



SAUGATUCK TOWNSHIP FIRE DISTRICT

Proudly serving : Douglas | Saugatuck | Saugatuck Township



Fire Code Board of Appeals

6736 Saugatuck Beach Rd.
Northshores of Saugatuck LLC

Additional Information

Presented by Chief Greg Janik and Deputy Chief Chris Mantels
February 4th, 2020 – 4:30pm



Additional Information

- Deputy Chief Jim Burnham Correspondence
- International Fire Code – 2015 Edition
- NFPA 1142 – 2012 Edition
- International Wildland-Urban Interface Code – 2015 Edition
- Meeting with Mr. Jeff Padnos
- Final PUD Resolution
- Township's Legal Counsel Memorandum
- Fire District Legal Counsel Opinion

Deputy Chief Jim Burnham Correspondence

- Rather than extract pieces from a magazine article, we reached out to the author for further clarification on the water supply requirements for a development
- **Deputy Chief Burnham's Comments:**
- *"It is quite interesting that my article is being used for reference in this case."*
- *"As we both know local conditions can vary significantly affect the required fire flow for a development. My experience is with primarily single-family structures and agricultural buildings in a hilly rural environment"*

From: Jim Burnham
Sent: Monday, February 3, 2020 3:40 PM
To: Greg Janik
Subject: Re: Water Supplies

Chief Janik,

It is quite interesting that my article is being used for reference in this case. As we both know local conditions can very significantly affect the required fire flow for a development. My experience is with primarily single family structures and agricultural buildings in a hilly rural environment. We have our challenges of steep terrain, deep snows and bitter cold weather to contend with. One item we very rarely have to deal with is a one person's property creating a fire exposure to another's. In my opinion, this is a significant defining point of urban/suburban vs. rural.

The quoted requirement of 500 gpm or 9861 gallons appears to be a direct computation from NFPA 1142. Using the 6300 gpm structure noted and some assumptions I can come up with very similar numbers. This flow rate and quantity would be quite appropriate for an incipient stage fire where there is prompt notification of the fire department and no delay in response. Essentially, a room and contents fire. Throw in the variable of delayed detection or delayed response resulting in large portions of the structure being involved on arrival and this flow/quantity will likely be quite inadequate to effectively protect exposed properties. I understand that in the proposed development the space separation between independently owned structures may be in the 40-50 ft. range. My article and my presentation at FDIC2018 in Indianapolis did not address such exposures. Even looking back at the history of the fire service in this country, the early fire departments were put in place to control fire spread between adjacent buildings in the closely built-up areas of the cities primarily along the east coast. Public fire protection was not really to protect you from a fire in your own house but rather to protect you from a fire in your neighbor's home. Water systems were installed to give them a fighting chance to save at least some portions of their cities. In your case, with somewhat minimal separation distances and the potential for wind-driven fire, the chances for containing a fire to a single structure would be much greater with a readily available water supply.]

My experience with dry hydrants and with long supply lines are that they take considerable time and resources to get set up. Usually time and resources are in short supply. On paper, they may sound good but in practicality most any fire being fought with dry hydrants or long supply lines ends up being essentially a total loss. Again, maybe useful for exposure protection but then you are stepping outside what I would consider rural.

In my opinion, the best level of fire protection for this development would to install automatic sprinkler protection throughout all structures. Not only would this provide one protection against a fire in his neighbor's property but would also provide fire protection and life safety protection for the occupants/owners of the building of fire origin. Automatic sprinkler protection has an excellent track record of increasing survivability in a fire.

Otherwise, with the minimal space separation between buildings as well as the other factors that you outline (delayed response, etc.) I agree with you that the stated flow/quantity of water will likely be inadequate to prevent fire spread between structures. Would it be possible to extend existing municipal water mains to this area? How are the developers planning on supplying domestic drinking water to the dwellings? If there is some sort of central domestic water system, can it be expanded to include fire service? If a dedicated fire service system is being proposed, the responsibilities for its maintenance and repair need to be very clearly spelled out. With a marina development included, there should be possibility for installation of a wet pit and a vertical shaft turbine pump supplying hydrant lines. If some sort of water tank is being considered, remember that it will need to be heated as there will be no domestic circulation. Without good maintenance, a private dedicated fire service system can become unreliable very easily. Even very small leaks in the hydrants or underground lines become headaches.

I hope that this offers some further clarification.

Jim

Deputy Chief Jim Burnham Correspondence

- *“This flow rate (500gpm) and quantity (9,861 gallons) would be quite appropriate for an incipient stage fire where there is prompt notification of the fire department and no delay in response.”*
- *“My experience with dry hydrants and with long supply lines are that they **take considerable time and resources to get set up**. Usually time and resources are in short supply.”*
- *“On paper, they may sound good but in practicality most **any fire being fought with dry hydrants or long supply lines ends up being essentially a total loss.**”*
- *“Again, maybe useful for exposure protection but then you are stepping outside what I would consider rural.”*

From: Jim Burnham
Sent: Monday, February 3, 2020 3:40 PM
To: Greg Janik
Subject: Re: Water Supplies

Chief Janik,

It is quite interesting that my article is being used for reference in this case. As we both know local conditions can very significantly affect the required fire flow for a development. My experience is with primarily single family structures and agricultural buildings in a hilly rural environment. We have our challenges of steep terrain, deep snows and bitter cold weather to contend with. One item we very rarely have to deal with is a one person's property creating a fire exposure to another's. In my opinion, this is a significant defining point of urban/suburban vs. rural.

The quoted requirement of 500 gpm or 9861 gallons appears to be a direct computation from NFPA 1142. Using the 6300 sq.ft. structure noted and some assumptions I can come up with very similar numbers. This flow rate and quantity would be quite appropriate for an incipient stage fire where there is prompt notification of the fire department and no delay in response. Essentially, a room and contents fire. Throw in the variable of delayed detection or delayed response resulting in large portions of the structure being involved on arrival and this flow/quantity will likely be quite inadequate to effectively protect exposed properties. I understand that in the proposed development the space separation between independently owned structures may be in the 40-50 ft. range. My article and my presentation at FDIC2018 in Indianapolis did not address such exposures. Even looking back at the history of the fire service in this country, the early fire departments were put in place to control fire spread between adjacent buildings in the closely built-up areas of the cities primarily along the east coast. Public fire protection was not really to protect you from a fire in your own house but rather to protect you from a fire in your neighbor's home. Water systems were installed to give them a fighting chance to save at least some portions of their cities. In your case, with somewhat minimal separation distances and the potential for wind-driven fire, the chances for containing a fire to a single structure would be much greater with a readily available water supply. |

My experience with dry hydrants and with long supply lines are that they take considerable time and resources to get set up. Usually time and resources are in short supply. On paper, they may sound good but in practicality most any fire being fought with dry hydrants or long supply lines ends up being essentially a total loss. Again, maybe useful for exposure protection but then you are stepping outside what I would consider rural.

