Master Fire Plan

Executive Summary

A master fire plan is a strategic long range blueprint for fire protection that addresses local needs and circumstances, based upon costs the community can afford. It must reflect the mission statement, values and goals of the municipality and its fire service providers, as well as council commitment.

The master fire plan has been completed following an objective assessment of the community fire risks and fire service capabilities to date. This assessment also included the predicted future growth of the municipality, as well as the recently completed secondary plans for the Midhurst and Hillsdale areas.

This summary and report provides Council with recommendations put forward by the master fire plan committee on the operation of the fire and emergency services for today and the future, and allows for responsible planning for growth and funding of the fire service.

Recommendation # 1 : That Council provide direction to the Director of Fire & Emergency Services (SFES) to establish a plan and schedule to place full time firefighters into service in future years as annual call volume increases, residential housing and industrial growth development occurs and budget is available and **approved** to support the request. The addition of full-time personnel will provide immediate response capabilities to emergencies, provide maintenance and repair to all department equipment, and continue to support the paid-on-call fire service for years to come. (pg 28)

Recommendation # 2: That Council provide direction to the Director SFES to research ways and means to obtain the specialized rescue and suppression services to be provided in the most efficient and effective manner to the ratepayers and travelling public in Springwater Township and report to Council outlining a plan and schedule for their action. (pg 28)

Recommendation # 3: That Council initiate the process of providing for land acquisition, preliminary building design and construction of a fire station in the Midhurst response area in 2010 that will meet the needs of current fire service standards and provide for future fire service growth within the scope of the Master Fire Plan term and the Midhurst Secondary Plan, predicated by legislation requirements, development charges availability, growth and available budget considerations. (pg 31)

Recommendation # 4: That Council provide direction to the Director of Public Works to investigate the opening of Dobson Road to Seadon Road and that staff provide a cost analysis in respect to opening Dobson Road versus re- opening the fire station in Centre Vespra. (pg 31)

Recommendation # 5: That Council provide direction to the Director SFES to include budgetary consideration when construction of a new fire station is imminent for emergency power generation to be established for the facility; and further, that budgetary consideration be included for diesel particulate exhaust extraction equipment to be installed in the apparatus parking garage of the said facility. (pg 31)

Recommendation # 6: That Council initiate the process of providing for land acquisition and preliminary building design and construction of a replacement fire station in the Hillsdale response area as development begins in the hamlet, that will meet the needs of current fire service standards and provide for future fire service growth within the scope of the Master Fire Plan term predicated by the legislation requirements, development charges availability, growth and available budget considerations. (pg 32)

Recommendation # 7: That Council provide direction to the Director SFES to include budgetary consideration in conjunction with this Master Fire Plan to add emergency power generation for Station 5-Elmvale; and further, that budgetary consideration be included for diesel particulate exhaust extraction equipment to be installed in the apparatus parking garage of the said facility. (pg 33)

Recommendation # 8: That the fleet management program which has been successfully utilized in the past be continued for future planning and, further, that it be revised to reflect a front line service life of 15 years followed by 5 years of reserve service for heavy apparatus as the population of the municipality nears 25,000. It will be necessary to analyze population growth on an annual basis over the span of this plan in order to determine when a population of 25,000 will be reached and determine a revision date for the fleet management replacement program based on that projection. (pg 36)

Recommendation # 9: That the Council and Fleet Committee support the SFES in purchasing fire apparatus that have four doors and transport a minimum of four firefighters in safety, providing a timely response of sufficient personnel to mitigate emergencies. (pg 38)

Recommendation # 10: That Council direct and the Fleet Committee support SFES to research and investigate the benefits and costs associated to standardize the apparatus specifications and establish single/sole source manufacturing when replacing or adding future apparatus and further that, a comprehensive report will be produced and presented to Council at a future date. (pg 38)

Recommendation #11: That SFES establish a purchase program supported by a set amount of capital budget to examine and replace air cylinders and Self Contained Breathing Apparatus on a required annual basis to provide equipment that is utilized within its service life. (pg 39)

Recommendation # 12: That Council provide support and priority consideration to having SFES personnel engaged in development of SOG and policies for fire service administration. (pg 42)

Recommendation # 13: That Council consider and support SFES administration when they recommend the hiring of a qualified full-time training officer to conduct training programs, maintain training records and provide emergency response during scheduled hours. (pg 43)

Recommendation # 14: That the Director SFES provides an annual status report as part of the budget process each year to Council to outline the rollout of the Master Fire Plan in subsequent years. (pg 43)

Recommendation # 15: That Council provides direction to the Director SFES to research and develop adequate standards or agreements to address concerns with large tract subdivision growth in the municipality**.** (pg 45)

Recommendation # 16: That Council provides direction to the Director SFES to move forward with the currently developed fireworks by-law for Council approval. (pg 45)

Recommendation # 17: That Council provides direction to the Director SFES to move forward on research and development of Standard Operational Guidelines for policy to operate within the fire services. (pg 46)

Recommendation # 18: That Council be updated annually by the Director SFES as to the status of the public education programming in the community; and that Council continues to favourably support the growth and development of public fire safety education initiatives well into the future. (pg 49)

Recommendation # 19: Annual review of training programs and documentation will ensure that training of fire personnel will meet service requirements and improve the knowledge, skills, ability and safety of the firefighters, while meeting the industry and legal requirements of records management. (pg 49)

Recommendation #20: That Council be updated annually by the Director SFES as to the fluctuations in the price of fire service vehicles, equipment, electronics pertinent to the fire service industry; And that Council provide direction to the Director SFES to research and report his findings for fire service industries such as sole or single sourcing for best possible pricing/negotiating for future purchase considerations. (pg 52)

Recommendation # 21: That Council continue to provide SFES with quality technical hardware, software and IT support; And that Council direct the Director SFES to provide reports when electronic hardware, software and support becomes available in the future that will move the fire service forward in its growth and development. (pg 53)

Recommendation # 22: That Council continue to provide direction to the Director of SFES to incorporate, where possible, LEED initiatives, electrical load saving switching and any other future technology developments into existing and new fire stations in the municipality as the fire service moves forward in its growth and development. (pg 54)

Recommendation # 23: That Council establish and provide reserve funds in SFES annual budget for the purpose to support Emergency Plan operations in the event of or during long term deployment of staff in mitigating natural or man-made emergencies.

Recommendation # 24: That Council direct the Director/Alternate CEMC-SFES to research the opportunities for agreements with social service groups and community service clubs; And that Council favourably support the development and establishment of agreements with said groups such that the Emergency Plan will support and supplement the health and safety of residents of Springwater, during and after large scale natural or man-made incidents well into the future.

Master Fire Plan
2010

Purpose and Goal:

1. To develop a plan called master fire plan which gives direction for development and continued strength of the fire and emergency service.
2. To provide recommendations to the municipal Council on the continuation and development of the fire and emergency service within the township.

Introduction

The Council of the Township of Springwater has authorized the Director of Fire and Emergency Services (SFES) to update the Master Fire Plan in which 22 recommendations were presented to council and approved for implementation in September 23, 2003.

The Master Fire Plan Committee now is reviewing the Springwater Fire and Emergency Services to elevate the services with the changes that were implemented and to plan for the next ten years with a review in 5 years.

Master Plan:

Master Plan – Addresses four areas:

1. Where is your Fire Service at now? (Status Report).
2. Where do you want it to be? (Local needs and circumstances).
3. How do we get there? (Plan and implementation strategy).
4. Does your plan achieve your goals? (Measure results and performance)

Mission Statement

The Springwater Fire and Emergency Services is dedicated to providing fire protection services through a wide range of programs including inspections and education, designed to protect the lives and property of the inhabitants from the adverse effects of fires, sudden medical emergencies or exposure to dangerous conditions created by persons or nature

FIRE SERVICE REVIEW

Background

The Township of Springwater completed a master fire in September of 2003 and made 22 recommendations to Council. Council received and adopted the recommendations that were made by the master fire plan committee. SFES was to review and update the plan after five years. The master plan review started in 2008. There were a number of

outstanding issues that Council was working on and the master fire plan was put on hold until the secondary plans for Hillsdale and Midhurst were able to provide information needed for the master fire plan.

Municipality

The Township of Springwater is a municipality within the middle of Simcoe County, located approximately 100 kilometres north of Toronto, and is surrounded by the municipalities of Township of Essa, City of Barrie to the south, the Township of Oro-Medonte to the east, the Township of Clearview, the Town of Wasaga Beach and Township of Tiny to the north.

The Township of Springwater was incorporated on January 1, 1994 as a result of restructuring in Simcoe County. The Townships of Flos and Vespra (excluding the Craighurst area) were amalgamated with the Village of Elmvale and the Hillsdale/Orr Lake area from the Township of Medonte. A small 200 acre parcel from the Town of Wasaga Beach was also merged with the new municipality.

The Municipality of Springwater is primarily a rural community, also serving as a bedroom community to the City of Barrie and the Greater Toronto Area. The population of over 17,000 is concentrated into nine settlement areas. The largest is Midhurst with a population of 2,400. Midhurst is located in the south end of Springwater, just north of the City of Barrie. Elmvale is located at the junction of County Roads 19, 27 and 92 in the northern end of the Township. The commercial district of Elmvale serves its 1,700 residents and tourist traffic destined for the cottage areas at Orr Lake and along the shores of Georgian Bay. Other small settlement areas include Anten Mills, Centre Vespra, Hillsdale, Minesing, Orr Lake, Phelpston and Snow Valley.

Approximately half of the Township's 53,000 hectares are utilized for agricultural purposes. Another third of the land base is forested. These "green lands" include the 6,000 hectares of Minesing Swamp which has been internationally recognized as a RAMSAR site. The Convention on Wetlands is an intergovernmental treaty that provides the framework for national action and international cooperation for the conservation and wise use of wetlands and their resources. It was adopted in the Iranian city of Ramsar in 1971 and came into force in 1975, and it is the only global environmental treaty that deals with a particular ecosystem. The Convention's member countries cover all geographic regions of the planet.

The permanent population for male/female ratio is very close to a 50:50 split, with over 50 percent of the population being between the ages of 15 and 64. The Township's population has the potential to increase by approximately 3,000 people during the summer months due to the seasonal dwellings at Orr Lake and the 976 campsites that are available, with over 75% in use from May to September.

The Township is currently experiencing development pressure has shown a significant increase over the past five years. Building permits during this time have risen from 580 in 2002 to 625 in 2007 which is an increase of 8% and construction value has risen from $17,998,000 in 2002 $45,305,200 in 2007 which is an increase of 50% every year for the past five years. There are currently two secondary plans being completed (Hillsdale, Midhurst) because of several large development proposals that may also be a factor in the near future.

The Municipality has 104 industrial establishments, 321 commercial operations and 156 assembly types building within its boundaries. The municipality is not dependent on any one employer but there are several employers that would have a negative impact if they were lost.

The main access to the municipality is through the roadway system, however, there is an airport located near the Barrie/Springwater boundary which serves small airplanes. The roadway system includes a 400 series highway running through the eastern portion of the Township, Highway 26 and Highway 93 which extend from the 400, and a small portion of Highway 11. There are also several County roads that were originally designated as highways until they were downloaded to the County to maintain. These roads carry traffic to and from the City of Barrie and to cottage country. The Township itself has 414kms of roadways in which approximately 33% is gravel based.
We have some private roads in the Township that are not necessarily maintained to Municipal standards, and may be inaccessible depending upon weather and maintenance.
County roadways are maintained by the County and the Provincial highways are maintained by a private contractor. Canadian Pacific Railway has a line running through the southern portion of the Township.

During the summer months heavy traffic on Friday through Sunday can pose transportation problems on some of the Provincial highways and County roads.

The majority of the structures in the Township are serviced by private well systems with the exception of the eight areas within the township, including the areas of Elmvale, Hillsdale, Phelpston, Anten Mills, Minesing, Midhurst, Snowvalley and Parr Blvd which are on municipal wells. Parr Blvd area hydrants do not have enough water flow to meet the requirements for fire flows. There are two hydrant systems within these areas which do not have back-up electrical supply in the absence of hydro; there is water storage that would provide water for a period of time however could present a problem in the event of a large fire. Elmvale and Snow Valley Highlands are serviced by municipal sewers, with the remainder of the Township being on individual septic systems.

