Common Floodplain Permit & Elevation Certificate Errors
Outline

• Floodplain Permit Errors
  – Why is this required
  – How to avoid errors

• Elevation Certificate Errors
  – Common errors
  – Simple solutions

• Elevation Certificate Game
Floodplain Permitting
#1: Owner Contact Info

• 401 KAR 4:060, Section 9(e)
  – Application is Incorporated by Reference in the Kentucky regulations

• Required to provide the applicant their permit or to request additional information as part of the application review process.
BAD

- No full mailing address
  - City and Zip often forgotten
- Sloppy handwriting
- No email address
- No area code on phone number

BETTER

- Typed is best
  - Form fillable application is available
- Emails and phone numbers are required for good follow-up communication
  - Permits provided digitally

EMAIL: beme@meke @om

MAILING ADDRESS: 27 OVERLOOK CIRCLE

Kentucky
UNBRIDLED SPIRIT
#4: Description

• You know what you want to do. You’re familiar with your site. We’re Not!
• Things we need to know
  – What are you proposing to do?
  – How project will be completed?
  – What is being done?
  – Will there be fill? If yes, how much?
  – How will your project comply with state requirements?
#4: Description Example

**BAD**

- *none*
- “Building a building”
- “New Shed”
- “Raising the ground elevation”
- “Cleaning out the creek”

**BETTER**

- Building a new home in the floodplain of water creek. Lowest floor will be above the BFE. Crawlspace will have #X of vents to protect areas below BFE. Structure will be built of flood damage resistant materials below BFE. No fill material is being added to the site.
#6: Latitude & Longitude

- 401 KAR 4:060, Section 9(e)
  - Application is Incorporated by Reference in Kentucky regulations

- Street addresses can get you close but Latitude and Longitude is the most accurate
  - No mistakes when given a Lat/Long
Example: 3490 Pond Creek Rd, Pinsonfork, KY

- **BFE 866.8’**
- **700’+**
- **BFE 876.4’**
#6: Lat/Long Example

**BAD**

- Degrees Decimal Minutes
  - 38° 11.7314’ N
  - 84° 52.4317’ W
- State Plane Coordinates
  - 1600 1576741.357mE
  - 1207031.996mN
- Universal Transverse Mercator
  - 686182.69, 4229645.66, UTM Zone 16S
- Street Address
  - 120 Logan St., Frankfort, KY

**BETTER**

- Decimal Degrees
  - 38.195523, -84.873862
- Degrees Minutes Seconds
  - 38° 11' 43.88'' N
  - 84° 52' 25.90'' W
Finding a Lat/Long
• 401 KAR 4:060, Section 3(4)(a-c)
  – (a) As part of the stream construction permit issuance procedure, each applicant shall provide notice to all parties who may incur additional flood-related damages as a result of the construction for which a permit has been requested, except as provided in subparagraph 3 of this paragraph.

• Applicant is required to satisfy the Cabinet that all affected parties have been notified of the proposed project.
#14: Public Notice Example

**BAD**

- *None*
- “No”
- “I don’t want to fuss with it”
- “It’s too expensive”
- “My neighbor doesn’t want me to do this project”

**BETTER**

- Copy of the newspaper notice
- A signed affidavit from all affected property owners

---

**Public Notice**

Notice is hereby given that [NAME AND ADDRESS] has filed an application with the Energy & Environment Cabinet to [BRIEF DESCRIPTION OF CONSTRUCTION]. The property is located [LOCATION DESCRIPTION, INCLUDE MILES FROM NEAREST TOWN OR MAJOR ROAD INTERSECTION AND NAME OF STREAM]. Any comments or objections concerning this application shall be directed in writing to: Kentucky Division of Water, Floodplain Management Section, 300 Sower Blvd 3rd Floor, Frankfort, Kentucky 40601.
• Public Notice waiver request
• Notice may be waved for the following reasons:
  – Repair/maintenance/internal retrofit within existing structure footprint
  – Emergency work per DOW policy memo 84-01
  – Watershed <1 sq. mile with exception of structures
  – Subfluvial utilities that involve subsurface and/or directional drilling
  – Repaving individual residential driveways, curbs, or sidewalks (must not increase ground surface elevations)
  – Extensions of previously public noticed permit
#17: Easement Rights

- “An easement is a legal right to use another's land for a specific limited purpose.”
  - i.e. Legally being able to use a piece of land without being the owner

- 401 KAR 4:060, Section 9(e)
  - Application is Incorporated by Reference in the Kentucky regulations

17. I, _______ (owners Initials) CERTIFY THAT THE OWNER OWNS OR HAS EASEMENT RIGHTS ON ALL PROPERTY ON WHICH THIS PROJECT WILL BE LOCATED OR ON WHICH RELATED CONSTRUCTION
• KRS 151.250(2)
  – “…unless plans and specifications for such work have been submitted to and approved by the cabinet and a permit issued as required…”

• 401 KAR 4:060 Section 9(e)
  – The application states that applicant shall attach “…plans, profiles, or other drawings and data submitted…map clearly showing the project location.”
What Makes a Good Attachment?

