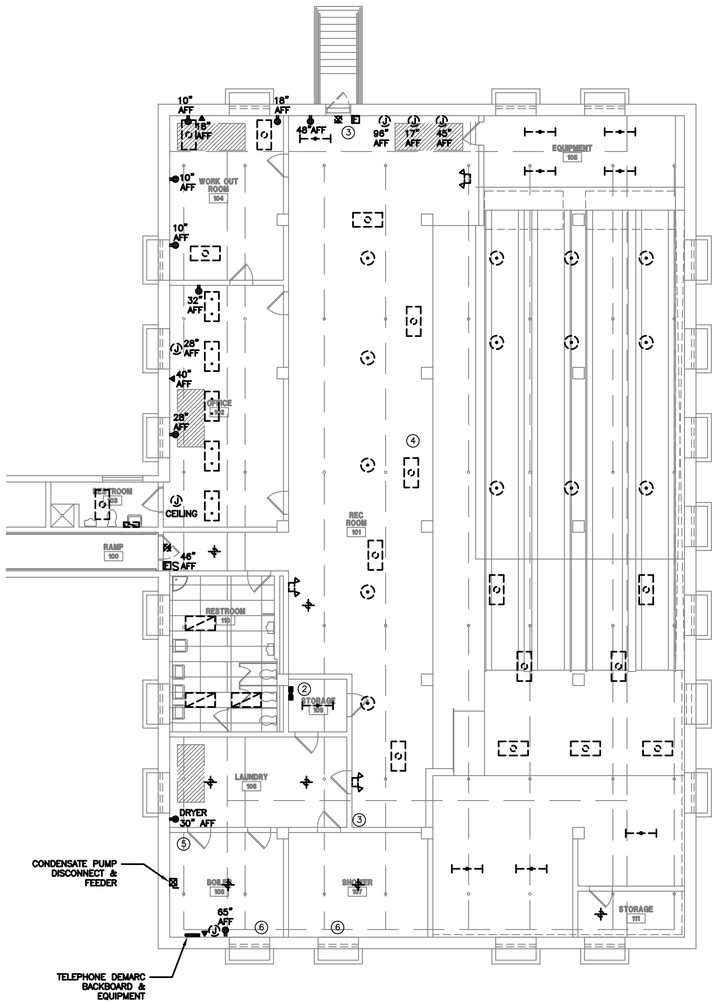
*U.S. GOVERNMENT PRINTING OFFICE: 1983-400-285
VA FORM 08-6231, FEB. 1983

LOWER LEVEL & GYMNASIUM DEMOLITION PLAN NOTES:

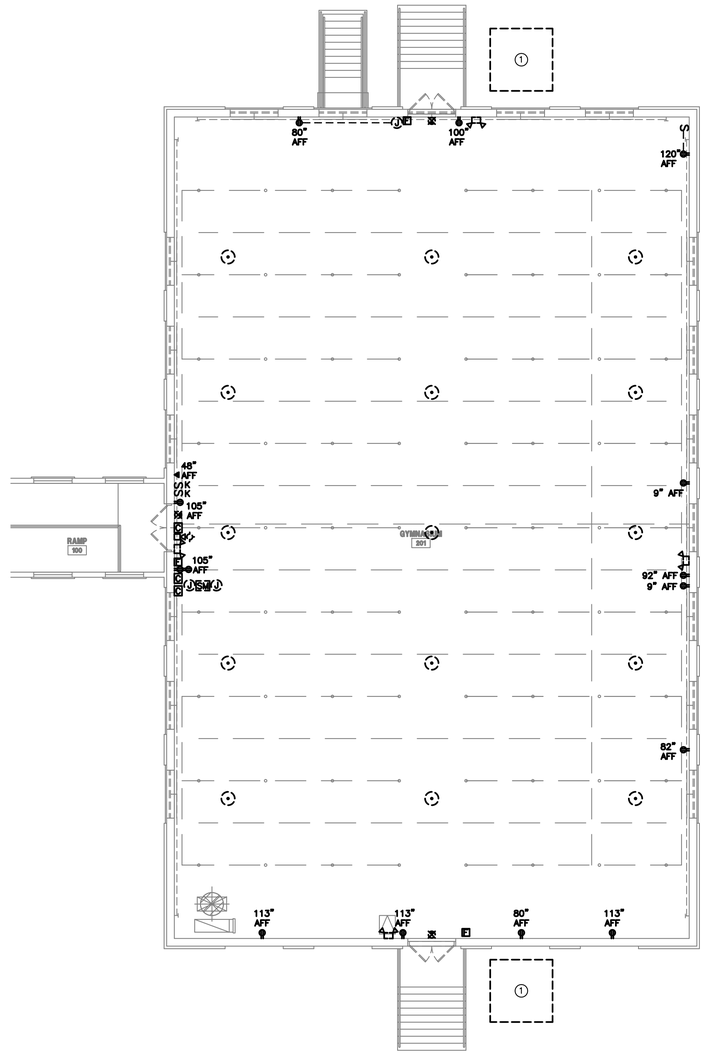
1. LIGHTING FIXTURES SHOWN IN THIS PLAN SHALL BE REMOVED.
2. ALL SWITCHES, CONDUCTORS, AND CONDUIT SERVING FIXTURES TO BE REMOVED SHALL ALSO BE REMOVED BACK TO TERMINATION POINT.
3. JUNCTION BOXES, PANELS, AND ENCLOSURES SHALL HAVE ALL UNUSED OPENINGS BLOCKED OFF.
4. THE OUTSIDE WALLS OF THIS BUILDING SHALL BE STRIPPED AND INSULATED WITH A NEW WALL ASSEMBLY TO BE CONSTRUCTED. ALL EXISTING RECEPTACLES, TELECOM OUTLETS, SWITCHES, DISCONNECTS, FIRE ALARM DEVICES, CONDUIT, ELECTRICAL DEVICES, ETC. ON OUTSIDE WALLS OF THIS BUILDING MUST BE DEMOLISHED AND RELOCATED ON NEW WALL ASSEMBLY. ANY ELECTRICAL DEVICES DAMAGED DURING DEMOLITION SHALL BE REPLACED WITH NEW. RECONNECT ALL ELECTRICAL DEVICES BACK TO EXISTING CIRCUITS.
5. ALL EXIT SIGNS AND EMERGENCY LIGHTS SHALL BE DEMOLISHED AND RETURNED TO THE OWNER.

DEMOLITION TAG NOTES:

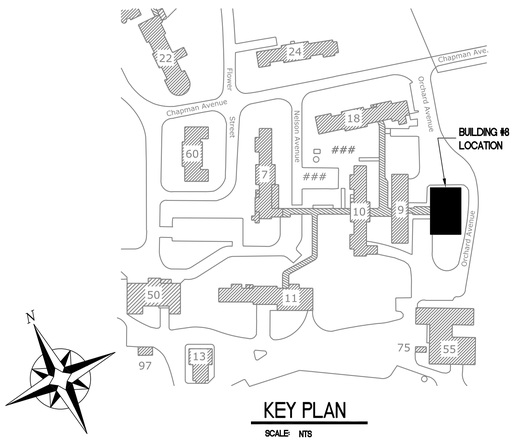
1. CONDENSING UNIT SHALL BE REMOVED BY MECHANICAL CONTRACTOR. ELECTRICAL CONTRACTOR SHALL REMOVE EXISTING 208V 3ø 50A FEED BACK TO PANELBOARD IN BASEMENT.
2. EXISTING PANELBOARD '8-B2' SHALL BE REMOVED WHEN ALL MECHANICAL LOADS ARE REMOVED. A NEW PANELBOARD SHALL BE INSTALLED IN IT'S PLACE.
3. EXISTING FAN COIL UNIT SHALL BE REMOVED BY MECHANICAL CONTRACTOR. ELECTRICAL CONTRACTOR SHALL REMOVE EXISTING 208V 3ø FEEDER BACK TO PANELBOARD.
4. EXISTING STEAM RADIATOR FAN SHALL BE REMOVED BY MECHANICAL CONTRACTOR. ELECTRICAL CONTRACTOR SHALL REMOVE EXISTING FEEDER BACK TO PANELBOARD.
5. EXISTING CONDENSATE RECEIVER PUMP FEEDER SHALL BE COMPLETELY REMOVED BY ELECTRICAL CONTRACTOR.
6. EXISTING EXHAUST FAN FEEDER SHALL BE COMPLETELY REMOVED BY ELECTRICAL CONTRACTOR.



1 / E-101 LOWER LEVEL POWER + LIGHTING DEMOLITION PLAN
SCALE: 1/8" = 1'-0"



2 / E-101 GYMNASIUM POWER + LIGHTING DEMOLITION PLAN
SCALE: 1/8" = 1'-0"



KEY PLAN
SCALE: NTS

100% CONSTRUCTION DOCUMENTS

Revisions	Date

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Drawing Title: LOWER LEVEL + GYMNASIUM DEMOLITION PLANS

Project Title: ENERGY IMPROVEMENTS & AIR CONDITIONING BUILDING #8, GYM

Building No.: 8
Scale: AS SHOWN
Drawn/Checked: SAE/PBT

Location: VA MEDICAL CENTER ENGINEERING BLDG #52, RM 201 1700 E. 38TH ST MARION, IN 46953

Date: 09/19/11
Project No.: 610-10-100
DRAWING NO.: E-101
Dwg. 2 of 6

VA NIHCS Engineering

Department of Veterans Affairs

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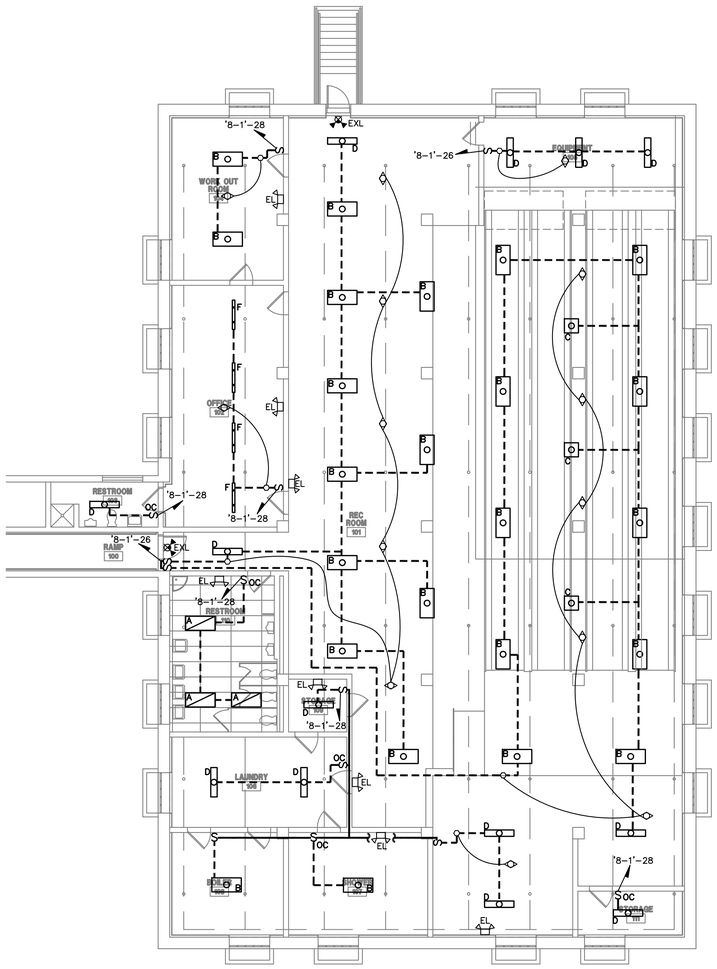
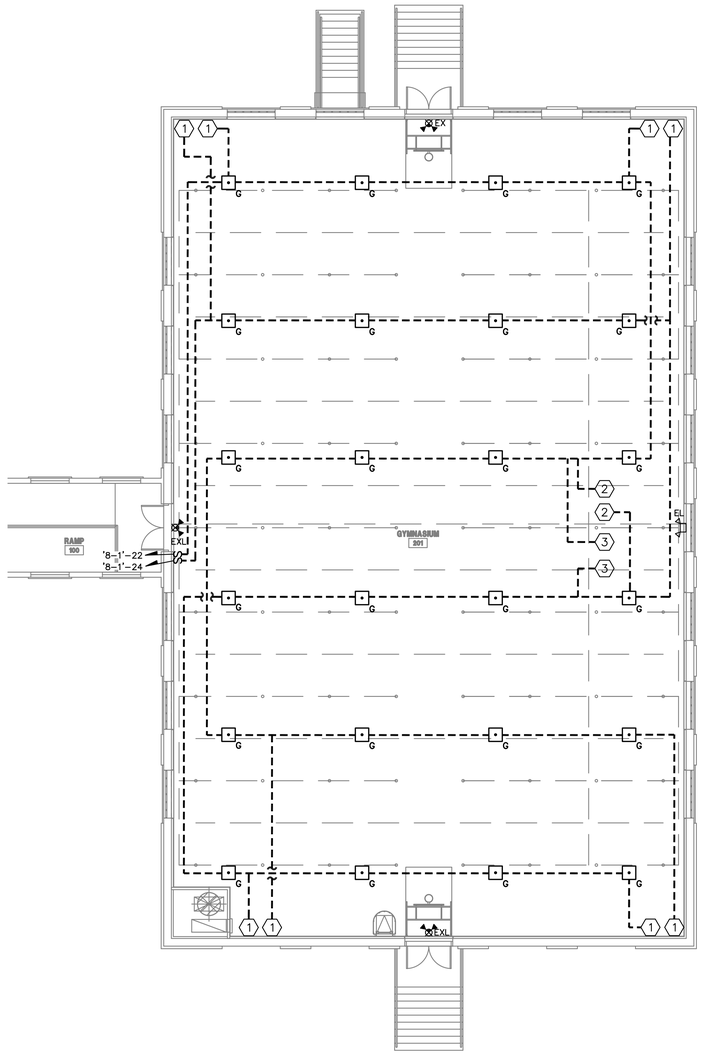


1
E-102
LOWER LEVEL LIGHTING PLAN
SCALE: 1/8" = 1'-0"

LOWER LEVEL LIGHTING PLAN NOTES:

1. ALL LIGHTING CONDUCTORS SHALL BE 2-12 AWG, 1-12 AWG EG IN 3/4" EMT OR MC CABLE UNLESS NOTED OTHERWISE.
2. CIRCUIT ALL EMERGENCY/EXIT LIGHTS ON LIGHTING CIRCUIT SERVING THE SAME AREA BUT AHEAD OF ANY SWITCHING.
3. LOCATION OF OCCUPANCY SENSORS IS APPROXIMATE. CONTRACTOR SHALL FOLLOW MANUFACTURER'S RECOMMENDED PLACEMENT AND INSTALLATION PER MANUFACTURER'S INSTRUCTIONS.



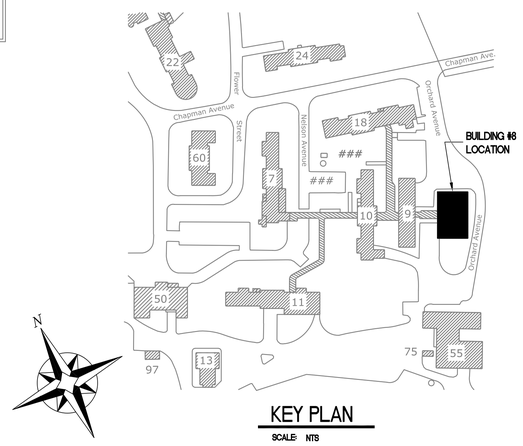
2
E-102
GYMNASIUM LIGHTING PLAN
SCALE: 1/8" = 1'-0"

GYMNASIUM LIGHTING PLAN NOTES:

1. ALL LIGHTING CONDUCTORS SHALL BE 2-12 AWG, 1-12 AWG EG IN 3/4" EMT OR MC CABLE UNLESS NOTED OTHERWISE.
2. CIRCUIT ALL EMERGENCY/EXIT LIGHTS ON LIGHTING CIRCUIT SERVING THE SAME AREA BUT AHEAD OF ANY SWITCHING.

GYMNASIUM LIGHTING CONTROL TAG NOTES:

1. WATT STOPPER WALL MOUNTED CX-100 MOTION SENSOR. INSTALL PER MANUFACTURER'S INSTRUCTIONS. INSTALL WIRE CAGE WC-2.
2. CEILING MOUNTED WATT STOPPER LS-102 SWITCHING PHOTOSENSOR. INSTALL PER MANUFACTURER'S INSTRUCTIONS.
3. CEILING MOUNTED WATT STOPPER LS-301 DIMMING PHOTOSENSOR. INSTALL PER MANUFACTURER'S INSTRUCTIONS.



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DEPARTMENT OF VETERANS AFFAIRS · UNITED STATES OF AMERICA

Drawing Title: LOWER LEVEL + GYMNASIUM LIGHTING PLANS

Project Title: ENERGY IMPROVEMENTS & AIR CONDITIONING BUILDING #8, GYM

Building No.: 8
Scale: AS SHOWN
Drawn/Checked: SAE/PBT

Location: VA MEDICAL CENTER ENGINEERING BLDG #52, RM 201 1700 E. 38TH ST MARION, IN 46953

Date: 09/19/11
Project No.: 610-10-100
DRAWING NO.: E-102
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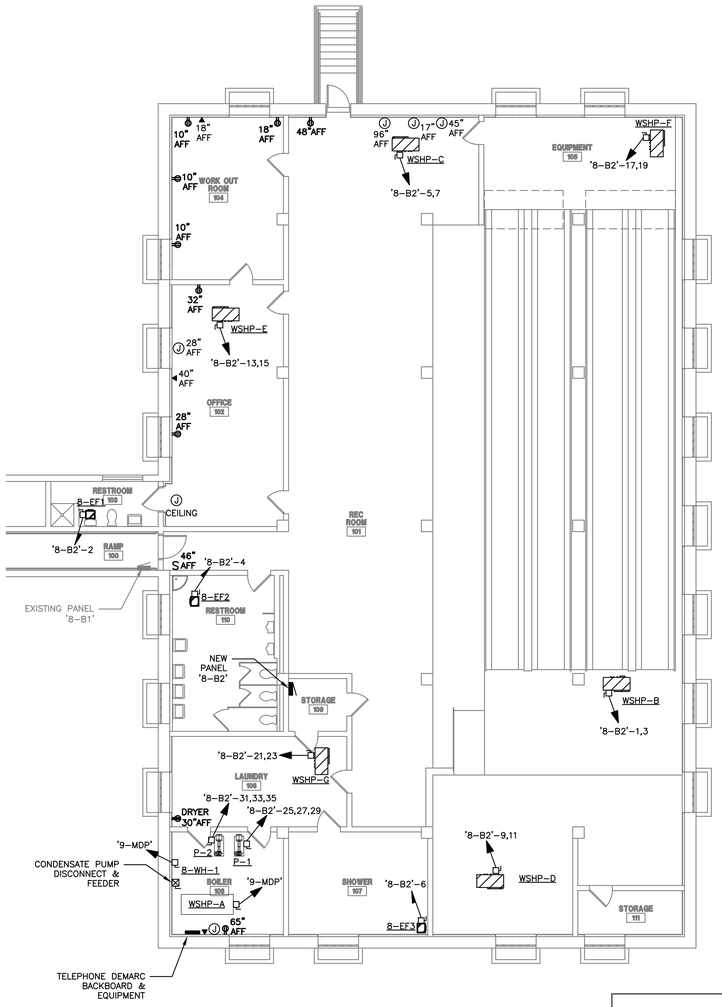
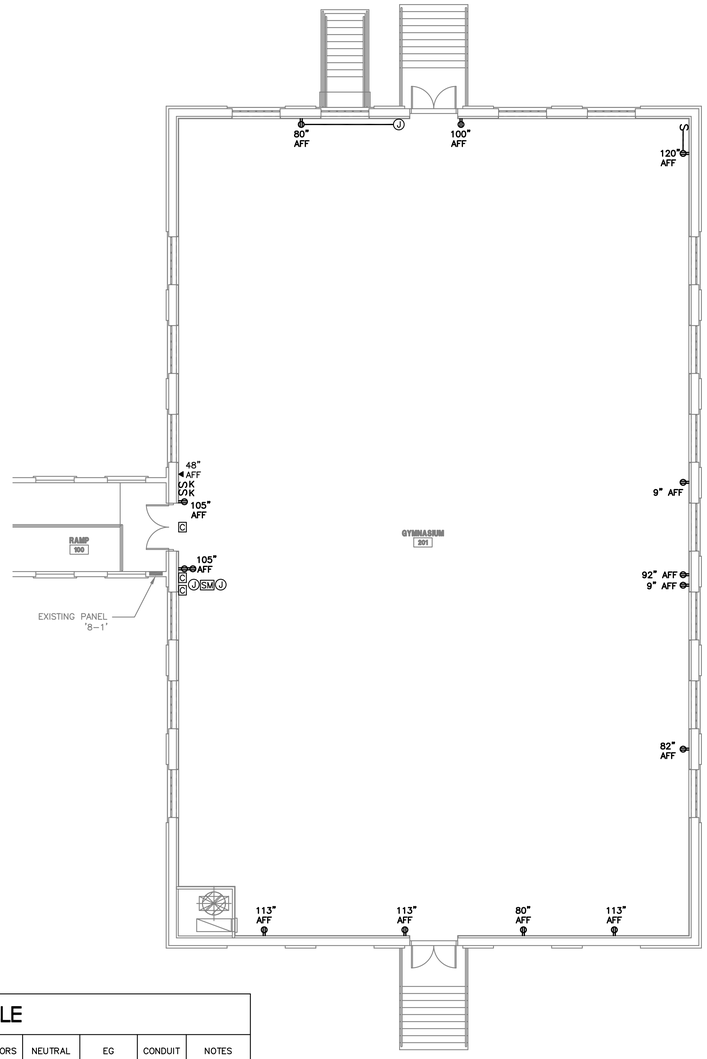


1 E-103 LOWER LEVEL POWER PLAN

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

LOWER LEVEL & GYMNASIUM POWER PLAN NOTES:

1. ALL RECEPTACLE CONDUCTORS SHALL BE 2-12 AWG, 1-12 AWG EG IN 3/4" EMT OR MC CABLE UNLESS NOTED OTHERWISE.
2. VERIFY LOCATION OF MECHANICAL EQUIPMENT WITH MECHANICAL DRAWINGS.
3. THE OUTSIDE WALLS OF THIS BUILDING SHALL BE STRIPPED AND INSULATED WITH A NEW WALL ASSEMBLY TO BE CONSTRUCTED. ALL EXISTING RECEPTACLES, TELECOM OUTLETS, SWITCHES, DISCONNECTS, FIRE ALARM DEVICES, CONDUIT, ELECTRICAL DEVICES, ETC. ON OUTSIDE WALLS OF THIS BUILDING MUST BE DEMOLISHED AND RELOCATED ON NEW WALL ASSEMBLY. ANY ELECTRICAL DEVICES DAMAGED DURING DEMOLITION SHALL BE REPLACED WITH NEW. RECONNECT ALL ELECTRICAL DEVICES BACK TO EXISTING CIRCUITS.



