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<p>1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THESE PLANS, THE INTERNATIONAL RESIDENTIAL CODE (IRC 2009), TRUSS MANUFACTURER SHOP DRAWINGS, AND THE MATERIAL MANUFACTURERS INSTALLATION INSTRUCTIONS.</p> <p>2. WHERE CONFLICTING INFORMATION EXISTS BETWEEN THESE PLANS AND OTHER REFERENCED REQUIREMENTS, THE MORE STRINGENT REQUIREMENT SHALL APPLY UNLESS OTHERWISE APPROVED BY THE DESIGN PROFESSIONAL RESPONSIBLE FOR THESE PLANS.</p> <p>3. THE CONTRACTOR IS RESPONSIBLE TO IDENTIFY AND RESOLVE ALL CONFLICTS AND DISCREPANCIES PRIOR TO AND DURING CONSTRUCTION AND FACILITATE PROPER CONSTRUCTION AS INTENDED BY THESE PLANS.</p> <p>4. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ADEQUATE STRUCTURAL SUPPORT OF CONSTRUCTION LOADS DURING ALL PHASES OF CONSTRUCTION, INCLUDING ACCOMMODATING LOADS FROM FOUNDATION BACKFILL, BRACING OF WALL FRAMING TO RESSURE CONSTRUCTION FLOOR LOADS AND LATERAL BUILDING LOADING, BRACING OF TRUSSES DURING INSTALLATION AND SUBSEQUENT CONSTRUCTION LOADING, AND OTHER CONDITIONS AS DICTATE THE CONTRACTOR'S CONSTRUCTION PRACTICE.</p> <p>5. CONTRACTOR SHALL COMPLY WITH THE MOST CURRENT CONSTRUCTION SAFETY REGULATIONS OF OSHA.</p> <p>6. ALL CONSTRUCTION SHALL BE PERFORMED IN A GOOD, WORKMANLIKE MANNER FOLLOWING ACCEPTED CONSTRUCTION PRACTICES AND TOLERANCES. DEFECTIVE OR DAMAGED MATERIALS SHALL NOT BE USED AND SHALL BE REPLACED.</p>		<p>STRUCTURAL DESIGN CRITERIA</p> <table> <tr> <td>DESIGN ITEM</td> <td>CRITERIA</td> <td>CODE REFERENCE</td> </tr> <tr> <td>GROUND SNOW LOAD</td> <td>30 PSF - SEE NOTE 1</td> <td>IRC 2009 (IRC R301.2(5), ASCE 7 Sect. 7.1)</td> </tr> <tr> <td>BASIC WIND SPEED</td> <td>90 MPH (GUST)</td> <td>IRC 2009, FIG R301.2(4) ASCE 7, R3-6-C</td> </tr> <tr> <td>WIND EXPOSURE</td> <td>C</td> <td>IRC 2009, SEC R301.2.1.4 ASCE 7, Sect. 6.5.6</td> </tr> <tr> <td>WIND BORNE DEBRIS REGION</td> <td>NO</td> <td>IRC 2009 Sect. 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PROJECT:
National Institute of
Standards and Technology

NET ZERO ENERGY
RESIDENTIAL TEST
FACILITY

NIST Campus
Gaithersburg, MD



U.S. DEPARTMENT OF
ENERGY | Energy Efficiency &
Renewable Energy

MARK	DATE	DESCRIPTION

ISSUE: 03/01/10 ISSUED FOR CONSTRUCTION

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CAD DWG FILE: A-PLOT-SPEC-AZERTF
DRAWN BY: CG
CHECKED BY: BP

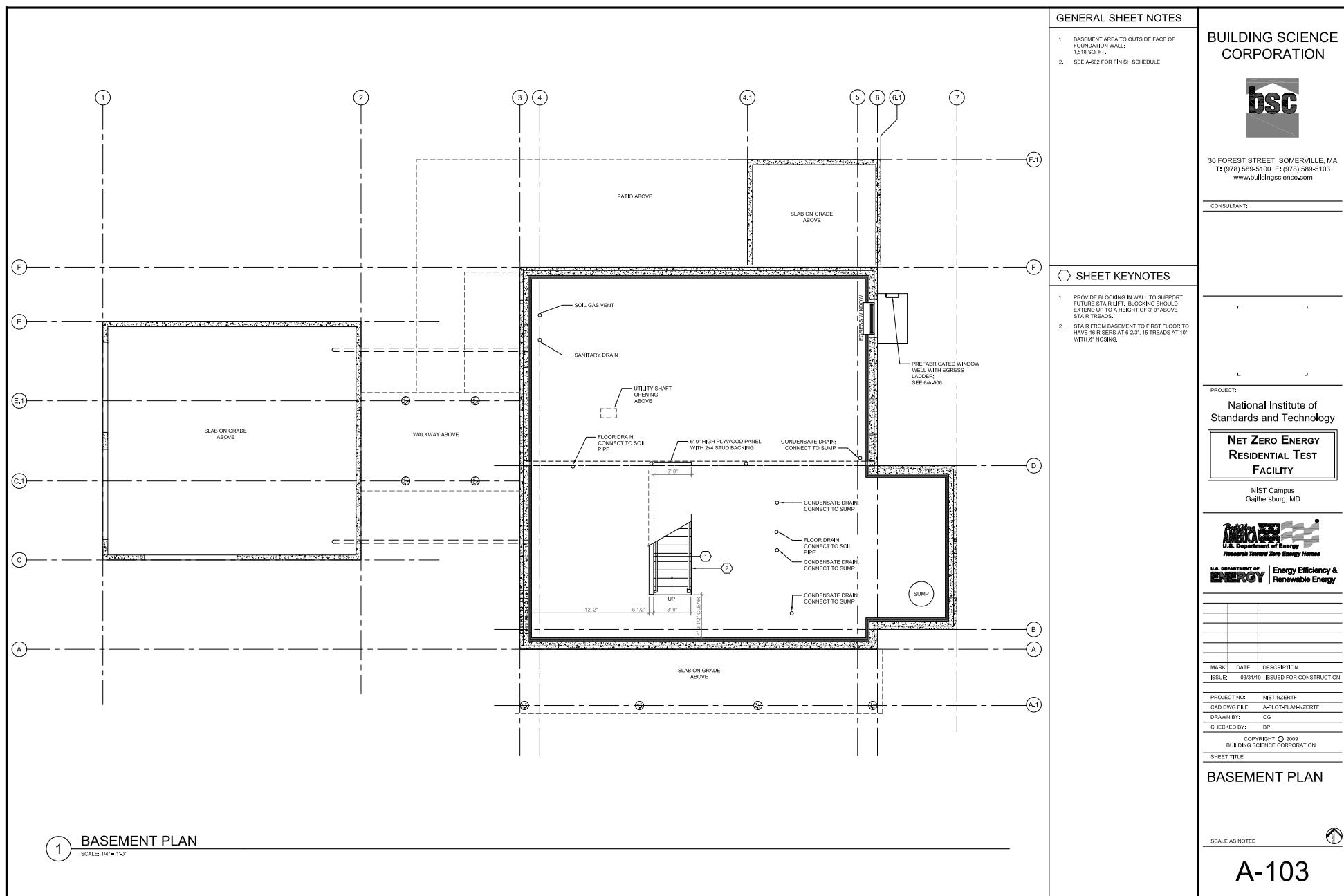
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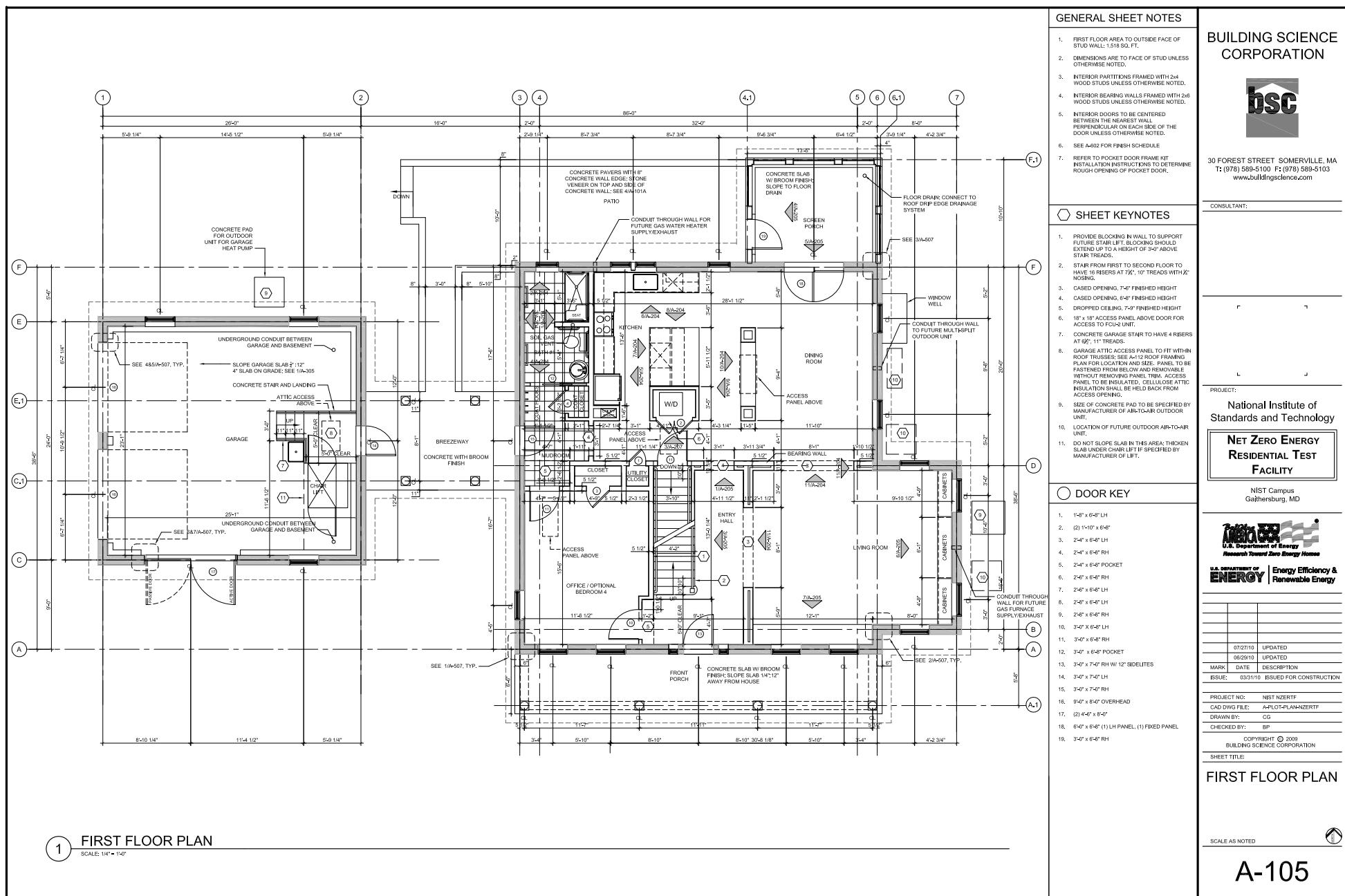
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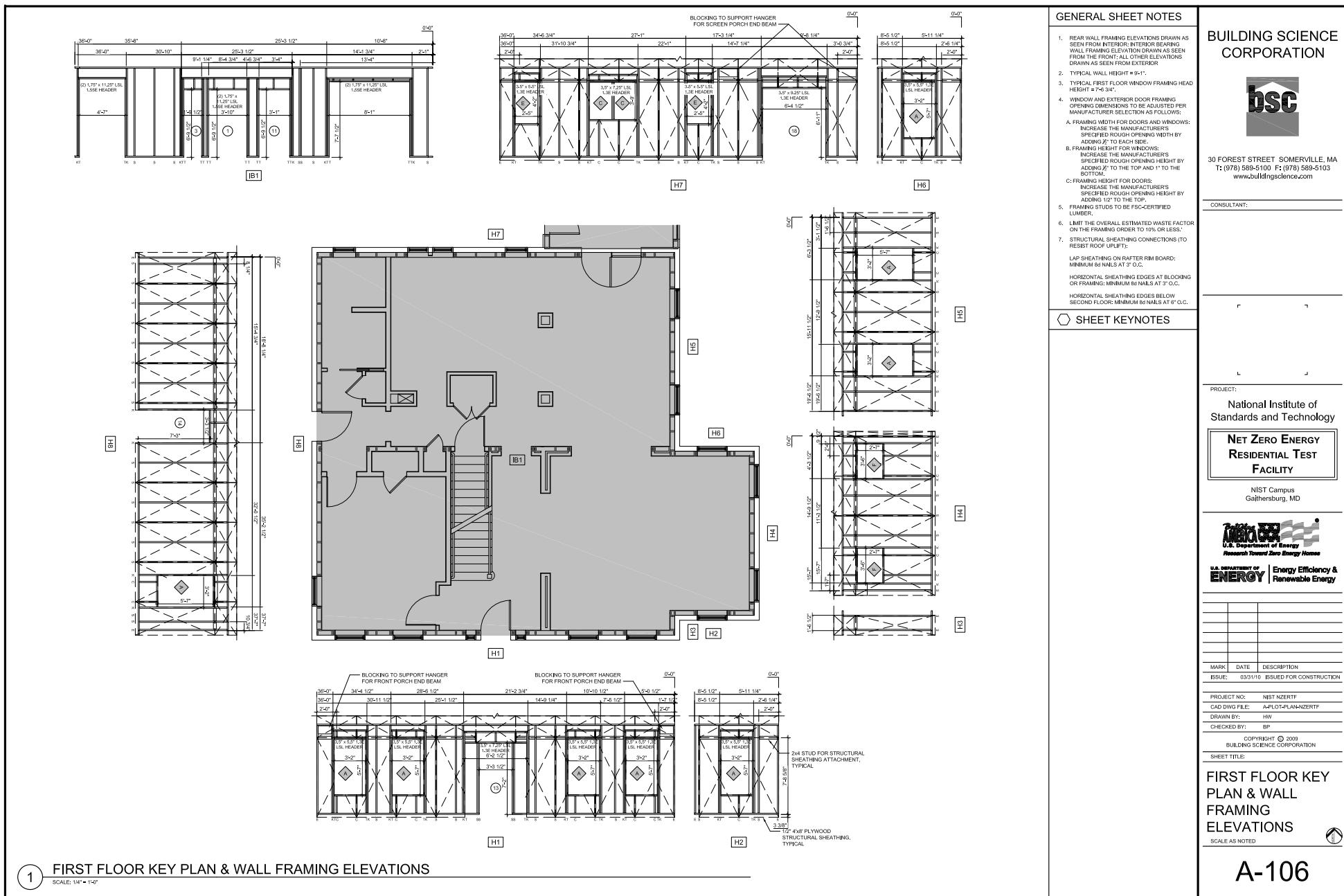
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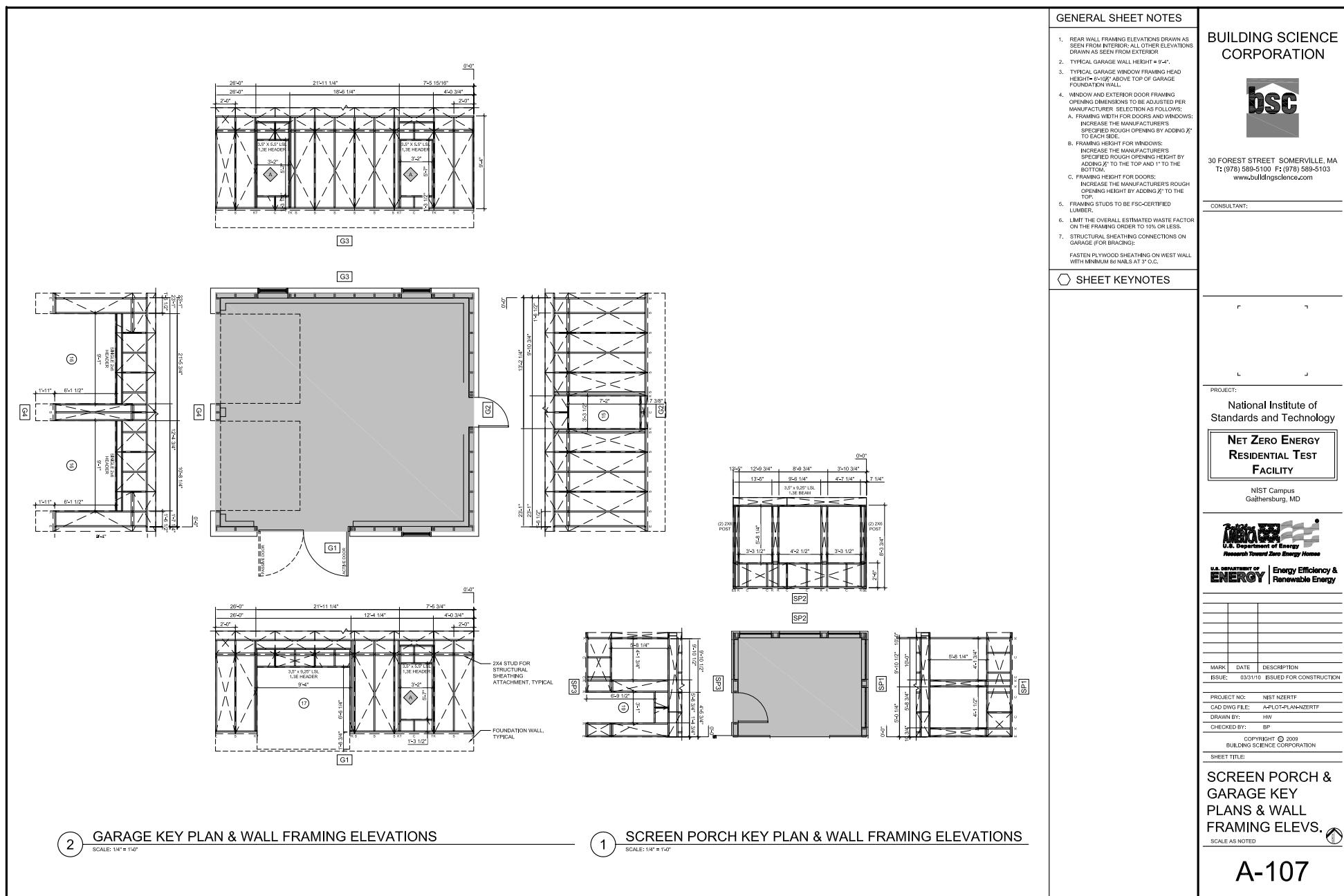
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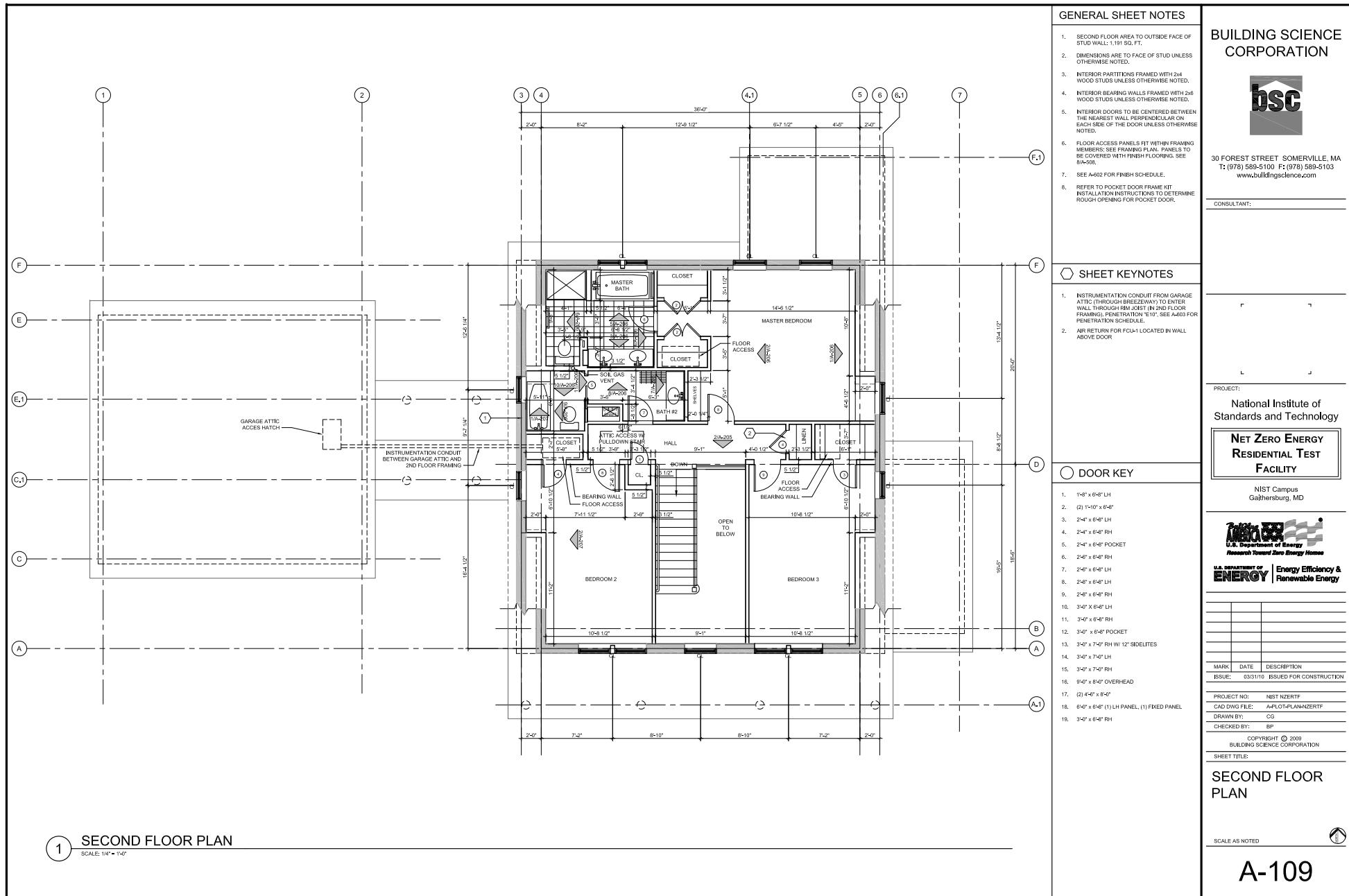


