

### 9.3.5 NFIP Elevation Certificate and Documentation of Engineered Openings for Flood Insurance

When engineered openings are used, the NFIP Elevation Certificate must be completed carefully. The question “Engineered flood openings?” must be answered with “Yes” (see A8.d and A9.d in Figure 26). The engineered opening documentation must be attached to the NFIP Elevation Certificate. Insurers and insurance agents must ask property owners to provide the documentation as part of applications for NFIP flood insurance policies. The following are acceptable forms of documentation:

- For engineered openings with ICC-ES Evaluation Reports or equivalent reports from other product certification organizations, a copy of the report that identifies the manufacturer’s model number and specifies the number of such openings that are required for a specified square footage of enclosed area
- For engineered openings individually certified for installation in a specific building, a certification that is signed and sealed by a registered design professional who is licensed in the state where the building is located, and that addresses the statements described in Section 9.3.4

#### NFIP ELEVATION CERTIFICATES AND NON-ENGINEERED OPENINGS

When non-engineered openings are used, the total net open area of the openings that are within 1.0 foot above the higher of the exterior or interior grade or floor should be determined by measurement (see examples in Section 9.2) or by using the manufacturer’s specifications.

To complete the NFIP Elevation Certificate with information required for proper rating of NFIP flood insurance policies for buildings with engineered openings, Item A8.c, “Total net area of flood openings in A8.b,” must be filled in with the total coverage or rated area of engineered openings. The total coverage or rated area is the number of engineered openings identified in Item A8.b multiplied by the “coverage” area, “rated” area, or “enclosed area coverage” identified in the ICC-ES Evaluation Report, equivalent report, or individual certifications. When engineered openings are used in attached garages, Item A9.c must be completed in the same manner. The coverage or rated area usually is given in square feet of enclosed area for which an engineered opening can provide automatic inflow and outflow of floodwater, which is, in effect, equivalent to the performance that would be provided by that number of square inches of non-engineered openings.

Also, in Section D, “Check here if attachments” must be selected, and a copy of the certification report must be attached to the NFIP Elevation Certificate (see Figure 26). Notes must be added in the Section D comment section to identify the manufacturer and the manufacturer’s model number of the engineered opening.

A8. For a building with a crawlspace or enclosure(s):

a) Square footage of crawlspace or enclosure(s) 1,675 sq ft

b) Number of permanent flood openings in the crawlspace or enclosure(s) within 1.0 foot above adjacent grade 9

c) Total net area of flood openings in A8.b 1,800 sq in

d) Engineered flood openings?  Yes  No

A9. For a building with an attached garage:

a) Square footage of attached garage 350 sq ft

b) Number of permanent flood openings in the attached garage within 1.0 foot above adjacent grade 2

c) Total net area of flood openings in A9.b 400 sq in

d) Engineered flood openings?  Yes  No

Insert coverage/rated area times number of engineering openings in A8.b and A9.b. Add comments to identify engineering openings and attach copy of Evaluation Report or certification

Comments (including type of equipment and location, per C2(e), if applicable)

*A8 and A9 – Engineered openings manufactured by XXX Company, Inc., model number XX-XXX, ICC-ES Report No. XXXX (attached). Rated 200 sq in per unit.*

Figure 26: Completing the NFIP Elevation Certificate when engineered openings are used