



**CITY OF BURLINGTON
DEPARTMENT OF PUBLIC WORKS**

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www.burlingtonvt.gov/dpw

Chapin Spencer
DIRECTOR OF PUBLIC WORKS

MEMORANDUM

TO: PUBLIC WORKS COMMISSION
FM: CHAPIN SPENCER, DIRECTOR
DATE: JANUARY 15, 2015
RE: PUBLIC WORKS COMMISSION MEETING

Enclosed is the following information for the meeting on January 21, 2015 at 6:30 PM at 645 Pine St, Main Conference Room.

1. Agenda
2. Birch Court Extension Parking
3. North Ave & Westward Dr. Stop Sign
4. Downtown Accessible Spaces
5. FY15 Complete Streets
6. FY16 Paving List
7. Parking Garage Assessment Capital Work
8. Minutes of 12-17-14

Non-Discrimination

The City of Burlington will not tolerate unlawful harassment or discrimination on the basis of political or religious affiliation, race, color, national origin, place of birth, ancestry, age, sex, sexual orientation, gender identity, marital status, veteran status, disability, HIV positive status or genetic information. The City is also committed to providing proper access to services, facilities, and employment opportunities. For accessibility information or alternative formats, please contact Human Resources Department at 865-7145.



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Chapin Spencer
DIRECTOR OF PUBLIC WORKS

M E M O R A N D U M

To: Amy Bovee, Clerks Office
From: Chapin Spencer, Director
Date: January 15, 2015
Re: Public Works Commission Agenda

Please find information below regarding the next Commission Meeting.

Date: **January 21, 2015**
Time: 6:30 – 9:00 p.m.
Place: 645 Pine Street – Main Conference Room

A G E N D A

ITEM

- 1 Agenda
- 2 10 Min Public Forum
- 3 10 Min Birch Court Extension Parking
 - 3.10 Communication, D. Roy
 - 3.20 Discussion
 - 3.30 Decision
- 4 10 Min North Ave & Westward Dr Stop Sign
 - 4.10 Communication, D. Roy
 - 4.20 Discussion
 - 4.30 Decision

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- 5 10 Min Downtown Accessible Spaces
 - 5.10 Communication, D. Roy
 - 5.20 Discussion
 - 5.30 Decision

- 6 10 Min FY15 Complete Streets
 - 6.10 Communication, L. Wheelock
 - 6.20 Discussion
 - 6.30 Decision

- 7 10 Min FY16 Paving List
 - 7.10 Communication, L. Wheelock
 - 7.20 Discussion
 - 7.30 Decision

- 8 10 Min Parking Garage Assessment Capital Work
 - 8.10 Communication, P. Buteau
 - 8.20 Discussion

- 9 5 Min Minutes of December 17, 2014

- 10 10 Min Director's Report

- 11 10 Min Commissioner Communications

- 12 Adjournment & Next Meeting Date – February 18, 2015



MEMORANDUM

January 14, 2015

TO: Public Works Commission
FROM: Damian Roy, DPW Engineering Technician *DRR*
CC: Norman Baldwin, City Engineer
RE: Birch Court Extension On-Street Parking

Background:

The Department of Public Works received a call from resident Michael McGarghan to re-open his request for unrestricted parking on the south side of the Birch Court Extension. Currently, there is no parking at all times on the south side of Birch Court Extension and unrestricted parking on the north side. This request was previously rejected by the March 2013 Public Works Commission largely due to the streets narrow width in regards to Fire Engine access. Mr. McGarghan states that the March 2013 decision was unsubstantiated and biased against his street, citing nearby streets of equal or lesser width without parking restrictions. Mr. McGarghan also stated that he felt disenfranchised with DPW and the traffic request process as he felt DPW did not communicate the Commission Meeting schedule adequately. Mr. McGarghan would like his request to be considered with regards to nearby streets of equal or lesser width that currently have less parking restrictions.

Observations:

The Birch Court Extension is a thirty (30) foot wide dead-end collector that connects to North Avenue. Birch Court and the Birch Court Extension were adopted as Accepted Streets by the City of Burlington in 1986 and 1998 respectively. Unrestricted parking on the north side of Birch Court Extension creates a twenty-two (22) foot travel lane. There are many streets in the city roadway network that are narrow. Many of these streets were developed at a time that predates the automobile, our contemporary desire to calm traffic speeds, or to provide the highest degree of access for emergency responders. Using our most current understanding of balancing the existing physical geometric constraints, and when asked to evaluate a street to determine the safest configuration possible, we balance the desire to control vehicle speeds on local streets against proper access to first responders. There are many streets that would benefit from this

UB 1/14/15

review, however they can only be done on an as-needed basis. In the case of Birch Court Extension you have a thirty (30) foot total roadway width and a standard parking lane of eight (8) feet. Travel lanes for a local collector can range in width from nine (9) to eleven (11) feet. Travel lanes greater than eleven (11) feet promote a speeding condition. Fire Apparatus requiring ladder access to key points along the street need to avoid overhead power lines and need a swinging position that allows them a large area to sweep the corner of the building to rescue occupants and to attack the fire. General Fire Apparatus are typically parked and positioned on the corners of the property in order to avoid overhead power lines. The Fire Department's use of the Ladder Truck is the preferred method of response to fight a home fire and rescue its occupants. Ladder Trucks require a width of sixteen (16) feet on the roadway to deploy its outriggers so that it may safely extend its ladders. The alternative is to place ladders against the building and enter the structure to fight the fire and rescue the occupants which is a higher risk solution for first responders. These points are reflected by Fire Marshal Barry Simays in his response when asked about street widths pertaining to Emergency Vehicle access:

“On Birch Ct - my original comments from 2013 stand. The width of the street has to be able to accommodate our apparatus and our ability to stabilize and operate the aerial ladder(s) on Engines 2 or 4 if required” - Fire Marshal Barry Simays CFI

Conclusion:

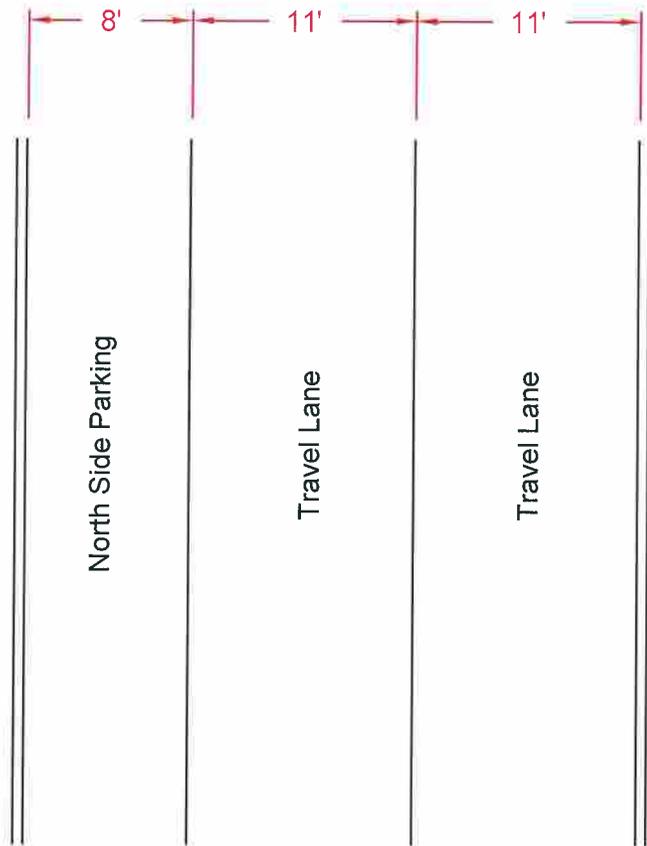
The Birch Court Extension is an example of a pre-existing street that was adopted by the City fairly recently and therefore was placed under the appropriate engineering practices and safety considerations adopted by the City at that time. These considerations, including street width as it pertains to emergency vehicle access, were behind the decision not to grant unrestricted parking on both sides of Birch Court Extension in March 2013 as it is again today. Other streets in the area that had been adopted as Accepted Streets by the City of Burlington prior to these considerations may not currently fall under the same restrictions, yet review of these streets' configurations may be warranted on an as-needed basis.

The department was asked in March 2013 to evaluate the potential of adding parking on the south side of a street that is 30' wide with parking on the north side. Applying contemporary standards of review, Staff submitted a recommendation in March 2013 to deny this request. The Commission deliberated and voted in support of staff's recommendation. Mr. McGarghan stated he had not been given notice of the meeting in March 2013 to participate and provide public comment as a part of the deliberation. Mr. McGarghan has asked to revisit the same request for reasons previously described. We again recommend denying this request. However it is important to ensure Mr. McGarghan full active participation in this public process and has been provided the full packet of information for this item.

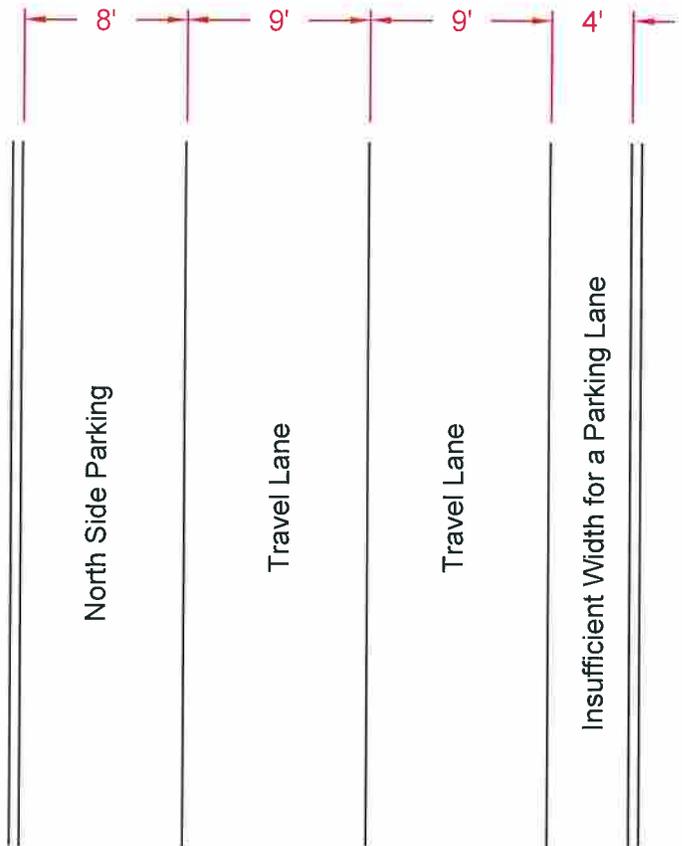
Recommendation:

Staff recommends that the commission adopt:

- Maintaining the current parking restrictions on Birch Court Extension.



Existing Conditions



Conditions with
minimum Lane
Widths



Birch Court Extension
Roadway Lane Widths



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PUBLIC WORKS
ENGINEERING DIV.**

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DESIGNED DRR	REF. NO. 461
DRAWN DRR	SCALE NTS
CHECKED HJB	DRAWING NO.
DATE 01/09/2015	SHEET 1 OF 1



MEMORANDUM

January 15, 2015

TO: Public Works Commission
FROM: Damian Roy, DPW Engineer Technician LRR
CC: Norman Baldwin, City Engineer NB
RE: North Avenue/Westward Dr. Stop Signs

Background:

The Public Works Department received a request from Gary Dion to install stop signs at the intersection of North Avenue and Westward Drive causing North Avenue to stop. Currently there are stop signs installed on Westward Drive causing Westward Drive to stop. Mr. Dion states that the traffic on North Ave. exceeds safe speeds well beyond the posted speed limit (approaching and exceeding highway speeds) and he feels that installing stop signs at North Ave. and Westward Dr. will require traffic to stop and thus calm traffic speeds to within safe or posted speed limits. Mr. Dion has expressed frustration with DPW's lack of response with this request. After talking with Mr. Dion directly, Staff conducted traffic counts at the intersection to evaluate whether stop signs are warranted at that location.

Observations:

Staff visited the North Avenue and Westward Drive intersection on the morning and evening of January 6th from 7:00am to 9:00am, and from 4:00pm to 6:00pm to conduct a Stop Sign Warrant Analysis as prescribed by MUTCD 2B.07 Multi-way Stop Applications, see attached. This form is the first step in determining if stop control is warranted at an intersection as adopted by DPW. Traffic volumes were observed at these times and are as follows:

NB 1/15/15

- 7:00am through 9:00am
 - North Avenue: 123 Vehicles, 4 Pedestrians, 0 bicyclists
 - Westward Avenue: 80 Vehicles, 0 Pedestrians, 0 bicyclists
- 4:00pm through 6:00pm
 - North Avenue: 193 Vehicles, 2 Pedestrians, 4 bicyclists
 - Westward Avenue: 28 Vehicles, 0 Pedestrians, 0 bicyclists

The MUTCD Multi-way Stop Application states that vehicular volumes entering the intersection from the major street approaches (total of both approaches) must average at least 300 vehicles per hour for any 8 hours on an average day, for traffic approaching from the minor streets the average vehicles per hour must meet at least 200 vehicles. Traffic counts approaching the intersection from North Avenue and from Westward Drive averages 79 vehicles per hour during peak times and 27 vehicles per hour during peak times respectively. Staff contacted the Burlington Police Department to request all accident reports for the intersection within the previous twelve month period. BPD responded with a report indicating one incident at the intersection of North Avenue and Westward Dr. Incident Number 14BU006275 was a routine traffic stop due to defective equipment. No other incidents were indicated which falls below the minimum 5 or more reported crashes within a 12-month period required to warrant a stop sign as indicated by the MUTCD Multi-way Stop Application. Staff did not have the proper tools to accurately measure vehicular speeds at the intersection but did not observe any vehicles approaching or exiting the intersection at excessive speeds during the times on location.

Conclusions:

Staff performed a Stop Sign Warrant Analysis at this particular location. The Warrant Analysis takes into account the volume of entering traffic from both major and minor street approaches to determine if stop signs are necessary to provide safe and clear right of way assignments. Multi-way stop control is applied in conditions where there are nearly balanced entering volumes of traffic for both major and minor street approaches. Our traffic counts during peak hours alone were well below the warrant threshold without performing counts throughout the full 8-hour period. In addition there is no accident history of right angle or left turn collisions that would suggest the need for stop control. Mr. Dion suggests that a speeding condition exists and suggests multi-way stop control would remedy that speed condition. It is our position supported by traffic engineering practice that stop signs should not be used as a remedy for speeding. As such, staff is recommending the denial of the request to adopt multi-way stop control at North Avenue and Westward Drive. However staff would recommend the collection of speed counts this coming season to determine the existing speed condition, time of day, and day of week for targeted speed enforcement by the police.

Recommendations:

Staff recommends that the Commission adopt:

- To maintain the current Stop Control conditions at the intersection of North Avenue and Westward Drive.

North Ave. / Westward Dr.

Stop Sign Warrant
MUTCD 2B.07 Multi-way Stop Application

01. Multi-way stop control can be useful as a safety measure at intersections if certain traffic conditions exist. Safety concerns associated with multi-way stops include, pedestrians, bicyclists, and all road users expecting other road users to stop. Multi-way stop control is used where the volume of traffic on the intersecting roads is approximately equal.

02. The restrictions on the use of STOP signs described in Section 2B.04 also apply to Multi-way stop applications.

Guidance:

03. The decision to install multi-way stop control should be based on an engineering study.

04. The following criteria should be considered in the engineering study for a multi-way STOP sign installation:

A. Where the traffic control signals are justified, the multi-way stop is an interim measure that can be installed quickly to control traffic while arrangements are being made for the installation of the traffic control signal.

N/A

B. Five or more reported crashes in a 12-month period that are susceptible to correction by a multi-way stop installation. Such crashes include right-turn and left-turn collisions as well as right-angle collisions

no such incidents reported

C. Minimum Volumes:

1. The vehicular volume entering the intersection from the major street approaches (total of both approaches) averages 300 vehicles per hour for any 8 hours of an average day; and

Total volume at peak times: 6am - 8am = ¹²³205, 4pm - 6pm = ¹⁹³221
(all approaches)

2. The combined vehicular, pedestrian, and bicycle volume entering the intersection from the minor street approaches (total of both approaches) averages at least 200 units per hour for the same 8 hours, with an average delay to minor-street vehicular traffic of at least 30 seconds per vehicle during the highest hour; but

6am - 8am = 80, 4pm - 6pm = 28

3. if the 85th-percentile approach speed of the major -street exceeds 40 MPH, the minimum vehicular volume warrants are 70 percent of the volumes provided and Items 1 and 2.

D. Where no single criterion is satisfied, but criteria B, C.1 and C.2 are all satisfied to 80 percent of the minimum values. Criterion C.3 is excluded from this criterion.

N/A

Option:

Other criteria that may be considered in an engineering study include:

A. The need to control left-turn conflicts;

B. The need to control vehicle/pedestrian conflicts near locations that generate high pedestrian volumes;

C. Locations where a road user, after stopping, cannot see conflicting traffic and is not able to negotiate the intersection unless conflicting cross traffic is also required to stop; and

B. in intersection of two residential neighborhood collector (through) streets of similar design and operating characteristics where multi-way stop control would improve operational characteristics of the intersection.

Incident Search Results

<i>Displaying all 5 incidents</i>						
Incident Number	Call Type	Call Date/Time	Officer	From	To	Address
14BU034372	Foot Patrol	12/09/14 10:11	288	12/09/14 10:11	12/09/14 10:11	Hardy Ave/Westward Dr, Burlington
14BU030517	Found/Lost Property	10/27/14 12:02	957	10/27/14 12:02	10/27/14 12:02	Northshore Dr/Westward Dr, Burlington
14BU023519	Suspicious Event	08/25/14 18:09	263	08/25/14 18:09	08/25/14 18:09	Hardy Ave/Westward Dr, Burlington
14BU006275	Traffic	03/15/14 00:40	320	03/15/14 00:40	03/15/14 00:40	North Ave/Westward Dr, Burlington
14BU002020	Accident - Property damage only	01/23/14 12:12	237	01/23/14 12:12	01/23/14 12:12	Northshore Dr/Westward Dr, Burlington



BURLINGTON PUBLIC WORKS

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JOB North Ave / Westward Traffic Counts

SHEET NO. _____ OF _____

CALCULATED BY DRR DATE 1/16/15

CHECKED BY _____ DATE _____

SCALE _____

7:00 - 9:00

Peds: IIII

7-5

North Ave: [IIII]

[IIII] 8-1 = 123

~~Westward = 11~~

7-8

Westward: [IIII IIII IIII IIII IIII IIII IIII IIII]

[IIII IIII IIII IIII IIII IIII IIII IIII] 5-1 = 50

10:00 - 18:00

Peds: II

Bicyclists: IIII

North Ave: IIII
IIII IIII IIII IIII IIII IIII IIII IIII IIII IIII
IIII IIII IIII IIII = 193

Westward: IIII IIII IIII IIII = 28



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CHAPIN SPENCER
DIRECTOR OF PUBLIC WORKS

NORMAN J. BALDWIN, P.E.
ASSISTANT DIRECTOR OF PUBLIC WORKS

Date: December 9, 2014

To: Public Works Commission

From: Damian Roy, Engineering Technician *DRR*
Norman J. Baldwin, P.E. *NJB*
City Engineer/Ass't Director of Public Works

Subject: Downtown Accessible On-Street Parking Spaces

The Department of Public Works received a request from a Ms. Elaine Katz on February 3, 2013. Since receiving the request there has been turnover within the DPW Staff and this request has not been addressed in a timely manner. As a result Ms. Katz was extremely frustrated with the care in which her request has received. Given the long lapse with limited communication with her she had approached the Mayor. The Mayor understanding the importance of good customer service alerted Staff to the issue, and asked Assistant Director Norman Baldwin to contact Ms. Katz to better understand the request and to ensure this request gets the necessary attention it deserves.

In our conversation Ms. Katz spoke in general terms that all accessible on street parking spaces needed to be either repositioned or have improved curbside ramp access. We had more finite conversation regarding three specific accessible parking spaces in the downtown.

- The accessible parking space on the south side of College Street just west of Winooski Avenue.
- The accessible parking space on the north east corner of College and South Union Street.
- The accessible parking space on the north west corner of College and Saint Paul Street.

Attached are drawings and photos of each of these locations.

