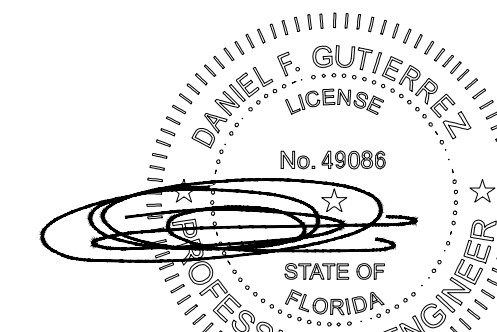


6825 SW 132nd St,
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07-24-25

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ELECTRICAL ENGINEER

LIC. #049086

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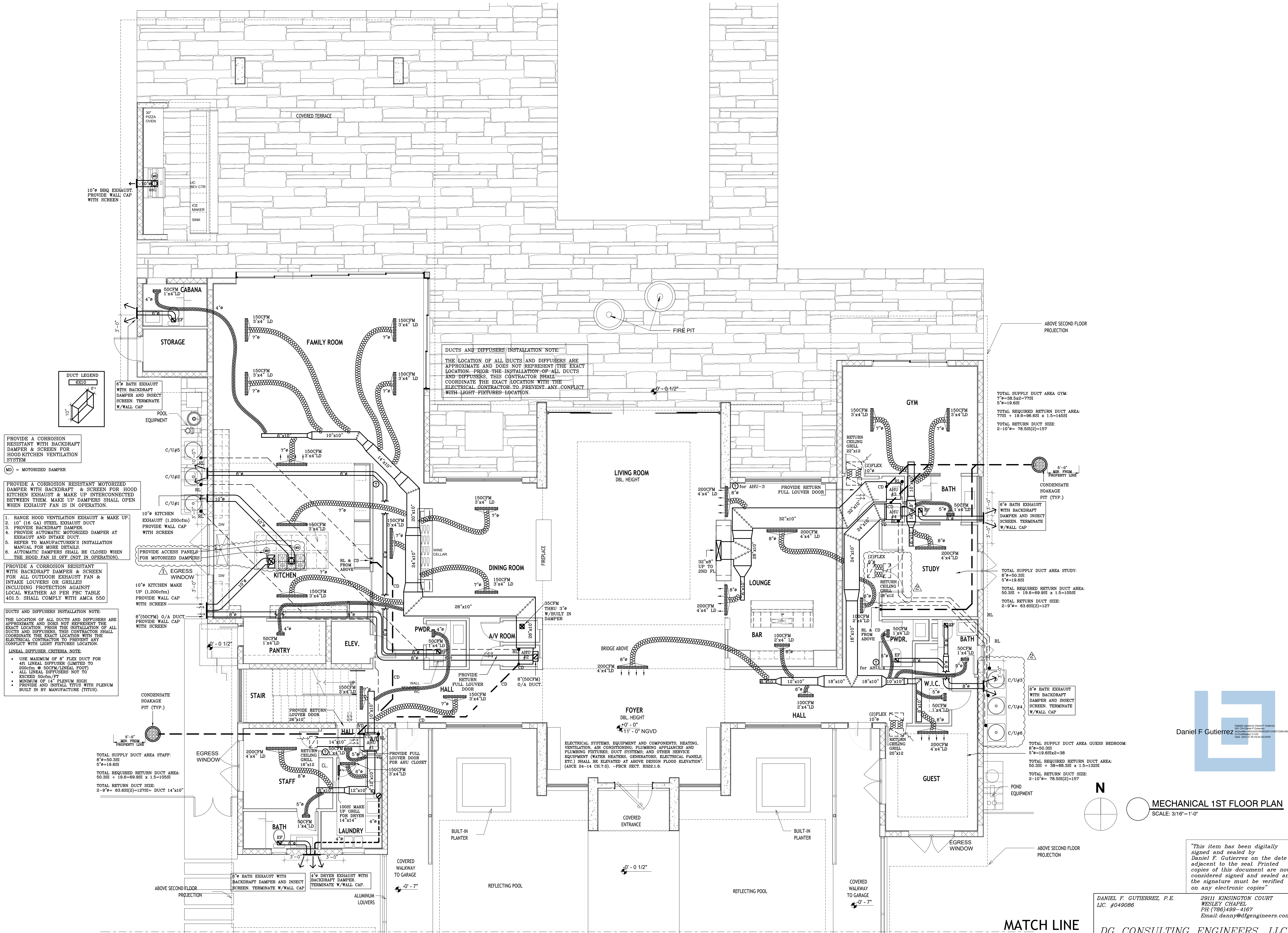
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CHECKED BY:	GB
ISSUE DATE:	04/25/2025
SCALE:	AS NOTED

SHEET TITLE

SHEET NUMBER

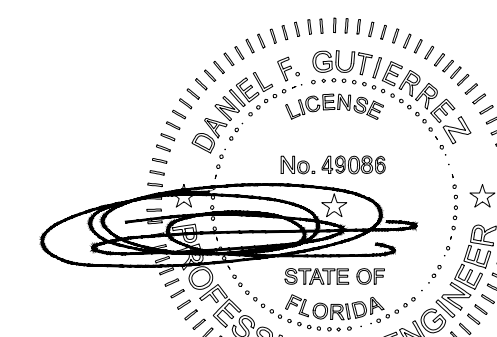
M-101

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ELECTRICAL ENGINEER

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ISSUE DATE:	04/25/2025
SCALE:	AS NOTED

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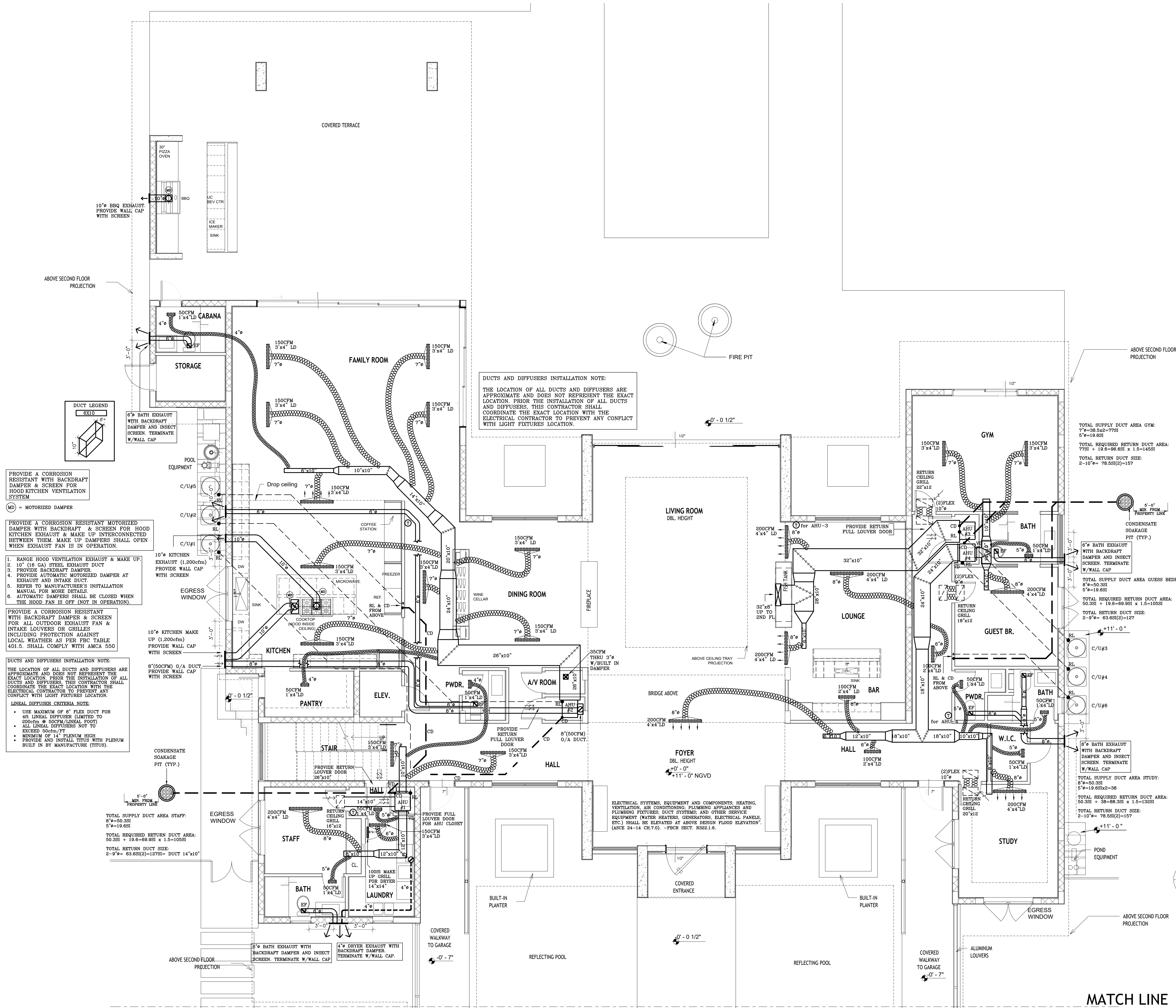
MECHANICAL 1ST FLOOR PLAN

SHEET NUMBER

VOID

M-101

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N



MECHANICAL 1ST FLOOR PLAN
SCALE: 3/16"=1'-0"

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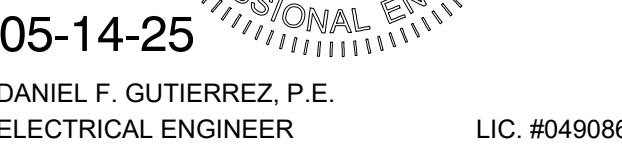
DANIEL F. GUTIERREZ, P.E.
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29111 KINSINGTON COURT
WESLEY CHAPEL
PH: (786)499-4167
Email: danny@dfgengineers.com

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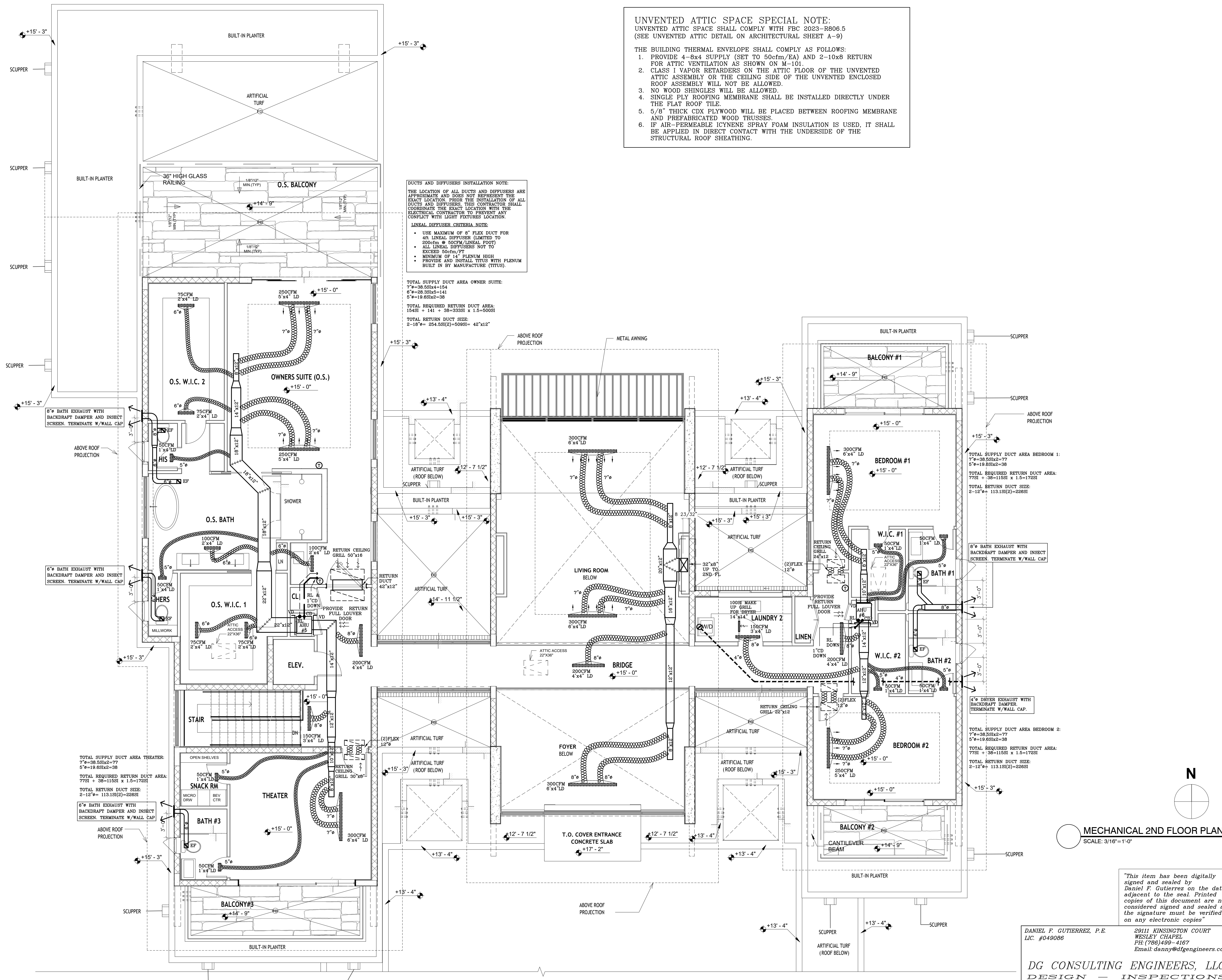
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SCALE:	AS NOTED

