Essex Junction Tree Inventory Final Report

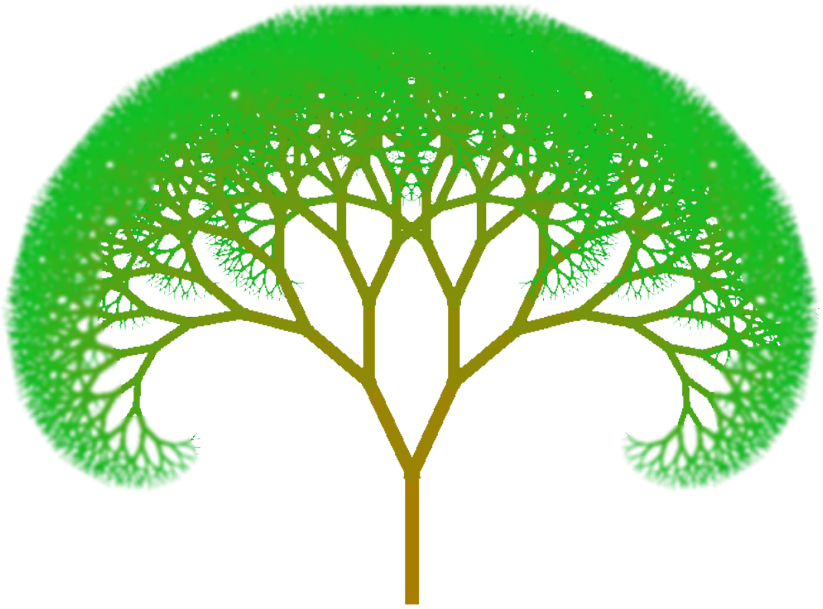
Prepared for the Tree Advisory Committee of the Village of Essex Junction
Prepared by Mandy St. Hilaire, Vermont Urban & Community Forestry
11 July 2014

Village of Essex Junction

The UNIVERSITY of VERMONT

PLANT LIVE GROW
VERMONT URBAN & COMMUNITY FORESTRY PROGRAM

Table of Contents



Abstract

This final report describes the composition and condition of the trees that fall within the public right-of-way (ROW) of Essex Junction, Vermont. Commissioned by the Village of Essex Junction, the 2013 UVM LANDS crew and the 2014 Vermont Urban & Community Forestry Program (VTUCF) summer intern, Mandy St. Hilaire, completed an inventory of urban trees. It is an extension on the report that was submitted by the UVM LANDS crew in the summer of 2013.

The LANDS crew and VTUCF summer intern measured the size, health, location, and species of over 900 public trees along 95 streets in the Village. This information collected will be beneficial to the Village of Essex Junction because of its applicability to public tree management and general urban forest planning. The crew and intern inventoried only street trees that fall within boundaries of the public ROW, and at the request of Village representatives, also identified vacant spots on both public and private property where trees can be planted in the future. Graphs and pivot tables were created from the data to describe the species, DBH, and condition of trees throughout the Village. An assessment of the land cover in the Village was conducted with i-Tree Canopy, a free inventory and assessment tool developed by the US Forest Service, to assess ecosystem and economic benefits of the public trees in Essex Junction.

The work conducted by LANDS and VTUCF through this project is serving the pilot program for an urban forestry management plan. The current VTUCF summer intern on this project finished inventorying the public right of way trees in the month of June and beginning of July 2014 to assist in creating the goals for the urban forestry management plan. The intern and the Tree Advisory Committee will use this final report to aid in creating the goals of the urban forestry management plan, a long term planting and maintenance plan for the Village's urban forest.

