

MOUNT JOY TOWNSHIP ROAD IMPROVEMENT PLAN

2021-2025 BUDGET

Introduction

The second edition of the Mount Joy Township Road Improvement Plan pushes our implementation horizon out to 2025. Our ambitious first edition was drafted in 2018 and resulted in a significant amount of coordinated road and drainage repairs, improvements, and pavement management. Smart decision making by the Board of Supervisors has granted our Public Works Department the staffing resources to push forward with storm sewer pipe replacements, base repair, and general maintenance. Highlights of the first two years of the 2019-2023 plan implementation include:

- Reclamation & widening – 2.06 miles
- Road widening – 1.34 miles
- Pavement overlay – 4.49 miles

A major focus of the 2019-2023 budget was to continue the restoration of rural roadways lacking a sufficient base. Full depth reclamation is costly but the proper long-term fix in these situations. Over two miles of roadway were reconstructed in addition to Cassell Road, North Plum Street, and Prospect Road. Those three were rebuilt in 2016-2018 and are in a condition where routine maintenance should keep them in good shape for decades to come. We anticipate the need to reclaim large sections of roadway to tail off after 2021.

We continue to progress our road widening program to improve substandard-width roads, e.g. those less than 20' wide. Roads with travel lanes narrower than 10' often suffer broken road edges and create unsafe conditions for motorists. Public Works has accelerated rural road widening in conjunction with base repair and drainage pipe replacement/extension prior to a contracted wearing course overlay. This comprehensive approach to rehabilitating roads will become the most prominent method of improvement as our reclamation work takes a back seat after 2021.

One of our largest challenges is the sheer amount of road mileage in need of base repair, widening, and resurfacing. Good examples of this are Aberdeen, Beverly, Mill, and Old Hershey Roads in the far west section of the Township. Public Works did limited base repair prior to sealcoating them in 2019, effectively buying several more years before we need to tackle them comprehensively. This plan proposes full base repair, storm sewer pipe replacements where needed, and widening in 2025. Those roads will then be overlaid in 2026, essentially overhauling another full section of rural roads.

In summary, this 2021-2025 plan proposes the following road improvements:

- Reclamation & widening – 1.24 miles
- Road widening – 8.46 miles
- Pavement overlay – 8.82 miles

Pavement Management

The 2021-2025 plan expands upon our previous pavement management techniques with the objective of preserving development streets with good surface conditions that were constructed with proper bases. We have used traditional ½” sealcoating to maintain pavement integrity on low- and medium-volume rural roads. Double-application sealcoating with additional ¼” aggregate can be used in rural subdivisions to achieve a smoother finish. This budget proposes the use of Nova Chip on development streets with curb in lieu of mill and overlay to preserve existing curb reveal.

Nova Chip is a thin course hot mix over an emulsion layer that provides an abrasive driving surface. It can also help reestablish a proper road profile that promotes positive drainage patterns. Nova Chip is thinner than a typical 1.5” asphalt overlay, more durable than sealcoating, and has a 10-12 year life. The unit cost falls between double-application sealcoating and mill and overlay. Our plan is to implement this pavement management technique on Ironstone Drive and Old English Lane in 2023 as a pilot project. If successful, we will proceed with Nova Chip in Northbrooke in 2024 and Westbrooke in 2025. This represents an estimated 64,730 sy of pavement, or 3.25 miles of 34’-wide streets to be preserved for at least another decade. We will have another opportunity to revisit this specific approach while preparing the 2023-2027 plan in case that a better, less expensive alternative is determined in the next two years.

Traffic Impact Fee Program

Mount Joy Township enacted an Act 209 Traffic Impact Fee Program nearly fifteen years ago to help offset capacity issues resulting from growth. Our Capital Improvements Plan and other Act 209 documents guide the use of this money. Last updated in 2016, the CIP and Official Map set forth dozens of roadway and intersection projects that will improve circulation within and through the urban growth area. Three projects are or will be on the forefront in this upcoming 2021-2025 period but are not included in this budget:

1. Eagle Parkway throughway
 - Connect Campus Road to Westbrooke IV development
 - Realign Schwanger Road intersection to “T” into Eagle Parkway from west
 - Resurface Schwanger Road from Eagle Parkway to Sheaffer Road
 - Implement roundabout at critical Campus Road intersection
 - **Developer of Westbrooke IV to extend southward to Route 230 at new signal**
2. Campus Road traffic calming
 - Implement roundabout in mid-block area between Ridge Road and Sheaffer Road
 - **Developers of Hoffer Farm and Myer Farm to complete new collector roads thru**
3. Cloverleaf Road/Route 283 interchange improvement
 - FINAL DESIGN UNKNOWN!!!
 - Continue to pursue design with PennDOT
 - Eastbound offramp potential relocation with Eagle Parkway