SHEET TITLE

SHEET NUMBER

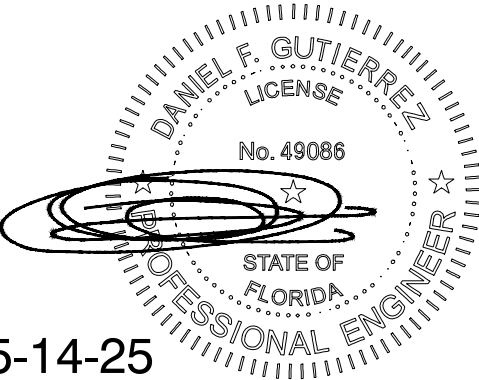
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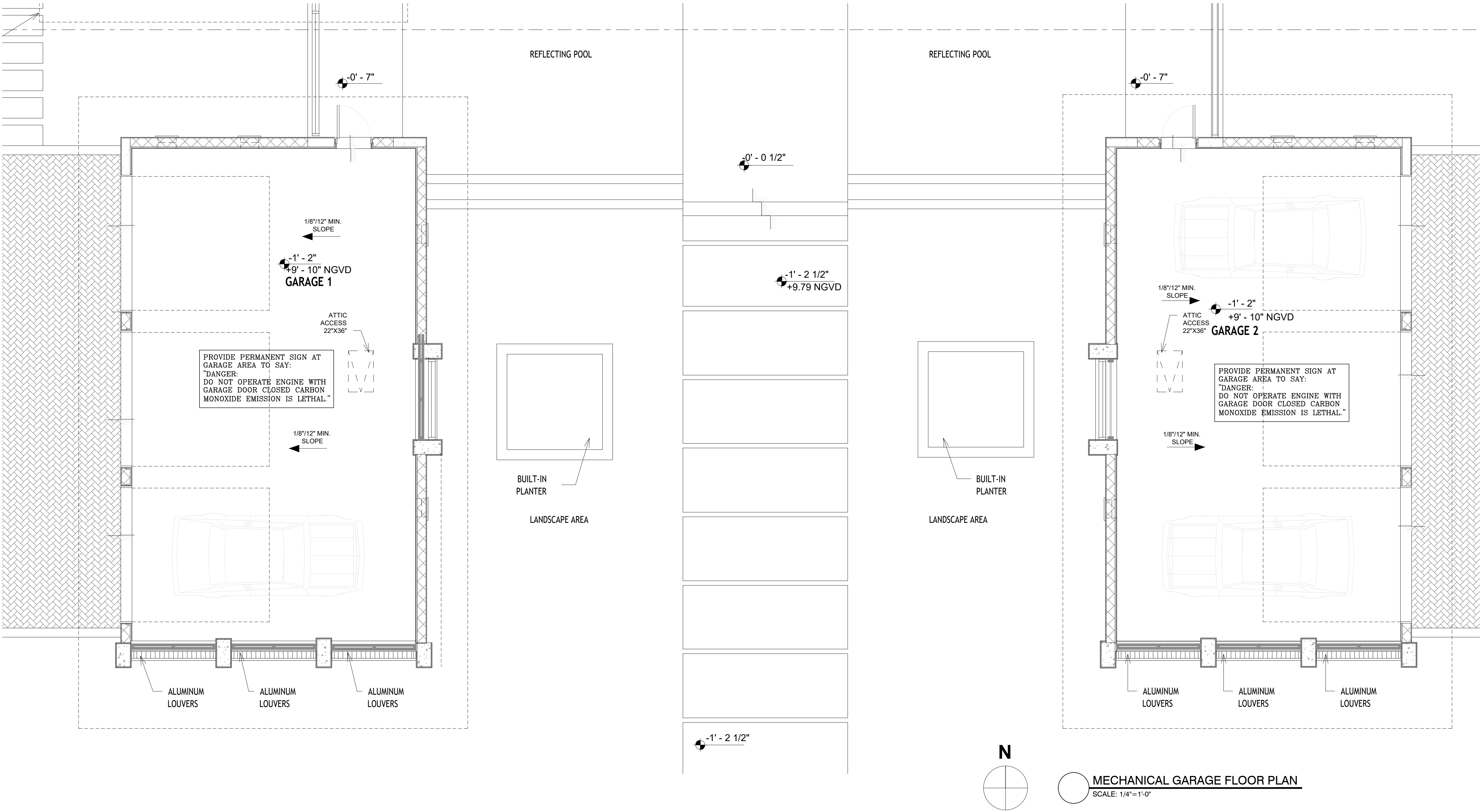
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MECHANICAL
GARAGE FLOOR
PLAN

SHEET NUMBER

M-103

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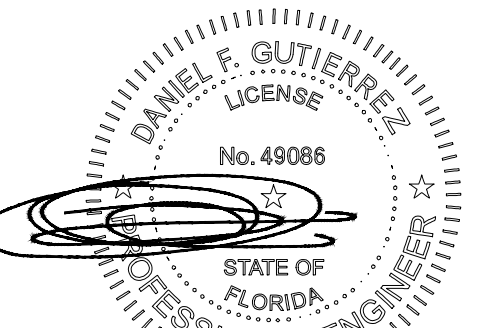


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Email: danny@dfengineers.com
DG CONSULTING ENGINEERS, LLC
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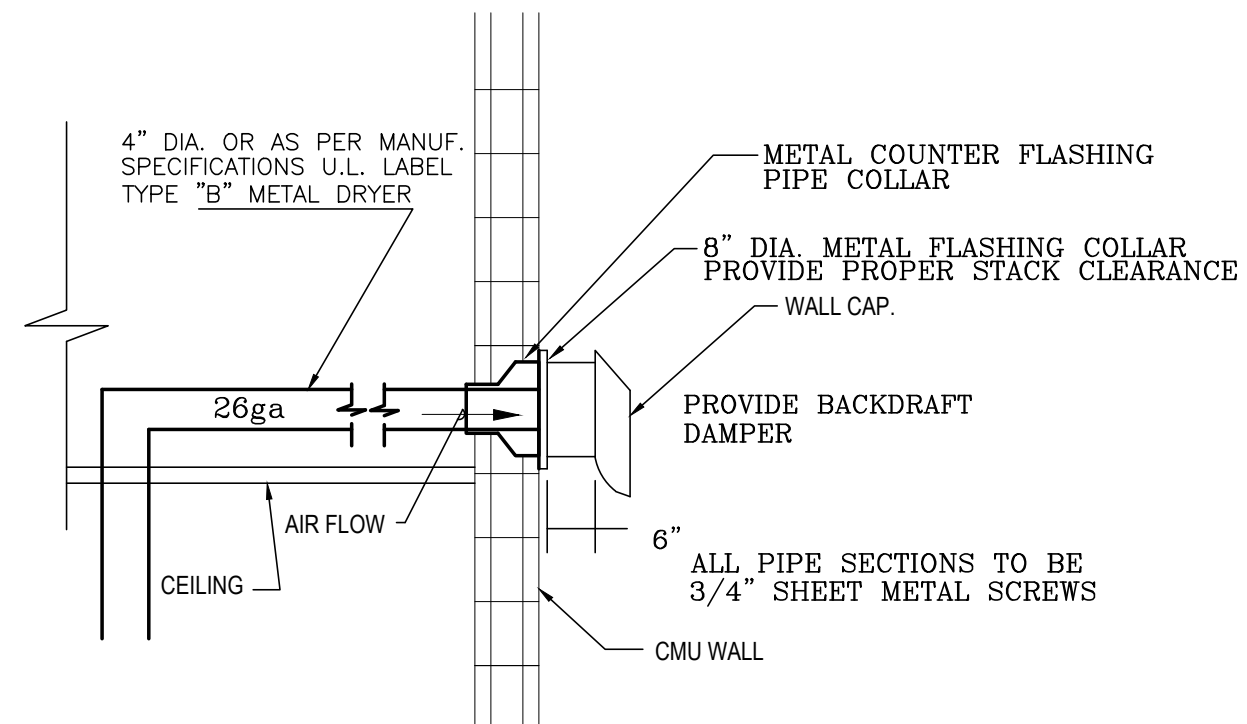
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SCALE:	AS NOTED

SHEET TITLE

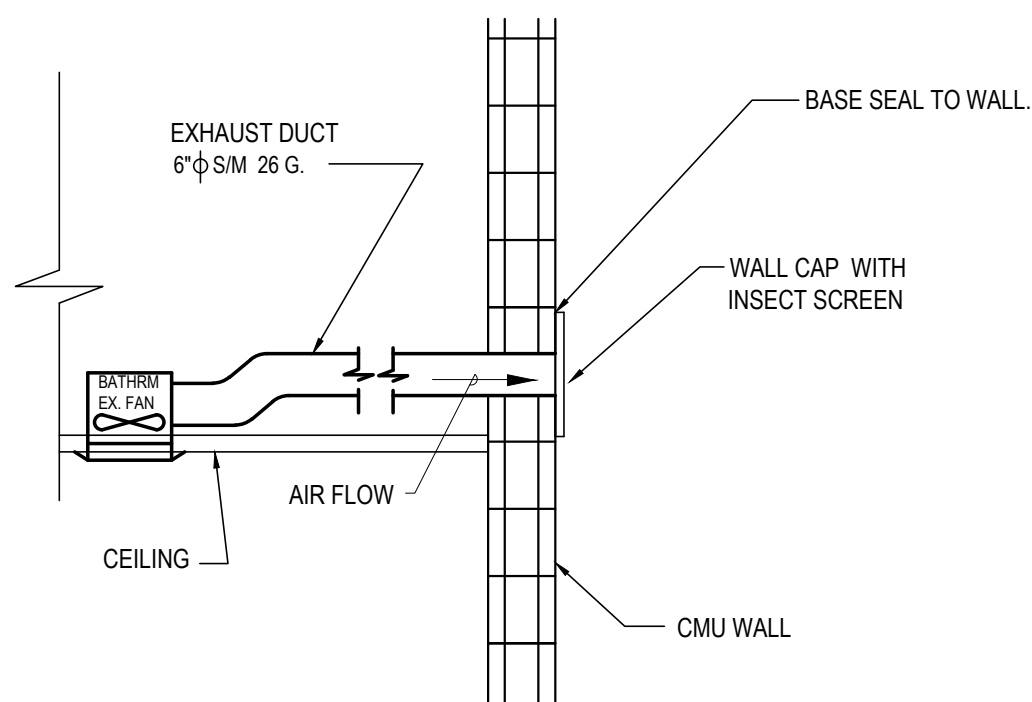
SHEET NUMBER

M-104

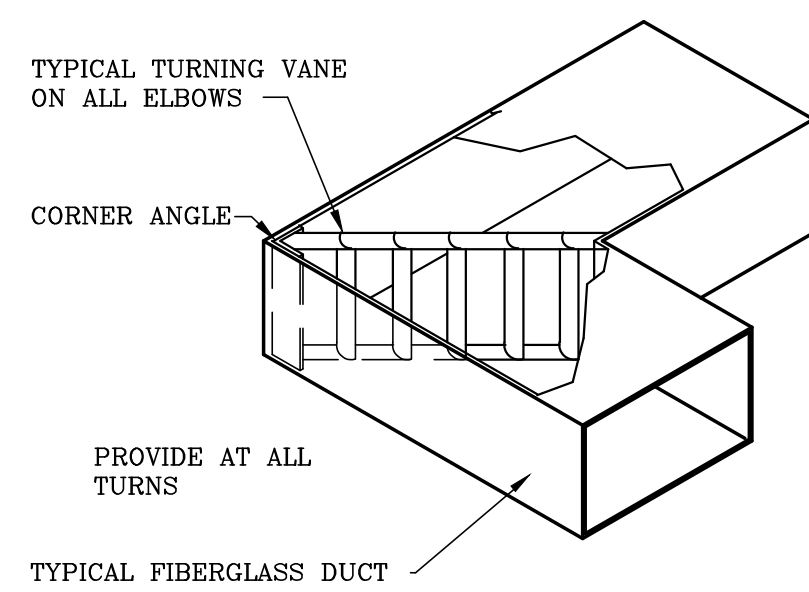
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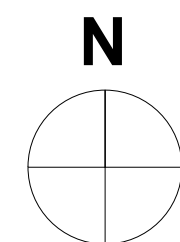
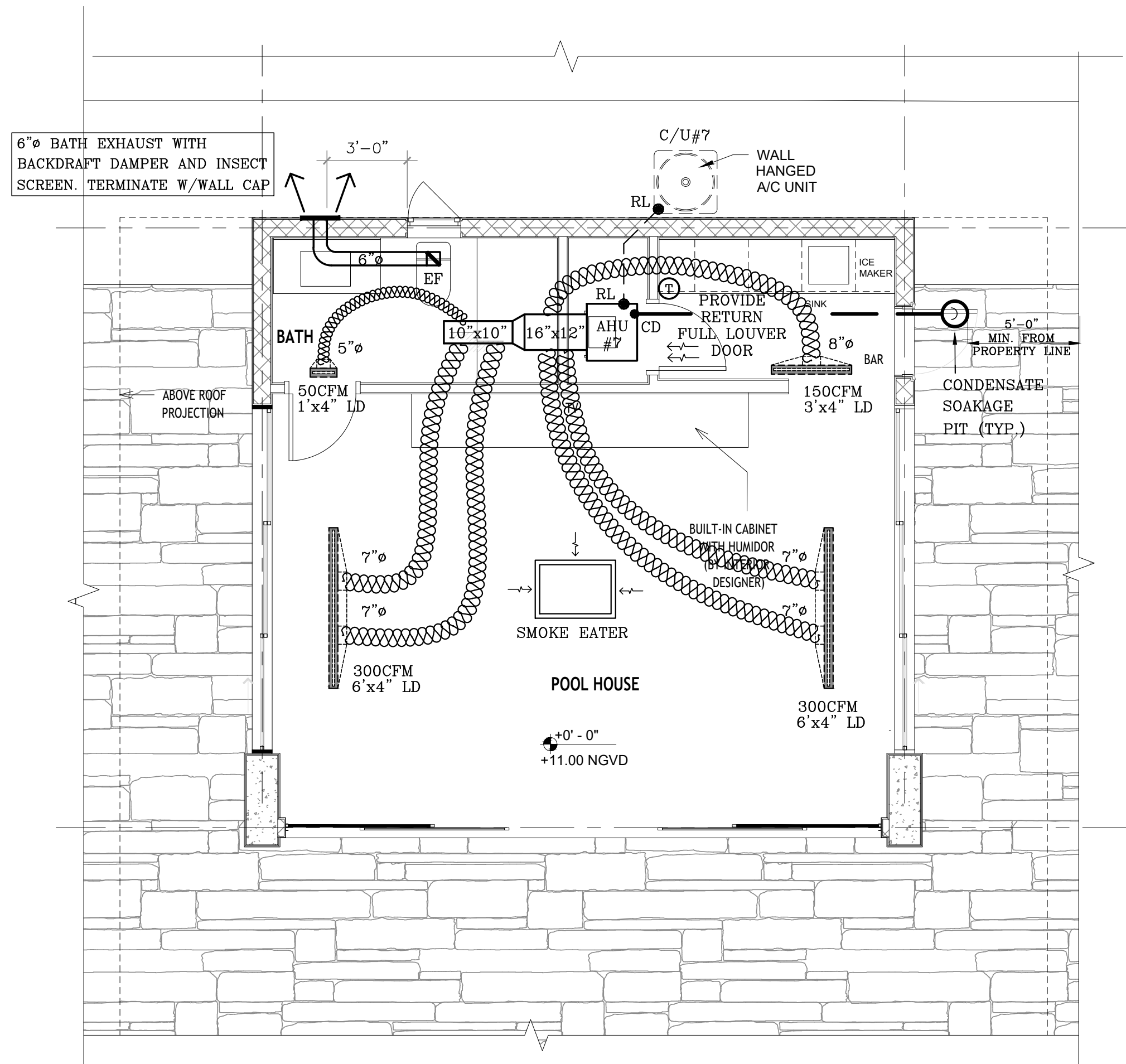
DRYER WALL EXHAUST DETAIL
N.T.S.



