Provident Engineering
Traffic & Parking Study

TRAFFIC AND PARKING STUDY

Murphy Brothers - Mamaroneck Self Storage
416 Waverly Avenue
Village of Mamaroneck, New York

Prepared for

East Coast North Properties, LLC
and
Murphy Brothers Contracting
Village of Mamaroneck, NY

Prepared by

Provident Design Engineering, PLLC
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Hawthorne, New York

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1.0 INTRODUCTION

Provident Design Engineering, PLLC (PDE), formerly TRC Engineers, Inc., has been retained by East Coast North Properties, LLC and Murphy Brothers Contracting to review the traffic circulation and the parking conditions for the proposed Mamaroneck Self Storage facility addition to be located at 416 Waverly Avenue in the Village of Mamaroneck. Similar to the storage facility that was recently constructed at the Site (269 units), the additional storage facility (321 units) would replace some existing structures on the site which currently house various contractors/workers. Self Storage facilities tend to generate minimal traffic or parking. The existing Self Storage facility generally has one employee on site, while at times there could be two employees present. With the additional Self Storage units, there will be a maximum of three employees at any one time. In addition to the new Self Storage facility, there will also be a limited amount of retail space (700 sf) along the Waverly Avenue frontage in the existing Self Storage building that will service the Self Storage patrons.

Parking is currently provided on-site, with the provision of additional on-street parking spaces located along Waverly Avenue. Previous to the construction of the original Self

Storage facility, some of the vehicles would have had to back out of their parking spaces directly onto Waverly Avenue.

With the additional Self Storage facility, there will be 25 parking spaces on-site along with four (4) loading spaces as well as the on-street parking spaces.

PDE, TRC at the time, prepared the Traffic and Parking Study for the original Self Storage facility at the Site. To perform this latest Study, PDE followed a similar methodology including performing various observations of the traffic operations at the existing facility, as well as conducted parking counts at various times during the day and week. Utilization data of the Self Storage facility over an extended period of time was also reviewed. PDE conducted traffic analysis for the intersection of Waverly Avenue and Fenimore Road as well as at the Site Driveways.

The following is a summary of PDE's observations and findings in relation to the Self Storage facility in regards to traffic operations and parking.

2.0 TRAFFIC AND PARKING GENERATION

PDE has reviewed the amount of traffic that is generated by the proposed Self Storage facility utilizing the Institute of Transportation Engineers' (ITE) publication, "Trip Generation", 10th Edition, for this type of facility (ITE Land Use 151). The 310 additional storage units would conservatively generate approximately 3 entering vehicles and 3 exiting vehicles in the Peak AM Hour and approximately 2 entering vehicles and 3 exiting vehicles during the Peak PM Roadway Hour. During the Weekend Peak Hour, the 310 additional storage units would generate similar amounts, 3 entering vehicles and 2 exiting vehicles. This is minimal traffic and in general, the same vehicle that enters is also the vehicle that exits within the hour, as well as the occasional employee potentially entering or exiting. This minimal traffic will have no impact upon traffic operating conditions in the area. It is less traffic than utilized the previous uses of the site.

The following Table is a summary of the Weekday Peak Hour Trip Generation:

TABLE NO. 1
TRIP GENERATION
FOR ADDITIONAL 321 STORAGE UNITS

	Weekday Peak AM Roadway Hour			**Weekday Peak PM Roadway Hour**
ENTER	3			2
EXIT	3			3

The 700 sf of retail space will also generate minimal traffic as the retail will be limited to Self Storage supplies. The ITE 10th Edition (Land Use 920) estimates that this space would conservatively generate approximately 2 entering vehicles and 0 exiting vehicles in the Weekday Peak AM Hour and approximately 2 entering vehicles and 3 exiting vehicles during the Peak PM Roadway Hour. In reality, there would be even less traffic than these amounts as the employee for the retail portion will be the same as for the Self Storage portion and the customers would be the Self Storage patrons. Similar conditions would be experienced during the Weekend Peak Hour.

The supporting information from the ITE 10th Edition is contained in Appendix D.

Parking Generation

A Self Storage facility of a total of 590 units, based upon the Institute of Transportation Engineers' (ITE) publication "Parking Generation", 4th Edition, would generate a Peak parking demand of 8 spaces. The supporting information from the ITE 4th Edition is contained in Appendix D.

The 700-sf retail space is estimated to generate a parking demand of approximately two parking spaces but would actually require much less as the retail will be limited to self

storage supplies and be sold to the self storage patrons. In addition, the employee for the self storage supplies will be the same as the employee for the self storage facility.

Parking is described in more detail in Section 4.0 below.

3.0 TRAFFIC CIRCULATION AND OPERATIONS

Existing Circulation

The previous site was served by various curbcuts and driveways along both Waverly Avenue and Fenimore Road. The access was "cleaned up" with the construction of the original Self Storage Building, which also improved the safety along Waverly Avenue as vehicles were backing out onto Waverly Avenue. Along Waverly Avenue currently, the access to the northern portion of the site is an unsignalized entrance/exit (with only right turns out permitted). A second curbcut along Waverly Avenue is located at the southern end of the site and serves the Self Storage Building and other contractor/worker parking but does not provide a vehicular connection to the rest of the property.

Along Fenimore Road, there is an existing curbcut between the barn and the front building that was converted to a right turn exiting movement only as part of the original Self Storage project. An additional curbcut provides limited access to the barn area. Vehicles sometimes back out of this driveway onto Fenimore Road.

Future Circulation and Operations

The number of curbcuts under the future scenario with the additional Self Storage facility

will be reduced from four to two. The curbcut along Waverly Avenue currently serving the northern portion of the facility will be closed. The curbcut that currently serves the southern portion of the site along Waverly Avenue will remain.

The curbcut along Fenimore Road between the barn and the front building will remain an exit only driveway (right turns only). The curbcut that serves the barn will be removed.

All of the driveways will remain unsignalized under STOP control.

In addition to the modifications to the driveways, the internal circulation at the site will also be improved. Elimination of some of the buildings will improve traffic flow. In addition, as illustrated on the Site Plan, circulation will become more organized and striped islands will be provided to provide clearer direction. The signage also will be upgraded to improve traffic control. The northern portion will now be connected with the southern portion of the site. These improvements will significantly improve traffic flow throughout the site as well as improve Waverly Avenue and Fenimore Road by reducing the number of curbcuts.

Adjacent Roadway Network

The intersection of Waverly Avenue and Fenimore Road is controlled by a multi-phase

traffic signal. PDE conducted traffic counts at this intersection as well as at the Site Driveways. The Peak Hours for the intersection are 7:30 AM to 8:30 AM and 4:45 PM to 5:45 PM. The Existing Traffic Volumes are illustrated on Figure 1 in Appendix A. PDE also conducted Level of Service capacity analyses for the intersection of Waverly Avenue and Fenimore Road and the Site Driveways. "Build" conditions were also analyzed and incorporate a background growth rate in addition to the Site modifications including the additional Self Storage units as illustrated on Figure 2. Copies of these analyses are contained in Appendix B.

Table No. 2 summarizes the Levels of Services for the intersection and the Site Driveways:

TABLE NO. 2
LEVEL OF SERVICE

Intersection	AM Peak		PM Peak	
	Existing	Build	Existing	Build
Fenimore Road & Waverly Avenue	C 22.7	C 22.8	C 21.5	C 21.6
Fenimore Road and Existing Exit Driveway	C 15.0	c 15.1	a 0.0	a 0.0
Waverly Avenue & Existing Driveway 1 (Contractor Offices)	b 14.7	- -	c 15.0	- -
Waverly Avenue & Existing Driveway 2 (Self-Storage)	b 11.1	b 13.6	b 12.0	b 12.2

Note: Signalized intersection Levels of Service are represented by Upper Case letters while unsignalized intersections are represented by lower case letters. Average Delay is provided below the Levels of Service and is illustrated in seconds per vehicle. To be conservative, no credit was taken for the traffic contractors/workers at the Site that will no longer be present during the Build condition.

As illustrated in the Table above, the analysis shows that the intersection of Fenimore Road and Waverly Avenue currently operates at Level of Service C in the Peak AM and PM Hours and these Levels of Service will remain. The Site Driveways will also continue to operate at Level of Service C or better. Thus, good Levels of Service are maintained at each of the intersections/driveways. To be conservative, no credit was taken for the traffic contractors/workers at the Site that will no longer be present during the Build condition, which would remove approximately 19 vehicles. Thus there will actually be less vehicles than current.

As described in Section 2.0, the Self Storage facility will not generate significant traffic and will not have any significant impact upon the traffic operating conditions of this intersection or on the Site Driveways and adjacent streets.

4.0 PARKING

a. Existing Parking Conditions

The current parking spaces on-site are split between two separate lots, as well as on-street parking spaces along Waverly Avenue.

PDE conducted parking observations on various days (both weekdays and weekends) and at various times throughout the day at the site. There were very few vehicles ever parked for the existing Self Storage facility and there were never times that ample parking spaces was not available on the property.

In addition, PDE reviewed data for the entrance and exit into the existing Self Storage facility from July 1, 2017 to August 24, 2017. These indicated that the maximum number of parking spaces for the Self Storage facility utilized at any one time throughout the entire period was five spaces, which included two parking spaces utilized by employees. A copy of this data is contained in Appendix C.

In addition to the parking for Murphy Brothers, approximately 19 other contractors/workers currently park at the Site. These 19 vehicles will be removed

from the Site after the additional Self Storage units are constructed. Thus there would be less vehicles parking on the Site.

b. Future Parking

To determine the parking that was to be required for the original Self Storage facility at the Site, the parking requirements at other Self Storage facilities in the area was reviewed. The following table, similar to the Table that was contained in the previous Traffic and Parking Study illustrates the parking spaces provided for other Self Storage facilities in Westchester.

TABLE NO. 3
PARKING FOR OTHER SELF STORAGE FACILITIES

Facility	Location	No. of Units	Parking Spaces Initially Required by Zoning	Variance Granted (Parking Spaces to be installed)
Westy's Self Storage	Port Chester	900	83	22
Safeguard Storage	Elmsford	550	68	12
Safeguard Storage	New Rochelle	653	48	14
Westy's Self Storage	Tuckahoe	1,500	N/A	24
Black Mountain	New Rochelle	1,182	N/A	12
Project	*Mamaroneck*	*590*	*137*	*25*

Table No. 4 compares the Parking Spaces per Unit as well as the number of Units per Parking Space for other Self Storage in the area.

TABLE NO. 4 PARKING RATIOS FOR OTHER SELF STORAGE FACILITIES				
Facility	**Location**	**No. of Units**	**Parking Spaces per Unit**	**Units per Parking Space**
Westy's Self Storage	Port Chester	900	0.0244	41
Safeguard Storage	Elmsford	550	0.0218	46
Safeguard Storage	New Rochelle	653	0.0214	47
Westy's Self Storage	Tuckahoe	1,500	0.0160	63
Black Mountain	New Rochelle	1,182	0.0101	99
Project	*Mamaroneck*	*590*	*0.0424*	*24*

As illustrated in the above Tables, some of these other facilities have significantly more storage units yet provide a similar number of parking spaces as proposed for the Mamaroneck Self Storage facility. Observations of the parking in these lots indicate minimal vehicles are parked there.

The Mamaroneck Self Storage facility currently has 1-2 employees on-site at any one time. With additional units, this could increase to a maximum of 3 employees on-site at times. As described earlier, a Self Storage facility of a total of 590 units, based upon the Institute of Transportation Engineers' (ITE) publication "Parking Generation", 4th Edition, would generate a Peak parking demand of 8 spaces. The supporting information from the ITE 4th Edition is contained in Appendix D.

The 700-sf retail space is estimated to require approximately two parking spaces based upon the potential use of Site. The Murphy Brothers Contracting portion of the Site will have four full time employees and two Project Managers on-site and are projected to utilize six parking spaces. Murphy Brothers Contracting will generally not generate any visits from the general public or contractors. The other nineteen contractors/workers that currently park on the Site will no longer be parking there as that usage will be replaced by the additional Self Storage units and thus the overall parking demand will be reduced.

With the proposed additional Self Storage facility and the modifications to the layout of the site, there will be 25 parking spaces provided on-site along with four (4) loading spaces, in addition to the on-street parking spaces. The four loading spaces will be utilized by the patrons of the Self Storage facility, thus freeing up even more parking spaces. Thus the parking to be provided will be sufficient to support the Self Storage facility and the other various uses on the site.

5.0 CONCLUSIONS

The proposed modifications to the internal circulation of the site will improve traffic flow and operations. The elimination of a driveway along Waverly Avenue and the elimination of a curb cut on Fenimore Road will also improve safety within the site and along Waverly Avenue and Fenimore Road such as vehicles will no longer back out of the barn driveway onto Fenimore Road. The additional Self Storage facility will not generate significant traffic and will not impact traffic operating conditions along the adjacent roadways or within the site.

The Self Storage facility with the additional units would conservatively require up to 8 parking spaces while the Murphy Brothers Contracting will require 6 parking spaces and up to 2 parking spaces will be required for the retail space. In addition, the peak of all of the above uses would not occur at the same time, with the Murphy Brothers Contracting peaking in the early morning, the Self Storage facility peaking mid-late morning and the retail portion generating insignificant parking. Thus, the 25 parking spaces to be provided will result in more than sufficient parking be provided for the entire site, including for the additional Self Storage facility. There will be also 4 loading spaces that will be provided and these will be utilized by the patrons of the Self Storage facility, thus freeing up even more parking spaces.

Respectively submitted:

PROVIDENT DESIGN ENGINEERING, PLLC

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Senior Project Manager

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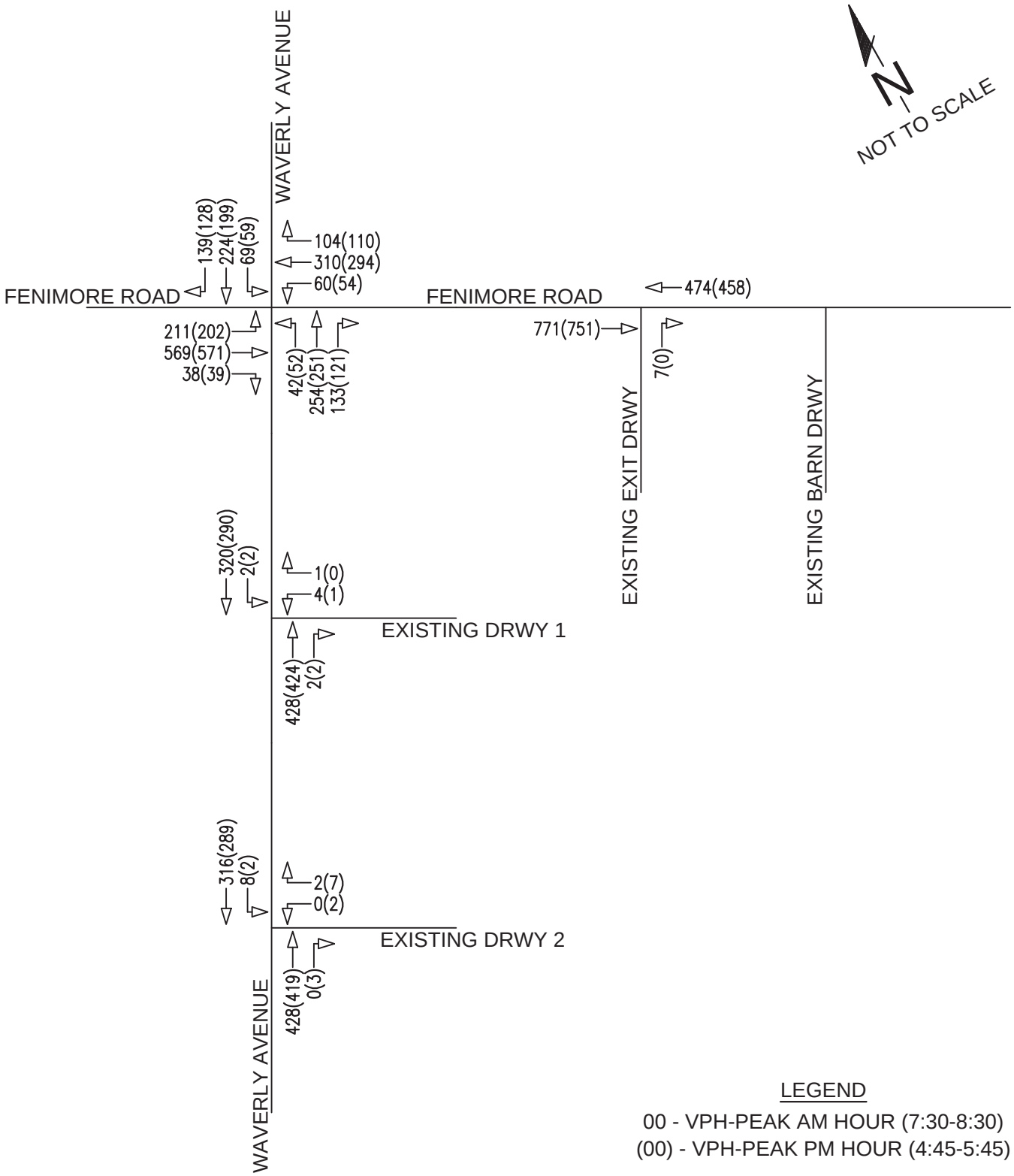
APPENDIX A

Figures



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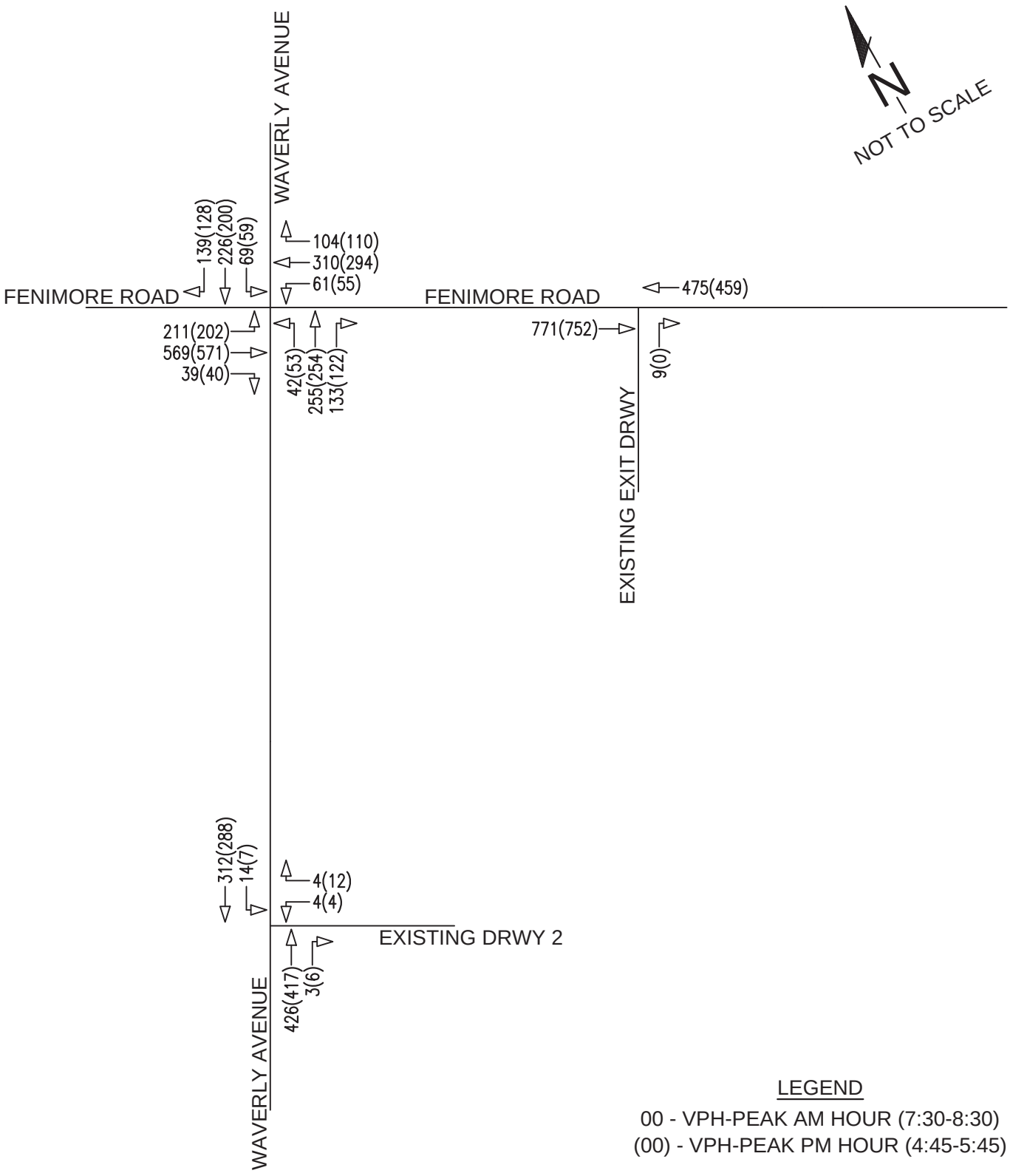
Project No. 17-060
January 2019

Existing Traffic Volumes
Mamaroneck, Westchester, NY

Figure No. 01



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Build Traffic Figures
Mamaroneck, Westchester, NY

Figure No. 02

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APPENDIX B

Level of Service Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	211	569	38	60	310	104	42	254	133	69	224	139
Future Volume (veh/h)	211	569	38	60	310	104	42	254	133	69	224	139
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		0.99	1.00		0.99	1.00		0.98	1.00		0.98
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	229	618	41	65	337	113	46	276	145	75	243	151
Adj No. of Lanes	1	1	1	1	1	1	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	542	1068	899	366	795	667	202	362	190	183	338	210
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.10	0.57	0.57	0.43	0.43	0.43	0.32	0.32	0.32	0.32	0.32	0.32
Ln Grp Delay, s/veh	13.2	13.5	7.8	19.3	18.1	15.1	36.3	0.0	34.8	42.7	0.0	32.7
Ln Grp LOS	B	B	A	B	B	B	D		C	D		C
Approach Vol, veh/h		888			515			467			469	
Approach Delay, s/veh		13.1			17.6			34.9			34.3	
Approach LOS		B			B			C			C	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6	7	8
Case No		6.0		3.0		6.0	1.2	5.0
Phs Duration (G+Y+Rc), s		30.0		52.0		30.0	12.0	40.0
Change Period (Y+Rc), s		4.0		5.0		4.0	4.0	5.0
Max Green (Gmax), s		26.0		47.0		26.0	8.0	35.0
Max Allow Headway (MAH), s		5.3		5.1		5.3	3.8	5.1
Max Q Clear (g_c+I1), s		22.1		19.4		26.1	7.5	12.4
Green Ext Time (g_e), s		2.1		8.4		0.0	0.0	7.9
Prob of Phs Call (p_c)		1.00		1.00		1.00	1.00	1.00
Prob of Max Out (p_x)		0.00		0.00		0.00	0.00	0.00

Left-Turn Movement Data								
Assigned Mvmt		5				1	7	3
Mvmt Sat Flow, veh/h		985				962	1774	769

Through Movement Data								
Assigned Mvmt		2		4		6		8
Mvmt Sat Flow, veh/h		1142		1863		1067		1863

Right-Turn Movement Data								
Assigned Mvmt		12		14		16		18
Mvmt Sat Flow, veh/h		600		1568		663		1563

Left Lane Group Data								
Assigned Mvmt	0	5	0	0	0	1	7	3
Lane Assignment							(Pr/Pm)	

Lanes in Grp	0	1	0	0	0	1	1	1
Grp Vol (v), veh/h	0	46	0	0	0	75	229	65
Grp Sat Flow (s), veh/h/ln	0	985	0	0	0	962	1774	769
Q Serve Time (g_s), s	0.0	3.6	0.0	0.0	0.0	6.2	5.5	4.8
Cycle Q Clear Time (g_c), s	0.0	20.1	0.0	0.0	0.0	24.1	5.5	10.2
Perm LT Sat Flow (s_l), veh/h/ln	0	985	0	0	0	962	935	769
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	26.0	0.0	0.0	0.0	26.0	37.0	35.0
Perm LT Serve Time (g_u), s	0.0	9.5	0.0	0.0	0.0	8.2	24.6	29.6
Perm LT Q Serve Time (g_ps), s	0.0	3.6	0.0	0.0	0.0	6.2	4.0	4.8
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	1.00	0.00	0.00	0.00	1.00	1.00	1.00
Lane Grp Cap (c), veh/h	0	202	0	0	0	183	542	366
V/C Ratio (X)	0.00	0.23	0.00	0.00	0.00	0.41	0.42	0.18
Avail Cap (c_a), veh/h	0	202	0	0	0	183	542	366
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d1), s/veh	0.0	33.6	0.0	0.0	0.0	36.1	10.8	18.3
Incr Delay (d2), s/veh	0.0	2.6	0.0	0.0	0.0	6.6	2.4	1.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	36.3	0.0	0.0	0.0	42.7	13.2	19.3
1st-Term Q (Q1), veh/ln	0.0	1.0	0.0	0.0	0.0	1.7	2.6	1.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.3	0.4	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	0.00	0.00	1.00	1.00	1.00
%ile Back of Q (50%), veh/ln	0.0	1.1	0.0	0.0	0.0	2.0	3.0	1.1
%ile Storage Ratio (RQ%)	0.00	0.56	0.00	0.00	0.00	0.78	0.94	0.29
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment				T				T
Lanes in Grp	0	0	0	1	0	0	0	1
Grp Vol (v), veh/h	0	0	0	618	0	0	0	337
Grp Sat Flow (s), veh/h/ln	0	0	0	1863	0	0	0	1863
Q Serve Time (g_s), s	0.0	0.0	0.0	17.4	0.0	0.0	0.0	10.4
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	17.4	0.0	0.0	0.0	10.4
Lane Grp Cap (c), veh/h	0	0	0	1068	0	0	0	795
V/C Ratio (X)	0.00	0.00	0.00	0.58	0.00	0.00	0.00	0.42
Avail Cap (c_a), veh/h	0	0	0	1068	0	0	0	795
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	11.2	0.0	0.0	0.0	16.4
Incr Delay (d2), s/veh	0.0	0.0	0.0	2.3	0.0	0.0	0.0	1.7
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	13.5	0.0	0.0	0.0	18.1
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	8.8	0.0	0.0	0.0	5.3