In my opinion, the best level of fire protection for this development would to install automatic sprinkler protection throughout all structures. Not only would this provide one protection against a fire in his neighbor's property but would also provide fire protection and life safety protection for the occupants/owners of the building of fire origin. Automatic sprinkler protection has an excellent track record of increasing survivability in a fire.

Otherwise, with the minimal space separation between buildings as well as the other factors that you outline (delayed response, etc.) I agree with you that the stated flow/quantity of water will likely be inadequate to prevent fire spread between structures. Would it be possible to extend existing municipal water mains to this area? How are the developers planning on supplying domestic drinking water to the dwellings? If there is some sort of central domestic water system, can it be expanded to include fire service? If a dedicated fire service system is being proposed, the responsibilities for its maintenance and repair need to be very clearly spelled out. With a marina development included, there should be possibility for installation of a wet pit and a vertical shaft turbine pump supplying hydrant lines. If some sort of water tank is being considered, remember that it will need to be heated as there will be no domestic circulation. Without good maintenance, a private dedicated fire service system can become unreliable very easily. Even very small leaks in the hydrants or underground lines become headaches.

I hope that this offers some further clarification.

Jim

Deputy Chief Jim Burnham Correspondence

- *“In my opinion, the best level of fire protection for this development would to install automatic sprinkler protection throughout all structures.”*
- *“Not only would this provide one protection against a fire in his neighbor’s property but would also provide fire protection and life safety protection for the occupants/owners of the building of fire origin.”*
- *“I agree with you that the stated flow/quantity of water will likely be inadequate to prevent fire spread between structures.”*

From: Jim Burnham
Sent: Monday, February 3, 2020 3:40 PM
To: Greg Janik
Subject: Re: Water Supplies

Chief Janik,

It is quite interesting that my article is being used for reference in this case. As we both know local conditions can very significantly affect the required fire flow for a development. My experience is with primarily single family structures and agricultural buildings in a hilly rural environment. We have our challenges of steep terrain, deep snows and bitter cold weather to contend with. One item we very rarely have to deal with is a one person's property creating a fire exposure to another's. In my opinion, this is a significant defining point of urban/suburban vs. rural.

The quoted requirement of 500 gpm or 9861 gallons appears to be a direct computation from NFPA 1142. Using the 6300 sq.ft. structure noted and some assumptions I can come up with very similar numbers. This flow rate and quantity would be quite appropriate for an incipient stage fire where there is prompt notification of the fire department and no delay in response. Essentially, a room and contents fire. Throw in the variable of delayed detection or delayed response resulting in large portions of the structure being involved on arrival and this flow/quantity will likely be quite inadequate to effectively protect exposed properties. I understand that in the proposed development the space separation between independently owned structures may be in the 40 -50 ft. range. My article and my presentation at FDIC2018 in Indianapolis did not address such exposures. Even looking back at the history of the fire service in this country, the early fire departments were put in place to control fire spread between adjacent buildings in the closely built-up areas of the cities primarily along the east coast. Public fire protection was not really to protect you from a fire in your own house but rather to protect you from a fire in your neighbor's home. Water systems were installed to give them a fighting chance to save at least some portions of their cities. In your case, with somewhat minimal separation distances and the potential for wind-driven fire, the chances for containing a fire to a single structure would be much greater with a readily available water supply. |

My experience with dry hydrants and with long supply lines are that they take considerable time and resources to get set up. Usually time and resources are in short supply. On paper, they may sound good but in practicality most any fire being fought with dry hydrants or long supply lines ends up being essentially a total loss. Again, maybe useful for exposure protection but then you are stepping outside what I would consider rural.

In my opinion, the best level of fire protection for this development would to install automatic sprinkler protection throughout all structures. Not only would this provide one protection against a fire in his neighbor's property but would also provide fire protection and life safety protection for the occupants/owners of the building of fire origin. Automatic sprinkler protection has an excellent track record of increasing survivability in a fire.

Otherwise, with the minimal space separation between buildings as well as the other factors that you outline (delayed response, etc.) I agree with you that the stated flow/quantity of water will likely be inadequate to prevent fire spread between structures. Would it be possible to extend existing municipal water mains to this area? How are the developers planning on supplying domestic drinking water to the dwellings? If there is some sort of central domestic water system, can it be expanded to include fire service? If a dedicated fire service system is being proposed, the responsibilities for its maintenance and repair need to be very clearly spelled out. With a marina development included, there should be possibility for installation of a wet pit and a vertical shaft turbine pump supplying hydrant lines. If some sort of water tank is being considered, remember that it will need to be heated as there will be no domestic circulation. Without good maintenance, a private dedicated fire service system can become unreliable very easily. Even very small leaks in the hydrants or underground lines become headaches.

I hope that this offers some further clarification.

Jim

From: Jim Burnham
Sent: Monday, February 3, 2020 3:40 PM
To: Greg Janik
Subject: Re: Water Supplies

Chief Janik,

It is quite interesting that my article is being used for reference in this case. As we both know local conditions can very significantly affect the required fire flow for a development. My experience is with primarily single family structures and agricultural buildings in a hilly rural environment. We have our challenges of steep terrain, deep snows and bitter cold weather to contend with. One item we very rarely have to deal with is a one person's property creating a fire exposure to another's. In my opinion, this is a significant defining point of urban/suburban vs. rural.

The quoted requirement of 500 gpm or 9861 gallons appears to be a direct computation from NFPA 1142. Using the 6300 sq.ft. structure noted and some assumptions I can come up with very similar numbers. This flow rate and quantity would be quite appropriate for an incipient stage fire where there is prompt notification of the fire department and no delay in response. Essentially, a room and contents fire. Throw in the variable of delayed detection or delayed response resulting in large portions of the structure being involved on arrival and this flow/quantity will likely be quite inadequate to effectively protect exposed properties. I understand that in the proposed development the space separation between independently owned structures may be in the 40 -50 ft. range. My article and my presentation at FDIC2018 in Indianapolis did not address such exposures. Even looking back at the history of the fire service in this country, the early fire departments were put in place to control fire spread between adjacent buildings in the closely built-up areas of the cities primarily along the east coast. Public fire protection was not really to protect you from a fire in your own house but rather to protect you from a fire in your neighbor's home. Water systems were installed to give them a fighting chance to save at least some portions of their cities. In your case, with somewhat minimal separation distances and the potential for wind-driven fire, the chances for containing a fire to a single structure would be much greater with a readily available water supply.

My experience with dry hydrants and with long supply lines are that they take considerable time and resources to get set up. Usually time and resources are in short supply. On paper, they may sound good but in practicality most any fire being fought with dry hydrants or long supply lines ends up being essentially a total loss. Again, maybe useful for exposure protection but then you are stepping outside what I would consider rural.

In my opinion, the best level of fire protection for this development would to install automatic sprinkler protection throughout all structures. Not only would this provide one protection against a fire in his neighbor's property but would also provide fire protection and life safety protection for the occupants/owners of the building of fire origin. Automatic sprinkler protection has an excellent track record of increasing survivability in a fire.

