

# Sample Assembly Letter

Date

ACC  
1713 East Lincoln Avenue B3  
Fort Collins, CO 80524  
(970) 493-2801

**Manufacturer**  
**District Technical**  
**Specialist**  
Roofing Systems Group  
Address  
Phone

**RE: ST6RA - Building Project No**

To Whom It May Concern:

**Roofing Assembly** as proposed

<i>Deck:</i>	Structural Concrete	
<i>Vapor Barrier:</i>	Vapor Barrier SA with SA Primer , 1 ply	Self-adhered
<i>Insulation:</i>	ENRGY 3, R-25	Field bead spacing: 12" o.c.; Perimeter bead spacing: 6" o.c.; Corner bead spacing: 4" o.c. (4'x4' maximum board size) using Two-Part Urethane Insulation Adhesive (2UIA) 3/4" bead
<i>Cover Board:</i>	Securock Gypsum Fiber Board, 1/2"	Field bead spacing: 12" o.c.; Perimeter bead spacing: 6" o.c.; Corner bead spacing: 4" o.c. (4'x4' maximum board size) using Two-Part Urethane Insulation Adhesive (2UIA) 3/4" bead
<i>Membrane:</i>	TPO 60 mil 10 ft sheets	Adhered using TPO Membrane Adhesive (Low-VOC)

**Perimeter and Corner Dimensions**

Perimeter and corner dimensions for buildings less than 60 ft. in height:

Equal to the smaller of:

- 0.1 times the building lesser plan dimension (overall length or width)
- 0.4 times the eave height

but will never measure less than 0.04 times the building lesser plan dimension and never less than 3 ft.

Perimeter and corner dimensions for buildings greater than 60 ft. in height:

Equal to 0.1 times the building lesser plan dimension (overall length or width), but never less than 3 ft.  
Corners are "L" shaped with legs twice the width of the perimeter.

Buildings with continuous parapets 36" or greater may treat corners as perimeters.

Ensure any whole or partial insulation board that falls within the calculated perimeter or corner has the increased securement applied over the entire board. This must also be true for any roof cover/base sheet width when the roll is parallel to the building edge.

**Performance/ Technical Information**

- Fastening densities are consistent with FM NC-135 SH wind uplift resistance

All Manufacturer materials installed as listed above are compatible and made in the USA. The system(s) shall be eligible for a 10 year No Dollar Limit (NDL) Manufacturer Roofing System Guarantee when installed by a certified contractor and inspected and approved by a manufacturer Technical Representative. All materials supplied or marketed by Manufacturer will be covered under the terms and conditions of this agreement.

Thank you for your interest in our roofing products and services. Please contact Manufacturer or ACC if any information is incomplete or incorrect so that appropriate modifications can be made. If you have any questions, please do not hesitate to contact our technical department at phone #.

Regards,

*District Technical Specialist*

*Manufacturer is a manufacturer of commercial roofing products and offers this general conceptual information to you as a courtesy. This complimentary assistance is not to be used or relied upon by anyone as a substitute for professional engineering design or documentation required by building code, contract or applicable law. By accepting these comments you agree they do not constitute any representations, endorsements of, or an assumption by Manufacturer of any liability for either the adequacy of the design of this building or of any material not supplied by Manufacturer. These comments are for Manufacturer Guarantee purposes only. Additional requirements may be necessary as determined by contract documents, building code and regulations, or governing entity.*

# Sample Wind Calculation Letter

Technical Services

Date

Project Name:

To Whom It May Concern:

After careful review of the submitted information provided by your firm for the Project Name, we have calculated the design wind pressures based on the following information:

## Project Information

ASCE-7 Basic Wind Velocity: 120 mph  
Exposure Category: D  
Height of Roof (at eave): 25 ft.  
Importance Category: 1.15  
Topographic Factor: 1  
Enclosure Classification: 0.55

From this the following calculations can be considered.

