



## Westwood Traffic Calming

# Advisory Committee Update



September 9, 2008





# Agenda

**1. Introductions**

**2. Recap**

**3. Updated Homework Charts**

**4. Intersection Designs**

**5. Traffic Calming**

**6. Analysis**



# Agenda

**1. Introductions**

**2. Recap**



# Project Objectives

- “Calm” Traffic
- Reduce Vehicle Speeds on Canton Street
- Reduce Cut-thru traffic on Canton Street
- Discourage Traffic from Westwood Station Boulevard from using Canton Street



# Re-Cap of Previous Work

- Collected
  - Traffic count data
  - Origin and destination data
  - Cut thru trips
  - Travel times
  - Automatic traffic counts and vehicle speeds
- Developed a validated SimTraffic model for existing conditions
- Assessed acceptability and priority of various measures
- Survey (by others)
- Initiated designs



# Next Steps

Finalize  
Measures

Mobile  
Workshops

Formal  
Approvals

Design

Build

Tonight

Late  
September

Fall '08

Fall '08

Spring '09



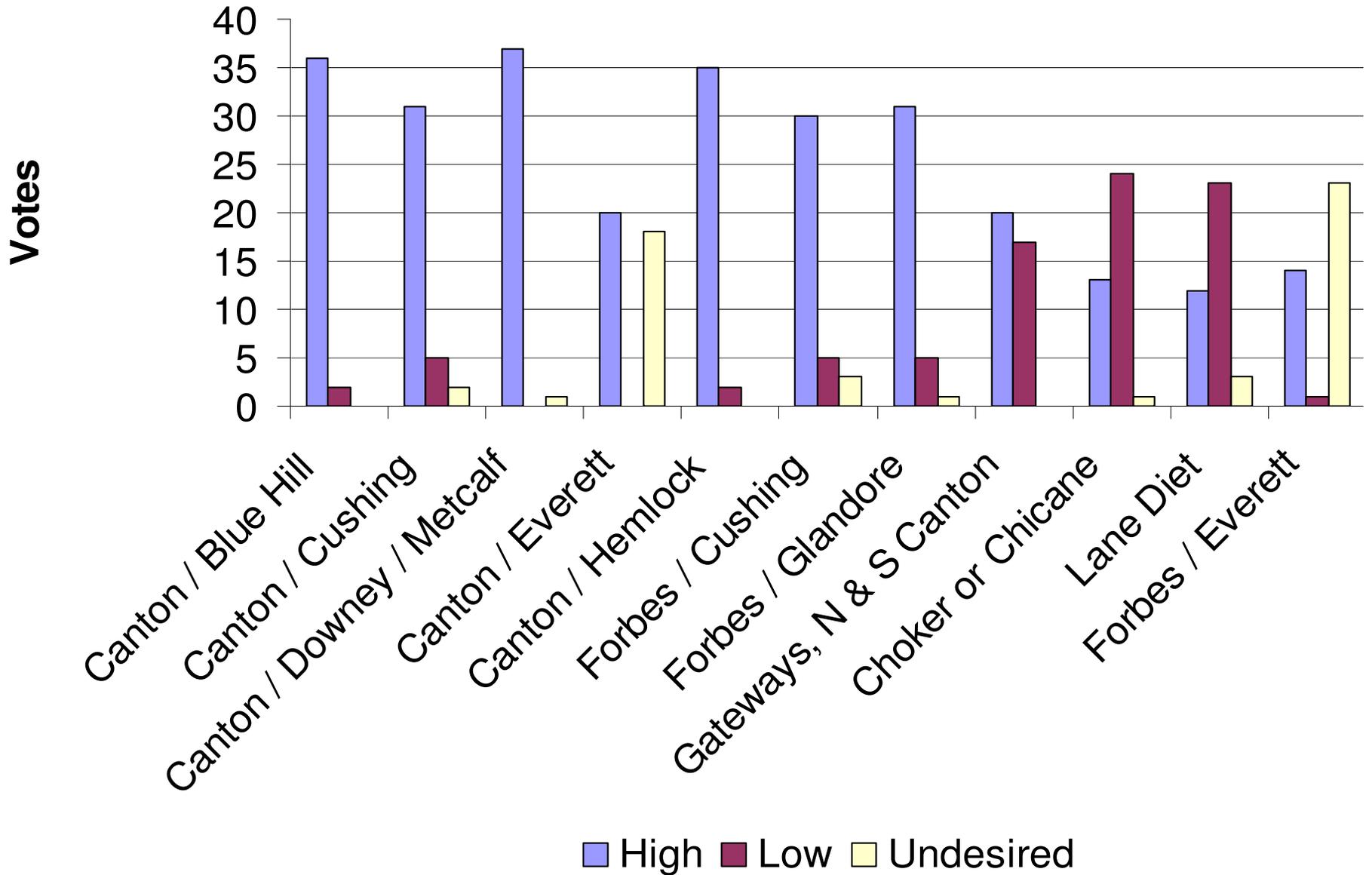
# Agenda

1. Introductions

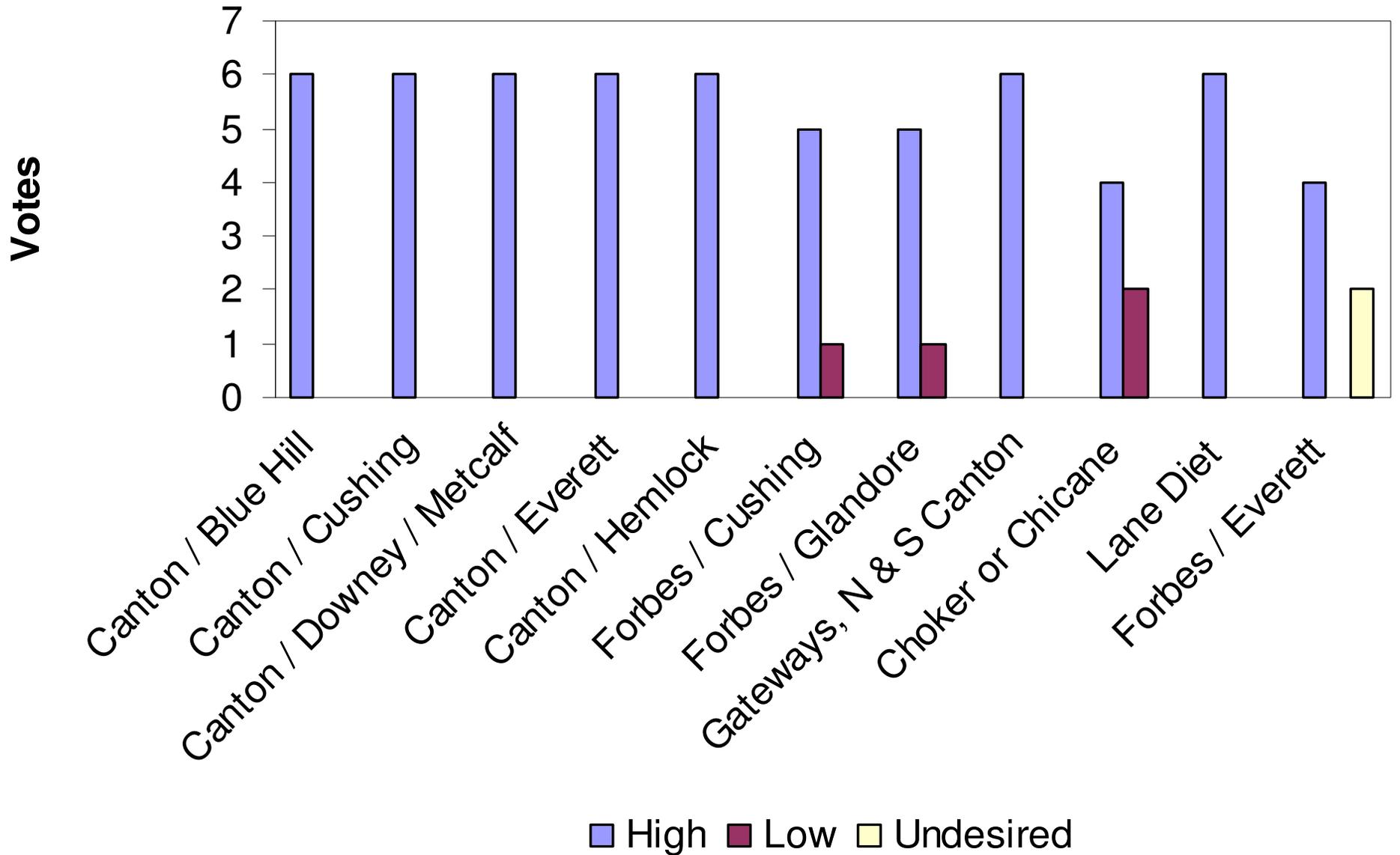
2. Recap

**3. Updated Homework Charts**

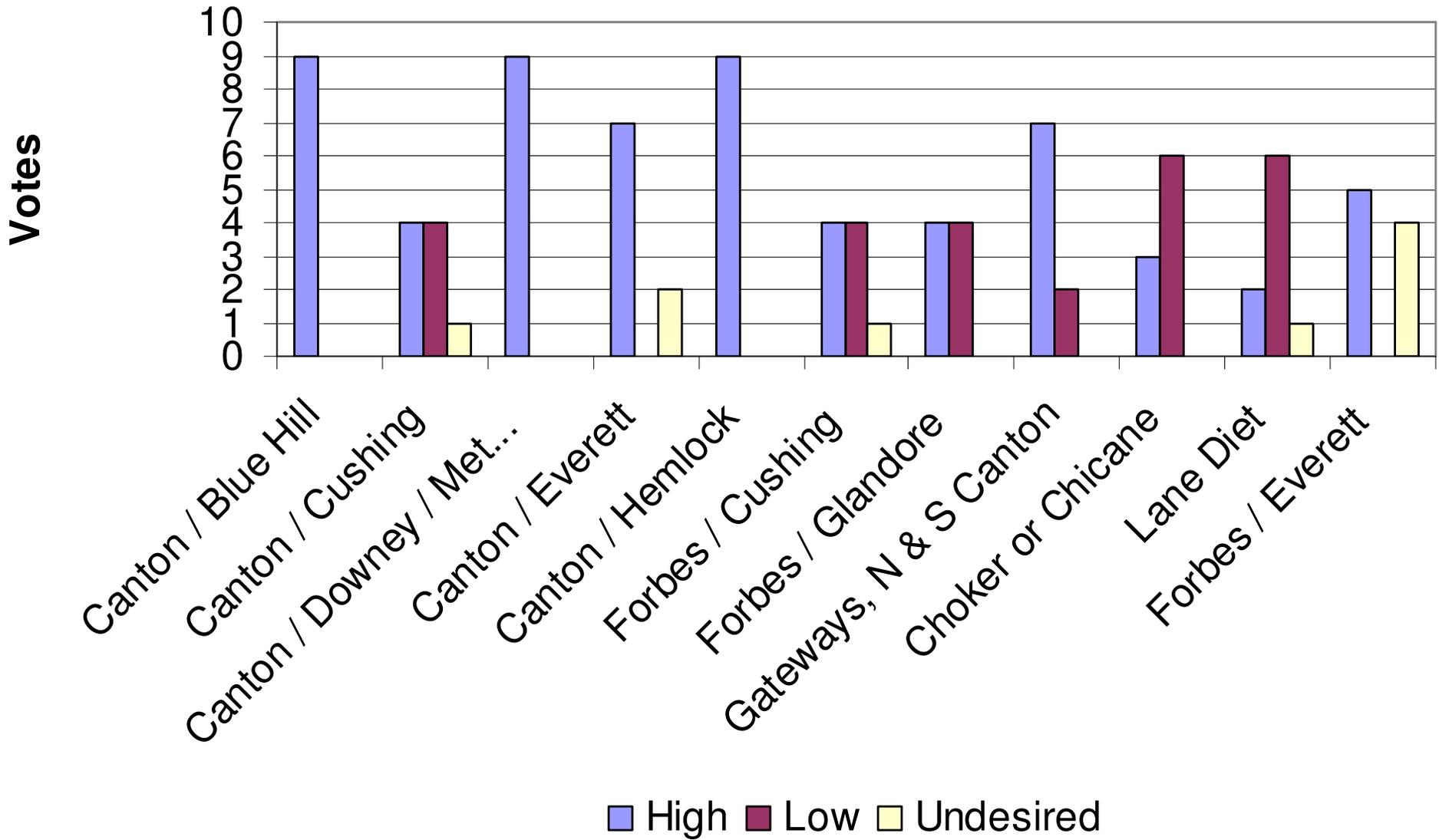
# Overall Votes, by Numbers



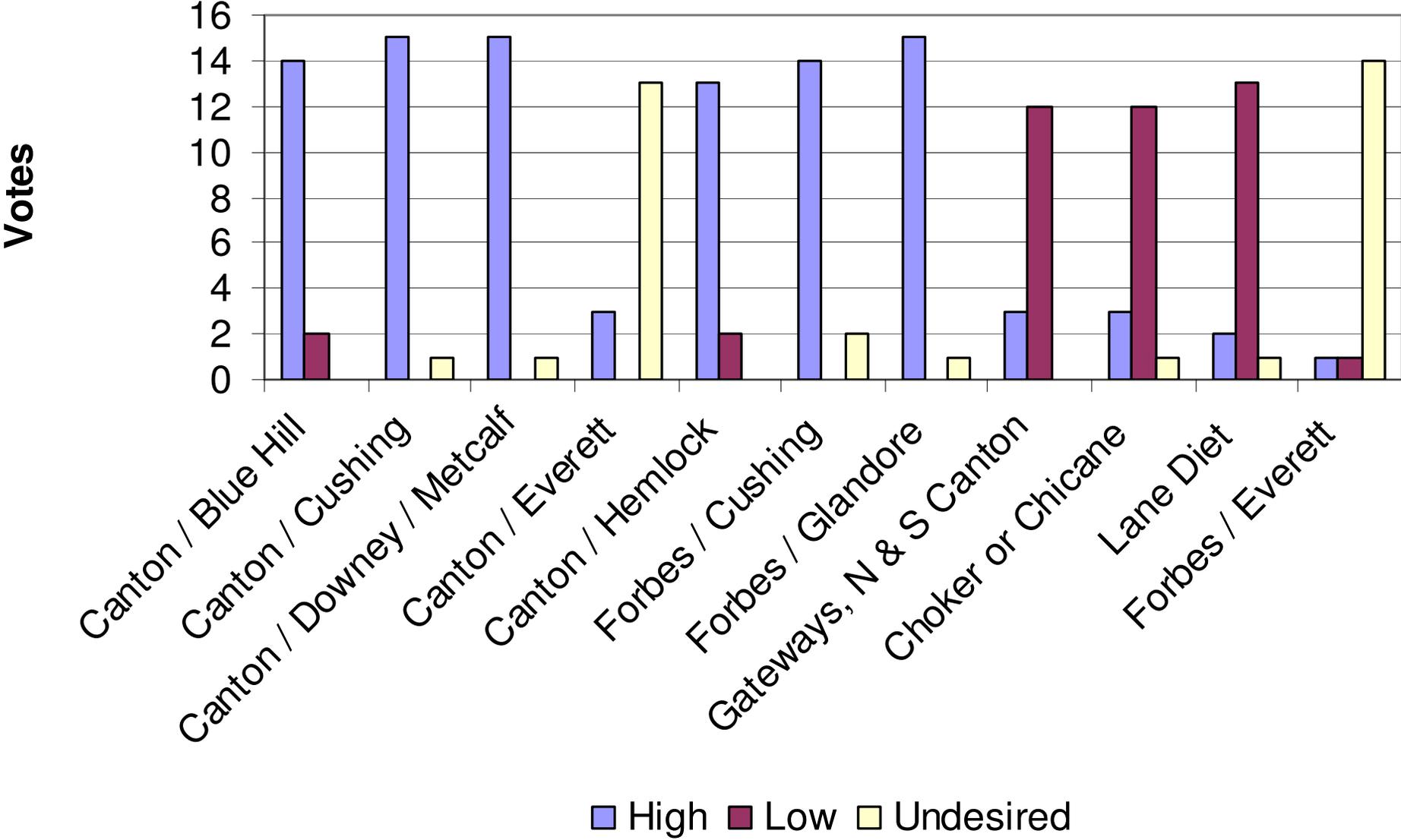