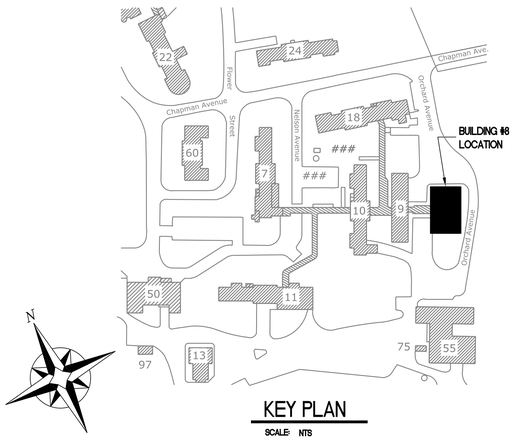
2 E-103 GYMNASIUM POWER PLAN

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

EQUIPMENT CONDUCTOR SCHEDULE

TAG	DESCRIPTION	VOLTAGE	AMPS/HP/ WATTS/KW	DISCONNECT (SIZE & TYPE)	MOCP	CONDUCTORS	NEUTRAL	EG	CONDUIT	NOTES
WSHP-A	WATER SOURCE HEAT PUMP	208V/3ø	175 A	---	3P-175	3-2/0 AWG	---	1-6 AWG	2"	1
WSHP-B	WATER SOURCE HEAT PUMP	208V/1ø	30 A	---	2P-30	2-10 AWG	---	1-10 AWG	3/4"	1
WSHP-C	WATER SOURCE HEAT PUMP	208V/1ø	30 A	---	2P-30	2-10 AWG	---	1-10 AWG	3/4"	1
WSHP-D	WATER SOURCE HEAT PUMP	208V/1ø	20 A	---	2P-20	2-12 AWG	---	1-12 AWG	3/4"	1
WSHP-E	WATER SOURCE HEAT PUMP	208V/1ø	20 A	---	2P-20	2-12 AWG	---	1-12 AWG	3/4"	1
WSHP-F	WATER SOURCE HEAT PUMP	208V/1ø	20 A	---	2P-20	2-12 AWG	---	1-12 AWG	3/4"	1
WSHP-G	WATER SOURCE HEAT PUMP	208V/1ø	20 A	---	2P-20	2-12 AWG	---	1-12 AWG	3/4"	1
8-P1	HVAC PUMP	208V/3ø	7.5 HP	30A NEMA 1	3P-35	3-8 AWG	---	1-10 AWG	3/4"	2,3
8-P2	HVAC PUMP	208V/3ø	7.5 HP	30A NEMA 1	3P-35	3-8 AWG	---	1-10 AWG	3/4"	2,3
8-EF1	EXHAUST FAN	120V/1ø	48.2 W	30A NEMA 1	1P-20	1-12 AWG	1-12 AWG	1-12 AWG	3/4"	3
8-EF2	EXHAUST FAN	120V/1ø	217 W	30A NEMA 1	1P-20	1-12 AWG	1-12 AWG	1-12 AWG	3/4"	3
8-EF3	EXHAUST FAN	120V/1ø	80.7 W	30A NEMA 1	1P-20	1-12 AWG	1-12 AWG	1-12 AWG	3/4"	3
8-WH-1	WATER HEATER	208V/3ø	60 KW	200A NEMA 1	3P-175	3-2/0 AWG	---	1-6 AWG	2"	---

NOTES:
1. ALL WATER SOURCE HEAT PUMP UNIT DISCONNECTS SHALL BE PROVIDED BY MANUFACTURER.
2. PUMPS 8-P1 AND 8-P2 SHALL NEVER RUN SIMULTANEOUSLY
3. UNIT DISCONNECT SHALL BE PROVIDED BY MECHANICAL CONTRACTOR



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DRAWING NO. E-103

Dwg. 4 of 6

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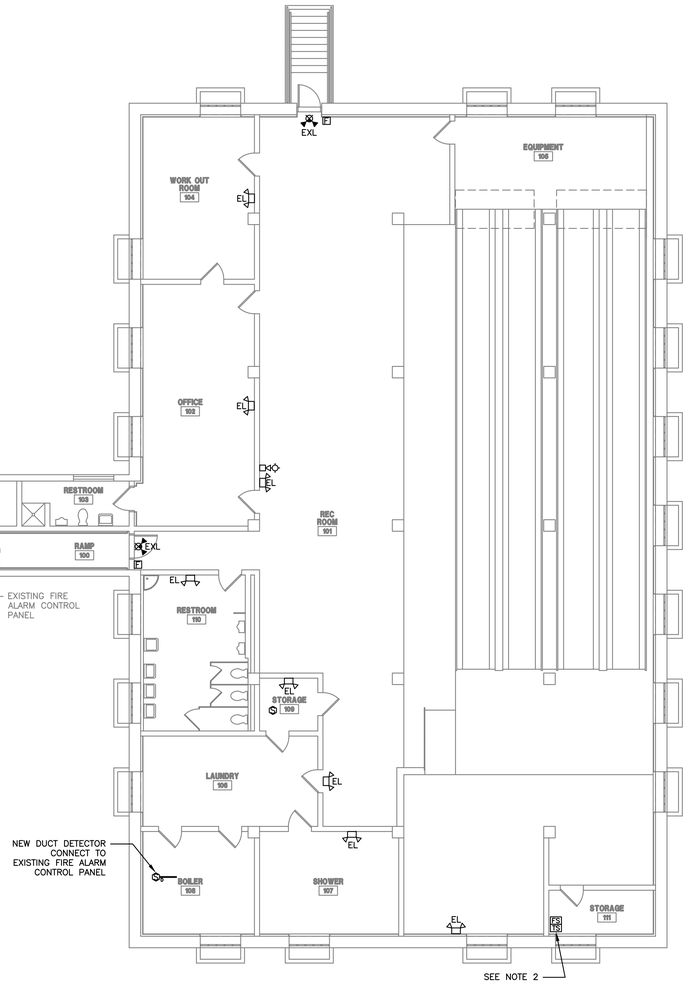
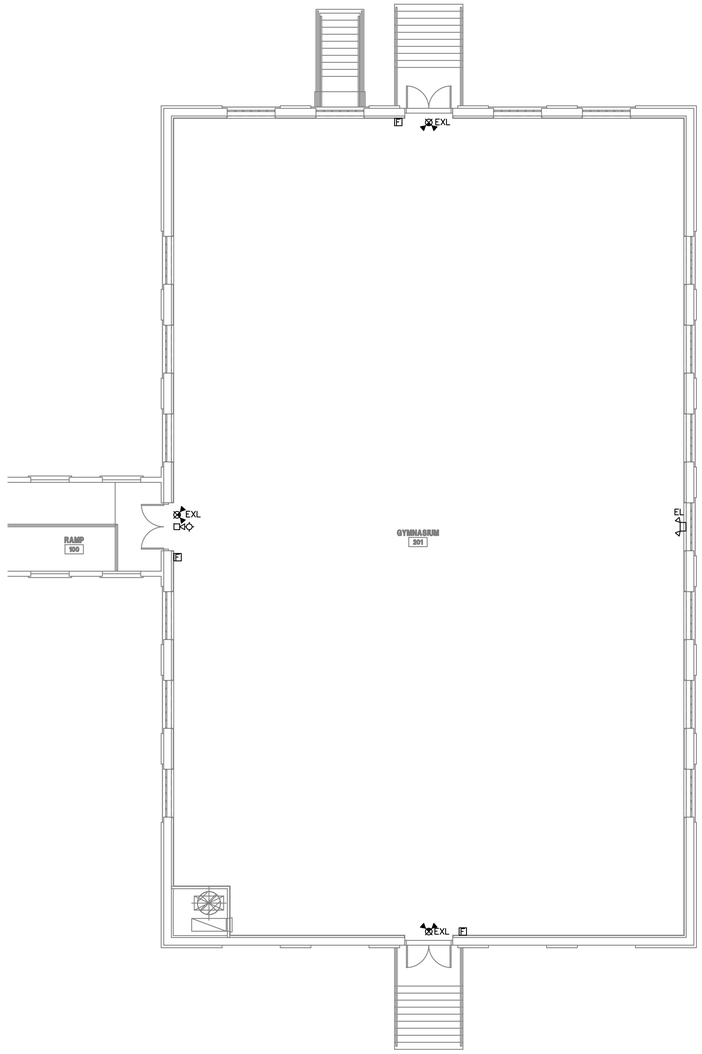


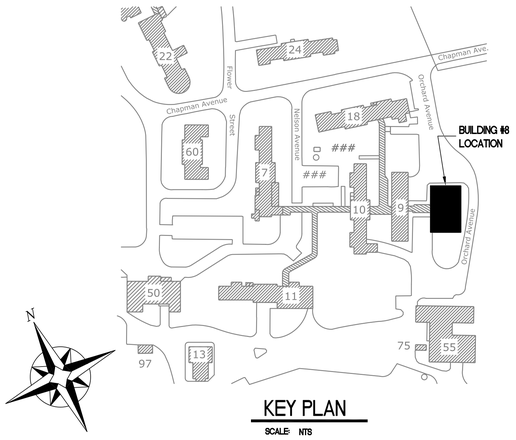
1
E-104
LOWER LEVEL FIRE ALARM + LIFE SAFETY PLAN
SCALE: 1/8" = 1'-0"

LOWER LEVEL & GYMNASIUM FIRE ALARM & LIFE SAFETY PLAN NOTES:

1. A CORRIDOR, ROOM, OR ADJACENT SPACE WITH TWO OR MORE VISIBLE NOTIFICATION APPLIANCES WITHIN THE FIELD OF VIEW SHALL FLASH IN SYNCHRONIZATION.
2. CONDUIT TO EXISTING TAMPER SWITCHES MUST BE RELOCATED TO ALLOW FOR WALL INSULATION BUILD-OUT.
3. ALL DEVICES ARE EXISTING TO BE RELOCATED TO ALLOW FOR WALL INSULATION BUILD-OUT UNLESS NOTED OTHERWISE.
4. CIRCUIT ALL EMERGENCY/EXIT LIGHTS ON LIGHTING CIRCUIT SERVING THE SAME AREA BUT AHEAD OF ANY SWITCHING.



2
E-104
GYMNASIUM FIRE ALARM + LIFE SAFETY PLAN
SCALE: 1/8" = 1'-0"



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Project Title: ENERGY IMPROVEMENTS & AIR CONDITIONING BUILDING #8, GYM

Date: 09/19/11
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DRAWING NO.: E-104
Dwg. 5 of 6

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LOAD SERVED	KVA / Phase A	B	C	CKT BRKR	CKT NO	NEUTRAL A B C	CKT NO	CKT BRKR	KVA / Phase A	B	C	LOAD SERVED
EXISTING LOAD	1.44	---	---	1P-20	1		2	1P-20	1.44	---	---	EXISTING LOAD
EXISTING LOAD	---	1.44	---	1P-20	3		4	1P-20	---	1.44	---	EXISTING LOAD
EXISTING LOAD	---	---	1.44	1P-20	5		6	1P-20	---	---	1.44	EXISTING LOAD
EXISTING LOAD	1.44	---	---	1P-20	7		8	1P-20	1.44	---	---	EXISTING LOAD
EXISTING LOAD	---	1.44	---	1P-20	9		10	1P-20	---	1.44	---	EXISTING LOAD
EXISTING LOAD	---	---	1.44	1P-20	11		12	1P-20	---	---	1.44	EXISTING LOAD
EXISTING LOAD	1.44	---	---	1P-20	13		14	1P-20	1.44	---	---	EXISTING LOAD
EXISTING LOAD	---	1.44	---	1P-20	15		16	1P-20	---	0.00	---	SPARE
EXISTING LOAD	---	---	1.44	1P-20	17		18	1P-20	---	---	1.44	EXISTING LOAD
EXISTING LOAD	1.44	---	---	1P-20	19		20	1P-20	1.44	---	---	EXISTING LOAD
EXISTING LOAD	---	1.44	---	1P-20	21		22	1P-20	---	1.44	---	EXISTING LOAD
EXISTING LOAD	---	---	1.44	1P-20	23		24	1P-20	---	---	1.44	EXISTING LOAD
EXISTING LOAD	1.44	---	---	1P-20	25		26	1P-20	1.44	---	---	EXISTING LOAD
EXISTING LOAD	---	1.44	---	1P-20	27		28	1P-20	---	1.44	---	EXISTING LOAD
EXISTING LOAD	---	---	1.44	1P-20	29		30	1P-20	---	---	1.44	EXISTING LOAD
EXISTING PANEL '8-1'	12.98	---	---	3P-100	31		32	--	0.00	---	---	SPACE
	---	12.17	---		33		34	--	---	0.00	---	SPACE
	---	---	12.13		35		36	--	---	---	0.00	SPACE
SPACE	0.00	---	---	--	37		38	--	0.00	---	---	SPACE
EXISTING LOAD	---	1.44	---	1P-20	39		40	1P-20	---	1.44	---	EXISTING LOAD
SPARE	---	---	0.00	1P-20	41		42	1P-20	---	---	0.00	SPARE
SUB TOTAL	20.18	20.81	19.33						7.20	7.20	7.20	SUB TOTAL
									27.38	28.01	26.53	TOTAL

C/B TEMP. 75 C. RATING 120 208 V 3 PH 4 WIRE
MOUNTING SURFACE
ISOLATED GROUND BUS [ ] YES [X] NO
MAIN CIRCUIT BREAKER [ ] YES [X] NO
SERVICE ENTR. RATED [ ] YES [X] NO
MINIMUM AIC (K AMPS) 10
MCB RATING MLO
BUS RATING 200A
NEUTRAL RATING 100%

NOTE: ALL MOTOR CIRCUIT BREAKERS MUST BE HACR RATED.

LOAD TYPE		CONNECTED KVA A	B	C	NEC DEM FACTOR	DEMAND KVA A	B	C
GENERAL LIGHTING		0.96	2.09	1.55	125%	1.20	2.61	1.94
GENERAL USE RECEPT		25.92	25.92	24.48	<=10 KVA@100%	3.33	3.33	3.33
					>10KVA@50%	11.30	11.30	10.58
MOTORS AND EQUIPMENT	LARGEST	0.50	0.00	0.50	125%	0.63	0.00	0.63
	ALL OTHERS	0.00	0.00	0.00	100%	0.00	0.00	0.00
TOTAL KVA PER PHASE		27.38	28.01	26.53		16.45	17.24	16.47
TOTAL DEMAND AMPERES PER PHASE						137	144	137
PANEL / FEEDER (TOTAL KVA)								50.15
(TOTAL KVA) X 1000 = TOTAL AMPS / VOLTS X 1.732								139

EXISTING PANEL '8-B1'

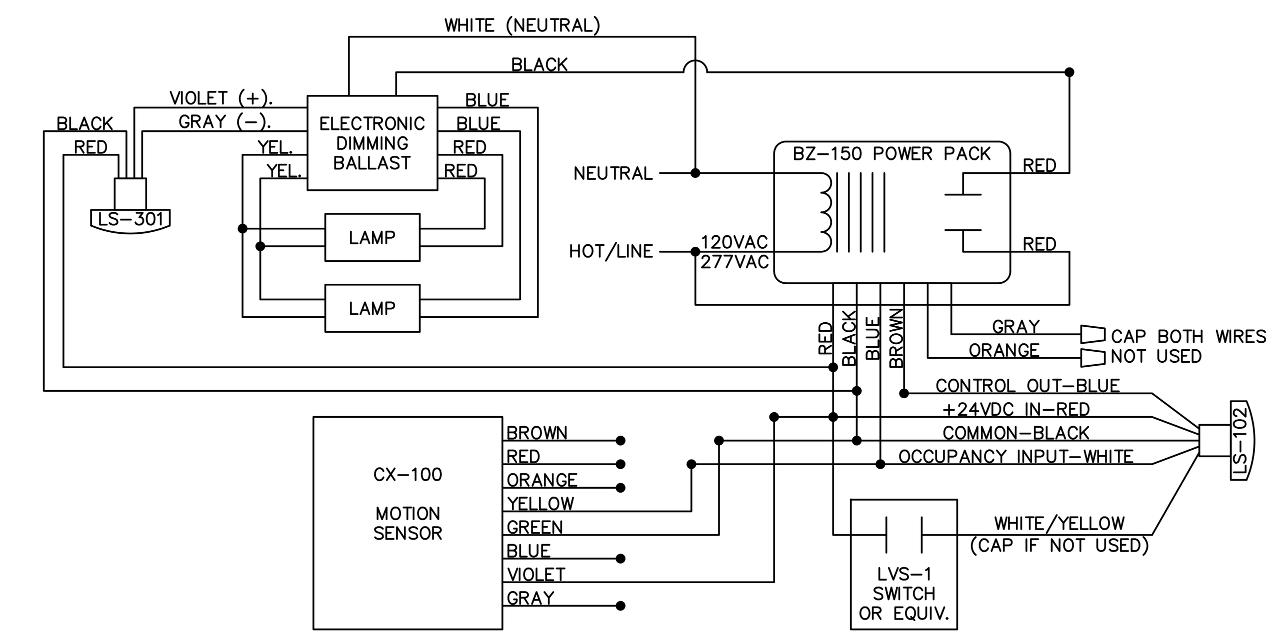
LOAD SERVED	KVA / Phase A	B	C	CKT BRKR	CKT NO	NEUTRAL A B C	CKT NO	CKT BRKR	KVA / Phase A	B	C	LOAD SERVED
EXISTING LOAD	1.44	---	---	1P-20	1		2	1P-20	1.44	---	---	EXISTING LOAD
EXISTING LOAD	---	1.44	---	1P-20	3		4	1P-20	---	1.44	---	EXISTING LOAD
EXISTING LOAD	---	---	1.44	1P-20	5		6	1P-20	---	---	1.44	EXISTING LOAD
EXISTING LOAD	1.44	---	---	1P-20	7		8	1P-20	1.44	---	---	EXISTING LOAD
EXISTING LOAD	---	1.44	---	1P-20	9		10	1P-20	---	1.44	---	EXISTING LOAD
EXISTING LOAD	---	---	1.44	1P-20	11		12	1P-20	---	---	1.44	EXISTING LOAD
EXISTING LOAD	1.44	---	---	1P-20	13		14	1P-20	1.44	---	---	EXISTING LOAD
EXISTING LOAD	---	1.44	---	1P-20	15		16	1P-20	---	1.44	---	EXISTING LOAD
EXISTING LOAD	---	---	1.44	1P-20	17		18	1P-20	---	---	1.44	EXISTING LOAD
EXISTING LOAD	1.44	---	---	1P-20	19		20	1P-20	1.44	---	---	EXISTING LOAD
EXISTING LOAD	---	1.44	---	1P-20	21		22	1P-20	---	1.55	---	NEW LTS GYM
EXISTING LOAD	---	---	1.44	1P-20	23		24	1P-20	---	---	1.55	NEW LTS GYM
SPACE	0.00	---	---	--	25		26	1P-20	0.96	---	---	NEW LTS LOWER LEVEL
SPACE	---	0.00	---	--	27		28	1P-20	---	0.54	---	NEW LTS LOWER LEVEL
FIRE ALARM SPARE	---	---	0.50	1P-20	29		30	--	---	---	0.00	SPACE
FIRE ALARM SPARE	0.50	---	---	1P-20	31		32	--	0.00	---	---	SPACE
SPACE	---	0.00	---	--	33		34	--	---	0.00	---	SPACE
SPACE	---	---	0.00	--	35		36	--	---	---	0.00	SPACE
SPACE	0.00	---	---	--	37		38	--	0.00	---	---	SPACE
SPACE	---	0.00	---	--	39		40	--	---	0.00	---	SPACE
SPACE	---	---	0.00	--	41		42	--	---	---	0.00	SPACE
SUB TOTAL	6.26	5.76	6.26						6.72	6.41	5.87	SUB TOTAL
									12.98	12.17	12.13	TOTAL

C/B TEMP. 75 C. RATING 120 208 V 3 PH 4 WIRE
MOUNTING RECESSED
ISOLATED GROUND BUS [ ] YES [X] NO
MAIN CIRCUIT BREAKER [ ] YES [X] NO
SERVICE ENTR. RATED [ ] YES [X] NO
MINIMUM AIC (K AMPS) 10
MCB RATING MLO
BUS RATING 100A
NEUTRAL RATING 100%

NOTE: ALL MOTOR CIRCUIT BREAKERS MUST BE HACR RATED.

LOAD TYPE		CONNECTED KVA A	B	C	NEC DEM FACTOR	DEMAND KVA A	B	C
GENERAL LIGHTING		0.96	2.09	1.55	125%	1.20	2.61	1.94
GENERAL USE RECEPT		11.52	10.08	10.08	<=10 KVA@100%	3.33	3.33	3.33
					>10KVA@50%	4.10	3.38	3.38
MOTORS AND EQUIPMENT	LARGEST	0.50	0.00	0.50	125%	0.63	0.00	0.63
	ALL OTHERS	0.00	0.00	0.00	100%	0.00	0.00	0.00
TOTAL KVA PER PHASE		12.98	12.17	12.13		9.25	9.32	9.27
TOTAL DEMAND AMPERES PER PHASE						77	78	77
PANEL / FEEDER (TOTAL KVA)								27.83
(TOTAL KVA) X 1000 = TOTAL AMPS / VOLTS X 1.732								77

EXISTING PANEL '8-1'



NOTES:

1. MODEL NUMBERS SHOWN ARE WATT STOPPER.
2. PROVIDE PROTECTIVE CASES FOR SENSORS IN GYM.

3 / E-601 **GYMANSIUM LIGHTING CONTROL DIAGRAM**
SCALE: N.T.S.

LOAD SERVED	KVA / Phase A	B	C	CKT BRKR	CKT NO	NEUTRAL A B C	CKT NO	CKT BRKR	KVA / Phase A	B	C	LOAD SERVED
NEW WSHP-B	2.50	---	---	2P-30	1		2	1P-20	0.05	---	---	NEW 8-EF1
	---	2.50	---		3		4	1P-20	---	0.22	---	NEW 8-EF2
NEW WSHP-C	---	---	2.50	2P-30	5		6	1P-20	---	---	0.09	NEW 8-EF3
	2.50	---	---		7		8	--	0.00	---	---	SPACE
NEW WSHP-D	---	1.66	---	2P-20	9		10	--	---	0.00	---	SPACE
	---	---	1.66		11		12	--	---	---	0.00	SPACE
NEW WSHP-E	1.66	---	---	2P-20	13		14	--	0.00	---	---	SPACE
	---	1.66	---		15		16	--	---	0.00	---	SPACE
NEW WSHP-F	---	---	1.66	2P-20	17		18	--	---	---	0.00	SPACE
	1.66	---	---		19		20	--	0.00	---	---	SPACE
NEW WSHP-G	---	1.66	---	2P-20	21		22	--	---	0.00	---	SPACE
	---	---	1.66		23		24	--	---	---	0.00	SPACE
NEW 8-P1	2.91	---	---	3P-35	25		26	--	0.00	---	---	SPACE
	---	2.91	---		27		28	--	---	0.00	---	SPACE
	---	---	2.91		29		30	--	---	---	0.00	SPACE
NEW 8-P2	2.91	---	---	3P-35	31		32	--	0.00	---	---	SPACE
	---	2.91	---		33		34	--	---	0.00	---	SPACE
	---	---	2.91		35		36	--	---	---	0.00	SPACE
SPACE	0.00	---	---	--	37		38	--	0.00	---	---	SPACE
SPACE	---	0.00	---	--	39		40	--	---	0.00	---	SPACE
SPACE	---	---	0.00	--	41		42	--	---	---	0.00	SPACE
SUB TOTAL	14.13	13.30	13.30						0.05	0.22	0.09	SUB TOTAL
									14.18	13.52	13.39	TOTAL

C/B TEMP. 75 C. RATING 120 208 V 3 PH 4 WIRE
MOUNTING SURFACE
ISOLATED GROUND BUS [ ] YES [X] NO
MAIN CIRCUIT BREAKER [X] YES [ ] NO
SERVICE ENTR. RATED [ ] YES [X] NO
MINIMUM AIC (K AMPS) 10
MCB RATING 200A
BUS RATING 200A
NEUTRAL RATING 100%

NOTE: ALL MOTOR CIRCUIT BREAKERS MUST BE HACR RATED.