Otherwise, with the minimal space separation between buildings as well as the other factors that you outline (delayed response, etc.) I agree with you that the stated flow/quantity of water will likely be

inadequate to prevent fire spread between structures. Would it be possible to extend existing municipal water mains to this area? How are the developers planning on supplying domestic drinking water to the dwellings? If there is some sort of central domestic water system, can it be expanded to include fire service? If a dedicated fire service system is being proposed, the responsibilities for its maintenance and repair need to be very clearly spelled out. With a marina development included, there should be possibility for installation of a wet pit and a vertical shaft turbine pump supplying hydrant lines. If some sort of water tank is being considered, remember that it will need to be heated as there will be no domestic circulation. Without good maintenance, a private dedicated fire service system can become unreliable very easily. Even very small leaks in the hydrants or underground lines become headaches.

I hope that this offers some further clarification.

Jim

On Feb 2, 2020, at 1:49 PM, Greg Janik wrote:

Good morning Deputy Chief/Training Officer James Burnham,

I appreciate you responding to Lt. Chris Bernhardys' inquiry for contact information. As Lt. Bernhardy alluded to, I am reaching out to you as a respected professional fire service member for input on your insightful article titled *Rethinking Rural Water Supplies*. I applaud you in your admirable efforts to educate and inform all fire service members.

Please allow me to offer some background on experience. I am seasoned 20-year veteran Fire Chief/Fire Marshal for a relatively small fire department serving three municipalities with primarily paid-on-call staffing. While we only run just under 1,000 calls annually, we are a resort area with a population of 6,300 with an influx of over 25,000 seasonal residents and visitors. Our fire district area seems to be serving a small city with big city needs. We are most fortunate to have a Bureau of Fire Prevention consisting of three (3) NFPA/State of Michigan fire inspector 1 level, two (two) NPFA Plan Examiners and two (2) NFPA/State of Michigan fire inspector 2 level. Our fire district area has been served under the International Fire Code for the last 19 years, and I have been the fire code official for 17 of those years.

Our firefighters and command officers concern is that some of the information referenced in your article, *Rethinking Rural Water Supplies*, has been taken out of context by the builder/developer and does not take into consideration *our* local conditions and resources.

We do not feel NFPA 1142 is applicable as outlined below, however, we do feel IFC is the applicable code. Furthermore, we do not feel 500-1,000 GPM is adequate, again, as outlined below.

Specifically, our fire district has been told by the builder/developer, based on the article *Rethinking Rural Water Supplies*, that the proposed 6,300 square feet residential structure "only requires 500

GPM with a required water supply of 9,861 gallons, per NFPA 1142 4.6.1”, or “a direct supply line from a nearby source can deliver 1,000 GPM through a four inch 1,000-foot hoselay”.

Please allow me to provide some facts and qualifying statements concerning the new large-scale development, our local area and resources.

1. The Fire District Board of Appeals has previously ruled our area is not rural. One factor that influenced the BOA decisions that the area is not rural is the installation and extension of a \$500,000 four-inch natural gas line to the development.
2. The Fire District area has over 625 hydrants served by municipal-type water mains for fire protection water supplies. Developers has extended over 82,400 feet of water main over the years
3. The large-scale development will have 40-44 residential home sites on Lake Michigan shoreline
4. There is only one single access road to this development. Ordinances require two fire apparatus access roads on 31 or more single-family dwellings. This development is exempt from two roads
5. The project will include a large boat basin with approximately 24 large boat slips and a community club house.
6. The proposed home on Lot 15 is 6,300 square feet, and the lot cost is \$1,500,000. Lot prices range from \$685,000 to \$3,250,00, and the average lot price is \$1,907,727
7. The developer has built two homes on the lakeshore, one is 3,788 square feet and the second house is 5,967 square feet. In our opinion, these residential structures are not “typical, average-sized, single-family dwellings”. There is no Fire District approval for the home sites.
8. The development currently does not have the water main extended into the development. There are a pair of pair of dry hydrants stubbed into the Kalamazoo river for the entire development. Neither the water supply nor dry hydrants have been approved.
9. Reasons and justification for adequate approved water supplies capable of fire flow
 1. The use and occupancy, there are men, women and children sleeping in these single family dwellings
 2. 25-30 minute response and timeline before we are able to pump water on the fire
 3. Large square feet homes exceeding 3,600 SF
 4. Lightweight Type V construction
 5. Severe high wind exposures on the lakeshore
 6. Modern synthetic furnishings
 7. Second homes, unoccupied
 8. Excessive apparatus and personnel demands. We must designate one engine & personnel at the draft source, one attack engine & personnel, personnel to lay the LDH and one aerial ladder platform & personnel for ventilation, elevated master stream and possible second floor rescue. Our ladder inventory will not reach the second floor of these large homes
 9. Non-approved water supply, dry hydrants or fire flow
 10. Excessive, (790 feet to 3,000 feet), hose lays resulting in friction loss causing reduction in pressure and GPM, and may obstruct the single access road for mutual aid, second and third due

Based on these factors, we are following recognized adopted IFC standards for water supplies and Insurance Services Offices (ISO). ISO has been contacted and they responded that they want “2,250-2,500 GPM due to size of the large residential dwellings”.

It would appear that even NFPA 1142 4.1.3 allows consideration for local conditions and resources by stating, in part, “the minimum requirements shall be subject to increase by the AHJ to compensate for particular conditions such as the following:”

In our opinion, our particular conditions listed in paragraph 7, mirror those listed in NFPA 1142 4.3.1.

We do not feel it is acceptable to expect the fire department to deploy and depend on off of our limited resources, run LDH over 400 feet or run a tanker shuttle to a new large-scale development of this magnitude.

Again, we are of the opinion that your article, and its intent, have been taken out of context and used unwisely by the builder/developer for their benefit, and not for the health, safety and wellbeing of the firefighters.

As a professional, and based on factual information that has been documented along with our position, can you please offer any qualifying statements that would provide your opinion that “**500 GPM with a required Total Water Supply of 9,861 gallons” or a direct supply line from a nearby source can deliver 1,000 GPM through a four inch 1,000-foot hoselay**” is not adequate for this proposed 6,300 square foot single family-dwelling in our area?