In our conversation we made the commitment to Ms. Katz that staff would have her request heard at the next commission meeting scheduled for the third Wednesday in January. Based on mine and Ms. Katz's conversation regarding the College and Winooski accessible parking space, Assistant Director Norman Baldwin was left with the impression the accessible parking spaces were located somewhere mid-block and not proximal to an adjacent intersections sidewalk ramp. In going over the request it appears this first accessible space is positioned at the closest space on the south west corner of College and Winooski Avenue.

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NJB 1/15/14

From Assistant Directors conversation with Ms. Katz, she presents an interesting question to consider as to how we establish and configure on Street accessible parking spaces in our downtown.

- Are we providing access to the driver or the passenger?
- Should the spaces be placed mid-block and if they are do they require a ramp?
- If a vehicle is adjacent to a curb with a 7" reveal from the street to the top of a sidewalk do we need to create a ramp?
- If we create a ramp and the standards require 2% slope this would mean a ramp that is 84" (7 feet) long with a 3'x3' landing at the base.
 - The challenge with constructing these types of ramps is that there are existing street amenities (trees, bike racks, signs, federal mail distribution boxes, light poles, trash receptacles) that would have to be displaced. The sidewalk on most streets does not have enough depth to allow ramps straight in from the parking space without creating a tripping hazard in the 5' walking area.
 - The challenge with maintaining access to these spaces would require additional staff resource to make them accessible during the winter months clearing snow and ice.

As staff we are:

- Currently having conversations with the Department of Justice to better understand our legal obligations
- Are doing research with what other peer communities are doing to improve on street parallel parking accessibility.
- Reviewing the Public Right of Way Accessibility Guidelines (PROWAG) issued in draft form.

In our research we found within the PROWAG on page 94, R309.2 Parallel Parking Spaces and advisory statement. Attached is a copy for the Commission's consideration. It states:

"the sidewalk adjacent to accessible parallel parking spaces should be free of signs, street furniture, and other obstructions to permit deployment of a van side-lift or ramp or the vehicle occupant to transfer to a wheelchair or scooter. Accessible parallel parking spaces located at the end of the block face are usable by vans that have rear lifts and cars that have scooter platforms."

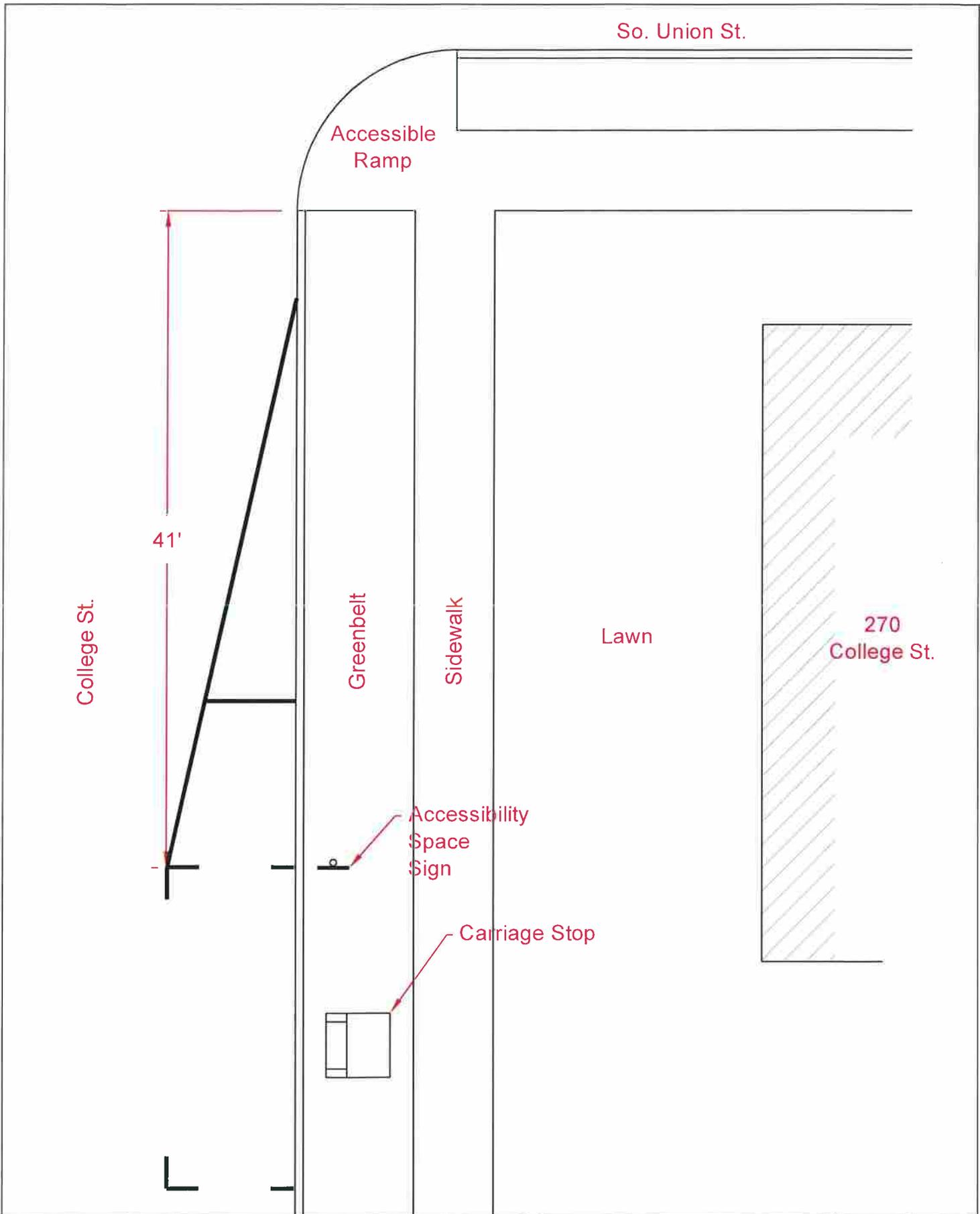
With the information gathered to date it is staff's recommendation that:

- Our preferred choice would be to locate accessible parking spaces at block face corners near an existing sidewalk ramp. Given the ease of access for vans with rear lifts and scooter platforms, coupled with our existing ability to maintain access to intersection corner ramps throughout the winter months.
- That we make a point to examine all existing accessible spaces to determine if there are street amenities that would need to be displaced to improve curbside accessibility to our accessible parking spaces. Or if that existing environment cannot be modified we would seek to move the accessible space to a more suitable location.
- Applying these recommendation to the two previously referenced parking spaces,
 - At College and Winooski we have identified the north west corner to be a superior location for an accessible space due to the parked vehicle facing a western direction. This will more easily allow the use of the corner ramp when utilizing rear lifts and scooter platforms.
 - The accessible parking space on the northeast corner of College and Union Street is not accessible at the curb given the high bank; however it is accessible to the corner ramp and should remain. We will be looking to see if that particular space can be moved to another corner where there is better curb side access, possibly the first parking space on north west corner of College and Union Street.
 - At the north west corner of College and Saint Paul we would recommend contacting the Federal Post Office to inquire on relocating the distribution box at that location to ensure no obstructions inhibit accessibility.

Further, Ms. Katz's request has initiated within DPW awareness towards the reevaluation of accessible spaces in our downtown area. Our goal this month is to find agreement with the commission in our process to evaluate and position accessible spaces in our downtown. Once there is agreement in place we will seek to evaluate the accessible spaces identified by Ms. Katz.

Given that the potential repositioning of these spaces impacts other members of the public we will need to have a public process to discuss the specifics to these changes. We will commit to the commission and Ms. Katz that we return to the commission with recommended changes in March.

We look forward to the conversation and hope to improve on how we provide better accommodation to people with disabilities.



Downtown Accessibility Spaces
270 College Street.



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PUBLIC WORKS
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DESIGNED DRR	RFS NO. 3156
DRAWN DRR	SCALE 1"=8'
CHECKED NJB	DRAWING NO.
DATE 01/13/2015	SHEET 3 OF 3



271 College St
Burlington, Vermont
Street View - Apr 2012



NORTH EAST CORNER OF
COLLEGE ST AND SOUTH UNION ST

Google



So. Winooski Ave.

College St.

13'

Accessible Ramp

Accessibility Space Sign

Planter Bed with Tree

Bike Rack

217 College St.

Concrete Beltway

Sidewalk



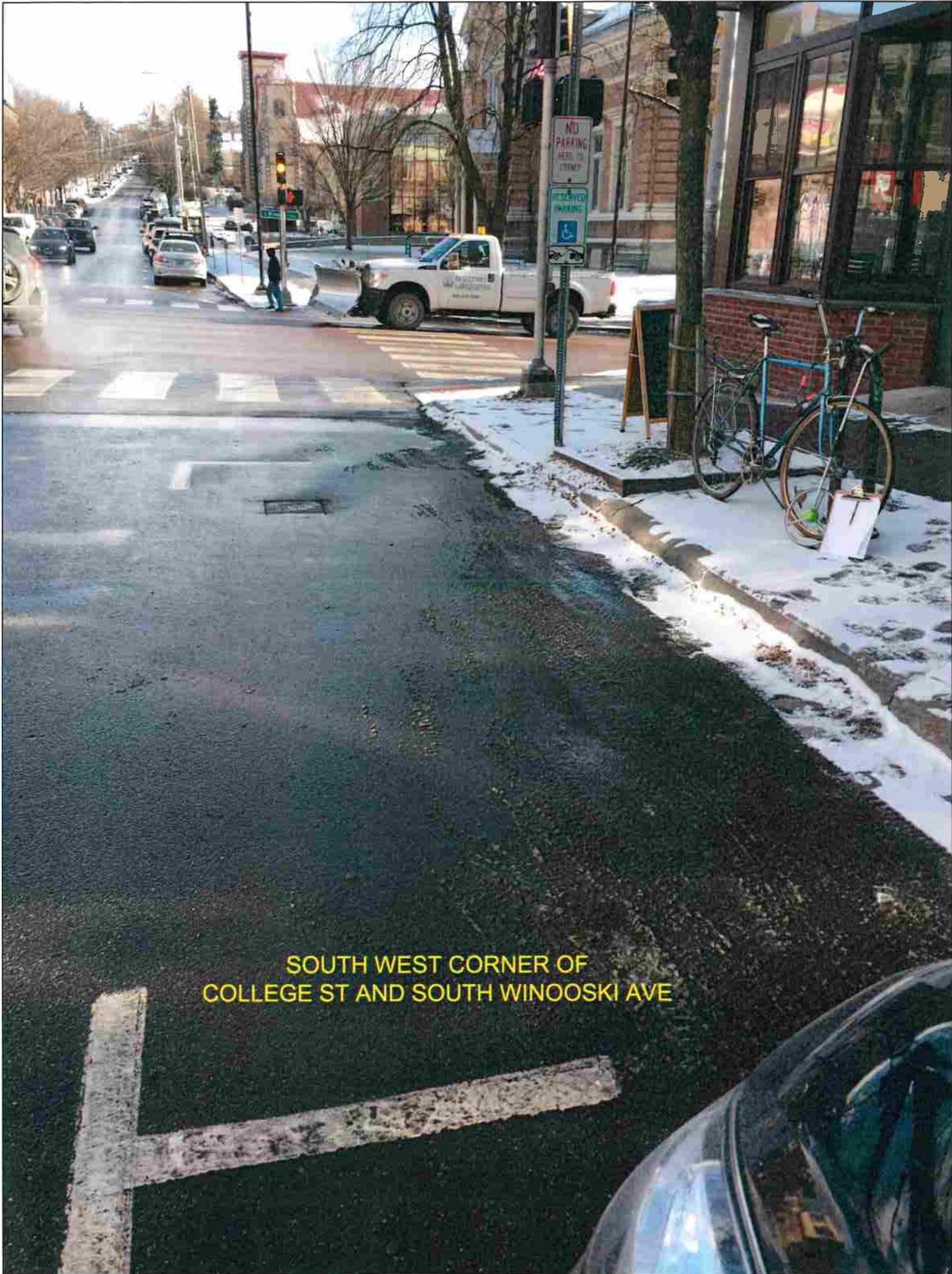
Downtown Accessibility Spaces
217 College Street.



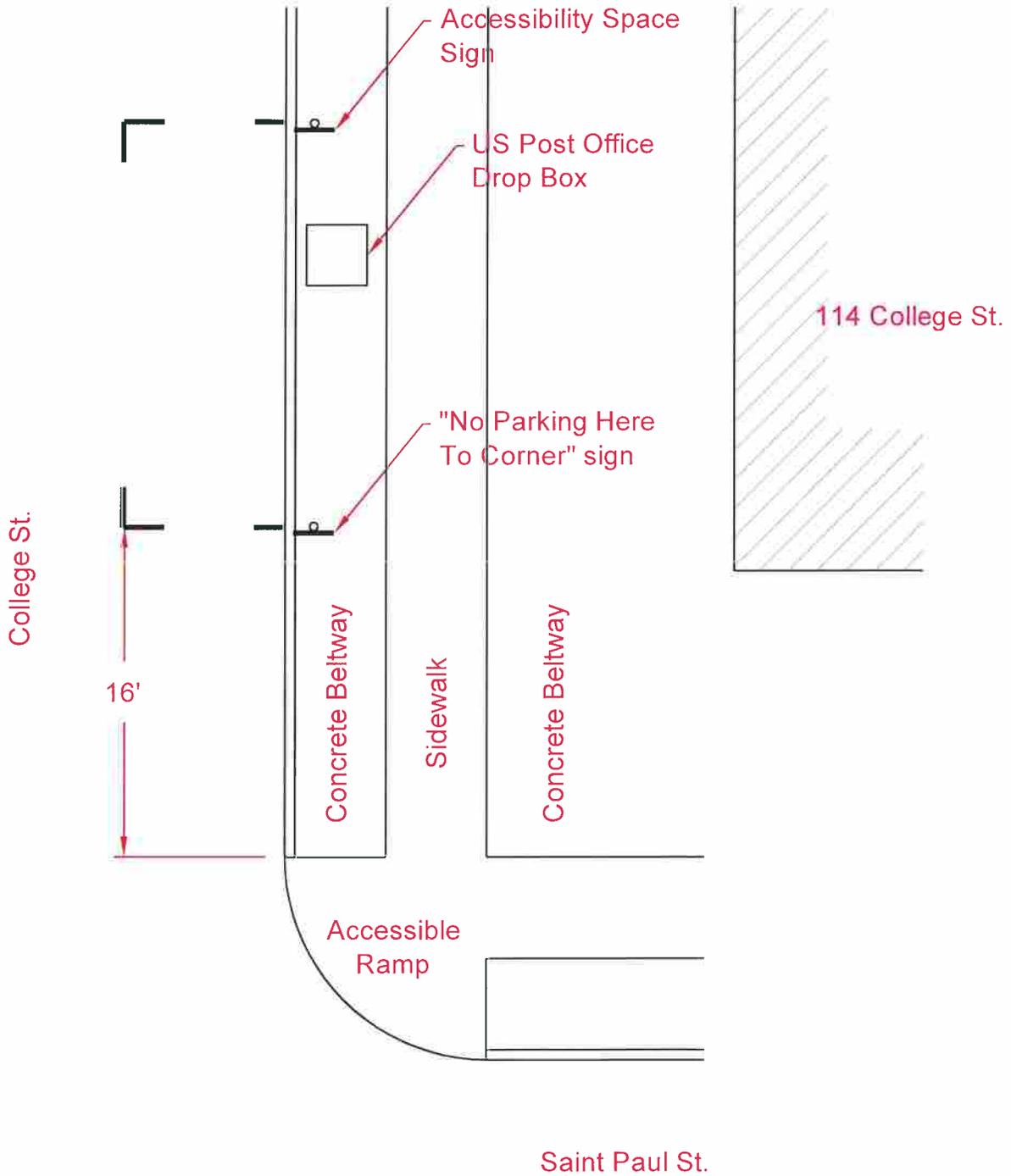
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DESIGNED DRR	RFS NO. 3156
DRAWN DRR	SCALE 1"=8'
CHECKED HJB	DRAWING NO.
DATE 01/13/2015	SHEET 1 OF 3



SOUTH WEST CORNER OF COLLEGE ST AND SOUTH WINOOSKI AVE



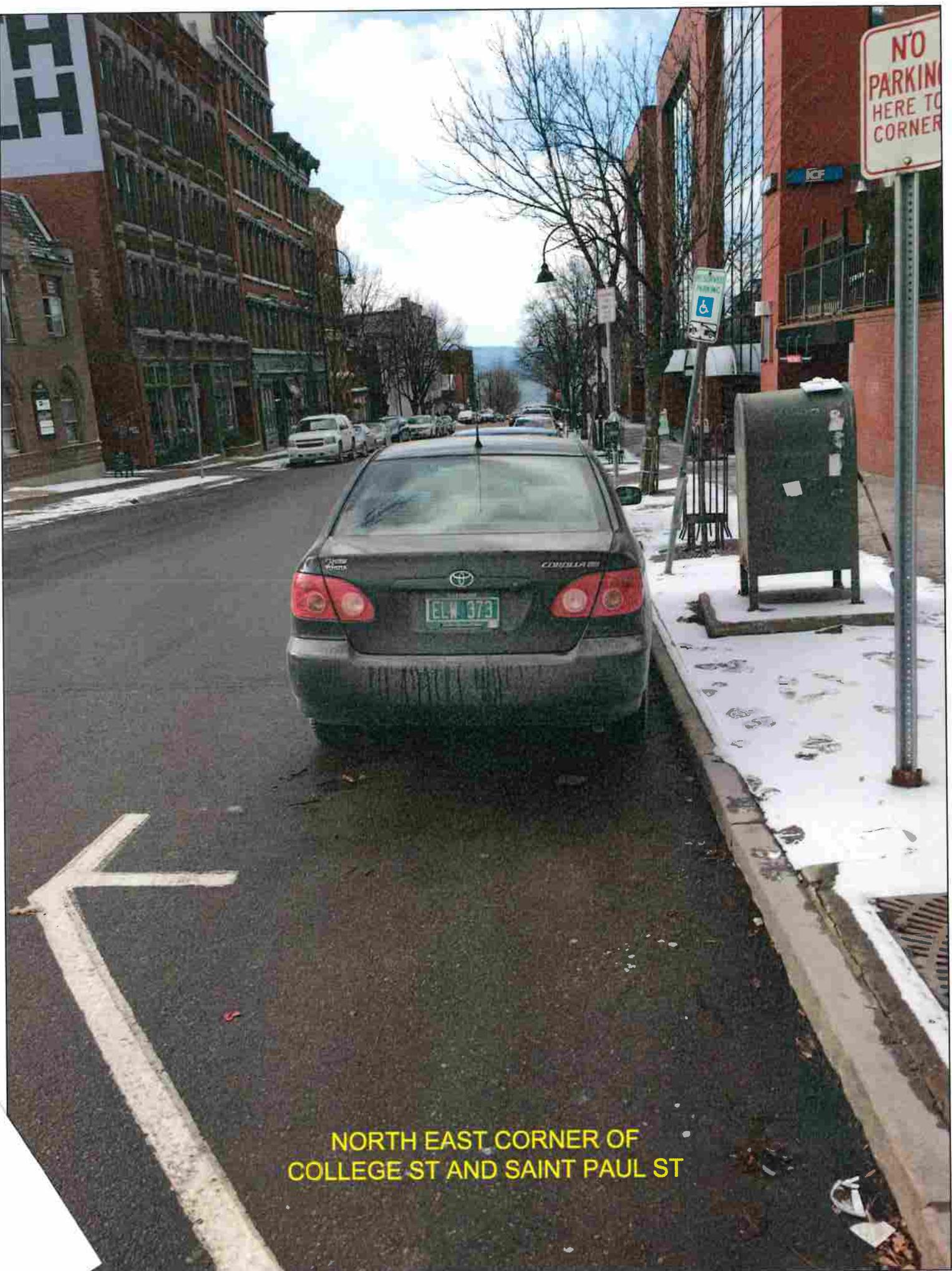
Downtown Accessibility Spaces
114 College Street.



