



State of Utah

GARY R. HERBERT  
Governor

GREGORY S. BELL  
Lt. Governor

Department of Administrative Services

KIMBERLY K. HOOD  
Executive Director

Division of Facilities Construction and Management

DAVID G. BUXTON  
Director

## ADDENDUM NO. 1

Date: September 15, 2010

To: Contractors

From: Rick James- Project Manager

Reference: Thatcher Building Addition to the Henry B. Eyring Chemistry Building  
University of Utah – Salt Lake City, Utah  
DFCM Project No. 10026750

Subject: **Addendum No. 1**

Pages

Addendum Cover Sheet	2 pages
<u>Potential Staging Map and Schematic Design Drawings</u>	<u>92 pages</u>
Total	94 pages

**Note: This Addendum shall be included as part of the Contract Documents. Items in this Addendum apply to all drawings and specification sections whether referenced or not involving the portion of the work added, deleted, modified, or otherwise addressed in the Addendum. Acknowledge receipt of this Addendum in the space provided on the Bid Form. Failure to do so may subject the Bidder to Disqualification.**

While we contend that SB220 should only be potentially applicable to a contract issued after the effective date of said bill, this is to clarify that for purposes of this contract, regardless of the execution or effective dates of this contract, the status of Utah Law and remedies available to the State of Utah and DFCM, as it relates to any matter referred to or affected by said SB220, shall be the Utah law in effect at the time of the issuance of this Addendum.

1.1 **SCHEDULE CHANGES:** No Project Schedule changes.

1.2 **GENERAL ITEMS:** Questions/Answers/Information

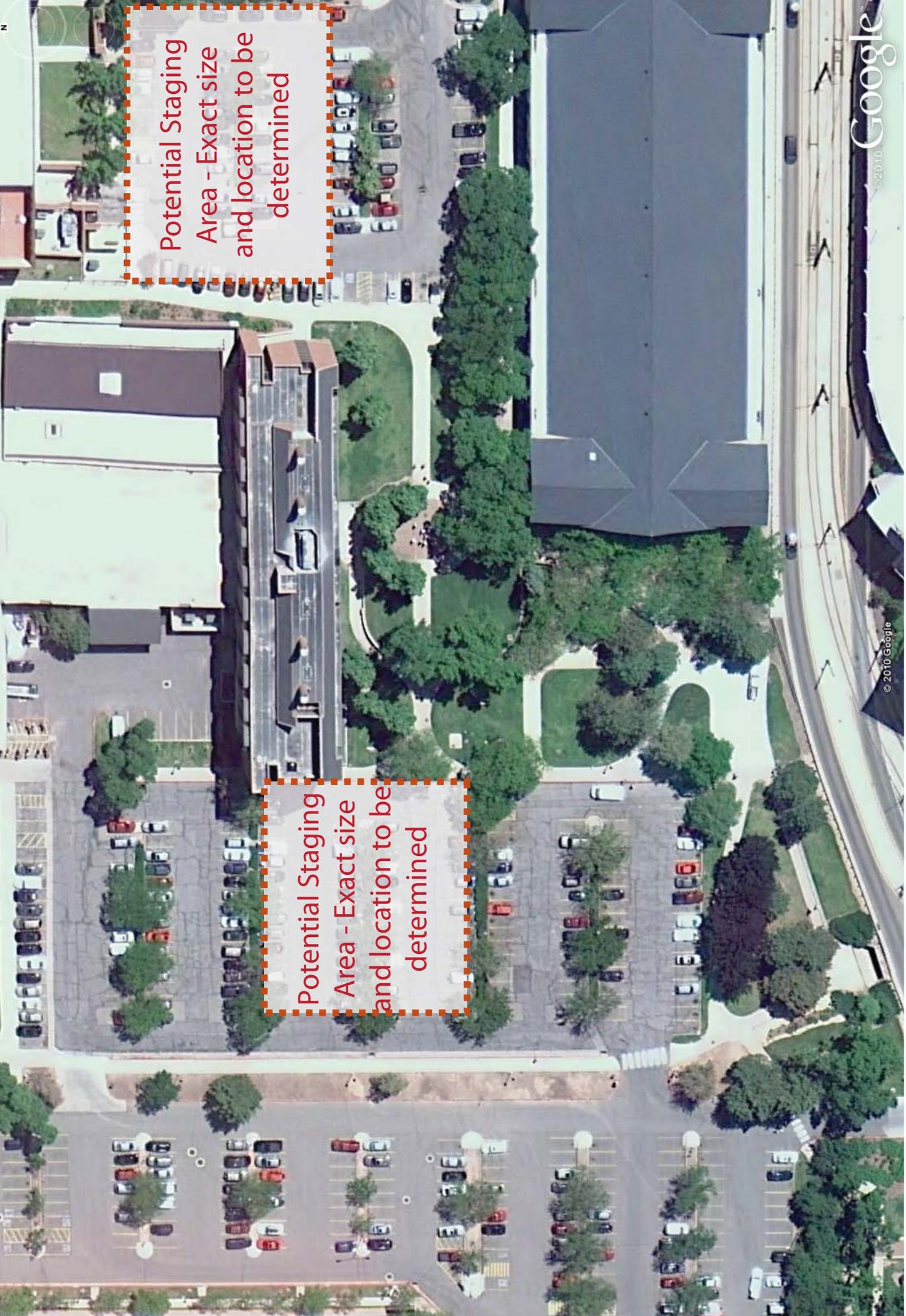
1.2.1 Question: Is it possible to post the survey that is mentioned in the Program?

Answer: The survey will not be available until after the short listing meeting.

1.2.2 Question: Will the University of Utah be providing a designated area on campus or near campus for worker parking?

Answer: Parking passes can be obtained from Parking Services. No areas of parking will be designated for construction workers.

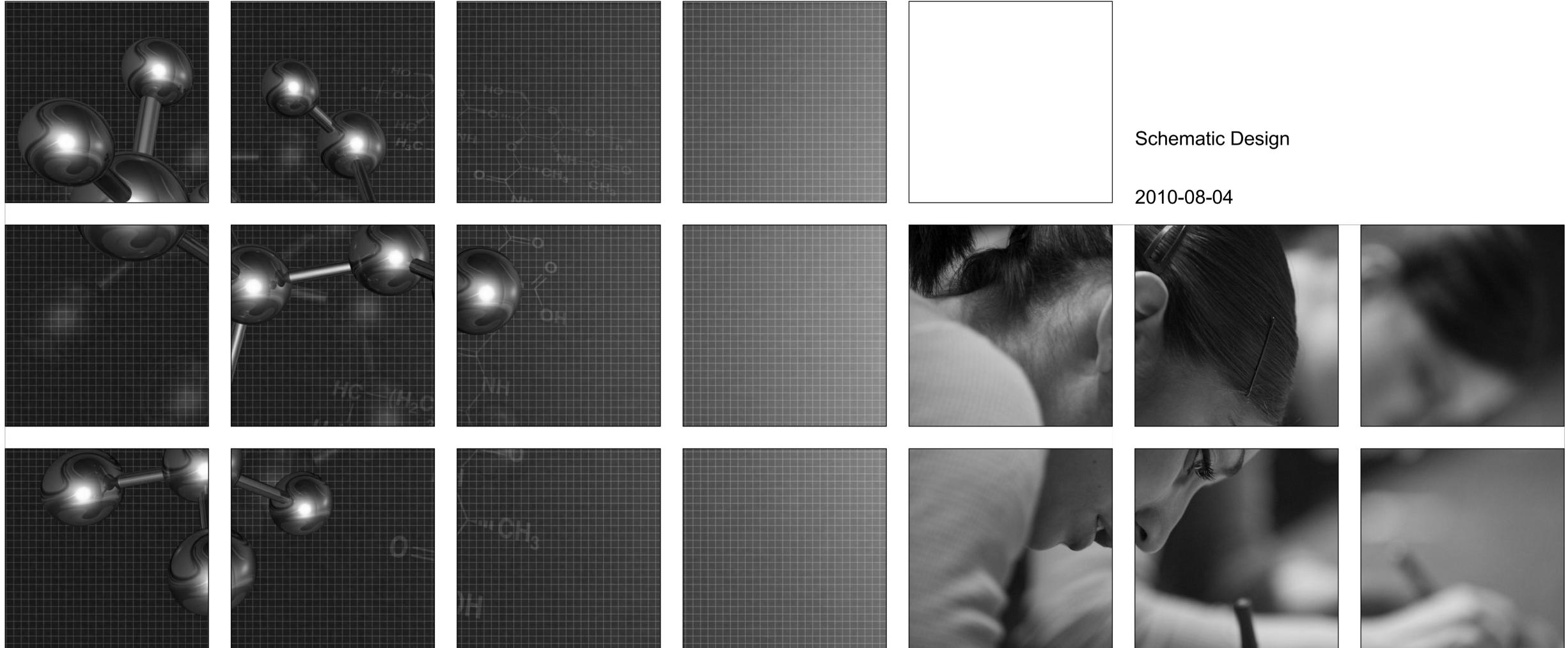
- 1.2.3 Question: According to the program construction staging will be on the west side of the project. Is there a designated area determined that will be set aside for staging?  
Answer: The location of the contractor staging area has not been determined. Two potential staging areas are shown on the attached map. The actual staging area which will be used will vary according to the management of the project and the endeavor to reduce the impact of the construction on the campus, students and faculty.
- 1.2.4 Question: Since there was no building interior walk at the pre-proposal meeting, can a walk-thru for the interior of the building be arranged and scheduled for the proposing GCs?  
Answer: This may be possible after the short list is created
- 1.2.5 Question: Could you identify by name the other two members the CM/GC selection committee.  
Answer: The selection committee consists of Mike Perez (University of Utah), Wally Cooper (CRSA), and Brian Bales (DFCM).
- 1.2.6 The schematic design drawings are attached.



Potential Staging  
Area - Exact size  
and location to be  
determined

Potential Staging  
Area - Exact size  
and location to be  
determined

# THATCHER ADDITION TO CHEMISTRY



10195





ABBREVIATIONS

Table of abbreviations for architectural and engineering terms, including AND, EAST, ADJUSTABLE, EXPANDED JOINT, etc.

CODE ANALYSIS

Table of applicable codes including International Building Code, International Mechanical Code, etc., with specific code references.

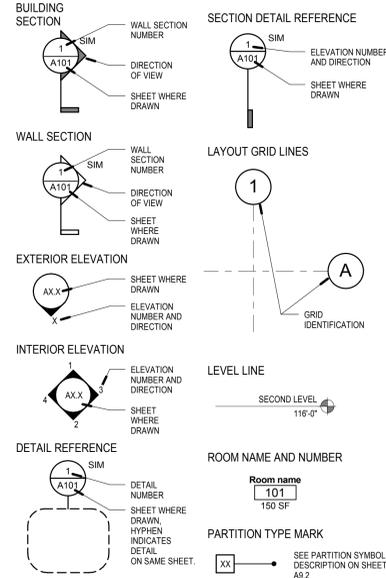
SHEET INDEX

Table listing sheet numbers, names, and dates for various drawings such as GENERAL, CIVIL, ARCHITECTURAL, and STRUCTURAL.

PROJECT TEAM

Table listing project team members including Owner, Architect, Civil Engineer, Structural Engineer, Mechanical Engineer, and Consultant.

REFERENCE SYMBOL LEGEND



UTILITY CONTACTS

Table listing utility contacts for Power, Water, Natural Gas, and Telephone, including company names and contact information.

SPECIAL INSPECTIONS

Table detailing special inspections for concrete, masonry, steel, and other materials, including code references and inspection requirements.

DEFERRED SUBMITTALS

Text detailing contractor responsibilities for deferred submittals, including requirements for shop drawings and material samples.

GENERAL NOTES

General notes providing additional instructions and clarifications for the construction project.

VICINITY MAP



NOTES TO BIDDERS

Notes to bidders providing instructions on how to handle drawings, submittals, and other project-related matters.

THATCHER ADDITION TO CHEMISTRY UNIVERSITY OF UTAH 315 South 1400 East Salt Lake City, Utah 84112 Schematic Design



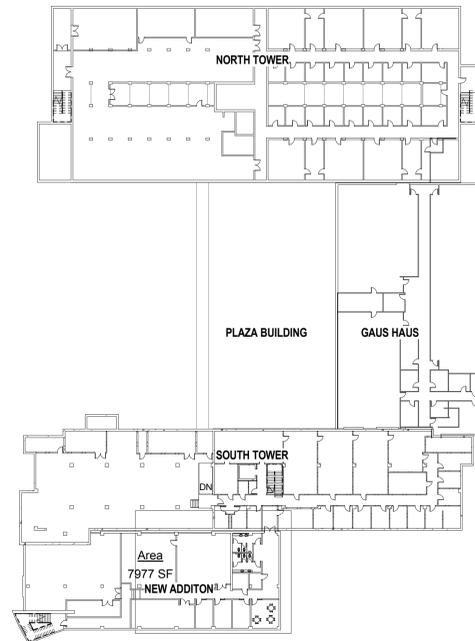
VCBO ARCHITECTURE 524 SOUTH 600 EAST SALT LAKE CITY, UTAH 84102

G001

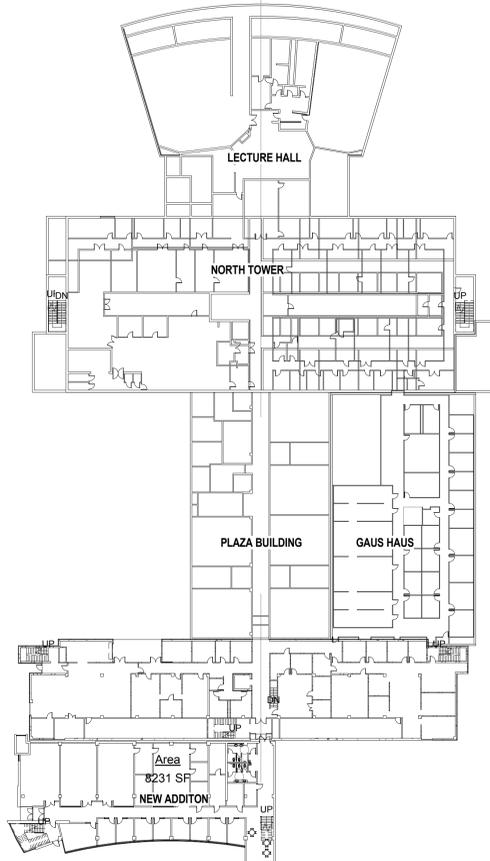
8/4/2010 12:09:52 PM

**FIRE RATING LEGEND**

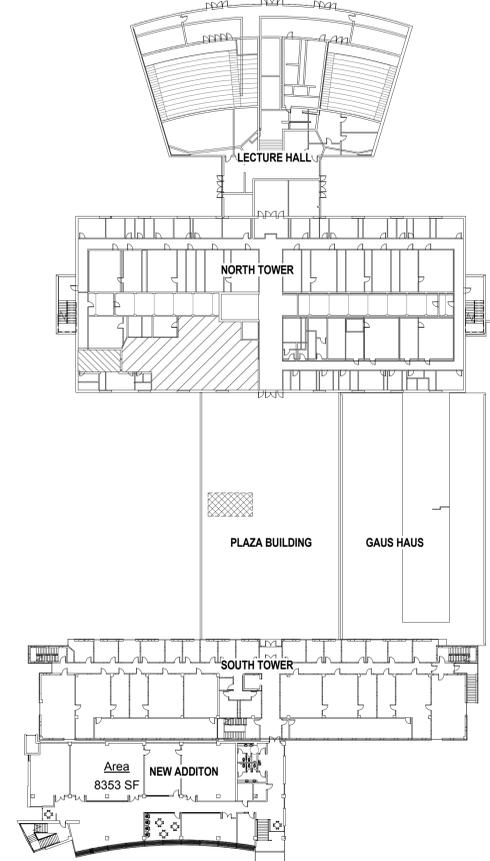
MARK	DESCRIPTION
---	SMOKE PARTITION - WALL CONSTRUCTION
----	1 HOUR FIRE BARRIER - WALL CONSTRUCTION
-----	2 HOUR FIRE BARRIER - WALL CONSTRUCTION
-----	2 HOUR FIRE WALL - WALL CONSTRUCTION
-----	3 HOUR FIRE BARRIER - WALL CONSTRUCTION
.....	DRAFT CURTAIN W/ AUTOMATIC SPRINKLER HEAD @ 6'-0" O.C. MAX. EACH SIDE
*	OPENINGS REQUIRING WATER CURTAIN SPRINKLER DESIGN
.....	PATH OF TRAVEL TO EXIT
-----	COMMON PATH OF TRAVEL TO EXIT



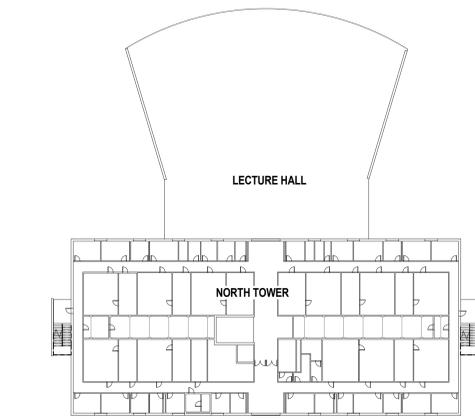
**C2 BASEMENT FLOOR PLAN**  
SCALE: 1" = 40'-0"



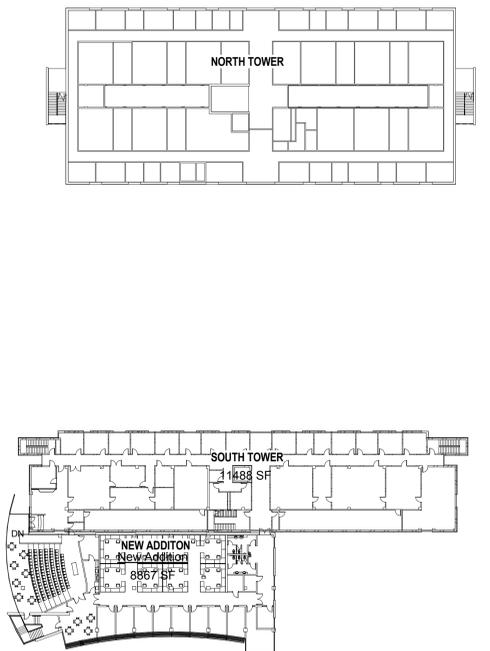
**C3 FIRST FLOOR PLAN**  
SCALE: 1" = 40'-0"



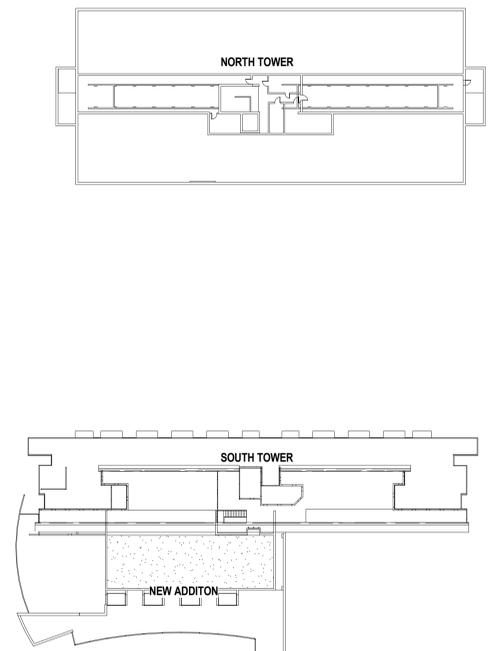
**C5 SECOND FLOOR**  
SCALE: 1" = 40'-0"



**A2 THIRD FLOOR PLAN**  
SCALE: 1" = 40'-0"



**A3 FOURTH FLOOR PLAN**  
SCALE: 1" = 40'-0"



**A5 PENTHOUSE FLOOR PLAN**  
SCALE: 1" = 40'-0"

BUILDING	OCCUPANCY	AREA (SF)	VENT AREA	GROSS AREA	FRONTAGE / PERIMETER (LF)
<b>BASEMENT</b>					
NORTH TOWER	B	22,525	1,748	25,777	
UTILITY TUNNEL	B	1,000		1,000	
SOUTH TOWER	B	13,409	1,542	13,489	
GAUSS HAUS	B	11,150		11,150	
current totals		48,184		46,416	
2010 ADDITION	B	7,977		7,977	
proposed totals		56,161		54,393	
FUTURE ADDITION	B	9,750		9,750	
planned totals		65,911		64,143	
<b>LEVEL ONE</b>					
NORTH TOWER	B	30,997	1,748	28,889	
NORTH TOWER	A-3	4,625		4,625	
PLAZA	B	10,870		10,870	
SOUTH TOWER	B	13,896	1,542	11,354	
GAUSS HAUS	B	11,720		11,720	
current totals		73,908	3,290	67,418	1,641
2010 ADDITION	B	7,977		8,000	
proposed totals		81,885	3,290	75,418	1,641
FUTURE ADDITION	B	9,750		9,750	
planned totals		91,635	3,290	85,168	1,641
<b>LEVEL TWO</b>					
NORTH TOWER	B	11,632	1,748	25,864	
NORTH TOWER	A-3	3,630		3,630	
PLAZA	B	10,870		10,870	
SOUTH TOWER	B	13,194	1,542	11,652	
GAUSS HAUS	B	11,720		11,720	
current totals		49,046	3,290	43,536	
2010 ADDITION	B	7,977		8,000	
proposed totals		57,023	3,290	51,536	
FUTURE ADDITION	B	9,750		9,750	
planned totals		66,773	3,290	61,286	
<b>LEVEL THREE</b>					
NORTH TOWER	B	22,152	1,748	20,404	
SOUTH TOWER	B	13,194	1,542	11,652	
current totals		35,346	3,290	32,056	
2010 ADDITION	B	7,977		8,000	
proposed totals		43,323	3,290	40,056	
FUTURE ADDITION	B	9,750		9,750	
planned totals		53,073	3,290	49,806	
<b>LEVEL FOUR</b>					
NORTH TOWER	B	22,152	1,748	20,404	
SOUTH TOWER	B	13,194	1,542	11,652	
current totals		35,346	3,290	32,056	
2010 ADDITION	B	7,977		8,000	
proposed totals		43,323	3,290	40,056	
FUTURE ADDITION	B	9,750		9,750	
planned totals		53,073	3,290	49,806	
<b>EXISTING BUILDING TOTAL</b>					
		203,634		199,194	
<b>2010 BUILDINGS TOTAL</b>					
		234,401		209,194	
<b>FUTURE BUILDINGS TOTAL</b>					
		257,401		232,194	

\* IBC 2009, 506.4 - total allowable building area with more than 1 story above grade plane  
 Allowed area per story rating type II B 84,525  
 Total allowable area - 3 stories times 84,525 253,575



VCBO ARCHITECTURE  
 524 SOUTH 600 EAST  
 SALT LAKE CITY, UTAH 84102  
 Phone: (801) 575-8800  
 Fax: (801) 531-9850  
 WWW: www.vcbo.com

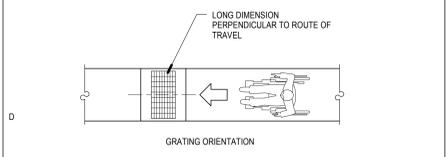
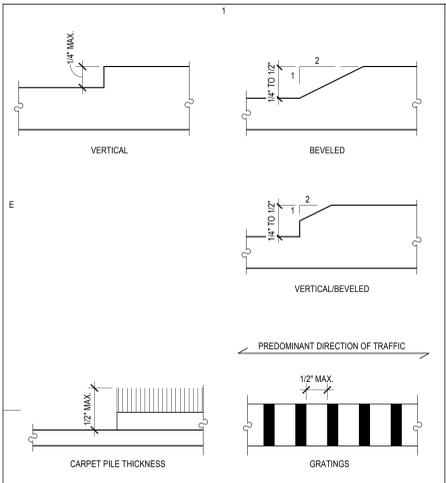
**THATCHER ADDITION TO CHEMISTRY**

UNIVERSITY OF UTAH  
 10026750  
 315 South 1400 East Salt Lake City, Utah 84112  
 Schematic Design

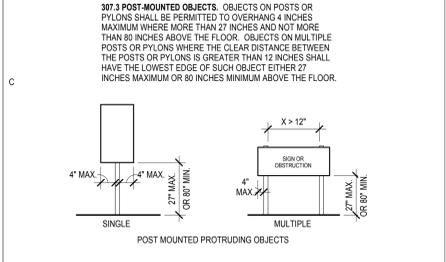
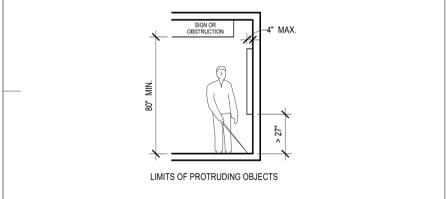
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 Date 2010-08-04  
 Owner # 10026750  
 Ins. #

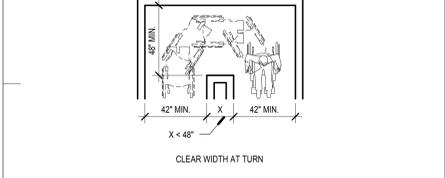
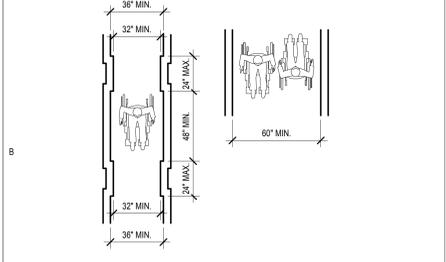
BUILDING PLANS W/  
 EGRESS, RATED  
 WALLS, FEC AND CODE  
 REQ'D SIGNAGE



**303. CHANGES IN LEVEL**



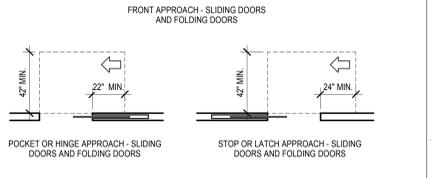
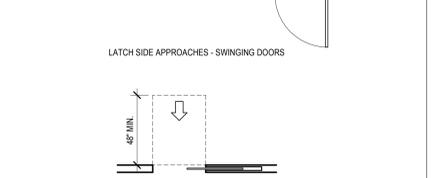
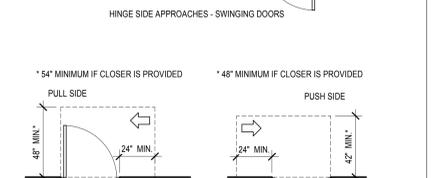
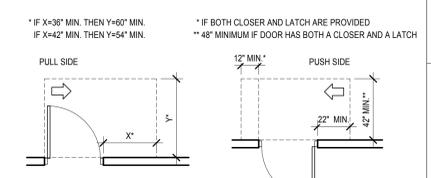
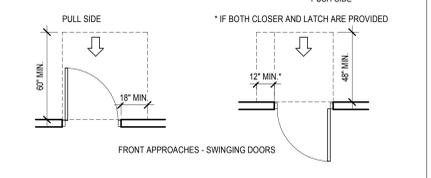
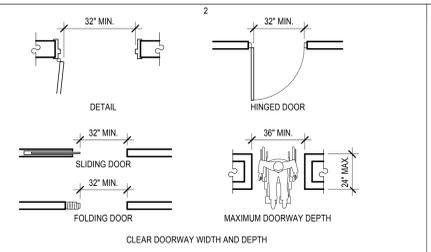
**307. PROTRUDING OBJECTS**



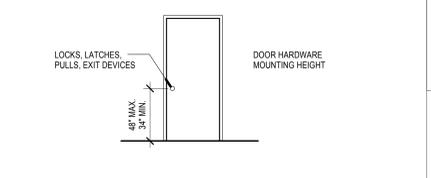
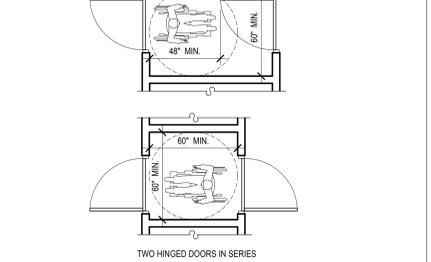
**403. ACCESSIBLE ROUTES**



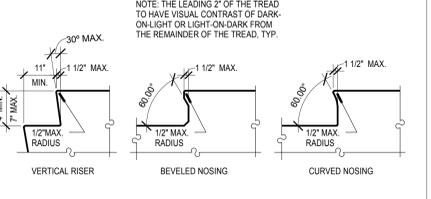
**504.5 STAIR NOSINGS**



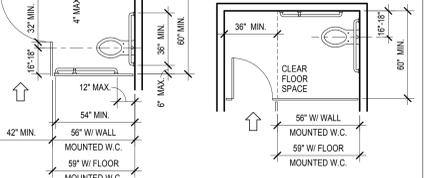
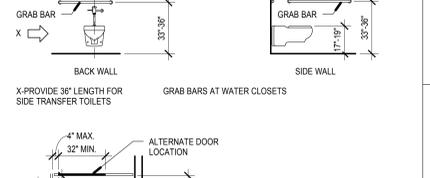
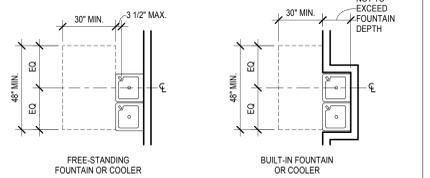
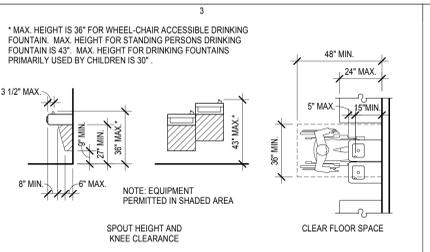
**602 DRINKING FOUNTAINS**



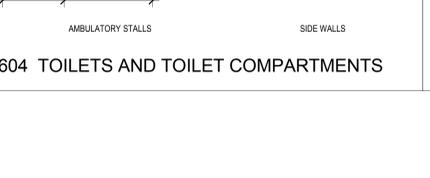
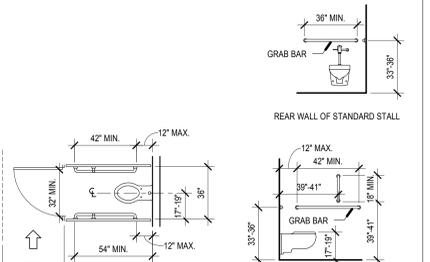
**604 TOILETS AND TOILET COMPARTMENTS**



**604 TOILETS AND TOILET COMPARTMENTS**



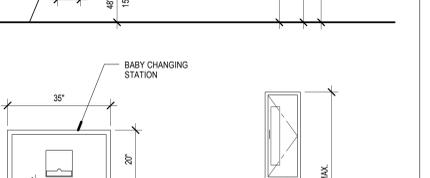
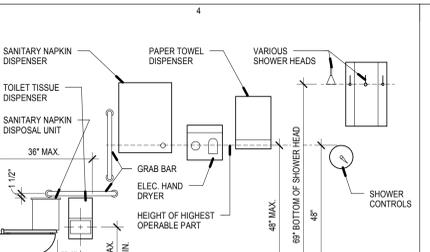
**604 TOILETS AND TOILET COMPARTMENTS**



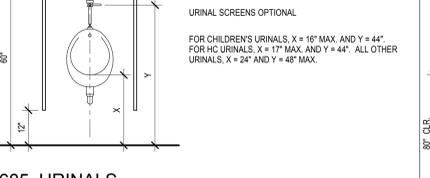
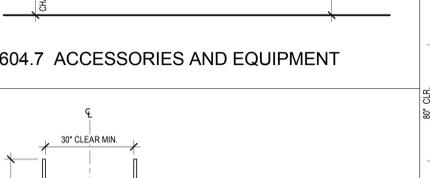
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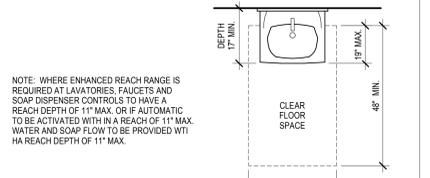
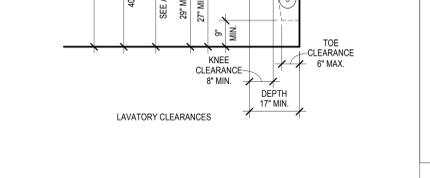
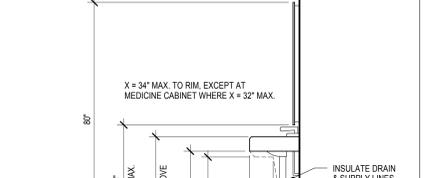
**604 TOILETS AND TOILET COMPARTMENTS**



**604.7 ACCESSORIES AND EQUIPMENT**



**605 URINALS**



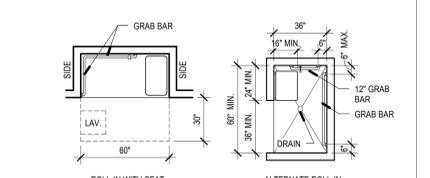
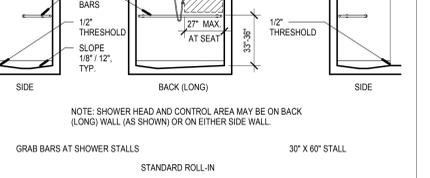
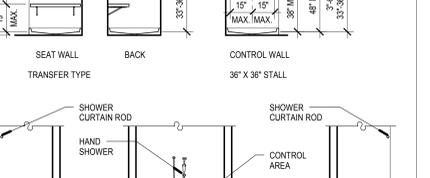
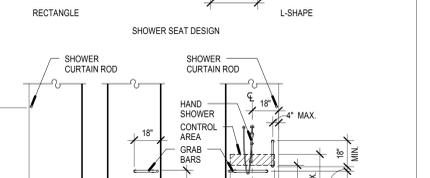
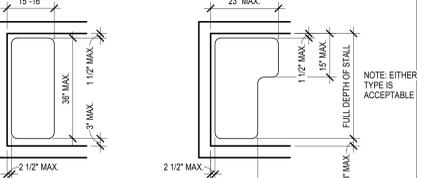
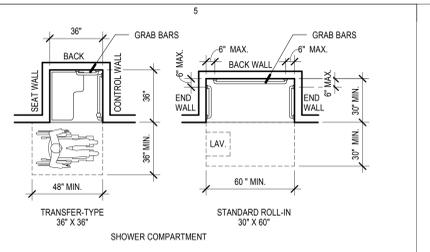
**606 LAVATORIES AND SINKS**



**606 LAVATORIES AND SINKS**



**606 LAVATORIES AND SINKS**



**608 SHOWER COMPARTMENTS**



**608 SHOWER COMPARTMENTS**



**608 SHOWER COMPARTMENTS**



ARCHITECTURE  
VALENTINER  
CRANE  
BRUNJES  
ONYON

VCBO ARCHITECTURE  
524 SOUTH 600 EAST  
SALT LAKE CITY, UTAH 84102  
Phone: (801) 575-8800  
Fax: (801) 531-9850  
www: www.vcbo.com

**THATCHER ADDITION TO CHEMISTRY**  
 UNIVERSITY OF UTAH  
 10026750  
 315 South 1400 East Salt Lake City, Utah 84112  
 Schematic Design

Rev #	Date	Description

Job # 10195  
CAD File  
Drawn Author Checked Checker  
Date 2010-08-04  
Owner # 10026750  
Iss. #

TYPICAL ANSI  
ACCESSIBILITY  
STANDARDS

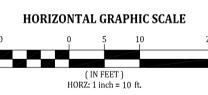
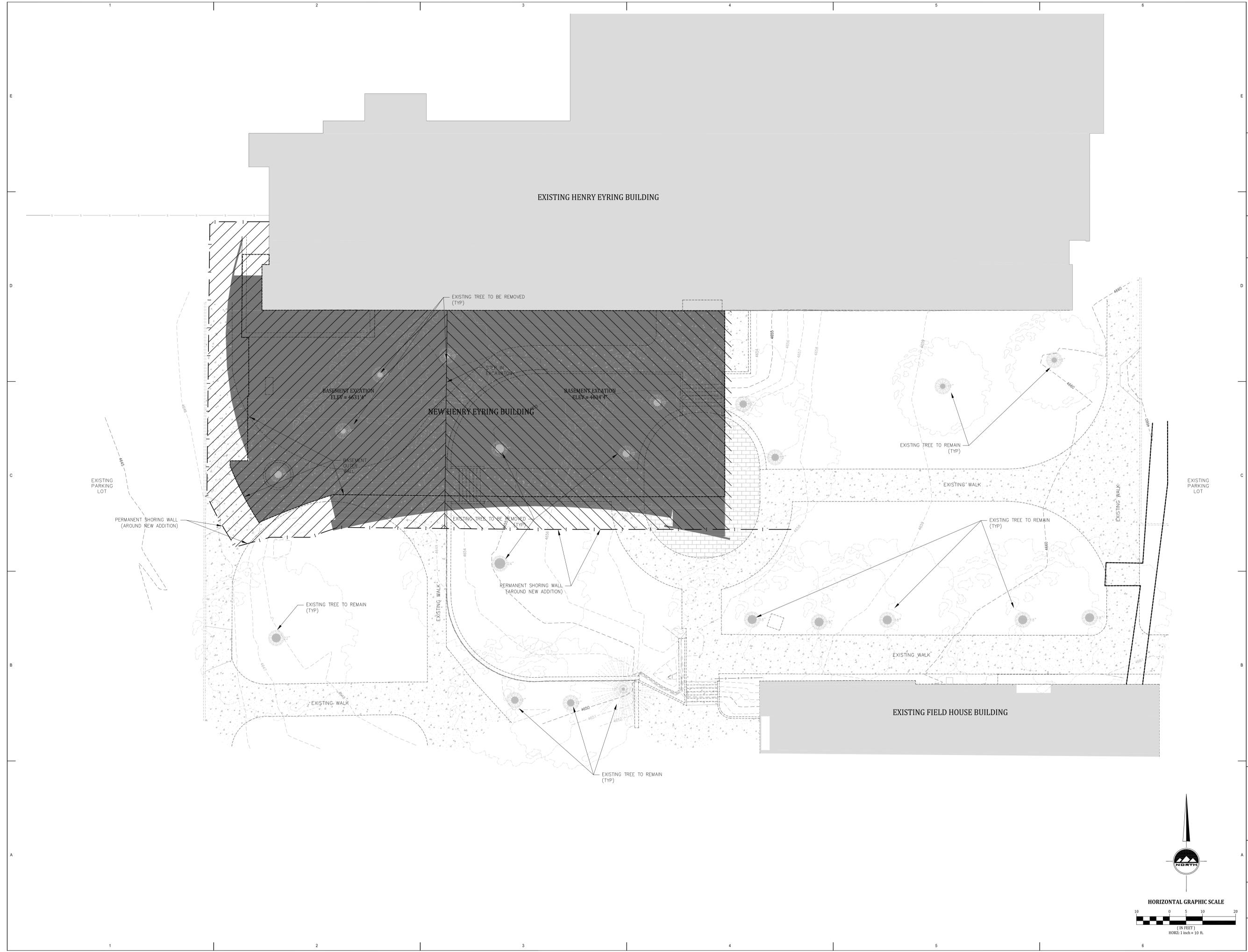
**G300**

**THATCHER ADDITION TO CHEMISTRY**  
 UNIVERSITY OF UTAH  
 DFCM PROJECT # 10026750  
 315 South 1400 East Rm. 2020 Salt Lake City, Utah  
 Schematic Design

Rev #	Date	Description

Job #	10195
CAD File	
Drawn	DL Checked DON B.
Date	2010-07-21
Owner	DFCM PROJECT #
Iss. #	10026750

**MASS EX PLAN**  
**C101**



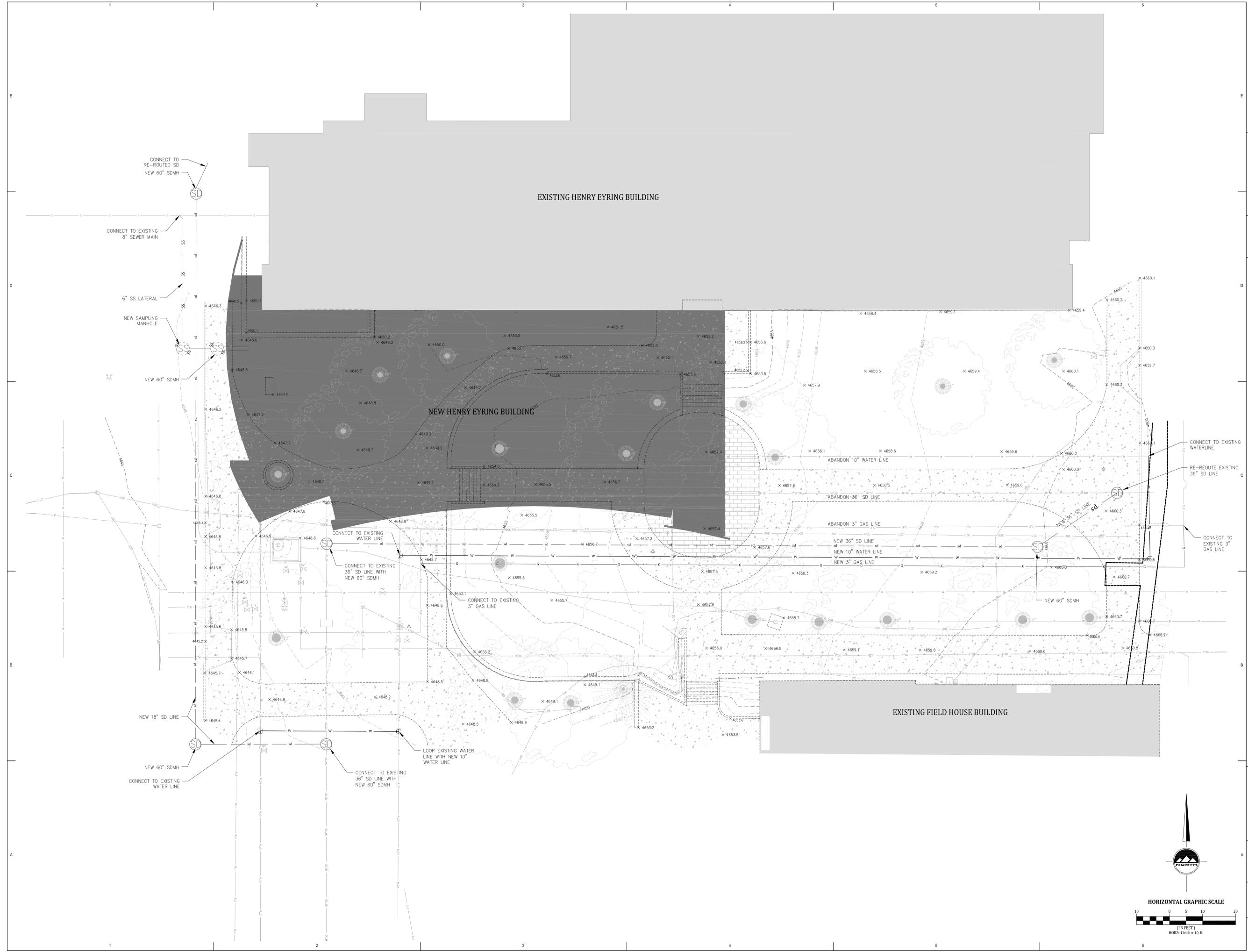
**THATCHER ADDITION TO CHEMISTRY**

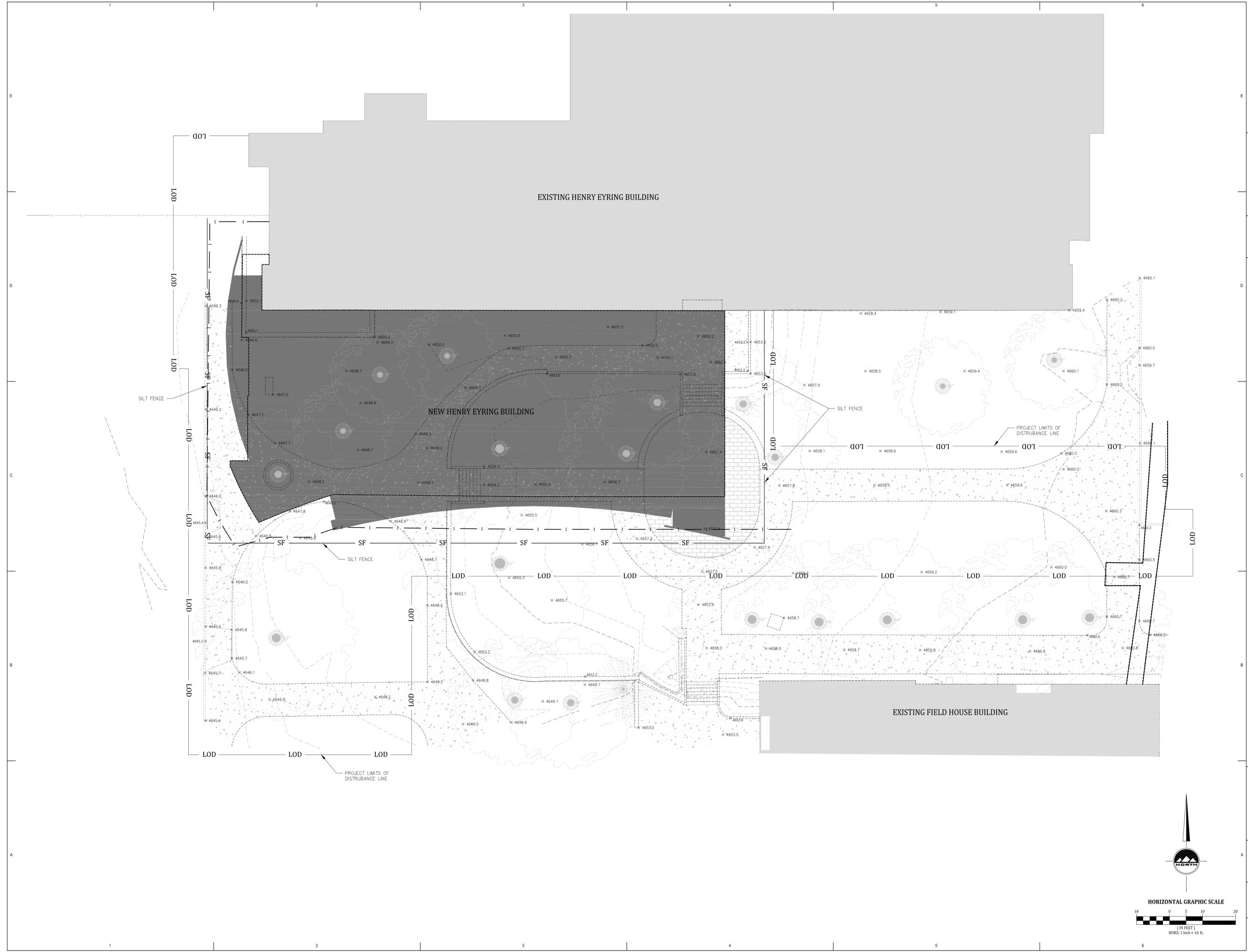
UNIVERSITY OF UTAH  
DFCM PROJECT # 10026750  
315 South 1400 East Rm. 2020 Salt Lake City, Utah  
Schematic Design

Rev #	Date	Description

Job #	10195
CAD File	
Drawn	DL
Checked	DON B.
Date	2010-07-21
Owner #	DFCM PROJECT #
Ins. #	10026750

**UTILITY PLAN**



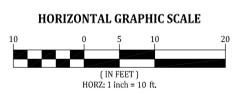


**THATCHER ADDITION TO CHEMISTRY**

UNIVERSITY OF UTAH  
 DFCM PROJECT # 10026750  
 315 South 1400 East Rm. 2020 Salt Lake City, Utah  
 Schematic Design

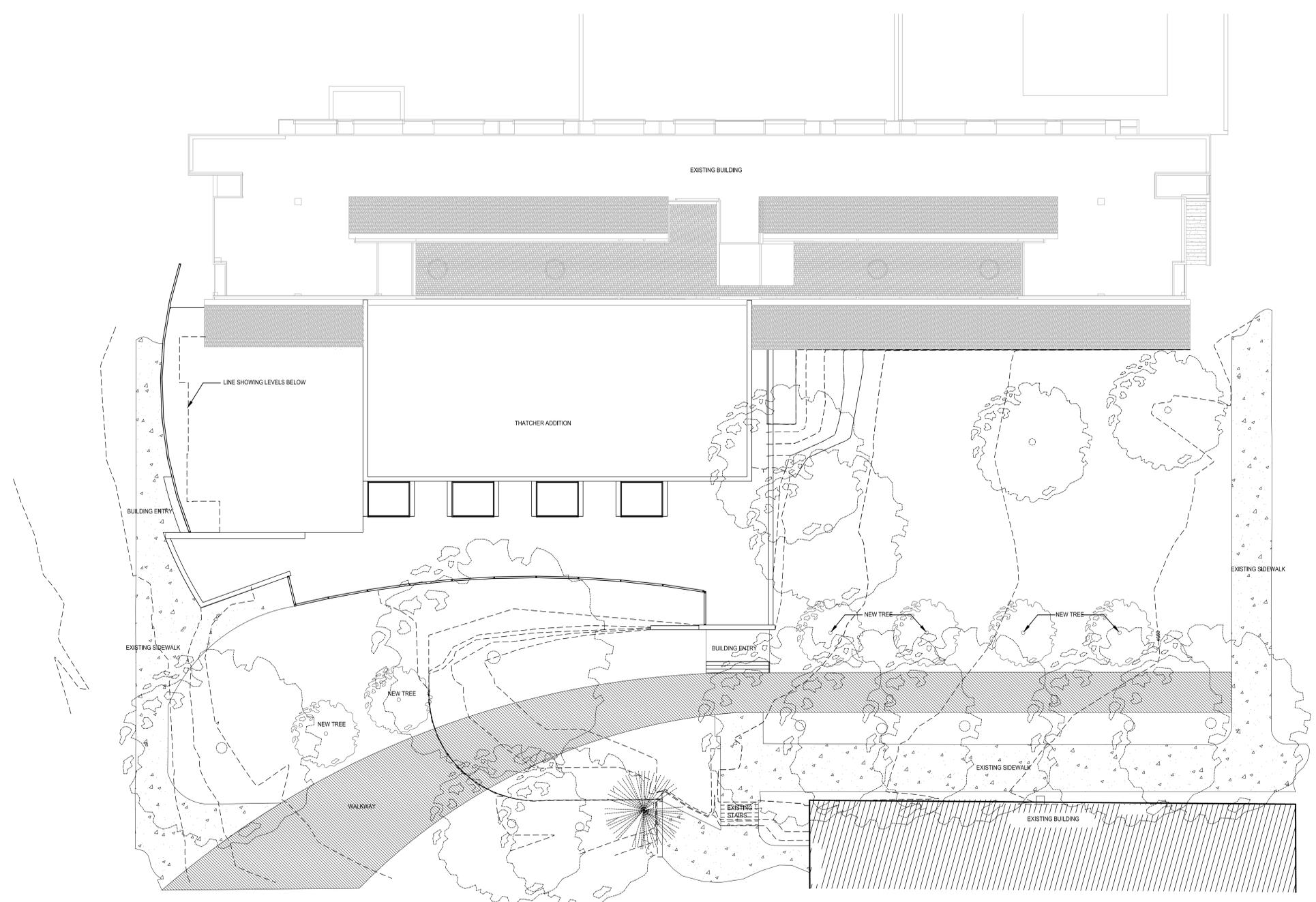
Rev #	Date	Description

Job # 10195  
 CAD File  
 Drawn DL Checked DON B.  
 Date 2010-07-21  
 Owner # DFCM PROJECT #  
 Ins. # 10026750



SWPPP

C103



**A5** SITE PLAN  
SCALE: 1" = 1'-0"




**THATCHER ADDITION TO CHEMISTRY**

UNIVERSITY OF UTAH  
DCPL PROJECT # 10026750  
315 South 1400 East, Salt Lake City, Utah 84112

Schematic Design

Rev #	Date	Description

Job #	10195
CAD File	as100.dwg
Drawn	Checked
Date	2010-06-04
Owner #	10026750
Iss. #	

OVERALL SITE PLAN



ARCHITECTURE  
VALENTINER  
CRANE  
BRUNES  
ONYON

VCBO ARCHITECTURE  
524 SOUTH 600 EAST  
SALT LAKE CITY, UTAH 84102  
Phone: (801) 575-8800  
Fax: (801) 531-9850  
WWW: www.vcbo.com

**THATCHER ADDITION TO CHEMISTRY**  
UNIVERSITY OF UTAH  
10026750  
315 South 1400 East Salt Lake City, Utah 84112  
Schematic Design

Rev # Date Description

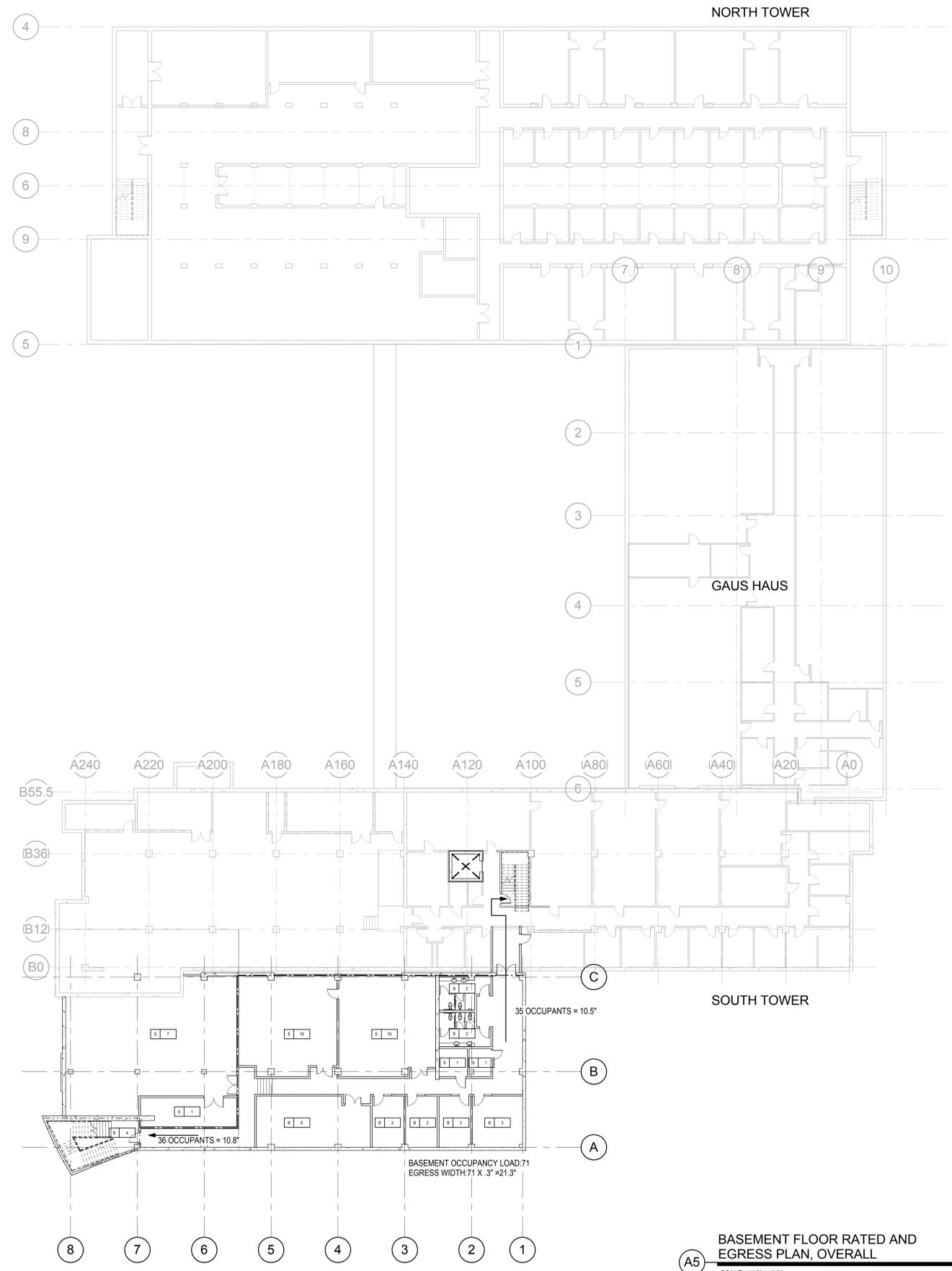
Job # 10195  
CAD File  
Drawn Author Checked Checker  
Date 2010-08-04  
Owner # 10026750  
Iss. #

BASEMENT FLOOR  
RATED AND EGRESS  
PLAN, OVERALL

AE000

**FIRE RATING LEGEND**

MARK	DESCRIPTION
---	SMOKE PARTITION - WALL CONSTRUCTION
----	1 HOUR FIRE BARRIER - WALL CONSTRUCTION
-----	2 HOUR FIRE BARRIER - WALL CONSTRUCTION
-----	2 HOUR FIRE WALL - WALL CONSTRUCTION
-----	3 HOUR FIRE BARRIER - WALL CONSTRUCTION
.....	DRAFT CURTAIN W/ AUTOMATIC SPRINKLER HEAD @ 8'-0" O.C. MAX. EACH SIDE
*	OPENINGS REQUIRING WATER CURTAIN SPRINKLER DESIGN
-----	PATH OF TRAVEL TO EXIT
-----	COMMON PATH OF TRAVEL TO EXIT



**BASEMENT FLOOR RATED AND EGRESS PLAN, OVERALL**

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

0' 8' 16' 32' 48'

