

# City of Milford



## AGENDA

Council Meeting

September 24, 2012

Milford City Hall - Joseph Ronnie Rogers Council Chambers - 201 South Walnut Street, Milford, Delaware

7:00 P.M.

### COUNCIL MEETING

*Call to Order - Mayor Joseph Ronnie Rogers*

*Invocation*

*Pledge of Allegiance*

*Recognition*

*Communications*

*Unfinished Business*

Adoption of Ordinance 2012-16/Chapter 79/Animal Code/Leash Law Amendment

Adoption of Ordinance 2012-18/Chapter 58/Police Enhancement Fund

*New Business*

FY 2012-2013 Budget Adjustment/Public Works/Transfer from Municipal Street Aid

Bid Award/Southeast Milford Water Main Extension/Phase I

Ordinance 2012-17/Floodplain Management Code

Adoption of Resolution 2012-13/Halloween Events

Adoption of Resolution 2012-15/City of Milford Annexation (Final)

Policy Amendment/Administrative Fee/\$35 Reconnect Fee\*

*Executive Session*

Personnel-Pursuant to 29 Del. C. §10004(b)(9) Personnel matters in which the names, competency and abilities of individual employees or students are discussed

*Adjourn*

**SUPPORTING DOCUMENTS MUST BE SUBMITTED TO THE CITY CLERK IN ELECTRONIC FORMAT NO LATER THAN ONE WEEK PRIOR TO MEETING; NO PAPER DOCUMENTS WILL BE ACCEPTED OR DISTRIBUTED AFTER PACKET HAS BEEN POSTED ON THE CITY OF MILFORD WEBSITE.**

This agenda shall be subject to change to include additional items including executive sessions or the deletion of items including executive sessions which arise at the time of the public body's meeting.



**STATE OF DELAWARE  
EXECUTIVE DEPARTMENT  
OFFICE OF STATE PLANNING COORDINATION**

September 24, 2012

Mr. Gary Norris, AICP  
City of Milford  
201 S. Walnut Street  
Milford, DE 19963

RE: PLUS 2012-03-04 Milford Comprehensive Plan Amendment

Dear Mr. Norris,

This letter is to confirm that we received your PLUS response letter for this amendment dated August 27, 2012 and the revised future land use map that accompanied the letter. Upon the receipt of these two items the PLUS review for this project has been completed, and we have accepted the amendment to Milford's certified plan.

Please do not hesitate to contact me if you have any questions.

Sincerely,

A handwritten signature in black ink, appearing to read "Constance C. Holland".

Constance C. Holland, AICP  
Director

cc: Richard Carmean  
Christine Crouch

September 24, 2012

To the Honorable Mayor and Members of City Council:

I am writing to you today to invite you to an event of extreme importance; one that can help us prepare and protect both our children and ourselves in this volatile world. In the wake of yet another violent attack, and at the close of a school year with so many student suicides here in Delaware, this has never been more critical.

In June of 2011, I attended the National Association of School Resource Officers Conference in Orlando, FL and was introduced to “Rachel’s Challenge” one of the most impactful presentations I have seen. This program was born out of the tragic death of Rachel Scott, the first student killed during the Columbine massacre. Rachel had a premonition of a short life and touching millions with her ideas. This program, developed by her family in her honor, does that by providing real insights and tools to help better prepare and educate our children to the dangers of, and means for, coping with bullying and promoting good choices.

This presentation will deeply touch everyone who attends. With the assistance of the Milford Lions Club, I have secured funding for Rachel’s Challenge to be presented to the entire student body of both the Milford Central Academy and Milford High School on October 1, 2012. Later that evening, there will be another presentation of Rachel’s Challenge for our parents, business and community leaders and the press.

I would like to invite you to experience this amazing presentation and see what Milford is doing for our students and, hopefully, spread the message throughout our state. I understand you have a tight schedule, but if you could take a moment to check out <http://www.rachelschallenge.org/big-picture/about-rachels-challenge>, I am sure you will want to join us.

The Community event will begin at 6:30 p.m. in the Milford High School Auditorium. There will be refreshments served from 6-6:30 in the lobby of the Auditorium. Please RSVP by contacting me via email [JMelvin@msd.k12.de.us](mailto:JMelvin@msd.k12.de.us) or phone 302-430-7918 if you have any questions.

**Pfc. Joey Melvin**  
**School Resource Officer**  
**Milford Police Dept.**  
**400 NE Front St.**  
**Milford, DE 19963**  
**(302) 422-8081**  
**(302) 430-7918**



# Sussex County Association of Towns

P.O. Box 589 Georgetown, DE 19947

*Town of Bethany Beach*

*Town of Bethel*

*Town of Blades*

*Town of Bridgeville*

*Town of Dagsboro*

*Town of Delmar*

*Town of Dewey Beach*

*Town of Ellendale*

*Town of Fenwick Island*

*Town of Frankford*

*Town of Georgetown*

*Town of Greenwood*

*Town of Henlopen Acres*

*Town of Laurel*

*City of Lewes*

*City of Milford*

*Town of Millsboro*

*Town of Millville*

*Town of Milton*

*Town of Ocean View*

*City of Rehoboth Beach*

*City of Seaford*

*Town of Selbyville*

*Town of Slaughter Beach*

*Town of South Bethany*

*Sussex County Council*

## MEETING NOTICE

**LOCATION:** Seaford Fire Hall

**DATE:** Wednesday, October 3, 2012

**TIME:** 6:00 p.m. – Social  
6:30 p.m. – Dinner

**PROGRAM:** Candidates Night

**HOST:** City of Seaford

**COST:** \$20.00

**MENU:** Oven Fried Chicken  
Pork Tenderloin  
Au Gratin Potatoes  
String Beans  
Assorted Desserts

### PLEASE RSVP PROMPTLY

For reservations, please call Tracy at the City of Seaford at 629-9173 no later than Tuesday, September 25th. Please make checks payable to the City of Seaford.

### ATTN: MUNICIPALITIES

Please add the cost of one or two dinners (\$20.00 each) to your total to help pay for the candidates and their guests. Please let Tracy know if you will be paying for an additional dinner(s). Thank you!



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*Town of Ocean View*

*City of Rehoboth Beach*

*City of Seaford*

*Town of Selbyville*

*Town of Slaughter Beach*

*Town of South Bethany*

*Sussex County Council*

**\*\*\*NOTICE\*\*\***

**The Steering Committee will meet on Friday, October 5th at 9:00 a.m. at the Lighthouse Landing Restaurant at the Sussex County Airport. Please send a representative from your municipality.**

**The cost of breakfast will be \$9.00. Checks may be made payable to Lighthouse Landing.**

PUBLIC NOTICE  
Amendment to City of Milford Code  
Ordinance 2012-16

ORDINANCE NO. 2012-16

(Existing Language Unchanged; New Language Shown in ***Bold Italics*** ; Repealed Text Shown as ~~Strikeouts~~)

NOW, THEREFORE, THE CITY OF MILFORD HEREBY ORDAINS:

CHAPTER 79 - ANIMALS

Section 1. An Ordinance to amend the Code of the City of Milford, Chapter 79-Animals.

Section 2. Article I, §79-1 (Terms Defined) is hereby amended by adding the following definition:

ARTICLE I - Definitions.

§ 79-1. - Terms defined.

***ANIMAL- Dog, cat and any species of mammals except human beings.***

Section 3. Article II, §79-2 (Running at large; Exceptions), §79-3 (Identification tag, violations and penalties) and §79-4 (Leash required; Exceptions) are hereby amended as follows:

ARTICLE II - Control of Dogs, Cats and Other Animals

§ 79-2. - Running at large; ***Exceptions.***

A. It shall be unlawful for any person or persons to permit any ~~dog or cat~~ animal owned, kept, maintained or in the custody or control of such person or persons to run at large either upon the public streets, sidewalks, highways, alleys or thoroughfares of the City of Milford or upon private property of any other person or persons ***without permission of the owner of that property or of the person in possession of that property.***

***(1) Exceptions:***

- (a) Such restriction shall not apply to cats.***
- (b) Such restriction shall not apply to dogs owned by the Milford Police Department or other law enforcement agencies and maintained as police K-9 units while under the custody and control of the trainer or handler.***

~~§ 79-3. - Identification tag; violations and penalties.~~

~~A. Every person who owns, controls, harbors, possesses or keeps any dog or cat over the age of six months in the City of Milford shall procure an identification tag for said animal. Within 15 days after an animal reaches the age of six months, or within 15 days after any animal over the age of six months is acquired or brought into the City, its owner shall procure an identification tag for said animal. Any owner who fails to procure such an identification tag within the time allowed shall be subject to a fine of~~

~~not less than \$25 nor more than \$300. The identification tag shall contain the name, address and telephone number of the owner of the animal.~~

**§ 79-3 - Dog license required.**

**A. The owner or lawful possessor of any dog shall obtain a license for his dog pursuant to the licensing requirements of the county in which the owner or lawful possessor resides. License must be kept current. Any owner or possessor who fails to comply with the provision of the applicable county shall be subject to a fine of not less than \$25 nor more than \$300.**

B. The owner of the ~~dog animal~~ shall affix or cause to be affixed to said ~~dog animal~~ the identification tag **associated with the license required in Section A. hereinabove mentioned,** and Said ~~dog animal~~ shall thereafter, at any and all times, have attached to it said identification tag.

**§ 79-4. - Leash required; *Exceptions.***

A. No ~~dog, cat or other~~ animal shall be permitted in or upon any public street, sidewalk, alley, park, parkway or other public place in the City or in or upon any property belonging to said City unless said animal is on a leash and is under the complete control of the person owning or, at the time, in possession of said animal.

~~(1) Exception:~~

**(1) *Exceptions:***

**(a) *Cats are not required to be on a leash.***

**(b) Feral cats that have been trapped, spayed or neutered and re-released are exempt from Subsection A. Each cat would be ear-tipped, clearly identifying it as a product of the Kent County SPCA Feral Cat TNR Program.**

B. Notwithstanding anything in this article to the contrary, no person shall be compelled to keep any ~~dog, cat or other~~ animal in his possession on a leash while in or upon any public street, alley, parkway or other public place in the City if, at the time, said animal is securely confined in an automobile.

Section 4.

Dates.

Introduction: September 10, 2012

Adoption (Projected): September 24, 2012

Effective (Projected): October 10, 2012

Amendment to City of Milford Code  
Ordinance 2012-18

ORDINANCE NO. 2012-18

NOW, THEREFORE, THE CITY OF MILFORD HEREBY ORDAINS:

Section 1. An Ordinance to amend the Code of the City of Milford, Part I, Administrative Legislation, by adding a new Chapter 58 entitled Police Facilities Development Impact Fee.

Section 2. Chapter 58-Police Facilities Development Impact Fee

58.01 A Police Facilities Development Impact Fee is being created for the purpose of assuring the impacts created by new construction and additional development in the City of Milford pay a fair share of the proportional facility and equipment costs. Such fee is required to maintain the existing level of police protection services needed to accommodate such development as well as maintain the existing level of services to all areas in the City of Milford. New development and construction within the City of Milford results in increased usage of residential, commercial, industrial and other affected properties, which thereby increases the service requirements and capital equipment requirements of the City of Milford Police services. New development or construction without the payment of fees imposed by this section would not be fair to the owners and occupants of existing buildings within the City of Milford.

58.02 (A) Police Facilities Development Impact Fee.

There is imposed a Police Facilities Development Impact Fee on all new Residential and Nonresidential development.

(B) Fund Established.

There is hereby established and created a fund of the city entitled "Police Facilities Development Impact Fee Fund" and all revenues derived from and monies collected under this section, including accrued interest thereon, shall be deposited in such fund. The public safety impact fund is established for the sole purpose of providing monies for the acquisition, construction, and reconstruction of facilities and equipment and other capital purposes needed for the police department in providing police protection services.

(C) Impact Fee.

The Police Facilities Development fee will consist of a surcharge of .5% of the construction costs shown in the applications for building permits issued by the City of Milford. Said surcharge shall be paid to and collected by the City of Milford as are all other building permit fees.

58.03 Annual report and amendment procedures.

(A) Within one hundred twenty (120) days after the last day of each fiscal year, the Chief of Police shall prepare a report to the City Council incorporating the following items:

1. The police facilities and equipment commenced, purchased or completed utilizing monies from this Police Facilities Development Impact Fee fund;
2. The amount of the fees collected;
3. The amount of Police Facilities Development Impact Fees in the fund; and
4. Recommended changes to the Police Facilities Development Impact Fee Ordinance, including, but not necessarily limited to changes to the Police Facilities Development Impact Fee.

(B) Based upon the report and such other factors as the City Council deems relevant and applicable, City Council may by majority vote, amend the ordinance which includes any increase or decrease in the amount of the impact fee.

Section 3. Dates.

Introduction: September 10, 2012

Adoption (Projected): September 24, 2012

Effective (Projected): October 10, 2012

**From:** Brad A. Dennehy  
**Sent:** Wednesday, September 12, 2012 10:27 AM  
**To:** Richard D. Carmean; Terri Hudson  
**Cc:** Tim Webb  
**Subject:** Streets Department salt spreader and plow

Richard,

Back in June we ordered a new pickup for the Streets Department. This truck will be utilized in snow removal (plowing and spreading salt). We need to replace one of the aging small pickup spreaders and plows. At the time of ordering the truck our intention was always to order the spreader and plow at a later date. Jeff has recommended this money come from municipal street aid. I am attaching a memo and price quote for the spreader and plow, and would like it placed on the next council agenda, so we can have it ordered and installed before winter.

Thank you.

Bradley (Brad) Dennehy  
Director of Public Works  
City of Milford  
180 Vickers Drive  
Milford, De 19963  
PH: 302.422.6616 ex 173  
FX: 302.422.1119  
[bdennehy@milford-de.gov](mailto:bdennehy@milford-de.gov)  
[www.cityofmilford.com](http://www.cityofmilford.com)



PUBLIC WORKS DEPARTMENT  
302.422.6616, FAX 302.422.1119

180 VICKERS DRIVE  
MILFORD, DE 19963

## MEMO

TO: Richard D. Carmean  
City Manager

FR: Brad Dennehy *BD*  
Director of Public Works

DA: September 12<sup>th</sup>, 2012

RE: Purchase of Replacement Salt spreader and snow plow for Streets Department.

As part of the 2011-12 budget, a replacement pickup truck was approved for the Streets Department, which has been ordered and is due to arrive this month. \$30,000 was allocated for this vehicle; however the purchase price was \$26,243. The balance of those funds has been transferred back to the General fund.

This truck will be utilized for snow removal and the intention was always to order a replacement salt spreader and snow plow. The Streets Department has received a quote for these two items and they total \$9980.

Under advice from the Finance Director, the Streets Department is seeking approval to transfer \$9980 from municipal street aid to purchase these items (the Finance Director has confirmed these funds are available and can be used for the purchase of these items).

As always, if you require further information please don't hesitate to contact me.

Thank you.

**Tim Webb**

**From:** Allan Mielke [allan@mielkeonline.com]  
**Sent:** Wednesday, September 05, 2012 1:34 PM  
**To:** Tim Webb  
**Subject:** revised plow/spreader quote

City of Milford, De  
180 Vickers Drive  
Milford, DE  
19963

Mr Tim Webb

Tim about 30 plows and many spreaders coming in truckload soon!

#1400050 Stainless Steel Spreader for pick up use with non-extended spinner/chute assembly  
Coiled wired control with plug in and pistol grip  
B/S commercial gas pony motor with dash button starter  
FOB: Thorofare yard @ \$4,580.00

Approx.. installation if needed @ \$640.00

SS moldboard Snow Dogg with light/deflector/A frame-push frame kit  
For F250

Commercial Grade EX 80 Snow Dogg with stainless steel moldboard from HA DeHart fall stock  
program - \$3,990.00  
FOB Thorofare, NJ

For installation add approximately \$500.00

Thanks as always,  
Allan

Allan F. Mielke  
H.A. DeHart & Son  
PO Box 701  
Easton, MD 21601  
410-820-7710 x 1  
410-820-9514 Fax

\$9,980

## SECTION 00100

### ADVERTISEMENT FOR BIDS

Sealed Bids, in duplication, will be received by the City of Milford, 201 S. Walnut Street, Milford, Delaware, until 2:00 p.m. local time on Thursday, August 9, 2012, for the general construction of the S.E. Water Main Extension, Phase 1 Project, Contract No. 052A138, at which time the bids will be opened publicly and read aloud.

Work includes the installation of approximately 5,400 LF of PVC water main and associated appurtenances including hydrants, valves, fittings, bore and jack under Route 1, steel casing pipe, roadway and trench restoration, mill and overlay, and temporary traffic control.

Each Bid must be accompanied by a Bid Bond payable to the City in the amount of ten (10) percent of the total amount bid. No Bidder may withdraw his Bid within ninety (90) days after the actual date of the opening thereof without forfeiture of the full amount of the Bid Bond to the City.

The CONTRACT DOCUMENTS may be examined at the office of Davis, Bowen & Friedel, Inc., 23 North Walnut Street, Milford, Delaware, 19963.

Copies of the CONTRACT DOCUMENTS may be obtained at the office of Davis, Bowen & Friedel, Inc., 23 North Walnut Street, Milford, Delaware 19963, upon payment of \$150.00 for each set, non-refundable.

A **PRE-BID** meeting will be held Tuesday, July 24, 2012, at 2:00 p.m., at City Hall.

The right is reserved as the interest of the City of Milford may appear, to reject any and all bids, to waive any informality or irregularity in bids received, and to accept or reject any items of any bid. City of Milford is an Equal Opportunity Employer.

By: The City of Milford  
Richard Carmean, City Manager

*Gerald G. Friedel, P.E.  
Michael R. Wigley, AIA, LEED  
AP  
Randy B. Duplechain, P.E.  
Charles R. Woodward, Jr., LS  
W. Zachary Crouch, P.E.*

**ADDENDUM NO. 3  
S.E. WATER MAIN EXTENSION – PHASE 1  
MILFORD, DELAWARE  
DBF #052A138  
August 8, 2012**

**General**

- Item 1: Bid Time and Date**  
The Bid Time and Date has been changed to August 16, 2012 at 2:00 pm at the City of Milford, City Hall.

END OF ADDENDUM

*Gerald G. Friedel, P.E.  
Michael R. Wigley, AIA, LEED AP  
Randy B. Duplechain, P.E.  
Charles R. Woodward, Jr., LS  
W. Zachary Crouch, P.E.  
Michael E. Wheelerton, AIA  
Jason P. Lear, P.E.*

September 21, 2012

City of Milford  
201 South Walnut Street  
Milford, DE 19963

Attn: Mr. Richard Carmean  
City Manager

RE: S.E. Milford Water Extension-Phase I Project  
Milford, Delaware  
DBF # 052A138

Dear Mr. Carmean:

Enclosed please find the bid tabulation of the bids received for the above-referenced project along with a copy of each of the bids submitted. As shown in the bid tabulation, four bids were received varying in price from \$481,400.00 by Northwind Engineering to \$681,350.00 by George & Lynch, Inc. Three of the four bids received were below our engineer's estimate of \$604,025.00

Because we were not familiar with the low bidder, Northwind Engineering, we asked them to provide additional information not only of their company experience but also the experience of the individuals who will be directly involved with this project. Based on our review of the additional information we find Northwind Engineering to be an acceptable contractor for performance of this project.

However, the same cannot be said for Northwind Engineering's proposed Route 1 bore and jack subcontractor, Larimore Construction Inc. of Smyrna, Delaware. Although Larimore Construction is a reputable contractor we were concerned they did not have the experience and expertise necessary to successfully complete a jack and bore of the size and length proposed for this project (24 inch dia. X 185 feet long). Their bore and jack experience consisted of one 24 inch bore of 120 feet in length with the next largest bore of 20 inch diameter and only 60 feet in length. (Please refer to the attached Larimore Construction's project experience list.)

Mr. Richard Carmean  
September 21, 2012  
Page 2

Because of this lack of experience we asked Northwind Engineering to provide us with an alternate bore and jack sub-contractor for our review and consideration. Request for an alternate sub-contractor is allowed per Section 6.06, page 23 of the Project Specification's Standard General Conditions. With the request for an alternate sub-contractor, Northwind Engineering is allowed to submit a change order for the difference in cost between their original bid price and the cost to use the alternate sub-contractor.

As requested, Northwind Engineering provided our office with an alternate subcontractor, Spring & Associates, Inc. of Easton, Maryland, for use on this project. Having worked with Spring & Associates on numerous occasions in the past we are extremely familiar with their work and find them to have the requisite experience and expertise needed to accomplish the Route 1 bore. (Enclosed is a copy of their company information and project experience list for your review.) With their alternate sub-contractor submission, Northwind Engineering has also requested an increase in the unit price cost for the Route 1 jack and bore from \$200.00 per foot to \$309.00 per foot. This unit price increase results in an increase to their bid amount from \$481,400.00 to \$501,565.00 as shown on the attached Revised Bid Tabulation spreadsheet. Please note that the revised per foot cost is still less than all other unit price bids received for this same bid item.

Therefore, based on the above we recommend City Council award the S.E. Milford Water Extension-Phase 1 project to the low bidder Northwind Engineering, LLC of Shelocta, Pennsylvania, in the amount of \$501,565.00. If City Council agrees with our recommendation, award should be made contingent upon the use of Spring & Associates, Inc. as the bore and jack subcontractor and upon concurrence of the award from the project funding agency, USDA.

If you should have any questions or need additional information, please feel free to contact our office.

Sincerely,



Randy B. Duplechain P.E.  
Principal

cc: Lisa Fitzgerald, USDA w/Enc.