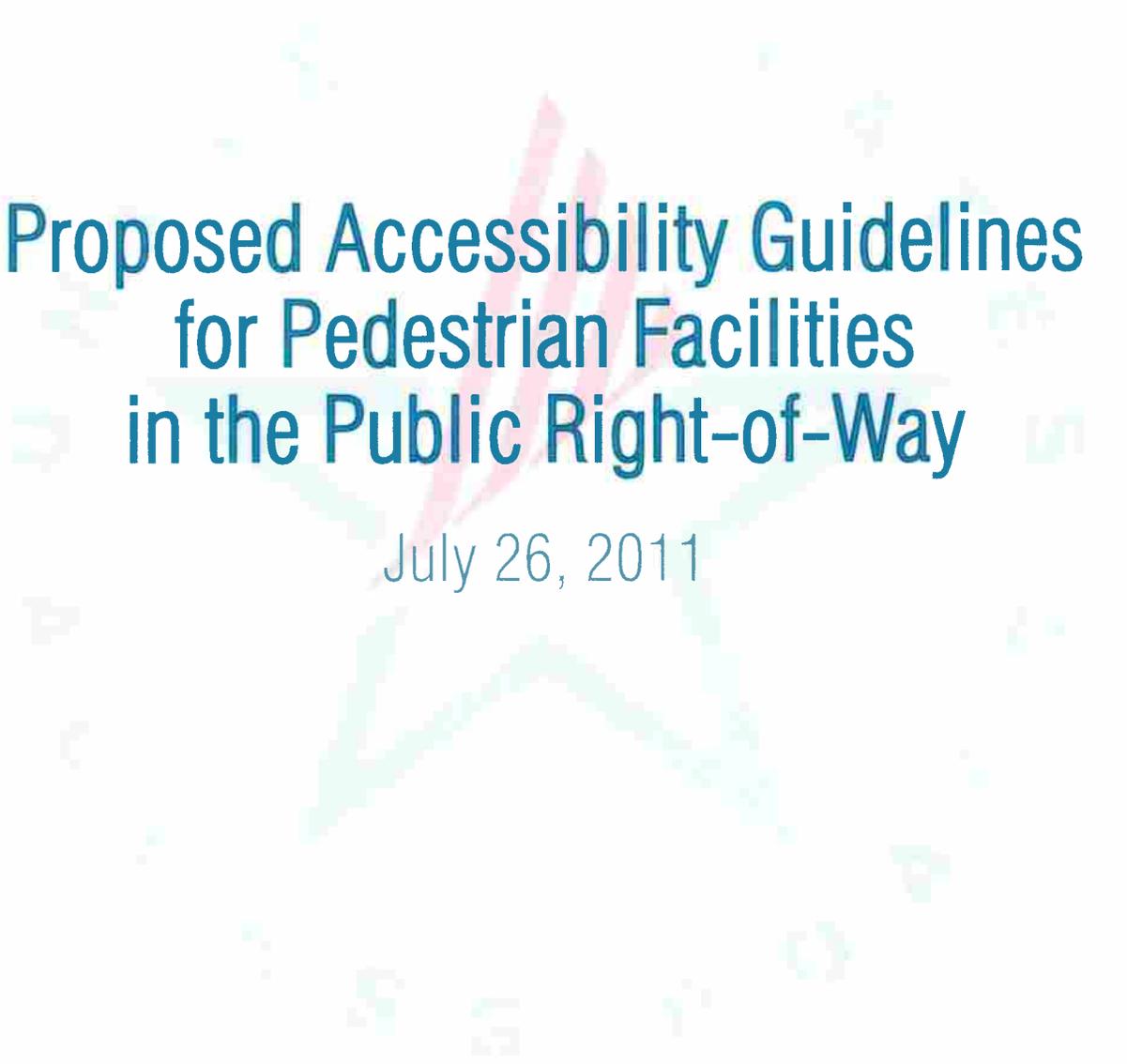
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DESIGNED DRR	RFS NO. 3156
DRAWN DRR	SCALE 1"=8'
CHECKED NJB	DRAWING NO.
DATE 01/13/2015	SHEET 2 OF 3



NORTH EAST CORNER OF COLLEGE ST AND SAINT PAUL ST



Proposed Accessibility Guidelines for Pedestrian Facilities in the Public Right-of-Way

July 26, 2011

UNITED STATES ACCESS BOARD
A FEDERAL AGENCY COMMITTED TO ACCESSIBLE DESIGN

shall provide a minimum clear space complying with R404 entirely within the shelter. Where seating is provided within transit shelters, the clear space shall be located either at one end of a seat or shall not overlap the area within 460 mm (1.5 ft) from the front edge of the seat. Environmental controls within transit shelters shall be proximity-actuated. Protruding objects within transit shelters shall comply with R402.

Advisory R308.2 Transit Shelters. The clear space must be located entirely within the transit shelter and not interfere with other persons using the seating.

R309 On-Street Parking Spaces

R309.1 General. On-street parking spaces shall comply with R309.

Advisory R309.1 General. R214 specifies how many accessible parking spaces must be provided on the block perimeter where on-street parking is marked or metered. Accessible parking spaces must be identified by signs displaying the International Symbol of Accessibility (see R211.3 and R411). Accessible parking spaces should be located where the street has the least crown and grade and close to key destinations.

R309.2 Parallel Parking Spaces. Parallel parking spaces shall comply with R309.2.

Advisory R309.2 Parallel Parking Spaces. The sidewalk adjacent to accessible parallel parking spaces should be free of signs, street furniture, and other obstructions to permit deployment of a van side-lift or ramp or the vehicle occupant to transfer to a wheelchair or scooter. Accessible parallel parking spaces located at the end of the block face are usable by vans that have rear lifts and cars that have scooter platforms.

R309.2.1 Wide Sidewalks. Where the width of the adjacent sidewalk or available right-of-way exceeds 4.3 m (14.0 ft), an access aisle 1.5 m (5.0 ft) wide minimum shall be provided at street level the full length of the parking space and shall connect to a pedestrian access route. The access aisle shall comply with R302.7 and shall not encroach on the vehicular travel lane.

Advisory R309.2.1 Wide Sidewalks. Vehicles may park at the curb or at the parking lane boundary and use the space required by R309.2.1 on either the driver or passenger side of the vehicle to serve as the access aisle.

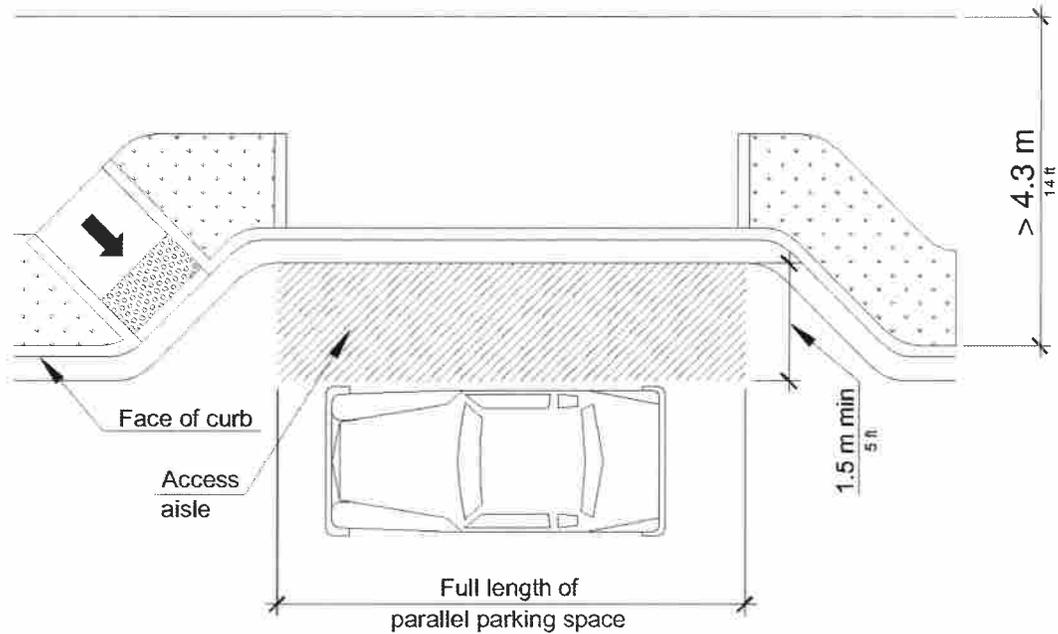


Figure R309.2.1
Wide Sidewalks

R309.2.1.1 Alterations. In alterations where the street or sidewalk adjacent to the parking spaces is not altered, an access aisle shall not be required provided the parking spaces are located at the end of the block face.

R309.2.2 Narrow Sidewalks. An access aisle is not required where the width of the adjacent sidewalk or the available right-of-way is less than or equal to 4.3 m (14.0 ft). When an access aisle is not provided, the parking spaces shall be located at the end of the block face.

Advisory R309.2.2 Narrow Sidewalks. Vehicle lifts or ramps can be deployed on a 2.4 m (8.0 ft) sidewalk if there are no obstructions.

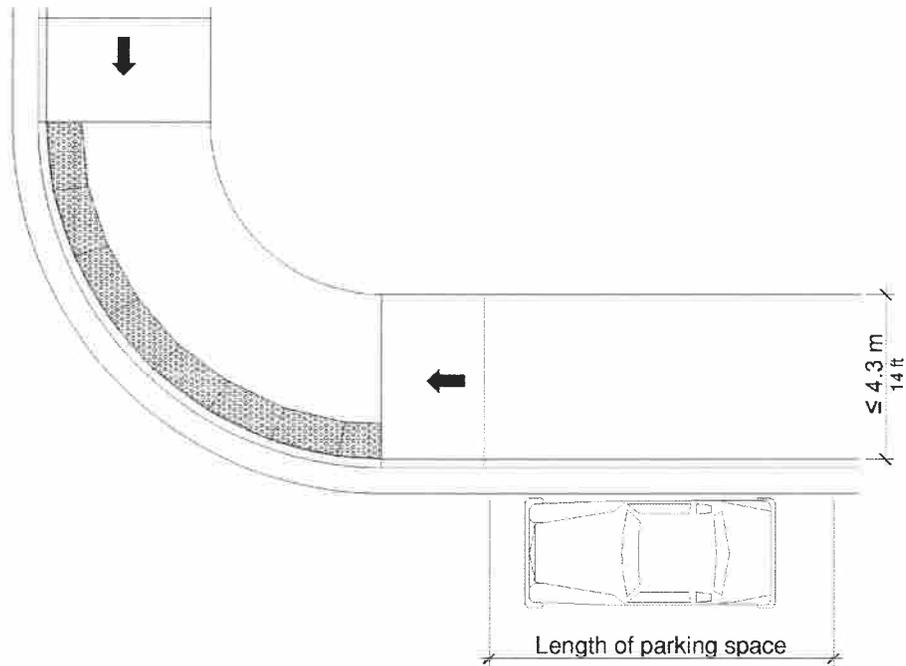


Figure R309.2.2
Narrow Sidewalks

R309.3 Perpendicular or Angled Parking Spaces. Where perpendicular or angled parking is provided, an access aisle 2.4 m (8.0 ft) wide minimum shall be provided at street level the full length of the parking space and shall connect to a pedestrian access route. The access aisle shall comply with R302.7 and shall be marked so as to discourage parking in the access aisle. Two parking spaces are permitted to share a common access aisle.

Advisory R309.3 Perpendicular or Angled Parking Spaces. Perpendicular and angled parking spaces permit the deployment of a van side-lift or ramp.

Nicole Losch

From: Jennifer M. Kaulius
Sent: Thursday, December 05, 2013 10:49 AM
To: Chapin Spencer; Norm Baldwin; Erin Demers; Nicole Losch
Cc: Mike Kanarick
Subject: FW: Sidewalk handicapped accessibility

Hi DPW team,

Mike found the original messages that Elaine Katz had sent (I'm sorry I had her name incorrectly in my correspondence with you). Can someone from DPW please be in touch with Ms. Katz to begin to address these concerns that she has raised for months? Please keep our office in the loop. Thank you very much for all of your help, I appreciate it.

Best, Jen

Jennifer Kaulius
Office of Mayor Miro Weinberger
City Hall | 149 Church Street
Burlington, VT 05401
802.865.7272
jennifer@burlingtonvt.gov

From: Mike Kanarick
Sent: Thursday, December 05, 2013 10:37 AM
To: Jennifer M. Kaulius
Subject: FW: Sidewalk handicapped accessibility

Jen – think this is what you were looking for.

Mike

Mike Kanarick
Chief of Staff
Office of Mayor Miro Weinberger
City Hall | 149 Church Street
Burlington, VT 05401
802.735.7962 (cell)
mike@burlingtonvt.gov

----- Forwarded message -----
From: Elaine Katz <Elainevt@aol.com>
Date: Thu, Apr 11, 2013 at 2:51 PM
Subject: Fwd: Sidewalk handicapped accessibility
To: "NormBlaisVT@gmail.com" <NormBlaisVT@gmail.com>

Begin forwarded message:

From: Elaine Katz <Elainevt@aol.com>
Date: February 12, 2013 2:42:04 PM EST
To: "patrick.standen@myfairpoint.net" <patrick.standen@myfairpoint.net>
Subject: Fwd: Sidewalk handicapped accessibility

Begin forwarded message:

From: Elaine Katz <Elainevt@aol.com>
Date: February 12, 2013 2:38:21 PM EST
To: "kram@burlingtonvt.gov" <kram@burlingtonvt.gov>
Subject: Fwd: Sidewalk handicapped accessibility

Hello,

I am forwarding an email to BPW for which I have not yet received a response.

I am unable to attend tonight's meeting but want to have my sidewalk access concerns noted.

Thank you,

Elaine Katz
177 Summit Street

Begin forwarded message:

From: Elaine <elainevt@aol.com>
Date: February 3, 2013 4:34:24 PM EST
To: NLosch@ci.burlington.vt.us
Cc: paulfin@sover.net, Nikolas Kerest
<Nikolas.Kerest@usdoj.gov>, "MoirA. Mulligan"
<MoirA.Mulligan@uvm.edu>
Subject: Sidewalk handicapped accessibility

Hello Nicole,

I am bringing to your notice the lack of handicapped parking spaces that allow accessibility to city sidewalks. I have done a cursory survey and am finding very few, in fact, only one handicapped space in downtown Burlington that allows full handicapped access to the sidewalk. That one space is on College Street in front of the Sherpa Kitchen restaurant. It is unique in that there is a curb cut allowing easy access from a car to the sidewalk.

Some existIng designated handicapped spaces in Burlington are an affront to the disabled.

Examples: Space at the north-east corner of College and South Union Street. It is against the embankment. Totally impossible to

get out and onto the sidewalk.

Space on College Street in front of the cupcake shop... Passenger door opens against a newspaper box, a tree surrounded by a raised flowerbed, and a bike rack.

College Street in front of the Pub and Brewery....a postal service collection box blocks the passenger door exit.

My main concerns which I would appreciate you addressing as sidewalk and pedestrian coordinator are curb cuts next to existing handicapped parking spaces and the positioning and number of spaces in downtown Burlington.

There are no spaces near the Roxy and none near two popular restaurants on St. Paul Street.

If you have a map with existing handicapped spaces I would appreciate a copy.

Thank you,

Sincerely,
Elaine Katz



Office of Engineering
645 Pine Street, Suite A
Burlington, VT 05402
802.863.9094 P
802.863.0466 F
802.863.0450 TTY

<http://www.burlingtonvt.gov/DPW/>

Chapin Spencer
DIRECTOR OF PUBLIC WORKS

Date: January 13, 2014

To: DPW Commission

*From: Laura Wheelock P.E.
Public Works Engineer
Street Capital Program Manager*

Subject: Fiscal Year 2015 Street Reconstruction Complete Streets

Memo

In response to our Complete Streets Guidance Document and the Mandatory Reporting Requirement of Act 34 I am seeking DPW Commission review and approval for two paving streets completed under the FY15 Paving Contract where Complete Streets elements were not incorporated.

I have attached the Draft Burlington Complete Streets Guidance document that reviews the requirements of Act 34 that were adopted by Vermont (7/1/2011) as well as our implementation of the Complete Streets approach to our projects in design and construction. While our document is a draft it is only a draft with regards to the formatting needed within the document to bring it into final form. All concepts, reporting, and project considerations have been completed. I have also included a copy of each of the completed reporting documents for Mill Street and Vest Haven Drive.

Under the FY15 Paving Contract all of the streets were reclaimed, and under our guidance document this would classify as a reportable project where complete streets concepts need to be considered, and if excluded from the work the exemption criteria or non-compliance needs to be completed. Under our policy any exemptions or non-compliance needs to be accepted by the DPW Commission.

Page 1 of 2

An Equal Opportunity Employer

This material is available in alternative formats for persons with disabilities. To request an accommodation, please call 802.863.9094 (voice) or 802.863.0450 (TTY).

January 13, 2015

RE: Fiscal Year 2015 Street Reconstruction Complete Streets

The two streets in question where the project and work have been completed without construction of the complete street sidewalk element are Vest Haven Drive and Mill Street. While sidewalks are an important element to the public right-of-way the condition of the pavement, cost of the project, schedule impacts to the project, and need disproportionate to cost have led us to pave these streets without incorporating a sidewalk. Our sidewalk strategic ranking of streets without sidewalk facilities evaluates the potential need for a sidewalk where one is absent. Of the missing sidewalk segments in the City these streets were ranked as follows. In addition their anticipated cost for construction of the sidewalk has been added with the anticipated repaving costs for comparison.

STREET	SIDEWALK PPI RANK (RANGE 6-26)	LENGTH	APPROXIMATE SIDEWALK COST	FY16 PAVING COST
VEST HAVEN DRIVE	11	726	\$95,000	\$57,000
MILL STREET	10	251	\$40,000	\$22,000

A copy of the ranking criteria that was used to calculate the PPI (Pedestrian Potential Index) has been included with this memo. As well as copy of the streets with missing sidewalks and their ranking based on that criteria.

We respectfully request your acceptance of these streets in our Complete Streets reporting documentation with the understanding that incorporating complete streets elements into these projects was disproportionate to the need of our sidewalk network.

If you have any questions regarding the complete street acceptance as it relates to the projects under the FY15 Paving Contract please do not hesitate to contact me directly at LWheelock@burlingtonvt.gov or 802-863-9094.

COMPLETE STREETS PROJECT REPORTING FORM

Form CS-1

A transportation project may be considered as involving full depth construction, extensive earthwork, impacts to adjacent resources, involvement of multiples departments / agencies / divisions, and/or having a project budget approved by a governing body.

Project Name Mill St.

Project Manager and Department Laura K. Wheelock PE, DPW

Date 12/31/14 **Filepath** L:\ STREETS AND SIDEWALKS\ 2-Street Reconstruction Program - Paving\ FY2015 Street Reconstruction Program\ complete streets

Complete Streets principles WERE considered.

 Form CS-2 attached

Complete Streets principles WERE NOT considered. This project is exempt because: (Check ONE)

 Use of the facility by pedestrians, bicyclists, or other users is prohibited by law.
Identify the limited access roadway: _____

 The cost of incorporating Complete Streets principles is disproportionate to the need or probable use of the facility.

 Form CS-3 attached

 The project scope of work was approved prior to July 1, 2011.

Identify the project: _____

The following activities are outside the scope of a transportation project and are not reported: Pothole patching / roadway preventative maintenance, shim paving, traffic signal upgrades to LED bulbs, sidewalk repair, catchbasin repair or installation, street sweeping or plowing, roadside mowing or trimming, sign replacement or installation, electrical upgrades, and emergency repairs.

This form was distributed:

Click here to enter a date. Clerk / Treasurer’s Office, Attn: Lori Olberg
Click here to enter a date. Agency of Transportation, Attn: Chris Cole

Form CS-2N

STREET CLASSIFICATION – NEIGHBORHOOD STREET

Any street not listed above.

Street Name: Mill St.

The following features should be considered on Burlington's Neighborhood Streets

Sidewalks

- both sides of the street, or at least one side of the street on *Neighborhood Streets*
- 5' minimum in residential areas
- > 5' in neighborhood centers and high density residential
- 8' – 10' on Slow Streets
- 5' clear zone

NOTES: see for CS-3

Tree Belt

- 5' minimum
- 2' minimum for snow storage
- structural soil in neighborhood centers, high density residential

NOTES:

Street Trees

- hardscape or tree grates for passenger loading/unloading

NOTES: N/A

Transit Shelters (at stops with high ridership)

- outside of 5' clear zone
- benches
- lighting
- street trees
- pedestrian-scale signs

NOTES: no stops on road

Parking:

- back-in angled or parallel if next to bike lanes
- NOTES: no bike lane, on street parking

Transit Stops

- placed in front of crosswalks
- 100' – 140' curbside for streets with higher lower volume
- bus bulbs (6' x 35') for streets with higher traffic volume, high transit ridership, crowded sidewalks and/or inadequate space for transit stop amenities
- 100' – 140' bus turnouts for transit stops with longer dwell times

NOTES: no stops on road

Traffic Calming should be included on all streets with existing traffic calming features or on streets with an assessed need for traffic calming

- speed tables and raised crosswalks at mid-block locations
- raised intersections, calming two streets at once
- colored / textured pavement for prominent pedestrian zones
- neighborhood traffic circles / intersection island, calming two streets at once
- chicanes
- pedestrian refuges or center islands, for refuge or gateway treatment
- curb extensions or chokers, at intersections or mid-block

NOTES: no traffic calming requests

Project Name	FY-15 full depth reconstruction paving program
Project Manager and Department	Laura K. Wheelock PE, DPW
Date	12/31/14
Public Works Commission approval date	

Instructions

If the cost of including complete streets features outweighs the need or probable use of the facility, project teams should provide adequate detail to support that determination. The analysis should consider access, safety and mobility for all current and future users.