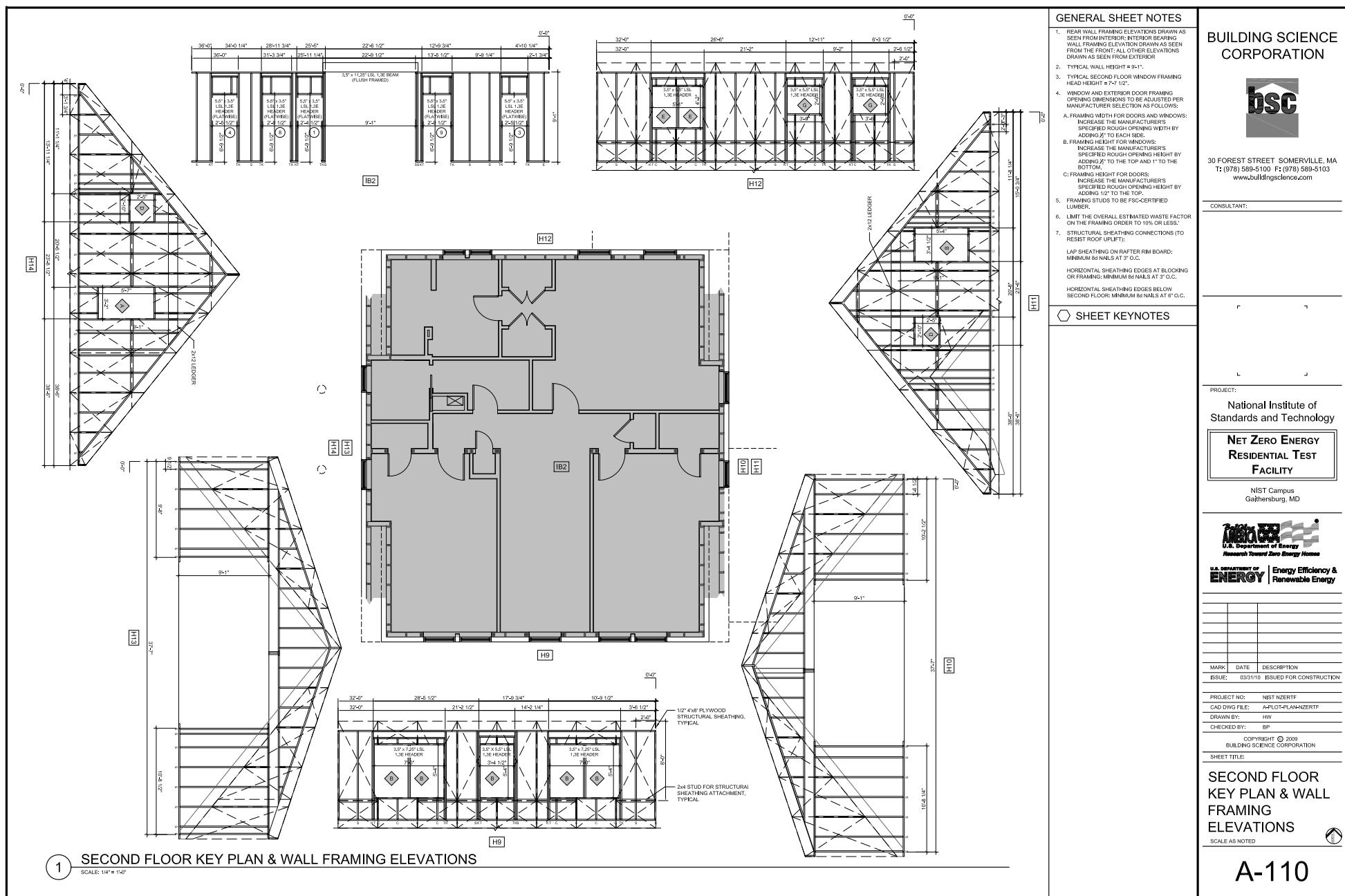


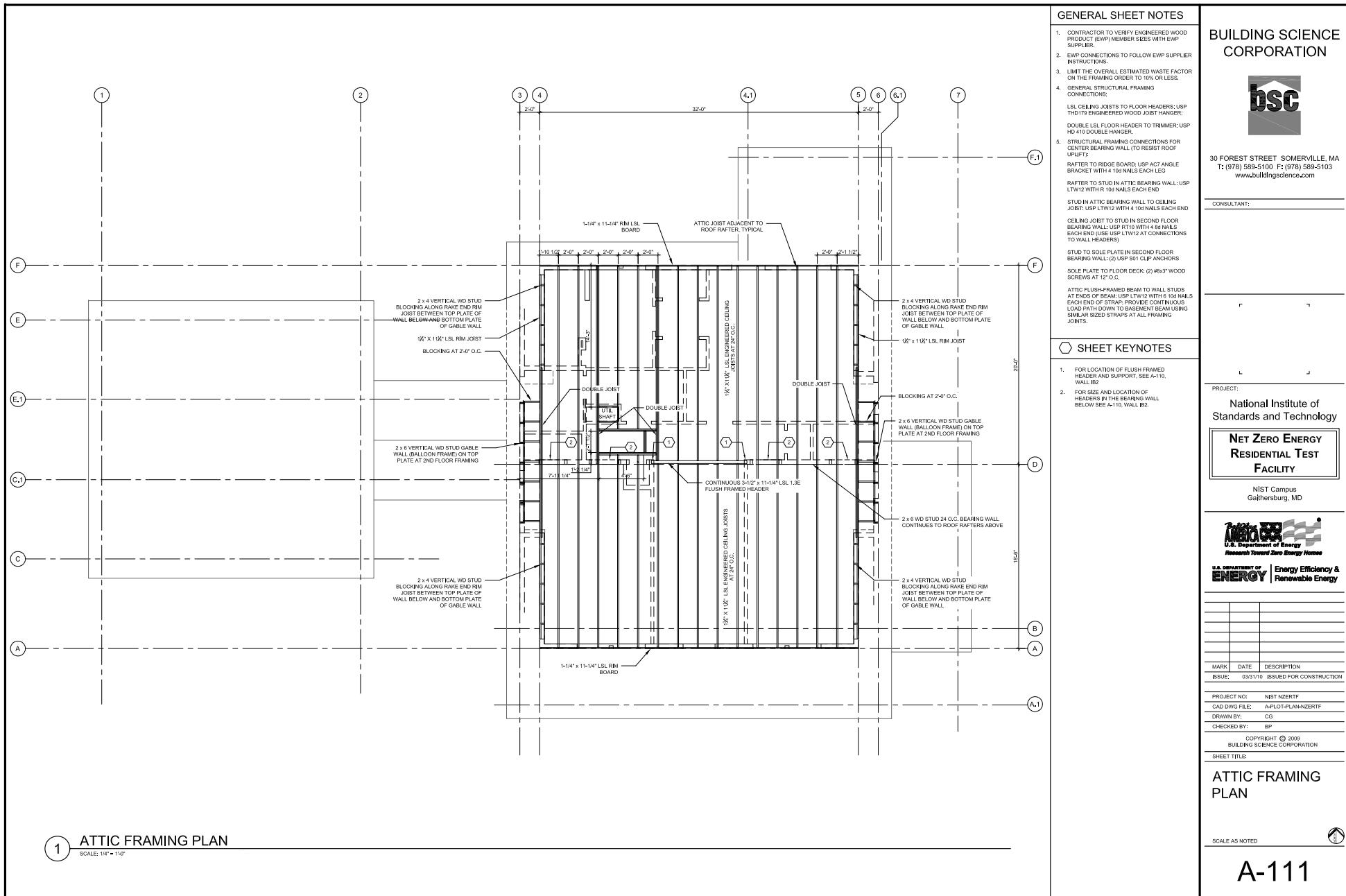


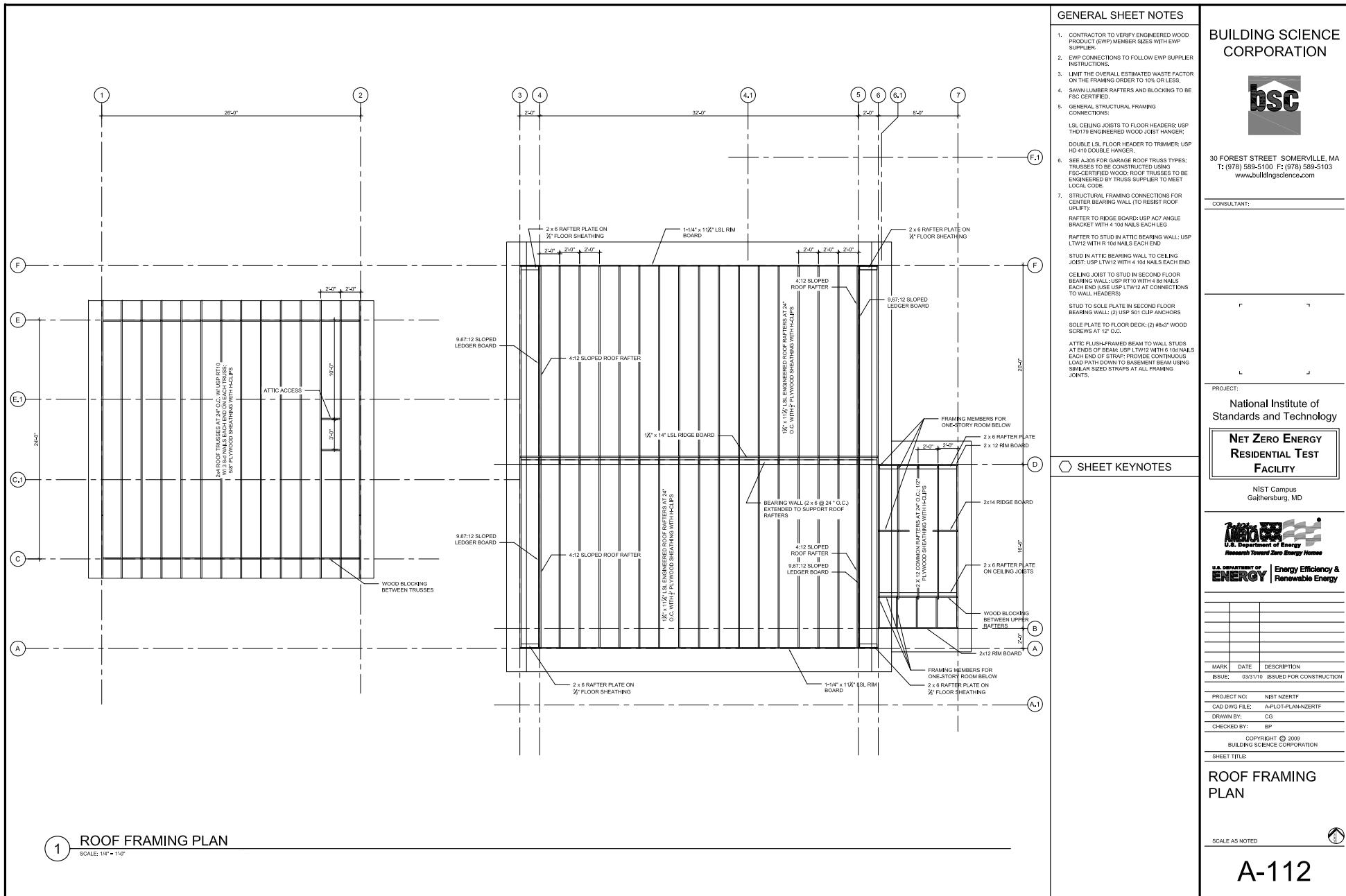


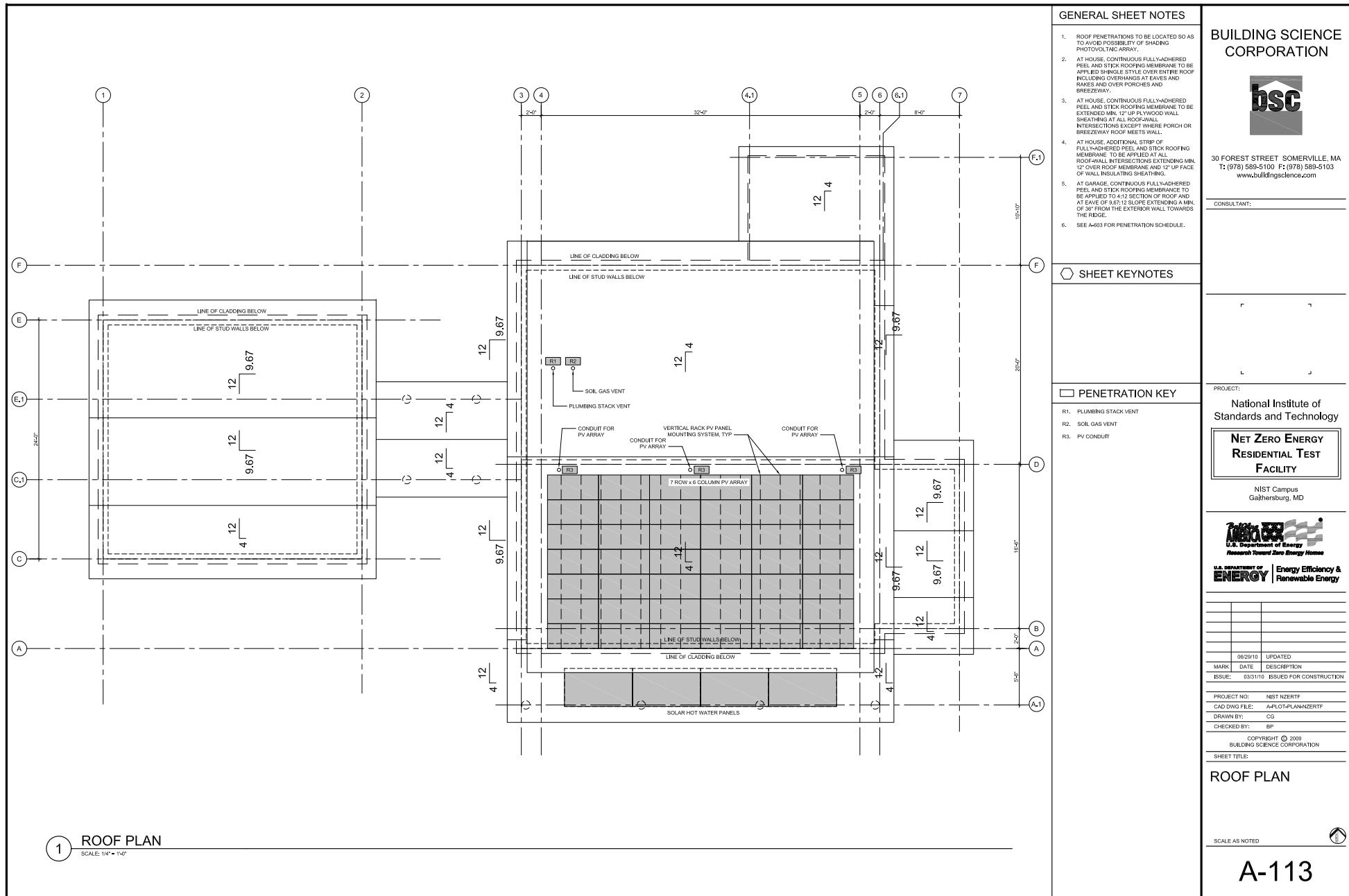
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PROJECT:
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Research Toward Zero Energy Homes

