

POLICY MANUAL	Policy No. 6-12
For Municipality of South Dundas	Effective Date: November 8, 2021
Subject: Winter Maintenance	Department: Transportation

1. POLICY

The Transportation Department will strive, as is reasonably practical, to provide safe and passable winter road and sidewalk conditions for vehicular and pedestrian traffic within the Municipality of South Dundas. The level of service requirements defined in this policy will be followed, utilizing the resources provided by the Municipality of South Dundas and contractors.

In completing this task, the Transportation Department will adhere to the procedures contained within the current Winter Maintenance Level of Service Policy, referencing the current version of *Ontario Regulation 239/02, Minimum Maintenance Standards for Municipal Highways*.

2. SERVICE DELIVERY RESPONSIBILITIES

The Transportation Department is responsible for providing the Winter Maintenance Service throughout the Municipality of South Dundas.

The following components include:

- Design of a Salt Management Plan
- Establishing proper treatment rates for roadways
- Design of plow and sidewalk routes
- Ensuring availability of resources (owned or hired equipment, materials)
- Ensuring proper up to date weather forecast services and condition monitoring systems
- Patrolling of roadway conditions
- Decision making to commence Winter Maintenance operations and activities as necessary
- Providing information in a timely manner when asked
- Always reviewing to find best practices

3. DEFINITIONS

Aggregate Grit (Grit): means 10% road salt, 80% stone dust with 19 Litres per tonne liquid Magnesium Chloride, pre-mixed and stored in the Municipalities two storage facilities.

Ice: means all kinds of ice, however formed.

Minimum Maintenance Standards (MMS): Refers to *Ontario Regulation 239/02 Minimum Maintenance Standards for Municipal Highways, as amended. (May 3, 2018)*

Representative Roadways: means roadways within the Municipality of South Dundas that have been identified as representative of road weather conditions.

Road Classifications:

As defined by *Ontario Regulation 239/02 (Minimum Maintenance Standards) as may be amended from time to time and further identified in the chart following:*

CLASSIFICATION OF HIGHWAYS

Column 1 Average Daily Traffic (number of motor vehicles)	Column 2 91 - 100 km/h speed limit	Column 3 81 - 90 km/h speed limit	Column 4 71 - 80 km/h speed limit	Column 5 61 - 70 km/h speed limit	Column 6 51 - 60 km/h speed limit	Column 7 41 - 50 km/h speed limit	Column 8 1 - 40 km/h speed limit
53,000 or more	1	1	1	1	1	1	1
23,000 - 52,999	1	1	1	2	2	2	2
15,000 - 22,999	1	1	2	2	2	3	3
12,000 - 14,999	1	1	2	2	2	3	3
10,000 - 11,999	1	1	2	2	3	3	3
8,000 - 9,999	1	1	2	3	3	3	3
6,000 - 7,999	1	2	2	3	3	4	4
5,000 - 5,999	1	2	2	3	3	4	4
4,000 - 4,999	1	2	3	3	3	4	4
3,000 - 3,999	1	2	3	3	3	4	4
2,000 - 2,999	1	2	3	3	4	5	5
1,000 - 1,999	1	3	3	3	4	5	5
500 - 999	1	3	4	4	4	5	5
200 - 499	1	3	4	4	5	5	6
50 - 199	1	3	4	5	5	6	6
0 - 49	1	3	6	6	6	6	6

Road Condition: means the condition of the roadway surface before, during and after a winter storm event.

Significant Weather Event: means an approaching or occurring weather event with the potential to pose a significant danger to users of the highways within the Municipality.

Substantial Probability: means a significant likelihood, considerably in excess of 51 per cent.

Municipality: means the Municipality of South Dundas

Winter Event: means the weather condition affecting roads and sidewalks such as snowfall, blowing snow, sleet, freezing rain, frost, or ice, to which a winter event response is required.

Winter Patrol: means the field observation of weather and road conditions.

Winter Season: means the season (November -May) when the Municipality of South Dundas normally performs winter roadway and sidewalk maintenance as identified in the Winter Maintenance Level of Service Policy.

4. PURPOSE

- To reduce the hazards of snow covered and icy road conditions to motorists.
- To maintain public access to all community and industrial facilities.
- To ensure an accessible road system for the handling of emergencies by fire, ambulance, and police services.
- To maintain safe, passable school bus routes.
- To provide safe and passable sidewalks for pedestrians in areas designated for winter maintenance.

5. OBJECTIVES

Roads

Municipality of South Dundas Road network is comprised of local roads which carry local traffic to SDG County roads. These roads fall under class 4, 5, and 6 roads as defined in *Ontario Regulation 239/02 (Minimum Maintenance Standards) Classification of Highways Table*.

Snow Accumulation Roads

Paved Roads:

- The defined level of service is to have center bare paved surface achieved within 16 hours after the completion of the winter snow event.

Gravel Roads:

- The defined level of service is to have snow packed conditions achieved within 16 hours after the completion of the winter snow event.

Ice Formation Roads

Paved Roads:

- The defined level of service is to have center bare paved surface achieved within 24 hours after the completion of a winter ice event.

Gravel Roads:

- The defined level of service is to have centre bare conditions achieved within 24 hours after the completion of an ice event.

Sidewalks

Snow Accumulation Sidewalks

- The defined level of service is to reduce snow to a depth of 8cm or less within 48 hours after the completion of a winter snow event to a minimum sidewalk width of 1 metre.

Ice Formation Sidewalks

- The defined level of service is to treat the sidewalk to improve traction within 48 hours after the completion of a winter ice event.

APPENDIX 1

PROCEDURES - General

Winter Patrol

- From November 1 to April 30, the standard is to monitor the weather, both current and forecast to occur in the next 24 hours, once every shift or three times per calendar day.
- The Municipality selects representative roads/sidewalks of its network (Schedule A) and patrols these roads/sidewalks daily for such conditions as snow accumulation, blowing snow and ice formation.
- Patrolling a road/sidewalk consists of observing, by driving/observing as identified above, and shall be performed by persons responsible for patrolling highways, including Lead Hands, Public Works Supervisor or individual designated by the Director of Transportation.

Declaration of a Significant Weather Event

- The Municipality may declare a Significant Weather Event when an approaching or occurring winter event has the potential to pose a significant danger to users of Municipal roads and sidewalks.
- The declaration for a Significant Weather Event and end of a Significant Weather Event shall be the responsibility of the Director of Transportation or designate.
- These declarations shall be communicated by:
 - Posting a notice on the Municipal website and social media
 - Issuing a press release or similar communication to internet, newspaper, or radio media
 - Notification to OPP, Fire, and Ambulance
- In the event that a Significant Weather Event is declared by the Municipality:
 - Weather shall be monitored as described above.
 - Deploy resources to address snow accumulation and/or ice formation as deemed practical.
 - Rescind the declaration when appropriate to do so.
 - Address snow accumulation and/or ice formation as described in Appendix 2 and 3.

Snow Removal

- Snow removal areas consider public safety, snow storage capacity, on-street parking requirements, as well as vehicle and pedestrian volumes.
- Snow removal resources will be deployed once the snowplowing requirements have been met, and as availability of resources permits.
- Snow removal operations typically are carried out after plowing operations are completed:
 - When on-street parking has become unsafe, and vehicles are parked in the travelled portion of the roadway.