## Wind Calculations

**Velocity Pressure Equation:**  $q_h = .00256(K_z)(K_{zt})(V)^2(I)$  where,

$K_z$  = Velocity Pressure Coefficient = 1.12

$K_{zt}$  = Topographic Factor = 1

$V$  = Basic Wind Speed = 120 mph

$I$  = Importance Category = 1.15

$q_h$  = Velocity Pressure at Mean Roof Height (note: for low slope roofs less than 2:12 slope, this is the eave height)

Therefore,  $q_h = .00256(1.12)(1)(120)^2(1.15) = 47.48$

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**Wind Uplift Pressure** =  $q_h[(GC_p) - (GC_{pi})]$  where,

$q_h$  = Velocity Pressure Coefficient = 47.48

$GC_p$  = Value of External Pressure Coefficient for the

$GC_{pi}$  = Value of Internal Pressure Coefficient = .55

Field = -1.0

Perimeter = -1.8

Corner = -2.8

Based upon the project information, the calculated wind pressures are as follows:

Field Uplift Pressure = -73.60psf

Perimeter Uplift Pressure = -111.58psf

Corner Uplift Pressure = -159.06psf



**Note: All budgets are viable and based off of a formula produced from years of competitive bid results and processes which produce an average :**

## Budget Estimate

(20 Year No Dollar Limit Manufactures Warranty)

RE: Property Description and Address

Page 1 of \_\_\_\_

### **Scope of Work Included in Budget:**

- 1) Per attached roof plan remove sections indicated and dispose of all existing ballast and roofing.
- 2) Inspect gypsum deck and repair any damaged decking. If any decking requires surface repair an additional charge of \$6.50 per square foot will be incurred. If any decking requires full depth repair an additional charge of \$13.85 per square foot will be incurred.
- 3) Install manufacturer 1/2" gypsum cover board fully adhered using 2 part urethane adhesive per manufacturer's instructions.
- 4) Install manufacturer **White .060 mil fully adhered roof system** with complete details per manufacturer's instructions.
- 5) Install walk pads at access panel side of HVAC units.
- 6) Re-use existing curb counter flashings as needed; install new slip flashing as needed.
- 7) Clean and remove all related debris.
- 8) Local building permit estimated cost per building department.
- 9) **Manufacturer 20 year No Dollar Limit Labor and Material Guarantee** is included with **90mph wind** and **2" Diameter Hail** coverage. **The warranty also includes manufacturer inspections of the roofing installation.**
- 10) **Option:** Install new pyramid shaped acrylic bronze colored skylights with thermal break frame is an additional \$1,550.00 per skylight.
- 11) Existing electrical and gas lines will remain and no work to these items is included. Replacement or repair of rusted HVAC stacks is not included, but boots that tie into the new roof are included.

### **Budget:**

COGS & Expenses	\$208,072.17
Manufacturer Warranty Fees	\$ 4,648.00
Building Permit	\$ 8,126.00
Overhead and Profit ≤15%	\$ 34,300.62
Taxes ≤7%	\$ 7,824.61
Bonding 1.75%	\$ 4,601.99
<hr/>	
Total	\$267,573.39





Project No \_\_\_\_\_  
Project Specific-Basic Install Specifications  
RE: Replace Roof

- 1) Include all required building permits and licensing.
- 2) Supply dumpster and follow all contractual or jurisdictional recycling or disposal requirements
- 3) Include Manufacturer No Dollar Limit 20 year Labor and Material Warranty and all applicable fees, with manufacturer inspections (Only the manufacturer's employee qualified roofing inspector shall perform the tests and inspections required, no manufacturer product representatives, distributor representatives, outside 3rd party representatives, etc. are allowed). All installation and materials are to be solely of the manufacturer providing the warranty, new, in manufacturer packaging or evidence that partial materials were bought and shipped new from the distributor (copies of receipts could be required at the owners discretion) after issuance of the contract or NTP and being installed per manufacturer requirements and specifications. **No left over shop materials permitted under any circumstances, glues and adhesives are required to be stored in manufacturer required conditions, etc. thus, shop materials are to be considered damaged and not allowed to be used.**
- 4) Roofing bid must include but not limited to all labor, materials and equipment necessary to complete the roofing:
  - a. Removal of existing metal coping and flashings as required.
  - b. Removal of existing EPDM on walls, field, curbs, etc., cover board, taper system, crickets, vapor barrier, etc. down to existing sloped concrete deck, existing asphalt does not have to be completely removed, but all loose debris/asphalt, lumps, etc. must be scraped clean and flat to allow new SA vapor barrier and primer to adhere per manufacturer.
  - c. Concrete Surface Preparation: After demolition is complete, thoroughly examine concrete roof surfaces for loose concrete, spalls, and other defects. In regions where surface defects are encountered, protect adjacent surfaces and spaces as required and prepare surfaces for patching using the attached products **Exhibit A**. Roofer to provide unit price on bid form for all costs to complete this scope.
  - d. Walls and Parapet Cap Preparation: After demolition is complete, thoroughly examine existing plywood on walls for defects and replace with new ¾" fire rated plywood per instructions prior to installing new cover board and membrane. Roofer to provide unit price on bid form for all costs needed to complete this scope.
  - e. Prime concrete deck using manufacturer SA Primer LOW VOC per manufacturer instructions.
  - f. Install manufacturer Vapor Barrier SA on field per manufacturer instructions (see attached documents) **Exhibit B**.
  - g. Install ½" manufacturer Gypsum Fiber Roof Board on all parapet walls and cap per plans with fasteners and plates every 2 square feet or 2 part urethane adhesive (2UIA) with beads 4" o.c. (if 2 part is used only 4'x4' sheets can be used).



