

TOWNSHIP OF BYRAM

NEW JERSEY

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MEMORANDUM

TO: Township Council

FROM: Joseph W. Sabatini, Township Manager

DATE: September 25, 2020

RE: Road Resurfacing – Annual Dedicated Funding and Program Support

Objective:

- Establish and support an annual dedicated road resurfacing budget.
- Council support for road resurfacing program.
- Byram Township's roadway improvement plan covers the maintenance of 52 miles and about 718,516 square yards of Streets and Roads.
- Milling and Paving is the desired Road Treatment Program.
- To Mill and Pave all roads in the Township using estimated 2021 costs it would total \$11,855,519.
- Annual requested Dedicated Budget for 2021 starts at \$900,000, adjusting annually based on price indicators, and assuming an average 13-year pavement schedule.
- This dedicated budget does not include additional maintenance costs for replacement of berms, fixing of potholes, crack sealing and other patch repairs.

History:

See Minutes from July 2, 2013 Mayor and Council Meeting.

2012 through 2015:

- During the February 7, 2012 meeting of the Mayor and Council there was a discussion regarding the Township's 10-year Road Resurfacing Plan.
- At the time, the Township had completed topcoat paving in West Brookwood which ended a very lengthy cycle of paving all the Township's roads and the

Township is at point of cycling back to the roads that were last top coated in 1999.

- The cost of asphalt had continued to increase, but the budget did not. There was discussion about alternatives for a lower-cost solution to extend the life of the roads. An oil and stone program was presented as one of the alternatives.
- 2012 – Oil and Stone was completed on roads off Route 206 (i.e., Rosemarie Lane, John/Pierson, etc.)
- In 2013, the Township completed oil and stone in Lackawanna and Tamarack area. At the July 2, 2013 meeting of the Mayor and Council there was a lengthy discussion of the Township's street and road program due to opposition from the residents of Lackawanna.
- Underlying issue; the amount of funding allocated to improvements to the Township's street and roads remained inadequate.
- 2014/2015 – oil stone was completed in Forest Lakes section on the local roads.
- The process of oil and stone evolved to require public bidding to support a process of application that included an asphalt paving box to evenly spread the stone, and the completion of double and triple passes on sections of the roads that had severely degraded.
- This increased the cost of oil and stone program but remained the lower cost option to the alternatives.

2016 to Present:

- In 2016, was the first time the Township completed a cape seal project. This was completed on Forest Lakes Drive that is considered a collector roadway.
- 2018 – completed cape seal in Lackawanna area.
- 2019 – completed cape seal and oil and stone on roads in Tamarack Road area.

2008 to Present:

- Each year there has been the combination of mill and pave projects, or complete road reconstruction projects completed on arterial and collector roads.
- These were road improvements in addition to the oil and stone and cape seal programs.
- Many of these roadways were supplemented with NJDOT grant funding.

Late 2019 to Present:

- See memo from Township Engineer dated December 31, 2018.
- Through the 2019 Capital Budget the Department of Public Works received the requested equipment in late 2019.

- Starting in spring of 2020, the Department of Public Works incorporated road edge maintenance as well as properly addressing potholes and other severely deteriorated sections of the roadways.
- In comparison through the end of August 31, 2020, the DPW has placed 166 tons of asphalt material compared to only 124 tons for all of 2019.

Roadway Improvement Types:

Oil and Stone Program:

- The process includes a layer of emulsified asphalt that is placed over existing pavement that has been prepped to address potholes, and other roadway damage. A layer of stone is then placed over the pavement and rolled to lock the stone into the emulsified asphalt.
- An oil and stone program is a method of sealing and providing a new wearing surface. There is very little grade change when you oil and stone. Grade changes introduce issues with water runoff from the roadway and increase steepness of driveways.
- This program was proposed to provide the Township a means to extend the life of the roadways.
- Average cycle is 3-5 years.

Cape Seal:

- Cape Seal is the combination of an oil and stone application with a slurry seal application.
- The oil and stone portion of this application helps provide a waterproof membrane to repel moisture from entering the sub-grade and adds elasticity to prevent reflective cracking from showing through the new surface.
- After the oil and stone process has been completed, the slurry seal is applied to hold the loose stone material in place and provides a smoother texture for the final product.
- This program was proposed to provide the Township a means to extend the life of the roadways.
- More desirable option because provides for a smoother riding service but is an increased cost over just oil and stone.
- There is very little grade change when you cape seal.
- Challenges – requires a period during application of slurry seal when roads need to be closed. Significant resident complaints of inconvenience.
- Application on many of the Township's local roads is very difficult.
- Average cycle is 8 years.

Microsurfacing:

- Microsurfacing is most effectively used as a pavement preservation technique on roads that have started to show signs of aging, cracking, oxidation, and other minor distressing.
- Only includes a slurry seal application.
- Does not support providing a waterproof membrane to repel moisture from entering the sub-grade as supported with the oil and stone portion of cape seal.
- There is very little grade change.
- Challenges – requires a period during application of slurry seal when roads need to be closed. Significant resident complaints of inconvenience.
- Application on many of the Township's local roads is very difficult.
- Average cycle is 8 years.

Resurfacing Only:

- This is the program that was completed at the end of 1999.
- This program typically comprises applying a 2-3-inch top course to existing pavement.
- There is no reconstruction of the road or addressing any of the subbase.
- This is a favored program since it can immediately be driven on and provides for a smooth riding service.
- The program has resulted in significant issues. The profile of the roadway was raised creating issues with drainage and drastically increased the requirement for berms. Additionally, the roadway in most cases was widened with pavement extending beyond existing road subbase. This has resulted in deterioration of the road edges and ruts that have been cut by water erosion.

