# APPENDIX B NOISE BACKUP

### Noise Monitoring Noise levels in dBA - Fordham University Lincoln Center

10488-0008 5/15/2007, 5/25/07, 1/3/2008 B&K 2260

| Measured Site | Location   | Time        | L <sub>eq(1)</sub> | L <sub>1(1)</sub> | L <sub>10(1)</sub> | L <sub>50(1)</sub> | L <sub>90(1)</sub> | L <sub>min(1)</sub> | L <sub>max(1)</sub> |
|---------------|--|-------------|--------------------|-------------------|--------------------|--------------------|--------------------|---------------------|---------------------|
|               |  | AM          | 65.1               | 73.0              | 67.0               | 62.9               | 61.5               | 60.4                | 82.9                |
| 1             | West 60th Street between Amsterdam                   | Midday      | 66.3               | 74.5              | 68.6               | 64.6               | 62.3               | 60.8                | 78.6                |
| '             | Avenue and Columbus Avenue                           | PM          | 67.3               | 76.9              | 70.6               | 63.8               | 60.6               | 59.7                | 78.4                |
|               |  | Pre-Theater | 61.7               | 71.9              | 65.4               | 57.1               | 53.9               | 52.6                | 77.6                |
|               |  | AM          | 69.3               | 79.4              | 72.6               | 65.2               | 61.2               | 59.2                | 84.2                |
| 2             | West 62nd Street between Amsterdam                   | Midday      | 67.4               | 76.7              | 71.3               | 63.3               | 60.2               | 58.3                | 82.5                |
| 2             | Avenue and Columbus Avenue                           | PM          | 70.8               | 74.6              | 72.2               | 70.6               | 68.5               | 63.1                | 80.2                |
|               |  | Pre-Theater | 69.6               | 74.0              | 70.9               | 69.2               | 68.5               | 66.2                | 78.0                |
|               |  | AM          | 71.9               | 80.9              | 75.3               | 69.4               | 62.6               | 61.0                | 85.6                |
| 3             | Amsterdam Avenue between 60th Street and 61st Street | Midday      | 71.5               | 81.3              | 74.9               | 68.4               | 63.5               | 60.8                | 88.9                |
| 3             |  | PM          | 72.3               | 80.9              | 75.6               | 69.7               | 63.1               | 61.4                | 90.2                |
|               |  | Pre-Theater | 66.2               | 75.1              | 70.0               | 62.3               | 57.2               | 55.5                | 80.6                |
|               |  | AM          | 68.4               | 76.2              | 71.4               | 66.2               | 62.9               | 60.7                | 82.0                |
| 4             | Columbus Avenue between 61st Street and 62nd Street  | Midday      | 68.5               | 74.6              | 71.5               | 66.9               | 64.1               | 62.3                | 80.0                |
| 7             |  | PM          | 66.3               | 74.6              | 69.5               | 63.6               | 61.2               | 60.0                | 79.5                |
|               |  | Pre-Theater | 65.8               | 74.7              | 68.4               | 63.6               | 58.7               | 55.7                | 81.1                |
|               |  | AM          | 63.8               | 68.9              | 66.1               | 63.0               | 61.0               | 59.5                | 72.6                |
| 5             | Alvin Ailey Place between Amsterdam                  | Midday      | 63.6               | 68.9              | 65.8               | 62.8               | 61.0               | 60.1                | 73.4                |
| 3             | Avenue and Columbus Avenue                           | PM          | 67.4               | 69.7              | 68.3               | 67.3               | 66.5               | 65.7                | 72.5                |
|               |  | Pre-Theater | 61.3               | 68.9              | 61.1               | 57.0               | 54.6               | 53.4                | 83.9                |
|               |  | AM          | 71.1               | 78.8              | 74.0               | 68.3               | 63.2               | 60.6                | 88.2                |
| 6             | Amsterdam Avenue between 61st Street                 | Midday      | 69.3               | 77.6              | 72.0               | 67.2               | 64.7               | 63.3                | 80.6                |
|               | and 62nd Street                                      | PM          | 72.8               | 79.2              | 73.8               | 70.2               | 67.7               | 65.0                | 94.2                |
|               |  | Pre-Theater | 67.1               | 76.9              | 71.2               | 59.9               | 54.8               | 53.5                | 81.0                |