Springwater residents are provided with Emergency 9-1-1 service through their telephone system. 9-1-1 calls are answered at the OPP detachment in North Bay and then transferred to the proper emergency authority. Barrie Fire and Emergency Services provide an answering service for the fire department emergency telephone lines and dispatch the required help for the emergency.

Impact of the Risk Assessment

Springwater Fire and Emergency Services have performed a basic evaluation of the impact of fire and other emergency incidents (a Risk Assessment) and the loss potential of these incidents in the community.

The various types of occupancies in the community and consequences of fire on the local economy, on employment, on the municipal assessment and tax base, social impact, environmental damage, and the loss of historical structures have generally been reviewed.
For example, a significant fire loss at a major employer could have a negative impact on employment and on the tax base. Also, if there was a large fire at the Sara Vista Nursing Home, there is a high potential for loss of life.

It is critical to maintain an understanding of the impact of fire and the risk of fire in the community in order to develop fire prevention, protection and response programs, and allocate resources to prevent fire incidents and protect the citizens and property in Springwater.

The simplified risk assessment is done yearly and a copy of the December 2009 assessment has been provided as an appendix.

Demographics

The table below relates to the permanent population **only.** The chart on the following page represents the demographic statistics for the Township.

Area	2001	2006	Growth	% Change
Springwater Township	16,104	17,456	1,352	8%
County of Simcoe	377,050	422,402	45,352	12%

Ages of population	#	% of Total Population
0-14	3,952	22%
15-64	11,634	66%
65 and over	1,870	12%
Total Population	**17,456**	**100%**

Demographic Profile

The Township of Springwater has a population of 17,456 people as per the 2006 census, with a possibility to increase by an additional 3,000 people due to campgrounds/summer vacationers. We have one nursing home in Elmvale, which has a maximum capacity of 61 people, and six special needs group homes with approximately 30 people located in the Township. The two main areas of population

are in Midhurst and Elmvale, with the remainder being spread throughout eight other small villages and rural areas. The majority of the residents of the Township use English as their first language. Most homes are single family dwellings with a large number of the residents employed outside of the community. Approximately 1/3 of the area in the Township is forested. The Township of Springwater has conducted secondary plans for the village of Midhurst and the village of Hillsdale there is the possibility of new growth in both of these areas.
Hillsdale has employment areas that could bring new jobs to the municipality and is starting to be developed. There is a new subdivision planned in the secondary plan that has received approval and approx. 550 new homes.
The Midhurst areas has had a lot of land purchased by developers and there have been several plans submitted to the township for approvals there is a potential growth of over 20,000 people with 4 schools as well as commercial business areas.

Building Stock

The majority of the Township is rural with many farms and farm buildings, but the largest portion of buildings are single family detached homes. We have 12 multi-residential buildings. Springwater has a large number of assembly buildings, which include churches, community centres and schools (six elementary and one secondary).

Several buildings within the municipality are considered a higher risk than normal because of the large amounts of people that can be in the buildings during regular operation such as the Simcoe County Administration Centre and board of education offices. Sara Vista poses a potential hazard due to the large number of seniors that may require assistance to escape the building. Newalta is considered another high risk building due to the types of material that have the potential to be on site at any given time. See the table below for a breakdown of the occupancy classifications and also the table on the following page showing the number of buildings per classification.

Occupancy Classification		# of Occupancies
Group A	Assembly	156 (includes 7 schools)
Group B	Institutional	1
Group C	Single family	6361
	Multi-unit residential	12
	Hotel / Motel	0
	Mobile Homes & Trailers	7 campgrounds with 976 sites
Groups D & E	Commercial	321
Group F	Industrial	104
Other Occupancies (not classified in OBC, such as farm buildings)		255
TOTALS:		**7220**

Mixed Occupancy Buildings	
Commercial/Residential	138
Commercial/Farm/Residential	18
Industrial/Residential	22
Total #	**178**

Municipal Fire Losses

The tables below show the statistics for the fire department with relation to the number of deaths and injuries that have occurred, as well as the statistics for the municipal property dollar loss due to fires in the Township from 2007 to 2009.

MUNICIPAL FIRE DEATHS & INJURIES								
Occupancy Classification		**2007**		**2008**		**2009**		**Total Deaths + Injuries**
		Deaths	**Injuries**	**Deaths**	**Injuries**	**Deaths**	**Injuries**	
Group A	Assembly	0	0	0	0	0	0	**0 deaths and 0 injuries**
Group B	Institutional	0	0	0	0	0	0	**0 deaths and 0 injuries**
Group C	Residential	0	1	0	0	0	0	**0 deaths and 1 injuries**
Groups D & E	Commercial	0	0	0	0	0	0	**0 deaths and 0 injuries**
Group F	Industrial	0	0	0	0	0	0	**0 death and 0 injury**
Mobile Homes & Trailers		0	2	0	0	0	0	**0 deaths and 0 injuries**
Other Farms		0	0	0	0	0	0	**0 death and 0 injuries**
Total Deaths / Injuries		**0**	**3**	**0**	**0**	**0**	**0**	**0 deaths and 1injury**

MUNICIPAL PROPERTY DOLLAR LOSS								
Occupancy Classification		**2007**		**2008**		**2009**		**% of Total Dollar Loss (2007–2009)**
		# of Fires	**$ Loss**	**# of Fires**	**$ Loss**	**# of Fires**	**$ Loss**	
Group A	Assembly	0	0	0	0	0	0	0.0%
Group B	Institutional	0	0	0	0	0	0	0.0%
Group C	Residential	8	750,200	6	498,500	5	699,000	72.96%
Groups D & E	Commercial	1	1,200	0	0	0	0	0.04%
Group F	Industrial	1	840,000	0	0	0	0	11.0%
Mobile Homes & Trailers		0	0	0	0	0	0	0.0%
Other Farms/wild land		2/21	620,500	2/6	352,000	1/5	1500	16.0%
Total Dollar Loss		**33**	**2,211,9000**	**14**	**850,500**	**11**	**700,500**	**100.0%**

The risk of fire in residential buildings is greatest as indicated by the number of residential building fires and fire losses that we have had from 2007 to 2009. Nineteen residential fires accounts for 73% of the fire losses in the community. Although there have not been any deaths and one injury in residential structures from 2007 to 2009, both local and provincial statistics show that a high potential does exist.

There have been two farm related building fires with no death or injuries occurring. There was one particular fire that had a high dollar loss which brought the fire loss up to 16% for farms.

There was no death or injury in the industrial occupancy, but the number of fires is very low and the dollar loss is high compared to the number of fires in residential occupancies, being 11% of the total dollar loss.

Other Risks

The railway that passes through the southern portion of the Township carries diverse products, and has potential for a hazardous material incident to occur. If such an incident were to occur, the risks to the community could include loss of life, environmental impact, and damage to infrastructure. Highway 400 also poses the same type of hazards, given the large number of transport trucks utilizing the highway.

Finance

The Township of Springwater finances are sitting on a good foundation in 2009. Council has put aside money for emergencies and have been planning for future projects and capital replacement. With funds being placed in reserves and development charges the council has a good foundation for the future needs. A couple of major projects for the future are a new pumper, a tanker and two new fire stations.

The Municipal assessment is show in the chart below for the last three years and the percent that the assessment has changed during that year.

Municipal Assessment

Property Class/ Tax Rate	2007 Taxes per $100,000 Assessment	2008 Taxes per $100,000 Assessment	2009 Taxes per $100,000 Assessment
Residential & Farm 1.012442 % (2009)	$952.16 +3.93%	$1028.16 +7.98%	$1012.44 -1.55%
Multi-Residential 1.421939 % (2009)	$1,322.73 +4.37%	$1439.67 +8.84%	$1,421.94 -1.25%
Commercial: Occupied 2.464132 % (2009)	$2,449.77 +1.87%	$2,544.93 +3.88%	$2,464.13 -3.28%
Commercial: Vacant 1.724892 % (2009)	$1,714.84 +1.87%	$1,781.45 +3.88%	$1,724.89 -3.28%
Industrial: Occupied 3.610119 % (2009)	$3,516.06 +1.60%	$3615.85 +2.84%	$3610.12 -0.16%
Industrial: Vacant 2.346579 % (2009)	$2,284.44 +1.60%	$2,350.30 +2.88%	$2346.58 -0.16%
Pipelines 2.655254 % (2009)	$2,639.10 +1.80%	$2,734.71 +3.62%	$2,655.25 -2.99%
Farmlands 0.253111 % (2009)	$238.04 +3.93%	$257.04 +7.98%	$253.11 -1.55%
Managed Forests 0.253111 % (2009)	$238.04 +3.93%	$257.04 +7.98%	$253.11 -1.55%

RESIDENTIAL TAX CALCULATION:

ASSESSED VALUE X TOTAL TAX RATE
=$100,000. X 1.012442=$1012.44

The Township's portion of tax dollars is $8,367,629.42, with residential dwellings contributing 91.0% of the total dollar value. See a breakdown of the Township assessment below.

Property Type	**Property Contribution**
Residential	91.0%
Commercial	5.4%
Industrial	1.5%
Farmland	2.0%
Managed Forest	0.1%
Total	**100%**

The Township's portion of a tax dollar is disturbed to the following departments:

Township of Springwater
Distribution of a Tax Dollar 2009

Spending By Department	**Tax Dollar**
Public Works (Roads, etc)	$0.34
Administration	$0.16
Fire	$0.12
Policing	$0.11
Recreation and Programs	$0.08
Facility Management	$0.05
Planning & Committee of Adjustment	$0.04
Library	$0.04
Council	$0.03
Conservation	$0.02
By-law Enforcement	$0.01
Elmvale Arena	$0.01
	$1.00

2003 Master Fire Plan Recommendations

In September 2003, the Council of the Township of Springwater adopted the Master Fire Plan as presented. There were 22 recommendations that were adopted as part of the plan.

This report provides an update as to the recommendations and the actions that have been taken.

Recommendation #1:

That the Springwater Fire Department adopt a policy to review on an annual basis the impact of fire on the community and the risks associated with the characteristics of structures and operations in Springwater to understand the type of fire protection services required.
That a database be developed from this annual review to document the risk and impact of fire.

Director:
The fire prevention officer updates and completes a simplified risk assessment for the fire department every year and at that time we review the cause of fires and public education that is required. A standard operating guideline needs to be written to ensure that the review is completed.

Recommendation #2:

That the Springwater Fire Department develops a written fire prevention policy for adoption by Council. (See Recommendation #5)

Director:
Council approved a fire prevention guideline by resolution in April 2007 Number CL-214-2007. The Director has been monitoring the progress of this resolution and has come to the determination that staff is not able to meet the inspection requirement, as set out in the guideline.

Recommendation #3:

That a comprehensive public fire safety education program that meets the requirements of the Fire Protection and Prevention Act and the needs of the community be developed and submitted to Council for approval.
That the Fire Department be provided sufficient resources for the delivery of such program. (See Recommendation #5)

Director:
The fire prevention officer has established a smoke alarm program. There have been several initiatives that have been put in place such as fire danger rating signs. The fire

prevention officer has created a school program that has been well received by the school system but does require it be put in writing.

Recommendation #4:

The recommendation is that Fire Inspections Option #2 be adopted. (See Recommendation #5)

Director:
Council has approved that Option # 2 be adopted however staff cannot meet the inspection schedule as staff is busy filling other requirements such as emergency response, equipment maintenance and health and safety requirements.

Recommendation #5:

That a full time fire prevention/public education officer should be considered in the 2004 budget process to fulfill recommendations #2,#3 and #4 and to supplement departmental response where required.

Director:
A full time fire prevention officer was hired in January 2004 and is providing public education and inspection services as well, provides emergency response during the regular work hours.
We have made comments on recommendation 2, 3 and 4 and continue to work on the recommendation contained within.

Recommendation #6:

That funding for fire suppression staff to do in service inspections as well as firefighting pre-plan and building familiarization, should be considered in the 2004 budget process.

Director:
The fire suppression staff have done some building familiarization (Barrie Country Club, Trans Continental Barzelle Design and Newalta) and pre-fire planning (17) in the last 3 years
It has been difficult to get to the buildings due to the number of new recruits and the time needed for training.

Recommendation #7:

That fire department personnel being provided additional training in fire cause determination, via increased staff attendance at the Ontario Fire College or regional schools if available, should be considered in the 2004 budget process.

Director:
The fire prevention officer has attended a fire cause determination course. The fire chief and prevention officer attended an arson investigation course. There is still a need to provide some officers with fire cause determination. We have been providing some training to the officers and this is taking priority.