2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.7	0.0	0.0	0.0	0.4
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	9.4	0.0	0.0	0.0	5.7
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	1.08	0.00	0.00	0.00	1.32
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		T+R		R		T+R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	421	0	41	0	394	0	113
Grp Sat Flow (s), veh/h/ln	0	1742	0	1568	0	1729	0	1563
Q Serve Time (g_s), s	0.0	17.8	0.0	0.9	0.0	16.5	0.0	3.7
Cycle Q Clear Time (g_c), s	0.0	17.8	0.0	0.9	0.0	16.5	0.0	3.7
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.34	0.00	1.00	0.00	0.38	0.00	1.00
Lane Grp Cap (c), veh/h	0	552	0	899	0	548	0	667
V/C Ratio (X)	0.00	0.76	0.00	0.05	0.00	0.72	0.00	0.17
Avail Cap (c_a), veh/h	0	552	0	899	0	548	0	667
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	25.2	0.0	7.7	0.0	24.8	0.0	14.5
Incr Delay (d2), s/veh	0.0	9.6	0.0	0.1	0.0	7.9	0.0	0.5
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	34.8	0.0	7.8	0.0	32.7	0.0	15.1
1st-Term Q (Q1), veh/ln	0.0	8.5	0.0	0.4	0.0	7.9	0.0	1.6
2nd-Term Q (Q2), veh/ln	0.0	1.5	0.0	0.0	0.0	1.2	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	10.0	0.0	0.4	0.0	9.1	0.0	1.7
%ile Storage Ratio (RQ%)	0.00	4.98	0.00	0.14	0.00	0.53	0.00	0.42
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	22.7
HCM 2010 LOS	C

Intersection	
Int Delay, s/veh	0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	771	0	0	474	0	7
Future Vol, veh/h	771	0	0	474	0	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	Stop
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	838	0	0	515	0	8

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	-	-	-	-	838
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.318
Pot Cap-1 Maneuver	-	0	0	-	0	366
Stage 1	-	0	0	-	0	-
Stage 2	-	0	0	-	0	-
Platoon blocked, %	-			-		
Mov Cap-1 Maneuver	-	-	-	-	-	366
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	15
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	WBT
Capacity (veh/h)	366	-	-
HCM Lane V/C Ratio	0.021	-	-
HCM Control Delay (s)	15	-	-
HCM Lane LOS	C	-	-
HCM 95th %tile Q(veh)	0.1	-	-

Intersection	
Int Delay, s/veh	0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	4	1	428	2	2	320
Future Vol, veh/h	4	1	428	2	2	320
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	1	465	2	2	348

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	818	466	0	0	467	0
Stage 1	466	-	-	-	-	-
Stage 2	352	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	346	597	-	-	1094	-
Stage 1	632	-	-	-	-	-
Stage 2	712	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	345	597	-	-	1094	-
Mov Cap-2 Maneuver	345	-	-	-	-	-
Stage 1	632	-	-	-	-	-
Stage 2	711	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14.7	0	0.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	377	1094	-
HCM Lane V/C Ratio	-	-	0.014	0.002	-
HCM Control Delay (s)	-	-	14.7	8.3	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Int Delay, s/veh	0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	2	428	0	8	316
Future Vol, veh/h	0	2	428	0	8	316
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	2	465	0	9	343

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	826	465	0	0	465	0
Stage 1	465	-	-	-	-	-
Stage 2	361	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	342	597	-	-	1096	-
Stage 1	632	-	-	-	-	-
Stage 2	705	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	339	597	-	-	1096	-
Mov Cap-2 Maneuver	339	-	-	-	-	-
Stage 1	632	-	-	-	-	-
Stage 2	698	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.1	0	0.2
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	597	1096	-
HCM Lane V/C Ratio	-	-	0.004	0.008	-
HCM Control Delay (s)	-	-	11.1	8.3	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0	0	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	202	571	39	54	294	110	52	251	121	59	199	128
Future Volume (veh/h)	202	571	39	54	294	110	52	251	121	59	199	128
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		0.99	1.00		0.99	1.00		0.98	1.00		0.98
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	220	621	42	59	320	120	57	273	132	64	216	139
Adj No. of Lanes	1	1	1	1	1	1	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	551	1068	899	363	795	667	231	374	181	196	333	214
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.10	0.57	0.57	0.43	0.43	0.43	0.32	0.32	0.32	0.32	0.32	0.32
Ln Grp Delay, s/veh	12.8	13.5	7.8	19.2	17.8	15.2	34.6	0.0	33.1	39.0	0.0	29.9
Ln Grp LOS	B	B	A	B	B	B	C		C	D		C
Approach Vol, veh/h		883			499			462			419	
Approach Delay, s/veh		13.1			17.3			33.3			31.3	
Approach LOS		B			B			C			C	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6	7	8
Case No		6.0		3.0		6.0	1.2	5.0
Phs Duration (G+Y+Rc), s		30.0		52.0		30.0	12.0	40.0
Change Period (Y+Rc), s		4.0		5.0		4.0	4.0	5.0
Max Green (Gmax), s		26.0		47.0		26.0	8.0	35.0
Max Allow Headway (MAH), s		5.3		5.1		5.3	3.8	5.1
Max Q Clear (g_c+I1), s		20.7		19.5		24.0	7.2	11.9
Green Ext Time (g_e), s		2.5		8.3		1.1	0.1	7.8
Prob of Phs Call (p_c)		1.00		1.00		1.00	1.00	1.00
Prob of Max Out (p_x)		0.00		0.00		0.00	0.00	0.00

Left-Turn Movement Data								
Assigned Mvmt		5				1	7	3
Mvmt Sat Flow, veh/h		1019				975	1774	766

Through Movement Data								
Assigned Mvmt		2		4		6		8
Mvmt Sat Flow, veh/h		1178		1863		1051		1863

Right-Turn Movement Data								
Assigned Mvmt		12		14		16		18
Mvmt Sat Flow, veh/h		570		1568		676		1563

Left Lane Group Data								
Assigned Mvmt	0	5	0	0	0	1	7	3
Lane Assignment							(Pr/Pm)	

Lanes in Grp	0	1	0	0	0	1	1	1
Grp Vol (v), veh/h	0	57	0	0	0	64	220	59
Grp Sat Flow (s), veh/h/ln	0	1019	0	0	0	975	1774	766
Q Serve Time (g_s), s	0.0	4.2	0.0	0.0	0.0	5.1	5.2	4.4
Cycle Q Clear Time (g_c), s	0.0	18.7	0.0	0.0	0.0	22.0	5.2	9.9
Perm LT Sat Flow (s_l), veh/h/ln	0	1019	0	0	0	975	943	766
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	26.0	0.0	0.0	0.0	26.0	37.0	35.0
Perm LT Serve Time (g_u), s	0.0	11.5	0.0	0.0	0.0	9.1	25.3	29.5
Perm LT Q Serve Time (g_ps), s	0.0	4.2	0.0	0.0	0.0	5.1	3.6	4.4
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	1.00	0.00	0.00	0.00	1.00	1.00	1.00
Lane Grp Cap (c), veh/h	0	231	0	0	0	196	551	363
V/C Ratio (X)	0.00	0.25	0.00	0.00	0.00	0.33	0.40	0.16
Avail Cap (c_a), veh/h	0	231	0	0	0	196	551	363
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d1), s/veh	0.0	32.1	0.0	0.0	0.0	34.7	10.6	18.2
Incr Delay (d2), s/veh	0.0	2.5	0.0	0.0	0.0	4.4	2.2	1.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	34.6	0.0	0.0	0.0	39.0	12.8	19.2
1st-Term Q (Q1), veh/ln	0.0	1.2	0.0	0.0	0.0	1.4	2.5	0.9
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.0	0.0	0.2	0.3	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	0.00	0.00	1.00	1.00	1.00
%ile Back of Q (50%), veh/ln	0.0	1.3	0.0	0.0	0.0	1.6	2.8	1.0
%ile Storage Ratio (RQ%)	0.00	0.66	0.00	0.00	0.00	0.63	0.90	0.26
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment				T				T
Lanes in Grp	0	0	0	1	0	0	0	1
Grp Vol (v), veh/h	0	0	0	621	0	0	0	320
Grp Sat Flow (s), veh/h/ln	0	0	0	1863	0	0	0	1863
Q Serve Time (g_s), s	0.0	0.0	0.0	17.5	0.0	0.0	0.0	9.7
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	17.5	0.0	0.0	0.0	9.7
Lane Grp Cap (c), veh/h	0	0	0	1068	0	0	0	795
V/C Ratio (X)	0.00	0.00	0.00	0.58	0.00	0.00	0.00	0.40
Avail Cap (c_a), veh/h	0	0	0	1068	0	0	0	795
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	11.2	0.0	0.0	0.0	16.3
Incr Delay (d2), s/veh	0.0	0.0	0.0	2.3	0.0	0.0	0.0	1.5
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	13.5	0.0	0.0	0.0	17.8
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	9.0	0.0	0.0	0.0	5.0

2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.7	0.0	0.0	0.0	0.3
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	9.7	0.0	0.0	0.0	5.3
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	1.10	0.00	0.00	0.00	1.23
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		T+R		R		T+R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	405	0	42	0	355	0	120
Grp Sat Flow (s), veh/h/ln	0	1748	0	1568	0	1727	0	1563
Q Serve Time (g_s), s	0.0	16.9	0.0	1.0	0.0	14.5	0.0	3.9
Cycle Q Clear Time (g_c), s	0.0	16.9	0.0	1.0	0.0	14.5	0.0	3.9
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.33	0.00	1.00	0.00	0.39	0.00	1.00
Lane Grp Cap (c), veh/h	0	554	0	899	0	548	0	667
V/C Ratio (X)	0.00	0.73	0.00	0.05	0.00	0.65	0.00	0.18
Avail Cap (c_a), veh/h	0	554	0	899	0	548	0	667
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	24.9	0.0	7.7	0.0	24.1	0.0	14.6
Incr Delay (d2), s/veh	0.0	8.2	0.0	0.1	0.0	5.8	0.0	0.6
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	33.1	0.0	7.8	0.0	29.9	0.0	15.2
1st-Term Q (Q1), veh/ln	0.0	8.1	0.0	0.4	0.0	6.9	0.0	1.7
2nd-Term Q (Q2), veh/ln	0.0	1.3	0.0	0.0	0.0	0.9	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	9.4	0.0	0.4	0.0	7.8	0.0	1.8
%ile Storage Ratio (RQ%)	0.00	4.67	0.00	0.15	0.00	0.46	0.00	0.45
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	21.5
HCM 2010 LOS	C

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	751	0	0	458	0	0
Future Vol, veh/h	751	0	0	458	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	Stop
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	816	0	0	498	0	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	-	-	-	-	816
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.318
Pot Cap-1 Maneuver	-	0	0	-	0	377
Stage 1	-	0	0	-	0	-
Stage 2	-	0	0	-	0	-
Platoon blocked, %	-			-		
Mov Cap-1 Maneuver	-	-	-	-	-	377
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	WBT
Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Control Delay (s)	0	-	-
HCM Lane LOS	A	-	-
HCM 95th %tile Q(veh)	-	-	-

Intersection	
Int Delay, s/veh	0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	1	0	424	2	2	290
Future Vol, veh/h	1	0	424	2	2	290
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	0	461	2	2	315

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	782	462	0	0	463	0
Stage 1	462	-	-	-	-	-
Stage 2	320	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	363	600	-	-	1098	-
Stage 1	634	-	-	-	-	-
Stage 2	736	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	362	600	-	-	1098	-
Mov Cap-2 Maneuver	362	-	-	-	-	-
Stage 1	634	-	-	-	-	-
Stage 2	735	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	15	0	0.1
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	362	1098	-
HCM Lane V/C Ratio	-	-	0.003	0.002	-
HCM Control Delay (s)	-	-	15	8.3	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Int Delay, s/veh	0.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	2	7	419	3	2	289
Future Vol, veh/h	2	7	419	3	2	289
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2	8	455	3	2	314

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	775	457	0	0	459	0
Stage 1	457	-	-	-	-	-
Stage 2	318	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	366	604	-	-	1102	-
Stage 1	638	-	-	-	-	-
Stage 2	738	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	365	604	-	-	1102	-
Mov Cap-2 Maneuver	365	-	-	-	-	-
Stage 1	638	-	-	-	-	-
Stage 2	737	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12	0	0.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	527	1102	-
HCM Lane V/C Ratio	-	-	0.019	0.002	-
HCM Control Delay (s)	-	-	12	8.3	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	211	569	39	61	310	104	42	255	133	69	226	139
Future Volume (veh/h)	211	569	39	61	310	104	42	255	133	69	226	139
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		0.99	1.00		0.99	1.00		0.98	1.00		0.98
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	229	618	42	66	337	113	46	277	145	75	246	151
Adj No. of Lanes	1	1	1	1	1	1	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	542	1068	899	365	795	667	200	363	190	183	340	209
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.10	0.57	0.57	0.43	0.43	0.43	0.32	0.32	0.32	0.32	0.32	0.32
Ln Grp Delay, s/veh	13.2	13.5	7.8	19.4	18.1	15.1	36.5	0.0	34.9	42.8	0.0	32.9
Ln Grp LOS	B	B	A	B	B	B	D		C	D		C
Approach Vol, veh/h		889			516			468			472	
Approach Delay, s/veh		13.1			17.6			35.0			34.5	
Approach LOS		B			B			D			C	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6	7	8
Case No		6.0		3.0		6.0	1.2	5.0
Phs Duration (G+Y+Rc), s		30.0		52.0		30.0	12.0	40.0
Change Period (Y+Rc), s		4.0		5.0		4.0	4.0	5.0
Max Green (Gmax), s		26.0		47.0		26.0	8.0	35.0
Max Allow Headway (MAH), s		5.3		5.1		5.3	3.8	5.1
Max Q Clear (g_c+I1), s		22.2		19.4		26.2	7.5	12.4
Green Ext Time (g_e), s		2.0		8.4		0.0	0.0	7.9
Prob of Phs Call (p_c)		1.00		1.00		1.00	1.00	1.00
Prob of Max Out (p_x)		0.00		0.00		0.00	0.00	0.00

Left-Turn Movement Data								
Assigned Mvmt		5				1	7	3
Mvmt Sat Flow, veh/h		982				961	1774	768

Through Movement Data								
Assigned Mvmt		2		4		6		8
Mvmt Sat Flow, veh/h		1144		1863		1072		1863

Right-Turn Movement Data								
Assigned Mvmt		12		14		16		18
Mvmt Sat Flow, veh/h		599		1568		658		1563

Left Lane Group Data								
Assigned Mvmt	0	5	0	0	0	1	7	3
Lane Assignment							(Pr/Pm)	

Lanes in Grp	0	1	0	0	0	1	1	1
Grp Vol (v), veh/h	0	46	0	0	0	75	229	66
Grp Sat Flow (s), veh/h/ln	0	982	0	0	0	961	1774	768
Q Serve Time (g_s), s	0.0	3.6	0.0	0.0	0.0	6.3	5.5	4.9
Cycle Q Clear Time (g_c), s	0.0	20.2	0.0	0.0	0.0	24.2	5.5	10.3
Perm LT Sat Flow (s_l), veh/h/ln	0	982	0	0	0	961	935	768
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	26.0	0.0	0.0	0.0	26.0	37.0	35.0
Perm LT Serve Time (g_u), s	0.0	9.3	0.0	0.0	0.0	8.1	24.6	29.6
Perm LT Q Serve Time (g_ps), s	0.0	3.6	0.0	0.0	0.0	6.3	4.0	4.9
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	1.00	0.00	0.00	0.00	1.00	1.00	1.00
Lane Grp Cap (c), veh/h	0	200	0	0	0	183	542	365
V/C Ratio (X)	0.00	0.23	0.00	0.00	0.00	0.41	0.42	0.18
Avail Cap (c_a), veh/h	0	200	0	0	0	183	542	365
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d1), s/veh	0.0	33.8	0.0	0.0	0.0	36.1	10.8	18.3
Incr Delay (d2), s/veh	0.0	2.7	0.0	0.0	0.0	6.7	2.4	1.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	36.5	0.0	0.0	0.0	42.8	13.2	19.4
1st-Term Q (Q1), veh/ln	0.0	1.0	0.0	0.0	0.0	1.7	2.6	1.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.3	0.4	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	0.00	0.00	1.00	1.00	1.00
%ile Back of Q (50%), veh/ln	0.0	1.1	0.0	0.0	0.0	2.0	3.0	1.2
%ile Storage Ratio (RQ%)	0.00	0.32	0.00	0.00	0.00	0.78	0.94	0.29
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment				T				T
Lanes in Grp	0	0	0	1	0	0	0	1
Grp Vol (v), veh/h	0	0	0	618	0	0	0	337
Grp Sat Flow (s), veh/h/ln	0	0	0	1863	0	0	0	1863
Q Serve Time (g_s), s	0.0	0.0	0.0	17.4	0.0	0.0	0.0	10.4
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	17.4	0.0	0.0	0.0	10.4
Lane Grp Cap (c), veh/h	0	0	0	1068	0	0	0	795
V/C Ratio (X)	0.00	0.00	0.00	0.58	0.00	0.00	0.00	0.42
Avail Cap (c_a), veh/h	0	0	0	1068	0	0	0	795
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	11.2	0.0	0.0	0.0	16.4
Incr Delay (d2), s/veh	0.0	0.0	0.0	2.3	0.0	0.0	0.0	1.7
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	13.5	0.0	0.0	0.0	18.1
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	8.8	0.0	0.0	0.0	5.3

2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.7	0.0	0.0	0.0	0.4
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	9.4	0.0	0.0	0.0	5.7
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	1.08	0.00	0.00	0.00	1.32
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		T+R		R		T+R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	422	0	42	0	397	0	113
Grp Sat Flow (s), veh/h/ln	0	1742	0	1568	0	1730	0	1563
Q Serve Time (g_s), s	0.0	17.9	0.0	1.0	0.0	16.7	0.0	3.7
Cycle Q Clear Time (g_c), s	0.0	17.9	0.0	1.0	0.0	16.7	0.0	3.7
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.34	0.00	1.00	0.00	0.38	0.00	1.00
Lane Grp Cap (c), veh/h	0	552	0	899	0	549	0	667
V/C Ratio (X)	0.00	0.76	0.00	0.05	0.00	0.72	0.00	0.17
Avail Cap (c_a), veh/h	0	552	0	899	0	549	0	667
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	25.2	0.0	7.7	0.0	24.8	0.0	14.5
Incr Delay (d2), s/veh	0.0	9.7	0.0	0.1	0.0	8.1	0.0	0.5
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	34.9	0.0	7.8	0.0	32.9	0.0	15.1
1st-Term Q (Q1), veh/ln	0.0	8.6	0.0	0.4	0.0	7.9	0.0	1.6
2nd-Term Q (Q2), veh/ln	0.0	1.5	0.0	0.0	0.0	1.2	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	10.0	0.0	0.4	0.0	9.2	0.0	1.7
%ile Storage Ratio (RQ%)	0.00	1.34	0.00	0.15	0.00	0.54	0.00	0.42
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	22.8
HCM 2010 LOS	C

Intersection	
Int Delay, s/veh	0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	771	0	0	475	0	9
Future Vol, veh/h	771	0	0	475	0	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	Stop
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	838	0	0	516	0	10

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	-	-	-	-	838
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.318
Pot Cap-1 Maneuver	-	0	0	-	0	366
Stage 1	-	0	0	-	0	-
Stage 2	-	0	0	-	0	-
Platoon blocked, %	-			-		
Mov Cap-1 Maneuver	-	-	-	-	-	366
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	15.1
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	WBT
Capacity (veh/h)	366	-	-
HCM Lane V/C Ratio	0.027	-	-
HCM Control Delay (s)	15.1	-	-
HCM Lane LOS	C	-	-
HCM 95th %tile Q(veh)	0.1	-	-

Intersection	
Int Delay, s/veh	0.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	4	4	426	3	14	312
Future Vol, veh/h	4	4	426	3	14	312
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	4	463	3	15	339

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	835	465	0	0	466	0
Stage 1	465	-	-	-	-	-
Stage 2	370	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	338	597	-	-	1095	-
Stage 1	632	-	-	-	-	-
Stage 2	699	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	332	597	-	-	1095	-
Mov Cap-2 Maneuver	332	-	-	-	-	-
Stage 1	632	-	-	-	-	-
Stage 2	687	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.6	0	0.4
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	427	1095	-
HCM Lane V/C Ratio	-	-	0.02	0.014	-
HCM Control Delay (s)	-	-	13.6	8.3	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	202	571	40	55	294	110	53	254	122	59	200	128
Future Volume (veh/h)	202	571	40	55	294	110	53	254	122	59	200	128
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		0.99	1.00		0.99	1.00		0.98	1.00		0.98
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	220	621	43	60	320	120	58	276	133	64	217	139
Adj No. of Lanes	1	1	1	1	1	1	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	551	1068	899	363	795	667	230	374	180	193	334	214
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.10	0.57	0.57	0.43	0.43	0.43	0.32	0.32	0.32	0.32	0.32	0.32
Ln Grp Delay, s/veh	12.8	13.5	7.8	19.2	17.8	15.2	34.8	0.0	33.5	39.4	0.0	30.0
Ln Grp LOS	B	B	A	B	B	B	C		C	D		C
Approach Vol, veh/h		884			500			467			420	
Approach Delay, s/veh		13.1			17.3			33.6			31.4	
Approach LOS		B			B			C			C	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6	7	8
Case No		6.0		3.0		6.0	1.2	5.0
Phs Duration (G+Y+Rc), s		30.0		52.0		30.0	12.0	40.0
Change Period (Y+Rc), s		4.0		5.0		4.0	4.0	5.0
Max Green (Gmax), s		26.0		47.0		26.0	8.0	35.0
Max Allow Headway (MAH), s		5.3		5.1		5.3	3.8	5.1
Max Q Clear (g_c+I1), s		20.8		19.5		24.3	7.2	12.0
Green Ext Time (g_e), s		2.5		8.3		1.0	0.1	7.8
Prob of Phs Call (p_c)		1.00		1.00		1.00	1.00	1.00
Prob of Max Out (p_x)		0.00		0.00		0.00	0.00	0.00

Left-Turn Movement Data								
Assigned Mvmt		5				1	7	3
Mvmt Sat Flow, veh/h		1018				972	1774	766

Through Movement Data								
Assigned Mvmt		2		4		6		8
Mvmt Sat Flow, veh/h		1180		1863		1053		1863

Right-Turn Movement Data								
Assigned Mvmt		12		14		16		18
Mvmt Sat Flow, veh/h		569		1568		674		1563

Left Lane Group Data								
Assigned Mvmt	0	5	0	0	0	1	7	3
Lane Assignment							(Pr/Pm)	

Lanes in Grp	0	1	0	0	0	1	1	1
Grp Vol (v), veh/h	0	58	0	0	0	64	220	60
Grp Sat Flow (s), veh/h/ln	0	1018	0	0	0	972	1774	766
Q Serve Time (g_s), s	0.0	4.3	0.0	0.0	0.0	5.2	5.2	4.5
Cycle Q Clear Time (g_c), s	0.0	18.8	0.0	0.0	0.0	22.3	5.2	10.0
Perm LT Sat Flow (s_l), veh/h/ln	0	1018	0	0	0	972	943	766
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	26.0	0.0	0.0	0.0	26.0	37.0	35.0
Perm LT Serve Time (g_u), s	0.0	11.5	0.0	0.0	0.0	8.9	25.3	29.5
Perm LT Q Serve Time (g_ps), s	0.0	4.3	0.0	0.0	0.0	5.2	3.6	4.5
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	1.00	0.00	0.00	0.00	1.00	1.00	1.00
Lane Grp Cap (c), veh/h	0	230	0	0	0	193	551	363
V/C Ratio (X)	0.00	0.25	0.00	0.00	0.00	0.33	0.40	0.17
Avail Cap (c_a), veh/h	0	230	0	0	0	193	551	363
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d1), s/veh	0.0	32.2	0.0	0.0	0.0	34.9	10.6	18.2
Incr Delay (d2), s/veh	0.0	2.6	0.0	0.0	0.0	4.5	2.2	1.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	34.8	0.0	0.0	0.0	39.4	12.8	19.2
1st-Term Q (Q1), veh/ln	0.0	1.2	0.0	0.0	0.0	1.4	2.5	0.9
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.0	0.0	0.2	0.3	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	0.00	0.00	1.00	1.00	1.00
%ile Back of Q (50%), veh/ln	0.0	1.4	0.0	0.0	0.0	1.6	2.8	1.0
%ile Storage Ratio (RQ%)	0.00	0.38	0.00	0.00	0.00	0.64	0.90	0.26
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment				T				T
Lanes in Grp	0	0	0	1	0	0	0	1
Grp Vol (v), veh/h	0	0	0	621	0	0	0	320
Grp Sat Flow (s), veh/h/ln	0	0	0	1863	0	0	0	1863
Q Serve Time (g_s), s	0.0	0.0	0.0	17.5	0.0	0.0	0.0	9.7
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	17.5	0.0	0.0	0.0	9.7
Lane Grp Cap (c), veh/h	0	0	0	1068	0	0	0	795
V/C Ratio (X)	0.00	0.00	0.00	0.58	0.00	0.00	0.00	0.40
Avail Cap (c_a), veh/h	0	0	0	1068	0	0	0	795
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	11.2	0.0	0.0	0.0	16.3
Incr Delay (d2), s/veh	0.0	0.0	0.0	2.3	0.0	0.0	0.0	1.5
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	13.5	0.0	0.0	0.0	17.8
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	9.0	0.0	0.0	0.0	5.0

2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.7	0.0	0.0	0.0	0.3
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	9.7	0.0	0.0	0.0	5.3
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	1.11	0.00	0.00	0.00	1.23
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		T+R		R		T+R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	409	0	43	0	356	0	120
Grp Sat Flow (s), veh/h/ln	0	1748	0	1568	0	1727	0	1563
Q Serve Time (g_s), s	0.0	17.1	0.0	1.0	0.0	14.5	0.0	3.9
Cycle Q Clear Time (g_c), s	0.0	17.1	0.0	1.0	0.0	14.5	0.0	3.9
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.33	0.00	1.00	0.00	0.39	0.00	1.00
Lane Grp Cap (c), veh/h	0	554	0	899	0	548	0	667
V/C Ratio (X)	0.00	0.74	0.00	0.05	0.00	0.65	0.00	0.18
Avail Cap (c_a), veh/h	0	554	0	899	0	548	0	667
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	25.0	0.0	7.7	0.0	24.1	0.0	14.6
Incr Delay (d2), s/veh	0.0	8.5	0.0	0.1	0.0	5.9	0.0	0.6
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	33.5	0.0	7.8	0.0	30.0	0.0	15.2
1st-Term Q (Q1), veh/ln	0.0	8.2	0.0	0.4	0.0	6.9	0.0	1.7
2nd-Term Q (Q2), veh/ln	0.0	1.3	0.0	0.0	0.0	0.9	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	9.5	0.0	0.4	0.0	7.8	0.0	1.8
%ile Storage Ratio (RQ%)	0.00	1.27	0.00	0.15	0.00	0.46	0.00	0.45
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	21.6
HCM 2010 LOS	C

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	752	0	0	459	0	0
Future Vol, veh/h	752	0	0	459	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	Stop
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	817	0	0	499	0	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	-	-	-	-	817
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.318
Pot Cap-1 Maneuver	-	0	0	-	0	376
Stage 1	-	0	0	-	0	-
Stage 2	-	0	0	-	0	-
Platoon blocked, %	-			-		
Mov Cap-1 Maneuver	-	-	-	-	-	376
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	WBT
Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Control Delay (s)	0	-	-
HCM Lane LOS	A	-	-
HCM 95th %tile Q(veh)	-	-	-