NORTH

8/4/2010 11:23:42 AM



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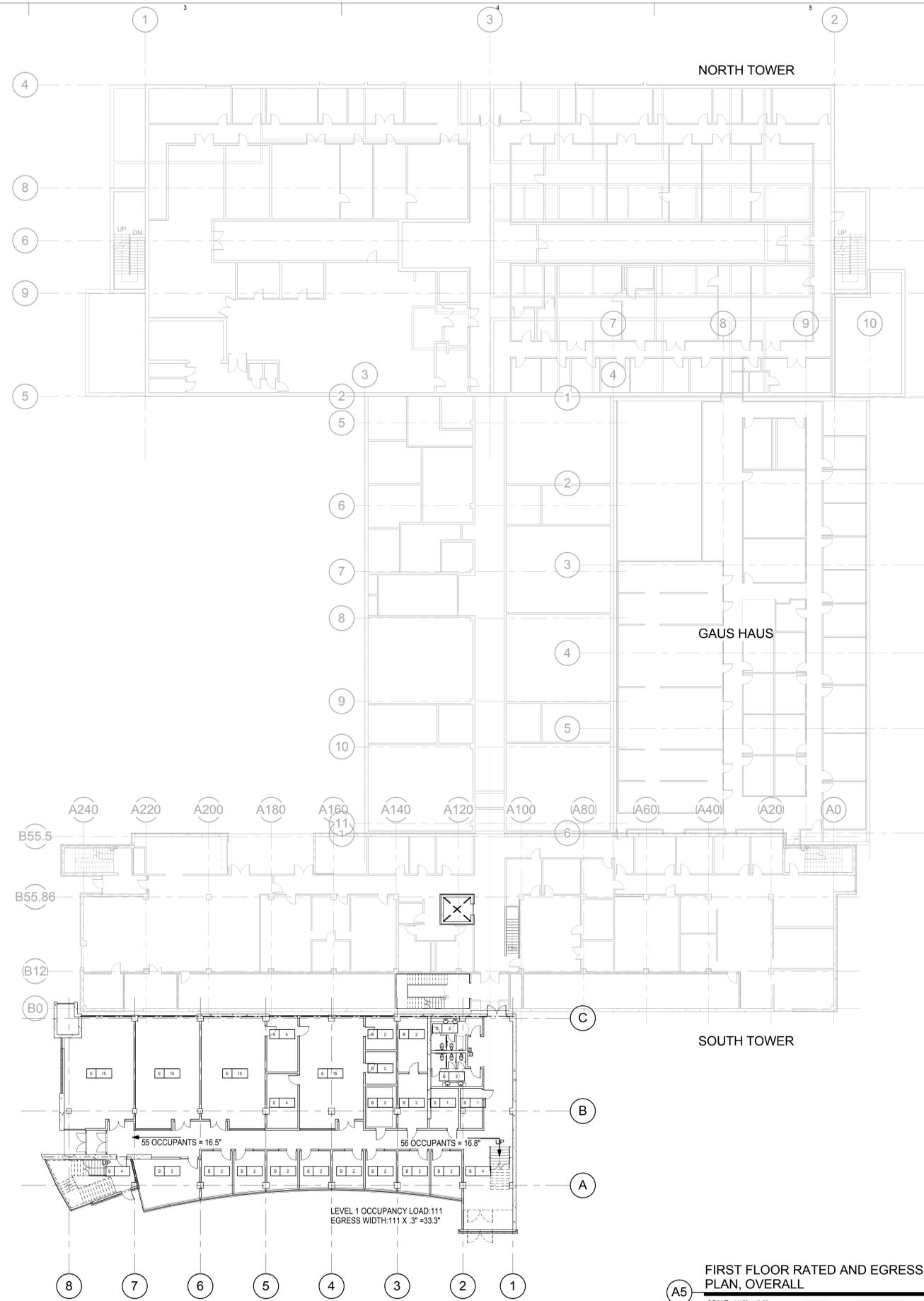
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10026750

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Schematic Design

## FIRE RATING LEGEND

MARK	DESCRIPTION
---	SMOKE PARTITION - WALL CONSTRUCTION
----	1 HOUR FIRE BARRIER - WALL CONSTRUCTION
-----	2 HOUR FIRE BARRIER - WALL CONSTRUCTION
-----	2 HOUR FIRE WALL - WALL CONSTRUCTION
-----	3 HOUR FIRE BARRIER - WALL CONSTRUCTION
* * * *	DRAFT CURTAIN W/ AUTOMATIC SPRINKLER HEAD @ 6'-0" O.C. MAX. EACH SIDE
*	OPENINGS REQUIRING WATER CURTAIN SPRINKLER DESIGN
.....	PATH OF TRAVEL TO EXIT
-----	COMMON PATH OF TRAVEL TO EXIT



**FIRST FLOOR RATED AND EGRESS PLAN, OVERALL**

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

0' 8' 16' 32' 48'

NORTH

Rev # Date Description

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FIRST FLOOR RATED AND EGRESS PLAN, OVERALL



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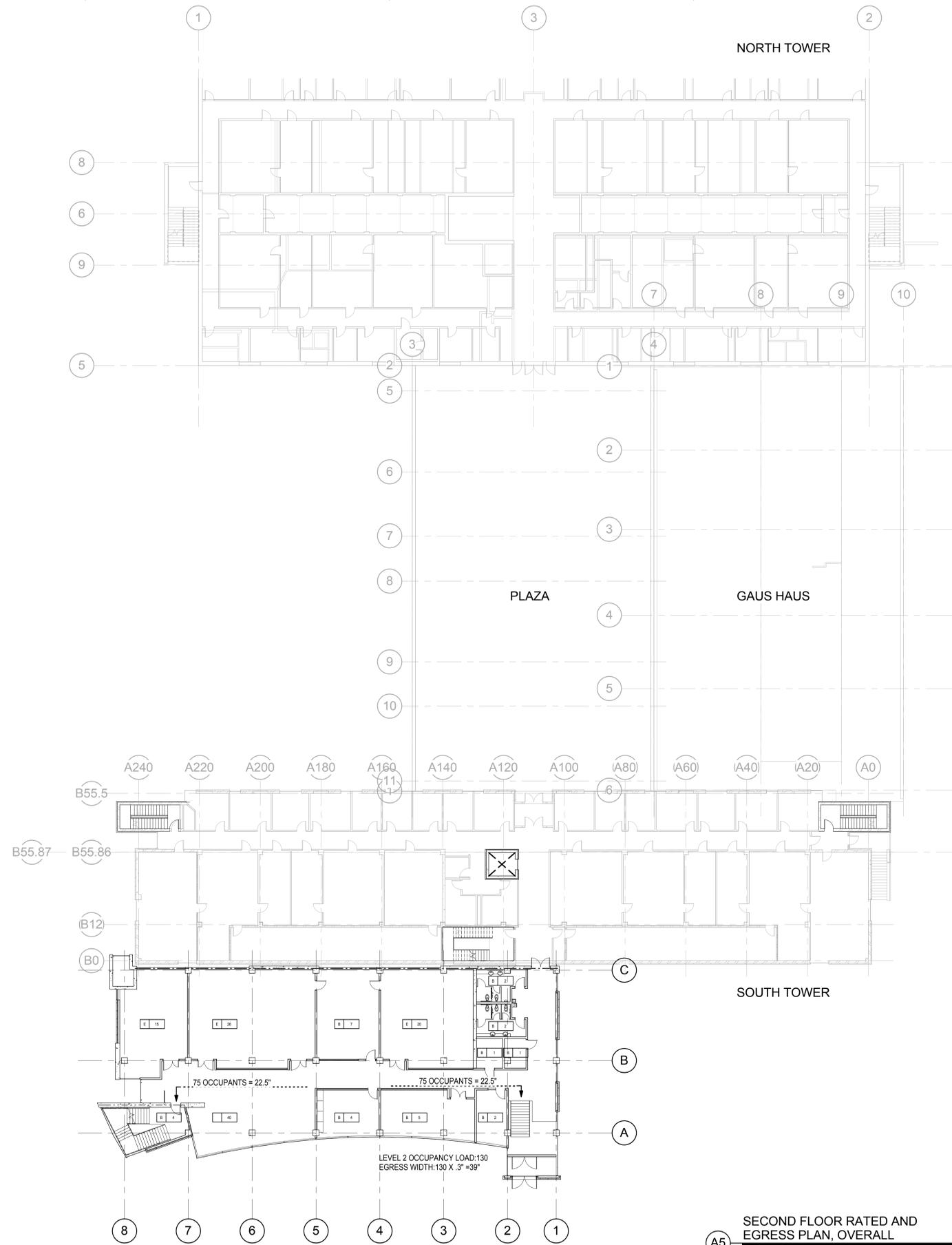
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Schematic Design

FIRE RATING LEGEND

MARK	DESCRIPTION
---	SMOKE PARTITION - WALL CONSTRUCTION
----	1 HOUR FIRE BARRIER - WALL CONSTRUCTION
-----	2 HOUR FIRE BARRIER - WALL CONSTRUCTION
-----	2 HOUR FIRE WALL - WALL CONSTRUCTION
-----	3 HOUR FIRE BARRIER - WALL CONSTRUCTION
---*---	DRAFT CURTAIN W/ AUTOMATIC SPRINKLER HEAD @ 6'-0" O.C. MAX. EACH SIDE
*	OPENINGS REQUIRING WATER CURTAIN SPRINKLER DESIGN
.....	PATH OF TRAVEL TO EXIT
-----	COMMON PATH OF TRAVEL TO EXIT



**SECOND FLOOR RATED AND EGRESS PLAN, OVERALL**

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

0' 8' 16' 32' 48'

NORTH

Rev # Date Description

Job # 10195  
 CAD File  
 Drawn Author Checked Checker  
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SECOND FLOOR RATED AND EGRESS PLAN, OVERALL

AE020



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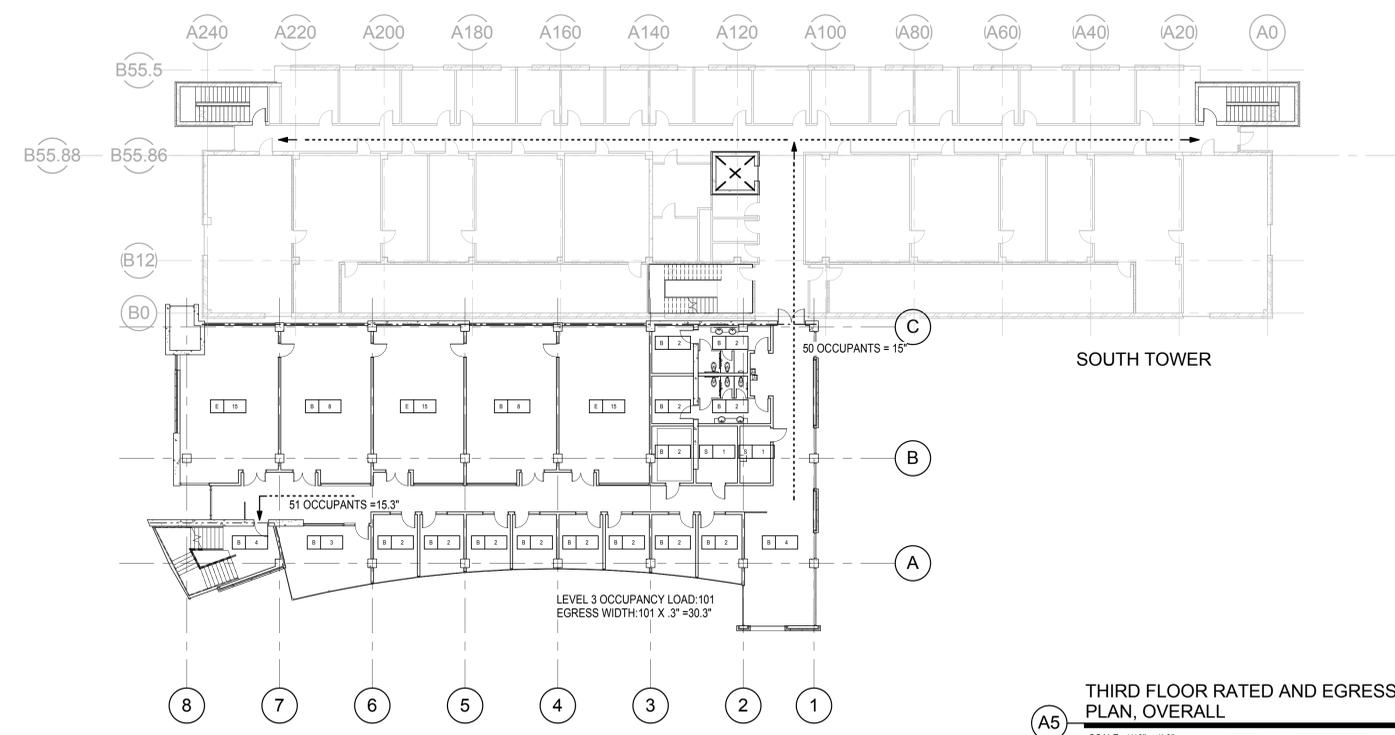
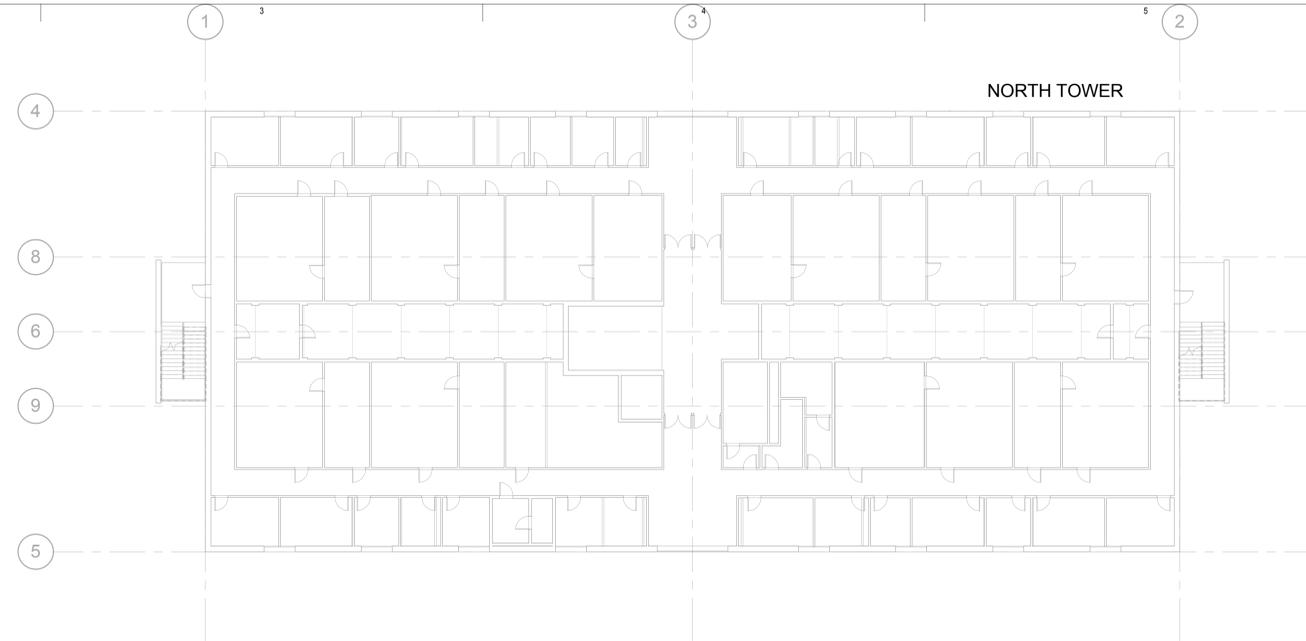
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Schematic Design

FIRE RATING LEGEND

MARK	DESCRIPTION
---	SMOKE PARTITION - WALL CONSTRUCTION
- - - - -	1 HOUR FIRE BARRIER - WALL CONSTRUCTION
- - - - -	2 HOUR FIRE BARRIER - WALL CONSTRUCTION
-----	2 HOUR FIRE WALL - WALL CONSTRUCTION
- - - - -	3 HOUR FIRE BARRIER - WALL CONSTRUCTION
* * * * *	DRAFT CURTAIN W/ AUTOMATIC SPRINKLER HEAD @ 6'-0" O.C. MAX. EACH SIDE
*	OPENINGS REQUIRING WATER CURTAIN SPRINKLER DESIGN
.....	PATH OF TRAVEL TO EXIT
-----	COMMON PATH OF TRAVEL TO EXIT



THIRD FLOOR RATED AND EGRESS PLAN, OVERALL  
 SCALE: 1/16" = 1'-0"  
 NORTH

Rev # Date Description

Job # 10195  
 CAD File  
 Drawn Author Checked Checker  
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THIRD FLOOR RATED AND EGRESS PLAN, OVERALL



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**THATCHER ADDITION TO CHEMISTRY**

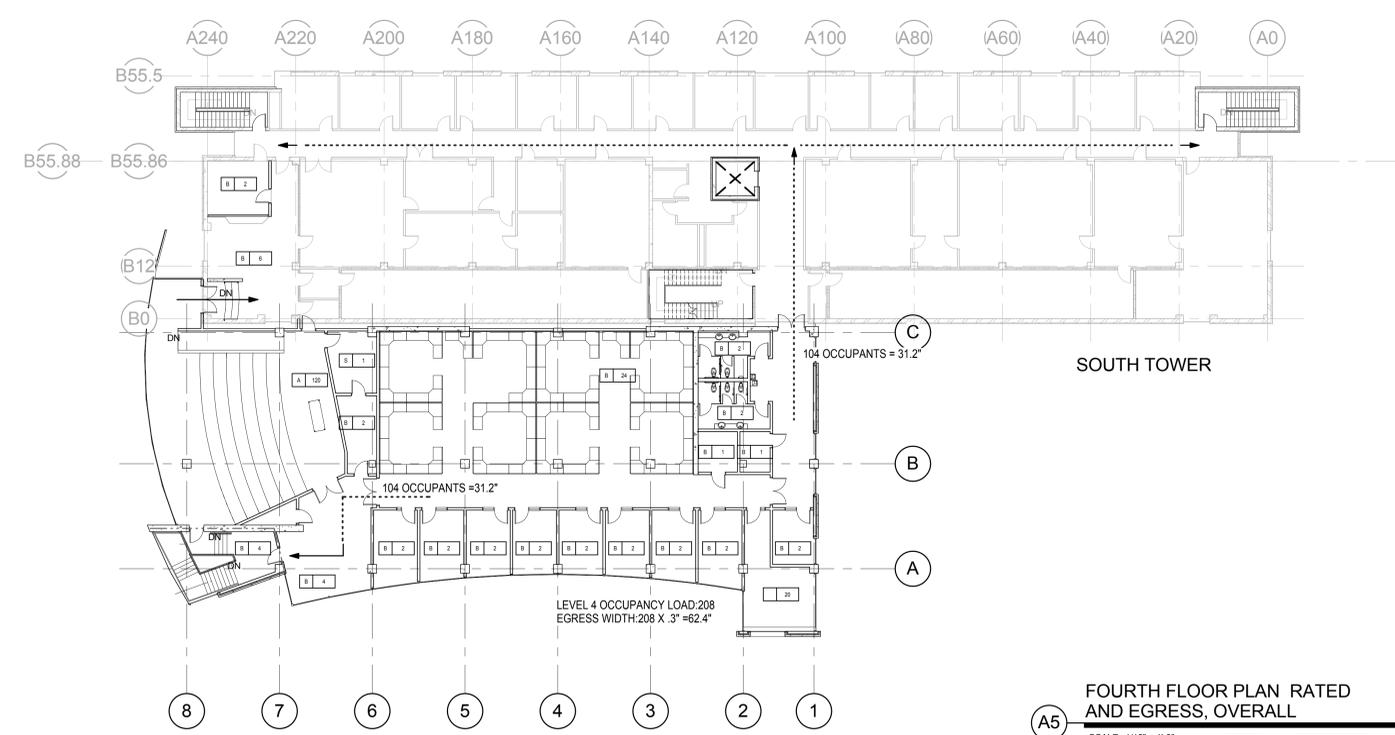
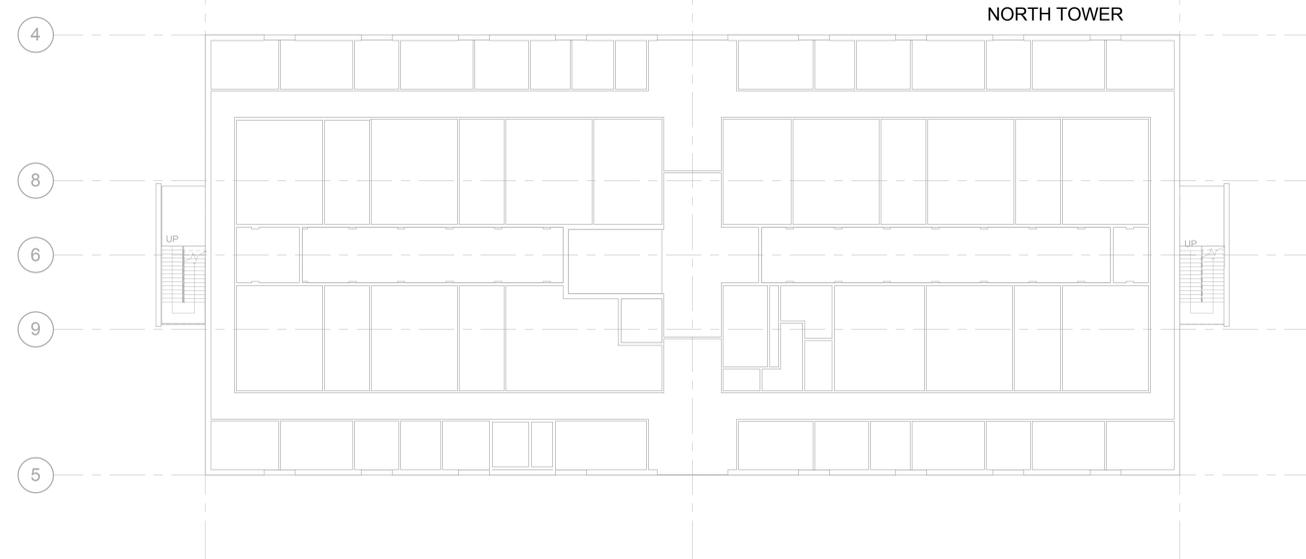
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**FIRE RATING LEGEND**

MARK	DESCRIPTION
---	SMOKE PARTITION - WALL CONSTRUCTION
----	1 HOUR FIRE BARRIER - WALL CONSTRUCTION
-----	2 HOUR FIRE BARRIER - WALL CONSTRUCTION
-----	2 HOUR FIRE WALL - WALL CONSTRUCTION
-----	3 HOUR FIRE BARRIER - WALL CONSTRUCTION
---*	DRAFT CURTAIN W/ AUTOMATIC SPRINKLER HEAD @ 6'-0" O.C. MAX. EACH SIDE
*	OPENINGS REQUIRING WATER CURTAIN SPRINKLER DESIGN
.....	PATH OF TRAVEL TO EXIT
-----	COMMON PATH OF TRAVEL TO EXIT



**FOURTH FLOOR PLAN RATED AND EGRESS, OVERALL**

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

0' 8' 16' 32' 48'

NORTH

Rev # Date Description

Job # 10195  
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FOURTH FLOOR RATED AND EGRESS PLAN, OVERALL



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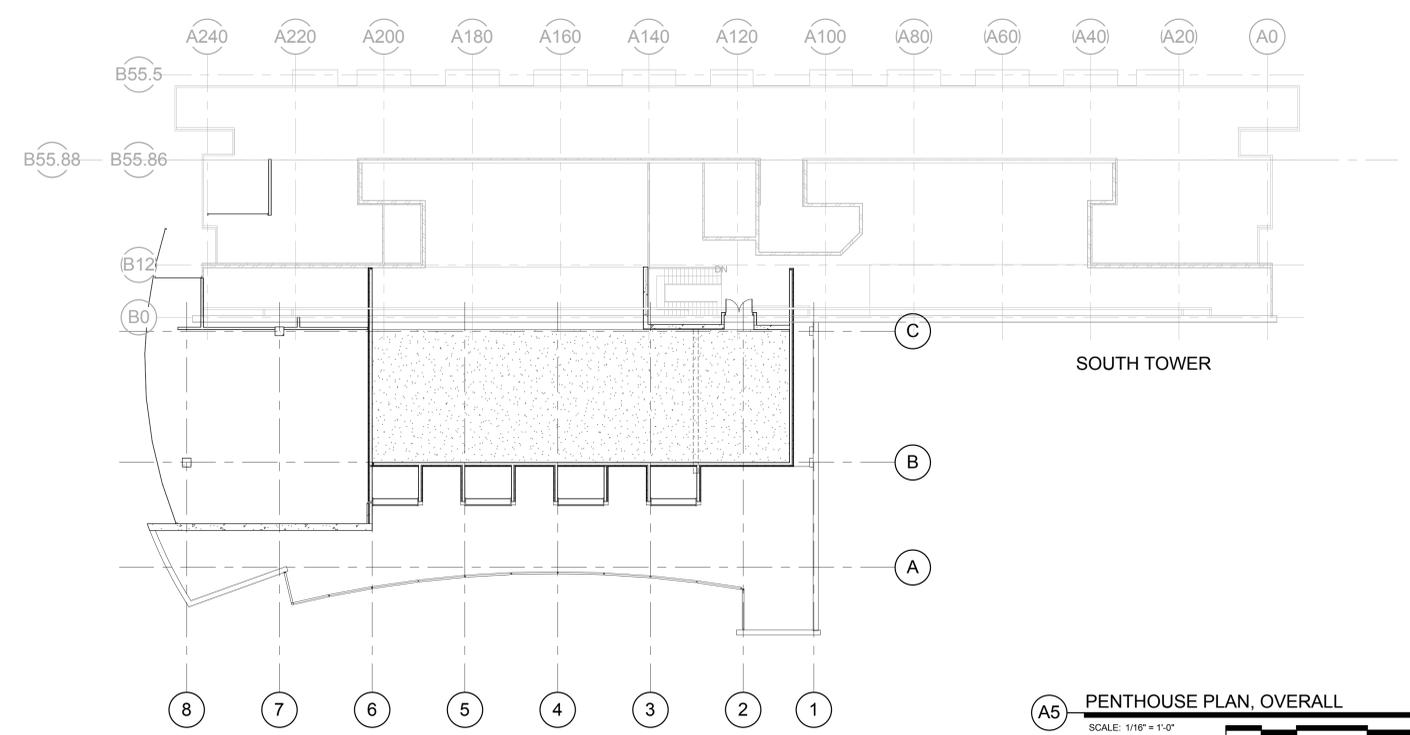
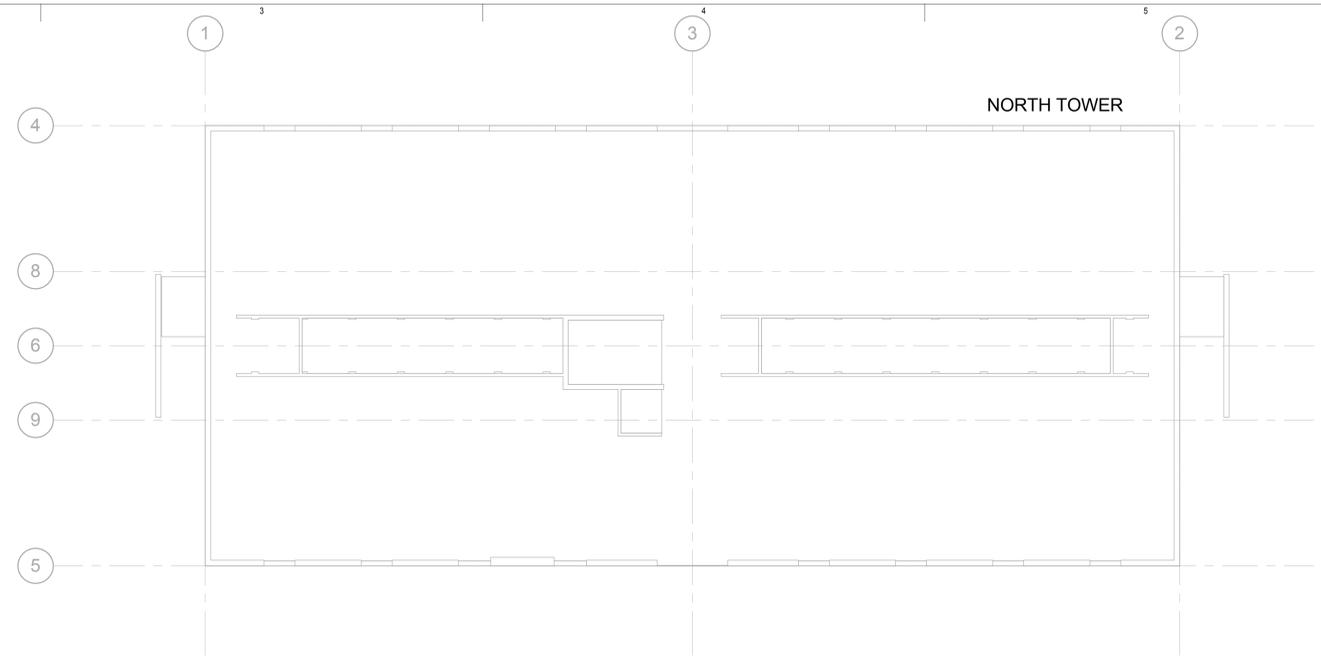
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PENTHOUSE PLAN,  
OVERALL

AE050



**A5 PENTHOUSE PLAN, OVERALL**  
SCALE: 1/16" = 1'-0"  
0' 8' 16' 32' 48'



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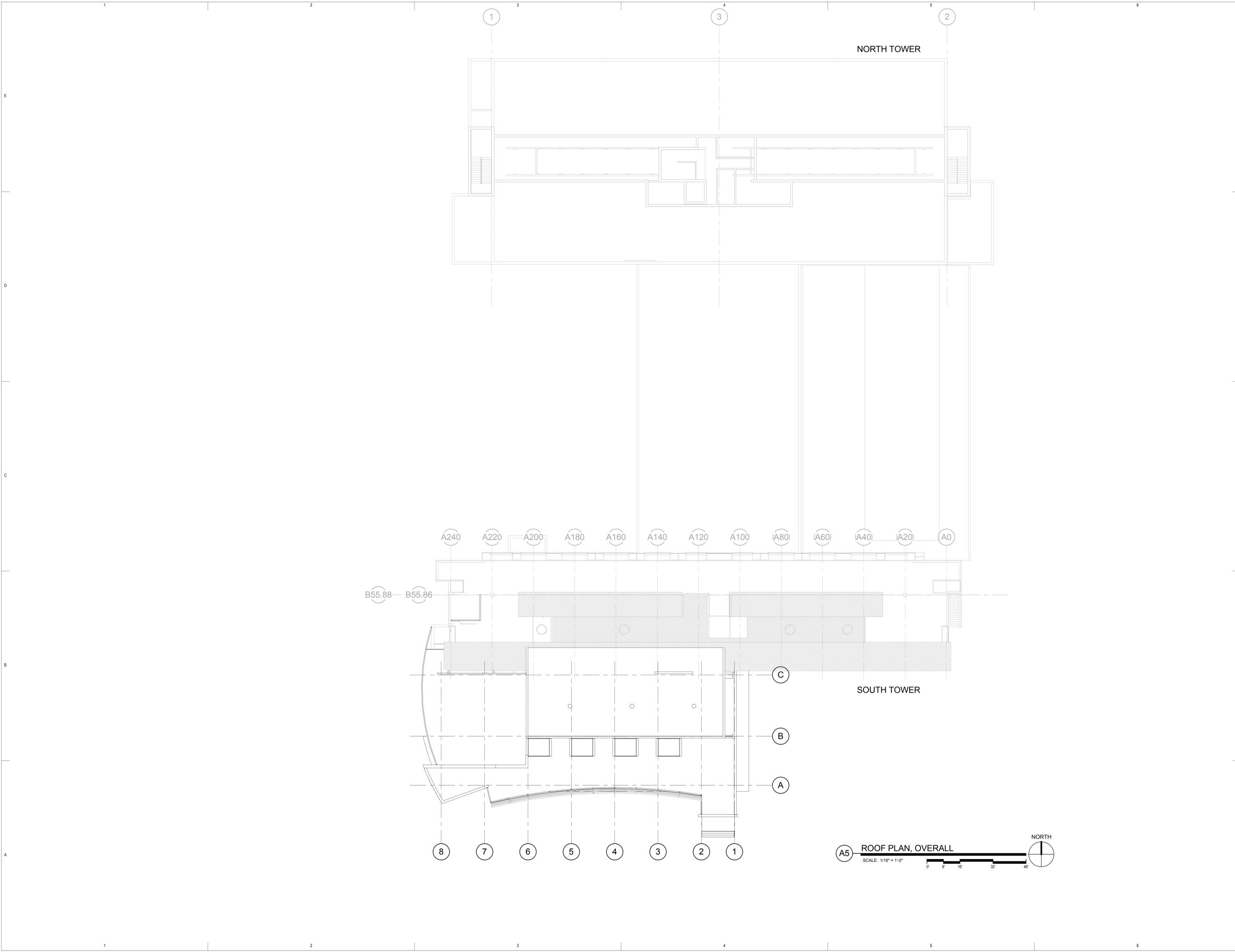
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ROOF PLAN, OVERALL

AE060

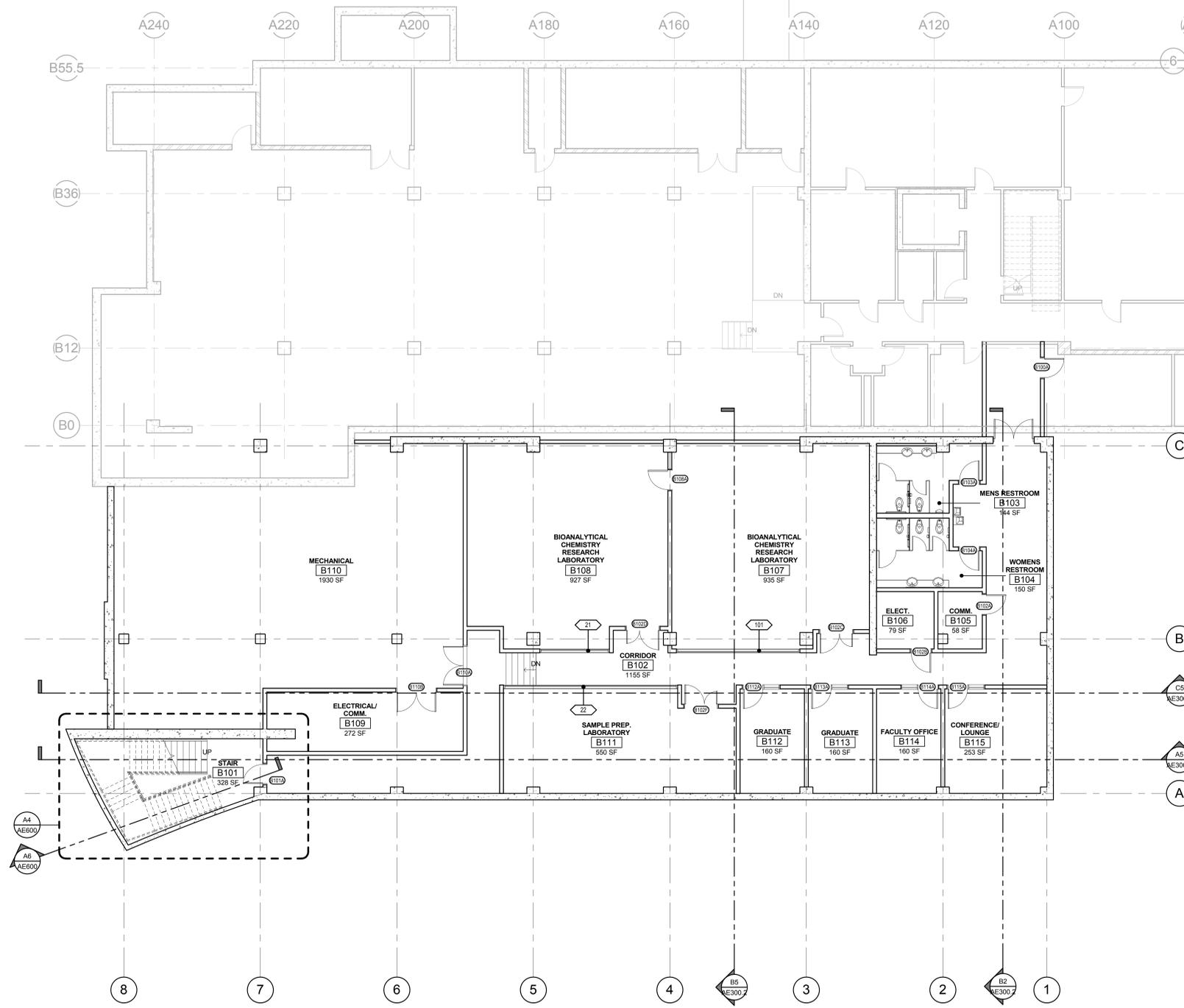


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BASEMENT FLOOR PLAN, ANNOTATED

AE100.1

A5 BASEMENT FLOOR PLAN, ANNOTATED  
SCALE: 1/8" = 1'-0"



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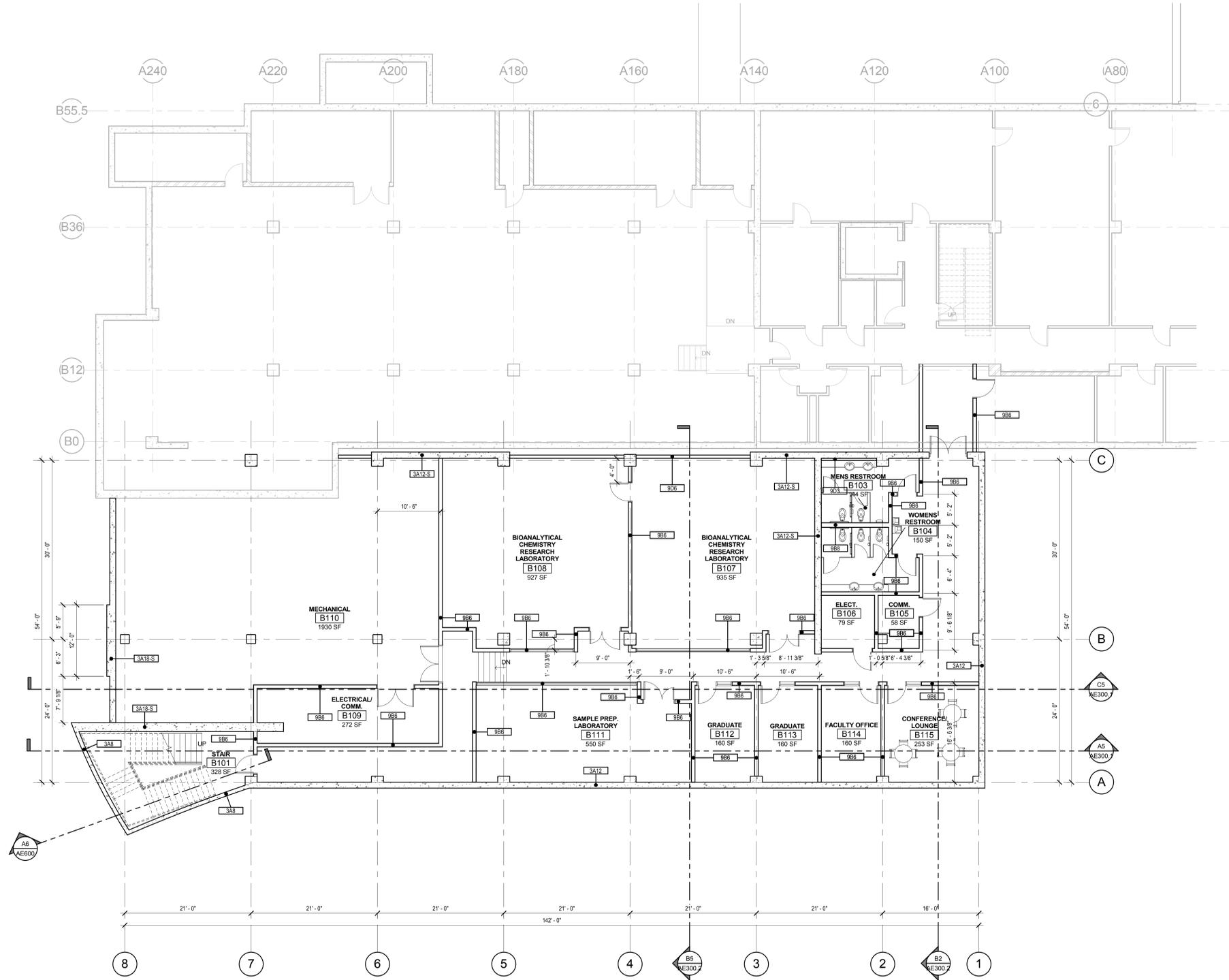
**DIMENSION NOTES**

- 1) ALL DIMENSIONS ARE TO CENTER OF STUD WALL OR FACE OF CONCRETE MASONRY OR ROUGH OPENING UNLESS NOTED OTHERWISE. WHERE THE END OF A WALL IS INDICATED THE DIMENSION IS TO THE FINISH SURFACE OF THE WALL END.
- 2) UNLESS DIMENSIONED OTHERWISE, THE DIMENSION FROM THE BUCK OF A DOOR FRAME IS TO BE 4" TO THE WALL CORNER.
- 3) EXCEPT WHERE DIRECTED TO PLACE ITEMS OF WORK AT THE APPROXIMATE LOCATION SHOWN, DO NOT SCALE DRAWINGS FOR DIMENSIONAL INFORMATION. ALL ELEMENTS OF THE DRAWINGS MAY NOT BE DRAWN TO EXACT SCALE. ALL DIMENSIONS REQUIRED ARE SHOWN OR MAY BE DERIVED FROM THOSE SHOWN ON THE FLOOR PLANS, DETAIL PLANS, ELEVATIONS, SECTIONS, DETAILS, SCHEDULES AND SPECIFICATIONS. IF DIMENSIONS ARE NOT PRESENT, THE ARCHITECT IS TO BE NOTIFIED SO THAT A CLARIFICATION CAN BE ISSUED.



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**BASEMENT FLOOR PLAN, DIMENSION AND WALL TYPES**  
SCALE: 1/8" = 1'-0"  
NORTH

**THATCHER ADDITION TO CHEMISTRY**

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Schematic Design

Rev #	Date	Description

Job # 10195  
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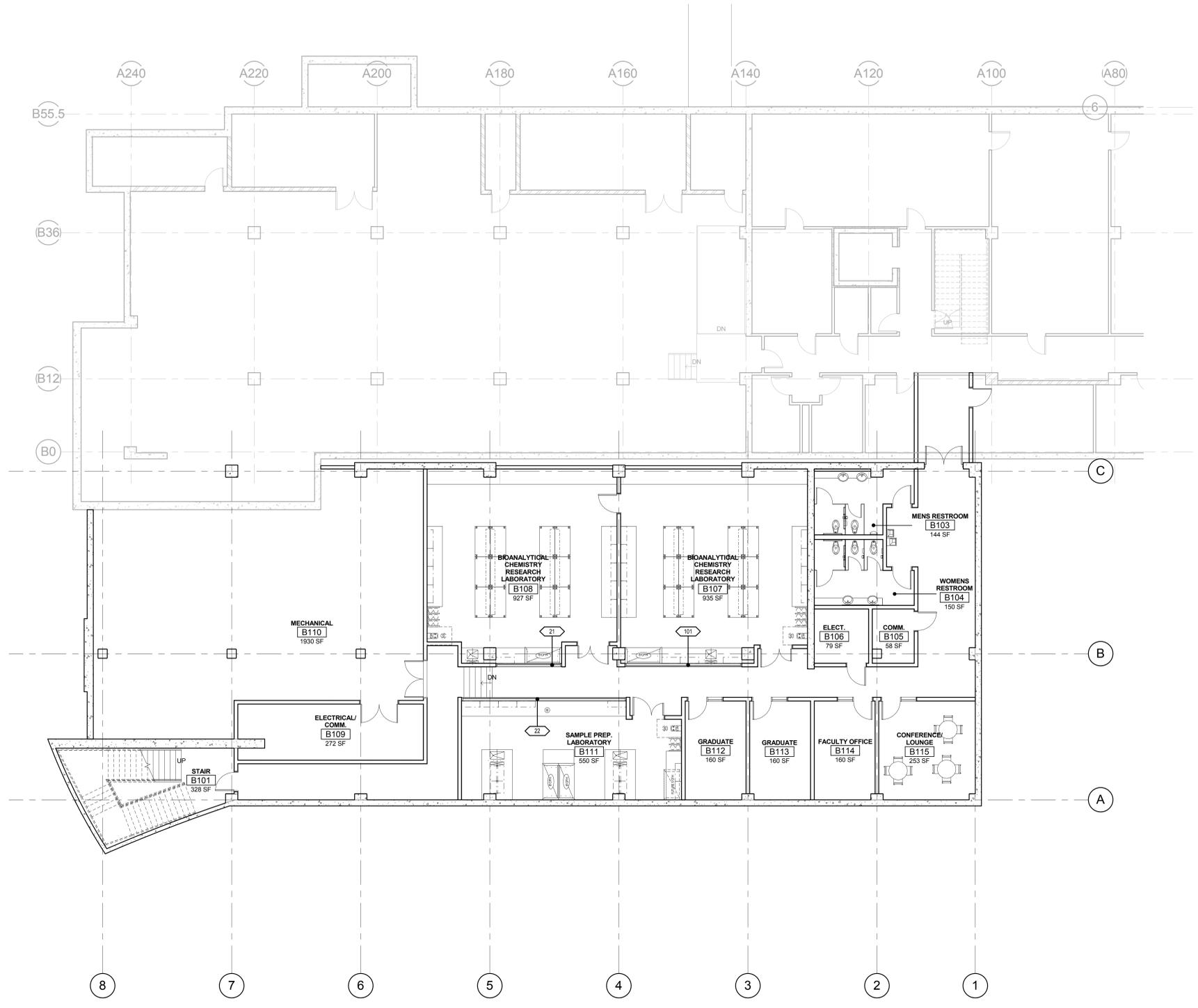
BASEMENT FLOOR  
PLAN, DIMENSION AND  
WALL TYPES

**AE100.2**



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**BASEMENT FLOOR PLAN, FUNITURE, FIXTURES, AND EQUIPMENT**  
SCALE: 1/8" = 1'-0"  
NORTH

**THATCHER ADDITION TO CHEMISTRY**  
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Schematic Design

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BASEMENT FLOOR PLAN, FF&E

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THATCHER ADDITION TO CHEMISTRY  
UNIVERSITY OF UTAH  
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Schematic Design

### CEILING LEGEND

- A. SUSPENDED 2' X 2' ACOUSTICAL LAY-IN TILE CEILING
- B. SUSPENDED 2' X 4' ACOUSTICAL LAY-IN TILE CEILING
- C. SUSPENDED 5/8" GYP. BD. CEILING SYSTEM- (1 LAYER) PAINTED
- D. SUSPENDED 2' X 2' METAL SCULPTURAL LAY-IN TILE CEILING
- E. OPEN TO STRUCTURE ABOVE, PAINTED.
- F. VENTED WOOD CEILING SYSTEM, PAINTED ABOVE
- G. 2 HOUR FIRE-RATED CEILING ASSEMBLY. (2) LAYERS TYPE-X GYP. BOARD.
- H. SUSPENDED 2' X 2' ACOUSTICAL LAY-IN TILE CEILING (VINYL COATED)
- J. EXTERIOR METAL SOFFIT SYSTEM
- K. INSULATED TRANSLUCENT PANEL
- L. SUSPENDED 8" DEEP PAIRED CHANNEL SIGNAGE

### CEILING PLAN SYMBOLS

#### ELECTRICAL

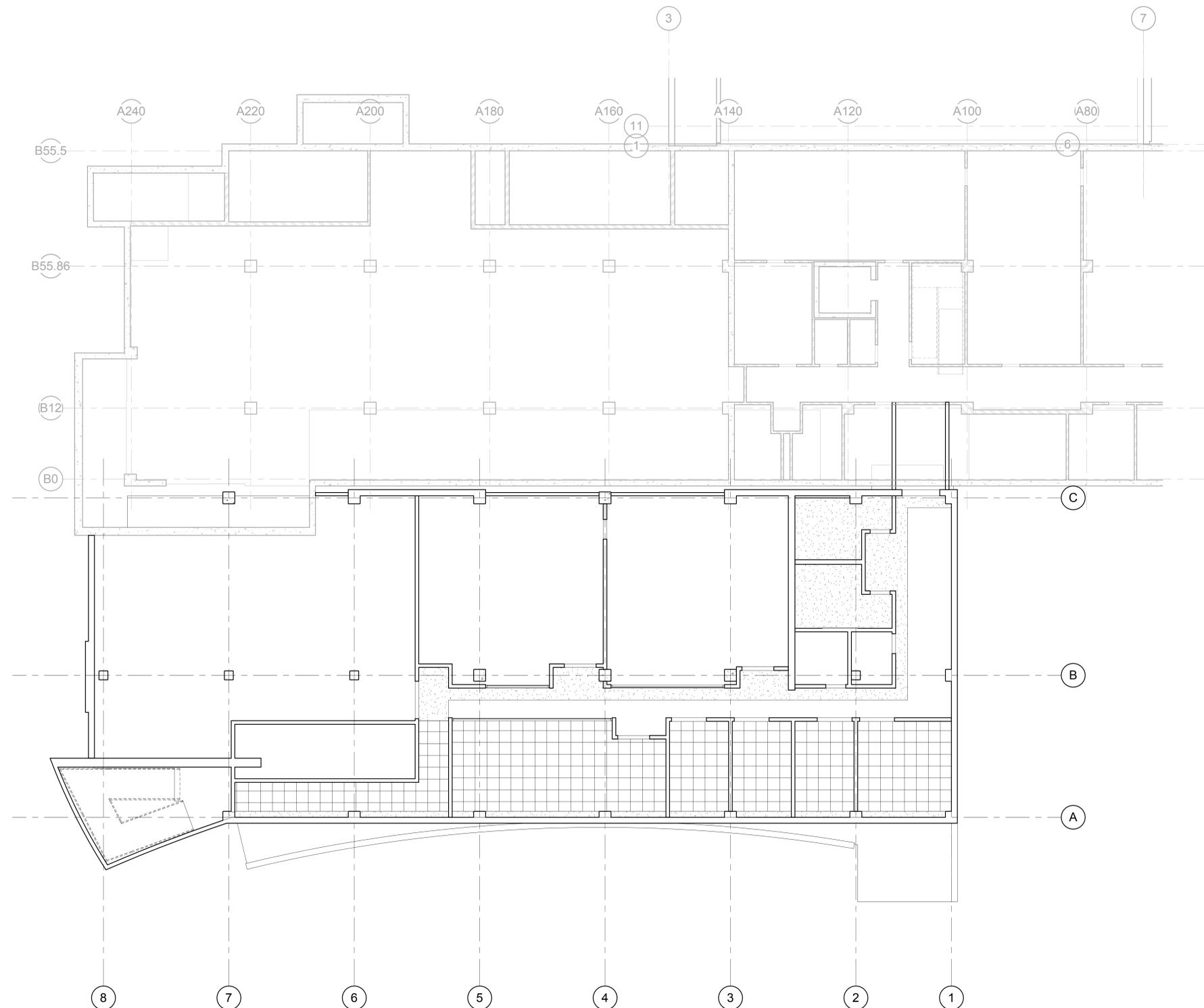
- 2X4' FLUORESCENT FIXTURE
- 2X2' FLUORESCENT FIXTURE
- 1X4' FLUORESCENT FIXTURE
- FLUORESCENT STRIP FIXTURE
- RECESSED DOWN LIGHT
- WALL WASH
- TRACK LIGHTING
- EXIT SIGN, SINGLE-SIDED
- EXIT SIGN, DOUBLE-SIDED
- FIRE ALARM
- SPEAKER
- SMOKE DETECTOR
- WIRELESS INTERNET

#### MECHANICAL

- SUPPLY GRILLE
- RETURN GRILLE
- EXHAUST GRILLE
- LINEAR DIFFUSER
- SPRINKLER HEAD - CEILING MOUNT
- SPRINKLER HEAD - WALL MOUNT

### GENERAL CEILING NOTES

1. REFER TO DETAIL 06/A530 FOR TYPICAL CEILING SUSPENSION & SEISMIC BRACING
2. REFER TO DETAIL A6/A530 FOR TYPICAL SUSPENDED GYP. BOARD CEILINGS
3. ALL UNIDENTIFIED CEILING TYPES ON THE PLANS SHALL BE TYPE "A" AT 9'-4" A.F.F.
4. GRID SUSPENSION SYSTEMS SHALL BE CENTERED WITHIN AREAS INDICATED, UNLESS NOTED OTHERWISE
5. PAINT ALL EXPOSED STRUCTURE, MECHANICAL, DUCTS, ELECTRICAL WORK, PIPING, ETC. ALL VISIBLE ELEMENTS TO BE PAINTED AT TYPE "E" & TYPE "F" (ABOVE VENTWOOD)
6. REFER TO ARCHITECTURAL DRAWINGS FOR LOCATION OF MECHANICAL GRILLES, AND TO MECHANICAL DRAWINGS FOR QUANTITIES AND TYPES
7. REFER TO ARCHITECTURAL DRAWINGS FOR LOCATIONS OF LIGHT FIXTURES AND TO ELECTRICAL DRAWINGS FOR QUANTITY AND TYPES
8. MECHANICAL AND ELECTRICAL CONTRACTORS TO COORDINATE WORK WITH SPRINKLER CONTRACTOR TO AVOID CONFLICTS IN FIELD
9. ALL CEILING HEIGHTS ARE ELEVATION ABOVE TOP OF CONCRETE FLOOR SLAB
10. ALL TYPE C CEILINGS IN RESTROOMS, LOCKER ROOMS, SHOWERS, AND WET AREAS TO BE EPOXY PAINTED



BASEMENT FLOOR PLAN, REFLECTED  
CEILING  
SCALE: 1/8" = 1'-0"  
NORTH

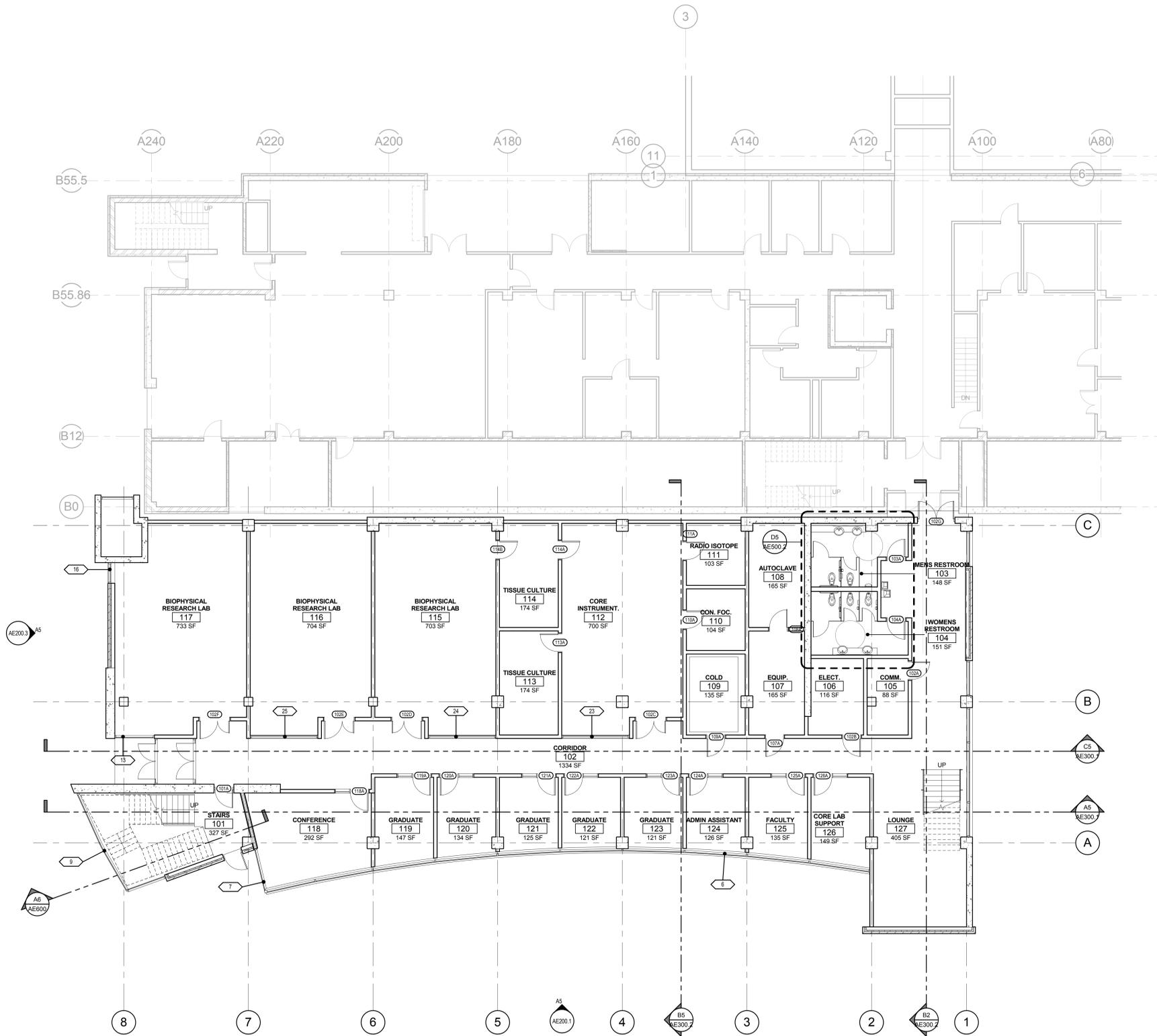
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Date 2010-08-04  
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BASEMENT FLOOR  
PLAN, REFLECTED  
CEILING

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FIRST FLOOR PLAN, ANNOTATED

AE110.1

A5 FIRST FLOOR PLAN, ANNOTATED  
SCALE: 1/8" = 1'-0"



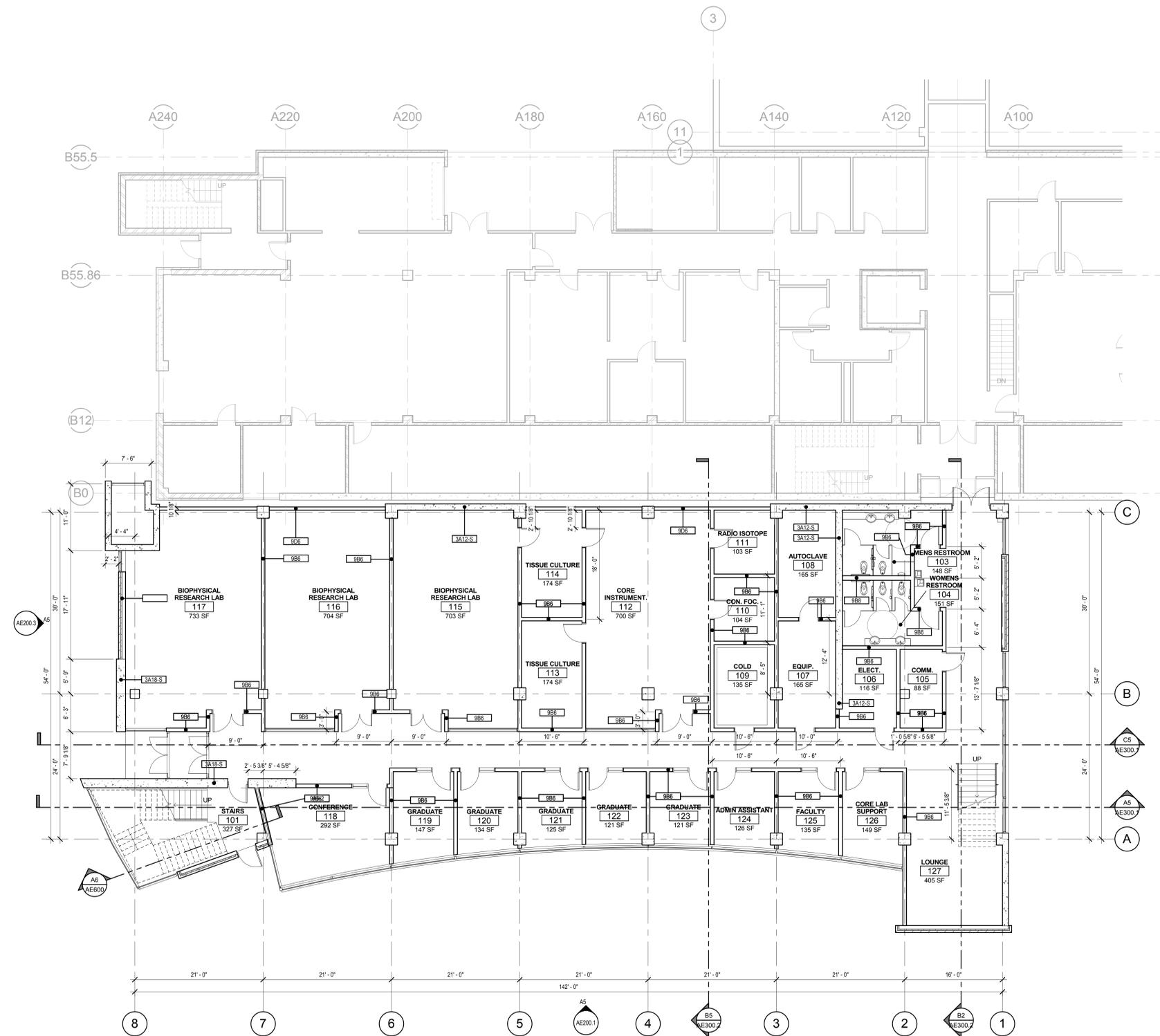
**DIMENSION NOTES**

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**THATCHER ADDITION TO CHEMISTRY**