**BID TABULATION**  
**S.E. MILFORD WATER MAIN EXTENSION-PHASE 1**  
**August 16, 2012**

CONTRACTOR					NORTHWIND ENGINEERING		TEAL CONSTRUCTION		DAVID A. BRAMBLE		GEORGE & LYNCH	
		SIZE/ DEPTH	UNIT	EST QTY	Unit Price	TOTAL PRICE	Unit Price	TOTAL PRICE	Unit Price	TOTAL PRICE	Unit Price	TOTAL PRICE
ITEM NO.	DESCRIPTION											
A1	Mobilization	---	LS	1	\$8,000.00	\$8,000.00	\$12,669.00	\$12,669.00	\$15,000.00	\$15,000.00	\$20,200.00	\$20,200.00
A2	Furnish & Install C-900 DR-18, PVC Water Main	8"	LF	100	\$40.00	\$4,000.00	\$94.00	\$9,400.00	\$10.50	\$1,050.00	\$36.02	\$3,602.00
A3	Furnish & Install C-900 DR-18, PVC Water Main	10"	LF	800	\$50.00	\$40,000.00	\$71.00	\$56,800.00	\$42.00	\$33,600.00	\$59.41	\$47,528.00
A4	Furnish & Install C-900 DR-18, PVC Water Main	12"	LF	4,500	\$60.00	\$270,000.00	\$40.00	\$180,000.00	\$42.50	\$191,250.00	\$47.25	\$212,625.00
A5	Furnish & Install Hydrant Assembly, including Tee, Ductile Iron Lead and Valve	---	EA	5	\$1,500.00	\$7,500.00	\$4,378.00	\$21,890.00	\$5,325.00	\$26,625.00	\$5,537.00	\$27,685.00
A6	Furnish and Install Cut-In Tee and Valve	10" x 10"	EA	1	\$3,000.00	\$3,000.00	\$7,100.00	\$7,100.00	\$6,900.00	\$6,900.00	\$5,398.00	\$5,398.00
A7	Furnish and Install Ductile Iron Resilient Gate Valve, including Valve Box	8"	EA	1	\$750.00	\$750.00	\$1,380.00	\$1,380.00	\$1,200.00	\$1,200.00	\$1,883.00	\$1,883.00
A8	Furnish and Install Ductile Iron Resilient Gate Valve, including Valve Box	10"	EA	3	\$1,000.00	\$3,000.00	\$2,000.00	\$6,000.00	\$1,525.00	\$4,575.00	\$2,452.00	\$7,356.00
A9	Furnish and Install Ductile Iron Resilient Gate Valve, including Valve Box	12"	EA	11	\$1,200.00	\$13,200.00	\$2,300.00	\$25,300.00	\$2,500.00	\$27,500.00	\$3,428.00	\$37,708.00
A10	Furnish and Install Ductile Iron Tee	12" x 6"	EA	5	\$1,000.00	\$5,000.00	\$570.00	\$2,850.00	\$650.00	\$3,250.00	\$726.00	\$3,630.00
A11	Furnish and Install Ductile Iron Tee	12" x 8"	EA	1	\$1,000.00	\$1,000.00	\$630.00	\$630.00	\$1.00	\$1.00	\$866.00	\$866.00
A12	Furnish and Install Ductile Iron Tee	12" x 10"	EA	2	\$1,400.00	\$2,800.00	\$800.00	\$1,600.00	\$840.00	\$1,680.00	\$950.00	\$1,900.00
A13	Furnish and Install Ductile Iron Tee	12" x 12"	EA	3	\$1,800.00	\$5,400.00	\$1,000.00	\$3,000.00	\$3,900.00	\$11,700.00	\$1,095.00	\$3,285.00
A14	Furnish and Install Schedule 40 Steel Casing Pipe	18"	LF	150	\$50.00	\$7,500.00	\$188.00	\$28,200.00	\$275.00	\$41,250.00	\$241.86	\$36,279.00
A15	Furnish and Install Schedule 40 Steel Casing Pipe	24"	LF	250	\$75.00	\$18,750.00	\$188.00	\$47,000.00	\$225.00	\$56,250.00	\$228.00	\$57,000.00
A16	Bore and Jack Schedule 40 Steel Casing (Rt 1)	24"	LF	185	\$200.00	\$37,000.00	\$378.00	\$69,930.00	\$530.00	\$98,050.00	\$682.00	\$126,170.00
A17	Mill and Overlay Road Surfaces	2"	SY	3000	\$10.70	\$32,100.00	\$18.00	\$54,000.00	\$5.00	\$15,000.00	\$22.05	\$66,150.00
A18	Excavation Below Subgrade & Gravel Refill	---	CY	50	\$25.00	\$1,250.00	\$25.00	\$1,250.00	\$50.00	\$2,500.00	\$73.00	\$3,650.00
A19	Miscellaneous Excavation & Backfill for Test Pitting	---	CY	30	\$25.00	\$750.00	\$25.00	\$750.00	\$50.00	\$1,500.00	\$85.00	\$2,550.00
A20	Furnish and Place Select Backfill	---	CY	500	\$30.00	\$15,000.00	\$15.00	\$7,500.00	\$20.00	\$10,000.00	\$23.19	\$11,595.00
A21	Secure Modified Proctor Tests, ASTM D1557	---	EA	3	\$300.00	\$900.00	\$150.00	\$450.00	\$200.00	\$600.00	\$330.00	\$990.00
A22	Field Density Tests	---	EA	30	\$150.00	\$4,500.00	\$75.00	\$2,250.00	\$120.00	\$3,600.00	\$110.00	\$3,300.00
						<b>\$481,400.00</b>		<b>\$539,949.00</b>		<b>\$553,081.00</b>		<b>\$681,350.00</b>

**REVISED BID TABULATION**  
**S.E. MILFORD WATER MAIN EXTENSION PHASE 1**  
**September 21, 2012**

CONTRACTOR					NORTHWIND ENGINEERING		TEAL CONSTRUCTION		DAVID A. BRAMBLE		GEORGE & LYNCH	
		SIZE/DEPTH	UNIT	EST QTY	Unit Price	TOTAL PRICE	Unit Price	TOTAL PRICE	Unit Price	TOTAL PRICE	Unit Price	TOTAL PRICE
A1	Mobilization	---	LS	1	\$8,000.00	\$8,000.00	\$12,669.00	\$12,669.00	\$15,000.00	\$15,000.00	\$20,200.00	\$20,200.00
A2	Furnish & Install C-900 DR-18, PVC Water Main	8"	LF	100	\$40.00	\$4,000.00	\$94.00	\$9,400.00	\$10.50	\$1,050.00	\$36.02	\$3,602.00
A3	Furnish & Install C-900 DR-18, PVC Water Main	10"	LF	800	\$50.00	\$40,000.00	\$71.00	\$56,800.00	\$42.00	\$33,600.00	\$59.41	\$47,528.00
A4	Furnish & Install C-900 DR-18, PVC Water Main	12"	LF	4,500	\$60.00	\$270,000.00	\$40.00	\$180,000.00	\$42.50	\$191,250.00	\$47.25	\$212,625.00
A5	Furnish & Install Hydrant Assembly, including Tee, Ductile Iron Lead and Valve	---	EA	5	\$1,500.00	\$7,500.00	\$4,378.00	\$21,890.00	\$5,325.00	\$26,625.00	\$5,537.00	\$27,685.00
A6	Furnish and Install Cut-In Tee and Valve	10" x 10"	EA	1	\$3,000.00	\$3,000.00	\$7,100.00	\$7,100.00	\$6,900.00	\$6,900.00	\$5,398.00	\$5,398.00
A7	Furnish and Install Ductile Iron Resilient Gate Valve, including Valve Box	8"	EA	1	\$750.00	\$750.00	\$1,380.00	\$1,380.00	\$1,200.00	\$1,200.00	\$1,883.00	\$1,883.00
A8	Furnish and Install Ductile Iron Resilient Gate Valve, including Valve Box	10"	EA	3	\$1,000.00	\$3,000.00	\$2,000.00	\$6,000.00	\$1,525.00	\$4,575.00	\$2,452.00	\$7,356.00
A9	Furnish and Install Ductile Iron Resilient Gate Valve, including Valve Box	12"	EA	11	\$1,200.00	\$13,200.00	\$2,300.00	\$25,300.00	\$2,500.00	\$27,500.00	\$3,428.00	\$37,708.00
A10	Furnish and Install Ductile Iron Tee	12" x 6"	EA	5	\$1,000.00	\$5,000.00	\$570.00	\$2,850.00	\$650.00	\$3,250.00	\$726.00	\$3,630.00
A11	Furnish and Install Ductile Iron Tee	12" x 8"	EA	1	\$1,000.00	\$1,000.00	\$630.00	\$630.00	\$1.00	\$1.00	\$866.00	\$866.00
A12	Furnish and Install Ductile Iron Tee	12" x 10"	EA	2	\$1,400.00	\$2,800.00	\$800.00	\$1,600.00	\$840.00	\$1,680.00	\$950.00	\$1,900.00
A13	Furnish and Install Ductile Iron Tee	12" x 12"	EA	3	\$1,800.00	\$5,400.00	\$1,000.00	\$3,000.00	\$3,900.00	\$11,700.00	\$1,095.00	\$3,285.00
A14	Furnish and Install Schedule 40 Steel Casing Pipe	18"	LF	150	\$50.00	\$7,500.00	\$188.00	\$28,200.00	\$275.00	\$41,250.00	\$241.86	\$36,279.00
A15	Furnish and Install Schedule 40 Steel Casing Pipe	24"	LF	250	\$75.00	\$18,750.00	\$188.00	\$47,000.00	\$225.00	\$56,250.00	\$228.00	\$57,000.00
A16	Bore and Jack Schedule 40 Steel Casing (Rt 1)	24"	LF	185	\$309.00	\$57,165.00	\$378.00	\$69,930.00	\$530.00	\$98,050.00	\$682.00	\$126,170.00
A17	Mill and Overlay Road Surfaces	2"	SY	3000	\$10.70	\$32,100.00	\$18.00	\$54,000.00	\$5.00	\$15,000.00	\$22.05	\$66,150.00
A18	Excavation Below Subgrade & Gravel Refill	---	CY	50	\$25.00	\$1,250.00	\$25.00	\$1,250.00	\$50.00	\$2,500.00	\$73.00	\$3,650.00
A19	Miscellaneous Excavation & Backfill for Test Pitting	---	CY	30	\$25.00	\$750.00	\$25.00	\$750.00	\$50.00	\$1,500.00	\$85.00	\$2,550.00
A20	Furnish and Place Select Backfill	---	CY	500	\$30.00	\$15,000.00	\$15.00	\$7,500.00	\$20.00	\$10,000.00	\$23.19	\$11,595.00
A21	Secure Modified Proctor Tests, ASTM D1557	---	EA	3	\$300.00	\$900.00	\$150.00	\$450.00	\$200.00	\$600.00	\$330.00	\$990.00
A22	Field Density Tests	---	EA	30	\$150.00	\$4,500.00	\$75.00	\$2,250.00	\$120.00	\$3,600.00	\$110.00	\$3,300.00
						\$501,565.00		\$539,949.00		\$553,081.00		\$681,350.00

Original unit price bid from Northwind Engineering for Bid Item A-16 was \$200.00 per foot. We were not comfortable with the experience level of Northwind's proposed bore and jack subcontractor and therefore requested they submit a substitute sub-contractor for our consideration. This substitution resulted in an increase in the unit price cost of the bore to \$309.00 per foot.



Site & Utility Contractor  
 1231 South DuPont Blvd. Unit 103  
 Smyrna, DE 19977  
 Phone 302-697-4444 Fax 302-697-4445

**REFERENCES**

**JACK AND BORES**

<u>NAME</u>	<u>JOB LOCATION</u>	<u>FEET</u>
City of Dover 860 Buttner Place Dover, DE 19904 Contact: John Mumford Phone: 302-256-1127	Loockerman St Dover, DE	120' - 24"
One Wheel Construction PO Box 1123 Middletown, DE 19709 Contact: Daryl Jester Town of Smyrna Phone: 302-389-2356	Carter Rd Smyrna, DE 19977	60' - 12"
Frederick Shane 30 S. Carter Rd Smyrna, DE 19977 Contact: Daryl Jester Town of Smyrna Phone 302-389-2356	Carter Rd., Smyrna, DE 19977	80' - 12"
John Cereghin 38 S. Carter Rd Smyrna, DE 19977 Contact: Daryl Jester Town of Smyrna Phone: 302-389-2356	Carter Rd., Smyrna, DE 19977	80' - 12"
U & I Investments 506 North DuPont Hwy Dover, DE 19901 Contact: Usman Phone: 302-242-8486	Vera's Haven Dover, DE	60' - 20"
Clarence Voshell 111 Cattle Drive Felton, DE 19943 Contact: Clarence Voshell Phone: 302-270-1646	Rosewood Farms Felton, DE	60' - 20"
Kent County Engineers Bay Rd Dover, DE 19901 Contact: Hans Metlarz Phone: 302-744-2432	Jack n Bore Contractor for Asset for County Contract	Have not yet completed bore for county

**SPRING & ASSOCIATES, INC.**  
29565 CHILCUTT ROAD, EASTON, MD 21601  
410-822-0485 PHONE 410-820-9096 FAX  
www.springandassociates.com

September 13, 2012

Jeff Schaffer  
Northwind Engineering LLC  
6989 Rt 403 HWY N.  
Heilwood, PA 15745

Mr. Jeff Schaffer;

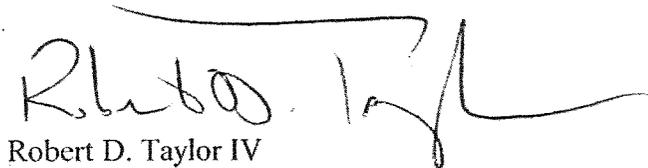
Spring and Associates, Inc. has been in business since 1984. We are utility contractors with capabilities that include utility construction, site work, directional boring, auger boring "on grade", micro tunneling, missile shots, vacuum excavation, trenching, and general excavation. We have completed jobs as both General Contractors and Sub Contractors. Our eight horizontal directional drilling machines and three jack and bore machines are constantly being upgraded to keep up with the ever changing demands. We have in house wire line steering capabilities with one owned state of the art system. We also have on site refueling capabilities to sustain extended work during periods of national emergencies and natural disasters; to include satellite phone capability and portable generators up to 125 KW.

Enclosed you will find the following information regarding Spring and Associates Inc.:

1. Company owned equipment
2. List of similar related job
3. Supervisory personnel

Thank you for reviewing the enclosed information. We look forward to working for you on our next project. Please feel free to contact our office at any time if we can be of assistance to you.

Sincerely,



Robert D. Taylor IV  
SPRING AND ASSOCIATES, INC.

## **SPRING & ASSOCIATES, INC.**

### Owned Equipment

Equipment includes, but is not limited to the following:

- American Augers DD-350SS Maxi Rig with 350,000 pounds of Thrust
- American Augers DD-130SS (Compact) Maxi Rig with 130,000 pounds of Thrust
- American Augers DD-9
- American Augers DD-6
- American Augers DD-3
- American Augers DD-3
- American Augers DD-1 (Compact)
- American Augers MCM-1800 Recycler
- American Augers MC-500 Mud pump and 800 GPM cleaning system
- Utilivac soft dig system
- Akkerman Pilot Tube Micro Tunneling system
- American Augers 30" x 225,000 pounds of thrust Jack & Bore Machine
- American Augers 48" x 900,000 pounds of thrust Jack & Bore Machine
- American Augers 84" x 1,200,000 pounds of thrust Jack & Bore Machine
- Water trucks (2) with 2,500 gallon capacity
- Water tanker trailer with 6500 gallon capacity
- Mud tanker trailer with 5500 gallon capacity
- Electrofusion & Fusion Machines- 3/4" to 36" pipe
- Vacuums (8) 65 – 5500 gallon units
- 185 CFM Air compressors, two units
- John Deere 570A articulated grader
- Ingersol Rand Vibratory Smooth Drum Roller SP-48
- Cat 416C ITC 4 x 4 Extendahoe (w/street broom, bucket & forks)
- Cat 430D ITC 4 x 4 Extendahoe (w/ bucket & forks)
- Cat 430E ITC 4 x 4 Extendahoe (w/ bucket & forks)
- Cat 430E ITC 4 x 4 Extendahoe (w/ Street Broom, bucket & forks)
- Cat 277 MTL Tracked Skid Steer
- Cat 238 Skid Steer loader
- Cat 963C loader crawler w/ QC
- Cat 966H Rubber tire loader w/ QC
- Excavator (Cat 345B)
- Excavator (Cat 315LC) w/ driver/compactor
- Excavator (Cat 315 LC) w/ demolition thumb
- Excavator (Cat 312LC w/ dozer blade) w/ driver/compactor
- Excavator (Cat 305 CR)
- Dozer (D-38 wide track)
- Telehandler fork lift (Cat 580) w/ man basket
- Generator (Cat 125 KW)
- Generator (Cat 105 KW)
- Generator (Cat 105 KW)

Generator (Cat 100 KW)  
Generator (Cat 125 KW)  
Four 6 inch Godwin pumps  
Well Point System  
Street Broom w/water system, self -propelled  
4wd Agricultural Tractor (35 HP)  
Compaction equipment - some w/wireless controls  
Lasers (3 types)  
Moorka Rubber tracked truck w/ hydraulic boom  
Pipe freezing system (Up to 3 inches)  
Wet tap equipment  
Certified aluminum trench boxes  
Confined Space equipment with Gas Tester  
Light Tower  
Various vehicles including three Tractor Trailers, Roll Off Truck, Roll Back  
Truck, Dump Trucks, Service Trucks and Equipment Trailers  
Locating devices (5 types)  
Vacuum, Air & Hydrostatic Testing Equipment

**SPRING & ASSOCIATES, INC.**  
Similar Completed Projects

May 2012 – 200 feet of 42” steel casing pipe installation on grade for a storm drain project in the town of Seaford, DE crossing under DE State Route 20. A.P.Croll; contact Chris Decker @ 443-944-1548 (\$116,000.00)

April 2012 – 2 x 100 feet of 30” steel casing pipe installations parallel under Atlantic Road for electrical transmission conduits in support of the Virginia Space Port, Wallops Island, VA. New River Electric- Chris Whitely @ 540-580-9459. (\$148,500.00)

March 2012- 48” casing pipe installation for a 36” RCP encasement for electrical transmission conduits under three sets of rails for the Indian River Power Plant. Project owner is Delmarva Power Corporation, New River Electric – Chris Whitely @ 540-580-9459. (\$251,721.00)

February 2012- 412 feet and 270 feet of 48” casing Jack and Bore for a 36” Water Transmission Line in Odenton, MD for Anne Arundel County. Contact Chris Rock from Ferguson Trenching @ 443-623-3443. (\$476,036.00)

October 2011, on grade 24” casing for 150’ threaded between utilities for the installation of a 12” water main for the City of Dover. Contact John Huchings from Eastern States Construction @ 302-995-2259 (\$39,500.00)

June 2011, gravity sewer casing pipe installation for Lorton Landfill, Lorton, VA. Scope of work included a pilot tube guided jack and bore of 180 feet of 20 inch casing on grade with an 8 inch CL 52 DIP terminated into an existing 4 ft diameter manhole located in a cul-de-sac. Contact Wade Bowes @ 804-784-9837 (\$115,000.00)

March 2011, gravity sewer casing pipe installation for Middletown, DE. Scope of work included a pilot tube guided jack and bore of 100 feet of 36 inch casing on grade with a 24 inch gravity sewer main. Contact Clarence Swift @ 302-368-7552 (\$50,500.00)

February 2011, gravity sewer casing pipe installation for Kent County, DE under RT 1. Scope of work included a pilot tube, powered micro-tunnel of 180 feet 30 inch casing on grade under RT 1. Contact Matt Tarr @ 302-658-4417 (\$63,000.00)

October 2010, gravity storm water pipe installation for DEL DOT under I-95 Toll Plaza Newark, DE. Scope of work included a pilot tube, powered micro-tunnel of 180 feet 48 inch casing grade with low cover (4 ft) under I- 95. a 36” RCP was loaded into the casing for drainage. Contact Ken Monroe with A-Del Construction at 302-530-3692 (\$478,840.00)

September 2010, gravity storm water pipe installation for DEL DOT under I-95 Toll Plaza Newark, DE. Scope of work included a pilot tube, powered micro-tunnel of 160 feet 42 inch casing grade with low cover (4 ft) under I- 95. Contact Ken Monroe with A-Del Construction at 302-530-3692 (\$478,840.00)

August 2010, electrical casing pipe installation for DEL DOT under I-95 Toll Plaza Newark, DE. Scope of work included a pilot tube, powered micro-tunnel of 140 feet 36 inch .500 wall casing on grade with a less than 1 ft of clearance between storm water pipes under I- 95. Contact Ken Monroe with A-Del Construction at 302-530-3692 (\$478,840.00)

August 2009, water improvements for Artesian Water. Scope included a pilot tube, powered micro tunnel for 160 feet of 30" .500 wall casing with a 16 inch Ductile Iron water pipe under Rt 40 Newark, DE. Contact Greg Cosenta with Nichols Excavation 302-834-2426. (\$78,400.00)

March 2008, gravity sewer installation for a new sub division. Scope included a pilot tube, powered micro-tunnel of 10 inch clay-vitreous pipe for 285 feet under Rt 13, 170 feet under a critical wetlands area and 285 feet under Rt. 1 in Sussex County, DE. Contact John Knight of Knollwood Development @ 301-322-8484 or Brad Hawks, Sussex County Engineer. \$444,000.00)

July 2007, gravity sewer installation for the Town of Easton/ Water Side Village. Scope of work included a pilot tube, powered micro-tunnel of a 36 inch casing for 305 feet on grade under MD State Road 322. Contact Talbot Bone or Paul Moffett with Easton Utilities at 410-822-6110. (\$304,695.00)

**SPRING & ASSOCIATES, INC**  
Supervisory Personnel

Our staff provides over 75 years of combined experience. Contact information for the president and superintendents is as follows:

Rodney V.R. Spring, President  
rspring@springgroup.net  
410-822-0485 Office  
410-310-3757 Cell  
410-924-6454 iphone  
410-822-7848 Home  
410-822-9096 Fax  
254-219-6236 Satellite Phone

Todd Brandow, Superintendent  
410-822-0485 Office  
410-310-0542 Cell  
410-673-2171 Home  
410-820-9096 Fax

Rudilio Estrada, Superintendent / Spanish Translator  
410-822-0485 Office  
410-829-0139 Cell  
410-819-0121 Home  
410-820-9096 Fax

Robert D. Taylor, Construction Manager  
dtaylor@springgroup.net  
410-822-0485 Office  
410-310-5036 iphone  
410-758-3669 Home  
410-820-9096 Fax  
410-829-4507 Cell  
254-219-6239 Satellite Phone

In house support staff is provided to accommodate your construction needs. Full or partial crews are provided for both the private and public sectors.