Milling and Paving (RECOMMENDED PROGRAM):

- The milling process consists of using a milling machine to scrape off the top layer of asphalt to a specific depth.
- Once the asphalt is scraped off the remaining asphalt is swept clean and an asphalt tack emulsion is applied.
- Once the tack is applied a new layer of asphalt is paved over the milled surface, compacted, and striped (if needed).
- Milling will support returning the road to the original profile reducing the need for berms and better managing water runoff.

Road Reconstruction:

- Reconstruction is reserved for those streets and roads that have exceeded their useful life and cannot be maintained further. This is the most expensive roadway improvement program.

- The Township has done complete road reconstruction on arterial and collector roads. There should not be a need to consider road reconstruction if we are addressing these roadways before there is a deterioration of the subbase.
- The process includes a complete excavation of the existing road and reconstruction.
- This has included reclaiming the road, removing, and replacing material, rolling, and using calcium chloride to stabilize the base. This is followed by a 3-4-inch base course, followed by a 2-3-inch top course.

Byram Township 10 Year Roadway Improvement Plan:

- Township maintains a 10-year capital roadway improvement plan.
- This plan includes a list of every roadway in the Township.
- Byram Township's roadway improvement plan covers the maintenance of 52 miles and about 718,516 square yards of Streets and Roads.
- The plan categorizes the Township's Streets and Roads into three categories of roadway types:
 - o LOCAL – A local road is a street that is primarily used to gain access to are resident's property.
 - o COLLECTOR ROADWAY – A collector road is a low-to-moderate-capacity road which serves to move traffic from local streets to arterial roads.
 - o ARTERIAL ROADWAY - An arterial road is a higher-capacity urban road. The primary function of an arterial road is to deliver traffic from collector roads to highways or urban centers.
- The plan attempts to estimate and plan out 10 years of roadway improvements considering the varying roadway improvement types.
- Working on including a Pavement Condition Index (PCI) into the plan. This gives a numerical rating to the condition of every road in the Township's inventory. The PCI system is a subjective rating system done through observation. The system considers the different road conditions and faults, as well as the comfortability of the ride.

BYRAM TOWNSHIP - ROADWAY IMPROVEMENT PLAN
10 YEAR PLAN - 2020 to 2029

STREET NAME	Roadway Type	Area in Town	Year Last Paved	Year O/S or Cape Seal	Length (ft)	Width (ft)	Area (SY)	PCI	2021
Roseville Road - Section I	Arterial	Roseville Road	2018		3,550	24	9,467	88.17	
Roseville Road - Section II	Arterial	Roseville Road	2011/2018		3,350	24	8,933	90.83	
Roseville Road - Section II (to Tunnel)	Arterial	Roseville Road	2012		1,000	26	2,889	99.00	
Roseville Road - Section III	Arterial	Roseville Road	2012		6,050	24	16,133	84.67	
Roseville Road - Section IV	Arterial	Roseville Road	2013		4,025	24	10,733	88.33	
Tamarack Road - Section I	Arterial	Tamarack Road	2013		3,400	30	11,333	89.00	
Tamarack Road - Section II	Arterial	Tamarack Road	2014		4,485	30	14,950	84.00	
Amity Road - Section I	Arterial	Amity Road	2015		3,500	24	9,333	94.17	
Amity Road - Section II	Arterial	Amity Road	2017		3,115	24	8,307	91.17	
Amity Road - Section III	Arterial	Amity Road	2017		3,405	24	9,080	92.67	
Continental Drive	Arterial	Continental Drive	Original		900	60	6,000	61.50	\$90,000.00
Tomahawk Trail	Arterial	Tomahawk Trail	2011		3,500	24	9,333	88.83	
North Shore Road - I	Collector	Cranberry Lake NS	2020		2,400	24	6,400	100.00	
North Shore Road - II	Collector	Cranberry Lake NS	2020		2,900	24	7,733	100.00	
North Shore Road - III	Collector	Cranberry Lake NS	2020		3,370	24	8,987	100.00	
Brookwood Road - I	Collector	East Brookwood	2009		2,000	28	6,222	92.67	
Brookwood Road - II	Collector	East Brookwood	2017		2,000	28	6,222	94.00	
Brookwood Road - III	Collector	East Brookwood	2005		2,400	28	7,467	86.67	
Acorn Street	Collector	West Brookwood	2010		2,555	22	6,246	90.33	
Whitehall Hill Road	Collector	Route 206	2020	2012	2,065	24	5,507	99.33	
Mansfield Drive	Collector	Lake Lackawanna	2018		1,150	24	3,067	93.17	
South Shore Road	Collector	Cranberry Lake SS	2005		4,160	20	9,244	82.00	
South Shore Road	Collector	Cranberry Lake SS	2011		1,450	20	3,222	84.67	
Lake Drive/Reis Avenue/Brown Dr	Collector	Lake Lackawanna	1999	2018	7,250	22	17,722	91.17	
Forest Lakes Drive	Collector	Forest Lakes	2003	2016	7,740	22	18,920	82.17	
Crecent Drive North	Collector	Forest Lakes	2001/2002	2014	3,085	24	8,227	89.50	\$126,300.00
Crecent Drive South	Collector	Forest Lakes	2001	2015	2,455	24	6,547	96.00	
Sleepy Hollow Road	Collector	Forest Lakes	2000	2015	5,805	26	16,770	88.67	
Cranberry Ledge Road	Collector	Cranberry Lake NS	2020		3,275	20	7,278	100.00	
Fieldstone Trail	Collector	Lake Mohawk/Tomahawk Lake	Original		5,440	30	18,133	64.67	\$317,500.00
Sandra lane	Collector	Lake Mohawk/Tomahawk Lake	Original		1,555	30	5,183	87.67	
Stone Hedge Lane	Collector	Lake Mohawk/Tomahawk Lake	Original		4,950	30	16,500	76.83	
Brookwood Drive	Collector	East Brookwood	2009		3,410	30	11,367	70.83	
Heminover Street	Local	Lake Lackawanna	1999	2018	860	22	2,102	87.00	

