

2016 MAY 20 PM 3: 08

To: Land Use Committee of the City of Newton Board of Aldermen

David A. Olson, CMC
Newton, MA 02459

From: Lou Mercuri, Planning Horizons

Re: 255-257 Newtonville Avenue Storage Facility

Date: September 21, 2015

On behalf of the petitioner for this land use petition, Planning Horizons is submitting this report regarding the supporting customer count surveys for the proposed self storage facility location at 255-257 Newtonville Avenue in Newtonville.

Project Overview

Storage Development Partners LLC is proposing to locate a 113,187 square foot self storage facility with 1025 storage units at 255-257 Newtonville Avenue in Newtonville. This location on 75,634 square feet of land is currently occupied by an office building that would be razed to allow the storage facility to be constructed. The facility would be available to its clients 24 hours a day and it is expected that no more than four employees would be employed on the largest shift. Situated in a manufacturing district, storage facilities are allowed by right in this district. However, per Section 30-19 (1)(15) of the zoning ordinance permission is being sought to grant a 36-stall parking waiver for the facility. One stall for each of the four employees and one stall for every 2500 square feet of proposed floor area are required under the ordinance. Therefore, 47 stalls are required for the project. However, 11 stalls are being provided on the site which reduces the parking requirement to a total of 36 stalls (47-11) for this development. Other forms of zoning relief are being sought under this petition; however this report focuses on the likely customer usage of the site based on the activity of similar nearby facilities.

Planning Horizons was asked to establish the likely customer/client demand for this storage facility based on peak usage at other similar storage facilities. Two nearby storage facilities were identified for this purpose. Public Storage at 945 Moody Street in Waltham and EZ Storage at 300 Needham Street in Newton were surveyed at different times and the results of these customer surveys are the main topic of this report.

Existing Conditions

The entire 75,634 square foot parcel with the existing office building will be razed and replaced with the 113,187 square foot, 3-story storage facility. The area is along the westbound side of Newtonville Avenue just west of Lewis Terrace. The Massachusetts Turnpike to the north borders the property. There is a mix of residential, industrial, and office uses in the area and the site is bordered by primarily residential properties along Newtonville Avenue. Vehicular access to the site is entirely from Newtonville Avenue.

Public Storage and EZ Storage Customer Counts Methodology and Results Methodology

Since a storage facility of this size would be entirely new to the area, the best way to assess and evaluate the potential impact of the number of customers and clients using the site is to carefully review the activity at comparable storage facilities. For this purpose, two storage facilities in the Newton area were identified and extensive usage surveys were conducted at the end of August and the beginning of September 2015. The two surveyed facilities are:

1. Public Storage, 945 Moody Street in Waltham (just past Rumford Avenue – half the site is in Newton and the other half is in Waltham), a 117,500 square foot building with 1015 storage units that was permitted in 2010.
2. EZ Storage, 300 Needham Street in Newton, a 170,000 square foot building with approximately 1400 storage units that was constructed in 2006.

Planning Horizons surveyed each of these facilities on three different occasions for a total of six one-hour constant observations for customer traffic. The goal was to identify the days and times of the week that would most closely represent the peak usage at these facilities which would closely translate to possible peak usage at the Newtonville Avenue facility.

Three surveys were conducted at each location and the overall mix was two morning weekday counts, two late afternoon weekday counts, and two counts on a Saturday, one in the morning and one at midday. The Public Storage counts on Moody Street were conducted on Friday August 29, Tuesday September 1 and Saturday September 5. The EZ Storage counts on Needham Street were conducted on Tuesday September 1, Friday September 4, and Saturday September 5. Observations were conducted from nearby parking areas so as not to conflict with the operation of the facilities. Customers were counted individually upon entering the location by vehicle and the data was recorded in 15-minute intervals.

It is important to note that storage facilities have peak periods during certain times for the year as well. These peak periods typically correspond with when college students begin or end classes and when people change residences and need to accommodate their moves. Therefore, the most widely used periods are either in May-June or between mid-August and mid-September. Our surveys captured this late summer peak period on peak “moving” days so the customer counts described below likely represent potential peak traffic at the proposed Newtonville Avenue facility at any time of the year.

Results of Customer Counts

The following charts provide the specific detail of the customer counts at both locations between August 28 and September 5:

2. EZ Storage, 300 Needham Street, Newton

Date: Tuesday, September 1, 2015 Time: 9:00 AM – 10:00 AM 75°, Sunny	
	# Customers entering site
9:00-9:15	2
9:15-9:30	3
9:30-9:45	0
9:45-10:00	2
TOTAL	7

Date: Friday, September 4, 2015 Time: 4:15 PM – 5:15 PM 75°, Sunny	
	# Customers entering site
4:15-4:30	3
4:30-4:45	4
4:45-5:00	1
5:00-5:15	2
TOTAL	10

Date: Saturday, September 5, 2015 Time: 11:45 AM – 12:45 AM 75°, Sunny	
	# Customers entering site
11:45-12:00	0
12:00-12:15	2
12:15-12:30	3
12:30-12:45	3
TOTAL	8

3-hour site average: 8.3 trips per hour

The actual customer data reveals several points. First, the total number of customer trips to both sites during the six hours of observations was 50. This equates to 8.3 trips per hour or roughly one vehicle entering the site every seven minutes. If both entering and exiting trips are factored in, the projected number of two trips is 16.6 per hour or one trip every 3.6 minutes. Second, the 15-minute intervals reveal a range of between 0 and 4 entering trips during the 24 surveyed intervals. This reveals that

1. Public Storage, 945 Moody Street, Waltham

Date: Friday, August 28, 2015 Time: 9:00 AM – 10:00 AM 70° , Sunny	
	# Customers entering site
9:00-9:15	2
9:15-9:30	0
9:30-9:45	2
9:45-10:00	3
TOTAL	7

Date: Tuesday, September 1, 2015 Time: 4:00 PM – 5:00 PM 85° , Sunny	
	# Customers entering site
4:00-4:15	4
4:15-4:30	3
4:30-4:45	3
4:45-5:00	1
TOTAL	11

Date: Saturday, September 5, 2015 Time: 9:00 AM – 10:00 AM 65° , Sunny	
	# Customers entering site
9:00-9:15	1
9:15-9:30	2
9:30-9:45	2
9:45-10:00	2
TOTAL	7

3-hour site average: 8.3 trips per hour

traffic to the storage facilities (even at peak times) is relatively small and steady regardless of the day and time.

The size of both storage facilities can be factored in to the proposed Newtonville Avenue site. Public Storage on Moody Street in Waltham is very comparable in both the total building square footage and in terms of the number of units. Public Storage is 117,500 gross square feet with 1015 storage units. The proposed facility on Newtonville Avenue would have 113,187 gross square feet with approximately 1025 storage units. Public Storage generated an average of 8.3 one-way trips to the site per hour and considering its overall size, is nearly identical to the current proposal. An upper limit estimate of 8.3 trips per hour is therefore valid.

The EZ Storage site on Needham Street in Newton is considerably larger with 170,000 gross square feet of space (vs. 113,187 square feet for the proposed site) and 1400 storage units (vs. 1025 for the proposed site). In spite of this differential, the EZ Storage site generated the same number of vehicle trips (8.3 trips per hour) as its smaller competitor on Moody Street in Waltham. This data suggests that larger storage facilities generate approximately the same levels of traffic and further studies would be needed to determine if there are reasons for this expected outcome.

Finally, the timing of the late August to Early September customer counts coincides with the perceived peak times of year for storage facilities. Therefore, the observed data points in this study *likely truly* reflect what might be expected at peak times at the Newtonville Avenue site.