# Canton Street Votes



# Everett Street Votes



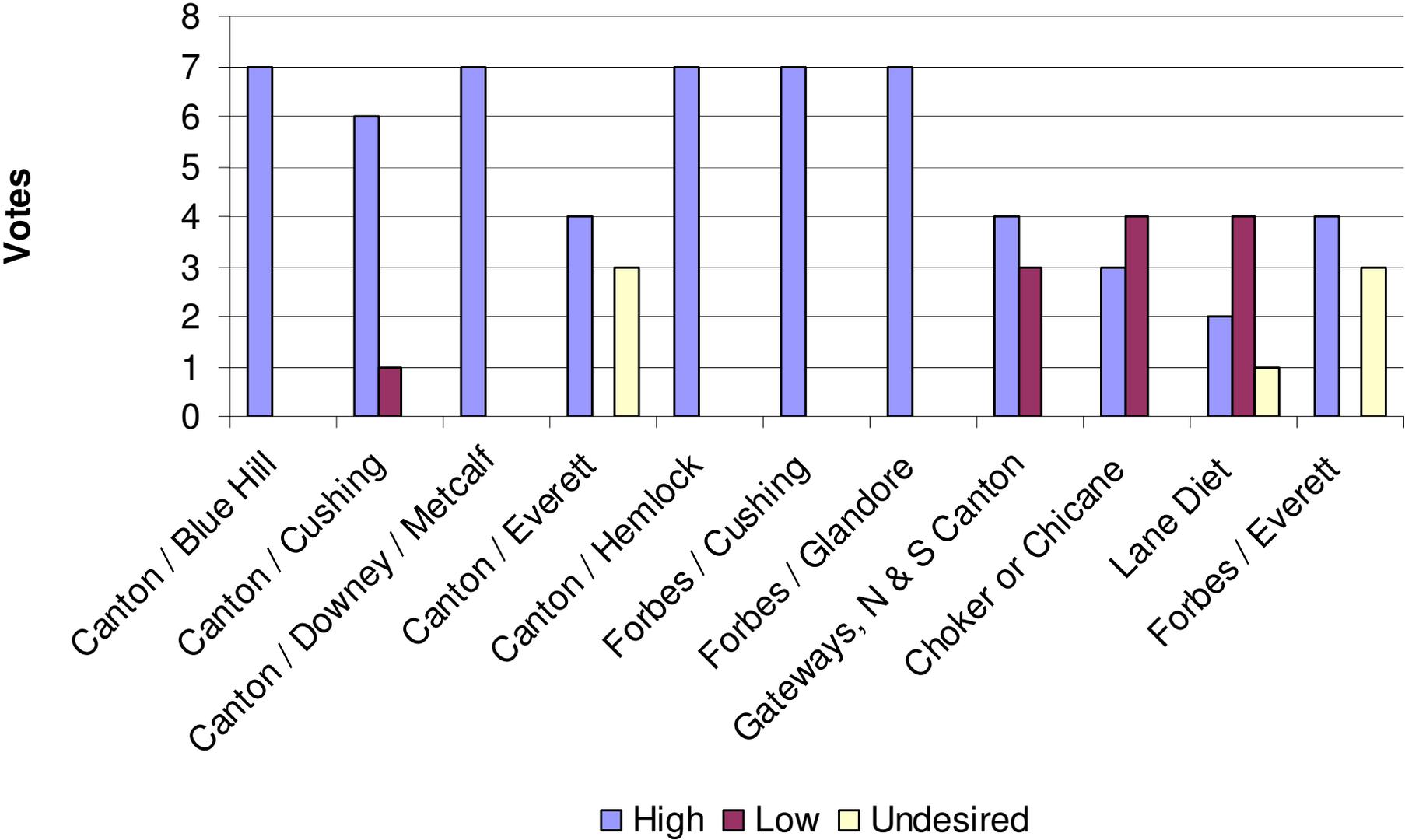
# Forbes Street Votes



■ High ■ Low ■ Undesired



# Other Streets Votes





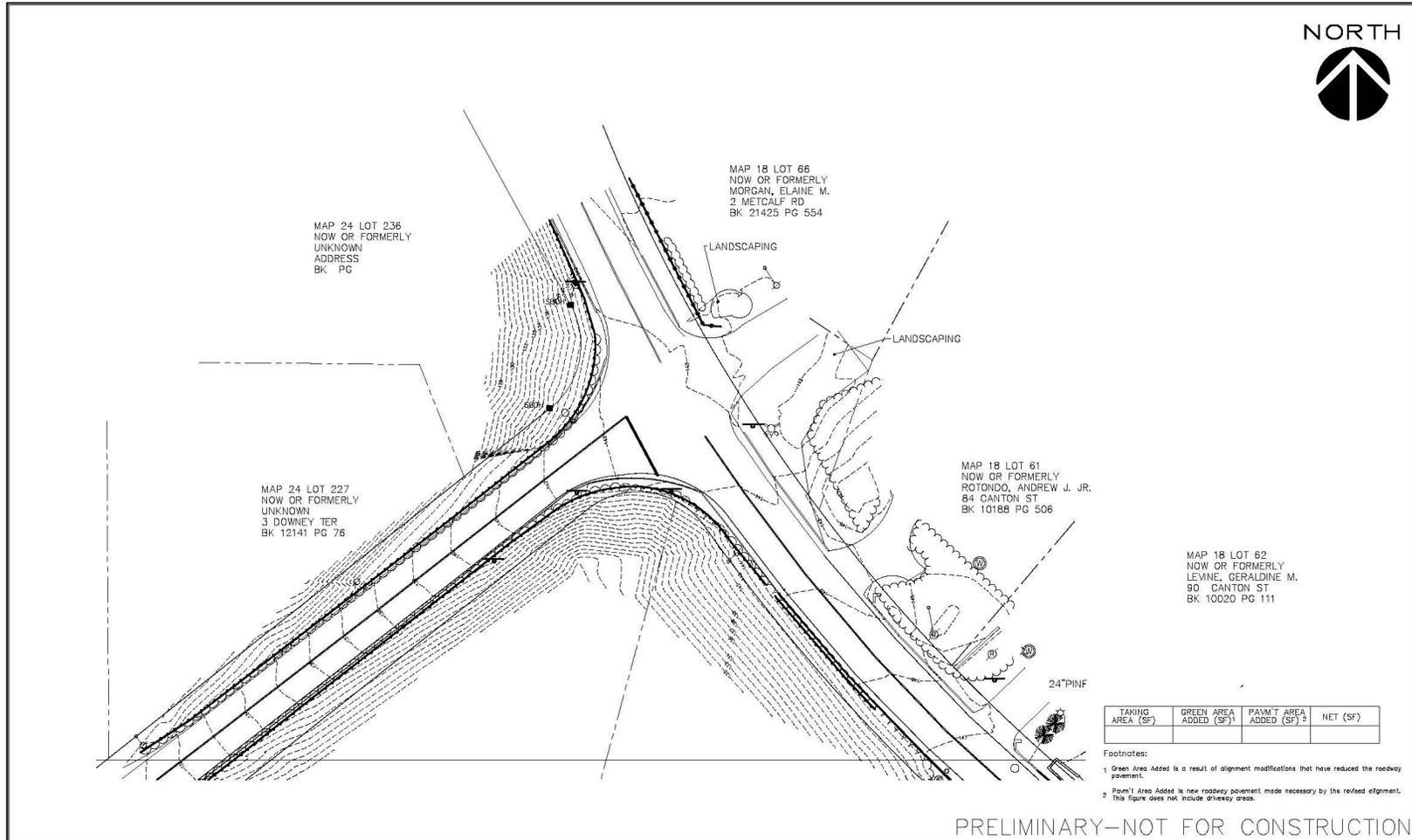
# Agenda

1. Introductions

2. Recap

3. Updated Homework Charts

4. Intersection Designs



TAKING AREA (SF)	GREEN AREA ADDED (SF) <sup>1</sup>	PAVMT AREA ADDED (SF) <sup>2</sup>	NET (SF)

Footnotes:  
 1 Green Area Added is a result of alignment modifications that have reduced the roadway pavement.  
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PRELIMINARY - NOT FOR CONSTRUCTION

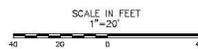


Town of Westwood, MA  
 Department of Public Works  
 50 Carby Street, Westwood, MA 02090  
 CANTON, EVRETT, FORBES  
 NEIGHBORHOOD TRAFFIC CALMING



Hartford Square West Suite 2-303  
 75 Charter Oak Avenue  
 Hartford, Connecticut, 06106  
 Tel. (860) 246-7200 Fax (860) 246-7211

Drawing No. Job No. 8057-00 Date: September 2008

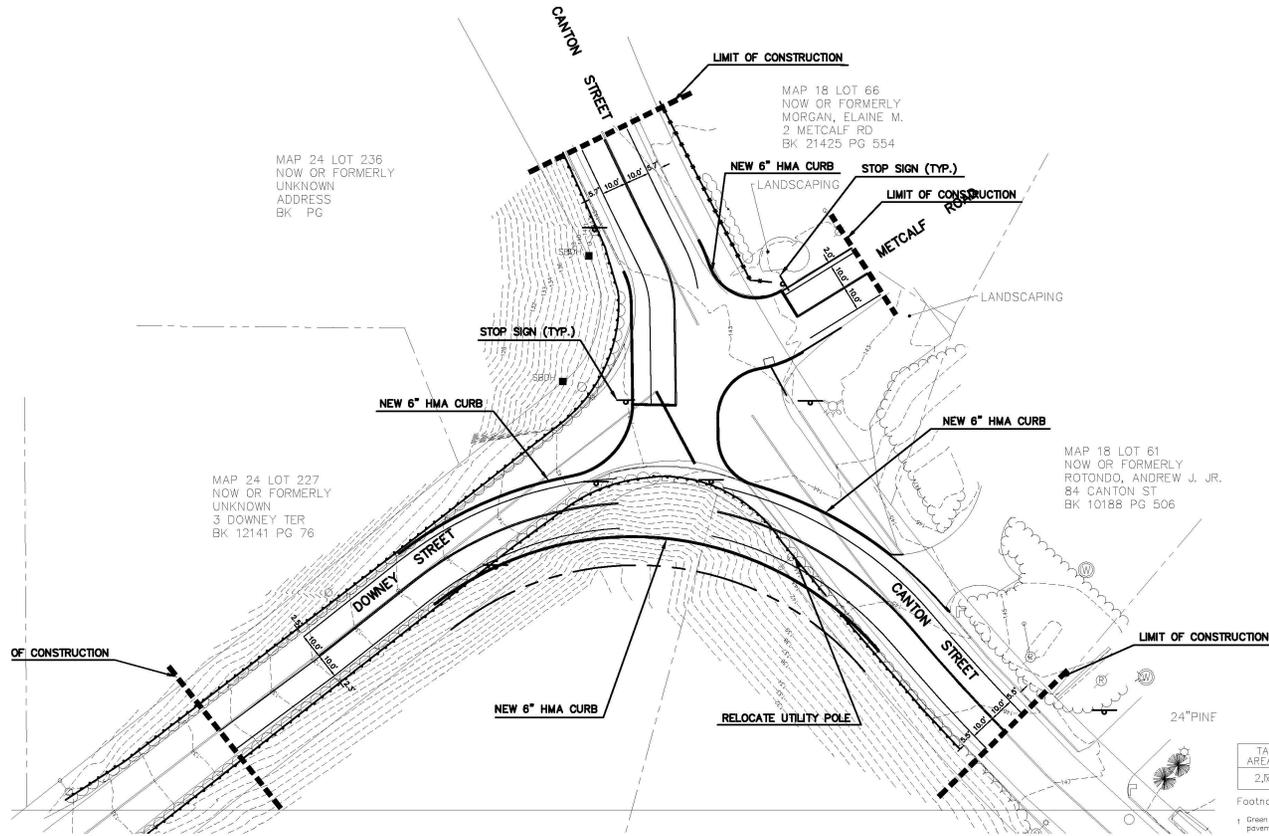


Sign-Off	By
Drawn	
Checked	
Submitted	
Recommended	
Approved	
Recorded	

CANTON STREET, DOWNEY STREET AND  
 METCALF ROAD  
 INTERSECTION REALIGNMENT

Revisions	By	Sheet No.

File No.