Thank you for your consideration,
Greg

Greg Janik

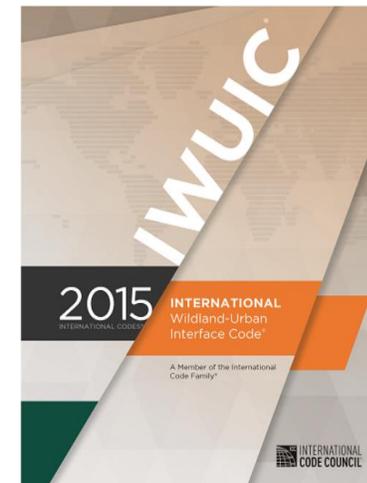
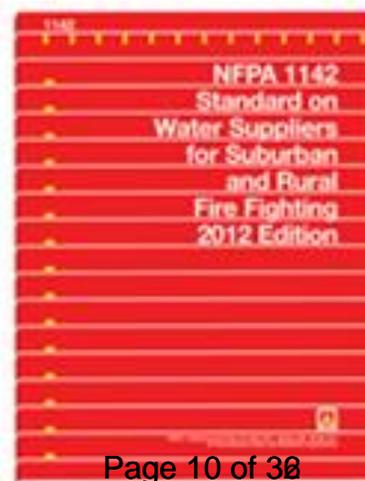
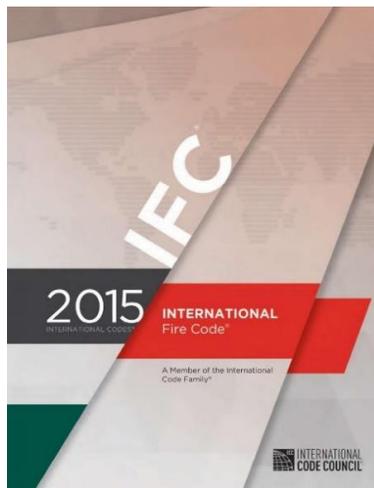
Fire Chief/Fire Marshal
ACFCA – President
MPSCIB – Pager Workgroup Co-Chair
3342 Blue Star Highway
Saugatuck, MI 49453

Phone: 269 857-3000
E-mail : gjanik@saugatuckfire.org

CONFIDENTIALITY NOTICE: The information contained in this e-mail message and any attachment(s) may contain confidential information that is legally privileged and exempt from disclosure under applicable law, and is intended only for the confidential use of the intended recipient(s). If the reader of this e-mail message is not the intended recipient or the employee agent responsible for delivering it to the intended recipient, any dissemination, distribution, copying or action taken in reliance on the content of this e-mail message or any attachment(s) is strictly prohibited. If this e-mail has been received in error, please notify me immediately via e-mail at gjanik@saugatuckfire.org and delete or otherwise destroy the original message, any attachment(s) and copies.

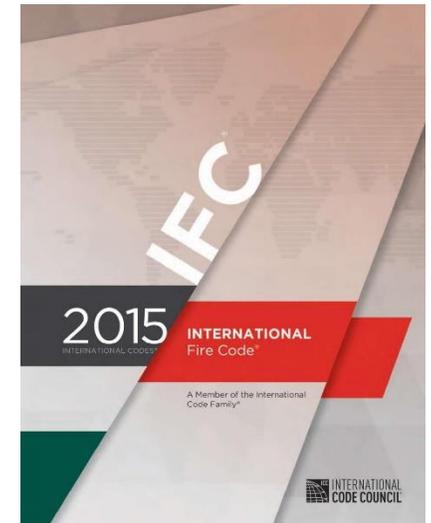
Which Code is up to the AHJ....

- In the end, the Fire Code official is left to determine the adequate fire protection water supply needs and has the authority of which code to utilize.
- No matter which of these code books we choose, the outcome will be the same requiring an approved fire protection water supply.



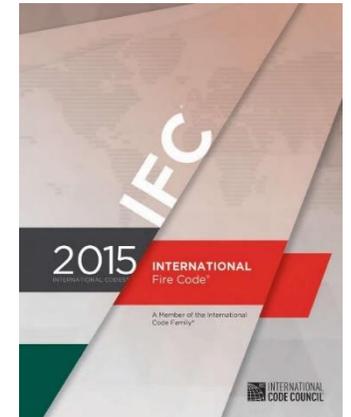
We choose IFC because...

- The IFC is fully compatible with the Michigan Residential Code
- The IFC is fully compatible with the Michigan Building Code
- Keep in mind, all IFC codes were created and written as a result of past tragedies.
- The IFC is designed to prevent or minimize these tragedies from occurring again.



IFC Plan Review Process

- Fire District staff conduct all site plan reviews with IFC plan review Checklists and not NFPA 1142. IFC plan reviews procedures are consistent with best past practices and the Tri-Communities Community Risk Reduction strategies. We have identified and prioritized risks followed by coordinated application of resources to minimize and/or the impact of unfortunate events.
- Within the fire service context, this means that fire departments exist not only to respond to these events but also to prevent or reduce the effects of their occurrence in the first place.
- The IFC plan review process is intrinsic in identifying risks, reducing fire deaths, injuries and property losses within the community.
- To do so without IFC, contradicts best past practices and is inconsistent with Community Risk Reduction.



Fire Plan Review and Inspection Guidelines

Site Plan Plan Review Worksheet 2015 IFC	
Date of Review:	Permit Number:
Business/Map Name:	Address of Project:
Designer Name:	Designer's Phone:

The numbers that follow worksheet instructions represent an IFC code section unless otherwise stated.

Appendix D and the references noted below are not mandatory unless the AHJ has incorporated the Appendix as a regulatory requirement.

Worksheet Legend: ✓ = OK, no problem. N = need to provide. MA = not applicable.

Access:

1. Clearing and grading.
2. This required the department access roads are a minimum unobstructed 20 ft. in width and 13 ft. 6 in. clear height. IFC 503.2.1. Check with local or state requirements that may have street planning regulations that supersede the IFC requirements.
3. The existing fire lanes, signs are provided as IFC prescribed locations. IFC 503.2.
4. Provide the department access roads are designed to support an aggregate with a gross axle weight of 70,000 lb, engineering specifications are provided. IFC 503.2.1.1.
5. Repairs to existing road access roads are an alternate IFC 503.2.2.2 surface such as asphalt, concrete, chip seal and markings, or similar materials. IFC 503.2.2.2.
6. The proposed building area has an emergency vehicle access road wider 100 ft. if any exterior portion of the structure. If not, a fire department access road must be provided. IFC 503.1.1.
7. The grade to be required the department access road does not exceed 10 percent unless approved by the AHJ. Appendix D10.2.2.
8. A local jurisdiction alternative to the 10 percent grade restriction could be the following: if the grade exceeds 10 percent, the first portion of the grade shall be limited to 15 percent for a length of 200 ft. and then 10 percent to 20 percent for a maximum of 200 ft., repeat the cycle as necessary unless the building is a residential.
9. No access drive grades are greater than 10 percent if Appendix D is applicable at the local level.
10. Appendix D 10.2.
11. The access road design for a maximum grade conforms to specifications established by the local code official. IFC 503.2.2.
12. The width of the department access roads to be a minimum of 100 ft. and 10 ft. wide. IFC 503.2.2.1.
13. The top surface of the site has an approved grade and outside radius, e.g., 30 ft. and 50 ft., respectively. IFC 503.2.2.1.1.
14. The department access roads shall be constructed and maintained for all construction sites. IFC 1403.1.
15. The department access roads of 200 ft. or more from a project site are provided an approved temporary lane/road. IFC 503.2.2.1.1.
16. The existing surface for emergency apparatus roads is 30 ft. wide and 10 ft. outside radius or as approved by the code official.
17. The department access roads shall be constructed and maintained for all construction sites. IFC 1403.1.
18. The department access roads of 200 ft. or more from a project site are provided an approved temporary lane/road. IFC 503.2.2.1.1.
19. The department access roads shall be constructed and maintained for all construction sites. IFC 1403.1.

