



January 14, 2022

Mr. Bruce Flower, Chairman
Town of Wappinger
Planning Board
20 Middlebush Road
Wappingers Falls, NY 12590

RE: Proposed Jiffy Lube Multi-Care - 1506 US 9, Wappingers Falls, NY 12590
Tax Parcel #6157-02-653974
Stormwater Management Narrative

Dear Mr. Flower,

Our Client, Jiffy Lube International, Inc. (Jiffy Lube), proposes to redevelop the above referenced parcel. The existing parcel at 1506 US 9 is located at the north end of the 12.97 acres Wappinger Plaza shopping center property and is currently developed with a former Sonic Restaurant building and associated parking. The improvements will be contained to a 0.75 acre "lease area" and will consist of a new proposed 3,064 square feet Jiffy Lube Multi-Care facility with four (4) bays and associated parking, access drives, and trash enclosure. This summary will describe the stormwater management methodology used and the design assumptions considered in managing the drainage across the site in order to comply with Chapter 9 "Redevelopment Activity" of the New York State Stormwater Management Design Manual.

Existing Conditions

In its current existing conditions, the site is developed with an approximately 1,815 sf existing freestanding masonry former Sonic Restaurant and associated 12 space parking lot, 24 drive-in dining spaces and drive-thru on the 0.75 acre "lease area". The building is currently vacant and it will be demolished to make way for the proposed improvements.

Considering only the lease area the existing conditions consist of 6,314 sf (0.145 AC) of pervious area and 26,356 sf (0.605 AC) of impervious area. An impervious percentage of 80.67%

As noted on the topographic survey included as part of the submitted Engineering Plan Set, runoff from the site currently drains undetained in a southerly direction and is captured by a series of inlets and underground storm sewer lines that are part of the overall Wappinger Plaza shopping center stormwater management system.

Proposed Conditions

As shown on the drawings, the proposed improvements will consist of a new approximately 3,064 sf Jiffy Lube Multi-Care facility with four (4) bays and associated parking, access drives, and trash enclosure. The improvements will be constructed on a total of 0.75 acre "lease area" within the shopping center.

Under proposed re-developed conditions, the lease area will consist of 10,711 sf (0.246 AC) of pervious area and 21,959 sf (0.504 AC) of impervious area. An impervious percentage of 67.21%. The proposed improvements will reduce the impervious percentage by 13.46% and provide a net benefit to the overall shopping center stormwater management facilities.



Based on a conversation with the Village's review engineer and an analysis of Chapter 9 "Redevelopment Activity" of the New York State Stormwater Management Design Manual, we have determined that the site must provide Water Quality Treatment Volume for the total impervious area.

Due to the nature of the proposed building as a vehicle maintenance and repair site, we are proposing the use of an alternative SMP to meet the WQv criteria. The alternative chosen for this site is a Contech CDS water quality structure, a flow through practice that will treat the calculated peak runoff rate from the WQv design storm. As noted on the enclosed Water Quality Calculations spreadsheet, the total required water quality volume for the site is 2,496 cubic feet and the water quality peak flow for sizing the alternative SMP is 0.54 cfs. As noted on the plans, a Contech stormwater quality unit CDS2020-5-C has been chosen for this application. This unit has the capacity to handle the peak flow and provide the 75% required removal rate.

Under proposed conditions, runoff from the site will be captured by the underground storm sewer system and routed to the CDS unit where the flow will be captured and cleaned for the more frequent storm events and bypass the larger storm events.

Conclusion

It is our professional opinion that with the incorporation of the above mentioned stormwater management methodology, the proposed development plan for this site will be able to adequately manage the runoff across the site in accordance with the current requirements of Chapter 9 "Redevelopment Activity" of the New York State Stormwater Management Design Manual and will present no detrimental impacts downstream or to adjacent properties.

Please feel free to contact our office with any questions, comments, or concerns.

