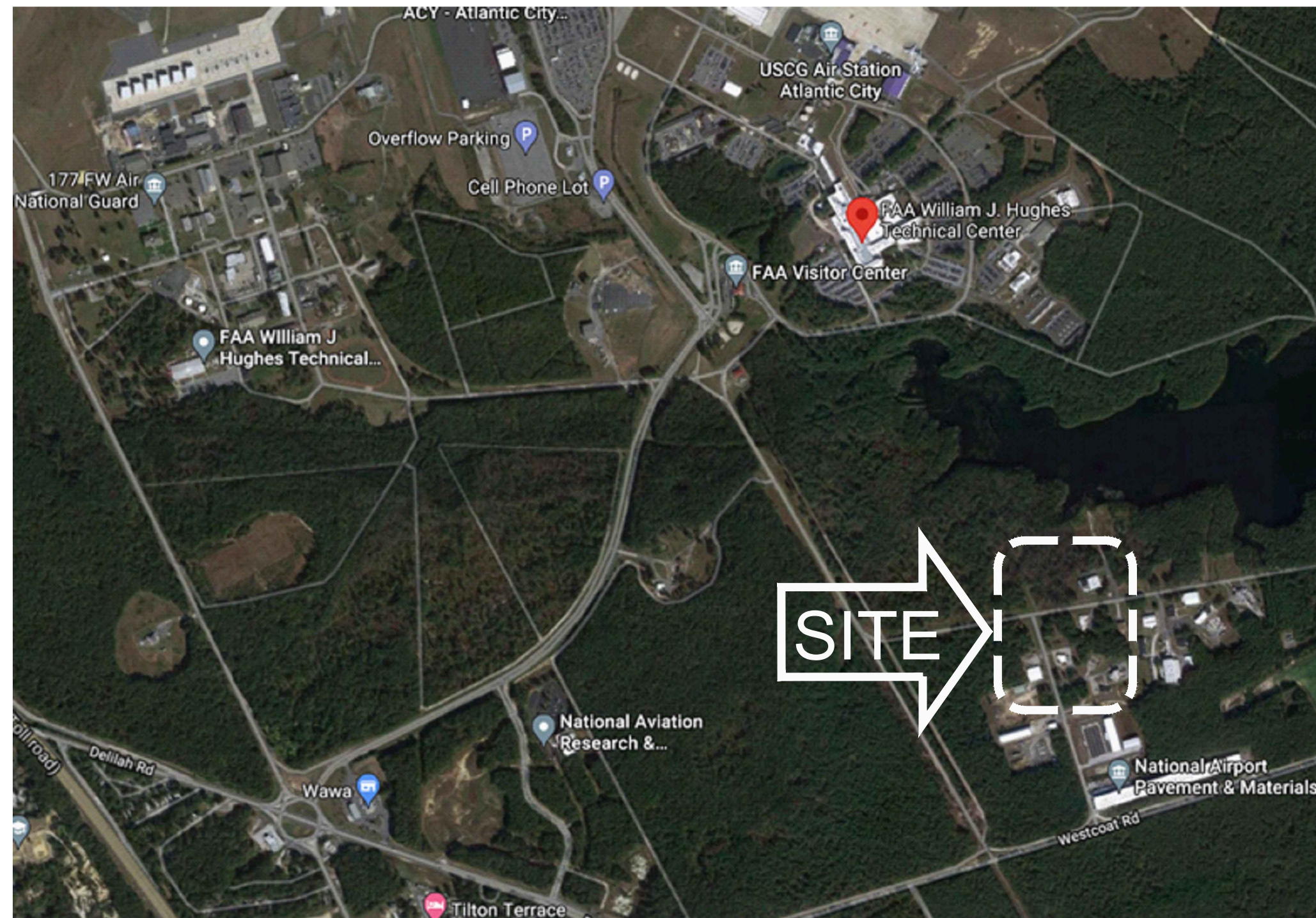


# **FIRE SAFETY BRANCH CALIBRATION LABORATORY BUILDING NO. 202 - SUSTAINMENT**

## **WILLIAM J. HUGHES TECHNICAL CENTER, ATLANTIC CITY AIRPORT, NEW JERSEY**

PROJECT NUMBER: F2021017  
TASK ORDER NUMBER: FAA TO #17



VICINITY MAP



LOCATION MAP



# **AECOM**

ARCHITECTS AND SMEP ENGINEERS  
1255 BROAD ST., SUITE 201, CLIFTON, NJ 07013  
PHONE NO. 973 883 8500  
FAX NO. 973 883 8501

**AUGUST 31, 2023  
FINAL SUBMISSION**



LIST OF DRAWINGS		12/21/2021 – 35% SUBMITTAL	02/25/2022 – 100% SUBMITTAL	05/20/2022 – INTERIM SUBMISSION	07/29/2022 – BID SUBMISSION	08/31/2023 – FINAL SUBMISSION
COVER SHEET		●	●	●	●	●
GENERAL SHEETS						
G0.00	DRAWINGS LIST	●	●	●	●	●
CIVIL SHEETS						
C0.01	GENERAL NOTES AND CIVIL ABBREVIATIONS/LEGEND		●	●	●	●
C1.00	EXISTING CONDITIONS & DEMOLITION PLAN			●	●	●
C1.00A	EXISTING CONDITIONS & DEMOLITION PLAN – DRIVEWAY ENTRANCE				●	●
C1.01	CIVIL SITE PLAN	●	●	●	●	●
C1.01A	CIVIL SITE PLAN – DRIVEWAY ENTRANCE				●	●
C2.01	GRADING PLAN		●	●	●	●
C2.01A	GRADING PLAN – DRIVEWAY ENTRANCE				●	●
C3.01	SOIL EROSION, SEDIMENT CONTROL, AND CIVIL DETAILS		●	●	●	●
C3.01A	SOIL EROSION, SEDIMENT CONTROL, AND CIVIL DETAILS – DRIVEWAY ENTRANCE				●	●
C3.02	BUILDING 202A DETAILS – SHEET 1				●	●
C3.03	BUILDING 202A DETAILS – SHEET 2				●	●
ARCHITECTURAL SHEETS						
A0.00	GENERAL NOTES, SYMBOLS & ABBREVIATIONS		●	●	●	●
A1.00	FLOOR PLAN – HOUSEKEEPING CONCRETE PAD		●	●	●	●
A1.01	REFLECTED CEILING PLAN	●	●	●	●	●
A2.00	DEMOLITION: ROOF PLAN	●	●	●	●	●
A2.01	PROPOSED ROOF PLAN	●	●	●	●	●
A3.00	ROOF DETAILS		●	●	●	●
MECHANICAL SHEETS						
M0.01	MECHANICAL GENERAL NOTES AND SHEET INDEX	●	●	●	●	
M0.02	MECHANICAL SYMBOLS AND ABBREVIATIONS	●	●	●	●	
MD1.01	MECHANICAL DUCTWORK DEMOLITION PLAN	●	●	●	●	
MD2.01	MECHANICAL PIPING DEMOLITION PLAN	●	●	●	●	
M1.01	MECHANICAL PLAN	●	●	●	●	
M1.02	MECHANICAL ROOF PLAN	●	●	●	●	
M4.01	MECHANICAL SCHEDULES	●	●	●	●	
M5.01	MECHANICAL DETAILS – 1	●	●	●	●	
M5.02	MECHANICAL DETAILS – 2	●	●	●	●	
M8.01	MECHANICAL CONTROLS DIAGRAMS – 1	●	●	●	●	
M8.02	MECHANICAL CONTROLS DIAGRAMS – 2	●	●	●	●	
ELECTRICAL SHEETS						
E0.01	GENERAL NOTES, SYMBOLS AND ABBREVIATIONS	●	●	●	●	●
ED1.01	DEMOLITION: POWER PLAN	●	●	●	●	●
ED2.01	DEMOLITION: LIGHTING PLAN	●	●	●	●	●
ED3.01	DEMOLITION: LIGHTNING PROTECTION PLAN	●	●	●	●	●
ED4.01	DEMOLITION: SITE PLAN	●	●	●	●	●
ED5.01	DEMOLITION: ONE–LINE DIAGRAM	●	●	●	●	●
E1.01	CONSTRUCTION: POWER PLAN	●	●	●	●	●
E2.01	CONSTRUCTION: LIGHTING PLAN	●	●	●	●	●
E3.01	CONSTRUCTION: LIGHTNING PROTECTION PLAN	●	●	●	●	●
E4.01	CONSTRUCTION: SITE PLAN	●	●	●	●	●
E5.01	CONSTRUCTION: ONE–LINE DIAGRAM	●	●	●	●	●
E6.01	LIGHTING DETAILS	●	●	●	●	●
E6.02	LIGHTNING PROTECTION DETAILS	●	●	●	●	●
FIRE ALARM SHEETS						
FA0.01	GENERAL NOTES, SYMBOLS AND ABBREVIATIONS	●	●	●	●	●
FA0.02	FIRE ALARM NOTES	●	●	●	●	●
FAD1.01	DEMOLITION: FIRE ALARM PLAN	●	●	●	●	●
FA1.01	CONSTRUCTION: FIRE ALARM PLAN	●	●	●	●	●
PLUMBING/FIRE PROTECTION SHEETS						
P0.01	PLUMBING GENERAL NOTES SYMBOLS AND ABBREVIATIONS	●	●	●	●	
PD1.01	PLUMBING FIRST FLOOR DEMOLITION PLAN	●	●	●	●	
P1.01	PLUMBING FIRST FLOOR NEW WORK PLAN	●	●	●	●	
P1.02	PLUMBING FIRST FLOOR ROOF PLAN				●	
P2.01	PLUMBING RISERS		●	●	●	
P3.01	PLUMBING DETAILS		●	●	●	

<div><div>AECOM</div><div>1255 Broad Street, Suite 201 Clifton, NJ 07013-8591 tel. (973) 883-8500 www.aecom.com</div></div>		STAMP	
ARCHITECT/ENGINEER #:			
0	08/31/23	FINAL SUBMISSION	
REV	DATE	DESCRIPTION	CHECK APRV'D
UNITED STATES DEPARTMENT OF TRANSPORTATION FEDERAL AVIATION ADMINISTRATION WILLIAM J. HUGHES TECHNICAL CENTER ATLANTIC CITY INT'L AIRPORT, N.J. 08405			
BUILDING 202 SUSTAINMENT		FACILITY	
DRAWINGS LIST			
REVIEWED BY	SUBMITTED BY	DATE	APPROVED BY DATE
			Michael Roselli ANG–E342
			DATE: 08/31/2023 JCN:
APPROVAL (FINISHES)	DESIGN: RG	ISSUED BY:	DRAWING NO.
	DRAWN: RG	FACILITY SERVICES & ENGINEERING DIVISION	F2021017–G0.00
	CHECK: GA		SHEET # 02 OF 53



GENERAL CONSTRUCTION NOTES:

1. HORIZONTAL DATUM: NEW JERSEY STATE PLANE COORDINATE SYSTEM, NAD83. VERTICAL DATUM: NAVD88.
2. BASE FILES WERE PROVIDED BY FEDERAL AVIATION ADMINISTRATION (FAA) AND CONTAIN VARIOUS SOURCES. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY ALL EXISTING CONDITIONS AT THE SITE. IF DISCREPANCIES ARE FOUND NOTIFY THE CONTRACTING OFFICER REPRESENTATIVE (COR) AND WAIT FOR A REPLY BEFORE PROCEEDING.
3. THIS PROJECT MUST BE CONSTRUCTED IN ACCORDANCE WITH THE CONTRACT PLANS AND SPECIFICATIONS AND ANY RULES, REGULATIONS, STANDARDS REFERENCED THEREIN. THIS PROJECT IS SUBJECT TO INSPECTION BY REPRESENTATIVES OF THE FAA AND OTHER GOVERNING AGENCIES.
4. LABELED DIMENSIONS WHERE SHOWN TAKE PRECEDENCE OVER SCALED MEASUREMENTS.
5. THE CONTRACTOR MUST BE RESPONSIBLE FOR ALL DAMAGE OR INJURY TO PROPERTY OF ANY CHARACTER, DURING THE EXECUTION OF THE WORK, RESULTING FROM ANY OMISSION, NEGLIGENCE OR MISCONDUCT IN MANNER OR METHOD OF EXECUTING THE WORK OR AT ANYTIME DUE TO DEFECTIVE WORK OR MATERIALS.
6. AREAS WITHIN AND OUTSIDE THE LIMITS OF PROPOSED WORK THAT ARE DISTURBED BY THE CONTRACTOR'S OPERATIONS MUST BE RESTORED BY THE CONTRACTOR TO THE ORIGINAL CONDITION AT THE CONTRACTOR'S EXPENSE.
7. THE CONTRACTOR MUST PROVIDE AN ADEQUATE NUMBER OF WATER TRUCKS TO CONTROL DUST IN THE PROJECT WORK AREA, STAGING AREA, STORAGE AREAS, HAUL ROUTES AND THE WASTE SITE.
8. IN ACCORDANCE WITH THE SPECIFICATIONS, FEDERAL WAGE RATES MUST BE POSTED OUTSIDE THE SITE FIELD OFFICE(S) IN A WEATHERPROOF ENCLOSURE.
9. ALL EXCESS EXCAVATED SOILS ARE TO REMAIN THE PROPERTY OF THE FAA. CONTRACTOR MUST HAUL ALL EXCESS SOILS TO A LOCATION ON THE FAA TECHNICAL CENTER PROPERTY AS DESIGNATED BY THE COR. THE CONTRACTOR MUST BE REQUIRED TO PROVIDE SOIL STABILIZATION (SEEDING AND MULCHING) IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS.
10. ALL AREAS DISTURBED BY THE CONTRACTOR MUST BE FINE GRADED TO EXISTING CONTOUR AND SEEDED.
11. CONTRACTOR MUST INSTALL SOIL EROSION AND SEDIMENT CONTROL MEASURES BEFORE ANY CONSTRUCTION BEGINS.
12. THE PROJECT IS ADJACENT TO WETLAND AREA. THE CONTRACTOR MUST PREVENT THE FLOW OF SEDIMENT FROM THE CONSTRUCTION SITE SO AS TO PREVENT DAMAGE TO ANY STREAM OR WETLANDS.
13. EXISTING TREES, BUSHES, AND SHRUBS MUST BE PROTECTED BY THE CONTRACTOR FROM ALL DAMAGE UNLESS IN DIRECT CONFLICT WITH PROPOSED WORK.

SAFETY AND SECURITY NOTES:

1. ALL TEMPORARY TRAFFIC CONTROL WORK MUST CONFORM TO THE LATEST EDITION OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MUTCD) AND ALL REVISIONS. PROVIDE ALL TRAFFIC CONTROL DEVICES AS REQUIRED.
2. PRIOR TO COMMENCING WORK THE CONTRACTOR MUST FURNISH AND ERECT ALL TEMPORARY TRAFFIC CONTROL, SUCH AS TO EFFECTIVELY PREVENT ACCIDENTS IN ALL PLACES WHERE THE WORK CAUSES OBSTRUCTIONS TO NORMAL TRAFFIC.
3. THE CONTRACTOR MUST COORDINATE WITH THE COR ABOUT THE SIZE AND LOCATION OF STAGING AREA.
4. THE CONTRACTOR MUST DESIGNATE A SAFETY COORDINATOR AT THE WORK AREA.
5. THE CONTRACTOR MUST BE RESPONSIBLE FOR PROVIDING ALL NECESSARY PROTECTIVE GEAR AND EQUIPMENT REQUIRED FOR THE PROTECTION OF THE CONTRACTOR'S PERSONNEL DURING CONSTRUCTION.
6. THE CONTRACTOR MUST INSPECT ALL CONSTRUCTION AND STORAGE AREAS AS OFTEN AS NECESSARY AND PROMPTLY TAKE ALL STEPS NECESSARY TO PREVENT OR REMEDY ANY UNSAFE OR POTENTIALLY UNSAFE CONDITIONS OR ACTIVITIES DISCOVERED.
7. CONTRACTOR TO USE CAUTION WHEN WORKING AROUND AND BELOW OVERHEAD ELECTRIC LINES.
8. ALL CONTRACTOR VEHICLES MUST REMAIN WITHIN THE DESIGNATED LIMIT OF DISTURBANCE, UNLESS OTHERWISE AUTHORIZED.
9. SITE SECURITY FOR THE CONSTRUCTION AREA MUST BE PROVIDED AND MAINTAINED BY THE CONTRACTOR.

PROJECT COORDINATION:

1. CONTRACTOR COORDINATION - CONSTRUCTION AND MAINTENANCE OPERATIONS BY OTHERS MAY OCCUR CONCURRENTLY AND IN THE VICINITY OF CONSTRUCTION ASSOCIATED WITH THIS PROJECT. THE CONTRACTOR MUST COORDINATE OPERATIONS AND COOPERATE WITH MAINTENANCE CREWS AND OTHER CONTRACTORS WORKING ON THE FAA PROPERTY.
2. COORDINATION WITH THE FAA FIRE INSPECTORS, VIA THE COR:
  - 2.1. THE CONTRACTOR MUST COMPLY WITH NEW JERSEY FIRE LAWS, NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) 1 - UNIFORM CODE, CHAPTER 16, 'SAFETY DURING CONSTRUCTION AND DEMOLITION OPERATIONS' (CURRENT ADDITIONS) AND CHAPTER 21, 'AIRPORTS'.
  - 2.2. HYDRANT USE MUST BE COORDINATED WITH THE COR PRIOR TO CONNECTION TO ANY FIRE HYDRANT.
  - 2.3. BLASTING IS NOT ALLOWED.
3. UPON COMPLETION OF WORK AND RETURN OF ALL RELATED AREAS TO STANDARD CONDITIONS, THE CONTRACTOR MUST NOTIFY THE COR (IN WRITING) AND DESCRIBE THE AREA THAT IS COMPLETE AND AVAILABLE FOR NORMAL OPERATIONS.
4. COORDINATION WITH THE FAA HAZARDOUS WASTE SPECIALIST IS REQUIRED PRIOR TO HAULING ANY HAZARDOUS WASTE OFF SITE.

UTILITIES

1. CONTRACTOR MUST MAINTAIN ALL EXISTING UTILITIES IN GOOD WORKING ORDER AND MUST PROTECT THEM FROM DAMAGE AT ALL TIMES UNTIL THE WORK IS COMPLETED AND ACCEPTED.
  - 1.1 WHEN WORKING NEAR OR CROSSING A KNOWN UNDERGROUND UTILITY LINE, THE CONTRACTOR MUST HAND DIG AROUND THE LINE TO EXPOSE IT AND VERIFY ITS EXACT LOCATION AND DEPTH. WHENEVER UTILITIES ARE EXPOSED, THE CONTRACTOR IS TO NOTIFY THE FAA WHO WILL GIS (GEOGRAPHIC INFORMATION SYSTEMS) THE LOCATION AND DEPTH THE SAME DAY THEY ARE NOTIFIED.
  - 1.2 THE CONTRACTOR MUST BE RESPONSIBLE FOR THE REPLACEMENT OF ALL UTILITY STRUCTURES THAT ARE DAMAGED OR DISTURBED AS A RESULT OF ITS OPERATIONS.
  - 1.3 ALL EXISTING UTILITY STRUCTURES TO REMAIN MUST BE ADJUSTED TO FINAL GRADE.
2. THE APPROXIMATE LOCATIONS OF KNOWN UNDERGROUND UTILITIES ARE SHOWN ON THE PLANS AND ARE NOT WARRANTED. THE CONTRACTOR MUST FIELD VERIFY THE EXACT LOCATION OF UTILITIES PRIOR TO THE START OF CONSTRUCTION. IN THE EVENT THAT THE CONTRACTOR DAMAGES A UTILITY, THE COR MUST BE NOTIFIED IMMEDIATELY. THE REPAIR MUST BE STARTED IMMEDIATELY AND CONTINUED UNTIL SERVICE HAS BEEN FULLY RESTORED AND THE REPAIRS ARE COMPLETE. ALL SUCH REPAIRS MUST BE AT THE CONTRACTOR'S EXPENSE AND MUST BE INSPECTED AND APPROVED BY THE COR AND THE UTILITY OWNER PRIOR TO BACKFILL BY THE CONTRACTOR.
  - 2.1 CONTRACTOR MUST NOTIFY THE FAA AND ALLOW A MINIMUM OF SEVEN DAYS TO MAP OUT ITS OWN UTILITIES. ALSO THE CONTRACTOR MUST UTILIZE NEW JERSEY 'ONE-CALL' (811), OR [HTTPS://WWW.NJ1-CALL.ORG/](https://www.nj1-call.org/). CONTRACTOR IS TO PROVIDE OWN MARK-OUT OF LINES.
  - 2.2 FOR FAA UTILITIES, CONTRACTOR IS TO PROVIDE A MINIMUM OF TWO (2) WEEKS NOTICE PRIOR TO IMPACTING SAID CABLES OR LINES. FAA WILL MARK THEIR OWN UTILITIES ONCE. IT MUST BE THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN THE MARK OUTS FOR THE DURATION OF THE PROJECT.
3. UTILITIES NOTIFICATION - AT LEAST TWO WORKING DAYS PRIOR TO COMMENCING CONSTRUCTION OPERATIONS IN AN AREA WHICH MAY INVOLVE UNDERGROUND UTILITIES, THE CONTRACTOR MUST NOTIFY THE COR AND THE OWNER OF EACH UNDERGROUND UTILITY AFFECTED. THE CONTRACTOR MUST IMMEDIATELY NOTIFY THE COR OF ANY UNFORESEEN UNDERGROUND STRUCTURES, UTILITIES, OBSTRUCTIONS OR UNSUITABLE MATERIALS.
4. THE COR MUST BE PROVIDED THE OPPORTUNITY TO INSPECT ALL WORK PRIOR TO BACKFILL. IT IS ANTICIPATED THAT FAA WILL SURVEY GIS POINTS FOR THE LOCATION OF THE NEW UTILITIES. CONTRACTOR TO PROVIDE A MINIMUM OF THREE (3) WORKING DAYS NOTIFICATION FOR THIS EFFORT, AND PRIOR TO BACKFILL.

LEGEND:

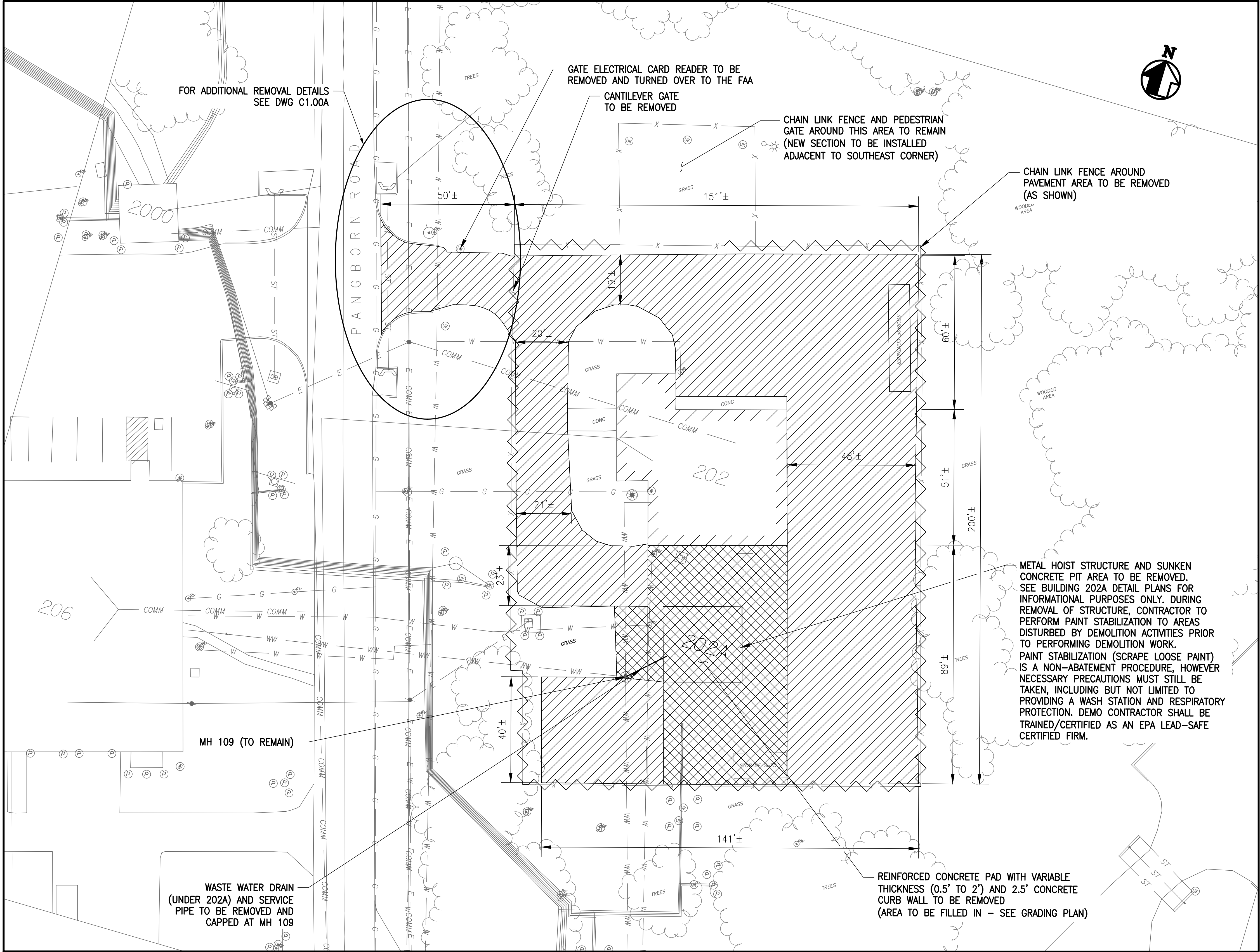
	WOODED AREA / TREE LINE
	EXISTING COMMUNICATION CABLE LINE
	EXISTING STORM SEWER LINE
	EXISTING NATURAL GAS LINE
	EXISTING WASTE WATER LINE
	EXISTING ELECTRICAL LINE
	EXISTING WATER LINE
	EXISTING FENCE
	EXISTING UTILITY POLE
	EXISTING MANHOLE
	EXISTING CATCH BASIN
	EXISTING FIRE HYDRANT
	EXISTING LIGHT POLE
	EXISTING ROAD SIGN
	EXISTING COMMUNICATIONS MANHOLE

ABBREVIATIONS:

ACY	ATLANTIC CITY INTERNATIONAL AIRPORT
ADA	AMERICANS WITH DISABILITIES ACT
COR	CONTRACTING OFFICER REPRESENTATIVE
FAA	FEDERAL AVIATION ADMINISTRATION
GIS	GEOGRAPHIC INFORMATION SYSTEMS
LOD	LIMITS OF DISTURBANCE
MUTCD	MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
WJHTC	WILLIAM J. HUGHES TECHNICAL CENTER

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REV	DATE	DESCRIPTION	CHECK APRV'D
UNITED STATES DEPARTMENT OF TRANSPORTATION FEDERAL AVIATION ADMINISTRATION WILLIAM J. HUGHES TECHNICAL CENTER ATLANTIC CITY INT'L AIRPORT, N.J. 08405			
BUILDING 202 SUSTAINMENT		FACILITY	
GENERAL NOTES AND CIVIL ABBREVIATIONS/LEGEND			
REVIEWED BY	SUBMITTED BY	DATE	APPROVED BY DATE
			Michael Roselli ANG-E342
	DESIGN: MP/CM	ISSUED BY:	DATE: 08/31/2023 JCN:
APPROVAL (FINISHES)	DRAWN: CM	FACILITY SERVICES & ENGINEERING DIVISION	DRAWING NO. SHEET #
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EXISTING CONDITIONS & DEMOLITION PLAN  
SCALE: 1"=20'



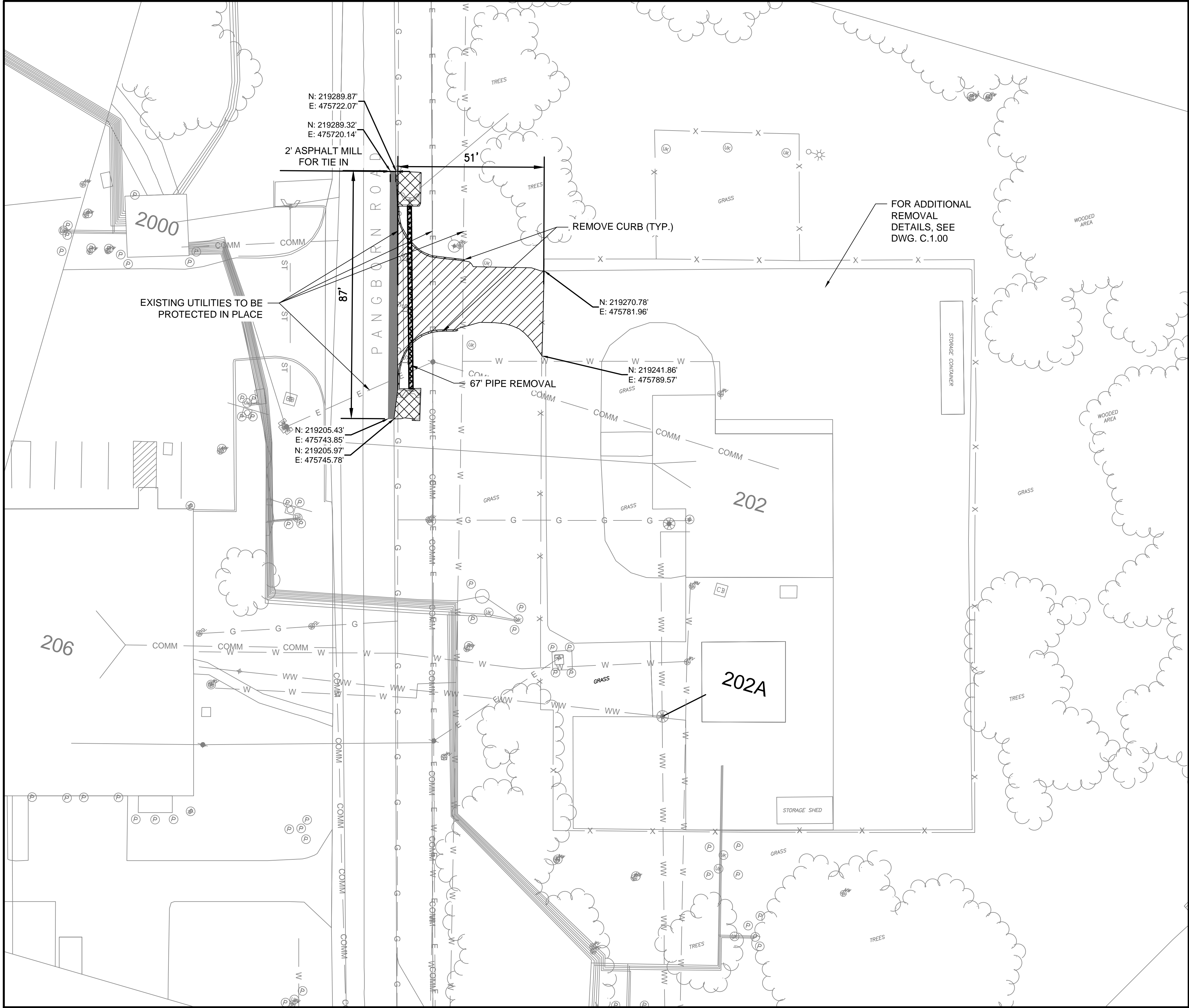
LEGEND

- EXISTING FENCE REMOVAL
- EXISTING ASPHALT REMOVAL
- EXISTING CONCRETE REMOVAL
- EXISTING BUILDING
- UTILITIES

- NOTE:
- REMOVAL OF CHAIN LINK FENCE AND GATES INCLUDES FENCE FABRIC, BARBED WIRE, POSTS, FOUNDATIONS, AND ALL ELECTRICAL COMPONENTS.

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BUILDING 202 SUSTAINMENT			FACILITY
EXISTING CONDITIONS & DEMOLITION PLAN			
REVIEWED BY	SUBMITTED BY	DATE	APPROVED BY
			Michael Roselli ANG-E342
	DESIGN: MP/CM	ISSUED BY:	DATE: 08/31/2023   JCN:
APPROVAL (FINISHES)	DRAWN: CM/MIN	FACILITY SERVICES & ENGINEERING DIVISION	DRAWING NO. F2021017-C1.00
	CHECK: MP		SHEET # 04 of 53





LEGEND

- EXISTING ASPHALT REMOVAL
- EXISTING CONCRETE REMOVAL
- ASPHALT MILLING
- PIPE REMOVAL
- UTILITIES
  - COMM
  - E
  - G
  - ST
  - WW
  - W

NOTE:

1. CONTRACTOR TO VERIFY LOCATION OF EXISTING UTILITIES TO BE PROTECTED IN PLACE.

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UNITED STATES DEPARTMENT OF TRANSPORTATION FEDERAL AVIATION ADMINISTRATION WILLIAM J. HUGHES TECHNICAL CENTER ATLANTIC CITY INT'L AIRPORT, N.J. 08405			
BUILDING 202 SUSTAINMENT			FACILITY
EXISTING CONDITIONS & DEMOLITION PLAN DRIVEWAY ENTRANCE			
REVIEWED BY	SUBMITTED BY	DATE	APPROVED BY
			Michael Roselli ANG-E342
	DESIGN: MJH	ISSUED BY:	DATE: 08/31/2023 JCN:
APPROVAL (FINISHES)	DRAWN: PCD	FACILITY SERVICES & ENGINEERING DIVISION	DRAWING NO. F2021017-C1.00a
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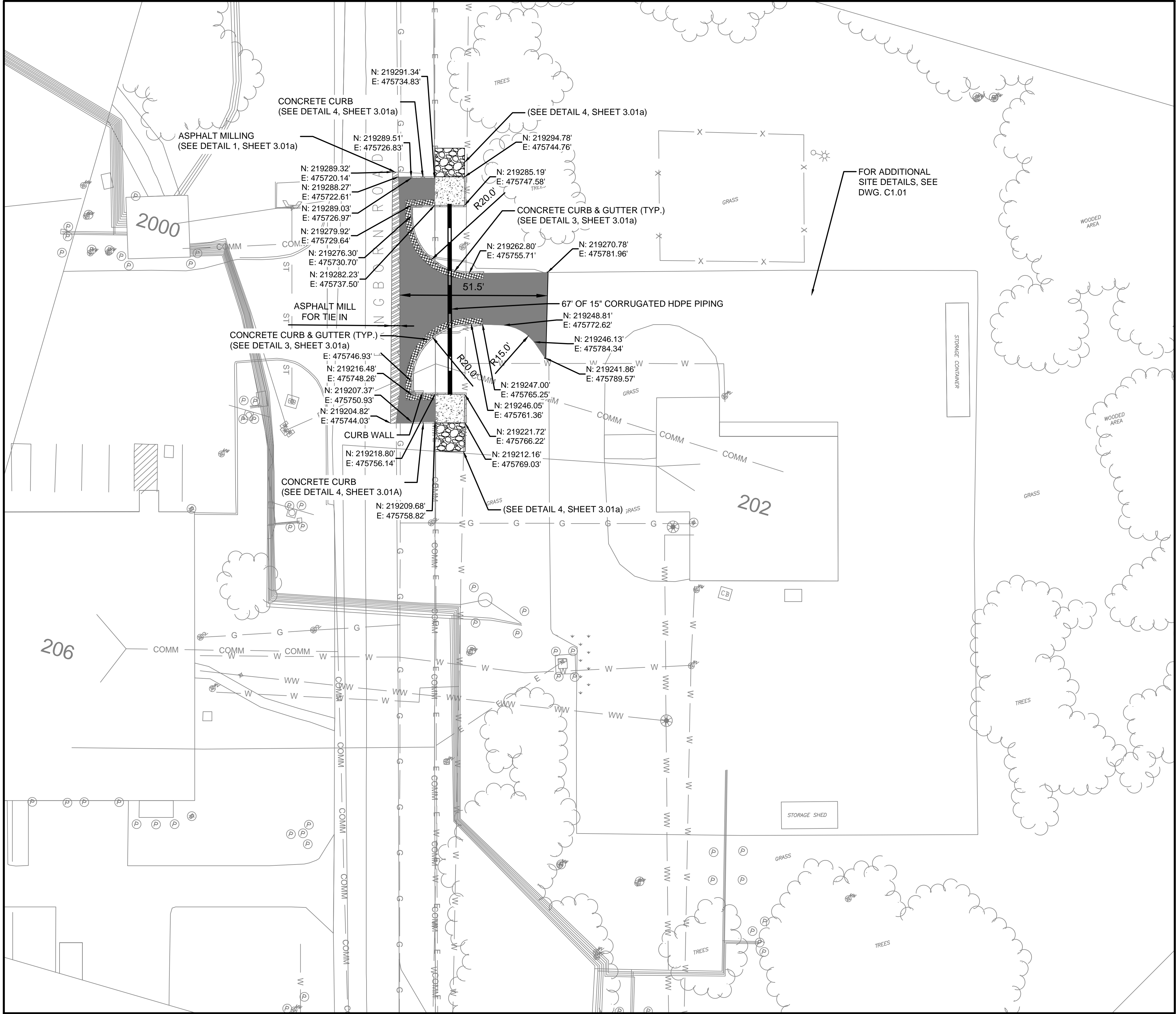
DEMOLITION PLAN  
SCALE: 1"=20'











**SITE PLAN**  
SCALE: 1"=20'



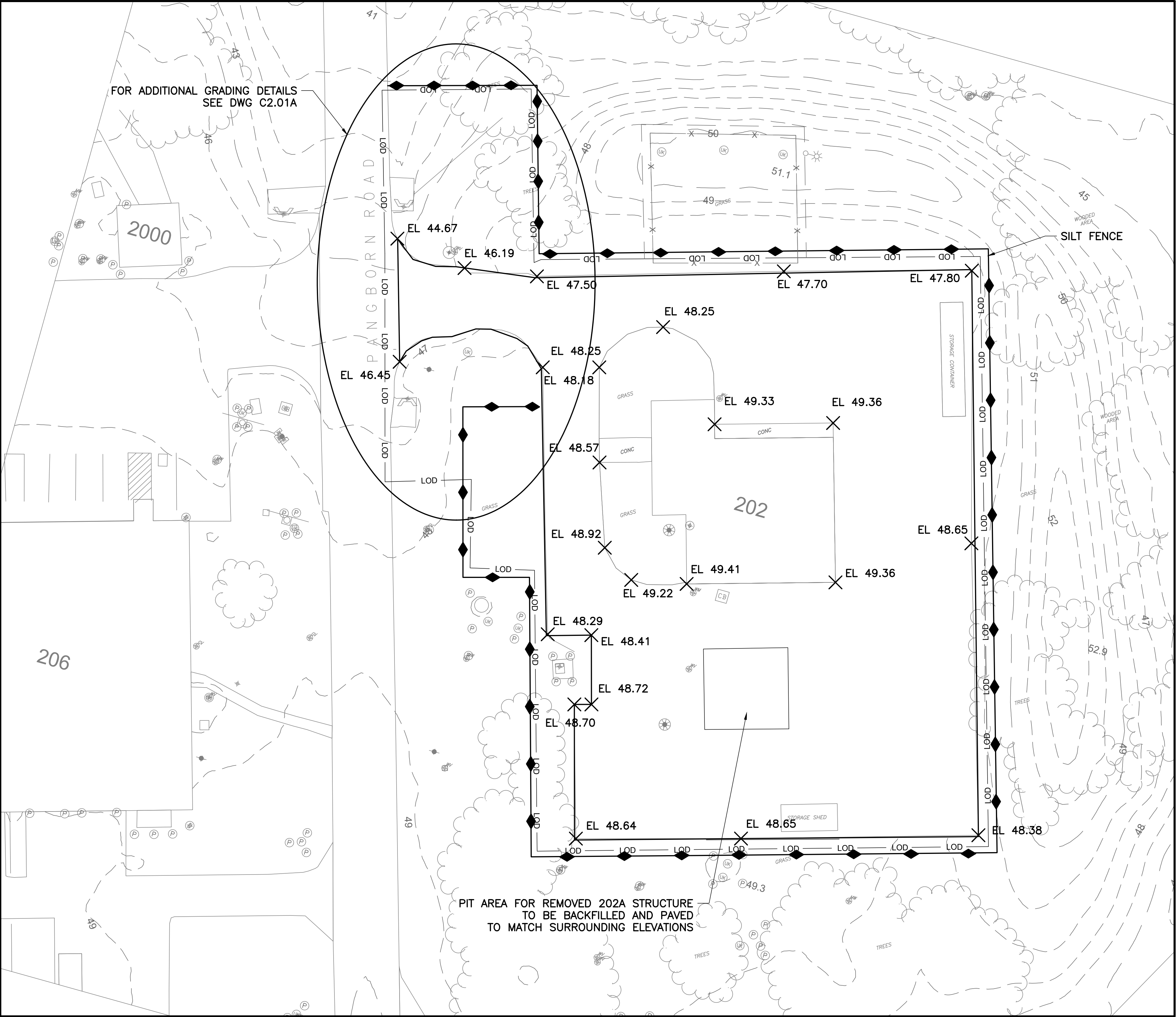
**LEGEND**

- PROPOSED ASPHALT PAVEMENT
- ASPHALT MILLING OVERLAY
- RIP RAP
- CONCRETE CURB
- CONCRETE SPILLWAY
- CORRUGATED HDPE PIPING
- CONCRETE CURB & GUTTER

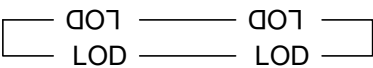
- GENERAL NOTES:
- FOR TURF RESTORATION, SEE DETAIL ON SHEET C1.01
  - FOR PAVEMENT SECTION, SEE DETAIL ON SHEET C1.01

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BUILDING 202 SUSTAINMENT			FACILITY
CIVIL SITE PLAN – DRIVEWAY ENTRANCE			
REVIEWED BY	SUBMITTED BY	DATE	APPROVED BY
			Michael Roselli ANG-E342
	DESIGN: MJH	ISSUED BY:	DATE: 08/31/2023 JCN:
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			SHEET #
			07 OF 53





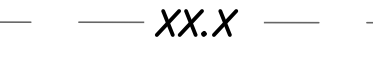
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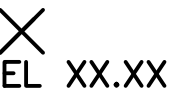
PROJECT LIMITS OF DISTURBANCE



SILT FENCE



EXISTING CONTOURS



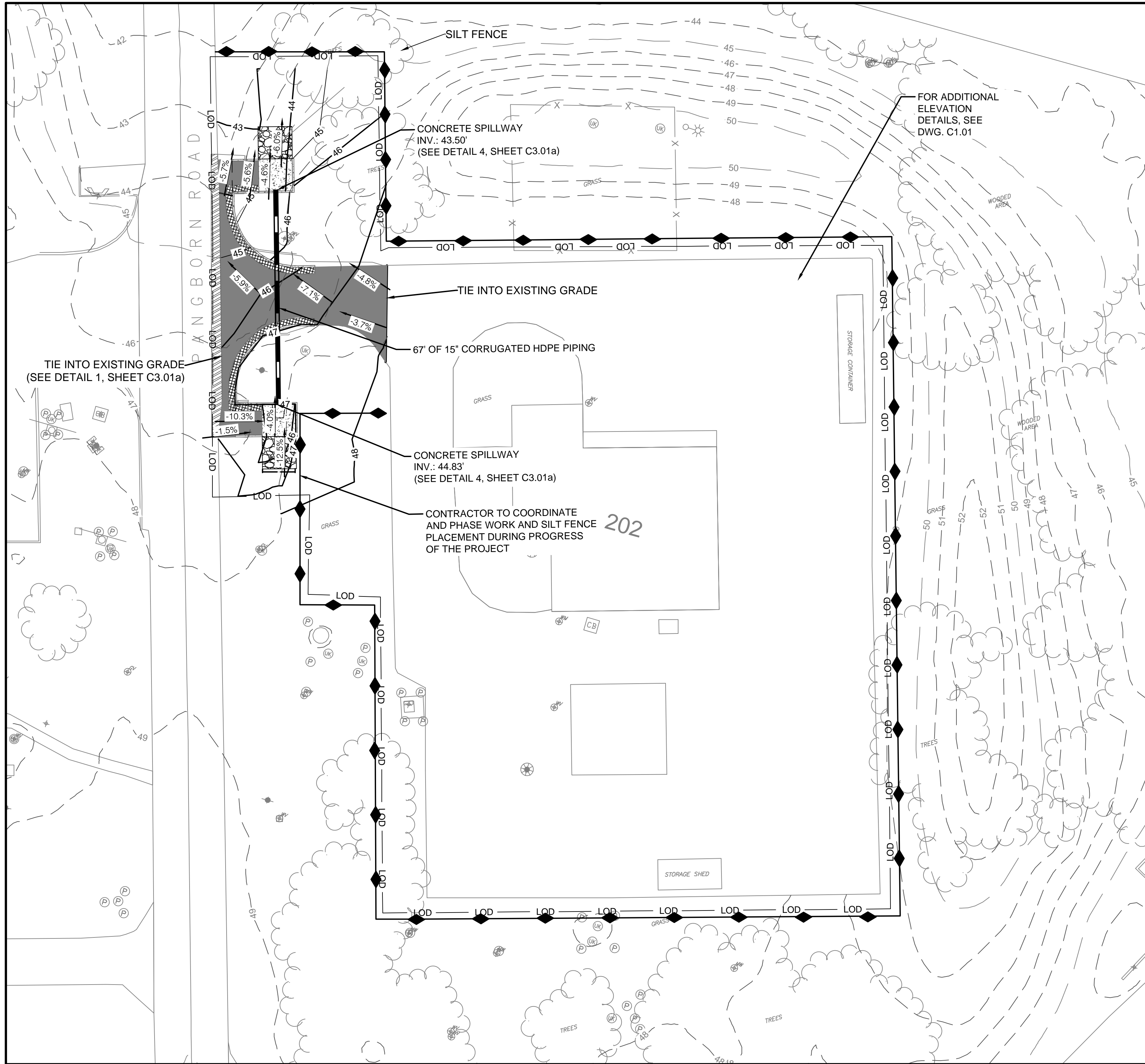
PROPOSED SPOT ELEVATIONS

NOTE:

1. CONTRACTOR IS RESPONSIBLE TO VERIFY ALL ELEVATIONS PRIOR TO PAVING. FINAL GRADING SHALL BE UNIFORM WITH SPOT ELEVATIONS. PROPOSED ELEVATIONS TO MATCH EXISTING ELEVATIONS.

AECOM			
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UNITED STATES DEPARTMENT OF TRANSPORTATION FEDERAL AVIATION ADMINISTRATION WILLIAM J. HUGHES TECHNICAL CENTER ATLANTIC CITY INT'L AIRPORT, N.J. 08405			
BUILDING 202 SUSTAINMENT			FACILITY
GRADING PLAN			
REVIEWED BY	SUBMITTED BY	DATE	APPROVED BY DATE
			Michael Roselli ANG-E342
	DESIGN: MP/CM	ISSUED BY:	DATE: 08/31/2023 JCN:
APPROVAL (FINISHES)	DRAWN: CM/MN	FACILITY SERVICES & ENGINEERING DIVISION	DRAWING NO. SHEET #
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LEGEND:

- 001

LOD

001

LOD

PROJECT LIMITS OF DISTURBANCE
- SILT FENCE
- CORRUGATED HDPE PIPING
- XX

EXISTING MAJOR CONTOURS
- XX

EXISTING MINOR CONTOURS

GRADING PLAN

SCALE: 1"=20'



NOTE:

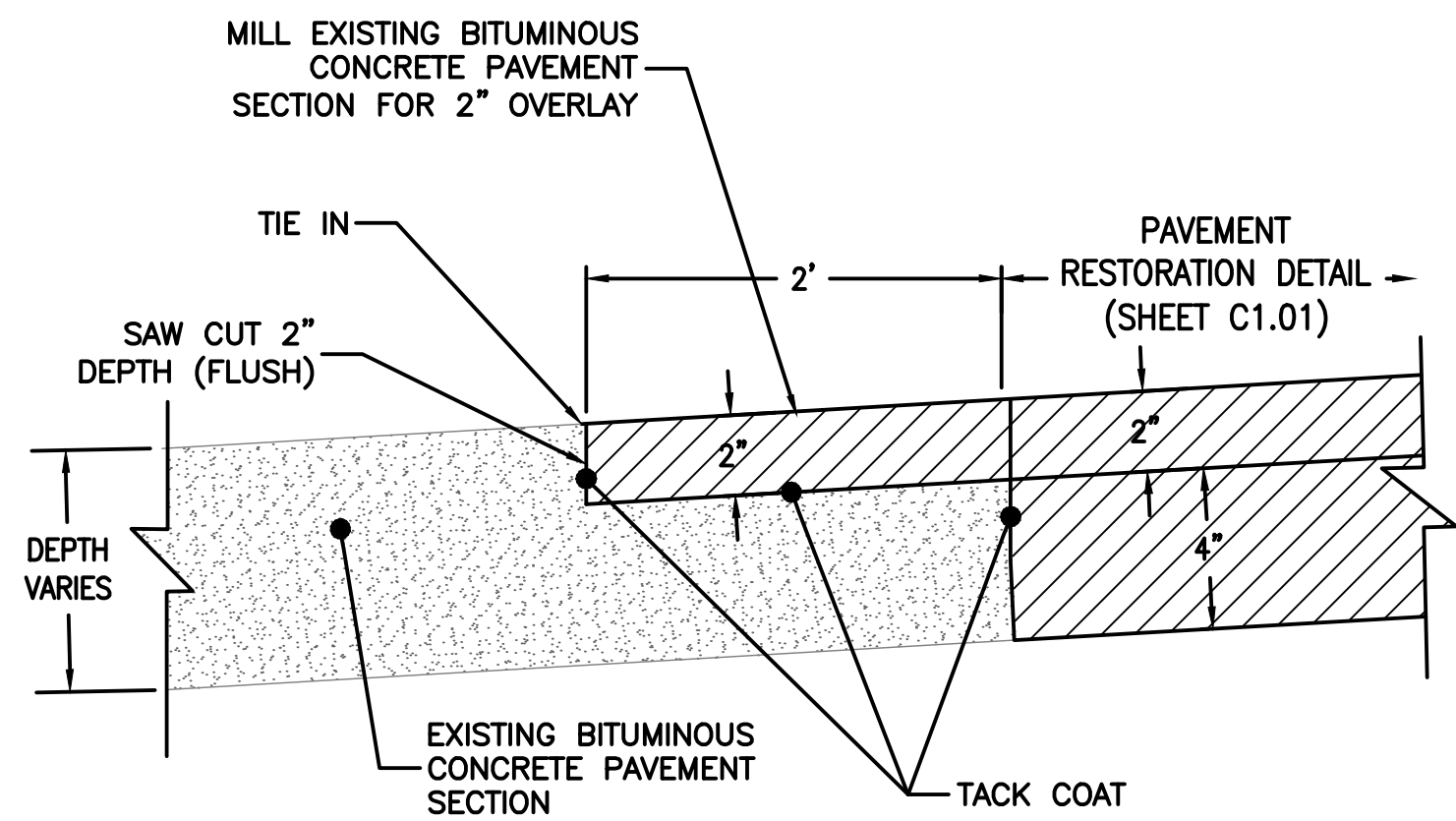
1. CONTRACTOR IS RESPONSIBLE TO VERIFY ALL ELEVATIONS PRIOR TO PAVING. FINAL GRADING SHALL BE UNIFORM WITH SPOT ELEVATIONS.

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BUILDING 202 SUSTAINMENT			FACILITY
GRADING PLAN – DRIVEWAY ENTRANCE			
REVIEWED BY	SUBMITTED BY	DATE	APPROVED BY
			Michael Roselli ANG-E342
	DESIGN: MJH	ISSUED BY:	DATE: 08/31/2023 JCN:
APPROVAL (FINISHES)	DRAWN: PCD	FACILITY SERVICES & ENGINEERING DIVISION	DRAWING NO. F2021017-C2.01a SHEET # 09 OF 53
	CHECK: AJK		

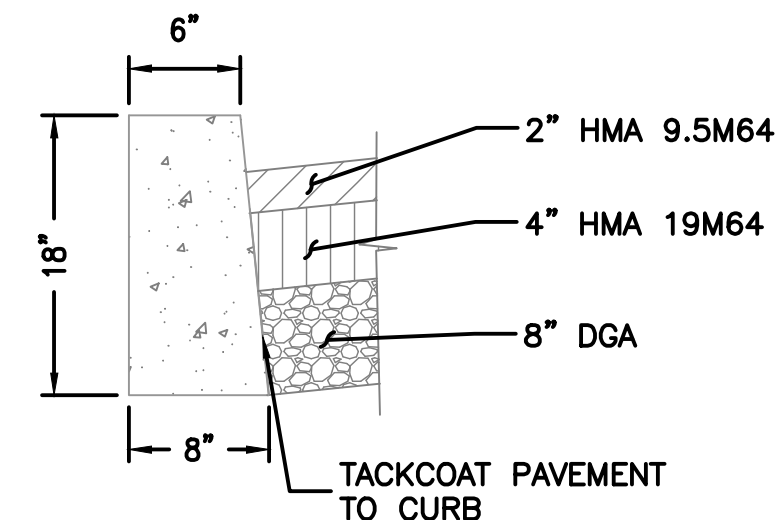


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1255 Broad Street, Suite 201 Clifton, NJ 07013-8591 tel. (973) 883-8500 www.aecom.com				ARCHITECT/ENGINEER #: _____			
0		08/31/23		FINAL SUBMISSION			
REV		DATE		DESCRIPTION		CHECK    APRVD	
UNITED STATES DEPARTMENT OF TRANSPORTATION FEDERAL AVIATION ADMINISTRATION WILLIAM J. HUGHES TECHNICAL CENTER ATLANTIC CITY INT'L AIRPORT, N.J. 08405							
BUILDING 202 SUSTAINMENT						FACILITY	
SOIL EROSION, SEDIMENT CONTROL, AND CIVIL DETAILS							
REVIEWED BY		SUBMITTED BY		DATE		APPROVED BY	
						Michael Roselli ANG-E342	
DESIGN: CM		ISSUED BY:		DATE: 08/31/2023		JCJN:	
DRAWN: CM		FACILITY SERVICES & ENGINEERING DIVISION		DRAWING NO.		SHEET #	
CHECK: MP				F2021017-C3.01		10 of 53	

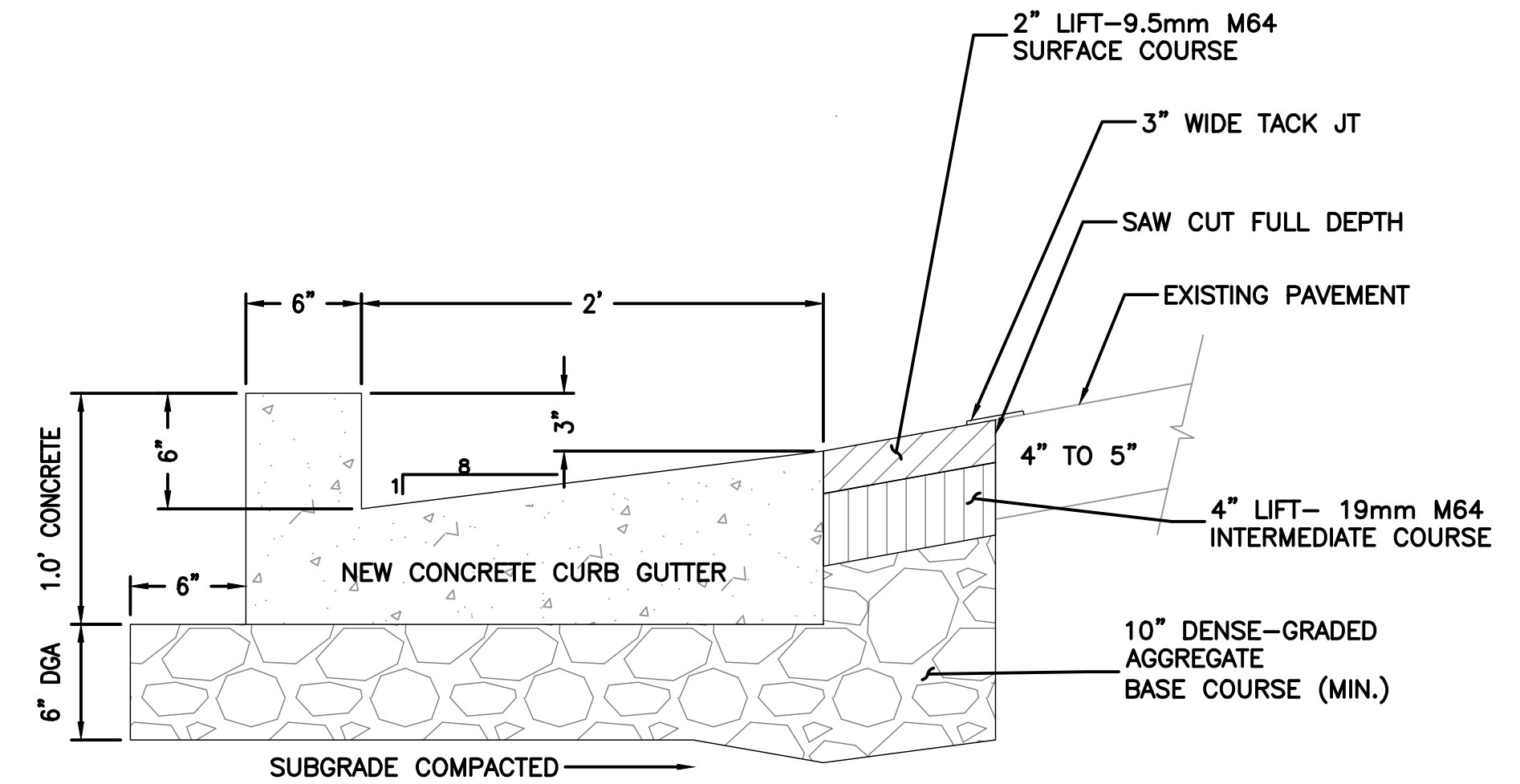




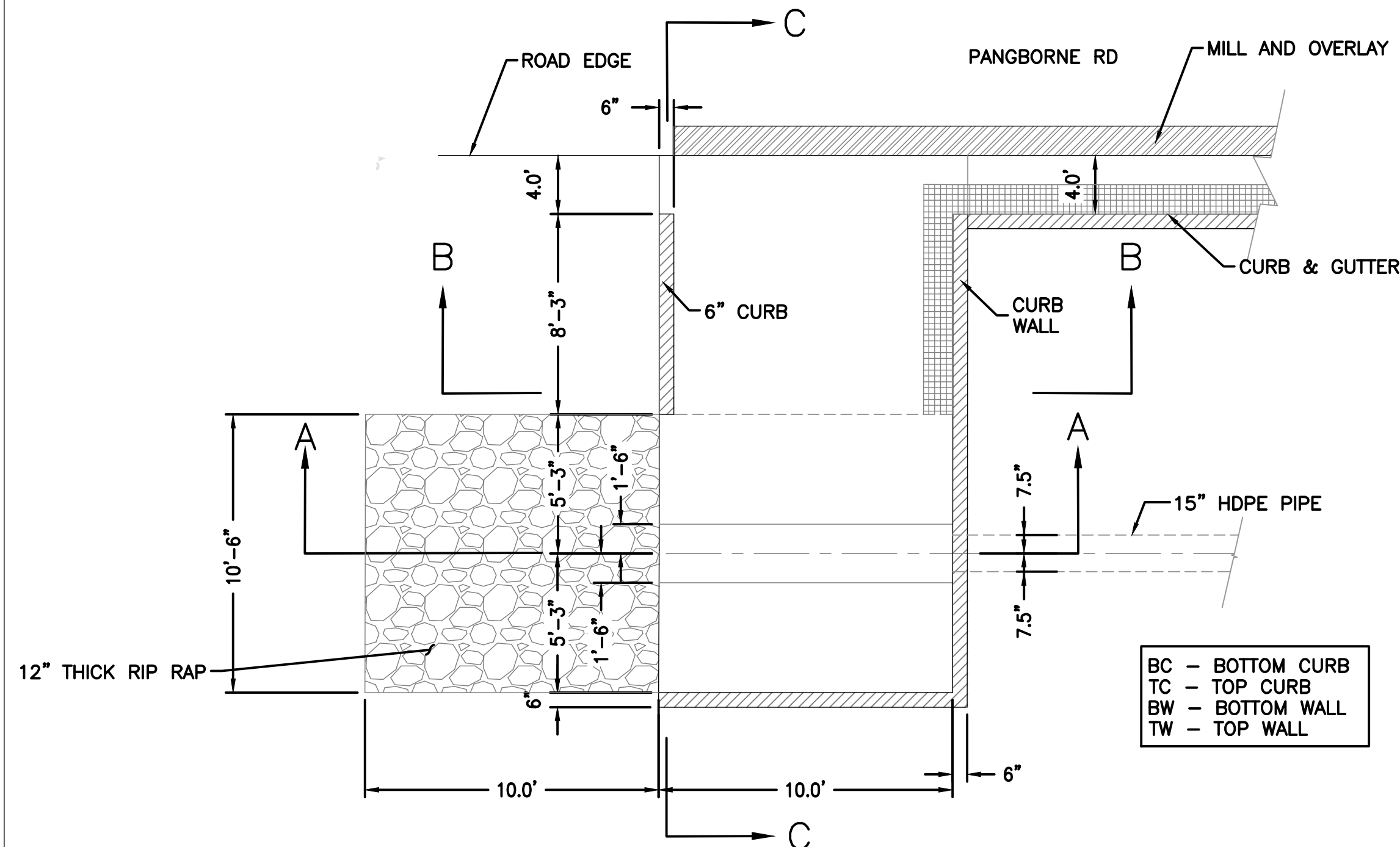
1 MILL TRANSITION DETAIL  
C3.01a SCALE: NTS



2 CURB SECTION  
C3.01a SCALE: NTS



3 NEW CONCRETE CURB GUTTER  
C3.01a SCALE: NTS

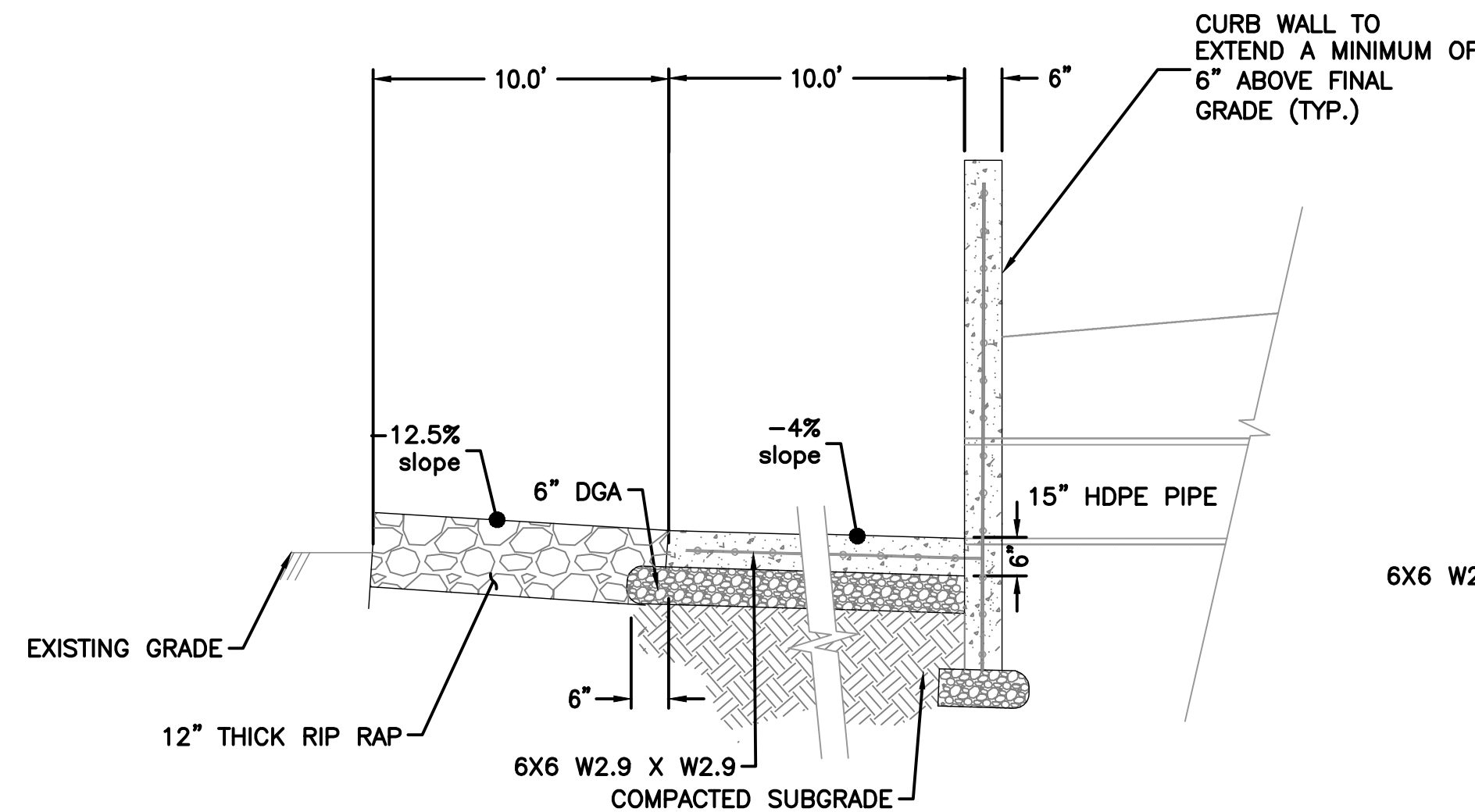


4 PLAN VIEW SPILLWAY  
C3.01a SCALE: NTS

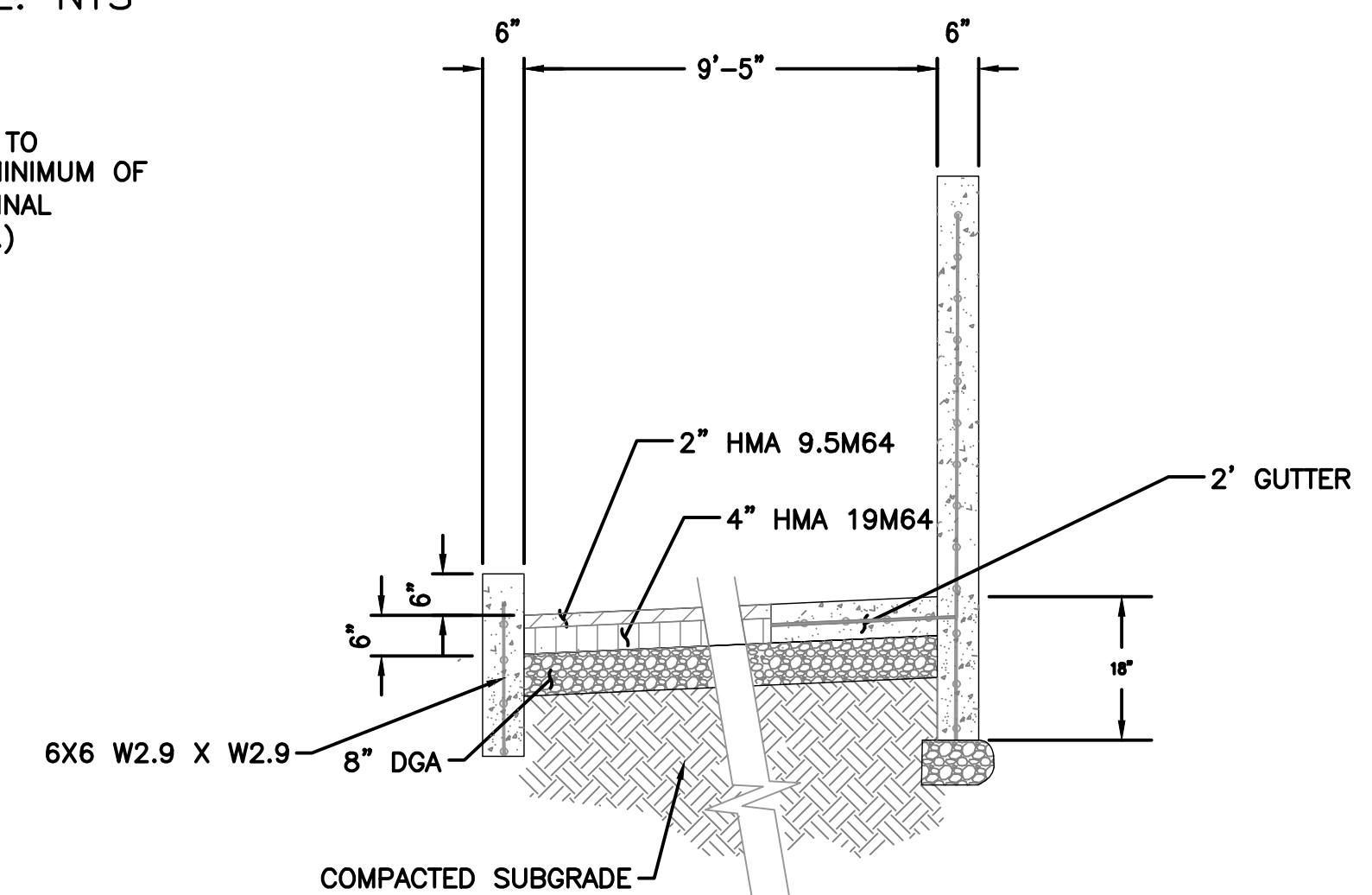
NOTE 1: DETAIL PROVIDED IS DIMENSIONED FOR THE SOUTH SPILLWAY, AND IS A TYPICAL DETAIL. CONTRACTOR TO ADJUST DIRECTIONS/DIMENSIONS TO COMPLY WITH LAYOUT FOR THE NORTH SPILLWAY. (TYP.)