Water Flow and Retention: An in-depth plan review for private hydrants and private water mains will occur during the project design phase.

A fire flow test and report is provided to verify that the fire flow requirement is available. Also, refer to the code for the location of the pipe.

Water mains and private hydrants are detailed on the site plan. IFC 503.1.

All water mains and private hydrants shall be installed and operated as soon as construction materials arrive on a construction site. IFC 1403.1.

The nearest hydrant to the project structure and/or property road frontage is shown on the plan.

43

International Fire Code – 2015 Edition

507.1 Required water supply.

An approved water supply capable of supplying the required fire flow for fire protection shall be provided to premises upon which facilities, buildings or portions of buildings are here after constructed or moved into or within the jurisdiction.

507.5.1 Where required.

Where a portion of the facility or building hereafter constructed or moved into or within the jurisdiction is more than 400 feet (122 m) from a hydrant on a fire apparatus access road, as measured by an approved route around the exterior of the facility or building, on-site fire hydrants and mains shall be provided where required by the fire code official.

IFC Appendix B – Fire Flow Requirements

B103.3 Areas without water supply systems. For information regarding water supplies for fire-fighting purposes in rural and suburban areas in which adequate and reliable water supply systems do not exist, the *fire code official* is authorized to utilize NFPA 1142 or the *International Wildland-Urban Interface Code*. **2015 INTERNATIONAL FIRE CODE®**

- B103.3 allows the fire code official to utilize other codes, it does not say “shall” nor mandate the use of them. It is left up to the fire code official to choose if they will apply the IFC, NFPA 1142, or IWUIC.

The IFC provides interpretation authority to the fire code official for a reason....

- The Fire Code Official is the Authority Having Jurisdiction within their coverage area
- They know the geography, their equipment, their personnel, and are given the authority to determine their fire departments needs for fire protection water supplies

**SECTION 104
GENERAL AUTHORITY AND RESPONSIBILITIES**

[A] 104.1 **General.** The fire code official is hereby authorized to enforce the provisions of this code and shall have the authority to render interpretations of this code, and to adopt policies, procedures, rules and regulations in order to clarify the application of its provisions. Such interpretations, policies, procedures, rules and regulations shall be in compliance with the intent and purpose of this code and shall **not** have the effect of waiving requirements specifically provided for in this code.

2015 INTERNATIONAL FIRE CODE®

If the AHJ chooses NFPA 1142...

- If we utilize NFPA 1142, we still can require a pressurized system, including on-site water mains and hydrants without requiring the connection to the KLSWA municipal system.

4.1.4 The AHJ shall be permitted to specify how the water supplies required in this document are provided, giving consideration to local conditions and need.

4.1.3* The minimum requirements shall be subject to increase by the AHJ to compensate for particular conditions such as the following:

- (1) Limited fire department resources
- (2) Extended fire department response time or distance
- (3) Potential for delayed discovery of the fire
- (4) Limited access
- (5) Hazardous vegetation
- (6) Structural attachments, such as decks and porches
- (7) Unusual terrain
- (8) Special uses and unusual occupancies

NFPA 1142
Standard on
Water Supplies for Suburban
and Rural Fire Fighting
2012 Edition

If the AHJ chooses the International Wildland-Urban Interface Code (IWUIC)

- IWUIC still requires **1,500 GPM** for dwellings exceeding 3,600 square feet

404.5 Adequate water supply.

Adequate water supply shall be determined for purposes of initial attack and flame front control as follows:

1. One- and two-family dwellings. The required water supply for one- and two-family dwellings having a fire flow calculation area that does not exceed 3,600 square feet (334 m²) shall be 1,000 gallons per minute (63.1 L/s) for a minimum duration of 30 minutes. The required water supply for one- and two-family dwellings having a fire flow calculation area in excess of 3,600 square feet (334 m²) shall be 1,500 gallons per minute (95 L/s) for a minimum duration of 30 minutes.

International Wildland-Urban Interface Code (IWUIC)

If the AHJ chooses the International Wildland-Urban Interface Code (IWUIC)

- IWUIC still allows the fire code official to dictate locations of hydrants (ie: 400 feet spacing)

404.4 Hydrants.

Hydrants shall be designed and constructed in accordance with nationally recognized standards. The location and access shall be approved by the code official.

2015 International Codes Complete Collection

Property Owner Meeting – January 30th, 2020

- Chief Janik met with property owner Mr. Jeff Padnos on January 30th, 2020 in a continued effort to come to a mutually agreeable solution.
 - Mr. Padnos was informed again of the Fire District's ongoing concerns
 - With the assistance of Saugatuck, Hamilton, and Graafschap Fire Departments, Mr. Padnos was informed of 3 potential options for pressurized system(s)
 - Mr. Padnos stated he wants to do it right, is not so concerned about the expense of the pressurized system, as he is concerned about the extensive EGLE permitting process.

Township's Legal Counsel



MEMORANDUM

To: Saugatuck Township Planning Commission
From: Scott Smith & Nick Curcio, Township Attorneys
Date: April 14, 2017
Re: North Shores of Saugatuck, LLC – Proposed PUD and Special Use Approval

B. The Township cannot require 2 means of access from a public street provided the development “otherwise implements alternative safety requirements, as reasonably imposed by the Township, such as”:

- i. A standpipe system or the equivalent for emergency water needs.
- ii. Use of sprinkler systems in any non-residential buildings and any building containing more than 4 dwelling units.
- iii. Designation of a space along the Kalamazoo River adjacent to the property for the exclusive use of a fireboat.
- iv. Designation of an emergency landing area for helicopters.

Note, this is an exemplary list. It does not require these measures and does not preclude the Township from requiring other measures.

MEMORANDUM

To: Saugatuck Township Planning Commission
From: Scott Smith & Nick Curcio, Township Attorneys
Date: April 14, 2017
Re: North Shores of Saugatuck, LLC – Proposed PUD and Special Use Approval

Introduction

Your April 24 meeting agenda will include 2 applications from North Shores of Saugatuck LLC:

1. A request for preliminary site condominium and preliminary R-2 PUD zoning for 23 single family home lots surrounding a boat basin.
2. A request for a private marina special approval use.

The Planning Commission held public hearings on these applications at its meeting on March 28, but chose not to make a decision at that time.¹ No further public hearings are required or scheduled.

This memorandum provides relevant factual and legal background regarding the applications, and addresses several points raised by audience members at the March meeting. Accordingly, it is intended to supplement our prior memorandum dated March 28. For sake of completeness, some of the analysis in the prior memorandum is duplicated in this memo.

Because these applications involve differing zoning ordinance provisions, are impacted by some overlapping state and federal permitting, and are related to the settlement of the “Singapore Dunes” litigation, the issues are multi-dimensional and complex. We also recognize that heightened public sentiment related to the property adds complexity.

Singapore Dunes Settlement

The Singapore Dunes settlement is important because its provisions both limit and empower the Township and, while freeing the developer from some Township oversight, they also impose additional requirements on the developer. Therefore, reference to some highlights of the settlement may be helpful in your review of the developer’s applications.

