



FireWise Consulting Ltd.

PO Box 253 Shawnigan Lake, BC

V0R 2W0

T 250.812.9830

www.firewiseconsulting.com

Helping the Fire Community Succeed

Mayne Island Fire Rescue Report

A Report on a Fire Hall Replacement Plan, Staffing, and Operational Status



Prepared by:

M.G. (Glen) Sanders

August 31, 2011

Table of Contents:

1.0	Executive Summary.....	4
	Summary of Recommendations.....	8
2.0	Introduction	
	2.1 Disclaimer	9
	2.2 Background.....	9
3.0	Methodology	
	3.1 Description of Services Part 1	13
	3.2 Description of Services Part 2	13
	3.3 MIID/MIFR Site Visit	13
	3.4 Document Review	14
	3.5 Draft Report.....	14
4.0	MIFR Status.....	15
	4.1 MIFR Authority.....	16
	4.2 MIID Policies	17
	4.2.1 Recommendation.....	18
	4.3 MIFR Equipment	18
	4.3.1 Recommendation.....	20
	4.4 MIFR Facility	20
	4.5 MIFR Dispatching.....	22
	4.6 Firefighting Water Supply.....	22
	4.7 Wildland Interface.....	23
	4.8 Staffing.....	23
	4.8.1 Fire Chief Position	23
	4.8.2 Deputy Fire Chief Position	25
	4.8.2.1 Recommendation	26
	4.8.3 Firefighter Remuneration.....	26
5.0	Mayne Island Volunteer Firefighter Association.....	26
6.0	Conclusions.....	27
	6.1.1 Recommendation.....	30
	6.1.2 Recommendation.....	30
7.0	Summary.....	30
	Appendices.....	34
	MIFR Photo Gallery.....	48

Appendices

Appendix A NFPA 1720 Standard.....	33
Appendix B Fire Underwriter Survey & Grading Requirements.....	41

List of Report Abbreviations

FWC - FireWise Consulting Ltd.	FIT – Fire Interruption Technology
AHJ - Authority Having Jurisdiction	CISD – Critical Incident Stress Debriefing
OFC - Office of the Fire Commissioner	I/C – Incident Commander
LAFC – Local Assistant to the Fire Commissioner	FUS - Fire Underwriters Survey
MIID - Mayne Island Improvement District	NPFA - National Fire Protection Association
MIFR – Mayne Island Fire Rescue	PEP – Provincial Emergency Program
MIRRA – Mayne Island Residents and Ratepayers Association	SAR - Search and Rescue
MIVFA – Mayne Island Volunteer Firefighters Association	FSA - Fire Services Act
OG – Operational Guideline	

1.0 Executive Summary

A fire department exists not for what it does; it exists for what it may have to do.

Once the decision to establish a fire department has been made by a local government it then is obligated to ensure that a reasonable Duty of Care and then the corresponding Standard of Care is being met. The Mayne Island Improvement District (MIID) has been responsible for the Mayne Island Fire Rescue (MIFR) since its inception in 1964 as one of the services it provides to the residents of the island.

The 5 MIID trustees are elected by the eligible voters of Mayne Island to oversee the administration of the services they provide to the residents and visitors of Mayne Island and to meet the Duty of Care and Standard of Care in all respects including fiscal accountability.

MIFR needs a new fire hall. The existing building has many issues and its replacement is not in dispute. Much time, effort and expense has been spent over several years to determine what should be done to replace this fire hall. MIID has large fiscal challenges in managing the money it collects from the limited property owners on Mayne Island. Mayne Island has approximately 1100 permanent residents with many more part time residents and visitors, especially during the summer months. The fire hall replacement referendum held March 12, 2011 had 1223 ballots cast that resulted in a resounding no vote being recorded to borrow \$3.4 million for a new fire hall and site re-development project.

The rejected proposal was the effort of a Task Force who spent countless hours developing a scaled back Class B Design plan to build a new fire hall and redevelop the site. The Class B Design proposed a 5 bay fire hall with offices, meeting room, gear locker room and other specified and dedicated spaces for specific needs. The Class B

Design was not as expensive as the first proposal which was projected at \$4.2 million. That proposal was withdrawn and the referendum for it was cancelled.

The rejected Class B Design proposal involved relocating much of the existing infrastructure and an old schoolhouse building on the property which added significantly to the cost. A temporary structure would have also been required to house the firefighting equipment while the project was underway. The proposed fire hall structure was an attractive architecturally designed. The entire project would have been managed by a respected project manager experienced in this type of undertaking.

Upon review of the proposal, it became apparent that another approach to the project was needed. In view of the scope of the existing infrastructure and the need for MIFR to operate and train without compromising their ability to deliver the service, a larger site is required. A recommendation is made in this report that one acre of land be purchased along the western boundary of the existing site and a suitable 6 bay fire hall be constructed on this additional land to allow easy access and egress of emergency vehicles. Once the new fire hall is built and occupied, a long range plan on how to re-purpose the old fire hall and re-develop the site can be developed. In the interim, the fire department can continue to operate using the existing facilities.

The priority is to build a new fire hall. To reduce cost, the re-development of the existing site can occur later and should not be linked as one major project.

Fire departments require more than a garage to park vehicles. They require specialized rooms for air compressors, cleaning self contained breathing apparatus, and meeting rooms for training and debriefing. They require rooms to hang their personal protective gear so it is easily accessible when an emergency incident occurs and yet not contaminating other equipment or fire hall spaces. There is a need for special exhaust extraction systems and radio communication equipment and antennae. There is need

for storage of spare fire hose, equipment, and the seasonal equipment not always located on the apparatus.

Because of building code requirements a new fire hall must comply with a higher Post Disaster Standard than ordinary structures. Building design and construction materials must be compared for cost effectiveness and functionality. Annual operating and maintenance costs of one construction type over another must be compared and forecast over the life expectancy of the building to ensure a savings on initial costs will not result in high operating and maintenance costs over time.

The MIFR has a core group of firefighters trained to NFPA Standard 1001 firefighter Level II by an accredited institution. This is a very high standard and there are few institutions and facilities in the province able to provide this accredited level of training. MIID does not have a written policy statement stating that this is the acceptable training level. In many other jurisdictions the level of training is to the Basic Fire Fighting Certificate with a corresponding policy statement from the AHJ about interior fire attack. A high training standard is a recruiting incentive to some potential firefighters who are ultimately looking for a career in the fire service. To achieve this career goal, firefighters trained to this high level would not be able to find employment as a career firefighter on Mayne Island and therefore would have to relocate. Can the MIFR and MIID justify investing all this training time into a firefighter who may be a member of MIFR for only a few years? The upside of that question is that during the time these goal oriented members are on their career quest, MIFR derives the benefit of their motivation and skills.

Recruiting and retaining volunteer or paid on call firefighters is a universal problem. MIFR is fortunate to have the number of members it does from relatively small population demographic to draw from. MIFR and MIID have been innovative in the strategies implemented to retain members over the years. One of the proven

strategies in retaining members in other departments is to have a personally challenging training program where members continually learn new skills as the industry evolves. MIFR is doing that.