- h. Install 2 layers of 2.2" manufacturer ISO on roof sections 1 and 2 over new vapor barrier using 2 part urethane adhesive with 3/4" beads and spacing of 12" o.c. field, 6" o.c. perimeter and 4" o.c. corner, 4'x4' maximum board size. **Exhibit C**. Use not less than two layers of insulation when insulation is 2.7 inch or more in thickness unless specified otherwise. Stagger joints minimum 6 inches. The thickness at the low point (drains) shall be not less than 1-1/2 inches.
- i. Install manufacturer ISO crickets on roof sections 1 and 2 per plans 1/2" per foot slope using 2 part urethane adhesive per above specifications, 4'x4' maximum board size.
- j. Install 1/2" manufacturer Gypsum Fiber Roof Board on roof sections 1 and 2 over new ISO and crickets using 2 part urethane adhesive with 3/4" beads and spacing of 12" o.c. field, 6" o.c. perimeter and 4" o.c. corner, 4'x4' maximum board size.
- k. Install 60 mil white TPO fully adhered using LOW VOC TPO membrane bonding adhesive per manufacturer on field, fully up and over walls, curbs, etc. Complete install of new roof system per manufacture.
- l. Install manufacturer ISO taper system 1/8" per foot over the entire roof excluding sections 1 and 2 and canopies per plans and attached drawing-**Exhibit D**, using 2 part urethane adhesive per above specifications, 4'x4' maximum board size. Use not less than two layers of insulation when insulation is 2.7 inch or more in thickness unless specified otherwise. Stagger joints minimum 6 inches. The thickness at the low point (drains) shall be not less than 1-1/2 inches.
- m. Install manufacturer ISO crickets over entire roof and canopies using 2UIA per plans and attached drawing-**Exhibit D**, 1/2" per foot slope.
- n. Install 1/2" manufacturer Gypsum Fiber Roof Board over entire roof over taper system and crickets and directly over concrete and crickets on canopies using 2 part urethane adhesive with 3/4" beads and spacing of 12" o.c. field, 6" o.c. perimeter and 4" o.c. corner, 4'x4' maximum board size.
- o. Install TPO accessories preformed or universal corners (detail membrane or field wrapping can be used but only when preformed or universal corners can't be), TPO pipe boots, screws, metal plates, etc.
- p. Install 700 lineal feet of TPO grey walkway per plans and owner cut into 36" long pieces spaced 12" apart, heat welded and spaced away from seams per manufacturer.
- q. Tie into new roof and flash per manufacturer details and warranty specifications all existing and new roof curbs, penetrations, etc.
- r. Metal edging and reglet counter flashings around HVAC units, installs manufacturer sealing mastic, termination bar and white TPO caulking per manufacturer.
- s. Include all HVAC work, raising of units, etc. to a minimum of 8" above the roof surface unless instructed otherwise by owner.
- t. All lightning protection system and connections will be completed by other.
- u. Install wood nailers as required by manufacturer or owner.

