BUSINESS AND FINANCE DIVISION
Report No. 9

OGDENSBURG CITY SCHOOL DISTRICT
OGDENSBURG, NEW YORK

SUBJECT: Board Approval of Change Order 1-01, Capital Outlay Project– Boiler Replacement, Ogdensburg Free Academy Golden Dome - Project Number: 2018-041

DATE: February 25, 2019

REASON FOR BOARD CONSIDERATION:

The Board of Education must approval all changes that increase or decrease the cost of the current renovation project.

FACTS AND ANALYSIS:

Since the above-mentioned Change Order **increases** the contract sum by $2,238.00 and since it carries the recommendation of the Superintendent of Schools, the same is presented to the Commissioners for review and/or approval.

RECOMMENDED ACTION:

Moved by _____ and supported by _____ that, having the approval of the Superintendent of Schools, the Board of Education of the Ogdensburg City School District does hereby approve Change Order 1-01, Capital Outlay Project Boiler Replacement Ogdensburg Free Academy Golden Dome-Project Number: 2018-041, presented this 25th day of February 2019.

APPROVED FOR PRESENTATION TO THE BOARD:

Kevin K Kelly
Superintendent

KK/alf
Attachment

CHANGE ORDER

No. 1-01

PROJECT:	Capital Outlay Project Boiler Replacement	DATE OF ISSUANCE:	January 17, 2019
OWNER:	Ogdensburg City School District 1100 State Street Ogdensburg, New York 13669	ENGINEER:	BCA Architects & Engineers 327 Mullin Street Watertown, New York 13601
CONTRACTOR: (Name, Address)	Northern Mechanicals, Inc. 2 Baldwin Ave. Norwood, NY 13668	ENGINEER'S PROJECT NO.:	2018-041
CONTRACT FOR:	No. 1 - Mechanical	SED PROJ. MGR.:	Sigrid Coons
CONTRACT DATE:	August 27, 2018	SED CONTROL NO.:	51-23-00-01-0-002-011 Dome

You are directed to make the following changes in the Contract Documents to include all labor, material, and equipment:

1. Add for new boiler flue to maintain proper breeching separation between existing natural draft and new forced draft boilers.	$	7,238.00
2, Deduct for the remainder of the Field Directive Allowance.	$	(5,000.00)
Total	**$**	**2,238.00**

Attachments: (list documents supporting change)

Proposals from Northern Mechanical
BCA' related Contract Documents

This Change Order constitutes compensation in full to the Contractor for all costs attributable to these changes for all delays related thereto and for performance of the work within the time stated herein. The Contractor further waives all rights resulting from the cumulative effect of this and all preceding Change Orders.

CHANGE IN CONTRACT PRICE:	CHANGE IN CONTRACT TIME:
Original Contract Price $ 56,600.00	Original Contract Time as per Milestone Construction Schedule days or date
Previous Change Order: N/A $ 0.00	Net Change from previous Change Orders none days
Contract Price prior to this Change Order $ 56,600.00	Contract Time prior to this Change Order as per Milestone Construction Schedule days or date
Net Increase of this Change Order $ 2,238.00	Net Increase of this Change Order none days
Contract Price with all approved Change Orders $ 58,838.00	Contract Time with all approved Change Orders as per Milestone Construction Schedule days or date

RECOMMENDED:	APPROVED:	APPROVED:
BCA ARCHITECTS & ENGINEERS	OGDENSBURG CITY SCHOOL DISTRICT	NORTHERN MECHANICALS
Architect/Engineer	Owner	Contractor
Shawn M. Travers, RA	Kevin K. Kendall	L. Thomas Hopsicker
Print or Type Name	Print or Type Name	Print or Type Name
phone: (315) 782-8130	phone: (315) 393-0900	phone: (315) 353-6641
date: 1.17.19	date: 2/7/19	date: 1/24/2019

Prepared by the Engineers' Joint Contact Documents and endorsed by The American General Contactors of America.

Northern Mechanicals, Inc.

HEATING & VENTILATING CONTRACTORS

2 BALDWIN AVE., P.O. BOX 195
NORWOOD, NEW YORK 13668-0195

PHONE:(315) 353-6641
FAX: (315) 353-6696

January 9, 2019

Attn: Steve Shockley
Bernier, Carr & Associates
327 Mullin St.
Watertown, NY 13601

RE: Ogdensburg City School – Golden Dome
2018 Capital Outlay Project
Boiler Replacement
SED Control No. 51-23-00-01-0-002-011

BCA Project No. 2018-041

Cost Proposal

SCOPE – Provide and install new Boiler Chimney / Breeching System – for new boiler – separate from existing.

Labor	**=**	**$1,248.00**	**(2 men 1 day or 16 man hrs. @ $78.00 per hr.)**
Material	**=**	**$5,002.50**	**(Quoted by Appleby, Inc. @ $4350.00 plus 15% OH&P)**
Roofing Sub.	**=**	**$787.50**	**(No quote but, RSI Charged $750.00 for Flashing of Intake Piping Plus 5% OH&P)**
Other ?	**= ?**	**$200.00**	**(Capping of Existing tie-in point, where new boiler is currently tied – into old chimney)**

Total = $7,238.00

Regards,

Jason Froats, PM

APPLEBY, INC.

1213 County Highway 107
Fort Johnson, NY 12070
(518) 762-1131, 376-3672 cell
web: www.applebyinc.com
e-mail: jdumais@applebyinc.com

QUOTATION

DATE	QUOTE #
1/7/2019	2019-001

To

Northern Mechanical
P.O. Box 195
Norwood, NY 13668

JOB	TERMS	BID DATE	REP
2018 Capital Outlay Project Ogdensburg	Net 30	1/7/2019	JRD

QTY	DESCRIPTION	TOTAL
1	Industrial Chimney Co.----VIC chimney system, AL29-4C Stainless Steel inner/ 430 Stainless Steel outer, 1" air space, UL listed for Condensing Appliances 8" I.D. for B-1, Patterson Kelly N1500MFD, up thru roof per attached Submittal	4,350.00

APPLEBY, Inc.

HVAC Manufacturer's Representative

Telephone: (518) 762-1131
Cell: (518) 376-3672

E-Mail: jdumais@applebyinc.com
www.applebyinc.com

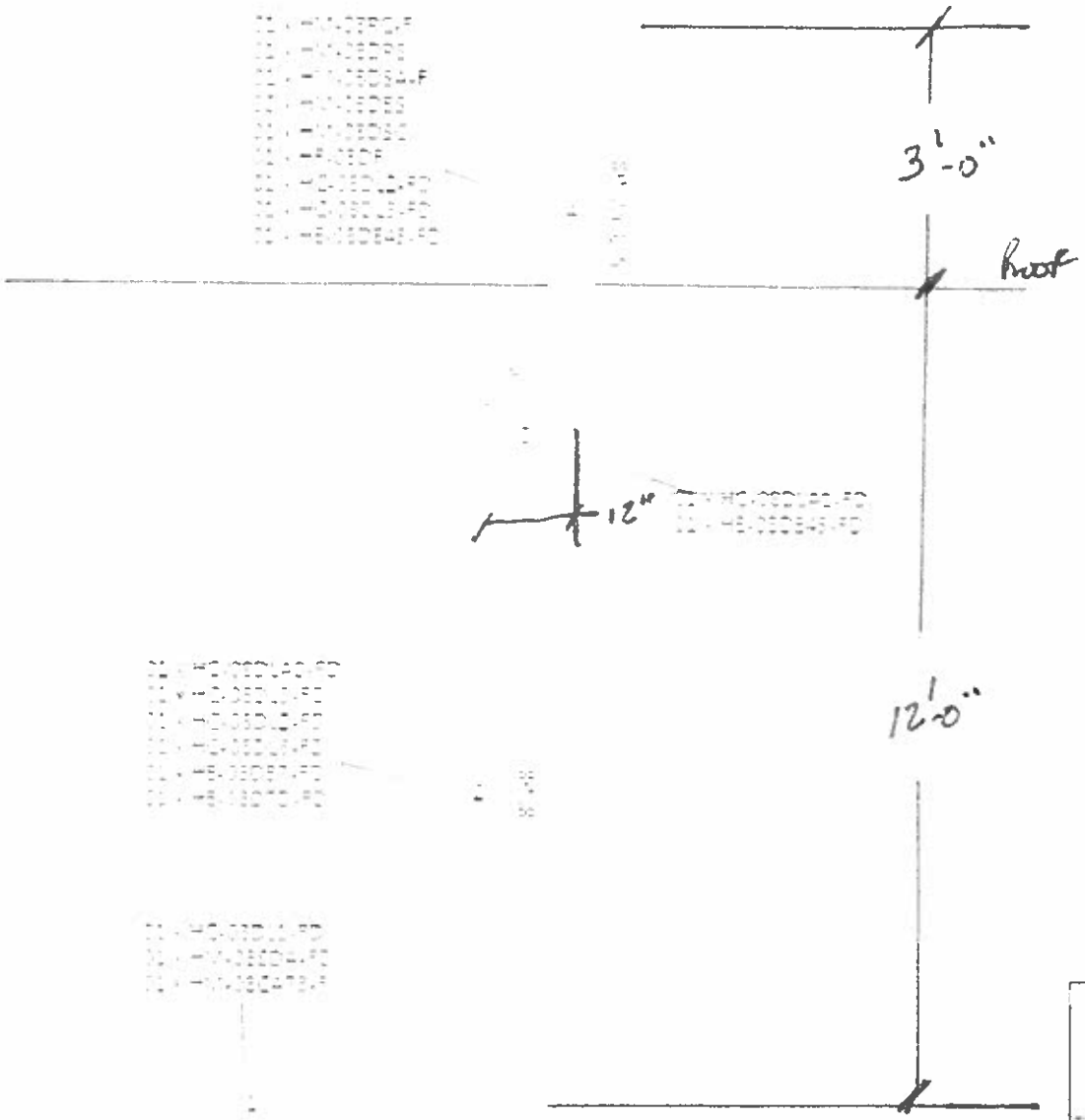
1213 County Highway 107
Fort Johnson, NY 12070

SUBMITTAL

2018 Outlay Project
Ogdensburg CSD
Boiler Replacement

By J.R. Dumais

1-7-2019



B-1

PK N1500MFD

Customer

Project
2018 Capital Outlay Project

Layout
B-1

Date	By
1/7/2019	Jeffrey Dumais

System No	Ref No	Scale
131781		None

Proposal

Project Data

Project No:		**Project Name:**	2018 Capital Outlay Project Ogdensburgh CSD
System No:	131781	**Location:**	Ogdensburg, NY
Date:	1/7/2019	**Layout/BOM Title:**	B-1
Prepared for:		**Product(s):**	VIC-DW-AL29/430
Prepared by:	Appleby, Inc Jeffrey Dumais		

Quote

Section	Qty	Item No	Description
1	1	HM-08CA78-F	CLAMP ADAPTER 7-7/8" S/D
1	1	HM-08SDA-FD	Single to Double Wall - SDA
1	1	HC-08DL1-FD	12" Length
2	1	HE-08DTD-FD	Tee Cap Drain - TD
2	1	HE-08DBT-FD	DOUBLE WALL BOOT TEE
2	1	HC-08DL6-FD	6" Length
2	1	HC-08DL2-FD	24" Length
2	1	HC-08DL3-FD	36" Length
2	1	HC-08DLA2-FD	24" Adjustable Length
3	1	HE-08DE45-FD	Elbow 45° - E45
3	1	HC-08DLA1-FD	12" Adjustable Length
4	1	HE-08DE45-FD	Elbow 45° - E45
4	1	HC-08DL3-FD	36" Length
4	1	HC-08DL2-FD	24" Length
4	1	HF-08DF	Flashing - F
4	1	HM-08DSC	Storm Collar - SC
4	2	HM-08DBS	Base Support - BS
4	1	HM-08DSA-F	Double to Single Wall - DSA
4	1	HM-08DRS	Radiation Shield Double Wall
4	1	HM-08RC-F	Rain Cap - RC