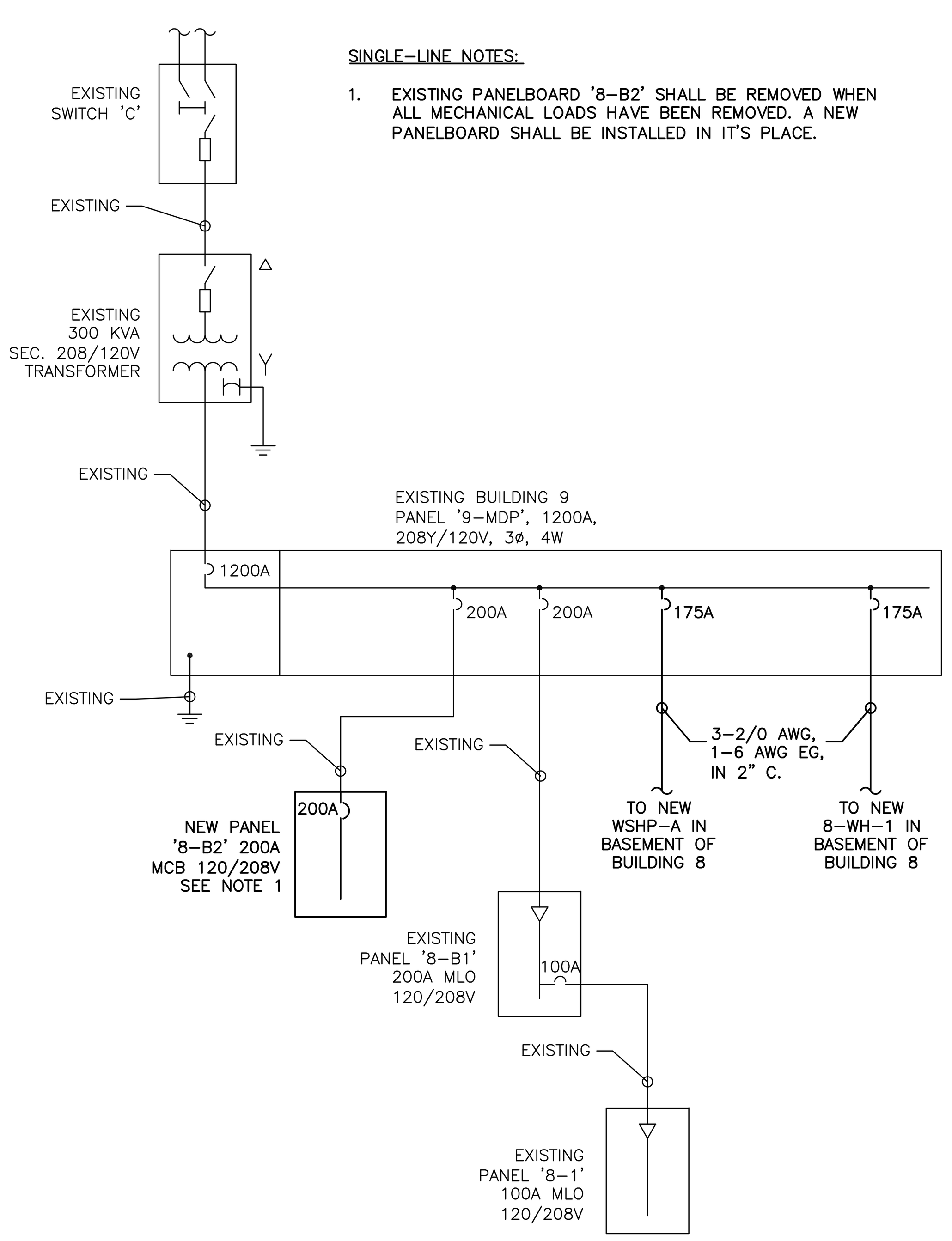
LOAD TYPE		CONNECTED KVA A	B	C	NEC DEM FACTOR	DEMAND KVA A	B	C
GENERAL LIGHTING		0.00	0.00	0.00	125%	0.00	0.00	0.00
GENERAL USE RECEPT		0.00	0.00	0.00	<=10 KVA@100%	0.00	0.00	0.00
					>10KVA@50%	0.00	0.00	0.00
MOTORS AND EQUIPMENT	LARGEST	2.91	2.91	2.91	125%	3.63	3.63	3.63
	ALL OTHERS	11.27	10.61	10.48	100%	11.27	10.61	10.48
WATER HEATERS		0.00	0.00	0.00	125%	0.00	0.00	0.00
FIX. ELEC. SPACE HEAT		0.00	0.00	0.00	100%	0.00	0.00	0.00
TOTAL KVA PER PHASE		14.18	13.52	13.39		14.91	14.24	14.11
TOTAL DEMAND AMPERES PER PHASE						124	119	118
PANEL / FEEDER (TOTAL KVA)								43.26
(TOTAL KVA) X 1000 = TOTAL AMPS / VOLTS X 1.732								120

NEW PANEL '8-B2'

2 / E-601 **ELECTRICAL PANEL SCHEDULES**
SCALE: N.T.S.

SINGLE-LINE NOTES:

1. EXISTING PANELBOARD '8-B2' SHALL BE REMOVED WHEN ALL MECHANICAL LOADS HAVE BEEN REMOVED. A NEW PANELBOARD SHALL BE INSTALLED IN IT'S PLACE.



1 / E-601 **ELECTRICAL SINGLE-LINE DIAGRAM**
SCALE: N.T.S.

100% CONSTRUCTION DOCUMENTS

Revisions	Date

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DEPARTMENT OF VETERANS AFFAIRS · UNITED STATES OF AMERICA

Drawing Title: PANEL SCHEDULES + SINGLE LINE DIAGRAMS
Project Title: ENERGY IMPROVEMENTS & AIR CONDITIONING BUILDING #8, GYM
Building No.: 8
Scale: AS SHOWN
Drawn/Checked: SAE/PBT
Location: VA MEDICAL CENTER ENGINEERING BLDG #52, RM 201 1700 E. 38TH ST MARION, IN 46953
Date: 09/19/11
Project No.: 610-10-100
DRAWING NO. E-601
Dwg. 6 of 6

VA NIHCS Engineering
Department of Veterans Affairs

MARION VA MEDICAL CENTER, INDIANA

PROJECT TITLE: ENERGY IMPROVEMENTS & AIR CONDITIONING BUILDING #8, GYM
PROJECT # 610-10-100

VA NORTHERN INDIANA
HEALTH CARE SYSTEM
MARION CAMPUS
VA MEDICAL CENTER
ENGINEERING BUILDING #52, RM 201
1700 EAST 38TH STREET
MARION, INDIANA 46953

SHEET INDEX

GENERAL:

G-001 COVER SHEET

ARCHITECTURAL:

AD101 DEMOLITION FLOOR PLANS
AD102 REFLECTED CEILING DEMOLITION PLANS
AD201 DEMOLITION – EXTERIOR ELEVATIONS
A-101 NEW WORK FLOOR PLANS
A-102 NEW WORK REFLECTED CEILING PLANS
A-201 EXTERIOR ELEVATIONS
A-501 NEW WORK WALL SECTIONS AND DETAILS – BASE BID
A-502 NEW WORK WALL SECTIONS AND DETAILS – ALTERNATE
A-503 NEW WORK WALL SECTIONS AND DETAILS – ALTERNATE
A-504 NEW WORK WALL SECTIONS AND DETAILS – ALTERNATE

ELECTRICAL:

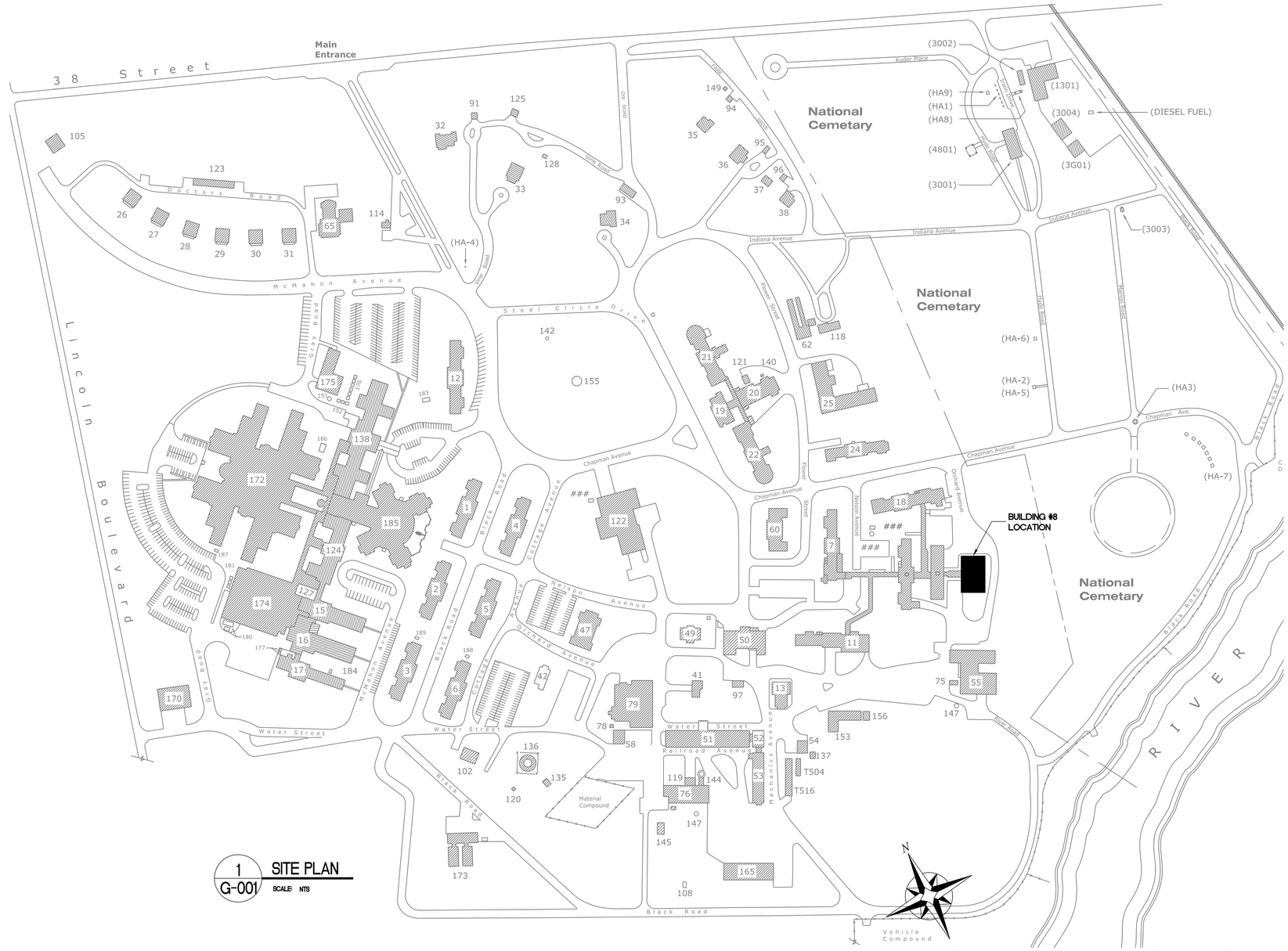
E-001 GENERAL NOTES, ABBREVIATIONS, AND LEGENDS
E-101 LOWER LEVEL & GYMNASIUM DEMOLITION PLANS
E-102 LOWER LEVEL & GYMNASIUM LIGHTING PLANS
E-103 LOWER LEVEL & GYMNASIUM POWER PLANS
E-104 LOWER LEVEL & GYMNASIUM FIRE ALARM & LIFE SAFETY PLANS
E-601 PANEL SCHEDULES & SINGLE-LINE DIAGRAMS

MECHANICAL:

MD101 MECHANICAL DEMOLITION PLANS
M-201 MECHANICAL SITE PLAN
M-202 MECHANICAL PLANS
M-203 MECHANICAL PIPING PLAN
M-501 MECHANICAL GENERAL NOTES AND SCHEDULES
M-502 MECHANICAL DETAILS
M-503 MECHANICAL CONTROLS AND SCHEMATICS

PLUMBING:

PD101 PLUMBING DEMOLITION PLANS
P-201 PLUMBING PLANS
P-501 PLUMBING DETAILS



1 / G-001 SITE PLAN
SCALE: NTS

100% CONSTRUCTION DOCUMENTS

Revisions	Date

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Drawing Title	Project Title	Date
COVER SHEET	ENERGY IMPROVEMENTS & AIR CONDITIONING BUILDING #8, GYM	09/19/11
		Project No. 610-10-100

Approved: Robert Nash, CO	Approved:	Building No. 8	Scale AS SHOWN	Drawn/Checked
Approved: Andrew Mercker, COTR	Approved:	Location VA MEDICAL CENTER ENGINEERING BLDG #52, RM 201 1700 E. 38TH ST MARION, IN 46953		

DRAWING NO. G-001
Dwg. 1 of 1

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Department of Veterans Affairs

VA FORM 08-6231, FEB. 1983

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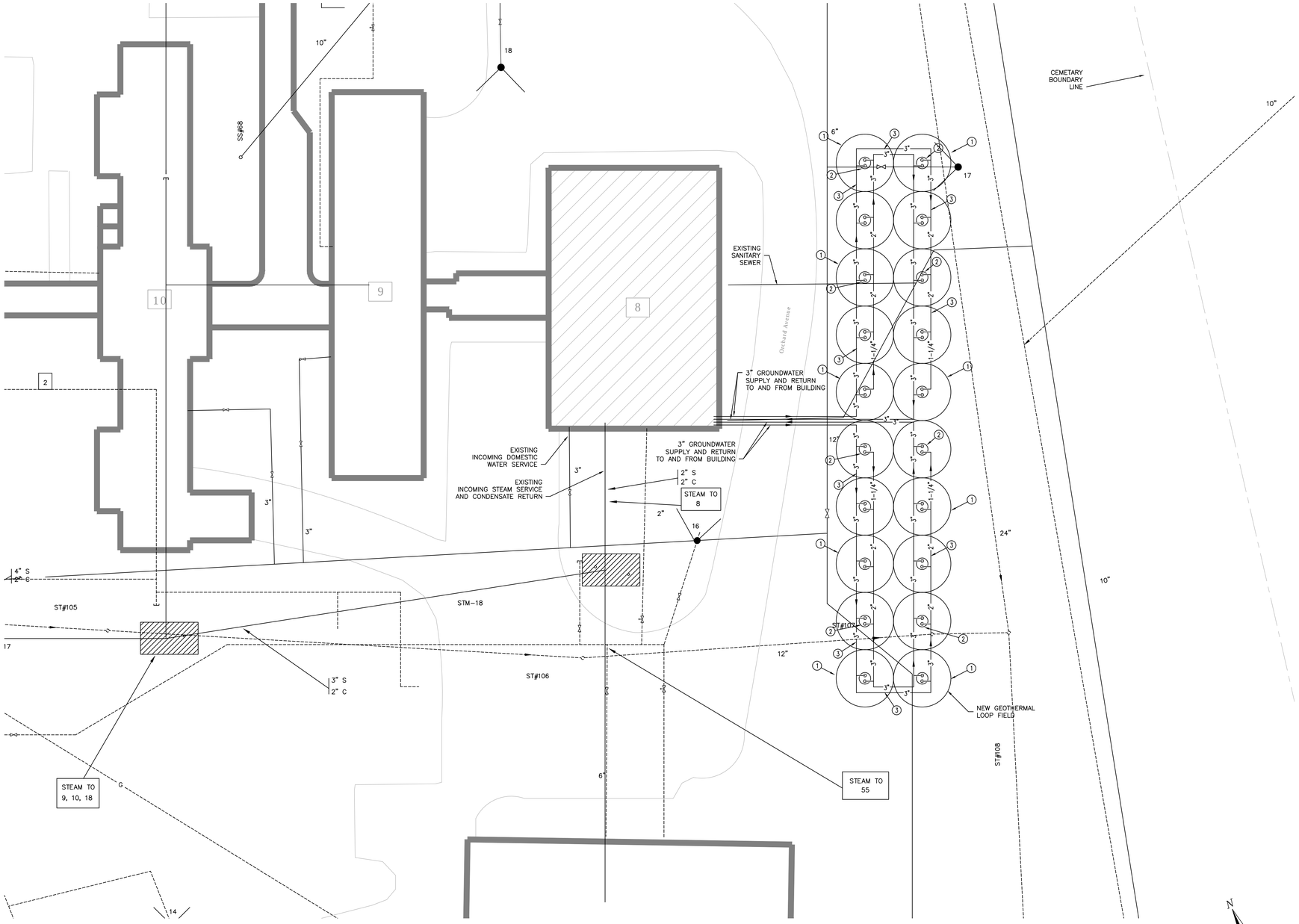

1 M-201 **MECHANICAL SITE PLAN**
SCALE: 1/16" = 1'-0"

MECHANICAL SITE PLAN NOTES:

1. GEOTHERMAL LOOP CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING LOCATION OF ALL UTILITIES ON SITE, WHETHER SHOWN ON THIS PLAN OR NOT. ALL PIPING AND UNDERGROUND SYSTEMS SHOWN ON THIS PLAN, EXCEPT FOR NEW LOOP FIELD, ARE EXISTING TO REMAIN.
2. GEOTHERMAL LOOP CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING SITE TO ORIGINAL CONDITION AFTER DRILLING WELL FIELD, INCLUDING BUT NOT LIMITED TO REPAIR OR REPLACEMENT OF GRASS, TREES, SHRUBBERY, ASPHALT, CONTRETE, ETC.
3. GEOTHERMAL LOOP CONTRACTOR SHALL NOT ENCROACH ON NEIGHBORING CEMETERY. CONTRACTOR'S WORK, EQUIPMENT AND STAGING SHALL NOT GO BEYOND THE BOUNDARY OF THE VA CAMPUS.
4. GEOTHERMAL LOOP FIELD IN AREA SHOWN. 20 BORES TOTAL AT 20 FEET O.C. 2 ROWS OF 10. BORES TO BE CONSTRUCTED WITH 1-1/4" SDR11 TUBING WITH TURBULENT FLOW @400' DEEP EACH. PIPE RESISTANCE SHALL BE 0.104 H*FT*°F/BTU OR BETTER. BOREHOLE DIAMETER TO BE 5.5 IN USING A GROUT WITH THERMAL CONDUCTIVITY OF 1.2 BTU/(H*FT*°F). BOREHOLE THERMAL RESISTANCE TO BE 0.202 H*FT*°F/BTU.
5. ALL PIPING SHOWN ON THIS DRAWING IS TO BE A MINIMUM OF 60" DEEP. COORDINATE WITH SITE UTILITY FOR ANY DEVIATIONS TO THIS HEIGHT. COORDINATE WITH ARCHITECTURAL DRAWINGS FOR DEPTH OF FOOTER IN PUMP BUILDING.
6. GEOTHERMAL LOOP CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING FROM THE VA THE SOIL TEST DATA REPORT. CONTRACTOR SHALL SUBMIT COMPLETE LOOP DESIGN PLANS TO BE VERIFIED BY ENGINEER PRIOR TO ANY WORK BEING DONE ON SITE

GEOTHERMAL LOOP FIELD NOTES:

1. WELLS TO BE A MINIMUM OF 20' O.C.
2. REFER TO "TYPICAL BORE HOLE CONSTRUCTION DETAIL" FOR BORE HOLE CONSTRUCTION. (TYPICAL)
3. REFER TO "TYPICAL TRENCH DETAIL" FOR TRENCH CONSTRUCTION. (TYPICAL)

100% CONSTRUCTION DOCUMENTS

Revisions	Date

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DEPARTMENT OF VETERANS AFFAIRS · UNITED STATES OF AMERICA

Drawing Title	Project Title	Date
MECHANICAL SITE PLAN	ENERGY IMPROVEMENTS & AIR CONDITIONING BUILDING #8, GYM	09/19/11
Approved: Robert Nash, CO / Approved:	Building No. 8 / Scale AS SHOWN / Drawn/Checked DMB/JWM	Project No. 610-10-100
Approved: Andrew Mercker, COTR / Approved:	Location: VA MEDICAL CENTER ENGINEERING BLDG #52, RM 201 1700 E. 38TH ST MARION, IN 46953	DRAWING NO. M-201 Dwg. 2 of 7

VA NIHCS Engineering

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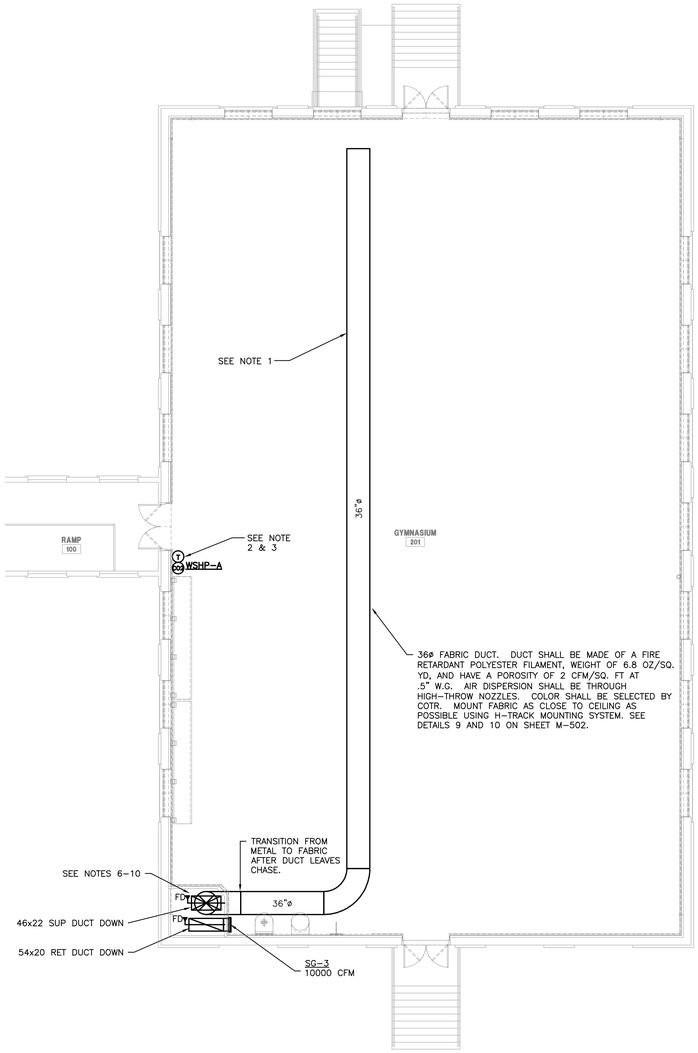
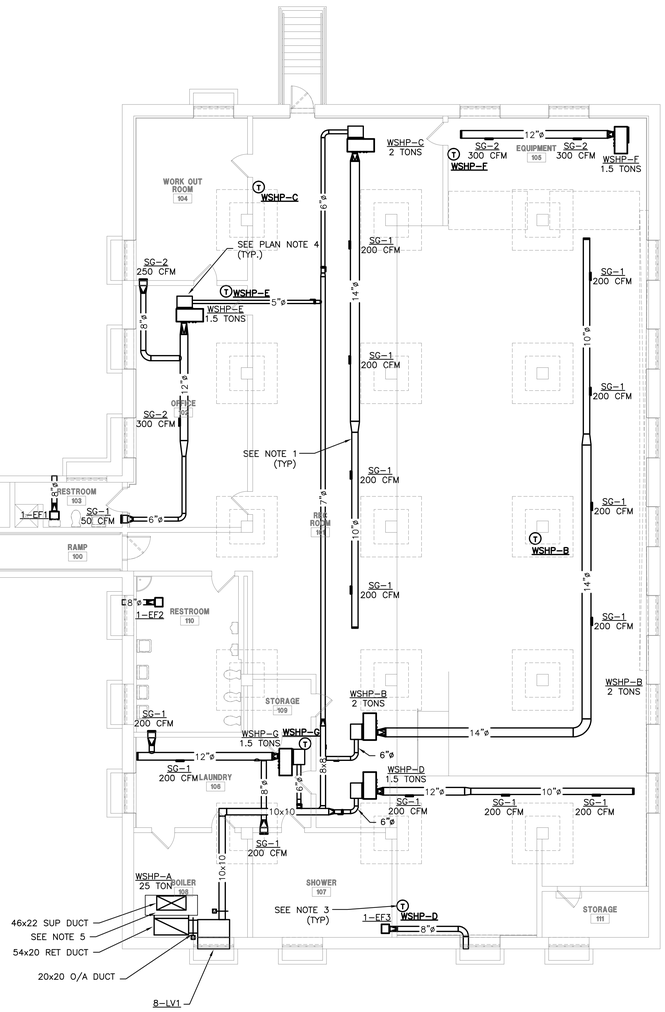
*U.S. GOVERNMENT PRINTING OFFICE: 1983-400-285