- Where sidewalks are attached to the roadway without a ditch line separating them.
 - As may be required for vehicular access, following significant accumulations.
- When requested by emergency services due to access concerns, resources will be deployed as soon as practicable.

APPENDIX 2

PROCEDURES - Roadways

Plowing Operations

- Plowing operations will begin as early as 4:00 a.m. and continue if needed until 6:00 p.m. No plowing operations will be conducted between 6:00 p.m. and 4:00 a.m. except for public safety or in extreme conditions.
- Salt/grit operations will begin as soon as practicable, after becoming aware that road conditions have become icy and will continue until slippery conditions are relieved.
- Plowing operations will not exceed 13 hours as per the Highway Traffic Act, Reg.4/93.
- Plowing operations are broken down into 9 Plow Routes (Schedule B)
- The combination plow/sander unit completes the assigned route on an average of 6 hours.
- All plows are equipped with Automatic Vehicle Location (AVL) equipment providing the following information at any time:
 - Vehicle Identification
 - Location
 - Time
 - Plow up/down
 - Wing up/down
 - Application on/off
 - Application rate

Snow Accumulation

Paved Roads:

- Winter maintenance, consisting of plowing and salt/sanding will begin within 8 hours after the accumulation of 8 to 10 cm of snow.
- Grit will be applied at a rate of 200 kg per 2-lane kilometer as required on rural roads. This rate shall increase based on weather conditions and road temperatures. Rates can be increased to 350 kg per 2-lane kilometer.
- Road salt will be applied on paved roads within the urban areas of Morrisburg and Iroquois at a rate of 85 kg/km as required. Rates can be increased to 110, 150 and 230 kg/km based on weather events and road temperatures.

Gravel Roads:

- Winter maintenance, consisting of plowing will begin within 8 hours after the accumulation of 8 to 10 cm of snow.
- When the gravel has not been completely frozen, snow accumulations less than 10 cm will not be plowed to protect the road surface.
- Grit will be applied at a rate of 200 kg per 2-lane kilometer. This rate shall increase based on weather conditions and road temperatures. Rates can be increased to 350 kg per 2-lane kilometer.

Ice Formation

Paved Roads:

- Salt/grit application will begin within 8 hours as practicable after becoming aware that the roadway has become icy and will continue as practicable until conditions are safe.

Gravel Roads:

- Salt/grit application will begin within 8 hours as practicable after becoming aware that the roadway has become icy and will continue as practicable until conditions are safe.
- Ice blading (grader) will be used after the weather event has completed and when staff member become available.

APPENDIX 3

PROCEDURES - Sidewalks

Winter Maintenance Considerations:

- Winter sidewalk maintenance will be performed on sidewalks as determined by Council. Selection of sidewalks to be maintained for winter maintenance shall be recommended by staff based on the following:
 - Is the surface of the road wide enough to accommodate pedestrians and vehicles;
 - The type of road pedestrians will be walking upon i.e. arterial, collector, local residential;
 - The type of traffic on the road. eg. trucks, daily commuter vehicles.
 - Traffic volume and speed of traffic; and
 - Proximity to schools, churches, recreation facilities or other attractors for pedestrians.
- Sidewalks not maintained in winter shall be closed as provided in MMS Section 16.8(1) Closure of a Highway.
- By-law **#2021-05** has been passed by Council, which closes identified sidewalks not winter maintained from November 1st to April 30th.

Sidewalk Winter Maintenance Operations

- Sidewalk Winter Maintenance Operations will begin as early as 4:00 a.m. and continue if needed until 6:00 p.m. No sidewalk winter maintenance operations will be conducted between 6:00 p.m. and 4:00 a.m. except for public safety in extreme conditions.
- Areas of sidewalk winter maintenance operations are as described in (Schedule C)
- The sidewalk winter maintenance unit completes the assigned route on an average of 6 hours.
- The Municipal owned sidewalk winter maintenance units are equipped with Automatic Vehicle Location (AVL) equipment providing the following information at any time:
 - Vehicle Identification
 - Location
 - Time
- The two hired sidewalk maintenance units are not equipped with Automatic Vehicle Location (AVL)

Snow Accumulation

- Resources to clear snow from sidewalks shall be deployed within 48 hours after the snow accumulation has ended to reduce the snow depth to a maximum of 8 cm.
- Salt will be applied as required to improve traction.

Ice Formation

- Salt/grit application operations will begin as soon as practicable to improve traction within 48 hours after becoming aware that the sidewalk has become icy and will continue as practicable until conditions are deemed safe.

APPENDIX 4

PROCEDURES – Reporting and Record Keeping

- Winter patrol reports (same as Schedule A) will be submitted for filing providing the following information:
 - Date
 - Patroller's name
 - Truck number
 - Weather report(s)
 - Completed Patrol Report
 - Salt/grit used will be calculated at end of shift

- Winter Maintenance Plow Reports Pre-trip inspections (GeoDrive) will be submitted by drivers for filing, providing the following information:
 - Date
 - Drivers name
 - Truck number
 - Start and finish mileage
 - Salt/grit used will be calculated at end of shift

- Winter Maintenance Sidewalk Reports Pre-trip inspections (GeoDrive) will be submitted by operators for filing, providing the following information:
 - Date
 - Drivers name
 - Equipment number

- Winter Maintenance Plow and Sidewalk reports shall be summarized monthly and submitted for filing.

Review of reports and summary reports will be undertaken at the end of each winter season to provide a basis for continuous improvement of the winter operations practices and as required by the Township's Salt Management Plan.

APPENDIX 5

PROCEDURES – Mailboxes and Restoration

Mailboxes

Mailbox provision, installation and maintenance are the sole responsibility of the owner. Failure to provide access to and maintenance of mailboxes could result in the suspension of service by Canada Post.

Winter Mailbox Policy

- The Municipality of South Dundas does not provide snow removal for rural mailboxes and cannot ensure access to mailboxes for mail delivery.
- In all cases, mailboxes should be properly located, and constructed to avoid being damaged during snow removal operations. Decorative mailboxes which are placed in the Municipality's right of way are done so at the owners' own risk.
- If rural mailbox and/or post are damaged by snow being discharged from snowplows during snow removal operations, the Municipality is not negligent and is not responsible for repairs.
- If the mailbox and/or post is damaged by direct contact with the Municipality's snow removal equipment the Municipality will repair or replace the damaged items with a standard mailbox and/or post only.
- Determination of the responsibility for damage to mailbox will be by the Director of Transportation or designate. It shall also be at the Municipality's sole discretion as to whether the damage can be repaired or replacement with new materials is warranted.
- If determined the responsibility of the Municipality, the mailbox shall be repaired and/or replaced with a new metal mailbox supported by a wooden post which meets the standard as established by Canada Post. The Municipality reserves the right to have a mailbox relocated if it is considered to obstruct traffic or snow removal operations.

Restoration

During road and sidewalk winter operations, a certain amount of damage to Municipal and private property may occur. In the event that sod damage is sustained, it will be restored by the Public Works department using topsoil and seed at the earliest availability of material and resources (typically May). The owner of the property is responsible for maintaining the repaired area.