Prices shown are **in US Dollars**

Section Legend

Section	Product	Dia/Cross Dim	Vertical	Horizontal	Length
1	VIC-DW-AL29/430	ø8	0' 0" (0")	2' 6" (30")	2' 6" (30")
2	VIC-DW-AL29/430	ø8	8' 0" (96")	0' 0" (0")	8' 0" (96")
3	VIC-DW-AL29/430	ø8	1' 0" (12")	1' 0" (12")	1' 4" (16")
4	VIC-DW-AL29/430	ø8	5' 3½" (63½")	0' 0" (0")	5' 3½" (63½")
Total			14' 3½" (171½")	3' 6" (42")	17' 2½" (206½")

Order of Install

Section	Qty	Item No	Description

1	1	HM-08CA78-F	CLAMP ADAPTER 7-7/8" STD
1	1	HM-08SDA-FD	Single to Double Wall - SDA
1	1	HC-08DL1-FD	12" Length
2	1	HE-08DTD-FD	Tee Cap Drain - TD
2	1	HE-08DBT-FD	DOUBLE WALL BOOT TEE
2	1	HC-08DL6-FD	6" Length
2	1	HC-08DL2-FD	24" Length
2	1	HC-08DL3-FD	36" Length
2	1	HC-08DLA2-FD	24" Adjustable Length
3	1	HE-08DE45-FD	Elbow 45° - E45
3	1	HC-08DLA1-FD	12" Adjustable Length
4	1	HE-08DE45-FD	Elbow 45° - E45
4	1	HC-08DL3-FD	36" Length
4	1	HC-08DL2-FD	24" Length
4	1	HE-08DF	Flashing - F
4	1	HM-08DSC	Storm Collar - SC
4	2	HM-08DBS	Base Support - BS
4	1	HM-08DSA-F	Double to Single Wall - DSA
4	1	HM-08DRS	Radiation Shield Double Wall
4	1	HM-08PC-F	Rain Cap - PC

Last revised on 1/7/2019 9:39:35 AM. This layout was processed using BoilerWH Application Rules.

ICC Model VIC

DOUBLE WALL SPECIAL GAS VENT
INSTALLATION AND MAINTENANCE INSTRUCTIONS

The ICC Model VIC is a listed venting system designed for venting commercial and industrial appliances, condensing appliances, category I, II, III, IV appliances.

For use on positive, neutral and negative pressures up to 15" w.c. (3.75 kPa.)

Sizes: 5" (76mm) to 24" (610mm) diameters

WARNING

- A major cause of vent related fires is failure to maintain required clearances (air space) to combustible materials. It is of utmost importance that this venting system be installed only in accordance with these instructions. Do not fill the air space with insulating material.
- Contact local building or fire officials about restrictions and installation inspection in your area.

Do not begin installing the ICC Model VIC venting system until you have carefully read the appliance and vent system installation instructions.

Use only ICC Model VIC components. Failure to do so will void the certification and warranty of the product.

Keep these installation and operating instructions in a safe location for future reference.

- Examine all components for possible shipping damage prior to installation.
- Proper joint assembly is essential for a safe installation.
- Follow these instructions exactly as written.
- Check tightness of joints upon completion of assembly.
- This venting system must be free to expand and contract.
- This venting system must be supported in accordance with these instructions.
- Check for unrestricted vent movement through walls, ceilings, and roof penetrations.
- Different Manufacturers Have Different Joint Systems and Adhesives.
- Do Not Mix Pipe, Fittings, or Joining Methods from Different Manufacturers.

Tested and Listed to:
UL 1738 / ULC S636
by Underwriters Laboratories, Inc (Listing # MH46076)

c UL us

ICC INDUSTRIAL CHIMNEY COMPANY INC.
400 J.F. Kennedy, St. Jérome
Québec, Canada, J7Y 4B7
Tel.: (450) 565-6336
Fax: (450) 565-6519
www.icc-rsf.com

VIC_DW_II_2012-06

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Model VIC, Double Wall Technical Specifications

Material

Model VIC double wall vent is constructed of ~~either~~ stainless steel grade AL29-4C ~~or 444~~ for the flue and stainless steel grade 430 for the casing. The formed gasket is made of high temperature silicone.

Weight / Thickness

		5"	6"	7"	8"	9"	10"	12"	14"	16"	18"	20"	22"	24"
Thickness (inch)	AL29 -4C/430 ~~444/430~~	0.018" / 0.018"							0.018" / 0.025" *					
Weight (lb/ft)	AL29 -4C/430 ~~444/430~~	2.4	2.8	3.1	3.5	3.9	4.3	6.2	7.1	8.1	9.0	9 9	10.9	11.8

On request, model VIC double wall vent can be built using 0.025" thickness stainless steel grade AL29-4C instead of 0.018".

* In Canada the minimum outer casing thickness is 0.018".

Clearance to Combustibles

Diameter	Maximum Appliance / Vent Rating	Fully Enclosed		Unenclosed	
		Vertical	Horizontal	Vertical*	Horizontal**
5" - 8"	550 °F	1"	n/a	1"	1"
9"- 12"					2"
14" - 18"					3"
20" - 24"					4"

* Enclosed on 3 sides.
** Enclosed on the ceiling and one side wall.

Operation and Maintenance

KEEP YOUR VENT CLEAN. Your vent system should be examined annually by a qualified service company for the presence of soot or debris. Any accumulation should be removed. Also, the vent system should be inspected periodically for the following:

1. Any leakage of condensate or combustion by-product at joints should be removed.
2. A defective drain trap loop should be repaired to prevent any leakage of exhaust gases inside the building area.
3. Any sign of corrosion.

General Installation Notes

1. Model VIC is to be installed in accordance with these installation instructions and with those of the appliance manufacturer.
2. Installation is to be in accordance with local building code requirements and National Codes.
3. Size the vent in accordance with the appliance manufacturer's instructions. ICC will calculate correct vent sizing on request.
4. Make sure you read the appliance installation instructions for vent limitations such as maximum horizontal length, maximum number of elbows, total vent height, common venting option, and other limitations that may affect the design and installation of this vent.
5. **DO NOT** connect a natural draft appliance to a common venting system deserving Cat. II, III or IV appliances.
6. Check the joints and seams for gas tightness when using the venting system with a Category III or IV appliance.
7. The venting system **SHALL NOT** be routed into, through, or within any other vent, such as an existing masonry or factory-built chimney flue. Exception: A masonry chimney flue may be used to route Model VIC if no other appliance is vented into the same masonry chimney flue.
8. Model VIC double wall vent can be used with single wall vent within the same installation as long as proper clearances are maintained.
9. The maximum height of un-guyed vent above the roof is 5 feet.
10. The vent shall extend at least 3ft. above its point of penetration with the roof and at least 2 ft. higher than any wall, roof or adjacent building within 10 ft of it.
11. **DO NOT FILL THE AIR SPACE** around the vent with insulation or any other material.
12. **Do not allow sawdust or construction debris** to accumulate around the vent. Clean all areas surrounding the vent before closing up any enclosed areas.
13. Except for installation in single or double family dwellings, a venting system that extends through any zone above the zone which the connected appliance is located shall be provided with an enclosure having a fire resistance rating equal to or greater than that of the floor or roof assemblies through which it passes.
14. Enclosure of exterior mounted venting systems below the roof line is recommended to limit condensation.
15. When required, a drain fitting should be located as close as possible to the appliance flue outlet.
16. **A pitch of at least ¼" to the foot or 2° must be maintained on horizontal run to prevent the accumulation of corrosive condensate.**

Planning your Installation

Prior to starting your installation, we suggest you take the following into consideration:

1. Check the appliance manufacturer's installation instructions to see all possible vent configurations.
2. Review all your options for the appliance location and also venting configuration. Try to minimize the alteration and reframing of structural components of the building (wall studs, water pipes, electrical wiring, ceiling joists, roof rafters, etc.). It may be easier to change the location of your appliance than to modify the building structure.
3. **Use only Model VIC listed components. Do not use damaged parts.**
4. **The horizontal vent termination on the exterior must be located in accordance with Codes and Regulations.**
5. **Any penetrations of ceilings, floors, or walls must be properly fire-stopped.**
6. **Contact your local building authority and/or fire officials for permits, restrictions and installation inspections. You may also wish to contact your building insurance representative.**

Tool checklist

Tools and equipment you may need for your installation.

- Eye protection
- Gloves
- Tape Measure
- Extension cord
- Marking pencil
- Nails
- Stud sensor
- Square
- Circular saw
- Hand saw
- Drill
- Drill bits
- Keyhole saw
- Ladder
- Level
- Pliers
- Caulking gun
- Hi temp. Silicone sealant
- Hammer
- Screwdrivers
- Screws
- Plumb Bob
- Cold chisel

Rules of Safety

1. Wear gloves when handling metal parts with sharp edges.
2. Wear safety glasses.
3. Electrical tools must be grounded.
4. If a ladder is required, it must be in good condition, installed on a firm surface, and leveled.
5. When cutting a wall, floor or ceiling, be careful not to damage wiring, gas or water pipes. If these elements need to be relocated, work should be done by a qualified person.

Assembling Notes

Use of sealant

The Model VIC vent has a factory installed high temperature gasket that will make a sealed connection. It is not required to apply sealant on any lengths or fittings. The only exception is the adjustable length. The adjustable length must be sealed with a factory supplied high temperature sealant (X-TRASIL #4706). Allow the sealant to cure for 24 hours before operating the appliance.

If the factory installed gasket is damaged in the field you can seal the joint with the high temperature sealant. Follow the same procedure as for the adjustable length.

Joint connection

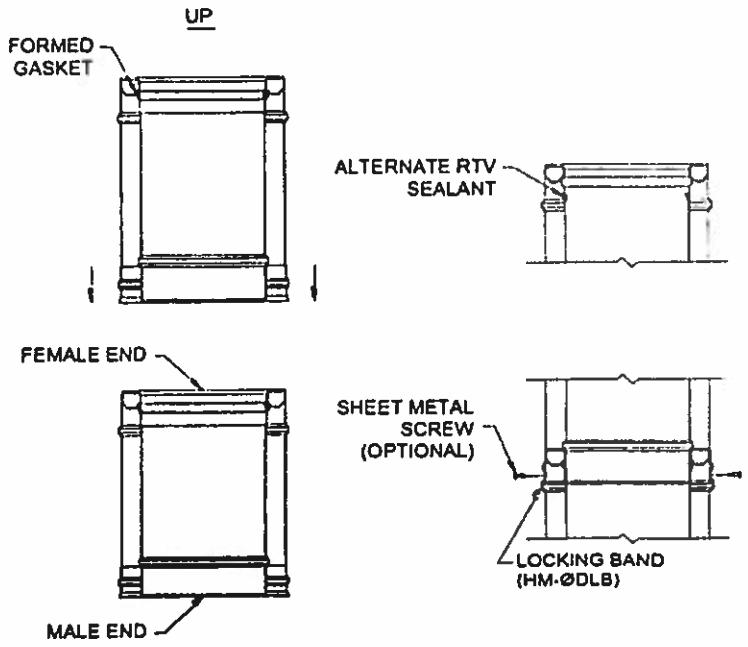


Figure 1

To connect two parts together simply insert the male end of one part into the female end of the adjoining part and press firmly until the outer casings are fully inserted one into another. Once the parts are firmly joined, install a locking band over the outer casing joint as shown in **Figure 1**. A locking band comes with every part. You can put a small amount of liquid dish soap on each gasket to make it easier to assemble the vent. Do not use a petroleum-based lubricant.

In addition to the locking band you can use #8-1/2 or bigger stainless steel sheet metal screws on the outer casing joint to make it stronger. Use a minimum of 3x screws (5"-10"), 4x screws (12"-14") or 6 screws (16"-24").

