

Local Perspective on the E.C.



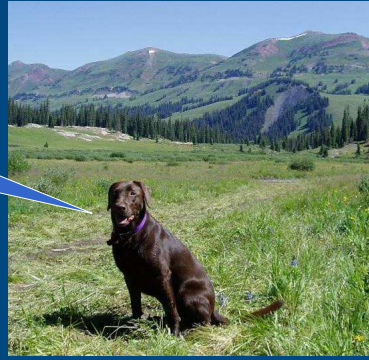
Brian Varrella, P.E., CFM
Floodplain Administrator
City of Fort Collins Utilities



Suz Sez: Question #1

- Q. 1 – What is local govt.’s role with the E.C.?

We are your primary point of contact, and your friend. 😊



Community Responsibilities

- Communities **partner** with FEMA
 - Cities + Counties = administer and enforce regs
 - Protect life safety and property
 - Regulate floodplains through development permits and the **Elevation Certificate**
 - Public outreach, emergency response
 - FEMA = support and assist
 - Audit community files

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Community Responsibilities

- Community responsibilities
 - Compliance with regulations
 - Freeboard met?
 - Venting provided?
 - Enclosure properly identified?
 - Provide support for accurate insurance paperwork
 - May be used by current and future residents
 - Makes info transferable and transparent

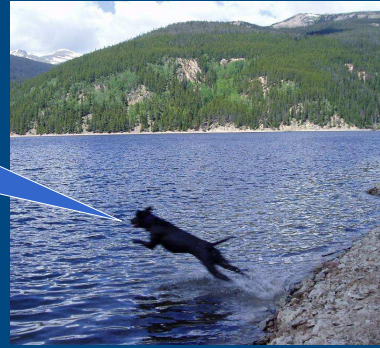
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Suz Sez: Question #2

- Q. 2 – How is the E.C. used by local govt. to maintain compliance?

It begins with the A-B-Cs of the flood permit process.



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FLOODPLAIN MANAGEMENT BASICS

- A-B-C's of the Floodplain Use Permit
 - Approve
 - Build
 - Certify – **Elevation Certificate**
 - Carry permit data to the Elevation Certificate
 - Assume at least 1 review and 1 revision
 - Call with questions; (970) 221-6700

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Approval of the E.C.

- **Certification – engineer/surveyor role** Part 1 of 2
 - Background – We can help!! ☺
 1. What is the BFE on the property?
 2. What is your map Panel No.?
 3. Community Info? (Comm. #, etc.)
 4. Most Sec. B info on the E.C. is available from the Floodplain Use Permit
 - Field Work
 1. Shoot points, discover elevations
 2. Measure openings



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Approval of the E.C.

- **Certification – engineer/surveyor role** Part 2 of 2
 - Filling out the E.C.
 - Can transfer some info from the Floodplain Use Permit to the E.C., Sec. B
 - Don't recreate the wheel
 - Permit design info will be your field guide
 - Check number of vents necessary
 - QC your survey grades against the proposed design elevations

DO NOT MODIFY FIELD DATA TO FIT THE PERMIT
The E.C. documents the as-built condition

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updated 01/08

Attach \$25 application fee payable to City of Fort Collins if floodplain analysis is required; attach additional \$100 for a total fee of \$125.

Floodplain Use Permit

(City of Fort Collins Code, Section 10-27)

Section A: Owner and Property Information

Petitioner name _____
 Address _____ Phone _____
 Owner name _____
 Address _____ Phone _____
 City _____ State _____ Zip _____
 Legal description and/or address of property _____

Section B: Proposed Project Information

Description of proposed project (check all that apply): new structure addition remodel redevelopment mobile home/building attached garage accessory structure HI excavation change of use other (describe) _____

Existing use (check one): residential non-residential mixed-use vacant ground

Proposed use (check one): residential non-residential mixed-use other _____

If non-residential or mixed-use, describe in detail: _____

Critical facility? Yes No

Type of foundation (check one): slab-on-grade basement crawl space (attach pg. 1, crawl space worksheet)

Demolished area not salvageable: Other (describe) _____

Remodels and Redevelopment Only

Cost of improvement for this project: (submit itemized cost list of improvements) _____

Value of structure: (submit county assessor or appraiser's valuation of structure) _____