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06/29/19 UPDATED
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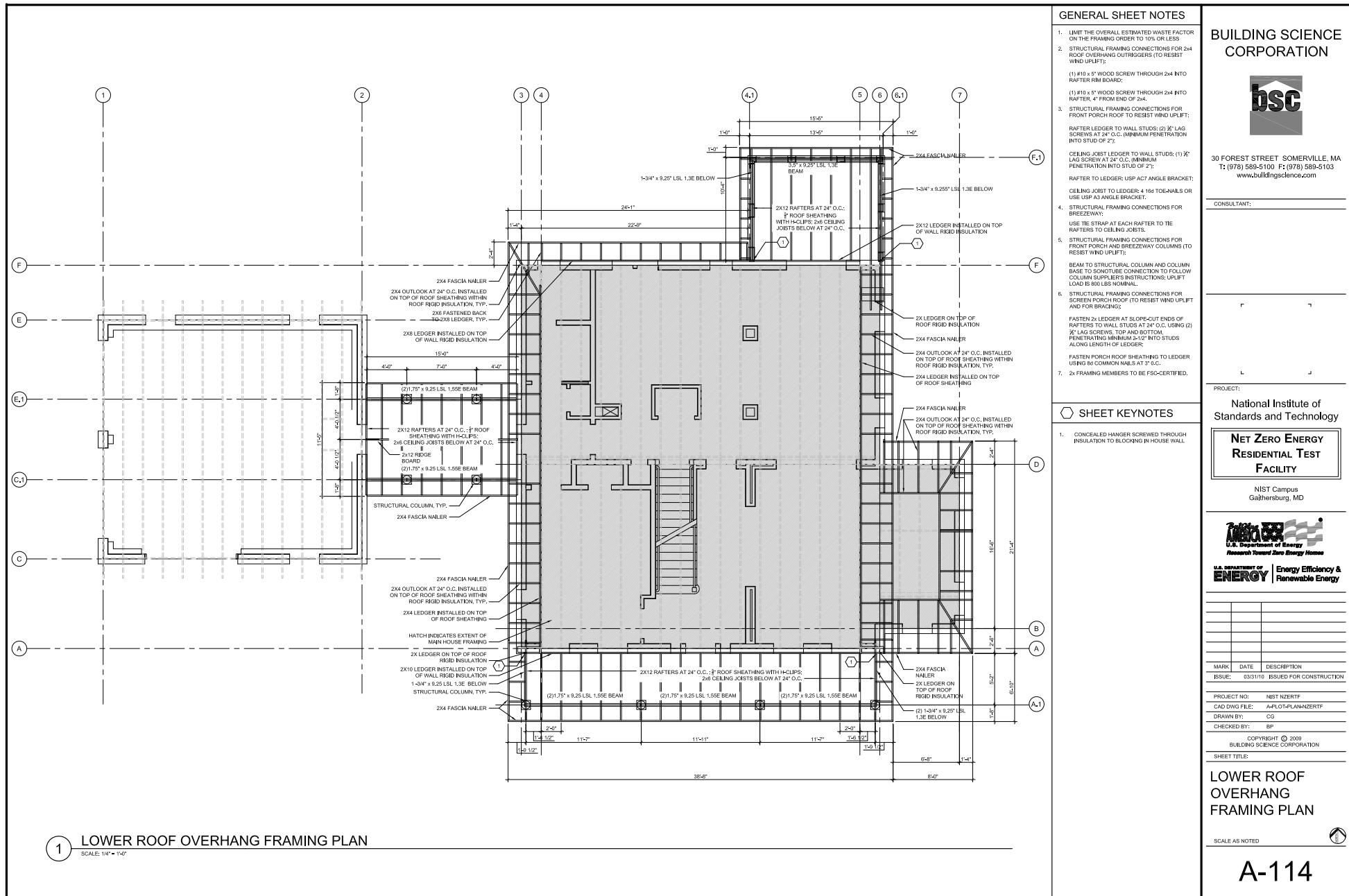
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CAD DWG FILE: A-PLOT-PLAN-NZERTF
DRAWN BY: CG
CHECKED BY: SP

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SHEET TITLE: ROOF PLAN

SCALE AS NOTED

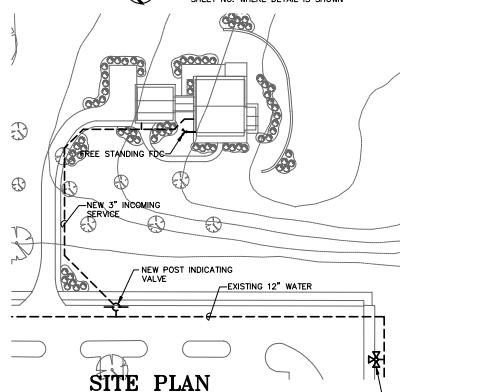
A-113



FIRE PROTECTION LEGEND

SYMBOL	DESCRIPTION
○	RISE IN PIPE
●	DROP IN PIPE
○	SPRINKLER MAIN
- - -	UNDERGROUND PIPE
✖	OSBY GATE VALVE W/ VALVE TAMPER
✖	SUPERVISED SWITCH
N	CHECK VALVE
●	QUICK RESPONSE-CONCEALED TYPE W/ WHITE FINISH PLATE
○	QUICK RESPONSE UPRIGHT W/ BRASS FINISH
○	ONE-WAY FIRE DEPARTMENT CONNECTION - FREE STANDING
○	TWO-WAY FIRE DEPARTMENT CONNECTION - WALL-MOUNT
■	SPECIAL CABINET - TYPE AS NOTED
■	ADDRESSABLE FIRE ALARM MANUAL STATION - MOUNTING HEIGHT 4"-0"
WT	GENERAL BUILDING FIRE ALARM COMBINATION AUDIO/VISUAL (HORN/STROBE DEVICE - MOUNTING HEIGHT 6"-8" UNLESS NOTED OTHERWISE - SUBSCRIPT "15,30,75,110,185" DENOTES CANDELA RATING - SUPERSCRIPT "WP" DENOTES WEATHERPROOF)
V1	VALVE TAMPER SUPERVISING SWITCH WITH MONITOR MODULE
WF	WATERFLOW SWITCH WITH MONITOR MODULE
SM	SMOKE SENSOR - PHOTOREFLECTIVE TYPE WITH INTEGRATED SOUNDER BASE
CO	CARBON MONOXIDE (CO) DETECTOR WITH INTEGRATED SOUNDER BASE
WP	ELECTRIC SIREN ALARM BELL - SUBSCRIPT "WP" DENOTES WEATHERPROOF DEVICE
JM	JUNCTION BOX WITH ADDRESSABLE MONITOR MODULE
CM	JUNCTION BOX WITH ADDRESSABLE CONTROL MODULE
JAM	JUNCTION BOX - SIZE AS REQUIRED
ZAM	INDIVIDUAL ADDRESSABLE MODULE
LPI	ZONE ADAPTER MODULE
TVSS	JUNCTION BOX WITH LINE POWERED ISOLATOR
	TRANSIENT VOLTAGE SURGE SUPPRESSOR
	HOMING TO PINE - NUMBER OF HIRINGS INDICATE NUMBER OF CIRCUITS AND NUMBER OF CROSSLINES INDICATES NUMBER OF #2 CONDUCTORS - WHERE NO CROSSLINES APPEAR 2#12 PLUS 1#12 GRD CONDUCTORS ARE IMPLIED
	FIRE ALARM/SPRINKLER ZONE BOUNDARY
	DRAWING NOTE NUMBER

CONVENTIONS



SITE PLAN

NOTE:

1. ALL PIPING AND HYDRANT LOCATIONS DEPICTED ON THIS PLAN ARE SHOWN FOR THE PURPOSES OF HYDRAULIC CALCULATIONS AND FIRE DEPARTMENT CONNECTION POSITION. THIS SITE PLAN IS NOT INTENDED FOR INSTALLATION OF PIPING AND/OR HYDRANT LOCATIONS.

FIRE PROTECTION (FIRE SPRINKLER)
GENERAL NOTES:

1. PROVIDE A COMPLETE AND OPERATIONAL FIRE SPRINKLER SYSTEM. THE SYSTEM SHALL BE DESIGNED, FACILITATED, INSTALLED, COORDINATED, TESTED, AND MAINTAINED IN ACCORDANCE WITH NFPA 13, NFPA 13D, NFPA 13R, NFPA 25, NFPA 70, NFPA 72, NFPA 241, LOCAL AUTHORITY REQUIREMENTS, AND THE CONTRACT DOCUMENTS.
 2. THE GENERAL SCOPE OF THE AUTOMATIC FIRE SPRINKLER SYSTEM SHALL CONSIST OF THE FOLLOWING FOR ALL AREAS OF THE BUILDING AS SHOWN:
 - A. PROVIDE AUTOMATIC FIRE SPRINKLER SYSTEM TO PROTECT ALL OCCUPIED AREAS OF THE NET ZERO ENERGY HOUSE AS INDICATED ON DRAWINGS.
 3. RESIDENTIAL SPRINKLER HEADS PROTECTING THE NET ZERO ENERGY HOUSE SHALL BE LISTED FOR 20' x 20' COVERAGE.
 4. THE FIRE PROTECTION INSTALLER(S) SHALL SUBMIT COMPLETE LAYOUT DRAWINGS, CALCULATIONS, AND ANNOTATED MANUFACTURER'S DATA INFORMATION TO THE OWNER AND ENGINEER OF RECORD FOR REVIEW AND APPROVAL. APPROVAL SHALL BE OBTAINED BEFORE THE PURCHASE OR INSTALLATION OF EQUIPMENT.
 5. THE FIRE PROTECTION INSTALLER(S) SHALL BE RESPONSIBLE FOR ALL APPLICABLE TRADE PERMITS, REQUEST FOR INSPECTION, AND TESTING AS REQUIRED BY THE APPROVING AHA.
 6. THE FINAL DESIGN OF THE FIRE PROTECTION SYSTEM SHALL BE COORDINATED WITH FIELD CONDITIONS AND THE AVAILABLE WATER SUPPLY.
 7. THE FIRE PROTECTION INSTALLER(S) SHALL COORDINATE ALL SYSTEM PIPING, FITTINGS, VALVES, COUPLINGS, AND RELATED APPURTENANCES WITH THE BUILDING STRUCTURAL, MECHANICAL AND ELECTRICAL ELEMENTS, INCLUDING BUT NOT LIMITED TO, STRUCTURAL SUPPORT SYSTEMS, AIR DUCTS, CONDUITS, FLOOR JOISTS, STAIRS, ELEVATORS, STYLING, AND MATERIAL THAT MAY INTERFERE WITH THE PROPER INSTALLATION AND OPERATION OF THE SYSTEM. COORDINATED LAYOUT SHEET DRAWINGS SHALL BE COORDINATED WITH ALL TRADES.
 8. THE FIRE PROTECTION SYSTEM PIPING, FITTINGS, HANGERS, CABINETS, EQUIPMENT AND RELATED APPURTENANCES SHALL BE INSTALLED NEAT AND IN A WORKMANLIKE MANNER, CONFORM TO THE LATEST TRADE PRACTICES, AND SHALL BE ROUTED STRAIGHT OR PERPENDICULAR TO BUILDING LINES AND PROPERLY MOORED/SECURED TO THE BUILDING STRUCTURE.
 9. THE FIRE PROTECTION SYSTEM WORK SHALL BE COORDINATED WITH SPECIAL TRADES (ELEVATOR, ENERGY MANAGEMENT, COMPUTER DATA, ETC) AS APPLICABLE TO THE PROJECT.
 10. THE CONTRACTOR PROVIDED SHALL BE MURNISH AND INSTALL COMPLETE AND READY FOR THE INTERIOR.
 11. THE FIRE PROTECTION INSTALLER SHALL PROVIDE ALL NECESSARY PARTS AND ACCESSORIES EVEN THOUGH THE PARTS AND ACCESSORIES ARE NOT SPECIFICALLY MENTIONED OR SHOWN WITHIN THE CONTRACT DOCUMENTS.
 12. ALL FIRE SPRINKLER SYSTEM PIPING AND EQUIPMENT SHOWN ARE FOR SUGGESTIVE PURPOSES ONLY AND SHALL NOT BE SCALLED.
 13. ALL FIRE SPRINKLER VALVES SHALL BE SUPERVISED IN ACCORDANCE WITH NFPA 13 AND NFPA 72. ALL WIRING CONNECTIONS SHALL BE COORDINATED BY THE SPRINKLER INSTALLER AND MADE BY THE FIRE ALARM INSTALLER.
 14. THE FIRE SPRINKLER PIPING SHALL BE SUBJECT TO A HYDROSTATIC PRESSURE TEST IN ACCORDANCE WITH NFPA 13.

FIRE PROTECTION (FIRE ALARM)
GENERAL NOTES:

1. THE GENERAL SCOPE OF THE FIRE ALARM PORTION OF THIS PROJECT SHALL CONSIST OF THE INSTALLATION OF A NEW SUPERVISED FIRE ALARM AND DETECTION SYSTEM FOR THE BUILDING AS INDICATED ON THE DRAWINGS. ALL WORK SHALL BE IN FULL ACCORDANCE WITH NFPA 72, NFPA 1, NFPA 10, NFPA 70, NFPA 72, 72, 241, IBC, LOCAL AUTHORITY REQUIREMENTS, AND THE CONTRACT DOCUMENTS.
 2. THE FIRE ALARM INSTALLER(S) SHALL SUBMIT COMPLETE LAYOUT SHOP DRAWINGS, CALCULATIONS, AND ANNOTATED MANUFACTURER'S DATA INFORMATION TO THE OWNER AND ENGINEER OF RECORD FOR REVIEW AND APPROVAL. APPROVALS SHALL BE OBTAINED BEFORE THE PURCHASE OR INSTALLATION OF EQUIPMENT.
 3. THE FIRE ALARM INSTALLER(S) SHALL BE RESPONSIBLE FOR ALL APPLICABLE TRADE PERMITS, REQUEST FOR INSPECTION, AND TESTING AS REQUIRED BY THE APPLICABLE LOCAL AUTHORITY.
 4. SPACING OF SMOKE SENSORS SHALL BE IN ACCORDANCE WITH NFPA 72 AND AS INDICATED ON THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL CONFIRM AND IF NECESSARY, REDUCE SPACING AS APPLICABLE, BASED ON CEILING HEIGHT, ROOM SIZE, AND/OR AIR CHANGE RATES, AT NO ADDITIONAL COST TO THE OWNER.
 5. FIRE ALARM MANUAL PULL STATIONS AT DOOR OPENINGS SHALL BE WITHIN 5'-0" HORIZONTALLY FROM THE DOOR OPENING.
 6. DUCT SMOKE DETECTORS SHALL BE PROVIDED IN THE SUPPLY AND RETURN OF ALL HVAC UNITS WITH A CAPACITY GREATER THAN 2,000 CFM.
 7. DUCT SMOKE DETECTORS SHALL BE PROVIDED BY THE MECHANICAL CONTRACTOR. THE CONTRACTOR SHALL PROVIDE A DUCT CONDUIT FROM MONITOR MODULE AND CONNECT TO DUCT SMOKE DETECTOR.
 8. CONDUCTORS FOR THE FIRE ALARM SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH NFPA 70. THE CONDUCTORS SHALL NOT BE INSTALLED WITH CONDUCTORS OF LIGHTING OR POWER SYSTEMS. THE SUN OF THE CROSS-SECTION OF THE CONDUCTOR SHALL NOT EXCEED 10% OF THE PERCENT OF THE INTERIOR CROSS-SECTION OF THE CONDUIT. ALL FIRE ALARM CONDUIT SHALL NOT BE LESS THAN 3/4 INCH.
 9. ALL DEVICES SHALL BE MOUNTED AND SECURED TO THE BUILDING STRUCTURE.
 10. ALL FLOOR AND WALL PENETRATIONS SHALL BE CORE DRILLED AND SHALL BE COORDINATED WITH STRUCTURAL SYSTEMS.
 11. THE TERM "PROVIDE" MEANS TO FURNISH AND INSTALL, COMPLETE AND READY FOR INTENDED USE.

FIRE PROTECTION DESIGN CRITERIA

1. THE REQUIRED FIRE SPRINKLER SYSTEM SHALL ADHERE TO SPECIFIC HYDRAULIC DESIGN REQUIREMENTS. WHEN THE REQUIREMENTS OF NFPA 13®, NFPA 13D®, LOCAL OR STATE AUTHORITIES ARE MORE STRINGENT, THOSE REQUIREMENTS SHALL GOVERN. IN NOT, THE SYSTEM SHALL COMPLY WITH THE FOLLOWING:

 - A. NET ZERO HAZARD, GROUP 1 – AREAS SHALL BE HYDRAULICALLY DESIGNED BASED ON A MINIMUM DISCHARGE OF 13 GPM TO THE DESIGN SPRINKLERS SIMULTANEOUSLY AND A MINIMUM 18 GPM TO THE SPRINKLER IN THEIR SYSTEM. THE SYSTEM SHALL HAVE A MAXIMUM SPRINKLER HEAD SPACING RELATED TO THE DESIGN SPRINKLERS. THE NUMBER OF DESIGN SPRINKLERS SHALL BE ALL THE SPRINKLERS WITHIN A COMPARTMENT, UP TO A MAXIMUM OF 100 SPRINKLERS. THE SPRINKLER HEAD SPACING SHALL BE PER THE MANUFACTURER'S LISTINGS.
 - B. LIGHT HAZARD – AREAS SHALL BE HYDRAULICALLY DESIGNED BASED ON A DENSITY OF 10 GPM/SF. THE MAXIMUM 1200 SF OF THE DESIGN SPRINKLER HEAD SPACING SHALL BE 225 SF. THE HOSE STREAM ALLOWANCE SHALL BE 10 GPM.
 - C. ORDINARY HAZARD, GROUP 1 – AREAS SHALL BE HYDRAULICALLY DESIGNED ON A DENSITY OF 20 GPM/SF OVER THE MOST REMOTE 1500 SF OF THE MAXIMUM SPRINKLER HEAD SPACING SHALL BE 130 SF. THE HOSE STREAM ALLOWANCE SHALL BE 250 GPM.
 - D. ORDINARY HAZARD, GROUP 2 – AREAS SHALL BE HYDRAULICALLY DESIGNED BASED ON A DENSITY OF 20 GPM/SF OVER THE MOST REMOTE 1500 SF OF THE MAXIMUM SPRINKLER HEAD SPACING SHALL BE 130 SF. THE HOSE STREAM ALLOWANCE SHALL BE 250 GPM.

2. ALL FIRE SPRINKLER SYSTEM PIPING SHALL ADHERE TO THE FOLLOWING REQUIREMENTS:

- B. 2 X-10 INCH AND LARGER – ROLL GROOVED BLACK STEEL

C. BRANCHES & OUTLETS AT MAIN PIPING SHALL BE SHOP-WELDED

D. ALL PIPING SHALL BE PROVIDED IN ACCORDANCE WITH NFPA 13.

E. CONCEAL ABSTRACTION, IF ANY, IN CEILINGS

F. COPPER TUBING IS PERMITTED FOR THE ONE-ZONE ENERGY HOUSE NFPA 13D SYSTEM ACCORDING TO THE MANUFACTURER'S LISTING.

3. FIRE SPRINKLER HEADS SHALL BE PROVIDED IN ACCORDANCE WITH NFPA 13 AND THE CONTRACT DOCUMENTS. SPRINKLER HEADS SHALL BE PROVIDED AS FOLLOWS:

 - A. IN UNDECKED CEILINGS – RESIDENTIAL QUICK RESPONSE, WHITE FINISH, PENDENT, FLUSH TYPE WITH MATCHING FINISH ESECUITION;
 - B. IN UNDECKED CEILINGS – QUICK RESPONSE, BRASS FINISH, PENDENT OR UPRIGHT TYPE.

CODES AND STANDARDS REFERENCES

- ALL REFERENCES TO NFPA 13 SHALL MEAN THE 2002 EDITION.
ALL REFERENCES TO NFPA 130 SHALL MEAN THE 2002 EDITION
ALL REFERENCES TO NFPA 24 SHALL MEAN THE 2002 EDITION
ALL REFERENCES TO NFPA 25 SHALL MEAN THE 2002 EDITION.
ALL REFERENCES TO NFPA 70 SHALL MEAN THE 2005 EDITION.
ALL REFERENCES TO NFPA 70B SHALL MEAN THE 2005 EDITION.
ALL REFERENCES TO NFPA 601 SHALL MEAN THE 2004 EDITION.
ALL REFERENCES TO NFPA 241 SHALL MEAN THE 2004 EDITION.
ALL REFERENCES TO NFPA 2411 SHALL MEAN THE 2004 EDITION.
ALL REFERENCES TO IRC SHALL MEAN THE 2006 EDITION.