Summary and Conclusion

The proposed storage facility at 255-257 Newtonville Avenue is a relatively low traffic generator when compared with office or residential uses of a similar scale. Our study of two comparably sized storage facilities reveals an average trip rate of 8.3 trips per hour to each site. This figure works out to one trip to the site approximately every seven minutes, even during peak periods. During off-peak hours, the number of trips to the site will be far less, or almost non-existent. By providing 11 onsite parking spaces, the needs of customers/clients can be easily met. Therefore, the parking waiver request of 36 spaces relates to a theoretical number assigned to storage facilities rather than a number related to actual need for this specific use.

Planning Horizons

781-373-1375

502 South Avenue, Weston, MA 02493

Newton City Clerk

2016 MAY 20 PM 3: 08

David A. Olson, CMC
Newton, MA 02459

To: Land Use Committee of the Newton City Council

From: Lou Mercuri, Planning Horizons

Re: 255-257 Newtonville Avenue

Date: May 16, 2016

On behalf of the petitioner for this land use petition, Planning Horizons is submitting this supplemental report regarding the supporting vehicle trip surveys for the proposed self storage facility location at 255-257 Newtonville Avenue in Newtonville.

At the May 3 public hearing, requests were made by the Council to undertake additional traffic counts and Planning Horizons conducted both onsite and comparable facility counts between May 6 and May 11, 2016. Our original detailed report dated September 21, 2015 to the Council will be referenced in this report; in particular, the data from earlier counts in August and September 2015 will be noted. Other sections of that report, including project overview, existing conditions, and survey methodology remain the same and will generally not be reproduced here.

A total of 6 additional hours of vehicle trips to Public Storage at 945 Moody Street in Waltham and EZ Storage at 300 Needham Street in Newton were recently generated. In addition, for comparison purposes, 5 hours of survey observations were conducted on May 6 and May 9 at the proposed site at 255-257 Newtonville Avenue, which currently houses a landscape business and a separate nonprofit organization known as Waypoint Adventures that serves people with disabilities.

The following summarizes all of the traffic/customer count surveys conducted to date:

1. Public Storage, 945 Moody Street, Waltham – 1015 storage units; a total of 6 hours of surveys, 3 separate 1-hour counts in August and September 2015 and one consecutive 3-hour count on Tuesday, May 10, 2016.
2. EZ Storage, 300 Needham Street, Newton – 1400 storage units; a total of 6 hours of surveys, 3 separate 1-hour counts in August and September 2015 and one consecutive 3-hour count on Wednesday, May 11, 2016.
3. 255-257 Newtonville Avenue – existing site with a landscape business and Waypoint Adventures; a total of 5 hours of surveys on May 6 and May 9, 2016.

Results of Counts/Surveys

The following data compiled in chart form identifies the results of the counts/surveys from the most recent to the previous surveys conducted in 2015. In the May 2016 counts, it was decided to capture a

morning peak time of 3 hours at one facility and an afternoon peak time of 3 hours at the other storage facility. Both morning and afternoon peak hour surveys were conducted at 255-257 Newtonville Avenue.

1. Public Storage, 945 Moody Street, Waltham

Date: Tuesday, May 10, 2016 Time: 7:30 AM – 10:30 AM 50° , Sunny			
	# vehicles entering site	# vehicles exiting site	# trucks/vans entering site
7:30-7:45	0	1	0
7:45-8:00	2	1	0
8:00-8:15	0	1	0
8:15-8:30	1	0	0
8:30-8:45	1	1	1
8:45-9:00	0	1	0
9:00-9:15	1	0	0
9:15-9:30	1	1	0
9:30-9:45	0	1	0
9:45-10:00	0	0	0
10:00-10:15	0	0	0
10:13-10:30	1	1	0
TOTAL (2.3 per hour)	7	8	1

Date: Friday, August 28, 2015 Time: 9:00 AM – 10:00 AM 70° , Sunny	
	# vehicles entering site
9:00-9:15	2
9:15-9:30	0
9:30-9:45	2
9:45-10:00	3
TOTAL	7

Date: Tuesday, September 1, 2015 Time: 4:00 PM – 5:00 PM 85° , Sunny	
	# vehicles entering site
4:00-4:15	4
4:15-4:30	3
4:30-4:45	3
4:45-5:00	1
TOTAL	11

Date: Saturday, September 5, 2015 Time: 9:00 AM – 10:00 AM 65° , Sunny	
	# vehicles entering site
9:00-9:15	1
9:15-9:30	2
9:30-9:45	2
9:45-10:00	2
TOTAL	7

Results for Public Storage, 945 Moody Street, Waltham: 6-hour site average: 5.3 vehicle trips entering per hour

2. EZ Storage, 300 Needham Street, Newton

Date: Wednesday, May 11, 2016 Time: 2:45 PM – 5:45 PM 75° , Sunny		
	# vehicles entering site*	# trucks/vans entering site
2:45-3:00	1	0
3:00-3:15	0	0
3:15-3:30	1	0
3:30-3:45	1	0
3:45-4:00	1	1
4:00-4:15	2	0
4:15-4:30	1	1
4:30-4:45	0	0
4:45-5:00	3	1
5:00-5:15	3	1
5:15-5:30	1	0
5:30-5:45	1	0
TOTAL (5.0 per hour)	15	4

* It was not possible to survey vehicles exiting the site at this location since both the site entrance and site exit could not be viewed simultaneously.

Date: Tuesday, September 1, 2015 Time: 9:00 AM – 10:00 AM 75° , Sunny	
	# vehicles entering site
9:00-9:15	2
9:15-9:30	3
9:30-9:45	0
9:45-10:00	2
TOTAL	7

Date: Friday, September 4, 2015 Time: 4:15 PM – 5:15 PM 75° , Sunny	
	# vehicles entering site
4:15-4:30	3
4:30-4:45	4
4:45-5:00	1
5:00-5:15	2
TOTAL	10

Date: Saturday, September 5, 2015 Time: 11:45 AM – 12:45 AM 75° , Sunny	
	# vehicles entering site
11:45-12:00	0
12:00-12:15	2
12:15-12:30	3
12:30-12:45	3
TOTAL	8

Results for EZ Storage, 300 Needham Street, Newton: 6-hour site average: 6.7 vehicle trips entering per hour

3. Current site, 255-257 Newtonville Avenue, landscaping business and non-profit organization (Waypoint Adventures)

Date: Friday, May 6, 2016 Time: 1:30 PM – 3:30 PM 55° , Cloudy			
	# vehicles entering site	# vehicles exiting site	# trucks/vans entering site
1:30-1:45	2	0	1
1:45-2:00	4	2	0
2:00-2:15	1	1	0
2:15-2:30	2	1	1
2:30-2:45	2	1	1
2:45-3:00	0	2	0
3:00-3:15	2	0	0
3:15-3:30	1	0	0
TOTAL	14	7	3

Date: Monday, May 9, 2016 Time: 3:30 PM – 4:30 PM 65° , Sunny			
	# vehicles entering site	# vehicles exiting site	# trucks/vans entering site
3:30-3:45	2	3	0
3:45-4:00	0	0	0
4:00-4:15	3	0	3
4:15-4:30	1	0	0
TOTAL	6	3	3

Date: Monday, May 9, 2016 Time: 7:30 AM – 9:30 AM 55° , Partly Sunny			
	# vehicles entering site	# vehicles exiting site	# trucks/vans entering site
7:30-7:45	0	1	0
7:45-8:00	2	2	2
8:00-8:15	1	0	0
8:15-8:30	1	1	1
8:30-8:45	1	2	1
8:45-9:00	1	1	0
9:00-9:15	1	0	0
9:15-9:30	1	0	1
TOTAL	8	7	5

Results for current Site: 5-hour site average: 5.6 vehicle trips entering per hour

Combining the data from both 2015 and 2016 for the two comparable storage facilities reveals several points. First, the total number of vehicle trips to both sites during the 12 hours of observations was 72. This equates to 6.0 trips per hour or roughly one vehicle entering the site every 10 minutes. If both entering and exiting trips are factored in, the projected number of two trips is 12.0 per hour or one trip every 5.0 minutes. Second, the 15-minute intervals reveal a range of between 0 and 4 entering trips during the 48 surveyed intervals. This reveals that traffic to the storage facilities (even at peak times) is relatively small and steady regardless of the day and time.