- 5) Weather Limitations: Proceed with reroofing preparation only when weather conditions permit Work to proceed without water entering existing roofing system or building. Apply dry roofing materials. Apply roofing work over dry substrates and materials. Apply materials within temperature range and surface and ambient conditions recommended by manufacturer.
- 6) Follow attached plans and owner instructions phasing requirements, use of premises, for demolition, stocking, installation, etc. **Exhibit E**. Pass all inspections by owner and manufacture and correct any failing discrepancies within 24 hours. Two year workmanship warranty per owners and manufacturer warranty requirements.
- 7) All employees shall have the 10-hour OSHA Construction Safety course or other relevant competency training **include certificates with bid or check box stating certificates will be supplied within 1 week of Notice of Award (NOA)**.
- 8) Roofer must accommodate schedule and contractual requirements with owner at all times and must attend all weekly safety meetings if required. \$250.00 per day liquidated damages does apply to this project.
- 9) Furnish all temporary toilets and utility service needed to complete project and install all project fencing surrounding building and staging yard.
- 10) Bid submission and signature can't be withdrawn for a period of 30 days from bid date and time. Roofer/Subcontractor shall begin performance within 10 calendar days of Notice to Proceed (NTP) and complete work within contracted period specified.
- 11) Standard AIA Bid Bond Required.
- 12) This is a Davis Bacon Wage project; see attached wage decisions and WH347 form which must be submitted weekly to owner. **Exhibit F**.
- 13) Meet, follow and comply with all OSHA safety regulations and owner or prime contract requirements.
- 14) **Exhibit G**, building and roof photos.
- 15) **Exhibit H**, Eagleview Report.
- 16) Project is not tax exempt; include all taxes within bid submitted.





### Pitch Diagram

Pitch values are shown in inches per foot, and arrows indicate slope direction. The predominant pitch on this roof is 0/12.



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**Note:** This diagram contains labeled pitches for facet areas larger than 20 square feet. In some cases, pitch labels have been removed for readability. Gray shading indicates flat, 1/12 or 2/12 pitches. If present, a value of "F" indicates a flat facet (no pitch).