TAKING AREA (SF)	GREEN AREA ADDED (SF) <sup>1</sup>	PAV'T AREA ADDED (SF) <sup>2</sup>	NET (SF)
2,878.9	3,458.3	3,006.3	4,437.6

Footnotes:  
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**PRELIMINARY-NOT FOR CONSTRUCTION**



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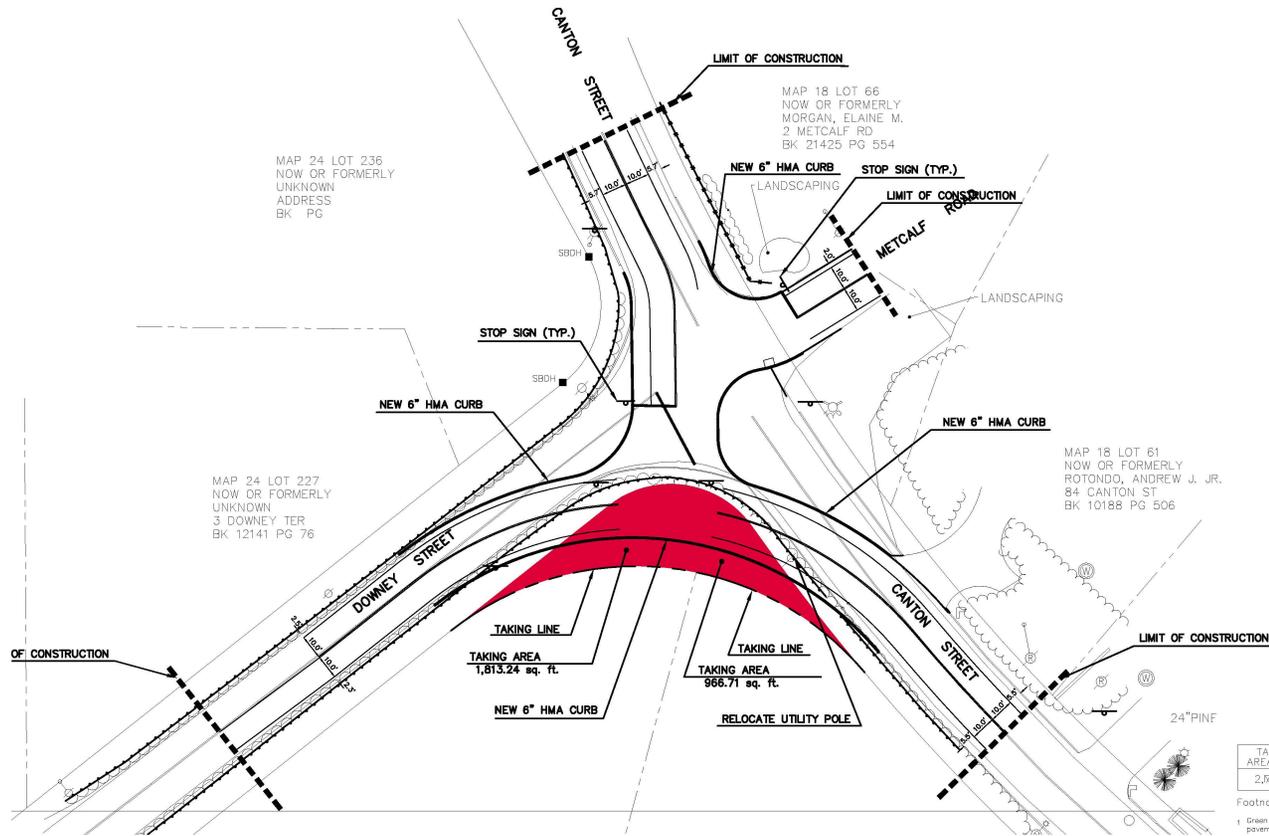
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CANTON STREET, DOWNEY STREET, AND  
 METCALF ROAD  
 INTERSECTION REALIGNMENT

Revisions	By

Sheet No.
File No.

Drawing No. Job No. 8057-00 Date: September 2008



MAP 18 LOT 62  
NOW OR FORMERLY  
LEVINE, GERALDINE M.  
90 CANTON ST  
BK 10020 PG 111

TAKING AREA (SF)	GREEN AREA ADDED (SF) <sup>1</sup>	PAV'T AREA ADDED (SF) <sup>2</sup>	NET (SF)
2,079.9	3,498.3	3,006.3	4,637.6

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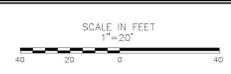
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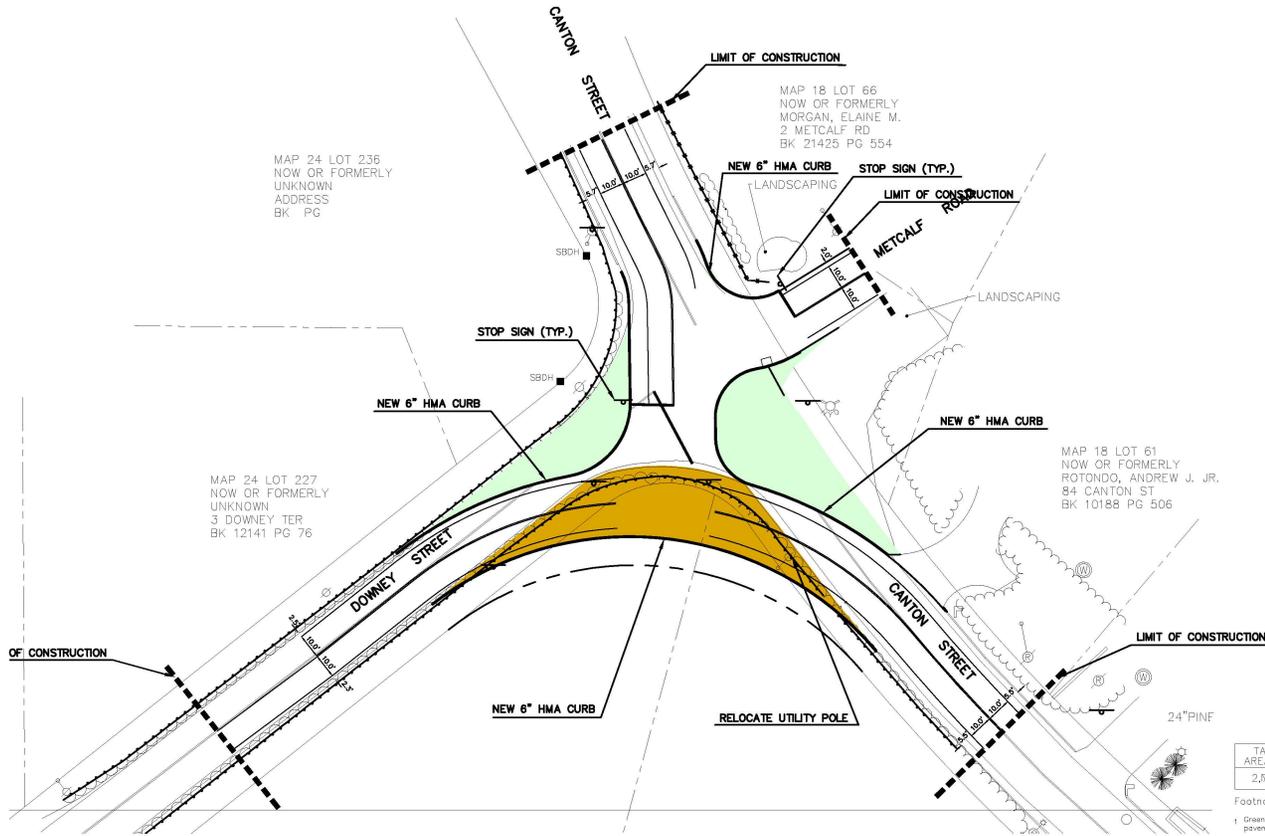
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CANTON STREET, DOWNEY STREET, AND  
METCALF ROAD  
INTERSECTION REALIGNMENT

Revisions	By

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Drawing No.      Job No. 8057-00      Date: September 2008



TAKING AREA (SF)	GREEN AREA ADDED (SF) <sup>1</sup>	PAV'T AREA ADDED (SF) <sup>2</sup>	NET (SF)
2,178.9	3,148.3	3,006.3	4,037.6

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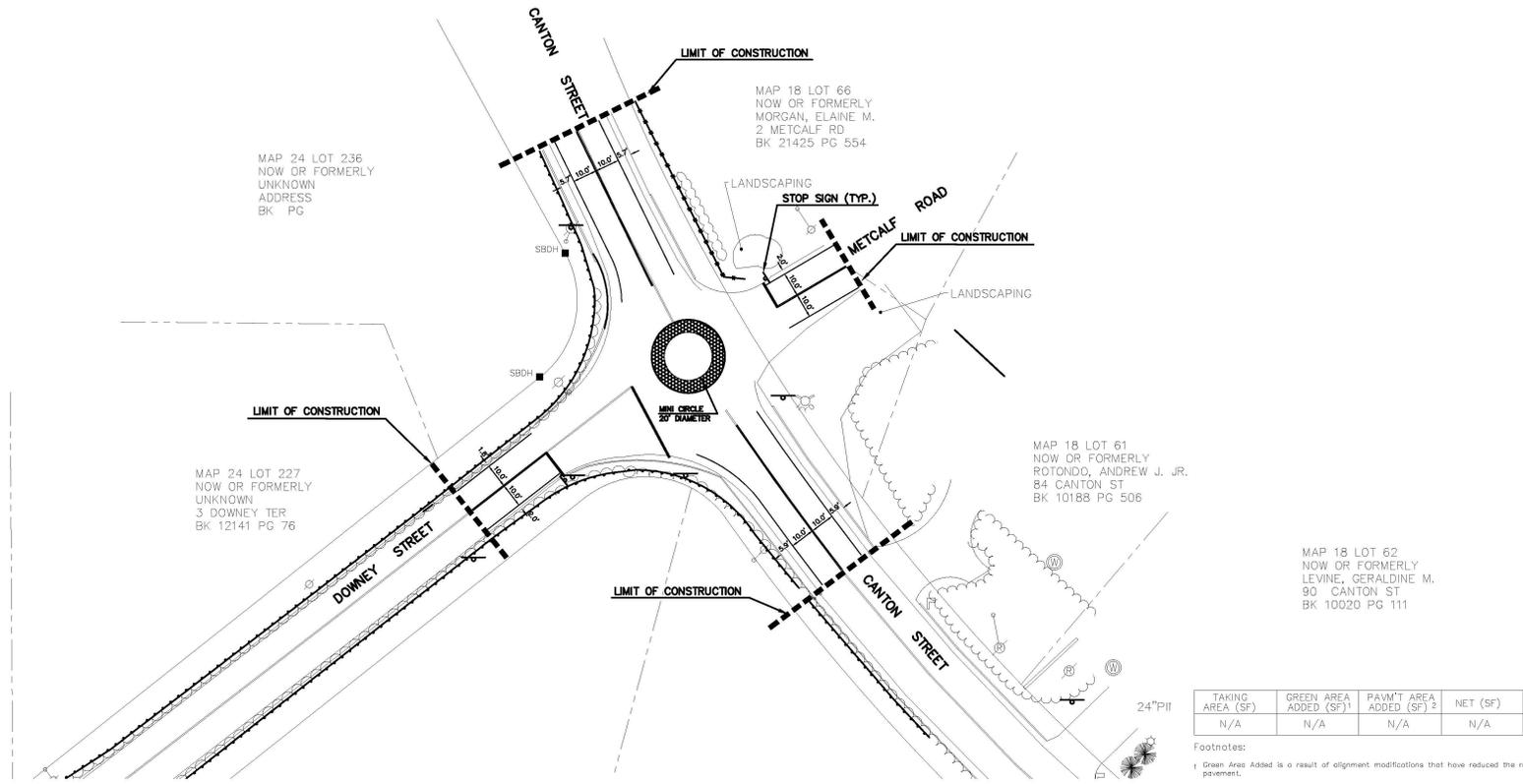
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CANTON STREET, DOWNEY STREET, AND  
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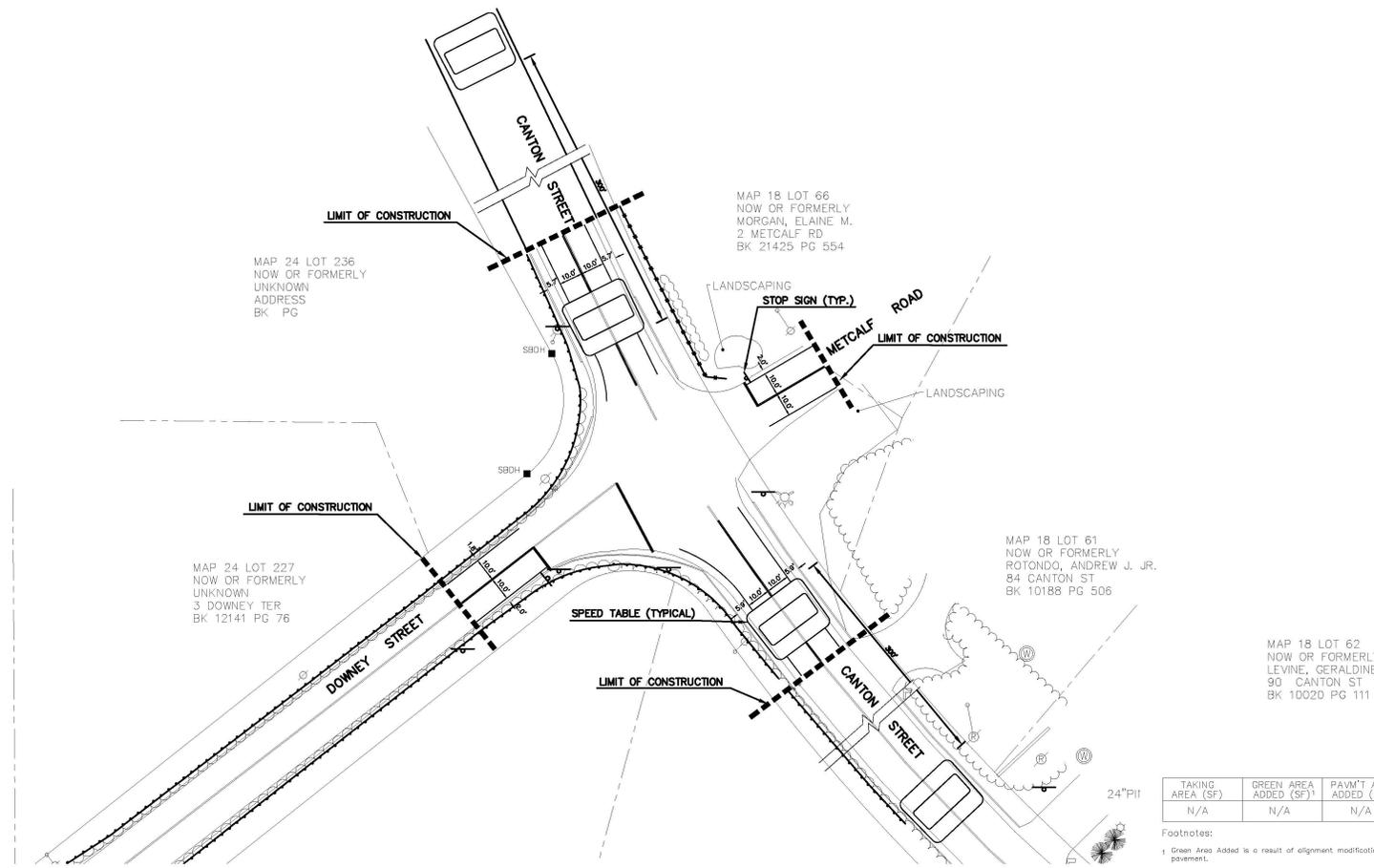