WATERFLOW TEST INFO:

STATIC: 75 PSI
 RESIDUAL: 42 PSI
 FLOW: 3500 GPM
 DATE: 9/9/99
 BY: NIST FIRE PROTECTION GROUP
 LOCATION: BUILDING 226 (FH 52)
 ELEV.: GRADE

NOTE: THE CONTRACTOR SHALL BE RESPONSIBLE FOR UP-TO-DATE AND ACCURATE WATERFLOW DATA PRIOR TO PREPARATION OF INSTALLATION SHEET.

NOTE: THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING UP-TO-DATE AND ACCURATE WATERFLOW INFORMATION PRIOR TO PREPARATION OF INSTALLATION SHOP DRAWINGS

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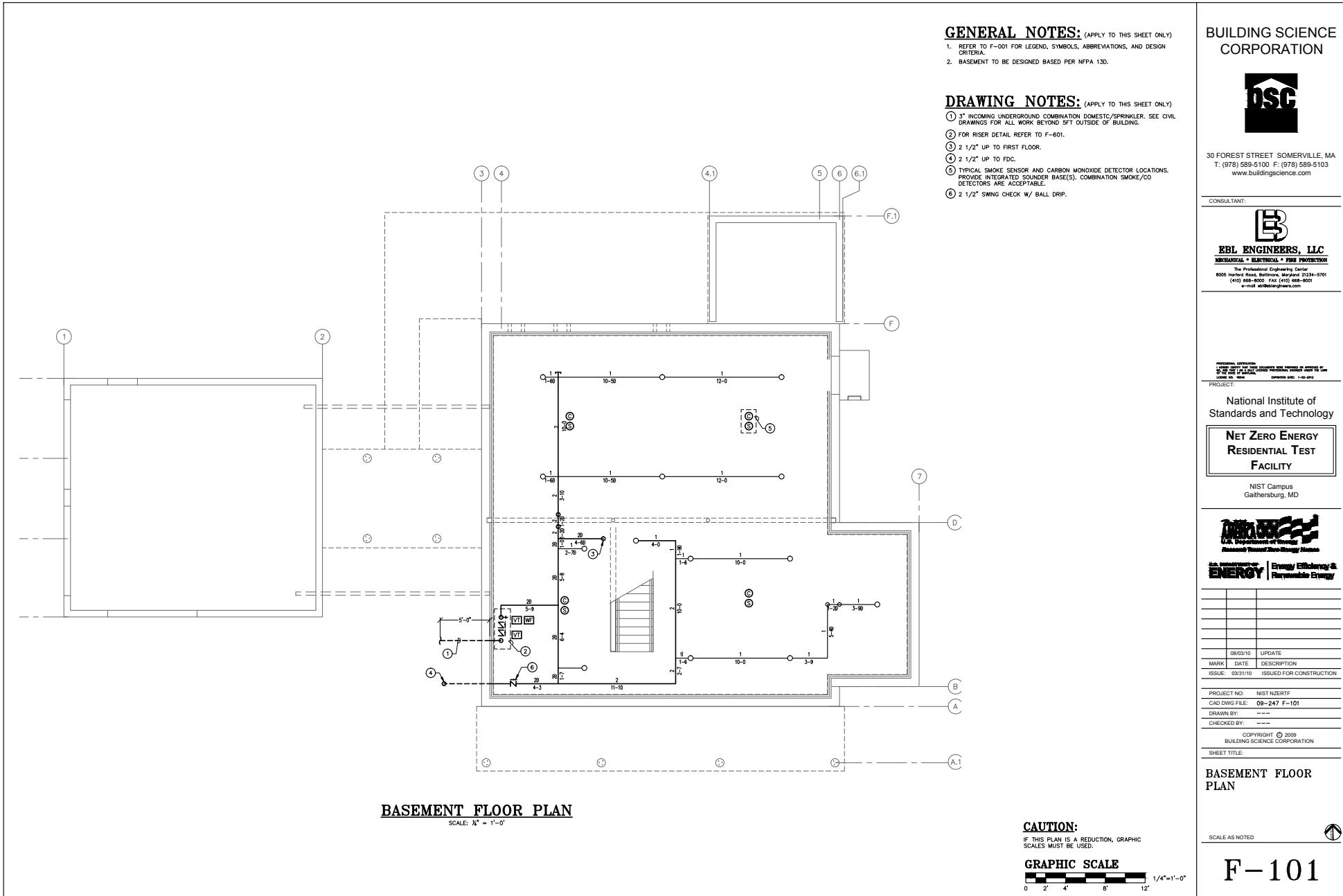
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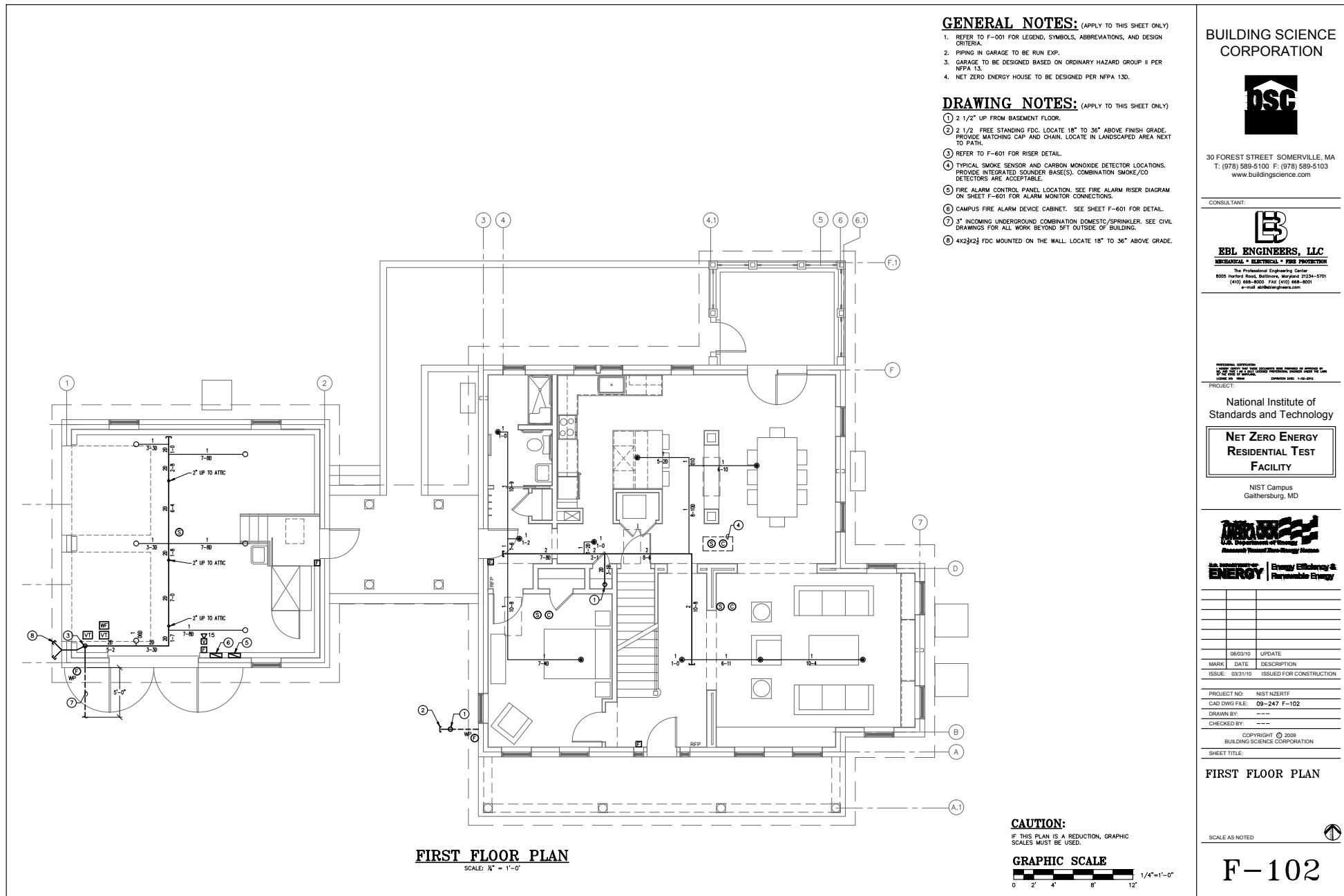
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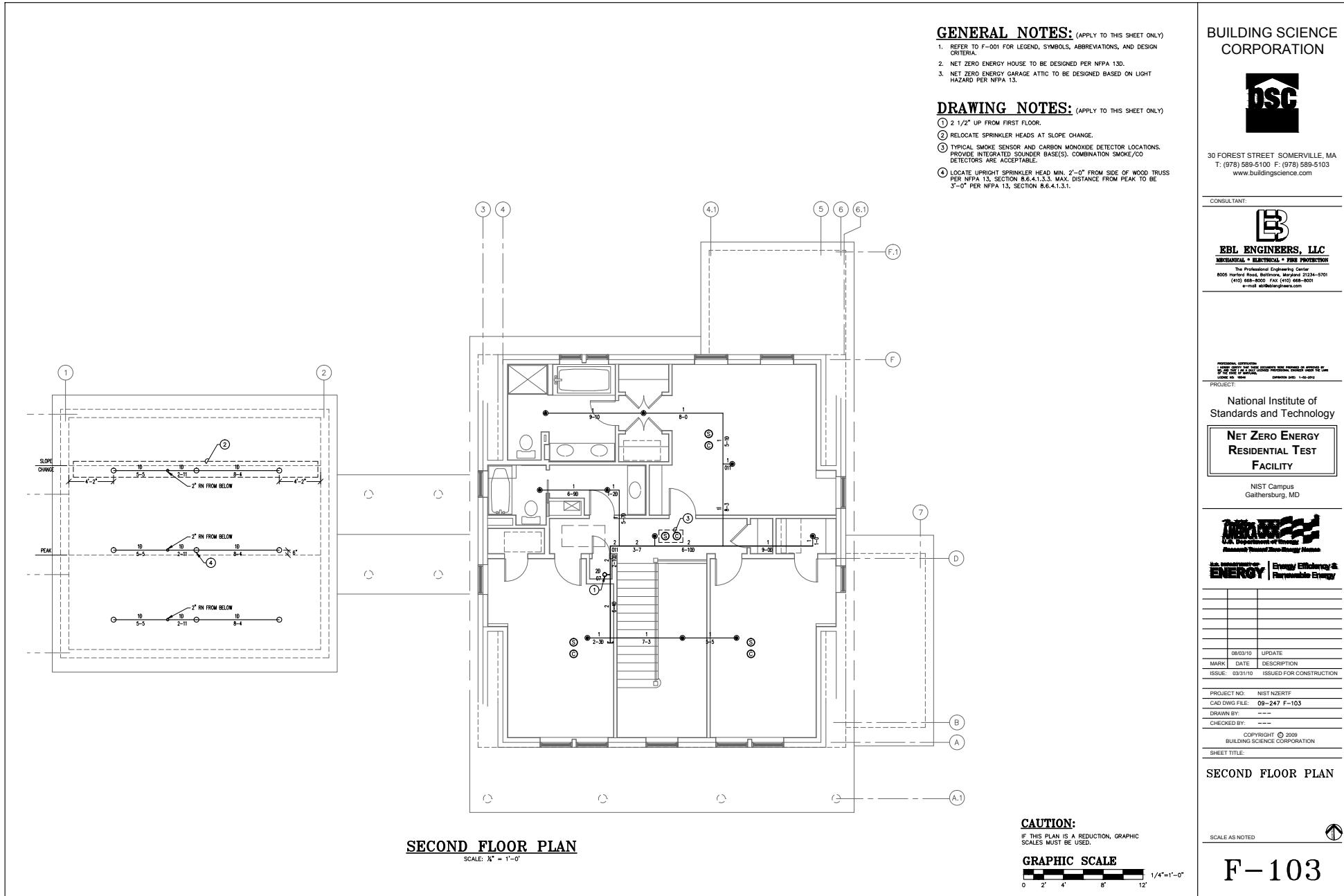
**FIRE PROTECTION
GENERAL NOTES,
LEGEND AND
ABBREVIATIONS**

SCALE AS NO¹

F-001







GENERAL NOTES: (APPLY TO THIS SHEET ONLY)

1. REFER TO F-001 FOR LEGEND, SYMBOLS, ABBREVIATIONS, AND DESIGN CRITERIA.

DRAWING NOTES: (APPLY TO THIS SHEET ONLY)

- ① TYPICAL SMOKE SENSOR. COORDINATE FINAL LOCATION W/ ATTIC EQUIPMENT AND CEILING SLOPE.
- ② NO SPRINKLERS IN THE ATTIC SPACE.

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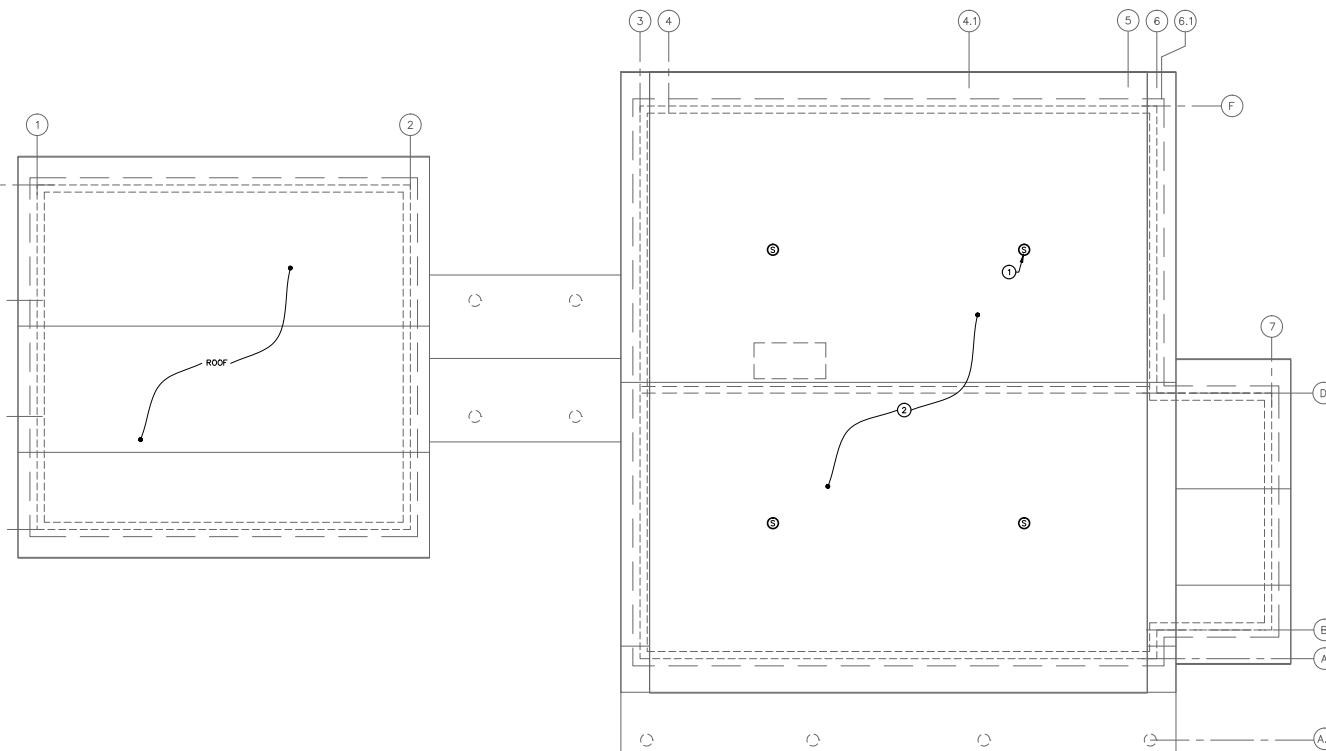
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F-104

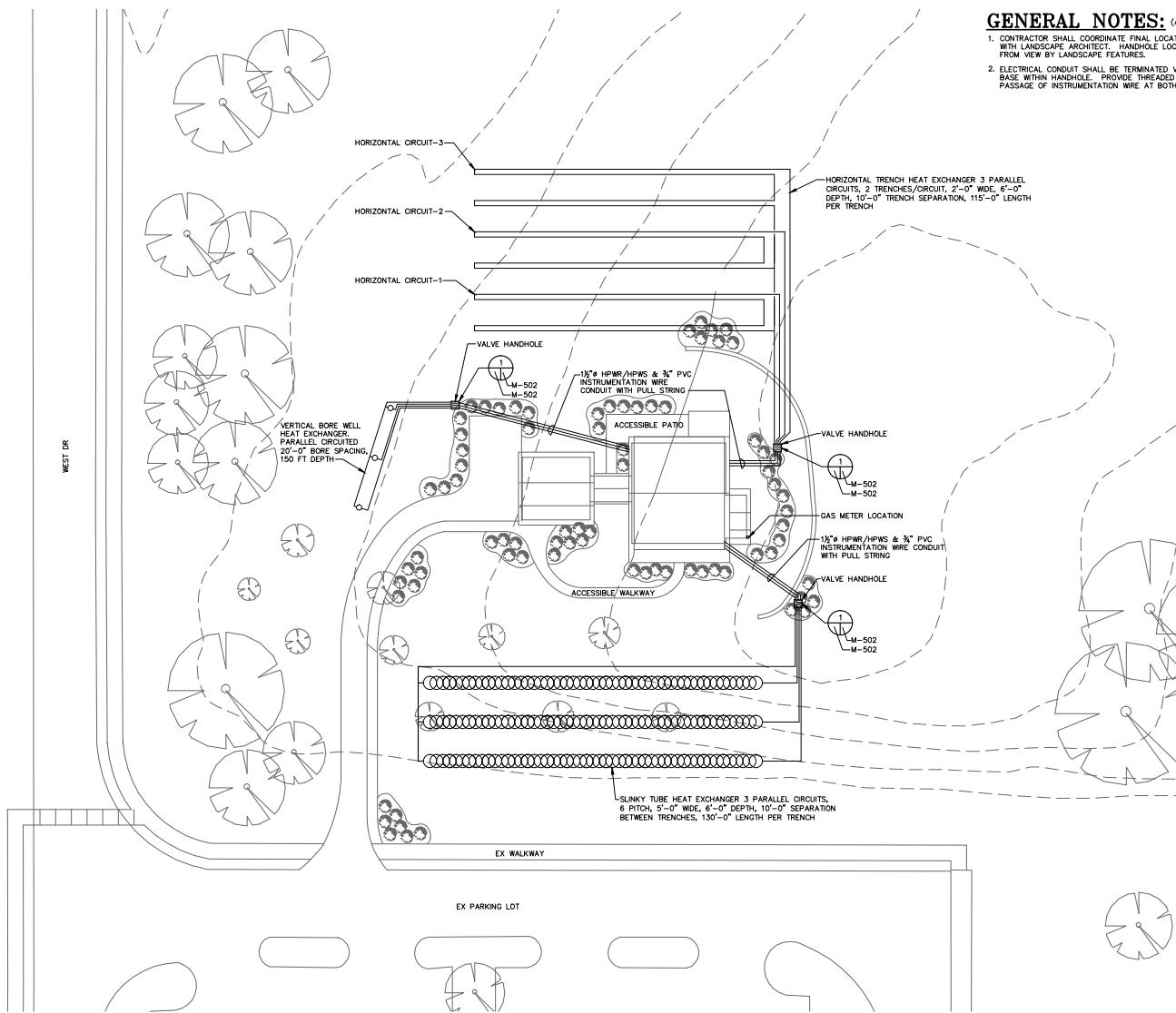


ATTIC FLOOR PLAN

SCALE: X' = 1'-0"

CAUTION:
IF THIS PLAN IS A REDUCTION, GRAPHIC
SCALES MUST BE USED.