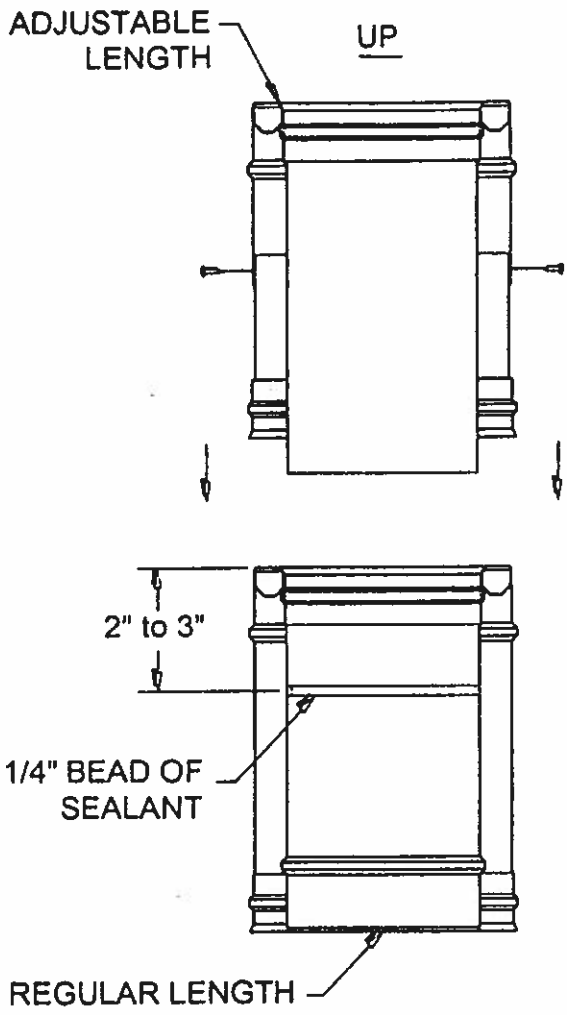


Figure 2

The adjustable length adjusts by sliding inside a regular length or fitting. The adjustment range is from 4 ½" to 9 ½" for the 12" adjustable length and 4 ½" to 22 ½" for the 24" adjustable length. The adjustable length is supplied fully extended. To adjust the adjustable length slide the bottom casing to the desire length then screw the two sections together with the self tapping screws provided Make sure each joint is clean by removing oil and other contaminants; alcohol has been found suitable to clean the joints. To seal the adjustable length you will first need to apply a ¼" bead of sealant inside the regular length or fitting about 2 to 3 inches from the female end. Insert the adjustable length inside the female joint by twisting slightly, to ensure even distribution of the sealant. Press firmly until the outer casings are fully inserted one into another. Once the parts are firmly joined, install a locking band over the outer casing joint as shown in **Figure 2**. The adjustable length comes with its own locking band.

In addition to the locking band you can use #8-1/2 or bigger stainless steel sheet metal screws on the outer casing joint to make it stronger. Use a minimum of 3 screws (5"-10"), 4 screws (12"-14") or 6 screws (16"-24").

RTV sealant (10 oz Cartridge & 3 oz Tube) Coverage

	5"	6"	7"	8"	9"	10"	12"	14"	16"	18"	20"	22"	24"
# of joints (10 oz)	50	42	36	32	28	25	21	18	16	14	13	12	11
# of joints (3 oz)	15	13	11	10	9	8	6	6	5	4	4	3	3

- The coverage is about 66 feet per 10 oz cartridge and 20 feet per 3 oz tube for a ¼" bead.
- Actual coverage may vary.

Note: The Appliance Adapter will most likely also be sealed using the RTV sealant. See the appliance manufacturer Instructions for detail.

Horizontal through the wall installation

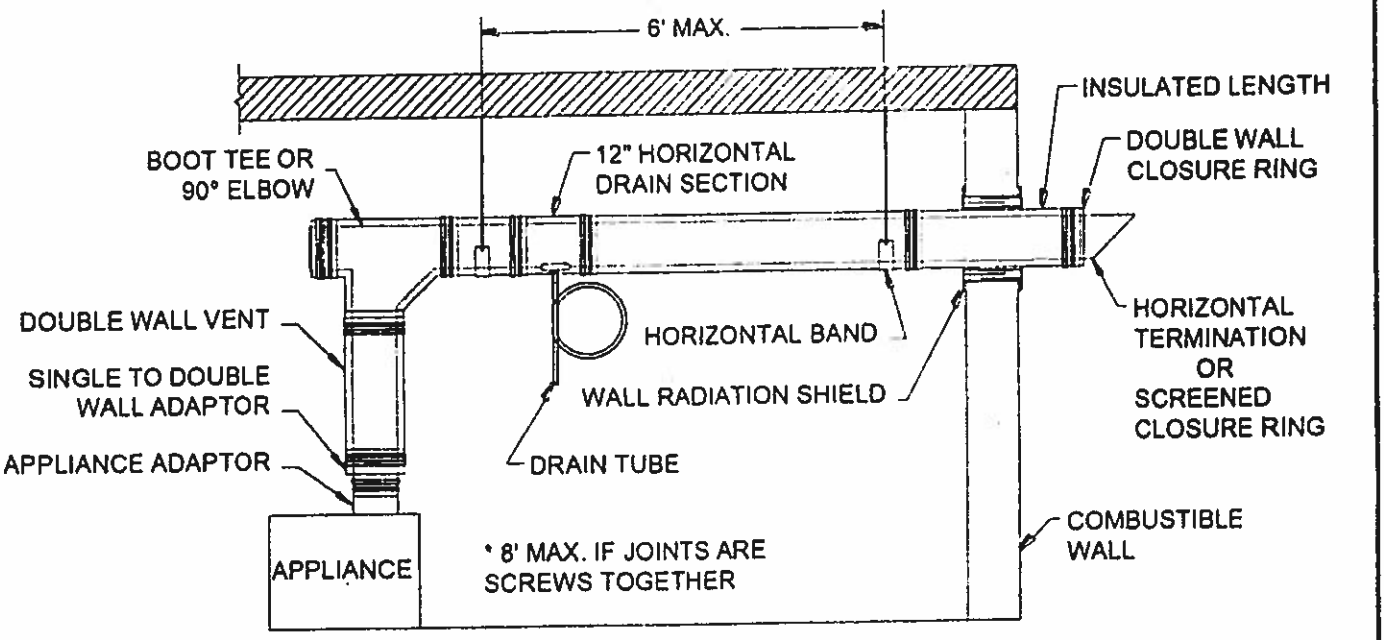


Figure 3

Requirements:

- The vent system must terminate with a Model VIC termination or with an approved mechanical vent device, or with the appliance manufacturer listed termination.
- The total continuous distance of the vent system from the appliance flue collar to the termination shall not exceed that specified in the appliance manufacturer's installation instructions. When venting natural draft appliances the termination must be at least 5 feet above the topmost draft hood. Otherwise a Listed mechanical draft inducing device is required.
- Termination Location:
  - (a) The vent shall terminate at least 3 feet above any forced air inlet located within 10 feet.
  - (b) The vent shall terminate at least 4 feet below, 4 feet horizontally from or 1 foot above AND 2 feet horizontally from any door, window or gravity air inlet into any building.
  - (c) The vent termination shall be at least 12 inches above grade or, in geographical areas where snow accumulates, at least 12 inches above the anticipated snow line.
  - (d) Through-the-wall vents for Category II and IV appliances and non-categorized condensing appliances shall not terminate over a public walkway or an area where condensate or vapors could create a nuisance or hazard or could be detrimental to the operation of regulators, relief valves or other equipment.
  - (e) The vent termination shall also be at least 8 feet horizontally from any combustion air intake, located above it.
- Proper means draining condensate should be provided. Proper sloping is required when the vent is installed horizontally.
- The drain fitting should be installed as close to the appliance flue collar as possible.
- Use non-combustible hanger straps or ICC horizontal bands every 6 feet to support the vent (8 feet if the joints outer casings are screws together). ¼"Ø treaded rod is typically used with ICC Horizontal Band. **Do not puncture the vent inner pipe with screws or other fasteners.**
- **The horizontal vent must slope upward toward the termination at least ¼" per foot and be installed so that all condensate runs back toward the appliance and is not retained in any part of the venting system. Exception: If the system is connected to a positive pressure (Category III or IV) appliance, terminates with a horizontal termination, and has no provision for draining condensation and/or rain water; then the vent must pitch downward toward the termination at a pitch at least ¼" per foot.**

1. Determine the appliance and termination location that agrees with both the codes and appliance manufacturer's requirements.
2. Cut and frame a square opening in the wall making sure the center of the hole is aligned with the center of the horizontal vent. **The opening must be 6" larger than the vents inner diameter.**
3. Install both parts of the Wall Radiation Shield and screw (or nail) them to the frame (see **Figure 4**). Seal the Wall Radiation Shield perimeter to the exterior wall with caulking to prevent water infiltration.
   Note: The Wall Radiation Shield will fit wall thickness from 5 3/4" to 10 1/2". For wall thickness smaller than 5 3/4", cut both sleeves as required. Once installed, an overlap of 1" minimum is necessary.

