PUBLIC WORKS COMMITTEE MEETING MINUTES
NOVEMBER 29, 2016

PUBLIC WORKS COMMITTEE MEMBERS PRESENT: Pitts, LaPointe, Campbell, Haff, O'Brien, Fedler, Gang, Skellie
PUBLIC WORKS COMMITTEE MEMBERS ABSENT: Shaw
SUPERVISORS: Henke, Hicks, Moore, Suprenant, Idleman, Hogan
Debra Prehoda, Clerk
Roger Wickes, County Attorney
Chris DeBolt, County Administrator
Al Nolette, County Treasurer
Steve Haskins, DPW Superintendent
Todd Konifka, Deputy Supt. DPW
Media

AGENDA AS PRESENTED IN COMMITTEE NOTICE:

1. Call to Order
2. Accept Minutes – November 1, 2016
3. Department Reports/Requests:
    - A. Sewer District
    - B. Department of Public Works
        1) Discuss Winter Conference and Trade Show
        2) 2016 Paving Project Update
        3) 2016 Bridge Project Update
        4) Resolution Request – Snow & Ice with Warren County
        5) Resolution Request – Snow & Ice with NYSDOT 2017/2018
        6) Discuss Draft Standards Low Volume Roads
        7) Discuss Draft County Snow & Ice Policy
        8) Resolution Request – Budget Amendment for Road Projects
        9) Miscellaneous
4. Other Business
5. Adjournment

Chairman Pitts called the meeting to order at 10:00 A.M.

A motion to accept the minutes of the November 1, 2016 meeting was moved Mr. O'Brien, seconded by Mr. Campbell and adopted.

DEPARTMENT OF PUBLIC WORKS – Steve Haskins, Superintendent of Public Works, addressed the following items with the committee, packet of handouts distributed, attached:

- Winter Conference and Trade Show for the County Highway Superintendents – The conference is held in Albany and he would like to attend with his Deputy. The cost is $416 for both to attend and he budgeted for this expense. Committee approved.
- 2016 Paving Project Updates – Ninety-nine, 99%, complete; effectively done for the year. They did not get to one section, Co. Rt. 78 from 22 to 22, because they did not have the funds to do what needs to be done there.
- 2016 Bridge Project Updates – Finished their last bridge projects on Co. Rt. 30 and open to traffic as of 11/23.
- Snow & Ice with Warren County – A motion to approve agreement between the County of Washington and the County of Warren for the removal of snow and salting/sanding to control ice on paved Warren County Roads for 2017 which will provide approximately $5,957.44 in revenue, a small increase from the previous year, was moved by Mr. Campbell, seconded by Mr. O'Brien and adopted.
- Snow & Ice with NYSDOT 2017/2018 – A motion to authorize agreement between the County of Washington and the State of New York for the removal of snow and salting to control ice on State roads expiring June 30, 2018 providing revenue to the department on a time and materials basis was moved by Mr. O'Brien, seconded by Mrs. Fedler and adopted.

- Draft Standards Low Volume Roads – This is for information only to review and discuss at a future meeting. He highlighted the section that states: "If standards are not adopted, municipalities may be held to more stringent construction and maintenance requirements designed for roads with higher traffic volumes." The next highest stringent standard is NYS DOT. There is no set standard at the County level. He will also work with the County Attorney on the review of this document.
- Draft County Snow & Ice Policy – This is also for review and discussion. The County does not have a bare road policy only a level of service that has been going on for years which is basically a bare road practice. This would reaffirm that we do not have a bare roads policy and that could be communicated to law enforcement and the public. A lot of the times they are called out because law enforcement is requesting road conditions being addressed. They also do a lot of plowing for the State and activate staff on those beats. Review and come back next month.
- Budget Amendment for Road Projects – The attached handout details the reason for the $277,942.71 shortage; extra due to concrete problems CR18/21 $232693.22 and other cost overruns $45,249.49. The handout lists an invoice for rental of a grader, Peckham grader $3,575. The County does not have a need for graders but does have two; one not operational and the other is operational but from 1973 with very little hydraulics on it. Most towns have graders. Vehicle damage repairs related to the condition of CR18/21are not included on this handout and estimated to be approximately $15,600. The County Administrator stated there is $427,000 remaining in the County salt budget and $302,000 in the State salt budget. Last year in November/December, the County used about $52,000 between those two lines. He is proposing to take 65% of the budget amendment amount out of County snow and the remainder from State snow. A motion to amend budget in the amount of $277,942.71 to cover road project expenses and forward to the Finance Committee for consideration was moved by Mr. Gang, seconded by Mrs. Fedler and adopted.
- Miscellaneous:
    - An employee hurt himself on Co. Rt. 30 Bridge project and has been off on compensation. His anniversary date is approaching and has some unused vacation time. The Superintendent is requesting to give the employee upon his return to work a month extension to use his accrued vacation time. The Treasurer stated the Personnel Director plans to bring to committee a proposal globally addressing employee benefit time in relation to being out on compensation; in a lot of cases it is impossible for the employee to use their restored benefit time upon their return to work. A motion to approve one month extension of vacation time requested by the Superintendent for an employee who has been out on compensation was moved by Mr. Gang, seconded by Mrs. Fedler and adopted.
    - Rental of Heavy Equipment – Chairman Pitts asked if heavy equipment is rented for a time period or a particular job. Typically rented by the month for a specific purpose; i.e. culverts.

SEWER DISTRICT: In the absence of Joe Brilling, the following items were discussed:

DEC Notice of Violation for Compost Facility – Mr. Haff stated that recently Mr. Brilling advised the committee that DEC gave the Sewer District a notice of violation for the compost facility. He thinks this committee should be able to see notices of violations and how many violations have not been remedied. He understands there is a consultant at the compost facility today and he would like

this committee to have a copy of the report because we need to be in the loop. Mr. Suprenant stated the report should be included in the Commissioners meeting minutes.

Budget Amendments:

- Blowers for Compost Facility $5000 – A motion to amend budget in the amount of $5,000 taking funds from compost reserve ($31,000) to purchase two blowers for the compost facility, replacing one and the other will be a spare, and forward to the Finance Committee for consideration was moved by Mr. Campbell, seconded by Mr. Gang and adopted.
- Hauling Expense – Mr. Brilling discussed last month hauling failed product from the facility for disposal. He is estimating at an expense of $120,000; $50,000 of that will be spent in 2016 and $70,000 in 2017. The compost is being hauled to Finch Pruyn landfill and Franklin County. A motion to amend Sewer District budget $50,000 for expenses related to hauling compost in 2016 was moved by Mr. Campbell. Discussion. Mr. Haff stated the Sewer District has $80,000 in their 2017 budget for disposal. The $50,000 will come from fund balance and the Treasurer reported that the Sewer District ended 2015 with $135,000 in their fund balance. He stated it appears there will be a surplus in fund balance in 2016. Mr. Haff asked if these numbers are incorrect and they need additional funds that they do not have when would the County be responsible for that expense. In that situation, the Sewer District would have to borrow money. The Treasurer stated they were in the red for years and lived off their capital monies. The County Attorney added that yes County money is involved if they loan them money but the Treasurer added the Sewer District is also charged interest. The Treasurer stated cash flow yes, expense no. Ms. Idleman stated why don't we look at a different relationship with the Sewer District and have them operate separately from the County. The Treasurer stated there are options. Ms. Idleman stated she would like to have the committee look at those options. Mr. Suprenant stated the Sewer District Board of Commissioners meets the second Tuesday of every month at the plant. Mr. Haff requested that notices of violations be put in the minutes. The Commissioners need to come up with a plan if they want to operate separate from the County. The County Attorney stated it would probably be a long process to get to a new structure. He added it would be a long road and structure and would need to talk to the Comptroller's Office. Mr. Suprenant stated the Commissioners will discuss this matter. The Sewer District operates the compost facility on Washington County property due to a license that was issued to them to do so. The County owns the property that the compost facility sits on. The Treasurer stated the Sewer District pays the County $35,000 for his department's services. The motion to amend Sewer District budget $50,000 for expenses related to hauling compost in 2016 was moved by Mr. Campbell, seconded by Mr. Gang and adopted.

OTHER BUSINESSS:

- Mr. Campbell stated the County has done a good job bringing the number of roads paved from 5 miles per year in 2011 up to 22 or 23 miles this year.

The meeting adjourned at 11:11 A.M.