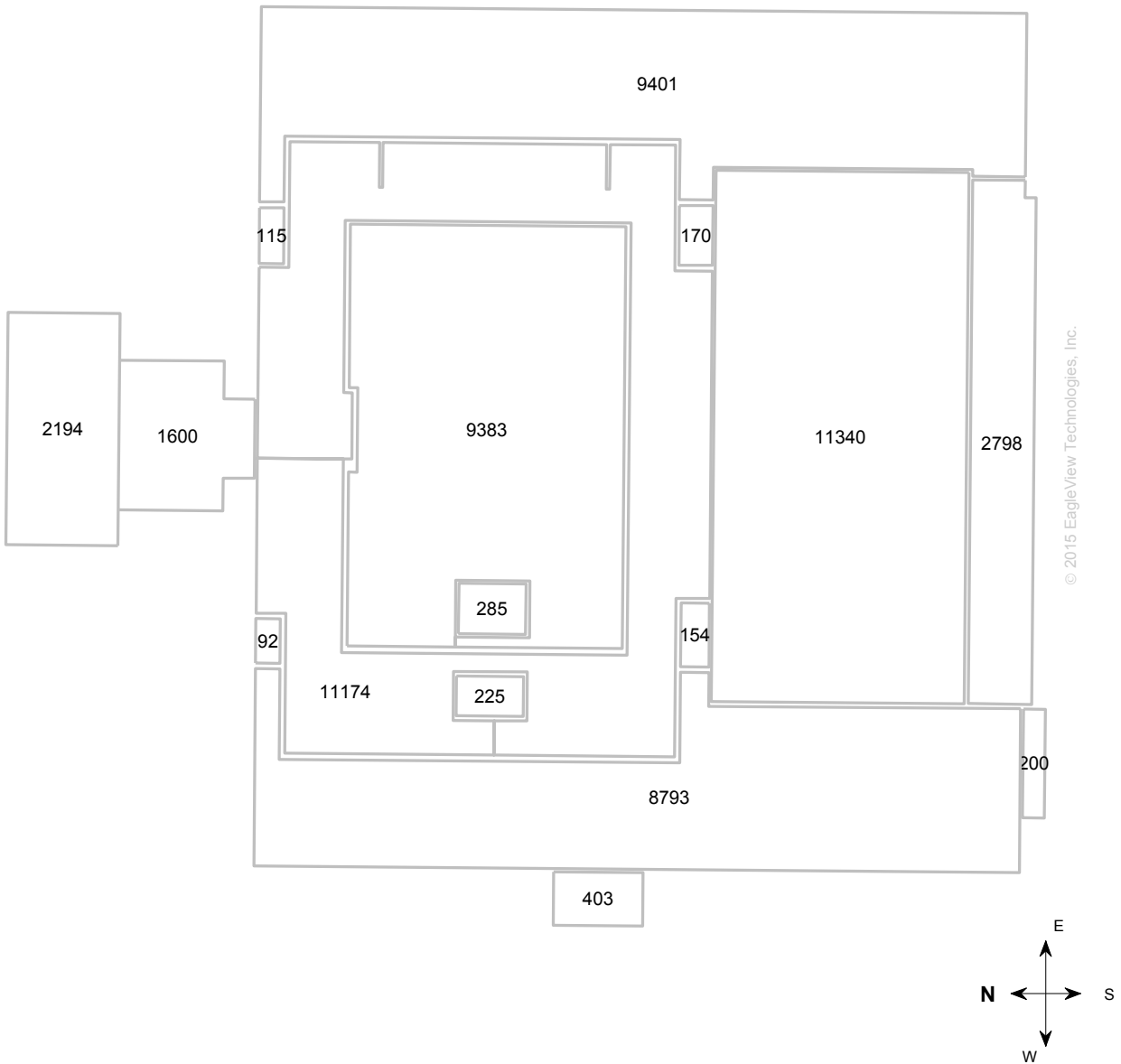


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### Area Diagram

Total Area = 58,326 sq ft, with 16 facets.



**Note:** This diagram shows the square feet of each roof facet (rounded to the nearest foot). The total area in square feet, at the top of this page, is based on the non-rounded values of each roof facet (rounded to the nearest square foot after being totaled).