Bank Street	Local	Lake Lackawanna	1999	2018	800	20	1,778	65.17	
Carpenter Road	Local	Lake Lackawanna	2012	2018	245	12	327	92.67	
Lake Drive - Loop Roads	Local	Lake Lackawanna	1999	2018	6,850	22	16,744	95.83	
Partridge Road	Local	Lake Lackawanna	2005	2018	200	12	267	95.33	
Richmond Road	Local	Lake Lackawanna	1999	2018	2,650	22	6,478	90.00	
Orchard Street	Local	Lake Lackawanna	Unknown	2013	400	15	667	74.50	
Carpenter Road - Old Gravel Sect.	Local	Lake Lackawanna	2018		1,525	18	3,050	92.33	
Pine Point	Local	Lake Lackawanna	Unknown	2013	338	10	376	76.83	
Lubbers Trail	Local	Lake Lackawanna	Unknown	2013	280	19	591	99.50	
Conrad Strasse	Local	Forest Lakes	2000	2015	720	24	1,920	96.17	
Crows Nest Road	Local	Forest Lakes	2000	2015	1,185	24	3,160	88.33	
Deer Run	Local	Forest Lakes	2002	2014	1,285	22	3,141	88.17	
Glen Clove Road	Local	Forest Lakes	2001	2015	1,335	22	3,263	87.67	
Harbor View Drive	Local	Forest Lakes	2001	2014	970	26	2,802	87.50	
Hemlock Road	Local	Forest Lakes	2001	2014	1,860	22	4,547	84.50	
Lake View Drive	Local	Forest Lakes	2001	2015	1,210	20	2,689	95.17	
Old Stage Coach Road	Local	Forest Lakes	2000	2015	2,980	20	6,622	89.67	
Peach Tree Street	Local	Forest Lakes	2000	2015	715	22	1,748	92.50	
The Rotunda	Local	Forest Lakes	2001	2014	1,645	24	4,387	90.67	
Sandy's Road	Local	Forest Lakes	2000	2015	1,025	22	2,506	96.67	
Sherwood Forest Drive	Local	Forest Lakes	2002	2014	3,590	22	8,776	83.33	
Sunset Way	Local	Forest Lakes	2000	2015	150	28	467	98.33	
Winding Way	Local	Forest Lakes	2002	2014	2,160	20	4,800	87.67	\$73,700.00
Woodlawn Drive	Local	Forest Lakes	2001	2014	185	20	411	92.17	
Woodland Road	Local	Forest Lakes	2001		1,111	20	2,469	80.67	
Frenche's Grove Road	Local	Cranberry Lake NS	2006		1,210	24	3,227	85.00	
North Shore Trail	Local	Cranberry Lake NS	2006		575	16	1,022	85.50	
Rose Trail	Local	Cranberry Lake NS	2006		805	16	1,431	83.67	
Laurel Trail	Local	Cranberry Lake NS	2006		775	16	1,378	90.67	
Meteor Trail	Local	Cranberry Lake NS	2006		1,480	17	2,796	79.33	
Bridge Trail	Local	Cranberry Lake NS	2006		215	10	239	85.17	
Grove Path	Local	Cranberry Lake NS	2006		215	10	239	0.00	
Dennis Hill Road	Local	Cranberry Lake NS	2006		880	19	1,858	80.67	
Overview	Local	Cranberry Lake NS	2005		175	14	272	96.00	
Cabin Spring Trail	Local	Cranberry Lake NS	2005		845	21	1,972	69.83	
Lakeview Trail	Local	Cranberry Lake NS	2006		1,095	14	1,703	87.83	
Tote Road	Local	Cranberry Lake NS	2005		1,290	20	2,867	88.50	
La-Bo-Ga Trail	Local	Cranberry Lake NS	2006		270	17	510	89.17	
Panther Pass	Local	Cranberry Lake NS	2005		495	17	935	87.00	
Wo-Ta-Ga Trail	Local	Cranberry Lake NS	2006		745	14	1,159	95.00	