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**FIRST FLOOR PLAN, DIMENSION AND WALL TYPES**  
SCALE: 1/8" = 1'-0"



Rev #	Date	Description

Job # 10195  
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Drawn Author Checked Checker  
Date 2010-08-04  
Owner # 10026750  
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FIRST FLOOR PLAN,  
DIMENSION AND WALL  
TYPES

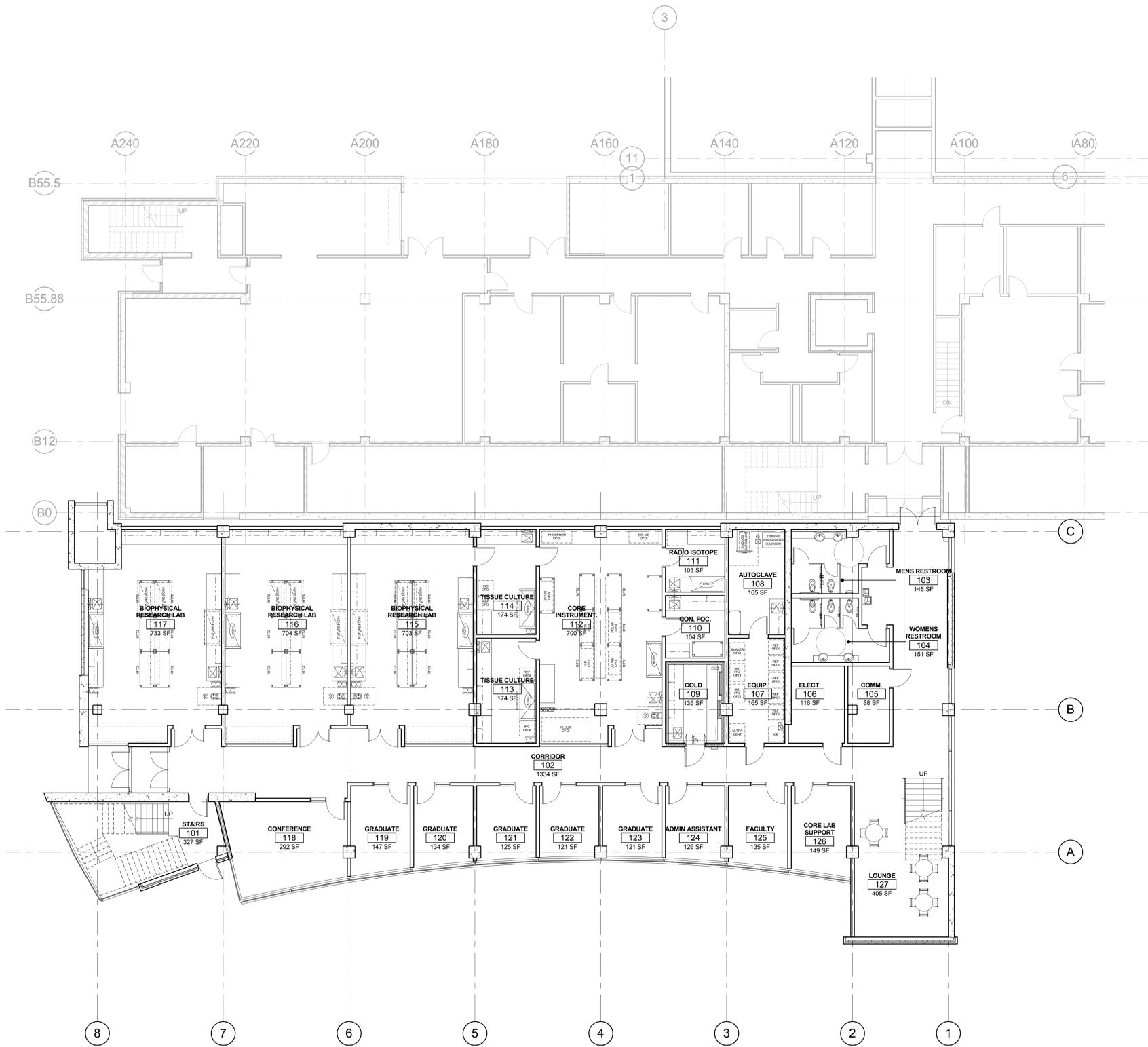
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**FIRST FLOOR PLAN, FURNITURE,  
FIXTURES, AND EQUIPMENT**  
SCALE: 1/8" = 1'-0"  
NORTH

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FIRST FLOOR PLAN,  
FF&E

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### CEILING LEGEND

- A. SUSPENDED 2' X 2' ACOUSTICAL LAY-IN TILE CEILING
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- C. SUSPENDED 5/8" GYP. BD. CEILING SYSTEM- (1 LAYER) PAINTED
- D. SUSPENDED 2' X 2' METAL SCULPTURAL LAY-IN TILE CEILING
- E. OPEN TO STRUCTURE ABOVE, PAINTED.
- F. VENTED WOOD CEILING SYSTEM, PAINTED ABOVE
- G. 2 HOUR FIRE-RATED CEILING ASSEMBLY. (2) LAYERS TYPE-X GYP. BOARD.
- H. SUSPENDED 2' X 2' ACOUSTICAL LAY-IN TILE CEILING (VINYL COATED)
- J. EXTERIOR METAL SOFFIT SYSTEM
- K. INSULATED TRANSLUCENT PANEL
- L. SUSPENDED 8" DEEP PAIRED CHANNEL SIGNAGE

### CEILING PLAN SYMBOLS

#### ELECTRICAL

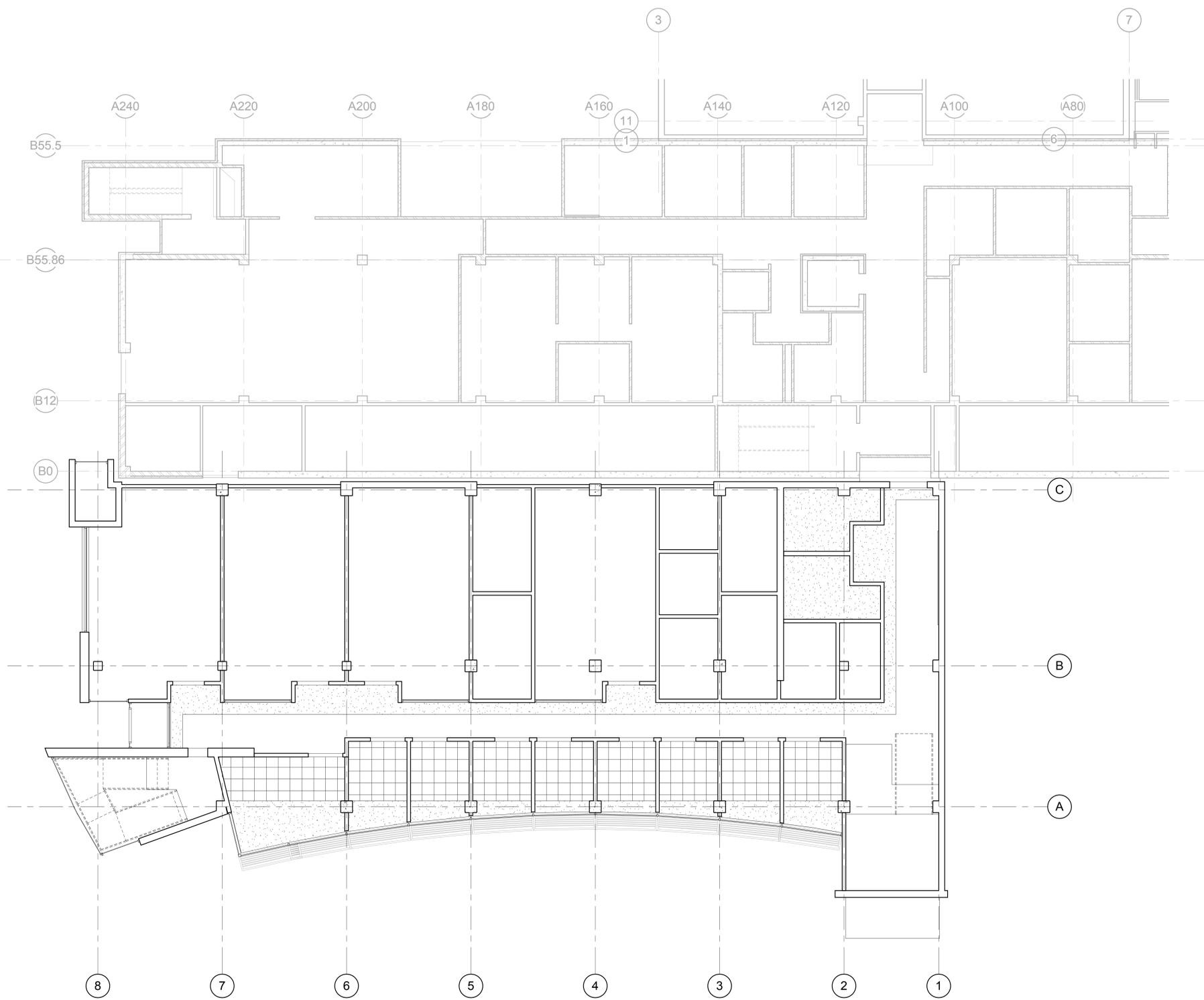
- 2x4' FLUORESCENT FIXTURE
- 2x2' FLUORESCENT FIXTURE
- 1x4' FLUORESCENT FIXTURE
- FLUORESCENT STRIP FIXTURE
- RECESSED DOWN LIGHT
- WALL WASH
- TRACK LIGHTING
- EXIT SIGN, SINGLE-SIDED
- EXIT SIGN, DOUBLE-SIDED
- FIRE ALARM
- SPEAKER
- SMOKE DETECTOR
- WIRELESS INTERNET

#### MECHANICAL

- SUPPLY GRILLE
- RETURN GRILLE
- EXHAUST GRILLE
- LINEAR DIFFUSER
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- SPRINKLER HEAD - WALL MOUNT

### GENERAL CEILING NOTES

1. REFER TO DETAIL C6A530 FOR TYPICAL CEILING SUSPENSION & SEISMIC BRACING
2. REFER TO DETAIL A6A530 FOR TYPICAL SUSPENDED GYP. BOARD CEILINGS
3. ALL UNIDENTIFIED CEILING TYPES ON THE PLANS SHALL BE TYPE "A" AT 9'-4" A.F.F.
4. GRID SUSPENSION SYSTEMS SHALL BE CENTERED WITHIN AREAS INDICATED, UNLESS NOTED OTHERWISE
5. PAINT ALL EXPOSED STRUCTURE, MECHANICAL DUCTS, ELECTRICAL WORK, PIPING, ETC. ALL VISIBLE ELEMENTS TO BE PAINTED AT TYPE "E" & TYPE "F" (ABOVE VENTWOOD)
6. REFER TO ARCHITECTURAL DRAWINGS FOR LOCATION OF MECHANICAL GRILLES, AND TO MECHANICAL DRAWINGS FOR QUANTITIES AND TYPES
7. REFER TO ARCHITECTURAL DRAWINGS FOR LOCATIONS OF LIGHT FIXTURES AND TO ELECTRICAL DRAWINGS FOR QUANTITY AND TYPES
8. MECHANICAL AND ELECTRICAL CONTRACTORS TO COORDINATE WORK WITH SPRINKLER CONTRACTOR TO AVOID CONFLICTS IN FIELD
9. ALL CEILING HEIGHTS ARE ELEVATION ABOVE TOP OF CONCRETE FLOOR SLAB
10. ALL TYPE C CEILINGS IN RESTROOMS, LOCKER ROOMS, SHOWERS, AND WET AREAS TO BE EPOXY PAINTED



### FIRST FLOOR PLAN, REFLECTED CEILING

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



A5

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Rev # Date Description

Job # 10195  
CAD File  
Drawn Author Checked Checker  
Date 2010-08-04  
Owner # 10026750  
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FIRST FLOOR PLAN,  
REFLECTED CEILING

AE110.4



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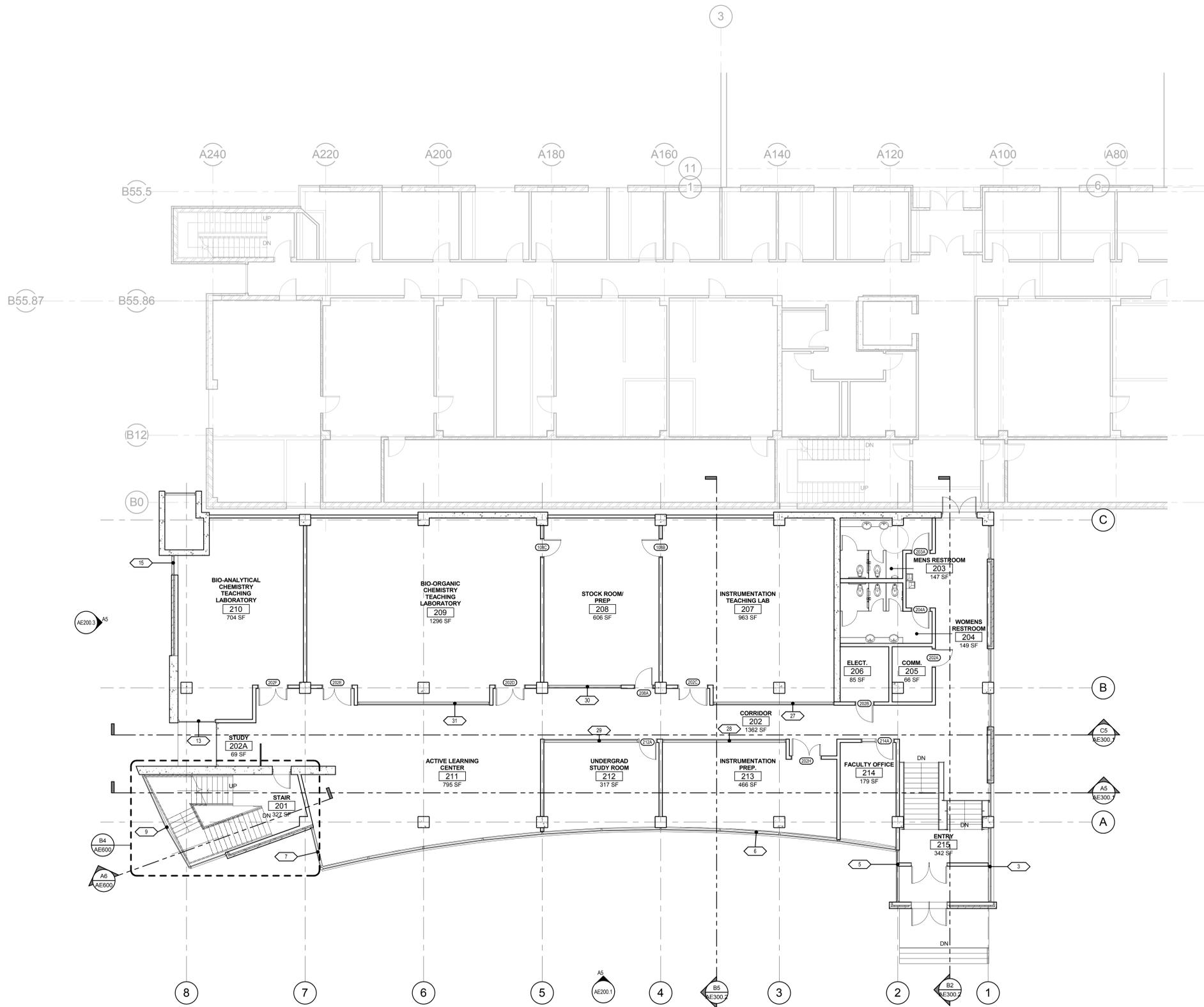
VCBO ARCHITECTURE  
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A5 SECOND FLOOR PLAN, ANNOTATED  
SCALE: 1/8" = 1'-0"



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SECOND FLOOR PLAN,  
ANNOTATED

AE120.1

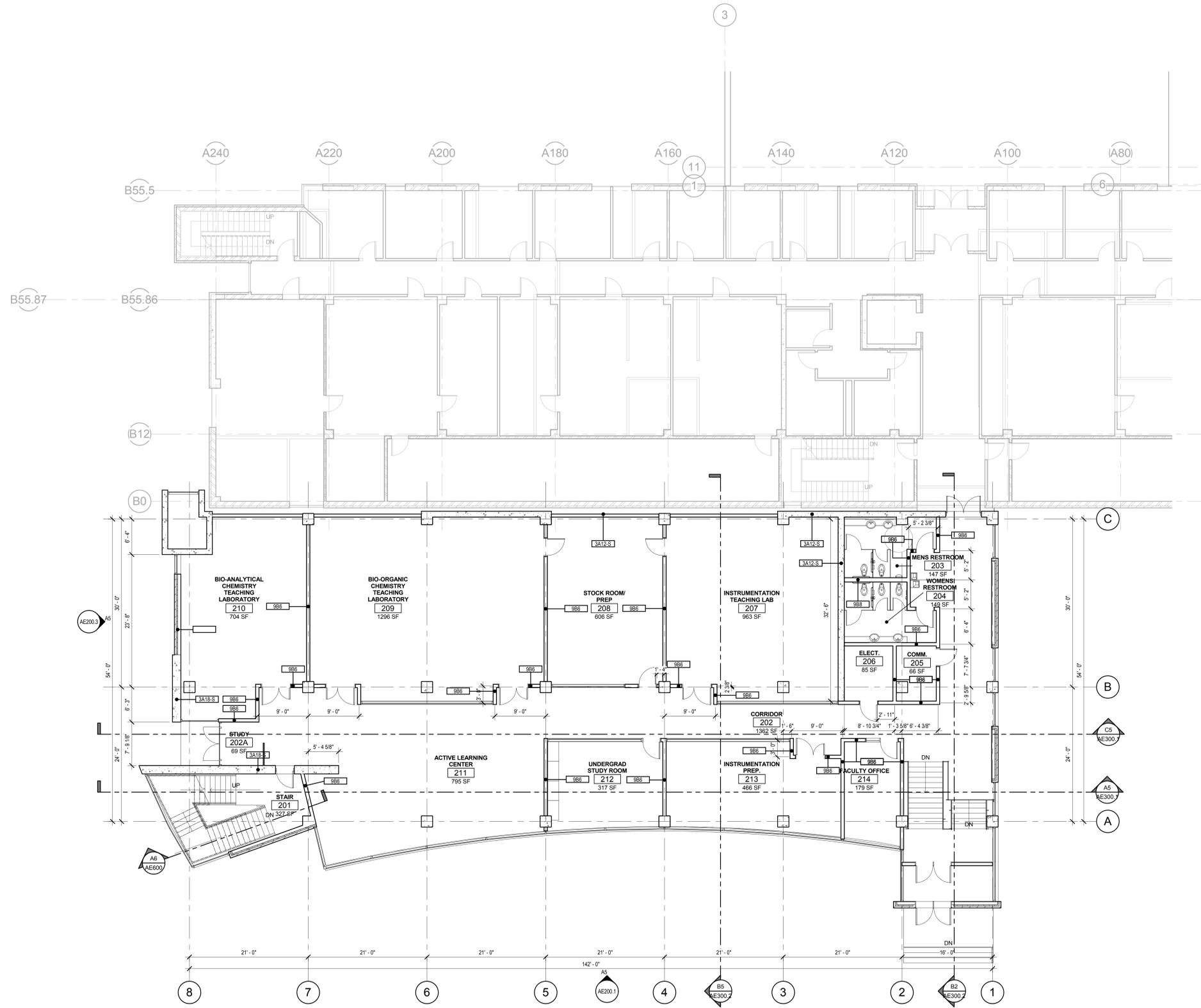
**DIMENSION NOTES**

- 1) ALL DIMENSIONS ARE TO CENTER OF STUD WALL OR FACE OF CONCRETE, MASONRY OR ROUGH OPENING UNLESS NOTED OTHERWISE. WHERE THE END OF A WALL IS INDICATED THE DIMENSION IS TO THE FINISH SURFACE OF THE WALL END.
- 2) UNLESS DIMENSIONED OTHERWISE, THE DIMENSION FROM THE BUCK OF A DOOR FRAME IS TO BE 4" TO THE WALL CORNER.
- 3) EXCEPT WHERE DIRECTED TO PLACE ITEMS OF WORK AT THE APPROXIMATE LOCATION SHOWN, DO NOT SCALE DRAWINGS FOR DIMENSIONAL INFORMATION. ALL ELEMENTS OF THE DRAWINGS MAY NOT BE DRAWN TO EXACT SCALE. ALL DIMENSIONS REQUIRED ARE SHOWN OR MAY BE DERIVED FROM THOSE SHOWN ON THE FLOOR PLANS, DETAIL PLANS, ELEVATIONS, SECTIONS, DETAILS, SCHEDULES AND SPECIFICATIONS. IF DIMENSIONS ARE NOT PRESENT, THE ARCHITECT IS TO BE NOTIFIED SO THAT A CLARIFICATION CAN BE ISSUED.



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**SECOND FLOOR PLAN, DIMENSION AND WALL TYPES** NORTH  
SCALE: 1/8" = 1'-0"

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SECOND FLOOR PLAN, DIMENSION AND WALL TYPES

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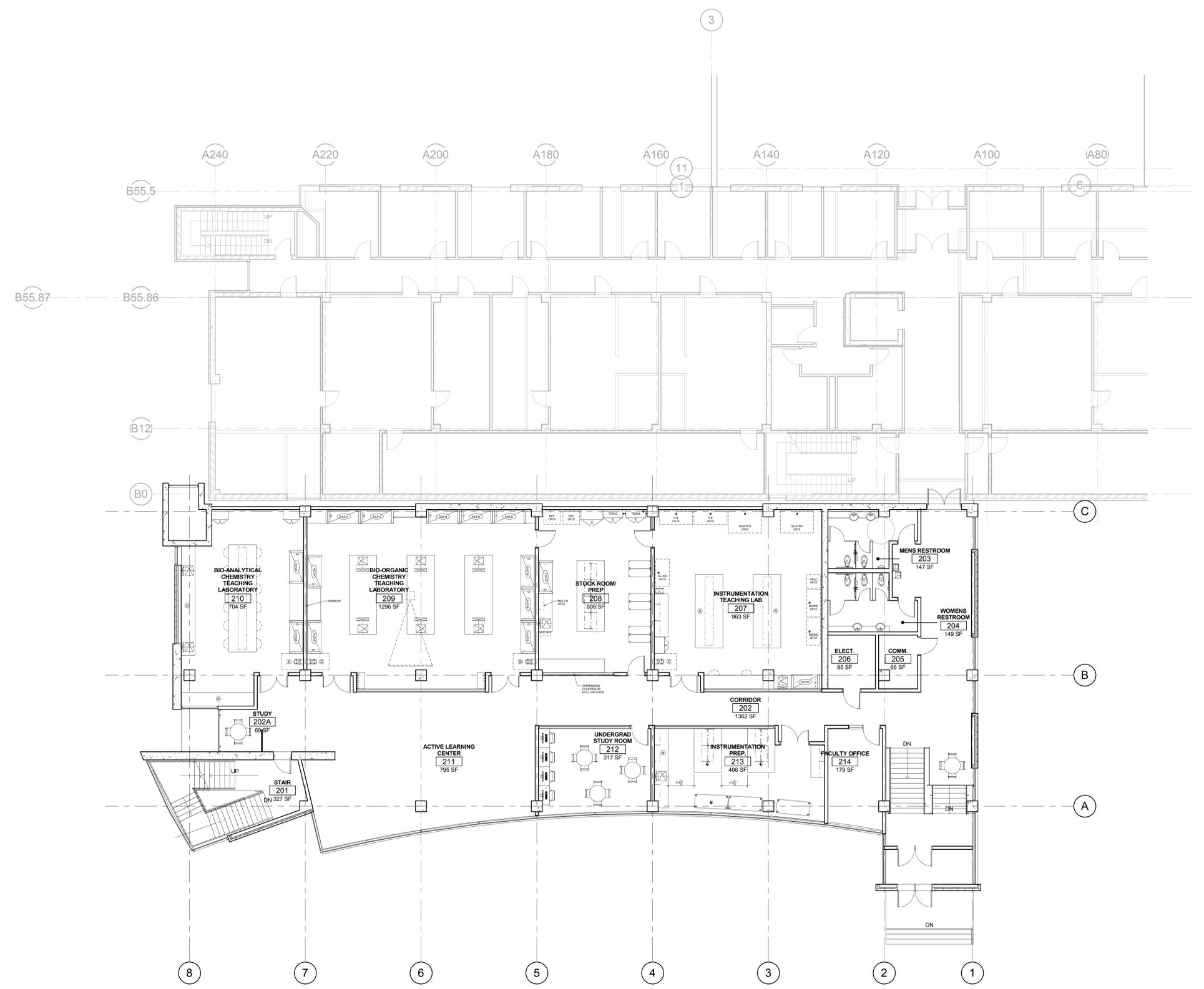


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**SECOND FLOOR PLAN, FUNITURE,  
FIXTURES, AND EQUIPMENT**  
SCALE: 1/8" = 1'-0"  
NORTH

Rev #	Date	Description

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CAD File  
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SECOND FLOOR PLAN,  
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### CEILING LEGEND

- A. SUSPENDED 2' X 2' ACOUSTICAL LAY-IN TILE CEILING
- B. SUSPENDED 2' X 4' ACOUSTICAL LAY-IN TILE CEILING
- C. SUSPENDED 5/8" GYP. BD. CEILING SYSTEM- (1 LAYER) PAINTED
- D. SUSPENDED 2' X 2' METAL SCULPTURAL LAY-IN TILE CEILING
- E. OPEN TO STRUCTURE ABOVE, PAINTED.
- F. VENTED WOOD CEILING SYSTEM, PAINTED ABOVE
- G. 2 HOUR FIRE-RATED CEILING ASSEMBLY. (2) LAYERS TYPE-X GYP. BOARD.
- H. SUSPENDED 2' X 2' ACOUSTICAL LAY-IN TILE CEILING (VINYL COATED)
- J. EXTERIOR METAL SOFFIT SYSTEM
- K. INSULATED TRANSLUCENT PANEL
- L. SUSPENDED 9" DEEP PAIRED CHANNEL SIGNAGE

### CEILING PLAN SYMBOLS

#### ELECTRICAL

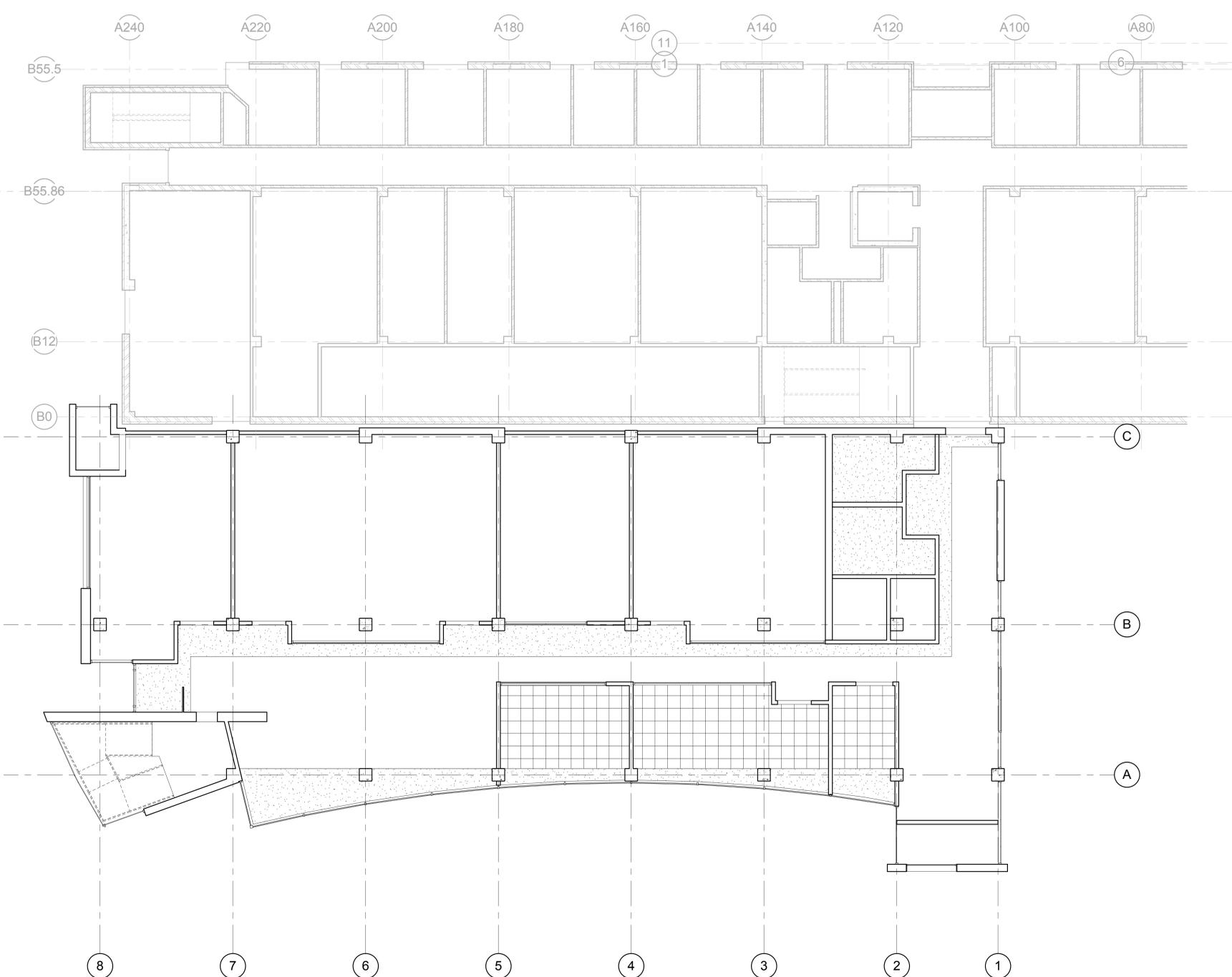
- 2X4' FLUORESCENT FIXTURE
- 2X2' FLUORESCENT FIXTURE
- 1X4' FLUORESCENT FIXTURE
- FLUORESCENT STRIP FIXTURE
- RECESSED DOWN LIGHT
- WALL WASH
- TRACK LIGHTING
- EXIT SIGN, SINGLE-SIDED
- EXIT SIGN, DOUBLE-SIDED
- FIRE ALARM
- SPEAKER
- SMOKE DETECTOR
- WIRELESS INTERNET

#### MECHANICAL

- SUPPLY GRILLE
- RETURN GRILLE
- EXHAUST GRILLE
- LINEAR DIFFUSER
- SPRINKLER HEAD - CEILING MOUNT
- SPRINKLER HEAD - WALL MOUNT

### GENERAL CEILING NOTES

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2. REFER TO DETAIL A6/A530 FOR TYPICAL SUSPENDED GYP. BOARD CEILINGS
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**SECOND FLOOR PLAN, REFLECTED CEILING**

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

NORTH

Rev #	Date	Description

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SECOND FLOOR PLAN,  
 REFLECTED CEILING

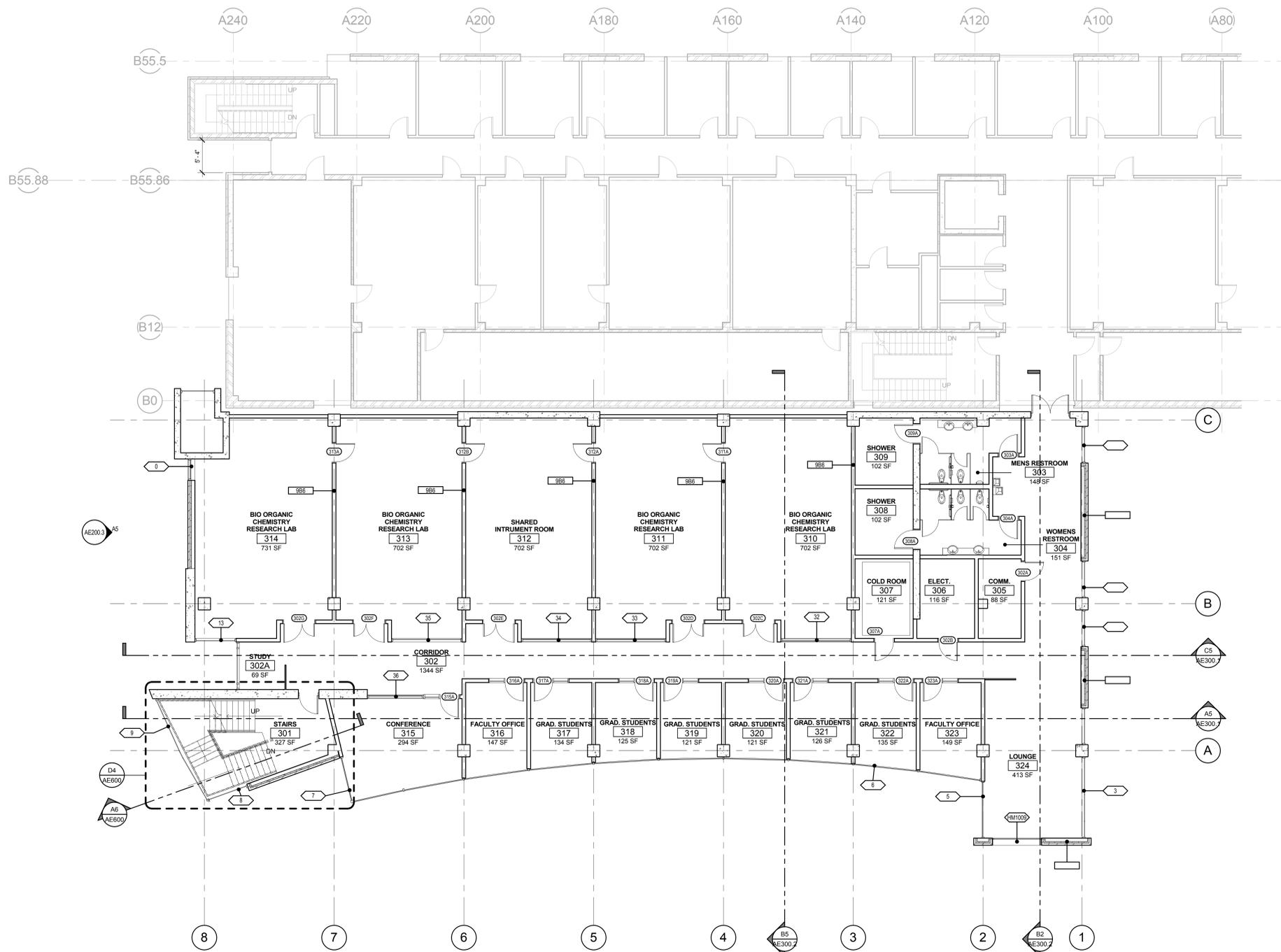
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THIRD FLOOR PLAN,  
ANNOTATED

AE130.1

**A5 Level 3 Annotated Plan**  
SCALE: 1/8" = 1'-0"  
0 4 8 16 24

NORTH

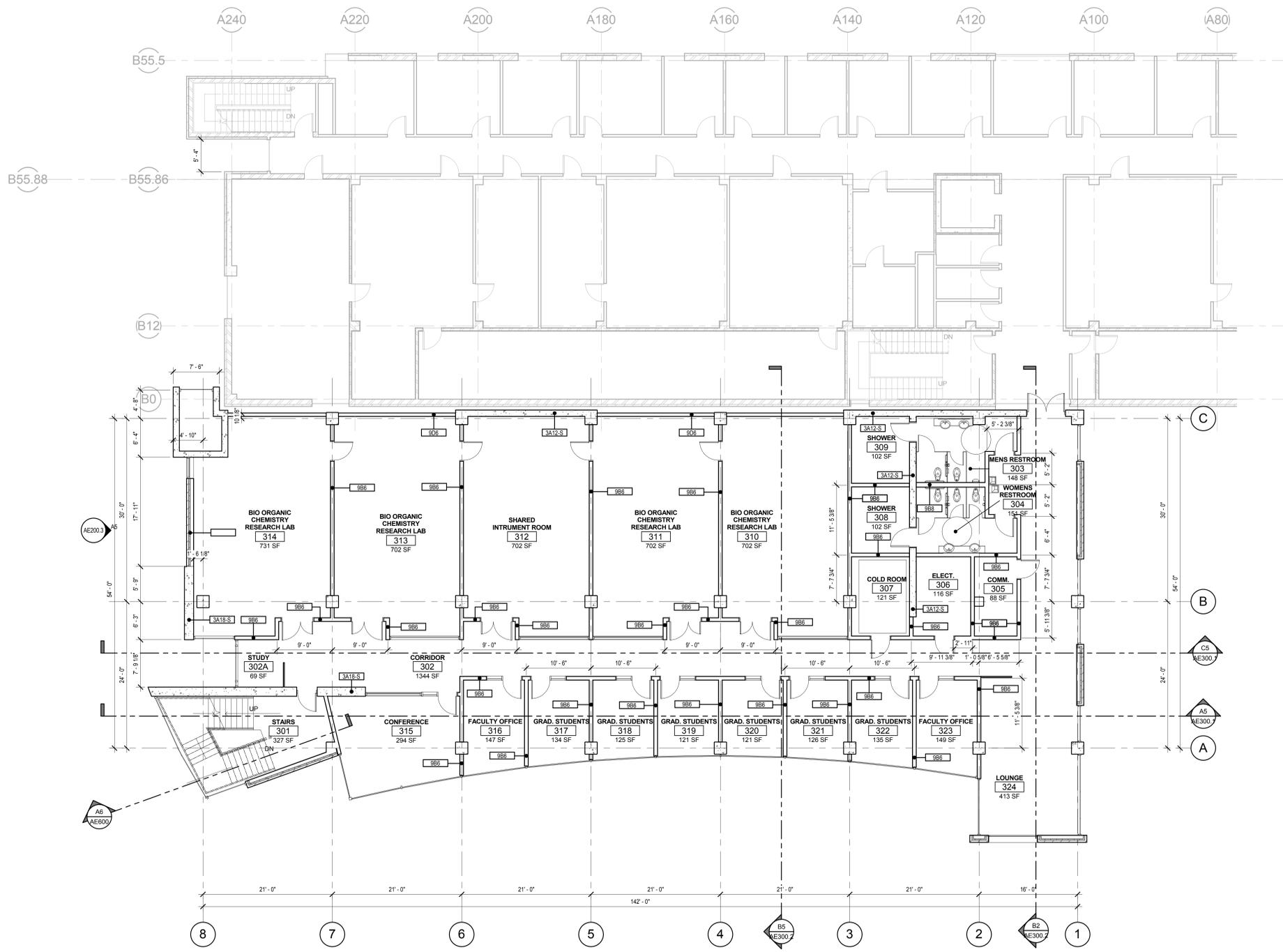
**DIMENSION NOTES**

- 1) ALL DIMENSIONS ARE TO CENTER OF STUD WALL OR FACE OF CONCRETE, MASONRY OR ROUGH OPENING UNLESS NOTED OTHERWISE. WHERE THE END OF A WALL IS INDICATED THE DIMENSION IS TO THE FINISH SURFACE OF THE WALL END.
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**THIRD FLOOR PLAN, DIMENSION AND WALL TYPES**  
SCALE: 1/8" = 1'-0"



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THIRD FLOOR PLAN,  
DIMENSION AND WALL  
TYPES

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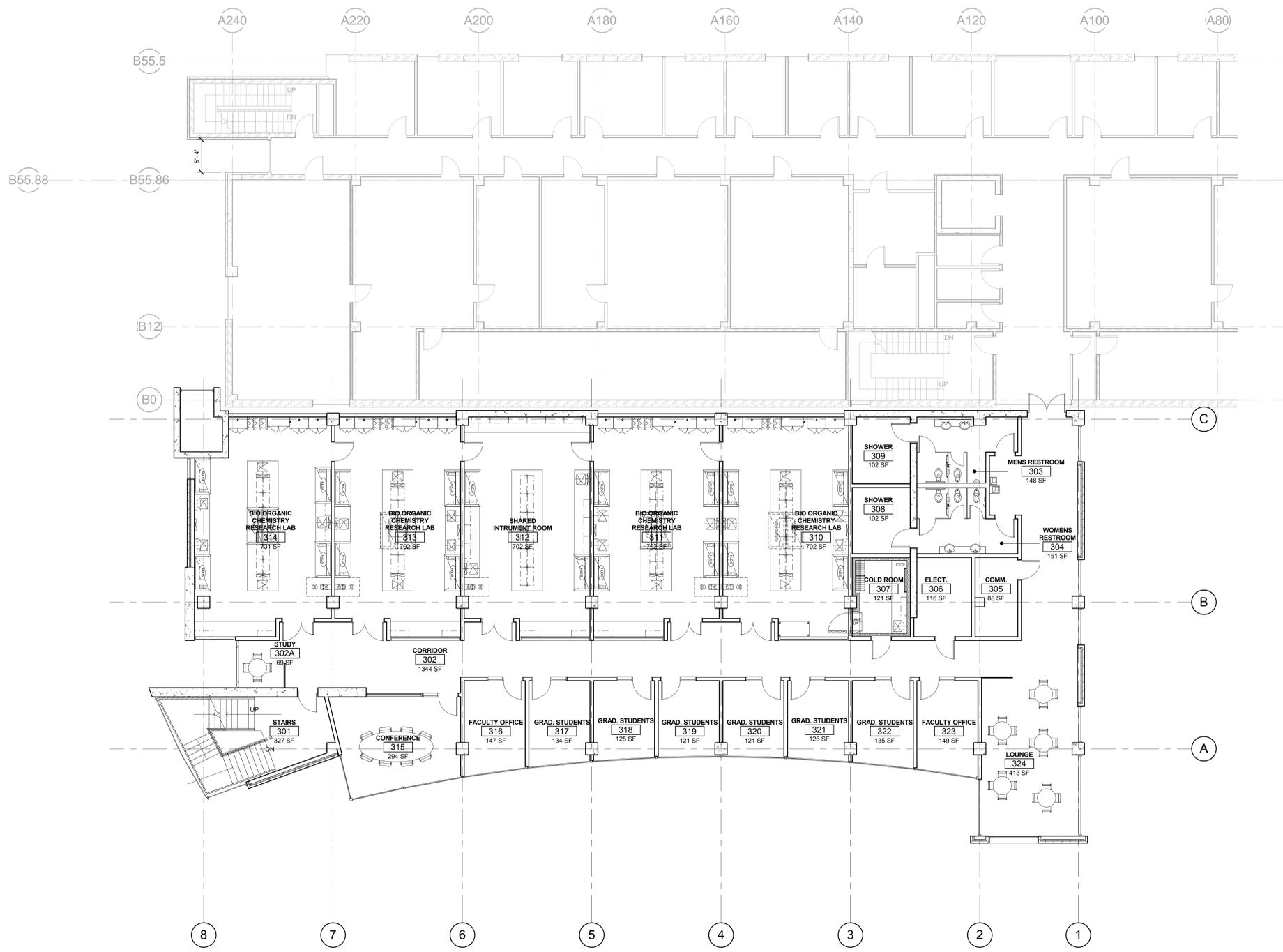
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THIRD FLOOR PLAN, FUNITURE,  
FIXTURES, AND EQUIPMENT  
SCALE: 1/8" = 1'-0"



Rev #	Date	Description

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THIRD FLOOR PLAN,  
FF&E

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### CEILING LEGEND

- A- SUSPENDED 2' X 2' ACOUSTICAL LAY-IN TILE CEILING
- B- SUSPENDED 2' X 4' ACOUSTICAL LAY-IN TILE CEILING
- C- SUSPENDED 5/8" GYP. BD. CEILING SYSTEM (1 LAYER) PAINTED
- D- SUSPENDED 2' X 2' METAL SCULPTURAL LAY-IN TILE CEILING
- E- OPEN TO STRUCTURE ABOVE, PAINTED
- F- VENTED WOOD CEILING SYSTEM, PAINTED ABOVE
- G- 2 HOUR FIRE-RATED CEILING ASSEMBLY (2) LAYERS TYPE-X GYP. BOARD
- H- SUSPENDED 2' X 2' ACOUSTICAL LAY-IN TILE CEILING (VINYL COATED)
- J- EXTERIOR METAL SOFFIT SYSTEM
- K- INSULATED TRANSLUCENT PANEL
- L- SUSPENDED 8" DEEP PAIRED CHANNEL SIGNAGE

### CEILING PLAN SYMBOLS

#### ELECTRICAL

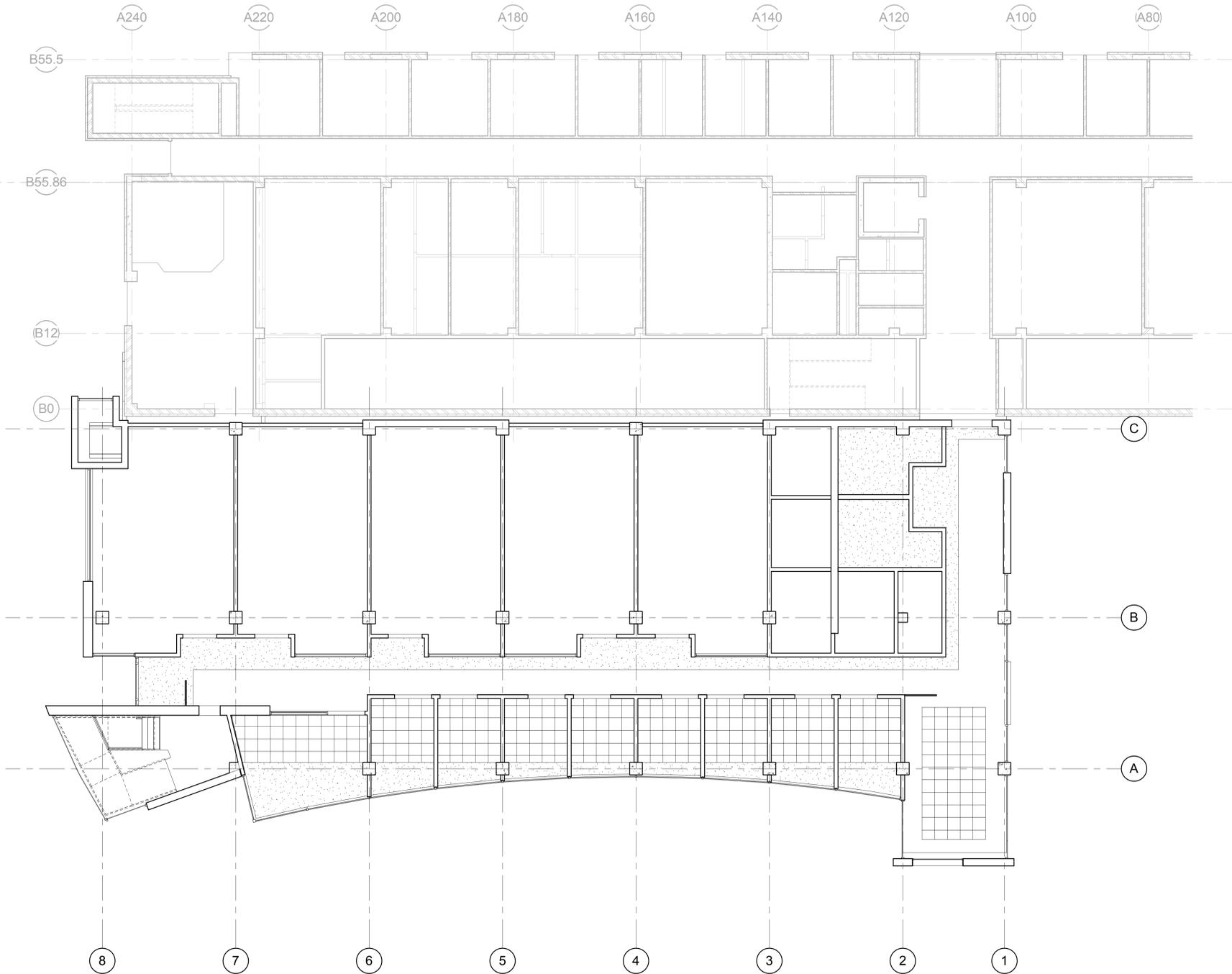
- 2'X4' FLUORESCENT FIXTURE
- 2'X2' FLUORESCENT FIXTURE
- 1'X4' FLUORESCENT FIXTURE
- FLUORESCENT STRIP FIXTURE
- RECESSED DOWN LIGHT
- WALL WASH
- TRACK LIGHTING
- EXIT SIGN, SINGLE-SIDED
- EXIT SIGN, DOUBLE-SIDED
- FIRE ALARM
- SPEAKER
- SMOKE DETECTOR
- WIRELESS INTERNET

#### MECHANICAL

- SUPPLY GRILLE
- RETURN GRILLE
- EXHAUST GRILLE
- LINEAR DIFFUSER
- SPRINKLER HEAD - CEILING MOUNT
- SPRINKLER HEAD - WALL MOUNT

### GENERAL CEILING NOTES

1. REFER TO DETAIL D6/A330 FOR TYPICAL CEILING SUSPENSION & SEISMIC BRACING
2. REFER TO DETAIL A6/A330 FOR TYPICAL SUSPENDED GYP. BOARD CEILINGS
3. ALL UNIDENTIFIED CEILING TYPES ON THE PLANS SHALL BE TYPE "A" AT 9'-4" A.F.F.
4. GRID SUSPENSION SYSTEMS SHALL BE CENTERED WITHIN AREAS INDICATED, UNLESS NOTED OTHERWISE
5. PAINT ALL EXPOSED STRUCTURE, MECHANICAL, DUCTS, ELECTRICAL WORK, PIPING, ETC. ALL VISIBLE ELEMENTS TO BE PAINTED AT TYPE "E" & TYPE "F" (ABOVE VENTWOOD)
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**THIRD FLOOR PLAN, REFLECTED CEILING**

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

NORTH

Rev # Date Description

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THIRD FLOOR PLAN, REFLECTED CEILING

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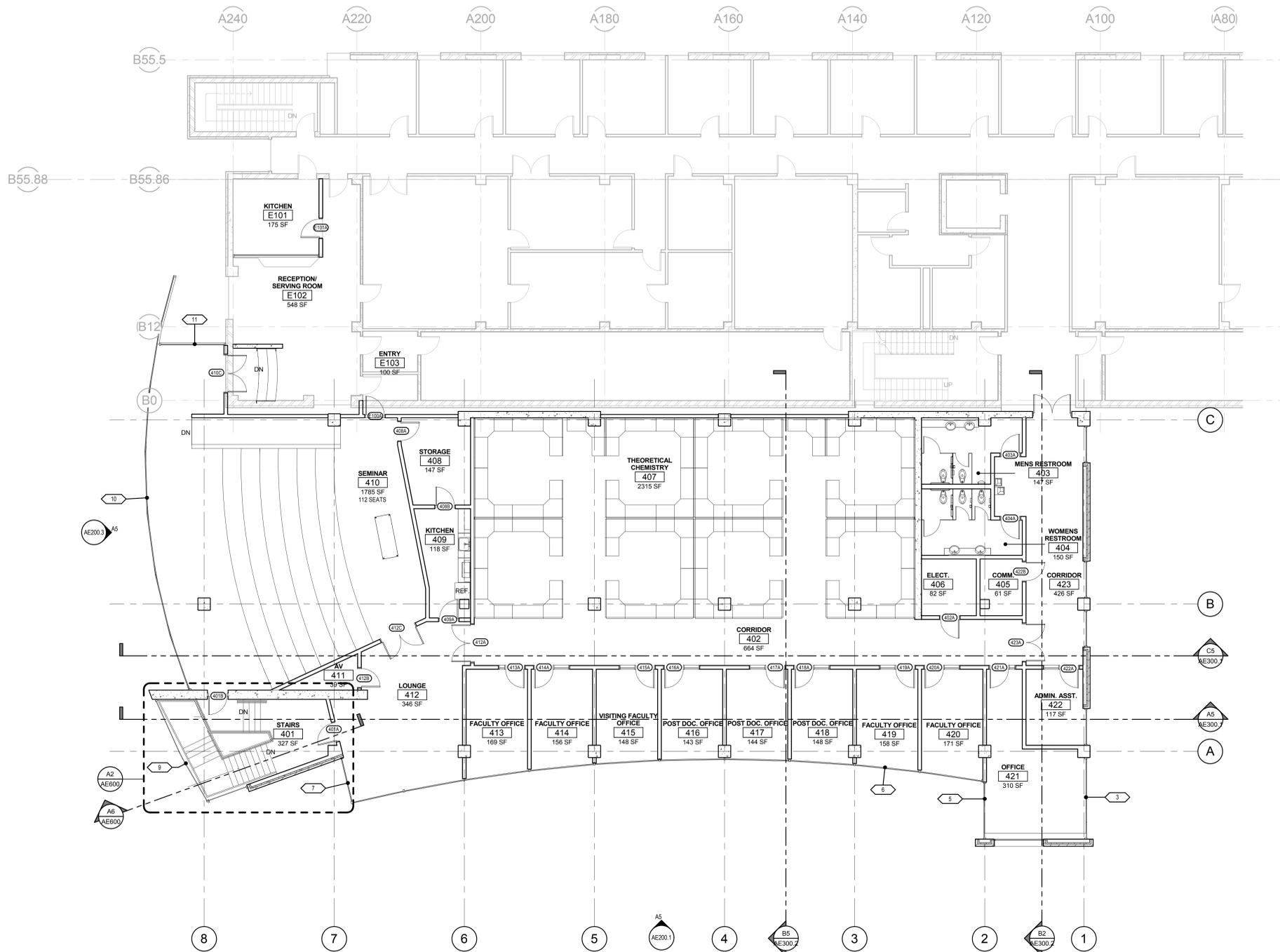
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A5 Level 4 Annotated Plan  
SCALE: 1/8" = 1'-0"



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FOURTH FLOOR PLAN,  
ANNOTATED

AE140.1

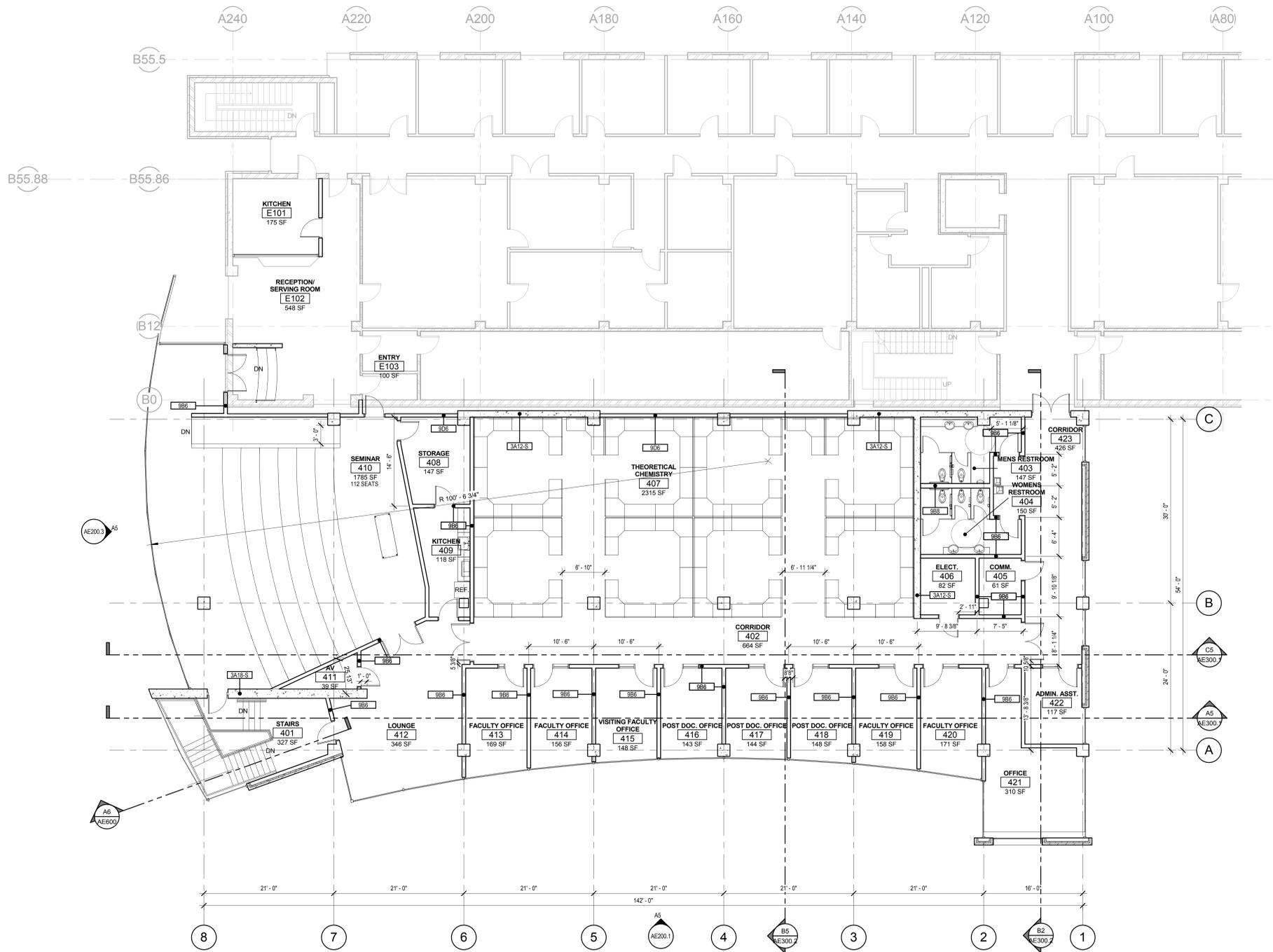
**DIMENSION NOTES**

- 1) ALL DIMENSIONS ARE TO CENTER OF STUD WALL OR FACE OF CONCRETE, MASONRY OR ROUGH OPENING UNLESS NOTED OTHERWISE. WHERE THE END OF A WALL IS INDICATED THE DIMENSION IS TO THE FINISH SURFACE OF THE WALL END.
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**FOURTH FLOOR PLAN, DIMENSION AND WALL TYPES**  
SCALE: 1/8" = 1'-0"  
NORTH

