





GARY MUSCIANO, RA, PP

NJ RA C-873	MD 1301045424
NY RA 221827	PA 48411
CA 29569	103-2000000517
CO 46184	NV 5015
CT 7547	NC 3671
DC ARC0022	OH 101915916
DE 261001810	PA RA 13281
FL AR0014044	RI 2030
GA RA 072938	SC 8851
IA RA 09647	TX CERT. NO. 125438
IL RA 00122651	TXAS 15417
IN AR 130067	UT 847351-3D01
KS 5913	VT 2529
LA 6005	VA 649 038254
MD 1301045424	WA 11037
MA 53131	WY CERT. #ALTA No. AC58
NJ PLANNER 4351	

CONSULTANTS



NO.	DATE	REVISIONS
2	1.05.22	FOR PERMIT
1	2.28.21	FOR BIDDING

APPROVALS:  
Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional Architect under the laws of the State of Maryland License No.11039 Expiration Date: 06/18/2022

CLIENT / PROJECT:

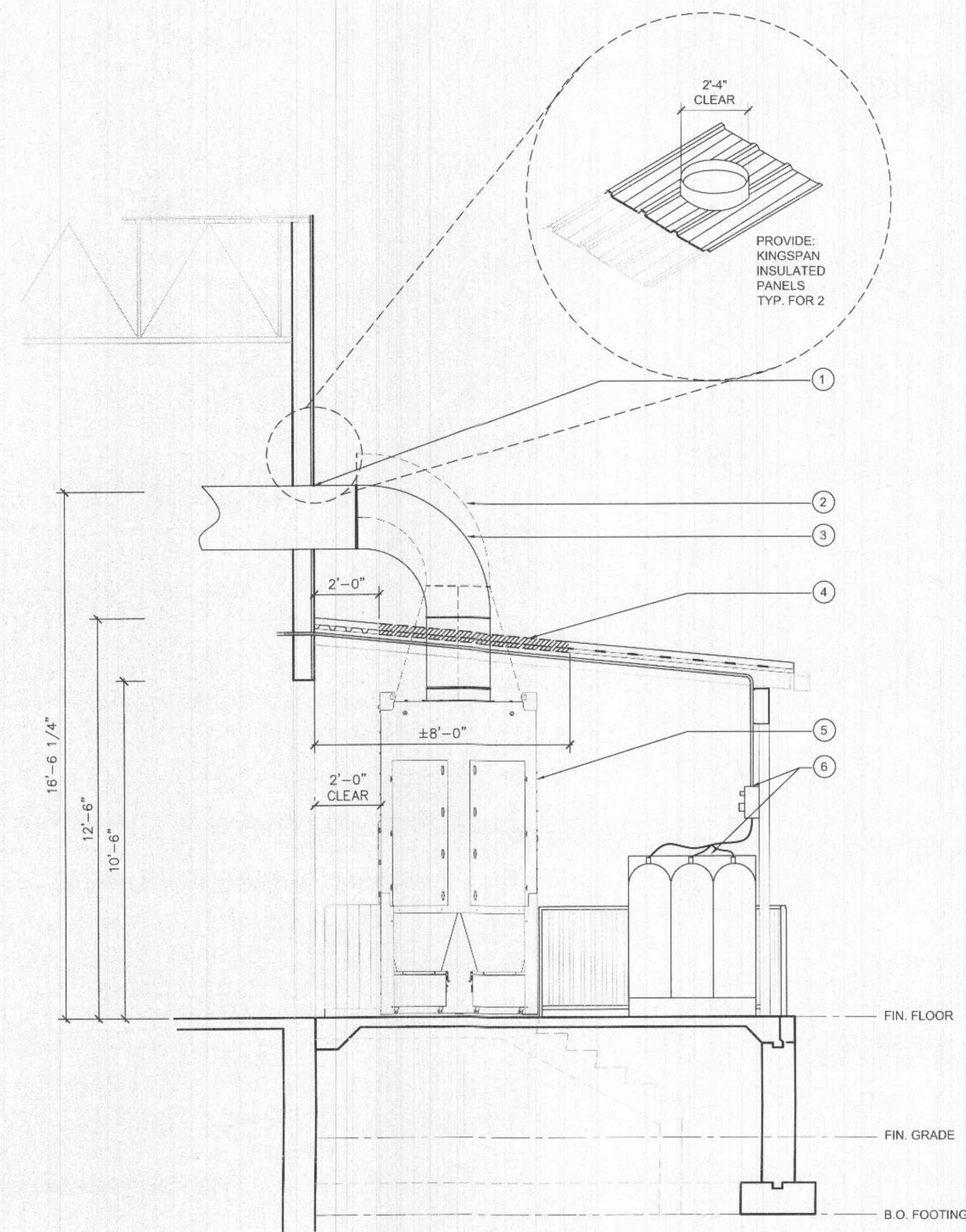


DRAWING TITLE:  
**PATIO PARTIAL SECTION AND ELEVATION**

PROJECT MANAGER:	SCALE:
LR	AS NOTED
DRAWN BY:	DATE:
LR	11.12.2021
CHECKED BY:	PROJECT NO.:
GM	7780

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**A-04**

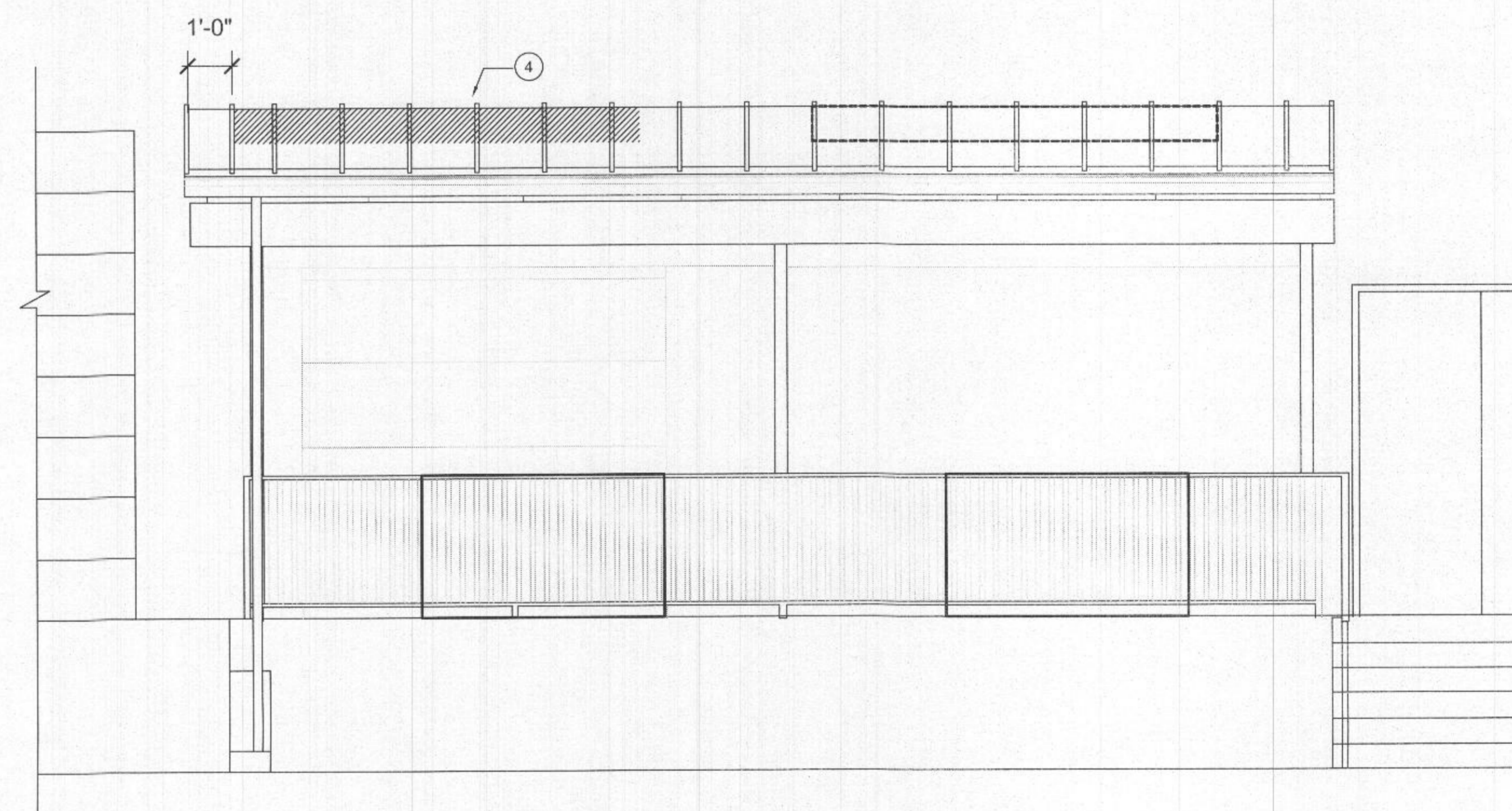


**1 PARTIAL SECTION**  
0 1'-4" 2'-8" 5'-4" 8'-0"

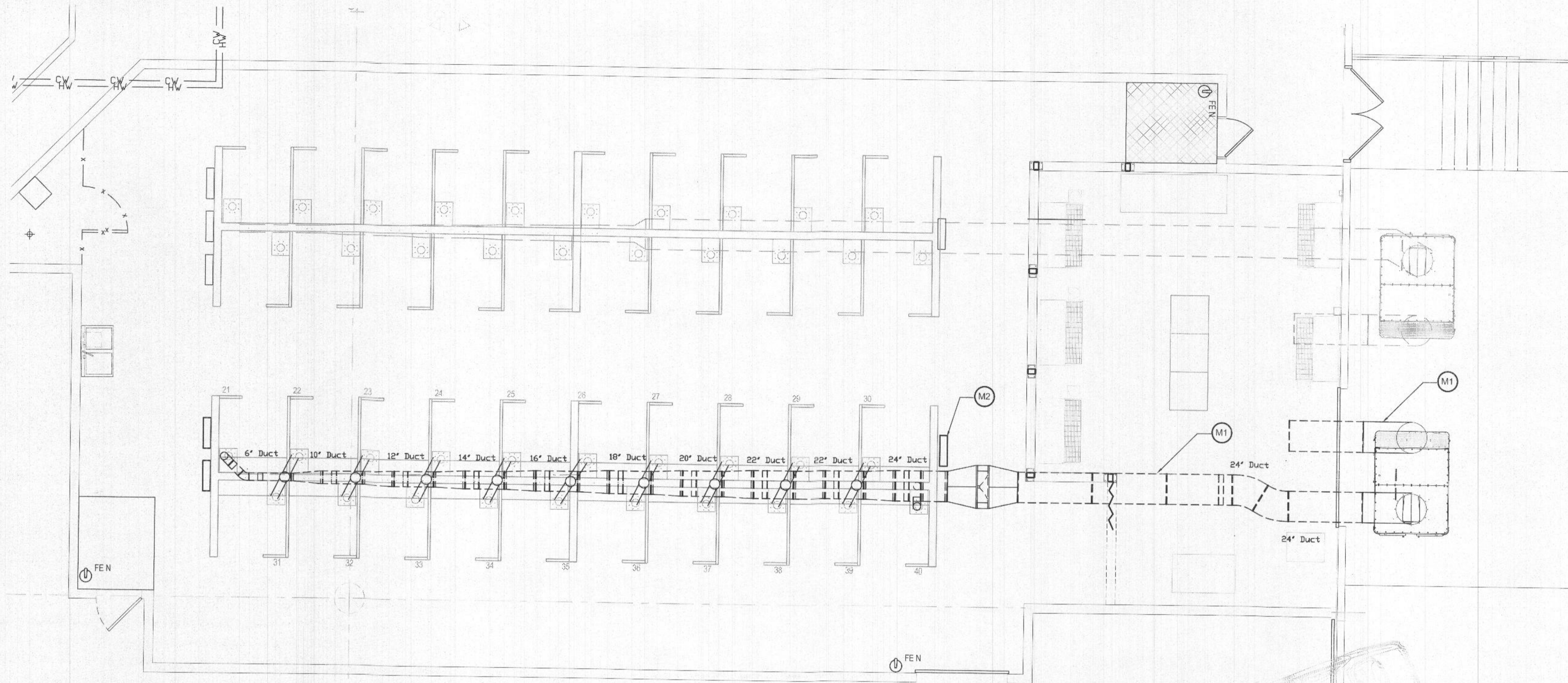
**SECTION KEYED NOTES:**

- 1 NEW WALL PENETRATIONS BY GC. NEW PENETRATIONS FOR MILLER DUCTWORK TO BE 2'-4"Ø CLEAR. PROVIDE NEW FLASHING TO MATCH EXISTING BUILDINGS CORRUGATED EXTERIOR WALLS AND COLOR.
- 2 MILLER'S 24"Ø DUCT FOR AIR RETURN INTO NEW WELDING LAB
- 3 MILLER'S 24"Ø DUCT FOR WELDING EXTRACTION ARMS
- 4 GC TO REMOVE 10' WIDE BY 8'-0" SECTION OF EXISTING ROOF AS REQUIRED FOR PROPER DUCT PENETRATIONS.
- 5 NEW FILTAIR 12000 INSTALLED BY MILLER. EXACT LOCATION TO BE COORDINATED IN FIELD WITH EXISTING PATIO STRUCTURE ABOVE.
- 6 GC TO COORDINATE WITH BRANT HANCOCK FOR THE CONNECTION REQUIREMENTS TO EXISTING WELDING GAS MANIFOLD.

Brant Hancock  
Earlbeck Gases & Technologies  
Cell (410) 913-6416 | Main Line (410) 687-8400



**2 PARTIAL ELEVATION**  
0 1'-4" 2'-8" 5'-4" 8'-0"



**MECHANICAL GENERAL NOTES:**

1. ALL WORK SHALL CONFORM TO ALL LOCAL AND STATE CODES, RULES AND REGULATIONS.
2. CONTRACTOR SHALL OBTAIN AND PAY FOR ALL PERMITS, FEES AND TAXES.
3. MAKE NO CHANGES WITHOUT THE WRITTEN PERMISSION FROM THE ARCHITECT.
4. ALL MATERIAL AND EQUIPMENT INDICATED ON THE PLANS AND DESCRIBED IN THE SPECIFICATIONS SHALL BE PROVIDED BY THE CONTRACTOR NEW AND THE BEST PRODUCTS OF REPUTABLE MANUFACTURERS AND SHALL BE IN NEW CONDITION AT ACCEPTANCE OF WORK.
5. THIS CONTRACTOR SHALL GUARANTEE ALL MATERIALS, LABOR AND EQUIPMENT FOR A PERIOD OF ONE YEAR FROM DATE OF ACCEPTANCE. CONTRACTOR SHALL PAY FOR ANY REPAIRS OR REPLACEMENTS CAUSED BY DEFECTIVE WORKMANSHIP OR FAULTY MATERIALS AS CONSTRUED HEREIN WITHIN THE PERIOD COVERED BY THE GUARANTEE.
