



CITY OF CAMBRIDGE
COMMUNITY DEVELOPMENT DEPARTMENT

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To: Planning Board
From: CDD Staff
Date: October 11, 2011
Re: **Bishop, et al. Zoning Petition (Special District 2)**

Staff have assembled the following material in response to the Planning Board's requests from the September 13, 2011 public hearing.

- Historical background on the change to SD-2
- Zoning language on the regulation of fences
- Development potential of "Fawcett Oil" site under different scenarios (requested by Ordinance Committee)
- Information on infrastructure improvements in the Whittemore Avenue area
- Information on traffic patterns in the area north of Linear Park (included in an attached memo from the Traffic, Parking and Transportation Department)

Staff from CDD and TPT will be available to answer questions at the October 18 meeting.

Historical Background on Change to SD-2

In 1998, a citizen petition (Frankelton, et al.) proposed rezoning the Industry A-1 (IA-1) District along Linear Park to Residence B. The motivation was concern about the size and density of potential residential development in the area. The Industry A-1 district allowed a maximum FAR of 1.25 for residential uses. In 1997, the Planning Board had granted a special permit for development of the “Cornerstone Co-Housing” project on Harvey Street at a total FAR of 0.92 across multiple buildings.

The Planning Board, in a recommendation dated September 1, 1998, suggested the creation of a new zoning designation for that area, called Special District 2 (SD-2). The Board found that the IA-1 designation “results in new building that is somewhat bigger and denser than is generally desirable.” However, the Board also felt that “the dimensional regulations of the Residence B district permit such modestly scaled new development that there might be an incentive for owners of non-residential property, which constitutes the majority of the land in the district, to maintain their operations in a non-conforming status, significantly delaying the pace of new housing construction in the area.”

The Planning Board recommendation for SD-2 used the Residence B regulations as a starting point, but would have allowed the maximum FAR of 0.5 and minimum lot area per dwelling unit of 2,500 square feet to apply across the entire lot, instead of being reduced for lot sizes greater than 5,000 square feet. The proposed SD-2 regulations from 1998 also allowed for existing Gross Floor Area on a site to be rebuilt for residential use, up to a maximum FAR of 0.75. In addition, the SD-2 proposal allowed a limited range of non-residential uses, so that fewer existing sites would be put into non-conformity.

While many neighbors supported the proposed SD-2 zoning, some property owners and members of the Cornerstone Co-Housing community objected. Over the course of the next 16 months, numerous meetings and hearings were held at which City officials and staff met with neighbors and property owners to discuss the issues. The final (and current) SD-2 language was adopted by the City Council in February, 2000. The adopted zoning is similar to the Planning Board recommendation, but allows a maximum FAR of 0.65 and a minimum of 1,800 square feet of lot area per dwelling unit. Also, the Cornerstone Co-Housing site was left out of the rezoning area; it remains zoned Industry A-1.