Respectfully submitted,

Debra Prehoda, Clerk
Washington County Board of Supervisors

Washington County Department of Public Works
2016 Road Projects

11/28/2016

County Route	Project Limits	Miles	Status	
113	Cheese Factory to General Fellows	3.49	Complete	FDR w/Calcium, Binder
113	General Fellows to NYS 29	0.88	Complete	FDR w/Calcium, Binder
16	Cathrine Street to West Road (S)	1.1	Complete	FDR w/Calcium, Binder
16	Evans Lane to 1.3 mile S of West Road (N)	1.3	Complete	FDR w/Calcium, Binder
18	US 4 to CR21	2.92	Complete	Mill, Crack & Seat Conc., Pugmill Binder, Hot Mix Overlay
18	CR21 to Hickey Road	2.26	Complete	FDR w/Calcium, Binder
28	CR31 to Button Road	1.45	Complete	FDR w/Calcium, Binder
78	NYS22 to NYS22	0.36	Postponed	HMA Overlay
10	CR9 to .3 Mile past East Bay Road	0.86	Complete	FDR w/Calcium, Binder
21	US4 to CR18	2.26	Complete	Mill, Crack & Seat Conc., Pugmill Binder, Hot Mix Overlay
113	CR54 to Ferry Lane	2.81	Complete	Top Course on Binder placed in 2015
23	NYS40 to Guilder Hollow	2.32	Complete	Top Course on Binder placed in 2015
31	Big Birch to Button Road	1.45	Complete	Top Course on Binder placed in 2015
47	CR 30 to CR48	1.05	Complete	Paver Placed Surface Treatment
64	Woodcock to Perry Hill	1.78	Complete	Micro Surfacing
64	Jackson/Salem Line to CR61	0.97	Complete	Micro Surfacing
48	East Lake Rd to CR47	1.39	Complete	Paver Placed Surface Treatment
	Total Miles	28.65	28.29	Completed Miles
			99%	Complete

	Total Cost	Unit Cost	
WCDPW self perform unit cost per ton of dense binder course	$ 254,522.66	**$ 52.89**	CR 16 Cathrine to West Road North Peckham hauled a majority of the asphalt
Peckham In-Place Bid, Type 3 Binder, April 4, 2016 Fort Ann		$ 58.50	
Difference		**$ (5.61)**	Savings of **$26994.59**
WCDPW self perform unit cost per ton of dense binder course	$ 121,309.03	**$ 57.35**	CR 10 CR 9 To East Bay Road Peckham hauled a majority of the asphalt
Peckham In-Place Bid, Type 3 Binder, April 4, 2016 Whitehall		$ 62.50	
Difference		**$ (5.15)**	Savings of **$10893.13**
WCDPW self perform unit cost per ton of dense binder course	$ 150,023.32	**$ 55.94**	CR 28 Button Road to CR 21 Peckham hauled a majority of the asphalt
Peckham In-Place Bid, Type 3 Binder, April 4, 2016 Hebron		$ 62.00	
Difference		**$ (6.06)**	Savings of **$16253.47**
WCDPW self perform unit cost per ton of dense binder course	$ 418,142.09	**$ 55.63**	CR 113 Cheese Factory to General Fellows Peckham hauled a majority of the asphalt
Peckham In-Place Bid, Type 3 Binder, April 4, 2016 Easton		$ 58.25	
Difference		**$ 2.62**	Savings of **$17287.76**
WCDPW self perform unit cost per ton of top course	$ 350,306.64	**$ 58.27**	CR 113 CR 54 to Ferry Lane Peckham hauled a majority of the asphalt
Peckham In-Place Bid, Type 6 Top, April 4, 2016 Easton		$ 62.25	
Difference		**$ 3.98**	Savings of **$23541.26**
WCDPW self perform unit cost per ton of top course	$ 252,286.20	**$ 64.05**	CR 23 SR40 to Guilder Hollow Road Peckham hauled a majority of the asphalt
Peckham In-Place Bid, Type 6 Top, April 4, 2016 Granville		$ 63.75	
Difference		**$ (0.30)**	Additional Cost of **$1,181.65**
WCDPW self perform unit cost per ton of top course	$ 139,891.85	**$ 60.61**	CR 31 Button Road to Big Burch Road Peckham hauled a majority of the asphalt
Peckham In-Place Bid, Type 6 Top, April 4, 2016 Hebron		$ 66.00	
Difference		**$ 5.39**	Savings of **$12,440.39**
WCDPW self perform unit cost per ton of top course	$ 288,558.21	**$ 58.64**	CR 18 CR21 to Hickey Road Peckham hauled a majority of the asphalt
Peckham In-Place Bid, Type 3 Binder, April 4, 2016 Hampton		$ 63.00	
Difference		**$ 4.36**	Savings of **$21454.34**

Washington County DPW
Bridge Project Update

6/27/2016
8/24/2016
10/31/2016
11/28/2016

Location	Status
CR 6B	Will set deck on remaining portion Tuesday 06-28-16; Mud wall will be formed and placed 06-29-16; Rail install and open to traffic two lane 06-30-16; Asphalt pavement after Labor Day. Tentitive schedule 09-07. Paved 10-25.
CR 31	Started demolition 06-13-16; structure is removed, we are forming footers and tying rebar; scheduled to be complete by 08-08-16 Paved Base, Binder, Top on 08-29 & 08-30, scheduled to open 08-31-16. Opened to traffic 08-29
Church St	Begin mobilization week of 07-05-16 for Phase 2 work; Repairs expected to start 07-11-16 on the underside of the arch and take approximately four weeks depending on the number of repairs identified by GPI. Repairs were more involved then originally thought, anticipating completion of Phase 2 work, week of 09-12-16. Completed 09-29.
CR 45	Multi-plate culvert; scheduled to start 2nd week of August detour will be posted approximately two week period Began excavation 08-23-16, anticipated to re-open 09-07-16, paving week of 09-26. Reopened 09-08 and paved 10-17.
CR 21	Multi-plate culvert; scheduled to start 1st week of August detour will be posted approximately two week period Began excavation 08-03, reopened to traffic 08-18. Asphalt pavement week of 09-12. Paved 10-11.
CR 30	Two bridges near Gristmill campground; tentivily scheduled to start third week of August and expected to take 8-10 weeks to complete detour will be posted anticipated completion week of 10-17-16. Road closed August 29. completion estimated week of 10-24-16 Completion is estimated the week of 11-17. Precast slabs to be installed 11-02. Road work to follow. Opened to traffic 11-23-16.

Resolution No. 78 February 19, 2016

By Supervisors Campbell, LaPointe, Shay, Suprenant, Haff, Pitts, O'Brien, Shaw, Hogan

TITLE: Authorizing Agreement Between the County of Washington and the County of Warren for the Removal of Snow and Salting/Sanding to Control Ice on Paved Warren County Roads for 2016

WHEREAS, for the safety of the general public, all roads must be maintained during the winter months by removing snow and salting/sanding to control ice and snow on paved roads, and

WHEREAS, certain Warren County roads lead into Washington County roads, which roads are maintained by Washington County, and

WHEREAS, it has been recommended that an agreement be continued between the County of Warren and the County of Washington for the removal of snow and salting/sanding to control ice and snow on 0.68 miles of paved Warren County roads located within the County of Warren leading into Washington County, at the following rates:

$5,242.00 per mile	Plow/Sand with typical snow/ice removal operations between storms, adjust miles appropriate for multiple lane highways. 0.68 Miles @ ~~$5,242.00~~ = ~~$3,564.56~~ $5,580.72 8206.94
~~$1,455.00 per mile~~	~~Additional with very frequent snow/ice removal operations between storms, I.E. snow drifts and snow removal on city streets and numerous intersections.~~ ~~0.68 Miles @ $1,455.00 = $989.40~~
$582.00 per mile	Sweep and remove road sand in spring after winter operations are completed one time per year. 0.68 Miles @ ~~$582.00~~ = ~~$395.76~~ $376.72 554.00

; now therefore be it

RESOLVED, that the Chairman of the Board of Supervisors be, and he hereby is, authorized to enter into an agreement on behalf of the County of Washington with the County of Warren for snow removal and salting/sanding to control ice and snow on paved Warren County roads located within the County of Warren, which roads are maintained by Washington County, for a term commencing January 1, 2016 and terminating December 31, 2016, in a form approved by the County Attorney.

BUDGET IMPACT STATEMENT: This will provide approximately ~~$4,950~~ of revenue for the Department of Public Works. $5,957.44

Resolution No. 26 February 20, 2015

By Supervisors Brown, Pitts, Suprenant, Campbell, Haff, Hicks, O'Brien, Gang, Shaw

TITLE: Authorize Agreement Between the County of Washington and the State of New York for the Removal of Snow and ~~Sanding~~ SALTING to Control Ice on State Roads Expiring June 30, 2016 8

WHEREAS, for the safety of the general public, all roads must be maintained during the winter months by removing snow and ~~sanding~~ SALTING to control ice and snow on paved roads, and

WHEREAS, the State of New York is willing to contract with Washington County for the maintenance of certain state roads, and

WHEREAS, it has been recommended that an agreement be continued between the County of Washington and State of New York for the removal of snow and sanding to control ice and snow on State roads located within the County of Washington; now therefore be it

RESOLVED, that the Chairman of the Board of Supervisors be, and hereby is authorized to enter into an agreement on behalf of the County of Washington with the State of New York for snow removal and sanding to control ice and snow on certain State roads within the County of Washington for a term ending June 30, 2016 8, in a form approved by the County Attorney.

BUDGET IMPACT STATEMENT: This will provide revenue for the Department of Public Works during the 2015/2016 snow and ice season on a time and materials basis.

6 7

Introduction

THE CASE FOR ADOPTION

It is a common myth that municipalities do not need to adopt standards for constructing and maintaining their roadways, and for accepting new roads into the town highway system. While there is no legal requirement to do so, not having a set of reasonable standards for new and existing roads puts a municipality at risk for costly lawsuits and unnecessary expenditures. The information in this publication was created to assist local governments in developing a set of standards and laws specifically appropriate to their individual needs.

The standards described in this document come from several documents produced by agencies other than the Cornell Local Roads Program. Those standards are referred to in the pertinent sections. As those standards change, the information in this publication will change automatically, through the citations to the "most recent" version of the referenced standards. The primary source was the *Manual: Guidelines for Rural Town and County Roads*, which was produced by the Local Roads Research and Coordination Council in 1992.

The main advantage of adopting standards is the establishment of practical roadway regulations which are based on current state and national standards, with customization to meet the specific needs of individual municipalities. If standards are not adopted, municipalities may be held to more stringent construction and maintenance requirements designed for roads with higher traffic volumes. The template provided here directly addresses the kind of low-volume roads more commonly found across New York State. In addition, these 'model' standards are easily fine-tuned to match the physical and practical needs of any given municipality. Ultimately, this ensures optimal roadway performance and safety while avoiding the extra costs associated with over-designed roads.