Results

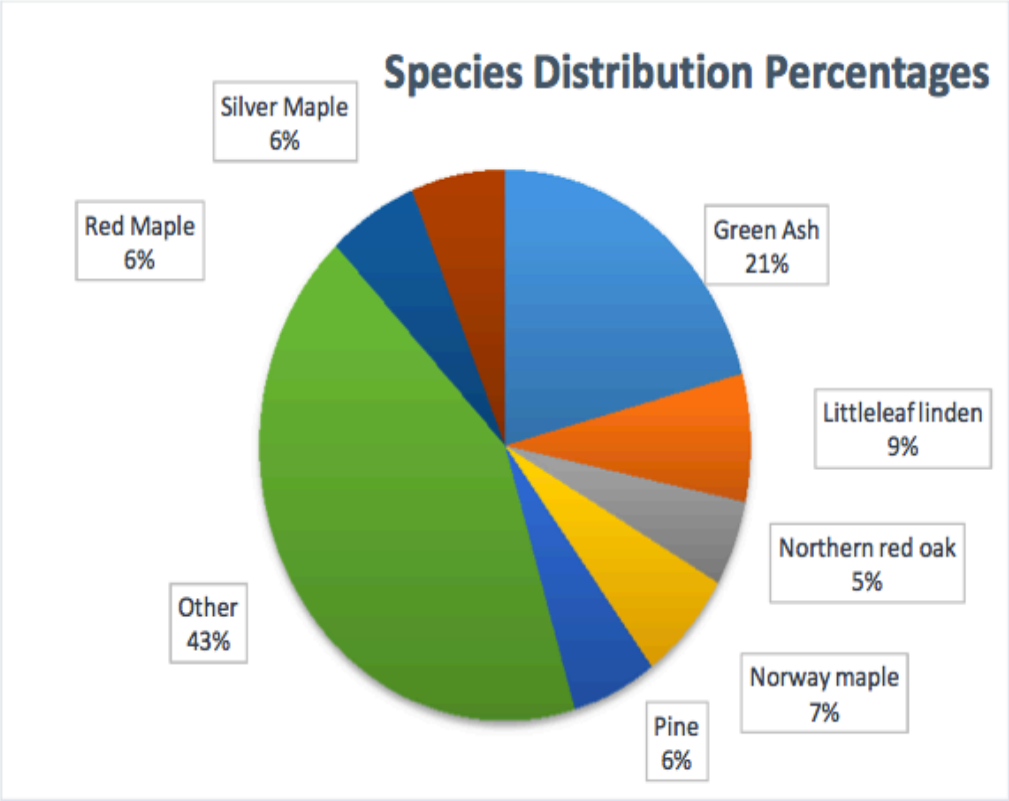


Figure 1. The distribution of tree species by percent composition. Other represents tree species with less than a 5% distribution. Other includes the categories: American elm, Austrian pine, Balsam fir, Basswood, Birch, Black locust, Blue spruce, Box elder, Broadleaf deciduous large, Broadleaf deciduous medium, Broadleaf deciduous small, Broadleaf evergreen large, Broadleaf evergreen medium, Broadleaf evergreen small, Chinese elm, Coniferous evergreen large, Coniferous evergreen medium, Cottonwood, Crabapple, Eastern red cedar, Eastern redbud, Eastern white pine, Elm, European mountain ash, Gingko, Honey locust, Japanese tree lilac, Lilac, Maple, Norway Spruce, Oak, Pear, Plum, Quaking Aspen, Red cedar, Red mulberry, Red spruce, Scarlet oak, Scotch pine, Serviceberry, Staghorn sumac, Sugar maple, Tulip tree, White Ash.