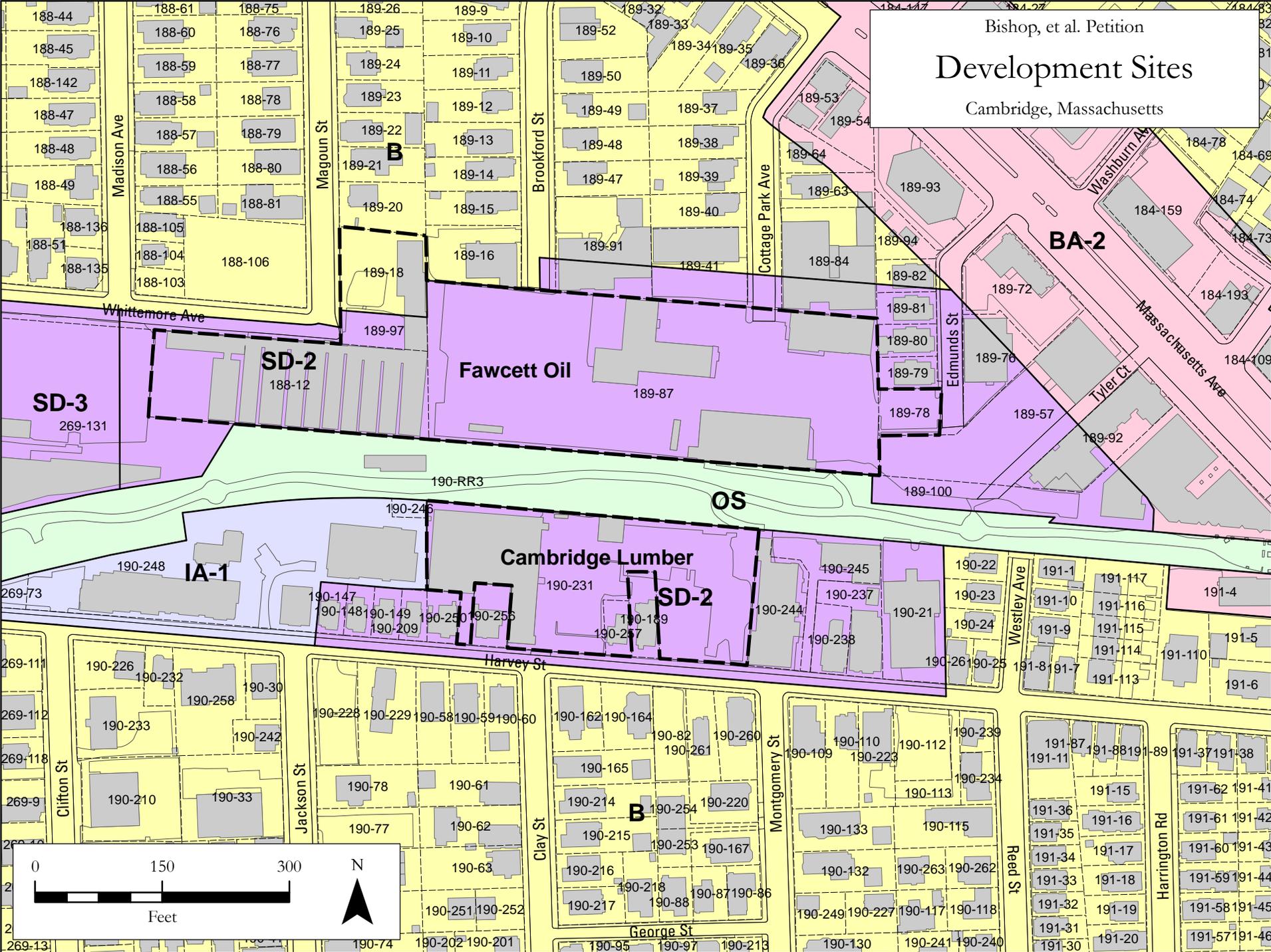
Development Scenarios on Fawcett Oil Development Site

The Ordinance Committee requested that the effect of a Residence B zoning designation be explored on the development potential of the Fawcett Oil properties. The following table shows the buildout potential of new residential construction. *There is a slight difference from the information in the earlier memo because of a small data error in that previous memo.*

Fawcett Oil Site	Current SD-2 Zoning			Proposed SD-2 Zoning			Residence B Zoning		
	Allowed Res FAR	Allowed Res GFA	Allowed Units	Allowed Res FAR	Allowed Res GFA	Allowed Units	Allowed Res FAR	Allowed Res GFA	Allowed Units
Base Zoning	0.63	95,000	80	0.49	74,058	58	0.36	53,116	38
Base Zoning + Inclusionary	0.83	123,500	104	0.64	96,275	74	0.46	69,050	50

DATA SOURCE: Cambridge Assessing Department, 2008 – ALL FIGURES APPROXIMATE

Bishop, et al. Petition
Development Sites
 Cambridge, Massachusetts



Fence Regulations

Currently, there are few zoning regulations pertaining to the design of fences in Cambridge. The only area with any substantive fence regulations is the Parkway Overlay District. In that district, no fence in the front or side yard can be more than four feet in height or more than 30% opaque, while fences screening a surface parking area must be at least four feet in height and at least 50% opaque, and chain link or wire fences are prohibited.

In response to concerns raised by the Cambridge Pedestrian Committee, CDD staff had developed zoning language addressing a broad range of concerns regarding the design and placement of fences. A rezoning petition was filed in 2007, but no zoning change was adopted. Part of the proposed language would have established definitions for different types of fence based on their opacity. This language might be useful in considering how to regulate fences along Linear Park.

Fence, Closed (or Opaque or Solid): A fence that consists of less than fifty percent (50%) voids when viewed from the outside of the fence in a direction perpendicular to the plane of the fence, exclusive of (a) supporting posts no wider than six (6) inches and no closer than four (4) feet and (b) no more than two (2) horizontal rails or supports provided that they each have a horizontal dimension of four inches or less.

Fence, Porous (or Open): A fence that consists of at least fifty percent (50%) voids when viewed from the outside of the fence in a direction perpendicular to the plane of the fence, exclusive of supporting posts and up to two (2) horizontal rails or supports provided that they each have a vertical dimension of four (4) inches or less.

