Mayne Island Fire Rescue

Fire Department Apparatus Replacement Report

Report Purpose

The purpose of this report is to identify typical roles of the fire apparatus, identify any deficiencies of the fire department apparatus currently employed in provision of emergency services, and then prioritize the selection of replacement fire apparatus, including a review of the vehicle reserve fund.

Typical roles of the Fire Apparatus

Mayne Island Fire Department operates a fleet of six apparatus to provide emergency services.
1 Primary Engine: - Responds to all fire calls, all MVI calls, Hazmat calls, backup for EMA-FR calls
3 Water Tenders - Water Supply operations, backup for second alarm fires (Tender 1 only)
1 Rescue/Light Attack - Responds to all EMA-FR, Rescues, MVI (Jaws), Forest Fire Calls
1 Utility pickup - Responds to all fire calls (Command Post), all non-emergency investigations
(*note: Utility 1 will be outfitted with a Jump Kit, Oxygen & AED and will be the backup for EMA-FR calls*)

The Primary Engine responds to all fire incidents and carries the firefighting equipment and initial attack crew to begin tactical operations of firefighting. Secondary roles of the Engine are to MVI and EMA-FR calls both as a support unit for additional equipment and personnel and as a backup for second EMA-FR calls. To meet Fire Underwriters Survey (FUS) grading, a new Primary Engine (*Engine 2*) will take place of Engine 1 in 2017. It is intended that Engine 1 will remain in service as a second engine for many years to support the Primary Engine and to respond to second alarms in an initial fire attack capacity. As a secondary engine, Engine 1 may be assigned as an attack pumper or as a supply pumper whenever the water source is within 300 metres of a fire.

Currently, Mayne Island does not have any backup vehicles in reserve to cover an apparatus downtime.

The Water Tender Shuttle apparatus are responsible for the water supply on all fire calls, whether structural or wildland fires. During water shuttle operations the three tenders must deliver water at a rate of 265 gallons per minute within a round trip time of 16 minutes or less. With foresight and planning when purchasing, the Water Tenders and crew are also equipped to respond as a backup to deal with small outdoor fires as directed. A failure of one Tender during a water shuttle supply operation reduces the available water supply from 265 to 165 gallons per minute - insufficient to operate two 38mm hoses simultaneously making an ineffective fire attack.

The Rescue / Light Attack apparatus is equipped with EMA-FR supplies, rescue extrication tools, self contained breathing apparatus and firefighting equipment enabling responses to all types of rescue calls: Emergency Medical Aid (EMA-FR), MVI and Auto-Extrication (Jaws), Rescue including Rope Rescue (THARR), Rescue from general situations, including animal rescue and outdoor fires, including brush and forest fires. MVI calls have a huge potential to become vehicle fires and requires additional apparatus dispatched to provide additional personnel to expedite the extrication process and firefighting capacity to protect trapped patients from and extinguish any potential or developing fire. Multiple or simultaneous calls for fires or EMA-FR are not common but do occur on occasion.
A failure of the Rescue / Light Attack apparatus may increase human suffering due to significant delays in response times.

The Utility vehicle is utilized for non-emergency calls, training purposes, Duty Officer calls to investigate complaints, rescue calls and forestry responses.

Emergency Medical Aid calls account more than three quarters of all emergency call responses; whereas fires of all types account for less than 10 percent of emergency responses by Mayne Island Fire Department.

To maintain the accepted levels of service and effective response times, steps must be taken to identify and correct significant deficiencies with any fire department apparatus. In some cases the recommendation will be to replace the apparatus as soon as practicable.

Current Apparatus Details

Designation:	*Description*	*Age:*	*Odometer at 09/2012:*	*Proposed replacement:*	*Projected Cost:*
Rescue: Rapid Attack*	1994 Ford Super-Duty Crew	18 yrs	65,464	2013	$150,000
Tender: Tender 2*	1989 Ford Cargo	23 yrs	305,917	2014	$200,000
Engine: Engine 1	1996 Freightliner FL80	16 yrs	16,708	2017	$375,000
Tender: Tender 1	2000 Freightliner FL80	12 yrs	6,117	2021	$200,000
Tender: Tender 3	2010 Freightliner M2	2 yrs	1450	2030	$200,000
Utility: Utility 1	2012 Ford Super-Duty Crew	0 yrs	322	2025	$70,000

Identified deficiencies:

Rapid Attack* The 2011 Capital Plan identifies Rapid Attack for replacement in the year 2025 at 31 years of age.

However, Rapid Attack has several deficiencies that make it a priority for replacement, particularly considering this apparatus responds to the highest percentage of emergency calls of all the fire department apparatus.

Rapid Attack was heavily modified by DND as a service truck prior to being converted into a Rescue / Light Attack for Mayne Island Fire Department. The deficiencies include

mechanical component substitutions

frame lengthened by approximately three feet

steering performance is extremely poor during manoeuvres of typical intersections and driveways

210 Hp Diesel engine, automatic transmission

Breakdowns of mechanical and electrical components on this vehicle present significant repair problems and delays causing Rapid Attack to be out of service for lengthy periods:

body and engine electrical systems do not necessarily match Ford technical specifications

some mechanical components are not available

certain components added by DND modifications are difficult to identify and are not replaceable

Tender 2* The 2011 Capital Plan identified Tender Two for replacement in the year 2029 at 43 years of age and is not suitable as an emergency response apparatus due to performance, reliability and safety factors.

Tender 2 also has several deficiencies including:

non-fire service rated brake components

modified mechanical components

intermittent electrical and starting problems

165 Hp turbo diesel with manual transmission is underpowered

Converted from a cargo van, Tender 2 was modified by shortening the frame and driveline components. Tender 2 does not carry any firefighting equipment because its capacity is full when loaded with its passengers, full tank of water, a portable tank and a few hoses. In addition to this capacity issue, the vehicle is quite difficult to drive and requires a skilled driver to operate safely and effectively.