EXHAUST FAN DETAIL
N.T.S.



ELBOW TURNING VANE DETAIL
N.T.S.



MECHANICAL POOL HOUSE FLOOR PLAN
SCALE: 1/4" = 1'-0"

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DG CONSULTING ENGINEERS, LLC
DESIGN - INSPECTIONS



TECHNICAL SUMMARY



SINGLE CIRCUIT SPLIT SYSTEMS - INVERTER				(208/160)
NON TONS	2.0	3.0	4.0	5.0
SEER	26.0	23.5	22.0	20.0
SEER2	23.5	23.5	22.0	20.0
MODEL NO:	24VNA624-3	24VNA636-3	24VNA648-3	24VNA660-3
MODEL NO:	FE4ANF005	FE4ANF005	FE4ANF005	FE4AN0006
	800 @ 5"	1150 @ 5"	1450 @ 5"	1500 @ 5"
	R-410A	R-410A	R-410A	R-410A
REFRIGERANT				
AMBIENT	95	95	95	95
CAP (MBH) @ 80/67 (TC/SC)	22.8 / 18.2	33.8 / 26.3	45.9 / 33.9	57.5 / 40.6
CAP (MBH) @ 75/62 (TC/SC)	22.0 / 16.3	32.4 / 25.3	43.6 / 31.7	54.1 / 39.4
CONDENSING UNIT DATA:				
COMPRESSOR QTY / STAGES	1 / Variable	1 / Variable	1 / Variable	1 / Variable
COMPRESSOR 1 RLA	6.2	10.3	14.6	20.1
COND. FAN FLA	0.88	0.88	0.88	0.88
	3.7	13.8	26	26
MOCP			30	40
DIMENSIONS (LxWxH) (IN)	35" x 35" x 48"	35" x 35" x 48"	35" x 35" x 48"	35" x 35" x 48"
STD WEIGHT (LBS)	322	333	357	362
AIR HANDLER DATA:				
EVAP. FAN FLA - BHP	4.3 - 1/2	4.3 - 1/2	4.3 - 1/2	6.8 - 3/4
HEATER KW	5	8.0	10.0	10.0
MCA (208 / 230)	31.2 / 33.5	44.8 / 48.5	53.8 / 58.5	53.8 / 58.5
MCA (208 / 230)	35	35	60	60
DIMENSIONS (LxWxH) (IN)	22" x 22" x 54"	22" x 22" x 54"	22" x 22" x 54"	22" x 25" x 60"
STD WEIGHT (LBS)	172	172	172	207
REF. TUBES O.D. (IN):				
SUCTION LINE	3/4	3/4	7/8	7/8
LIQUID LINE	3/8	3/8	3/8	3/8

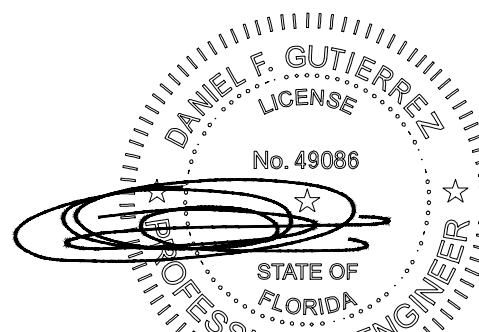
RECOMMENDED SCHEDULE NOTES:

- A. REFRIGERANT LINE SIZES FOR TUBE SETS UP TO 50' LINEAR LENGTH
- B. UNITS SHALL CONFORM TO FLORIDA BUILDING CODE LATEST EDITION FOR HVHZ INSTALL
- C. INFINITY TOUCH CONTROL REQUIRED
- D. CARRIER REMOTE ACCESS MODULE FOR CRESTRON CONTROLS IS REQUIRED

HERRERA RESIDENCE

6825 SW 132nd St,
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05-14-25

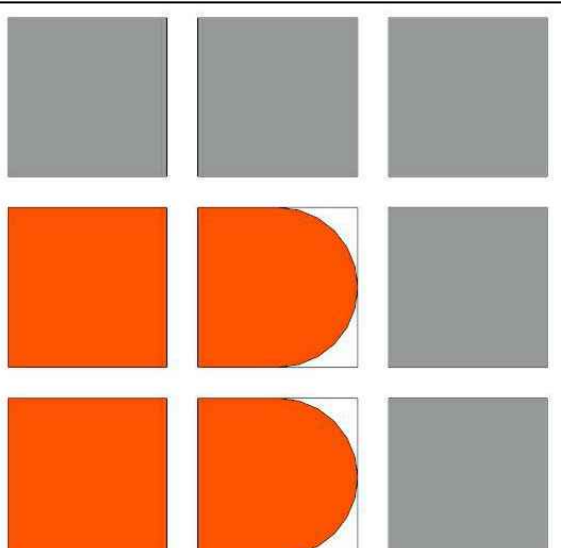
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AC SPECS
& AHRI

SHEET NUMBER

M-105

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Potential Eligibility for IRA Tax Credit*

Certificate of Product Ratings

AHRI Certified Reference Number : 206788293 Date : 01-14-2025 Model Status : Production Stopper

AHRI Type : RCU-A-CB (Split System): Air-Cooled Condensing Unit, Coil with Blower)

Series : INFINITY 26 AC with GREENSEED INTELLIGENCE

Outdoor Unit Brand Name : CARRIER

Outdoor Unit Model Number (Condenser or Single Package) : 24NVA660A031*

Indoor Unit Model Number (Evaporator and/or Air Handler) : FE4ANB006L401

Region : All (AK, AL, AR, AZ, CA, CO, CT, DE, FL, GA, HI, IL, IA, IN, KS, KY, LA, MA, MD, ME, MI, MN, MO, MS, MT, NC, ND, NE, NH, NJ, NY, NV, OH, OK, OR, PA, RI, SC, SD, TN, TX, UT, VA, VT, WA, WV, WI, WY, U.S. Territories)

Region Note : On January 1, 2023, eligibility standards increased for central air conditioning units. Units that are not eligible in region(s) for which they meet the new regional eligibility requirements.

The manufacturer of this CARRIER product is responsible for the rating of this system combination.

Rated as follows in accordance with the latest edition of AHRI 210/240 – 2017 with Addendum 1: Performance Rating of Unitary Air-Conditioning & Air-Source Heat Pump Equipment and subject to rating accuracy by AHRI-sponsored, independent, third party testing:

Cooling Capacity (A2) – Single or High Stage (95F): btuh : 57000

SEER : 20.00

EER (A2) – Single or High Stage (95F) : 13.00

Rated as follows in accordance with the latest edition of AHRI 210/240 – 2024, Performance Rating of Unitary Air-Conditioning & Air-Source Heat Pump Equipment and subject to rating accuracy by AHRI-sponsored, independent, third party testing:

Cooling Capacity (A_{2u}) – Single or High Stage (95F): btuh : 57000

SEER2 : 20.00

EER2 (A_{2u}) – Single or High Stage (95F) : 12.50

*“Active” Model Status are those that an AHRI Certification Program Participant is currently producing AHD selling or offering for sale. OR new models that are being marketed but are not yet being produced “Production Stopper” Model Status are those that an AHRI Certification Program Participant is no longer producing.

RTU is still selling and offering for sale. Ratings that are Incomparable by WAS include an involuntary re-rate. The new published rating is shown along with the previous (i.e. WAS) rating. The Department of Energy has published updated energy efficiency metrics for central air conditioners and heat pumps. This publication reflects both the 1987 metric (SEER) and the 2023 metric (SEER2). Efficiency requirements are published at 10 C.F.R. 430.302. Please refer to www.ahri.org for more information about updated energy efficiency metrics.

As of the date this AHRI Certificate of Product Performance is printed, the product may be eligible for the U.S. federal tax credit based on the displayed AHRI Certified ratings meeting the Consortium for Energy Efficiency (CEE) higher efficiency tier, not including any advanced tier, of the CEE Residential Heating and Cooling Systems Initiative – Electric Equipment Specification with effective date January 1, 2025. Disclaimer: The specification of Potential Eligibility for IRA Tax Credit* is not intended to constitute tax or legal advice. It is for general informational purposes only. Individuals considering eligibility for the tax credit are advised to confirm eligibility with their equipment installers, tax attorneys, or preparers.

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Potential Eligibility for IRA Tax Credit*

Certificate of Product Ratings

AHRI Certified Reference Number: 206788170 Date: 01-14-2025 Model Status: Production Shopped

AHRI Type: RCUA-CB (Split System; Air-Cooled Condensing Unit, Coil with Blower)

Series: INFINITY 26 AC with GREENSPEED INTELLIGENCE

Outdoor Unit Brand Name: CARRIER

Outdoor Unit Model Number (Evaporator and/or Single Package): 24VNA648A031*

Indoor Unit Model Number (Evaporator and/or Single Package): FE4ANB/FJ00SL4JI

Region: All (AK, AL, AR, AZ, CA, CO, CT, DE, FL, GA, HI, IL, IN, KS, KY, LA, MA, MD, ME, MI, MN, MO, MS, MT, NC, ND, NE, NH, NJ, NM, NV, NY, OH, OK, OR, PA, RI, SC, SD, TN, TX, UT, VA, VT, WA, WV, WI, WY, U.S. Territories)

Region Note: On January 1, 2023, efficiency standards increased for central air conditioners. Beginning January 1, 2023, central air conditioning units only be included in regions for which they meet the new regional efficiency requirements.

The manufacturer of this CARRIER product is responsible for the rating of this system combination.

Rated as follows according with the latest edition of AHRI 210/240 - 2017 with Addendum 1. Performance Rating of Unitary Air-Conditioning & Air-Source Heat Pump Equipment and subject to rating approved by AHRI-sponsored, independent, third party testing:

Cooling Capacity (A2) - Single or High Stage (95F): btuh - 45000

SEER - 22.00

EER (A2) - Single or High Stage (95F): 13.00

Rated as follows in accordance with the latest edition of AHRI 210/240 - 2024, Performance Rating of Unitary Air-Conditioning & Air-Source Heat Pump Equipment and subject to rating approved by AHRI-sponsored, independent, third party testing:

Cooling Capacity (A₂) - Single or High Stage (95F): btuh - 45000

SEER - 22.00

EER₂ (A₂) - Single or High Stage (95F): 12.50



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Ratings that are accompanied by WAS indicate an industry-rate. The new published ratings is shown along with the previous (i.e. WAS) rating. The Shockwave of Energy produced and energy efficiency metrics for central air conditioners and heat pumps. This publication reflects both the 1987 metric (SEER) and the 2023 metric (SEER2). Efficiency requirements are published at 10 CFR, 430.23(c). Please refer to www.AHRIint.org for more information about updated energy efficiency metrics.

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Potential Eligibility for IRA Tax Credit*

Certificate of Product Ratings

AHRI Certified Reference Number: 206787676 Date: 01-14-2025 Model Status: Production Stopper

AHRI Type: RCUA-CB (Split System; Air-Cooled Condensing Unit, Coil with Blower)

Series: INFINITY 26 AC with GREENSPEED INTELLIGENCE

Outdoor Unit Brand Name: CARRIER

Outdoor Unit Model Number (Condenser or Single Package): 24VNA636A031*

Outdoor Unit Model Number (Evaporator and/or Heat Exchanger): F4E4N1FJ00L4U1

A/C#4,6

Region: **1** AL, AK, AL, AR, AZ, CA, CO, CT, DE, FL, GA, HI, IL, IN, KS, KY, LA, MA, MD, ME, MI, MN, MO, MS, MT, NC, ND, NE, NH, NJ, NM, NV, NY, OH, OK, OR, PA, RI, SC, SD, TN, TX, UT, VA, VT, WA, WV, WI, WY, U.S. Territories)

Region Note: On January 1, 2023, certain states increased for central air conditioning and air conditioning. Beginning January 1, 2023, central air conditioning is only be installed in regions for which they meet the new regional efficiency requirements.

The manufacturer of this CARRIER product is responsible for the rating of this system combination.

Rated as follows in accordance with the latest edition of AHRI 210/240 - 2017 with Addendum 1, Performance Rating of Unitary Air-Conditioning & Air-Source Heat Pump Equipment and subject to rating accuracy by AHRI-sponsored, independent, third party testing:

Cooling Capacity (A2) - Single or High Stage (95F): both = 32600

SEER = 22.50

EER (A2) - Single or High Stage (95F) = 13.50

Rated as follows in accordance with the latest edition of AHRI 210/240 - 2024, Performance Rating of Unitary Air-Conditioning & Air-Source Heat Pump Equipment and subject to rating accuracy by AHRI-sponsored, independent, third party testing:

Cooling Capacity (A1+A) - Single or High Stage (95F): both = 32600

SEER2 = 21.50

EER2 (A1+A) - Single or High Stage (95F): 13.00

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Rating that are accompanied by WAS indicate an innovation or new rate. The new published rating is shown along with the previous (i.e. WAS) rating.