- A. The Township may not treat this property differently than similarly-situated property in the Township without a rational basis for the different treatment. Consent Judgment ¶2.a.
- B. The Township cannot require 2 means of access from a public street provided the development “otherwise implements alternative safety requirements, as reasonably imposed by the Township, such as”:
 - i. A standpipe system or the equivalent for emergency water needs.
 - ii. Use of sprinkler systems in any non-residential buildings and any building containing more than 4 dwelling units.
 - iii. Designation of a space along the Kalamazoo River adjacent to the property for the exclusive use of a fireboat.
 - iv. Designation of an emergency landing area for helicopters.

Note, this is an exemplary list. It does not require these measures and does not preclude the Township from requiring other measures.

¹ The Planning Commission also considered similar applications at its meeting on February 28, and determined that the applications lacked sufficient information and detail for approval. In particular, the applications presented at that meeting did not indicate whether the residential sites in the PUD were to be held in fee simple ownership or as condominium units, and did not delineate the boundaries of the PUD. The developer substantially revised and supplemented the applications prior to the March 28 meeting.

Consent Judgement

Case 1:10-cv-00210-PLM Doc #199 Filed 06/11/12 Page 6 of 22 Page ID#2560

Terms of Consent Judgment

- The only item the Consent Judgement prohibits the Township and its agents (Fire District) from imposing is a secondary access road.

c) requiring, under Sec. 40-658(e) of the Township Zoning Ordinance, two means of access to Plaintiff's Property from an adjacent public street, provided that Plaintiff otherwise implements alternative safety requirements, as reasonably imposed by the Township, such as a standpipe system or the equivalent for emergency water needs, the use of sprinkler systems in any non-residential buildings and any buildings containing more than four dwelling units, the designation of a space along the Kalamazoo River adjacent to Plaintiff's Property for the exclusive use of a fireboat, and the designation of an emergency landing area for helicopters.

- It does **NOT** preclude the Fire District from requiring emergency water needs

Final PUD Resolution #2017-02

15. Comply with all other applicable township ordinances; fire codes; county requirements, including but not limited to the county drain commissioner, county road commission, county soil erosion and sedimentation control, and county health department; and any other applicable requirements of local, state and federal statutes, agencies and administrative orders, subject to any modifications in the Singapore Dunes Settlement.

- It is very clear in the Final PUD Resolution that Northshores of Saugatuck still must comply with all fire codes, as adopted by Township Ordinance.
- This includes the 2015 Edition of the International Fire Code, in its entirety, including all appendices.

**TOWNSHIP OF SAUGATUCK
ALLEGAN COUNTY, MICHIGAN**

Planning Commissioner Prietz, supported by Planning Commissioner Rudick, moved adoption of the following resolution:

RESOLUTION NO. 2017-02

RESOLUTION TO APPROVE A FINAL SITE CONDOMINIUM PROJECT PLAN AND A DETAILED SITE PLAN AND FOR THE PLANNED UNIT DEVELOPMENT PROJECT PROPOSED BY NORTH SHORES DEVELOPMENT, LLC

WHEREAS, on April 26, 2017, the Planning Commission approved a preliminary site condominium project plan and preliminary plan for a planned unit development ("PUD") proposed by North Shores of Saugatuck, LLC ("North Shores"); and

WHEREAS, in doing so, the Planning Commission determined that the proposed project satisfied all the applicable criteria in Article 8 and Article 13 of the zoning ordinance, and complied with all other applicable provisions of the zoning ordinance; and

WHEREAS, North Shores has now submitted an application for approval of a final site condominium project plan and detailed PUD site plan for the project (the "Application"); and

WHEREAS, the Application includes a narrative statement and a total of 13 attachments, with Attachment 9 being a detailed site plan prepared by Mitchell & More Land Surveying, labeled Project No. 16-1041 and consisting of Sheets 1 and 2, last dated September 15, 2017; and

WHEREAS, the Township retained planning consultant McKenna Associates to review the Application and prepare a detailed report and recommendation; and

WHEREAS, the Planning Commission has carefully considered: (1) the contents of the Application, (2) the McKenna Associates report dated October 15, 2017, which recommends approval of the Applications; (3) the information presented at the Planning Commission's meeting on October 23, 2017, and (4) the advice of the Township Attorney with respect to legal issues relating to the Application.

Now, it is therefore resolved that:

A. The Planning Commission finds that the Application satisfies the applicable criteria in Article 8, Article 9, and Article 13, of the zoning ordinance for the reasons stated in the McKenna Associates report and those discussed on the record at the October 23 meeting and previous meetings of the Planning Commission.

B. The Planning Commission finds that the Application conforms to the preliminary plans approved at the April 26 meeting, and finds that the proposed modifications with respect to the location of the community building, restrooms, and boat shed are appropriate, consistent with good design practices, and within the Planning Commission's authority to approve as part of a detailed PUD plan.

C. The Application is hereby approved. As conditions of approval, North Shores or any successor developer shall:

1. Obtain all required state and federal permits and approvals to construct the boat basin, including, without limitation, any that are needed from the United States Army Corps of Engineers (USACE), the United States Environmental Protection Agency (USEPA), and the Michigan Department of Environmental Quality (MDEQ) before any construction permits are issued.

2. Comply with all conditions and requirements related to the permits and other approvals obtained pursuant to condition 1.

3. Obtain and comply with any terms and conditions of all needed state and county permits for private wells and septic systems.

4. Before any occupancy permit is issued for any dwelling unit, construct the private road leading to the site from the public road and through the site (currently shown as Saugatuck Beach Road) in

compliance with: (i) the terms of any applicable settlement agreements and/or court judgments between the Township and the prior owner of the subject land, Singapore Dunes, LLC (the "Singapore Dunes Settlement"); (ii) any conditions of construction required by the MDEQ; and (iii) the private road standards in Section 40-658 of the zoning ordinance, to the extent such standards are determined applicable by the Township Attorney and Zoning Administrator. In addition, the private road shall be paved.