#### Fordham Operational Noise Analysis Results

|                                      |      |             |              | 1      |        |        | Existing |        |         |        |        | No Bui | ld 2014 |        |               | В                | uild 2014       | Incremer | nt     |        | I       | No Bui | ld 2032 |        |               | Build 2032       |                 |       |          |        |
|--------------------------------------|------|-------------|--------------|--------|--------|--------|----------|--------|---------|--------|--------|--------|---------|--------|---------------|------------------|-----------------|----------|--------|--------|---------|--------|---------|--------|---------------|------------------|-----------------|-------|----------|--------|
|                                      |      |             |              | Total  |        | %      | %        |        |         |        | Total  |        |         |        | Increme<br>nt | Incre.<br>Medium | Incre.<br>Heavy | Total    |        |        | Total   |        |         |        | Increme<br>nt | Incre.<br>Medium | Incre.<br>Heavy | Total |          |        |
| Receptor Location                    | Site | Hour        | Direction    | Volume | % Auto | Medium | Heavy    | % Bus  | PCEs    | Leq(1) | Volume | PCEs   | Leq(1)  | Change | Autos         | Truck            | Truck           | PCEs     | Leq(1) | Change | Volume  | PCEs   | Leq(1)  | Change | Autos         | Truck            | Truck           | PCEs  | Leq(1)   | Change |
|                                      |      |             | East         | 265    | 89.3%  | 7.3%   | 1.7%     | 1.7%   | 782     |        |        |        | 66.4    | 1.3    |               |                  |                 |          | 66.6   | 0.2    |         |        |         | 1.6    |               |                  |                 |       |          | 0.3    |
|                                      |      | AM          | West         |        | 88.6%  | 9.6%   | 0.0%     | 1.8%   | 0       | 65.1   |        |        |         |        |               |                  |                 |          |        |        |         |        | 66.7    |        |               |                  |                 |       | 67.0     |        |
| 60th Street between                  |      |             | East         | 205    | 76.3%  | 12.3%  | 0.3%     | 0.7%   | 542     |        |        |        | 67.2    | 0.9    |               |                  |                 |          | 67.6   | 0.4    |         |        |         | 1.1    |               |                  |                 |       | j        | 0.4    |
| Amsterdam & Columbus                 | 4    | MD          | West         |        | 92.9%  | 5.2%   | 0.0%     | 1.9%   | 0       | 66.3   |        |        |         |        |               |                  |                 |          |        |        |         |        | 67.4    |        |               |                  |                 |       | 67.8     |        |
| Arristerdam & Columbus Avenues (TNM) | '    |             | East         | 215    | 95.4%  | 4.2%   | 0.0%     | 0.4%   | 339     |        |        |        | 68.2    | 0.9    |               |                  |                 |          | 68.3   | 0.1    |         |        |         | 1.0    |               |                  |                 |       |          | 0.9    |
| Avenues (114IVI)                     |      | PM          | West         |        | 93.4%  | 5.4%   | 0.4%     | 0.8%   | 0       | 67.3   |        |        |         |        |               |                  |                 |          |        |        |         |        | 68.3    |        |               |                  |                 |       | 69.2     |        |
|                                      |      |             | East         | 180    | 95.4%  | 4.2%   | 0.0%     | 0.4%   | 284     | 61.7   |        |        | 62.4    | 0.7    |               |                  |                 |          | 62.4   | 0.0    |         |        |         | 0.8    |               |                  |                 |       | 62.6     | 0.1    |
|                                      |      | Pre-Theater | West         |        | 93.4%  | 5.4%   | 0.4%     | 0.8%   | 0       |        |        |        |         |        |               |                  |                 |          |        |        |         |        | 62.5    |        |               |                  |                 |       |          |        |
|                                      |      |             | East         | 115    | 89.3%  | 7.3%   | 1.7%     | 1.7%   | 339     |        | 146    | 431    | 69.4    | 0.1    | 15            |                  | 1               | 758      | 69.9   | 0.5    | 156     | 460    | 69.7    | 0.4    | 16            | 4                | 1               | 872   | 70.5     | 0.8    |
