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September 10, 2020

Via Email (jsabatini@byramtwp.org)

MEMORANDUM TO: Mr. Joseph Sabatini, Byram Township Manager

FROM: Cory L. Stoner, P.E., C.M.E., Byram Township Engineer

SUBJECT: Engineering, Construction & Other Projects for 2021
Byram Township, Sussex County

Dear Joe:

As requested, I have put together a list of projects and engineering activities that may be considered in the 2021 Byram Township Budget. The list of these projects and activities is as follows:

1. Improvements to Fieldstone Trail

Fieldstone Trail is a major residential roadway in the northern section of Byram Township which is showing considerable deterioration. With Fieldstone Trail being a major roadway in this area, it was decided that this roadway would be a prime candidate for the 2021 NJDOT Municipal Aid Grant program. An application was submitted for this project in the amount of \$250,000.00. The estimated costs for this project are as follows:

Construction Costs	\$ 295,000.00
Surveying & Engineering Design	\$ 10,000.00
Construction Inspection & Management	\$ 10,000.00
Asphalt Cores & Testing	\$ 2,500.00
Total Estimated Costs	\$ 317,500.00

2. Improvements to Deer Hill Run North & Deer Hill Run South

As stated above, it is recommended that Fieldstone Trail be resurfaced in 2021. While performing work on Fieldstone Trail, it would be in the Township's best interest to resurface Deer Hill Run North and Deer Hill Run South at the same time to minimize disruption to the residential neighborhood. These roadways are also in poor condition and need attention. The estimated costs for this project are as follows:

Construction Costs	\$ 73,000.00
Engineering Design	\$ 2,500.00
Construction Inspection & Management	\$ 2,500.00
Total Estimated Costs	\$ 78,000.00

3. **Improvements to Cranberry Lake Roadways**

In 2020, Strawberry Point Drive, North Shore Road and a number of roadways in the Cranberry Ledge section of Cranberry Lake were milled and resurfaced. In an effort to improve more of the roadways in Cranberry Lake, it is recommended that the following roadways be considered for resurfacing in 2021: Weaver House Cove Road, Brook Trail, Hickory Trail, Fox Trail, Side Hill Trail, Boulder Trail, Hawthorne Trail, Landone Trail, Bald Rock Trail and Pathfinder Trail. These roadways were last resurfaced between 2004 and 2006. A review of the anticipated costs for improvements to these roadways is as follows:

Construction Costs \$ 166,000.00

Weaver House Cove Road	\$ 55,000.00
Brook Trail	\$ 8,000.00
Hickory Trail	\$ 5,000.00
Fox Trail	\$ 14,000.00
Side Hill Trail	\$ 15,000.00
Boulder Trail	\$ 14,000.00
Hawthorne Trail.....	\$ 24,000.00
Landone Trail	\$ 8,000.00
Bald Rock Trail	\$ 4,000.00
Pathfinder Trail.....	\$ 19,000.00

Engineering Design..... \$ 10,000.00

Construction Inspection & Management \$ 10,000.00

Total Estimated Costs..... \$ 186,000.00

4. **Improvements to Various Streets**

In addition to the Cranberry Lake roadways, the Township may wish to consider improving roadways along the Route 206 corridor. A number of these roadways were resurfaced last during the years between 2000 and 2002 and are showing considerable deterioration and are in need of repairs. A review of the roadways recommended for improvements and the anticipated costs for improvements to each of these roadways is as follows:

Construction Costs \$ 250,000.00

Jans Way	\$ 12,000.00
Rosemarie Lane	\$ 16,000.00
Maple Road	\$ 22,000.00
Birch Road	\$ 46,000.00
Willor Drive	\$ 24,000.00
Drexel Drive	\$ 27,000.00
Francis Terrace	\$ 14,000.00
Hi Glen Drive	\$ 17,000.00
Pierson Drive.....	\$ 25,000.00

Ridge Place	\$ 6,000.00
Johnson Boulevard	\$ 23,000.00
Jones Lane	\$ 18,000.00
Engineering Design.....	\$ 10,000.00
Construction Inspection & Management	\$ 10,000.00
Total Estimated Costs.....	\$ 270,000.00

