

disruption endured by the public (e.g. by not working on routes used as detours for other major projects or by incorporating several works into a single contract etc.).

From a pavement management perspective, the deferral of a resurfacing project by a single year may not be a problem. However, as outlined in the attached, if a rehabilitative overlay is not applied in a timely fashion, there is a real danger of a road section deteriorating to the point of permanent structural damage occurring. The only effective remedy then is very costly total reconstruction. A good analogy would be a roof that is not repaired before it leaks, thus allowing water to enter and damage the underlying support structures. Paving a roadway that has structurally failed is as effective as putting a new coat of paint on rotten wood. This is a very expensive maintenance situation and overlays on "failed" roads will last only four or five years, or less, instead of the normal ten years or more.

As requested by the Ward Councillor, Wellington Street between Parkdale Avenue and Garland Street will be deferred to 1999.

In view of the date and the time needed to complete the resurfacing works before cold weather sets in the Fall, most all of the 1998 resurfacing contracts will have been tendered by late June. It is still expected that, subject to tender prices received and the identification of any further conflicts, the budget available will permit works to be carried out down to approximately rank 30 on Annex A and at all of the former Provincial Highway locations listed in Annex B.

Please contact the undersigned (Ext. 1113) or Mr. Lorne Ross, Manager Surface Projects Branch, (Ext. 1114) should you require any further information on the 1998 Resurfacing Programme.

Approved by
W.S. Beveridge, P. Eng.

LAR/ms

Attach. (1)

REGIONAL MUNICIPALITY OF OTTAWA-CARLETON
 MUNICIPALITÉ RÉGIONALE D'OTTAWA-CARLETON

MEMORANDUM
NOTE DE SERVICE

Our File/N/Réf. **50 67-98-2001**
 Your File/V/Réf.

DATE 16 April 1998

TO/DEST. The Chair and Members of Council

FROM/EXP. Director Infrastructure Maintenance Division
 Environment and Transportation Department

SUBJECT/OBJET **1998 RESURFACING PROGRAMME**

The Department's 1998 Resurfacing Programme was circulated in draft form to all Regional Councillors, Regional Departments, Area Municipalities, Utility Companies and the Regional Cycling Advisory Group in December 1997 and February 1998.

The finalized programme based on the comments received and follow-up investigations is outlined in Annex A. The finalized Former Provincial Highways programme is outlined in Annex B.

Pavement structural and condition information along with traffic loading data and other information is used by the Department's Pavement Management System to determine the optimum time (time that provides the lowest life cycle cost) for resurfacing work. If resurfacing is delayed beyond this optimum time, the pavement structure starts to rapidly deteriorate toward a "failed" state and road maintenance costs increase dramatically.

The most cost-effective treatment for "failed" pavement is total reconstruction. Since this costs about 10 times as much as resurfacing, it is important to carry out "preventative maintenance" work in a timely fashion.

Some road sections with "failed" pavements are included on the 1998 Resurfacing Programme due to limited reconstruction capital budgets. The objective for these pavements is to apply the most economical maintenance strategies required to keep these road sections in at least a minimal safe and passable condition pending reconstruction. Depending on the construction schedule envisioned in the Capital Budget and other variables, these strategies will range from carrying out very localized repairs (e.g. spot repairs around catchbasins and other ironworks, severe areas of cracking, etc.) to full resurfacing.

Priorities for road sections identified as requiring resurfacing in the current year are established based on cost-effectiveness. User costs and the overall road system condition are considered. Roads with larger traffic volumes involve greater user costs if the roadway is allowed to deteriorate substantially. Also, the road network as a whole must be kept to a minimum standard regardless of traffic volume. These factors are used to optimize the overall year's resurfacing programme and determine the optimum priority for each road section.

If the 1998 Resurfacing Capital Budget is insufficient to cover all of the 1998 needs, subject to the identification of further conflicts, works shown in Annexes A and B will be carried out in order of priority down to the limits of available funding.

Should insufficient funds exist to complete a prioritized location on the list, this location will be passed over and the next location(s) that can be completed within the budget allocation will be selected. For illustration purposes, based on preliminary cost estimates, a Resurfacing Budget of \$5 M would permit works to be completed at all locations (excluding those with conflicts) down to approximately rank 30 on the list shown in Annex A in 1998. Again, for illustration purposes, based on preliminary cost estimates, a Resurfacing Budget for former Provincial highways of \$1 M would permit works to be completed at all locations shown in Annex B in 1998.

The actual number of road sections that will be completed will depend on tender prices received and the budget approved. Works not constructed in 1998, due to lack of funding or due to co-ordination conflicts, will be carried over for reconsideration in the 1999 programme.