Deficiencies and safety concerns include:

non-fire service rated service brake components
undetermined "lean" to one side has not been identified nor repaired
electrical problems that cause an intermittent no-start condition have not been repaired successfully
no-start problems after an engine stall; drivers are not permitted to shut off the engine during calls.
mechanical driveline components modified from stock parts
difficult to obtain replacement parts for this model of Ford Cargo (informed none now available)
(Village Bay Repairs is holding an exhaust manifold in stock for this truck as we have been informed that another will not be obtainable)

Conclusion:

Rapid Attack responds to the highest number of calls of all the apparatus and is regularly required to perform flawlessly during emergency medical aid calls. The community depends on the truck to transport crews quickly, reliably and safely in order to save live, reduce human suffering and protect property and the environment.

Tender 2 is an integral component of effective firefighting tactics and is a key element in the water supply system for structural and wild land firefighting. Sufficient water supply determines the success of firefighter's efforts and limits extent of property loss.

These two vehicles were not built as fire apparatus. Both were purchased as used vehicles and modified for Mayne Island Fire Department. As such, many parts are custom fit and a direct replacement part is not available from a parts depot. These two apparatus exhibit poor performance and reliability when compared against similar factory built apparatus. Mechanical failures or accident caused by mechanical failure of either of these apparatus will not only place the department in reduced response capabilities but other consequences range from minor to severe, including liability, and firefighter as well as public safety.

A policy of purchasing only newly built apparatus provides additional confidence of a long and reliable service life of the apparatus, allowing for future planning based on needs, not on available funding. Replacement should not be based on economics, but on safety, reliability, longevity, and efficiency. The previous scheduled replacement dates are unrealistic expectations considering the demands of fire service and this fire departments requirement:

- Apparatus must be "safe and ready for immediate use" at all times; day and night, all year.
- Apparatus must be equipped to carry the number of personnel and all tools deemed to be necessary to carry out the emergency response tasks of the apparatus purpose and task designation.
- Apparatus must be reliable and readily repairable to be safe and ready for immediate use

Since these two vehicles do not serve their intended purposes effectively, safely, economically, nor efficiently they should be considered for timely replacement.

Rapid Attack should be considered for immediate replacement as our first priority. Tender 2 must also be considered for early replacement as soon as is practicable.

The Fire Department suggests replacing Rapid Attack by July 2013 and replacing Tender 2 by July of 2014. In order to facilitate these purchases, a review of the funding model is included.

Basic Criteria for Fire Department Apparatus Selection
For additional or replacement apparatus, it can be considered best practice to purchase new apparatus only, except in extenuating circumstances such as when an immediate replacement apparatus may be required to replace an unserviceable apparatus due to total loss from an accident or other catastrophic event. Purchasing new will ensure:

Apparatus will have fire service rated components where desirable, including brake components
Apparatus will be built with commonly available commercial vehicle chassis
Apparatus will maintain compatibility with existing firefighting equipment and tools currently in service
Apparatus will have automatic transmission and have a turbo diesel engine
Apparatus will maintain single axle configuration
Apparatus will be certified to NFPA, CAN ULC requirements when applicable

Apparatus design varies greatly. Two examples of appropriate vehicles:

Rescue / Light Attack Primary and secondary tasks:
Emergency Medical Aid; Firefighter Rehab Station at fire incidents;
Rescue - Technical High Angle Rope Rescue; Search & Rescue; animal rescue incidents;
Motor Vehicle Incident - includes Emergency Medical Aid; entrapment rescues (Jaws); fire protection;
Outdoor Fires - grass; brush; wildland; dumpster; garbage fires;
Community Service; ie: EMA-FR Standby for Community event Terry Fox Run;
Firefighter & Personnel transportation
A Rescue / Light Attack must carry the necessary equipment for:
For EMA-FR calls: Jump kit, Oxygen, AED, Blankets
For MVI calls: Extrication tools, Stabilization Equipment, Firefighting Equipment, Hazmat spill kit
For Rope Rescue calls: Life Safety Ropes, Rescue Harness, Rappelling equipment, Basket stretcher
Firefighting Equipment : Hoses, Water, Ladder, Axes, SCBA & spare bottles, saw, fire extinguishers
For Firefighter Rehab Station: Rehydration, nutrition, warming and cooling equipment
Water Tender Primary and secondary tasks:
Water supply shuttle
Relay pumping unit
Outdoor Fires - grass; brush; wildland fires
Firefighter transport to incidents

2013 - New Rescue / Light Attack
4 Wheel Drive Crew Cab Chassis
Hub Custom Light Attack/Rescue
Hub Fire Fighter 200 CAFS
Turbo Diesel Engine 300 HP
Allison 1000 EVS Transmission
Rear SCBA Seats, Electric Ladder rack
Hydraulic Generator, Light Tower

2014 - New Water Tender – MIFRS Tender 3 is an example of a good functional tender design. Care should be exercised to ensure future tender apparatus are similar, if not identical to Tender 3 with improvements

Freightliner M2 Chassis
Hub Custom Enclosed Tanker
Hale AP50 Pump 420 IGPM
Co Poly Water Tank 1500 Imperial Gallons
Cummins ISC Engine 300 HP
Allison 3500 EVS Transmission
Roll Up Doors, Porta Tank Storage, Extendalites
Hard Suction Storage Electric Ladder rack, hose reel

A Water Tender must carry the necessary equipment for:
For Water Supply Fill Site: Supply Hose, Hydrant fittings & tools, hose bridges, safety cones
For Water Supply Dump Site: 2 Porta Tanks, Jet Siphon, Hard Suction Hose, Fittings & Adapters
As a Relay Pumper: On-Board high flow pump, 1200 feet of 4 inch Supply line, Fittings & Adapters
As a Standalone Firefighting vehicle: 38mm hand line, Hose line reel, Pulaski, axe, saw

Fire Department Apparatus Reserve Fund Review
To purchase future planned apparatus, reserve funds are collected each year from taxation, eliminating the need to finance the cost of fire department apparatus. Currently $60,000 is transferred each year into the Vehicle Reserve fund. *(fig. 1)*

(fig. 1) current plan - no change
2011 Capital Plan - Vehicle Reserve Fund - 25 year apparatus replacement projection 2012-2036

Year:	*2012*	*2016*	*2022*	*2025*	*2029*	*2030*	*2036*	-	-	-	-
Balance - opening	115,550	305,550	315,550	245,.550	335,550	195,550	305,550				
Contributions	+60,000	+60,000	+60,000	+60,000	+60,000	+60,000	+60,000				
Disbursements	-50,000	-350,000	-250,000	-150,000	-200,000	-250,000	-350,000				
Balance - closing	125,550	15,550	125,550	155,550	195,550	5,550	15,550				
Replaced Apparatus:	*Command*	*Engine 1*	*Tender 1*	*R/A*	*Tender 2*	*Tender 3*	*Engine 2*				