The fiscal benefits of adopting reasonable standards extend past construction costs. There is no cost to the municipality for putting them into law, and because the standards require adherence to the "most recent" editions of prevailing standards, rather than specific editions, it is not necessary to revise them as design practices evolve. In addition to establishing design specifications, the standards also offer a clear process and a specific set of definitions for roadway classification that allows for better management and prioritization of road maintenance and distribution of funds.

Included in the classification system is a provision for designating a road as "minimum maintenance." Such roads have especially low traffic volumes, they carry primarily seasonal traffic, and often provide only agricultural or recreational access. The minimum maintenance designation allows a municipality to save money by preventing the need for impractical or unnecessary levels of maintenance.

Finally, in the absence of a clearly-defined set of standards, a municipality may find difficulty defending itself in court. In the face of a lawsuit, municipalities without specifications will most likely be held to stricter ones established by publications like the AASHTO "Greenbook," which

Locally developed municipal-specific standards

A municipality may elect to develop its own standards and adopt them as the official municipal policy. They should be defendable in court. The municipality should have its standards developed by a Professional Engineer and reviewed by the municipal attorney. A municipality may elect to use portions of the above three standards but need to be sure to decide, clarify and specify which standard to follow when two documents conflict each other.

The standards included in this document combine information from the three other references listed above into a single set of requirements that can be adopted by a municipality. More than a dozen municipalities have adopted these standards after making modifications for their own unique situations.

STANDARDS FOR NEW ROADS

The standards included here were prepared by the Cornell Local Roads Program to provide municipalities with reasonable highway requirements that could be adopted quickly and easily. The standards included have been reviewed by a Town Attorney for completeness and correct language, but should be reviewed by any adopting municipality's own attorney prior to adoption.

The *Sample Road Standards* can be adopted by a municipality by resolution or by local law. If the concept of minimum maintenance roads will not be used, the adoption can be done by resolution of the municipal board. Consult with the municipal attorney for the best method and procedure needed to adopt the standards or the model law. The model local law (see page 19) was originally prepared by the Commission on Rural Resources to be a companion to the *Manual: Guidelines for Rural Town and County Roads*. The version presented in this document contains some minor changes, made by the Cornell Local Roads Program in order to provide consistency with the standards included here.

Before adoption, replace the underlined items with the municipality names and other critical information. Some of the design items that local governments may wish to adjust are also underlined. These are minimum recommendations, but they should be reviewed and changed as necessary before adoption.

In addition to the main standards, there are several optional items that may be included in the municipal standards. Notes explaining these items, as well as some of those already in the standards, begin on page 11.

By adopting and following these standards for all road rehabilitation done by the municipality, and for new roads, the level of liability is reduced, the public is given a clearer idea of the level of service provided, and communication is improved.

For electronic copies of anything in this manual, additional questions concerning these standards, or if more information is desired, please contact the Cornell Local Roads Program by phone at (607) 255-8033, via email at *clrp@cornell.edu*, or visit us on the web at *www.clrp.cornell.edu*

Washington County Very Low Volume Roadway Standards

Public Works Superintendent Steve Haskins
383 Broadway
Fort Edward, NY 12828

Clerk – Stephanie Lemery
383 Broadway
Fort Edward, NY 12828

Standards for New Roads – Washington County

GENERAL

1. Washington County, herein referred to as the County, has adopted these standards for construction of new roadways to be dedicated as part of the County road system.

2. All roadways to be taken over by the County shall be certified they are in compliance with these standards by a Professional Engineer licensed to practice in New York State, herein referred to as the Project Engineer.

3. Before the roadway is to be taken over by the County, a set of as-built plans approved by the Project Engineer shall be submitted to the County Clerk and the Public Works Superintendent at the addresses shown on the top of these standards. Approval by the Public Works Superintendent that the project meets the standards shall be required prior to acceptance by the County board. Both the Public Works Superintendent and the County Board must accept the roadway before it is accepted as a part of the County road system. The County reserves the right to not accept a roadway, notwithstanding that all portions of these standards have been met.

4. All applications for the dedication of a roadway shall be accompanied by a proposed warranty deed conveying said highway to the County, with all necessary releases from mortgages or other claimants. All deeds and plans must meet requirements for filing with the County Clerk.

   In addition, there should be a complete release of all liens arising out of the construction of the dedicated improvements, or receipts in full lieu thereof, and if required in either case, an affidavit that so far as the Developer has personal knowledge or information, the releases and receipts include all labor and materials for which a lien could be filed.

5. For a subdivision, the plans must be submitted prior to start of construction. A construction plan showing erosion control and other pertinent information must be supplied for subdivisions.

6. For disturbances of 1 acre or more, a Stormwater Pollution Prevention Plan consistent with the requirements and standards of the New York State Department of Environmental Conservation.

7. As a minimum, the plans for the roadway shall provide the following:

- Design criteria used,
- The names of all streets approved by County Department of Emergency Services,
- Location and alignment survey performed by a licensed Surveyor that includes:
  - Original and finished grades,
  - The layout and locations of all roads and streets and their metes and bounds,
  - The location of any property lines and their metes and bounds,
  - The location of the County's right-of-way,
  - The location of other rights-of-way and easements including a statement of their allowable uses,
  - The location of all drainage structures,
  - The location of any utilities in the right of way,
  - The names of adjacent property owners to the roadway,
- A maintenance plan for the roadway,
- Locations of all signs and traffic control devices, and
- A cross section of a typical tangent section,
- A traffic study determining the Average Daily Traffic and types of traffic for all roads and streets. The traffic study shall also describe all methods used to collect data,
- The Functional Classification of all roads and streets based on the criteria presented in the AASHTO *Guidelines for Geometric Design of Very Low-Volume Roads (ADT≤400)* or the AASHTO *Policy on Geometric Design of Highways and Streets*. Where there exists a conflict between two or more of the defined classifications, the classification having the most stringent design guidelines shall be indicated

8. Clarification of exceptions to these standards shall be approved, in advance, by the Public Works Superintendent in writing. Oral responses by the Public Works Superintendent will not be considered as approved.

DESIGN and CONSTRUCTION

1. The roadway shall be certified to meet the requirements of the most recent edition of the following documents, listed here in order of precedence:

   a. *Manual Guidelines for Rural Town and County Roads*, Local Roads Research and Coordination Council

   b. *Guidelines for Geometric Design of Very Low-Volume Local Roads*, American Association of State Highway and Transportation Officials

   c. *Standard Specifications for Construction and Materials,* New York State Department of Transportation.

   d. *Highway Design Manual*, New York State Department of Transportation

   e. *Policy on Geometric Design of Highways and Streets*, American Association of State Highway and Transportation Officials

2. The requirements listed in these specifications are for very low volume roads and streets with a maximum Average Daily Traffic (ADT) of 400 vehicles per day or less.

   a. Any roadway that does not meet the definition of a very low volume roadway will require standards that are more stringent than those defined in these specifications. In such a case, the entire design must be approved before construction.

   b. All new bridges shall meet the criteria in Chapter 5 of the AASHTO *Policy on Geometric Design of Highways and Streets*. Existing bridges will be certified free of safety issues.

   c. All design criteria shall be listed on the roadway plans and any criteria not listed in the two publications listed above shall be determined using current engineering practice.

   d. The plans shall designate the source of any design assumptions.

3. In addition, as a minimum, the road shall meet the following criteria:

   a. A design life of not less than 25 years with routine maintenance,

   b. A minimum design speed of 45 mph,

   c. A right-of-way of not less than 50 feet,

   d. A total roadway width of not less than 22 feet,

   e. A total driving lane width of not less than 11 feet,

   f. Drainage facilities designed to handle a 50-year storm under the roadway and 25-year storm on all other facilities, The minimum size opening of any pipe is 18 inches in diameter or equivalent,

   g. The combined thickness of the base and surface courses shall be at least 17 inches thick,

4. The Public Works Superintendent may specify additional right-of-way where deep cuts and fills exist, in areas adjacent to drainage structures, and otherwise with discretion and consideration for the terrain.

5. Should the road terminate short of the adjacent property line, the right-of-way shall be extended to the adjacent property line. The additional right-of-way shall meet the specifications in sections 3.c and 5.

6. Dead-end road designs will terminate with cul-de-sac designed in accordance with Figure B. (see optional section)

7. All proposed roads shall be a minimum of 500 feet in length.

8. Definitions of design criteria:

   a. Design life: the time in years from original construction until the present serviceability index has dropped to 2.0.

   b. Present serviceability index – p (also known as the terminal serviceability index – p_t): the ability of a roadway to handle traffic as defined by the AASHTO *Guide for the Design of Pavement Structures*.

   c. A right-of-way: the width of land owned or controlled by a highway agency for the purpose of maintaining or constructing roads and streets.

   d. A__-year storm: a runoff event with a probability of occurring in a given year equal to the inverse of the value of the year. A 50-year storm would have a 1 in 50 (2%) chance of occurring in a given year.

   e. An 18" diameter equivalent opening: an area of 254 in^2.

   f. Design speed: the typical operating speed on a roadway. Also, the speed used to determine the various design features of a roadway based on terrain, traffic volume, and roadway classification.

   g. Stopping sight distance: the sum of the brake reaction distance (the distance traversed by a vehicle from the instant the driver sights an object necessitating a stop to the instant the brakes are applied) and the braking distance (the distance needed to stop a vehicle from the instant brake application begins)

   h. Traveled way: The portion of the roadway for the movement of vehicles, exclusive of shoulders.

   i. Driving lane

   j. Combined thickness (base course typically 12 inch thickness, Asphalt courses binder (3 inches) and top (2 inches) typically total 5 inches thick).

   k. Roadway: the portion of a highway, including shoulders, for vehicular use.