Recommendation #8:

That the Springwater Fire Department prepare and present for Council approval, a written "level of service" policy for adoption by Council that addresses all areas of emergency services provided by the Department.

Director:
There has not been a policy written and approved by Council to date for the level of service.
The department has been looking at different levels of service and options for Council. The department provides the same level of service as in the past with the exception of training for a county Haz-mat team which will be coming forward in 2010 for final approval. There is a recommendation in the Master Fire Plan update to look at this item in further detail.

Recommendation #9:

That the Springwater Fire Department prepare and present for Council approval, a plan for the development and implementation of a "confined space rescue response capability" sufficient to meet the needs of the community.

Director:
The Springwater fire and emergency services has not proceeded to date with confined space training. The department is looking at different ways of providing services and confined space is one of them.

Recommendation #10:

That the fire and building departments of Springwater encourage the installation of residential sprinkler systems wherever practical.

Director:
The building and fire departments have provided literature for information to new home builders but there has not been a lot of success. We have joined the Office of the Fire Marshal in asking for changes to the building code and the government of the day is now looking at this. There are public meetings looking for reaction to the proposed change. We will continue to provide information about home sprinklers.

Recommendation #11:

That the Springwater Fire Department conducts a feasibility study on our current paging system to other systems on the market (i.e. alpha-numeric paging).

Director:
A study was completed and the cost associated with making a system on our own was cost prohibitive. We did find a new pager supplier and the system has improved. Barrie Fire and Emergency Services dispatch centre now has the capabilities to text page to cell phone and a number of firefighters have been getting messages from the dispatch centre. We are not hearing the complaints as we did in the past since moving the radio tower to station 3 and changing the pagers.

Recommendation #12:

That as per Tom Powell's recommendation, the Fire Chief be permitted if required, to increase the number of volunteer firefighters by twenty (20), subject to budget approval. In the event that this does not satisfactorily solve the response problems, that additional options be considered (i.e. full time staff).

Director:
The number of firefighters has increased to 90 with 25 firefighters allotted to Station 2 and 5 and 20 firefighters allotted to Stations 3 and 4. When we call two stations, we are getting a good turn out to fires during night time responses. During the daytime hours, there are still concerns with the number of firefighters responding. There are also some concerns with the amount of time for assembly of firefighters at some stations.

Recommendation #13:

That fire stations should be centrally located to best serve the community. That consideration be given to a Station 1 & 2 amalgamation at a central location, and that Station 3 should be reconstructed at a location to be determined by Council. That an investigation by means of a four to six month experimental run be conducted for Station 1 & 2 in the Spring of 2004 to examine the feasibility of the relocation.

Director:
The trial amalgamation of Station 1 and Station 2 was completed and Council approved the amalgamation of the two stations at the works yard until the construction of a new fire station is considered. A new location will be looked at during this review of the master fire plan. Council started to put money aside for the replacement in the 2008 budget.
The former station 2 was sold and the proceeds were put towards Station 3. Station 2 will be forecasted in the upcoming budgets, as the secondary plan for Midhurst is completed. Station 3 was constructed and put into service in the spring of 2006.

Recommendation #14:

That automatic aid agreements be explored between the Springwater Fire Department and Barrie Fire & Emergency Services, as well as with the Essa Fire Department, for coverage in particular areas of the Township.

Director:
Council approved an automatic fire aid agreement with Essa Fire Department June 2004 and Barrie Fire and Emergency Services in November 2004. The Essa and Barrie agreements have been activated numerous times and the agreement with Essa saved a house on Baldwick Lane. The Barrie fire agreement has been used a number of times on Highway 400 and Highway 11 with no charges for services from Barrie as they have invoiced the MTO on these calls. The agreement with Oro- Medonte has been reviewed and now has been signed by both parties.

Recommendation #15:

That the Fire Chief assigns a committee to review and revise the Standard Operating Guidelines for the Springwater Fire Department.

Director:
The committee was formed and update of most SOGs has occurred. The Director and the Deputy Director are now working to create new SOGs for the different divisions within the department such as fire prevention and communications.

Recommendation #16:

That consideration be given upon the purchase of replacement vehicles that they provide adequate room for personnel (i.e. crew cabs).

Director:
There have been four vehicles purchased or retrofitted in the last 5 years and they have 5 member crew cabs. We currently have a crew pump in each station.
A used rescue was purchased and it is also a crew cab that will transport 6 firefighters
The fleet committee will continue to replace trucks with crew cabs where required/requested.

Recommendation #17:

That the Township of Springwater continues to provide the Springwater Fire Department with efficient and effective emergency apparatus and equipment. That a capital vehicle replacement program be developed and submitted to Council for consideration and that the $100,000 budgeted in 2003 for the Master Fire Plan is put into a reserve fund for future vehicle replacement.

Director:
A reserve account has been established and under Council direction the 6 year major equipment forecast has been prepared. The Master Fire Plan has also created a fleet replacement schedule and works within that document. Council has been placing funds within that reserve and the replacement schedule is being followed.

Recommendation #18:

That the Township investigates the advantages of having a tanker water shuttle certification for possible insurance savings for the ratepayers of Springwater.

Director:
Under Council direction the fire department was successful in pumping 410 gallons per minute and received the Tanker Water Certification. There have been a number of ratepayers that have informed us of insurance savings. We will need to recertify in 2013.

Recommendation #19:

The Springwater Fire Department look at the feasibility of installing dry hydrants at strategic locations within the Township

Director:
The dry hydrants have been on hold as the Township has been upgrading the water systems in the municipality and a water system has been added in the middle of the Township. We will be looking at the Orr lake area and possible location in the Hammelville area.
The fire chief has put a request to the County (when they replace the bridge on Flos Road 4) to see if there is room to place a dry hydrant in that location.

Recommendation #20:

That a Chief Training Officer be hired to administer the training program of the department, as approved in the 2003 budget.

Director:
A training officer was hired 7 hours a week in 2006 but the hours were determined to not be adequate. In the 2008 budget, the hours have been increased to 20 hours per week.
The training program has improved and it appears that 20 hour will meet the requirements of the department, at the current training level.

Recommendation #21:

That the clerical support staff workload be monitored to assess whether the administrative duties exceed the actual allotted hours and that the results of the monitoring be reported to the 2004 budget deliberations.

Director:
In 2004, Council approved the clerical support staff and was hired in November of 2004.

Recommendation #22:

That a program be presented to Council for consideration of equipping fire stations with portable back-up power to provide power during an emergency/outages.

Director:
Station 3 has been equipped with permanent backup power.
Station 2 and 4 are being reviewed in the Master Fire Plan update and will be considered once their future has been determined by Council. Station 5 has a generator that can power most of the necessary equipment needed to maintain heat and lights. A future permanent generator will be considered in the future.

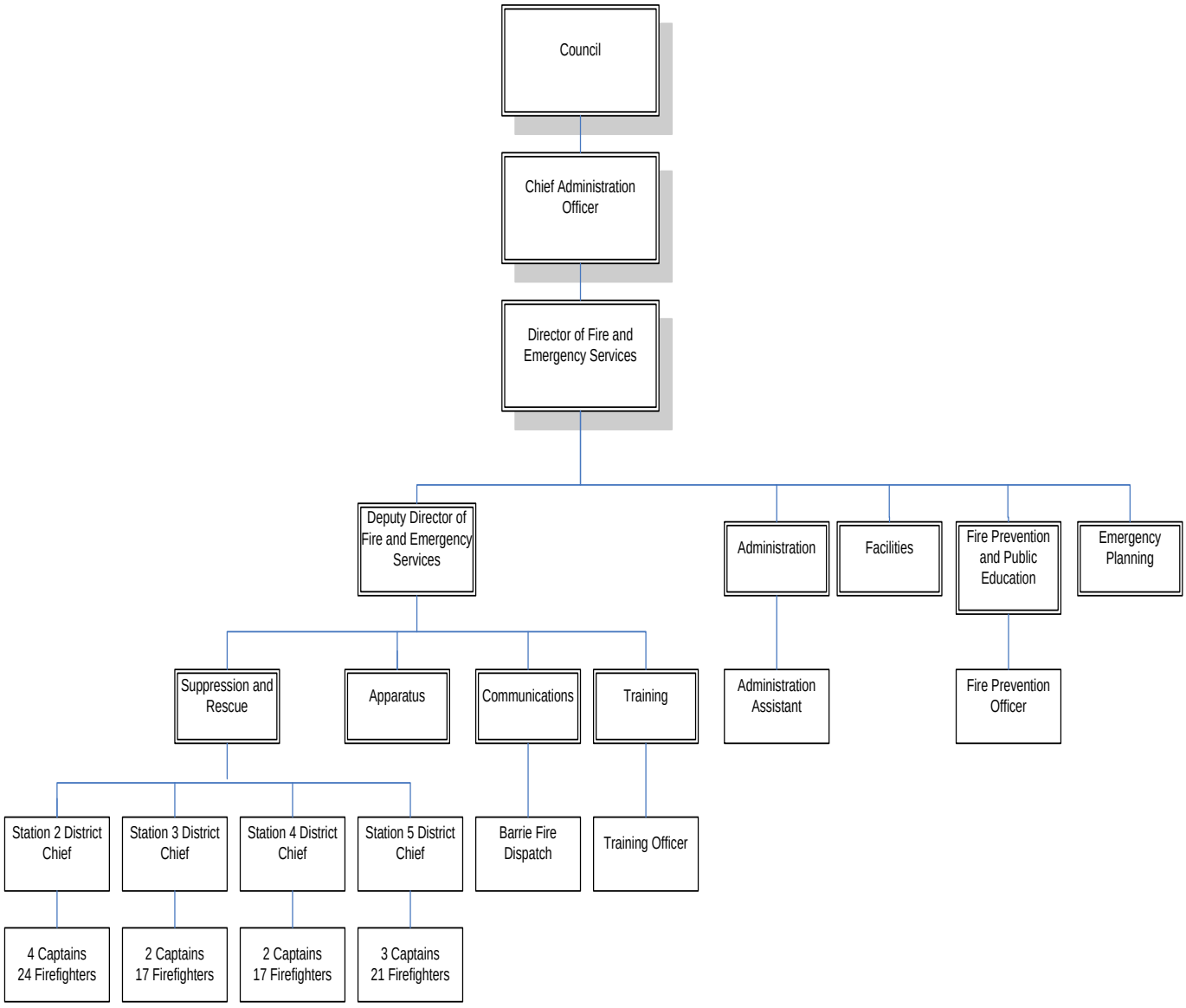
Capabilities of the Existing Fire Protection Services

The Township of Springwater has established a fire department through an Establishing and Regulating By-law as authorized by the Municipal Act .S.O. 2001, as amended. This by-law was established in 2004. The by-law names the department as Springwater Fire and Emergency Services.

The Springwater Fire and Emergency Services is a composite department, employing one full time Director of Fire and Emergency Services (Fire Chief), one full time Deputy Director of Fire and Emergency Services (Deputy Fire Chief), one full time Fire Prevention/Public Education Officer, one full time Emergency Services Assistant, one part time Training Officer (20 hours) and a maximum of ninety (90) volunteer firefighters.

The department operates under a chain of command supported by legislation, standard operating guidelines (SOG), rules and regulations to ensure that we are meeting the requirements of today.

There is an organizational chart with the chain of command provided:



The fire department provides 24 hours emergency response to the community including interior fire attack (including rescue); vehicle firefighting; grass, brush and forest fire suppression; automatic aid; mutual aid; tiered medical response (level B with defibrillation); hazardous material awareness level with minor clean-up; carbon monoxide response; transportation incidents involving vehicles, trains and aircraft including extrication; water and ice rescue (shore based); low angle rescue; search and rescue; farm rescue; public utilities emergency response; emergency plan participation; police and ambulance assistance; and public assistance as set by the township council.

There are several agreements in place for emergency response to assist neighbouring municipalities, including a mutual-aid agreement with other fire departments in Simcoe County. We have an agreement with Oro-Medonte Fire Department to provide them with first response in a specific area of their township, as required. We also have a firefighting agreement with the County of Simcoe and the Ministry of Natural Resources for fires occurring in forested areas.

Recruitment drives that we have conducted in the past have proven to be challenging, but in the last two years we have had more applicants than openings. Thirty new recruits in the last two years have been trained. Retention of these firefighters has also been of concern, as approximately half of the department personnel have less than five years experience.

