

DULUTH CITY HALL MIS UPGRADES

411 W. 1st Street Duluth, MN 55802



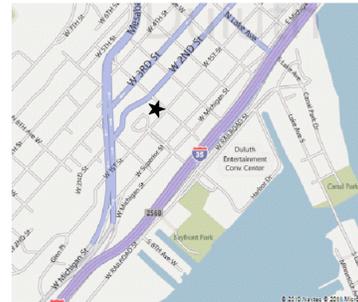
ARCHITECTURAL
RESOURCES•INC.

- ARCHITECTURE
- ENGINEERING
- LANDSCAPE ARCHITECTURE
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704 EAST HOWARD STREET
HIBBING, MINNESOTA 55746
PHONE: 218-263-6868
FAX: 218-722-6803
EMAIL: archres@arimn.com

126 EAST SUPERIOR STREET
DULUTH, MINNESOTA 55802
PHONE: 218-727-8481
FAX: 218-727-8483
EMAIL: archres@cpinternet.com



PROJECT LOCATION MAP

NOT TO SCALE



VICINITY MAP

NOT TO SCALE



| CODE SUMMARY | | | |
|--|---|---|--|
| <p>PROJECT SUMMARY: THE PROJECT IS GENERALLY A FACILITY INFRASTRUCTURE UPGRADE. IT CONSISTS OF A NEW ELECTRICAL SERVICE TO THE BUILDING, CABLE TRAY ON ALL LEVELS FOR BUILDING NETWORK DISTRIBUTION, COOLING UPGRADES FOR THE DATA CENTER, AND INCIDENTAL ARCHITECTURAL WORK.</p> | | | |
| Topics | Requirements | IBC 2006 Reference | Remarks |
| Occupancy Classification Chapter 3 Incidental Use Areas Occupancy Occupancy Separation | N/A B N/A | Table 302.1.1 Table 302.3.3 | |
| Special Requirements Chapter 4 | N/A | | |
| Area / Height Requirements Chapter 5 Area Modification | See comment 1 below | Table 503 506 | |
| Construction Type Chapter 6 | II-A | Table 601 / 602 | Existing Building Area Ground Floor 31,873 SF First Floor 28,629 SF Second Floor 28,600 SF Third Floor 24,559 SF Fourth Floor 18,355 SF Total 132,016 SF |
| Rated Construction Chapter 7 Fire Walls Fire Barriers Shaft Enclosures Fire Partitions Smoke Barriers Opening Protection Mech. Openings | N/A 1 HOUR 2 HOURS N/A | 705 706 707 708 709 714 715 | N/A N/A Corridor walls to be smoke barriers |
| Interior Finishes Chapter 8 | Interior rooms to and corridors to have class C | Table 803.4 | |
| Fire Protection Chapter 9 Sprinkler System Fire Alarm & Detection Systems | Required Required | 903 907 | Provided Provided |
| Means of Egress Chapter 10 | | | No change to existing building egress system or routes |
| EFFECTIVE CODES | 2007 MINNESOTA STATE BUILDING CODE; -2006 INTERNATIONAL BUILDING CODE ADOPTED WITH STATE AMENDMENTS, CHAPTER 1305, EFFECTIVE JULY 10, 2007 -2006 INTERNATIONAL RESIDENTIAL CODE ADOPTED WITH STATE AMENDMENTS, CHAPTER 1309, EFFECTIVE JULY 10, 2007 -2011 NATIONAL ELECTRICAL CODE, CHAPTER 1315, EFFECTIVE AUGUST 8, 2011 -MINNESOTA ENERGY CODE CHAPTERS 1322 & 1323 EFFECTIVE JUNE 1, 2009 -MINNESOTA ACCESSIBILITY CODE (2006 IBC 2003 ICC/ANSI 117.1) ADOPTED WITH STATE AMENDMENTS, CHAPTER 1341, EFFECTIVE JULY 10, 2007 -2006 INTERNATIONAL MECHANICAL & FUEL GAS CODES ADOPTED WITH STATE AMENDMENTS, CHAPTER 1346, EFFECTIVE OCTOBER 26, 2009 -2009 MINNESOTA STATE PLUMBING CODE, CHAPTER 4715 2007 MINNESOTA STATE FIRE CODE 2006 INTERNATIONAL FIRE CODE 2000 LIFE SAFETY CODE - NFPA 101 2003 MINNESOTA STATE MECHANICAL CODE | | |
| CODE NARRATIVE: | 1. GENERAL BUILDING HEIGHT AND AREA DEEMED ACCEPTABLE PER MNBCC SECTION 402. 2. SPECIAL INSPECTIONS NOT REQUIRED. 3. CORRIDOR NOT REQUIRED TO BE FIRE RATED PER TABLE 1017.1. 4. TYPE II-A CONSTRUCTION IS ASSUMED - SOME COMBUSTIBLES FOUND DURING BUILDING INVESTIGATION; QUANTITIES ARE LIMITED AND NON-STRUCTURAL IN NATURE. NEW CONSTRUCTION TO BE NON-COMBUSTIBLE EXCEPT WHERE PROVIDED FOR IN SECTION 603.1. 5. ABANDONED ELEVATOR SHAFTS (2 THUS) USED FOR DATA EQUIPMENT AND CABLE RUNS TO BE TREATED AS A SHAFT - RATINGS NOT REQUIRED AT FLOOR / CEILINGS BUT ALL PENETRATIONS TO BE PROTECTED UPON ENTRANCE / EXIT OF THE SHAFT. 6. ALL FLOOR PENETRATIONS TO BE PROTECTED WITH 1 HOUR THROUGH PENETRATION FIRESTOPPING SYSTEMS. CONTRACTOR TO SUBMIT PROPOSED SYSTEMS FOR ARCHITECT'S REVIEW. | | |

PROJECT TEAM

PROJECT OWNER

CONTACT: TARI RAYALA

DULUTH CITY HALL
411 W. 1ST STREET
DULUTH, MN 55802
PH: 218-730-4434
E-MAIL: trayala@duluthmn.gov

ARCHITECT

ARCHITECT: RYAN ERSPAMER

ARCHITECTURAL RESOURCES, INC.
126 EAST SUPERIOR STREET
DULUTH, MN 55802
PH (218) 727-8481
FAX (218) 727-8483
E-MAIL: ryan.erspamer@arimn.com

MECHANICAL/ELECTRICAL

CONTACT: DAVID JORDAN
SHAWN ANDERSON

ARCHITECTURAL RESOURCES, INC.
704 EAST HOWARD STREET
HIBBING, MN 55746
PH (218) 263-6868
FAX (218) 722-6803
E-MAIL: david.jordan@arimn.com
shawn.anderson@arimn.com

SHEET INDEX

| SHEET | DESCRIPTION |
|----------------------|---|
| COV | SHEET INDEX / CODE SUMMARY |
| ARCHITECTURAL | |
| A 0.1 | PARTIAL DEMOLITION PLANS |
| A 0.2 | PARTIAL DEMOLITION PLANS |
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| A 1.1 | REMODEL PLANS / DOOR TYPES / FRAME TYPES WALL TYPES / ROOM FINISH SCHEDULE / DOOR SCHEDULE |
| A 1.2 | REMODEL PLANS / INTERIOR ELEVATIONS |
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| A 4.2 | DETAILS |
| A 8.1 | REFLECTED CEILING PLANS |
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| MECHANICAL | |
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| M 1.2 | MECHANICAL PARTIAL ROOF PLAN |
| M 1.3 | SPRINKLER PLANS |
| ME 2.1 | EQUIPMENT SCHEDULE AND SCHEMATIC |
| ELECTRICAL | |
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| E 1.2 | 1ST FLOOR CABLE TRAY PLAN |
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| E 1.4 | 3RD FLOOR CABLE TRAY PLAN |
| E 1.5 | 4TH FLOOR CABLE TRAY PLAN |
| E 1.6 | ENLARGED ELECT. PLANS, ELECT. LEGEND, & POWER RISER |
| E 1.7 | ELECTRICAL ROOF PLAN, SITE PLAN, & DETAILS |

DULUTH CITY HALL MIS UPGRADES

DULUTH, MINNESOTA

PROJECT NO.: 11-047

DATE: 16-APRIL-12

DRAWN BY: BML

REVISIONS:

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RYAN ERSPAMER 49444
ARCHITECT REG. NO.

COVER

COV



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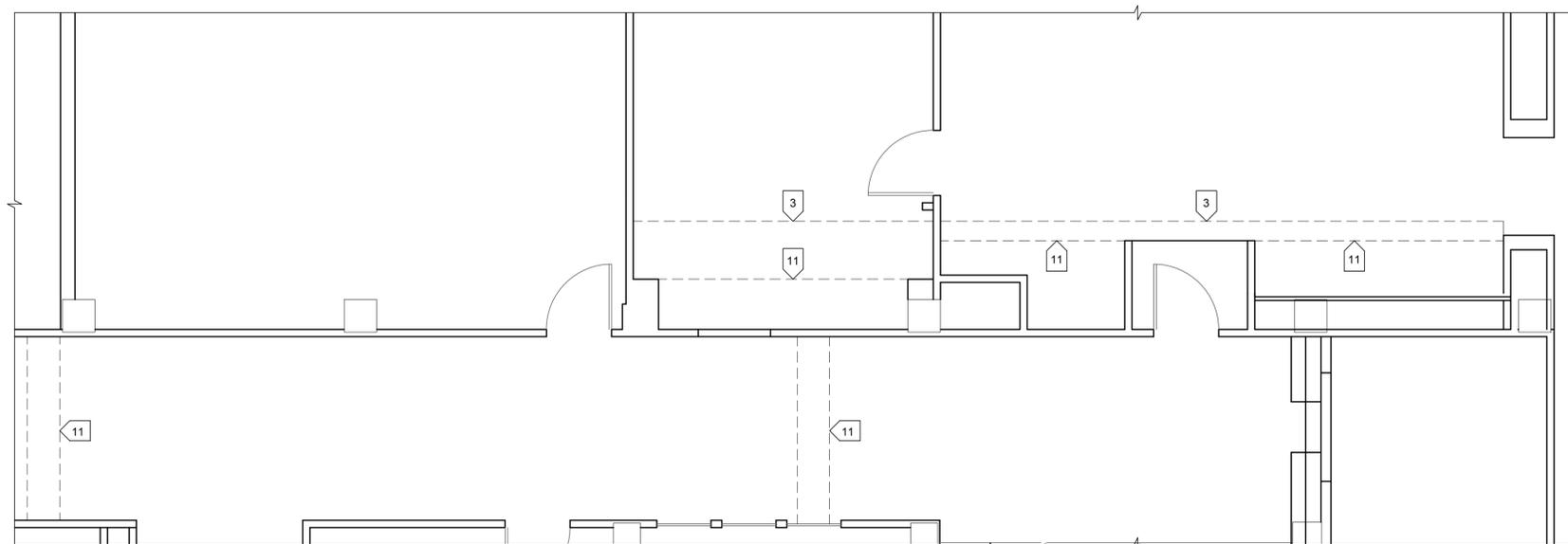
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Ryan Perspinner
RYAN PERSPINNER 49444
ARCHITECT REG. NO.

PARTIAL
DEMOLITION PLANS

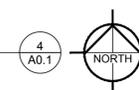
**A
0.1**

| DEMOLITION NOTES AND SCHEDULE | |
|-------------------------------|---|
| ITEM # | DESCRIPTION |
| 1 | REMOVE EXISTING WOOD CHAIR RAIL AND WOOD BASE. SALVAGE FOR RE-INSTALLATION. |
| 2 | REMOVE EXISTING CARPET. |
| 3 | REMOVE EXISTING CEILING GRID AND CEILING TILE AS REQUIRED FOR NEW CONSTRUCTION. SALVAGE FOR REINSTALLATION. |
| 4 | REMOVE EXISTING WHITE BOARD. SALVAGE FOR RELOCATION. |
| 5 | REMOVE EXISTING CORK BOARD. TURN OVER TO OWNER. |
| 6 | REMOVE TOP PORTION OF WALL TO HEIGHT INDICATED ON DETAIL 8/A4.1 |
| 7 | REMOVE EXISTING DOOR / FRAME ASSEMBLY. |
| 8 | REMOVE WOOD FRAMED RAISED FLOOR SYSTEM. |
| 9 | REMOVE EXISTING LAY-IN CEILING SYSTEM. |
| 10 | REMOVE EXISTING FLOORING AS NEEDED TO ACCOMMODATE NEW CONSTRUCTION. |
| 11 | REMOVE EXISTING SOFFIT. |
| 12 | REMOVE EXISTING ACOUSTIC WALL PANELS. |
| 13 | REMOVE EXISTING ACOUSTIC Baffles FROM CEILING - TURN OVER TO OWNER. |
| 14 | REMOVE EXISTING FIRE EXTINGUISHER. SALVAGE FOR RELOCATION. |
| 15 | SAW-CUT AND REMOVE EXISTING INTERIOR BRICK MASONRY PARTITION FULL HEIGHT TO UNDERSIDE OF STRUCTURE ABOVE. |
| 16 | SAW-CUT AND REMOVE EXISTING INTERIOR CLAY TILE PARTITION FULL HEIGHT TO UNDERSIDE OF STRUCTURE ABOVE. -SEE DETAIL 1/a4.2 FOR BRACING. |
| 17 | REMOVE EXISTING STEEL DOOR. |
| 18 | REMOVE EXISTING WOOD / PEGBOARD DOOR. |
| 19 | REMOVE EXISTING WOOD STUD / PEGBOARD INTERIOR PARTITION. |

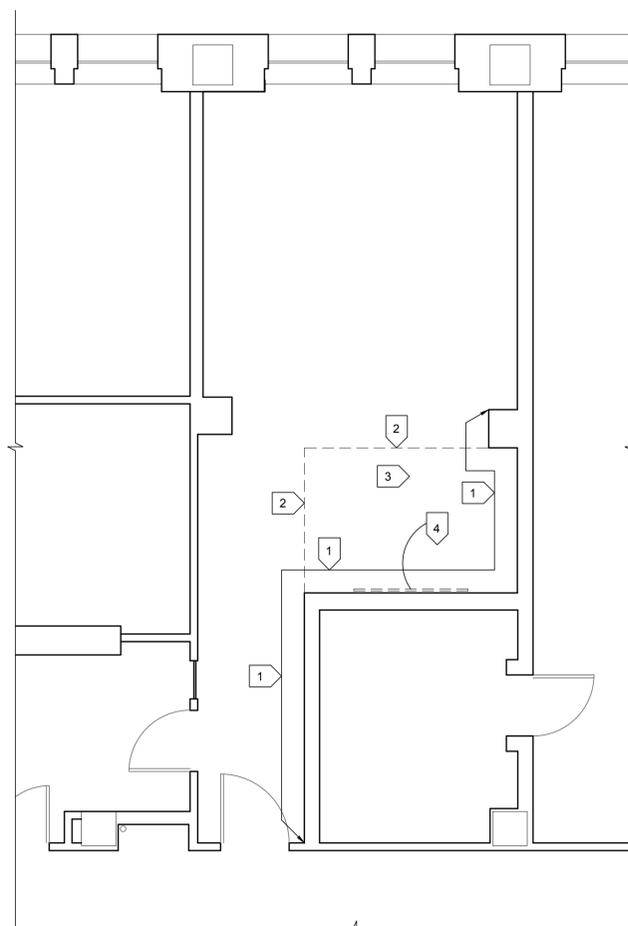


SECOND FLOOR DEMOLITION PLAN

SEE KEY PLAN ON a1.0 FOR LOCATION

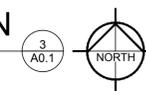


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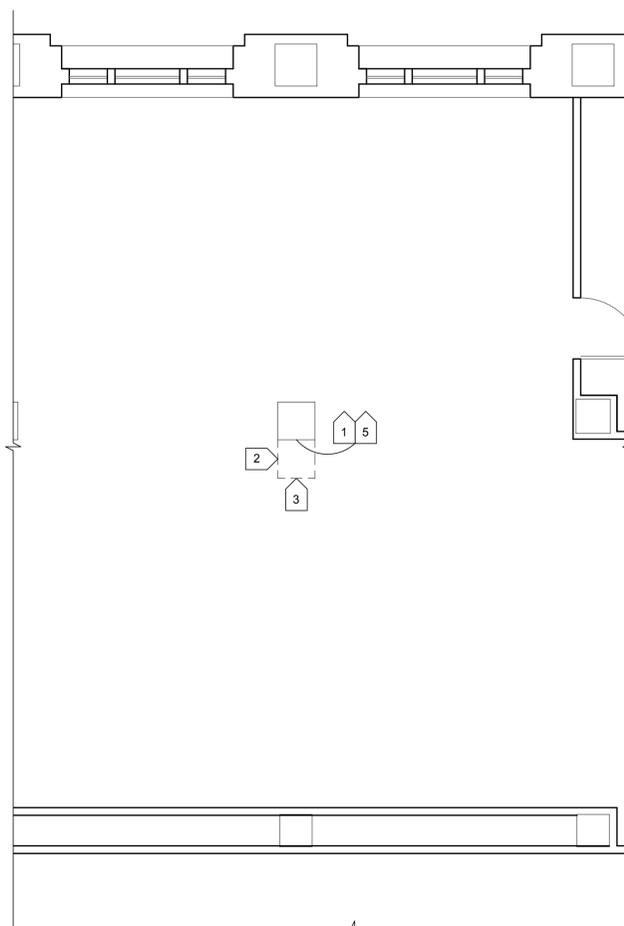


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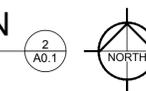


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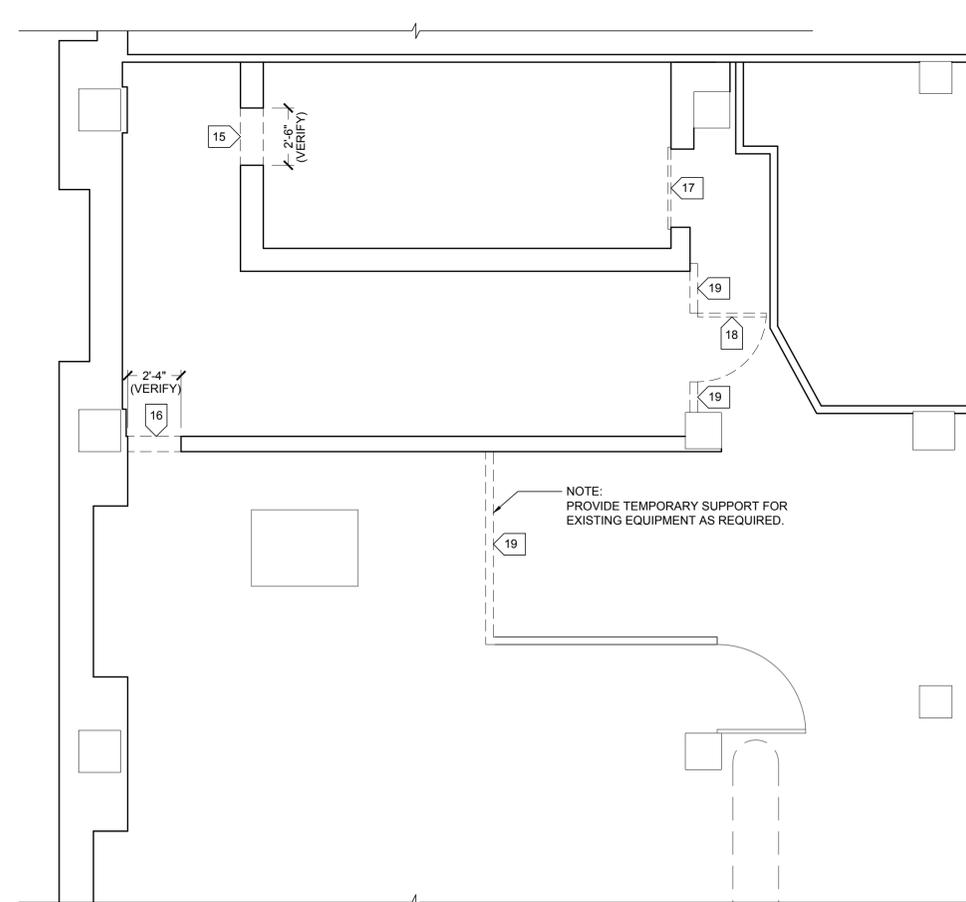


FIRST FLOOR DEMOLITION PLAN

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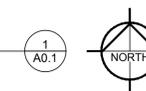


0 1' 2' 4' 8'
SCALE



GROUND FLOOR DEMOLITION PLAN

SEE KEY PLAN ON a1.0 FOR LOCATION



0 1' 2' 4' 8'
SCALE

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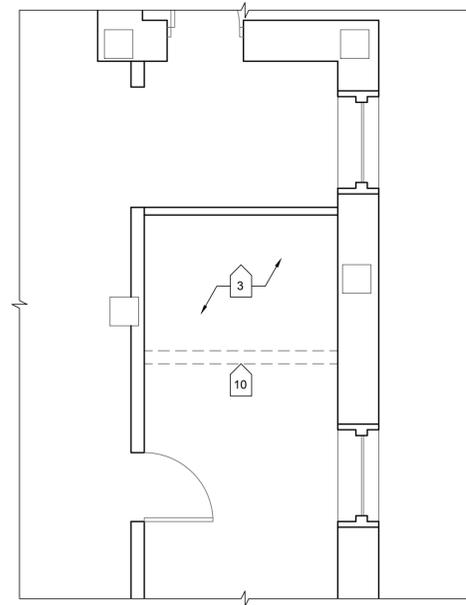
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Ryan Perspinner
RYAN PERSPINNER 49444
ARCHITECT ARCHITECT REG. NO.