LIST OF SCHEDULES

- Schedule A Representative Roads and Sidewalks designated for Patrol
- Schedule B Winter Plow Routes
- Schedule C Sidewalks – Winter Maintenance

Municipality of South Dundas

Daily Patrol Sheet 2020-2021

DATE: _____

START TIME: _____

Time of Day	Air Temp	Road Temp	Road Condit.	Salt/Grit Rate	ROAD CONDITIONS- COMMENTS
Midnight					
2:00AM					
4:00 AM					
6:00 AM					
8:00 AM					
10:00 AM					
12:00 PM					
14:00 PM					
16:00 PM					
18:00 PM					
20:00 PM					
22:00 PM					
Midnight					

Patrolled Roads

Road	From	To	Time of Day
Haddo Rd	Ct Rd 1	Kelly Rd	
Kelly Rd	Haddo Rd	English Rd	
English Rd	Kelly Rd	Ct Rd 1	
Elizabeth Dr	Carmen Rd	Hwy 2	
Lakeshore Dr	Hwy 2	Ottawa St	
Cruickshank W	Ottawa St	Hwy 2	
Nudell Bush Rd	U.Canada Rd	Archer Rd	
Archer Rd	Nudell Bush Rd	Ct Rd 18	
Beckstead Rd	Ct Rd 18	Ct Rd 8	
Henderson Rd	Heritage Rd	Ct Rd 16	
Irish Headline Rd	Ct Rd 16	Ct Rd 1	

Road Temp	Salt Setting
0 to -7	85
- 7 to -12	110
-12 to -18	150
-18 & Greater	230

Road Temp	Grit Setting
0 to -18	200
-19 to Greater	350
Ice Rain	500

Patrolled Sidewalks

Elizabeth Dr	Church Ave	Ct Rd 2	
Ottawa St	Cruickshank W	Fifth St	

ROAD CONDITIONS

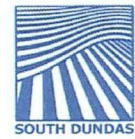
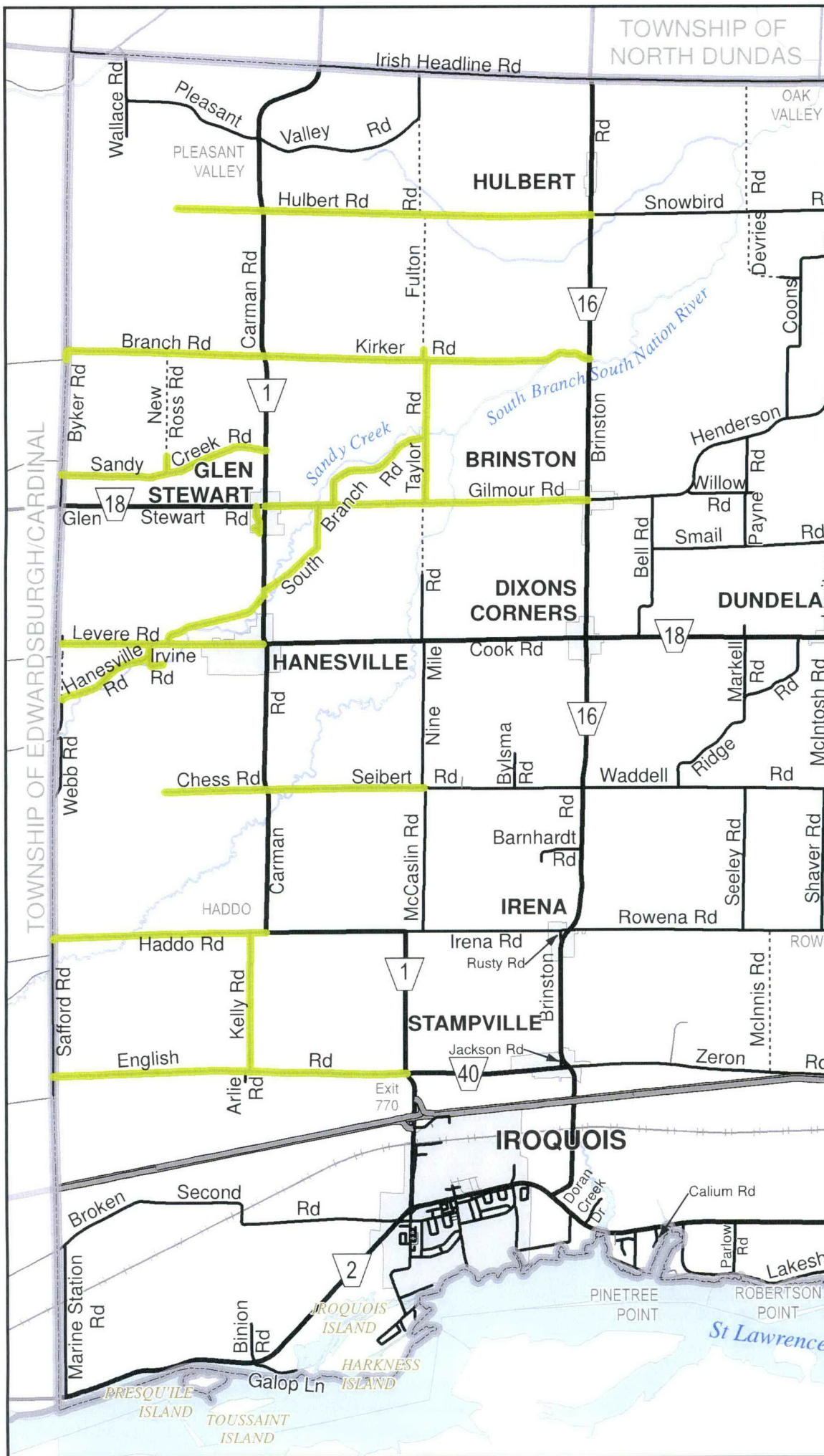
BD: Bare & Dry	SC: Snow Covered	WF: Winter Flood
BW: Bare & Wet	VIS: Various Icy Spots	
FR: Freezing Rain	DS: Drifting Snow	

COMMENTS:

SIGNATURE: _____

NAME: _____

PLEASE PRINT



Plow Route 1 2020-2021

Legend

Plow Route

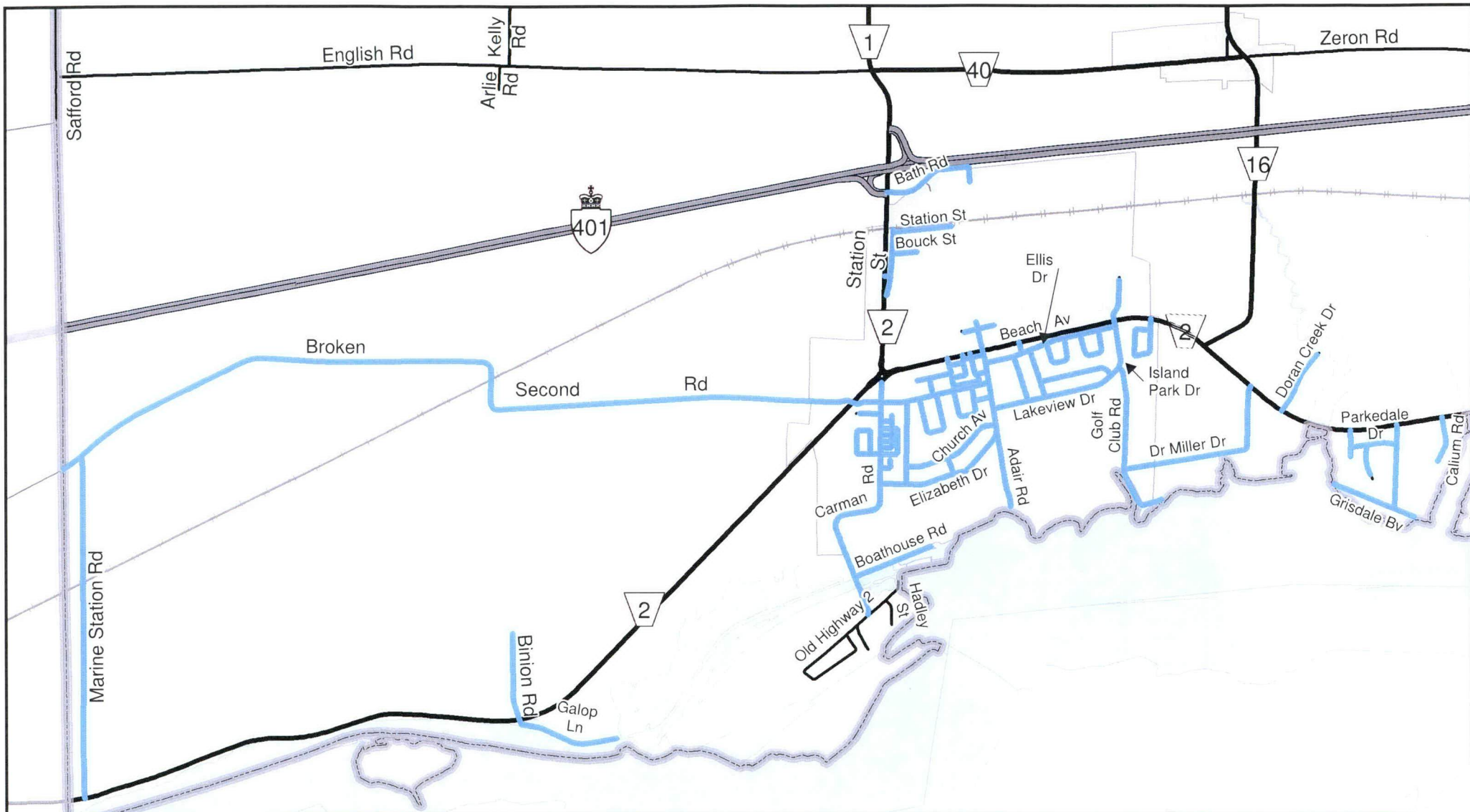
-  Beat 1
-  Highway
-  County Road
-  Township Road
-  Private/Other Road
-  Road Allowance / Seasonal Road
-  Under Construction
-  Railroad
-  Settlement Area
-  Township Boundary