5. Construct the project, including the marina, in a single phase.
6. Record a declaration of emergency easements, a draft of which was submitted as Attachment 7 to the Application, in a form acceptable to the Township Attorney.
7. Not make any changes to the Preliminary Construction Requirements, the Preliminary Common Area Maintenance Provisions, or the Preliminary Use and Occupancy Restrictions presented as part of the applications without the prior written consent of the Township Zoning Administrator, Township Building Official and Township Attorney. Any major change (i.e., a change that the Township Zoning Administrator, Township Building Official or Township Attorney believe is substantive enough to merit review by the Planning Commission) may not be made unless and until accepted by the Planning Commission. They shall be incorporated in the site condominium documents as required by the zoning ordinance. No waivers or variances may be granted in violation of any zoning ordinance provision.
8. Construct the boat slips along the portions of the seawall that adjoin condominium units 16-21 and 28-38 in compliance with the Dock and Boat Slip Density Regulations set forth in Section 40-908 and the Dock Regulations set forth in Section 40-909.
9. Construct the residences in the PUD in accordance with the standards and procedures provided in the "Preliminary Construction Requirements" document submitted as part of the Application. No waivers or variances may be granted in violation of any zoning ordinance provision.
10. Comply with all conditions for the special use approval of the marina.
11. Comply with the grading and storm water management plan submitted as Attachment 11 to the Application, in the final form approved by the MDEQ.
12. Comply with the landscape plan/re-vegetation plan submitted as Attachment 10 to the Application, in the final form approved by the MDEQ.
13. Construct the proposed community building, boat shed, dock and sidewalk lighting in compliance with Section 40-649 of the zoning ordinance.
14. Ensure that all heavy construction equipment accessing the site must use 135th Avenue and avoid 66th Street.
15. Comply with all other applicable township ordinances; fire codes; county requirements, including but not limited to the county drain commissioner, county road commission, county soil erosion and sedimentation control, and county health department; and any other applicable requirements of local, state and federal statutes, agencies and administrative orders, subject to any modifications in the Singapore Dunes Settlement.
16. Provide a performance and bond or irrevocable letter of credit for the restoration of the excavated boat basin, if left incomplete, in a form acceptable to the Township Attorney and in an amount to be set by the Planning Commission at a later date.

D. All resolutions and parts of resolutions are, to the extent of any conflict with this resolution, rescinded.

YEAS: Planning Commissioners Conklin, Rudich, Lozano, Prietz

NAYS: Planning Commissioners Miller-Cook

ABSTAIN: Planning Commissioners _____

ABSENT: Planning Commissioners Welk, Rowe

CERTIFICATION

As its Recording Secretary, I certify that this is a true and complete copy of a resolution adopted by the Planning Commission of the Township of Saugatuck, Allegan County, Michigan, at a regular meeting held on October 23, 2017.

 10/27/17

Recording Secretary
Chris Lazano

GRAPIDS 64915-1 473480v2

LORI BABINSKI
NOTARY PUBLIC - STATE OF MICHIGAN
COUNTY OF ALLEGAN
MY COMMISSION EXPIRES 12-5-2017
ACTING IN THE COUNTY OF ALLEGAN



Fire District Legal Counsel Determination

- First, the Consent Judgment, at Paragraph 2 c) (page 6) provides that the Township and its agents (which, presumably, would include the STFD in this instance) are prohibited from requiring the developer to provide two means of access as would otherwise apply under the Township's zoning Ordinance.
- The limitation on the Township's ability to require two means of access is dependent on the developer implementing alternative safety requirements as reasonably imposed by the Township.
- The remainder of this subparagraph gives examples of what would be such alternative safety requirements. No specifics in terms of the location of hydrants, etc. are provided and I believe that a fair construction of this language leaves to the Township discretion to impose reasonable fire safety requirements and that a review by the STFD is not foreclosed by this language.

Fire District Legal Counsel Determination

- The resolution, in other words, requires that the project be developed in accordance with the applicable fire code, except to the extent that doing so would be prohibited by the terms of the Consent Judgment (see above). Thus, aside from an inability to mandate a second means of access to the site for emergency service purposes, the Township (and the STFD as its agent) retains complete authority to review site plans and impose reasonable safety requirements acceptable to the STFD.

Chief:

I am sending this email in response to your request that I review certain Township planning documents and provide an opinion as to whether the Township zoning approvals would preempt or prohibit the STFD from conducting a compliance review as otherwise required by law. In my opinion, and for the reasons set out below, it is my opinion that the Township's zoning approvals do not prohibit a compliance review by the STFD nor is a particular manner of providing fire protection mandated by those approvals.

In the course of my review I was provided with a copy of the Consent Judgment, various minutes from the Saugatuck Township Planning Commission, a Narrative provided by the developer regarding the project and a Resolution adopted by the Planning Commission in October of 2017 which approved with conditions the final site condominium project plan. Two of the documents I reviewed appear most relevant.

First, the Consent Judgment, at Paragraph 2 c) (page 6) provides that the Township and its agents (which, presumably, would include the STFD in this instance) are prohibited from requiring the developer to provide two means of access as would otherwise apply under the Township's zoning Ordinance. The limitation on the Township's ability to require two means of access is dependent on the developer implementing alternative safety requirements as reasonably imposed by the Township. The remainder of this subparagraph gives examples of what would be such alternative safety requirements. No specifics in terms of the location of hydrants, etc. are provided and I believe that a fair construction of this language leaves to the Township discretion to impose reasonable fire safety requirements and that a review by the STFD is not foreclosed by this language.

The second principal document is the Resolution adopted by the Planning Commission noted above. In approving the final site condominium project plan certain conditions were attached by the Township Planning Commission including Condition No. 15 which provides in relevant part:

“15. [The developer shall c]omply with all other applicable township ordinances; fire codes; county requirements, ... and other applicable requirements of local, state and federal statutes, agencies and administrative orders, subject to any modifications in the Singapore Dunces Settlement.”

The resolution, in other words, requires that the project be developed in accordance with the applicable fire code, except to the extent that doing so would be prohibited by the terms of the Consent Judgment (see above). Thus, aside from an inability to mandate a second means of access to the site for emergency service purposes, the Township (and the STFD as its agent) retains complete authority to review site plans and impose reasonable safety requirements acceptable to the STFD.

Please let me know if there are any further questions regarding this matter.

Jeff

Jeffrey V.H. Sluggett

Bloom Sluggett, PC

Counselors & Attorneys

15 Ionia Ave. SW, Suite 640

Grand Rapids, MI 49503

jeff@bloomsluggett.com

P (616) 965-9341

F (616) 965-9351

Confidentiality Notice: This electronic mail transmission is privileged and confidential and is intended only for review and use by the intended recipient. If you have received this transmission in error, please immediately return it to the sender and delete the message from your system. Unintended transmission of this message shall not constitute waiver of the attorney-client or any other privilege.

Tax Advice Disclosure: IRS regulations require that we inform you that to the extent this communication (or any attachments) contains any statement regarding federal taxes, that statement was not written or intended to be used, and it cannot be used, by any person for the purpose of avoiding penalties that may be imposed under the Internal Revenue Code, or promoting, marketing or recommending to another person any transaction or matter addressed in the communication.

Our Position

- It is our position that we did not misinterpret the code, there has not been an equivalent method of protection proposed, and the provisions of the IFC do fully apply
- We are not looking simply for a “rubber stamp” approval, we have shown in multiple ways that we have applied the IFC correctly and an approved water supply is required within 400 feet of the proposed dwelling at 6736 Saugatuck Beach Road



THANK YOU



Again, we express our sincere appreciation to the board members for the time committed in reviewing the additional information.