9. All materials and all work shall meet the requirements of the latest revision of the New York State Department of Transportation *Standard Specifications for Construction and Materials*, including any Engineering Instructions or Bulletins, unless alternatives are approved by the Public Works Superintendent in writing, in advance.

10. The Right-of-Way shall be kept clear of shrubbery, trees, and other elements of landscaping which would obstruct visibility or become potential obstacles or fixed hazards.

NOTES AND OPTIONAL ITEMS

Minimum Design Speeds for Very Low-Volume (ADT<400) Roads

Table 1 – Minimum design speeds in MPH.

US Customary (MPH)

Rural Low-Volume Road Classification	Type of Terrain		
	Level	Rolling	Mountainous
Major Access	45	45	45
Minor Access	45	45	30
Industrial/Commercial	30	30	30
Agricultural	30	20	20
Recreational/Scenic	30	20	20
Resource Recovery	30	20	20

Stormwater Pollution Prevention Plan

For projects covering an area of one acre or more, a Construction Permit Notice of Intent (NOI) must be filed with the New York State Department of Environmental Conservation (DEC) in order to obtain a General Permit GP-02-01 (Phase II permit). The NOI shall include a Stormwater Pollution Prevention Plan consistent with criteria found in the *New York State Stormwater Management Design Manual* in addition to any other components indicated as necessary by the *Instruction Manual for Stormwater Construction Permit*. Both documents are available electronically at http://www.dec.state.ny.us.

Roadway, Traveled Way, Lanes, Shoulders, and Total Roadway Width

When developing standards for new roads, minimum specifications for the width of roads may be defined in different ways depending on the goals and priorities of the municipality.

The easiest way to specify the minimum dimensions of the roadway surface is to establish a minimum width for the entire roadway, or "total roadway width." This dimension is the total distance from one edge of the pavement to the other.

However, some communities will find it necessary or preferable – especially with new construction – to provide more discerning measurements. The most specific way to specify the minimum total width of a roadway is to break it down into parts, as shown in Figure 1. With this approach, a minimum width would be provided for road shoulders, and either the traveled way (the distance across all lanes of the roadway) or individual lanes. Lane width is more precise than a width of the traveled way, and covers a larger number of lane configurations. A minimum total

roadway width is not required with either of these arrangements, since it is already implied by the other two measurements. See Figure 1 for a visual comparison of these measurements.

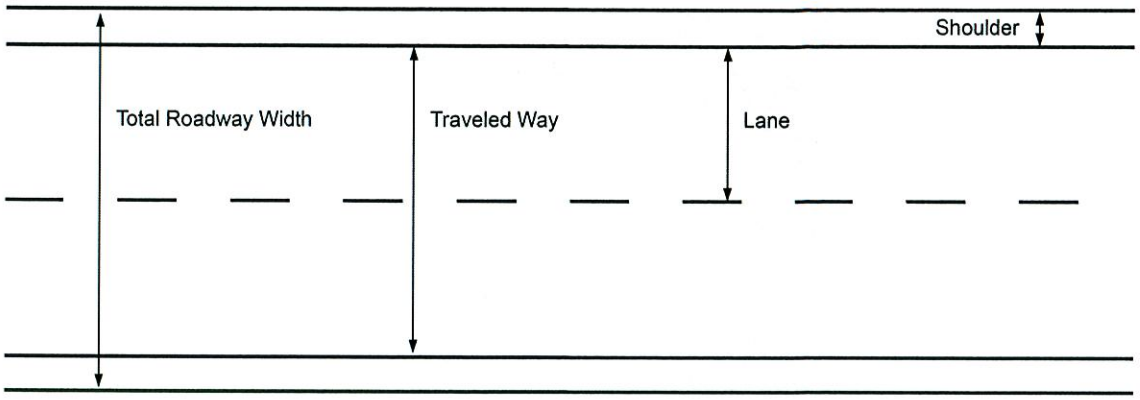

Figure 1 – Measurements of roadway width.

Municipalities which have developed programs to integrate bicycle and pedestrian facilities should consider adding minimum dimensions for bike lanes and possibly sidewalks. A simple and relatively inexpensive way to increase the safety of pedestrians in rural areas is to specify greater minimum widths for road shoulders.

Extended Right-of-Way

Where roadside drainage (ditches, culverts, etc.) is a feature of a roadway it is important to consider the angle at which the terrain slopes down from the road surface, or fore slope, and the angle at which it meets the existing terrain, or back slope.

The maximum recommended grade for both the fore slope and back slope is 2:1 or 50%, so that along a horizontal distance of 2 feet, for example, elevation increases or decreases by 1 foot. A safer slope, however, is 3:1 and is desirable whenever possible. Depending on existing conditions, deep cuts or fills may be required to obtain acceptable grading so that the back slope meets the terrain at the appropriate angle.

The right-of-way should extend far enough to include roadside drainage features for the purposes of construction and maintenance. In some cases, however, the recommended slopes will require more space than is afforded by the minimum right-of-way indicated in the standards. When this is the case, it is important to have a clause in the standards which allows the municipality to obtain additional right-of-way, most often at the discretion of the local Highway Official.

Figure 2 shows an example of a deep cut used to provide the recommended grading. Notice that the back slope extends beyond the minimum right-of-way to the point at which it intersects the

natural elevation of the terrain. The county's right-of-way should also extend to that point of intersection as shown in the diagram.

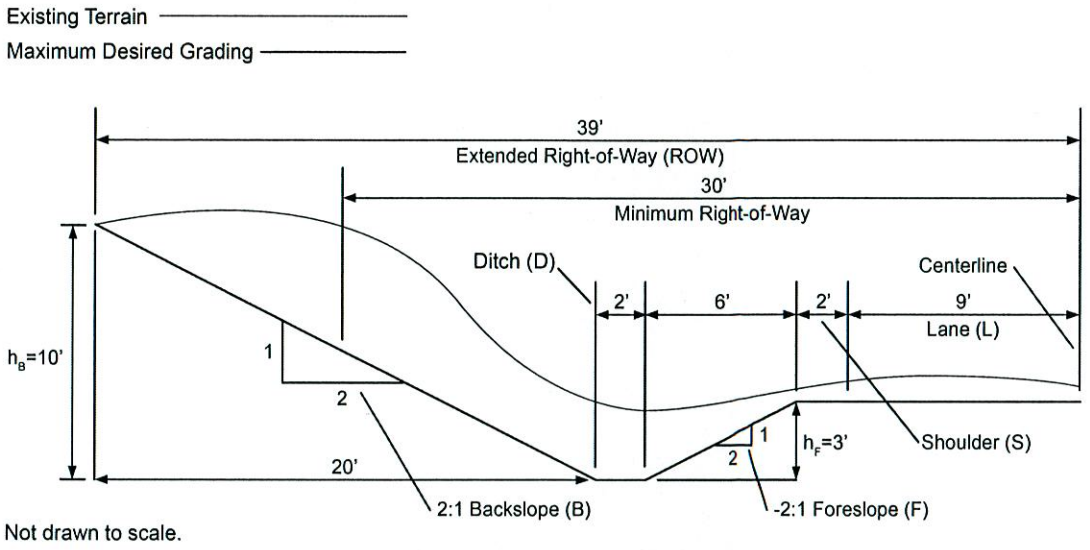

Figure 2 – Calculating the extended right-of-way.

The necessary right-of-way (ROW) width *from the centerline* of the road can be calculated by adding the lane width (L), the shoulder width (S), the fore slope (F) multiplied by its height (h_F), the width of the ditch or swale (D), and the backslope (B) multiplied by its height (h_B) as shown in the equation below.

$$ROW = L + S + F \times h_F + D + B \times h_B 1$$

In the example, the values would be:

$$ROW = 9 + 2 + 2 \times 3 + 2 + 2 \times 10 = 39$$

Turnarounds

Road standards may also include a section requiring turnarounds for roads that dead-end, or specifying minimum dimensions. Adding this to a set of standards can ensure a higher level of usability for drivers. Dimensions for turnaround are most easily presented in a diagram. Two of the most common types of turnarounds are cul-de-sacs and T-type turnarounds (Figure 3).

T-type turnarounds are named for their shape and require drivers to make a three-point, or "k," turn. These are preferable where space is at a premium, or where traffic volumes are especially low. Where the approaching roadway meets the perpendicular section of the turnaround, the inside corners may be either curved or cut diagonally. The standard width of a T-type dead-end is 60 feet, with the width of the roadway maintained throughout. This width is needed to accommodate emergency services vehicles such as fire trucks and snow plows.

Cul-de-sacs offer the ability for drivers to turn around without having to reverse or make unnecessary turning movements, but require a larger area of land. The minimum diameter of a cul-de-sac should be no less than 60 feet.