The Department of Energy has published energy efficiency metrics for central air conditioners and heat pumps. This publication reflects both the 1992 metric (SEER) and the 2023 metric (SEER2). Efficiency requirements are published at 10 C.F.R. 431.420-431.423. Please refer to www.AHRI.net for more information about updated energy efficiency metrics.

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Potential Eligibility for IRA Tax Credit*

Certificate of Product Ratings

AHRI Certified Reference Number : 206787327 Date : 01-14-2025 Model Status : Production Stopped

Series Type : RCUA-A-CB (Split System: Air-Cooled Condensing Unit, Coil with Blower)

Series : INFINITY 26 AC with GREENSPED INTELLIGENCE

Outdoor Unit Brand Name : CARRIER

Outdoor Unit Model Number (Condenser or Single Package) : 24VNA624A*031*

Indoor Unit Model Number (Evaporator and/or Control Device) : FL44NB/J-FD0SL-JU

Region :
 All (AK, AL, AR, AZ, CA, CO, CT, DC, DE, FL, GA, HI, IL, IA, IN, KS, KY, LA, MA, MD, ME, MI, MN, MO, MS, MT, NC, ND, NE, NH, NJ, NM, NV, NY, OH, OK, PA, RI, SC, SD, TN, TX, UT, VA, VT, WA, WI, WV, WY, U.S. Territories)

Region Note :
 On January 1, 2023, efficiency standards increased for central air conditioning. Beginning January 1, 2023, central air conditioning can only be certified in regions for which they meet the new regional efficiency requirements.

The manufacturer of this CARRIER product is responsible for the rating of this system combination.

Rated as follows in accordance with the latest edition of AHRI 210/240 - 2017 with Addendum 1, Performance Rating of Unitary Air-Conditioning & Air-Source Heat Pump Equipment and subject to rating accuracy by AHRI-sponsored, independent, third party testing:

 Cooling Capacity (A2) - Single or High Stage (95F), both : 23200

 SEER : 26.00

 EER (A2) - Single or High Stage (95F) : 16.50

Rated as follows in accordance with the latest edition of AHRI 210/240 - 2024, Performance Rating of Unitary Air-Conditioning & Air-Source Heat Pump Equipment and subject to rating accuracy by AHRI-sponsored, independent, third party testing:

 Cooling Capacity (A₂U) - Single or High Stage (95F), both : 23400

 SEER : 23.50

 EER2 (A₂U) - Single or High Stage (95F) : 15.50



A/C#1,7

Active Model Status are those that an AHRI Certification Program Participant is currently producing AND selling or offering for sale. OR new models that are being marketed but are not yet being produced. Production Stopper* Model Status are those that an AHRI Certification Program Participant is no longer producing. BUT is still selling or offering for sale.

Ratings that are accompanied by WAS indicate an involuntary re-rates. The new published rating is shown along with the previous (i.e. WAS) rating.

The United States has adopted updated energy efficiency metrics for central air conditioners and heat pumps. This publication reflects both the 1987 metric (SEER) and the 2023 metric (SEER2). Efficiency requirements are published at 10 C.F.R. 434.332(c). Please refer to www.AHRI.org for more information about updated energy efficiency metrics.

As of this date, this AHRI Certificate of Product Performance is printed, the product may be eligible for a U.S. federal tax credit based on the displayed AHRI Certified ratings meeting the Consortium for Energy Efficiency (CEE) highest efficiency tier, not including any advanced tier, or the CEE Residential Heating and Cooling Systems Initiative - Electric Equipment Specification with effective date January 1, 2025. Disclaimer: The identification of "Potential Eligibility for IRA Tax Credit" is not intended to constitute tax or legal advice. It is for general informational purposes only. Individuals considering eligibility for the tax credit are advised to confirm eligibility with their equipment installers, tax attorneys, or preparers.

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CERTIFICATE VERIFICATION

The information for the model cited on this certificate, can be verified at www.ahridirectory.org, click on "Verify Certificate" link and enter the AHRI Certificate Reference Number and the date on which the certificate was issued, which is listed above, and the Certificate No., which is listed at bottom right.

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CERTIFICATE NO.: 133813643961054078

"This item has been digitally signed and sealed by Daniel F. Gutierrez on the date adjacent to the seal. Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies"

DANIEL F. GUTIERREZ, P.E.
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DG CONSULTING ENGINEERS, LLC
DESIGN – INSPECTIONS

HEATING-VENTILATING & AIR CONDITIONING

NOTES AND SPECIFICATIONS

1- PROVIDE AND INSTALL A COMPLETE AIR CONDITIONING SYSTEM AS SHOW ON PLANS WITH WORKMANSHIP TO MEET OR EXCEED ALL LOCAL CITY CODES. OR 2023 FBC (8TH EDITION) CODES WHICHEVER APPLIES, AND INCLUDING THE LATEST EDITION OF THE FLORIDA STATE ENERGY CODE REQUIREMENTS SUPERSEDE ALL OF THE FOLLOWING.

2- ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE LATEST ISSUE OF 2012 NFPA 90A, 90B, 2011 NFPA 70 SMACNA MANUALS.

3- IT IS NOT THE INTENT OF THESE PLANS TO SHOW EVERY DETAILS OF CONSTRUCTION. CONTRACTOR IS EXPECTED TO PROVIDE ALL ITEMS THAT ARE REQUIRED FOR A COMPLETE AND WORKABLE HVAC SYSTEM TO THE EXTEND TO WHICH THE PLANS INDICATE. IT IS THE CONTRACTOR RESPONSIBILITY TO FURNISH ALL NECESSARY LABOR, MATERIALS AND MISCELLANEOUS ITEMS TO PLACE ALL EQUIPMENT IN PROPER WORKING ORDER.

4- CONTRACTOR SHALL EXAM THE PLANS AND SPECIFICATIONS OF ALL TRADES FOR PARTS OF WORK. IF ANY DISCREPANCIES EXIST BETWEEN DRAWINGS FOR HIS WORK AND OR WORK OF OTHER TRADES, HE SHALL REPORT SUCH DISCREPANCIES TO THE ENGINEER AND OBTAIN WRITTEN INSTRUCTION FOR ANY CHANGES IN WORK COVERED BY THESE PLANS AND SPECIFICATIONS. NEGLECT OR FAILURE OF CONTRACTOR TO REPORT SUCH DISCREPANCIES TO THE ENGINEER PRIOR TO BIDDING SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

5- CONTRACTOR SHALL PROVIDE ALL FEES, PERMITS AND INSURANCE AND SUBMIT TO THE OWNER AN UNCONDITIONAL WRITTEN GUARANTEE FOR THE REPAIR OR REPLACEMENT OF DEFECTIVE WORKMANSHIP AND MATERIALS PROVIDED UNDER THIS CONTRACT FOR A PERIOD OF ONE YEAR AFTER THE DATE OF ACCEPTANCE BY THE OWNER.

6- CONTRACTOR SHALL SUBMIT TO THE OWNER THE FOLLOWING SHOP DRAWINGS AND PRODUCT DATA PRIOR TO ORDERING OR COMMENCING WITH THE WORK:

A- DUCT MATERIALS AND ACCESSORIES

B- DIFFUSERS, GRILLS AND REGISTERS.

C- FIRE DAMPERS

D- ALL EQUIPMENT SUCH AS A.H.U., C.U., FANS, VAV'S, THERMOSTATS ETC.

7- THE FIVE YEAR FACTORY WARRANTY OF THE COMPRESSOR MOTORS SHALL BE FILLED OUT IN THE NAME OF THE OWNER. THIS CONTRACTOR SHALL ALSO FURNISH TO THE OWNER ALL CERTIFICATES OF FINAL INSPECTIONS AND APPROVAL FROM THE INSPECTION AUTHORITIES HAVING JURISDICTION. THE INSTALLATION ACCEPTANCE FORMAT WHICH ACCOMPANIES THE EQUIPMENT FROM THE FACTORY SHALL BE FILLED OUT AND FURNISHED TO THE OWNER.

8- THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AND INSTALLING THE NECESSARY CONDENSATE DRAIN LINE FROM THE APPARATUS TO THE EXTERIOR OF THE BUILDING WHETHER SHOWN ON PLANS UTILIZE PVC OR COPPER MATERIAL DEPENDING THE CEILING FIRE RATING OR THE USE OF A RETURN AIR PLENUM. CONSULT LOCAL CODE REQUIREMENTS. CONDENSATE DRAIN PIPING SHALL BE INSULATED WITH FIRE RESISTIVE 3/4" THICK FOAM PLASTIC INSULATION.

9- WHERE CALLED FOR ON PLANS OR THE USE OF FIBERGLASS IS APPROVED BY LOCAL CODE REQUIREMENTS, FIBERGLASS DUCT SHALL BE 1 1/2 THICK RIGID FIBROUS GLASS WITH ALUMINUM FOIL. GLASS SCRM AND DRAFT OR PLASTIC JACKET VAPOR BARRIER. THE "k" VALUE OF THE DUCT SHALL BE 0.23 BTU/IN/SQ. FT./DEG F/HR. MINIMUM RATING AT 75 DEGREES. R-6 MIN.

10- FLEXIBLE DUCTWORK, WHERE SHOWN ON THE DRAWINGS SHALL BE EQUAL TO FLEXAIRE WITH WIRE HELIX FRAME, POLYESTER LINER, HIGH DENSITY FIBERGLASS (*) INSULATION AND METALIZED REINFORCED VAPOR BARRIER EXTERIOR COVER. PROVIDE SPIN-IN FITTINGS WITH SCOOP OR BELLMOUTH TYPE FITTINGS WITH ADJUSTABLE DAMPERS FOR ALL BRANCH TAKE OFFS. (*) ALL DUCTWORK, INSTALLATION AND EQUIPMENT MUST MEET STATE OF FLORIDA ENERGY CODE REQUIREMENTS FOR 2023.

11-EXHAUST DUCTS SHALL BE GALVANIZED WITH SMOOTH INTERIOR FINISH AND BE CONSTRUCTED OF METAL STEEL LOCK FORMING QUALITY, HAVING ZINC COATING OF 1.25 OUNCES PER SQUARE FOOT FOR EACH SIDE AND MINIMUM THICKNESS OF 0.0157 INCHES (NO. 28 GAGE) FBC R-M1502.4.1

12-REFRIGERANT LIQUID LINES BELOW 5/8" O.D. SIZE TO BE ACR TYPE L. SOFT COPPER LIQUID LINES 5/8" O.D. AND LARGER AND ALL SUCTION LINES SHALL BE ACR TYPE L HARD COPPER, 15% SILFLOS TO BE USE FOR WELDING OF REFRIGERANT PIPING ALL SUCTION LINES TO BE INSULATED WITH A MINIMUM 1/2 THICK ARMAFLEX (R-4) OR EQUAL ROUGH-IN AND PRESSURE TEST ALL REFRIGERANT LINES WITH A 75 PSI PRESSURE, PRIOR TO CLOSING OFF THE REFRIGERANT LINES TO HOLD CHARGE FOR A MINIMUM OF 24 HOURS. SIZE OF REFRIGERANT LINES TO BE AS PER MANUFACTURER RECOMMENDATIONS FOR THE ACTUAL LENGTH OF PIPE. EXTERNAL SURFACE PERMEANCE NOT EXCEEDING 0.05 PERM WHEN TESTED IN ACCORDANCE WITH ASTM E 96. 2023FBC (8th edition) R-M1411.6.

13-CONTRACTOR TO VERIFY EXISTING FIELD CONDITIONS AND ANY INTERFERENCE WITH OTHER DISCIPLINES (ELECTRICAL, SPRINKLERS) BEFORE BIDDING THE PROJECT. FAILURE TO DO WILL RESULT THAT NECESSARY FIELD MODIFICATIONS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

14-ALL EQUIPMENT SUPPORTS SHOWN ON PLANS ARE DIAGRAMMATIC AND REQUIRE APPROVAL OF ARCHITECTS, STRUCTURAL ENGINEER AND EQUIPMENT MANUFACTURER PRIOR TO HANGING.

15-CONTRACTOR TO VERIFY WITH THE ARCHITECT OF RECORD THE CEILING/FLOOR FIRE RATING TO DETERMINE REQUIREMENTS FOR FIRE DAMPERS, BEFORE BEGINNING WORK.

16-THERMOSTAT TO BE MANUFACTURED BY HONEYWELL OR EQ. THERMOSTAT LOCATION TO BE APPROVED BY ARCHITECT PRIOR TO INSTALLATION.

17-A/C CONTRACTOR TO VERIFY WITH ARCHITECT THE UNITS EER RATING REQUIRED BASED ON FLORIDA ENERGY CODE COMPLIANCE

18-EXISTING CONDITION: CONTRACTOR SHALL VISIT THE JOB SITE AND ASCERTAIN ALL EXISTING CONDITIONS, WHICH WILL AFFECT HIS WORK. FAILURE TO DO SO WILL NOT BE ACCEPTED AS A REASON FOR REQUESTING EXTRA PAY WHERE THE EXISTING CONDITIONS RESULT IN EXTRA MATERIAL OR LABOR. ANY EXISTING CONDITION FOND BY THE CONTRACTOR WHICH WILL ADVERSELY AFFECT THE WORK SHALL IMMDDIATELY BE BROUGHT TO THE ATTENTION OF THE ARCHITECT/ENGINEER. CORRECTION OF ANY DEFECTS SHALL BE COMPLETED WITHOUT ADDITIONAL CHARGE AND SHALL INCLUDE REPLACEMENTS OR REPAIR OF ANY OTHER PHASE OF THE INSTALLATION WHICH MAY HAVE BEEN DAMAGED THEREBY.

19-IN THE EVENT OF DISCREPANCIES ON THESE DRAWINGS, THIS CONTRACTOR SHALL NOTIFY THIS ENGINEER IN ORDER TO HAVE DIRECTIONS TO COMPLETE WORKS ON THIS JOB.

20-PROVIDE VOLUME DAMPERS AT ALL SUPPLY DIFFUSERS.

