



Office of
Department of Public Works
Office: 781-834-5596
Fax: 781-834-8648

Town of Marshfield

Department of Public Works

Highway Division

35 Parsonage Street
Marshfield, MA 02050

2015 SNOW & ICE REMOVAL REPORT & SUMMARY

Introduction

The Town of Marshfield Department of Public Works has developed a town wide **SNOW & ICE REMOVAL POLICY** to insure safety for the town's residents, employees and other citizens that travel through the Town of Marshfield. Since the winter of 2015 we felt that it was necessary to rewrite the policy and add some changes we feel will better serve everyone involved which we will be detailed later in this summary. Our main priority when developing a policy is **PUBLIC SAFETY**. Ensuring safe passage throughout town; ensuring continuous ability for emergency personnel and vehicles to respond to emergency situations 24/7 and maintaining a safe work environment for our public works personnel.

Responsibilities and assignments

The Deputy Superintendent of Public Works along with the Highway Division Foreman oversees the snow/ice operations for the Town of Marshfield. The town is then broken down into five sections and each one of the Assistant Foremen is responsible for an area. These responsibilities include oversight of the town employees and private contractors in their area, maintenance of the roads in their sector and overall safety of the personnel working in their area. Presently the Town of Marshfield has fifty pieces of town equipment on the road for storm operations as well as sixty private contract vehicles. All equipment and personnel are divided up and deployed to their assigned areas. We now have a detailed mapping system illustrating the areas along with the personnel assigned to those areas.

Procedures and actions taken during a snow/ice event

In the northeast every snowstorm is different, therefore there are several different factors to determine and what actions need to be taken to combat the storm. A storm that is forecasted as an all snow event would be addressed as follows:

- Pre-treat road surfaces: Before the snow/ice begins we would assemble the salt/sand crew and get them out on the road with their assigned vehicles and treat their assigned routes.
- If the forecast calls for accumulating snow the pre-treating process would be done once and the crews would reassemble at the DPW garage and begin hooking up their snowplows.
- Once we have an accumulation of two inches we will then deploy all town personnel to their assigned routes to begin plowing. Once again, if we know a heavy snowfall is evident, we will also deploy all the private contractors out on their assigned routes as well.
- If we are expecting a light snowfall we will deploy all our department resources to combat the storm and will most likely use our private contractors to assist us with the school lots. This procedure also applies to a snow turning to rain scenario where all our resources are not needed.
- Snow to ice and snow to ice back to snow scenarios are a difficult challenge. In these situations we tend to use more salt to combat the elements and at times it takes the department longer to get a safe road results.
- Snow plowing operations are the same for all storms; main roads get plowed first, secondary roads and developments next and dirt/private roads and town parking lots are last.
- Heavy snowfalls, a foot or more, our snow/ice operations will more than likely be delayed and or prolonged. Secondary roads, developments and private roads will more than likely be one lane or impassable for a period of time until we can get caught up.

Determining factors regarding personnel and public safety

Numerous questions have been brought to our attention this past winter regarding our snow/ice policy and operations. This was an unprecedented winter; here in southern New England many of us experienced two blizzards as well as eight feet of

snow in a five week period. Just so everyone is aware, the Town of Marshfield and several other communities are not equipped to handle that amount of snow in such a short period of time.

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Along with the eight feet of snow temperatures never rose above the freezing mark for forty-five days there was no melting of the snow, therefore snow just continued to pile up. With the amount of snow that fell, the ferocity of the storms, all the storms occurred on weekends along with tremendous amount of cleanup that took place the snow and ice budget was obliterated. As mentioned, several determining factors regarding personnel and public safety weighed in on the cost of FY2015's snow/ice removal budget. I will list some of the obvious reasons and explain the reasoning below:

- Personnel and contractual obligations: The Town of Marshfield DPW is a union shop therefore management has contractual obligations that we need to abide by. Anything beyond forty hours of work is overtime; all of our storms occurred on weekends therefore our personnel received time and one half or double time during snow/ice operations. This resulted in nearly three-hundred thousand dollars in overtime.
- Every snowstorm we had resulted in the department relying on extensive assistance from our private contractors. End result, hundreds of thousands of dollars spent on contract help as well.
- Snow removal (night operations): Due to the amounts of snow that continued to accumulate and pile up we had no choice but to haul snow away from intersections, parking lots, schools and developments. We were looking at long range forecasts; the forecasts were showing more storms on the horizon so we needed to make room for additional snow. In order to do this we had to use heavy equipment in the area of travel on the roadways. Due to traffic hazards, vehicles on the roads, the only safe time to operate and get anything accomplished is at night. Again our personnel were on overtime and we had to mobilize our private contractors (heavy equipment and dump trucks) to assist with the cleanup.
- We experienced a several breakdowns throughout the winter resulting equipment downtime and additional costs as well routine winter maintenance totaling to \$125,539.99
- During several of the major storms we experienced six water main breaks and sewer plant issues. A major part of our snow and ice operations is that all of the water and sewer personnel work along with the highway division and are assigned routes to assist with the snow and ice removal operation. When a water main break or sewer plant issue arises all the personnel from those divisions are reassigned to their respected divisions to repair or resolve the issues at hand. When an event like that happens we automatically lose eight to sixteen vehicles and personnel from assigned plow routes. Long term results, those assigned roads and routes get delayed from being cleared until we can get other resources assigned to those neglected routes. This contributed too much of the narrow side streets we experienced as well as delays in getting sidewalks and intersections cleared. The end results were our personnel had to work extra hours to compensate and get caught up which attributed to higher costs in overtime and contract labor.