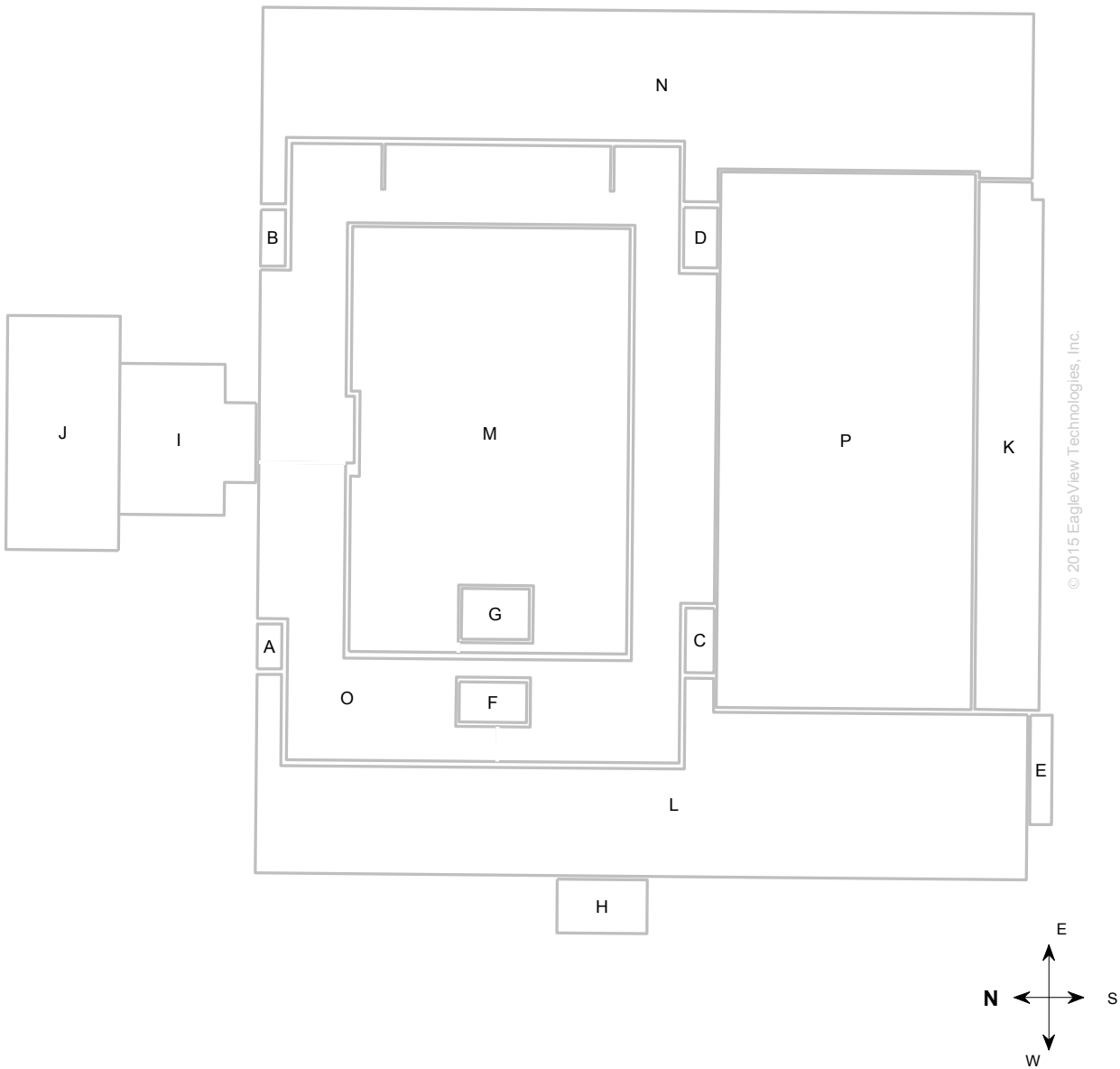


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### Notes Diagram

Roof facets are labeled from smallest to largest (A to Z) for easy reference.



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### Penetrations Notes Diagram

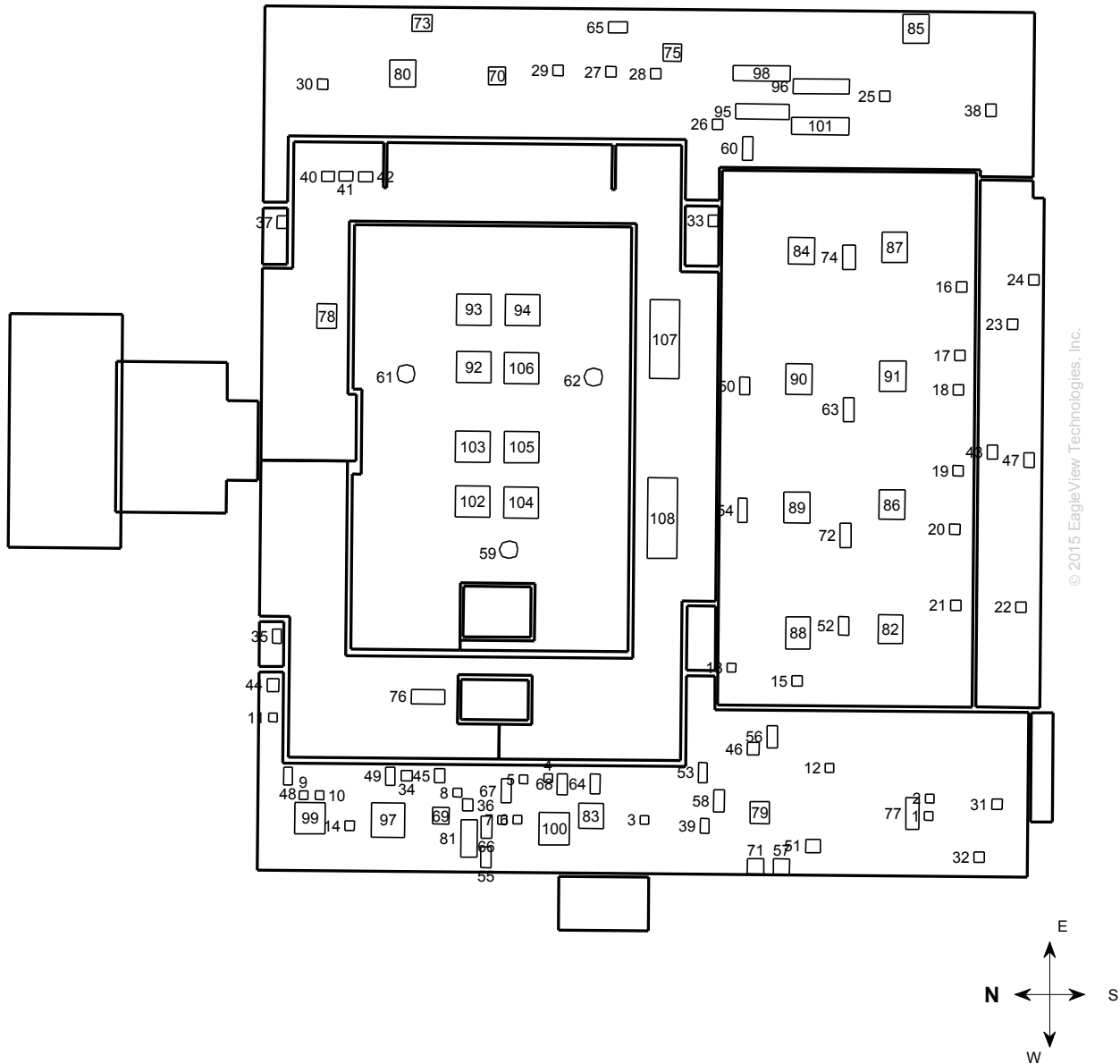
Penetrations are labeled from smallest to largest for easy reference.