The 2015 report highlighted that the perceived peak time of year for self storage facilities occurs in late August and early September, coinciding with the start of the college academic year. Our recent surveys revealed that this perception has validity, as the August/September 2015 counts showed 8.3 vehicles per hour entering both facilities whereas in May 2016 it was just 3.7 vehicles entering per hour, using an equal number of surveyed hours (6) at peak times. Based on the observed data points, it is likely that no more than 8 vehicles per peak hour would enter the site at the peak time of year.

The size of both storage facilities can be factored in to the proposed Newtonville Avenue site. Public Storage on Moody Street in Waltham is very comparable in both the total building square footage and in terms of the number of units. Public Storage is 117,500 gross square feet with 1015 storage units. The proposed facility on Newtonville Avenue would have 113,187 gross square feet with 1025 storage units. Public Storage generated an average of 5.3 one-way trips to the site per hour when combining both the 2015 and 2016 surveys. The figure was 8.3 trips per hour in August/September 2015 and 2.3 in May 2016 at Public Storage. An upper limit estimate of approximately 8 trips per hour at the peak time of year is therefore a reasonable expectation for 255-257 Newtonville Avenue.

Using the May 2016 data recorded for the current landscaping business and non-profit office use, there are on average 5.6 vehicle trips entering the site during the 5 peak hours surveyed. This is very close to the overall 6.0 trips for both storage facilities using all of the surveys (12 hours) from 2015 and May 2016. If all of the counts (both on site and at comparable storage facilities) from only the May 2016 counts are compared, it is important to note that the two comparable storage facilities generated an average of 3.7 trips per hour whereas the present uses produced an even higher average of 5.6 trips per hour. It must be noted that the current site is underutilized and other possible future land uses whether it be office or other types of commercial or even residential would almost certainly result in a large increase in vehicular trips to the site, well above 5.6 trips per hour.

The number and potentially high percentage of truck trips to a self storage facility was identified as a concern at the May 3 public hearing. The recent May 2016 surveys at the two comparable facilities made note of the number of truck and van trips to the sites. Of the 22 vehicle trips to both sites recorded in the 6 hours of observations, a total of 5 trucks and vans or just 22.7% of the trips to both sites originated by truck, the rest were smaller passenger vehicles accessing the site.

Summary and Conclusion

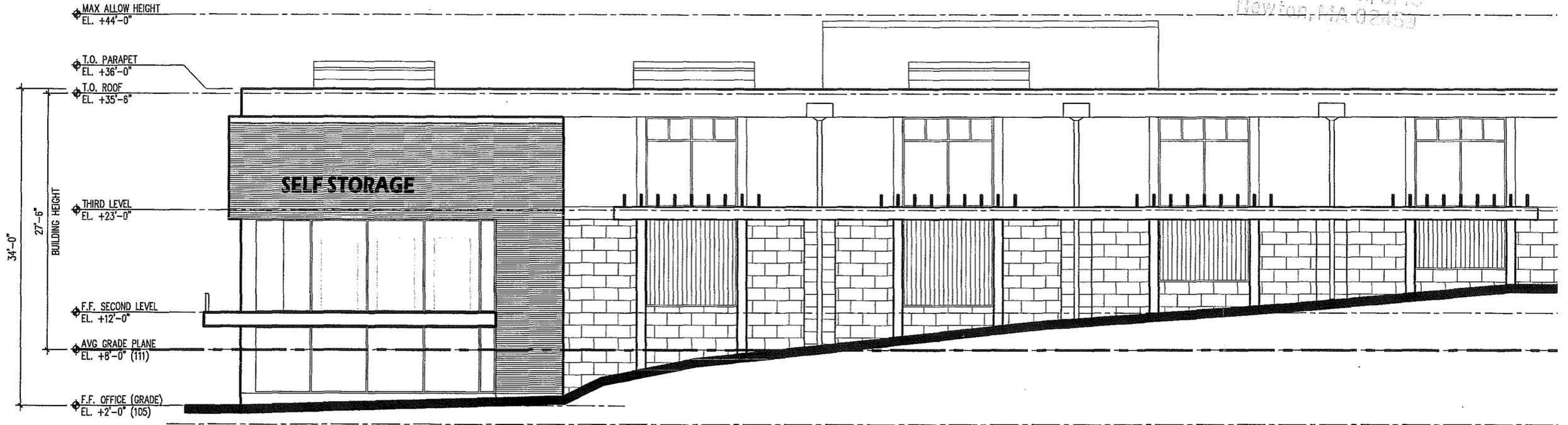
The proposed self-storage facility at 255-257 Newtonville Avenue is a relatively low traffic generator when compared with office or residential uses of a similar scale. Our study of two comparably sized storage facilities reveals an average trip rate of 6.0 trips per hour to each site. This figure works out to one trip to the site approximately every ten minutes, even during peak periods. During off-peak hours, the number of trips to the site will be far less, or almost non-existent. Our May 2016 survey showed the current land use generating 5.6 entering trips per hour, if this is compared with the two comparable storage facilities at the same time period (May 2016) where 3.7 entering trips per hour were observed, then the proposed storage use would generate fewer trips than what is currently being experienced at this time of year. It is important to note that the current site is certainly underutilized compared with potential office, commercial, or residential uses that might occupy it and the larger number of vehicle trips those uses would generate.

The current surveys conducted in May 2016 reinforce the earlier findings in 2015 that the late August-early September timeframe is likely the busiest time of year for facilities of this type. Even at the peak hours of the peak times of year, an overall upper limit of approximately 8 vehicles entering per hour can be expected at the Newtonville site. The data acquired from Public Storage in Waltham is most reliable as that facility and the proposed Newtonville facility are nearly identical in size and number of storage units.

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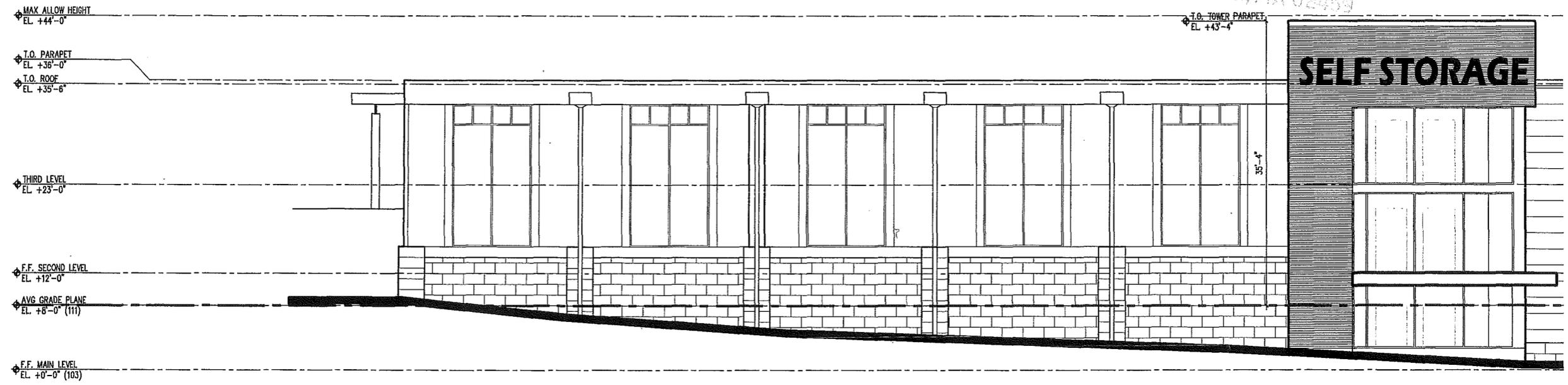