Intersection	
Int Delay, s/veh	0.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	4	12	417	6	7	288
Future Vol, veh/h	4	12	417	6	7	288
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	13	453	7	8	313

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	785	457	0	0	460	0
Stage 1	457	-	-	-	-	-
Stage 2	328	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	361	604	-	-	1101	-
Stage 1	638	-	-	-	-	-
Stage 2	730	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	358	604	-	-	1101	-
Mov Cap-2 Maneuver	358	-	-	-	-	-
Stage 1	638	-	-	-	-	-
Stage 2	723	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.2	0	0.2
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	515	1101	-
HCM Lane V/C Ratio	-	-	0.034	0.007	-
HCM Control Delay (s)	-	-	12.2	8.3	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-

APPENDIX C

Self Storage Facility Usage Data

DATE	# E	# T	2 in 15	3 IN 15	
	Employees	# Tenants	# X 15 minutes	# X 15 minutes	# of parking Space needed
Saturday, July 1, 2017	1	10	5	1	4
Sunday, July 2, 2017	1	4	2	0	3
Monday, July 3, 2017	1	6	4	0	3
Tuesday, July 4, 2017	0	3	0	0	1
Wednesday, July 5, 2017	2	11	2	0	4
Thursday, July 6, 2017	2	12	5	0	4
Friday, July 7, 2017	2	13	3	3	5
Saturday, July 8, 2017	2	12	3	3	5
Sunday, July 9, 2017	2	11	3	1	5
Monday, July 10, 2017	1	6	1	0	3
Tuesday, July 11, 2017	2	15	3	0	4
Wednesday, July 12, 2017	1	4	0	0	2
Thursday, July 13, 2017	1	14	1	1	4
Friday, July 14, 2017	1	10	2	0	3
Saturday, July 15, 2017	1	11	4	1	4
Sunday, July 16, 2017	1	9	1	0	3
Monday, July 17, 2017	1	21	4	3	4
Tuesday, July 18, 2017	1	16	6	1	4
Wednesday, July 19, 2017	2	10	1	1	5
Thursday, July 20, 2017	1	8	1	1	4
Friday, July 21, 2017	2	9	3	0	4
Saturday, July 22, 2017	1	11	1	0	3
Sunday, July 23, 2017	2	9	3	1	5
Monday, July 24, 2017	1	10	1	0	3
Tuesday, July 25, 2017	1	14	4	0	3
Wednesday, July 26, 2017	2	9	5	0	4
Thursday, July 27, 2017	2	11	3	0	4
Friday, July 28, 2017	2	10	1	1	5
Saturday, July 29, 2017	1	11	1	0	3
Sunday, July 30, 2017	1	7	0	0	2
Monday, July 31, 2017	1	9	3	0	3

DATE	# E (Employees)	# T (# Tenants)	2 in 15 (# X 15 minutes)	3 IN 15 (# X 15 minutes)	(# of parking Space needed)
Tuesday, August 1, 2017	2	13	4	0	4
Wednesday, August 2, 2017	2	9	1	0	4
Thursday, August 3, 2017	1	10	6	0	3
Friday, August 4, 2017	1	8	0	1	4
Saturday, August 5, 2017	2	8	1	1	5
Sunday, August 6, 2017	1	7	0	1	4
Monday, August 7, 2017	2	5	1	0	4
Tuesday, August 8, 2017	2	7	1	0	4
Wednesday, August 9, 2017	1	9	3	2	4
Thursday, August 10, 2017	1	7	1	0	3
Friday, August 11, 2017	2	5	0	0	3
Saturday, August 12, 2017	2	7	3	0	4
Sunday, August 13, 2017	1	6	0	0	2
Monday, August 14, 2017	1	8	3	0	3
Tuesday, August 15, 2017	2	6	0	0	3
Wednesday, August 16, 2017	1	5	1	0	3
Thursday, August 17, 2017	1	4	0	0	2
Friday, August 18, 2017	1	4	0	0	2
Saturday, August 19, 2017	2	8	3	0	4
Sunday, August 20, 2017	1	7	1	0	3
Monday, August 21, 2017	1	7	1	0	3
Tuesday, August 22, 2017	1	10	1	1	4
Wednesday, August 23, 2017	1	6	1	0	3
Thursday, August 24, 2017	1	6	1	0	3

APPENDIX D

Institute of Transportation Engineers Trip Generation and Parking Generation Data

Trip Generation Manual

10th Edition • Volume 2: Data

Industrial (Land Uses 100–199)

SEPTEMBER 2017
INSTITUTE OF TRANSPORTATION ENGINEERS

Land Use: 151
Mini-Warehouse

Description

A mini-warehouse is a building in which a number of storage units or vaults are rented for the storage of goods. They are typically referred to as "self-storage" facilities. Each unit is physically separated from other units, and access is usually provided through an overhead door or other common access point.

Additional Data

Time-of-day distribution data for this land use are presented in Appendix A. For the 10 general urban/suburban sites with data, the overall highest vehicle volumes during the AM and PM on a weekday were counted between 10:30 and 11:30 a.m. and 1:15 and 2:15 p.m., respectively.

The sites were surveyed in the 1980s, the 1990s, the 2000s, and the 2010s in California, Colorado, Massachusetts, Minnesota, New Jersey, Texas, and Utah.

Source Numbers

212, 403, 551, 568, 642, 708, 724, 850, 868, 876

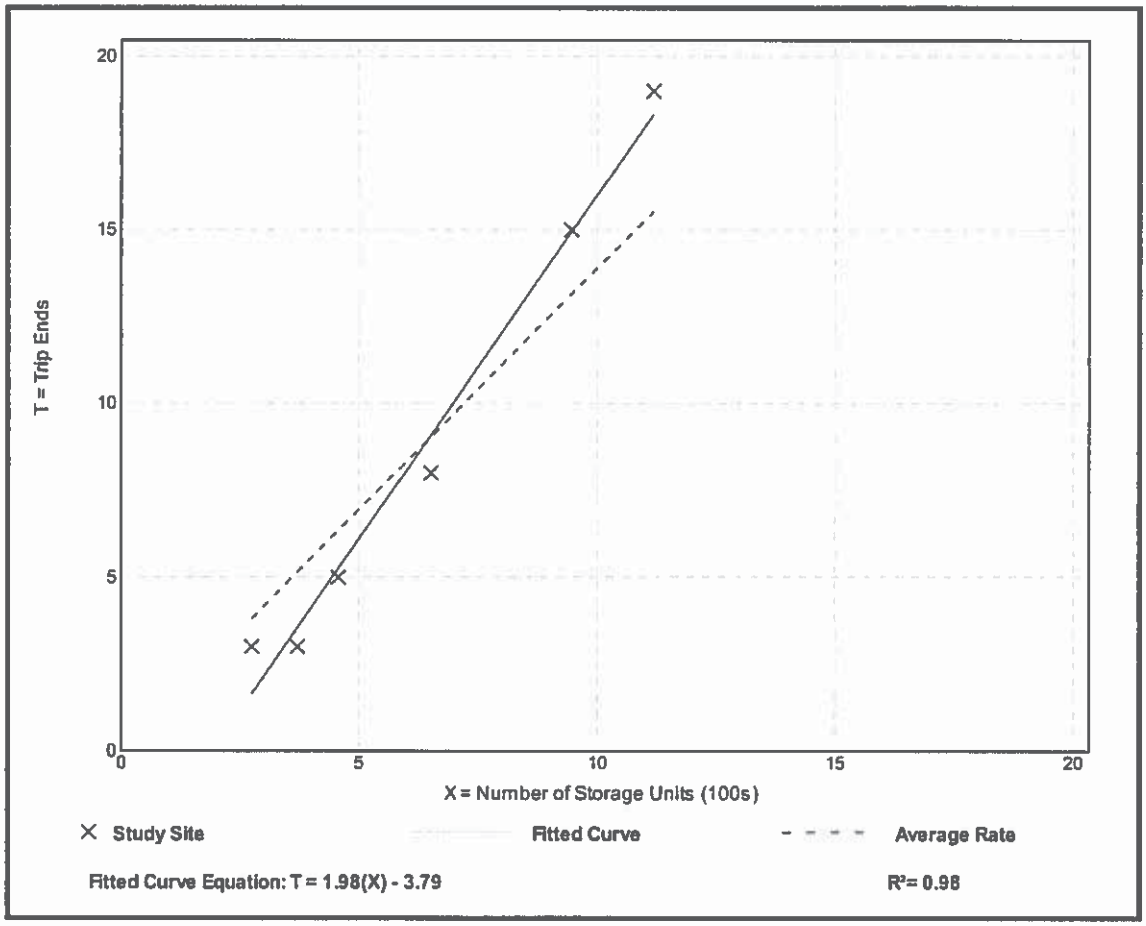
Mini-Warehouse
(151)

Vehicle Trip Ends vs: **Storage Units (100s)**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 6
Avg. Num. of Storage Units (100s): 6
Directional Distribution: 51% entering, 49% exiting

Vehicle Trip Generation per Storage Unit (100s)

Average Rate	Range of Rates	Standard Deviation
1.39	0.81 - 1.70	0.33

Data Plot and Equation



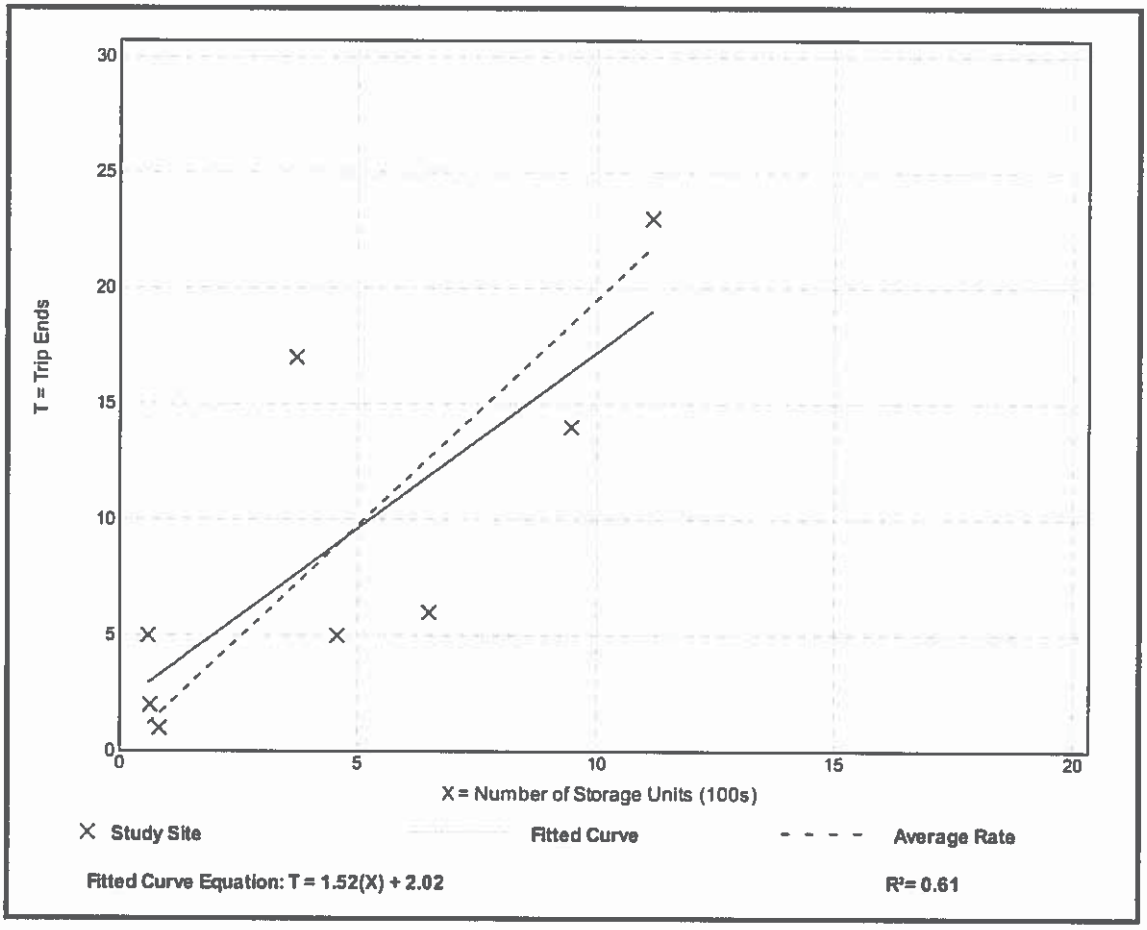
Mini-Warehouse
(151)

Vehicle Trip Ends vs: **Storage Units (100s)**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 8
Avg. Num. of Storage Units (100s): 5
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Storage Unit (100s)

Average Rate	Range of Rates	Standard Deviation
1.95	0.92 - 8.33	1.40

Data Plot and Equation



Trip Generation Manual

10th Edition • Volume 2: Data

Services (Land Uses 900–999)

SEPTEMBER 2017
INSTITUTE OF TRANSPORTATION ENGINEERS

Land Use: 920
Copy, Print, and Express Ship Store

Description

A copy, print, and express ship store is a facility that offers a variety of copying, printing, binding, and shipping services. Retail sales of a limited range of office-related items including packing and shipping supplies are also commonly available. Technology services, such as computer rental and wireless Internet may also be provided. Copy, print, and express ship stores typically maintain long store hours 7 days a week. Some stores may be open 24 hours a day.

Additional Data

The weekday AM peak hour occurred between 10:30 and 11:30 a.m. The weekday PM peak hour occurred between 3:30 and 4:30 p.m.

The site was surveyed in the 2000s in Texas.

Source Number

608

Copy, Print, and Express Ship Store
(920)

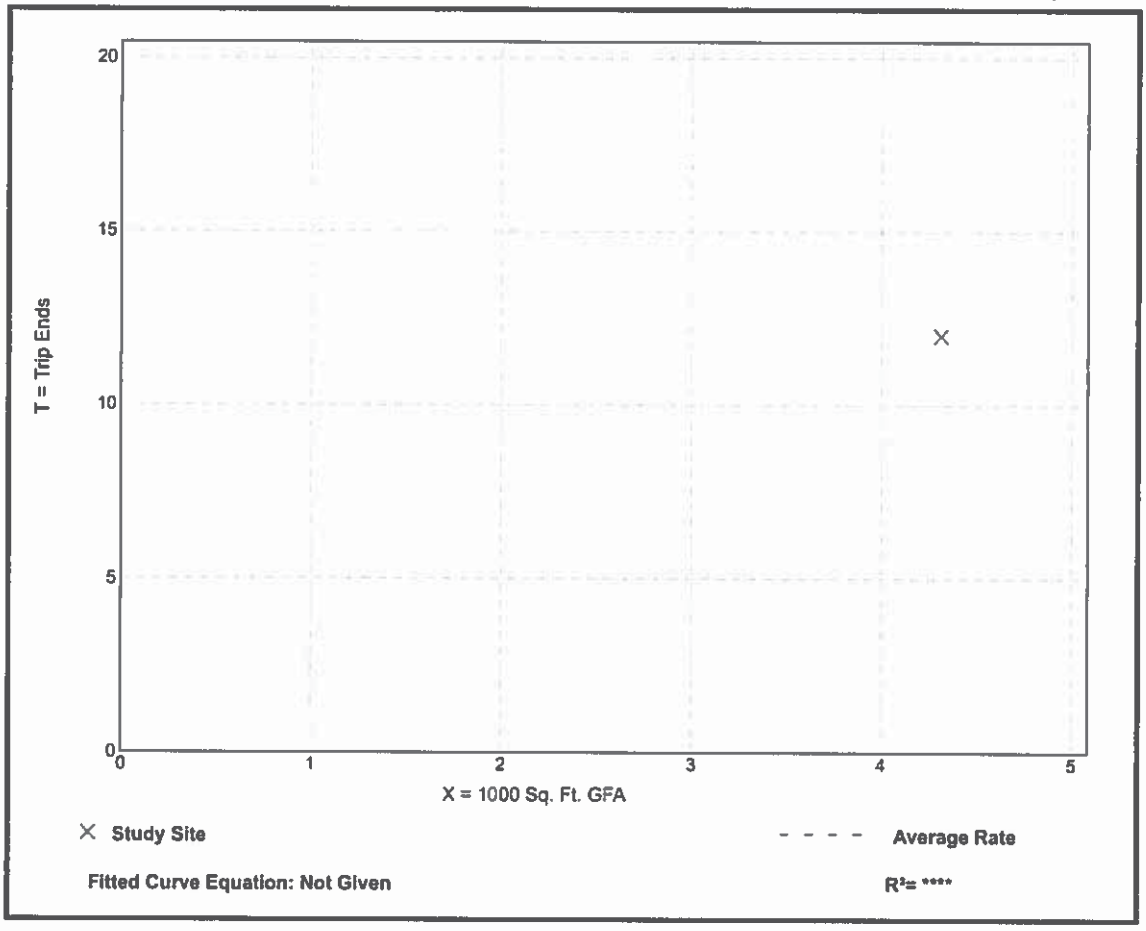
Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 1
1000 Sq. Ft. GFA: 4
Directional Distribution: 75% entering, 25% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
2.78	2.78 - 2.78	*

Data Plot and Equation

Caution – Small Sample Size



Copy, Print, and Express Ship Store
(920)

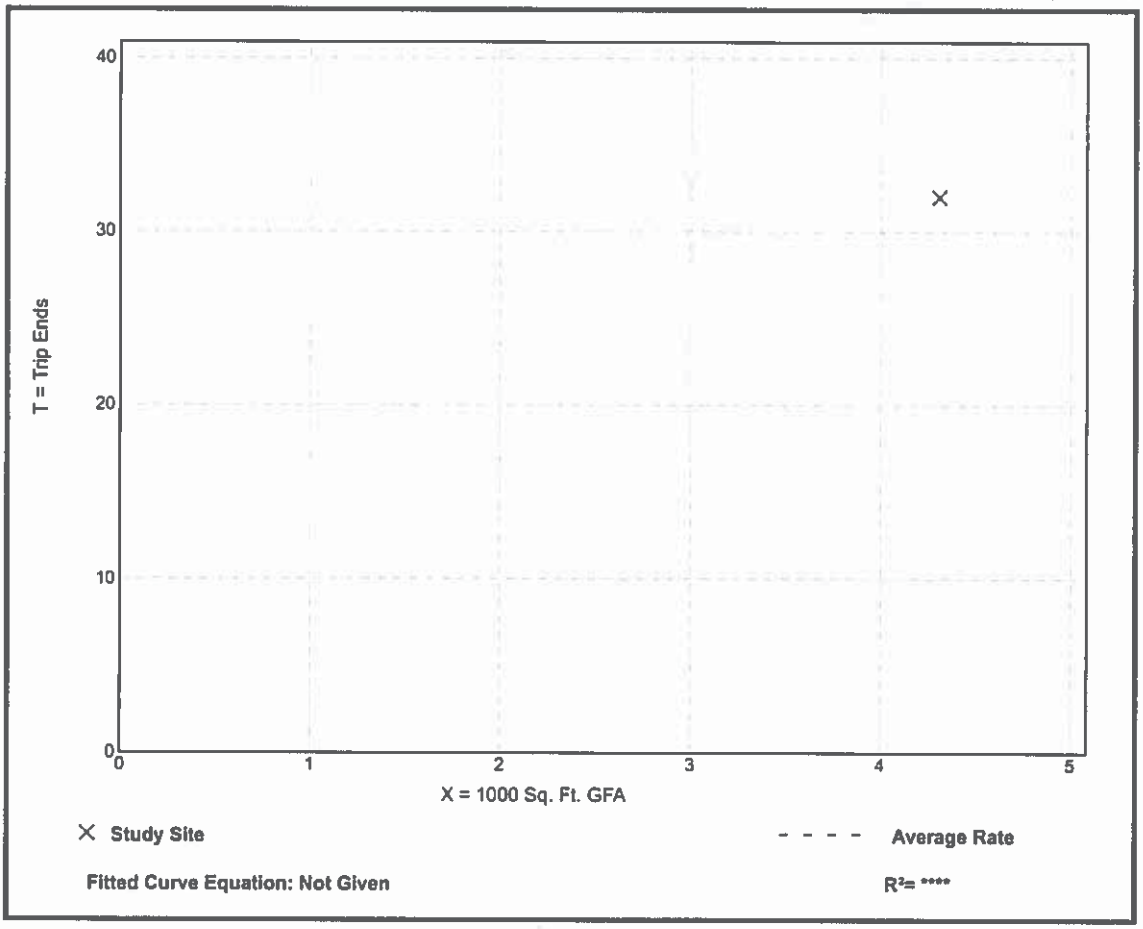
Vehicle Trip Ends vs:	**1000 Sq. Ft. GFA**
On a:	**Weekday,**
	Peak Hour of Adjacent Street Traffic,
	One Hour Between 4 and 6 p.m.
Setting/Location:	**General Urban/Suburban**
Number of Studies:	1
1000 Sq. Ft. GFA:	4
Directional Distribution:	44% entering, 56% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
7.42	7.42 - 7.42	*

Data Plot and Equation

Caution – Small Sample Size



4th Edition

Parking Generation

ite

Institute of Transportation Engineers

Land Use: 151
Mini-Warehouse

Description

Mini-warehouses are buildings in which a number of storage units or vaults are rented for the storage of goods. They are typically referred to as "self-storage" facilities. Each unit is physically separated from other units, and access is usually provided through an overhead door or other common access point.

Database Description

- Average parking supply ratio: 0.2 spaces per 1,000 square feet (sq. ft.) gross floor area (GFA) (two study sites).

The Saturday parking demand ratio for a site with 1,400 storage units was 0.77 vehicles per 100 storage units. Parking demand data at this site were collected for six consecutive hours between 1:00 and 7:00 p.m., and the peak period of demand occurred between 4:00 and 5:00 p.m.

The following table presents a time-of-day distribution of parking demand for three study sites.

Based on Vehicles per 1,000 sq. ft. GFA	*Weekday*	
Hour Beginning	Percent of Peak Period	Number of Data Points*
12:00–4:00 a.m.	–	0
5:00 a.m.	–	0
6:00 a.m.	–	0
7:00 a.m.	31	3
8:00 a.m.	24	3
9:00 a.m.	59	3
10:00 a.m.	91	3
11:00 a.m.	100	3
12:00 p.m.	55	3
1:00 p.m.	45	3
2:00 p.m.	46	3
3:00 p.m.	40	2
4:00 p.m.	88	1
5:00 p.m.	27	1
6:00 p.m.	35	1
7:00 p.m.	27	1
8:00 p.m.	–	0
9:00 p.m.	–	0
10:00 p.m.	–	0
11:00 p.m.	–	0

* Subset of database

Study Sites/Years

Canada:
Burnaby, BC (1991); Coquitlam, BC (1991); Richmond, BC (1991)

United States:
Santa Barbara, CA (1998); Hadley, MA (2008)

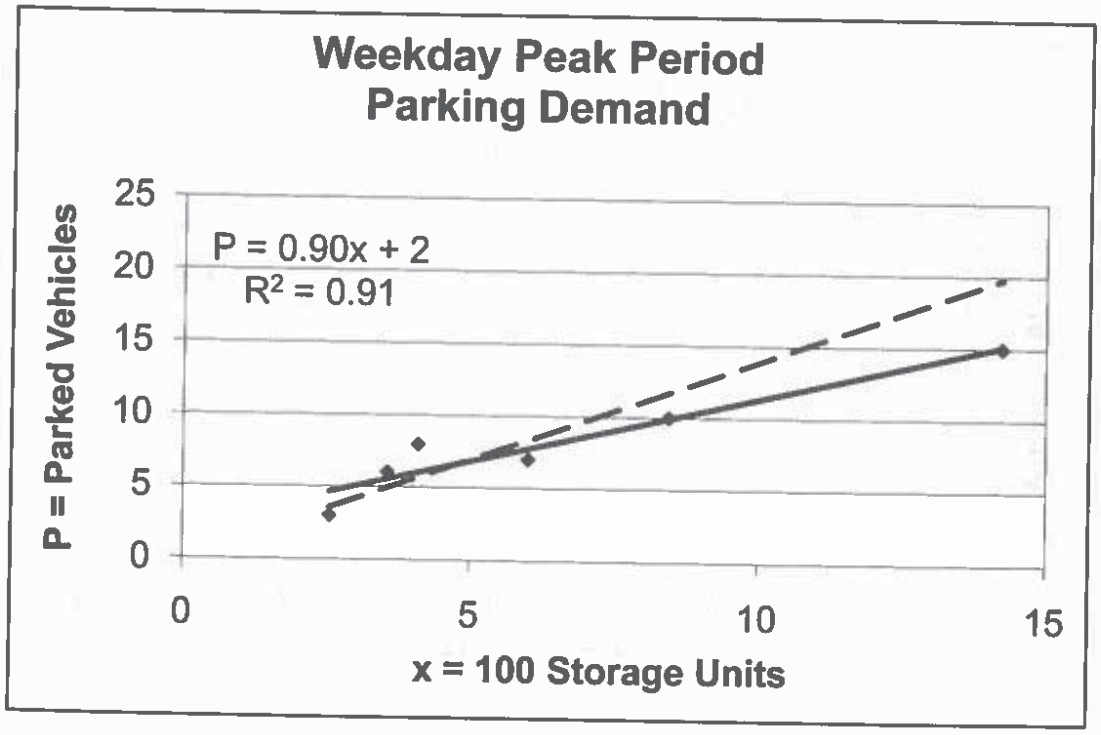
4th Edition Source Number

1115

Land Use: 151
Mini-Warehouse

Average Peak Period Parking Demand vs. 100 Storage Units
On a: Weekday

Statistic	Peak Period Demand
Peak Period	11:00 a.m.–12:00 p.m.; 4:00–5:00 p.m.
Number of Study Sites	6
Average Size of Study Sites	648 storage units
Average Peak Period Parking Demand	1.35 vehicles per 100 storage units
Standard Deviation	0.34
Coefficient of Variation	25%
Range	1.05–1.96 vehicles per 100 storage units
85th Percentile	1.66 vehicles per 100 storage units
33rd Percentile	1.17 vehicles per 100 storage units



HydroEnvironmental Solutions Excavation Work Plan

HydroEnvironmental SOLUTIONS, INC.

January 15, 2019

Mr. Chris Murphy
Mr. Sean Murphy
East Coast North Properties LLC
416 Waverly Avenue
Mamaroneck, New York 10538

RE: Scope of Work for Proposed Foundation Excavation
416 Waverly Avenue
Mamaroneck, New York

Dear Messrs. Murphy:

In accordance with the New York State Department of Environmental Conservation (NYSDEC) Regulations pertaining to construction on environmentally impacted sites, HydroEnvironmental Solutions, Inc. (HES) has compiled the following Scope of Work detailing the methods and approach for excavation and removal of soils from the proposed building footprint that will be implemented at the subject Site (**Figure 1**). This Scope of Work is submitted for review and approval by the Village of Mamaroneck (VOM) Zoning Board of Appeals (ZBA) and will be adhered to if petroleum hydrocarbon impacted or other constituents of concern impacted soil is encountered during foundation excavation activities at the subject site. If impacted soils are not encountered, then this Excavation Work Plan (EWP) will not be required, only standard construction practices will need to be followed.