1:80,000



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**Plow Route 2
2020-2021**

Legend

Plow Route

 Beat 2

 Highway

 County Road

 Township Road

 Private/Other Road

 Under Construction

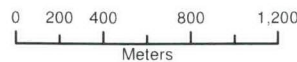
 Railroad

 Settlement Area

 Township Boundary



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Plow Route 3 2020-2021

Legend

Plow Route

Beat 3

Highway

County Road

Township Road

Private/Other Road

Road Allowance / Seasonal Road

Under Construction

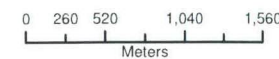
Railroad

Settlement Area

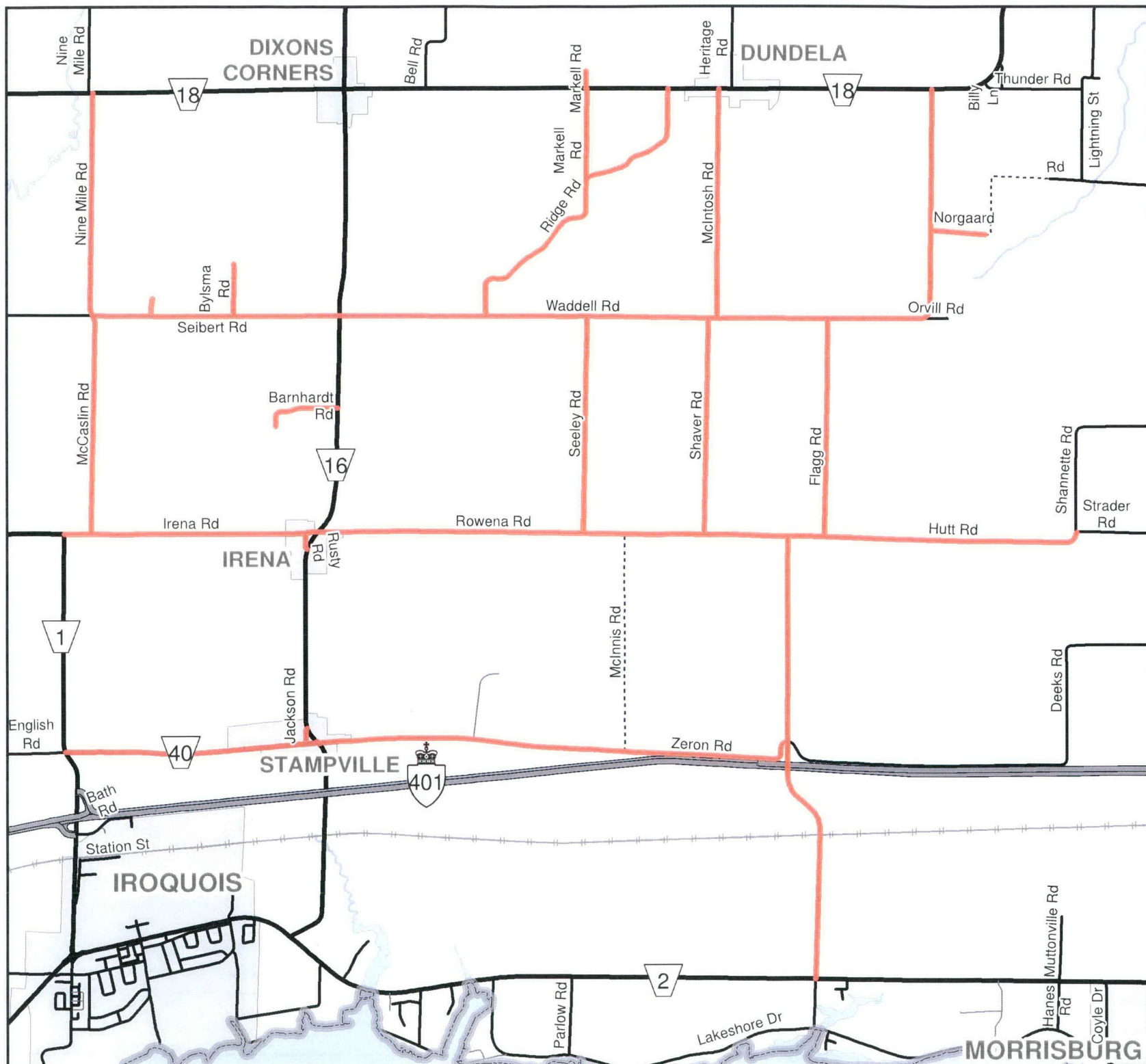
Township Boundary



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Plow Route 4 2020-2021

Legend

Plow Route

Beat 4

Highway

County Road

Township Road

Private/Other Road

Road Allowance / Seasonal Road

Under Construction

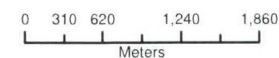
Railroad

Settlement Area

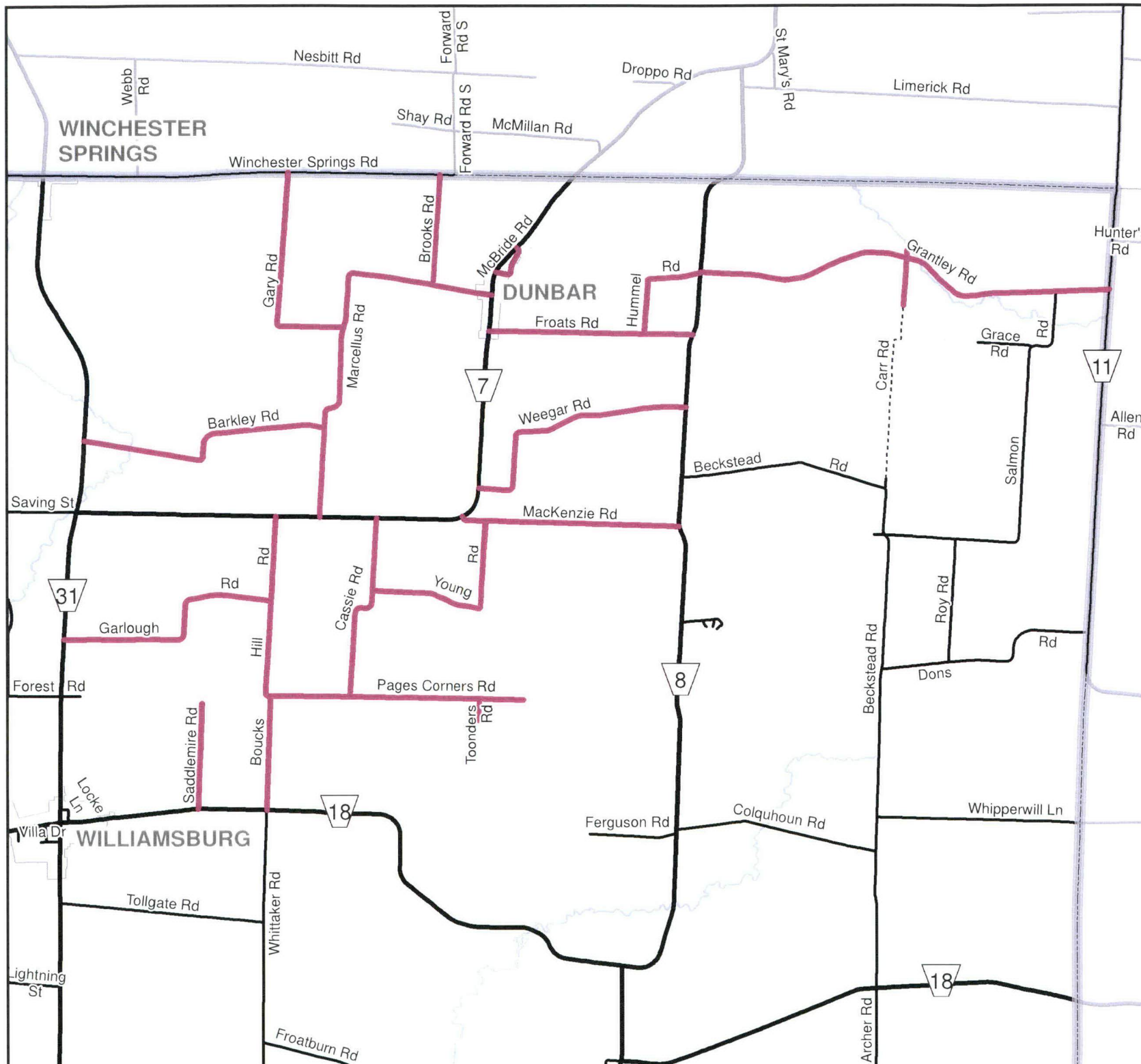
Township Boundary




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**Plow Route 5
2020-2021**

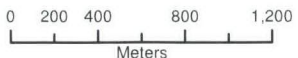
Legend

Plow Route

- Beat 5
- Highway
- County Road
- Township Road
- Private/Other Road
- Under Construction
- Railroad
- Settlement Area
- Township Boundary

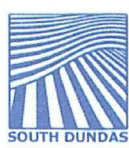
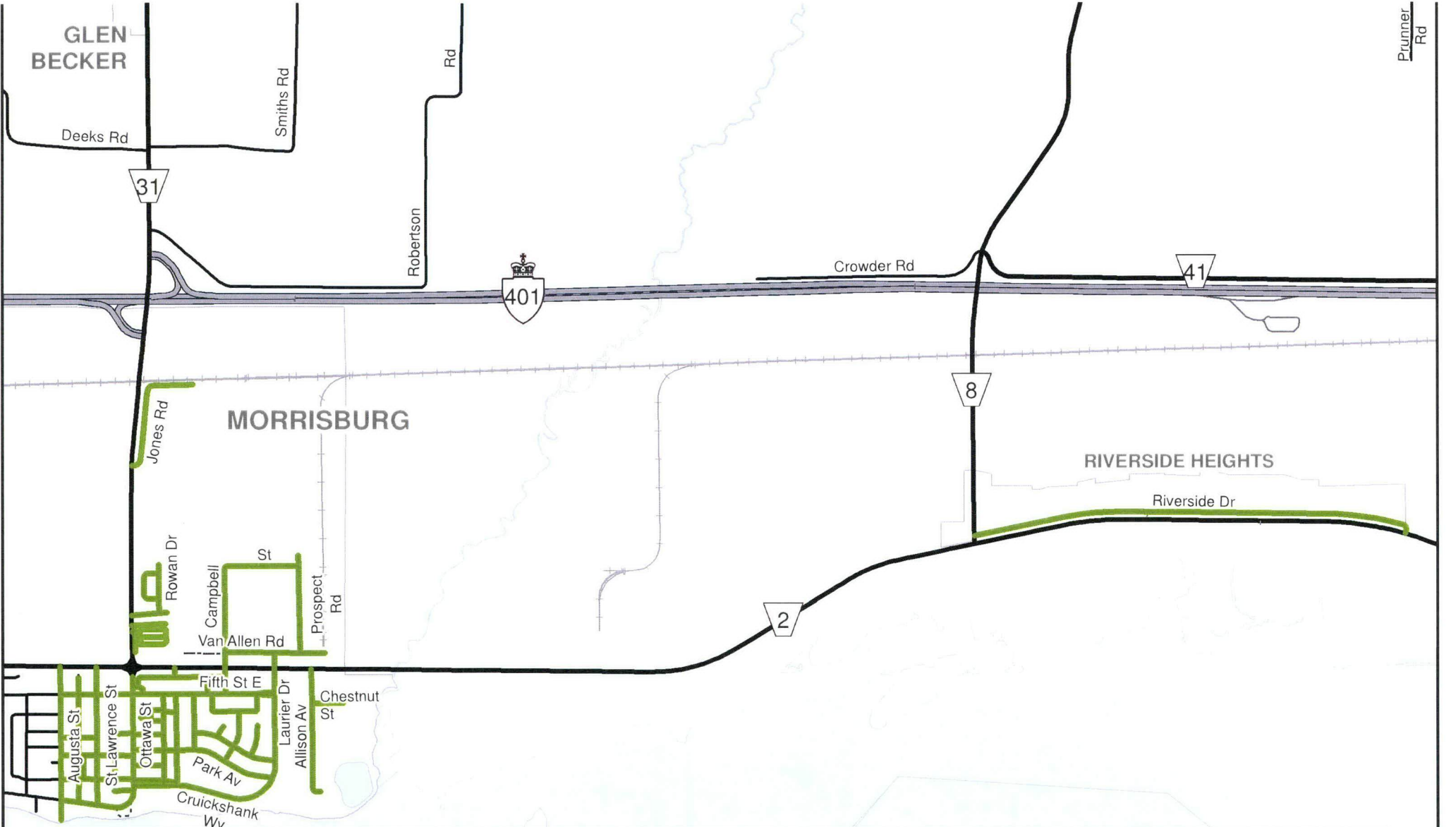