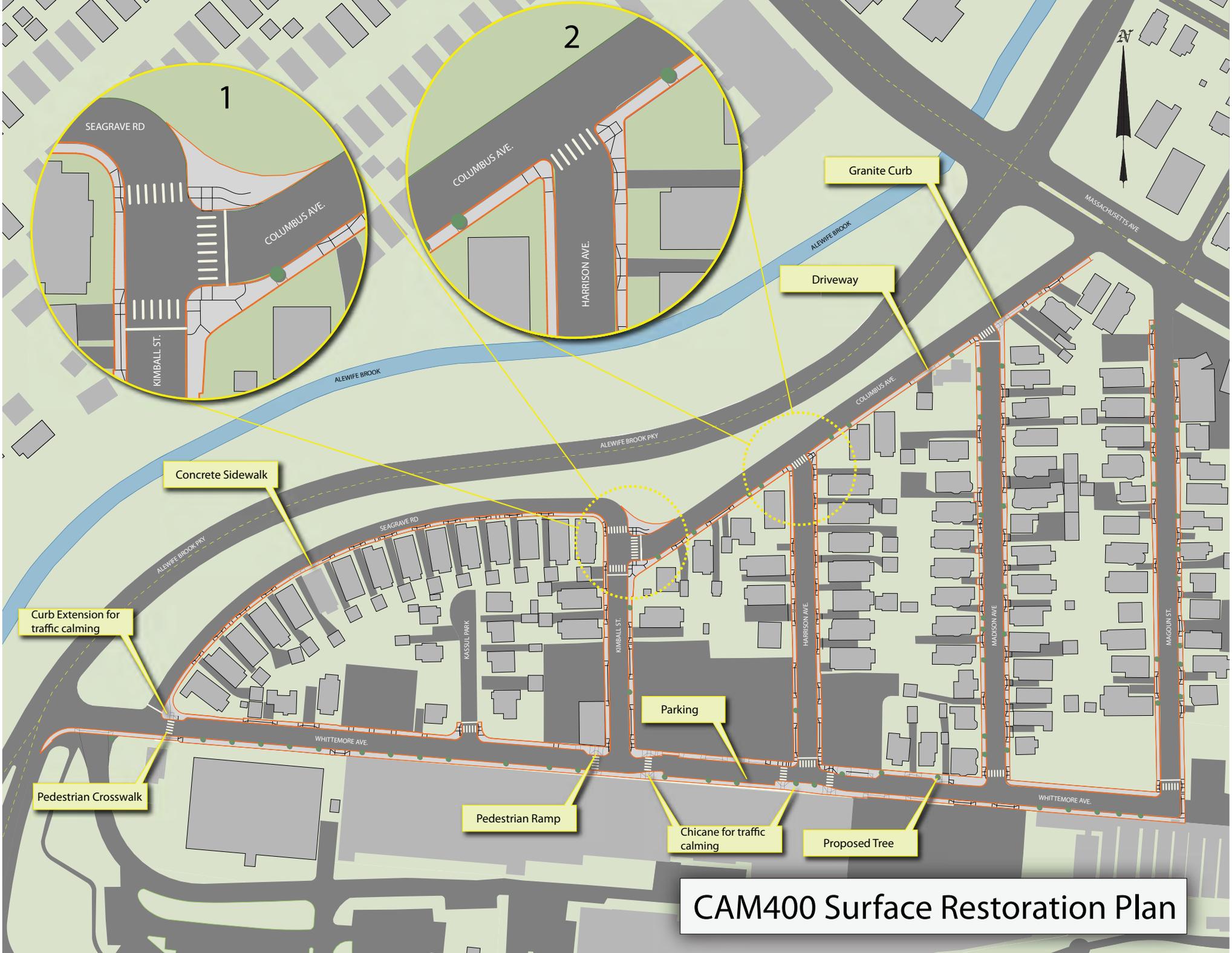
Chain Link Fence: An open mesh fence made entirely of metal wire woven in squares of approximately 1½ to 2 inches forming a diamond pattern mesh, supported by vertical and horizontal metal tubing.

Infrastructure Improvements in the Whittemore Avenue Area

The Department of Public Works recently completed a sewer separation project for Whittemore Avenue and surrounding streets. This was part of the “CAM400 Infrastructure Improvement Project,” which refers to a portion of the city's collection system that contains combined sanitary wastewater and stormwater infrastructure, and can release combined sewer outflows into the Alewife Brook.

The CAM400 project includes a full reconstruction of streets and sidewalks in the area, which is now underway. In consultation with residents, a plan for curb extensions and other traffic calming improvements was prepared as part of the surface reconstruction project. That plan is shown on the attached map.