**SPRING AND ASSOCIATES** prides itself on completing projects in a timely and efficient manner. Routine safety programs as well as random drug and alcohol testing assures a safe job site environment. Our high standards, accuracy and competitive rates make us an attractive source. Contact us for more information.

# NORTHWIND

Northwind Engineering, LLC  
105 Main Street • P.O. Box 232  
Shelocta, PA 15774  
724.354.2941 • 724.354.2951 fax  
www.northwindeng.com

*8a, American Indian, Woman-Owned, and Disadvantaged Small Business Firm*

September 20, 2012

Attn: Randy B. Duplechain, P.E.  
Davis, Bowen, & Friedel, Inc.  
23 Walnut Street  
P.O. Box 809  
Milford, DE 19963

RE: S.E. Milford Water Main Extension  
Alternate Bore Contractor

Mr. Duplechain,

I have prepared this letter requesting an alternate/substitute subcontractor for the above referenced project. The substitute subcontractor is:

Spring & Associates, Inc.  
29565 Chilcutt Road  
Easton, MD 21601  
410-822-0485

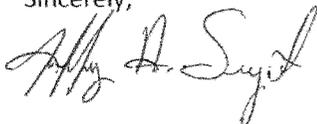
Our original price for Line Item A-16 was 185 lf @ \$200/lf = \$37,000. Our total bid price was \$481,400.

The revised pricing through the substitute subcontractor is \$309/lf = \$57,165. This results in an increase in cost of \$20,165. The revised total bid price is \$501,565.

Northwind sent the qualifications of Spring and & Associates to your office under a separate submittal.

I hope this resolves the issues for this project. Please let me know if you need any further information. Thank you.

Sincerely,



Jeff Sargent  
814-948-4500  
[jsargent@northwindeng.com](mailto:jsargent@northwindeng.com)

cc: Darcia North Wind  
Mary Spangler, Esq.

Milford, Delaware, Code of Ordinances >> PART II - GENERAL LEGISLATION >> **Chapter 130 - FLOODPLAIN MANAGEMENT** >>

## Chapter 130 - FLOODPLAIN MANAGEMENT

*[HISTORY: Adopted by the City Council of the City of Milford 9-14-1992. Amendments noted where applicable.]*  
GENERAL REFERENCES

Building construction – See <a href="#">Ch. 88</a>	Zoning – See <a href="#">Ch. 230</a>
Subdivision of land – See <a href="#">Ch. 200</a>	

[ARTICLE I - General Provisions](#)

[ARTICLE II - Establishment of Floodplain Area](#)

[ARTICLE III - Utilization of Floodplain Area](#)

[ARTICLE IV - Criteria for Building and Site Plan Approval](#)

[ARTICLE V - Specific Requirements](#)

[ARTICLE VI - Administration](#)

[ARTICLE VII - Appeals and Penalties](#)

Milford, Delaware, Code of Ordinances >> PART II - GENERAL LEGISLATION >> **Chapter 130 - FLOODPLAIN MANAGEMENT** >> **ARTICLE I - General Provisions** >>

### ARTICLE I - General Provisions

[§ 130-1. - Intent.](#)

[§ 130-2. - Abrogation and greater restrictions.](#)

[§ 130-3. - Applicability.](#)

[§ 130-4. - Definitions.](#)

#### **§ 130-1. - Intent.**

The intent of this chapter is to:

- A. Promote the general health, welfare and safety of the community.
- B. Encourage the utilization of appropriate construction practices in order to prevent or minimize flood damage in the future.
- C. Minimize danger to public health and safety by protecting water supply, sanitary sewage disposal and natural drainage.
- D. Reduce financial burdens imposed on the community, its governmental units and its residents by preventing the unwise design and construction of development in areas subject to flooding.

#### **§ 130-2. - Abrogation and greater restrictions.**

This chapter supersedes any ordinances currently in effect in flood-prone areas. However, any ordinance shall remain in full force and effect to the extent that its provisions are more restrictive.

### § 130-3. - Applicability.

- A. It shall be unlawful for any person, partnership, business or corporation to undertake or cause to be undertaken any development or the new construction, substantial improvement, placement or relocation of any structure (including manufactured homes) within the floodplain area unless a permit has been obtained from the Code Official. Additionally, where land is to be subdivided, utilized for a manufactured home park or subdivision or otherwise developed, a site plan must be submitted to, and approved by, the Code Official prior to any such development.
- B. Provisions of all other codes, ordinances and regulations shall be applicable insofar as they are consistent with the provisions of this chapter and the community's need to minimize the hazards and damage resulting from flooding.

### § 130-4. - Definitions.

As used in this chapter, the following terms shall have the meanings indicated:

**BASE FLOOD** — The flood which has been selected to serve as the basis upon which the floodplain management provisions of this chapter and other ordinances have been prepared; for purposes of this chapter, the one-hundred-year flood.

**BASEMENT** — Any area of the building having its floor subgrade (below ground level) on all sides.

**DEVELOPMENT** — Any man-made change to improved or unimproved real estate, including but not limited to buildings or other structures, mining, dredging, filling, grading, paving, excavation or drilling operations or storage of equipment or materials.

**EXISTING MANUFACTURED HOME PARK OR SUBDIVISION** — A manufactured home park or subdivision for which the construction of facilities for servicing the lot on which the manufactured homes are to be affixed (including, at a minimum, the installation of utilities, the construction of streets and either final site grading or the pouring of concrete pads) is completed before the effective date of this chapter.

**EXPANSION TO AN EXISTING MANUFACTURED HOME PARK OR SUBDIVISION** — The preparation of additional sites by the construction of facilities for servicing the lot on which the manufactured homes are to be affixed (including the installation of utilities, the construction of streets and either final site grading or the pouring of concrete pads).

**FLOOD** — A general and temporary inundation of normally dry land areas.

**FLOODPLAIN**

- A. A relatively flat or low land area adjoining a river, stream or watercourse which is subject to partial or complete inundation.
- B. An area subject to the unusual and rapid accumulation or runoff of surface waters from any source.

**FLOODPROOFING** — Any combination of structural and nonstructural additions, changes or adjustments to structures which reduce or eliminate flood damage to real estate or improved real property, water and sanitary facilities, structures and their contents.

**FLOODWAY** — The channel of a river or other watercourse and the adjacent land area that must be reserved to discharge the base flood without increasing the water surface elevation of that flood more than one foot at any point.

**HISTORIC STRUCTURE** — Any structure that is:

- A. Listed individually in the National Register of Historic Places (a listing maintained by the Department of Interior) or preliminarily determined by the Secretary of the Interior as meeting the requirements for individual listing on the National Register;
- B. Certified or preliminarily determined by the Secretary of the Interior as contributing to the historical significance of a registered historic district or a district preliminarily determined by the Secretary to qualify as a registered historic district;
- C. Individually listed on a state inventory of historic places in states with historic preservation programs which have been approved by the Secretary of the Interior; or
- D. Individually listed on a local inventory of historic places in communities with historic preservation programs that have been certified either:
  - (1) By an approved state program as determined by the Secretary of the Interior; or
  - (2) Directly by the Secretary of the Interior in states without approved programs.

**LOWEST FLOOR** — The lowest floor of the lowest enclosed area (including basement). An unfinished or flood-resistant enclosure, usable solely for parking of vehicles, building access or storage, in an area other than a basement area is not considered a building's lowest floor, provided that such enclosure is not built so as to render the structure in violation of the applicable nonelevation design requirements of this chapter.

**MANUFACTURED HOME** — A structure, transportable in one or more sections, which is built on a permanent chassis and is designed for use with or without a permanent foundation when connected to the required utilities. The term "manufactured home" does not include a recreational vehicle.

**MANUFACTURED HOME PARK OR SUBDIVISION** — A parcel (or contiguous parcels) of land divided into two or more manufactured home lots for rent or sale.

**NEW CONSTRUCTION** — Structures for which the start of construction, as herein defined, commenced on or after September 14, 1992, and includes any subsequent improvements to such structures.

*[Amended 6-12-1995]*

**NEW MANUFACTURED HOME PARK OR SUBDIVISION** — A manufactured home park or subdivision for which the construction of facilities for servicing the lots on which the manufactured homes are to be affixed (including, at a minimum, the installation of utilities, the construction of streets and either final site grading or the pouring of concrete pads) is completed on or after September 14, 1992.

*[Amended 6-12-1995]*

**ONE-HUNDRED-YEAR FLOOD** — A flood that has one chance in 100 or a one-percent chance of being equaled or exceeded in any given year.

**PERSON** — Any individual or group of individuals, corporation, partnership, association or other entity, including state and local governments and agencies.

**PRINCIPALLY ABOVE GROUND** — Where at least 51% of the actual cash value of a structure, less land value, is above ground.

**RECREATIONAL VEHICLE** — A vehicle which is built on a single chassis, 400 square feet or less when measured at the largest horizontal projection, designed to be self-propelled or permanently towable by a light-duty truck and designed primarily not for use as a permanent dwelling but as temporary living quarters for recreational, camping, travel or seasonal use.

**START OF CONSTRUCTION** — For other than new construction or substantial improvements under the Coastal Barrier Resources Act, Pub. Law 97-348, includes substantial improvements and

means the date the building permit was issued, provided that the actual start of construction, repair, reconstruction, rehabilitation, addition, placement or other improvement was within 180 days of the permit date.

- A. The actual start means either the first placement of permanent construction of a structure on a site, such as the pouring of slab or footings, the installation of pipes, the construction of columns or any work beyond the stage of excavation, or the placement of a manufactured home on a foundation. Permanent construction does not include land preparation, such as clearing, grading and filling, nor does it include the installation of streets and/or walkways, nor does it include excavation for a basement, footings, piers or foundations or the erection of temporary forms, nor does it include the installation on the property of accessory buildings, such as garages or sheds, not occupied as dwelling units or not part of the main structure.
- B. For a substantial improvement, the actual start of construction means the first alteration of any wall, ceiling, floor or other structural part of a building, whether or not that alteration affects the external dimensions of the building.

**STRUCTURE** — A walled and roofed building, including a gas or liquid storage tank, that is principally above ground, as well as a manufactured home.

**SUBSTANTIAL DAMAGE** — Damage of any origin sustained by a structure whereby the cost of restoring the structure to its before-damaged condition would equal or exceed 50% of the market value of the structure before the damage occurred.

**SUBSTANTIAL IMPROVEMENT** — Any repair, reconstruction, rehabilitation, addition or other improvement of a structure, the cost of which equals or exceeds 50% of the market value of the structure before the start of construction of the improvement. This term includes structures which have incurred substantial damage, as defined herein, regardless of the actual repair work performed. The term does not, however, include either:

- A. Any project for improvement of a structure to correct existing violations of state or local health, sanitary or safety code specifications which have been identified by the local code enforcement official and which are the minimum necessary to assure safe living conditions; or
- B. Any alteration of an historic structure, provided that the alteration will not preclude the structure's continued designation as a historic structure.

Milford, Delaware, Code of Ordinances >> PART II - GENERAL LEGISLATION >> **Chapter 130 - FLOODPLAIN MANAGEMENT** >> ARTICLE II - Establishment of Floodplain Area >>

## ARTICLE II - Establishment of Floodplain Area

[§ 130-5. - Identification.](#)

[§ 130-6. - Description.](#)

[§ 130-7. - Changes in delineation of area.](#)

[§ 130-8. - Boundary disputes.](#)

### § 130-5. - Identification.

The identified floodplain area shall be those areas of the City of Milford which are subject to the one-hundred-year flood, as shown on the Floodway Map or Flood Insurance Rate Map (FIRM) and

described in the Flood Insurance Study (FIS) prepared for the City of Milford by the Federal Emergency Management Agency (FEMA) dated July 14, 1978, or the most recent revision thereof.

### **§ 130-6. - Description.**

The identified floodplain area shall consist of the following three specific areas:

- A. The floodway area shall be those areas identified as such in the FIS and as shown on the Floodway Map or FIRM. The term shall also include floodway areas identified in other studies for the approximated area discussed in Subsection C below.
- B. The floodway fringe area shall be those areas for which specific one-hundred-year-flood elevations have been provided in the FIS but which lie beyond the floodway area. These areas are shown on the Floodway Map or FIRM.
- C. The approximated area shall be those areas identified as an A Zone on the Floodway Map or FIRM included in the FIS prepared by FEMA and for which no one-hundred-year-flood elevations have been provided. For these areas, elevation and floodway information from other federal, state or other acceptable source shall be used when available. Where other acceptable information is not available, the elevation shall be determined by using the elevation of a point on the boundary of the identified floodplain area which is nearest the construction site. The City of Milford may require the applicant to determine the elevation with hydrologic and hydraulic engineering techniques. Hydrologic and hydraulic analyses shall be undertaken only by professional engineers or others of demonstrated qualifications, who shall certify that the technical methods used correctly reflect currently accepted technical concepts. Studies, analyses, computations, etc., shall be submitted in sufficient detail to allow a thorough technical review by the City of Milford.

### **§ 130-7. - Changes in delineation of area.**

The delineation of the identified floodplain area may be revised by the City of Milford where natural or man-made changes have occurred and/or more detailed studies conducted or undertaken by the United States Army Corps of Engineers, a River Basin Commission or other qualified agency or individual document the necessity for such changes. However, prior to any such change, approval must be obtained from the Federal Insurance Administration (FIA).

### **§ 130-8. - Boundary disputes.**

Should a dispute concerning any district boundary arise, an initial determination shall be made by the permit officer, and any party aggrieved by this decision may appeal to the Board of Appeals. The burden of proof shall be on the appellant.

Milford, Delaware, Code of Ordinances >> PART II - GENERAL LEGISLATION >> **Chapter 130 - FLOODPLAIN MANAGEMENT** >> ARTICLE III - Utilization of Floodplain Area >>

## **ARTICLE III - Utilization of Floodplain Area**

[§ 130-9. - Permitted uses.](#)

[§ 130-10. - Encroachments.](#)

[§ 130-11. - Alteration or relocation of watercourse.](#)

**§ 130-9. - Permitted uses.**

In the floodplain area any development and/or use of land may be permitted, provided that all such uses, activities and/or development shall be undertaken in strict compliance with the floodproofing and related provisions contained herein and in all other applicable codes, ordinances and regulations.

**§ 130-10. - Encroachments.**

Within any floodway area, no encroachments, including fill, new construction, substantial improvements or other development, shall be permitted unless it has been demonstrated through hydrologic and hydraulic analysis performed in accordance with standard engineering practice that the proposed encroachment will not result in any increase in the base flood elevation.

**§ 130-11. - Alteration or relocation of watercourse.**

Whenever a developer intends to alter or relocate a watercourse within the floodplain area, the developer shall notify, in writing, by certified mail, all adjacent communities and the State Coordinating Office of all such intended activities prior to any alteration or relocation of the watercourse and shall submit copies of such notification to the Federal Insurance Administrator. The developer shall also assure the City of Milford, in writing, that the flood-carrying capacity within the altered or relocated portion of the watercourse in question will be maintained.

Milford, Delaware, Code of Ordinances >> PART II - GENERAL LEGISLATION >> **Chapter 130 - FLOODPLAIN MANAGEMENT** >> ARTICLE IV - Criteria for Building and Site Plan Approval >>

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**ARTICLE IV - Criteria for Building and Site Plan Approval**

[§ 130-12. - Building permit required.](#)

[§ 130-13. - Basic permit format.](#)

[§ 130-14. - Elevation and floodproofing information.](#)

[§ 130-15. - Site plan criteria.](#)

**§ 130-12. - Building permit required.**

Building permits are required in order to determine whether all new construction or substantial improvements are:

- A. Designed (or modified) and adequately anchored to prevent flotation, collapse or lateral movement of the structure resulting from hydrodynamic and hydrostatic loads, including the effects of buoyancy.
- B. Constructed with materials and utility equipment resistant to flood damage.
- C. Constructed by methods and practices that minimize flood damage.
- D. Constructed with electrical, heating, ventilation, plumbing and air-conditioning equipment and other service facilities that are designed and/or located so as to prevent water from entering or accumulating within the components during conditions of flooding.

### § 130-13. - Basic permit format.

The basic format of the building permit shall include the following:

- A. Name and address of the applicant.
- B. Name and address of the owner of the land on which proposed construction is to occur.
- C. Name and address of the contractor.
- D. Site location.
- E. A brief description of the proposed work and estimated cost.
- F. A plan of the site showing the exact size and location of the proposed construction as well as any existing buildings or structures.

### § 130-14. - Elevation and floodproofing information.

Depending on the type of structure involved, the following information shall also be included with the application for development within the floodplain area:

- A. For structures to be elevated to the base flood elevation:
  - (1) A plan showing the size of the proposed structure and its relation to the lot where it is to be constructed.
  - (2) A determination of elevations of the existing ground, proposed finished ground and lowest floor, certified by a registered professional engineer, surveyor or architect.
  - (3) Plans showing the method of elevating the proposed structure, which includes details of proposed fills, pile structures, retaining walls, foundations, erosion protection measures, etc. When required by the permit officer, these plans shall be prepared by a registered professional engineer or architect.
  - (4) Plans showing the methods used to protect utilities (including sewer, water, telephone, electric, gas, etc.) from flooding to the base flood elevation at the building site.
- B. For structures to be floodproofed to the base flood elevation (nonresidential structures only):
  - (1) Plans showing details of all floodproofing measures, prepared by a registered professional engineer or architect and showing the size of the proposed structure and its relation to the lot where it is to be constructed.
  - (2) A determination of elevations of existing ground, proposed finished ground, lowest floor and floodproofing limits, certified by a registered professional engineer, surveyor or architect.
  - (3) A certificate prepared by the registered professional engineer or architect who prepared the plans in Subsection B(1) above that the structure in question, together with attendant utility and sanitary facilities, is designed so that:
    - (a) Below the base flood elevation the structure is watertight with walls substantially impermeable to the passage of water.
    - (b) The structure will withstand the hydrostatic, hydrodynamic, buoyant, impact and other forces resulting from the flood depths, velocities, pressures and other factors associated with the base flood.

### § 130-15. - Site plan criteria.

The owner or developer of any proposed subdivision, manufactured home park or subdivision or other development shall submit a site plan to the permit officer which includes the following information:

- A. Name of engineer, surveyor or other qualified person responsible for providing the information required in this section.
- B. A map showing the location of the proposed subdivision and/or development with respect to the municipality's floodplain areas, proposed lots and sites, fills, flood or erosion protective facilities and areas subject to special deed restriction. In addition, it is required that all subdivision proposals and other proposed new developments greater than 50 lots or five acres, whichever is the lesser, shall include base flood elevation data.
- C. Where the subdivision and/or development lies partially or completely in the floodplain areas, the plan map shall include detailed information giving the location and elevation of proposed roads, public utilities and building sites. All such maps shall also show contours at intervals of two feet or five feet, depending upon the slope of the land, and identify accurately the boundaries of the floodplain areas.

Milford, Delaware, Code of Ordinances >> PART II - GENERAL LEGISLATION >> **Chapter 130 - FLOODPLAIN MANAGEMENT** >> ARTICLE V - Specific Requirements >>

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## ARTICLE V - Specific Requirements

### § 130-16. - Design and construction standards.

#### **§ 130-16. - Design and construction standards.**

In order to prevent excessive damage to buildings, structures and related utilities and facilities, the following restrictions apply to all development, subdivision proposals, manufactured home parks and new construction and to construction of substantial improvements to existing structures occurring in the floodplain area.

- A. Basements and lowest floors.
  - (1) All new construction and substantial improvements of residential structures must have the lowest floor (including basement) elevated one foot above the base flood elevation.
  - (2) All new construction and substantial improvements of nonresidential structures must have the lowest floor (including basement) elevated one foot above the base flood elevation or, together with attendant utility and sanitary facilities, be designed so that below the base flood elevation the structure is floodproofed in accordance with § 130-14B.
  - (3) For all new construction and substantial improvements, those fully enclosed areas below the lowest floor that are usable solely for parking of vehicles, building access or storage in an area other than a basement and which are subject to flooding shall be designed to automatically equalize hydrostatic flood forces on exterior walls by allowing for the entry and exit of floodwaters. Designs for meeting this requirement must either be certified by a registered professional engineer or architect or meet or exceed the following minimum criteria:
    - (a) A minimum of two openings having a total net area of not less than one square inch for every square foot of enclosed area subject to flooding shall be provided.
    - (b) The bottom of all openings shall be no higher than one foot above grade.