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FOURTH FLOOR PLAN,  
DIMENSION AND WALL  
TYPES

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**THATCHER ADDITION TO CHEMISTRY**

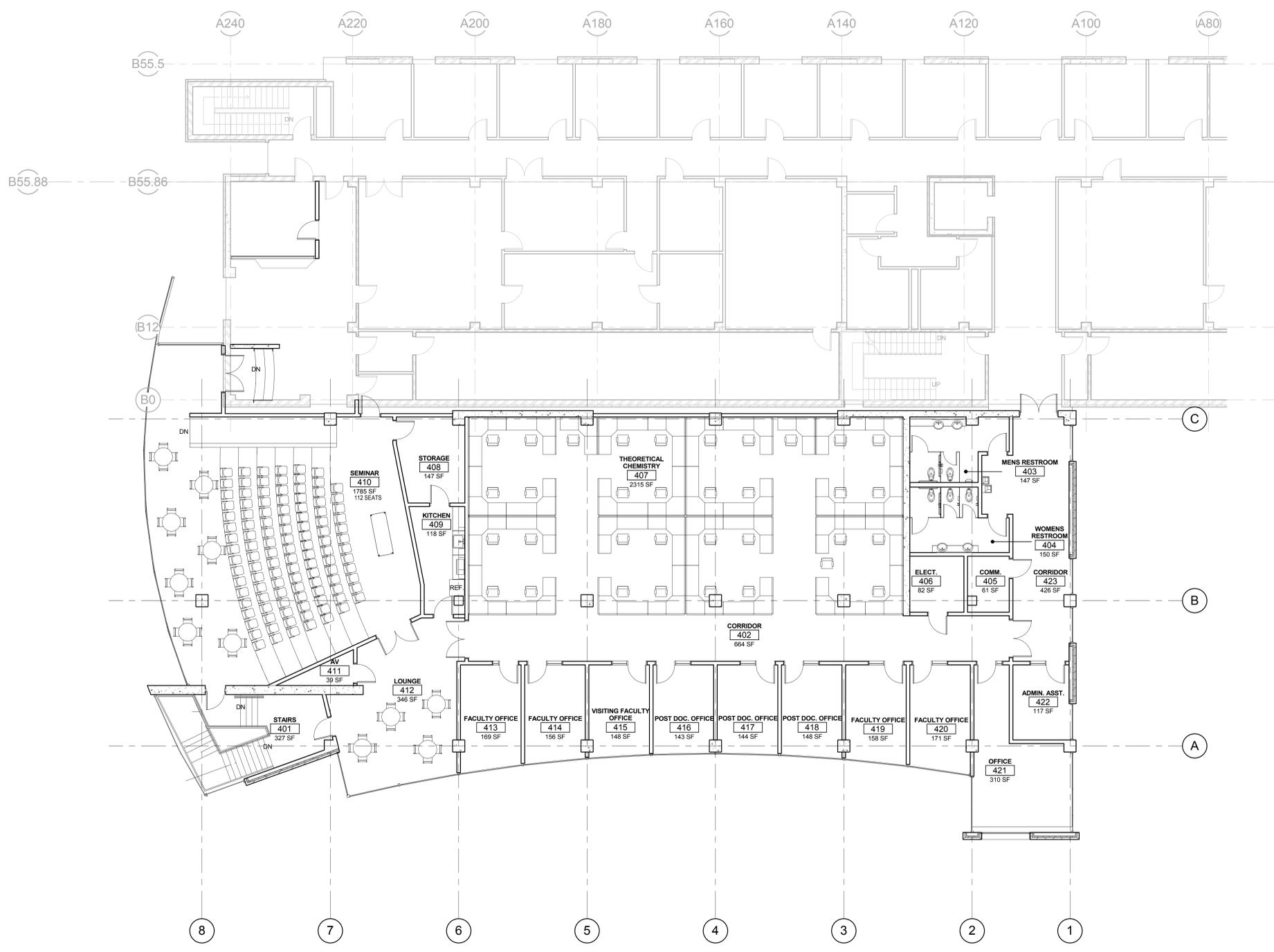
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FOURTH FLOOR PLAN,  
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**AE140.3**



**FOURTH FLOOR PLAN, FUNITURE,  
FIXTURES, AND EQUIPMENT**

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



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**CEILING LEGEND**

- A. SUSPENDED 2' X 2' ACOUSTICAL LAY-IN TILE CEILING
- B. SUSPENDED 2' X 4' ACOUSTICAL LAY-IN TILE CEILING
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- D. SUSPENDED 2' X 2' METAL SCULPTURAL LAY-IN TILE CEILING
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- K. INSULATED TRANSLUCENT PANEL
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**CEILING PLAN SYMBOLS**

**ELECTRICAL**

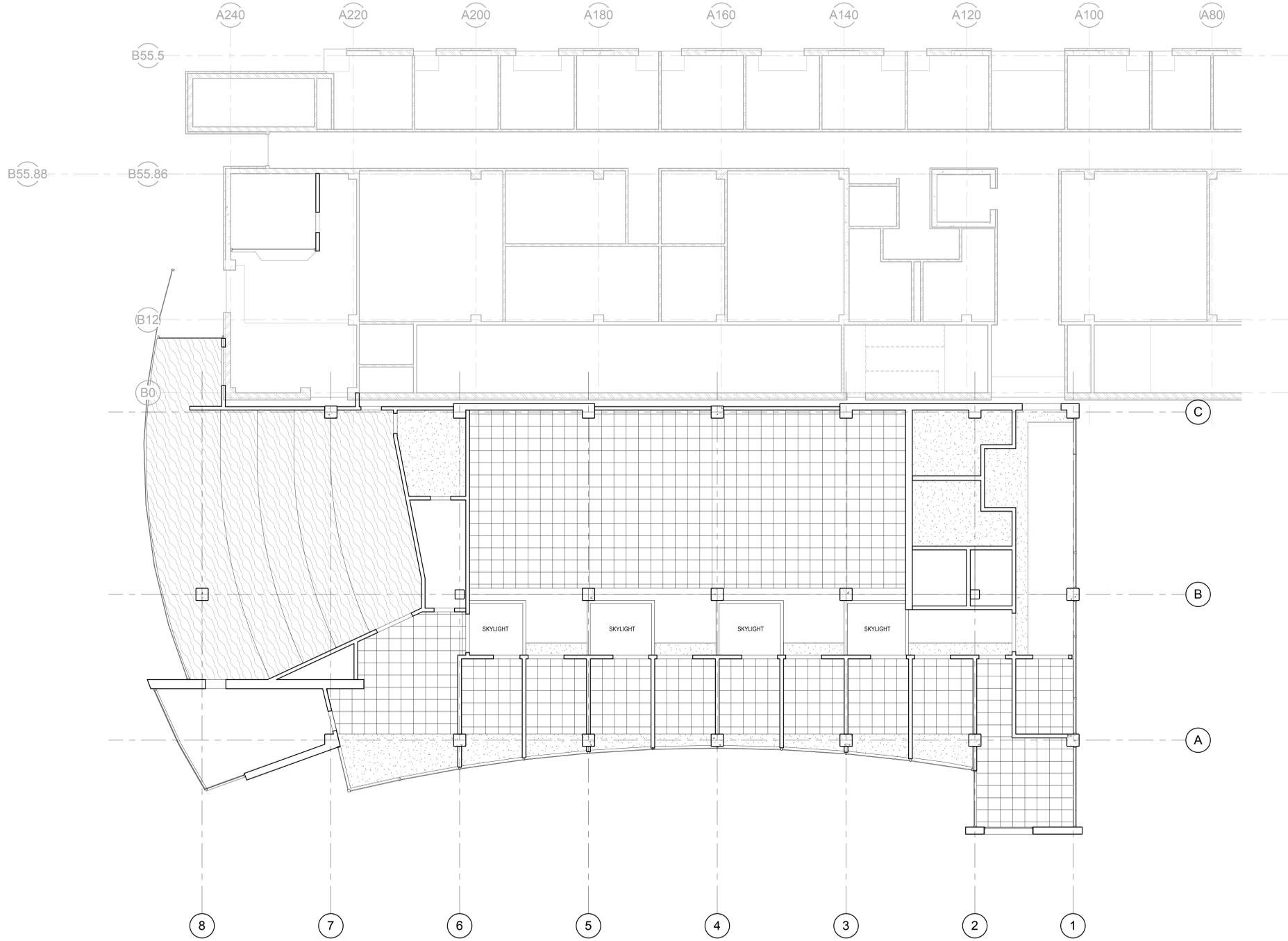
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- WALL WASH
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- EXIT SIGN, SINGLE-SIDED
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- FIRE ALARM
- SPEAKER
- SMOKE DETECTOR
- WIRELESS INTERNET

**MECHANICAL**

- SUPPLY GRILLE
- RETURN GRILLE
- EXHAUST GRILLE
- LINEAR DIFFUSER
- SPRINKLER HEAD - CEILING MOUNT
- SPRINKLER HEAD - WALL MOUNT

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7. REFER TO ARCHITECTURAL DRAWINGS FOR LOCATIONS OF LIGHT FIXTURES AND TO ELECTRICAL DRAWINGS FOR QUANTITY AND TYPES
8. MECHANICAL AND ELECTRICAL CONTRACTORS TO COORDINATE WORK WITH SPRINKLER CONTRACTOR TO AVOID CONFLICTS IN FIELD
9. ALL CEILING HEIGHTS ARE ELEVATION ABOVE TOP OF CONCRETE FLOOR SLAB
10. ALL TYPE C CEILINGS IN RESTROOMS, LOCKER ROOMS, SHOWERS, AND WET AREAS TO BE EPOXY PAINTED



**FOURTH FLOOR PLAN, REFLECTED CEILING**  
SCALE: 1/8" = 1'-0"  
NORTH

Rev #	Date	Description

Job # 10195  
CAD File  
Drawn Author Checked Checker  
Date 2010-08-04  
Owner # 10026750  
Iss. #

FOURTH FLOOR PLAN,  
REFLECTED CEILING

**AE140.4**

8/4/2010 11:24:34 AM

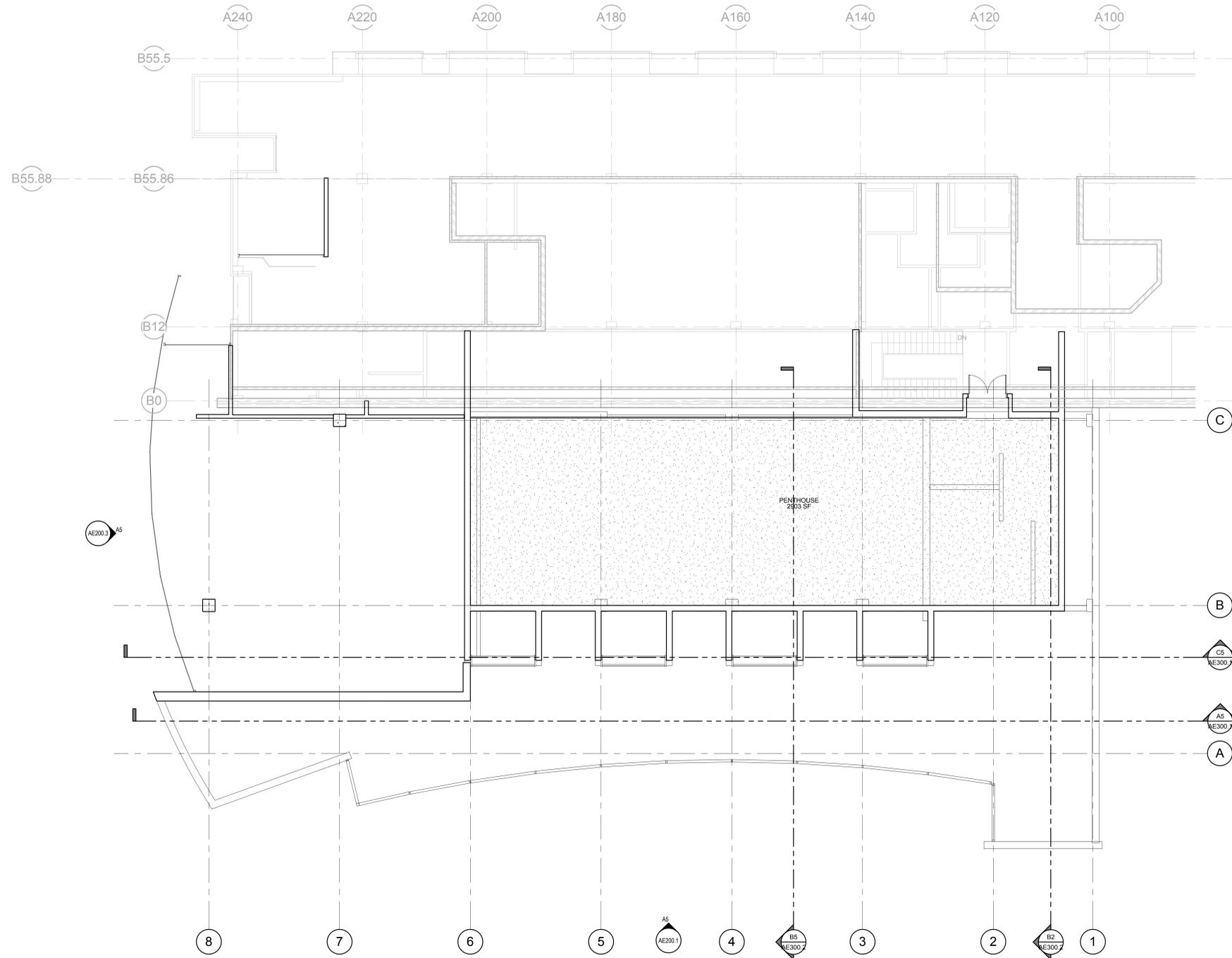


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Schematic Design



**A5 PENTHOUSE PLAN**  
SCALE: 1/8" = 1'-0"  
0 4 8 16 24  
NORTH

Rev #	Date	Description

Job # 10195  
 CAD File  
 Drawn Author Checked Checker  
 Date 2010-08-04  
 Owner # 10026750  
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PENTHOUSE PLAN

AE150.1



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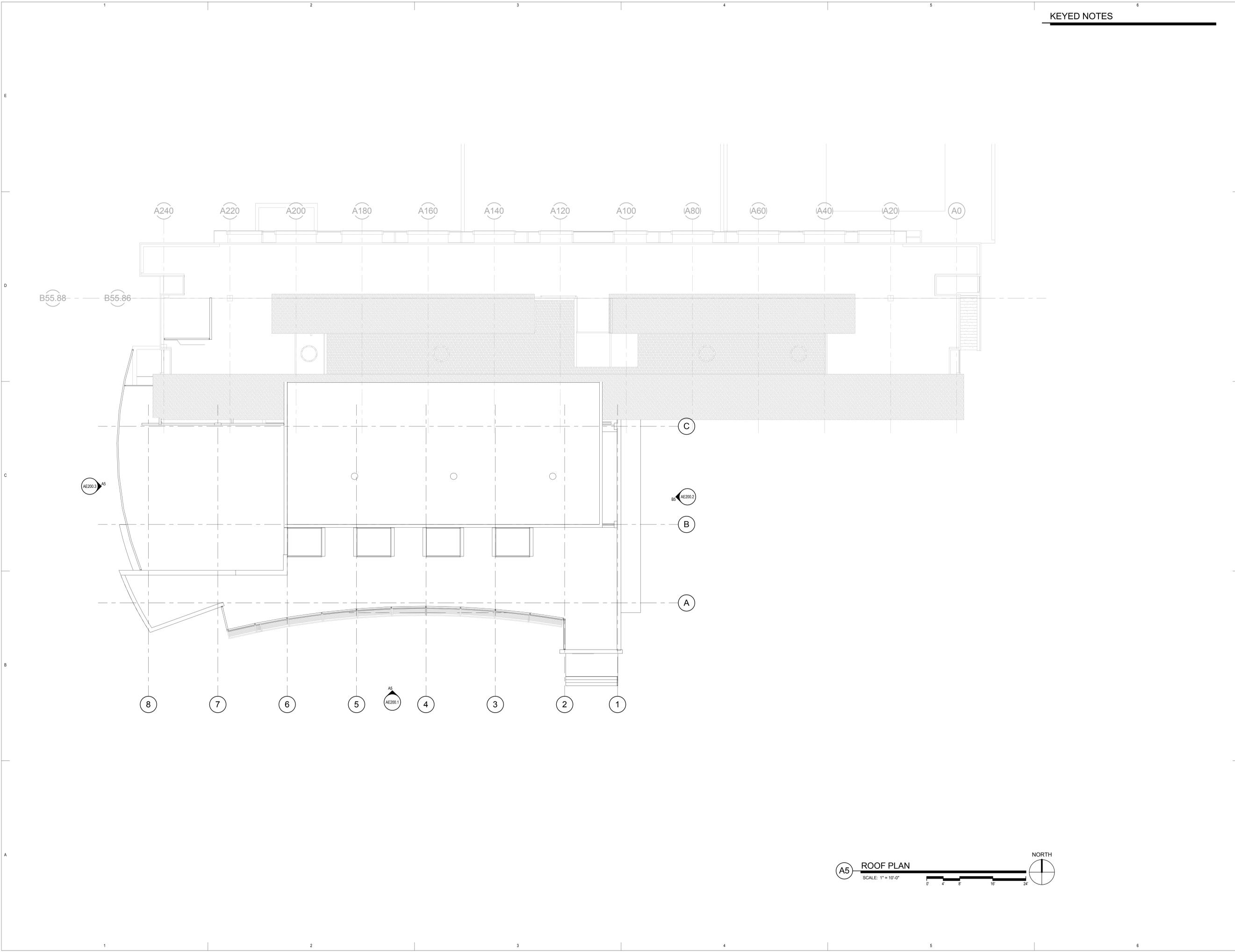
Schematic Design

Rev # Date Description

Job # 10195  
CAD File  
Drawn Author Checked Checker  
Date 2010-08-04  
Owner # 10026750  
Iss. #

ROOF PLAN

AE160.1



**A5** ROOF PLAN  
SCALE: 1" = 10'-0"  
0' 2' 4' 8' 16' 24'



8/4/2010 11:24:39 AM

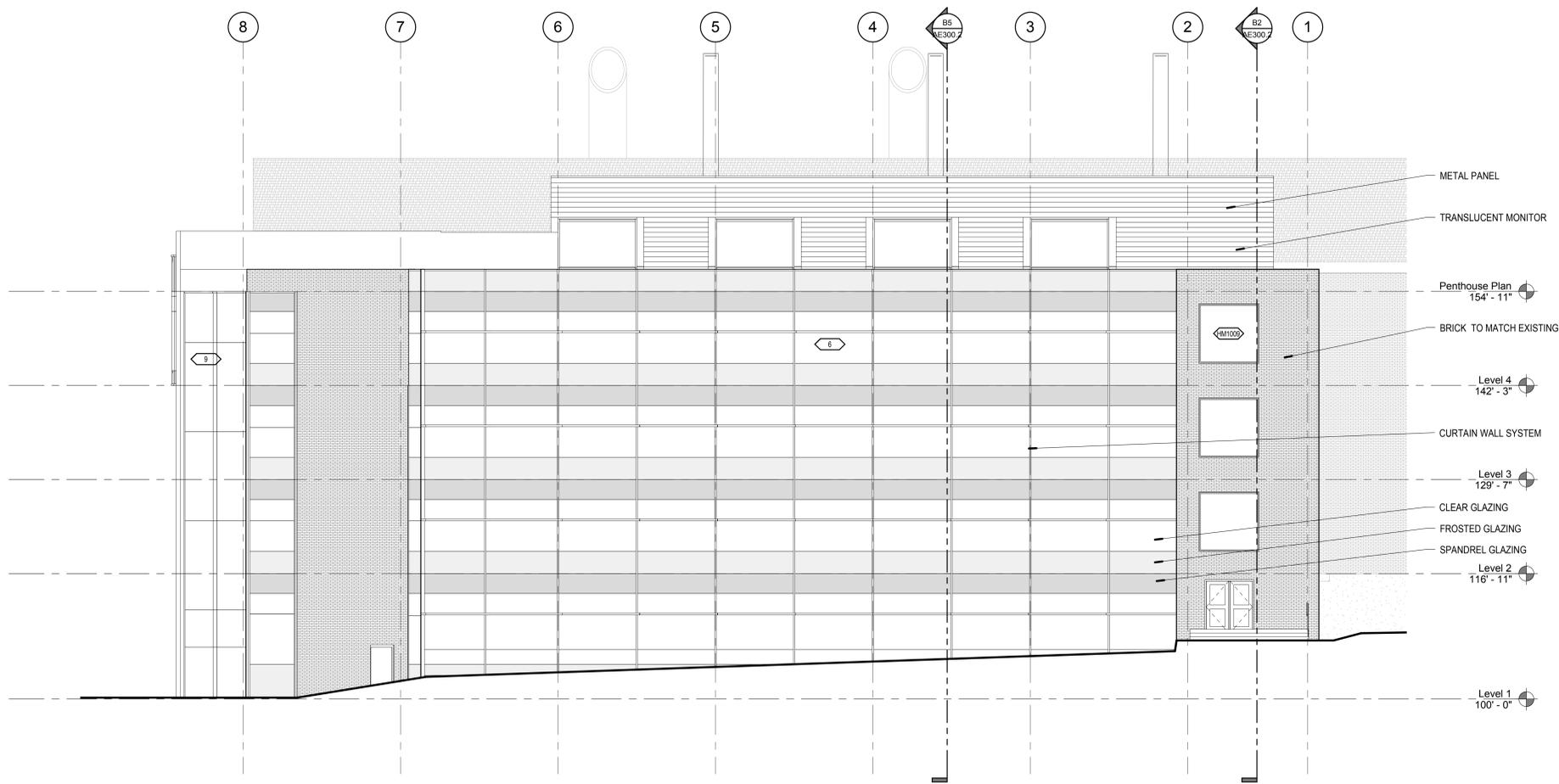


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A5 SOUTH ELEVATION  
SCALE: 1/8" = 1'-0"

Rev #	Date	Description

Job # 10195  
 CAD File  
 Drawn Author Checked Checker  
 Date 2010-08-04  
 Owner # 10026750  
 Ins. #

SOUTH ELEVATION



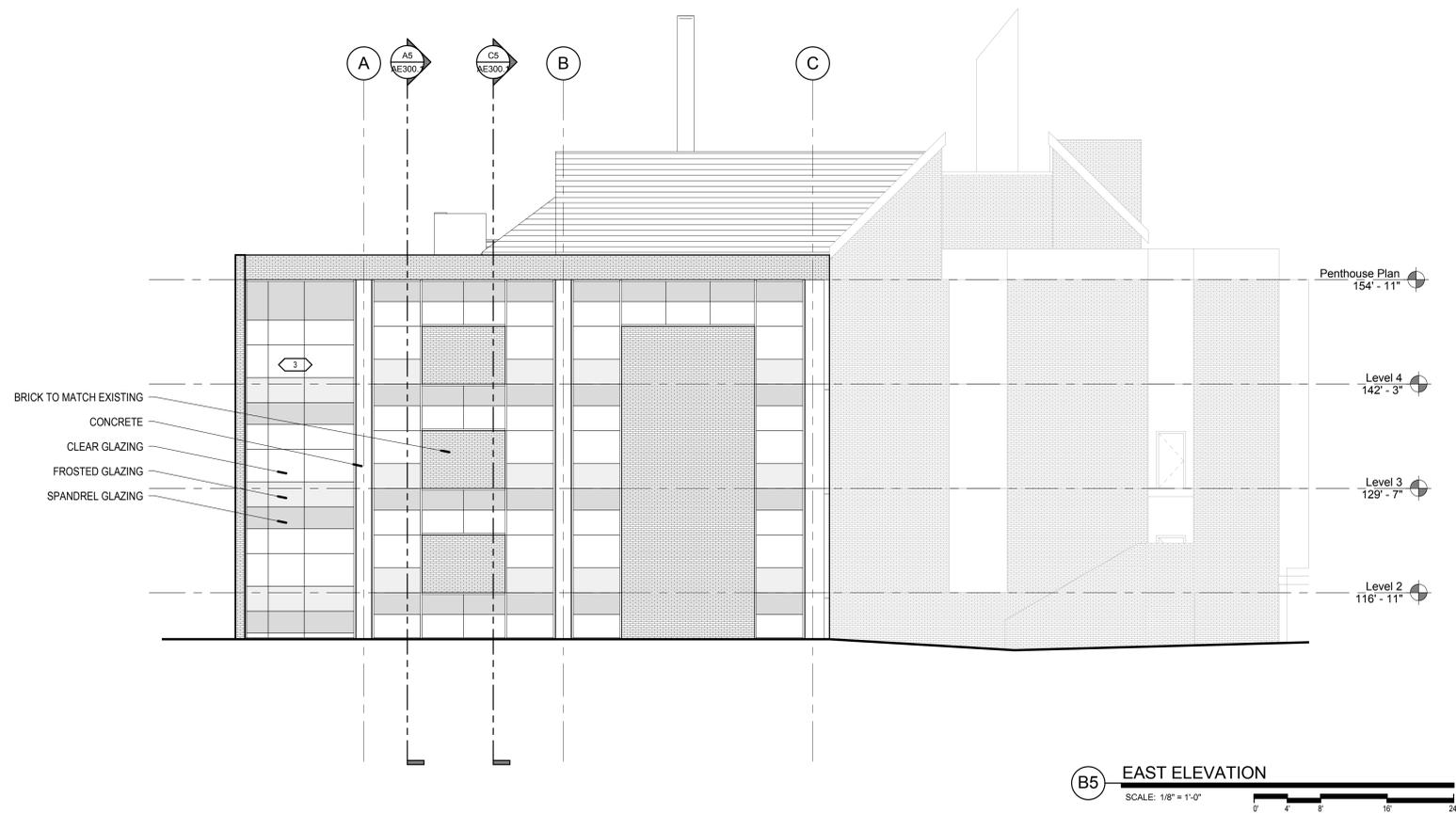
ARCHITECTURE  
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**B5** EAST ELEVATION  
SCALE: 1/8" = 1'-0"  
0 4 8 16 24'

Rev #	Date	Description

Job # 10195  
CAD File  
Drawn Author Checked Checker  
Date 2010-08-04  
Owner # 10026750  
Iss. #

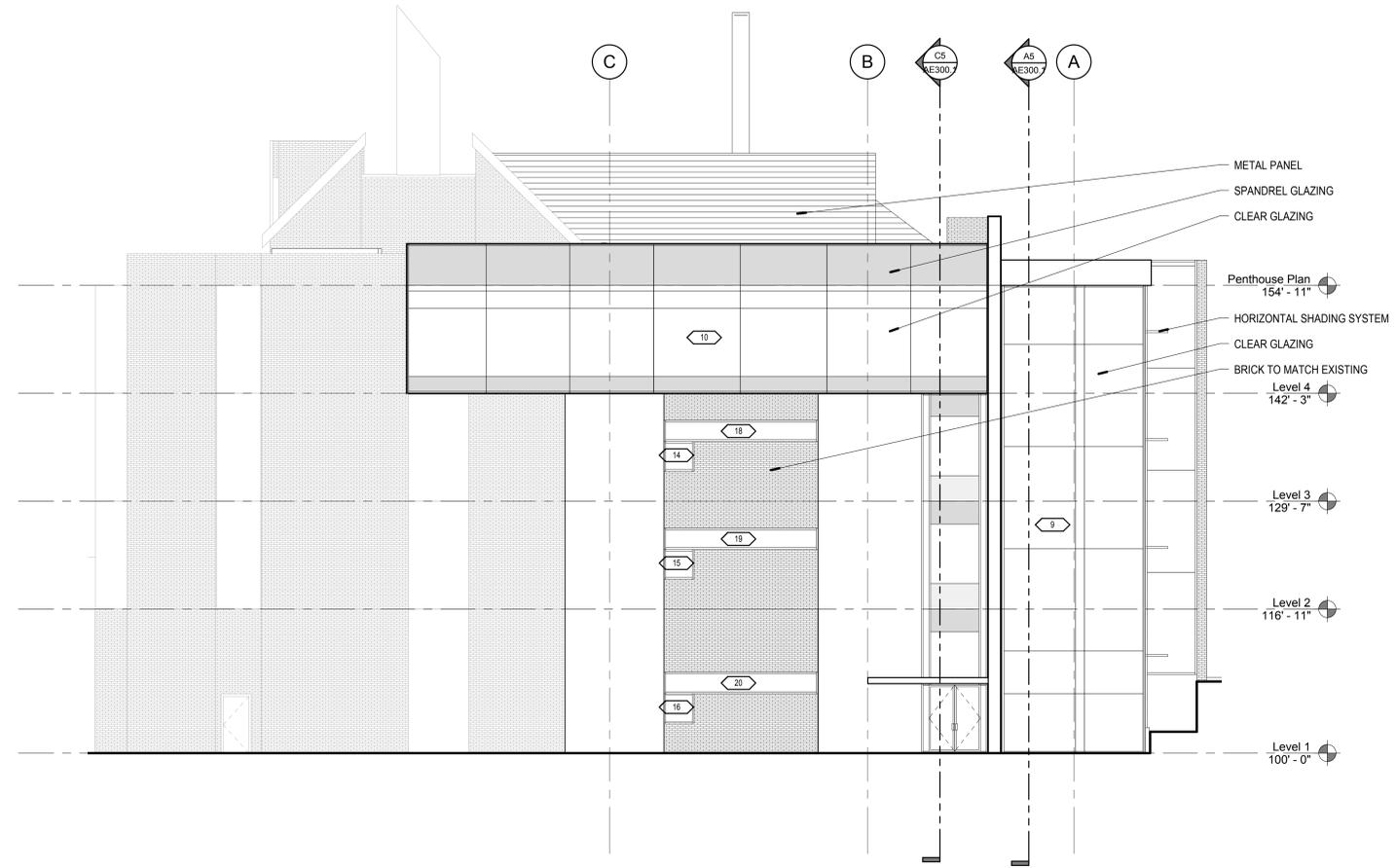
EAST ELEVATION

AE200.2



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**A5 WEST ELEVATION**  
SCALE: 1/8" = 1'-0"  
0 2 4 8 16 24

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Rev #	Date	Description

Job # 10195  
CAD File  
Drawn Author Checked Checker  
Date 2010-08-04  
Owner # 10026750  
Iss. #  
WEST ELEVATION

**AE200.3**

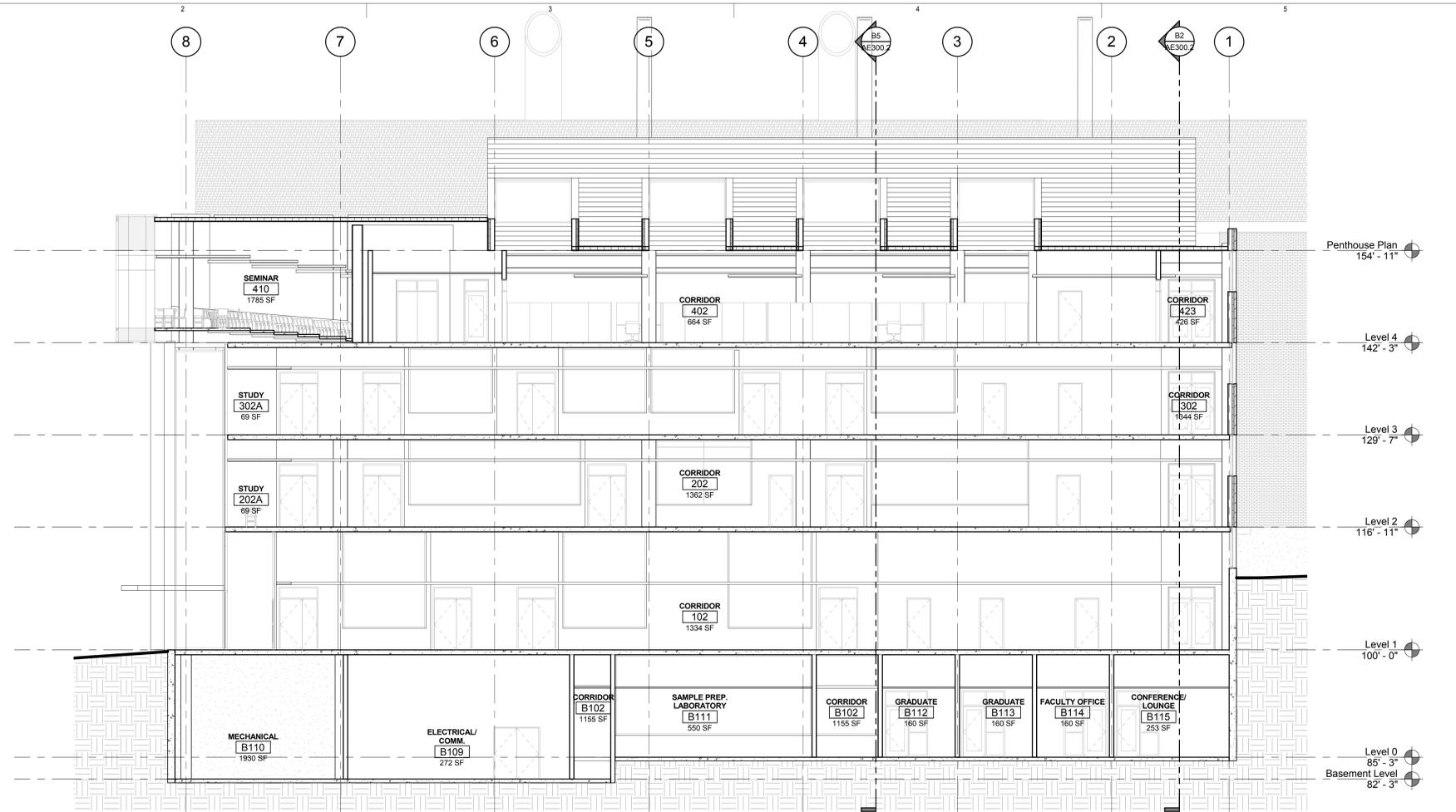


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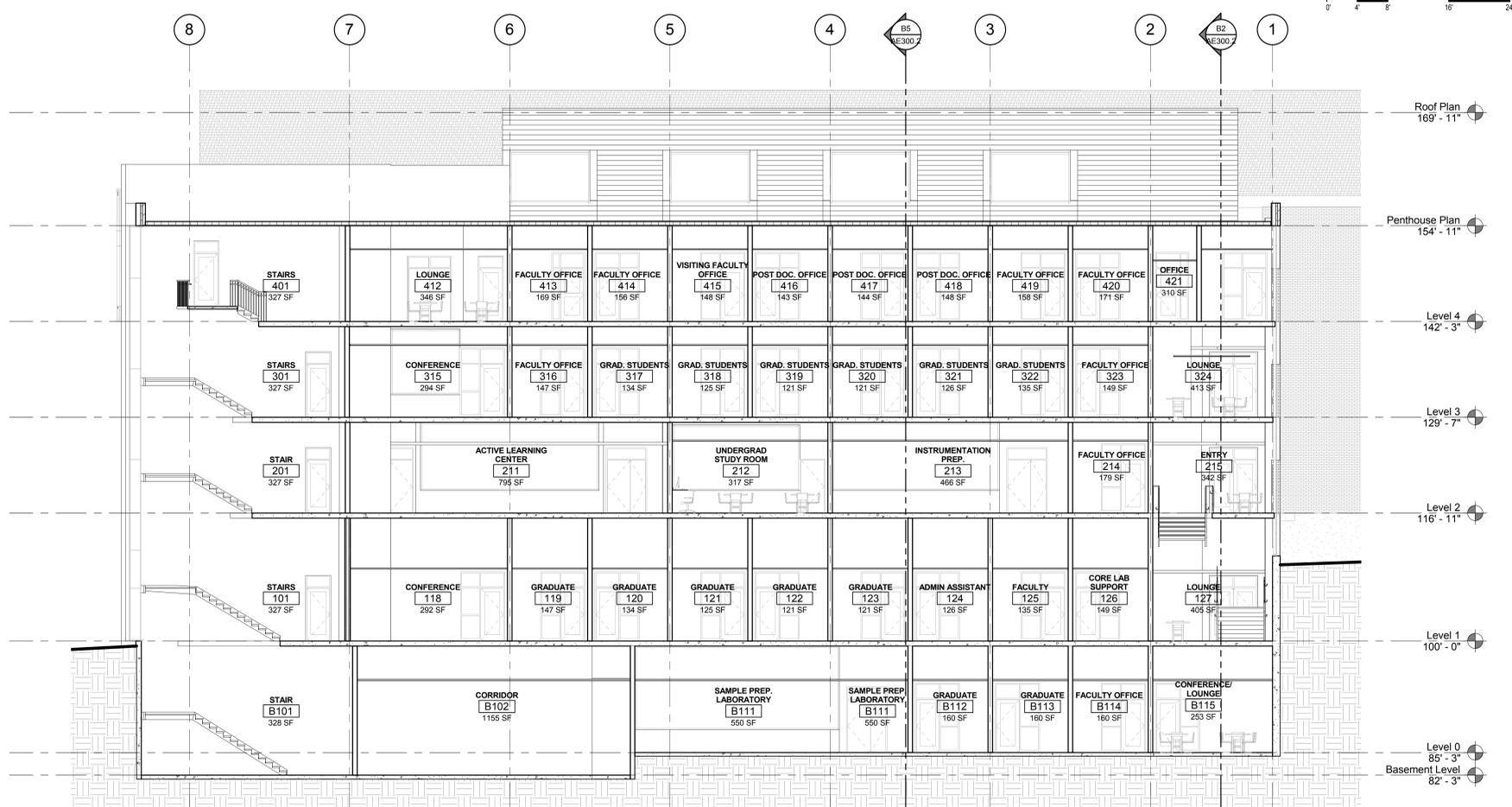
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**BUILDING SECTION A**  
SCALE: 1/8" = 1'-0"



**BUILDING SECTION B**  
SCALE: 1/8" = 1'-0"

8/4/2010 11:24:49 AM

Rev #	Date	Description

Job # 10195  
CAD File  
Drawn Author Checked Checker  
Date 2010-08-04  
Owner # 10026750  
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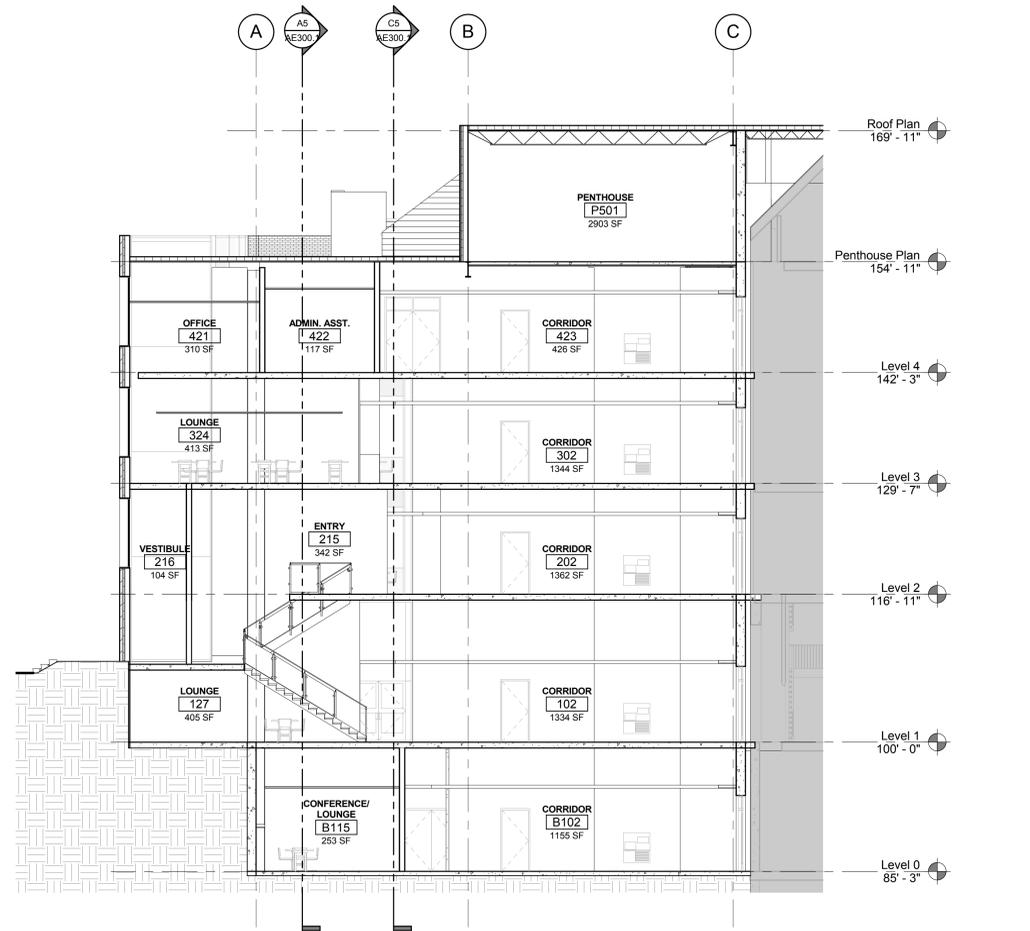
OVERALL EAST WEST  
BUILDING SECTIONS

**AE300.1**

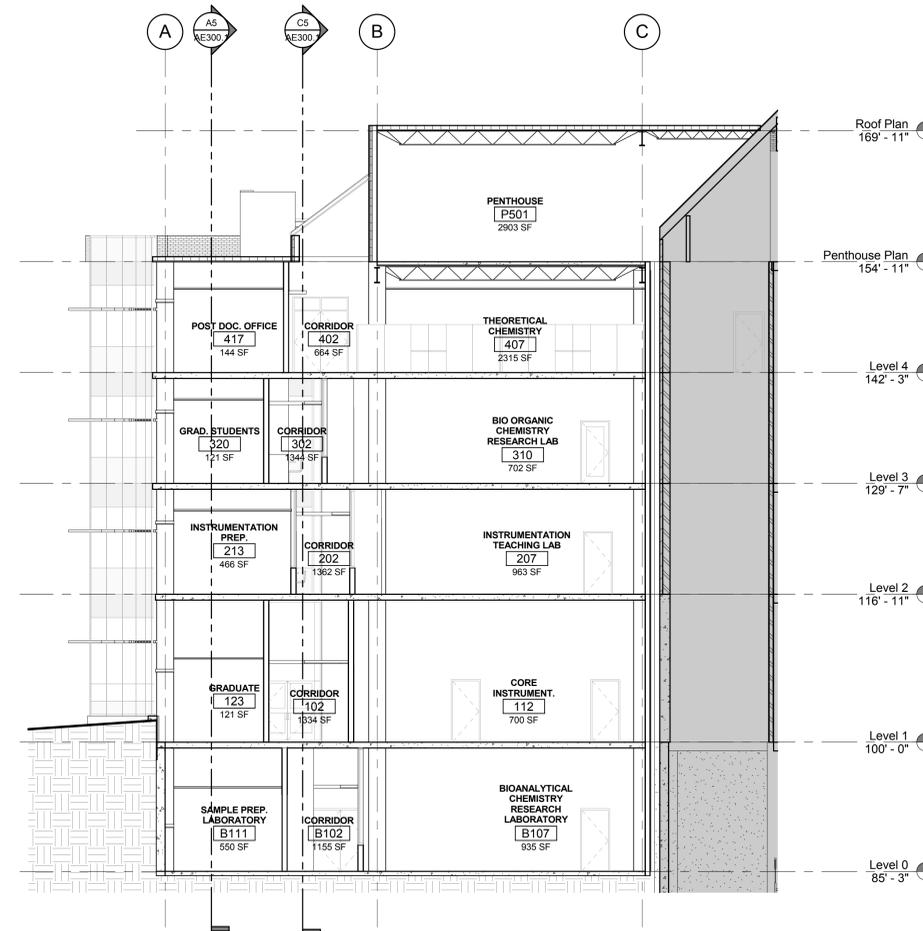


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**B2** BUILDING SECTION C  
SCALE: 1/8" = 1'-0"  
0 4 8 16 24



**B5** BUILDING SECTION D  
SCALE: 1/8" = 1'-0"  
0 4 8 16 24

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Rev #	Date	Description

Job # 10195  
CAD File  
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Date 2010-08-04  
Owner # 10026750  
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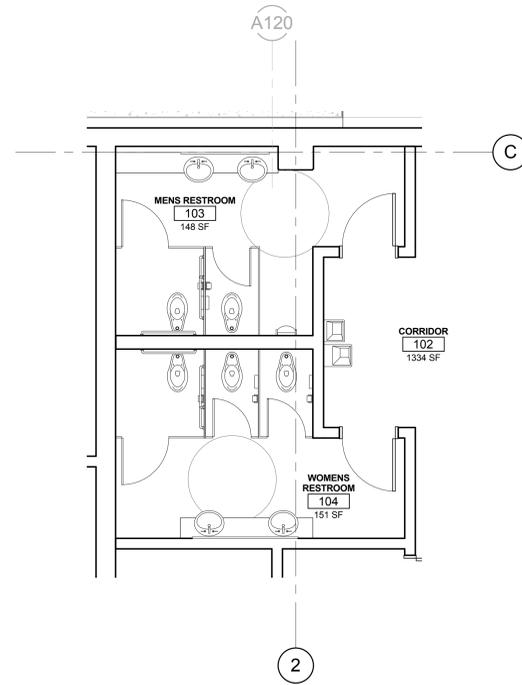
OVERALL NORTH  
SOUTH BUILDING  
SECTIONS

AE300.2



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D5 ENLARGED RESTROOM PLAN TYP.  
SCALE: 1/4" = 1'-0"  
0 4 8 16 24

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ENLG TOILET PLANS &  
INTERIOR ELEVATIONS

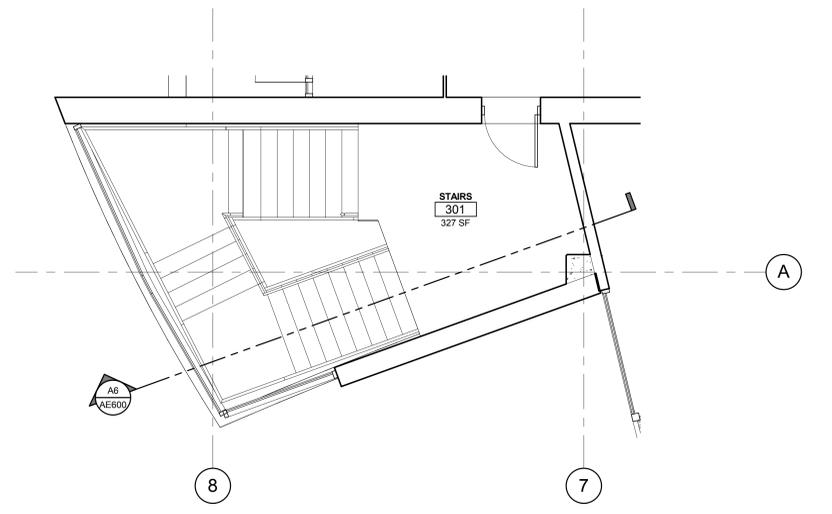
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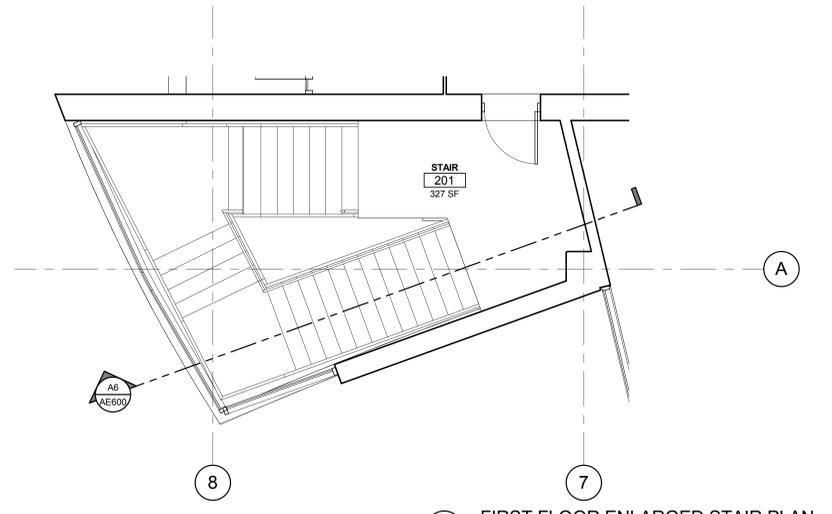
Rev #	Date	Description

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CAD File	
Drawn	Author
Checked	Checker
Date	2010-08-04
Owner #	10026750
Iss. #	

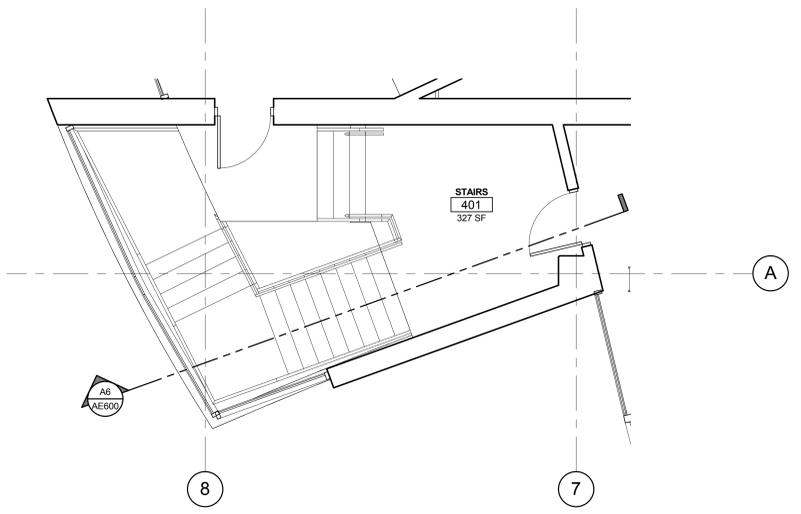
STAIR PLANS,  
ELEVATIONS &  
SECTIONS



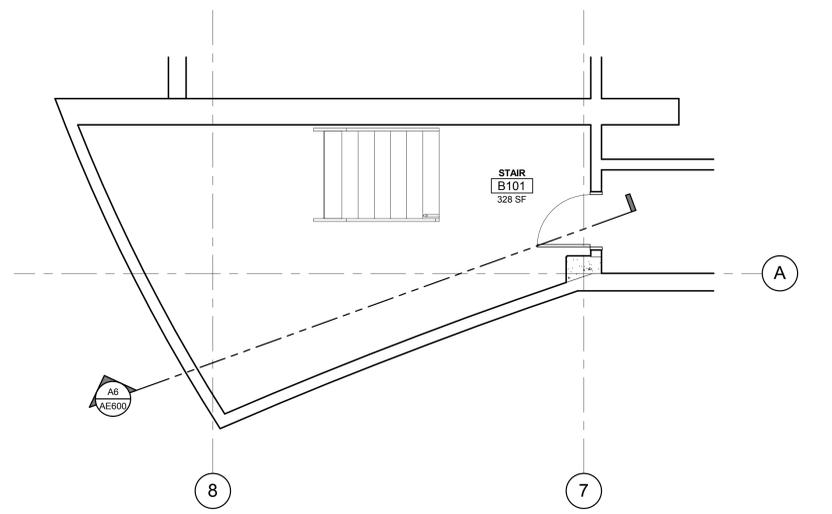
**D4 SECOND AND THIRD FLOOR ENLARGED STAIR PLAN**  
SCALE: 1/4" = 1'-0"  
0' 2' 4' 8' 16'



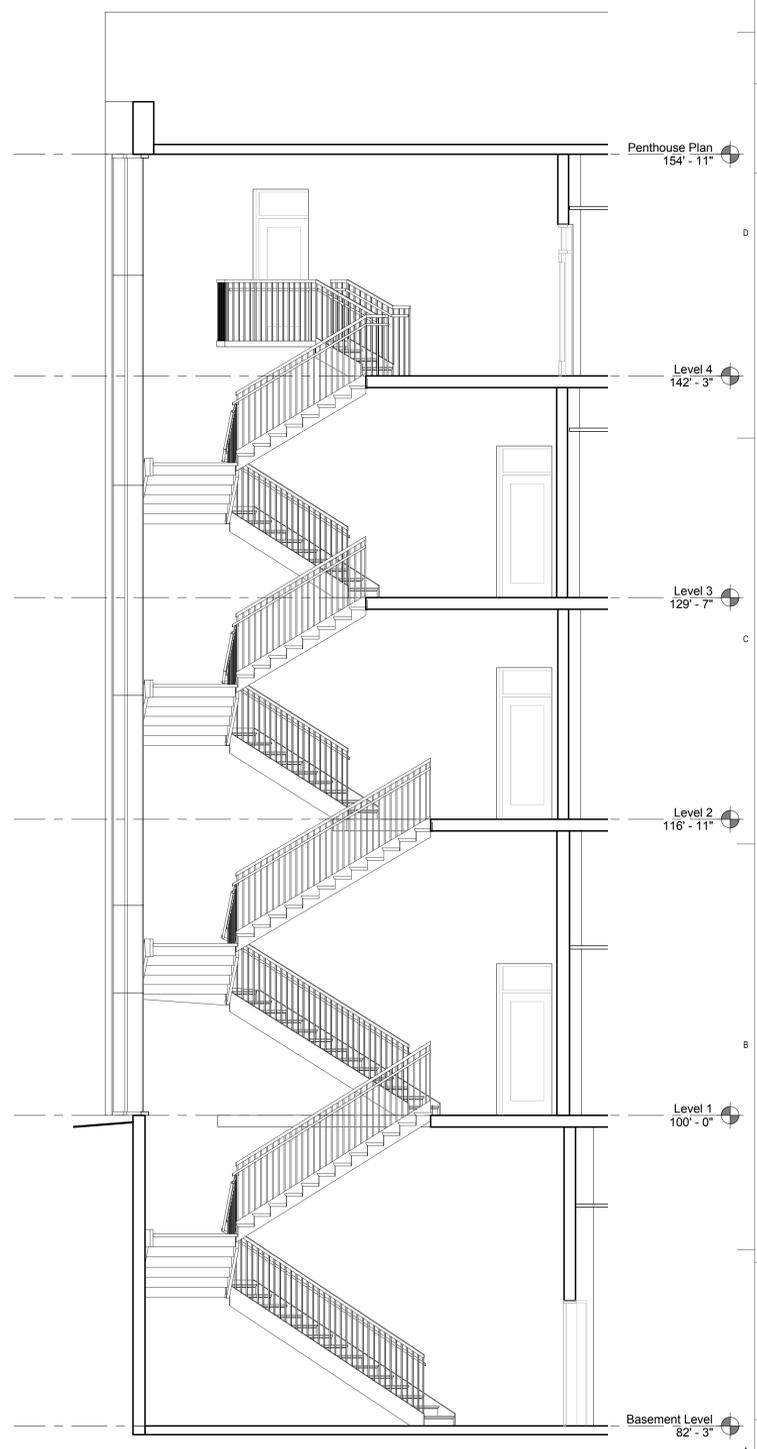
**B4 FIRST FLOOR ENLARGED STAIR PLAN**  
SCALE: 1/4" = 1'-0"  
0' 2' 4' 8' 16'



**A2 FOURTH FLOOR ENLARGED STAIR PLAN**  
SCALE: 1/4" = 1'-0"  
0' 2' 4' 8' 16'



**A4 BASEMENT ENLARGED STAIR PLAN**  
SCALE: 1/4" = 1'-0"  
0' 2' 4' 8' 16'



**A6 STAIR SECTION A**  
SCALE: 1/4" = 1'-0"  
0' 2' 4' 8' 16'



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DOOR NUMBER	NEW/EXISTING	DOOR				DOOR AND FRAME SCHEDULE				FINISH/FACING	HARDWARE GROUP	LABEL (MIN.)	NOTES	DOOR NUMBER
		SIZE			ELEV. TYPE	MATERIAL	NEW/EXISTING	ELEV. TYPE	MATERIAL					
		WIDTH	HEIGHT	THICK										
001	N	72"	93 1/2"											001
101A	N	36"	84"											101A
102A	N	36"	84"											102A
102B	N	36"	84"											102B
102C	N	60"	84"											102C
102D	N	60"	84"											102D
102E	N	60"	84"											102E
102F	N	60"	84"											102F
102G	N	72"	84"											102G
103A	N	36"	84"											103A
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107A	N	36"	84"											107A
108A	N	36"	84"											108A
108B	N	36"	84"											108B
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110A	N	36"	84"											110A
111A	N	36"	84"											111A
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118A	N	36"	84"											118A
119A	N	36"	84"											119A
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123A	N	36"	84"											123A
124A	N	36"	84"											124A
125A	N	36"	84"											125A
126A	N	36"	84"											126A
127C	N	72"	84"											127C
127D	N	72"	84"											127D
127E	N	72"	84"											127E
127F	N	72"	84"											127F
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202A	N	36"	84"											202A
202B	N	36"	84"											202B
202C	N	60"	84"											202C
202D	N	60"	84"											202D
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B102C	N	60"	84"											B102C
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P501A	N	72"	84"											P501A

Rev # Date Description

Job # 10195  
CAD File  
Drawn Author Checked Checker  
Date 2010-08-04  
Owner # 10026750  
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DOOR SCHEDULE