6. SCAFFOLDING, RIGGING AND HOISTING: UNLESS OTHERWISE SPECIFIED, CONTRACTOR SHALL FURNISH ALL SCAFFOLDING, RIGGING, HOISTING, AND SERVICES NECESSARY FOR ERECTION AND DELIVERY INTO THE PREMISES OF ANY EQUIPMENT AND APPARATUS FURNISHED, AND REMOVAL OF SAME FROM PREMISES WHEN NO LONGER REQUIRED.
7. CONTRACTOR SHALL MAKE AN ON-SITE INSPECTION TO DETERMINE FULLY THE EXISTING CONDITIONS AND THE EXTENT OF DEMOLITION.
8. LOCATION OF EQUIPMENT, PIPING, AND OTHER MECHANICAL WORK IS INDICATED DIAGRAMMATICALLY BY THE DRAWINGS. DETERMINE EXACT LOCATIONS ON THE JOB SITE, SUBJECT TO STRUCTURAL CONDITIONS AND WORK OF OTHER CONTRACTORS.
9. CONTRACTOR ASSUMES RESPONSIBILITY FOR PROPER ARRANGEMENT OF PIPES, DUCTS, ETC., TO CONNECT APPROVED EQUIPMENT IN A PROPER AND APPROVED MANNER. FOLLOW EQUIPMENT MANUFACTURER'S DETAILED INSTRUCTIONS AND THE CONTRACT DOCUMENTS. NOTIFY THE ARCHITECT BEFORE PROCEEDING. NO EQUIPMENT INSTALLATION OR CONNECTIONS SHALL BE MADE IN A MANNER THAT VOIDS THE MANUFACTURER'S WARRANTY.
10. SEE ARCHITECTURAL DRAWINGS FOR SUPPORT DETAILS OF ALL ROOF MOUNTED EQUIPMENT AND FOR THE LOCATION OF ROOF PENETRATIONS.
11. UNLESS OTHERWISE NOTED, ALL SPECIFIED EQUIPMENT IS LESS THAN 200 POUNDS. PROVIDE SUPPORT DETAILS OF ALL EQUIPMENT GREATER THAN 200 LBS.
12. INSTALL EACH ITEM OF EQUIPMENT IN STRICT ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
13. INSTALL ALL WORK IN A NEAT AND WORKMANLIKE MANNER, USING ONLY WORKMEN THOROUGHLY QUALIFIED IN THE TRADE OF DUTIES THEY ARE TO PERFORM. ROUGH WORK WILL BE REJECTED.
14. CUTTING AND PATCHING SHALL BE DONE BY THE APPROPRIATE TRADE UNLESS OTHERWISE REQUIRED BY TRADE CUSTOM OR SPECIFIED UNDER ANOTHER SECTION OF THE SPECIFICATIONS. CONTRACTOR SHALL FURNISH SKETCHES SHOWING THE LOCATIONS AND SIZES OF ALL OPENINGS, CHASES, ETC. REQUIRED. CONTRACTOR IS LIABLE FOR CUTTING OR PATCHING MADE NECESSARY BY HIS FAILURE TO MAKE PROPER ARRANGEMENTS IN THIS RESPECT.
15. DO NOT CUT STRUCTURAL MEMBERS WITHOUT THE APPROVAL OF THE ARCHITECT AND ALL SUCH CUTTING SHALL BE DONE IN A MANNER AS DIRECTED BY THEM.
16. MAINTAIN WORK AREA CLEAN AT ALL TIMES DURING CONSTRUCTION. AFTER COMPLETING INSTALLATIONS OF DUCTWORK, CONTRACTOR SHALL CLEAN ENTIRE SYSTEM OF RUBBISH, PLASTER, DIRT AND ANY OTHER DEBRIS.
17. TEST ALL SYSTEMS. SYSTEMS SHALL OPERATE SATISFACTORILY AS DESIGNED AND INTENDED. REPORT ANY DEFICIENCIES TO ARCHITECT.
18. THE CONTRACTOR SHALL X-RAY SLAB/ROOF BEFORE CORE DRILLING. COORDINATE WITH BUILDING MANAGEMENT.
19. COORDINATE ALL DUCT SHAFT LOCATION AND SIZES WITH GENERAL CONTRACTOR PRIOR TO FABRICATION.
20. COORDINATE ALL ROOFTOP UNIT DUCT CONNECTION SIZE AND LOCATIONS WITH GENERAL CONTRACTOR PRIOR TO FABRICATIONS.
21. ALL DUCT SIZES INDICATED ARE CLEAR INSIDE DIMENSIONS AND SHALL BE INCREASED, WHERE SOUNDLINING IS INDICATED, TO COMPENSATE FOR THE LINING THICKNESS.