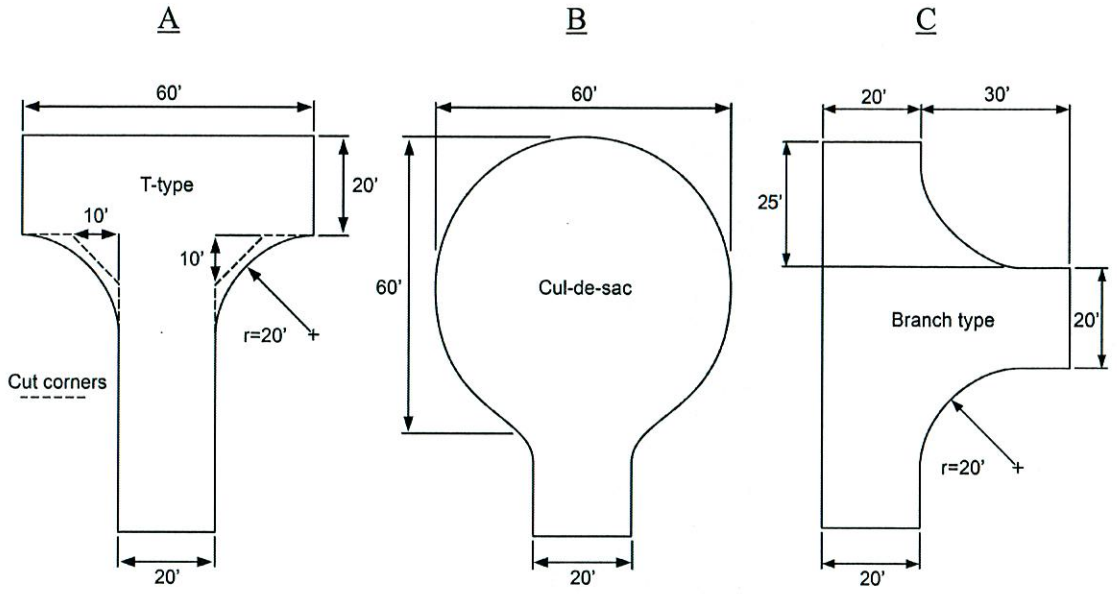

Figure 3 – Three examples of turnarounds.

For even smaller areas, branch type turnarounds may be used, and have largely the same advantages as T-type turnarounds. The perpendicular sections should extend at least 30' from the edge of the roadway, and the roadway should continue 25 feet past that. The width of the roadway should be maintained throughout all sections of the turnaround.

Traffic Volume Study

Purpose

Traffic volume studies are useful in determining appropriate design criteria for a roadway. The data obtained from such studies allow for the selection of a design speed which reflects the actual, day-to-day usage of a highway and can also help forecast future traffic loads due to proposed development and expansion of the roadway system. For existing roads, traffic volume studies are used to determine classification and evaluate how well the existing design and condition of the pavement handles its typical traffic load. With this information, discrepancies between the use and design/condition of a road can be identified. Requiring a traffic study in a Standard for New Roads document assures the municipality an opportunity to address such deficiencies before they become the county's responsibility to correct.

Data Types

A well-conducted traffic study can provide the following information about a roadway:

- Average Daily Traffic (ADT) – The average number of vehicles per day that travel on a given section of road.

- Annual Average Daily Traffic (AADT) – The average of ADT numbers over the course of an entire year.

- Peak Flow Periods – The points in an average day or year when traffic volumes are at their maximum.

- Vehicle Type – The kind of vehicles which make use of a roadway. For a traffic study, commonly included vehicle types include cars (passenger cars, motorcycles, vans, pickups, etc.), trucks (trucks and buses), school buses, and special equipment (usually farming and industrial equipment).

- Turning Movements – The typical behavior of motor vehicles, bicycles, and pedestrians at intersections and midblock crossings, useful in optimizing signal timing and traffic control devices, as well as evaluating safety factors on the road.

Counting Methods

There are two main types of traffic counts, manual and automatic. Depending on what kind of study is needed or desired, one may be more useful or cost-effective than the other, and there are several different methods that may be employed to conduct studies of each type.

Automatic counts use either electronic device with pneumatic tubes that stretch across a roadway and record the number of vehicles that pass over them or videotape. Some pneumatic counters are even able to determine the class of passing vehicles based on their weight and number of axles.

Manual Counting Methods

Manual counts are preferable for applications which require small samples of data, when the cost and effort of automatic counting is not justified, and when automatic equipment is not available for use.

Typically, a manual count lasts less than a day and data is recorded in 5, 10, or 15 minute intervals over the course of a few hours. Counts are usually performed midweek – Tuesday, Wednesday, and Thursday – so as to avoid introducing data from Monday morning and Friday afternoon rush hour when traffic volume is irregularly high.

There are three methods for conducting manual traffic counts; tally sheets, mechanical counting boards, and electronic counting boards.

- *Tally Sheets*
  Tally sheets are the simplest way of collecting traffic data. Data is recorded onto a prepared field form and a watch or stopwatch is used to measure the count interval.

- *Mechanical Counting Boards*
  Mechanical counting boards have push-button counters which record data for each turning movement being studied. Generally, a manual board can record traffic volumes for between three and five different vehicle and pedestrian classifications for each turning movement. As with the tally sheet method, intervals must be timed manually.

  This approach is limited by the number of buttons available for use on a given counter, which means that the process may need to be repeated if the study requires more information than may be collected on the board. Mechanical boards often tend to be bulky and awkward for users.

- *Electronic Counting Boards*
  Electronic boards are similar to mechanical boards but offer several advantage to those who can afford or have access to them. Battery-operated and hand-held, these devices are lighter, smaller, and therefore much easier to handle than there less-sophisticated counterparts. They also feature built-in clocks which automatically separate data collected into user-defined intervals. The recorded information can similarly be downloaded to a computer and imported into traffic software programs.

Automatic Counting Methods

Automatic counts require no personnel during the period of data collection, but instead use portable counters, permanent counters, or videotape. Because of this, automatic counts are generally performed over longer periods of time. Since this equipment is probably not readily available to local municipalities' coordination with the NYSDOT or an engineering consulting firm is an option that should be explored.

When using pneumatic counters, street sweeping crews should be notified to avoid damage to the equipment.

- *Portable Counters*
  generally used for 24 hour counts, these pneumatic devices serve the same basic purpose as manual counts do, but since they do not require personnel they may prove more cost effective depending on the availability of the equipment. Independent of the cost factor, portable counters greatly increase the practicality of a longer study. Some electronic counters can download data to a computer for analysis.

- *Permanent Counters.*
  Permanent counters are appropriate for long-term counts, and may be employed to study traffic patterns on a roadway for upwards of an entire year. For most local projects, this equipment is neither cost effective nor practical.

- *Videotape*
  when a traffic count is performed by videotaping traffic, data is collected by watching the tape and counting vehicles and pedestrians. In most situations this is not a cost-effective solution. This method can require fewer people, but obtaining equipment that would not be stolen may prove too much of a financial burden.

Gravel Roads

If a municipality determines it to be worthwhile, it may establish standards for gravel or "non-paved" roads. In most cases, maintenance is by far the most important consideration when it comes to non-paved surfaces. If standards already require a maintenance plan to be provided for roadways to be absorbed into a town's road system, the maintenance question has already been covered, but to assure that the road is in good condition when integrated, specific design criteria can be provided.

The recommended cross slope for an unpaved road is 6%, with 10% being the maximum acceptable grade. Having the proper cross slope will ensure that water is moved off of the roadway and into drainage facilities.

If the condition of an unpaved road has deteriorated severely, it may be in the town's best interest to require that it be reconstructed or paved. For advice on when to pave an unpaved road, as well as other information pertaining to such facilities, reference the *Gravel Roads Maintenance and Design Manual* which is available in print and online at http://www.epa.gov/owow/nps/gravelroads.

Local Law

This chapter presents a model local law which will be useful to municipalities that would like to classify certain roads as minimum maintenance. As the law explains, minimum maintenance does not mean any maintenance. It instead provides the municipality with criteria to identify and limit the upkeep of roads that see especially low volumes of traffic or are only used seasonally, for such purposes as agricultural or recreational access.

While the minimum maintenance classification may be adopted by regulation or resolution, in the same manner as the Standards for New Roads introduced in the previous chapter, it is strongly recommended that they be instead passed as law. Since the minimum maintenance classification is presently included in neither New York State nor Federal legislature, in order to be as protected as possible from legal actions resulting from the lowering of service to a roadway designated as such, minimum maintenance should be included in local law.

As with any piece of legislature, a public hearing must be held. Additionally, the law should be reviewed for completeness and proper language by the municipal attorney. After the law is passed by local government, it must be submitted to the State. Instructions and necessary forms for filing local laws are available online from the New York State Department of State at their website, *www.dos.state.ny.us*. For more information the municipality may also contact the Cornell Local Roads Program.

MODEL LOCAL LAW

Section 1. Legislative purpose. Washington County hereby enacts this local law for the purpose of reducing the cost of maintaining and rehabilitating low volume rural county roads while providing that such roads when used in a manner consistent with the road classification will be safe for the users thereof. While there are generally accepted standards for the design, maintenance and rehabilitation of high volume roads, there are no such comparable standards for roads over which a relatively low volume of traffic passes. In the event there can be a savings in the cost of maintaining or rehabilitating a road that has relatively few vehicles traveling over it, the money saved could be spent on more intense maintenance of roads over which travel is greater. The result could be greater overall safety for the general public. Since the county resources to be expended for highways are limited, it is incumbent upon the county to utilize such limited resources in a manner which targets expenditures on the most heavily traveled roads. It is for such purposes that this local law is enacted.