- (c) Openings may be equipped with screens, louvers, valves or other coverings or devices, provided that they permit the automatic entry and exit of floodwaters.
- B. **Manufactured home placement.**
- (1) Manufactured homes to be placed or substantially improved within any floodplain area on sites outside of a manufactured home park or subdivision, in a new manufactured home park or subdivision, in an expansion to an existing manufactured home park or in an existing manufactured home park or subdivision in which a manufactured home has incurred substantial damage, as defined herein, as the result of a flood shall:
- (a) Be elevated on a permanent foundation so that the lowest floor of the manufactured home is elevated one foot above the base flood elevation; and
- (b) Be securely anchored to an adequately anchored foundation system to resist flotation, collapse and lateral movement.
- (2) Manufactured homes to be placed or substantially improved within any floodplain area in an existing manufactured home park or subdivision and not subject to the provisions of Subsection B(1) shall be elevated so that either:
- (a) The lowest floor of the manufactured home is at or above the base flood elevation; or
- (b) The manufactured home chassis is supported by reinforced piers or other foundation elements of at least equivalent strength that are no less than 36 inches in height above grade and securely anchored to an adequately anchored concrete foundation system to resist flotation, collapse and lateral movement.
- C. **Recreational vehicle placement.** Recreational vehicles to be placed within any floodplain area shall either be on the site for fewer than 180 consecutive days and be fully licensed and ready for highway use or meet the provisions of Subsection B(1) of this section. A recreational vehicle is ready for highway use if it is on its wheels or jacking system, is attached to the site only by quick-disconnect utilities and security devices and has no permanently attached additions. All recreational vehicles shall be utilized only within an approved state park area.
- D. **Fill.** If fill is used to raise the finished surface of the lowest floor to the base flood elevation:
- (1) Fill shall extend beyond a structure for a sufficient distance to provide acceptable access. For residential structures, fill shall extend laterally 15 feet beyond the building line from all points. For nonresidential structures, fill shall be placed to provide access acceptable for intended use. At-grade access, with fill extending laterally 15 feet beyond the building line, shall be provided to a minimum of 25% of the perimeter of a nonresidential structure.
- (2) Fill shall consist of soil or rock materials only. Sanitary landfills shall not be permitted.
- (3) Fill materials shall be compacted to provide the necessary stability and resistance to erosion, scouring or settling.
- (4) Fill slopes shall be no steeper than one vertical on two horizontal, unless substantiating data justifying steeper slopes is submitted to and approved by the permit officer.
- (5) Fill shall be used only to the extent to which it does not adversely affect adjacent properties.
- E. **Placement of buildings.** All buildings and structures shall be constructed and placed on the lot so as to offer the minimum obstruction to the flow of water and shall be designed to have a minimum obstruction effect upon the flow and height of floodwater.

- F. Anchoring.
- (1) All buildings and structures shall be firmly anchored in accordance with accepted engineering practices to prevent flotation, collapse and lateral movement, thus reducing the threat to life and property and decreasing the possibility of the blockage of bridge openings and other restricted sections of the watercourse. All such anchoring shall be designed by an architect certified by the State of Delaware.
  - (2) All air ducts, large pipes and storage tanks located at or below the base flood elevation shall be firmly anchored to resist flotation.
  - (3) All manufactured homes shall be anchored to resist flotation, collapse or lateral movement.
    - (a) Methods of anchoring may include but are not limited to over-the-top and frame ties to ground anchors, such as the following:
      - [1] Over-the-top ties shall be provided at each of the four corners of the manufactured home, with two additional ties per side, which shall be located at the midpoint of the unit's length.
      - [2] Frame ties shall be provided at each corner of the home, with five additional ties per side at intermediate points, with manufactured homes less than 50 feet long requiring four additional ties per side.
      - [3] All components of the anchoring system shall be capable of carrying a force of 4,800 pounds.
      - [4] Any additions to a manufactured home shall be similarly anchored. Determination of said anchoring shall be by the Code Official.
    - (b) This requirement is in addition to applicable state and local anchoring requirements for resisting wind forces.
- G. Storage. No materials that are buoyant, flammable, explosive or in times of flooding could be injurious to human, animal or plant life shall be stored below base flood elevation.
- H. Utility and facility requirements.
- (1) All new or replacement water systems, whether public or private, shall be designed to minimize or eliminate infiltration of floodwaters into the systems.
  - (2) All new or replacement sanitary disposal systems, whether public or private, shall be designed to minimize or eliminate infiltration of floodwaters into the systems and discharges from the systems into floodwaters.
  - (3) All other new or replacement public and/or private utilities and facilities shall be located and constructed to minimize or eliminate flood damage.
  - (4) On-site waste disposal systems shall be located to avoid impairment to them or contamination from them during flooding.
- I. Drainage. Adequate drainage shall be provided to reduce exposure to flood hazard.

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## ARTICLE VI - Administration

[§ 130-17. - Permit and site plan approval required.](#)

[§ 130-18. - Approval of permits and plans; records.](#)

§ 130-19. - Application procedures.

§ 130-20. - Consent required for changes.

§ 130-21. - Placards.

§ 130-22. - Start of construction.

§ 130-23. - Inspections; revocation of permit.

§ 130-24. - Fees.

### **§ 130-17. - Permit and site plan approval required.**

It shall be unlawful for any person, partnership, business or corporation to undertake or cause to be undertaken any development or the new construction, substantial improvement, placement or relocation of any structure (including manufactured homes) within the floodplain area unless a permit has been obtained from the Code Official. In addition, where land is to be subdivided, utilized for a manufactured home park or subdivision or otherwise developed, a site plan must be submitted to and approved by the Code Official prior to any such development.

### **§ 130-18. - Approval of permits and plans; records.**

- A. All permits and plans shall be approved only after it has been determined that the proposed work to be undertaken will be in conformance with the requirements of the state and all other applicable codes and ordinances.
- B. The Code Official shall require copies of all necessary permits from those governmental agencies from which approval is required by federal or state law.
- C. A record of all information supplied to the Code Official shall be kept on file by the Code Official.

### **§ 130-19. - Application procedures.**

Application for building permit and site plan approvals shall be made, in writing, to the Code Official and shall include all information stipulated under Article IV of this chapter.

### **§ 130-20. - Consent required for changes.**

After the issuance of a building permit or site plan approval by the Code Official, no changes of any kind shall be made to the application, permit or any of the plans, specifications or other documents submitted with the application without the written consent or approval of the Code Official.

### **§ 130-21. - Placards.**

In addition to the building permit, the Code Official shall issue a placard which shall be displayed on the premises during the time construction is in progress. This placard shall show the number of the building permit and the date of its issuance and be signed by the Code Official.

### **§ 130-22. - Start of construction.**

Work on the proposed construction shall begin within six months after the date of issuance of the building permit or the permit shall expire, unless a time extension is granted, in writing, by the Code Official.

### § 130-23. - Inspections; revocation of permit.

During the construction period, the Code Official or other authorized official may inspect the premises to determine that the work is progressing in compliance with the information provided on the permit application and with all applicable laws and ordinances. In the event that the Code Official discovers that the work does not comply with the permit application or any applicable laws and ordinances or that there has been a false statement or misrepresentation by any applicant, the Code Official shall revoke the building permit and report such fact to the City of Milford for whatever action it considers necessary.

### § 130-24. - Fees.

Application for a building permit shall be accompanied by a fee, payable to the City of Milford, as per the fee structure set forth by the City of Milford Building Code (1987 BOCA Building Code, adopted February 13, 1989).<sup>1[24]</sup> Said fees shall, from time to time, be changed by action of the Milford City Council.

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#### FOOTNOTE(S):

<sup>(24)</sup> 1. Editor's Note: The provisions of the 1987 BOCA Building Code have been replaced by those of the 1993 BOCA Building Code. See Ch. 88, Building Construction, of this Code. ([Back](#))

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Milford, Delaware, Code of Ordinances >> PART II - GENERAL LEGISLATION >> **Chapter 130 - FLOODPLAIN MANAGEMENT** >> ARTICLE VII - Appeals and Penalties >>

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## ARTICLE VII - Appeals and Penalties

[§ 130-25. - Appeals.](#)

[§ 130-26. - Appeal review criteria.](#)

[§ 130-27. - Violations and penalties.2](#)

### § 130-25. - Appeals.

Whenever any person is aggrieved by a decision of the Code Official regarding the provision(s) of this chapter, it is the right of that person to appeal to the Board of Appeals (also referred to as the "appeals authority"). Such appeal must be filed, in writing, within 30 days after the determination of the Code Official. Said application shall also be accompanied by a filing fee of \$100, payable to the City of Milford. Upon receipt of said appeal, the appeals authority shall set a time and place for such hearing of not less than 21 nor more than 40 days from the date of application. Notice of dates and location of said meeting shall be given to all parties, at which time they may appear and be heard. The determination of the appeals authority shall be final in all cases.

### § 130-26. - Appeal review criteria.

All appeals contesting only the permit fee established by the Code Official may be handled at the discretion of the appeals authority. All decisions on appeals to all other provisions of this chapter shall adhere to the following criteria:

A.

Affirmative decisions shall only be issued by the appeals authority upon a showing of good and sufficient cause, a determination that failure to grant the appeal would result in exceptional hardship to the applicant and a determination that the granting of an appeal will not result in increased flood heights, additional threats to public safety or extraordinary public expense, create nuisances, cause fraud on or victimization of the public or conflict with existing local laws or ordinances.

- B. An affirmative decision shall be issued only upon a determination that it is the minimum necessary, considering the flood hazard, to afford relief.
- C. An affirmative decision may be issued for the repair or rehabilitation of historic structures only upon a determination that the proposed repair or rehabilitation will not preclude the structure's continued designation as an historic structure and the variance is the minimum necessary to preserve the historic character and design of the structure.
- D. The appeals authority shall notify the applicant, in writing, over the signature of a community official, that the issuance of a decision to allow construction of a structure below the base flood elevation will result in increased premium rates for flood insurance and such construction below the base flood elevation increases risk to life and property. Such notifications shall be maintained with a record of all decisions as required in Subsection E of this section.
- E. The appeals authority shall maintain a record of all decisions, including justification for their issuance, and report such decisions issued in its biennial report submitted to the Federal Insurance Administration.
- F. An affirmative decision shall not be granted for any construction, development, use or activity within any floodway area that would cause any increase in the base flood elevation.

### **§ 130-27. - Violations and penalties.<sup>2</sup> [25]**

Any person who fails to comply with any or all of the requirements or provisions of this chapter or direction of the Code Official or any other authorized employee of the community shall be guilty of an offense and, upon conviction, shall pay a fine of not less than \$50 nor more than \$500 plus cost of prosecution. Each day during which any violation of this chapter continues shall constitute a separate offense. In addition to the above penalties, all other actions are reserved, including an action in equity for the proper enforcement of this chapter. The imposition of a fine or penalty for any violation of or noncompliance with this chapter shall not excuse the violation or noncompliance with this chapter or permit it to continue, and all such persons shall be required to correct or remedy such violations or noncompliance within a reasonable time. Any structure constructed, reconstructed, enlarged, altered or relocated in noncompliance with this chapter may be declared by the City of Milford to be a public nuisance and abatable as such.

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#### FOOTNOTE(S):

<sup>(25)</sup> 2 Editor's Note: Amended at time of adoption of Code (see Ch. 1, General Provisions, Art. I). [\(Back\)](#)

# Floodplain and Drainage Advisory Committee

## Final Summary Report with Standards and Recommendations

### Background

The Floodplain and Drainage Advisory Committee (FDAC) was formed in response to Senate Bill 64 of the 146<sup>th</sup> General Assembly. The Bill was prompted by the State's and local governments' levels of expenditures on flood and drainage related problems in recent years. Since 2000, over 200 flooded homes in Delaware have been purchased at a cost of \$50 million with another \$30 million in claims to the National Flood Insurance Program (NFIP). Another \$65 million has been spent since 1996 to resolve drainage problems associated with poor standards and inconsistent municipal codes.

Between 2007 and 2011, DNREC and the three conservation districts responded to well over 2,000 drainage concerns. In New Castle County, these concerns over a five-year period represent one concern complaint for every 228 housing units or 198 parcels. In Kent and Sussex Counties, these representations are one for every 154 housing units or 201 parcels and one for every 122 housing units or 131 parcels, respectively.

The Committee was comprised of representatives from the following agencies or organizations: Delaware Senate, Delaware House of Representatives, Delaware Farm Bureau, Delaware Association of Conservation Districts, Delaware State Bar Association, Delaware Association of Realtors, Federal Emergency Management Agency (FEMA), Delaware Hazard Mitigation Council, Home Builders Association of Delaware, Delaware League of Local Governments (three appointees, one from each county), Sussex County Association of Towns, Committee of 100, Delaware Insurance Commissioner's Office, American Council of Engineering Companies, Delaware Department of Transportation, Delaware Association of Counties (three appointees, one from each county), and Department of Natural Resources and Environmental Control (DNREC) Division of Watershed Stewardship (two appointees). Division Director Frank Piorko was selected to chair the Committee. DNREC retained Duffield Associates, Inc. (Duffield Associates) as a contractor to assist with various administrative and research tasks.

Though a majority of representatives were in attendance at each meeting, some attended sporadically or asked to have another person appointed in their place resulting in lack of continuity. However, a core group attended most or all meetings, which resulted in spirited discussions and lively debates. Representatives from the following agencies and organizations voted on over a dozen standards and nearly a dozen recommendations:

• Delaware Association of Conservation Districts	• Committee of 100
• Delaware Association of Realtors	• Delaware Insurance Commissioner's Office
• Federal Emergency Management Agency	• American Council of Engineering Companies
• Delaware Emergency Management Agency	• Delaware Department of Transportation
• Home Builders Association of Delaware	• Delaware Association of Counties (3)
• Delaware League of Local Governments (2)	• DNREC Division of Watershed Stewardship (2)
• Sussex County Association of Towns	

Standards are intended to be a guideline for subsequent local ordinances or amendments to existing ordinances, whereas recommendations are more general policy endorsements.

Committee meetings were held on September 20, October 27, and November 30, 2011 and January 27, February 21, March 28, and May 4, 2012. Each meeting lasted about three hours with the exception of the May 4<sup>th</sup> meeting, which lasted over four hours. Detailed notes from each meeting were kept and are available along with presentations and other information at the following:

[www.dnrec.delaware.gov/swc/Pages/FloodplainandDrainageCodeWorkGroupCommittee.aspx](http://www.dnrec.delaware.gov/swc/Pages/FloodplainandDrainageCodeWorkGroupCommittee.aspx)

### **Categories of Standards and Recommendations**

The Standards that were developed fell into two general categories: Floodplain Standards and Drainage Standards. There were multiple scenarios within which the applicability of each standard was weighed. For example, floodplains are categorized one of three ways. Non-delineated floodplains are those which exist, but have not been mapped by FEMA. Currently, there is no NFIP direction for development activities adjacent to unmapped streams, but nationally approximately 30 percent of flood insurance claims are for properties outside of the mapped 100-year floodplain. Delineated floodplains are those for which mapping exists, but are further categorized as either those with known Base Flood Elevations (BFEs) or those without known BFEs. NFIP guidance regarding areas without BFEs is open to interpretation and results in inconsistent calculations. In areas with known BFEs, unclear documentation requirements are believed to have led to non-compliant floodplain development. Standards are sought to address lack of enforcement of existing regulations and to clarify under what circumstances flood studies and mapping should be prepared, what flood study methodology is appropriate, and to which agency data should be submitted.

FEMA's NFIP includes minimum floodplain standards that a community must adhere to in order to be a part of the NFIP. Because every state and community is different, the minimum standards are set low, but communities are encouraged to enact higher standards when needed to better protect people and property. Furthermore, the NFIP expects communities to at least consider additional measures in planning for floodplain management and development.

Floodplains exist for both coastal and riverine floodplains but they are handled very differently. Coastal floodplains are the result of tidal actions and storm surge that cannot, for all practical purposes, be influenced by man. On the contrary, riverine floodplains can be very much impacted by man. Due to the breadth of coastal floodplains and the inability to influence flood elevations, lot creation and "encroachment" (or fill placed in a floodplain which could raise flood elevations) restrictions were not considered appropriate for these areas. Conversely, standards such as those for "freeboard" (or floor elevations above flood elevations) and for basements / crawl spaces and venting (which equalize hydrostatic loads on exterior walls) were considered for both tidal as well as riverine areas.

The ensuing floodplain standards were organized as those related to mapping (flood studies, information to include on plans, etc.) and for development and building issues (freeboard, lot creation, encroachments, and structural matters). Some standards need to be weighed in the context of other standards. For example, standards 7 and 7A consider freeboard while standard 14 addresses encroachments. Currently and consistent with FEMA policies, encroachments can occur in some jurisdictions as long as the base flood elevation is not raised by more than one foot. Without a freeboard standard or reduction in encroachment impacts, buildings adjacent to or near encroached

locations could have a foot of water above the floor elevation in flood events if their first floor is set at the pre-encroachment BFE which is shown on floodplain maps.

Drainage standards were organized as: 1) conveyance and easements; 2) grading; and 3) plan preparation. Concerns regarding drainage included difficulties maintaining open and enclosed conveyances due to lack of sufficient width for construction equipment and absence of a clearly defined responsible party, adequacy of conveyance sizes, grading which at times results in inadequate drainage on lots and / or adverse impacts on adjacent lots, and lack of consistency in design plan and as-built plan preparation.

Standards for drainage were considered in the context of Minor Subdivisions, Major Subdivisions, and Multiple Parcel Commercial Subdivisions, as well as for previously recorded lots. For example, the standards regarding easements and conveyance systems would not apply to previously recorded lots as provisions for these would have had to be included at the time of recordation. However, standards related to lot grading and plan preparation would apply to all lots as they would have little or no impact on the configurations at the time of recordation.

### **Research of Best Practices**

As part of the process, DNREC and its consultant researched practices in neighboring states and in other parts of the Country. Commonalities were found as were differences in approaches and degree of regulation.

For example, regarding the issue of freeboard, Maryland uses one foot above BFE whereas New Jersey uses one foot above the State Hazard Area Design Flood elevation or two feet above the FEMA-designated BFE. Pennsylvania on the other hand defers to the NFIP standard which is zero. Kansas and North Carolina each use one foot while South Carolina has no requirement (in other words zero required freeboard). Similarly, Maryland and New Jersey both have significant restrictions on the placement of fill in the floodway fringe but Pennsylvania again defers to NFIP which allows fill so long as certain conditions are met.

Many communities in Delaware already require freeboard. For example, New Castle County requires 18 inches of first floor freeboard above the base flood elevation. In the Town of Henlopen Acres, all new construction and substantial improvements of residential structures need to have the lowest floor, including basements, elevated to a minimum of 3 feet above the base flood elevation (BFE plus freeboard).

Unlike floodplain requirements, which are usually regulated at the state level, research of drainage issues was difficult as this is more often a local government issue. However, the Committee was presented with examples from the Residential Lot Grading Guidelines developed in Deltona, Florida. This guidance manual includes templates that schematically depict grading for dozens of scenarios.

## **Issues**

The following is a summary of major issues raised during the Committee discussions.

### ***Physical and Governance Differences between Counties and Municipalities***

The breadth of services offered by the three counties varies, but their responsibilities can include: regulating new and existing development; plan review, permits, and inspections; coordination with home owner associations (HOAs); standards for source water protection; minor capital improvements; and maintenance and inspections of non-tidal streams. There is also a conservation district in each county and their areas of services vary somewhat too.

While there are similarities between the counties, there are also differences. Much of New Castle County is in the Piedmont, characterized by rolling hills and riverine floodplains. Kent and Sussex Counties as well as southern New Castle County are in the Coastal Plain with generally flat topography and coastal floodplains. New Castle County tends to have more comprehensive development regulations as sediment and stormwater, “lines and grades” (or existing and proposed topography), and bulk grading are all included in plan submittals. In Kent County, finish floor elevations are included but lines and grades are not required. In Sussex County, neither finish floor elevations nor lines and grades submittals are required. Development definitions vary too. Most governments use terms such as “Major Development” and “Minor Development,” but the number of lots and / or number of acres in either can be different.

Responsibilities of the 57 municipalities in Delaware also vary. Larger cities tend to provide a greater range of services than do smaller towns and would probably be better able to incorporate certain standards. The Committee considered the impact standards could have on smaller communities. One of the floodplain recommendations is for Memoranda of Understanding (MOUs) to be encouraged between counties or other larger governments and smaller cities or towns for enforcement of floodplain regulations where local capabilities are insufficient.

Some Committee members expressed concern over how standards would be applied given dissimilar government capabilities. Standards that result in a higher level of scrutiny of plans or calculations could also result in the need for adequately trained reviewers to be on the receiving end. It was also pointed out that qualified consultants would be needed as well. Furthermore, without further guidance, the end result could be different processes being used by different consultants and therefore lack of conformity. The recommendation for a Certified Floodplain Manager (CFM) to be on staff was considered to be too onerous to smaller towns by some. Others thought a CFM should have informed the Committee about their role in the process.

### ***Expenditures versus Risk***

While DNREC does perform mapping, the Department believes that some responsibilities for this activity need to fall on private entities since neither FEMA nor states can always have accurate up-to-date maps readily available when development is proposed. Some Committee members believed that this shifts costs to people who have no control over the process and could result in an unfair situation if the first one developing in an area ends up paying for a study while those following would reap benefits at no cost. It is essentially a philosophical versus practical conversation as reliance solely on a government entity will result in voids. DNREC and the Federal government do not have the funds to map the entire state’s floodplains.