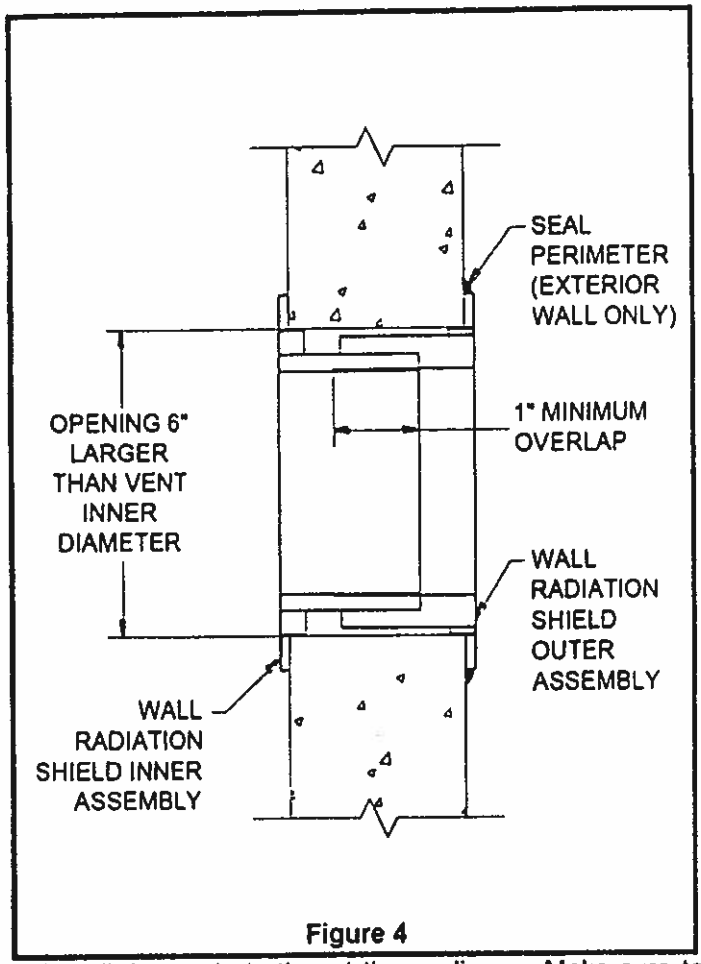


Figure 4

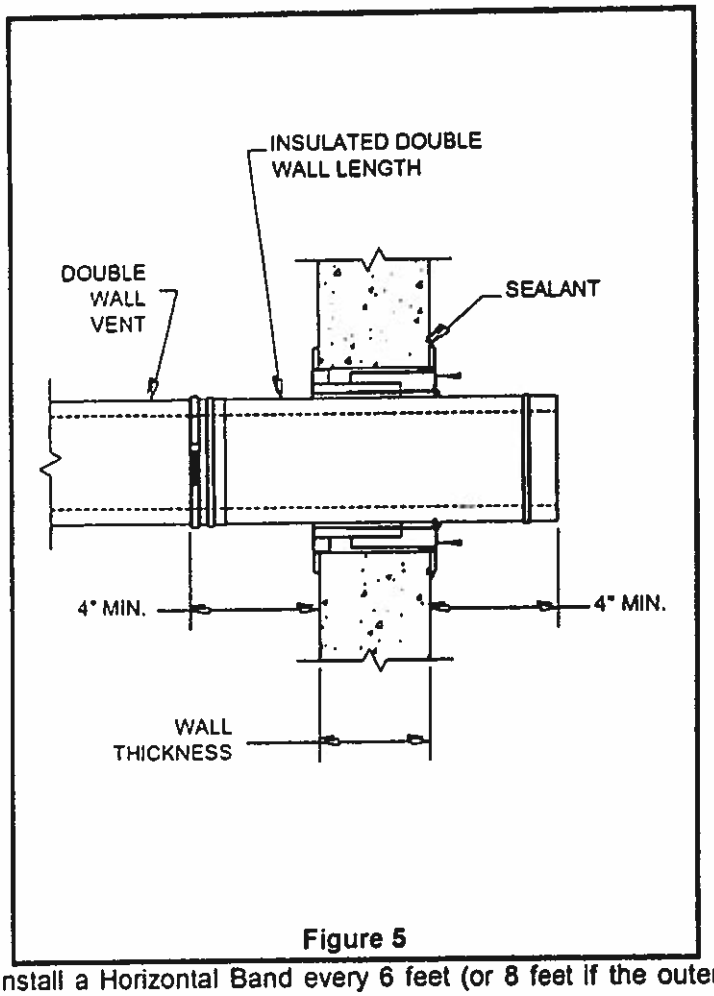


Figure 5

4. Install the vent starting at the appliance. Make sure to install a Horizontal Band every 6 feet (or 8 feet if the outer casings joints are screws together) or after every change in direction of the vent.
5. You will need to install an Insulated Length through the Wall Radiation Shield. The Insulated Length must be at least 8" longer than the wall thickness. Once installed, the Insulated Length must protrude at least 4" from the interior and from the exterior wall surface.
6. Screw the two half plates into the pre punched holes on the Wall Radiation Shield exterior plate (see **Figure 5**). Those half plates are supplied with the Wall Radiation Shield.
7. Check the make sure a minimum slope of ¼" per foot is maintained in the horizontal vent. Seal the Insulated Length's outer casing to the Wall Radiation Shield assembly using high temperature sealant to protect against water infiltration.
8. Install either the Horizontal Termination (miter cut) or the Screened Closure Ring on the Insulated Length.
9. Install the Double Wall Closure Ring to cover the end of the Insulated Length and hold the termination in place.

Note: If you are going through a non-combustible wall (concrete wall) you don't need to install the Wall Radiation Shield and the Insulated Length as long as proper clearances to combustibles are maintained around the double wall vent. A round opening 1" larger than the vent diameter is sufficient to allow the double wall vent to go through the non-combustible wall. Seal the gap around the vent with a Firestop and high temperature sealant.

Condensate Drains

If an internal condensate drain is not part of the appliance, but one is required per the appliance manufacturer's instruction or local code, install a 12" Horizontal Drain Section in the horizontal vent, as close as possible to the appliance flue collar.

A condensate drain is also required at the bottom of a vertical stack.

When installed, the Horizontal Drain Section drain shall be located on the bottom side of the vent system. A ½" diameter Drain Tube is available to direct the condensate to a floor drain. A trap loop must be formed in the drain hose and must be **a diameter that is at least four times the appliance's rated stack pressure in inches of water column or a minimum of 3 inches**. Secure the loop with a cable tie. Prior to final assembly the trap loop must be 'primed' by pouring a small quantity of water into the drain hose. The same apply to the Boot Tee / Drain Tee Cap on vertical installation.

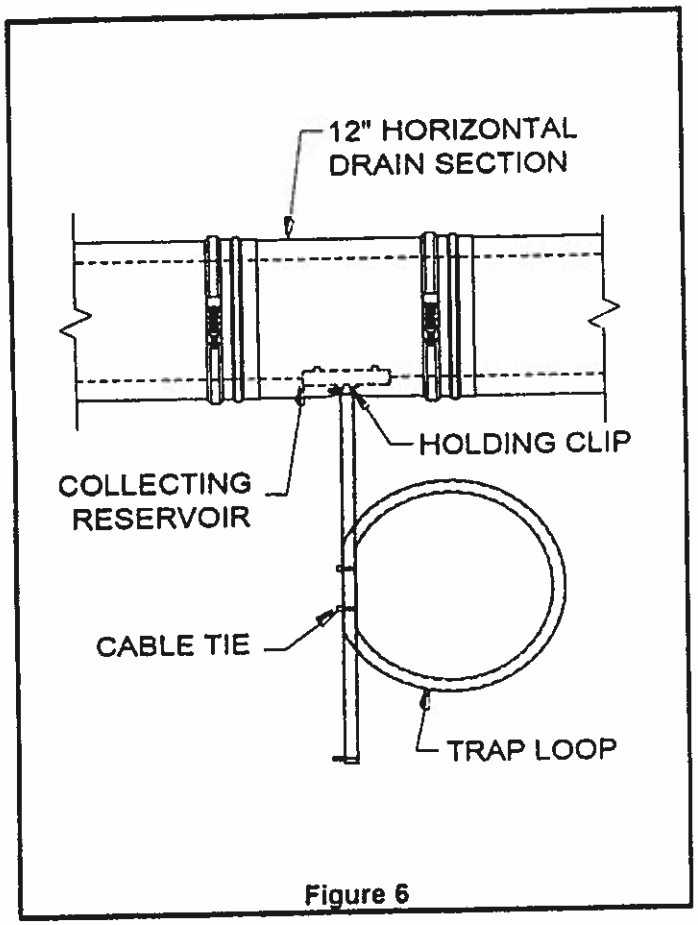


Figure 6

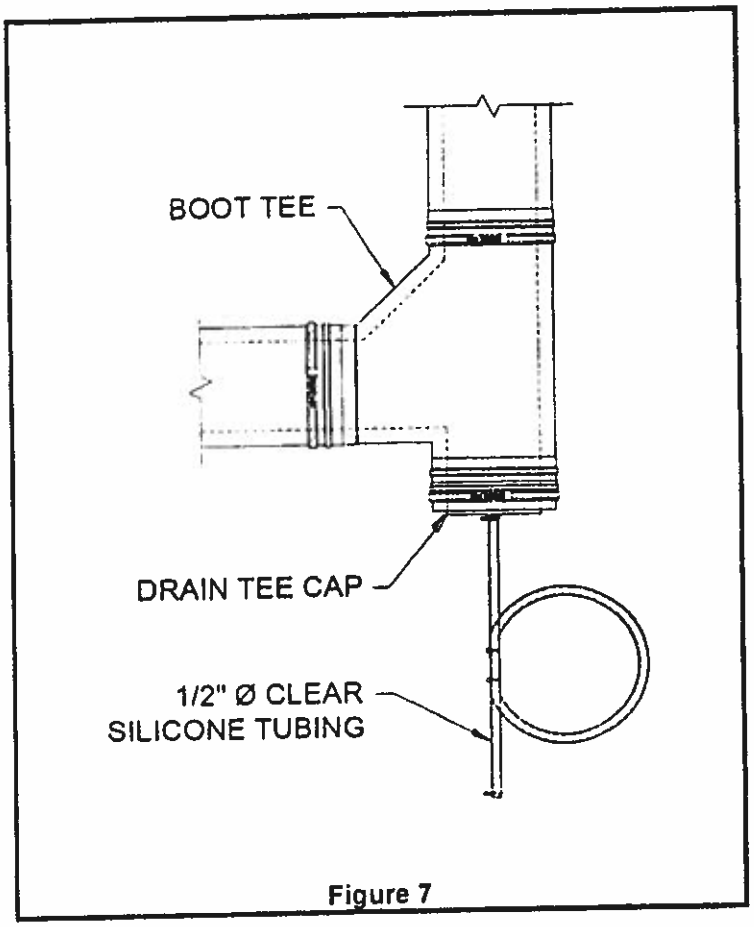


Figure 7

Vertical interior installation

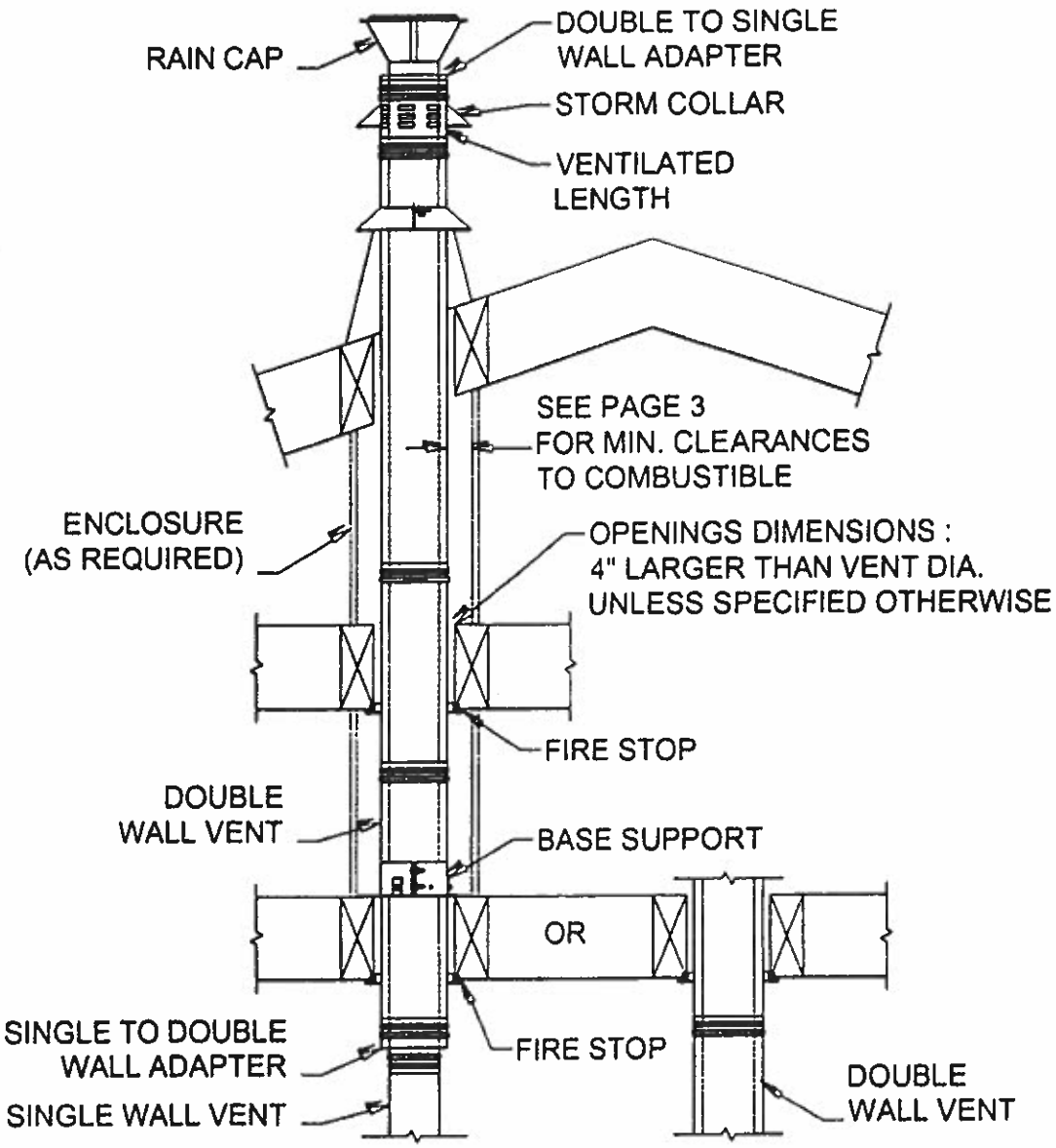


Figure 8

Requirements:

- Unless installed in a fire rated shaft (enclosure), a Firestop is required when going through floors and ceilings.
- Vertical termination must terminate no less than 2' above the roof. A Rain Cap or other equivalent termination is required to keep rain or debris out of the vent. Either Model VIC Terminations or approved mechanical vent devices that are specified or provided by the appliance manufacturer are permitted.
- When terminated at a height more than 5' above the roof line, the vent must be stabilized using a Guy Band. For a height of more than 20' contact the factory.