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**Plow Route 6
2020-2021**

Legend


Plow Route

 Beat 6

 Highway

 County Road

 Township Road

 Private/Other Road

 Under Construction

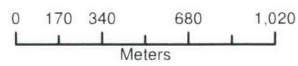
 Railroad

 Settlement Area

 Township Boundary

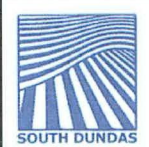
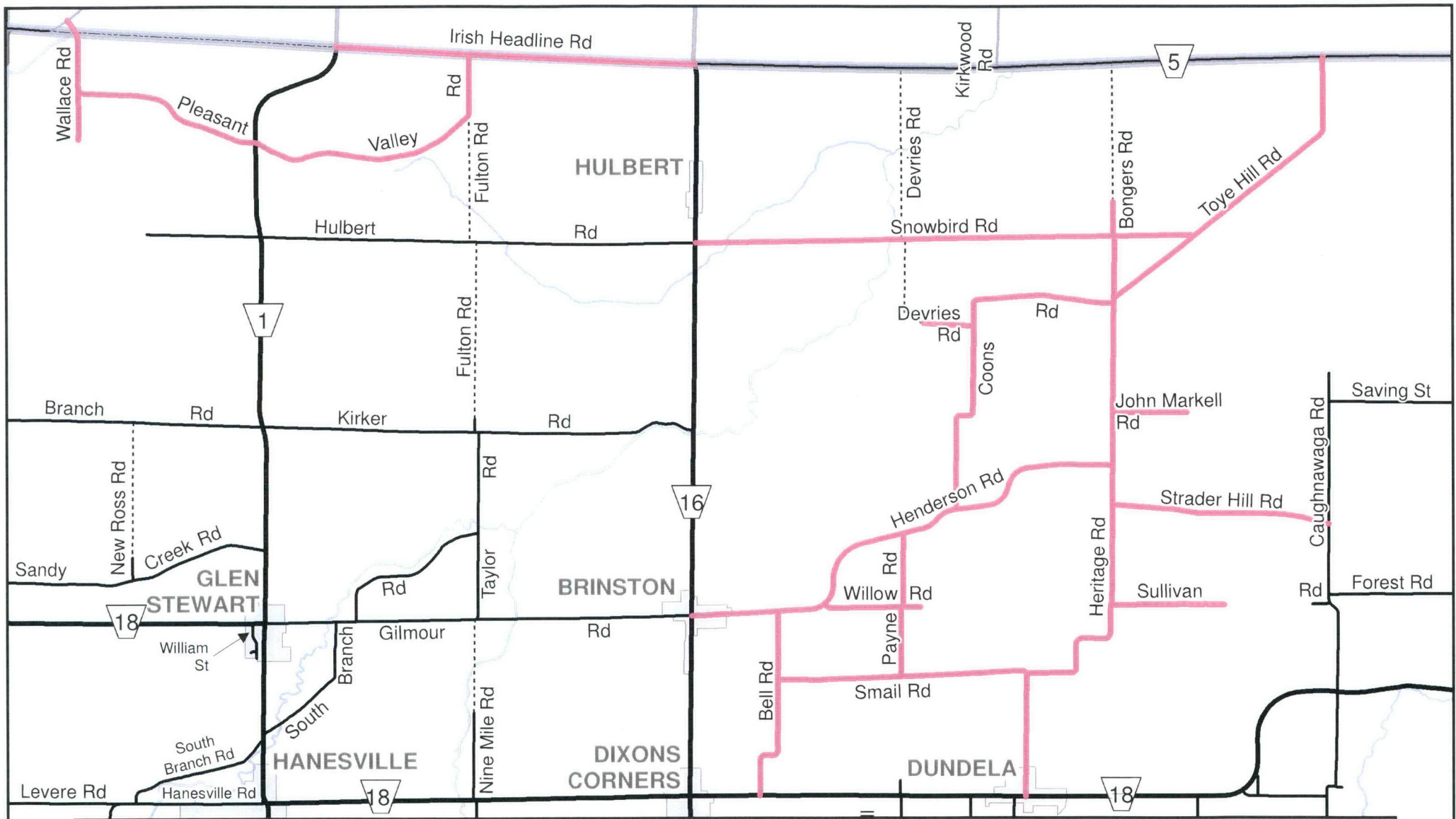


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Prunner Rd



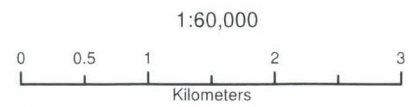
**Plow Route 7
2020-2021**

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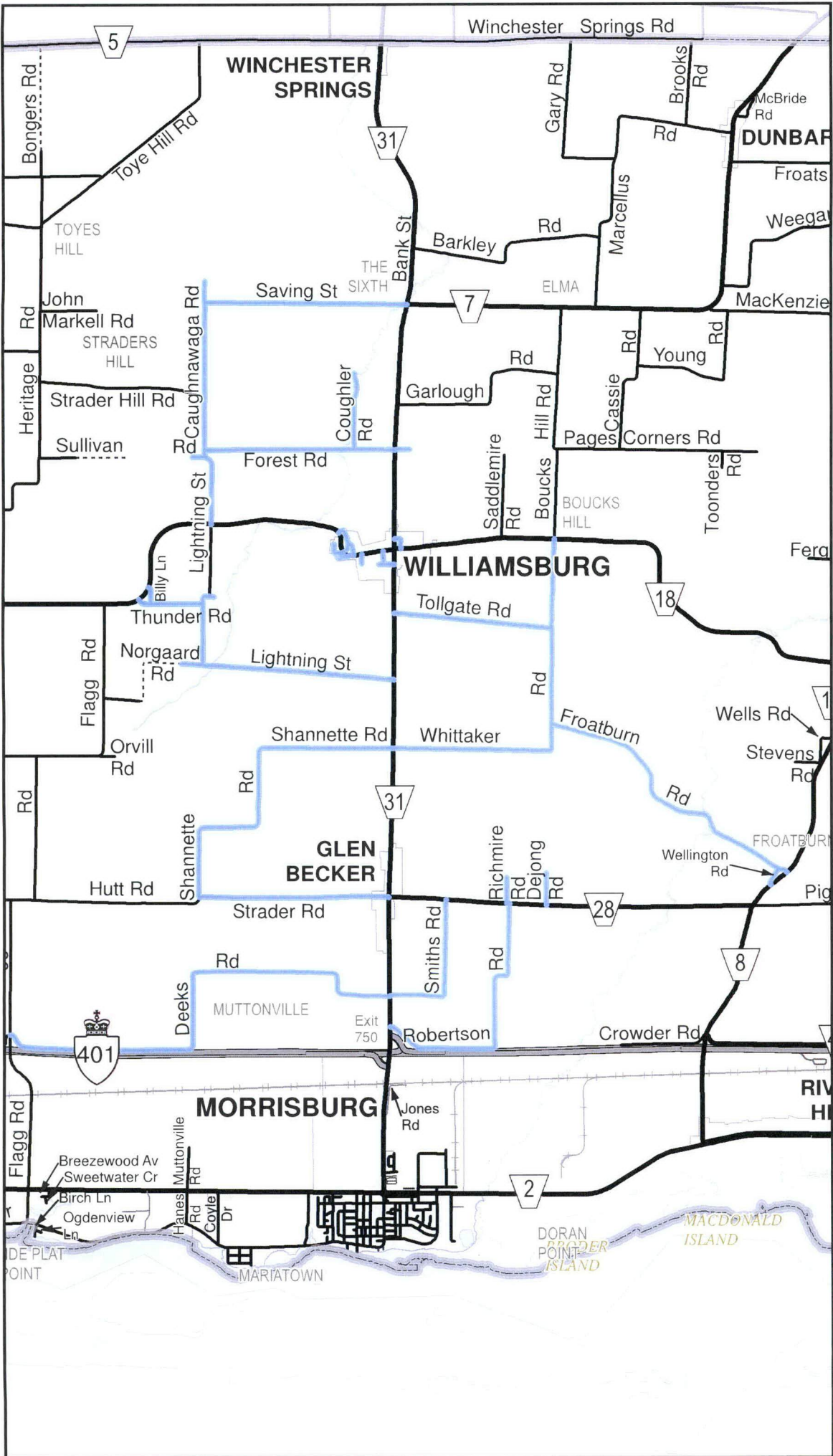
Plow Route