5. Improvements to Forest Lake Roadways

In 2014, the majority of the roadways within the Forest Lake community were showing signs of deterioration and were in need of improvements. It was decided at that time to chip seal these roadways in order to preserve the existing roadways and reduce the deterioration that was occurring. These roadways are again beginning to show deterioration and are in need of attention. These roadways can be chip sealed, cape sealed or they can be milled/resurfaced. Based on the negative response to the chip seal program by residents of the community, I assume that the Township may wish to pursue a higher level of improvements. If that is the case, I would recommend that the Township consider starting a milling and resurfacing program in this community. The first roadways that I would recommend for milling and resurfacing would be Crescent Drive North and Winding Way. Both of these roadways are showing considerable signs of deterioration and are in need of attention. A review of the anticipated costs for improvements to these roadways is as follows:

Construction Costs	\$ 190,000.00
Crescent Drive North	\$ 120,000.00
Winding Way	\$ 70,000.00
Engineering Design.....	\$ 5,000.00
Construction Inspection & Management	\$ 5,000.00
Total Estimated Costs.....	\$ 200,000.00

6. Improvements to Continental Drive

The majority of Continental Drive is located in Mount Olive. A portion of Continental Drive, however, is located within Byram Township, is in poor condition and is in need of rehabilitation. With Mount Olive planning to be resurfacing their portion of Continental Drive in 2020 and 2021, it is recommended that Byram Township consider resurfacing the portion of Continental Drive in Byram Township. The estimated costs for this project are as follows:

Construction Costs	\$ 80,000.00
Surveying & Engineering Design	\$ 5,000.00
Construction Inspection & Management	\$ 5,000.00
Total Estimated Costs.....	\$ 90,000.00

7. **Roadway Crack Sealing:**

In 2021, I recommend that the Township consider restarting a crack seal program for the major roadways within the Township. With the Township DPW obtaining proper equipment for road repairs within the past year, I believe it would be beneficial to add a crack sealing program to further extend the life of the Township's major roadways. Based on past experiences, it costs approximately \$10,000 per mile to have an outside contractor perform crack sealing on a typical municipal roadway. That being stated, I would recommend that the Township consider placing **\$20,000** for two miles of crack sealing in the 2021 budget.

8. **Roadway Striping:**

As roadways age, the roadway striping fades and the night time visibility of a roadway diminishes. In order to maintain the safety of the major roadways as the roadways age and the traffic stripes fade, I would recommend that the Township consider implementing a striping plan. On an average, a newly paved roadway will last 12 to 15 years before needing to be resurfaced. The roadway stripes, however, will last about half of that period before the nighttime reflectivity deteriorates. That being said, I would recommend that striped roadways be restriped every 6 years as needed to maintain the nighttime safety of the major roadways within the Township. For budgeting purpose, I would recommend placing **\$10,000** in the 2021 budget for roadway striping. This will allow for the restriping of approximately 3 miles of double yellow centerline striping on the major roadways.

9. **Jet Vac Stormwater Cleaning Services:**

In past years, the Township had an outside company perform jet vac stormwater basin/pipe cleaning in order to remove silt and sediment from various drainage systems in the Township. The cleaning of these basins and pipes has allowed the Road Department to identify basins to be repaired and has helped reduced the silt and sediment that is washing into various streams and lakes within the Township.

With approximately 850 catch basins under Township jurisdiction, I recommend that this process be continued in 2021. Assuming 5 days of jet vac services similar to what was performed in the past, it is recommended that **\$10,000.00** be budgeted for this work.

10. **Miscellaneous Engineering & Surveying**

a. **NJDEP Municipal Stormwater Permit**

Work will be continued to aid the municipality in fulfilling the requirements of the Municipal Stormwater permit. It is estimated that work performed by HPA to aid the Township in fulfilling the permit requirements will be approximately **\$3,000.00**.

b. **Miscellaneous Roadway & Drainage Issues**

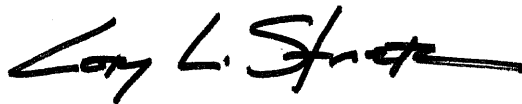
A number of roadway and drainage issues come up each year which I assist that Township Manager and the Road Department Supervisor with. It is recommended that **\$5,000.00** be set aside for miscellaneous work items that may come up during the year related to roadway and drainage problems in the Township.

c. **Tax Map Maintenance**

In order to continue with the maintenance of the tax maps, it is recommended that **\$3,000.00** be budgeted in for miscellaneous tax map changes.

I trust this list that will aid the Mayor and Council in establishing the municipal budget for 2021. If you have any questions regarding any of the above listed items or would like to meet to discuss any of the proposed work activities in greater detail, please do not hesitate to contact me.

Very truly yours,



Cory L. Stoner, P.E., C.M.E.
HAROLD E. PELLOW & ASSOCIATES, INC.
Byram Township Engineer

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