



## MEMORANDUM

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To: Chris Coios  
Associate Principal  
CBT Architects  
110 Canal Street  
Boston, MA 02114

Date: April 25, 2014

From: Guy Busa  
Michael Santos

SHS Project No.: 2013115.00

Subject: Reading Public Library  
Preliminary Site Plan Review

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Howard-Stein/Hudson, Inc. (HSH) has reviewed conceptual site plans prepared by CBT Architects (CBT) for the proposed renovation and expansion of the Reading Public Library located along Deering Street, Middlesex Avenue, and School Street in Reading, Massachusetts. The review includes an assessment of parking, traffic operations, and emergency vehicle access and circulation.

### Existing Site Conditions

The Reading Public Library is located along Deering Street, Middlesex Avenue, and School Street in Reading, Massachusetts. Access is currently provided by way of an enter-only driveway along Deering Street, immediately south of the Deering Street/Middlesex Avenue intersection and egress is provided by way of an exit-only driveway along Middlesex Avenue, immediately west of the School Street/Middlesex Avenue intersection. The driveway provides access to a porte-cochère in the front of the building and a parking lot in the rear of the building. The porte-cochère is currently not used. The parking lot consists of a total of 48 spaces inclusive of two handicap spaces. Five of the spaces are located parallel to the entrance driveway and nine of the spaces are located parallel to the exit driveway. The remainder of the parking is located in three rows of standard perpendicular spaces. The existing parking supply is generally adequate for normal library operations. However, the parking lot routinely reaches capacity during special events that occur a few times per week. During these events, the additional parking demand is generally accommodated by on-street parking along Deering Street and Middlesex Avenue and to a lesser extent, School Street. Parking is generally unregulated along the surrounding roadways with the exception of an existing fire lane in front of the Daniel's House Nursing Home located across Middlesex Avenue from the library.

### Project Description

The proposed Project consists of the renovation and expansion of the existing Reading Public Library. The expansion of the building will occur along the easterly side of the building closest to School Street and will provide approximately 8,600 additional square feet of space for reading rooms and quiet study areas, an expansion of the children's section, new computer areas, and new conference and meeting rooms. The expansion of the library will require that the exit-only driveway along Middlesex Avenue be closed and that the enter-only driveway along Deering Street be converted to two-way operations. The proposed project will reconfigure the on-site parking to maintain a total of 48 spaces inclusive of two handicap spaces. The existing driveway will also be reconstructed to accommodate two-way traffic.

## **Parking**

HSH has conducted a qualitative review of the existing and proposed parking for the Project site. As previously stated, the existing parking supply on the site consists of 48 parking spaces, inclusive of 2 handicap spaces. The proposed project will reconstruct the parking lot and will maintain a total of 48 parking spaces, inclusive of two handicap spaces. HSH reviewed three concept plans provided by CBT, two of which include additional on-street parking along Middlesex Avenue and School Street. Option 1 would provide 15 angled parking spaces along the westerly side of School Street, inclusive of two handicap spaces. Option 2 would provide 23 perpendicular spaces along the southerly side of Middlesex Avenue, inclusive of two handicap spaces. Option 3 would not provide any additional on-street parking.

Option 1 would provide an additional 15 angled parking spaces along the westerly side of School Street just south of Middlesex Avenue. Entrance to these parking spaces would require vehicles to access School Street from Middlesex Avenue. Exiting vehicles would be required to travel south along School Street and through the residential neighborhood located south of the library. These parking spaces would generally only be used during the special events that occur a few times per week, as the proposed on-site parking supply should be adequate to accommodate regular library operations. The addition of the angled parking spaces along School Street would reduce the demand for on-street parking in the neighborhood that currently occurs during these events. These parking spaces would also create additional traffic through the residential neighborhood along School Street and south of the library. Providing angled parking spaces along a roadway such as School Street would also introduce additional vehicular conflicts caused by the parking maneuvers.