1 EXTERIOR ELEVATION - SOUTH - NEWTONVILLE AVENUE
1/8" = 1'-0"

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Newton, MA 02459

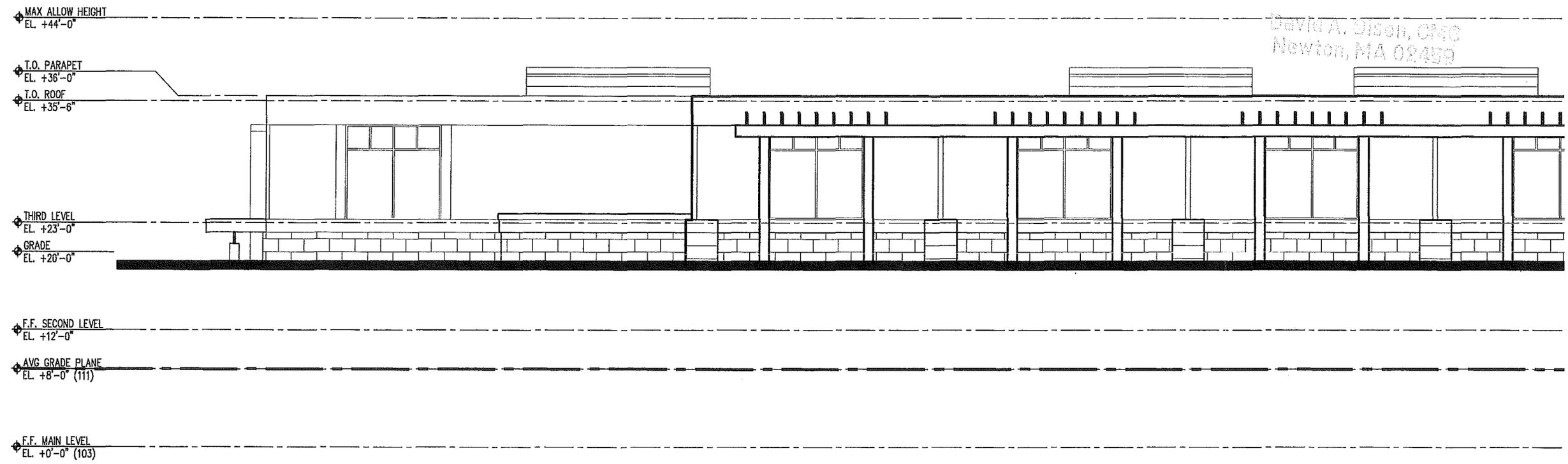


3 EXTERIOR ELEVATION - NORTH - MASSACHUSETTS TURNPIKE
1/8" = 1'-0"

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Newton, MA 02459



2 EXTERIOR ELEVATION - EAST - LEWIS TERRACE
1/8" = 1'-0"

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BARBARA D. DALLIS
PAUL N. BELL
KATHERINE BRAUCHER ADAMS
JULIA V. WILDE
FRANKLIN J. SCHWARZER
RACHAEL C. CARVER

David A. Olson, Esq.
Newton, MA 02459
TELEPHONE (617) 965-3500
FACSIMILE (617) 965-6824
OF COUNSEL
ROBIN GORENBERG

May 20, 2016

Marc C. Laredo
Chairman, Land Use Committee
City Council
City of Newton
1000 Commonwealth Avenue
Newton, MA 02459

Re: 255 Newtonville Ave. Docket #48-16

Dear Chairman Laredo;

At the continued public hearing on May 3 Councilors asked questions of the petitioner for responses at your meeting of May 24. I hope that we have that information for you.

Traffic Generation

Councilor Schwartz asked about statistics of traffic generation. Attached as **Exhibit A-1** today is the analysis previously provided by Planning Horizons from data in late August and early September last year which we expected to be the busiest week for the existing storage facilities on Lexington Street and Needham Street. Attached as **Exhibit A-2** is a supplemental report of data taken in May, 2016 of a more typical time period. That report also includes data of the existing use of the property. In summary:

- The August/September data was taken at the 2 other facilities on 3 days each. The May data was taken at both facilities and at the current site on 3 days.
- Six hours of May observation at 2 facilities showed a total of 22 vehicles entering the storage sites. Six hours of observation at 255-257 Newtonville Ave. showed a total of 28 vehicles entering the site.
- The August/September data showed a peak hour/peak day of the year traffic generation at 8.3 vehicles per hour entering. In May the vehicles entering in the peak hour were 3.7 per hour, confirming that the rates were highest around the end of August.
- The average for the Moody Street facility which is the same size as proposed for Newtonville Ave was 5.3 one way trips per hour combining the 2015 and

Marc C. Laredo
May 20, 2016

2016 figures. The current uses of the property as office and landscaping with vacant space is 5.6 one way trips per hour. This supports the petitioner's position that **the proposed traffic from the storage facility over a year will be less than the current traffic from the site.**

Building Height

President Lennon asked about the building height. I noted at the hearing that our prior height calculation had included the tower which is appropriately not counted in height as a "Tower(s) spires, domes and ornamental feature(s)". Attached as **Exhibits B-1 and B-2** are elevations above grade plane showing average grade plane at 111' (+8) and the height to roof at +35' 6" for a building height according to the Zoning Ordinance of 27' 6". The Manufacturing District allows buildings of 24' as of right, so the special permit sought is for 3' 6".

Lighting

Councilors Crossley and Schwartz asked about site lighting along Lewis Terrace. The plans as submitted did not propose site lighting as there are 2 street lights on Lewis Terrace. On further thought the petitioner has submitted a plan attached as **Exhibit C** showing low level lighting attached to the building for security and building enhancement.

Test Fit

At the hearing I suggested that because of the way the Zoning Ordinance works the theoretical zoning height of the building and the number of floors counted for zoning purposes could be reduced if more trees were taken down on Lewis Terrace and the building were slid to the East at its current first floor grade. This was not in the nature of a proposal (the petitioner does not want to do this) but in the nature of observation that the true relief sought is less than what appears by application of the Zoning Ordinance.

Councilor Schwartz asked if the building could be constructed as a matter of right by moving it further into the hill. The answer is that it cannot be built as of right at least because:

- Section 4.3.1 B. 1 provides that a special permit is required for any development in the Manufacturing District of 20,000 square feet or more.
- A parking waiver is likely to be needed unless parking is placed on the roof.

However, the substance of the concept remains. Attached as **Exhibit D** is a "test fit" plan which we emphasize is **not a proposal** but intends to show that the relief sought is greater because of the petitioner's efforts to save the trees along Lewis Terrace. On the "test fit" plan:

- The setback from Lewis Terrace is 18' although it could be 15';

Marc C. Laredo
May 20, 2016

- The grade plane is increased to elevation 114.5' with a top of roof at 138.5', so the building height is 24' as allowed of right;
- 2/3 of the bottom floor height is below the grade plane, so the bottom floor is considered a "basement", so the building would be a 2 story building allowed by right;
- Zoning Ordinance Section 1.5.5 B 2 a provides that "Gross floor area shall not include any portion of a basement used for storage, parking or building mechanicals". We have not sought an interpretation of that language, but it certainly could be read that "storage" is "storage", so perhaps the first floor would not be F.A.R. and in that case the "test fit" plan shows the F.A.R. as .97 which is allowed by right.

Again, the purpose of this exercise is to show that the saving of 28 trees along Lewis Terrace and the addition of 22 trees in Habitat Area B along Lewis Terrace causes the building to seek more relief than the exact same building placed along the street line.