NOTE 2: MAXIMUM AGGREGATE SIZE FOR PORTLAND CEMENT CONCRETE SHALL BE 3/4" NOMINAL.

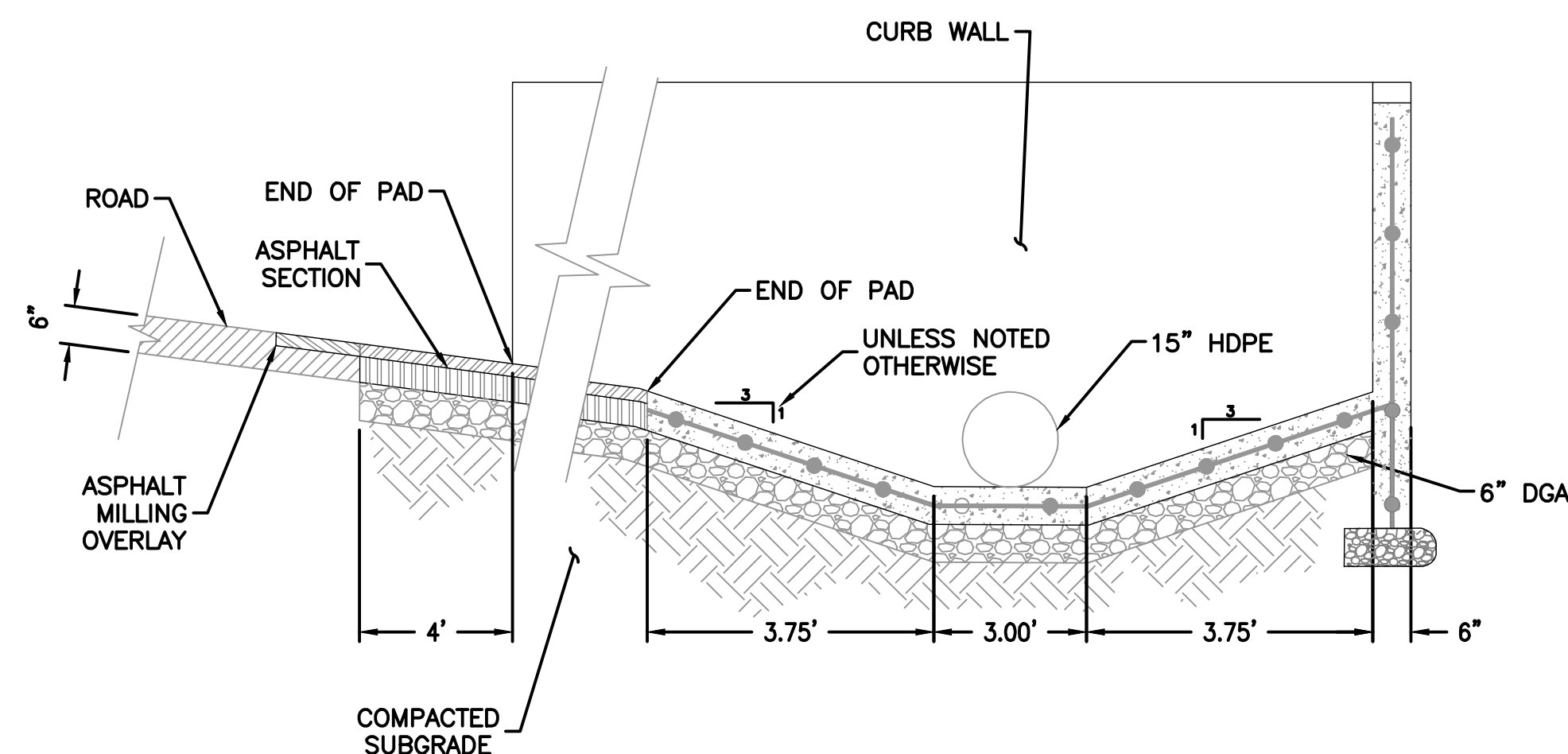
NOTE 3: RIP RAP SHALL CONFORM TO THE REQUIREMENTS OF SECTION 901.08 OF NEW JERSEY STANDARD SPECIFICATION FOR ROAD AND BRIDGE CONSTRUCTION. D50 SHALL BE 4-5".



A-A CENTERLINE CUT  
C3.01a SCALE: NTS  
NOTE: ALL STEEL REINFORCEMENT TO BE PROVIDED IN SHEETS (TYP.)



B-B SECTION VIEW  
C3.01a SCALE: NTS

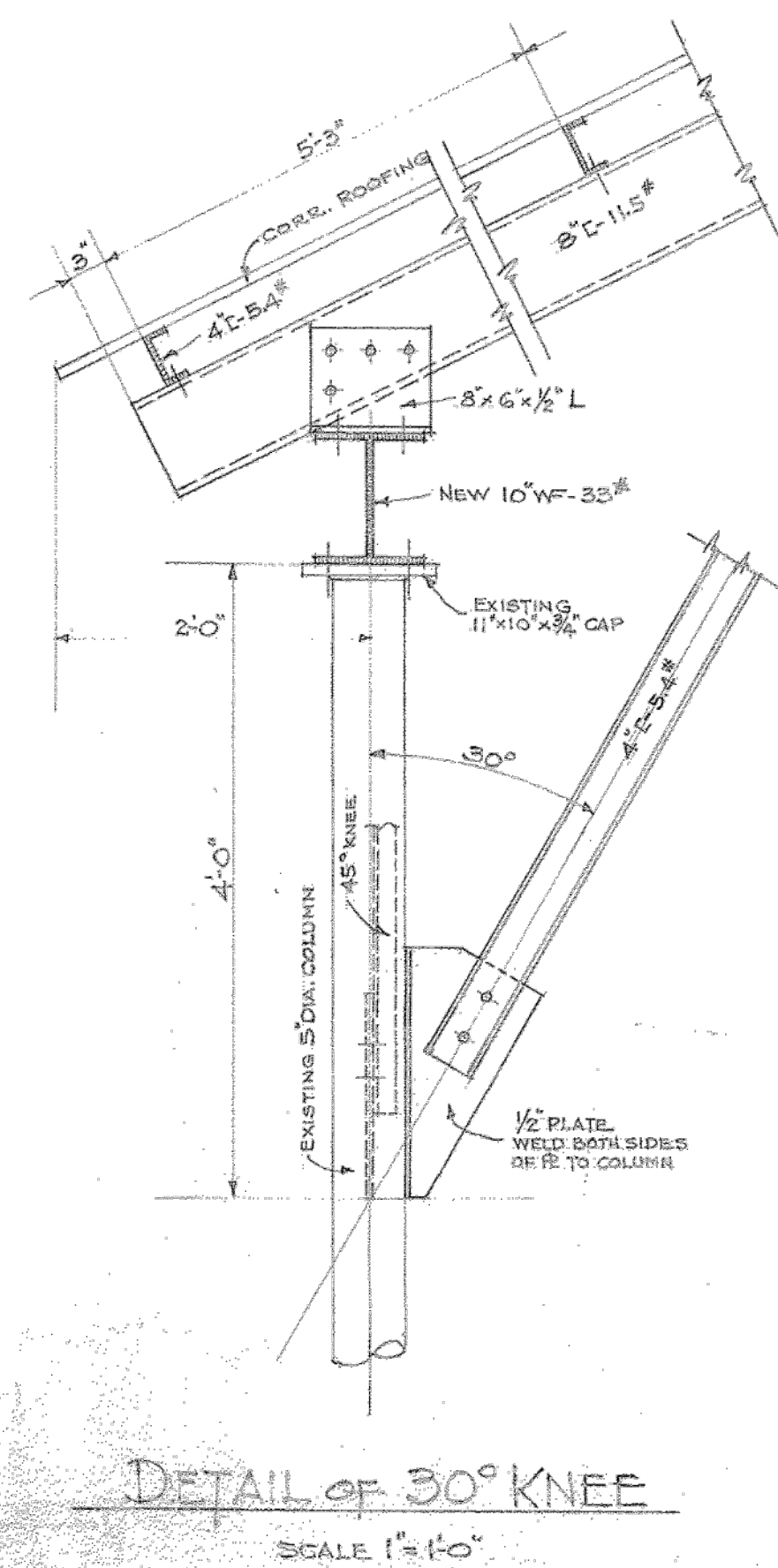
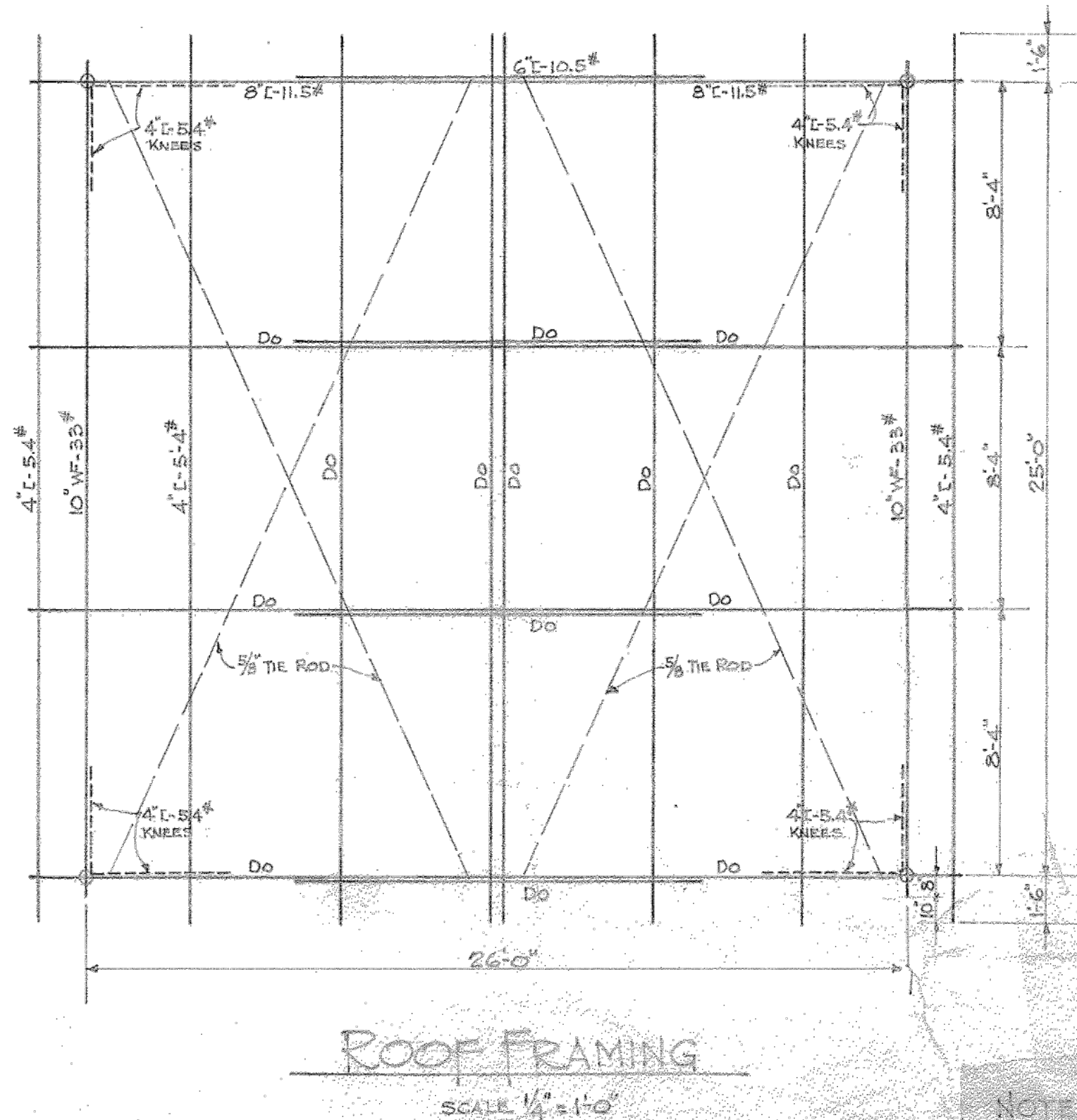
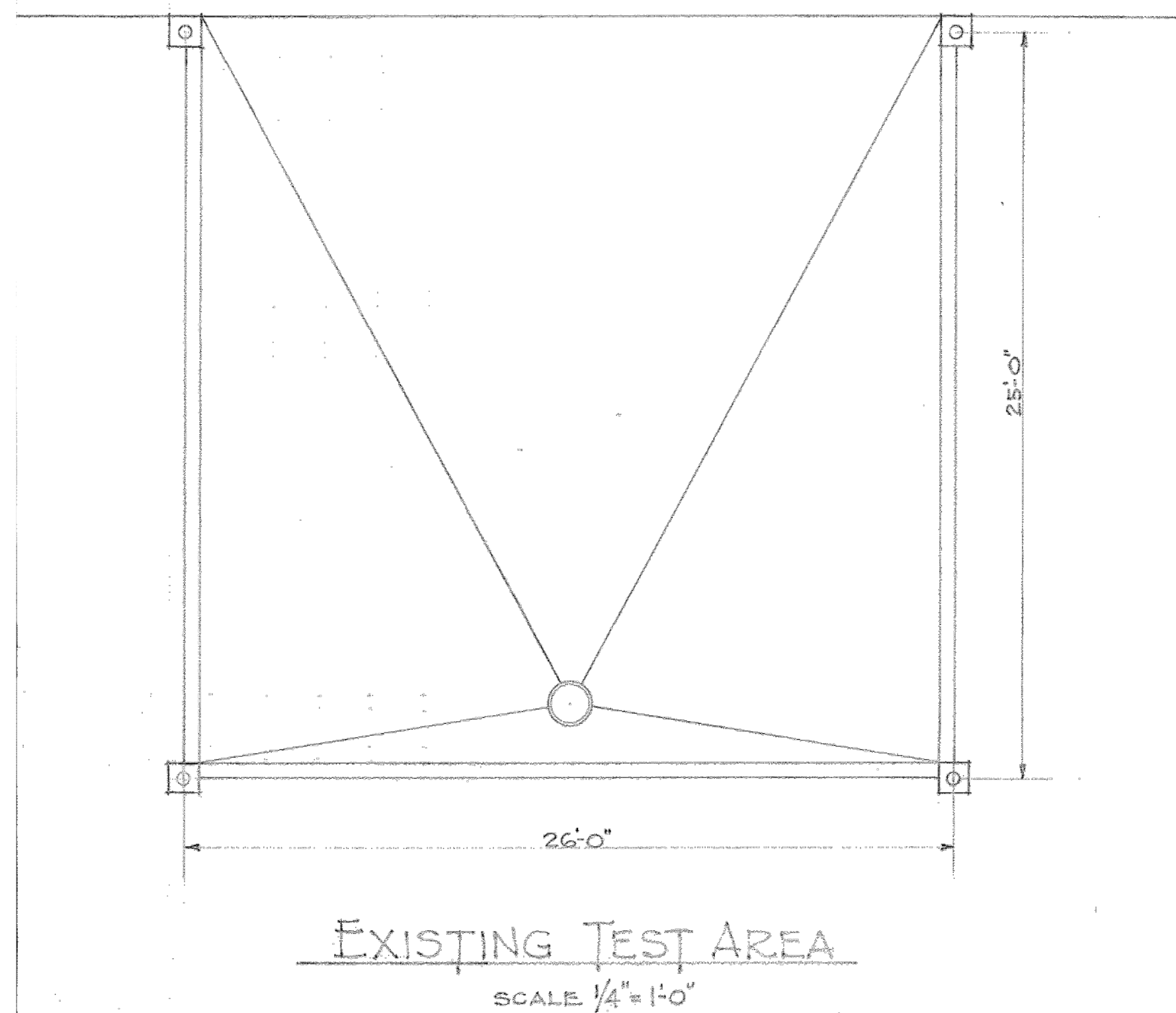
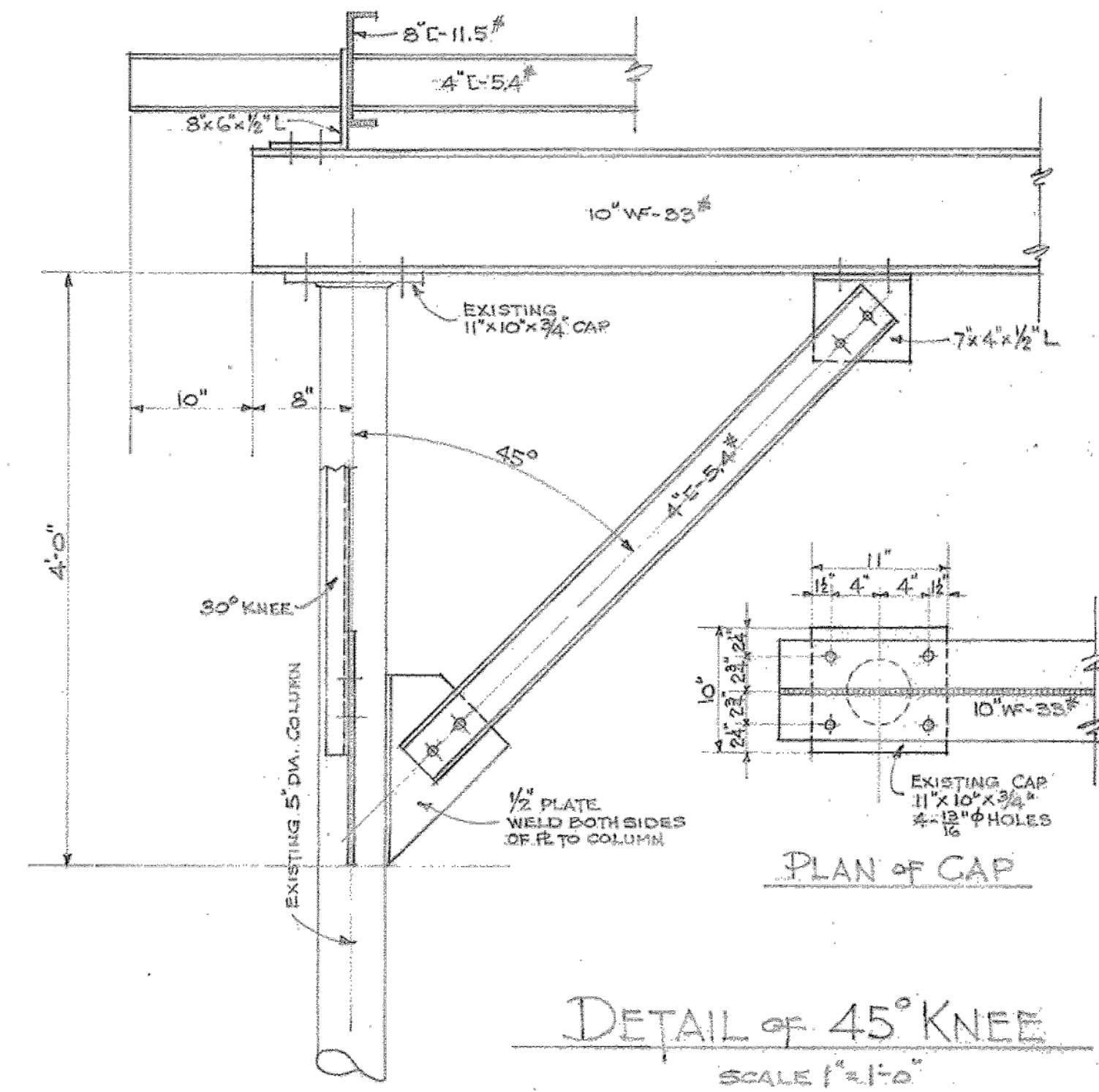
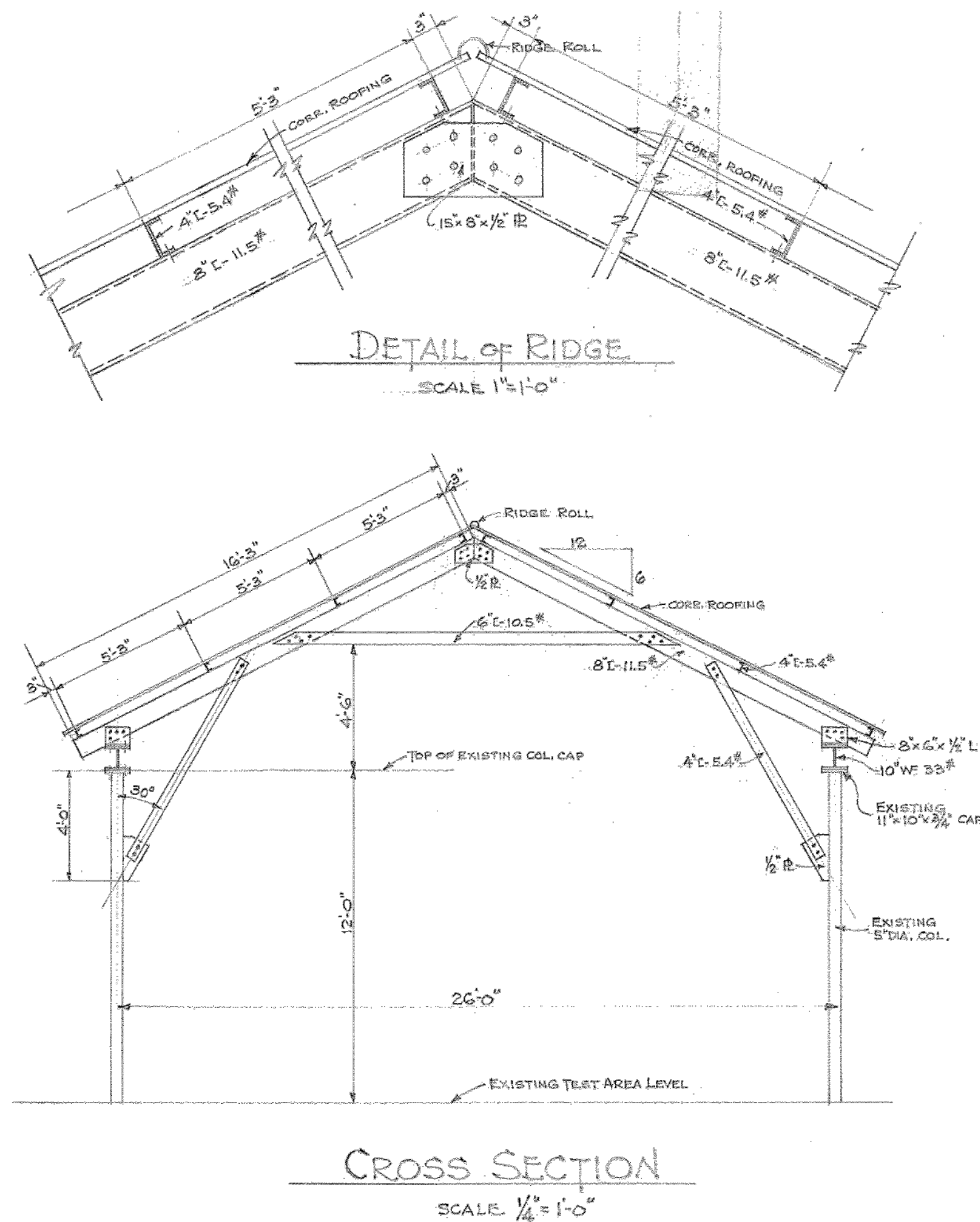
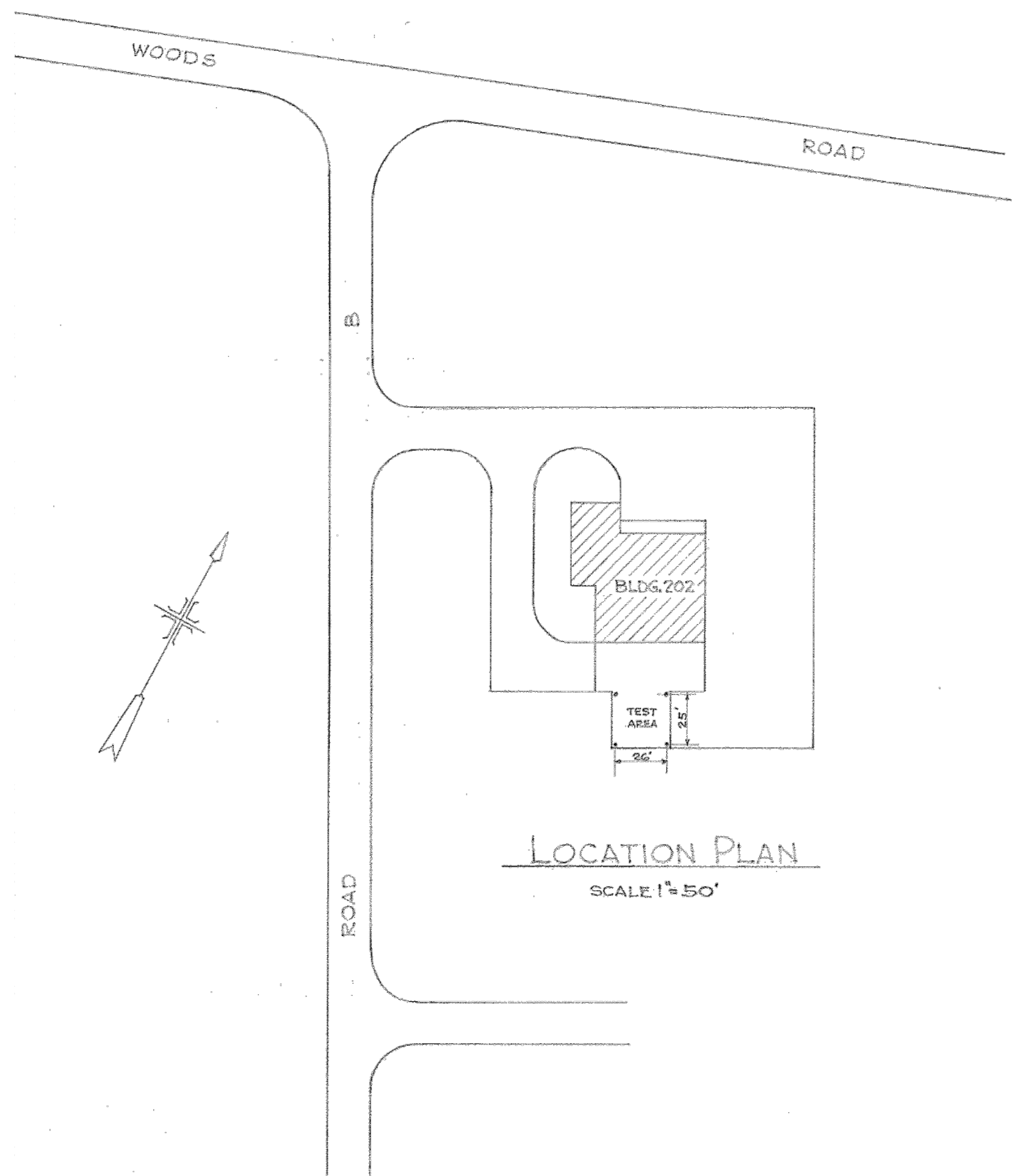


C-C SECTION VIEW  
C3.01a SCALE: NTS

<b>AECOM</b>		STAMP	
1255 Broad Street, Suite 201 Clifton, NJ 07013-8591 tel. (973) 883-8500 www.aecom.com		ARCHITECT/ENGINEER #:	
0	08/31/23	FINAL SUBMISSION	
REV	DATE	DESCRIPTION	CHECK   APRV'D
UNITED STATES DEPARTMENT OF TRANSPORTATION FEDERAL AVIATION ADMINISTRATION WILLIAM J. HUGHES TECHNICAL CENTER ATLANTIC CITY INT'L AIRPORT, N.J. 08405			
BUILDING 202 SUSTAINMENT FACILITY			
CIVIL DETAILS – DRIVEWAY ENTRANCE			
REVIEWED BY	SUBMITTED BY	DATE	APPROVED BY
			Michael Roselli ANG-E342
			DATE: 08/31/2023 JCN:
DESIGN: MJH	ISSUED BY:	DRAWING NO.	SHEET #
DRAWN: PCD	FACILITY SERVICES & ENGINEERING DIVISION	F2021017-C3.01a	11 OF 53
CHECK: AJK			



FOR INFORMATIONAL PURPOSE ONLY



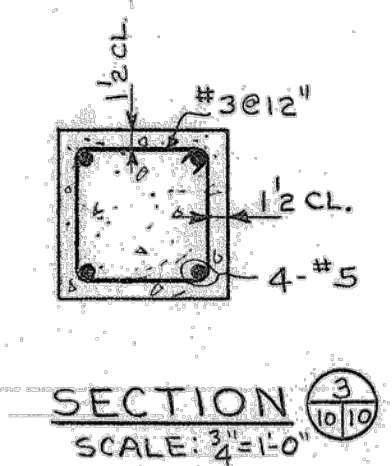
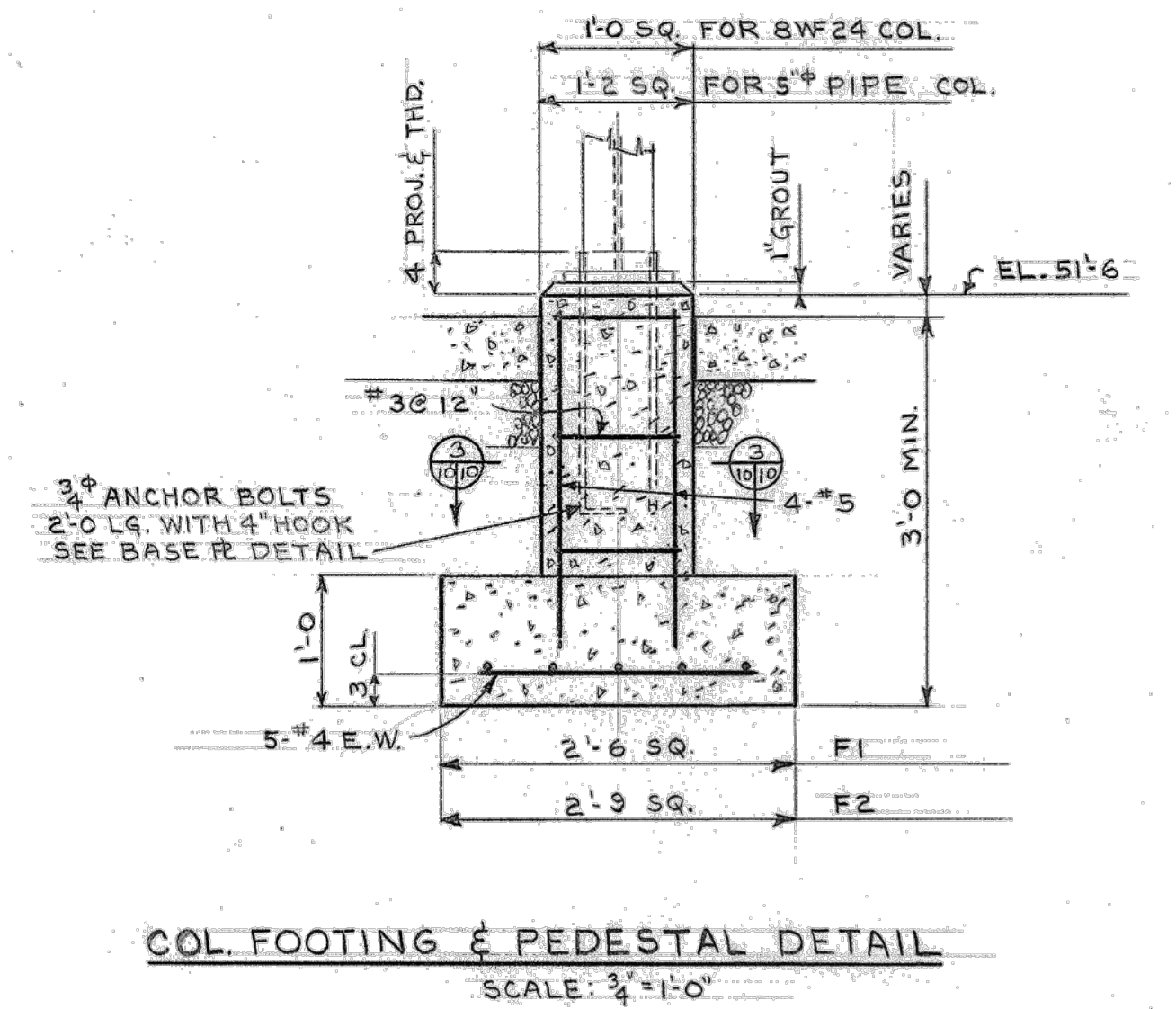
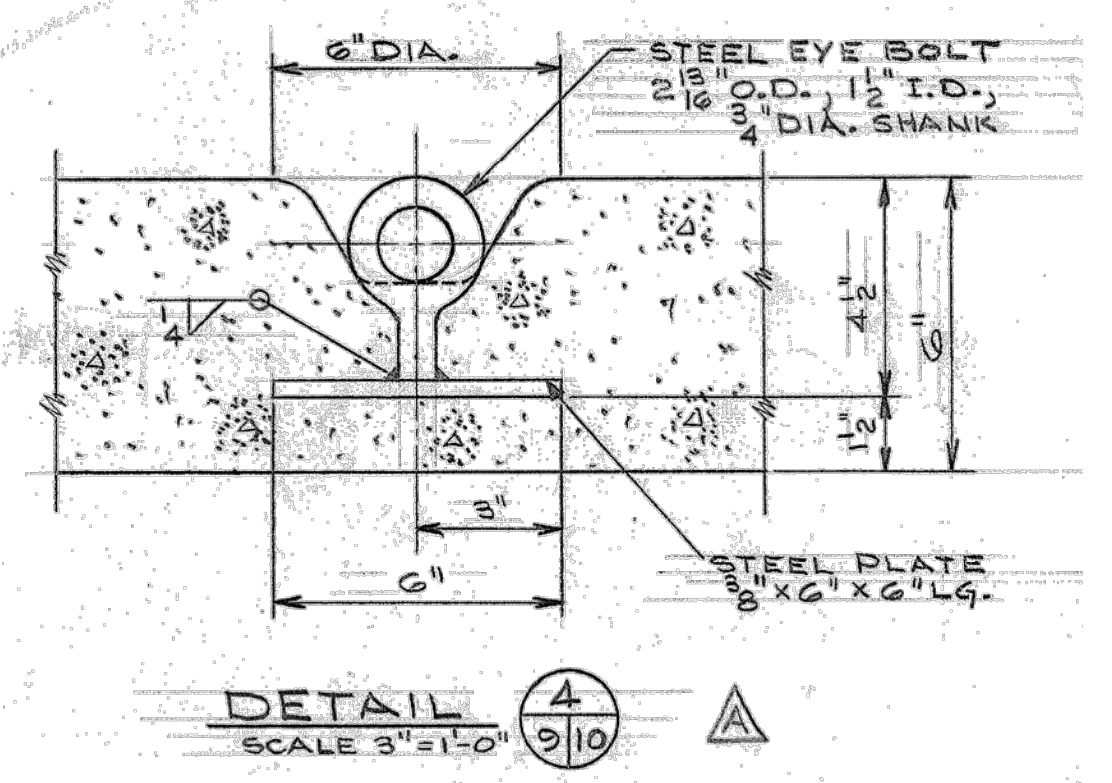
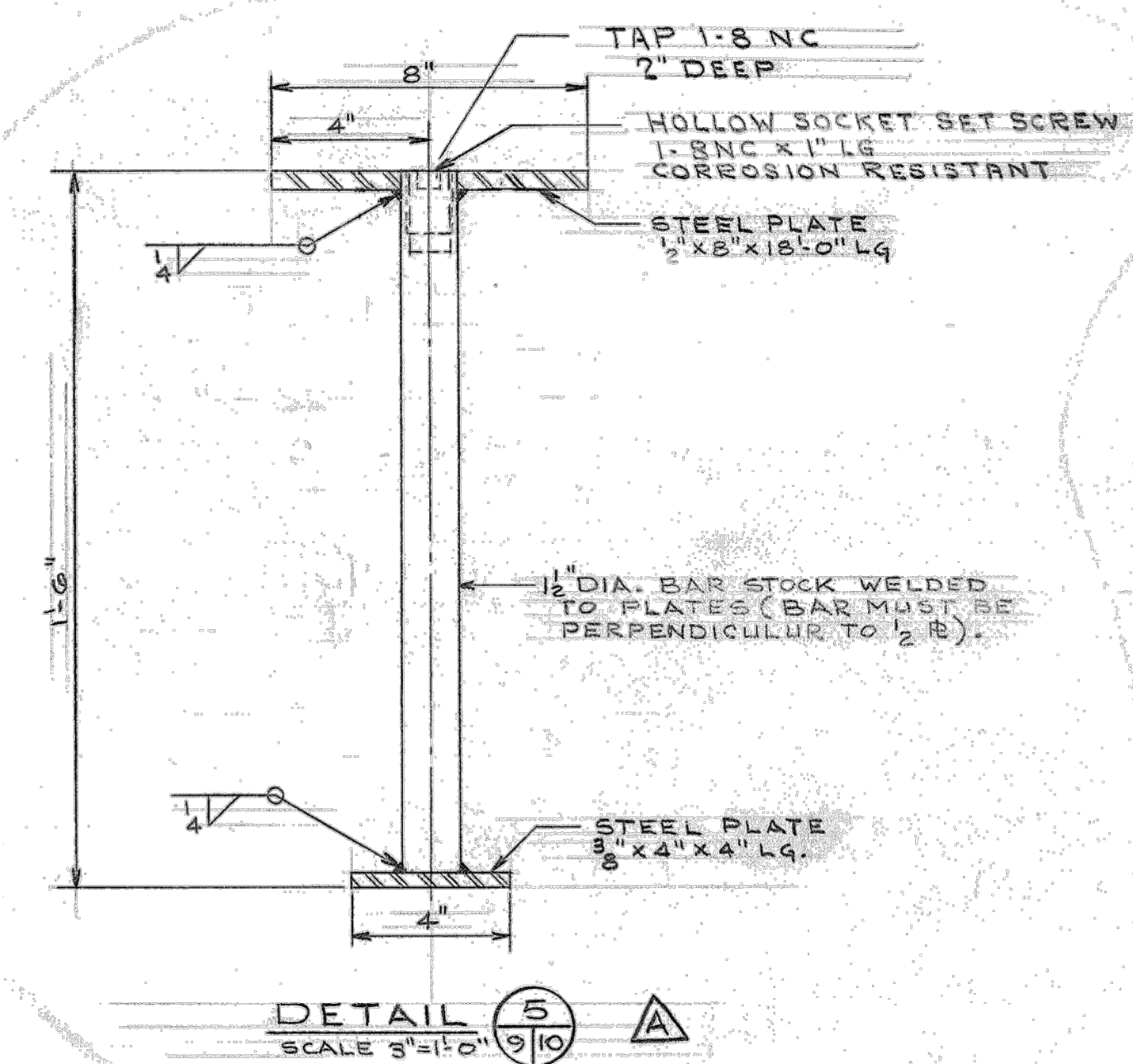
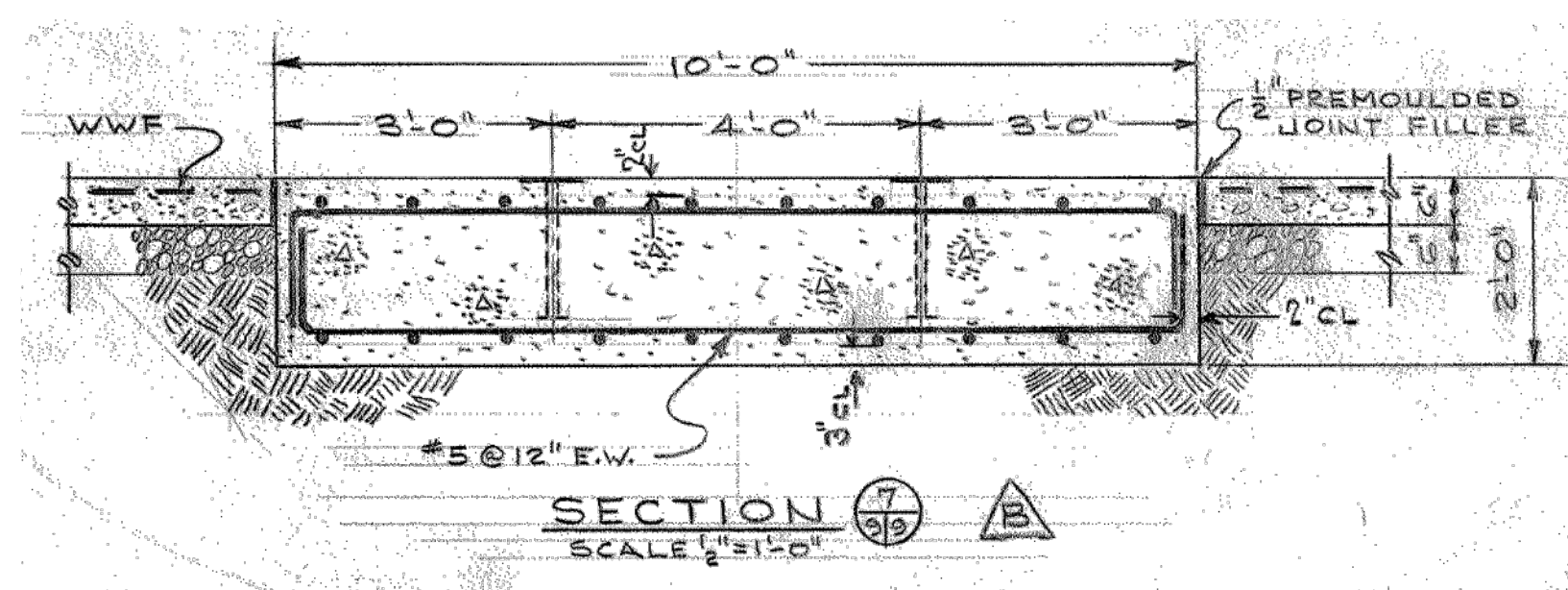
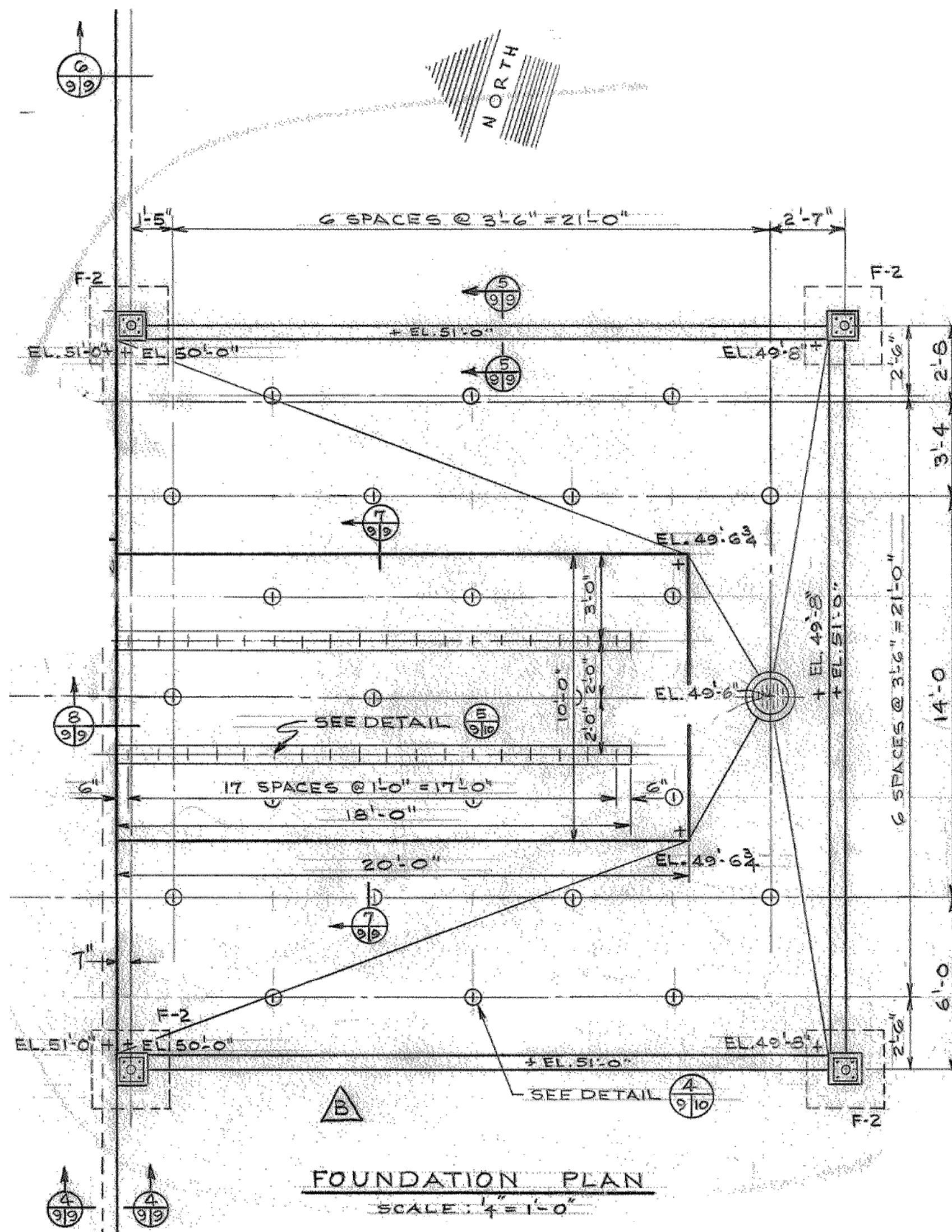
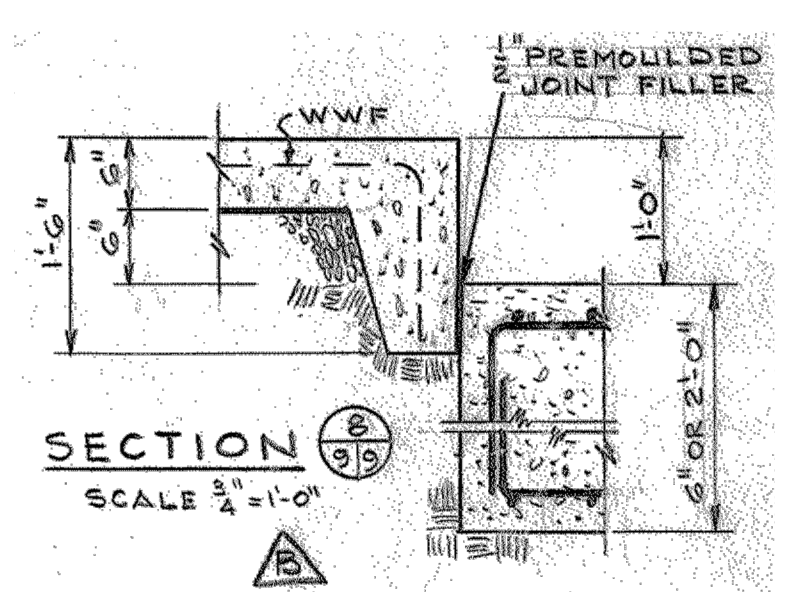
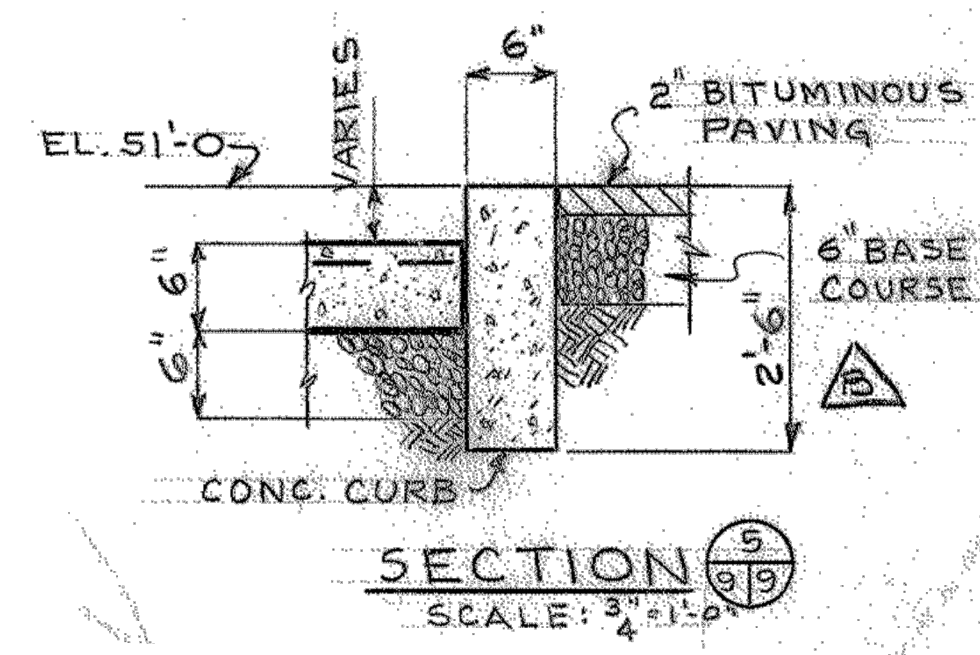
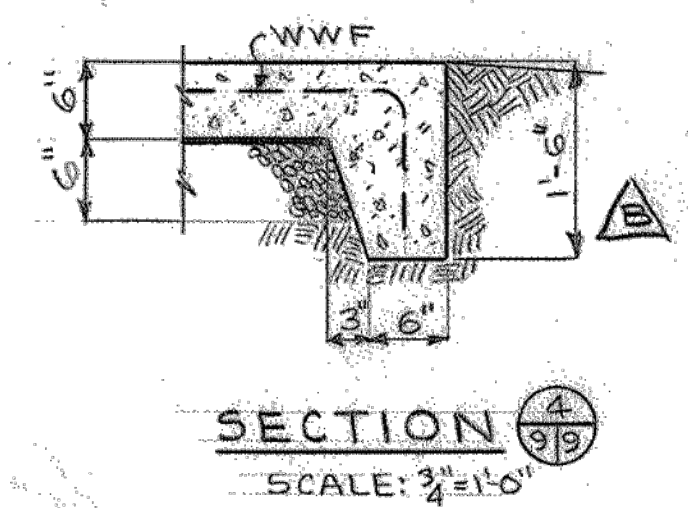
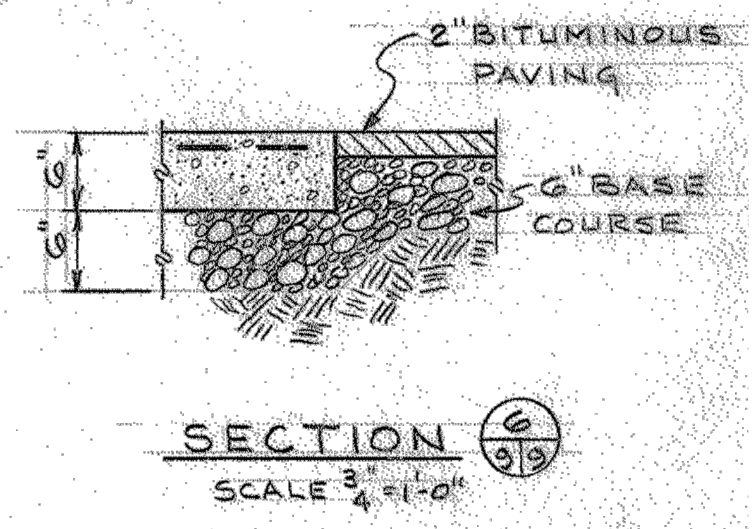
SYMBOL		REVISIONS		DATE	APPROVAL
NAFEC DRAWING NO.		FEDERAL AVIATION AGENCY NATIONAL AVIATION FACILITIES EXPERIMENTAL CENTER			
XC-400		ATLANTIC CITY, NEW JERSEY			
DES CHLOTT		TEST AREA CANOPY			
DRWN CHLOTT		BUILDING No. 202A			
CHK		JET ENGINE SHELTER			
IN CHG		APPROVED			
DATE		DATE			
SATISFACTORY TO		SCALE		AS NOTED	SPEC
DATE		SHEET		1	OF 1

<b>AECOM</b>		STAMP	
1255 Broad Street, Suite 201 Clifton, NJ 07013-8591 tel. (973) 883-8500 www.aecom.com		ARCHITECT/ENGINEER #:	

0 08/31/23		FINAL SUBMISSION			
REV	DATE	DESCRIPTION		CHECK	APRV'D
UNITED STATES DEPARTMENT OF TRANSPORTATION FEDERAL AVIATION ADMINISTRATION WILLIAM J. HUGHES TECHNICAL CENTER ATLANTIC CITY INT'L AIRPORT, N.J. 08405					
BUILDING 202 SUSTAINMENT FACILITY					
BUILDING 202A DETAILS - SHEET 1					
REVIEWED BY	SUBMITTED BY	DATE	APPROVED BY	DATE	
DESIGN: CM		ISSUED BY:		Michael Roselli ANG-E342	
DRAWN: CM		FACILITY SERVICES & ENGINEERING DIVISION		DATE: 08/31/2023 JCN:	
CHECK: MP				DRAWING NO. F2021017-C3.02 SHEET # 12 OF 53	

NOTE: ALL CONNECTIONS TO BE BOLTED FOR FUTURE DISASSEMBLY





FOR INFORMATIONAL PURPOSE ONLY

<b>SANDERS &amp; THOMAS ASSOCIATES</b> A PARTNERSHIP OF ARCHITECTS & ENGINEERS POTTSTOWN - READING - PHILADELPHIA - WASHINGTON	
Q1314-43 FEDERAL AVIATION AGENCY NATIONAL AVIATION FACILITIES EXPERIMENTAL CENTER ATLANTIC CITY, NEW JERSEY	AE-281 AERONAUTICAL RESEARCH & DEVELOPMENT FACILITY COMPRESSED AIR GUNS FACILITY STEEL FRAMING PLAN & DETAILS
DESIGNED BY: E.C. TRUNELL CHECKED BY: T.M. C. + R. IN CHARGE: E.C. TRUNELL DATE: 9-1-60	APPROVED: [Signature] INDUSTRIAL SERVICES SECTION CHIEF DATE: 4/2/60

<b>SANDERS &amp; THOMAS ASSOCIATES</b> A PARTNERSHIP OF ARCHITECTS & ENGINEERS POTTSTOWN - READING - PHILADELPHIA - WASHINGTON	
Q1314-42 FEDERAL AVIATION AGENCY NATIONAL AVIATION FACILITIES EXPERIMENTAL CENTER ATLANTIC CITY, NEW JERSEY	AE-280 AERONAUTICAL RESEARCH & DEVELOPMENT FACILITY COMPRESSED AIR GUNS FACILITY FOUNDATION PLAN & DETAILS
DESIGNED BY: E.C. TRUNELL CHECKED BY: T.M. C. + R. IN CHARGE: E.C. TRUNELL DATE: 9-1-60	APPROVED: [Signature] INDUSTRIAL SERVICES SECTION CHIEF DATE: 4/2/60

<b>AECOM</b> 1255 Broad Street, Suite 201 Clifton, NJ 07013-8591 tel. (973) 883-8500 www.aecom.com		STAMP ARCHITECT/ENGINEER # _____	
0	08/31/23	FINAL SUBMISSION	
REV	DATE	DESCRIPTION	CHECK APRV'D
UNITED STATES DEPARTMENT OF TRANSPORTATION FEDERAL AVIATION ADMINISTRATION WILLIAM J. HUGHES TECHNICAL CENTER ATLANTIC CITY INT'L AIRPORT, N.J. 08405 BUILDING 202 SUSTAINMENT FACILITY			
BUILDING 202A DETAILS - SHEET 2			
REVIEWED BY	SUBMITTED BY	DATE	APPROVED BY
DESIGN: CM	ISSUED BY:	Michael Roselli ANG-E342	
DRAWN: CM	FACILITY SERVICES & ENGINEERING DIVISION	DATE: 08/31/2023	JCN:
CHECK: MP		DRAWING NO. F2021017-C3.03	SHEET # 13 OF 53



BUILDING CODE:  
BUILDING CODE EDITION: INTERNATIONAL BUILDING CODE 2018, NJ ED  
MECHANICAL CODE EDITION: INTERNATIONAL MECHANICAL CODE 2018  
ELECTRICAL CODE EDITION: NATIONAL ELECTRICAL CODE (NFPA 70) 2017  
ENERGY CODE: ASHRAE 90.1-2016

SUMMARY OF ROOFING WORK

NOTE: THE DESCRIPTION BELOW PROVIDES GENERAL INFORMATION RELATED TO WORK REQUIRED FOR COMPLETION OF THIS PROJECT. REFER TO THE SPECIFICATIONS, AND ATTACHED ROOF PLAN AND DETAILS FOR FURTHER INFORMATION RELATED TO SPECIFIC PRODUCT AND INSTALLATION REQUIREMENTS.

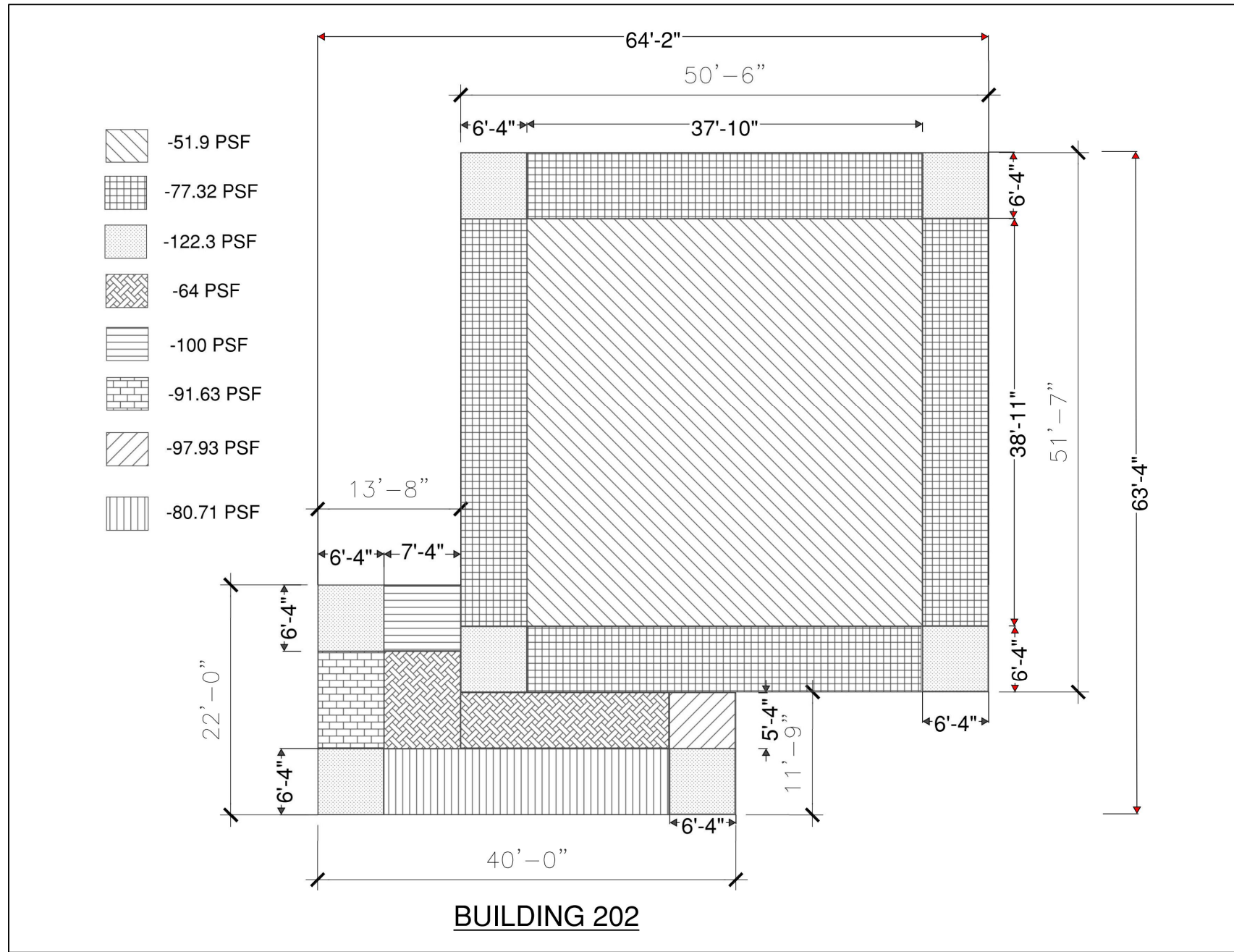
SUMMARY OF ARCHITECTURAL WORK

- A. REMOVE THE EXISTING ROOFING SYSTEM DOWN TO THE STRUCTURAL DECK (TOTAL TEAR OFF), INCLUDING ROOF MEMBRANE(S), INSULATION(S), UNDERLAYMENT(S), PERIMETER METAL EDGING/FASCIA, FLASHINGS AND ACCESSORIES.
- B. INSTALL PVC THERMOPLASTIC SINGLE-PLY ROOFING. BASIS OF DESIGN "SURE-FLEX PVC ROOF REPLACEMENT" BY CARLISLE OR APPROVED EQUAL.
- C. PROVIDE NEW ROOFING SYSTEM AS DESCRIBED IN SPECIFICATIONS AND DRAWINGS.
- D. ATLANTIC CITY, NJ – WILLIAM J. HUGHES TECHNICAL CENTER ARE LOCATED IN ASHREA CLIMATE ZONE 4A AND THE WIND SPEED IS OF 120 MPH.