**MECHANICAL KEY NOTES:**

- (M1) CONTRACTOR TO COORDINATE WITH MILLER INSTALLERS FOR THE TURNKEY INSTALLATION OF WELDING RE-CIRCULATING SYSTEM. NEW RE-CIRCULATION EXTRACTION SYSTEM TO BE FURNISHED AND INSTALLED BY MILLER PER MANUFACTURER'S INSTRUCTIONS. NEW NORDFAB PREFAB DUCTING SYSTEM. DUCT TO BE SUPPORTED FROM STRUCTURE ABOVE PER MANUFACTURER'S INSTRUCTIONS. GC TO COORDINATE WITH MILLER FOR POWER AND AIR CONNECTIONS/REQUIREMENTS.
- (M2) GC TO COORDINATE WITH MILLER FOR THE CONTROL WIRING AND POWER REQUIREMENTS BETWEEN CONTROL PANEL AND FILTRAIT UNIT.

Gary Musciano, RA, Architect

611 MAIN STREET  
2ND FLOOR  
BOONTON, NJ 07006  
TELEPHONE (973) 538-3815  
FAX (973) 538-4095



GARY MUSCIANO, RA, PP

NJ RA C-9175	NJ 130154524
NV RA 021987	MI 68617
CA 28649	MO A202005517
CO 491804	NV 5015
CT 7587	NC 4671
DC ARO052	OH 084525
DE SS-009189	PA RA600261
FL ARO14344	RI 2230
GA RA002688	SC 8811
IA RA 08641	TN CERT. No. 195438
IL RA 01320057	TXAS 15417
IN ARI100007	UT ARI0514321
KS 5073	VT 2635
LA 0680	VA 643108254
MD 11028	WA 11037
MA 16131	WV 035147N No. NC80
NJ PLANNER 4321	

CONSULTANTS



NO. DATE REVISIONS

NO.	DATE	REVISIONS
2	1.05.22	FOR PERMIT
1	12.28.21	FOR BIDDING

NO. DATE SUBMISSIONS

NO.	DATE	SUBMISSIONS
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APPROVALS:

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CLIENT / PROJECT:



DRAWING TITLE:  
**WELDING FUME  
EXTRACTOR  
LAYOUT**

PROJECT MANAGER:	SCALE:
LR	AS NOTED
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LR	11.12.2021
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**M-01**

05/2016



GARY MUSCIANO, RA, PP

NJ RA C-6076	MD A220005517
NY RA 02-987	VA C-100254
CA 29549	NC 8071
CO 471604	OH O 9510925
CT 13447	PA RA03281
DC ARCH002	RI 2320
DE 55-0028190	SC 8851
FL 480018444	TN CERT. NO. 125438
GA RA 912995	TXAS 16417
IA RA 16641	UT 842039-0304
IL RA 011220501	VT 2529
IN 651130067	WA 040109254
KS 5673	WI 11827
LA 5692	WV 19131
MD 11039	NJ PLANNER 4351
MA 19131	NJ CERT # A211 NA AC403

CONSULTANTS



HERBST MUSCIANO LLC

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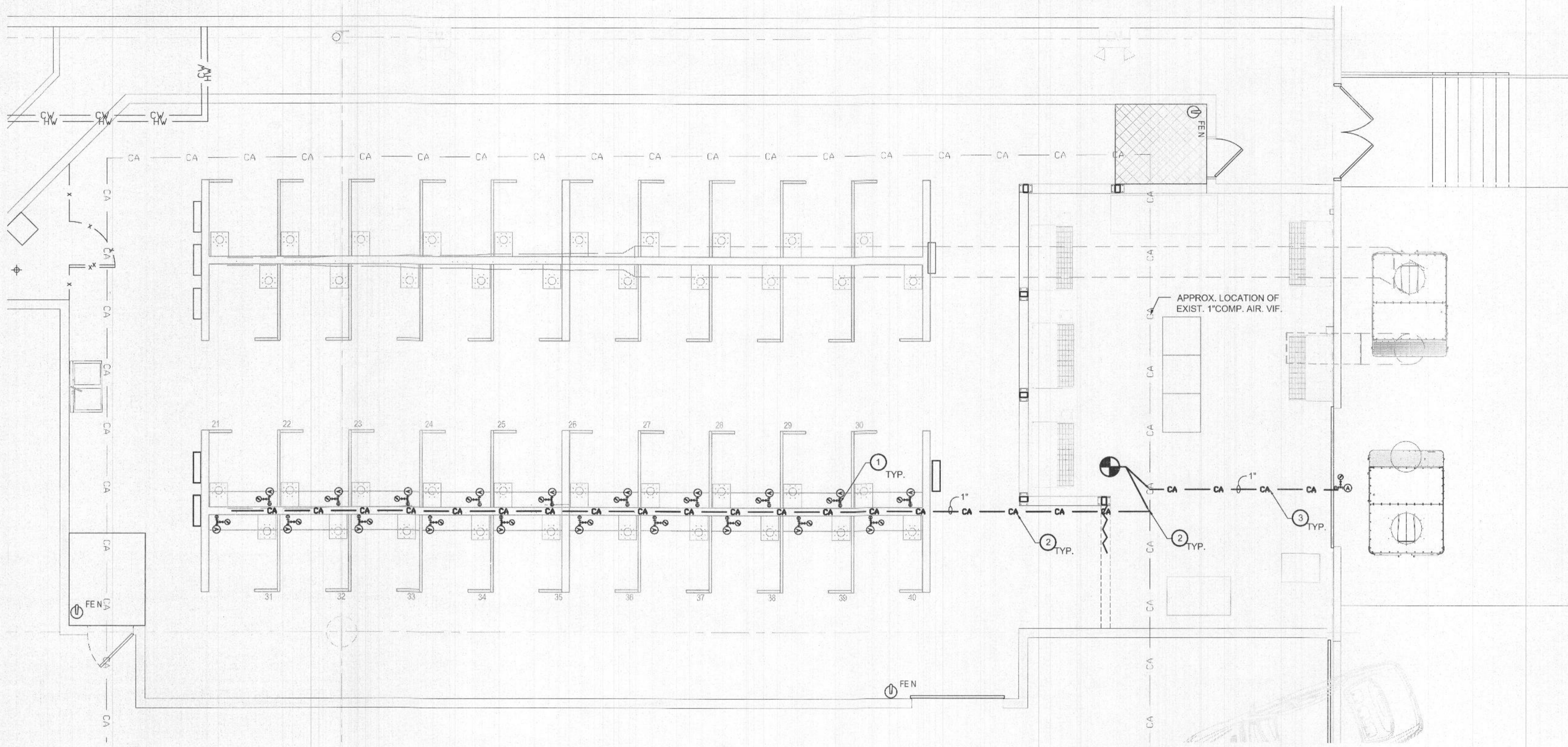


DRAWING TITLE:  
**COMPRESSED AIR LAYOUT**

PROJECT MANAGER	SCALE
LR	AS NOTED
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LR	11.12.2021
CHECKED BY:	PROJECT NO.:
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DRAWING NO. **P-01**



**PLUMBING GENERAL NOTES**

- ALL CONSTRUCTION DEBRIS SHALL BE DISPOSED OF BY THE CONTRACTOR, UNLESS NOTED OTHERWISE.
- THESE PLANS ARE DIAGRAMMATIC IN NATURE. CONTRACTORS SHALL INCLUDE APPROPRIATE ALLOWANCES FOR OFFSETS AS REQUIRED TO ACCOMMODATE VERTICAL AND HORIZONTAL VARIATIONS IN THE LOCATIONS AND ELEVATIONS OF DUCTWORK, PIPING AND EXISTING CONDITIONS.
- EACH TRADE SHALL COORDINATE THE ROUTING AND INSTALLATION OF HIS WORK WITH THAT OF ALL OTHER TRADES THROUGH THE GENERAL CONTRACTOR. IN ANY INSTANCES OF CONFLICT, SYSTEMS REQUIRING "GRADE" OR "SLOPE" FOR DRAINAGE (SANITARY SEWER, SANITARY VENT, EQUIPMENT DRAINS, ETC...) SHALL HAVE PRIORITY.
- PENETRATIONS OF WALLS OR FLOORS FOR THE PASSAGE OF PIPING, OR OTHER EQUIPMENT SHALL BE PROPERLY SEALED AFTER INSTALLATION OF EQUIPMENT. FIELD VERIFY EXISTING WALL PENETRATIONS AND PROPERLY SEAL AS REQUIRED TO MAINTAIN WALL OR FLOOR RATING.
- COORDINATE ALL BUILDING SYSTEM SHUTDOWN REQUIREMENTS WITH FACILITY ENGINEERING REPRESENTATIVE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE AND PROVIDE SYSTEM DRAIN DOWN AND FILL OF THE AFFECTED PLUMBING SYSTEMS PER THE FACILITY ENGINEER'S REQUIREMENTS.
- PROVIDE ALL EQUIPMENT, MATERIAL, LABOR, SUPERVISION, COSTS AND SERVICES REQUIRED TO INSTALL COMPLETE AND WORKING SYSTEMS, INCLUDING ALL ITEMS AND APPURTENANCES NECESSARY, REASONABLE, INCIDENTAL OR CUSTOMARILY INCLUDED, EVEN THOUGH EACH AND EVERY ITEM IS NOT SPECIFIED OR SHOWN.
- PROVIDE ACCESS TO ALL CONCEALED EQUIPMENT AND VALVES. COORDINATE LOCATION OF ACCESS PANELS WITH ARCHITECT.
- PROVIDE CAST IRON EXPANSION JOINTS AT ALL FLOOR PENETRATIONS WHERE DRAINAGE OR VENT PIPES OCCUR.
- EXISTING INFORMATION INDICATED ON THIS PLAN WAS ACQUIRED THRU LIMITED SITE SURVEY. CONTRACTOR SHALL VERIFY EXACT LOCATION AND SIZES OF ALL PLUMBING SYSTEMS INDICATED ON THIS PLAN PRIOR TO BID. CONTRACTOR SHALL NOTIFY ARCHITECT/ENGINEER OF ANY DISCREPANCIES BETWEEN PLANS AND ACTUAL FIELD FINDINGS.
- ALL HORIZONTAL SANITARY SEWER PIPING SHOWN IS LOCATED IN CONCRETE FLOOR. VIF.