Acoustic Report

The Chairman asked for acoustical information. Attached as **Exhibit E** is a report of Tech Environmental dated May 17, 2016. The report concludes that based upon the equipment and baffling specified,

"A less than 3 dBA increase in background sound level is readily achievable with those fan panels and will be imperceptible by people at the Lewis Terrace and Newtonville Avenue residences".

In addition to the issues raised at the public hearing other items have been discussed among parties over the past weeks.

Landscaping

The petitioner has been working diligently with the neighbors to propose a screening plan which will further screen the building from Lewis Terrace. As a result of those efforts we have submitted a revised Landscaping Plan sheet LL1 revised May 19, a copy of which is also enclosed as **Exhibit F**. The plan shows additional evergreen trees in lieu of some deciduous trees and some relocation of the plantings towards the higher elevations to assist in blocking the view.

Site Marking

At your request a marker has been placed at the site at a height of 15' 6" off the proposed grade to show the height of the building at that point. A photo of the marker is attached as **Exhibit G**. Members of the Committee and the community may want to visit the site to get the context.

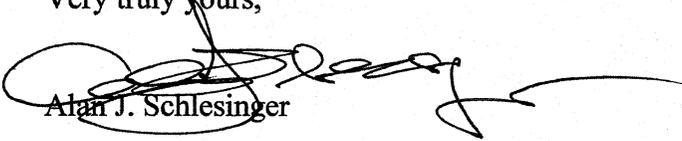
Conditions

Marc C. Laredo
May 20, 2016

In the course of discussions with various parties the petitioners have offered other conditions to the proposed Board Order including:

- A prohibition against truck rentals or rentals of propane cylinders;
- A contribution of \$10,000 as a condition to a building permit to be used either for (i) a study of the intersection of East Side Parkway, Newtonville Ave, Lewis Street and Lewis Terrace or (ii) park equipment for Cabot Park;
- The petitioner will seek approval to plant one tree in the East Side Parkway "island" and two trees in City land at the intersection of Lewis Terrace and Newtonville Ave, in both cases in locations chosen by the Director of Urban Forestry;
- The petitioner will be required to seek further action of the Council for the proposed relocation of the City sewer line traversing the property;
- The petitioner will not oppose a prohibition against street parking on Newtonville Ave. adjacent to the property

Very truly yours,


Alan J. Schlesinger

AJS:sjk

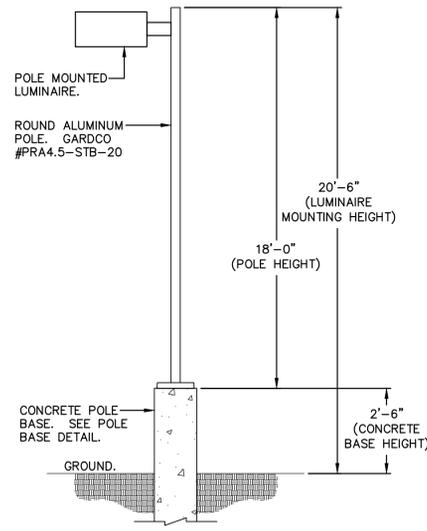
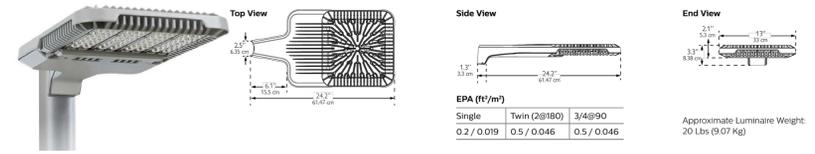
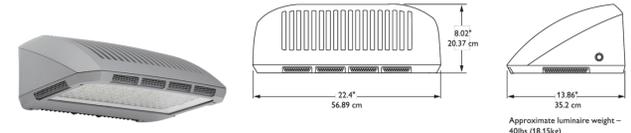
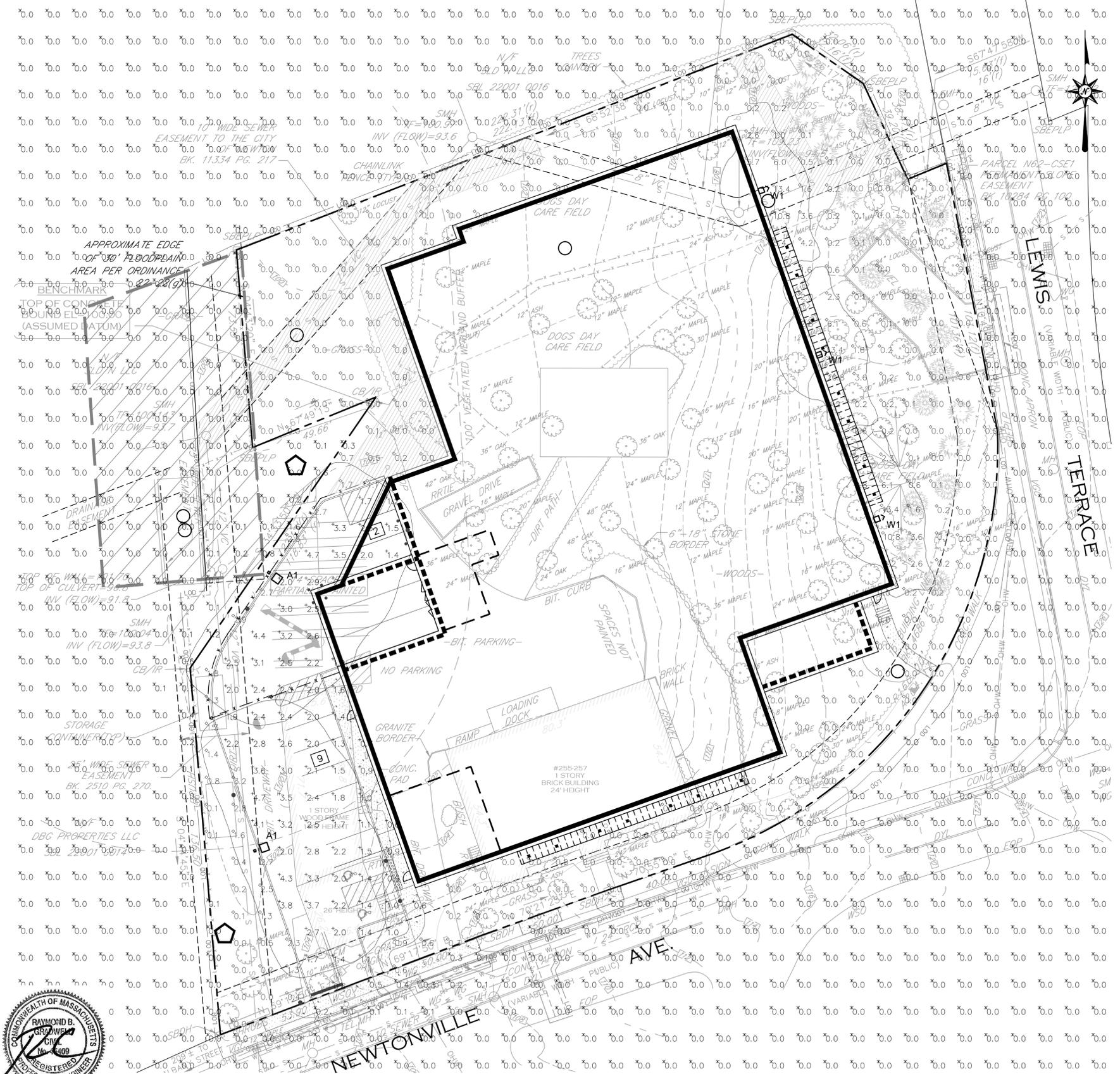
cc: Land Use Committee
Michael Gleba