The present Capital Plan does not provide consideration for any unplanned vehicle replacement and also presents a highly over-optimistic assessment of the service life and functionality for the two oldest apparatus: Rapid Attack and Tender 2. There are no reserves built up to purchase an immediate replacement after a loss.
Continuing with the current plan there will be approximately $185, 000 in the vehicle reserve fund to purchase a new Rescue / Light Attack vehicle at an estimated cost of $150,000. *(fig. 2)*

(fig. 2) current plan - with early replacement of Rapid Attack and Tender 2
Capital Plan - Vehicle Reserve Fund - 25 year apparatus replacement projection 2012-2045 Red Denotes deficit balance

Year:	*2012*	*2013*	*2014*	*2016*	*2022*	*2025*	*2030*	*2033*	*2036*	*2040*	*2045*
Balance - opening	115,550	125,550	35,550	44,450	34,450	104,450	125,550	55,550	60,550	124,450	49,450
Contributions	+60,000	+60,000	+60,000	+60,000	+60,000	+60,000	+60,000	+60000	+60,000	+60000	+60,000
Disbursements	-50,000	-150,000	-200,000	-350,000	-250,000	-70,000	-250,000	-175,000	-425,000	-225,000	-315,000
Balance - closing	125,550	35,550	104,450	334,450	224,450	114,450	64,450	59,450	304,450	289,450	304,450
Replaced Apparatus:	*Utility*	*Rescue/ Attack*	*Tender 2*	*Engine 1*	*Tender 1*	*Utility 1*	*Tender 3*	Rescue 1	Engine 2	Tender 4	T5 & U2

The early replacement of Rapid Attack will cause this funding model to breakdown and creates serious challenges in meeting the funding requirements for any future apparatus replacement.

This funding model also cannot provide funds for the necessary replacement of Tender 2 in 2014, or provide funds for the necessary purchase of Engine 2 in 2016.
In addition, the current plan cannot recover funds before the next apparatus is due for replacement.

The immediate solution to fund the required replacement of Rapid Attack and Tender 2 is to temporarily increase the Vehicle Reserve fund contributions over the next five years only, beginning with the 2013 budget. *(fig. 3)*
Increasing the Vehicle Reserve fund contributions from $60,000 to $100,000 in 2013 through 2018 will enable the purchase of Rescue 1 in 2013, Tender 4 in 2014 and Engine 2 in 2017. Once this is achieved, the annual Vehicle Reserve fund contribution could then reduced to $65,000. Under Mayne Island ID Bylaw #107, Operating Surplus is placed in Capital Reserve, which could be used to cover a shortfall.

(fig. 3) proposed plan - with early replacement of Rapid Attack and Tender 2
2012 Capital Plan - Vehicle Reserve Fund - apparatus replacement projection 2012-2025 Red ink denotes deficit balance

Year:	*2012*	*2013*	*2014*	*2017*	*2018*	*2021*	*2022*	*2025*
Balance - opening	115,550	125,550	75,550	175,550	99,450	130,550	4,450	190,550
Contributions	+60,000	100,000	100,000	100,000	100,000	65,000	65,000	65,000
Disbursements	-50,000	150,000	200,000	375,000	0	200,000	0	70,000
Balance - closing	125,550	75,550	24,450	99,450	550	4,450	60,550	185,550
Replaced Apparatus:	*Utility*	*Rescue/ Attack*	*Tender 2*	*Engine 1*	*none*	*Tender 1*	*None*	*Utility 1*

By the year 2025 there will be sufficient accumulations in the Vehicle Reserve fund to enable the immediate purchase of an unplanned replacement apparatus due to total loss as well as allowing for unknown inflations in true costs that cannot be accurately predicted with today's information.

Financing is an option for Tender 2 replacement and the acquisition of Engine 2 but this would create an additional $50 - 70,000 annual loan repayment over five years, which in fact increases the true cost of the Vehicles due to interest paid. Financing should only be considered for an emergency replacement due to loss until sufficient reserves are built up in reserve. It should be noted that increasing the annual vehicle reserve fund contribution could be a net reduction if including loan repayments and interest in annual expense rather than contributions to reserve.

Following the proposed 25 year apparatus replacement projection plan outlined, the required apparatus are acquired within a reasonable time frame, sufficient reserves are built up for emergency purchases by 2021, and the apparatus replacement cycle is stabilized to a typical five year spread between subsequent purchases to allow for good planning and selection of apparatus.

Steven DeRousie,
Acting Fire Chief

Sept 21, 2012

Mayne Island Fire Dept. 40 year Capital plan

(fig. 3)

year: 2013

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
ANNUAL CONTRIBUTION:	60,000	100,000	145,000	145,000	145,000	145,000	100,000	70,000	70,000	70,000	70,000	75,000	75,000
Recoveries (estimated):	4500	0	15000	9000									
estimated surplus* contributions:	0	35000	35000										

	Model Year	Year Acquired	Year of Replacement	Projected Life Span	Years in service	Age at Replacement												
								1	2	3	4	5	1	2	3	4	5	1	2
Vehicle Reserve Fund Fiscal Start Balance:							116,590	137,413	42,413	12,413	166,413	311,413	6,413	106,413	176,413	246,413	316,413	76,413	151,413
Vehicle Reserve Fund Contribution:							64,500	135,000	195,000	154,000	145,000	145,000	100,000	70,000	70,000	70,000	70,000	75,000	75,000
Vehicle Reserve Fund Fiscal End Balance:							137,413	42,413	12,413	166,413	311,413	6,413	106,413	176,413	246,413	316,413	76,413	151,413	226,413