TAKING AREA (SF)	GREEN AREA ADDED (SF) <sup>1</sup>	PAV'T AREA ADDED (SF) <sup>2</sup>	NET (SF)
N/A	N/A	N/A	N/A

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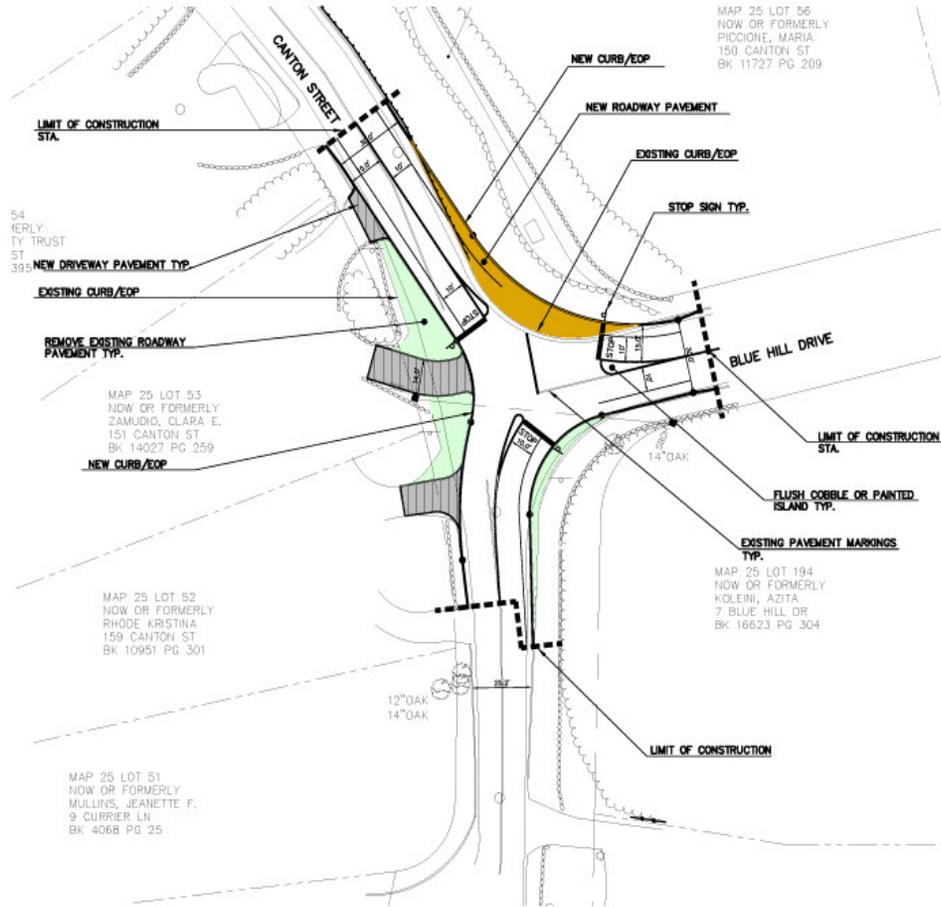


TAKING AREA (SF)	GREEN AREA ADDED (SF) <sup>1</sup>	PAV'T AREA ADDED (SF) <sup>2</sup>	NET (SF)
N/A	N/A	N/A	N/A

Footnotes:  
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	<b>Town of Westwood, MA</b> Department of Public Works 50 Carby Street, Westwood, MA 02090 <b>CANTON, EVERETT, FORBES</b> NEIGHBORHOOD TRAFFIC CALMING		Hartford Square West Suite 2-303 75 Charter Oak Avenue Hartford, Connecticut, 06106 Tel. (860)-246-7200 Fax (860) 246-7211	SCALE IN FEET 	<table border="1" style="font-size: small;"> <thead> <tr> <th>Sign-Offs</th> <th>By</th> </tr> </thead> <tbody> <tr><td>Drawn</td><td></td></tr> <tr><td>Checked</td><td></td></tr> <tr><td>Submitted</td><td></td></tr> <tr><td>Recommended</td><td></td></tr> <tr><td>Approved</td><td></td></tr> <tr><td>Recorded</td><td></td></tr> </tbody> </table>	Sign-Offs	By	Drawn		Checked		Submitted		Recommended		Approved		Recorded		CANTON STREET, DOWNEY STREET, AND METCALF ROAD INTERSECTION REALIGNMENT	<table border="1" style="font-size: small;"> <thead> <tr> <th>Revisions</th> <th>By</th> </tr> </thead> <tbody> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> </tbody> </table>	Revisions	By							<table border="1" style="font-size: small;"> <tr><td>Sheet No.</td></tr> <tr><td> </td></tr> <tr><td>File No.</td></tr> <tr><td> </td></tr> </table>	Sheet No.		File No.	
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TAKING AREA (SF)	GREEN AREA ADDED (SF) <sup>1</sup>	PAV'T AREA ADDED (SF) <sup>2</sup>	NET (SF)
N/A	1421	917	504

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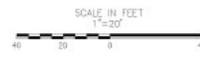


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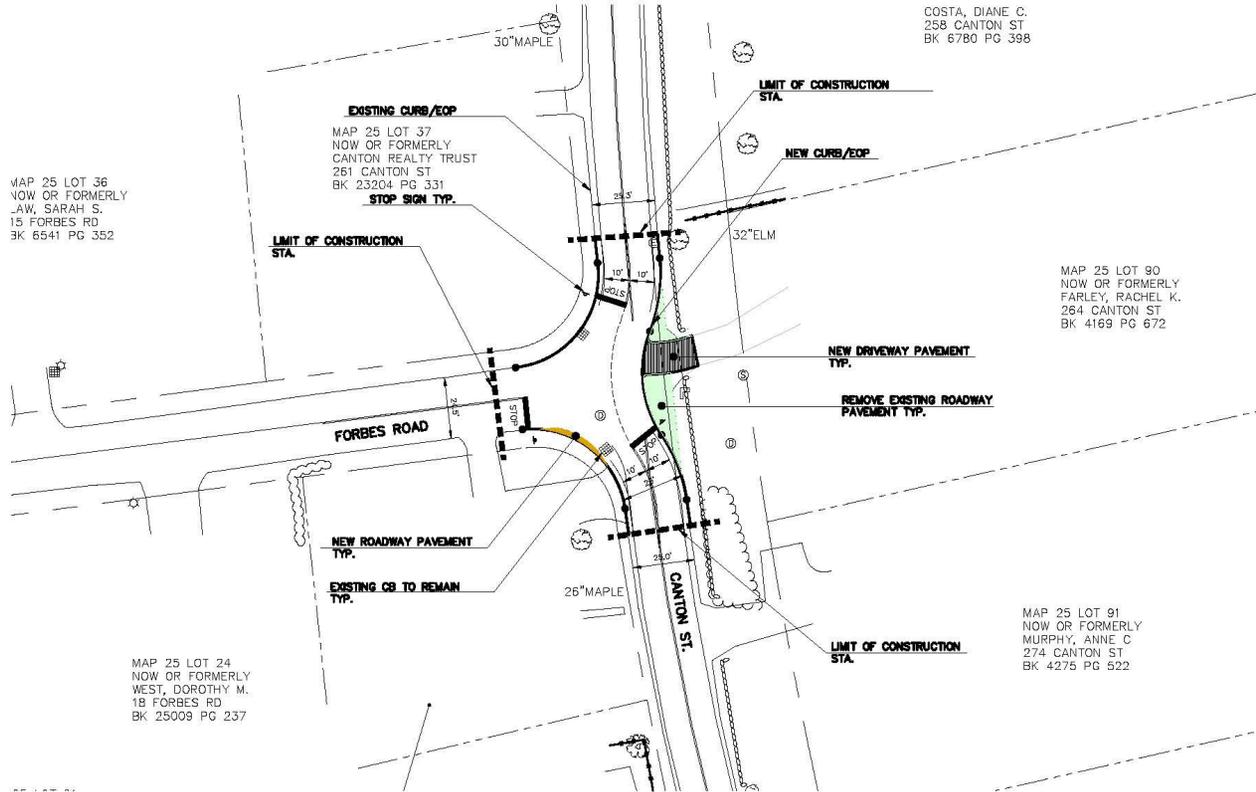
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CANTON STREET AND BLUE HILL DRIVE  
 INTERSECTION REALIGNMENT  
 CONSTRUCTION PLAN

Revisions	By	Sheet No.
		File No.



NORTH



MAP 25 LOT 36  
NOW OR FORMERLY  
JAW, SARAH S.  
15 FORBES RD  
BK 6541 PG 352

**EXISTING CURB/EOP**  
MAP 25 LOT 37  
NOW OR FORMERLY  
CANTON REALTY TRUST  
261 CANTON ST  
BK 23204 PG 331  
**STOP SIGN TYP.**

**LIMIT OF CONSTRUCTION STA.**

COSTA, DIANE C.  
258 CANTON ST  
BK 6780 PG 398

**LIMIT OF CONSTRUCTION STA.**

**NEW CURB/EOP**

MAP 25 LOT 90  
NOW OR FORMERLY  
FARLEY, RACHEL K.  
264 CANTON ST  
BK 4169 PG 672

**NEW DRIVEWAY PAVEMENT TYP.**

**REMOVE EXISTING ROADWAY PAVEMENT TYP.**

**FORBES ROAD**

**NEW ROADWAY PAVEMENT TYP.**

**EXISTING CB TO REMAIN TYP.**

26"MAPLE

CANTON ST.

**LIMIT OF CONSTRUCTION STA.**

MAP 25 LOT 24  
NOW OR FORMERLY  
WEST, DOROTHY M.  
18 FORBES RD  
BK 25009 PG 237

MAP 25 LOT 91  
NOW OR FORMERLY  
MURPHY, ANNE C  
274 CANTON ST  
BK 4275 PG 522

TAKING AREA (SF)	GREEN AREA ADDED (SF) <sup>1</sup>	PAVMT AREA ADDED (SF) <sup>2</sup>	NET (SF)
N/A	383	41	342

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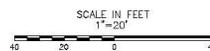


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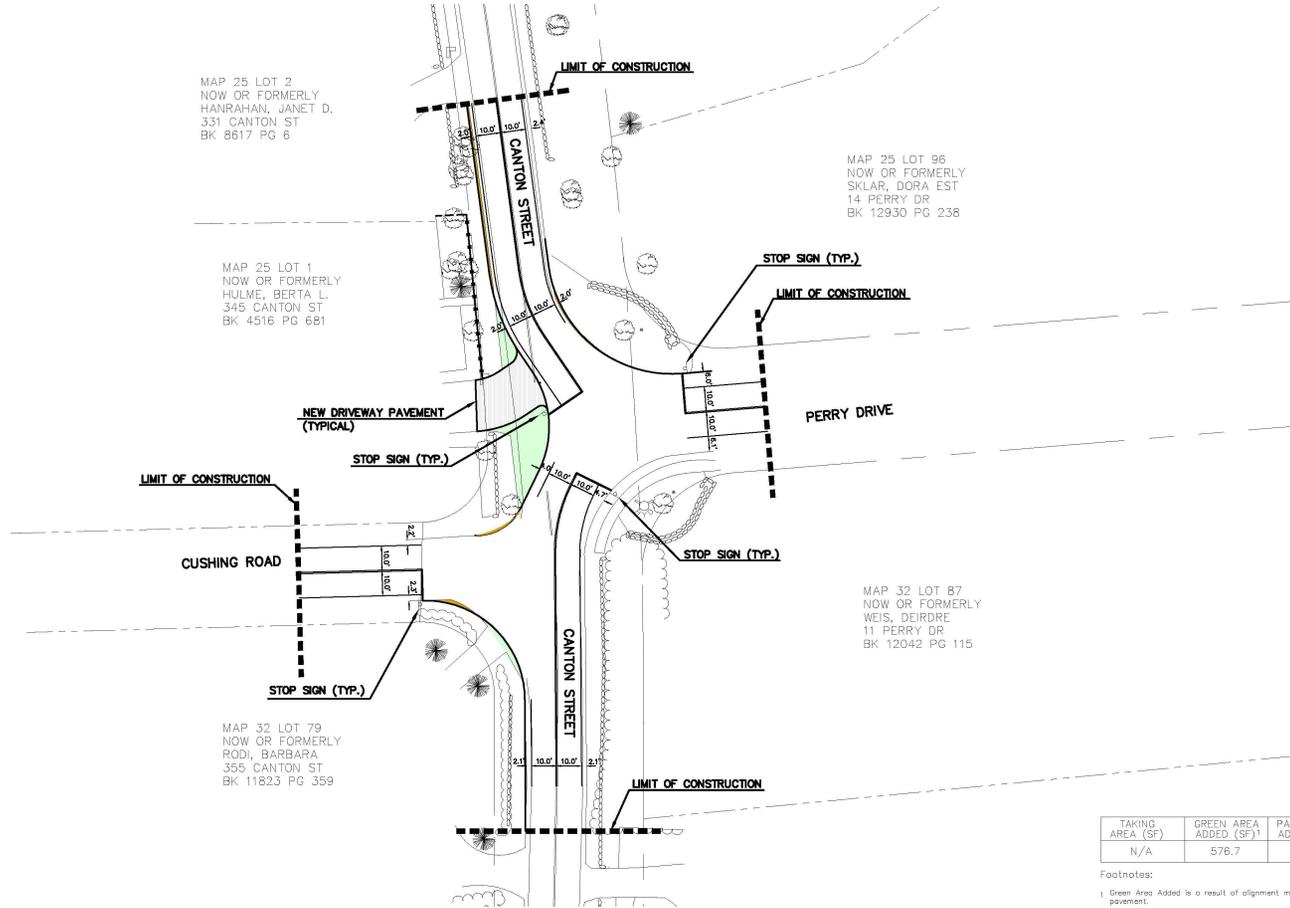
Drawing No. Job No. 8057-00 Date: September 2008



Sign-Offs	By
Drawn	
Checked	
Submittal	
Recommended	
Approved	
Recorded	

CANTON STREET AND FORBES ROAD  
INTERSECTION REALIGNMENT  
CONSTRUCTION PLAN

Revisions	By	Sheet No.
		File No.