Luminaire Schedule											
Symbol	Label	Quantity	Manufacturer	Catalog Number	Description	Lamp	Number Lamps	Filename	Lumens Per Lamp	Light Loss Factor	Wattage
□	A1	2	PHILIPS GARDCO	ECF-3-215LA-641A-NW-IS	ECOFORM	(1) LIGHT ARRAY OF 80 LEDs DRIVEN AT 1050mA	1	ECF-3-215LA-641A-NW-ISies	15270.06	0.85	210.9
△	W1	3	PHILIPS GARDCO	161-2-110LA-6453-NW	161 SCONCE WITH TYPE 2 OPTIC AT 530mA	(2) LEDtype 32 LUXEON R NW	1	161-2-110LA-6453-NWies	9565.241	0.85	106.8

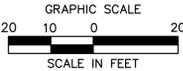
Statistics							
Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min	Avg/Max
Parking Area	+	2.2 fc	4.7 fc	0.6 fc	7.8:1	3.7:1	0.5:1
Spill Area Landscape	◇	0.2 fc	3.2 fc	0.0 fc	N/A	N/A	0.1:1
Spill Area	x	0.0 fc	1.6 fc	0.0 fc	N/A	N/A	0.0:1

LIGHTING NOTES:

1. ALL WORK SHALL BE DONE IN STRICT ACCORDANCE WITH ALL REQUIREMENTS OF ANY LOCAL APPLICABLE CODES OR ORDINANCES, PUBLIC UTILITY COMPANY REGULATIONS, STATE CODE, AND NATIONAL ELECTRICAL CODE WITH INTERIM AMENDMENTS THERETO.
2. ALL MATERIALS SHALL CONFORM TO THE LATEST ISSUE OF ALL APPLICABLE STANDARDS AS ESTABLISHED BY EEL, NEMA, ASTM, IPCEA, NATIONAL BOARD OF FIRE UNDERWRITERS, AND UNDERWRITERS LABORATORIES INC.
3. THE CONTRACTOR SHALL TEST THE LIGHTING AFTER INSTALLATION WITH THE DEVELOPER/OWNER, AND PROVIDE TO DEVELOPER/OWNER WARRANTY AND MAINTENANCE INFORMATION. THE CONTRACTOR SHALL MAKE ADJUSTMENTS AND/OR MODIFICATIONS AS REQUIRED BY THE DEVELOPER/OWNER TO OBTAIN EVEN LIGHT DISTRIBUTION.
4. CONTRACTOR SHALL LEAVE ENTIRE ELECTRICAL SYSTEM INSTALLED BY THE CONTRACTOR IN PROPER WORKING CONDITION AND REPLACE WITHOUT ADDITIONAL CHARGE ALL WORK OR MATERIALS WHICH MAY DEVELOP DEFECTS WITHIN A PERIOD OF ONE (1) YEAR FROM DATE OF FINAL ACCEPTANCE BY THE ENGINEER.
5. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OF ALL PRODUCTS, BASES AND CONDUITS TO SITE ENGINEER FOR REVIEW AND APPROVAL PRIOR TO DELIVERY OF MATERIAL TO SITE. ALLOW A MINIMUM OF 14 WORKING DAYS FOR REVIEW. IF ALTERNATIVE LIGHTING IS PROPOSED SUBMIT A PHOTOMETRIC FOOT-CANDLE LAYOUT ALONG WITH ANNUAL MAINTENANCE REQUIREMENTS AND ANTICIPATED COSTS.
6. LIGHTS ARE DESIGNED TO PROVIDE EVEN LEVELS OF ILLUMINATION AND AVOID GLARE ONTO NEIGHBORING PROPERTIES. FINAL DESIGN MAY VARY PENDING MANUFACTURER'S RECOMMENDATIONS.
7. ALL LIGHTING CONTROLS, PANELS, CIRCUIT BREAKERS ETC. ARE TO BE PROVIDED UNDER A SEPARATE CONTRACT BY BUILDING CONTRACTOR. CAREFUL COORDINATION IS REQUIRED BETWEEN SITE CONTRACTOR AND BUILDING CONTRACTOR TO PROVIDE A COMPLETE INSTALLATION FOR SITE LIGHTING.
8. THE CONTRACTOR WILL PROVIDE AND INSTALL ALL MATERIAL NECESSARY TO COMPLETE THE SITE LIGHTING SYSTEM INCLUDING BUT NOT LIMITED TO CONDUIT, BASES, ANCHOR BOLTS, POLES SITE LIGHTS AND LAMPS. THE CONTRACTOR WILL COORDINATE WIRING AND POWERING OF LIGHTS WITH OWNER, ARCHITECT, AND BUILDING CONTRACTOR IF DIFFERENT FROM THE SITE CONTRACTOR.
9. ALL LIGHTS TO BE AS LISTED IN SCHEDULE OR APPROVED EQUIVALENT. LIGHTS SHALL BE MOUNTED ON SQUARE STRAIGHT STEEL POLES ATOP 36" HIGH CONCRETE BASES THAT ARE SET 2' (CLEAR) BEHIND CURBS. ILLUMINATION ANALYSIS MODELED USING LIGHTING FIXTURES LISTED IN SCHEDULE.
10. LIGHT POLES, AND BRACKETS TO BE AS SHOWN ON DETAILS OR APPROVED EQUIVALENT.
11. WIRE AND CABLE SHALL BE COPPER AND CONFORM TO THE FOLLOWING NEC TYPE THHN/THWN SOLID FOR NO. 12 AND NO. 10, NEC TYPE THHN/THWN STRANDED FOR NO. 8 AND LARGER. RIGID STEEL CONDUIT SHALL BE GALVANIZED. FITTINGS SHALL BE CAST FERROUS MATERIAL WITH A CADMIUM OR ZINC PLATED FINISH.
12. ALL EQUIPMENT SHALL BE GROUNDED AND BONDED IN ACCORDANCE TO NEC.



**FOR PERMITTING PURPOSES ONLY
 NOT RELEASED FOR CONSTRUCTION**



355 Research Parkway
 Meriden, CT 06450
 (203) 630-1406
 (203) 630-2615 Fax

PROPOSED SELF STORAGE FACILITY
 255-257 NEWTONVILLE AVENUE
 NEWTON, MASSACHUSETTS

No.	Date	Desc.	REVISIONS
1.	2/19/2016	CONSERVATION COMMISSION COMMENTS	
2.	2/22/2016	ENGINEERING COMMENTS	
3.	2/25/2016	CONSERVATION COMMISSION COMMENTS	
4.	4/20/2016	LAND USE HEARING COMMENTS	
5.	5/19/2016	COMMUNITY COMMENTS	

Designed: R.Z.
 Drawn: R.Z.
 Checked:
 Approved:
 Scale: 1"=20'
 Project No.: 1502781
 Date: 2/5/2016
 CAD File: LP150278101

Title: **SITE LIGHTING PLAN**

Sheet No.