AE700

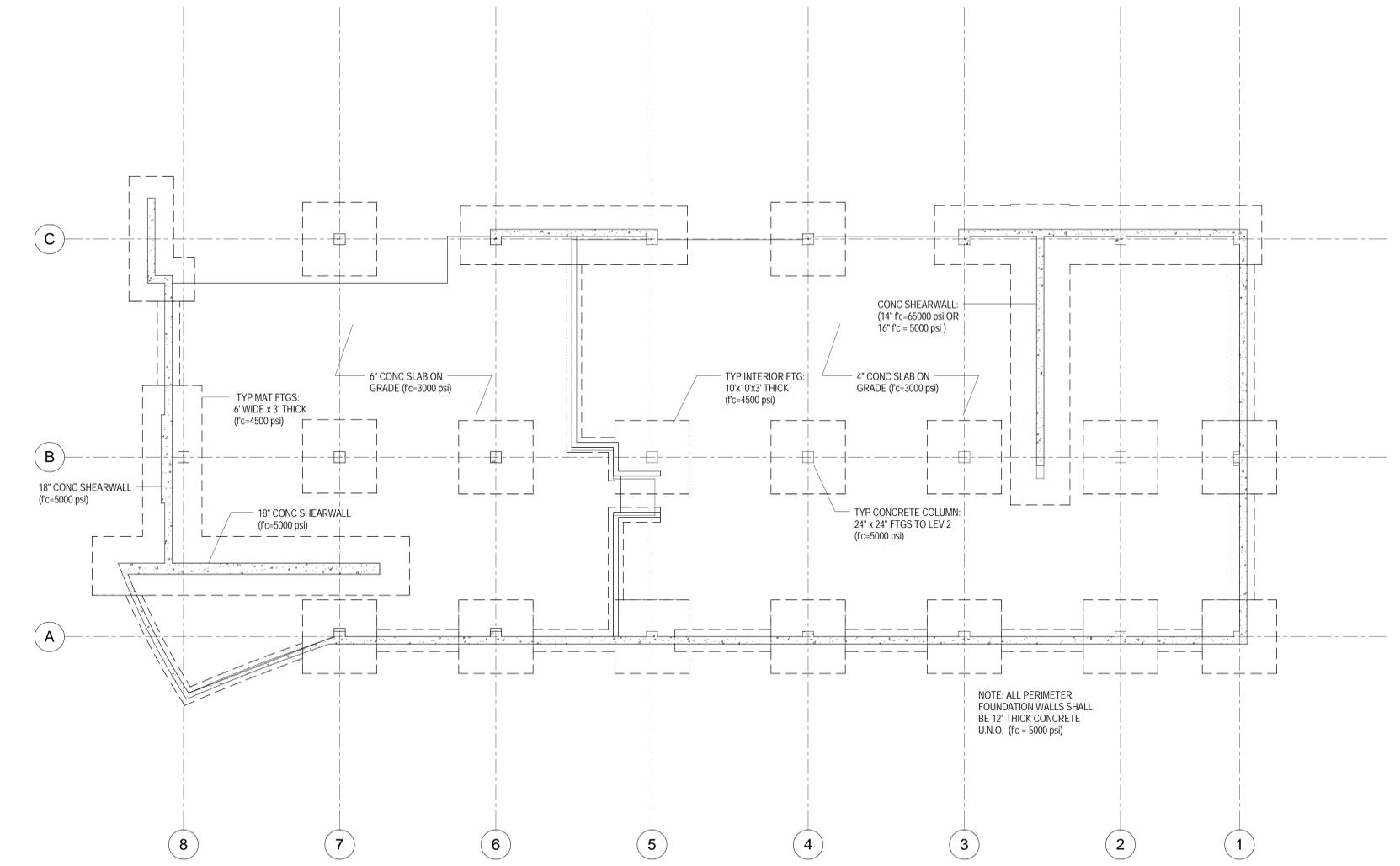


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1 Level 0  
SB101 SCALE: 1/8" = 1'-0"

Rev #	Date	Description

Job # 10195  
CAD File  
Drawn GAC Checked JJ  
Date 2010-08-04  
Owner #  
Ins. #  
LEVEL 0 - FOOTING & FOUNDATION PLAN

SB101

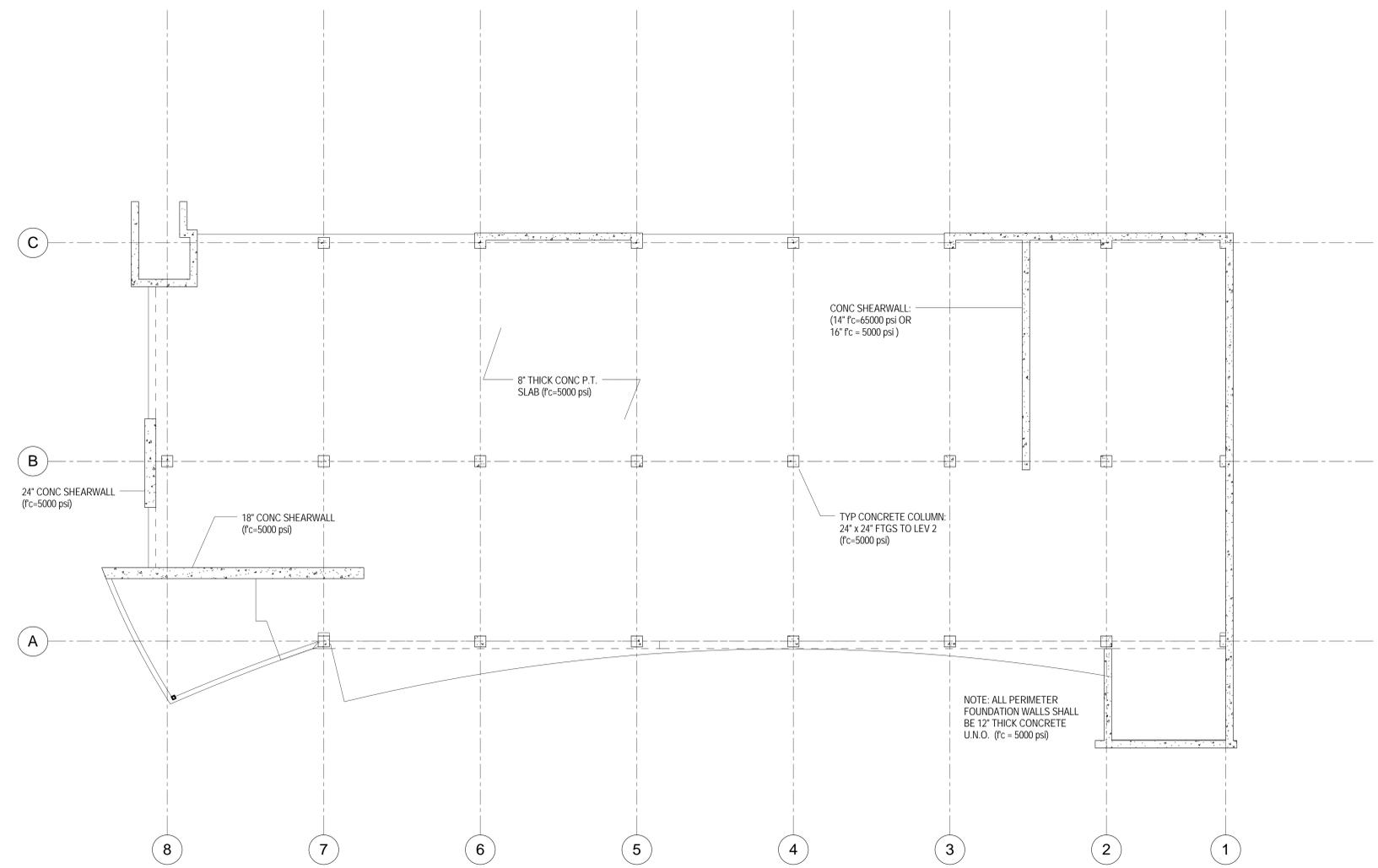
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**1** Level 1  
SF101 SCALE: 1/8" = 1'-0"

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Job # 10195  
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Drawn Author Checked Checker  
Date 2010-08-04  
Owner #  
Ins. #

LEVEL 1 FLOOR  
FRAMING PLAN

SF101

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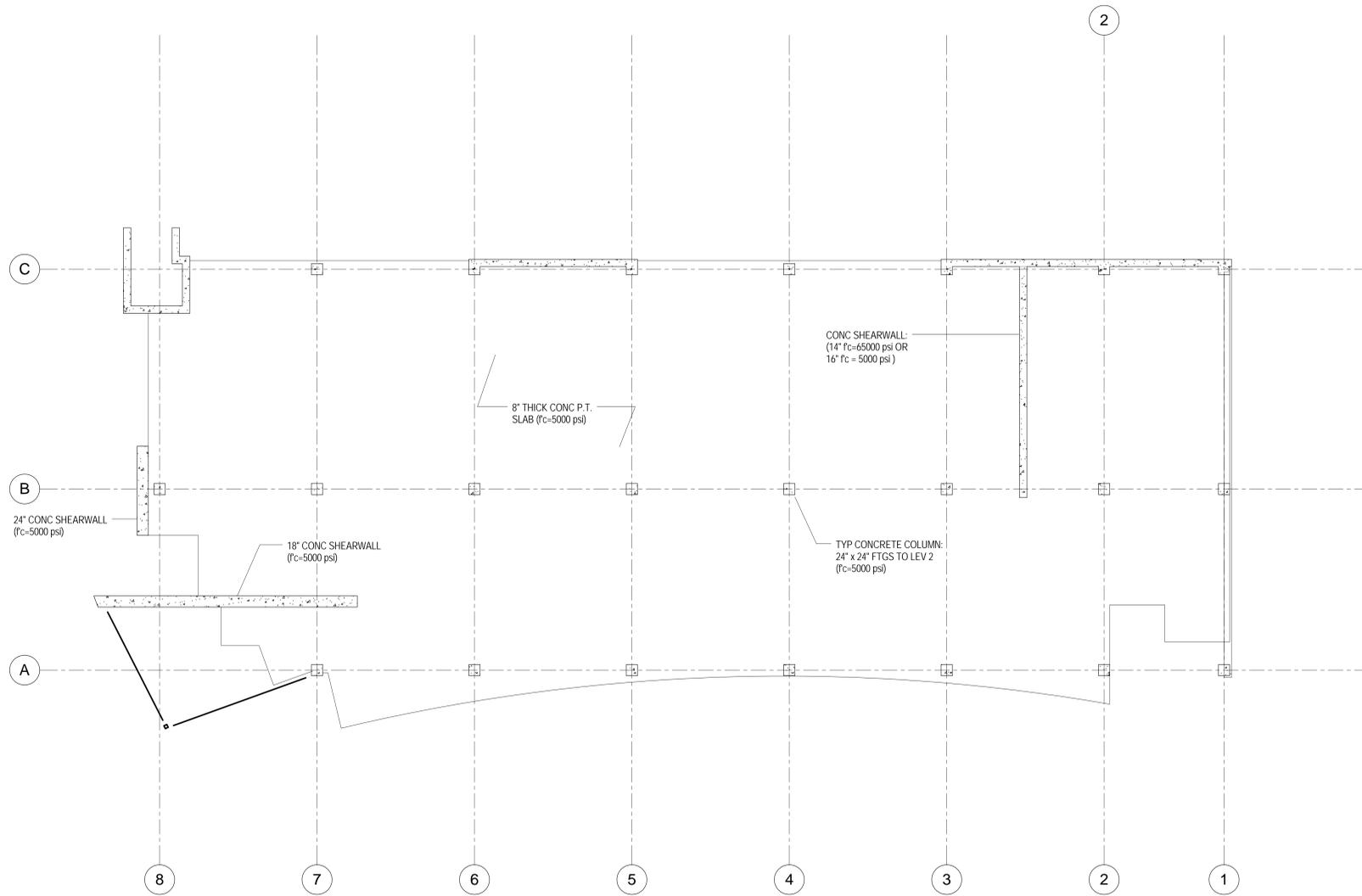


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1 Level 2  
SF102 SCALE: 1/8" = 1'-0"

Rev # Date Description

Job #	10195		
CAD File			
Drawn	Author	Checked	Checker
Date	2010-08-04		
Owner #			
Ins. #			

LEVEL 2 FLOOR  
FRAMING PLAN

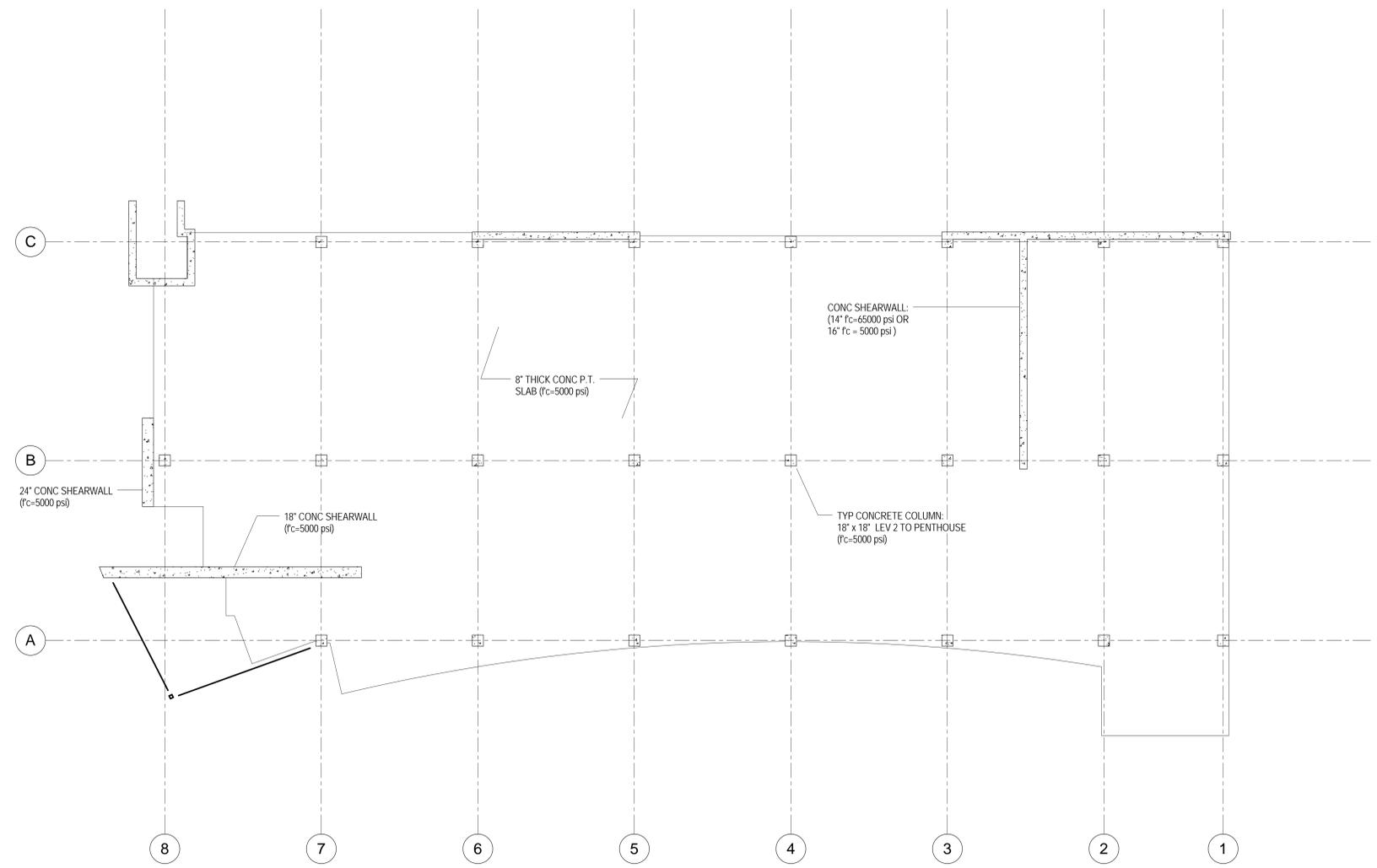
SF102



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1 Level 3  
SF103 SCALE: 1/8" = 1'-0"

Rev # Date Description

Job # 10195  
CAD File  
Drawn Author Checked Checker  
Date 2010-08-04  
Owner #  
Ins. #

LEVEL 3 FLOOR  
FRAMING PLAN

SF103

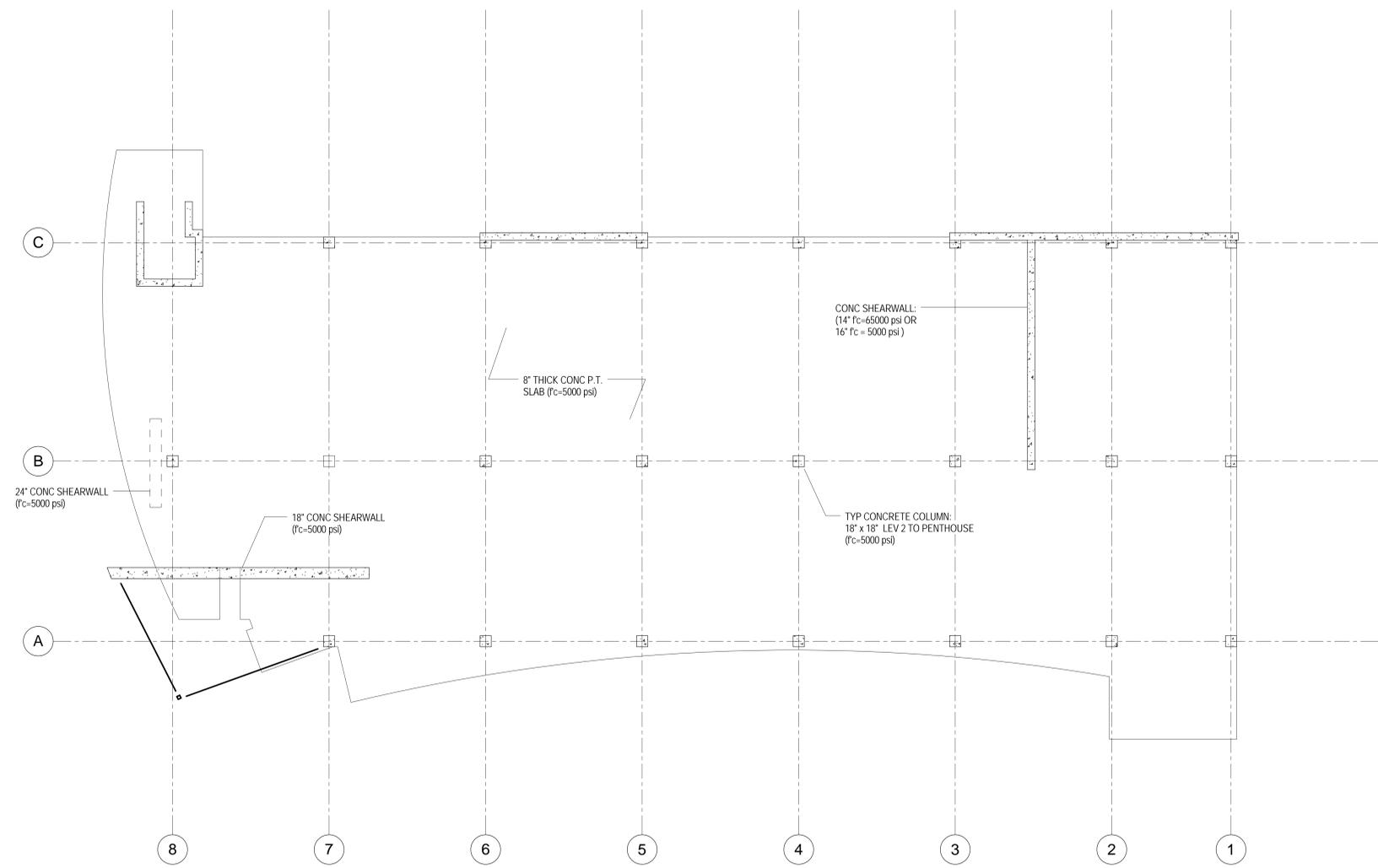
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1 Level 4  
SF104 SCALE: 1/8" = 1'-0"

Rev #	Date	Description

Job #	10195
CAD File	
Drawn	Author
Checked	Checker
Date	2010-08-04
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Ins. #	

LEVEL 4 FLOOR  
FRAMING PLAN

SF104

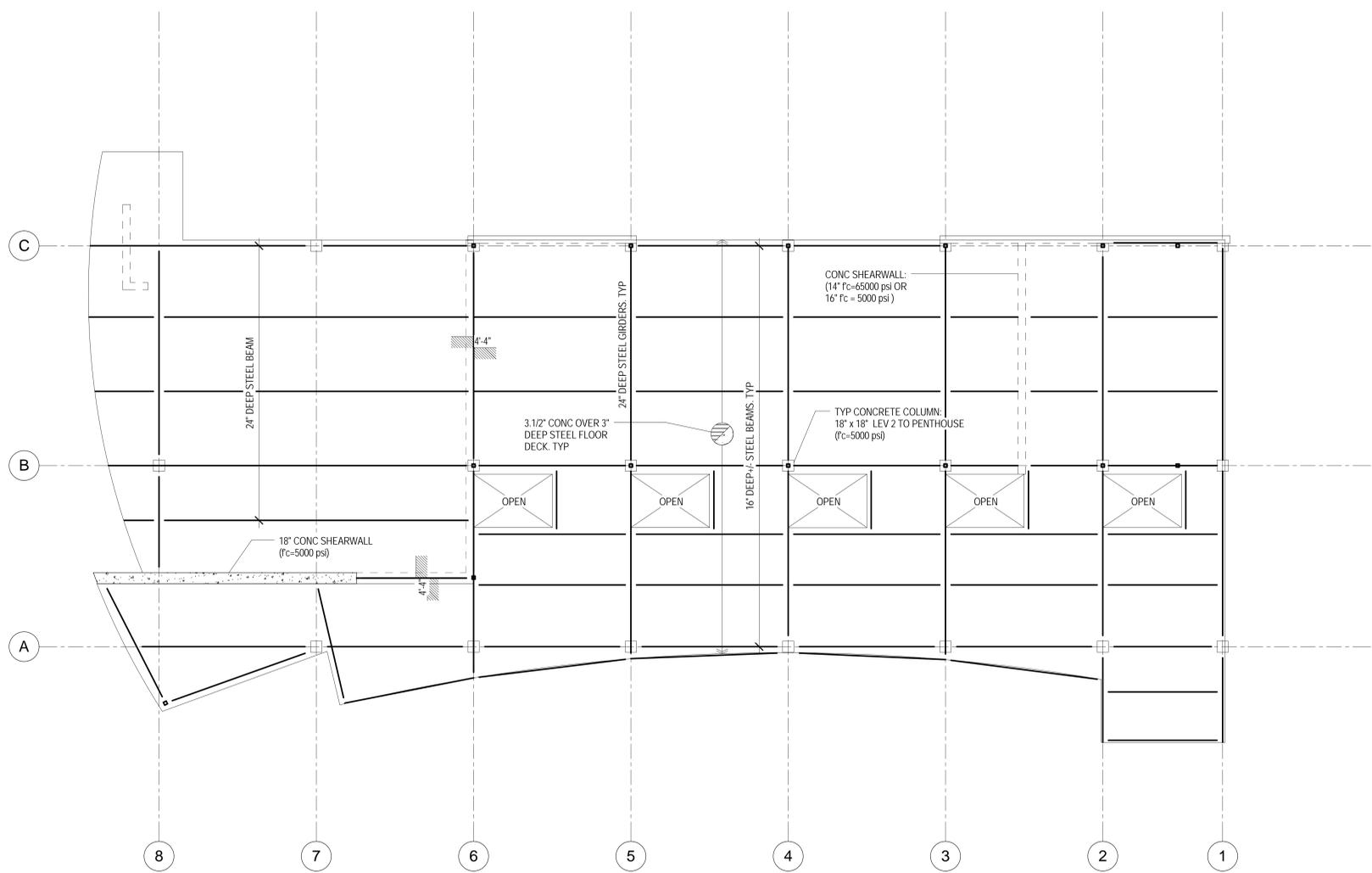
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**THATCHER ADDITION TO CHEMISTRY**  
University of Utah  
315 South 1400 East Rm. 2020 Salt Lake City, Utah 84112-0850  
Schematic Design



1 LEVEL 5 PENTHOUSE  
SF105 SCALE: 1/8" = 1'-0"

Rev #	Date	Description

Job #	10195
Drawn	Author
Date	2010-08-04
Owner #	
Ins. #	

LEVEL 5 ROOF - MECH  
PENTHOUSE FLOOR  
FRAMING PLAN

SF105

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# THATCHER ADDITION TO CHEMISTRY

University of Utah  
315 South 1400 East Rm. 2020 Salt Lake City, Utah 84112-0850  
Schematic Design



1 MECH PENTHOUSE ROOF  
SF106 SCALE: 1/8" = 1'-0"

Rev # Date Description

Job # 10195  
CAD File  
Drawn Author Checked Checker  
Date 2010-08-04  
Owner #  
Ins. #

MECH PENTHOUSE  
ROOF FRAMING PLAN

SF106

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# LEGEND OF MECHANICAL SYMBOLS AND ABBREVIATIONS

## MECHANICAL

	POSITIVE PRESSURE DUCT - RISE
	POSITIVE PRESSURE DUCT - DROP
	NEGATIVE PRESSURE DUCT - RISE
	NEGATIVE PRESSURE DUCT - DROP
	ROUND DUCT - RISE
	ROUND DUCT - DROP
	UNDER FLOOR DUCT
	TURNING VANES
	FRESH AIR LOUVER
	RELIEF AIR OR EXHAUST AIR LOUVER
	CEILING SUPPLY DIFFUSER
	CEILING RETURN REGISTER
	CEILING EXHAUST REGISTER, (BALANCE TO MATCH SUPPLY IF RETURN CFM IS NOT SHOWN)
	SIDEWALL SUPPLY REGISTER
	SIDEWALL EXHAUST OR RETURN REGISTER
	CEILING SUPPLY DIFFUSER WITH FLEXIBLE DUCT
	CEILING AIR GRILLE WITH FLEXIBLE DUCT
	CEILING RETURN AIR GRILLE W/ SOUND BOOT
	LINEAR DIFFUSER WITH PLENUM AND FLEXIBLE DUCT CONNECTION, NO. OF SLOTS & SIZE OF SLOT ON TOP, ACTIVE LENGTH AND CFM ON BOTTOM
	FLEXIBLE DUCT CONNECTION
	FLEXIBLE DUCT
	FAN
	FLAT OVAL DUCT WITH NET INSIDE DIMENSIONS SHOWN IN INCHES.
	RECTANGULAR DUCT WITH NET INSIDE DIMENSIONS SHOWN IN INCHES.
	ROUND DUCT WITH NET INSIDE DIMENSIONS SHOWN IN INCHES.
	INCLINED RISE
	INCLINED DROP
	R/W=1. ROUND DUCT SIMILAR TO RECTANGULAR
	RECTANGULAR TO ROUND DUCT TRANSFORMATION EXCEPT WHERE SHOWN OTHERWISE.
	RECTANGULAR TO ROUND DUCT TRANSFORMATION BRANCH DUCT SPLIT WITH 8" WIDTH AND MIN. R=WIDTH OF BRANCH DUCT DOWNSTREAM. ELBOW TURNING VANE OPTIONAL.
	TAP ENTRY AREA EQUALS 150% OF BRANCH AREA
	HIGH EFFICIENCY FITTING
	MANUAL VOLUME DAMPER
	FIRE DAMPER IN DUCT, W/ ACCESS PANEL REQD.
	COMBINATION FIRE/SMOKE DAMPER W/ ACCESS PANEL
	SMOKE DAMPER W/ ACCESS PANEL
	BACK DRAFT DAMPER
	ATC DAMPER
	ACCESS PANEL IN DUCT OR PLENUM
	HEATING OR COOLING COIL IN DUCT
	SINGLE DUCT AIR TERMINAL BOX VARIABLE OR CONSTANT VOLUME, MIN. 1-1/2" TERMINAL INLET SIZE STRAIGHT DUCT AT TERMINAL INLET.
	4-WAY BLOW PATTERN
	3-WAY BLOW PATTERN
	2-WAY BLOW PATTERN
	2-WAY BLOW PATTERN
	1-WAY BLOW PATTERN
	DUCT SMOKE DETECTOR
	UNIT HEATER

## MECHANICAL CONT.

	RELIEF AIR HEPA FILTER
	FLOOR SINK
	FLOOR DRAIN
	FLOOR CLEAN-OUT OR CLEAN-OUT TO GRADE
	ROOF DRAIN
	DOWNSPOUT NOZZLE
	ARROW INDICATES DIRECTION OF FLOW IN PIPE
	CHECK VALVE
	PRESSURE REDUCING, EXTERNAL PRESSURE VALVE
	PRESSURE REDUCING, SELF CONTAINED VALVE
	ATC VALVE - 2 WAY
	ATC VALVE - 3 WAY
	SOLENOID VALVE
	GATE VALVE
	GATE VALVE - NON RISING STEM
	GLOBE VALVE
	TEMPERATURE AND PRESSURE TEST PORT
	PRESSURE SWITCH
	GAS COCK
	CALIBRATED BALANCING VALVE WITH GPM INDICATED
	REDUCED PRESSURE BACKFLOW PREVENTOR W/ DRAIN PAN
	BRANCH - BOTTOM CONNECTION
	BRANCH - TOP CONNECTION
	BRANCH - SIDE CONNECTION
	RISE OR DROP
	RISE - DOWN (ELBOW)
	RISE - DOWN (ELBOW)
	VENT THRU ROOF
	WATER HAMMER ARRESTOR
	INLINE PUMP
	INLINE PUMP
	WALL CLEAN-OUT
	RELIEF VALVE
	ANGLE VALVE
	FLOW METER
	UNION
	BALANCING COCK
	SHUT-OFF COCK FOR USE WITH PRESSURE GAUGE
	FLEXIBLE EXPANSION JOINT
	THERMOMETER - TEMP RANGE AS INDICATED
	PRESSURE GAUGE WITH SHUT-OFF COCK
	PRESSURE GAUGE WITH PIGTAIL
	LATERAL STRAINER WITH BLOW-OFF VALVE, PROVIDE HOSE END WITH CAP WHERE DISCHARGE IS NOT PIPED TO DRAIN
	BALL VALVE (PIPE SIZES 2" AND SMALLER)
	BUTTERFLY VALVE (PIPE SIZES 2-1/2" AND LARGER)
	MOTOR OPERATED BUTTERFLY VALVE
	VALVE IN RISE

## PLUMBING

## PLUMBING CONT.

	AIR VENT-MANUAL
	AIR VENT-AUTO
	FLOW SWITCH
	REDUCER
	CONCENTRIC REDUCER
	ECCENTRIC REDUCER
	THERMOSTATIC MIXING VALVE
	HOSE BIBB
	PIPE CAP
	SWITCH
	FLOW METER
	SENSOR
	THERMOSTAT
	NIGHT THERMOSTAT
	FILL PORT
	DRAIN PAN AND P-TRAP
	FIXTURE FROM LEVEL ABOVE
	FLOW METER ORIFICE
	FLANGE
	90° ELBOW
	STEAM TRAP, F&T=FLOAT & THERMOSTATIC
	45° ELBOW
	B=BUCKET, T=THERMOSTATIC
	LEADER INDICATES DOWNWARD SLOPE
	DEMOLITION
	ALIGNMENT GUIDE
	ANCHOR
	LUBRICATED PLUG COCK
	PLUMBING FIXTURES
	POINT OF CONNECTION
	SECTION TAG - TOP FIGURE IS SECTION NO. BOTTOM FIGURE IS SHEET NO.
	DETAIL TAG - TOP FIGURE IS DETAIL NO. BOTTOM FIGURE IS SHEET NO.
	EQUIPMENT IDENTIFICATION
	KEYED NOTE IDENTIFICATION
	HOSE VALVE
	NRS GATE VALVE WITH SUPERVISION
	FIRE RISER
	FIRE SPRINKLER WATER
	CONCEALED SPRINKLER HEAD
	UPRIGHT SPRINKLER HEAD
	DRY PENDENT SPRINKLER HEAD
	DRY FIRE RISER

## SYMBOLS

## FIRE

## ENVIRONMENTAL

	DPS DIFFERENTIAL PRESSURE SENSOR
	DPM DIFFERENTIAL PRESSURE MONITOR
	MS MULTI-SENSOR (TEMP, RH, LIGHT)
	ACID VENT
	ACID WASTE
	BOILER BLOW DOWN
	BOILER FEED WATER
	BRINE
	CARBON DIOXIDE
	COMPRESSED AIR
	CHEMICAL FEED
	CHILLED WATER SUPPLY
	CHILLED WATER RETURN
	CONDENSER WATER SUPPLY
	CONDENSER WATER RETURN
	DOMESTIC COLD WATER (DCW)
	DOMESTIC HOT WATER (DHW)
	DOMESTIC HOT WATER RETURN (DHW)
	DEIONIZED WATER SUPPLY
	DEIONIZED WATER RETURN
	EXISTING PIPING
	EXISTING PIPING TO BE REMOVED
	GLYCOL HEAT RECOVERY SUPPLY PIPING
	GLYCOL HEAT RECOVERY RETURN PIPING
	GLYCOL PIPING SOLUTION
	FUEL OIL RETURN
	FUEL OIL SUPPLY
	FUEL OIL VENT
	NATURAL GAS
	HOT GAS
	HELICOPTER FUEL RETURN
	HELICOPTER FUEL SUPPLY
	HIGH PRESSURE DOMESTIC WATER
	HIGH PRESSURE CONDENSATE
	HIGH PRESSURE STEAM
	HEATING HOT WATER RETURN
	HEATING HOT WATER SUPPLY
	INSTRUMENT AIR
	INSTRUMENT AIR AT PRESSURE INDICATED
	LAB AIR
	LAB VACUUM
	LOW PRESSURE CONDENSATE HEAD
	LIQUIFIED PETROLEUM GAS
	LOW PRESSURE STEAM
	MEDICAL AIR
	MEDICAL AIR AT PRESSURE INDICATED
	MEDIUM PRESSURE CONDENSATE

## LINETYPES

## LINETYPES CONT.

	MEDIUM PRESSURE STEAM
	MAKE UP WATER
	MEDICAL VACUUM
	NITROGEN
	NITROUS OXIDE
	MEDICAL OXYGEN
	MEDICAL OXYGEN AT PRESSURE INDICATED
	PUMPED CONDENSATE
	REVERSE OSMOSIS WATER SUPPLY
	REVERSE OSMOSIS WATER RETURN
	ROOF DRAIN
	ROOF DRAIN OVERFLOW
	REFRIGERANT LIQUID
	REFRIGERANT SUCTION
	SEWER (BELOW GRADE)
	SEWER (ABOVE GRADE)
	SOFT DOMESTIC WATER (SW)
	VACUUM
	VENT (SEWER)
	LAB WATER
	LAB WATER RETURN
	TEMPERED WATER SUPPLY
	TEMPERED WATER RETURN
	FLUSH VALVE SUPPLY
	INDUSTRIAL SOFT COLD WATER
	INDUSTRIAL COLD WATER
	COMPRESSED AIR
	INDUSTRIAL HOT WATER RETURN
	INDUSTRIAL HOT WATER



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THATCHER ADDITION TO CHEMISTRY

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DFCM PROJECT # 10026750  
315 South 1400 East Rm. 2020 Salt Lake City, Utah  
Schematic Design

Rev # Date Description

Job # 10195  
CAD File  
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MECHANICAL LEGEND

M000



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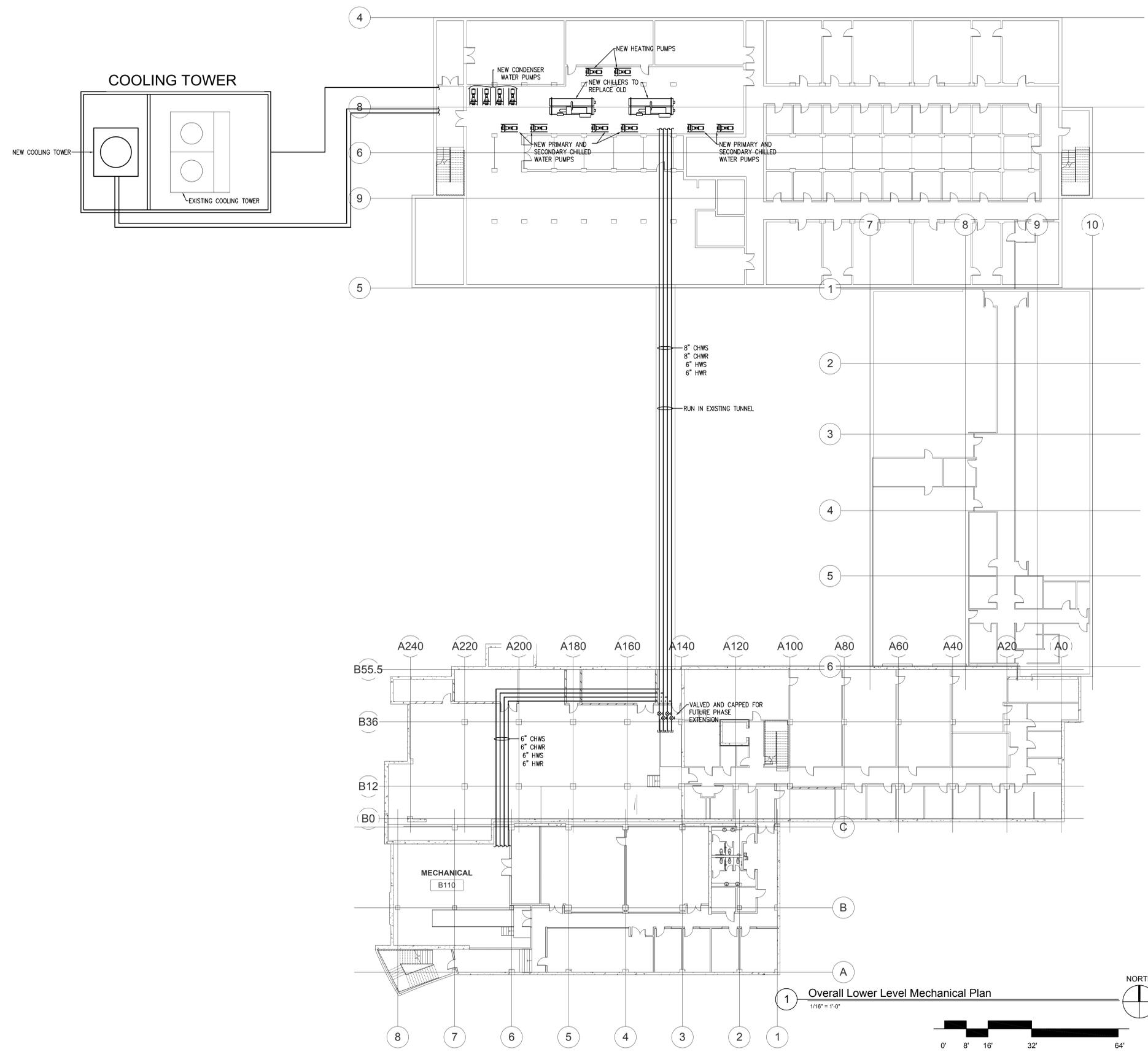
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OVERALL LOWER LEVEL  
MECHANICAL PLAN

M090



1 Overall Lower Level Mechanical Plan  
1/16" = 1'-0"



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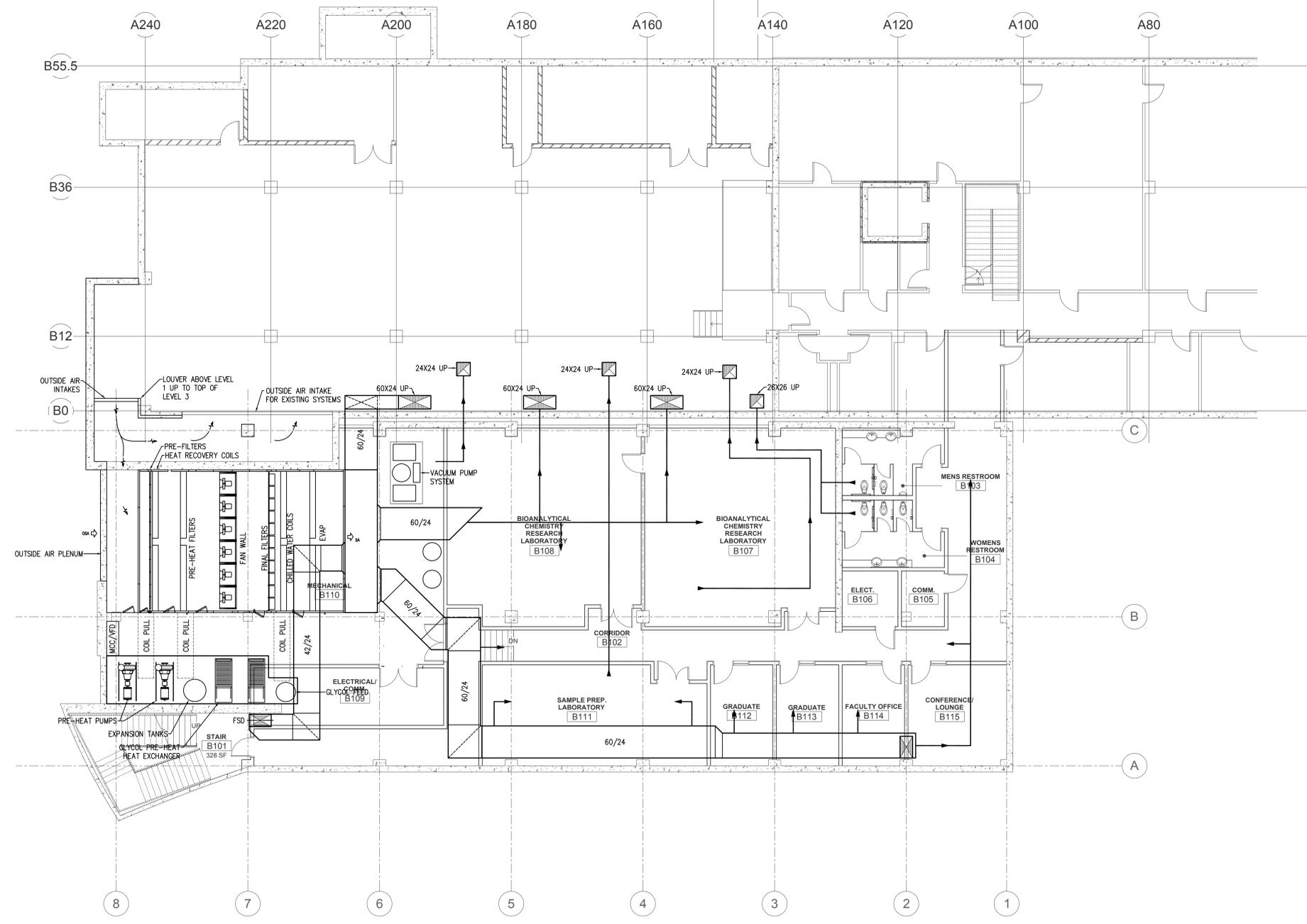


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1 **Basement Level Mechanical Plan**  
1/8" = 1'-0"  
NORTH  
0' 4' 8' 16' 32'

Rev #	Date	Description

Job # 10195  
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BASEMENT LEVEL  
MECHANICAL PLAN

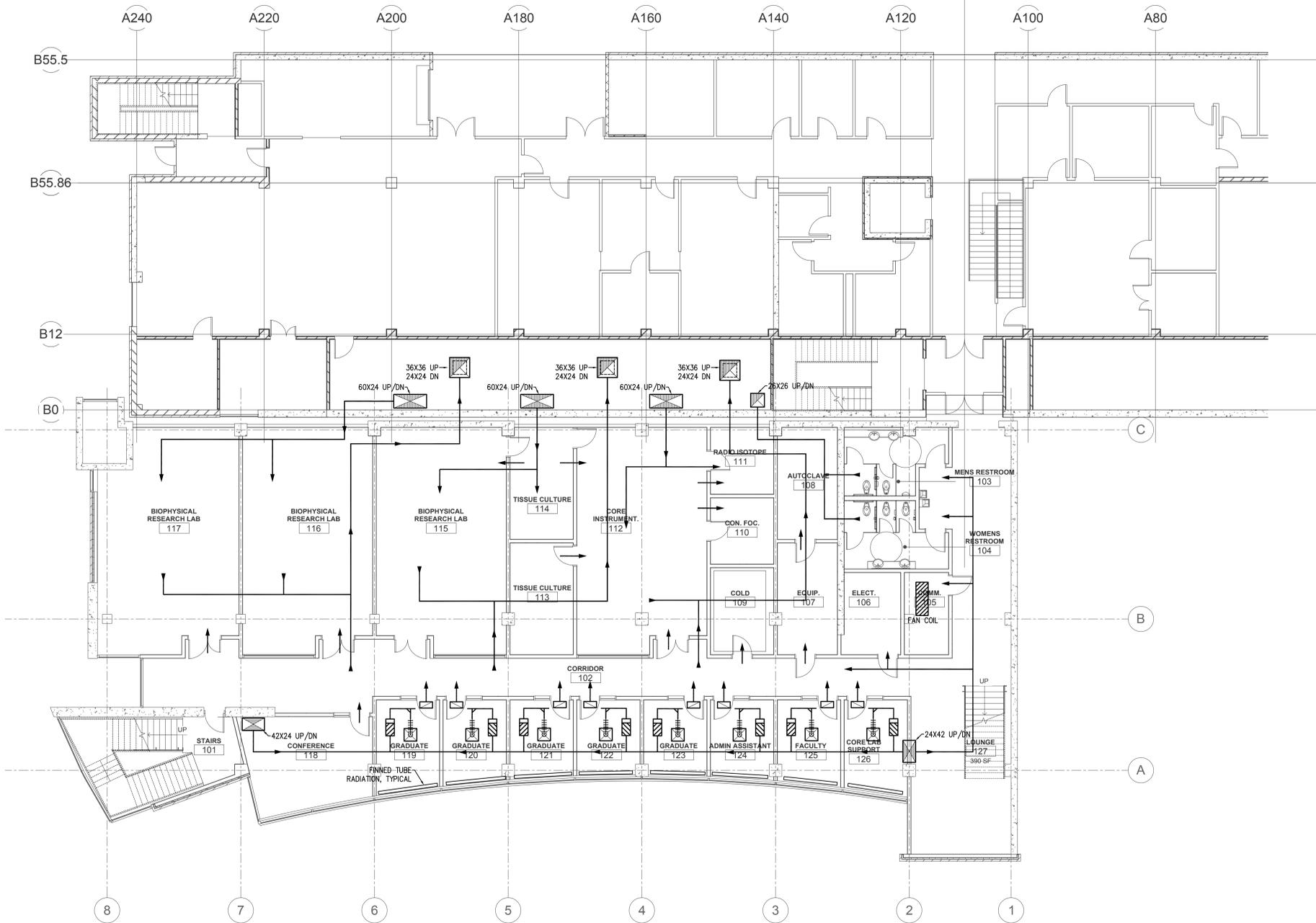
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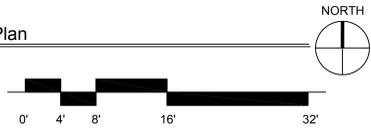
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1 First Floor Mechanical Plan  
1/8" = 1'-0"



THATCHER ADDITION TO CHEMISTRY

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Schematic Design

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FIRST FLOOR  
MECHANICAL PLAN

M101

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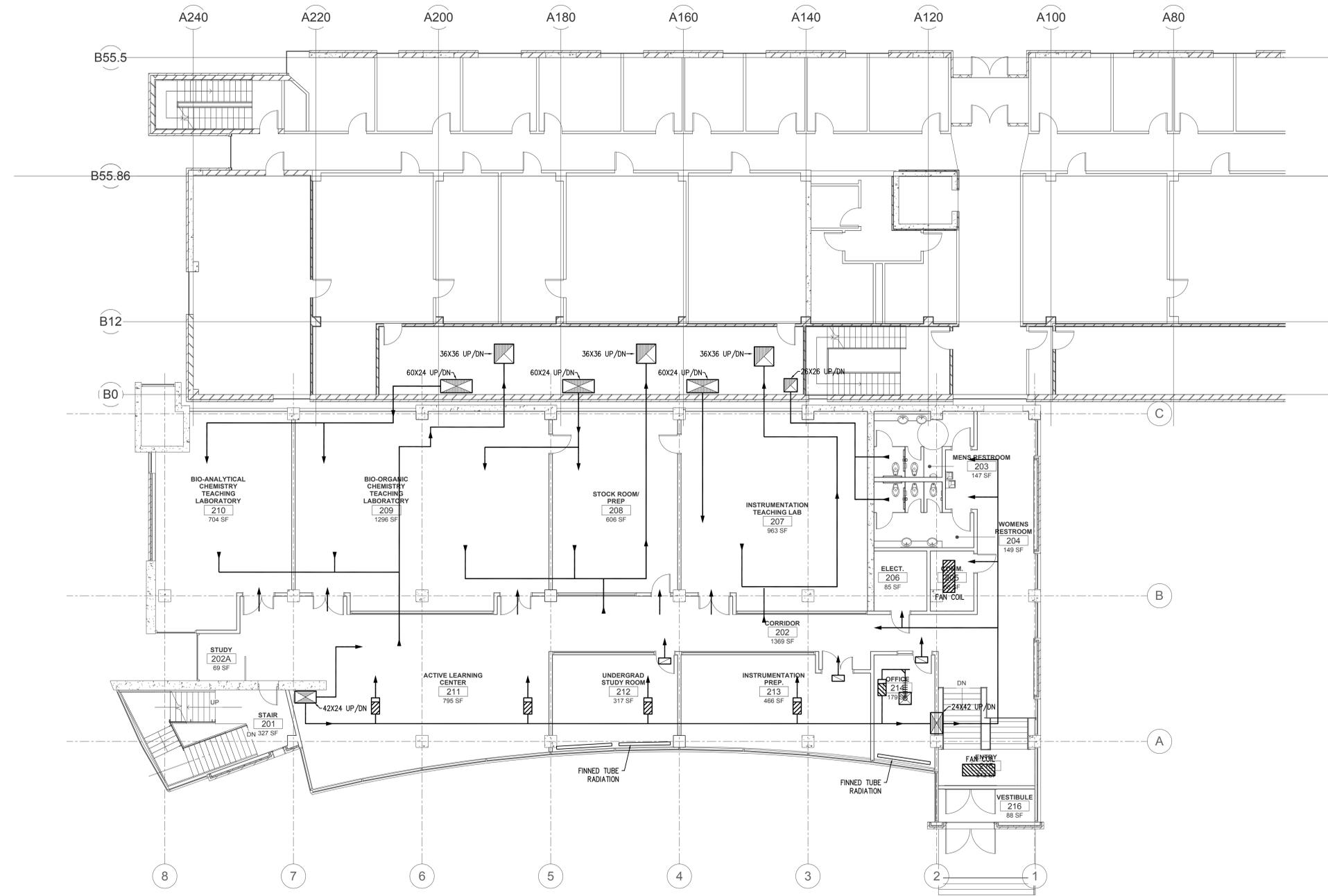


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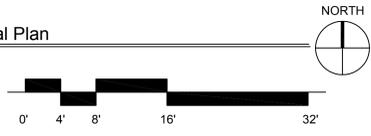
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1 Second Floor Mechanical Plan  
1/8" = 1'-0"



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SECOND FLOOR  
MECHANICAL PLAN

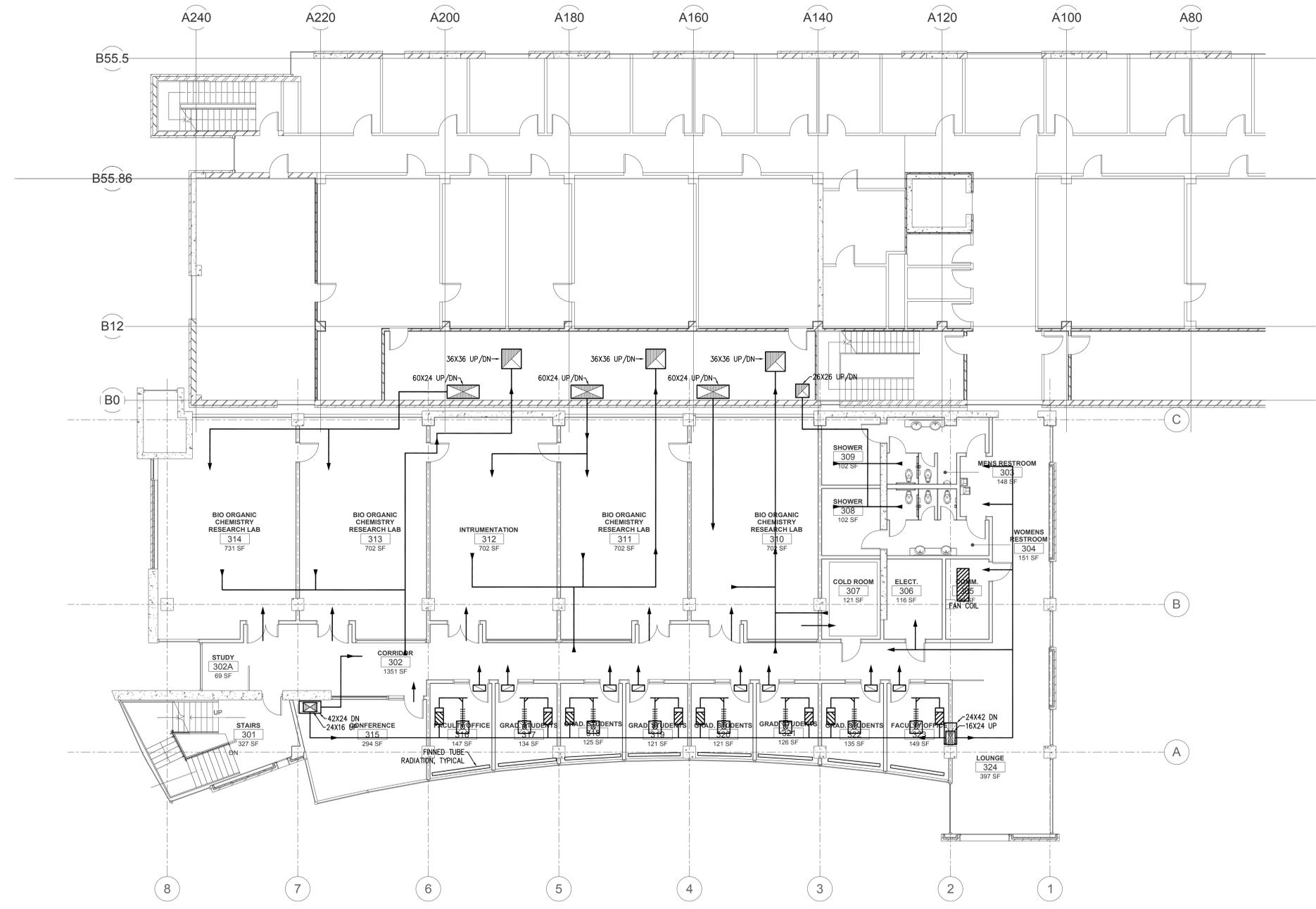
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1 Third Floor Mechanical Plan  
1/8" = 1'-0"

NORTH

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Schematic Design

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THIRD FLOOR  
MECHANICAL PLAN

M103

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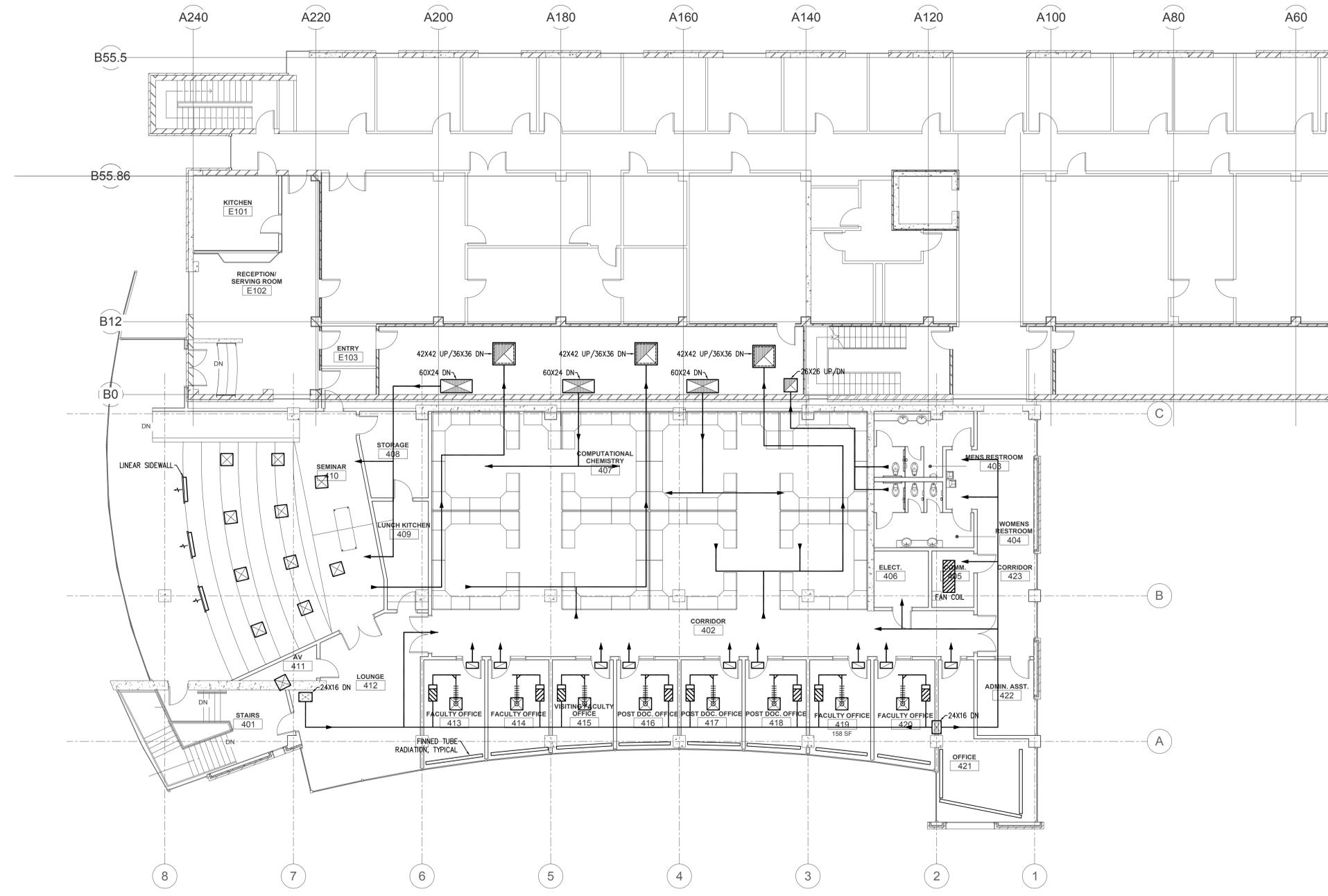


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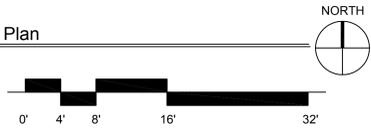
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1 Fourth Floor Mechanical Plan  
1/8" = 1'-0"



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FOURTH FLOOR  
MECHANICAL PLAN