|                                      |      | AM          | West         | 130    | 88.6%  | 9.6%   | 0.0%     | 1.8%   | 320     | 69.3   | 101    | 249    |         |        | 16            |                  |                 |          |        |        | 110     | 271    |         |        | 26            |                  |                 |       |          |        |
| 62nd Street between                  | ľ    |             | East         | 95     | 76.3%  | 12.3%  | 0.3%     | 0.7%   | 251     |        | 120    | 317    | 67.6    | 0.2    | 16            |                  | 1               | 618      | 68.2   | 0.6    | 129     | 341    | 67.9    | 0.5    | 25            | 3                | 1               | 721   | 68.9     | 1.0    |
| Amsterdam & Columbus                 | 2    | MD          | West         | 135    | 92.9%  | 5.2%   | 0.0%     | 1.9%   | 264     | 67.4   | 112    | 219    |         |        | 19            |                  |                 |          |        |        | 122     | 238    |         |        | 31            |                  |                 |       |          |        |
| Arristerdam & Columbus<br>Avenues    | -    |             | East         | 135    | 95.4%  | 4.2%   | 0.0%     | 0.4%   | 213     |        | 173    | 273    | 70.7    | -0.1   | 32            |                  | 1               | 738      | 71.2   | 0.5    | 185     | 292    | 71.0    | 0.2    | 46            | 2                | 1               | 824   | 71.7     | 0.7    |
| Avenues                              |      | PM          | West         | 230    | 93.4%  | 5.4%   | 0.4%     | 0.8%   | 455     | 70.8   | 193    | 382    |         |        | 4             |                  |                 |          |        |        | 206     | 408    |         |        | 5             |                  |                 |       |          |        |
|                                      |      |             | East         | 80     | 95.4%  | 4.2%   | 0.0%     | 0.4%   | 126     | 69.6   | 112    | 177    | 69.5    | -0.1   | 21            |                  |                 | 547      | 69.6   | 0.2    | 119     | 188    | 69.8    | 0.2    | 27            |                  |                 | 592   | 70.0     | 0.2    |
|                                      |      | Pre-Theater | West         | 210    | 93.4%  | 5.4%   | 0.4%     | 0.8%   | 416     |        | 176    | 348    |         |        | 1             |                  |                 |          |        |        | 189     | 374    |         |        | 3             |                  |                 |       | <u> </u> |        |
|                                      | l.   | AM          |              | 1355   | 84.5%  | 10.3%  | 2.3%     | 3.0%   | 5130    | 71.9   | 1706   | 6459   | 72.9    | 1.0    | 14            | 2                | 1               | 6546     | 73.0   | 0.1    | 1850    | 7004   | 73.3    | 1.4    | 26            | 7                | 2               | 7215  | 73.4     | 0.1    |
| Amsterdam Avenue between             | 3    | MD          | North        | 1155   | 86.0%  | 8.5%   | 3.1%     | 2.4%   | 4461    | 71.5   | 1430   | 5523   | 72.4    | 0.9    | 28            | 2                | 1               | 5624     | 72.5   | 0.1    | 1542    | 5955   | 72.8    | 1.3    | 37            | 5                | 2               | 6151  | 72.9     | 0.1    |
| 60th & 61st Streets                  | -    | PM          | 1101111      | 1530   | 93.7%  | 2.3%   | 0.5%     | 2.4%   | 2877    | 72.3   | 1894   | 3562   | 73.2    | 0.9    | 28            | 1                | 1               | 3650     | 73.3   | 0.1    | 2051    | 3857   | 73.6    | 1.3    | 38            | 4                | 1               | 3994  | 73.7     | 0.2    |
|                                      |      | Pre-Theater |              | 1600   | 93.7%  | 2.3%   | 0.5%     | 2.4%   | 3009    | 66.2   | 1872   | 3520   | 66.9    | 0.7    | 25            |                  |                 | 3545     | 66.9   | 0.0    | 2033    | 3823   | 67.2    | 1.0    | 29            |                  |                 | 3852  | 67.3     | 0.0    |
|                                      |      | AM          |              | 1700   | 87.3%  | 8.2%   | 1.5%     | 3.0%   | 5427    | 68.4   | 1894   | 6046   | 68.9    | 0.5    | 10            | 2                | 1               | 6129     | 68.9   | 0.1    | 2039    | 6509   | 69.2    | 0.8    | 8             | 7                | 2               | 6702  | 69.3     | 0.1    |
| Columbus Avenue between              | 4    | MD          | South        | 1510   | 83.8%  | 8.3%   | 1.6%     | 2.6%   | 4761    | 68.5   | 1697   | 5350   | 69.0    | 0.5    | 15            | 2                | 1               | 5438     | 69.1   | 0.1    | 1828    | 5763   | 69.3    | 0.8    | 17            | 5                | 2               | 5939  | 69.5     | 0.1    |
| 61st & 62nd Streets                  |      | PM          |              | 1860   | 93.5%  | 4.0%   | 0.3%     | 2.2%   | 3686    | 66.3   | 2058   | 4078   | 66.7    | 0.4    | 38            | 1                | 1               | 4176     | 66.8   | 0.1    | 2225    | 4409   | 67.1    | 0.8    | 55            | 4                | 1               | 4563  | 67.2     | 0.1    |