Option 2 would provide an additional 23 perpendicular parking spaces along the southerly side of Middlesex Avenue. Based on mid-day observations, long-term parking generally occurs along Middlesex Avenue during a typical weekday. It is unclear if the existing level of on-street parking along Middlesex Avenue is related to the library. However, based on the available capacity in the library parking lot at the time of the observations, it was assumed that the existing long-term on-street parking that occurs along Middlesex Avenue is not related to the library and is most likely related to the nearby residences and nursing home. Vehicles would access the additional 23 spaces from either direction along Middlesex Avenue and would exit in either direction. These parking spaces would generally only be used during the special events that occur a few times per week and would need to be restricted to library uses through parking regulations. The proposed spaces would introduce many additional vehicular conflicts along Middlesex Avenue which may create safety issues, especially during the peak hours of traffic flow.

Option 3 would retain all current on-street parking and does not propose to create any additional angled or perpendicular spaces along the surrounding roadways. During special events, vehicles would park along Deering Street and Middlesex Avenue as they currently do. It is anticipated that the proposed renovation and addition will generate a minimal amount of additional vehicular traffic and/or parking demand to the library and that the impacts to the surrounding neighborhood will be negligible.

Based on HSH's review of the three options, Option 3 is the recommended option. Options 1 and 2 will provide additional parking supply, but will also create many additional conflicts with vehicular and pedestrian traffic along Middlesex Avenue and School Street. Option 1 will also create additional traffic along School Street southbound, having an overall negative impact to the neighborhood to the south. Option 2 would require regulations and enforcement to be effective and will create a potentially unsafe situation along Middlesex Avenue due to all of the additional vehicular conflicts that would occur. Option 3 does not provide any additional parking and will be the most similar to current operations. The traffic operations for the proposed project are not expected to significantly change from the existing conditions in the surrounding neighborhood and Option 3 would have the least impact when compared to existing conditions.

## Traffic Operations

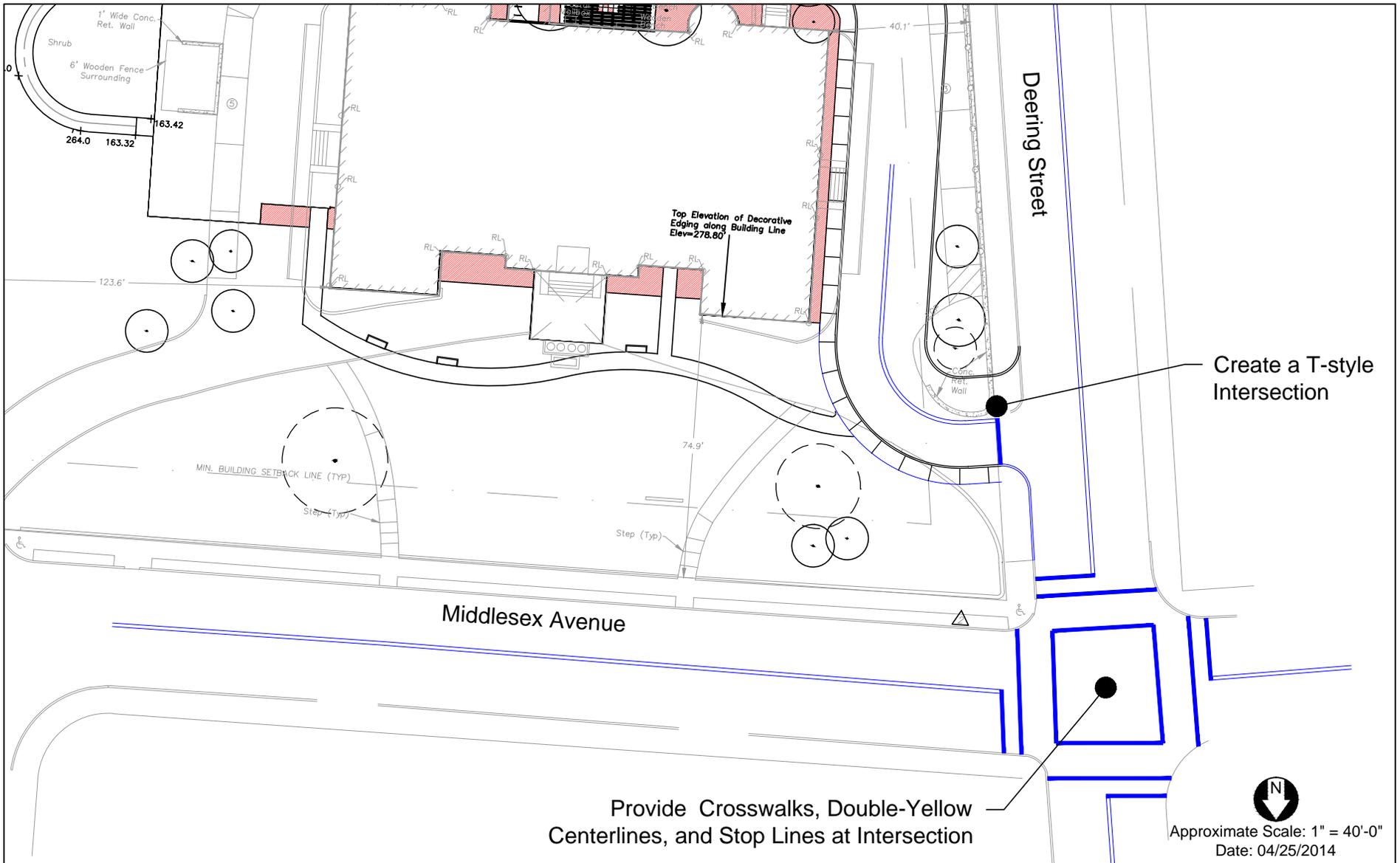
HSH has conducted a qualitative review of traffic operations surrounding the library, with a focus on operations at the intersection of Middlesex Avenue/Deering Street. In general, traffic volumes surrounding the library are light and mostly serve the residential neighborhood around the library. Middlesex Avenue provides east-west access through the neighborhood, with Deering Street and School Street providing north-south access through the neighborhood. Crosswalks are provided across Middlesex Avenue at the intersections with both Deering Street and School Street.