1. Determine the location of the appliance, floor openings and termination that complies with both the codes and appliance manufacturer's requirements.

2. Cut and frame square openings in the floor, ceiling and roof where the vent will pass. **The openings must be 4" larger than the vent inner diameter**. If you are planning to install a Roof Radiation Shield, the roof opening must be 6" larger than the vent inner diameter (see **Figure 10**).
3. From below, install a Radiation Shield In each floor opening. If you are installing a Base Support on top of the floor you will need to adjust the height of the radiation shield to match the floor thickness. The radiation shield is supplied fully extended. To adjust the radiation shield slide the top tube to the desire height then screw the two sections together with the self tapping screws provided (see **Figure 9**).
4. Install the vent starting at the appliance.
5. After the vent passes through a floor opening screw the two half plates (supplied with the Radiation Shield) using the pre-punched holes to the Radiation Shield base (see **Figure 9**). This will seal the gap around the vent and the Radiation Shield.
6. If you need to support the vent vertically, a Base Support or a Wall Support can be used. The Base Support is installed on top of a floor. The Wall Support can be installed anywhere in the system. Depending on your system layout one support may be better than another. Remember that a support needs to be installed after a vertical deviation.

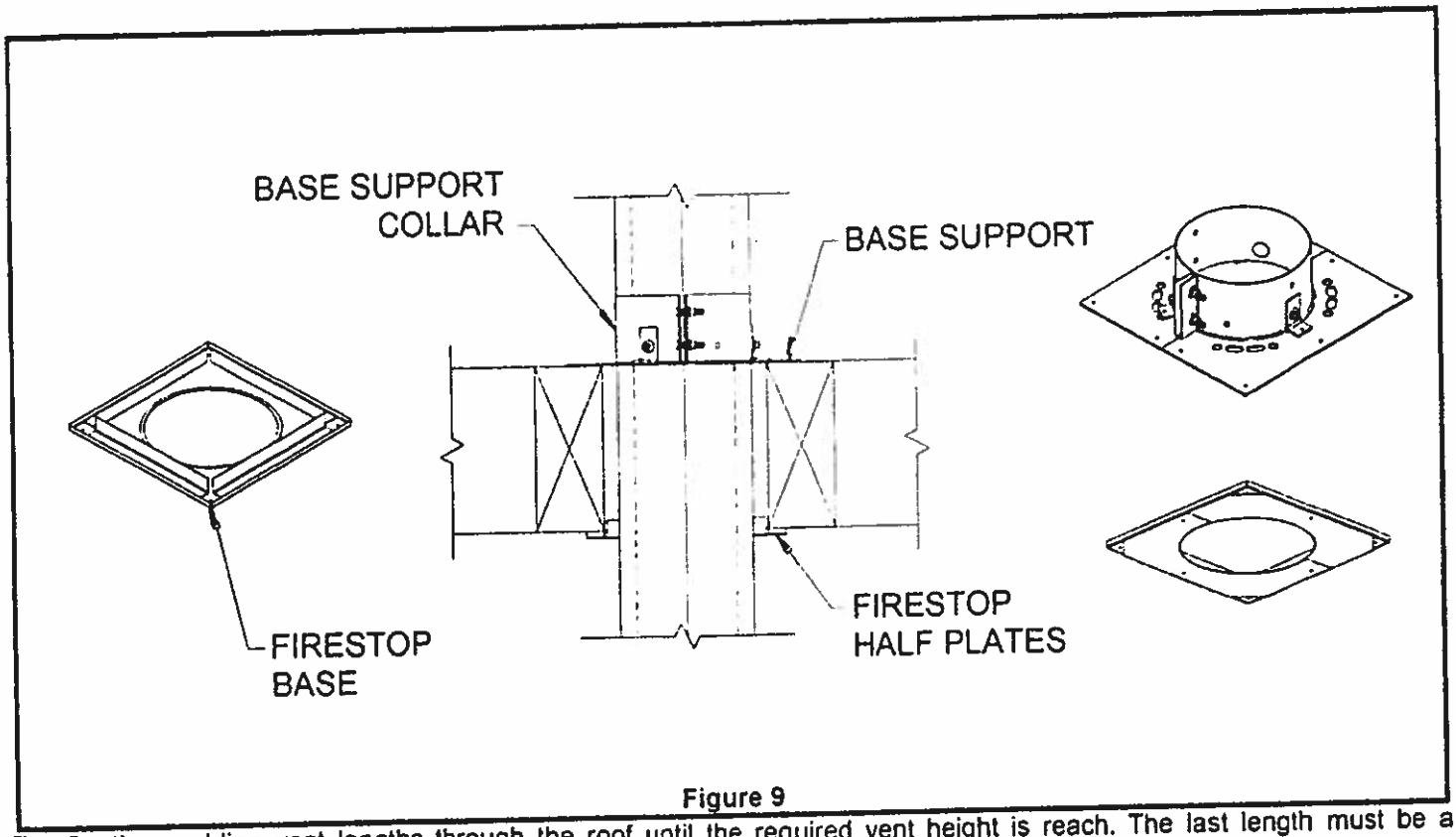


Figure 9

7. Continue adding vent lengths through the roof until the required vent height is reach. The last length must be a Ventilated Length. The maximum height of un-guyed vent above the roof is 5 feet. If you have more than 5 feet, install a Guy Band to provide stabilization.
8. A Base Support can be installed on top of a roof curb. Screw each support collar bracket to the support base using #10-1/2" or bigger sheet metal screws to provide extra stabilization.
9. Install the appropriate roof flashing for your roof pitch. A vented flashing is required for a combustible roof. Seal the flashing to the roof with roofing tar or silicone sealant. Place a storm collar over the vent and the flashing and over the Ventilated Length to cover the ventilation openings. Tighten them in place. Caulk the joint between the vent and storm collars with silicone sealant (see **Figure 10**).

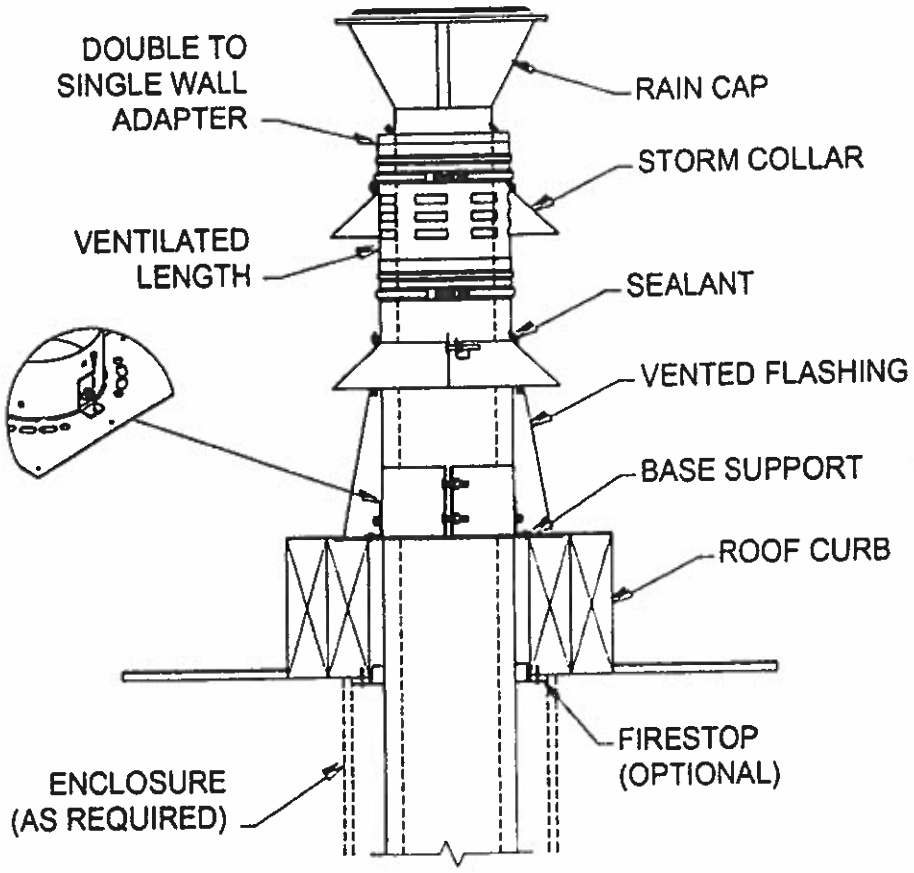


Figure 10

10. Put the rain cap over the Ventilated Length and push the Closure Ring onto the Ventilated length before installing the Locking Band. The Rain Cap comes with its own Closure Ring and Locking Band.

Vertical exterior installation

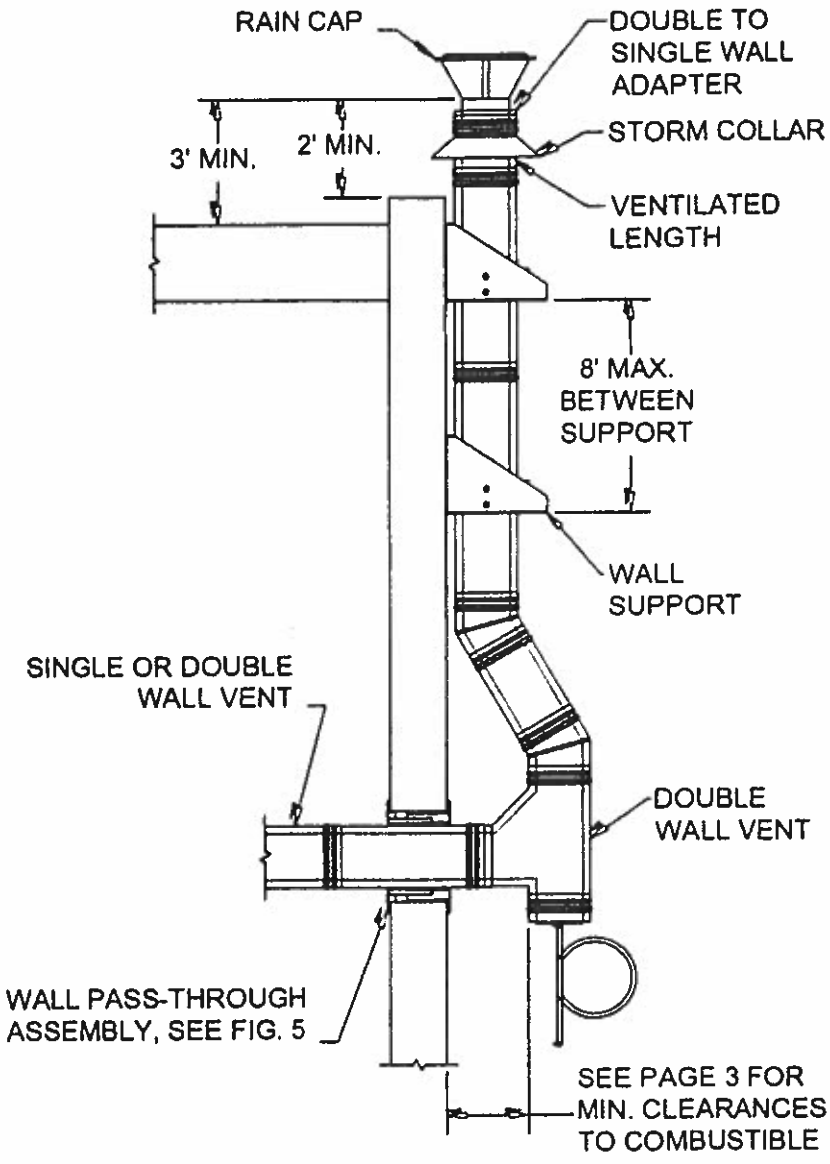


Figure 11

Requirements:

- In cold climates it is not recommended to run single wall vent on the outside of a building. If you have to install a condensing vent on the outside of a building we recommend installing a double wall vent or an insulated double wall vent. If possible, the double wall vent should be fully enclosed in an exterior chase.