Work will not proceed without an approved permit in accordance with the Village of Mamaroneck's Building Code pertaining to the Site. It should be noted that this Scope of Work is specific to the Site excavation proposed on the attached Drawings for the proposed building expansion, (provided by the property owner and attached hereto {**Appendix 1**}, Drawings C-1 through C-7 and Foundation Detail {by BETCO}) as described herein.

Environmental Work in Support of the Proposed Foundation Excavation

The environmental work proposed in this Scope will comply with NYSDEC-Technical Guidance Document DER-10, Part 375 Regulations for conducting cleanups and the recommendations and technical approach discussed and included therein.

All work outlined in this document, Excavation Work Plan, is to be performed during the excavation of the foundation and will be conducted in accordance with a Village approved work scope unless otherwise stated in this document. A Site-Specific Health and Safety Plan (HASP), the Earthwork contractor's HASP, OSHA HAZWOPER training certifications and documentation, a Quality Assurance Project Plan (QAPP) and a Community Air Monitoring Plan (CAMP) will be implemented during this work as required (i.e.: if contaminated soil is encountered). In accordance with DER-10, a CAMP will be implemented to monitor air quality during all on-Site intrusive work and soil moving, loading, truck cleaning, backfilling, and stockpiling activities associated with the proposed foundation excavation in contaminated areas only. The "Work Area", which is defined as a 20-30 foot area measured from the sidewalls of the excavations (where possible, depending on the property fence line location relative to the excavation area), will be monitored continuously during excavation activities by an on-Site geologist/environmental scientist using: (1) a calibrated four gas meter (%LEL, $\%O_2$, H_2S and CO); (2) photoionization detector (PID), both of which will be immediately adjacent to the excavation edge while the work is ongoing; and (3) a total of three CAMP monitors, two of which will be placed downwind and one upwind of the Work Area. Water and polyethylene sheeting (6 millimeter) will be available on-Site should dust and/or VOC/odor control become necessary during this work.

All field work will be conducted in accordance with the requirements of the HASPs and all soil samples will be collected in accordance with the requirements of the QAPP. Prior to or at the start of this work, soil erosion and sediment controls and Site fencing/signage will be installed along the Site perimeter in accordance with the approved Site-wide Storm Water Pollution Prevention Plan (SWPPP). In the event that soil stockpiling is necessary, stockpile staging areas will be constructed prior to the start of excavation activities. Areas of the Site disturbed during the excavation work will be covered as necessary to control odors or fugitive dusts. Covers will be maintained in accordance with the SWPPP.

Excavation Work Plan – Proposed Foundation

The Excavation Work Plan (EWP) outlined herein will be followed during all excavation activities. Although no soil has been analytically pre-characterized before excavation, soil will be screened in accordance with industry accepted practices. The New York One Call procedures will be completed by the excavation contractor prior to excavation startup. Documentation of the proposed excavation activities will include, but not be limited to, photographs of the work area and activities; soil excavation logs; disposal records for soils and materials excavated and removed from the Site; an accounting of daily activities and personnel on and off-Site; end-point sample data from all impacted excavation areas; and air monitoring logs from the excavation Work Areas in addition to the CAMP data. Additionally, the dimensions, depth, and location of the excavation upon completion will be surveyed and documented, as well as the location of all end-point samples as this will be required by the NYSDEC. This information will be provided to the NYSDEC and the Village in a written technical report; however, a summary of the work will be provided to the Village.

It should be noted that the general practices will be enhanced for excavation close to property lines. The excavation, along with continuous work area monitoring at the sides of excavation areas, will start in areas furthest away from the property line (and effectively work towards the property line, keeping pace with observations and field monitors during all work). A temporary fence will be deployed and maintained to preserve a minimum of 20-foot clearance around the excavation limits during the excavation of impacted soils only within 20 feet of the property boundary. This may include cordoning off a portion of the right of way on Waverly Avenue (i.e.: parking spaces). Proper permits, if required, will be obtained from the Village as required. All approved CAMP and Work Zone monitoring will be strictly adhered to during all intrusive on-Site work in impacted areas only.

Excavation of the foundation may encounter bedrock surfaces. During construction, the contractor and construction manager will adhere to safe work practices to ensure safe slope stability. The construction manager and contractor do not expect the depth of the excavation to create a condition where the excavation construction will impose on the property boundary or require shoring to maintain safety guidelines for slope stability outlined in the trenching and excavation requirements of OSHA 29 CFR 1926.651 and 1926.652. Should the contractor and construction manager determine that the excavation does not meet these safety standards noted above then they will provide necessary action to maintain slope stability and will implement stepped grading or sheet piles to meet such requirements.

Only NYSDEC and Village pre-approved off-site fill will be used to backfill the excavation(s) from grade to depth of the foundation footings.

Stockpiling

Stockpiling of soil from the excavation is not anticipated as current plans are to direct load during excavation. However, stockpiling may be utilized under the following conditions if necessary. Stockpiling on-Site soil/fill with no evidence of contamination (i.e., no staining or elevated PID measurements) may take place in approved areas in approximately 50 cubic yard piles, until removed from the Site or used for backfill. If stockpiling is to take place, stockpiles will be placed, graded, shaped, and covered for proper drainage. Soil materials shall be located and retained away from the edge of excavations.

Stockpiling of on-Site soil/fill with evidence of contamination (staining and/or elevated PID measurements) may take place in approved areas in approximately 50 cubic yard piles, until sample analysis is completed. Stockpiles will be placed, graded, shaped, and covered for proper drainage. This will ensure effective weather proofing of potentially contaminated soil stockpiles. Materials shall be located and retained away from edge of excavations.

Stockpiles will be kept covered at all times with appropriately anchored polyethylene sheeting or tarps. All stockpiles will be routinely inspected, and damaged tarp covers will be promptly replaced. The stockpiled soil/fill will be placed on top of and completely covered by polyethylene sheeting. All polyethylene sheeting will be a minimum thickness of 6 millimeter

(mm) to reduce the infiltration of precipitation and to eliminate the formation of dust. The stockpile area shall be protected from stormwater runoff. Soil stockpiles will be continuously encircled with a silt fence. Non-soil weights (e.g. tires or rock) may be necessary to inhibit movement of the cover sheeting by wind. Stockpiles will be inspected, at a minimum, once each week and after every storm event, and in accordance with the Site SWPPP. Results of inspections will be recorded in a logbook and maintained at the Site and available for inspection by the Village.

Soil Excavation and Direct Loading

As noted above, the plan for the proposed foundation excavation is to direct load the trucks unless one of the contingencies noted above occurs. A Roll-off container will be placed at the Site for disposal of any encountered/excavated debris. The roll-off container will be securely covered when not in use or when filled. A qualified environmental professional or person under their supervision will oversee all invasive work and the excavation and load-out of all excavated material in areas where impacted soils are encountered. The property owner and its contractor are solely responsible for safe execution of all invasive and other work performed under this Excavation Work Plan. The contractor will have an OSHA competent person (trained in accordance with 29 CFR 1926) on-Site and responsible for excavation safety. The excavation shall be completed in accordance with the following measures:

- Employ a transport vehicle tracking pad for vehicle loading operations to control and contain contaminated soil and debris spillage along with a truck cleaning station. The Site entrance and tracking pad detail and truck cleaning station description and detail are included at the end of this Scope ("**Appendix 2** – Alternative to Truck Washing Station"). The impacted excavation areas shall be an open excavation, which will comply with the trenching and excavation requirements of 29 CFR 1926.651 and 1926.652. During non-work hours – or when awaiting laboratory data from end-point samples – the excavations will be secured and covered with 6 mil polyethylene sheeting as required to control dust and vapor that could emanate from the open excavations. The excavations will be backfilled as soon as practicable (i.e., when sample results are received and reviewed with the Village, given there are no safety, odor, or other nuisance issues related to the excavation), or immediately (i.e., if odors or other nuisance issues are noted, or for any safety reasons) even if backfill material has to be removed to perform more sampling or excavation at a later time. A demarcation layer will be installed at completed excavations in case additional soil needs to be removed. The contractor will provide excavation protection system(s) required by ordinances, codes, laws and regulations to prevent injury to workers and to prevent damage to new and existing structures or utilities. Should the foundation excavation be required to remain open while awaiting and during construction of the foundation, the excavation will continue to comply with all environmental and safety protocols noted in this document. It is not anticipated that any on-Site staff will be required to enter excavation areas that are more than 4 feet deep.

Unless shown or specified otherwise, protection system(s) shall be utilized under the following conditions:

- Excavations Less Than 5 Feet Deep: Excavations in stable rock or in soil conditions where there is no potential for a cave-in may be made with vertical sides.
- During soil removal, all trucks will be direct loaded. Stockpiling is not planned for the excavation. During excavation, a covered Roll-off container will be staged on-Site for encountered/excavated debris (e.g. metal debris, tires, lumber, etc.). Materials contained in the roll-off will be disposed of off-Site in accordance with all applicable rules and regulations.
- Excavations More Than 5 Feet Deep: Excavations in stable rock may be made with vertical sides. Under all other conditions, the sidewalls of the excavations may be required to be sloped or shored to sufficiently provide for safe excavation, which may slightly expand the footprint. The OSHA excavation competent person overseeing the excavation activities will be responsible for the configuration of the excavation as it pertains to the trenching and excavation requirements of 29 CFR 1926.651 and 1926.652, and on decisions to backfill a source area that is completed. If the footprint is expanded, the material from outside of the proposed footprint shall be handled in the same manner as all material in this Scope of Work. It is anticipated that benching, shielding or shoring and bracing will be required. The excavation hole will be secured with a 6 millimeter (mm) polyethylene sheeting, as required, to control dust and vapor that could emanate from the open excavation as noted above or will be backfilled with material (from on-Site or off-Site sources) pre-approved by NYSDEC and the Village if material is imported from off-Site.
- Debris and Waste (non-soil) that are encountered: If debris and wastes (non-soil; wire, metal, scrap/metal) are encountered, a roll-off container will be available. All solid wastes, such as these, will be appropriately characterized and disposed of off-Site in accordance with all applicable local, State, and Federal rules and regulations. A roll-off for debris such as wire, metal, scrap/metal will be staged on-Site (see above comment) to address this potential waste stream

The excavation or disturbances will be temporarily covered with a tarp if odors are present until the end-point sample results have been received (as further described here) or backfilled with on-Site material for any nuisance condition or safety reasons. Backfill material which is sourced on Site shall be placed cautiously into the excavations to avoid generation of dust. Monitoring for dust and odors/emissions shall be performed per the CAMP. Excavation will proceed cautiously due to the possibility of previously unknown sources such as underground storage tanks that could be encountered. If such sources are encountered, they will be cautiously removed as further described below. Readings on the air monitors that are set up in

the excavation Work Areas will be constantly assessed so that the appropriate pace of work can be determined. Following OSHA excavation safety requirements, the excavations will be secured using orange snow fencing (at completion or at the end of each work day). If the excavation remains open prior to receiving backfill, it will be covered with 6 mil polyethylene sheeting as required based on Work Area monitoring to control dust and vapor that could emanate from the open excavation. The excavation may be kept open and secured, as described above, until end-point sample data is received.

- The excavation will ultimately be backfilled with approved material, as required and approved by the NYSDEC and the Village. Unless for safety reasons, the excavations will be secured in this manner until laboratory end-point soil samples are obtained.

- All loading and transportation activities will be conducted in accordance with all applicable Federal, State, and Local regulations, including but not limited to United States Department of Transportation (USDOT) and United States Environmental Protection Agency (USEPA) Regulations 40 CFR 172-179.

- The NYSDEC and the Village will be notified in writing when loading of contaminated soil/fill will occur and include the name and location of the disposal facility to be used.

- Loading and transport of contaminated soil and debris will not occur until receipt of approval from the disposal facility in which the contaminated soil and debris will be disposed.

- All loading activities will be conducted in a manner to minimize the formation of dust. Contaminated soil and debris transport containers will be covered to prevent release of dust and particulates and exposure of the contaminated soil and debris to precipitation.

- Confirmation sampling of the sidewalls per DER-10 Section 5.4(b) 5 will be used to determine that the excavation is complete. Any confirmation sampling results that demonstrate contaminated material is present (i.e., grossly contaminated soil) will require further excavation and sampling to a maximum depth of 15 feet below ground surface. In contaminated excavation areas, end-point samples will be collected for laboratory analysis and compared to the Commercial Soil Cleanup Objectives (CSCOs). Samples will be collected in areas biased towards visible contamination, odor and/or high VOC concentrations. If there are significant end-point exceedances of the CSCOs, the sidewall samples will be compared to existing data points from that area and applicable property boundary data to determine if further excavation is required. For example, the type of contaminant and whether it is volatile or not will be considered, and the location of the excavation in relation to other Site conditions and data will be considered. Observations made during excavations will also be considered to determine if the excavation is completed, or if further excavation is needed (e.g., debris or stained soil visible on sidewall).

- The documented contaminated excavation areas for the foundation will have end-point soil samples collected that will be analyzed for:
    - VOCs via EPA Method 8260
    - SVOCs via EPA Method 8270
    - TAL Metals
    - PCBs
    - Pesticides
- As required by the EWP, dust and odor suppression (water and polyethylene sheeting) will be available during all excavation work and documented.
- A truck cleaning and inspection station will be operated on-Site. The truck cleaning station will be used for all vehicles leaving the Site. Trucks will be brushed and/or scrubbed clean as required when exiting the Site and the Site truck exit areas will be inspected periodically. To the extent that any dirt has exited the Site, the exit ramp and street will be cleaned. If necessary, in order to prevent soil from collecting on truck tires and parts during loading, a polyethylene tarp will be constructed by attaching plastic to a large 2 x 8-inch board equivalent to the length of the triaxle bed that will be draped over the side of the dump trailer bed during loading. The tarp will protect the loading side of the truck from soil accumulation and dust during loading. All trucks transporting waste from the Site will adhere to the following load covering:
    - Solid vinyl or equivalent tops;
    - Trucks will be required to have gasketed or tightly fitting tail gates;
- Trucks transporting clean material on-Site (from off-Site sources or from on-Site borrow areas) will not be the same trucks removing contaminated material from the Site. The proposed truck cleaning and inspection station details for the project are included at the end of this document in **Appendix 2**.
- Egress points for truck and equipment transport from the Site will also be kept clean of dirt and other materials during Site remediation and development. Locations where vehicles enter or exit the Site will be inspected daily to ensure there is no off-Site soil tracking. Soil that has been tracked off-Site will be swept or cleaned as appropriate. The qualified environmental professional will be responsible for ensuring that all egress points for truck and equipment transport from the Site are clean of dirt and other materials derived from the Site during intrusive excavation activities. Cleaning of the adjacent streets will be performed as needed to maintain a clean condition with respect to Site-derived materials.

- Loaded transport vehicle tires and undercarriages will be inspected and cleaned to remove any adhering contaminated soil and debris prior to vehicle departure from the Site. Loaded vehicles leaving the Site will be appropriately tarped, securely covered, manifested (if needed), secured, and placarded in accordance with appropriate Federal, State, Local, and NYSDOT requirements (and all other applicable transportation requirements). Trucks used for transportation of contaminated soil and debris will travel on authorized roads in accordance with all Federal, State and Local regulations. Queuing of trucks will be performed on-Site in order to minimize off-Site disturbances around the Site entrance. Off-Site queuing will be prohibited.

- Planned truck transport routes are defined as follows:

    - Trucks coming from Interstate 95 will approach the Site from the west on Fenimore Road (northbound, Exit 18A). Trucks will then turn south (right) onto Waverly Avenue and enter the Site at a driveway along the western side of the property. Exiting trucks will travel north on Waverly Avenue, turn left (north) onto Mamaroneck Avenue and proceed to the Interstate 95 southbound entrance ramp ((see **Figure 2**). All trucks loaded with Site materials will enter and exit the vicinity of the Site using only these approved truck routes. This is the most appropriate route and takes into account: (a) limiting transport through residential areas and past sensitive Sites; (b) use of city mapped truck routes; (c) prohibiting off-Site queuing of trucks entering the facility; (d) limiting total distance to major highways; (e) promoting safety in access to highways; and (f) overall safety in transport. Trucks will be prohibited from stopping and idling in the neighborhood outside the Site. The planned truck route for the proposed excavation is included on **Figure 2.**

- All manifests will be signed by the on-Site contractor soil disposal representative on behalf of the Site owner and they will retain all disposal and waste characterization documentation, which shall be provided to HES and the Village.

Soil Disposal Off-Site

All soil/fill/solid waste excavated and removed from the Site will be treated as contaminated and regulated material and will be transported and disposed of in accordance with all Local, State (including 6 NYCRR Part 360) and Federal regulations. If disposal of soil/fill from this Site is proposed for unregulated off-Site disposal (i.e. clean soil removed for development purposes), a formal request with an associated plan will be made to the NYSDEC. However, this is not anticipated at this time. Unregulated off-Site management of materials from this Site will not occur without formal NYSDEC approval.

Off-Site disposal locations for excavated soils will be identified in the pre-excavation notification. This will include estimated quantities and a breakdown by class of disposal facility if appropriate, i.e. hazardous waste disposal facility, solid waste landfill, petroleum treatment

facility, C&D recycling facility, etc. Waste classification soil sampling will need to be completed for the excavation area.

Actual disposal quantities and associated documentation will be reported to the NYSDEC and the Village in the applicable report. This documentation will include: waste profiles, test results, facility acceptance letters, manifests, bills of lading and facility receipts. Non-hazardous historic fill and contaminated soils taken off-Site will be handled, at minimum, as a Municipal Solid Waste per 6 NYCRR Part 360-1.2.

Contingency Plan

If underground storage tanks (USTs), drums, free product, or other previously unidentified contaminant sources are found during excavation, excavation activities will be suspended and the NYSDEC will immediately be notified. The excavation will be re-covered if necessary, based on "at hole" air monitoring data. If necessary, the area will be secured and covered until an agency-approved plan is in place to delineate, characterize, and remedy any new source area finding. Any drums and/or USTs or other source material encountered will be evaluated and a removal plan will be submitted for NYSDEC approval. Appropriately trained personnel will excavate and handle all source area materials in accordance with all applicable Federal, State, and Local regulations. Removed drums and tanks will be properly characterized and disposed of off-Site. The soil/fill surrounding the buried drums or underground storage tanks will be considered as potentially contaminated and will be direct-loaded for off-Site disposal (or, temporarily stockpiled and characterized, as needed).

Sampling will be performed on product, sediment and surrounding soils, etc. as necessary to determine the nature of the material and proper disposal method. Chemical analysis will be performed for a full list of analytes (TAL metals; TCL volatiles and semi-volatiles, TCL pesticides and PCBs), unless the Site history and previous sampling results provide a sufficient justification to limit the list of analytes. In this case, a reduced list of analytes will be proposed to the NYSDEC for approval prior to sampling.

Identification of unknown or unexpected contaminated media by screening during invasive Site work will be promptly communicated by phone to the NYSDEC and Village representatives. Reportable quantities of petroleum product will also be reported to the NYSDEC Spills Hotline

Community Air Monitoring Plan

The number of CAMP monitoring stations in documented contaminated areas operating will be three (3). Considering the Work Area as defined above, there will be: two (2) stations in downwind locations and one (1) station in the upwind location of the Work Area. HES will monitor wind directions throughout the work day, and the CAMP stations will be re-positioned as necessary. It is noted that the locations and operations of the CAMP system are subject to

modification by the NYSDEC / NYSDOH and the Village, based on observations during work at the excavation and air results warranting such modification. As stated above, special requirements will be necessary for work within 20 feet of potentially exposed individuals or structures.

Monitoring for VOCs will be performed at each of the CAMP station locations with a PID. Upwind concentrations will be measured at the start of each workday and periodically thereafter to establish background concentrations.

Additionally, a PID and 4-gas meter will be used within the Work Area immediately adjacent to the excavation perimeter edge to monitor for VOCs and gas concentrations at the excavation during soil removal activities. A PID will also be used to scan the soils at the end-point sampling locations.

For the CAMP stations, if the ambient air concentration of total organic vapors (PID) at the downwind perimeter of the work area exceeds 5 parts per million (ppm) above background for a 15-minute average, work activities will be temporarily halted and monitoring continued. If the total organic vapor level readily decreases (per instantaneous readings) below 5 ppm over background, work activities will resume with continued monitoring. If total organic vapor levels at the downwind perimeter of the Work Area persist at levels in excess of 5 ppm over background but less than 25 ppm, work activities will be halted, the source of vapors identified, corrective actions taken to abate emissions, and monitoring continued. After these steps bring the vapor levels below 5 ppm over background for the 15-minute average, work activities will resume provided that the total organic vapor level 200 feet downwind of the work area or half the distance to the nearest potential receptor or residential/commercial structure, whichever is less, remains below 5 ppm over background for the 15-minute average. If the organic vapor level is above 25 ppm at the perimeter of the work area, activities will be shutdown and the area backfilled or otherwise covered with foam and polyethylene sheeting.

Particulate concentrations will be monitored at each of the CAMP station locations. If the downwind PM-10 particulate level is 100 micrograms per cubic meter (mcg/m3) greater than background (upwind perimeter) for the 15-minute period or if airborne dust is observed leaving the work area, then dust suppression techniques will be employed. Work will continue with dust suppression techniques provided that downwind PM-10 particulate levels do not exceed 150 mcg/m3 above the upwind level and provided that no visible dust is migrating from the work area. If, after implementation of dust suppression techniques, downwind PM-10 particulate levels are greater than 150 mcg/m3 above the upwind level, work will be stopped and re-evaluation of activities will be initiated. Work will resume provided that dust suppression measures and other controls are successful in reducing the downwind PM-10 particulate concentration to within 150 mcg/m3 of the upwind level and in preventing visible dust migration.

If the proposed work area is within 20-feet or less of the property boundary then a reduction of CAMP monitoring levels is required. Any work occurring within 20-feet of the property perimeter will require the action level for VOCs to be lowered from exceeding 5 ppm

above background during a 15-minute average to 5 ppm above background level during a 5-minute average. Additionally, the action level for particulate concentrations at the downwind PM-10 particulate level will be lowered from 100 mcg/m3 greater than background over a 15-minute period to a 5-minute period.

Odor Control Plan

Based on the primary constituents of concern, metals, VOCs and SVOCs, as well as the field experience that odors were observed on-Site during past utility excavation along Waverly Avenue, odors may be anticipated to be a possible issue or concern.

This odor control plan is capable of controlling the migration of nuisance odors off-Site. If nuisance odors are identified at the Site boundary work will be halted and the source of odors will be identified and corrected. Work will not resume until all nuisance odors have been abated. NYSDEC and NYSDOH will be notified of all odor events. The agencies will be notified of any other complaints from the community such as dust or noise that arise directly from the project activities. Implementation of all odor controls, including the halt of work, is the responsibility of the property owner's remediation environmental consultant.

All necessary means will be employed to prevent on- and off-Site nuisance odors. These measures may include: (a) limiting the area of open excavations and size of soil stockpiles; (b) shrouding open excavations with tarps and other cover systems; (c) direct load-out of soils to trucks for off-Site disposal; (d) use of staff to monitor wind conditions and odors at the immediate excavation area, property line and, if necessary, beyond property lines.

Clean Fill Imported to the Site for Backfill

As stated above, all materials proposed for import onto the Site will be approved by the qualified environmental professional and will be in compliance with provisions in this EWP prior to receipt at the Site. Information on potential / proposed clean fill materials (source, soil / stone type, laboratory analytical data) will be submitted to NYSDEC and the Village, which requires, at a minimum, sampling of the material and disclosure of the source.

Material from industrial sites, spill sites, or other environmental remediation sites or potentially contaminated sites will not be imported to the Site.

All imported soils will meet the backfill and cover soil quality standards established in 6 NYCRR 375-6.7(d). Soils that meet "exempt" fill requirements under 6 NYCRR Part 360, but do not meet backfill or cover soil objectives for this Site, will not be imported onto the Site without prior approval by NYSDEC. Solid waste will not be imported onto the Site.

Trucks entering the Site with imported soils will be securely covered with tight fitting covers. Imported soils will be used immediately for backfill or stockpiled separately from excavated materials and covered to prevent dust releases.

Off-Site borrow soils will be documented as having originated from locations having no evidence of disposal or release of hazardous, toxic or radioactive substances, wastes or petroleum products. Off-Site borrow soils intended for use as Site backfill cannot otherwise be defined as a solid waste in accordance with 6 NYCRR Part 360-1.2(a).

If the contractor designates a source as "virgin" soil, it shall be further documented in writing to be native soil material from areas not having supported any known prior industrial or commercial development or agricultural use. Virgin soils should be subject to collection of one representative composite sample per source. The sample should be analyzed for TCL VOCs, SVOCs, pesticides, PCBs, and TAL metals. The soil will be acceptable for use as backfill provided that all parameters meet the Allowable Constituent Levels for Imported Fill or Soil, provided as Appendix 5 of DER-10 (May 2010) **Health and Safety Procedures for Intrusive Activities**.

Contractors engaged in subsurface excavation activities will be required to implement appropriate health and safety procedures. These procedures will involve, at a minimum, donning adequate personal protective equipment, performing appropriate air monitoring, and implementing other engineering controls, as necessary, to mitigate potential ingestion, inhalation and contact with residual constituents in the soils. A Site-specific, activity-specific Health and Safety Plan (HASP) will be prepared for the Site by the Construction Contractor (Contactor). All required on-Site construction and technical personnel who are required to be OSHA 40-hour HAZWOPER training and 10-hour OSHA Construction training will maintain up to date training. An OSHA Competent Person in accordance with 29CFR-1926 will be on-Site and responsible for excavation safety.

If you have any questions regarding the Scope of Work for the Proposed Foundation Excavation, please contact me at (914) 276-2560. We look forward to continuing to work with you on this project.

Very truly yours,
HydroEnvironmental Solutions, Inc.