This worksheet is required if the cost of incorporating complete streets principles is disproportionate to the need or probable use, resulting in a project that does not incorporate complete streets principles. The final determination shall be approved by the Public Works Commission and is not subject to appeal.

Be concise yet descriptive.

OBTAIN LOCAL AND/OR REGIONAL PLANS

- Municipal Development Plan (including the 2011 Transportation Plan)
- Plan BTV
- Regional Pedestrian and Bicycle Plan
- Chittenden County Regional Plan
- Metropolitan Transportation Plan
- Scoping, Feasibility, Corridor or other project reports
- List: _____
- Other: _____

Identify the multi-modal status of the project site as recommended in the planning documents:
 Street falls in both the neighborhood center as an adjacent street, and a neighborhood street.
 Facilities on this street should have at minimum a 5' wide sidewalk.

Describe the current and future land use and density (population and development):
 Small dead end street serving few residential buildings, and commercial

OBTAIN TRANSPORTATION DATA

Describe the Street Classification recommended in the Transportation Plan:
Neighborhood Street within Neighborhood designated center

Describe the existing and future pedestrian, bicycle and transit facilities:
Local vehicle traffic for residents and businesses. Businesses are primarily offices

Describe the current and projected traffic volumes:
Similar to present, ADT not available on this neighborhood street

Describe current and projected pedestrian and bicycle volumes:
Little to none, only contribution is from residents on the street and traffic to small deli/restaurant

Describe crash data for the project area:
Not available.

OBTAIN TRANSPORTATION FACTORS

Describe the existing right-of-way dimensions and use:
City ROW is 49.5' on the south side of the road this ROW is at the face of some buildings and slowly tapers out as the road moves east. The road is 38 ft edge of pavement to edge of pavement. Roadway cross section is two 8 ft parking lanes and two 11 ft travel lanes with a 5 ft stone stormwater swale on the north side to treat water prior to entering the collection system which drains directly into the Winooski River.

Describe the surrounding economic development:
High traffic passes by on Colchester Ave., both to and from Winooski. Close to Winooski business district. Surrounding areas in Burlington are a few small businesses and several residents.

Describe the nearby origins and destinations and the aesthetic environment:
Residential buildings, small businesses and office buildings.

Describe constraints (natural resources, historic resources, environmental resources, maintenance, etc.):
Next to the Winooski River, proximity of adjacent buildings and SW facilities.

ALTERNATIVES CONSIDERED

Describe any alternatives that were considered:
N/A, post project evaluation.

MUNICIPAL COMPLETE STREETS COMPLIANCE FORM

TO: Project File

FROM:

DATE:

SUBJECT: Complete Streets Compliance Form

Act 34 became effective July 1, 2011 and requires that the needs of all transportation users, regardless of their age, ability, or preferred mode of transportation be considered in state and municipal transportation projects and project phases. This project compliance form serves to document that Complete Streets practices and principles were considered and implemented where applicable for the project listed below. This project compliance form should be completed and retained in the Town's files and a copy provided to VTrans via the Regional Planning Commission.

Road: **Mill St.**

Project Description: **FY-15 full depth reconstruction paving program**

Compliance – If applicable, select all Complete Streets principles and practices that have been incorporated into the project.

- | | |
|--|--|
| <input type="checkbox"/> Sidewalks: installation, repair, ramps, railing, etc. | <input checked="" type="checkbox"/> Pavement Improvements: replacement, repair, etc. |
| <input checked="" type="checkbox"/> Crosswalks: installation, repair, markings, etc. | <input type="checkbox"/> Shoulder Improvements: widen with new pavement |
| <input checked="" type="checkbox"/> Lighting: street or pedestrian scale. | <input type="checkbox"/> Bike/Shared Use: paths, lanes, etc. |
| <input type="checkbox"/> Signals: pedestrian features. | <input type="checkbox"/> Public Transit: bus stops, bus pullouts, kiosks, etc. |
| <input type="checkbox"/> Streetscaping: benches, bulbouts, landscaping. | <input type="checkbox"/> Other (please describe): |

Exemption – If applicable, select one.

- The use of the transportation facility by pedestrians, bicyclists or other users is prohibited by law.
- The cost of incorporation complete streets principles is disproportionate to the need or probable use.
- Incorporating complete streets principles is outside the scope of the subject project due to its very nature.

If any of the boxes under "Exemption" are checked please provide a short justification below:

Cost of incorporating a sidewalk into this project would be more than the cost of the paving reconstruction. Project Cost \$22,000; estimated cost for new sidewalk including design and construction \$35k-\$40k and need is low. Timeline to design transportation facility greatly exceeds the timeline for the need of the roadway.

Non-Compliance – If none of the boxes under "Compliance" and "Exemption" are checked please draft and attach justification for not incorporating Complete Streets principles and practices into the project.

Completed:

Laura K. Wheelock PE

Project Manager

12/31/2014

Name

Position

Date

COMPLETE STREETS PROJECT REPORTING FORM

Form CS-1

A transportation project may be considered as involving full depth construction, extensive earthwork, impacts to adjacent resources, involvement of multiples departments / agencies / divisions, and/or having a project budget approved by a governing body.

Project Name Vest Haven Dr.

Project Manager and Department Laura K. Wheelock PE, DPW

Date 12/31/14 **Filepath** L:\ STREETS AND SIDEWALKS\ 2-Street Reconstruction Program - Paving\ FY2015 Street Reconstruction Program\ complete streets

Complete Streets principles WERE considered.

Form CS-2 attached

Complete Streets principles WERE NOT considered. This project is exempt because: (Check ONE)

Use of the facility by pedestrians, bicyclists, or other users is prohibited by law.
Identify the limited access roadway: _____

The cost of incorporating Complete Streets principles is disproportionate to the need or probable use of the facility.

Form CS-3 attached

The project scope of work was approved prior to July 1, 2011.

Identify the project: _____

The following activities are outside the scope of a transportation project and are not reported: Pothole patching / roadway preventative maintenance, shim paving, traffic signal upgrades to LED bulbs, sidewalk repair, catchbasin repair or installation, street sweeping or plowing, roadside mowing or trimming, sign replacement or installation, electrical upgrades, and emergency repairs.

This form was distributed:

Click here to enter a date. Clerk / Treasurer's Office, Attn: Lori Olberg
Click here to enter a date. Agency of Transportation, Attn: Chris Cole

Form CS-2N

STREET CLASSIFICATION – NEIGHBORHOOD STREET

Any street not listed above.

Street Name: Vest Haven Dr.

The following features should be considered on Burlington's Neighborhood Streets

Sidewalks

- both sides of the street, or at least one side of the street on *Neighborhood Streets*
 - 5' minimum in residential areas
 - > 5' in neighborhood centers and high density residential
 - 8' – 10' on Slow Streets
 - 5' clear zone
- NOTES: see form CS-3

Tree Belt

- 5' minimum
 - 2' minimum for snow storage
 - structural soil in neighborhood centers, high density residential
- NOTES:

Street Trees

- hardscape or tree grates for passenger loading/unloading
- NOTES: N/A

Transit Shelters (at stops with high ridership)

- outside of 5' clear zone
 - benches
 - lighting
 - street trees
 - pedestrian-scale signs
- NOTES: no stops on road

Parking:

- back-in angled or parallel if next to bike lanes
- NOTES: no bike lane

Transit Stops

- placed in front of crosswalks
 - 100' – 140' curbside for streets with higher lower volume
 - bus bulbs (6' x 35') for streets with higher traffic volume, high transit ridership, crowded sidewalks and/or inadequate space for transit stop amenities
 - 100' – 140' bus turnouts for transit stops with longer dwell times
- NOTES: no stops on road

Traffic Calming should be included on all streets with existing traffic calming features or on streets with an assessed need for traffic calming

- speed tables and raised crosswalks at mid-block locations
- raised intersections, calming two streets at once
- colored / textured pavement for prominent pedestrian zones
- neighborhood traffic circles / intersection island, calming two streets at once
- chicanes
- pedestrian refuges or center islands, for refuge or gateway treatment
- curb extensions or chokers, at intersections or mid-block

NOTES: no traffic calming requests

DOCUMENTING COST DISPROPORTIONATE TO NEED

FORM CS-3

Project Name	FY-15 full depth reconstruction paving program
Project Manager and Department	Laura K. Wheelock PE, DPW
Date	12/31/2014
Public Works Commission approval date	

Instructions

If the cost of including complete streets features outweighs the need or probable use of the facility, project teams should provide adequate detail to support that determination. The analysis should consider access, safety and mobility for all current and future users.

This worksheet is required if the cost of incorporating complete streets principles is disproportionate to the need or probable use, resulting in a project that does not incorporate complete streets principles. The final determination shall be approved by the Public Works Commission and is not subject to appeal.

Be concise yet descriptive.

OBTAIN LOCAL AND/OR REGIONAL PLANS

- Municipal Development Plan (including the 2011 Transportation Plan)
- Plan BTV
- Regional Pedestrian and Bicycle Plan
- Chittenden County Regional Plan
- Metropolitan Transportation Plan
- Scoping, Feasibility, Corridor or other project reports
- List: _____
- Other: _____

Identify the multi-modal status of the project site as recommended in the planning documents:
Facilities on this street should have at minimum a 5' wide sidewalk.

Describe the current and future land use and density (population and development):
Residential homes, no expansion development possible with other nearby houses

Other information relevant to this project:

OBTAIN TRANSPORTATION DATA

Describe the Street Classification recommended in the Transportation Plan:
Neighborhood Street

Describe the existing and future pedestrian, bicycle and transit facilities :
Local vehicle traffic only

Describe the current and projected traffic volumes:
Local residents only

Describe current and projected pedestrian and bicycle volumes:
Little to none, only contribution is from residents on the street

Describe crash data for the project area:
N/A

OBTAIN TRANSPORTATION FACTORS

Describe the existing right-of-way dimensions and use:
The City right of way is 50 ft with a curb to curb width of 30 ft for the street. On street parking is allowed on the east side of the road. Utility poles occupy space on east side of road ideally where sidewalk would be placed.

Describe the surrounding economic development:
Residential neighborhood

Describe the nearby origins and destinations and the aesthetic environment:
Residential homes

Describe constraints (natural resources, historic resources, environmental resources, maintenance, etc.):
None identified

ALTERNATIVES CONSIDERED

Describe any alternatives that were considered:
N/A, post project evaluation

MUNICIPAL COMPLETE STREETS COMPLIANCE FORM

TO: Project File

FROM:

DATE:

SUBJECT: Complete Streets Compliance Form

Act 34 became effective July 1, 2011 and requires that the needs of all transportation users, regardless of their age, ability, or preferred mode of transportation be considered in state and municipal transportation projects and project phases. This project compliance form serves to document that Complete Streets practices and principles were considered and implemented where applicable for the project listed below. This project compliance form should be completed and retained in the Town's files and a copy provided to VTrans via the Regional Planning Commission.

Road: Mill St.

Project Description: **FY-15 full depth reconstruction paving program**

Compliance – If applicable, select all Complete Streets principles and practices that have been incorporated into the project.

- | | |
|--|--|
| <input type="checkbox"/> Sidewalks: installation, repair, ramps, railing, etc. | <input checked="" type="checkbox"/> Pavement Improvements: replacement, repair, etc. |
| <input type="checkbox"/> Crosswalks: installation, repair, markings, etc. | <input type="checkbox"/> Shoulder Improvements: widen with new pavement |
| <input checked="" type="checkbox"/> Lighting: street or pedestrian scale. | <input type="checkbox"/> Bike/Shared Use: paths, lanes, etc. |
| <input type="checkbox"/> Signals: pedestrian features. | <input type="checkbox"/> Public Transit: bus stops, bus pullouts, kiosks, etc. |
| <input type="checkbox"/> Streetscaping: benches, bulbouts, landscaping. | <input type="checkbox"/> Other (please describe): |

Exemption – If applicable, select one.

- The use of the transportation facility by pedestrians, bicyclists or other users is prohibited by law.
- The cost of incorporation complete streets principles is disproportionate to the need or probable use.
- Incorporating complete streets principles is outside the scope of the subject project due to its very nature.

If any of the boxes under "Exemption" are checked please provide a short justification below:

Cost of incorporating a sidewalk into this project would be more than the cost of the paving reconstruction. Project Cost \$57,000; estimated cost for new sidewalk including design and construction \$95k and need is low. Timeline to design transportation facility greatly exceeds the timeline for the need of the roadway.

Non-Compliance – If none of the boxes under "Compliance" and "Exemption" are checked please draft and attach justification for not incorporating Complete Streets principles and practices into the project.

Completed:

Laura K. Wheelock PE

Project Manager

12/31/2014

Name

Position

Date

Burlington Complete Streets Guidance

Navigating the
Mandatory Reporting
Requirement of Act 34

Provided by the Department of
Public Works



Distribution: Director of Public Works, DPW Assistant Directors, DPW Office of Planning, DPW Traffic Division, DPW Streets Division, Director of CEDO, CEDO Special Projects Manager, Office of Mayor Miro Weinberger, Office of the Clerk/Treasurer, Office of the City Attorney, Parks and Recreation, Burlington Electric, Burlington Fire Department, Planning and Zoning

Purpose

1. Ensure compliance with Act No. 34 (effective July 1, 2011), “an act relating to a transportation policy that considers all users” by providing guidance, interpretation, and reporting tools for municipal use.
2. Implement transportation projects in accordance with the City of Burlington 2011 Transportation Plan, which follows a complete streets strategy and Street Design Guidelines.

Introduction to Act 34

Pursuant to Act 34, all transportation projects and project phases managed by a municipality – including planning, development, construction, or maintenance – must consider “complete streets” principles, which are principles of safety and accommodation of all transportation system users, regardless of age, ability, or modal preference; except projects or project components involving unpaved highways.

If, after the consideration required by Act 34, a project does not incorporate complete streets principles, the municipality shall make a written determination that one or more of the following circumstances exist:

1. Use of the transportation facility by pedestrians, bicyclists, or other users is prohibited by law.
2. The cost of incorporating complete streets principles is disproportionate to the need or probable use as determined by factors such as land use, current and projected user volumes, population density, crash data, historic and natural resource constraints, and maintenance requirements. The municipality shall consult local and regional plans, as appropriate, in assessing these and any other relevant factors.
3. Incorporating complete streets principles is outside the scope of a project because of its very nature.

The written determination must be supported by documentation and available for public inspection at the office of the municipal clerk and at the agency of transportation. This determination shall be final and not subject to appeal or further review.

Introduction to City Policy

Adoption of the 2011 Transportation Plan requires a different way of planning for transportation in Burlington. The Plan is directed at promoting a Strong and Healthy City, Transportation Choices, and Great Streets. To develop Great Streets, transportation planning has shifted to a complete streets strategy and new Street Design Guidelines. Streets are classified beyond the traditional identification of local, collector, primary or arterial streets and now focus on Complete Streets, Transit Streets, Bicycle Streets, Slow Streets, Truck Routes, and Neighborhood Streets. The Street

Design Guidelines provide a description of complete streets features that should be considered for each class of streets in Burlington.

In 2012 the City of Burlington was a recipient of a Sustainable Communities Building Blocks grant through the Environmental Protection Agency. After a full-day workshop with local decisionmakers and stakeholders, a “Next Steps Memorandum” was provided to summarize the key issues identified at the workshop and key strategies for complete streets implementation. The city will continue to work on comprehensive actions for implementation of our complete streets strategy, including attention on engagement, education, and engineering actions.



The Project Review Process

It is the responsibility of the City to consider complete streets principles unless a project meets one of the three exemptions under Act 34 (as described on page 1). The attached *Complete Streets Toolbox for Burlington* will help city staff and design teams understand and document the process of considering complete street principles on Burlington streets.

The *Complete Streets Toolbox for Burlington* includes three components:

1. **Project Reporting (Form CS-1)** – a required document if complete streets principles will not be included in a project;
2. **Street Design Guidelines Worksheet (Form CS-2)** – a street-by-street analysis to identify features to be considered;
3. **Cost Disproportionate to Need Worksheet (Form CS-3)** – a required document if complete streets principles will not be included due to cost.

COMPLETE STREETS PROJECT REPORTING FORM

Form CS-1

A transportation project may be considered as involving full depth construction, extensive earthwork, impacts to adjacent resources, involvement of multiples departments / agencies / divisions, and/or having a project budget approved by a governing body.

Project Name _____

Project Manager and Department _____

Date _____ **Filepath** _____

Complete Streets principles WERE considered.

[Form CS-2](#) attached

*Complete Streets principles WERE NOT considered. This project is exempt because:
(Check ONE)*

Use of the facility by pedestrians, bicyclists, or other users is prohibited by law.
Identify the limited access roadway: _____

The cost of incorporating Complete Streets principles is disproportionate to the need or probable use of the facility.

[Form CS-3](#) attached

The project scope of work was approved prior to July 1, 2011.

Identify the project: _____

The following activities are outside the scope of a transportation project and are not reported:
Pothole patching / roadway preventative maintenance, shim paving, traffic signal upgrades to LED bulbs, sidewalk repair, catchbasin repair or installation, street sweeping or plowing, roadside mowing or trimming, sign replacement or installation, electrical upgrades, and emergency repairs.

This form was distributed:

[Click here to enter a date.](#) Clerk / Treasurer's Office, Attn: Lori Olberg
[Click here to enter a date.](#) Agency of Transportation, Attn: Chris Cole

STREET DESIGN GUIDELINES WORKSHEET

Form CS-2

This is only a guide. It is intended to quickly navigate the Street Design Guidelines and ensure basic features are considered; this should not be considered an inclusive checklist.

Instructions

1. This worksheet is organized by Street Classification. Each street or street segment is listed under the appropriate section.
2. Find your project site on the map below or on the attached worksheets.
3. Using the form for your project's street classification, consider the complete street principles listed. Refer to the Street Design Guidelines for additional detail on the individual features of complete streets.
4. If a feature should be considered but can't be included, note the reason.