- Water features
- Floodplain and floodway
- Transportation features
- Existing and proposed structures
- Cross sections
- Property lines
- Latitude and longitude
- North arrow

- Dimensions for the proposal
  - Development site property boundaries;
  - Development footprint;
  - Setback distances;

- Description of construction materials used

- Maps shall be drawn to scale, when possible
Good Drawing

- Engineered drawings
OK Drawing

RIP RAP

Not To Scale

1:1 SLOPE

Water Creek

Water Creek
Good Map Example
OK Map Example Cont.
Bad Map “Fixed”
Elevation Certificates
FEMA Elevation Certificate

- Required to rate post-FIRM and some pre-FIRM buildings
- Determine compliance with floodplain management ordinance
- Support LOMA/LOMR-F
- Prerequisite for the CRS
Who Uses Them?

- Lenders
- Insurance Agents
- Communities and Community Officials
- Floodplain Coordinators
- Property Owners
- Realtors
- FEMA
Not Reading Instructions

• Instructions clarify how the surveyors should complete the EC correctly!
  – Clearly states how specific instances should be included to be properly understood

**Items A9.b–d.** Enter in Item A9.b the number of permanent flood openings in the attached garage that are no higher than 1.0 foot above the higher of the exterior or interior grade or floor immediately below the opening. (A permanent flood opening is a flood vent or other opening that allows the free passage of water automatically in both directions without human intervention.) If the interior grade elevation is used, note this in the Comments area of Section D. This includes any openings that are in the garage door that are no higher than 1.0 foot above the adjacent grade. Estimate the total net area of all such permanent flood openings in square inches and enter the total in Item A9.c. If the net area cannot be reasonably estimated, provide the size of the flood openings without consideration of any covers and indicate in the Comments area the type of cover that exists in the flood openings. Indicate in Item A9.d whether the flood openings are engineered. If applicable, attach a copy of the Individual Engineered Flood Openings Certification or an Evaluation Report issued by the International Code Council Evaluation Service (ICC ES), if you have it. If the garage has no permanent flood openings, or if the openings are not within 1.0 foot above adjacent grade, enter "N/A" for not applicable in Items A9.b–c.
Incorrect FIRM Data

- FIRM data indicates which maps the surveyor is using
- Should be the effective FIRMfs
  - Incorrect Community Name or Number
  - Different Community, County, or State
  - Incorrect flood zone
  - BFEs
  - Frequent Typos

<table>
<thead>
<tr>
<th>SECTION B – FLOOD INSURANCE RATE MAP (FIRM) INFORMATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>B1. NFIP Community Name &amp; Community Number</td>
</tr>
<tr>
<td>B4. Map/Panel Number</td>
</tr>
</tbody>
</table>
Figure 1. Sample FIRM Panel (Single Community)

Figure 2. Sample FIRM Panel (Countywide)
Incorrect Datum

• Three places for the surveyor to indicate which vertical datum he is using
  – Different datum marked, or
  – No datum marked

A4. Building Use (e.g., Residential, Non-Residential, Addition, Accessory, etc.)
A5. Latitude/Longitude: Lat. Long.
A6. Attach at least 2 photographs of the building if the Certificate is being used to obtain flood insurance.

Horizontal Datum: NAD 1927 NAD 1983

B11. Indicate elevation datum used for BFE in Item B9: NGVD 1929 NAVD 1988 Other/Source:


Benchmark Utilized: Vertical Datum: 
Indicate elevation datum used for the elevations in items a) through h) below.

NGVD 1929 NAVD 1988 Other/Source:

Datum used for building elevations must be the same as that used for the BFE.
Surveyor Information

- ECs must be completed by a surveyor that is licensed in Kentucky
  - No License Number
  - No Seal
Elevation Certificate Status

• Surveyor indicates what the elevations are based upon
  – Pre
  – During
  – Post
  – No final EC completed

C1. Building elevations are based on:  □ Construction Drawings* □ Building Under Construction* □ Finished Construction

* A new Elevation Certificate will be required when construction of the building is complete.
Building Elevation Information

- Not properly listing all required elevations
  - Incorrect lowest flood
    - No vents
  - Is a deck attached or no?
  - LAG higher than the HAG
  - Incorrectly Lowest machinery elevation