21-THIS CONTRACTOR SHALL EXAMINE THESE PLANS (CONSTRUCTION DOCUMENTS) TO UNDERSTAND THE SCOPE. IN THE EVENT OF ANY DISCREPANCIES, CONTRADICTION INFORMATION NOT PROVIDED ON THIS CONSTRUCTION DOCUMENTS, THIS CONTRACTOR SHALL STOP WORKS AND NOTIFY THIS OFFICE FOR CLARIFICATION AND PROCEED WORKS AFTER THIS OFFICE HAVE CLARIFIED THOSE DISCREPANCIES.

GENERAL NOTES

1. TEMPERTURE SENSORS SHALL BE LOCATED 4'-6" ABOVE FINISHED FLOOR. TEMPERATURE SENSORS SHALL BE TRANE MODEL VASNSRSTAT2 (SENSOR ONLY) OR EQUAL. IVORY FINISH.

2. ALL WORK SHALL BE CORDINATED WITH ALL TRADES INVOLVED. OFFSETS IN PIPING AND DUCTS (INCLUDING DIVIDED DUCTS) AND TRANSITIONS AROUND OBSTRUCTION SHALL BE PROVIDED AT NO ADDITIONAL COST TO THE OWNER.

3. VERIFY ALL EQUIPMENT CONNECTIONS WITH MANUFACTURERS CERTIFIED DRAWINGS. VERIFY AND PROVIDE DUCT TRANSITIONS TO FURNISHED EQUIPMENT. FIELD VERIFY AND COORDINATE ALL DIMENSIONS BEFORE FABRICATION.

4. CONCRETE PADS TO SUIT MECHANICAL EQUIPMENT SHALL BE SIZED AND LOCATED BY MECHANICAL CONTRACTOR. COORDINATE WITH OTHER TRADE.

5. FLEXIBLE DUCT CONNECTING MAIN DUCT TO SUPPLY DIFFUSER OR AIR BOOT SHALL NOT EXCEED 8 FEET IN LENGTH. IF THE DISTANCE EXCEEDS THIS LIMIT, AN INSULATED METAL DUCT OF REQUIRED LENGTH AND EQUAL DIAMETER SHALL BE INSTALLED WITH AIR SCOOP AND DAMPER AT MAIN DUCT TO REDUCE FLEXIBLE DUCT TO A MAXIMUM LENGTH OF 8 FEET.

6. ALL DUCTS TO BE GROUNDED ACROSS FLEXIBLE CONNECTION WITH FLEXIBLE COPPER GROUNDING STRAPS

7. PROVIDE FLEXIBLE DUCT CONNECTIONS ON ALL DUCTS CONNECTING TO EXHAUST FANS AND AIR HANDLING UNITS.

8. THE INSIDE OF ALL DUCTWORK VISIBLE THROUGH A GRILLE OR DIFFUSER SHALL BE PAINTED FLAT BLACK.

9. ALL DUCT SIZES SHOWN ARE INSIDE CLEAR DIMENSIONS.

10. CONDENSATE DRAIN LINE FROM AIR HANDLING UNIT SHALL BE PIPED FULL SIZE OF THE UNIT DRAIN OUTLET, WITH "P" TRAP, TO FLOOR DRAIN

11. SMOKE DETECTORS SHALL BE FURNISHED AND WIRED UNDER DIVISION 16. MOUNTING OF SMOKE DETECTORS IN DUCTWORK SHALL BE WORK OF DIVISION 15. MOUNT IN SUPPLY DUCT PER SECTION A/M-2.

12. ALL CONTROL WIRE AND CONDUIT SHALL COMPLY WITH N.E.C. AND DIVISION 16 OF SPECIFICATIONS.

13. CEILING SPACE IS USED AS A RETURN AIR PLENUM. ALL WIRING, CONDUIT, PIPING, ETC. LOCATED IN THIS AREA SHALL BE PLENUM RATED.

14. TEST AND BALANCE AGENCY SHALL INCREASE FAN SPEED AS REQUIRED TO BALANCE ZONE DAMPERS AND THEN REDUCE FAN SPEED AS REQUIRED FOR SPECIFIED AHU CFM.

HVAC SYMBOLS

A/C SUPPLY DIFFUSER WITH DAMPER. SEE AIR DEVICE SCHEDULE.

A/C DUCT.

EXHAUST FAN

PROGRAMMABLE THERMOSTAT, INSTALL 48" A.P.F.

MANUAL VOLUME DAMPER

TEST AND BALANCE NOTE:

1. THIS CONTRACTOR SHALL PROVIDE A INDEPENDENT TEST AND BALANCE WHERE INDICATED ON THIS DRAWING TO ASSURE THE REQUIRED AMOUNT OF "CFM" ARE PROVIDED AND NOTIFY OF ANY CONFLICT TO REACH THE AMOUNT OF "CFM" REQUIRED.

FAN SCHEDULE

MARK	MODEL NUMBER	CFM	ESP	AMPS	ELECTICAL VOLTS-PH-HZ	DRIVE	RPM	SONES	REMARKS
EF	GREENHECK SF-A90	90	0.10	0.80 A	120-1-60	DIRECT	1,500	1.1	2,3,4,5

1. PROVIDE FACTORY PRE-FABRICATED SOUND ATTENUATION ROOF CURB

2. PROVIDE DISCONNECT SWITCH

3. PROVIDE FAN SPEED CONTROLLER MOUNTED ON UNIT CASING

4. BACKDRAFT DAMPER

5. USE 6" DUCT

WHERE THE AIR INFILTRATION RATE IN A DWELLING UNIT IS LESS THAN 3 AIR CHANGES PER HOUR WHEN TESTED WITH A BLOWER DOOR AT A PRESSURE OF 0.2 INCH WATER COLUMN (50PA) IN ACCORDANCE WITH SECTION 402.4.1.2 OF THE FLORIDA BUILDING CODE, ENERGY CONSERVATION, THE DWELLING UNIT SHALL BE VENTILATED BY MECHANICAL MEANS IN ACCORDANCE WITH SECTION 403. FBC R-303.4

THIS CONTRACTOR MUST PROTECT DUCTWORK NOT TO BE IN CONTACT WITH FOAM INSULATION DURING APPLICATION AND AFTER FOAM IS Dired TO PREVENT A VOIDED LISTING ON THE DUCTWORK. APPLICABLE TO FIBERGLASS AND FLEX DUCTWORK.

AIR DISTRIBUTION SCHEDULE

MARK	DESCRIPTION			
A	CEILING DIFFUSER 24x24 MODULE WITH SQUARE TO ROUD ADAPTOR. 9x9 FROM 0 TO 120 CFM 8" ROUND 12x12 FROM 125 TO 450 CFM 10" ROUND			
	NECK SIZE	MATERIAL	FINISH	BASIS OF DESIGN
	SEE ABOVE	ALUMINIUM	OFF-WHITE	TITUS
B	EXHAUST OR RETURN GRILL, EGGCRATE WITH 1/4"x1" GRID 6x6 FROM 0 TO 120 CFM 8x8 FROM 125 TO 250 CFM 10x10 FROM 255 TO 400 CFM 12x12 FROM 405 TO 520 CFM 14x14 FROM 525 TO 730 CFM 16x16 FROM 735 TO 950 CFM 18x18 FROM 955 TO 1200 CFM			
	SIZE	MATERIAL	FINISH	BASIS OF DESIGN
	SEE ABOVE	ALUMINIUM	OFF-WHITE	TITUS
C	SIDEWALL SUPPLY REGISTER: DOBLE DEFLECTION SURFACE MOUNTED BORDER W/OPPOSED BLADE DAMPERS 12x6 FROM 0 TO 300 CFM 20x6 FROM 305 TO 500 CFM			
	SIZE	MATERIAL	FINISH	BASIS OF DESIGN
	SEE ABOVE	ALUMINIUM	OFF-WHITE	TITUS

NOTE:

1. AIR DISTRIBUTION DEVICES LOCATED WITHIN ACOUSTICAL TILE CEILING SHALL BE PROVIDED WITH A 24"x24" FACE & A BORDER FOR LAY-IN MOUNTING. AIR DISTRIBUTION DEVICES LOCATED WITHIN GYPSUM BOARD CEILINGS OR WALLS SHALL BE PROVIDED WITH BORDER FOR SURFACE MOUNTING. REFER TO ARCHITECTURAL DOCUMENTS FOR CEILING TYPES.

TEST AND BALANCE NOTE:

1. THIS CONTRACTOR SHALL PROVIDE A INDEPENDENT TEST AND BALANCE WHERE INDICATED ON THIS DRAWING TO ASSURE THE REQUIRED AMOUNT OF "CFM" ARE PROVIDED AND NOTIFY OF ANY CONFLICT TO REACH THE AMOUNT OF "CFM" REQUIRED INCLUDING THE O/A CFM.

NOTES:

1.- PROVIDE PROGRAMMABLE THERMOSTAT WITH SUB-BASE.

2.- PROVIDE SOLENOID VALVES, ACCUMULATORS AND OTHER ACCESSORIES RECOMMENDED BY MFGR. FOR PROPER OPERATION.

3.- APPROVED EQUAL MANUFACTURERS ARE ACCEPTABLE.

4.- PROVIDE ACRYLIC COATING ON ALL PARTS OF AHU'S AND CU'S INCLUDING COILS AND FINS.

HVAC DESIGN REQUIREMENTS

	YES	NO
DUCT SMOKE DETECTORS		X
FIRE DAMPERS		X
SMOKE DAMPERS		X
FIRE RATED ENCLOSURE CEILING ASSEMBLY		X
FIRE STOPPING		X
SMOKE CONTROL		X

THIS CONTRACTOR SHALL PROVIDE AND INSTALL TURNING VANES AT ALL DUCTS TURNS.

ALL RETURN GRILLS SIZE ARE "FREE AREA". THIS CONTRACTOR SHALL PROVIDE RETURN GRILL WITH FREE AREA TO MATCH THE SIZE SHOWN.

VOLUME DAMPER NOTE:

PROVIDE VOLUME DAMPER AT ALL SUPPLY DIFFUSERS.

DUCTS AND DIFFUSERS INSTALLATION NOTE:

THE LOCATION OF ALL DUCTS AND DIFFUSERS ARE APPROXIMATE AND DOES NOT REPRESENT THE EXACT LOCATION. PRIOR THE INSTALLATION OF ALL DUCTS AND DIFFUSERS, THIS CONTRACTOR SHALL COORDINATE THE EXACT LOCATION WITH THE ELECTRICAL CONTRACTOR TO PREVENT ANY CONFLICT WITH LIGHT FIXTURES LOCATION.

LINEAL DIFFUSER CRITERIA NOTE:

• USE MAXIMUM OF 8" FLEX DUCT FOR 4ft LINEAL DIFFUSER (LIMITED TO 200cfm @ 50CFM/LINEAL FOOT)

• ALL LINEAL DIFFUSERS NOT TO EXCEED 50cfm/FT

• MINIMUM OF 14" PLENUM HIGH

• PROVIDE AND INSTALL TITUS WITH PLENUM BUILT IN BY MANUFACTURE (TITUS).

REFRIGERANT LIQUID LINES BELOW 5/8" O.D. SIZE TO BE ACR TYPE L. SOFT COPPER LIQUID LINES 5/8" O.D. AND LARGER AND ALL SUCTION LINES SHALL BE ACR TYPE L HARD COPPER, 15% SILFLOS TO BE USE FOR WELDING OF REFRIGERANT PIPING ALL SUCTION LINES TO BE INSULATED WITH A MINIMUM 1/2 THICK ARMAFLEX (R-4) OR EQUAL ROUGH-IN AND PRESSURE TEST ALL REFRIGERANT LINES WITH A 75 PSI PRESSURE, PRIOR TO CLOSING OFF THE REFRIGERANT LINES TO HOLD CHARGE FOR A MINIMUM OF 24 HOURS. SIZE OF REFRIGERANT LINES TO BE AS PER MANUFACTURER RECOMMENDATIONS FOR THE ACTUAL LENGTH OF PIPE. EXTERNAL SURFACE PERMEANCE NOT EXCEEDING 0.05 PERM WHEN TESTED IN ACCORDANCE WITH ASTM E 96. FBC R-M1411.6.

PROVIDE REFRIGERANT CIRCUIT ACCESS PORTS AS PER 2023FBC (8th edition). R SECTION M1411.6 LOCATED OUTDOOR AND SHALL BE FITTED WITH LOCKING TYPE TAMPER RESISTANT CAPS OR SHALL BE OTHERWISE SECURED TO PREVENT UNAUTHORIZED ACCESS.

FLEXIBLE DUCT SUPPORTS

FLEXIBLE DUCT INSTALLATION STANDARDS

1. UNLESS OTHERWISE DESIGNATED, THE TERM "FLEXIBLE AIR DUCT" IS USED FOR ALL DUCTS CLASSIFIED BY UL AS EITHER FLEXIBLE AIR DUCTS OR FLEXIBLE CONNECTORS.

2. THESE PROVISIONS APPLY TO DUCTS USED FOR INDOOR COMFORT HEATING, VENTILATING, AND AIR CONDITIONING SERVICE. THEY DO NOT APPLY TO SERVICE FOR CONVEYING PARTICULATES, CORROSIVE FUMES AND VAPORS, HIGH TEMPERATURE AIR, CORROSIVE OR CONTAMINATED ATMOSPHERE, ETC.

3. IT IS PRESUMED THAT PROJECT SPECIFICATIONS DEFINE THE SPECIFIC MATERIALS, PRESSURE LIMITS, VELOCITY LIMITS, FRICTION RATE, THERMAL CONDUCTIVITY, ACOUSTICAL RATINGS, AND OTHER ATTRIBUTES.

4. WHEN DUCTS MUST CONFORM TO NFPA STANDARD 90A OR 90B, FLEXIBLE DUCTS MUST BE TESTED IN ACCORDANCE WITH UNDERWRITERS LABORATORY'S STANDARD FOR FACTORY MADE DUCT MATERIALS, UL-184, AND MUST BE INSTALLED IN ACCORDANCE WITH THE CONDITIONS OF THEIR UL LISTING. SEPARATE INSTALLATION LIMITATIONS FOR FLEXIBLE CONNECTORS AND FLEXIBLE DUCTS ARE IDENTIFIED IN NFPA STANDARD 90A.