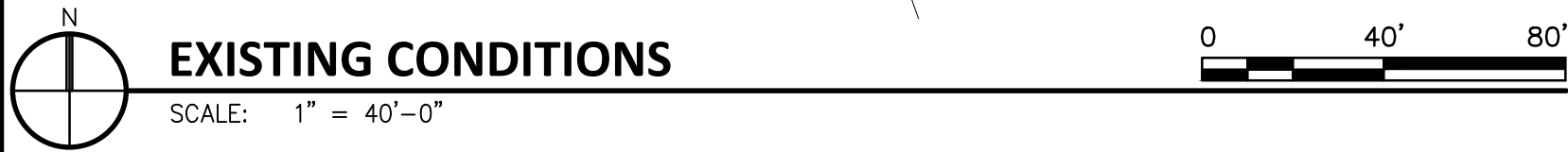
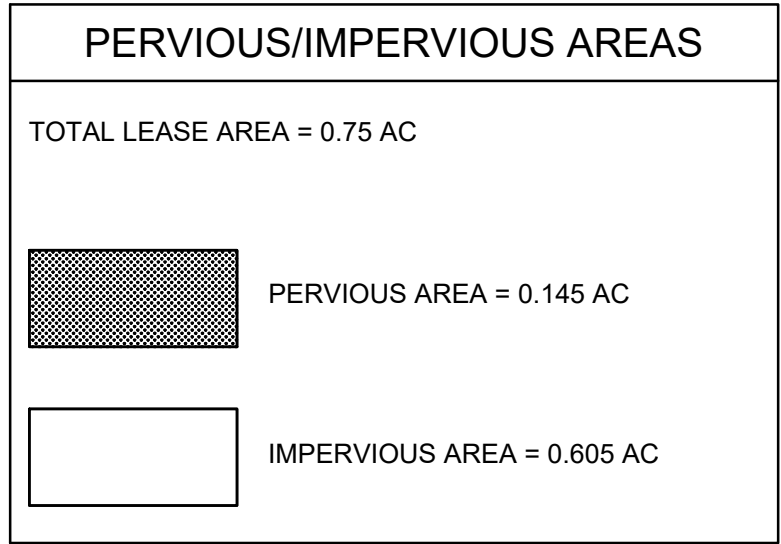
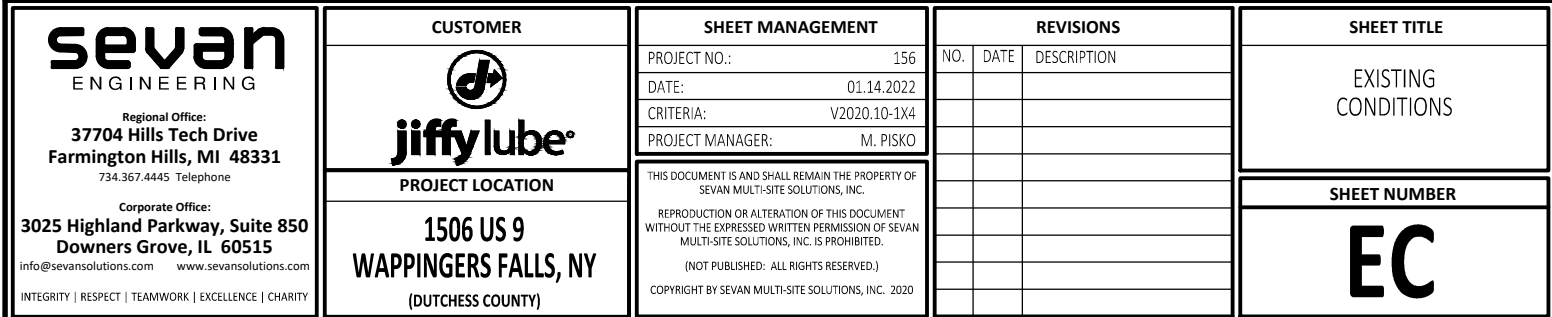
Regards,
Sevan Multi-Site Solutions