M104

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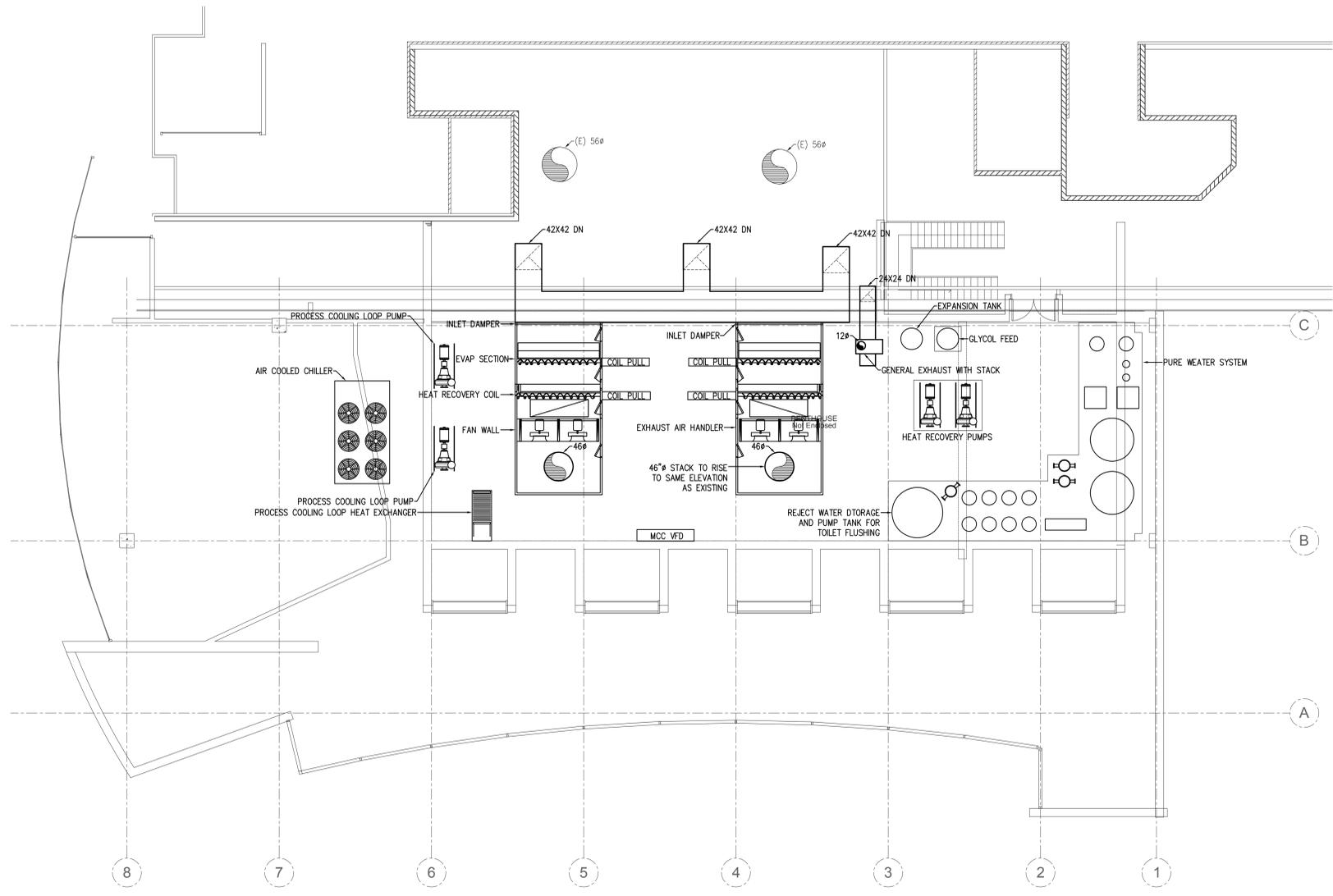


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1 Penthouse Mechanical Plan  
1/8" = 1'-0"  
NORTH  
0' 4' 8' 16' 32'

THATCHER ADDITION TO CHEMISTRY

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PENTHOUSE  
MECHANICAL PLAN

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FAN COIL, COIL SCHEDULE													
ID	USAGE	AIRFLOW (CFM)	LOAD (BTUH)	HYDRONIC				PHYSICAL				NOTES	
				ENTERING TEMP. (°F)	LEAVING TEMP. (°F)	FLOW RATE (GPM)	ENTERING/LEAVING TEMP. (°F)	WORKING FLUID	HEAD LOSS (FT)	PIPE HYDRONIC CHANGEOVER	MINIMUM NO. FINS PER INCH		
DC142	COOLING	7000	6400	5064.1	5064.1	15.5	4357.5	40% P.GLY	5		NO	00	
FC10-1	HEATING	921	41300	41300	6548.1	114,985.3	4.5	??	WATER	5	NO	00	
	COOLING	821	21000	17800	8038.8	88,948.7	4	4353.3	40% P.GLY	5		00	
FC1-20	HEATING	2000	89700	89700	6548.1	114,985.3	9	??	WATER	5	NO	00	
	COOLING	2000	48400	41500	8038.8	87,941	8	4326.7	40% P.GLY	5		00	

1. HORIZONTAL EXPOSED MODEL W/ 2" 30% FILTERS & CONDENSATE PUMP.

FILTER SCHEDULE										
ID	MANUFACTURER AND MODEL NUMBER	LOCATION	TYPE	EFFICIENCY (%)	AIR CLEANING (IN. WATER)	STATIC PRESSURE (IN. WATER)	DIRTY STATIC PRESSURE (IN. WATER)	PHYSICAL NUMBER OF MODULES	17" HIGH MODULES	NOTES
FAH-1.1	FARR 3030	AH-1	FLAT	30%	0.2	0.5	0.5	50	15	
FAH-1.2	FARR RIGID FLOW 200PH	AH-1	FLAT	90%	0.4	0.75	0.75	50	15	
FAH-2	FARR 3030	AH-2	FLAT	30%	0.2	0.5	0.5	30	5	
FAH-3	FARR 3030	AH-3	FLAT	30%	0.2	0.5	0.5	30	5	

HEAT EXCHANGER SCHEDULE																
ID	MANUFACTURER AND MODEL NUMBER	LOCATION	TYPE	USAGE (BTUH)	SOURCE MEDIUM (HYDRONIC)				TRANSFER MEDIUM (HYDRONIC)				PHYSICAL		NOTES	
					LOAD RATE (GPM)	FLOW RATE (GPM)	TEMP. (°F)	WORKING FLUID	HEAD LOSS (FT)	WORKING FLUID	TEMP. (°F)	WORKING FLUID	HEAD LOSS (FT)	DIAPHRAGM NO. PLATES (IN/W)		SURFACE AREA (FT²)
HX-1			PLATE & FRAME	HEATING	180000	101.7	101.7	101.7	100/140	40% P.GLY	15	105.9	100/140	40% P.GLY	15	
HX-2			PLATE & FRAME	HEATING	180000	101.7	101.7	101.7	100/140	40% P.GLY	15	105.9	100/140	40% P.GLY	15	
HX-3			PLATE & FRAME	NONE	---	---	---	---	---	---	---	---	---	---		
HX-4			PLATE & FRAME	COOLING	48000	88.8	4254	4254	40% P.GLY	15	96.1	7090	WATER	15		

IMPOSED LOAD SCHEDULE													
ID	MANUFACTURER AND MODEL NUMBER	LOCATION	USAGE (BTUH)	FLUID				PHYSICAL				NOTES	
				LOAD RATE (GPM)	FLOW RATE (GPM)	TEMP. (°F)	WORKING FLUID	HEAD LOSS (FT)	LENGTH (IN)	WIDTH (IN)	HEIGHT (IN)		
ICL-1			COOLING	1514400	297.4	4254.6	WATER	5					
			HEATING	500000	512.7	180180	WATER	5					
			COOLING	8600	16.2	8070	WATER	5					
			COOLING	8600	16.2	8070	WATER	5					
			COOLING	8600	16.2	8070	WATER	5					
			COOLING	8600	16.2	8070	WATER	5					
			COOLING	8600	16.2	8070	WATER	5					

STEAM IMPOSED LOAD SCHEDULE													
ID	MANUFACTURER AND MODEL NUMBER	LOCATION	USAGE (BTUH)	STEAM				PHYSICAL				NOTES	
				LOAD RATE (GPM)	FLOW RATE (GPM)	TEMP. (°F)	ENTERING PRESSURE (PSIG)	LENGTH (IN)	WIDTH (IN)	HEIGHT (IN)			
HL-1			HEATING	10380	115	48.4							
HL-2			HEATING	10380	115	48.4							

PUMP SCHEDULE																
ID	MANUFACTURER AND MODEL NUMBER	LOCATION	TYPE	FLUID				PUMP				ELECTRICAL		MOTOR SPEED (RPM)	MOTOR VOLTAGE (V)	NOTES
				LOAD RATE (GPM)	FLOW RATE (GPM)	TEMP. (°F)	WORKING FLUID	HEAD LOSS (FT)	EFFICIENCY (%)	CONSTRUCTION	SIZE (IN)	HP				
P-1	TACO TA2350		HORIZ FRAME MOUNT SPLIT-CASE	2238	WATER	40.9	82.5	IRON	40	27,964	1160	4800/90				
P-2	TACO TA2350		HORIZ FRAME MOUNT SPLIT-CASE	2238	WATER	40.9	82.5	IRON	40	27,964	1160	4800/90				
P-3	TACO TA2350		HORIZ FRAME MOUNT SPLIT-CASE	2238	WATER	35.8	80.9	IRON	30	25,052	1160	4800/90				
P-4	TACO TA2350		HORIZ FRAME MOUNT SPLIT-CASE	2238	WATER	35.8	80.9	IRON	30	25,052	1160	4800/90				
P-5	TACO FB011		HORIZ FRAME MOUNT END-SUCTION	0	WATER	0	0	OTHER	10	8,417	1160	4800/90				1
P-6	TACO FB011		HORIZ FRAME MOUNT END-SUCTION	1127.6	WATER	22	74.5	BRONZE FITTED	10	8,417	1160	4800/90				2
P-7	TACO FB011		HORIZ FRAME MOUNT END-SUCTION	1127.6	WATER	22	74.5	BRONZE FITTED	10	8,417	1160	4800/90				2
P-8	TACO TA2824		HORIZ FRAME MOUNT SPLIT-CASE	2262.2	WATER	85.5	79.4	IRON	75	63,520	1760	4800/90				1
P-9	TACO TA2824		HORIZ FRAME MOUNT SPLIT-CASE	2262.2	WATER	85.5	79.4	IRON	75	63,520	1760	4800/90				2
P-10	TACO FB011		HORIZ FRAME MOUNT END-SUCTION	1095.6	WATER	41	83.8	BRONZE FITTED	15	13,064	1160	4800/90				2
P-11	TACO FB011		HORIZ FRAME MOUNT END-SUCTION	1095.6	WATER	41	83.8	BRONZE FITTED	15	13,064	1160	4800/90				2
P-12	TACO FB011		HORIZ FRAME MOUNT END-SUCTION	1095.6	WATER	41	83.8	BRONZE FITTED	15	13,064	1160	4800/90				2
P-13	TACO FB011		HORIZ FRAME MOUNT END-SUCTION	73.8	40% P.GLY	83.3	45	BRONZE FITTED	7.5	4,013	1760	4800/90				4
P-14	TACO FB011		HORIZ FRAME MOUNT END-SUCTION	73.8	40% P.GLY	83.3	45	BRONZE FITTED	7.5	4,013	1760	4800/90				4
P-15	TACO FB011		HORIZ FRAME MOUNT END-SUCTION	482	WATER	33.7	82.2	BRONZE FITTED	5	4,918	1760	4800/90				3
P-16	TACO FB011		HORIZ FRAME MOUNT END-SUCTION	482	WATER	33.7	82.2	BRONZE FITTED	5	4,918	1760	4800/90				3
P-17	TACO FB011		HORIZ FRAME MOUNT END-SUCTION	115.9	40% P.GLY	73.1	63.8	BRONZE FITTED	5	3,303	1760	4800/90				4
P-18	TACO FB011		HORIZ FRAME MOUNT END-SUCTION	115.9	40% P.GLY	73.1	63.8	BRONZE FITTED	5	3,303	1760	4800/90				4
P-19	TACO FB011		HORIZ FRAME MOUNT END-SUCTION	179.6	40% P.GLY	83.7	63.9	BRONZE FITTED	15	6,946	1760	4800/90				5
P-20	TACO FB011		HORIZ FRAME MOUNT END-SUCTION	179.6	40% P.GLY	83.7	63.9	BRONZE FITTED	15	6,946	1760	4800/90				5

1. SUCTION DIFFUSER MODEL (SUCTION SIDE): NOT SPECIFIED, NON-GROOVED
2. SUCTION DIFFUSER MODEL (SUCTION SIDE): SD0800A, NON-GROOVED
3. SUCTION DIFFUSER MODEL (SUCTION SIDE): SD0600A, NON-GROOVED
4. SUCTION DIFFUSER MODEL (SUCTION SIDE): SD0400A, NON-GROOVED
5. SUCTION DIFFUSER MODEL (SUCTION SIDE): SD0400A, NON-GROOVED

SPACE SCHEDULE																			
ID	LOCATION	AIRFLOW (HEATING SEASON/COOLING SEASON)				RELIEF				EXHAUST				PRESSURIZATION		VENTILATION		AIR HEATING SEASON	
		HEATING RATE (CFM)	COOLING RATE (CFM)	HEATING RATE (CFM)	COOLING RATE (CFM)	HEATING RATE (CFM)	COOLING RATE (CFM)	HEATING RATE (CFM)	COOLING RATE (CFM)	HEATING RATE (CFM)	COOLING RATE (CFM)	HEATING RATE (CFM)	COOLING RATE (CFM)	HEATING RATE (CFM)	COOLING RATE (CFM)	HEATING RATE (CFM)	COOLING RATE (CFM)	HEATING RATE (CFM)	COOLING RATE (CFM)
	THATCHER CHEMISTRY ADDITION PHASE 1	80000000	00	00	00	80000000	00	00	00	80000000	00	00	00	00	00	00	00	7240	7245
	THATCHER CHEMISTRY ADDITION PHASE 2	4000040000	00	00	00	4000040000	00	00	00	4000040000	00	00	00	00	00	00	00	7240	7245

STACK SCHEDULE												
ID	MANUFACTURER AND MODEL NUMBER	LOCATION	TYPE	AIR				PHYSICAL				NOTES
				MAXIMUM AIRFLOW (CFM)	STATIC PRESSURE (IN. WATER)	TOTAL HEIGHT (IN)	THROAT DIAMETER (IN)	NO. MODULES	MINIMUM FACE AREA (FT²)	MINIMUM NO. RINGS	MINIMUM THICKNESS (IN)	
STK-1			FLAT	4000	1	50						
STK-2			FLAT	4000	1	50						

STEAM TRAP SCHEDULE												
ID	MANUFACTURER AND MODEL NUMBER	LOCATION	TYPE	STEAM				PHYSICAL				NOTES
				FLOW RATE (GPM)	OPERATING PRESSURE (PSIG)	TEMP. (°F)	CONNECTION SIZE (IN)	LENGTH (IN)	WIDTH (IN)	HEIGHT (IN)		
ST-1			FLOAT & THERMOSTATIC	230	60	12.1						
ST-2			FLOAT & THERMOSTATIC	230	60	12.1						

LAB SUPPLY VALVE SCHEDULE																					
ID	MANUFACTURER AND MODEL NUMBER	INLET DA. (IN)	AIR				FLUID (G)				ENT. FLUID		LVLS. FLUID		WORKING FLUID	MAX. FLUID PRESSURE (PSI)	MIN. COIL ROWS	MIN. FNS (RPM)	PIPE SIZE (IN)	PPE SIZE (IN)	NOTES
			MINIMUM AIRFLOW (CFM)	MAXIMUM AIRFLOW (CFM)	ENT. LEAV. (DEG. F)	S.P. LOSS (IN H2O)	HEAT LOAD (BTUH)	FLUID FLOW (GPM)	ENT. TEMP. (DEG. F)	LVLS. TEMP. (DEG. F)	MIN. FLUID TEMP. (DEG. F)	MAX. FLUID TEMP. (DEG. F)									
SV-1	PHOENIX MAVA 10MA	8	35	700	5200	0.96	24.4	1.7	180	150	H. WATER	5	4	8	12012	34	1.6				
SV-2	PHOENIX MAVA 10MA	10	50	1000	5200	0.96	34.9	2.5	180	150	H. WATER	5	4	8	12012	34	1.6				
SV-3	PHOENIX MAVA 12MA	12	90	1800	5200	0.96	52.4	3.7	180	150	H. WATER	5	4	8	18012	1	1.6				
SV-4	PHOENIX MAVA 21MA	2010	100	2000	5200	0.96	89.9	4.9	180	150	H. WATER	5	4	8	24012	1	1.6				
SV-5	PHOENIX MAVA 14MA	14	200	2000	5200	0.96	67.3	3.3	180	150	H. WATER	5	4	8	24014	1	1.6				
SV-6	PHOENIX MAVA 21MA	2010	180	3000	5200	0.96	104.8	7.0	180	150	H. WATER	5	4	8	28018	1	1.6				
SV-7	PHOENIX MAVA 31MA	3012	270	4500	5200	0.96	157.2	11.1	180	150	H. WATER	5	4	8	40018	1	1.6				
SV-8	PHOENIX MAVA 21MA	2014	400	6000	5200	0.96	174.8	12.3	180	150	H. WATER	5	4	8	40018	1	1.6				
SV-9	PHOENIX MAVA 42MA	4012	360	6000	5200	0.96	209.8	14.9	180	150	H. WATER	5	4	8	50018	1	1.6				
SV-10	PHOENIX MAVA 31MA	3014	600	7500	5200	0.96	291.9	18.5	180	150	H. WATER	5	4	8	64018	1	1.6				
SV-11	PHOENIX MAVA 41MA	4014	800	10,000	5200	0.96	349.3	24.8	180	150	H. WATER	5	4	8	74018	2	1.6				

NOTES:  
 1. MAXIMUM DISCHARGE IN AT VALVE LOCAL DIFFERENTIAL PRESSURE BASED ON AIR STANDARD 80R4.  
 2. COIL HEATING CAPACITY BASED ON HEATING AIR FLOW OF 60% OF MAXIMUM COOLING CFM. COILS SHALL BE YORK HOT WATER DUCT COILS.  
 3. MINIMUM CFM AT LOWEST CONTROLLABLE CFM SETTING.  
 4. MAXIMUM STATIC PRESSURE DROP PERMISSIBLE ACROSS VALVE AND COIL AT MAXIMUM COOLING CFM.  
 5. COOLING MAXIMUM IS THE SUM OF THE CFM VALUES AS SHOWN IN THE DRAWINGS. HEATING CFM TO BE SET AT THE SAME MAXIMUM TYPICAL UNLESS OTHERWISE NOTED. COORDINATE WITH ENGINEER BEFORE ORDERING FOR EXACT MINIMUM AND MAXIMUM CFM SETTINGS TO MAINTAIN ROOM PRESSURIZATION.

PROJECT SCHEDULE					
NAME	LOCATION	OUTSIDE AIR		ALTITUDE (FT)	NOTES
		HEATING SEASON (CFM)	COOLING SEASON (CFM)		
HEB THATCHER CHEMISTRY ADDITION	SALT LAKE CITY, UTAH	0/10	0/10	4877	



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THATCHER ADDITION TO CHEMISTRY  
UNIVERSITY OF UTAH  
DFCM PROJECT # 10026750  
315 South 1400 East Rm. 2020 Salt Lake City, Utah  
Schematic Design

**GRILLES, REGISTERS AND DIFFUSERS**

ID	MANUFACTURER	MODEL	MAX NC	DESCRIPTION
D-1	TITUS	OWN	30	SQUARE PLATE FACE CEILING DIFFUSERS. REMOVABLE FACE. C/W G.B.D. FRAME SHALL BE FOR SURFACE OR LAY-IN MOUNTING AS REQUIRED BY CEILING TYPE. LAY-IN FRAMES SHALL BE 24" x 24" OR AS REQUIRED TO FIT CEILING TILE SPACE AVAILABLE.
D-2	TITUS	TRITEC	30	HIGH VOLUME, LOW VELOCITY HEMISPHERICAL PATTERN RADIAL AIR DIFFUSER WITH REMOVABLE FACE AND FACTORY SUPPLIED BACKPAN. FRAME SHALL BE FOR MOUNTING IN 24" X 24" OR 48" X 24" LAY-IN CEILING GRID.
D-3	TITUS	TRMA	30	ROUND CONE CEILING DIFFUSERS, FULLY ADJUSTABLE AIR PATTERN. COMPLETE W/OBD, SPRING LOCK INNER CONES AND CONE RETAINER CABLE.
SR-1	TITUS	300	30	DOUBLE DEFLECTION HIGH SIDEWALL SUPPLY REGISTER. VERTICAL FRONT WITH HORIZONTAL REAR DEFLECTION ADJUSTABLE VANES SPACED AT 3/4 INCH O.C. COMPLETE WITH OBD AND REMOVABLE CORE.
SRW-1	TITUS	355	30	SIDEWALL RETURN AIR GRILLE. HORIZONTAL STATIONARY 30° DEFLECTION VANES SET ON 1/2 INCH CENTER. COMPLETE WITH OBD ADJUSTABLE THROUGH FACE. VANES INSTALLED TOWARD NEAREST SURFACE.
EG-1 RG-1	TITUS	PAR	20	PERFORATED GRILLE. FRAME SHALL BE FOR SURFACE OR LAY-IN MOUNTING AS REQUIRED BY CEILING TYPE. LAY-IN FRAMES SHALL BE 24" x 24" OR 24" x 12" AS REQUIRED TO FIT CEILING TILE SPACE AVAILABLE.
SD-1	EH PRICE	AS215	30	2 SLOT LINEAR CEILING RETURN AIR GRILLE. UNITS SHALL HAVE 1 INCH SLOTS AND INSULATED PLENUM. UNIT SHALL BE FOR LAY-IN OR SURFACE MOUNTING AS REQUIRED.
SND-1	TITUS	TBF	20	"TURBOPURER" PANEL MOUNTED NOZZLE. SIZE # SINGLE NOZZLE. ADJUSTABLE UP TO 30 DEGREES IN ANY DIRECTION. COLOR TO BE SELECTED BY ARCHITECT.

**HOOD EXHAUST VALVE SCHEDULE**

SYMBOL	MANUF. AND MODEL NO.	SERVICE	INLET DIA. (IN)	MINIMUM AIRFLOW (CFM)	MAXIMUM AIRFLOW (CFM)	AIRFLOW @ 1/2" SASH OPENING (CFM)	AIRFLOW @ FULL SASH OPENING (CFM)	VALVE PRESS DROP (IN H2O)	REMARKS
EV-1	PHOENIX EXVB 108MA	4 FUME HOOD	8	160	485	485	485	0.6-3.0	1.2,3,5
EV-2	PHOENIX EXVB 110MA	9 FUME HOOD	10	200	635	635	635	0.6-3.0	1.2,3,5
EV-3	PHOENIX EXVB 112MA	8 FUME HOOD	12	260	785	785	785	0.6-3.0	1.2,3,5
EV-3	PHOENIX EXVB 112MA	8 BIO-SAFETY HOODS	12	1250	1250	1250	1250	0.6-3.0	1.2,3,4

- COORDINATE WITH ENGINEER BEFORE ORDERING FOR EXACT MINIMUM AND MAXIMUM CFM SETTINGS TO MAINTAIN ROOM PRESSURIZATION.
- SEE ARCHITECTURAL EQUIPMENT SCHEDULE FOR HOOD AIRFLOWS.
- AIR FLOW FOR HOODS DESIGNED AT 1/2" SASH OPENING.
- IF HOODS HAVE 2 EXHAUST CONNECTIONS, VALUES SHOWN ARE COMBINED FOR BOTH VALVES.
- HOOD VALVE AIRFLOWS ARE BASED ON THE FISHER HAMILTON "CONCEPT" SERIES HOODS. AIRFLOWS OF OTHER HOODS WILL VARY.

**LAB RETURN/EXHAUST VALVE SCHEDULE**

ID	MANUFACTURER AND MODEL NUMBER	LOCATION	INLET DIAMETER (IN)	MINIMUM AIRFLOW (CFM)	MAXIMUM AIRFLOW (CFM)	PRESSURE DROP (IN H2O)	NOTES
GEV-1	PHOENIX EXVA 108MA	SEE DRAWINGS	8	35	730	0.6-3.0	1.2,3
GEV-2	PHOENIX EXVA 110MA	SEE DRAWINGS	10	50	1000	0.6-3.0	1.2,3
GEV-3	PHOENIX EXVA 112MA	SEE DRAWINGS	12	80	1500	0.6-3.0	1.2,3
GEV-4	PHOENIX EXVA 210MA	SEE DRAWINGS	2X12	180	2000	0.6-3.0	1.2,3
GEV-5	PHOENIX EXVA 114MA	SEE DRAWINGS	14	200	2500	0.6-3.0	1.2,3
GEV-6	PHOENIX EXVA 212MA	SEE DRAWINGS	2X12	180	3000	0.6-3.0	1.2,3
GEV-7	PHOENIX EXVA 312MA	SEE DRAWINGS	3X12	270	4500	0.6-3.0	1.2,3
GEV-8	PHOENIX EXVA 214MA	SEE DRAWINGS	2X14	400	5000	0.6-3.0	1.2,3
GEV-9	PHOENIX EXVA 412MA	SEE DRAWINGS	4X12	300	6000	0.6-3.0	1.2,3
GEV-10	PHOENIX EXVA 314MA	SEE DRAWINGS	3X14	600	7500	0.6-3.0	1.2,3
GEV-11	PHOENIX EXVA 414MA	SEE DRAWINGS	4X14	800	10000	0.6-3.0	1.2,3

- MINIMUM CFM IS LOWEST CONTROLLABLE CFM SETTING.
- MAXIMUM CFM IS THE SUM OF THE CFM VALUES AS SHOWN IN THE DRAWINGS, TYPICAL UNLESS OTHERWISE NOTED.
- COORDINATE WITH ENGINEER BEFORE ORDERING FOR EXACT MINIMUM AND MAXIMUM CFM SETTINGS TO MAINTAIN ROOM PRESSURIZATION.
- THE "E" IN "GEV" DENOTES AN EXHAUST VALVE.

**HOOD SCHEDULE**

ID	MANUFACTURER AND MODEL NUMBER	LOCATION	TYPE	AIR TYPE	PHYSICAL				NOTES	
					MAXIMUM AIRFLOW RATE (CFM)	STATIC PRESSURE (IN. WATER)	HOOD INLET DIAMETER (IN)	TOTAL HEIGHT (IN)		LENGTH / WIDTH (IN)
H-1	CAPTIVE-AIRE VH-1	TEST KIT PREP 155	1	HUMID	440	0.1	14	36	40 / 32	-
H-2	CAPTIVE-AIRE VH-1	CHEMISTRY GLASS WASH 123	1	HUMID	2700	0.1	14	48	290 / 24	-
H-3	CAPTIVE-AIRE VH-1	WET CHEMISTRY 241	1	HEAT	750	0.1	12 (2)	36	90 / 32	-
H-4	CAPTIVE-AIRE VH-1	WET CHEMISTRY 241	1	HEAT	1500	0.1	12 (4)	36	144 / 32	-

**VAV BOX SCHEDULE**

ID	MANUFACTURER AND MODEL NUMBER	LOCATION	TYPE	AIR		HEATING		ENTERING		LEAVING		S.P. LOSS		MC-IT		TOTAL FLUID (2)		ENT. TEMP. (DEG. F)	WORKING FLUID	COIL		BALANCING VALVE		REMARKS
				INLET SIZE (IN)	COOLING MAXIMUM AIR (CFM)	MAXIMUM AIR (CFM)	MINIMUM AIR (CFM)	MINIMUM AIR (CFM)	ENTERING AIR TEMP. (DEG. F)	LEAVING AIR TEMP. (DEG. F)	AT MAX LOAD (CFM (4))	MC-IT TYPED (1)	HEAT LOAD (MB)	FLUID FLOW (GPM)	TEMP. (DEG. F)	MAX. FLUID PRESSURE DROP (FT)	MIN. COIL SIZE ROWS (IN)			PIPE SIZE (IN)	VALVE SIZE (IN)			
V-6	TITUS-ESV-3	6	400	240	80	52	100	0.5	28	9.9	1	180	H. WATER	1	2	3/4	1/2	12.3,4,5,6						
V-8	TITUS-ESV-3	8	700	420	140	52	100	0.65	26	17.4	1.5	180	H. WATER	1	2	3/4	1/2	12.3,4,5,6						
V-10	TITUS-ESV-3	10	1100	600	220	52	100	0.65	26	27.3	2	180	H. WATER	1	2	3/4	3/4	12.3,4,5,6						
V-12	TITUS-ESV-3	12	1800	980	325	52	100	0.65	26	38.7	2.5	180	H. WATER	1	2	3/4	3/4	12.3,4,5,6						
V-14	TITUS-ESV-3	14	2200	1320	450	52	100	0.65	26	54.8	3	180	H. WATER	1	2	3/4	3/4	12.3,4,5,6						
V-16	TITUS-ESV-3	16	2600	1580	580	52	100	0.7	26	68.6	3.5	180	H. WATER	1	2	3/4	3/4	12.3,4,5,6						
V-20	TITUS-ESV-3	24X18 FD	4200	2500	1260	52	100	0.7	26	104.3	5	180	H. WATER	1.5	2	1	3/4	12.3,4,5,6						

- MAXIMUM DISCHARGE NC AT BOX DIFFERENTIAL PRESSURE BASED ON ARI STANDARD 88-89
- COIL HEATING CAPACITY BASED ON HEATING MAXIMUM AIR FLOW (80% OF MAXIMUM COOLING CFM).
- MINIMUM CFM IS LOWEST CONTROLLABLE CFM SETTING BASED ON 400 FPM INLET VELOCITY.
- MAXIMUM STATIC PRESSURE DROP PERMISSIBLE ACROSS BOX AND COIL AT MAXIMUM COOLING CFM.
- BOX COOLING MAXIMUM IS THE SUM OF DIFFUSERS CFM VALUES AS SHOWN IN THE DRAWINGS. BOX MINIMUM CFM TO BE SET AT 30% OF THIS MAXIMUM.
- BOX HEATING CFM TO BE SET AT 80% OF THIS SAME MAXIMUM. TYPICAL UNLESS OTHERWISE NOTED.
- PRESSURE INDEPENDENT TYPE BOX.

**DUCTED HOOD SCHEDULE**

ID	MANUFACTURER AND MODEL NUMBER	LOCATION	TYPE	AIR TYPE	PHYSICAL				NOTES	
					MAXIMUM AIRFLOW RATE (CFM)	STATIC PRESSURE (IN. WATER)	INLET HEIGHT ABOVE ROOF (IN)	TOTAL HEIGHT (IN)		THROAT LENGTH / WIDTH (IN)
DH-1	COOK VR	BOILER RM	GRAVITY	RELIEF	5000	0.1	24	17	4242	1

- PROVIDE ATC DAMPER IN THROAT TO ENERGIZE OPEN UPON CALL FOR BOILER OPERATION OR DEF 2 ACTIVATION.

**UNIT HEATER SCHEDULE**

SYMBOL	MANUF. AND MODEL NO.	LOCATION	AIR SIDE				FLUID SIDE				MOTOR			
			TOTAL AIR FLOW RATE (CFM)	ENTERING AIR TEMP. (DEG. F)	LEAVING AIR TEMP. (DEG. F)	MINIMUM HEATING LOAD (MB)	TOTAL FLUID FLOW (GPM)	MINIMUM FLUID FLOW (GPM)	ENTERING FLUID TEMP. (DEG. F)	WORKING FLUID	MAXIMUM WATER PRESSURE DROP (FT)	MOTOR HP	UNIT VOLT	REMARKS
UH-1	RTTLUNG HR-43	MEDI RM	1120	60.0	96.0	32.000.0	4.7	2.5	180/180	HOT WATER	0.8	1/2	120V	

Rev # Date Description

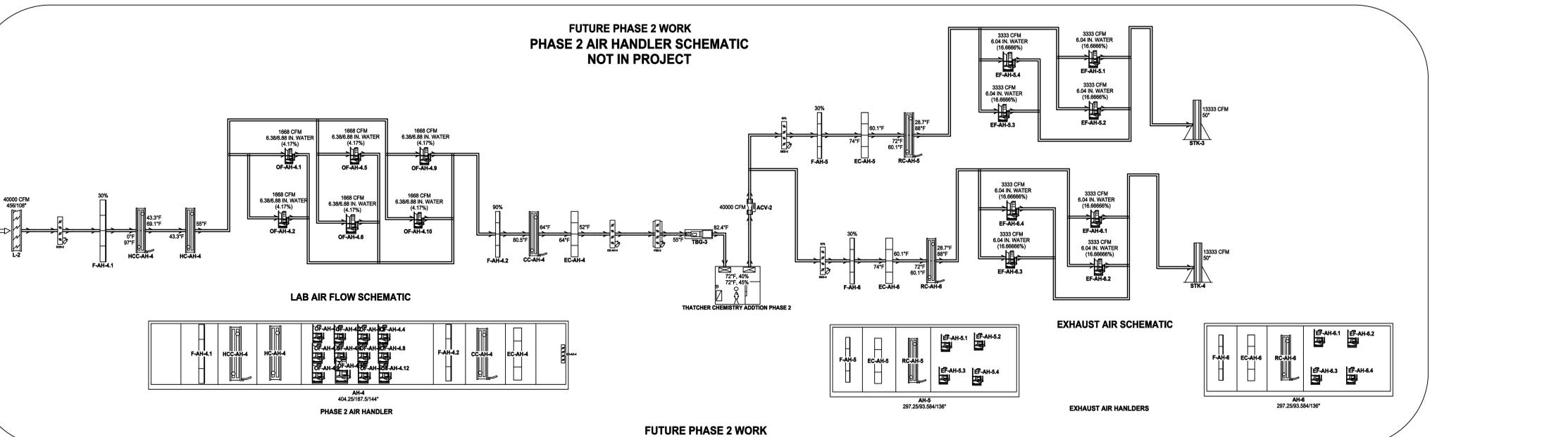
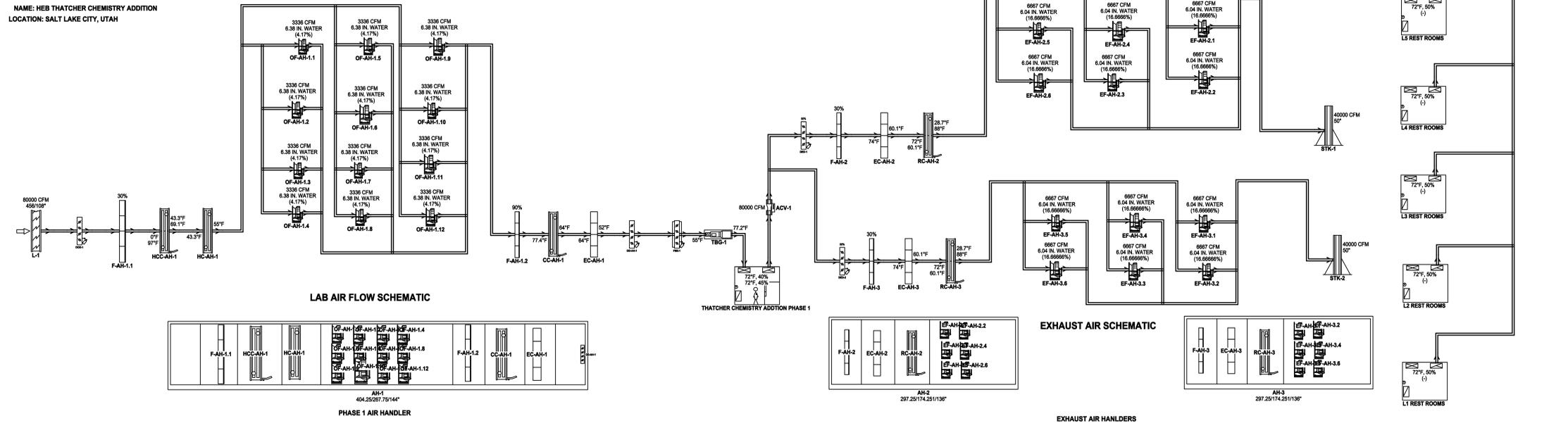
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Date 2010-07-21  
Owner # DFCM PROJECT #  
Iss. # 10026750

MECHANICAL SCHEDULES

M602

7/28/2010 3:38:16 PM

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LOCATION: SALT LAKE CITY, UTAH

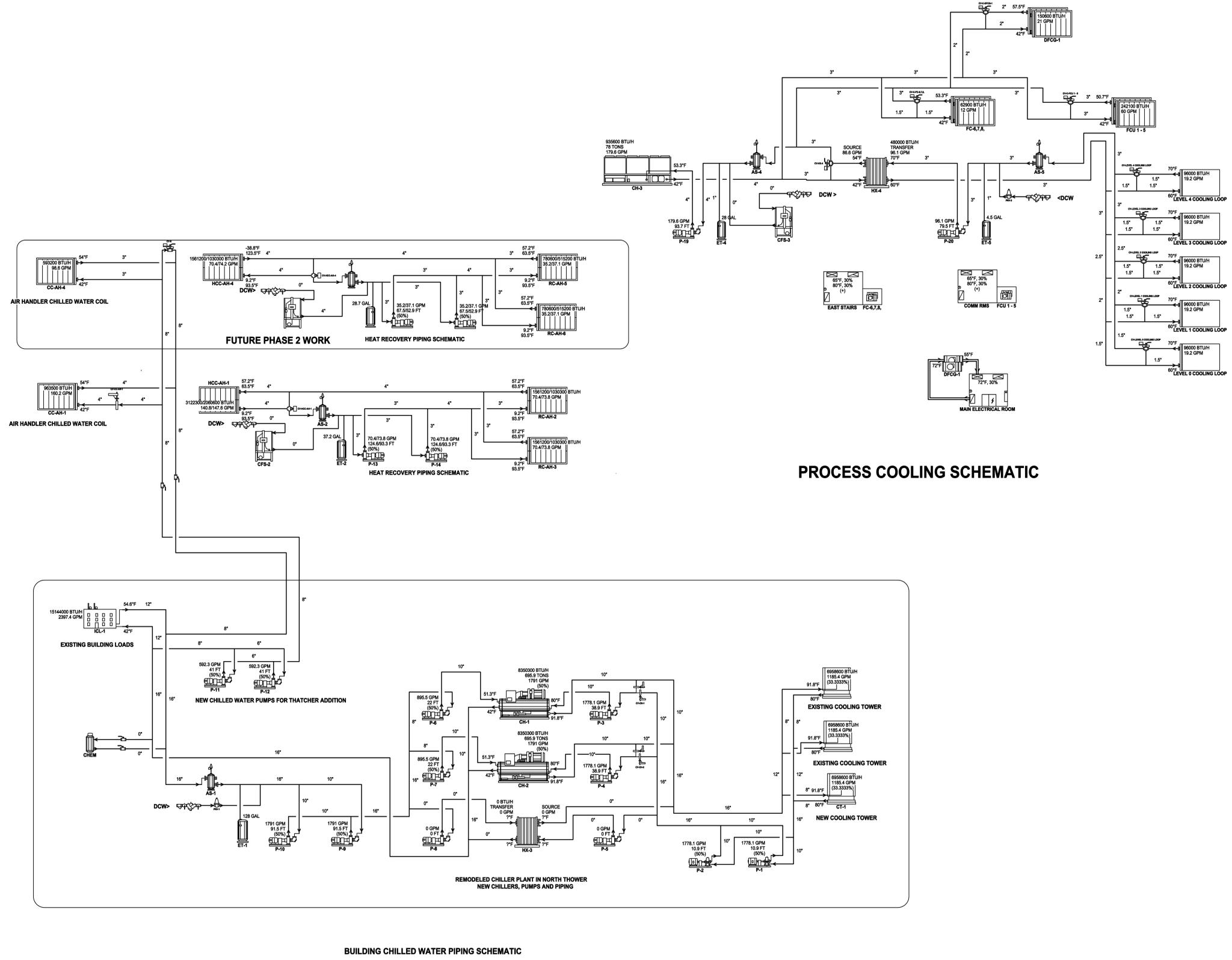


**SYSTEM SIZING AND PIPING SCHEMATIC WITH ENERGY SAVING DEVICES TURNED ON**  
USE FOR SIZING HEAT RECOVERY AND EVAPORATIVE COOLING  
97/62 EVERYTHING ON  
MIN COOLING LOAD  
MIN HEATING LOAD

Rev #	Date	Description

Job #	10195
CAD File	
Drawn	DL
Date	2010-07-21
Owner	DFCM PROJECT #
Ins. #	10026750

MECHANICAL  
SCHEMATICS



**SYSTEM SIZING AND PIPING SCHEMATIC WITH ENERGY SAVING DEVICES TURNED ON**  
USE FOR SIZING HEAT RECOVERY AND EVAPORATIVE COOLING  
97/62 EVERYTHING ON  
MIN COOLING LOAD  
MIN HEATING LOAD

Rev #	Date	Description

Job #	10195
CAD File	
Drawn	DL
Checked	DON B.
Date	2010-07-21
Owner #	DFCM PROJECT #
Iss. #	10026750

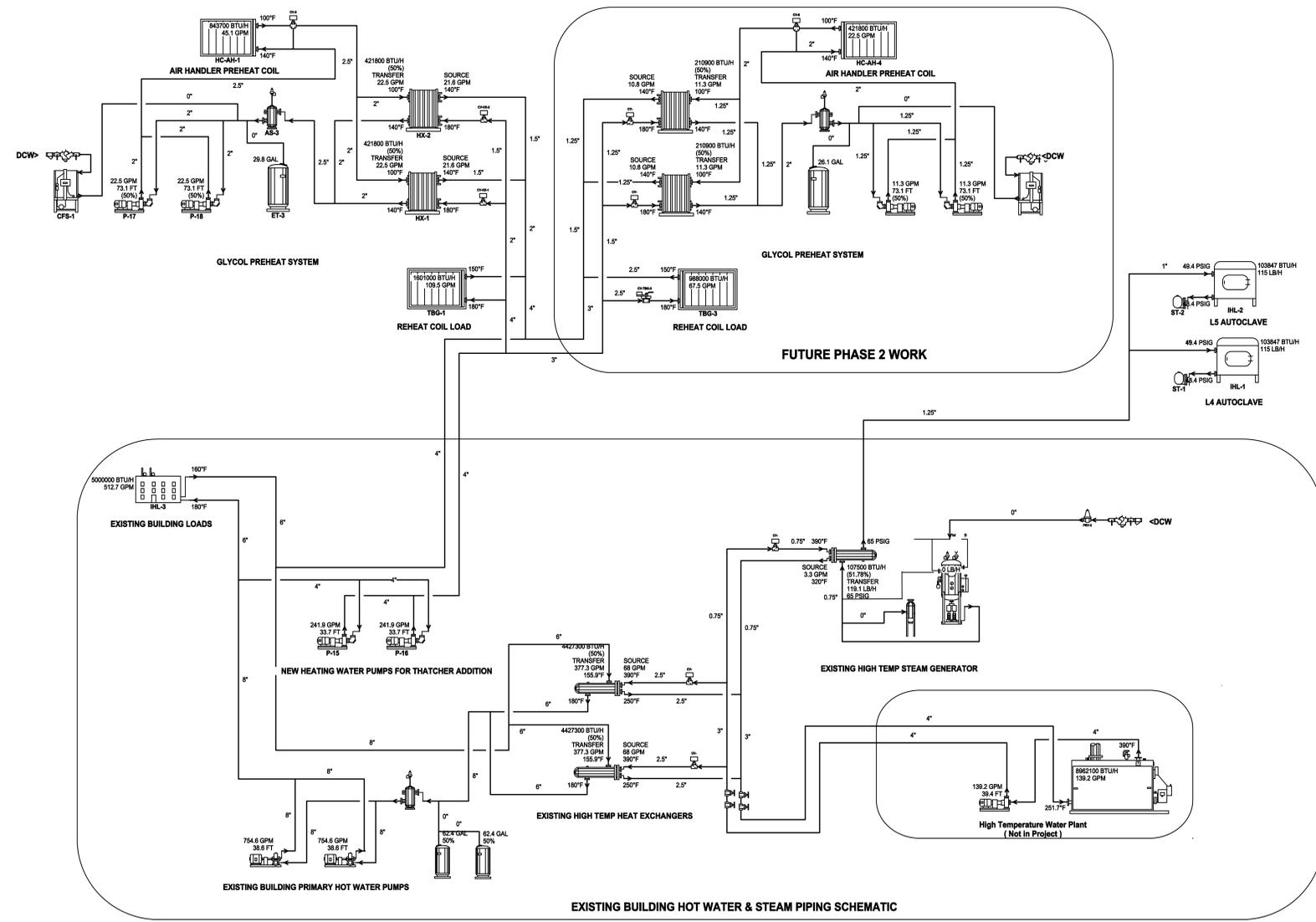
MECHANICAL  
SCHEMATICS



ARCHITECTURE  
VALENTINER  
CRANE  
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**SYSTEM SIZING AND PIPING SCHEMATIC WITH ENERGY SAVING DEVICES TURNED ON**  
USE FOR SIZING HEAT RECOVERY AND EVAPORATIVE COOLING  
97/62 EVERYTHING ON  
MIN COOLING LOAD  
MIN HEATING LOAD

**THATCHER ADDITION TO CHEMISTRY**

UNIVERSITY OF UTAH  
DFCM PROJECT # 10026750  
315 South 1400 East Rm. 2020 Salt Lake City, Utah  
Schematic Design

Rev #	Date	Description

Job # 10195  
CAD File  
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Date 2010-07-21  
Owner # DFCM PROJECT #  
Iss. # 10026750

MECHANICAL  
SCHEMATICS

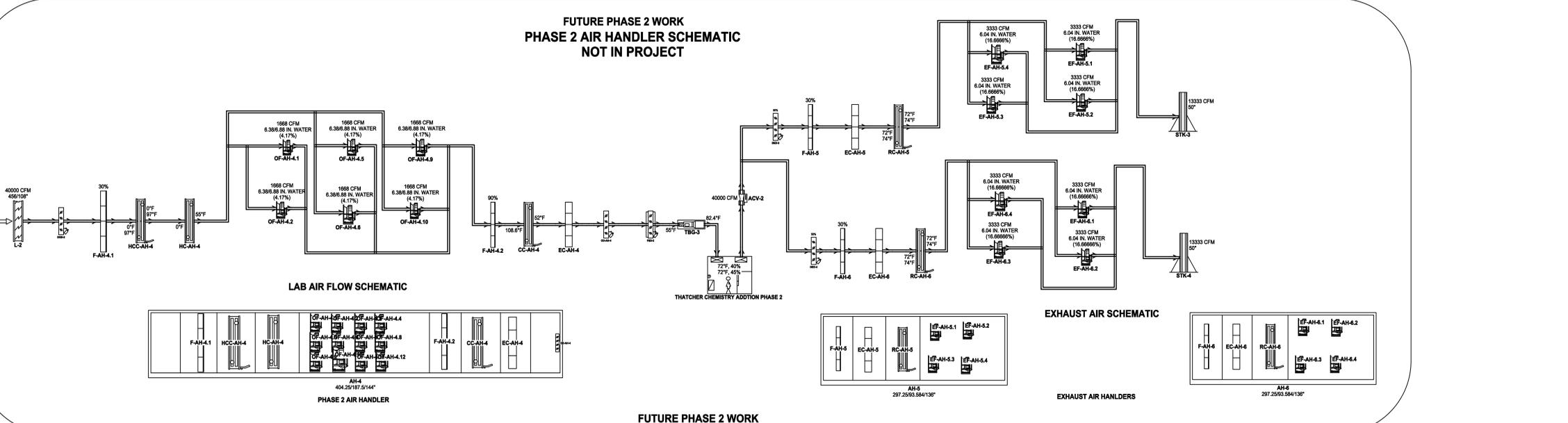
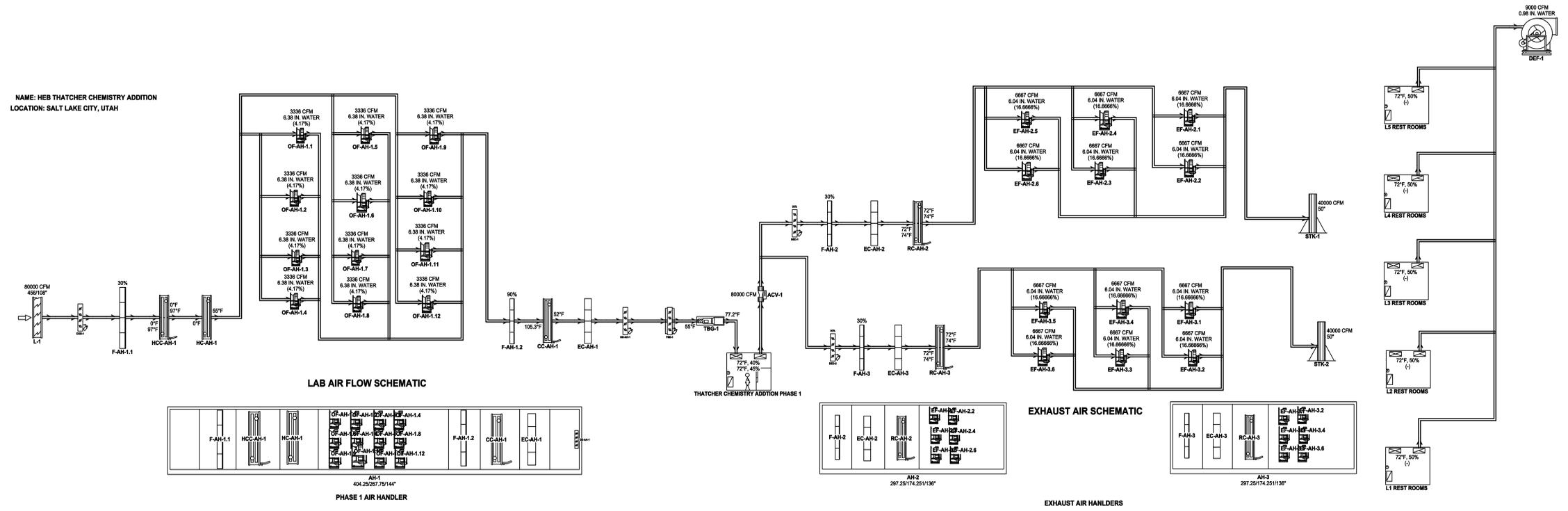
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MECHANICAL SCHEMATICS

NAME: HEB THATCHER CHEMISTRY ADDITION  
LOCATION: SALT LAKE CITY, UTAH



**SYSTEM SIZING AND PIPING SCHEMATIC WITH ENERGY SAVING DEVICES TURNED OFF**

USE FOR SIZING EVERYTHING EXCEPT HEAT RECOVERY, PRECOOL AND EVAP  
95/63 HEAT RECOVERY OFF, PRECOOL OFF, EVAP OFF  
MAX COOLING LOAD  
MAX HEATING LOAD



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VALENTINER  
CRANE  
BRUNJES  
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THATCHER ADDITION TO CHEMISTRY

UNIVERSITY OF UTAH

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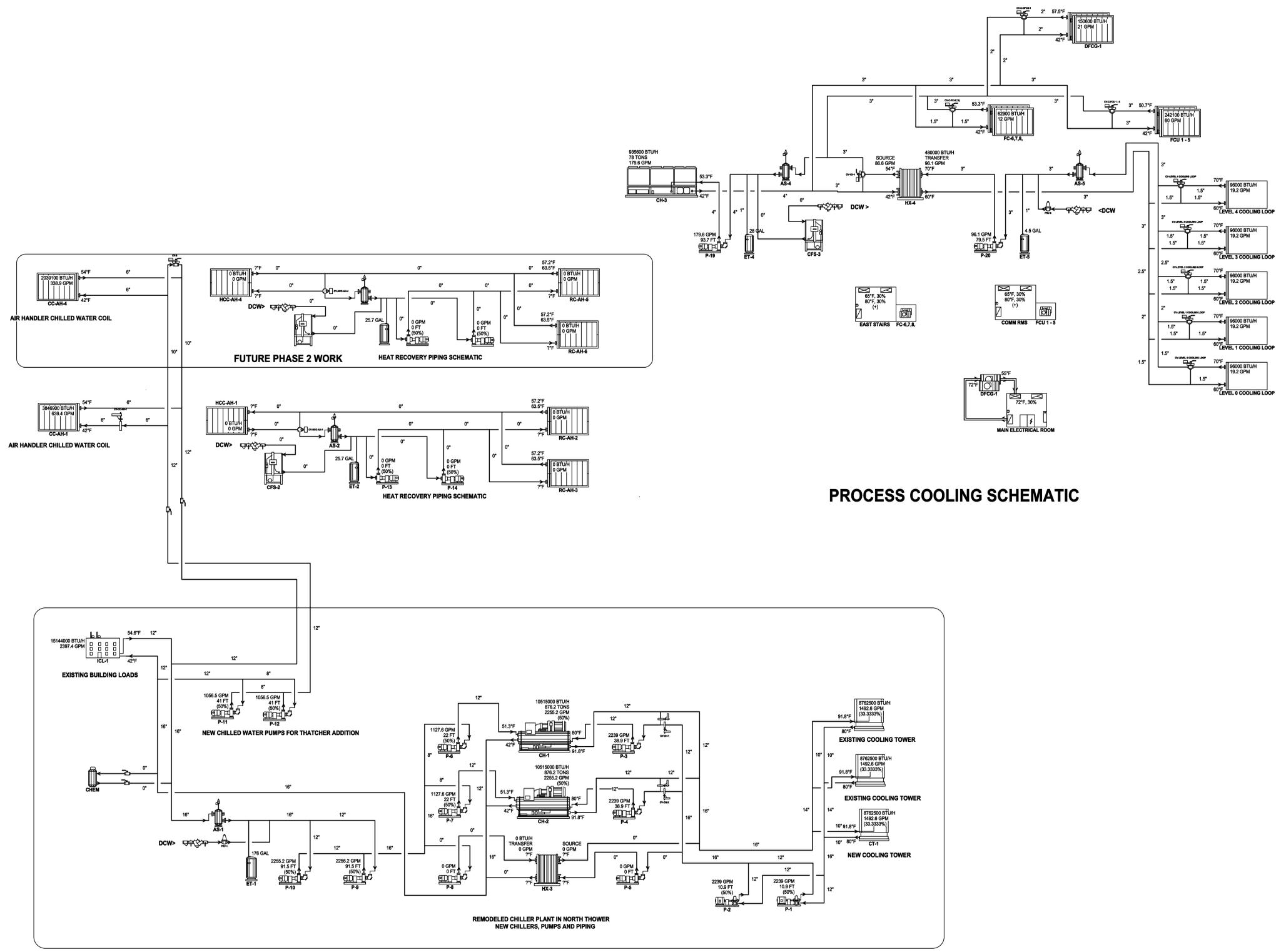
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MECHANICAL  
SCHEMATICS

M705



SYSTEM SIZING AND PIPING SCHEMATIC WITH ENERGY SAVING DEVICES TURNED OFF

USE FOR SIZING EVERYTHING EXCEPT HEAT RECOVERY, PRECOOL AND EVAP  
95/63 HEAT RECOVERY OFF, PRECOOL OFF, EVAP OFF  
MAX COOLING LOAD  
MAX HEATING LOAD

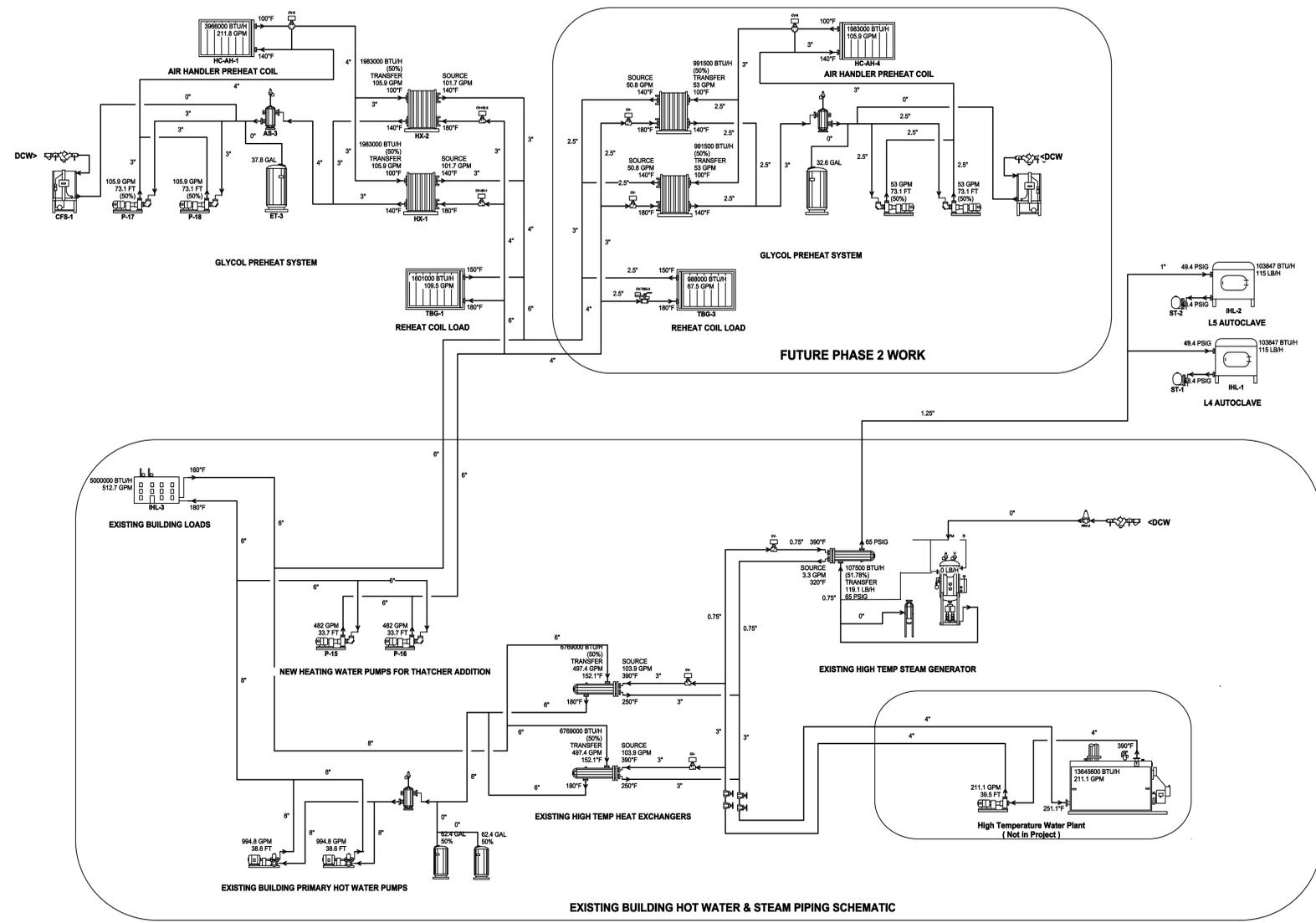
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**SYSTEM SIZING AND PIPING SCHEMATIC WITH ENERGY SAVING DEVICES TURNED OFF**

USE FOR SIZING EVERYTHING EXCEPT HEAT RECOVERY, PRECOOL AND EVAP  
95/63 HEAT RECOVERY OFF, PRECOOL OFF, EVAP OFF  
MAX COOLING LOAD  
MAX HEATING LOAD