The fire department is currently in compliance with the Fire Protection and Prevention Act, 1997 as of May 15, 2003, meeting the minimum requirements of a simplified risk assessment, smoke alarm program, distribution of public education material and programs as well as conducting fire prevention inspections upon request or complaint.

The department has received its Fire Department Water Shuttle Tanker Evaluation on April 12, 2008 by pumping 410 gallons a minute for 2 hours giving the ratepayers a possible insurance rebate.

Emergency Response Capabilities 2009

Fire Ground Effectiveness

Fire Department effectiveness on the fire ground has a direct relationship to property damage, environmental damage, personal injury and death.

Factors which influence effectiveness of the fire department include:

- fire risk
- fire ground staffing
- response time
- fire ground command and control
- standard operating guidelines
- firefighter safety
- apparatus and equipment
- fire prevention and public education
- water supply
- firefighter and officer training
- preplanning

Fire Ground Staffing

Adequate fire ground staffing is judged on three considerations:

1) Assembling initial fire attack teams - Minimum fire ground staffing required to initiate a safe, effective interior fire attack including rescue in a 1 - 2 storey single-family dwelling is ten firefighters, including a supervisor. (The Office of the Fire Marshal guidelines on fire ground staffing calls for ten firefighters in ten minutes and the Section 21 Committee, which is comprised of representatives of the fire service, the Ministry of Labour and the Association of Municipalities of Ontario calls for the appointment of a Safety Officer and an Accountability Officer, prior to the commencement of interior fire attack operations.)
2) The assembly of initial fire attack teams has urgency - flashover can occur within 6-8 minutes after ignition. Flashover is a condition where the entire contents of a room reach a flash point and violently ignite. Chances of survival after flashover are very minimal.
3) Sustaining effective fire attack - a successful fire ground operation is often dependant on sustained aggressive fire attack. The ability to rotate fire attack teams frequently and allow for rehabilitation of exhausted crews is crucial, if safe efficient fire ground operations are to be expected.

The Director and Deputy Director have performed an organizational risk and management review of the emergency response capabilities of the Springwater Fire and Emergency Services.

The review consisted of an in-depth review of SFES Standard Incident Reports filed with the Office of the Fire Marshal, Standard Operating Guidelines (SOG) and the services carried out by direction of the Establishing & Regulating By-law.

SFES provides emergency response services from four fire stations strategically located in the settlement areas of Elmvale, Hillsdale, Minesing and Midhurst and serves the township population of approximately 18,000 persons. Within the Township, there are several major highways and connector link roadways which move several thousand automobiles and transport trucks carrying mixed commercial and hazardous materials on a daily basis throughout the four seasons. There is a main east/west rail line that runs through the township from the southeast to the northwest moving many hundreds of tonnes of manufactured goods, raw materials and hazardous materials to central and western Canada many times daily.

Statistics Comparison 2002 & 2008

Occupancy Classification		# of Occupancies 2002	# of Occupancies 2008	Increase / Decrease
Group A	Assembly	155 (includes 7 schools)	156 (includes 7 schools)	+ 1
Group B	Institutional	1	1	Same
Group C	Single family	5434	6361	+ 927
	Multi-unit residential	10	12	+ 2
	Hotel/motel	1	0	- 1
	Mobile homes/trailers	7 campgrounds 931 sites	7 campgrounds 976 sites	+ 45 sites
Group D & E	Business/personal services	174	211	+ 37
Group F	Industrial	52	71	+ 19
Not OBC	Farm buildings (not counted)	Hundreds	Hundreds	+/-
Population		16,104	18,000 +	1,896 +

Much of the building stock and population numbers are accounted for in the single family residential occupancies. New construction in residential occupancies and smaller commercial occupancies now include lightweight trusses and floor joists that don't stand up to fire conditions for more than ten minutes of flame impingement, making structural collapse situations a reality and increases the risk of serious injuries to firefighters. Many of the newer assembly occupancies (i.e. Barrie Golf & Country Club, Vespra Hills Golf & Country Club) and the industrial buildings on Bertram Industrial Parkway are very large in building size and many are remote to the location of the fire stations.

Over the past five years, construction values have increased by $232,269,972, with 2008 having $54,860,981 alone.
SFES provides response to emergency incidents that include:

- Transportation incidents involving heavy trucks, trains and aircraft
- Motor vehicle accidents / extrication of victims
- Motor vehicle fires that also include farm implements
- Water and ice rescue – shore based
- Farm rescue – silo entrapment, disentanglement from machinery
- Fire suppression – grass, brush, forest
- Fire suppression – structures, aggressive interior attack including victim rescue, exposure protection
- Low angle rescue
- Search and Rescue
- Public assistance – trees down, hydro/telephone wires down/arcing, widespread storm damage, smoke alarm concerns, carbon monoxide alarms with/without symptoms
- Tiered Medical Response – Level B with defibrillation, ambulance assist
- Extended Police assistance at motor vehicle fatality accident recreation
- Awareness level hazardous material response – minor spills, gas leaks, clean-up
- Response to our Automatic Aid agreements
- Response to our Mutual Aid partners

Dollar Loss

Year	# of Structure Fires	$ Loss	$ Saved *
2004	14	$ 1,578,400	
2005	11	$ 1,112,600	
2006	8	$ 372,700	
2007	11	$ 2,315,400	
2008	7	$ 892,500	$ 2,108,500
2009	6	$ 1,168,350	$ 606,510

The Fire Protection and Prevention Act,1997 and its predecessor, the Fire Departments Act direct the assistants to the Fire Marshal (fire chiefs, fire coordinators) to report all fires and other matters related to fire protection services to the Fire Marshal. At the direction of the Fire Marshal, dollar loss has been the instrument used for many years to assist the fire service to report their work to the insurance advisory services and the Office of the Fire Marshal (OFM). Fire loss/dollar loss is based on the value of construction and the value of goods and furnishings, etc. to replace fire damaged buildings and chattels. The values were the best estimate of the chief fire official of the day and forwarded to the appropriate source. In 2008, the OFM has directed the Ontario fire service to utilize a “value saved” to assist the service to better measure their effectiveness in fire suppression.

In the chart above, values are based on that year's average costs, determined by department official's consensus. They indicate spikes (2004, 2007) where one or two large values were lost and added to the annual fire damage.

Response

The SFES continues to respond to emergency incidents in greater numbers year after year.

2004	2005	2006	2007	2008	2009
434	500	497	526	585	503

The increase in call volume will be found in greater numbers of motor vehicle collisions, response to tiered medical assistance and calls for assistance (smoke alarms, carbon monoxide calls, and ice and snow storms – wires down) to the public at large.

Structure fires and fires in structures have averaged 11.3 incidents for each year over the past six years – the most, 17 in 2003 and the least, 7 in 2008. The department believes that better fire prevention initiatives, greater amount of public fire safety education programs delivery and advertisements in media publications are winning the public at large over to making Springwater Township a more fire safe community.

One of the measures used to determine efficiency and effectiveness of emergency response is a comparison of assembly time and response time. Assembly time is the time it takes the fire fighters to respond when paged and measured when they drive out of the fire station. Response time is when they're paged to respond and when they are on scene at the emergency incident. The following chart draws the comparison for 2007 and 2008.

The values used are minutes: seconds and are an average of all incident responses for the years indicated by station.

Station	Assembly 2007	Assembly 2008	Response 2007	Response 2008
Midhurst 2	7:19	7:55	14:30	13:48
Minesing 3	6:02	6:30	13:33	12:03
Hillsdale 4	3:51	5:37	9:36	11:26
Elmvale 5	3:26	3:26	8:06	7:32

Results to be noted from the above chart are:

- The assembly times and response times of firefighters for Station 2 – Midhurst inhibits rapid response to incidents. It is taking 14 minutes, on average, to arrive at an emergency scene. This is indicative of where firefighters live and incur travel time to the station. Recruitment of firefighters in Midhurst proper is poor.

The majority of the firefighters live in west and northwest Barrie. Week-day response is very low in firefighter numbers

- The assembly times and response times of firefighters for Station 3 – Minesing inhibits rapid response to incidents. It is taking 12 minutes, on average to arrive at an emergency scene. This is indicative of where our firefighters live and travel time to the station. Factored into the times is the full-time personnel response Monday to Friday, 0830 to 1700 hrs.
- Station 4 – Hillsdale numbers have shown an increase over the shown span. Contributing factors of reduced manpower and longer distance to calls created longer waiting period for sufficient firefighters for the emergency and extended travel time.
- Station 5 – Elmvale has maintained the average assembly time and has reduced their average response time. Week day day-time response is hampered by low firefighter turnout numbers.

Note: The response times shown indicate the arrival of first units at incidents and do not support all required personnel to mitigate the emergency.

Results from the review of Standard Incident Reports/call reports that are common to all stations:

- As a volunteer fire department, firefighters respond to the stations from home or work to travel on fire apparatus to the incidents. Their response is hampered by distance from the station, traffic encountered en route to the station and response to the call location, weather and road conditions and the number that is available to respond.
- Several times throughout the year, each station had daytime responses (Monday through Friday) with two or three firefighters only. They were supported by the fulltime response of two or three from Station 3-Minesing and in most cases, additional stations were dispatched for additional manpower and assistance.
- Evening, night and weekend emergency calls were best supported by numbers of firefighters.
- The response by the fire department continues to struggle to place an effective attack group on emergency scenes in a timely and efficient manner, specifically daytime response. The firefighters arrive at incidents in small numbers over a lengthy time frame – three or four in 10 minutes and would accumulate to sixteen or seventeen in 15 to 20 minutes. This response allows fires to get larger, reduces successful rescues and adds greater risk to the safety of ratepayers, the travelling public and firefighters.

<u>Recommendation # 1 :</u> That Council provide direction to the Director of Fire & Emergency Services (SFES) to establish a plan and schedule to place full time firefighters into service in future years as annual call volume increases, residential housing and industrial growth development occurs and budget is available and approved to support the request. The addition of full-time personnel will provide immediate response capabilities to emergencies, provide maintenance and repair to most department equipment, and continue to support the paid-on-call fire service for years to come.

Additional impacts to the provision of effective and efficient fire service response capability:

- Firefighter turnover – the loss of experienced firefighters through retirement, taking jobs away from the community, moving from the community and loss of interest in the department. Station 2 – Midhurst and Station 4 – Hillsdale have had a large number of firefighters replaced in 2007, 2008 and early 2009.
- Firefighters do not live in the community or close to their assigned fire station. This is indicative of Stations 2 and 3.
- Recruitment and basic training of new firefighters – it takes upwards of three months to have new firefighters responding to emergency incidents.
- Two-man cabs of some current fire apparatus – the apparatus does not deliver numbers of firefighters in a timely manner to do work.

Specialized rescue and suppression services that can be required anytime in the municipality and are not provided by the SFES such as trench rescue, in-water/ice rescue, high angle rescue, high rise fire suppression, CBRN/hazardous materials incidents, confined space rescues and aircraft crashes/fire emergencies. The required training and equipment to provide these services to Springwater ratepayers is staggering in both personnel time and monies.

<u>Recommendation # 2:</u> That Council provide direction to the Director SFES to research ways and means to obtain the specialized rescue and suppression services to be provided in the most efficient and effective manner to the ratepayers and travelling public in Springwater Township and report to Council outlining a plan and schedule for their action.

Facilities

The township fire department operates from four fire stations with one station using the works yard until a new location is located and built for the Midhurst area. The works yard has served as station 2 from April 2004. A new permanent location is being looked at but we are waiting for the Midhurst secondary plan completion to be passed by council before making any recommendations for a new station. The station will have to be planned for 30 years life cycle. Station 3 is a new facility in 2006 and is acting as the headquarters for the department. The Ontario Provincial Police uses this building for the Springwater area. Township uses the facility for training of staff as required. Station 4 is a three bay station that was built in 1980 and needs some upgrades to bring the building up to a fire station standard. Station 5 is a 25 year old six bay building that is housing 5 fire apparatus as well paramedic services has one car stationed at this location. The building has gone through some maintenance is the last four years and appears to be a sturdy building that is meeting the needs of today and the near future.

Fire department administration has performed an organizational risk and management assessment of the fire stations operated by Springwater Fire and Emergency Services.

The assessment consisted of interviews with staff as well as a review of operations, location, suitability and physical inspections of the stations.