Spring Cleanup and storm repair operations

As expected we had a various amount of storm damage repairs to do when April rolled around. I will breakdown the various projects we did and are still doing, they are as follows:

- Brant Rock, Foster Avenue, Blue Fish Cove and Bay Road cleanup: Our DPW crews, along with some contract labor assistance, spent the better part of April restoring these areas back to livable status.
 - Contract dozer work - \$7,000.00
 - Labor wages - \$16,000.00
 - Off road truck - \$3,000.00
 - Excavator - \$7,000.00
 - Bobcat - \$6,800.00
 - Loader - \$20,000.00
 - Six wheel dump - \$3,000.00
 - **Total - \$62,800.00**

- Eighty percent of the work was done with DPW equipment and personnel. Therefore most of the cost was absorbed within the DPW budget, although we had to deploy our resources to these areas that were -

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- In need of dire assistance. All of the little side streets (North, Middle and Bryant) were three feet under rubble (stone and sand). Foster Avenue was covered in nearly eighteen inches of mud and sand as well. In total we removed two thousand tons of material away and re-applied the material back to its natural habitat, the beach where it came from.
- We also have repaired and are continuing to repair several fences and stone walls damaged due to snow and ice removal. These repairs are not being charged to the snow and ice budget; we are using DPW funds and personnel to make these numerous repairs.
- As spring moved along we had several complaints of minor damage to property throughout town that we repaired with DPW equipment and personnel. These complaints were ranging from lawn damage, shrubs and bushes and minor driveway damage.

Summary

As mentioned before, this was an unprecedented winter! We broke several records regarding snowfall, cold spells, salt shortages, ocean ferocity and storm impacts to the coastline and all happening within five weeks. The bad news is that the National Weather Service is predicting that this past winter could be the normal winter for the next four to five years. With that being said, I feel that this is the appropriate time to reach out to the advisory board as well as capital outlay committee regarding our equipment. We have mentioned previously that the Town of Marshfield is not equipped to handle a winter like 2015. The amount of wear and tear that our equipment endured moving the copious amounts of snow this winter has shown its long lasting effects. Several of our pieces are older (2005 and older) and will probably not make another severe winter. Our equipment maintenance team did a phenomenal job this past winter keeping everything on the road; speaking with our EM foreman (Paul Frenchko) twelve of our snow emergency vehicles will not make it through another rigorous winter. Not to mention, those twelve vehicles are also part of our daily operation. We understand the financial stresses the town is feeling and we are doing the best we can to keep our old equipment up and running; but we have to upgrade some pieces in the near future.

As far as changes in operation to conserve funds, we will not change our policies regarding snow and ice operations. This is a public safety matter, hence the reason why the state will allow towns to deficit spend snow and ice budgets. The DPW works very closely with Marshfield Police, Marshfield Fire and the EOC. Everyone monitors each other and there's constant communication between agencies. Therefore when the police and fire need assistance, such as a road being plowed or sanded or a vehicle needs to be towed out of a snowbank, we can be there within minutes. Essentially all three agencies are in operation twenty-four seven during a winter storm, hence the public safety mission remains intact. Another focus of the operation is keeping up with the snow on the roads. Even though we are all under the gun during a snowstorm, people still need to go to and come home from work. Several people are considered essential personnel at their work and can't just take a snow day and stay home. Also if we don't keep up with removing the snow from the roads it will be much harder to move the deeper and heavier it gets. With that being said, sending personnel home during a snowstorm and having them come back is not a viable option. Furthermore, if we did send personnel home we may not get them back due to the weather conditions and the fatigue factor. During a major snowstorm we manage our fatigue factor in house; we send personnel in to the DPW facility every four to six hours to get something to eat and rest up for a few hours. Many major snowstorms can last 24 to 48 hours, therefore giving the crews adequate rest periods is a vital part of the operation otherwise things could come to a grinding halt and the operation would suffer. Another point that I touched on previously was the fact that all the snowstorms of winter 2015 took place on weekends. Weekend storms mean when the crews are called in they are paid overtime (time and one half, double time or double time and one half their regular rate of pay). Seven major snowstorms on seven consecutive weekends resulted in \$309,110.79 in overtime. Our total snow and ice budget is \$400,000.00 for the year, so seventy-seven and one half percent of the budget was DPW overtime, which left \$90,889.21 in the budget for salt, sand, contract plowing, repairs and nighttime snow removal operations. We overspent the snow and ice budget by 346.89 percent in 2015. Why, seven major snowstorms equaling to 107 inches of snow in a five

week period with temperatures below freezing the entire month of February. All department figures and budgets are listed within the other information provided with this report.

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- ❖ **2015 total snow and ice budget for the Town of Marshfield as of June 8, 2015 – (\$1,822,172.69)**
- ❖ **Deduct from total (\$388,000.00) for snow removal from school roofs subtotal – (\$1,434,172.69)**
- ❖ **Comparison snow and ice budgets from nearby towns and cities for 2015**

Quincy -	\$13,500,000.00 as of March 3, 2015
Somerville -	\$10,300,000.00 as of March 3, 2015
Worcester -	\$6,600,000.00 as of March 3, 2015
Lowell -	\$4,500,000.00 as of March 3, 2015
Weymouth -	\$3,600,000.00 as of March 3, 2015
Plymouth -	\$2,300,000.00 as of March 3, 2015
Hingham -	\$1,400,000.00 as of March 3, 2015
Hanover -	\$800,000.00 as of March 3, 2015

South Shore Communities in total \$10,000,000.00 over budget with snow and ice

Report submitted by:

Shawn T. Patterson
DPW Deputy Superintendent
Town of Marshfield, MA