ROOFING GENERAL NOTES AND SCOPE OF THE WORK:

1. CONTRACTOR TO VERIFY EXISTING SITE CONDITIONS – INCLUDING, BUT NOT LIMITED TO BUILDING AND ROOFING DIMENSIONS, PROPOSED STAGING LOCATIONS, DECK SLOPE, ROOF DRAINAGE, PENETRATION LOCATIONS AND QUANTITY AND SIZES, ROOF SYSTEM COMPONENT MAKE-UP AND THICKNESS.
2. THE CONTRACTOR SHALL ATTEND A MANDATORY SITE VISIT PRIOR TO PROPOSAL SUBMISSION. INCLUDE THE COST OF ALL WORK DESCRIBED IN THE BIDDING DOCUMENTS AND THAT IS REQUIRED OR REASONABLY IMPLIED TO ACHIEVE THE DESIGN INTENT OF THE BIDDING DOCUMENTS. NOTIFY THE COR OF ANY CONFLICTS BETWEEN EXISTING CONDITIONS AND THE WORK, OF ANY OMISSIONS OR CONFLICTS IN THE DRAWINGS AND SPECIFICATIONS AND ANY RESTRICTIONS RELATED TO THE EXECUTION OF THE WORK INCLUDING THE COORDINATION WITH OTHER TRADES PRIOR TO BIDDING.
3. ALL WORK IMPACTING FAA OPERATIONS INCLUDING STAGING AREAS, HOURS OF OPERATION, DISRUPTION OF UTILITIES, ETC. SHALL BE PERFORMED TO MINIMIZE DISRUPTION OF OPERATIONS, AND SHALL BE COORDINATED WITH AND BE APPROVED BY THE FAA PRIOR TO THE WORK.
4. DRAWINGS ARE PRINTED ON 22" BY 34" SIZE. DOCUMENTATION IS PROVIDED FROM MULTIPLE SOURCES – FIELD VISITS, TESTING, OWNER PROVIDED INFORMATION, ETC.
5. ALL COMPONENTS ARE NEW AND AS SPECIFIED UNLESS SPECIFICALLY INDICATED AS EXISTING.
- o. EXISTING WOOD BLOCKING TO BE REMOVED. AND INSTALL NEW PRESSURE TREATED (P.T.) WOOD BLOCKING AS REQUIRED FOR PROPER INSTALLATION.
6. PRODUCTS PROPOSED FOR USE AND PROJECT WORK SHALL BE IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE AND LOCAL GOVERNING ORDINANCES, CODES AND REGULATIONS. NOTIFY THE COR IMMEDIATELY OF CONFLICTS BETWEEN THE SPECIFIED PRODUCTS AND/OR PROJECT WORK REQUIREMENTS AND CODES, ORDINANCES AND/OR REGULATIONS.
7. IF DISCREPANCIES ARE DISCOVERED WITHIN THE SPECIFICATIONS OR DRAWINGS THE C.O.R., NOT THE CONTRACTOR, SHALL DETERMINE THE INTENT OF THE DESIGN AND PROVIDE CLARIFICATION. NO ALLOWANCE SHALL BE MADE FOR CONTRACTOR MISINTERPRETATION OR IMPLIED MISINTERPRETATION OF THE SPECIFICATIONS AND DRAWINGS.
8. NOTIFY THE C.O.R. IMMEDIATELY OF CONFLICTS BETWEEN THE SPECIFIED DESIGN REQUIREMENTS AND THE WRITTEN REQUIREMENTS AND RECOMMENDATIONS OF THE ROOFING SYSTEM MANUFACTURER.
- o. FOLLOW THE ROOFING MANUFACTURERS 20 YEAR FULL SYSTEM WARRANTY DETAILS FOR MEMBRANE INSTALLATION, PENETRATIONS, TERMINATIONS, EDGE CONDITIONS, FLASHINGS, ETC. WHEN SEVERAL STANDARD OPTIONS ARE AVAILABLE, THE DETAIL WHICH MORE CLOSELY MATCHES THE CONDITIONS DETAILED SHALL BE USED.
- b. IN THE EVENT OF CONFLICTING REQUIREMENTS THE MORE STRINGENT SHALL APPLY, DETERMINATION OF THE REQUIREMENTS SHALL BE MADE BY THE C.O.R.
9. PROTECT ALL ROOF AREAS, NEW OR EXISTING, USED FOR STAGING OR TRAVEL PATHS USED FOR ACCESS.
10. TEMPORARILY DISCONNECT GAS LINES, CONDUIT, LIGHTNING PROTECTION, DUCTWORK, CONDENSATE LINES AND ACCESSORIES TO ALLOW FOR INSTALLATION OF THE ROOF SYSTEM AT LOCATIONS WHERE DISPLACEMENT DOES NOT ALLOW INSTALLATION OF THE ROOF SYSTEM. PROVIDE NECESSARY EQUIPMENT EXTENSIONS AND OTHER MODIFICATIONS NECESSARY TO ACCOMMODATE THE ROOF SYSTEM. RECONNECT THE LINES TO THEIR ORIGINAL POSITION AND IN LIKE NEW CONDITION, EXCEPT SET ON PRE-MANUFACTURED SUPPORTS OVER WALKPADS.
- o. ALL DISCONNECTION AND RECONNECTION WORK INCLUDING MECHANICAL, ELECTRICAL AND PLUMBING WORK SHALL BE PERFORMED BY A CONTRACTOR LICENSED TO PERFORM THE WORK. ALL EQUIPMENT SHALL BE TESTED AFTER RECONNECTION.
- b. WORN OUT OR RUSTED CONDUITS, DUCT WORK, GAS LINES, VENT STACKS AND SIMILAR ITEMS SHALL BE REPLACED WITH NEW TO MATCH THE GAUGE OF AND CAPACITIES OF THE EXISTING ITEMS BEING REPLACED. LOOSE CABLES AND WIRES SHALL BE INSTALLED IN WEATHERPROOF METAL CONDUIT SECURED TO PRE-MANUFACTURED SUPPORTS.
12. COPINGS AND EXPOSED PAINTED SHEET METALS SHALL BE FACTORY FABRICATED UNITS.
13. SHEET METALS SHALL BE PER SMACNA SPECIFICATIONS AND DETAILS, UNLESS MORE STRINGENT REQUIRMENTS ARE DETAILED.
14. ALL TRASH AND FLAMMABLES TO BE REMOVED FROM ROOF AT THE END OF EACH DAY.
15. CONTRACTOR TO HAVE PROPER AMOUNT OF FIRE EXTINGUISHERS ON SITE.
16. CONTRACTOR TO HAVE PORTA JOHN ON SITE.
17. CONTRACTOR TO FILL OUT AND SUBMIT DAILY INSPECTION REPORTS, SSHA REPORTS AND END OF THE DAY CHECK LIST FORMS ALONG WITH TAKING DAILY PROGRESS PHOTOS.
18. NO SMOKING PERMITTED ON ROOF.

WIND UPLIFT PERFORMANCE  
WIND SPEED 120 MPH, RISK CAT II

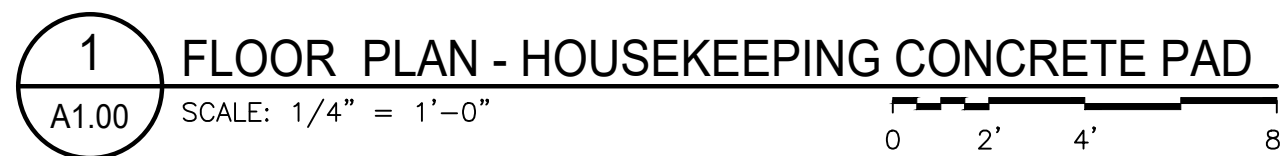


STANDARD LIST OF ABBREVIATIONS

<b>A</b> ACT AC DR AC PL ACCESS ADJ AFF ALUM	ACOUSTICAL CEILING TILE ACCESS DOOR ACCESS PANEL ACCESSIBLE ADJUSTABLE ABOVE FINISH FLOOR ALUMINUM	<b>I</b> ID IN INFO INSUL INT	INSIDE DIAMETER INCH INFORMATION INSULATION INTERIOR	<b>U</b> UL UNO	UNDERWRITERS LABORATORY UNLESS NOTED OTHERWISE
<b>APPROX</b> <b>ARCH</b> <b>ATTN</b>	APPROXIMATE(LY) ARCHITECTURAL/ARCHITECT ATTENTION	<b>J</b> JAN CLO JST JT	JANITOR CLOSET JOIST JOINT	<b>V</b> VB VCT VERT VT	VINYL BASE VINYL COMPOSITION TILE VERTICAL VINYL TILE
<b>B</b> BD BFF BLDG BLK BLKG BM BO BOC BOTT BUR	BOARD BELOW FINISH FLOOR BUILDING BLOCK BLOCKING BEAM BOTTOM OF BOTTOM OF CONCRETE/CURB BOTTOM BUILT UP ROOFING	<b>L</b> LAM LAV LF LLH LLV LOC LP	LAMINATE (ED) LAVATORY LINEAR FEET LONG LEG HORIZONTAL LONG LEG VERTICAL LOCATION LOW POINT	<b>W</b> w/(o) W WC WD WH WT WWF	WITH/(OUT) WIDTH or WIDE WATER CLOSET WOOD WATER HEATER WEIGHT WELDED WIRE FABRIC
<b>C</b> CEM CF CJ CL or ☒ CLG CLO CLR CMU CO COL CONC CONF CONN CONST CONT CONTR	CEMENT CUBIC FEET CONTROL JOINT CENTERLINE CEILING CLOSET CLEAR CONCRETE MASONRY UNIT CLEAN OUT COLUMN CONCRETE CONFERENCE CONNECTION CONSTRUCTION CONTINUOUS (CONTINUED) CONTRACTOR	<b>M</b> MACH MAS MAT MAX MECH MEZZ MEFG MFR MIN MISC MO	MACHINE MASONRY MATERIAL MAXIMUM MECHANICAL MEZZANINE MANUFACTURING MANUFACTURE (ER) (ED) MINIMUM MISCELLANEOUS MASONRY OPENING	<b>ARCHITECTURAL</b>	
<b>D</b> D DBL DEC DET DIA DIAG DIM DN DR DWG(S)	DEEP DOUBLE DEGREE DETAIL DIAMETER DIAGONAL DIMENSION DOWN DOOR DRAWING(S)	<b>N</b> NIC NO or # NOM NTS	NOT IN CONTRACT NUMBER NOMINAL NOT TO SCALE		
<b>E</b> EA EF EJ EL ELEC ELEV ENCL ENGR EP EQ EQUIP EW EXH EXIST EXP EXT	EACH EACH FACE EXPANSION JOINT ELEVATION ELECTRIC (AL) ELEVATOR ENCLOSURE ENGINEER ELECTRICAL PANEL EQUIPMENT EACH WAY EXHAUST EXISTING EXPANSION, EXPOSED EXTERIOR	<b>O</b> O/ OA OC OD OH OPNG OPP	OVER OVERALL ON CENTER OUTSIDE DIAMETER OPPOSITE HAND OPENING OPPOSITE	<b>ARCHITECTURAL GRAPHIC SYMBOLS</b>	
<b>F</b> FAB FBGL FD FIN FIN FLR FLR FND FT FTG FUR	FABRIC FIBERGLASS FLOOR DRAIN FINISH FINISH FLOOR FLOOR FOUNDATION FEET (FOOT) FOOTINGS FURRING	<b>P</b> PARTN PL PLAM PLBG PLYWD POL PNL PSF PSI PT PVC	PARTITION PLATE PLASTIC LAMINATE (ED) PLUMBING PLYWOOD POLISHED PANEL POUNDS/SQUARE FOOT POUNDS/SQUARE INCH PAINT (ED) POLYVINYLCHLORIDE		
<b>G</b> GA GAL GALV GB GC GL GND GR GT GYP BD	GAGE GALLON GALVANIZED GRAB BAR GENERAL CONTRACTOR GLASS GROUND GRADE GROUT GYPSUM BOARD	<b>R</b> RA RAD RD REF REINF REV RM RO RTU	RETURN AIR RADIUS ROOF DRAIN REFERENCE REINFORCE (ED) (ING) REVISION or REVISED ROOM ROUGH OPENING ROOF TOP UNIT		
<b>H</b> HB HM HORIZ HP HT HVAC	HIGH HOSE BIB HOLLOW METAL HORIZONTAL HIGH POINT HEIGHT HEATING, VENTILATING AND AIR CONDITIONING	<b>S</b> SCHD SD SF / SQ FT SHT SIM SPEC(S) SQ STD STL STRUCT SUSP	SCHEDULE SMOKE DETECTOR SQUARE FEET SHEET SIMILAR TO SPECIFICATION(S) SQUARE STANDARD STEEL STRUCTURE or STRUCTURAL SUSPENDED		
<b>T</b> T T & B T & G THK TO TOC TOM TOS	TREAD TOP & BOTTOM TONGUE & GROOVE THICK TOP OF TOP OF CONCRETE/CURB TOP OF MASONRY TOP OF STEEL				


<b>AECOM</b> 1255 Broad Street, Suite 201 Clifton, NJ 07013-8591 tel. (973) 883-8500 www.aecom.com		STAMP	
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REV	DATE	DESCRIPTION	CHECK   APRV'D
UNITED STATES DEPARTMENT OF TRANSPORTATION <b>FEDERAL AVIATION ADMINISTRATION</b> WILLIAM J. HUGHES TECHNICAL CENTER ATLANTIC CITY INT'L AIRPORT, N.J. 08405			
<b>BUILDING 202 SUSTAINMENT</b>		<b>FACILITY</b>	
<b>GENERAL NOTES, SYMBOLS &amp; ABBREVIATIONS</b>			
REVIEWED BY	SUBMITTED BY	DATE	APPROVED BY   DATE
			Michael Roselli ANG-E342
	DESIGN: RG	ISSUED BY:	DATE: 08/31/2023   JCN:
APPROVAL (FINISHES)	DRAWN: RG	FACILITY SERVICES & ENGINEERING DIVISION	DRAWING NO. <b>F2021017-A0.00</b>   SHEET #
	CHECK: GAA		14 OF 53



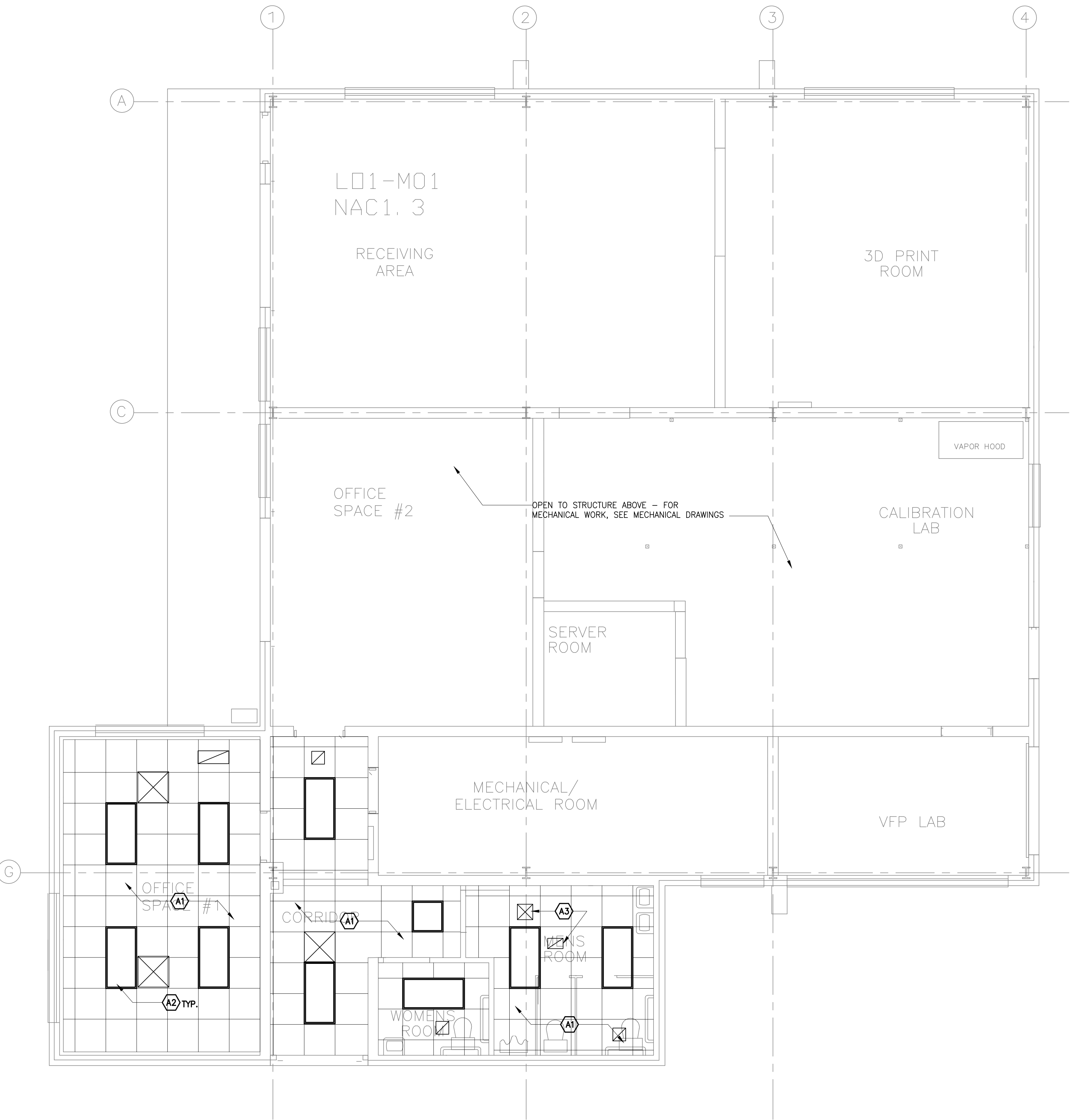


1. REINFORCED CONCRETE OF THE FOUNDATION (IE FOUNDATION WALLS, GRADE BEAMS, PILE CAPS, PIERS, SLABS & SLAB ON GROUND) SHALL BE OF NATURAL AGGREGATES CONFORMING TO ASTM C-33 AND SHALL DEVELOP A MINIMUM COMPRESSIVE STRENGTH OF 5000 PSI @ 28 DAYS UNLESS OTHERWISE NOTED.
2. REINFORCEMENT SHALL BE HIGH TENSILE GRADE DEFORMED BARS CONFORMING TO ASTM A-615 GRADE 60.
3. CALCIUM CHLORIDE, ADMIXTURES CONTAINING THIOCYANATE OR ADMIXTURES CONTAINING MORE THAN 0.05 PERCENT CHLORIDE IONS SHALL NOT BE USED.
4. FOLLOW ACI 318 AND 350 RULES AS TO STIRRUPS, ANCHORAGE, TEMPERATURE REINFORCEMENT AND SPACING OF BARS IN BEAMS UNLESS OTHERWISE NOTED.
5. ALL CONCRETE EXPOSED TO THE WEATHER TO BE AIR ENTRAINED AND SHALL CONFORM TO ASTM C-260. AIR CONTENT AS DETERMINED BY ASTM C231: 5 +/ - 1.5 % FOR CONCRETE USING 1-1/2" MAX. AGGREGATE.
6. THE MAXIMUM NOMINAL SIZE COARSE AGGREGATE IS 1-1/2 INCH.
7. THE SLUMP SHALL BE BETWEEN 2 AND 5 INCHES.
8. THE MAXIMUM WATER-CEMENTITIOUS MATERIAL RATIO IS 0.50.
9. PROOF SUPPORTS FOR REINFORCEMENT IN ACCORDANCE WITH ACI STANDARDS.
10. REINFORCING BARS SPICED AT POINTS OF STRESS TO BE LAPPED A MINIMUM OF 40 DIAMETERS.
11. ALL HORIZONTAL WALL REINFORCING SHALL BE CONTINUOUS. LAP TO BE 36 DIAMETERS MINIMUM.
12. CONTRACTOR SHALL NOTE AND PROVIDE ALL MISCELLANEOUS CURBS FORR EQUIPMENT AND MECHANICAL BASES THAT ARE REQUIRED BY OTHER DISCIPLINES.
13. POST INSTALLED ADHESIVE OR MECHANICAL ANCHORS SHALL BE MANUFACTURED BY HILTI OR APPROVED EQUAL.
14. ALL EXPOSED CORNERS SHALL BE CHAMFERED 3/4 INCH TYPICAL UNLESS OTHERWISE NOTED.
15. THE MINIMUM CONCRETE COVER SHALL BE AS FOLLOWS UNLESS OTHERWISE NOTED ON DRAWINGS:
  - a. 3" - CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH
  - b. 2" - CONCRETE EXPOSED TO EARTH OR WEATHER (#6 BARS AND LARGER)
  - c. 2" - CONCRETE EXPOSED TO EARTH OR WEATHER (#5 BARS AND SMALLER)
  - d. 1" - FOR SLAB AND WALLS NOT EXPOSED TO EARTH OR WEATHER.

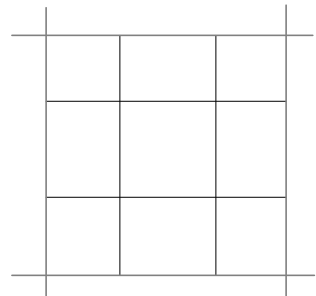



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REV	DATE		DESCRIPTION			CHECK	APR'VD
UNITED STATES DEPARTMENT OF TRANSPORTATION <b>FEDERAL AVIATION ADMINISTRATION</b> WILLIAM J. HUGHES TECHNICAL CENTER ATLANTIC CITY INT'L AIRPORT, N.J. 08405							
<b>BUILDING 202 SUSTAINMENT</b>						<b>FACILITY</b>	
<b>FLOOR PLAN – HOUSEKEEPING CONCRETE PAD</b>							
REVIEWED BY		SUBMITTED BY		DATE		APPROVED BY	
						Michael Roselli ANG-E342	
						DATE: 08/31/2023 JCN:	
		DESIGN: RG		ISSUED BY:			
		DRAWN: RG		FACILITY SERVICES & ENGINEERING DIVISION			
APPROVAL (FINISHES)		CHECK: GAA		DRAWING NO.		SHEET #	
				<b>F2021017-A1.00</b>		15 OF 53	

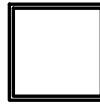


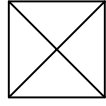


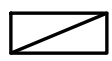
REFLECTED CEILING PLAN - SYMBOL LEGEND

- 

NEW 2'x2' CEILING GRID AND ACOUSTICAL CEILING TILE
- 


NEW 2'x4' LIGHT FIXTURE - REFER TO ELECTRICAL DRAWINGS
- 

NEW 2'x2' LIGHT FIXTURE - REFER TO ELECTRICAL DRAWINGS
- 

NEW LAY-IN SUPPLY AIR DIFFUSER - REFER TO MECHANICAL DRAWINGS
- 

NEW LAY-IN RETURN AIR DIFFUSER - REFER TO MECHANICAL DRAWINGS

CONSTRUCTION KEY NOTES:

- 

'x' DENOTES KEY NOTE NUMBER BELOW
1. REMOVE AND REPLACE EXISTING CEILING GRIDS AND ACOUSTICAL CEILING TILES. REFER TO SPECS.

2. REMOVE AND REPLACE EXISTING LIGHT FIXTURES - SEE ELECTRICAL DRAWINGS.

3. NEW LAY-IN SUPPLY & RETURN AIR DIFFUSER - SEE MECHANICAL DRAWINGS.

1

A1.01

REFLECTED CEILING PLAN


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

0

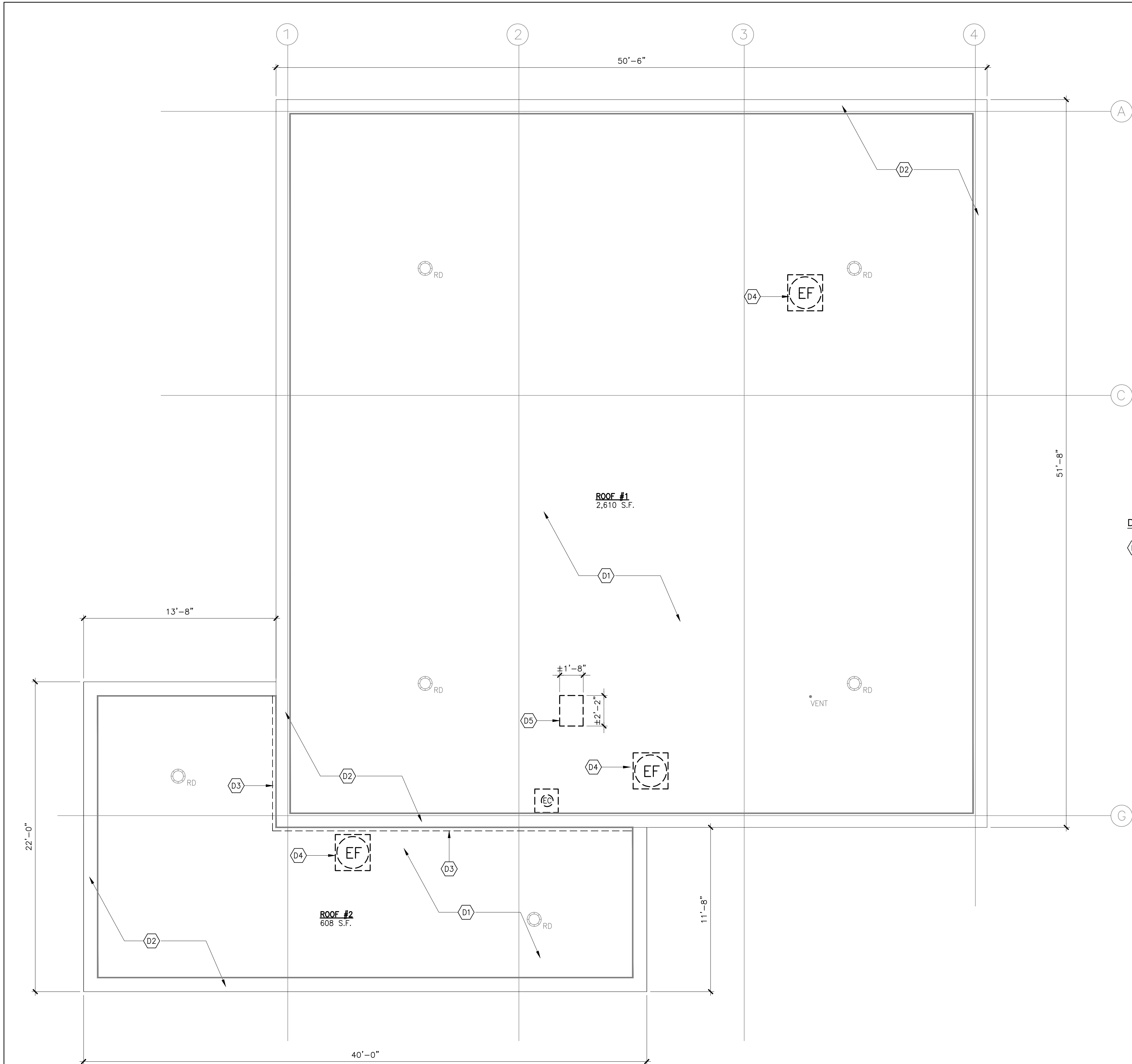
2'

4'

8'

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BUILDING 202 SUSTAINMENT		FACILITY	
REFLECTED CEILING PLAN			
REVIEWED BY	SUBMITTED BY	DATE	APPROVED BY
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APPROVAL (FINISHES)		DRAWING NO.	
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**LEGEND:**

EXISTING ROOFING TO BE REMOVED (TOTAL TEAR-OFF) ±3,220 TOTAL S.F.

RD

EXISTING ROOF DRAIN

• VENT

VENT THRU ROOF TO REMAIN

EC

EXHAUST CHIMNEY TO BE REMOVED, EXISTING CURB REMAIN.

- GENERAL DEMOLITION NOTES:**
- EXISTING ROOFING SYSTEM TO BE REMOVED. CONTRACTOR TO REMOVE ALL ROOFING ASSEMBLY
    - ROOF MEMBRANE
    - +/-2" INSULATION
    - PERIMETR METAL COPING, PERIMETER METAL EDGING, WOOD BLOCKING.
    - EXISTING PRECAST CONCRETE ROOF DECK TO REMAIN.
  - CONTRACTOR SHALL ONLY REMOVE/DEMO AS MUCH OF THE EXISTING ROOF SYSTEM THAT CAN BE REPLACED WITH THE INSTALLATION OF THE NEW ROOF SYSTEM WITH-IN THAT WORK DAY. ROOF MUST REMAIN WATERTIGHT THROUGHOUT THE PROJECT. TIE-INS BETWEEN NEW AND EXISTING ROOFS MUST BE WATERTIGHT BETWEEN WORK SHIFTS.

- DEMOLITION KEY NOTES:**
- Dx 'x' DENOTES KEY NOTE NUMBER BELOW
- EXISTING ROOFING ASSEMBLY TO BE REMOVED (±2" INSULATION + ROOF MEMBRANE).
  - REMOVE EXISTING PERIMETER METAL COPING INCLUDING THE LOWER FASCIA (TYP.)
  - REMOVE EXISTING THRU-WALL COPPER FLASHING.
  - REMOVE EXHAUST FAN UNIT AND CURB. FOR CLOSURE DETAIL — SEE 5A/A3.00
  - CUT NEW ROOF OPENING FOR MECHANICAL DUCT, SEE DETAIL 6/A3.00 FOR FRAMING SUPPORT. COORDINATE EXACT LOCATION AND SIZE WITH MECHANICAL DRAWINGS.

**PHOTO 1:** EXISTING VENT AND EXHAUST TO BE REMOVED

**PHOTO 2:** EXISTING COPPER FLASHING TO REMAIN (ROOF #2).

**PHOTO 3:** EXISTING CONDITION AT ROOF #1

**PHOTO 4:** EXISTING PERIMETER METAL EDGE TO BE REMOVED INCLUDING THE LOWER ALUMINUM FASCIA

**AECOM**

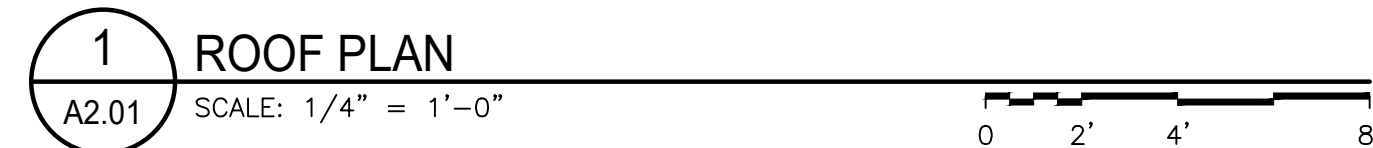
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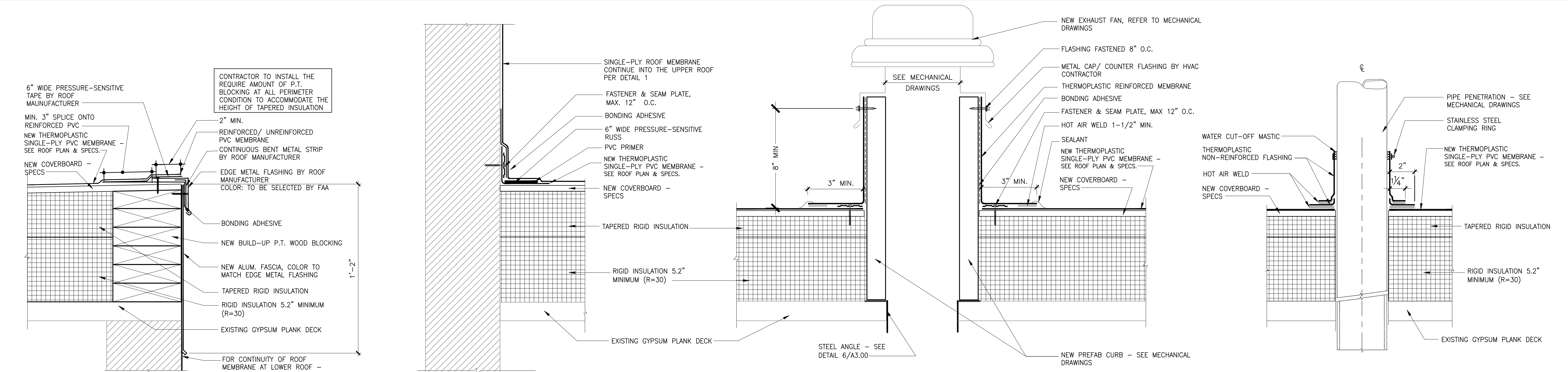
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BUILDING 202 SUSTAINMENT			FACILITY	
DEMOLITION: ROOF PLAN				
REVIEWED BY	SUBMITTED BY	DATE	APPROVED BY	DATE
			Michael Roselli ANG-E342	
			DATE: 08/31/2023	JCN:
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ROOF PLAN					
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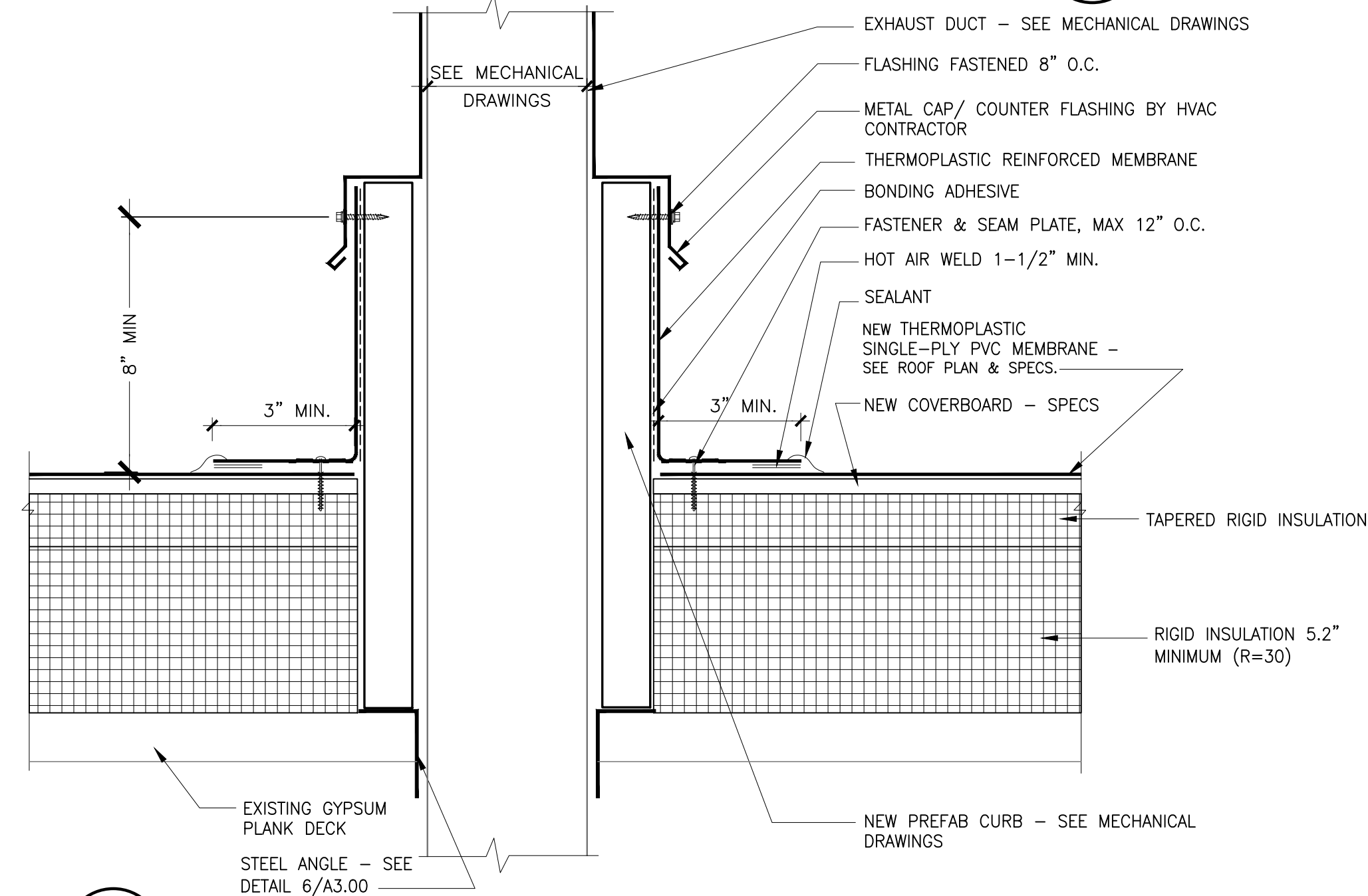


**1 METAL EDGE DETAIL**  
A3.00 SCALE: 3" = 1'-0"

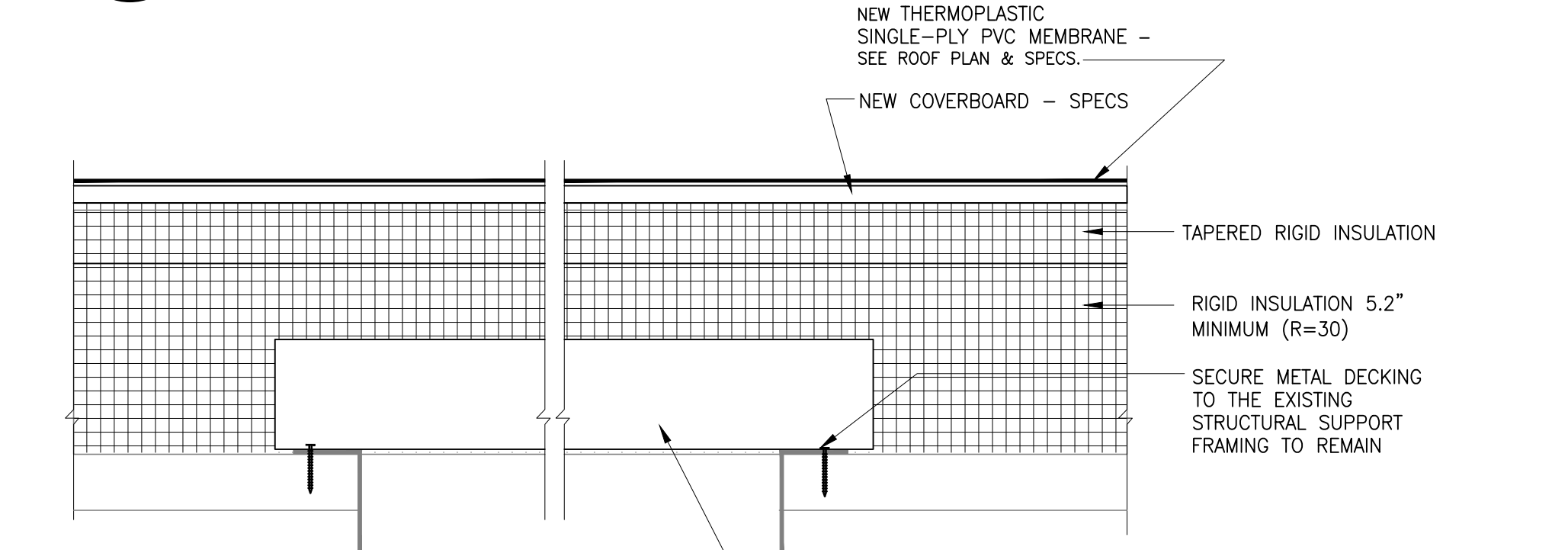
**2 WALL FLASHING DETAIL**  
A3.00 SCALE: 3" = 1'-0"

**3 EXHAUST FAN CURB DETAIL**  
A3.00 SCALE: 3" = 1'-0"

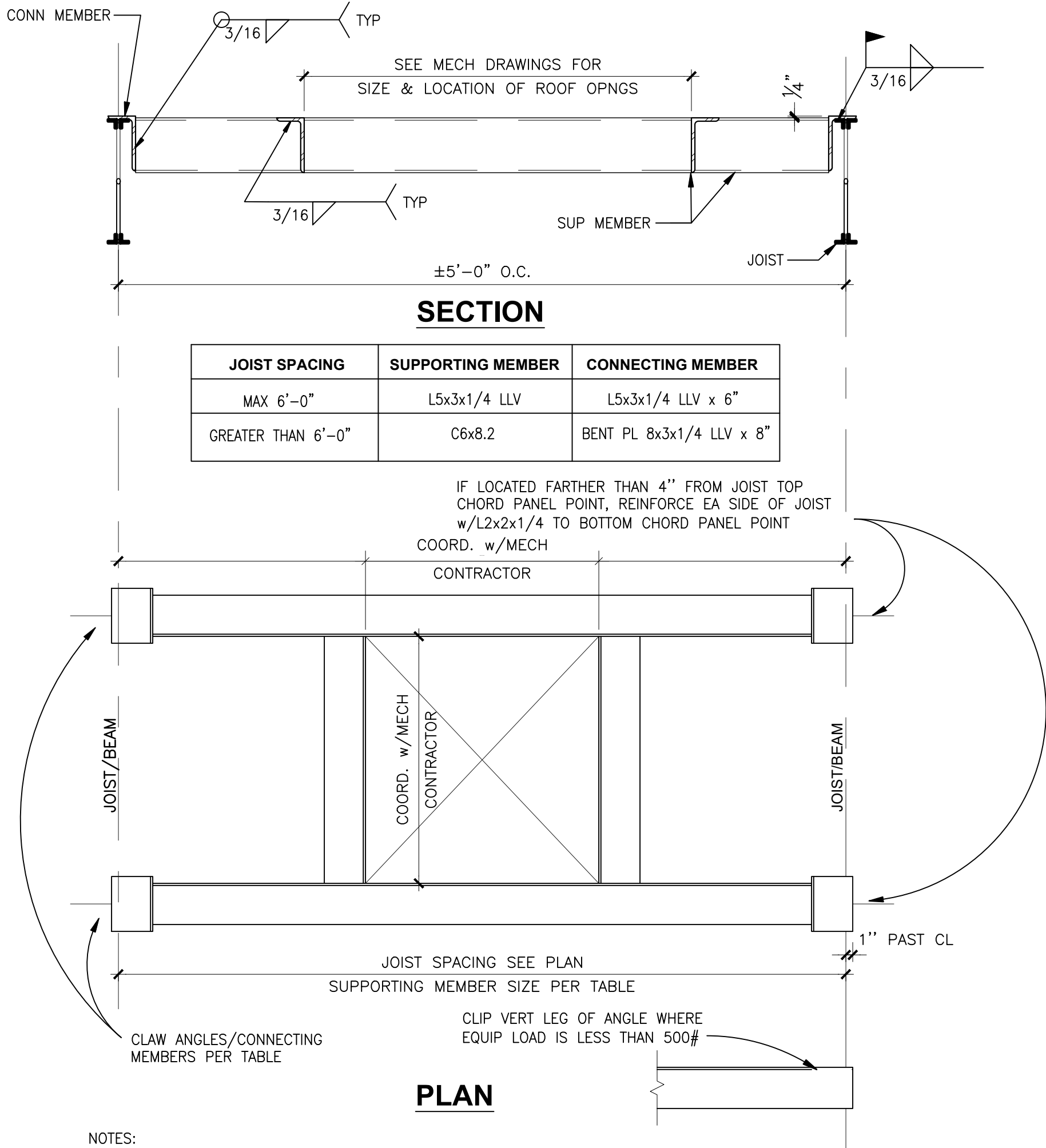
**4 PIPE PENETRATION DETAIL**  
A3.00 SCALE: 3" = 1'-0"



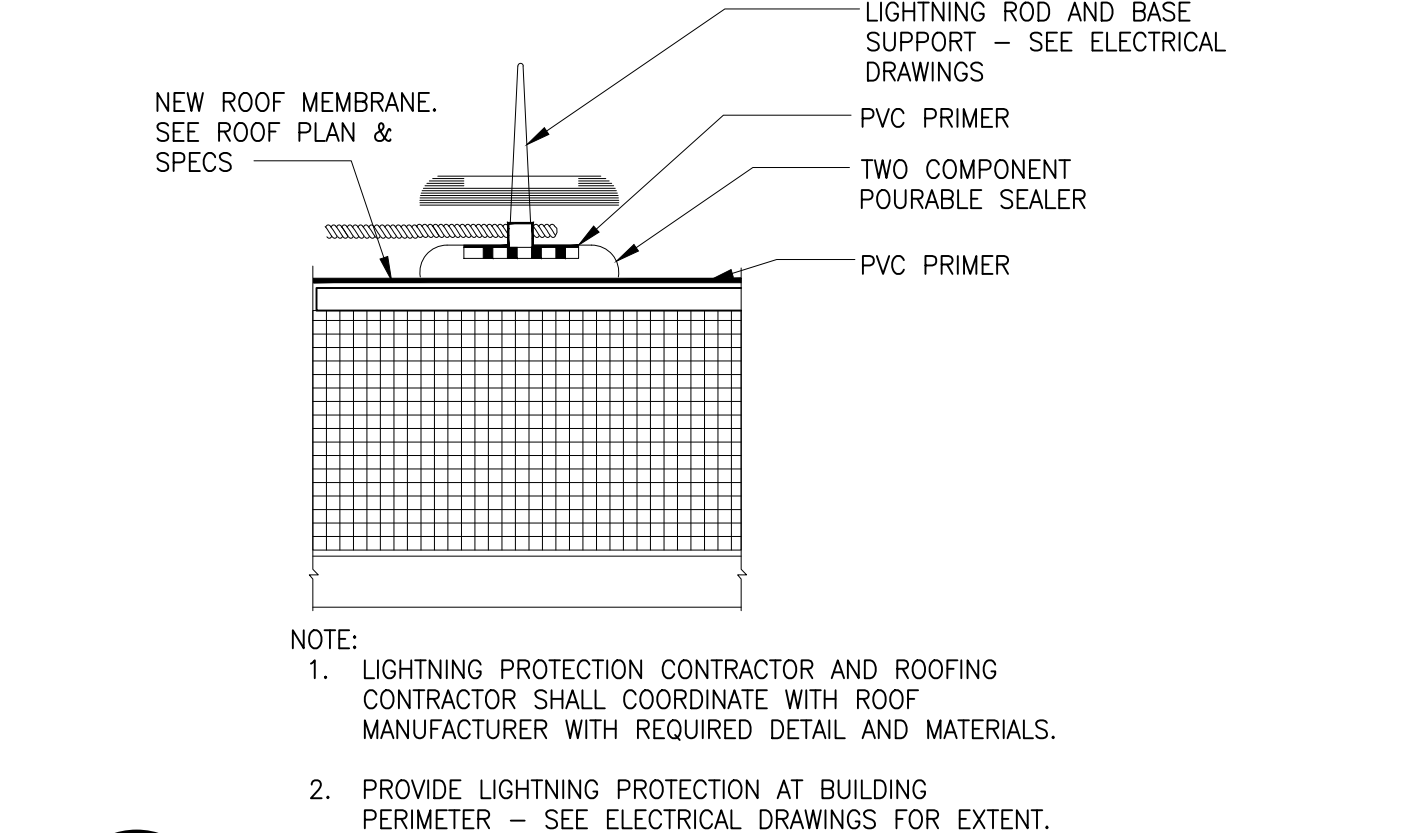
**5 EXHAUST DUCT CURB DETAIL**  
A3.00 SCALE: 3" = 1'-0"



**5A ROOF CLOSURE DETAIL**  
A3.00 SCALE: 3" = 1'-0"



**6 ROOF OPENING DETAIL**  
A3.00 SCALE: 3" = 1'-0"



**7 LIGHTNING PROTECTION DETAIL**  
A3.00 SCALE: 3" = 1'-0"

**AECOM**

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<b>ROOF DETAILS</b>				
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- NOTES:
- THIS DETAIL APPLIES TO ALL ROOF OPENINGS LARGER THAN 18". COORDINATE OPENINGS WITH MECHANICAL DRAWINGS.
  - AT EXISTING BUILDINGS, FIELD WELD FRAME TOGETHER AS REQUIRED TO ALLOW FOR INSTALLATION AND TOLERANCE.
  - ALL WELDING TO JOISTS SHALL BE DONE WITH CARE SO AS NOT TO IMPAIR JOIST.
  - REFER TO ARCHITECTURAL DETAILS FOR ROOF ASSEMBLY.



GENERAL NOTES:

1. TAKE ALL PRECAUTIONS NECESSARY TO PROTECT FROM DAMAGE ALL EXISTING UTILITIES AND EQUIPMENT THAT ARE TO REMAIN. ANY UTILITIES AND/OR EQUIPMENT DAMAGED BY THE CONTRACTOR SHALL BE REPAIRED OR REPLACED AT NO ADDITIONAL COST TO THE OWNER, AND TO THE SATISFACTION OF THE BUILDING.
2. DIMENSIONS, LOCATIONS AND CONDITIONS SHOWN ARE APPROXIMATE. TAKE MEASUREMENTS IN THE FIELD, NOT FROM DIMENSIONS PROVIDED HEREIN. VERIFY ALL CONDITIONS AND DIMENSIONS IN THE FIELD PRIOR TO ORDERING ANY MATERIALS AND EQUIPMENT. NOTIFY THE COR OF ANY DISCREPANCIES AND CHANGES IN WRITING.
3. TAKE ALL PRECAUTIONS NECESSARY TO MINIMIZE ANY DISTURBANCES TO THE CONTINUOUS OPERATION OF THE FACILITY.
4. ALL MATERIALS AND EQUIPMENT REMOVED UNDER THIS CONTRACT SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE PROPERLY DISPOSED OF AWAY FROM THE AUTHORITY PROPERTY IN ACCORDANCE WITH APPLICABLE CODES AND ENVIRONMENTAL REGULATIONS, UNLESS OTHERWISE NOTED ON THE CONTRACT DRAWINGS OR IN THE SPECIFICATIONS.
5. PROVIDE A WRITTEN NOTICE TO THE FACILITIES MANAGEMENT, 72 HOURS IN ADVANCE, FOR ANY SHUTDOWN/STARTUP REQUIREMENTS. COORDINATE SHUTDOWNS/STARTUPS TO MINIMIZE IMPACTS ON THE CONTINUOUS OPERATION OF THE FACILITY.
6. ALL EQUIPMENT AND MATERIALS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER’S WRITTEN RECOMMENDATIONS AND INSTRUCTIONS. COMPLY WITH THE MANUFACTURER’S STORAGE, HANDLING, AND RIGGING INSTRUCTIONS.
7. PROVIDE FIREWATCH WHEN HOT WORK IS PERFORMED

DEMOLITION GENERAL NOTES:

1. CONTRACTOR SHALL OBTAIN ALL REQUIRED PERMITS BEFORE ANY WORK IS BEGUN.
2. ALL EXITS SHALL BE KEPT READILY ACCESSIBLE AND UNOBSTRUCTED AT ALL TIMES.
3. ALL WASTE AND DEBRIS SHALL BE REMOVED IN APPROVED CONTAINERS ON A DAILY BASIS.
4. REMOVE ALL WASTE RUBBLE AND REFUSE FROM THE INTERIOR AND EXTERIOR OF BUILDING.
5. REMOVE DUCTWORK AS INDICATED ON DRAWING. EQUIPMENT, DIFFUSERS AND DUCTWORK NOT SHOWN ON PLANS ARE TO REMAIN, UNLESS OTHERWISE NOTED.
6. COORDINATE ALL WORK WITH OTHER TRADES. CONTRACTOR SHALL VERIFY IN FIELD AND NOTIFY ENGINEER ANY AND ALL PIPING AND DUCTWORK THAT SERVES OTHER TENANTS PRIOR TO REMOVAL.
7. REMOVE ALL EXISTING DUCTWORK, EQUIPMENT AS SHOWN ON THIS PLAN. CUT BACK MAIN SUPPLY AND RETURN DUCTS TO MAIN RISER SHAFT LEAVING A MINIMUM OF 14” STUB OR MORE FOR RETURN DUCT SO AS TO MAINTAIN EXISTING DUCT SMOKE DETECTORS IN PLACE AND OPERATIONAL.
8. PROVIDE TEMPORARY DUCT CAP ON SUPPLY, RETURN, EXHAUST AND TOILET EXHAUST DUCTS, TO AVOID DUST FROM ENTERING THE BASE BUILDING SYSTEM.
9. ALL EXISTING BASE BUILDING CORE, UTILITIES, RISERS AND ALL SHAFTS SHALL REMAIN UNLESS OTHERWISE
10. ALL PERIMETER HVAC ELEMENTS SUCH AS; RADIATORS, MAIN PIPING, AND CONTROLS SHALL REMAIN UNLESS OTHERWISE INDICATED.
11. PROTECT PERIMETER HVAC APPARATUS WITH HEAVY WEIGHT PAPER, CARDBOARD OR MASONITE ON TOP AND FRONT BEFORE WORK IS BEGUN.

MECHANICAL GENERAL NOTES:


1. COORDINATE THE WORK IN ALL SUBMITTALS FOR THE PURPOSE OF ENSURING THAT NO CONFLICTS EXIST AMONG THE INSTALLATIONS TO BE MADE INCLUDING THE MANUFACTURER’S REQUIRED ACCESS AND CLEARANCES FOR EQUIPMENT.
2. SHOP DRAWINGS SUBMITTED SHALL BE DRAWN TO SCALE, 3/8”=1’-0” AT A MINIMUM, AND SHALL BE FULLY DIMENSIONED FROM ESTABLISHED BUILDING REFERENCE POINTS, SUCH AS COLUMNS, WALL, ETC.
3. PRIOR TO REMOVAL, MAKE AN ON-SITE FIELD INSPECTION WITH THE COR TO ACCURATELY IDENTIFY THE EQUIPMENT, DUCTWORK, PIPING, AND ASSOCIATED APPURTENANCES TO BE REMOVED AND TO REMAIN.
4. UNLESS OTHERWISE NOTED ON THE CONTRACT DRAWINGS, RUN DUCTS AND PIPING CONCEALED, AND CLEAR OF CEILING INSERTS. ALL DUCTWORK AND PIPING SHALL BE INSTALLED AS CLOSE AS POSSIBLE TO UNDERSIDE OF BEAMS, SLAB AND JOISTS.
5. UNLESS OTHERWISE NOTED ON THE CONTRACT DRAWINGS, FOLLOW ADA HEIGHT REQUIREMENTS WHEN INSTALLING THERMOSTATS.
6. UNLESS OTHERWISE NOTED ON THE CONTRACT DRAWINGS, SUPPORT ALL EQUIPMENT, PIPING AND DUCTWORK FROM BUILDING STRUCTURE STEEL.
7. AT THE COMPLETION OF THE INSTALLATION, PERFORM A COMPLETE OPERATIONAL TEST OF ALL INSTALLED EQUIPMENT/SYSTEM IN ACCORDANCE WITH THE CONTROL AND OPERATION REQUIREMENTS SHOWN ON THE CONTRACT DRAWINGS TO BE WITNESSED BY THE ENGINEER. ALL DEFECTS DISCLOSED BY THE OPERATIONAL TEST SHALL BE RECTIFIED BY THE CONTRACTOR AND THE EQUIPMENT/SYSTEM RETESTED AT NO ADDITIONAL COST TO THE OWNER.
8. EXISTING DUCTWORK, PIPING, AND EQUIPMENT UNRELATED TO THE WORK OF THIS CONTRACT ARE NOT SHOWN FOR CLARITY.
9. GIVE THE COR ONE (1) MONTH ADVANCE NOTICE OF INTENTION TO START FIELD WORK.
10. REMOVAL OF HVAC EQUIPMENT SHALL INCLUDE THE REMOVAL OF ASSOCIATED PIPING, DUCTWORK, SUPPORTS, INSULATION, AND CONTROL APPURTENANCES.
11. RESTORE ALL AREAS DISTURBED BY CONTRACTOR OPERATIONS, INCLUDING SIDEWALKS, CURBS, PAVEMENT, GRASS AND OTHER ADJACENT AREAS, TO EXISTING CONDITIONS.
- 12.THE DDC CONTROL SYSTEM EXISTING THROUGHOUT THE CENTER IS ANDOVER.  
THE EXISTING CONTROLS WILL BE REMOVED IN ITS ENTIRETY AND REPLACED WITH ANDOVER DDC CONTROLS. NOTWITHSTANDING ANY OTHER PROVISION OF THE CONTRACT, NO OTHER PRODUCT WILL BE ACCEPTED – ALL CONTROLLERS AND PROGRAMMING SHALL BE ANDOVER. THE AUTHORIZED LOCAL ANDOVER REPRESENTATIVE IS TRI-M BUILDING AUTOMATION SYSTEMS CORP., 206 GALE LANE, PO BOX 69, KENNETT SQUARE, PA 19348, PHONE (610) 444-1002, ATTN MIKE MAY OR ROB KOENIG. THE EXISTING SYSTEM COMMUNICATES WITH THE MAIN WORKSTATION LOCATED AT THE CENTRAL UTILITIES PLANT (CUP). PROVIDE COMMUNICATION WITH THE EXISTING FRONT END IN THE CUP FOR ALL NEW AND MODIFIED CONTROL WORK. NEW AND MODIFIED WORK SHALL FUNCTION SEAMLESSLY WITH THE EXISTING SYSTEM, BOTH LOCALLY AND REMOTELY. ALL COSTS, INCLUDING COSTS FOR ANDOVER/TRI-M WORK, SHALL BE THE CONTRACTOR’S RESPONSIBILITY, AND SHALL BE INCLUDED AS PART OF THE CONTRACTOR’ BID.

DUCTWORK GENERAL NOTES:

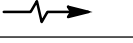
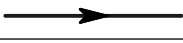








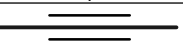


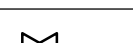
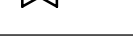

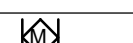

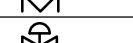
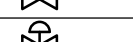
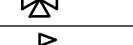
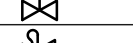
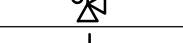

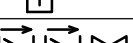
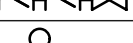

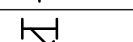
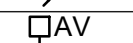
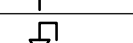

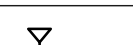
1. ALL DUCTWORK SHALL BE FABRICATED AND INSTALLED IN ACCORDANCE WITH SMACNA ”HVAC DUCT CONSTRUCTION STANDARDS – METAL AND FLEXIBLE” AND SHALL HAVE A 4” WG PRESSURE CLASS RATING FOR UPSTREAM TERMINAL BOX AND 3”WG PRESSURE CLASS RATING FOR DOWNSTREAM TERMINAL BOX AND RETURN DUCTWORK.
2. LEAKAGE TESTS OF ALL EXISTING TO REMAIN AND NEW DUCTWORK SHALL BE PERFORMED IN ACCORDANCE WITH SMACNA ”HVAC AIR DUCT LEAKAGE TEST MANUAL”. RECTANGULAR DUCTWORK SHALL HAVE A LEAKAGE CLASS OF 24 AND SHALL NOT EXCEED A LEAKAGE TEST OF 13 CFM PER 100 SQUARE FEET OF DUCT SURFACE.
3. DURING CONSTRUCTION, PROTECT ALL DUCTWORK OPENINGS TO PREVENT THE ENTRANCE OF DIRT, DUST, AND MOISTURE.
4. PROVIDE VOLUME DAMPERS ON ALL SUPPLY, RETURN AND EXHAUST DUCT BRANCHES EXCEPT UPSTREAM VAV BOXES.
5. ALL DUCTWORK SIZES SHOWN ON THE CONTRACT DRAWINGS ARE CLEAR INSIDE DIMENSIONS. WHERE INTERNAL ACOUSTICAL LINING IS REQUIRED, SHEET METAL DUCT SIZES SHALL BE CORRESPONDINGLY INCREASED TO ACCOMMODATE THE LINER THICKNESS SO THAT NET CROSS SECTIONAL AREAS WILL NOT BE REDUCED.
6. DUCTWORK, 10FT FROM DOWNSTREAM TERMINAL BOXES AND 15FT FROM AIR CONDITIONING UNITS & FANS SHALL BE ACOUSTICALLY LINED WITH 1” CLOSED CELL ELASTOMERIC LINER.
7. COORDINATE ALL DIFFUSERS, REGISTERS, AND GRILLES WITH ARCHITECTURAL DRAWINGS FOR EXACT LOCATIONS. FURNISH AND INSTALL MANUAL ADJUSTABLE VOLUME DAMPER WITH EXTENDED MOUNT AS SHOWN ON THE CONTRACT DRAWINGS, AND LOCKING QUADRANTS ON EACH BRANCH SERVING THE DIFFUSER. FOR INACCESSIBLE CEILING, USE MANUAL ADJUSTABLE VOLUME DAMPER OPERABLE THROUGH THE FACE OF THE DIFFUSER
8. PAINT INTERIOR OF ALL UNLINED DUCTWORK VISIBLE THROUGH A GRILLE OR DIFFUSER WITH FLAT BLACK PAINT.
9. ALL RETURN/SPILL AIR OPENINGS ABOVE CEILING SHALL BE FURNISHED WITH A 1/2” WIRE MESH SCREEN.
- 10.FURNISH AND INSTALL FLEXIBLE CONNECTIONS ON MAIN DUCTWORK AT BUILDING EXPANSION JOINTS.
- 11.FURNISH AND INSTALL ACCESS DOORS IN THE DUCTWORK NEAR MOTORIZED DAMPERS, SMOKE DETECTORS, FIRE DAMPERS AND FIRE/SMOKE DAMPERS FOR ROUTINE INSPECTION AND MAINTENANCE.
- 12.FLEX DUCTS SHALL NOT EXCEED 10 FEET IN LENGTH UNLESS OTHERWISE SHOWN ON THE CONTRACT DRAWINGS. FLEX DUCTS SHALL NOT BE USED IN EXPOSED CEILING AREAS
- 13.ALL EXISTING MEDIUM PRESSURE AND LOW PRESSURE DUCTWORK THAT IS TO BE REUSED SHALL BE CLEANED AND DUCTWORK WITH INTERNAL ACOUSTICAL LINING SHALL BE COATED WITH FOSTERS ANTI-MICROBIAL COATING WHILE THE EXISTING SYSTEM IS BEING REFURBISHED.