2021-2025 Budget

Budget Summary

	Improvement Projects	Contingency & Services	Repairs & Maintenance	Pavement Management	TOTAL
2021	\$786,682	\$78,668	\$50,000	\$0	\$915,350
2022	\$584,730	\$58,474	\$52,000	\$0	\$695,203
2023	\$801,884	\$80,188	\$54,000	\$108,864	\$1,044,937
2024	\$441,124	\$44,112	\$56,000	\$280,581	\$821,818
2025	\$455,677	\$45,568	\$58,000	\$298,843	\$858,088
2026	\$913,372	\$91,338	\$60,000	\$0	\$1,064,709

Improvement Projects Breakdown (includes 5% annual escalator beyond year 2020)

Harvest Rd

Year	Tasks	Est. Cost
2020	Reclaim & widen to 22' cartway; 19mm base paving [Trail Rd N – pipeline]	\$440,915
2021	Reclaim & widen to 22' cartway; 19mm base paving [pipeline – Twp. line]	\$233,036
2022	9.5mm overlay w/ leveling course & fabric, 22' cartway	\$330,165
	Total Estimated Cost:	\$1,004,116

Trail Rd N

Year	Tasks	Est. Cost
2021	Widen to 21' cart., tree removal, drainage (in-house) [Harvest Rd – Forest Ln]	\$97,096
2022	Widen to 21' cart., drainage (in-house) [Forest Ln – Milton Grove]	\$53,289
2023	9.5mm overlay w/ leveling course & fabric, 21' cartway	\$308,358
	Total Estimated Cost:	\$458,743

Country Squire Rd

Year	Tasks	Est. Cost
2021	9.5mm overlay w/ leveling course & fabric, 22' cartway	\$123,404
	Total Estimated Cost:	\$123,404

Sager Rd

Year	Tasks	Est. Cost
2021	9.5mm overlay w/ leveling course & fabric, 20' cartway	\$15,489
	Total Estimated Cost:	\$15,489

Larkspur Ln

Year	Tasks	Est. Cost
2021	9.5mm overlay w/ leveling course & fabric, 20' cartway	\$13,205
	Total Estimated Cost:	\$13,205

Range Rd

Year	Tasks	Est. Cost
2021	9.5mm overlay w/ leveling course & fabric, 19-24' cartway (in house)	\$10,604
	Total Estimated Cost:	\$10,604

Groff Ave

Year	Tasks	Est. Cost
2021	9.5mm overlay w/ leveling course, 22' cartway	\$8,425
	Total Estimated Cost:	\$8,425

Notes: Project led by E-town Borough

Cold Spring Rd (Harvest Rd – Sunnyburn Rd)

Year	Tasks	Est. Cost
2021	Reclaim & widen to 20' cart.; 4" 19mm base paving w/ ½" sealcoat	\$293,848
	Total Estimated Cost:	\$293,848

Hereford Rd

Year	Tasks	Est. Cost
2022	Widen to 22' cartway (in-house)	\$150,742
2023	9.5mm overlay w/ leveling course & fabric, 22' cartway	\$243,929
	Total Estimated Cost:	\$394,671

Fieldstone Cir

Year	Tasks	Est. Cost
2022	9.5mm overlay w/ leveling course & fabric, 30' cartway w/cul-de-sac	\$18,665
	Total Estimated Cost:	\$18,665

Prospect Rd

Year	Tasks	Est. Cost
2022	Raise low area; 9.5mm overlay, 18' cartway (in house)	\$23,444
	Total Estimated Cost:	\$23,444

Cold Spring Rd (Sunnyburn Rd – Twp. line)

Year	Tasks	Est. Cost
2023	Widen to 20' cartway (in house)	\$37,894
2024	9.5mm overlay w/ leveling course & fabric, 20' cartway	\$67,604
	Total Estimated Cost:	\$105,498

Creek Rd (Colebrook Rd – Cold Spring Rd)

Year	Tasks	Est. Cost
2023	Widen to 22' cartway (in-house)	\$34,592
2024	9.5mm overlay w/ leveling course & fabric, 22' cartway	\$116,127
	Total Estimated Cost:	\$150,719