High-To-Ga Trail	Local	Cranberry Lake NS	2005		480	15	800	92.00	
Ka-Ton-Ah Trail	Local	Cranberry Lake NS	2005		545	16	969	93.50	
Opa Pass	Local	Cranberry Lake NS	2005		140	12	187	93.33	
Allamuchy Trail	Local	Cranberry Lake NS	2006		1,290	18	2,580	81.17	
Greywood Lane	Local	Cranberry Lake NS	2006		165	16	293	89.33	
Saddle Lane	Local	Cranberry Lake NS	2020		180	22	440	100.00	
Oak Trail	Local	Cranberry Lake NS	2020		515	14	801	100.00	
Spring Trail	Local	Cranberry Lake NS	2020		190	16	338	100.00	
Hart Trail	Local	Cranberry Lake NS	2020		686	15	1,143	100.00	
Birch Trail	Local	Cranberry Lake NS	2020		605	16	1,076	100.00	
Spruce Trail	Local	Cranberry Lake NS	2020		495	17	935	100.00	
Weaver House Cove Road	Local	Cranberry Lake NS	2004		1,315	25	3,653	82.83	\$61,625.00
Brook Trail	Local	Cranberry Lake NS	2020		320	14	498	78.00	\$8,965.00
Hickory Trail	Local	Cranberry Lake NS	2005		215	12	287	86.00	\$5,602.00
Fox Trail	Local	Cranberry Lake NS	2004		515	16	916	80.00	\$15,687.00
Side Hill Trail	Local	Cranberry Lake NS	2004		450	19	950	80.67	\$16,807.00
Boulder Trail	Local	Cranberry Lake NS	2006		260	17	491	93.33	\$15,687.00
Hawthorne Trail	Local	Cranberry Lake NS	2004		785	18	1,570	85.00	\$26,892.00
Landone Trail	Local	Cranberry Lake NS	2006		370	13	534	78.17	\$8,964.00
Bald Rock Trail	Local	Cranberry Lake NS	2005		190	12	253	72.00	\$4,482.00
Pathfinder Trial	Local	Cranberry Lake NS	2006		520	21	1,213	83.00	\$21,289.00
Muchivo Trail	Local	Cranberry Lake NS	2004		200	13	289	81.67	
Parsons Road	Local	Cranberry Lake NS	2006		594	13	858	78.67	
Division Lane	Local	Cranberry Lake NS	2005		559	13	807	83.67	
Shon-Ga-Pass	Local	Cranberry Lake NS	2006		150	12	200	74.50	
Laurel Cove	Local	Cranberry Lake NS	2020		420	13	607	74.67	
Strawberry Point Drive	Local	Cranberry Lake NS	2004		2,840	24	7,573	100.00	
South Lake Trail	Local	Cranberry Lake NS	2004		400	12	533	100.00	
Racoon Trail	Local	Cranberry Lake NS	2020		135	14	210	100.00	
Cliff Drive	Local	Cranberry Lake NS	2020		200	12	267	100.00	
Saugtaug Trail	Local	Cranberry Lake SS	2005		795	12	1,060	92.33	
Weasaug Trail	Local	Cranberry Lake SS	2005		380	12	507	76.17	
Maugtaug Trail	Local	Cranberry Lake SS	2005		345	12	460	79.67	
Harding Road	Local	Cranberry Lake SS	2005		610	12	813	87.00	
Hilltop Trail	Local	Cranberry Lake SS	2005		490	14	762	88.50	
Manu Trail	Local	Tamarack	2000	2019	1,375	30	4,583	92.50	
Hunters Lane	Local	Tamarack	2000	2019	1,465	26	4,232	92.83	
Colby Drive	Local	Tamarack	2002	2019	1,465	30	4,883	90.67	
Old Indian Spring Road	Local	Tamarack	2002	2019	3,050	18	6,100	83.67	
Ghost Pony Road	Local	Tamarack	2002	2019	1,960	21	4,573	64.33	

Knute Drive	Local	Tamarack	2002		375	19	792	90.33	
C.O. Drive	Local	Tamarack	2002		755	18	1,510	68.50	
Cross Trail	Local	Tamarack	2002	2013	220	21	513	89.83	
Little Paint Way	Local	Tamarack	2002		1,440	22	3,520	80.50	
Roger Drive	Local	Tamarack	2002		560	20	1,244	82.17	
Debbie Drive	Local	East Brookwood	2017		535	30	1,783	97.33	
Briar Lane	Local	East Brookwood	2019		1,775	30	5,917	100.00	
Joan Drive	Local	East Brookwood	2019		2,445	30	8,150	100.00	
Ross Road	Local	East Brookwood	2019		3,330	30	11,100	100.00	
Dogwood Lane Road	Local	East Brookwood	2009		185	16	329	91.17	
Mountain Avenue	Local	East Brookwood	2009		245	20	544	94.50	
Pleasant Hill Road	Local	East Brookwood	2009		170	17	321	84.83	
Sand Hill Road	Local	East Brookwood	2009		565	18	1,130	92.00	
Sandy Brook Road	Local	East Brookwood	2009		330	13	477	91.00	
Shady Brook Road	Local	East Brookwood	2009		320	22	782	94.83	
Stony Brook Road	Local	East Brookwood	2009		1,210	20	2,689	90.17	
Trout Brook Road	Local	East Brookwood	2009		355	17	671	88.00	
Waterloo Road	Local	East Brookwood	2009		330	17	623	85.33	
White Birch Road	Local	East Brookwood	2009		690	22	1,687	87.17	
Wildwood Road	Local	East Brookwood	2009		445	22	1,088	88.83	
Woods Edge Road	Local	East Brookwood	2009		1,320	22	3,227	88.83	
Adair Street	Local	West Brookwood	2010		1,195	21	2,788	96.00	
Ash Street	Local	West Brookwood	2010		3,150	24	8,400	87.17	
Avon Street	Local	West Brookwood	2010		800	20	1,778	94.00	
Banker Drive	Local	West Brookwood	2010		620	18	1,240	94.67	
Beech Street	Local	West Brookwood	2009		1,675	22	4,094	78.83	
Belton Road	Local	West Brookwood	2011		3,600	20	8,000	80.67	
Broad Avenue	Local	West Brookwood	2010		1,500	20	3,333	92.17	
Byram Avenue	Local	West Brookwood	2010		330	24	880	93.67	
Cascade Avenue	Local	West Brookwood	2010		240	24	640	83.67	
Chestnut Street - Part I	Local	West Brookwood	2008		500	22	1,222	93.17	
Chestnut Street - Part II	Local	West Brookwood	2009		1,100	22	2,689	93.67	
Chestnut Street - Part III	Local	West Brookwood	2011		900	22	2,200	90.67	
Drain Way	Local	West Brookwood	2010		210	16	373	96.00	
Glen Brook Street	Local	West Brookwood	2011		250	20	556	93.33	
Lockwood Avenue	Local	West Brookwood	2008		1,725	20	3,833	95.00	
Mayne Avenue	Local	West Brookwood	2008		1,960	22	4,791	84.33	
Newton Avenue	Local	West Brookwood	2010		850	16	1,511	90.00	
River Road - Part I	Local	West Brookwood	2010		1,825	20	4,056	90.83	
River Road - Part II	Local	West Brookwood	2011		2,300	20	5,111	94.00	