Section 2. Legislative findings. In 1986 the New York State Legislature created the Local Road Classification Task Force (Chapter 708 of the Laws of 1986). Such task force was charged with developing alternative guidelines for classifying county and county roads in rural areas according to principal uses and traffic volume. The task force consisted of the Commissioner of Transportation or his designee, the Dean of the College of Agriculture and Life Sciences of Cornell University or his designee, four rural county highway superintendents, three rural county highway superintendents and three rural business people. Such task force after considerable discussions and upon hearing many experts prepared local road classification guidelines and issued a report in December of 1988. In December of 1989 the task force issued "A Manual: Guidelines for Rural Town and County Roads" to facilitate the use of the local classification by local officials. In July of 1990, the Legislative Commission on Rural Resources worked with the Senate, Assembly, State Department of Transportation and the Governors office to establish a New York State Local Roads Research and Coordination Council (see Article 16-B Executive Law and Chapters 565 and 652 of the laws of 1990). The Council was empowered to work with the Department of Transportation to:

1. Promote the training of municipal officials and employees to encourage the utilization of innovative and cost cutting procedures as well as more efficient highway maintenance and consolidation methods;

2. Encourage the coordination of local road maintenance and storage facilities;

3. Encourage towns and counties to contract with each other for the maintenance of local roads and bridges;

4. Develop a minimum maintenance road classification addressing repair and service standards for very low volume rural roads, as well as procedures to be followed by local governments for designing minimum maintenance roads within their communities. Accordingly, the Council revised the 1989 Local Roads Classification Task Force Report and published it for use by rural towns and county governments December 30, 1992.

5. Based upon additional resources developed since 1992, the Cornell Local Roads Program developed a more comprehensive set or standards to cover design areas not included in the *Guidelines*.

Section 3. Classification. The county superintendent of highways, in the event he (or she) finds it to be in the best interests of the county, may classify one or more roads or portions thereof as one of the following types of roads: low volume collector (Rural or Urban); residential access (Local); farm access; resource/industrial access, or minimum maintenance road. However, no road shall be finally determined to be a minimum maintenance road until so designated by the county board by local law. The classification of any road or designated portion thereof shall be consistent with the definitions of such type of road as set forth in section ten of this local law. Upon the classification of any road or portion thereof by the county superintendent such designation shall be filed in the office of the county clerk and a copy shall be presented to each member of the county board by the county clerk within 10 days of such filing. Such designation shall be accompanied by a finding by the county superintendent, which shall contain the information upon which the highway superintendent relied when designating such road or portion thereof. The county board may at a county board meeting following the filing of such designation adopt a resolution accepting such designation except that the designation of a minimum maintenance road shall be by local law as provided in section four of this local law. Upon the adoption of such resolution, the road or portion thereof shall be classified as determined by the county highway superintendent and such county highway superintendent shall take into consideration the guidelines for maintaining such road or portion thereof as set forth in section ten of this local law.

Section 4. Minimum maintenance road classification. Notwithstanding the provisions of section three of this local law no road or portion thereof shall be designated as a minimum maintenance road except after following the procedure set forth in sections four through six, inclusive.

a. The county superintendent of highways shall submit to the county board a recommendation that a road or portion thereof should be designated as a minimum maintenance road. No road or portion thereof shall be recommended as a minimum maintenance road by the county superintendent of highways unless the traffic volume is less than 50 vehicles per day as determined by the county superintendent of highways and such road or portion thereof is an agricultural land access road or a recreational land access road, and that such road or portion thereof does not provide farm centers of operation and/or year-round residences with principal motor vehicle access to goods and services necessary for the effective support of such farms and/or year-round residences.

b. The county, upon the approval of such recommendation shall by local law designate such road or portion thereof as a minimum maintenance road.

c. At least ten days before the public hearing on such local law, written notice of such hearing shall be served by certified mail upon every owner of real property, as determined by the latest completed assessment roll, abutting such road or portion thereof to be designated a minimum maintenance road.

d. No local law designating a minimum maintenance road shall be effective until signs pursuant to sections six and eleven of this local law is first posted advising the public that such road is a minimum maintenance road.

e. No road or portion thereof, once designated a minimum maintenance road shall be determined to have been abandoned pursuant to the provisions of subdivision one of section two hundred five of the highway law until at least six years have elapsed since the termination of the designation of said road or portion thereof as a minimum maintenance road.

f. Prior to any public hearing relating to the adoption of a local law designating a low volume road or portion thereof as a minimum maintenance road, the town board shall issue findings that such

road or portion thereof should be designated a minimum maintenance road. Such findings shall include but not be limited to:

1. the volume and type of motor vehicle traffic on such road;

2. A determination that the property owners of land abutting the road shall continue to have reasonable access to their property.

3. a determination that the users of the road or portion thereof traveling at a reasonable and prudent speed, under the circumstances, shall not be placed in a hazardous situation; and

4. A determination that such road, or portion thereof, does not constitute a farm access as defined pursuant to section ten of this local law.

5. A determination that such road, or portion thereof, does not constitute access to a year- round residence.

Such findings shall be on file in the office of the County clerk and be available for public inspection for at least 60 days before the public hearing on the local law.

Section 5. School board and planning board review. A copy of the findings in section four shall also be sent to the board of education of the central school, County and county planning boards in which each road or road segment is located. Such school board and planning boards shall review the findings and within forty-five days file with the County clerk a resolution recommending such road designation or, in the event such designation is not recommended, the school board or planning board shall set forth ill a resolution the reasons for not recommending such designation. The County board may, by resolution, accept, accept in part or reject the recommendations of either the school board or County planning board or county planning board prior to any vote upon the proposed local law. In the event the school board, county planning board or County planning board take no action upon the findings issued by the County board, the County board shall consider such inaction as a recommendation for the proposed minimum maintenance designation.

Section 6. Posting of signs. Appropriate signs shall be placed on a minimum maintenance road. Such signs shall notify and advise motorists of the need to exercise caution when traveling such road and shall conform to the manual of uniform traffic control devices. Properly posted signs shall be prima facie evidence that adequate notice of a minimum maintenance road designation has been given to the public.

Section 7. Minimum maintenance practices. Minimum maintenance roads shall be maintained in a manner determ1ined by the County highway superintendent to be consistent with the volume and type of traffic traveling on such road. Nominal road maintenance practices such as, but not limited to paving, patching, blading, dragging or mowing may be done less frequently depending upon the existing condition and use of the road as shall be determined by the County superintendent of highways. The guidelines for the method and manner of maintaining a minimum maintenance road are set forth in section ten of this local law.

Section 8. Discontinuance of minimum maintenance road. Any person or persons owning or occupying real property abutting a road or portion thereof which has been designated a minimum maintenance road may petition the County board to discontinue the designation of such road or portion thereof as a minimum maintenance road. Such petition shall be filed with the clerk of the County. Such petition shall identify the road or portion thereof to be discontinued as a minimum maintenance road and set forth the reasons for such discontinuance. The County board shall hold a public hearing upon such

petition within thirty days after its receipt; at least ten days public notice shall be given prior to the conduct of such public hearing. At least ten days before the public hearing on such petition, written notice of such public hearing shall be served by certified mail upon every owner of real property, as determined by the latest assessment roll abutting such road or portion thereof. In the event the County board after such public hearing determines that such road or portion thereof shall continue as a minimum maintenance road, no petition may be submitted pursuant to this section until the lapse of at least two years from the date of the filing of the petition. In the event it is determined that such road shall be discontinued as a minimum maintenance road, the County board, by local law shall discontinue such road or portion thereof as a minimum maintenance road and such discontinuance shall take place six months after the commencement of the next succeeding fiscal year.

Section 9. Notwithstanding the provisions of section eight of this local law, the town board may adopt a local law discontinuing such minimum maintenance road designation in the event it determines such discontinuance to be in the public interest.

Section 10. Tables and maintenance data. The following tables and accompanying data shall be used as guides by the County superintendent of highways to classify low volume roads in the County of Washington and shall be used to enable the County superintendent to determine the guidelines he may follow to enable him to determine the manner in which very low volume rural roads may be designed, maintained and operated.

CLASSIFICATION FOR LOW VOLUME ROADS AND GUIDELINES FOR THEIR DESIGN, MAINTENANCE, AND OPERATION

The following classifications have been developed to establish a close relationship between the uses of low volume roads and their design, maintenance and operation and are hereby adopted by the County of Washington. The classifications identify the significant use characteristics, including traffic volumes, vehicle types and seasonal use characteristics, that are present on New York State's low volume roads. Guidelines for the design, maintenance and traffic control have been developed that are closely matched to those use characteristics. Such guidelines shall be used by the County superintendent of highways.

Land use adjacent to the road shall be the basis for classification because it is a convenient and accurate way of identifying the kind of use that a low volume road serves.

A very low volume road is a road with zero to 400 vehicles per day.

Low Volume Road Classifications in Washington County

- **Low Volume Collector (Rural or Urban)**--collects traffic from any of the other classifications and channels it to higher level roads, such as arterials and interstates.

- **Residential Access (Local)**--provides access to residences. The traffic volume generated depends on the number of residences. All year access for fire trucks, ambulances and school buses should be provided.

- **Farm Access**--provides access to a farm's center of operations including the residence. Traffic volume is generally low, but may include occasional heavy trucks and farm equipment.

- **Resource/Industrial Access**--provides access to industrial or mining operations. Traffic volume can vary and can include heavy trucks and significant numbers of employees' cars.

- **Minimum Maintenance Road**-a low-volume road or road segment which may be of a seasonal nature, having an average traffic volume of less than fifty vehicles per day which principally or exclusively provides agricultural or recreational land access. A road, or road segment, which has been so designated, may be maintained at a level which allows such road to remain passable and functional in accordance with standards contained in this section of the Guidelines. In no way shall the tern "minimum maintenance" is construed to mean "no maintenance" or "abandonment". Further, such tern shall not apply to those roads, or road segments, which provide farm access as previously defined, or access to an individual year-round residence.

The guidelines for rehabilitation design shall include three rehabilitation design types. Rehabilitation Design Type A is an all purpose road on which vehicles can pass without a reduction in speed. Rehabilitation Design Type B is an area service, two lane road on which vehicles may have to reduce their speeds to pass.