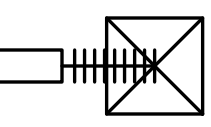
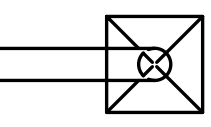
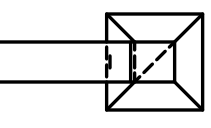


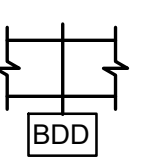
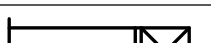

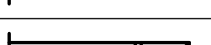
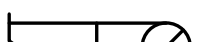
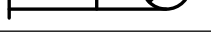

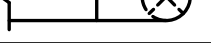

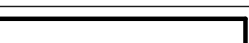
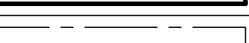
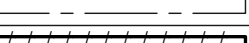
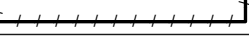

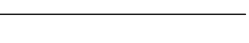
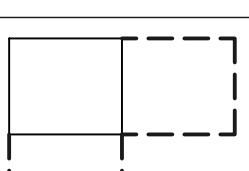
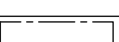

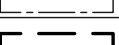

MECHANICAL SHEET INDEX






























SHEET NUMBER	DESCRIPTION
M0.01	MECHANICAL GENERAL NOTES AND SHEET INDEX
M0.02	MECHANICAL SYMBOLS AND ABBREVIATIONS
MD1.01	MECHANICAL DUCTWORK DEMOLITION PLAN
MD2.01	MECHANICAL PIPING DEMOLITION PLAN
M1.01	MECHANICAL NEW PLAN
M1.02	MECHANICAL ROOF PLAN
M4.01	MECHANICAL SCHEDULES
M5.01	MECHANICAL DETAILS – 1
M5.02	MECHANICAL DETAILS – 2
M8.01	MECHANICAL CONTROLS DIAGRAMS – 1
M8.02	MECHANICAL CONTROLS DIAGRAMS – 2

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BUILDING 202 SUSTAINMENT		FACILITY	
MECHANICAL GENERAL NOTES AND SHEET INDEX			
REVIEWED BY	SUBMITTED BY	DATE	APPROVED BY
			Michael Roselli ANG-E342
	DESIGN: EB	ISSUED BY:	DATE: 08/31/2023   JCN:
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	CHECK: EA		F2021017-M0.01
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MECHANICAL SYMBOLS LIST	
NOTE: NOT ALL SYMBOLS MAY BE USED.	
SYMBOL	DESCRIPTION
	AIRFLOW ARROW
	FLOW ARROW
	CONNECT TO EXISTING
	END OF DEMOLITION
	PIPE CAPPED
	PIPE DROP
	PIPE RISE
	PIPE TEE DOWN
	PIPE REDUCER
	PIPE UNION
	PIPE GUIDES OR SLEEVES
	PIPE ANCHOR
	FLEXIBLE PIPE CONNECTION
	GENERAL SERVICE VALVE (SEE SPECIFICATIONS FOR VALVE TYPE PER APPLICATION)
	CHECK VALVE (ARROW INDICATES DIRECTION OF FLOW)
	MANUAL BALANCING VALVE
	AUTOMATIC BALANCING VALVE
	TWO-WAY CONTROL VALVE
	THREE-WAY CONTROL VALVE
	PRESSURE REDUCING VALVE
	RELIEF VALVE
	DRAIN VALVE WITH THREADED HOSE CONNECTION
	REDUCED PRESSURE BACKFLOW PREVENTER
	PRESSURE GAUGE WITH STOPCOCK
	STRAINER WITH BLOW DOWN VALVE
	AUTOMATIC AIR VENT
	MANUAL AIR VENT
	TEMPERATURE/PRESSURE TEST PLUG (PETE'S PLUG)
	CLEAN OUT
	FLOW METER
	THERMOMETER
	PITCH DOWN IN DIRECTION OF ARROW

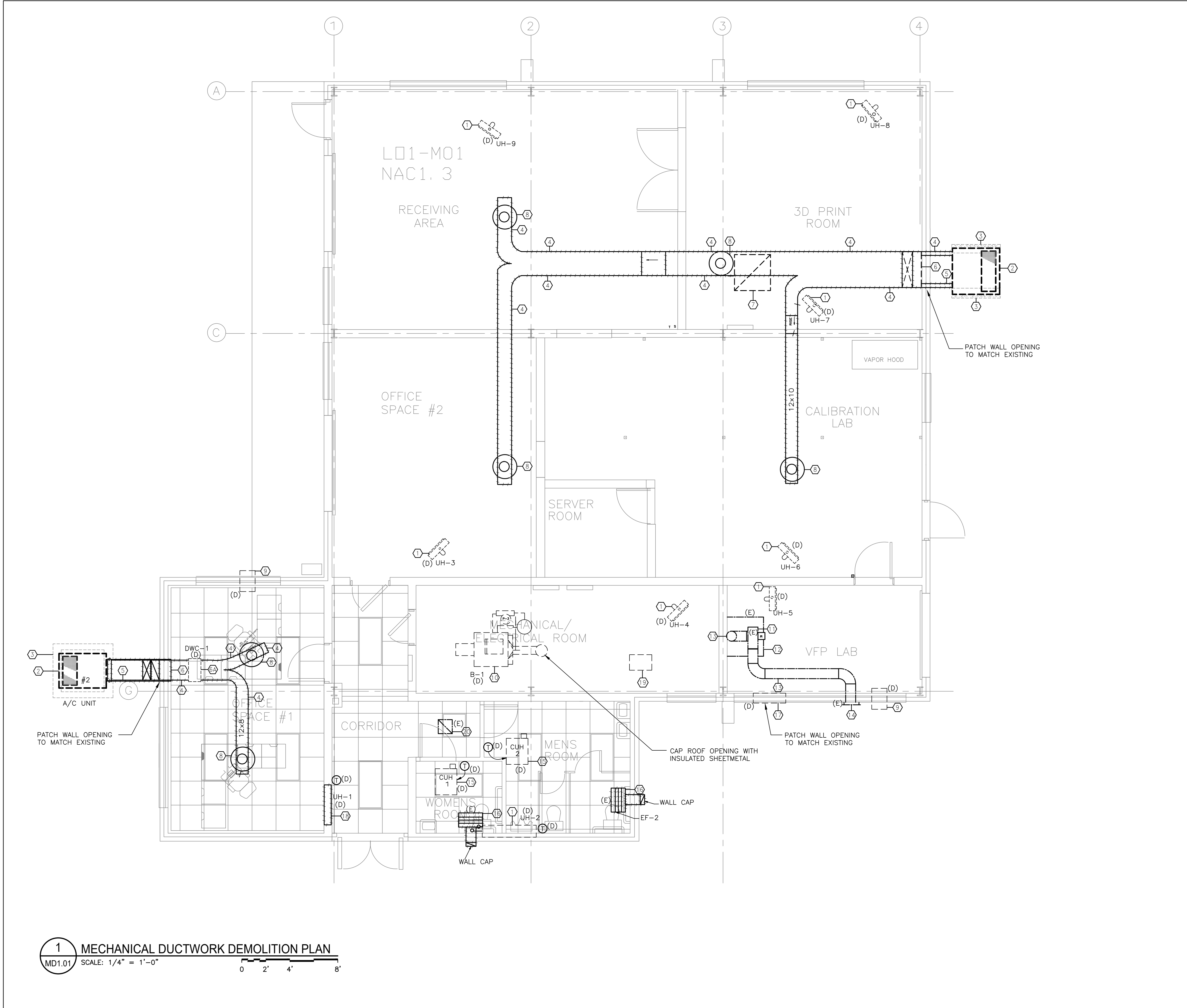
MECHANICAL SYMBOLS LIST CONT.	
NOTE: NOT ALL SYMBOLS MAY BE USED.	
SYMBOL	DESCRIPTION
	SUPPLY DIFFUSER WITH FLEXIBLE DUCT TAG – NECK SIZE AIRFLOW (CFM) TAG EXAMPLE: S1–6ø (100)
	SUPPLY DIFFUSER TAG – NECK SIZE AIRFLOW (CFM) TAG EXAMPLE: S1–6ø (100)
	RETURN/EXHAUST GRILLE TAG – NECK SIZE AIRFLOW (CFM) TAG EXAMPLE: R1–22x10 (500) TAG EXAMPLE: E1–22x10 (500)
	SIDEWALL SUPPLY DIFFUSER TAG – NECK SIZE AIRFLOW (CFM) TAG EXAMPLE: S2–12x8 (100)
	SIDEWALL RETURN/EXHAUST GRILLE TAG – NECK SIZE AIRFLOW (CFM) TAG EXAMPLE: R2–12x8 (100) TAG EXAMPLE: E2–12x8 (100)
	DAMPERS/DUCT ACCESSORIES BDD: BACKDRAFT DAMPER FSD: FIRE/SMOKE DAMPER FD: FIRE DAMPER MD: MOTORIZED DAMPER SD: SMOKE DAMPER VD: VOLUME DAMPER SB: SECURITY BARS
	SUPPLY AND OUTDOOR AIR RECTANGULAR DUCT ELBOW UP
	ROUND DUCT ELBOW UP
	RETURN, RELIEF, AND EXHAUST AIR RECTANGULAR DUCT ELBOW UP
	ROUND DUCT ELBOW UP
	SUPPLY AND OUTDOOR AIR RECTANGULAR DUCT ELBOW DOWN
	ROUND DUCT ELBOW DOWN
	RETURN, RELIEF, AND EXHAUST AIR RECTANGULAR DUCT ELBOW DOWN
	ROUND DUCT ELBOW DOWN
	NEW DUCTWORK
	EXISTING DUCTWORK
	DEMOLITION DUCTWORK
	NEW PIPING
	EXISTING PIPING
	DEMOLITION PIPING
	NEW MECHANICAL EQUIPMENT (WITH CLEARANCE SHOWN)
	EXISTING MECHANICAL EQUIPMENT
	DEMOLISHED MECHANICAL EQUIPMENT
	ACCESS DOOR
	TRANSFER AIR DUCT W/ TWO (2) SIDEWALL GRILLES

CONTROLS SYMBOLS LIST	
NOTE: NOT ALL SYMBOLS MAY BE USED.	
SYMBOL	DESCRIPTION
	ANALOG INPUT / ANALOG OUTPUT
	
	AIR FLOW MEASURING DEVICE
	AIR SWITCH
	CARBON DIOXIDE SENSOR
	CARBON MONOXIDE SENSOR
	CURRENT SENSOR
	DIFFERENTIAL PRESSURE TRANSMITTER
	DIGITAL INPUT / DIGITAL OUTPUT
	
	DUCT MOUNTED SMOKE DETECTOR
	END SWITCH
	AIRFLOW MEASURING DEVICE
	HAND-OFF-AUTO SWITCH
	HUMIDITY SENSOR
	HUMIDITY TRANSMITTER
	METER
	MOTORIZED ACTUATOR
	PH TRANSMITTER
	PRESSURE SWITCH
	RELAY
	STARTER
	STATIC PRESSURE TRANSMITTER
	TEMPERATURE LOW LIMIT SENSOR
	TEMPERATURE TRANSMITTER
	THERMOSTAT WITH ADJUSTABLE CONTROL
	VARIABLE FREQUENCY DRIVE
	WATER FLOW SWITCH
	WATER LEAK DETECTOR

MECHANICAL ABBREVIATIONS	
NOTE: NOT ALL ABBREVIATIONS MAY BE USED.	
ABBREVIATION	DESCRIPTION
(D)	EXISTING TO BE DEMOLISHED
(E)	EXISTING TO REMAIN
(N)	NEW
ACCU	AIR COOLED CONDENSING UNIT
ADJ.	ADJUSTABLE
AFF	ABOVE FINISHED FLOOR
AHU	AIR HANDLING UNIT
AMB	AMBIENT
APD	AIR PRESSURE DROP
B	BOILER
BAS	BUILDING AUTOMATION SYSTEM
BFP	BACKFLOW PREVENTOR
BHP	BRAKE HORSEPOWER
BLDG	BUILDING
BMS	BUILDING MANAGEMENT SYSTEM
BOD	BOTTOM OF DUCT
BOP	BOTTOM OF PIPE
BTUH	BRITISH THERMAL UNITS PER HOUR
CFM	CUBIC FEET PER MINUTE
CO	CLEAN OUT
COP	COEFFICIENT OF PERFORMANCE
CUH	CABINET UNIT HEATER
CV	CONSTANT VOLUME
DB	DRY BULB
DDC	DIRECT DIGITAL CONTROLS
DIA	DIAMETER
DN	DOWN
DWC	DUCT WATER COIL
EAT	ENTERING AIR TEMPERATURE
EER	ENERGY EFFICIENCY RATIO
EF	EXHAUST FAN
EFF	EFFICIENCY RATIO
EG	ETHLENE GLYCOL
ESP	EXTERNAL STATIC PRESSURE
EWI	ENTERING WATER TEMPERATURE
FLA	FULL LOAD AMPS
FN	EXHAUST OR SUPPLY FAN
FPI	FINS PER INCH
FFM	FEET PER MINUTE
FT	FEET
GAL	GALLONS
GPM	GALLONS PER MINUTE
HP	HORSEPOWER
HWS	HOT WATER SUPPLY
HWR	HOT WATER RETURN
ID	INNER DIAMETER
IPLV	INTEGRATED PART LOAD VALUE
KW	KILOWATTS
LAT	LEAVING AIR TEMPERATURE
LWT	LEAVING WATER TEMPERATURE
MBH	THOUSAND BTUH
MCA	MAXIMUM CURRENT AMPACITY
MFS	MAXIMUM FUSE SIZE
MOP	MAXIMUM OVERCURRENT PROTECTION
N/A	NOT APPLICABLE
NC	NORMALLY CLOSED
NO	NORMALLY OPEN
NPSH	NET POSITIVE SUCTION HEAD
NTS	NOT TO SCALE
OBD	OPPOSED BLADE DAMPER
P	PUMP
PD	PRESSURE DROP
PG	PROPYLENE GLYCOL
PPH	POUNDS PER HOUR
PPM	PARTS PER MILLION
PRV	PRESSURE REDUCING VALVE
PSI	POUNDS PER SQUARE INCH
REFRIG	REFRIGERANT
RA	RETURN AIR
RF	RETURN FAN
RPM	REVOLUTIONS PER MINUTE
RTU	ROOFTOP UNIT
RV	RELIEF VENT OR GRAVITY INTAKE
SA	SUPPLY AIR
SP	STATIC PRESSURE
TSP	TOTAL STATIC PRESSURE
TYP	TYPICAL
UON	UNLESS OTHERWISE NOTED
UH	UNIT HEATER
VAV	VARIABLE AIR VOLUME
VD	VOLUME DAMPER
VFD	VARIABLE FREQUENCY DRIVE
VRF	VARIABLE REFRIGERANT FLOW
W	WATTS
WB	WET BULB
WG	WATER GAUGE
WPD	WATER PRESSURE DROP

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BUILDING 202 SUSTAINMENT			FACILITY
MECHANICAL SYMBOLS AND ABBREVIATIONS			
REVIEWED BY	SUBMITTED BY	DATE	APPROVED BY DATE
			Michael Roselli ANG-E342
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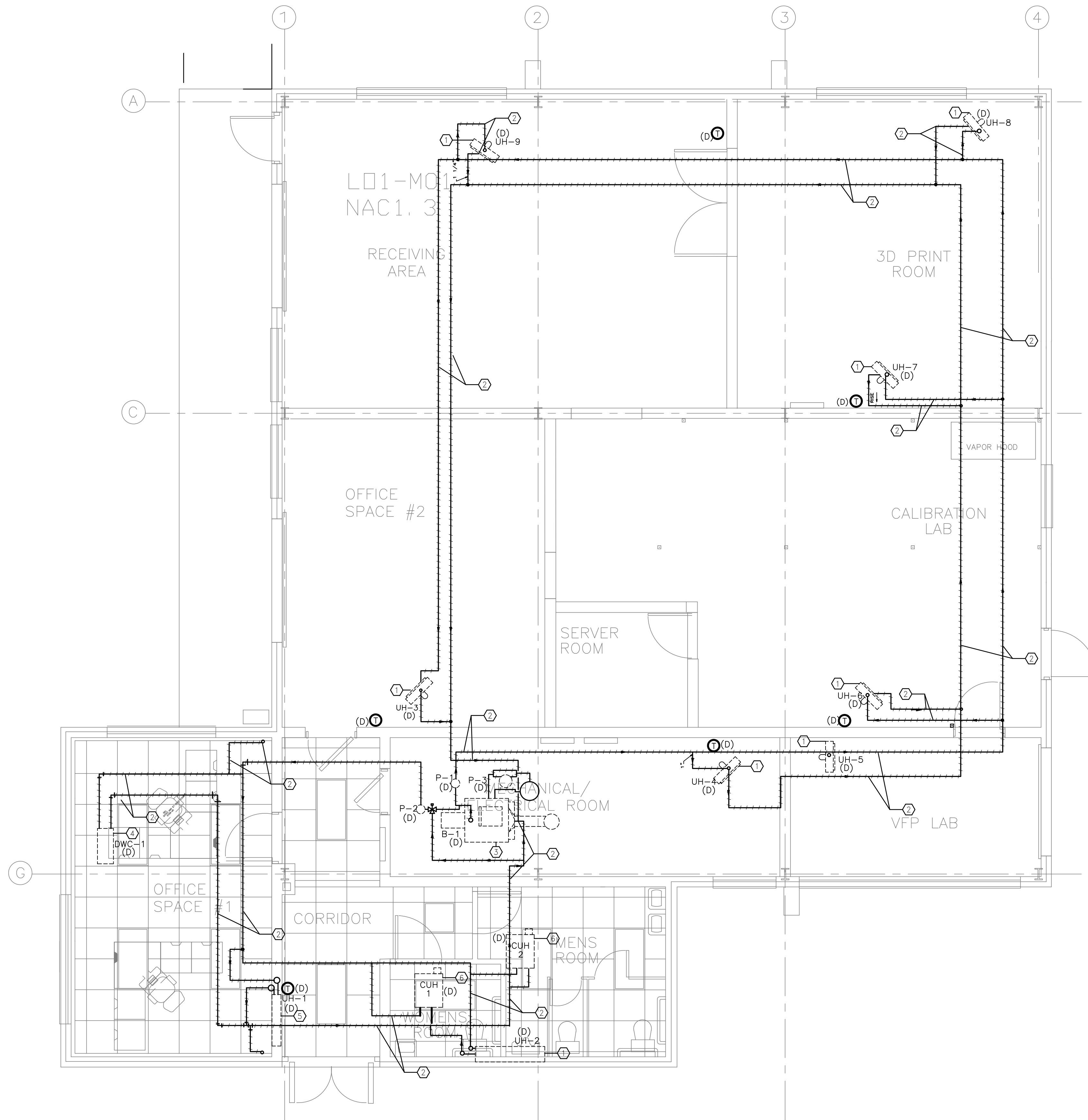


KEYNOTES:

- ① DEMOLISH EXISTING CEILING HUNG HOT WATER UNIT HEATER AND ASSOCIATED POWER AND CONTROL DEVICES AND WIRING. SEE DRAWING MD201 FOR ASSOCIATED PIPING DEMOLITION.
- ② DEMOLISH EXISTING AC UNIT AND ASSOCIATED CONTROLS.
- ③ DEMOLISH EXISTING CONCRETE PAD, UNIT SUPPORTS AND BOLLARDS
- ④ DEMOLISH EXISTING SUPPLY AIR DUCT AND ASSOCIATED SUPPORTS
- ⑤ DEMOLISH EXISTING RETURN AIR DUCT AND ASSOCIATED SUPPORTS
- ⑥ DEMOLISH EXISTING RETURN AIR GRILLE.
- ⑥A DEMOLISH EXISTING DUCT MOUNTED HEATING HOT WATER COIL. SEE DRAWING MD201 FOR ASSOCIATED PIPING DEMOLITION.
- ⑦ EXISTING CAPPED ROOF OPENING. DEMOLISH EXISTING ROOF EXHAUST FAN ON ROOF ABOVE AND ASSOCIATED POWER & CONTROL DEVICES & WIRING. EXISTING ROOF CURB SUPPORT TO REMAIN. TO SEAL OPENING - SEE ARCHITECTURAL DRAWINGS.
- ⑧ DEMOLISH EXISTING DIFFUSER AND ASSOCIATED DUCTWORK AND SUPPORTS.
- ⑨ DEMOLISH EXISTING WINDOW AC UNIT AND ASSOCIATED POWER AND CONTROL WIRING. COORDINATE WITH GENERAL CONTRACTOR TO SEAL THE OPENINGS ON THE EXISTING WINDOW TO MATCH EXISTING CONDITIONS.
- ⑩ DEMOLISH EXISTING HOT WATER HEATING BOILER AND ASSOCIATED PIPING, PUMP, TANK, EXHAUST CHIMNEY, POWER & CONTROL DEVICE & WIRING. REMOVE EXISTING DOMESTIC WATER PIPE BACK TO MAIN AND CAP. DEMOLISH EXISTING MECH. ROOM OUTSIDE AIR INTAKE LOUVER ASSOCIATED WITH THIS BOILER. SEE DRAWING MD201 FOR EXISTING BOILER HOT WATER PIPING SYSTEM DEMOLITION. COORDINATE WITH GENERAL CONTRACTOR TO SEAL THE OPENINGS ON THE EXISTING WALL AND ROOF TO MATCH EXISTING ADJACENT CONDITIONS.
- ⑪ EXISTING EXHAUST FAN TO REMAIN.
- ⑫ EXISTING HOOD TO REMAIN.
- ⑬ EXISTING DUCTWORK TO REMAIN.
- ⑭ EXISTING COVER PLATE TO REMAIN.
- ⑮ DEMOLISH EXISTING CABINET UNIT HEATER. SEE DRAWING MD201 FOR ASSOCIATED PIPING DEMOLITION.
- ⑯ DEMOLISH EXISTING BATHROOM EXHAUST FAN AND DUCTWORK
- ⑰ REMOVE EXISTING LOUVER & DAMPER UNDER WINDOW.
- ⑱ DEMOLISH EXISTING WALL MOUNTED RECESSED UNIT HEATER . SEE DRAWING MD102 FOR ASSOCIATED PIPING DEMOLITION.
- ⑲ PORTABLE AIR COMPRESSOR - REFER TO PLUMBING DRAWINGS FOR REMOVAL.
- ⑳ REMOVE EXISTING ROOF MOUNTED FAN AND CEILING GRILLE

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<b>BUILDING 202 SUSTAINMENT</b>			<b>FACILITY</b>
<b>MECHANICAL DUCTWORK AND HVAC UNITS DEMOLITION PLAN</b>			
REVIEWED BY	SUBMITTED BY	DATE	APPROVED BY
		Michael Roselli ANG-E342	
		DATE: 08/31/2023	JCN:
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# KEYNOTES:

- ① SEE KEYNOTE #1 ON DRAWING MD1.01
- ② DEMOLISH EXISTING HEATING HOT WATER SUPPLY & RETURN PIPING.
- ③ SEE KEYNOTE #10 ON DRAWING MD1.01
- ④ SEE KEYNOTE #6A ON DRAWING MD1.01
- ⑤ SEE KEYNOTE #18 ON DRAWING MD1.01
- ⑥ SEE KEYNOTE #15 ON DRAWING MD1.01

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0	08/31/23	FINAL SUBMISSION		

UNITED STATES DEPARTMENT OF TRANSPORTATION  
**FEDERAL AVIATION ADMINISTRATION**  
WILLIAM J. HUGHES TECHNICAL CENTER  
ATLANTIC CITY INT'L AIRPORT, N.J. 08405

**BUILDING 202 SUSTAINMENT** **FACILITY**

## MECHANICAL PIPING DEMOLITION PLAN

REVIEWED BY	SUBMITTED BY	DATE	APPROVED BY	DATE
APPROVAL (FINISHES)	DESIGN: EB DRAWN: CM CHECK: EA	ISSUED BY: FACILITY SERVICES & ENGINEERING DIVISION	Michael Roselli ANG-E342 DATE: 08/31/2023 JCN: DRAWING NO. <b>F2021017-MD2.01</b>	SHEET # 23 OF 53

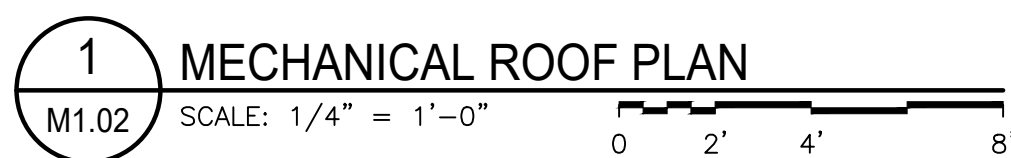
**1** MECHANICAL PIPING DEMOLITION PLAN  
MD2.01 SCALE: 1/4" = 1'-0"  
0 2' 4' 8'





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			Michael Roselli ANG-E342	
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	CHECK: EA		<b>F2021017-M1.01</b>	24 OF 53





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FAN SCHEDULE													
UNIT NO.	MANUFACTURER	MODEL	LOCATION	SERVICE	PERFORMANCE			MOTOR DATA				WEIGHT (LBS)	NOTES
					FLOW (CFM)	E.S.P. (IN.WC.)	RPM	BHP	HP	RPM	V/PH/HZ		
RF-1	GREENHECK	SQ-160	M.E.R.	1ST FLOOR	4500	0.75	1725	1.8	3	1725	208V/3Ø/60	185	1, 2, 3, 5
EF-1	GREENHECK	G-095-VG	ROOF	BATHROOMS	410	0.75	1645	0.13	1/6	1625	208V/1Ø/60	30	1, 4
<div>NOTES:</div> <div>1. PROVIDE STARTER / DISCONNECT SWITCHES</div> <div>2. PROVIDE MOTOR COVER</div> <div>3. PROVIDE SPRING HANGING ISOLATORS AND BRACKETS</div> <div>4. PROVIDE ROOF CURB</div> <div>5. PROVIDE VFD - RETURN FAN VFD SPEED SHOULD TRACK AHU-1 VFD SPEED</div>													

ELECTRIC UNIT / ELECTRIC HEATER SCHEDULE												
UNIT NO.	MANUFACTURER	MODEL NO.	LOCATION	SERVICE	PERFORMANCE DATA					ELECTRICAL DATA		NOTES
					HEATING CAPACITY (MBH)	AIRFLOW (CFM)	EAT (°F)	LAT (°F)	KW	MOTOR HP	V/PH/Hz	
UH-3	BERKO	HUHAA 1020	1ST FL. CEILING	VFP LAB	34.1	650	50	95	10	1/30	208/1/60	1, 2
UH-4	BERKO	HUHAA 720	M.E.R.	M.E.R.	25.6	650	50	95	7.5	1/30	208/1/60	1, 2
EH-1	MARKEL	6333 DO52	ENTRY	ENTRY	17.1	250	55	95	5	1/100	208/1/60	1
EH-2	MARKEL	J3423T	CALIBRATION LAB	CALIBRATION LAB	10.2	245	55	95	5	1/100	208/3/60	1
EBH-1	MARKEL	104142	OFFICE SPACE #1	OFFICE SPACE #1	5.95	-	-	-	1.75	-	208/1/60	1, 3

NOTES:  
1. PROVIDE DISCONNECT SWITCH  
2. WALL MOUNTED THERMOSTAT  
3. PROVIDE IN-BUILT THERMOSTAT

TAG	TYPE	NECK SIZE (IN.)	CFM RANGE	NO. OF SLOTS	SLOT SIZE	CEILING MODULE (IN.)	DIRECTION	SYMBOL
CD-A	SQUARE	6ø	UP TO 100	-	-	24 x 24	SUPPLY	☒
		8ø	105 TO 200	-	-			☒
		10ø	205 TO 300	-	-			☒
		12ø	305 TO 400	-	-			☒
		14ø	405 TO 550	-	-			☒
		15ø	550 TO 650	-	-			☒
CD-B	SQUARE	8ø	UP TO 225	-	-	12 x 12		☒
CG(R)-A	SQUARE	-	UP TO 300	-	-	12 x 12	RETURN/EXHAUST	☑
CG(R)-B	RECTANG.	-	UP TO 500	-	-	24 x 12	RETURN/EXHAUST	☑
SR	RECTANG.	-	-	-	-	REFER TO PLANS	SUPPLY	→
RG	RECTANG.	-	-	-	-		RETURN/EXHAUST	←

NOTES:

1. SQUARE CEILING DIFFUSERS (CD) BASED ON TITUS MODEL OMNI.
2. SQUARE CEILING GRILLES/REGISTERS (CG / CR) BASED ON TITUS MODEL 23RL.
3. RECTANGULAR DUCT MOUNTED/SIDEWALL SUPPLY REGISTER (SR) BASED ON TITUS MODEL 272RL W/OBD.
4. RECTANGULAR DUCT MOUNTED/SIDEWALL RETURN/EXHAUST GRILLE (RG) BASED ON TITUS MODEL 23RL W/OBD.
5. ALL DIFFUSERS AND GRILLES MUST BE COMPATIBLE WITH CEILING TYPE.  
CONTRACTOR TO COORDINATE BORDER / FRAME TYPES
6. PROVIDE BLANK-OFF PLATES FOR SQUARE CEILING DIFFUSERS WHERE INDICATED ON PLAN.  
INCREASE DIFFUSER NECK SIZE WHEN BLANK-OFF PLATES ARE USED.

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BUILDING 202 SUSTAINMENT				FACILITY	
MECHANICAL SCHEDULES					
REVIEWED BY		SUBMITTED BY	DATE	APPROVED BY	
				Michael Roselli ANG-E342	
				DATE: 08/31/2023    JCJN:	
DESIGN: EB		ISSUED BY:			
DRAWN: CM		FACILITY SERVICES & ENGINEERING DIVISION		DRAWING NO.	SHEET #
CHECK: EA				<b>F2021017-M4.01</b>	26 of 53



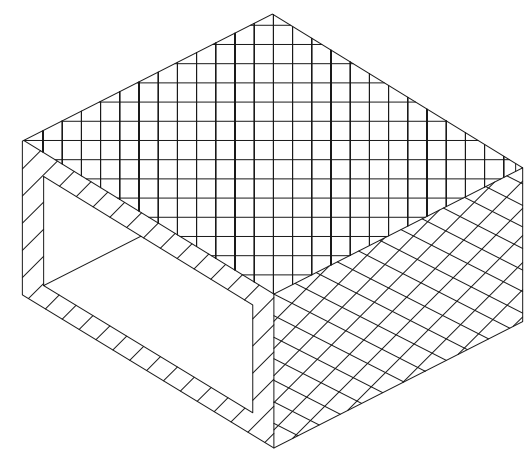


FIG. A

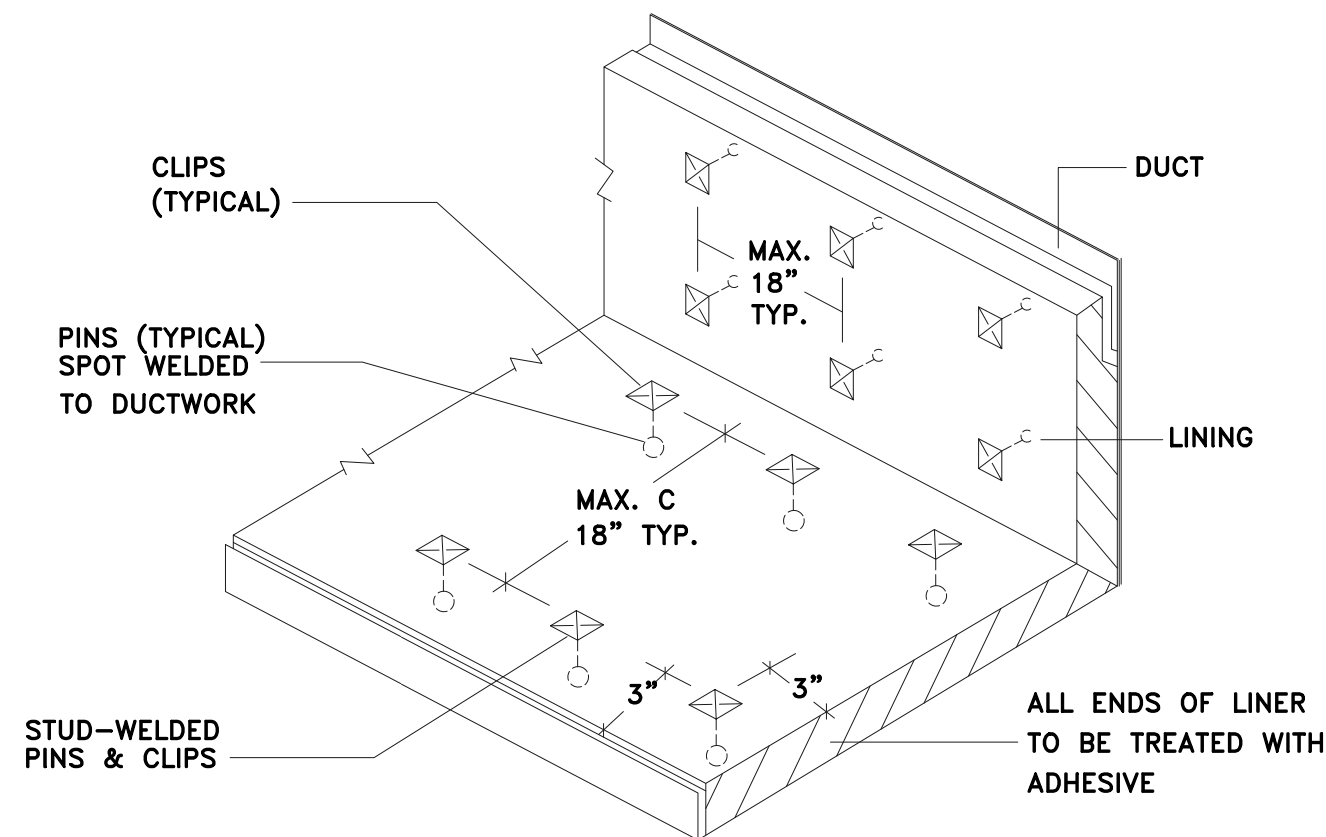
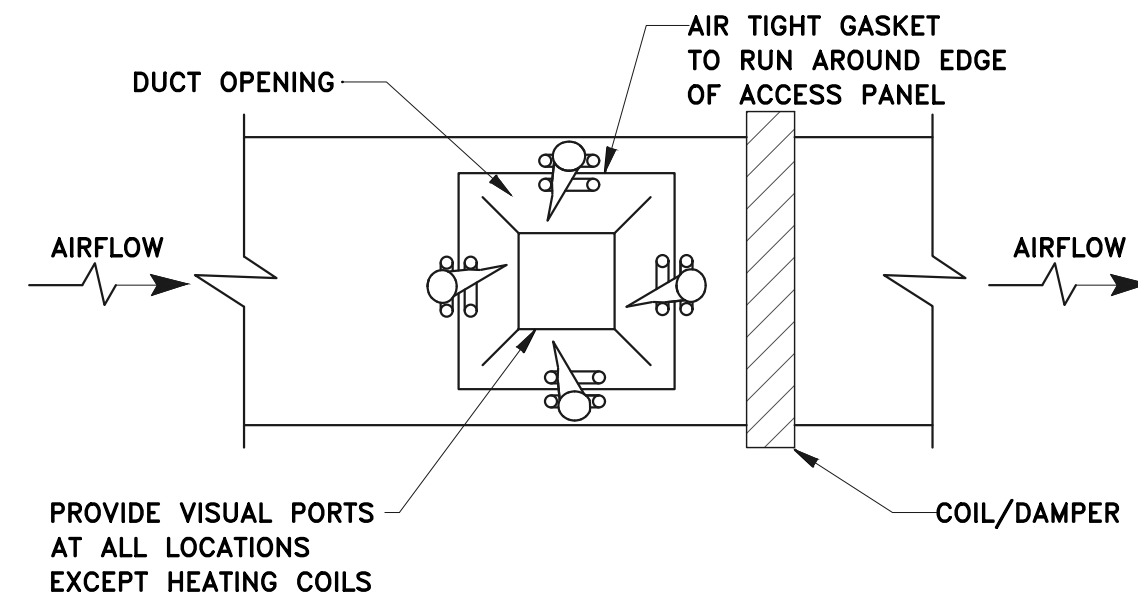


FIG. B

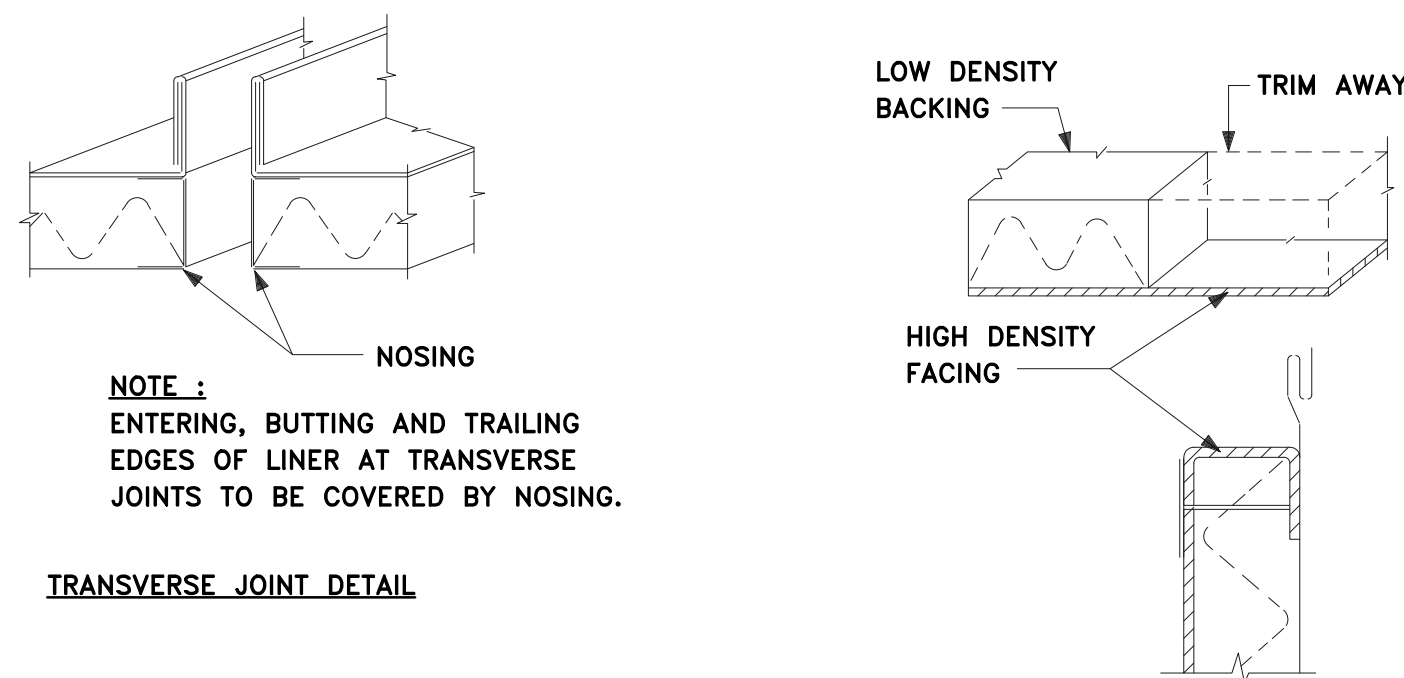
1 | ACOUSTICAL DUCT LINING DETAIL | NTS



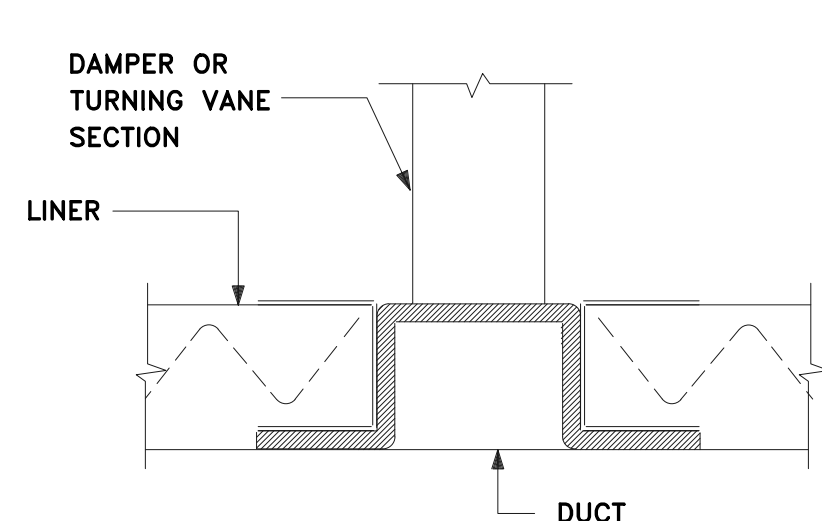
ACCESS PANEL SIZE SCHEDULE	
DUCT SIZE	ACCESS PANEL SIZE
6" TO 15"	10" W x (DUCT DEPTH - 2")D
15" TO 21"	12" W x (DUCT DEPTH - 2")D
21" AND ABOVE	18" W x (DUCT DEPTH - 2")D

ALL OTHER ACCESS PANELS TO BE A MINIMUM OF 15" x 15" WHERE DUCT SIZE ALLOWS. USE FOR CAM LATCHES ON PANELS LARGER THAN 15" x 15" SIZE.

4 | DUCT ACCESS PANEL DETAIL | NTS



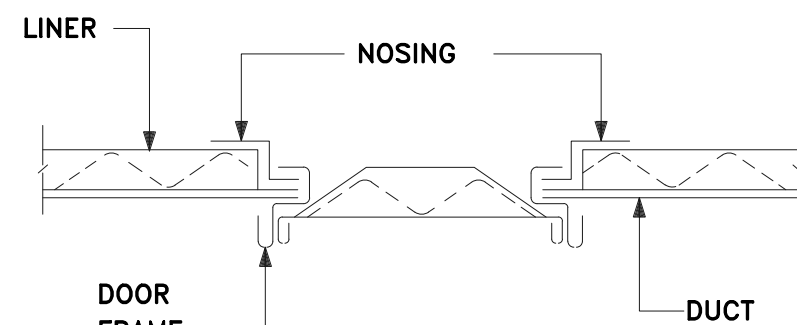
TRANSVERSE JOINT DETAIL



NOTE :  
FOLD OVER HIGH DENSITY FACING ON ALL LONGITUDINAL JOINTS & SECURE WITH MECHANICAL FASTENER.

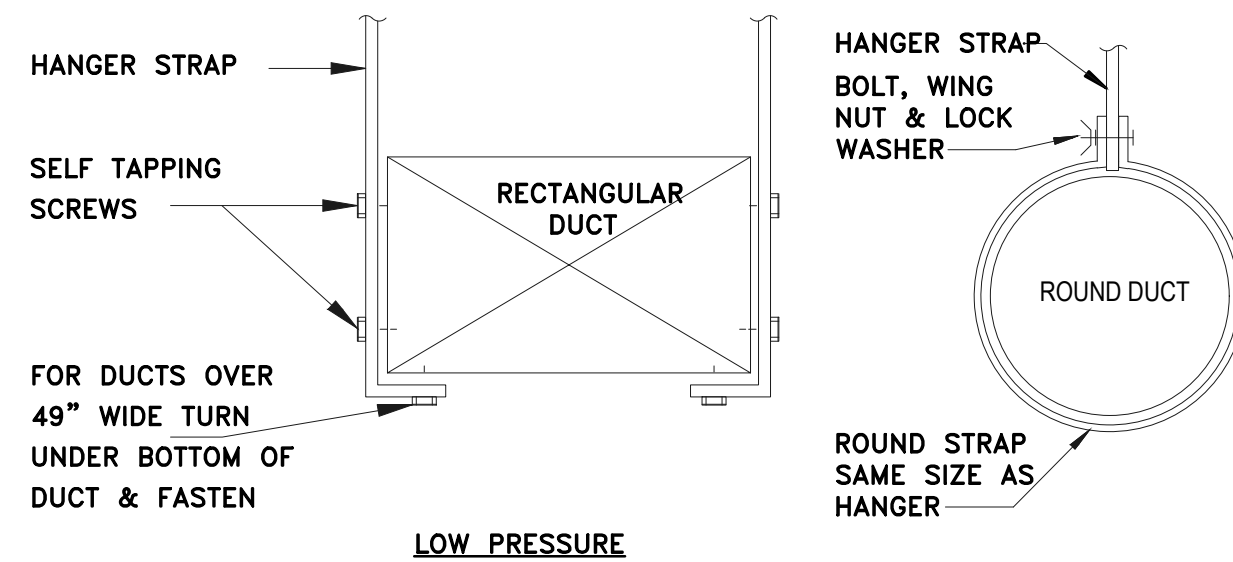
LONGITUDINAL JOINT DETAIL

DETAIL AT DAMPERS AND TURNING VANES



ACCESS DOOR NOSING DETAIL

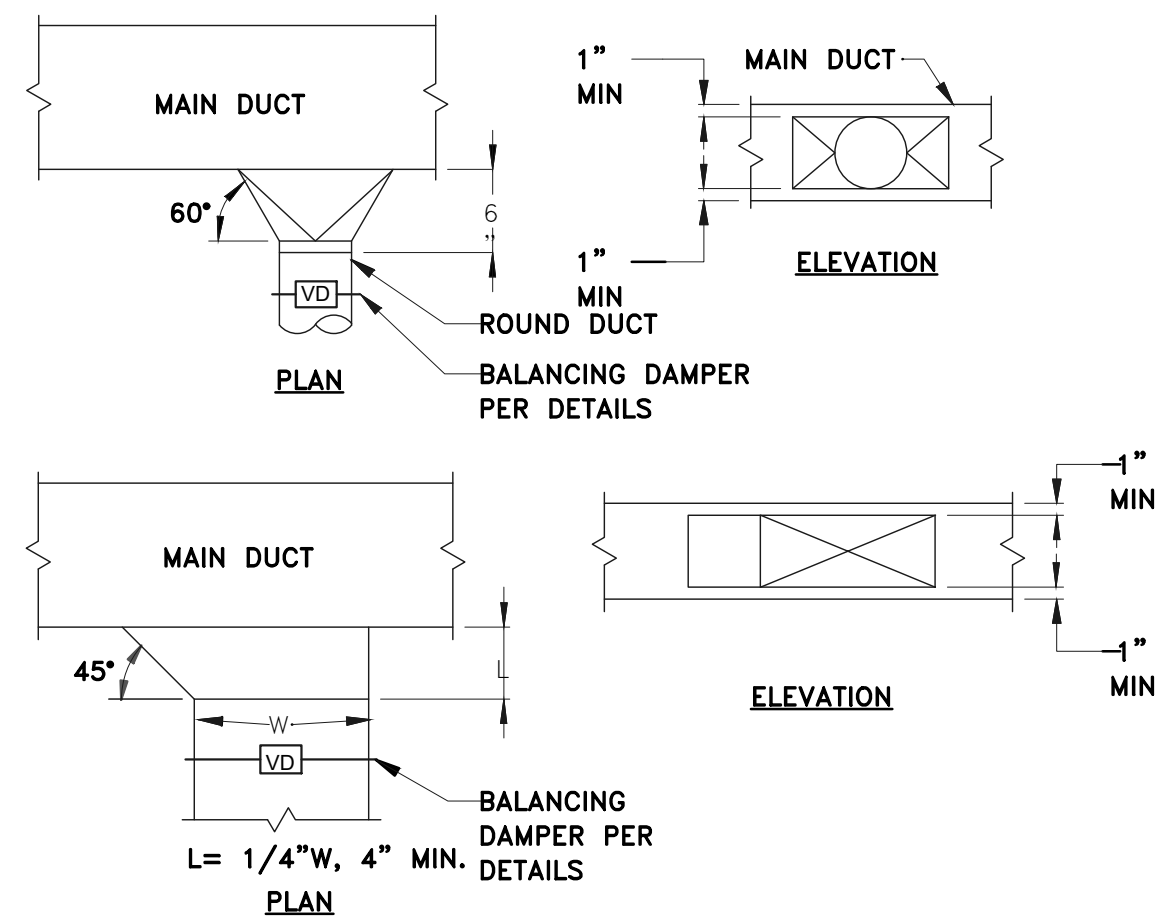
2 | ACOUSTICAL LINING NOSING DETAIL | NTS



LOW PRESSURE

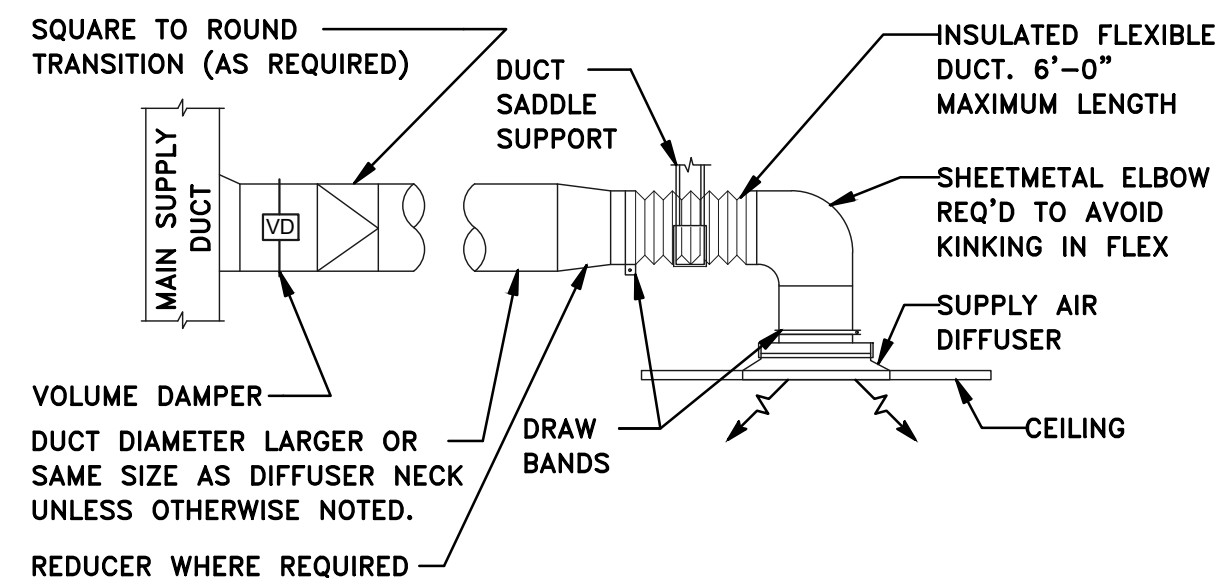
DUCT HANGER SCHEDULE		
DUCT CROSS SECTIONAL AREA	STRAP HANGER SIZE	MAX. SPACING
UNDER 2 SQ FT.	1" X 1/16"	6"-0" O.C.
2 TO 4 SQ FT.	1" X 1/8"	8"-0" O.C.
4 TO 8 SQ FT.	1" X 1/8"	6"-0" O.C.
OVER 8 SQ FT.	1" X 1/8"	4'-0" O.C.

5 | DUCT HANGING DETAIL | NTS



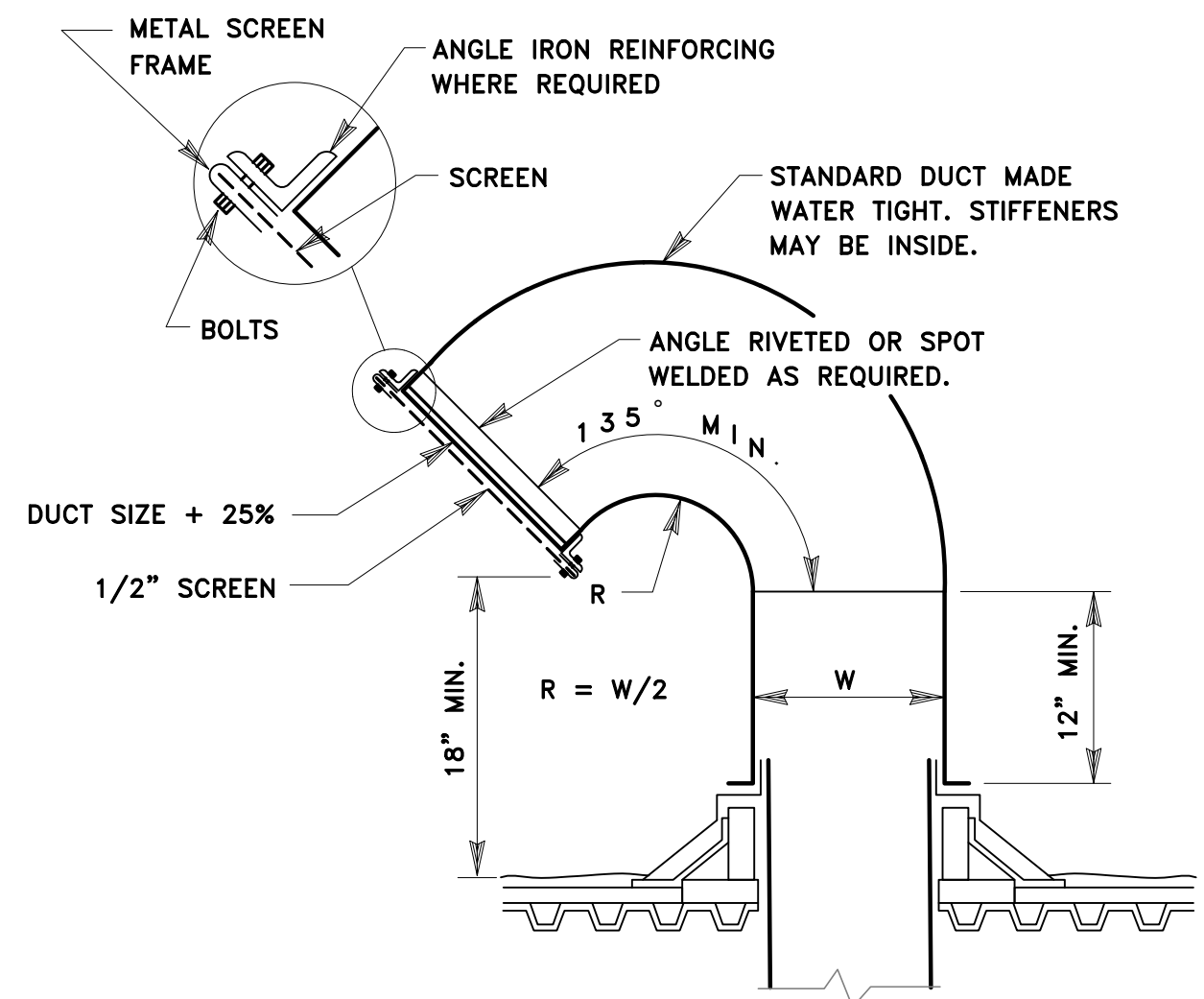
NOTES:  
1. TRANSITION AS REQUIRED WHEN BRANCH OR RUNOUT DUCT DEPTH IS SAME OR LARGER THAN THE MAIN DUCT

3 | TYPICAL DUCT CONNECTION DETAILS | NTS



VOLUME DAMPER  
DUCT DIAMETER LARGER OR SAME SIZE AS DIFFUSER NECK UNLESS OTHERWISE NOTED.  
REDUCER WHERE REQUIRED

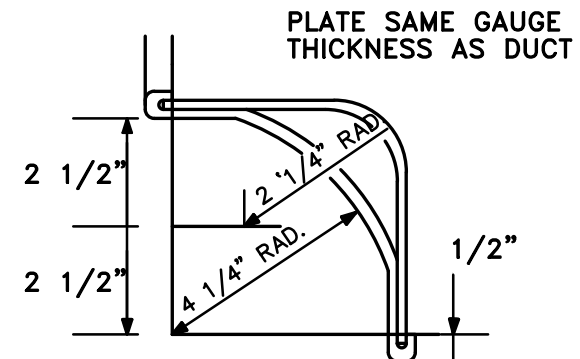
6 | DIFFUSER CONNECTION DETAIL | NTS



GOOSENECK CONNECTION DETAIL

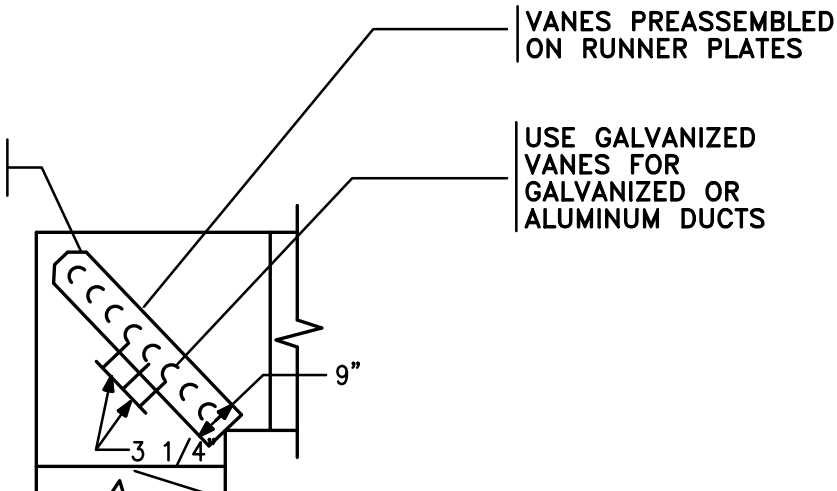
7 | M5.01 | NTS

SQUARE ELBOWS ARE TO BE USED ONLY WHEN SPECIFICALLY CALLED FOR ON DESIGN DRAWINGS.

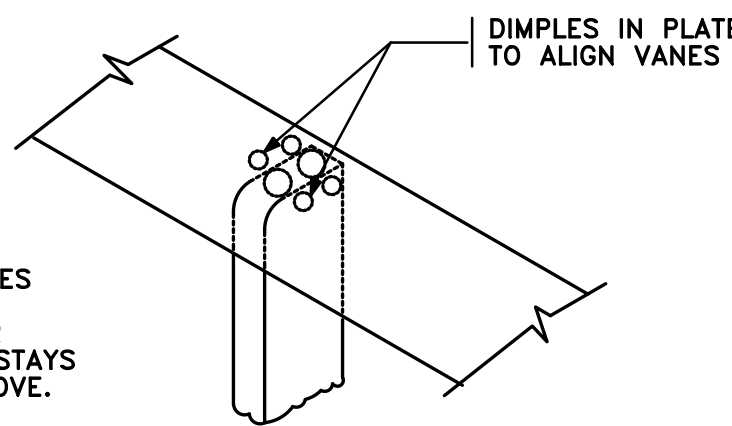


PREFERENCE FOR SECURING EDGE 1ST WELD OR 2ND RIVET

DOUBLE THICKNESS VANES  
FOR USE IN DUCTS GREATER THAN 24" X 24" IN SIZE. USE SAME GAUGE GALVANIZED IRON AS DUCT NOT TO EXCEED 20 GAUGE.



SQUARE ELBOW WITH DOUBLE THICKNESS VANE



NOTES: USE GALVANIZED STEEL FOR VANES IN EITHER STEEL OR ALUMINUM DUCTWORK; PROVIDE 1" STAY FOR DUCTS 72" TO 120" WIDE & 2 STAYS AT 1/3 POINTS FOR 120" & ABOVE.