**THATCHER ADDITION TO CHEMISTRY**

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MECHANICAL  
SCHEMATICS

M706

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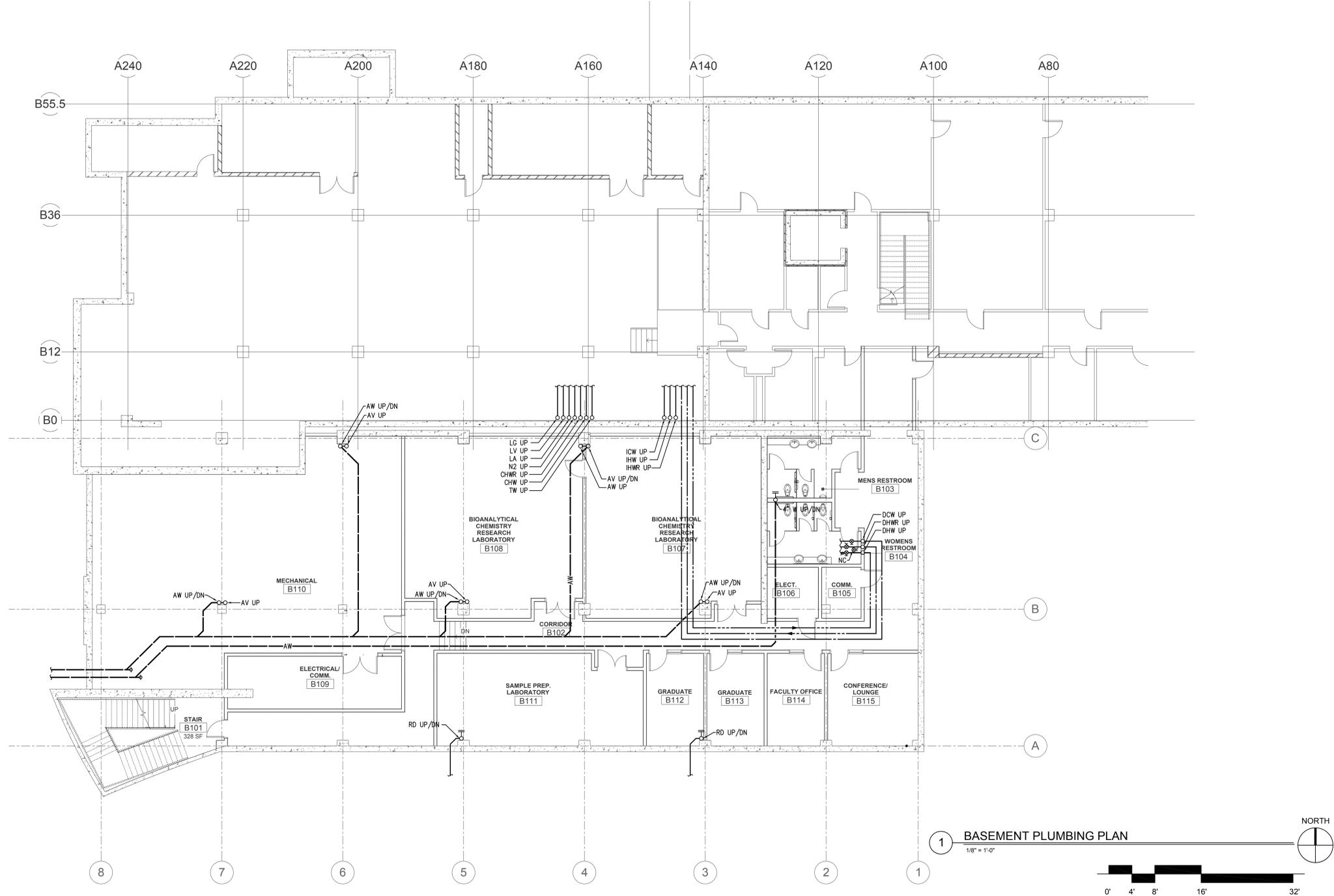


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1 BASEMENT PLUMBING PLAN  
1/8" = 1'-0"  
NORTH  
0' 4' 8' 16' 32'

THATCHER ADDITION TO CHEMISTRY  
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BASEMENT PLUMBING PLAN

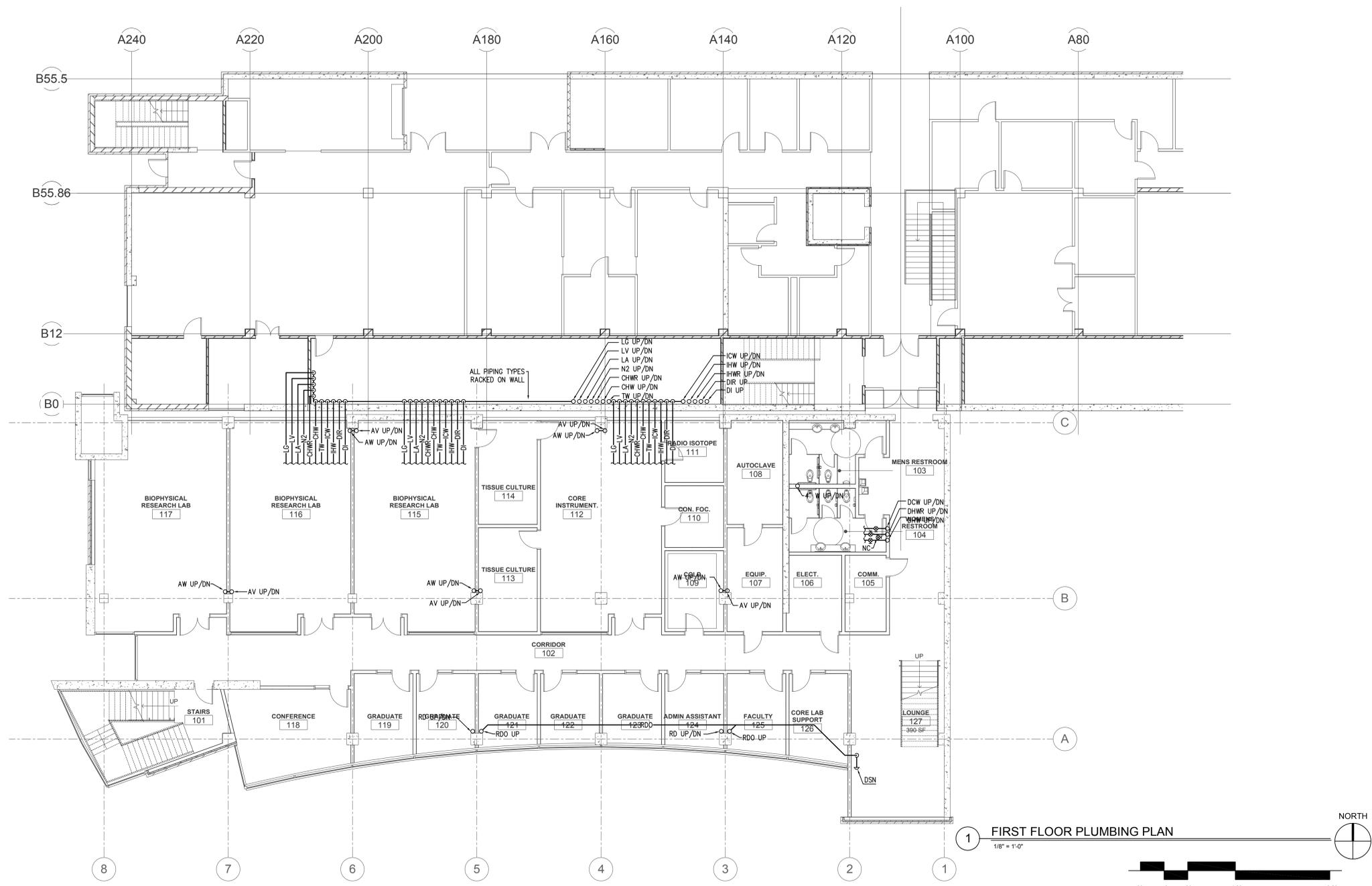
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FIRST FLOOR PLUMBING PLAN



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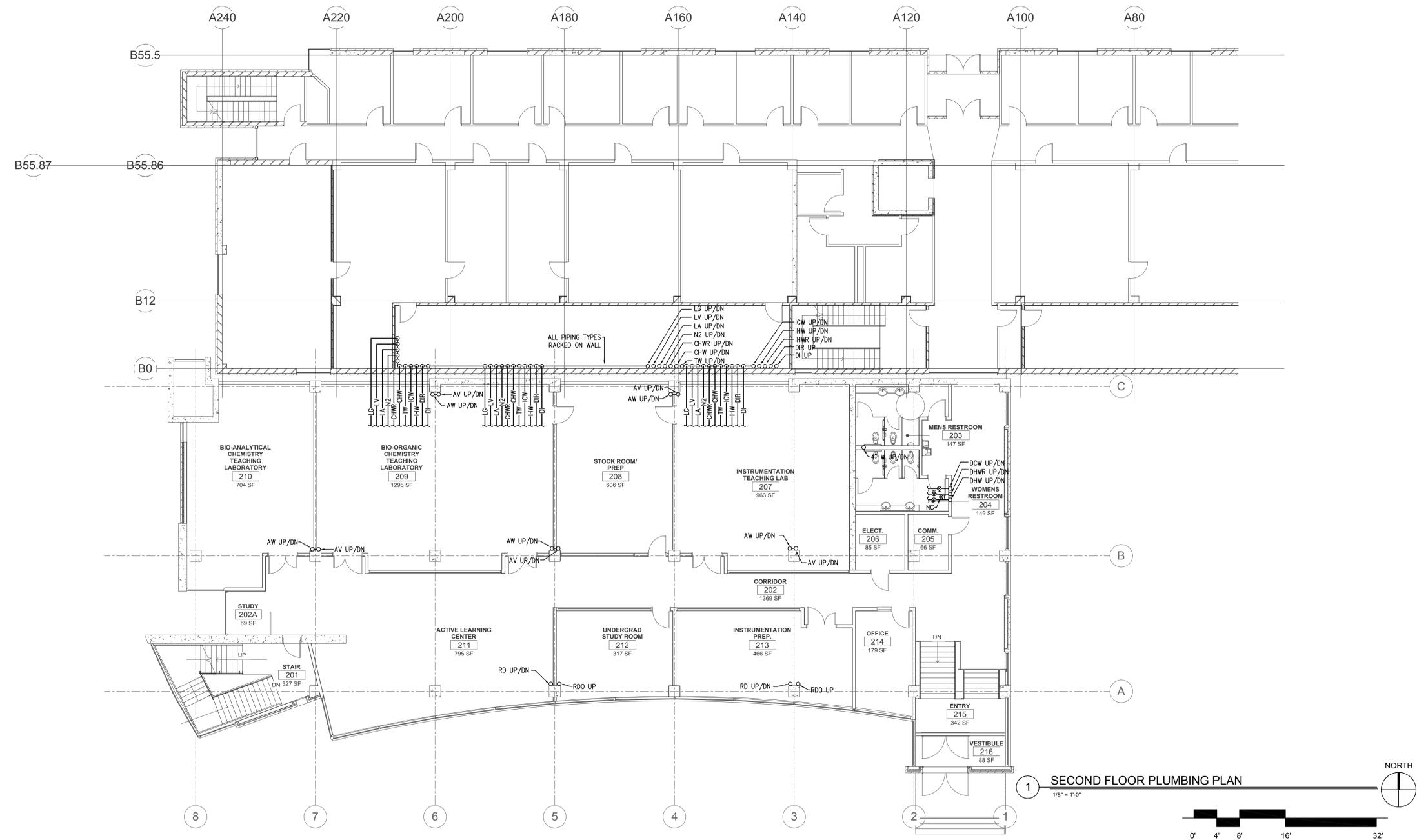
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SECOND FLOOR  
PLUMBING PLAN



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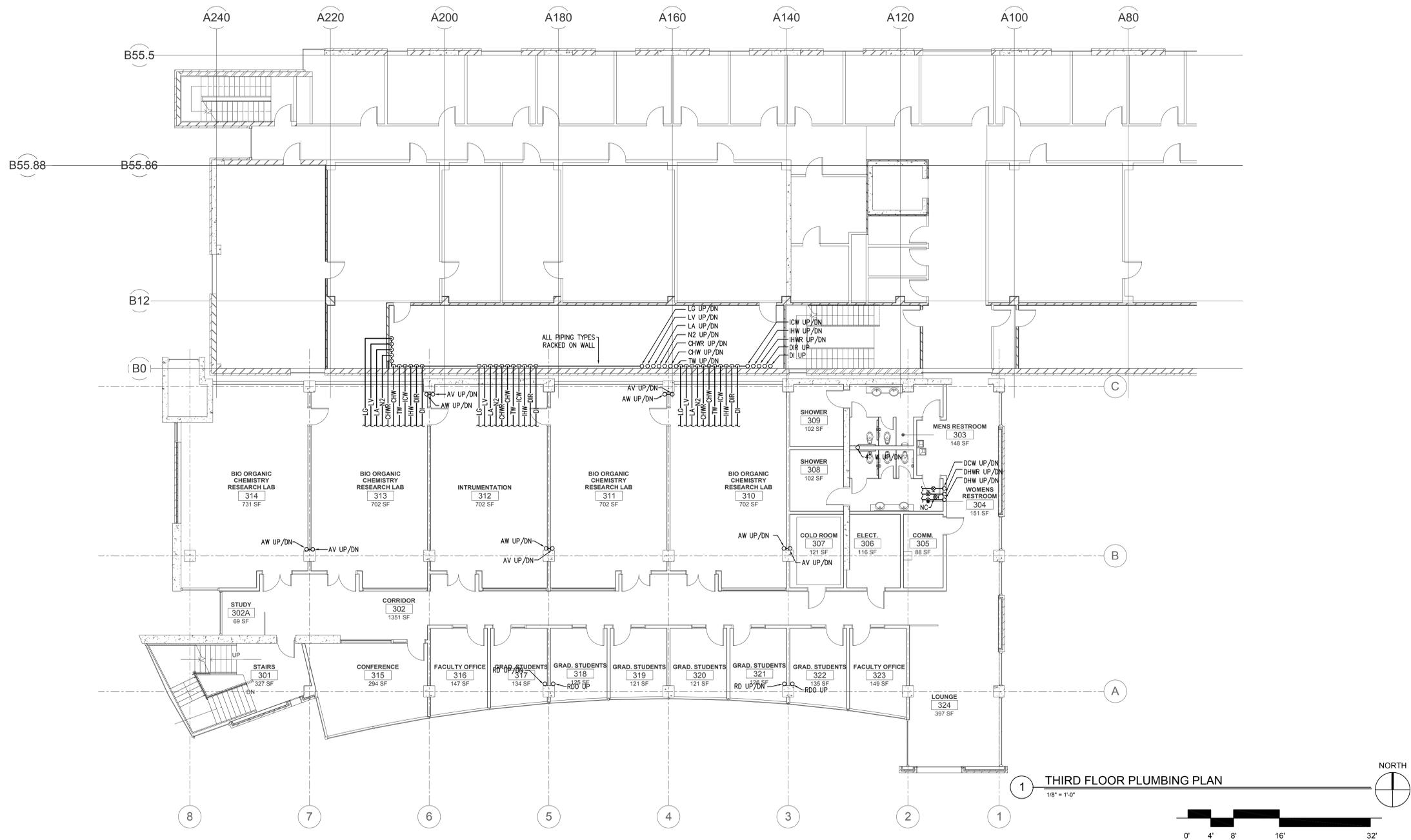
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THIRD FLOOR PLUMBING PLAN



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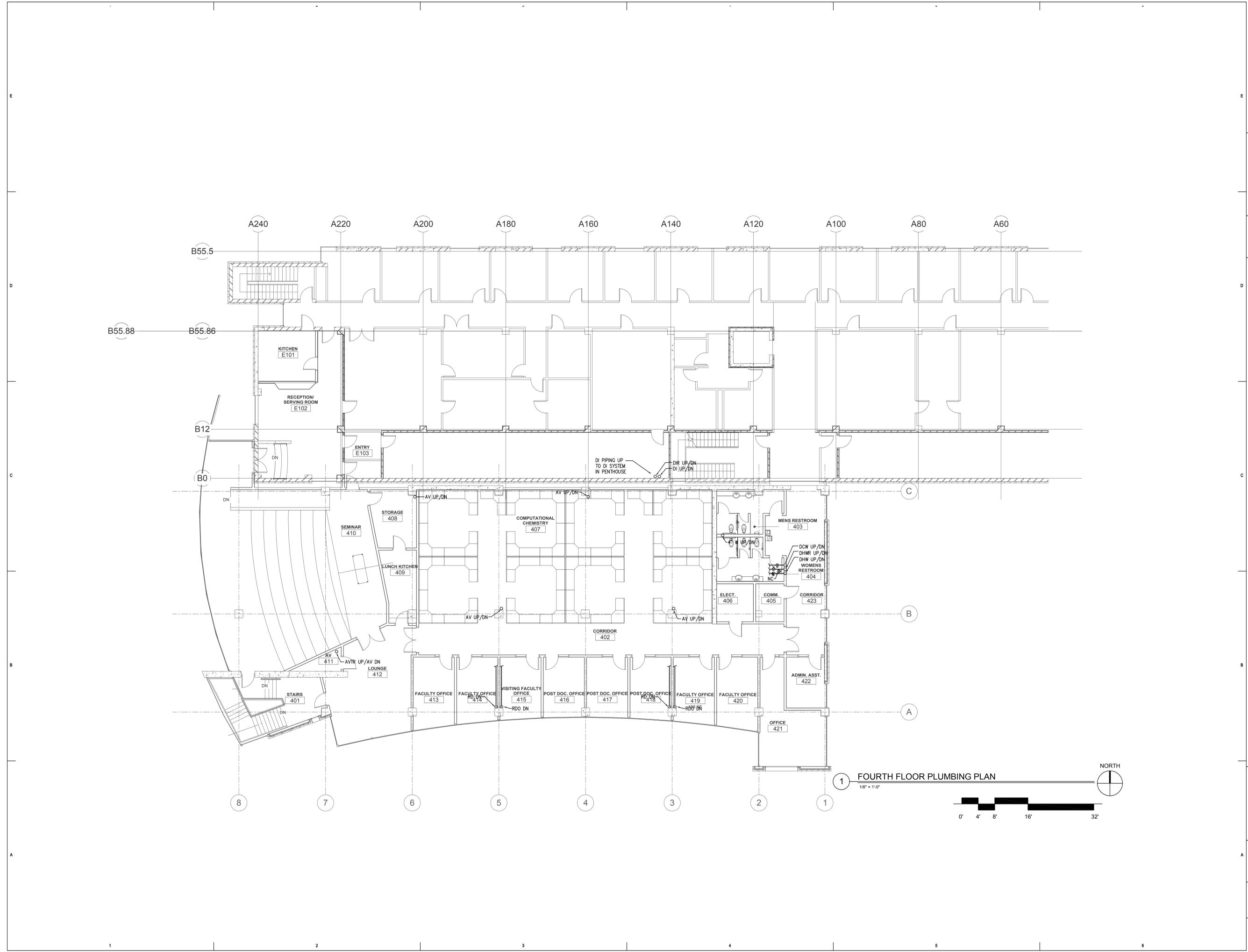
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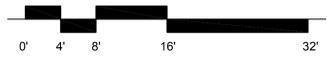
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FOURTH FLOOR  
PLUMBING PLAN



1 FOURTH FLOOR PLUMBING PLAN  
1/8" = 1'-0"  
NORTH



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PLUMBING SCHEDULES

P601

**PLUMBING FIXTURE SCHEDULE**

ID	FIXTURE	DCW (IN)	FVS (IN)	DHW (IN)	ICW (IN)	HW (IN)	LW (IN)	TW (IN)	N (IN)	VAC (IN)	V (IN)	AW (IN)	AV (IN)	NOTES
WC-1	WATER CLOSET	1									4	2		WALL HUNG, DUAL FLUSH VALVE, ADA
WC-2	WATER CLOSET	1									4	2		WALL HUNG, DUAL FLUSH VALVE
U-1	URINAL	3/4									2	2		WALL HUNG, SENSOR FLUSH VALVE, ADA
L-1	LAVATORY	1/2		1/2							2	2		WALL HUNG, ADA, SENSOR FAUCET
L-2	LAVATORY	1/2		1/2							2	2		COUNTER MOUNTED, SENSOR FAUCET
L-3	LAVATORY	1/2		1/2							2	2		WALL HUNG, STAINLESS STEEL, ADA
L-4	LAVATORY	1/2		1/2				1/2			2	2		WALL HUNG, STAINLESS STEEL, ADA, WITH EYE WASH
S-1	BREAK ROOM SINK	1/2		1/2							2	2		COUNTER MOUNTED, SINGLE COMPARTMENT, SS
S-2	SCUBA SINK	1/2		1/2							2	2		WALL MOUNTED, SENSOR FAUCETS
SS-1	SERVICE SINK	3/4		3/4							3	2		FLOOR MOUNTED MOP SINK, SS
SS-2	SERVICE SINK	3/4		3/4							3	2		WALL MOUNTED
SH-1	SHOWER	1/2		1/2							2	2		ADA SHOWER COMPARTMENT WITH VALVE
LS-1	LAB SINK			1/2	1/2							2	2	SEE LC DRWGS
LS-2	LAB SINK			1/2	1/2							2	2	SEE LC DRWGS
LS-3	LAB SINK			1/2	1/2	1/2	1/2					2	2	SEE LC DRWGS
LS-4	CROSSING STATION	1/2		1/2							2	2		SEE LC DRWGS
LS-5	LAB SINK						1/2				2	2		SEE LC DRWGS
PH-1	FUME HOOD			1/2	1/2				1/2	1/2		2	2	SEE LC DRWGS
PH-2	FUME HOOD			1/2	1/2				1/2	1/2		2	2	SEE LC DRWGS
DF-1	DRINKING FOUNTAIN	1/2									2	2		DUAL LEVEL
ES-1	EMERGENCY SHOWER/EYEWASH							1 1/4						RECESSED EYE WASH STATION WITH SHOWER AND TMY
ES-2	EMERGENCY SHOWER/EYEWASH							1 1/4						FREE STANDING SHOWER/EYE WASH WITH TMY
HB-1	HOSE BIB	1/2												
NH-1	NON-FREEZE WALL HYDRANT	3/4												
WB-1	WASHER CONNECTION BOX	1/2		1/2							2	2		
V-1	LAB VAC OUTLET													CONNECTION SIZE: 3/4" REFER TO LC DRWGS
V-2	LAB VAC OUTLET													CONNECTION SIZE: 1/2" REFER TO LC DRWGS
N-1	NITROGEN OUTLET													CONNECTION SIZE: 1/2" REFER TO LC DRWGS
N-2	NITROGEN OUTLET													CONNECTION SIZE: 1/2" REFER TO LC DRWGS
O-1	OXYGEN OUTLET													CONNECTION SIZE: 1/2" REFER TO LC DRWGS
A-1	AIR OUTLET													CONNECTION SIZE: 1/2" REFER TO LC DRWGS
CO-1	CARBON DIOXIDE OUTLET													CONNECTION SIZE: 1/2" REFER TO LC DRWGS
FD-1	FLOOR DRAIN										2	2		RESTROOM AND GENERAL PURPOSE
FD-2	MECHANICAL ROOM DRAIN										3	2		MECHANICAL ROOM
FD-3	SOILER ROOM DRAIN										3	2		SOILER ROOM
FD-4	TRENCH DRAIN OUTLET										4	2		CAGE WASH TRENCH DRAINS
FD-5	FUNNEL DRAIN										2	2		
FD-6	FLOOR DRAIN											2	2	POLYPROPYLENE DRAIN
FD-7	FLOOR DRAIN											2	2	
FD-8	FLOOR DRAIN											2	2	
FD-9	FLOOR DRAIN											2	2	
FD-10	FLOOR DRAIN											2	2	
TD-1	TRENCH DRAIN										4	2		
TD-2	TRENCH DRAIN										3	2		
RD-1	ROOF DRAIN													CUSTOM STAINLESS STEEL
RD-2	SCUPPER DRAIN													SEE PLANS FOR SIZE
ROD-1	ROOF DRAIN OVERFLOW													SEE PLANS FOR SIZE
SDN-1	DOWN SPOUT NOZZLE													SEE PLANS FOR SIZE
DD-1	DECK DRAIN													SEE PLANS FOR SIZE
DD-2	DECK DRAIN													SEE PLANS FOR SIZE
DD-3	DECK DRAIN													SEE PLANS FOR SIZE
AD-1	AREA DRAIN													SEE PLANS FOR SIZE
HS-1	HOSE STATION					3/4	3/4							WALL MOUNTED

1. ALL UNDER GROUND WASTE AND VENT SHALL BE 2" OR GREATER.

**CIRCULATION PUMP SCHEDULE**

SYMBOL	MANUF. AND MODEL NO.	LOCATION	SYSTEM SERVED	PUMP				MOTOR				SIZE LENGTH WIDTH (IN)	REMARKS	
				FLOW RATE (GPM)	HEAD (FT)	WORKING FLUID	% EFF.	PUMP TYPE	BHP	HP	RPM			VOLTPH
CP-1	GOULD 3SV10 10 STAGE	MECH. RM.	R.O. WATER	66	363	WATER		VERT. MULT. S.S.		10	3500	4603		
CP-2	GOULD 3SV10 10 STAGE	MECH. RM.	R.O. WATER	66	363	WATER		VERT. MULT. S.S.		10	3500	4603		

**PURE WATER SYSTEM SCHEDULE**

ID	MANUFACTURER AND MODEL NUMBER	RO UNIT CAPACITY @ 77 F FEED WATER (GPD)	STORAGE HPI SYMBOL	TOTAL FLUID CAPACITY (GAL)	DIA/ HEIGHT (IN)	FILTER		DEIONIZERS (2)		ULTRA VIOLET STERILIZERS				NOTES				
						SYMBOL	TYPE	MICRON RATING	FLOW RATE (GPM)	SYMBOL	CAPACITY (FT <sup>3</sup> )	FLOW RATE/ PRESS (GPM/PSI)	SIZE (IN)		SYMBOL	FLOW RATE (GPM)	AMPS/ WATTS	VOLTPH
RD-1	CULLIGAN AS PLUS	989	102001	50	48H	CF-1	CART.	5	25	DI-1H12	3.8	12/16	14244					
						CF-2	CART.	1	25									
						CF-3	CANISTER	0.2	25									
						CF-4	CANISTER	0.2	25									
						ADP-1	CARBON (1)		25									

1. 4 FT<sup>3</sup> ACTIVATED CARBON, REQUIRES 120V POWER.  
2. MIX BED TYPE DEIONIZERS, PROVIDE A PLUG-IN POWER OUTLET FOR EACH.  
3. SEE PUMP SCHEDULE FOR REPRESSURE PUMPS.

**VACUUM PUMP SCHEDULE**

SYMBOL	MANUF. AND MODEL NO.	LOCATION	SERVICE	TYPE	MAXIMUM FLOW @ 10" HG (SCFM)	MAXIMUM EA PUMP @ 20" HG (SCFM)	SEAL WATER (GPM)	COOLANT WATER (GPM)	RECEIVER		MOTOR		SIZE LENGTH WIDTH HEIGHT (IN)	REMARKS		
									RECEIVER SIZE (GAL)	RECEIVER TYPE	HP EACH	RPM				
VP-1.2.3	BEACON LP2ST-L340	MECH. RM.	LAB	LUB ROTRY	18	115			250	VERT.	30044	3/825	1140	4803	1537896	1,2

1. LUBRICATED ROTARY VANE TRIPLEX PUMP PACKAGE, SINGLE POINT CONNECTION, 8/10" MOUNTED, CONTROL PANEL, STARTERS AND DISCONNECT.  
2. PUMP SELECTION BASED ON SEA LEVEL VALUES AS SHOWN.

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SYMBOL LEGEND	
SYMBOL	DESCRIPTION
REFERENCE AND LINE SYMBOLS	
	DETAIL INDICATOR. AS INDICATES DETAIL NUMBER. E-501 INDICATES DRAWING SHEET WHERE DETAIL IS SHOWN.
	ROOM OR SPACE NUMBER.
	KEYNOTE INDICATOR.
	REVISION INDICATOR.
	EQUIPMENT INDICATOR.
	BREAK, STRAIGHT: TO BREAK PARTS OF DRAWING.
	BREAK, ROUND.
	NEW LINE: MEDIUM LINE.
	HIDDEN FEATURES LINE: HIDDEN, THIN LINE.
	EXISTING TO REMAIN LINE: THIN LINE.
	DEMOLITION LINE: DASHED, MEDIUM LINE.
	PROPERTY LINE: DASHED, WIDE LINE.
	CONTRACT LIMIT LINE: DASHDOT, WIDE LINE.
WIRING METHODS	
	WIRING.
	BRANCH CIRCUIT HOME RUN TO PANELBOARD: NUMBER OF ARROWS INDICATES NUMBER OF CIRCUITS. LETTER AND NUMBER NOTATIONS IDENTIFY PANEL AND CIRCUIT NUMBERS. NUMBER IN BOX REFERS TO THE CONDUCTOR AND CONDUIT SCHEDULE. FOR BRANCH WIRING USE #12 CONDUCTORS, EXCEPT #10 CONDUCTORS SHALL BE INSTALLED IF DISTANCES EXCEED THOSE SPECIFIED IN THE ELECTRICAL SPECIFICATIONS.
	BRANCH CIRCUIT HOME RUN TO PANELBOARD: NUMBER OF ARROWS INDICATES NUMBER OF CIRCUITS. LETTER AND NUMBER NOTATIONS IDENTIFY PANEL AND CIRCUIT NUMBERS. NUMBER IN BOX REFERS TO THE CONDUCTOR AND CONDUIT SCHEDULE. FOR BRANCH WIRING USE #12 CONDUCTORS, EXCEPT #10 CONDUCTORS SHALL BE INSTALLED IF DISTANCES EXCEED THOSE SPECIFIED IN THE ELECTRICAL SPECIFICATIONS.
	WIRING AND/OR RACEWAY: THIN LINE. WHERE "X" = CATV = CABLE TELEVISION NC = NURSE CALL CTV = CLOSED CIRCUIT TELEVISION RC = RIGID CONDUIT FA = FIRE ALARM S = SOUND FO = FIBER OPTICS T = TELEPHONE I = INTERCOM
	OTHERS AS NOTED IN OTHER SCHEDULES. RACEWAYS AND WIRING SHALL BE SIZED AS SHOWN AND/OR SPECIFIED.
	LOW VOLTAGE WIRING: DIVIDE, MEDIUM LINE.
	CONDUIT STUB. DIMENSION RECORD DRAWINGS AND MARK.
	CONDUCTOR & CONDUIT (CCC) SCHEDULE INDICATOR. REFER TO ONE-LINE DIAGRAM.
	JUNCTION BOX.
	JUNCTION BOX, SYSTEMS FURNITURE COMMUNICATION CONNECTION.
	JUNCTION BOX, SYSTEMS FURNITURE POWER CONNECTION.
	PULL BOX.
	CABLE TRAY ABOVE ACCESSIBLE CEILING.
	EARTH GROUND (ONE-LINE DIAGRAM).
	JUNCTION BOX, CEILING.
	LADDER RACK.
WIRING DEVICES	
	RECEPTACLE, DUPLEX. NEMA 5-20R.
	RECEPTACLE, DUPLEX, ABOVE COUNTER. NEMA 5-20R.
	RECEPTACLE, DUPLEX, CEILING. NEMA 5-20R.
	RECEPTACLE, DUPLEX WITH GROUND FAULT CIRCUIT INTERRUPTER, DRINKING FOUNTAIN. CONCEAL WATER COOLER RECEPTACLE BEHIND WATER COOLER. SEE MECHANICAL PLUMBING SHOP DRAWINGS FOR INSTALLATION REQUIREMENTS.
	RECEPTACLE, DUPLEX WITH GROUND FAULT CIRCUIT INTERRUPTER, WET LABEL, "WEATHERPROOF IN USE". NEMA 5-20R.
	RECEPTACLE, DUPLEX, WEATHERPROOF. NEMA 5-20R.
	RECEPTACLE, DUPLEX ON EMERGENCY POWER. NEMA 5-20R.
	RECEPTACLE, DUPLEX WITH GROUND FAULT CIRCUIT INTERRUPTER. NEMA 5-20R.
	RECEPTACLE, DUPLEX WITH GROUND FAULT CIRCUIT INTERRUPTER, WEATHERPROOF. NEMA 5-20R.
	RECEPTACLE, QUADRAPLEX. NEMA 5-20R.
	RECEPTACLE, QUADRAPLEX ON EMERGENCY POWER. NEMA 5-20R.
	RECEPTACLE, SPECIAL PURPOSE. PROVIDE RECEPTACLE TO MATCH EQUIPMENT PLUG.
	RECEPTACLE, DRYER. NEMA 10-30R.
	RECEPTACLE, RANGE. NEMA 10-30R.
	MULTI-OUTLET ASSEMBLY. NEMA 5-20R.
	FLUSH FLOOR BOX. "F" SHOWN ON DRAWINGS. REFER TO WIRING DEVICE SCHEDULE IN THE ELECTRICAL SPECIFICATIONS FOR CONFIGURATION AND DEVICES.
	POWER POLE. "P" SHOWN ON DRAWINGS. REFER TO WIRING DEVICE SCHEDULE IN THE ELECTRICAL SPECIFICATIONS FOR CONFIGURATION AND DEVICES.
	FLUSH FIRE RATED POKE THRU. "F" SHOWN ON DRAWINGS. REFER TO WIRING DEVICE SCHEDULE IN THE ELECTRICAL SPECIFICATIONS FOR CONFIGURATION AND DEVICES.
	SWITCH, DIMMER.
	SWITCH, SINGLE POLE ("X" INDICATES FIXTURES CONTROLLED).
	SWITCH, THREE-WAY ("X" INDICATES FIXTURES CONTROLLED).
	SWITCH, FOUR-WAY ("X" INDICATES FIXTURES CONTROLLED).
	SWITCH, KEY OPERATED.
	SWITCH, MOMENTARY.

SYMBOL LEGEND	
SYMBOL	DESCRIPTION
SITE ELECTRICAL AND COMMUNICATIONS UTILITIES	
	ELECTRIC LINE: THIN LINE. 1 = SINGLE PHASE, 2 = 2-PHASE, 3 = 3-PHASE, O = OVERHEAD, U = UNDERGROUND, P = PRIMARY, S = SECONDARY
	LIGHTNING ARRESTOR.
	UTILITY POLE.
	UTILITY, DISTRIBUTION SWITCH OR SWITCHING STATION.
	UTILITY, PRIMARY ELECTRICAL HAND HOLE.
	UTILITY SERVICES, MANHOLE.
	UTILITY, COMMUNICATIONS MANHOLE.
	UTILITY, ELECTRICAL MANHOLE.
	UTILITY, TELEPHONE MANHOLE.
	PRECAST CONCRETE, COMMUNICATION VAULT.
	PRECAST CONCRETE, ELECTRICAL VAULT.
	PRECAST CONCRETE, TELEPHONE VAULT.
	PRECAST CONCRETE, MANHOLE, TRANSFORMER VAULT.
	PRECAST CONCRETE, TRANSFORMER PAD.
	HAND HOLE.
	SUBSTATION.
	TRANSFORMER.
LIGHTING (REFER TO FIXTURE SCHEDULE FOR SYMBOLS)	
	FIXTURE IDENTIFICATION: (W-3) INDICATES FIXTURE TYPE AS SCHEDULED.
	FIXTURE IDENTIFICATION: EMERGENCY WITH BATTERY PACK, CONNECTED TO GENERATOR AS INDICATED. (W-3) INDICATES FIXTURE TYPE AS SCHEDULED.
	EMERGENCY.
	NIGHT LIGHT. DO NOT SWITCH.
	EGRESS DIRECTION ARROW.
	LOW VOLTAGE LIGHTING TRANSFORMER.
LIGHTING CONTROL	
	OCCUPANCY SENSOR, DUAL TECHNOLOGY, OMNI-DIRECTIONAL, CEILING.
	OCCUPANCY SENSOR, DUAL TECHNOLOGY, WALL.
	OCCUPANCY SENSOR, DUAL TECHNOLOGY, DIRECTIONAL.
	OCCUPANCY SENSOR, ULTRASONIC, OMNI-DIRECTIONAL, CEILING.
	OCCUPANCY SENSOR CONTROL RELAY.
	PHOTOCELL.
STRUCTURED CABLING	
	TELEPHONE, WALL MOUNTED ("X" INDICATES QUANTITY OF CABLES).
	TELEPHONE, WALL MOUNTED: PAY PHONE.
	TELEPHONE, WALL MOUNTED: WALL PHONE.
	OUTLET, DATA COMMUNICATION ("X" INDICATES QUANTITY OF CABLES).
	OUTLET, BUILDING STANDARD COMBINATION TELEPHONE DATA COMMUNICATION.
	TELEPHONE TERMINAL BOARD, FIRE TREATED PLYWOOD PAINTED.
	LAN RACK, FLOOR STANDING.
	DATA CABLE, CATEGORY 3 (ONE-LINE DIAGRAM).
	VOICE CABLE, CATEGORY 3 (ONE-LINE DIAGRAM).
ELECTRICAL POWER AND DISTRIBUTION	
	FUSE WITH RATING (ONE-LINE DIAGRAM).
	DISCONNECT, FUSED (ONE-LINE DIAGRAM).
	DISCONNECT, NONFUSED (ONE-LINE DIAGRAM).
	DISCONNECT WITH FUSE AND MOTOR STARTER COMBINATION (ONE-LINE DIAGRAM).
	OVERLOAD RELAY (ONE-LINE DIAGRAM).
	STARTER (ONE-LINE DIAGRAM).
	CIRCUIT BREAKER, MOLDED CASE (ONE-LINE DIAGRAM).
	CIRCUIT BREAKER, MOLDED CASE WITH SHUNT TRIP (ONE-LINE DIAGRAM).
	CIRCUIT BREAKER, MOTOR CIRCUIT PROTECTION (ONE-LINE DIAGRAM).
	CIRCUIT BREAKER, SOLID STATE (ONE-LINE DIAGRAM).
	CIRCUIT BREAKER, SOLID STATE WITH GROUND FAULT PROTECTION (ONE-LINE DIAGRAM).
	CIRCUIT BREAKER, MOTOR CIRCUIT PROTECTION (ONE-LINE DIAGRAM).
	MOTOR.
	EXHAUST FAN OUTLET.
	TRANSFORMER (ONE-LINE DIAGRAM).

SYMBOL LEGEND	
SYMBOL	DESCRIPTION
	PANELBOARD (ONE-LINE DIAGRAM).
	PANELBOARD WITH MAIN LUGS ONLY. BUS SIZE AND PHASE AS SHOWN (ONE-LINE DIAGRAM).
	PANELBOARD WITH MAIN CIRCUIT BREAKER. SIZE AND PHASE AS SHOWN (ONE-LINE DIAGRAM).
	PANELBOARD WITH MAIN AND SUB FEED CIRCUIT BREAKER (ONE-LINE DIAGRAM).
	PANELBOARD WITH MAIN LUGS ONLY AND SURGE PROTECTION WITH CIRCUIT BREAKER (ONE-LINE DIAGRAM).
	PANELBOARD WITH SUB FEED LUGS (ONE-LINE DIAGRAM).
	CT CABINET PER UTILITY'S REQUIREMENTS (ONE-LINE DIAGRAM).
	TRANSFER SWITCH (ONE-LINE DIAGRAM).
	SERVICE ENTRANCE SURGE PROTECTION (ONE-LINE DIAGRAM).
	GENERATOR, ANNUNCIATOR (ONE-LINE DIAGRAM).
	GENERATOR, POWER (ONE-LINE DIAGRAM).
	METER.
	VARIABLE FREQUENCY MOTOR CONTROLLER (ONE-LINE DIAGRAM).
	DISCONNECT SWITCH, FUSED.
	DISCONNECT SWITCH, UNFUSED.
	STARTER, COMBINATION WITH DISCONNECT SWITCH.
	STARTER OR MOTOR CONTROLLER.
	PUSHBUTTON.
	PUSHBUTTONS, MOTOR CONTROL.
	PANELBOARD CABINET, FLUSH MOUNTED.
	PANELBOARD CABINET, SURFACE MOUNTED, 1 SECTION.
	PANELBOARD CABINET, SURFACE MOUNTED, 2 SECTION.
	DISTRIBUTION PANEL OR SWITCHBOARD.
	LIGHTING RELAY, CONTACTOR PANEL, OR DIMMING ENCLOSURE.
	LIGHTING CONTROL STATION.
	DIMMING ENTRY STATION OR CONTROL STATION, FLUSH MOUNTED.
	CENTRAL PROCESSOR UNIT.
	SWITCH, TOGGLE MOTOR STARTER WITH OVERLOAD PROTECTION.
	TRANSFORMER: NUMBER INDICATES KVA.
	ACCESSIBLE DOOR ENTRY PUSH PLATE OPERATOR.
FIRE ALARM	
	FIRE SYSTEM ANNUNCIATOR.
	FIRE ALARM CONTROL PANEL, SEMI-RECESSED.
	FIRE ALARM NOTIFICATION POWER SUPPLY.
	AUTOMATIC DOOR CLOSERS: DOOR CLOSERS SHALL BE FURNISHED WITH DOOR HARDWARE AND CONNECTED TO BY FIRE ALARM INSTALLERS.
	CONTROL MODULE.
	MONITOR MODULE.
	FIRE ALARM MANUAL PULL STATION.
	SHUT DOWN RELAY: INSTALL RELAY IN CONTROL CIRCUIT OF EQUIPMENT TO BE CONTROLLED IN THE EVENT OF A FIRE.
	MAGNETIC DOOR HOLDER.
	DETECTOR, SMOKE.
	DETECTOR, SMOKE, ELEVATOR RECALL DESIGNATION.
	DETECTOR, SMOKE, DUCT WITH HOUSING AND SAMPLING TUBE.
	DETECTOR, HEAT.
	STROBE.
	STROBE: SUBSCRIPT INDICATES CANDELA RATING.
	ALARM, HORN/SPEAKER, WEATHERPROOF.
	ALARM, HORN/STROBE, ONE ASSEMBLY.
	ALARM, HORN/STROBE, ONE ASSEMBLY. SUBSCRIPT INDICATES CANDELA RATING.
	SPEAKER, EVACUATION.
	SPEAKER, EVACUATION, COMBINATION STROBE.
	DETECTOR, FLOW SWITCH: FLOW SWITCHES SHALL BE PROVIDED AND INSTALLED WITH FIRE SPRINKLER SYSTEM AND SHALL BE CONNECTED TO LOCATIONS SHOWN ON THE FIRE SPRINKLER SHOP DRAWINGS.

SYMBOL LEGEND			
SYMBOL	DESCRIPTION		
	DETECTOR, TAMPER SWITCH WITH VALVE. TAMPER SWITCHES SHALL BE PROVIDED AND INSTALLED WITH FIRE SPRINKLER SYSTEM AND SHALL BE CONNECTED TO LOCATIONS SHOWN ON THE FIRE SPRINKLER SHOP DRAWINGS.		
	SMOKE DAMPER.		
	FIRE AND SMOKE DAMPER.		
ABBREVIATIONS			
NOTE: ALL ABBREVIATIONS MAY NOT BE USED.			
1P	SINGLE POLE	KV	KILOVOLT
1PH	SINGLE-PHASE	KVA	KILOVOLT AMPERE
1WAY	ONE-WAY	KVAR	KILOVOLT AMPERE REACTIVE
2/C	TWO-CONDUCTOR	KW	KILOWATT
2WAY	TWO-WAY	KWH	KILOWATT HOUR
3/C	THREE-PHASE	LED	LIGHT EMITTING DIODE
3WAY	THREE-WAY	LFCM	LIQUID TIGHT FLEXIBLE METAL CONDUIT
4OUT	QUADRUPLER RECEPTACLE	LFNC	LIQUID TIGHT FLEXIBLE NONMETALLIC CONDUIT
4PDT	THROW	LPS	LOCKED ROTOR AMPS
	FOUR-POLE DOUBLE	LRA	LIGHTING
	THROW	LV	LOW VOLTAGE
4PST	FOUR-POLE SINGLE	MATV	MASTER ANTENNA TELEVISION SYSTEM
	THROW	MAX	MAXIMUM
4W	FOUR-WIRE	MC	METAL CLAD
4WAY	FOUR-WAY	MCA	MINIMUM CIRCUIT AMPS
A	ABOVE COUNTER	MCB	MAIN CIRCUIT BREAKER
AC	ARMORED CABLE	MCC	MOTOR CONTROL CENTER
ADA	AMERICANS WITH DISABILITIES ACT	MCP	MOTOR CIRCUIT PROTECTION
ADJ	ADJUSTMENT	MDP	MAIN DISTRIBUTION PANEL
AF	ABOVE FINISHED FLOOR	MG	MOTOR GENERATOR
AFB	ABOVE FINISHED GRADE	MH	MANHOLE
AFS	AMPERE INTERRUPTING CAPACITY	MIN	MINIMUM
ALUM	ALUMINUM	MLO	MAIN LUGS ONLY
AMP	AMPERE	MOC	MAXIMUM OVERCURRENT PROTECTION
ANN	ANNUNCIATOR	NA	NORMALLY CLOSED
AN	ACCESS POINT (WIRELESS DATA) AS REQUIRED	NEC	NATIONAL ELECTRICAL CODE
AR	ARMED	NEMA	NATIONAL ELECTRICAL CODE
ASC	AMPS SHORT CIRCUIT	NFPA	NATIONAL FIRE CODE
ATS	AUTOMATIC TRANSFER SWITCH	NFPA	NATIONAL FIRE CODE
AV	AUDIO VISUAL	NIC	NOT IN CONTRACT
AWG	AMERICAN WIRE GAGE	NL	NIGHT LIGHT
BB	BUCK BOOST TRANSFORMER	NO	NORMALLY OPEN
CB	CEILING MOUNTED TELEVISION	NTS	NOT TO SCALE
CATV	COMMUNITY ANTENNA TELEVISION	OC	ON CENTER
CCBA	CUSTOM COLOR AS SELECTED BY ARCHITECT	OCIP	OVER CURRENT PROTECTION
CCTV	CLOSED CIRCUIT TELEVISION	OF/CI	OWNER FURNISHED CONTRACTOR INSTALLED OWNER FURNISHED
CFBA	CUSTOM FINISH AS SELECTED BY ARCHITECT	OF/OI	OWNER FURNISHED CONTRACTOR INSTALLED OWNER INSTALLED
CF/CI	CONTRACTOR FURNISHED CONTRACTOR INSTALLED CONTRACTOR FURNISHED	OF/OF	OWNER FURNISHED CONTRACTOR INSTALLED OWNER FURNISHED
CF/OI	CONTRACTOR FURNISHED CONTRACTOR INSTALLED CONTRACTOR FURNISHED	OH DR	OBTAIN FROM PLANS OVERHEAD (COILING) DOOR
CKT	CIRCUIT	OL	OVERLOAD
CM	CONSTRUCTION MANAGER	OLB	OVERLOAD BREAKER
CND	CONDUIT	PF	POWER FACTOR
CO	CONVENIENCE OUTLET	PH	PHASE
COR	CONTRACTING OFFICERS REPRESENTATIVE	PNL	PANEL TRANSFORMER
CP	CONTROL PANEL	PTZ	PAN/TILT/ZOOM
CT	CURRENT TRANSFORMER	QTY	QUANTITY
CTV	CABLE TELEVISION	R	REMOVE
CU	COPPER	RCP	REFLECTED CEILING PLAN
DS	DOUBLE POLE	RMC	RIGID METAL CONDUIT
EA	EACH	RNC	RIGID NONMETALLIC CONDUIT
EM	EMERGENCY	RPM	REVOLUTIONS PER MINUTE
EMT	ELECTRICAL METALLIC TUBING	RR	REMOVE AND RELOCATE
ENT	ELECTRICAL NONMETALLIC TUBING	SCA	STANDARD COLOR AS SELECTED BY ARCHITECT
EPO	EMERGENCY POWER OFF EQUIPMENT	SCBA	STANDARD COLOR AS SELECTED BY ARCHITECT
EQUIP	EXISTING FURNITURE MOUNTED	SF	STANDARD FINISH AS SELECTED BY ARCHITECT
EX	EXISTING	SFBA	STANDARD FINISH AS SELECTED BY ARCHITECT
F	FURNITURE MOUNTED	SPDT	SINGLE POLE DOUBLE THROW SWITCH
FA	FIRE ALARM	SPST	SINGLE POLE SINGLE THROW SWITCH
FCP	FIRE ALARM CONTROL PANEL	ST	START STOP
FLA	FULL LOAD AMPS	ST	SINGLE THROW SWITCHBOARD
FMC	FLEXIBLE METAL CONDUIT	SWGR	SWITCHBOARD
FOB	FREIGHT ON BOARD	TL	TWIST LOCK
FVNR	FULL VOLTAGE NON-REVERSING	TP	TELEPHONE POLE
FVR	FULL VOLTAGE REVERSING	TP	TWISTED PAIR
GEN	GENERATOR	TTB	TELEPHONE TERMINAL BOARD
GFCI	GROUND FAULT CIRCUIT INTERRUPTER	TV	TELEVISION
GFP	GROUND FAULT PROTECTION	TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSOR
HD	HEAVY DUTY	UF	UNDER FLOOR
HOA	HIGH INTENSITY DISCHARGE	UGND	UNDERGROUND
HP	HAND-OFF-AUTOMATIC HORSE POWER	UPS	UNINTERRUPTIBLE POWER SUPPLY
HPS	HIGH POWER FACTOR	V	VOLTS
HV	HIGH VOLTAGE	VA	VOLT AMPERE
HZ	HERTZ	VFC/VFD	VARIABLE FREQUENCY MOTOR CONTROLLER
IG	ISOLATED GROUND	W	WITH
IMC	INTERMEDIATE METAL CONDUIT	W/O	WITHOUT
IN/IS	INSULATED/ISOLATED	WP	WEATHERPROOF
IR	INFRARED	XFMR	TRANSFORMER
J-BOX	JUNCTION BOX		
DEFINITIONS			
NOTE: ALL DEFINITIONS MAY NOT BE USED.			
INDICATED: THE TERM "INDICATED" REFERS TO GRAPHIC REPRESENTATIONS, NOTES, OR SCHEDULES ON THE DRAWINGS, OTHER PARAGRAPHS OR SCHEDULES IN THE SPECIFICATIONS, AND SIMILAR REQUIREMENTS IN THE CONTRACT DOCUMENTS. WHERE TERMS SUCH AS "SHOW", "NOTED", "SCHEDULED", AND "SPECIFIED" ARE USED, IT IS TO HELP THE READER LOCATE THE REFERENCE. NO LIMITATION ON LOCATION IS INTENDED.			
DIRECTED: TERMS SUCH AS "DIRECTED", "REQUESTED", "AUTHORIZED", "SELECTED", "APPROVED", "REQUIRED", AND "PERMITTED" MEAN "DIRECTED BY THE ENGINEER", "REQUESTED BY THE ENGINEER", AND SIMILAR PHRASES.			
APPROVED: THE TERM "APPROVED", WHERE USED IN CONJUNCTION WITH THE ENGINEER'S ACTION ON THE CONTRACTOR'S SUBMITTALS, APPLICATIONS, AND REQUESTS, IS LIMITED TO THE ENGINEER'S DUTIES AND RESPONSIBILITIES AS STATED IN GENERAL AND SUPPLEMENTARY CONDITIONS.			
FURNISH: THE TERM "FURNISH" IS USED TO MEAN "SUPPLY AND DELIVER TO THE PROJECT SITE, READY FOR UNLOADING, UNPACKING, ASSEMBLY, INSTALLATION, AND SIMILAR OPERATIONS."			
INSTALL: THE TERM "INSTALL" IS USED TO DESCRIBE OPERATIONS AT PROJECT SITE INCLUDING THE ACTUAL UNLOADING, UNPACKING, ASSEMBLY, ERECTION, PLACING, ANCHORING, APPLYING, WORKING TO DIMENSION, FINISHING, CURING, PROTECTING, CLEANING, AND SIMILAR OPERATIONS.			
PROVIDE: THE TERM "PROVIDE" MEANS TO FURNISH AND INSTALL, COMPLETE AND READY FOR THE INTENDED USE.			
INSTALLER: AN "INSTALLER" IS THE CONTRACTOR OR AN ENTITY ENGAGED BY THE CONTRACTOR, EITHER AS AN EMPLOYEE, SUBCONTRACTOR, OR SUB-SUBCONTRACTOR, FOR PERFORMANCE OF A PARTICULAR CONSTRUCTION ACTIVITY, INCLUDING INSTALLATION, ERECTION, APPLICATION, AND SIMILAR OPERATIONS. INSTALLERS ARE REQUIRED TO BE EXPERIENCED IN THE OPERATIONS THEY ARE ENGAGED TO PERFORM.			
TECHNOLOGY SYSTEMS: THE TERM "TECHNOLOGY SYSTEMS" IS USED TO DESCRIBE ALL LOW VOLTAGE SYSTEMS GENERALLY REFERRED TO AS "SPECIAL SYSTEMS". THESE SYSTEMS INCLUDE BUT ARE NOT NECESSARILY LIMITED TO ALL SYSTEMS WHICH UTILIZE VOLTAGES OF LESS THAN 71 VOLTS SUCH AS SOUND SYSTEMS, VIDEO SYSTEMS, TV SYSTEMS, SECURITY SYSTEMS, VOICE AND DATA CABLING SYSTEMS, ETC....			