The fact that the community is on an island poses large challenges for MIID. Outside help can be a long way away. Property owners and residents expect many of the same services as would be found in a large metropolitan community. Fires, accidents, injuries and sudden illnesses occur in all communities. Emergency services are important to a community because they save lives, reduce pain and suffering and in the case of fire, reduce property loss. These services are provided by MIID through MIFR and are a substantial benefit to the residents of Mayne Island. The MIID trustees have been challenged by the community to ensure that the taxpayer money being spent is appropriate for the needs of the community and that the services provided will not exceed the taxpayer's willingness to pay.

This report comments on certain aspects of the operation of MIFR and a replacement fire hall. It also offers comments on specific topics within the Terms of Reference as detailed in Section 3.1 and makes 5 recommendations.

It was our pleasure to have undertaken this project.

Summary of Recommendations

4.2.1 Recommendation

MIID should create a comprehensive policy manual that is continuously reviewed and updated as required.

4.4.1 Recommendation

MIID should keep the 1996 MIFR Engine 1 as a reserve engine when it is due to be replaced in 2016.

4.8.2.1 Recommendation

MIID should analyze if the tasks the Deputy Chief receives compensation for outside of his employment contract and job description should be included in an expanded job description, contracted out to other service providers or if some of these specific tasks could be done by the firefighters.

6.1.1 Recommendation

MIID should consider purchasing 1 acre of land adjacent to their property to construct a new 6 bay fire hall or another suitable site for a new fire hall.

6.1.2 Recommendation

Since a new fire hall is a priority and since cost is a factor, a new fire hall should be separated from as much of the site re-development as possible.

2.0 Introduction

2.1 Disclaimer

This report is being submitted for your review and consideration. FWC makes no representation or warranty to the Recipient with respect to the information and shall not be liable for any errors or omissions in the information or the use thereof.

2.2 Background

The MIID is a board of five elected trustees. It has been established by Letters Patent issued by the Province of British Columbia in 1964 and 1983 through enabling legislation contained in Part 23 of the **Local Government Act**. The MIID is empowered to levy taxes to support the provisions of fire protection, garbage collection and the operation of the Mayne Island Health Centre “and all matters incidental thereto”.

The history of the MIFR department in any organized fashion starts in 1964 with the formation of the MIID. The fire hall was constructed in 1968 and is a two storey concrete block and wood frame building. Over the years the building has been modified and some sections re-purposed to suit the progression of the MIID and MIFR. The department fleet has increased in size to the point that there are 3 critical pieces of apparatus which may be required for firefighting that are not kept in the fire hall and therefore are left unsecured and in the cooler winter months they are empty of water.

The need for a new fire hall was recognized as far back as 1994 but over the years the existing building was renovated or added on to which accommodated the changing needs of the expanding fire department. In 2001 and 2005 structural reports were received on the condition of the facility. Fire hall designs and reports were produced between 2005 and 2007. In the fall of 2009, a referendum was scheduled seeking voter approval for a \$4.216 million emergency services facility with an Emergency Operations Centre as part of the plan. The scheduled referendum was cancelled and a task force of community members was created to look at all options and to redesign a

smaller facility than was proposed in the cancelled referendum. The task force did considerable work on a "Class B" design and made a recommendation that MIID *"proceed to referendum to borrow up to a MAXIMUM of \$3.4 million"* for the project. A referendum was then held on March 12, 2011. The vote was 817 against and 414 in favour.

There are undoubtedly many reasons why the referendum was defeated but there is no arguing with the results of the decisive vote by the community.

The Mayne Island Residents and Ratepayers Association (MIRRA) is a properly constituted and registered society of community minded citizens that was founded to interact with the various levels of government over issues of concern to the property owners on Mayne Island. The MIRRA took a "no" position on the fire hall referendum issue and made a considerable effort in getting the reasons for its "no" position out to the residents and ratepayers. The information the MIRRA circulated contained contrary information to the Task Force with respect to the building design, construction type and cost.

The MIRRA information also expressed frustration on the part of voters to approve borrowing \$3.4 million dollars without knowing if they would be taxed on assessed value of their property or by means of a parcel tax. The argument was made that assessed value taxation would have a large impact on property owners whereas a parcel tax would mean each property would be taxed the same rate based on the amount to be borrowed. The parcel tax could be justified because it would treat each property equally. The lack of information about taxpayer cost on an individual basis may not have been adequately explained and may have been a factor in defeating the proposal.

There is also a registered society known as the Mayne Island Volunteer Firefighters Association (MIVFA) made up of the firefighters from MIFR. The MIVFA position in the fire hall debate and publicly stated that position through an open letter published in the August 2009 edition of the MayneLiner, a local newsletter. The MIVFA statements

in their letter if taken at face value may have been upsetting to some members of the public. The MIVFA leases an historical building on the MIID property and has exclusive use of this building as a "Firemen's Association Hall". The relocation and re-roofing of this building was part of the rejected new fire hall project.

Regardless of the results of the March 12 referendum, the MIFR still requires a fire hall. There is no argument in the community over that fact that a new fire hall is required and the MIID board of trustees is working toward that end.

On April 16, 2011 the Annual General Meeting of the MIID was held. Three new trustees were elected at that meeting and the two sitting trustees who were elected in 2010 continue to serve out their terms. The activities of the MIID and the MIFR during the last year were presented as part of the agenda. The newly constituted MIID board of trustees recognized their responsibility to develop a new plan for building a new fire hall and to look for efficiencies that might or could be gained in the operation of the MIFR.

For several years now the MIID has agreed to have a paid or full time career Fire Chief. Fire Chief Jeff Francis has served as Fire Chief since 2004 and has a formal employment contract which is reviewed annually. The wages of the Fire Chief are established annually by the MIID board of trustees as part of their operating budget process. The Fire Chief has a job description that is typical for most Fire Chiefs, with one unusual exception to this being his duties relating to the heliport.

In September of 2009 an employment contract with Deputy Fire Chief Steve DeRousie was signed. His contract is to be reviewed annually and his remuneration adjusted. Deputy Chief DeRousie has a separate job description from the Fire Chief and his main responsibilities are Fire Prevention, Training and Operating Divisions of MIFR. The employment contract is a salaried position for 3 days per week and full time holiday relief when the Fire Chief is on leave, at which time the Deputy Fire Chief assumes the duties of the Fire Chief. The Deputy is also paid to perform other work such as

website design and management, hose testing, inventory checks and other unspecified work outside of his employment contract.

The Fire Chief and Deputy Fire Chief have organized their work schedules so that one of them is always on duty during the daytime with both of them on duty Tuesdays. They also receive additional compensation for pager pay which is a stipend for key fire officers who are on call and ready to respond in case of an emergency incident.

As part of the process the MIID have undertaken to look for efficiencies in the operation of MIFR, they have engaged the services of FWC to conduct an Audit and Inspection of the MIFR and to comment on other aspects of its operation as outlined in Section 3.0 of this report.

3.0 Methodology

3.1 Description of Services Part 1

FWC will provide the following services (collectively called the “Services”):

- (a) Conduct an inspection and audit of the MIFR based on the 2010 Office of the Fire Commissioner and Chief Coroner for British Columbia checklist to determine the extent to which they meet Provincial Fire Service Standards; and
- (b) Produce a report on the findings of the inspection and audit process stating the current level of operational readiness and make recommendations to address deficiencies identified in this report.