Steven Verdibello, PG
Project Manager

William A. Canavan, PG, LSRP
President

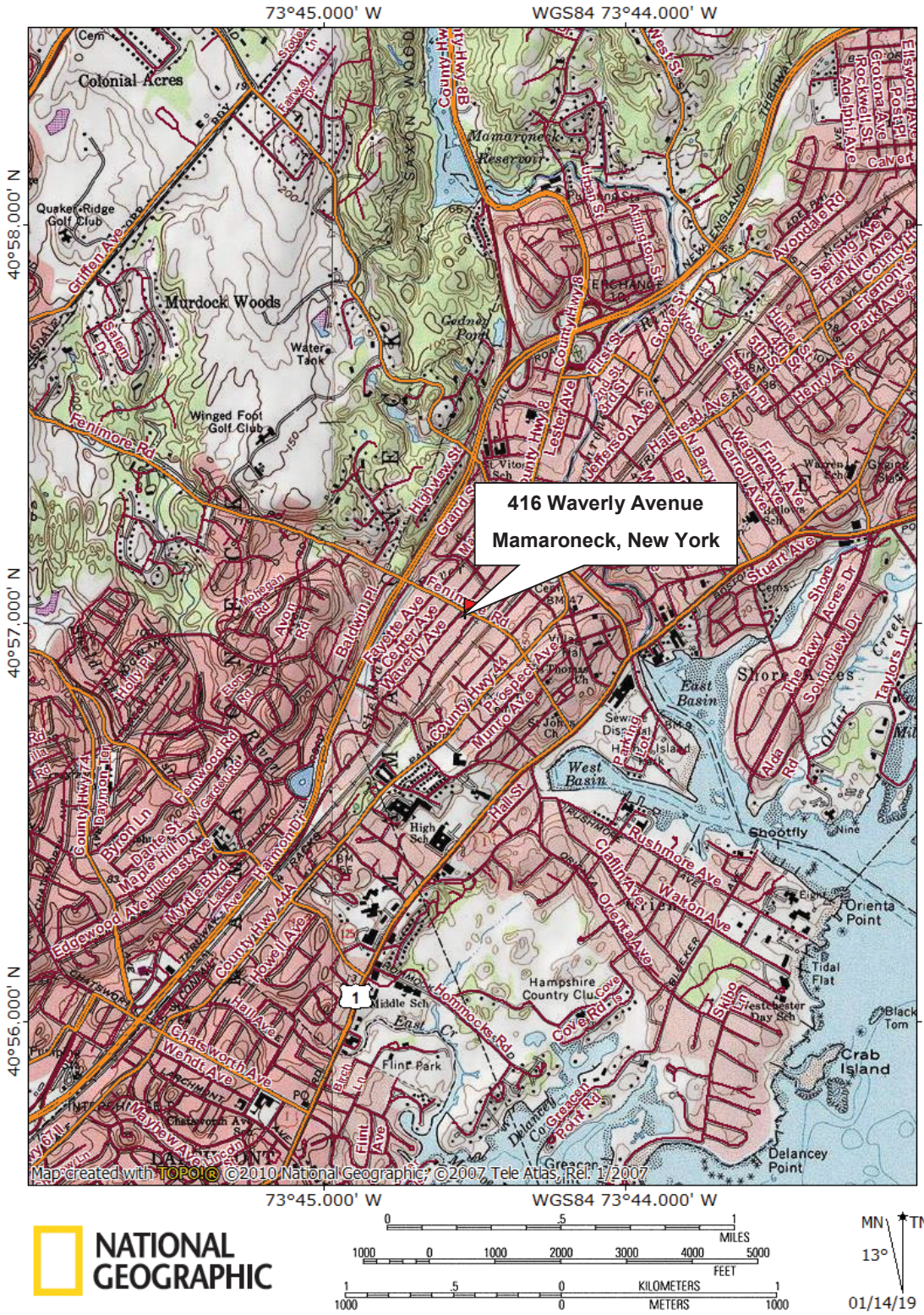
Enclosures

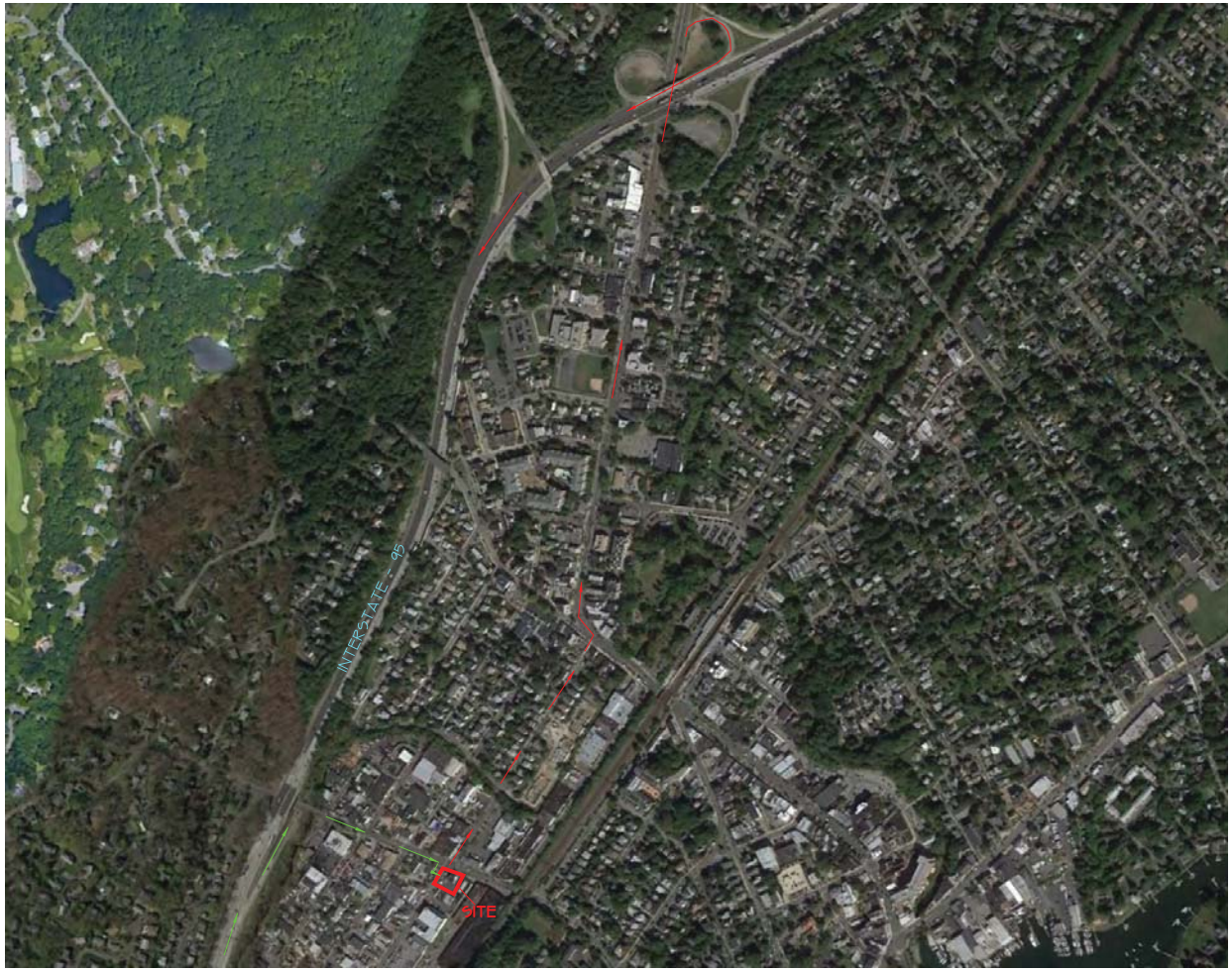
cc: Kristen Motel, Esq. – Cuddy & Feder
Village of Mamaroneck Building Inspector
File

FIGURES

FIGURE 1

Site Location Map





LEGEND

ROUTE TO SITE

ROUTE FROM SITE

FIGURE 2

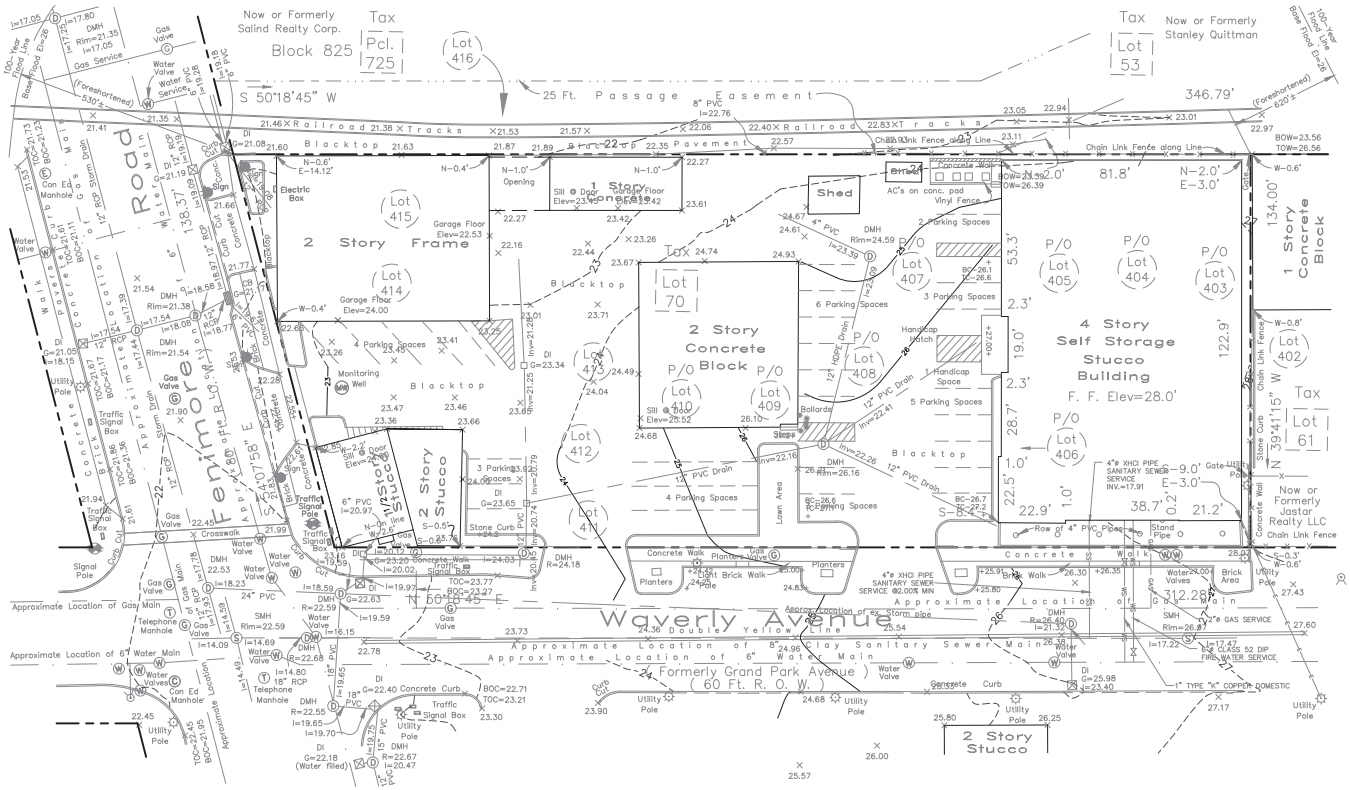
416 WAVERLY AVENUE MAMARONECK, NEW YORK	GENERALIZED SITE PLAN	NOT TO SCALE TRUCK TRANSPORT ROUTE	JANUARY 2019

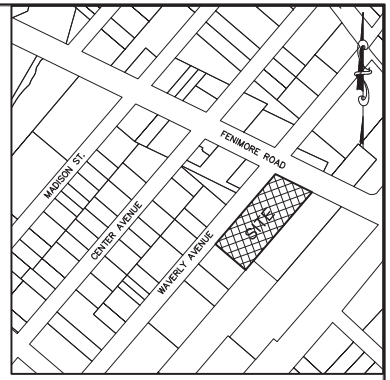
HydroEnvironmental
SOLUTIONS, INC.
One Deans Bridge Road
Somers, New York 10589

APPENDICES

APPENDIX 1

Construction Drawings and Foundation Detail





SITE LOCATION MAP
(SCALE: 1"=200')

GRAPHIC SCALE
20 0 10 20 40 80
(IN FEET)
1 inch = 20 ft.

ANY ALTERATIONS OR REVISIONS OF THESE PLANS, UNLESS DONE BY OR UNDER THE DIRECTION OF THE NYS LICENSED AND REGISTERED ENGINEER THAT PREPARED THEM, IS A VIOLATION OF THE NYS EDUCATION LAW.

No.	Revisions Description	Date
1.	REVISED PER TOWN COMMENTS	9-27-18

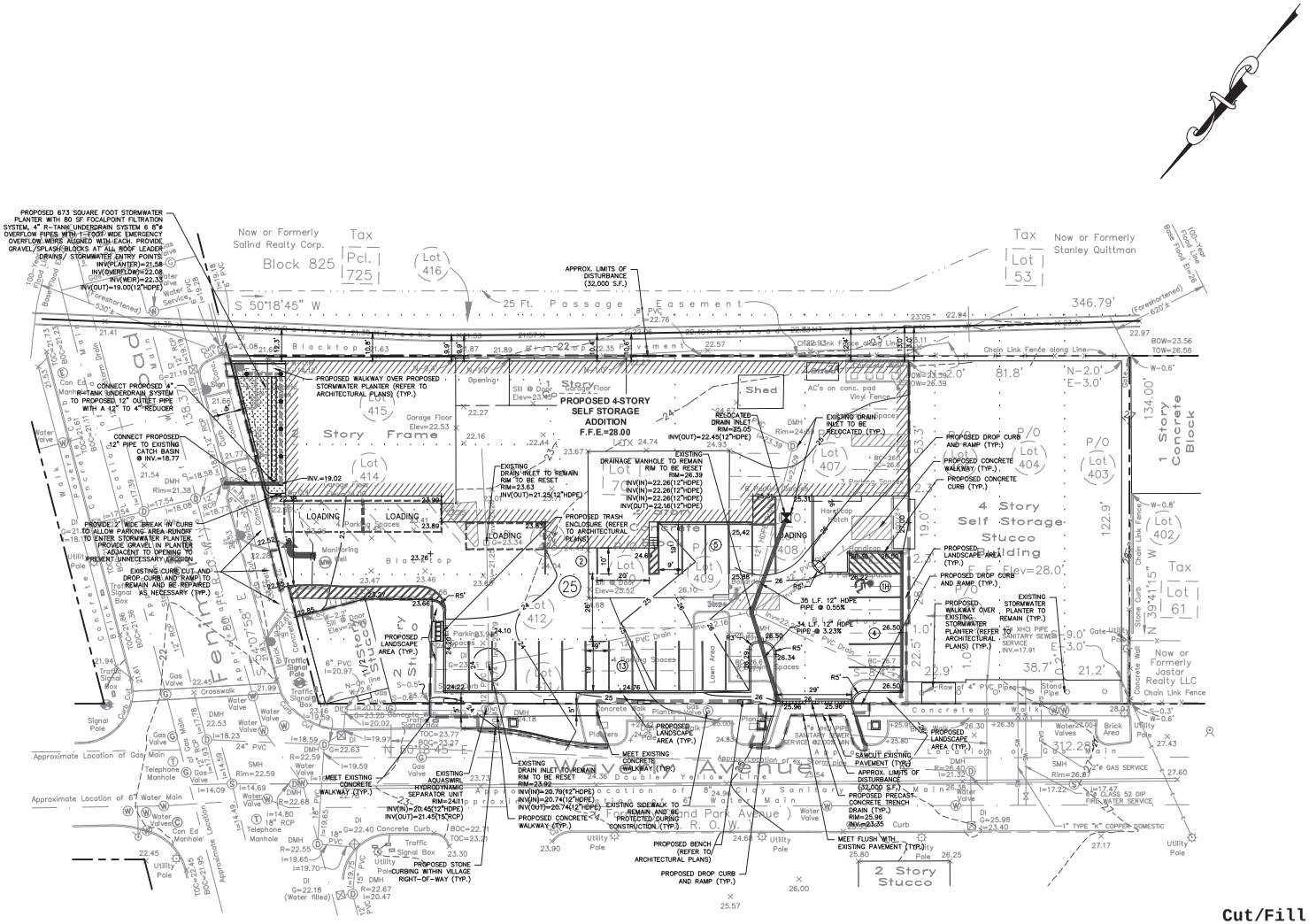
THIS PLAN NOT TO BE USED FOR CONSTRUCTION WITHOUT ENGINEERS SEAL & SIGNATURE

PROJECT:
SELF STORAGE BUILDING ADDITION
560 FENIMORE ROAD
VILLAGE OF MAMARONECK
WESTCHESTER COUNTY – NEW YORK

EXISTING CONDITIONS MAP

HEC
HUDSON ENGINEERING & CONSULTING, P.C.
45 Knollwood Road – Suite 201
Elmsford, New York 10523
T 914-909-0420
F 914-592-2098

Date: 2/5/18 Sheet: 1
Scale: 1" = 20' of 7
Designed By: D.C.
Checked By: M.S.
Sheet No.
C-1



GENERAL NOTES:

1. THE ENGINEER SHALL NOT BE RESPONSIBLE FOR THE SUPERVISION OF THE CONSTRUCTION.
2. NO CHANGES SHALL BE MADE TO THESE PLANS EXCEPT AS PER NYS LAW CHAPTER 987.
3. ALL WORK AND MATERIALS SHALL COMPLY WITH ALL APPLICABLE CODES, INCLUDING BUT NOT LIMITED TO ACI, AISC, ZONING, AND THE NEW YORK STATE BUILDING CODE.
4. ALL CONDITIONS, LOCATIONS AND DIMENSIONS SHALL BE FIELD VERIFIED AND THE ENGINEER SHALL BE IMMEDIATELY NOTIFIED OF ANY DISCREPANCIES.
5. ALL CHANGES MADE TO THE PLANS SHALL BE APPROVED BY THE ENGINEER AND ANY SUCH CHANGES SHALL BE FILED AS AMENDMENTS TO THE ORIGINAL BUILDING PERMIT.
6. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK USING HIS BEST SKILL AND ATTENTION. HE SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES AND FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT.
7. THE CONTRACTOR SHALL BE RESPONSIBLE TO THE OWNER FOR THE ACTS AND OMISSIONS OF HIS EMPLOYEES, SUBCONTRACTORS AND THEIR AGENTS AND EMPLOYEES, AND OTHER PERSONS PERFORMING ANY OF THE WORK UNDER A CONTACT WITH THE CONTRACTOR.
8. SAFETY DURING CONSTRUCTION SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL CONFORM TO ALL LOCAL, STATE AND FEDERAL AGENCIES IN EFFECT DURING THE PERIOD OF CONSTRUCTION.
9. THE CONTRACTOR AND HIS SUBCONTRACTORS SHALL MAKE APPLICATION TO RECEIVE ALL NECESSARY PERMITS TO PERFORM THE WORK UNDER CONTRACT. THE CONTRACTOR AND HIS SUBCONTRACTORS SHALL BE LICENSED TO DO ALL WORK AS REQUIRED BY THE LOCAL, COUNTY, AND STATE AGENCIES WHICH MAY HAVE JURISDICTION OVER THOSE TRADES, AND SHALL PRESENT THE OWNER WITH COPIES OF ALL LICENSES AND INSURANCE CERTIFICATES.
10. FINAL GRADING AROUND THE BUILDING AREA SHALL SLOPE AWAY FROM THE STRUCTURE.
11. ALL WRITTEN DIMENSIONS ON THE DRAWINGS SHALL TAKE PRECEDENCE OVER ANY SCALED DIMENSIONS.
12. ADJOINING PUBLIC AND PRIVATE PROPERTY SHALL BE PROTECTED FROM DAMAGE DURING CONSTRUCTION, REMODELING AND DEMOLITION WORK. PROTECTION MUST BE PROVIDED FOR FOOTINGS, FOUNDATIONS, PARTY WALLS, CHIMNEYS, SKYLIGHTS AND ROOFS. PROVISIONS SHALL BE MADE TO CONTROL WATER RUNOFF AND EROSION DURING CONSTRUCTION OR DEMOLITION ACTIVITIES. THE PERSON MAKING OR CAUSING AN EXCAVATION TO BE MADE SHALL PROVIDE WRITTEN NOTICE TO THE OWNERS OF ADJOINING BUILDINGS ADVISING THEM THAT THE EXCAVATION IS TO BE MADE AND THAT THE ADJOINING BUILDING SHOULD BE PROTECTED. SAID NOTIFICATION SHALL BE DELIVERED NOT LESS THAN 10 DAYS PRIOR TO THE SCHEDULED STARTING DATE OF THE EXCAVATION.
13. OWNER SHALL INSURE THAT THE INSURANCE PROVIDED BY THE CONTRACTOR HIRED TO PERFORM THE WORK SHALL BE ENDORSED TO NAME HUDSON ENGINEERING & CONSULTING, P.C., AND ANY DIRECTORS, OFFICERS, EMPLOYEES, SUBSIDIARIES, AND AFFILIATES, AS ADDITIONAL INSURED ON ALL POLICIES AND HOLD HARMLESS DOCUMENTS, AND SHALL STIPULATE THAT THIS INSURANCE IS PRIMARY, AND THAT ANY OTHER INSURANCE OR SELF-INSURANCE MAINTAINED BY HUDSON ENGINEERING & CONSULTING, P.C., SHALL BE EXCESS ONLY AND SHALL NOT BE CALLED UPON TO CONTRIBUTE WITH THIS INSURANCE. ISO ADDITIONAL INSURED ENDORSEMENT FORM NUMBER CG2010 1185 UNDER GL. COPIES OF THE INSURANCE POLICIES SHALL BE SUBMITTED TO AND HUDSON ENGINEERING & CONSULTING, P.C., FOR APPROVAL PRIOR TO THE SIGNING OF THE CONTRACT.
14. INDUSTRIAL CODE RULE 753. THE CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES 72 HOURS PRIOR TO THE START OF HIS OPERATIONS AND SHALL COMPLY WITH ALL THE LATEST INDUSTRIAL CODE RULE 753 REGULATIONS.

LEGEND

- PROPERTY LINE
- PROPOSED CONCRETE CURB
- PROPOSED BITUMINOUS CONCRETE PAVEMENT
- PROPOSED WALKWAY
- PROPOSED CONTOUR — 26
- PROPOSED SPOT GRADE +26.25
- PROPOSED STORM PIPE
- PROPOSED DRAIN INLET
- PROPOSED TRENCH DRAIN
- PROPOSED LIMIT OF DISTURBANCE

NOTES:

1. ANY IMPORTED SOIL SHALL COMPLY WITH ALL FEDERAL, STATE, AND LOCAL REQUIREMENTS FOR QUALITY AND USE.
2. OFF-SITE DISPOSAL OF EXCESS CUT SHALL BE IN ACCORDANCE WITH ALL FEDERAL, STATE, AND LOCAL REQUIREMENTS.
3. UTILITIES TO ALL EXISTING BUILDINGS TO BE DEMOLISHED SHALL BE REMOVED, CUT AND AND CAPPED AT THE MAIN PER VILLAGE OF MAMARONECK STANDARDS.

Cut/Fill Summary

	Cut	Fill	Net
Totals	69.31 Cu. Yd.	127.91 Cu. Yd.	58.59 Cu. Yd.<Fill>

GRAPHIC SCALE
20 0 10 20 40 80
(IN FEET)
1 inch = 20 ft.

No.	Revisions	Date
1.	REVISED PER TOWN COMMENTS	9-27-18

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PROJECT:
SELF STORAGE BUILDING ADDITION
560 FENIMORE ROAD
VILLAGE OF MAMARONECK
WESTCHESTER COUNTY – NEW YORK

STORMWATER MANAGEMENT PLAN

HEC
HUDSON ENGINEERING & CONSULTING, P.C.
45 Knollwood Road – Suite 201
Elmsford, New York 10523
T 914-909-0420
F 914-590-2098

STATE OF NEW YORK — LICENSED PROFESSIONAL ENGINEER — MR. BRENT

Date: 2/5/18 Sheet: 2
Scale: 1" = 20' 7
Designed By: D.C.
Checked By: M.S.
Sheet No. C-2

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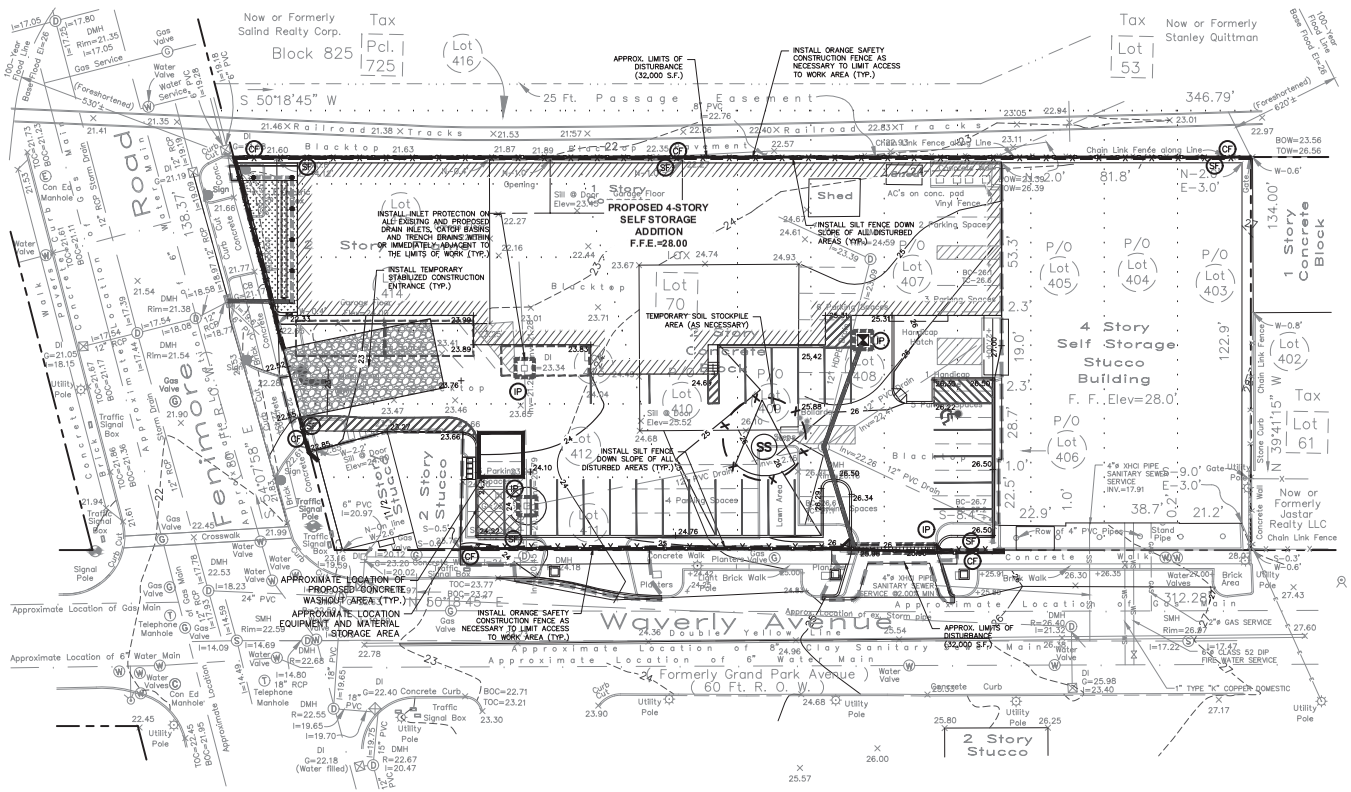

INSTALLATION & MAINTENANCE OF EROSION CONTROL:

CONSTRUCTION SCHEDULE
NOTIFY APPROPRIATE MUNICIPAL AGENCY HAVING JURISDICTION AT LEAST 5 DAYS PRIOR TO START.