Also, DPW and CDD recently held a meeting with residents in the area to discuss additional traffic calming measures on Whittemore Ave. The results of that meeting are described in the attached letter (sent to neighborhood residents) from Owen O’Riordan, City Engineer.



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SEAGRAVE RD

COLUMBUS AVE.

KIMBALL ST.

ALEWIFE BROOK

COLUMBUS AVE.

HARRISON AVE.

Granite Curb

Driveway

MASSACHUSETTS AVE

ALEWIFE BROOK

ALEWIFE BROOK PKY

COLUMBUS AVE.

Concrete Sidewalk

SEAGRAVE RD

Curb Extension for traffic calming

MASSUL PARK

Parking

Pedestrian Crosswalk

WHITTEMORE AVE.

Pedestrian Ramp

Chicane for traffic calming

Proposed Tree

WHITTEMORE AVE.

MADISON AVE

MAGOUN ST.

CAM400 Surface Restoration Plan



September 30, 2011

WHITTEMORE AVE TRAFFIC CALMING UPDATE

Dear Resident,

The replacement and upgrade of sewer and drainage utilities in the neighborhood is complete. Surface restoration is on-going and final paving is scheduled for October. Prior to construction, city staff worked with residents to discuss physical changes to the street to increase pedestrian safety and slow vehicle speeds. Three community meetings were held in 2009 – 2011, where residents worked with staff to develop a plan of traffic calming improvements that could be incorporated in this project: chicanes and curb extensions on Whittemore Avenue, new pedestrian crossings, and a curb extension at the intersection of Kimball Street and Columbus Avenue.

During the course of construction, city staff received requests for additional traffic calming measures on Whittemore Avenue. In response to those requests, staff hosted a community meeting on September 8, 2011 to discuss the desirability of constructing a raised intersection at Whittemore Avenue and Kassul Park. Residents gave feedback at the meeting as well as via email afterwards. At this time, there is not a clear neighborhood consensus on whether or not a raised intersection should be constructed at this location.

In order to evaluate the effectiveness of the chicanes and other changes, allow additional time for community input and ensure that paving can be completed this year, the final decision on a raised intersection will not be made until next year. Over the next 6 to 9 months, city staff will complete observations of the project, including speed studies and conduct a resident survey. We will use this information to determine how the traffic calming measures are working and as a mechanism to gather additional feedback from residents about the potential of a raised intersection at Whittemore Avenue and Kassul Park. If there is a neighborhood consensus about the need for additional traffic calming measures, a raised intersection can be constructed next summer.

Once again, we thank you for participating in the community process. If you have any additional questions or concerns, please contact Jim Wilcox, Project Manager at jwilcox@cambridgema.gov or 617.349.6426.

Sincerely,

Owen O’Riordan,
City Engineer / Assistant Commissioner for Engineering



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MEMORANDUM

To: Cambridge Planning Board
From: Susan Clippinger, Director TP&T
Date: October 18, 2011
Re: Whittemore Avenue Area

The Planning Board has asked us to discuss traffic conditions in North Cambridge (Whittemore Avenue area). Below are our comments:

Existing traffic conditions:

Because the proposed Tyler Green residential project completed a Traffic Impact Study (TIS) we have recent traffic counts from April 2011¹. The attached map shows existing Average Daily Traffic (ADT), existing AM and PM peak hour traffic volumes.

The area we are describing is bounded by Mass. Avenue, Alewife Brook Parkway, and the Linear Path. The streets in this area do not experience north-south cut through traffic due to the linear path which has no crossing west of Cedar Street and Mass. Avenue. All access to the area is via Mass. Avenue or Whittemore Avenue. This can be a disadvantage when Massachusetts Avenue is congested but it also keeps total trips on the local streets low.

- **Mass. Avenue** is a heavily used arterial roadway with an average of 18,893 vehicles per day, including 1,893 vehicles in the evening (PM) peak hour.
- **Tyler Court, Edmunds St., Cottage Park Ave., and Magoun St.** each have approximately 300 vehicle trips per day, which is typical of low volume residential streets.
- **Brookford Street** is a dead end street with an average of 186 vehicles per day, including about 4 to 5 trips in the peak hours.
- **Whittemore Avenue** provides access to/from the neighborhood from Alewife Brook Parkway and has an average of 1,027 vehicles per day, including about 74-84 peak hour trips.
- **Columbus Avenue** provides access to/from Mass. Avenue and has an average of 1,190 trips per day.
- **Mass. Avenue at Alewife Brook Pkwy** is a very congested intersection in the peak hour (Level of Service F). We do not expect this level of service to change in the future.
- During peak hours, it is difficult to make a left turn onto Mass. Avenue from the neighborhood streets because of congestion on Mass. Avenue. In the morning peak hour there are approximately 10 or fewer vehicles making a left turn onto Mass. Ave from each street, and in the PM peak hour this number is lower. Except for Columbus Avenue, right turns onto Mass. Avenue from each street at either peak is less than 10.