LP-1

Average Grade Plane Worksheet

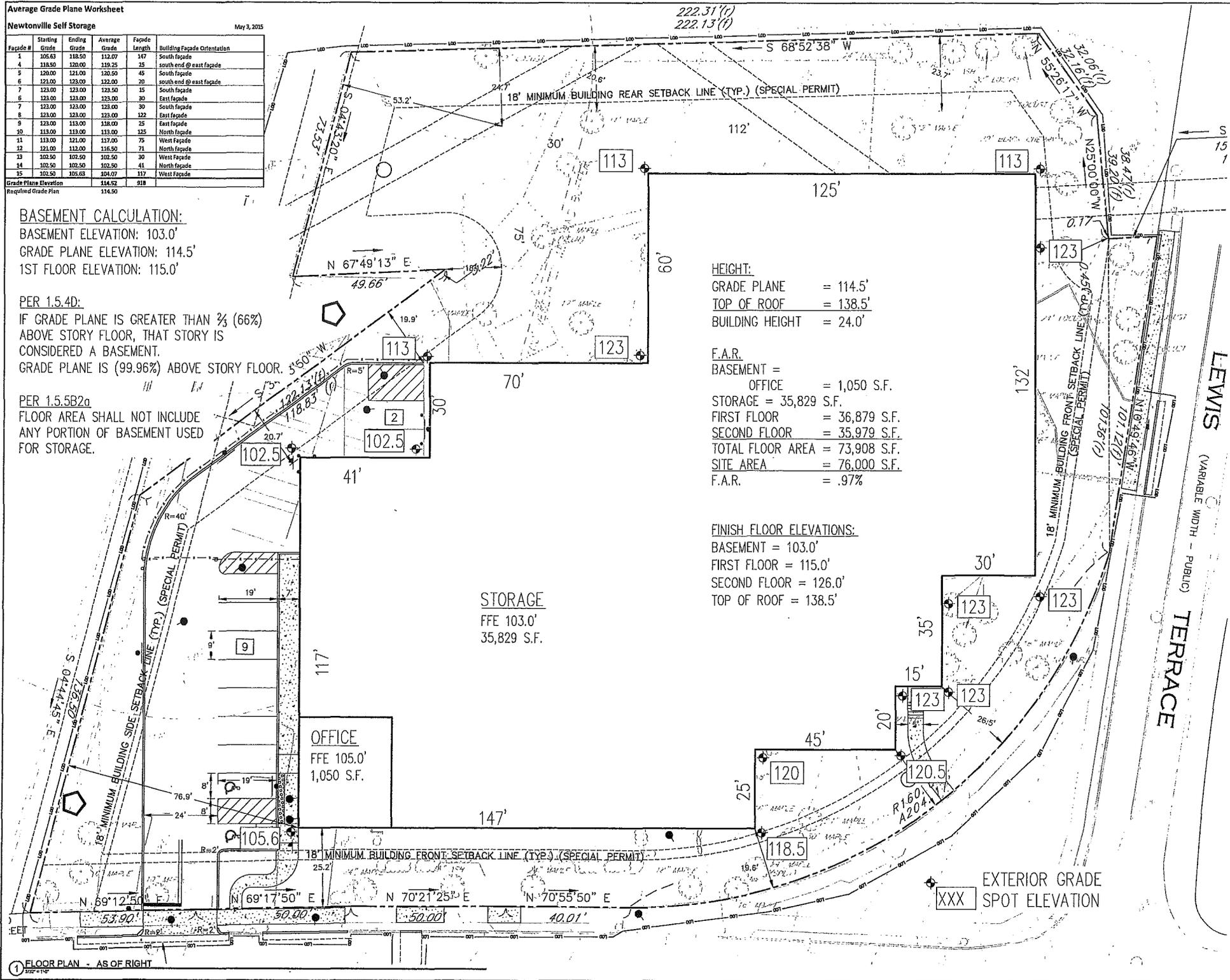
Newtonville Self Storage May 3, 2015

Facade #	Starting Grade	Ending Grade	Average Grade	Facade Length	Building Facade Orientation
1	105.63	118.50	112.07	347	South facade
4	118.50	122.00	119.25	25	South end @ east facade
5	120.00	121.00	120.50	45	South facade
6	121.00	123.00	122.00	20	South end @ east facade
7	123.00	123.00	123.00	15	South facade
7	123.00	123.00	123.00	30	East facade
8	123.00	123.00	123.00	30	South facade
8	123.00	123.00	123.00	122	East facade
9	123.00	113.00	118.00	25	East facade
10	113.00	113.00	113.00	125	North facade
11	113.00	121.00	117.00	75	West facade
12	121.00	112.00	116.50	71	North facade
13	102.50	102.50	102.50	30	West facade
14	102.50	102.50	102.50	41	North facade
15	102.50	105.63	104.07	117	West facade
Grade Plane Elevation			114.52	818	
Required Grade Plan			114.50		

BASEMENT CALCULATION:
 BASEMENT ELEVATION: 103.0'
 GRADE PLANE ELEVATION: 114.5'
 1ST FLOOR ELEVATION: 115.0'

PER 1.5.4D:
 IF GRADE PLANE IS GREATER THAN 2/3 (66%)
 ABOVE STORY FLOOR, THAT STORY IS
 CONSIDERED A BASEMENT.
 GRADE PLANE IS (99.96%) ABOVE STORY FLOOR.

PER 1.5.5B2a
 FLOOR AREA SHALL NOT INCLUDE
 ANY PORTION OF BASEMENT USED
 FOR STORAGE.



HEIGHT:
 GRADE PLANE = 114.5'
 TOP OF ROOF = 138.5'
 BUILDING HEIGHT = 24.0'

F.A.R.
 BASEMENT =
 OFFICE = 1,050 S.F.
 STORAGE = 35,829 S.F.
 FIRST FLOOR = 36,879 S.F.
 SECOND FLOOR = 35,979 S.F.
 TOTAL FLOOR AREA = 73,908 S.F.
 SITE AREA = 76,000 S.F.
 F.A.R. = .97%

FINISH FLOOR ELEVATIONS:
 BASEMENT = 103.0'
 FIRST FLOOR = 115.0'
 SECOND FLOOR = 126.0'
 TOP OF ROOF = 138.5'

STORAGE
 FFE 103.0'
 35,829 S.F.

OFFICE
 FFE 105.0'
 1,050 S.F.

XXX EXTERIOR GRADE SPOT ELEVATION

1 FLOOR PLAN - AS OF RIGHT



Exhibit D

2015 MAY 20 PM 3:09
 David A. Olson, CMC
 Newton, MA 02450



SELF STORAGE FACILITY
 255-257 NEWTONVILLE AVENUE
 NEWTON, MASSACHUSETTS 02458

May 17, 2016

Mr. Andrew E Graves LEED AP
Principal Architect
BL Companies
355 Research Parkway
Meriden, CT 06450

Ref 4121

Re: Self-Storage Facility Sound Study Opinion Letter, Newton, MA

Dear Mr. Graves:

Tech Environmental, Inc. (TE) performed a sound evaluation for a proposed self-storage facility on 255-257 Newtonville Avenue, Newton, MA. The sound evaluation includes a review of existing land use and sound conditions, proposed building and site plans, and rooftop units (RTUs) specifications.

COMMON MEASURES OF COMMUNITY NOISE

Noise is defined as "unwanted sound", which implies sound pressure levels that are annoying or disrupt activities people are engaged in. The human sense of hearing is subjective and highly variable between individuals. Noise regulations and guidelines set quantitative limits to the sound pressure level (measured with sound analyzers and predicted with computer models) in order to protect people from sound exposures that most would judge to be annoying or disruptive.

The loudness of a sound is dependent on the radiated energy of the sound source and the propagation and attenuation characteristics of the air. The standard unit of sound pressure level (L_p) is the decibel (dB), a logarithmic scale formed by taking 20 times the \log_{10} of a ratio of two pressures: the measured sound pressure divided by a reference sound pressure. The decibel level scale conveniently compresses the range of audible sound pressures, which span 12 orders of magnitude, into an easy-to-use scale spanning 0 to 120 dB. Airborne sound is referenced to 20 micro-Pascals (20 μPa), which corresponds to 0 dB and the threshold of hearing. A property of the decibel scale is that the sound pressure levels of two separate sounds are not directly additive. For example, if a sound of 70 dB is added to another sound of 70 dB, the total is only a 3-decibel increase (or 73 dB), not a doubling to 140 dB. For broadband sounds, a 3 dB change is the minimum change perceptible to the human ear.