EROSION CONTROL MEASURES
INSTALL ALL EROSION CONTROL MEASURES PRIOR TO START OF CONSTRUCTION. CALL FOR INSPECTION FROM THE APPROPRIATE MUNICIPAL AGENCY HAVING JURISDICTION AT LEAST 2 DAYS PRIOR TO INSTALLATION.

INSPECTION BY MUNICIPALITY
MAINTENANCE (TO BE PERFORMED DURING ALL PHASES OF CONSTRUCTION)

AFTER ANY RAIN CAUSING RUNOFF, CONTRACTOR TO INSPECT HAYBALES, ETC. AND REMOVE ANY EXCESSIVE SEDIMENT AND INSPECT STOCKPILES AND CORRECT ANY PROBLEMS WITH SEED ESTABLISHMENT.
INSPECTIONS SHALL BE DOCUMENTED IN WRITING AND SUBMITTED TO THE APPROPRIATE MUNICIPAL AGENCY HAVING JURISDICTION.

INSPECTION BY MUNICIPALITY – FINAL GRADING
REMOVE UNNEEDED SUBGRADE FROM SITE.
CALL FOR INSPECTION FROM THE APPROPRIATE MUNICIPAL AGENCY HAVING JURISDICTION AT LEAST 2 DAYS PRIOR TO FINISH.

INSPECTION BY MUNICIPALITY – LANDSCAPING

SPREAD TOPSOIL EVENLY OVER AREAS TO BE SEEDED. HAND RAKE LEVEL. BROADCAST 1.25 LB. BAG OF JONATHAN GREEN "FASTGROW" MIX OR EQUAL OVER AREA TO BE SEEDED. APPLY STRAW MULCH AND WATER WITHIN 2 DAYS OF COMPLETION OF TOPSOILING. CALL FOR INSPECTION FROM THE APPROPRIATE MUNICIPAL AGENCY HAVING JURISDICTION AT LEAST 2 DAYS PRIOR TO FINISH.

INSPECTION BY MUNICIPALITY – FINAL LANDSCAPING

GRASS ESTABLISHED.
CALL FOR INSPECTION FROM THE APPROPRIATE MUNICIPAL AGENCY HAVING JURISDICTION AT LEAST 2 DAYS PRIOR TO FINISH.

INSPECTION BY MUNICIPALITY – FINAL INSPECTION

ALL EROSION CONTROL MEASURES REMOVED AND GRASS ESTABLISHED.
CALL FOR INSPECTION FROM THE APPROPRIATE MUNICIPAL AGENCY HAVING JURISDICTION AT LEAST 2 DAYS PRIOR TO FINISH.

LEGEND

- TEMPORARY INLET PROTECTION — IP
- TEMPORARY SILT FENCE — SF
- TEMPORARY CONSTRUCTION FENCE — CF
- TEMPORARY SOIL STOCKPILE AREA — SS
- STABILIZED CONSTRUCTION ENTRANCE
- PROPOSED LIMIT OF DISTURBANCE

GRAPHIC SCALE
20 0 10 20 40 80
(IN FEET)
1 inch = 20 ft.

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No.	Revisions Description	Date
1.	REVISED PER TOWN COMMENTS	9-27-18

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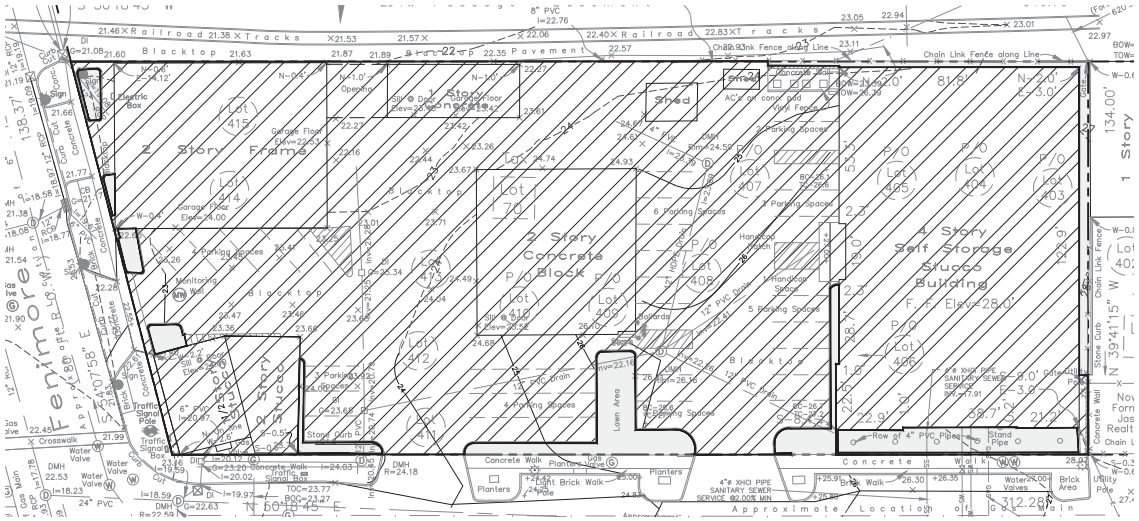
PROJECT:
SELF STORAGE BUILDING ADDITION
560 FENIMORE ROAD
VILLAGE OF MAMARONECK
WESTCHESTER COUNTY – NEW YORK

EROSION & SEDIMENT CONTROL PLAN

HUDSON ENGINEERING & CONSULTING, P.C.
45 Knollwood Road – Suite 201
Elmsford, New York 10523
T 914-909-0420
F 914-590-2098

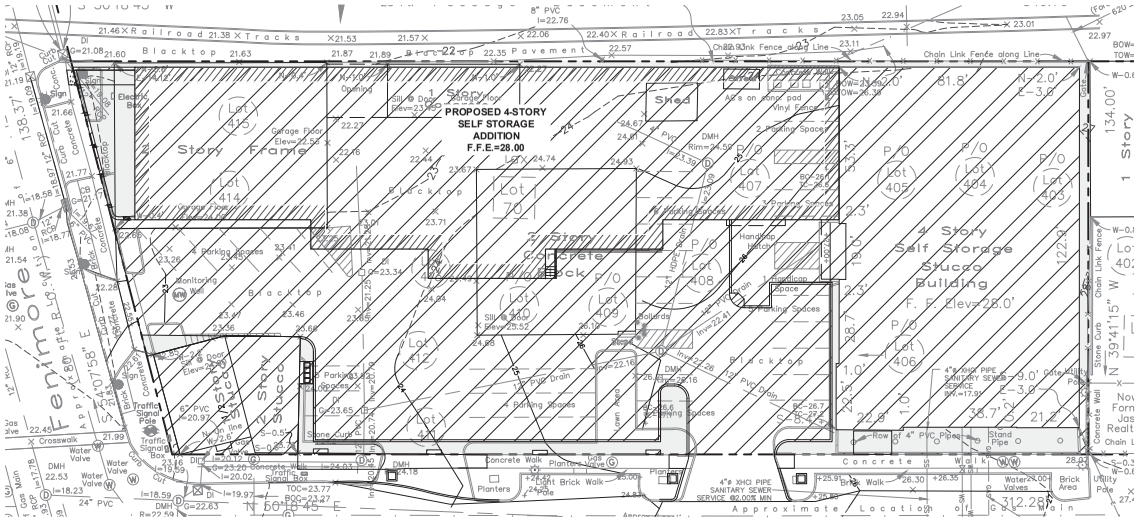
Date: 2/5/18 Sheet: 3
Scale: 1" = 20'
Designed By: D.C.
Checked By: M.S.
Sheet No. C-3 of 7



EXISTING SITE COVERAGE
SCALE: 1"=20'

Existing Site Coverage

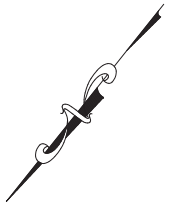
Impervious:	41,390 SF
Pervious:	2,766 SF



PROPOSED SITE COVERAGE
SCALE: 1"=20'

Proposed Site Coverage

Impervious:	40,675 SF
Pervious:	3,481 SF



LEGEND

IMPERVIOUS COVER

PERVIOUS COVER

GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)
1 inch = 30 ft.

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No.	Revisions Description	Date
1.	REVISED PER TOWN COMMENTS	9-27-18

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PROJECT:
SELF STORAGE BUILDING ADDITION
560 FENIMORE ROAD
VILLAGE OF MAMARONECK
WESTCHESTER COUNTY – NEW YORK

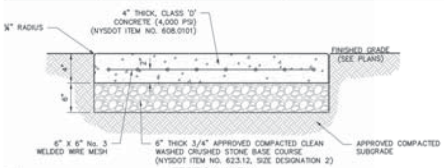
SITE COVERAGE PLAN

HEC

HUDSON ENGINEERING & CONSULTING, P.C.
45 Knollwood Road – Suite 201
Elmsford, New York 10523
T 914-909-0420
F 914-590-2098

Date:	2/5/18
Scale:	1" = 20'
Designed By:	D.C.
Checked By:	M.S.
Sheet No.	C-4

Sheet 4 of 7

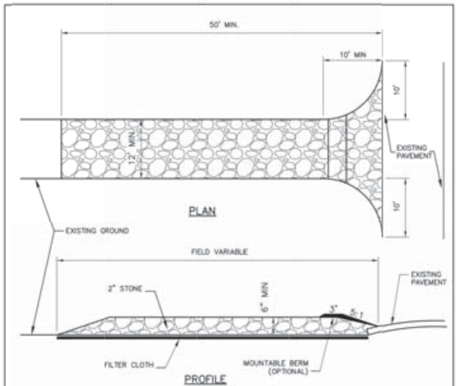


SECTION VIEW

NOTES:

1. WHEN SIDEWALK ABUTS A ROADWAY, CURB AND SIDEWALK SHALL BE MONOLITHICALLY CONSTRUCTED. REFER TO VILLAGE STANDARD MONOLITHIC CURB AND SIDEWALK CONSTRUCTION DETAIL.
2. UNLESS OTHERWISE NOTED, PORTLAND CEMENT CONCRETE SIDEWALKS SHALL MEET THE SPECIFICATIONS OUTLINED IN SECTION 608 AND SUBSECTION 700 OF THE NEW YORK STATE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS, DATED JANUARY 9, 2014 WITH LATEST REVISIONS.
3. THE GENERAL CONSTRUCTION DETAILS FOR MANUFACTURING AND TRANSPORTING CONCRETE SHALL MEET THE REQUIREMENTS OF SECTION 501, PORTLAND CEMENT CONCRETE– GENERAL.
4. WELDED WIRE FABRIC REINFORCEMENT SHALL BE MADE OF W2.9 OR W3 WIRE AT 6 INCH CENTERS TRANSVERSELY CONVENTIONALLY FORMED CONCRETE SHALL MEET THE REQUIREMENTS FOR CLASS D IN ACCORDANCE WITH SECTION 501 'PORTLAND CEMENT CONCRETE––GENERAL.' ALL CONCRETE SHALL CONTAIN A WATER–REDUCING ADMIXTURE MEETING THE REQUIREMENTS OF §711–08 IN SUCH A QUANTITY AS TO PROVIDE A MINIMUM 10% REDUCTION OF THE DESIGN WATER CONTENT BY USING A NORMAL RANGEWATER–REDUCER. WWF SHALL BE MANUFACTURED IN SHEETS AND PLACED WITH IN CONCRETE BY CHAIRING.
5. REINFORCING SHALL NOT EXTEND THROUGH EXPANSION JOINTS.
6. INSTALL A PREMOULDED RESILIENT JOINT FILLER, §705–07, AT ALL JOINTS BETWEEN SIDEWALK AND CURB, PAVEMENT, BUILDING, ETC. THE PREMOULDED RESILIENT JOINT FILLER SHALL CONFORM TO THE REQUIREMENTS OF ASTM D1751.
7. THE EXPANSION JOINTS SHALL BE LOCATED AT ALL IMMOVABLE OBJECTS (BRIDGE SUBSTRUCTURES, ETC.), WHERE SHOWN ON THE PLANS, AND/OR AS DIRECTED BY THE ENGINEER. EXPANSION JOINTS SHALL NOT BE REQUIRED AT 20 FOOT INTERVALS.
8. PREMOULDED RESILIENT JOINT FILLER (§705–07). USE 3/8 – 5/8 INCH THICK FILLER IN TRANSVERSE EXPANSION JOINT ASSEMBLIES ONLY. INCLUDE A ONE–PIECEPREMOULDED RESILIENT JOINT FILLER IN THE ASSEMBLY THAT EXTENDS COMPLETELY ACROSS THE SLAB WIDTH. THE JOINT FILLER MUST EITHER EQUAL THE FULL DEPTH OF THE SLAB, OR EXTEND FROM THE BOTTOM OF THE SLAB TO WITHIN 1 1/2 – 2 INCHES OF THE TOP OF THE SLAB WITH A FINISHING CAP THAT EXTENDS TO THE TOP OF THE SLAB.
9. UNLESS OTHERWISE SPECIFIED IN THE CONTRACT DOCUMENTS, THE CONCRETE SURFACE SHALL BE SCORED AND TOOLED AT INTERVALS OF 5 FEET. SCORE THE CONCRETE A MINIMUM 1/8 INCH TO A MAXIMUM 1/4 INCH IN WIDTH AND TO A MINIMUM DEPTH OF ONE–THIRD THE TOTAL THICKNESS.
10. 3 FOOT WIDE SIDEWALKS SHALL RECEIVE CONTRACTION JOINTS EVERY 4 FEET. 4 AND 5 FOOT WIDE SIDEWALKS SHALL RECEIVE CONTRACTION JOINTS EQUAL TO THE WIDTH OF THE SIDEWALK. SIDEWALKS MAY BE CONVENTIONALLY FORMED OR MACHINE FORMED.
11. ONLY MAGNESIUM FLOATS AND TROWELS ARE ALLOWED. THE USE OF ALUMINUM OR STEEL FINISHING TROWELS AND TOOLS IS PROHIBITED. THE CONCRETE SHALL BE FINISHED TO PRODUCE A SMOOTH SURFACE AND THEN LIGHTLY BROOMED TO A UNIFORM TEXTURE. THE EDGES AND SCORED JOINTS OF ALL SIDEWALK SLABS SHALL BE TOOLED WITH AN EDGING TOOL HAVING A 1/4 INCH RADIUS.
12. ALL WORK SHALL BE IN ACCORDANCE WITH NYSDOT SPECIFICATIONS AND IN REASONABLY CLOSE CONFORMITY WITH THE LINES AND GRADES SHOWN ON THE PLANS OR ESTABLISHED BY THE ENGINEER.
13. SIDEWALK SHALL BE PAID UNDER NYSDOT ITEM NO. 608.0101. CRUSHED STONE SHALL BE PAID UNDER NYSDOT ITEM NO. 623.12.

VILLAGE OF MAMARONECK STANDARD CONSTRUCTION DETAILS — PREPARED IN THE OFFICE OF THE VILLAGE ENGINEER — CAST–IN–PLACE CONCRETE SIDEWALK — VILLAGE OF MAMARONECK — SD-5D



PROFILE

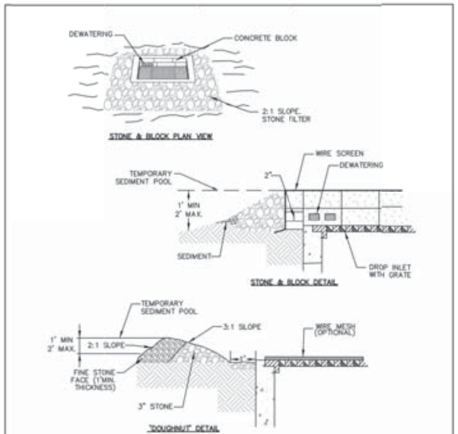
CONSTRUCTION SPECIFICATIONS:

1. USE 2" DIAMETER STONE OR RECLAIMED/RECYCLED CONCRETE EQUIVALENT.
2. RECOMMENDED LENGTH GREATER THAN 50 FEET WHERE PRACTICAL.
3. THICKNESS NOT LESS THAN 6 INCHES.
4. 10 FOOT MINIMUM WIDTH, BUT NOT LESS THAN FULL WIDTH AT POINTS WHERE INGRESS AND EGRESS OCCUR.
5. FILTER CLOTH SHALL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE.

CONSTRUCTION SPECIFICATIONS:

6. ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED ACROSS THE ENTRANCE. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM WILL BE PERMITTED.
7. ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS–OF–WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND, AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED, OR TRACKED ONTO PUBLIC RIGHTS–OF–WAY MUST BE REMOVED IMMEDIATELY.
8. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED BY THE CONTRACTOR.
9. REMOVE STABILIZED CONSTRUCTION ENTRANCE PRIOR TO PLACEMENT OF BITUMINOUS CONCRETE PAVEMENT.

VILLAGE OF MAMARONECK STANDARD CONSTRUCTION DETAILS — PREPARED IN THE OFFICE OF THE VILLAGE ENGINEER — STABILIZED CONSTRUCTION ENTRANCE — VILLAGE OF MAMARONECK — SD-1C

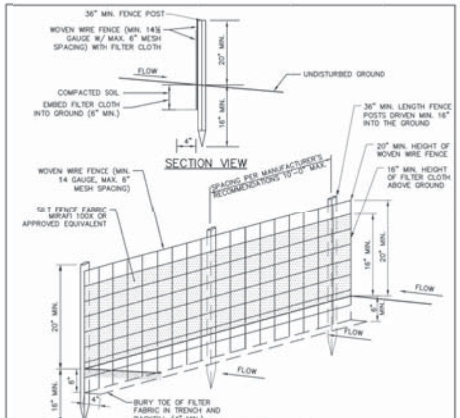


NOTES:

1. LAY ONE BLOCK ON EACH SIDE OF THE STRUCTURE ON ITS SIDE FOR DEWATERING. FOUNDATION SHALL BE 2 INCHES MINIMUM BELOW REST OF INLET AND BLOCKS SHALL BE PLACED AGAINST INLET FOR SUPPORT.
2. HARDWARE CLOTH OR ½" WIRE MESH SHALL BE PLACED OVER BLOCK OPENINGS TO SUPPORT STONE.
3. USE CLEAN STONE OR GRAVEL ½ TO ¾ INCH IN DIAMETER PLACED 2 INCHES BELOW TOP OF THE BLOCK ON A 2:1 SLOPE OR FLATTER.
4. FOR STONE STRUCTURES ONLY, A 1 FOOT THICK LAYER OF THE FILTER STONE WILL BE PLACED AGAINST THE 3 INCH STONE AS SHOWN ON THE DRAWINGS.

MAXIMUM DRAINAGE AREA 1 ACRE

VILLAGE OF MAMARONECK STANDARD CONSTRUCTION DETAILS — PREPARED IN THE OFFICE OF THE VILLAGE ENGINEER — STONE AND BLOCK DRAIN INLET PROTECTION — VILLAGE OF MAMARONECK — SD-1G

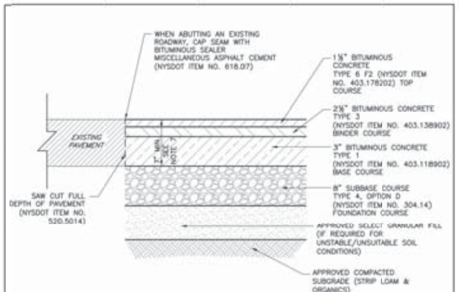


PERSPECTIVE VIEW

NOTES:

1. WOVEN WIRE FENCE SHALL BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES. POSTS SHALL BE STEEL, EITHER 'T' OR 'U' TYPE OR HARDWOOD.
2. FILTER CLOTH TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 24" AT TOP AND MID SECTION. FENCE SHALL BE WOVEN WIRE, 6" MAXIMUM MESH OPENING.
3. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER, THEY SHALL BE OVERLAPPED BY SIX INCHES AND FOLDED. FILTER CLOTH SHALL BE EITHER FILTER X, MIRAFI 100X, STABLINKA T140N, OR APPROVED EQUIVALENT.
4. PREFABRICATED UNITS SHALL BE GEOFAB, ENVIROFENCE, OR APPROVED EQUIVALENT.
5. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED AND REPLACED WHEN "BULGES" DEVELOP IN THE SILT FENCE.
6. INSTALL FABRIC ON UPHILL SIDE OF SUPPORT POSTS.
7. SILT FENCE SHALL NOT BE USED IN DRAINAGE WAYS.

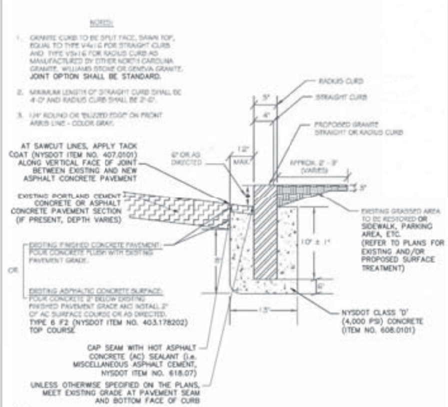
VILLAGE OF MAMARONECK STANDARD CONSTRUCTION DETAILS — PREPARED IN THE OFFICE OF THE VILLAGE ENGINEER — SILT FENCE — VILLAGE OF MAMARONECK — SD-1A



NOTES:

1. UNLESS OTHERWISE NOTED, BITUMINOUS CONCRETE SHALL MEET THE SPECIFICATIONS OUTLINED IN SECTION 403 OF THE NEW YORK STATE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS, DATED MAY 1, 2008 WITH LATEST REVISIONS. NOTE, THIS SECTION IS NO LONGER INCLUDED IN THE NYSDOT STANDARD SPECIFICATIONS.
2. UNLESS OTHERWISE NOTED, SUBBASE COURSE SHALL MEET THE SPECIFICATIONS OUTLINED IN SECTION 300 OF THE NEW YORK STATE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS, DATED MAY 1, 2008 WITH LATEST REVISIONS.
3. DETAIL DEPICTS COMPACTED PAVEMENT THICKNESS.
4. THIS DETAIL SHALL BE COORDINATED WITH THE VILLAGE STANDARD PIPE TRENCH AND ASPHALT PAVEMENT REPLACEMENT CONSTRUCTION DETAIL AND ALL OTHER PERTINENT VILLAGE STANDARD CONSTRUCTION DETAILS.
5. THIS ASPHALT CONCRETE PAVEMENT SECTION APPLIES ONLY TO LOCAL (i.e. VILLAGE) ROADS. PAVEMENT REPLACEMENT, REHABILITATION, CONSTRUCTION, ETC. FOR COUNTY AND STATE ROADWAYS SHALL BE IN ACCORDANCE WITH THE STANDARDS AND SPECIFICATIONS OF THE AGENCY HAVING JURISDICTION.
6. IF 403 HOT MIX ASPHALT (HMA) ITEM NUMBERS ARE UNAVAILABLE FROM THE ASPHALT PLANT, NYSDOT SUPERPAVE HMA 70 OR 80 SERIES COMPACTION SHALL BE SUBSTITUTED UPON REVIEW AND APPROVAL BY THE VILLAGE ENGINEER.
7. HOT MIX ASPHALT (HMA) PAVEMENT SHALL BE 7" MIN. THICK, OR MATCH EXISTING HMA PAVEMENT THICKNESS, WHICHEVER IS GREATER. IF EXISTING HMA PAVEMENT IS GREATER THAN 7", THE HMA DIFFERENCE SHALL CONSIST OF HMA BASE COURSE (OR BINDER COURSE FOR SMALL QUANTITIES)
8. THE VILLAGE ENGINEER RESERVES THE RIGHT TO MODIFY (e.g. INCREASE THICKNESS) THE PAVEMENT SECTION DUE TO SITE CONDITIONS (e.g. UNSUITABLE/UNSTABLE SUBGRADE, HIGH GROUNDWATER, ETC.).

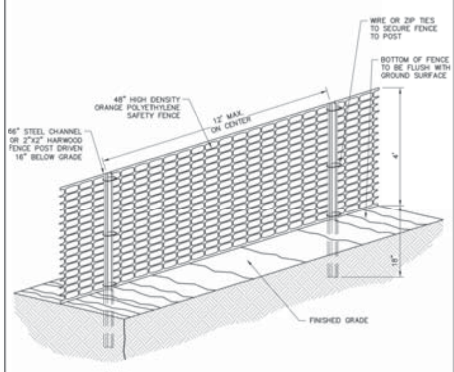
VILLAGE OF MAMARONECK STANDARD CONSTRUCTION DETAILS — PREPARED IN THE OFFICE OF THE VILLAGE ENGINEER — ASPHALT CONCRETE PAVEMENT (WITHIN RIGHT–OF–WAY) — VILLAGE OF MAMARONECK — SD-6A



NOTES:

1. UNLESS OTHERWISE NOTED, GRANITE CURB AND PORTLAND CEMENT CONCRETE CRADLE SHALL MEET THE SPECIFICATIONS OUTLINED IN SECTION 501, 609 AND SUBSECTION 700 OF THE NEW YORK STATE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS, DATED JANUARY 9, 2014 WITH LATEST REVISIONS.
2. CURB SHALL CONFORM TO NYSDOT ITEM NO. 609.0201.
3. THE GENERAL CONSTRUCTION DETAILS FOR MANUFACTURING AND TRANSPORTING CONCRETE SHALL MEET THE REQUIREMENTS OF SECTION 501, PORTLAND CEMENT CONCRETE– GENERAL.
4. THE VERTICAL FACE OF THE COLD BUTT JOINT BETWEEN EXISTING AND PROPOSED PAVEMENT SHALL BE SEALED WITH TACK COAT AND THE SEAM SHALL BE SEALED WITH HOT AC SEALANT AS SHOWN ABOVE.

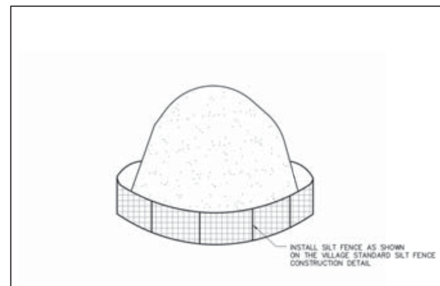
VILLAGE OF MAMARONECK STANDARD CONSTRUCTION DETAILS — PREPARED IN THE OFFICE OF THE VILLAGE ENGINEER — GRANITE CURB — VILLAGE OF MAMARONECK — SD-5B



NOTES:

1. MAINTAIN TENSION ACROSS FULL HEIGHT AND LENGTH OF FENCE.
2. PROVIDE PERIODIC INSPECTION AND MAINTENANCE OF FENCE.
3. FENCE SHALL BE HIGH DENSITY ORANGE POLYETHYLENE SAFETY FENCE AS MANUFACTURED BY EROSION RUNNER® OR APPROVED EQUAL.