8 | M5.01 | NTS

TURNING VANE DETAIL | NTS

**AECOM**

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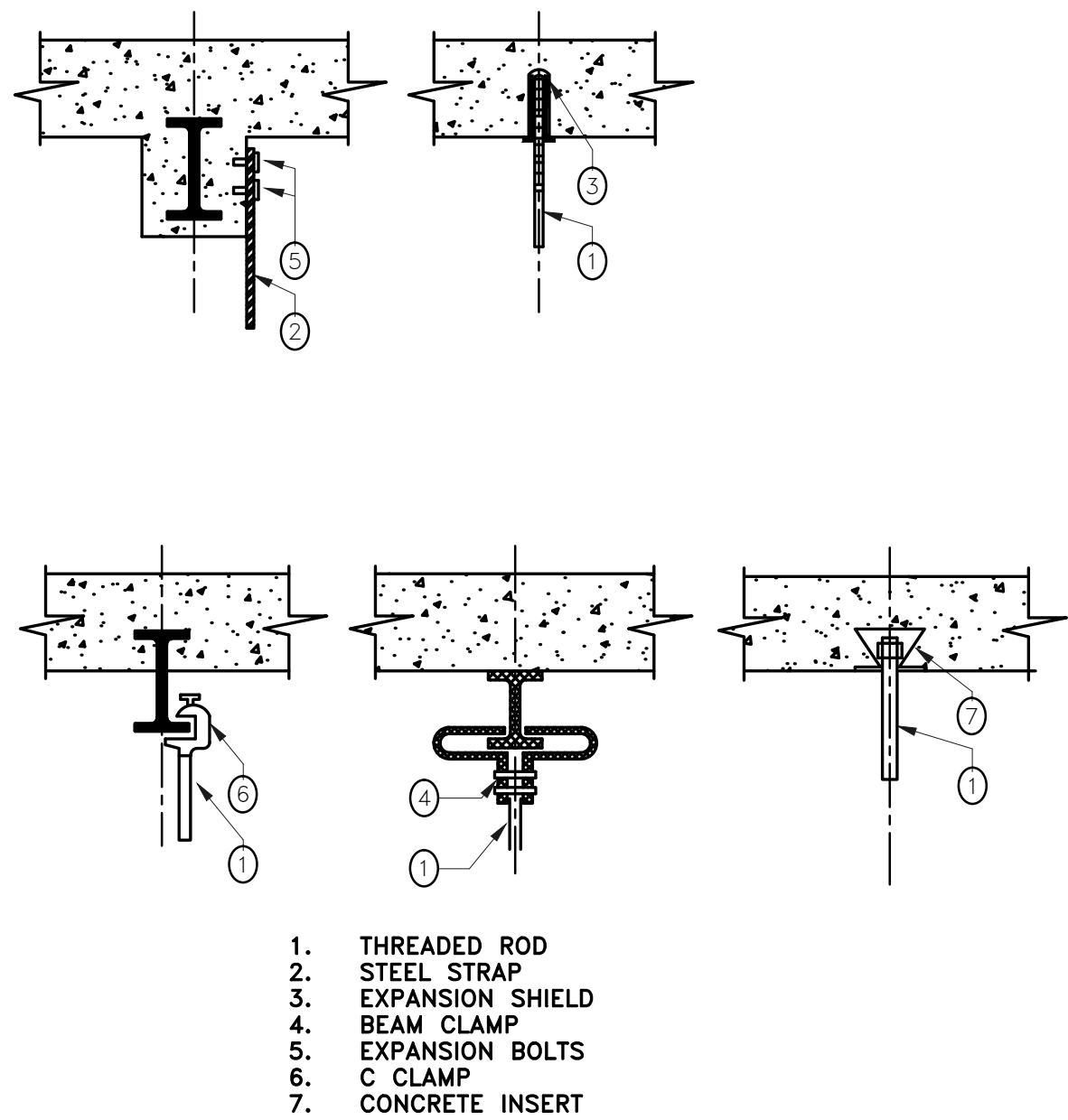
**BUILDING 202 SUSTAINMENT**

**FACILITY**

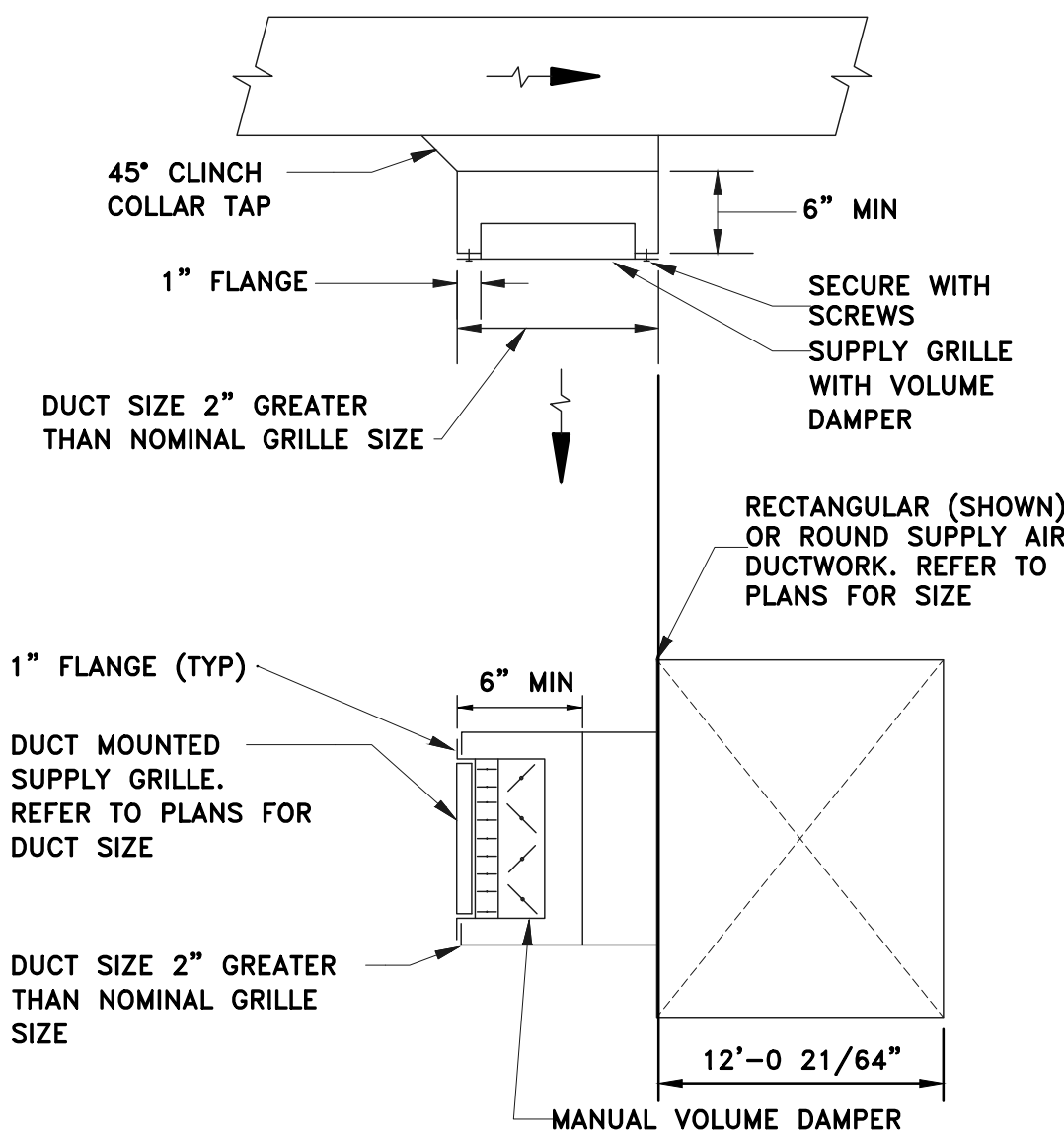
**MECHANICAL DETAILS - 1**

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			Michael Roselli ANG-E342	
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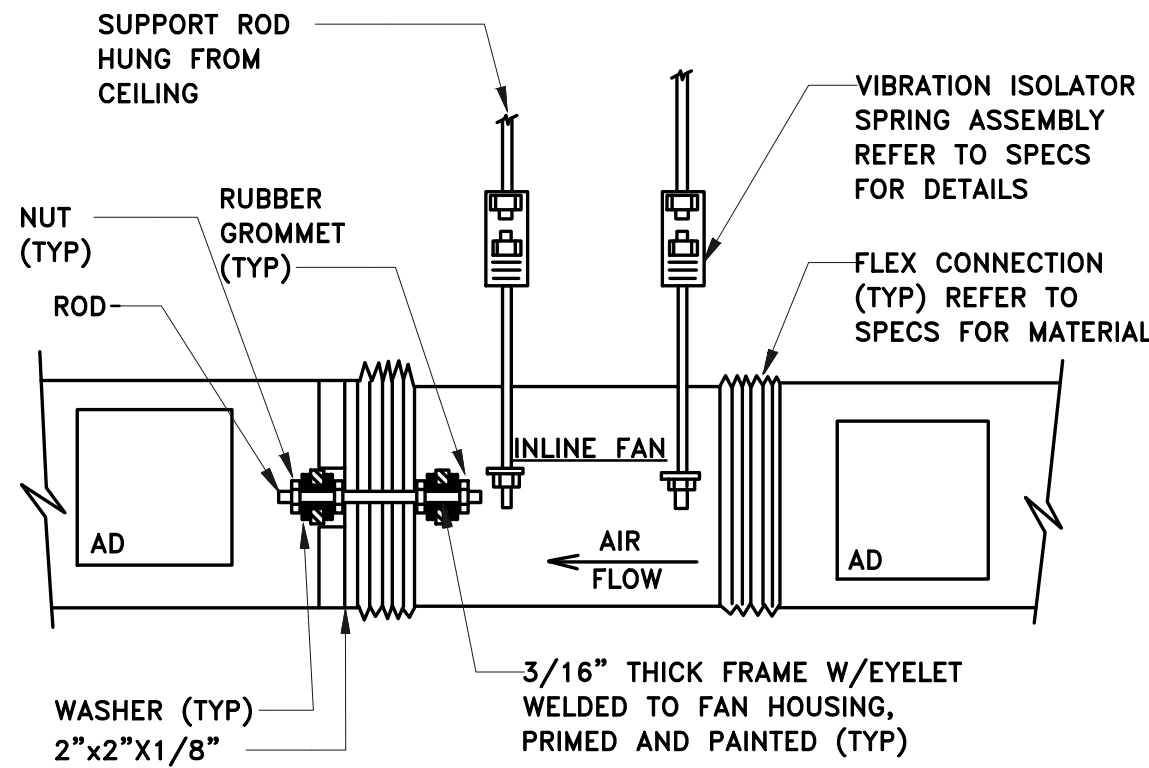




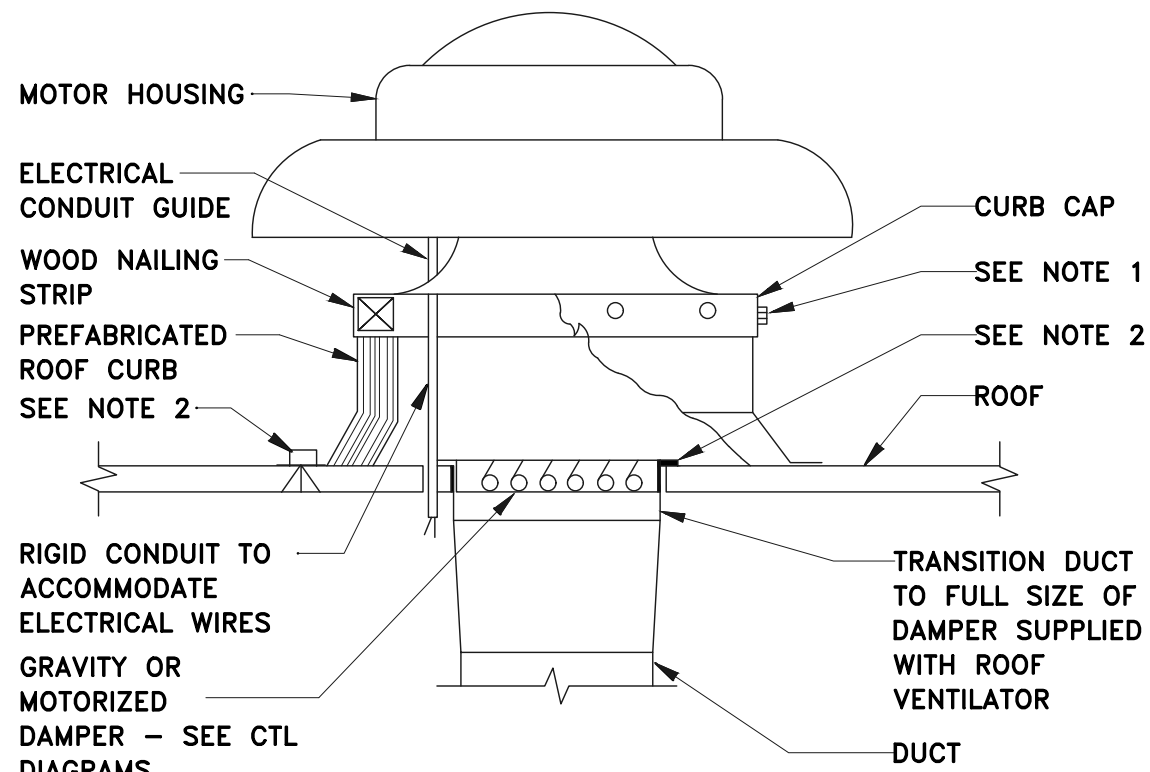
**1** | **HANGER SUPPORT DETAILS**  
M5.02 | NTS



**2** | **EXPOSED SUPPLY GRILLE**  
M5.02 | NTS



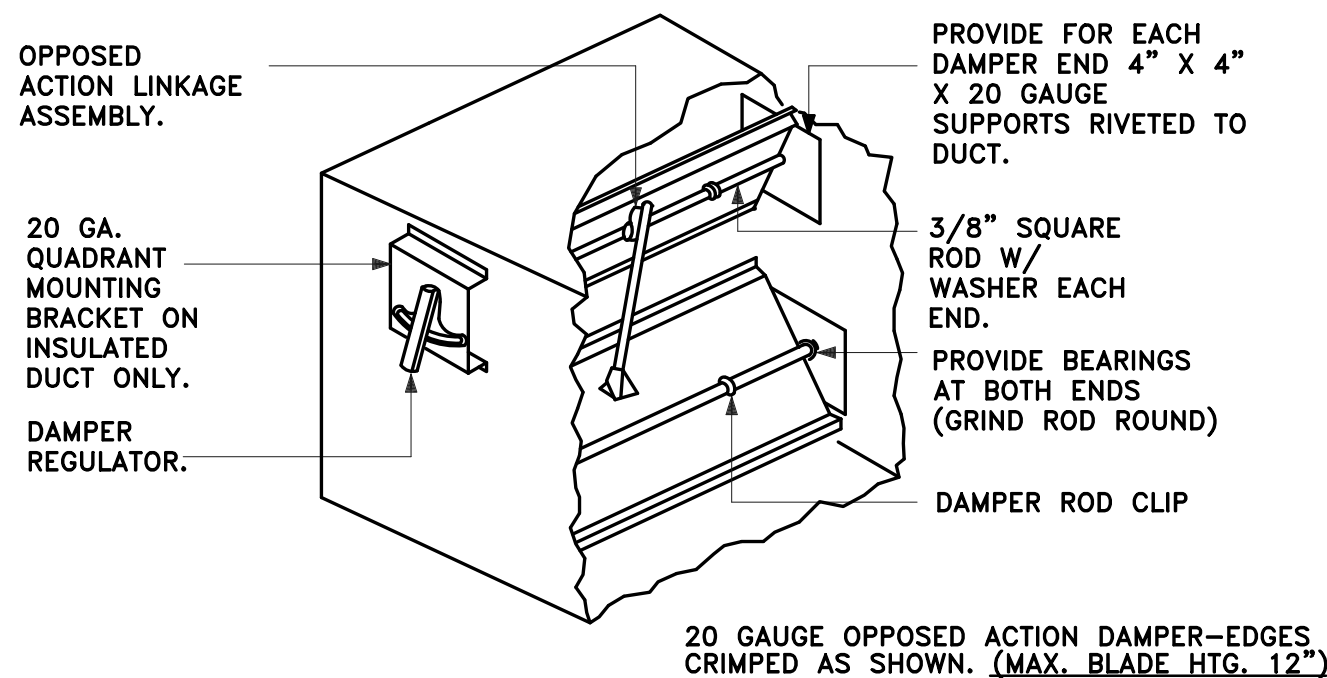
**3** | **INLINE FAN HANGING DETAIL**  
M5.02 | NTS



**NOTES:**

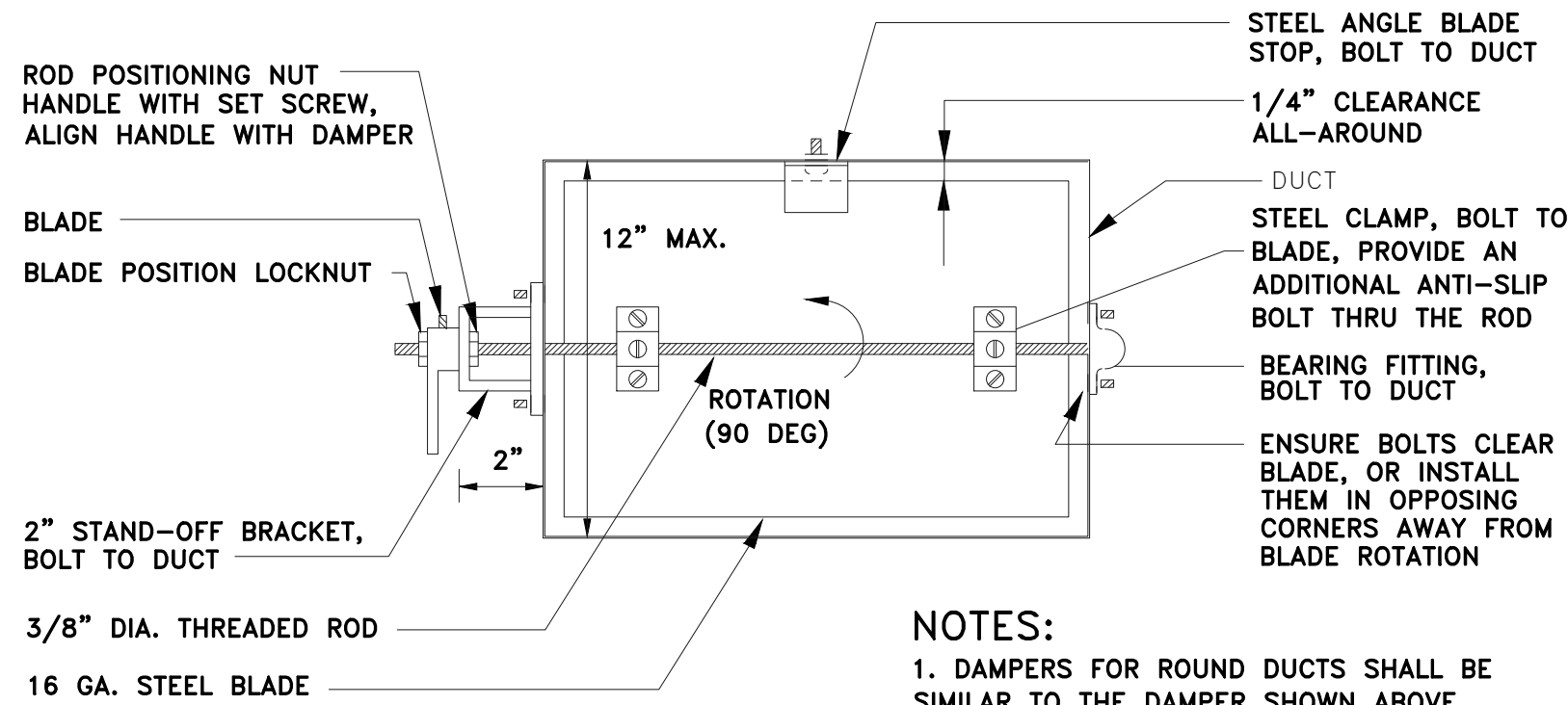
1. SECURE CURB CAP TO WOOD NAILING STRIP WITH 3/8" CADMIUM PLATED LAG BOLTS NOT OVER 12" ON CENTER.
2. SECURE ROOF CURB, DUCTWORK AND DAMPER TO ROOF WITH EXPANSION BOLTS (CONCRETE ROOF) OR RUST RESISTANT BOLTS (METAL DECK AND BAR JOIST ROOF).

**4** | **POWER ROOF VENTILATOR**  
M5.02 | NTS



**NOTE:** 1. FOR DUCTS OVER 29" WIDE AND/OR OVER 12" HIGH.

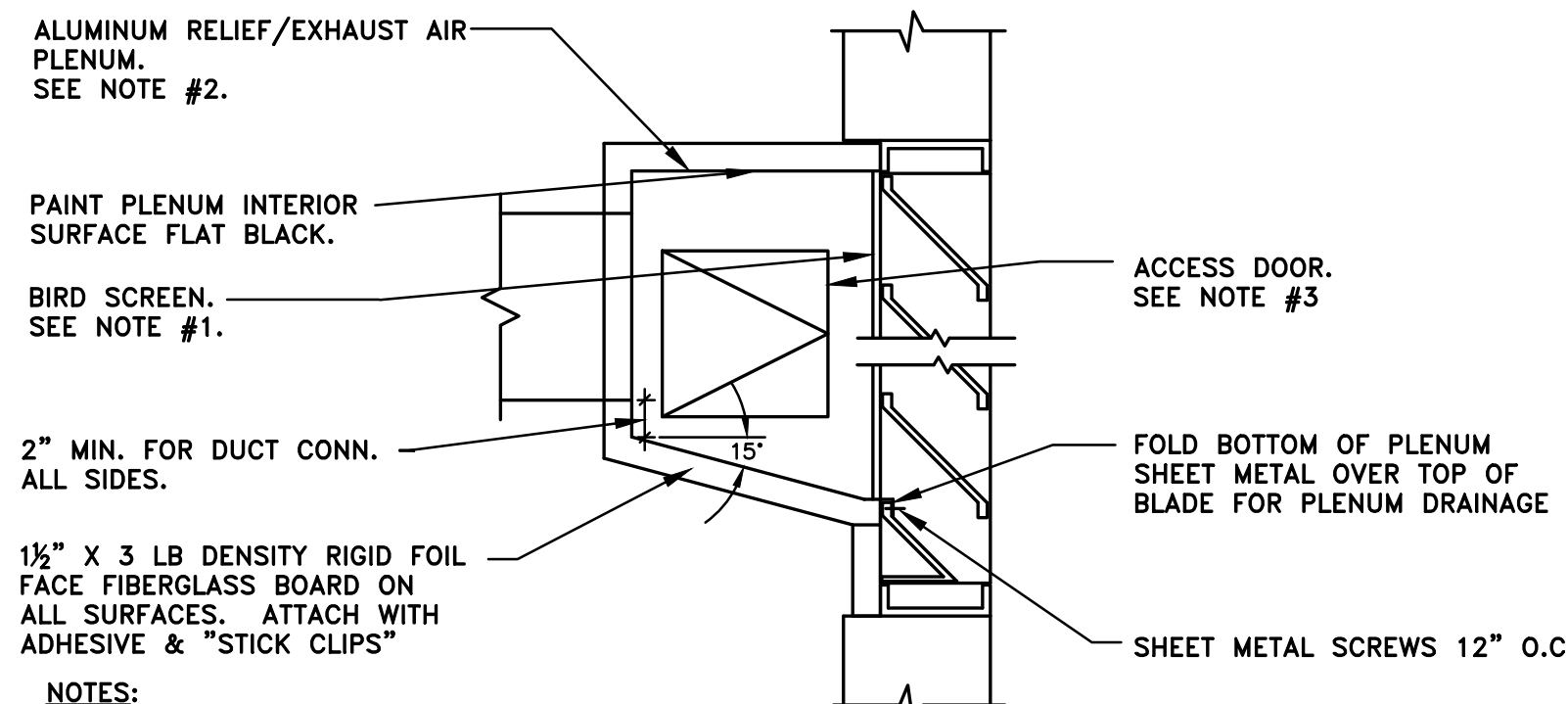
**5** | **BALANCING DAMPER DETAIL**  
M5.02 | NTS



**NOTES:**

1. DAMPERS FOR ROUND DUCTS SHALL BE SIMILAR TO THE DAMPER SHOWN ABOVE.
2. ENSURE THAT FULL 90° DAMPER BLADE MOVEMENT IS UNOBSTRUCTED.
3. FOR DUCT HEIGHTS MORE THAN 12", PROVIDE FACTORY-FABRICATED OPPOSED BLADE DAMPERS SIMILAR TO YOUNG REGULATOR 820A-LN W/403C

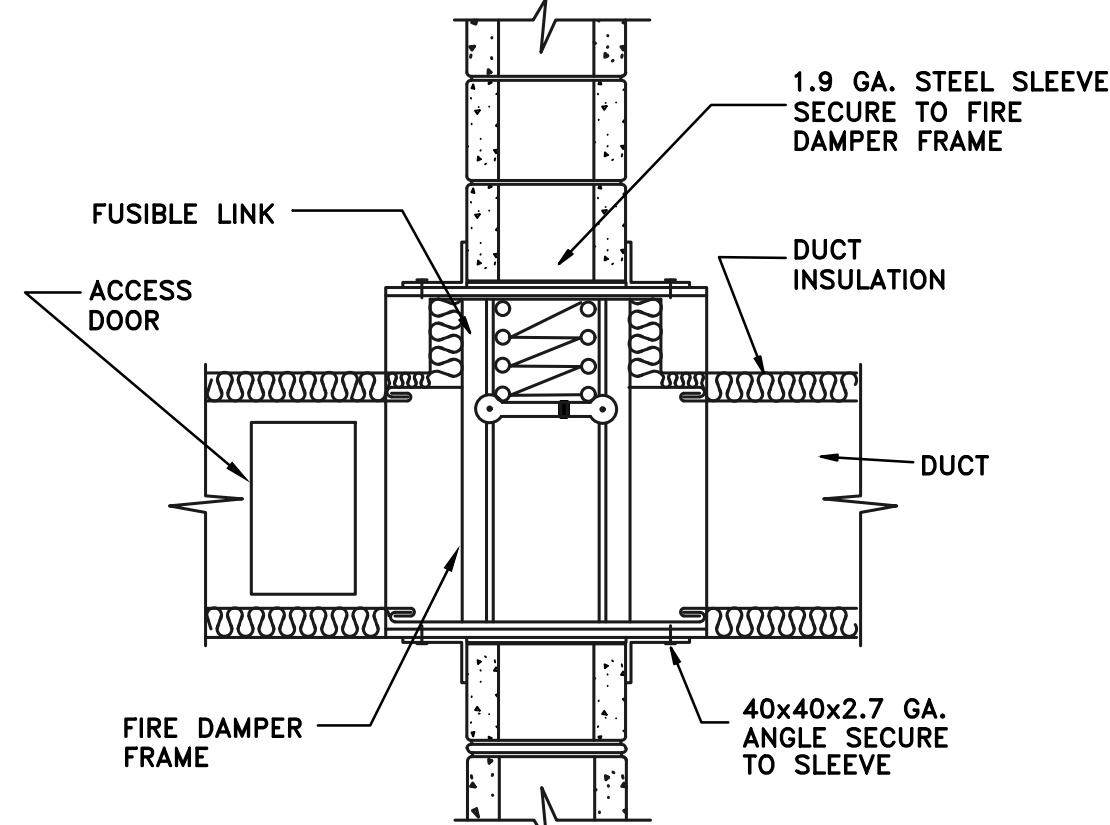
**6** | **MANUAL VOLUME DAMPER DETAIL**  
M5.02 | NTS



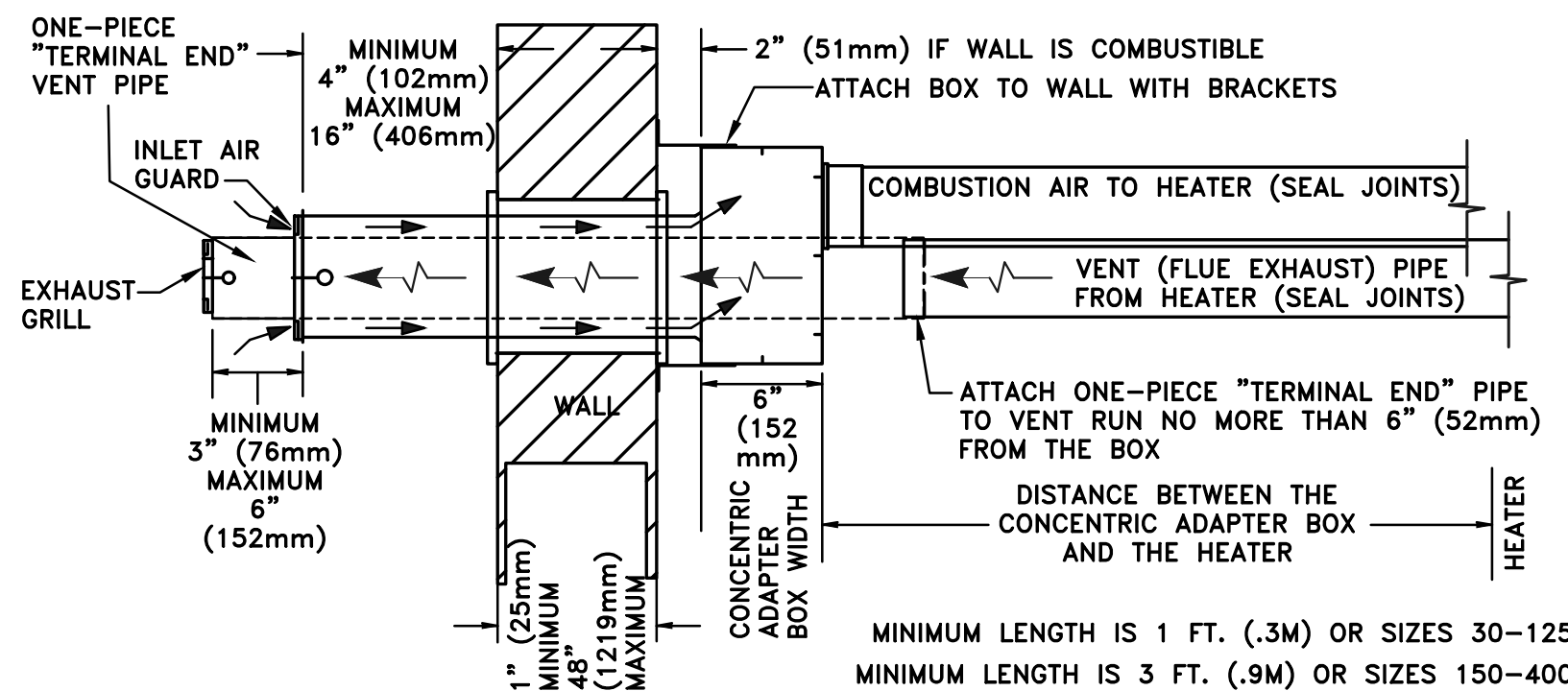
**NOTES:**

1. COVER INSIDE FACE OF LOUVER WITH 1/2" MESH ALUMINUM BIRD SCREEN SCREWED IN PLACE.
2. THE PLENUM LENGTH SHALL MATCH THE LENGTH OF THE LOUVER. THE PLENUM HEIGHT SHALL MATCH THE LOUVER, LESS BOTTOM BLADE HEIGHT. SEAL ALL PLENUM SEAMS WATERTIGHT WITH SILICONE SEALANT.
3. PROVIDE AN INSULATED ACCESS DOOR IN PLENUM. DOOR SIZE SHALL BE COORDINATED WITH THE FINAL PLENUM SIZE TO ALLOW FOR INSPECTION AND CLEANING. R

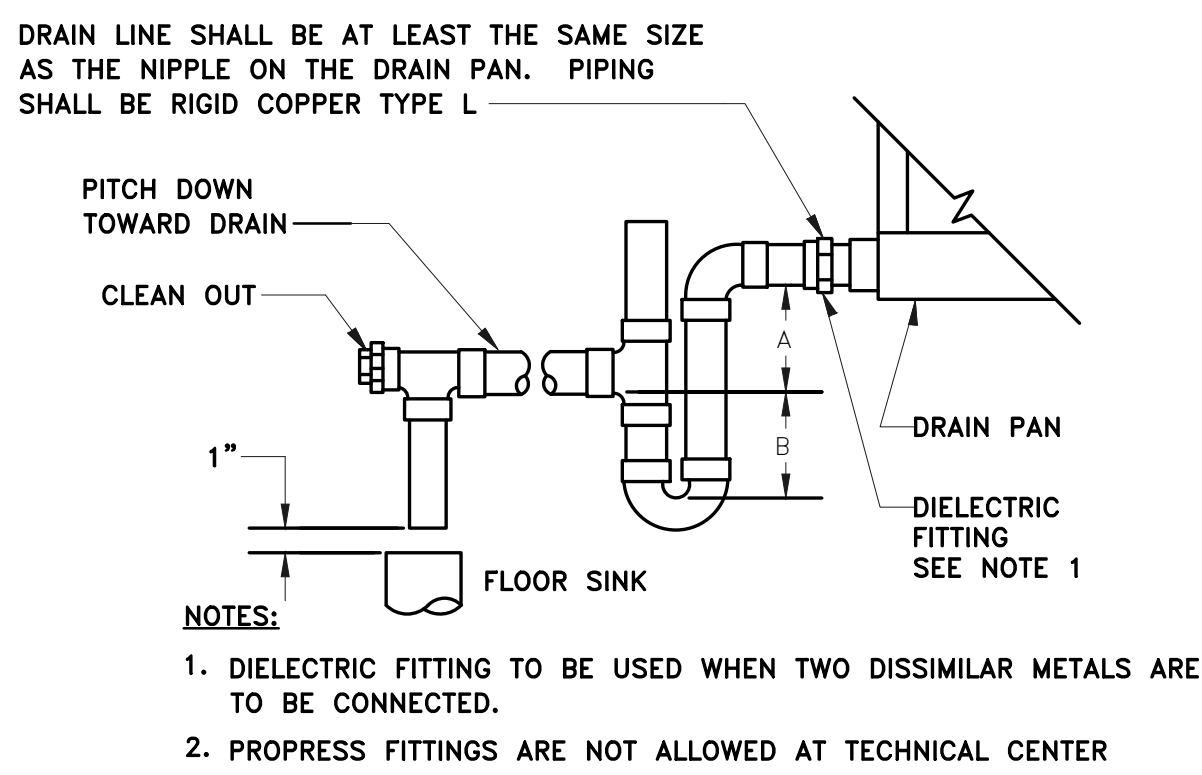
**9** | **LOUVER PLENUM DETAIL**  
M5.02 | NTS



**10** | **HORIZONTAL AIR FLOW FIRE DAMPER DETAIL**  
M5.02 | NTS



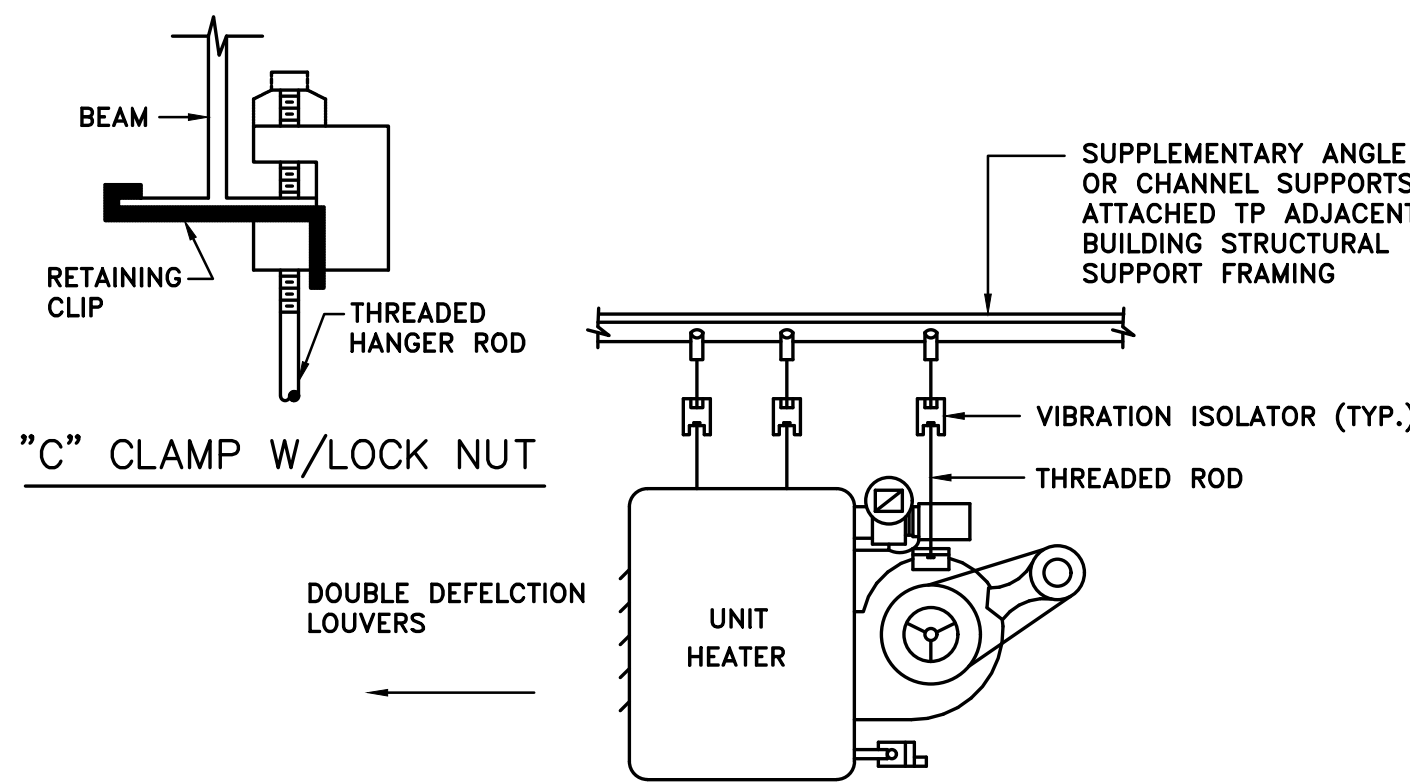
**11** | **GAS UNIT HEATER COMBUSTION AIR / VENT DUCTS (TOP VIEW) DETAIL**  
M5.02 | NTS



UNIT TYPE	A	B
DRAW THRU	2" PLUS X	X
BLOW THRU	1" MINIMUM	2X

WHERE X = STATIC PRESSURE IN PAN

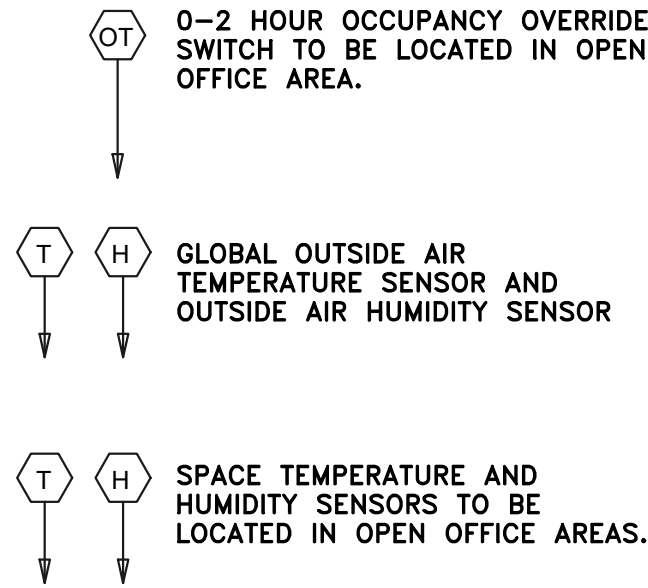
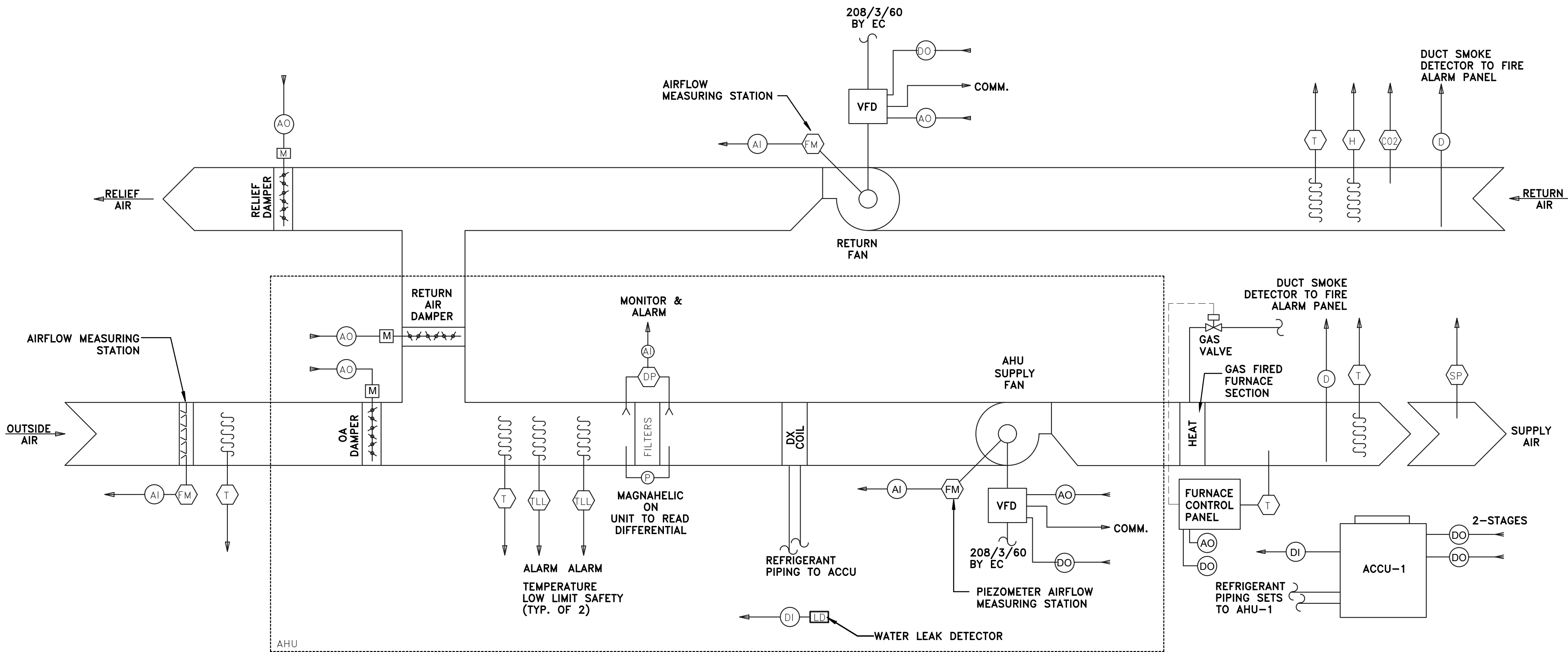
**7** | **CONDENSATE DRAIN PIPING**  
M5.02 | NTS



**8** | **TYPICAL UNIT HEATER HANGING DETAIL**  
M5.02 | NTS

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<b>BUILDING 202 SUSTAINMENT</b>		<b>FACILITY</b>	
<b>MECHANICAL DETAILS - 2</b>			
REVIEWED BY	SUBMITTED BY	DATE	APPROVED BY
DESIGN: EB		ISSUED BY:	
DRAWN: CM		FACILITY SERVICES & ENGINEERING DIVISION	
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		DRAWING NO. <b>F2021017-M5.02</b>	
		SHEET # <b>28 OF 53</b>	



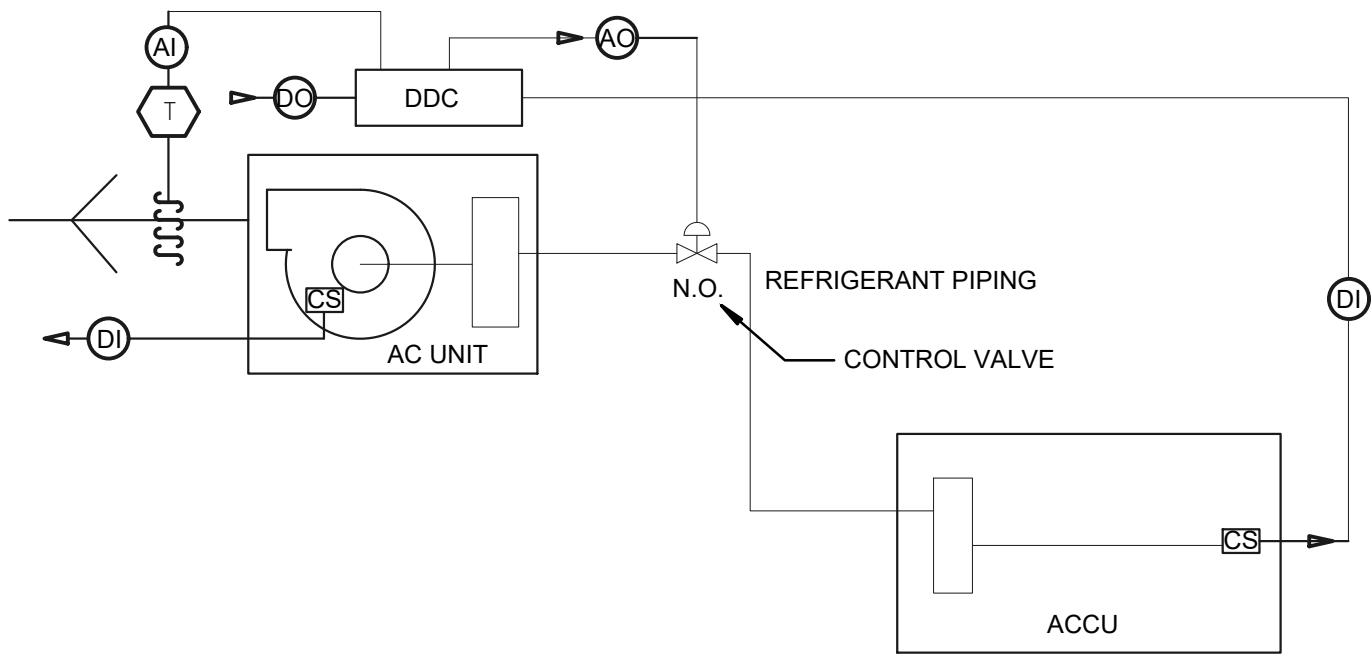


SEQUENCE OF OPERATION

- AC SYSTEM SHALL BE STARTED AND STOPPED VIA BMS. SYSTEM SHALL BE PROGRAMMED IN ACCORDANCE WITH OCCUPANCY SCHEDULE PROVIDED BY END USER.
- A DIGITAL OVERRIDE TIMER LOCATED IN THE OPEN OFFICE SPACE SHALL START THE AC SYSTEM AFTER-HOURS AND ALLOW UP TO 2 HOURS (ADJ.) OF OPERATION.
- UNOCCUPIED MODE: AIR HANDLING UNIT SUPPLY AIR FAN AND RETURN FAN WILL REMAIN OFF. RETURN AIR DAMPER WILL REMAIN FULLY OPEN. OUTSIDE AIR INTAKE AND RELIEF AIR DAMPERS WILL REMAIN FULLY CLOSED.
  - SETBACK CONTROLS: UNIT SHALL BE ENABLED AND SHALL CYCLE ON/OFF TO MAINTAIN SPACE SETBACK TEMPERATURE SETPOINTS OF 85°F (ADJ.) FOR COOLING, AND 55°F (ADJ.) FOR HEATING.
- OCCUPIED MODE:
  - OUTDOOR AIR DAMPER SHALL MODULATE TO ITS MINIMUM OPEN POSITION. RETURN AIR DAMPER SHALL REMAIN FULLY OPEN. RELIEF AIR DAMPER SHALL REMAIN CLOSED. AHU SUPPLY AND RETURN FANS SHALL START AND RUN CONTINUOUSLY.
  - AHU UNIT SHALL RUN CONTINUOUSLY AND ENABLE COOLING, ECONOMIZER, OR HEATING TO MAINTAIN SUPPLY AIR TEMPERATURE AND RETURN AIR HUMIDITY SETPOINTS. SUPPLY AIR TEMPERATURE (SAT) SETPOINT SHALL BE AUTOMATICALLY RESET BETWEEN 55°F AND 70°F. IF RETURN AIR TEMPERATURE FALLS BELOW 68°F UNIT WILL SWITCH TO HEATING AND VARY DELIVERY AIR TEMPERATURE FROM 70°F TO 95°F DEPENDING ON THE OUTSIDE AIR.
  - AHU SUPPLY FAN VFD SHALL MODULATE 50% TO 100% TO MAINTAIN SPACE TEMPERATURE SETPOINT AS A SINGLE ZONE VAV UNIT. RETURN FAN SPEED SHALL TRACK THE AIR VOLUME OF SUPPLY FAN VIA ITS VFD TO MAINTAIN THE AIRFLOW DIFFERENTIAL BETWEEN SUPPLY AND RETURN FOR BUILDING PRESSURIZATION.
  - O.A. DAMPER SHALL MODULATE TO MAINTAIN THE MINIMUM OUTDOOR AIR PERCENTAGE AS INDICATED ON EQUIPMENT SCHEDULE. O.A SHALL BE MEASURED VIA AIRFLOW MEASURING STATION LOCATED IN OUTSIDE AIR (O.A.) DUCT.
- ECONOMIZER MODE:
  - THE ECONOMIZER SHALL BE ENABLED WHEN THE O.A. ENTHALPY IS 2.5 BTU/LB LOWER THAN RETURN AIR ENTHALPY.
  - WHEN AHU SUPPLY AIR TEMPERATURE RISES ABOVE SETPOINT, OA DAMPER AND RELIEF AIR DAMPER SHALL MODULATE OPEN AND RETURN DAMPER MODULATE CLOSE TO MAINTAIN SUPPLY AIR SETPOINT TEMPERATURE. REVERSE VICE VERSA. IF FURTHER COOLING IS REQUIRED, TO MAINTAIN SUPPLY AIR TEMPERATURE SETPOINT, MECHANICAL COOLING SHALL BE ENABLED IN STAGES.
  - PROVIDE HIGH LIMIT SHUT-OFF FOR ECONOMIZER MODE WHEN THE OUTDOOR AIR ENTHALPY EXCEEDS RETURN AIR ENTHALPY OR OUTDOOR AIR TEMPERATURE EXCEEDS 72°F (ADJ.) OR SPACE HUMIDITY IS ABOVE 55%RH(ADJ.)
- RETURN AIR TEMPERATURE / HUMIDITY DEFINITION:
  - RETURN AIR TEMPERATURE / HUMIDITY SHALL BE DEFINED AS THE AVERAGE SPACE TEMPERATURE / HUMIDITY SENSED BY ALL SPACE SENSORS FED FROM SAID AHU UNIT, VIA COMPUTATION THRU BMS.
- MORNING WARM-UP/COOL-DOWN MODE: THE BAS WILL PROVIDE OPTIMIZED WARM-UP OR COOL-DOWN CYCLE. THE OUTDOOR AND SPACE TEMPERATURES WILL BE MONITORED TO SWITCH THE SYSTEM FROM UNOCCUPIED TO OCCUPIED MODE IN SUFFICIENT TIME TO ACHIEVE TEMPERATURE SETTINGS FOR OCCUPANCY. A RANDOM TIME DELAY IS BUILT INTO THE SOFTWARE TO PREVENT ALL FANS FROM STARTING AT THE SAME TIME. AHU WILL BE ENABLED IN THIS MODE UNTIL RETURN AIR TEMPERATURE/HUMIDITY SETPOINTS ARE REACHED. OUTSIDE AIR (OA) AND RELIEF AIR DAMPERS SHALL REMAIN CLOSED. UNIT SHALL RETURN TO OCCUPIED ONCE SETPOINTS ARE REACHED.
- DEMAND CONTROLLED VENTILATION: DDC SHALL OVERRIDE DAMPERS BEYOND MINIMUM SETPOINTS TO MAINTAIN CO2 LEVEL UNDER 1,000 PPM. OUTDOOR AIR DAMPER AND RELIEF AIR DAMPERS SHALL MODULATE FURTHER OPEN AND RETURN AIR DAMPER SHALL MODULATE FURTHER CLOSED PROPORTIONALLY FOR INCREASED AIR QUALITY.
- SAFETIES:
  - SMOKE DETECTOR: SUPPLY AND RETURN AIR DUCT SMOKE DETECTORS SHALL ALARM THE BUILDING FIRE ALARM SYSTEM UPON SENSING SMOKE. WHEN THE BUILDING FIRE ALARM SYSTEM IS IN THE ALARM CONDITION FOR THIS FLOOR, THE UNIT AND FANS SHALL BE DE-ENERGIZED. WHEN THE BUILDING FIRE ALARM SYSTEM IS CLEARED, THE AC SYSTEM SHALL REQUIRE MANUAL RESTART TO RESUME NORMAL OPERATION.
  - FAN VARIABLE FREQUENCY DRIVES ARE TO BE PROVIDED WITH BACNET PROTOCOL TO INDICATE A LOSS OF POWER OR GENERAL ALARM TO THE BMS.
  - UPON DETECTION OF HIGH STATIC DUCT PRESSURE IN DOWNSTREAM OF SUPPLY AND RETURN FANS VIA HIGH STATIC PRESSURE SWITCH, SUPPLY AND RETURN FANS SHALL SHUT DOWN.
  - FREEZE PROTECTION : WHEN DISCHARGE AIR OR MIXED AIR TEMPERATURE DROPS BELOW 45°F (ADJ.), ACCU COMPRESSORS SHALL BE OFF, AND OUTSIDE AIR INTAKE (OA) DAMPER SHALL BE CLOSED. BMS SHALL BE ANNUNCIATED. SUPPLY FAN SHALL CONTINUE TO RUN IN RECIRCULATION MODE. NORMAL OPERATION SHALL RESUME WHEN DISCHARGE AIR TEMPERATURE RISES ABOVE 50°F AND AFTER AT LEAST 10 MINUTES VIA TIME DELAY RELAY.
  - WATER LEAK DETECTION: WATER LEAK SENSOR IN THE AC UNIT DRAIN PAN SHALL ALARM THE BMS SYSTEM. AC UNIT SHALL CONTINUE TO OPERATE NORMALLY.
  - UNIT SHALL BE TIED TO BMS FOR START/STOP, TEMPERATURE CONTROLS, LOW SPACE TEMPERATURE ALARM INSIDE MER, STATUS AND ALARM MONITORING.
  - AN ALARM WILL BE SENT TO BMS WHEN FILTER PRESSURE DROP EXCEEDS 1.0" IN WG. (ADJ.)
  - ALARM IF ANY ZONES NOT ACHIEVING THE SETPOINT +/-2°F FOR IN THAN 30MIN (ADJ.)
  - ALARM ON ECONOMIZER FAULT DETECTION AND DIAGNOSTICS.

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REV	DATE	DESCRIPTION	CHECK /APRV'D
UNITED STATES DEPARTMENT OF TRANSPORTATION <b>FEDERAL AVIATION ADMINISTRATION</b> WILLIAM J. HUGHES TECHNICAL CENTER ATLANTIC CITY INT'L AIRPORT, N.J. 08405			
<b>BUILDING 202 SUSTAINMENT</b>			<b>FACILITY</b>
<b>MECHANICAL CONTROLS DIAGRAMS – 1</b>			
REVIEWED BY	SUBMITTED BY	DATE	APPROVED BY
			Michael Roselli ANG-E342
	DESIGN: EB	ISSUED BY:	DATE: 08/31/2023 JCN:
APPROVAL (FINISHES)	DRAWN: CM	FACILITY SERVICES & ENGINEERING DIVISION	DRAWING NO. <b>F2021017-M8.01</b>
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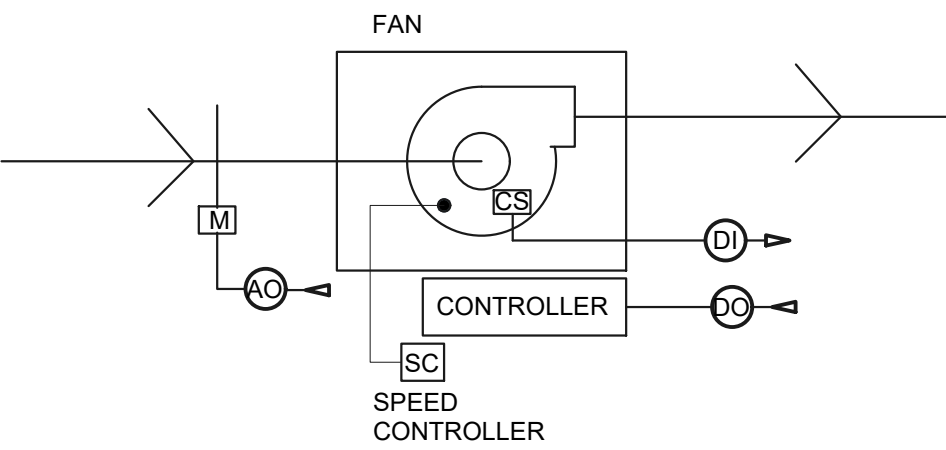




SEQUENCE OF OPERATION

- AC TO BE ENABLED AND MONITOR BY BMS.
- BMS SHALL MONITOR SPACE TEMPERATURE, DISCHARGE TEMPERATURE, AND FAN STATUS. BMS SHALL BE ABLE TO SET THE OCCUPANCY SCHEDULE AND OVERWRITE THE CURRENT MODE FROM THE OPERATOR WORKSTATION.
- ALARM IF SPACE TEMPERATURE FALLS BELOW 55°F (ADJ.)

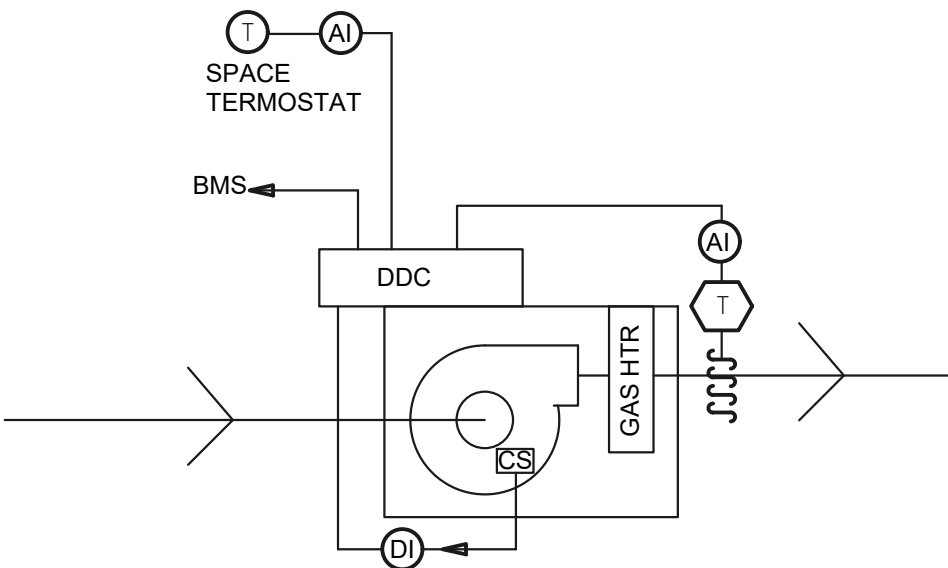
1 | AC-2 - SPLIT SYSTEM ACCU UNIT CONTROLS  
M8.02 | NTS



SEQUENCE OF OPERATION

FAN SHALL START BASED ON OCCUPANCY SCHEDULE. FAN STATUS WILL BE MONITORED BY BMS. ON AN COMMAND TO RUN, DAMPER OPENS AND FAN STARTS. FAN WILL RUN CONTINUOUSLY DURING OCCUPANCY.

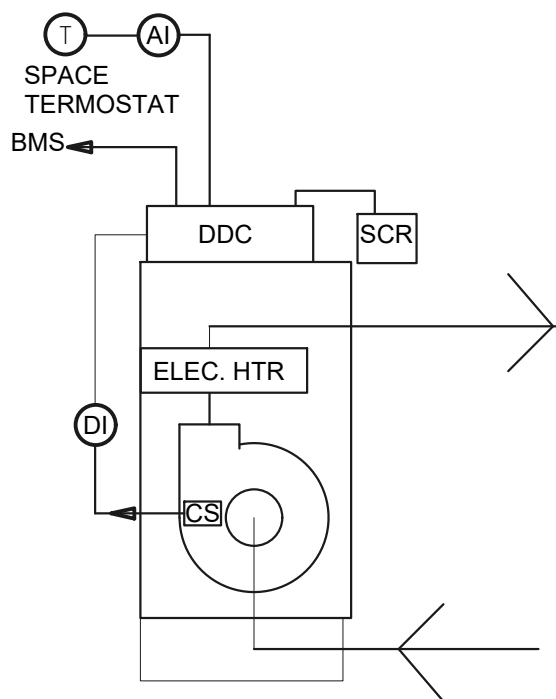
2 | TOILET EXHAUST FAN CONTROLS  
M8.02 | NTS



SEQUENCE OF OPERATION

- UNIT HEATER SHALL BE CONTROLLED BY SPACE TEMPERATURE.
- UPON A DROP IN TEMPERATURE, UNIT SHALL START AND MODULATE HEATING TO MAINTAIN SPACE TEMPERATURES BETWEEN 65°F AND 67°F (ADJ.).
- BMS SHALL MONITOR SPACE TEMPERATURE, DISCHARGE TEMPERATURE, AND FAN STATUS.
- ALARM IF SPACE TEMPERATURE FALLS BELOW 55°F (ADJ.)

3 | GAS UNIT HEATER CONTROLS  
M8.02 | NTS



SEQUENCE OF OPERATION

- CABINET UNIT HEATER / WALL HEATER SHALL BE CONTROLLED BY SPACE TEMPERATURE.
- UPON A DROP ON TEMPERATURE, UNIT SHALL START AND MODULATE HEATING CONTROL SCR TO MAINTAIN SPACE TEMPERATURE SETPOINT OF 68°F (ADJ.).
- BMS SHALL MONITOR SPACE TEMPERATURE AND FAN STATUS.
- ALARM IF SPACE TEMPERATURE FALLS BELOW 55°F (ADJ.)

4 | ELECTRIC CABINET UNIT HEATER /  
M8.02 | WALL HEATER CONTROLS NTS

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MECHANICAL CONTROLS DIAGRAMS – 2			
REVIEWED BY	SUBMITTED BY	DATE	APPROVED BY
			Michael Roselli ANG-E342
	DESIGN: EB	ISSUED BY:	DATE: 08/31/2023 JCN:
APPROVAL (FINISHES)	DRAWN: CM	FACILITY SERVICES & ENGINEERING DIVISION	DRAWING NO.
	CHECK: EA		<b>F2021017–M8.02</b>
			SHEET #
			30 OF 53



ABBREVIATIONS

1PH	SINGLE--PHASE	IG	ISOLATED GROUND
1P	1 POLE (2P,3P,4P, ETC.)	IMC	INTERMEDIATE METAL CONDUIT
3PH	THREE--PHASE		
A	AMMETER, AMPERE	J--BOX	JUNCTION BOX
AC	ALTERNATING CURRENT OR ARMORED CABLE	kV	KILOVOLT
AF	AMPERE FRAME OR AMP FUSE	kVA	KILOVOLT AMPERE
AFC	AVAILABLE FAULT CURRENT	kW	KILOWATT
AFCI	ARC FAULT CIRCUIT INTERRUPTER		
AFF	ABOVE FINISHED FLOOR	LED	LIGHT EMITTING DIODE
AHJ	AUTHORITY HAVING JURISDICTION	LF	LINEAR FEET (FOOT)
AIC	AMPERE INTERRUPTING CAPACITY	LS	LIFE SAFETY
AMP	AMPERE, AMPACITY, AMPLIFIER	LTG	LIGHTING
APPROX	APPROXIMATELY	LTNG	LIGHTNING
ARCH	ARCHITECT, ARCHITECTURAL	LV	LOW VOLTAGE
AT	AMPERE TRIP		
AWG	AMERICAN WIRE GAUGE	MAX	MAXIMUM
		MCA	MINIMUM CIRCUIT AMPS
BKR	BREAKER	MCB	MAIN CIRCUIT BREAKER
BLDG	BUILDING	MCCB	MOLDED CASE CIRCUIT BREAKER
		MDP	MAIN DISTRIBUTION PANEL
C	CONDUIT	MECH	MECHANICAL
CB	CIRCUIT BREAKER	MIN	MINIMUM
CD	CONSTRUCTION DOCUMENTS	MISC	MISCELLANEOUS
CFCI	CONTRACTOR FURNISHED, CONTRACTOR INSTALLED	MOCp	MAXIMUM OVERCURRENT PROTECTION
CKT	CIRCUIT	MLO	MAIN LUGS ONLY
CKT BKR	CIRCUIT BREAKER	MSB	MAIN SWITCHBOARD
CLG	CEILING	MT,MTD,MTG	MOUNT, MOUNTED, MOUNTING
COMM	COMMUNICATION	MTR	MOTOR, MOTORIZED
CONN	CONNECTION		
CONST	CONSTRUCTION	N/A	NOT APPLICABLE
CONT	CONTINUE, CONTINUATION	NEC	NATIONAL ELECTRICAL CODE
CONTR	CONTRACTOR	NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
CT	CURRENT TRANSFORMER		NEUTRAL
CTR	CENTER	NEUT OR N	NATIONAL FIRE PROTECTION ASSOCIATION
CU	COPPER	NFPA	NOT IN CONTRACT NOT TO SCALE
(D)	EXISTING EQUIP. SHALL BE DEMOLISHED	NIC	NOT IN CONTRACT
DEMO	DEMOLITION	NTS	NOT TO SCALE
DISC	DISCONNECT		
DS	DISTRIBUTION	OPD	OVERCURRENT PROTECTION DEVICE
DWG	DRAWING	P	POLE
		PB	PULL BOX, OR PUSHBUTTON
(E)	EXISTING EQUIPMENT TO REMAIN	PH	PHASE
EC	ELECTRICAL CONTRACTOR	PNL	PANEL
EG	EQUIPMENT GROUND	PRI	PRIMARY
EL	ELEVATION	PVC	POLYVINYL CHLORIDE (PLASTIC)
ELEC	ELECTRIC, ELECTRICAL	PWR	POWER
EM	EMERGENCY		
EX	EXISTING	QTY	QUANTITY
FA	FIRE ALARM	RCP	REFLECTED CEILING PLAN
FAAP	FIRE ALARM ANNUNCIATOR PANEL	RCPT	RECEPTACLE
FABP	FIRE ALARM BOOSTER	RGS	RIGID GALVANIZED STEEL
	POWER SUPPLY PANEL	RTU	ROOF TOP UNIT
FACP	FIRE ALARM CONTROL PANEL		
FBO	FURNISHED BY OTHERS	SA	SURGE ARRESTER
FC	FOOTCANDLE	SCC	SHORT CIRCUIT CAPACITY
FIXT	FIXTURE	SEC	SECONDARY
FLA	FULL LOAD AMPS	SP	SPARE
FLR	FLOOR	SPD	SURGE PROTECTIVE DEVICE
FT	FEET OR FOOT	SPEC	SPECIFICATION
FU	FUSE	STD	STANDARD
		SW	SWITCH
G/GRD/GND	GROUND	SWBD	SWITCHBOARD
GC	GENERAL CONTRACTOR		
GFCI	GROUND FAULT CIRCUIT INTERRUPTER	TL	TWIST LOCK
GRC	GALVANIZED RIGID CONDUIT	TYP	TYPICAL
HP	HORSEPOWER	UG	UNDERGROUND
HV	HIGH VOLTAGE	UL	UNDERWRITERS LABORATORY
HZ	HERTZ	UON	UNLESS OTHERWISE NOTES
		UTIL	UTILITY
		V	VOLT, VOLTAGE
		VA	VOLT AMPERE
		W	WATT
		WP	WEATHERPROOF
		XFMR	TRANSFORMER

GENERAL NOTES

1.

ALL ELECTRICAL WORK MUST BE INSTALLED IN STRICT ACCORDANCE WITH THE ACCEPTABLE EDITIONS OF THE NATIONAL ELECTRICAL CODE, THE STATE BUILDING CODE, AND ANY OTHER LOCAL, STATE, OR FEDERAL CODES, ORDINANCE, OR AUTHORITATIVE INTERPRETATION THAT MAY APPLY.
2.

DRAWINGS REPRESENT ELECTRICAL DESIGN INTENT AND ARE NOT INTENDED TO SHOW FULL EXTENT OF EXISTING CONDITIONS AND CONTRACT SCOPE INSTALLATION, BUT RATHER TO SHOW GENERAL ARRANGEMENT AND LOCATION OF THE SYSTEM. PERFORM FIELD SURVEY NECESSARY TO DETERMINE THE ROUTING AND LOCATION OF THE UNDERGROUND DUCTBANK AND EQUIPMENT. NOTIFY THE ENGINEER IN WRITING OF ANY DISCREPANCIES OR ERRORS IN THE CONTRACT DRAWINGS, SPECIFICATIONS, AND/OR DETAILS; OR ANY CONDITION THAT WOULD PRECLUDE PERFORMANCE OF WORK AS SHOWN.
3.

IN THE EVENT OF A CONFLICT OR INCONSISTENCY BETWEEN ITEMS INDICATED ON THE PLANS, SPECIFICATIONS OR CODE REQUIREMENTS, THE NOTE WHICH ESTABLISHES THE HIGHER STANDARD SHALL PREVAIL.
4.

EXISTING EQUIPMENT AFFECTED BY THE WORK OF THIS CONTRACT SHALL BE COMPLETELY IDENTIFIED IN ACCORDANCE WITH THE REQUIREMENTS OF THIS CONTRACT. UNLESS OTHERWISE NOTED, ALL EXISTING ELECTRICAL EQUIPMENT, DEVICES, WIRING CONDUITS, GROUNDING, ETC. SHALL REMAIN FUNCTIONAL AND IN PLACE THROUGHOUT CONSTRUCTION. ONLY THAT SCOPE IDENTIFIED SHALL BE IMPACTED.
5.

PRIOR TO COMMENCEMENT OF WORK, SUBMIT A DETAILED STAGING SCHEDULE TO ENGINEER FOR APPROVAL. COORDINATE ALL CONSTRUCTION ACTIVITIES THAT MAY AFFECT OPERATIONS WITH THE ENGINEER.
6.

ALL EQUIPMENT/DEVICES SHALL BE OF RECENT MANUFACTURE AND SHALL MEET THE REQUIREMENTS OF APPLICABLE ANSI OR NEMA SPECIFICATIONS. WHERE UNDERWRITERS LABORATORIES INC. HAVE ESTABLISHED STANDARDS FOR MATERIALS, FURNISH AND INSTALL MATERIALS BEARING THE UL LABELS.
7.

CONTRACTOR SHALL VERIFY THAT THERE ARE NO ADDITIONAL EQUIPMENT CONNECTED TO EXISTING CIRCUIT THAT IS BEING REUSED FOR DEDICATED EQUIPMENT.
8.

CONTRACTOR TO COORDINATE ANY SHUTDOWNS OR INTERRUPTIONS OF SERVICE WITH OWNER. PROVIDE MINIMUM 2 WEEKS NOTICE.
9.