The intersection of **Middlesex Avenue/Deering Street** is unsignalized, with the Deering Street approaches operating under STOP-sign control. The Middlesex Avenue approaches operate freely. All approaches to the intersection consist of a single travel lane with no pavement markings to separate the directions of travel. The entrance driveway to the library is located immediately to the south of the intersection along the easterly side of Deering Street. Observations indicate that vehicles travel through the intersection and into the driveway in a single maneuver. The proposed site plan will allow two-way travel along the driveway, which will add most exiting library traffic to the intersection. HSH recommends that the site driveway be reconfigured to be located at least 25-feet south of the intersection of Middlesex Avenue/Deering Street if the topography of the site allows for this configuration. This reconfiguration would remove the library driveway from the intersection of Middlesex Avenue/Deering Street and would allow for two separate unsignalized intersections. HSH reviewed a proposal to create four-way stop control operations at the intersection of Middlesex Avenue/Deering Street to help regulate traffic through this location and to/from the library driveway. A preliminary review of the four-way stop control plan indicates that it is feasible and can provide a benefit to traffic operations and pedestrian safety at the intersection due to the complex geometry that the library driveway creates. Further analysis of the four-way stop control concept would be necessary. HSH recommends that peak-hour vehicle turning movement and pedestrian crossings counts be conducted to collect data that can be used to further justify the installation of the four-way stop control operations. HSH also recommends that all pavement markings at the intersection be upgraded as necessary. This includes the addition of double-yellow centerlines along all approaches to delineate the travel lanes at the intersection. HSH's recommendations are shown in the attached concept plan.

The intersection of **Middlesex Avenue/School Street/Cape Cod Avenue** is unsignalized, with the School Street northbound and Cape Cod Avenue southbound approaches operating under STOP-sign control. The Middlesex Avenue approaches operate freely. Cape Cod Avenue intersects Middlesex Avenue from the north and is offset from School Street to the west. All approaches to the intersection consist of a single travel lane. The exit driveway from the library is located immediately to the west of the intersection along the southerly side of Middlesex Avenue. The proposed renovation and expansion of the library will remove this exit driveway, which will provide safer operations at the intersection of Middlesex Avenue/School Street. Crosswalks currently exist at the intersection across both Middlesex Avenue approaches and across School Street. No additional improvements or modifications to this intersection are necessary to accommodate the expansion of the library.

## Emergency Vehicle Access/Circulation

HSH conducted an evaluation of emergency vehicle access through the proposed parking area. A standard 46-foot long ladder fire truck was used for this evaluation. Based on this assessment a standard Town of Reading emergency vehicles will have full access and egress to/from the driveway and circulation throughout the proposed parking area.



### Conceptual Driveway and Intersection Layout