Total Penetrations = 108

Total Penetrations Area = 3,522 sq ft

Total Penetrations Perimeter = 2,261 ft

Total Roof Area Less Penetrations = 54,803 sq ft



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<b>PROJECT:</b>		<b>CITY:</b>
<b>FILE NAME:</b> Material List		<b>COUNTY:</b>
<b>AREA:</b> 36980		
<b>SPEC:</b> 20yr FA 60 mil PVC		

ITEM		QUANTITY	UNIT COST	EXT. COST		
1.5" ISO	1 layers	squares	4'x4'	360	0.00	\$0
0-5"x6" Fesco Taper Edge		bundles	ea	0	0.00	\$0
.060 mil white PVC		rolls	10'x100'	43	0.00	\$0
Insulation Plates 3"		pails	1000 ct	1	0.00	\$0
PVC Metal		sheets	4'x10'	3	0.00	\$0
PVC Detail Membrane		rolls	24"x50'	2	0.00	\$0
Cut Edge Sealant		bottle	16 oz	3	0.00	\$0
PVC Cover Tape		roll	6"x100'	0	0.00	\$0
TruFast TL Fastener		box	1000 ct	0	0.00	\$0
Membrane Primer		pails	3 gal	0	0.00	\$0
Membrane Cleaner		pails	1 gal	5	0.00	\$0
Water Based Bonding Adhe:		pails	5 gal	0	0.00	\$0
White Edge Caulk		tubes	11 oz	100	0.00	\$0
Pourable Sealer A&B		kit	1 gal	4	0.00	\$0
Sealing Mastic		tubes	11 oz	100	0.00	\$0
T-Joint Patch		ea	4.5"	150	0.00	\$0
Pre-Formed Boots		ea		48	0.00	\$0
Term Bar 10'		ea	10'	250	0.00	\$0
Universal Pre-formed corner		ea	6"	220	0.00	\$0
Solvent Based Bonding Adh		pails	5 gal	125	0.00	\$0
Penetration Pocket		ea	7.5"x6"	2	0.00	\$0
2 Part Urethane A&B		boxes	5 gal	33	0.00	\$0
2-3/8" HL Seam Plates		pails	1000 ct	6	0.00	\$0
Reinforced Strip		rolls	6"x100'	0	0.00	\$0
1/2" Cover Baord GYP		squares	4'x8'	360	0.00	\$0
Cyclone Tips and Cleaner				1	0.00	\$0
CF Expansion Joint Cover		ea	10'	4	0.00	\$0
Flashings				1	0.00	\$0
.060 mil PVC White		rolls	5'x100'	0	0.00	\$0
				0	0.00	\$0
Grey Walkway		roll	30"x50'	30	0.00	\$0
rollers, scub pads				10	0.00	\$0
3/4" T&G Plywood pressure treated				0	0.00	\$0
2x4 10' pressure treated				20	0.00	\$0
Fasteners #14 2"		pails	1000	6	0.00	\$0
Fasteners #14 8"		pails	250	1	0.00	\$0
Fasteners #14 5"		pails	1000	0	0.00	\$0
Misc.				6	0.00	\$0
	<b>MISCELLANEOUS</b>			1%	0.00	\$0

<b>SUB TOTAL:</b>		\$0
<b>TAX:</b>	7.00%	\$0
<b>FREIGHT:</b>		\$0
<b>TOTAL MATERIALS:</b>		\$0