1. Follow the instruction for a horizontal through wall installation, but instead of installing the horizontal termination you will need to install a Boot Tee and a Drain Tee Cap.
2. A Wall Support should be installed on the first vertical length after the Boot Tee and every 8' feet after that.

Base Support

The Base Support is the most common support. It can be used on any floor level or on top of a roof curb. The vent must first go through an opening before the support can be installed. Push the two half plates against the vent and screw them to the framing using five #8-1 1/2" screws or another appropriate fastener.

Put the support collar around the vent outer casing above the support base and flush with it. Tighten the collar. The collar can be screw to the vent outer casing using #8-1/2" sheet metal screws.

If desired you can screw the support collar brackets to the support base using #10-1/2" or bigger sheet metal screws. This is mandatory when a Base Support is installed on top of a roof curb.

The Base Support maximum load is 15 ft. of vent.

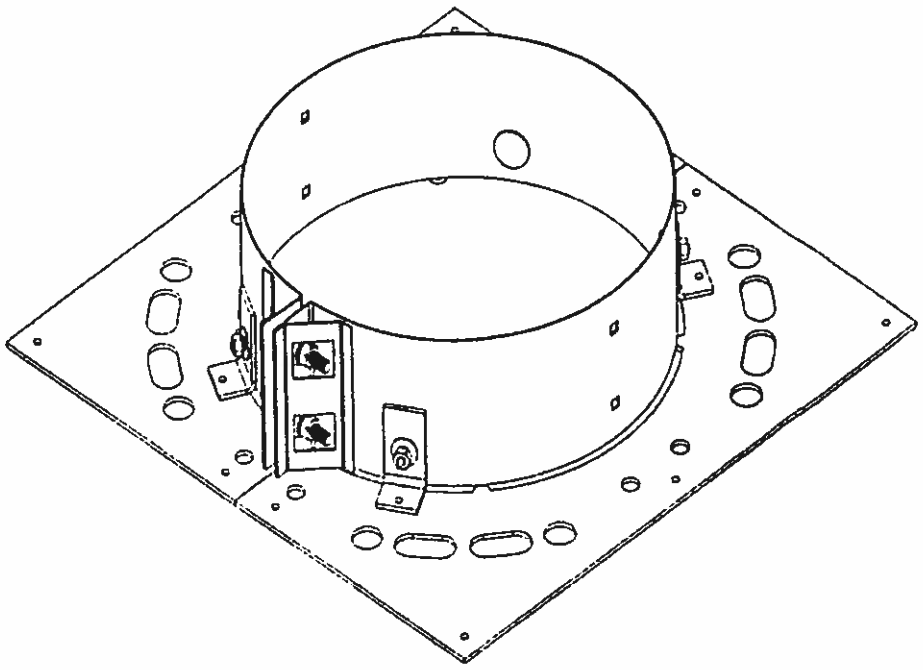


Figure 12

Wall Support

This support is used on a wall when the vent needs to be supported vertically.

Tighten the support collar around the vent. Make sure to insert the four elevator bolts in the appropriate openings in the collar before placing it around the vent. The collar can be screwed to the vent outer casing using #8-1/2" sheet metal screws. Using a level, trace a horizontal mark on the wall where you want to install the wall support brackets.

Fasten both brackets to the wall using six #10-2 ½" or larger screws.

The Wall Support can also be used to support horizontal run of venting from a ceiling.

The Wall Support maximum load is 15 ft. of vent.

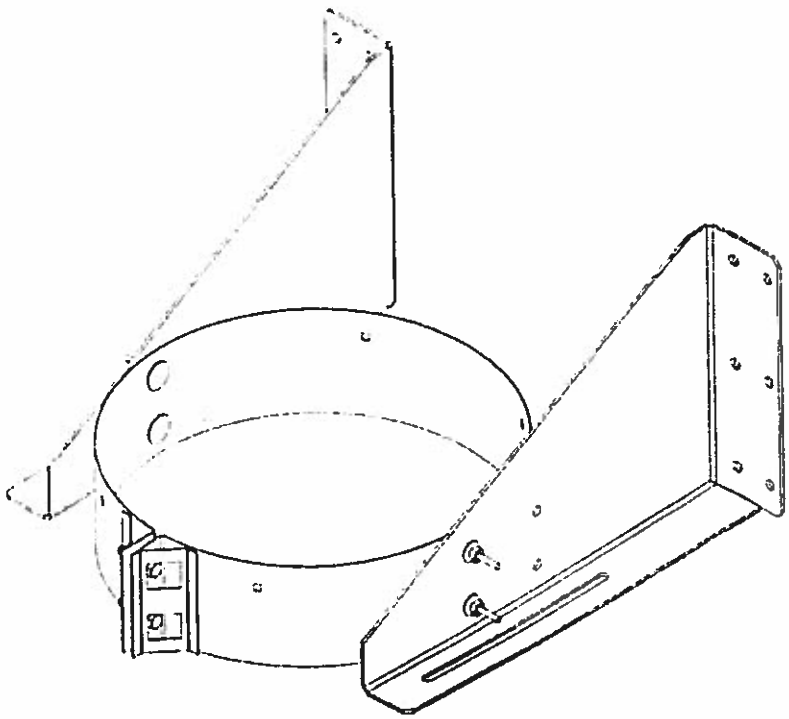


Figure 13

Horizontal Band

The Horizontal Band is a half band made of 10ga. Galvanized steel designed to support the vent when it travels horizontally.

Typically, ¼" diameter or larger threaded rod and fasteners are used to attach the band to the ceiling structure (not supplied).

Plumber strapping or any other hanging materials with a rating of 500 lbs. or more can also be used.

Typical configurations are shown in **Figure 14**. To prevent condensation from dripping on the floor never puncture or screw thorough the inner liner of the vent.

The maximum distance between Horizontal Bands is 6 feet (or 8 feet if the joint outer casings are screws together).

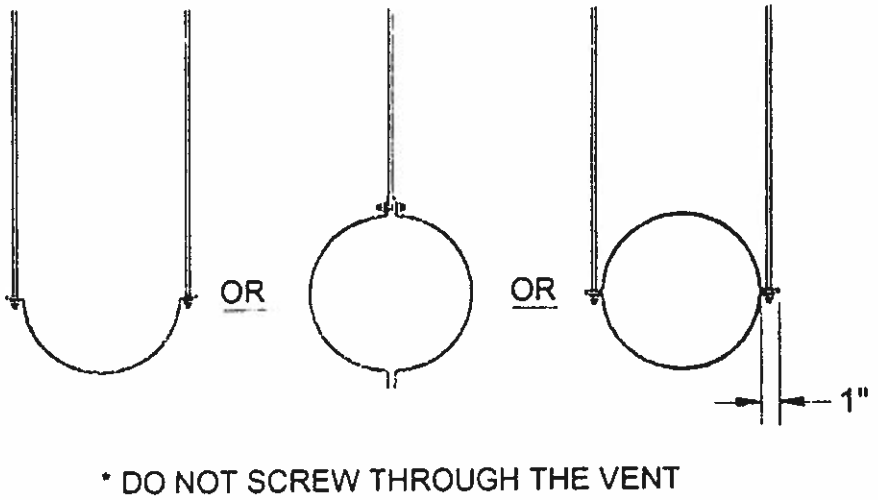


Figure 14

Guy Band

The Guy Band may be used to secure a vent above the roof. The maximum length of un-guyed vent above the roof is five feet. The maximum length of guyed vent above the roof is twenty feet. The maximum length of vent between guy bands is ten feet. If height greater than twenty feet is required above the roof, an engineered support system should be installed.

1. Place the band collar around the vent length at the desired location. Tighten the collar.

2. Attach guy wires to the band and to the roof or ceiling using adequate attachments (not supplied). Tighten the guy wires until the vent is properly located and secure.