Cumulative value of improvements: _____

Substantial improvement? Yes No

Section C: Floodplain Information

Floodplain designation: Poudre River FEMA basin City basin

Floodplain name: _____ Vertical Datum Conversion: NGVD 29 + 3.0 ft = NAVD 88

FEMA base flood elevation (BFE) (if applicable): _____ NGVD 29 _____ NAVD 88

FEMA zone (check one): A AE AH AO X-500 X _____

City floodplain BFE: (if applicable) _____ NGVD 29 Zone: 100-year _____ NAVD 88

Regulatory flood elevation: (highest BFE + freeboard) _____ NGVD 29 _____ NAVD 88 (Freeboard requirements on pg. 2)

Floodway: Yes No (if yes, include technical evaluation that shows "no-rise" per City Code 10-45.)

Erosion buffer limit: Yes No

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Section D: Regulatory Requirements

Structure is: elevated floodproofed vented n/a

If floodproofed, describe method used: _____

Benchmark used: _____ Elevation of benchmark: _____ NGVD 29

Lowest existing ground elevation: _____ NGVD 29 Highest existing ground elevation: _____ NGVD 29

Lowest finished ground elevation: _____ NGVD 29 Highest finished ground elevation: _____ NGVD 29

Lowest floor elevation (refer to City Code 10-37A): _____ NGVD 29 _____ NAVD 88

Elevation of garage slab: _____ NGVD 29 _____ NAVD 88

Lowest elevation of HVAC equipment: _____ NGVD 29 _____ NAVD 88

Enclosed area not elevated or floodproofed: _____ square feet

Number of vents: _____ Area of venting: _____ square inches

Requesting variance from City Code? Yes No (If yes, attach variance application with additional \$100 variance fee. Variance application can be obtained from Fort Collins Utilities. Variance request requires consideration by the Water Board.)

Requesting waiver based on capital project construction in City-designated floodplain? Yes No (If yes, attach waiver application which can be obtained from Fort Collins Utilities. Waiver request requires consideration of Utilities General Manager.)

For structures: Attach building plans showing foundation design, flood elevation, floor elevations, HVAC elevations, site and location of vents, floodproofing design and other relevant information.

For property in a floodway: Attach No-Rise Certificate and documentation.

Signature of petitioner: _____ Date: _____

Signature of owner: _____ Date: _____

Floodplain use permit: approved denied Permit # _____ Paid Date: _____

Signature of floodplain administrator: _____ Date: _____

Comments: _____

Freeboard requirements: City Code 10-37


Poudre River: Twenty four (24) inches above the base flood elevation.

FEMA basin AND City basin floodplains:

- New construction and redevelopments: eighteen (18) inches above base flood elevation.
- Additions and substantial improvements: six (6) inches above base flood elevation.
- Accessory structures: six (6) inches above base flood elevation or meet venting requirements.

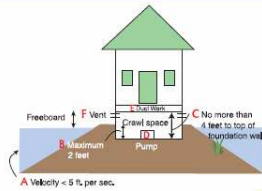
If you have questions or need assistance filling out forms, contact Fort Collins Utilities at:

- Phone: (970) 224-6700
- TDD: (970) 224-6003
- Web: www.fortcollins.com Homeowner
- E-mail: utilities@fcgov.com



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Crawl Space Worksheet



Vertical Datum Conversion: NGVD 29 + 3.0 ft = NAVD 88

- Velocity of flood flows hitting structure (figure A): _____ (less than 5 ft. per sec.)
- Flood elevation: _____ NGVD 29 _____ NAVD 88
- Elevation of bottom of crawl space: _____ NGVD 29 _____ NAVD 88
- If the elevation of no. 3 is lower than 2, provide the distance between the bottom of crawl space and the lowest adjacent grade (figure B): _____ (Maximum 2 ft.)
- Height of crawl space (figure C): _____ ft. (Maximum 4 ft.)
Measure from lowest interior grade of crawl space to top of foundation wall.

Additional requirements checklist

Describe interior drainage system: _____

Pump is totally immovable. (figure D)

All HVAC, including ductwork, is above the regulatory flood protection elevation. (figure E)

Hot water heater is above the regulatory flood protection elevation.

Electrical is above the regulatory flood protection elevation.