VA FORM 08-6231, FEB. 1983



GYMNASIUM MECHANICAL FLOOR PLAN

2 / M-202 SCALE: 1/8" = 1'-0"

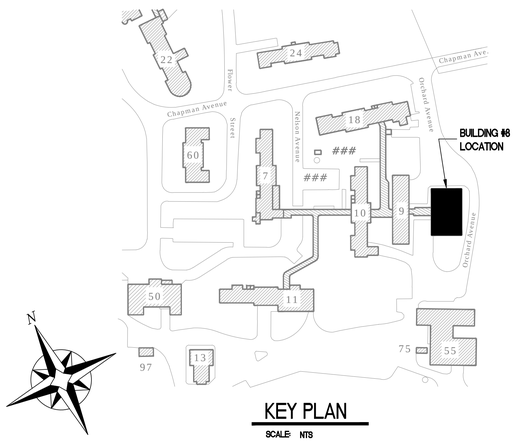


LOWER LEVEL MECHANICAL FLOOR PLAN

1 / M-202 SCALE: 1/8" = 1'-0"

MECHANICAL PLAN NOTES:

1. HOLD ALL DUCTWORK TIGHT TO CEILING.
2. PROVIDE GUARD FOR THERMOSTAT AND CO2 SENSOR.
3. MOUNT THERMOSTAT AND CO2 SENSOR AT 48" AFF.
4. 24" WIDE X 18" LONG X 8" DEEP RETURN AIR PLENUM. COVER WITH 1/2" HARDWARE CLOTH.
5. PROVIDE DUCT ACCESS DOOR IN BOTH SUPPLY AND RETURN AIR DUCTS IN BOILER ROOM FOR ACCESS TO FIRE DAMPERS THAT PENETRATE GYM FLOOR.
6. COORDINATE LOCATION OF DUCTS WITH ARCHITECTURAL AND MECHANICAL DRAWINGS. REPORT ANY DISCREPANCIES TO ARCHITECT AND ENGINEER.
7. CORE CORNERS OF OPENING THEN SAW CUT BETWEEN CORES.
8. DO NOT DAMAGE REMAINING SLAB OR REINFORCING STEEL.
9. REMOVE ALL DUST AND DEBRIS, THE FIELD APPLY EPOXY PAINT ON ANY EXPOSED REINFORCING STEEL.
10. LEAVE A MINIMUM OF 2'-0" BETWEEN DUCT OPENING AND WEST WALL.



KEY PLAN

SCALE: NTS

100% CONSTRUCTION DOCUMENTS

Revisions	Date

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Drawing Title: **MECHANICAL PLANS**

Project Title: ENERGY IMPROVEMENTS & AIR CONDITIONING BUILDING #8, GYM

Date: 09/19/11

Project No.: 610-10-100

Approved: Robert Nash, CO

Approved:

Building No.: 8

Scale: AS SHOWN

Drawn/Checked: DMB/JWM

Approved: Andrew Mercker, COTR

Approved:

Location: VA MEDICAL CENTER, ENGINEERING BLDG #52, RM 201, 1700 E. 38TH ST, MARION, IN 46953

DRAWING NO. M-202

Dwg. 3 of 7

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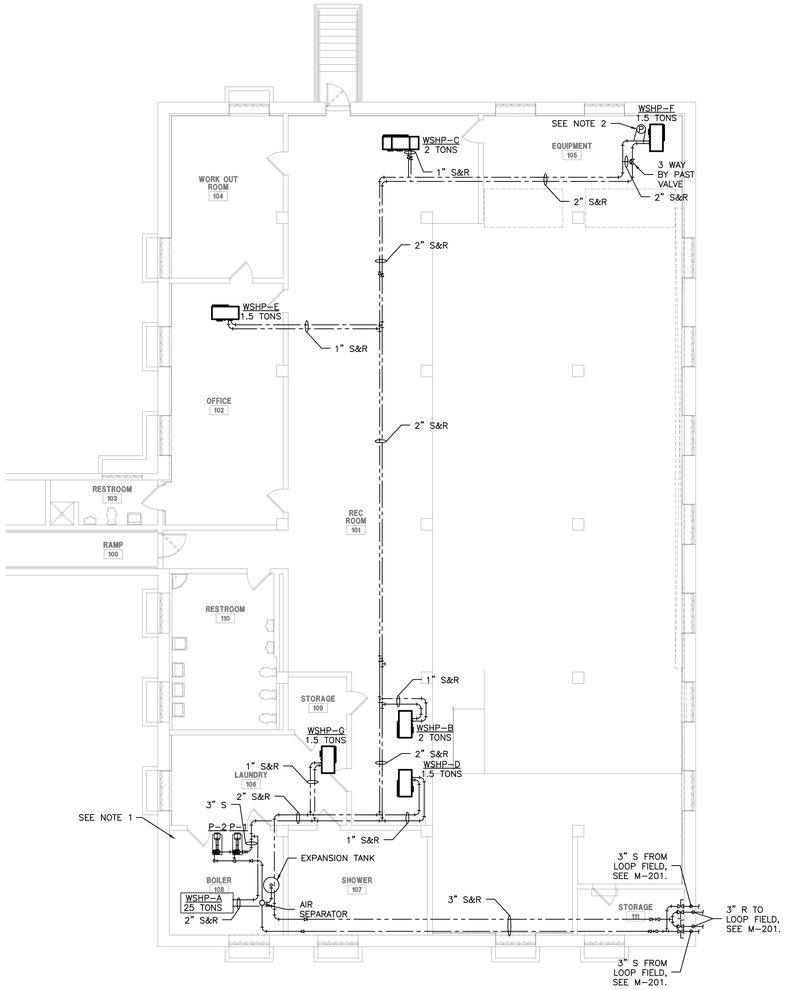
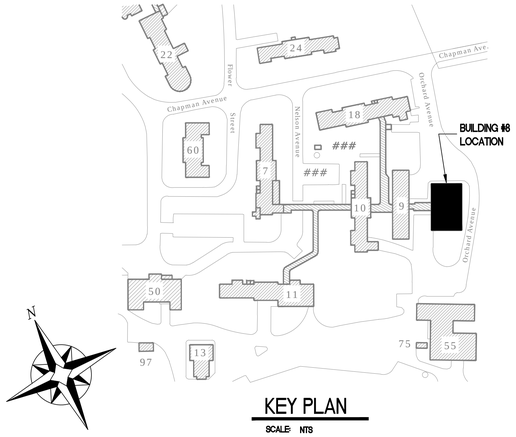
MECHANICAL PLAN NOTES:
1. SEE PLUMBING DRAWINGS FOR LOCATION OF WATER SYSTEM FILL POINT.
2. DIFFERENTIAL PRESSURE SENSOR SET TO 5 PSI (ADJUSTABLE) TO OPEN BYPASS VALVE TO MAINTAIN MINIMUM FLOW OF PUMP.



1 / M-203 **LOWER LEVEL HYDRONIC WATER PIPING PLAN**
SCALE: 1/8" = 1'-0"



KEY PLAN
SCALE: NTS

100% CONSTRUCTION DOCUMENTS

Revisions	Date

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Drawing Title: **MECHANICAL PIPING PLAN**

Project Title: ENERGY IMPROVEMENTS & AIR CONDITIONING BUILDING #8, GYM

Date: 09/19/11

Project No.: 610-10-100

Approved: Robert Nash, CO

Approved:

Approved: Andrew Mercker, COTR

Approved:

Building No.: 8

Scale: AS SHOWN

Drawn/Checked: DMB/JWM

Location: VA MEDICAL CENTER, ENGINEERING BLDG #52, RM 201, 1700 E. 38TH ST, MARION, IN 46953

DRAWING NO. M-203
Dwg. 4 of 7

VA NIHCS Engineering

Department of Veterans Affairs

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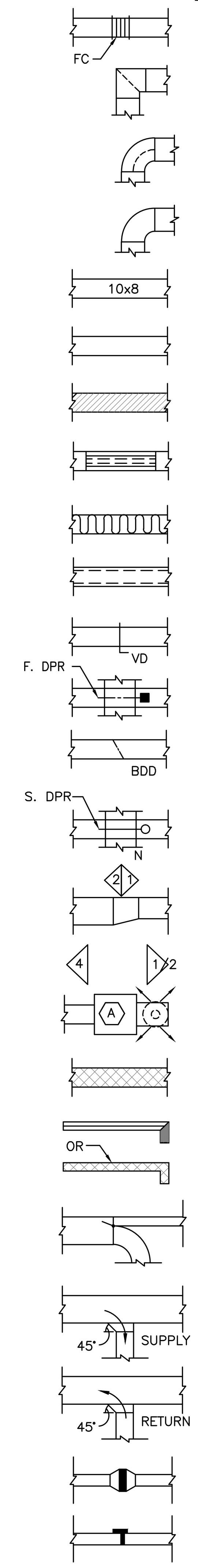
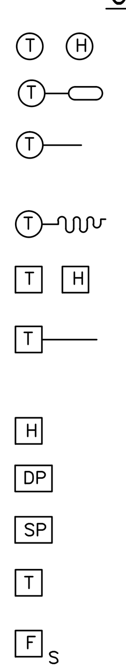
DUCTWORK SYMBOLS



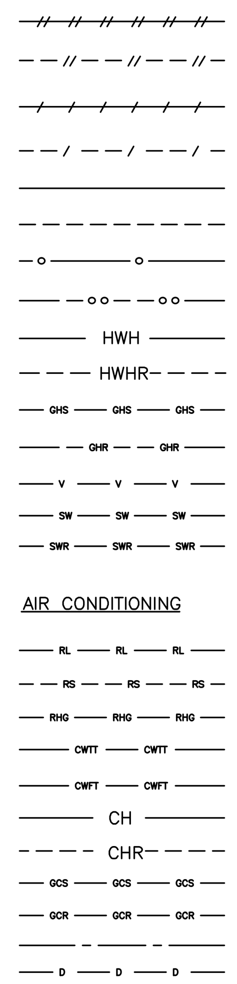
- FLEXIBLE CONNECTION
- VANED ELBOW (PROVIDE ALL SQUARE OR RECTANGULAR ELBOWS WITH VANES EVEN IF SYMBOL IS MISSING)
- VANED ELBOW (SHORT RADIUS)
- STANDARD RADIUS ELBOW
- NEW DUCT (WIDTH x DEPTH)
- EXISTING DUCT TO REMAIN
- EXISTING DUCT TO BE REMOVED
- LOUVER (LOUVER SPECIFIED IN ARCHITECTURAL SECTION.)
- FLEXIBLE DUCTWORK (INSULATED)
- DUCT WITH SOUND LINING
- MANUAL VOLUME DAMPER
- FIRE DAMPER
- BACK DRAFT DAMPER
- SMOKE DAMPER
- POINT OF CHANGE IN DUCT CONSTRUCTION BY STATIC PRESSURE CLASS. THE NUMBER ASSIGNS PRESSURE CLASS (IN. OF WATER) WHICH WILL ACCOMMODATE MAXIMUM OPERATING PRESSURE IN THE DUCT SUBSECTION. THE SYMBOL CONTINUES THE ASSIGNMENT UNTIL THE DUCT TERMINATES OR ANOTHER SYMBOL APPEARS. A "N" SUPERSCRIPT INDICATES NEGATIVE PRESSURE.
- STAINLESS STEEL DUCT
- DOUBLE WALL CASING PANEL
- MANUAL SPLITTER DAMPER
- STANDARD BRANCH SUPPLY OR RETURN, NO SPLITTER (45° TAP)
- DUCT MOUNTED COIL (HOT WATER OR STEAM COIL)
- DUCT MOUNTED COIL (ELECTRIC)

CONTROLS SYMBOLS



- ROOM CONTROL: THERMOSTAT. HUMIDISTAT
- REMOTE BULB THERMOSTAT
- DUCT OR PIPE THERMOSTAT WITH AVERAGING ELEMENT. PROVIDE 12" [300mm] MIN. LENGTH IN DUCT WHEN SPACE PERMITS.
- DUCT THERMOSTAT WITH AVERAGING ELEMENT
- ROOM SENSOR: TEMPERATURE, HUMIDITY
- DUCT OR PIPE TEMPERATURE SENSOR. PROVIDE 12" (300 MM) MIN. LENGTH IN DUCT WHEN SPACE PERMITS.
- DUCT HUMIDITY SENSOR
- DUCT DEW POINT SENSOR
- DUCT STATIC PRESSURE SENSOR
- DUCT TEMPERATURE SENSOR WITH AVERAGING ELEMENT
- SMOKE DETECTOR (SEE ELECTRICAL SPECIFICATIONS)

PIPING SYMBOLS



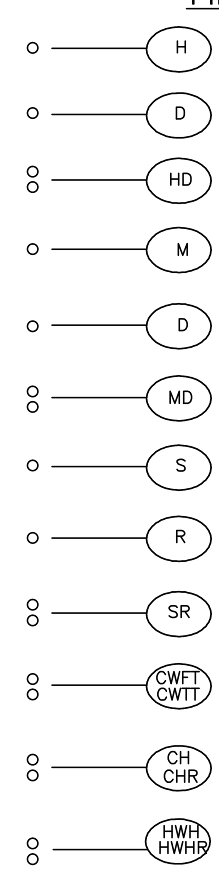
HEATING

- HIGH PRESSURE STEAM (60 PSIG AND ABOVE)
- HIGH PRESSURE STEAM CONDENSATE RETURN
- MEDIUM PRESSURE STEAM (16 PSIG THRU 59 PSIG)
- MEDIUM PRESSURE STEAM CONDENSATE RETURN
- LOW PRESSURE STEAM (15 PSIG AND BELOW)
- LOW PRESSURE STEAM CONDENSATE RETURN
- CONDENSATE PUMP DISCHARGE
- FEED WATER PUMP DISCHARGE
- HOT WATER HEATING SUPPLY
- HOT WATER HEATING RETURN
- HOT GLYCOL-WATER HEATING SUPPLY
- HOT GLYCOL-WATER HEATING RETURN
- VENT LINE
- SOLAR WATER SUPPLY
- SOLAR WATER RETURN

AIR CONDITIONING

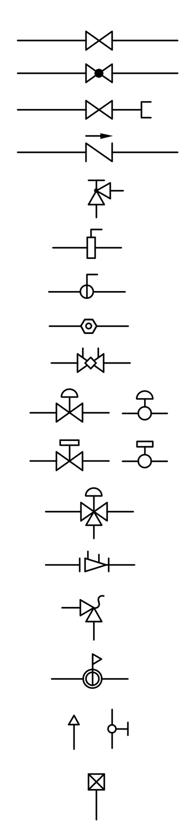
- REFRIGERANT LIQUID
- REFRIGERANT SUCTION
- REFRIGERANT HOT GAS
- CONDENSER WATER TO TOWER
- CONDENSER WATER FROM TOWER
- CHILLED WATER SUPPLY
- CHILLED WATER RETURN
- CHILLED GLYCOL-WATER SUPPLY
- CHILLED GLYCOL-WATER RETURN
- MAKE-UP WATER
- DRAIN LINE

PIPING RISER SYMBOLS



- HIGH PRESSURE STEAM
- HIGH PRESSURE DRIP RETURN
- HIGH PRESSURE STEAM AND DRIP RETURN
- MEDIUM PRESSURE STEAM
- MEDIUM PRESSURE DRIP RETURN
- MEDIUM PRESSURE STEAM AND MEDIUM PRESSURE DRIP RETURN
- LOW PRESSURE STEAM
- LOW PRESSURE RETURN
- LOW PRESSURE STEAM AND RETURN
- CONDENSER WATER FROM AND TO TOWER
- CHILLED WATER SUPPLY AND RETURN
- HOT WATER SUPPLY AND RETURN

VALVE SYMBOLS



- GATE VALVE
- GLOBE VALVE
- GATE VALVE WITH 3/4 " HOSE ADAPTER
- CHECK VALVE
- ANGLE GLOBE VALVE
- BUTTERFLY VALVE
- BALL VALVE
- BALANCING VALVE
- CIRCUIT SETTER
- STRAIGHT-THRU MODULATING CONTROL VALVE
- STRAIGHT-THRU TWO POSITION CONTROL VALVE
- THREE-WAY MODULATING CONTROL VALVE
- AUTOMATIC FLOW CONTROL VALVE
- SAFETY OR PRESSURE RELIEF VALVE
- PRESSURE REDUCING VALVE
- MANUAL AIR VENT
- TEST PLUG (PRESSURE/TEMPERATURE)

GENERAL NOTES

1. ALL PIPING AND DUCTS IN FINISHED ROOMS OR SPACES SHALL BE CONCEALED IN A FURRED CHASE OR ABOVE THE SUSPENDED CEILING.
2. THE FIRST FIGURE OF DUCT SIZE INDICATES DIMENSION OF FACE SHOWN OR INDICATED.
3. ACCESS PANELS IN 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. FOR TYPICAL STEAM, WATER AND REFRIGERANT PIPING CONNECTIONS TO EQUIPMENT SEE STANDARD EQUIPMENT DETAILS.
6. DIFFUSER, REGISTER AND GRILLE SIZES SHOWN ON FLOOR PLANS ARE NECK SIZES.
7. WATER PIPE CONNECTIONS TO AIR HEATING AND COOLING COILS SHALL BE MADE TO PROVIDE COUNTER FLOW BETWEEN WATER AND AIR.
8. WALL TYPE EXHAUST REGISTERS NOTED AS "BR" ON DRAWINGS ARE TO BE INSTALLED WITH BOTTOM ELEVATION OF REGISTER AT 7" [178mm] ABOVE FINISHED FLOOR.
9. REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR EXACT LOCATIONS OF CEILING DIFFUSERS, REGISTERS, AND GRILLES.
10. ALL ITEMS THAT REQUIRE ACCESS, SUCH AS FOR OPERATING, CLEANING, SERVICING, MAINTENANCE, AND CALIBRATION, SHALL BE EASILY AND SAFELY ACCESSIBLE BY PERSONS STANDING AT FLOOR LEVEL, OR STANDING ON PERMANENT PLATFORMS, WITHOUT THE USE OF PORTABLE LADDERS. EXAMPLES OF THESE ITEMS INCLUDE, BUT ARE NOT LIMITED TO: ALL TYPES OF VALVES, FILTERS AND STRAINERS, TRANSMITTERS, CONTROL DEVICES. PRIOR TO COMMENCING INSTALLATION WORK, REFER CONFLICTS BETWEEN THIS REQUIREMENT AND CONTRACT DRAWINGS TO THE COTR FOR RESOLUTION.

HVAC DESIGN DATA

OUTDOOR DESIGN TEMPERATURES: 88.4 (31.3)°F (°C) Db SUMMER; 71 (21.7) °F (°C) Wb SUMMER; −1 (−18.3)°F (°C) Db WINTER		DESIGN ALTITUDE: 859 FT.		
INDOOR AREA DESIGN CONDITIONS	SUMMER		WINTER	
	Db °F (°C)	% HUMIDITY	Db °F (°C)	% HUMIDITY
ALL INDOOR AREAS	75 (23.9)	50	70 (21.1)	30

OUTDOOR AIR CALCULATION

SPACE CLASSIFICATION	FT² OR NUMBER PEOPLE	CFM/PERSON	CFM/FT²	TOTAL OUTDOOR AIR
GYMNASIUM 201	7200		.3	2160
OFFICE 102/WORKOUT 104/RESTROOM 103	2	20		40
LAUNDRY 106/RESTROOM 110/SHOWER 107	3	20		60
REC ROOM 101	40	10		400
TOTAL OUTDOOR AIR REQUIRED:				2660
TOTAL OUTDOOR AIR PROVIDED:				2660

FAN SCHEDULE

FAN NO.	LOCATION	CFM	S.P. IN	FAN TYPE	ARRANGEMENT, ROTATION & DISCHARGE	WHEEL TYPE	MAX. RPM	DRIVE	MOTOR NOM. W	MOTOR PHASE VOLT.	VARIABLE CONTROL TYPE
8-EF1	RESTROOM 103	200	0.25	CENTRIFUGAL	INLINE CABINET FAN	FC	900	DIRECT	48.2	1/120	NONE
8-EF2	RESTROOM 110	375	0.25	CENTRIFUGAL	CEILING MOUNTED FAN	FC	1050	DIRECT	217	1/120	NONE
8-EF3	SHOWER 107	250	0.25	CENTRIFUGAL	INLINE CABINET FAN	FC	1070	DIRECT	80.7	1/120	NONE

NOTES:
1. PROVIDE DISCONNECT SWITCH.
2. PROVIDE VIBRATION ISOLATION HANGERS.
3. PROVIDE BACKDRAFT DAMPERS.
4. FAN SHALL OPERATE FROM LIGHT SWITCH.