1750 · Fire Fighting Equipment - Vehicles	Amt Paid:							
1750 · Pumper - Engine 1 (1996)	225,000.00	1996	1996	2017	20	17	20	In Service … 450,000 Engine 2 becomes Primary Engine (Engine 1 becomes 2nd Engine)
1760 · Tender - Tender 1 (1999)		1999	1999	2022	20	14	22	In Service … 250,000 Tender 5 replaces Tender 1
1740 · Utility - Command (retired) (1996)	-	1996	2000	2012	10	13	16	43,677 Utility 1 replaced Command
1765 · Tender - Tender 2 (1989)	65,000.00	1989	2001	2014	20	12	25	In Service … 225,000 Tender 4 replaces Tender 2
1745 · Rescue - Rapid Attack (1994)	101,000.00	1994	2006	2013	20	7	19	In Service … 230,000 Rescue 1 replaces Rapid Attack
1770 · Tender - Tender 3 (2010)	209,000.00	2010	2010	2032	20	3	22	In Service
	Estimate							
0000 · Utlity - Utility 1 (2012)	50,000.00	2012	2012	2022	10	1	10	Utility 1 placed in service July 2012 … 60,000 Utility 2 replaces Utility 1
0000 · Rescue - Rescue 1 (2013)	230,000.00	2013	2014	2032	20	-1	19	Future Purchase … Rescue 1 placed in service January 2014
0000 · Tender - Tender 4 (2014)	225,000.00	2014	2014	2037	20	-1	23	Future Purchase … Tender 4 placed in service July 2014
0000 · Pumper - Engine 2 (2017)	450,000.00	2017	2017	2037	20	-4	20	Future Purchase … Engine 2 placed in service as Primary Engine July 2017
0000 · Tender - Tender 5 (2021)	250,000.00	2022	2022	2042	20	-9	20	Future Purchase … Tender 5 placed in service
0000 · Utility - Utility 2 (2025)	60,000.00	2022	2022	2032	10	-9	10	Future Purchase … Utility 2 placed in service
0000 · Tender - Tender 6 (2030)	265,000.00	2032	2032	2052	20	-19	20	Future Purchase
0000 · Rescue - Rescue 2 (2032)	250,000.00	2032	2032	2052	0	-19	20	Future Purchase
0000 · Pumper - Engine 3 (2037)	475,000.00	2037	2037	2057	20	-24	20	Future Purchase
0000 · Tender - Tender 7 (2042)	275,000.00	2037	2037	2057	20	-24	20	
0000 · Utility - Utility 3 (2040)	70,000.00	2032	2032	2042	10	-19	10	
0000 · Tender - Tender 8 (2030)	265,000.00	2042	2042	2062	20	-29	20	

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
	43,677	230,000	225,000			450,000					310,000		

908 675

9200 · Other													
9201 · HC Building Reserve $44,944 (31aug12)* Health Centre not considered*	10,000	10,000	10,000	10,000	10,000	5,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000
9290 · FD Building Reserve $233,641 (31aug12)	50,000	50,000	5,000	5,000	5,000	5,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000
9291 · FD Vehicle Reserves $131,873 (31aug12)	60,000	100,000	145,000	145,000	145,000	145,000	100,000	70,000	70,000	70,000	70,000	75,000	75,000
9292 · FD Equipment Reserve $20,260 (31aug12)	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000
Total 9200 · Other	115,000	155,000	155,000	155,000	155,000	155,000	155,000	125,000	125,000	125,000	125,000	130,000	130,000

2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046
75,000	75,000	75,000	80,000	80,000	80,000	80,000	80,000	100,000	100,000	100,000	100,000	100,000	100,000	80,000	80,000	80,000	80,000	80,000	85,000	85,000	85,000

3	4	5	1	2	3	4	5	1	2	3	4	5									
226,413	301,413	376,413	391,413	471,413	551,413	631,413	711,413	206,413	306,413	406,413	506,413	606,413	231,413	331,413	136,413	216,413	296,413	21,413	101,413	186,413	271,413
75,000	75,000	75,000	80,000	80,000	80,000	80,000	80,000	100,000	100,000	100,000	100,000	100,000	100,000	80,000	80,000	80,000	80,000	80,000	85,000	85,000	85,000
301,413	376,413	391,413	471,413	551,413	631,413	711,413	206,413	306,413	406,413	506,413	606,413	231,413	331,413	136,413	216,413	296,413	21,413	101,413	186,413	271,413	356,413

265,000 Tender 6 replaces Tender 3

250,000 Rescue 2 replaces Rescue 1

275,000 Tender 7 replaces Tender 4

475,000 Engine 3 replaces Engine 2 (Engine 1 RETIRED)

265,000 Tender 8 replaces Tender 5

70,000

Tender 6 placed in service

Rescue 2 placed in service

Engine 3 placed in service as Primary Engine.

Tender 7 Placed in service

Utility 3 Placed in service

90,000

Tender 8 Placed in service

Utility 4 Placed in service

585,000

750,000

355,000

10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000
50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000
75,000	75,000	75,000	80,000	80,000	80,000	80,000	80,000	100,000	100,000	100,000	100,000	100,000	100,000	80,000	80,000	80,000	80,000	80,000	85,000	85,000	85,000
5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000
130,000	130,000	130,000	135,000	135,000	135,000	135,000	135,000	155,000	155,000	155,000	155,000	155,000	155,000	135,000	135,000	135,000	135,000	135,000	140,000	140,000	140,000

Mayne Island Fire Dept. 25 year Capital plan

(fig. 3)