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



MECHANICAL - SITE PLAN

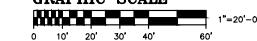
SCALE: 1" = 20'-0"



CAUTION:

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GRAPHIC SCALE



SCALE AS NOTED

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M-002

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PERSONAL CERTIFICATION
I, RICHARD J. TAYLOR, EXECUTIVE OFFICER OF NIST, DO HEREBY CERTIFY THAT THE DRAWINGS
HEREIN ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.
DRAFTING DATE: 3-19-09

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U.S. Department of Energy
Advanced Residential Energy Efficiency

U.S. Department of Energy
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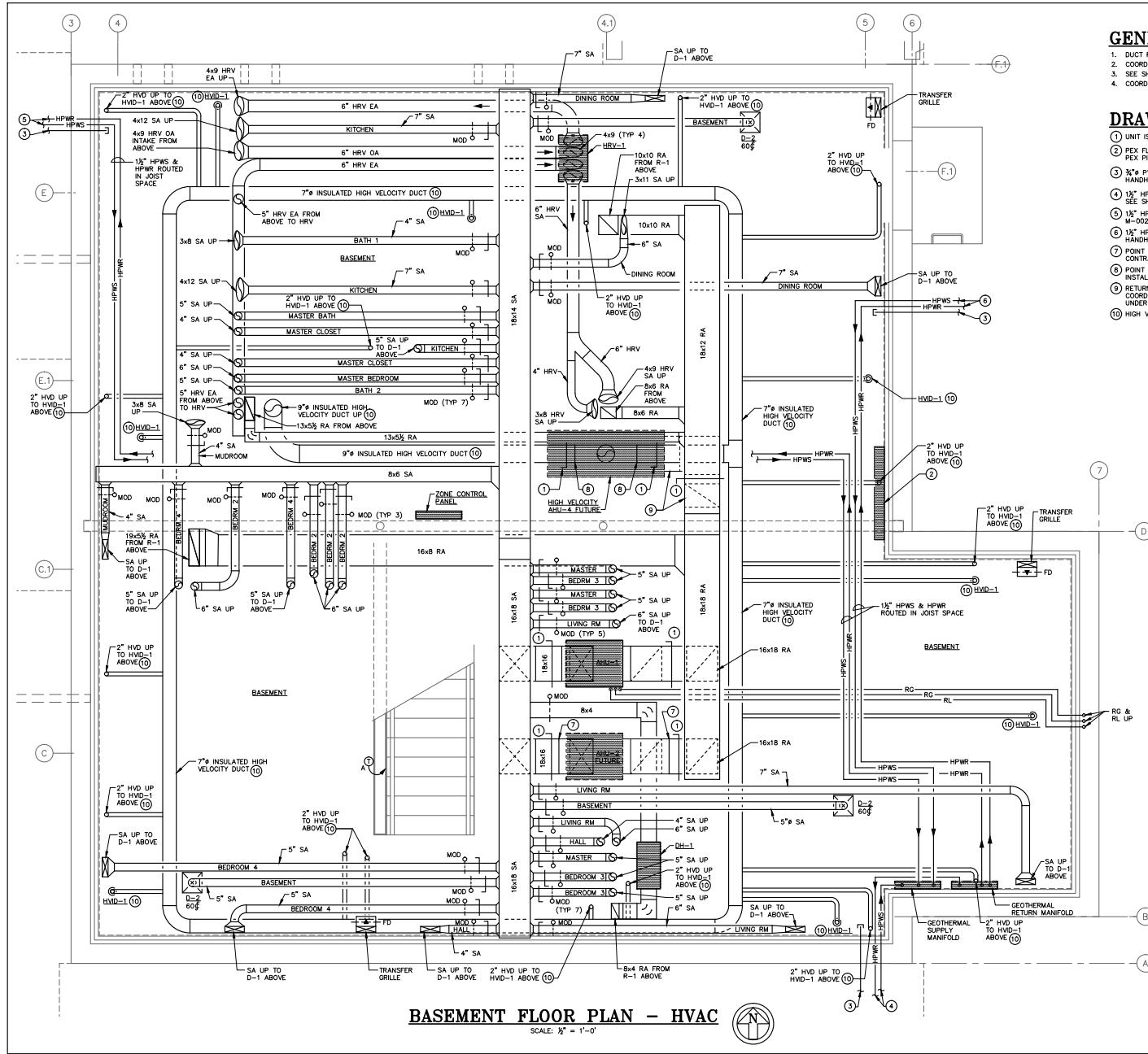
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SHEET TITLE: MECHANICAL SITE PLAN

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M-002



GENERAL NOTES: (APPLY TO THIS SHEET ONLY)

1. DUCT RUNOUTS ARE LOCATED WITHIN JOIST BAY & PARALLEL TO JOISTS.
 2. COORDINATE WITH ELECTRICAL, PLUMBING & ARCHITECTURAL PLANS.
 3. SEE SHEET M-501 FOR MECHANICAL DUCTWORK DETAILS.
 4. COORDINATE ALL WALL PENETRATIONS WITH ARCHITECTURAL PLANS.

DRAWING NOTES: (APPLY TO THIS SHEET ONLY)

- ① UNIT ISOLATION OPPOSED BLADE, DAMPED SEE SPECIFICATION.
 - ② EX FLOOR HEAT MANIFOLD FOR FUTURE SYSTEM. SEE SHEET M-106 FOR PEX PIPING SYSTEM LAYOUT.
 - ③ 1" X 1" PVC INSTRUMENT CONNECTION DUCT/W/PUPLINE TO VALVE HANDHOLE. SEE SHEET M-002.
 - ④ 1/2" HPWS & HPWR TO SLINKY TUBE HEAT EXCHANGER VALVE HANDHOLE. SEE SHEET M-002.
 - ⑤ 1/2" HPWS & HPWR TO VERTICAL BORE VALVE HANDHOLE. SEE SHEET M-002.
 - ⑥ 1/2" HPWS & HPWR TO HORIZONTAL TRENCH HEAT EXCHANGER VALVE HANDHOLE. SEE SHEET M-002.
 - ⑦ POINT OF DISCONNECT OF DUCTWORK FOR AHU-2 INSTALLED UNDER THIS CONTRACT.
 - ⑧ POINT OF DISCONNECT FOR THE HIGH VELOCITY OPTION DUCTWORK INSTALLED UNDER THIS CONTRACT SERVING FUTURE AHU-4.
 - ⑨ RETURN DUCTWORK SHOWN FOR HIGH VELOCITY UNIT AHU-4 IS FOR COORDINATION ONLY. RETURN DUCT TAP FOR AHU-4 NOT INSTALLED UNDER THIS CONTRACT.
 - ⑩ HIGH VELOCITY OPTION.

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LICENSE NO. 17866	EXPIRATION DATE 3-19-2012
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PROJECT:	

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	07/27/10	HIGH VELOCITY OPTION
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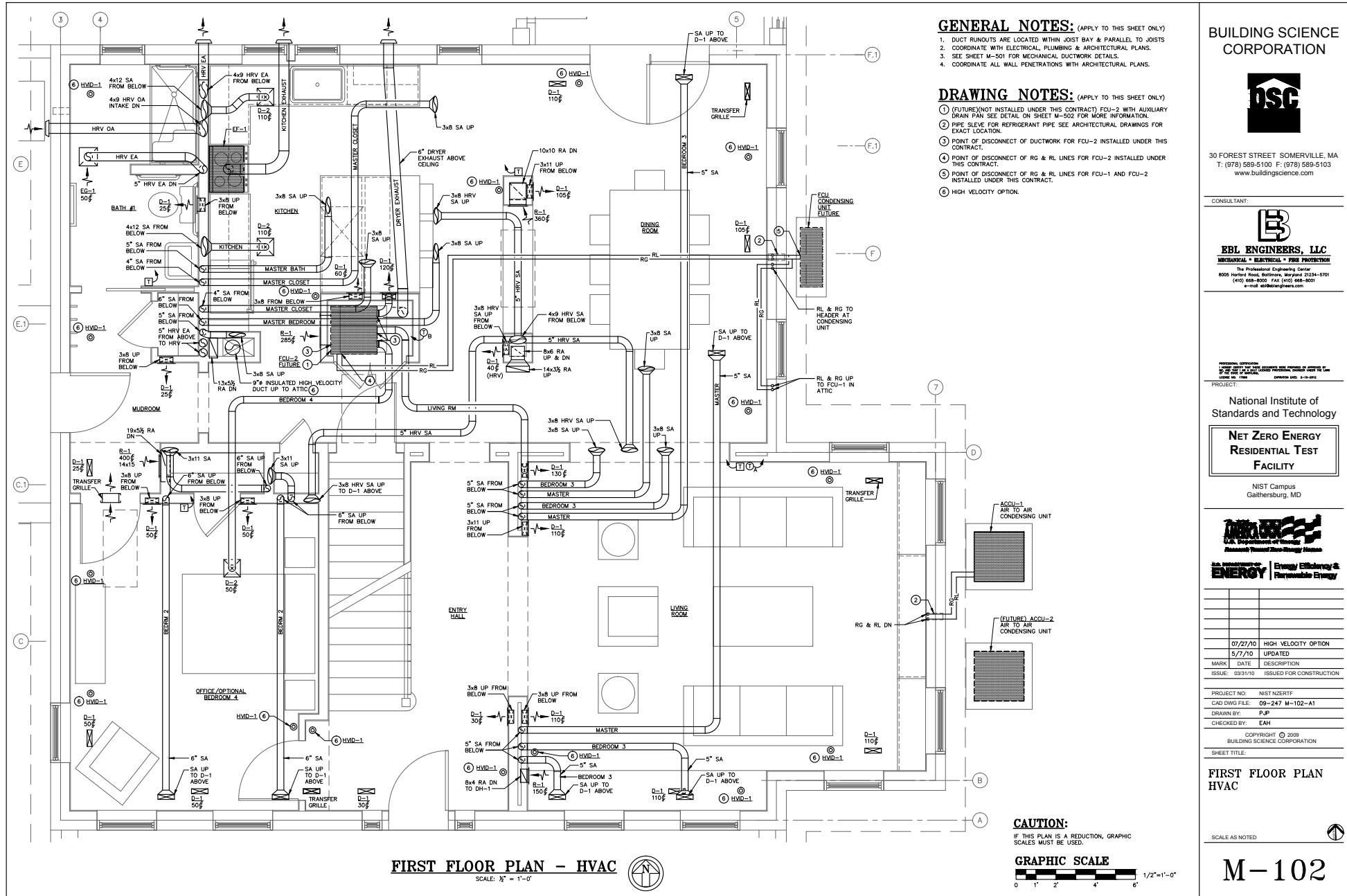
SHEET TITLE:

BASEMENT FLOOR PLAN HVAC

CAUTION:

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M-101



GENERAL NOTES: (APPLY TO THIS SHEET ONLY)

1. DUCT RUNOUTS ARE LOCATED WITHIN JOIST RAY A PARALLEL TO JOISTS
2. COORDINATE WITH ELECTRICAL, PLUMBING & ARCHITECTURAL PLANS.
3. SEE SHEET M-501 FOR MECHANICAL DUCTWORK DETAILS.
4. COORDINATE ALL WALL PENETRATIONS WITH ARCHITECTURAL PLANS.

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I HEREBY CERTIFY THAT THIS DOCUMENT WAS PREPARED IN ACCORDANCE WITH THE
PROJECT NUMBER: 09-247 M-103 DRAWING DATE: 3-18-09
DRAWN BY: EAH CHECKED BY: EAH
VERIFIED BY: EAH APPROVED BY: EAH

PROJECT:

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CAD DWG FILE: 09-247 M-103

DRAWN BY: P.P
CHECKED BY: EAH

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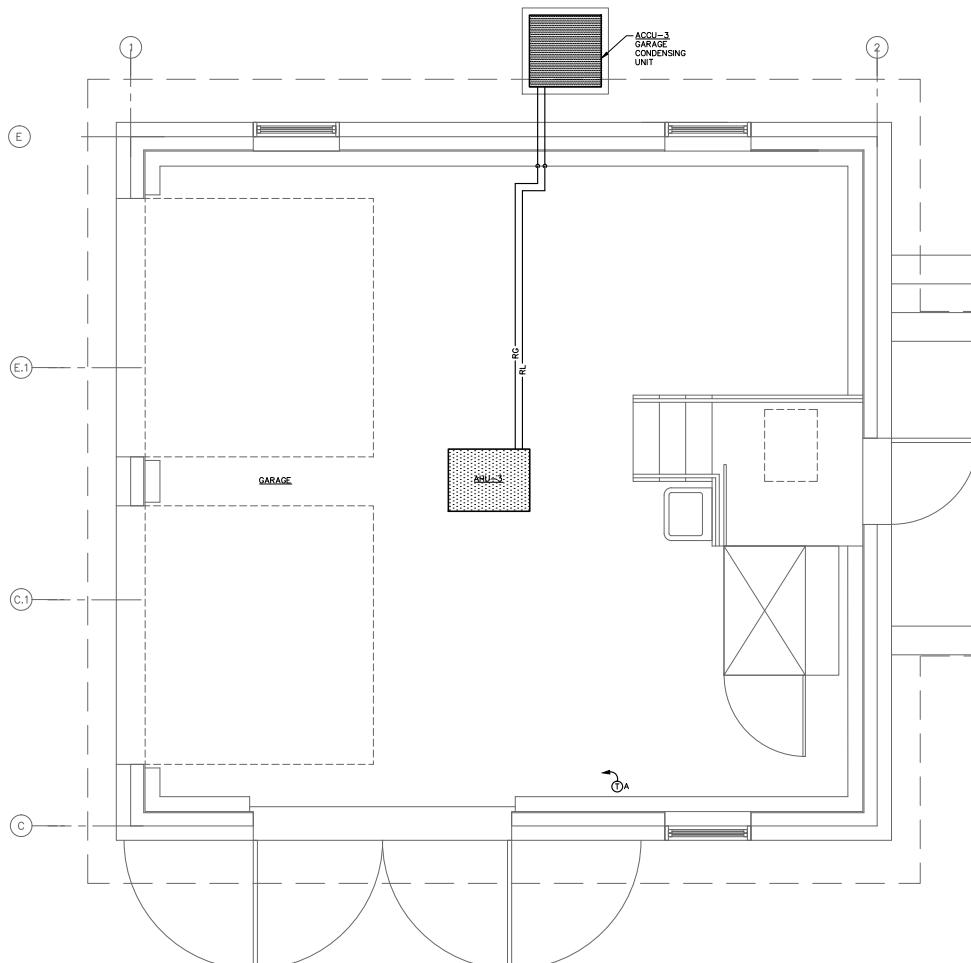
SHEET TITLE:
FIRST FLOOR PLAN
GARAGE HVAC

SCALE AS NOTED



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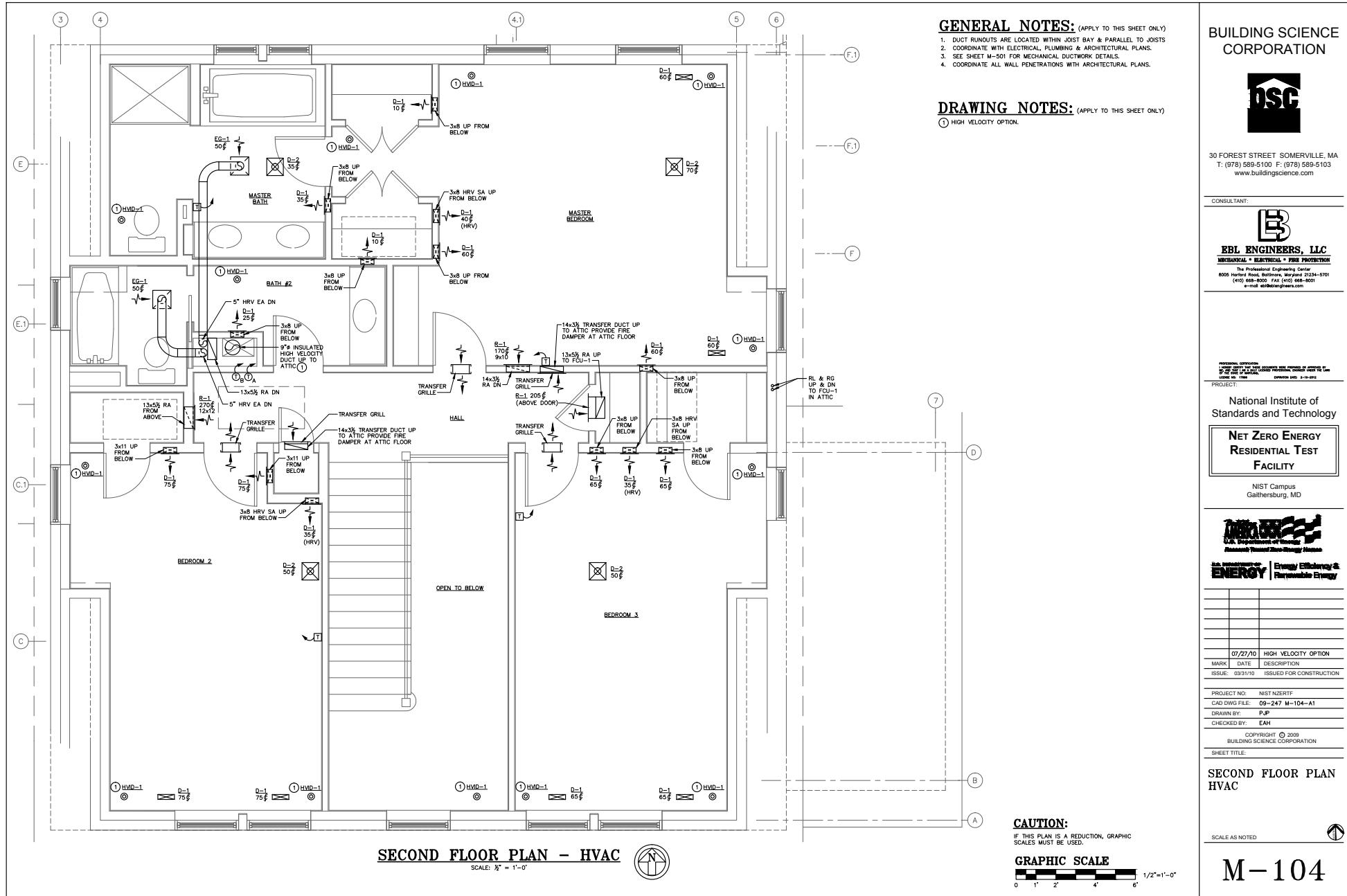
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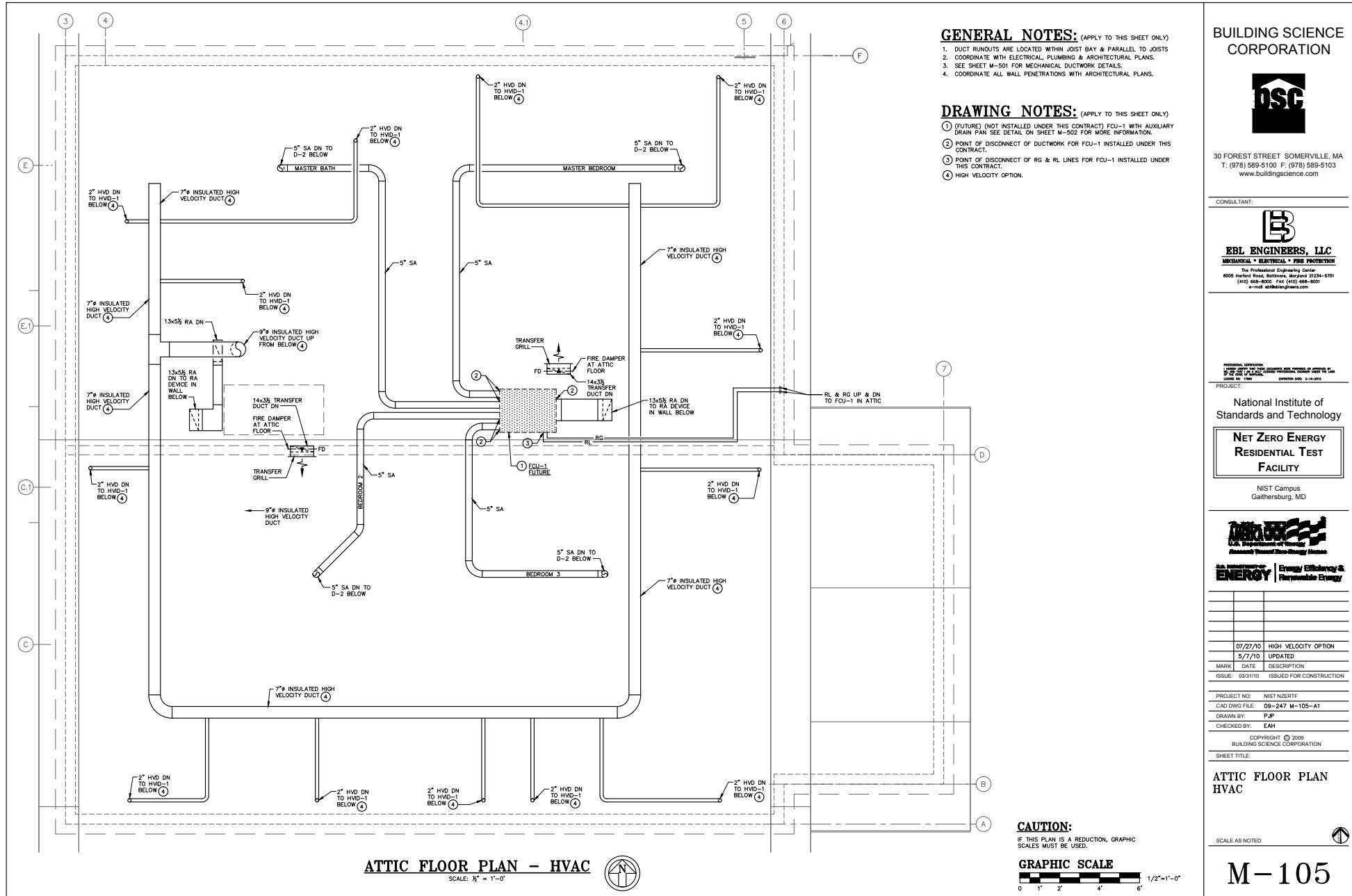