3.2 Description of Services Part 2

- (c) Determine the level of fire service appropriate for Mayne Island by comparison to other similar communities;
- (d) Review and make recommendations on current job descriptions, remuneration, and division of responsibility among senior officers of the fire department;
- (e) Review the remuneration of the firefighters;
- (f) Review the proposed new fire hall design to determine if it will satisfy the long term needs of the fire department and the community;
- (g) Identify other governance or operational deficiencies in the operation of the fire department and make recommendations to address the deficiencies identified; and
- (h) Appear before the MIID Board of Trustees after the reports have been delivered if required.

3.3 MIID/MIFR Site Visit

A site visit to the MIID and MIFR was made on July 22, 2011 as part of the Inspection and Audit process to conduct visual inspection of the MIFR apparatus and equipment. Fire Chief Jeff Francis and Deputy Chief Steve DeRousie were able to give the consultant a tour of the community so a cursory risk analysis of Mayne Island could be determined. They also spent time explaining the record keeping and specialized forms used in the department.

A meeting with 4 of MIID trustees was held where information was exchanged and discussed.

3.4 Document Review

A document package was received from the MIID trustees. This included operating and capital budgets, Bylaw 46 and Amendment Bylaw No 112, employment contracts, employee wages for 2011 and proposed wages for 2012, the MIFR Service Building Task Force power point presentation, an alternative building plan, plus other relevant documents from the MIID.

Chief Francis and Deputy Chief De Rousie provided a computer drive with comprehensive documents for all the MIFR operations. These included maintenance records, training records, incident reports, maps, internal forms in use to record such things as breathing air bottle refilling information, hose testing records, training calendars, ladder testing records, breathing air quality test results, fit testing records and many other documents.

Reference to NFPA Standard 1720 Standards for A Volunteer Department was also made and is attached as Appendix A.

FUS was also referenced to see if or how improvements to the FUS rate for Mayne Island could be made. Information with regard to FUS is attached as Appendix B.

3.5 Draft Report

A draft report was prepared for the MIID.

4.0 MIFR Status

Definition of a Recognized Fire Department

(As developed by the Fire Safety Advisory Council (FSAC).

A recognized fire department is a group of persons formally organized as an authorized service of a municipal or other local government having a sustainable source of funding, which could include taxation, fees for services provided, contracts, permit fees or other reliable sources of revenue which will support the cost of services provided. Also required is a minimum number of trained persons able and equipped to respond with motorized fire fighting apparatus to extinguish fires or to respond to other classes of circumstances which may occur within a designated geographical area.

An Inspection and Audit was conducted to determine the status of the MIFR in comparison to recognized standards and regulations for equipment, training, authority, policies, operating guidelines, communications, Occupational Health and Safety Programs and industry best practices.

The inspections and audits are based on a checklist developed by the OFC as directed by the Chief Coroner in response to the tragic line of duty death of a volunteer firefighter. The inspections and audits are not a mandatory requirement but are encouraged in the interest of risk management. As part of our engagement a separate detailed report on the status of the MIFR was prepared.

The MIFR is a very well organized and operated fire department. The training is to a high standard and the equipment is well maintained. The number of firefighters ready to respond to emergencies is high level due to the way the department is organized. There is always an on-duty staff member available during the daytime and assigned duty officers accessible for nighttime calls. There are also senior officers who receive remuneration as “pager pay” to ensure adequate trained and

experienced firefighters are on hand. The incident reports show that there is sufficient firefighting force available to comply with the FUS requirements.

4.1 MIFR Authority

The MIFR derives its authority from Bylaw 46. It is our understanding that the MIID trustees are considering Bylaw No. 212 as a proposal to amend Bylaw 46. In the proposed amendment, it is recommended that Section 6 should also include a reference to a MIID Policy on out of district response giving direction how the district would remain protected and not stripped of all its resources should an out of district response occur.

Section 6.1 (b) should also be changed to read simply “rescue”. Search and rescue is normally done through a PEP/SAR group but since the community of Mayne Island is an island, any PEP/SAR group would have a lengthy response time. If SAR is an authorized function there should be a MIID policy that it is for land based operations only and not on the water. SAR can be very time intensive which can be costly when your firefighters are paid an hourly rate. From a purely financial perspective it is advisable to drop the “search” and just include “rescue” function.

The wording in section 6.1 (c) III should be changed to read “motor vehicle incidents”.

Authority to perform pre-fire planning is also a benefit to the fire department and should be included in the bylaw.

Some other general comments on Bylaw 46 and the proposed Bylaw No. 212 would be to reference Section 21 of the **Fire Services Act** for the conferred authority. That could include the authority to have a building demolished if it poses a fire threat to the community for example.

As a matter of policy, the MIID should state their position on fire investigation.

Chief Francis is an appointed Local Assistant to the Fire Commissioner (LAFC) and

his obligation as a LAFC is to “investigate all fires in a general way”. The authority to investigate fires could also be included in a bylaw if at some point there was no LAFC appointed for Mayne Island.

In the employment contracts for Fire Chief Jeff Francis and Deputy Chief Steve DeRousie there are references to the “District Fire Protection and Suppression, and People Regulation Bylaw”. Enquiries to the MIID and to the Fire Chief have determined that this bylaw does not exist. This reference should be taken out of the employment contracts unless it is found to exist. If this bylaw does exist it should be carefully reviewed by a municipal law professional with regard to the wording.

A clause in the establishing bylaw should be included that indemnifies the Fire Chief and other senior officers and which is linked to the Public Officials Errors and Omission liability insurance coverage the MIID should have already in place.

There is also no reference in Bylaw 46 or proposed Amending Bylaw 112 regarding responsibility for or operation of the MIID Heliport by the MIFR. Section 6 of the Fire Chief’s and Deputy Fire Chief’s employment contract assigns the duties of Heliport Manager as set out in the Mayne Island Heliport Operations Manual.

A thorough review of the establishing bylaw(s) by a municipal law professional should be undertaken to ensure it contains authority for MIFR to perform all the functions and services the MIFR now provides to the community.

4.2 MIID Policies

The MIID should develop a policy manual for its operations. Policies from the elected officials who are the AHJ are essential to the operational staff who delivers the services as authorized in a properly enacted and registered bylaw. Written policies that set training levels which are acceptable to the MIID for the different services provided should be created. Policies can also limit or restrict what services

a fire department will provide. Examples of this would be a policy to have an Occupational Health and Safety Program, or a written policy that states the MIFR will not respond to certain types of incidents such as shipboard fires. Other examples of a MIID policy would be a workplace violence policy, a use of alcohol policy on MIID property, a policy on disciplinary or dismissal appeal process, a policy on specific operations such as hazardous materials, directing traffic, fire investigation, use of social media, use of MIID equipment, and website content.

Two specific policies that the MIID may wish to consider, deal with the frequency of ladder testing and hose testing. As a matter of practice, MIFR has the ground ladders non-destructive tested bi-annually. Since ladders and fire hose do not get used frequently annual testing may be excessive. A formal policy from the AHJ should be in place and a MIFR operational guideline developed to document the actual use of ladders and fire hose in fire situations or in training evolutions to clearly record the use they have been subjected to. By maintaining accurate records a strong case can be made to defend bi-annual testing as a policy from the MIID and not an operational decision made by MIFR.

4.2.1 Recommendation

MIID should create a comprehensive policy manual that is continuously reviewed and updated as required.