WHERE ELECTRICAL SERVICE SHUTDOWNS ARE REQUIRED PROVIDE FIRE WATCH FOR DURATION WHERE POWER TO FIRE ALARM SYSTEM IS INTERRUPTED.
10.

IT IS CONTRACTOR'S MEANS AND METHODS TO VERIFY EXISTING INSTALLATION, CONSTRUCTION ACTIVITIES AND MINIMIZE POWER OUTAGE. COUPLE OF SHORT POWER OUTAGES IF NECESSARY IS ACCEPTABLE BUT SHALL NOT BE MORE THAN FOUR HOURS FOR EACH INTERRUPTIONS. MULTIPLE INTERRUPTIONS AT THE SAME DAY IS NOT ACCEPTABLE. IF NECESSARY CONTRACTOR SHALL WORK AT WEEKEND/NIGHT TIME FOR ANY LONG DURATION OUTAGE. CONTRACTOR TO COORDINATE WITH THE FACILITY AND SUBMIT CONSTRUCTION AND POWER OUTAGE SEQUENCE IN ADVANCE FOR ENGINEER'S APPROVAL.
11.

CONTRACTOR SHALL PROVIDE TEMPORARY POWER DURING NORMAL POWER SHUTDOWN(S).

DEMOLITION NOTES

1.

GENERAL
- A.

PRIOR TO BID, THE CONTRACTOR SHALL VISIT THE PROJECT SITE TO ASCERTAIN TH FIELD CONDITIONS AS THEY RELATE TO THE WORK AS INDICATED ON THESE DRAWINGS.
- A.2.

REVIEW OF ALL TRADES & COORDINATION OF WORK
- A.3.

PRIOR TO BID, THE CONTRACTOR SHALL REVIEW ALL DRAWINGS OF THE ENTIRE PROJECT INCLUDING GENERAL CONSTRUCTION, DEMOLITION, ARCHITECTURAL, CIVIL, ELECTRICAL, PLUMBING, FIRE PROTECTION, & MECHANICAL, & SHALL NOTIFY THE GENERAL CONTRACTOR OF WORK REQUIRED TO BE INCLUDED IN THEIR BID WHICH IS INDICATED OR IMPLIED IN OTHER SECTIONS OF THE WORK.
- B.

PERMITS, TEST, GUARANTEES, & APPROVALS
- B.1.

THE CONTRACTOR SHALL FILE ALL NECESSARY DRAWINGS, PERFORM CONTROLLED INSPECTIONS, PAY ALL FEES, & OBTAIN ALL PERMITS & CERTIFICATES OF APPROVAL REQUIRED IN CONNECTION WITH WORK UNDER THIS CONTRACT.
- B.2.

TEST SHALL BE PERFORMED IN THE PRESENCE OF ENGINEER, ARCHITECT AND/OR AUTHORITIES HAVING JURISDICTION. PROVIDE ALL REQUIRED LABOR, MATERIAL, EQUIPMENT & CONNECTIONS & SUBMIT ALL RESULTS FOR REVIEW.
2.

SCOPE OF WORK
- THE CONTRACTOR SHALL FURNISH AND INSTALL ALL LABOR AND MATERIAL AS REQUIRED TO DEMOLISH EXISTING SYSTEMS AS INDICATED. WORK SHALL INCLUDE, BUT NOT BE LIMITED TO THE FOLLOWING:
- A.

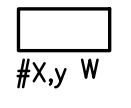

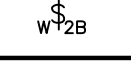

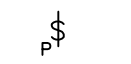
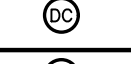
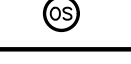
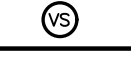





FULL DEMOLITION
- A.1.

ALL ELECTRICAL EQUIPMENT, CONDUIT, & WIRING SERVING MECHANICAL, PLUMBING, OR FIRE PROTECTION EQUIPMENT TO BE REMOVED IS TO BE REMOVED. CONTRACTOR TO REVIEW MECHANICAL, PLUMBING, & FIRE PROTECTION DRAWINGS FOR REMOVALS.
- A.2.

EXISTING OPERATIONAL LIFE SAFETY SYSTEMS (FIRE ALARM, EMERGENCY LIGHTING, FIRE PROTECTION, ETC.) ARE TO BE MAINTAINED FOR THE DURATION OF CONSTRUCTION UNTIL NEW SYSTEMS ARE INSTALLED AND APPROVED. PROVIDE TEMPORARY SUPPORT AS REQUIRED.
- A.3.


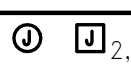
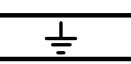
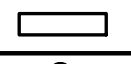
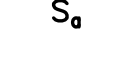
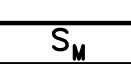
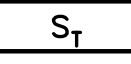
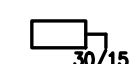
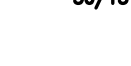




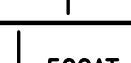
CONTRACTOR TO PROVIDE TEMPORARY POWER DURING CONSTRUCTION.

LIGHTING SYMBOLS



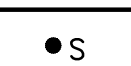
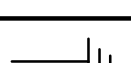
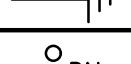
SYMBOL	DESCRIPTION
	LIGHTING FIXTURE -- SEE FIXTURE SCHEDULE ON E6.01 FOR TYPES W -- FIXTURE TYPE #X -- CIRCUIT NUMBER y -- CONTROL ZONE, WHERE NO CONTROL ZONE INDICATE ALL FIXTURES IN ROOM TO BE CONTROLLED TOGETHER.
	EMERGENCY LIGHTING FIXTURE -- SEE FIXTURE SCHEDULE ON E6.01 FOR TYPES W -- FIXTURE TYPE #X -- CIRCUIT NUMBER y -- CONTROL ZONE, WHERE NO CONTROL ZONE INDICATE ALL FIXTURES IN ROOM TO BE CONTROLLED TOGETHER.
	DIGITAL SWITCH WITH RAISE/LOWER W -- WIRELESS
	20A SINGLE POLE TOGGLE SWITCH
	20A SINGLE POLE TOGGLE SWITCH WITH PILOT LIGHT
	WIRELESS CEILING MOUNTED DAYLIGHT SENSOR
	WIRELESS CEILING MOUNTED OCCUPANCY SENSOR
	WIRELESS CEILING MOUNTED VACANCY SENSOR
	WIRELESS WALL MOUNTED VACANCY SENSOR
	WIRELESS WALL MOUNTED OCCUPANCY SENSOR
	0--10V INTERFACE
	WIRELESS SENSOR MODULE
	ENERGI SAVR NODE

LIGHTING CONTROL DEVICES SHALL BE AS LISTED ON DRAWING E6.01 OR APPROVED EQUAL.

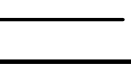
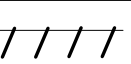
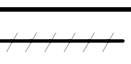
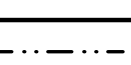
POWER & LIGHTING SYMBOLS

SYMBOL	DESCRIPTION
	CONDUIT AND WIRE RUN CONCEALED IN FLOOR, CEILING OR WALL. HASHMARKS DENOTE NUMBER OF WIRES IF MORE THAN TWO ARE REQUIRED. ARROWS DENOTE HOMERUNS OF PARTICULAR CIRCUITS AND QUANTITY OF 1P--20A CIRCUITS. MINIMUM 2#12 THHN / THWN IN 3/4" CONDUIT U.O.N.
	CEILING MOUNTED JUNCTION/SPLICE BOX, SIZE AS REQUIRED. SUBSCRIPT 'F' INDICATES FLOOR MOUNTED.
	GROUND
	LIGHTING AND POWER PANELBOARD
	SINGLE POLE TOGGLE SWITCH. SUBSCRIPT DENOTES FIXTURES CONTROLLED.
	'P' INDICATES WITH PILOT LIGHT. '3' INDICATES 3WAY SWITCH.
	MOTOR STARTER TOGGLE SWITCH.
	MOTOR RATED SWITCH WITH THERMAL OVERLOADS.
	DISCONNECT SWITCH, RATING AND FUSING NOTED. HORSEPOWER RATING AS REQUIRED BY MOTOR LOAD. 'WP' INDICATES WEATHERPROOF ENCLOSURE, OTHERWISE NEMA--1.
	CIRCUIT BREAKER
	TRANSFORMER, DELTA PRIMARY, Y SECONDARY, RATING NOTED
	CURRENT TRANSFORMER
	CIRCUIT BREAKER SUBSCRIPT "AT" REPRESENTS AMPERE TRIP RATING SUBSCRIPT "AF" REPRESENTS AMPERE FRAME RATING
	UTILITY METER


LIGHTNING PROTECTION SYMBOLS

SYMBOL	DESCRIPTION
	AIR TERMINAL
	AIR TERMINAL AT EXHAUST FAN
	SADDLE BASE AIR TERMINAL
	GROUND ROD
	DOWN CONDUCTOR

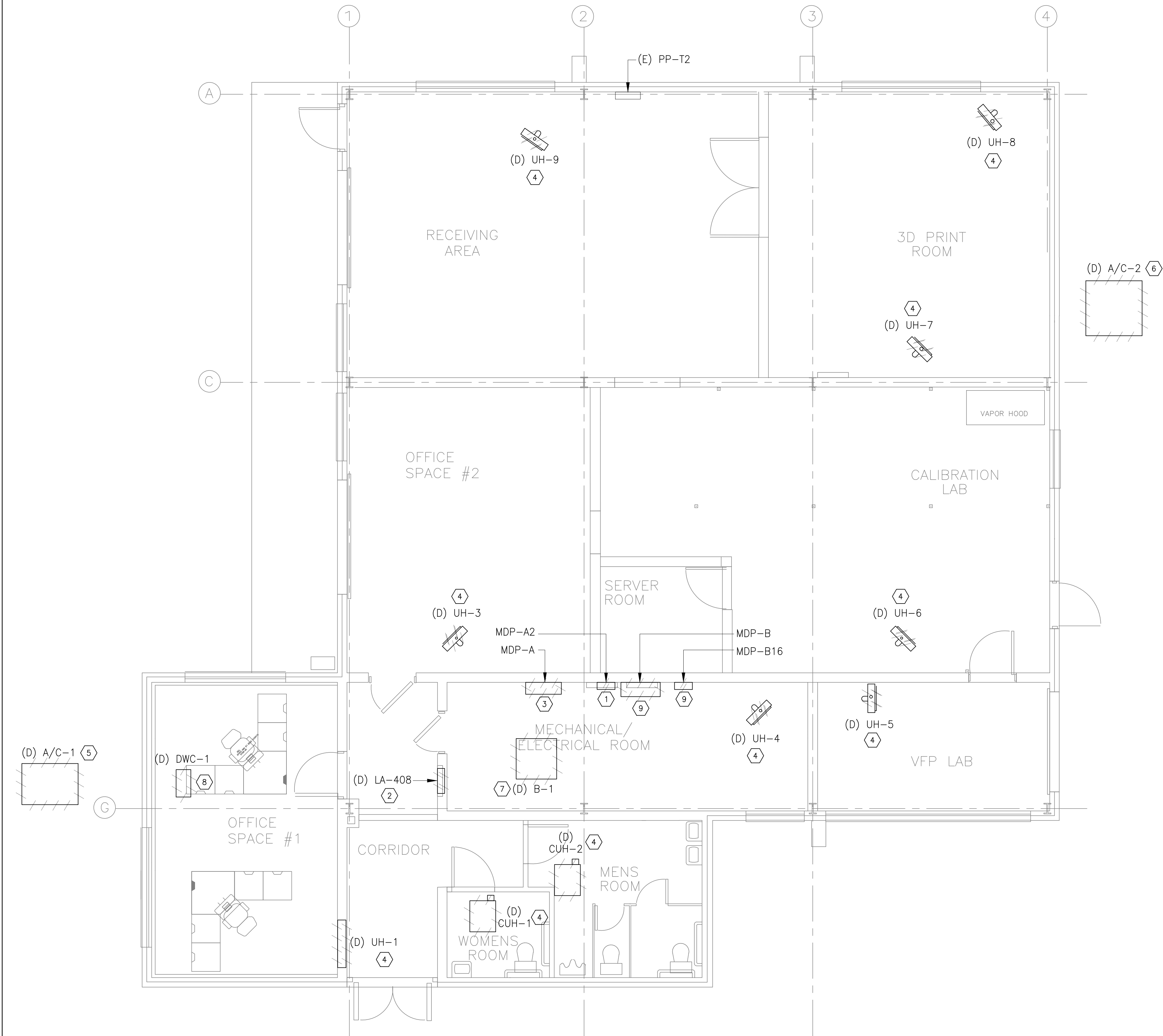
LINETYPE SCHEDULE

SYMBOL	DESCRIPTION
	NEW
	EXISTING TO REMAIN
	EXISTING TO BE DEMOLISHED
	LIGHTNING PROTECTION CABLE

THIS IS A STANDARD LEGEND SHEET. SOME SYMBOLS OR ABBREVIATIONS APPEAR ON THIS SHEET AND NOT ON PROJECT DRAWINGS.

		STAMP	
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BUILDING 202 SUSTAINMENT		FACILITY	
GENERAL NOTES, SYMBOLS AND ABBREVIATIONS			
REVIEWED BY	SUBMITTED BY	DATE	APPROVED BY DATE
			Michael Roselli ANG--E342
	DESIGN: MR	ISSUED BY:	DATE: 08/31/2023   JCN:
APPROVAL (FINISHES)	DRAWN: MR	FACILITY SERVICES & ENGINEERING DIVISION	DRAWING NO. SHEET #
	CHECK: FC		F2021017--E0.01 31 of 53





1 DEMOLITION: POWER PLAN  
ED1.01 SCALE: 1/4" = 1'-0" 0 2' 4' 8'

GENERAL NOTES:

1. REFER TO DRAWING E0.01 FOR ELECTRICAL SYMBOLS, ABBREVIATIONS, AND GENERAL NOTES.
2. MAINTAIN CONTINUITY OF SERVICE FOR EQUIPMENT/DEVICES OUTSIDE SCOPE OF WORK. FURNISH AND INSTALL ALL MATERIALS, NECESSARY EXTENSIONS, CONNECTIONS, CUTTING, REPAIRING, ADAPTING AND OTHER WORK INCIDENTAL THERETO, TOGETHER WITH SUCH TEMPORARY CONNECTIONS, AS MAY BE REQUIRED TO MAINTAIN SERVICE.
3. ALL WIRING AND CONDUIT CONNECTED TO EQUIPMENT BEING DEMOLISHED AND NOT REPLACED SHALL BE REMOVED BACK TO SOURCE PANEL. NO WIRING AND CONDUIT SHALL BE ABANDONED IN PLACE.

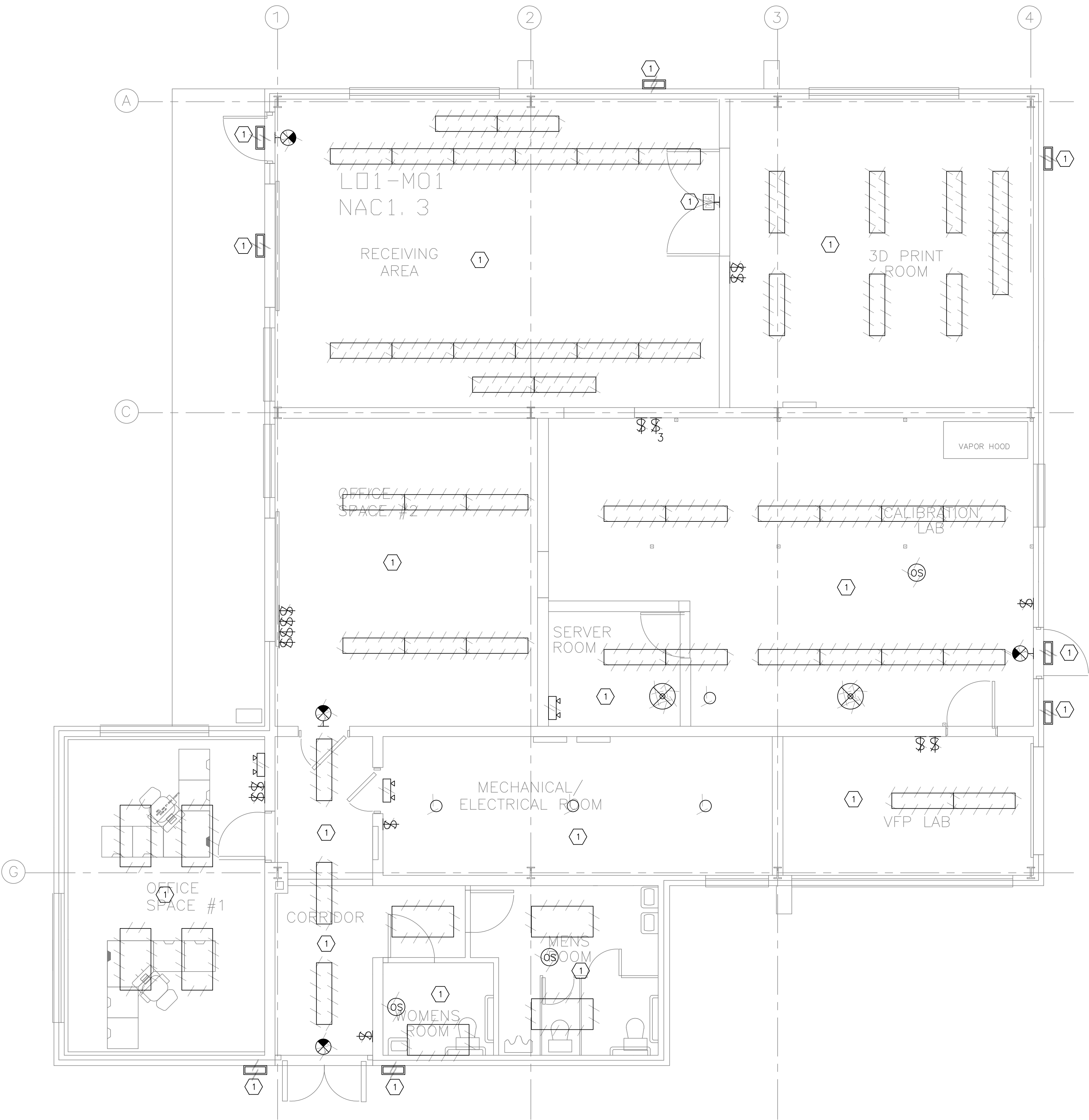
DEMOLITION KEY NOTES:

(X) 'X' DENOTES KEY NOTE NUMBER BELOW

1. EXISTING ELECTRICAL PANEL TO BE REPLACED WITH NEW IN SAME LOCATION. DEMOLISH EXISTING PANEL, EXISTING FEEDERS AND BRANCH CIRCUITS TO BE DISCONNECTED AND ARE TO BE RE-CONNECTED TO NEW PANEL.
2. REPLACE EXISTING ELECTRICAL PANEL INTERIOR (BUSES, OVERCURRENT PROTECTION DEVICES, NEUTRAL BUS, GROUND BUS, ETC.). EXISTING PANEL BACKBOX SHALL BE REUSED. EXISTING FEEDERS AND BRANCH CIRCUITS TO BE DISCONNECTED (TO ALLOW FOR REPLACEMENT OF PANEL INTERIOR) AND ARE TO BE RE-CONNECTED TO NEW PANEL.
3. DEMOLISH EXISTING PANEL, EXISTING LOADS TO BE RE-FED FROM NEW PANEL MDP-B.
4. EXISTING UNIT HEATER IS BEING DEMOLISHED, DEMOLISH EXISTING 1P, 20A CIRCUIT BACK TO PANEL MDP-A2 AND ASSOCIATED DISCONNECT SWITCH.
5. EXISTING AC UNIT IS BEING DEMOLISHED, DEMOLISH EXISTING 3P, 30A CIRCUIT BACK TO PANEL MDP-B AND ASSOCIATED DISCONNECT SWITCH.
6. EXISTING AC UNIT IS BEING DEMOLISHED, DEMOLISH EXISTING 3P, 60A CIRCUIT BACK TO PANEL MDP-B AND ASSOCIATED DISCONNECT SWITCH.
7. EXISTING BOILER IS BEING DEMOLISHED, DEMOLISH EXISTING 1P, 20A CIRCUIT BACK TO PANEL MDP-B AND ASSOCIATED DISCONNECT SWITCH.
8. EXISTING DWC IS BEING DEMOLISHED, DEMOLISH EXISTING 1P, 20A CIRCUIT BACK TO PANEL MDP-A2 AND ASSOCIATED DISCONNECT SWITCH.
9. EXISTING ELECTRICAL PANEL TO BE REPLACED WITH NEW IN NEW LOCATION. DEMOLISH EXISTING PANEL, EXISTING FEEDERS AND BRANCH CIRCUITS TO BE DISCONNECTED AND ARE TO BE RE-CONNECTED TO NEW PANEL. EXTEND TO NEW LOCATION.

<b>AECOM</b> 1255 Broad Street, Suite 201 Clifton, NJ 07013-8591 tel. (973) 883-8500 www.aecom.com		STAMP  ARCHITECT/ENGINEER #:	
0	08/31/23	FINAL SUBMISSION	
REV	DATE	DESCRIPTION	CHECK APRV'D
UNITED STATES DEPARTMENT OF TRANSPORTATION <b>FEDERAL AVIATION ADMINISTRATION</b> WILLIAM J. HUGHES TECHNICAL CENTER ATLANTIC CITY INT'L AIRPORT, N.J. 08405			
<b>BUILDING 202 SUSTAINMENT</b>		<b>FACILITY</b>	
<b>DEMOLITION: POWER PLAN</b>			
REVIEWED BY	SUBMITTED BY	DATE	APPROVED BY
			Michael Roselli ANG-E342
	DESIGN: MR	ISSUED BY:	DATE: 08/31/2023 JCN:
APPROVAL (FINISHES)	DRAWN: MR	FACILITY SERVICES & ENGINEERING DIVISION	DRAWING NO.
	CHECK: FC		<b>F2021017-ED1.01</b>
			SHEET #
			32 OF 53





**1** DEMOLITION: LIGHTING PLAN  
SCALE: 1/4" = 1'-0" 0 2' 4' 8'

**GENERAL NOTES:**

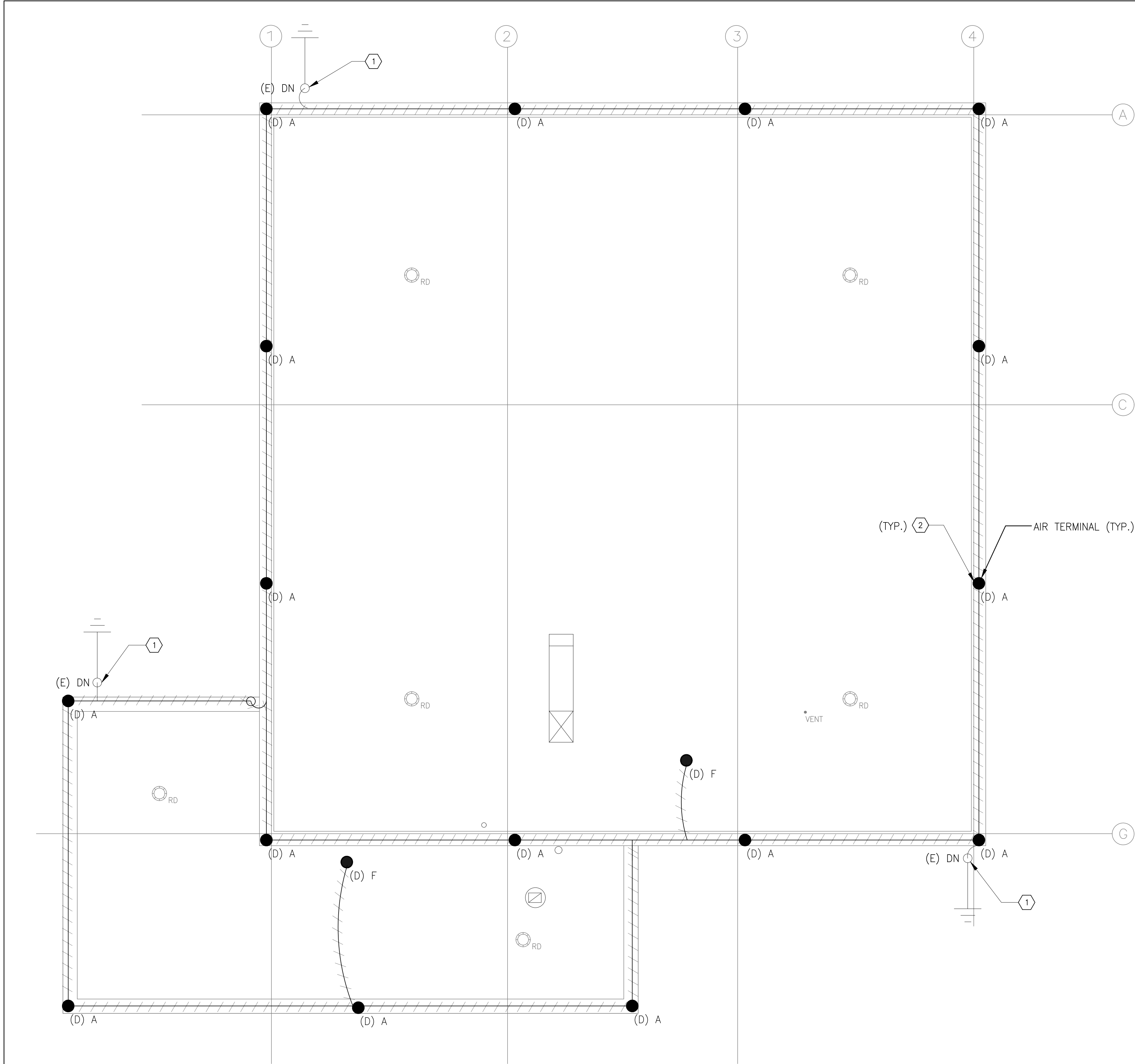
1. REFER TO DRAWING E0.01 FOR ELECTRICAL SYMBOLS, ABBREVIATIONS, AND GENERAL NOTES.
2. MAINTAIN CONTINUITY OF SERVICE FOR EQUIPMENT/DEVICES OUTSIDE SCOPE OF WORK. FURNISH AND INSTALL ALL MATERIALS, NECESSARY EXTENSIONS, CONNECTIONS, CUTTING, REPAIRING, ADAPTING AND OTHER WORK INCIDENTAL THERETO, TOGETHER WITH SUCH TEMPORARY CONNECTIONS, AS MAY BE REQUIRED TO MAINTAIN SERVICE.
3. REFER TO DRAWING ED1.01 FOR ELECTRICAL PANEL LOCATIONS.
4. ALL WIRING AND CONDUIT CONNECTED TO EQUIPMENT BEING DEMOLISHED AND NOT REPLACED SHALL BE REMOVED BACK TO SOURCE PANEL. NO WIRING AND CONDUIT SHALL BE ABANDONED IN PLACE.

**DEMOLITION KEY NOTES:**

- (X) 'X' DENOTES KEY NOTE NUMBER BELOW
1. SHUT OFF, DISCONNECT AND REMOVE ALL EXISTING LIGHTING FIXTURES, EXIT SIGNS AND ILLUMINATED SIGNAGE. REMOVE ALL ASSOCIATED SWITCH WIRING AND LIGHTING CONTROL DEVICES. REMOVE BRANCH CIRCUIT WIRING AND CONDUIT BACK TO SOURCE, PANEL LA 408.

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REV	DATE	DESCRIPTION	CHECK   APRV'D
UNITED STATES DEPARTMENT OF TRANSPORTATION <b>FEDERAL AVIATION ADMINISTRATION</b> WILLIAM J. HUGHES TECHNICAL CENTER ATLANTIC CITY INT'L AIRPORT, N.J. 08405			
<b>BUILDING 202 SUSTAINMENT</b>		<b>FACILITY</b>	
<b>DEMOLITION: LIGHTING PLAN</b>			
REVIEWED BY	SUBMITTED BY	DATE	APPROVED BY
DESIGN: MR		ISSUED BY:	
DATE: 08/31/2023		JCN:	
DRAWN: MR		FACILITY SERVICES & ENGINEERING DIVISION	
CHECK: SB		DRAWING NO. <b>F2021017-ED2.01</b>	
		SHEET # <b>33 OF 53</b>	





GENERAL NOTES:

- REFER TO DRAWING E0.01 FOR ELECTRICAL SYMBOLS, ABBREVIATIONS, AND ADDITIONAL GENERAL NOTES.
- DRAWING IS SHOWN DIAGRAMMATICALLY, THE CONTRACTOR SHALL SURVEY TO CONFIRM ALL EXISTING LIGHTNING PROTECTION AND GROUNDING SYSTEM COMPONENTS BEFORE BIDDING. EXISTING DOWN CONDUCTORS TO REMAIN AND BE TESTED TO ENSURE THEY MEET CODE.

DEMOLITION KEY NOTES:

(X) 'X' DENOTES KEY NOTE NUMBER BELOW

- EXISTING DOWN CONDUCTORS SHALL BE TESTED BY CERTIFIED LIGHTNING PROTECTION COMPANY. IF TEST RESULTS COME BACK POSITIVE, DOWN CONDUCTORS TO REMAIN, OTHERWISE DOWN CONDUCTORS SHALL BE REPLACED.
- ROOFTOP LIGHTNING PROTECTION SYSTEM TO BE REPLACED WITH NEW. REMOVE ALL EXISTING COMPONENTS.
- REFER TO DRAWING E6.02 FOR LIGHTNING PROTECTION DETAILS AND NOTES.

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UNITED STATES DEPARTMENT OF TRANSPORTATION  
**FEDERAL AVIATION ADMINISTRATION**  
WILLIAM J. HUGHES TECHNICAL CENTER  
ATLANTIC CITY INT'L AIRPORT, N.J. 08405

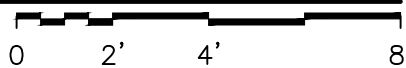
**BUILDING 202 SUSTAINMENT**

**FACILITY**

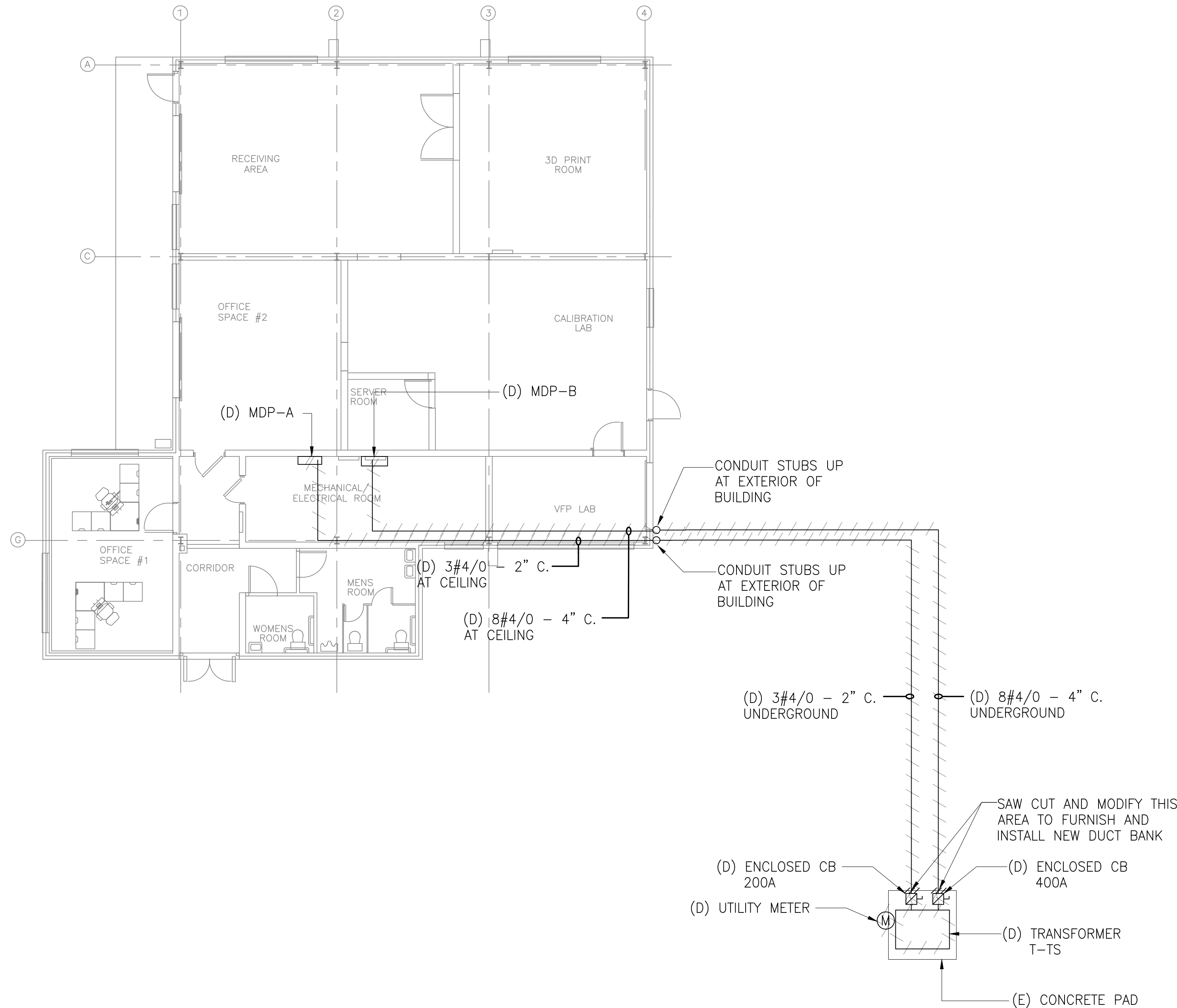
DEMOLITION: LIGHTNING PROTECTION PLAN

REVIEWED BY	SUBMITTED BY	DATE	APPROVED BY	DATE
			Michael Roselli ANG-E342	
	DESIGN: RG	ISSUED BY:	DATE: 08/31/2023	JCN:
APPROVAL (FINISHES)	DRAWN: RG	FACILITY SERVICES & ENGINEERING DIVISION	DRAWING NO.	SHEET #
	CHECK: GAA		<b>F2021017-ED3.01</b>	34 OF 53

**1** DEMOLITION: LIGHTNING PROTECTION PLAN  
ED3.01 SCALE: 1/4" = 1'-0"





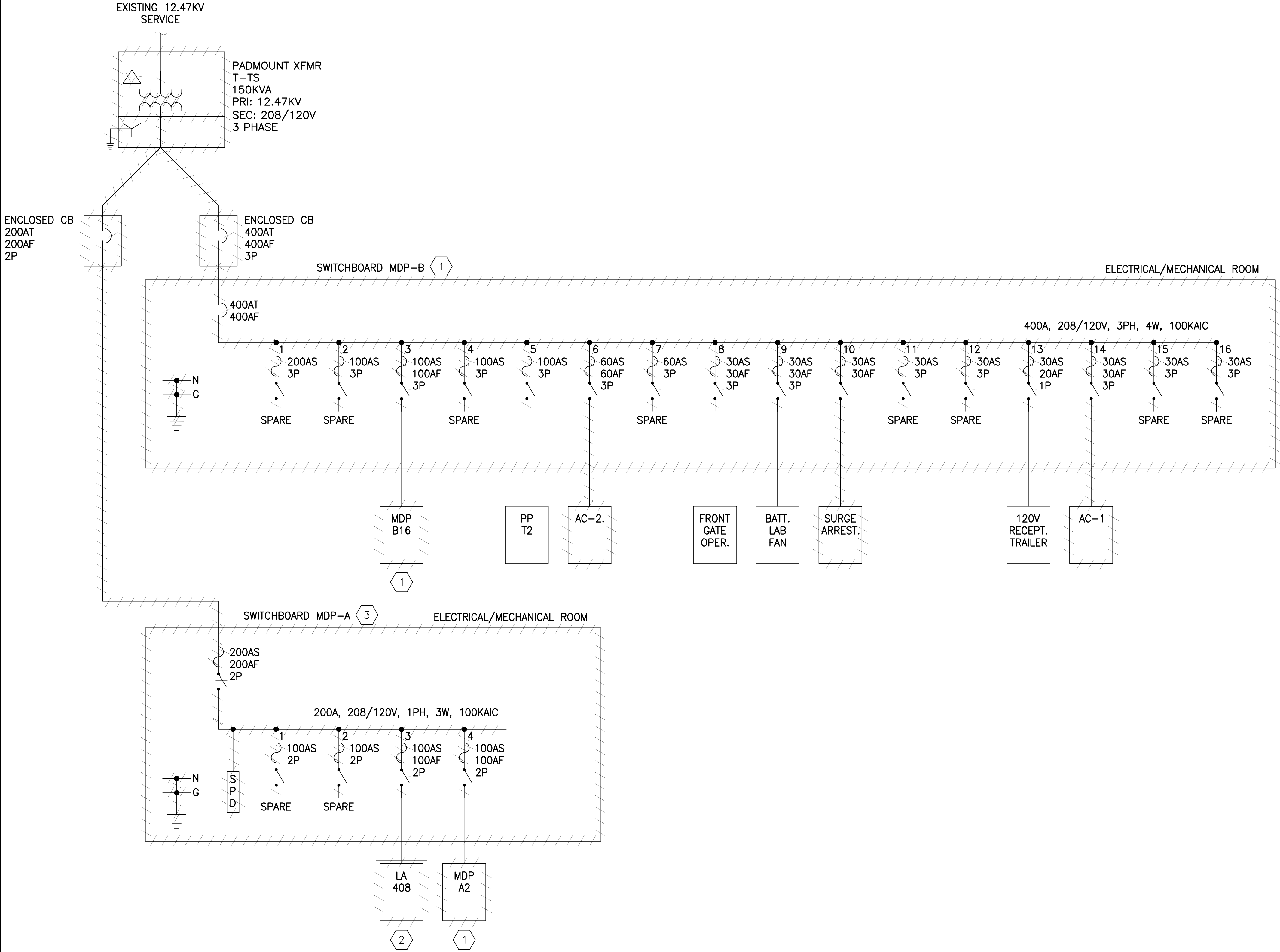


GENERAL NOTES:

1. REFER TO DRAWING E0.01 FOR ELECTRICAL SYMBOLS, ABBREVIATIONS, AND GENERAL NOTES.
2. CONTRACTOR TO VERIFY EXACT ROUTING OF UNDERGROUND FEEDERS.
3. COORDINATE SHUTDOWNS WITH OWNER'S REPRESENTATIVE AND PROVIDE TEMPORARY POWER AS DIRECTED.

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0	08/31/23	FINAL SUBMISSION	
REV	DATE	DESCRIPTION	CHECK APRV'D
UNITED STATES DEPARTMENT OF TRANSPORTATION FEDERAL AVIATION ADMINISTRATION WILLIAM J. HUGHES TECHNICAL CENTER ATLANTIC CITY INT'L AIRPORT, N.J. 08405			
BUILDING 202 SUSTAINMENT		FACILITY	
DEMOLITION: SITE PLAN			
REVIEWED BY	SUBMITTED BY	DATE	APPROVED BY
DESIGN: MR		ISSUED BY:	
DRAWN: MR		FACILITY SERVICES & ENGINEERING DIVISION	
CHECK: FC			
DATE: 08/31/2023		JCN:	
DRAWING NO.		SHEET #	
F2021017-ED4.01		35 OF 53	





GENERAL NOTES:

1. REFER TO DRAWING E0.01 FOR ELECTRICAL SYMBOLS, ABBREVIATIONS, AND GENERAL NOTES.
2. MAINTAIN CONTINUITY OF SERVICE FOR EQUIPMENT/DEVICES OUTSIDE SCOPE OF WORK. FURNISH AND INSTALL ALL MATERIALS, NECESSARY EXTENSIONS, CONNECTIONS, CUTTING, REPAIRING, ADAPTING AND OTHER WORK INCIDENTAL THERETO, TOGETHER WITH SUCH TEMPORARY CONNECTIONS, AS MAY BE REQUIRED TO MAINTAIN SERVICE.
3. CONTRACTOR SHALL REPLACE ANY ELECTRICAL EQUIPMENT, WIRING AND CONDUITS THAT ARE DAMAGED DURING INSTALLATION/DEMOLITION AT NO COST TO GOVERNMENT.

DEMOLITION KEY NOTES:

① 'X' DENOTES KEY NOTE NUMBER BELOW

1. EXISTING ELECTRICAL PANEL TO BE REPLACED WITH NEW IN SAME LOCATION. DEMOLISH EXISTING PANEL, EXISTING FEEDERS AND BRANCH CIRCUITS TO BE DISCONNECTED AND ARE TO BE RE-CONNECTED TO NEW PANEL.
2. REPLACE EXISTING ELECTRICAL PANEL INTERIOR (BUSES, OVERCURRENT PROTECTION DEVICES, NEUTRAL BUS, GROUND BUS, ETC.). EXISTING PANEL BACKBOX SHALL BE REUSED. EXISTING FEEDERS AND BRANCH CIRCUITS TO BE DISCONNECTED (TO ALLOW FOR REPLACEMENT OF PANEL INTERIOR) AND ARE TO BE RE-CONNECTED TO NEW PANEL.
3. DEMOLISH EXISTING PANEL, EXISTING FEEDERS AND BRANCH CIRCUITS TO BE DISCONNECTED AND ARE TO BE EXTENDED TO NEW PANEL.

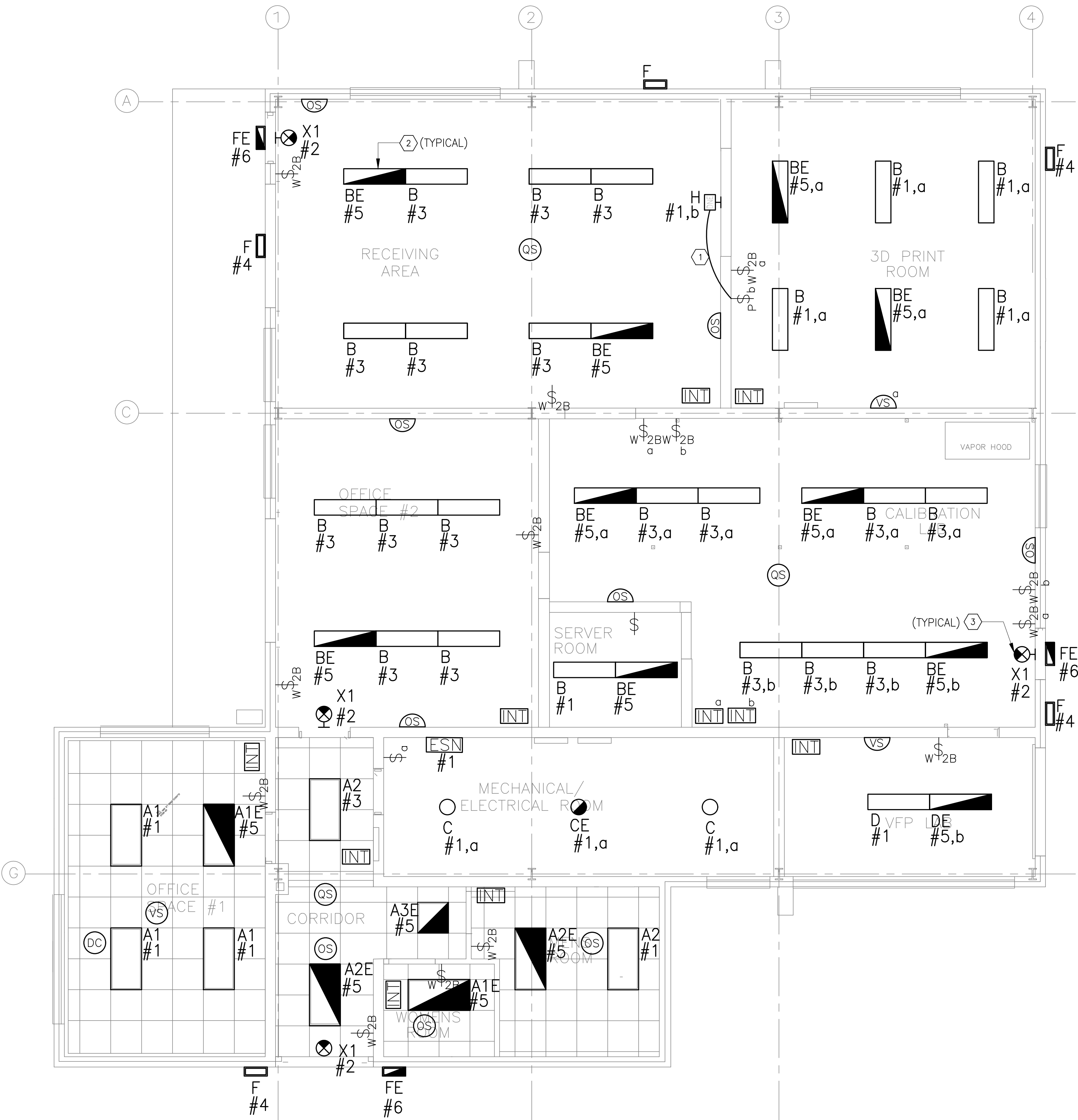
<b>AECOM</b> 1255 Broad Street, Suite 201 Clifton, NJ 07013-8591 tel. (973) 883-8500 www.aecom.com		STAMP	
ARCHITECT/ENGINEER #:			
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REV	DATE	DESCRIPTION	CHECK APRV'D
UNITED STATES DEPARTMENT OF TRANSPORTATION <b>FEDERAL AVIATION ADMINISTRATION</b> WILLIAM J. HUGHES TECHNICAL CENTER ATLANTIC CITY INT'L AIRPORT, N.J. 08405			
<b>BUILDING 202 SUSTAINMENT</b>		<b>FACILITY</b>	
<b>DEMOLITION: ONE-LINE DIAGRAM</b>			
REVIEWED BY	SUBMITTED BY	DATE	APPROVED BY
			Michael Roselli ANG-E342
	DESIGN: MR	ISSUED BY:	DATE: 08/31/2023 JCN:
APPROVAL (FINISHES)	DRAWN: MR	FACILITY SERVICES & ENGINEERING DIVISION	DRAWING NO.
	CHECK: FC		<b>F2021017-ED5.01</b>
			SHEET #
			36 OF 53





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0	08/31/23	FINAL SUBMISSION					
REV	DATE	DESCRIPTION				CHECK	APR'V'D
UNITED STATES DEPARTMENT OF TRANSPORTATION <b>FEDERAL AVIATION ADMINISTRATION</b> WILLIAM J. HUGHES TECHNICAL CENTER ATLANTIC CITY INT'L AIRPORT, N.J. 08405							
<b>BUILDING 202 SUSTAINMENT</b>						<b>FACILITY</b>	
<b>CONSTRUCTION: POWER PLAN</b>							
REVIEWED BY		SUBMITTED BY		DATE		APPROVED BY	
						Michael Roselli ANG-E342	
						DATE: 08/31/2023 JCN:	
DESIGN: MR		ISSUED BY:		DRAWING NO.		SHEET #	
APPROVAL (FINISHES)		DRAWN: MR		FACILITY SERVICES & ENGINEERING DIVISION		37 OF 53	
CHECK: FC				F2021017-E1.01			





GENERAL NOTES:

1. REFER TO DRAWING E0.01 FOR ELECTRICAL SYMBOLS, ABBREVIATIONS, AND ADDITIONAL GENERAL NOTES.
2. REFER TO DRAWING E6.01 FOR LIGHTING FIXTURE SCHEDULE AND LIGHTING CONTROL DETAILS.
3. ALL LIGHTING FIXTURES TO BE CIRCUITED TO 1P, 20A CIRCUITS INDICATED IN PANEL LA 408 WITH 2#12+#12G - 3/4" C. UNLESS OTHERWISE NOTED.
4. TYPE F EXTERIOR LIGHTING FIXTURES TO BE CONTROLLED BY INTEGRAL DAYLIGHT SENSORS.
5. REFER TO DRAWING E1.01 FOR ELECTRICAL PANEL LOCATIONS.

KEY NOTES:

(X) 'X' DENOTES KEY NOTE NUMBER BELOW

1. WIRE "DO NOT ENTER" SIGN TO PILOT LIGHT SWITCH IN 3D PRINT ROOM, PILOT LIGHT TO BE ON WHEN SIGN IS ON. ENGRAVE COVER PLATE WITH "DO NOT ENTER",
2. PROVIDE EMERGENCY LIGHTING RELAY UNIT TO ALLOW FOR SWITCHING OF EMERGENCY FIXTURES.
3. EXIT SIGNS SHALL BE UNSWITCHED.

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**FEDERAL AVIATION ADMINISTRATION**  
WILLIAM J. HUGHES TECHNICAL CENTER  
ATLANTIC CITY INT'L AIRPORT, N.J. 08405

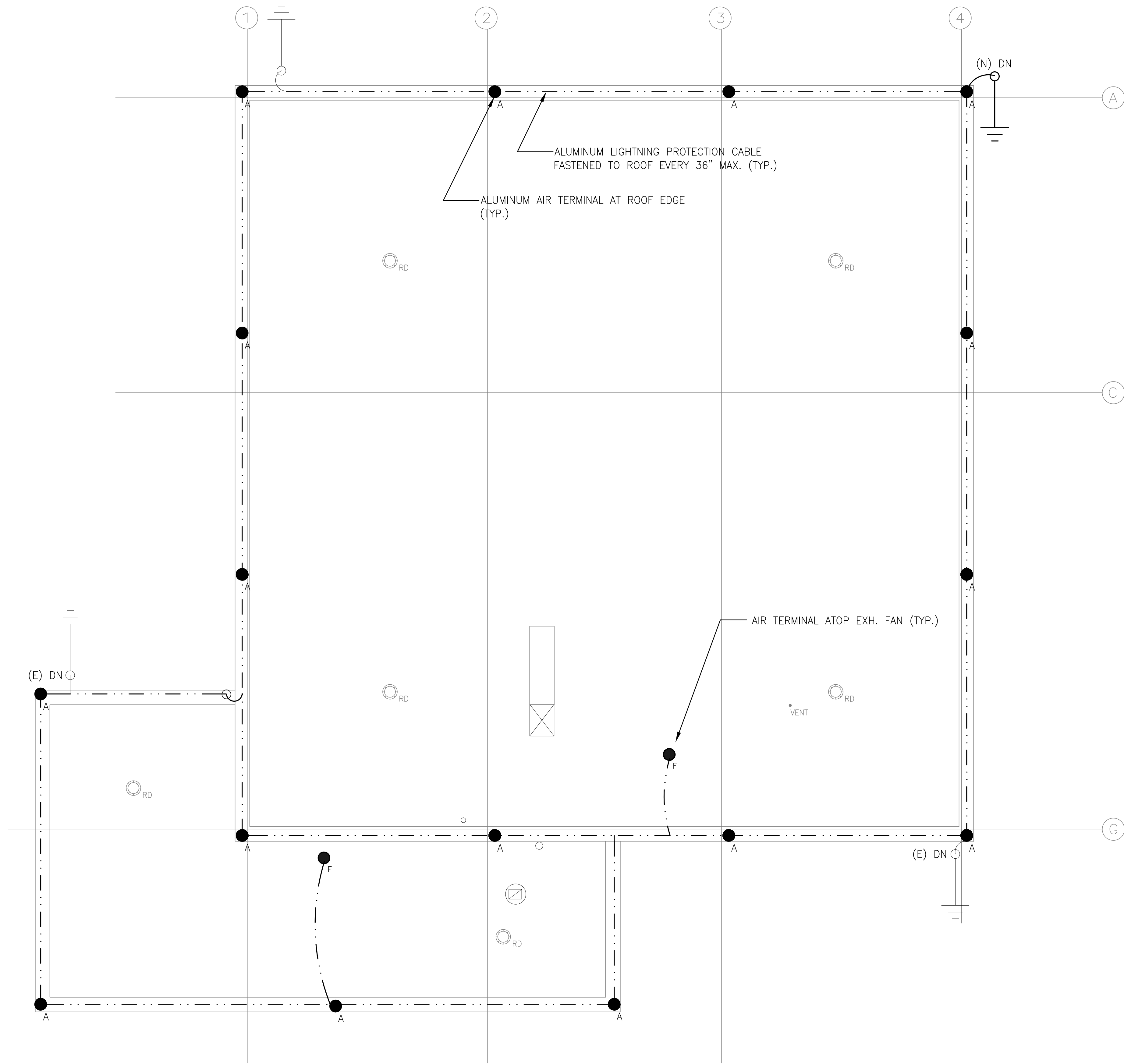
**BUILDING 202 SUSTAINMENT**

**FACILITY**

**CONSTRUCTION: LIGHTING PLAN**

REVIEWED BY	SUBMITTED BY	DATE	APPROVED BY	DATE
			Michael Roselli ANG-E342	
			DATE: 08/31/2023	JCN:
APPROVAL (FINISHES)	DESIGN: MR	ISSUED BY:	DRAWING NO.	SHEET #
	DRAWN: MR	FACILITY SERVICES & ENGINEERING DIVISION	<b>F2021017-E2.01</b>	38 OF 53
	CHECK: SB			





**GENERAL NOTES:**

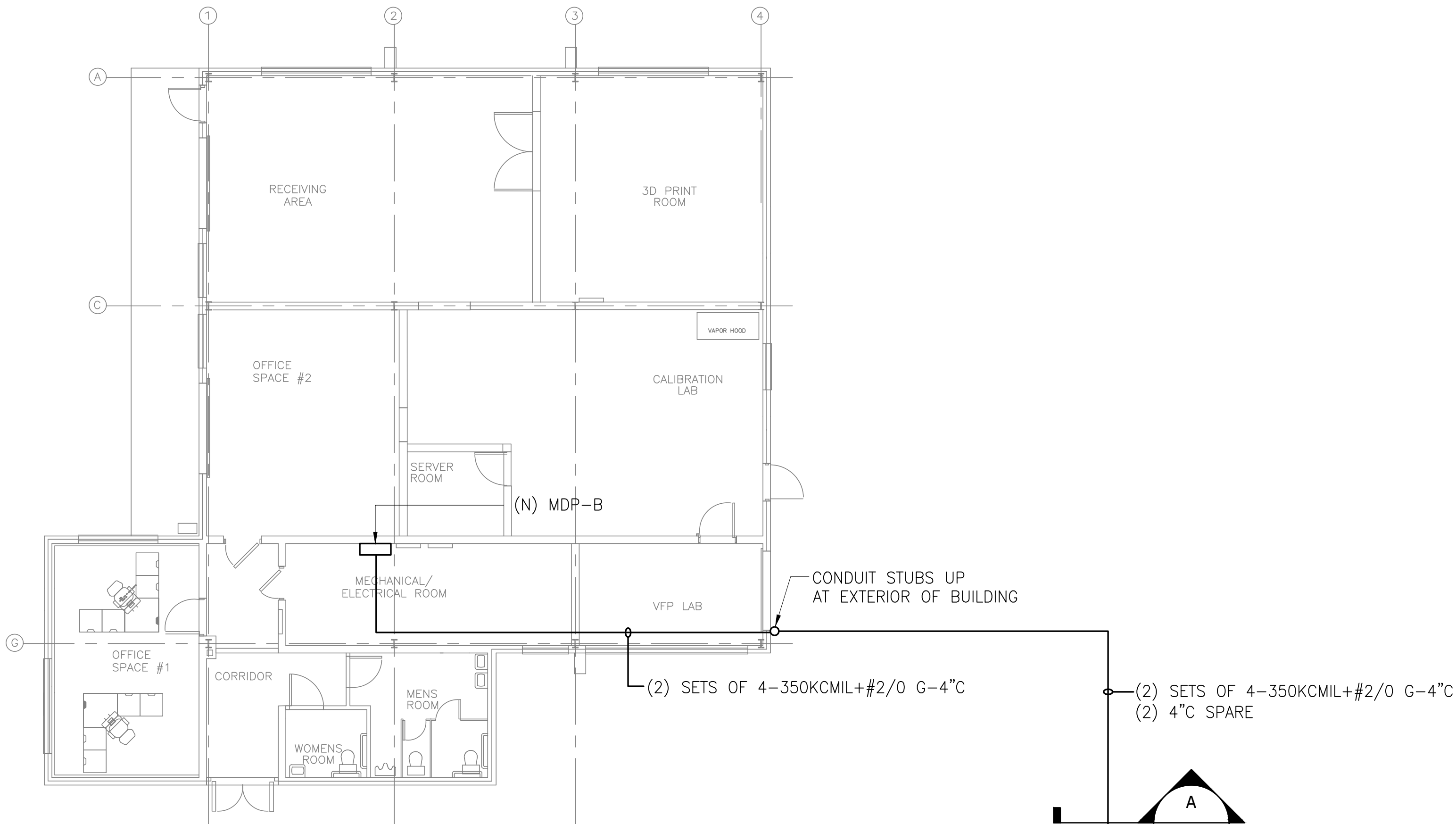
1. REFER TO DRAWING E0.01 FOR ELECTRICAL SYMBOLS, ABBREVIATIONS, AND ADDITIONAL GENERAL NOTES.
2. LIGHTNING PROTECTION SYSTEM TO BE TESTED AND CERTIFIED BY UL AND TO FAA STANDARD 19F.
3. REFER TO DRAWINGS A3.00 AND E6.02 FOR LIGHTNING PROTECTION DETAILS AND NOTES.
4. ALL MATERIALS SHALL BE CLASS 2.
5. LIGHTNING PROTECTION CONTRACTOR AND ROOFING CONTRACTOR SHALL COORDINATE MATERIALS AND INSTALLATION DETAILS THAT ARE REQUIRED BY THE ROOFING MANUFACTURER.

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<table><tr><td>0</td><td>08/31/23</td><td>FINAL SUBMISSION</td><td></td><td></td></tr><tr><td>REV</td><td>DATE</td><td>DESCRIPTION</td><td>CHECK</td><td>APRV'D</td></tr></table>				0	08/31/23	FINAL SUBMISSION			REV	DATE	DESCRIPTION	CHECK	APRV'D
0	08/31/23	FINAL SUBMISSION											
REV	DATE	DESCRIPTION	CHECK	APRV'D									
UNITED STATES DEPARTMENT OF TRANSPORTATION <b>FEDERAL AVIATION ADMINISTRATION</b> WILLIAM J. HUGHES TECHNICAL CENTER ATLANTIC CITY INT'L AIRPORT, N.J. 08405													
<b>BUILDING 202 SUSTAINMENT</b>		<b>FACILITY</b>											
<b>CONSTRUCTION: LIGHTNING PROTECTION PLAN</b>													
REVIEWED BY	SUBMITTED BY	DATE	APPROVED BY	DATE									
			Michael Roselli ANG-E342										
			DATE: 08/31/2023	JCN:									
APPROVAL (FINISHES)	DESIGN: RG	ISSUED BY:	DRAWING NO.	SHEET #									
	DRAWN: RG	FACILITY SERVICES & ENGINEERING DIVISION	<b>F2021017-E3.01</b>	39 OF 53									
	CHECK: GAA												

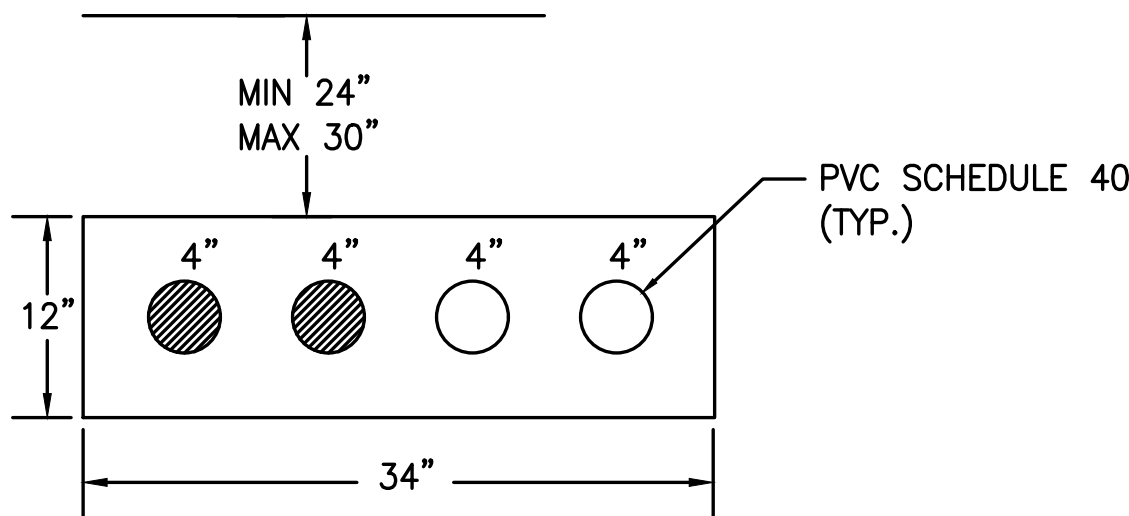


GENERAL NOTES:

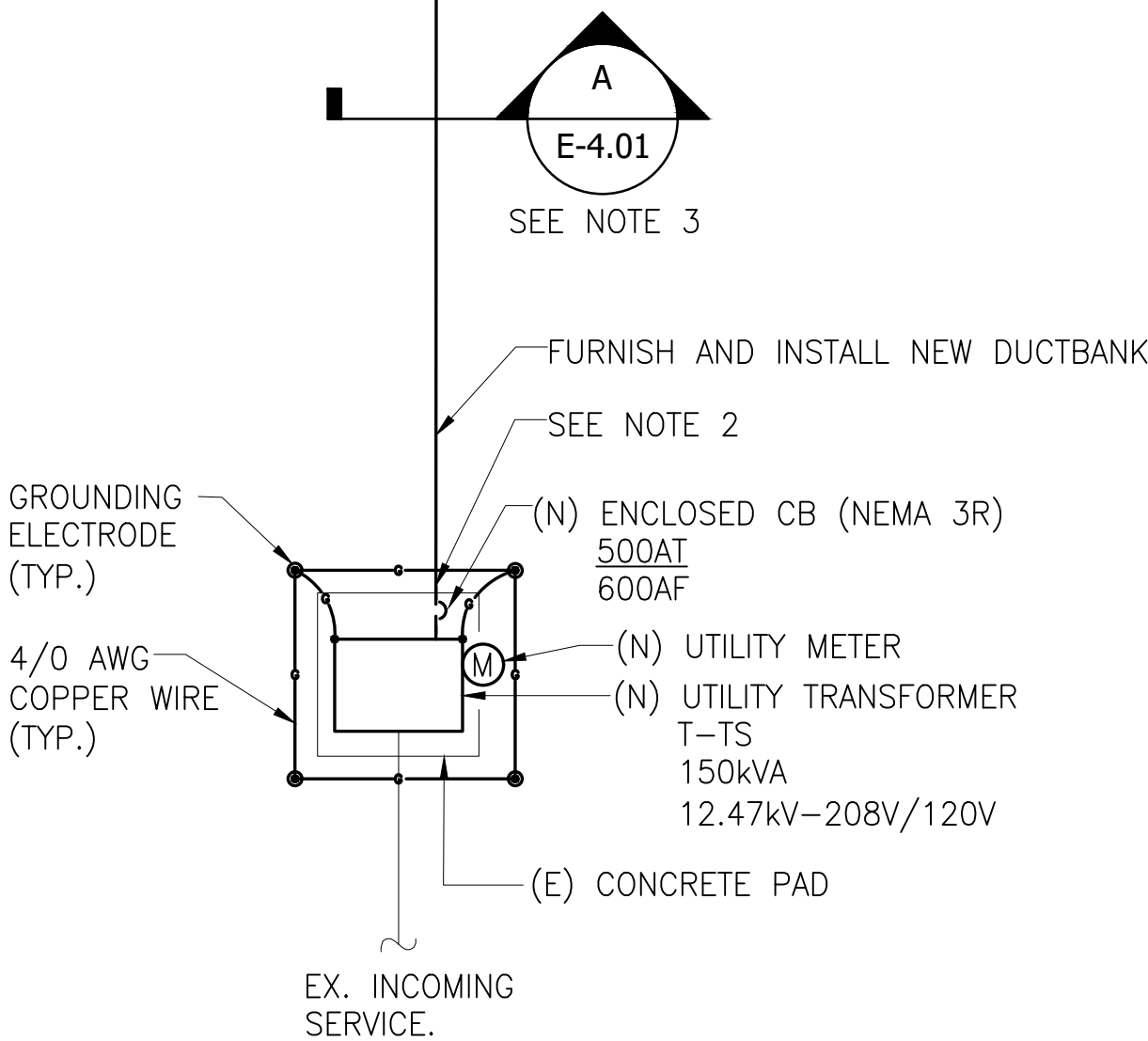
- REFER TO DRAWING E0.01 FOR ELECTRICAL SYMBOLS, ABBREVIATIONS, AND ADDITIONAL GENERAL NOTES.
- SAW CUT/MODIFY EXISTING CONCRETE PAD TO FURNISH AND INSTALL NEW DUCT BANK. COORDINATE WITH EQUIPMENT SUPPLIER FOR EXACT LOCATION OF THE CABLE/CONDUIT ENTRY.
- FURNISH AND INSTALL DUCTBANK, RIGID GALVANIZED METAL CONDUITS STUBBED UP THROUGH TRANSFORMER PAD TO THE CONDUIT/CABLE TERMINAL BOX, TRANSITION PIECE BETWEEN PVC CONDUIT AND RIGID METAL CONDUITS (INSTALL AT LEAST 18" BELOW FINISHED LEVEL). SUBMIT INSTALLATION SHOP DRAWING FOR ENGINEERS REVIEW AND APPROVAL. UNDERGROUND DUCTBANKS SHALL HAVE METALIZED WARNING TAPE INSTALLED ABOVE A CONDUIT, OR DUCTBANK THAT IDENTIFIES THE SPECIFIC SYSTEM BURIED BELOW. TAPE SHALL CONSIST OF A MINIMUM 0.004" SOLID FOIL CORE ENCASED IN A PROTECTIVE PLASTIC JACKET (TOTAL THICKNESS 5.5 MILS) AND BE 6 INCHES WIDE WITH BLACK LETTERING IMPRINTED ON A COLOR CODED BACKGROUND THAT CONFORMS TO APWA (AMERICAN PUBLIC WORKS ASSOCIATION) COLOR CODE SPECIFICATIONS. TAPE SHALL BE INSTALLED FROM 18 INCHES TO 30 INCHES ABOVE A CONDUIT, DUCTBANK OR ELECTRICAL LINE AND IN NO CASE LESS THAN 6 INCHES BELOW GRADE. SUBMIT SHOP DRAWING FOR ENGINEERS REVIEW AND APPROVAL.
- COORDINATE EXACT CONDUIT ROUTING WITH OWNER'S REPRESENTATIVE.
- COORDINATE WORK ASSOCIATED WITH NEW UTILITY TRANSFORMER AND CONNECTION TO 12.47 KV SERVICE.