<table>
<thead>
<tr>
<th>Item</th>
<th>Measurement Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Top of bottom floor (including basement, crawlspace, or enclosure floor)</td>
<td>[ ] feet [ ] meters</td>
</tr>
<tr>
<td>b) Top of the next higher floor</td>
<td>[ ] feet [ ] meters</td>
</tr>
<tr>
<td>c) Bottom of the lowest horizontal structural member (V Zones only)</td>
<td>[ ] feet [ ] meters</td>
</tr>
<tr>
<td>d) Attached garage (top of slab)</td>
<td>[ ] feet [ ] meters</td>
</tr>
<tr>
<td>e) Lowest elevation of machinery or equipment servicing the building (Describe type of equipment and location in Comments)</td>
<td>[ ] feet [ ] meters</td>
</tr>
<tr>
<td>f) Lowest adjacent (finished) grade next to building (LAG)</td>
<td>[ ] feet [ ] meters</td>
</tr>
<tr>
<td>g) Highest adjacent (finished) grade next to building (HAG)</td>
<td>[ ] feet [ ] meters</td>
</tr>
<tr>
<td>h) Lowest adjacent grade at lowest elevation of deck or stairs, including structural support</td>
<td>[ ] feet [ ] meters</td>
</tr>
</tbody>
</table>
### Section C2.a) – h)

Datum used for building elevations must be the same as that used for the BFE.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th>Check the measurement used.</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Top of bottom floor (including basement, crawlspace, or enclosure floor)</td>
<td>Every time . __________</td>
<td>○ feet ○ meters</td>
<td></td>
</tr>
<tr>
<td>b) Top of the next higher floor</td>
<td>If &gt;1 floor . __________</td>
<td>○ feet ○ meters</td>
<td></td>
</tr>
<tr>
<td>c) Bottom of the lowest horizontal structural member (V Zones only)</td>
<td>V Zones . __________</td>
<td>○ feet ○ meters</td>
<td></td>
</tr>
<tr>
<td>d) Attached garage (top of slab)</td>
<td>If garage . __________</td>
<td>○ feet ○ meters</td>
<td></td>
</tr>
<tr>
<td>e) Lowest elevation of machinery or equipment servicing the building</td>
<td>Every time . __________</td>
<td>○ feet ○ meters</td>
<td></td>
</tr>
<tr>
<td>(Describe type of equipment and location in Comments)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>f) Lowest adjacent (finished) grade next to building (LAG)</td>
<td>Every time . __________</td>
<td>○ feet ○ meters</td>
<td></td>
</tr>
<tr>
<td>g) Highest adjacent (finished) grade next to building (HAG)</td>
<td>Every time . __________</td>
<td>○ feet ○ meters</td>
<td></td>
</tr>
<tr>
<td>h) Lowest adjacent grade at lowest elevation of deck or stairs, including structural support</td>
<td></td>
<td>○ feet ○ meters</td>
<td></td>
</tr>
</tbody>
</table>

Items a), f) and g) must always have a number. If items b) - e) are not relevant, enter "N/A".

---

e) Describe the machinery or equipment in Section D’s comments
Photographs

- Not including photos from all aspects
  - Minimum all 4 sides of the structure
  - Any other pertinent elevation information
Building Diagram

• Incorrect building diagram included
  – Diagrams help people using the EC understand the building and what the elevations relate to.
Elevation Certificate
Diagram Game
• Diagram Number Game
  – We’ll show a photo of a building
  – Each building is compliant
  – You see the whole building – don’t invent things on the other side of the building
  – Determine the diagram number for each building
  – Raise the appropriate diagram number card
  – If a table raises more than one card, it is disqualified
FEMA Elevation Certificates

• What diagram?
FEMA Elevation Certificates

• What diagram?
FEMA Elevation Certificates

• What diagram?
FEMA Elevation Certificates

- What diagram?
FEMA Elevation Certificates

• What diagram?
FEMA Elevation Certificates
FEMA Elevation Certificates

- What diagram?
FEMA Elevation Certificates

• What diagram?
FEMA Elevation Certificates

- What diagram?
FEMA Elevation Certificates

• What diagram?
FEMA Elevation Certificates

• What diagram?
Contact Info

• Alex VanPelt, CFM
  – Kentucky NFIP Coordinator
  alex.vanpelt@ky.gov
  (502) 782-7120 (Direct Line)
  Division of Water
  300 Sower Blvd., 3rd Floor
  Frankfort, KY 40601

• Christina Groves, CFM
  – ISO/CRS Specialist
  ISO Solutions
  christina.groves@verisk.com
  (502) 782-7120 (Direct Line)
  Division of Water
  300 Sower Blvd., 3rd Floor
  Frankfort, KY 40601