Floodplain Information

Section C: Floodplain Information

- Floodplain designation: Poudre River FEMA basin City basin
- Floodplain name: _____
- FEMA base flood elevation (BFE) (if applicable): _____ NGVD 29 _____ NAVD 88
- FEMA zone (check one): A AE AH AO X-500 X
- City floodplain BFE: (if applicable) _____ NGVD 29 Zone: 100-year
- Regulatory flood elevation (highest BFE + freeboard) _____ NGVD 29 _____ NAVD 88
(freeboard requirements on pg. 2)
- Floodway: yes no (if yes, include technical evaluation that shows "no-rise" per City Code 10-45.)
- Erosion buffer limit: yes no

Vertical Datum Conversion:
NGVD 29 + 3.0 ft. = NAVD 88



Proposed Design Information

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Section D: Regulatory Requirements

- Structure is: elevated floodproofed vented n/a
- If floodproofed, describe method used: _____
- Benchmark used: _____ Elevation of benchmark: _____ NGVD 29
- Lowest existing ground elevation: _____ NGVD 29 Highest existing ground elevation: _____ NGVD 29
- Lowest finished ground elevation: _____ NGVD 29 Highest finished ground elevation: _____ NGVD 29
- Lowest floor elevation (Refer to City Code 10-37(d)): _____ NGVD 29 _____ NAVD 88
- Elevation of garage slab: _____ NGVD 29 _____ NAVD 88
- Lowest elevation of HVAC equipment: _____ NGVD 29 _____ NAVD 88
- Enclosed area (not elevated or floodproofed): _____ square feet
- Number of vents: _____ Area of venting: _____ square inches
- Requesting variance from City Code yes no



Proposed Design Information

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Crawl Space Worksheet

Vertical Datum Conversion:
 NGVD 29 + 3.0 ft = NAVD 88

1. Velocity of flood flows hitting structure (Figure A): _____ (less than 5 ft. per sec.)
2. Flood elevation: _____ NGVD 29 _____ NAVD 88
3. Elevation of bottom of crawl space: _____ NGVD 29 _____ NAVD 88
4. If the elevation of no. 3 is lower than 2, provide the distance between the bottom of crawl space and the lowest adjacent grade (Figure B): _____ (Maximum 2 ft.)
5. Height of crawl space (Figure C): _____ ft. (Maximum 4 ft.)
 Measure from lowest interior grade of crawl space to top of foundation wall.

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Transfer to the E.C.

SECTION B - FLOOD INSURANCE RATE MAP (FIRM) INFORMATION

B1. NFIP Community Name & Community Number		B2. County Name		B3. State	
B4. Map/Panel Number	B5. Suffix	B6. FIRM Index Date	B7. FIRM Panel Effective/Revised Date	B8. Flood Zone(s)	B9. Base Flood Elevation(s) (Zone AD, use base flood depth)

B10. Indicate the source of the Base Flood Elevation (BFE) data or base flood depth entered in item B9.
 FIS Profile FIRM Community Determined Other (Describe) _____

B11. Indicate elevation datum used for BFE in item B9: NGVD 1929 NAVD 1988 Other (Describe) _____

B12. Is the building located in a Coastal Barrier Resources System (CBRS) area or Otherwise Protected Area (OPA)?
 Designation Date _____ CBRS OPA Yes No

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Suz Sez: Question #3

- Q. 3 – How do I get the E.C. approved?



- I like cheese.
- Seriously!

Approval of the E.C.

- **Process for submitting the E.C.**
 - Complete **both sides**
 - Plan for at least **1 review**
 - Mail or fax a **DRAFT** for review
 - Do not stamp the draft
 - Sign, date, and stamp the final product

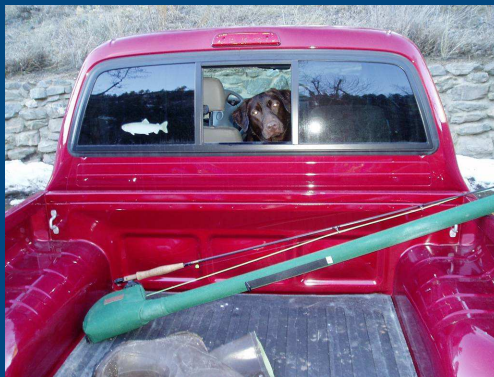
Troubleshooting – Common Oversights

- Wrong building diagram
- Benchmark not documented / identified
- Wrong vertical datum
- Incomplete elevation info (Sec. B and C)
- Equipment not described or identified (Sec. C and D, Pg. 2)
- Incorrect BFE source identified



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Your E.C. is Done



Thanks for
your patience.

Questions?



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