|                                      |      | Pre-Theater | F            | 1685   | 93.5%  | 4.0%   | 0.3%     | 2.2%   | 3339    | 65.8   | 1851   | 3668   | 66.2    | 0.4    | 27            |                  |                 | 3695     | 66.2   | 2.2    | 2007    | 3977   | 66.6    | 0.8    | 36            |                  |                 | 4013  | 66.6     | 0.0    |
|                                      |      | ***         | East         | 15     | 100.0% | 0.0%   | 0.0%     | 0.0%   | 15<br>5 | 00.0   | 19     | 19     | 64.6    | 0.8    |               |                  |                 | 40       | 66.8   | 2.2    | 20<br>6 | 20     | 64.9    | 1.1    | 4             |                  |                 | 42    | 67.0     | 2.1    |
|                                      | ŀ    | AM          | West<br>East | 20     | 100.0% | 0.0%   | 0.0%     | 0.0%   | 20      | 63.8   | 22     | 22     | 63.7    | 0.1    | 12<br>6       |                  |                 | 46       | 64.8   | 1.1    | 24      | 24     | 64.2    | 0.6    | 12<br>6       |                  |                 | 50    | 65.1     | 1.0    |
| Alvin Ailey Place between            |      | MD          | West         | 15     | 100.0% | 0.0%   | 0.0%     | 0.0%   | 15      | 63.6   | 14     | 14     | 03.7    | 0.1    | 4             |                  |                 | 40       | 04.0   | 1.1    | 16      | 16     | 04.2    | 0.0    | 4             |                  |                 | 30    | 03.1     | 1.0    |
| Amsterdam Avenue and                 | 5    | IVID        | East         | 15     | 100.0% | 0.0%   | 0.0%     | 0.0%   | 15      | 03.0   | 19     | 19     | 67.8    | 0.4    | 18            |                  |                 | 56       | 70.1   | 2.3    | 20      | 20     | 68.2    | 0.8    | 18            |                  |                 | 59    | 70.3     | 2.1    |
| Columbus Avenue                      |      | PM          | West         | 15     | 100.0% | 0.0%   | 0.0%     | 0.0%   | 15      | 67.4   | 14     | 14     | 07.0    | 0.4    | 10<br>5       |                  |                 | 50       | 70.1   | 2.3    | 16      | 16     | 00.2    | 0.0    | 5             |                  |                 | 59    | 70.3     | 2.1    |
|                                      |      | F IVI       | East         | 20     | 100.0% | 0.0%   | 0.0%     | 0.0%   | 20      | 61.3   | 23     | 23     | 61.5    | 0.2    | 15            |                  |                 | 56       | 63.3   | 1.8    | 25      | 25     | 62.0    | 0.7    | 14            |                  |                 | 59    | 63.6     | 1.6    |
|                                      |      | Pre-Theater | West         | 15     | 100.0% | 0.0%   | 0.0%     | 0.0%   | 15      | 01.3   | 14     | 14     | 01.0    | 0.2    | 4             |                  |                 | 30       | 03.3   | 1.0    | 16      | 16     | 02.0    | 0.7    | 4             |                  |                 | 35    | 55.0     | 1.0    |
|                                      |      | AM          | vvest        | 1490   | 84.5%  | 10.3%  | 2.3%     | 3.0%   | 5641    | 71.1   | 1671   | 6326   | 71.6    | 0.5    | 22            | 2                | 1               | 6421     | 71.7   | 0.1    | 1813    | 6864   | 72.0    | 0.9    | 34            | 7                | 2               | 7083  | 72.1     | 0.1    |
| Amsterdam Avenue between             |      | MD          |              | 1235   | 86.0%  | 8.5%   | 3.1%     | 2.4%   | 4770    | 69.3   | 1412   | 5453   | 69.9    | 0.6    | 26            | 2                | 1               | 5552     | 70.0   | 0.1    | 1523    | 5882   | 70.2    | 0.9    | 35            | 5                | 2               | 6076  | 70.4     | 0.1    |
| 61st & 62nd Streets                  | 6    | PM          | North        | 1645   | 93.7%  | 2.3%   | 0.5%     | 2.4%   | 3093    | 72.8   | 1868   | 3513   | 73.4    | 0.6    | 15            | 1                | 1               | 3588     | 73.4   | 0.1    | 2024    | 3806   | 73.7    | 0.9    | 26            | 4                | 1               | 3931  | 73.8     | 0.1    |
| C.S. & SZIII Oli ecis                | ŀ    | Pre-Theater |              | 1665   | 93.7%  | 2.3%   | 0.5%     | 2.4%   | 3131    | 67.1   | 1844   | 3468   | 67.5    | 0.4    | 14            |                  |                 | 3482     | 67.6   | 0.0    | 2004    | 3768   | 67.9    | 0.8    | 19            |                  | <u> </u>        | 3787  | 67.9     | 0.0    |
|                                      |      | icatci      |              | .505   | 55.170 | 2.570  | 0.070    | £. F/0 | 0101    | 07.1   | .544   | 3400   | 07.0    | 0.4    | .7            |                  |                 | U702     | 07.0   | 5.0    | 2004    | 5700   | 01.5    | 0.0    | 13            |                  |                 | 5/0/  | 07.5     | 0.0    |