- EACH FIXTURE SHALL HAVE A SHUT-OFF VALVE AT THE FIXTURE. THESE VALVES ARE TO BE ADJUSTED SO AS TO PREVENT EXCESSIVE PRESSURE AT THE FIXTURE. PROVIDE WATER HAMMER ARRESTORS AT EACH FIXTURE WHERE REQUIRED.
- PIPING THAT IS EXPOSED DURING DEMOLITION SHALL BE PROTECTED FROM DAMAGE UNTIL IT HAS BEEN DETERMINED THAT THE EXPOSED PIPE CAN BE REMOVED WITHOUT DISABLING ANY DEVICE THAT IS TO REMAIN ACTIVE.
- UNFORESEEN PIPING THAT BECOMES EXPOSED DUE TO DEMOLITION OF WALLS OR CEILINGS SHALL BE RE-ROUTED AND CONCEALED BY THE CONTRACTOR.
- PROVIDE INSTALLATION, OPERATION AND MAINTENANCE MANUALS TO THE OWNER.
- STANDARD NO-HUB COUPLINGS SHALL CONFORM TO CISPI 310 (MOST CURRENT EDITION) AND SHALL BE LISTED BY NSF INTERNATIONAL.
- HEAVY DUTY COUPLINGS SHALL CONFORM TO THE REQUIREMENTS OF ASTM 1540 AND FM 1680 CLASS I.
- COMPRESSION GASKETS FOR HUB & SPIGOT SHALL CONFORM TO THE REQUIREMENTS OF ASTM STANDARD C 564 AND ASTM C 1563 (MOST CURRENT EDITION)
- JOINTS FOR PIPE AND FITTINGS SHALL CONFORM TO THE MANUFACTURE'S INSTALLATION INSTRUCTIONS AND LOCAL CODE REQUIREMENTS.
- ALL ALL AREAS, ROOMS, OBJECTS LABELED AS EXISTING ARE EXISTING TO REMAIN AND PROTECTED DURING CONSTRUCTION.
- LABEL ALL NEW PIPES (COMPRESSED AIR, WELDING GASES, ETC) PER THE REQUIREMENTS OF ANSI A13.1 LATEST EDITION. USE ADHESIVE OR WRAP-AROUND LABELS AS MFRD BY SETON OR EQUAL.

**PLUMBING KEY NOTES:**

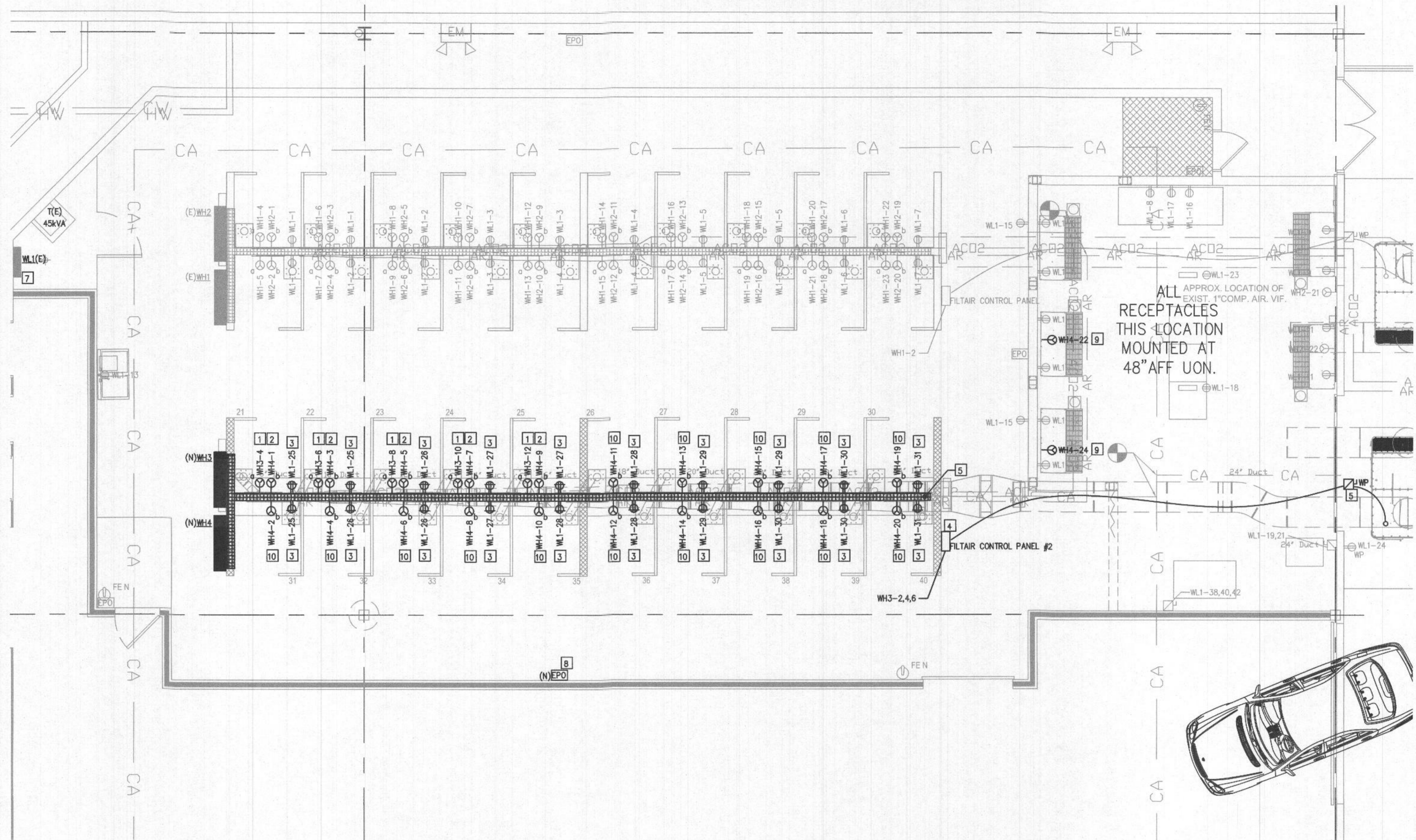
- PROVIDE NEW 1/2" CA AIR COPPER PIPE DOWN TO FEED EACH WELDING BOOTH FROM NEW MAIN 1" CA RUNNING ABOVE CMU WALL.
  - PROVIDE NEW CA FEEDS AT EACH BOOTH WITH SHUT-OFF VALVES, AND FEMALE QUICK DISCONNECTS.
  - NEW COMPRESSED AIR LINES TO BE ATTACHED/FASTENED TO NEW CMU WALLS.
  - PIPING SHALL BE HARD PIPE WALL MOUNTED AS PER MANUFACTURERS RECOMMENDATIONS.
  - PROVIDE WALL SUPPORTS AS REQUIRED FOR PIPING AND VALVES AT LOCATIONS ROUTED DOWN WALLS.
  - FREE STANDING DROPS SHALL BE SUPPORTED WITH 1.5" X 1.5" X .125" ANGLE IRON WELDED TO STRUCTURE ABOVE. CONTRACTOR TO VERIFY DEMAND AND SIZE PIPING AS PER MANUFACTURERS RECOMMENDATIONS
- NEW 1" CA MAIN RUNNING ABOVE. CONNECT NEW MAIN TO EXISTING COMPRESSED AIR LOOP. EXACT TAP LOCATION SHALL BE COORDINATE ON SITE.
- PROVIDE NEW 1" COMPRESSED AIR LINES FOR NEW FILTAIR "SELF CLEANING" MODE. COORDINATE EXACT EQUIPMENT LOCATION IN FIELD WITH EQUIPMENT. PROVIDE DRYER/REGULATOR AS REQUIRED. PROVIDE STAINLESS STEEL BRAIDED HOSE FOR CONNECTION TO EACH UNIT.