River Road - Part III	Local	West Brookwood	2011		2,300	20	5,111	96.33	
Spring Brook Street	Local	West Brookwood	2011		275	18	550	95.33	
Sussex Street	Local	West Brookwood	2010		685	18	1,370	87.83	
Union Street	Local	West Brookwood	2009		1,010	16	1,796	98.33	
Lauren Court	Local	West Brookwood	Original	2012	1,010	30	3,367	86.50	
Robert Street	Local	West Brookwood	Original	2012	585	30	1,950	70.33	
Jefferson Lake Road	Local	West Brookwood	Unknown	2012	1,750	18	3,500	66.67	
Jans Way	Local	Route 206	2011		405	18	810	90.00	\$12,960.00
Rosemaire Lane	Local	Route 206	2011		520	18	1,040	84.00	\$17,280.00
Maple Road	Local	Route 206	2000	2012	715	18	1,430	79.83	\$23,760.00
Birch Road	Local	Route 206	2000	2012	1,360	20	3,022	79.50	\$49,680.00
Willor Drive	Local	Route 206	2000	2012	700	20	1,556	90.67	\$25,920.00
Drexel Drive	Local	Route 206	2001	2012	710	23	1,814	88.33	\$29,160.00
Francis Terrace	Local	Route 206	2001	2012	370	22	904	92.33	\$15,120.00
Hi Glen Drive	Local	Route 206	2001	2012	320	31	1,102	82.83	\$18,360.00
Pierson Drive	Local	Route 206	2002	2012	700	22	1,711	88.50	\$27,000.00
Ridge Place	Local	Route 206	2002	2012	190	18	380	98.67	\$6,480.00
Johnson Boulevard	Local	Route 206	2002	2012	700	20	1,556	92.83	\$24,840.00
Jones Lane	Local	Route 206	2000		690	18	1,380	87.83	\$19,440.00
Louis Dr	Local	Route 206	2001		412	22	1,007	84.00	
Lynn Drive	Local	Lake Mohawk/Tomahawk Lake	2017		6,160	30	20,533	95.33	
Susan Lane	Local	Lake Mohawk/Tomahawk Lake	2017		635	30	2,117	94.67	
Douglas Terrace	Local	Lake Mohawk/Tomahawk Lake	2017		1,055	30	3,517	95.33	
Catherine Terrace	Local	Lake Mohawk/Tomahawk Lake	2017		620	30	2,067	94.17	
Carlisle Drive	Local	Lake Mohawk/Tomahawk Lake	2017		850	30	2,833	96.33	
Tartan Court	Local	Lake Mohawk/Tomahawk Lake	2018		400	30	1,333	96.67	
Braemar Court	Local	Lake Mohawk/Tomahawk Lake	2018		700	30	2,333	94.83	
Elizabeth Lane	Local	Lake Mohawk/Tomahawk Lake	2018		670	30	2,233	96.33	
Anderson Lane	Local	Lake Mohawk/Tomahawk Lake	Original		250	30	833	92.33	
Ascot Lane	Local	Lake Mohawk/Tomahawk Lake	Original		1,250	28	3,889	89.83	
Mara Lane	Local	Lake Mohawk/Tomahawk Lake	Original		185	28	576	76.50	
Matthew Drive	Local	Lake Mohawk/Tomahawk Lake	Original		720	28	2,240	87.83	
Carlson Lane	Local	Lake Mohawk/Tomahawk Lake	2004		480	22	1,173	85.67	
Mountain Heights	Local	Lake Mohawk/Tomahawk Lake	2004		2,400	24	6,400	86.33	
Mountain View Terrace	Local	Lake Mohawk/Tomahawk Lake	2004		300	24	800	81.17	
Circle Drive	Local	Lake Mohawk/Tomahawk Lake	2004		350	28	1,089	97.33	
Seneca Lake Road	Local	Lake Mohawk/Tomahawk Lake	2004		350	25	972	97.33	
Deer Hill Run North	Local	Lake Mohawk/Tomahawk Lake	Original		430	30	1,433	89.67	\$39,000.00
Deer Hill Run South	Local	Lake Mohawk/Tomahawk Lake	Original		830	30	2,767	92.33	\$39,000.00
Bridget Way	Local	Lake Mohawk/Tomahawk Lake	Original		1,415	30	4,717	81.83	

Catalina Drive	Local	Lake Mohawk/Tomahawk Lake	2015		1,753	27	5,259	96.67	
Manor Drive	Local	Lake Mohawk/Tomahawk Lake	2006		3,900	30	13,000	81.33	
Camelot Drive	Local	Lake Mohawk/Tomahawk Lake	Original		1,500	24	4,000	82.17	
Mayfair Lane	Local	Lake Mohawk/Tomahawk Lake	Original		700	22	1,711	76.50	
Birch Parkway	Local	Lake Mohawk/Tomahawk Lake	Unknown		1,200	24	3,200	66.00	
Stag Pond Road	Local	Lake Mohawk/Tomahawk Lake	Unimproved		365	14	568	79.50	
Windsor Lane	Local	Lake Mohawk/Tomahawk Lake	Original		1,732	29	5,581	83.83	
					TOTAL Length (ft)		TOTAL Area (SY)	\$1,141,500.00	
					275,640		718,516	-\$250,000.00	
					\$891,500.00				

TOWNSHIP OF BYRAM

NEW JERSEY

MAILING ADDRESS:
10 MANSFIELD DRIVE
STANHOPE, NJ 07874
Phone: 973-347-2500
Fax: 973-347-0502



WEBSITE ADDRESS:
www.byramtwp.org

TO: Township Council

FROM: Joseph W. Sabatini, Township Manager

DATE: June 25, 2013

RE: Oil and Stone Resurfacing Program – Complaints Lackawanna Area

- During the February 7, 2012 meeting of the Mayor and Council there was a discussion regarding the Township's 10 year Road Resurfacing Plan.
- With the completion of repaving in West Brookwood it ended a very lengthy cycle of repaving all the Township's roads within the local communities that started in the Lackawanna area.
- It was presented during the meeting that the Township is at point of cycling back to the roads that were last top coated in 1999. The cost of asphalt is very significant and it is not realistic to continue resurfacing the Township's community roads. It was discussed to return to an oil and stone program that is a low cost solution to extend the life of the roads with a five year cycle throughout the entire town, depending on funding. At the meeting it was discuss targeting Reis Avenue, Lake Drive and Brown Drive.
- An oil and stone program is a method of sealing and providing a new wearing surface. There is very little grade change when you oil and stone. Grade changes introduce issues with water runoff from the roadway and increase steepness of driveways. Repaving adds on average about 2-3 inches to the road base.
- The 10 Year Road Improvement Plan was reviewed again during the February 19, 2013 Council Meeting during which the plan provided the by Township Engineer Cory Stoner, was reviewed and there was brief discussion regarding the oil and stone program.