FEMA representatives noted the debate is really about front-end versus back-end costs. Expenditures on the front-end, usually with private but sometimes public funds, can reduce risk. On the back-end, governments at multiple levels, solely with public funds, are asked to come in and help after floods. Some felt costs borne by governments need to be balanced with the benefits of economic activity. A recurring theme at Committee meetings was the desire for DNREC to more aggressively perform mapping and this is reflected in the recommendation that says DNREC shall make it a priority to modernize floodplain maps. There was near unanimous support for aggressive State action to perform watershed studies resulting in modernized maps that would eliminate the need for expensive, individual studies. Many felt watershed studies should be done on a prioritized basis and cost allocated on a pro-rated basis to developments as they occur.

Some in the regulated community were not comfortable with standards that could result in more reliance on FEMA for review of technical data. It was noted that the FEMA time line adds months to what some consider an already lengthy plan review time period which adds costs to projects. Some said that flexibility is needed. If a community already prohibits development in riparian areas, requiring a flood study may be unnecessary. Over-reliance on FEMA can result in too much power to people without local accountability.

Regarding freeboard, information was presented to the Committee demonstrating that there is a dollar value savings in flood insurance premiums, if a structure is built with the first floor elevation well above BFE. Without disagreeing, it was also stated that the additional expense of elevating a structure could put some home buyers out of the market. Also, raising floor elevations could make compliance with the Americans with Disabilities Act more expensive and hinder efforts to redevelop in historic areas. The Committee was split on endorsing the freeboard standards. It was suggested that an Economic Impact Study be considered before implementation of many of the standards. Such a study would help demonstrate what some members felt are minimal costs, but great benefits over time and garner support from the private sector.

Some Committee members felt freeboard should be promoted within the construction industry. However, others believed home buyers should be educated about the benefits of freeboard such that they can decide if it is worth the investment. Let the market determine if benefits outweigh costs. More than one Committee member felt freeboard may conflict with local government codes specifically regarding height limits. More than one Committee member said the manufactured home industry should be given opportunity to comment before special freeboard requirements are put into place affecting that type of home whereas others believe that freeboard is most important in this case. Also, this standard is important since the property owner is usually different than the manufactured home owner. Lack of flood insurance claims brings into question the need for any freeboard standards.

While prescribing situations when development could or could not occur may be appropriate, the Committee also thought conversations should be focused more on acceptance of responsibility and getting information and disclosures out to property owners. DNREC stated that they have received calls from homeowners after settlement stating that their lending institution is now requiring them to get flood insurance even though their loan was previously approved without insurance. Home buyers should know if they are in a mapped floodplain. It is recommended that DNREC meet with the Board of Realtors within six months to develop improved wording on seller disclosure forms, investigate lending regulations to determine whether flood zone determinations are required in advance of settlement.

### ***Resolution of Property Disputes***

Currently, in most situations where one property owner may be aggrieved by another, the court system is usually the only answer. For example, if the owner of a property adjacent to an existing house chooses to place fill on his or her property such that drainage flows towards the existing house, there is little the lower home owner can do but take the neighbor to court. Similarly, if one property drains onto another property, the downstream owner can place an obstruction in the conveyance, again leaving the upstream property owner with few options other than court. Some of the drainage standards seek to minimize such occurrences by establishing technical guidelines and clarifying responsible parties.

There was some dissension among Committee members regarding the role of government in these cases. Some opined that government shouldn't be an arbiter and that the rightful place to resolve disputes is in the courts. Counter arguments noted people in general prefer to avoid legal situations and would prefer government intervention. DNREC presented language in the tax ditch law that gives legal authority from obstructing drainage in a tax ditch.

The six drainage standards each passed either unanimously or with a large majority in favor. One unresolved issue regards enforcement. While a standard may prescribe what can or cannot happen on a particular property, it is not known at this time how local governments will enforce the requirements.

### ***Previously Recorded and Unrecorded Future Lots***

DNREC noted that there are tens of thousands of previously recorded lots Statewide. Regarding floodplains, there is a need to minimize risk for those lots as well as for future lots not yet recorded. With respect to drainage, it was noted that it is usually more expensive to fix problems on lots in developments where roads and infrastructure have already been placed than if the issues were addressed before plan approval. In other words, there are both community-level and lot-level issues to be considered.

Much of the floodplain discussions revolved around FEMA's "50 / 5 rule," which is a threshold which states that certain studies must be performed for projects in excess of 50 lots or 5 acres. The state of Maryland recently changed their regulations to 5 lots or 5 acres. There was disagreement regarding whether Delaware should adopt standards, based on this FEMA guidance due to the different topographic conditions throughout the state and the belief such a standard could drive-up development costs.

Two scenarios can result in drainage problems with previously recorded lots. First is development of a single lot when adjacent lots have already been developed. Second is a large development with multiple builders working at different times. There typically are fewer problems on major subdivisions with a single builder.

It was noted that engineers often don't know the details about the types of houses being proposed when they are preparing plans and can't always put the finish floor elevations on the plans.

## **Evolution of Standards and Results of Votes**

Each standard and recommendation presented herein has undergone significant debate and language revisions in order to gain widespread acceptance by the Committee and impart flexibility for local governments, if adopted.

For instance, early versions of some floodplain standards sought restrictions for properties “adjacent” to floodplains but several Committee members believed “adjacent” to be too nebulous. Therefore, the term was either dropped in favor of the more clearly defined word “contiguous” or the standard was abandoned. Some phrases like “adequate width” regarding easements were intentionally left vague such that the counties and municipalities can interpret as they see fit. Finally, standards do not seek to prescribe what Minor and Major Subdivisions are, so local government definitions will continue to be utilized.

Some Committee members thought that a definition of “topographic plan” was needed to more clearly specify a requirement for contours or just spot elevations as well as “drainage conveyance”. One member believed “willful” and “negligent” should not be included in Drainage Standard 2 even though they are used in the Tax Ditch Law since standards and laws are different. Several members thought additional discussion would have been helpful regarding the recommendations and that several of the standards should have been recommendations instead.

As previously stated, the standards generally fall into discrete categories and within these categories they often progress from more restrictive to less restrictive. For example, Standard 12 would mandate that mapped non-tidal floodplains in all lands being newly subdivided be located in a lot or lots dedicated as public or private open space and deed restricted to prohibit development. Standard 13 allows new lots to be located partially in non-tidal floodplains as long as future construction activities will occur on the portion of the lot that lies outside of the floodplain. Standard 12 was the only standard soundly defeated by the Committee but Standard 13 narrowly passed (please see below for results of all votes). Progressing from the question of whether or not to allow lots containing floodplains is Standard 14 prohibiting floodplain encroachments unless compensatory storage is provided. A vast majority of Committee members supported this standard. Assessing all three of the standards together, the Committee opined that lots containing floodplains are acceptable so long as the floodplains are not encroached upon once development occurs. However, restrictions on subdividing lots could result in State control over local land use.

Similarly, standards regarding freeboard and structures evolved from the lot creation standards as well. Floodplain Standards 7 and 7A require 18 inches and 12 inches of freeboard respectively and Subsequent Standard 8 requires 18 inches of freeboard for manufactured homes. The Committee was evenly split on Standards 7 and 7A but was generally supportive of Standard 8. As was previously noted, there was disagreement whether or not the additional costs for providing freeboard would be offset by lowered risk and / or flood insurance payments. In the case of manufactured homes, the case was made that these types of structures typically sustain much larger damages as a function of overall home value than other types of residential structures when flooded to the first floor height. This resulted in a more favorable vote by the Committee.

Drainage standards also increased prescriptively. Standard 1 mandates that easements be provided over drainage conveyance systems whereas Standard 2 prohibits the willful or negligent obstruction of conveyances. Standard 3 sets the minimum design storm for conveyance system design. Likewise, Standard 4 seeks to ensure that lot grading results in drainage away from buildings and structures while also not creating an adverse impact to adjacent structures or lands. Standard 5

further articulates requirements for plan preparation in advance of construction to demonstrate that Standard 3 would be met, while Standard 6 would require post-construction as-built plans to be prepared to show Standard 3 was met. All six drainage standards passed with a plentiful majority but the level of support dropped a little as the standards became more restrictive.

The following is a summary of the votes on each standard and recommendation.

<b>Floodplain Standards</b>																
	Standard 1	Standard 2	Standard 3	Standard 4	Standard 5	Standard 6	Standard 7	Standard 7A	Standard 8	Standard 9	Standard 10	Standard 11	Standard 12	Standard 13	Standard 14	Standard 15
Yea's	14	14	16	17	17	16	8	9	12	13	17	16	6	9	13	14
No's	3	3	1	0	0	1	8	8	5	4	0	1	11	7	3	3
Abstain	0	0	0	0	0	0	1	0	0	0	0	0	0	1	1	0

<b>Floodplain Recommendations</b>							
	Recommendation 1	Recommendation 2	Recommendation 3	Recommendation 4	Recommendation 5	Recommendation 6	Recommendation 7
Yea's	15	15	13	13	14	15	15
No's	0	0	1	1	1	0	0
Abstain	1	1	2	2	1	1	1

<b>Drainage Standards and Recommendations</b>									
	Standard 1	Standard 2	Standard 3	Standard 4	Standard 5	Standard 6	Recommendation 1	Recommendation 1	Recommendation 1
Yea's	17	15	14	15	13	14	12	17	13
No's	0	2	3	2	4	3	2	0	2
Abstain	0	0	0	0	0	0	3	0	2

## **Summary and Process Moving Forward**

Following the public notice and public comment period, the Secretary will consider all public comments prior to finalizing and adopting the Floodplain and Drainage Proposed Standards and Recommendations. Within six months of the adoption of minimum standards, the three county governments and all municipal governments, as appropriate, shall review and prepare comments regarding their individual codes and ordinances to determine if they are consistent with the minimum standards. Such review and comments shall identify areas where existing requirements meet or exceed these recommendations and standards, do not comply with the standards or are functionally equivalent. The review and comments from local governments will also identify areas where implementation of these standards would represent a hardship to the local government, and what impediments to adoption of these standards have been identified.

In order to assist county and municipal governments in completing this review and assessment, the Department will schedule three workshops this summer and fall to introduce the Standards and Recommendations to the local municipal agencies and present a framework for assistance with this task.

At the completion of the six month review and report by the county and municipal governments, a draft report will be prepared for Committee review and Committee input will be provided prior to the final report completion. The final report will be delivered to the General Assembly no later than March 15, 2013.

The attached Proposed Standards and Recommendations represent the collective effort of the Floodplain and Drainage Advisory Committee, and represent an extensive amount of work from a dedicated group of volunteers.

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# Final Minimum Floodplain and Drainage Standards

## Prepared for the Floodplain and Drainage Advisory Committee

**June 11, 2012**

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# **Final Floodplain Standards**

**Proposed Standard 1: Flood study required in unmapped floodplains.**

**Current Criteria:** There are currently no NFIP minimum standards for development projects contiguous to streams where FEMA has not delineated a floodplain area.

**Proposed Standard:** For all new development activities which exceed 50 lots or 5 acres in locations contiguous to streams without a FEMA-delineated floodplain, with an upstream watershed greater than 1 square mile, a flood study shall be conducted in accordance with FEMA study criteria. Base flood elevations (BFEs) and floodplain delineations shall be submitted to local jurisdictions prior to record plan approval or building permit issuance. This standard does not apply to Minor Subdivisions as defined by local governments.

		Lot Scenarios			FIRM Map Scenarios		
Tidal	Non -Tidal	Recorded Lots Grandfathered	Proposed Subdivision >= 50 lots or 5 acres	Proposed Subdivision <50 lots or 5 acres	Non-Delineated Floodplain	Delineated Floodplain No BFE (Zone A)	Delineated Floodplain with BFE (Zone AE)
	✓		✓		✓		

**Supporting rationale:** Many streams in Delaware do not have floodplains mapped. In 2011, two publicly funded floodplain buyouts were done in unmapped floodplains where homes were damaged beyond repair. Nationally, approximately 30 percent of all flood claims come from outside the 100-year floodplain. Currently, development in these areas is often done without consideration of flood risk. The photograph below shows flooding to a home in New Castle County which is contiguous to a stream with no FEMA mapped floodplain. The home has been repeatedly flooded and was damaged beyond repair during Hurricane Irene.



**Proposed Standard 2: Flood Study required in Zone A (no BFE) FEMA mapped floodplains.**

**Current Criteria:** The NFIP minimum standards require “base flood elevation data” to be included with all development proposals which exceed either 5 acres or 50 lots. The term “base flood elevation data” is not defined and has been interpreted to allow a wide range of submittals which do not reflect actual calculations of flood risk.

**Proposed Standard:** For all new development activities which exceed 50 lots or 5 acres in FEMA mapped floodplain areas without a base flood elevation, a flood study shall be conducted in accordance with FEMA study criteria. Base flood elevations and floodplain delineations shall be submitted to FEMA and approved prior to record plan approval so that official maps can be revised with these BFE’s and floodplain delineations. This standard does not apply to Minor Subdivisions as defined by local governments.

		Lot Scenarios			FIRM Map Scenarios		
Tidal	Non -Tidal	Recorded Lots Grandfathered	Proposed Subdivision >= 50 lots or 5 acres	Proposed Subdivision <50 lots or 5 acres	Non-Delineated Floodplain	Delineated Floodplain No BFE (Zone A)	Delineated Floodplain with BFE (Zone AE)
	✓		✓			✓	

**Supporting Rationale:** CFR 44 60.3 requires NFIP-participating communities to require “base flood elevation data” to be submitted as part of development proposals which exceed 5 acres or 50 lots. “Base flood elevation data” is an ambiguous term which can include many types of data that FEMA will not accept. If FEMA cannot accept the data, then no corrections will be made to the floodplain map, property owners may have to determine base flood elevations on a lot-by-lot basis for building homes. Neither banks nor insurance companies can accept base flood elevation data that FEMA has not accepted, increasing insurance costs. The images below show the huge difference between a Zone A FEMA floodplain map (left) and an accurate floodplain map revised after a study was performed. Estimating a base flood elevation through point-on-the boundary or other means using the map on the left would almost certainly produce an inaccurate result.



**Proposed Standard 3:** Only FEMA approved floodplain and BFE data shall be shown on record plans and development documents.

**Current Criteria:** There are currently no NFIP minimum standards defining the source of base flood elevations or floodplain delineations which are depicted on building permit or development documentation.

**Proposed Standard:** In all areas with delineated floodplains, record plans and development documents shall show the floodplain delineation from a flood study approved by FEMA (with BFE where applicable). Flood studies submitted to FEMA for map revisions must be approved prior to the recordation stage for subdivisions.

		Lot Scenarios			FIRM Map Scenarios		
Tidal	Non -Tidal	Recorded Lots Grandfathered	Proposed Subdivision >= 50 lots or 5 acres	Proposed Subdivision <50 lots or 5 acres	Non-Delineated Floodplain	Delineated Floodplain No BFE (Zone A)	Delineated Floodplain with BFE (Zone AE)
✓	✓	✓	✓	✓		✓	✓

**Supporting Rationale:** Frequently, preparers of these site plans have modified the FEMA floodplain boundary on site plans to fit new topography, or to reflect new information. If these revised floodplain depictions have not gone through FEMA’s review, then the information cannot be used by insurance companies, banks, or code enforcement departments. It is critical that prospective buyers and design professionals use official regulatory flood information, not unofficial depictions based on new data that has not undergone FEMA review.

**Proposed Standard 4:** Use accepted base flood elevations in building permit application documents.

**Current Criteria:** There are currently no NFIP minimum standards defining the source of base flood elevations or floodplain delineations which are depicted on building permit application documents.

**Proposed Standard:** All building permit application documents in a floodplain shall reference only base flood elevation and/or floodplain delineation developed in flood studies which have been reviewed and approved by appropriate county or municipal agency, or the Federal Emergency Management Agency where applicable.

		Lot Scenarios			FIRM Map Scenarios		
Tidal	Non -Tidal	Recorded Lots Grandfathered	Proposed Subdivision >= 50 lots or 5 acres	Proposed Subdivision <50 lots or 5 acres	Non-Delineated Floodplain	Delineated Floodplain No BFE (Zone A)	Delineated Floodplain with BFE (Zone AE)
✓	✓	✓	✓	✓		✓	✓

**Supporting Rationale:** Communities participating in the NFIP are required to verify that the floodplain information used to permit construction in the floodplain is accurate. FEMA BFEs should be used in Zone AE floodplains. In Zone A floodplains where FEMA has not determined BFE’s, BFE data from other sources may be used such as a preliminary flood study, or appropriate calculation from the permit applicant’s surveyor or engineer. In all cases, the community having responsibility for floodplain management must review all submitted BFE data.

**Proposed Standard 5: Floodplain information included on permitting documentation.**

**Current Criteria:** The NFIP does not stipulate the administrative permitting process for floodplain development, although 44 CFR 60.3 (the NFIP Regulations) does require that a permit be issued for all development in a floodplain.

**Proposed Standard:** Floodplain information including Floodplain Map used, effective flood zone delineations, base flood elevations, and proposed lowest floor elevations shall be required on record plans and development documents for all new development activities or substantially improved structures (as defined by local governments) within a FEMA floodplain.

		Lot Scenarios			FIRM Map Scenarios		
Tidal	Non -Tidal	Recorded Lots Grandfathered	Proposed Subdivision >= 50 lots or 5 acres	Proposed Subdivision <50 lots or 5 acres	Non-Delineated Floodplain	Delineated Floodplain No BFE (Zone A)	Delineated Floodplain with BFE (Zone AE)
✓	✓	✓	✓	✓		✓	✓

**Supporting Rationale:** Development activities in floodplains in NFIP-participating communities require the dissemination and collection of building and development information which may not be required for development outside the floodplain. These data include:

- Flood map and flood zone for the property
- Floor elevation is required for the site
- Special flood protection required for utilities
- Foundation requirements
- Grading requirements and many others.

It has been the Department’s experience that there is a direct relationship between non-compliant floodplain development and unclear permitting documentation. Having permitting documentation that is specifically geared towards floodplain regulations increases the likelihood that requirements are passed along to the permit applicant, and that requirements are clear.

**Proposed Standard 6:** Require use of elevation and flood proofing certificates.

**Current Criteria:** The NFIP does not require the use of Elevation Certificates or Flood proofing Certificates.

**Proposed Standard:** FEMA Elevation certificates shall be completed properly for both pre and post-construction for all new structures and substantially improved structures (as defined by local governments) in the floodplain. For all new structures to be dry-flood proofed, a FEMA Flood proofing Certificate form shall be completed both pre and post construction.

		Lot Scenarios			FIRM Map Scenarios		
Tidal	Non -Tidal	Recorded Lots Grandfathered	Proposed Subdivision >= 50 lots or 5 acres	Proposed Subdivision <50 lots or 5 acres	Non-Delineated Floodplain	Delineated Floodplain No BFE (Zone A)	Delineated Floodplain with BFE (Zone AE)
✓	✓	✓	✓	✓		✓	✓

**Supporting Rationale:** The Elevation Certificate was specifically created and is widely used to collect compliance data about buildings in floodplain in NFIP-participating communities. Elevation certificate are already required for flood insurance policies to be written for new buildings, and for property owners who request Letters of Map Amendments or Map Revisions based on fill. It has been the Department’s experience that a significant contributing factor to non-compliant development is failure to use pre-construction and/or post construction elevation certificates. Improperly completed elevation certificates are also a major problem which is much harder for communities to address after the fact.

## Proposed Standard 7: Require 18 inches of freeboard.

**Current Criteria:** The NFIP minimum standards currently do not require any freeboard for first floors elevations.

**Proposed Standard:** All new construction or substantially improved structures (as defined by local governments) located within a FEMA mapped floodplain shall have the lowest floor, including basement, and all equipment and machinery elevated to or above 18 inches above the base flood elevation. In lieu of elevation, non-residential structures may provide dry-floodproofing such that the lowest floor of the building and all utilities are protected to a minimum height of 18 inches above BFE.

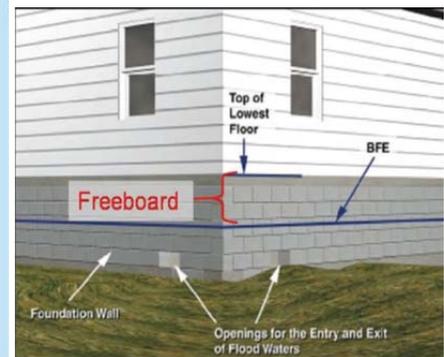
**Examples of savings on NFIP1 with freeboard**

Zone V <sup>2</sup>	Zone V <sup>2</sup>		Zone A <sup>3</sup>	Zone A <sup>3</sup>	
	1' freeboard	2' freeboard		1' freeboard	2' freeboard
	\$2,565 (33%)	\$4,310 (56%)		\$725 (46%)	\$984 (63%)
	\$76,950	\$129,300		\$21,750	\$29,520
	\$5,160 (67%)	\$154,800		\$1,074 (68%)	\$32,220

<sup>1</sup> 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.

<sup>2</sup> 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.

<sup>3</sup> 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).



		Lot Scenarios			FIRM Map Scenarios		
Tidal	Non -Tidal	Recorded Lots Grandfathered	Proposed Subdivision >= 50 lots or 5 acres	Proposed Subdivision <50 lots or 5 acres	Non-Delineated Floodplain	Delineated Floodplain No BFE (Zone A)	Delineated Floodplain with BFE (Zone AE)
✓	✓	✓	✓	✓		✓	✓

**Supporting Rationale:** A significant amount of flood damage will occur to most structures if water reaches the first floor of the house, even if the floor is not overtopped. Also, flood studies have a significant amount of uncertainty and flood levels are likely increasing in many areas. Freeboard is the single most important factor in reducing flood damage, and lowering flood insurance costs. The insurance graphic illustrates that 18” freeboard results in a \$984/year savings in AE Zone floodplains and \$4310/year for VE Zone floodplains.