PARTIAL
DEMOLITION PLANS

**A
0.2**

| DEMOLITION NOTES AND SCHEDULE | |
|-------------------------------|---|
| ITEM # | DESCRIPTION |
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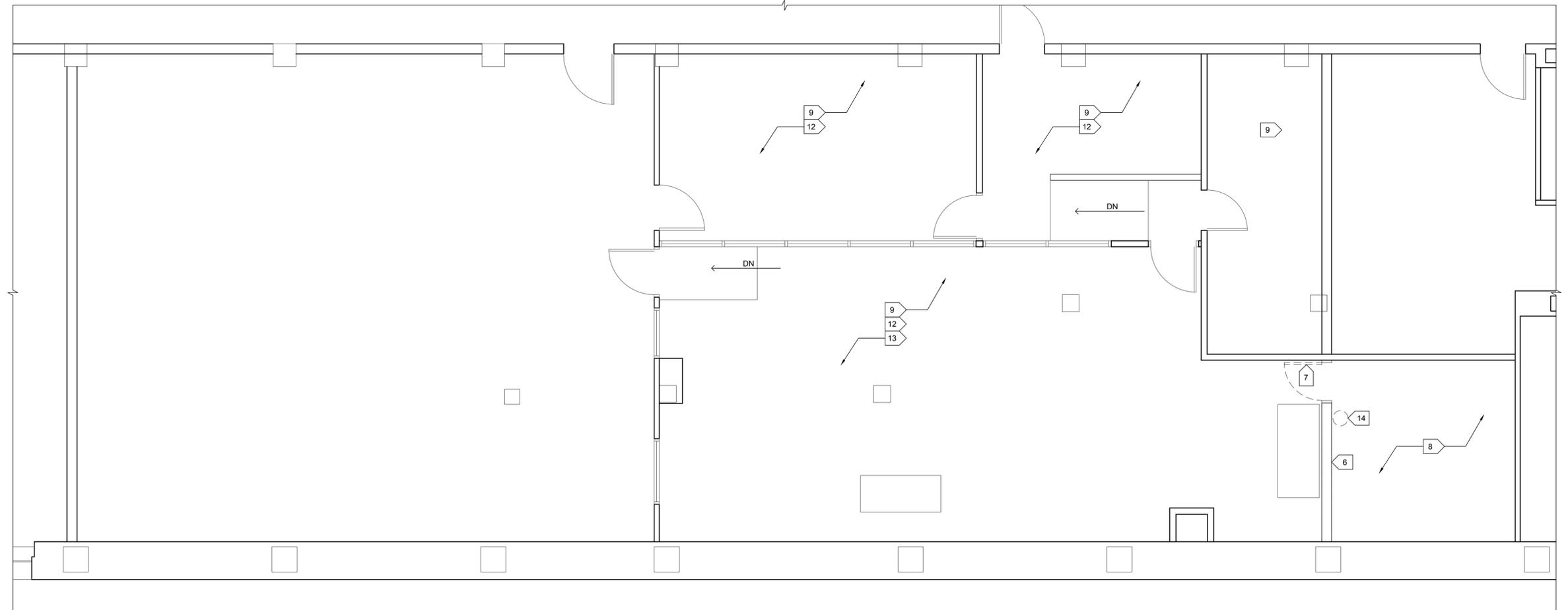


FOURTH FLOOR DEMOLITION PLAN

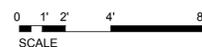


SEE KEY PLAN ON a1.0 FOR LOCATION

2
A0.2



SECOND FLOOR MIS ROOM DEMOLITION PLAN



SEE KEY PLAN ON a1.0 FOR LOCATION

1
A0.2



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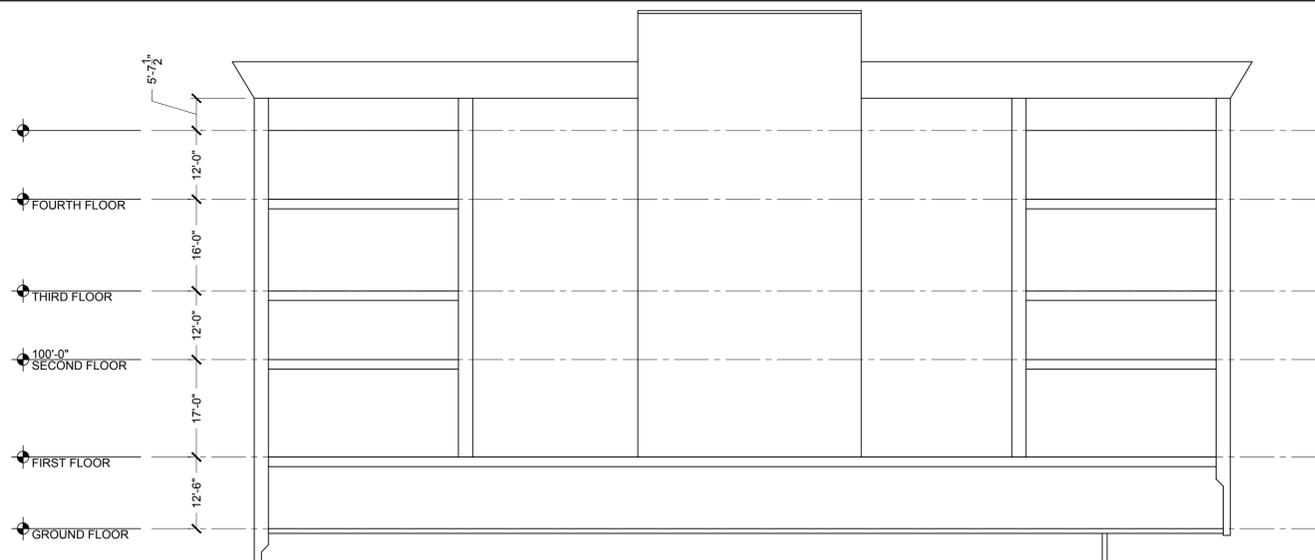
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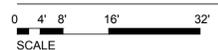
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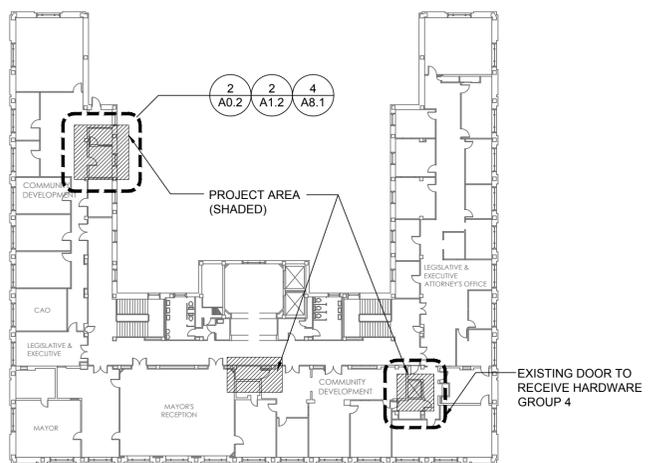


BUILDING SECTION

NOTE: BUILDING SECTION SHOWN FOR REFERENCE ONLY - CONTRACTOR TO FIELD VERIFY ALL HEIGHTS.

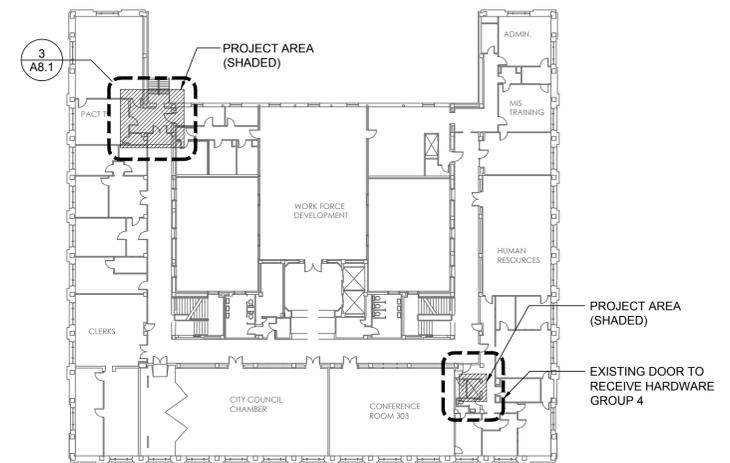
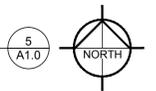


6
A1.0



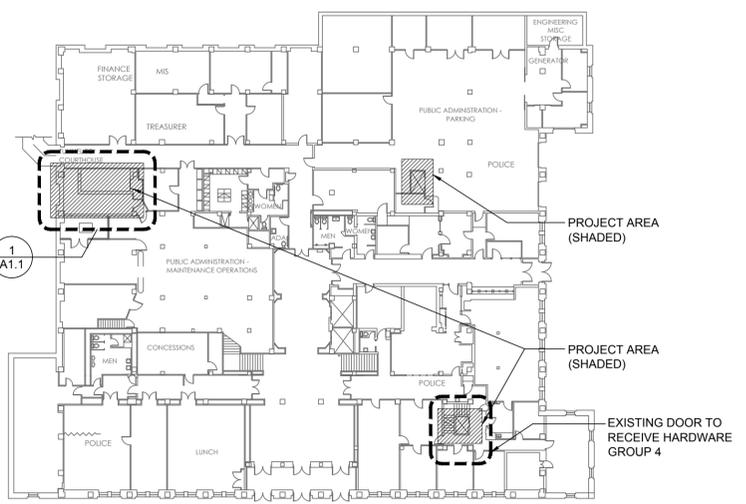
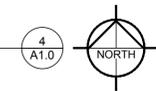
FOURTH FLOOR KEY PLAN

N.T.S.



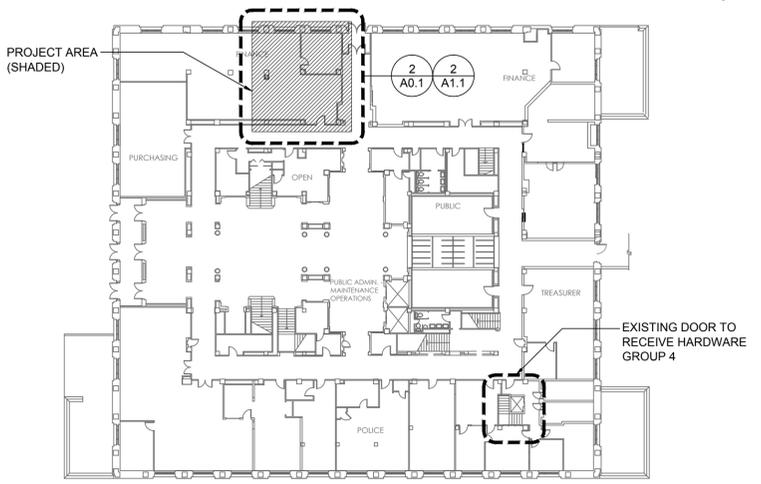
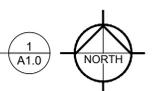
THIRD FLOOR KEY PLAN

N.T.S.



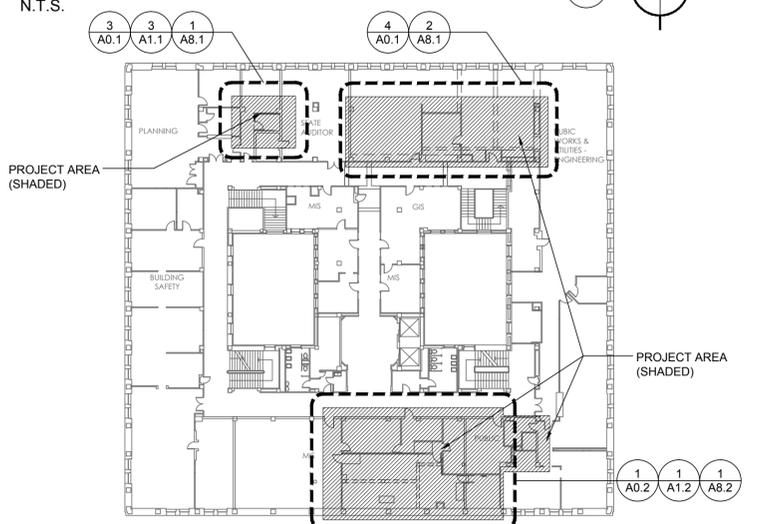
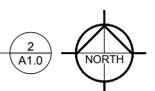
GROUND FLOOR KEY PLAN

N.T.S.



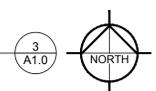
FIRST FLOOR KEY PLAN

N.T.S.



SECOND FLOOR KEY PLAN

N.T.S.



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RYAN PERSHMER ARCHITECT 49444 REG. NO.

KEY PLANS
BUILDING SECTION

**A
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Ryan Perschke
RYAN PERSCHKE ARCHITECT 49444 REG. NO.

ENLARGED FLOOR PLANS

DOOR TYPES

FRAME TYPES

WALL TYPES

ROOM FINISH SCHEDULE

DOOR SCHEDULE

**A
1.1**

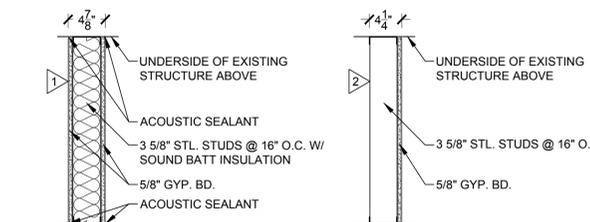
| ROOM FINISH SCHEDULE | | | | | | | | | | | | | | | |
|----------------------|-------------|----------|--------------|------------|--------|-----------|--------|-------------|--------|-----------|--------|--------------|------|--------|---|
| RM# | NAME | FLOOR | BASE | NORTH WALL | FIN. | EAST WALL | FIN. | SOUTH WALL | FIN. | WEST WALL | FIN. | CEILING MAT. | FIN. | HT. | REMARKS |
| 001 | ELECTRICAL | EXISTING | EXISTING | EX. CLAY | EXIST. | EX. BRICK | --- | EX. BRICK | --- | EX. BRICK | --- | EXPOSED | --- | EXIST. | |
| 002 | ELECTRICAL | EXISTING | EXISTING | CMU | EXIST. | CMU | --- | CMU | --- | CMU | --- | EXPOSED | --- | EXIST. | 9 |
| 003 | ELECTRICAL | EXISTING | EXISTING | EX. CLAY | EXIST. | GYP. BD. | PT. | GYP. BD. | PT. | EX. CONC. | --- | EXPOSED | --- | EXIST. | |
| 108 | OPEN OFFICE | EXISTING | EXIST. / WD. | EXIST. | EXIST. | EXIST. | EXIST. | EXIST./GYP. | PT. | EXIST. | EXIST. | EXIST. | --- | EXIST. | 1, 2, 4, 6 |
| 206 | VAULT | EXISTING | EXISTING | EXISTING | EXIST. | EXIST. | EXIST. | EXIST. | EXIST. | EXIST. | EXIST. | EXIST. | --- | EXIST. | 3 |
| 207A | CONFERENCE | EXISTING | EXIST. / WD. | EXIST. | EXIST. | EXIST. | EXIST. | GYP. BD. | PT. | EXIST. | EXIST. | ACT | --- | EXIST. | 1, 2, 4 |
| 207B | DATA CLOSET | VCT | RUBBER | GYP. BD. | PT. | EXIST. | PT. | EXIST. | PT. | GYP. BD. | PT. | ACT | --- | EXIST. | |
| 207C | HALL | EXISTING | EXIST. / WD. | --- | --- | GYP. BD. | PT. | EXIST. | EXIST. | EXIST. | EXIST. | EXIST. | --- | EXIST. | 1, 2, 4 |
| 208A | PLANNING | EXISTING | EXISTING | EXISTING | EXIST. | EXIST. | EXIST. | EXIST. | EXIST. | EXIST. | EXIST. | EXIST. | --- | EXIST. | 3, 7 |
| 208B | OFFICE | EXISTING | EXISTING | EXISTING | EXIST. | EXIST. | EXIST. | EXIST. | EXIST. | EXIST. | EXIST. | EXIST. | --- | EXIST. | 3 |
| 208C | OFFICE | EXISTING | EXISTING | EXISTING | EXIST. | EXIST. | EXIST. | EXIST. | EXIST. | EXIST. | EXIST. | EXIST. | --- | EXIST. | 3 |
| 210A | OFFICE | EXIST. | EXIST. | EXIST. | EXIST. | EXIST. | EXIST. | EXIST. | EXIST. | EXIST. | EXIST. | EXIST. | --- | EXIST. | 3 |
| 210B | CONFERENCE | EXIST. | EXIST. | EXIST. | EXIST. | EXIST. | EXIST. | PT | CMU | EXIST. | ACT | --- | --- | 8'-0" | |
| 210C | MIS | EXIST. | EXIST. | EXIST. | PT | EXIST. | PT | EXIST. | PT | EXIST. | PT | ACT | --- | 8'-0" | 8 |
| 210D | MIS | EXIST. | EXIST. | EXIST. | PT | EXIST. | PT | EXIST. | PT | EXIST. | PT | ACT | --- | 8'-10" | 8, 12, SOFFIT HT. VARIES - SEE CEILING PLAN |
| 210E | MIS | VCT | RUBBER | EXIST. | PT | EXIST. | PT | EXIST. | PT | EXIST. | PT | ACT | --- | 9'-7" | 8, 10, 12 |
| 210F | MIS | EXIST. | EXIST. | EXIST. | EXIST. | EXIST. | EXIST. | EXIST. | EXIST. | EXIST. | EXIST. | ACT | --- | EXIST. | |
| 211A | OPEN OFFICE | EXISTING | EXISTING | EXISTING | EXIST. | EXIST. | EXIST. | EXIST. | EXIST. | EXIST. | EXIST. | EX./GYP. BD. | PT. | EXIST. | 5 |
| 211B | OPEN OFFICE | EXISTING | EXISTING | EXISTING | EXIST. | EXIST. | EXIST. | EXIST. | EXIST. | EXIST. | EXIST. | EX./GYP. BD. | PT. | EXIST. | 5 |
| 211C | OPEN OFFICE | EXISTING | EXISTING | EXISTING | EXIST. | EXIST. | EXIST. | EXIST. | EXIST. | EXIST. | EXIST. | EX./GYP. BD. | PT. | EXIST. | 5 |
| 211D | STORAGE | EXISTING | EXISTING | EXISTING | EXIST. | EXIST. | EXIST. | EXIST. | EXIST. | EXIST. | EXIST. | EX./GYP. BD. | PT. | EXIST. | 5 |
| 400 | OFFICE | EXISTING | EXISTING | GYP. BD. | PT. | EXIST. | PT. | EXISTING | PT. | EXISTING | PT. | EXISTING | --- | --- | 4, 11 |
| 401 | CLOSET | EXISTING | EXISTING | EXISTING | PT. | EXIST. | PT. | GYP. BD. | PT. | EXISTING | PT. | ACT | --- | --- | 11 |

COMMENTS

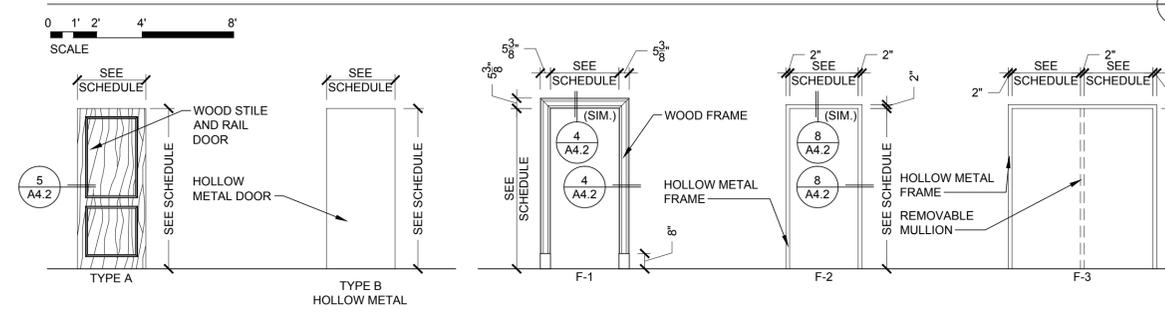
- RE-INSTALL SALVAGED WOOD BASE.
- RE-INSTALL SALVAGED WOOD CHAIR RAIL.
- NO WORK.
- MODIFY EXISTING LAY-IN CEILING TO ACCOMMODATE NEW CONSTRUCTION.
- SEE REFLECTED CEILING PLANS FOR SOFFIT DETAILS. (a8.1 and a8.2)
- PAINT ENTIRE COLUMN / CHASE ALL SIDES.
- SEE ELECTRICAL FOR CEILING REQUIREMENTS.
- PATCH EXISTING PLASTER / DRYWALL AT REMOVED ACOUSTIC PANEL LOCATIONS (TYP.)
- PAINT NEW GYPSUM WALL BOARD.
- PROVIDE RUBBER STAIR TREAD AND RISERS @ STAIR. SEE DETAIL 2/a4.1.
- NEW CEILING HEIGHTS TO MATCH EXISTING CEILING HEIGHTS.
- PATCH EXISTING PLASTER CEILING WHERE NEEDED.