[Form CS-2C](#) Complete Streets

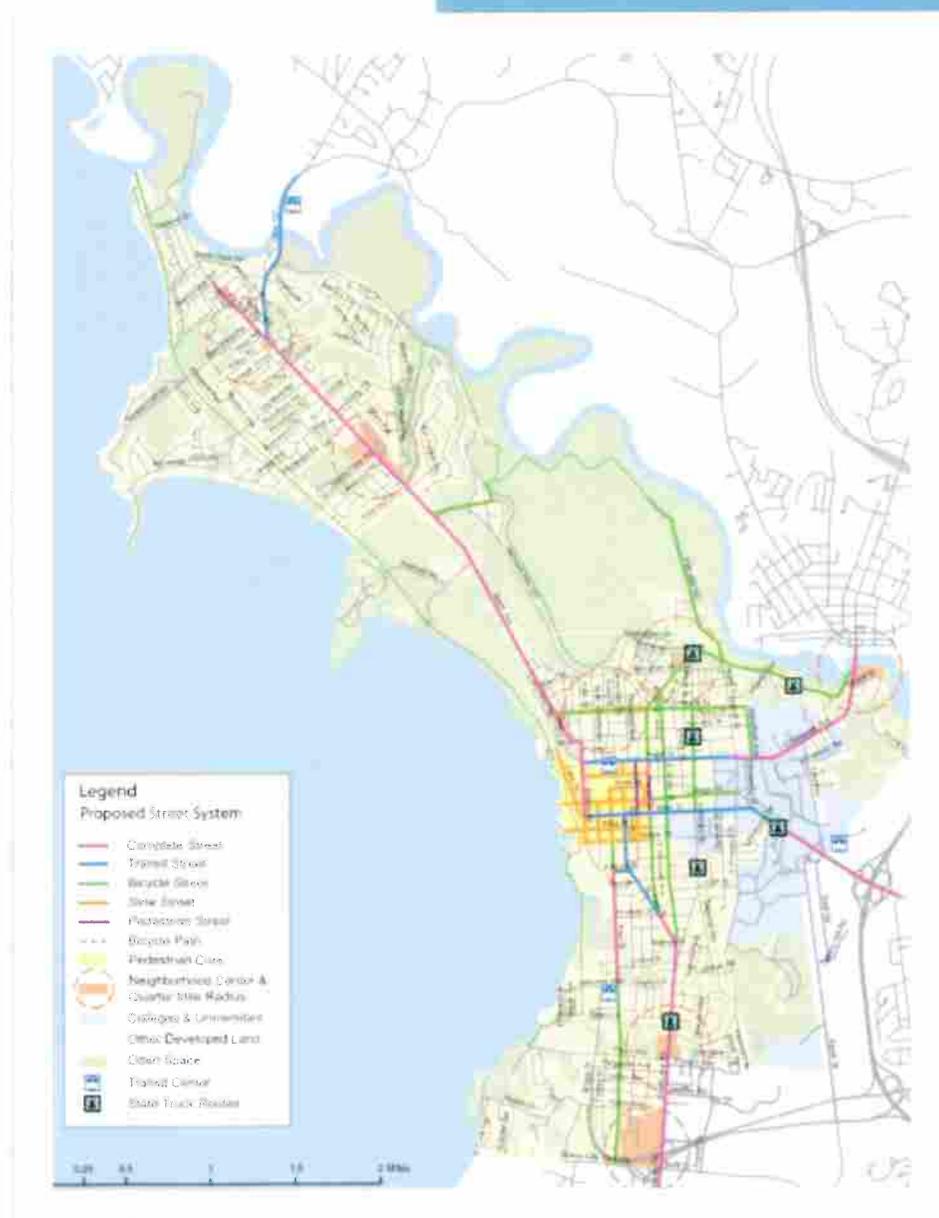
[Form CS-2T](#) Transit Streets

[Form CS-2B](#) Bicycle Streets

[Form CS-2S](#) Slow Streets

[Form CS-2SR/NC](#) State Truck Routes

[Form CS-2N](#) Neighborhood Streets



Form CS-2C

STREET CLASSIFICATION – COMPLETE STREETS

The project is located on:

- North Avenue*** from Northgate Road to its southern end
- Colchester Avenue***
- Main Street**** from University Terrace to the South Burlington town line
- South Winooski Avenue** from Main Street to Pearl Street
- Battery Street** from Sherman Street to Main Street
- Pine Street** from Lakeside Avenue to Kilburn Street
- Shelburne Street*/**** from Howard Street to the South Burlington town line

* Also refer to *Neighborhood Transition Centers (CS-2NC)*

**Also refer to *State Truck Routes (CS-2SR)*



The following features should be considered on Burlington's Complete Streets

Sidewalks

- both sides of the street, or at least one side of the street on *Neighborhood Streets*
- 5' minimum in residential areas
- >5' in neighborhood centers and high density residential
- 8' – 10' on Slow Streets
- 5' clear zone

NOTES:

Tree Belt

- 5' minimum
- 2' minimum for snow storage
- structural soil in neighborhood centers, high density residential

NOTES:

Street Trees

- hardscape or tree grates for passenger loading/unloading

NOTES:

Parking

- back-in angled or parallel if next to bike lanes

NOTES:

Furniture

- benches
- kiosks
- bike racks

NOTES:

Street Lighting

- ornamental light fixtures at gateways
- ornamental and 10' – 14' high light fixtures in neighborhood centers, pedestrian promenades, college campus networks, high-pedestrian zones and Slow Streets

NOTES:

Transit Shelters (at stops with high ridership)

- outside of 5' clear zone
- benches
- lighting
- street trees
- pedestrian-scale signs

NOTES:

Vehicle lanes

- Complete Streets: 10' – 11'*

NOTES:

Form CS-2C

STREET CLASSIFICATION – COMPLETE STREETS

Bike Lanes

- 5' minimum
- 6' minimum next to parking lane
- green bike lane for complex areas
- bike safe drain grates
- 30' two-way street with parking: widen street by 5' for single-direction bike lane
- 30' two-way street without parking: two single-direction bike lanes (in each direction)
- 30' one-way street with parking: two single-direction bike lanes (in each direction)
- 40' two-way street with parking: two single-direction bike lanes (in each direction)
- at intersections with right turn lane, stripe through bike lane to the left of the turn lane

NOTES:

Two-way left turn lane

- Considered

NOTES:

Curb radii

- 10' – 15'

NOTES:

Crosswalks

- at each intersection
- special pavement treatment at high volume crossings (if textured, only smooth)
- every 300' – 400'

NOTES:

Medians or refuge islands

- at mid-block location: 6' x 20' minimum with 5' pedestrian path
- landscaped refuge island (not paved)

NOTES:

Mid-block Crosswalks

- warranted by pedestrian volumes
- 6' – 10' wide
- ladder, zebra, fully painted, or colored and textured bounded by white
- raised crossing
- Z-crossing if median or refuge provided
- Signage and/or signage with warning lights

NOTES:

Stormwater Planter

- in place of greenbelt on level streets

NOTES:

Porous Paving

- within on-street parking lane

NOTES:

Traffic Calming should be included on all streets with existing traffic calming features or on streets with an assessed need for traffic calming

- speed tables and raised crosswalks at mid-block locations
- raised intersections, calming two streets at once
- colored / textured pavement for prominent pedestrian zones
- neighborhood traffic circles / intersection island, calming two streets at once
- chicanes
- pedestrian refuges or center islands, for refuge or gateway treatment
- curb extensions or chokers, at intersections or mid-block

NOTES:

Form CS-2T

STREET CLASSIFICATION – TRANSIT STREETS



This project is on:

- Saint Paul Street** from Main Street to Howard Street
- Kilburn Street**
- Main Street**** from Battery Street to University Terrace
- Pearl Street** from Battery Street North Prospect Street
- Plattsburg Avenue**

****Also refer to State Truck Route Worksheet**

The following features should be considered on Burlington's Transit Streets

Sidewalks

- both sides of the street, or at least one side of the street on *Neighborhood Streets*
- 5' minimum in residential areas
- > 5' in neighborhood centers and high density residential
- 8' – 10' on Slow Streets
- 5' clear zone

NOTES:

Tree Belt

- 5' minimum
- 2' minimum for snow storage
- structural soil in neighborhood centers, high density residential

NOTES:

Street Trees

- hardscape or tree grates for passenger loading/unloading

NOTES:

Street Lighting

- ornamental light fixtures at gateways
- ornamental and 10' – 14' high light fixtures in neighborhood centers, pedestrian promenades, college campus networks, high-pedestrian zones and Slow Streets

NOTES:

Furniture

- benches
- kiosks
- bike racks

NOTES:

Transit Shelters (at stops with high ridership)

- outside of 5' clear zone
- benches
- lighting
- street trees
- pedestrian-scale signs

NOTES:

Transit Stops

- placed in front of crosswalks
- 100' – 140' curbside for streets with higher lower volume
- bus bulbs (6' x 35') for streets with higher traffic volume, high transit ridership, crowded sidewalks and/or inadequate space for transit stop amenities
- 100' – 140' bus turnouts for transit stops with longer dwell times

NOTES:

Form CS-2T

STREET CLASSIFICATION - TRANSIT STREETS

Queue Jump Lanes

- shared with right turn lane at intersection, with stop across intersection

NOTES:

Parking:

- removed at transit stops
- back-in angled or parallel if next to bike lanes

NOTES:

Vehicle lanes

- Transit Streets and Truck Routes*: 10' – 12'

NOTES:

Crosswalks

- at each intersection
- special pavement treatment at high volume crossings (if textured, only smooth)
- every 300' – 400'

NOTES:

Medians or refuge islands

- at mid-block location: 6' x 20' minimum with 5' pedestrian path
- landscaped refuge island (not paved)

NOTES:

Mid-block Crosswalks

- warranted by pedestrian volumes
- 6' – 10' wide
- ladder, zebra, fully painted, or colored and textured bounded by white
- raised crossing
- Z-crossing if median or refuge provided
- Signage and/or signage with warning lights

NOTES:

Curb radii

- 10' – 15'

NOTES:

Curb Extensions

- Considered

NOTES:

Traffic Calming should be included on all streets with existing traffic calming features or on streets with an assessed need for traffic calming

- speed tables and raised crosswalks at mid-block locations
- raised intersections, calming two streets at once
- colored / textured pavement for prominent pedestrian zones
- neighborhood traffic circles / intersection island, calming two streets at once
- chicanes
- pedestrian refuges or center islands, for refuge or gateway treatment
- curb extensions or chokers, at intersections or mid-block

NOTES:

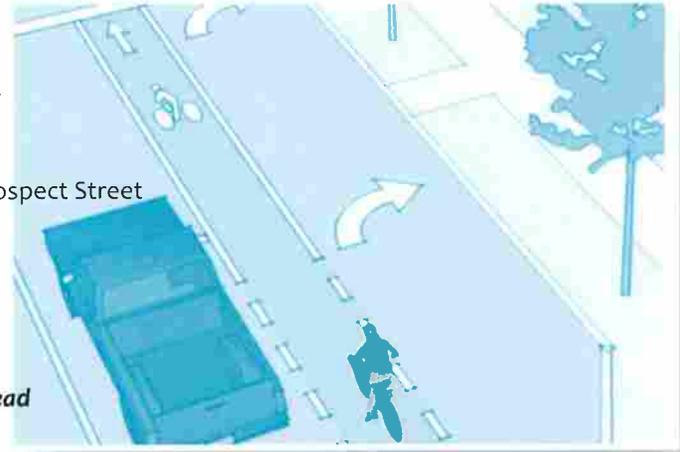
Form CS-2B STREET CLASSIFICATION – BICYCLE STREETS

This project is on:

- Pine Street** from Lakeside Avenue to Queen City Park Road and from Kilburn Street to Maple Street
- South Winooski Avenue** from Howard Street to Main Street
- North Winooski Avenue***/**
- South Union Street**
- North Union Street**
- South Willard Street**** from Main Street to North Street
- Mansfield Avenue**
- College Street** from South Winooski Avenue to South Prospect Street
- North Street***
- Riverside Avenue***/**
- Intervale Road**
- Route 127 entrance to and including Ethan Allen Homestead**

* Also refer to Neighborhood Transition Centers (CS-2NC)

**Also refer to State Truck Routes (CS-2SR)



The following features should be considered on Burlington's Bicycle Streets

Sidewalks

- both sides of the street, or at least one side of the street on *Neighborhood Streets*
- 5' minimum in residential areas
- > 5' in neighborhood centers and high density residential
- 8' – 10' on Slow Streets
- 5' clear zone

NOTES:

Tree Belt

- 5' minimum
- 2' minimum for snow storage
- structural soil in neighborhood centers, high density residential

NOTES:

Street Trees

- hardscape or tree grates for passenger loading/unloading

NOTES:

Street Lighting

- ornamental light fixtures at gateways
- ornamental and 10' – 14' high light fixtures in neighborhood centers, pedestrian promenades, college campus networks, high-pedestrian zones and Slow Streets

NOTES:

Furniture

- benches
- kiosks
- bike racks

NOTES:

Form CS-2B STREET CLASSIFICATION – BICYCLE STREETS

Bike Lanes

- 5' minimum
- 6' minimum next to parking lane
- green bike lane for complex areas
- bike safe drain grates
- 30' two-way street with parking: widen street by 5' for single-direction bike lane
- 30' two-way street without parking: two single-direction bike lanes (in each direction)
- 30' one-way street with parking: two single-direction bike lanes (in each direction)
- 40' two-way street with parking: two single-direction bike lanes (in each direction)
- at intersections with right turn lane, stripe through bike lane to the left of the turn lane

NOTES:

Vehicle lanes

- Bicycle Streets: 10'*

NOTES:

Transit Shelters (at stops with high ridership)

- outside of 5' clear zone
- benches
- lighting
- street trees
- pedestrian-scale signs

NOTES:

Parking:

- back-in angled or parallel if next to bike lanes

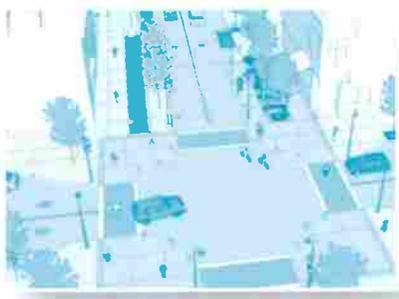
NOTES:

Traffic Calming should be included on all streets with existing traffic calming features or on streets with an assessed need for traffic calming

- speed tables and raised crosswalks at mid-block locations
- raised intersections, calming two streets at once
- colored / textured pavement for prominent pedestrian zones
- neighborhood traffic circles / intersection island, calming two streets at once
- chicanes
- pedestrian refuges or center islands, for refuge or gateway treatment
- curb extensions or chokers, at intersections or mid-block

NOTES:

Form CS-2S STREET CLASSIFICATION – SLOW STREETS



The project is on:

- Maple Street** from South Winooski Street to its western terminus
- King Street** from South Winooski Street to its western terminus
- College Street** from South Winooski Street to its western terminus
- Bank Street**
- Cherry Street**
- Lake Street**

The following features should be considered on Burlington's Slow Streets

Sidewalks

- both sides of the street, or at least one side of the street on *Neighborhood Streets*
- 5' minimum in residential areas
- > 5' in neighborhood centers and high density residential
- 8' – 10' on Slow Streets
- 5' clear zone

NOTES:

Tree Belt

- 5' minimum
- 2' minimum for snow storage
- structural soil in neighborhood centers, high density residential

NOTES:

Street Trees

- hardscape or tree grates for passenger loading/unloading

NOTES:

Furniture

- benches
- kiosks
- bike racks

NOTES:

Street Lighting

- ornamental light fixtures at gateways
- ornamental and 10' – 14' high light fixtures in neighborhood centers, pedestrian promenades, college campus networks, high-pedestrian zones and Slow Streets

NOTES:

Transit Shelters (at stops with high ridership)

- outside of 5' clear zone
- benches
- lighting
- street trees
- pedestrian-scale signs

NOTES:

Vehicle lanes

- Slow Streets*: 10' – 12', greater for higher mix of uses

NOTES:

Crosswalks

- at each intersection
- special pavement treatment at high volume crossings (if textured, only smooth)
- every 300' – 400'

NOTES:

Form CS-2S STREET CLASSIFICATION - SLOW STREETS

Mid-block Crosswalks

- warranted by pedestrian volumes
- 6' – 10' wide
- ladder, zebra, fully painted, or colored and textured bounded by white
- raised crossing
- Z-crossing if median or refuge provided
- Signage and/or signage with warning lights

NOTES:

Parking:

- back-in angled or parallel if next to bike lanes
- removed at transit stops
- parking meters behind tree belt, centralized pay stations

NOTES:

Curb radii

- 10' – 15'

NOTES:

Curb Extensions

- Considered

NOTES:

Stormwater Planter

- in place of greenbelt on level streets

NOTES:

Porous Paving

- within on-street parking lane

NOTES:

Enhanced Intersection

- raised
- special paving treatments and/or colors
- curb extensions with bollards

NOTES:

Traffic Calming should be included on all streets with existing traffic calming features or on streets with an assessed need for traffic calming

- speed tables and raised crosswalks at mid-block locations
- raised intersections, calming two streets at once
- colored / textured pavement for prominent pedestrian zones
- neighborhood traffic circles / intersection island, calming two streets at once
- chicanes
- pedestrian refuges or center islands, for refuge or gateway treatment
- curb extensions or chokers, at intersections or mid-block

NOTES:

Form CS-2SR/NC

STATE TRUCK ROUTES

The project is on:

- Shelburne Street**
- Willard Street**
- Main Street**
- Riverside Avenue**
- North Winooski Avenue**

The following features should be considered:

Vehicle lanes

- Truck Routes: 10' – 12'**

NOTES:

NEIGHBORHOOD TRANSITION CENTERS

The project is located at:

- North Avenue** at Plattsburg Avenue
- North Avenue** from Ethan Allen Shopping Center to Ethan Allen Parkway
- Riverside Avenue / Colchester Avenue** intersection
- Shelburne Street** from Birchcliff Parkway to Lyman Avenue
- Shelburne Street** from Home Avenue to the South Burlington town line
- North Street** from North Avenue to North Winooski Avenue
- North Winooski Avenue** from North Street to Riverside Avenue



The following features should be considered:

- bus bulbouts / curbside transit stops
- curb extensions
- shared lane markings and signs replace bike lanes
- structural soil and street trees
- pedestrian-scale lighting, furniture, plantings, and sidewalk patterns
- on-street parking

NOTES:

Form CS-2N

STREET CLASSIFICATION - NEIGHBORHOOD STREET

Any street not listed above.

Street Name: _____

The following features should be considered on Burlington's Neighborhood Streets

Sidewalks

- both sides of the street, or at least one side of the street on *Neighborhood Streets*
- 5' minimum in residential areas
- > 5' in neighborhood centers and high density residential
- 8' – 10' on Slow Streets
- 5' clear zone

NOTES:

Tree Belt

- 5' minimum
- 2' minimum for snow storage
- structural soil in neighborhood centers, high density residential

NOTES:

Street Trees

- hardscape or tree grates for passenger loading/unloading

NOTES:

Transit Shelters (at stops with high ridership)

- outside of 5' clear zone
- benches
- lighting
- street trees
- pedestrian-scale signs

NOTES:

Parking:

- back-in angled or parallel if next to bike lanes

NOTES:

Transit Stops

- placed in front of crosswalks
- 100' – 140' curbside for streets with higher lower volume
- bus bulbs (6' x 35') for streets with higher traffic volume, high transit ridership, crowded sidewalks and/or inadequate space for transit stop amenities
- 100' – 140' bus turnouts for transit stops with longer dwell times

NOTES:

Traffic Calming should be included on all streets with existing traffic calming features or on streets with an assessed need for traffic calming

- speed tables and raised crosswalks at mid-block locations
- raised intersections, calming two streets at once
- colored / textured pavement for prominent pedestrian zones
- neighborhood traffic circles / intersection island, calming two streets at once
- chicanes
- pedestrian refuges or center islands, for refuge or gateway treatment
- curb extensions or chokers, at intersections or mid-block

NOTES:

Project Name	
Project Manager and Department	
Date	
Public Works Commission approval date	

Instructions

If the cost of including complete streets features outweighs the need or probable use of the facility, project teams should provide adequate detail to support that determination. The analysis should consider access, safety and mobility for all current and future users.

This worksheet is required if the cost of incorporating complete streets principles is disproportionate to the need or probable use, resulting in a project that does not incorporate complete streets principles. The final determination shall be approved by the Public Works Commission and is not subject to appeal.

Be concise yet descriptive.