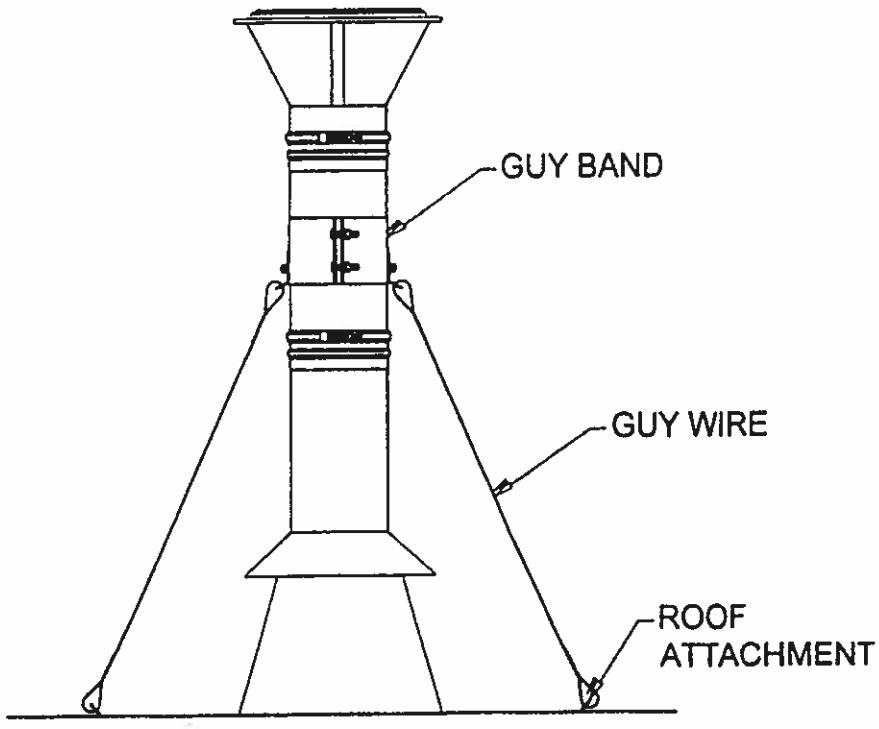


Figure 15

Horizontal termination location

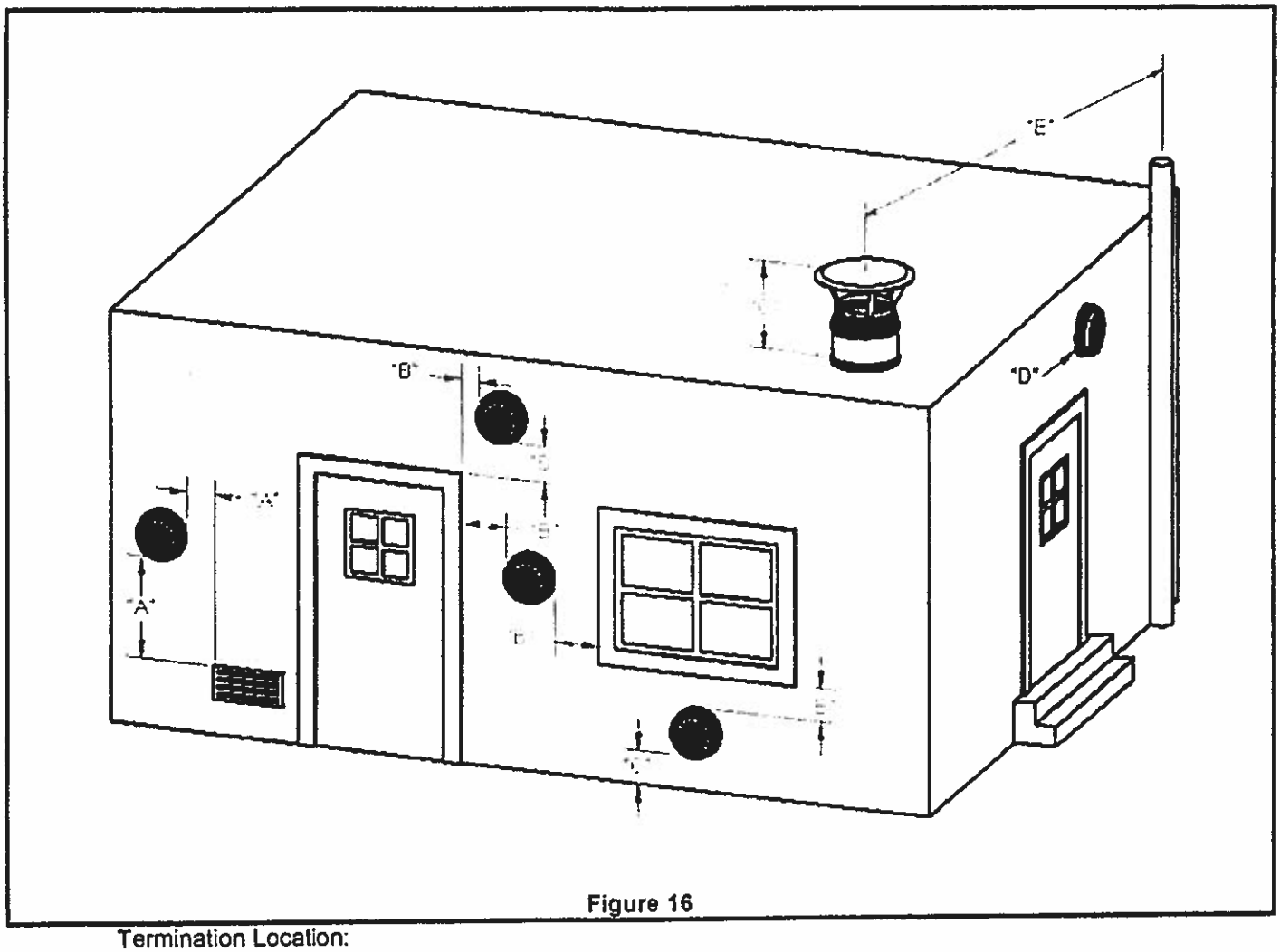


Figure 16

Termination Location:

- (a) The vent shall terminate at least 3 feet above any forced air inlet located within 10 feet in any direction.
- (b) The vent shall terminate at least 4 feet below, 4 feet horizontally from or 1 foot above AND 3 feet horizontally from any door, window or gravity air inlet into any building.
- (c) The vent termination shall be at least 12 inches above grade or, in geographical areas where snow accumulates, at least 12 inches above the anticipated snow line.
- (d) Through-the-wall vents for Category II and IV appliances and non-categorized condensing appliances shall not terminate over a public walkway or an area where condensate or vapors could create a nuisance or hazard or could be detrimental to the operation of regulators, relief valves or other equipment.
- (e) The vent termination shall also be at least 8 feet horizontally from any combustion air intake, located above it.

Model VIC Double Wall - Parts List

Component Name	AL29-4C	444	Note
Lengths			
48" Length	HC-ØDL4-FD	HC-ØDL4-ED	
36" Length	HC-ØDL3-FD	HC-ØDL3-ED	
24" Length	HC-ØDL2-FD	HC-ØDL2-ED	
12" Length	HC-ØDL1-FD	HC-ØDL1-ED	
6" Length	HC-ØDL6-FD	HC-ØDL6-ED	
24" Adjustable Length	HC-ØDLA2-FD	HC-ØDLA2-ED	
12" Adjustable Length	HC-ØDLA1-FD	HC-ØDLA1-ED	
12" Horizontal Drain Section	HC-ØDLHD-FD	HC-ØDLHD-ED	
12" Inline Test Port Section	HC-ØDIPS-FD	HC-ØDIPS-ED	
12" Ventilated Length	HC-ØDLV-FD	HC-ØDLV-ED	
$Ø_1$ TO $Ø_2$ Increaser	HM-$Ø_1$DI$Ø_2$-FD	HM-$Ø_1$DI$Ø_2$-ED	
Elbows & Tees			
15° Elbow	HE-ØDE15-FD	HE-ØDE15-ED	
30° Elbow	HE-ØDE30-FD	HE-ØDE30-ED	
45° Elbow	HE-ØDE45-FD	HE-ØDE45-ED	
90° Elbow	HE-ØDE90-FD	HE-ØDE90-ED	
90° Boot Tee	HE-ØDBT-FD	HE-ØDBT-ED	
90° Tee	HE-ØDT-FD	HE-ØDT-ED	
Regular Tee Cap	HE-ØDTC-FD	HE-ØDTC-ED	
Drain Tee Cap	HE-ØDTD-FD	HE-ØDTD-ED	
Supports & Firestops			
Base Support	HM-ØDBS		
Wall Support	HM-ØDWS		
Horizontal Band	HM-ØDHB		
Firestop	HM-ØDFS		
Wall Radiation Shield	HM-ØDWRS		
Terminations			
Rain Cap	HM-ØRC-F	HM-ØRC-E	HM-ØDSA is required
Horizontal Termination (Miter Cut)	HM-ØMC-F	HM-ØMC-E	HM-ØDSA is required
Screened Closure Ring	HM-ØSCR-F	HM-ØSCR-E	HM-ØDSA is required
Excit Cone	HM-ØDEC-FD	HM-ØDEC-ED	
Flashing and collar			
Flat Flashing	HF-ØDF		
Flashing 1/12 – 7/12	HF-ØDFA		
Flashing 8/12 – 12/12	HF-ØDFB		
Vented Flat Flashing	HF-ØDVF		
Vented Flashing 1/12 – 7/12	HF-ØDVFA		
Vented Flashing 8/12 – 12/12	HF-ØDVFB		
Storm Collar	HM-ØDSC		
Accessories			
Locking Band	HM-ØDLB		
Guy Band	HM-ØDGB		
Single to Double Wall Adapter	HM-ØSDA-FD	HM-ØSDA-ED	
Double Wall Closure Ring	HM-ØDCR-F	HM-ØDCR-E	

CONDENSING VENT WARRANTY

15 YEAR LIMITED WARRANTY

Industrial Chimney Company warrants to the original owner that model VIC Condensing Vent will be free of functional failure as a result of defects in materials or workmanship for a period of 15 years. This is a limited warranty subject to the following conditions.

- The system must be installed in accordance with ICC's written installation instructions and applicable building codes.
- The system must be inspected and maintained in accordance with ICC's written installation instructions.
- The system must only be used to vent appliances for which it is designed and certified.
- This warranty does not cover wear and tear that results from normal use, nor does it warranty systems installed in a corrosive environment.

REMEDIES UNDER THIS WARRANTY:

If a properly installed and maintained model VIC Condensing Vent System fails, the owner shall notify ICC in writing and shall not initiate repairs until instructed to do so by an authorized ICC representative. ICC will at its discretion repair, replace, or provide a refund for all defective parts.

ICC is not responsible for the labor costs related to the inspection, removal and replacement of the vent system.

ICC is not responsible for the shipping costs.

ICC is not responsible for any special, consequential, or incidental damage incurred by the owner or its contractors.

Any parts replaced under this warranty will be covered for the unexpired term of the original warranty.

LISTING

FORM OF PROPOSAL
Ogdensburg City School District
2018 Capital Outlay Project – Boiler Replacement

The Undersigned Northern Mechanicals, Inc.
Contractor

2 Baldwin Ave., Norwood, NY 13668
Address Zip Code

hereby certifies that he has examined and fully comprehends the requirements and intent of the drawings and specifications as prepared by BCA Architects & Engineers, for **CONTRACT NO. 1 - MECHANICAL** to furnish all labor, materials, supplies, plant and equipment and other facilities to properly perform the work for the total:

BASE BID SUM of

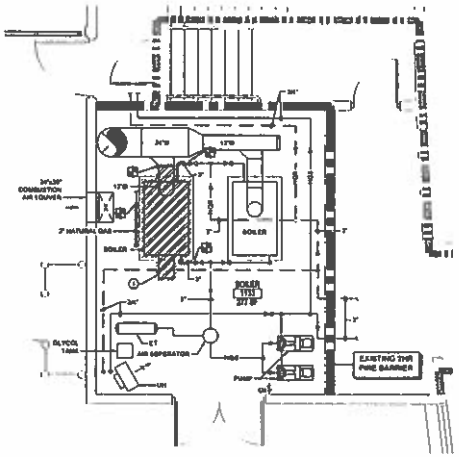
Fifty One Thousand Six Hundred Dollars and No Cents DOLLARS ($ 51,600.00)

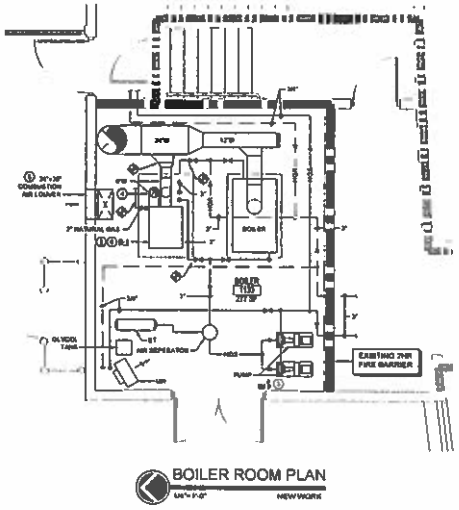
Bid Item No. 1 – Field Directive Allowance

Five Thousand DOLLARS ($ 5,000.00)

TOTAL BASE BID (Base Bid and Bid Item No. 1)

Fifty Six Thousand Six Hundred Dollars and No Cents DOLLARS ($ 56,600.00)





BOILER PLANT

A GENERAL

THE EXISTING BOILER PLANT WITH NEW REPLACEMENT BOILER B-1 IS CONFIGURED AS A CONSTANT FLOW PUMPING SYSTEM WITH THE BOILERS OPERATING LEAD/LAG. THE CONSTANT FLOW BOILER PLANT IS ENABLED TO OPERATE WHEN OA IS BELOW 66°F SETPOINT (ADJUSTABLE).

B BOILERS

1. PROVIDE CONTROLS NECESSARY TO INCORPORATE REPLACEMENT BOILER B-1 INTO EXISTING BOILER PLANT CONTROLS.
2. BOILER PLANT ENABLE/DISABLE SHALL BE CONTROLLED AND MONITORED THROUGH THE BUILDING MANAGEMENT SYSTEM (BMS).
3. PROGRAM TO DE-ENERGIZE BOILERS UPON SENSING A FIRE ALARM SIGNAL. BOILERS SHALL GO BACK IN AUTOMATIC START MODE UPON AN "ALL CLEAR" SIGNAL FROM THE FIRE ALARM PANEL CONTROLLER.
4. EXISTING COMBUSTION AIR LOUVERS SHALL OPEN WHEN EXISTING BOILER B-2 IS ENABLED AND CLOSE WHEN BOILER IS DISABLED.
5. NEW MOTORIZED COMBUSTION AIR DAMPER SERVING NEW BOILER B-1 SHALL OPEN WHEN EXISTING BOILER B-2 IS ENABLED AND CLOSE WHEN BOILER IS DISABLED.
6. THE BOILER PLANT SHALL BE ENABLED IF THE OUTSIDE AIR TEMPERATURE IS BELOW 66°F (ADJUSTABLE) AND SHALL MODULATE THE BOILERS TO MAINTAIN THE BUILDING LOOP SUPPLY WATER TEMPERATURE BASED UPON THE FOLLOWING OUTSIDE AIR RESET CONTROL SCHEDULE:

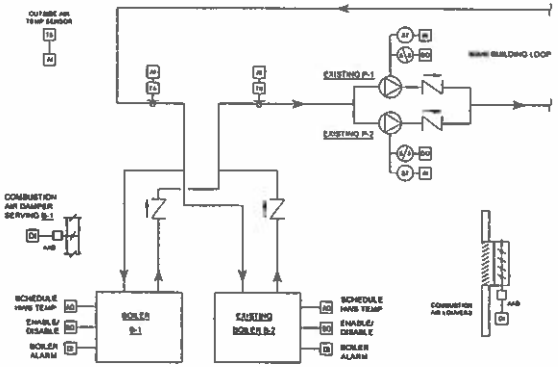
OA TEMPERATURE	HWS TEMPERATURE
-20°F (ADJUSTABLE)	180°F (ADJUSTABLE)
50°F (ADJUSTABLE)	160°F (ADJUSTABLE)

C EXISTING PUMPS

1. EXISTING PUMP P-1 AND P-2 ARE CONSTANT VOLUME PUMPS AND SHALL BE CONTROLLED THROUGH THE BMS.
2. PUMP SHALL RUN CONTINUOUSLY WHENEVER THE BOILER PLANT IS ENABLED. PUMP SHALL BE DISABLED WHENEVER THE BOILER PLANT IS DISABLED.
   a. PUMPS SHALL BE OPERATED WITH ONE PUMP IN OPERATION AND THE OTHER IN AUTOMATIC STANDBY.
   b. SELECTION OF THE OPERATING PUMP SHALL BE EVALUATED ON A WEEKLY BASIS TO EQUALIZE RUNTIME. OPERATING PUMP SHALL BE THE PUMP WITH THE LEAST RUNTIME.