**Proposed Standard 7 (Alternate):** Require one foot of freeboard.

**Current Criteria:** The NFIP minimum standards currently do not require any freeboard for first floors elevations.

**Proposed Standard:** All new construction or substantially improved structures (as defined by local governments) located within a FEMA mapped floodplain shall have the lowest floor, including basement, and all equipment and machinery elevated to or above one foot above the base flood elevation. In lieu of elevation, non-residential structures may provide dry-floodproofing such that the lowest floor of the building and all utilities are protected to a minimum height of one foot above BFE.

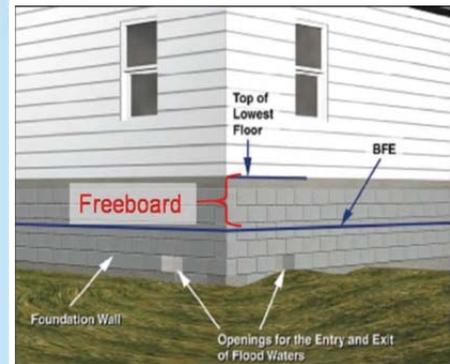
**Examples of savings on NFIP1 with freeboard**

	Annual savings in NFIP premiums	Savings over 30-year mortgage		Annual savings in NFIP premiums	Savings over 30-year mortgage	
Zone V <sup>2</sup>	1' freeboard	\$2,565 (33%)	\$76,950	Zone A <sup>3</sup>	\$725 (46%)	\$21,750
	2' freeboard	\$4,310 (56%)	\$129,300		\$984 (63%)	\$29,520
	3' freeboard	\$5,160 (67%)	\$154,800		\$1,074 (68%)	\$32,220

<sup>1</sup> 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.

<sup>2</sup> 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.

<sup>3</sup> 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).



		Lot Scenarios			FIRM Map Scenarios		
Tidal	Non -Tidal	Recorded Lots Grandfathered	Proposed Subdivision >= 50 lots or 5 acres	Proposed Subdivision <50 lots or 5 acres	Non-Delineated Floodplain	Delineated Floodplain No BFE (Zone A)	Delineated Floodplain with BFE (Zone AE)
✓	✓	✓	✓	✓		✓	✓

**Supporting Rationale:** A significant amount of flood damage will occur to most structures if water reaches the first floor of the house, even if the floor is not overtopped. Also, flood studies have a significant amount of uncertainty and flood levels are likely increasing in many areas. Freeboard is the single most important factor in reducing flood damage, and lowering flood insurance costs. The insurance graphic illustrates that one foot freeboard results in a \$725/year savings in AE Zone floodplains and \$2565/year for VE Zone floodplains.

## Proposed Standard 8: Require 18 inches of freeboard for Manufactured Homes

**Current Criteria:** The NFIP minimum standards currently do not require any freeboard for first floors elevations of manufactured homes and allow new or replacement manufactured homes placed in older manufactured home communities to be placed on 36” piers even when base flood elevation is more than 36” above grade.

**Proposed Standard:** All new or substantially improved (as defined by local governments) manufactured homes located within a FEMA mapped floodplain shall have the lowest floor, including basement, and all equipment and machinery elevated to or above 18 inches above the base flood elevation.

		Lot Scenarios			FIRM Map Scenarios		
Tidal	Non -Tidal	Recorded Lots Grandfathered	Proposed Subdivision >= 50 lots or 5 acres	Proposed Subdivision <50 lots or 5 acres	Non-Delineated Floodplain	Delineated Floodplain No BFE (Zone A)	Delineated Floodplain with BFE (Zone AE)
✓	✓	✓	✓	✓		✓	✓

**Supporting Rationale:** Significant flood damage will occur to manufactured homes if water reaches the first floor of the house, even if the floor is not overtopped. Most manufactured homes place ductwork below the lowest flood and use flooring materials which are susceptible to water damage. Flood studies have a significant amount of uncertainty and flood levels are likely increasing in many areas. Freeboard is the single most important factor in reducing flood damage to manufactured homes, and lowering flood insurance costs.

**Proposed Standard 9:** Shallow fill above BFE will not exempt a structure from floodplain regulations.

**Current Criteria:** Current criteria is to treat land removed from the floodplain by filling no differently than any other land which is outside the floodplain.

**Proposed Standard:** Fill placed in the floodplain which results in land having an elevation less than 18 inches above base flood elevation will not result in a relaxation of floodplain standards.



LETTER OF MAP REVISION BASED ON FILL DETERMINATION DOCUMENT (REMOVAL) ATTACHMENT 1 (ADDITIONAL CONSIDERATIONS)						
TABLE (CONTINUED)						
SUBDIVISION	STREET	OUTCOME WHAT IS REMOVED FROM THE SFHA	FLOOD ZONE	1% ANNUAL CHANCE FLOOD ELEVATION (NAVD 88)	LOWEST ADJACENT GRADE ELEVATION (NAVD 88)	LOWEST LOT ELEVATION (NAVD 88)
Americana Bayside, Phase 11	Wild Rose Circle	Property	X (shaded)	5.2 feet	--	5.3 feet
Americana Bayside, Phase 11	Wild Rose Circle	Property	X (shaded)	5.2 feet	--	5.3 feet
Americana Bayside, Phase 11	Wild Rose Circle	Property	X (shaded)	5.2 feet	--	5.4 feet
Americana Bayside, Phase 11	Wild Rose Circle	Property	X (shaded)	5.2 feet	--	5.3 feet
Americana Bayside, Phase 11	Wild Rose Circle	Property	X (shaded)	5.2 feet	--	5.6 feet
Americana Bayside, Phase 11	Coneflower Circle	Property	X (shaded)	5.2 feet	--	5.3 feet

		Lot Scenarios			FIRM Map Scenarios		
Tidal	Non -Tidal	Recorded Lots Grandfathered	Proposed Subdivision >= 50 lots or 5 acres	Proposed Subdivision <50 lots or 5 acres	Non-Delineated Floodplain	Delineated Floodplain No BFE (Zone A)	Delineated Floodplain with BFE (Zone AE)
✓	✓	✓	✓	✓		✓	✓

**Supporting Rationale:** FEMA may amend or revise floodplain maps to remove land from the floodplain when the property owner shows that grade has been elevated to or above the base flood elevation. Through this LOMR process, land may be removed from all floodplain regulation despite being almost exactly at the level of the base flood. There is a great deal of uncertainty in flood models, and flood heights are increasing in many areas. The photograph shows a basement filled with waters on a lot located immediately outside of the floodplain and elevated only 0.3 feet above BFE. The table above shows an example of lots which have been removed from the floodplain after having been filled to an elevation as little as 0.1 foot above base flood elevation.

**Proposed Standard 10: Hydrostatic venting required.**

**Current Criteria:** The NFIP minimum standards currently require hydrostatic venting by requiring enclosures below BFE “shall be designed to automatically equalize hydrostatic flood forces on exterior walls by allowing for the entry and exit of floodwaters”. This proposed standard does not exceed existing minimum NFIP criteria.

**Proposed Standard:** Hydrostatic vents shall be required within one foot of grade for all new construction or substantially improved structures (as defined by local governments) with enclosures below the lowest floor located in FEMA mapped floodplains excluding V-zones if the lowest adjacent grade to the structure is below the BFE. One square inch of openings must be provided for every square foot of enclosure.

*For example, 1400 sq. foot footprint  
Means 1400 sq. inches of venting or  
11 standard 128 sq. inch vents*



		Lot Scenarios			FIRM Map Scenarios		
Tidal	Non -Tidal	Recorded Lots Grandfathered	Proposed Subdivision >= 50 lots or 5 acres	Proposed Subdivision <50 lots or 5 acres	Non-Delineated Floodplain	Delineated Floodplain No BFE (Zone A)	Delineated Floodplain with BFE (Zone AE)
✓	✓	✓	✓	✓		✓	✓

**Supporting Rationale:** Properly designed and installed hydrostatic venting (flood openings) is one of the single most cost-effective ways of lowering the price of flood insurance. CFR 44 60.3 requires all NFIP participating communities to requires flood openings for enclosures below BFE. Despite this, many homes are still built without proper flood openings, leading to unnecessarily expensive flood insurance premiums. This proposed standard does not exceed existing minimum NFIP criteria; however lack of enforcement is common.

## Proposed Standard 11: Prohibit below-grade crawl spaces or enclosures

**Current Criteria:** The NFIP minimum standards prohibit “basements” and define basements as means any area of the building having its floor subgrade (below ground level) on all sides. Technically this would prohibit below grade crawl spaces, although it may be unclear whether the dirt grade in a crawl space is a “floor”.

**Proposed Standard:** If areas below the lowest floor of an elevated building are enclosed with areas usable for parking, storage, or building access, or are constructed with a crawl space, the elevation of the floor of the enclosure or crawl space floor or grade must be at or above lowest adjacent grade on at least one side of the building.



Inside below grade crawl space. The dashed line represents the approximate outside grade. Entry point of surface water visible. This type of construction, with inside grade below outside grade can lead to moisture and mold problems and is prohibited by the NFIP. Few communities explicitly prohibit this practice.

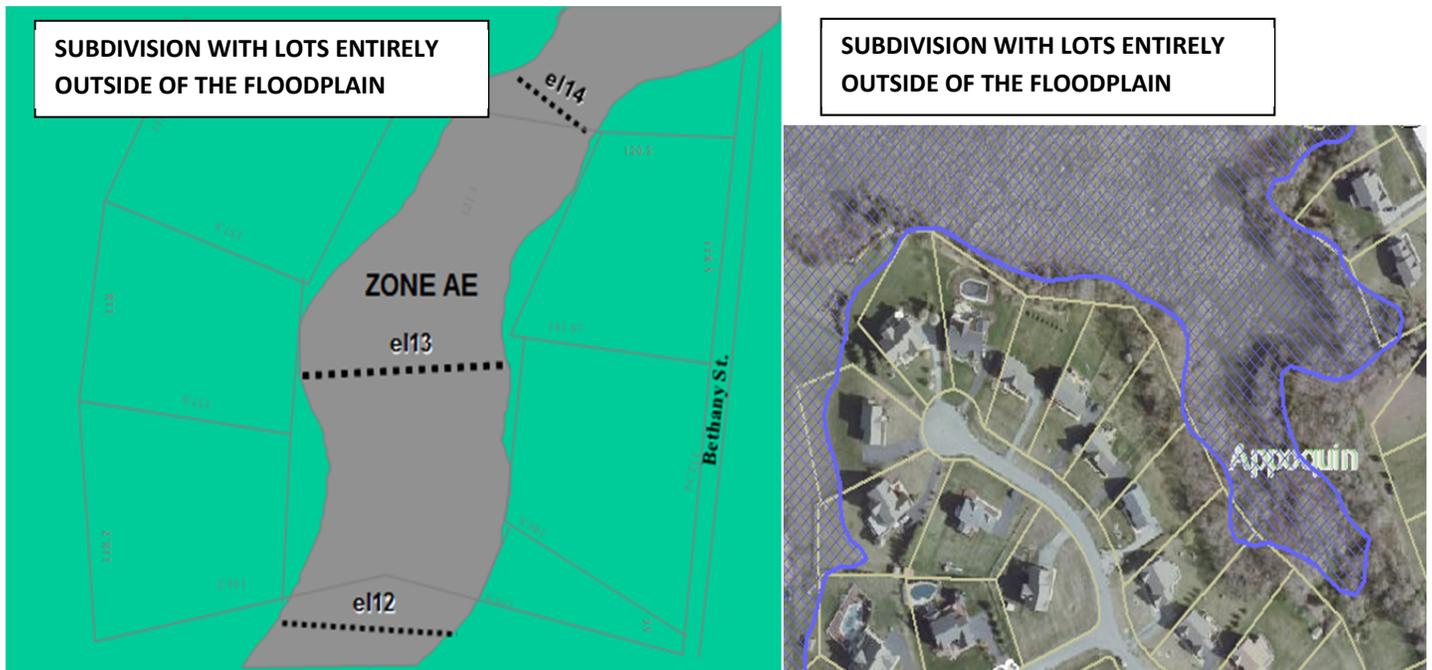
		Lot Scenarios			FIRM Map Scenarios		
Tidal	Non -Tidal	Recorded Lots Grandfathered	Proposed Subdivision >= 50 lots or 5 acres	Proposed Subdivision <50 lots or 5 acres	Non-Delineated Floodplain	Delineated Floodplain No BFE (Zone A)	Delineated Floodplain with BFE (Zone AE)
✓	✓	✓	✓	✓		✓	✓

**Supporting Rationale:** Below grade crawl spaces and enclosures provide a collection point for floodwaters. Flood insurance premiums can be drastically more expensive for buildings with below grade enclosed areas. Technically the NFIP prohibits this practice but it frequently occurs due to a lack of specificity in community floodplain regulations.

**Proposed Standard 12:** Newly subdivided floodplain shall remain deed restricted open space.

**Current Criteria:** The NFIP does not prohibit new buildings, development or lots from being built in floodplains.

**Proposed Standard:** Mapped floodplains in all lands being newly subdivided shall be located in a lot or lots dedicated as public or private open space and deed restricted to prohibit development. No lot intended for development shall contain any portion of the mapped floodplain. This standard does not apply to Minor Subdivisions as defined by local governments.



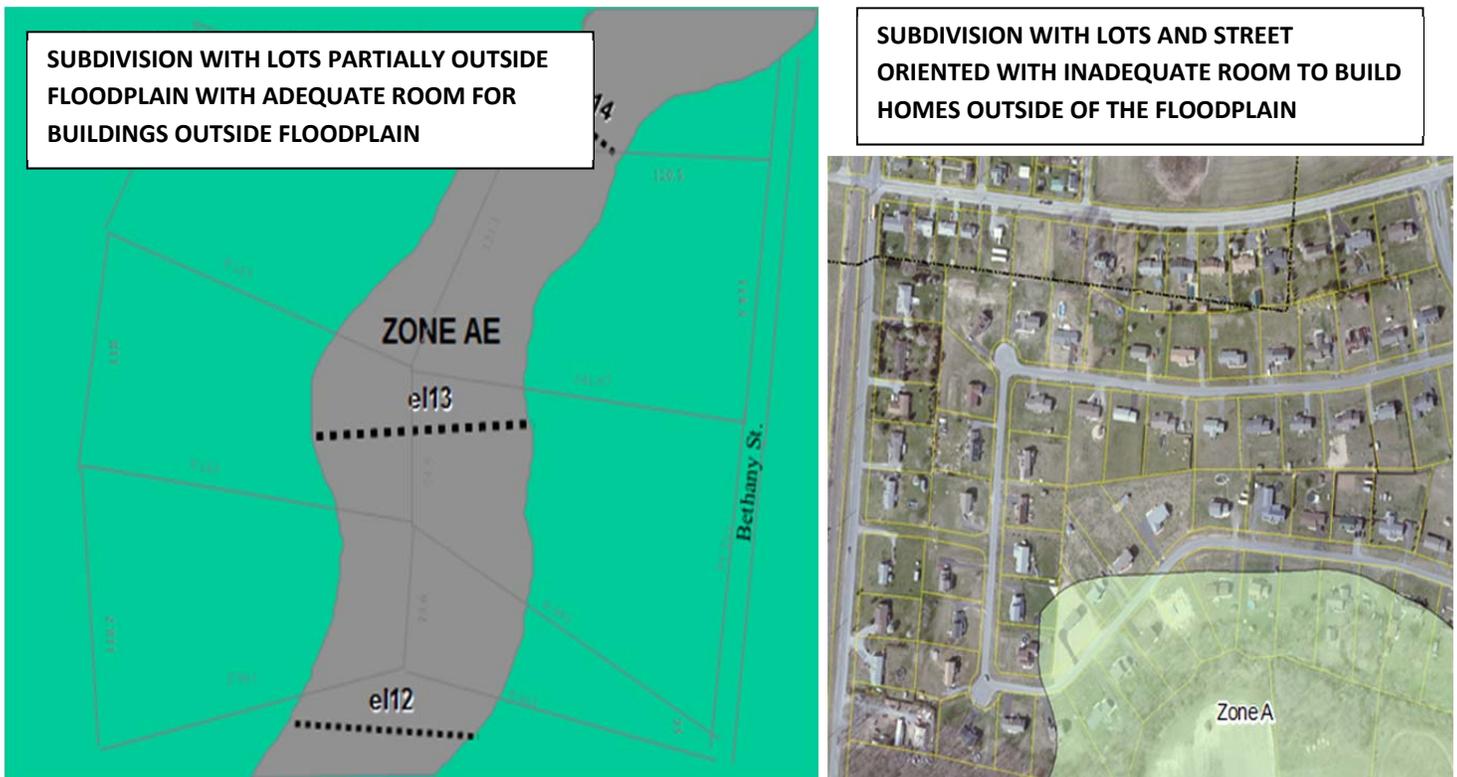
		Lot Scenarios			FIRM Map Scenarios		
Tidal	Non - Tidal	Recorded Lots Grandfathered	Proposed Subdivision >= 50 lots or 5 acres	Proposed Subdivision <50 lots or 5 acres	Non-Delineated Floodplain	Delineated Floodplain No BFE (Zone A)	Delineated Floodplain with BFE (Zone AE)
	✓		✓	✓		✓	✓

**Supporting Rationale:** This standard prohibits new lots to be created which impact the floodplain, and requires the floodplain to be placed in deed restricted open space. Keeping new buildings and lots outside the floodplain is the ideal way to reduce flood risk. Any building in the floodplain has some risk of being damaged, and keeping floodplains in open space is the most effective way to minimize impacts to adjacent properties. Flood insurance is quite expensive for any buildings in the floodplain, and is often required by lenders when any portion of the lot is in the floodplain. Keeping new lots and buildings out of the floodplain will achieve a very high level of flood protection, reduce community impacts, and is already in practice in certain parts of Delaware.

**Proposed Standard 13:** Prohibit new non-water dependent structures in floodplains on new lots.

**Current Criteria:** The NFIP does not prohibit new buildings, development or lots from being built in floodplains.

**Proposed Standard:** New lots in major subdivisions, as defined by local governments, may be located in the floodplain as long as sufficient room outside the floodplain exists for future construction activities. All new structures within mapped floodplains shall be prohibited except buildings with water-dependent use. This standard does not apply to Minor Subdivisions as defined by local governments.



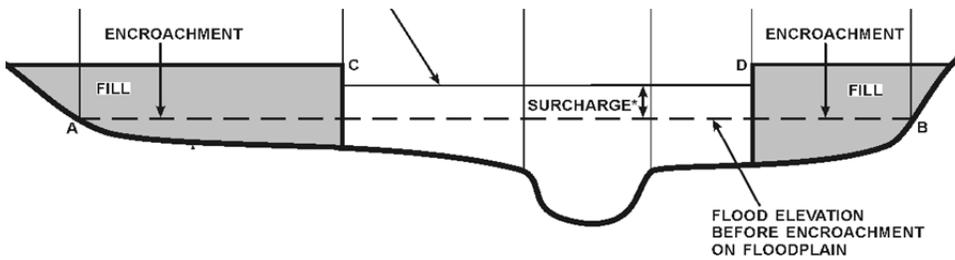
		Lot Scenarios			FIRM Map Scenarios		
Tidal	Non -Tidal	Recorded Lots Grandfathered	Proposed Subdivision >= 50 lots or 5 acres	Proposed Subdivision <50 lots or 5 acres	Non-Delineated Floodplain	Delineated Floodplain No BFE (Zone A)	Delineated Floodplain with BFE (Zone AE)
	✓		✓	✓		✓	✓

**Supporting Rationale:** Keeping new buildings outside the floodplain is a widely accepted way to reduce flood risk and is a standard which already exists in many areas in Delaware. Any building in the floodplain has some risk of being damaged, and creates some impact to adjacent properties. Flood insurance is quite expensive for any buildings in the floodplain. Keeping buildings out of the floodplain will achieve a high level of flood protection, and reduce impacts.

**Proposed Standard 14:** Prohibit encroachments that would cause more than 0.1 foot of rise without compensation.

**Current Criteria:** In Zones AE with a floodway/flood fringe mapped, the NFIP allows encroachments in the flood fringe which result in up to one foot of flood increase in the base flood event. In floodplains where no floodway/flood fringe has been mapped no new construction, substantial improvements, or other development (including fill) shall be permitted within Zones A1-30 and AE on the community's FIRM, unless it is demonstrated that the cumulative effect of the proposed development, when combined with all other existing and anticipated development, will not increase the water surface elevation of the base flood more than one foot at any point within the community.

**Proposed Standard:** In non-tidal areas with delineated floodplains, encroachment in all floodplains that would increase flood heights by 0.1 foot or more is prohibited. Compensatory storage may be used to mitigate the effects of floodplain development actions to meet the requirement that flood height increase does not exceed 0.1 foot at any location.