Fire stations have an integral purpose and functionality in the community and for the municipality. Primarily, the buildings house the apparatus and equipment that must be out of the weather and protect the investment of the vehicles that experience upwards of twenty five years of dedicated service. Secondly, the stations require room for on-going training, room for indoor maintenance of the vehicles and equipment, washrooms and showers for male and female fire service personnel, kitchen set-ups and facilities for persons with disabilities.

The following assessments of the four fire stations have identified positive features, negative situations or deficiencies and recommendations for improvements or replacement/relocation. With respect to Fire Stations 2 and 4, site locations will be discussed for future development.

Station 2

Station 2 is located at 1463 Snow Valley Road in Midhurst at the Township Works Department Yard 1 facility. Several truck bays have been utilized since 2004 when the Township's stations and personnel that were located on Finlay Mill Road and Sunnidale Road were merged into one, as a temporary location pending a determination and location for a permanent station. The station houses Pumper 21, Tanker 25, Car 22 and 25 firefighters.

For the following reasons the station does not meet the needs of the firefighters currently and will not meet the needs for the future as Midhurst grows;

- Firefighters must assemble and dress into bunker gear in close proximity to starting and moving fire apparatus.
- Ventilation of the existing bays needs to improve as bunker gear is showing signs of diesel exhaust contamination and will lead to health concerns.
- Temporary toilet facilities (shared by male and female) with no shower facilities or lockers is the current norm.
- There is no room for secure and clean storage of supplies or equipment except on the apparatus floor.
- The station uses a small office trailer set up in a truck bay as the office and washroom.
- Fire apparatus must move through the works yard during daytime calls to enter and exit the station increasing the chances of having a collision.
- Sharing the truck bays in the works building, which has a constant flow of dust through the air into the fire station area, leaves a constant film of dirt on bunker gear and fire apparatus.
- There is no classroom or area that is set up for training.
- There is no area set up for the firefighters for cooking or eating of food when required for standby due to extended emergencies or for prolonged calls.
- The future station will require an area where firefighters can sit and rest.
- A communications room is needed for officers and firefighters to complete their reports and statements and to communicate with other apparatus.
- There is not enough room for apparatus upgrades for the future.
- There is no room to work with equipment on the apparatus floor.
- Back-up power is required for power outages.

As outlined in the response capabilities section of the Plan, recruitment for firefighters in the Midhurst area comes from neighbouring areas of the Township and the western/north western portion of the City of Barrie, with few numbers from Midhurst proper. The impact to the fire service is a delayed assembly time in that the firefighters have to travel from home/work to the station and response travel to the emergency incident.

A recent road alignment (summer of 2009) of Seadon Road extending through to Carson Road will allow a significant reduction in travel/response time into the Snow Valley Highlands development. As the development in the Dobson Road/Sunnidale Road area begins, driving Dobson Road through to Seadon Road will allow Station 2 reduced travel/response time and access to that area. That will create cost avoidance by not requiring the start up of the previous Fire Station 1 at the intersection of Barrie Hill Road and Sunnidale Road in Centre Vespra.

When applied to station location, there are no perfect settings to improve on response, short of having full-time personnel at the station. All researched plots of land have benefits and drawbacks, but all have the assembly and response issues in common.

The new fire station setting will have to continue to provide an efficient and effective response to the Midhurst coverage and future growth areas well into the Master Fire Plan term.

Fire services administration, in the short term, will consider the Midhurst response area for tracts of land that would accommodate the new fire station facility and provide the widest area for response for present and future development.

Recommendation # 3: That Council initiate the process of providing for land acquisition, preliminary building design and construction of a fire station in Midhurst response area in 2010 that will meet the needs of current fire service standards and provide for the future fire service growth within the scope of the Master Fire Plan term and the Midhurst Secondary Plan, predicated by legislation requirements, development charges availability, growth and available budget considerations.

Recommendation # 4: That Council provide direction to the Director of Public Works to investigate the opening of Dobson Road to Season Road, and that staff provide a cost analysis in respect to opening Dobson Road versus re-opening a fire station in Centre Vespra.

Recommendation # 5: That Council provide direction to the Director SFES to include budgetary consideration when construction of a new fire station is imminent for emergency power generation to be established for the facility; and further, that budgetary consideration be included for diesel particulate exhaust extraction equipment to be installed in the apparatus parking garage of the said facility.

Station 3

The Township established a new fire services building in the village of Minesing in 2006. It houses the Fire Department Headquarters, Pumper 11, Pumper 31, Tanker 35, Car 3 and 20 firefighters. The station shares the building with the O.P.P. satellite station.

The station has a large, well planned training room that provides an area for both Station 2 and 3 group training. It is also utilized by County paramedic groups and municipal groups from time to time.

- The station has a large natural gas fired generator that provides full AC power to light and heat/cool the building for extended periods of power outages.
- The building has full washroom/shower facilities for both male and female personnel and meets the requirements for disabled members of society.

- The station meets the needs of the department currently and will serve well into the future with minimal budget maintenance requirements.
- Storage room is limited to small amounts and limited filing space.

Station 4

A three bay garage located at the corner of Albert Street and Highway 93 in the Village of Hillsdale serves as the fire station. The station houses Pumper 41, Tanker 45, Car 4 and 20 firefighters. It has a shared single washroom, very little or no storage of size and a small office.

The station does not meet the needs of the firefighters currently and will not meet the needs for the future as Hillsdale grows for the following reasons:

- Little or no parking area at the station for firefighters responding to the station for calls or training; the problem is exacerbated in the winter where snow banks greatly reduce the parking area.
- There is no room for storage of supplies except on the apparatus floor.
- There is no room or area set up for training.
- There is no area set up for the firefighters for cooking or eating of food when required for standby or for prolonged calls.
- The future station will require an area where firefighters can sit and rest.
- A communications room is needed for officers and firefighters to complete their reports and statements and to communicate with other apparatus.
- Washroom/shower facilities will need to be improved in the future to accommodate male/female employees and the disabled.
- There is no room for apparatus up-grades.
- Ventilation of the existing bays needs to improve as bunker gear is showing signs of diesel fumes contamination and will lead to health concerns.
- There is no room to work with equipment on the apparatus floor.
- Station 4 personnel and apparatus must travel to Elmvale Station 5 to take training.
- Trucks must be pulled outside on the tarmac to be able to load hose onto the hose beds which is not adequate during winter months.
- Back-up power should be installed for power outages.

Station 4 should be replaced with an adequately sized facility in the term of the Master Fire Plan to provide the requirements for male/female firefighters and provision of an adequate apparatus area where work can be carried out on the vehicles safely.

Recommendation # 6: That Council initiate the process of providing land acquisition and preliminary building design and construction of a replacement fire station in the Hillsdale response area as development begins in the hamlet, that will meet the needs of current fire service standards and provide for future fire service growth within the scope of the Master Fire Plan term predicated by legislation requirements, development charges availability, growth and available budget considerations.

Station 5

The fire station is located in the Village of Elmvale at 7 Patterson Street. It houses a 6 bay apparatus area, meeting room, kitchen facilities, office spaces and male/female washrooms with showers. The largely brick and block facility is 2 storeys, flat roofed and was built in 1985. The station is in good repair - a new roof was installed in 2005 and the apparatus area was completely painted in 2008. The building still meets the needs of today but will require a few upgrades in the future. It currently houses Pumper 51, Pumper 52, Tanker 55, Rescue 59, Car 6 and 25 fire fighters.

This building is also being used by paramedic services as a base during the day. A primary care unit with an advanced care paramedic responds 7 days/week for 12 hour shifts 8 to 8 daytime only.

The station will need a number of items installed to upgrade and maintain the future use of the station:

- Requires back up power for power outages.
- Requires air ventilation/conditioning system in the office and training room areas.
- Diesel exhaust extraction units in the apparatus bay area for vehicle exhaust.
- Change-up of the apparatus floor drainage system to be disconnected from the sanitary sewer system and be diverted into the storm sewer system.

Recommendation # 7: That Council provide direction to the Director SFES to include budgetary consideration in conjunction with this Master Fire Plan to add emergency power generation for Station 5-Elmvale; and further, that budgetary consideration be included for diesel particulate exhaust extraction equipment to be installed in the apparatus parking garage of the said facility.

Apparatus and Major Equipment

The Township owns seventeen (17) pieces of apparatus, which consists of three pumper trucks, four pumper/tanker combination, three tanker trucks, one rescue trucks and six support vehicles. The apparatus are generally in excellent condition, with the pumps being tested on a regular basis.
Apparatus and equipment are maintained by department staff as much as possible, for example, cleaning, painting, or minor repairs. General Contractors are used when staff does not have the expertise or the time available to complete the repairs.

Fire department administration has performed an organizational risk and management review of the apparatus capabilities and major equipment in the Springwater Fire and Emergency Services.

A key component of providing effective emergency fire and rescue response is having up-to-date, well maintained apparatus and equipment. The purpose of this report is to:

- Summarize the current apparatus and equipment of the department.
- Describe the check, test and maintenance procedures for apparatus and equipment currently in place.
- Outline the replacement program in place for major apparatus.
- Identify any gaps between current apparatus and equipment in the department and recognized standards.

Apparatus Fleet

Fire departments typically utilize several different types of apparatus based on function:

- **Pumpers** are equipped with a pump, water tank and fire hose. They also carry self contained breathing apparatus, spare air cylinders, portable electric generators and lighting equipment, nozzles of various sizes, ground ladders, a roof ladder, an attic ladder, axes, pry bars and an assortment of other hand tools.
- **Tanker's -** primary difference is that the water tank of a tanker generally is larger than one on a pumper and can be used for hauling water to locations that are not protected by hydrants. They may also be equipped with a fire pump or large portable pump, fire hose and the same equipment as a pumper. To provide efficient operations in tanker shuttles, tankers are equipped with quick fill and quick dump devices on their water tanks.
- **Aerials** (aka elevated device) include a pump, water tank, hose, and ground ladders plus an elevated master stream, aerial ladder or platform which provides the capabilities of rescue from height, elevated fire attack streams, a safe working platform for roof operations, and gaining access to upper levels of buildings.
- **Rescue trucks** carry self contained breathing apparatus, medical equipment, generators and lighting equipment, vehicle extrication equipment – hydraulic cutters/spreaders, water/ice rescue equipment, rope rescue equipment,

hazardous materials supplies, greater number of spare air cylinders and a host of other assorted hand tools.

- **Support vehicles** for the use of administrative and fire prevention staff. SFES utilizes the support units for moving personnel during emergency response. One pick-up truck is set up with a small pump and tank and is used for "off road" operations such as brush fires and field fires during the warmer months.

The current apparatus of the department is as follows:

Unit	Type	Description	Yr	Stn	Pump (gpm)	Tank (gal)	Ladders (ft)	Replace Year
Pump 21	Pumper	Spartan **4 dr - 5 seats**	2009	2	1250	800	24/12	2029
Tank 25	Tanker	GMC Topkick **2 dr – 2 seats**	1999	2	1050	900	24/12	2024
Car 22	Utility	Ford CVT **2 dr – 6 seats**	1995	2	-	-	-	Retire 2015
Pump 31	Pumper	Freightliner **4 dr – 5 seats**	2005	3	1050	1000	24/12	2025
Pump 32	Pumper	Freightliner **2 dr-2 seats**	2001	3	1050	1000	24/12	2021
Tank 35	Tanker	Freightliner **2 dr – 2 seats**	2007	3	Port. pump	1500	-	2032
Car 3	Support Utility	Ford F-150 **Seats 4**	2003	3	-	-	-	2012
Pump 41	Pumper	Freightliner **2 dr – 5 seats**	2008	4	840	800	24/12	2028
Tank 45	Tanker	GMC 7000 **2 dr – 2 seats**	1990	4	Port. Pump	1500	-	2015
Car 4	Support Utility	Ford CVT **Seats 6**	2000	4	-	-	-	Retire 2010
Pump 51	Pumper	International **4 dr –5 seats**	2007	5	1250	800	24/12	2027
Tank 55	Tanker	Freightliner **2 dr – 2 seats**	2000	5	Port. Pump	1500	-	2025
Rescue 59	Rescue	HME **4 dr – 6 seats**	1997	5	-	-	-	Refurb 2014
Car 6	Utility	Chevrolet P/U **2 dr – 2 seats**	2002	5	Port. Pump	210	-	2014
Car 1	Support Chief	Ford SUV **4 dr - 4 seats**	2010	-	-	-	-	2017
Car 2	Support Deputy	Ford SUV **4 dr – 4 seats**	2007	-	-	-	-	2014

Municipal council has adopted a fleet management program for the replacement of major fire apparatus. The program is based on a piece of fire apparatus remaining in front line service for 20 years and reserve service for an additional 5 years. Funds have been put into reserves each year in order to maintain the replacement program such that additional funds from taxation are not required in a year when a new piece of apparatus is purchased. Major apparatus replacements have been accomplished with the use of the fleet committee and firefighter committee recommendations under the direction of the fire chief. The committee provides a draft set of specifications for approval, meets with apparatus suppliers to obtain information and assists the chief with the process. This has resulted in functional and practical pieces of apparatus that have been priced within budgetary requirements. It has also been identified that some of the need for apparatus replacement is due to the result of growth. As such, funds from development charges have also been provided as part of the fleet replacement program.