| DOOR SCHEDULE | | | | | | |
|---------------|----------------|-----------|--------------|------------|---------|----------|
| DOOR NUMBER | SIZE | DOOR TYPE | FRAME MAT'L | FRAME TYPE | REMARKS | HARDWARE |
| 002 | 3'-0"x7'-0" | B | HOLLOW METAL | F-2 | --- | 1 |
| 003 | (2)3'-0"x7'-0" | B | HOLLOW METAL | F-3 | --- | 2 |
| 207 | 3'-0"x7'-0" | EXISTING | EXISTING | EXISTING | --- | EXISTING |
| 207B | 3'-0"x7'-0" | A | WOOD | F-1 | --- | 3 |
| 400 | 3'-0"x7'-0" | EXISTING | EXISTING | EXISTING | --- | EXISTING |
| 401 | 3'-0"x7'-0" | A | WOOD | F-1 | --- | 3 |

NOTE: REFER TO SHEET A1.0 FOR ADDITIONAL DOORS TO RECEIVE HARDWARE

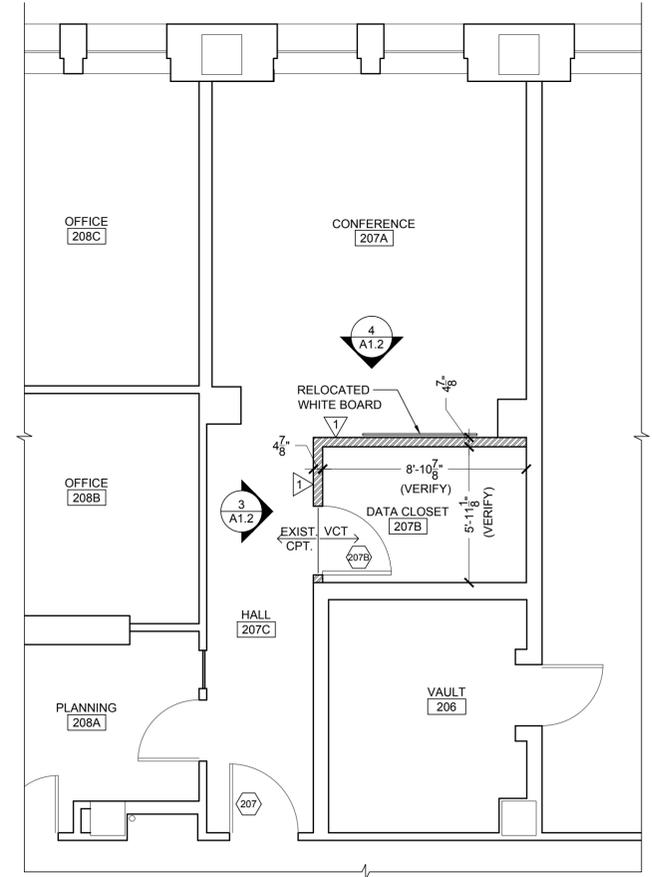


WALL TYPES

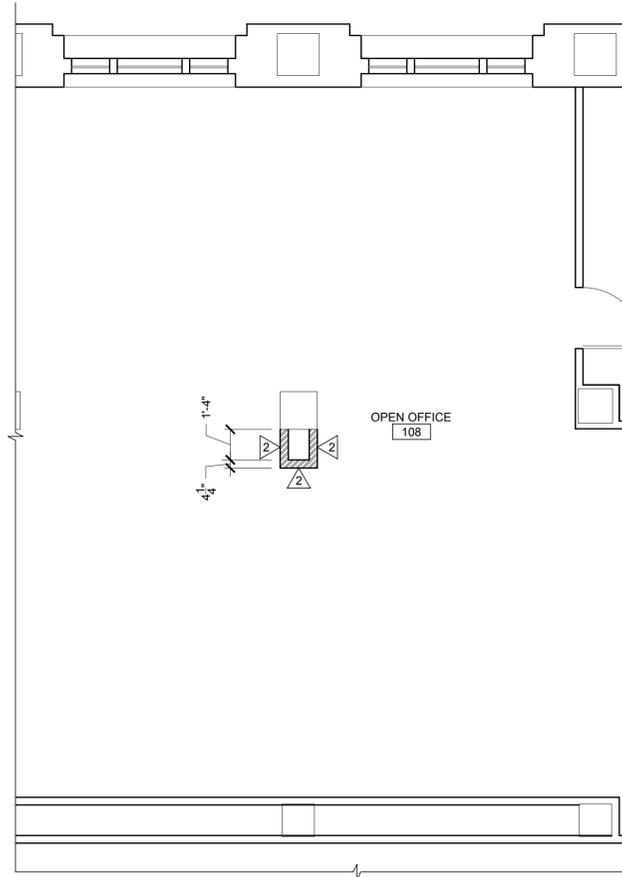


DOOR TYPES

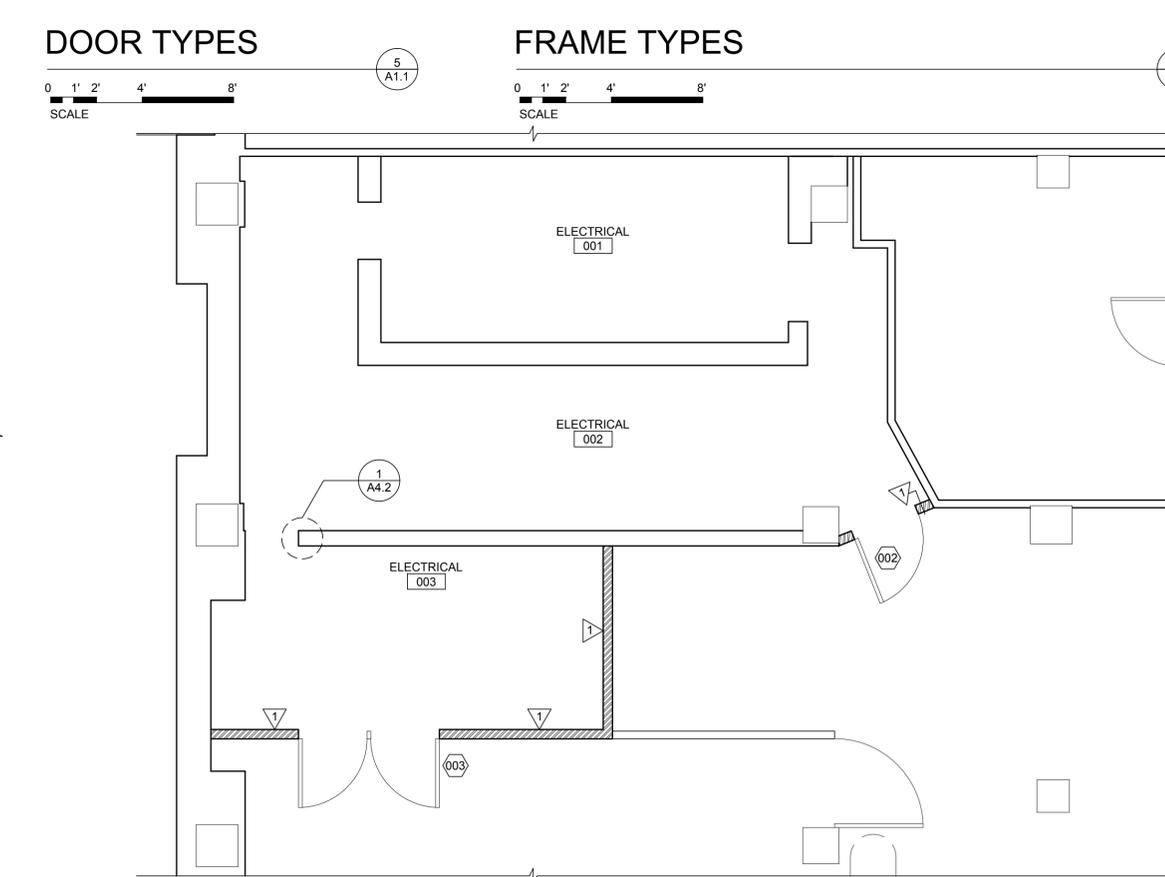
FRAME TYPES



PARTIAL SECOND FLOOR PLAN
SCALE: 0 1' 2' 4' 8'
SEE KEY PLAN ON a1.0 FOR LOCATION



PARTIAL FIRST FLOOR PLAN
SCALE: 0 1' 2' 4' 8'
SEE KEY PLAN ON a1.0 FOR LOCATION



PARTIAL GROUND FLOOR PLAN
SCALE: 0 1' 2' 4' 8'
SEE KEY PLAN ON a1.0 FOR LOCATION

Plotted By: AR320 M:\2011\11-047\ARCH\11047a1.a1.2.dwg Apr 18, 2012 1:05pm

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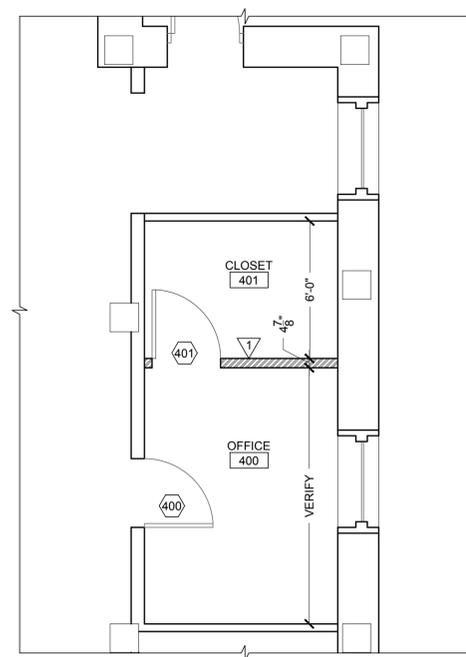
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 PHONE: 218-263-6868
 FAX: 218-722-6803
 EMAIL: archres@arimn.com

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 DULUTH, MINNESOTA 55802
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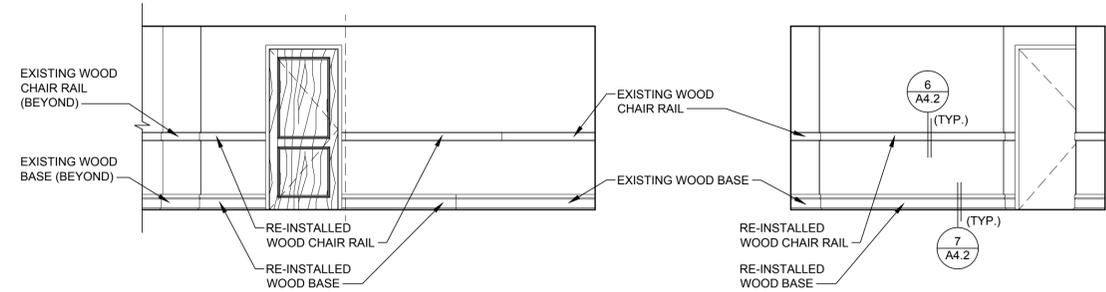


FOURTH FLOOR REMODEL PLAN



SEE KEY PLAN ON a1.0 FOR LOCATION

2
A1.2



INTERIOR ELEVATIONS

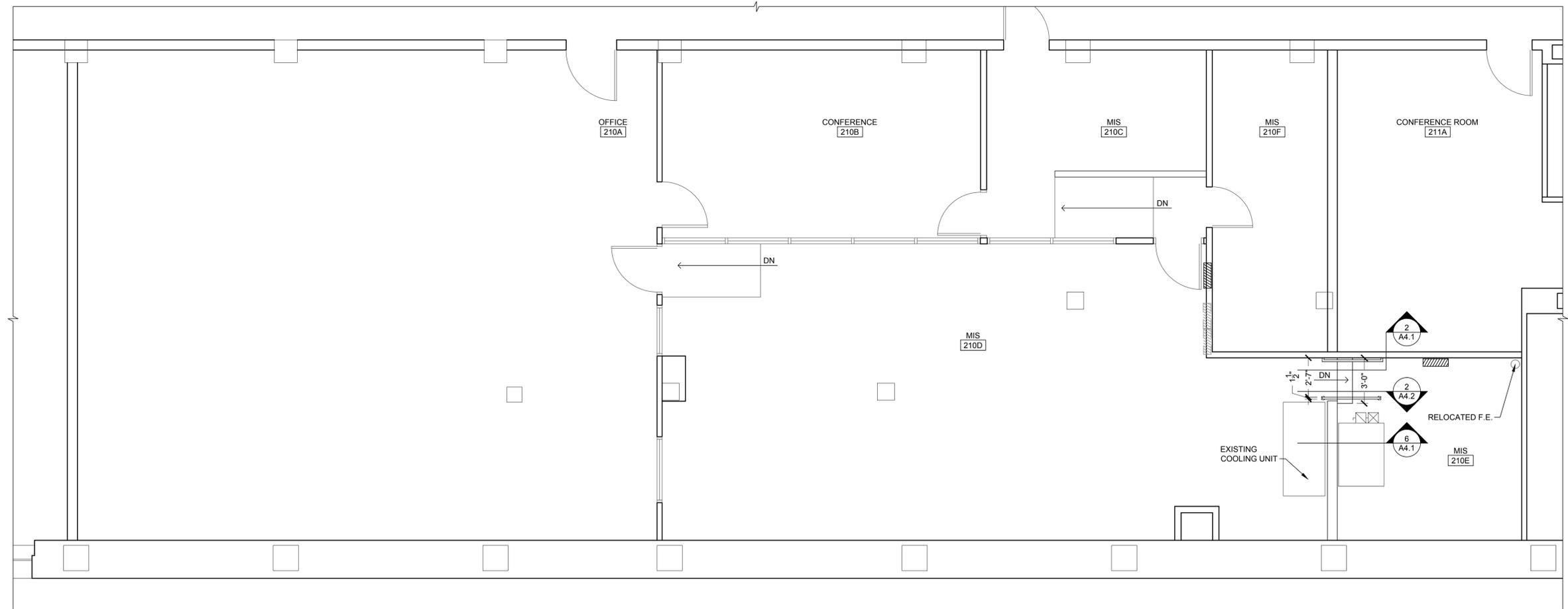


3
A1.2

INTERIOR ELEVATIONS



4
A1.2



SECOND FLOOR MIS ROOM



SEE KEY PLAN ON a1.0 FOR LOCATION

1
A1.2



DULUTH CITY HALL MIS UPGRADES

DULUTH, MINNESOTA

PROJECT NO.: 11-047
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Ryan Perspinner
 RYAN PERSPINNER 49444
 ARCHITECT REG. NO.

ENLARGED FLOOR PLANS

INTERIOR ELEVATIONS

A 1.2

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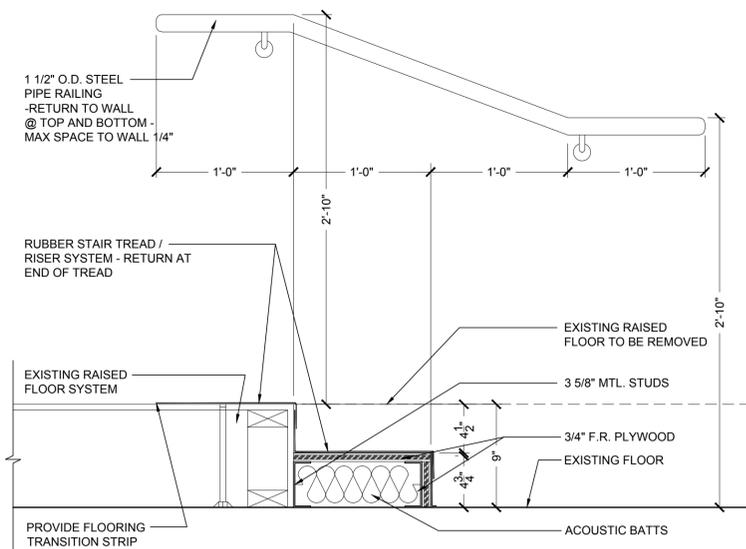
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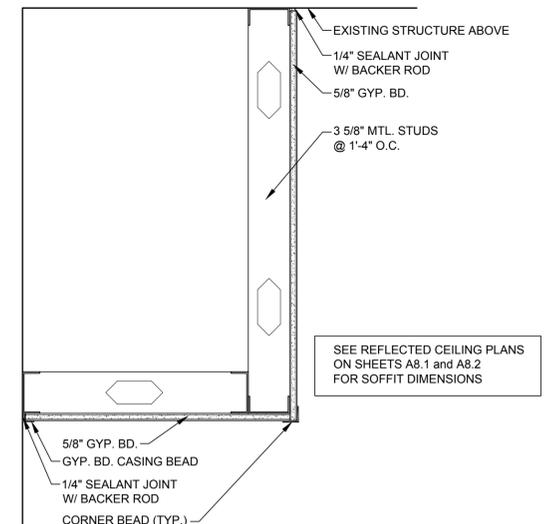
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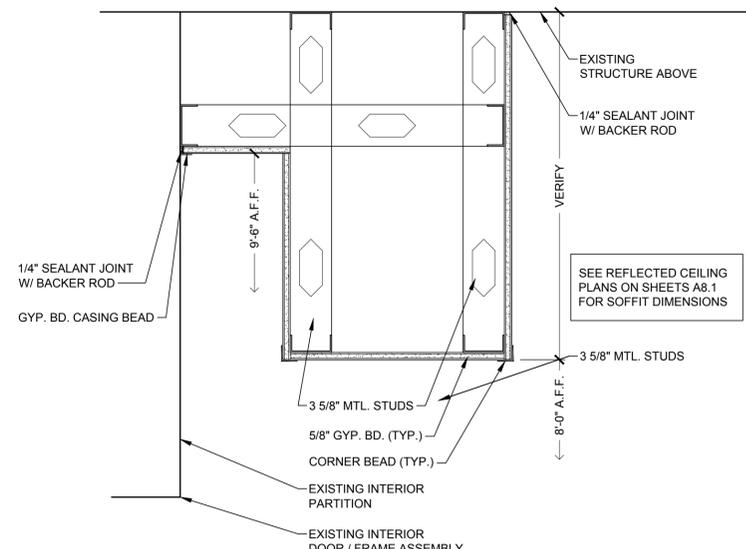
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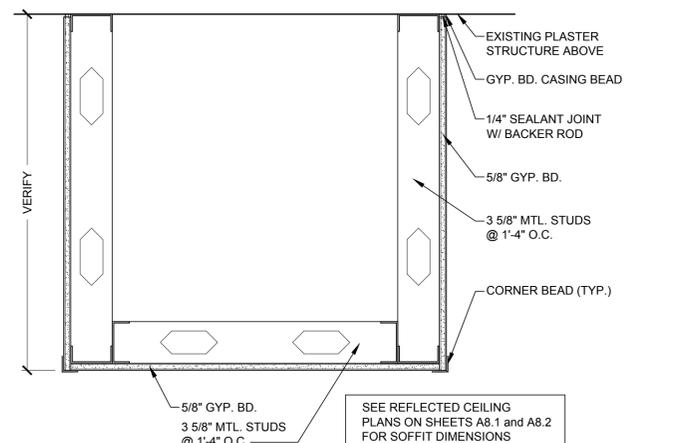
SECTION @ STAIR



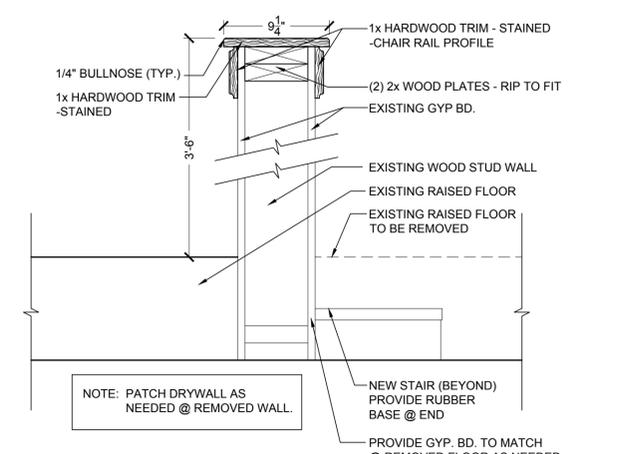
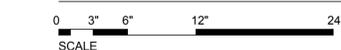
DETAIL @ SOFFIT



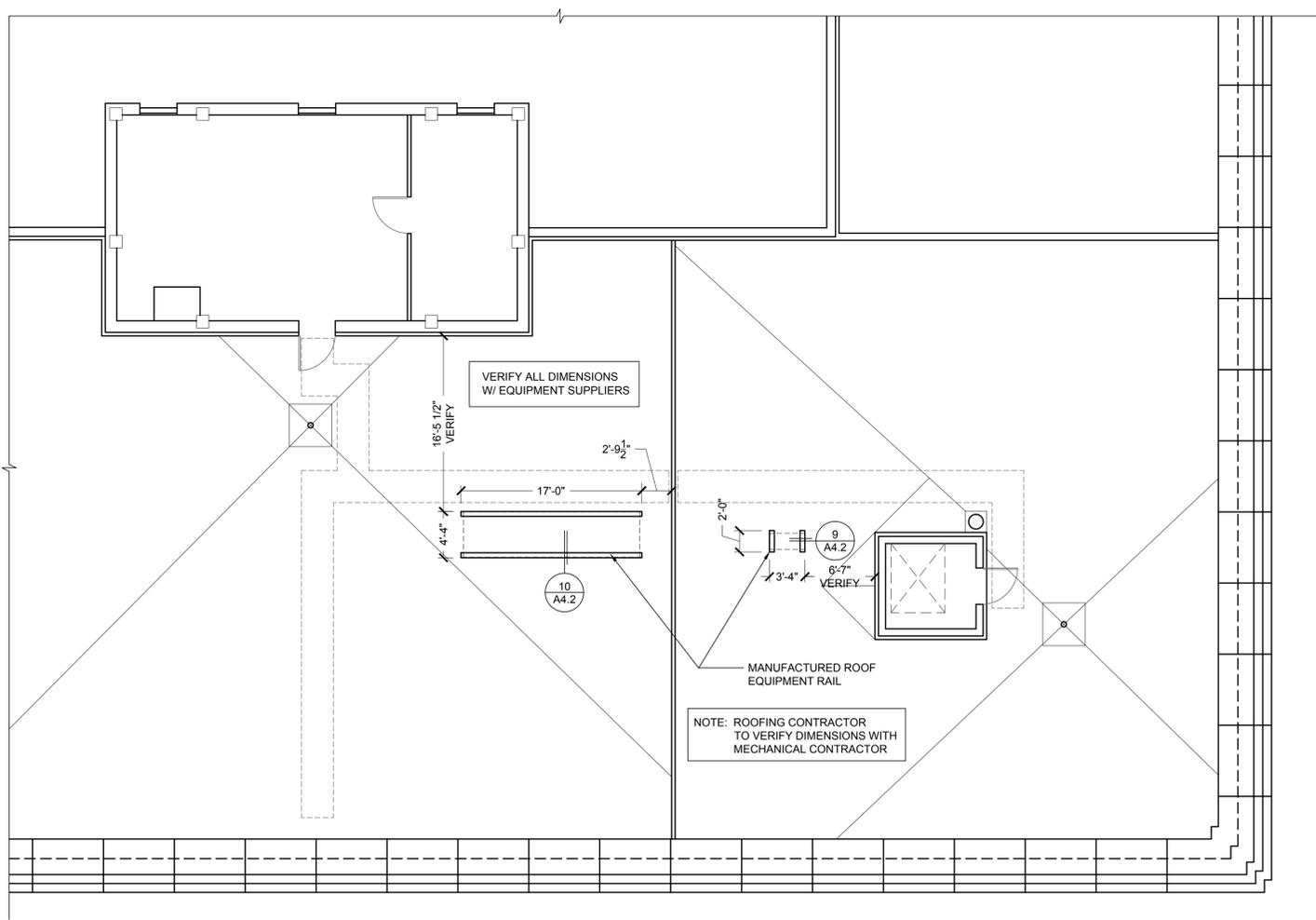
DETAIL @ SOFFIT



DETAIL @ SOFFIT



SECTION @ LOW WALL



PARTIAL ROOF PLAN



**DULUTH
CITY HALL
MIS UPGRADES**

DULUTH, MINNESOTA

PROJECT NO.: 11-047
DATE: 16-APRIL-12
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Ryan Perspinner
RYAN PERSPINNER 49444
ARCHITECT REG. NO.