4.3 MIFR Equipment

The MIFR equipment is well maintained. The fire pumps are serviced regularly and the small tools and equipment are organized according to seasonal requirements. The breathing apparatus is maintained in accordance with the manufacturer's recommendations and WorkSafeBC regulations.

The fleet is current with respect to FUS and ULC age requirements. The frontline engine was built in 1996. A replacement plan should be implemented so a replacement engine is in service in 2016. This current unit, Engine 1, should be kept as a reserve engine. The MIFR has only one engine capable of producing the required fire flows for a major structure fire. With only one engine on the island any type of driving accident, mechanical breakdown or major repair would jeopardize the ability of MIFR to deliver fire protection to the community. Simultaneous fires would also create a logistical issue. A reserve engine can also be beneficial for training and other purposes. An older used fire engine does not have very high resale value but could continue to provide working or operational value to a community.

Other MIFR apparatus

includes a water tender with small fire pump for filling the tank and attacking small fires. There are two water tenders with portable pumps for filling the tanks and a



Rapid Attack engine with a compressed air foam system for bush fires. This truck also carries rescue equipment such as auto extrication tools and other rescue equipment. It is equipped with first medical response gear and is the primary response vehicle for this type of incident.

The command vehicle is a multi-purpose vehicle that carries a portable tank that is set up on the ground so the water tenders can dump water into for the engine to draft from providing a water supply to attack a fire. This truck also has a small capacity water tank with a pump for attacking minor bushfires. It is also able to tow the Southern Gulf Islands Emergency Program trailer kept on the MIFR property.

4.3.1 Recommendation

MIID should keep the 1996 MIFR Engine 1 as a reserve engine when it is due to be replaced in 2016.

4.4 MIFR Facility

The MIFR does not have an adequate fire hall. This has been thoroughly debated and is not in dispute. The issue of the design, construction type, location, and cost are issues to be resolved by the concerned parties.

The proposed Class B design that was publicized and presented by the fire hall Task Force was for a 5 bay fire hall. A 5 bay fire hall would only accommodate

the current fleet with no additional capacity for expansion. There was no provision for the command vehicle to be kept inside.



The Class B plan did have a satisfactory site plan but it also added considerably to the overall project cost. There is a lot of infrastructure on the present site that must be taken into consideration when planning for a new fire hall.

Considerable money has been spent on an emergency standby generator, owned and operated by the MIID that is located to the North of the existing fire hall toward the ambulance station. There is also an underground water tank directly in



front of the fire hall located under the concrete apron. To the rear of the fire hall there is an old wood structure that was built as a hose drying and training tower. To the West of that is a concrete bulkhead that supports an elevated water tank. There is also an above ground water tank directly behind the fire hall rear stairs that catches rain water and an above ground water tank farm located behind the old hose tower structure. With the exception of the large concrete bulkhead which would take some money and effort to relocate, these tanks could be relocated to another location on the site as required.



A complicating factor is also the old schoolhouse building that is situated approximately 20 feet to the southeast corner of the existing fire hall. It will have to be moved regardless of what type of fire hall is built over the existing fire hall footprint.

4.5 Fire Dispatching

Fire dispatching is done by Langford Fire Dispatch. It is part of the Capital Region Emergency Service Telecommunications (CREST) system. This system appears to be working satisfactorily for MIFR and is being constantly upgraded and improved.

4.6 Firefighting Water Supply

There are limited fire hydrants on Mayne Island. The fire department and the community have installed dry hydrants in various locations for



drafting. There are at least two other locations where access to ponds have been provided for firefighting water sources.



MIFR is developing a plan to achieve a Superior Tanker Shuttle Service Accreditation through FUS. Without having all the MIFR tenders equipment kept in a fire hall this would not be possible because of FUS requirements to have the critical apparatus kept in a secure heated building. It is also our understanding of the procedure that it would be unattainable with only one fire engine because the fire service must have available equipment and manpower to handle

a second emergency call. More information on the Superior Tanker Shuttle Service Accreditation can be found at the following web site:

http://www.fireunderwriters.ca/dpg_e.asp.

4.7 Wildland Interface

There is a significant wildland interface issue on Mayne Island. MIFR has realized this and has properly equipped itself to deal with this type of fire.

4.8 Staffing

The MIFR relies on paid on call firefighters to deliver fire services. The definition of a volunteer firefighter is someone who does not derive their primary income from being a firefighter. The paid on call firefighters receive \$15.00 per hour for training and a call out.

The Captains and Lieutenants of the department also receive a yearly pager pay and an hourly wage for training and a call out. There are currently 26 members listed on the roster. Many members who have served for numerous years and the turnover is relatively low. The number of active and trained members should be maintained to ensure there is always an adequate firefighter force available.

4.8.1 Fire Chief Position

The Fire Chief is fully compensated for the service he provides to MIID and MIFR. His job description includes what a Fire Chief would normally be expected to do in another fire department but there are two additional responsibilities in his job description that are outside mandated responsibilities of a Fire Chief in a non-municipal department. They are to *“Participate in the local and regional emergency planning process and; Manage the heliport”*.

These are both worthy functions and can be justified in the Fire Chief’s job profile. However, Emergency Planning may consume a lot of time. At present, the Fire Chief does participate in the Emergency Planning and when a local or regional disaster occurs he would be expected to be directly involved due to his expert

knowledge of the community. This responsibility is not a mandated responsibility for MIID. The MIID trustees over time have chosen to be part of this Regional District function at their own expense for the good of the community.

The heliport manager function in reality does not appear to take much of the Fire Chief's time but it is an added responsibility that does have some technical knowledge requirements and training. There is also some management time involved to ensure the facility is properly maintained.

The Fire Chief has arranged his schedule to be complemented by the Deputy Fire Chief's schedule to ensure the district has senior fire officers available.

The job description for the Fire Chief seems appropriate for the service level established by MIID. The Fire Chief's employment contract acknowledges that he is a "manager" and refers to the ***Employment Standards Act*** of British Columbia. As a "manager" there is also an expectation that the Fire Chief will have major operational duties as outlined in MIID Bylaw #46.

If Section 4 of his employment contract is taken at face value, the Fire Chief "*employee shall devote the whole of his time, attention and ability to the business and affairs of the District*". Perhaps that should be amended to read that "*the employee shall devote all of this time as set out in section 5 of this Agreement, etc*".

The current Fire Chief's compensation is slightly below what other paid fire chiefs receive for similar work. It is not fair to compare MIFR to other communities of similar size due to previous MIID board decisions who have chosen to have a paid fire chief and a high level of training and response capabilities. There are other remote communities who do not enjoy mutual aid agreements and who have similar population statistics but they also do not provide the same level of service.

In a small community such as Mayne Island with approximately 1100 permanent residents it is understandable that a paid fire chief position would be controversial and objectionable to some. A fire chiefs' salary will vary from community to

community. The rate payers have given direction to MIID that the salary paid to the Fire Chief is beyond what the community can afford. The MIID is committed to managing the budget and keeping taxes affordable for the services they provide to Mayne Island. A cut in the Fire Chief's salary could result in a cut to some of these services. If the Fire Chief's job description is re-written, perhaps things like the emergency planning function or Heliport manager services could be taken out and these services taken over by another government agency.