OBTAIN LOCAL AND/OR REGIONAL PLANS

- [Municipal Development Plan](#) (including the 2011 Transportation Plan)
- [Plan BTV](#)
- [Regional Pedestrian and Bicycle Plan](#)
- [Chittenden County Regional Plan](#)
- [Metropolitan Transportation Plan](#)
- Scoping, Feasibility, Corridor or other project reports
List: _____
- Other: _____

Identify the multi-modal status of the project site as recommended in the planning documents:

Describe the current and future land use and density (population and development):

Other information relevant to this project:

OBTAIN TRANSPORTATION DATA

Describe the Street Classification recommended in the Transportation Plan:

Describe the existing and future pedestrian, bicycle and transit facilities :

Describe the current and projected traffic volumes:

Describe current and projected pedestrian and bicycle volumes:

Describe crash data for the project area:

OBTAIN TRANSPORTATION FACTORS

Describe the existing right-of-way dimensions and use:

Describe the surrounding economic development:

Describe the nearby origins and destinations and the aesthetic environment:

Describe constraints (natural resources, historic resources, environmental resources, maintenance, etc.):

ALTERNATIVES CONSIDERED

Describe any alternatives that were considered:

City of Burlington

Sidewalk Strategic Plan

August 2008 Update

Variable	Code	Description	Assigned Value
Type of Road	ART	Arterial	5
	COL	Collector	3
	LCL	Local	1

Major Pedestrian Generators	ASL	W/in 0.25 mi of retirement community, assisted living, or senior center	5
	CC	W/in 0.25 mi of library, community center, places of worship, etc	3
	WK	W/in 1 mile of employment center for > 200 employees	3
	MED	W/in 0.25 mi of community medical clinic	1

School Zones	ES	W/in 0.25 mi of elementary school	5
	MHS	W/in 0.5 mi of middle or high school	3
	UNV	W/in 1 mi of college or university	3

Transit Routes	TRN	Roads that are transit routes	5
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Commercial Areas	COM	W/in Designated Downtown	5
	NAC	W/in 0.25 mi of Neighborhood Activity Center	4

Paths, Trails, & Parks	PK	W/in 0.25 mi	3
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No Sidewalks on Either Side	SIDE	City policy for at least one sidewalk on every street	5
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Point Assessment	
High priority	5
Med/High priority	4
Medium priority	3
Low/Med priority	2
Low priority	1

ACCPETE
D/UNACC PAVING
EPTED YEAR

Sidewalk

STREET	FROM	TO	SIDE OF STREET	ART 5	COL 3	LCL 1	ASL 5	CC 3	WK 3	MED 1	ES 5	MHS 3	UNV 3	TRN 5	COM 5	NAC 4	PK 3	SIDE 5	PPI TOTAL
NORTHVIEW	NORTH AVE	END	SOUTH			X					X							X	11
RIVERS EDGE DR	NORTH VIEW DR	PLATTSBURG AVE	NORTH			X					X							X	11
RIVERS EDGE DR	NORTH VIEW DR	PLATTSBURG AVE	SOUTH			X					X							X	11
SEARS LN	PINE	END	NORTH			X					X							X	11
SEARS LN	PINE	END	SOUTH			X					X							X	11
VEST HAVEN DR	MORGAN ST	END	EAST			X					X							X	11
MILL ST	COLCHESTER	END	NORTH			X										X		X	10
MILL ST	COLCHESTER	END	SOUTH			X										X		X	10
DEFOREST HTS	DEFOREST RD	END	WEST			X							X					X	9
DEFOREST HTS	DEFOREST RD	END	EAST			X							X					X	9
EDGEMOOR DR	NORTH AVE	NORTH AVE	NORTH			X						X						X	9
EDGEMOOR DR	NORTH AVE	NORTH AVE	SOUTH			X						X						X	9
GOLDEN PL	HOWARD ST	END	WEST			X							X					X	9
GOLDEN PL	HOWARD ST	END	EAST			X							X					X	9
STANBURY	STANIFORD	WOODLAWN	WEST			X						X						X	9
STANBURY	STANIFORD	WOODLAWN	EAST			X						X						X	9
BATCHELDER	HOME	MORSE	WEST			X												X	6
BATCHELDER	HOME	MORSE	EAST			X												X	6
BRIGGS	MORSE	FLYNN	WEST			X												X	6
BRIGGS	MORSE	FLYNN	EAST			X												X	6
DEPOT ST	NORTH AVE	LAKE ST	WEST			X												X	6
DEPOT ST	NORTH AVE	LAKE ST	EAST			X												X	6
FOSTER	HOME	FERGUSON	WEST			X												X	6
FOSTER	HOME	FERGUSON	EAST			X												X	6
INDUSTRIAL PKWY	AUSTIN	QUEEN CITY	WEST			X												X	6
INDUSTRIAL PKWY	AUSTIN	QUEEN CITY	EAST			X												X	6
MORSE	BRIGGS	PINE ST	NORTH			X												X	6
MORSE	BRIGGS	PINE ST	SOUTH			X												X	6
NORTH AVE	WASTEWATER	DERWAY DR	WEST			X												X	6
NORTH AVE	WASTEWATER	DERWAY DR	EAST			X												X	6
LEDDY PARK RD	NORTH AVE	END	NORTH			X		X								X		X	13
LEDDY PARK RD	NORTH AVE	END	SOUTH			X		X								X		X	13
SIMMS	NORTH AVE	END	NORTH			X					X	X				X		X	18
SIMMS	NORTH AVE	END	SOUTH			X					X	X				X		X	18
GLENN RD	SOUTH ST	END	NORTH			X				X		X	X			X		X	17
GLENN RD	SOUTH ST	END	SOUTH			X				X		X	X			X		X	17
CLOAREC CT	INTERVALE AVE	END	NORTH			X		X								X		X	16
CLOAREC CT	INTERVALE AVE	END	SOUTH			X		X								X		X	16
BROWE CT	NORTH AVE	END	NORTH			X					X					X		X	15
BROWE CT	NORTH AVE	END	SOUTH			X					X					X		X	15
PINE PL	PINE ST	ST PAUL ST	NORTH			X		X				X	X					X	15
PINE PL	PINE ST	ST PAUL ST	SOUTH			X		X				X	X					X	15
WOODS ST	NORTH AVE	NORTHVIEW DR	NORTH			X					X	X						X	14
WOODS ST	NORTH AVE	NORTHVIEW DR	SOUTH			X					X	X						X	14
CHASE LN	CHASE ST	END	WEST			X							X			X		X	13
CHASE LN	CHASE ST	END	EAST			X							X			X		X	13
COLCHESTER CT	COLCHESTER	END	NORTH			X							X			X		X	13
COLCHESTER CT	COLCHESTER	END	SOUTH			X							X			X		X	13
UNIVERSITY RD	EAST AVE	END	WEST			X				X			X				X	X	13
UNIVERSITY RD	EAST AVE	END	EAST			X				X			X				X	X	13
IRANISTAN	CHITTENDEN	LEDGE RD	WEST			X						X	X					X	12
IRANISTAN	CHITTENDEN	LEDGE RD	EAST			X						X	X					X	12
CHITTENDEN	DEFOREST HTS	S WILLARD	NORTH			X							X					X	9
CHITTENDEN	DEFOREST HTS	S WILLARD	SOUTH			X							X					X	9

Segment Length LF	Cost High Per LF \$200	Cost Medium Per LF \$130	Cost Low Per LF \$85
1418	\$283,600	\$184,340	\$120,530
1161	\$232,200	\$150,930	\$98,685
1161	\$232,200	\$150,930	\$98,685
761	\$152,200	\$98,930	\$64,685
761	\$152,200	\$98,930	\$64,685
768	\$153,600	\$99,840	\$65,280
251	\$50,200	\$32,630	\$21,335
251	\$50,200	\$32,630	\$21,335
1259	\$251,800	\$163,670	\$107,015
1259	\$251,800	\$163,670	\$107,015
1224	\$244,800	\$159,120	\$104,040
1224	\$244,800	\$159,120	\$104,040
240	\$48,000	\$31,200	\$20,400
240	\$48,000	\$31,200	\$20,400
688	\$137,600	\$89,440	\$58,480
688	\$137,600	\$89,440	\$58,480
466	\$93,200	\$60,580	\$39,610
466	\$93,200	\$60,580	\$39,610
1051	\$210,200	\$136,630	\$89,335
1051	\$210,200	\$136,630	\$89,335
840	\$168,000	\$109,200	\$71,400
840	\$168,000	\$109,200	\$71,400
1150	\$230,000	\$149,500	\$97,750
1150	\$230,000	\$149,500	\$97,750
2679	\$535,800	\$348,270	\$227,715
2679	\$535,800	\$348,270	\$227,715
1262	\$252,400	\$164,060	\$107,270
1262	\$252,400	\$164,060	\$107,270
500	\$100,000	\$65,000	\$42,500
500	\$100,000	\$65,000	\$42,500
2825	\$565,000	\$367,250	\$240,125
2825	\$565,000	\$367,250	\$240,125
495	\$99,000	\$64,350	\$42,075
495	\$99,000	\$64,350	\$42,075
1170	\$234,000	\$152,100	\$99,450
1170	\$234,000	\$152,100	\$99,450
196	\$39,200	\$25,480	\$16,660
196	\$39,200	\$25,480	\$16,660
535	\$107,000	\$69,550	\$45,475
535	\$107,000	\$69,550	\$45,475
383	\$76,600	\$49,790	\$32,555
383	\$76,600	\$49,790	\$32,555
455	\$91,000	\$59,150	\$38,675
455	\$91,000	\$59,150	\$38,675
380	\$76,000	\$49,400	\$32,300
380	\$76,000	\$49,400	\$32,300
279	\$55,800	\$36,270	\$23,715
279	\$55,800	\$36,270	\$23,715
1762	\$352,400	\$229,060	\$149,770
1762	\$352,400	\$229,060	\$149,770
418	\$83,600	\$54,340	\$35,530
418	\$83,600	\$54,340	\$35,530
983	\$196,600	\$127,790	\$83,555
983	\$196,600	\$127,790	\$83,555



Office of Engineering
645 Pine Street, Suite A
Burlington, VT 05402
802.863.9094 P
802.863.0466 F
802.863.0450 TTY

<http://www.burlingtonvt.gov/DPW/>

Chapin Spencer
DIRECTOR OF PUBLIC WORKS

Date: January 13, 2014

To: DPW Commission

*From: Laura Wheelock P.E.
Public Works Engineer
Street Capital Program Manager*

Subject: Fiscal Year 2016 Street Reconstruction Draft Paving List

Memo

Attached is the draft list of next season's street reconstruction of the Street Capital Program. This plan includes approximately 2.2 miles of street reconstruction. The engineers estimate for this work is \$982,300 to be funded with the Street Capital Budget. The City applied for and received a grant to assist with segment of the beltline listed in the table below. The total value of the grant is \$122,416 through the VTrans Town Highway Class 2 Roadway Rehabilitation Program.

Construction is planned for July 1, 2015 to October 15, 2015. We are currently working to gather survey data and further refine cost estimates on the following list of streets. I have also contacted various utilities and City Departments to coordinate and communicate our upcoming work with theirs.

January 13, 2015

RE: Fiscal Year 2016 Street Reconstruction Draft Paving List

FY'16 DRAFT PAVING LIST

	LOCATION	SEGMENT	PCI	LENGTH	AREA
1	BARLEY	ALL	43	792	23760
2	BELTLINE	MANHATTAN- VT RAIL BRIDGE	36	1573	66560
3	FOSTER*	ALL	26	1637	49110
4	GERMAIN	ALL	7	372	9672
5	LOOMIS	MANSFIELD-N. PROSPECT	8	528	15840
6	MORGAN*	ALL	32	686	20580
7	OAKLAND	ALL	10	1056	27456
8	PLATTSBURG	TURF-BELTLINE RAMPS MERGE	29	1050	33600
9	SEARS*	PINE-END	6	786	23580
10	SPRING ST	MANHATTAN- ELMWOOD	14	317	8242
11	STANIFORD	APPLETREE PT SPEED BUMP- OAKLAND	15	816	24480
12	TURF	ALL	7	686	20580
13	VAN PATTEN	VILLAGE GREEN- HOUSE #95	40	1050	31500
				11355	FEET
				2.15	MILES

*Indicates streets that do not have sidewalks

Proposed for the FY16 Paving List are three streets that are in need of paving where the existing street does not meet the City of Burlington Street Design minimums and therefore will not satisfy the Complete Streets policy when completed. The three location are all in out of compliance for the same reason which is a lack of a sidewalk on at minimum one side of the street. These streets include Foster Street, Sears Lane, and Morgan Street.

Complete Streets sidewalk elements were considered for these locations, and while sidewalks are an important element to the public right-of-way the condition of the pavement, cost of the project, schedule impacts to the project, and need disproportionate to cost have led us to proposed to pave these streets without incorporating a sidewalk. Our sidewalk strategic ranking of streets without sidewalk facilities evaluates the potential need for a sidewalk where one is absent. Of the missing sidewalk segments in the City these streets were ranked as follows. In addition their anticipated cost for construction of the sidewalk has been added with the anticipated repaving costs for comparison.

January 13, 2015

RE: Fiscal Year 2016 Street Reconstruction Draft Paving List

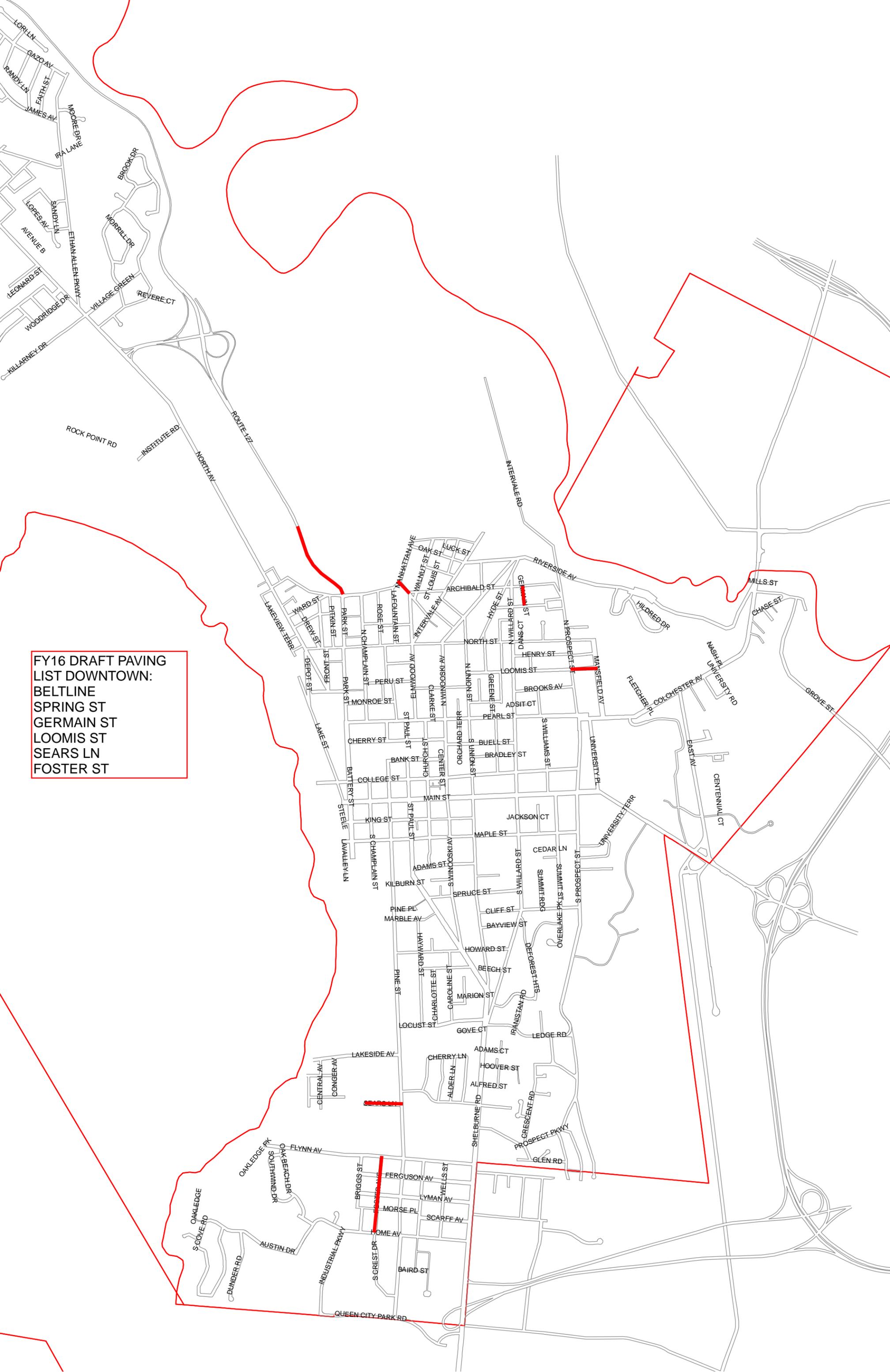
STREET	SIDEWALK PPI RANK (RANGE 6-26)	LENGTH	APPROXIMATE SIDEWALK COST	FY16 PAVING COST
MORGAN ST	11	686	\$90,000	\$46,000
SEARS LN	11	786	\$100,000	\$64,000
FOSTER ST	6	1150	\$150,000	\$134,000

Please review and comment on this list for our discussion at the January 2015 commission meeting. Staff will continue to develop full construction documents, surveys, drawings, estimates and advertise to bid this project in March 2013, if approved during the February Commission meeting. If you have any questions regarding the proposed street paving list for your approval, please do not hesitate to contact me directly at LWheelock@burlingtonvt.gov or 802-863-9094.

FY16 DRAFT PAVING
LIST NEW NORTH END:
MORGANS ST
BARLEY ST
TURF ROAD
PLATTSBURG AVE
OAKLAND TERRACE
STANIFORD RD
VAN PATTEN PKWY



FY16 DRAFT PAVING
LIST DOWNTOWN:
BELTLINE
SPRING ST
GERMAIN ST
LOOMIS ST
SEARS LN
FOSTER ST



Chapin Spencer
Director of Public Works

Patrick Buteau
*Assistant Director DPW
Parking & Fleet Services*



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MEMORANDUM

To: Public Works Commission
From: Patrick Buteau, Assistant Director DPW
Date: January 13, 2015
Subject: Parking Garage Assessments, Capital Repairs, and Funding Strategies



The Department solicited proposals for assessments to its' three City owned parking facilities with final report from Hoyle, Tanner & Associates received in late July, 2014. Staff met with the consultant to prioritize the identified deficiencies in each of the parking facilities and adjust the time frames from Immediate, Short Term, Mid Term and Long Term to actual dates to fit the City budget cycle.

I have included the original draft spreadsheet presented at your July 16, 2014 meeting indicating the magnitude of the need along with the accompanying draft executive summaries for each facility assessed by the consultant.

The prioritized repair schedule as a result of the final report is attached indicating the level of work required in 2015, 2016-17, and 2018 and beyond along with the associated repair details. The repairs shown for 2016-17 are such that they will span multiple years.

Based on the estimated costs, DPW is pursuing funding mechanisms to support these much needed repairs. One of the unique funding methods available by City Charter is the Traffic Funds' ability with City Council approval to mortgage City owned parking assets for new parking or improvements to the existing parking system. We anticipate there may be some TIF money available to help reduce the amount of borrowing that will be required to fund these repairs. Additionally we are looking at the phase II revenue enhancements to help pay for this new debt service.

As we explore financing options, we are seeking your input so we can continue to advance the funding process for these repairs.

City of Burlington
 Parking Garage Conditions Assessment
 Budgetary Cost Estimate Summary - DRAFT

Garage	Budgetary Cost Estimates					Annual Maintenance
	IMMEDIATE	Short Term	Mid Term	Long Term		
Marketplace Garage	\$16,000	\$2,736,300	\$1,337,700	\$85,000	\$105,000	
College Street Garage	\$79,400	\$3,036,200	\$529,500	\$697,700	\$145,000	
Lakeview Garage (Including Westlake)	\$0	\$318,500	\$335,500	\$0	\$155,000	
Total Cost Per Phase	\$95,400	\$6,091,000	\$2,202,700	\$782,700	\$405,000	

Note: The above information has been provided to assist the City with 2014 Garage Repair Planning. The Garage Reports have not yet been finalized and budgetary numbers may change. Budgetary Estimates are based on our field observations, engineering experience, and anticipated scope of work. Further development of design repairs and fluctuations in construction industry costs could impact overall project costs in either direction.

1 EXECUTIVE SUMMARY

The team of Hoyle, Tanner & Associates, Inc. (Hoyle, Tanner), Freeman, French, Freeman (FFF), and Kirick Engineering has been retained by the City of Burlington to perform a detailed conditions assessment with repair recommendations and budgetary considerations at the Market Place Parking Garage in Burlington, VT. These recommendations include immediate, short term, mid term, and long term needs as well as long term maintenance. This report summarizes our field observations, engineering opinions, and estimated costs.

The Marketplace Garage is a "modified" double helix comprised of post tensioned cast-in-place concrete slabs and beams supported by cast-in-place concrete columns. Post Tensioning (PT) systems are typically used to reduce the structural depth of the slabs and beams to minimize the overall weight of the garage and to provide a more economical design. Each helix is 114' wide by 141' long, reference Appendix B for garage floor layout plans. This 5 level structure was opened in 1976 and serves as an important public parking facility for the Church Street Marketplace as well as other downtown destinations. There are two vehicular entrances on the first level of the garage; a south entrance from Bank Street and North entrance from Cherry Street. There is one exit from the Garage on the second level that outlets onto South Winooski Avenue. Three detached stair towers provide pedestrian access into and out of the garage. These are indicated on the original garage plans alphanumerically and labeled in the garage based on street access. They are as follows; Stair Tower A (Church Street), Stair Tower B (Cherry Street) and Stair Tower C (Bank Street). Stair Tower A houses two elevators in a single shaft in addition to stairs.