Vehicle interaction characteristics shall be considered by the County superintendent of highways as the basis for assigning the design types to the respective Classifications. Vehicle size (as determined by the absence or presence of significant truck traffic) and traffic volumes (of either greater or equal to 50 vehicles per day, or less than 50 vehicles per day) are the criteria used. The 50 vehicle per day threshold is used because, at fewer than 50 vehicles per day, vehicle interactions become so infrequent that the effect on vehicle operation is negligible.

The guidelines to be followed by the County superintendent of highways for maintenance shall include provisions for a minimum maintenance designation that allows a reduced level of maintenance on roads which are used for agricultural or recreational land access.

The guidelines for traffic control parallel the maintenance guidelines. They may include recommendations for signs on normally maintained roads and a minimum maintenance road sign shall be posted at the entrance points to minimum maintenance roads. The only other signs recommended for minimum maintenance roads are those mandated by Law (for all roads).

TABLE 1
RURAL LOW VOLUME ROAD CLASSIFICATION

Road Use			Guidelines		
Road Classification	Vehicle Type	ADT[1]	Rehabilitation Design Type	Maintenance	Traffic Control
1. Low-volume collector (Rural or Urban)	All vehicles	0 - 400	A	Normal	MUTCD[2]
2. Residential access (Local)	Cars, emergency and service vehicles	0 - 400	A	Normal	MUTCD
3. Farm access	Cars, light trucks, occasional heavy trucks, farm equip.	250 - 400	A	Normal	MUTCD
		< 250	A	Normal	MUTCD
4. Resource / Industrial access	Trucking, employees' cars	0 - 400	A	Normal	MUTCD

Notes: [1] Average Daily Traffic.
[2] "Manual of Uniform Traffic Control Devices" Supplemented by "Traffic Sign Handbook for Low Volume Roads", New York State Department of Transportation Traffic and Safety Division, June 1985.

TABLE 2

DESIGN GUIDELINES FOR ROAD REHABILITATION BY ROAD TYPE

	Type A **All Purpose Road**
Minimum Width:	
Traveled Way	**22 ft.**
Shoulder	**2 ft.**
Opposing Vehicle Interactions	**All vehicles pass with no speed reductions.**
Operating Speed[3]	**45 mph or greater**
Typical Surface Material:[4]	
ADT>150	**Asphalt Concrete**
ADT<150	**Aggregate**
Surface Condition	**No adverse effect on Operating speed**

Notes: [1]Add 2 ft. to the traveled way if significant truck traffic is present.
[2]If farm vehicles are present, maintain 20 foot horizontal clearance. Widenings of traveled way should be provided at approximately 1000 foot intervals to allow vehicles to pass.
[3]Applicable to normal maintenance roads.
[4]ADT thresholds recommended based on economic analysis, "Economic Evaluation of Pavement Design for Low Volume Roads," Proceedings of the Third International Low Volume Roads Conference, Transportation Research Board, National Research Council, Washington, D.C., 1983.

TABLE 3
CROSS SLOPE DRAINAGE CRITERIA, BY SURFACE TYPE

Surface Type	Range in Cross Slope
High (asphalt, etc.)	**1.5%--2.0%**
Intermediate (surface treated)	**1.5%--3.0%**
Low (unpaved)	**4.0%--6.0%**

Clear Zone-- The width of the roadside area that should be studied for possible hazard mitigation measures varies with the operating speed, traffic level and degree of curvature of the road. Desirable clear zones are indicated below. (Clear zone is measured from the edge of the traveled way.)

Type A Road--a 10-foot clear zone is desirable.

Type B Road--a 2-foot to 5-foot clear zone is desirable; a 10-foot clear zone on the outside of sharp curves and on curves at the bottom of long grades is desirable.

Type C Road--a 2-foot clear zone is desirable; a wider clear zone on the outside of sharp curves is suggested. On minimum maintenance roads (see chapter III), a clear zone may not be provided.

Hazard mitigation measures to be considered include:

-Improved delineation of the road including edgelines, delineators and reflectors.
-Guiderail
-Berms and earth work
-Drainage modifications -Removal of the hazard

Property owners should recognize the legal right of local government to remove fixed objects within the right of way of the road.

Guiderail--New York State Department of Transportation Guiderail and Bridge rail designs are intended for high volume, high speed highways and are often too expensive for many low volume road applications. Alternative designs that are less expensive and adequately tested to assure performance may be used on low volume rural roads.

Source: AASHTO Policy for Geometric Design of Highways and Streets, 2004.

TABLE 4
MAINTENANCE ACTIVITIES

ACTIVITY	NORMAL MAINTENANCE ROADS	MINIMUM MAINTENANCE ROADS
	Surface Maintenance	
Crack Sealing	As necessary	Maintain in a manner determined by highway superintendent consistent with volume and type of traffic and the manner stated in section seven of this local law.
Patching and Potholes	On demand	
Surface Seals	As necessary	
Thin Overlays	As necessary	
Snow Removal	Roads kept clear	
Shoulder Maintenance	Grading cleaning	
B1ading	Regular	Infrequent
	Roadside Maintenance	
Cleaning	As necessary	Maintain in a manner determined by highway superintendent consistent with volume and type of traffic and the manner stated in section seven of this local law.
Mowing	Regular	
Brush Control	Site distance maintained	
Guide Rail Maint.	Regular	
Drainage:		
Structure	As necessary	
Ditches	Positive drainage maintained	
Slopes	Repair failures	
	Bridges	
Cleaning	As necessary to preserve bridge	Maintain in a manner determined by highway superintendent consistent with volume and type of traffic and the manner stated in section seven of this local law.
Lubrication	As necessary to preserve bridge	
Painting	As necessary to preserve bridge	
Deck	As necessary to preserve bridge	
Drainage	As necessary to preserve bridge	

Signs		
Signs	**Volume 17B NYCRR[1]**	**Volume 17B NYCRR**

Note: 1 Volume 17B NYCRR is the New York Code Rules and Regulations. Reference to the National Manual on Uniform Traffic Control Devices with a New York State Supplement

Surface Maintenance

Crack Sealing - manually pouring hot asphalt, with or without a fiber reinforcement material, into road surface cracks that have first been cleaned of all loose debris, vegetation, etc. The cracks may occur at construction joints, utility cuts, or just be random due to the effects of time, weather, loads, etc. Crack sealing has been found to be a. very cost-effective measure, because it prevents the entry of water into the base course and sub grade. By blocking the entry of water, crack sealing indirectly strengthens the load supporting capability of the road.

Patching and Potholes - placement and compaction of asphalt concrete into surface defects, such as potholes, which have first been cut back to sound material and cleaned of loose debris, water, etc. While a certain amount of this work will have to be done on an emergency basis during inclement weather to provide a safe road, expedient patches should be replaced with permanent patches using proper methods and materials when conditions are favorable. Extensive patching and potholes is an indication that a pavement has reached the end of its functional life, and the road should be scheduled for rehabilitation in accordance with the guidelines set forth in this local law.

Surface Seals -also known as "chip seals," this method involves spraying rapid-setting emulsified asphalt onto the road surface, followed immediately by the placement of a single layer of clean, crushed stone particles. A pneumatic, rubber-tired compactor is used to press the stones into the asphalt before the emulsion sets up. Chip sealing is used where the surface cracking is more extensive, while manual crack sealing is used where the cracking is less extensive. Chip sealing may also be used to enhance skid resistance on a slippery road. Where water entry is prevented by the surface seal, some strengthening of the road will result.

Thin Overlays -while "thin" is a relative term, it is used here to refer to hot-mix or cold-mix overlay paving a thickness of 1 ½ inches or less. This method adds more to the structural capability of the pavement than does a chip seal. However, it performs much the same function as a chip seal, although it can be expected to have a more lasting effect. When a thin overlay is placed on a paved road, it is customary to use a tack coat to promote a bond between the old surface and the overlay. According to the Asphalt Institute, the tack coat should be sprayed from a distributor, allowing adequate time for it to become "tacky" before paving. Traffic should be kept off the tacked area before paving. They recommend using an SS-1 or a CSS-1 asphalt emulsion diluted 50-50 with water, and applied at a rate of 0.05 to 0.15 gallons per square yard. Application of tack coat a higher rates should be avoided, as this can lead to slippage of the overlay or "bleeding" and loss of skid resistance on the surface of the overlay.

Snow Removal - Snow and ice control are performed to foster safety and to expedite travel during the winter months. Blading of snow is done to remove it from the roadway to prevent the buildup of ice. Abrasives (sand, usually mixed with salt) are used to enhance traction during a storm or immediately afterward when a thin layer of ice or snow remains on the road. Salt is used to lower the melting temperature of the ice, and to diminish the bond of the ice on the road surface.

Shoulder Maintenance -activities may differ depending on whether the shoulder is paved or unpaved. The objective is to keep the surface smooth so that moving vehicles can leave the main roadway safely, and also to assure that water from the road will move across the shoulder and into the ditch or gutter. It is particularly important to remove the accumulated winter maintenance abrasives from the shoulders to prevent the retention of water near the edge of the pavement.

Blading -for aggregate roads and unpaved shoulders, blading removes potholes, corrugations, and other surface defects, rendering the surface smoother and safer to travel on. Blading is usually preceded by scarification to a depth slightly deeper than the deepest surface defects. Blading should be used to

establish a cross-slope of 4 to 6 percent (1/2 to 3/4 inch per foot) for good drainage and to reduce the development of potholes in the aggregate surface.

Re-graveling - the addition of aggregate materials to re-establish the crown and grade of the road. This activity is commonly done at the same time as blading, but less frequently. The new aggregate is needed periodically to make up for materials that have been lost due to traffic, water erosion, dusting, and blading losses.