Note: At Receptor 1 Noise levels were calculated by using TNM, and at other receptors noise levels were calculated by using proportional modeling techniques

#### Noise Analysis Results in L10 (2014)

Note: This L10 calculation sheet is valid for the following in addition to Residential 7 AM - 10 PM school, museum, library, count, house of worship, transient hotel or motel, public meeting room, auditorium, out patient public health facility, commercia

| Categories                 |                      |  |  |  |  |  |  |  |  |  |  |
|----------------------------|----------------------|--|--|--|--|--|--|--|--|--|--|
| L10 < or equal 65 dBA      | accepatble           |  |  |  |  |  |  |  |  |  |  |
| 65 < L10 < or equal 70 dBA | marginaly acceptable |  |  |  |  |  |  |  |  |  |  |
| 70 < L10 < or equal 80 dBA | marginaly acceptable |  |  |  |  |  |  |  |  |  |  |
| L10 > 80 dBA               | clearly unacceptable |  |  |  |  |  |  |  |  |  |  |

|   | Г    |      |           |              |                                      | Existing L10 + NB |                                |              |              | No Build L10 + Build | I                             | CEQR criteria 45 | Building Attenuation |
|---|------|------|-----------|--------------|--------------------------------------|-------------------|--------------------------------|--------------|--------------|----------------------|-------------------------------|------------------|----------------------|
| Receptor Location                                 | Site | Hour | NB Change | Existing L10 | Category (Existing L10 noise levels) | Change = NB L10   | Category (NB L10 noise levels) | Build Change | No Build L10 | Change = L10         | Category (B L10 noise levels) | dB(A)            | required             |
|   |      | AM   | 1.3       | 67.0         | MARGINALLY ACCEPTABLE                | 68.3              | MARGINALLY ACCEPTABLE          | 0.2          | 68.3         | 68.5                 | MARGINALLY ACCEPTABLE         | 45               | 24                   |
| 60th Street between<br>Amsterdam & Columbus       | 1    | MD   | 0.9       | 68.6         | MARGINALLY ACCEPTABLE                | 69.5              | MARGINALLY ACCEPTABLE          | 0.4          | 69.5         | 69.9                 | MARGINALLY ACCEPTABLE         | 45               | 25                   |
| Avenues   | '    | PM   | 0.9       | 70.6         | MARGINALLY UNACCEPTABLE              | 71.5              | MARGINALLY UNACCEPTABLE        | 0.1          | 71.5         | 71.6                 | MARGINALLY UNACCEPTABLE       | 45               | 27                   |
|   |      | PT   | 0.7       | 65.4         | MARGINALLY ACCEPTABLE                | 66.1              | MARGINALLY ACCEPTABLE          | 0.0          | 66.1         | 66.1                 | MARGINALLY ACCEPTABLE         | 45               | 21                   |
|   |      | AM   | 0.1       | 72.6         | MARGINALLY UNACCEPTABLE              | 72.7              | MARGINALLY UNACCEPTABLE        | 0.5          | 72.7         | 73.2                 | MARGINALLY UNACCEPTABLE       | 45               | 28                   |
| 62nd Street between<br>Amsterdam & Columbus       | 2    | MD   | 0.2       | 71.3         | MARGINALLY UNACCEPTABLE              | 71.5              | MARGINALLY UNACCEPTABLE        | 0.6          | 71.5         | 72.1                 | MARGINALLY UNACCEPTABLE       | 45               | 27                   |
| Avenues   | _    | PM   | -0.1      | 72.2         | MARGINALLY UNACCEPTABLE              | 72.1              | MARGINALLY UNACCEPTABLE        | 0.5          | 72.1         | 72.6                 | MARGINALLY UNACCEPTABLE       | 45               | 28                   |
|   |      | PT   | -0.1      | 70.9         | MARGINALLY UNACCEPTABLE              | 70.8              | MARGINALLY UNACCEPTABLE        | 0.2          | 70.8         | 70.9                 | MARGINALLY UNACCEPTABLE       | 45               | 26                   |
|   |      | AM   | 1.0       | 75.3         | MARGINALLY UNACCEPTABLE              | 76.3              | MARGINALLY UNACCEPTABLE        | 0.1          | 76.3         | 76.4                 | MARGINALLY UNACCEPTABLE       | 45               | 31                   |
| Amsterdam Avenue<br>between 60th & 61st           | 2    | MD   | 0.9       | 74.9         | MARGINALLY UNACCEPTABLE              | 75.8              | MARGINALLY UNACCEPTABLE        | 0.1          | 75.8         | 75.9                 | MARGINALLY UNACCEPTABLE       | 45               | 31                   |
| Streets   | 3    | PM   | 0.9       | 75.6         | MARGINALLY UNACCEPTABLE              | 76.5              | MARGINALLY UNACCEPTABLE        | 0.1          | 76.5         | 76.6                 | MARGINALLY UNACCEPTABLE       | 45               | 32                   |
|   |      | PT   | 0.7       | 70.0         | MARGINALLY ACCEPTABLE                | 70.7              | MARGINALLY UNACCEPTABLE        | 0.0          | 70.7         | 70.7                 | MARGINALLY UNACCEPTABLE       | 45               | 26                   |
|   |      | AM   | 0.5       | 71.4         | MARGINALLY UNACCEPTABLE              | 71.9              | MARGINALLY UNACCEPTABLE        | 0.1          | 71.9         | 71.9                 | MARGINALLY UNACCEPTABLE       | 45               | 27                   |
| Columbus Avenue between                           | 4    | MD   | 0.5       | 71.5         | MARGINALLY UNACCEPTABLE              | 72.0              | MARGINALLY UNACCEPTABLE        | 0.1          | 72.0         | 72.1                 | MARGINALLY UNACCEPTABLE       | 45               | 27                   |
| 61st & 62nd Streets                               |      | PM   | 0.4       | 69.5         | MARGINALLY ACCEPTABLE                | 69.9              | MARGINALLY ACCEPTABLE          | 0.1          | 69.9         | 70.0                 | MARGINALLY UNACCEPTABLE       | 45               | 25                   |
|   |      | PT   | 0.4       | 68.4         | MARGINALLY ACCEPTABLE                | 68.8              | MARGINALLY ACCEPTABLE          | 0.0          | 68.8         | 68.8                 | MARGINALLY ACCEPTABLE         | 45               | 24                   |
|   |      | AM   | 0.8       | 66.1         | MARGINALLY ACCEPTABLE                | 66.9              | MARGINALLY ACCEPTABLE          | 2.2          | 66.9         | 69.1                 | MARGINALLY ACCEPTABLE         | 45               | 24                   |
| Alvin Ailey Place between<br>Amsterdam Avenue and | 5    | MD   | 0.1       | 65.8         | MARGINALLY ACCEPTABLE                | 65.9              | MARGINALLY ACCEPTABLE          | 1.1          | 65.9         | 67.0                 | MARGINALLY ACCEPTABLE         | 45               | 22                   |
| Columbus Avenue                                   | 3    | PM   | 0.4       | 68.3         | MARGINALLY ACCEPTABLE                | 68.7              | MARGINALLY ACCEPTABLE          | 2.3          | 68.7         | 71.0                 | MARGINALLY UNACCEPTABLE       | 45               | 26                   |
|   |      | PT   | 0.2       | 61.1         | ACCEPTABLE                           | 61.3              | ACCEPTABLE                     | 1.8          | 61.3         | 63.1                 | ACCEPTABLE                    | 45               | 18                   |
|   |      | AM   | 0.5       | 74.0         | MARGINALLY UNACCEPTABLE              | 74.5              | MARGINALLY UNACCEPTABLE        | 0.1          | 74.5         | 74.6                 | MARGINALLY UNACCEPTABLE       | 45               | 30                   |
| Amsterdam Avenue<br>between 61st & 62nd           | 6    | MD   | 0.6       | 72.0         | MARGINALLY UNACCEPTABLE              | 72.6              | MARGINALLY UNACCEPTABLE        | 0.1          | 72.6         | 72.7                 | MARGINALLY UNACCEPTABLE       | 45               | 28                   |
| Streets   |      | PM   | 0.6       | 73.8         | MARGINALLY UNACCEPTABLE              | 74.4              | MARGINALLY UNACCEPTABLE        | 0.1          | 74.4         | 74.4                 | MARGINALLY UNACCEPTABLE       | 45               | 29                   |
|   |      | PT   | 0.4       | 71.2         | MARGINALLY UNACCEPTABLE              | 71.6              | MARGINALLY UNACCEPTABLE        | 0.0          | 71.6         | 71.7                 | MARGINALLY UNACCEPTABLE       | 45               | 27                   |