In 1998, the Department will continue to use "hot-in-place" and "cold-in-place" recycling and cold milling strategies on various projects to significantly reduce the amount of new aggregate and asphalt used (non-renewable natural resources). Also, revised quality control procedures and new asphalt materials introduced in recent years are expected to reduce life-cycle costs. Some examples of initiatives in this area include the implementation of "end-result" contract specifications, the use of "thin lift nuclear density gauges" to measure asphalt compaction, the use of polymer modified asphalts and "ultrathin high-friction asphalt mixes" and the use of "state-of-the-art" materials testing procedures and equipment. It has been found that a 1% improvement in pavement process control can increase the length of the pavement life cycle by 10%.

If you require additional information, please do not hesitate to contact the undersigned.

Approved by
W. S. Beveridge, P. Eng.

LAR/MC/ms

Attach. (2)

**REGIONAL MUNICIPALITY OF OTTAWA-CARLETON
ENVIRONMENT AND TRANSPORTATION DEPARTMENT
INFRASTRUCTURE MAINTENANCE DIVISION
1998 RESURFACING PROGRAMME**

PRIORITY STREET	FROM	TO	COMMENT
1	River Rd. (RR 19)	Uplands Dr.	Coordinate with measures to improve traffic safety
2	King Edward Ave. (RR 99)	Sussex Dr. (RR 93)	Coordinate with intersection modification & sewer work
3	Elgin St. (RR 91)	Laurier Ave.	
4	Elgin St. (RR 91)	Wellington St. (RR 36)	Delete - reconstruction 1998/99
5	Lyon St. (RR 81)	Wellington St. (RR 36)	Defer - detour requirements & traffic calming
6	Meadowlands Dr. (RR 51)	Merivale Rd. (RR 17)	
7	Parkdale Ave. (RR 71)	Wellington St. (RR 36)	Coordinate with traffic calming
8	Parkdale Ave. (RR 71)	Ottawa River Pkwy.	Defer - Sewer and Water Projects 1999
9	O'Connor St. (RR 87)	Somerset St (RR 36)	Defer - detour requirements & traffic calming
10	Baseline Rd. & Heron Rd. (RR 16)	Walkley Rd. (RR 74)	Includes ramps
11	River Rd & McArthur Ave.(RR 68)	Enfield St.	Coordinate with Water Project
12	McArthur Ave. (RR 68)	St. Laurent Blvd. (RR 26)	Coordinate with Water Project
13	Metcalfe Ave. (RR 89)	Laurier Ave. (RR 48)	Defer - detour requirements & traffic calming
14	Rideau Valley Dr. North (RR 13)	Bankfield Rd. (RR 8)	Defer - detour requirements & traffic calming
15	Riverside Dr. (RR 19)	Pleasant Park Dr.	Defer - curb, sidewalk etc. modifications by Rideau Twp.1998
16	Greenbank Rd. (RR 13)	Harrison St.	
17	Walkley Rd. (RR 74)	Melfort St.	
18	Innes Rd. (RR 30)	Orleans Blvd. (RR 56)	
19	St. Laurent Blvd. (RR 26)	Tremblay Rd. (RR 70)	Coordinate intersections with City of Ottawa resurfacing
20	Bank St. (RR 85)	Ohio St.	
21	Hunt Club Rd. (RR 32)	Cahill Dr. East	Defer - conflict Airport Pkwy. Ramps 1998 & widening near Albion 1998
22	Moodie Dr. (RR 59)	Carling Ave.	
23	Merivale Rd. (RR 17)	Rossland Ave.	
24	Richmond Rd. (RR 36)	Athlone Ave.	Delete - RMOC Water & Ottawa sewer project 1999
25	Richmond Rd. (RR 36)	100m West of Island Park Dr.	Delete - RMOC Water & Ottawa project 1999
26	Richmond Rd. (RR 36)	Mayfair Ave.	Coordinate with RMOC Water & Ottawa sewer project 1998 or 1999
27	Wellington St. (RR 36)	Parkdale	Defer- City sewer project 2000
28	Wellington St. (RR 36)	Garland	
29	Ferry Rd. (RR 7)	Ottawa River	Coordinate with culvert replacement
30	Sussex Dr. (RR 93)	Princess Ave.	Coordinate with NCC project, Princess to Bytown Bridge
31	Bank St. (RR 85)	Johnston Rd.	
32	Riverside Dr. & Vanier Pkwy. (RR 19)	Coventry Rd.	
33	Uplands Dr. (RR 107)	Hunt Club Rd. (RR 32)	
34	Blair Rd. (RR 27)	Montreal Rd. (RR 34)	Defer - possible NRC widening at Seguin