DETAILS
PARTIAL ROOF PLAN

**A
4.1**

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FAX: 218-722-6803
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126 EAST SUPERIOR STREET
DULUTH, MINNESOTA 55802
PHONE: 218-727-8481
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DULUTH CITY HALL MIS UPGRADES

DULUTH, MINNESOTA

PROJECT NO.: 11-047
DATE: 16-APRIL-12
DRAWN BY: BML
REVISIONS:

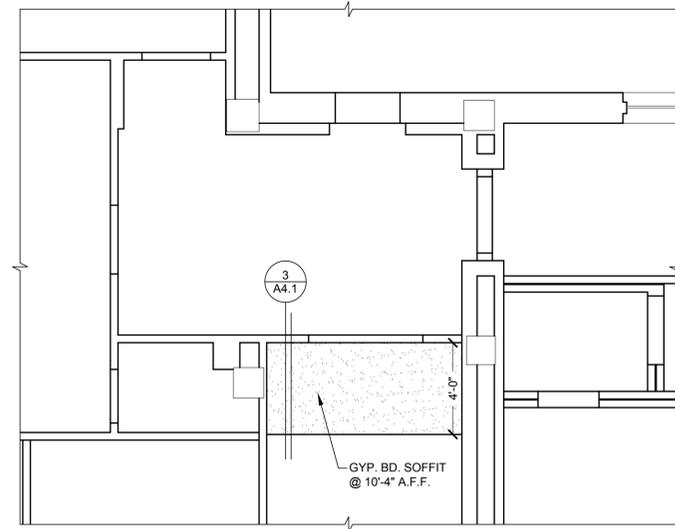
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Ryan Perspinner
RYAN PERSPINNER 49444
ARCHITECT REG. NO.

REFLECTED CEILING PLANS

A
8.1

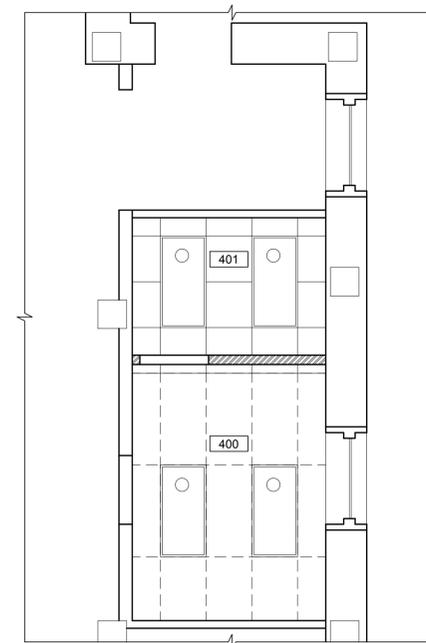
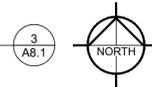
| LEGEND | |
|--------|-------------------|
| ITEM | DESCRIPTION |
| | CEILING GRID |
| | 2x4 LIGHT FIXTURE |
| | 1x4 LIGHT FIXTURE |



THIRD FLOOR REFLECTED CEILING PLAN



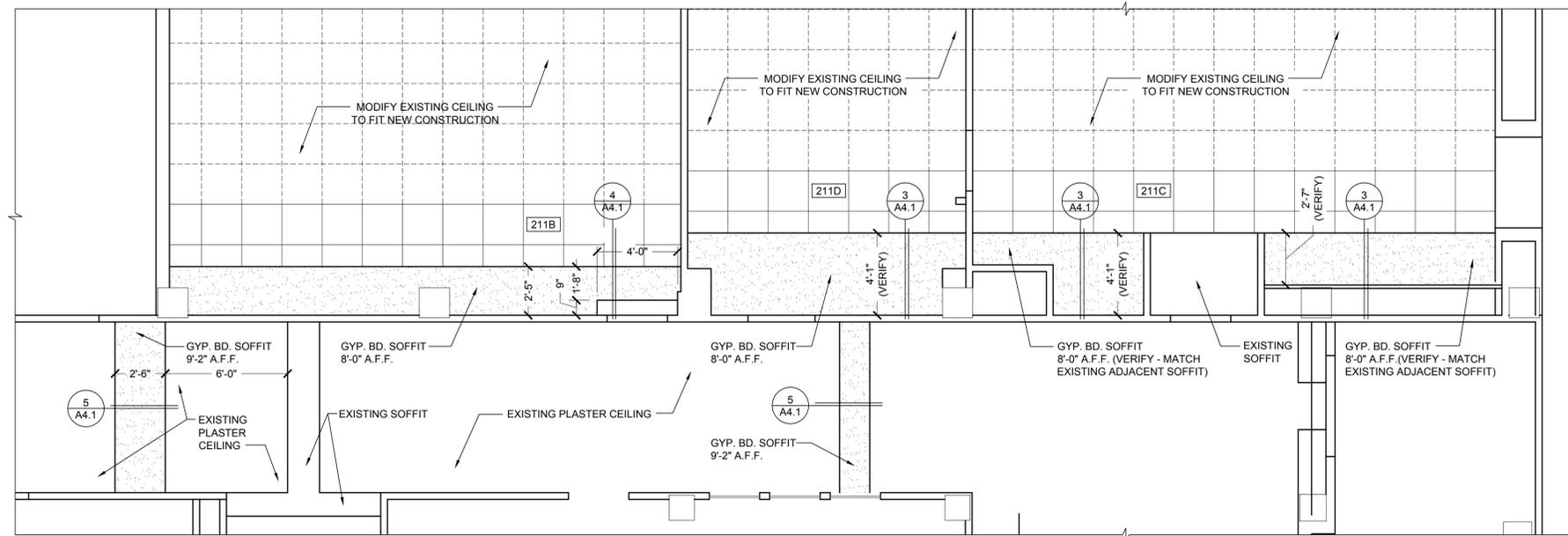
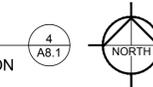
SEE KEY PLAN ON a1.0 FOR LOCATION



FOURTH FLOOR REFLECTED CEILING PLAN



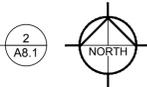
SEE KEY PLAN ON a1.0 FOR LOCATION



SECOND FLOOR REFLECTED CEILING PLAN



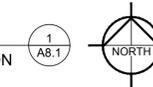
SEE KEY PLAN ON a1.0 FOR LOCATION



SECOND FLOOR REFLECTED CEILING PLAN



SEE KEY PLAN ON a1.0 FOR LOCATION



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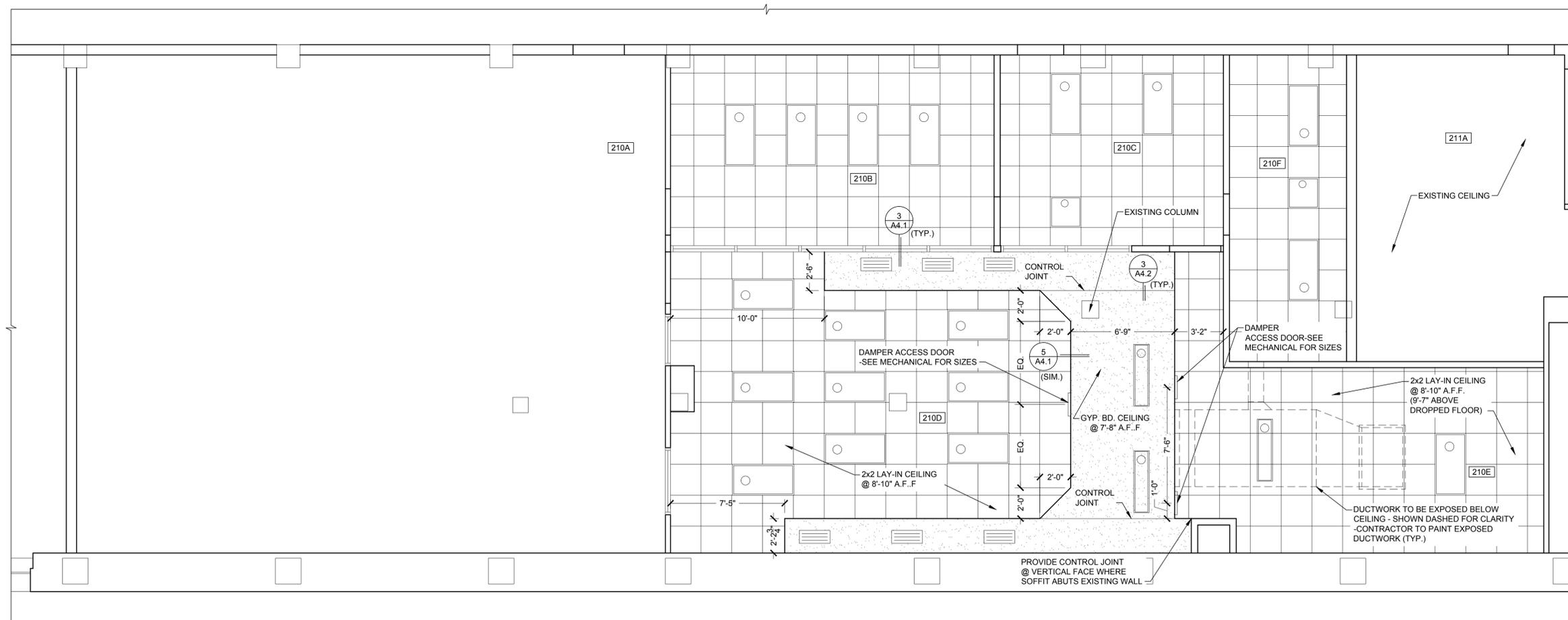
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| LEGEND | |
|--------|-------------------|
| ITEM | DESCRIPTION |
| | CEILING GRID |
| | 2x4 LIGHT FIXTURE |
| | 1x4 LIGHT FIXTURE |



DULUTH CITY HALL MIS UPGRADES

DULUTH, MINNESOTA

PROJECT NO.: 11-047

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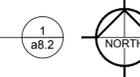
Ryan Perspinner
RYAN PERSPINNER ARCHITECT 49444 REG. NO.

REFLECTED CEILING PLAN

SECOND FLOOR REFLECTED CEILING PLAN



SEE KEY PLAN ON a1.0 FOR LOCATION



a
8.2

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DULUTH CITY HALL MIS UPGRADES

DULUTH, MINNESOTA

PROJECT NO. 11-047

DATE 16-APRIL-12

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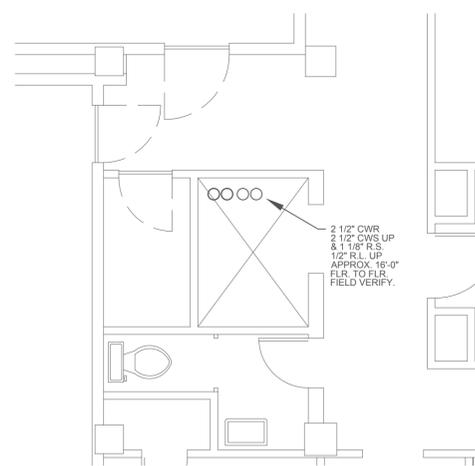
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Shawn Anderson
SHAWN ANDERSON 45413
MECHANICAL ENGINEER REG. NO.

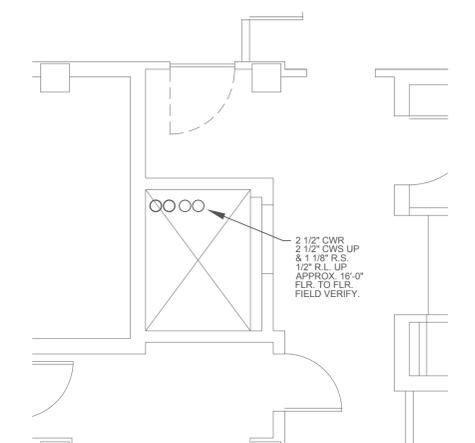
VENTILATION, FIRE SUPPRESSION AND PIPING PLAN.

M 1.1



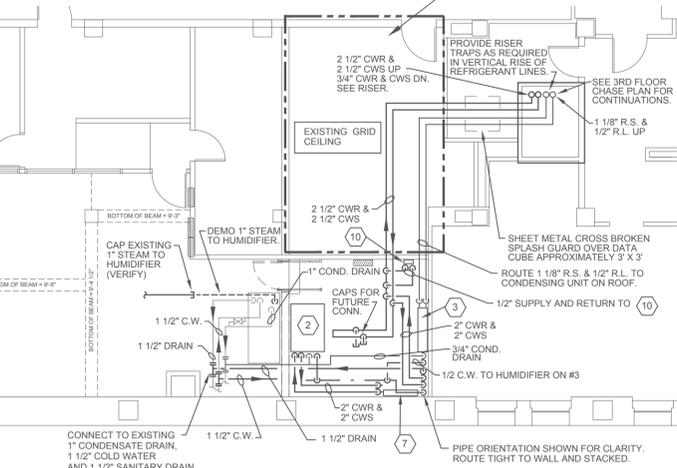
3RD FLOOR CHASE

0 1' 2' 4' 8'
SCALE



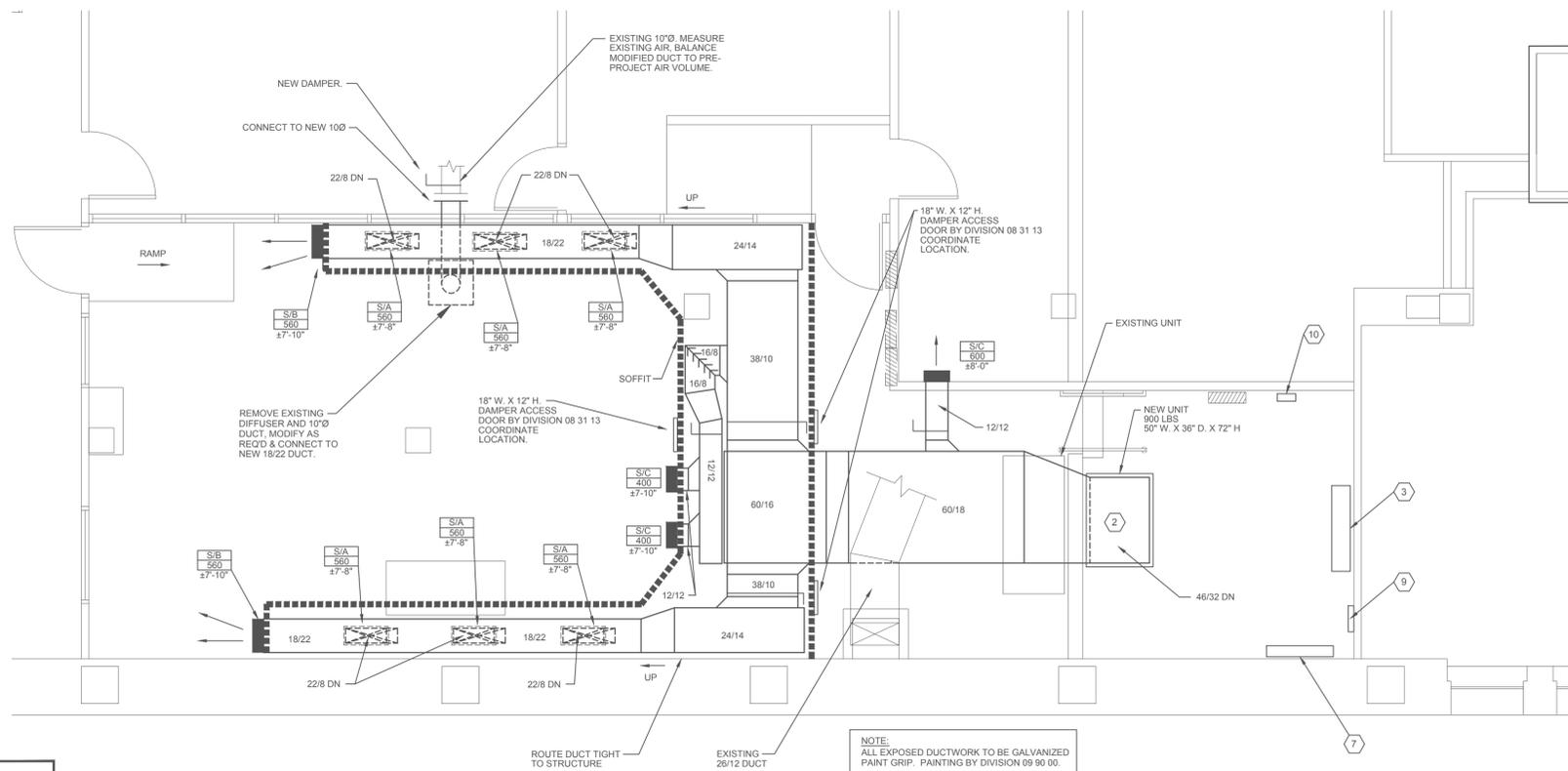
4TH FLOOR DATA CLOSET #5

0 1' 2' 4' 8'
SCALE



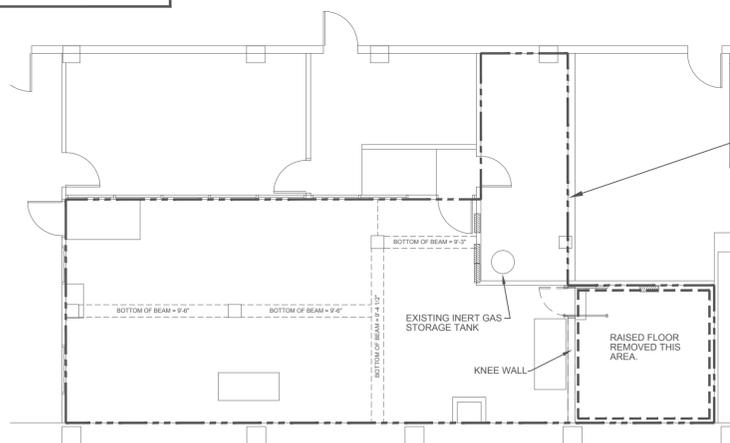
MIS ROOM PIPING & PIPING DEMO PLAN

0 1' 2' 4' 8' 16'
SCALE



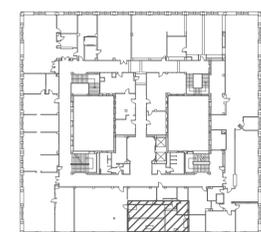
2ND FLOOR VENTILATION PLAN @ MIS AREA

0 1' 2' 4' 8'
SCALE



MIS AREA INERT GAS FIRE SUPPRESSION PLAN

0 1' 2' 4' 8' 16'
SCALE



FIRE SUPPRESSION SYSTEM NOTE:
THIS BUILDING AREA HAS AN EXISTING INERT GAS FIRE SUPPRESSION SYSTEM. THE SPRINKLER CONTRACTOR SHALL MODIFY, EXTEND AND REROUTE PIPING AS REQUIRED FOR NEW ROOM ARRANGEMENTS, CEILING, NEW MECHANICAL SYSTEMS AND NEW ELECTRICAL SYSTEMS. SPRINKLER CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATION OF HEAD QUANTITIES, HAZARD CLASSIFICATIONS AND EXTENT OF WORK ON A ROOM BY ROOM BASIS.
SYSTEM CONTACT: TOM NARDINI, NARDINI FIRE EQUIPMENT CO., 405 COUNTY ROAD E, WEST, SAINT PAUL, MN 55125. PHONE: (651) 483-51 X1090, EMAIL: tnardini@nardinfire.com.

| MARK | FACE SIZE L x W | CFM | USE | | | | | TYPE | | LOCATION | | REMARKS | | | | | |
|------|-----------------|----------|--------|--------|--------|----------|---------|----------|--------|----------|--------------|---------|------|---------|------|---------|-------------------------------|
| | | | SUPPLY | RETURN | RELIEF | TRANSFER | EXHAUST | REGISTER | GRILLE | LINEAR | DISPLACEMENT | | WALL | CEILING | DUCT | TRANSOM | DOOR |
| A | 24x10 | 400-650 | X | | | | | X | | | X | | | | | SEE TAG | W T54 22X08 SF - 01 SOBD - WH |
| B | 24x20 | 400-1000 | X | | | | | | | X | | | | | | SEE TAG | W T54 22X18 SF - 01 SOBD - WH |
| C | 14x14 | 400-600 | X | | | | | X | | X | | | | | | SEE TAG | W T54 12X12 SF - 01 SOBD - WH |
| D | | | | | | | | | | | | | | | | | |
| E | | | | | | | | | | | | | | | | | |

NOTES:
1. "W" - INDICATES FINISH TO BE BAKED ENAMEL WHITE.