**PLAN NOTES**

- 1 FOR DYNASTY 280 TIG WELDER CONNECTIONS. DYNASTY 280 IS OWNER FURNISHED. DYNASTY 280 IS BEING PROVIDED AT 460V, 1Ø, 15 FLA. PROVIDE 20A, 480V, 2 POLE, 3 WIRE GROUNDING PLUG, RECEPTACLE, AND CONNECTOR: HUBBELL HBL2343 (RECEPTACLE) & HBL2341 (PLUG) OR EQUAL. MOUNT RECEPTACLE ON WALL WITH 1/2" EMT TO JUNCTION BOX ABOVE WELDING BOOTH. FIELD MODIFY DYNASTY 280 WELDER CORD AND INSTALL PLUG. PROVIDE ALL CONNECTORS AS REQUIRED AND MAKE CONNECTIONS FOR A COMPLETE AND OPERABLE SYSTEM. SEE SHEET A-03 FOR DETAILS.
- 2 FOR MILLERMATIC 252 MIG WELDER CONNECTIONS. MILLERMATIC 252 IS OWNER FURNISHED. MILLERMATIC 252 IS BEING PROVIDED AT 460V, 1Ø, 21 FLA. PROVIDE 30A, 480V, 2 POLE, 3 WIRE GROUNDING PLUG, RECEPTACLE, AND CONNECTOR: HUBBELL HBL2643 (RECEPTACLE) & HBL2641 (PLUG) OR EQUAL. MOUNT RECEPTACLE ON WALL WITH 3/4" EMT TO JUNCTION BOX ABOVE WELDING BOOTH. FIELD MODIFY MILLERMATIC WELDER CORD AND INSTALL PLUG. PROVIDE ALL CONNECTORS AS REQUIRED AND MAKE CONNECTIONS FOR A COMPLETE AND OPERABLE SYSTEM. SEE SHEET A-03 FOR DETAILS.
- 3 PROVIDE GFCI DUPLEX RECEPTACLE IN EACH WELDING STATION AS INDICATED. 5'0" AFF. EXACT LOCATION PER ARCHITECT.
- 4 MAKE CONNECTIONS TO NEW MILLER FILTAIR 12000 UNIT VIA CONTROL PANEL AND EXTERIOR DISCONNECT. 480V, 3Ø, 30HP. PROVIDE BOA FSS WEATHER-PROOF ON EXTERIOR.
- 5 RUN ALL CONDUIT FEEDING WELDING EQUIPMENT IN MC CABLE FROM PANELBOARD. RUN MC CABLE IN CABLE TRAY. PROVIDE CABLOTRAY OF 150/200X7.5 X8" BASKET TRAY WITH LINER OR EQUAL. TERMINATE MC CABLE IN JUNCTION BOX ABOVE WELDING BOOTH. RUN EMT CONDUIT FROM JUNCTION BOX ABOVE WELDING BOOTH TO PLUG. SEE ARCHITECTURAL PLANS FOR MOUNTING DETAILS.
- 6 ROUTE ALL CONDUIT IN A NEAT AND ORDERLY MANNER, CONSOLIDATING AS MUCH AS POSSIBLE. CONCEAL ALL CONDUITS RUN IN NEW WALLS.
- 7 CONDUIT RUNS FROM PANELBOARD WL1 SHALL BE MOUNTED AT 13'-0" AFF UON TO FINAL LOCATIONS.
- 8 WIRE NEW EPO IN PARALLEL WITH EXISTING EPO. PANELBOARDS WH3 AND WH4 ARE ON SECONDARY SIDE OF EXISTING 1200A MCB IN WH1. 1200A MCB IN WH1 HAS SHUNT TRIP MAIN BREAKER WIRED TO EPO.
- 9 FOR MILLER PLASMA CUTTER SPECTRUM 875. PLASMA CUTTER IS OWNER FURNISHED. PLASMA CUTTER IS 460V, 3Ø, 12.4 FLA. PROVIDE 30A, 480V, 2 POLE, 3 WIRE GROUNDING PLUG, RECEPTACLE, AND CONNECTOR: HUBBELL HBL2643 (RECEPTACLE) & HBL2641 (PLUG) OR EQUAL. MOUNT RECEPTACLE ON WALL WITH 1/2" EMT TO JUNCTION BOX ABOVE BENCH. FIELD MODIFY PLASMA CUTTER CORD AND INSTALL PLUG. PROVIDE ALL CONNECTORS AS REQUIRED AND MAKE CONNECTIONS FOR A COMPLETE AND OPERABLE SYSTEM.
- 10 FOR MILLER XMT 350 SERIES WELDER CONNECTIONS. MILLER XMT IS OWNER FURNISHED. MILLER XMT IS BEING PROVIDED AT 460V, 1Ø, 24.5 FLA. PROVIDE 30A, 480V, 2 POLE, 3 WIRE GROUNDING PLUG, RECEPTACLE, AND CONNECTOR: HUBBELL HBL2643 (RECEPTACLE) & HBL2641 (PLUG) OR EQUAL. MOUNT RECEPTACLE ON WALL WITH 3/4" EMT TO JUNCTION BOX ABOVE WELDING BOOTH. FIELD MODIFY MILLER XMT WELDER CORD AND INSTALL PLUG. PROVIDE ALL CONNECTORS AS REQUIRED AND MAKE CONNECTIONS FOR A COMPLETE AND OPERABLE SYSTEM. SEE SHEET A-03 FOR DETAILS.



**ENLARGED PARTIAL FLOOR PLAN - NEW WORK**  
SCALE: 1/4"=1'-0"

Gary Musciano, RA, Architect

611 MAIN STREET  
2ND FLOOR  
BOONTON, NJ 07005  
TELEPHONE (973) 538-3815  
FAX (973) 538-4995

**GARY MUSCIANO, RA, PP**

- |                 |                            |
|-----------------|----------------------------|
| NJ RA C-8078    | MI 1501045424              |
| NY RA 021687    | MN 48411                   |
| CA 29549        | MO A200005517              |
| CO 481604       | NY 5015                    |
| CT 7547         | NC 9671                    |
| DC ARC0662      | OHIO 9510625               |
| DE SE-0008190   | PA RAAR0281                |
| FL 485014944    | RI 2000                    |
| GA RA 012998    | SC 8651                    |
| IL RA 00102050  | TEXAS 15417                |
| IN RA11100067   | TN CERT. No.105438         |
| KS 5073         | UT 8470051-0301            |
| LA 5690         | VT 2029                    |
| MD 11639        | WA 0401008254              |
| MA 10131        | WA 11027                   |
| NJ PLANNER 4351 | N.J. CERT. OF AUTH. AC-630 |

**CONSULTANTS**

**DESIGNTECH INC.**  
Engineering Services  
1000 Riverchase Parkway, Suite 200  
Atlanta, GA 30328  
Phone: 404.252.1234  
Fax: 404.252.1235  
www.designtechinc.com



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License No.: 22887  
Expiration Date: 11/31/22

REVISIONS	
NO.	DATE
2	1.05.22 FOR PERMIT
1	12.28.21 FOR BIDDING

SUBMISSIONS	
NO.	DATE

**CLIENT / PROJECT:**

**LINCOLN TECH**

**WELDING PROGRAM EXPANSION**  
9325 SNOWDEN RIVER PARKWAY  
COLUMBIA, MD 21046

**DRAWING TITLE:**

**FLOOR PLANS - NEW WORK**

PROJECT MANAGER:	SCALE:
LR	AS NOTED
DRAWN BY:	DATE:
LR	11.12.2021
CHECKED BY:	PROJECT NO.:
GM	7780

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**E-02**

**LIGHTING PLAN NOTES**

1 PROVIDE NEW BOOTH TASK LIGHTING AND SINGLE POLE SWITCH. MOUNTING LOCATION OF BOOTH TASK LIGHTING FIXTURE SHALL BE COORDINATED BETWEEN OWNER AND CONTRACTOR PRIOR TO INSTALLATION. BOOTH TASK LIGHTING SWITCH SHOWN FOR REPRESENTATION ONLY. REFER TO ARCHITECTURAL DRAWINGS FOR ACTUAL LOCATION OF BOOTH TASK LIGHTING SWITCH. TASK LIGHTING SHALL BE KENNEL N548 SERIES 4' LED OR APPROVED EQUAL.

Gary Musciano, RA, Architect  
 611 MAIN STREET  
 2ND FLOOR  
 BOONTON, NJ 07005  
 TELEPHONE (973) 538-5815  
 FAX (973) 538-4055

**GARY MUSCIANO, RA, PP**

NJ RA C-8078	MI 1301045424
NV RA 021987	MN 48411
CA 29549	MO AC000005517
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DE SS-0008180	PA RA63281
FL AR0014044	RI 2030
GA RA 012098	SC 8851
IL RA 00152050	TEXAS 10417
IN AR11300067	TN CERT. No. 105438
KS 5073	UT 9470051-0301
LA 9660	VT 2020
MD 11039	VA 0401008254
MA 10131	WA 11037
NJ PLANNER 4351	N.J. CERT. OF AUTH. AC-830

**CONSULTANTS**

**DESIGNTECH INC.**  
 Engineering Services  
 1000 Cambridge Parkway, Suite 100  
 Boonton, NJ 07005  
 Telephone: (973) 538-5815  
 Fax: (973) 538-4055

Professional Certification: I hereby certify that these documents were prepared or approved by me, that I am a duly licensed professional engineer under the laws of the State of Maryland. License No.: 22897 Expiration Date: 11/11/22