PRIORITY STREET	FROM	TO	COMMENT
35	Sussex Dr. (RR 93)	100 m S of Rideau St.	Defer – conflict with embassy construction
36	Merivale Rd. (RR 63)	Baseline Rd. (RR 16)	Coordinate with widening
37	Catherine St. (RR 60)	Bronson Ave. (RR 79)	Defer – RMOC Water & Ottawa sewer project 1999
38	Richmond Rd. (RR 36)	Acres Rd. (RR 16)	
39	Robertson Rd. (RR 36)	200 m East of Westcliffe	
40	Dwyer Hill Rd. (RR 3)	Burritts Rapids Bridge	
41	St Laurent Blvd. (RR 26)	Clarke Ave.	Coordinate intersections with City of Ottawa resurfacing
42	Maitland Ave. (RR 17)	Lenester Ave.	
43	Hunt Club Rd. (RR 32)	Riverside Dr. (RR 19)	
44	Ogilvie Rd. (RR 50)	Blair Rd. (RR 27)	
45	River Rd. (RR 19)	Rideau Forest Dr.	
46	Walkley Rd. (RR 74)	Riverside Dr. (RR 19)	Defer – Intersection realignment
47	Somerset St. W. (RR 36)	Kent St. (RR 83)	
48	Russell Rd. (RR 26)	Base Line Rd. (Glouc.)	Defer – RMOC Water & Ottawa sewer project 1999
49	Leitrim Rd. (RR 14)	Bank St. (RR 85)	
50	Russell Rd. (RR 26)	Saumure Rd. (RR 37)	
51	Russell Rd. (RR 26)	Blake Rd.	
52	Roger Stevens Dr. (RR 6)	Malakoff Rd.	
53	Woodroffe Ave. (RR 15)	Confed. High Entrance	Coordinate with sewer work at Majestic Dr. by City of Nepean
54	Fallowfield Rd. (RR 12)	Dwyer Hill Rd. (RR 3)	
55	St. Joseph Blvd. (RR 34)	Jeanne D'Arc Blvd. (RR 55)	
56	Scott St. (RR 40)	Churchill Ave. (RR 65)	
57	Thomas Dolan Pkwy. (RR 46)	Stonecrest Rd.	
58	March Rd. (RR 49)	Klondike Rd.	
59	Hazeldean Rd. (RR 36)	Terry Fox Dr. (RR 61)	
60	Rideau St. (RR 34)	Cumberland St.	Coordinate with RMOC cathodic protection
61	Laurier Ave. (RR 48)	Bronson Ave. (RR 79)	Coordinate detour conflict
62	Kirkwood Ave. (RR 67)	Carlting Ave. (RR 38) WB	Defer – RMOC Water project 1999. Coordinate with traffic calming
63	Chamberlain Ave. (RR 62)	Bronson Ave. (RR 79)	
64	St Laurent Blvd. (RR 26)	Brittany Dr.	Coordinate intersections with City of Ottawa resurfacing
65	St. Patrick St. (RR 44)	Sussex Dr. (RR 93)	
66	Innes Rd. (RR 30)	Tenth Line Rd. (RR 47)	Coordinate with intersection changes at Orchardview Ave.
67	Queen St. (RR 34)	Trim Rd. (RR 57)	
68	Walkley Rd. (RR 74)	100m West of Hwy 417	
69	Hawthorne Rd. (RR 32)	Hunt Club Rd. (RR 32)	Delete reconstruction 1999

REGIONAL MUNICIPALITY OF OTTAWA-CARLETON
ENVIRONMENT AND TRANSPORTATION DEPARTMENT
INFRASTRUCTURE MAINTENANCE DIVISION
1998 RESURFACING PROGRAMME – FORMER PROVINCIAL HIGHWAYS

PRIORITY	STREET	FROM	TO	COMMENT
1	Old Highway 15 (RR 29)	RMO West Boundary	Highway 17	
2	Madawaska Blvd. Old Highway 7203 (RR 117)	Highway 17	Old Highway 15 (RR 29)	
3	Old Highway 15 (RR 29) – (previously RR 118)	Highway 17	Madawaska Blvd. Old Highway 7203 (RR 117)	
4	Regional Rd. 174 Ramp	Jeanne D'Arc Blvd. Eastbound		
5	Regional Rd. 174 Ramp	Montreal Rd. Eastbound		
6	Old Highway 16 (RR 73)	Sheridan	Deakin St.	
7	Old Highway 16 (RR 73)	149 m South of Bankfield Rd. (RR 8)	Merivale Rd. (RR 17)	Coordinate with Nepean Strandherd Stormwater Facility