#### Noise Analysis Results in L10 (2032)

Note: This L10 calculation sheet is valid for the following in addition to Residential 7 AM - 10 PM, school, museum, library, count, house of worship, transient hotel or motel, public meeting room, auditorium, out patient public health facility, commercial.

| Categories                 |                      |  |  |  |  |  |  |  |  |  |  |
|----------------------------|----------------------|--|--|--|--|--|--|--|--|--|--|
| L10 < or equal 65 dBA      | accepatble           |  |  |  |  |  |  |  |  |  |  |
| 65 < L10 < or equal 70 dBA | marginaly acceptable |  |  |  |  |  |  |  |  |  |  |
| 70 < L10 < or equal 80 dBA | marginaly acceptable |  |  |  |  |  |  |  |  |  |  |
| L10 > 80 dBA               | clearly unacceptable |  |  |  |  |  |  |  |  |  |  |

| Receptor Location                                 | Site | Hour | NB Change | Existing L10 | Category (Existing L10 noise levels) | Existing L10 + NB<br>Change = NB L10 | Category (NB L10 noise levels) | Build Change | No Build L10 | No Build L10 + Build<br>Change = L10 | Category (B L10 noise levels) | CEQR criteria 45<br>dB(A) | Building Attenuation<br>required |
|---|------|------|-----------|--------------|--------------------------------------|--------------------------------------|--------------------------------|--------------|--------------|--------------------------------------|-------------------------------|---------------------------|----------------------------------|
|   |      | AM   | 1.6       | 67.0         | MARGINALLY ACCEPTABLE                | 68.6                                 | MARGINALLY ACCEPTABLE          | 0.3          | 68.6         | 68.9                                 | MARGINALLY ACCEPTABLE         | 45                        | 24                               |
| 60th Street between<br>Amsterdam & Columbus       | 1    | MD   | 1.1       | 68.6         | MARGINALLY ACCEPTABLE                | 69.7                                 | MARGINALLY ACCEPTABLE          | 0.4          | 69.7         | 70.1                                 | MARGINALLY UNACCEPTABLE       | 45                        | 25                               |
| Avenues   | ľ    | PM   | 1.0       | 70.6         | MARGINALLY UNACCEPTABLE              | 71.6                                 | MARGINALLY UNACCEPTABLE        | 0.9          | 71.6         | 72.5                                 | MARGINALLY UNACCEPTABLE       | 45                        | 28                               |
|   |      | PT   | 0.8       | 65.4         | MARGINALLY ACCEPTABLE                | 66.2                                 | MARGINALLY ACCEPTABLE          | 0.1          | 66.2         | 66.3                                 | MARGINALLY ACCEPTABLE         | 45                        | 21                               |
|   |      | AM   | 0.4       | 72.6         | MARGINALLY UNACCEPTABLE              | 73.0                                 | MARGINALLY UNACCEPTABLE        | 0.8          | 73.0         | 73.8                                 | MARGINALLY UNACCEPTABLE       | 45                        | 29                               |
| 62nd Street between<br>Amsterdam & Columbus       | 2    | MD   | 0.5       | 71.3         | MARGINALLY UNACCEPTABLE              | 71.8                                 | MARGINALLY UNACCEPTABLE        | 1.0          | 71.8         | 72.8                                 | MARGINALLY UNACCEPTABLE       | 45                        | 28                               |
| Avenues   | _    | PM   | 0.2       | 72.2         | MARGINALLY UNACCEPTABLE              | 72.4                                 | MARGINALLY UNACCEPTABLE        | 0.7          | 72.4         | 73.1                                 | MARGINALLY UNACCEPTABLE       | 45                        | 28                               |
|   |      | PT   | 0.2       | 70.9         | MARGINALLY UNACCEPTABLE              | 71.1                                 | MARGINALLY UNACCEPTABLE        | 0.2          | 71.1         | 71.3                                 | MARGINALLY UNACCEPTABLE       | 45                        | 26                               |
|   |      | AM   | 1.4       | 75.3         | MARGINALLY UNACCEPTABLE              | 76.7                                 | MARGINALLY UNACCEPTABLE        | 0.1          | 76.7         | 76.8                                 | MARGINALLY UNACCEPTABLE       | 45                        | 32                               |
| Amsterdam Avenue<br>between 60th & 61st           | 3    | MD   | 1.3       | 74.9         | MARGINALLY UNACCEPTABLE              | 76.2                                 | MARGINALLY UNACCEPTABLE        | 0.1          | 76.2         | 76.3                                 | MARGINALLY UNACCEPTABLE       | 45                        | 31                               |