GENERAL CONSTRUCTION NOTES:

- CONTRACTOR SHALL COORDINATE WITH OWNER AND OTHER TRADES IN ORDER TO AVOID ALL INTERFERENCE.
- CONTRACTOR SHALL VERIFY ALL EXISTING SIZES, FUNCTIONS, LOCATIONS AND CONDITIONS PRIOR TO BID. CONTRACTOR SHALL NOTIFY ENGINEER OF ANY DISCREPANCIES.
- CONTRACTOR SHALL SUPPLY AND INSTALL ALL NECESSARY FITTINGS AND/OR APPURTENANCES FOR THE COMPLETE INSTALLATION, OPERATION AND CONNECTION OF THE EQUIPMENT SHOWN AND/OR SPECIFIED.
- CONTRACTOR SHALL INSTALL EQUIPMENT, PIPING AND DUCTWORK IN SUCH A MANNER AS TO AVOID ALL INTERFERENCE WITH THE NEW AND EXISTING EQUIPMENT AND SYSTEMS.
- ALL OPENINGS AND PENETRATIONS REQUIRED FOR INSTALLATIONS SHOWN ON THE DRAWINGS SHALL BE BY THIS CONTRACTOR, PATCH AND PAINT TO MATCH EXISTING.
- ALL DUCTWORK MUST BE FIELD VERIFIED PRIOR TO FABRICATION.

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DULUTH CITY HALL MIS UPGRADES

DULUTH, MINNESOTA

PROJECT NO. 11-047

DATE 16-APRIL-12

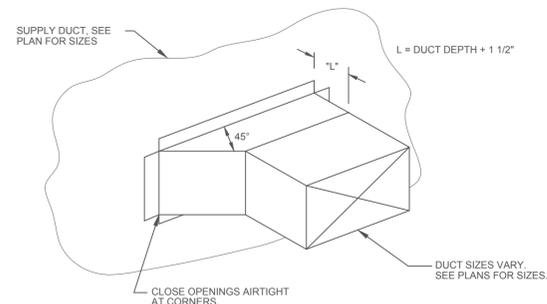
DRAWN MRW

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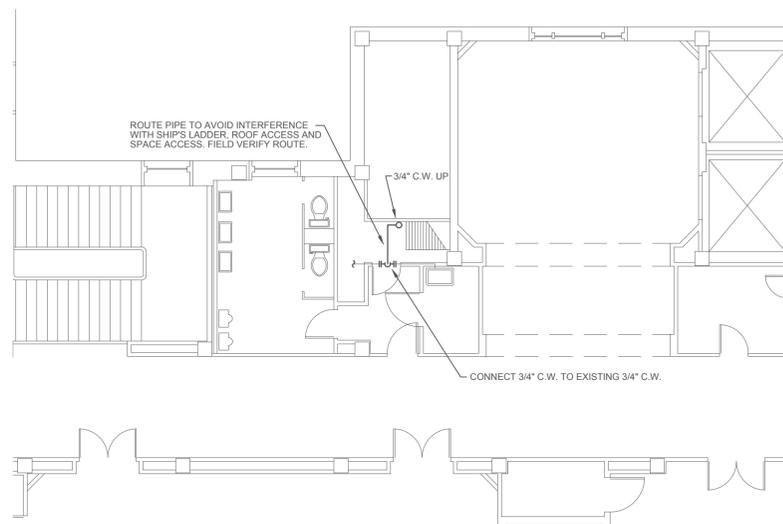
Shawn Anderson
SHAWN ANDERSON 45413
MECHANICAL ENGINEER REG. NO.

MECHANICAL PARTIAL ROOF PLAN



EXPANDED AREA TAKE-OFF DETAIL

NO SCALE



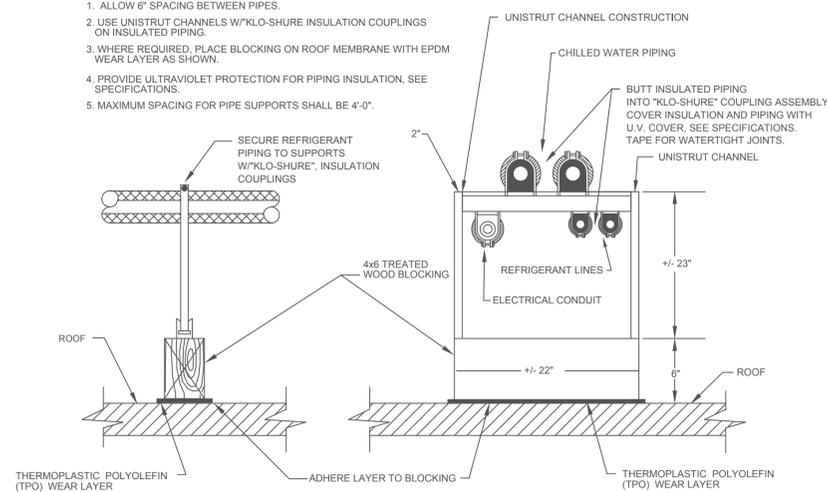
PIPING PLAN - FOURTH FLOOR JANITOR ROOM

0 1' 2' 4' 8' 16'
SCALE



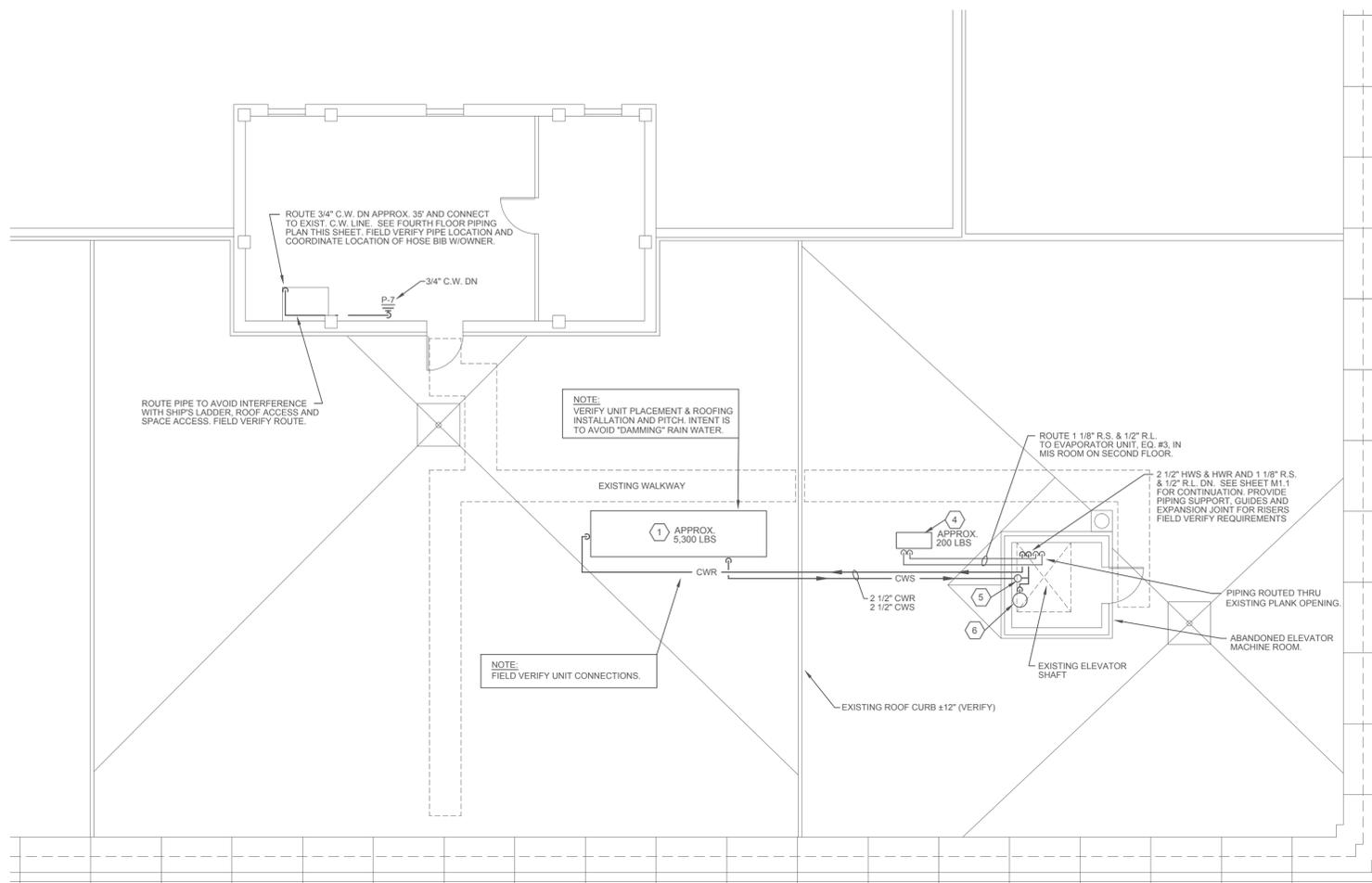
NOTES:

- ALLOW 6" SPACING BETWEEN PIPES.
- USE UNISTRUT CHANNELS W/ KLO-SHURE INSULATION COUPLINGS ON INSULATED PIPING.
- WHERE REQUIRED, PLACE BLOCKING ON ROOF MEMBRANE WITH EPDM WEAR LAYER AS SHOWN.
- PROVIDE ULTRAVIOLET PROTECTION FOR PIPING INSULATION. SEE SPECIFICATIONS.
- MAXIMUM SPACING FOR PIPE SUPPORTS SHALL BE 4'-0".



REFRIGERANT PIPING SUPPORT DETAIL

NO SCALE



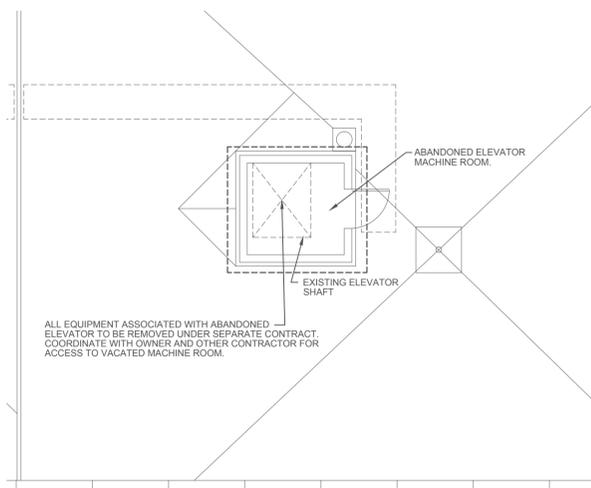
MECHANICAL PARTIAL ROOF PLAN

0 1' 2' 4' 8' 16'
SCALE



PLUMBING FIXTURE SCHEDULE

| FIXTURE | CW | HW | WASTE | VENT |
|----------------------------------|------|----|-------|------|
| P-7 BACKFLOW PROTECTED HOSE BIBB | 3/4" | | | |
| | | | | |
| | | | | |



MECHANICAL DEMO PLAN - ELEVATOR MACHINE ROOM

0 1' 2' 4' 8' 16'
SCALE



KEY PLAN PARTIAL ROOF AREA

NO SCALE



GENERAL CONSTRUCTION NOTES:

- CONTRACTOR SHALL COORDINATE WITH OWNER AND OTHER TRADES IN ORDER TO AVOID ALL INTERFERENCE.
- CONTRACTOR SHALL VERIFY ALL EXISTING SIZES, FUNCTIONS, LOCATIONS AND CONDITIONS PRIOR TO BID. CONTRACTOR SHALL NOTIFY ENGINEER OF ANY DISCREPANCIES.
- CONTRACTOR SHALL SUPPLY AND INSTALL ALL NECESSARY FITTINGS AND/OR APPURTENANCES FOR THE COMPLETE INSTALLATION, OPERATION AND CONNECTION OF THE EQUIPMENT SHOWN AND/OR SPECIFIED.
- CONTRACTOR SHALL INSTALL EQUIPMENT, PIPING AND DUCTWORK IN SUCH A MANNER AS TO AVOID ALL INTERFERENCE WITH THE NEW AND EXISTING EQUIPMENT AND SYSTEMS.
- ALL OPENINGS AND PENETRATIONS REQUIRED FOR INSTALLATIONS SHOWN ON THE DRAWINGS SHALL BE BY THIS CONTRACTOR. PATCH AND PAINT TO MATCH EXISTING.
- ALL DUCTWORK MUST BE FIELD VERIFIED PRIOR TO FABRICATION.

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M
1.2



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HIBBING, MINNESOTA 55746
PHONE: 218-263-6868
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**DULUTH
CITY HALL
MIS UPGRADES**

DULUTH, MINNESOTA

PROJECT NO. 11-047
DATE 16-APRIL-12
DRAWN DBG, MRW
REVISIONS

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Shawn Anderson
SHAWN ANDERSON 45413
MECHANICAL ENGINEER REG. NO.

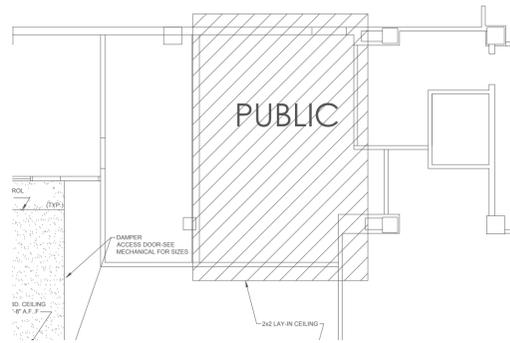
**SPRINKLER
PLANS**

M
1.3

NOTE:
CONTRACTOR SHALL CONDUCT A THOROUGH WALK-THRU OF THE ENTIRE BUILDING PRIOR TO BID. CONTRACTOR SHALL ALSO COORDINATE LOCATION OF INSTALLATION OF ITEMS OF THEIR TRADE WITH LIGHTING AND CEILING TYPE. SEE ARCHITECTURAL PLANS FOR ARRANGEMENTS AND AREAS THAT RECEIVE NEW CEILINGS. EACH CONTRACTOR SHALL BE RESPONSIBLE FOR ANY OTHER CEILING COMPONENT THAT NEEDS REMOVAL, INCLUDING REINSTALLATION AND REPLACEMENT OF ANY DAMAGED CEILING COMPONENT DUE TO MODIFICATIONS MADE BY THIS CONTRACTOR. CEILING COMPONENTS INCLUDE BUT ARE NOT LIMITED TO THE FOLLOWING: TILE, GRID, LIGHTS, SPEAKERS, GRILLES, DIFFUSERS, ETC.

- DIVISION 21 FIRE SUPPRESSION SYSTEM REQUIREMENTS**
1. SUPPLY AND INSTALL (WHETHER SHOWN OR NOT) A COMPLETE FIRE SUPPRESSION SYSTEM WITH REQUIRED AMOUNT OF SPRINKLERS, ALL EQUIPMENT AND APPURTENANCES IN THE MOST ECONOMICAL WAY.
 2. DESIGN TO BE IN STRICT ACCORDANCE W/ LIFE SAFETY CODE, NATIONAL FIRE CODE, STATE PLUMBING CODE, INSURANCE CARRIER AND APPLICABLE CODES. PROVIDE CERTIFIED HYDRAULIC DESIGN.
 3. DIVISION 21 IS RESPONSIBLE FOR DESIGNATION OF HAZARD CLASSIFICATIONS AND THE APPROPRIATE COVERAGE AND INSTALLATIONS BASED ON THEIR REVIEW OF CONSTRUCTION DOCUMENTS AND SITE.
 4. PROVIDE FIRE ALARM INTERFACE AND ANY ELECTRICAL WORK REQUIRED.
 5. PRIME AND PAINT EXPOSED FIRE SUPPRESSION PIPING AND RELATED APPURTENANCES IN APPLICABLE AREAS. COLOR SELECTION BY ARCHITECT.

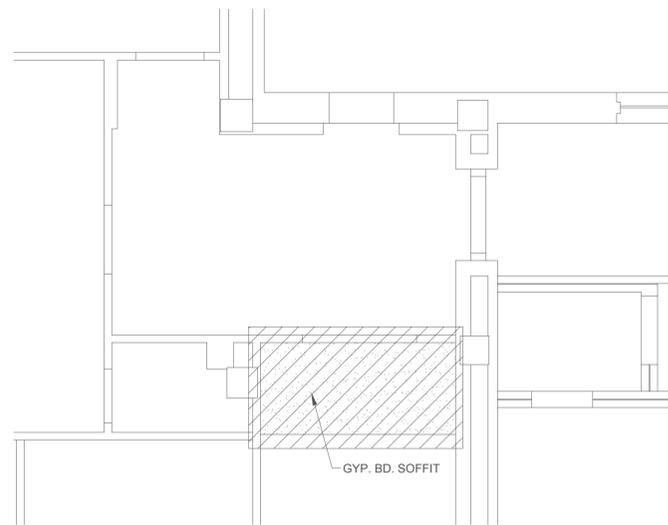
SPRINKLER NOTE:
THE HATCHED BUILDING AREAS HAVE AN EXISTING WET SPRINKLER SYSTEM. THE SPRINKLER CONTRACTOR SHALL MODIFY, EXTEND AND REROUTE PIPING AS REQUIRED FOR NEW ROOM ARRANGEMENTS, CEILINGS, NEW MECHANICAL SYSTEMS AND NEW ELECTRICAL SYSTEMS. DIVISION 21 SHALL BE RESPONSIBLE FOR VERIFICATION OF HEAD QUANTITIES, HAZARD CLASSIFICATIONS AND EXTENT OF WORK ON A ROOM BY ROOM BASIS.