VILLAGE OF MAMARONECK STANDARD CONSTRUCTION DETAILS — PREPARED IN THE OFFICE OF THE VILLAGE ENGINEER — CONSTRUCTION FENCE — VILLAGE OF MAMARONECK — SD-1B



NOTES:

1. ALL STOCKPILES SHALL BE SURROUNDED BY SILT FENCING.
2. STOCKPILES SHALL HAVE A MAXIMUM 2:1 (H:V) SIDE SLOPE.
3. REPAIR/OR REPLACE ANY SILT FENCING DAMAGED DUE TO CONSTRUCTION ACTIVITIES OR STOCKPILE MITIGATION.
4. STOCKPILE SHALL BE LOCATED IN AREAS AS SHOWN ON THE DRAWINGS OR APPROVED BY THE ENGINEER.

VILLAGE OF MAMARONECK STANDARD CONSTRUCTION DETAILS — PREPARED IN THE OFFICE OF THE VILLAGE ENGINEER — TEMPORARY SOIL/MATERIAL STOCKPILE AREA — VILLAGE OF MAMARONECK — SD-1H

ANY ALTERATIONS OR REVISIONS OF THESE PLANS, UNLESS DONE BY OR UNDER THE DIRECTION OF THE NYS LICENSED AND REGISTERED ENGINEER THAT PREPARED THEM, IS A VIOLATION OF THE NYS EDUCATION LAW.

No.	Description	Date
1.	REVISED PER TOWN COMMENTS	9-27-18

Revisions

THIS PLAN NOT VALID FOR CONSTRUCTION WITHOUT ENGINEERS SEAL & SIGNATURE

PROJECT:

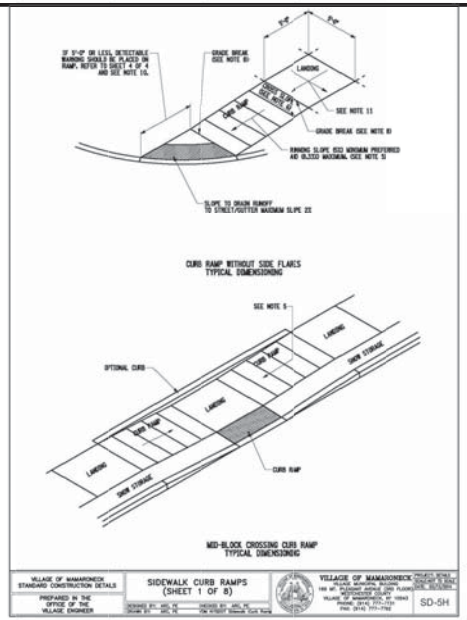
SELF STORAGE BUILDING ADDITION
560 FENIMORE ROAD
VILLAGE OF MAMARONECK
WESTCHESTER COUNTY – NEW YORK

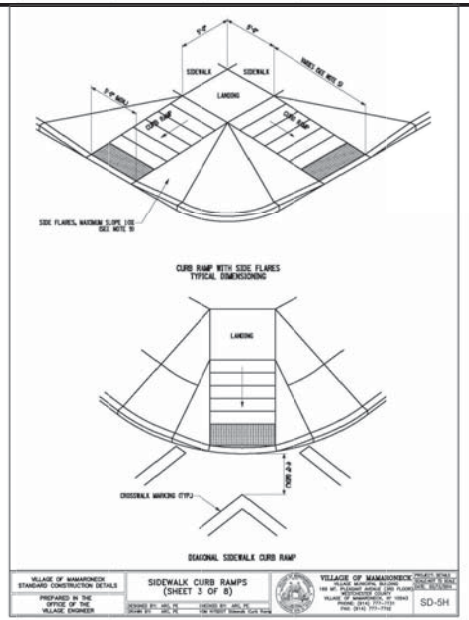
SITE DETAILS

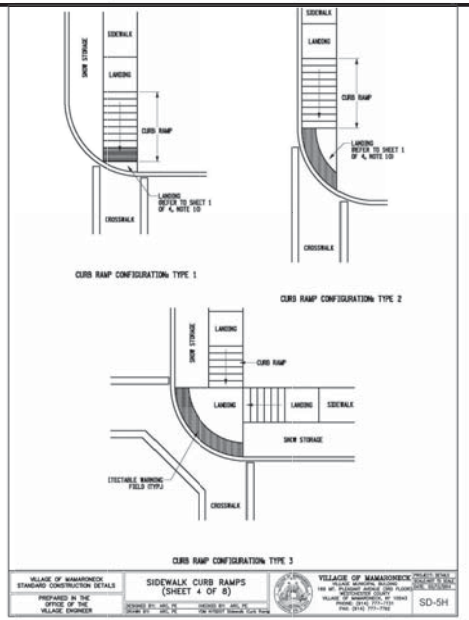
HEC
HUDSON ENGINEERING & CONSULTING, P.C.
45 Knollwood Road – Suite 201
Elmsford, New York 10523
T: 914-909-0420
F: 914-560-2086

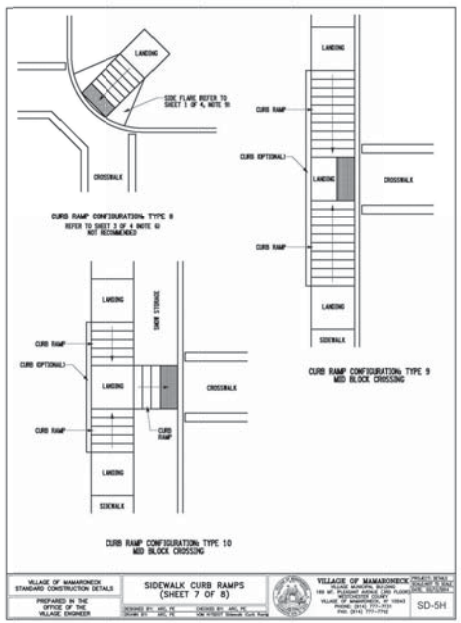
STATE OF NEW YORK — MICHAEL F. STEIN — No. 80837 — LICENSED PROFESSIONAL ENGINEER

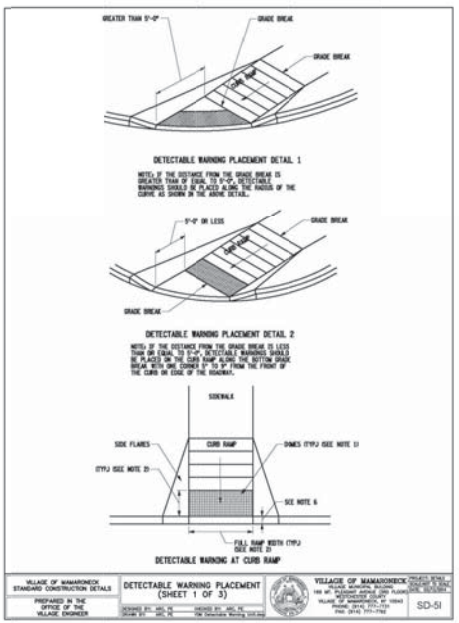
Date: 2/8/18
Scale: 1" = 20'
Designed By: D.C.
Checked By: M.S.
Sheet: 5 / 7
Sheet No. C-5

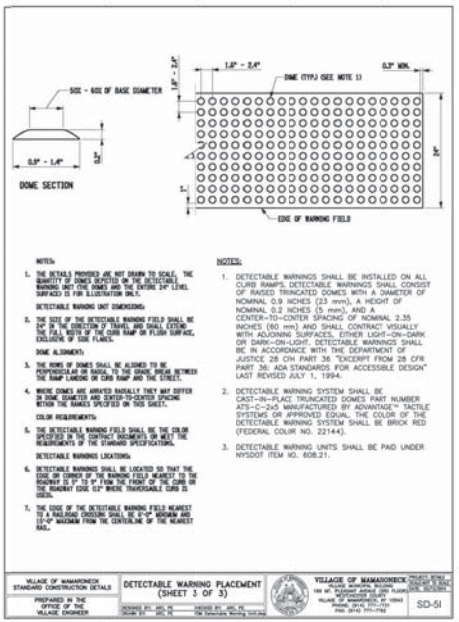


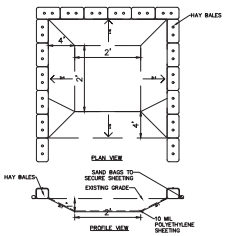












CLEANOUT WASHOUT AREA

CONCRETE WASHOUT AREA NOTES:

1. CONCRETE WASHOUT AREA TO BE INSTALLED PRIOR TO CONCRETE PLACEMENT ON SITE. CONCRETE WASHOUT AREA TO BE ENTIRELY SELF CONTAINED.
2. HAY BALES SHALL BE PROVIDED AROUND THE PERIMETER OF CONCRETE WASHOUT AREA FOR CONTAINMENT.
3. WASHOUT AREA SHALL BE LINED WITH PLASTIC SHEETING NO THINNER THAN 10 MILS. SHEETING SHALL HAVE NO HOLES OR TEARS AND SHALL BE ANCHORED BY SAND BAGS ON ALL SIDES EXCEPT ACCESS SIDE. PLASTIC LINING TO BE REPLACED WITH EACH CLEANING
4. SIGNS SHALL BE PROVIDED AT THE CONSTRUCTION ENTRANCE AND CONCRETE AREAS INDICATING LOCATION OF WASHOUT AREA.
5. WASHOUT AREA TO BE ENCLOSED IN CONSTRUCTION FENCE.
6. WASHOUT AREAS TO BE INSPECTED DAILY TO ENSURE LINER IS INTACT AND ADEQUATE CAPACITY IS AVAILABLE AT ALL TIMES. WASHOUT AREAS SHALL BE INSPECTED IMMEDIATELY AFTER HEAVIER RAINS. DAMAGED OR LEAKING WASHOUT AREAS TO BE DEACTIVATED AND REPAIRED IMMEDIATELY.
7. CONCRETE WASTE SHALL BE REMOVED AND DISPOSED OF ONCE IT REACHES THREE-QUARTERS OF THE WASHOUT AREA'S HEIGHT. ALL WASTE SHALL BE DISPOSED OF IN A MANNER CONSISTENT WITH APPLICABLE LAWS, REGULATIONS, AND GUIDELINES OF MUNICIPALITY.

No.	Description	Date
1.	REVISED PER TOWN COMMENTS	2-27-18

THIS PLAN NOT VALID FOR CONSTRUCTION WITHOUT ENGINEERS SEAL & SIGNATURE

PROJECT:

SELF STORAGE BUILDING ADDITION
560 FENIMORE ROAD
VILLAGE OF MAMARONECK
WESTCHESTER COUNTY – NEW YORK

SITE DETAILS

HEC

HUDSON ENGINEERING & CONSULTING, P.C.
45 Knollwood Road – Suite 201
Elmsford, New York 10523
T 914-909-0420
F 914-590-2098

Date: 2/8/18 Sheet: 6
Scale: 1" = 20'
Designed By: D.C.
Checked By: M.S.
Sheet No. 7

C-6

CONSTRUCTION PHASE:

DURING THE CONSTRUCTION PHASE OF THE PROJECT, A SEDIMENT AND EROSION CONTROL PLAN SHALL BE IMPLEMENTED IN ACCORDANCE WITH THE NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION'S BEST MANAGEMENT PRACTICES (BMP). THE PRIMARY GOALS OF THE SEDIMENT AND EROSION CONTROL PLAN ARE TO PREVENT THE TRACKING OF DIRT AND MUD ONTO ADJACENT ROADS, TO PREVENT MUD AND SILT FROM ENTERING INTO EXISTING AND PROPOSED DRAINAGE FACILITIES, AND TO PROTECT THE RECEIVING WATERS FROM CONTAMINATION DURING THE CONSTRUCTION.

DURING CONSTRUCTION, THE PARTY RESPONSIBLE FOR IMPLEMENTING THE TEMPORARY (DURING CONSTRUCTION) STORMWATER MANAGEMENT FACILITIES MAINTENANCE PROGRAM WILL BE THE OWNER. THE NAME AND CONTACT INFORMATION WILL BE FILED WITH THE VILLAGE OF CARMEL AND THE NYSDEC AT THE TIME OF THE PRECONSTRUCTION MEETING.

A NEW YORK STATE PROFESSIONAL ENGINEER OR CERTIFIED PROFESSIONAL IN EROSION AND SEDIMENT CONTROL (P.E. OR CPESC) SHALL CONDUCT AN ASSESSMENT OF THE SITE PRIOR TO THE COMMENCEMENT OF CONSTRUCTION AND CERTIFY IN AN INSPECTION REPORT THAT THE APPROPRIATE EROSION AND SEDIMENT CONTROLS SHOWN ON THE PLAN HAVE BEEN ADEQUATELY INSTALLED AND/OR IMPLEMENTED TO ENSURE OVERALL PREPAREDNESS OF THE SITE FOR CONSTRUCTION. FOLLOWING THE COMMENCEMENT OF CONSTRUCTION, SITE INSPECTIONS SHALL BE CONDUCTED BY THE P.E. OR CPESC AT LEAST EVERY 7 CALENDAR DAYS AND WITHIN 24 HOURS OF THE END OF A STORM EVENT OF 0.5 INCHES OR GREATER.

DURING EACH INSPECTION, THE REPRESENTATIVE SHALL RECORD THE FOLLOWING:

1. ON A SITE MAP, INDICATE THE EXTENT OF ALL DISTURBED SITE AREAS AND DRAINAGE PATHWAYS. INDICATE SITE AREAS THAT ARE EXPECTED TO UNDERGO INITIAL DISTURBANCE OR SIGNIFICANT SITE WORK WITHIN THE NEXT 14-DAY PERIOD;
2. INDICATE ON A SITE MAP ALL AREAS OF THE SITE THAT HAVE UNDERGONE TEMPORARY OR PERMANENT STABILIZATION;
3. INDICATE ALL DISTURBED SITE AREAS THAT HAVE NOT UNDERGONE ACTIVE SITE WORK DURING THE PREVIOUS 14-DAY PERIOD;
4. INSPECT ALL SEDIMENT CONTROL PRACTICES AND RECORD APPROXIMATE DEGREE OF SEDIMENT ACCUMULATION AS A PERCENTAGE OF THE SEDIMENT STORAGE VOLUME;
5. INSPECT ALL EROSION AND SEDIMENT CONTROL PRACTICES AND RECORD ALL MAINTENANCE REQUIREMENTS. IDENTIFY ANY EVIDENCE OF RILL OR GULLY EROSION OCCURRING ON SLOPES AND ANY LOSS OF STABILIZING VEGETATION OR SEEDING/MULCHING. DOCUMENT ANY EXCESSIVE DEPOSITION OF SEDIMENT OR PONDING WATER ALONG THE BARRIER. RECORD THE DEPTH OF SEDIMENT WITHIN CONTAINMENT STRUCTURES AND ANY EROSION NEAR OUTLET AND OVERFLOW STRUCTURES.
6. ALL IDENTIFIED DEFICIENCIES.

THE P.E. OR CPESC SHALL MAINTAIN A RECORD OF ALL INSPECTION REPORTS IN A SITE LOGBOOK. THE SITE LOGBOOK SHALL BE MAINTAINED ON-SITE AND BE MADE AVAILABLE TO THE VILLAGE OF BRIARCLIFF MANOR AND THE NYSDEC. A SUMMARY OF THE SITE INSPECTION ACTIVITIES SHALL BE POSTED ON A MONTHLY BASIS IN A PUBLICLY ACCESSIBLE LOCATION AT THE SITE.

THE PROJECTS ANTICIPATED START DATE IS SEPTEMBER 2017 AND THE ANTICIPATED COMPLETION DATE IS ESTIMATED TO OCCUR IN SEPTEMBER APRIL 2018.

CONSTRUCTION SEQUENCING:

THE FOLLOWING EROSION CONTROL SCHEDULE SHALL BE UTILIZED:

1. INSTALL CONSTRUCTION ENTRANCE TO THE DEVELOPMENT AREA.
2. ESTABLISH CONSTRUCTION STAGING AREA.
3. INSTALL TREE PROTECTION ON TREES AS NOTED ON PLANS.
4. SELECTIVE VEGETATION REMOVAL FOR SILT FENCE INSTALLATION.
5. INSTALL SILT FENCE DOWN SLOPE OF ALL AREAS TO BE DISTURBED AS SHOWN ON THE PLAN.
6. REMOVE TREES WHERE NECESSARY (CLEAR & GRUB) FOR THE PROPOSED CONSTRUCTION.
7. STRIP TOPSOIL AND STOCKPILE AT THE LOCATIONS SPECIFIED ON THE PLANS (UP GRADIENT OF EROSION CONTROL MEASURES). TEMPORARILY STABILIZE TOPSOIL STOCKPILES (HYDROSEED DURING MAY 1ST THROUGH OCTOBER 31ST PLANTING SEASON OR BY COVERING WITH A TARPAULIN(S) NOVEMBER 1ST THROUGH APRIL 30TH). INSTALL SILT FENCE AROUND TOE OF SLOPE.
8. DEMOLISH ANY EXISTING SITE FEATURES AND/OR STRUCTURES NOTED AS BEING REMOVED ON THE CONSTRUCTION DOCUMENTS, AND DISPOSE OF OFF-SITE.
9. ROUGH GRADE SITE.
10. INSTALL ADDITIONAL SILT FENCING AS NECESSARY.
11. ROUGH GRADE PARKING LOT AND INSTALL TRENCH DRAINS AND DRAIN INLETS, AS WELL AS ALL ASSOCIATED ONSITE PIPING.
12. OBTAIN STREET OPENING PERMIT FOR DRAINAGE CONNECTION TO EXISTING CATCH BASIN IN FENIMORE ROAD, AS WELL AS PROPOSED CURB CUT WIDENINGS.
13. INSTALL DRAINAGE WORK TEMPORARY TO EXISTING MUNICIPAL CATCH BASIN IN FENIMORE ROAD UP TO LOCATION OF PROPOSED STORMWATER PLANTER18. EXCAVATE AND CONSTRUCT FOUNDATIONS FOR NEW BUILDING.
14. CONSTRUCT STORMWATER PLANTER ADJACENT TO BUILDING ADDITION.
15. CONSTRUCT BUILDING. INSTALL AND CONNECT ALL ROOF DRAIN LEADERS TO PREVIOUSLY INSTALLED STORMWATER PLANTER.
16. INSTALL CURBING, AND SUB-BASE COURSES. FINE GRADE AND SEED ALL DISTURBED AREAS. SPREAD SALT HAY OVER SEEDED AREAS.
17. INSTALL BITUMINOUS CONCRETE TOP COURSE.
18. CLEAN PAVEMENT, DRAIN LINES, CATCH BASINS AND PRETREATMENT DEVICES. CLEAN EXFILTRATION/ATTENUATION GALLERIES.
19. REMOVE ALL TEMPORARY SOIL EROSION AND SEDIMENT CONTROL MEASURES AFTER THE SITE IS STABILIZED WITH VEGETATION.

*SOIL EROSION AND SEDIMENT CONTROL MAINTENANCE MUST OCCUR EVERY TWO WEEKS AND PRIOR TO AND AFTER EVERY ½" OR GREATER RAINFALL EVENT.

CONSTRUCTION PRACTICES TO MINIMIZE STORMWATER CONTAMINATION:

GENERAL:

ADEQUATE MEASURES SHALL BE TAKEN TO MINIMIZE CONTAMINANT PARTICLES ARISING FROM THE DISCHARGE OF SOLID MATERIALS, INCLUDING BUILDING MATERIALS, GRADING OPERATIONS, AND THE RECLAMATION AND PLACEMENT OF PAVEMENT, DURING PROJECT CONSTRUCTION, INCLUDING BUT NOT LIMITED TO:

- BUILDING MATERIALS, GARBAGE, AND DEBRIS SHALL BE CLEANED UP DAILY AND DEPOSITED INTO DUMPSTERS, WHICH WILL BE PERIODICALLY REMOVED FROM THE SITE AND APPROPRIATELY DISPOSED OF. ALL DUMPSTERS AND CONTAINERS LEFT ON-SITE SHALL BE COVERED AND SURROUNDED WITH SILT FENCE OR BARRIER TO PREVENT CONTAMINANTS FROM LEAVING THE SITE. SILT FENCING SHALL BE INSPECTED ON A WEEKLY BASIS.
- DUMP TRUCKS HAULING MATERIAL FROM THE CONSTRUCTION SITE WILL BE COVERED WITH A TARPAUIN.
- THE PAVED STREET ADJACENT TO THE SITE ENTRANCE WILL BE SWEPT DAILY TO REMOVE EXCESS MUD, DIRT, OR ROCK TRACKED FROM THE SITE.
- PETROLEUM PRODUCTS WILL BE STORED IN TIGHTLY SEALED CONTAINERS THAT ARE CLEARLY LABELED.
- ALL VEHICLES ON SITE WILL BE MONITORED FOR LEAKS AND RECEIVE REGULAR PREVENTIVE MAINTENANCE TO REDUCE THE CHANCE OF LEAKAGE.
- ALL SPILLS WILL BE CLEANED UP IMMEDIATELY UPON DISCOVERY. SPILLS LARGE ENOUGH TO REACH THE STORM SYSTEM WILL BE REPORTED TO THE NATIONAL RESPONSE CENTER AT 1-800-424-8802.
- MATERIALS AND EQUIPMENT NECESSARY FOR SPILL CLEANUP WILL BE KEPT IN THE TEMPORARY MATERIAL STORAGE TRAILER ONSITE. EQUIPMENT WILL INCLUDE, BUT NOT BE LIMITED TO, BROOMS, DUST PANS, MOPS, RAGS, GLOVES, GOGGLES, KITTY LITTER, SAW DUST, AND PLASTIC AND METAL TRASH CONTAINERS.
- ALL PAINT CONTAINERS AND CURING COMPOUNDS WILL BE TIGHTLY SEALED AND STORED WHEN NOT REQUIRED FOR USE. EXCESS PAINT WILL NOT BE DISCHARGED TO THE STORM SYSTEM, BUT WILL BE PROPERLY DISPOSED ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS.
- SANITARY WASTE WILL BE COLLECTED FROM PORTABLE UNITS A MINIMUM OF TWO TIMES A WEEK TO AVOID OVERFILLING. ALL SANITARY WASTE UNITS SHALL BE SURROUNDED BY SILT FENCE TO PREVENT CONTAMINANTS FROM LEAVING THE SITE. SILT FENCING SHALL BE INSPECTED ON A WEEKLY BASIS.
- ANY ASPHALT SUBSTANCES USED ON-SITE WILL BE APPLIED ACCORDING TO THE MANUFACTURER'S RECOMMENDATION.
- FERTILIZERS WILL BE STORED IN A COVERED SHED AND PARTIALLY USED BAGS WILL BE TRANSFERRED TO A SEALABLE BIN TO AVOID SPILLS AND WILL BE APPLIED ONLY IN THE MINIMUM AMOUNTS RECOMMENDED BY THE MANUFACTURER AND WORKED INTO THE SOIL TO LIMIT EXPOSURE TO STORMWATER.
- NO DISTURBED AREA SHALL BE LEFT UN-STABILIZED FOR LONGER THAN 14 DAYS DURING THE GROWING SEASON.
- WHEN EROSION IS LIKELY TO BE A PROBLEM, GRUBBING OPERATIONS SHALL BE SCHEDULED AND PERFORMED SUCH THAT GRADING OPERATIONS AND PERMANENT EROSION CONTROL FEATURES CAN FOLLOW WITHIN 24 HOURS THEREAFTER.
- AS WORK PROGRESSES, PATCH SEEDING SHALL BE DONE AS REQUIRED ON AREAS PREVIOUSLY TREATED TO MAINTAIN OR ESTABLISH PROTECTIVE COVER.
- DRAINAGE PIPES AND SWALES/DITCHES SHALL GENERALLY BE CONSTRUCTED IN A SEQUENCE FROM OUTLET TO INLET IN ORDER TO STABILIZE OUTLET AREAS AND DITCHES BEFORE WATER IS DIRECTED TO THE NEW INSTALLATION OR ANY PORTION THEREOF, UNLESS CONDITIONS UNIQUE TO THE LOCATION WARRANT AN ALTERNATIVE METHOD.

SPILL CONTROL & SPILL RESPONSE:

- FOR ALL HAZARDOUS MATERIALS STORED ON SITE, THE MANUFACTURER'S RECOMMENDED METHODS FOR SPILL CLEAN UP WILL BE CLEARLY POSTED. SITE PERSONNEL WILL BE MADE AWARE OF THE PROCEDURES, AND THE LOCATIONS OF THE INFORMATION AND CLEANUP SUPPLIES.
- APPROPRIATE CLEANUP MATERIALS AND EQUIPMENT WILL BE MAINTAINED BY THE CONTRACTOR IN THE MATERIALS STORAGE AREA ON-SITE. AS APPROPRIATE, EQUIPMENT AND MATERIALS MAY INCLUDE ITEMS SUCH AS BOOMS, DUST PANS, MOPS, RAGS, GLOVES, GOGGLES, KITTY LITTER, SAND, SAWDUST, AND PLASTIC AND METAL TRASH CONTAINERS SPECIFICALLY FOR CLEAN UP PURPOSES.
- ALL SPILLS WILL BE CLEANED IMMEDIATELY AFTER DISCOVERY AND THE MATERIALS DISPOSED OF PROPERLY.
- THE SPILL AREA WILL BE KEPT WELL VENTILATED AND PERSONNEL WILL WEAR APPROPRIATE PROTECTIVE CLOTHING TO PREVENT INJURY FROM CONTACT WITH A HAZARDOUS SUBSTANCE.
- AFTER A SPILL, A REPORT WILL BE PREPARED DESCRIBING THE SPILL, WHAT CAUSED IT, AND THE CLEANUP MEASURES TAKEN. THE SPILL PREVENTION PLAN WILL BE ADJUSTED TO INCLUDE MEASURES TO PREVENT THIS TYPE OF SPILL FROM REOCCURRING, AS WELL AS CLEAN UP INSTRUCTIONS IN THE EVENT OF REOCCURRENCES.
- THE CONTRACTOR'S SITE SUPERINTENDENT, RESPONSIBLE FOR DAY-TO-DAY OPERATIONS, WILL BE THE SPILL PREVENTION AND CLEANUP COORDINATOR. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT THE SITE SUPERINTENDENT HAS HAD APPROPRIATE TRAINING FOR HAZARDOUS MATERIALS HANDLING, SPILL MANAGEMENT, AND CLEANUP.
- THE CONTRACTOR'S SITE SUPERINTENDENT WILL BE NOTIFIED IMMEDIATELY WHEN A SPILL OR THE THREAT OF A SPILL IS OBSERVED. THE SUPERINTENDENT WILL ASSESS THE SITUATION AND DETERMINE THE APPROPRIATE RESPONSE.
- IF SPILLS REPRESENT AN IMMINENT THREAT OF ESCAPING EROSION AND SEDIMENT CONTROLS AND ENTERING RECEIVING WATERS, PERSONNEL WILL BE DIRECTED TO RESPOND IMMEDIATELY TO CONTAIN THE RELEASE AND NOTIFY THE SUPERINTENDENT AFTER THE SITUATION HAS BEEN STABILIZED.

ANY ALTERATIONS OR REVISIONS OF THESE PLANS, UNLESS DONE BY OR UNDER THE DIRECTION OF THE NYS LICENSED AND REGISTERED ENGINEER THAT PREPARED THEM, IS A VIOLATION OF THE NYS EDUCATION LAW.