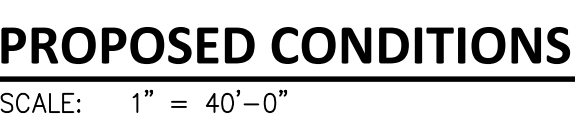


Timothy Kratz, P.E.
Operations Director – Engineer of Record
tim.kratz@sevansolutions.com
(586) 899-2473



Attachments:

1. Exhibit EC-Existing Conditions
2. Exhibit PC-Proposed Conditions
3. Water Quality Calculations





SHEET MANAGEMENT		REVISIONS		SHEET TITLE	
SHEET NO.: 156		NO.	DATE	PROPOSED CONDITIONS	
DATE: 01.14.2022					
REVISION: V2020.10-1X4					
PROJECT MANAGER: M. PISKO					
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				PC	

<div style="text-align: center;">  <p>sevan ENGINEERING</p> </div> <div style="text-align: center; margin-top: 20px;"> <p>Regional Office:</p> <p>37704 Hills Tech Drive Farmington Hills, MI 48331</p> <p>734.367.4445 Telephone</p> </div> <div style="text-align: center; margin-top: 20px;"> <p>Corporate Office:</p> <p>3025 Highland Parkway, Suite 850 Downers Grove, IL 60515</p> <p>info@sevensolutions.com www.sevensolutions.com</p> </div> <div style="text-align: center; margin-top: 20px;"> <p>INTEGRITY RESPECT TEAMWORK EXCELLENCE CHARITY</p> </div>	<p>CUSTOMER</p> <div style="margin: 10px 0;">  <p>jiffy lube®</p> </div> <p>PROJECT LOCATION</p>	<p style="text-align: center;">SHEET MANAGEMENT</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 60%;">PROJECT NO.:</td> <td style="width: 40%; text-align: right;">156</td> </tr> <tr> <td>DATE:</td> <td style="text-align: right;">01.14.2022</td> </tr> <tr> <td>CRITERIA:</td> <td style="text-align: right;">V2020.10-1X4</td> </tr> <tr> <td>PROJECT MANAGER:</td> <td style="text-align: right;">M. PISKO</td> </tr> </table>	PROJECT NO.:	156	DATE:	01.14.2022	CRITERIA:	V2020.10-1X4	PROJECT MANAGER:	M. PISKO	<p style="text-align: center;">REVISIONS</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 10%;">NO.</th> <th style="width: 10%;">DATE</th> <th style="width: 80%;">DESCRIPTION</th> </tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </table>	NO.	DATE	DESCRIPTION																						<p style="text-align: center;">SHEET TITLE</p> <div style="margin-top: 20px;"> <p>PROPOSED CONDITIONS</p> </div>
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NEW YORK STATE - STORMWATER MANAGEMENT DESIGN MANUAL

WATER QUALITY CALCULATIONS

TOTAL REQUIRED WATER QUALITY FOR THE SITE

90% Rainfall Event Number (Fig 4.1)	P=	1.4 in
0.05+0.009 (I) (minimum Rv=0.2)	Rv=	0.6548
Total Drainage Area	At=	0.75 Ac
Impervious Area	Ai=	0.504 Ac
Impervious Area Percentage	Ai=	67.2 %
90% Rule	Wqv=	2496 c.f.

WATER QUALITY PEAK FLOW CALCULATION

90% Rainfall Event Number (Fig 4.1)	P=	1.4 in
Area	A=	0.75 Ac
Water Quality Volume	Wqv=	2496 c.f.
Runoff Volume	Q=	0.92 in
Curve Number	CN=	95.05
Ia = (200/CN) - 2	Ia=	0.10 in
R = Ia/P	R=	0.07
qu (From Exhibits 4-I to 4-III)	qu=	500
Qp = qu*A*WQv	P=	0.54 cfs