TAKING AREA (SF)	GREEN AREA ADDED (SF) <sup>1</sup>	PAVMT AREA ADDED (SF) <sup>2</sup>	NET (SF)
N/A	576.7	129.1	447.6

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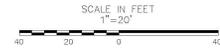


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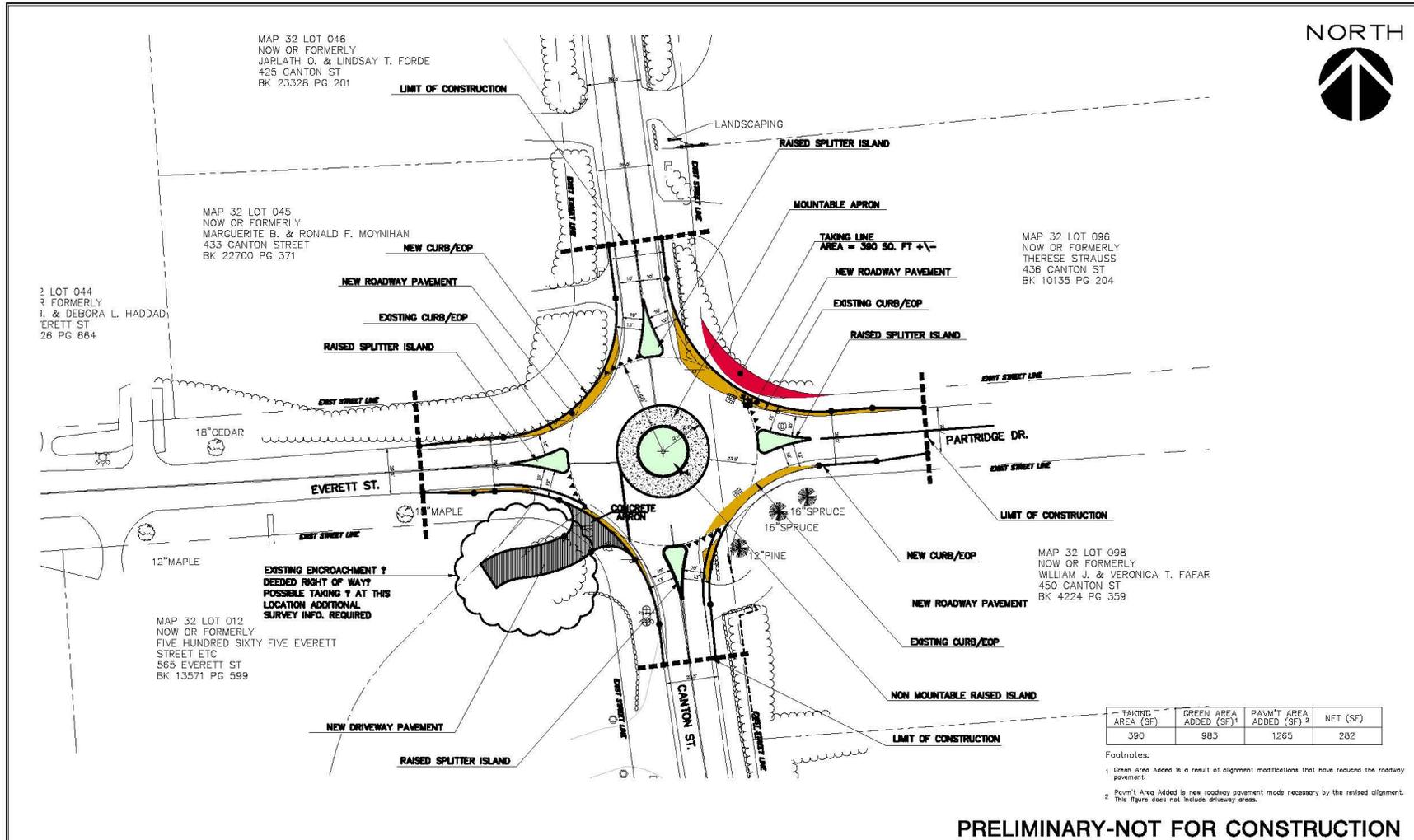


Sign-Offs	By
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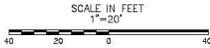
CANTON STREET, CUSHING ROAD, AND  
 PERRY DRIVE  
 INTERSECTION REALIGNMENT

Revisions	By

Sheet No.  
 File No.



**PRELIMINARY-NOT FOR CONSTRUCTION**

	<p><b>Town of Westwood, MA</b>          Department of Public Works          50 Carby Street, Westwood, MA 02090</p> <p><b>CANTON, EVERETT, FORBES</b>          NEIGHBORHOOD TRAFFIC CALMING</p>	<p><b>URBAN ENGINEERS</b>  <i>Formulating Excellence</i></p> <p>Hartford Square West Suite 2-303          75 Charter Oak Avenue          Hartford, Connecticut, 06106          Tel. (860) 246-7200 Fax (860) 246-7211</p>	<p>SCALE IN FEET          1" = 20'</p> 	<table border="1" style="font-size: 8px;"> <tr><th>Sign-Off</th><th>By</th></tr> <tr><td>Drawn</td><td></td></tr> <tr><td>Checked</td><td></td></tr> <tr><td>Submitted</td><td></td></tr> <tr><td>Recommended</td><td></td></tr> <tr><td>Approved</td><td></td></tr> <tr><td>Recorded</td><td></td></tr> </table>	Sign-Off	By	Drawn		Checked		Submitted		Recommended		Approved		Recorded		<p><b>CANTON STREET AT EVERETT STREET</b>          ROUNDABOUT          CONSTRUCTION PLAN</p>	<table border="1" style="font-size: 8px;"> <tr><th>Revisions</th><th>By</th><th>Sheet No.</th></tr> <tr><td> </td><td> </td><td> </td></tr> </table>	Revisions	By	Sheet No.																														
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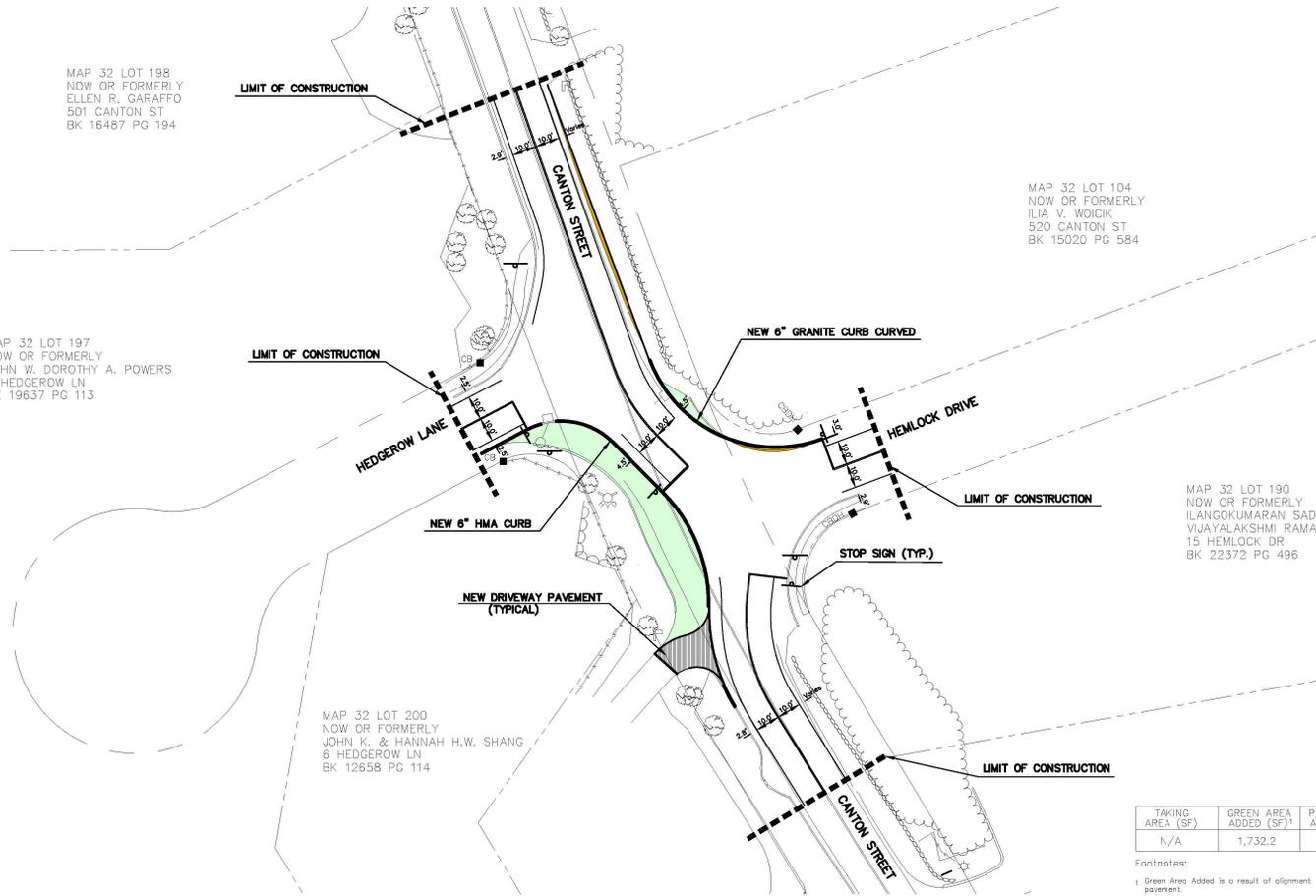
MAP 32 LOT 198  
NOW OR FORMERLY  
ELLEN R. GARAFFO  
501 CANTON ST  
BK 16487 PG 194

MAP 32 LOT 197  
NOW OR FORMERLY  
JOHN W. DOROTHY A. POWERS  
9 HEDGEROW LN  
BK 19637 PG 113

MAP 32 LOT 200  
NOW OR FORMERLY  
JOHN K. & HANNAH H.W. SHANG  
6 HEDGEROW LN  
BK 12658 PG 114

MAP 32 LOT 104  
NOW OR FORMERLY  
ILJA V. WOICK  
520 CANTON ST  
BK 15020 PG 584

MAP 32 LOT 190  
NOW OR FORMERLY  
LANGOKUMARAN SADA  
VIJAYALAKSHMI RAMAS  
15 HEMLOCK DR  
BK 22372 PG 496



TAKING AREA (SF)	GREEN AREA ADDED (SF) <sup>1</sup>	PAV <sup>2</sup> T AREA ADDED (SF) <sup>2</sup>	NET (SF)
N/A	1,732.2	146.4	1,585.8

Footnotes:

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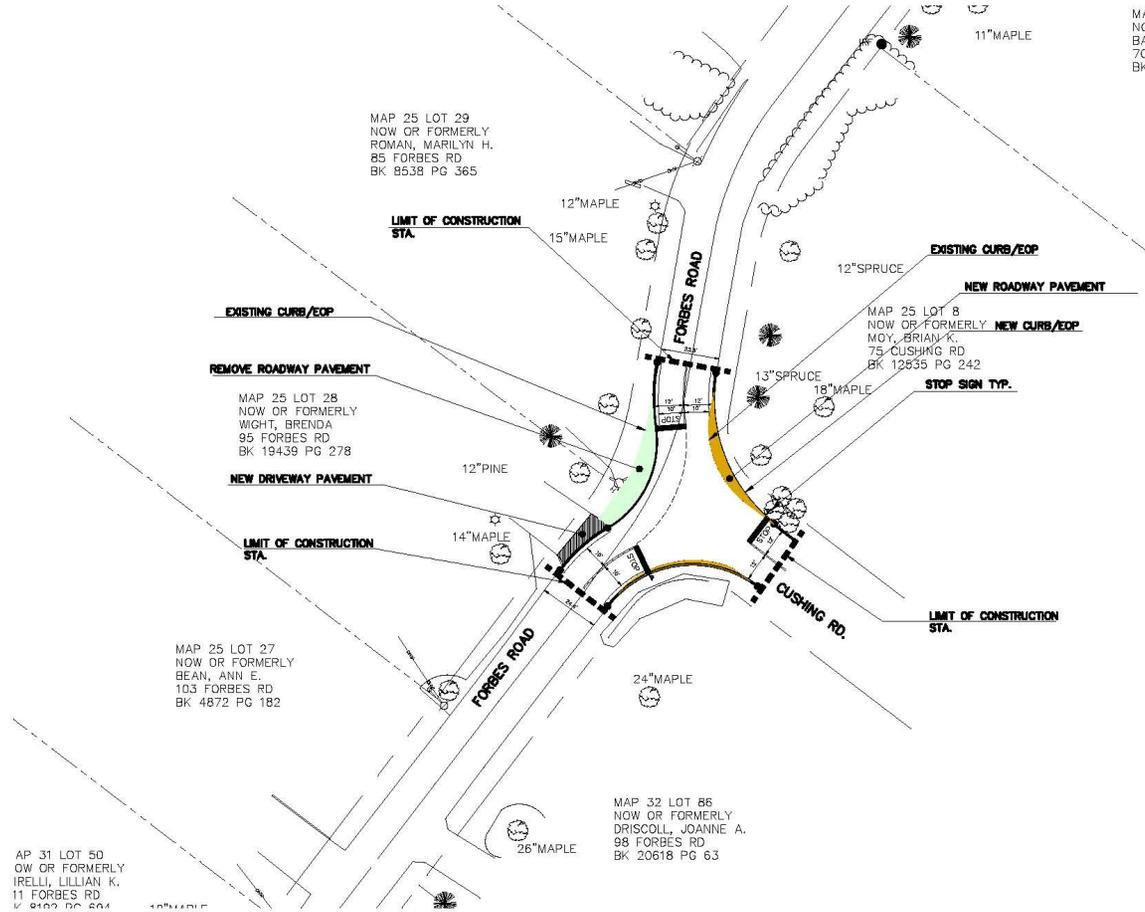
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CANTON STREET, HEMLOCK DRIVE AND  
HEDGEROW LANE  
INTERSECTION REALIGNMENT

Revisions	By

Sheet No.
File No.