| Streets   | 3    | PM   | 1.3       | 75.6         | MARGINALLY UNACCEPTABLE              | 76.9                                 | MARGINALLY UNACCEPTABLE        | 0.2          | 76.9         | 77.0                                 | MARGINALLY UNACCEPTABLE       | 45                        | 32                               |
|   |      | PT   | 1.0       | 70.0         | MARGINALLY ACCEPTABLE                | 71.0                                 | MARGINALLY UNACCEPTABLE        | 0.0          | 71.0         | 71.1                                 | MARGINALLY UNACCEPTABLE       | 45                        | 26                               |
|   |      | AM   | 0.8       | 71.4         | MARGINALLY UNACCEPTABLE              | 72.2                                 | MARGINALLY UNACCEPTABLE        | 0.1          | 72.2         | 72.3                                 | MARGINALLY UNACCEPTABLE       | 45                        | 27                               |
| Columbus Avenue between                           | ١,   | MD   | 0.8       | 71.5         | MARGINALLY UNACCEPTABLE              | 72.3                                 | MARGINALLY UNACCEPTABLE        | 0.1          | 72.3         | 72.5                                 | MARGINALLY UNACCEPTABLE       | 45                        | 27                               |
| 61st & 62nd Streets                               | *    | PM   | 0.8       | 69.5         | MARGINALLY ACCEPTABLE                | 70.3                                 | MARGINALLY UNACCEPTABLE        | 0.1          | 70.3         | 70.4                                 | MARGINALLY UNACCEPTABLE       | 45                        | 25                               |
|   |      | PT   | 0.8       | 68.4         | MARGINALLY ACCEPTABLE                | 69.2                                 | MARGINALLY ACCEPTABLE          | 0.0          | 69.2         | 69.2                                 | MARGINALLY ACCEPTABLE         | 45                        | 24                               |
|   |      | AM   | 1.1       | 66.1         | MARGINALLY ACCEPTABLE                | 67.2                                 | MARGINALLY ACCEPTABLE          | 2.1          | 67.2         | 69.3                                 | MARGINALLY ACCEPTABLE         | 45                        | 24                               |
| Alvin Ailey Place between<br>Amsterdam Avenue and | _    | MD   | 0.6       | 65.8         | MARGINALLY ACCEPTABLE                | 66.4                                 | MARGINALLY ACCEPTABLE          | 1.0          | 66.4         | 67.3                                 | MARGINALLY ACCEPTABLE         | 45                        | 22                               |
| Columbus Avenue                                   | 5    | PM   | 0.8       | 68.3         | MARGINALLY ACCEPTABLE                | 69.1                                 | MARGINALLY ACCEPTABLE          | 2.1          | 69.1         | 71.2                                 | MARGINALLY UNACCEPTABLE       | 45                        | 26                               |
|   |      | PT   | 0.7       | 61.1         | ACCEPTABLE                           | 61.8                                 | ACCEPTABLE                     | 1.6          | 61.8         | 63.4                                 | ACCEPTABLE                    | 45                        | 18                               |
|   |      | AM   | 0.9       | 74.0         | MARGINALLY UNACCEPTABLE              | 74.9                                 | MARGINALLY UNACCEPTABLE        | 0.1          | 74.9         | 75.0                                 | MARGINALLY UNACCEPTABLE       | 45                        | 30                               |
| Amsterdam Avenue<br>between 61st & 62nd           | 6    | MD   | 0.9       | 72.0         | MARGINALLY UNACCEPTABLE              | 72.9                                 | MARGINALLY UNACCEPTABLE        | 0.1          | 72.9         | 73.1                                 | MARGINALLY UNACCEPTABLE       | 45                        | 28                               |
| Streets   |      | PM   | 0.9       | 73.8         | MARGINALLY UNACCEPTABLE              | 74.7                                 | MARGINALLY UNACCEPTABLE        | 0.1          | 74.7         | 74.8                                 | MARGINALLY UNACCEPTABLE       | 45                        | 30                               |
|   |      | PT   | 0.8       | 71.2         | MARGINALLY UNACCEPTABLE              | 72.0                                 | MARGINALLY UNACCEPTABLE        | 0.0          | 72.0         | 72.0                                 | MARGINALLY UNACCEPTABLE       | 45                        | 27                               |