EXPANSION TANK SCHEDULE

UNIT NO.	SYSTEM	APPROX. SYSTEM VOLUME GAL	SYSTEM TEMP. RANGE MIN. °F	SYSTEM TEMP. RANGE MAX. °F	INITIAL PRESS. IN TANK PSIG	MAX. OPER. PRESS. PSIG	FILL PRESS. AT TANK RELIEF VALVE PSIG	FILL PRESS. AT TANK AT TANK PSIG	MIN. VOLUME GAL	MIN. ACCEPT VOLUME GAL	AIR SEPARATOR SIZE IN [mm]	AIR SEPARATOR GAL [L]	AIR SEPARATOR MAX. P.D. FT [M]	AIR SEPARATOR BUILT-IN STRAINER REQUIRED	PIPE SIZE TO TANK IN [mm]	COLD WATER FILL SIZE IN [mm]
8-ET1	1-P#	500	35	95	11	28	30	30	12	5	5 [127]	110	2 [0.61]	YES	1-1/2 [38]	3/4 [19]

WATER SOURCE HEAT PUMP SCHEDULE

UNIT SYMBOL	FAN CFM	OUTSIDE AIR CFM	COOLING CAPACITY WITH 90°F ENTR. WATER TEMP. MIN. TOTAL BTUH	MIN. SENS. BTUH	ENT. AIR °F Db	ENT. AIR °F Wb	COOLING EER	CIRCULATING WATER GPM	COIL P.D. FT	RUN-OUT SIZE IN	TOTAL HEATING CAP. WITH 40°F ENTR. WATER TEMP. BTUH	ENT. AIR °F	HEATING COP	POWER REQ. MOCP	PHASE VOLT.
Ⓐ	10000	2160	280.5	198.5	78.0	67.5	13.9	37.5	15.9	2	322.4	70	4.3	175	3-208
Ⓑ	800	150	23.0	16.5	78.0	67.5	14.4	6.7	23.9	3/4	27.4	70	4.7	30	1-208
Ⓒ	800	150	23.0	16.5	78.0	67.5	14.4	6.7	23.9	3/4	27.4	70	4.7	30	1-208
Ⓓ	600	100	17.3	13.0	78.0	67.5	13.3	5	10.4	3/4	20.2	70	4.8	20	1-208
Ⓔ	600	40	17.3	13.0	78.0	67.5	13.3	5	10.4	3/4	20.2	70	4.8	20	1-208
Ⓕ	600	–	17.3	13.0	78.0	67.5	13.3	5	10.4	3/4	20.2	70	4.8	20	1-208
Ⓖ	600	60	17.3	13.0	78.0	67.5	13.3	5	10.4	3/4	20.2	70	4.8	20	1-208

NOTES:
1. PROVIDE DISCONNECT SWITCH.
2. R-410A REFRIGERANT.
3. PROVIDE FILTERS DURING CONSTRUCTION WHEN UNITS ARE OPERATING. PROVIDE NEW FILTERS UPON TURNOVER TO THE VA.
4. ALL UNITS MUST COMPLY WITH ASHRAE 90.1-2007.
5. PROVIDE WATERSIDE ECONOMIZER ON UNIT A.

HVAC PUMP SCHEDULE

PUMP NO.	LOCATION	SYSTEM	CIRCULATING FLUID FLUID	GPM	PUMP HEAD FT FLUID	TEMP. °F	SP. GR.	% EFF.	TYPE	MOTOR NOM. HP	PHASE-VOLT	RPM
8-P1	MECH. RM.	HEAT PUMP WATER	30% PG	110	80	35-95	1.03	56.2	BASE MTD END SUCTION	7.5	3-208	3500
8-P2	MECH. RM.	HEAT PUMP WATER	30% PG	110	80	35-95	1.03	56.2	BASE MTD END SUCTION	7.5	3-208	3500

NOTES:
1. PROVIDE DISCONNECT SWITCH.
2. PROVIDE STRAINER.
3. PROVIDE VFD.

TERMINAL OUTLET SCHEDULE

TAG	USE	TYPE	PANEL SIZE	NECK SIZE	CFM	NOISE CRITERIA
SG-1	SUPPLY	SPIRAL DUCT GRILLE	HEAT PUMP WATER	HEAT PUMP WATER	200	<=20
SG-2	SUPPLY	SPIRAL DUCT GRILLE	HEAT PUMP WATER	HEAT PUMP WATER	200	<=20
RG-1	RETURN	HEAVY DUTY GYM GRILLE	HEAT PUMP WATER	HEAT PUMP WATER	200	<=20

LOUVER SCHEDULE

TAG	USE	TYPE	CFM	SIZE W X H	PRESSURE DROP IN WG	FREE AREA
8-LV1	INTAKE	STATIONARY DRAINABLE BLADE	2660	42 X 24	0.1	3.37

NOTES:
1. PROVIDE INSECT SCREEN.
2. PROVIDE BACKDRAFT DAMPER.

100% CONSTRUCTION DOCUMENTS

Revisions	Date

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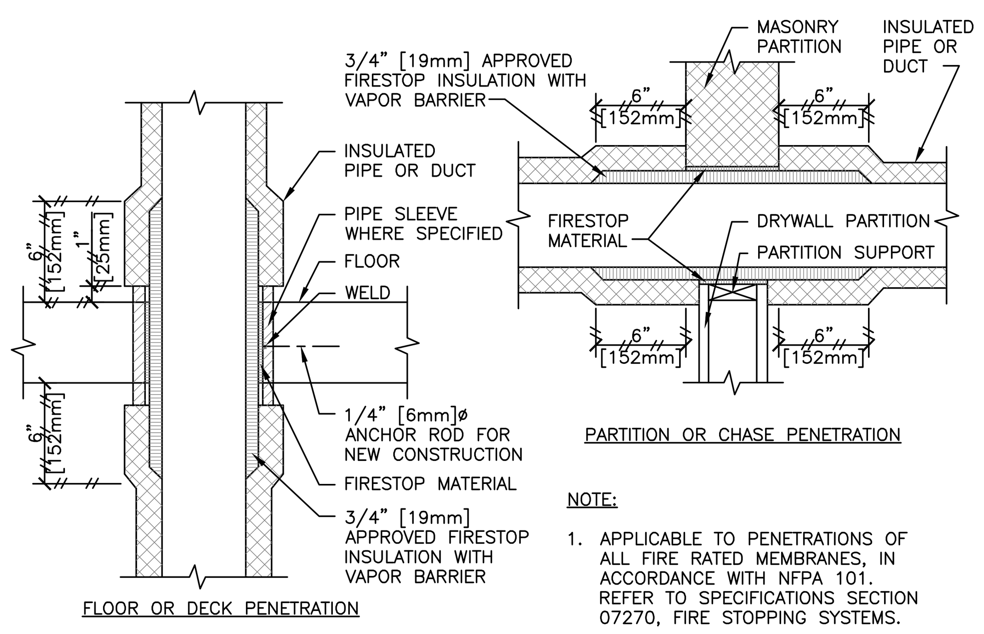
Drawing Title: MECHANICAL GENERAL NOTES AND SCHEDULES		Project Title: ENERGY IMPROVEMENTS & AIR CONDITIONING BUILDING #8, GYM	Date: 09/19/11	VA NIHCS Engineering
Approved: Robert Nash, CO	Approved:	Building No. 8 / Scale AS SHOWN / Drawn/Checked DMB/JWM	Project No. 610-10-100	
Approved: Andrew Mercker, COTR	Approved:	Location: VA MEDICAL CENTER ENGINEERING BLDG #52, RM 201 1700 E. 38TH ST MARION, IN 46953	DRAWING NO. M-501 Dwg. 5 of 7	Department of Veterans Affairs

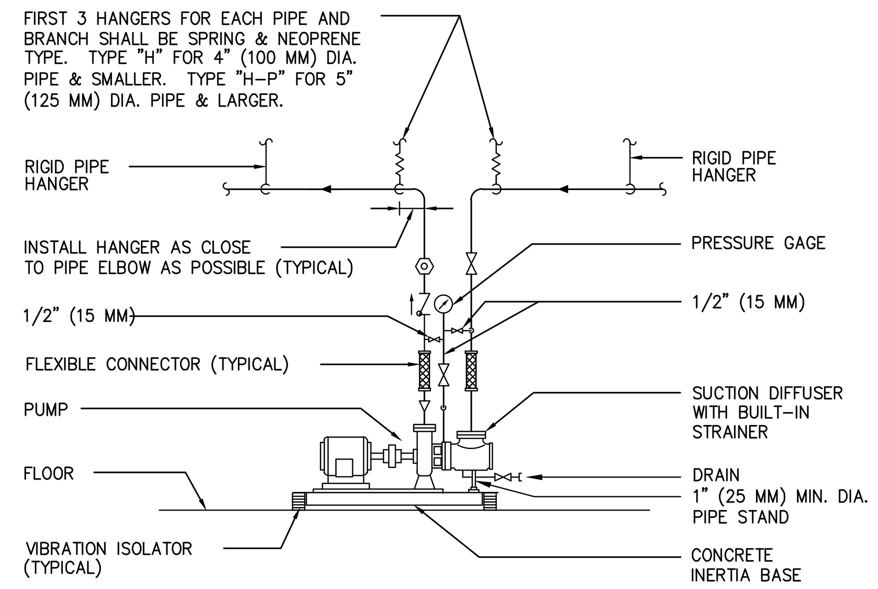


NOTE:

1. APPLICABLE TO PENETRATIONS OF ALL FIRE RATED MEMBRANES, IN ACCORDANCE WITH NFPA 101. REFER TO SPECIFICATIONS SECTION 07270, FIRE STOPPING SYSTEMS.

1 M-502 PIPE/DUCT PENETRATION OF FIRE/SMOKE BARRIERS

SCALE: NTS

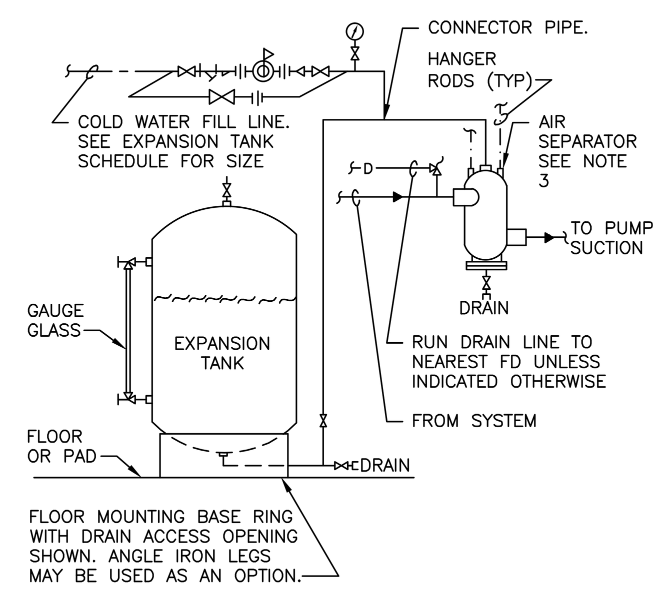


NOTES:

SEE SPECIFICATION SECTION "PUMPS" FOR Y STRAINER OPTION

2 M-502 TYPICAL PIPING CONNECTIONS TO FLOOR MOUNTED SINGLE SUCTION WATER PUMPS

SCALE: NTS

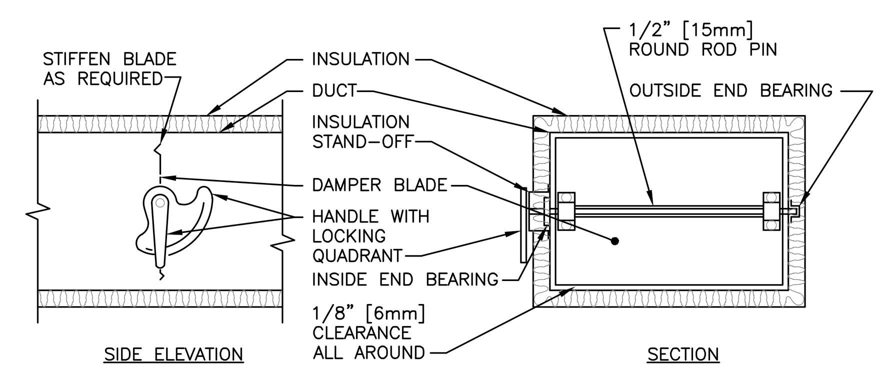


NOTE:

1. SEE EXPANSION TANK SYSTEM SCHEDULE FOR COMPONENT SIZES.
2. COMBINATION HEATING & COOLING SYSTEMS WILL REQUIRE RELIEF VALVE.
3. PROVIDE STRAINER IN AIR SEPARATOR WHEN INDICATED IN EXPANSION TANK SCHEDULE.
4. SET PRESSURE REDUCING VALVE SO PRESSURE AT HIGHEST POINT IN SYSTEM HAS A MINIMUM OF 4 PSIG [28kPa].

3 M-502 AIR CONTROL AND PIPING CONNECTIONS FOR CHILLED AND HEATING HOT WATER SYSTEMS WITH FLOOR MOUNTED EXPANSION TANK

SCALE: NTS

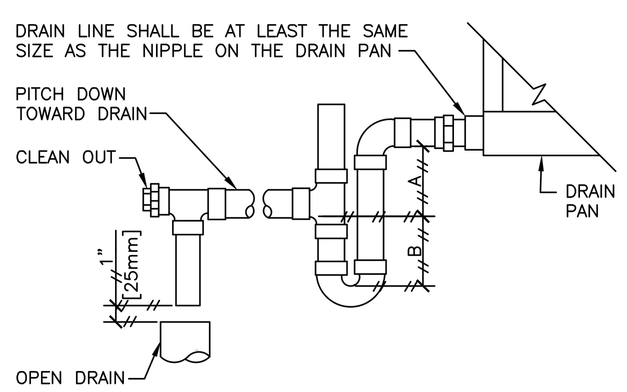


NOTE:

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.

4 M-502 VOLUME DAMPER DETAIL

SCALE: NTS



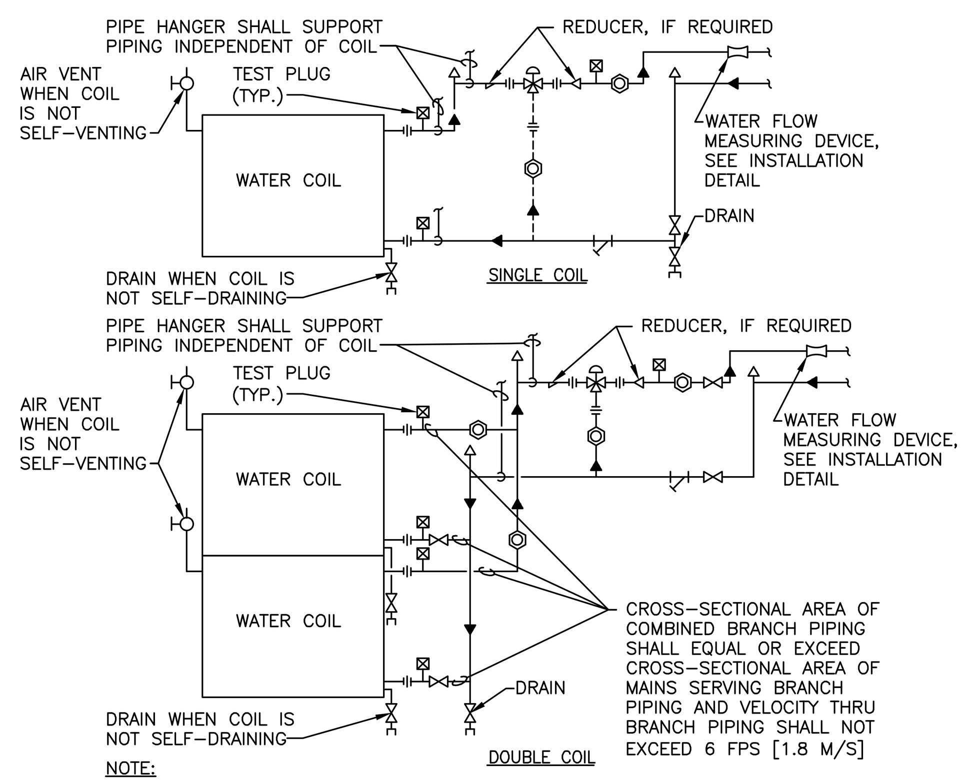
DESIGNER'S NOTE:

UNIT TYPE	A	B
DRAW THRU	2" [51mm] PLUS X	X
BLOW THRU	1" [25mm] MINIMUM	2X

WHERE X = STATIC PRESSURE IN PAN

5 M-502 AIR HANDLING UNIT DRAIN TRAP DETAIL

SCALE: NTS

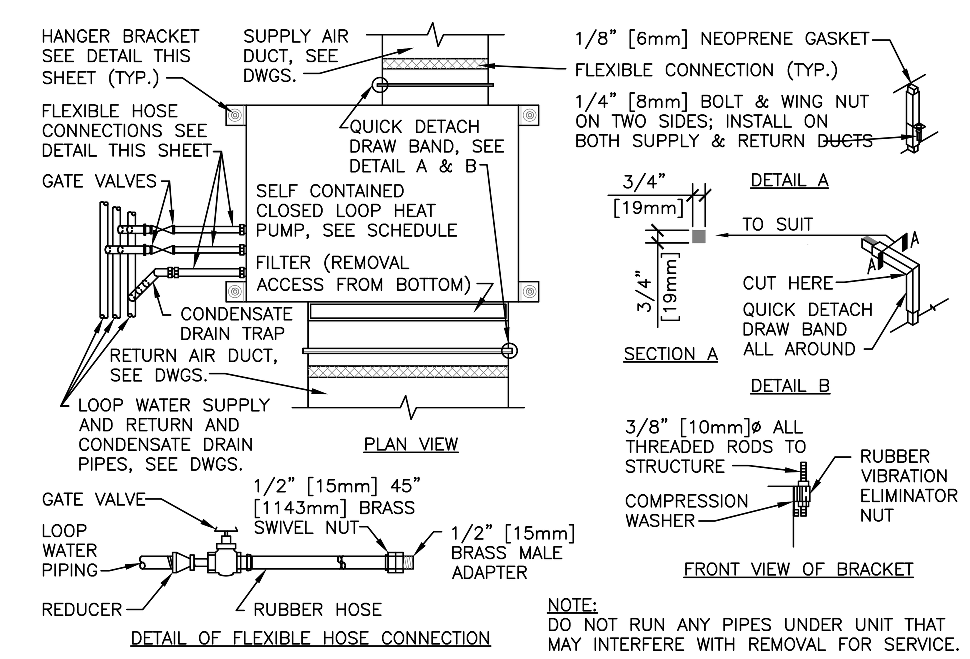


NOTE:

1. WHEN COIL IS INCLUDED IN CASING MOUNTED ON VIBRATION ISOLATORS THE FIRST 2 HANGERS FOR EACH PIPE SHALL BE SPRING & NEOPRENE TYPE. TYPE "H" FOR 4" [100mm]ø PIPE & SMALLER. TYPE "H-P" FOR 5" [125mm]ø PIPE & LARGER.
2. PIPING SHALL BE INSTALLED IN SUCH MANNER THAT IT WILL NOT BLOCK THE SWING OR USE OF ACCESS DOORS OR PANELS; NEITHER SHALL IT BLOCK THE SERVICING OF FILTERS, VALES, OR EQUIPMENT.
3. A STRAIGHT-THRU MODULATING CONTROL VALVE IS SHOWN BY SOLID PIPING. WHEN CONTROL DIAGRAMS INDICATE A THREE-WAY MODULATING CONTROL VALVE IS REQUIRED, PROVIDE DASHED PIPING ALSO.
4. THE WATER FLOW MEASURING DEVICE MAY BE INSTALLED IN THE SUPPLY PIPING IF THE REQUIRED MINIMUM UPSTREAM AND DOWNSTREAM DIMENSIONS CANNOT BE OBTAINED IN THE RETURN PIPING.

6 M-502 TYPICAL CONNECTIONS TO WATER COILS

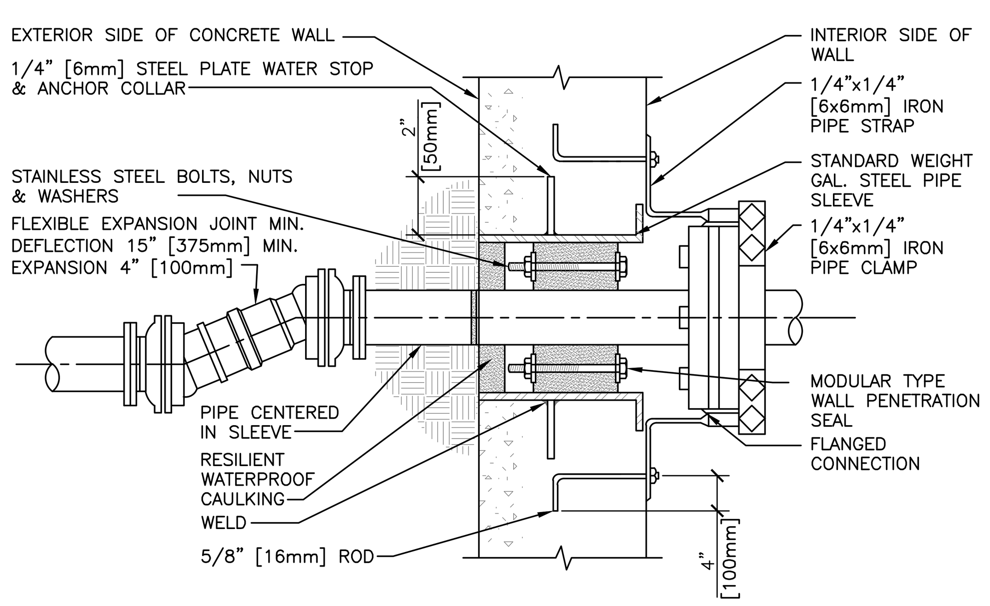
SCALE: NTS



NOTE:
DO NOT RUN ANY PIPES UNDER UNIT THAT MAY INTERFERE WITH REMOVAL FOR SERVICE.