Following Summarizes Roadway Improvement Plan with comparison costs:

Lackawanna Roads	Last Paved	2013 Paving Cost (Revised \$9.25 sqyd)	2013 Oil & Stone Cost
Heminover Street	1999	\$19,443.50	\$2,919
Lake Drive, Reis Ave, Brown Drive	1999	\$163,928.50	\$24,603
Lake Drive – Loop Roads	1999	\$154,882.00	\$23,282.50
Richmond Road	1999	\$59,921.50	\$9,035
Total:		\$398,175.50	\$59,839.50

- **2013 Estimated Costs:**
 1. Oil and Stone approximate cost is \$1.39 per square yard.
 2. Paving approximate cost is \$9.25 per square yard.
 3. Milling approximate cost \$1.75 per square yard.
- The above estimated paving cost for the roads in Lackawanna does not include milling. Milling may not be required on all streets in Lackawanna but total square yard cost for all the listed streets for milling totals: \$43,050.
- Oil and Stone Program is about 15% the cost of paving without milling.
- Total 2013 budget allocated for the streets in the local communities is \$95,000.
- Continued paving of the local community streets would require a minimum annual budget of \$400,000 - \$500,000 per year to maintain an approximate 15 year plan of repaving. This would be additional funding to the approximate \$200,000 - \$250,000 (assuming we continue to receive NJDOT grants) per year needed to maintain the Township's main artery streets. These are just approximate numbers and will vary based on streets targeted and cost for asphalt.
- It should be noted that since 1999 when the cycle of repaving all local roads was begun, asphalt prices have increased drastically. In 1999, it was common to get asphalt paving prices that were less than \$40 per Ton. The current price of paving thru the Morris County Co-Op is approximately \$70 per ton.

- The Manager reported that there are 70 dogs that have not been licensed. Three notices have been sent to dog owners and ads are now being run in the local papers. If not licensed by the end of July, the Township will start issuing summons.
- The next regular meeting of the Township Council will be July 16. The Council's summer schedule has only one meeting in August, which will be Wednesday August 14th. There is a special primary election on Tuesday, August 13th with normal election hours of 6 a.m. to 8 p.m.

Councilwoman Kash - no report

Councilman Olson

- Mansfield Trail Community Advisory Group – Congressman Frelinghuysen's visit to this site scheduled in July has been postponed until September.
- Environmental Commission meets on July 27 at 7:30 p.m. and discussed comments on the Lackawanna cut-off, the trails map, general goals for the year and the EC's participation in Byram Day.

Councilman Luaces

- Congratulated Lentini Farms for opening up the old fruit and vegetable stand on Route 206. He wished them good luck.
- Announced that the Sussex County PAL will be hosting a carnival at Waterloo Village August 15 through August 17. There will be fireworks on August 17th.
- Wished everyone a Happy Fourth of July.

RESOLUTIONS

- Resolution No. 112-2013 – Award of Bid to Morris Asphalt Company, Inc. under the Morris County Cooperative Pricing Council for Proposed Oil and Stone Roadway Resurfacing – Carlos Luaces recused and stepped down from the dais. Motion by Councilman Olson, second by Councilwoman Kash to adopt the resolution. The Mayor opened for discussion.

Joe Sabatini stated that this resolution is to award a contract under the Morris County Cooperative Pricing Council to Morris Asphalt not to exceed \$95,000 (estimate \$84,790.25) to complete the 2013 Oil and Stone Program.

Streets include:

Lake Lackawanna Area: Bank Street, Heminover, Lake Drive, Reis Avenue, Brown Drive, and Richmond Road.

Tamarack Road Area: Colby Drive, Cross Trail, Old Indian Springs Road, and Ghost Pony Road.

Originally the plan was to complete the Oil and Stone Program before the end of July. However, since the Kids Triathlon is scheduled for Saturday, July 27, the Township will wait to complete the oil and stone program in the Lackawanna Area until after July 27.

- Starting in 2008, Joe Sabatini started to work with Township Engineer Cory Stoner of Harold Pellow and Associates, and Adolf Steyh, the Township Superintendent of Public Works to define a streets and road capital improvement plan addressing how each roadway within the Township can be maintained over the next 12 – 15 years.
- Using 2008 costs, it was estimated that road resurfacing would cost over \$8 million dollars amounting to over \$500,000 each year.
- As early as 2008, it was identified in order to address all roadways, methods other than paving will need to be considered including oil and stone or micro paving as alternative options to paving.
- Fortunately, we have been able to supplement our road resurfacing program with NJDOT grant funds from 2004 through 2013 amounting to \$1,400,000.
- In 2008, the areas that needed to be targeted included: West Brookwood, Lynn Drive, Tomahawk Trail and Roseville Road. With the 2013 Road Improvement Program the Township will complete the last phase (4) of Roseville Road. The remaining road that has yet to be completed is Lynn Drive.
- Lynn Drive will need to be targeted for milling and paving within the next couple of years. These are the original roads from when the neighborhood was built in the 80's. We are waiting for the water company to complete improvements and the Township has to fix the majority of storm drains that are collapsing.