			2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
	year:			1	2	3	4	5	1	2	3	4	5	1	2	3	4
	ANNUAL CONTRIBUTION:		60000	100000	100000	100000	100000	100000	100000	65000	65000	65000	65000	65000	65000	65000	65000
	Vehicle Reserve Fund Fiscal Start Balance:		115,550	125,550	75,550	(24,450)	75,550	175,550	(99,450)	550	65,550	130,550	(4,450)	60,550	125,550	190,550	185,550
	Vehicle Reserve Fund Contribution:		60,000	100,000	100,000	100,000	100,000	100,000	100,000	65,000	65,000	65,000	65,000	65,000	65,000	65,000	65,000
	Vehicle Reserve Fund Fiscal End Balance:		125,550	75,550	(24,450)	75,550	175,550	(99,450)	550	65,550	130,550	(4,450)	60,550	125,550	190,550	185,550	250,550
1750 · Fire Fighting Equipment - Vehicles	Replacement Value	Year Acquired	Projected Life Span															
1750 · Pumper - Engine 1 (1996)	375,000.00	1996	20						Engine 1 becomes second Engine:			375,000	20 yrs					
1760 · Tender - Tender 1 (1999)	200,000.00	1999	22									Tender 1 replaced by Tender 5:	200,000	22 yrs				
1740 · Rescue - Command (retired) (1996)		2000	16	50,000														
1765 · Tender - Tender 2 (1989)	200,000.00	2001	20		T2 replaced by T4:	200,000	25 yrs											
1745 · Rescue - Rapid Attack (1994)	150,000.00	2006	20			150,000												
1770 · Tender - Tender 3 (2010)	220,000.00	2010	20															
0000 · Utlity - Utility 1 (2012)	70,000.00	2012	15		Utility 1 placed in service July 2012											Utility 1 replaced by Utility 2	70,000	13 yrs
0000 · Rescue - Rescue 1 (2013)	175,000.00	2013	20			Rescue 1 placed in service												
0000 · Tender - Tender 4 (2014)	225,000.00	2014	20				Tender 4 placed in service											
0000 · Pumper - Engine 2 (2017)	425,000.00	2016	20						Engine 2 placed in service as Primary Engine.									
0000 · Tender - Tender 5 (2021)	225,000.00	2020	20									Tender 5 placed in service						
0000 · Utility - Utility 2 (2025)	90,000.00	2025	15													Utility 2 placed in service		
0000 · Tender - Tender 6 (2030)	225,000.00	2030	20															
0000 · Rescue - Rescue 1 (2013)	200,000.00	2013	20															

2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050
65000	65000	65000	65000	65000	65000	65000	65000	65000	65000	65000	65000	65000	65000	65000	65000	65000	65000	65000	65000	65000	65000	65000	65000

5	1	2	3	4	5	1	2	3	4	5													
250,550	315,550	380,550	445,550	135,550	200,550	265,550	330,550	395,550	35,550	100,550	165,550	230,550	295,550	135,550	200,550	265,550	330,550	395,550	145,550	210,550	275,550	340,550	405,550
65,000	65,000	65,000	65,000	65,000	65,000	65,000	65,000	65,000	65,000	65,000	65,000	65,000	65,000	65,000	65,000	65,000	65,000	65,000	65,000	65,000	65,000	65,000	65,000
315,550	380,550	445,550	135,550	200,550	265,550	330,550	395,550	35,550	100,550	165,550	230,550	295,550	135,550	200,550	265,550	330,550	395,550	145,550	210,550	275,550	340,550	405,550	245,550

HUB EST. 1959

FIRE ENGINES

February 12, 2013

Mr. Steve DeRousie , Fire Chief
Mayne Island, Fire Rescue
520A Felix Jack Road
Mayne Island, BC
V0N 2J2

Re: 2014 Ford F-550 Compressed Air Foam, Light Attack Apparatus

On behalf of HUB Fire Engines & Equipment Ltd., Canada's oldest fire apparatus manufacturer, thank you for the opportunity to provide the enclosed bid package.

(1)One new 2014 Ford F-550 CAFS Light Attack Apparatus
[redacted]
All taxes extra.
CAN/ULC-S515-04 tested and labeled.
Delivery & Orientation included.
Prices firm for thirty (30) days.

Terms of Payment - Chassis and pump payment upon respective arrival at HUB factory, balance upon completion.

All CAN/ULC-S515-04 loose equipment that is required for this apparatus as specified in section **(4.9)**, and not listed in this proposal, is the responsibility of the fire department to provide. A letter signed and dated by the appropriate representative of the department stating that this equipment is being provided by the fire department will be required prior to HUB scheduling a ULC test date for the proposed apparatus.

HUB Fire Engines is the Manufacturer, not a manufacturer's representative or a dealer for HUB Fire Engines. Located in Abbotsford, British Columbia since 1959, we are 100% British Columbian owned and operated where the owners take an active, hands on approach. We build in British Columbia for all Canadian climate/weather conditions. ***HUB Fire Engines*** manufactures a formed aluminum style body and is based on design and construction of over 1,100 trucks. ***HUB Fire Engines*** Teamster unionized employees have recognized certification in heavy equipment operation and maintenance, first aid, welding technology and are licensed as machinist, licensed mechanics, certified steel and aluminum welders, journeyman fabricators, journeymen plumbers, gas fitter, electricians, draftsmen, body men, and painters. Service is

handled in our dedicated service bays or on-site by HUB Fire Engine employees or through contract service companies outside our travel territories.

HUB Fire Engines is a fully certified and audited **Underwriters' Laboratories of Canada (U.L.C.)** manufacturer and onsite testing facility, certified Canadian Welding Bureau shop, Dupont Canada certified Commercial Refinisher, authourized installer and warranty center for Hale Products Inc., FoamPro, Whelen Engineering, Akron, Wellington Plastics, authourized service center and dealer for Spartan chassis, ICBC approved body repair shop, and a Ford Motor Company authourized Upfitter.

Our parts department stocks over $1,000,000.00 in current fire apparatus inventory, in Abbotsford.

HUB Fire Engines works with the goal of being a premier builder to the fire service in North America.

Please contact the writer at 1-888-611-2896, 604-859-3124 or **mike**@hubfire.com for further information.