- Beat 7
-  Highway
-  County Road

-  Private/Other Road
-  Under Construction
-  Railroad
-  Settlement Area
-  Township Boundary



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Plow Route 8 2020-2021

Legend

Plow Route

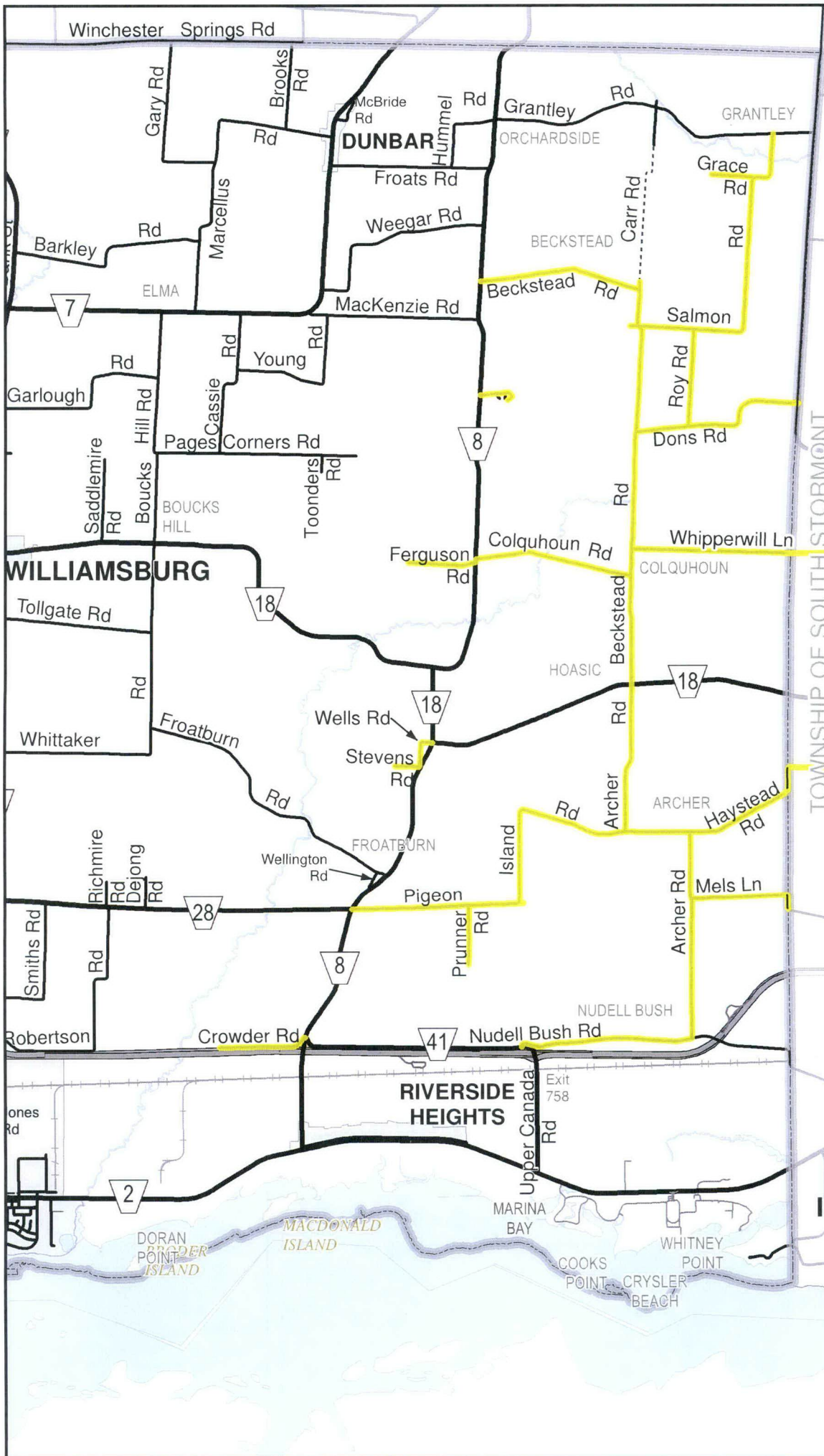
- Beat 8
-  Highway
-  County Road
-  Township Road
-  Private/Other Road
-  Road Allowance / Seasonal Road
-  Under Construction
-  Railroad
-  Settlement Area
-  Township Boundary



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Plow Route 9 2020-2021

Legend

Plow Route

-  Beat 9
-  Highway
-  County Road
-  Township Road
-  Private/Other Road
-  Road Allowance / Seasonal Road
-  Under Construction
-  Railroad
-  Settlement Area
-  Township Boundary