		Lot Scenarios			FIRM Map Scenarios		
Tidal	Non -Tidal	Recorded Lots Grandfathered	Proposed Subdivision >= 50 lots or 5 acres	Proposed Subdivision <50 lots or 5 acres	Non-Delineated Floodplain	Delineated Floodplain No BFE (Zone A)	Delineated Floodplain with BFE (Zone AE)
	✓	✓	✓	✓		✓	✓

**Supporting Rationale:** Current criteria allow encroachments to increase flood heights by up to one foot resulting in potentially severe impacts to neighboring properties. In most non-tidal floodplains (and in some cases tidal floodplains), obstructions to water flow or encroachments which reduce the flood storage capacity of a channel or floodplain, will result in higher flood heights. In many streams with detailed flood studies, FEMA has determined how much potential flood increase will occur due to encroachments, and it can exceed one foot in the base flood event. Many community floodplain regulations allow development to occur which will be impacted by these increases in flood heights. In addition, allowing floodplain encroachments violates the common law of avoiding actions which will negatively impact your neighbors and community. The illustration above shows the impact “surcharge” of encroachment. Allowing a small (0.1 foot) impact of encroachment will enable projects to be designed which might not be practical under a “no-rise” standard, but still ensure a minimum impact to neighboring properties, or public infrastructure.

**Proposed Standard 15: Incorporate FEMA technical bulletins in local floodplain regulations.**

**Current Criteria:** The NFIP does not require participating communities to explicitly adopt the technical bulletins in ordinance or codes. The NFIP does require compliance with these technical bulletins in NFIP communities.

**Proposed Standard:** For all new development and new structures or substantially improved structures (as defined by local governments), activities in the floodplain shall be performed in a manner which is consistent with the following FEMA Technical Bulletins:

- TB 11-01 Crawlspace Construction
- TB 10-01 Ensuring That Structures Built on Fill In or Near Special Flood Hazard Areas Are Reasonably Safe From Flooding
- TB 5-2008 Free-of-Obstruction Requirements
- TB 9-2008 Design and Construction Guidance for Breakaway Walls
- TB 1-2008 Openings in Foundation Walls and Walls of Enclosures
- TB 2-93 Flood-Resistant Materials Requirements
- TB 3-93 Non-Residential Flood proofing Requirements and Certification
- TB 4-93 Elevator Installation for Buildings Located in Special Flood Hazard Areas
- TB 6-93 Below-Grade Parking Requirements for Buildings Located in Special Flood Hazard Areas
- TB 7-93 Wet Flood proofing Requirements for Structures Located in Special Flood Hazard Areas
- TB 8-93 Corrosion Protection for Metal Connectors in Coastal Areas

		Lot Scenarios			FIRM Map Scenarios		
Tidal	Non -Tidal	Recorded Lots Grandfathered	Proposed Subdivision >= 50 lots or 5 acres	Proposed Subdivision <50 lots or 5 acres	Non-Delineated Floodplain	Delineated Floodplain No BFE (Zone A)	Delineated Floodplain with BFE (Zone AE)
✓	✓	✓	✓	✓		✓	✓

**Supporting Rationale:** Per FEMA: “The Federal Emergency Management Agency Technical Bulletins provide guidance concerning building performance standards of the NFIP, contained in Title 44 of the U.S. Code of Federal Regulations at Section 60.3. The bulletins are intended for use primarily by state and local officials responsible for interpreting and enforcing NFIP regulations and by members of the development community, such as design professionals and builders. New bulletins, as well as updates of existing bulletins, are issued periodically, as necessary. The bulletins do not create regulation; rather, they provide specific guidance for complying with the minimum requirements of existing NFIP regulations.”

## **Additional Floodplain Recommendations**

**Recommendation #1:** DNREC shall make it a priority to modernize floodplain maps.

**Recommendation #2:** Lending banks are currently required to review maps in FEMA's map service center and disclose flood risks at closing but this often does not occur. DNREC should meet with the Board of Realtors within six months to develop improved wording on seller disclosure forms, should investigate lending regulations to determine whether flood zone determinations are required in advance of settlement, and if so how far in advance.

**Recommendation #3:** A Certified Floodplain Manager should be on staff, under contract, or available for assistance at each agency to review floodplain activities. DNREC can provide assistance by providing training to assist staff in becoming Certified Floodplain Managers, and proctor the exam periodically.

**Recommendation #4:** Memoranda of Agreement (MOA) should be encouraged between counties or other larger governments and smaller cities or towns for enforcement of floodplain regulations where local capabilities are insufficient.

**Recommendation #5:** A separate plan review or building permit process specific to floodplain regulation will be required for all development or construction activities in floodplains. Site plan notes and building permit application documents will include floodplain information including but not limited to floodplain map used, flood zone, base flood elevation, lowest floor elevations, utility and machinery elevations.

**Recommendation #6:** Communities should adopt floodplain maps by utilizing "effective map as last revised" terminology so that new or updated maps from FEMA are automatically adopted as they are issued by FEMA.

**Recommendation #7:** Communities should review their codes for wording which undermines NFIP requirements or makes them difficult to understand. For example, phrases such as "no land below the level of the 100-year flood may be developed unless it complies with all applicable floodplain regulation" could remove high sand dune areas in a V-Zone from floodplain regulations which would be unwise, and would not be allowed under the minimum NFIP requirements.

# **Final Drainage Standards**

## Proposed Standard 1: Easements

**Current Criteria:** There is no current statewide standard. In many jurisdictions there are no or minimal easement requirements.

**Proposed Standard:** Easements of an adequate width as determined by local governments shall be required over drainage conveyance systems within any proposed subdivision. Easements shall clearly designate responsible parties. The maintenance responsibilities shall be included as part of the easement language.

Lot Scenarios				
Previously Recorded Lots	Minor Subdivision	Major Subdivision	Single Parcel Commercial	Multiple Parcel Commercial
	✓	✓		✓

**Supporting Rationale:** All drainage conveyance systems including open ditches and storm drains will need maintenance. Requiring easements over conveyance systems will allow future maintenance to be completed much more cost effectively. Additionally, declaring who is responsible for maintenance up front prevents surprises in the future.



There is a failing storm drain between two homes that are about 15' feet apart making repairs and or replacement expensive and difficult.

## Proposed Standard 2: Obstructions

**Current Criteria:** There is no current statewide standard. In many jurisdictions there are no restrictions on the blocking of drainage conveyances.

**Proposed Standard:** The willful or negligent obstruction of any drainage conveyance shall be prohibited.

Lot Scenarios				
Previously Recorded Lots	Minor Subdivision	Major Subdivision	Single Parcel Commercial	Multiple Parcel Commercial
✓	✓	✓	✓	✓

**Supporting Rationale:** When one party willfully or negligently blocks a drainage conveyance system causing water to pond onto upstream lands, in many parts of the state, there is no recourse for the adversely impacted party other than civil litigation. This is costly and lengthy process that many people cannot afford to undertake. This language is similar the Tax Ditch Law (7 Del. C. §4186) which has been an effective state law since 1951.



### Proposed Standard 3: Conveyance Systems

**Current Criteria:** There is no current statewide standard. It was mentioned at the February meeting that many jurisdictions already use this standard or something similar.

**Proposed Standard:** Drainage Conveyance systems within proposed subdivisions shall meet the minimum 10-year storm event.

Lot Scenarios				
Previously Recorded Lots	Minor Subdivision	Major Subdivision	Single Parcel Commercial	Multiple Parcel Commercial
	✓	✓		✓

**Supporting Rationale:** This will ensure that all new drainage conveyance systems will meet a consistent standard and provide at least protection in the 10 year storm. The DelDOT standard is already a statewide minimum that has been through a public process. It was pointed out at the February meeting that this is currently the standard in many counties and municipalities across the state.

From DelDOT’s “Standards and Regulations for Subdivision Streets and State Highway Access”

#### 5.7.2.2 Storm Sewers

The following criteria shall be used for storm sewers:

- A 10-year storm frequency shall be used.
- For sump conditions a 25-year storm frequency shall be used.
- The hydraulic gradient shall be no higher than one foot below the top of the grate for ten-year storms and just below the top of the grate for 25-year storms.

#### 5.7.2.4 Parallel Ditching

The following criteria shall be used for parallel ditching:

- A 5-year storm frequency.
- The depth of the water in the ditch shall not be higher than six inches below the edge of the proposed shoulder.

## Proposed Standard 4: Lot Grading

**Current Criteria:** There is no current statewide standard. Most jurisdictions do not have any lot grading requirements.

**Proposed Standard:** Lot grading shall be accomplished to ensure adequate drainage away from buildings and accessory structures without creating an adverse impact to adjacent structures or lands.

Lot Scenarios				
Previously Recorded Lots	Minor Subdivision	Major Subdivision	Single Parcel Commercial	Multiple Parcel Commercial
✓	✓	✓	✓	✓

**Supporting Rationale:** This standard will provide a level of detail that will assure permitting officials and adjacent property owners alike that the proposed building will be constructed in a manner that will minimize drainage problems that are a result of poor grading. It will also prevent landowner B from building up their property and draining water onto landowner A whose house is already built and the property graded.



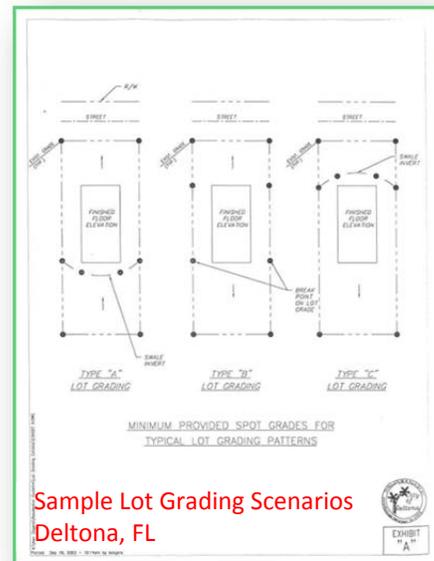
## Proposed Standard 5: Topographic Plan

**Current Criteria:** There is no current statewide standard. Most jurisdictions do not have any topographic plan requirements.

**Proposed Standard:** A topographic plan submittal shall be required for all construction activity greater than 5,000 square feet. This submittal shall be required for all building permits exceeding the threshold. Information shall include finished floor elevation and grading to a point of positive conveyance. Finished floor elevations shall be higher than the road elevation unless adequate drainage away from structures, protection of mechanical systems, and no adverse impacts to adjacent structures can be demonstrated.

Lot Scenarios				
Previously Recorded Lots	Minor Subdivision	Major Subdivision	Single Parcel Commercial	Multiple Parcel Commercial
✓	✓	✓	✓	✓

**Supporting Rationale:** This standard simply means that grading should be done in manner that drains water away for the structure without negatively impacting that structure or other structures or lands. This will be a first step in preventing future problems with better planning and construction techniques.



## Proposed Standard 6: As-Builts

**Current Criteria:** There is no current statewide standard. Most jurisdictions do not have any as-built requirements.

**Proposed Standard:** An as-built submittal shall be required for any construction with an approved topographic plan. Information to be shown shall include floor elevation, road elevation, and a sufficient number of ground elevations to clearly demonstrate adequate drainage away from structures, protection of mechanical systems, and no adverse impacts to adjacent structures or lands.

Lot Scenarios				
Previously Recorded Lots	Minor Subdivision	Major Subdivision	Single Parcel Commercial	Multiple Parcel Commercial
✓	✓	✓	✓	✓

**Supporting Rationale:** This standard will require as-builts to make sure that homes are graded in accordance with the approved topographic plan. This will provide assurance that the property is graded in a way that prevents damage to the property being constructed as well as adjacent structures or lands. A timely as-built will allow problems to be corrected while the contractor is still onsite.



## **Additional Drainage Recommendations**

**Recommendation #1:** The review of existing drainage patterns should be included not only in the subdivision planning process but in the building permit process as well.

**Recommendation #2:** Permanent easements conveyed to a public entity should be considered whenever public dollars are spent to correct a drainage deficiency.

**Recommendation #3:** DNREC should oversee the preparation of a guideline similar to the Residential Lot Grading Guidelines from Deltona, Florida. County or municipal governments could then incorporate the guidelines into their codes and ordinances.



STATE OF DELAWARE  
DEPARTMENT OF NATURAL RESOURCES  
AND ENVIRONMENTAL CONTROL  
DIVISION OF WATERSHED STEWARDSHIP  
89 Kings Highway  
DOVER, DELAWARE 19901

OFFICE OF THE  
DIRECTOR

PHONE: (302) 739-9921  
FAX: (302) 739-6724

September 6, 2012

Dear Community Official:

Re: Senate Bill 64 Floodplain and Drainage Standards and Recommendations

As Chairman of the Floodplain and Drainage Advisory Committee established by Senate Bill 64 (SB 64) and signed by the Governor in August of 2011, I am pleased to provide to you an update related to the progress of that Committee, and to enlist your help. In mid-August, workshops were held in each county to provide information about the Floodplain and Drainage Standards and Recommendations adopted by Secretary O'Mara after considerable deliberation and support by the Committee. SB 64 calls for local ordinance and capacity review to be undertaken by county and local governments. We received valuable input and community participation in those workshops, and for those of you who were able to attend we thank you for the feedback you provided.

The next step of SB 64 requires an assessment of each community's floodplain and drainage requirements and enforcement capabilities. Specifically, we need to know whether your current codes and ordinances already contain the recommended standards, are equivalent, or are less stringent. We also need to know whether your community has the capacity to enforce these recommended standards if you are not already. It is also important to gain an understanding of whether your local government generally supports the standards and recommendations adopted by the Secretary and supported by the Committee. To assist you in this assessment, we have enclosed an ordinance review survey which we request that you complete, and return to our office by September 30. We realize some local governments may want assistance with the assessment process. If you would like help or just have general questions, the Department has resources both with in-house staff and through the University of Delaware, as well as our consultant team. You may request assistance by contacting Mike Powell or Brooks Cahall at (302) 739-9921. You may also e-mail Marcia Cagle at [Marcia.Cagle@state.de.us](mailto:Marcia.Cagle@state.de.us) for assistance. Information regarding SB 64, and the Floodplain and Drainage Advisory Committee is available online. The legislation, Final Recommendations and

*Delaware's good nature depends on you!*

Page Two  
September 6, 2012

Standards, and a number of educational presentations are available at:  
<http://www.dnrec.delaware.gov/swc/Pages/FloodplainandDrainageCodeWorkGroupCommittee.aspx>

It is our goal that all communities in Delaware complete this self-assessment of local floodplain and drainage codes. The input of county and local government in this process is critical. We stand ready to assist you in this process, and look forward to providing any level of assistance that you might need. Please feel free to contact me or my staff if you have any questions or need assistance.

Sincerely,

Frank Piorko, Chair  
Floodplain and Drainage Advisory  
Committee

# SENATE BILL 64 FLOODPLAIN & DRAINAGE STANDARDS CHECKLIST

Community: \_\_\_\_\_

County: \_\_\_\_\_

**Introduction:** Below are the 15 floodplain and 6 drainage standards the SB 64 Floodplain and Drainage Advisory Committee developed and voted on. Please provide feedback on how these standards would affect (positively or negatively) your municipality. These checklists will be collected from each community and the Committee will provide the state Legislature with a summary. For more information on the process go to: [www.dnrec.delaware.gov/swc/drainage/pages/flooding.aspx](http://www.dnrec.delaware.gov/swc/drainage/pages/flooding.aspx)

**Instructions:** Please circle the number on the scale to indicate how you feel about the suitability of each standard. Also, please circle each letter that applies to your specific community (you may choose more than one), and write any applicable comments or concerns.

## Floodplain Standards

1. For all new development activities which exceed 50 lots or 5 acres in locations contiguous to streams without a FEMA delineated floodplain, with an upstream watershed greater than 1 square mile, a flood study shall be conducted in accordance with FEMA study criteria. Base flood elevations (BFEs) and floodplain delineations shall be submitted to local jurisdictions prior to record plan approval or building permit issuance. This standard does not apply to minor subdivisions as defined by local governments.

Strongly Agree	Agree	No comment	Disagree	Strongly Disagree
1	2	3	4	5

- a. Community already meets this standard.
- b. Community exceeds this standard.
- c. Community doesn't comply with standard.
- d. Standard would be a hardship.
- e. List impediments to adoption of standard / comments

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2. For all new development activities which exceed 50 lots or 5 acres in FEMA mapped floodplain areas without a base flood elevation, a flood study shall be conducted in accordance with FEMA study criteria. Base flood elevations and floodplain delineations shall be submitted to FEMA and approved prior to record plan approval so that official maps can be revised with these BFE's and floodplain delineations. This standard does not apply to minor subdivisions as defined by local governments.

Strongly Agree	Agree	No comment	Disagree	Strongly Disagree
1	2	3	4	5

- a. Community already meets this standard.
- b. Community exceeds this standard.
- c. Community doesn't comply with standard.
- d. Standard would be a hardship.
- e. List impediments to adoption of standard / comments

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- 3.** In all areas with delineated floodplains, record plans and development documents shall show the floodplain delineation from a flood study approved by FEMA (with BFE where applicable). Flood studies submitted to FEMA for map revisions must be approved prior to the recordation stage for subdivisions.

Strongly Agree	Agree	No comment	Disagree	Strongly Disagree
1	2	3	4	5

- a. Community already meets this standard.
- b. Community exceeds this standard.
- c. Community doesn't comply with standard.
- d. Standard would be a hardship.
- e. List impediments to adoption of standard / comments

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- 4.** All building permit application documents in a floodplain shall reference only base flood elevation and/or floodplain delineation developed in flood studies which have been reviewed and approved by appropriate county or municipal agency, or the Federal Emergency Management Agency where applicable.

Strongly Agree	Agree	No comment	Disagree	Strongly Disagree
1	2	3	4	5

- a. Community already meets this standard.
- b. Community exceeds this standard.
- c. Community doesn't comply with standard.
- d. Standard would be a hardship.

e. List impediments to adoption of standard / comments

---

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5. Floodplain information including floodplain map used, effective flood zone delineations, base flood elevations, and proposed lowest floor elevations shall be required on record plans and development documents for all new development activities or substantially improved structures (as defined by local governments) within a FEMA mapped floodplain.

Strongly Agree	Agree	No comment	Disagree	Strongly Disagree
1	2	3	4	5

- a. Community already meets this standard.
- b. Community exceeds this standard.
- c. Community doesn't comply with standard.
- d. Standard would be a hardship.
- e. List impediments to adoption of standard / comments

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6. FEMA Elevation Certificates shall be completed properly for both pre and post-construction for all new structures and substantially improved structures (as defined by local governments) in the floodplain. For all new structures to be dry flood-proofed, a FEMA Flood Proofing Certificate form shall be completed both pre and post construction.

Strongly Agree	Agree	No comment	Disagree	Strongly Disagree
1	2	3	4	5

- a. Community already meets this standard.
- b. Community exceeds this standard.
- c. Community doesn't comply with standard.
- d. Standard would be a hardship.
- e. List impediments to adoption of standard / comments

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**7.** All new construction or substantially improved structures (as defined by local governments) located within a FEMA mapped floodplain shall have the lowest floor, including basement, and all equipment and machinery elevated to or above 18 inches above the base flood elevation. In lieu of elevation, non-residential structures may provide dry floodproofing such that the lowest floor of the building and all utilities are protected to a minimum height of 18 inches above base flood elevation.

Strongly Agree	Agree	No comment	Disagree	Strongly Disagree
1	2	3	4	5

- a. Community already meets this standard.
- b. Community exceeds this standard.
- c. Community doesn't comply with standard.
- d. Standard would be a hardship.
- e. List impediments to adoption of standard / comments

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**7a.** All new construction or substantially improved structures (as defined by local governments) located within a FEMA mapped floodplain shall have the lowest floor, including basement, and all equipment and machinery elevated to or above one foot above the base flood elevation. In lieu of elevation, non-residential structures may provide dry floodproofing such that the lowest floor of the building and all utilities are protected to a minimum height of one foot above base flood elevation.

Strongly Agree	Agree	No comment	Disagree	Strongly Disagree
1	2	3	4	5

- a. Community already meets this standard.
- b. Community exceeds this standard.
- c. Community doesn't comply with standard.
- d. Standard would be a hardship.
- e. List impediments to adoption of standard / comments

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**8.** All new or substantially improved (as defined by local governments) manufactured homes located within a FEMA mapped floodplain shall have the lowest floor, including basement, and all equipment and machinery elevated to or above 18 inches above the base flood elevation.

Strongly Agree	Agree	No comment	Disagree	Strongly Disagree
1	2	3	4	5

- a. Community already meets this standard.
- b. Community exceeds this standard.
- c. Community doesn't comply with standard.
- d. Standard would be a hardship.
- e. List impediments to adoption of standard / comments

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**9.** Fill placed in the floodplain which results in land having an elevation less than 18 inches above base flood elevation will not result in a relaxation of floodplain standards.

Strongly Agree	Agree	No comment	Disagree	Strongly Disagree
1	2	3	4	5

- a. Community already meets this standard.
- b. Community exceeds this standard.
- c. Community doesn't comply with standard.
- d. Standard would be a hardship.
- e. List impediments to adoption of standard / comments

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**10.** Hydrostatic vents shall be required within 1 foot of grade for all new construction or substantially improved structures (as defined by local governments) with enclosures below the lowest floor located in FEMA mapped floodplains, excluding V-Zones, if the lowest adjacent grade to the structure is below the BFE. One square inch of opening must be provided for every square foot of enclosure.

Strongly Agree	Agree	No comment	Disagree	Strongly Disagree
1	2	3	4	5

- a. Community already meets this standard.

- b. Community exceeds this standard.
- c. Community doesn't comply with standard.
- d. Standard would be a hardship.
- e. List impediments to adoption of standard / comments

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**11.** If areas below the lowest floor of an elevated building are enclosed with areas usable for parking, storage, or building access, or are constructed with a crawl space, the elevation of the floor of the enclosure or crawl space floor or grade must be at or above lowest adjacent grade on at least one side of the building.