References

1. International Fire Code – 2015 Edition
2. National Fire Protection Association (NFPA) 1142 – 2012 Edition
3. International Wildland-Urban Interface Code – 2015 Edition
4. Case 1:10-cv-00210-PLM Doc #199 Filed 06/11/12 Page 6 of 22 Page ID#2560
5. Fire District Legal Counsel Correspondence
6. Deputy Chief Jim Burnham – Email Correspondence
7. April 14th, 2017 Planning Commission Memorandum from Scott Smith & Nick Curcio, Dickinson Wright, Township Attorneys
8. Township of Saugatuck, Resolution No. 2017-02

Fire Code Board of Appeals
Monday January 27, 2020 at 3:00
Response February 4, 2020

1. What is the current status?

Comments: *Two residential structures were constructed on lakeshore lots 6 & 7 at NorthShores. The Fire District was never asked to review and approve the site plan for either dwelling, subsequently neither dwelling has fire protection. In addition, the NorthShore's "standpipes" have not been approved.*

2. Which body will be liable should there be a fire without sufficient fire protection?

Comments: *The Fire District has immunity as we are acting in good faith and without malice. It is our understanding that the liability and responsibility would be shared by the developer and the entity that approved the development.*

3. Should NorthShore be able to require the STFD to buy additional equipment?

Comments: *A minimum of three apparatus would have to be dispatched to a fire at NorthShores due to large size of the residential structures. Unfortunately, if one engine/pumper was out of service due for mutual aid demands or mechanical failure, or if staffing levels are inadequate, we may not have enough apparatus on scene. When mutual aid arrives, they will have to begin mobilization of required apparatus and equipment. Anticipate extended response times. We have no intention of purchasing additional equipment to fabricate the water supply system for development.*

It is our opinion that it does not seem fair that the taxpayers and our mutual aid fire departments are expected to provide and fund NorthShores fire protection water supply system. They should have to provide infrastructure like similarity-situated developments capable of supporting the large-scale development.

4. What is the impact on homeowner fire insurance if the development is not designed to International Fire Code (IFC) standards?

Comments: *On March 15, 2018, Insurance Services Office (ISO) indicated the Fire District area Property Protection Classification (PPC) may be adversely effected due to the lack of secondary access road, non-approved fire protection water supplies, inadequate fire flow for the large size residential structures and for fire protection water supplies source extended distances. This development has the potential to negatively effect insurance rates for the entire Fire District coverage area.*

5. Why hasn't NorthShore accepted the need for public water? Did not DuneGrass development accept the need for public water?

Comments: It is our understanding that NorthShores proposed a dead-end water main and the DEQ would not allow it out of concerns for water quality control issues. NorthShores did not want the financial burden of looping the water main extended distances. Looping the water main would have eliminated water control issues and significantly increased fire flow. Dunegrass development originally proposed a "dead-end" main, however, decided to loop the water main to eliminate water quality issues and improved fire flow by 42% for the large residential structures they proposed.

6. How have other developments responded to the STFD recommendation that IFC standards apply to their development?

Comments: Yes. Most developers in our area are exceptional and very interested in community risk reduction planning and implementation. Access roads and fire protection water supplies were all IFC compliant. As a point of interest, 57 developers have extended over 82,400 feet of fire protection water mains. In recent years, 13 developers alone have extended approximately 17,000 of water main.

7. How is it that NorthShore does not have to have secondary access roads given the number of housing units that are included?

Comments: The 2012 Consent Judgement did not require a secondary access road.

8. Do you now have all requested documentation from NorthShore?

Comments: No. We have previously requested written Fire District approvals from the Township and Northshores on the site plan, standpipe location, water supply, site plan review for lots 6 & 7.

9. What could happen if there isn't a sprinkler in the proposed community building?

Comments: There is always the potential for injury to occupants, or the spread of fire to neighboring residential structures. Installing automatic fire sprinklers would assist in keeping the fire contained to the point of origin until the fire department can arrive and complete extinguishment.

10. How is the construction of the 2 new houses at NorthShore different from houses built in other developments?

Comments: Unlike other similarly-situated developments, the Fire District was not asked to review the site plan for either house. IFC is applicable to single family dwellings for address identification, access roads and fire protection water supplies, however, it was not applied to the two houses. Additionally, the two homes on lots 6 & 7 are significantly larger than homes in other developments.

11. What factors in the NorthShore development might be considered risky by insurers and prospective homeowners?

Comments: In our opinion, a single access road for 40-44 residential structures (regardless of what the Consent Judgement says), lack of approved water supply for fire protection, large square feet structures, limited fire department resources, no alternative safety requirements such as automatic sprinklers, lightweight construction, extended response times, frequent high lakeshore wind conditions, potential for delayed discovery of fire (second homes), combustible vegetation (2007 lakeshore fire), structural attachments and such as decks and porches.

12. If NorthShore succeeds in avoiding IFC standards, will it sign a release of culpability in case of fire?

Comments: Recommend the question be forwarded to NorthShores developer for a response.

13. Won't adjacent landowners and homeowners be at greater risk should a fire break out at NorthShore?

Comments: In our opinion, yes. The combination of single access road for a large-scale development of 40-44 homes, proposed marina with buildings, exposures, lack of approved water supply from one source and frequent high lakeshore wind conditions result in increased risks to all stakeholders. Please keep in mind that extended large diameter hose lays will obstruct driveways resulting in the residential dwelling occupants unable to leave from their driveways and development.

14. If water is to be suctioned from the river or lake, won't the intake pipes be at risk of blockage from a plastic bag, a balloon, or over time, from zebra mussels? What would be the impact if a pipe were blocked during a fire?

Comments: Yes. Concern was expressed by the Fire District and engineer for failure due to zebra mussels, duck weed, ice, boat impact, plastic bags, fish and turtles. The impact has the potential of loss of human life and property damage.

15. What is the impact of adverse weather on the ability of the STFD to fight a fire should NorthShore successfully avoid IFC standards?

Comments: There is concern for the single access road becoming obstructed due to downed trees and/or power lines. High winds are frequent on the lakeshore as evidenced by the severe erosion caused by elevated water levels and high winds. Excessive lakeshore effect snow accumulation may obstruct access or delay emergency response times. An acceptable alternative, as recognized by IFC, for a secondary emergency access road for more than 31 residential structures, is the addition of automatic sprinklers. The installation of sprinklers would be beneficial to all stakeholders.

16. Does STFD have the equipment needed to fight a fire at NorthShore?

Comments: No, not for a similar-situated fire attack. A fire at NorthShores requires the Fire District to provide a minimum of three apparatus, an engine/pumper to draft (suck the water out of the river) AND an engine/pumper for fire attack. Due the large size of the residential structures, the aerial ladder platform apparatus (3rd apparatus) is required for roof rescue, ventilation, elevated mater stream, and engine redundancy.

17. Do the dry hydrants currently installed at the two new single-family beach houses provide the minimum fire-flow requirements?

Comments: No, the two existing 6" dry hydrants are +/- 3,000 feet from the farthest home sites and cannot supply the needed gallons per minute for these sized structures. The friction loss from pumping water with fire engines extended distances in large diameter hose will significantly delay fire suppression efforts. Additionally, laying 3,000 feet of hose from the two 6" dry hydrants will likely cut the road off and property owners' driveways. The consequences are potentially trapping our residents in their homes and obstructing incoming mutual and automatic aid departments from getting their equipment close to the scene. Firefighters with SCBA's, tools, etc. may have to walk in as far as 3,000 feet to get to the fire scene.