SITE COORDINATION	
THE LOCATION, CAPACITY, AND VOLTAGE OF THE LINES ARE ALL IN ACCORDANCE WITH DATA GIVEN THIS OFFICE BY THE UTILITY COMPANY. COORDINATE WITH THE LOCAL UTILITY COMPANY FOR THE INSTALLATION OF THE ELECTRICAL SERVICE. COMPLY WITH UTILITY REGULATIONS. REPORT DISCREPANCIES TO THE ENGINEER.	
ELECTRIC UTILITY	
ROCKY MOUNTAIN POWER	PERSON CONTACTED:
STREET NUMBER OR PO BOX?	DATE:
CITY, STATE, ZIP CODE?	PHONE NUMBER:
TELEPHONE UTILITY	
QWEST COMMUNICATIONS	PERSON CONTACTED:
STREET NUMBER OR PO BOX?	DATE:
CITY, STATE, ZIP CODE?	PHONE NUMBER:
CABLE UTILITY	
AT&T BROAD BAND SERVICES	PERSON CONTACTED:
STREET NUMBER OR PO BOX?	DATE:
CITY, STATE, ZIP CODE?	PHONE NUMBER:
ELECTRICAL SHEET INDEX	
EE001 SHEET INDEX, ABBREVIATIONS, AND GENERAL NOTES	
E3101 ELECTRICAL SITE PLAN	
E3102 BASEMENT POWER PLAN	
E3103 LEVEL 1 POWER PLAN	
E3104 LEVEL 2 POWER PLAN	
E3105 LEVEL 3 POWER PLAN	
E3106 LEVEL 4 POWER PLAN	
E3107 PRETENTHOUSE POWER PLAN	
E3108 ONE-LINE DIAGRAM	
E3109 BASEMENT TELECOMMUNICATIONS PLAN	
E3110 LEVEL 1 TELECOMMUNICATIONS PLAN	
E3111 LEVEL 2 TELECOMMUNICATIONS PLAN	
E3112 LEVEL 3 TELECOMMUNICATIONS PLAN	
E3113 LEVEL 4 TELECOMMUNICATIONS PLAN	
E3114 CABLE TRAY DETAILS	
E3115 COMMUNICATIONS RISER DIAGRAMS	
GENERAL ELECTRICAL NOTES	
1. CLARIFICATION METHODS: AT THE TIME OF BIDDING, BIDDERS SHALL FAMILIARIZE THEMSELVES WITH THE DRAWINGS AND SPECIFICATIONS. ANY QUESTIONS, MISUNDERSTANDINGS, CONFLICTS, DELETIONS, DISCONTINUED PRODUCTS, CATALOG NUMBER DISCREPANCIES, DISCREPANCIES BETWEEN THE EQUIPMENT SUPPLIED AND THE INTENT OR FUNCTION OF THE EQUIPMENT, ETC, SHALL BE SUBMITTED TO THE ARCHITECT/ENGINEER IN WRITING FOR CLARIFICATION PRIOR TO ISSUANCE OF THE FINAL ADDENDUM AND BIDDING OF THE PROJECT. WHERE DISCREPANCIES OR MULTIPLE INTERPRETATIONS OCCUR, THE MOST STRINGENT (WHICH IS GENERALLY RECOGNIZED AS THE MOST COSTLY) THAT MEETS THE INTENT OF THE DOCUMENTS SHALL BE ENFORCED.	
2. OWNER FURNISHED ITEMS	

GENERAL SHEET NOTES	SHEET KEYNOTES



ARCHITECTURE  
VALENTINER  
CRANE  
BRUNJES  
ONYON

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**THATCHER ADDITION TO CHEMISTRY**

UNIVERSITY OF UTAH  
10026750

315 South 1400 East Rm. 2020 Salt Lake City, Utah 84112-0850

Schematic Design

Rev #	Date	Description

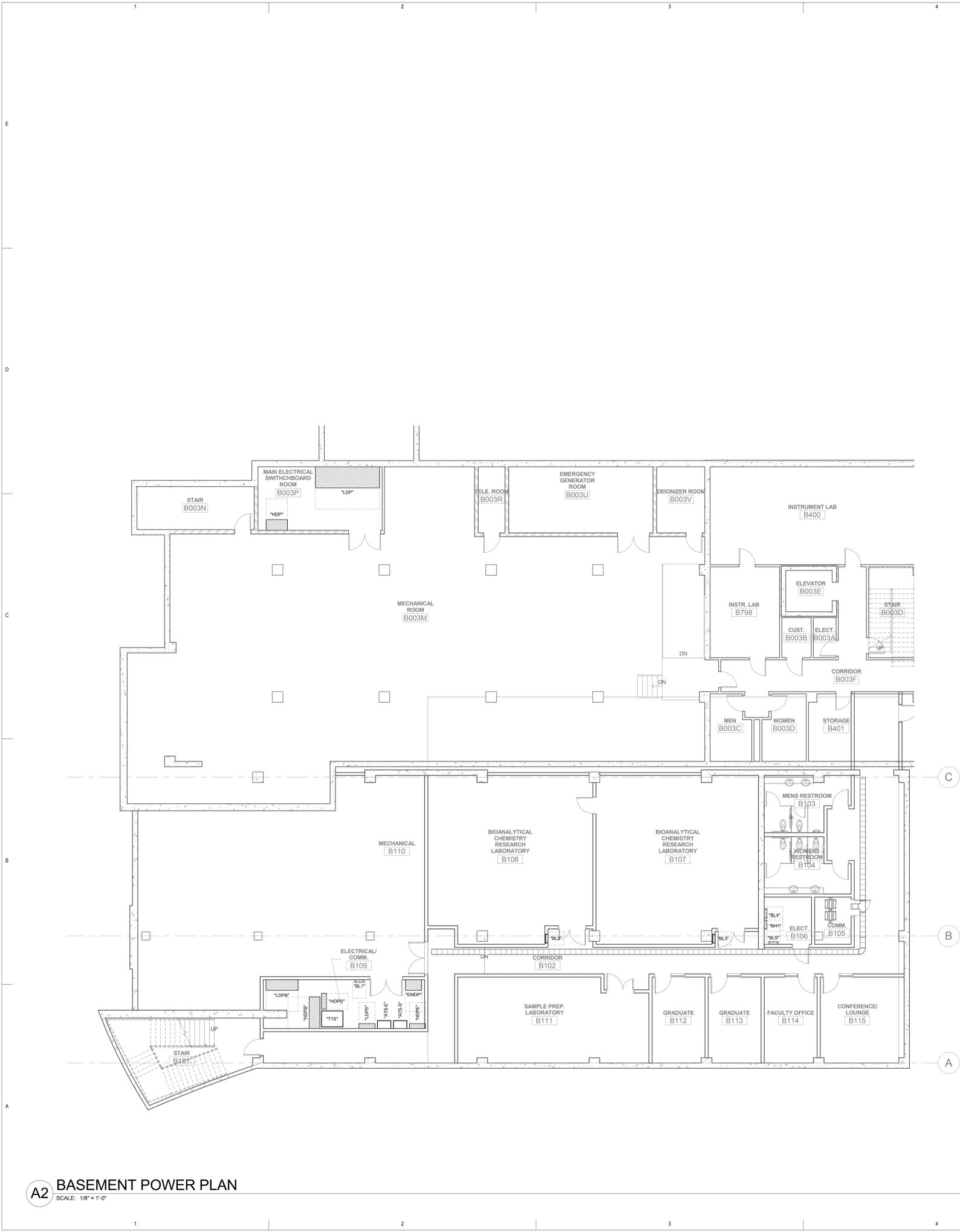


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Job #	10195
CAD File	
Drawn	WRT
Checked	SEJ
Date	2010-08-03
Owner #	10026750
Iss. #	
BASEMENT POWER PLAN	

EP100



**A2 BASEMENT POWER PLAN**  
SCALE: 1/8" = 1'-0"

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LEVEL 1 POWER PLAN

EP101

## GENERAL SHEET NOTES

## SHEET KEYNOTES



**A2** LEVEL 1 POWER PLAN  
SCALE: 1/8" = 1'-0"

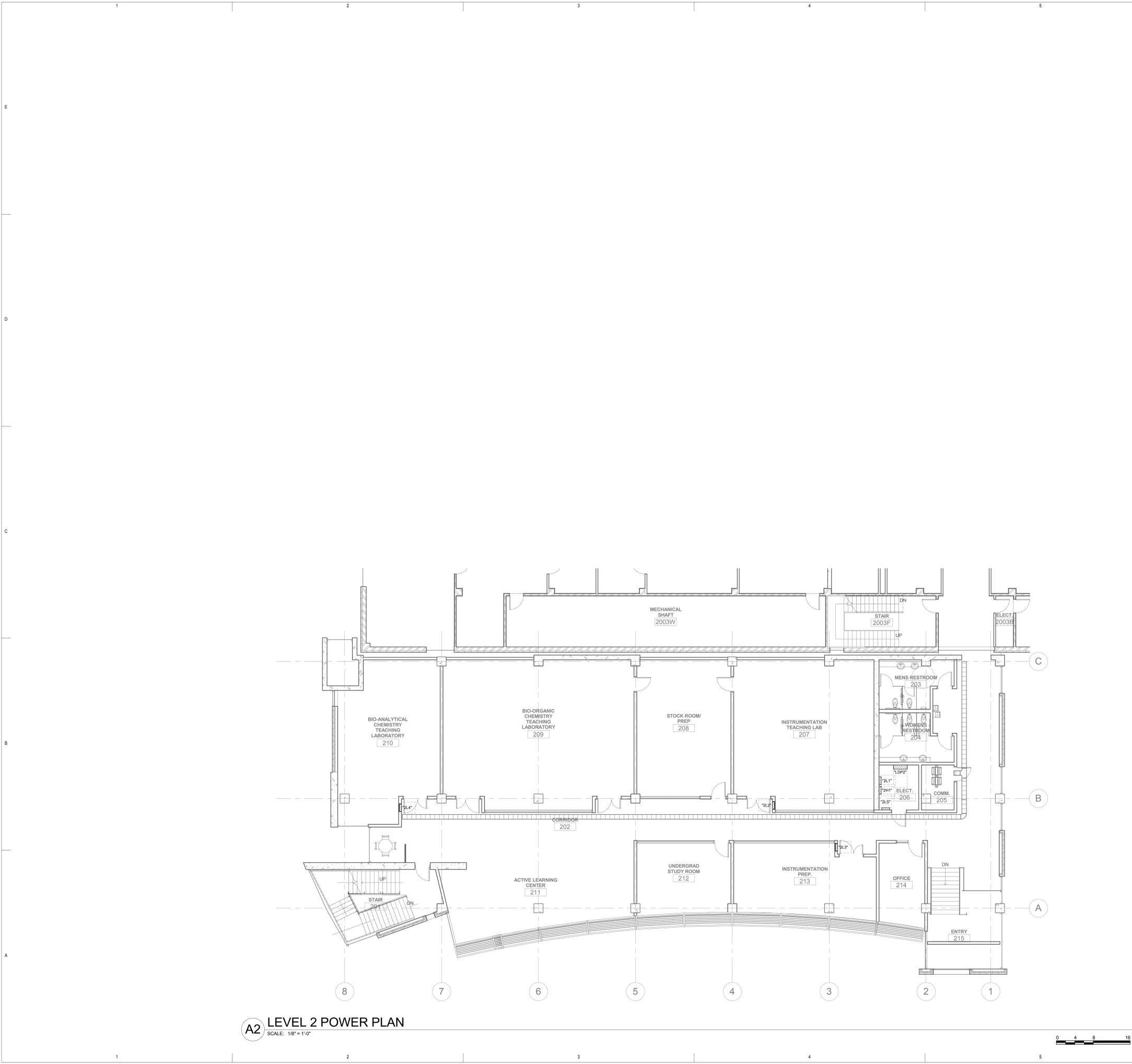


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**A2 LEVEL 2 POWER PLAN**  
 SCALE: 1/8" = 1'-0"



**GENERAL SHEET NOTES**

**SHEET KEYNOTES**

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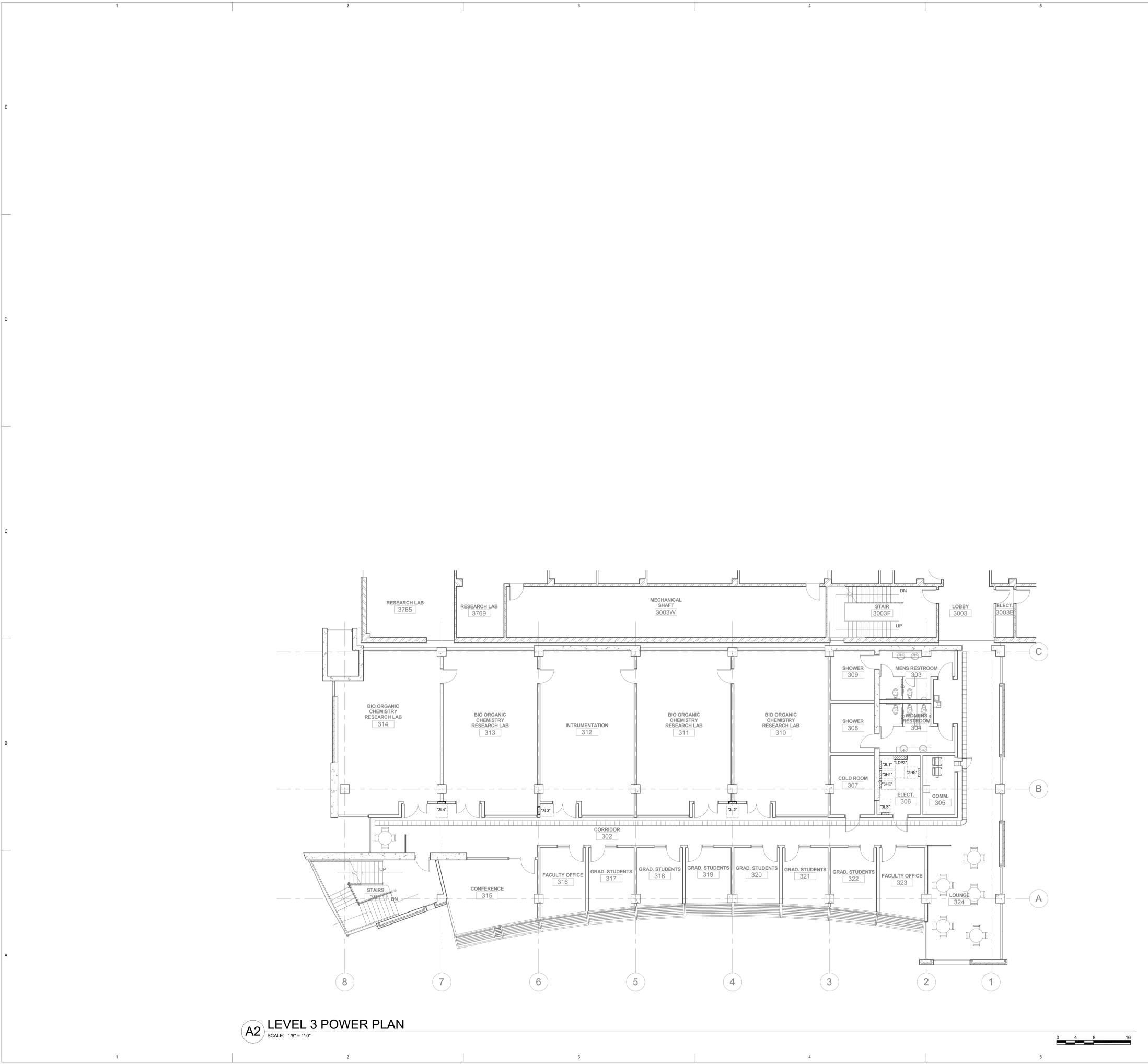


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LEVEL 2 POWER PLAN

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**A2 LEVEL 3 POWER PLAN**  
SCALE: 1/8" = 1'-0"

**GENERAL SHEET NOTES**

**SHEET KEYNOTES**



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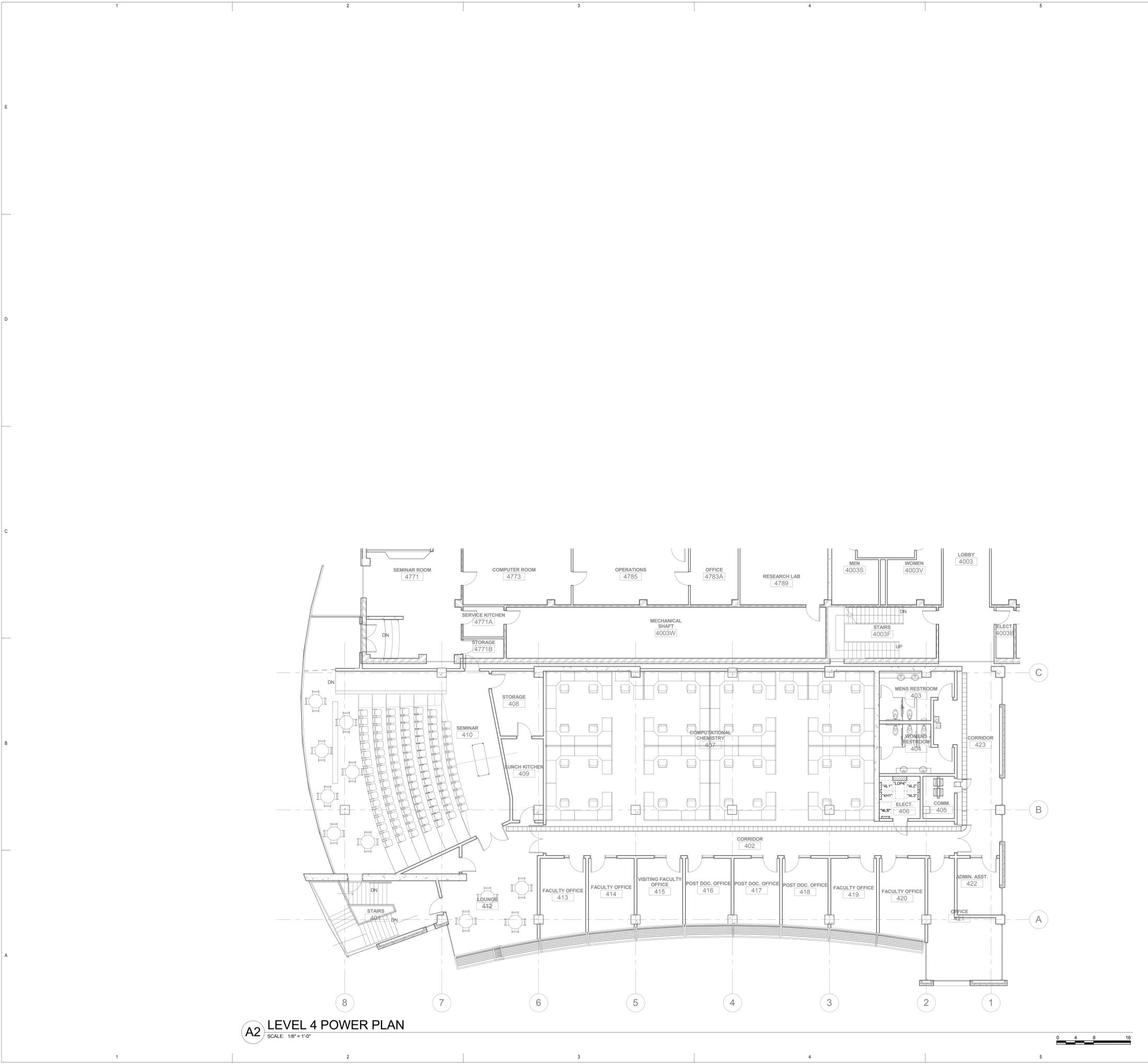


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LEVEL 3 POWER PLAN

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**A2 LEVEL 4 POWER PLAN**  
 SCALE: 1/8" = 1'-0"



**GENERAL SHEET NOTES**

**SHEET KEYNOTES**



ARCHITECTURE  
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 CRANE  
 BRUNJES  
 ONYON

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**THATCHER ADDITION TO CHEMISTRY**

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 Schematic Design

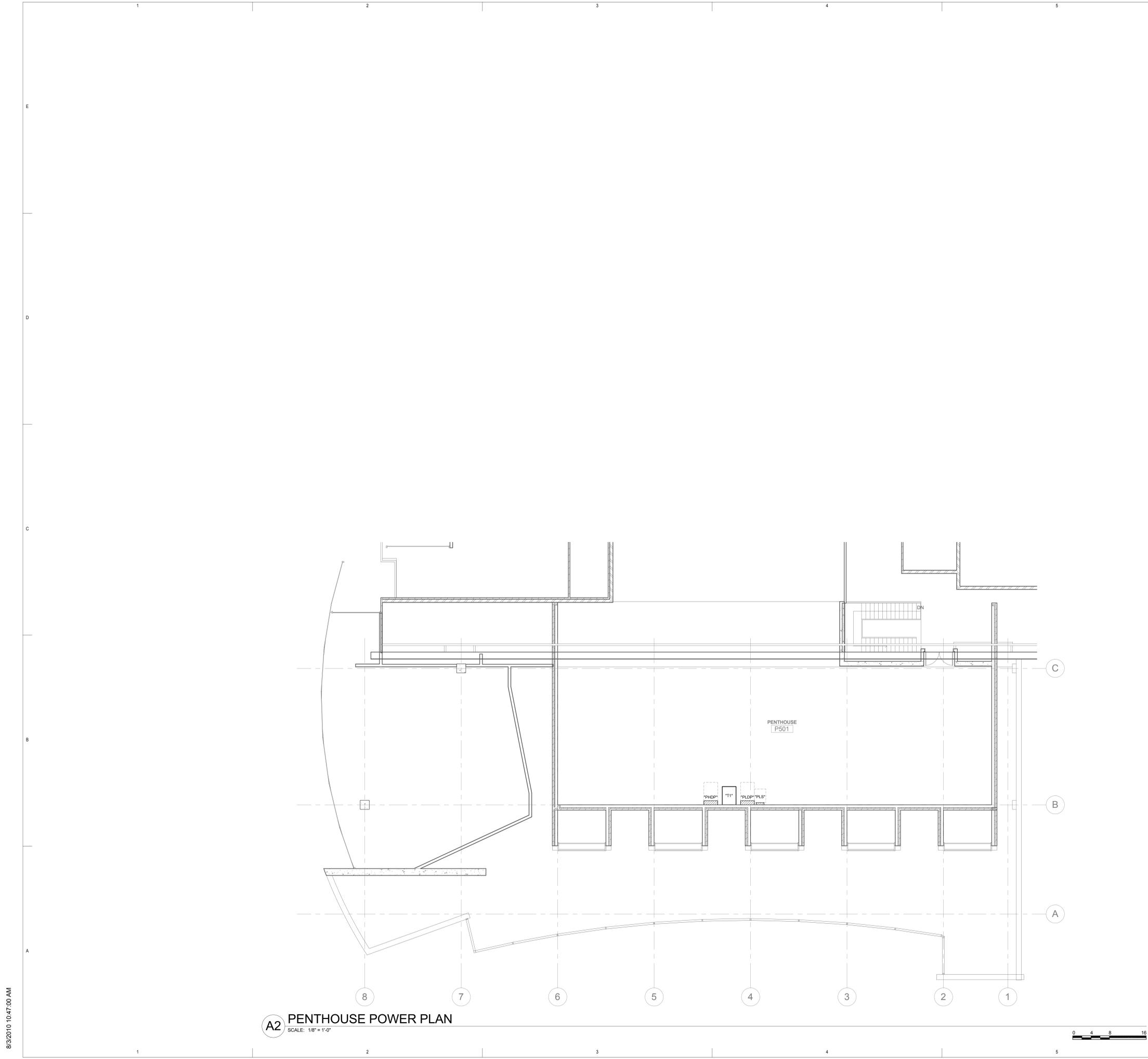


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LEVEL 4 POWER PLAN



**A2** PENTHOUSE POWER PLAN  
SCALE: 1/8" = 1'-0"

GENERAL SHEET NOTES

○ SHEET KEYNOTES



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Schematic Design

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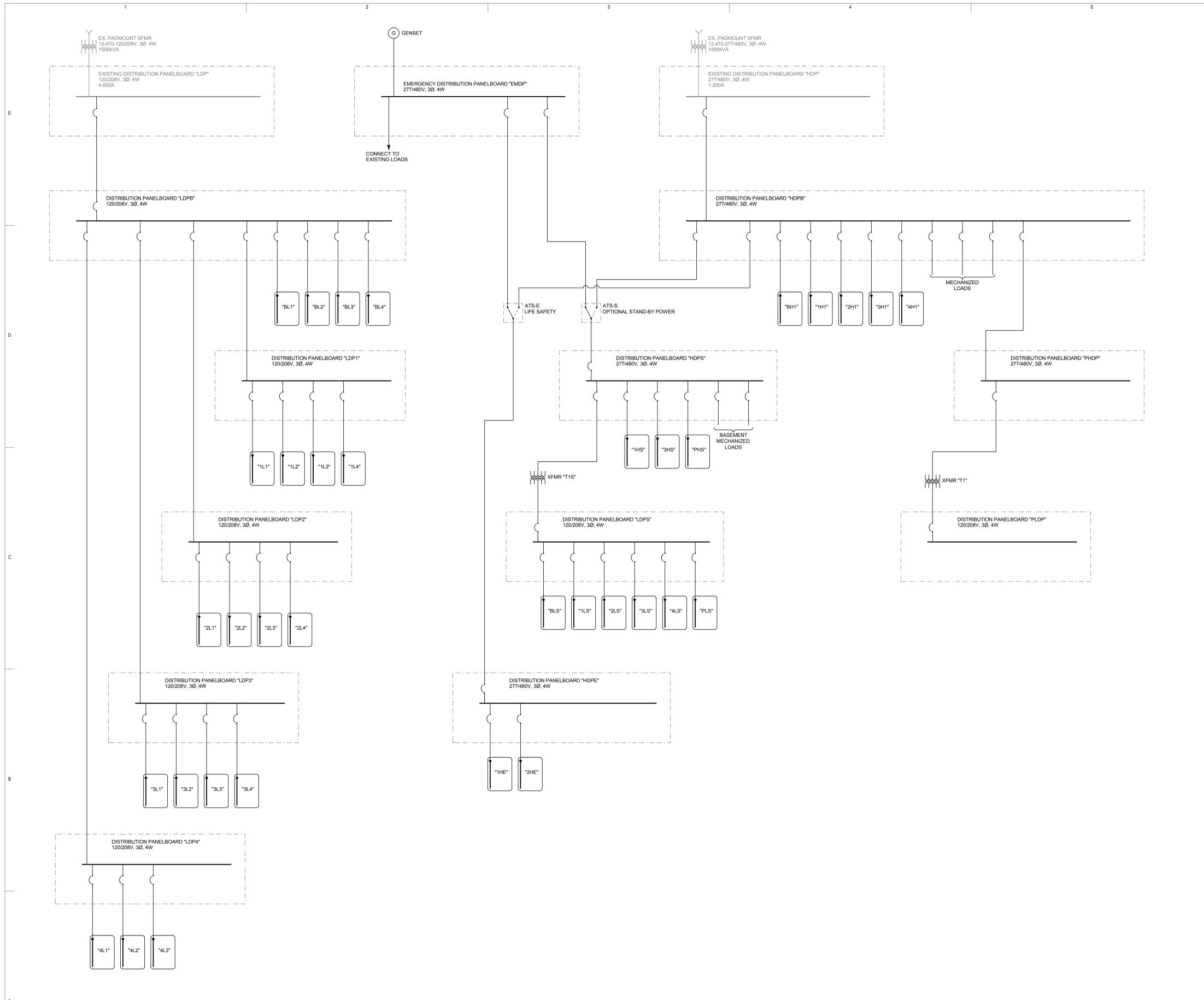


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Drawn WRT Checked SEJ  
Date 2010-08-03  
Owner # 10026750  
Iss. #

PENTHOUSE POWER PLAN

8/2/2010 10:47:00 AM



### GENERAL SHEET NOTES

- 1 PROVIDE NEMA 3R ENCLOSURES FOR EQUIPMENT LOCATED OUTDOORS. REFER TO PLANS FOR EQUIPMENT LOCATIONS.
- 2 REFER TO PLANS FOR CONSTRAINTS ON PHYSICAL DIMENSIONS AND CLEARANCE REQUIREMENTS OF EQUIPMENT. PROVIDE EQUIPMENT DIMENSIONS THAT FALL WITHIN THE CONSTRAINTS OF EACH SPECIFIC LOCATION.
- 3 ALL EQUIPMENT SHALL BE CONSTRUCTED AND BRACED FOR THE SEISMIC CONDITIONS OF THE PROJECT. REFER TO SPECIFICATIONS SECTION 16071 FOR REQUIREMENTS.

### CONDUCTOR AND CONDUIT SCHEDULE

SCHEDULE NUMBER: 4  
SUBSCRIPT (NOTE 5): (E.G.) 5 IG

SYM	AMP	CONDUIT SIZE	CONDUCTOR (NOTE 1) QTY	CONDUCTOR (NOTE 1) SIZE	G	IG	SE	NOTES
01	20	75	2	12	12	12	8	2
02	20	75	3	12	12	12	8	2,3
03	20	75	4	12	12	12	8	2,3
04	30	75	2	10	10	10	8	2
05	30	75	3	10	10	10	8	2
06	30	75	4	10	10	10	8	2
07	40	1	2	8	10	8	6	2
08	40	1	3	8	10	8	6	2
09	40	1	4	8	10	8	6	2
10	55	1	2	6	10	8	4	2
11	55	1	3	6	10	8	4	2
12	55	1.25	4	6	10	8	4	2
13	70	1	2	4	8	4	2	2
14	70	1.25	3	4	8	4	2	2
15	70	1.25	4	4	8	4	2	2
16	85	1.25	2	3	8	3	2	2
17	85	1.25	3	3	8	3	2	2
18	85	1.25	4	3	8	3	2	2
19	95	1.25	3	2	8	2	2	2
20	95	1.50	4	2	8	2	2	2
21	130	1.50	3	1	6	2	2	2
22	130	1.50	4	1	6	2	2	2
23	150	2	3	1/0	6	2	1/0	2
24	150	2	4	1/0	6	2	1/0	2
25	175	2	3	2/0	6	2	2/0	2
26	175	2	4	2/0	6	2	2/0	2
27	200	2	3	3/0	6	2	2/0	2
28	200	2.50	4	3/0	6	2	2/0	2
29	230	2.50	3	4/0	4	2	2/0	2
30	230	2.50	4	4/0	4	2	2/0	2
31	255	2.50	3	250	4	1	2/0	2
32	255	2.50	4	250	4	1	2/0	2
33	310	3	3	350	3	1/0	3/0	2
34	310	3	4	350	3	1/0	3/0	2
35	380	3.50	3	500	3	3/0	3/0	2
36	380	4	4	500	3	3/0	3/0	2
37	400	2 EA 2	3	3/0	3	3/0	3/0	2
38	400	2 EA 2.50	4	3/0	3	3/0	3/0	2
39	510	2 EA 2.50	3	250	1	4/0	3/0	2
40	510	2 EA 3	4	250	1	4/0	3/0	2
41	820	2 EA 3	3	350	1/0	4/0	3/0	2,4
42	820	2 EA 3	4	350	1/0	4/0	3/0	2,4
43	780	2 EA 3.50	3	500	1/0	4/0	3/0	2,4
44	780	2 EA 4	4	500	1/0	4/0	3/0	2,4
45	855	3 EA 3	3	300	2/0	4/0	3/0	2,4
46	855	3 EA 3	4	300	2/0	4/0	3/0	2,4
47	1000	3 EA 3.50	3	400	2/0	4/0	3/0	4
48	1000	3 EA 3.50	4	400	2/0	4/0	3/0	4
49	1140	3 EA 4	3	500	3/0	4/0	3/0	4
50	1140	2 EA 4	4	500	3/0	4/0	3/0	4
51	1240	4 EA 3	3	350	3/0	4/0	3/0	4
52	1240	4 EA 3	4	350	3/0	4/0	3/0	4
53	1675	5 EA 3.50	4	400	4/0	4/0	4/0	4
54	2010	6 EA 3.50	4	400	250	250	250	4
55	2660	7 EA 4	4	500	350	350	350	4
56	3040	8 EA 4	4	500	500	500	500	4
57	4180	11 EA 4	4	500	500	500	500	4
58		5 EA 4						6
59		5						6
60		10 EA 4						6

CONDUCTOR AND CONDUIT SCHEDULE NOTES

1. CONDUCTORS SHOWN ARE SHOWN FOR EACH CONDUIT WITH MODIFICATIONS AS NOTED IN NOTE 5. ALL CONDUCTORS SHOWN ARE THWN UNLESS OTHERWISE NOTED.
2. PROVIDE EQUIPMENT GROUND CONDUCTORS PER TABLE 250-122 WHEN CIRCUIT BREAKERS ARE SIZED GREATER THAN AMPERE RATING SHOWN IN TABLE.
3. PROVIDE #10 NEUTRALS FOR MULTIWIRE BRANCH CIRCUITS SERVING COMPUTERS.
4. GROUND (G) CONDUCTOR MAY BE DELETED ON SERVICE ENTRANCE CONDUCTORS.
5. WHEN SYMBOL SUBSCRIPT INDICATES "IG", INCLUDE "IG" OR INSULATED GROUND CONDUCTOR SCHEDULED ALONG WITH GROUND OR EQUIPMENT GROUND CONDUCTOR. WHEN SYMBOL SUBSCRIPT INDICATES "SE", SUBSTITUTE "SE" CONDUCTOR FOR "G" CONDUCTOR SHOWN WHICH IS SIZED FOR THE GROUNDING OF THE SECONDARY OF THE SEPARATELY DERIVED SYSTEMS.
6. RACEWAY ONLY. CONDUCTORS PROVIDED BY UTILITY.



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 Schematic Design



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ONE-LINE DIAGRAM

EP601

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**A1 ONE-LINE DIAGRAM**  
SCALE: N.T.S.

GENERAL SHEET NOTES	SHEET KEYNOTES



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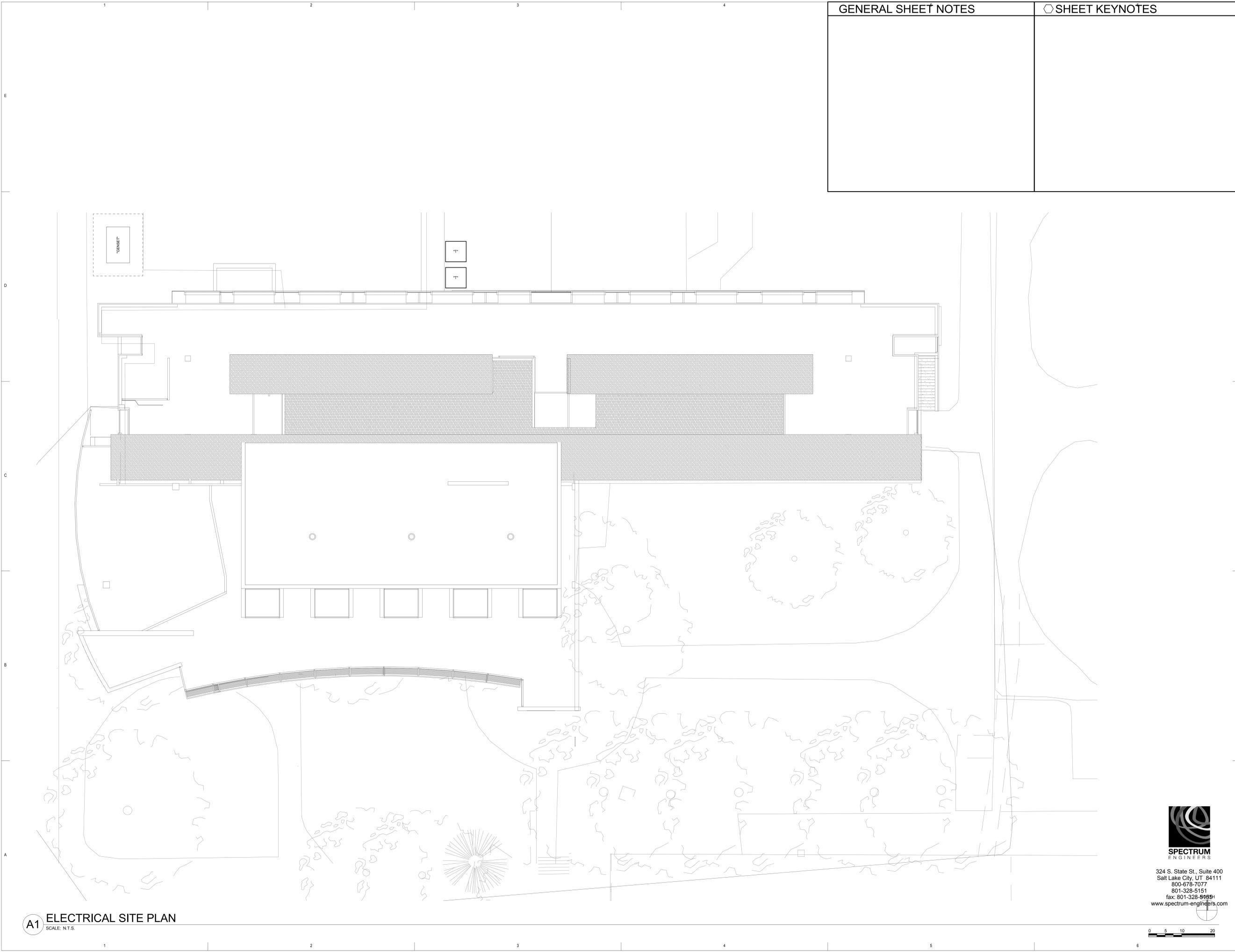
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ELECTRICAL SITE PLAN

ES101

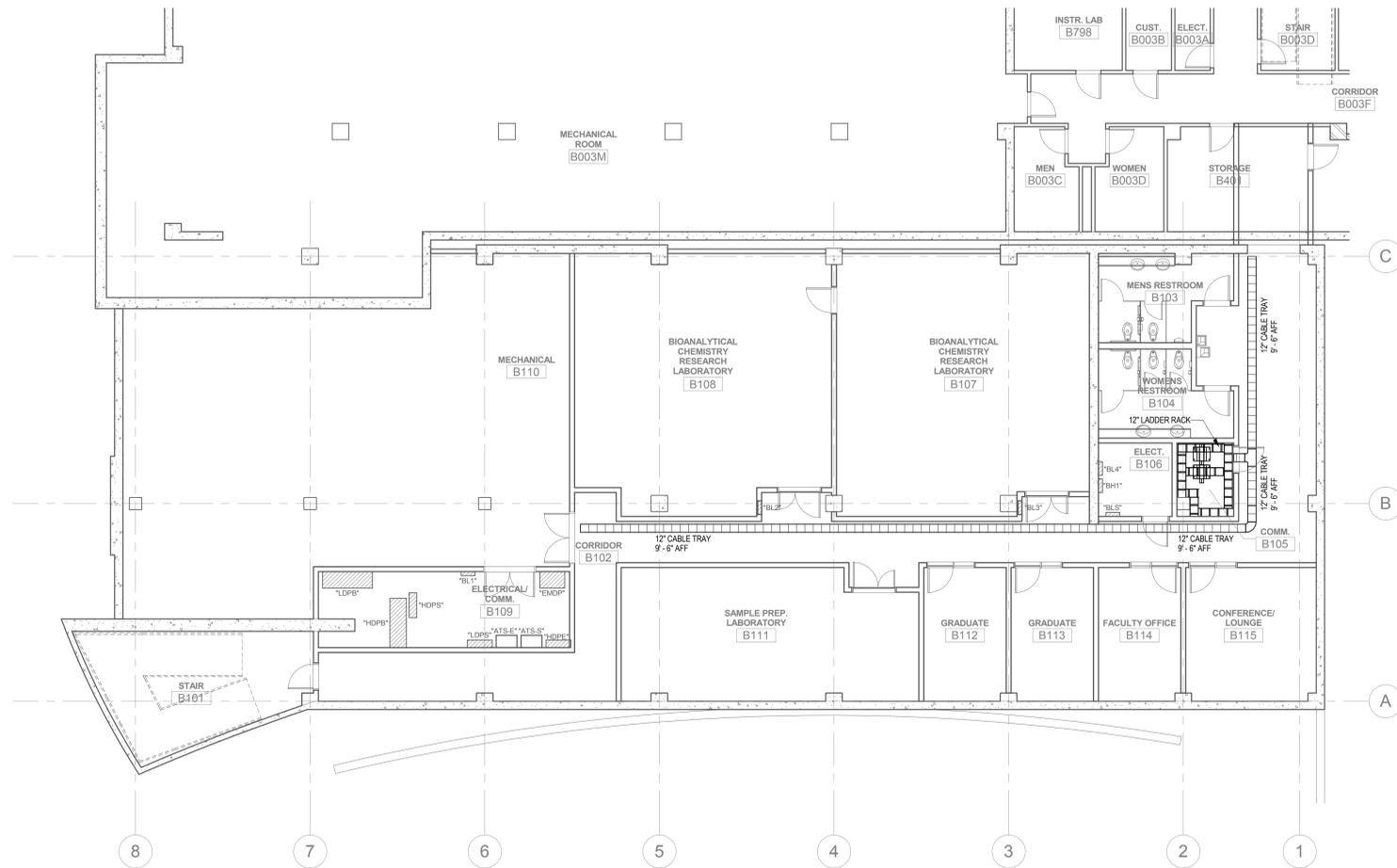


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**A1 ELECTRICAL SITE PLAN**  
SCALE: N.T.S.

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**A2** BASEMENT TELECOMMUNICATIONS PLAN  
 SCALE: 1/8" = 1'-0"



**GENERAL SHEET NOTES**

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**SHEET KEYNOTES**



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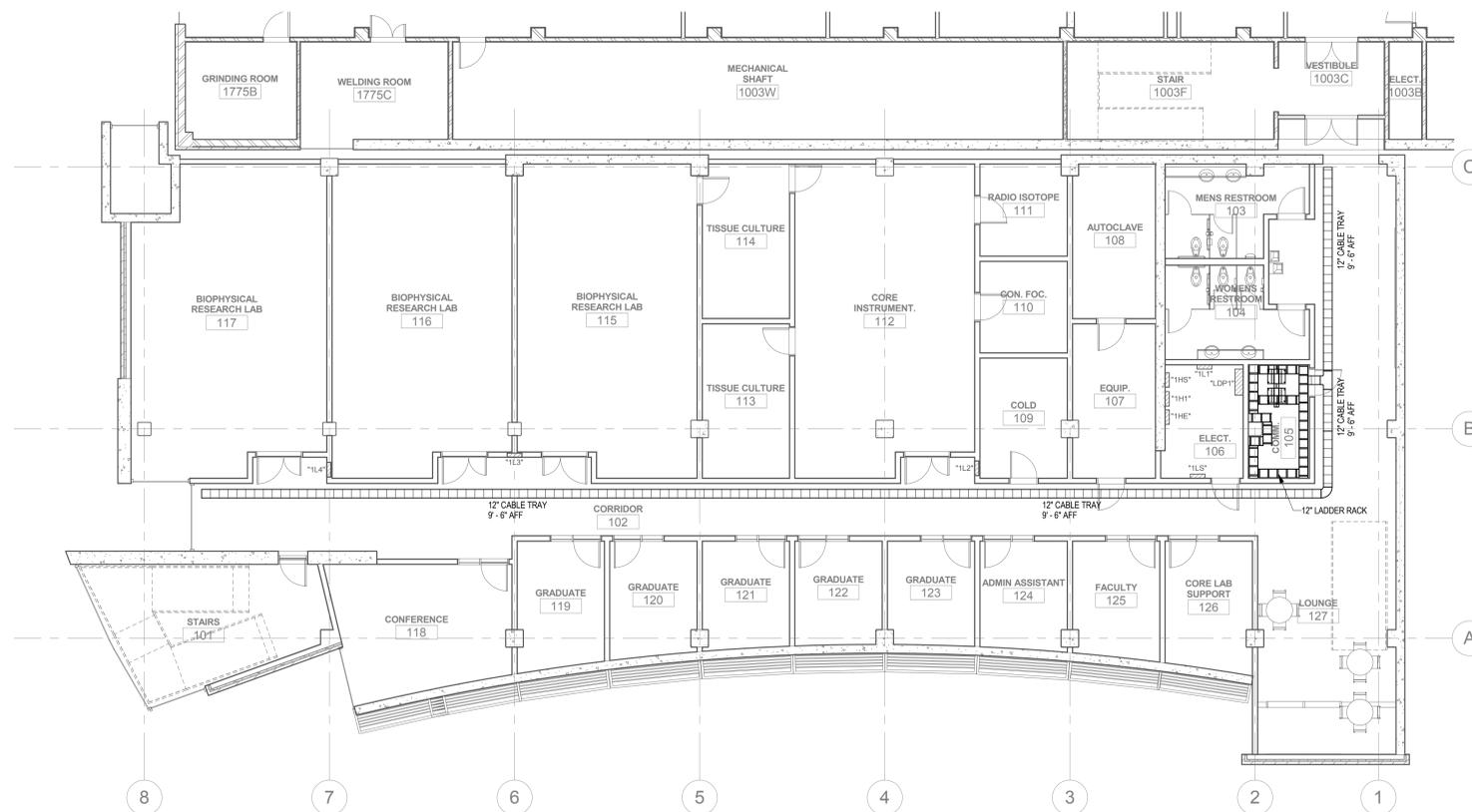
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BASEMENT  
 TELECOMMUNICATIONS  
 PLAN

**ET100**

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**A2** LEVEL 1 TELECOMMUNICATIONS PLAN  
SCALE: 1/8" = 1'-0"



**GENERAL SHEET NOTES**

**SHEET KEYNOTES**



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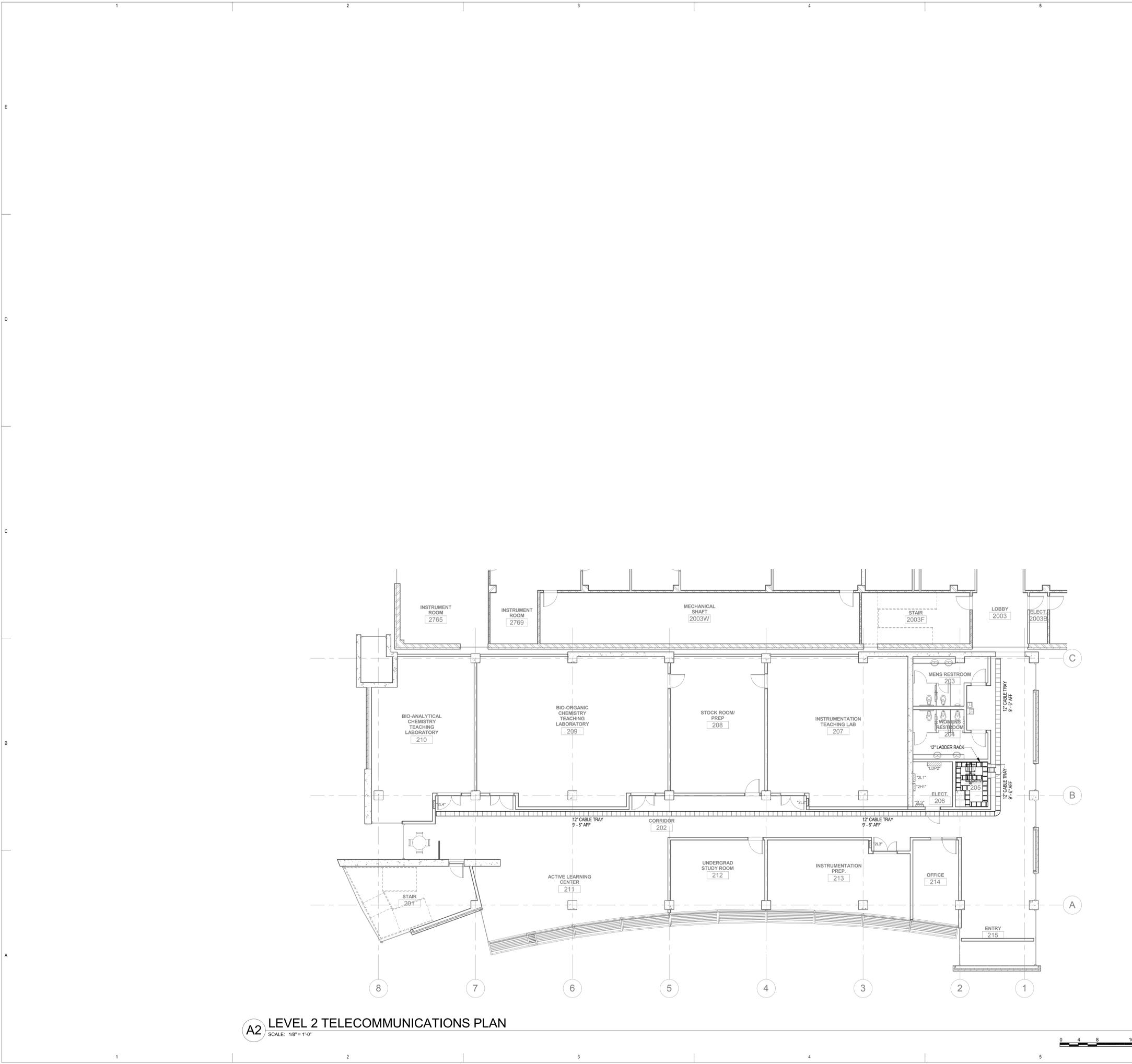
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LEVEL 1  
TELECOMMUNICATIONS  
PLAN

**ET101**

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**A2** LEVEL 2 TELECOMMUNICATIONS PLAN  
SCALE: 1/8" = 1'-0"



**GENERAL SHEET NOTES**

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**SHEET KEYNOTES**

**VCBO ARCHITECTURE**  
VALENTINER  
CRANE  
BRUNJES  
ONYON

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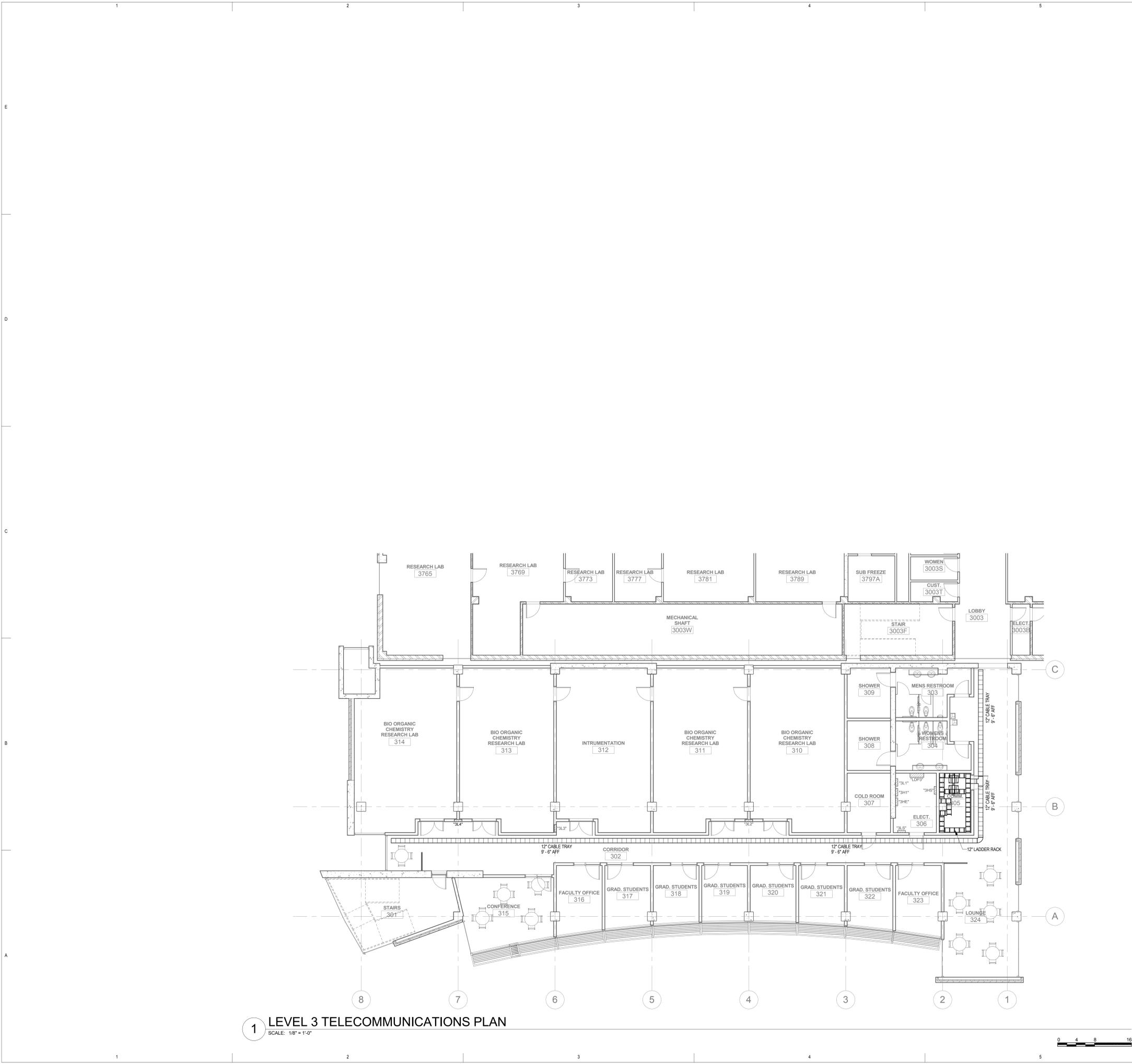
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LEVEL 2  
TELECOMMUNICATIONS  
PLAN

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**1 LEVEL 3 TELECOMMUNICATIONS PLAN**  
 SCALE: 1/8" = 1'-0"



**GENERAL SHEET NOTES**

**SHEET KEYNOTES**



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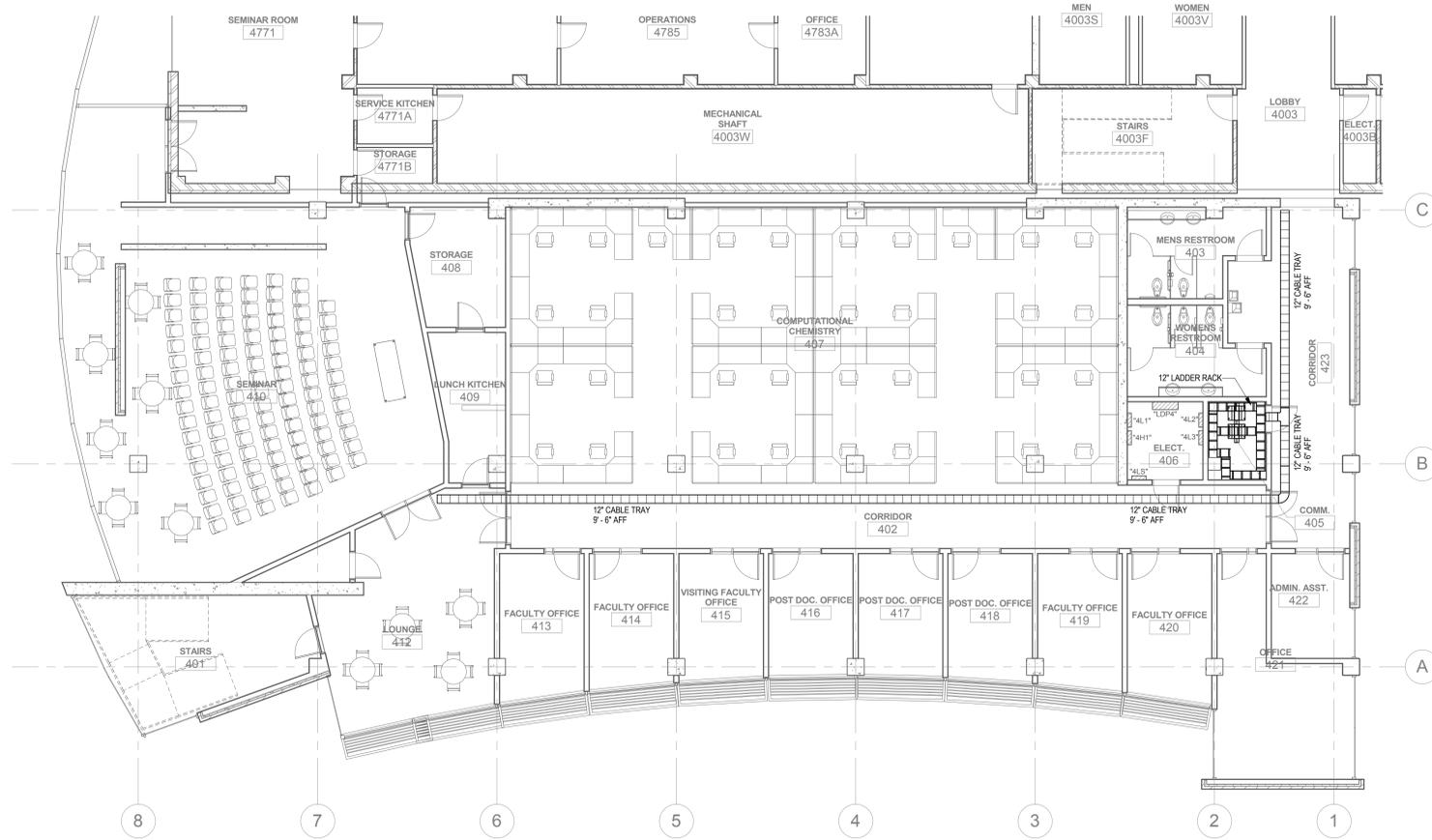


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LEVEL 3  
 TELECOMMUNICATIONS  
 PLAN

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**A2 LEVEL 4 TELECOMMUNICATIONS PLAN**  
SCALE: N.T.S.



**GENERAL SHEET NOTES**

**SHEET KEYNOTES**



ARCHITECTURE  
VALENTINER  
CRANE  
BRUNJES  
ONYON

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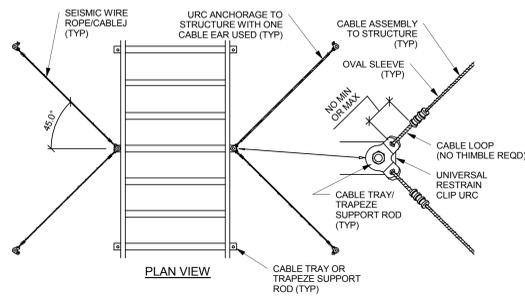
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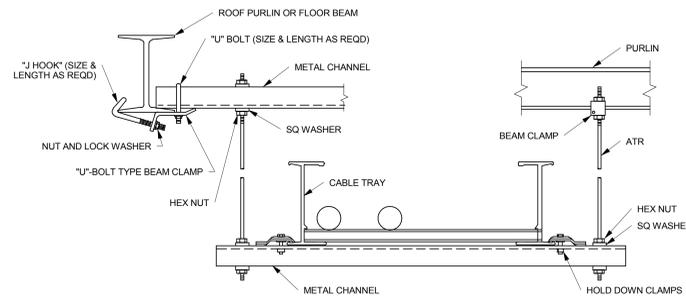
LEVEL 4  
TELECOMMUNICATIONS  
PLAN



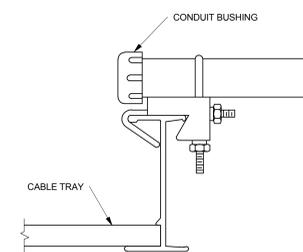
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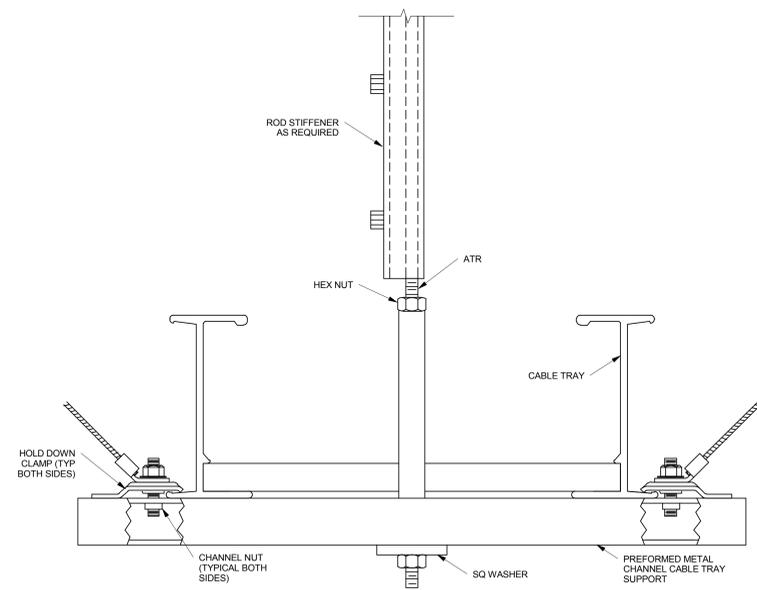
**C2** SEISMIC WIRE ROPE/CABLEJ BRACING  
SCALE: N.T.S.



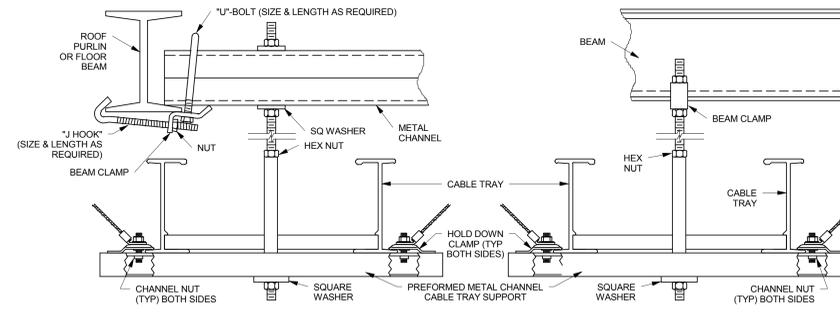
**C4** TYPICAL INDOOR CABLE TRAY MOUNTING DETAIL  
SCALE: N.T.S.



**C6** CONDUIT TO TRAY ADAPTER  
SCALE: N.T.S.



**A2** CENTER HUNG TRAY SUPPORT  
SCALE: N.T.S.



**A4** INDOOR MOUNTING DETAIL  
SCALE: N.T.S.

GENERAL SHEET NOTES

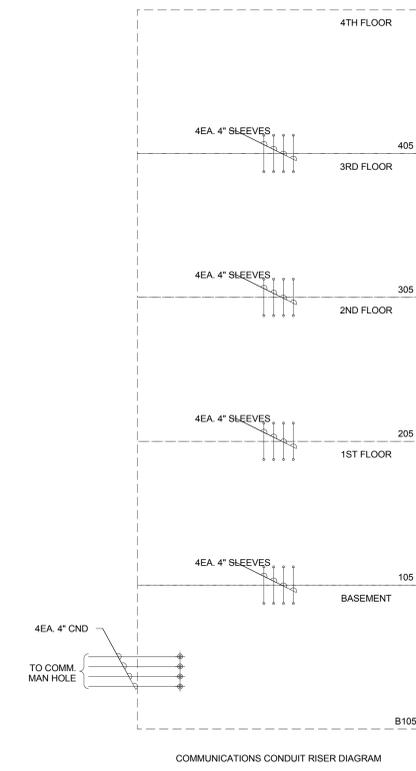


ARCHITECTURE  
VALENTINER  
CRANE  
BRUNJES  
ONYON

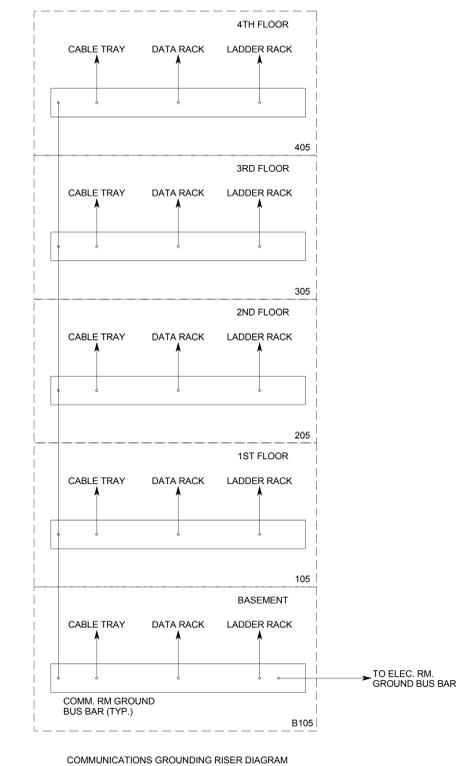
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C4 COMMUNICATIONS CONDUIT RISER DIAGRAM  
SCALE: N.T.S.



A4 COMMUNICATIONS GROUNDING RISER DIAGRAM  
SCALE: N.T.S.



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COMMUNICATIONS  
RISER DIAGRAMS