D EXISTING ALARMS

1. PROVIDE AN ALARM FOR EACH OF THE FOLLOWING:
   a. FAULT ALARM (OUTPUT FROM BOILER CONTROL PANEL)
   b. HOT WATER SUPPLY TEMPERATURE SET POINT LOW/HIGH LIMITS
   c. HOT WATER RETURN TEMPERATURE POINT LOW/HIGH LIMITS
   d. ALL CURRENT ALARMS ASSOCIATED WITH CONTROL PUMPS
2. CARBON MONOXIDE AND NATURAL GAS SENSOR CONTROL
   a. WHENEVER EITHER ONE OF THE CONTAMINANT SENSORS INCREASE FROM 10% TO 25% OF ITS THRESHOLD EXPOSURE LIMIT (TEL) SOUND AN AUDIBLE ALARM AND SEND AN ALARM TO THE OPERATOR WORK STATION.



BOILER PLANT - HOT WATER 1

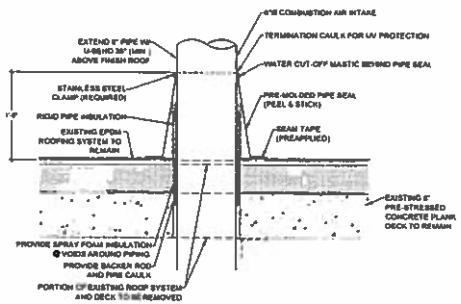
KEY NOTES - M-100

1. EXISTING 1827 MBH INPUT / 1246 MBH OUTPUT HOT WATER BOILER TO BE REMOVED. REMOVE BOILER SYSTEM IN ITS ENTIRETY INCLUDING BOILER TRIM AND BURNER. REMOVE EXISTING HOT WATER SUPPLY PIPING, HOT WATER RETURN PIPING, AND NATURAL GAS PIPING TO POINT OF DISCONNECTION SHOWN. TRACE OUT POWER SOURCE TO BOILER AND IDENTIFY BREAKER FOR FUTURE USE. DISCONNECT AND REMOVE EXISTING CIRCUITRY SERVING BOILER BACK TO SOURCE.
2. INSTALL HOT WATER BOILER AS INDICATED. PROVIDE PIPING AS SHOWN AND IN STRICT COMPLIANCE WITH MANUFACTURERS INSTALLATION REQUIREMENTS. ON EXISTING CONCRETE HOUSEKEEPING PAD. PROVIDE CONNECTION OF BOILER TO EXISTING BUILDING MANAGEMENT SYSTEM FOR CONTROL IN ACCORDANCE WITH CONTROL SCHEMATIC 1.
3. BOILER B-1 SHALL BE INTERCONNECTED WITH EXISTING EMERGENCY BOILER SHUT OFF SWITCH.
4. ROUTE NEW 8"Ø DUCTED COMBUSTION AIR INTAKE FOR BOILER B-1 UP THROUGH ROOF AND TERMINATE WITH A DOWNWARD TURNED 90 DEGREE ELBOW AT A MINIMUM OF 3' ABOVE ROOF LEVEL. SEE DETAIL-1 ON THIS SHEET. INSTALL MOTORIZED COMBUSTION AIR DAMPER PROVIDED BY BOILER MANUFACTURER WITHIN VERTICAL INTAKE DUCT AND WIRE TO BOILER CONTROLLER.
5. EXISTING COMBUSTION AIR LOUVERS TO REMAIN INTERLOCKED WITH OPERATION OF EXISTING BOILER.
6. PROVIDE (1) 15A-2P BREAKER TO SERVE NEW BOILER B-1 AND (1) 20A-1P BREAKER AS A SPARE CIRCUIT BOILER B-1 208VAC (3Ø/3), (1Ø/3W), 24/7C. PROVIDE MANUAL DISCONNECT AT BOILER.

HOT WATER BOILER SCHEDULE

UNIT TAG	LOCATION	SYSTEM FLUID	NATURAL GAS INPUT (MBH)	NATURAL GAS RATE (CFH)	OUTPUT MBH	BOILER HP	% EFF	RELIEF VALVE (PSI)	ELECTRICAL VOLTS/ PH	ELECTRICAL MOCP	FLUE / INLET CONNECTION	BASIS OF DESIGN MANUFACTURER	BASIS OF DESIGN MODEL NUMBER	REMARKS
B-1	BOILER RM	50%PG	1000	1000	1270	38.6	83.0	30	208/1	15 AMPS	8"Ø / 8"Ø	PATTERSON-KELLEY	H 1000MFD	1

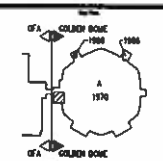
1 WITH FACTORY PROVIDED MOTORIZED COMBUSTION AIR DAMPER FOR DUCTED COMBUSTION AIR INTAKE



ROOF PENETRATION DETAIL 1

SCALE: 1 1/2" = 1'-0"

NOTE:
1. ALL WORK TO BE IN ACCORDANCE W/ ACCEPTABLE ROOFING INSTALLERS MANUFACTURER RECOMMENDATIONS. SO AS TO VOID CURRENT WARRANTY ON EXISTING ROOFING SYSTEM.



KEY PLAN
NTS

SED No. 51-23-00-01-0-002-011

Bernier, Carr & Associates,
Engineers, Architects and Land Surveyors, P.C.
327 Mullin Street, Watertown, NY 13601
(315) 782-0100 - www.thebcagroup.com

BCA ARCHITECTS ENGINEERS

OGDENSBURG CITY SCHOOL DISTRICT
2018 CAPITAL OUTLAY PROJECT
BOILER REPLACEMENT
Ogdensburg - St. Lawrence County - State of New York

Drawn By: JAC
Checked By: JAC
Scale: AS SHOWN
Date: 07/20/2018
Project No.: 2018-061
Revision: 0.3

MECHANICAL PLAN

M2-100

BID SET

CHANGE ORDER CERTIFICATION

Must be attached to back of Change Order

FP-COC 09/02, rev 08/06, rev. 04/10
Page One

THE STATE EDUCATION DEPARTMENT
THE UNIVERSITY OF THE STATE OF NEW YORK / Albany, NY 12234
Office of Facilities Planning, Room 1060 Education Building Annex
Tel. (518) 474-3906 Fax (518) 486-5918
www.emsc.nysed.gov/facplan/

Instructions: **This CERTIFICATION is required for all change orders submitted to SED**
Fill out all three parts completely.

Change Order Number:
1-01

Part One - General Information

Provide separate Change Orders for each Project Number

SED Project Number: 5 1 2 3 0 0 0 1 0 0 0 2 0 1 1
(District BEDS Code | Building Identification Number | Project number)

District & Building Name: Ogdensburg City School District - Golden Dome

Type of Project: ☐ Reconstruction /Alteration ☑ Addition & Alteration ☐ New Building ☐ Other

Project Description: Capital Outlay Project - Boiler Replacement

Architect / Engineer firm	**BCA Architects & Engineers** (name)	**327 Mullin Street**	**Watertown, NY 13601** (address)
Contact Person	**Shawn M. Travers, R.A. Principal/Architect** (name & title)	**(315) 782-8130**	**stravers@thebcgroup.com** (phone number & e-mail)
Construction Manager firm	**BCA Architects & Engineers** (name)	**327 Mullin Street**	**Watertown, NY 13601** (address)
Contact Person	**Stephen E. Shockley, Project Administrator** (name & title)	**(315) 782-8130**	**sshockley@thebcgroup.com** (phone number & e-mail)
District Contact Person	**Kevin Kendall, Supt. of Schools** (name & title)	**(315) 393-0900**	**kkendall@ogdensburgK12.org** (phone number & e-mail)

Part Two

Provide the following information for each individual item in the change order:
(Number each item if there is more than one and provide additional sheets as necessary.)

A. **Requested By** (Who initiated the change request)
B. **Relationship to Project Scope** (How is this change related to the original project scope)
C. **Basis of Need** (Describe why the change is needed)
D. **Description of Work** (Provide a detailed description of the work or services provided in the change order. Provide text, a drawing or both as necessary to demonstrate code compliance and the individual cost of each item.)

A1	Mechanical Contractor discovered.
B1	As part of the Capital Outlay Project, a new boiler was scheduled as per contract drawing M2-100.
C1	Upon startup, Mechanical Contractor discovered negative flue pressure within the existing boiler breeching. As such, a new flue was installed to separate the two incompatible venting systems, and allow each boiler to operate properly.
D1	Add for new boiler flue to maintain proper breeching separation between existing natural draft and new forced draft boilers.

A2	Owner requested credit.
B2	As part of Contract 1 - Mechanical, there was a Field Directive Allowance in the amount of $5,000.
C2	During construction, there were no field orders charged against the Field Directive Allowance, leaving the full balance of $5,000.
D2	Deduct for the remainder of the Field Directive Allowance.

CHANGE ORDER CERTIFICATION

Part Three

1 **Change order requirements:**

- ✔ The scope of the change order must relate to the project scope previously approved.
- ✔ Dollar amounts applied from allowances toward costs associated with the changes must be provided.
- ✔ If the cost of this change order is not within the approved amount as currently established on the SA-4, please provide a Form FP-FI, Request for Revision of Financial Information, with documentation showing the additional authorization of funds.
- ✔ Each change order shall be signed by the president of the board of education, the architect/engineer, and the contractor.

2 **Certification of the Superintendent of Schools (District Superintendent if a BOCES project)**

The following statements are true and correct to the best of my knowledge and belief:

- The revised total cost is within the authorized appropriation for this project.
- Where any work of this change order requires a type or kind of work that is not included in the original contract documents, the school district's attorney has been contacted to assure conformance with the Opinion of the State Comptroller No. 60-505.

2/7/19
Date

Kevin K Kendall
Mr. Kevin Kendall, Superintendent of Schools

3 **Certification of the Architect or Engineer**

The following statements are true and correct to the best of my knowledge and belief:

- Work required by this change order is in accordance with applicable sections of the approved contract documents.
- Any plan, sketch, or attachment referenced In this change order is included herein.
- Work required by this change order is in accordance with applicable provisions of the NYS Uniform Fire Prevention and Building Code, State Education Department's building standards, and NYS Department of Labor's Code Rule 56.
- Work required by this change order was designed by an architect or engineer who is currently licensed by the State of New York.
- Work required by this change order that involves asbestos-containing building material (ACBM) was designed by an architect or engineer who is currently licensed by the State of New York and who is appropriately certified as an asbestos designer by the NYS Department of Labor at the time he/she designed the asbestos-related project.

Bernier, Carr & Associates: Engineers, Architects, and Land Surveyors, PC
Architectural / Engineering Firm Name

1.17.19
Date

Mr. Shawn M. Travers, RA