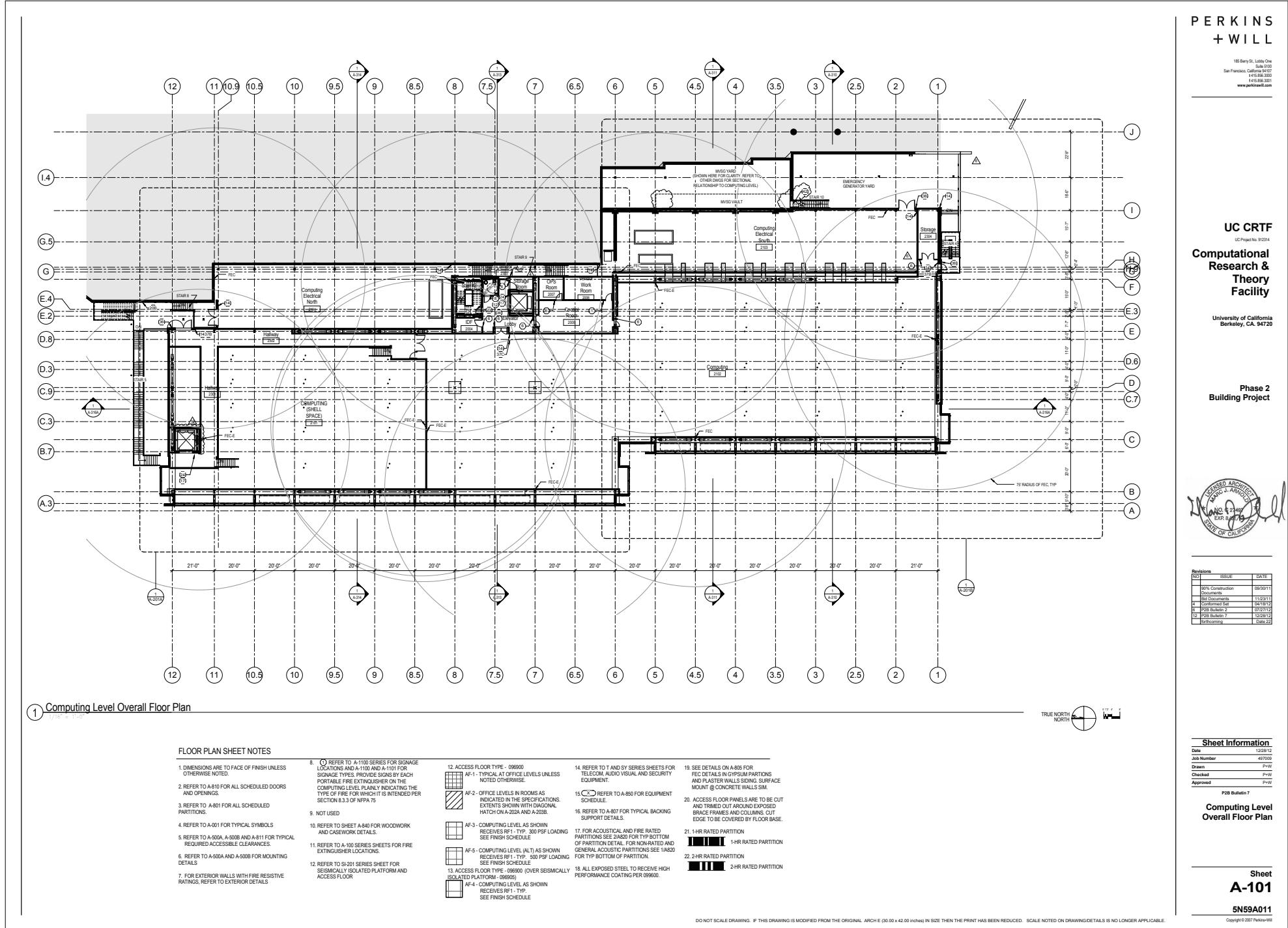
CAUTION:
IF THIS PLAN IS A REDUCTION, GRAPHIC
SCALES MUST BE USED.

GRAPHIC SCALE

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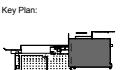




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Revisions			
NO.	ISSUE	DATE	
1	Construction Documents	08/01/11	
2	1/PB Addendum 1	11/20/11	
3	1/PB Addendum 2	12/06/11	
4	1/PB Addendum 3	03/16/12	
5	1/PB Addendum 4	04/16/12	
6	1/PB Bid Document #20	07/12/12	
7	P2B Bid Document #21	07/12/12	
20	P2B Bulletin 12	2/1/12	



Sheet Information			
Date:	08/01/11	Job Number:	402009
Drawn:	P/W	Checked:	P/W
Approved:	P/W		
			P2B Bulletin 11

**Computing Level
Plan South**

**Sheet
A-201B**

5N59A018

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1 Computing Level Plan South

1/8" = 1'-0"

FLOOR PLAN SHEET NOTES

1. DIMENSIONS ARE TO FACE OF FINISH UNLESS OTHERWISE NOTED.
2. REFER TO A-810 FOR ALL SCHEDULED DOORS AND OPENINGS.
3. REFER TO A-801 FOR ALL SCHEDULED PARTITIONS.
4. REFER TO A-801 FOR TYPICAL SYMBOLS.
5. REFER TO A-500A, A-500B AND A-811 FOR TYPICAL REQUIRED ACCESSIBLE CLEARANCES.
6. REFER TO A-500A AND A-500B FOR MOUNTING DETAILS.
7. FOR EXTERIOR WALLS WITH FIRE RESISTIVE RATINGS, REFER TO EXTERIOR DETAILS
8. REFER TO A-110 SERIES FOR SIGNAGE LOCATIONS AND SIZES AND TO A-110 FOR SIGNAGE TYPES. PROVIDE SIGNS BY EACH PORTABLE FIRE EXTINGUISHER ON THE COMPUTING LEVEL PLAINLY INDICATING THE TYPE OF FIRE EXTINGUISHER INTENDED PER SECTION 8.3.3 OF NFPA 70.
9. REFER TO SLB EDGE PLANS FOR FLOOR OPENINGS.
10. REFER TO SHEET A-805 FOR WOODWORK AND CASEWORK DETAILS.
11. REFER TO A-100 SERIES SHEETS FOR FIRE EXTINGUISHER LOCATIONS.
12. REFER TO DISCHARGE ISOLATION SYSTEMS, INC DRAWINGS FOR SEISMICALLY ISOLATED PLATFORM AND ACCESS FLOOR.
13. ACCESS FLOOR LEVEL - 09600 (OVER SEISMICALLY ISOLATED PLATFORM - 09600)
14. REFER TO T AND SYRES SHEETS FOR TELECOM, AUDIO VISUAL AND SECURITY EQUIPMENT.
15. REFER TO A-850 FOR EQUIPMENT SCHEDULE.
16. REFER TO A-807 FOR TYPICAL BACKING SUPPORT DETAILS.
17. FOR ACOUSTICAL AND FIRE RATED PARTITIONS SEE 2/420 FOR TYP BOTTOM GENERAL CONSTRUCTION, FOR TYP RATED AND GENERAL ACoustical CONDITIONS SEE 1/420 FOR TYP BOTTOM OF PARTITION.
18. ALL EXPOSED STEEL TO RECEIVE HIGH PERFORMANCE COATING PER 09600.
19. SEE DETAILS ON A-805 FOR FEC DETAILS IN GYPSUM PARTITIONS AND PLASTER WALLS SIDING, SURFACE MOUNT @ CONCRETE WALLS SIM.
20. ACCESS FLOOR PANELS ARE TO BE CUT AND ADJUSTED AS SHOWN IN THE DRAWINGS. CUT EDGE TO BE COVERED BY FLOOR BASE.
21. 1-HR RATED PARTITION
22. 2-HR RATED PARTITION



NORTH
NORTH

EAST
WEST

SOUTH
SOUTH



Revisions
No. Issue Date
0004 09/30/2011
0005 11/29/2011
P2B Addendum 1 12/20/11
P2B Bulletin 2 01/27/12

Sheet Information
Date: 09/29/2011
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Drawn: Author
Checked: Checker
Approved: Approver

P2B Bulletin 2
**Enlarged Bathroom
Plans and Interior
Elevations**

**Sheet
A-260**

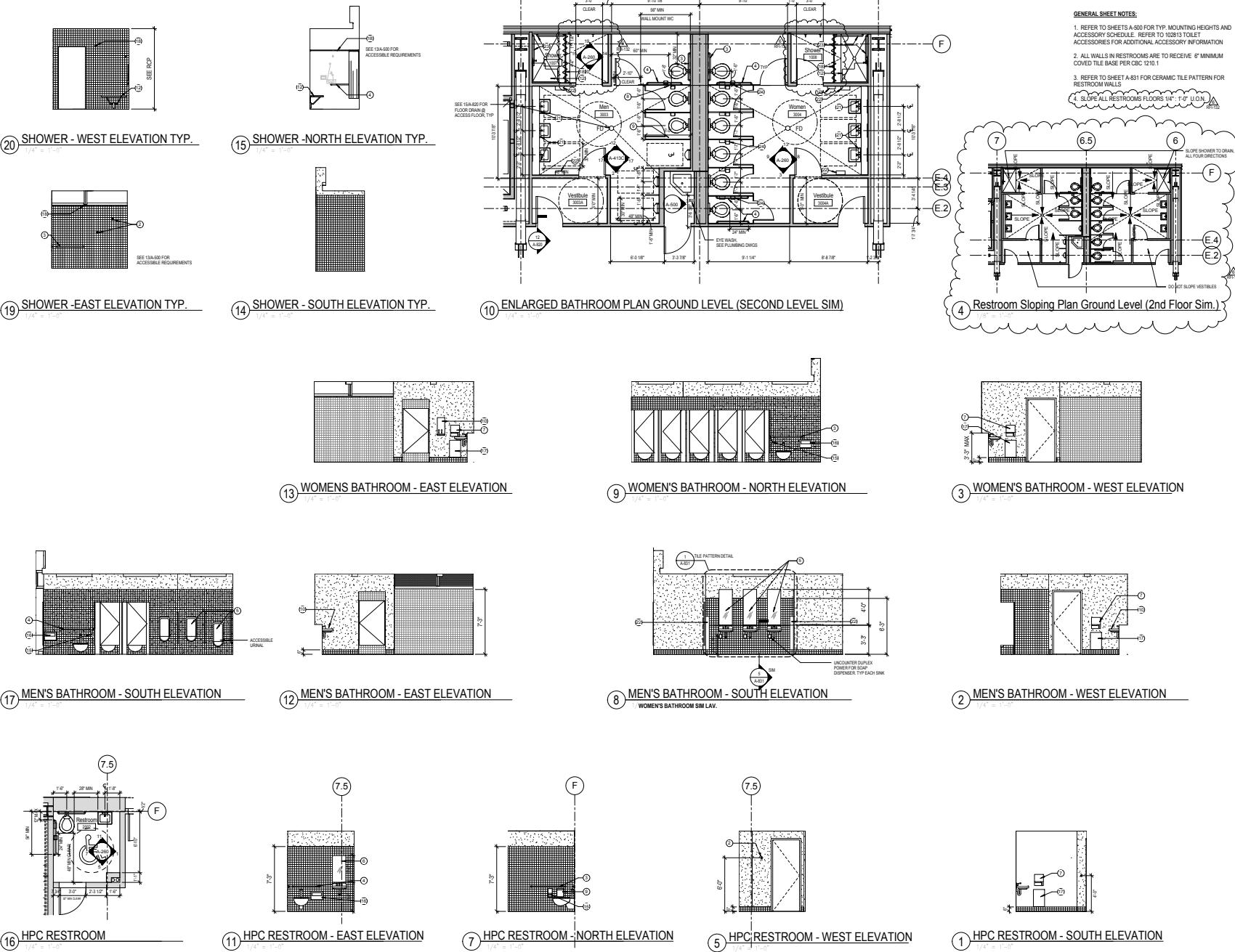
5N59A037

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GENERAL SHEET NOTES:

- REFER TO SHEETS A-50 FOR TYP. MOUNTING HEIGHTS AND ACCESSORY SCHEDULE. REFER TO 102813 TOILET ACCESSORIES FOR ADDITIONAL ACCESSORY INFORMATION
- ALL WALLS IN RESTROOMS ARE TO RECEIVE 5' MINIMUM COVED TILE BASE PER CBC 1210.1
- REFER TO SHEET A-831 FOR CERAMIC TILE PATTERN FOR RESTROOM WALLS
- SLOPE ALL RESTROOM FLOORS 1/4": 1'-0" J.O.N.

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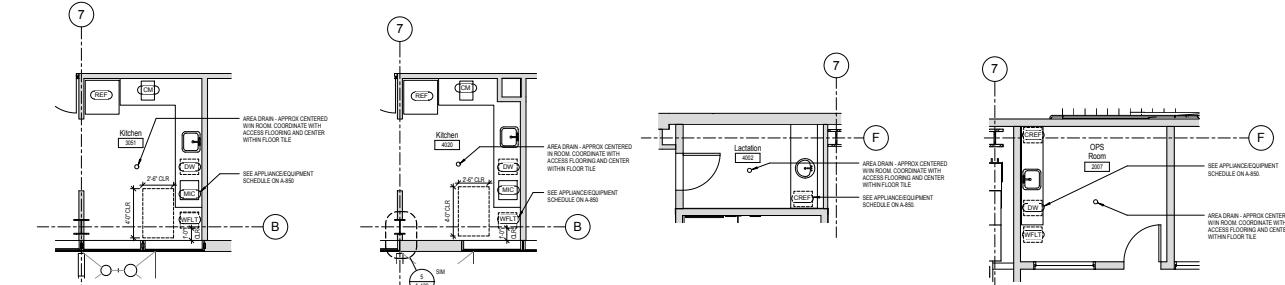


Revisions	Date	Issue	Date
No. 1	08/04	0001	08/01/01
90% Construction Documents			
Final			11/21/01

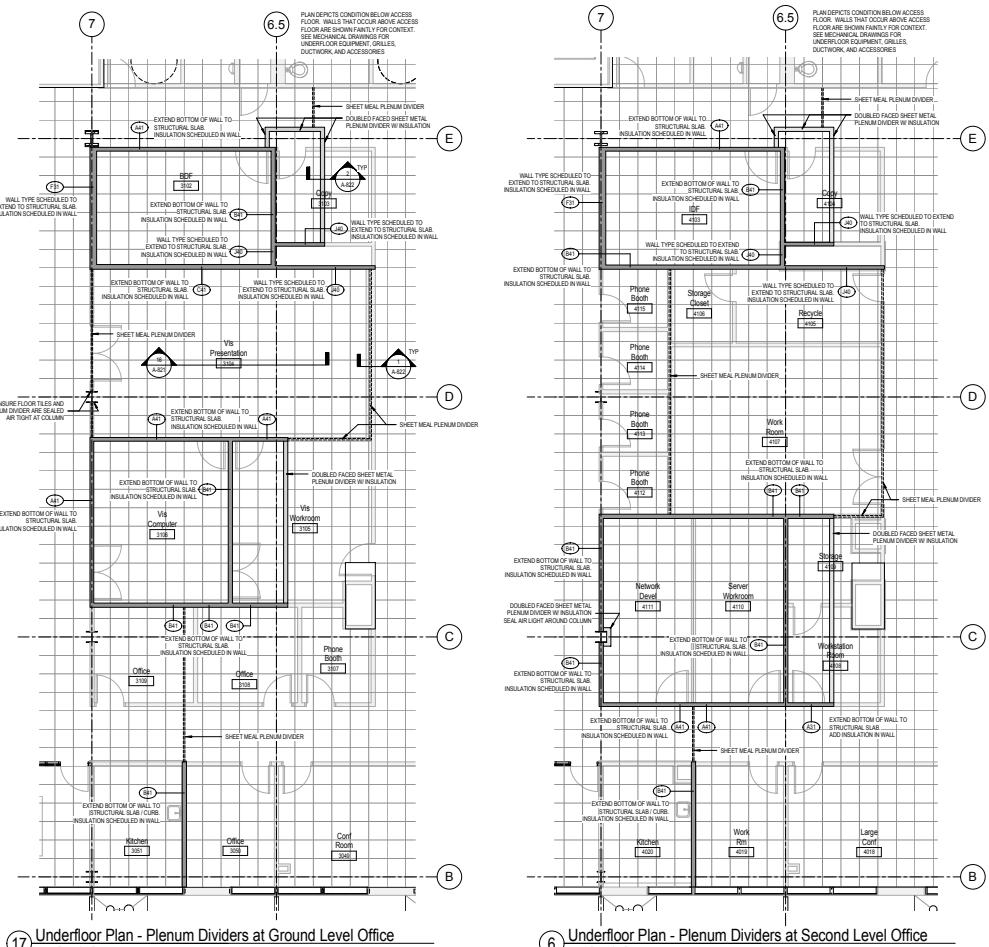
Sheet Information	
Date	08/01/01
Job Number	407000
Drawn	Author
Checked	Checker
Approved	Approver