BY UL STANDARD 181, A FLEXIBLE CONNECTOR IS DEFINED AS : A FLEXIBLE AIR DUCT NOT HAVING CERTAIN FLAME PENETRATION, PUNCTURE, AND IMPACT TESTS.

5. THE MINIMUM LENGTH OF FLEXIBLE DUCT SHOULD BE USED.

6. BENDS SHALL BE MADE WITH NOT LESS THAN 1 DUCT DIAMETER CENTERLINE RADIUS. DUCTS SHOULD EXTEND A FEW INCHES BEYOND THE END OF A SHEET METAL CONNECTION BEFORE BENDING. DUCTS SHOULD NOT BE COMPRESSED.

7. DUCTS SHALL BE LOCATED AWAY FROM HOT EQUIPMENT SUCH AS FURNACES AND STEAM PIPES TO AVOID EXCESS TEMPERATURE EXPOSURE.

8. ILUSTRATIONS OF ACCESSORIES, SLEEVES, AND COLLARS ARE REPRESENTATIVE OF CLASSES OF ITEMS. THE USE OF COMPONENTS NOT PRECISELY IDENTICAL TO THESE IS ACCEPTABLE.

9. IF THE APPLICATION GUIDELINES DICTATED BY THE FLEXIBLE DUCT MANUFACTURER ARE MORE STRINGENT THAN THE SPECIFICATIONS IN THIS MANUAL, THOSE OF THE MANUFACTURER SHALL GOVERN.

SPECIFICATION FOR SUPPORTING FLEXIBLE DUCT

1. FLEXIBLE DUCT SHALL BE SUPPORTED AT THE MANUFACTURER'S RECOMMENDED INTERVALS BUT AT LEAST EVERY 4' (1.5M). MAXIMUM PERMISSIBLE SAG IS A 1/2 INCH PER FOOT (41.7 MML) OF SPACING BETWEEN SUPPORTS. A CONNECTION TO ANOTHER DUCT OR TO EQUIPMENT IS CONSIDERED A SUPPORT POINT.

2. HANGER OR SADDLE MATERIAL IN CONTACT WITH THE FLEXIBLE DUCT SHALL BE WIDE ENOUGH SO THAT IT DOES NOT REDUCE THE INTERNAL DIAMETER OF THE DUCT WHEN THE SUPPORTED SECTION RESTS ON THE HANGER OR SADDLE MATERIAL. IN NO CASE WILL THE MATERIAL CONTACTING THE FLEXIBLE DUCT BE LESS THAN 1" WIDE. NARROWER HANGER MATERIAL MAY BE USED IN CONJUNCTION WITH A SHEET METAL SADDLE THAT MEETS THIS SPECIFICATION. THIS SADDLE MUST COVER ONE-HALF THE CIRCUMFERENCE OF THE OUTSIDE DIAMETER OF THE FLEXIBLE DUCT AND FIT NEATLY AROUND THE LOWER HALF OF THE DUCT'S OUTER CIRCUMFERENCE.

3. FACTORY-INSTALLED SUSPENSION SYSTEMS THAT ARE INTEGRAL TO THE FLEXIBLE DUCT ARE ACCEPTABLE FOR HANGING WHEN THE MANUFACTURER'S RECOMMENDED PROCEDURES ARE FOLLOWED.

4. HANGERS SHALL BE ADEQUATELY ATTACHED TO THE BUILDING STRUCTURE.

5. TO AVOID TEARING THE VAPOR BARRIER. DO NOT SUPPORT THE ENTIRE WEIGHT OF THE FLEXIBLE DUCT ON ANYONE HANGER DURING INSTALLATION. AVOID CONTACTING THE FLEXIBLE DUCT WITH SHARP EDGES OF THE HANGER MATERIAL. DAMAGE TO THE VAPOR BARRIER MAY BE REPAIRED WITH APPROVED TAPE. IF THE INTERNAL CORE IS PENETRATED, REPLACE THE FLEXIBLE DUCT OR TREAT THE TEAR AS A CONNECTION.

6. TERMINAL DEVICES CONNECTED BY FLEXIBLE DUCT SHALL BE SUPPORTED INDEPENDENTLY OF THE FLEXIBLE DUCT.

"This item has been digitally signed and sealed by Daniel F. Gutierrez on the date adjacent to the seal. Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies"

DANIEL F. GUTIERREZ, P.E.
LIC. #049086

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DG CONSULTING ENGINEERS, LLC

DESIGN — INSPECTIONS

HERRERA RESIDENCE

6825 SW 132nd St,
Pinecrest, FL 33156.

SEAL

05-14-25

DANIEL F. GUTIERREZ, P.E.
ELECTRICAL ENGINEER

LIC. #049086

REVISIONS

NO.	DESC	DATE

PERMIT SET

BALLI - TRAUTMAN

ARCHITECTURE INTERIORS CONSTRUCTION

JOB NUMBER:

HERRERA

CHECKED BY:

GB

ISSUE DATE:

04/25/2025

SCALE:

AS NOTED

SHEET TITLE

MECHANICAL

NOTES & DETAILS

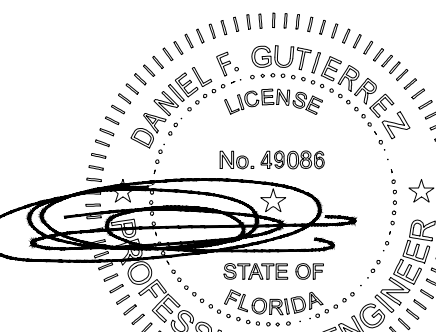
SHEET NUMBER

M-106

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6825 SW 132nd St,
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SEAL



05-14-25

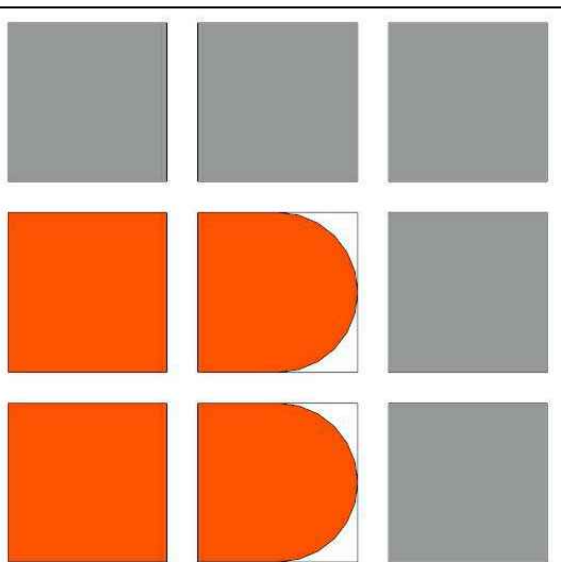
DANIEL F. GUTIERREZ, P.E.

LIC. #04908

REVISIONS

[illegible]

PERMIT SET



BALLI - TRAUTMAN
ARCHITECTURE INTERIORS CONSTRUCTION

JOB NUMBER: HERRERA

CHECKED BY: GB

ISSUE DATE: 04/25/2025

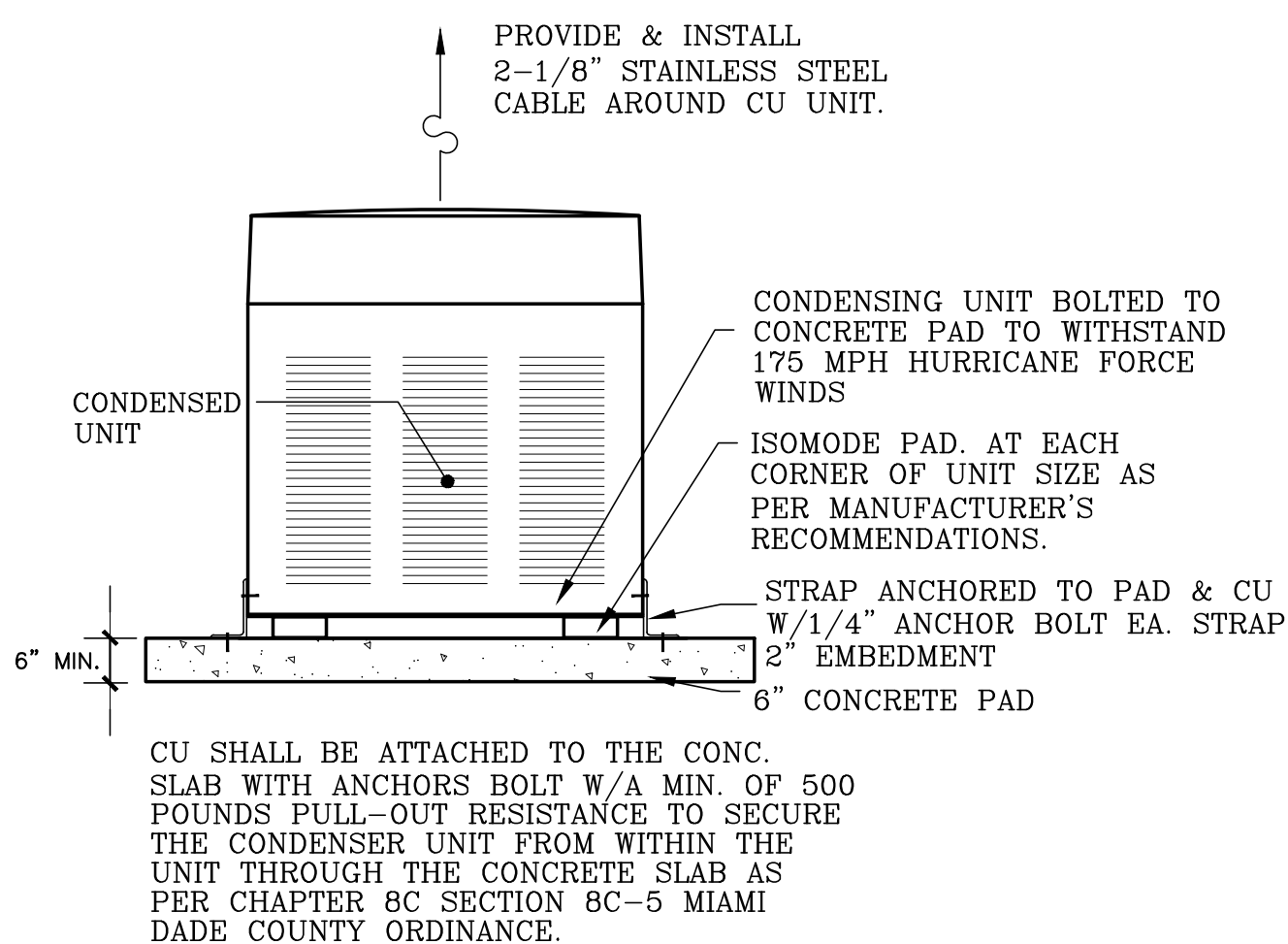
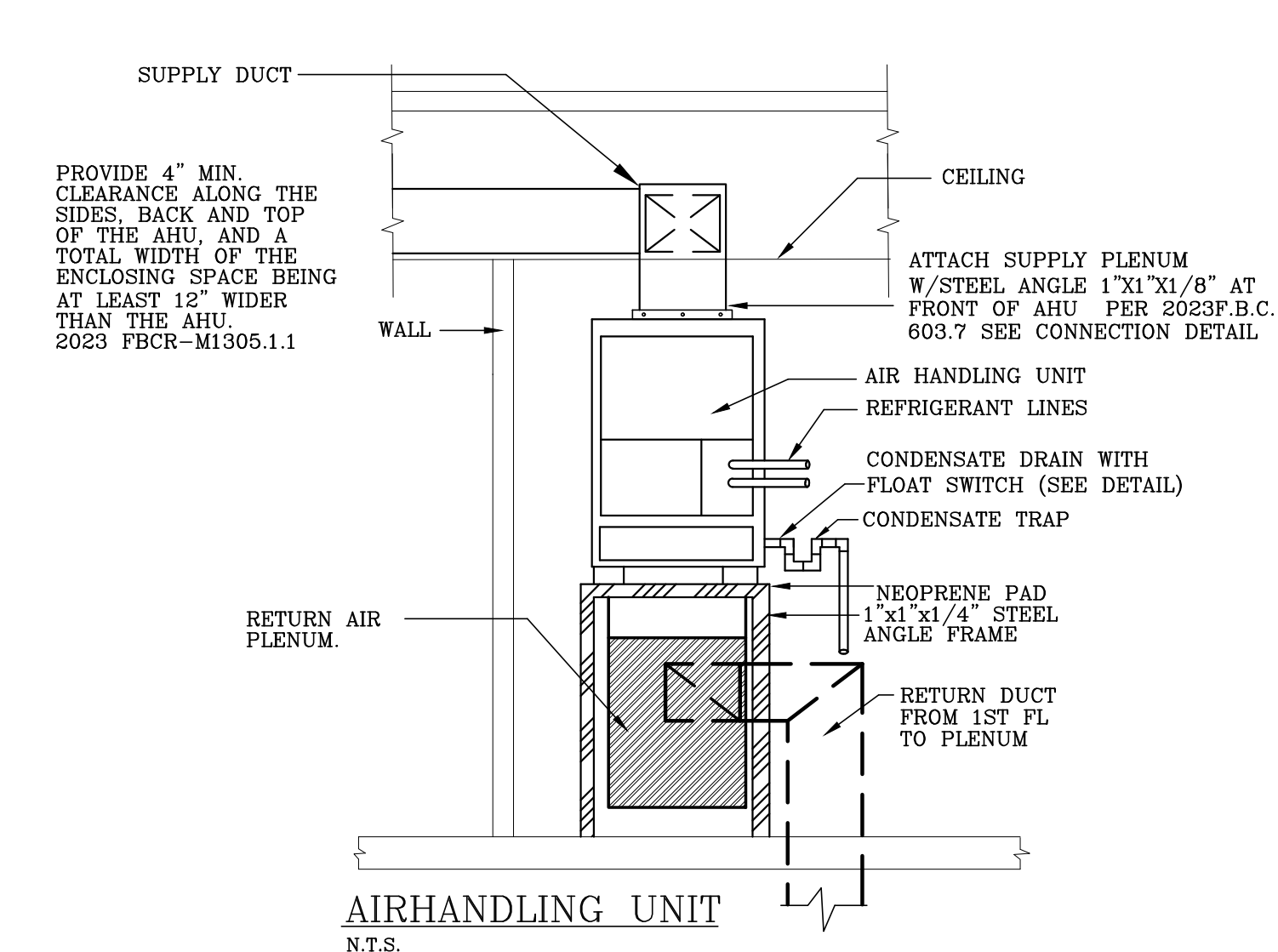
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SHEET TITLE