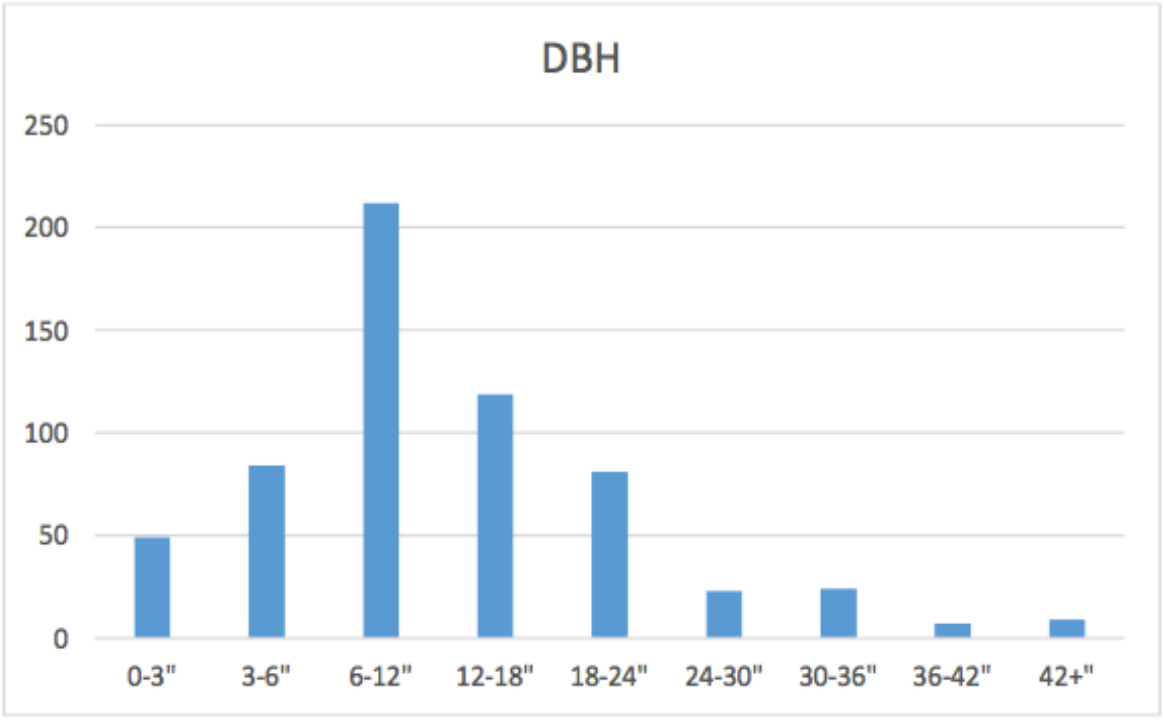


Figure 2. The number of trees present within each DBH range (inches).

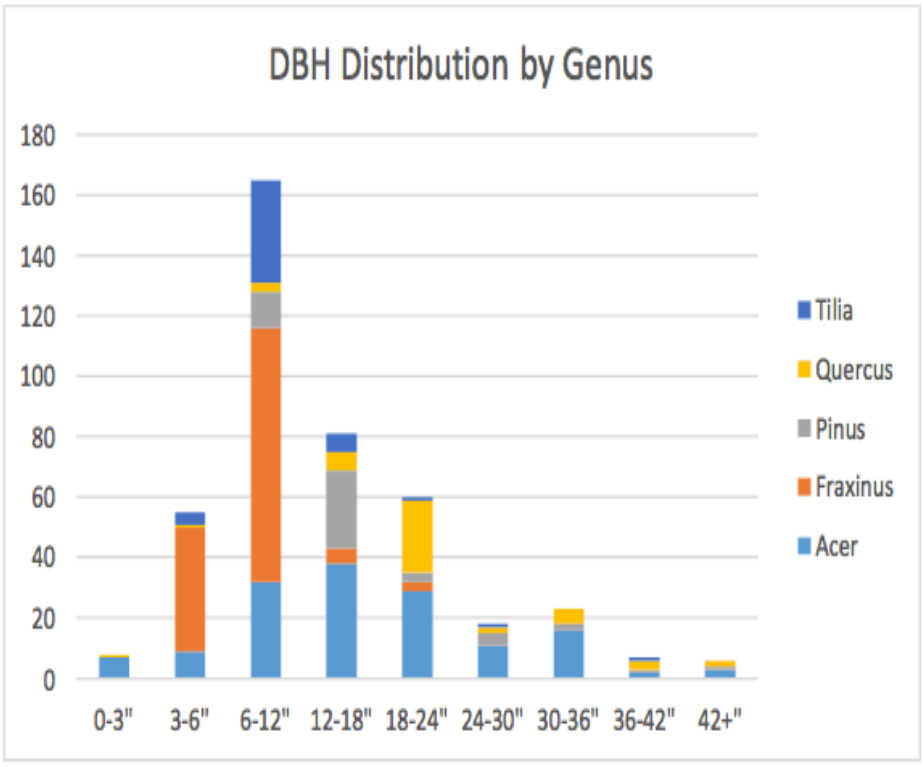


Figure 3. The percentage of trees, by genus, within each DBH range. Tree genera present at less than 5% representation not included in this graph.