P2B Conformed Set
**Enlarged Interior
Plans and
Elevations**

**Sheet
A-261**
5N59A038



① Kitchen Enlarged Plan - Ground Level ② Kitchen Enlarged Plan - Second Level ③ Lactation Rm Enlarged Plan ④ OPS Rm Enlarged Plan



⑯ Underfloor Plan - Plenum Dividers at Ground Level Office

⑯ Underfloor Plan - Plenum Dividers at Second Level Office

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Revisions	Issue Date	Game
N01	08/31/2011	90%
Construction Documents		
Final Drawings	11/2/2011	

Key Plan:

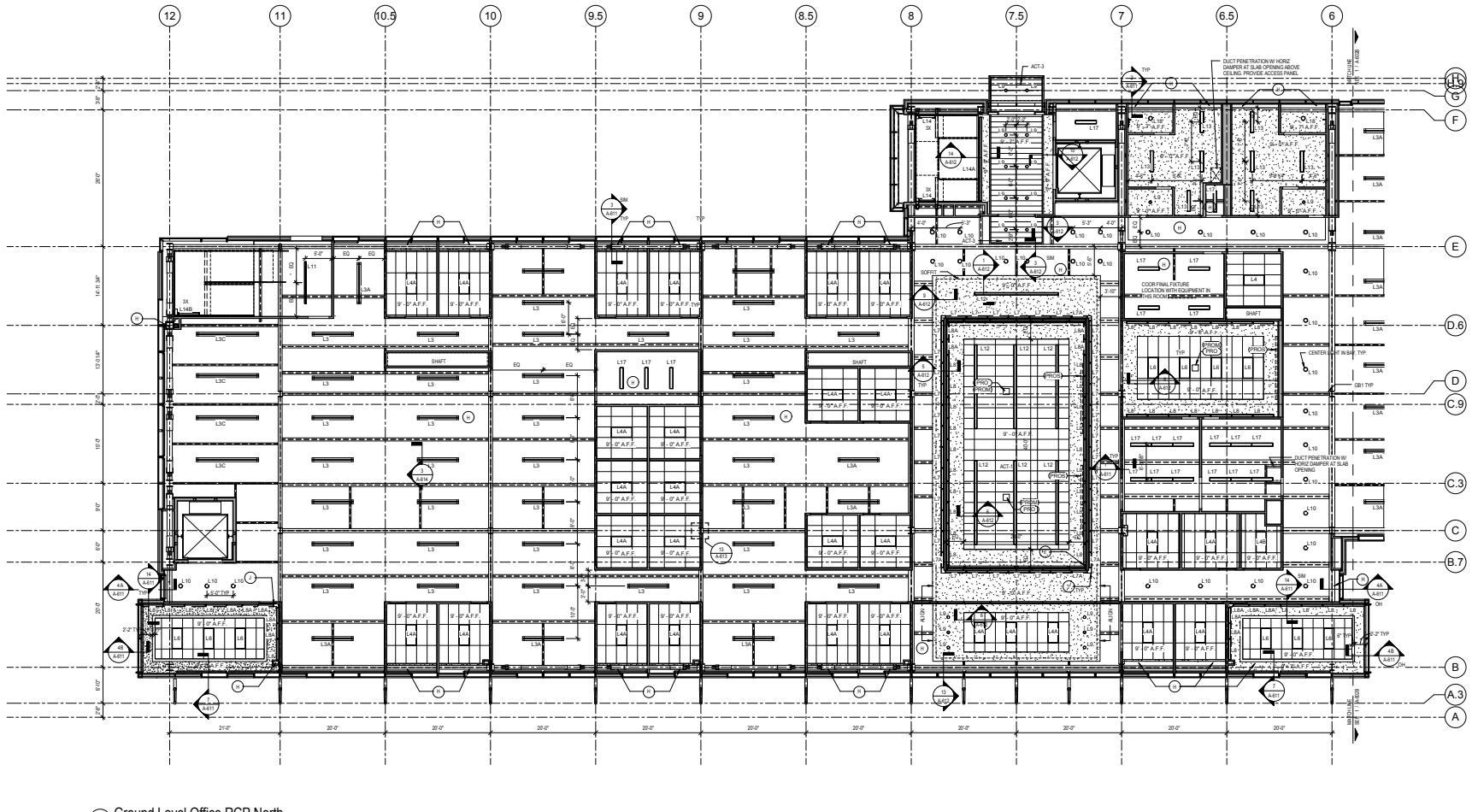


Sheet Information:

Date	08/31/2011
Job Number	405000
Drawn	Author
Checked	Reviewer
Approved	Approver

**P2B Conformed Set
Ground Level
Office Reflected
Ceiling Plan North**

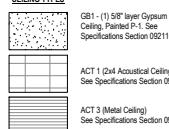
**Sheet
A-602A
5N59A106**



1 Ground Level Office RCP North

(1)

CEILING TYPES



GB1 - (1) 5/8" layer Gypsum Board
Ceiling, Painted P-1. See
Specifications Section 09516

ACT 1 (2x4 Acoustic Ceiling)
See Specifications Section 095100

ACT 3 (Metal Ceiling)
See Specifications Section 095100

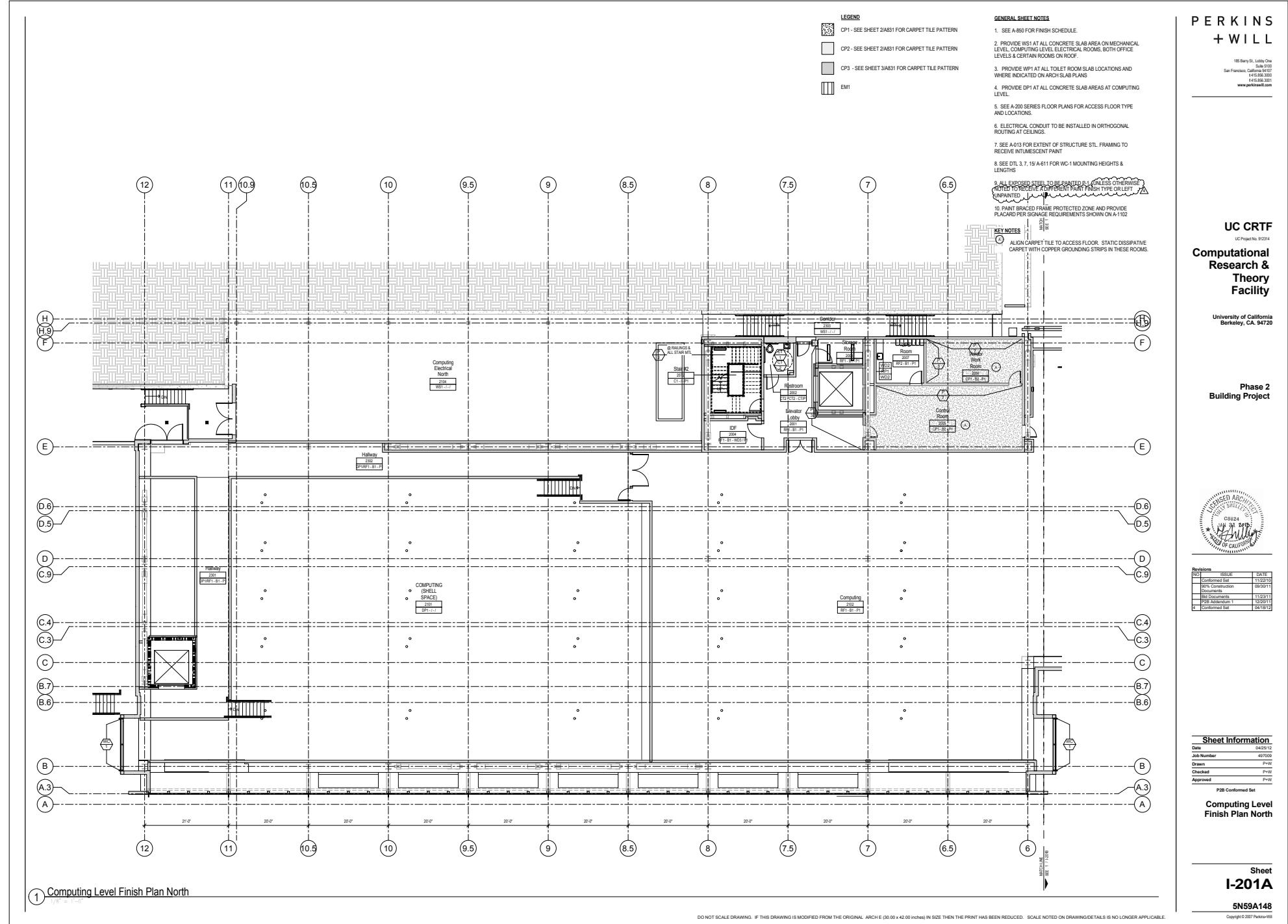
RCP Key Notes

- ① All 3'x6' opening in the slab above are to receive grating per detail 17S-505. All un-ducted 3'x6' openings in the slab above are to be sealed air tight with sheet metal covers over top of the grating per detail 20A-830. For locations of duct penetrations, see the duct penetration schedule drawings within NERSC Relocation Project contract documents.
- ② Exposed Structure - Paint Trusses, Beams and other exposed elements P-1 UON. See Specifications Section 099100, and Fresh Schedule.
- ③ Return Air Ducts - Painted U.O.N. - See Specifications Section 099100, and Fresh Schedule.
- ④ Paint Structural Steel Beam with Inorganic P-8. See Code Diagrams on A-013 for extent and Finish Schedule and Specification Section 099100.
- ⑤ Return Air Ducts - Paint P-1. Provide Sheet Metal back-up panels over Return Air Duct corners where AHUs are not provided. Refer to NR7 document set for AHU locations

RCP General Notes

1. See Drawing A-001 For RCP Symbol and Material Indication Key, U.O.N.
2. Acoustical Ceiling Tile Shall be indicated U.O.N. - See Ceiling Types Key
3. See Sheet A-10 for Typical New Suspended Gyp. and ACT Ceiling System Installation Requirements
4. All Exposed Ducts, Pipes, Conduits, and Sprinkler Pipes to be Painted P-1
5. Lights to be Placed in Grid to Achieve Location Intent as Shown. Where Alternative Locations are Proposed, Drawings Shall be Provided to Architect for Review.
6. See Site Lighting Plan (Drawing A-052) for Light Fixtures in This Location
7. See Finish Plans and Schedule for Window Covering Locations and Types.
8. All Exposed Ducts, Pipes, Conduits, and Sprinkler Pipes to be Painted P-1
9. See Equipment Schedule on Sheet A-050.
10. See Specifications for fixture mounting heights.





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**Phase 2
Building Project**



Revisions	Date
1	08/04
2	10/31/2011
3	09/30/2011
4	09/30/2011
5	09/30/2011

Sheet Information	
Date	08/04/2011
Job Number	450000
Drawn	PWV
Checked	PWV
Approved	PWV

P2B Conformed Set
**Ground Level
Office Finish Plan
South**

**Sheet
I-202B**

5N59A151

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LEGEND

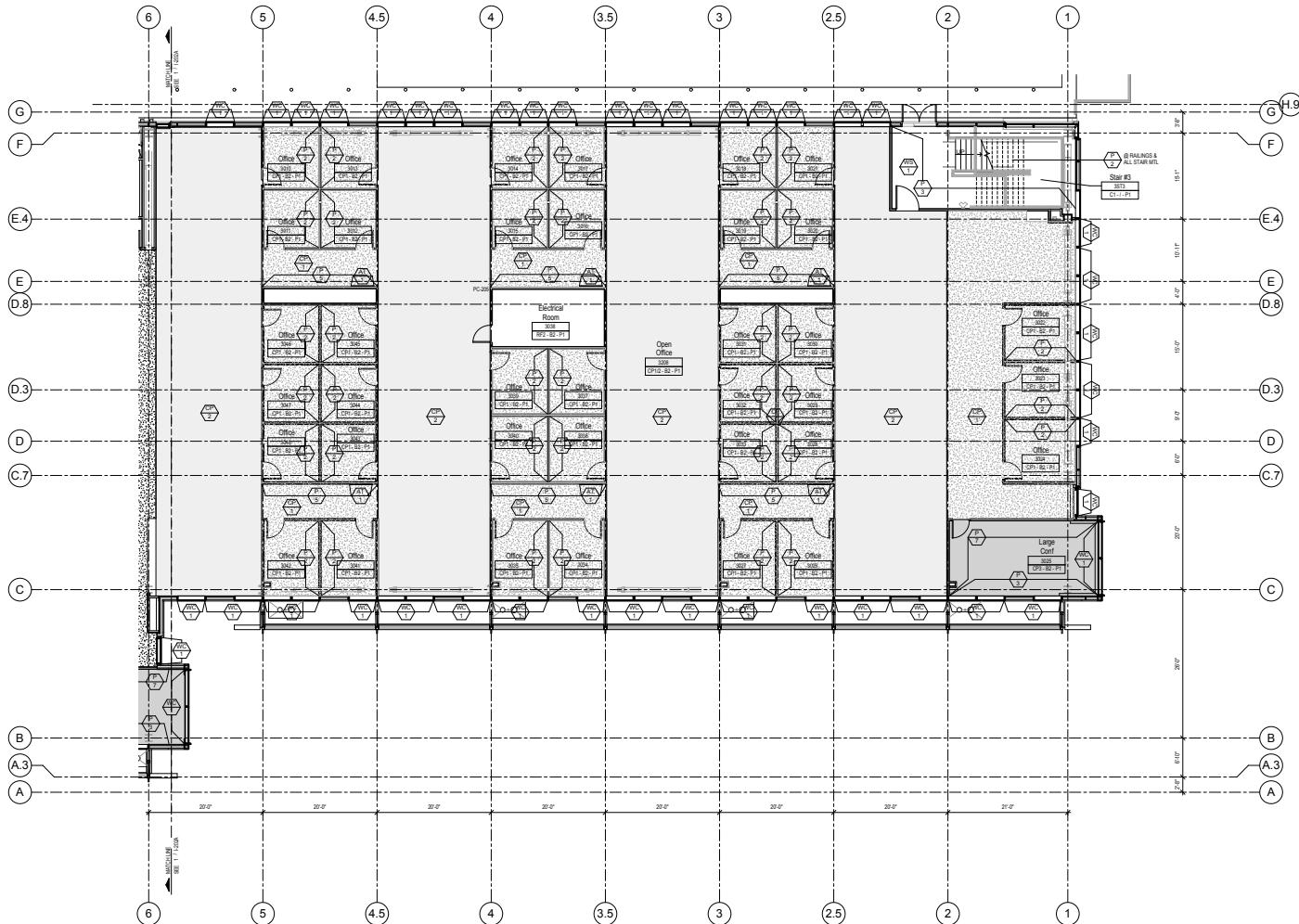
- CP1 - SEE SHEET 2/A831 FOR CARPET TILE PATTERN
- CP2 - SEE SHEET 2/A831 FOR CARPET TILE PATTERN
- CP3 - SEE SHEET 3/A831 FOR CARPET TILE PATTERN
- EM1

GENERAL SHEET NOTES

1. SEE A-850 FOR FINISH SCHEDULE.
2. PROVIDE WST AT ALL CONCRETE SLAB AREA ON MECHANICAL LEVEL COMPUTING LEVEL ELECTRICAL ROOMS, BOTH OFFICE LEVELS & CERTAIN ROOMS ON ROOF.
3. PROVIDE WPT AT ALL TOILET ROOM SLAB LOCATIONS AND WHERE INDICATED ON ARCH SLAB PLANS.
4. PROVIDE DPL AT ALL CONCRETE SLAB AREAS AT COMPUTING LEVEL.
5. SEE A-200 SERIES FLOOR PLANS FOR ACCESS FLOOR TYPE AND LOCATIONS.
6. ELECTRICAL CONDUIT TO BE INSTALLED IN ORTHOGONAL ROUTING AT CEILINGS.
7. SEE A-10 FOR EXTENT OF STRUCTURE STL. FRAMING TO RECEIVE INTUMESCENT PAINT.
8. SEE OTL 3, 7, 15 A-811 FOR WC-1 MOUNTING HEIGHTS & LENGTHS.
9. ALLOWS FOR CARPET TILE TO BE PAINTED UNLESS OTHERWISE NOTED TO GO WITH ACCESS FLOOR. CARPET IS PAINTED UNPAINTED.
10. PAINT BRACED FRAME PROTECTED ZONE AND PROVIDE PLACARD PER SIGNAGE REQUIREMENTS SHOWN ON A-102.

KEY NOTES

- ALIGN CARPET TILE TO ACCESS FLOOR. STATIC DISSIPATIVE CARPET WITH COPPER GROUNDING STRIPS IN THESE ROOMS.