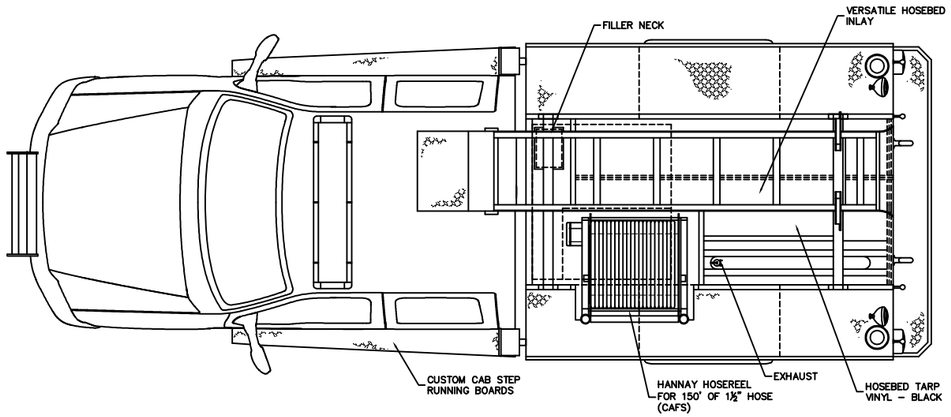
Yours truly,

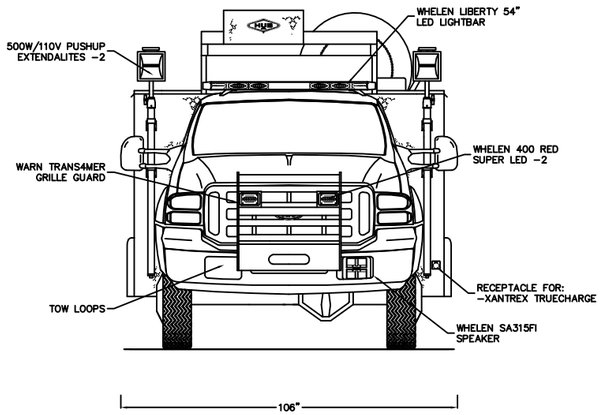
HUB Fire Engines and Equipment Ltd.

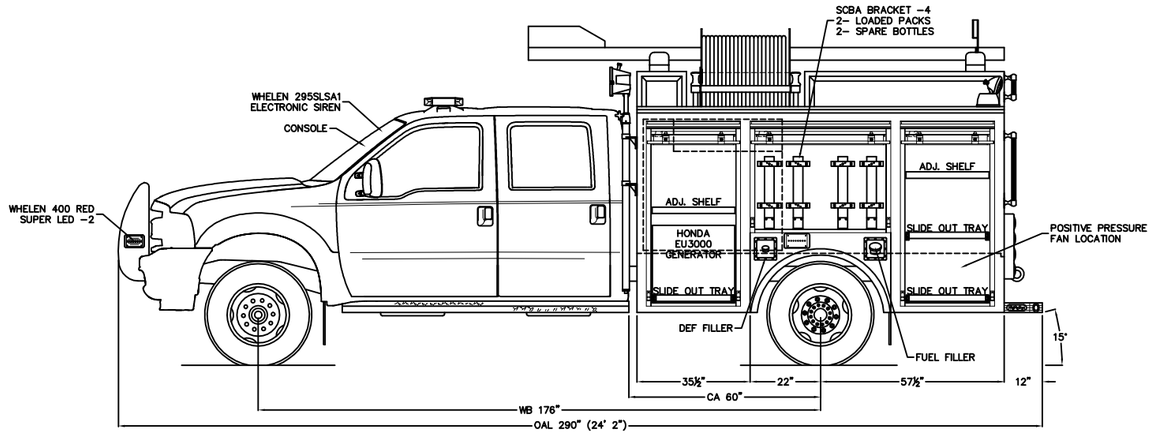
Michael McNarland

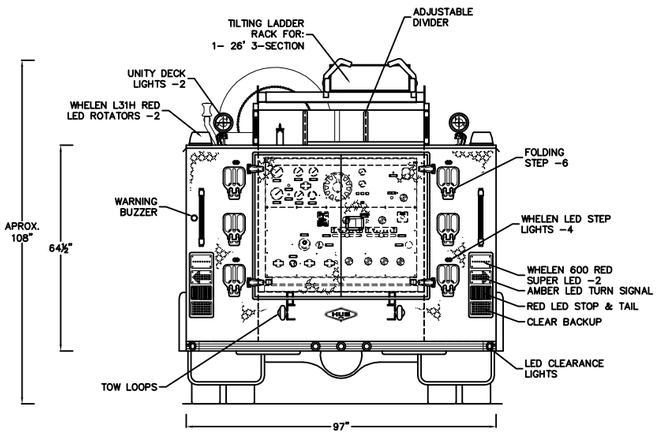
NOTE:

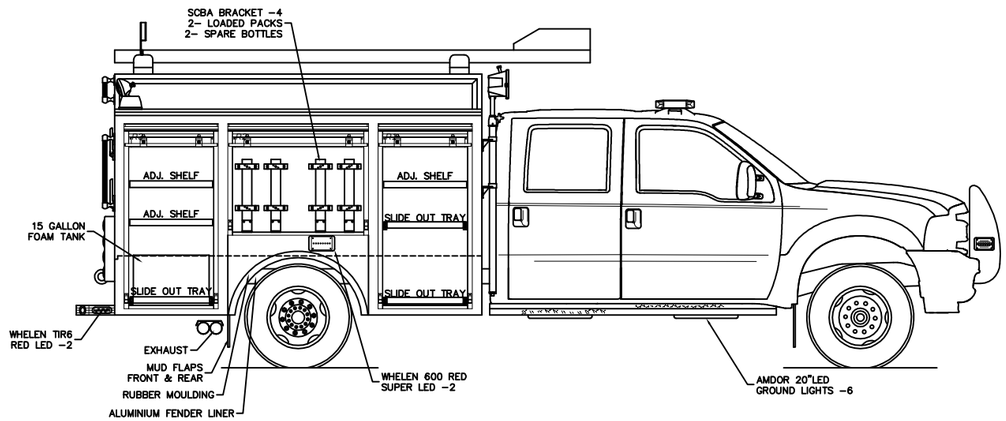
PLEASE REFER TO TENDER
RESPONSE FOR ANY OMISSIONS
OR ADDITIONS IN THIS DRAWING.











CHASSIS

FORD F–550 CREWCAB, 4X4
WB – 176"
CA – 60"
DROP – 14½"
OAL – 290"
OAH – 108"
OAW – 106"
AOD – 15°

HOSEBED

WIDTH – 52"
LENGTH – 96"
DEPTH – 10"
VOLUME – 24 CU.FT.