¹ Construction work during April 2011 was primarily on Seagrave Road and Harrison Ave. Both of these streets were closed to traffic during work hours 7:00am-4:00pm. TP&T does not believe the work had any significant impact on traffic counts on other roads.

- No fatal accidents were reported at any of the intersections for the most recent three years of data (2007-2009). Mass. Ave at Alewife Brook Parkway had the highest crash rate in the area at 0.67 crashes per million entering vehicles which is lower than the statewide average rate of 0.81 for signalized intersections. The unsignalized residential streets in the area had crash rates between 0.00 to 0.27 which is also lower than the statewide average rate of 0.61 for unsignalized intersections.

Development of Fawcett Oil site under current/proposed zoning:

In reviewing the traffic issues raised by the potential of a residential project on the Fawcett Oil site, the TP&T goal is to prevent any one street from carrying all the project trips. We would recommend that the parking for any future residential project be split into two separate areas to force the trips to be spread across several streets – those west of Brookford St (Whittemore Ave, Madison Ave, Magoun St) and those east of Brookford St (Cottage Park Ave, Edmunds St, Tyler Ct).

We would not recommend creating a vehicular connection between the streets to the east of Brookford Street to the streets west of Brookford Street, especially Whittemore Avenue. This should effectively prohibit cut-through traffic after the site is developed. However, we would support the creation of pedestrian and bicycle connections among the various streets and to the Linear Park pathway.

Current zoning for the Fawcett Oil site permits up to 104 residential units. Based on the Transportation Impact Study for Tyler Green prepared by Vanasse and Associates Inc., this would generate approximately 400 daily, 30 AM and 40 PM peak hour trips. The proposed zoning change for Special District 2 would permit up to 74 units, which, based on a similar impact analysis, would generate approximately 314 daily, 22 AM and 32 PM peak hour vehicle trips, or a reduction of about 92 daily and 8 peak hour vehicle trips. If the parking is arranged into two areas as recommended above, the impacts would be dispersed as shown in the chart below.

	Buildout Under Current Zoning (104 units)	Buildout Under Proposed Zoning (74 units)	Difference Between Current and Proposed Zoning
West of Brookford			
(Whittemore, Magoun, Columbus)			
Average Daily Trips Generated	200	157	43
AM Peak Hour Trips Generated	15	11	4
PM Peak Hour Trips Generated	20	16	4
East of Brookford			
(Cottage Park, Edmunds, Tyler)			
Average Daily Trips Generated	200	157	43
AM Peak Hour Trips Generated	15	11	4
PM Peak Hour Trips Generated	20	16	4

We estimate the zoning change would result in about one or two fewer trips in the peak hours on each of the roads that would provide access to the new development. Because traffic on these residential streets is already very low, any new traffic that is generated on these streets may be noticeable to residents. However, it is our view that the existing streets can accommodate the small increase in traffic that would be generated by new residential development, whether or not the proposed zoning is adopted.

2011 Traffic Volumes: Average Daily Traffic and Peak Hour Trips

Cambridge, Massachusetts

Magoun St
Daily Trips: 312
AM Peak Hour: 30
PM Peak Hour: 43

Columbus Ave
Daily Trips: 1,190
AM Peak Hour: 68
PM Peak Hour: 44

Massachusetts Ave
Daily Trips: 18,736
AM Peak Hour: 2,047
PM Peak Hour: 1,893

Brookford St
Daily Trips: 186
AM Peak Hour: 4
PM Peak Hour: 5

Cottage Park Ave
Daily Trips: 332
AM Peak Hour: 15
PM Peak Hour: 18

Edmunds St
Daily Trips: 260
AM Peak Hour: 54
PM Peak Hour: 19

Whittemore Ave
Daily Trips: 1,027
AM Peak Hour: 74
PM Peak Hour: 84

Tyler Ct
Daily Trips: 363
AM Peak Hour: 53
PM Peak Hour: 13

Do Not Enter
3-7 PM

— Traffic Count Locations (approximate)

Data source: Vanasse & Associates, Inc.,
April 2011.
ALL FIGURES APPROXIMATE