Extensive experience in evaluating municipal fire departments has demonstrated to Fire Underwriters Survey, that fire apparatus should be purchased new from recognized manufacturers and listed in accordance with ULC. Apparatus should be kept on first alarm for twenty (20) years of service, and then retired to reserve status for the next five (5) years. At the end of the reserve period, apparatus should be replaced with new equipment. The Township of Springwater currently borders on becoming a medium sized community, and careful consideration will have to be made in the event of growth. As the township gets closer to a population of 25,000 residents, the life cycle for fire apparatus will decrease to fifteen (15) years as a first line piece of apparatus and an additional five (5) years as a reserve apparatus. Appendix “A” will provide additional vehicle purchases, additions and disposal information for the life of the Master Fire Plan. Appendix “B” has been developed to provide a scenario for a population base of 25,000 to show what will be required for fire protection equipment and apparatus. When the municipality reaches that plateau, the Fire Service Underwriters have indicated that the lifespan of apparatus reduces to 15 years for pumpers and 20 years for tankers and rescue vehicles. This is predicated on increased call volumes and increased wear and tear on the equipment.

Recommendation # 8: That the fleet management program which has been successfully utilized in the past be continued for future planning and, further, that it be revised to reflect a front line service life of 15 years followed by 5 years of reserve service for heavy apparatus as the population of the municipality nears 25,000. It will be necessary to analyze population growth on an annual basis over the span of this plan in order to determine when a population of 25,000 will be reached and determine a revision date for the fleet management replacement program based on that projection.

Apparatus Maintenance

All Springwater Fire & Emergency Services apparatus and equipment are checked and tested on a regular basis at each station. Records of these inspections are maintained by the department. Minor repairs which are identified on these checks are completed, where possible, by the firefighters. Where it is identified that a repair requires the services of a technician, it is noted on the check sheet and forwarded to the Deputy Chief. While the firefighters take care of minor maintenance issues, third party service agents perform all preventative maintenance, repairs and certification on apparatus. The annual preventative maintenance and testing carried out by the technicians include:

- Mandatory Ministry of Transportation (MTO) commercial truck inspection/certification
- Pump operation and capacity testing
- Functional testing and certification of all self contained breathing apparatus
- Servicing all small engines (generators, hydraulic tool power units, portable pumps, power saws, positive pressure ventilation fans).
- Oil and lubrication as required.
- Annual inspection and full non-destructive ladder tests every year per N.F.P.A. 1932.

One service agent is available on a 24-7 emergency basis and has attended fire scenes and each respective station for emergency repairs on a number of occasions in the past.
Monies are deposited annually into reserve funding for replacement of vehicles. Currently, for the size of our municipality, large fire apparatus have a life span of twenty years first line response and five years back-up service. At twenty five years of use, the Fire Underwriter Services determine that the apparatus is not to be considered an operational fire truck. Continued use of apparatus older than twenty five years would be detrimental to the insurance rating of the municipality.

Points to Note

- The department has experienced longer out-of-service periods at times, where there was difficulty in obtaining repair parts for older vehicles, in excess of ten years of age or older. The oldest truck in the fleet at the time of this writing is Tank 45 – 19 years.
- The fleet has become more difficult to work in by the firefighters. Pumpers and tankers are spread out over a number of chassis' and many different configurations of cabinetry where tools and equipment are stored. It is impractical to try to standardize equipment and tools across the fleet. Multiple station response to structure fires and large motor vehicle accident incidents limits the ability of firefighters to know where each piece of equipment is located on each apparatus.

- The fire apparatus manufacturing industry is forecasting 12 to 14 months for building complete apparatus. This point is important when planning for replacement apparatus in a timely manner.
- Recent weighing of apparatus has indicated that the gross vehicle weight rating of the existing commercial grade apparatus is at the maximum levels as indicated by the truck builder specifications. This has occurred as the vehicles must carry sufficient amounts of the varied equipment, water and personnel to mitigate most emergencies. In order to build in a better safety factor into future apparatus/truck applications and obtain maximum "cargo" and personnel delivery, acquisition of custom built chassis' will be required when replacing or adding fire apparatus.
- The municipality does not have an aerial apparatus in the fire department fleet in 2009. Pay agreements with neighbouring municipalities that do have them are in place should the need of the apparatus is apparent at an emergency incident.

Recommendation # 9: That the Council and Fleet Committee support the SFES in purchasing fire apparatus that have four doors and transport a minimum of four firefighters in safety, providing a timely response of sufficient personnel to mitigate emergencies.

Recommendation # 10: That Council direct and the Fleet Committee support SFES to research and investigate the benefits and costs associated to standardize the apparatus specifications and establish single/sole source manufacturing when replacing or adding future apparatus and further that, a comprehensive report will be produced and presented to Council at a future date.

Self Contained Breathing Apparatus

Self contained breathing apparatus (SCBA), also known as "air packs", is worn by firefighters working in hazardous atmospheres in order to provide them with breathable air. They are considered to be one of the most critical pieces of equipment in terms of firefighter safety.

The department has 2 trained personnel that have established an air management program to ensure that SCBA are serviceable and that breathing air is changed and managed on a set schedule. They are able to make minor repairs to the equipment and identify critical deficiencies in operation of the equipment.

The department has 42 sets of 30 minute (2216 psi) SCBA. There are 107 thirty minute cylinders (42 on breathing apparatus and 65 spares).

Fifty air cylinders must be inspected and hydrostatically tested by a third party provider each year due to their age and have a serviceable life of 1year at a time. The balance of 57 air bottles are checked every three years and have a serviceable life to fifteen years, where they would end up being checked each year after that. Currently, the cost for the annual certification is $35/cylinder. At present, there is no set budget program to annually purchase cylinders in order to provide for this service life on a rotating basis.

Recommendation #11: That the department establish a purchase program supported by a set amount of capital budget to examine and replace air cylinders and Self Contained Breathing Apparatus on a required annual basis to provide equipment that is utilized within its service life.

The fire department air program is used to track required testing and retirement of each individual cylinder. The air cylinders are filled using a compressor and air fill cascade system located at the Minesing fire station. This system was purchased and installed in 2008 is rated at 4500 psi and is capable of filling six 30 minute cylinders at one time. The compressor and cascade system is able to be upgraded to fill 45 minute and 60 minute cylinders in the future, should that equipment be needed, at no or little expense. The compressor is serviced and checked annually by a qualified technician and mandatory air samples are taken every six months for analysis by a recognized laboratory.

An additional requirement of the self contained breathing apparatus program is face piece fit testing under Canadian Standards Association Z95 which mandates a respiratory protection program including an administrator. This involves an initial testing of each firefighter to ensure that breathing apparatus face pieces are providing a proper fit and not allowing any contaminants into the mask, and then testing each firefighter every other year to ensure that the fit test is up-to-date. This test is currently done using a fit testing machine linked to computer by software which was purchased in a partnership of two other municipalities. The test results are kept in a computer database. The two staff members managing the air program are also qualified to operate the machine and maintain our fit-testing requirement in the air management program.

Fire Hose

Fire hose is used to supply water to fire apparatus from hydrants and static sources (ponds, lakes etc.) and then from the apparatus to the fire for purposes of fire attack. This is accomplished through several types of hose:

- 6” or 2 ½” suction hoses used to draft water from static sources such as ponds and lakes.
- 4” supply hoses used to moved water from fire hydrants to pumpers or between pumpers (in relay pumping operations).
- 2 ½” and 1 ¾” fire attack hoses.
- 1” forestry type attack hoses for brush and field fires.

The amount of hose carried on each pumper and/or tanker apparatus by the department (by type) on average is as follows:

- 20’ of 6” hard suction hose
- 20’ of 2 ½” hard suction hose
- 800’ of 4” supply hose
- 500’ of 2 ½” attack hose
- 400’ of 1 ¾” or 1 ½” attack hose
- Assorted amounts of 1” forestry hose April through October.

Some of the hose requires drying prior to being placed back on the apparatus in that it is constructed of natural fibres that will mold and mildew if packed wet. To that end, spare hose is available and stored in the stations so that apparatus can be refilled with hose immediately following a call. The department has been moving to rubber hose purchase to move away from the drying component of hose handling. This occurs as hose fails testing or is damaged during operations.

At the present time, funds are included annually in the fire department operating budget to ensure replacement of fire hose on a rotating basis or as replacement of defective hose is required. Annual testing of fire hose is conducted by SFES personnel in house to verify that fire hose is in serviceable condition.

Extrication Equipment

Extrication equipment is utilized to provide access to and facilitate removal of persons trapped by vehicle collisions, farm implements and industrial machinery. It consists of a large assortment of hand tools, hydraulic tools, air bags and other support equipment such as a great amount wood cribbing in various sizes.

The major extrication equipment is in excellent operating condition. It is anticipated that replacement of equipment will be required towards the end time span that this master fire plan encompasses. Upgrades to the existing equipment will be considered on an annual basis through setting operational budget requirement deliberations.
The inventory of major extrication equipment, excluding hand tools and small tools, at each station is as follows:

EQUIPMENT	Stn 2	STN 3	Stn 4	Stn 5
Hydraulic Power Unit-2 tool	1	-	-	1
Hydraulic Power Unit-single tool	-	1	1	-
Combination Spreader-Cutter	-	1	1	-
Spreader	1	-	-	1
Cutter	1	-	-	1
Rams	2	1	1	2
Air lifting bags	1 Set	-	-	1 Set

Extrication operations will be enhanced from 2009 through future years with the addition of Holmatro “Rescuer’s Guide to Vehicle Safety Systems” training manuals and CD’s. The package, purchased January 2009, provides information on each specific vehicle model in terms of battery location, airbag location, gas shock strut location and lag time for air bag activation following disconnection of battery power. The package provides annual updating each vehicle model year and will be a valuable tool for the fire service personnel. Funds for this training program are included in the department’s annual operational budget.

Medical Equipment

The SFES is a partner with the Simcoe County Paramedic Service (SCPS) in Tiered Medical Assist within the municipality. Each lead pumper (5) on the department is equipped with an automatic external defibrillator, a medical/trauma response bag and oxygen administration equipment. The equipment is utilized during emergency response to motor vehicle incidents, acute onset of medical incidents in the home or work locations as well as immediate aid to SFES personnel injured during emergency response.

The medical equipment will be a source of continual upgrades well into future operations as electronic systems become smaller, lighter and more sophisticated. Future purchases and replacement equipment will be researched in a timely fashion as changes are announced or contemplated, and will be included in budget deliberations for acquisition.

Protective Clothing

The protective clothing ensemble worn by firefighters is manufactured in accordance with N.F.P.A. Standard 1971 with the exception of boots which are manufactured in accordance with the Canadian Standards Association. Protective clothing consists of the following elements:

- Helmet including ear flaps and face shields
- Bunker coat
- Bunker pant
- Balaclava (flash hood)
- Firefighting gloves
- Utility gloves
- Firefighter rubber boots (safety steel toe cap, sole plate, non-slip tread)
- Safety glasses

The N.F.P.A. 1851 Standard states that protective clothing requires regular cleaning, annual inspection and certification and has a maximum service life to ten years. SFES currently has the bunker coat and bunker pants on that cycle with 10 to 15 sets being purchased each year as part of the operating budget. With the exception of helmets, the other components do not last for the ten year period and are replaced on an “as needed” basis. Consideration should be given to ensuring helmets are replaced prior to the ten year life span.