In preparation of this report the following assumptions were made:

- No record drawings are available for this garage. Therefore, the exact layout including size of the post tensioning tendons is unknown. The Design Drawings provided indicated the PT system for the slab was performance specified for the Contractor to design.
- The interior of the elevator shaft was inspected for structural and architectural considerations. The elevator and associated equipment are routinely inspected and maintained under a separate contract.

There are many issues in the Marketplace parking garage that require repair or replacement. Understanding the level of capital investment required for this garage, this report has attempted to categorize repairs that allows for spending to be budgeted and spread over multiple years. All of the recommendations are important to the long term integrity of this garage, if they can be coordinated and completed sooner we recommend doing so. We have also included recommendations for general housekeeping and preventive maintenance schedules. Deferred capital spending will lead to more costly, more structure-critical repairs.

During our inspection we identified the following issues that should be addressed as soon as possible:

1. Remove loose overhead grout patch from the underside of the construction joint at Level 1 D-E Ramp at Beam Line 4 (JS-3: this nomenclature is used with the

report to key identified issues and is further explained in the Conditions Assessment Section of the report)

2. Patch concrete spalls with exposed reinforcing steel until more permanent floor surface repairs can be completed (CS-3)
3. Cover electrical junction boxes and patch spall locations until more permanent floor surface repairs can be completed (CS-4)

The most pressing issues at this garage stem from poor quality control during the original construction of the garage. Some structural elements, including the concrete slab and columns were constructed with inadequate concrete cover over reinforcing bars and PT strands which accelerates the rate of reinforcing corrosion and concrete deterioration.

Though there are many repairs and improvements necessary for this garage, much of the structure is still in serviceable condition. If repairs are completed within the recommended timeframe, future issues are quickly addressed, and a strong maintenance plan is adhered to this structure can be serviceable for another 15 to 20 years.

When considering alternatives at this garage location, recent average construction costs are at approximately \$25,000 per parking space for new parking garage facilities. So to reconstruct a new garage at this location, matching the existing 400 parking spaces would cost approximately \$10,000,000 (including engineering fees and demolitions costs).

1 EXECUTIVE SUMMARY

The team of Hoyle, Tanner & Associates, Inc. (Hoyle, Tanner), Freeman, French, Freeman (FFF), and Kirick Engineering has been retained by the City of Burlington to perform detailed conditions assessment with repair recommendations and budgetary considerations at the College Street Parking Garage in Burlington, VT. These recommendations include immediate, short term, mid term, and long term needs as well as long term maintenance. This report summarizes our field observations, engineering opinions, and estimated costs.

The College Street (formerly Burlington Square) parking garage is a precast prestressed concrete structure constructed with a Bay Side By Side layout using three rows of "double-tee" beams for the deck that is approximately 174' long by 252' wide. Reference Appendix B for garage floor layout plans. This 4 level structure plus partial roof was opened in 1985 and now serves as the main parking for the Hilton Hotel guests as well as many downtown businesses including Peoples United Bank and Fletcher Allen Health Care. The garage is centrally located within the downtown district midway between Church Street and the Waterfront. There are three vehicular entrances to the garage; the first floor entrance under the Hilton Hotel from Battery Street, the second floor entrance from College Street, and the fourth floor entrance from the Lakeview Parking Garage.

In preparation of this report the following assumptions were made:

- The garage was inspected within the limits of its footprint (generally 252' x 174'). The skywalk to the hotel, walls and ceiling of the tunnel (on Level 1) below the hotel are not owned by the City and are not included in this report.
- The interior of the elevator shaft was inspected for structural and architectural considerations. The elevator and associated equipment are routinely inspected and maintained under a separate contract.

There are many issues in the College Street parking garage that require repair or replacement. Understanding the level of capital investment required for this garage, this report has attempted to categorize repairs that allows for spending to be budgeted and spread over multiple years. All of the recommendations are important to the long term integrity of this garage, if they can be coordinated and completed sooner we recommend doing so. We have also included recommendations for general housekeeping and preventive maintenance schedules. Deferred capital spending will lead to more costly, more structure-critical repairs.

During our inspection we identified the following issues that should be addressed as soon as possible:

1. Remove loose overhead concrete from spalled areas on double tee beams and inverted tee beams. Particularly prevalent on the underside of Level 2 framing this presents a hazard to pedestrians and vehicles below. (DT-8: this nomenclature is used with the report to key identified issues and is further explained in the Conditions Assessment Section of the report)
2. Repair beam bearing condition on Level 2 framing at Grid B/2. (DT-9)

3. Cover and protect exposed wiring connections (ED-1)
4. Repair surface spalls on stair treads. These present a dangerous tripping hazard. (ST-1)
5. Replace concrete pedestrian ramp on Level 4 by the Northeast stair tower. Accelerated concrete failure and voids present pedestrian hazard. (RA-1)

Almost all of the issues in this garage stem from poor drainage pitch and poor drain placement. Sealants, membranes, and concrete integrity break down faster due to ponding, deicing salts carried by vehicular traffic, and freeze/thaw cycles. Because of this it should be anticipated that garage maintenance will be more frequent and will be more costly than for a standard garage of this size and age.

Though there are many repairs and improvements necessary for this garage, much of the structure is still in serviceable condition. If repairs are completed with the recommended timeframe, future issues are quickly addressed, and a strong maintenance plan is adhered to this structure can be serviceable for another 20 to 30 years.

When considering alternatives at this garage location, recent average construction costs are at approximately \$25,000 per parking space for new parking garage facilities. So to reconstruct a new garage at this location, matching the existing 460 parking spaces would cost approximately \$11,500,000 (including engineering fees and demolitions costs).

1 EXECUTIVE SUMMARY

The team of Hoyle, Tanner & Associates, Inc. (Hoyle, Tanner), Freeman, French, Freeman (FFF), and Kirick Engineering has been retained by the City of Burlington to perform detailed conditions assessment with repair recommendations and budgetary considerations at the Lakeview Parking Garage (including the Westlake Garage public parking level) in Burlington, VT. These recommendations include short term and mid term needs as well as long term maintenance. This report summarizes our field observations, engineering opinions, and estimated costs.

The **Lakeview Parking Garage** is a steel framed structure constructed with a "Modified" Bay Side By Side layout using three rows of prestressed precast "double-tee" concrete beams for the deck that is approximately 172' long by 252' wide. (Reference Appendix B for garage floor layout plans.) The original structure, opened in 1998, consisted of 3 levels and was later expanded to 5 levels in 2006, supporting a combined total of 678 parking spaces. The garage now serves as the main parking for the Hotel Vermont guests as well as many downtown businesses including Macy's department store and Burlington Town Center. The garage is centrally located within the downtown district midway between Church Street and the Waterfront. The main entrance/exit to the garage is from Cherry Street on the second level. A driveway on the first level connects to the fourth level of the College Street garage.

The Lakeview garage is connected to the second level of the **Westlake Garage** via a driveway at the bottom of the western ramp from the first level. Access to the Westlake Garage is also provided from the Courtyard Marriott Hotel entrance on Cherry Street. Constructed in 2005, this public parking level (garage level 2) holds 59 spaces and is mainly used for Hotel staff and guests. The structure consists of elevated cast-in-place concrete slabs supported on concrete columns. The roof of this parking level supports the paved drive entrance for the Hotel as well as a landscaped garden and hotel terrace area.

In preparation of this report the following assumptions were made:

- The Lakeview garage was inspected within the limits of its footprint (generally 252' x 172'). The skywalk to the Macy's department store is not owned by the City and is not included in this report however it was noted that work is needed in this location.
- The interior of the elevator shaft was inspected for structural and architectural considerations. The elevator and associated equipment are routinely inspected and maintained under a separate contract.
- Only the public parking level of the Westlake Garage was inspected. The first level of this garage holds private parking and was not accessible during our inspection.

There are various issues in the Lakeview parking garage that require repair or replacement. The repair recommendations within this report prioritize the timeframe for the repairs to be completed as either short term or mid term to assist with preparing a plan and budget. We have also included recommendations for general housekeeping and preventive maintenance schedules.

Assessment of City Parking Garage Structures
Lakeview Garage
Burlington, VT

Most of the issues in the Lakeview Garage are a result of typical wear and tear and are repairs that are required as part of routine maintenance. The repairs identified in the Westlake Garage are typically associated with the roof use above.

In general both the Lakeview and Westlake garages are in good condition; most of the repairs and improvements necessary are minor and the structures are currently in serviceable condition. If repairs are completed within the recommended timeframe and a routine maintenance plan is adhered to these structures can be serviceable for another 30 to 40 years.

Though the Westlake Garage is currently in fair condition, and has many years of serviceable life remaining, we recommend the City release ownership of this portion of the structure. With the first level being private ownership, and the Hotel's roof garden and access drive use above, the mixed systems and responsibilities will become increasingly complicated. This garage can easily be separated from the Lakeview Garage, and an entrance can be maintained from the Westlake garage to maintain overflow support. For example the majority of issues noted for this garage in this report are directly related to the Hotel roof garden and paved driveway above. Responsibility and timeframe for the completion of these repairs is not fully in the City's control.

Downtown Parking Garage Assessments
Prioritizing of Repairs

Garage	2015	2016-2017	2018-->	Total
College St. Garage	\$ 412,810	\$ 3,362,130	\$ 1,198,800	\$ 4,973,740
less Added Maintenance	\$ (145,000)	\$ (390,000)	\$ (145,000)	\$ (680,000)
Capital Work	\$ 267,810	\$ 2,972,130	\$ 1,053,800	\$ 4,293,740
Marketplace Garage	\$ 990,000	\$ 3,047,690	\$ 458,350	\$ 4,496,040
less Added Maintenance	\$ (100,000)	\$ (200,000)	\$ (100,000)	\$ (400,000)
Capital Work	\$ 890,000	\$ 2,847,690	\$ 358,350	\$ 4,096,040
Lakeview Garage	\$ 171,000	\$ 658,820	\$ 565,850	\$ 1,395,670
less Added Maintenance	\$ (171,000)	\$ (242,000)	\$ (171,000)	\$ (584,000)
Capital Work	\$ -	\$ 416,820	\$ 394,850	\$ 811,670
Total Capital Work.....	\$ 1,157,810	\$ 6,236,640	\$ 1,807,000	\$ 9,201,450

Enhanced Maintenance	\$ 416,000	\$ 832,000	\$ 416,000	\$ 1,664,000
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Note: Additional Maintenance funds to be included in Operating Budgets.

College Street Parking Garage

2015 Scheduled Improvements / Repairs			Factored Cost
DT-8	Double-Tee Beam - Removal of Loose Overhead Concrete	\$4,778	\$7,890
DT-9	Double-Tee Beam Bearing Repair (Level 2 - Beam 2.1)	\$5,000	\$8,250
ST-1	Stair Tread Spalls and Threshold Repairs	\$16,900	\$27,890
RA-1	Concrete Ramp Repair at Level 4	\$6,400	\$10,560
ED-1	Emergency Repairs to Distribution Wiring	\$15,000	\$24,750
RM-2	Replace Elevator Roof Drain and Repair Membrane	\$3,000	\$4,950
OP-2	Replace Door and Storefront System at Elevator	\$45,020	\$74,290
JS-2	Joint Sealant Repairs at Levels 3 and 4	\$25,200	\$41,580
MB-1*	Repair Joint Sealant and Replace Membrane at Elevator on Levels 3 and 4	\$8,000	\$13,200
SD-1*	Install Additional Floor Drains and Associated Piping at Elevator on Levels 3 and 4	\$8,000	\$13,200
SD-2	Flush Existing Drainage System (Unplug)	\$5,000	\$8,250
DS-1	Replacement of Failed Lengths of Drainage Piping	\$20,000	\$33,000
MA	Annual Maintenance Budget Expense - 2015	\$145,000	\$145,000
			\$412,810

College Street Parking Garage

2016/2017 Scheduled Improvements / Repairs			Factored Cost
MA-1	Debris Cleaning on all Levels	\$80,500	\$132,830
MA-2	Powerwash all Levels	\$161,000	\$265,650
PC-3	Spandrel Beam Bearing Issue - Column Corbel Damage	\$40,000	\$66,000
PC-6	Inverted-Tee Beam - Extensive Beam Damage Repair	\$180,000	\$297,000
PC-1a	Spandrel Beam Support Shelf Spall Repair	\$20,900	\$34,490
PC-1b	Spandrel Beam Support Shelf Crack Repair	\$79,380	\$130,980
DT-4	Double-Tee Beam Flange Connection Repair - Level 2	\$163,800	\$270,270
DT-6	Double-Tee Beam End Spall Repair	\$47,628	\$78,590
PC-5	Inverted-Tee Beam - Steel Restraint Repair	\$9,000	\$14,850
CIP-1	Wash Area Repair	\$192,000	\$316,800
SD-1	Additional Floor Drains	\$45,000	\$74,250
SD-3	Replace Failed Storm Drains	\$22,500	\$37,130
SD-4	Replace Failed Trench Drains	\$19,750	\$32,590
DS-1	Piping Replacement and Piping Installation for New Drains	\$123,830	\$204,320
ST-4	Replace Stair Tower Handrails	\$28,500	\$47,030
JS-1	Joint Sealant Replacement at Level 2	\$18,000	\$29,700
ED-2	Replace Distribution Conduit and Wiring	\$200,000	\$330,000
EL-1	Replace Lighting Fixtures	\$150,000	\$247,500
CS-1	Floor Level Perimeter Sealant Repairs	\$34,740	\$57,330
DT-1	Double-Tee Beam Flange Grout Patch Repair	\$14,400	\$23,760
DT-3	Double-Tee Beam Surface Spall Repair	\$800	\$1,320
PC-7	Column Corner Spall Repair	\$3,600	\$5,940
PC-8	Column Face Spall Repair - Vertical Patch	\$24,300	\$40,100
CIP-2	Foundation Wall Spalls - Vertical Patch	\$40,176	\$66,300
ES-1	Electrical Service Panel	\$20,000	\$33,000
ADA-1	Install ADA Accessible Parking Spaces	\$3,060	\$5,050
ME-1	New Fan Units at Levels 1 and 2	\$100,000	\$165,000
ELS-1	Install Emergency Power System	\$24,000	\$39,600
ELS-2	Add Exit Signage	\$15,000	\$24,750
MA	Annual Maintenance Budget Expense - 2016	\$145,000	\$145,000
MA	Annual Maintenance Budget Expense - 2017	\$145,000	\$145,000
			\$3,362,130

College Street Parking Garage

2018 and Beyond Improvements / Repairs			Factored Cost
ST-2	Stair Tread and Landing Crack Repairs	\$24,000	\$39,600
ME-2	CMU Wall Grout Patch Repair	\$5,400	\$8,910
MB-1	Membrane Replacement	\$82,400	\$135,960
PC-2	Spandrel Beam Web Shear Crack Repair	\$15,000	\$24,750
FA-1	Facade Repair at Level 4, Grid D/7	\$1,200	\$1,980
DT-2	Double-Tee Beam Flange Crack Repair	\$13,000	\$21,450
BO-1	Attendant Booth Replacement	\$40,000	\$66,000
OP-1	Repair/Replace Doors and Hardware	\$40,000	\$66,000
CS-3	4" Diameter Sealant Patch Replacement	\$17,640	\$29,110
ST-3	Repaint Stairwell Towers	\$54,000	\$89,100
RM-1	Replace Roofing Membranes	\$36,000	\$59,400
CS-2	Slab-on-Grade Joint Sealant Replacement	\$32,224	\$53,170
ST-5	Stairwell Ventilation Improvements	\$10,000	\$16,500
DT-7	Replace Double-Tee Bearing Pads	\$42,800	\$70,620
FA-2	General Façade Repairs	\$20,000	\$33,000
NE-1	Infill Floor Levels at Northeast Elevator Shaft	\$30,000	\$49,500
EV-1	Elevator Replacement	\$175,000	\$288,750
MA	Annual Maintenance Budget Expense - 2018	\$145,000	\$145,000
			\$1,198,800

Lakeview Parking Garage

2015 Scheduled Improvements / Repairs			Factored Cost
MA	Annual Maintenance Budget Expense - 2015	\$171,000	\$171,000
			\$171,000

Lakeview Parking Garage

2016/2017 Scheduled Improvements / Repairs			Factored Cost
CG-1	Cable Guardrail Repair	\$8,000	\$13,200
CIP-2	CIP Concrete Threshold Repair	\$2,400	\$3,960
ELS-1	Install Missing Fire Alarm System Components	\$1,000	\$1,650
ST-2	Replace Stair Lengths & Connections	\$20,000	\$33,000
DT-1	Double-Tee Beam Shear Tab Repair	\$45,900	\$75,740
JS-1	Joint Sealant Replacement at Levels 2, 3, 4, & 5	\$24,100	\$39,770
WCIP-2	Westlake - Repair Concrete Roof Slab Crack	\$8,500	\$14,030
WSD-1	Westlake - Repair Membrane Connection at Drain Locations	\$12,000	\$19,800
WRM-2	Westlake - Repair Membrane Connection at Standpipe Locations	\$2,000	\$3,300
EJ-2	Replace Expansion Joint	\$9,000	\$14,850
DT-2	Double-Tee Beam Surface Spall Repair	\$1,600	\$2,640
SD-1	Flush Existing Drainage System (Unplug)	\$5,000	\$8,250
SD-2	Additional Floor Drains	\$6,000	\$9,900
ST-1	Install Door at Stair Tower Entrance on Roof Level	\$8,000	\$13,200
EJ-1a	Repair Expansion Joint	\$4,000	\$6,600
OP-1	Reseal Glazing System	\$5,000	\$8,250
ADA-1	Install Elevator Tacticle Signage	\$1,000	\$1,650
ADA-2	Raise Height of Light on Elevator Shaft	\$1,500	\$2,480
CIP-1	Cracks in CIP Concrete Wash Area	\$12,000	\$19,800
MA-1	General Cleanup of Pigeon Droppings	\$15,000	\$24,750
MA	Annual Maintenance Budget Expense - 2016	\$171,000	\$171,000
MA	Annual Maintenance Budget Expense - 2017	\$171,000	\$171,000
			\$658,820

Lakeview Parking Garage

2018 and Beyond Improvements / Repairs			Factored Cost
WEJ-1	Westlake Install Roof Level Expansion Joint at East Wall	\$12,000	\$19,800
WCS-1	Westlake - Install 2nd Level Perimeter Sealant	\$10,000	\$16,500
WCS-2	Westlake - Repair Roof Perimeter Sealant at Slab / Wall Joint (Access Below Landscaping)	\$26,000	\$42,900
WRM-1	Westlake - Patch / Repair Membrane at Roof Level North and West Walls	\$15,000	\$24,750
WCIP-1	Westlake - Install Grout Chamfer Around Column Base	\$2,400	\$3,960
ED-1	Repair/Replace Corroded Electrical Conduit and Wiring Lengths	\$25,000	\$41,250
DT-3	Double-Tee Beam Crack Repair	\$13,000	\$21,450
PC-2	Precast Spandrel Beam Concrete Spall	\$600	\$990
MB-1	Membrane Installation	\$13,800	\$22,770
PC-1	Precast Spandrel Beam Lift Anchor Sealant Patch	\$3,000	\$4,950
EL-1	Replace Roof Level Lighting System	\$50,000	\$82,500
WEL-1	Westlake Install Additional Lighting Fixtures	\$10,000	\$16,500
SS-1	Structural Steel Repair	\$20,000	\$33,000
SD-3	Install New Floor Drain in Southwest Stair Tower Lower Level	\$5,000	\$8,250
OP-2	Replace Door Hardware (Closer)	\$1,000	\$1,650
ST-3	Replace Elevator Indicator Light	\$1,500	\$2,480
ST-4	Replace Electrical Box Covers	\$1,000	\$1,650
EJ-1b	Repair Concrete Slab Transition to Expansion Joint	\$10,000	\$16,500
ELS-2	Install Exit Signage	\$20,000	\$33,000
MA	Annual Maintenance Budget Expense - 2018	\$171,000	\$171,000
			\$565,850