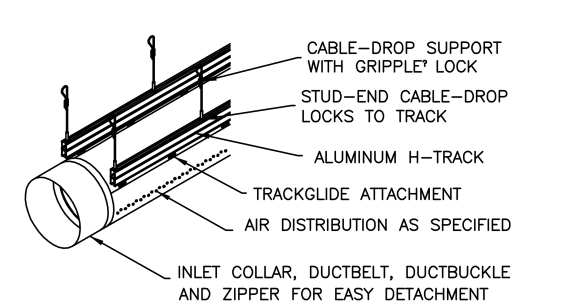
7 M-502 HORIZONTAL WATER COOLED HEAT PUMP INSTALLATION DETAIL

SCALE: NTS



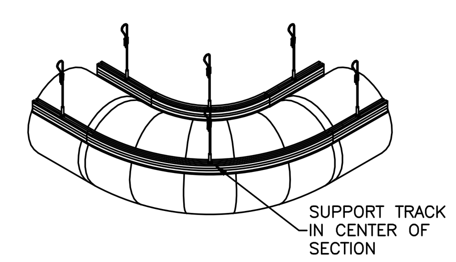
8 M-502 PIPE PENETRATION THROUGH WALL BELOW GRADE

SCALE: NTS



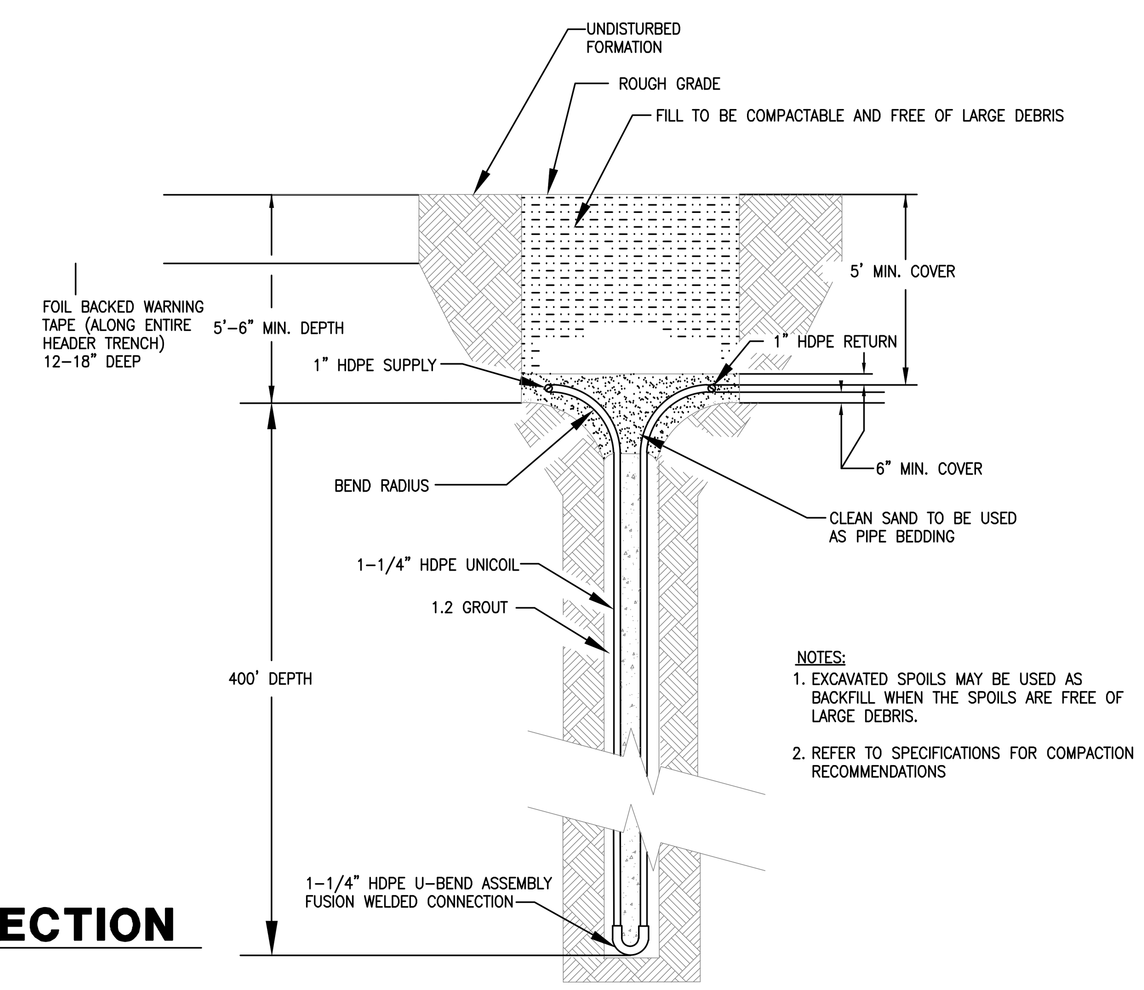
9 M-502 2 ROW H-TRACK SUPERNSION

SCALE: NTS



10 M-502 2 ROW RADIUS H-TRACK SECTION

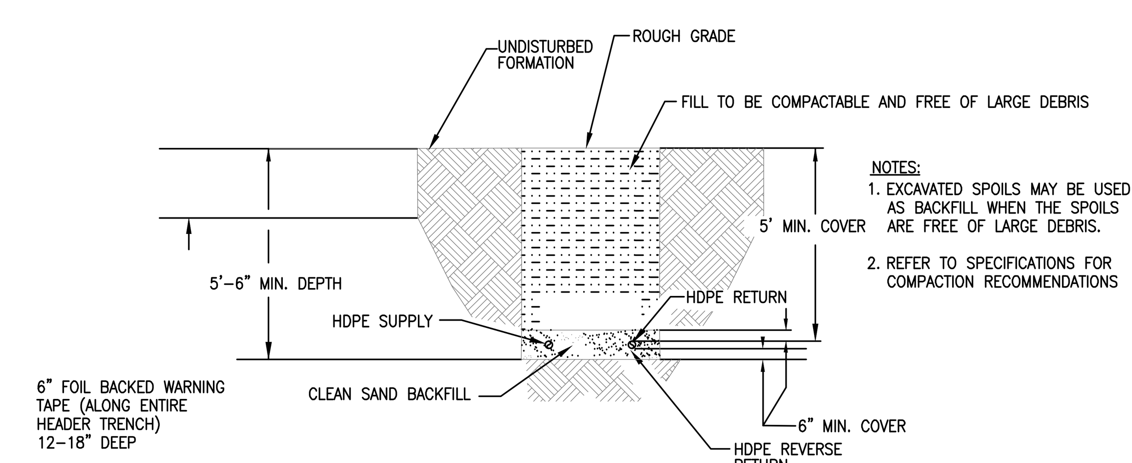
SCALE: NTS



NOTES:
1. EXCAVATED SPOILS MAY BE USED AS BACKFILL WHEN THE SPOILS ARE FREE OF LARGE DEBRIS.
2. REFER TO SPECIFICATIONS FOR COMPACTION RECOMMENDATIONS

11 M-502 TYPICAL BORE HOLE CONSTRUCTION DETAIL

SCALE: NTS



NOTES:
1. EXCAVATED SPOILS MAY BE USED AS BACKFILL WHEN THE SPOILS ARE FREE OF LARGE DEBRIS.
2. REFER TO SPECIFICATIONS FOR COMPACTION RECOMMENDATIONS

12 M-502 TYPICAL TRENCH DETAIL

SCALE: NTS

100% CONSTRUCTION DOCUMENTS

Revisions	Date

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Drawing Title: **MECHANICAL DETAILS**

Approved: Robert Nash, CO | Approved:
Approved: Andrew Mercker, COTR | Approved:

Project Title: ENERGY IMPROVEMENTS & AIR CONDITIONING BUILDING #8, GYM

Building No.: 8 | Scale: AS SHOWN | Drawn/Checked: DMB/JWM

Location: VA MEDICAL CENTER ENGINEERING BLDG #52, RM 201 1700 E. 38TH ST MARION, IN 46953

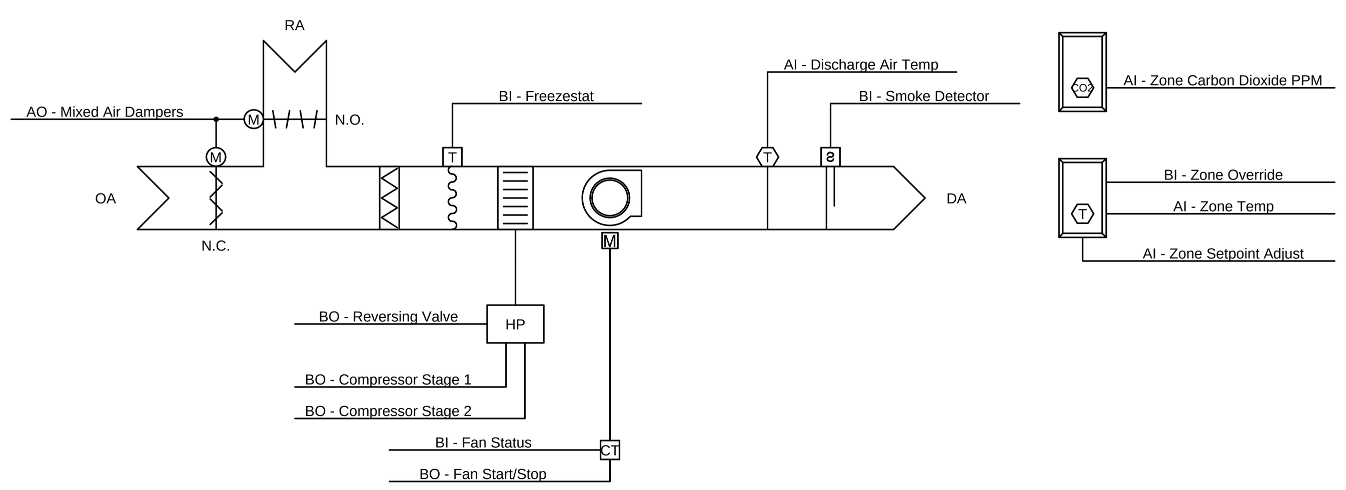
Date: 09/19/11
Project No.: 610-10-100
DRAWING NO. M-502
Dwg. 6 of 7

VA NIHCS Engineering

Department of Veterans Affairs

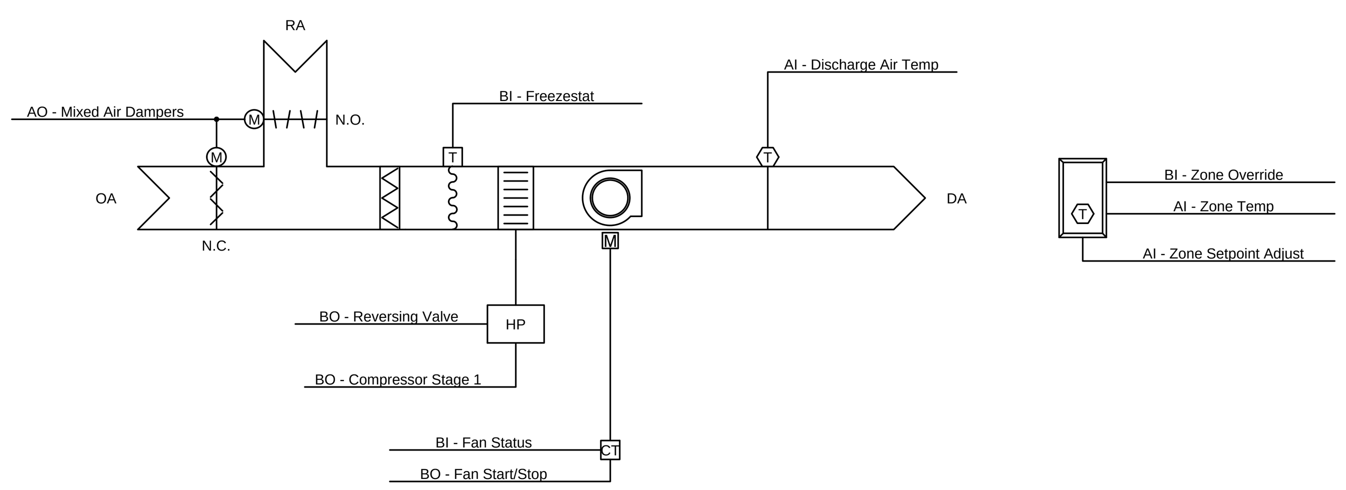
*U.S. GOVERNMENT PRINTING OFFICE: 1983-400-285

VA FORM 08-6231, FEB. 1983



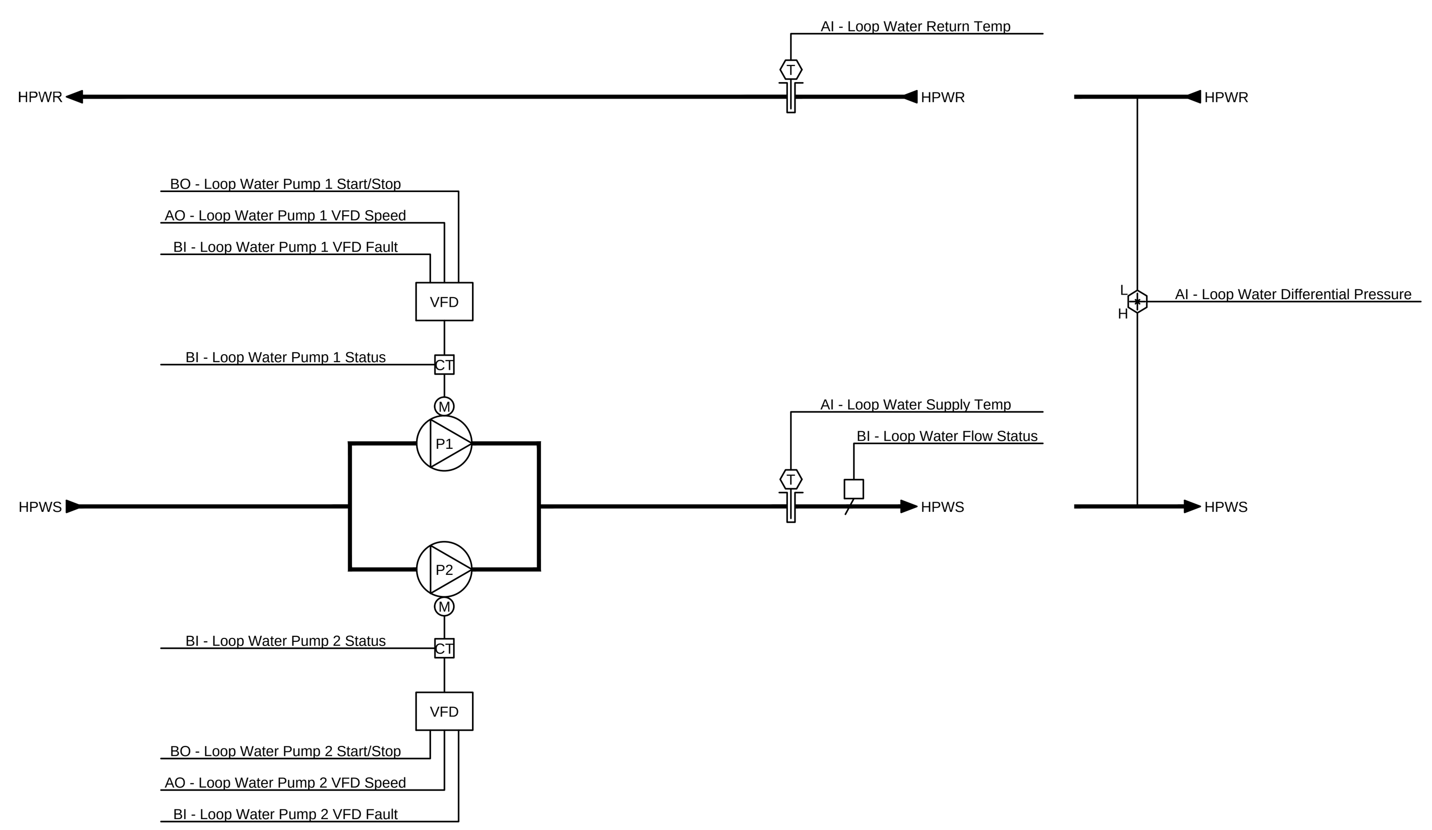
WATER SOURCE HEAT PUMP "A" SCHEMATIC

1 / M-503 SCALE: NTS



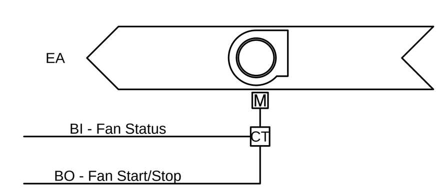
WATER SOURCE HEAT PUMP "B-G" SCHEMATIC

2 / M-503 SCALE: NTS



WATER LOOP PUMPING SCHEMATIC

3 / M-503 SCALE: NTS



EXHAUST FAN SCHEMATIC

4 / M-503 SCALE: NTS

SEQUENCE OF OPERATIONS:
EXHAUST FAN – ON/OFF (TYPICAL OF 3)

RUN CONDITIONS – INTERLOCKED:
THE FAN(S) SHALL BE INTERLOCKED TO RUN WHENEVER LIGHT SWITCH IS TURNED ON RUNS UNLESS SHUTDOWN ON SAFETIES.

FAN STATUS:
THE CONTROLLER SHALL MONITOR THE FAN STATUS.

ALARMS SHALL BE PROVIDED AS FOLLOWS:

- FAN FAILURE: COMMANDED ON, BUT THE STATUS IS OFF.
- FAN IN HAND: COMMANDED OFF, BUT THE STATUS IS ON.

LOOP MONITOR AND PUMPS (TYPICAL OF 1)

WATER SOURCE HEAT PUMP LOOP MONITOR – RUN CONDITIONS:
THE LOOP MONITOR SHALL RUN WHENEVER:

- ANY ZONE IS OCCUPIED.
- OR A DEFINABLE NUMBER OF UNOCCUPIED ZONES NEED HEATING OR COOLING.

THE FOLLOWING LOOP WATER CONDITIONS SHALL BE MONITORED:

- FLOW STATUS.
- SUPPLY TEMPERATURE.
- RETURN TEMPERATURE.

ALARMS AND A HEAT PUMP SHUTDOWN SIGNAL SHALL BE GENERATED UPON ANY OF THE FOLLOWING LOOP WATER CONDITIONS:

- NO LOOP FLOW.
- HIGH LOOP WATER SUPPLY TEMP SHUTDOWN: IF THE LOOP WATER SUPPLY TEMPERATURE IS GREATER THAN 95°F (ADJ.).
- LOW LOOP WATER SUPPLY TEMP SHUTDOWN: IF THE LOOP WATER SUPPLY TEMPERATURE IS LESS THAN 40°F (ADJ.).

ALARMS SHALL BE PROVIDED AS FOLLOWS:

- HIGH LOOP WATER SUPPLY TEMP: IF THE LOOP WATER SUPPLY TEMPERATURE IS GREATER THAN 90°F (ADJ.).
- LOW LOOP WATER SUPPLY TEMP: IF THE LOOP WATER SUPPLY TEMPERATURE IS LESS THAN 45°F (ADJ.).

LOOP WATER PUMP LEAD/LAG OPERATION:
THE TWO LOOP WATER PUMPS SHALL OPERATE IN A LEAD/STANDBY FASHION.

- THE LEAD PUMP SHALL RUN FIRST.
- ON FAILURE OF THE LEAD PUMP, THE STANDBY PUMP SHALL RUN AND THE LEAD PUMP SHALL TURN OFF.

THE DESIGNATED LEAD PUMP SHALL ROTATE UPON ONE OF THE FOLLOWING CONDITIONS (USER SELECTABLE):

- MANUALLY THROUGH A SOFTWARE SWITCH
- IF PUMP RUNTIME (ADJ.) IS EXCEEDED
- WEEKLY

ALARMS SHALL BE PROVIDED AS FOLLOWS:

- LOOP WATER PUMP 1
  - o FAILURE: COMMANDED ON, BUT THE STATUS IS OFF.
  - o RUNNING IN HAND: COMMANDED OFF, BUT THE STATUS IS ON.
  - o RUNTIME EXCEEDED: STATUS RUNTIME EXCEEDS A USER DEFINABLE LIMIT.
  - o VFD FAULT.
- LOOP WATER PUMP 2
  - o FAILURE: COMMANDED ON, BUT THE STATUS IS OFF.
  - o RUNNING IN HAND: COMMANDED OFF, BUT THE STATUS IS ON.
  - o RUNTIME EXCEEDED: STATUS RUNTIME EXCEEDS A USER DEFINABLE LIMIT.
  - o VFD FAULT.

LOOP WATER DIFFERENTIAL PRESSURE CONTROL:
THE CONTROLLER SHALL MEASURE LOOP WATER DIFFERENTIAL PRESSURE AND MODULATE THE LOOP WATER PUMP VFDS IN SEQUENCE TO MAINTAIN ITS LOOP WATER DIFFERENTIAL PRESSURE SETPOINT. THE FOLLOWING SETPOINTS ARE RECOMMENDED VALUES. ALL SETPOINTS SHALL BE FIELD ADJUSTED DURING THE COMMISSIONING PERIOD TO MEET THE REQUIREMENTS OF ACTUAL FIELD CONDITIONS.

THE CONTROLLER SHALL MODULATE LOOP WATER PUMP SPEEDS TO MAINTAIN A LOOP WATER DIFFERENTIAL PRESSURE OF 12LBF/IN2 (ADJ.). THE VFD MINIMUM SPEED SHALL NOT DROP BELOW 20% (ADJ.).

ON DROPPING LOOP WATER DIFFERENTIAL PRESSURE, THE VFDS SHALL STAGE ON AND RUN TO MAINTAIN SETPOINT AS FOLLOWS:

- THE CONTROLLER SHALL MODULATE THE LEAD VFD TO MAINTAIN SETPOINT.

ON RISING LOOP WATER DIFFERENTIAL PRESSURE, THE VFDS SHALL STAGE OFF AS FOLLOWS:

THE LEAD VFD SPEED SHALL DROP BACK TO 60% (ADJ.) BELOW SETPOINT,

ALARMS SHALL BE PROVIDED AS FOLLOWS:

- HIGH LOOP WATER DIFFERENTIAL PRESSURE: IF THE LOOP WATER DIFFERENTIAL PRESSURE IS 25% (ADJ.) GREATER THAN SETPOINT.
- LOW LOOP WATER DIFFERENTIAL PRESSURE: IF THE LOOP WATER DIFFERENTIAL PRESSURE IS 25% (ADJ.) LESS THAN SETPOINT.

WATER SOURCE HEAT PUMP A(TYPICAL OF 1)

RUN CONDITIONS – SCHEDULED:
THE UNIT SHALL RUN ACCORDING TO A USER DEFINABLE TIME SCHEDULE IN THE FOLLOWING MODES:

- OCCUPIED MODE: THE UNIT SHALL MAINTAIN
  - A 74°F (ADJ.) COOLING SETPOINT
  - A 70°F (ADJ.) HEATING SETPOINT
- UNOCCUPIED MODE (NIGHT SETBACK): THE UNIT SHALL MAINTAIN
  - A 85°F (ADJ.) COOLING SETPOINT.
  - A 60°F (ADJ.) HEATING SETPOINT.

ALARMS SHALL BE PROVIDED AS FOLLOWS:

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

ZONE OPTIMAL START:
THE UNIT SHALL USE AN OPTIMAL START ALGORITHM FOR MORNING START–UP. THIS ALGORITHM SHALL MINIMIZE THE UNOCCUPIED WARM–UP OR COOL–DOWN PERIOD WHILE STILL ACHIEVING COMFORT CONDITIONS BY THE START OF SCHEDULED OCCUPIED PERIOD.

ZONE UNOCCUPIED OVERRIDE:
A TIMED LOCAL OVERRIDE CONTROL SHALL ALLOW AN OCCUPANT TO OVERRIDE THE SCHEDULE AND PLACE THE UNIT INTO AN OCCUPIED MODE FOR A 2 HOUR (ADJ.) PERIOD OF TIME. AT THE EXPIRATION OF THIS TIME, CONTROL OF THE UNIT SHALL AUTOMATICALLY RETURN TO THE SCHEDULE.

SMOKE DETECTION:
THE UNIT SHALL SHUT DOWN AND GENERATE AN ALARM UPON RECEIVING A SMOKE DETECTOR STATUS.

FAN:
THE FAN SHALL RUN ANYTIME THE UNIT IS COMMANDED TO RUN, UNLESS SHUTDOWN ON SAFETIES.

SEQUENCE OF OPERATIONS (CONT'D):

HEATING AND COOLING – 2 COMPRESSOR STAGES:
THE CONTROLLER SHALL MEASURE THE ZONE TEMPERATURE AND STAGE THE COMPRESSORS TO MAINTAIN ITS SETPOINT. TO PREVENT SHORT CYCLING, THERE SHALL BE A USER DEFINABLE (ADJ.) DELAY BETWEEN STAGES, AND EACH STAGE SHALL HAVE A USER DEFINABLE (ADJ.) MINIMUM RUNTIME. THE COMPRESSOR SHALL RUN SUBJECT TO ITS OWN INTERNAL SAFETIES AND CONTROLS.