- SPILL KITS CONTAINING APPROPRIATE MATERIALS AND EQUIPMENT FOR SPILL RESPONSE AND CLEANUP WILL BE MAINTAINED BY THE CONTRACTOR AT THE SITE.
- IF OIL SHEEN IS OBSERVED ON SURFACE WATER, ACTION WILL BE TAKEN IMMEDIATELY TO REMOVE THE MATERIAL CAUSING THE SHEEN. THE CONTRACTOR WILL USE APPROPRIATE MATERIALS TO CONTAIN AND ABSORB THE SPILL. THE SOURCE OF THE OIL SHEEN WILL ALSO BE IDENTIFIED AND REMOVED OR REPAIRED AS NECESSARY TO PREVENT FURTHER RELEASES.
- IF A SPILL OCCURS THE SUPERINTENDENT OR THE SUPERINTENDENT'S DESIGNEE WILL BE RESPONSIBLE FOR COMPLETING THE SPILL REPORTING FORM AND FOR REPORTING THE SPILL TO THE CONTACTS LISTED BELOW.
- PERSONNEL WITH PRIMARY RESPONSIBILITY FOR SPILL RESPONSE AND CLEAN UP WILL RECEIVE TRAINING BY THE CONTRACTOR'S SITE SUPERINTENDENT OR DESIGNEE. THE TRAINING MUST INCLUDE IDENTIFYING THE LOCATION OF THE SPILL KITS AND OTHER SPILL RESPONSE EQUIPMENT AND THE USE OF SPILL RESPONSE MATERIALS.
- SPILL RESPONSE EQUIPMENT WILL BE INSPECTED AND MAINTAINED AS NECESSARY TO REPLACE ANY MATERIALS USED IN SPILL RESPONSE ACTIVITIES.

SPILL CONTROL NOTIFICATION:

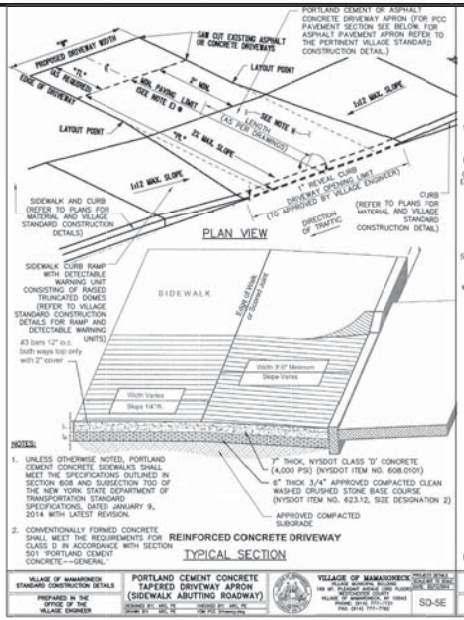
- A REPORTABLE SPILL IS A QUANTITY OF FIVE (5) GALLONS OR MORE OR ANY SPILL OF OIL WHICH: (1) VIOLATES WATER QUALITY STANDARDS, (2) PRODUCES A SHEEN ON A SURFACE WATER, OR (3) CAUSES A SLUDGE OR EMULSION. THIS SPILL MUST BE REPORTED IMMEDIATELY TO THE AGENCIES LISTED BELOW.
- ANY SPILL OF OIL OR HAZARDOUS SUBSTANCE TO WATERS OF THE STATE MUST BE REPORTED IMMEDIATE BY TELEPHONE TO THE FOLLOWING AGENCIES:

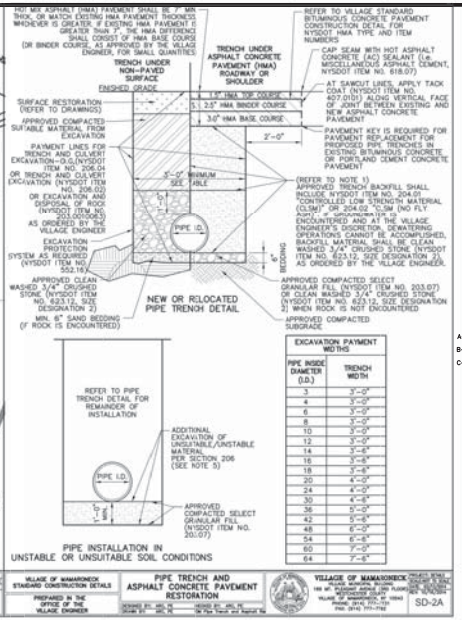
- 911 – POLICE, FIRE AND EMS	- LOCAL EMERGENCY PLANNING COMMITTEE (LEPC)
- VILLAGE OF MAMARONECK ENGINEERING DEPARTMENT 169 MOUNT PLEASANT AVENUE MAMARONECK, NY 10543 PHONE: (914) 777-7731	- WESTCHESTER COUNTY OFFICE OF EMERGENCY MANAGEMENT 200 BRADHURST AVENUE HAWTHORNE, NY 10532 (914) 864-5400
- VILLAGE OF MAMARONECK FIRE DEPARTMENT 123 MAMARONECK AVENUE MAMARONECK, NY 10543 PHONE: (914) 825-8777	- WESTCHESTER COUNTY DEPARTMENT OF HEALTH (WCDOH) SPILL REPORTING HOTLINE (914) 813-5000
- NYS DEPARTMENT OF ENVIRONMENTAL CONSERVATION (NYSDEC) SPILL REPORTING HOTLINE (1800) 457-7362	- U.S. ENVIRONMENTAL PROTECTION AGENCY (USEPA) EPCRA INFORMATION HOTLINE (1800) 535-0202
- NATIONAL RESPONSE CENTER: (1800) 424-8802	- U.S. DEPARTMENT OF LABOR AND OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) TARRYTOWN, NY (914) 524-7510

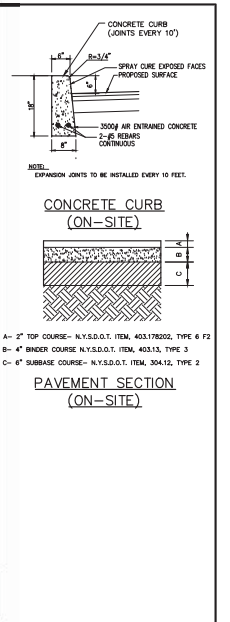
STORMWATER MANAGEMENT FACILITIES MAINTENANCE PROGRAM

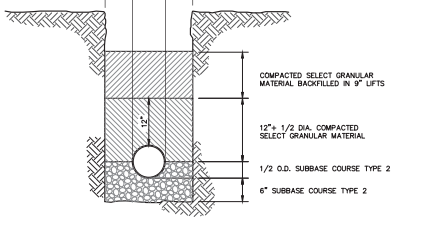
MEASURE	DATES FOR INSPECTION	TIMING, ACTIVITY, AND LOCATION
GENERAL MAINTENANCE (STORM SEWER, CATCH BASINS/ DRAIN INLETS, MANHOLES; PRE-TREATMENT DEVICE AND INFILTRATION BASIN)	ALL	ALL STORMWATER FACILITIES SHALL BE INSPECTED IMMEDIATELY AFTER COMPLETION OF CONSTRUCTION, AND THEN MONTHLY FOR THE FIRST THREE (3) MONTHS FOLLOWING THE COMPLETION OF THE PROJECT. WITHIN THE FIRST THREE (3) MONTHS, INSPECTIONS SHALL IMMEDIATELY BE PERFORMED FOLLOWING A LARGE STORM EVENT (I.E. PRODUCING 1/2" (ONE-HALF INCH) OF RAIN OR GREATER, THEREAFTER, THESE FACILITIES SHALL BE INSPECTED AS DESCRIBED AS FOLLOWS. UPON INSPECTION, FACILITIES SHALL BE IMMEDIATELY MAINTAINED AND/OR CLEANED AS MAY BE REQUIRED. ANY SITE AREAS EXHIBITING SOIL EROSION OF ANY KIND SHALL BE IMMEDIATELY RESTORED AND STABILIZED WITH VEGETATION, MULCH OR STONE, DEPENDING ON THE AREA TO BE STABILIZED. UPON EACH INSPECTION, ALL VISIBLE DEBRIS INCLUDING, BUT NOT LIMITED TO, TWIGS, LEAF AND FOREST LITTER SHALL BE REMOVED FROM THE STREET, OVERFLOW DISCHARGE POINTS AND FRAMES AND GRATES OF DRAINAGE STRUCTURES.
SUMPS – CATCH BASIN/DRAIN INLETS AND DRAIN MANHOLES	UPON COMPLETION OF CONSTRUCTION: –ONCE A MONTH FOR THE FIRST THREE (3) MONTHS AFTER FIRST THREE (3) MONTHS: –EVERY FOUR (4) MONTHS THEREAFTER	ALL CATCH BASIN/DRAIN INLETS AND DRAIN MANHOLES WITH SUMPS HAVE BEEN DESIGNED TO TRAP SEDIMENT PRIOR TO ITS TRANSPORT TO THE INFILTRATION PRACTICE AND, ULTIMATELY, DOWNSTREAM. THESE SUMPS WILL REQUIRE PERIODIC INSPECTION AND MAINTENANCE TO ENSURE THAT ADEQUATE DEPTH IS MAINTAINED WITHIN THE SUMPS. THE OWNER, OR THEIR DULY AUTHORIZED REPRESENTATIVE, SHALL TAKE MEASUREMENTS OF THE SUMP DEPTH. IF SEDIMENT HAS ACCUMULATED TO 1/2 (ONE–HALF) THE DEPTH OF THE SUMP, ALL SEDIMENT SHALL BE REMOVED FROM THE SUMP. SEDIMENTS CAN BE REMOVED WITH HAND–LABOR OR WITH A VACUUM TRUCK. THE USE OF ROAD SALT SHALL BE MINIMIZED FOR MAINTENANCE OF ROADWAY AND DRIVEWAY AREAS.
EXISTING HYDRODYNAMIC SEPARATOR	UPON COMPLETION OF CONSTRUCTION: –QUARTERLY FOR FIRST YEAR AFTER FIRST YEAR: –EVERY SIX (6) MONTHS THEREAFTER (SPRING & FALL)	THE HYDRODYNAMIC SEPARATOR DEVICE LOCATED IMMEDIATELY UPSTREAM OF THE OUTFALL SHALL BE MAINTAINED DURING DRY WEATHER CONDITIONS. ANY ACCUMULATED SEDIMENTS SHALL BE VACUUMED OUT WHEN SEDIMENT HAS REACHED 1/2 (ONE–HALF) THE CAPACITY OF THE ISOLATED SUMP, OR WHEN AN APPRECIABLE LEVEL OF HYDROCARBONS AND TRASH HAS ACCUMULATED, WHICHEVER OCCURS FIRST. WHEN THE SEDIMENT PILE IS WITHIN 30 TO 36 INCHES OF THE WATER SURFACE, THE SYSTEM SHOULD BE MAINTAINED. A VACUUM TRUCK SHALL BE USED TO REMOVE THE ACCUMULATED SEDIMENT AND DEBRIS. REFER TO MANUFACTURER'S LITERATURE FOR DETAILED MAINTENANCE INSTRUCTIONS.
STORMWATER PLANTER	UPON COMPLETION OF CONSTRUCTION: –TWICE IN THE FIRST SIX(6) MONTHS & AFTER EACH STORM EVENT GREATER THAN 0.5–INCHES AFTER FIRST YEAR: –EVERY FOUR (4) MONTHS THEREAFTER & AFTER STORM EVENTS GREATER THAN THE 1–YEAR STORM	ROUTINE MAINTENANCE ACTIVITIES INCLUDE PRUNING AND REPLACING DEAD OR DYING VEGETATION, PLANT THINNING, AND EROSION REPAIR. SINCE STORMWATER PLANTERS ARE NOT TYPICALLY PRECEDED BY PRE–TREATMENT PRACTICES, THE SOIL SURFACE SHOULD BE INSPECTED FOR EVIDENCE OF SEDIMENT BUILD–UP FROM THE CONNECTED IMPERVIOUS SURFACE AND FOR SURFACE PONDING. ATTENTION SHOULD BE PAID TO ADDITIONAL SEASONAL MAINTENANCE NEEDS AS WELL AS THE FIRST GROWING SEASON.

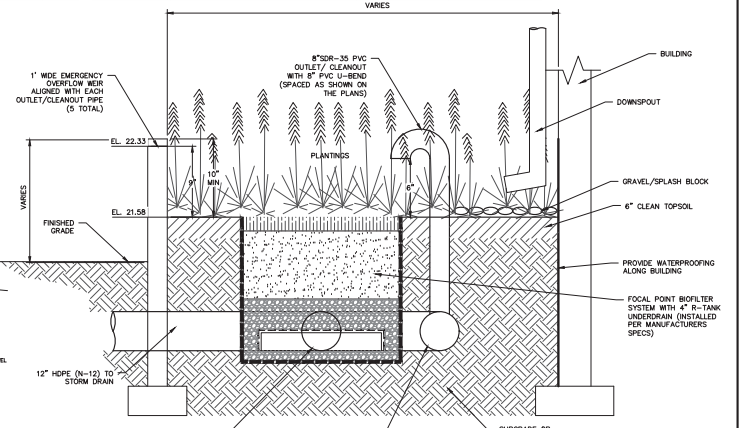
- DURING CONSTRUCTION, THE PARTY RESPONSIBLE FOR IMPLEMENTING THE TEMPORARY (DURING CONSTRUCTION) STORMWATER MANAGEMENT FACILITIES MAINTENANCE PROGRAM WILL BE THE CONTRACTOR. THE NAME AND CONTACT INFORMATION WILL BE FILED WITH THE TOWN OF THE TOWN AND THE NYSDEC AT THE TIME OF THE PRE–CONSTRUCTION MEETING. THE PERMANENT MAINTENANCE PROGRAM FOR ALL NEW STORMWATER MANAGEMENT FACILITIES WILL BE MANAGED BY THE INDIVIDUAL HOMEOWNERS UPON COMPLETION OF CONSTRUCTION AND ACCEPTANCE OF THE IMPROVEMENTS.

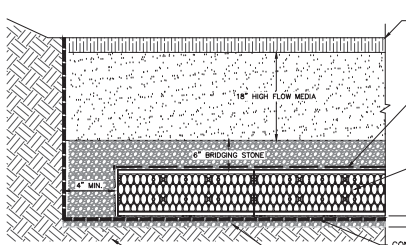


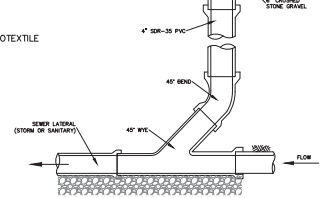












NOTES (SANITARY SEWER SERVICES):
1. ALL SANITARY SEWER SERVICES TO BE 6"ø SDR–35 @ 1.0% MINIMUM.
2. IN ACCORDANCE WITH THE NYS RESIDENTIAL BUILDING CODE, THE FOLLOWING REQUIREMENTS APPLY:
   A. CLEANOUTS SHALL BE INSTALLED NOT MORE THAN 100 FEET APART IN HORIZONTAL DRAINAGE LINES (P3005.2.2).
   B. CLEANOUTS SHALL BE INSTALLED AT EACH CHANGE OF DIRECTION OF THE DRAINAGE SYSTEM GREATER THAN 45 DEGREES.
   C. CLEANOUTS SHALL BE INSTALLED SO THAT THE CLEANOUT OPENS TO ALLOW CLEANING IN THE DIRECTION OF THE FLOW OF THE DRAINAGE LINE (P3005.2.6).

NOTES (STORM SEWER):
1. REFER TO PLAN FOR SPECIFIC PIPE SIZING AND SLOPE SPECIFICATIONS; HOWEVER, IN GENERAL, ALL STORM SEWER SERVICES TO BE 6" ø SDR–35 @ 1.0% MINIMUM.
2. CLEANOUTS SHALL BE PLACED BEFORE SIGNIFICANT PIPE BEND LOCATIONS (I.E., JUNCTIONS, 90–DEGREE BENDS, ETC.) UNLESS A ROOF LEADER DOWNSPOUT CONNECTION IS PROPOSED.

No.	Revisions/ Description	Date
1.	REVISED PER TOWN COMMENTS	9-27-18

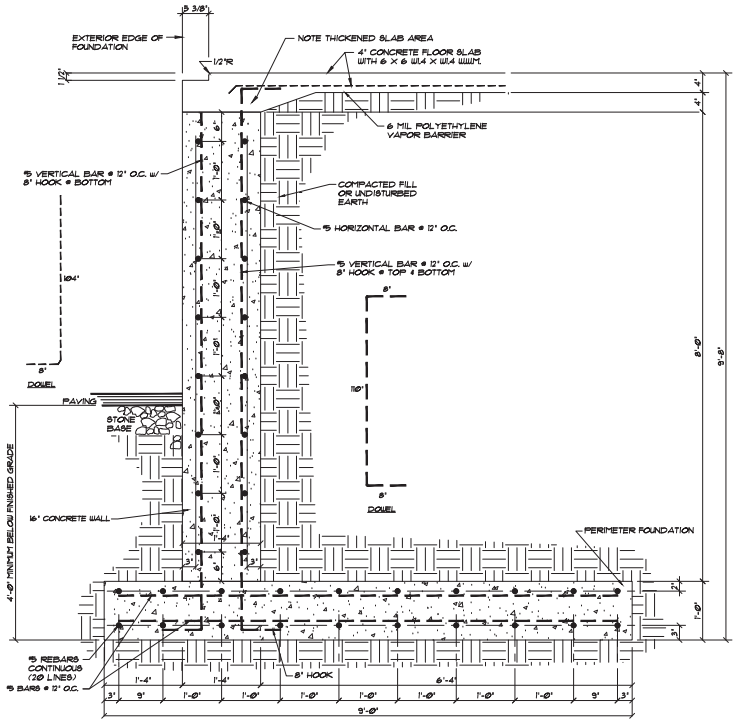
THIS PLAN NOT TO BE USED FOR CONSTRUCTION WITHOUT ENGINEERS SEAL & SIGNATURE

PROJECT:
SELF STORAGE BUILDING ADDITION
560 FENIMORE ROAD
VILLAGE OF MAMARONECK
WESTCHESTER COUNTY – NEW YORK

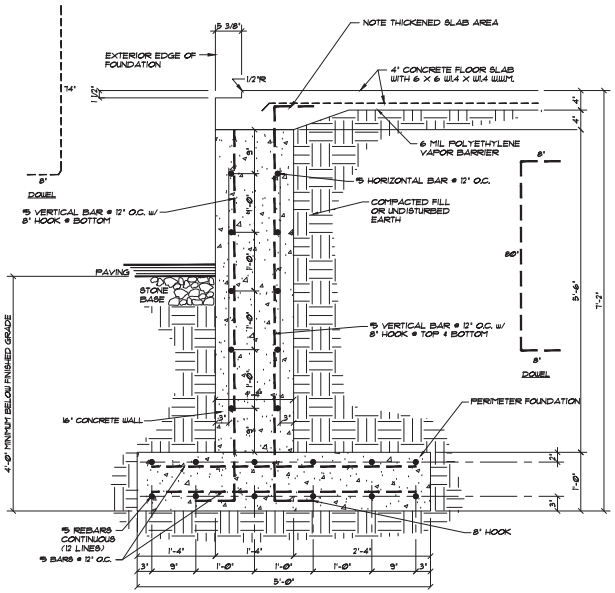
SITE DETAILS

HEC
HUDSON ENGINEERING & CONSULTING, P.C.
45 Knollwood Road – Suite 201
Elmsford, New York 10523
T 914-909-0420
F 914-592-2098

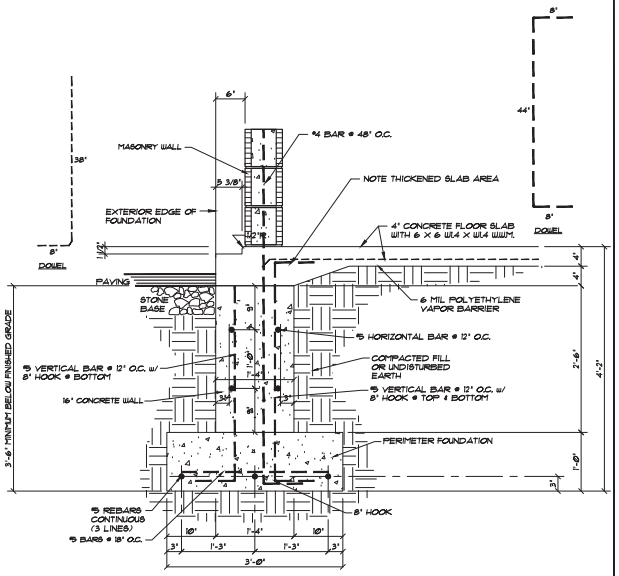
Date: 2/8/18 Sheet: 7
Scale: 1" = 20'
Designed By: D.C.
Checked By: M.S.
Sheet No. C-7



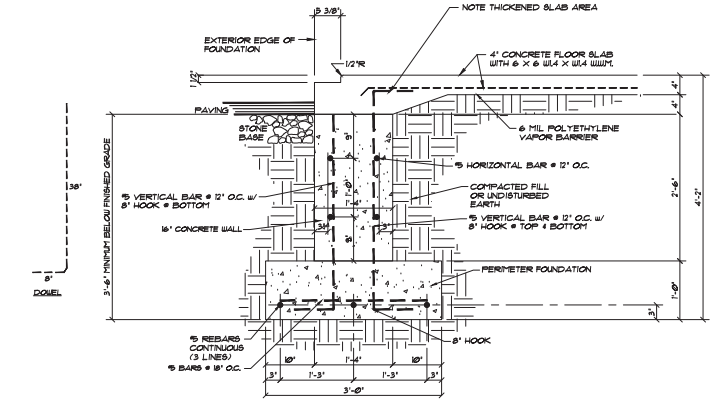
E / F5 PERIMETER FOUNDATION SECTION
NOT TO SCALE



D / F5 PERIMETER FOUNDATION SECTION
NOT TO SCALE



C / F5 PERIMETER FOUNDATION SECTION
NOT TO SCALE



A / F5 PERIMETER FOUNDATION SECTION
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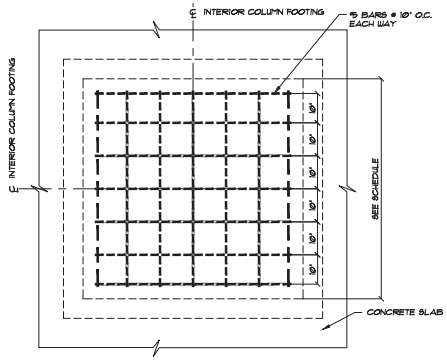
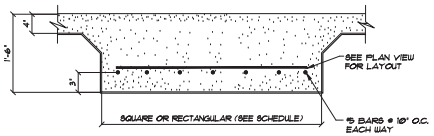


B / F5 STEEL LAYOUT PLAN SQUARE/RECTANGULAR INTERIOR COLUMN FOOTING
NOT TO SCALE

FOOTING SCHEDULE	
ID	SIZE
F4	4'-0" x 4'-0"
F5	5'-0" x 5'-0"
F7	7'-0" x 7'-0"



SECTION @ FOOTING

REVISIONS	DATE	BY

DATE: 5/15/14
DRAWN BY: J. MORRISON
SCALE: AS NOTED
APPROVED BY:

BETCO
P.O. BOX 1650
STATESVILLE, NC 28687
(800)654-7813

PROJECT NAME: MAMARONECK SELF STORAGE
PROJECT ADDRESS: MAMARONECK, NEW YORK
OWNER: MAMARONECK SELF STORAGE, LLC.
PROJECT NO.: NY14056
SHEET TITLE: FOUNDATION DETAILS BUILDING "1"
DRAWING NUMBER: F5 of 10

APPENDIX 2

Alternative to Truck Washing Station

APPENDIX 2

416 Waverly Avenue
Mamaroneck, New York

Excavation Work Plan
Truck Cleaning and Inspection Station

January 2019

The site excavation activities are planned following Town approval of the Application for the proposed building expansion. The following truck cleaning and maintenance plan is proposed during all Site excavation and cleanup activities as an alternative to a Truck Washing Station:

- Installation and maintenance of two stabilized construction entrances at the Site entry and exit points.

- Two truck access points will be installed on the west and north ends of the Site so that truck access will be feasible from two sides of the Site.

- Placement of a full-time gatekeeper at the Site to control truck entry and departure from the Site. The gatekeeper will be a competent person, OSHA HAZWOPER trained and experienced in construction, excavation and dump trailer operation. The gatekeeper will be responsible for ensuring that no truck leaves the Site with excavated soil from the Site on any part of the truck exterior.

- After each truck is loaded by the on-Site excavator, the gatekeeper will visually inspect the entire truck on the temporary access driveway or the stabilized construction entrance for the presence of fugitive soil before the truck leaves the Site. If soil is observed anywhere on the truck exterior, the material will be removed using a bristle broom or other hand tools to the satisfaction of the gatekeeper. The driveway and stabilized construction entrance will also be kept free of loose excavated material through maintenance with a shovel and broom. Polyethylene sheeting may be used to shroud the side of the truck that is being loaded. The sheeting will prevent fugitive soil from accumulating on the dump trailer exterior.

- Prior to departure and signing the soil manifests, the on-Site geologist or environmental scientist will visually observe each truck for the presence of

spillage on the truck exterior and, if present, will require that it be swept and removed.

- An on-Site water source will be maintained on standby at all times in case trucks need to be spot-washed to ensure that no soil from the Site leaves the designated loading and on-Site truck staging inspection area. Whenever required, a water and Alconox solution will be used to clean the trucks.

- If the above-outlined alternative truck cleaning plan is not effective at ensuring soil from the excavation area does not get tracked off-Site, then the Contractor shall be prepared to implement a full-blown truck washing station.

Site Remediation Database Search Results

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Environmental Site Remediation Database Search Details

Site Record

Administrative Information

Site Name: Former EMCA Site
Site Code: 360025
Program: State Superfund Program
Classification: 04
EPA ID Number:

Location

DEC Region: 3
Address: 605 Center Avenue and 604 Fayette Avenue
City: Mamaroneck Zip: 10543
County: Westchester
Latitude: 40.94879459
Longitude: -73.74587053
Site Type: STRUCTURE
Estimated Size: 0.344 Acres

Institutional And Engineering Controls

Control Type:
Environmental Easement

Control Elements:
Ground Water Use Restriction
Landuse Restriction
Monitoring Plan
Site Management Plan
IC/EC Plan

Site Owner(s) and Operator(s)

Current Owner Name: Altice - USA
Current Owner(s) Address: 1111 Stewart Avenue
Bethpage,NY, 11714-3581
Owner(s) during disposal: The Dow Chemical Company
Current On-Site Operator: EMCA
Stated Operator(s) Address: 605 Center Ave. & 604 Fayette Avenue
Mamaroneck,NY 10543
Current On-Site Operator: EMCA/SUB ROHM & HAAS/SUB THE DOW CHEM. CO.
Stated Operator(s) Address:
PHILADELPHIA,PA