2ND FLOOR REFLECTED CEILING PLAN

0 1' 2' 4' 8'
SCALE

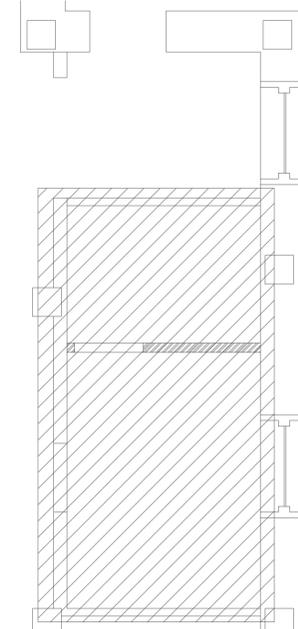
SEE KEY PLAN ON A1.0 FOR LOCATION
SEE 1/A8.2 FOR REFLECTED CEILING PLAN



THIRD FLOOR REFLECTED CEILING PLAN

0 1' 2' 4' 8'
SCALE

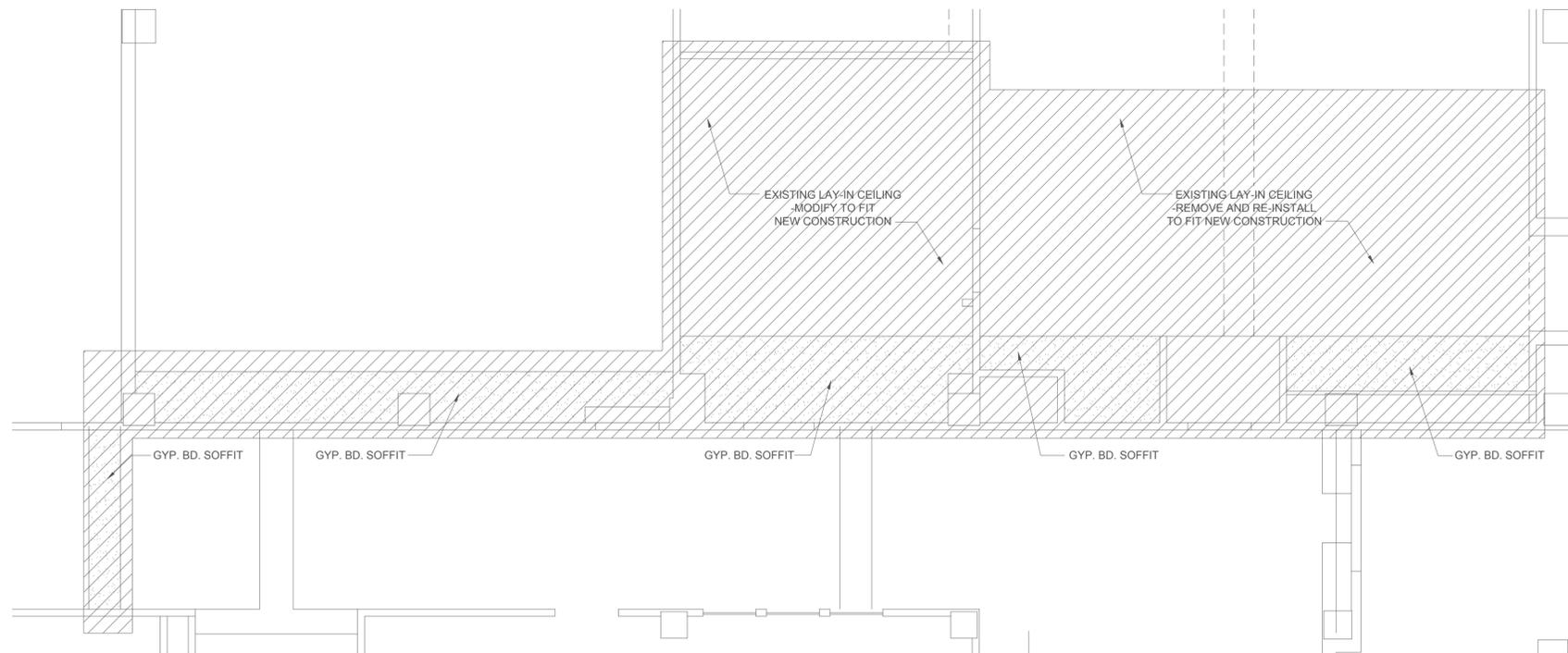
SEE KEY PLAN ON A1.0 FOR LOCATION
SEE 3/A8.1 FOR REFLECTED CEILING PLAN



FOURTH FLOOR REFLECTED CEILING PLAN

0 1' 2' 4' 8'
SCALE

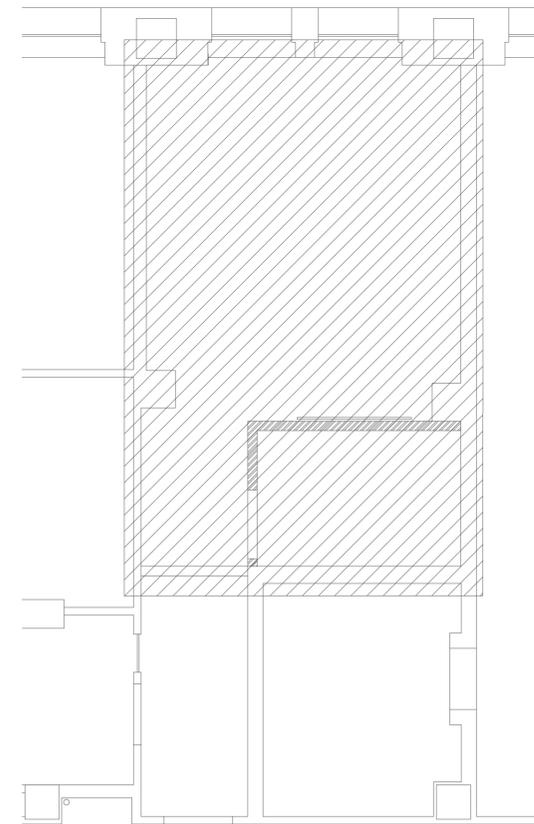
SEE KEY PLAN ON A1.0 FOR LOCATION
SEE 4/A8.1 FOR REFLECTED CEILING PLAN



SECOND FLOOR REFLECTED CEILING PLAN

0 1' 2' 4' 8'
SCALE

SEE KEY PLAN ON A1.0 FOR LOCATION
SEE 2/A8.1 FOR REFLECTED CEILING PLAN



SECOND FLOOR REFLECTED CEILING PLAN

0 1' 2' 4' 8'
SCALE

SEE KEY PLAN ON A1.0 FOR LOCATION
SEE 1/A8.1 FOR REFLECTED CEILING PLAN



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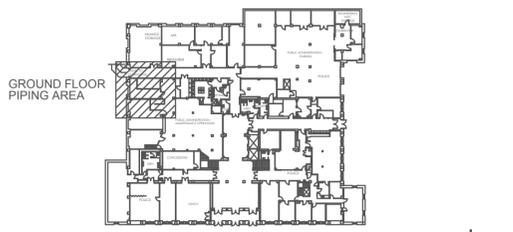
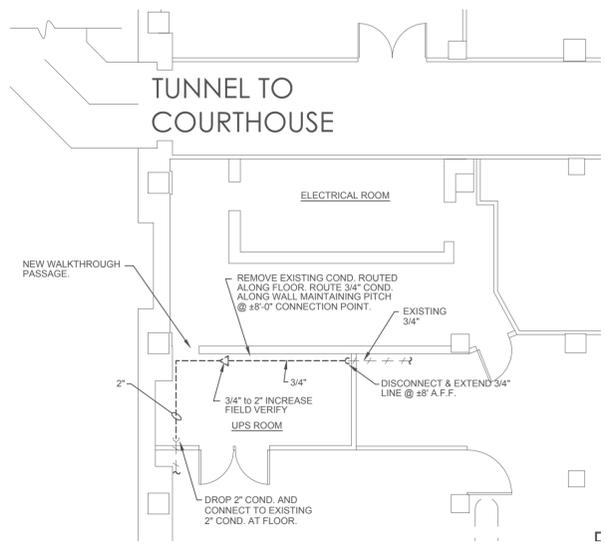
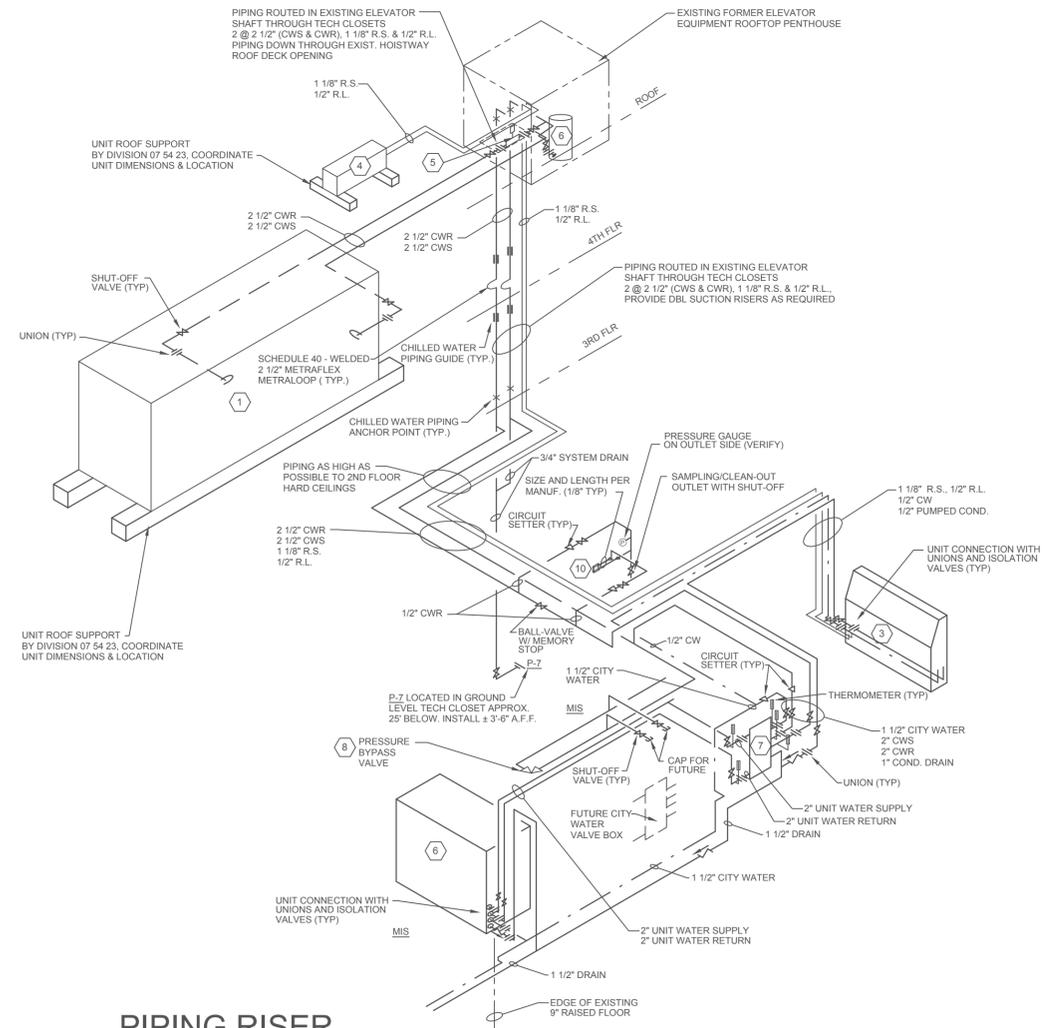
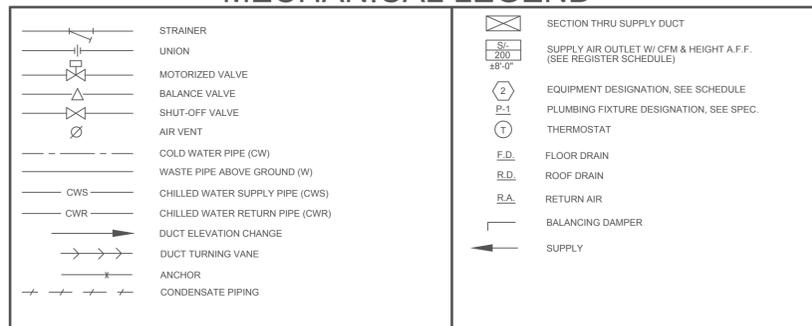
NOTE: SHOP DRAWINGS
SHOP DRAWINGS SHALL BE CLEARLY IDENTIFIED
AS TO PERTINENT EQUIPMENT NO. ○

EQUIPMENT SCHEDULE

M=MECH O=OWNER
E=ELEC GC=GENERAL CONTRACTOR

| EQUIP. NO. | LOCATION | DESCRIPTION | QUANTITY | SUPPLY BY | INSTALL BY | CONNECT BY | RELOCATE BY | MANUFACTURER & MODEL NO. | CAPACITY | MECH. CONN. | EQUIPMENT REMARKS | MOTOR | | | STARTER | SUPPLIED BY | (FUSED) DISCONNECT BY ELEC. | WIRE BY ELEC. | CONDUIT BY ELEC. | WIRING AND CONTROL REMARKS | EQUIP. NO. |
|------------|-----------------------------------|---|----------|-----------|------------|------------|-------------|---------------------------------------|---|---|---|-----------|------|---|--------------------|-------------|-------------------------------|---------------|------------------|---|------------|
| | | | | | | | | | | | | H.P. | VOLT | Ø | | | | | | | |
| 1 | ON ROOF | AIR-COOLED CHILLER | 1 | M | M | M/E | | MOTIVAIR MPC-FC 4000 | 32.0 TONS COOLING @ 55° F. L.W.T., 65° F. E.W.T., 95° F. AMBIENT @ 99.2 FT. W.P.D. @ 67 GPM. 40% ETHYLENE GLYCOL. | 2 1/2" FLANGED INLET 2 1/2" FLANGED OUTLET | FOUR PREMIUM SCROLL COMPRESSORS IN TWO INDEPENDENT REFRIGERANT CIRCUITS. TWO EVAPORATORS, ONE PER CIRCUIT. NEMA 4 ELECTRICAL PANEL WITH STARTERS, OVERLOADS AND 24V CONTROL TRANSFORMERS. INTEGRATED "FREE COOLING" SYSTEM & STORAGE RESERVE RESERVOIR. INTEGRATED DUPLEX PUMPS W/ AUTOMATIC CHANGE OVER UPON LEAD PUMP FAILURE. CONTROL SYSTEM AND "FREE COOLING" SOFTWARE AND CONTROL PACKAGE. INSTALL ON ROOF AND PROVIDE SINGLE POINT ELECTRICAL CONNECTION UNIT TO BE WHITE IN COLOR. INSTALL AS PER MANUFACTURER'S RECOMMENDATIONS. | 81 MCA | 480 | 3 | W/UNIT | M | 100A-3P FUSED@85 (2) REQUIRED | 3 | 1 1/4" | (2) DISCONNECTS REQUIRED (1) AT LOAD SIDE OF TRANSFORMER (1) AT UNIT CONTROLS BY DIVISION 23 SEE POWER RISER SHEET E1.7 CONNECT TO EQUIPMENT 1A. | 1 |
| 1A | ABANDONED ELEV. MACH. RM. ON ROOF | 208V TO 480V 75 KVA STEP-UP TRANSFORMER | 1 | M | E | E | | MOTIVAIR SUPPLIED | | | TRANSFORMER IS FIELD SHIP LOOSE WITH EQUIPMENT #1. ELECTRICAL CONTRACTOR SHALL FIELD INSTALL AND CONNECT TRANSFORMER AS PER MANUFACTURER'S SPECIFICATIONS. | 75 KVA | | | | | | | | SEE PLAN SHEET E1.7 | 1A |
| 2 | MIS ROOM | CHILLED WATER COOLED AIR CONDITIONER | 1 | M | M | M/E | | LIEBERT MODEL#CW041UCCA2 | 5800 CFM @ 0.4" E.S.P. MERV 11 FILTER. 8.25 TONS COOLING @ 55° F. E.W.T., 65° F. L.W.T., 80° F. DB/68.6° F. WB EAT. 64.3° F. DB/52.3° F. WB LAT, 1 COIL, 6 ROWS. 11 FPI. 40% ETHYLENE GLYCOL. | 2 1/2" FLANGED INLET 2 1/2" FLANGED OUTLET 1 1/2" C.W. | UNIT UTILIZES "EC" VARIABLE SPEED FANS. PROVIDE CONDENSATE PUMP WITH HIGH WATER ALARM. ELECTRIC REHEAT. INFRARED HUMIDIFIER. FAN OVERLOAD ALARM. HIGH TEMP. SENSOR. ICOM CONTROL. INSTALL PER MANUFACTURER'S RECOMMENDATIONS. | 80.2 MCA | 208 | 3 | W/UNIT | M | 100A-3P FUSED@85 | 3 | 1 1/4" | PROVIDE 90A-3P BREAKER IN EMERGENCY PANEL "S2" | 2 |
| 3 | MIS ROOM (ADD ALTERNATE #1) | DX INDOOR EVAPORATOR UNIT | 1 | M | M | M/E | | LIEBERT MODEL#DME020EPH7 | 5.4KW (18.5 MBH) TOTAL. 5.4KW(18.5 MBH) SENSIBLE AT 80° F. DB/62.8° F. WB. PROVIDE WITH HUMIDIFIER, REHEAT AND CONDENSATE PUMP. R-407C REFRIGERANT. | 1 1/8" R.S. 1/2" R.L. 1/2" C.W. 3/4" DRAIN | PROVIDE REFRIGERANT LINES OF ADEQUATE SIZING. FIELD VERIFY. INSTALL TRAPS IN VERTICAL RISE PER MANUFACTURER'S RECOMMENDATION. PROVIDE COND. PUMP AND HUMIDIFIER AND REHEAT. INSTALL PER MANUFACTURER'S RECOMMENDATIONS AND INSTALLATION MANUAL. | 25.0 MCA | 208 | 1 | W/UNIT | M | 30A-2P FUSED@30 | 10 | 3/4" | CONTROLS BY DIVISION 23 PROVIDE 40A-2P BREAKER IN NEW PANEL "A" | 3 |
| 4 | ON ROOF (ADD ALTERNATE #1) | DX OUTDOOR CONDENSING UNIT | 1 | M | M | M/E | | LIEBERT MODEL#PFH020A-PL7 | LOW AMBIENT OPERATION TO -30°F. 95°F. AMBIENT RATING. R-407C REFRIGERANT. | 1 1/8" R.S. 1/2" R.L. | PROVIDE REFRIGERANT LINES OF ADEQUATE SIZING. FIELD VERIFY. INSTALL TRAPS IN VERTICAL RISE PER MANUFACTURER'S RECOMMENDATIONS. | 25.0 MCA | 208 | 1 | W/UNIT | M | 30A-2P FUSED@30 | 10 | 3/4" | CONTROLS BY DIVISION 23 PROVIDE 40A-2P BREAKER IN NEW PANEL "A" | 4 |
| 5 | ABANDONED ELEV. MACH. RM. ON ROOF | CHILLED WATER AIR SEPARATOR | 1 | M | M | M | | BELL & GOSSETT MODEL # R-2-1/2N | 90 GPM MAXIMUM FLOW WITH STRAINER. | 2 1/2" INLET 2 1/2" OUTLET | PROVIDE UNIT SUPPORTS. INSTALL AS PER MANUFACTURER'S RECOMMENDATIONS. | | | | | | | | | 5 | |
| 6 | ABANDONED ELEV. MACH. RM. ON ROOF | CHILLED WATER EXPANSION TANK | 1 | M | M | M | | BELL & GOSSETT MODEL #D-40V | CAP 21.7 GAL W/ 11.3 GAL ACCEPT 40% GLYCOL REQ'D 11.0 GAL W/ EXPN VOL OF 5.1 GAL | 2 1/2" SYSTEM CONNECTION | INITIAL TANK PRESSURE OF 12.0 PSI. 40°F. INITIAL FILL TEMP. MAX TEMP 110°F. SYSTEM VOLUME APPROXIMATELY 425 GALLONS. 40% ETHYLENE GLYCOL. INSTALL PER MANUFACTURER'S RECOMMENDATIONS. | | | | | | | | | | 6 |
| 7 | MIS ROOM | CITY WATER BYPASS PANEL | 1 | M | M | M/E | | MOTIVAIR MODEL# CWBP-120-2-FLO | TOTAL PRESSURE DROP SHALL NOT EXCEED 10 PSIG. | 2 1/2" CWS 2 1/2" CWR 1 1/2" CITY WATER 1 1/2" DRAIN 2 1/2" CWS | STANDARD AUTOMATIC SWITCHOVER IN THE EVENT OF CHILLER ALARM. GLYCERIN FILLED TEMPERATURE AND PRESSURE GAUGES. INTEGRATED FLOW METER AND LOCKABLE SAFETY DOOR. INSTALL PER MANUFACTURER'S RECOMMENDATIONS. | 300 WATTS | 120V | 1 | MOTOR START SWITCH | E | PANEL | 12 | 1/2" | CONTROLS BY DIVISION 23 PROVIDE (2) #12, (1) #12GRD., 1/2" C 120V CIRCUIT UP TO CHILLER FOR INTERCONNECTION OF CHILLER ALARM WITH PANEL. | 7 |
| 8 | MIS ROOM | CHILLED WATER BYPASS VALVE | 1 | M | M | M | | FULFLO V-SERIES - 1 1/2" MODEL#707-US | 80 GPM RATED CAPACITY. 7-35 PSI OPERATING RANGE | 2 1/2" CWS 2 1/2" CWR | STANDARD WITH FLANGE CONNECTIONS. | | | | | | | | | 8 | |
| 9 | MIS ROOM | AUTOMATIC SWITCHING AND CONTROL DEVICE | 1 | M | M | M/E | | LIEBERT MODEL#AC4 | TWO TO FOUR DEVICE CONTROLLER. | | COMMON ALARM INPUTS AND CONTROL OUTPUTS FOR DEVICE CONTROL INCLUDING LIEBERT ENVIRONMENTAL UNITS. LCD READOUT. NONVOLATILE MEMORY. MANUAL OVERRIDE. AUTOMATIC STANDBY DEVICE TESTING. INPUTS AND OUTPUTS CONFIGURED AS NORMALLY OPEN OR CLOSED. INSTALL PER MANUFACTURER'S RECOMMENDATION. | 300 WATTS | 24V | 1 | MOTOR START SWITCH | E | PANEL | 12 | 1/2" | CONTROLS BY DIVISION 23 | 9 |
| 10 | MIS ROOM | GLYCOL MONITOR | 1 | M | M | M/E | | ANTON PAAR MODEL# L-DENS 313 | SAMPLE TEMP: 41° F.-70° F. PRESSURE RANGE: 0 TO 145 PSI, ± 2.0% ACCURACY. | 1/2" SUPPLY & RETURN | PROVIDE CIRCUIT SETTERS. SHUT-OFFS AND PRESSURE GAUGE AS REQUIRED. BALANCE FLOW TO MANUFACTURER'S PRESSURE AND GPM. INSTALL PER MANUFACTURER'S RECOMMENDATIONS AND REQUIREMENTS. COORDINATE LOCATION WITH OWNER AND ELECTRICAL. | WATTS 300 | 24V | 1 | START SWITCH MOTOR | E | PANEL | 12 | 1/2" | CONTROLS BY DIVISION 23 | 10 |
| 11 | MIS ROOM | 110 VOLT TO 24 VOLT TRANSFORMER | 1 | E | E | E | | | | | | | | | | | | | | | 11 |

MECHANICAL LEGEND



GROUND FLOOR PIPING PLAN

GROUND FLOOR PIPING KEY PLAN

PIPING RISER

DULUTH CITY HALL MIS UPGRADES

DULUTH, MINNESOTA

PROJECT NO. 11-047
DATE 16-APRIL-12
DRAWN DBG, MRW
REVISIONS

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David Jordan
DAVID JORDAN 42696
ELECTRICAL ENGINEER REG. NO.

Shawn Anderson
SHAWN ANDERSON 45413
MECHANICAL ENGINEER REG. NO.