Non-steady noise exposure in a community is commonly expressed in terms of the A-weighted sound level (dBA); A-weighting approximates the frequency response of the human ear. Levels of many sounds change from moment to moment. Some are sharp impulses lasting one-second or less, while others rise and fall over much longer periods of time. There are various measures of sound pressure designed for different purposes. To establish the background ambient sound level in an area, the L_{90}

metric, which is the sound level exceeded 90 percent of the time, is typically used. The L_{90} can also be thought of as the level representing the quietest 10 percent over a given time period. The L_{eq} , or equivalent sound level, is the steady-state sound level over a period of time that has the same acoustic energy as the fluctuating sounds that actually occurred during that same period. It is commonly referred to as the average sound level. The L_{max} , or maximum sound level, represents the one-second peak level experienced during a given time period. These measures are generally reported to the nearest whole decibel as broadband sound pressure level, i.e., broadband sound levels include sounds at all frequencies. Sound level data also typically include an analysis of the sound spectrum into its various frequency components to determine tonal characteristics. The unit of frequency is Hertz (Hz), measuring the cycles per second of the sound pressure waves, and typically the frequency analysis examines eleven octave bands from 16 to 16,000 Hz. MassDEP Noise Policy states that a source creates a pure tone if acoustic energy is concentrated in a narrow frequency range and one octave band has a sound level 3 dB greater than both adjacent octave bands.

Table 1 presents the perceived change in loudness of different changes in sound pressure levels.

TABLE 1
SUBJECTIVE EFFECT OF CHANGES IN SOUND PRESSURE LEVELS

Change in Sound Pressure Level	Perceived Change in Loudness
3 dB	Just perceptible
5 dB	Noticeable
10 dB	Twice (or half) as loud

APPLICABLE NOISE REGULATIONS

MassDEP Noise Policy

The Massachusetts Department of Environmental Protection (MassDEP) regulates noise through 310 CMR 7.10, "Air Pollution Control". In these regulations "air contaminant" is defined to include sound and a condition of "air pollution" includes the presence of an air contaminant in such concentration and duration as to "cause a nuisance" or "unreasonably interfere with the comfortable enjoyment of life and property".

Regulation 7.10 prohibits "unnecessary emissions" of noise. The MassDEP Noise Policy (Policy Statement 90-001, February 1, 1990) interprets a violation of this noise regulation to have occurred if the source causes either:

- (1) An increase in the broadband sound pressure level of more than 10 dBA above the ambient, or
- (2) A "pure tone" condition

The "ambient level" is defined as the L_{90} level measured during equipment operating hours. A "pure tone" condition occurs when any octave band sound pressure level exceeds both of the two adjacent octave band sound pressure levels by 3 dB or more.

The MassDEP does not regulate sound from construction activity and does not regulate sound from motor vehicles accessing the site or from truck safety backup alarms.

City of Newton

The Noise Control Ordinance of the City of Newton (Section 20-3 Noise Control) defines noise as a condition caused by a source that increases noise levels 10 dB(A) or more above background noise level, except if the noise source produces a tonal sound, in which case an increase of 5 dB(A) or more above background noise level is sufficient to cause noise pollution.

The ordinance defines a tonal sound as any sound that is judged by a listener to have the characteristics of a pure tone, whine, hum or buzz.

The Noise Control Ordinance establishes maximum noise levels for HVAC systems. The ordinance states that *"No person shall operate any air conditioning, refrigeration or heating equipment for any residence or other structure or operate any pumping, filtering or heating equipment for any pool or reservoir in such manner as to create any noise which would cause the noise level on the premises of any other occupied property or if a condominium, apartment house, duplex, or attached business, within any adjoining unit, to exceed the background noise level by more than 5 dB(A)."*

EXISTING SOUND CONDITIONS

The proposed site is bound by Interstate 90 (I-90) to the north, the NEFCO property to the west, Lewis Terrace residences to the east and Newtonville Avenue residences to the south. The dominant noise sources are traffic along I-90 and local traffic along Newtonville Avenue. Highway traffic noise tends to be the loudest just before and after the peak morning and afternoon rush hours. However, the major source of sound from the proposed self-storage building will be roof top units (RTUs), which can operate 24 hours a day and seven days a week; thus, the quietest nighttime hours are used to determine compliance with the MassDEP Noise Policy and City Noise Control Ordinance.

The residences on Lewis Terrace are closest to I-90, and therefore, the background sound levels will be the loudest compared to residences on Newtonville Avenue, which are also impacted by local traffic noise. TE has not taken sound level measurements to define existing background conditions. However, the average (L_{eq}) sound levels near a highway during the quietest nighttime hours similar to the conditions near the proposed site are 50 to 60 dBA and the background ambient (L_{90}) sound levels are approximately 10 dBA quieter or 40 to 50 dBA based on similar sound level measurements taken near an interstate highway in Massachusetts.¹

¹ Tech Environmental sound level measurements of I-495 in Bellingham, MA.

PROPOSED FACILITY SOUND LEVELS

The primary sources of continuous operational sound are four package rooftop units (RTUs) situated closest to the I-90. The acoustic profile from all four RTUs operating concurrently under full load conditions is assumed as a worst-case scenario. The roof plan shows that four (25-ton) Carrier RTUs will be installed on the west side of the building furthest away from residences on Lewis Terrace and Newtonville Avenue. According to Carrier's manufacturer specification, the reference sound power level is 86 dBA.² A review of the octave band sound levels reveals that the proposed unit does not produce a tonal sound.

Sound propagating outdoors through the atmosphere generally decreases in level with increasing distance between the source and the receiver. This attenuation is the result of several mechanisms, principally, geometrical divergence from the sound source, absorption of acoustic energy by the air through which the sound waves propagate, and the effect of the propagation close to different ground surfaces. The distance between the RTUs and the nearest residences on Lewis Terrace and Newtonville Avenue ranges from approximately 240 to 340 feet away. Accounting for sound attenuation due to geometric divergence (distance) only, the calculated sound levels from the RTUs at the nearest residences on Lewis Terrace and Newtonville Avenue would be 45 and 46 dBA, respectively. The adding of the RTUs sound levels to the assumed background L_{90} sound level of 40 dBA would increase the background levels to 46 to 47 dBA, or approximately 6 to 7 dBA. These changes in sound levels would comply with the MassDEP Noise Policy allowable sound level increase of 10 dBA, but would exceed the City's Noise Control Ordinance allowable sound level increase of 5 dBA for HVAC equipment.

You have advised me that additional acoustical treatment including perimeter condenser fan panels such as the BRD Noise and Vibration, Inc. HUSH GUARD (HGU model) or equal will be installed on each RTU. This would reduce the predicted sound level increases to less than 3 dBA above the background L_{90} level. A less than 3 dBA increase in background sound level is readily achievable with those fan panels and will be imperceptible by people at the Lewis Terrace and Newtonville Avenue residences.

² A sound power level of 87 dBA produces a relatively low sound pressure level of 43 dBA at a distance of 100 feet.

CONCLUSION

It is my professional opinion that the operations of the RTUs on the self-storage facility will comply with the MassDEP Noise Policy and City's Noise Control Ordinance with the installation of acoustic condenser fan panels on all four RTUs. This would reduce the predicted sound level increases to less than 3 dBA above the background L₉₀ level. A less than 3 dBA increase in background sound level is readily achievable with those fan panels and will be imperceptible by people at the Lewis Terrace and Newtonville Avenue residences.

Sincerely yours,

TECH ENVIRONMENTAL, INC.



Marc C. Wallace, QEP
Principal

Exhibit G



2016 MAY 20 PM 3:09

USER: 16
Y: 02/59

DAVID A. O'NEILL
NEWTON, MA

2016 MAY 20 PM 3:09

RECEIVED
Newton City Clerk