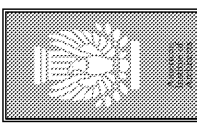


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REVIEW	01/01/01	XX
PERMIT	01/01/01	XX
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Construction Documents for:

TIRE CHOICE - GOLDENROD
7412 HOFFNER AVE
ORLANDO, FLORIDA

Joseph H. Griner III, P.E. FL. 39491

commercial residential architecture

FRAZE design

ST. PETERSBURG, FLORIDA 33712
 1750 CENTRAL AVENUE
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SHEET TITLE
MECHANICAL
DETAILS

SHEET NUMBER
M-3

ROUND DUCT HANGERS MINIMUM SIZE

DIA.	MAXIMUM SPACING	WIRE DIA.	ROD	STRAP
10" DN.	12'	ONE 12 GA.	1/4"	1" x 22 GA.
11-18"	12'	TWO 12 GA. OR ONE 8 GA.	1/4"	1" x 22 GA.
19-24"	12'	TWO 10 GA.	1/4"	1" x 22 GA.
25-36"	12'	TWO 8 GA.	3/8"	1" x 20 GA.
37-50"	12'	—————	TWO 3/8"	(2) 1" x 20 GA.
51-60"	12'	—————	TWO 3/8"	(2) 1" x 18 GA.
61-84"	12'	—————	TWO 3/8"	(2) 1" x 16 GA.

NOTES:
 1. STRAPS ARE GALVANIZED STEEL; RODS ARE UNCOATED OR GALVANIZED STEEL; WIRE IS BLACK ANNEALED, BRIGHT BASIC OR GALVANIZED STEEL. ALL ARE ALTERNATIVES.
 2. SEE FIGURE 4-4 FOR LOWER SUPPORTS.
 3. SEE FIGURES 4-2 AND 4-3 FOR UPPER ATTACHMENTS.
 4. TABLE ALLOWS FOR CONVENTIONAL WALL THICKNESS, AND JOINT SYSTEMS PLUS ONE (1) 1/2" OF INSULATION HEIGHT. IF HEAVIER DUCTS ARE TO BE INSTALLED, ADJUST HANGER SIZES TO BE WITHIN THEIR LOAD LIMITS. SEE ALLOWABLE LOADS WITH TABLE 4-1.
 5. DESIGNERS, FOR INDUSTRIAL GRADE SUPPORTS, INCLUDING SADDLES, SINGLE POINT TRAPEZOID LOADS, LONGER SPANS AND FLANGED JOINT LOADS, SEE SMACNA'S ROUND INDUSTRIAL DUCT CONSTRUCTION STANDARDS.
 6. SEE FIGURES 3-9 AND 3-10 FOR FLEXIBLE DUCT SUPPORTS.

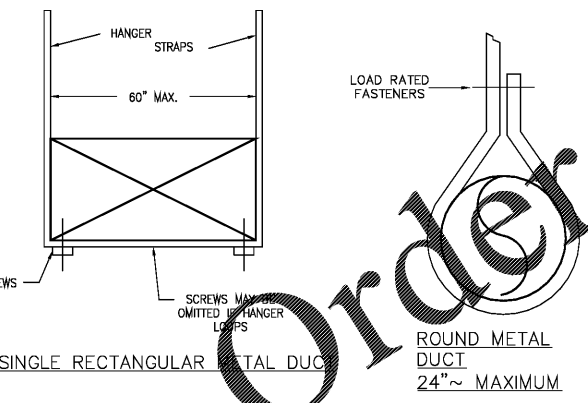
RECTANGULAR DUCT HANGERS MINIMUM SIZE

MAXIMUM HALF OF DUCT PERIMETER	PAIR AT 10 FT. SPACING		PAIR AT 8 FT. SPACING		PAIR AT 5 FT. SPACING		PAIR AT 4 FT. SPACING	
	STRAP	WIRE/ROD	STRAP	WIRE/ROD	STRAP	WIRE/ROD	STRAP	WIRE/ROD
P/2=30"	1"x22 GA.	10 GA. (135")	1"x22 GA. (135")	10 GA. (135")	1"x22 GA. (106")	10 GA. (106")	1"x22 GA. (106")	10 GA. (106")
P/2=72"	1"x18 GA.	8"	1"x20 GA.	1/2"	1"x22 GA.	1/2"	1"x22 GA.	1/2"
P/2=96"	1"x16 GA.	8"	1"x18 GA.	3/8"	1"x20 GA.	3/8"	1"x22 GA.	1/2"
P/2=120"	1 1/2"x16 GA.	1/2"	1"x16 GA.	3/8"	1"x18 GA.	3/8"	1"x20 GA.	1/2"
P/2=168"	1 1/2"x16 GA.	1/2"	1"x16 GA.	1/2"	1"x16 GA.	3/8"	1"x18 GA.	3/8"
P/2=192"	1 1/2"x16 GA.	1/2"	1"x16 GA.	1/2"	1"x16 GA.	3/8"	1"x16 GA.	3/8"
P/2=>193"	SPECIAL ANALYSIS REQUIRED							