Strongly Agree	Agree	No comment	Disagree	Strongly Disagree
1	2	3	4	5

- a. Community already meets this standard.
- b. Community exceeds this standard.
- c. Community doesn't comply with standard.
- d. Standard would be a hardship.
- e. List impediments to adoption of standard / comments

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**12. Prohibit subdividing of land in the floodplain. Newly subdivided floodplain shall remain deed restricted open space. (voted down by the committee)**

Strongly Agree	Agree	No comment	Disagree	Strongly Disagree
1	2	3	4	5

- a. Community already meets this standard.
- b. Community exceeds this standard.
- c. Community doesn't comply with standard.
- d. Standard would be a hardship.
- e. List impediments to adoption of standard / comments

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**13.** New lots in major subdivisions, as defined by local governments, may be located in the floodplain as long as sufficient room outside the floodplain exists for future construction activities. All new structures within FEMA mapped floodplains shall be prohibited except buildings with water-dependent use. This standard does not apply to minor subdivisions as defined by local governments.

Strongly Agree	Agree	No comment	Disagree	Strongly Disagree
1	2	3	4	5

- a. Community already meets this standard.
- b. Community exceeds this standard.
- c. Community doesn't comply with standard.
- d. Standard would be a hardship.
- e. List impediments to adoption of standard / comments

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**14.** In non-tidal areas with delineated floodplains, encroachment in all floodplains that would increase flood heights by 0.1 foot or more is prohibited. Compensatory storage may be used to mitigate the effects of floodplain development actions to meet the requirement that flood height increase does not exceed 0.1 foot at any location.

Strongly Agree	Agree	No comment	Disagree	Strongly Disagree
1	2	3	4	5

- a. Community already meets this standard.
- b. Community exceeds this standard.
- c. Community doesn't comply with standard.
- d. Standard would be a hardship.
- e. List impediments to adoption of standard / comments

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**15.** For all new development and new structures or substantially improved structures (as defined by local governments), activities in the floodplain shall be performed in a manner which is consistent with the FEMA Technical Bulletins.

Strongly Agree	Agree	No comment	Disagree	Strongly Disagree
1	2	3	4	5

- a. Community already meets this standard.
- b. Community exceeds this standard.
- c. Community doesn't comply with standard.
- d. Standard would be a hardship.
- e. List impediments to adoption of standard / comments

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**Drainage Standards**

1. Easements of an adequate width as determined by local governments shall be required over drainage conveyance systems within any proposed subdivision. Easements shall clearly designate responsible parties. The maintenance responsibilities shall be included as part of the easement language.

Strongly Agree	Agree	No comment	Disagree	Strongly Disagree
1	2	3	4	5

- a. Community already meets this standard.
- b. Community exceeds this standard.
- c. Community doesn't comply with standard.
- d. Standard would be a hardship.
- e. List impediments to adoption of standard / comments

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2. The willful or negligent obstruction of any drainage conveyance shall be prohibited.

Strongly Agree	Agree	No comment	Disagree	Strongly Disagree
1	2	3	4	5

- a. Community already meets this standard.
- b. Community exceeds this standard.
- c. Community doesn't comply with standard.
- d. Standard would be a hardship.

e. List impediments to adoption of standard / comments

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3. Drainage conveyance systems within proposed subdivisions shall meet the minimum 10-year storm event.

Strongly Agree	Agree	No comment	Disagree	Strongly Disagree
1	2	3	4	5

- a. Community already meets this standard.
- b. Community exceeds this standard.
- c. Community doesn't comply with standard.
- d. Standard would be a hardship.
- e. List impediments to adoption of standard / comments

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4. Lot grading shall be accomplished to ensure adequate drainage away from buildings and accessory structures, without creating an adverse impact to adjacent structures or lands.

Strongly Agree	Agree	No comment	Disagree	Strongly Disagree
1	2	3	4	5

- a. Community already meets this standard.
- b. Community exceeds this standard.
- c. Community doesn't comply with standard.
- d. Standard would be a hardship.
- e. List impediments to adoption of standard / comments

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5. A topographic plan submittal shall be required for all construction activity greater than 5,000 square feet. This submittal shall be required for all building permits exceeding the threshold. Information shall include finished floor elevation and grading to a point of positive conveyance. Finished floor elevations shall be higher than the road elevation unless adequate drainage away from structures, protection of mechanical systems, and no adverse impacts to adjacent structures can be demonstrated.

Strongly Agree	Agree	No comment	Disagree	Strongly Disagree
1	2	3	4	5

- a. Community already meets this standard.
- b. Community exceeds this standard.
- c. Community doesn't comply with standard.
- d. Standard would be a hardship.
- e. List impediments to adoption of standard / comments

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6. An as-built submittal shall be required for any construction with an approved topographic plan. Information to be shown shall include floor elevation, road elevation, and a sufficient number of ground elevations to clearly demonstrate adequate drainage away from structures, protection of mechanical systems, and no adverse impact to adjacent structures or lands.

Strongly Agree	Agree	No comment	Disagree	Strongly Disagree
1	2	3	4	5

- a. Community already meets this standard.
- b. Community exceeds this standard.
- c. Community doesn't comply with standard.
- d. Standard would be a hardship.
- e. List impediments to adoption of standard / comments

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Name: \_\_\_\_\_

Title: \_\_\_\_\_

# City of Milford



## RESOLUTION

*2012-13*

WHEREAS, it has been a custom for many years for children and adults to celebrate the Eve of All Saints Day by costuming, masquerading and fun-making; and

WHEREAS, we would like to continue the celebration in an orderly manner.

NOW, THEREFORE, BE IT RESOLVED, I, Joseph R. Rogers, Mayor of the City of Milford, do hereby request and urge the observance of this annual period as follows:

WEDNESDAY, October 17, 2012 starting at 6:30 p.m. and ending at 9:00 p.m. shall be the time for the Annual Community Parade.

WEDNESDAY, October 31, 2012 shall be the official date for youngsters to observe Halloween Trick or Treat Night.

AND, BE IT FURTHER RESOLVED THAT:

\*Only celebrants of 12 years and under will be permitted to engage in Trick or Treat between the hours of 6:00 p.m. and 8:00 p.m.

\*All celebrants are requested to refrain from committing acts of vandalism or destruction.

\*Residents are requested to indicate their willingness to welcome children by keeping their porch or exterior lights on and that youngsters call only on homes so lighted.

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Mayor Joseph Ronnie Rogers

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City Clerk Teresa K. Hudson

Adopted: September 24, 2012

City of Milford  
**RESOLUTION**  
2012-15

Annexation/Lands belonging to the City of Milford  
Tax Map 1-30-6.00-94.00 P/O (Former Parcel Number)  
Tax Map 1-30-6.00-99.02 (Current\*)  
3.23 +/- Acres (entire Parcel is 4.23 +/- Acres  
Current Zone AR-1/Proposed Zone C-3

Whereas, the Milford City Council having considered the advantages and disadvantages of annexing into the City as legally described herein:

All that certain lot, piece and parcel of land, lying and being situate in Cedar Creek Hundred, Sussex County, and the State of Delaware, as depicted on a plat titled Property Conveyances to the City of Milford by Bob Nash Associates, dated 29 July 2011, as recorded at the Sussex County Recorder of Deeds in plot book 161 page 54, lying west of but not adjacent to the westerly right-of-way line of U.S. Route 113, adjoining lands now or formerly of Bruce N. and Susan P. Geyer and Joan L. Palmer, lands now or formerly of Preston L. and Betty A. Nailor, residual lands of Calhoun Farms, L.P., lands now or formerly of the Delaware Solid Waste Authority, and being more particularly described as follows, to wit:

Beginning at a found capped rebar at a common corner for lands now or formerly of the Delaware Solid Waste Authority (DSWA) and lands now or formerly of Bruce N. and Susan P. Geyer and Joan L. Palmer, said point being distant 0.85 miles from the centerline of County Road 207; and following the common line between said DSWA lands and Geyer/Palmer lands North 84 degrees 40 minutes 57 seconds West 297.99 feet to the said rebar at a corner for said Geyer/Palmer lands and the point of beginning, thence following said Geyer/Palmer lands, South 42 degrees 57 minutes 23 seconds East 85.77 feet to a set capped rebar at a corner for lands now or formerly of Preston L. and Betty A. Nailor, thence following said Nailor lands, South 03 degrees 18 minutes 53 seconds East 29.42 feet to a set capped rebar at a point on line of said Nailor lands, thence leaving said Nailor lands and proceeding through said Calhoun lands with newly established lines the following three (3) courses and distances:

- 1) North 49 degrees 33 minutes 34 seconds West 214.02 feet to a set capped rebar,
- 2) North 84 degrees 41 minutes 09 seconds West 608.14 feet to a set capped rebar and
- 3) North 05 degrees 18 minutes 38 seconds East 406.86 feet to a found capped rebar at a corner for lands now or formerly of DSWA

Thence following said DSWA lands the following two (2) courses and distances:

1. South 53 degrees 15 minutes 16 seconds East 808.47 feet to a found capped rebar and finally,
2. South 42 degrees 57 minutes 23 seconds East 33.41 feet to the place of beginning, containing 3.230 acres of land, more or less,

and having considered the recommendation of the Annexation Committee appointed to investigate said annexation on whether or not to proceed with said annexation, having considered the zoning recommendation of the Planning Commission subject to compliance with Chapter 230 of the City of Milford Code, having held Public Hearings on August 23, 2012 and August 27, 2012, having received acknowledgment of the accepted Plan of Services by the State of Delaware as required of Title 22, Section 101, Delaware Code, the City of Milford, hereby determines as follows:

Now, Therefore, Be It Resolved, that this land is hereby annexed into the municipal boundaries of the City of Milford and the description and plot of said lands are to be recorded in the Office of the Recorder of Deeds in Sussex County, Delaware where said lands are situate.

The annexation area is contiguous to Ward 2 and City Council intends that this parcel becomes part of and be included within the Ward 4 area upon annexation.

Now I, Joseph Ronnie Rogers, Mayor of the City of Milford, do hereby certify that the foregoing is a true and correct copy of a Resolution passed by the affirmative vote of two-thirds (2/3) of all the elected members of the City Council of the City of Milford at a meeting held on September 24, 2012, at which a quorum was present and voting throughout and that the same is still in full force and effect.

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Joseph Ronnie Rogers  
Mayor, City of Milford

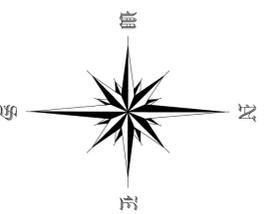
Attest:

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Teresa K. Hudson, MMC  
City Clerk

\*Changed by Sussex County during Annexation Process

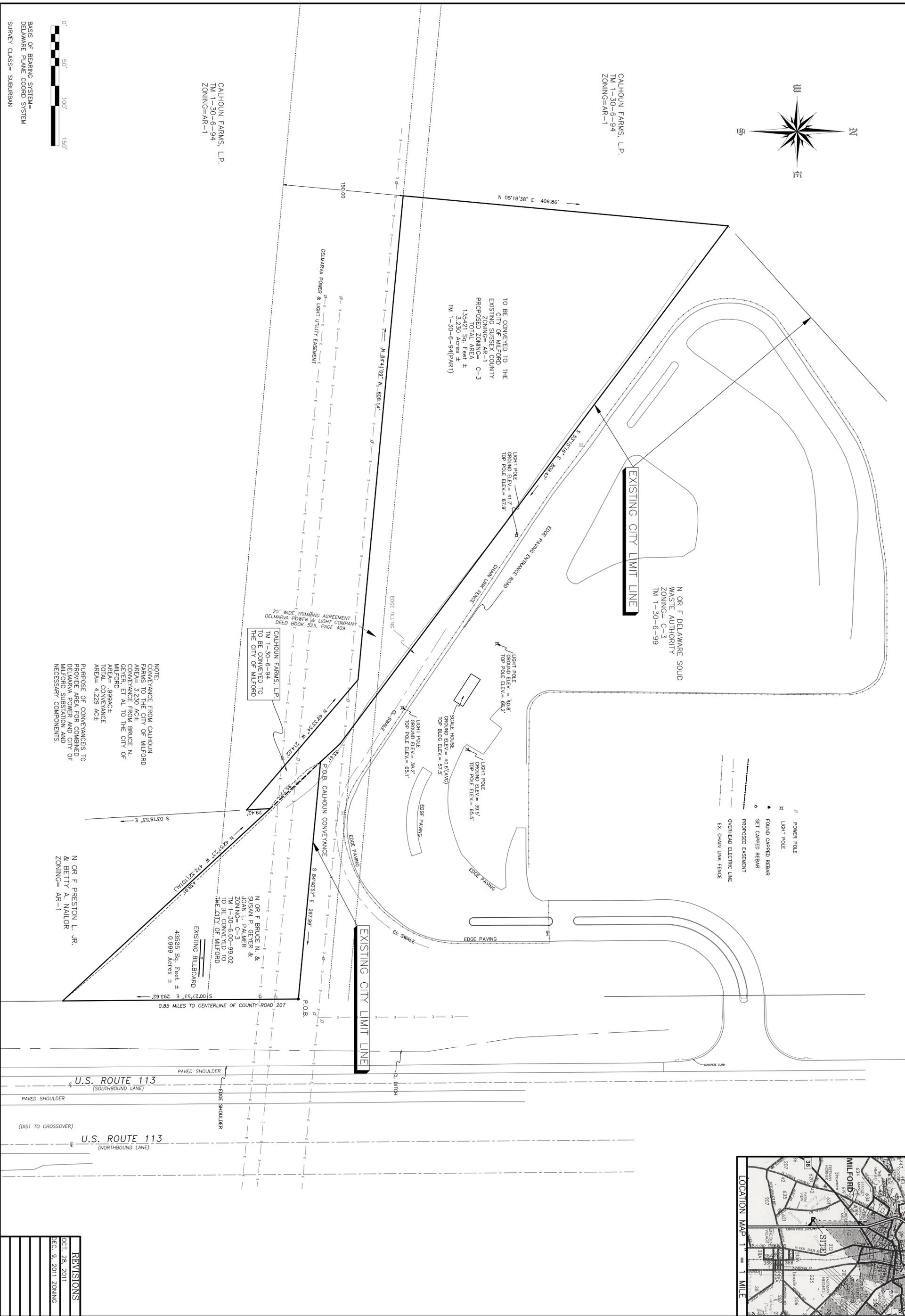
Attachment: Plot of Territory



CALHOUN FARMS, L.P.  
 TM 1-30-6-94  
 ZONING=AR-1

CALHOUN FARMS, L.P.  
 TM 1-30-6-94  
 ZONING=AR-1

0' 50' 100' 150'  
 BASIS OF BEARING SYSTEM=  
 DELAWARE PLANE COORD SYSTEM  
 SURVEY CLASS= SUBURBAN



- ⊥ POWER POLE
- ⊥ LIGHT POLE
- ⊥ FOUND CAPPED REBAR
- ⊥ SET CAPPED REBAR
- ⊥ PROPOSED EASEMENT
- ⊥ OVERHEAD ELECTRIC LINE
- ⊥ EX. CHAIN LINK FENCE

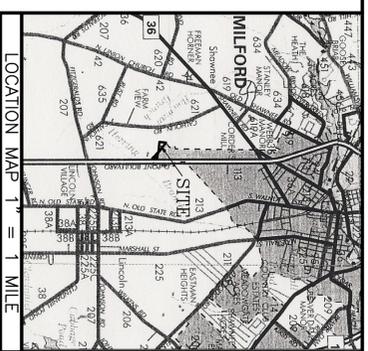
NOTE:  
 CONVEYANCE FROM CALHOUN FARMS TO THE CITY OF MILFORD AREA= 3.230 AC±  
 CONVEYANCE FROM BRUCE N. GELTER, ET AL TO THE CITY OF MILFORD AREA= 0.999 AC±  
 TOTAL CONVEYANCE AREA= 4.229 AC±

PURPOSE OF CONVEYANCES TO PROVIDE AREA FOR COMBINED DELMARVA POWER AND CITY OF MILFORD SUBSTATION AND NECESSARY COMPONENTS.

25' WIDE TRIMMING AGREEMENT DELMARVA POWER & LIGHT COMPANY DEED BOOK 525, PAGE 409  
 CALHOUN FARMS, L.P. TM 1-30-6-94 TO BE CONVEYED TO THE CITY OF MILFORD

N OR F BRUCE N. & SUSAN P. GELTER & JOAN L. PALMER TM 1-30-6-94 TO BE CONVEYED TO THE CITY OF MILFORD

EXISTING BILLBOARD  
 43625 Sq. Feet ±  
 0.999 Acres ±



# PROPOSED CONVEYANCES TO CITY OF MILFORD

DATE: JULY 29, 2011	W.O.: 10-2-16
T.M.: AS NOTED	F.B.: BNA2/10
CEDAR CREEK HUNDRED	DISK: COMSUBSTA-ENT DELDOT
SUSSEX COUNTY, DELAWARE	SCALE: 1" = 50'
	DRAWN: RWN

**Bob Nash**  
 ASSOCIATES  
**Surveying & Land Design**  
 14 South Maple Ave. Milford, DE 19963 - (302) 422-7327 P.L.S. 551

REVISIONS
OCT. 28, 2011
DEC. 9, 2011 ZONING

Warning: Original owner plans contain a raised impression of a professional seal. Unauthorized copies may contain fraudulent, incorrect, erroneous, or misleading information or omit important and relevant information. Do not use or rely on unauthorized copies.

Milford, Delaware, Code of Ordinances >> PART II - GENERAL LEGISLATION >> **APPENDIX B - ELECTRIC TARIFF—RULES AND REGULATIONS** >> APPENDIX 1. - FEE SCHEDULE >>

## APPENDIX 1. - FEE SCHEDULE

### Connection Charges<sup>1[56]</sup>

New Service/Construction - Residential and Non-Residential .....\$35.00

(Reference: [Section 7-a](#)) includes Temporary Service

(Administrative charge to set up account)

Re-connection charges property owner (residential & non-residential) .....\$0.00

\* Re-connection charges from delinquency disconnects (during hours of operation) .....\$35.00

Re-connection charges from delinquency disconnects (after hours of operation) .....\$60.00

Temporary Service Charges

Reference: [Section 2-F](#)

Flat charge for Standard Facilities (includes installation and removal)

1. Single phase underground or aerial service .....\$150.00
2. Single phase aerial service with two spans of wire .....\$345.00
3. Single phase aerial transformer, ground, and primary connection .....\$600.00
4. Three phase aerial transformer bank, ground, and connection .....\$1,425.00

Charges for other facilities will be based on a case by case basis.

(Final determination by Finance/Billing Dept.)

### Customer Deposit Charges (To be determined by Finance/Billing Department)

Residential Renter<sup>3[57]</sup>

The greater of two-twelfths of the average annual estimated bill or min .....\$100.00

Reference: [Section 3-B-1](#), [3-B-2](#)

Residential Property Owner<sup>4[58]</sup> .....\$0.00

Reference: [Section 3-B-2](#)

Commercial Renter<sup>3, 5[59]</sup>

The greater of two-twelfths of the average annual estimated bill or min. ....\$250.00

Reference: [Section 3-C-1](#)

Commercial Owner<sup>6, 7[60]</sup> .....\$0.00

Reference: [Section 3-C-2](#) <sup>[61]</sup>

Interest Rate on Deposits (to be determined by Finance/Billing Dept.)

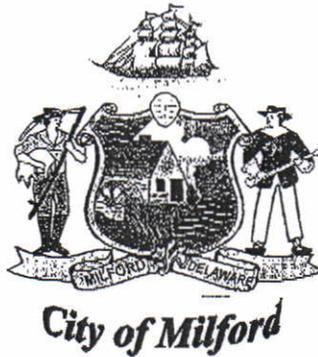
Service Entrances and Drops

Residential Services

Aerial Service Over 150 feet .....\$3.25 per foot

Reference: [Section 7-B](#)

(302) 422-6616



PO Box 159  
Milford DE 19963

UTCSNM  
UTCNA2  
UTCNA3  
UTCNA4

DATE MAILED: 9/12/2012  
CUSTOMER ID: ~~0141BNI~~  
LOCATION ID: ~~0141CNB~~

SERVICE ADDRESS: ~~UTSVAD~~  
AMOUNT PAST DUE: ~~000000~~

This is a reminder that payment has not been received on your Utility bill which was due on 09/10/12. Please check your records to see whether this was an oversight.

If your records show that the amount due has been paid, please contact our office at (302) 422-6616, ext 164, 169, 167, or 168 and we will check the status of your account.

Please give this notice your immediate attention. Balances must be paid in full no later than 4:30 pm on 09/19/12. Accounts may be subject to disconnection of service on 09/20/12 if the bill is not paid in full.

When the disconnect list is distributed, the ENTIRE BALANCE plus an administrative fee must be paid. A \$35 administrative fee is required from 8:00 am to 4:30 pm M-F at the Billing Office located at the Public Works Facility on 180 Vickers Drive; after 4:30 pm and on weekends, a \$60 fee must be paid at Milford Police Department.

Reconnection of services will not be done after 8:00 pm.

Payments placed in the drop box after 4:30 pm the day before disconnections are scheduled will not be considered. The drop box is checked at 4:30 pm, payments received after 4:30 pm do not relieve disconnection of services as the list is prepared at 4:30 pm and distributed at 8:00 am on disconnect day. This applies to online payments as well. If your name is placed on the list for disconnection, the administrative fee will apply because of costs the City has incurred. This is not a late fee.

The drop boxes are located at the Public Works Facility on 180 Vickers Drive and at City Hall on 201 S Walnut St.

Please do not place payments in the mailbox in front of the Public Works facility.

WALK-IN UTILITY PAYMENTS TO BE MADE AT THE BILLING OFFICE LOCATED ON 180 VICKERS DRIVE.

Sincerely,  
The City of Milford  
Billing Department