THE HEATING SHALL BE ENABLED WHENEVER:

- THE FAN STATUS IS ON.
- AND THE REVERSING VALVE IS IN HEAT MODE.

THE COOLING SHALL BE ENABLED WHENEVER:

- THE FAN STATUS IS ON.
- AND THE REVERSING VALVE IS IN COOL MODE.

ON MODE CHANGE, THE COMPRESSOR SHALL BE DISABLED AND REMAIN OFF UNTIL AFTER THE REVERSING VALVE HAS CHANGED POSITION.

ALARMS SHALL BE PROVIDED AS FOLLOWS:

- COMPRESSOR 1 RUNTIME EXCEEDED: COMPRESSOR 1 RUNTIME EXCEEDS A USER DEFINABLE LIMIT (ADJ.).
- COMPRESSOR 2 RUNTIME EXCEEDED: COMPRESSOR 2 RUNTIME EXCEEDS A USER DEFINABLE LIMIT (ADJ.).

MINIMUM OUTSIDE AIR VENTILATION – CARBON DIOXIDE (CO2) CONTROL:
WHEN IN THE OCCUPIED MODE, THE CONTROLLER SHALL MEASURE THE ZONE CO2 LEVELS AND OPEN THE OUTSIDE AIR DAMPERS ON RISING CO2 CONCENTRATIONS, OVERRIDING NORMAL DAMPER OPERATION AS CO2 CONCENTRATIONS RISE FROM 750PPM TO 800PPM (ADJ.) AND ABOVE.

DISCHARGE AIR TEMPERATURE:
THE CONTROLLER SHALL MONITOR THE DISCHARGE AIR TEMPERATURE.

ALARMS SHALL BE PROVIDED AS FOLLOWS:

- HIGH DISCHARGE AIR TEMP: IF THE DISCHARGE AIR TEMPERATURE IS GREATER THAN 120°F (ADJ.).
- LOW DISCHARGE AIR TEMP: IF THE DISCHARGE AIR TEMPERATURE IS LESS THAN 40°F (ADJ.).

FAN STATUS:
THE CONTROLLER SHALL MONITOR THE FAN STATUS.

ALARMS SHALL BE PROVIDED AS FOLLOWS:

- FAN FAILURE: COMMANDED ON, BUT THE STATUS IS OFF.
- FAN IN HAND: COMMANDED OFF, BUT THE STATUS IS ON.
- FAN RUNTIME EXCEEDED: FAN STATUS RUNTIME EXCEEDS A USER DEFINABLE LIMIT (ADJ.).

ZONE CARBON DIOXIDE (CO2) CONCENTRATION MONITORING:
THE CONTROLLER SHALL MEASURE THE ZONE CO2 LEVELS.

ALARMS SHALL BE PROVIDED AS FOLLOWS:

- HIGH ZONE CARBON DIOXIDE CONCENTRATION: IF THE ZONE CO2 CONCENTRATION IS GREATER THAN 1000PPM (ADJ.) WHEN IN THE OCCUPIED MODE.

WATER SOURCE HEAT PUMP (TYPICAL OF 6)

RUN CONDITIONS – SCHEDULED:
THE UNIT SHALL RUN ACCORDING TO A USER DEFINABLE TIME SCHEDULE IN THE FOLLOWING MODES:

- OCCUPIED MODE: THE UNIT SHALL MAINTAIN
  - A 74°F (ADJ.) COOLING SETPOINT
  - A 70°F (ADJ.) HEATING SETPOINT
- UNOCCUPIED MODE (NIGHT SETBACK): THE UNIT SHALL MAINTAIN
  - A 85°F (ADJ.) COOLING SETPOINT.
  - A 60°F (ADJ.) HEATING SETPOINT.

ALARMS SHALL BE PROVIDED AS FOLLOWS:

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

ZONE OPTIMAL START:
THE UNIT SHALL USE AN OPTIMAL START ALGORITHM FOR MORNING START–UP. THIS ALGORITHM SHALL MINIMIZE THE UNOCCUPIED WARM–UP OR COOL–DOWN PERIOD WHILE STILL ACHIEVING COMFORT CONDITIONS BY THE START OF SCHEDULED OCCUPIED PERIOD.

ZONE UNOCCUPIED OVERRIDE:
A TIMED LOCAL OVERRIDE CONTROL SHALL ALLOW AN OCCUPANT TO OVERRIDE THE SCHEDULE AND PLACE THE UNIT INTO AN OCCUPIED MODE FOR A 2 HOUR (ADJ.) PERIOD OF TIME. AT THE EXPIRATION OF THIS TIME, CONTROL OF THE UNIT SHALL AUTOMATICALLY RETURN TO THE SCHEDULE.

FAN:
THE FAN SHALL RUN ANYTIME THE UNIT IS COMMANDED TO RUN, UNLESS SHUTDOWN ON SAFETIES.

HEATING AND COOLING – 1 COMPRESSOR STAGE:
THE CONTROLLER SHALL RECEIVE A SIGNAL FROM THE LOOP WATER SOURCE MONITOR INDICATING THAT THERE IS WATER FLOW AND THAT THE WATER TEMPERATURE IS WITHIN ACCEPTABLE LIMITS.

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.

THE HEATING SHALL BE ENABLED WHENEVER:

- THE FAN IS ON.
- AND THE REVERSING VALVE IS IN HEAT MODE.

THE COOLING SHALL BE ENABLED WHENEVER:

- THE FAN IS ON.
- AND THE REVERSING VALVE IS IN COOL MODE.

ON MODE CHANGE, THE COMPRESSOR SHALL BE DISABLED AND REMAIN OFF UNTIL AFTER THE REVERSING VALVE HAS CHANGED POSITION.

ALARMS SHALL BE PROVIDED AS FOLLOWS:

- COMPRESSOR RUNTIME EXCEEDED: THE COMPRESSOR RUNTIME EXCEEDS A USER DEFINABLE LIMIT (ADJ.).

DISCHARGE AIR TEMPERATURE:
THE CONTROLLER SHALL MONITOR THE DISCHARGE AIR TEMPERATURE.

ALARMS SHALL BE PROVIDED AS FOLLOWS:

- HIGH DISCHARGE AIR TEMP: IF THE DISCHARGE AIR TEMPERATURE IS GREATER THAN 120°F (ADJ.).
- LOW DISCHARGE AIR TEMP: IF THE DISCHARGE AIR TEMPERATURE IS LESS THAN 40°F (ADJ.).

FAN STATUS:
THE CONTROLLER SHALL MONITOR THE FAN STATUS.

ALARMS SHALL BE PROVIDED AS FOLLOWS:

- FAN FAILURE: COMMANDED ON, BUT THE STATUS IS OFF.
- FAN IN HAND: COMMANDED OFF, BUT THE STATUS IS ON.
- FAN RUNTIME EXCEEDED: FAN STATUS RUNTIME EXCEEDS A USER DEFINABLE LIMIT (ADJ.).

100% CONSTRUCTION DOCUMENTS

Revisions	Date

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DEPARTMENT OF VETERANS AFFAIRS · UNITED STATES OF AMERICA

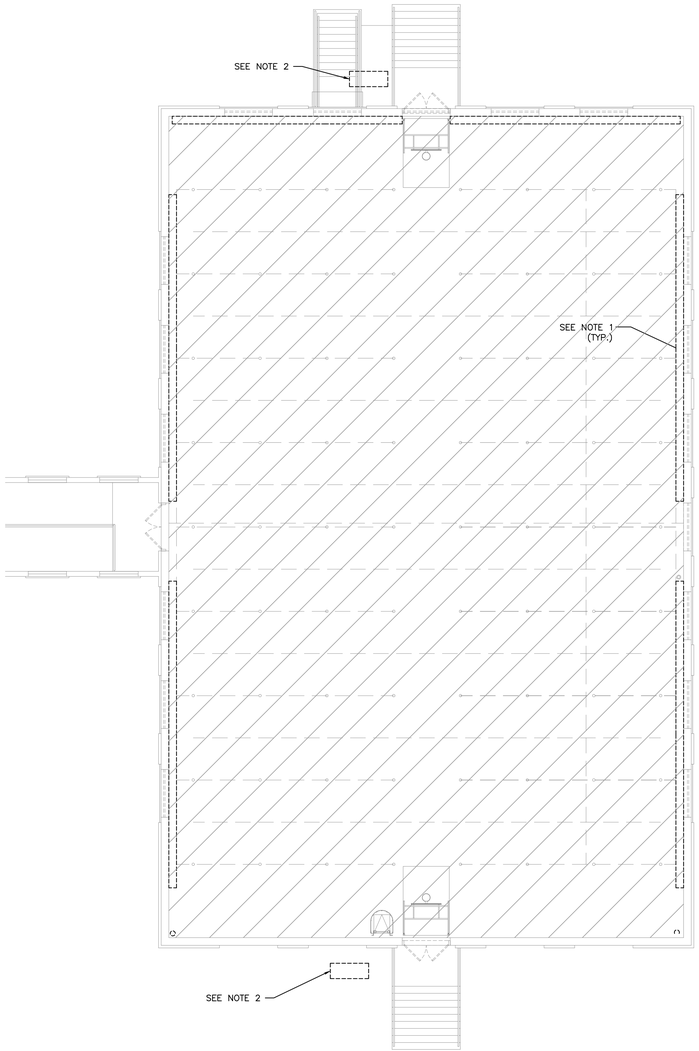
Drawing Title: **MECHANICAL CONTROLS AND SCHEMATICS**
Project Title: ENERGY IMPROVEMENTS & AIR CONDITIONING BUILDING #8, GYM
Date: 09/19/11
Project No.: 610-10-100
Approved: Robert Nash, CO | Approved:
Approved: Andrew Mercker, COTR | Approved:
Building No.: 8 | Scale: AS SHOWN | Drawn/Checked: DMB/JWM
Location: VA MEDICAL CENTER ENGINEERING BLDG #52, RM 201 1700 E. 38TH ST MARION, IN 46953
DRAWING NO. M-503
Dwg. 7 of 7

VA NIHCS Engineering

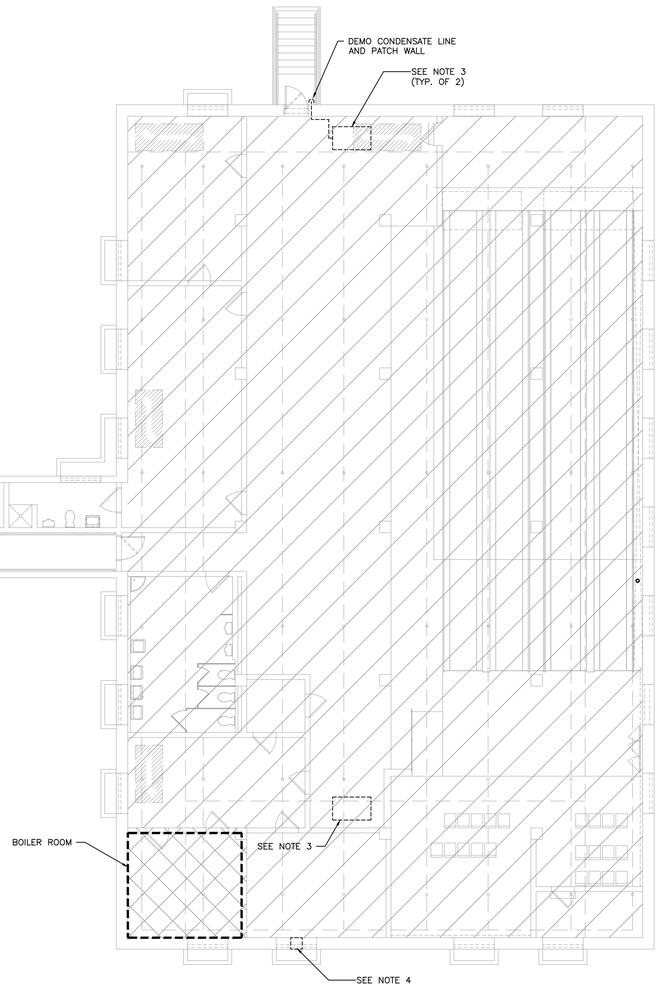
Department of Veterans Affairs

MECHANICAL DEMOLITION NOTES:
1. EXISTING WALL HUNG STEAM RADIATORS TO BE REMOVED COMPLETE. REMOVE ALL ASSOCIATED STEAM AND CONDENSATE RETURN PIPING.
2. EXISTING AIR COOLED CONDENSING UNIT TO BE REMOVED COMPLETE. SALVAGE AND RETURN TO OWNER FOR FUTURE USE.
3. EXISTING FAN COIL UNIT TO BE REMOVED COMPLETE. SALVAGE AND RETURN TO OWNER FOR FUTURE USE.
4. EXISTING EXHAUST FAN TO BE REMOVED COMPLETE.
5. REMOVE ALL STEAM AND CONDENSATE RETURN RELATED ITEM IN BOILER ROOM. CAP STEAM AND CONDENSATE RETURN LINES.

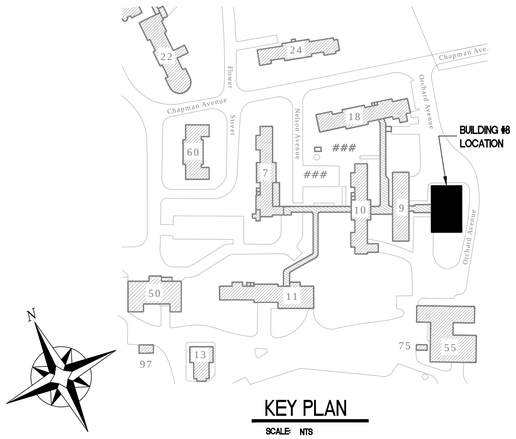
CONTRACTOR SHALL REMOVE COMPLETE ALL ITEMS RELATING TO THE STEAM HEATING SYSTEM INCLUDING BUT NOT LIMITED TO; STEAM PIPING, CONDENSATE PIPING, VALVES, HANGERS AND SUPPORT, RADIATORS, CONTROLS AND CONTROLS WIRING, GAUGES, INSULATION, AND ALL OTHER APPURTENANCES, UNLESS OTHERWISE NOTED. PATCH AND REPAIR WALLS, CEILINGS, AND ANY OTHER SURFACE AFFECTED BY REMOVAL OF STEAM RELATED EQUIPMENT. CAP STEAM AND CONDENSATE LINES IN BOILER ROOM AT ENTRY POINT TO BUILDING.



2 MD101 **GYMNASIUM MECHANICAL DEMOLITION FLOOR PLAN**
SCALE: 1/8" = 1'-0"



1 MD101 **LOWER LEVEL MECHANICAL DEMOLITION FLOOR PLAN**
SCALE: 1/8" = 1'-0"



KEY PLAN
SCALE: NTS

100% CONSTRUCTION DOCUMENTS

Revisions	Date

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Drawing Title: **MECHANICAL DEMOLITION PLANS**
Approved: Robert Nash, CO
Approved:
Approved: Andrew Mercker, COTR
Approved:

Project Title: ENERGY IMPROVEMENTS & AIR CONDITIONING BUILDING #8, GYM
Building No. 8
Scale: AS SHOWN
Drawn/Checked: DMB/JWM
Location: VA MEDICAL CENTER ENGINEERING BLDG #52, RM 201 1700 E. 38TH ST MARION, IN 46953

Date: 09/19/11
Project No. 610-10-100
DRAWING NO. MD101
Dwg. 1 of 7

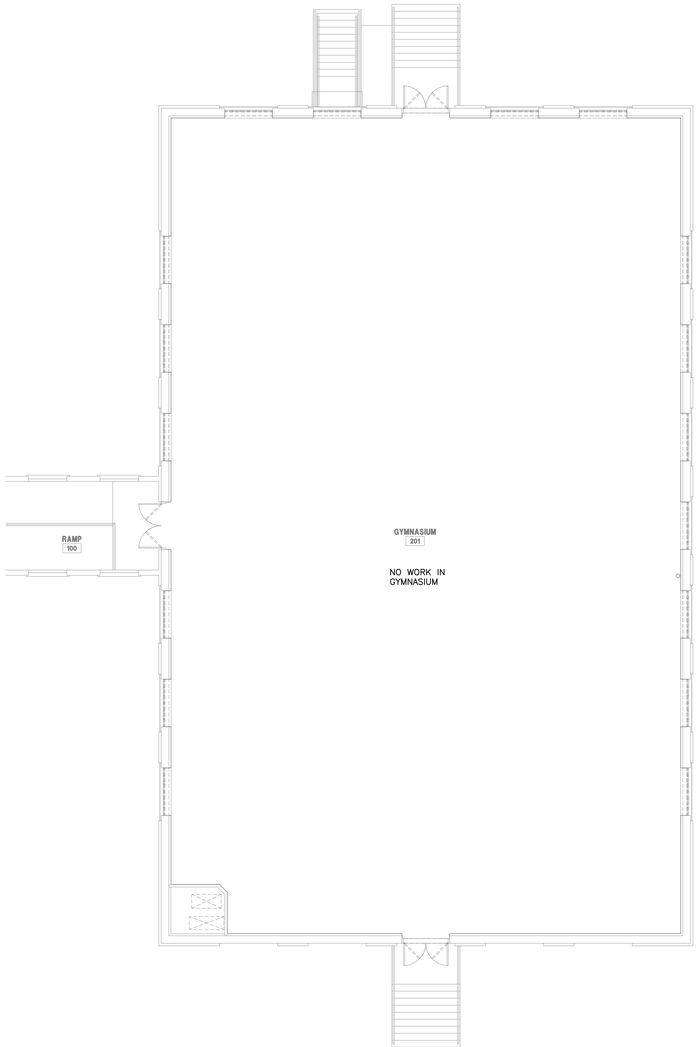
VA NIHCS Engineering
Department of Veterans Affairs

*U.S. GOVERNMENT PRINTING OFFICE: 1983-400-285

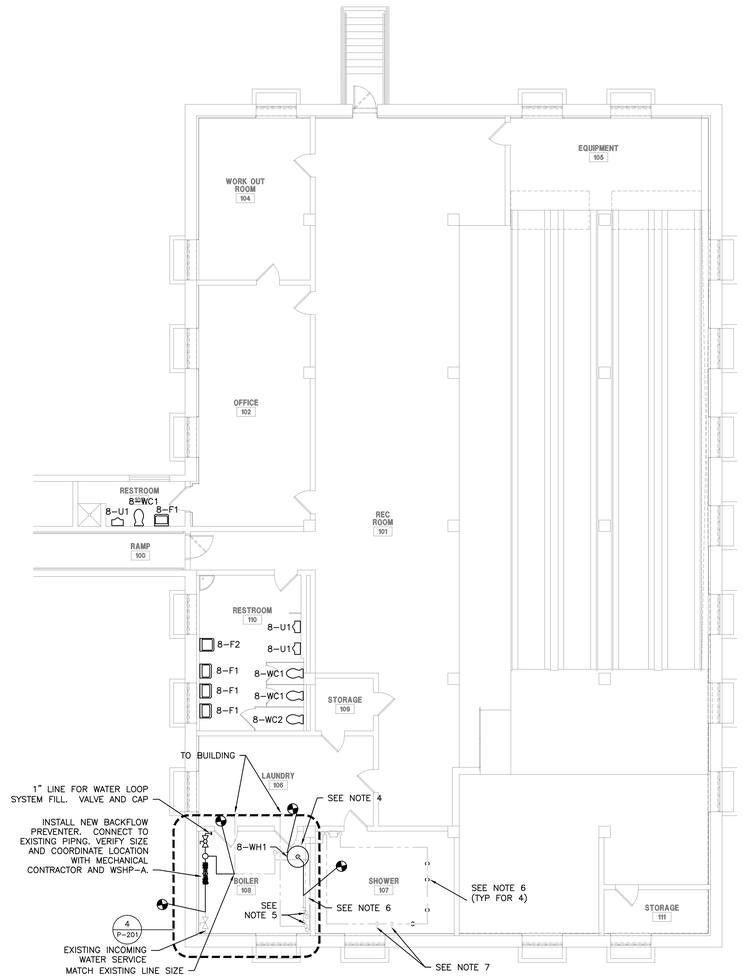
VA FORM 08-6231, FEB. 1983

GENERAL PLUMBING NOTES:
1. SCOPE OF WORK IS LIMITED TO REPLACEMENT OF PLUMBING FIXTURES (AS NOTED), INSTALLATION OF BACKFLOW PREVENTER IN BOILER ROOM, AND ADDITION OF NEW WATER HEATER IN BOILER ROOM. ALL ASSOCIATED PIPING MODIFICATIONS, DEMOLITION, EQUIPMENT AND NEW CONSTRUCTION NECESSARY TO COMPLETE WORK ASSOCIATED WITH THESE ITEMS SHALL BE INCLUDED IN CONTRACTOR'S BID.

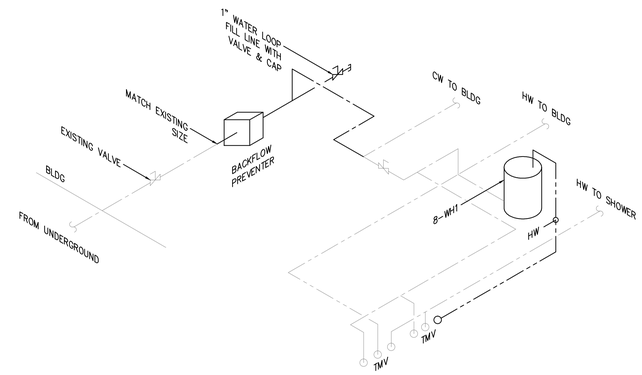
PLUMBING PLAN NOTES:
1. NEW URINAL.
2. NEW WATER CLOSET.
3. NEW FAUCET.
4. NEW ELECTRIC WATER HEATER. VERIFY EXISTING PIPE SIZES AND CONNECT NEW WATER HEATER TO EXISTING PIPE. REPLACE PIPING AS NECESSARY TO ENSURE PROPER FLOW.
5. EXISTING THERMOSTATIC MIXING VALVE.
6. CONNECT NEW HOT WATER SUPPLY TO EXISTING THERMOSTATIC MIXING VALVES. PIPING DOWNSTREAM OF MIXING VALVES DOES NOT CHANGE.
7. NEW SHOWER HEAD.