Quarry Rd

Year	Tasks	Est. Cost
2023	Widen/repair widened areas to 24' cartway (in-house)	\$56,663
2024	9.5mm overlay w/ leveling course & fabric, 24' cartway	\$169,066
	Total Estimated Cost:	\$225,729

Schwanger Rd (Sheaffer Rd – Campus Rd)

Year	Tasks	Est. Cost
2023	Widen to 24' cartway (in-house)	\$32,710
2024	9.5mm overlay w/ leveling course & fabric, 24' cartway [impact fees]	---
	Total Estimated Cost:	\$32,710

Buckingham Blvd (Mt Gretna Rd - ~435' southward)

Year	Tasks	Est. Cost
2023	Widen to 36' cartway, tie into Mt. Gretna Rd intersection (in house)	\$52,543
2024	9.5mm overlay w/ leveling course & fabric, 36' cartway	\$14,312
	Total Estimated Cost:	\$66,855

Notes: Coordinate with Elizabethtown Borough, full specific project scope TBD due to utilities

E College Ave (Twp. line – Campus Rd)

Year	Tasks	Est. Cost
2023	9.5mm overlay w/ leveling course, 24' cartway	\$35,195
	Total Estimated Cost:	\$35,195

Notes: Project led by E-town Borough

Parkview Dr

Year	Tasks	Est. Cost
2024	9.5mm overlay w/ leveling course & fabric, 25' cartway	\$74,015
	Total Estimated Cost:	\$74,015

Aberdeen Rd

Year	Tasks	Est. Cost
2025	Widen to 22' cartway (in-house)	\$117,196
2026	9.5mm overlay w/ leveling course & fabric, 22' cartway (contract out)	\$199,094
	Total Estimated Cost:	\$316,290

Beverly Rd (Old Hershey Rd – Route 743)

Year	Tasks	Est. Cost
2025	Widen to 22' cartway (in-house)	\$51,184
2026	9.5mm overlay w/ leveling course & fabric, 22' cartway (contract out)	\$100,455
	Total Estimated Cost:	\$151,639

Mill Rd

Year	Tasks	Est. Cost
2025	Widen substandard segments to 22' cartway (in-house)	\$136,288
2026	9.5mm overlay w/ leveling course & fabric, 22' cartway (contract out)	\$347,250
	Total Estimated Cost:	\$483,538

Old Hershey Rd (Rockwood Dr – Twp. line)

Year	Tasks	Est. Cost
2025	Widen to 22' cartway (in-house)	\$151,009
2026	9.5mm overlay w/ leveling course & fabric, 22' cartway (contract out)	\$266,573
	Total Estimated Cost:	\$417,582

Pavement Management Breakdown (includes 5% annual escalator beyond year 2020)

Standard ½" sealcoat

Year	Tasks	Est. Cost
2023	Range Road [Cove Outlook Park] (1,176 sy)	\$1,933
	Total Estimated Cost:	\$1,933

Double application sealcoat (½" + ¼" layers)

Year	Tasks	Est. Cost
2023	Faith Ave (1,674 sy)	\$4,942
2023	Mark Dr (3,522 sy)	\$10,397
2023	Hillside Rd (2,865 sy)	\$8,457
2023	Rosebud Ln (1,090 sy)	\$3,218
	Total Estimated Cost:	\$27,014

Nova Chip

Year	Tasks	Development	Est. Cost
2023	Ironstone Dr (3,394 sy)		\$32,414
2023	Old English Ln (4,974 sy)		\$47,504
2024	Conoy Ave (9,206 sy)	Northbrooke	\$92,317
2024	Country Ln (1,148 sy)		\$11,512
2024	Farmland Dr (6,445 sy)		\$64,630
2024	Northbrooke Dr (1,118 sy)		\$11,211
2024	Tower Dr (8,530 sy)		\$85,538
2024	Windemere Ct (1,533 sy)		\$15,373
2025	Andrew Ave (6,148 sy)		Westbrooke/Lupine Meadows
2025	Brookfield Dr (4,709 sy)	\$42,949	
2025	Brooklane Ct (2,175 sy)	\$22,901	
2025	Clermont Ct (1,725 sy)	\$18,163	
2025	Shefford Dr (4,394 sy)	\$46,266	
2025	Westbrooke Dr (9,861 sy)	\$103,830	
	Total Estimated Cost:		\$659,342