1 CONSTRUCTION: SITE PLAN  
E4.01 SCALE: 1/8" = 1'-0" 0 4' 8' 16'



A SECTION A  
E4.01 SCALE: NTS



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<b>BUILDING 202 SUSTAINMENT</b>		<b>FACILITY</b>	
<b>CONSTRUCTION: SITE PLAN</b>			
REVIEWED BY	SUBMITTED BY	DATE	APPROVED BY
DESIGN: MR		ISSUED BY:	
DRAWN: MR		FACILITY SERVICES & ENGINEERING DIVISION	
CHECK: FC		DATE: 08/31/2023 JCN:	
APPROVAL (FINISHES)		DRAWING NO.	
		<b>F2021017-E4.01</b>	
		SHEET #	
		40 OF 53	

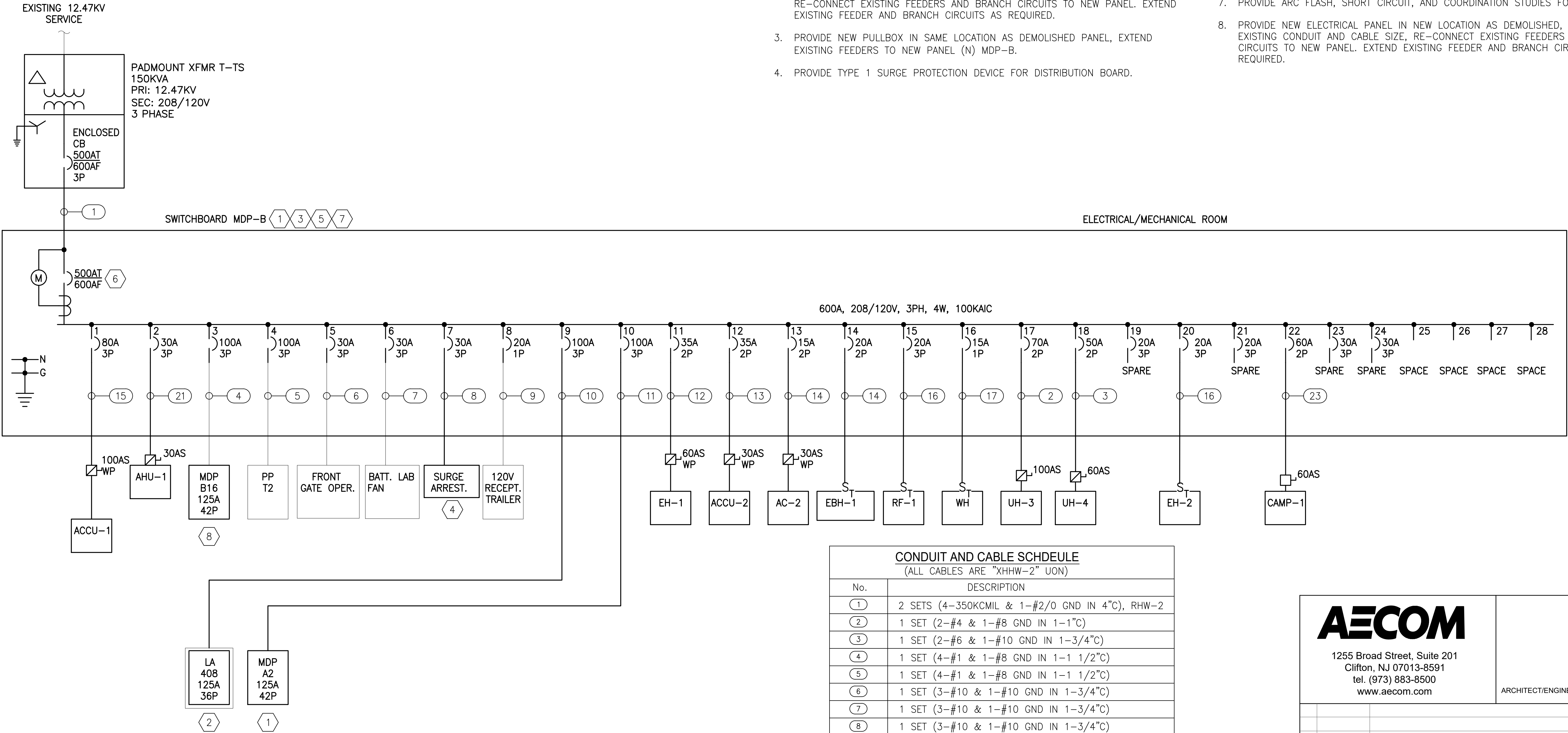


GENERAL NOTES:

1. REFER TO DRAWING E0.01 FOR ELECTRICAL SYMBOLS, ABBREVIATIONS, AND ADDITIONAL GENERAL NOTES.

KEY NOTES:

- (X) 'X' DENOTES KEY NOTE NUMBER BELOW
1. PROVIDE NEW ELECTRICAL PANEL IN SAME LOCATION AS DEMOLISHED, VERIFY EXISTING CONDUIT AND CABLE SIZE, RE-CONNECT EXISTING FEEDERS AND BRANCH CIRCUITS TO NEW PANEL. EXTEND EXISTING FEEDER AND BRANCH CIRCUITS AS REQUIRED.
2. PROVIDE NEW ELECTRICAL PANEL INTERIOR (BUSES, OVER CURRENT PROTECTION DEVICES, NEUTRAL BUS, GROUND BUS, ETC.) IN EXISTING PANEL BACKBOX, RE-CONNECT EXISTING FEEDERS AND BRANCH CIRCUITS TO NEW PANEL. EXTEND EXISTING FEEDER AND BRANCH CIRCUITS AS REQUIRED.
3. PROVIDE NEW PULLBOX IN SAME LOCATION AS DEMOLISHED PANEL, EXTEND EXISTING FEEDERS TO NEW PANEL (N) MDP-B.
4. PROVIDE TYPE 1 SURGE PROTECTION DEVICE FOR DISTRIBUTION BOARD.
5. PROVIDE DIGITAL METERING, AS PER SPECIFICATION 260913. METER SHALL BE INTEGRATED WITH CAMPUS WIDE POWER MONITORING AND CONTROL SYSTEM (PMCS).
6. AS PER SPECIFICATION 260913, MAIN BREAKER OF MDP-B SHALL BE MONITORED AND CONTROLLED REMOTELY THROUGH THE PMCS AND LOCALLY THROUGH A REMOTE BREAKER CONTROL PANEL.
7. PROVIDE ARC FLASH, SHORT CIRCUIT, AND COORDINATION STUDIES FOR MDP-B.
8. PROVIDE NEW ELECTRICAL PANEL IN NEW LOCATION AS DEMOLISHED, VERIFY EXISTING CONDUIT AND CABLE SIZE, RE-CONNECT EXISTING FEEDERS AND BRANCH CIRCUITS TO NEW PANEL. EXTEND EXISTING FEEDER AND BRANCH CIRCUITS AS REQUIRED.

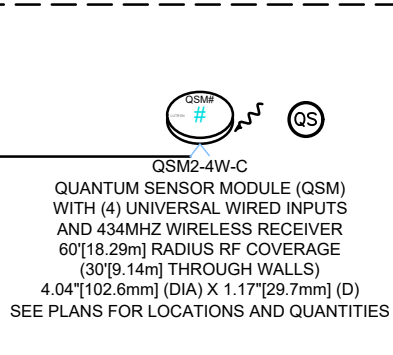
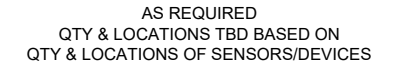
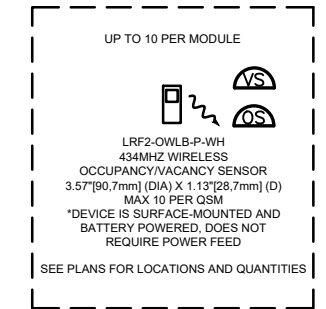
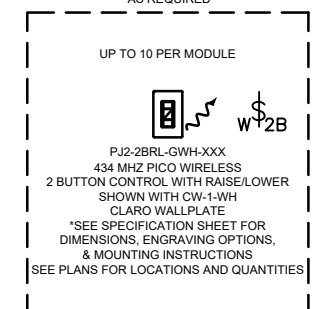
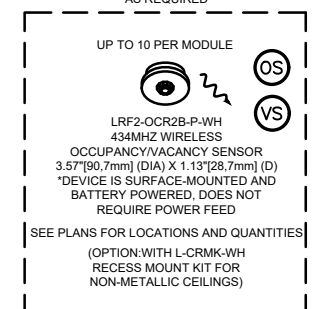
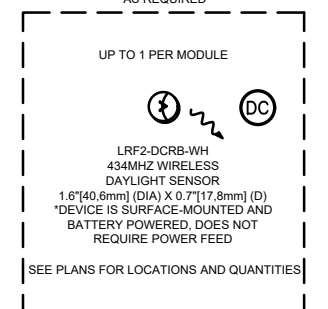
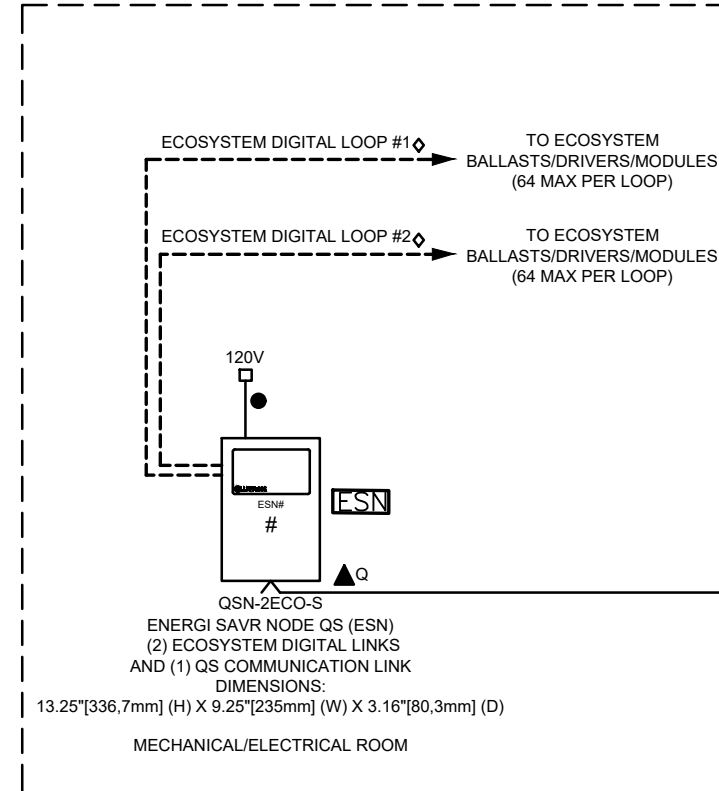
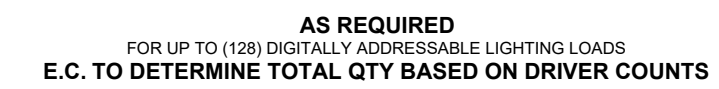
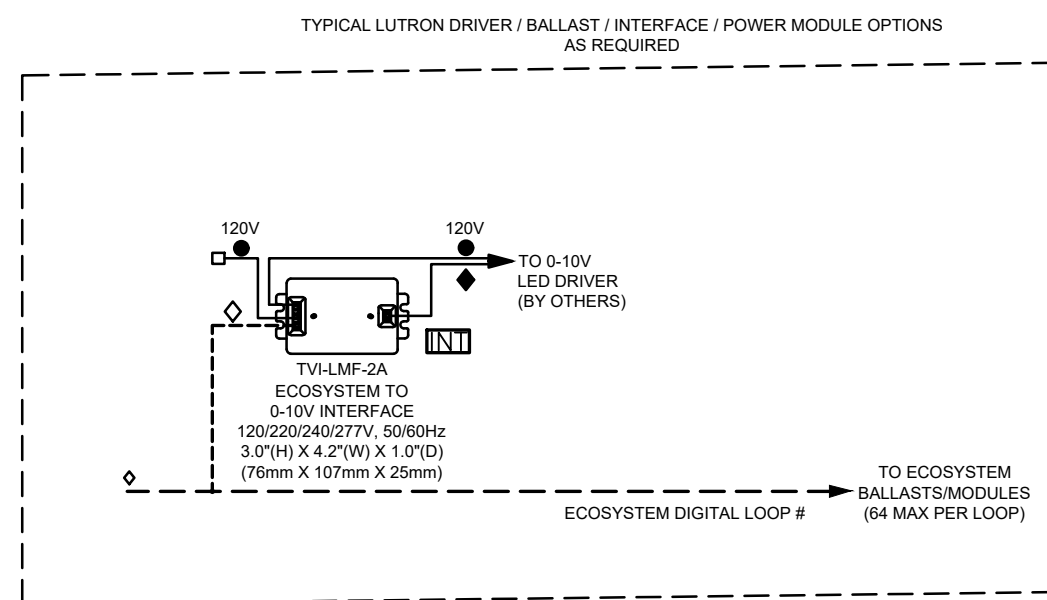




CONDUIT AND CABLE SCHDEULE	
(ALL CABLES ARE "XHFW-2" UON)	
No.	DESCRIPTION
(1)	2 SETS (4-350KCMIL & 1-#2/0 GND IN 4"C), RHW-2
(2)	1 SET (2-#4 & 1-#8 GND IN 1-1"C)
(3)	1 SET (2-#6 & 1-#10 GND IN 1-3/4"C)
(4)	1 SET (4-#1 & 1-#8 GND IN 1-1 1/2"C)
(5)	1 SET (4-#1 & 1-#8 GND IN 1-1 1/2"C)
(6)	1 SET (3-#10 & 1-#10 GND IN 1-3/4"C)
(7)	1 SET (3-#10 & 1-#10 GND IN 1-3/4"C)
(8)	1 SET (3-#10 & 1-#10 GND IN 1-3/4"C)
(9)	1 SET (2-#10 & 1-#10 GND IN 1-3/4"C)
(10)	1 SET (4-#1 & 1-#8 GND IN 1-1 1/2"C)
(11)	1 SET (4-#1 & 1-#8 GND IN 1-1 1/2"C)
(12)	1 SET (2-#8 & 1-#10 GND IN 1-3/4"C)
(13)	1 SET (2-#8 & 1-#10 GND IN 1-3/4"C)
(14)	1 SET (2-#12 & 1-#12 GND IN 1-3/4"C)
(15)	1 SET (3-#2 & 1-#8 GND IN 1-1 1/4"C)
(16)	1 SET (3-#12 & 1-#12 GND IN 1-3/4"C)
(17)	1 SET (2-#12 & 1-#12 GND IN 1-3/4"C)
(18)	1 SET (2-#4 & 1-#10 GND IN 1-1"C)
(19)	1 SET (2-#8 & 1-#10 GND IN 1-3/4"C)
(20)	1 SET (2-#10 & 1-#10 GND IN 1-3/4"C)
(21)	1 SET (3-#10 & 1-#10 GND IN 1-3/4"C)
(22)	1 SET (2-#12 & 1-#12 GND IN 1-3/4"C)
(23)	1 SET (2-#4 & 1-#10 GND. IN 1" C.)

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REV	DATE	DESCRIPTION	CHECK APRV'D
UNITED STATES DEPARTMENT OF TRANSPORTATION <b>FEDERAL AVIATION ADMINISTRATION</b> WILLIAM J. HUGHES TECHNICAL CENTER ATLANTIC CITY INT'L AIRPORT, N.J. 08405			
<b>BUILDING 202 SUSTAINMENT</b>		<b>FACILITY</b>	
<b>CONSTRUCTION: ONE-LINE DIAGRAM</b>			
REVIEWED BY	SUBMITTED BY	DATE	APPROVED BY
DESIGN: MR		ISSUED BY:	
DRAWN: MR		FACILITY SERVICES & ENGINEERING DIVISION	
CHECK: FC		DATE: 08/31/2023	
APPROVAL (FINISHES)		DRAWING NO. <b>F2021017-E5.01</b>	
		SHEET # 41 OF 53	

1 CONSTRUCTION: ONE-LINE DIAGRAM  
E5.01



**WIRING LEGEND:**

-  Q QS CONTROL LINK (SEE WIRE DESCRIPTION BELOW)  
 Q QS CONTROL LINK (SEE WIRE DESCRIPTION BELOW)  
 (CONNECT WIRES 1, 3 AND 4. DO NOT CONNECT WIRE # 2)

QS WIRING AS REQUIRED BY CONTROL LINK LENGTH  
(REFER TO QS SMART PANEL POWER SUPPLY WIRING GUIDE FOR SHADE WIRING NOTES)

TOTAL CONTROL LINK LENGTH	WIRE GAUGE	AVAILABLE FROM LUTRON IN ONE CABLE:
LESS THAN 500ft (152.4 m)	POWER (TERMINALS 1&2): 1 PAIR 10 AWG (1.0 mm <sup>2</sup> )	GRX-CBL-346S (NON-PLENUM) OR GRX-PCBL-346S (PLENUM)
	DATA (TERMINAL 3&4): 1 PAIR 22 AWG (0.3 mm <sup>2</sup> ), TWISTED AND SHIELDED*	
500ft (152.4 m) TO 2,000ft (610 mm)**	POWER (TERMINALS 1&2): 1 PAIR 12 AWG (4.0 mm <sup>2</sup> )	GRX-CBL-46L (NON-PLENUM) OR GRX-PCBL-46L (PLENUM)
	DATA (TERMINAL 3&4): 1 PAIR 22 AWG (0.3 mm <sup>2</sup> ), TWISTED AND SHIELDED*	

\*ALTERNATE DATA-ONLY CABLE: USE APPROVED DATA LINK CABLE (22 AWG [0.5 mm<sup>2</sup> TWISTED/SHIELDED) FROM BELDEN (MODEL # 9461).

**\*\*TOTAL LENGTH OF THE QS LINK MUST NOT EXCEED 2,000 ft (600 m).**

- |   |  |
|---|--|
| ■ INPUT POWER (NORMAL-EMERGENCY)  | ⌂ LUTRON SENSOR CABLE C-CBL-522S<br>OTHERWISE USE 3 #22 AWG (1.0 mm <sup>2</sup> ) |
| □ INPUT POWER (NORMAL)  | ⌂ LUTRON SENSOR CABLE C-CBL-522S<br>OTHERWISE USE 4 #22 AWG (1.0 mm <sup>2</sup> ) |
| ◆ 0-10V SIGNAL: 2 #18AWG (1.0 mm <sup>2</sup> )   |  |
| ◇ ECOSYSTEM LINK:<br>LUTRON CABLE C-CBL-216-GR-1<br>(2 #16 CONDUCTOR NON-PLENUM) OR<br>C-CBL-216-CL-1 (2 #16 CONDUCTOR<br>PLENUM RATED). OTHERWISE USE 2 #16<br>AWG (1.5 mm <sup>2</sup> ) BY OTHERS. |  |

**WIRING NOTES:**

## ECOSYSTEM LINK RULES


THE FOLLOWING LINK RULES MUST BE OBSERVED FOR PROPER OPERATION:

- THIS IS TOPOLOGY-FREE AND POLARITY FREE WIRING (T-TAP, HOME-RUN, ETC. IS OK).
- KEEP ALL THE BALLASTS/DRIVERS/MODULES IN ONE ROOM ON THE SAME LINK WHENEVER POSSIBLE.
- ECOSYSTEM LINKS ARE SHOWN ON THE LIGHTING PLANS AT TIME OF SUBMITTAL. IF THERE IS A DISCREPANCY, AND ROOMS ARE WIRED TO A DIFFERENT LINK THAN THE ONE SHOWN, LUTRON NEEDS TO BE NOTIFIED. THIS INFORMATION IS IMPORTANT FOR PROGRAMMING THE SYSTEM.
- UP TO 64 BALLASTS/DRIVERS/MODULES PER ECOSYSTEM LINK

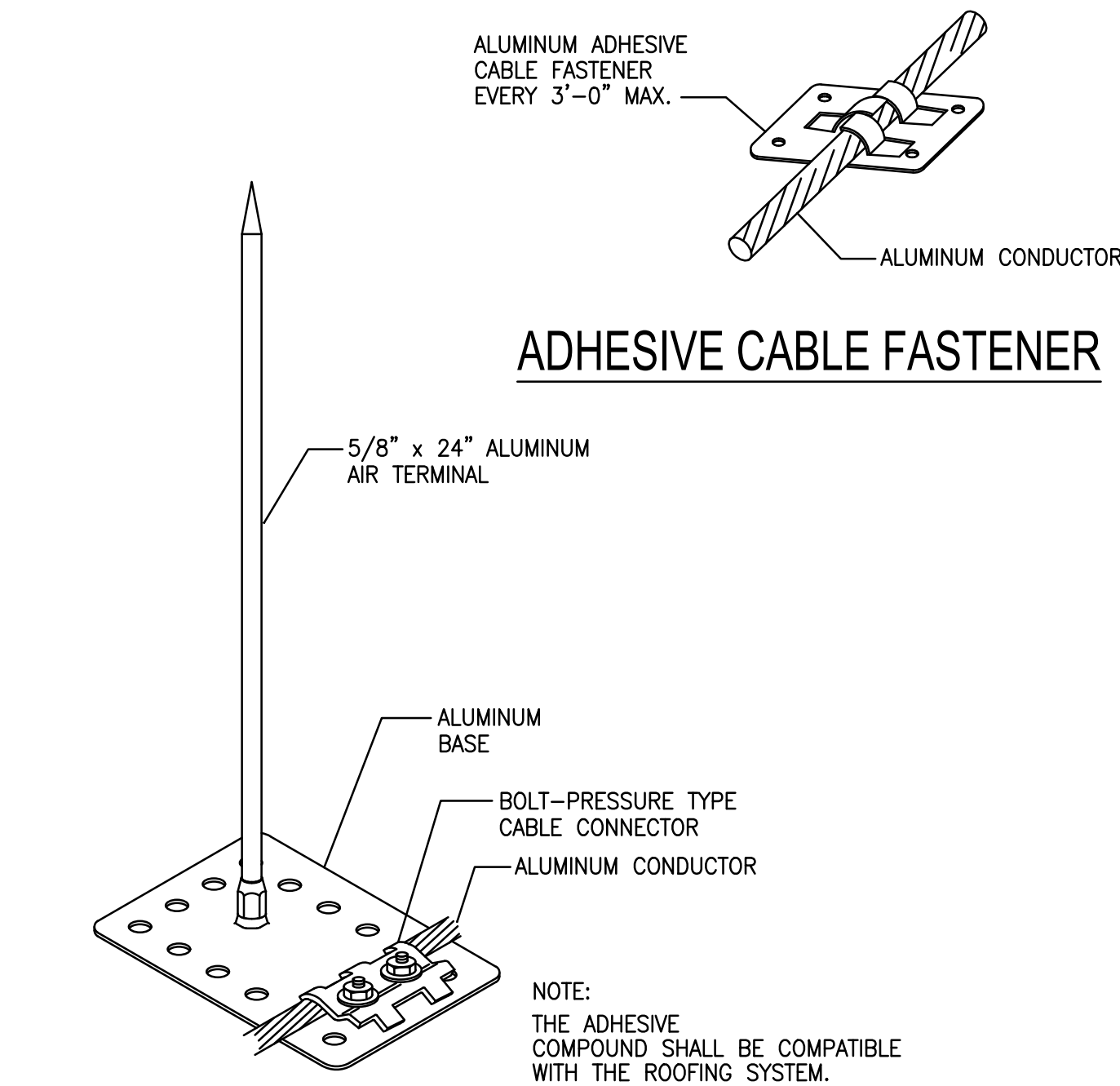
## 1 TYPICAL LIGHTING CONTROL DIAGRAM

TYPE	MANUFACTURER	CATALOG NUMBER	LAMP	WATTS	VOLT.	DESCRIPTION	REMARKS
A1	COLUMBIA LIGHTING OR APPROVED EQUAL	LCAT24-35MLG-EDU	LED	39	120	2'x4' RECESSED TROFFER, CENTER ACRYLIC DIFFUSER, 0-10V DIM	-
A1E	COLUMBIA LIGHTING OR APPROVED EQUAL	LCAT24-35MLG-EDU-ELL14H2	LED	39	120	SAME AS TYPE A1 BUT WITH EMERGENCY BATTERY BACKUP	-
A2	COLUMBIA LIGHTING OR APPROVED EQUAL	LCAT24-35VWG-EDU	LED	28	120	2'x4' RECESSED TROFFER, CENTER ACRYLIC DIFFUSER, 0-10V DIM	-
A2E	COLUMBIA LIGHTING OR APPROVED EQUAL	LCAT24-35VWG-EDU-ELL14H2	LED	28	120	SAME AS TYPE A2 BUT WITH EMERGENCY BATTERY BACKUP	-
A3	COLUMBIA LIGHTING OR APPROVED EQUAL	LCAT22-35LWG-EDU	LED	23	120	2'x2' RECESSED TROFFER, CENTER ACRYLIC DIFFUSER, 0-10V DIM	-
A3E	COLUMBIA LIGHTING OR APPROVED EQUAL	LCAT22-35LWG-EDU-ELL14H2	LED	23	120	2'x2' RECESSED TROFFER, CENTER ACRYLIC DIFFUSER, 0-10V DIM	-
B	COLUMBIA LIGHTING OR APPROVED EQUAL	MPS4-35MW-CW-EDU-CSHC	LED	30	120	4' SUSPENDED LINEAR, CURVE FROSTED ACRYLIC LENS, 0-10V DIM	LIGHT TO BE MOUNTED 10FT ABOVE FINISHED FLOOR.
BE	COLUMBIA LIGHTING OR APPROVED EQUAL	MPS4-35MW-CW-EDU-ELL14H2-CSHC	LED	30	120	SAME AS TYPE B BUT WITH EMERGENCY BATTERY BACKUP	LIGHT TO BE MOUNTED 10FT ABOVE FINISHED FLOOR.
C	COOPER OR APPROVED EQUAL	BAA-TT-D2-735-J-MQ	LED	39	120	PENDANT MOUNTED DOWN, 0-10V DIM	LIGHT TO BE MOUNTED 11FT ABOVE FINISHED FLOOR.
CE	COOPER OR APPROVED EQUAL	BAA-TT-D2-735-J-MQ-IBP	LED	39	120	SAME AS TYPE C BUT WITH EMERGENCY BATTERY BACKUP	LIGHT TO BE MOUNTED 11FT ABOVE FINISHED FLOOR.
D	COLUMBIA LIGHTING OR APPROVED EQUAL	LAW4-35LW-EDU	LED	37	120	1'x4' WRAPAROUND STEM MOUNTED, ACRYLIC LENS, 0-10V DIM	LIGHT TO BE MOUNTED 10FT ABOVE FINISHED FLOOR.
DE	COLUMBIA LIGHTING OR APPROVED EQUAL	LAW4-35LW-EDU-ELL14	LED	37	120	SAME AS TYPE D BUT WITH EMERGENCY BATTERY BACKUP	LIGHT TO BE MOUNTED 10FT ABOVE FINISHED FLOOR.
F	HUBBELL LIGHTING OR APPROVED EQUAL	QSP1-24L-20-3K7-3-UNV-PC	LED	20	120	EXTERIOR WALL MOUNTED, INTEGRAL DRIVER, PHOTOCELL, 0-10 VOLT DIMMING	LIGHT TO BE MOUNTED 8FT ABOVE FINISHED FLOOR WHEN ABOVE DOOR, 13' 6" OTHERWISE.
FE	HUBBELL LIGHTING OR APPROVED EQUAL	QSP1-24L-20-3K7-3-UNV-PC-EH	LED	20	120	SAME AS TYPE F BUT WITH EMERGENCY BATTERY BACKUP	LIGHT TO BE MOUNTED 8FT ABOVE FINISHED FLOOR WHEN ABOVE DOOR, 13' 6" OTHERWISE.
H	DUAL LITE OR APPROVED EQUAL	OBN-U-S-R-B	LED	11	120	ILLUMINATED SIGNAGE, WALL MOUNTED	INDICATE "DO NOT ENTER"
X1	DUAL LITE OR APPROVED EQUAL	EVEURW	LED	2	120	EMERGENCY LED EXIT SIGNS	-

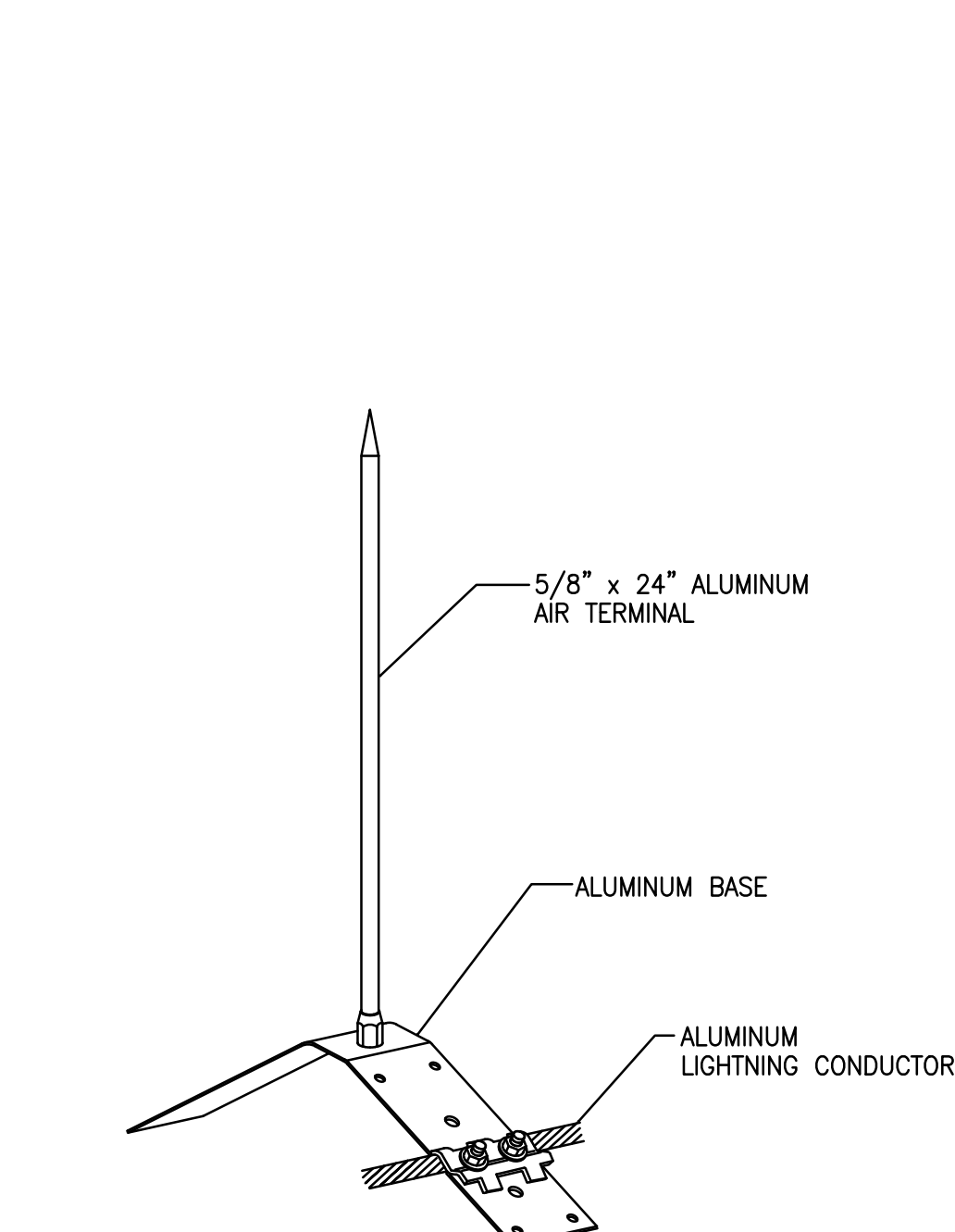
## 2 LIGHTING FIXTURE SCHEDULE

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<b>BUILDING 202 SUSTAINMENT</b>						<b>FACILITY</b>	
<b>LIGHTING DETAILS</b>							
REVIEWED BY		SUBMITTED BY		DATE	APPROVED BY		DATE
					Michael Roselli ANG-E342 DATE: 08/31/2023    JCN:		
DESIGN: MR		ISSUED BY:			DRAWING NO.		
DRAWN: MR		FACILITY SERVICES & ENGINEERING DIVISION			SHEET #		
CHECK: SB					<b>F2021017-E6.01</b> 42 OF 53		
APPROVAL (FINISHES)							

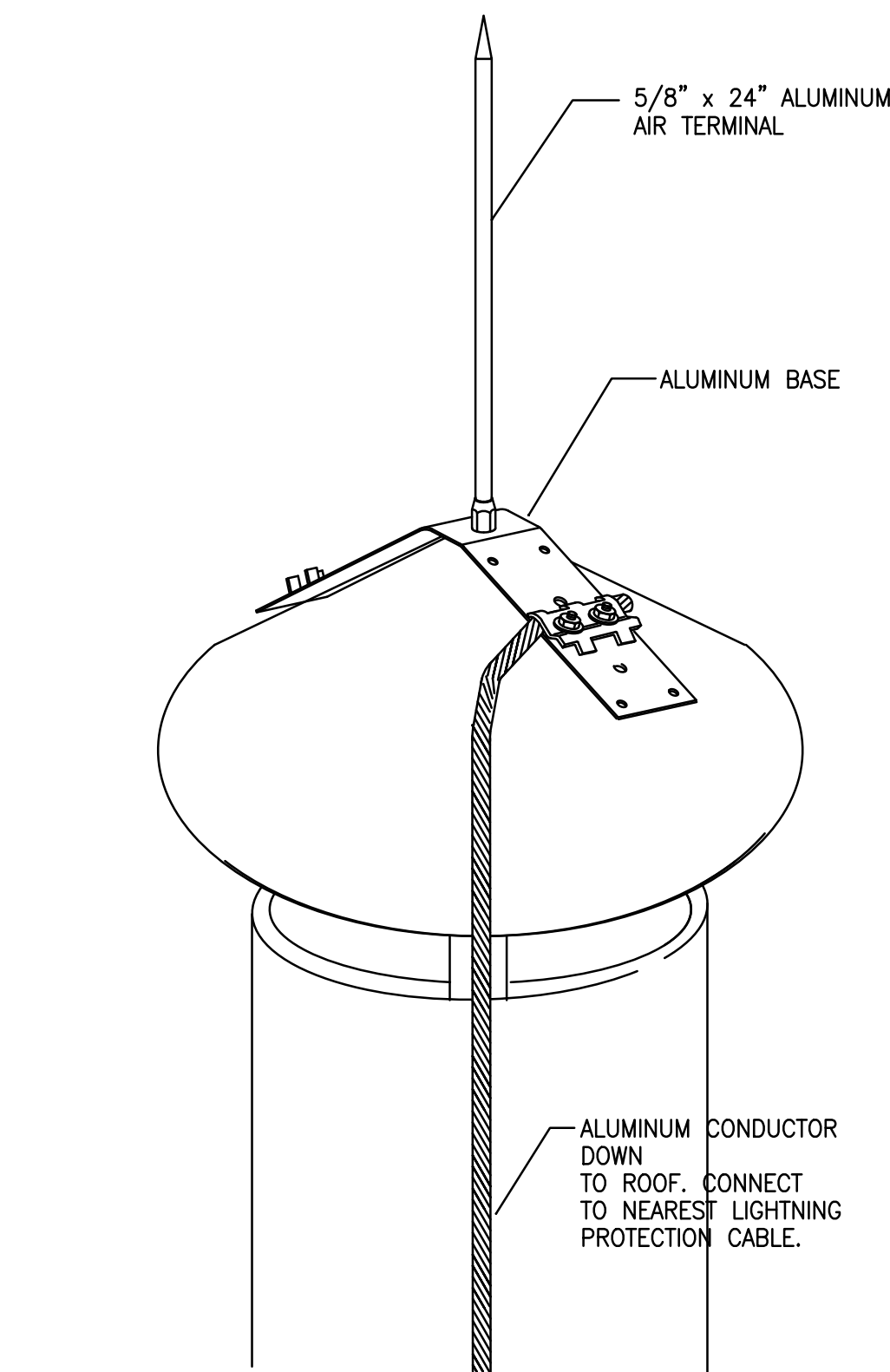




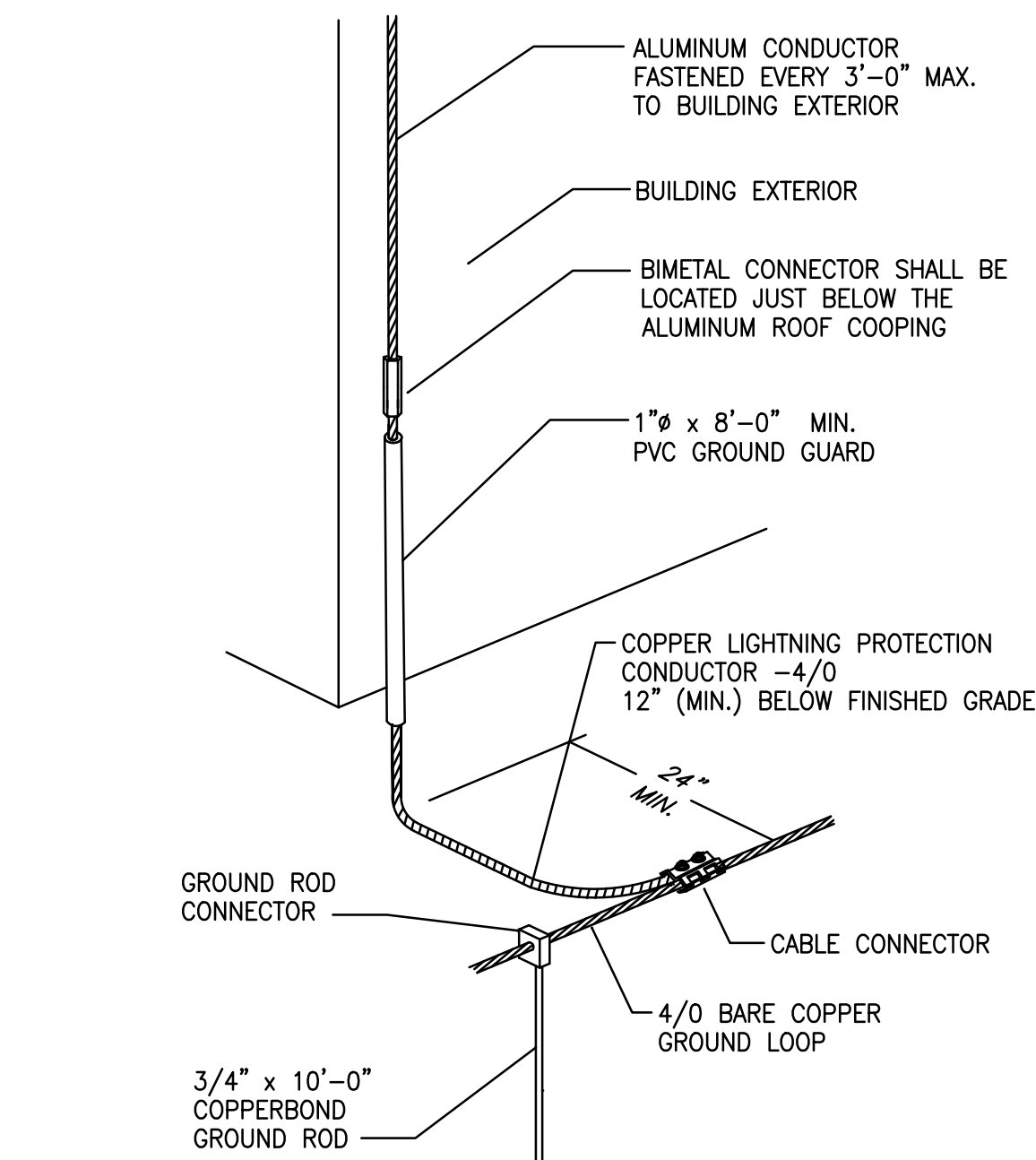
1 AIR TERMINAL BASE  
E6.02 SCALE: NTS



2 SADDLE AIR TERMINAL BASE  
E6.02 SCALE: NTS



3 SADDLE AIR TERMINAL BASE  
E6.02 SCALE: NTS



4 EXPOSED LIGHTNING PROTECTION CONDUCTOR AND GROUNDING  
E6.02 SCALE: NTS

## LIGHTNING PROTECTION NOTES

- ALL MATERIALS SHOWN ARE BY BASIS OF DESIGN MANUFACTURER, HEARY BROS. LIGHTNING PROTECTION CO., INC. APPROVED EQUAL SYSTEM AND MATERIALS WILL BE ACCEPTED.
- THE LIGHTNING PROTECTION SYSTEM AS SHOWN ON DRAWING HAS BEEN DESIGNED IN ACCORDANCE WITH UL96 & NFPA-780 LIGHTNING PROTECTION SYSTEM STANDARDS.
- CONDUCTORS SHALL MAINTAIN A HORIZONTAL OR DOWNWARD COURSE, FREE FROM "U" OR "V" (DOWN AND UP) POCKETS.
- NO BEND OF CONDUCTOR SHALL FORM AN ANGLE OF LESS THAN 90° NOR SHALL HAVE A RADIUS OF BEND LESS THAN 8".
- AIR TERMINALS SHALL BE SPACED EVERY 20'-0" MAXIMUM AROUND THE ROOF PERIMETER AND/OR ALONG ROOF RIDGES. AIR TERMINALS SHALL BE LOCATED WITHIN 2'-0" OF OUTSIDE CORNERS.
- AIR TERMINALS SHALL BE SPACED EVERY 50'-0" MAXIMUM IN CENTER ROOF AREAS.
- ACTUAL JOBSITE CONDITIONS MAY REQUIRE SLIGHT ALTERATIONS IN AIR TERMINAL, DOWN CONDUCTOR AND GROUND ROD LOCATIONS.
- BARE COPPER MATERIALS SHALL NOT BE INSTALLED ON ALUMINUM OR GALVALUM SURFACES, AND ALUMINUM MATERIALS SHALL NOT BE INSTALLED ON COPPER SURFACES.
- ALL LIGHTNING PROTECTION CONDUCTORS SHALL BE FASTENED EVERY 3'-0" MAX.
- BOND SMALL METAL BODIES OF INDUCTANCE SITUATED WITHIN 6'-0" OF A LIGHTNING CONDUCTOR OR ANOTHER BONDED METAL BODY TO THE LIGHTNING PROTECTION CONDUCTOR SYSTEM, UNLESS INHERENTLY GROUNDED.
- BOND ALL LARGE METAL BODIES TO THE LIGHTNING PROTECTION CONDUCTOR SYSTEM. (I.E.; EXHAUST FANS, ROOF VENTS, METAL COOLING TOWERS, HVAC UNITS, LADDERS, RAILINGS, ANTENNAS, SKYLIGHTS, METAL STACKS, AND ANY OTHER LARGE METAL BODIES WHOSE HEIGHT EXCEEDS THAT OF ADJACENT AIR TERMINALS).
- CONNECTIONS TO GROUND RODS SHALL BE MADE AT A POINT NOT LESS THAN 1'-0" BELOW FINISHED GRADE AND 2'-0" AWAY FROM FOUNDATION WALL.
- BOND TO WATERLINES (DOMESTIC & FIRE).
- A LIGHTNING ARRESTOR, PROTECTOR OR ANTENNA DISCHARGE UNIT SHALL BE INSTALLED ON EACH ELECTRIC AND TELEPHONE SERVICE AND RADIO AND TELEVISION ANTENNA LEAD-IN BY THE ELECTRICAL CONTRACTOR, IN ACCORDANCE WITH NFPA-70.
- TRANSIENT VOLTAGE SURGE SUPPRESSION (TVSS) OF SERVICES SHALL BE PROVIDED BY THE ELECTRICAL CONTRACTOR. (I.E. COMPUTERS, COPIERS, TELEPHONE, ETC.).
- PROVIDE UL MASTER LABEL CERTIFICATION UPON COMPLETION OF INSTALLATION..

5 LIGHTING PROTECTION NOTES  
E6.02 SCALE: NTS

LIGHTNING PROTECTION MATERIALS LIST		NOTES
	ALUMINUM LIGHTNING PROTECTION MAIN CONDUCTOR	(NOTE 1)
	ALUMINUM LIGHTNING PROTECTION SECONDARY BONDING CABLE*	(NOTE 1)
	COPPER LIGHTNING PROTECTION DOWN CONDUCTOR	(NOTE 1)
	BIMETAL CONNECTOR	(NOTE 1)
	CABLE FASTENERS (FASTEN CABLE EVERY 3FT. MAX.)	(NOTE 1)
• A	5/8" x 24" ALUMINUM AIR TERMINAL AND ADHESIVE BASE	(NOTE 1)
• F	5/8" x 24" ALUMINUM AIR TERMINAL AND ADHESIVE BASE (AT EXH. FANS)	(NOTE 1)
• S	5/8" x 24" ALUMINUM AIR TERMINAL AND SADDLE BASE	(NOTE 1)
	*SECONDARY BONDING (USE SECONDARY BONDING CABLE #ACHB-#4):	
	*FLASHING CONNECTOR	
	*METAL ROOF DRAIN / GUTTER CONNECTOR	
	*METAL VENT PIPE CONNECTOR	(NOTE 1)
	ALUMINUM BONDING PLATE (AT ALUM. RTU & FANS)	(NOTE 1)
	CORROSION RESISTANT COPPER BONDING PLATE (TO BASE OF STEEL, IF ANY, AT EACH DOWNLEAD)	(NOTE 1)
	PIPE CLAMP (ANTENNAS, RAILINGS, ETC.)	(NOTE 1)
	BONDING BOND PLATE (LADDERS)	(NOTE 1)
	CABLE CONNECTOR	(NOTE 1)
	STRAIGHT SPLICER	(NOTE 1)
	CROSSOVER CABLE CONNECTOR	(NOTE 1)
	WATERLINE CONNECTOR (FIRE WATER & DOMESTIC WATER)	(NOTE 1)
	3/4" x 10'-0" COPPERWELD GROUND ROD AND CONNECTOR	(NOTE 1)
	GROUND GUARD (PVC)	(NOTE 1)
	4/0 BARE COPPER GROUND LOOP	(NOTE 1)

NOTE:  
1. ALL MATERIALS FOR LIGHTNING PROTECTION SYSTEM SHALL BE CLASS 2.

6 LIGHTING PROTECTION SYSTEM MATERIALS LIST  
E6.02 SCALE: NTS

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UNITED STATES DEPARTMENT OF TRANSPORTATION <b>FEDERAL AVIATION ADMINISTRATION</b> WILLIAM J. HUGHES TECHNICAL CENTER ATLANTIC CITY INT'L AIRPORT, N.J. 08405				
<b>BUILDING 202 SUSTAINMENT</b>				<b>FACILITY</b>
<b>LIGHTNING PROTECTION DETAILS</b>				
REVIEWED BY	SUBMITTED BY	DATE	APPROVED BY	DATE
			Michael Roselli ANG-E342	
			DATE: 08/31/2023	JCN:
APPROVAL (FINISHES)	DESIGN: RG	ISSUED BY:	DRAWING NO.	SHEET #
	DRAWN: RG	FACILITY SERVICES & ENGINEERING DIVISION	<b>F2021017-E6.02</b>	43 OF 53
	CHECK: GAA			



### SYSTEM INPUTS















NOTES:

## 2

FA0.01

## ABBREVIATIONS

AB  
ADDR  
AFF  
AHJ  
AWG  
BLDG  
B  
BPS  
C  
CB  
CD  
CKT  
CLG  
CM  
COND  
CO  
DC  
DISC  
DR  
EC  
ELEV  
ER  
EX  
FA  
FAC  
FACP  
FAS  
FBO  
FCS/F  
FCO  
FDR  
FL  
FP  
FT

FIRE ALARM SYMBOLS	
SYMBOL	DESCRIPTION
	FIRE ALARM SYSTEM CONTROL PANEL.
	FIRE ALARM PULL STATION. MOUNTED AT 48" AFF
	FIRE ALARM STROBE.
	FIRE ALARM SPEAKER STROBE.
	FIRE ALARM BELL. STROBE.
	SMOKE DETECTOR.
	DUCT SMOKE DETECTOR.
	HEAT DETECTOR.
	FIRE ALARM TAMPER SWITCH.
	FIRE ALARM FLOW SWITCH.
	RELAY AND STATUS MODULE.
	MONITOR MODULE.
	GAS DETECTOR.
	FIRE ALARM BELL.

## LINETYPE SCHEDULE

SYMBOL	DESCRIPTION
————	NEW
————	EXISTING TO REMAIN
<del>————</del>	EXISTING TO BE DEMOLISHED

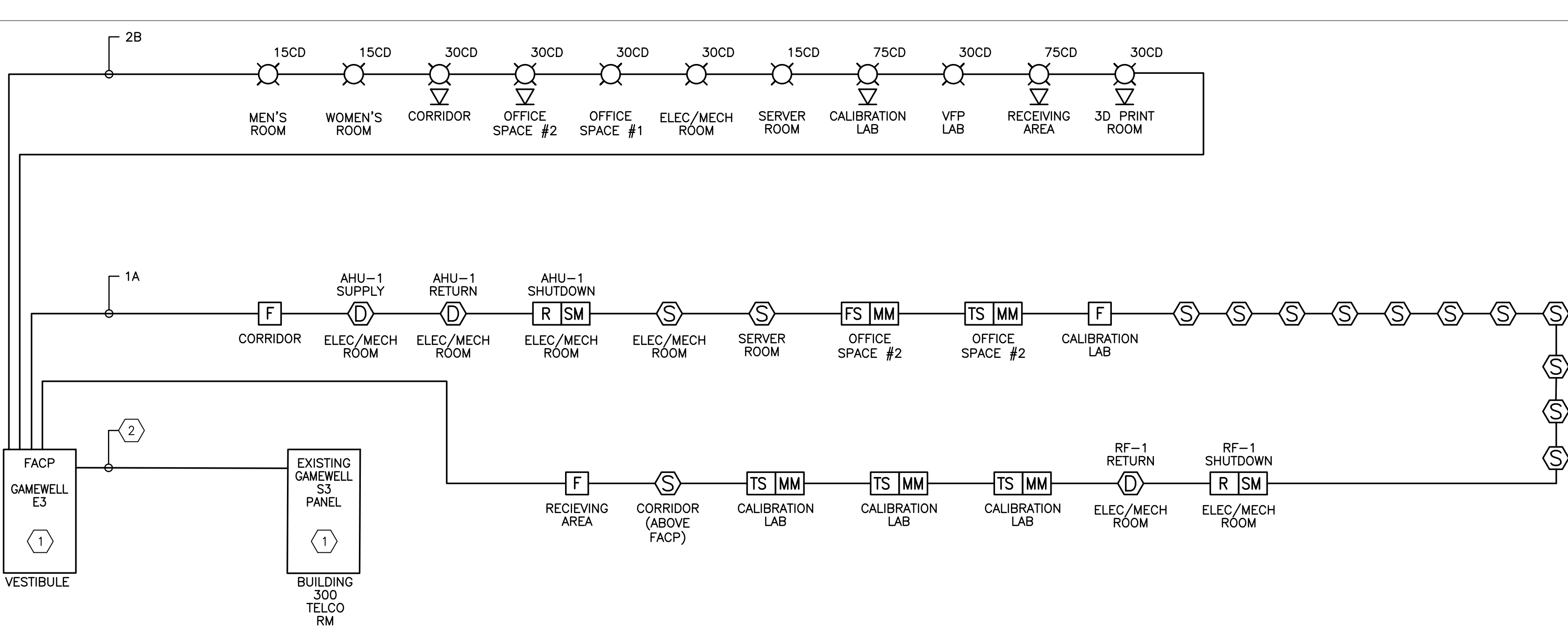
NOTE: NOT ALL SYMBOLS SHOWN IN LEGEND MAY NECESSARILY  
BE USED IN THE DRAWINGS.

## FA WIRING TYPES

LTR	DESCRIPTION	TYPE
A	SLC CIRCUIT	16GA UTP
B	NAC CIRCUIT (VISUAL & AUDIO)	14GA UTP
C	SPEAKER CIRCUIT	14GA UTP
D	TELEPHONE CIRCUIT	16GA UTP
E	FMT RISER	16GA STP
F	NETWORK	16GA UTP
G	CONVENTIONAL ZONE OR TRI-S/D	16GA UTP
H	CONTROL CKT (RELAY OUTPUT)	14GA UTP
J	24VDC POWER	14GA UTP
K	120VAC POWER	2-10GA 1-10GA GND
L	PRINTER	RS-485

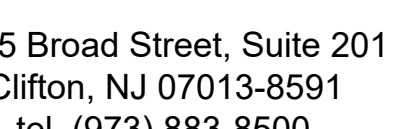
CABLE EXAMPLE:

— DENOTES USE OF WIRE  
 — DENOTES PAIRS OF WIRES  
 STP = SHIELDED TWISTED PAIR  
 UTP = UNSHIELDED TWISTED PAIR  
 LCL = DEVICE LOOP CIRCUIT  
 NAC = NOTIFICATION APPLIANCE CIRCUIT  
 FMT = FIREMEN'S MASTER TELEPHONE  
 SLC = SIGNALING LINE CIRCUIT



## 1

FA0.01

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<b>BUILDING 202 SUSTAINMENT</b>				<b>FACILITY</b>	
<b>GENERAL NOTES, SYMBOLS AND ABBREVIATIONS</b>					
REVIEWED BY		SUBMITTED BY		DATE	
DESIGN: MR DRAWN: MR CHECK: SB		ISSUED BY: FACILITY SERVICES & ENGINEERING DIVISION			
APPROVAL (FINISHES)		Michael Roselli ANG-E342 DATE: 08/31/2023    JCN: DRAWING NO. <b>F2021017-FA0.01</b> SHEET # <b>44 OF 53</b>			



1. THIS PLAN IS APPROVED ONLY FOR THE WORK INDICATED ON THE APPLICATION SPECIFICATION SHEET. ALL OTHER MATTERS SHOWN ARE NOT TO BE RELIED UPON, OR TO BE CONSIDERED AS EITHER BEING APPROVED OR IN ACCORDANCE WITH APPLICABLE CODES.
2. THIS PLAN IS FILED FOR FIRE ALARM SYSTEM ONLY.
3. ALL WORK SHALL BE COMPLETED BY A LICENSED ELECTRICAL CONTRACTOR. THE ELECTRICAL CONTRACTOR SHALL BE THE PRIME CONTRACTOR RESPONSIBLE FOR PROVIDING AND INSTALLING ALL FIRE ALARM SYSTEM COMPONENTS, DEVICES, WIRING, CONDUIT AND REQUIRED HARDWARE. THE ELECTRICAL CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR SUB-CONTRACTING A FACTORY APPROVED FIRE ALARM VENDOR. THE FIRE ALARM VENDOR SHALL BE RESPONSIBLE FOR SUPPLYING THE ELECTRICAL CONTRACTOR WITH ALL FIRE ALARM SYSTEM COMPONENTS, TECHNICAL SUPPORT, ASSISTANCE WITH SHOP DRAWING SUBMITTALS, THE SYSTEM PROGRAMMING, AND OVERALL INSTALLATION.
4. THE CONTRACTOR IS SPECIFICALLY RESPONSIBLE FOR ALL MEANS AND METHODS. ALL WORK IS TO BE PERFORMED IN ACCORDANCE WITH ALL APPLICABLE CODES AND REGULATIONS.
5. DRAWINGS REPRESENT OVERALL DESIGN INTENT. PROVIDE FINAL DESIGN AND INSTALLATION OF FIRE ALARM AND DETECTION SYSTEM IN ACCORDANCE WITH NFPA 72. THE CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS AND ELEVATIONS IN THE AREA OF WORK PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING ANY NECESSARY MODIFICATIONS TO MEET ACTUAL FIELD CONDITIONS AND TO FULLY COORDINATE THE INSTALLATION OF MATERIAL WITH ALL OTHER TRADES. THESE MODIFICATIONS SHALL BE APPROVED BY THE COR AND INDICATED ON THE AS-BUILT DRAWINGS.
6. ALL EQUIPMENT FURNISHED SHALL BE NEW UNLESS OTHERWISE NOTED.
7. APPROPRIATE UL LISTED THROUGH PENETRATION FIRE STOP ASSEMBLIES SHALL BE PROVIDED FOR ALL PENETRATIONS OF FIRE RATED CONSTRUCTION (FRC) SO AS TO MAINTAIN THE MINIMUM FIRE RESISTANCE RATING OF THE WALL OR FLOOR ASSEMBLY.
8. INSTALLATION AND TERMINATIONS OF ALL WIRE SHALL CONFORM TO MANUFACTURERS RECOMMENDATIONS AND THE SPECIFICATIONS.
9. PROVIDE SHOP DRAWING SUBMITTAL ON FIRE DETECTION AND ANNUNCIATION SYSTEM FOR APPROVAL. FOLLOW PROCEDURES FROM FIRE ALARM SPECIFICATION.
10. FINAL SYSTEM ACCEPTANCE TESTING SHALL BE PERFORMED WITH SITE PERSONNEL IN ATTENDANCE FOR WITNESSING. THE REQUIREMENTS PROVIDED IN THE FIRE ALARM AND COMMISSIONING SPECIFICATIONS SHALL BE FOLLOWED.
11. SURFACE MOUNTED DEVICES SHALL BE INSTALLED IN MANUFACTURER'S SURFACE MOUNTED BACKBOXES, WHERE APPLICABLE.
12. FIRE ALARM SPEAKER SPACING IS DESIGNED FOR SPEAKERS AT THEIR 1/8 WATT PAI UNLESS OTHERWISE NOTED.
13. ALL FIRE ALARM CONTROL AND AUXILIARY PANELS SHALL HAVE AFFIXED INSIDE THE FRONT PANEL DOOR THE LOCATION AND CIRCUIT NUMBER OF THE POWER FEEDS TO THE PANEL. ALL WIRING SHALL BE IDENTIFIED BY PERMANENT CIRCUIT MARKINGS ACCEPTABLE TO THE AHJ, AS CALLED FOR IN THE FIRE ALARM SPECIFICATION.
14. QUANTITIES OF DEVICES, APPLIANCES, ETC ARE APPROXIMATE. SEE SPECIFICATIONS FOR EXACT DESIGN REQUIREMENTS BY THE INSTALLING CONTRACTOR.
15. MOUNTING HEIGHT, UNLESS OTHERWISE NOTED, IS TO CENTER LINE OF EQUIPMENT.
16. MOUNT OUTLET BOXES SO THAT NONE OCCUR BACK TO BACK IN WALLS.
17. LOCATE ALL RACEWAYS TO AVOID INTERFERENCE WITH DUCTS, PIPES, MECHANICAL EQUIPMENT, WITH REMOVAL OF CEILING TILES, OR WITH ACCESS TO EQUIPMENT WHICH REQUIRES PERIODIC ADJUSTMENT OR MAINTENANCE.
18. PULL STATIONS ARE TO BE PROVIDED AT EACH EXIT, AND AT FLOOR LOCATIONS.
19. MINIMUM CIRCUIT WIRING FROM THE FIRE ALARM DEVICES SHALL BE INDICATED AS FOLLOWS:
  - 19.1. 4 PAIRS #14 AWG FOR SPEAKER AND STROBE CIRCUITS (TYP)
  - 19.2. 1 PAIR #16 AWG FOR ADDRESSABLE SIGNAL LOOP CIRCUITS (TYP)
  - 19.3. 2 #14 AWG FOR ALARM AND TROUBLE BELLS
  - 19.4. 4 #18 AWG TWISTED SHIELDED FOR FIRE ALARM PRINTER
  - 19.5. 2 #12 THHN/THWN-POWER, 2#14 (TW. PR.) - SIGNAL
20. ALL WORK INSTALLED AS PART OF THIS CONTRACT SHALL BE IN CONFORMANCE WITH THE LOCAL BUILDING CODES AND REFERENCE STANDARDS.
21. ALL WORK INSTALLED AS PART OF THIS CONTRACT SHALL BE APPROVED BY LOCAL FIRE DEPARTMENT.
22. WIRING FOR AUDIBLE AND VISIBLE ALARM NOTIFICATION DEVICES SHALL BE ARRANGED SO THAT A LOSS OF A PORTION OF WIRING ON A FLOOR WILL NOT RENDER MORE THAN 60% OF THE DEVICES OF EACH TYPE INOPERATIVE, AND THE DEVICES SHALL BE SO CONNECTED TO THE CIRCUITRY;(i.e BY MEANS OF ALTERNATE CIRCUITS) AS TO MAINTAIN AT LEAST PARTIAL AUDIBILITY VISIBILITY THROUGHOUT THE ENTIRE FLOOR.
23. ALL CONDUITS SHALL BE MINIMUM OF 3/4" EMT EXCEPT FOR CONDUIT RUN WITHIN 8' OF FINISHED FLOORS. WHERE SUBJECT TO MECHANICAL DAMAGE, RUN OUTDOORS OR BURIED, CONDUIT SHALL BE TYPE RIGID GALVANIZED STEEL. ALL WIRING SHALL BE AS PER MANUFACTURERS REQUIREMENT AND AS PER CODE (TYPICAL). CONDUIT SHALL BE RED IN COLOR IN UNFINISHED AREAS (E.G., ABOVE CEILING).
24. EACH FIRE ALARM INITIATING AND INDICATING CIRCUIT SHALL BE ELECTRICALLY SUPERVISED.
25. IN MECHANICAL ROOMS CONDUITS EXPOSED BELOW EIGHT (8) FEET OF FINISHED FLOOR SHALL BE IN RIGID GALVANIZED METAL. CONDUIT EXPOSED ABOVE EIGHT (8) FEET AND NOT SUBJECT TO PHYSICAL DAMAGE SHALL BE IN EMT. ALL CONDUITS FOR THE FIRE ALARM SYSTEM CONCEALED ABOVE THE CEILING AND IN INTERIOR WALLS AND PARTITIONS SHALL BE EMT. FOR CONDUIT

GAZEONIZED METAL. CONDUIT EXPOSED ABOVE EIGHT (8) FEET AND NOT SUBJECT TO PHYSICAL DAMAGE SHALL BE IN EMT. ALL CONDUITS FOR THE FIRE ALARM SYSTEM CONCEALED ABOVE THE CEILING AND IN INTERIOR WALLS AND PARTITIONS SHALL BE EMT. FOR CONDUIT

AND MECHANICAL CONTRACTORS. PROVIDE INTERPOSING RELAYS AS REQUIRED FOR INTERPOSING VOLTAGES AT THE FAN STARTER CIRCUITS OR MCC. ADDRESSABLE CONTROL MODULES SHALL BE PROVIDED AND INSTALLED (AS OUTPUTS) TO THE BUILDING AUTOMATION SYSTEM FOR DUCT DETECTOR STATUS INDICATIONS. ALL DUCT MOUNTED

UPON COMPLETION OF THIS INSTALLATION AND APPROVAL BY THE FIRE DEPARTMENT / PORT AUTHORITY, THE FIRE ALARM CONTRACTOR SHALL WARRANTY THE ENTIRE INSTALLATION

THE DDC CONTROL SYSTEM EXISTING THROUGHOUT THE CENTER IS ANDOVER. THEREFORE, NOTWITHSTANDING ANY OTHER PROVISION OF THE CONTRACT, NO OTHER PRODUCT WILL BE ACCEPTED - ALL CONTROLLERS AND PROGRAMMING WILL BE PROVIDED BY THE AUTHORIZED LOG AND OVER REPRESENTATIVE. IT IS TRI-M BUILDING AUTOMATION SYSTEMS CORP., 260 GALE LANE, PO BOX 69, KENNETT SQUARE, PA 19348, PHONE (610) 444-1002, ATTN MIKE MAY OR ROB KROENIG. THE EXISTING SYSTEM COMMUNICATES WITH THE MAIN WORKSTATION LOCATED AT THE CENTRAL UTILITIES PLANT (CUP) PROVIDE COMMUNICATION WITH THE EXISTING FRONT END IN THE CUP FOR ALL NEW AND MODIFIED CONTROL WORK. THE NEW MODEM SHALL HAVE A SHARED FUNCTION CAPABILITY WITH THE EXISTING MODEM. BOTH LOCALLY AND REMOTELY. ALL COSTS, INCLUDING COSTS FOR ANDOVER/TRI-M WORK, SHALL BE INCLUDED AS PART OF THE CONTRACTOR'S BID.