4.8.2 Deputy Fire Chief Position

The Deputy Fire Chief position is a part time paid position that is for 24 hours per week and for full time relief when the Fire Chief is on annual leave. He is also compensated at an hourly rate for call outs and training.

The Deputy Fire Chief is primarily the Training Officer. His job description also specifies managing fire prevention. In most municipal fire departments part of fire prevention is inspection of the public buildings in the community for fire safety code compliance. Public Fire Education is another part. There is no mandated responsibility for an improvement district to inspect the public buildings in its boundaries with regard to fire code compliance. There is a liability risk associated with doing fire inspections and they are an added expense MIID does not need to necessarily incur. They are also not specifically authorized in MIID Bylaw 46. Fire Education is a very worthwhile endeavor for any fire department to undertake and a fire education program should be an ongoing function.

Other specific functions such as website design and management, hose testing, fire safety inspections, inventory etc. are contracted out to the Deputy Fire Chief due to his training and ability. MIID should analyze the other contracted duties undertaken by the Deputy Fire Chief and determine whether these duties should be incorporated in the Deputy Fire Chief's job description or contracted out to other service providers.

Functions such as inventory checks could be done by the firefighters who will benefit by the knowledge of where supplies and equipment are stored and the state of their condition.

4.8.2.1 Recommendation

MIID should analyze if the tasks the Deputy Chief receives compensation for outside of his employment contract and job description should be included in an expanded job description, contracted out to other service providers or if some of these specific tasks could be done by the firefighters.

4.8.3 Fire Fighter Remuneration

The compensation of the paid on call firefighters is in line with other communities. The MIFR Captains and Lieutenants do receive more than other departments due to their pager pay.

5.0 Mayne Island Volunteer Firefighter Association

The firefighters of MIFR have an association known as the Mayne Island Volunteer Firefighter Association (MIVFA). They have their own executive and directors as required by the Registrar of Companies for any society. It is not clear what the purpose of this association is. We were not provided with a great deal of information on the MIVFA. Typically firefighter associations serve a useful purpose of a benevolent nature, organize social events or assist in ensuring the needs of firefighters' families are met during times of disaster or major incident.



As mentioned previously in this report the MIVFA went public with their position on the replacement fire hall project before the referendum. It is hoped that the

MIVFA is a responsible organization that would never hold its community hostage by implying they would withdraw their services if they do not get what they think they deserve. The MIID has agreed to a compensation package that thousands of other volunteer firefighters in Canada would be privileged to have.

We do understand that MIID leases the old schoolhouse building to the association for \$1.00 per year. MIVFA use the building mainly as a social hall but the fire department does use it for some meetings and training because of lack of suitable space in the fire hall building.

MIVFA must understand that it is not the responsibility of MIID to provide the firefighters with any type of social room. When a new fire hall is built, there should be a meeting room that could also serve as a social room for the firefighters. A use of alcohol policy by MIID must be developed for the MIFR if a meeting room or other MIID facility is to be used for social gatherings.

The priority of the firefighters and the MIID should be to have a new adequate fire hall facility constructed that will allow for the expensive critical equipment to be housed in a secure, warm and dry building and which also has a large meeting/training room, offices, storage and other dedicated space typically found in a fire hall. Linking what should to happen to the old schoolhouse to a new fire hall adds expense to the project which should not be part of a new fire hall plan at this time.

6.0 Conclusions

MIFR is well organized and managed. Analysis of recent incident reports reveal there is sufficient manpower available. It will always be a challenge to recruit new members to maintain the roster numbers due the nature of the work, the time commitment, the limited population and the fact that there are few employment opportunities on the island to recruit and retain younger members.

Being a member of a fire department in a small community involves much personal discipline and sacrifice. Firefighters are known in the community and are easily identified. The community expects and deserves a high degree of professionalism from their firefighters. They are on call 24/7 and because the fire department is a monopoly there are no second services to call. When the call for help goes out the available firefighters are expected to arrive and take care of the problem with an extraordinarily high degree of customer service. The members are being observed in the community at all times and the only way they can truly get any down time is to leave the island. Being on call or standby can be, and is at times stressful for not only the firefighters but also their families. A call for assistance to a customer having a bad day can quickly turn into a bad day for the responding firefighters' families as well as family time or sleep can be interrupted. All the goodwill firefighters generate helping their neighbors in their time of need can be lost later the same day because of their personal activities. The public respects the time and effort the firefighters make to keep the community safe. This does not translate into a sense of entitlement however for the firefighters and there must be a degree of mutual understanding and respect that the level of service is appropriate and affordable.

The Class B design for the defeated fire hall project was expensive and would have resulted in a 5 bay fire hall that would only meet the existing MIFR needs with regard to housing the large fire apparatus in a warm, secure space. There was no excess capacity for future apparatus acquisitions and one vehicle in the current MIFR fleet would still be parked outside. This design would barely meet the needs of the existing fire department.

The meeting room, office space and other rooms in the proposed design are necessary for the efficient operation of a fire department and should be included in one building. Sprinklers in any building are a nice feature and should be

considered but ultimately the size of a new fire hall will be the determining factor if fire sprinklers are required because it will become a building code issue. Other fire safety systems such as an automatic fire alarm system which goes directly to the dispatch centre if a fire in the building is detected should be included in a new fire hall design.

The site plan in the Class B design made good use of the site but it would necessitate the relocation of the old schoolhouse building and other infrastructure, which would have added significantly to the overall project cost.

MIID should consider acquiring 1 acre of land to the west of the property they currently own. Buying more land for a new fire hall may require re-zoning which could delay the construction of a new fire hall. If it is not possible to acquire land adjacent to the west, another fire hall location could be considered. They should also consider building a new 6 bay drive through fire hall on the newly acquired land. This would allow the existing building to be used until a new building is built and ready to occupy. This would save the district money because all of the existing infrastructure could remain as is. The old school house could remain in its current position as could the tank farm, the elevated tank and hose tower. A long term master plan should be developed by MIID that would determine how the site can be re-organized, allowing for a capital plan to be laid out and a long term budget to be prepared.

Our research on available land has revealed that as of September 14, 2011, there was 5.29 acres of land at 473 Felix Jack Road which was listed for sale for \$239,000.00. This is more land than required for a fire hall but the asking price would indicate that this land is for sale at less than \$46,000.00 per acre.

6.1.1 Recommendation

MIID should consider purchasing 1 acre of land adjacent to their property to construct a new 6 bay fire hall or another suitable site for a new fire hall.

6.1.2 Recommendation

Since a new fire hall is a priority and since cost is a factor, a new fire hall should be separated from as much of the site re-development as possible.

7.0 Summary

The MIID trustees are challenged with managing the district budget and yet still offer value for the money collected from taxpayers for all the services the MIID provides. A fire department is an important service for any community. MIFR is under scrutiny because of relatively high operating budget in comparison to other communities and the dramatic increases in the mill rate for fire protection that would have resulted if the March 12 referendum had passed.

Previous MIID boards of trustees determined that the current level of service was appropriate for Mayne Island. They chose to have a paid fire chief and part time paid deputy fire chief to ensure the department was organized, equipped and trained so that an adequately equipped and capable firefighting force was always available.