① Ground Level Office Finish South

1/8" = 1'-0"

HEATING, VENTILATING AND AIR CONDITIONING LEGEND, SYMBOLS, NOTES AND ABBREVIATIONS

Drawing Name: \v1-a-[131000]_1_31877_4 internal project date\1-4-03 drawing\1-lbl crit sheet\mechanical\m-003 house legend abbreviations and general notes down

MANUFACTURER AND MODEL LISTED OR SCHEDULED ARE THE FIRST SPECIFIED PRODUCT AND THE BASIS OF DESIGN. PROVIDED FIRST SPECIFIED PRODUCT OR EQUAL. SEE SPECIFICATIONS FOR PRODUCT OPTIONS

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Phase 2 ing Project

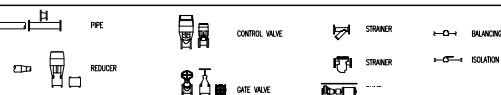


Revisions		
NO	ISSUE	DATE
	90% Construction Documents	09/30/11
	Bid Documents	11/23/11
3	P2B Addendum 1	12/20/11
3	P2B Addendum 2	01/17/12

GENERAL NOTE

- ENTIRE INSTALLATION SHALL CONFORM TO THE REQUIREMENTS OF THE CALIFORNIA MECHANICAL CODE, CALIFORNIA BUILDING CODE, AND ALL OTHER APPLICABLE CODES AND REGULATIONS, INCLUDING CALIFORNIA ENERGY CONSERVATION STANDARDS OF TITLE 24.
 - EXACT LOCATIONS OF ALL CEILING DIFFUSERS, REGISTERS, AND GRILLES SHALL BE AS DETAILED ON THE ARCHITECTURAL DRAWINGS. CEILING PLANS, AND ARCHITECTURAL ROOF ELEVATIONS. EXACT LOCATIONS OF ALL TEMPERATURE SENSORS, SWITCHES AND CONTROLS SHALL BE AS DETAILED ON THE ARCHITECTURAL DRAWINGS.
 - EXACT LOCATION OF ALL ROOF OPENINGS AND THE LOCATION OF ALL ROOF MOUNTED EQUIPMENT SUPPORTS ARE DETAILED ON THE STRUCTURAL, AND ARCHITECTURAL PLANS.
 - PLATFORMS, CURBS, AND FLASHINGS FOR MECHANICAL EQUIPMENT SHALL BE AS INDICATED ON THE STRUCTURAL AND ARCHITECTURAL PLANS. CORROBORATE EXACT SIZES OF REQUIRED OPENINGS AND SUPPORTS FOR FURNISHED EQUIPMENT.
 - ALL EQUIPMENT SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE EQUIPMENT MANUFACTURER'S RECOMMENDATIONS. PROVIDE ALL FITTINGS, TRIMMERS, DAMPERS, VALVES, AND OTHER DEVICES REQUIRED FOR A COMPLETE WORKABLE INSTALLATION.
 - DUCTS, DUCT HOSES, AND FLEXIBLES PROVIDED IN ALL DUCT BRANCHES TO INDIVIDUAL DIFFUSERS, GRILLES AND REGISTERS, SHALL BE PROTECTED FROM THE WEATHER. SHELLS AND OTHER DEVICES AND MATERIALS INSTALLED ON DUCTS OR OTHERWISE EXPOSED TO THE WEATHER SHALL BE COMPLETELY WATERPROOFED.
 - TURNING VINES SHALL BE PROVIDED ON ELOWS AT BOTTOM OF ALL MAN SUPPLY AND RETURN DUCT RISERS.
 - MECHANICAL CONTRACTOR SHALL PROVIDE AND COORDINATE CEEK ACCESS PANELS CAPABILITIES PROVIDED WITH AND CELESTE ACCESS PANELS IN CONFORMANCE WITH DIVISION 8.
 - ROOF MOUNTED EQUIPMENT SHALL BE PROVIDED WITH SIMILAR TYPE FINISHES AND PAINT. SUBMIT COLOR CHART FOR ARCHITECTURE SELECTION.
 - FIRESTOPPING, ACOUSTIC AND BOISEAL SEALING THRU WALL AND FLOOR PENETRATIONS SHALL BE PROVIDED IN ACCORDANCE WITH DIVISION 7.
 - DUCT-MEDIUM-SIZE DUCTS FURNISHED BY DM 16 ARE INSTALLED BY DM 15 (INCLUDING MOUNTING ACCESSORIES) WIRING BY DM 16. MOUNTINGS LOCATIONS UNDER SUPERVISION OF DM 16.
 - CONTRACTOR SHALL SUBMIT SHEET GRAVITY DRAWINGS COMPLETE WITH SEISMIC CALCULATIONS FOR SUPPORT OR BRACING OF EQUIPMENT, PIPING, AND DUCTS.
 - FOR MECHANICAL UNITS SUPPORTED FROM THE CONCRETE AND STEEL BEAM, POINT LOADS TO THE DECK SHALL NOT EXCEED 60 LB PER HANGER. LOADS ON HANGERS SHALL BE DISTRIBUTED IN SUCH A MANNER THAT THE TRIBUTARY LOAD FOR EACH HANGER SHALL NOT EXCEED 15 LBS PER SQUARE FOOT.

PIPING SYMBOLS (PLANS)



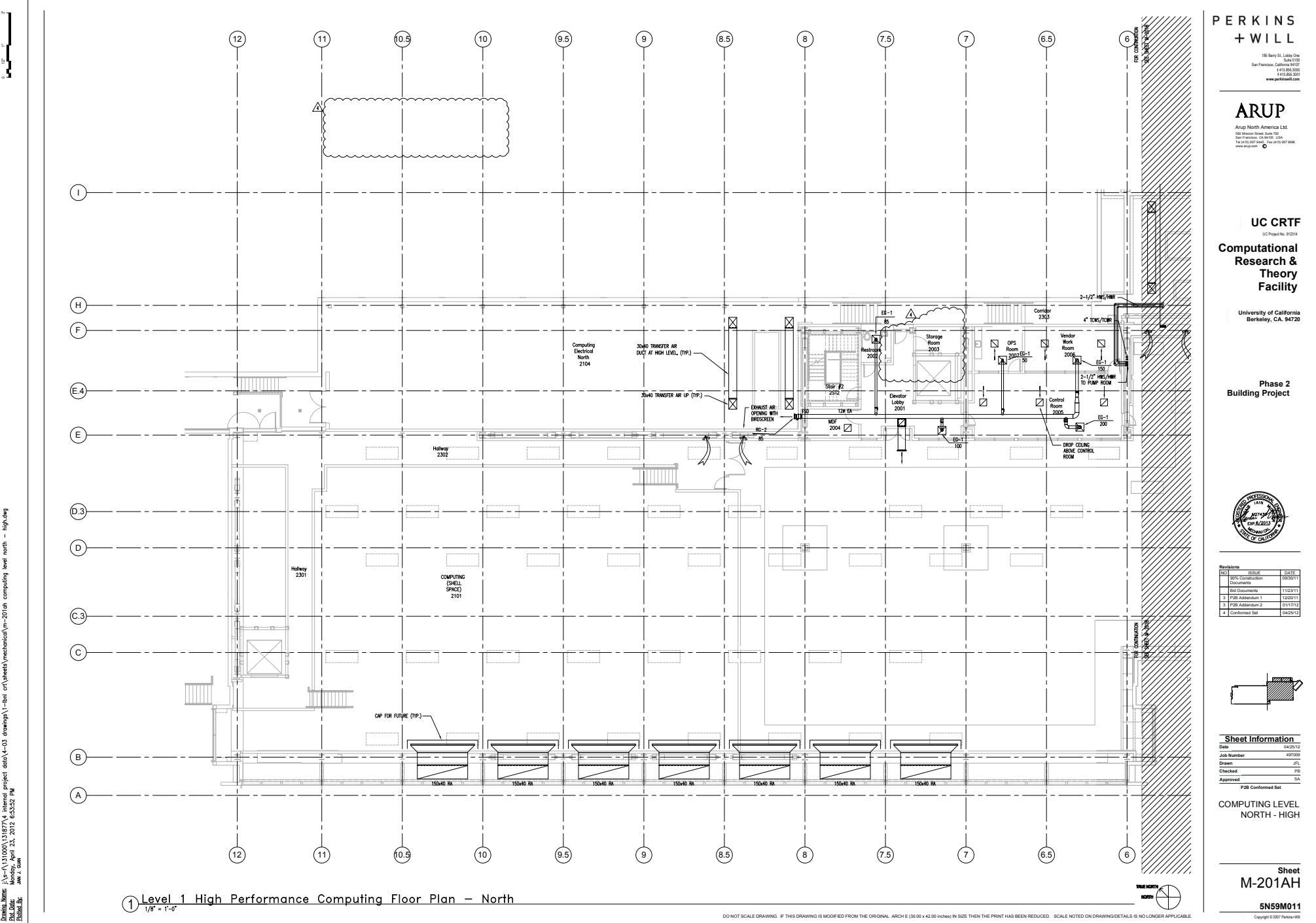
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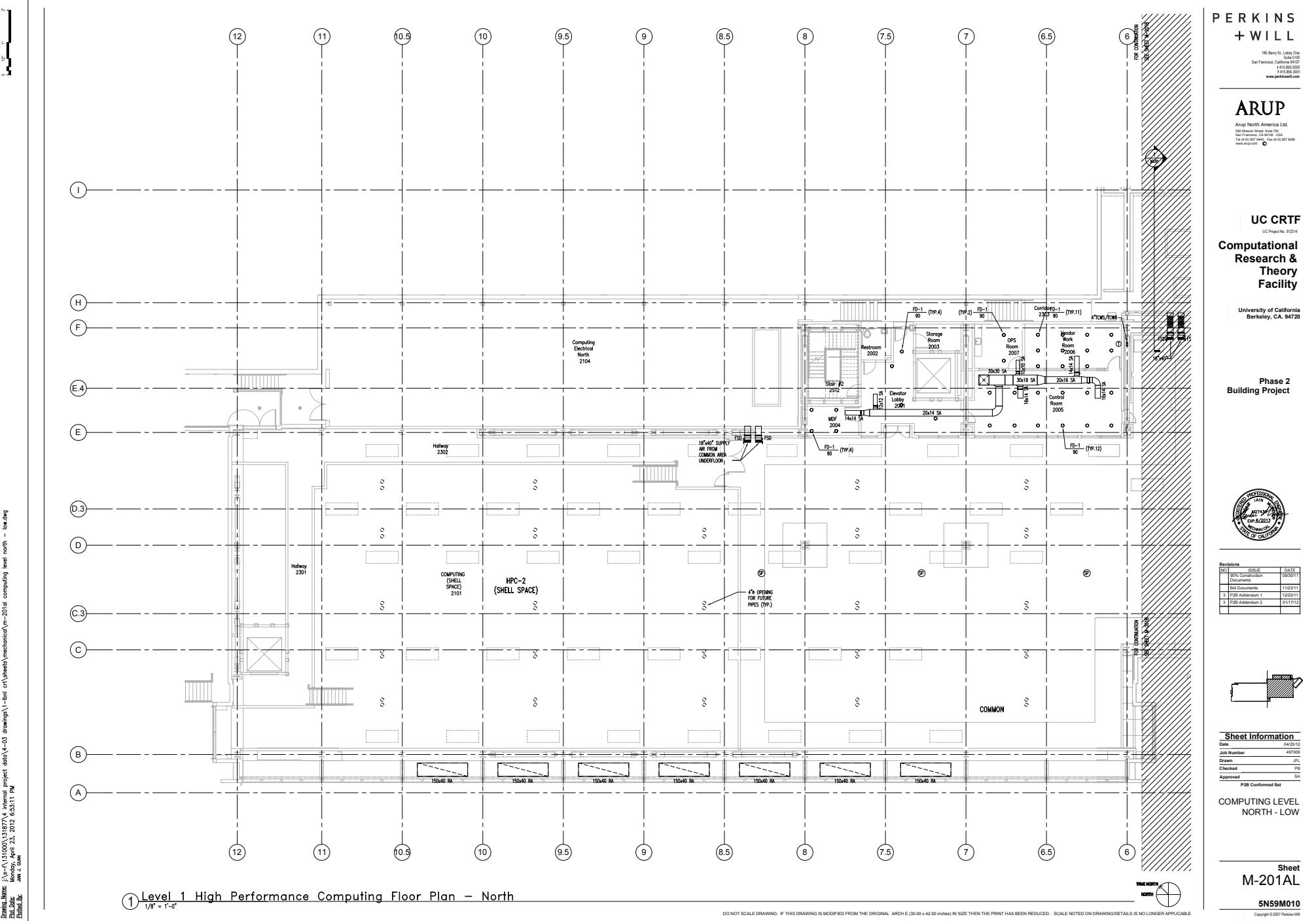
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Job Number	497005
Drawn	JFL
Checked	PB
Approved	SA

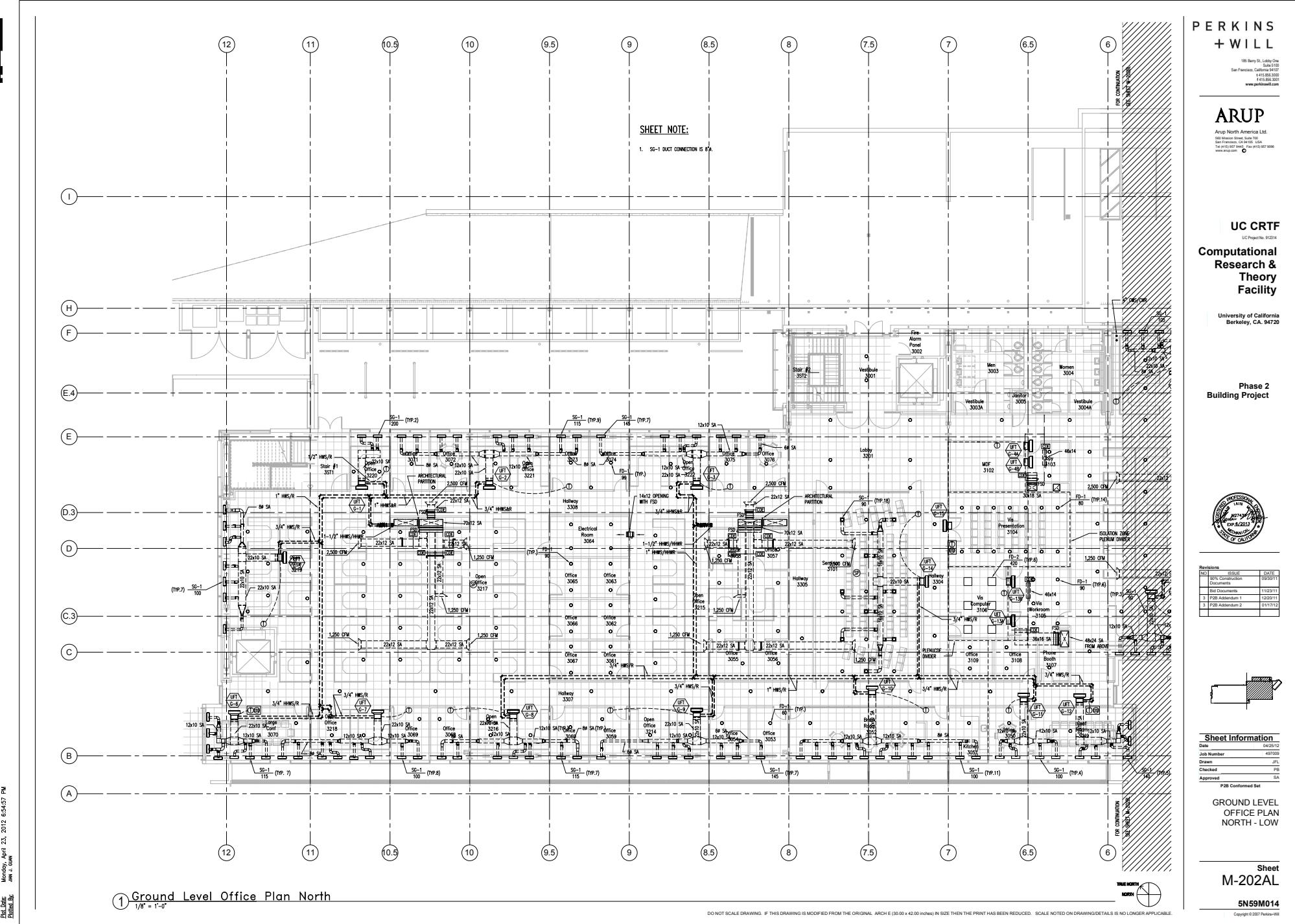
HVAC LEGEND
ABBREVIATIONS
AND GENERAL
NOTES

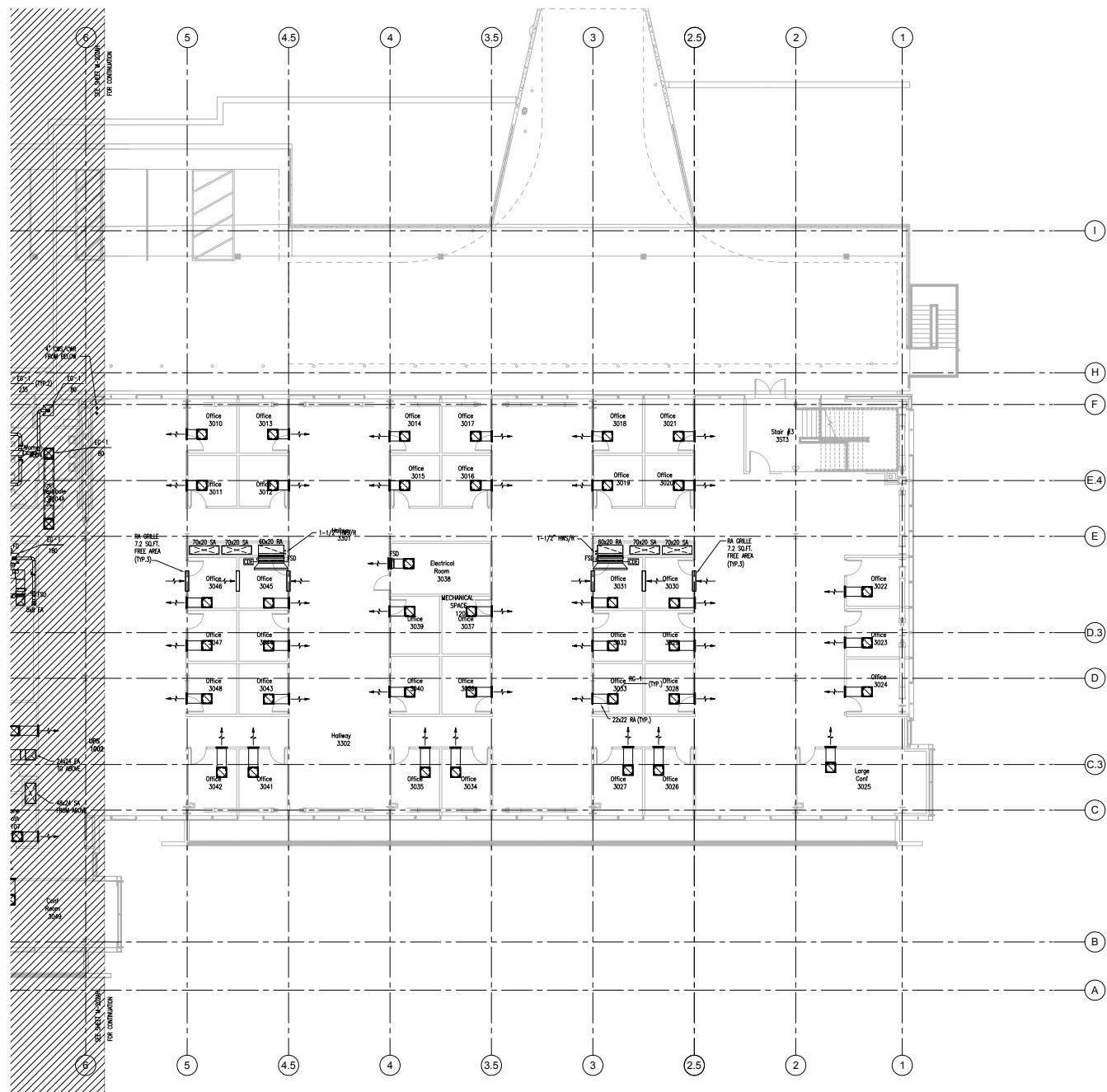
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5N59M003









① Level 1 High Performance Computing Floor Plan – South
 1/8" = 1'-0"

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M-202B

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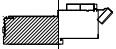
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**Phase 2
 Building Project**



Revisions		
NO. 1	ISSUE DATE	09/01/11
1	90% Construction	09/01/11
2	Site Documentation	11/09/11
3	P2B Addendum 1	12/29/11
3	P2B Addendum 2	01/11/12



Sheet Information		
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Approved:		SA

GROUND LEVEL
 OFFICE PLAN
 SOUTH - HIGH

Sheet
M-202B

5N59M015

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