Drawing No. Job No. 8057-00 Date: September 2008



TAKING AREA (SF)	GREEN AREA ADDED (SF) <sup>1</sup>	PAVMT AREA ADDED (SF) <sup>2</sup>	NET (SF)
N/A	311	221	90

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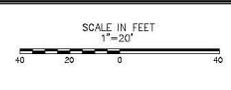
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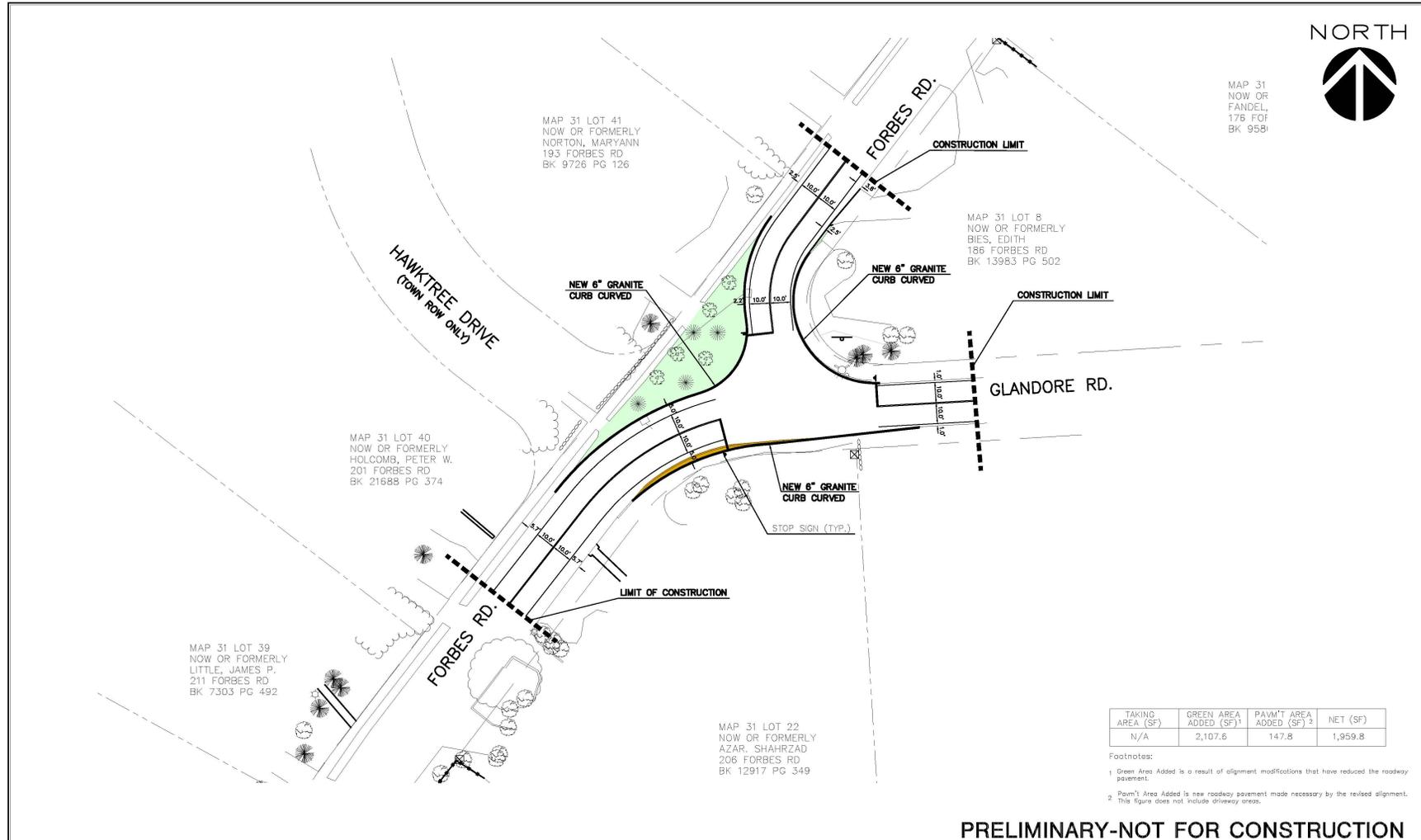
Sign-Off	By
Drawn	
Checked	
Submitted	
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Approved	
Recorded	

**FORBES ROAD AND CUSHING ROAD  
 INTERSECTION REALIGNMENT  
 CONSTRUCTION PLAN**

Revisions	By

Sheet No.  
 File No.

Drawing No. Job No. 8057-00 Date: September 2008



MAP 31  
NOW OR  
FANDEL,  
176 FOF  
BK 95B

MAP 31 LOT 41  
NOW OR FORMERLY  
NORTON, MARYANN  
193 FORBES RD  
BK 9726 PG 126

MAP 31 LOT 8  
NOW OR FORMERLY  
BIES, EDITH  
186 FORBES RD  
BK 13983 PG 502

MAP 31 LOT 40  
NOW OR FORMERLY  
HOLCOMB, PETER W.  
201 FORBES RD  
BK 21688 PG 374

MAP 31 LOT 39  
NOW OR FORMERLY  
LITTLE, JAMES P.  
211 FORBES RD  
BK 7303 PG 492

MAP 31 LOT 22  
NOW OR FORMERLY  
AZAR, SHAHRZAD  
208 FORBES RD  
BK 12917 PG 349

TAKING AREA (SF)	GREEN AREA ADDED (SF) <sup>1</sup>	PAVMT AREA ADDED (SF) <sup>2</sup>	NET (SF)
N/A	2,107.6	147.8	1,959.8

Footnotes:  
<sup>1</sup> Green Area Added is a result of alignment modifications that have reduced the roadway pavement.  
<sup>2</sup> Pavmt Area Added is new roadway pavement made necessary by the revised alignment. This figure does not include driveway areas.

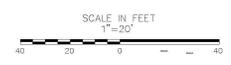
**PRELIMINARY-NOT FOR CONSTRUCTION**



Town of Westwood, MA  
 Department of Public Works  
 50 Carby Street, Westwood, MA 02090  
 CANTON, EVERETT, FORBES  
 NEIGHBORHOOD TRAFFIC CALMING



Hartford Square West Suite 2-303  
 75 Charter Oak Avenue  
 Hartford, Connecticut, 06106  
 Tel. (860)-246-7200 Fax (860) 246-7211



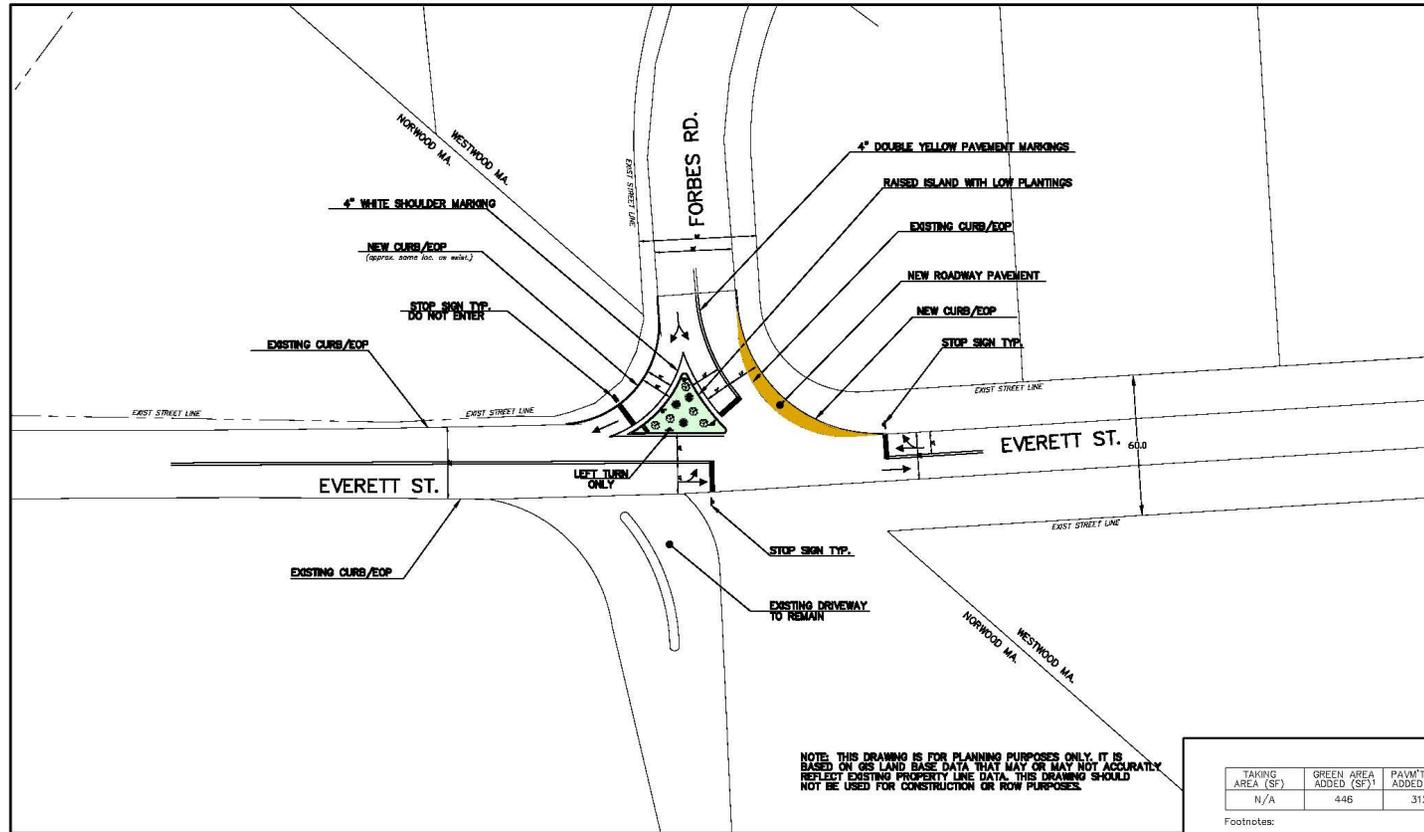
Sign-Offs	By
Drawn	
Checked	
Submitted	
Recommended	
Approved	
Recorded	

FORBES ROAD AND GLANDORE ROAD  
 INTERSECTION REALIGNMENT

Revisions	By

Sheet No.
File No.

Drawing No. Job No. 8057-00 Date: September 2008



NOTE: THIS DRAWING IS FOR PLANNING PURPOSES ONLY. IT IS BASED ON GIS LAND BASE DATA THAT MAY OR MAY NOT ACCURATELY REFLECT EXISTING PROPERTY LINE DATA. THIS DRAWING SHOULD NOT BE USED FOR CONSTRUCTION OR ROW PURPOSES.

TAKING AREA (SF)	GREEN AREA ADDED (SF) <sup>1</sup>	PAVMT AREA ADDED (SF) <sup>2</sup>	NET (SF)
N/A	446	312	134

Footnotes:

- Green Area Added is a result of alignment modifications that have reduced the roadway pavement.
- Pavmt Area Added is new roadway pavement made necessary by the revised alignment. This figure does not include driveway areas.

**PRELIMINARY-NOT FOR CONSTRUCTION**

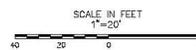


Town of Westwood, MA  
 Department of Public Works  
 50 Carby Street, Westwood, MA 02090  
 CANTON, EVERETT, FORBES  
 NEIGHBORHOOD TRAFFIC CALMING



Hartford Square West Suite 2-303  
 75 Charter Oak Avenue  
 Hartford, Connecticut, 06106  
 Tel. (860) 246 7200 Fax (860) 246 7211

Drawing No. Job No. 8057-00 Date: September 2008

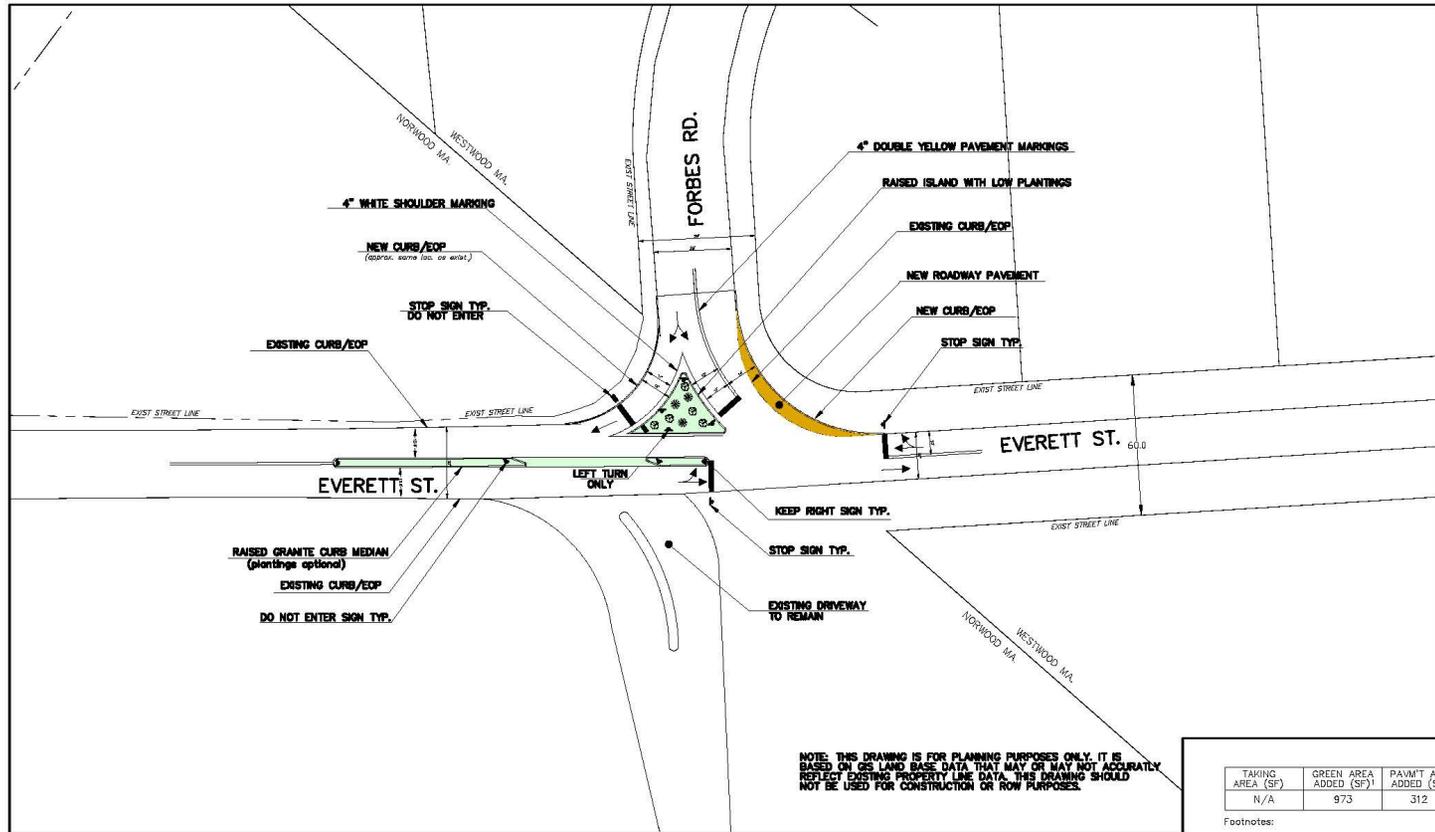


Sign Off	By
Drawn	
Checked	
Substituted	
Approved	
Recorded	

FORBES ROAD AT EVERETT STREET  
 INTERSECTION DIVERTER  
 CONSTRUCTION PLAN

Revisions	By

Sheet No.  
 File No.