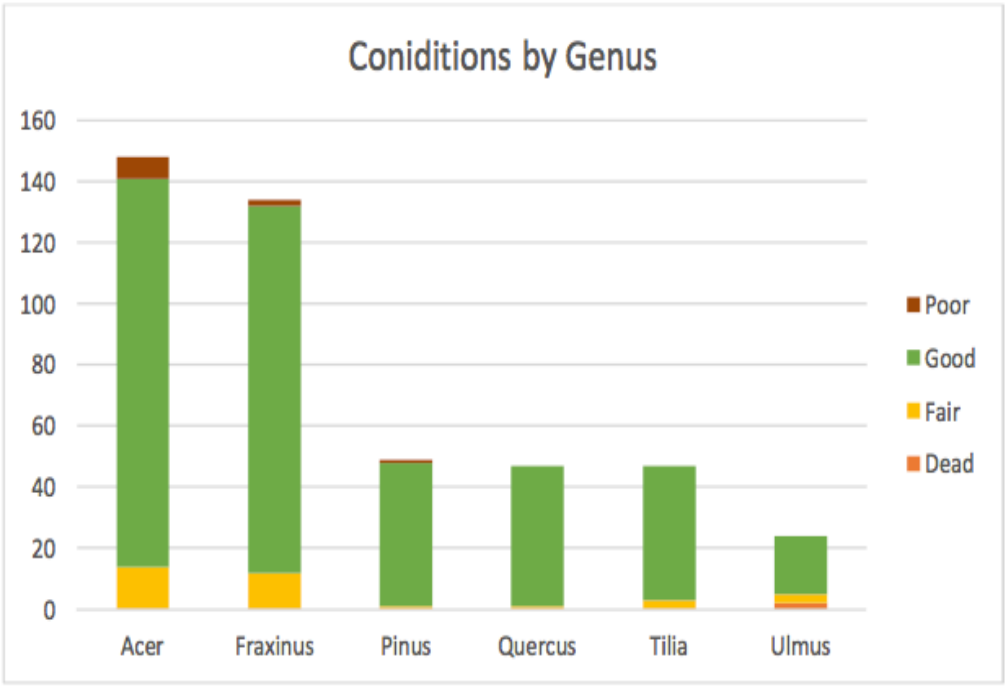


Figure 4. The number of trees within each genus displayed according to condition. Tree genera with less than 5% representation not included in this graph.

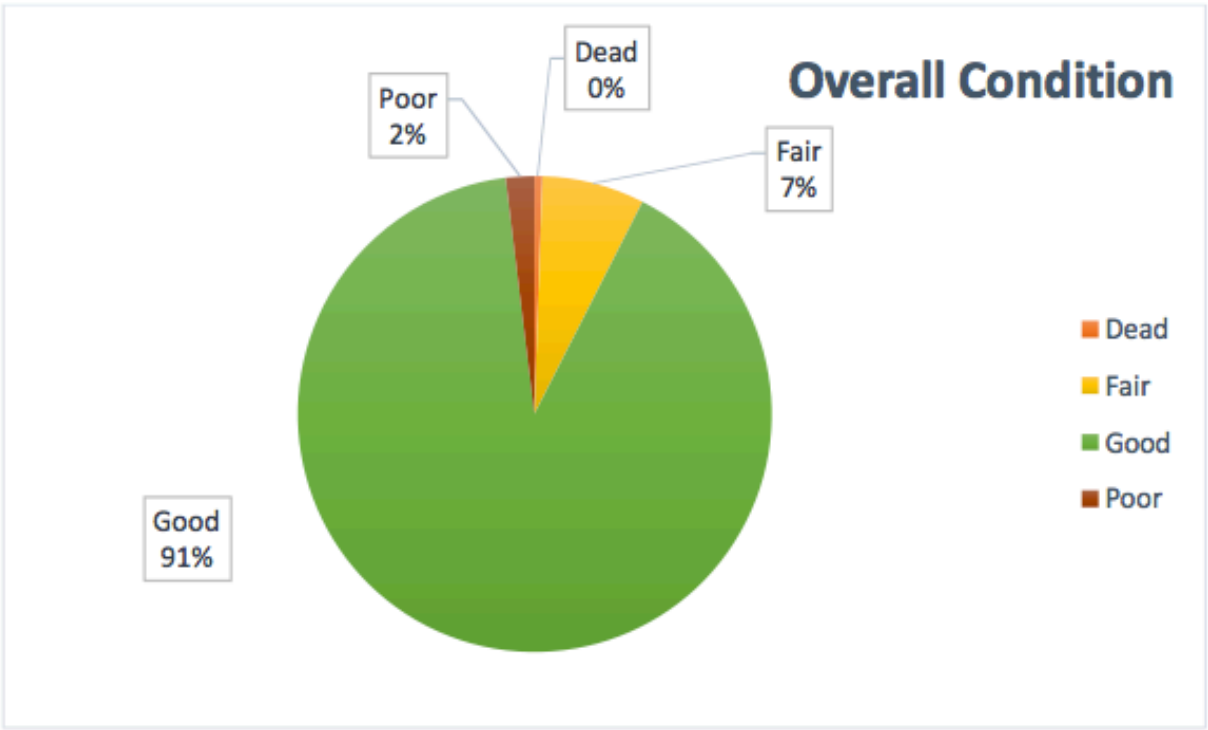


Figure 5. The overall condition of the trees observed. Dead is actually 0.005%.