Dust Palliation - application of water, calcium chloride, sodium chloride (salt), lignin sulfonate, or other non-toxic chemicals to bind the surface and prevent loss of dust. Dust loss leads to the gradual erosion of the road surface, reducing its thickness and load supporting capability. Dust can make summertime travel hazardous when traffic volumes are sufficient to require passing maneuvers. Sometimes the use of dust palliatives will reduce the need for blading and re-graveling to a sufficient degree to be highly cost-effective.

Roadside Maintenance

Cleaning - picking up litter and other roadside debris, principally for aesthetic reasons, but also to protect the flow capacity of culverts and ditches.

Mowing - cutting grass and weeds. This is particularly important near driveways and intersections, to provide a clear line of sight for traffic.

Brush Control - cutting woody shrubs to prevent encroachment onto the right-of-way. This is important to provide adequate sight distance, particularly around the inside of curves, and at driveways and intersections.

Guiderail Maintenance - replacement of damaged, ineffective guiderail. This may also involve use of herbicides to retard the growth of weeds and shrubs in front of and immediately behind the guiderail.

Drainage - cleaning debris from the inlets and outlets around culverts, and cleaning ditches to maintain flow capacity. When possible, ditches should be cleaned in the late spring of the year, so that vegetation will be quickly re-established to protect against erosion. At other times, reseeding may be necessary for erosion protection.

Slope Maintenance -remove landslide debris, cut and remove trees from fill slopes, protect against erosion due to runoff from the road surface or ditches, seed slopes to retard erosion.

Bridges

Bridge Maintenance -cleaning of drainage scuppers, lubrication of pins and bearings, painting of beams and railings, cleaning and patching of deck surface defects, removal of winter maintenance abrasive and salt residues, protection of bridge abutments against scour and erosion, inspection of abutments, clearance of the waterway to maintain flow capacity.

Signs

Sign Maintenance -clearance of shrubs and trees obstructing visibility, replacement of damaged signs, verification that signs are used and placed in accordance with the Manual on Uniform Traffic Control Devices (MUTCD).

Section 11. Guidelines for Traffic Control on Rural Low Volume and Minimum Maintenance Roads. This section lists guidelines for traffic con1rol on rural low volume and minimum maintenance roads. It describes methods of traffic control that are cost effective and promote safety.

Signs on Low Volume Roads

The municipality is authorized in Section 1682 of the Vehicle and Traffic Law to decide conditions to which drivers are to be alerted with traffic control devices. It is mandatory to provide signs indicating weight restrictions, low clearances, dead-end roadways, railroad crossings and road closures. These are specified elsewhere in Law. On low volume roads subject to normal maintenance activities, the decision regarding the need for other signs should be based on the principle of positive guidance. In essence, this principle suggests that hazard warnings be provided whenever a driver cannot anticipate a hazard in time to react safely.

Features that are inconsistent with the general driving environment should be identified and analyzed for the possible installation of signs. Identification can be made by driving over the road and noting if a reduction in speed is necessary or if a surprising or unanticipated feature is encountered. Such things as isolated curves or narrow bridges, especially those with limited sight distance, should be evaluated for a "surprise" factor. Signs at every curve are generally not necessary on low volume roads as drivers are cognizant of conditions. Signs should be restricted to those features that the town superintendent of highways determines are inconsistent with the general highway environment and cannot be anticipated early enough for drivers to take appropriate defensive action. Records of all determinations should be made and properly filed for future reference.

Signs on Designated Minimum Maintenance Roads

Design of road signs. The NYS Department of Transportation has designed signs for posting minimum maintenance roads. Such signs notify and advise motorists that reduced levels of maintenance are in effect. These signs are contained in the New York State Supplement.

Installation of signs. Minimum maintenance road signs shall be installed at each end of the minimum maintenance section and immediately beyond intersections with other public roads. The maximum distance between signs should not exceed two miles. Additional installation conditions are set forth in New York State Supplement. Posting of minimum maintenance road signs will not relieve the town of its responsibility to post other legally-required signs such as railroad crossings, dead ends, bridge capacity, and low clearance and road closures.

Section 12. This local law shall take effect immediately.

References

New York State Department of Transportation

Plan Sales Unit, Bldg. 5, Rm 109
New York State Department of Transportation
50 Wolf Road
Albany, N.Y. 12232
Phone: 518-457-2124
www.dot.state.ny.us

- NYSDOT Standard Specifications for Construction and Materials, *www.nysdot.gov/portal/page/portal/main/business-center/engineering/specifications*
- NYSDOT Comprehensive Pavement Design Manual, $29, *www.dot.state.ny.us/cmb/consult/cpdmfiles/cpdm.html*
- NYSDOT Highway Design Manual, $38, www.dot.state.ny.us/cmb/consult/hdmfiles/hdm.html

Manual on Uniform Traffic Control Devices (MUTCD),

www.nysdot.gov/portal/page/portal/divisions/operating/oom/transportation-systems/traffic-operations-section/mutcd

American Association of State Highway and Transportation Officials

444 N. Capital St., N.W.
Suite 249
Washington, DC 20001
Phone: (202) 624-5800
Toll free: (800)-231-3475
www.transportation.org

- *Guidelines for Geometric Design of Very Low-Volume Local Roads*, 2001 or latest.
- *A Policy on the Geometric Design of Highways and Streets*, 2004 or latest.
- *AASHTO Guide for Design of Pavement Structures*, 1993 or latest.

Cornell Local Roads Program

416 Riley-Robb Hall
Ithaca, NY 14853-5701
Phone: (607) 255-8033
www.clrp.cornell.edu

- *Manual: Guidelines for Rural Town and County Roads*, Local Roads Research and Coordination Council, December 1992.

Washington County Department of Public Works 11-28-16
County Highway Maintenance Snow and Ice Policy

Purpose:

To clarify that the county does not have a "bare" roads policy and to establish a uniform policy for Snow and Ice Control that is easy to implement and communicate to the DPW Supervisors, to truck operators, to Village police departments, to the county sheriff, to the State police, and to the public. Once adopted the policy should save taxpayer dollars based upon hitting milestones during the event and afterward and not attempting to "bare" or "wet" the road surface.

General:

It is recognized that it is not possible to provide a "bare" or "wet" pavement surface all of the time. The interactive effects of pavement temperature, air temperature, event intensity, initial treatment, operational cycle time, traffic volume, road geometry, wind velocity, and solar energy have profound influence on the effectiveness of our snow and ice control measures. Our first priority during a storm event is to provide a visible centerline pavement marking for the duration of the event.

Objective:

The objective of the Snow and Ice control is to provide the traveling public with a passable and reasonably safe pavement surface as much of the time as possible given the available resources and limitations imposed by weather conditions.

Goals:

Snow control goals will vary with traffic volume and other considerations. The level of service provided will vary with snow control goals given existing conditions. **Regular Level of Service** should be provided on all county highways between 4:00 A.M. and 10:00 P.M. Monday through Friday. **Modified Level of Service** should be provided on all county highways between 10:00 P.M. and 4:00 A.M. Monday through Friday and all day Saturday and Sunday.

Regular Level of Service

Recommended Maximum Allowable Accumulation During a Storm (Inches)	Elapsed Time after Event End That Full Width of Pavement should be Cleared (Hours)
2.5	2.0

Modified Level of Service

Recommended Maximum Allowable Accumulation During a Storm (Inches)	Elapsed Time After Event End That Full Width of Pavement should be Cleared (Hours)
3.5	3.0

Pavement should be Cleared does not mean "bare" or "wet".

Plowing should begin as soon as there is enough snow on the pavement to plow. Do not wait for the recommended maximum amounts to be reached before the plowing operation commences.

Ice control goals will vary with traffic volume and other considerations. There are two strategies used by Washington County Department of Public Works, they are Anti-icing and deicing.

Anti-icing is a strategy that places and maintains a sufficient quantity of ice control chemicals (Rock Salt) on the pavement surface before or very soon after precipitation or ice formation begins. This is done to prevent bonding of snow and or ice to the pavement.

Deicing is a strategy for dealing with snow and or ice that has already bonded to the pavement surface. Deicing is most effectively accomplished by spreading Rock Salt on the surface of bonded snow or ice.

Timely application of chemicals very early in a storm with appropriate follow-up applications will generally prevent pack from forming. When deicing sufficient time is necessary to allow the salt to work before plowing commences.

Peckham Invoice Pending	$ 662,385.22	Recycle Existing Asphalt
Abele Invoice Pending	$ 500.00	Roller Rental
Peckham Asphalt Invoice Pending	$ 5,000.00	Asphalt Intersections/Driveways
Remaining Amt Special Projects	$ 389,942.51	Budget Line Item
Total Needed in Budget Amendment	$ 277,942.71	
Extra Costs CR 18/21 Concrete Problems	$ 1,350.00	Undercut Stone
	$ 1,485.17	"
	$ 37,240.24	"
	$ 3,856.67	"
	$ 14,627.36	"
	$ 36,613.02	"
	$ 6,047.23	Undercut Labor
	$ 1,148.60	"
	$ 555.95	"
	$ 3,527.86	"
	$ 3,668.28	"
	$ 118,997.84	Peckham Base Course
	$ 3,575.00	Peckham Grader
Total Extra Costs Due to Concrete Falling Apart	$ 232,693.22	

Summary

Needed Budget Amendment	$ 277,942.71	
Extra Due to Concrete	$ 232,693.22	
Need for "Other" Cost Overruns"	$ 45,249.49	Intersection/Driveway Preparation and Asphalt to restore Additional Gravel for shoulders and topsoil purchases