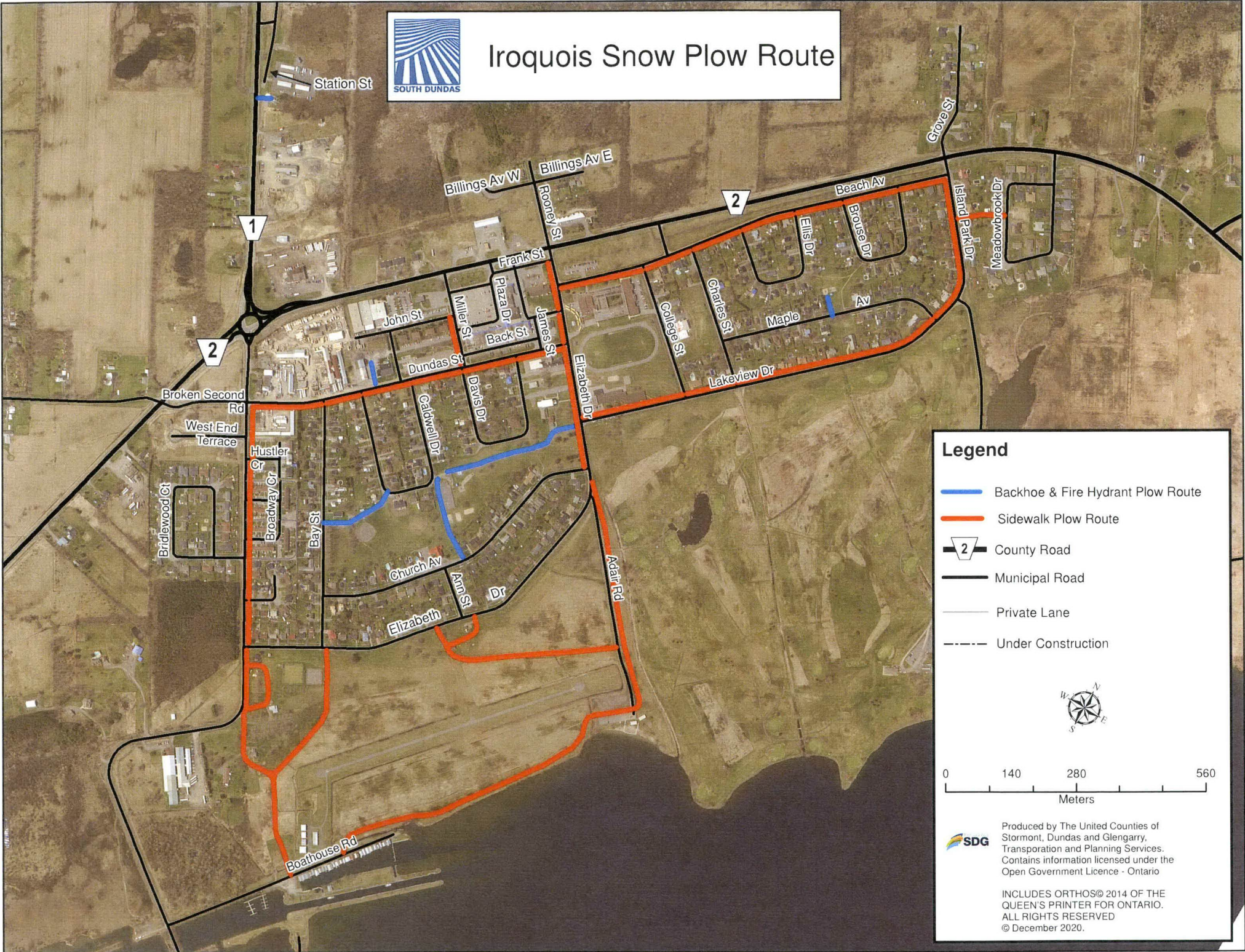
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Iroquois Snow Plow Route



Legend

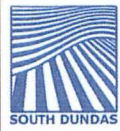
-  Backhoe & Fire Hydrant Plow Route
-  Sidewalk Plow Route
-  County Road
-  Municipal Road
-  Private Lane
-  Under Construction



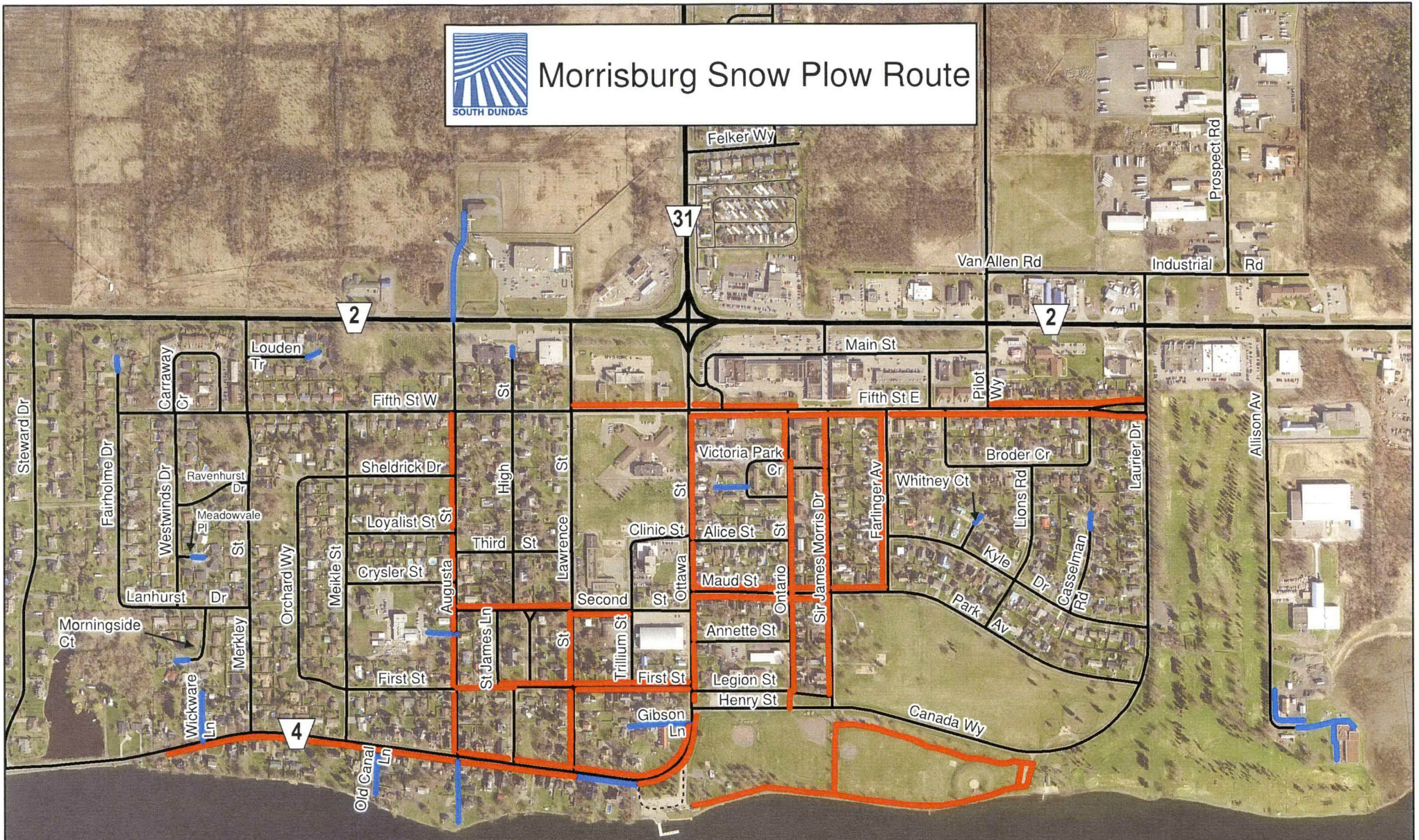
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Meters

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




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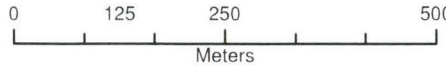


Morrisburg Snow Plow Route



Legend

-  Backhoe & Fire Hydrant Plow Route
-  Sidewalk Plow Route
-  County Road
-  Municipal Road
-  Private Lane
-  Under Construction
-  Future Development



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