HOSEBED FLOORING: VERSATILE
DIVIDER MAT'L: ⅛" ALUMINUM
(** DIMENSIONS ARE FOR MAIN HOSEBED ONLY)

BODY – 115" LONG

MATERIAL: ALUMINUM
⅛" & 3⁄16" SHEET, ⅛" CHECKER PLATE, AND EXTRUSIONS

DOORS: ROLLUP DOORS – AMDOR

		DR. SIZE:	DR. OPNG.:	COMPT. DIM.:
LEFTSIDE –	L1	29½" X 58"	27½" X 53"	32½" X 61½" X 22½"
	L2	44" X 33"	42" X 28"	44" X 36½" X 22½"
	L3	29½" X 58"	27½" X 53"	32½" X 61½" X 22½"
RIGHTSIDE –	R1	29½" X 58"	27½" X 53"	32½" X 61½" X 8"/22½"
	R2	44" X 33"	42" X 28"	44" X 36½" X 22½"
	R3	29½" X 58"	27½" X 53"	32½" X 61½" X 22½"
REAR –	RR	54" X 44½"	52" X 42½"	

COMPARTMENTS COMPLETE WITH CUSHION TILE INLAYS, WHERE APPLICABLE

REAR PANEL: ⅛" ALUMINUM CHECKER PLATE

TAILBOARD: 12" WIDE BOLTED ON W/ ½" SPACER
⅛" ALUMINUM CHECKER PLATE & EXTRUSIONS

– AMDOR LUMABAR COMPARTMENT LIGHTS
– TRACKING IN ALL COMPARTMENTS

BOOSTER TANK

MANUFACTURER: WELLINGTON PLASTICS
VOLUME: 225 IMPERIAL GALLONS
MATERIAL: POLY

CAF SYSTEM

HUB FIRE FIGHTER 200
15 GALLON FOAM TANK

NOTE

– NOT NECESSARILY DRAWN TO SCALE.

REVISIONS

DATE:	DESCRIPTION:	INITIAL:

HUB FIRE ENGINES & EQUIPMENT LTD.
ABBOTSFORD, B.C. PHONE: (604) 859–3124 FAX: (604) 859–5821

BREAK AND SHEAR	PLUMBING DEPT.	ASSEMBLY
WELDING DEPT.	ELECTRICAL DEPT.	FILE COPY
SCALE : 1/2" = 1'	APPROVED BY :	DRAWN BY : M. MCNARLAND
DATE : FEB. 07, 2013		

MAYNE ISLAND

FORD 4X4
C.A.F.S.

DRAWING NUMBER : 13–011H

EMERGENCY VEHICLES, EQUIPMENT & SERVICE

February 18, 2013

Mayne Island Fire Department
520 A Felix Jack Road
Mayne Island, BC V0N 2J2

FIRE APPARATUS QUOTE

Attention: Steve Derousie– Fire Chief
RE: Initial Attack (Mini Pumper) – Fire/Rescue Truck

Dear Steve:

Rocky Mountain Phoenix and Rosenbauer would like to thank you for the opportunity to quote on your new Fire Apparatus requirements and are pleased to offer the following:

One (1) "**Rosenbauer"** Mini Pumper assembled on a new 2013 Ford, F-550, 4x4 four (4) door cab and chassis with a Power Stroke 6.7L V-8 Diesel engine and 6-speed automatic transmission. The apparatus shall feature a Rosenbauer Fox II 423 GPM rear mounted engine driven pump with rear mount controls; 300 Imperial Gallon booster tank; Scotty Around the Pump foam system with a 20 Imperial Gallon class "A" foam cell. The apparatus rescue style body shall be constructed of formed & extruded aluminum. The apparatus will be ULC-S515-04 tested at the factory by ULC listed and labeled as an Initial Attack Fire Fighting Apparatus.

BASIC PRICE	[redacted]
H.S.T 12%	
	=========
TOTAL - FOB Mayne Island, BC	[redacted]

- Price quoted valid for 30 days only – March 20, 2013
- This quote is for a "Tag On" order of the Denman Island truck specification.

TERMS:

- 10% down payment upon placing order.
- One (1) progress payment equal to the value of the chassis upon arrival at our plant.
- Full balance due at time of apparatus delivery.

EMERGENCY VEHICLES, EQUIPMENT & SERVICE

WARRANTY:

Warranty & service work are available to you from our Red Deer & Abbotsford location as well as on site mobile service trucks. We also offer Rosenbauer warranty through Victoria Fire Department. Warranties on your apparatus will be as follows:

Chassis Basic	**One (1) Year**
Engine	**Five (5) Years**
Pump	**Five (5) Years**
Booster Tank	**Lifetime**
Body Structural	**Five (5) Years**
Paint	**Five (5) Years**
For all other warranties, please refer to the warranties stated in the specifications.	

DELIVERY:

- Delivery date is dependent on your Purchase Order. Our current production schedule dictates completion at approximately 300 days from date of preconstruction meeting as long as there are no delays with the chassis.

Rosenbauer mini pumpers are manufactured in its Lyons, South Dakota plant.

As proof of our ability to build to your requirements, **Rosenbauer** has placed in service over 5000 units. **Rosenbauer** provides full parts and service. Qualified technicians are available for our product line as well as support from our major component suppliers. Rosenbauer maintains a parts inventory of over $5,000,000.00 and have quick access to most of our major component suppliers.

Your apparatus would be delivered to your community by a qualified technician, who will also train your personnel on the vehicle.

EMERGENCY VEHICLES, EQUIPMENT & SERVICE

YOUR AREA SERVICE CENTER AND REPRESENTATIVE ARE:

ROCKY MOUNTAIN PHOENIX
#103 – Queen Street
Abbotsford, BC
V2T-6J3

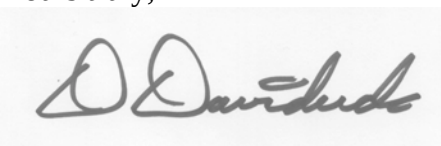
Mr. Darren Daviduck

Territory Representative
Apparatus Sales

Kelowna, BC
250-870-0678

We look forward to serving you and your community. Should you have any questions, please call me at 250-870-0678 or our New Apparatus Sales Manager, Carey Feduniw at 1-800-494-4210.