The firefighters on MIFR are compensated for their time spent in training and responding to emergency incidents. MIFR is well organized and managed. The way the staff is organized guarantees that there are always trained and experienced firefighters available and ready to respond. The high training standards set for the MIFR members provide challenging opportunities for the members to grow personally and to learn new skills. This level of certified training is expensive and time consuming to achieve. The MIID trustees need to establish in consultation with fire department officers, what level of training is

acceptable to the community for all the services MIFR delivers and put that into a written policy.

Fire protection services are expensive but there are usually tax offsetting savings in fire insurance premiums that are realized by having a properly funded and administered fire service in a community. With having a paid Fire Chief the district does enjoy a slightly higher FUS rating than other communities who do not have a paid Fire Chief.



In British Columbia fire and rescue services are a local government service and not provincially mandated like police or the ambulance service. There is no requirement to have a fire department. It is a purely local government decision to establish and operate a fire service. A fire department is a monopoly. There is no other service available in a community that provides fire and rescue services. The residents of community with fire protection have made a large investment in their fire department. Once a community establishes a fire department they have an obligation to ensure the service is maintained and equipped and that their community investment is looked after so the fire department can properly provide the service the public expects.

A volunteer or paid on call firefighting workforce is subject to the same WorkSafeBC regulations as any employer or worker. Bill C45, a federal government bill on the protection of workers could have implications for a local government if workers (paid on call firefighters) are ordered to do work with

unsafe, substandard equipment or a wanton neglect for safety. The implications in Bill C45 are not a major concern for MIID because MIID is a publicly funded body and not a for profit organization. In our research we have not found any action brought against any local governing body responsible for a fire department as a result of Bill C45. This legislation is something to be aware of however and reinforces the need for first rate equipment, high quality training, adequate worker supervision, and safe work practices.

A fire department exists not because of what it does. It exists for what it may have to do. The vast majority of people live their whole lives and never experience the effects of a devastating fire but most fire departments do more than just fight fire. Most fires are accidental in origin. New construction materials and building codes that are now common to most communities have resulted in the decline of fires. Fire safety programs are also proving effective in preventing fires. A working smoke alarm has proven to be the first line of defense



in saving lives and reducing property damage.

Creating a fire department is purely a local government decision which is supported by the community. This community support first of all

is monetary. The community decides if they want to pay to have a fire department. The authority to deliver the service must also be granted. This typically is done by a local government such as a regional district. Legal authority for taxation purposes, establishing the service area, and reporting must be in place. An establishing bylaw is also required that grants the fire service legal authority to deliver the services as specified in the bylaw.

Once the decision to establish a fire department has been made, it is a long term ongoing financial commitment. Fortunately there is also community support in the form of volunteers who are willing to learn the skills required for the services that a fire department provides. These volunteers are the only way most fire



departments in North America survive. Without the labour of volunteer firefighters, most small communities would not enjoy any of the benefits that a fire department can provide.

The elected officials of a community with constituent input determine the level of service that their local fire

department will provide. Some fire departments only provide fire fighting services. Over time there has been considerable “service creep” and fire departments now respond to motor vehicle incidents for extrication, other rescue type, and hazardous material incidents such as spilled chemicals, propane leaks or clandestine drug labs and grow ops. Many have also taken on pre-hospital care to assist the BCAS which has a provincially mandated responsibility for first medical aid response. The public has high expectations that their local fire department will come to help them in their time of need for all types of personal emergencies.

Respectfully submitted,

M. G. (Glen) Sanders

President

MIFR Appendix A

NFPA 1720

STANDARDS FOR VOLUNTEER FIRE DEPARTMENTS

CHAPTER 1 – ADMINISTRATION

Scope:

- Minimum requirements relating to the organization and deployment of fire suppression operations, emergency medical operations, and special operations
- Address functions and outcomes of response capabilities and outcomes
- Minimum requirements for managing resources and systems
- Addresses the strategic and system issues but not tactical operations
- Does not address fire prevention, community education, fire investigations, support services, personnel management, and budgeting

Purpose:

- Specify the minimum criteria addressing the effectiveness and efficiency of the volunteer emergency response delivery in protecting the citizens in the jurisdiction
- This standard does not restrict any jurisdiction from exceeding these minimum requirements
- Authority having jurisdiction (AHJ) shall determine if this standard is applicable to their fire department

Equivalency:

- This standard does not prohibit use of systems, methods or approaches of equivalent or superior performance
- Technical documentation shall be submitted to the AHJ to demonstrate the equivalency

Annex “A” Explanatory Material for Chapter 1:

- In addition to fire duties, FD’s should be prepared to perform rescue work and perform medical care for those injured in connection with incidents such as traffic accidents, train wrecks, aircraft crashes, floods, windstorms, terrorism, and earthquakes – unless specifically excluded from involvement

- AHJ has the responsibility to determine the following – scope and level of service, necessary level of funding , and necessary level of personnel and resources (including facilities)
- By a law conveyed by a local jurisdiction, the AHJ can have the power to levy taxes, solicit funding, own property and equipment, and cover personnel costs
- Governing body should also monitor the achievement of the FD management goals such as fire prevention, community life safety education, fire suppression, employee training, communications, maintenance, and department administration
- Like any other government agency the parameters of the fire department authority will be outlined by a governing body

CHAPTER 2 - REFERENCED PUBLICATIONS

List provided in standard

CHAPTER 3 - DEFINITIONS

Definitions listed for reference in standard

Annex “A” Explanatory Material for Chapter 3:

- Automatic aid is accomplished through simultaneous dispatch, is documented in writing, and part of the communication centre’s dispatch protocols
- Mutual aid is part of the written deployment criteria for response as dispatched by communication centre
- A “company” in this standard means company unit, response team, crew, and response group rather than a FD
- This standard wants to ensure that a minimum of 4 personnel respond to an incident
- Standard also wants to ensure that 2 (or more) pieces of apparatus would always be dispatched and respond as a single company. To assure this the response can include any of the following:

Engine and tanker/tender

Engine with a pumper and a hose wagon

Engine with a vehicle personnel carrier

Engine with an ambulance or rescue unit

Engine and members who respond with their personal vehicles

- A hazard includes the characteristics of facilities, equipment systems, property, hardware, or other objects, and the actions and inactions of people that create such hazards
- The purpose of supervisory chief officers responding to incidents is to assume command to allow company officers to directly supervise their assigned crew members

CHAPTER 4 - ORGANIZATION, OPERATION, and DEPLOYMENT

Fire Suppression Organization:

Fire suppression operations shall be organized to ensure the fire department's fire suppression capability includes sufficient personnel, equipment, and other resources to efficiently, effectively, and safely deploy fire suppression resources

- AHJ shall make known the procedures by issuing written administrative regulations, standard operating procedures, and departmental orders
- FD will be part of developing a community risk management plan for hazardous materials with respect to storage, use, and transportation
- FD policies shall clearly state the succession of command responsibility
- Fire responders shall be organized into company units or response teams, and shall have appropriate apparatus and equipment
- FD shall identify minimum staffing requirements to ensure adequate response levels for safe and effective operations
- FD shall maintain standard reports for each response, and each report will include location, type of emergency, operations performed, and responding members
- Standard response assignments and procedures for all emergency response types shall be predetermined by location and nature of incident to regulate the dispatch of all responding resources
- Risk analysis and/or pre-fire planning shall predetermine the number and type of units to respond to various incidents

Fire Suppression Operations:

- Incident Commander
- One responder shall be assigned as the Incident Commander (IC)
- Assuming and identifying the IC shall be made to all incoming responders for the involved response

