

TOWN OF SOUTH BETHANY
Minutes for SLR & SS Committee Meeting
Tuesday, November 19, 2013 at 1:30 Location: South Bethany Town Hall

- Meeting called to order at 1:30.
- Members present for this meeting; Jim Gross, Jay Headman, George Junkin (Chairperson), Al Rae, Dave Wilson
- Guest present for this meeting; Wendy Carey (Sea Grant, U of D)
- Discussions focused on potential code changes required to adapt to SLR & SS
 - requirements relative to bulkhead height
 - Required “freeboard” (12”, 18”, 24”, 30”, or 36”.)
 - Raising the building height limit.
 - Establish requirements relative to fill to raise the elevation of a homeowner’s property.
- Results from the above discussions follow in black on the next pages. **In red on the next pages results from discussions after the meeting relative to issues associated with referencing building height to BFE.**
- There were discussions relative to educating the public relative to SLR & SS issues
 - Wendy pointed out that there was a meeting at the Cheer Center relative to new FEMA Maps.
 - Wendy volunteered to send the committee information relative to a meeting she participated in for Lewes.
 - SLR & SS Committee is planning to have public meetings in the late spring focusing on
 - SLR & SS Risks to SB
 - Presentation of URS Elevation Map
 - Historical water levels seen in SB
 - FEMA Maps
 - Inundation Maps
 - Flood Insurance
 - Biggert-Waters Flood Insurance Reform Act of 2012
 - How to reduce flood insurance rates
 - What is covered by flood insurance
 - CRS Ratings
 - What does it mean to homeowners
 - What SB is doing to improve SB’s rating
- Meeting adjourned at about 3:45.

Code Change Recommendations to Mitigate SLR & SS Risks Developed at 11/19/2013 SLE & SS Committee Meeting

SLR & SS Committee members present at the meeting were; Jim Gross, Jay Headman, George Junkin, Al Rae, and Dave Wilson. Wendy Carey from U of D was also present.

Code Change Recommendations Relative to Bulkhead Height

Background:

- Code Chapter 50-5 D. states “Bulkhead alignment. Bulkheads shall be constructed so that they connect and align with existing adjacent bulkheads and/or riprap, where practical.”
 - George’s comment, “I believe align has been interpreted to be both horizontal and vertical alignment.”
- Existing Bulkhead heights range from 0.5 feet to 4.0 feet NAVD. With the largest step in height of about 2.0 feet. Thus there are many places where they are not aligned in height.
- The canals are located in zone AE elevation 5 feet NAVD on the 2005 FEMA Map. They are in Zone AE elevation 6 feet NAVD on the 2013 preliminary 2013 FEMA Map.

Recommended Changes

- Only require horizontal alignment
- Add a requirement on height.
 - Maximum height is limited to the BFE as documented on the most current FEMA Map.
 - Any bulkheads that require replacement must have a height of at least 4.0 feet NAVD.

Impact of change

- Owners are allowed and encouraged to raise their bulkheads.
- All bulkheads will not be the same height. They are currently are different heights.
- In the lower sections of SB the bulkheads could be significantly higher than the nearby grade level. This would be greatest in the lowest part of SB where the grade height is about 1.5 feet NAVD. This means that based on the new preliminary FEMA Map the bulkhead height could be a maximum of 4.5 feet above grade.

Code Change Recommendations Relative Lowest Floor Elevation and Equipment Elevation (Freeboard)

Background:

- There are many references in Code Chapter 145 that require meeting the BFE as specified on the FEMA Maps.
- If there is freeboard (house elevation minus BFE) insurance rates go down. Three feet of freeboard is where the break point is on insurance reduction. See below

Examples of savings on NFIP1 with freeboard

	Annual savings in NFIP premiums	Savings over 30-year mortgage		Annual savings in NFIP premiums	Savings over 30-year mortgage
Zone V ²	1' freeboard	\$2,565 (33%)		\$725 (46%)	\$21,750
	2' freeboard	\$4,310 (56%)		\$984 (63%)	\$29,520
	3' freeboard	\$5,160 (67%)	\$154,800	\$1,074 (68%)	\$32,220
Zone A ³					

¹ NFIP premiums based on October 2010 rates for a one-floor residential structure with no basement built after a FIRM was issued for the community (post-FIRM rates differ from pre-FIRM rates). \$500 deductible/\$250,000 coverage for the building/\$100,000 for contents.

² Zone V: This Flood Insurance Rate Map (FIRM) designation refers to coastal areas that are subject to the highest levels of wave energy and flooding.

³ Zone A: Also a FIRM designation, these areas are subject to flooding but with less wave energy than Zone V (i.e., wave heights less than 3 feet).



- A freeboard requirement will also improve the Town's CRS rating and could contribute to a reduction in flood insurance for all of South Bethany.
- A review of 15 recent elevation certificates shows that against the "new" FEMA Maps all have freeboard ranging from 3.8 feet to 9.5 feet except one which is at -0.2 feet on the "new" map. That one would have a freeboard of 0.8 feet on the current FEMA MAP.