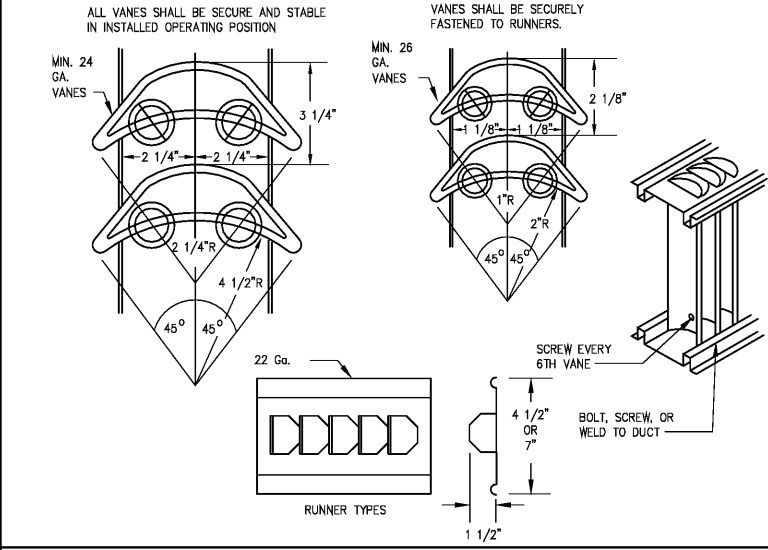
WHEN STRAPS ARE LAP JOINED USE THESE MINIMUM FASTENERS:
 1"x18, 20, 22 GA. - (2) #10 OR (1) 1/2" BOLT
 1"x16 GA. - (2) 1/2" DIA.
 1"x16 GA. - (2) 3/8" DIA.

PLACE FASTENERS IN SERIES, NOT SIDE BY SIDE.

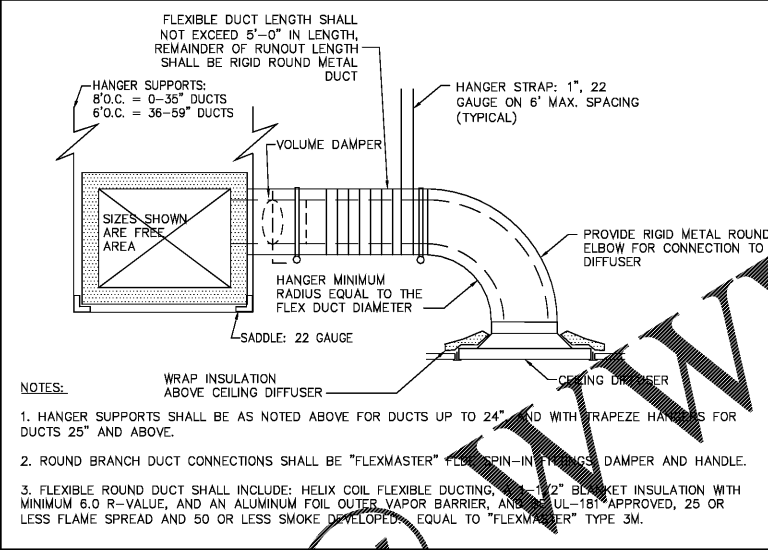
NOTES:
 1. DIMENSIONS OTHER THAN GAUGE ARE IN INCHES.
 2. TABLES ALLOW FOR DUCT WEIGHT, 1 LB/SF INSULATION WEIGHT AND NORMAL REINFORCEMENT AND TRAPEZOID WEIGHT, BUT NO EXTERNAL LOADS!
 3. FOR CUSTOM DESIGN OF HANGERS, DESIGNERS MAY CONSULT SMACNA'S RECTANGULAR INDUSTRIAL DUCT STANDARDS, THE AISI COLD FORMED STEEL DESIGN MANUAL AND THE AISI STEEL CONSTRUCTION MANUAL.
 4. STRAPS ARE GALVANIZED STEEL; OTHER MATERIALS ARE UNCOATED STEEL.
 5. ALLOWABLE LOADS FOR P/2 ASSUME THAT DUCTS ARE 16 GA. MAXIMUM, EXCEPT THAT WHEN MAXIMUM DUCT DIMENSION (W) IS OVER 60" THEN P/2 MAXIMUM IS (1.25 W).
 6. FOR UPPER ATTACHMENTS SEE FIG. 4-2.
 7. FOR LOWER ATTACHMENTS SEE FIG. 4-4.
 8. FOR TRAPEZOID SIZES SHW TABLE 4-3 AND FIG. 4-5.
 9. 12, 10 OR 8 GA. WIRE IS STEEL OF BLACK ANNEALED, BRIGHT BASIC OR GALVANIZED TYPE.