**STATE OF MARYLAND**  
 PROFESSIONAL ENGINEER  
 2/17/22

NO.	DATE	REVISIONS
2	1.05.22	FOR PERMIT
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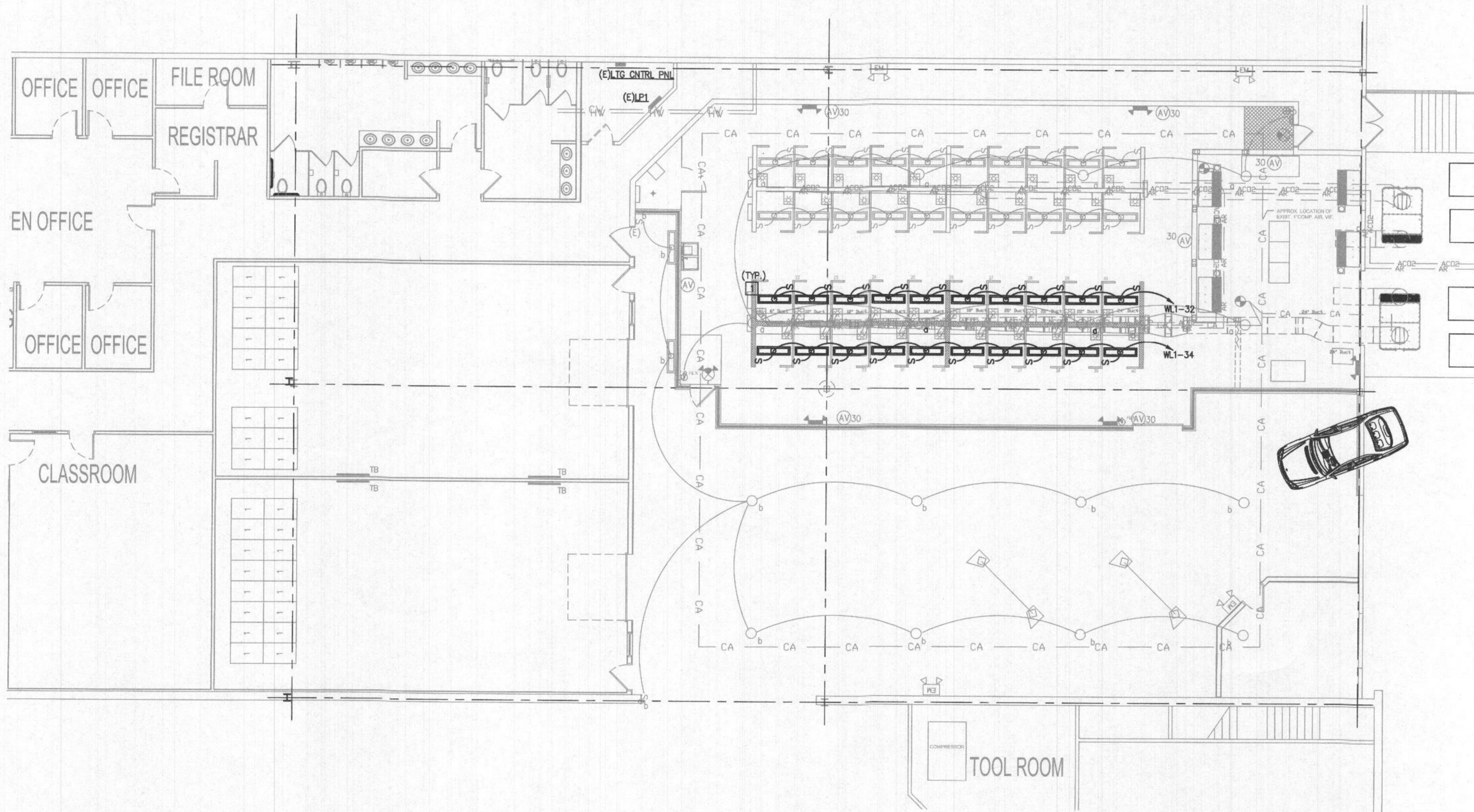
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**LINCOLN TECH**

**WELDING PROGRAM EXPANSION**  
 9325 SNOWDEN RIVER PARKWAY  
 COLUMBIA, MD 21046

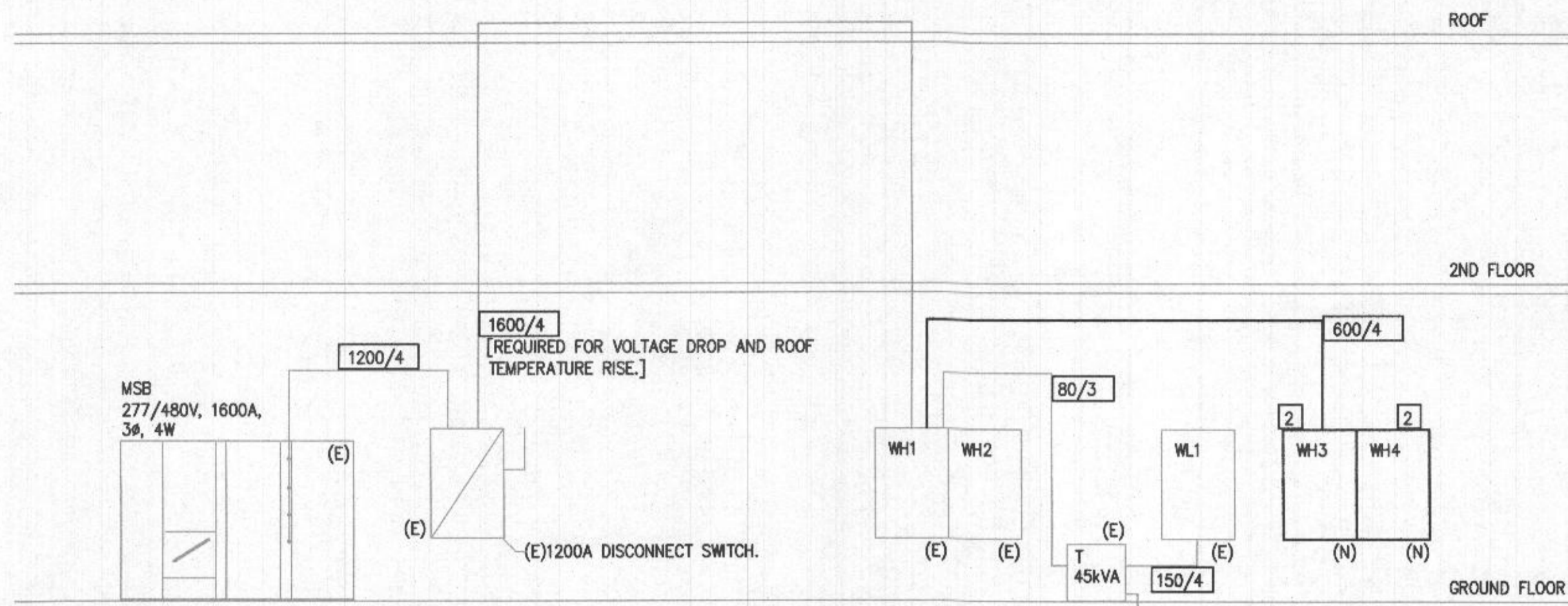
**FLOOR PLANS - LIGHTING**

PROJECT MANAGER:	SCALE:
LR	AS NOTED
DRAWN BY:	DATE:
LR	11.12.2021
CHECKED BY:	PROJECT NO.:
GM	7780
DRAWING NO.:	
E-03	



**PARTIAL FLOOR PLAN - LIGHTING**  
 SCALE: 1/8"=1'-0"

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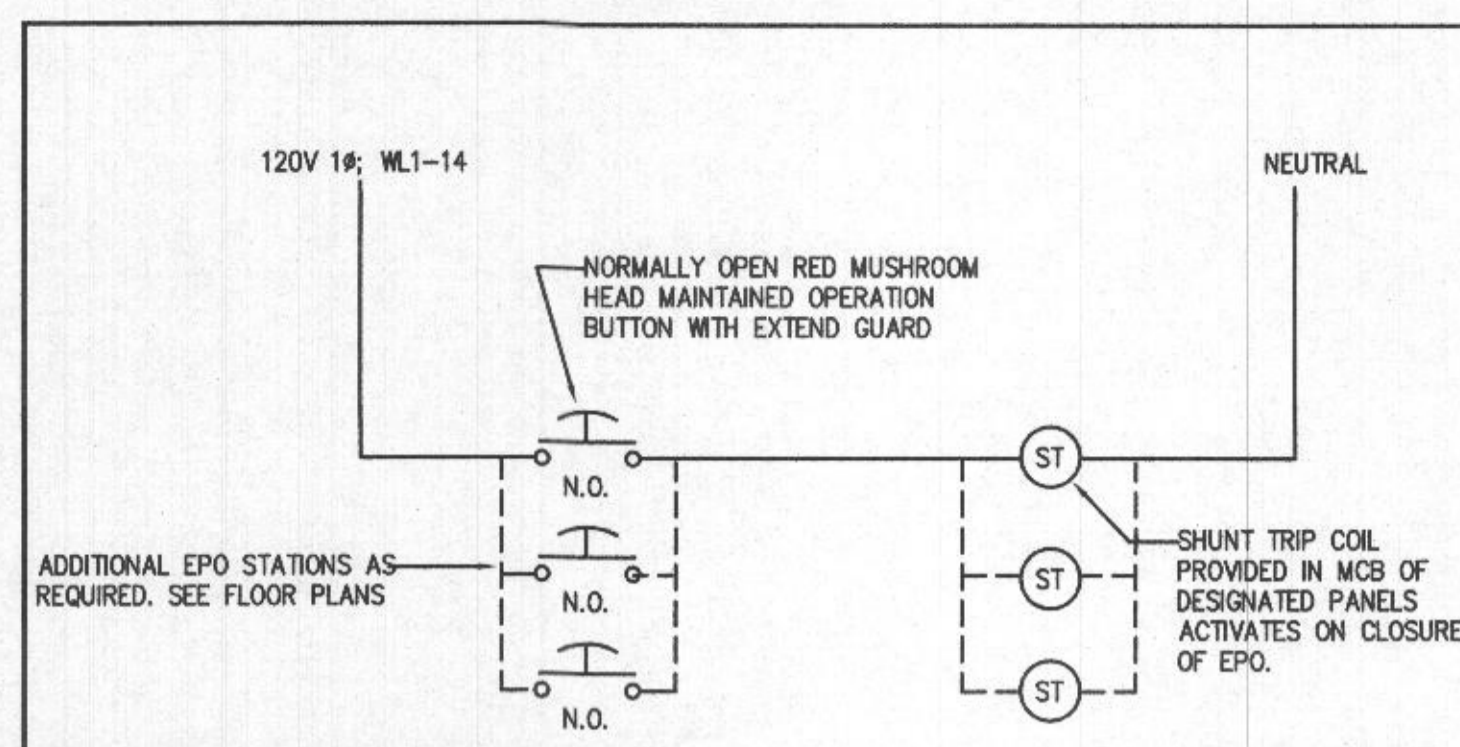


**PARTIAL POWER RISER DIAGRAM**  
SCALE: NOT TO SCALE

FEEDER SCHEDULE	
SYMBOLS	CONDUCTOR AND CONDUIT
1600/4	4-SETS(4-600KCMIL & #4/0G IN 4°C)
1200/4	4-SETS(4-350KCMIL & #3/0G IN 3°C)
600/4	2-SETS(4-350KCMIL & #1G IN 3°C)
80/3	3 #4 & #8G IN 1°C.
150/4	4 #1/0 & #6G IN 2°C.