## Noise Levels $L_{10(1)}$ on Project Building Facades

| Proposed Buildings/Spaces                     | Façade | Build L10 | CEQR Criteria | Building Atte | enuation (dBA) |
|---|--------|-----------|---------------|---------------|----------------|
|   | East   | 74.8      | 45            | 29.8          | 30             |
|   | South  | 74.0      | 45            | 29.0          | 30             |
|   | West   | 68.0      | 45            | 23.0          | 25             |
| Site 1 (Dormitory & Academic Building)        | North  | 74.8      | 45            | 29.8          | 30             |
|   | East   | 75.3      | 45            | 30.3          | 35             |
|   | South  | 74.8      | 45            | 29.8          | 30             |
|   | West   | 68.4      | 45            | 23.4          | 25             |
| Site 2 (Dormitory & Academic Building)        | North  | 74.0      | 45            | 29.0          | 30             |
|   | East   | 67.5      | 45            | 22.5          | 25             |
|   | South  | 73.5      | 45            | 28.5          | 30             |
|   | West   | 76.2      | 45            | 31.2          | 35             |
| Site 3 (Academic, Dormitory and Residential)  | North  | 69.8      | 45            | 24.8          | 25             |
|   | East   | 66.1      | 45            | 21.1          | 25             |
|   | South  | 69.8      | 45            | 24.8          | 25             |
|   | West   | 76.6      | 45            | 31.6          | 35             |
| Site 3a (Academic, Dormitory and Residential) | North  | 71.9      | 45            | 26.9          | 30             |
| ,       | East   | 67.8      | 45            | 22.8          | 25             |
|   | South  | 71.0      | 45            | 26.0          | 30             |
|   | West   | 75.8      | 45            | 30.8          | 35             |
| Site 4 (Residential)                          | North  | 74.0      | 45            | 29.0          | 30             |
| , ,   | East   | 67.8      | 50            | 17.8          | 20             |
|   | South  | 67.6      | 50            | 17.6          | 20             |
|   | West   | 69.8      | 50            | 19.8          | 20             |
| Site 5a (Academic Building)                   | North  | 70.2      | 50            | 20.2          | 25             |
|   | East   | 67.8      | 45            | 22.8          | 25             |
|   | South  | 67.6      | 45            | 22.6          | 25             |
|   | West   | 69.8      | 45            | 24.8          | 25             |
| Site 5 (Dormitory & Academic Building)        | North  | 68.6      | 45            | 23.6          | 25             |
| one o (Bornmory & Academic Building)          | East   | 71.2      | 45            | 26.2          | 30             |
|   | South  | 66.1      | 45            | 21.1          | 25             |
|   | West   | 69.8      | 45            | 24.8          | 25             |
| Site 6 (Dormitory & Academic Building)        | North  | 69.6      | 45            | 24.8          | 25             |
| one o (Dominory & Academic Building)          | East   | +         | +             |               | 20             |
|   |        | 66.0      | 50            | 16.0          | 20             |
|   | South  | 66.3      | 50            | 16.3          | <u> </u>       |
| 0% <b>-</b> /4   1   5   0   11   1           | West   | 66.3      | 50            | 16.3          | 20             |
| Site 7 (Academic Building)                    | North  | 66.1      | 50            | 16.1          | 20             |

**TNM Predicted Noise Levels** 

|                            |      |             | E        | xisting | cisting |       | No Build 2014 |       | I 2014   | No Build 2032 |          | Buile | d 2032   |
|----------------------------|------|-------------|----------|---------|---------|-------|---------------|-------|----------|---------------|----------|-------|----------|
|                            |      |             | Measured | TNM     |         | TNM   |               | TNM   |          | TNM           |          | TNM   |          |
| Receptor Location          | Site | Hour        | Level    | Level   | Change  | Level | Increase      | Level | Increase | Level         | Increase | Level | Increase |
|                            |      | AM          | 65.1     | 63.0    | 2.1     | 64.3  | 1.3           | 64.5  | 0.2      | 64.6          | 1.6      | 64.9  | 0.3      |
|                            |      | MD          | 66.3     | 64.1    | 2.2     | 65.0  | 0.9           | 65.4  | 0.4      | 65.2          | 1.1      | 65.6  | 0.4      |
|                            |      | PM          | 67.3     | 65.2    | 2.1     | 66.1  | 0.9           | 66.2  | 0.1      | 66.2          | 1.0      | 67.1  | 0.9      |
| petween Amsterdam & Columb | 1    | Pre-Theater | 61.7     | 64.7    | -3.0    | 65.4  | 0.7           | 65.4  | 0.0      | 65.5          | 0.8      | 65.6  | 0.1      |

A difference of 3 dBA or less between the modeled noise levels and measured noise levels indicates that the TNM model can be used with confidence.