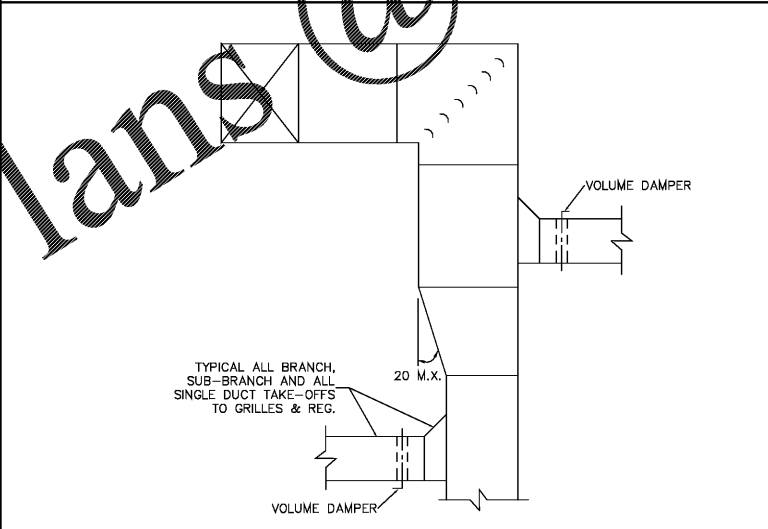
DUCTWORK SUPPORT DETAIL
NOT TO SCALE



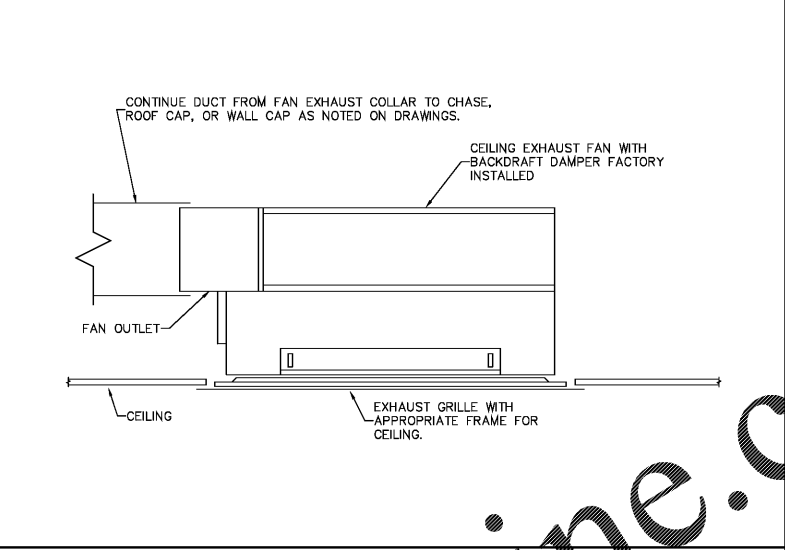
TURNING VANES DETAIL
NOT TO SCALE



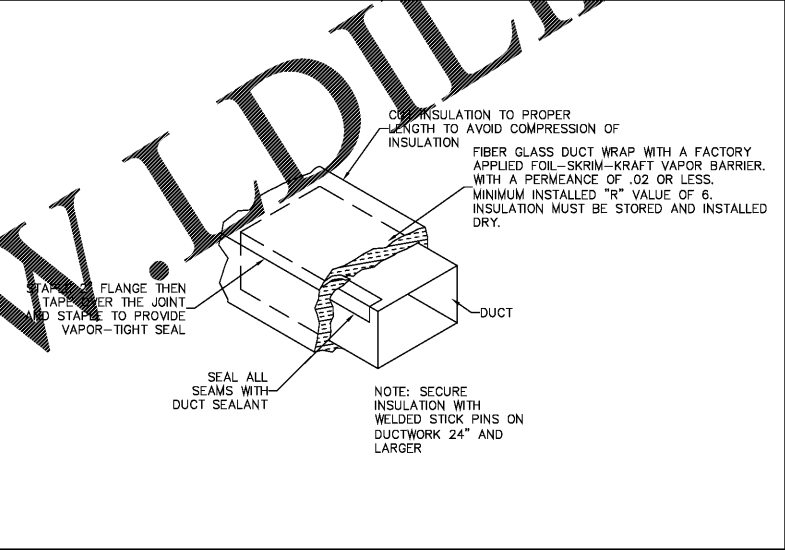
DUCT RUNOUT TO DIFFUSER DETAIL
NOT TO SCALE



DUCTWORK FITTINGS DETAIL
NOT TO SCALE



CEILING MOUNTED EXHAUST FAN DETAIL
NOT TO SCALE



FIBERGLASS BLANKET DUCT INSULATION DETAIL
NOT TO SCALE

This item has been electronically signed and sealed by Joseph H. Griner, III using a Digital Signature and data. Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.

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ALL DIMENSIONS AND JOB CONDITIONS SHALL BE VERIFIED BY THE CONTRACTOR. ANY AND ALL DISCREPANCIES SHALL BE REPORTED TO THE ARCHITECT PRIOR TO COMMENCEMENT OF CONSTRUCTION.

GRINER

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Date	12-06-2019
Drawn	JL
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Job no.	19113