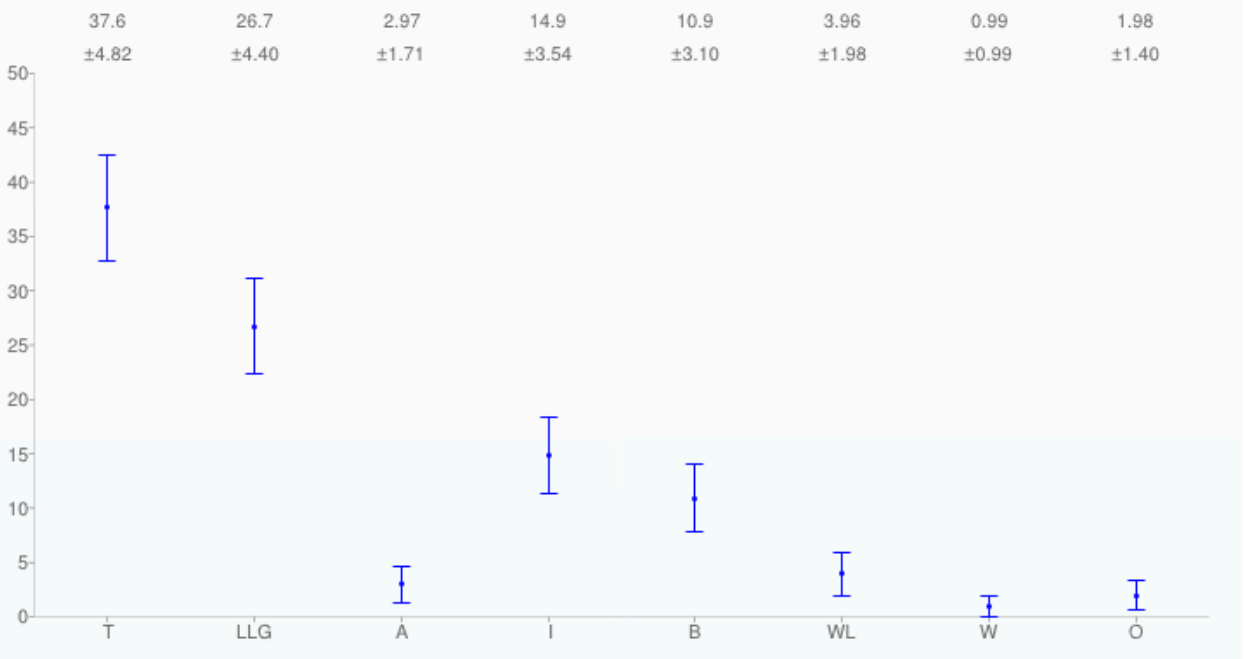
Figure 6. Number of Planting Opportunities by Street.

Street	Vacant Private	Vacant Public	Vacant Town	Total
Abnaki Av	9			**9**
Acron Circle	2			**2**
Adams Ct	3			**3**
Arlington	6			**6**
Aspen Dr	16			**16**
Athens	1			**1**
Beech St	2			**2**
Briar Ln	1			**1**
Brownell Dr	3	1		**4**
Camp St	2			**2**
Central St	3			**3**
Cherokee Av	5			**5**
Cherry St	1			**1**
Cordurary Rd	4			**4**
Countryside	4			**4**
Curtis Av	3			**3**
Cushing		1		**1**
Drury Dr	4			**4**
Dunbar		3		**3**
E Williams St	12			**12**
East St	6			**6**
Edgewood Dr	6			**6**
Elm St	1			**1**
Fairview Dr	9			**9**
Grandview Av	14			**14**
Grant St	1			**1**
Greenwood Av	1			**1**
Haiwtha St	1			**1**
Hillcrest Rd	1			**1**
Iroquois Av	16			**16**
Jackson St	9			**9**
Juniper Ridge	1	1		**2**
Killoran Dr	1			**1**
Kiln Dr	4			**4**
Lamoille	1			**1**
Lavoie Dr		1		**1**
Lincoln	1			**1**
Main Rd	4		2	**6**
Mansfield Av	2			**2**
Maple	22	1		**23**
Maple Street Ext	3			**3**
Mason Dr	2			**2**
McGregor	2			**2**
Mohawk Av	4			**4**
Murray Rd	10			**10**
North St	3			**3**
Oneida Creek St	1			**1**