- IC shall be responsible for the overall coordination and direction of incident activities
- IC shall ensure that a Personnel Accountability System is quickly initiated and used for the duration of the event
- Company officer, or crew leader, shall maintain accountability of the members assigned to their company
- Company members shall know the identity of their company officer
- Communications shall be transmitted between IC and company officers
- Initial Attack
- Once the necessary responders have arrived at a scene, a FD shall have the capabilities to initiate an initial attack within 2 minutes, 90% of the time
- FD shall ensure that 4 members are on scene before initiating interior fire suppression operations
- 2 responders shall work together in the hazardous area
- Outside the hazardous area, 2 members shall be ready to assist the team operating within the hazardous area – one of these exterior responders is permitted to be engaged in other activities
- IC shall not assign any company or individual if abandoning the task they are performing will affect the safety of other responders
- If, upon arrival, there are less than 4 members, but immediate action could prevent the loss of life for someone in a life-threatening situation, it shall be permitted as long as conducted in accordance of NFPA 1500
- FD shall have the capability of continuing and maintaining all fire ground operations that extend beyond the initial attack phase
- Intercommunity Organization
- Mutual aid, automatic aid, and fire protection agreements shall be in writing and shall address liability for injuries and deaths, disability retirements, cost of service, authorization to respond, staffing, equipment, resources to made available, and designation of the IC
- All FD's involved in above-mentioned agreements shall have all-inclusive procedures and training to provide and ensure effective and uniform operations
- Communications equipment allowing communications between IC and officers at mutual aid responses shall be provided

Emergency Medical Services (EMS)
Purpose

- EMS shall ensure that the FD's emergency medical capabilities are present to deploy all arriving company assignments
- FD shall use mutual aid or agreements to comply with the requirements of this section
- The points in this section shall only apply to FD's involved in the delivery of EMS
- FD shall clearly document its role, responsibilities, functions, and objectives for EMS delivery

System Components

- EMS treatment levels, and the patient treatment capabilities associated with each level, shall be categorized as first responder, basic life support (BLS), and advanced life support (ALS)
- The patient treatment capabilities at each EMS level will be determined by the AHJ for the approval and licensing providers of EMS in each province
- EMS System Functions
- The following shall be considered the 5 basic functions within an EMS system – first responder, BLS, ALS, patient transport in an ambulance or alternative vehicle, and to provide uninterrupted patient care, assurance of response and medical care through quality management program
- FD shall be involved in any or all of the aforementioned functions
- Quality Management
- FD shall institute a Quality Management Program (QMP)
- FD shall review and document all first responder and BLS medical care provided
- FD's with ALS shall have a medical director to oversee and ensure delivery of quality medical care in accordance with provincial laws and regulations. This shall be documented
- FD's providing ALS services shall be able to communicate immediately with EMS supervision and medical oversight

Special Operations Response

- FD shall be organized for their capabilities to be able employ sufficient initial resources, provide support for, and to efficiently and effectively deploy. Automatic mutual aid and agreements are permitted
- This chapter applies to FD's involved in the delivery of special operation responses

- FD shall have a special operation response plan and standard operating procedures specifying the role of the FD and its responding members to hazardous materials emergency events
- FD members expected to respond beyond the first responder level shall be trained to meet NFPA 472
- FD shall have the capacity to implement a RIC for when fire fighters are subject to immediate danger of injury, for equipment failure, or other sudden events as per NFPA 1500
- If FD requires response levels beyond their capabilities they shall have procedures for initiating the response of available outside resources. FD will be limited to the specific operation functions their members have been trained for

Annex “A” Explanatory material for Chapter 4:

- Suppression capability is an expression of how much firefighting power can be put into action by a FD by reviewing all facets of the FD from manpower, apparatus, training, policies, etc...
- FD policies, developed to ensure uniformity and effectiveness in department actions and operations should be published, and circulated to the members with a requirement that they are read and understood
- A Comprehensive Emergency Management Plan (CEMP) should be developed by the local emergency planning committee, coordinated with community and private sector processes to meet legal requirements, and shall be exercised annually
- The CEMP should identify clearly the authority having jurisdiction for command responsibility for hazardous materials incidents
- Disaster planning should be coordinated at all levels of government in anticipation of large scale emergencies. NFPA 1600 assists in mitigating disasters
- FD reports are not only an accurate record of FD activities, but also assist in determining fire trends for establishing FD needs
- Dispatchers should have the authority to use judgment when they encounter situations that demand modification of normal assignments (as per FD guidelines)
- Where appropriate, mutual aid agreements should include predetermined automatic apparatus and personnel responses on first alarms

- Mutual aid concepts should be considered on a regional basis, noting that traditionally, and legally, the IC will be a senior officer from the jurisdiction having the emergency
- Special operations incidents can include:
 - Rope rescue (including high angle)
 - Water rescue
 - Trench/collapse rescue
 - Confined space rescue
 - Extrication rescue
 - Air/sea rescue
 - Urban search and rescue (USAR)
 - SWAT (special weapons and tactical team operations)
- The scope of FD activities and responsibilities assigned to the FD incidents requiring special operations should be outlined in the community's EMP
- For responses to unanticipated emergencies, the IC will evaluate the situation, the involved risks, the capabilities of the available resources, and consider the operational risk management guidelines before determining an action plan

CHAPTER 5 - SYSTEMS

Safety and Health System

- Regardless of the size of the FD, an occupational safety and health program as per NFPA 1500 shall be provided to protect the health and safety of the fire fighters
- Incident Management System (IMS)
- A FD, regardless of their size, shall provide an IMS as per NFPA 1561 to form the basic structure of all FD emergency operations
- The IMS shall be designed to manage all the different types of incidents a FD will handle

Training Systems

- FD shall have training policy and programs to train and maintain competency levels of their fire fighters to efficiently, effectively, and safely execute the deployment requirements of the FD
- Communication Systems
- FD shall have a reliable communications system to facilitate the delivery of all fire responsibilities and operations
- Communications equipment, facility, staffing and operating procedures shall with NFPA 1221

- Operating procedures shall provide standard protocols and terminology for all the different types of incidents the FD responds to
- Standard terminology as per NFPA 1561 shall be established to transmit information while conducting emergency operations

Pre-Incident Planning

- FD shall develop operational requirements to conduct pre-incident planning with attention paid to target hazards

Annex “A” Explanatory Materials for Chapter 5:

- This standard serves as an umbrella for all specific fire service occupational health and safety documents
- The IMS is designed to effectively and efficiently manage all types and sizes of incidents and structures of varying complexity and scale by providing common terminology and an organizational structure capable of performing and controlling all essential functions within the IMS
- A regional fire communications system can serve individual or multiple jurisdictions, and be effective in reducing costs for involved FD’s and allow communications between FD’s at mutual aid responses
- NFPA 1620 outlines pre-fire planning standards

- ANNEX “A” EXPLANATORY MATERIALS (Not Included)

The applicable Annex “A” points for each chapter of the standard are listed following each chapter in this document

ANNEX “B” INFORMATIONAL REFERENCES (Not Included)