NOTE: THIS DRAWING IS FOR PLANNING PURPOSES ONLY. IT IS BASED ON GIS LAND BASE DATA THAT MAY OR MAY NOT ACCURATELY REFLECT EXISTING PROPERTY LINE DATA. THIS DRAWING SHOULD NOT BE USED FOR CONSTRUCTION OR ROW PURPOSES.

TAKING AREA (SF)	GREEN AREA ADDED (SF) <sup>1</sup>	PAVMT AREA ADDED (SF) <sup>2</sup>	NET (SF)
N/A	973	312	839

Footnotes:  
 1 Green Area Added is a result of alignment modifications that have reduced the roadway pavement.  
 2 Pavmt Area Added is new roadway pavement made necessary by the revised alignment. This figure does not include driveway areas.

PRELIMINARY—NOT FOR CONSTRUCTION

<p>Town of Westwood, MA          Department of Public Works          50 Carby Street, Westwood, MA 02090</p>	<p>Hartford Square West Suite 2-303          75 Charter Oak Avenue          Hartford, Connecticut, 06106          Tel. (860) 246-7200 Fax (860) 246-7211</p>	<p>SCALE IN FEET          1"=20'</p>	<table border="1"> <thead> <tr> <th>Sign-Off</th> <th>By</th> </tr> </thead> <tbody> <tr> <td>Drawn</td> <td></td> </tr> <tr> <td>Checked</td> <td></td> </tr> <tr> <td>Substantiated</td> <td></td> </tr> <tr> <td>Approved</td> <td></td> </tr> <tr> <td>Recorded</td> <td></td> </tr> </tbody> </table>	Sign-Off	By	Drawn		Checked		Substantiated		Approved		Recorded		<p>FORBES ROAD AT EVERETT STREET          INTERSECTION DIVERTER          CONSTRUCTION PLAN</p>	<table border="1"> <thead> <tr> <th>Revisions</th> <th>By</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> </tr> </tbody> </table>	Revisions	By							<p>Sheet No.</p> <p>File No.</p>
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Approved																										
Recorded																										
Revisions	By																									
<p>CANTON, EVERETT, FORBES          NEIGHBORHOOD TRAFFIC CALMING</p>	<p>Drawing No.</p>	<p>Job No. 8057-00</p>	<p>Date: September 2008</p>																							





# Agenda

1. Introductions

2. Recap

3. Updated Homework Charts

4. Intersection Designs

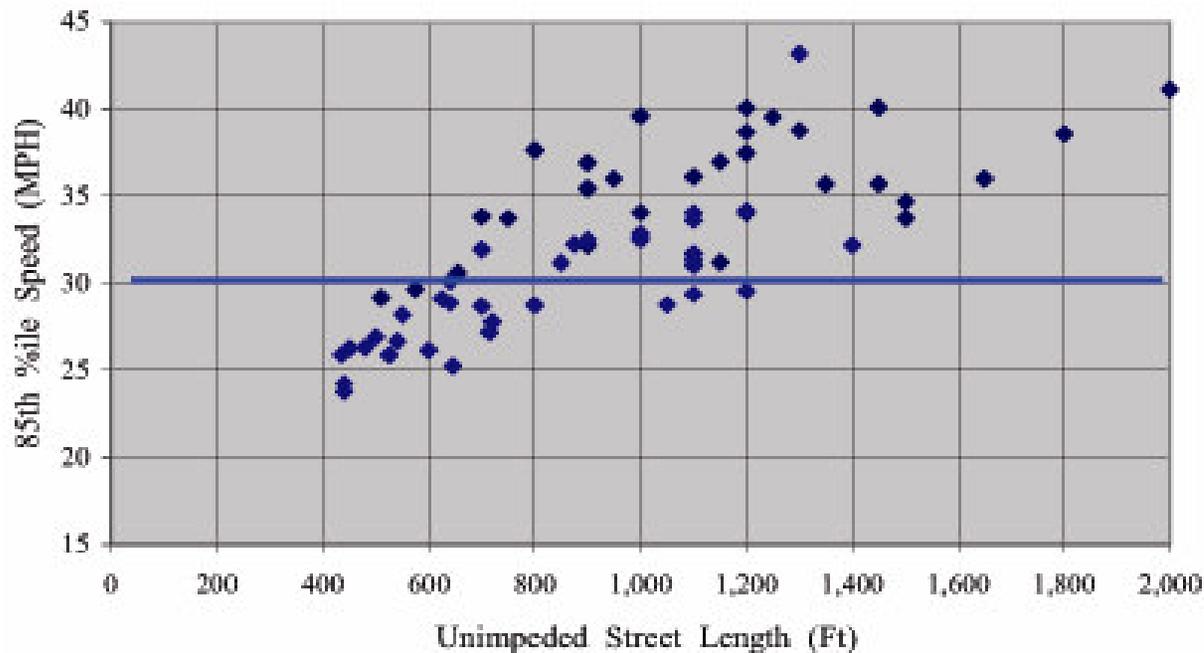
5. Traffic Calming



# Sanjar Slide #1

## REALIGNED INTERSECTIONS:

- Reduce Speeds
- interrupt long straight sections of road
- Canton, Everett, and Forbes currently have straightaways over 2000' long
- Proposed Intersection realignments are 1,000' apart with medians in between



From "Low Speed Design Criteria for Residential Streets", Ballard and Haldeman



# Sanjar's Slide #2

- REALIGNED INTERSECTIONS:



*Dublin, Ohio*



# Sanjar Slide #3

- **REALIGNED INTERSECTIONS:**



*Newton, MA*



# Sanjar Slide #4

## ■ MEDIAN ISLANDS:

- Provide horizontal deflection, narrow the roadway, and provide a sense of enclosure
- Average speed reduction = 3.3 mph\*
- Average volume reduction = 600 vehicles/day\*



## ■ ROUNDABOUTS:

- slow drivers as they approach and traverse an intersection, improve safety, and provide aesthetic benefit
- Average speed reduction = 5.7 mph\*
- Average volume reduction = 280 vehicles/day\*
- Typical crash reduction = 50% - 90%



\* "Survey of Neighborhood Traffic Management Performance and Results", McCourt, ITE 1998



# Sanjar Slide #5

## LANE DIETS:

- o reduce travel lane widths
- o drivers feel less comfortable traveling at high speeds
- o Approximate 10% reduction in traffic volumes\*\*



Operational Effects of Lane and Shoulder Width on Two-Lane Highways \*

Lane width (ft)	Reduction in Free-Flow Speed (mi/h)			
	Shoulder Width (ft)			
	≥0<2	≥2<4	≥4<6	≥6
9<10	6.4	4.8	3.5	2.2
≥10<11	5.3	3.7	2.4	1.1
≥11<12	4.7	3.0	1.7	0.4
≥3.6	4.2	2.6	1.3	0.0

\*From the Federal Highway Administration's "Mitigation Strategies for Design Exceptions – July 2007"

\*\*From "Traffic Calming, State of the Practice", ITE 1999



# Sanjar Slide #6





# Sanjar Slide #7

- **SPEED TABLES (22ft):**
  - Wider than speed humps
  - Typically 22-32 feet
  - Reduction of approximately 7mph (18%) in the 85% speeds\*
  - Reduction of approximately 12% in traffic volumes\*