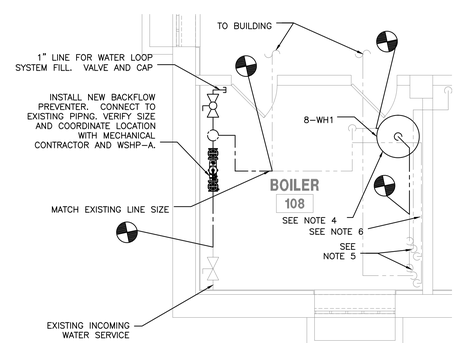
2 P-201 **GYMNASIUM PLUMBING FLOOR PLAN**
SCALE: 1/8" = 1'-0"



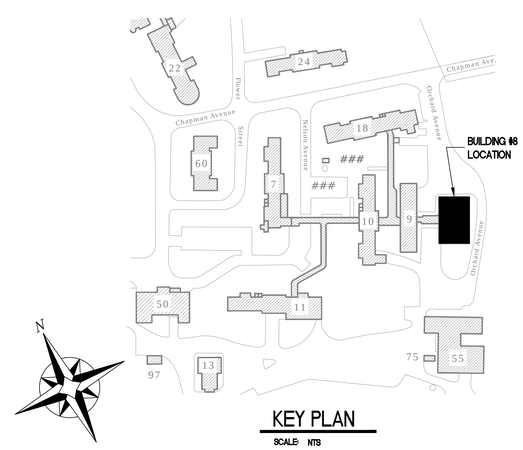
1 P-201 **LOWER LEVEL PLUMBING FLOOR PLAN**
SCALE: 1/8" = 1'-0"



3 P-201 **PLUMBING RISER**
SCALE: 1/4" = 1'-0"



4 P-201 **BOILER ROOM**
SCALE: 1/4" = 1'-0"



KEY PLAN
SCALE: NTS

100% CONSTRUCTION DOCUMENTS

Revisions	Date

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Drawing Title	Project Title	Date
PLUMBING PLANS	ENERGY IMPROVEMENTS & AIR CONDITIONING BUILDING #8, GYM	09/19/11
		Project No. 610-10-100

Approved: Robert Nash, CO	Approved:	Building No. 8	Scale AS SHOWN	Drawn/Checked DMB/JWM
Approved: Andrew Mercker, COTR	Approved:	Location VA MEDICAL CENTER ENGINEERING BLDG #52, RM 201 1700 E. 38TH ST MARION, IN 46953	DRAWING NO. P-201 Dwg. 2 of 3	

VA NIHCS Engineering
Department of Veterans Affairs

VA FORM 08-6231, FEB. 1983
*U.S. GOVERNMENT PRINTING OFFICE: 1983-400-285

PLUMBING ABBREVIATIONS

A/E ARCHITECT / ENGINEER
AD AREA DRAIN
AFF ABOVE FINISH FLOOR
AFG ABOVE FINISH GRADE
AG AIR GAP
AP ACCESS PANEL
AS AUTOMATIC SPRINKLER
ASD ADJUSTABLE SPEED DRIVES
ASD AUTOMATIC SPRINKLER DRAIN
ASHRAE AMERICAN SOCIETY HEATING, REFRIGERATION, AIR CONDITIONING ENGINEERS
ASME AMERICAN SOCIETY MECHANICAL ENGINEERS
ASPE AMERICAN SOCIETY PLUMBING ENGINEERS
ASR AUTOMATIC SPRINKLER RISER
AV ACID VENT
AW ACID WASTE

BFP REDUCED PRESSURE BACKFLOW PREVENTER
BHP BREAK HORSEPOWER
BSP BLACK STEEL PIPE
BT BATHTUB
BTU BRITISH THERMAL UNIT
BTUH BRITISH THERMAL UNIT PER HOUR

C CELSIUS
CGA COMPRESSED GAS ASSOCIATION
CI CAST IRON
CO CLEANOUT
CS CLINICAL SINK
CV CONTROL VALVE

DCW DOMESTIC COLD WATER
DHW DOMESTIC HOT WATER
DHWR DOMESTIC HOT WATER RETURN
DHWR DOMESTIC WATER RETURN
DHWS DOMESTIC HOT WATER SUPPLY
DI DEIONIZED WATER
DN DOWN
DOE DEPARTMENT OF ENERGY
DS DOWNSPOUT
DW DISHWASHER
DWG DRAWING
DWH DOMESTIC WATER HEATER
DWR DRINKING WATER RETURN
DWS DRINKING WATER SUPPLY
DWV DRAIN WASTE VENT

EL ELEVATION
EMCS ENERGY MONOSERRAT AND CENTRAL SYSTEM
EPA ENVIROMENTAL PROTECTION AGENCY
EPACT ENERGY POLICY ACT
ESC ESCUTCHEON
ESH EMERGENCY SHOWER
ET EXPANSION TANK
EWC ELECTRIC WATER COOLER
EWC ELECTRIC WATER COOLER
EWH ELECTRIC WATER HEATER
EWS EYE WASH STATION
EX EXISTING

F FAHRENHEIT
FCO FLOOR CLEANOUT
FCW FILTERED COLD WATER
FD FLOOR DRAIN
FDC FIRE DEPARTMENT (HOSE) CONNECTION
FM FLOW METER
FOP FUEL OIL PUMP
FOR FUEL OIL RETURN
FOS FUEL OIL SUPPLY
FOV FUEL OIL VENT
FS FLOOR SINK
FS FLOW SWITCH
FU FIXTURE UNITS

GAL GALLON
GCO GRADE CLEANOUTS
GPD GALLONS PER DAY
GPH GALLONS PER HOUR
GPM GALLONS PER MINUTE
GPR GAS PRESSURE REGULATOR
GRS GAS REGULATOR STATION
GT GREASE TRAP
GVTR GAS VENT THROUGH ROOF
GWH GAS FIRED WATER HEATER

H&CW HOT AND COLD WATER
HB HOSE BIBB
HD HUB DRAIN
HEX HEAT EXCHANGER
HP HORSEPOWER
HS HAND SINK
HST HOT WATER STORAGE TANK (DOMESTIC)
HWB HOT WATER BOILER
HWCP HOT WATER CIRCULATING PUMP
HWP HOT WATER PUMP
HYD HYDRANT

ICW INDUSTRIAL COLD WATER
INV INVERT
IPC INTERNATIONAL PLUMBING CODE
IRW IRRIGATION WATER
IW INDIRECT WASTE
IWH INSTANTANEOUS WATER HEATER
IWR INDUSTRIAL WATER RETURN
IWS INDUSTRIAL WATER SUPPLY

KW KILOWATT
KWHR KILOWATT-HOUR

L/S LITER PER SECOND
LA LABORATORY AIR
LAV LAVATORY
LBS/HR POUNDS PER HOUR
LCW LABORATORY COLD WATER
LHW LABORATORY HOT WATER
LNG LIQUID NATURAL GAS
LOX LIQUID OXYGEN
LV LABORATORY VACUUM
LW LOW WATER

N2 NITROGEN
N2O NITROUS OXIDE
NC NORMALLY CLOSED
NG NATURAL GAS
NIC NOT IN CONTRACT
NO NORMALLY OPEN
NOM. NOMINAL
NPW NON POTABLE WATER
NTC NOT TO SCALE

O2 OXYGEN
OC ON CENTER
OD OUTSIDE DIAMETER
OFD OVERFLOW DRAIN
OR OPERATING ROOM
OVFL OVERFLOW

M METER
MA MEDICAL AIR
MAV MANUAL AIR VENT
MBH 1000 BTUH
MED MEDICAL
MER MECHANICAL EQUIPMENT ROOM
MH MANHOLE
MOU MEMORANDUM OF UNDERSTADING
MSB MOP SERVICE BASIN
MV MEDICAL VACUUM

PA PASCAL
PD PRESSURE DROP OR DIFFERENCE
PDI PLUMBING AND DRAINAGE INSTITUTE
PG PRESSURE GAGE
PP PLUMBING PUMP
PPM PARTS PER MILLION
PRS PRESSURE REDUCING STATION
PRV PRESSURE REDUCING VALVE
PSI POUNDS PER SQUARE INCH
PSIA POUNDS PER SQUARE INCH ATMOSPHERE
PSIG POUNDS PER SQUARE INCH GAUGE
PTRV PRESSURE TEMPERATURE RELIEF VALVE
PW POTABLE WATER

RD ROOF DRAIN
RDL ROOF DRAIN LEADER
RL ROOF LEADER
RO REVERSE OSMOSIS WATER
RWL RAIN WATER LEADER

SAN SANITARY SEWER
SMACNA SHEET METAL AND AIR CONDITIONING CONTRACTORS NATIONAL ASSOCIATION
SCFM STANDARD CUBIC FOOT/MINUTE
SCW SOFTENED COLD WATER
SDMH STORM DRAIN MANHOLE
SP SUMP PUMP
SPR SPRINKLER LINE
SQFT SQUARE FEET
SS STAINLESS STEEL
ST STORAGE TANK
SW STORM WATER

TCV TEMPERATURE CONTROL VALVE
TD TEMPERATURE DIFFERENCE
TD TRENCH DRAIN
TDH TOTAL DYNAMIC HEAD
TEMP TEMPERATURE
TMV THERMOSTATIC MIXING VALVE
TP TRAP PRIMER
TSTAT THERMOSTAT
TWR TEMPERED WATER RETURN
TWS TEMPERED WATER SUPPLY
TYP TYPICAL

UPC UNIFORM PLUMBING CODE

V VENT
VAC VACUUM
VB VACUUM BREAKER
VCO VACUUM CLEANER OUTLET
VP VACUUM PUMP
VS VENT STACK
VTR VENT THROUGH ROOF

W WASTE
WC WATER CLOSET
WCO WALL CLEANOUT
WG WATER GAGE
WH WALL HYDRANT
WH WATER HEATER
WHA WATER HAMMER ARRESTER
WL WATER LINE
WM WATER METER
WPD WATER PRESSURE DROP
WS WASTE STACK

YCO YARD CLEANOUT
YH YARD HYDRANT

PLUMBING SYMBOLS

2 / PL105 — DETAIL NUMBER; DRAWING NUMBER WHERE DRAWN

A / PL105 — SECTION LETTER; DRAWING NUMBER WHERE SHOWN

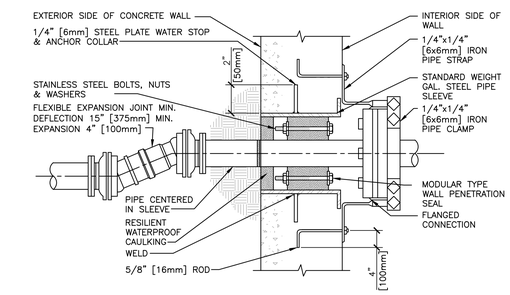
26-P 3 — BUILDING NO. WHERE EQUIPMENT IS LOCATED; EQUIPMENT ABBREVIATION (PUMP); PUMP NO.3 IN BUILDING NO.26; TYPICAL UNIT NO.

PLUMBING FIXTURE SCHEDULE

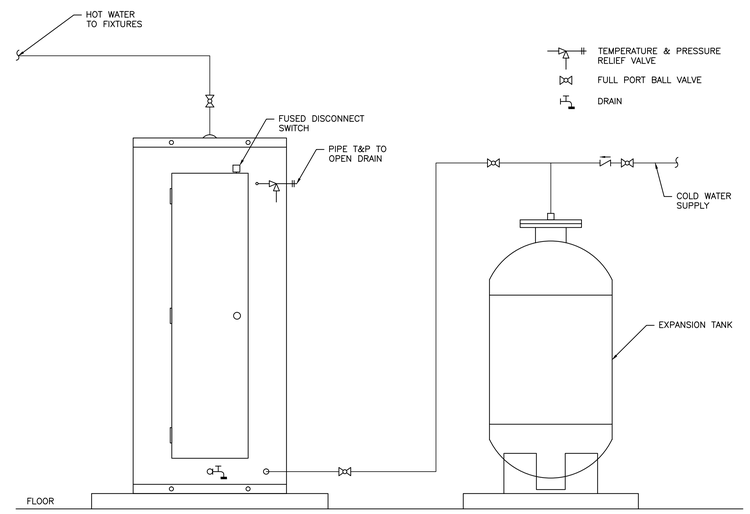
TAG	FIXTURE TYPE	PIPE SERVICE & CONNECTION SIZE			FIXTURE DESCRIPTION
		CW	HW	WASTE	
8-WC1	WATER CLOSET	1-1/2"	---	3"	P-101, 15" HIGH FLOOR MOUNT, WHITE VITREOUS CHINA, ELONGATED BOWL, FLOWISE, 1.28 GPF
8-TS1	TOILET SEAT	---	---	---	ELONGATED, HEAVY DUTY SOLID PLASTIC, OPEN FRONT, REINFORCED SS CHECK HINGE, POST, WASHERS, AND NUTS
8-FV1	FLUSH VALVE	1-1/2"	---	---	NO TOUCH, BATTERY OPERATED FLUSH VALVE, 1.28 GPF, DIAPHRAGM TYPE
8-WC2	WATER CLOSET	1-1/2"	---	3"	P-101, 17" HIGH FLOOR MOUNT, WHITE VITREOUS CHINA, ELONGATED BOWL, FLOWISE, 1.28 GPF, ADA COMPLIANT
8-TS2	TOILET SEAT	---	---	---	ELONGATED, HEAVY DUTY SOLID PLASTIC, OPEN FRONT, REINFORCED SS CHECK HINGE, POST, WASHERS, AND NUTS, ADA COMPLIANT
8-FV2	FLUSH VALVE	1-1/2"	---	---	NO TOUCH, BATTERY OPERATED FLUSH VALVE, 1.28 GPF, DIAPHRAGM TYPE
8-U1	URINAL	3/4"	---	2"	HIGH EFFICIENCY, WALL HUNG, WHITE VITREOUS CHINA, WALL HANGERS, OPEN TRAP, 0.5 GPF, MATCH EXISTING URINAL TYPE
8-FV3	FLUSH VALVE	3/4"	---	---	NO TOUCH, BATTERY OPERATED FLUSH VALVE, 0.5 GPF, DIAPHRAGM TYPE
8-F1	FAUCET	1/2"	1/2"	---	CAST BRASS VALVE BODIES WITH RIGID COPPER CONNECTIONS WITH COMPRESSION FITTINGS. .5 GPM MAX FLOW RATE, PROVIDE LEVER HANDLES.
8-F2	FAUCET	1/2"	1/2"	---	CAST BRASS VALVE BODIES WITH RIGID COPPER CONNECTIONS WITH COMPRESSION FITTINGS. .5 GPM MAX FLOW RATE, PROVIDE WRIST BLADE HANDLES, ADA COMPLIANT.

WATER HEATER SCHEDULE

TAG	TYPE	CAPACITY GAL	RECOVERY GPH/ TEMP RISE °F	INPUT KW	VOLTAGE/ PHASE	FULL LOAD AMPS
8-WH1	ELECTRIC	80	221/100	54	208/3	149.9



1 / P-501 **PIPE PENETRATION THROUGH WALL BELOW GRADE**
SCALE: NTS



NOTE:
1. PREFERRED PIPING DIAGRAM.
2. THE TEMPERATURE AND PRESSURE RELIEF VALVE SETTING SHALL NOT EXCEED PRESSURE RATING OF ANY COMPONENT IN THE SYSTEM.
3. SERVICE VALVES ARE SHOWN FOR SERVICING UNIT. HOWEVER, LOCAL CODES SHALL GOVERN THEIR USAGE.

2 / P-501 **CONNECTIONS TO DOMESTIC WATER HEATER**
SCALE: NTS

PLUMBING GENERAL NOTES

ALL ITEMS THAT REQUIRE ACCESS, SUCH AS FOR OPERATING, CLEANING, SERVICING, MAINTENANCE, AND CALIBRATION, SHALL BE EASILY AND SAFELY ACCESSIBLE BY PERSONS STANDING AT FLOOR LEVEL, OR STANDING ON PERMANENT PLATFORMS, WITHOUT THE USE OF PORTABLE LADDERS. EXAMPLES OF THESE ITEMS INCLUDE, BUT ARE NOT LIMITED TO: ALL TYPES OF VALVES, FILTERS AND STRAINERS, TRANSMITTERS, CONTROL DEVICES. PRIOR TO COMMENCING INSTALLATION WORK, REFER CONFLICTS BETWEEN THIS REQUIREMENT AND CONTRACT DRAWINGS TO THE COTR FOR RESOLUTION.

100% CONSTRUCTION DOCUMENTS

Revisions	Date

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Drawing Title: PLUMBING DETAILS	Project Title: ENERGY IMPROVEMENTS & AIR CONDITIONING BUILDING #8, GYM	Date: 09/19/11	VA NIHCS Engineering
Approved: Robert Nash, CO	Approved:	Project No.: 610-10-100	
Building No.: 8	Scale: AS SHOWN	Drawn/Checked: DMB/JWM	
Approved: Andrew Mercker, COTR	Approved:	Location: VA MEDICAL CENTER ENGINEERING BLDG #52, RM 201 1700 E. 38TH ST MARION, IN 46953	DRAWING NO. P-501 Dwg. 3 of 3

Department of Veterans Affairs

VA FORM 08-6231, FEB. 1983

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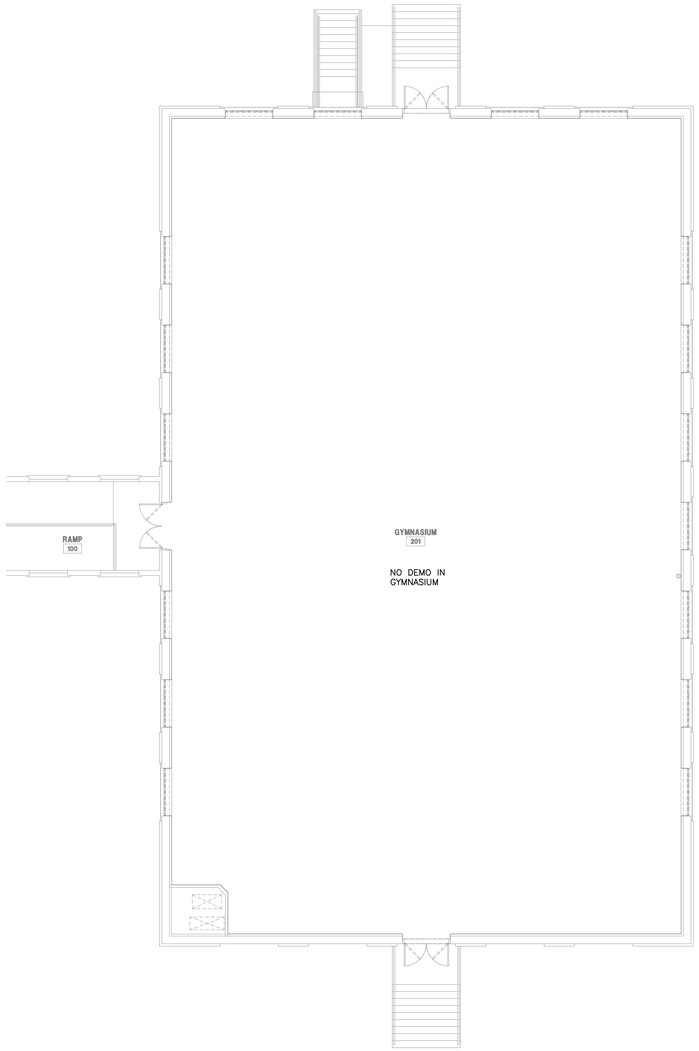
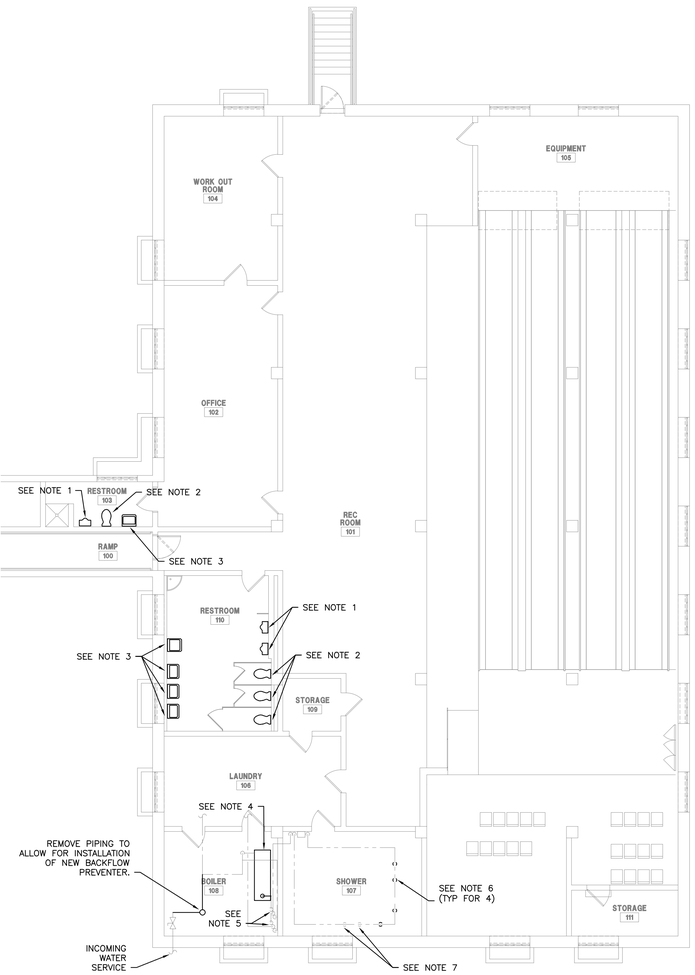
GENERAL PLUMBING NOTES:
1. SCOPE OF WORK IS LIMITED TO REPLACEMENT OF PLUMBING FIXTURES (AS NOTED), INSTALLATION OF BACKFLOW PREVENTER IN BOILER ROOM, AND ADDITION OF NEW WATER HEATER IN BOILER ROOM. ALL ASSOCIATED PIPING MODIFICATIONS, DEMOLITION, EQUIPMENT AND NEW CONSTRUCTION NECESSARY TO COMPLETE WORK ASSOCIATED WITH THESE ITEMS SHALL BE INCLUDED IN CONTRACTOR'S BID.

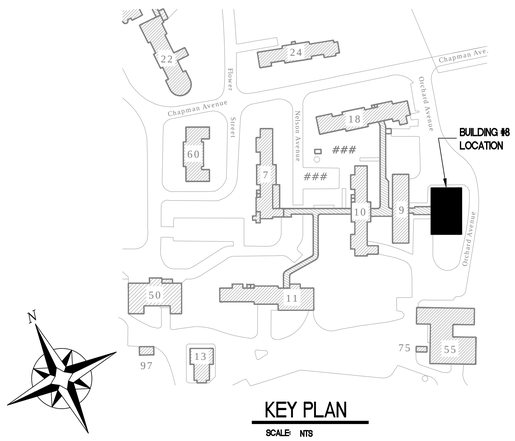
PLUMBING DEMOLITION NOTES:
1. REMOVE EXISTING URINAL COMPLETE.
2. REMOVE EXISTING WATER CLOSET COMPLETE.
3. REMOVE EXISTING FAUCET COMPLETE–LAVATORY TO REMAIN.
4. REMOVE COMPLETE EXISTING STEAM–TO–HOT WATER HEAT EXCHANGER. REMOVE ALL ASSOCIATED PIPING AND APPURTNENACES FOR STEAM, CONDENSATE RETURN, AND HOT WATER SYSTEMS UP TO EXISTING THERMOSTATIC MIXING VALVES AS SHOWN.
5. EXISTING THERMOSTATIC MIXING VALVES.
6. REMOVE EXISTING SHOWER HEADS.
7. EXISTING CAPPED SHOWER TAPS TO REMAIN.



2 PD101 **GYMNASIUM PLUMBING DEMOLITION FLOOR PLAN**
SCALE: 1/8" = 1'–0"



1 PD101 **LOWER LEVEL PLUMBING DEMOLITION FLOOR PLAN**
SCALE: 1/8" = 1'–0"



KEY PLAN
SCALE: NTS

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Drawing Title: **PLUMBING DEMOLITION PLAN**
Approved: Robert Nash, CO
Approved:
Approved: Andrew Mercker, COTR
Approved:

Project Title: ENERGY IMPROVEMENTS & AIR CONDITIONING BUILDING #8, GYM
Building No. 8
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Dwg. 1 of 3

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