Marketplace Parking Garage

2015 Scheduled Improvements / Repairs			Factored Cost
JS-3	Removal of Delaminated Grout Patch Below Construction Joint at Level 1 D-E Ramp at Beam Line 4	\$855	\$1,420
CIP-3	Temporary Patch Concrete Spalls With Exposed Reinforcing Steel	\$4,800	\$7,920
CIP-4	Cover and Patch Junction Box Spalls at Cross Overs	\$4,000	\$6,600
EV-1	Replace Elevators	\$380,000	\$627,000
EV-2	New Elevator Machine Room - Exterior	\$150,000	\$247,500
MA	Annual Maintenance Budget Expense - 2015	\$100,000	\$100,000
			\$990,440

Marketplace Parking Garage

2016/2017 Scheduled Improvements / Repairs			Factored Cost
EJ-1	Replace Expansion Joint (Column Line C9-D, All Levels)	\$29,700	\$49,010
EJ-2	Replace Expansion Joint at Transition Between Slab-On-Grade and Elevated Slabs	\$17,280	\$28,520
PC-2	Precast Spandrel Beam Replacement	\$30,000	\$49,500
JS-1	Replace Joint Sealant at Level 4 and 5	\$3,420	\$5,650
JS-2	Replace Joint Sealant at Levels 1-3	\$3,780	\$6,240
EJ-3	Replace Expansion Joint at Stair Tower Ramps (all levels)	\$18,000	\$29,700
CIP-2	Repair Surface Cracks at Entrances	\$6,000	\$9,900
CIP-5	Resurface Level 1 D-E Ramp, Level 1-2 Cross Over and Level 2 E-F Ramp	\$960,000	\$1,584,000
CIP-7	Repair Longitudinal and Transverse Cracking of Elevated Slabs	\$10,500	\$17,330
CB-1	Repair Delaminated Concrete, Reinforcing Steel Corrosion	\$6,480	\$10,700
CB-2	Repair Longitudinal Crack at Midspan of the Beam	\$5,400	\$8,910
CB-3	Repair Concrete Spalls and Reinforcing Steel Corrosion at the End of the Beam	\$3,780	\$6,240
CB-4	Repair Concrete Delamination and Reinforcing Steel Corrosion Along Length of the Beam	\$10,800	\$17,820
PC-1	Precast Spandrel Beam Crack Repair	\$20,000	\$33,000
CC-1	Repair Column Spalls at Interface of Slab and Column on Interior (Slab Side) of Spandrel Beam	\$10,500	\$17,330
CIP-6	Repair Ramp Spalls	\$30,000	\$49,500
CIP-8	Repair Concrete Spall and Exposed Post Tensioning Tendon at Bottom Face of Slab At Grid B-7, B-9 on the Second Level	\$4,000	\$6,600
MA-1	Pressure Wash Garage	\$90,000	\$148,500
SD-1	Clean out Plugged Drains	\$5,000	\$8,250
SD-2	Replace Trench Drain	\$5,000	\$8,250
SD-3	Repipe Roof Drain at Stair Tower B (Level 4)	\$2,500	\$4,130
DS-1	Replace Lengths of Failed Drainage Pipe	\$9,100	\$15,020
ST-3	Repair Stair Tread Cracks	\$30,000	\$49,500
ST-2	Repair Stair Tower Ramp Bearings	\$10,000	\$16,500
ST-4	Install Missing Guardrail at Stair Run	\$3,000	\$4,950
ST-5	Replace Rails with Code Compliant System	\$4,000	\$6,600
ED-1	Replace Subpanels, Conduit and Wiring	\$150,000	\$247,500
ELS-1	Install Missing Fire Alarm System Components	\$120,000	\$198,000
ELS-3	Add Exit Signage	\$10,000	\$16,500
MS-1	Reconnect Steel Pipe Rails	\$5,000	\$8,250
MS-2	Replace Cable Guardrails	\$12,600	\$20,790
ME-1	Install New Fan Unit	\$50,000	\$82,500
BO-1	Replace Attendant Booths	\$40,000	\$66,000
MI-1	Remove Debris in Maintenance Storage Area Holding Moisture (Lower Tier)	\$5,000	\$8,250
MI-2	Remove Debris and Garbage Collection between Spandrel Walls and Garage Fascia on Ground Levels.	\$5,000	\$8,250
MA	Annual Maintenance Budget Expense - 2016	\$100,000	\$100,000
MA	Annual Maintenance Budget Expense - 2017	\$100,000	\$100,000
			\$3,047,690

Marketplace Parking Garage

2018 and Beyond Improvements / Repairs			Factored Cost
CC-2	Repair Exposed Reinforcing Steel in Concrete Columns	\$1,200	\$1,980
CC-3	Repair Column Spalls at Construction Joint on Exterior Side of PT Beam	\$4,200	\$6,930
CC-4	Repair Surface Cracking at Top of Columns	\$4,875	\$8,050
DS-2	Replace Elbow Joints Below Surface Drains	\$4,800	\$7,920
ES-1	Replace Service Distribution and Sub-panels and Emergency Power System	\$75,000	\$123,750
EL-1	Replace Roof Level Light Fixtures	\$75,000	\$123,750
FA-1	Remove and Reset Brick Façade	\$20,000	\$33,000
FA-2	Repoint Damaged CMU and Brick Mortar Joints	\$30,000	\$49,500
CIP-1a	Repair Slab-On-Grade Surface Cracks (Unsealed Cracks)	\$600	\$990
CIP-1b	Repair Slab-On-Grade Surface Cracks (Sealed Cracks)	\$1,500	\$2,480
MA	Annual Maintenance Budget Expense - 2018	\$100,000	\$100,000
			\$458,350

BURLINGTON DEPARTMENT OF PUBLIC WORKS COMMISSION MEETING
DRAFT MINUTES (version 2), December 17, 2014
645 Pine Street
(DVD of meeting may be on file at DPW)

COMMISSIONERS PRESENT: Bob Alberry, Tiki Archambeau (via conference phone), Jim Barr, Asa Hopkins, Solveig Overby, Jeffrey Padgett and Tom Simon

Commissioner Hopkins called the meeting to order at 6:30 p.m.

ITEM 1 – AGENDA

Commissioner Hopkins - Item 4, 4.30 Decision: Strike from the Agenda; to be discussed during deliberative session immediately following tonight's regular Commission meeting. **Commissioner Alberry moved** to in favor of striking the Item; Commissioner Padgett seconded. Unanimous.

ITEM 2 – PUBLIC FORUM

James Elsmar: Summer St resident, supports Item 3, 3.10 Summer St Accessible Parking Space Addition.

Caryn Long: Henry St resident, requests more parking spaces on Main St for Edmunds students drop-off and pick-up (possibly 30-minute spaces). Also requests clarification of parking signs in the Champlain College area (those signs indicate spaces that are open to the general public and Champlain College affiliates). In both cases, Ms. Long requested a quicker response from DPW.

Director Spencer offered to include Ms. Long's latter request for consideration as part of the overall parking study for resident parking.

Assistant Director Norman Baldwin explained the petition process (beneficial to have signatures of 1/3 of residents whose streets would be impacted by a request) and advised Ms. Long to contact Damian Roy, Engineering Technician.

ITEM 3 – CONSENT AGENDA (Refer to Packet)

- 3.10 Summer St Handicap Parking Space Addition
 - Staff recommendation: The addition of a new Handicapped Parking Sign on the south side of Summer St directly across from 14 Summer St.
- 3.20 Kilburn St Loading Zone Removal
 - Staff recommendation: The removal of the forty (40) foot Loading/Unloading Zone on Kilburn St to be replaced with unrestricted parking.

Commissioner Alberry moved to adopt staff recommendations; Commissioner Barr seconded. All Commissioners responded with "ayes."

ITEM 4 – 266 SO UNION ST TRADES APPEAL

(Communication, Norman Baldwin, City Engineer, Assistant Director of Public Works) (Refer to Packet)

Present: Appellants Erik Oliver and Theresa J. Stimson; Gary Chagnon, GGC Custom Building (Appellants' contractor); Bradley Biggie and Ned Holt, City Building Inspectors; Kimberlee Sturtevant, City Attorneys' Office (representing the City of Burlington); Andy MacIlwaine (representing the Commission); Assistant Director Baldwin, supporting both parties; Barry Simays, Burlington Fire Marshall.

In addition to the documents in the Commission Packet, the following were entered into evidence by Ned Holt:

- Drawings/site plans for 266 So Union St, submitted by Mr. Chagnon to the Department of Planning and Zoning;

- A copy of the Permit Application completed by Mr. Chagnon in order to obtain the Building Permit; and
- A copy of Page 1-61 of “General Safety Requirements,” highlighting 10.2 and 10.2.1 (from *The National Fire Protection Association*)

Commissioner Hopkins closed the evidence gathering at 8:00. The Commission will meet in deliberative session after the Commission meeting and work with counsel to try to come up with a conclusion. **Commissioner Padgett formally moved** to close the evidence gathering; Commissioner Alberry seconded. Unanimous.

ITEM 5 – CLIFF ST SIDEWALK UPDATE & RESIDENT PARKING REMOVAL

(Communication, Mr. Guillermo Gomez and Mr. Damian Roy, Engineering Division) (Refer to Packet)

Mr. Gomez reported on the questions posed at the November Commission meeting (procedures, storm water capacity, etc).

Mr. Roy asked the Commission to adopt staff recommendations: 1) The removal of Resident Only Parking on the south side of Cliff St between So Willard St and Summit St in favor of the Cliff St Sidewalk Project; and 2) The designation as Resident Only Parking of the three spaces in the vehicle pull-off in the lower block of Cliff St. **Commissioner Padgett moved** in favor of staff recommendations; Commissioner Alberry seconded. All Commissioners voted “aye.”

ITEM 6 – LARGE WATER METER ORDINANCE CHANGE

(Communication, Laurie Adams, Assistant Director of Public Works) (Refer to Packet)

Assistant Director Adams explained the proposed Ordinance change: To revise City Ordinance to require that all initial new meters regardless of size would be paid for by the property owner and all replacement meters would be paid for by the Water Division. **Commissioner Alberry moved** in favor of the proposed City Ordinance change; Commissioner Barr seconded. All Commissioners voted “aye.” The proposal will now go to the City Council for approval.

ITEM 7 – SNOW FIGHTING PLAN UPDATE

(Communication, Rob Green, Assistant Director of Public Works) (Refer to Packet; self-explanatory)

Assistant Director Green outlined the Plan: Preparation, staffing, routes, priorities, equipment, material used for icy conditions, snow storage, means of Snow Ban alerts, etc. Mr. Green will put this on the DPW Web site. He also mentioned revisiting the 4:00 am start time for sidewalk plows.

The commissioners asked Mr. Green to add the following: Prioritization to sidewalk plowing of major arteries and schools; a route map; training procedures for new operators; and the process of what the end of a storm is like/what the public can expect in the 72 hrs. following a snow event. Also requested: Attention to bike lanes during and after a snow event.

Nic Anderson, “Bikeable Burlington Now,” supports the prioritization of bike lane maintenance, an additional section in the Snow Fighting Plan to address bike lanes, and plowing bike lanes to the curb.

NOTE: Commissioner Alberry excused himself from the remainder of the meeting.

ITEM 8 – MINUTES OF SPECIAL MEETING, NOVEMBER 12, 2014 (Refer to Packet)

Commissioner Barr moved to accept the Minutes as written; Commissioner Simon seconded. The six remaining commissioners all voted “aye.”

ITEM 9 – DIRECTOR’S REPORT

(Director Chapin Spencer) (Refer to Packet)

Director Spencer offered to arrange to hold future Commission meetings at other City facilities. A subgroup of the commissioners (Commissioners Archambeau, Barr and Overby) will meet separately in January to review the remaining goals on the FY'15 Commission Workplan and come up with suggestions on: 1) Determining priorities; 2) How to tackle the professional development piece, and 3) Come up with suggestions on how to best implement the last key items. Commissioners Archambeau, Barr and Overby will choose a January date and notify the other commissioners in case others are able to attend.

Director Spencer offered to do some homework and get some materials out to the Commission so that the workgroup can choose the strategic ones that will indicate what they want to see DPW managing towards. Director Spencer included in the Packet a brief on the Champlain Parkway which he presented at the November 17th City Council meeting. Clarification, 2nd page under "BICYCLES": The shared use path will run continuously from Home Ave along the alignment of the connector to Kilburn St. (i.e., it parallels the Champlain Parkway).

ITEM 10 – COMMISSIONER COMMUNICATIONS

Commissioner Padgett: Highlight customer service as one of the goals in the FY'15 Commission Workplan (e.g., quicker response times to inquiries).

Commissioner Overby: Expressed appreciation for adding a fact sheet on back water valves to the Web site.

Commissioner Hopkins: Questioning responsibility of East Ave/Spear St/Main St and synchronization with the area intersections in South Burlington. Is it a capacity (e.g., 5pm) or synchronization issue? Commissioner Barr added that there is a problem just above it at University Heights where it enters Main St. and he (in his role at UVM) has been talking with DPW about a study. Director Spencer will ask the Traffic Signal Technicians to look at that area for a short-term solution.

ITEM 11 – EXECUTIVE SESSION FOR DELIBERATION OF APPEALS

At 9:25 pm, Commissioner Barr moved to go into executive session to discuss Item 4; Commissioner Padgett seconded. Unanimous.

ITEM 12 – NEXT MEETING DATE AND ADJOURNMENT

The next meeting is scheduled for January 21, 2015. Immediately following deliberative session, the Commission will adjourn.

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Chapin Spencer
DIRECTOR OF PUBLIC WORKS

To: DPW Commissioners
Fr: Chapin Spencer, Director
Re: **Director's Report**
Date: January 14, 2015

THANK YOU GUILLERMO

After nearly three years serving DPW as an engineer in our Plangineering group, Guillermo Gomez will be leaving us this month to take a job with consulting firm VHB. We are sad to see him go, but are glad that he's staying in the area. It wouldn't be a surprise if we end up working with Guillermo in his new capacity. Thank you Guillermo.

ASSET MANAGEMENT:

Much of what we do as a department is asset management – maintaining our plants, pipes, roads, sidewalks, signals, vehicles in order to provide the services that Burlington depends upon. One of our departmental goals is Operational Excellence. As we look to ways to further improve our operations, we seek to do an assessment of our current operational practices, protocols and resources and then develop a plan to enhance our asset management capabilities. We are engaging other city departments in this effort as other departments maintain significant assets: Parks, BED, BT, etc. Assistant Director Laurie Adams' Water Resources team is leading the developing this asset management plan. The attached draft scope has been shared among City departments and we welcome any feedback from the Commission before this scope is finalized.

Tentative goals (*to be refined as part of the Asset Management Planning process*):

- **Shift from reactive modes of operation** (where assets are often only dealt with at failure or near failure) to a more proactive approach
- **Better data collection and prioritization mechanisms** to inform capital planning and sustainable funding conversation
- **Better management of public's expectations** through the creation of “levels of service” and discussions relating cost to specific levels of service, giving the public a “choice” in what they are paying for
- **Acquisition of a computerized maintenance management system (CMMS)**

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This asset management plan is a logical next step after the development of a city-wide 10-year capital plan that is actively being developed. We will have more information on the capital plan at the February meeting.

Please send me any input on the draft scope of work by January 30th. Thank you.

Phase I ASSET MANAGEMENT PLAN DEVELOPMENT (v2, 12-19-2014)

DRAFT Overview and Scope of Work/Deliverables

For discussion with all City asset stakeholders

Drivers:

- Long standing issue of insufficient funding for capital investments
- Few mechanisms for capturing data regarding our work efforts that can be analyzed in a way to inform our future work
- Culture of reactivity
- Desire from the administration/public to have improved metrics/performance measures for all that we do.
- High customer expectations/ customer expectations disconnected from the funding conversation
- Increased interest and attempts at development in the recent years of a computerized maintenance management system/work order/customer complaint system

Tentative Goals (to be refined as part of the Asset Management Planning process):

- Shift from reactive modes of operation (where assets are often only dealt with at failure or near failure) to a more proactive approach
 - Utilize risk analysis as a way of prioritizing our annual capital improvements
 - Improve transparency of our decision making process to increase public's trust of City financial decisions
- Better data collection and prioritization mechanisms to inform capital planning and sustainable funding conversation
- Better management of public's expectations through the creation of "levels of service" and discussions relating cost to specific levels of service, giving the public a "choice" in what they are paying for
- Acquisition of a computerized maintenance management system (CMMS)
 - Improve ability to gather/analyze performance metrics data
 - Tracking of workflows/responsibility
 - Improve customer service

In our conversations with other public utilities and individuals in the asset management field, it has become clear that addressing these drivers and goals does not simply involve purchase of a piece of software (CMMS). It will require an organizational self- evaluation and a wholesale cultural shift. In studying municipalities which appear to have been successful in making this shift, many have undertaken a comprehensive **asset management planning process** which results in the production of an actual written plan outlining the organizational, workflow, levels of service/performance measures and technological elements of the asset management program. These provide the foundation for a successful implementation and continued operation the asset management and capital planning programs.

Because of the growing concern regarding our subsurface assets, the DPW Enterprise funds (Water, Wastewater, Stormwater) have allocated funding for the development of the Water Resource Asset Management Plan in FY 16 and possible acquisition of a CMMS in FY 17. However, we recognize that it

is a much larger organizational issue and believe that our ultimate success will be enhanced by the inclusion of other asset related workgroups throughout DPW and the rest of the City. We want to ensure that our selection of a CMMS is informed by other workgroup needs such that we may be able to select a tool that has a more universal appeal, while still supporting our needs. Thus, we are proposing that Phase I of this effort would include a larger group of stakeholders and would attempt to address the following questions for all stakeholders:

- Where we are? (Existing asset inventories, data collection methods, workflows, metrics)
- Where do we want to go? (Formalize our Departmental/Citywide Goals)
- How will we get there? (Develop Roadmap for various functional groups for developing their own Asset Management Plans and implementation of AM and a CMMS)

The second portion of Phase I (Phase IB) would involve the creation of a scope of work specific to the Water Resources asset classes based on the evaluation of the Water Resources asset classes in Phase 1A. Water Resource will fund a portion of Phase IA and all of Phase IIB, but is seeking other funding sources to include the other stakeholders.

Proposed Scope of Work

Phase IA: City Asset Stakeholders

Consultant shall advance the following efforts for the Asset Stakeholders:

- Development /Refinement of OVERALL goals
- Provide training/introduction of concept of asset management
- Initial documentation of existing practices/workflow/asset inventory/asset data collection practices for each “functional group”
- Gap analysis by function
 - Initial outline of target levels of service (outward –customer focus) and performance measures (inward focus)
 - *This will feed the types of assets that may need to be inventoried and workflows developed*
- General “Roadmap” for each functional group
 - Readiness assessment
 - **Critical next steps** for other areas to be doing while Water Resources does pilot
 - Outline/group which functional areas are high priority for advancement , e.g.
 - *Group A – Water Resources*
 - *Group B – High priority functional area (s) that could reasonably be ready*
 - *Group C – High priority functional area (s) which might have more gaps to close*
 - *Group D – Lower priority functional area (s) which can wait*
- Recommendations for immediate gap closures
- Recommendation re: City wide organizational support for this effort in short, mid and long term time periods
- Recommendation regarding the formation of “teams” as necessary for keeping ball moving forward on “next steps”
- Gather enough information such that Water Resources could move forward with Phase IB procurement of CMMS in Phase II that meets the needs of the larger group

Phase IB: Specifically for Water Resources

Consultant shall advance the following efforts for the Water Resources Asset Stakeholders:

- Based on Phase IA – identify which areas of water resources should move forward in Phase II
 - Collection System
 - Distribution System
 - Water Treatment
 - WW Treatment Plants
- **Prepare RFP** for Phase II Asset Management Plan Development and probable cost estimate , that could include items such as:
 - More detailed training for Water Res staff – formation of teams
 - DETAILED workflow documentation
 - DETAILED Level of service review (and/or specific levels of service creation)
 - DETAILED Performance measures creation/review
 - Immediate gap closure – inventory needs, data collection needs (forms)
 - Organizational support necessary for Water Resources Asset Management
 - Scope of work/bid specifications for CMMS purchase and implementation
 - Probable cost of CMMS

Tentative Schedule

Spring FY15 – Phase I

FY 16

- Phase II for Group A (Water Resources AMP)
- Group B continues working on any immediate gap closures/next steps to prepare themselves for AMP

FY 17

- Release CMMS bid/implementation for Water Resources/Group 1
- Group B – AMP development/implementation

FY 18

- Group B – implementation in CMMS
- Group C – AMP development/implementation

FY 19

- Group C – implementation in CMMS
- Group D – AMP development/implementation

FY 20

- Group D – implementation in CMMS