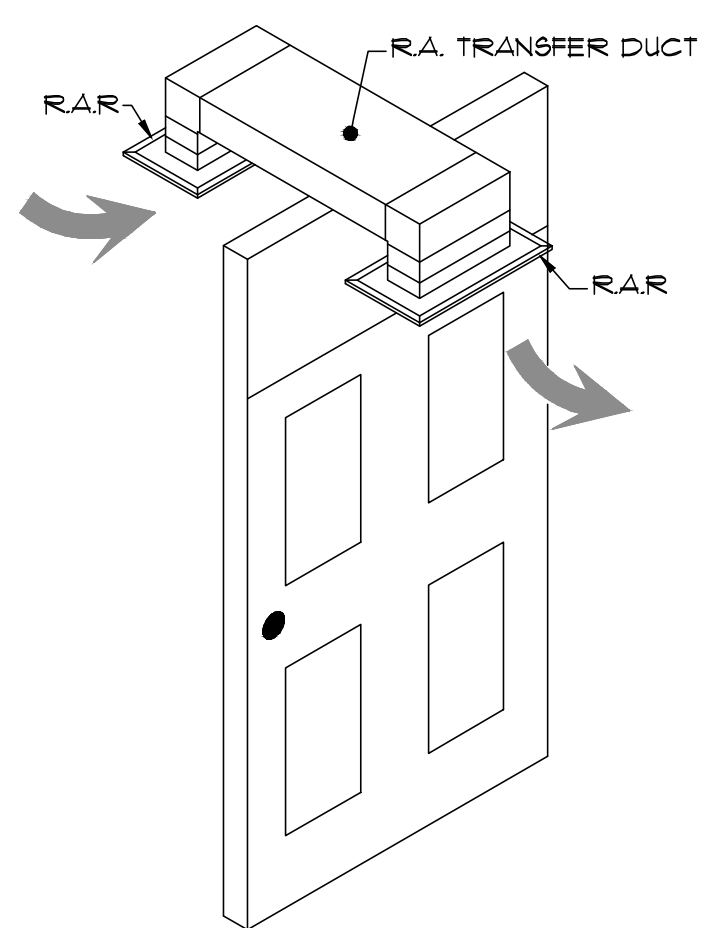
SHEET NUMBER

M-107

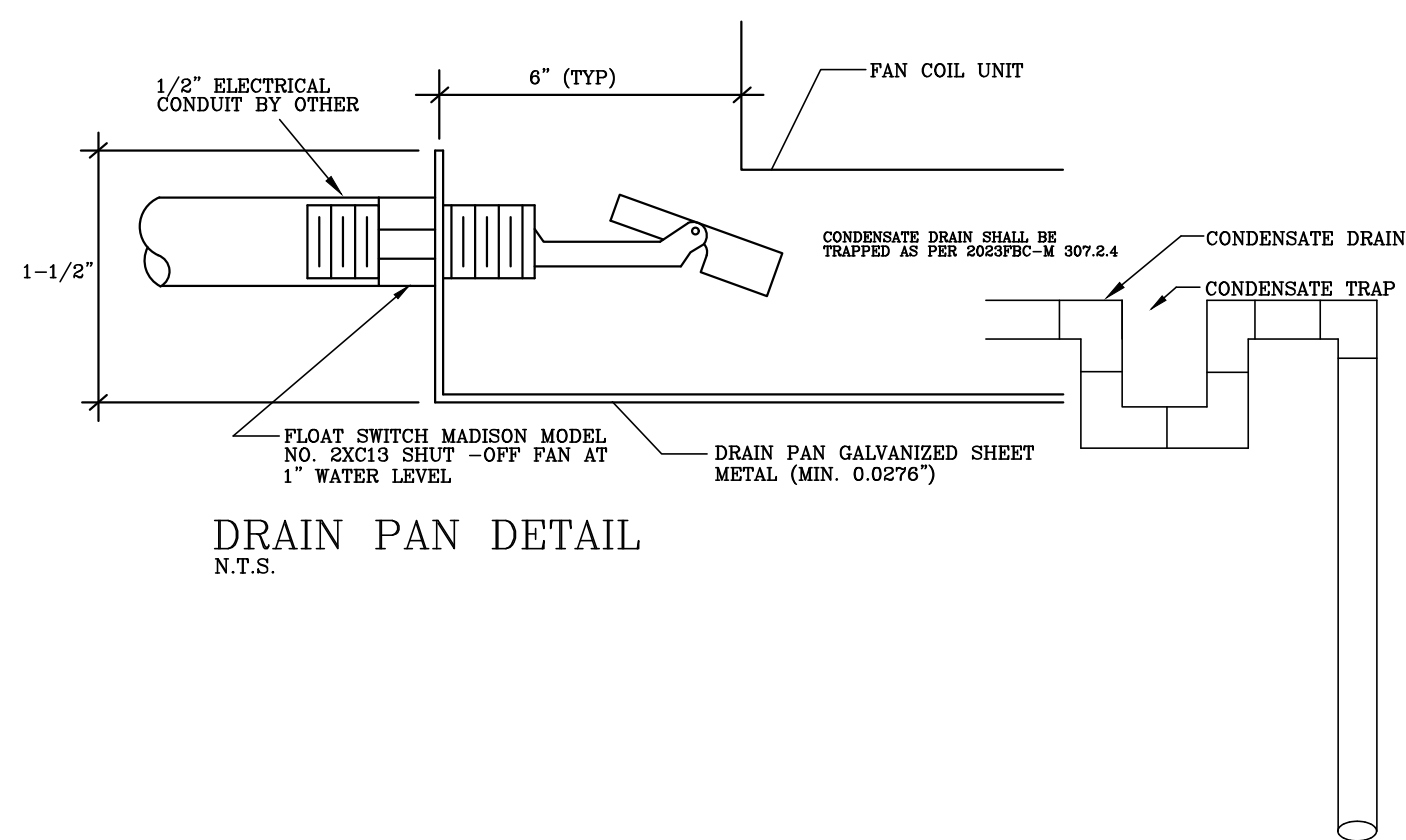
COPYRIGHT BALLI-TRAUTMAN ARCHITECTS,
LLC
1533 SUNSET DRIVE SUITE 101, CORAL GABLES
FL 33143



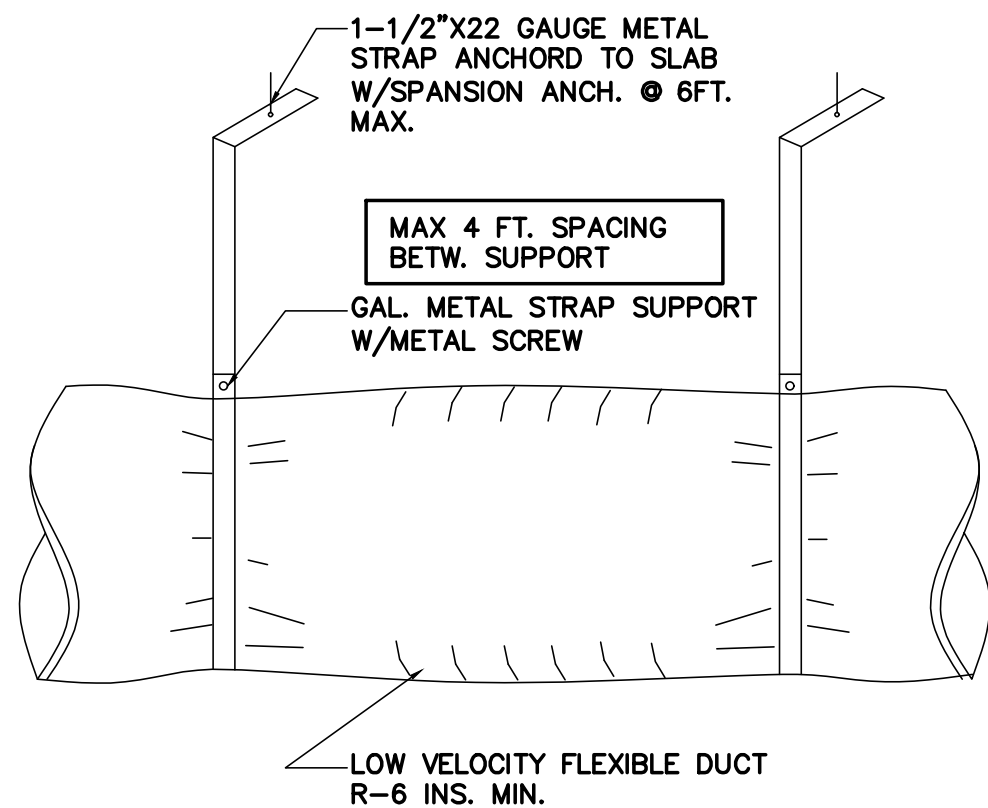
CONDENSING UNIT MOUNTING DETAIL
N.T.S.



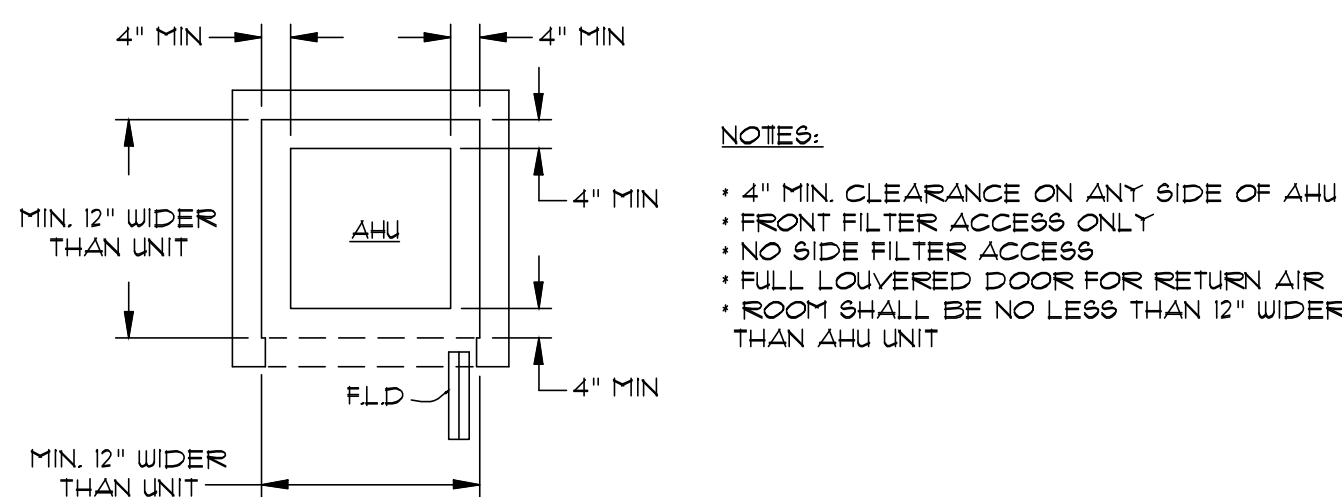
TYPICAL FOR BEDROOM
N.T.S



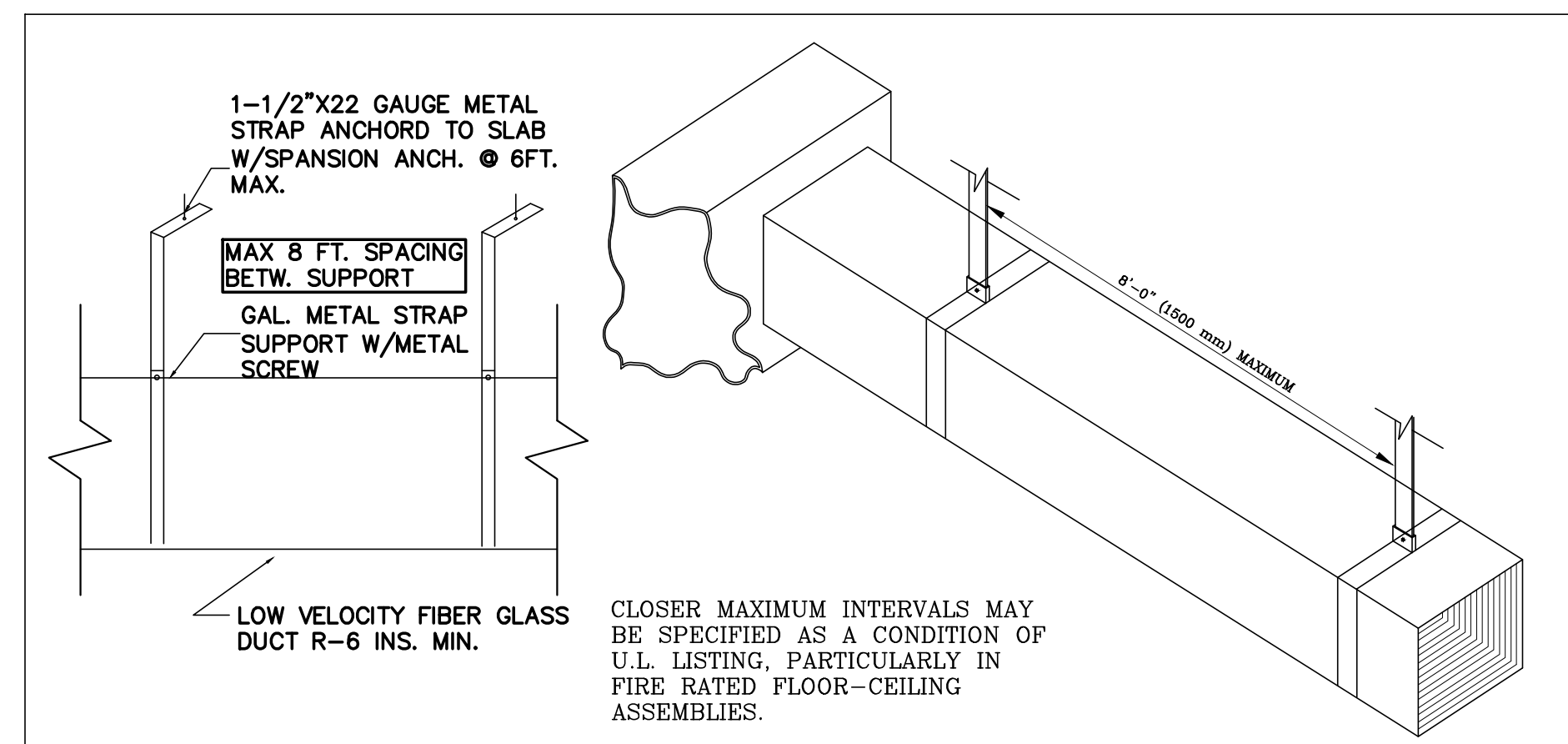
DRAIN PAN DETAIL
N.T.S.