EQUIPMENT SCHEDULE AND SCHEMATIC

ME 2.1

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MIS UPGRADES**

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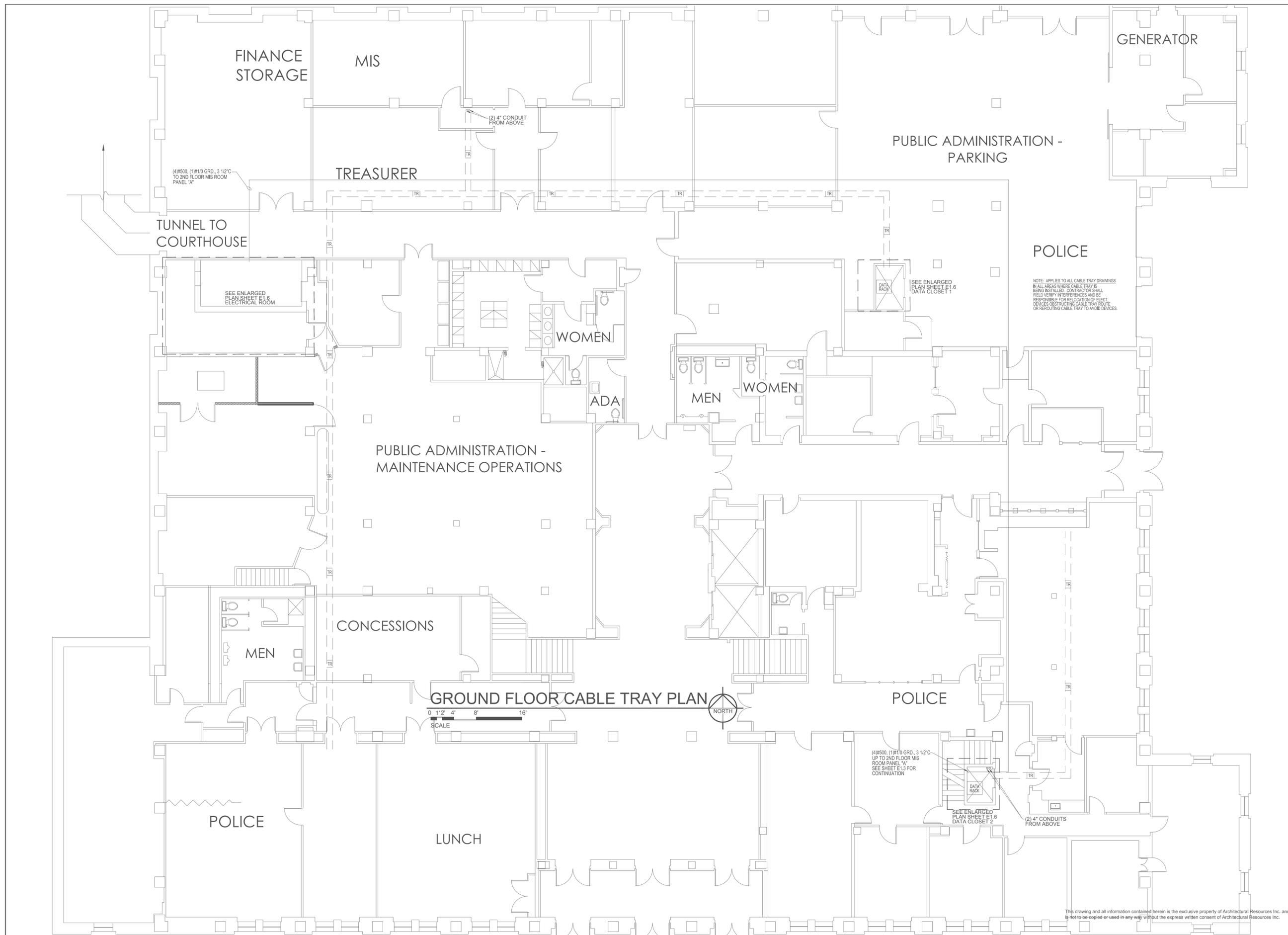
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David Jordan
DAVID JORDAN 42696
ELECTRICAL ENGINEER REG. NO.

**GROUND FLOOR
CABLE TRAY
PLAN & CONDUIT
ROUTING
PLAN FOR
NEW PANEL "A"**

**E
1.1**



NOTE: APPLIES TO ALL CABLE TRAY DRAWINGS IN ALL AREAS WHERE CABLE TRAY IS BEING INSTALLED. CONTRACTOR SHALL FIELD VERIFY INTERFERENCES AND BE RESPONSIBLE FOR RELOCATION OF ELECT. DEVICES OBSTRUCTING CABLE TRAY ROUTE OR REROUTING CABLE TRAY TO AVOID DEVICES.

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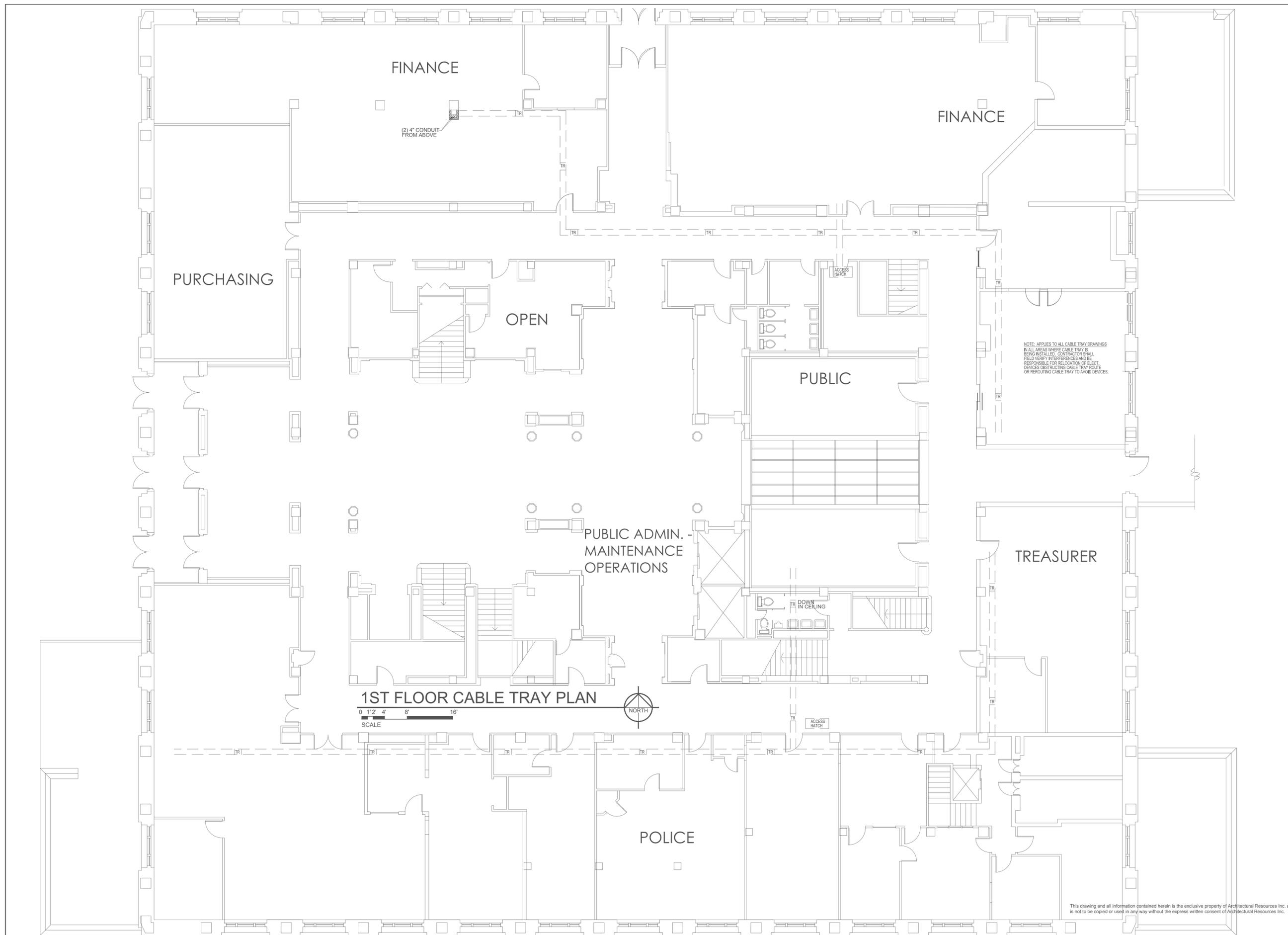
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 DAVID JORDAN 42696
 ELECTRICAL ENGINEER REG. NO.

**1ST FLOOR
 CABLE TRAY
 PLAN**

**E
 1.2**



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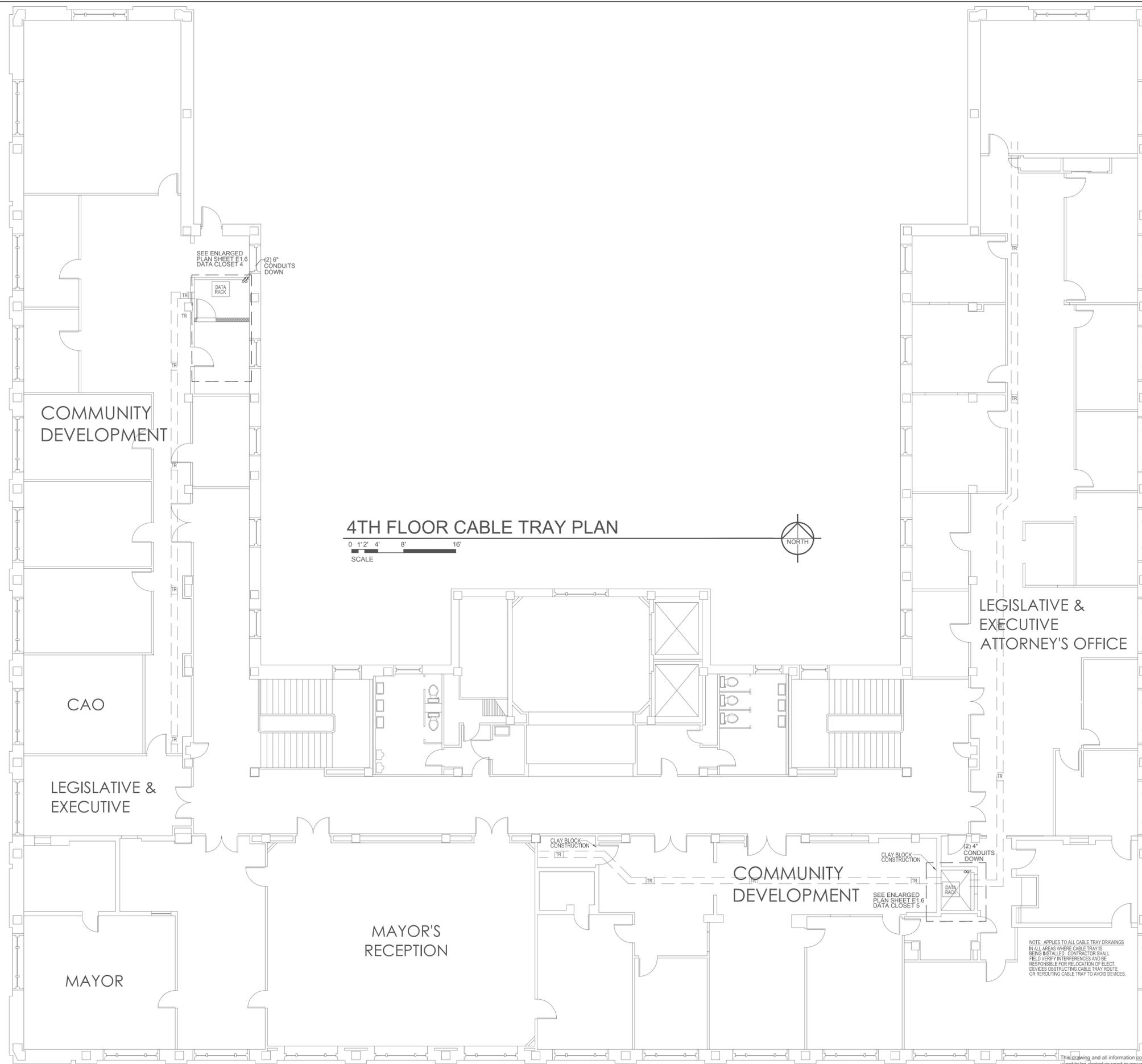
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David Jordan
DAVID JORDAN 42696
ELECTRICAL ENGINEER REG. NO.

**4TH FLOOR
CABLE TRAY
PLAN**

**E
1.5**





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David Jordan
DAVID JORDAN 42696
ELECTRICAL ENGINEER REG. NO.

**ENLARGED
ELECTRICAL
PLANS, ELECT.
LEGEND, &
POWER RISER**

**E
1.6**

ELECTRICAL LEGEND

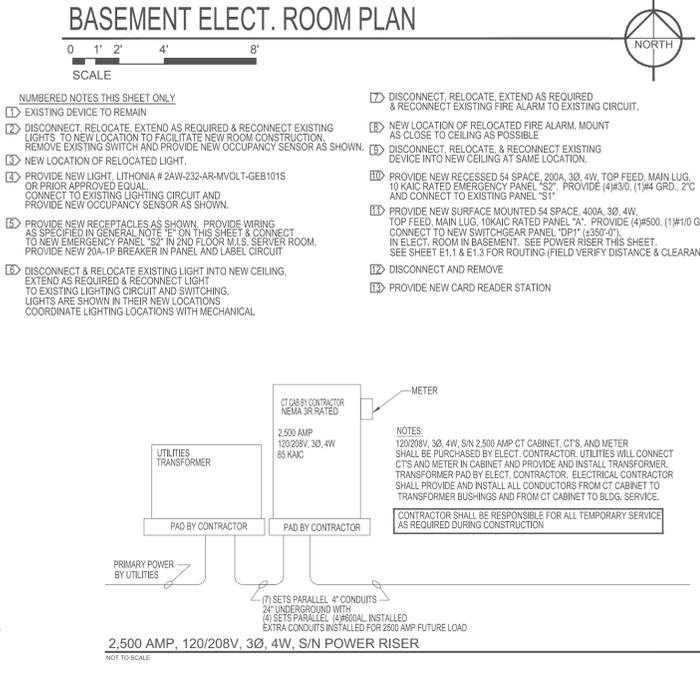
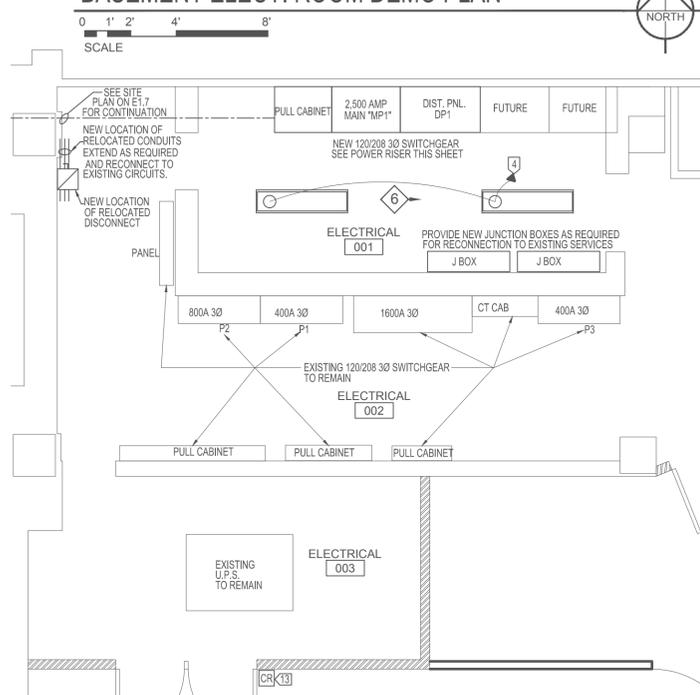
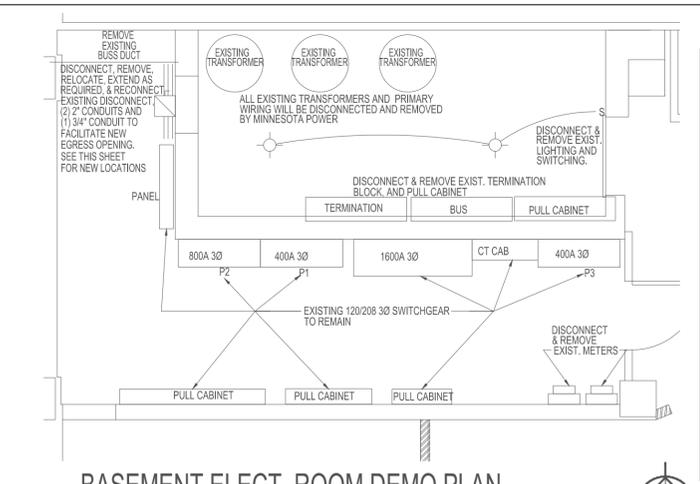
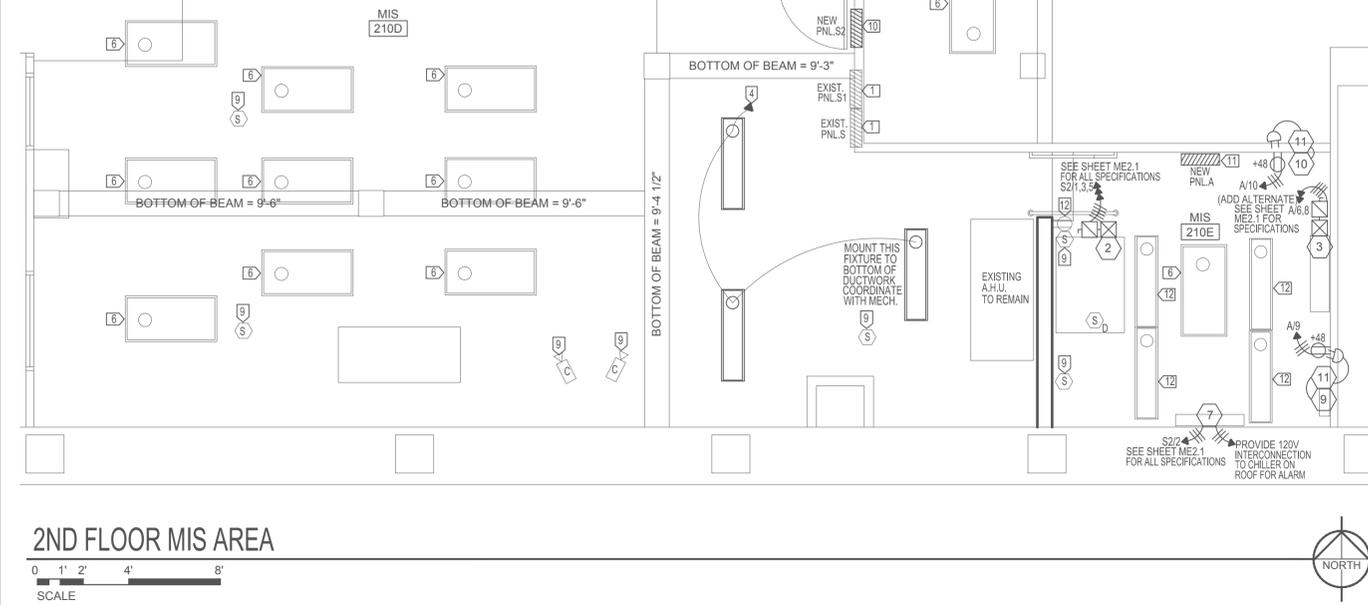
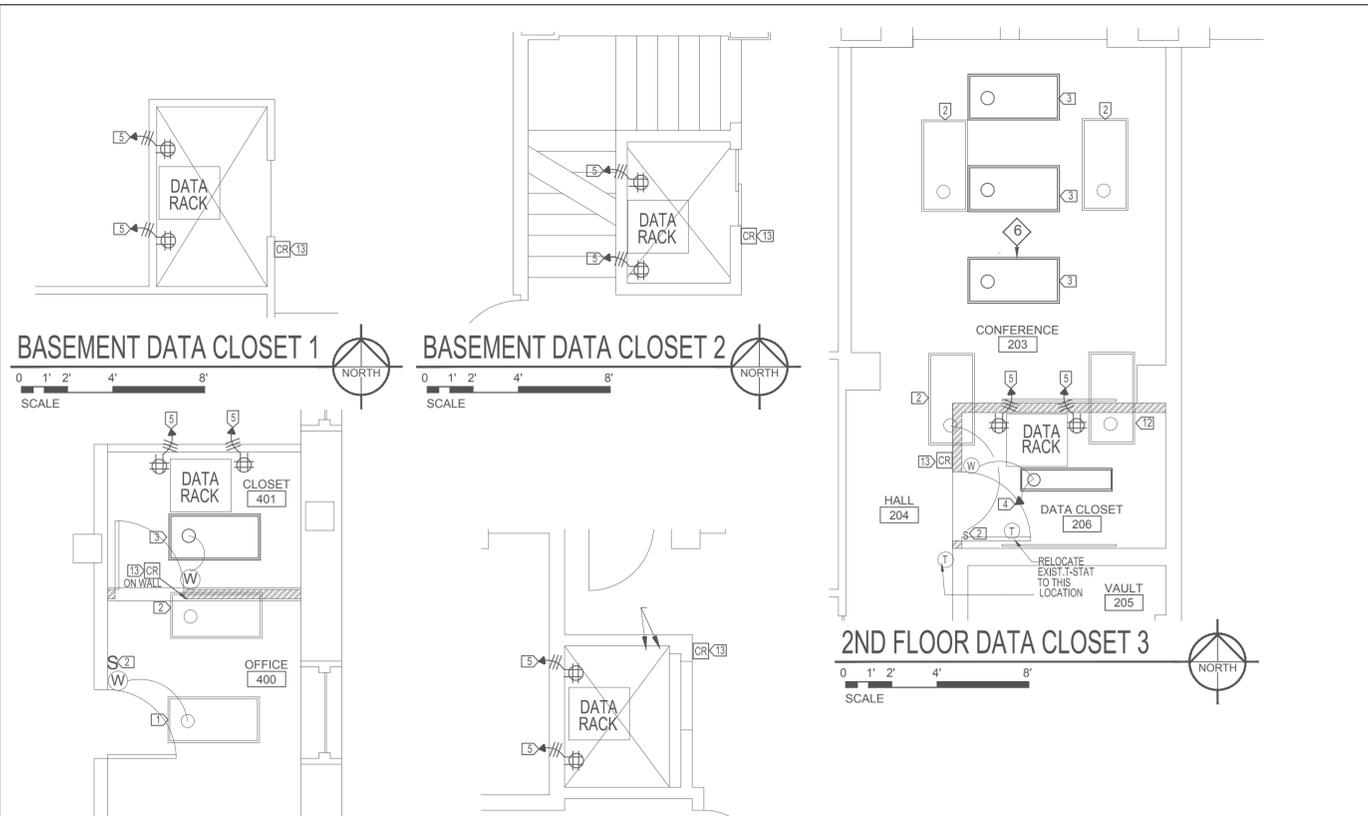
| | | | |
|--|---|--------------------------------|--|
| | IN GROUND WIRING | | TRANSFORMER |
| | EXPOSED WIRING | | A.F.F. ABOVE FINISH FLOOR PANEL |
| | CONCEALED WIRING | | TV OUTLET |
| | FLOOR BOX, POWER & TELEPHONE | | FUSED DISCONNECT |
| | ELECTRIC BASEBOARD | | STARTER |
| | HOME RUN: A = PANEL, 1 = CIRCUIT NO. | | HORN UNIT ONLY |
| | FLUORESCENT FIXTURE: SEE SPEC. FOR TYPE | | HORN STROBE |
| | EXIT LIGHT W DIRECTION ARROW | | MANUAL STATION |
| | 30 AMP RECEPTACLE | | DUCT SMOKE DETECTOR |
| | 50 AMP RECEPTACLE | | STROBE UNIT ONLY |
| | DUPLEX GROUNDING RECEPTACLE | OCCUPANCY SENSOR LEGEND | |
| | GROUND FAULT INTERRUPTER | | WATTSTOPPER OR PRIOR APPROVAL PW-100-W |
| | WP = WEATHERPROOF | | EQUIPMENT DESIGNATION: SEE SCHEDULE |
| | +36 = INCHES A.F.F. | | JUNCTION BOX |
| | DOUBLE DUPLEX GROUNDING RECEPT. | | CARD READER |
| | SWITCH: SINGLE POLE | | |
| | SWITCH: 3-WAY | | |
| | DIMMER | | |
| | TELEPHONE/DATA OUTLET | | |
| | WIRELESS ACCESS POINT | | |