Park St	6			**6**
Pearl	5			**5**
Pine Ct	3			**3**
Prospect St	2			**2**
Redwood Terrace	7			**7**
Rivendell Dr	2			**2**
Rosewood Ln	6			**6**
Rotunda Av	6			**6**
S Summit St	17	3		**20**
Sesneca Av	8			**8**
South St	13	1		**14**
South St Ln	2			**2**
Southview Rd	2			**2**
Summit St	2			**2**
Sycamore Ln	3			**3**
Tamarack Dr	6			**6**
Tyler Dr	3			**3**
Upland Rd	5			**5**
Villas Dr	4			**4**
W Hillcrest Rd	1			**1**
Waverly	1			**1**
West St	15	2		**17**
Williams St	1			**1**
Woods End Dr	5			**5**
Wristly St	1			**1**
Grand Total	**333**	**14**	**2**	**349**

Figure 7. i–Tree Canopy Assessment.

Land Cover Distribution Percent



Cover Class	Description	Abbr.	Points	% Cover
Tree	Tree, non-shrub	T	38	37.6 ±4.82
Low lying veg		LLG	27	26.7 ±4.40
Agriculture		A	3	2.97 ±1.71
Impervious		I	15	14.9 ±3.54
Building		B	11	10.9 ±3.10
Wetland		WL	4	3.96 ±1.98
Water		W	1	0.99 ±0.99
Other		O	2	1.98 ±1.40

Tree Benefits

Abbr.	Benefit Description	Value	±SE	Amount	±SE
CO	Carbon Monoxide removed annually	$39.91	±5.11	941.40 lb	±120.61
NO2	Nitrogen Dioxide removed annually	$68.70	±8.80	2.57 T	±0.33
O3	Ozone removed annually	$3,577.96	±458.41	25.56 T	±3.28
PM2.5	Particulate Matter less than 2.5 microns removed annually	$7,396.31	±947.62	1.24 T	±0.16
SO2	Sulfur Dioxide removed annually	$12.01	±1.54	1.62 T	±0.21
PM10*	Particulate Matter greater than 2.5 microns and less than 10 microns removed annually	$2,597.51	±332.79	8.56 T	±1.10
CO2seq	Carbon Dioxide sequestered annually in trees	$100,785.06	±12,912.61	5,204.94 T	±666.86
CO2stor	Carbon Dioxide stored in trees (Note: this benefit is not an annual rate)	$2,541,105.34	±325,567.06	131,232.82 T	±16,813.58

Figure 8. Complete Street List.

A–E	F–J	K–O	P–T	U–Z
Abnaki Av	Fairview Dr	Killoran Dr	Park St	Upland Rd
Acron Circle	Grandview Av	Kiln Dr	Pearl	Villas Dr
Adams Ct	Grant St	Lamoille	Pine Ct	W Hillcrest Rd
Alogniquin Av	Greenwood Av	Lavoie Dr	Poplar Ct	Warner Av
Arlington	Grove St	Lincoln	Prospect St	Waverly
Aspen Dr	Haiwtha St	Lincoln Terrace	Railroad Av	West St
Athens	Hawthorne Ct	Loubier Dr	Redwood Terrace	Wilkonson Dr
Beech St	Hayden	Main Rd	Rivendell Dr	Willeys Ct
Briar Ln	Hillcrest Rd	Mainsfield Av	River St	Williams St
Brickyard Rd	Iroquois Av	Maple	Rosewood Ln	Woods End Dr
Brook Av	Jackson St	Maple Street Ext	Rotunda Av	Wristly St
Brownell Dr	Juniper Ridge	Mason Dr	S Summit St	
Camp St		McGregor	School St	
Cascadnac Av		Meadow Terrace	Sesneca Av	
Central St		Mohawk Av	Silverbow Terrace	
Cherokee Av		Murray Rd	South St	
Cherry St		Nahma Av	South St Ln	
Clems Dr		North St	Southview Rd	
Cobleigh		Oneida Creek St	Sugartree Ln	
Cordurary Rd		Owaissa Av	Summit St	
Countryside			Sycamore Ln	
Curtis Av			Tamarack Dr	
Cushing			Tyler Dr	
Drury				
Dunbar				
E Williams St				
East St				
Edgewood Dr				
Elm St				