List of all referenced publications within this standard

MIFR Appendix B

Fire Underwriters Survey & Grading Requirements

- Is a national organization directed by an independent private company
- Organization provides data on public fire protection for fire insurance statistics and underwriting purposes
- Advises municipalities of their community fire protection deficiencies and recommends improvements
- Qualified surveyors conduct full field surveys of fire risks and protection which are used to assess and establish the Public Fire Protection Classification (PFPC) for all communities, in particular those applying to commercial, industrial, multiple-dwelling, and institutional occupancies
- The FUS also uses the PFPC information to develop the Dwelling Protection Grade (DPG) which applies to one and two-family residential structures
- The overall intent of the grading systems is to provide a measure of the fire protection capabilities of a community to prevent and control major fires considering the fire risks present in that community
- The fire protection conditions for each community are measured against a recognized standard of fire protection

Public Fire Protection Classification (PFPC)

- The objective of the PFPC is to provide a national standard to help communities evaluate their public fire protection service for commercial risks
- This grading indicates how well communities are equipped to manage major fires that are not single-family dwellings
- Expressed on a scale from 1 to 10, with 1 being the best
- Normally, communities with a better classification benefit from lower insurance rates
- Many insurance companies group these grades into three categories – Protected, Semi-Protected, and Unprotected
- The grade is achieved by analyzing all relevant data from a comprehensive survey and review using various FUS survey forms for following areas:

Fire Risk

- forms the base of the evaluation as it determines the community's fire protection needs, building groups and zones, required fire flows for these buildings

Fire Department

- review of apparatus, equipment, staffing, training, operations, manpower distribution
- Valued at 40% of total PFPC grade

Water Supply System

- ability to access water for firefighting efforts
- 30% of total PFPC grade

Fire Prevention & Fire Safety Control

- programs, bylaws, managing the level of risk throughout their community
- 20% of total PFPC grade

Emergency Communications

- Systems, and ability to receive and dispatch
- 10% of total PFPC grade

It is important to note that insurance companies have different fire-loss experiences and underwriting guidelines which means there is no consistency in premiums to the consumer.

- ***The PFPC grade only comes into consideration for grades 1 and 2 of the Dwelling Protection Grade (DPG)***

Dwelling Protection Grade (DPG)

- The DPG is a fire insurance classification provided by FUS that reflects the ability (approximate measure) of a community's fire protection service to manage fires in one and two family dwellings
- The classification scale is numerical with a 1 to 5 grading scale, where 1 is the highest (best designation)
- In ***general***, the better the DPG designation, the lower the insurance premium

- This gathered information is then analyzed, evaluated, and then a grade designation is determined for the respective levels of fire protection service within each community

Typical Detached Dwelling Guidelines

- Effective square area of dwelling is not exceeding 334 sq. m. (3600 sq. ft.) excluding basement
- No unusual risks such as wood shake roofs
- No structural exposure exceeding 9.3 sq m. (100 sq. ft.) within 30 m.

Minimum Fire Station requirements for each DPG

- Recognized response areas are limited to 8 kms by continuously accessible roads
- Response times are expected to be delayed due to increases turn-out times for auxiliary firefighters as compared to on-duty firefighters
- FD's desiring fire insurance grading should be organized on a sound financial basis such as a tax levy
- Areas organized as a society will not be recognized because of difficulty of identifying and maintaining society members, and the lack of guaranteed funds to finance a year-round fire service
- These main factors are reviewed for a DPG designation based on - water works system, fire department (apparatus and firefighters as individuals sub-sections), and the PFPC minimum requirements
- The PFPC is only considered for DPG levels 1 and 2
- A DPG designation of 5 is for communities who do not meet 1 to 4, and have no fire protection

MINIMUM FIRE STATION REQUIREMENTS FOR A DPG of 3B

- In-ground water system with fire hydrants not required
- FD must be able to provide equipment, apparatus, training, and have access to water to deliver standard shuttle service in a timely manner, and in accordance with NFPA 1142
- Require 2 units – one a triple combination pumper, plus a mobile water supply with a combined water carrying capacity of not less than 6820 litres (1500 Imp Gallons)
- 15 auxiliary firefighters
- No PFPC required

More Minimum Criteria for each Fire Station with a DPG of 3B Alternative water supply requirements

- To be recognized it must meet minimum criteria specified in NFPA 1142
- A formal plan for use of the water supplies must be in place detailing the points and characteristics
- Refill capacity using drafting techniques requires a pump with a capacity of 450 LPM (100 lpm) at 275-415 (40-60 psi)

FD Apparatus

- Each fire hall with a DPG of 3B must include the following apparatus
- One triple combination pumper rated at not less than 3000 LPM (625 lpm) at 150 psi)
- One mobile water supply apparatus with a minimum carrying capacity of 4000 L (880 Imp. gals.), AND a permanently mounted pump with a minimum rated capacity of 1000 LPM at 1000 kPa (210 lpm) at 150 psi) net pump pressure
- Apparatus must be designed in accordance with ULC S515, or NFPA 1901
- The combined water carrying capacity of the two above units must be at least 6800 L (1500 Imp. Gals.), and a transfer system capable of supplying the pumper as needed
- Can accomplish by pumping or dumping into a portable tank with a minimum capacity of 4550 L (1000 Imp. Gals.)
- Apparatus must be stored in inside a suitably constructed and arranged fire hall

FD responding manpower

- 1 fire chief to respond
- 15 auxiliary FF scheduled to respond in addition to the number of personnel required to conduct mobile water supply operations

Emergency Communications

- must have an adequate and reliable system to receive calls and dispatch firefighters

Fire Protection Service Area

- must be clearly established and registered with the Provincial governments

MINIMUM FIRE STATION REQUIREMENTS FOR A DPG of 4

- Same as 3B, except may be allowed any one exception from 3B requirements
- This grade is reserved for communities who contract fire protection services from a FD with a DPG of 3B
- Any exception must be accompanied with a letter of intent to bring the exception to meet the 3B level within 12 months
- If more than one exception is found not to meet the minimum requirement for 3B, then a DPG of 5 is applied

NOTE: The absolute minimum number of auxiliary firefighters considered within the fire insurance grading is 10, and that the maximum age of apparatus that can be considered is 30 (as long as successfully pass annual tests)

More Minimum Criteria for a DPG of 4

- This grade level is reserved for communities that contract fire protection services from agencies with a DPG of 3B
- **Standpipes** are not eligible for insurance grading recognition
- Private water systems may be recognized with FUS documentation
- To receive full credit an auxiliary FF must live and work within 8 kms of fire hall – if can only meet this criteria for a portion of the year, it will be pro-rated for credit
- FF not required to pass CPAT, but must be medically evaluated and qualified for duty
- **Societies** may be recognized for fire insurance purposes where stability and reliability of the society can be verified by FUS

STANDARD TANKER SHUTTLE SERVICE

- If the shuttle service does not meet the minimum benchmarks as outlined in NFPA 1142 it will NOT be recognized
- To have a Standard Shuttle Service recognized a FD must have adequate equipment, training, continuous access to approved alternative water supplies, and the ability to deliver water in accordance with NFPA 1142
- A formal plan must be in place and available for review detailing the alternative water supplies and their characteristics
- Water supplies must be continuously accessible 24 hours per day and 365 days per year

- Refill capacity from alternative water supplies using drafting techniques requires a pump with a minimum capacity of 450 LPM (100 lgpm) at 275-415 kPa (40-60 psi)

MIFR Photo Gallery