All protective clothing is visually inspected by personnel on an on-going basis. Bunker gear which is contaminated is sent to a local certified agency for cleaning as required and receives an annual inspection of all portions of the suit along with any required repairs. These inspections are documented by the company and reports on each suit are forwarded to the department outlining the repairs completed, the cleaning process, and a ranking out of five of the suit’s serviceability.

Administration

Fire service administrative staff and officers are diligently working to meet the increasing demands on the fire service. Complex services coupled with a constantly rising standard of competency of fire service personnel place ever increasing pressures on administrative personnel. These demands come not only from the local community, but also from federal and provincial levels that expect local government to implement their programs. Evidence of this can be seen in the Occupational Health and Safety Act, the Fire Protection and Prevention Act, and others.

The Director and Deputy Director of emergencies services have performed an organizational risk and management assessment of the administration section of the Springwater Fire and Emergency Services (SFES) and were reviewed by the master fire plan committee for their input.

The assessment consisted of an interview with the current administration assistant, as well as a review of the administration programs, filing systems, storage areas and statistics from the administration division. Standard Operating Guidelines (SOG) and the services provided were also reviewed.

The following areas were identified as risks or deficiencies within the administration division:

- A comprehensive set of SOG must be developed and put in place for many of the administration activities – a how-to outline for the processes required to meet the needs of day-to-day operations of the department.

<u>Recommendation # 12:</u> That Council provide support and priority consideration to having SFES personnel engaged in development of SOG and policies for fire service administration.

- There is a requirement for additional filing and the implementation of record retention policies for in-house training initiatives and programs. The municipality is working toward a new system for retaining electronic information, record filing and storages and it is imperative that the fire department is included in that system.

- Codes, Standards & Best Practices – Municipal Legislation –
  - Near - future consideration by Council to review and set the level of services provided by the fire service.
  - Develop and provide a workable regulating by-law for the storage, sales and/or setting off of fireworks.
  - Review annually and update all applicable fire and emergency service by-laws.

- Budget planning for the next Master Fire Plan term of operation will require acknowledgement that as the fleet gets older, additional annual funding will be required to update and configure vehicles for long-life operation i.e. body work, engine/transmission overhauls, etc.

- There will be a requirement for upgrading department computers and programs to ensure the department will be well-positioned to grow with development, as planned in the Township.

- On-going planning must be part of future budget considerations and department operations to address fire services communications which include apparatus VHF/UHF mobile radios, portable VHF/UHF radios, firefighter pagers/systems for call-outs, usage of cell phones and the compatibility issues as they apply to each list of equipment. The review of the equipment must be considered at least yearly but must be done as changes in technology are identified.

- Firefighter training continues to be a concern in the fire department. An initiative provided by Council by way of part-time funding (seven paid hours per week for a part-time training officer) has not worked out through 2007/08 budget years. The 2009 budget year provided funds for a part-time person (twenty hours per week) to develop and deliver training modules for training and certification of firefighters.
    - Training needs to be interesting, directed at services as provided to meet the approved level of service, be meaningful to the firefighters for them to leave their families and be worthwhile.
    - A great quantity of time is required to research, develop, provide and administer a full training course to 100 personnel.
    - The administration time requirement for certification component tracking, paper-copy filing, and follow-up paper work also requires an inordinate amount of time.

<u>Recommendation # 13:</u> That Council consider and support SFES administration when they recommend the hiring of a qualified full-time training officer to conduct training programs, maintain training records and provide emergency response during scheduled hours.

<u>Recommendation # 14:</u> That the Director SFES provides an annual status report as part of the budget process each year to Council to outline the rollout of the Master Fire Plan in subsequent years.

Fire Prevention and Public Education
Public fire safety education, fire safety inspections, code enforcement, planning and fire cause determination/investigation are areas of fire prevention in which the Springwater Fire Department has been involved, to varying degrees.

Fire safety inspections represent a key component of any fire prevention program. Inspections service a number of significant roles including: an opportunity to strengthen public fire safety education initiatives; enhance public safety; monitor fire code compliance; prosecution under the Ontario Fire Code, if required; and the promotion of public relations.

In 2003 Council received its Certificate of Compliance with the Fire Protection and Prevention Act with its commitment to making Springwater a Fire Safe Community hired a full time fire prevention officer. This commitment has been making a difference as the number of incidents involving fire is decreasing and our public education is receiving lots of interest from the public. The fire department is seeking from the Ontario Fire Marshal's Office a current Certificate of Compliance with Fire Protection and Prevention Act.

Fire Prevention

The review consisted of an interview with the fire prevention officer as well as a review of the inspections and statistics from the fire prevention section. Standard Operating Guidelines (SOG) and the services provided were also reviewed.

The performance of the fire prevention section has been quite effective in the past and the number of fires has decreased in the last five years. For example, there were 363 hours of inspection completed in 2007. As there is always room for improvement, the following areas were identified as risks or deficiencies within the fire prevention section:

- A requirement for a SOG for the tracking of complaint and request inspections to insure that other members of the department know how to pass information to the fire prevention officer and also to track where the process is.

- There is a proposed need for a by-law or subdivision agreement to address fire breaks in the new subdivisions under construction where homes are in close proximity of each other. This by-law would also ensure working certified fire hydrant distribution in the subdivision, roadbeds and asphalt that would carry fire apparatus and erected road signs prior to construction starting to name a few requirements. This will assist the fire department to ensure fire suppression can be effective and limit the dollar loss in case of fire.

<u>Recommendation # 15:</u> That Council provides direction to the Director SFES to research and develop adequate standards or agreements to address concerns with large tract subdivision growth in the municipality.

- There is a proposed need for a fireworks by-law to ensure the safety of the public and reduce the disturbance that is associated with fireworks. There were three fires that were started in 2006 due to fireworks and children playing with fireworks. There are a number of municipal vendors and transient vendors that are selling and distributing fireworks. This is a concern to the fire service in that there may be sufficient storages that could level a building should a fire and explosion occur and create untold casualties in both the public and fire service populations. This by-law should be comprehensive and address storage, sale and setting of all types of fireworks.

<u>Recommendation # 16:</u> That Council provides direction to the Director SFES to move forward with the currently developed fireworks by-law for Council approval.

- Funding should be established in the budget for fire investigations that may require engineers or other special groups to review items or buildings during investigations. This budget line would also be extended to paying for demolition with heavy equipment by outside contractors for safety issues during investigations, to make scenes safe prior to turnover to property owners and use of heavy equipment during fire suppression operations.

- A SOG must be created to address fire investigations, the safety of the investigators during the investigations and who does the investigations. A health and safety concern was brought up about what toxins were still in the air during a fire investigation. The use of breathing apparatus, respirators and multi gas detectors would be addressed in the guideline.

- As future development occurs, there will be a need for additional fire prevention staff. This staff requirement could be met by use of trained paid part-time staff or trained full-time staff dependent on perceived work load, report to Council and available funding. Current work levels for the fire prevention officer are manageable at time of the report.

- There is a need to have a SOG to address the dollar loss amount so that all officers are using the same guideline for estimating dollar loss for standard incident reporting.

<u>Recommendation # 17:</u> That Council provides direction to the Director SFES to move forward on research and development of Standard Operational Guidelines for policy to operate within the fire services.

A partnership must be established with the public works department for the modeling of the potable water distribution systems. This would assist the fire department to continue to pre-plan high hazard buildings as well as knowing the water flows that will be required to suppress the fire and number and location of hydrants throughout the municipality.

Public Education

The Fire Department offers a variety of fire safety education programs to both the general public as well as special interest and target groups. The department is active with a program called TAPP-C, an arson prevention program which deals with problem juvenile fire-setters.

We have a number of other programs available which enhance efforts to educate the public, such as, “Alarmed for Life”, a program that addresses residential smoke alarms. These programs require a considerable number of hours to deliver. In 2002, the year that our Smoke Alarm Program was launched with Springwater, we had 201 questionnaires completed. Through this program, we are better able to determine where our problem areas are in the Township. We are noticing now that one area which requires some attention would be in the development and utilization/practice of fire escape plans for households.

The review consisted of an interview with the fire prevention officer, a review of current public education initiatives, programs and statistics from the fire prevention records. Standard Operating Guidelines and the services provided were also reviewed.

The performance of the fire prevention section which has been conducting the public education has been quite effective in the past. In 2008, there were 403 hours spent at sessions on public education.

Issuance of burn permits through By-law # 2006-065, Open Air Burning By-law has been very effective in controlling burning in the municipality and has shown to reduce the number of responses to grass fires and large open burning by citizens.

As there is growth projected in the area and demands increase, we see the following areas as risks or deficiencies within the public education section:

- Station’s 2 and 4 are not favourable to allow the public into the buildings for public education. The buildings are not equipped with female washrooms and neither station has a suitable area for making presentations with setting of tables and chairs. This impacts the school children and seniors in both Midhurst and Hillsdale.

- The current public education initiatives are currently meeting the needs of the community in a cost effective and efficient manner. There is an increase in demand for public education sessions and this demand is being met with additional firefighter hours. Additional hours may be required in the future as the community grows.

- Future program demands and growth in the community will require a public education officer which will be of assistance in fulfilling the mandatory requirements of the emergency management program as legislated by the provincial government for Community Emergency Planning.

- Future budgets should provide for public education tools such as a smoke house, a fire extinguisher simulator and pre-formatted “canned” programs to address fire safety issues in the community.
- Currently, one certified public educator is working in the department. As demand for public education sessions grows, it would be prudent for additional personnel to be certified as public educators. This will provide credibility to the programs.

Recommendation # 18: That Council be updated annually by the Director SFES as to the status of the public education programming in the community; and that Council continues to favourably support the growth and development of public fire safety education initiatives well into the future.

Training

Springwater Fire and Emergency Services (SFES) provide a wide variety of emergency and non-emergency services to the community. The fire department is expected to provide these services effectively, efficiently and safely. In order to accomplish this, SFES does have an on-going comprehensive training program for personnel in place.

The department is mandated to keep training records for each firefighter which documents the training history and competency level of that individual. The training program must be under constant review and revision in an effort to maintain an acceptable level of training that meets legislative and liability requirements. These demands are ever increasing and places added pressures on department resources.

The co-ordination of department training activities, program development and review, personnel performance assessments and profiles, is becoming increasingly complex and time consuming

Training for Department personnel is ongoing and comprehensive. The Ontario General Level Fire Fighting Curriculum is the centrepiece for firefighter training and is based on the provincial standards.

Training in the Fire Department has experienced increased demand in the past few years, as training and record keeping have become progressively important within the fire service. This increased demand has stretched our training resources beyond their efficient means.

Demands of such programs as General Level Fire Fighting Curriculum (GLFF), Section 21 Guidelines, Advanced First Responder, Defensive Driving & Traffic Control and Live Fire Training have proven an overwhelming task to this division. Not withstanding, the greatest impact on the training division has been the constant influx of yearly recruits. Within the past three years we have had approximately 36 recruits. It is an enormous task to train this amount of recruits. This task has taxed the entire department. Lately, the GLFF program and future requirements (specialized modules) have been temporary sidelined due to the time requirement to manage the program. Several firefighters have completed one third of the program and are waiting to continue. As Fire Departments are the catch-all service for new norm of potential threats to our community, personnel require additional training to meet these demands. Terrorism, SARS, and Hazardous Incidents are just a few of the new norms. Recent coroner inquests dealing with firefighter and civilian deaths have produced strong recommendations on the importance of firefighter training and record keeping.

The need for a training officer was expressed by the firefighters on several occasions to coordinate the training and to maintain the attendance and the training records. Trainer/Facilitators should do the actual training.

The Director and Deputy Director of emergencies services have performed an organizational risk and management review of the training section of the Springwater Fire and Emergency Services.

The review consisted of an interview with the training officer, other officers and firefighters as well as a review of the training programs and statistics from the training division. Standard Operating Guidelines and the services provided were also reviewed.

The performance of the training division has been going through growing pains over the past 2 years. There have been thirty-one new recruits added during the last 2 years and the fire services now have fifty firefighters that have less than 5 years experience. This has put pressure on the types and amount of training required.

The different levels of experience have created challenges within the department. Council has approved the hiring of a part time training officer in the 2008 budget
As there is always room for improvement, the following areas were identified as risks or deficiencies within the training division.

1. Additional time is required and must be allocated to the training of Standard Operating Guidelines (SOG) within the fire department.

