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To: Town of Westport

From: Timothy Onderko, P.E., Langan
David Gagnon, P.E., Langan

Date: October 2, 2023

Re: Stormwater Management Memo
Parker Harding Plaza
Westport, Connecticut
Langan Project No.: 140251201

This stormwater memorandum has been prepared in support of the Planning and Zoning Commission application for the site improvements at Parker Harding Plaza in Westport, Connecticut. The existing site is a public parking lot, bordered by Main Street commercial buildings to the east, the Saugatuck River to the west, and Boston Post Road to the south. The project includes upgrades to the parking lot, a public park area, boardwalk, and associated improvements to drainage, utilities, and landscaping. The proposed site improvements will encompass approximately 2.80 acres. The entire project site is located within the (AE-10) FEMA 1% annual chance flood plain (100-year) with base flood elevation 10.0'.

The site is located in the Saugatuck River Watershed, which drains directly to the Saugatuck River. The site fronts approximately 920 linear feet of shoreline, with an existing wall located on-site adjacent to the tidal river. Under existing conditions, stormwater runoff from the site is collected by several on-site catch basins and piped through underground storm drainage networks before discharging directly to the Saugatuck River.

There are three reinforced concrete pipes on-site which outlet directly to the Saugatuck River through the existing wall. In addition to contributing areas on-site, the central 18" RCP outlet pipe is fed by a larger off-site watershed. Runoff from this watershed is collected by the drainage network in Main Street and piped beneath the 69 Main Street building, is routed through the on-site drainage network, and ultimately outlets to the river via the 18" outfall pipe on-site. The contributing off-site watershed includes areas east of the project site, including portions of Main Street, Avery Place, and Elm Street and the parcels bounded by Main Street, Elm Street, and buildings on the northern side of Church Lane.

There are two additional 12" reinforced concrete outlet pipes through the wall, located directly north of the site near the driveway to Gorham Island. On-site catch basins contribute to these two outfalls. The existing project site has an impervious coverage of $\pm 89.8\%$.

The proposed site improvements include converting a significant portion of the site into landscaped and park area, causing a net decrease in impervious area. Of the ± 2.80 acres proposed to be disturbed as a part of the site improvements, approximately ± 0.30 acres will be new pervious areas. The impervious coverage in the proposed condition will be $\pm 78.8\%$, thus reducing volume and runoff rates from the site. The vast majority of existing drainage infrastructure on-site and all existing outfalls will be maintained in the proposed condition. The wall adjacent to the Saugatuck River will remain.

MEMO

Stormwater Management Memo
Parker Harding Plaza
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In addition to the decrease in impervious coverage, we are also proposing four stone rain gardens within the park area. Within the park area, runoff from the landscaped and boardwalk areas will sheet flow to the east, away from the river, to be collected in the depressed stone rain gardens before entering the on-site drainage network. Within the parking lot area of the site, runoff will be directed away from the river to on-site sumped catch basins before discharging to the river.

The proposed redevelopment has been designed to maintain existing drainage patterns to the greatest extent feasible. As a result of the decrease in overall impervious area and the addition of the proposed stone rain gardens, the stormwater runoff from the site will be reduced from the existing condition. Together, these measures will effectively manage stormwater runoff.

Attachments:

- MS4 Impervious Cover Reduction Worksheet

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Town of Westport Department of Public Works

Town Hall, 110 Myrtle Ave.
Westport, Connecticut 06880
(203) 341-1120

By: Abby Fedus
Dated: 9/13/2023
Revised: 9/29/2023



MS4 Impervious Cover Reduction Worksheet

Address: Parker Harding Plaza
GIS ID #: C10086000
Lot Area: 120605 SF

Existing Conditions

Impervious Items	Area (SF)	
	Disconnected	Connected
Dwelling	-	-
Garage	-	-
Driveway	-	92248
Patio	-	-
Walkway	-	16108

Totals

-	108356
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 SF

Proposed Conditions

Impervious Items	Area (SF)	
	Disconnected	Connected
Dwelling	-	-
Garage	-	-
Driveway	-	66827
Patio	-	-
Walkway	-	28620

Totals

-	95447
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 SF

Connected Impervious Area Reduction

Existing Connected Impervious Cover	<u>108356</u>	SF
Proposed Connected Impervious Cover	<u>95447</u>	SF
Reduction	<u>12909</u>	SF
Percent Reduction	<u>11.91</u>	

This analysis was run with our proposed Limit of Disturbance (LOD) as the lot area. The LOD includes portions of the Parker Harding Plaza and 1 Gorham Island parcels.