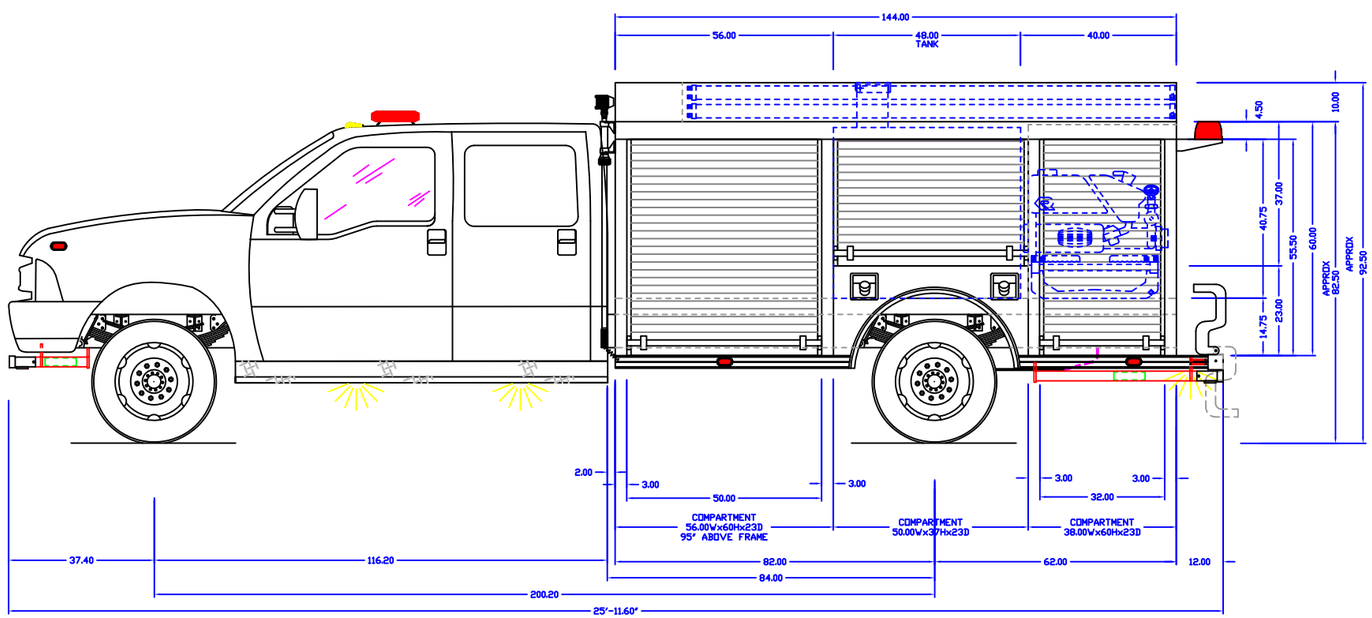
Yours truly,

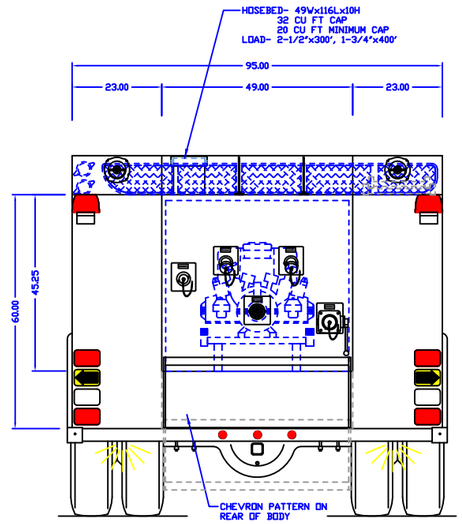


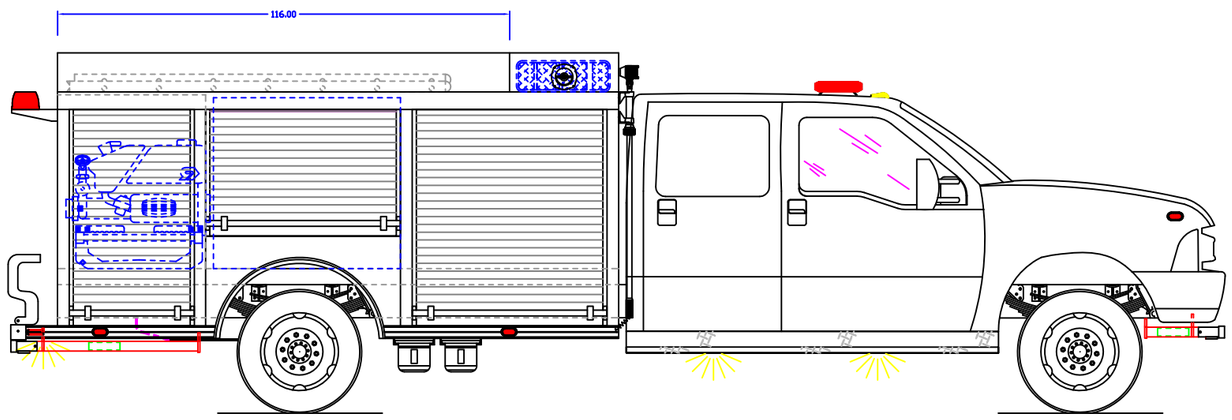
Darren Daviduck
New Apparatus Sales
ROCKY MOUNTAIN PHOENIX
darrend@rockymountainphoenix.com
Kelowna BC

Cc. Carey Feduniw, New Apparatus Sales Manager

NOTES:
1. OVERALL HEIGHT IS IN LOADED CONDITION. UNLOADED HEIGHTS MAY BE 4" ABOVE HEIGHTS SHOWN.
2. DO NOT SCALE DRAWING.
3. ALL DIMENSIONS ARE APPROXIMATE AND SUBJECT TO ENGINEERING CHANGES.
4. DRAWING MAY OR MAY NOT SHOW ALL ITEMS AS DESCRIBED IN THE WRITTEN DETAIL SPECIFICATIONS.
5. INCLUSION OF AN ITEM ON THE DRAWING DOES NOT CONSTITUTE INCLUSION OF THAT ITEM WITH THE FINAL DELIVERED UNIT.







REVISED: -	DATE: -
DRAWN: MMA	DATE: 02-18-13

APPROVED BY:

CHASSIS: FORD	
PUMP: ROSENBAUER	
TANK: POLY/360	
PANEL MATL: THERMOPLASTIC	
COMP INTERIOR: SPATTER PAINTED	
MAXIMUM HEIGHT	NONE
MAXIMUM LENGTH	NONE
BODY WIDTH	95"

MAYNE ISLAND FIRE DEPT, BC

ROSENBAUER MINI

DRAWING NUMBER: mayne island, bc

REV: -