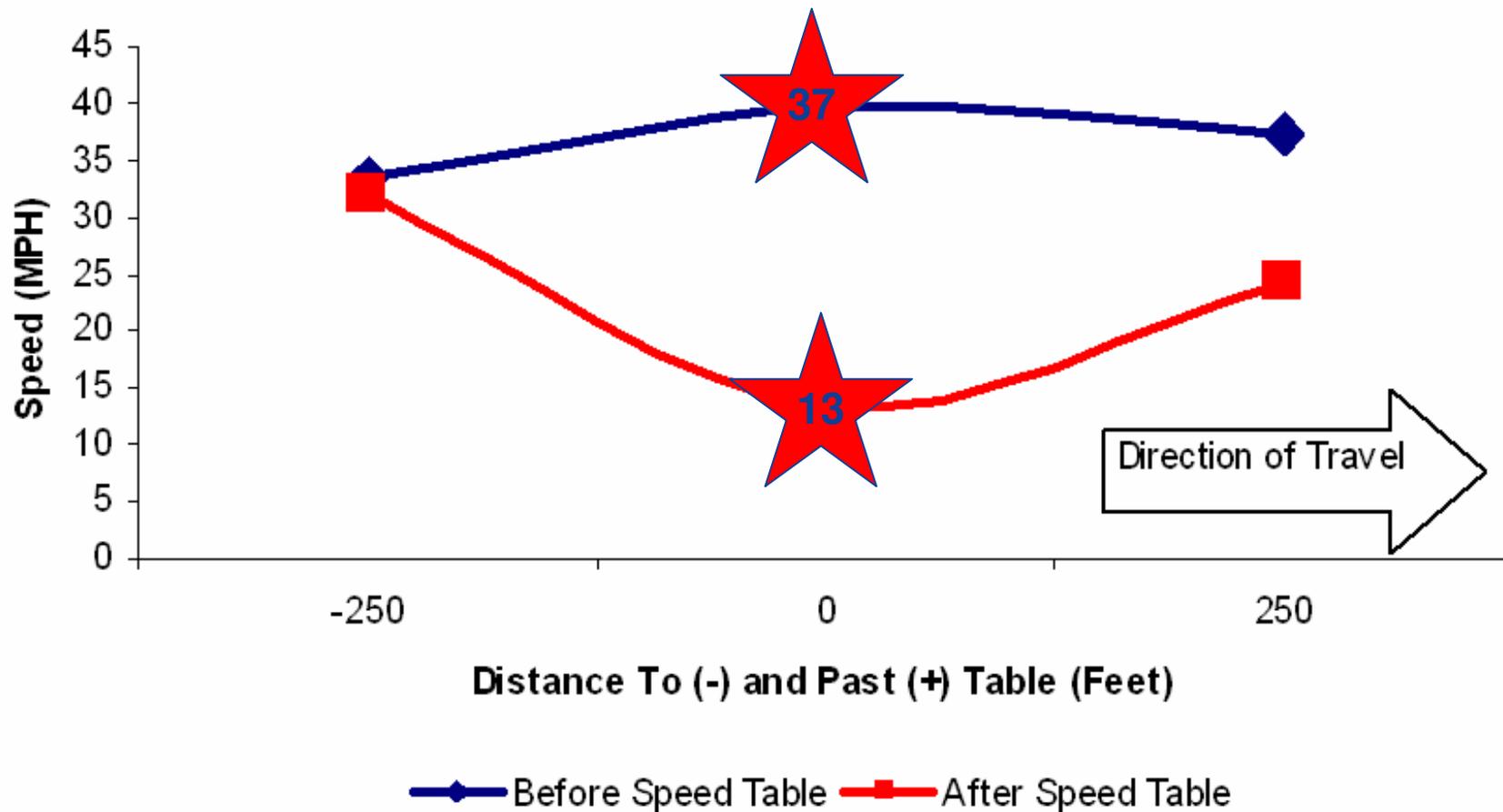
*Hartford, CT*



# Sanjar Slide #8

## ■ SPEED TABLES:

### Saybrooke Street Southbound Speed Profile





# Agenda

1. Introductions

2. Recap

3. Updated Homework Charts

4. Intersection Designs

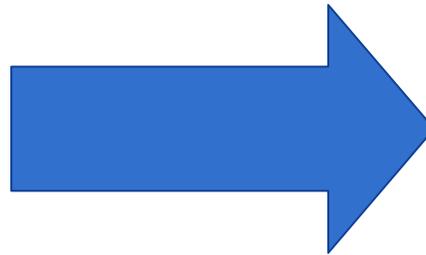
5. Traffic Calming

6. Analysis



# Traffic Calming Analysis

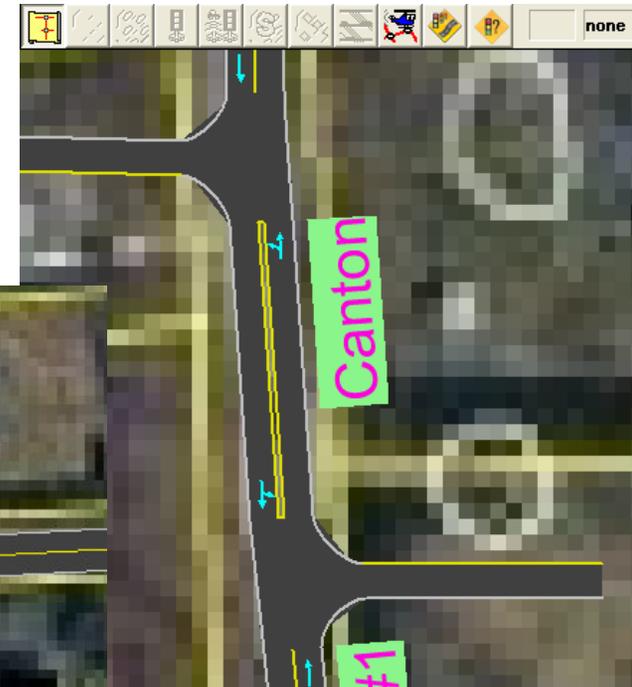
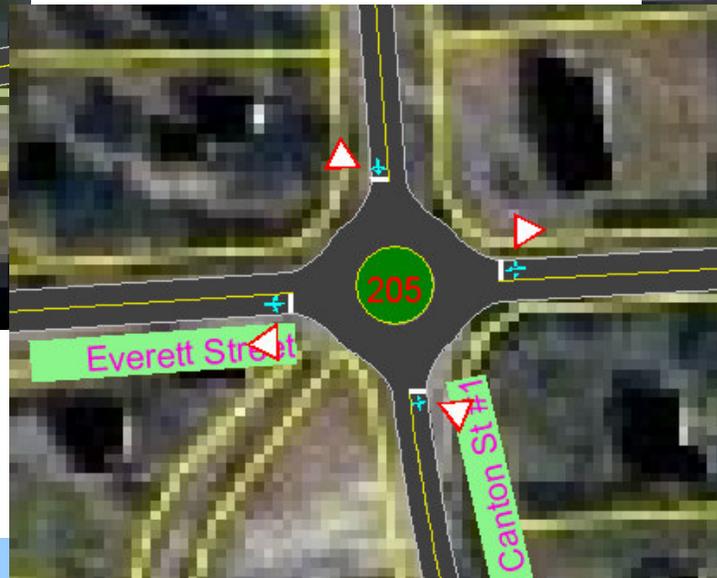
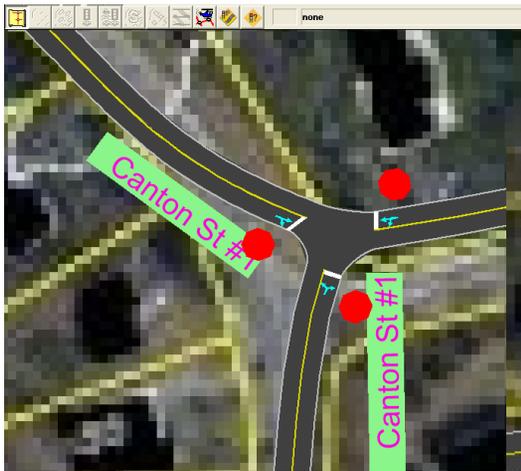
**Research**  
+  
**Traffic Data**  
+  
**Homework**  
+  
**Designs**





# Canton St Traffic Analysis

- **2015** Volumes (Corresponds to major completion of the Westwood Station development)
- Examined the Proposed Traffic Calming Devices in 2 phases





# Traffic Calming Analysis

## Levels of Improvements on Canton Street

	Locations	Proposed Treatment
<b>Level 1</b>	Canton Street at Blue Hill Drive	Realigned Intersection
	Canton Street at Cushing Rd/Perry Dr	Realigned Intersection
	Canton Street at Downey St/Metcalf Rd	Speed Tables
	Canton Street at Hemlock Dr	Realigned Intersection
	Canton Street at Forbes Road	Realigned Intersection
	Canton Street at Everett Street	Roundabout
<b>Level 2</b>	Midblock - 8 Locations	Medians
	Canton St	Lane Diets



# AM Northbound Analysis Results

<b>Travel Time (seconds)</b>	<i>Without Traffic Calming</i>	<i>Level 1</i>	<i>Level 1+2</i>
<i>WWSB – Everett</i>	76	99 (+30%)	109 (+43%)
<i>Everett – Forbes</i>	43	75 (+74%)	77 (+79%)
<i>Forbes – Rotary</i>	70	84 (+20%)	92 (+31%)
<i>Total</i>	<b>189</b>	<b>258 (+37%)</b>	<b>278 (+47%)</b>

<b>Average Speed (mph)</b>	<i>Without Traffic Calming</i>	<i>Level 1</i>	<i>Level 1+2</i>
<i>WWSB – Everett</i>	33	25 (-23%)	23 (-30%)
<i>Everett – Forbes</i>	33	19 (-43%)	19 (-44%)
<i>Forbes – Rotary</i>	36	30 (-17%)	27 (-24%)
<i>Total</i>	<b>34</b>	<b>25 (-27%)</b>	<b>23 (-32%)</b>



# PM Northbound Analysis Results

<b>Travel Time (seconds)</b>	<i>Without Traffic Calming</i>	<i>Level 1</i>	<i>Level 1+2</i>
<i>WWSB – Everett</i>	77	96 (+25%)	107 (+39%)
<i>Everett – Forbes</i>	42	70 (+67%)	74 (+76%)
<i>Forbes – Rotary</i>	67	80 (+19%)	89 (+33%)
<i>Total</i>	<b>186</b>	<b>246 (+32%)</b>	<b>270 (+45%)</b>

<b>Average Speed (mph)</b>	<i>Without Traffic Calming</i>	<i>Level 1</i>	<i>Level 1+2</i>
<i>WWSB – Everett</i>	33	26 (-20%)	24 (-28%)
<i>Everett – Forbes</i>	34	21 (-40%)	19 (-43%)
<i>Forbes – Rotary</i>	38	32 (-16%)	28 (-25%)
<i>Total</i>	<b>35</b>	<b>26 (-24%)</b>	<b>24 (-31%)</b>



# AM Southbound Analysis Results

<b>Travel Time (seconds)</b>	<i>Without Traffic Calming</i>	<i>Level 1</i>	<i>Level 1+2</i>
<i>Rotary – Forbes</i>	65	87 (+33%)	95 (+46%)
<i>Forbes – Everett</i>	42	58 (+38%)	63 (+50%)
<i>Everett – WWSB</i>	79	93 (+18%)	104 (+32%)
<i>Total</i>	<b>186</b>	<b>238 (+28%)</b>	<b>262 (+41%)</b>

<b>Average Speed (mph)</b>	<i>Without Traffic Calming</i>	<i>Level 1</i>	<i>Level 1+2</i>
<i>Rotary – Forbes</i>	39	29 (-25%)	27 (-31%)
<i>Forbes – Everett</i>	34	25 (-28%)	23 (-23%)
<i>Everett – WWSB</i>	32	27 (-15%)	24 (-24%)
<i>Total</i>	<b>35</b>	<b>27 (-22%)</b>	<b>25 (-29%)</b>



# PM Southbound Analysis Results

<b>Travel Time (seconds)</b>	<i>Without Traffic Calming</i>	<i>Level 1</i>	<i>Level 1+2</i>
<i>Rotary – Forbes</i>	70	99 (+41%)	108 (+54%)
<i>Forbes – Everett</i>	44	61 (+39%)	65 (+48%)
<i>Everett – WWSB</i>	90	105 (+17%)	118 (+31%)
<i>Total</i>	<b>204</b>	<b>265 (+30%)</b>	<b>291 (+41%)</b>

<b>Average Speed (mph)</b>	<i>Without Traffic Calming</i>	<i>Level 1</i>	<i>Level 1+2</i>
<i>Rotary – Forbes</i>	36	25 (-29%)	23 (-35%)
<i>Forbes – Everett</i>	33	24 (-28%)	22 (-32%)
<i>Everett – WWSB</i>	28	24 (-14%)	21 (-24%)
<i>Total</i>	<b>32</b>	<b>24 (-23%)</b>	<b>22 (-30%)</b>



# Traffic Analysis Summary

- Summary
  - Average Canton Street speeds decrease by 22% to 32% (32-35mph to 22-27mph)
  - Canton Street travel times increase by 28% to 47% (1-1½ minutes)





# Potential Volume Reduction

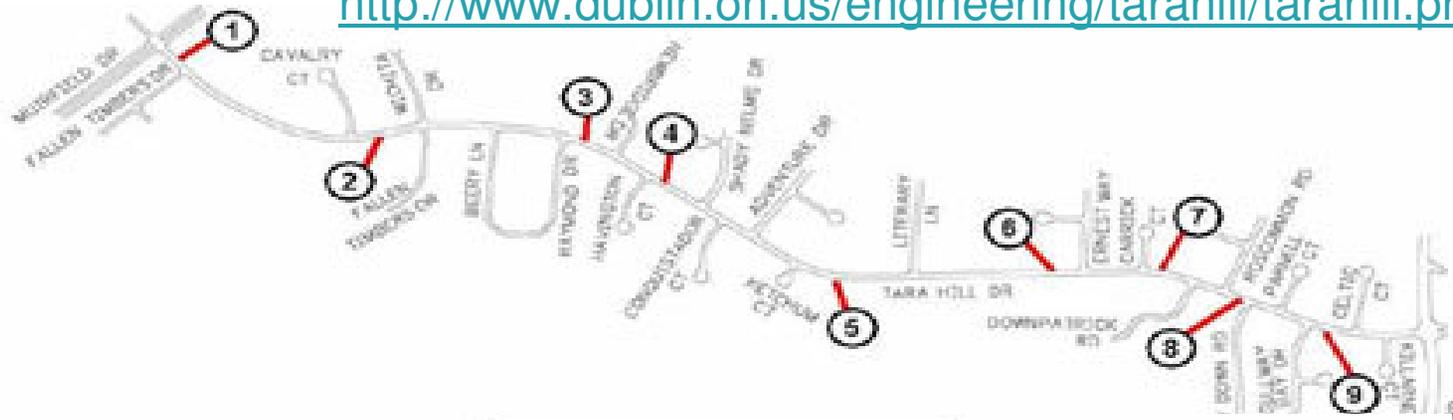
	Traffic Control Devices	Potential Volume Reduction
<b>Level 1</b>	Realigned Intersection	?
	Speed Tables	12%
	Roundabout	5-6%
	<b>Total</b>	17%
<b>Level 2</b>	Medians	10% (similar to lane narrowing)
	Lane Diets	10%
	<b>Total</b>	20%



# Potential Volume Reduction

*Tara Hill Drive, Dublin, Ohio*

<http://www.dublin.oh.us/engineering/tarahill/tarahill.php>



**Volumes reduced between 13% and 24%**





# Potential Volume Reduction

*Canton Street, Westwood, Massachusetts*

	<i>2015 (No TC)</i>	<i>13% (Ohio- low)</i>	<i>17% (Level 1)</i>	<i>20% (Level 2)</i>	<i>24% (Ohio- Hi)</i>	<i>37% (Level 1+2)</i>
<i>AM Peak</i>	910	-118	-155	-182	-218	-337
<i>PM Peak</i>	1070	-139	-182	-214	-257	-396
<i>Daily (2008)</i>	8126	-1056	-1381	-1625	-1950	-3006

Potential Volume Reduction between 13% and 37%



# Additional Measures

- Reflectorized Sign Posts





# Pace Car Program

## Keep Kids Safe

As drivers, cyclists, and pedestrians of the Town of Greenwich it is our responsibility to share the road.

The Greenwich Pace Car Pledge is a citizen-based traffic calming initiative of cars calming other cars. It is a promise to set the "pace" for other drivers and a reminder to share the road and take responsibility for safer streets and neighborhoods.

## The NTCP Pace Car Program needs people who:

- Drive the speed limit;
- Are not afraid to put a Pace Car Sticker on their car;
- Set a good example of what a courteous driver is and not purposely anger or punish other drivers;
- Are willing to show they care about neighborhoods;
- Are willing to be part of the solution;
- Know that each individual is responsible for their driving habits.

Become a Pace Car Driver and learn how to make positive traffic changes!



Neighborhood Traffic Calming Program  
Town of Greenwich, CT  
101 Field Point Road  
Greenwich, CT 06830

## WELCOME to the Greenwich Pace Car Program



Take the Pledge  
and become a Greenwich  
Pace Car Driver today!

## Frequently Asked Questions

### Will my car really make a difference?

Yes. We only need a small percentage of vehicles acting as Pace Cars to slow traffic town wide. This starts a positive cycle. People feel more comfortable walking or cycling, which reduces traffic levels, making streets even safer, meaning even more people can walk or cycle.

### Does the Pace Car provoke road rage?

No. Many people who sign up for the Pace Car Program have already been acting as unofficial Pace Cars. The Pace Car sticker credentials your car, explaining to following motorists that there is a reason for your courtesy and safe driving speed.

### What happens if I accidentally speed?

Take a breath and slow down. The Pace Car pledge is a declaration of intent, not a legally binding contract. Kicking the speeding habit can be hard work. Allow yourself more time to get places so you won't be so tempted to speed.

### Do I only act as a Pace Car in my neighborhood or on all streets?

On all town streets. The Pace Car is a kind of treaty between neighborhoods: you respect the quality of life in our neighborhood and we will do the same for you. The Pace Car promotes a new civility and mutual respect on our streets.

## Pace Car Registration Form Town of Greenwich, CT



Name: \_\_\_\_\_

Address: \_\_\_\_\_

Phone: \_\_\_\_\_

E-mail: \_\_\_\_\_

## Greenwich Pace Car Pledge

I want to be part of the solution to Town of Greenwich's traffic problem. I recognize that my driving affects the safety and livability of other people's neighborhoods, just as other people's driving affects my neighborhood.

I hereby pledge to:

- Drive within the speed limit and obey all traffic regulations;
- Share the road safely with pedestrians, bicyclists and other drivers;
- Stop for all school buses and be extra cautious near schools and children;
- Walk, bike, bus or share a ride when possible to help reduce traffic;
- Display my **PACE CAR** sticker and encourage others to take the pledge.

Signed \_\_\_\_\_

Dated \_\_\_\_\_



Please return this form to: NTCP Dept. of Public Works,  
101 Field Point Road Greenwich, CT 06830



# Lawn Sign Program



07/13/2008



# Radar Speed Signs





# Level 1 Measures

<b>Locations</b>	<b>Proposed Treatment</b>
Canton Street at Blue Hill Drive	Realigned Intersection
Canton Street at Cushing Rd/Perry Dr	Realigned Intersection
Canton Street at Downey St/Metcalf Rd	Speed Tables
Canton Street at Hemlock Dr	Realigned Intersection
Canton Street at Forbes Road	Realigned Intersection
Canton Street at Everett Street	Roundabout
Forbes Road and Cushing Rd	Realigned Intersection
Forbes Road and Everett Street	Median/Channelized Intersection
Forbes Road and Glandore Road	Realigned Intersection