GENERAL NOTES (APPLIES TO ALL ELECTRICAL SHEETS):

- FOR EXACT LOCATIONS OF ALL WALL MOUNTED DEVICES, REFER TO ARCHITECTURAL INTERIOR ELEVATIONS. FOR CEILING MOUNTED DEVICES, SEE ARCHITECTURAL REFLECTED CEILING PLAN.
- THE ELECTRICAL CONTRACTOR SHALL COORDINATE RACEWAY INSTALLATIONS WITH ALL OTHER TRADES TO ASSURE CLEARANCE AND ACCESSIBILITY OF MECHANICAL EQUIPMENT AND ACCESS POINT INTO THE CEILING SPACE ARE MAINTAINED. RACEWAY INCLUDES CONDUITS, WIREWAYS, ETC.
- OPENINGS AROUND ELECTRICAL PENETRATIONS THROUGH FIRE RESISTIVE RATED WALLS, PARTITIONS, FLOORS OR CEILINGS SHALL BE FIRE STOPPED USING APPROVED METHODS TO MAINTAIN FIRE RESISTIVE RATINGS.
- EXISTING BUILDING AREAS THAT ARE BEING REMODELED AND NEW DEVICES/FIXTURES ARE TO BE INSTALLED AT EXISTING DEVICE/FIXTURE LOCATIONS. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY FRAMING, PATCHING, AND PAINTING TO MATCH EXISTING CONDITIONS.
- MINIMUM WIRE SIZE FOR BRANCH CIRCUIT HOMERUNS BASED ON 20 AMP CIRCUIT SHALL BE AS FOLLOWS:
OVER 50' SHALL BE #10 AWG. UNLESS NOTED
OVER 100' SHALL BE #8 AWG. UNLESS NOTED
OVER 150' SHALL BE #6 AWG. UNLESS NOTED
OVER 250' SHALL BE #4 AWG. UNLESS NOTED
- PROVIDE (1) NEUTRAL FOR EACH CIRCUIT. MULTI WIRE HANDLE TIES ARE NOT ALLOWED.
- WHERE CABLE TRAY PASSES THROUGH RATED WALLS PROVIDE ST1 EASY PATH.

GENERAL NOTES (DEMOLITION)

- ALL DEVICES SHOWN ON DEMOLITION DRAWINGS ARE TO BE DISCONNECTED FROM ELECTRICAL POWER AND REMOVED UNLESS NOTED OTHERWISE. REMOVE ALL CONDUIT AND WIRING NOT BEING USED.
- ELECTRICAL INFORMATION SHOWN ON THESE PLANS HAS BEEN COMPILED FROM PREVIOUS CONSTRUCTION DRAWINGS AND JOB SITE OBSERVATION AND IS INCLUDED FOR THE CONTRACTOR'S INFORMATION ONLY. IT SHALL NOT BE CONSTRUED AS A GUARANTEE THAT THE SYSTEMS WERE INSTALLED AS SHOWN. THE CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS AND SHALL MAKE MODIFICATIONS AS NECESSARY TO COMPLETE THE WORK AS SHOWN ON THE PLANS AND IN THE SPECIFICATIONS.
- CONTRACTOR SHALL VERIFY ALL EXISTING SIZES, FUNCTIONS, AND LOCATIONS PRIOR TO BEGINNING WORK.
- ELECTRICAL CONTRACTOR SHALL DISCONNECT AND REMOVE ALL ELECTRICAL DEVICES, INCLUDING BUT NOT LIMITED TO RECEPTACLES, SWITCHES, FIRE ALARM SYSTEM, EXIT LIGHT SYSTEM, FIXTURES, WIRING, AND CONDUIT. IN ALL EXISTING WALLS BEING REMOVED, ELECTRICAL CONTRACTOR SHALL "RECONNECT" "DOWN LINE" DEVICES AFFECTED BY THE REMOVAL OF ANY DEVICES. EXTEND ALL WIRING AND/OR RACEWAYS WHERE NECESSARY. EXISTING CONDUITS AND/OR WIRING SHALL BE REMOVED, ABANDON CONCEALED CONDUIT AND/OR WIRING AND DISCONNECT FROM SOURCE.
- ALL MATERIALS REMOVED BY THIS CONTRACTOR SHALL BE REVIEWED BY THE OWNER. MATERIAL NOT WANTED BY THE OWNER SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE PREMISES. MATERIAL THE OWNER WANTS TO KEEP, SHALL BE STORED BY THE OWNER.
- CONTRACTOR SHALL REMOVE ALL EXISTING EXPOSED CONDUIT NOT BEING USED. CUT OFF CONDUIT IN LUS WHERE EMBEDDED IN CONCRETE. VERIFY REMOVAL WITH THE OWNER. REMOVE ALL EXISTING WIRING NOT BEING USED.
- CONTRACTOR SHALL VERIFY ALL CONDUIT AND SUPPORTS BEING REUSED MEETS CURRENT CODE, AND THE SPECIFICATIONS INCLUDING HANGING METHODS.
- THE FLOORS WALLS AND CEILINGS SHALL BE PATCHED TO MATCH THE EXISTING CONDITIONS.
- PENETRATIONS OF RATED FLOORS, WALLS, AND CEILINGS SHALL BE FIRESTOPPED. SEE ARCHITECTURAL PLANS FOR RATINGS.



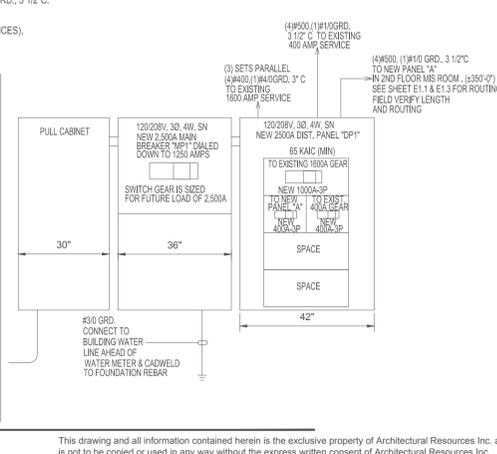
- NUMBERED NOTES THIS SHEET ONLY**
- EXISTING DEVICES TO REMAIN
 - DISCONNECT, RELOCATE, EXTEND AS REQUIRED & RECONNECT EXISTING LIGHTS. TO NEW LOCATION TO FACILITATE NEW ROOM CONSTRUCTION. REMOVE EXISTING SWITCH AND PROVIDE NEW OCCUPANCY SENSOR AS SHOWN.
 - NEW LOCATION OF RELOCATED LIGHT.
 - PROVIDE NEW LIGHT: LITHONIA # 2419-232-AR-MVOLT-GE8101S OR PRIOR APPROVED EQUAL. CONNECT TO EXISTING LIGHTING CIRCUIT AND PROVIDE NEW OCCUPANCY SENSOR AS SHOWN.
 - PROVIDE NEW RECEPTACLES AS SHOWN. PROVIDE WIRING AS SPECIFIED IN GENERAL NOTE "E" ON THIS SHEET & CONNECT TO NEW EMERGENCY PANEL "S" IN 2ND FLOOR M.L.S. SERVER ROOM. PROVIDE NEW 20A-1P BREAKER IN PANEL AND LABEL CIRCUIT.
 - DISCONNECT & RELOCATE EXISTING LIGHT INTO NEW CEILING. EXTEND AS REQUIRED & RECONNECT LIGHT TO EXISTING LIGHTING CIRCUIT AND SWITCHING. LIGHTS ARE SHOWN IN THEIR NEW LOCATIONS. COORDINATE LIGHTING LOCATIONS WITH MECHANICAL.
 - DISCONNECT, RELOCATE, EXTEND AS REQUIRED & RECONNECT EXISTING FIRE ALARM TO EXISTING CIRCUIT.
 - NEW LOCATION OF RELOCATED FIRE ALARM. MOUNT AS CLOSE TO CEILING AS POSSIBLE
 - DISCONNECT, RELOCATE, & RECONNECT EXISTING DEVICE INTO NEW CEILING AT SAME LOCATION.
 - PROVIDE NEW RECESSED 54 SPACE, 200A, 3Ø, 4W, TOP FEED, MAIN LUG, 10 KAIC RATED EMERGENCY PANEL "S". PROVIDE (4) #3Ø, (1) #4 GRD., 2" C AND CONNECT TO EXISTING PANEL "S1"
 - PROVIDE NEW SURFACE MOUNTED 54 SPACE, 400A, 3Ø, 4W, TOP FEED, MAIN LUG, 10KAIC RATED PANEL "A". PROVIDE (4) #5Ø, (1) #1Ø GRD., 3 1/2" C. CONNECT TO NEW SWITCHGEAR PANEL "DP1" (4350'01). IN ELECT. ROOM IN BASEMENT. SEE POWER RISER THIS SHEET. SEE SHEET E1.1 & E1.3 FOR ROUTING (FIELD VERIFY DISTANCE & CLEARANCES).
 - DISCONNECT AND REMOVE
 - PROVIDE NEW CARD READER STATION

NOTES:
120/208V, 3Ø, 4W, S/N 2,500 AMP CT CABINET, CTS, AND METER SHALL BE PURCHASED BY ELECT. CONTRACTOR. UTILITIES WILL CONNECT CTS AND METER IN CABINET AND PROVIDE AND INSTALL TRANSFORMER. TRANSFORMER PAD BY ELECT. CONTRACTOR. ELECTRICAL CONTRACTOR SHALL PROVIDE AND INSTALL ALL CONDUCTORS FROM CT CABINET TO TRANSFORMER BUSHINGS AND FROM CT CABINET TO BLDG. SERVICE.
CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TEMPORARY SERVICE AS REQUIRED DURING CONSTRUCTION.

UTILITIES
PRIMARY POWER BY UTILITIES

2,500 AMP, 120/208V, 3Ø, 4W, S/N POWER RISER
NOT TO SCALE

(7) SETS PARALLEL 4" CONDUITS - 24 UNDERGROUND WITH (4) SETS PARALLEL. REMAINING INSTALLED EXTRA CONDUITS INSTALLED FOR 2500 AMP FUTURE LOAD



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WEB SITE: www.arimn.com

704 EAST HOWARD STREET
 HIBBING, MINNESOTA 55746
 PHONE: 218-263-6868
 FAX: 218-722-6803
 EMAIL: archres@arimn.com

126 EAST SUPERIOR STREET
 DULUTH, MINNESOTA 55802
 PHONE: 218-727-8481
 FAX: 218-727-8483
 EMAIL: archres@cpinternet.com

DULUTH CITY HALL MIS UPGRADES

DULUTH, MINNESOTA

PROJECT NO. 11-047

DATE 16-APRIL-12

DRAWN LKS

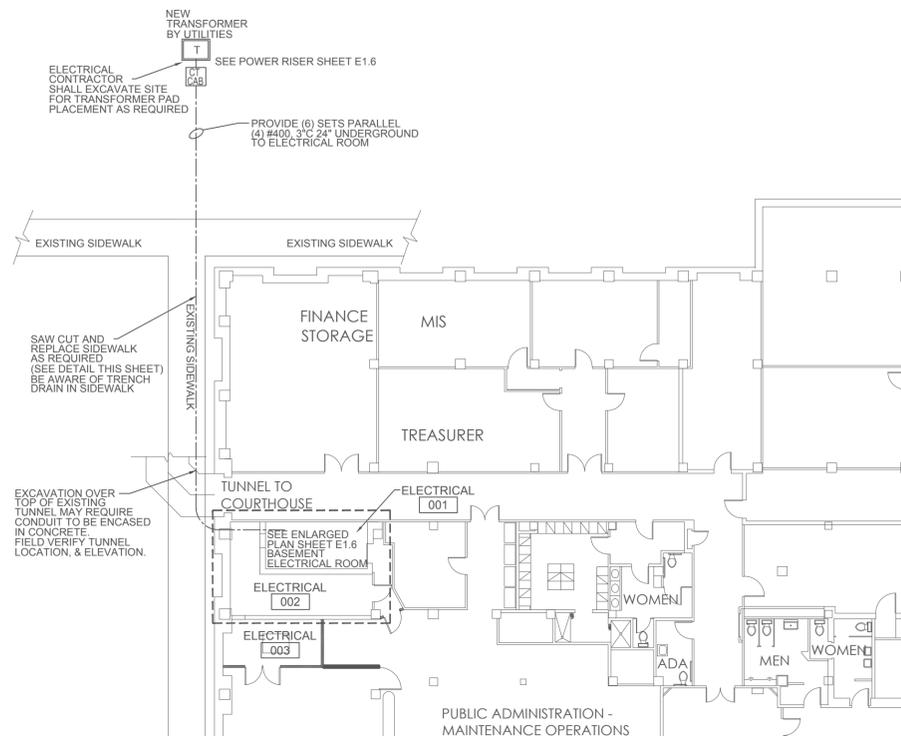
REVISIONS

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

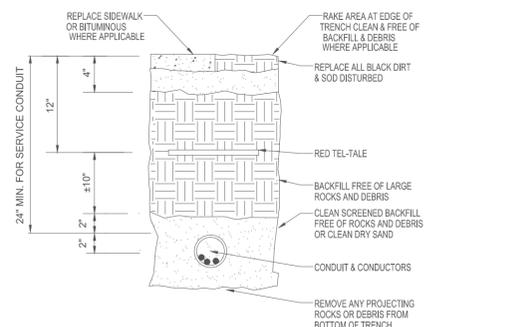
David Jordan
 DAVID JORDAN 42696
 ELECTRICAL ENGINEER REG. NO.

ELECTRICAL ROOF PLAN, SITE PLAN, & DETAILS

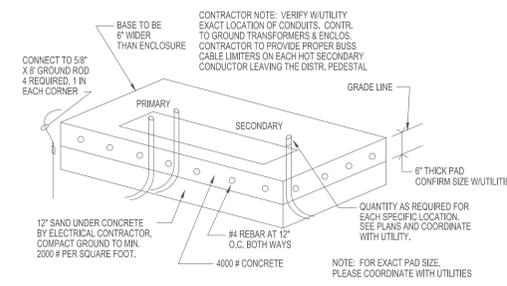
E 1.7



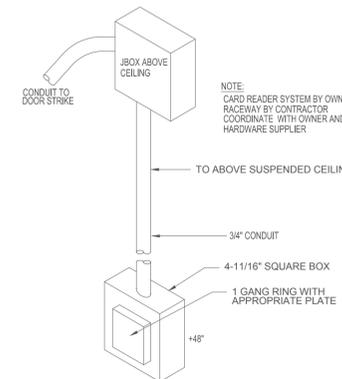
ELECTRICAL SITE PLAN



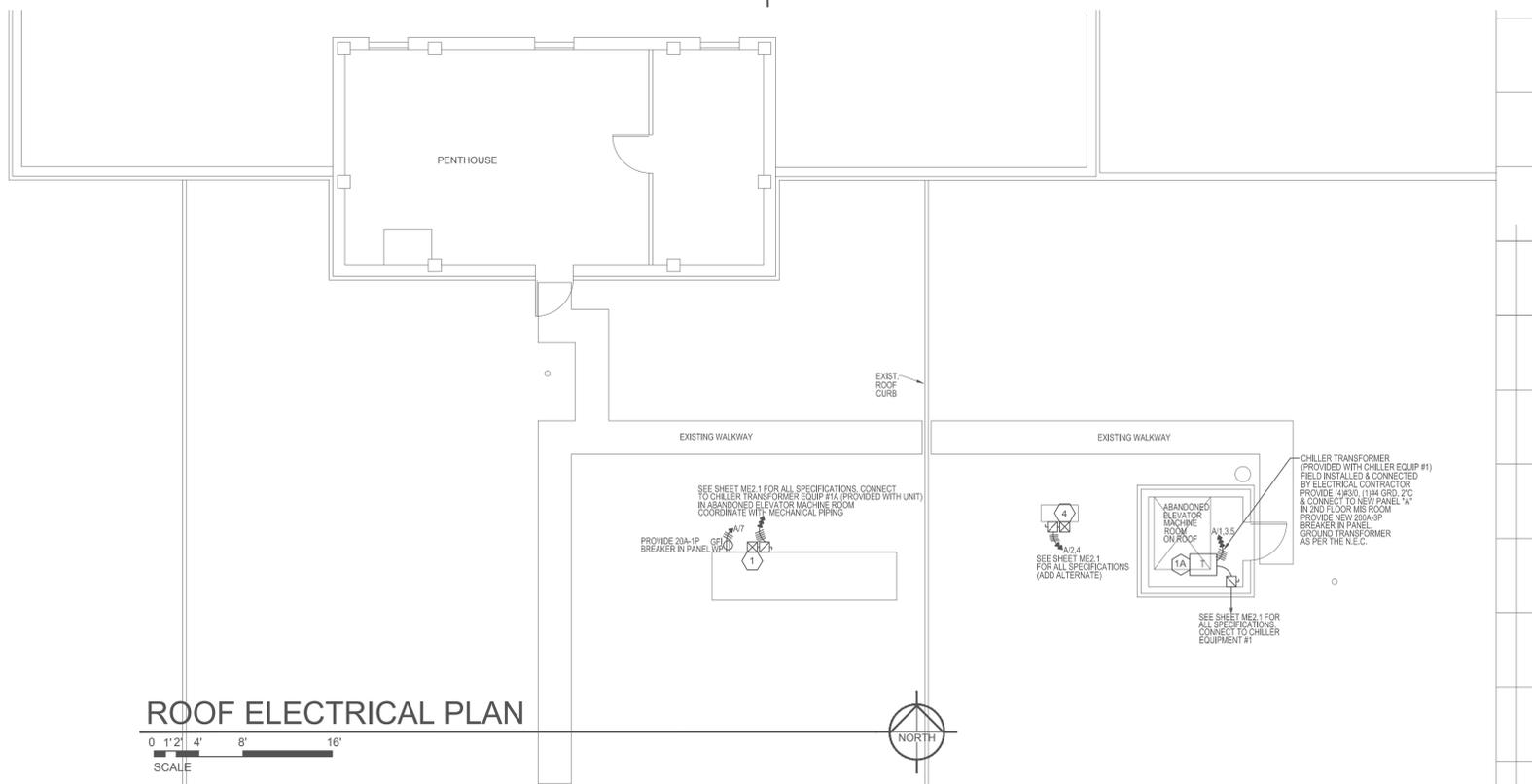
TYPICAL TRENCH SECTION 1 E1.7



TRANSFORMER AND CT CABINET PAD DETAIL 2 E1.7



CARD READER DETAIL 3 E1.7



ROOF ELECTRICAL PLAN