2. The fire chief and deputy fire chief must complete the review of the SOG with development of new SOG, as the need arises

3. There is a need for firefighter survival and Rapid Intervention Teams (RIT) at emergency events where the safety of our personnel could be compromised. Some work has started on this program and training will start once the training officer is in place.

4. Stations 2 and 4 do not have a meeting room where training can take place. They do not have equipment to assist with training at the stations such as TV and video equipment.

5. Funds have not been allocated for training props in the capital budget for 2008. In the future, it would be beneficial to have the training in the township for the fire department personnel than to send them outside of the township for training.

6. Currently, the department does not have assigned safety officers. This function is being conducted by the Incident Commander but has been assigned to firefighters from time to time. The department needs to appoint several safety officers and have them trained to perform the function.

7. The department has had a part-time training officer that held down a full-time vocation, limited to 7 hours per week, to organize and conduct training for the 4 department fire stations / 95 firefighters. This time requirement did not provide funding that would ensure that training records are being kept up to date and ensure that the firefighters are getting the training that they require. The step of hiring a full-time training officer will provide organized training and will be making it challenging. The firefighters will receive better directed training which may improve department staff retention. It will also ensure that the same message is being communicated.

8. There will be a chance for further future development if we have a training officer that can attend outside additional courses being offered, and return with expanded knowledge that will benefit our personnel.

9. Currently, we have a good records management system (Firehouse). There is a need to have someone to provide data input, maintain the records that are being entered and that personnel are meeting their requirements for knowledge, skill levels and abilities.

Recommendation # 19: Annual review of training programs and documentation will ensure that training of fire personnel will meet service requirements and improve the knowledge, skills, ability and safety of the firefighters, while meeting the industry and legal requirements of records management.

Communications

The Township of Springwater is dispatched by the City of Barrie Fire and Emergency Services Dispatch Centre. The centre is equipped with paging capabilities which operate on the Township of Springwater Fire Department radio system and frequencies. This allows the communicators to instantly notify firefighters of any emergency requiring fire department response. The dispatching system is a computer aided dispatch system with a records management information system, which allows firefighters access to preplan information and history of properties.

The radio system has a tower site installed in the Hillsdale area and a back-up system installed in the Snow Valley area. This has improved the radio communications from vehicle to vehicle, as well as the portable radio communications between firefighters and our dispatchers.

The fire department has installed a computer network in all stations which will link the stations to the dispatchers and the administration office. These computers will be used by the officers to input information about calls into the Firehouse software program. This software will also assist us with the tracking of all personnel records, incident reporting, inspections, fire prevention activities and occupancies, enabling us to pre-plan any high risk buildings.

Our dispatching service (provided by Barrie Fire and Emergency Services) is on a contractual basis. They answer any incoming emergency calls and dispatch the appropriate vehicles to the incident. They also look after contacting additional resources that may be required, i.e. hydro, gas, police, etc. They record all times and other information that is transmitted over the air which is provided to them by the members of the fire department. This information is entered into Firehouse by the dispatchers, and once the call has been terminated, the officers can complete the required paperwork in the system for tracking of personnel at the incident. We currently have an agreement with Barrie Fire and Emergency Services to have a back-up system in case their system fails, due to unforeseen circumstances, as we do not have a back-up system of our own that is fully functional at this time.

Technology

Advances in technology in the fire services industry over the past years continue to impact training, operations and budgets across North America. The Township of Springwater is in the mix when operating and providing a fire service to meet their needs and circumstances under provincial legislation.

The technology has both positive and negative repercussions for each operation within the fire service - making “green” changes at greater cost, provision of better materials for personal protective equipment (PPE) making hazardous work safer and electronic advances that streamline work, offer economic efficiencies and expedited processes.

Some of the points that would be considered:
Emergency Response:

- Heavy apparatus – design, engines and drivelines, markings, lighting
- Mapping – GPS aided response
- Firefighter Personal Protective Equipment (PPE)
- Incident reporting
- Computer Aided Dispatch (CAD) systems
- Software programs for pre-incident response planning
- Mobile, portable radios
- Pagers
- Cellular telephones
- Internet, "World Wide Web"

Administration:

- Software program, "*FireHouse*" – tracking of work, reports, payroll, permits
- Personal computers – efficiency for reporting, communications, records
- Office tools – fax, printers, copiers, telephones
- Electronic filing, records retention
- Communications

Fire Prevention, Public Education:

- Public presentations of fire safety messaging and program delivery
- Computer projector for group presentations
- Completion of field inspections – personal computer, mobile printer
- Report filing, records retention
- Digital pictures during incidents and investigations
- Scheduling

Training:

- Provision of up-to-date training materials for the fire service
- Access to efficient and effective materials from the internet for group training
- Computer projection for provision of programs to greater numbers of personnel
- Data input and tracking of personnel training records
- Formatted digitized training programs with state-of-the-art effects for realistic training provided in-house
- Use of multi-media for training initiatives.

Facilities:

- Consideration for LEED enterprise for new facility construction
- Electrical distribution/consumption reductions
- Opportunities to reduce treated water consumption for fire suppression.

To examine the areas closer and to provide a greater explanation as to where and how the advances impact the Township, we will take each "division" and discuss the benefits and the negatives that will be evident as the Master Fire Plan plays out in the future.

Emergency Response

- Heavy apparatus (pumpers, tankers, rescues, aerials) – future apparatus purchases after the 2009 model year will be initially met with diesel engines having to meet the 2010 emission standards for North America at a cost of 12% greater than 2009. The engines will have diesel particulate after burners to treat the soot created in the engine operation. Along with the engine upgrade, transmissions will be re-engineered to work with the vehicle, again at greater cost. Additional changes through the industry Standards (NFPA, OSHA, ULC, CSA, etc), added more efficient LED lighting, more retro-reflective striping and markings that will also increase cost of vehicles, as much as 15% to 18% over 2009 costing. Savings may be made by sole or single sourcing from one supplier for future purchases.

- Very high frequency (VHF) mobile radios for apparatus and hand-held VHF portable radios are regulated by the federal and provincial governments, and administered by the "Spectrum" – available frequencies for emergency services. The Spectrum has required crunching the output of VHF radios – initially 15 years ago, VHF emergency service radios operated at 25 megahertz (MHz); today, they are moving to 12.5 MHz and in the near future, 6.25 MHz. In order for the radio system(s) to work, the VHF radio industry/manufacturers are moving to digital platforms, at a much higher costing. Savings may be made by purchase in bulk, investigate term leasing or enter into term agreements with system providers.

- Global Positioning Services (GPS) will overtake the use of map books to get around the municipality. Map books take an inordinate amount of time to use, good lighting conditions and an orientation to the municipality to be efficient in getting to the emergency scene. GPS systems placed in the apparatus will provide directions, both verbal and map-like, to the un-initiated and with little training, firefighters will be proficient in getting to all dispatches in an efficient and effective manner. The cost will be less than having map books researched and made and GPS will be updated electronically as the information becomes available.

- Personnel Protective Equipment (PPE) – The firefighters require an inordinate amount of PPE due to the environments that they work in, on an unscheduled basis. The cost of the clothing has risen approximately 8% per year over the past several years and fluctuates with the dollar and the cost of the basic materials.

<u>Recommendation #20</u>: That Council be updated annually by the Director SFES as to the fluctuations in the price of fire service vehicles, equipment, electronics pertinent to the fire service industry; And that Council provide direction to the Director SFES to research and report his findings for fire service industries such as sole or single sourcing for best possible pricing/negotiating for future purchase considerations.

Administration

- Software program, “Firehouse”, provides tracking of hours of all assignments of all personnel, enter issued fire permits into the data bank and linked to Barrie FES – computer aided dispatch, provides inventory data entering and tracking, and all around assistance with administering the fire service.

- Personal computers (PC) provide the luxury of working off site and utilized away from the office. In that vein, the PC’s allow for rapid communication through e-mail and the internet, efficiency in reporting and electronic records keeping. The future use of computers in the fire service should incorporate a network tying the fire stations to the fire services headquarters. That move would bring efficiency within the department by setting up ordering supplies for the stations, send e-mails to personnel, provide internet training initiatives at each station and have a means to communicate with all firefighters.

- Additional office support equipment – fax/copier/printer and colour printer allows the fire department to correspond with ratepayers, business contacts and industry in a positive professional manner. The added update to the telephone system in the Minesing station has also been beneficial to all staff.

Recommendation # 21: That Council continue to provide SFES with quality technical hardware, software and IT support; And that Council direct the Director SFES to provide reports when electronic hardware, software and support becomes available in the future that will move the fire service forward in its growth and development.

Fire Prevention, Public Education

- Fire safety messages and power-point presentations in group settings are easier and more professional with the use of the computer projector and PC.

- The fire prevention officer will be able to take a PC and wireless mobile printer into the field for Fire Code inspections, complete the inspection report at the site, and continue working in the field without returning to the station.

- Technology will assist in filing records, track complaint and request inspections, assist the prevention division in being more effective in the community by streamlining the work processes.

Training

- Technology is playing a great part in effective training that is being provided in-house, such that firefighters can now access programs in their fire station through the computer and the internet. In group sessions, a computer and computer projector can be utilized to put the training on a large screen and provide formatted digitized programs with state-of-the-art effects for realistic training, obtained at little or no cost from fire service provider networks.

- Computer software tracking programs take in data compilation on firefighter information, training records, training scenarios and equipment usage both in training and incident scenes and assists in managing close to 100 personnel records. The information is at the ready for any request as needed and brings the training sector into the forefront.

Facilities

- Technology will be a boon in future building and continued operation of our four fire stations. Incorporation of LEED improvements, motion detection light switches allowing lighting to turn off and on as building areas are used or vacated, use of water storage cisterns linked to eaves- troughing at fire stations will be a source of non-potable water for suppression water in apparatus tanks.

<u>Recommendation # 22</u>: That Council continue to provide direction to the Director of SFES to incorporate where possible, LEED initiatives, electrical load saving switching and any other future technology developments into existing and new fire stations in the municipality as the fire service move forward in its growth and development.

Emergency Management

Springwater Fire and Emergency Services (SFES) administration have completed an organizational risk and review of emergency management participation requirements for the Emergency Management Program, set out in the Emergency Management and Civil Protection Act, R.S.O. 1990 and Ontario Regulation 380/04.

The Township conducts an annual review and training sessions of the Springwater Township Emergency Plan. As required in the legislation, the Township also creates and conducts an annual exercise to test the current Plan. This annual test allows all municipal staff and partnership agencies (Simcoe County, Enbridge Gas, OPP) to work with the Plan to ensure it will manage the “disaster” with the least amount of disruption should a real emergency occur within the municipality.

Springwater has met its performance requirements under the Act for the past several years by meeting the Municipal Essential Level (MEL), as certified by Emergency Measures Ontario (EMO). To qualify for the MEL, the municipality must complete a community risk assessment and identify all crucial infrastructures and develop plans to protect the infrastructure during natural and man-made emergencies, i.e. floods, severe storms, tornado, etc. The MEL also requires the establishment of a Community Control Group, comprised of municipal elected officials, senior managers and administrative staff to work together managing situations to mitigate the effects of emergencies.

As projected growth in the municipality becomes a reality, the emergency management plan, budget and response will need to expand to accommodate the demand of increased infrastructure and population displacement.

At the time of this report, there are no municipal funds set aside in reserve to assist in managing a large scale incident should one occur. Dependent on SFES work load and the expectations of deployment for the Emergency Plan, future budget consideration for the department will be required.

Recommendation # 23: That Council establish and provide reserve funds in the SFES annual budget for the purpose to support Emergency Plan operations in the event of or during long term deployment of staff in mitigating natural or man-made emergencies.

A self-sustaining responsibility period of 72 hours for Spingwater residents during large scale incidents must be conveyed through broad public educational initiatives. This would provide the understanding and the underlying principles for the residents to be safe for a short time frame while broader assistance programs are put into place.

Future considerations and enhancements for the Springwater Emergency Plan should include agreements with social service groups such as Canadian Red Cross, the Salvation Army and other interested service clubs such as Lions, Lionesses, Shriners, and so on.

Recommendation # 24: That Council direct the Director/ Alternate CEMC-SFES to research the opportunities for agreements with social service groups and community service clubs; and that Council favourably support the development and establishment of agreements with said groups such that the Emergency Plan will support and supplement the health and safety of residents of Springwater, during and after large scale natural or man-made incidents well into the future.