- In 2009 we created a 10 year road resurfacing plan that is updated each year. The plan is divided into the Township's main artery roads (Roseville Road, Tamarack Road, Amity Road, North Shore Road), and local neighborhood streets. The Township is responsible for over 85 linear miles of streets and roads.
- Up through 2011 the goal was to complete the end of a 15 year cycle that started in Lake Lackawanna with applying a 2-3 inch top coat, or with regards to the Township's main artery connecting roads reconstruction and paving.
- It should be noted, with the exception of the main artery roads, all neighborhood streets only included applying a 2-3 inch top coat. Reconstruction of these roads was not considered. The road base was constructed based on the standards of when the roads were originally constructed. In the 70's, 80's and 90's there was a regular program of oil and stone.
- 2013 Road Improvement Plan:

1. \$203,500: Phase 1 – Tamarack Road – Bonding (\$145,828)
2. \$225,000: Phase V (last phase) – Roseville Road (includes \$150,000 NJDOT grant)
3. \$95,000 – Oil and Stone Program

Total: \$523,500

- During the February 7, 2012 meeting of the Mayor and Council there was a discussion regarding the Township's 10 year Road Resurfacing Plan as part of the Capital Program.
- It was presented during the meeting that the Township is at point of cycling back to the roads that were last top coated in 1999. The cost of asphalt is very significant and it is not realistic to continue resurfacing the Township's community roads. It was discussed to return to an oil and stone program that is a low cost solution to extend the life of the roads with a five year cycle throughout the entire town, depending on funding. At the meeting it was discussed targeting streets in the Lackawanna area.
- An oil and stone program is a method of sealing and providing a new wearing surface. There is very little grade change when you oil and stone.
- Grade changes introduce issues with water runoff from the roadway and increase steepness of driveways. Repaving adds on average about 2-3 inches to the road base. The neighborhood roads will need to be milled before considering additional resurfacing.
- The 10 Year Road Improvement Plan was reviewed again during the February 19, 2013 Council Meeting during which there was brief discussion regarding the 2013 oil and stone program.

Following Summarizes Roadway Improvement Plan with comparison costs:

Lackawanna Roads	Last Paved	2013 Paving Cost (Revised \$9.25 sqyd)	2013 Oil & Stone Cost
Heminover Street	1999	\$19,443.50	\$2,919
Lake Drive, Reis Ave, Brown Drive	1999	\$163,928.50	\$24,603
Lake Drive – Loop Roads	1999	\$154,882.00	\$23,282.50
Richmond Road	1999	\$59,921.50	\$9,035

Total: \$398,175.50 \$59,839.50

2013 Estimated Costs:

- a. Oil and Stone approximate cost is \$1.39 per square yard.
- b. Paving approximate cost is \$9.25 per square yard.

c. Milling approximate cost \$1.75 per square yard.

The above estimated paving cost for the roads in Lackawanna does not include milling. Milling may not be required on all streets in Lackawanna but total square yard cost for all the listed streets for milling totals: \$43,050.

Oil and Stone Program is about 15% the cost of paving without milling.

Total 2013 budget allocated for the streets in the local communities is \$95,000.

Continued paving of the local neighborhood streets would require a minimum annual budget of \$400,000 - \$500,000 per year to maintain an approximate 15 year plan of repaving. This would be additional funding to the approximate \$200,000 - \$250,000 (assuming we continue to receive NJDOT grants) per year needed to maintain the Township's main artery streets. These are just approximate numbers and will vary based on streets targeted and cost for asphalt.

It should be noted that since 1999 when the cycle of repaving all local roads was started, asphalt prices have increased drastically. In 1999, it was common to get asphalt paving prices that were less than \$40 per Ton. The current price of paving thru the Morris County Co-Op is approximately \$70 per ton.

- The Manager has reviewed all of the emails from the residents of Lake Lackawanna and acknowledged their concerns. An Oil and Stone Program is not the desired method of resurfacing but due to the budgetary constraints it is viable alternative. Also, the method of completing an Oil and Stone Program is different than what was done in the past.

Joe Sabatini asked Township Engineer Cory Stoner for further comments on the method of the applications and answer some of the concerns

The reason why the oil and stone program was considered was because we can't keep up with the maintenance of our roads. We the Township does not find a less costly option, the roads will start to totally fail. Every year the Township allots approximately \$300,000 for all the paving operations. Most of that money needs to be spent on the main arteries. Every year a portion of a main artery is paved. If you do not follow this process, the roads will start to fail and then reconstruction will be necessary, instead of just resurfacing.

With an oil and stone process, you apply emulsified asphalt and spread a layer of 1/4" stone about 20 lbs./square yard on top. A blue stone is used, which after a year can look almost like a road paved in asphalt. Once the stone is set in place, it is rolled and it must remain in place to knit with the asphalt product for several weeks. At that point, the loose stone would be swept. The advantage of oil and stone is extending the life of the roads. The detriments about this product are that it is rough, loose stone, and the following year in extreme heat the produce bleeds through and tar marks are made at the turning areas and driveways.

Cory Stoner explained another method called micro-surfacing, but he stated that it was not a product he would use on the roads in question, because it does not work well on roads that are starting to break up. It is also 3 times more expensive than oil and stone.

Scott Olson asked what our neighboring municipalities have been doing about road resurfacing. Cory did not know what Stanhope has done, but Sparta has used the oil and stone program.

Motion by Councilman Olson, second by Councilwoman Kash, to open to the public for comment.

Davin Baez, 201 Lake Drive, appreciated the explanations by Joe Sabatini and Cory Stoner. He sees the only benefit is that it is cheaper. He outlined many negative reasons if oil and stone were used, including safety, environmental, and deterring the use of roller blades and skateboards on the roads. He toured the roads in town that were had oil and stone done last year, and he feels there are a lot of problems with them.