**DRAWING NOTES**

- ALL EXISTING ELECTRICAL PANELBOARDS, FEEDERS, TRANSFORMERS, DISCONNECTS, ETC., ARE EXISTING TO REMAIN INTACT AND OPERATIONAL.
- PROVIDE NEW DISTRIBUTION EQUIPMENT. SEE SPECIFICATIONS AND PANEL SCHEDULES FOR ADDITIONAL INFORMATION.



**EMERGENCY POWER OFF SYSTEM NOTES**

- EXISTING EMERGENCY POWER OFF (EPO) SYSTEM FOR THE WELDING SHOP
- EXISTING LOCKING EPO PUSH BUTTON STATION WITH (1) NORMALLY OPEN (NO) CONTACT AND (1) NORMALLY CLOSED (NC) CONTACT (SPARE). EXISTING EPO STATION AS MAINTAINED CONTACT TWO POSITION ("OUT" FOR NORMAL AND "IN" TO ACTIVATE EPO). 1" DIAMETER "MUSHROOM" HEAD SWITCH WITH YELLOW EXTENDED GUARD (WITH FINGER HOLES TO FACILITATE PULLING MUSHROOM SWITCH OUT) TO PREVENT INADVERTENT OPERATION AND WITH ENGRAVED PLASTIC NAMEPLATE READING "EPO - EMERGENCY POWER OFF - PUSH BUTTON TO STOP - PULL TO RESET"
- PROVIDE AND WIRE ONE (1) NEW EPO STATION IN PARALLEL WITH EXISTING.
- SHUNT TRIP AT MAIN CIRCUIT BREAKER IS EXISTING. SEE PANELBOARD NOTES.
- THIS SYSTEM IS FOR EMERGENCY SHUTDOWN ONLY. INDIVIDUAL WELDERS HAS LOCAL MEANS OF DISCONNECT (PLUGS) AT EACH BOOTH.

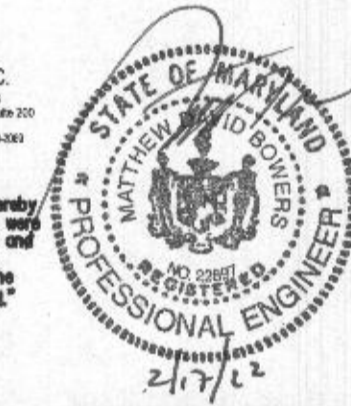
BUILDING LOAD DATA	
EXISTING PEAK DEMAND 372kW=448 AMPS FEBRUARY 2019 (PER UTILITY BILLING)	
FACTOR PER NEC 220.87 =1.25	=560 AMPS
<b>ADDED LOAD:</b>	
1. (40)DYNASTY 280 (WELDER) (20)UNDER THIS CONTRACT	=276kW
(40)MILLERMATIC 252 (WELDER) (20)UNDER THIS CONTRACT	=386kW
2. (2)30HP FILTAIR 1200 (1) UNDER THIS CONTRACT	=66kW
3. (4)PLASMA CUTTERS (2) UNDER THIS CONTRACT	=41kW
<b>TOTAL</b>	<b>=769kW</b>
	=927A
560A + 927A = 1487A	
THEREFORE, EXISTING 1600A ELECTRICAL SERVICE CAN SUPPORT THE ADDED LOAD.	

**GARY MUSCIANO, RA, PP**

- |                 |                          |
|-----------------|--------------------------|
| NJ RA C-8078    | MI 1301045424            |
| NY RA 021687    | MN 48411                 |
| CA 26549        | MO A2009005917           |
| CO 401804       | ND 5515                  |
| CT 7547         | NC 9871                  |
| DC ARC0082      | OHIO 9919925             |
| DE SS-0008180   | PA RA023281              |
| FL AR0014644    | RI 2030                  |
| GA RA 012988    | SC 8651                  |
| IL RA 00102050  | TEXAS 15417              |
| IN RA11300097   | TN CERT. No. 105438      |
| KS 9073         | UT 840061-0301           |
| LA 9690         | VT 2529                  |
| MD 11039        | VA 0401008254            |
| MA 10131        | WA 11037                 |
| NJ PLANNER 4351 | WJ CERT. OF AUTH. AC-830 |

**CONSULTANTS**

**DESIGNTECH INC.**  
Engineering Services  
200 E. Washington Street, Suite 200  
P.O. Box 101208 • Fort Worth, TX 76101-0208  
www.designtech.com  
Tel: 817.771.7111



"Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland."  
License No.: 22897  
Expiration Date: 11/11/22

REVISIONS		
NO.	DATE	
2	1.05.22	FOR PERMIT
1	12.28.21	FOR BIDDING

**CLIENT / PROJECT:**



**WELDING PROGRAM EXPANSION**  
9325 SNOWDEN RIVER PARKWAY  
COLUMBIA, MD 21046

**DRAWING TITLE:**  
**POWER RISER**

PROJECT MANAGER:	SCALE:
LR	AS NOTED
DRAWN BY:	DATE:
LR	11.12.2021
CHECKED BY:	PROJECT NO.:
GM	7780

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**E-04**

EXISTING PANELBOARD SCHEDULE											WH1					
VOLTAGE	PHASE	WIRE	MCB(A)	MLO(A)	BUS AMPS	AIC	MOUNTING	SECTIONS								
277/480	3	4	1200		1200A	65,000*	SURFACE	1 OF 2								
REMARKS																
SQUARE D I-LINE																
PROVIDE WITH 1200A SUBFEED LUGS TO PANELBOARD WH2.																
*SERIES RATING OK.																
PANEL HAS SHUNT TRIP TYPE MAIN BREAKER WIRING TO EPO.																
<b>BOLD INDICATES MODIFICATIONS TO EXISTING PANELBOARD. *CONNECT TO EXISTING SPARE CIRCUIT BREAKER.</b>																
CKT. #	ITEM SERVED	WIRE	GROUND	CONDUIT	CKT. BRK		LOAD (KVA)	PHASE	LOAD (KVA)	CKT. BRK	CONDUIT	GROUND	WIRE	ITEM SERVED	CKT. #	
					TRIP	P										TRIP
1	PNL "W3" & "W4"		SEE RISER DIAGRAM		600A*	3	93.42	A	5.00	3	80A	1.25	#8	#4	FILTAIR 1200(E)	2
							89.92	B	5.00	3	20A	1/2"	#12	#12	DYNASTY 280	4
							80.26	C	5.00	3	20A	1/2"	#12	#12	DYNASTY 280(E)	6
3	45kVA XFMR TO WL1(L)	#3/4	#8	1"	80A	3	5.00	A	3.50	2	20A	1/2"	#12	#12	DYNASTY 280(E)	8
5	DYNASTY 280(E)	#12	#12	1/2"	20A	2	3.50	A	3.50	2	20A	1/2"	#12	#12	DYNASTY 280(E)	10
7	DYNASTY 280(E)	#12	#12	1/2"	20A	2	3.50	B	3.50	2	20A	1/2"	#12	#12	DYNASTY 280(E)	12
9	DYNASTY 280(E)	#12	#12	1/2"	20A	2	3.50	C	3.50	2	20A	1/2"	#12	#12	DYNASTY 280(E)	14
11	DYNASTY 280(E)	#12	#12	1/2"	20A	2	3.50	A	3.50	2	20A	1/2"	#12	#12	DYNASTY 280(E)	16
13	DYNASTY 280(E)	#12	#12	1/2"	20A	2	3.50	B	3.50	2	20A	1/2"	#12	#12	DYNASTY 280(E)	18
15	DYNASTY 280(E)	#12	#12	1/2"	20A	2	3.50	C	3.50	2	20A	1/2"	#12	#12	DYNASTY 280(E)	20
17	DYNASTY 280(E)	#12	#12	1/2"	20A	2	3.50	A	3.50	2	20A	1/2"	#12	#12	DYNASTY 280(E)	22
19	DYNASTY 280(E)	#12	#12	1/2"	20A	2	3.50	B	3.50	2	20A	1/2"	#12	#12	DYNASTY 280(E)	24
							3.50	C	3.50	2	20A	1/2"	#12	#12	DYNASTY 280(E)	26
																28
																30
																32
																34
																36
																38
																40
																42
TOTAL LOAD PER PHASE WH1(KVA)													A	B	C	
TOTAL LOAD PER PHASE WH2(KVA)													152.42	145.42	135.76	
CONNECTED TOTAL (KVA)													74.42	74.42	64.76	
CONNECTED AMPACITY (A)													647.20	778.48		