1. THE GENERAL CONTRACTOR & CONSTRUCTION FIRE ALARM SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH THE LATEST EDITION OF APPLICABLE CODES AND STANDARDS, FAA ORDERS AND FFA FIRE ALARM MASTER SPECIFICATIONS, INCLUDING BUT NOT LIMITED TO THE FOLLOWING:
  - NATIONAL FIRE PROTECTION ASSOCIATION (NFFA)
    - NFPA 3 – STANDARD FOR COMMISSIONING OF FIRE PROTECTION AND LIFE SAFETY SYSTEMS
    - NFPA 4 – STANDARD FOR INTEGRATED FIRE PROTECTION AND LIFE SAFETY SYSTEM TESTING
    - NFPA 70 – NATIONAL ELECTRICAL CODE, 2017 EDITION
    - NFPA 70E – STANDARD FOR ELECTRICAL SAFETY IN THE WORKPLACE
    - NFPA 72 – NATIONAL FIRE ALARM AND SIGNALING CODE
    - NFPA 90A – STANDARD FOR THE INSTALLATION OF AIR-CONDITIONING AND VENTILATING SYSTEMS
    - NFPA 101 – LIFE SAFETY CODE
  - INTERNATIONAL BUILDING CODE, 2018 NEW JERSEY EDITION (NJ IBC)
  - INTERNATIONAL FIRE CODE, 2015 NEW JERSEY EDITION

TERMINAL BOXES SHALL BE LOCATED ON EACH FLOOR (OR ADDITIONAL TERMINAL BOXES AS REQUIRED). NETWORK COMMUNICATION CIRCUITS, SIGNALING LINE CIRCUITS, AND NOTIFICATION APPLIANCE CIRCUITS ON EACH FLOOR SHALL CONNECT TO THE FIRE ALARM SYSTEM VIA TERMINAL BOXES. A MINIMUM 20 PERCENT SPARE CAPACITY SHALL BE PROVIDED ON EACH CIRCUIT.

1. THE FIRE ALARM SYSTEM SURVIVABILITY SHALL BE MINIMUM LEVEL 1.
2. SIGNALING LINE CIRCUITS (SLC) SHALL BE CLASS A. A MINIMUM OF ONE SLC SHALL BE PROVIDED PER FLOOR.
3. NOTIFICATION APPLIANCE CIRCUITS (NAC) SHALL BE CLASS A. A MINIMUM OF TWO (2) DISTINCT FIRE ALARM AUDIBLE NACS AND A MINIMUM OF TWO (2) DISTINCT VISIBLE NACS SHALL BE PROVIDED ON EACH FLOOR, WITH CIRCUITS ALTERNATING BETWEEN ADJACENT APPLIANCES.

- 1.1. IN EACH MECHANICAL EQUIPMENT, ELECTRICAL, TRANSFORMER, TELEPHONE EQUIPMENT, OR SIMILAR ROOM
- 1.2. THROUGHOUT HIGH-PILED COMBUSTIBLE STORAGE AREAS IN ACCORDANCE WITH NEW JERSEY FIRE CODE
2. DUCT MOUNTED SMOKE DETECTORS
- 2.1. IN THE RETURN AIR DUCT OR PLENUM UPSTREAM OF AIR FILTERS, EXHAUST CONNECTIONS, OUTDOOR AIR CONNECTIONS, OR DECONTAMINATION EQUIPMENT AND APPLIANCES OF RETURN AIR SYSTEMS WITH A DESIGN CAPACITY GREATER THAN 2,000 CFM (INTERNATIONAL MECHANICAL CODE 606.2.1).
- 2.2. UPSTREAM OF THE CONNECTION BETWEEN THE RETURN AIR FILTER OR RETURN AIR DUCT AND RETURN SYSTEMS HAVING A DESIGN CAPACITY GREATER THAN 15,000 CFM AND SERVING MORE THAN ONE STORY (INTERNATIONAL MECHANICAL CODE 606.2.3)

ABLE NOTIFICATION APPLIANCES:

THE ABOVE SOUND PRESSURE LEVELS SHALL BE AVERAGE SOUND PRESSURE LEVELS (DBA) MEASURED IN THE OCCUPANCY AREAS. THE AVERAGE SOUND LEVEL SHALL BE 5 DBA ABOVE THE MAXIMUM SOUND LEVEL HAVING A DURATION OF AT LEAST 60 SECONDS, WHICHEVER IS GREATER, IN EVERY OCCUPABLE SPACE WITHIN THE BUILDING. (NJ IBC SECTION 907.5.2.1.1)

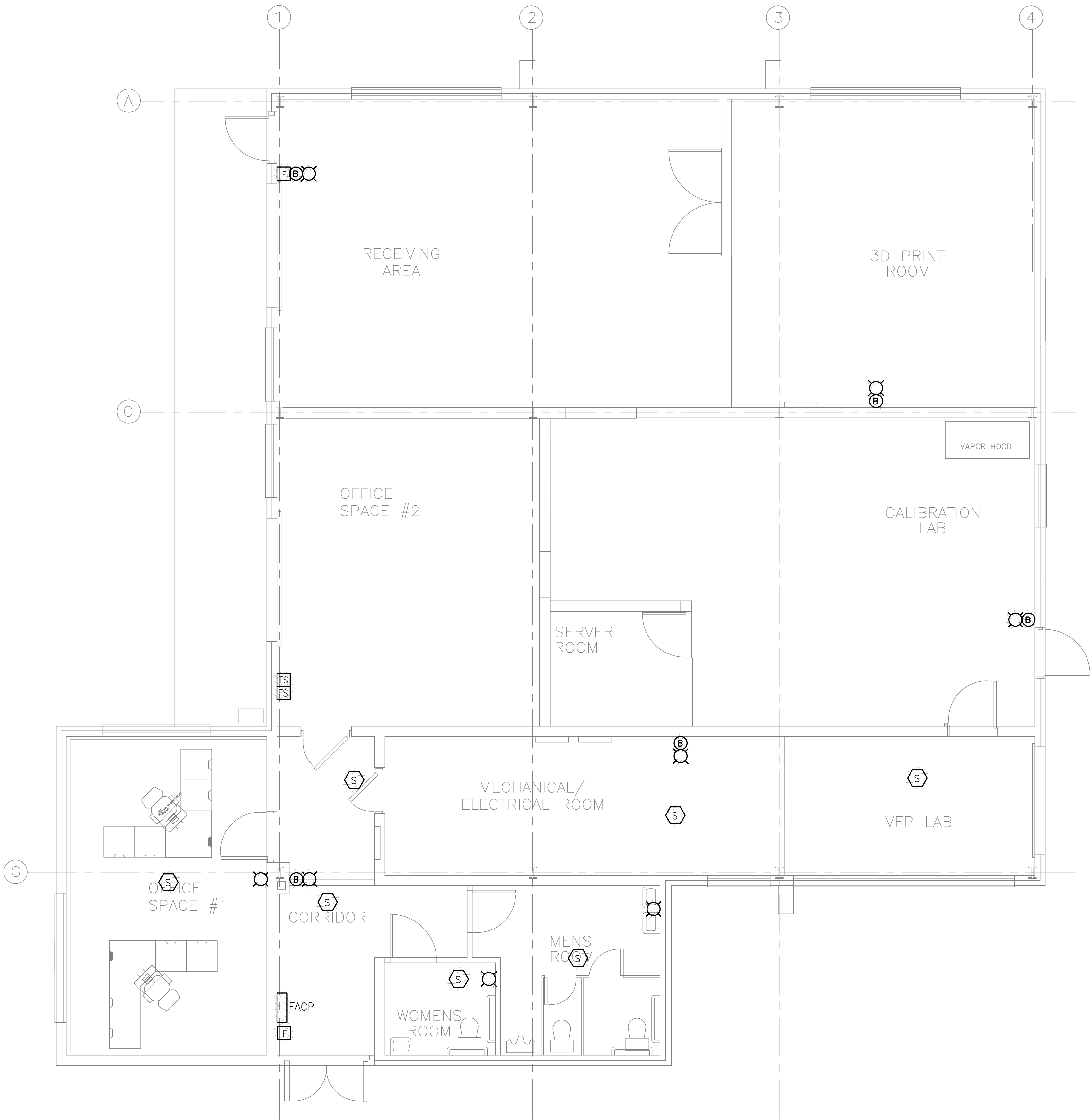
TABLE A.18.4.3 PROVIDES AN AVERAGE AMBIENT SOUND LEVEL ACCORDING TO THE OCCUPANCY TYPE. BUSINESS OCCUPANCIES AND PLACES OF ASSEMBLY HAVE AN AVERAGE AMBIENT SOUND LEVEL OF 55 DBA INDUSTRIAL OCCUPANCIES HAVE AN AVERAGE AMBIENT SOUND LEVEL OF 60 DBA MECHANICAL ROOMS HAVE AN AMBIENT SOUND LEVEL OF 85 DBA STORAGE OCCUPANCIES HAVE AN AMBIENT SOUND LEVEL OF 30 DBA

THE MAXIMUM SOUND PRESSURE LEVEL FOR AUDIBLE ALARM NOTIFICATION APPLIANCES SHALL BE 110 DBA AT THE MINIMUM HEARING DISTANCE FROM THE AUDIBLE APPLIANCE. (NJ IBC SECTION 907.5.2.1.2)

5 FEET OF THE END OF CORRIDORS (20 FEET WIDE OR LESS) WITH 100-FOOT MAXIMUM SPACING. (NFPA 72 SECTION 18.5.4.4)

<div><div>AECOM</div><div>1255 Broad Street, Suite 201 Clifton, NJ 07013-8591 tel. (973) 883-8500 www.aecom.com</div></div>				<div>STAMP</div> <div>ARCHITECT/ENGINEER #: _____</div>			
0	08/31/23	FINAL SUBMISSION					
REV	DATE	DESCRIPTION			CHECK    APRV'D		
UNITED STATES DEPARTMENT OF TRANSPORTATION FEDERAL AVIATION ADMINISTRATION WILLIAM J. HUGHES TECHNICAL CENTER ATLANTIC CITY INT'L AIRPORT, N.J. 08405							
BUILDING 202 SUSTAINMENT				FACILITY			
FIRE ALARM NOTES							
REVIEWED BY		SUBMITTED BY		DATE	APPROVED BY		
					Michael Roselli ANG-E342		
				DATE: 08/31/2023	JCN:		
DESIGN: MR		ISSUED BY:		DRAWING NO.			
DRAWN: MR		FACILITY SERVICES & ENGINEERING DIVISION		SHEET #			
CHECK: SB				F2021017-FA0.02			
				45 of 53			





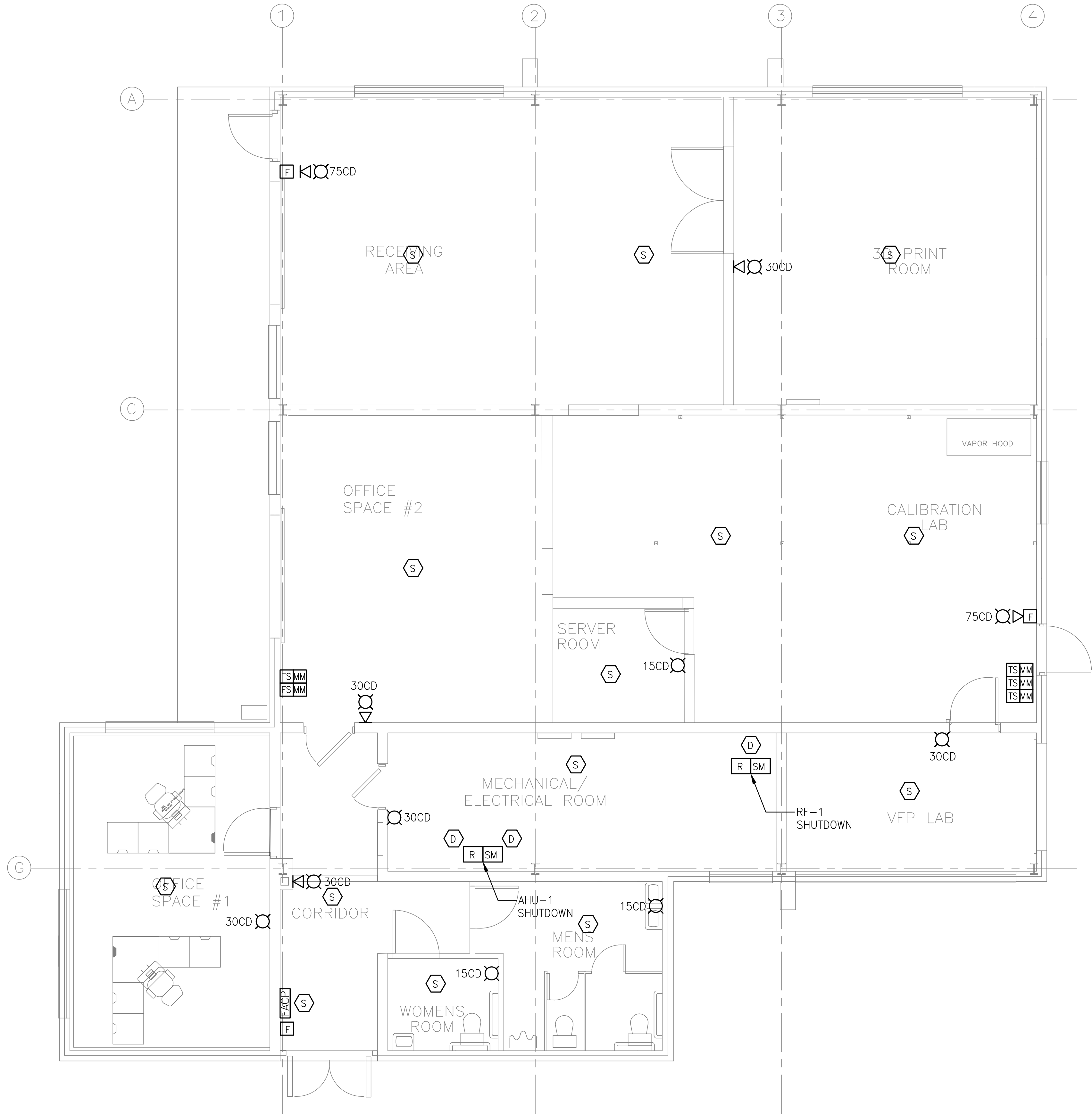
**1** DEMOLITION: FIRE ALARM PLAN  
FAD1.01 SCALE: 1/4" = 1'-0"  
0 2' 4' 8'

**GENERAL NOTES:**

1. REFER TO DRAWING FA0.01 FOR FIRE ALARM SYMBOLS, ABBREVIATIONS, AND ADDITIONAL GENERAL NOTES.
2. REMOVE ALL EXISTING FIRE ALARM SYSTEM COMPONENTS (PANEL, DEVICES, CONDUIT, AND WIRING).

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REV	DATE	DESCRIPTION	CHECK   APRV'D
UNITED STATES DEPARTMENT OF TRANSPORTATION <b>FEDERAL AVIATION ADMINISTRATION</b> WILLIAM J. HUGHES TECHNICAL CENTER ATLANTIC CITY INT'L AIRPORT, N.J. 08405			
<b>BUILDING 202 SUSTAINMENT</b>		<b>FACILITY</b>	
<b>DEMOLITION: FIRE ALARM PLAN</b>			
REVIEWED BY	SUBMITTED BY	DATE	APPROVED BY
DESIGN: MR		ISSUED BY:	
DRAWN: MR		FACILITY SERVICES & ENGINEERING DIVISION	
CHECK: FC		DATE: 08/31/2023 JCN:	
APPROVAL (FINISHES)		DRAWING NO.	
		<b>F2021017-FAD1.01</b>	
		SHEET #	
		46 OF 53	





GENERAL NOTES:

1. REFER TO DRAWING FA0.01 FOR FIRE ALARM SYMBOLS, ABBREVIATIONS, AND ADDITIONAL GENERAL NOTES.
2. SPEAKER/STROBE DEVICES SHALL NOT BE MARKED 'FIRE' BUT SHALL BE BLANK TO ALLOW FOR DUAL USE MASS NOTIFICATION/FIRE ALARM SYSTEM.

<div><div>AECOM</div><div>1255 Broad Street, Suite 201 Clifton, NJ 07013-8591 tel. (973) 883-8500 www.aecom.com</div></div>		STAMP	
ARCHITECT/ENGINEER #:			
0	08/31/23	FINAL SUBMISSION	
REV	DATE	DESCRIPTION	CHECK   APRV'D
UNITED STATES DEPARTMENT OF TRANSPORTATION FEDERAL AVIATION ADMINISTRATION WILLIAM J. HUGHES TECHNICAL CENTER ATLANTIC CITY INT'L AIRPORT, N.J. 08405			
BUILDING 202 SUSTAINMENT		FACILITY	
CONSTRUCTION: FIRE ALARM PLAN			
REVIEWED BY	SUBMITTED BY	DATE	APPROVED BY
			Michael Roselli ANG-E342
	DESIGN: MR	ISSUED BY:	DATE: 08/31/2023   JCN:
APPROVAL (FINISHES)	DRAWN: MR	FACILITY SERVICES & ENGINEERING DIVISION	DRAWING NO.
	CHECK: SB		F2021017-FA1.01
			SHEET #
			47 OF 53



PLUMBING GENERAL NOTES:






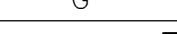


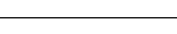
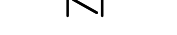
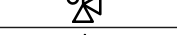
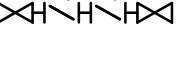
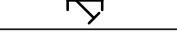
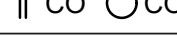

1. TAKE ALL PRECAUTIONS NECESSARY TO PROTECT FROM DAMAGE ALL EXISTING UTILITIES AND EQUIPMENT THAT ARE TO REMAIN. ANY UTILITIES AND/OR EQUIPMENT DAMAGED BY THE CONTRACTOR SHALL BE REPAIRED OR REPLACED AT NO ADDITIONAL COST TO THE GOVERNMENT, AND TO THE SATISFACTION OF THE BUILDING.
2. DIMENSIONS, LOCATIONS AND CONDITIONS SHOWN ARE APPROXIMATE. TAKE MEASUREMENTS IN THE FIELD, NOT FROM DIMENSIONS PROVIDED HEREIN. VERIFY ALL CONDITIONS AND DIMENSIONS IN THE FIELD PRIOR TO ORDERING ANY MATERIALS AND EQUIPMENT. NOTIFY THE ENGINEER OF ANY DISCREPANCIES AND CHANGES IN WRITING.
3. TAKE ALL PRECAUTIONS NECESSARY TO MINIMIZE ANY DISTURBANCES TO THE CONTINUOUS OPERATION OF THE FACILITY.
4. ALL MATERIALS AND EQUIPMENT REMOVED UNDER THIS CONTRACT SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE PROPERLY DISPOSED OF AWAY FROM THE AUTHORITY PROPERTY IN ACCORDANCE WITH APPLICABLE CODES AND ENVIRONMENTAL REGULATIONS, UNLESS OTHERWISE NOTED ON THE CONTRACT DRAWINGS OR IN THE SPECIFICATIONS.
5. PROVIDE A WRITTEN NOTICE TO THE BUILDING MANAGEMENT, 72 HOURS IN ADVANCE, FOR ANY SHUTDOWN/STARTUP REQUIREMENTS. COORDINATE SHUTDOWNS/STARTUPS TO MINIMIZE IMPACTS ON THE CONTINUOUS OPERATION OF THE FACILITY.
6. ALL EQUIPMENT AND MATERIALS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER’S WRITTEN RECOMMENDATIONS AND INSTRUCTIONS. COMPLY WITH THE MANUFACTURER’S STORAGE, HANDLING, AND RIGGING INSTRUCTIONS.
7. PROVIDE FIREWATCH AND OBTAIN HOT WORK PERMIT WHEN HOT WORK IS PERFORMED.
8. WORK SHALL BE DONE UNDER THIS CONTRACT IS SHOWN BY HEAVY LINES AND/OR IDENTIFIED BY NOTES ON THE CONTRACT DRAWINGS AND SPECIFIED IN CONTRACT SPECIFICATIONS.
9. CONTRACTOR SHALL COMPLY WITH THE 2018 INTERNATIONAL BUILDING CODE NJ EDITION, THE 2018 NATIONAL STANDARD PLUMBING CODE NJ EDITION, AND THE 2018 INTERNATIONAL FUEL GAS CODE AS ADOPTED BY THE STATE OF NEW JERSEY.
10. FIELD–VERIFY DIMENSIONS, LOCATION, AND CONDITIONS PRIOR TO STARTING WORK. NOTIFY THE ENGINEER OF ANY DISCREPANCIES.
11. THE ENTIRE PLUMBING SYSTEM SHALL COMPLY WITH THE REQUIREMENTS OF THE NEW JERSEY BUILDING CODE AND PLUMBING CODE.
12. VERIFY ALL EXISTING CONDITIONS IN THE FIELD PRIOR TO THE START OF WORK AND NOTIFY THE ENGINEER OF ANY VARIANCE FROM THE CONTRACT DRAWINGS.
13. ALL OPENINGS FOR PIPE PENETRATION SHALL BE CORE DRILLED. PROVIDE GALVANIZED STEEL PIPE SLEEVES SCHEDULE 40. FIRE RATING SHALL BE MAINTAINED WHEREVER PIPING PENETRATES A FIRE RATED WALL.
14. DIMENSIONS SHOWN ARE APPROXIMATE. INSTALL ALL EQUIPMENT IN ACCORDANCE WITH APPROVED SHOP DRAWINGS.
15. THE INSTALLATION UNDER THIS CONTRACT SHALL INCLUDE ALL INCIDENTAL SERVICES NECESSARY TO MAKE THIS INSTALLATION COMPLETE, FUNCTIONAL AND OPERABLE. PERFORM ALL TEST ASSOCIATED WITH ALL EQUIPMENT INSTALLED UNDER THIS CONTRACT.
16. UNLESS SPECIFICALLY REQUIRED OTHERWISE, CONFORM TO THE MANUFACTURER’S STANDARDS AND RECOMMENDATIONS IN INSTALLING EQUIPMENT AND MATERIALS AS APPROVED BY THE ENGINEER.
17. COORDINATE LOCATIONS AND SIZES OF ATTACHMENTS AND SUPPORTS FOR EQUIPMENT AND PIPING.
18. UPON COMPLETION OF THE WORK, CLEAN THE WORK AREA OF ALL DEBRIS AND REMOVE ALL EQUIPMENT, PIPING, INSULATION AND UNUSED MATERIALS. ALL AREAS USED BY THE CONTRACTOR SHALL BE RESTORED TO THEIR ORIGINAL CONDITION AS DIRECTED BY THE ENGINEER AT NO ADDITIONAL COST TO THE AUTHORITY.

PLUMBING GENERAL NOTES (CONT’D):

19. PROVIDE DIELECTRIC FITTINGS ON CONNECTIONS BETWEEN FERROUS AND NONFERROUS PIPING.
20. IMPROPER INSTALLATIONS SHALL BE CORRECTED AND RE–CERTIFIED UNTIL ACCEPTABLE AT NO ADDITIONAL COST TO THE GOVERNMENT. PRO–PRESS AND SADDLE VALVE FITTING ARE NOT PREFERRED AT FAA TECHNICAL CENTER IN ANY PIPING (REFRIGERANT, GAS, OR DOMESTIC) SYSTEM.
21. EXISTING UTILITIES, EQUIPMENT OR STRUCTURAL DAMAGE RESULTING FROM THE CONTRACTOR’S WORK, SHALL BE RESTORED TO THEIR ORIGINAL CONDITION TO THE SATISFACTION OF THE ENGINEER AND AT NO ADDITIONAL COST TO THE AUTHORITY.
22. TAKE ALL PRECAUTIONS NECESSARY TO PROTECT ALL UTILITIES, EQUIPMENT AND STRUCTURE FROM DAMAGE IN THE WORK AREAS. ANY UTILITIES, STRUCTURES AND/OR EQUIPMENT DAMAGED BY THE CONTRACTOR SHALL BE REPAIRED OR REPLACED BY THE CONTRACTOR, TO THE SATISFACTION OF THE ENGINEER AT NO ADDITIONAL COST TO THE AUTHORITY.
23. THE CONTRACTOR SHALL STAGE ANY SYSTEM SHUTDOWNS IN SUCH A MANNER THAT INTERRUPTIONS ARE KEPT TO A MINIMUM AND SHALL GIVE AT LEAST 72 HOURS ADVANCE NOTICE TO THE ENGINEER. PRIOR TO SHUTDOWN, THE CONTRACTOR SHALL PROVIDE SIGNAGE TO NOTIFY BUILDING PERSONNEL OF SHUTDOWNS.
24. ALL TESTING, FLUSHING, SANITIZATION OF NEW PIPING, ETC., SHALL BE PERFORMED IN FULL COMPLIANCE WITH SPECIFICATION SECTION 220000 “PLUMBING, GENERAL PURPOSE” AND THE 2018 NATIONAL STANDARD PLUMBING CODE AS ADOPTED BY THE STATE OF NEW JERSEY.
25. PIPING SHALL BE WELDED IN FULL ACCORDANCE WITH QUALIFIED PROCEDURES USING PERFORMANCE–QUALIFIED WELDERS AND WELDING OPERATORS. PROCEDURES AND WELDERS SHALL BE QUALIFIED IN ACCORDANCE WITH ASME BOILER AND PRESSURE VESSEL CODE (BPVC) SECTION IX.
26. ALL PIPING SHALL BE PROVIDED WITH LABELS PER ASME A13.1.
27. CONTRACTOR SHALL VISIT THE SITE AND FAMILIARIZE THEMSELVES WITH THE WORK SCOPE BEFORE SUBMITTING BID.
- 406.1.1 INSPECTIONS–INSPECTIONS SHALL CONSIST OF VISUAL EXAMINATION, DURING OR AFTER MANUFACTURE, FABRICATION, ASSEMBLY, OR PRESSURE TEST AS APPROPRIATE. SUPPLEMENTARY TYPES OF NON DESTRUCTIVE INSPECTION TECHNIQUES, SUCH AS MAGNETIC–PARTICLE, RADIOGRAPHIC, ULTRASONIC, ETC. SHALL NOT BE REQUIRED UNLESS SPECIFICALLY LISTED HEREIN OR IN THE ENGINEERING DESIGN
- 406.1.2 TEST PRESSURE MEASUREMENT– UPON COMPLETION OF THE INSTALLATION OF A SECTION OF A GAS SYSTEM OR THE ENTIRE GAS SYSTEM, AND BEFORE APPLIANCES ARE CONNECTED THERETO, THE COMPLETED SECTION OR SYSTEM SHALL BE VERIFIED AS TO MATERIALS, AND TESTED AND FOLLOW THE TEST REQUIREMENT INDICATED IN THE INTERNATIONAL FUEL GAS CODE, NEW JERSEY EDITION.

DRAIN SCHEDULE					
TAG	ITEM	MANUFACTURER	MODEL	SIZE (INCH)	REMARK
<u>RD–1</u>	ROOF DRAIN	ZURN	Z100	3”	WITH REQUIRED OPTIONS FOR METAL DECK INSTALLATION

NOTES: COORDINATE WITH ARCHITECT BEFORE PURCHASING ROOF DRAINS.

PLUMBING SYMBOLS LIST	
NOTE: NOT ALL SYMBOLS MAY BE USED.	
SYMBOL	DESCRIPTION
	FLOW ARROW
	CONNECT TO EXISTING
	END OF DEMOLITION
	EXISTING PIPING
	PIPING TO BE REMOVED
	DOMESTIC COLD WATER PIPING
	DOMESTIC HOT WATER PIPING
	INDIRECT WASTE
	SANITARY ABOVEGROUND PIPING
	PUMP DISCHARGE
	NATURAL GAS PIPING
	PIPE CAPPED
	PIPE DROP
	PIPE RISE
	PIPE TEE DOWN
	PIPE REDUCER
	PIPE UNION
	PIPE GUIDES OR SLEEVES
	PIPE ANCHOR
	FLEXIBLE PIPE CONNECTION
	GATE VALVE
	CHECK VALVE (ARROW INDICATES DIRECTION OF FLOW)
	PLUG VALVE
	PRESSURE REDUCING VALVE
	RELIEF VALVE
	DRAIN VALVE WITH THREADED HOSE CONNECTION
	REDUCED PRESSURE BACKFLOW PREVENTER
	PRESSURE GAUGE WITH STOPCOCK
	STRAINER
	WALL CLEAN OUT/ FLOOR CLEAN OUT
	BALL VALVE
	TRAP PRIMER
	CLEAN OUT
	BALL VALVE ON VERTICAL PIPE

NOTE

PROVIDE COMPRESSED AIR PIPING SYSTEM/AIR COMPRESSOR AS AN ALTERNATIVE BID OPTION A.

WATER HEATER SCHEDULE						
TAG	ITEM	MANUFACTURER	MODEL	SIZE (GAL)	BTU INPUT (CFH)	VENT OUTLET (INCH)
<u>WH–1</u>	GAS FIRED WATER HEATER	A. O. SMITH	GUC–30	30	33,000	3

AIR COMPRESSOR								
TAG	ITEM	MANUFACTURER	MODEL	CAPACITY	VOLTAGE	PHASE	HORSE POWER	REMARKS
<u>CAMP–1</u>	AIR COMPRESSOR	CAMPBELL HAUSFELD	CE7000	80 GAL	208 V	1	7.5 HP	OIL LUBE FULLY PACKAGED

NOTES: PROVIDE COMPRESSED AIR PIPING SYSTEM/EQUIPMENT AS AN ALTERNATIVE BID OPTION A.

PLUMBING ABBREVIATIONS

NOTE: NOT ALL ABBREVIATIONS MAY BE USED.	
ABBREVIATION	DESCRIPTION
(D)	EXISTING TO BE DEMOLISHED
(E)	EXISTING TO REMAIN
AFF	ABOVE FINISHED FLOOR
CFH	CUBIC FEET PER HOUR
CO	CLEAN OUT
DN	DOWN
DP	DOWN PIPE
FT	FEET
GPM	GALLONS PER MINUTE
HP	HORSEPOWER
KW	KILOWATTS
N/A	NOT APPLICABLE
NTS	NOT TO SCALE
RPM	REVOLUTIONS PER MINUTE
TYP	TYPICAL
TS	TAMPER SWITCH
WC	WATER COLUMN

BACKFLOW PREVENTER SCHEDULE

TAG	ITEM	MANUFACTURER	MODEL	SIZE	ORIENTATION
<u>RPZ</u>	BACKFLOW PREVENTER	ZURN	375 XL	2”	HORIZONTAL

COMPRESSED AIR OUTLET SCHEDULE

TAG	ITEM	MANUFACTURER	MODEL	SIZE (INCH)
<u>CA–1</u>	WALL MOUNTED AIR OUTLET	RAPID AIR	MAXLINE M7510	1/2”

WATER HEATER SCHEDULE

TAG	ITEM	MANUFACTURER	MODEL	SIZE (GAL)	BTU INPUT (CFH)	VENT OUTLET (INCH)
<u>WH–1</u>	GAS FIRED WATER HEATER	A. O. SMITH	GUC–30	30	33,000	3


AIR COMPRESSOR

TAG	ITEM	MANUFACTURER	MODEL	CAPACITY	VOLTAGE	PHASE	HORSE POWER	REMARKS
<u>CAMP–1</u>	AIR COMPRESSOR	CAMPBELL HAUSFELD	CE7000	80 GAL	208 V	1	7.5 HP	OIL LUBE FULLY PACKAGED

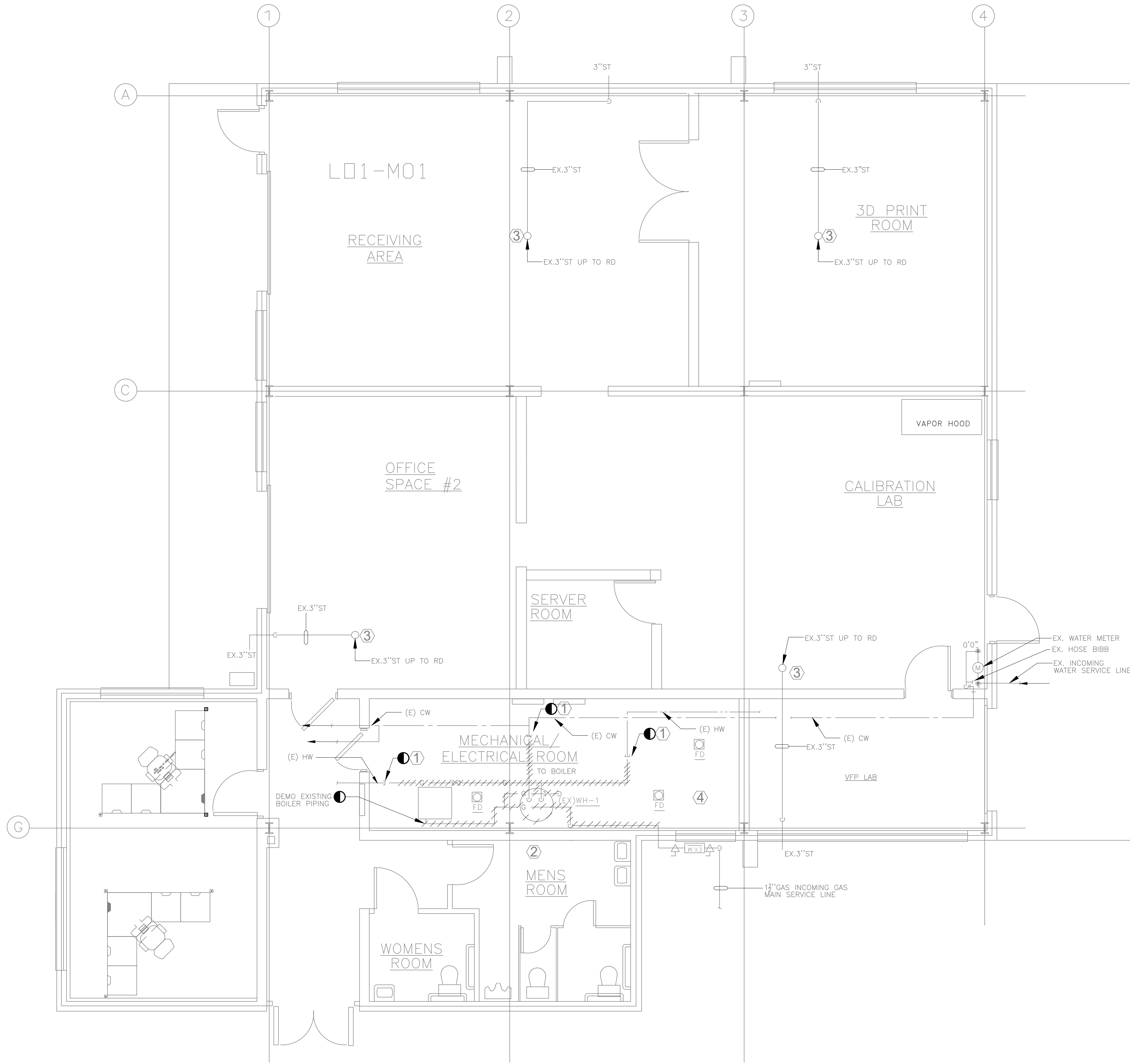
NOTES: PROVIDE COMPRESSED AIR PIPING SYSTEM/EQUIPMENT AS AN ALTERNATIVE BID OPTION A.

PLUMBING SHEET INDEX

SHEET NUMBER	SHEET TITLE
P0.01	PLUMBING GENERAL NOTES AND SYMBOLS AND ABBREVIATIONS
PD1.01	PLUMBING FIRST FLOOR DEMOLITION PLAN
P1.01	PLUMBING FIRST FLOOR NEW WORK PLAN
P1.02	PLUMBING ROOF PLAN
P2.01	PLUMBING RISERS
P3.01	PLUMBING DETAILS

		STAMP	
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0	08/31/23	FINAL SUBMISSION	
REV	DATE	DESCRIPTION	CHECK APRV'D
UNITED STATES DEPARTMENT OF TRANSPORTATION FEDERAL AVIATION ADMINISTRATION WILLIAM J. HUGHES TECHNICAL CENTER ATLANTIC CITY INT’L AIRPORT, N.J. 08405			
BUILDING 202 SUSTAINMENT		FACILITY	
PLUMBING GENERAL NOTES SYMBOLS AND ABBREVIATIONS			
REVIEWED BY	SUBMITTED BY	DATE	APPROVED BY DATE
			Michael Roselli ANG–E342
	DESIGN: AH	ISSUED BY:	DATE: 08/31/2023 JCN:
APPROVAL (FINISHES)	DRAWN: AH	FACILITY SERVICES & ENGINEERING DIVISION	DRAWING NO.
	CHECK: IK		F2021017–P0.01
			SHEET #
			48 OF 53





- DEMO KEYNOTES:
- 1. REMOVE WATER PIPING/RPZ PIPING TO BOILER.
  - 2. REMOVE WATER HEATER AND ITS ASSOCIATED WATER PIPING, DRAIN, AND EXHAUST
  - 3. COORDINATE WITH ROOF CONTRACTOR TO DISCONNECT EXISTING ROOF DRAIN FROM STORM PIPING.
  - 4. REMOVE ALL ABANDONED PIPING

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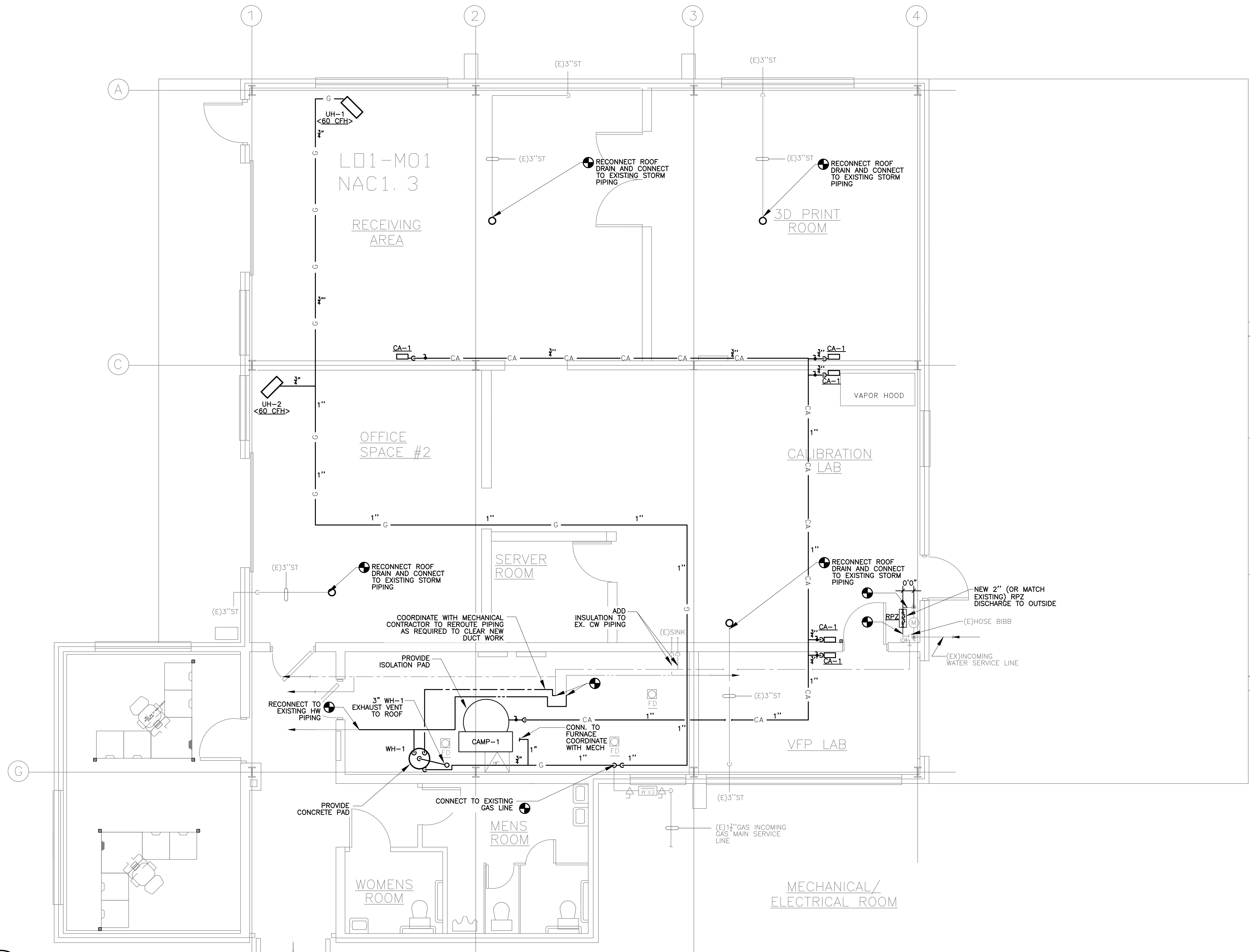
ARCHITECT/ENGINEER #:

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UNITED STATES DEPARTMENT OF TRANSPORTATION FEDERAL AVIATION ADMINISTRATION WILLIAM J. HUGHES TECHNICAL CENTER ATLANTIC CITY INT'L AIRPORT, N.J. 08405				
BUILDING 202 SUSTAINMENT			FACILITY	
PLUMBING FIRST FLOOR DEMOLITION PLAN				
REVIEWED BY	SUBMITTED BY	DATE	APPROVED BY	DATE
			Michael Roselli ANG-E342	
	DESIGN: AH	ISSUED BY:	DATE: 08/31/2023	JCN:
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	CHECK: IK		F2021017-PD1.01	49 OF 53



NOTES:

- FOR LEGEND, ABBREVIATIONS AND GENERAL NOTES SEE DRAWING P0.01.
- PROVIDE COMPRESSED AIR PIPING SYSTEM/EQUIPMENT AS AN ALTERNATIVE BID OPTION A.



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ATLANTIC CITY INT'L AIRPORT, N.J. 08405

**BUILDING 202 SUSTAINMENT**

**FACILITY**

**PLUMBING  
FIRST FLOOR NEW WORK PLAN**

REVIEWED BY	SUBMITTED BY	DATE	APPROVED BY	DATE
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**1 PLUMBING FIRST FLOOR NEW WORK PLAN**

P1.01

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

0 2' 4' 8'





1. FOR LEGEND, ABBREVIATIONS AND GENERAL NOTES SEE DRAWING P0.01.



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WILLIAM J. HUGHES TECHNICAL CENTER  
ATLANTIC CITY INT'L AIRPORT, N.J. 08405

BUILDING 202 SUSTAINMENT	FACILITY
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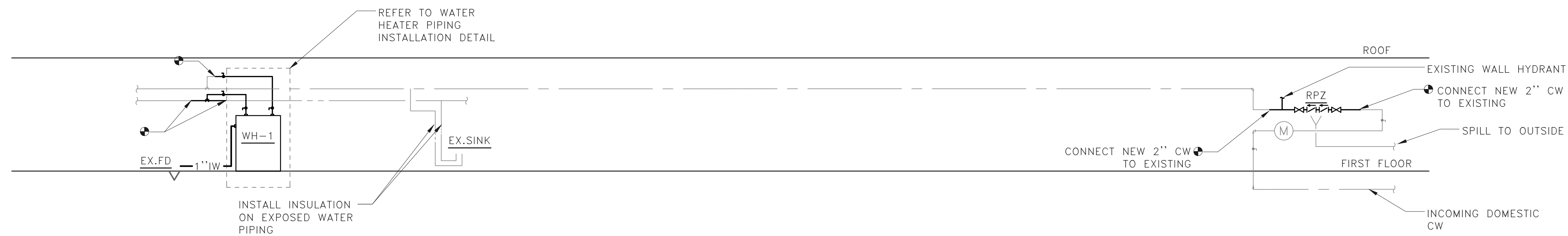
PLUMBING  
FIRST FLOOR ROOF PLAN

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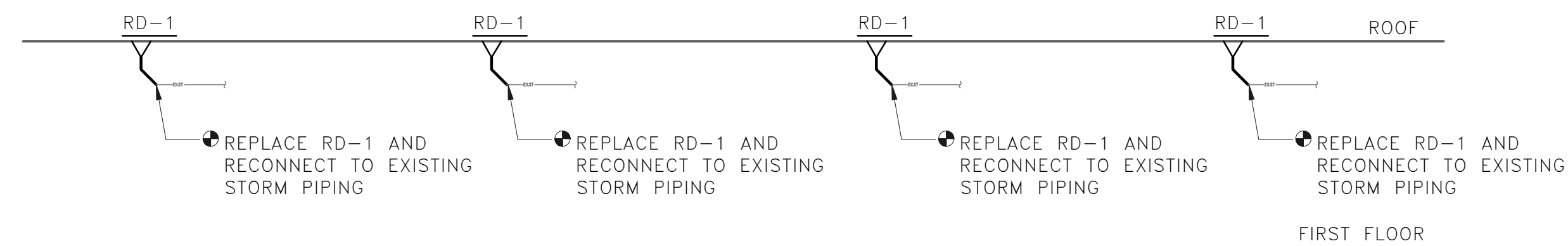
NOTES:

1. FOR LEGEND, ABBREVIATIONS AND GENERAL NOTES SEE DRAWING P0.01.
2. PROVIDE COMPRESSED AIR PIPING SYSTEM/EQUIPMENT AS AN ALTERNATIVE BID OPTION A.



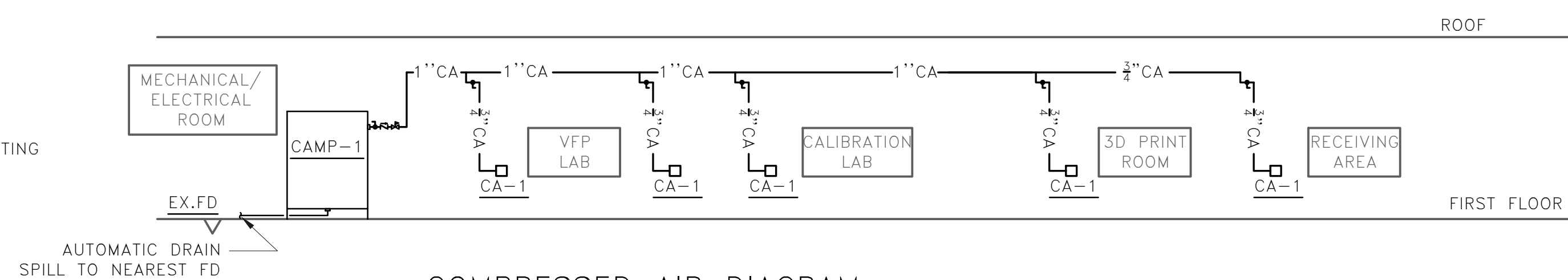
## WATER AND SANITARY RISER

NTS



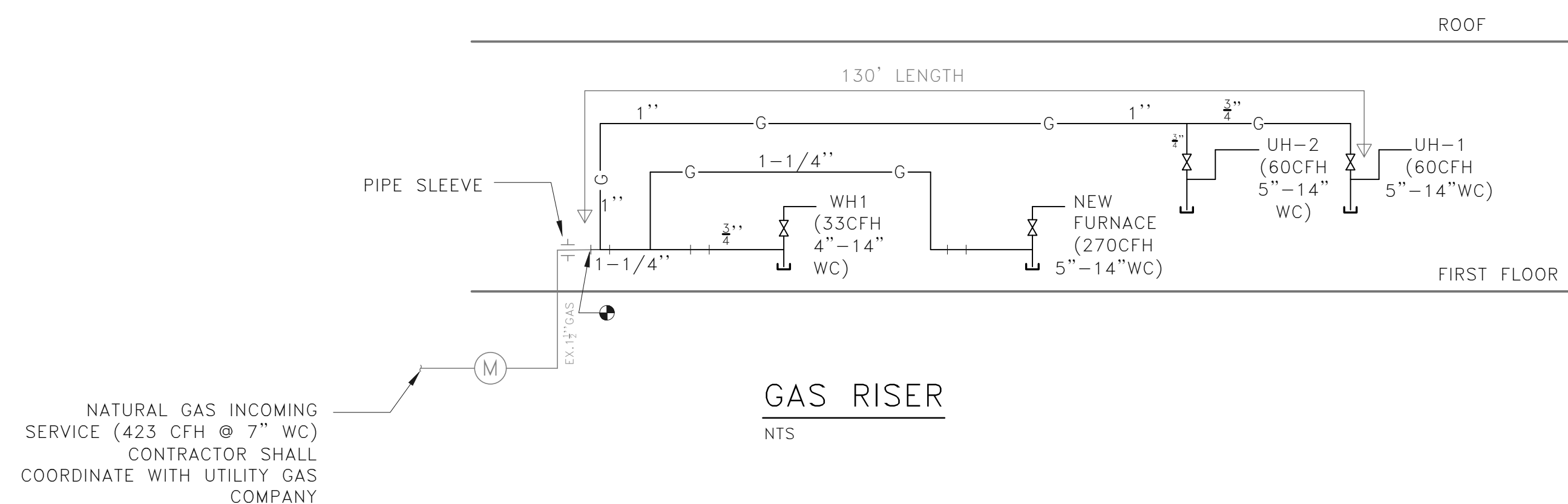
STORM WATER RISER

NTS




## COMPRESSED AIR DIAGRAM

NTS

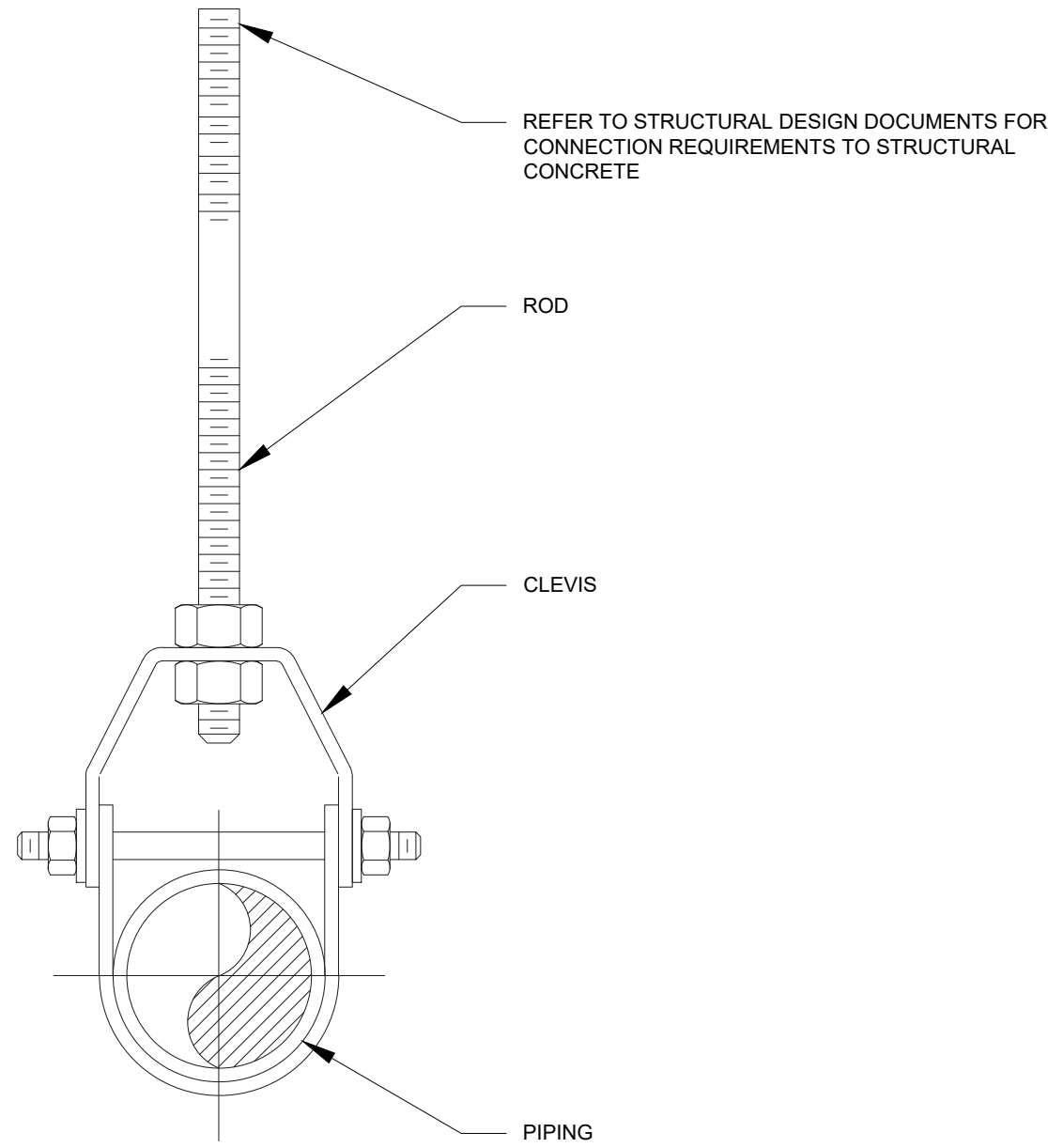


GAS RISER

NTS

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<b>BUILDING 202 SUSTAINMENT</b>										<b>FACILITY</b>	
<b>PLUMBING RISERS</b>											
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								Michael Roselli ANG-E342			
								DATE: 08/31/2023		JCN:	
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APPROVAL (FINISHES)		DRAWN: AH		FACILITY SERVICES & ENGINEERING DIVISION		DRAWING NO.		DRAFTING NO.		SHEET #	
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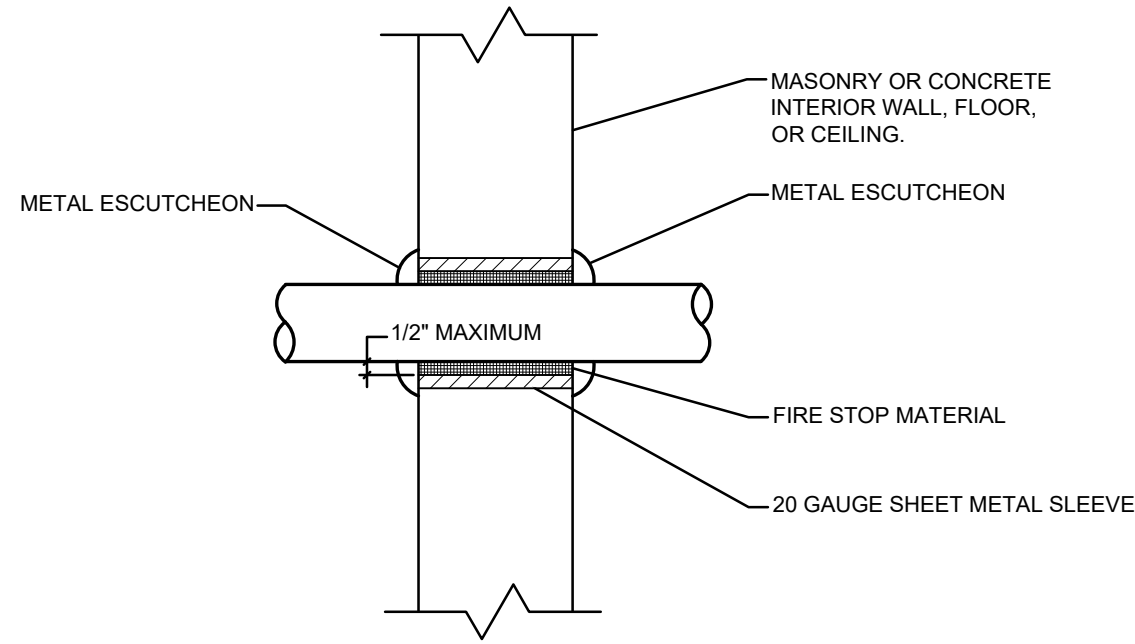




NOTE:  
1. REFER TO SPECIFICATIONS FOR ADDITIONAL  
PIPE HANGER AND SUPPORT INFORMATION.

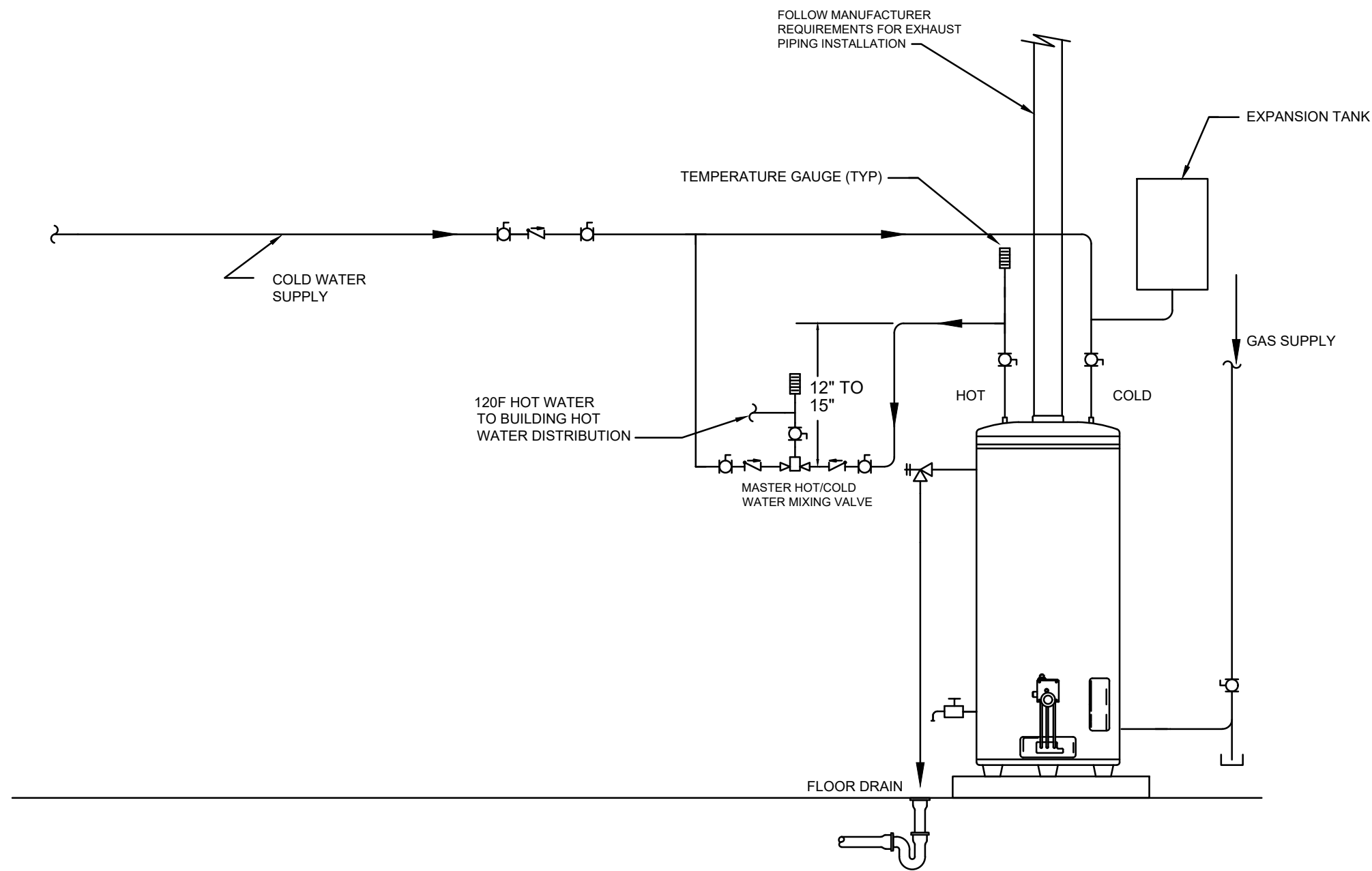
1 | TYPICAL PIPE SUPPORT DETAIL

Scale: NTS



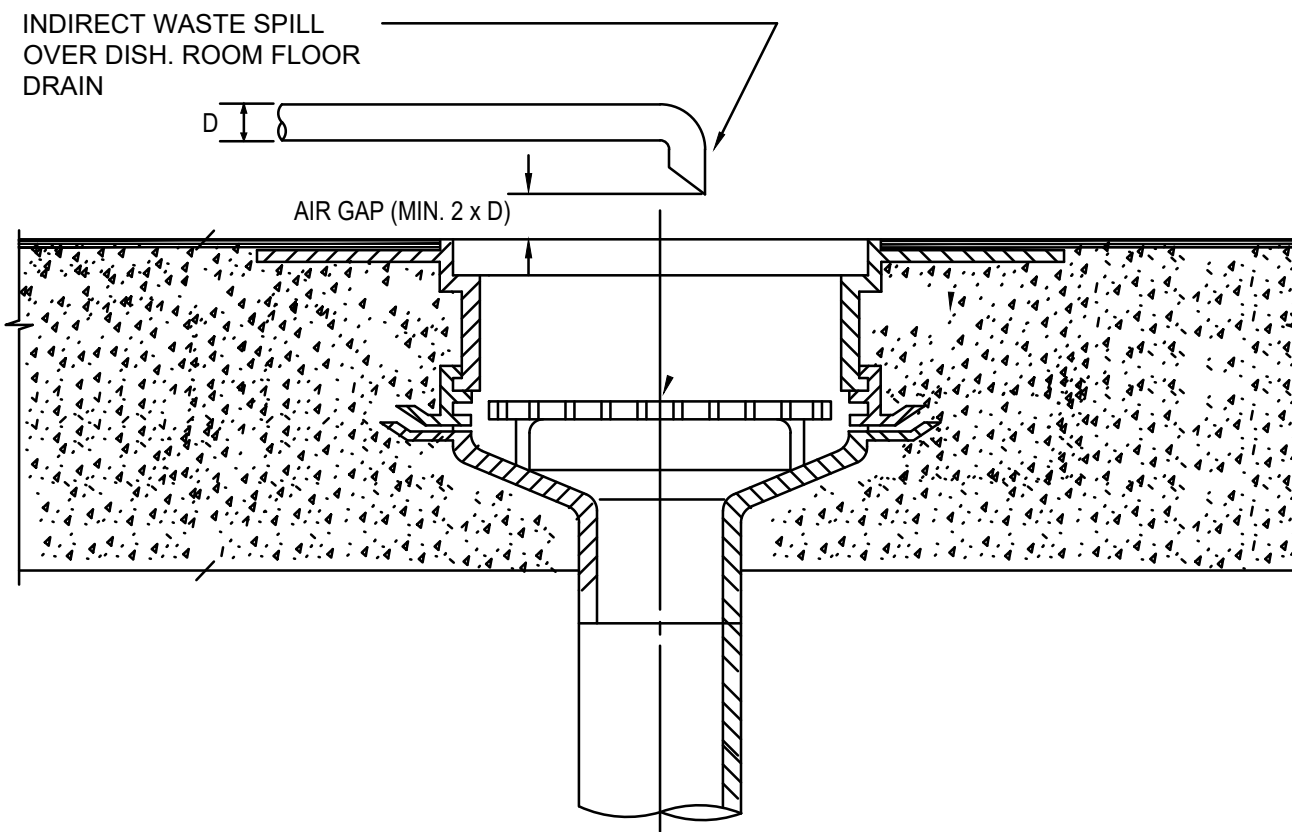
2 | PIPE PENETRATION THROUGH INTERIOR WALL DETAIL

Scale: NTS



3 | WATER HEATER INSTALLATION DETAIL

Scale: NTS



4 | INDIRECT DRAIN DETAIL

Scale: NTS

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**BUILDING 202 SUSTAINMENT**

**FACILITY**

**PLUMBING DETAILS**

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