Recommended Changes

- Change Code Chapter 145, in all places necessary, to require that for all new construction or substantial improvement, including house raising, that there be 3 feet (to the bottom of a floor not to the top) of freeboard added to the BFE.
- No machinery and/or equipment servicing the building may be below this height. (item e. on the elevation certificate. With the exception of some items such as sump pumps.
- In V zones no horizontal structure (item c. on elevation certificate) may be below this height (BFE plus 3 feet).
- All structure below this height must be flood resistant in compliance with FEMA Tech Bulletin 2 "Flood Damage-resistant Classification of Material."

Impact of change

- Reduced risk to flood events
- Reduced flood insurance rates

Code Change Recommendations Relative to Maximum Building Height

Background:

- Code Chapter 145-35 J. states “Maximum building height: main: 32 feet; accessory: 15 feet, measured from center line of street, except as provided in § 145-38E(2). Minimum roof pitch: 4/12.”
- Code Chapter 145-38E(2) states “House elevation is 32 feet, to be figured from the mean level of the lot with six sightings. These six sightings shall be taken as follows: one at each of two rear corners of such lot; one at each of two front corners of such lot; and one each at the midpoint between the two side property lines of such lot, such that no point is in a ditch but is as close as practical to the intended point. Minimum roof pitch: 4/12.”
- Homeowners who are at the current height limit who would like to raise their homes are trapped by the height limit.
- Currently some homeowners are making their bottom floor lower than the street so that they do not have issues with the height requirement.
- Street heights on the west side range from 1.4 feet to 6.1 feet NAVD

Recommended Changes

- Change Code Chapter 145-35J and 145-38E(2) to reference the 32 feet maximum height requirement to BFE
- After looking at the FEMA Maps and The elevation maps Jim Gross and I came to the conclusion that basing the height relative to BFE would cause problems.
 - When two houses are next to each other and a Flood Zone line goes between the two properties there could be as much as a 5 foot difference between the two houses.
 - When the road height is higher than the BFE we are not accomplishing what we want as to raising the height limit.
 - On our current FEMA map there are Zone X areas which have no BFE.
- Based on the above we recommend that;
 1. Permitted heights for new buildings and for raising existing building be 34 ft from the road (2 ft higher than currently permitted).
 2. An exception is allowed where road elevations are less than 4 ft. NAVD. Building allowable height of 34 ft. on such Lots may be based on the natural lot elevation or on compacted fill but no higher than a NADV of 4ft. Lot elevations shall be determined by the elevation of the adjacent grade.

Impact of change

1. Easily understood by owners and other users due to the similarity to existing practice,
2. Encourage raising low level lots,
3. Provide additional relief for owners in low lying areas,
4. Allow parking under the house without excavation below the road level,
5. Allow greater architectural freedom in designing for roof performance and appearance,
6. Maintain the desirable residential character of South Bethany.

Rational for changing 11/19/13 recommendation

Address	Proposed New Map		32 feet above BFE 11/19/13 Recommendation			34 feet above Road Modified for Low Areas		
	Flood Zone	BFE (ft. NAVD)	Ht. of Rd. (ft. NAVD)	Ht. above BFE	Ht. above Rd.	Ht. of Roof (ft. NAVD)	Ht. above Rd.	Ht. of Roof (ft. NAVD)
1206 S. Ocean	VE elev. 10	10.0	10.5	32.0	31.5	42.0	34.0	44.5
1300 S. Ocean	VE elev. 12	12.0	10.5	32.0	33.5	44.0	34.0	44.5
1301 S. Ocean	AE elev. 7	7.0	10.5	32.0	28.5	39.0	34.0	44.5
414 Tamarack	AE elev. 6	6.0	2.6	32.0	35.4	38.0	34.0	36.6
416 Tamarack	AE elev. 5	5.0	2.6	32.0	34.4	37.0	34.0	36.6
408 Bristol	AE elev. 6	6.0	1.4	32.0	36.6	38.0	36.6	38.0
410 Victoria	AE elev. 6	6.0	1.7	32.0	36.3	38.0	36.3	38.0
310 W. 4th	AE elev. 6	6.0	2.8	32.0	35.2	38.0	35.2	38.0
200 S. Ocean	VE elev. 10	10.0	12.0	32.0	30.0	42.0	34.0	46.0
506 N. Ocean	VE elev. 10	10.0	10.9	32.0	31.1	42.0	34.0	44.9
11/19/13 recommendation results in heights < 32 ft. above road								
Adjacent houses may have up to 5 ft. difference in roof height								
Low area modification results in same as 11/19/13 recommendation								



Code Change Recommendations Relative to Fill to Raise the Elevation of a Homeowner's Property

No change required. Code is acceptable as is.

Code Chapter 149-09A states "Lots shall be graded toward the property lines to form a small, shallow swale at the property line. The swale shall have a slight grade toward a drainage system installed by the Town. No lot shall unreasonably drain onto any adjacent property. Questions regarding drainage shall be decided in the reasonable exercise of the Code Enforcement Constable's sound judgment."