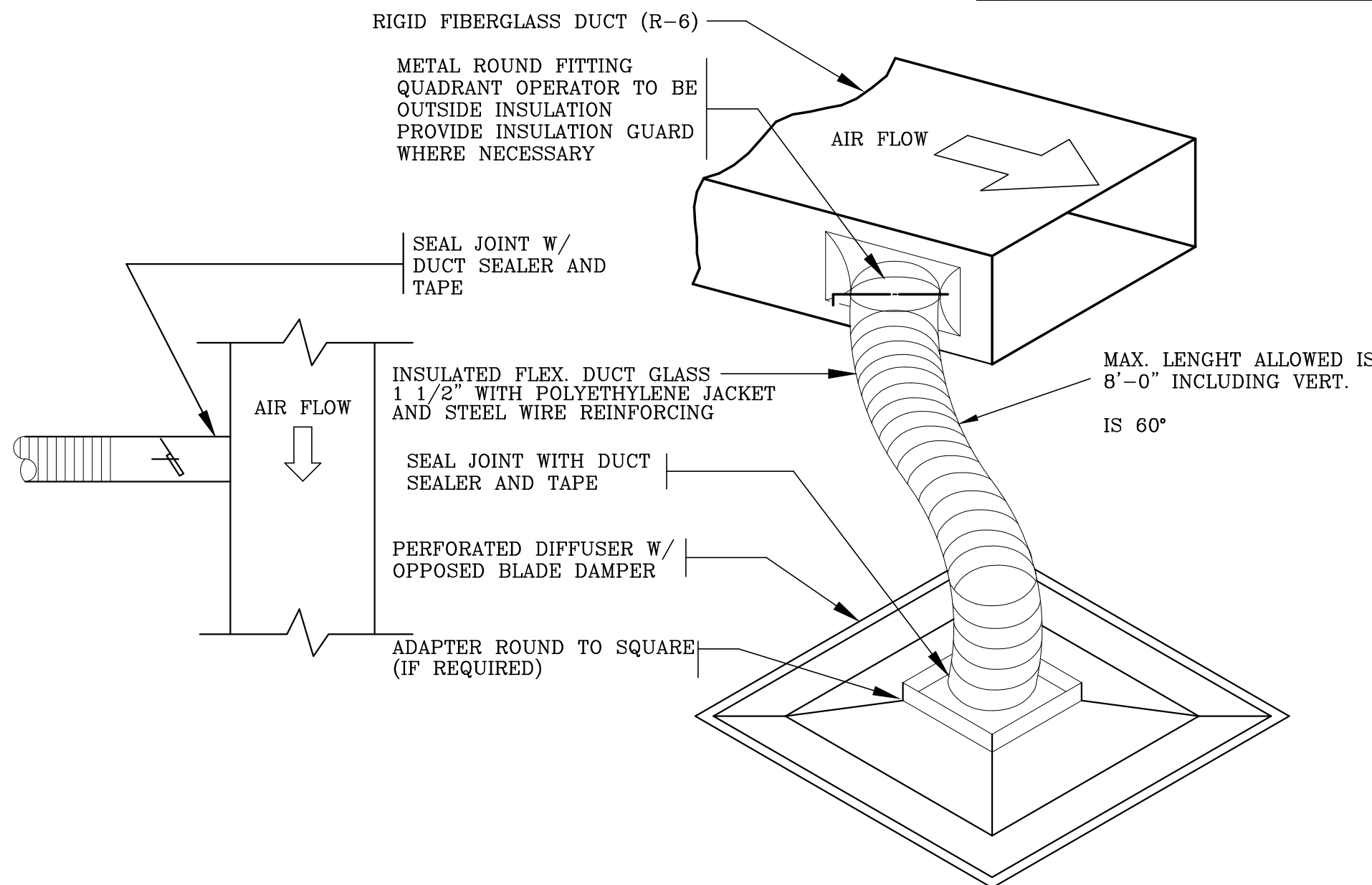
FLEXIBLE DUCT SUPPORT DETAIL
N.T.S.



AHU'S CLEARANCE REQUIREMENTS

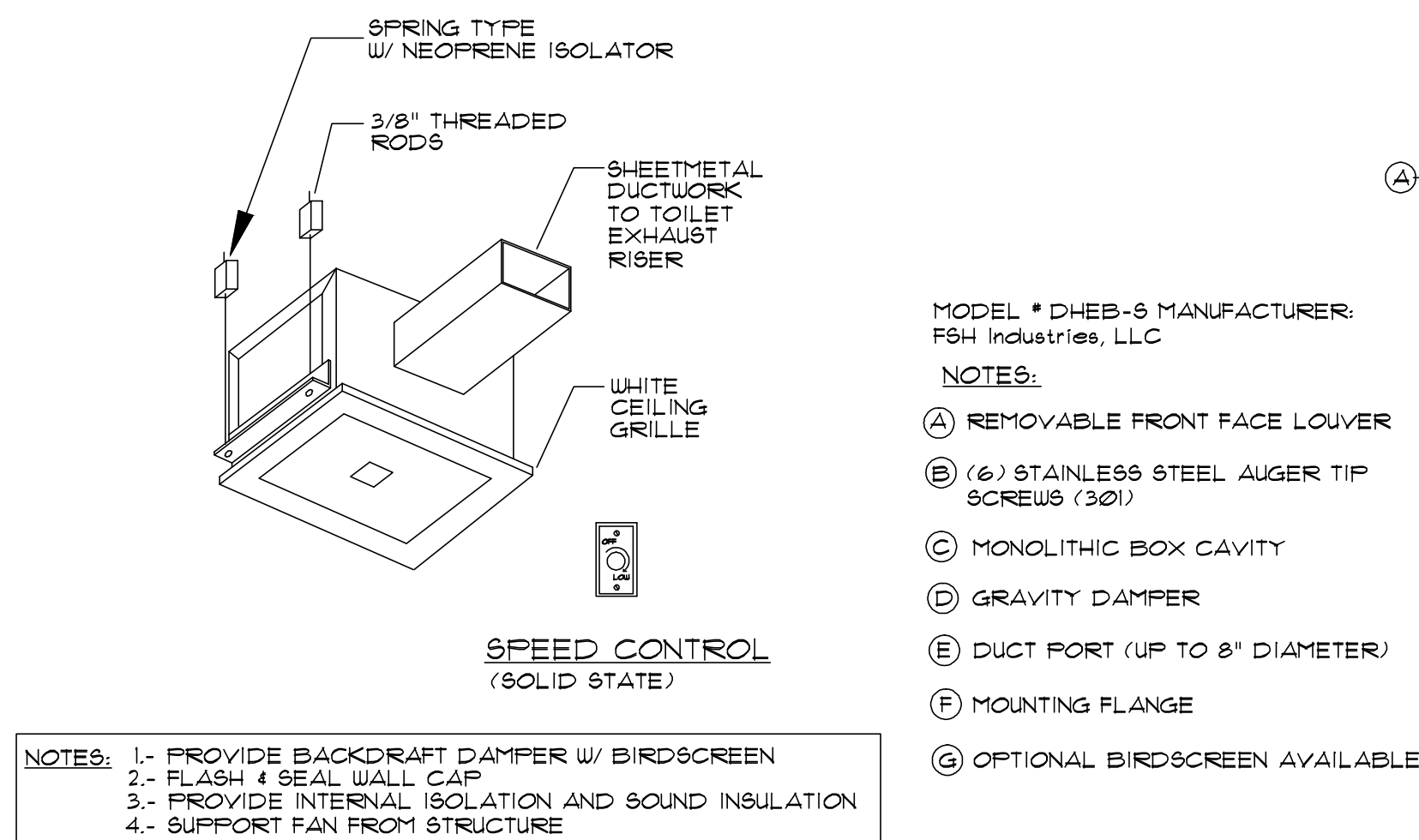


FIBER GLASS HANGERS FOR DUCTS DETAIL

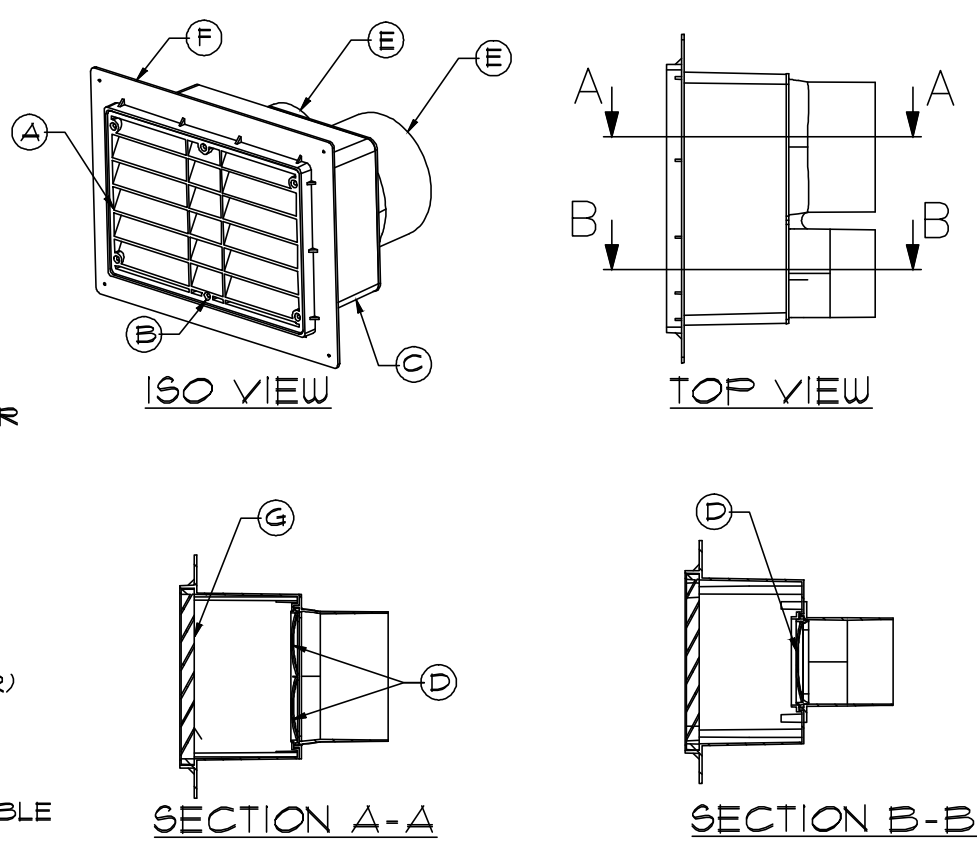


FLEXIBLE DUCT CONNECTION DETAIL

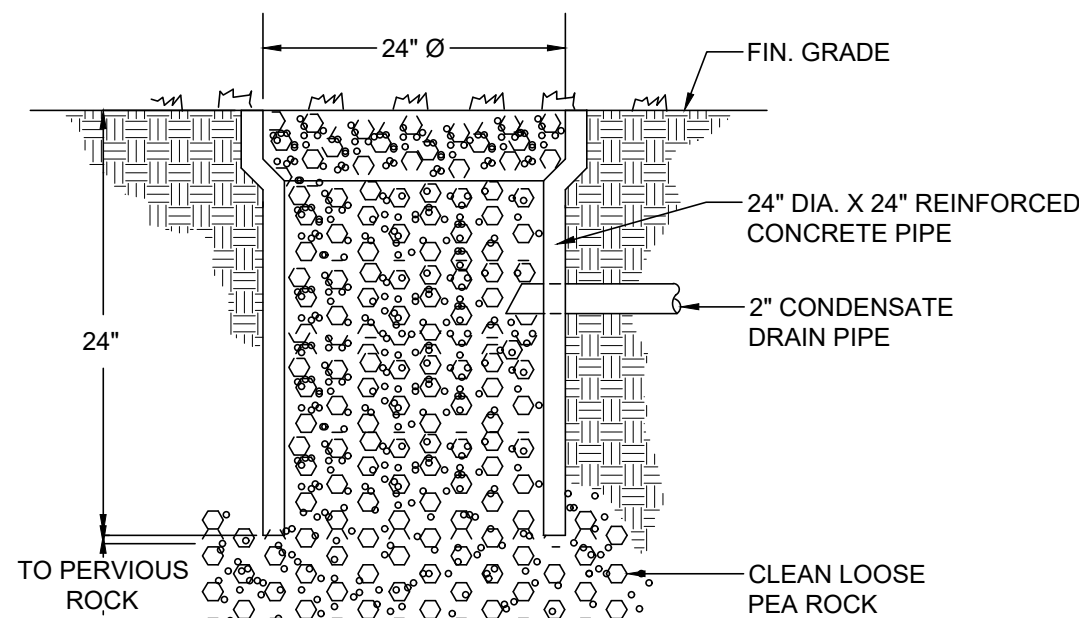
NOTE: ALL BRANCH DUCT TAKE-OFF SHALL HAVE
A LOW LOSS BRANCH CONNECTION.



TYPICAL TOILET EXHAUST FAN DETAIL



X-VENT BOX DETAIL



CONDENSATE SOAKAGE
PIT DETAIL
N.T.S.

"This item has been digitally signed and sealed by Daniel F. Gutierrez on the date adjacent to the seal. Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies"

DANIEL F. GUTIERREZ, P.E.
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DESIGN – INSPECTIONS