Tom Falleni, 145 Lake Drive, has lived in Lake Lackawanna when oil and stone was used many years ago. He commented that the asphalt prices may have doubled since 1999 but he thinks his taxes have tripled. He does not want to see oil and stone put down.

Bill Koelhoffer, 87 Lake Drive, submitted a booklet of pictures of problem areas throughout Lake Lackawanna and has asked for these issues to be addressed before anything is done to the road.

Mike O'Hagan, 139 Lake Drive, thanked the Council for their time and effort spent on this. He has traveled around the town and spoke to people who had the oil and stone done last year. Some people were unhappy and some people didn't have a problem. He stated that since the Township is postponing the oil and stone program until after the Lake Lackawanna triathlon, the Township is recognizing that the oil and stone is a problem for active children on the roads. Mike was also concerned about the wildlife in the area and the affect of this product on them. He is also concerned about the effects on the lake from the oil and stone.

Cory Stoner stated that using oil and stone is an accepted practice/product by the NJDEP. This product was just used in Stokes State Forest, which is owned by the NJDEP and located right near streams and other waterways.

Dina Trunzo, 144 Lake Drive, asked if this product meets the public right away accessibility guidelines.

Cory Stoner was not aware of those guidelines. He stated that the biggest problem with the oil and stone is the short period you have to wait before you can sweep the loose stones up.

Denise Koelhoeffer, 87 Lake Drive, expressed concerns that the product will be tracked into her yard and house. She walks her dog 5-6 miles a day and feels that she will have to walk somewhere else so that tar doesn't get on her dog's paws. Denise noted that Roseville Road and Tamarack Road get paved and feels that the Township is putting more priority on the road than the people that live next to the road.

Cory Stoner stated that Roseville Road is being paved because it is a collector road, and not because it is more important than Lake Drive.

Earl Riley, 5 Louis Drive, commented that his road was oiled and stoned last year. The biggest complaint was that he had to rake the stones out of his front lawn this spring from the snow plowing. He doesn't feel it inhibits using the road for bike riding or walking.

Mike Henry, 5 Partridge Run, asked Earl Riley if a lot of people walk Louis Drive. Earl stated no. Mike Henry pointed out that there is a big difference from Lake Drive to Louis Drive.

John Burn, 34 Richmond Road, commented about the cost comparison and stated that in reality over the long term that oil and stone is approximately 40% of the cost of asphalt, not 15%, when you take everything into consideration.

Todd Rodluff, 9 Whitehall Road, said that his road was oiled and stoned, and that it is horrible.

Cory Stoner did agree that a better job needs to be done on Whitehall and they will be looking into correcting the problems there.

Nisha Kash asked Cory how the roads fare in the winter. Cory stated that it holds up fine in the winter – it is only in the extreme heat that there is a problem.

Mary Carbone, 91 Lake Drive, asked if plowing was done the same way on an oil and stone road as a paved road. Adolf Steyh stated that they plow the same way.

Mike O'Hagan, 139 Lake Drive, asked if there was another way the township could spend the \$60,000, such as patching the roads instead of oil and stone. He stated that he would rather see a heavily-patched road instead of oil and stone.

Davin Baez commented that VOC's are released from oil and stone and asphalt but more would be going into the lake because oil and stone would be done more often. Davin stated that when he votes for someone on the council, he looks at more than how that person would deal with the budget. Davin asked why Councilman Luaces had to recuse from the discussion and vote. Attorney Tom Collins explained the conflict.

Harvey Roseff, 33 Sleepy Hollow Road, asked if infrastructure issues were addressed 12-14 years ago when the roads were done. He also asked if the Township was addressing drainage issues when they were doing the oil and stone program.

COUNCIL MEMBER	Councilman Luaces	Councilwoman Raffay	Councilman Olson	Councilwoman Kash	Mayor Oscovitch
Motion					
2nd			X		
Yes			X		X
No					
Abstain	X			X	
Absent					

- Resolution No. 116-2013 – Award of Bid under the Morris County Co-Op for Milling and Resurfacing to Tilcon NY, Inc. and Line Striping to Denville Line Painting, Inc. for Tamarack Road – Phase I project

COUNCIL MEMBER	Councilman Luaces	Councilwoman Raffay	Councilman Olson	Councilwoman Kash	Mayor Oscovitch
Motion					
2nd			X		
Yes			X		X
No					
Abstain	X			X	
Absent					

PUBLIC PARTICIPATION I - Motion by Councilman Olson, second by Councilwoman Raffay, to open to the public. All members were in favor. Motion Carried.

Skip Danielson, 18 Hunter Lane, talked about the Lakeland Emergency Squad's 75th anniversary in 2014 and some of the upcoming plans. He said it will be a year-long event and he is looking for support.

Kevin Teves, 11 Beach Street, commented that he is a member of the BMRPOA and interested in holding a movie night for their community this summer. He has questions and concerns about the noise ordinance and Joe Sabatini directed him to contact our Zoning Officer, John Gutwerk.

Harvey Roseff, 33 Sleepy Hollow Road, commented on the noise ordinance and stated that the Township cannot enforce the noise ordinance because they no longer have a sound meter.

Motion by Councilman Olson, second by Councilwoman Raffay, to close to the public. All members were in favor. Motion carried.

APPROVAL OF MINUTES

- June 18, 2013 Regular Meeting Minutes – Motion by Councilman Olson, second by Mayor Oscovitch to adopt the minutes as presented. All members were in favor. Motion carried.

COUNCIL MEMBER	Councilman Luaces	Councilwoman Raffay	Councilman Olson	Councilwoman Kash	Mayor Oscovitch
Motion					
2nd			X		
Yes			X		X
No					
Abstain	X				
Absent		X		X	

- June 18, 2013 Executive Meeting Minutes – Motion by Councilman Olson, second by Mayor Oscovitch, to approve the minutes.