EXISTING PANELBOARD SCHEDULE											WH2					
VOLTAGE	PHASE	WIRE	MCB(A)	MLO(A)	BUS AMPS	AIC	MOUNTING	SECTIONS								
277/480	3	4	1200		1200A	65,000*	SURFACE	2 OF 2								
REMARKS																
SQUARE D I-LINE																
FED VIA 1200A SUBFEED LUGS IN PANELBOARD WH1.																
*SERIES RATING OK.																
CKT. #	ITEM SERVED	WIRE	GROUND	CONDUIT	CKT. BRK		LOAD (KVA)	PHASE	LOAD (KVA)	CKT. BRK	CONDUIT	GROUND	WIRE	ITEM SERVED	CKT. #	
					TRIP	P										TRIP
1	MILLERMATIC 252(E)	#10	#10	3/4"	30A	2	4.83	A	4.83	2	30A	3/4"	#10	#10	MILLERMATIC 252(E)	2
							4.83	B	4.83	2	30A	3/4"	#10	#10	MILLERMATIC 252(E)	4
							4.83	C	4.83	2	30A	3/4"	#10	#10	MILLERMATIC 252(E)	6
3	MILLERMATIC 252(E)	#10	#10	3/4"	30A	2	4.83	A	4.83	2	30A	3/4"	#10	#10	MILLERMATIC 252(E)	8
							4.83	B	4.83	2	30A	3/4"	#10	#10	MILLERMATIC 252(E)	10
							4.83	C	4.83	2	30A	3/4"	#10	#10	MILLERMATIC 252(E)	12
5	MILLERMATIC 252(E)	#10	#10	3/4"	30A	2	4.83	A	4.83	2	30A	3/4"	#10	#10	MILLERMATIC 252(E)	14
							4.83	B	4.83	2	30A	3/4"	#10	#10	MILLERMATIC 252(E)	16
							4.83	C	4.83	2	30A	3/4"	#10	#10	MILLERMATIC 252(E)	18
7	MILLERMATIC 252(E)	#10	#10	3/4"	30A	2	4.83	A	4.83	2	30A	3/4"	#10	#10	MILLERMATIC 252(E)	20
							4.83	B	4.83	2	30A	3/4"	#10	#10	MILLERMATIC 252(E)	22
							4.83	C	4.83	2	30A	3/4"	#10	#10	MILLERMATIC 252(E)	24
9	MILLERMATIC 252(E)	#10	#10	3/4"	30A	2	4.83	A	4.83	2	30A	3/4"	#10	#10	MILLERMATIC 252(E)	26
							4.83	B	4.83	2	30A	3/4"	#10	#10	MILLERMATIC 252(E)	28
							4.83	C	4.83	2	30A	3/4"	#10	#10	MILLERMATIC 252(E)	30
11	MILLERMATIC 252(E)	#10	#10	3/4"	30A	2	4.83	A	4.83	2	30A	3/4"	#10	#10	MILLERMATIC 252(E)	32
							4.83	B	4.83	2	30A	3/4"	#10	#10	MILLERMATIC 252(E)	34
							4.83	C	4.83	2	30A	3/4"	#10	#10	MILLERMATIC 252(E)	36
13	MILLERMATIC 252(E)	#10	#10	3/4"	30A	2	4.83	A	4.83	2	30A	3/4"	#10	#10	MILLERMATIC 252(E)	38
							4.83	B	4.83	2	30A	3/4"	#10	#10	MILLERMATIC 252(E)	40
							4.83	C	4.83	2	30A	3/4"	#10	#10	MILLERMATIC 252(E)	42
15	MILLERMATIC 252(E)	#10	#10	3/4"	30A	2	4.83	A	4.83	2	30A	3/4"	#10	#10	MILLERMATIC 252(E)	44
							4.83	B	4.83	2	30A	3/4"	#10	#10	MILLERMATIC 252(E)	46
							4.83	C	4.83	2	30A	3/4"	#10	#10	MILLERMATIC 252(E)	48
17	MILLERMATIC 252(E)	#10	#10	3/4"	30A	2	4.83	A	4.83	2	30A	3/4"	#10	#10	MILLERMATIC 252(E)	50
							4.83	B	4.83	2	30A	3/4"	#10	#10	MILLERMATIC 252(E)	52
							4.83	C	4.83	2	30A	3/4"	#10	#10	MILLERMATIC 252(E)	54
19	MILLERMATIC 252(E)	#10	#10	3/4"	30A	2	4.83	A	4.83	2	30A	3/4"	#10	#10	MILLERMATIC 252(E)	56
							4.83	B	4.83	2	30A	3/4"	#10	#10	MILLERMATIC 252(E)	58
							4.83	C	4.83	2	30A	3/4"	#10	#10	MILLERMATIC 252(E)	60
21	SPARE				20A	3	0.00	A	3.40	3	20A	1/2"	#12	#12	PLASMA CUTTER(E)	62
							0.00	B	3.40	3	20A	1/2"	#12	#12	PLASMA CUTTER(E)	64
							1.00	C	3.40	3	20A	1/2"	#12	#12	PLASMA CUTTER(E)	66
23	SPARE				15A	3	1.00	A	3.40	3	20A	1/2"	#12	#12	PLASMA CUTTER(E)	68
							1.00	B	3.40	3	20A	1/2"	#12	#12	PLASMA CUTTER(E)	70
							1.00	C	3.40	3	20A	1/2"	#12	#12	PLASMA CUTTER(E)	72
TOTAL LOAD PER PHASE WH2(KVA)													A	B	C	
TOTAL LOAD PER PHASE WH3(KVA)													74.42	74.42	64.76	
CONNECTED TOTAL (KVA)													213.60	256.93		
CONNECTED AMPACITY (A)													256.93			

EXISTING PANELBOARD SCHEDULE											WL1					
VOLTAGE	PHASE	WIRE	MCB(A)	MLO(A)	BUS AMPS	AIC	MOUNTING	SECTIONS								
120/208	3	4	150A		150A	10,000	SURFACE	1 OF 1								
REMARKS																
ALL BREAKERS SHALL BE RATED 22,000AIC. COMMUNICATE LOADS SERVED BY BRANCH CIRCUITS TO OWNER PRIOR TO REPLACEMENT OUTAGE.																
<b>*BOLD INDICATES MODIFICATIONS TO EXISTING PANELBOARD. PROVIDE CONNECTION TO EXISTING PANELBOARD.</b>																
CKT. #	ITEM SERVED	WIRE	GROUND	CONDUIT	CKT. BRK		LOAD (KVA)	PHASE	LOAD (KVA)	CKT. BRK	CONDUIT	GROUND	WIRE	ITEM SERVED	CKT. #	
					TRIP	P										TRIP
1	WELDER RECEPTACLES(E)	#12	#12	1/2"	20A	1	0.60	A	0.60	1	20A	1/2"	#12	#12	WELDER RECEPTACLES(E)	2
3	WELDER RECEPTACLES(E)	#12	#12	1/2"	20A	1	0.60	B	0.60	1	20A	1/2"	#12	#12	WELDER RECEPTACLES(E)	4
5	WELDER RECEPTACLES(E)	#12	#12	1/2"	20A	1	0.60	C	0.60	1	20A	1/2"	#12	#12	WELDER RECEPTACLES(E)	6
7	WELDER RECEPTACLES(E)	#12	#12	1/2"	20A	1	0.60	A	0.40	1	20A	1/2"	#12	#12	GRINDER RECEPTACLES(E)	8
9	WELDER RECEPTACLES(E)	#12	#12	1/2"	20A	1	0.40	B	0.40	1	20A	1/2"	#12	#12	GRINDER RECEPTACLES(E)	10
11	WELDER RECEPTACLES(E)	#12	#12	1/2"	20A	1	0.40	C	0.40	1	20A	1/2"	#12	#12	GRINDER RECEPTACLES(E)	12
13	EJCT PUMP DEDICATED PWR(E)	#12	#12	1/2"	20A	1	0.54	A	0.20	1	20A	1/2"	#12	#12	EPO CONTROL CIRCUIT(E)	14
15	GENERAL RECEPTACLE(E)	#12	#12	1/2"	20A	1	0.40	B	1.10	1	20A	1/2"	#12	#12	FUME EXTRACTOR(E)	16
17	BEEBLE CTR DEDICATED PWR(E)	#12	#12	1/2"	20A	1	0.40	C	0.54	1	20A	1/2"	#12	#12	CORD REEL DEDICATED PWR(E)	18
19	BAILEIGH DISK GRINDER(L)	#12	#12	1/2"	25A	2	0.56	A	0.50	1	20A	1/2"	#12	#12	BOOTH LIGHTING(E)	20
21							0.56	B	0.50	1	20A	1/2"	#12	#12	BOOTH LIGHTING(E)	22
23	CORD REEL DEDICATED PWR(E)	#12	#12	1/2"	20A	1	0.54	C	0.40	1	20A	1/2"	#12	#12	BEEBLE CTR DEDICATED PWR(E)	24
25	WELDER RECEPTACLES*	#12	#12	1/2"	20A	1	0.60	A	0.60	1	20A	1/2"	#12	#12	WELDER RECEPTACLES*	26
27	WELDER RECEPTACLES*	#12	#12	1/2"	20A	1	0.60	B	0.60	1	20A	1/2"	#12	#12	WELDER RECEPTACLES*	28
29	WELDER RECEPTACLES*															