HIILLSDALE HEIGHTS

SQUARE 5780, UNITS 17 - 34 & 42 - 48

WASHINGTON, DC

FLOOR AREA, LOT OCCUPANCY & OPEN

SPACE CALCULATIONS

PREPARED IN SUPPORT OF ZONING BOARD APPLICATION

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MADDOX ENGINEERS & SURVEYORS, INC.

100 PARK AVENUE

ROCKVILLE, MARYLAND 20850

301-762-9001

January 8, 2001

BZA
Case No. 16705
Exhibit No. 7

Board of Zoning Adjustment
District of Columbia
CASE NO.16705
EXHIBIT NO.7

INTRODUCTION/ BACKGROUND

These calculations have been prepared to determine the Floor Area Ratios (FAR) and Lot Occupancies for 25 town homes at the Hillsdale Heights development. The architectural plans indicate three story split foyer buildings with rear garages or parking bays depending on the site grading constraints. The elevation of the rear of the units will determine whether all three floors will be exposed with a garage or whether the unit will be partially buried with a parking pad. The front (or street side) of the unit will typically have 2-1/2 floors above grade.

As defined in the Zoning Regulations, cellars do not need to be included in the gross floor area in the FAR calculation. By definition, a cellar is "that portion of a story, the ceiling of which is less than four feet (4 ft.) above the adjacent finished grade". According to previous discussions with the Office of Zoning, we have applied these requirements to the 25 lots by determining the amount of cellar in the lowest building floor as a ratio of the building perimeter.

FLOOR AREAS

Based on the architectural drawings, the definition of a cellar outlined above, and the enclosed sample building section, we have calculated the minimum grade along the end units where a cellar begins as follows:

Minimum Grade = First Floor Elevation – (Floor Section & Ceiling – 4 feet)
= First Floor Elevation – 5.27 feet

According to this requirement, whenever the grade on the exterior of a unit is lower than 5.27 feet below the first floor, a cellar does not exist and that portion of the lowest floor must be included in the FAR calculation. We have applied this requirement to each unit to determine the portion of the building's perimeter enclosing a non-cellar area on the lowest floor:

UNIT	NON-CELLAR PERIMETER	TOTAL PERIMETER	RATIO
17	30 feet	104 feet	28.85%
18	20 feet	104 feet	19.23%
19	20 feet	104 feet	19.23%
20	20 feet	104 feet	19.23%
21	20 feet	104 feet	19.23%
22	20 feet	104 feet	19.23%
23	30 feet	104 feet	28.85%
24	0 feet	104 feet	0 %
25	0 feet	104 feet	0 %
26	0 feet	104 feet	0 %
27	0 feet	104 feet	0 %
28	0 feet	104 feet	0 %
29	0 feet	104 feet	0 %
30	30 feet	104 feet	28.85%
31	20 feet	104 feet	19.23%
32	20 feet	104 feet	19.23%
33	20 feet	104 feet	19.23%
34	30 feet	104 feet	28.85%

UNIT	NON-CELLAR PERIMETER	TOTAL PERIMETER	RATIO
42	0 feet	108 feet	0 %
43	0 feet	108 feet	0 %
44	0 feet	108 feet	0 %
45	0 feet	108 feet	0 %
46	0 feet	108 feet	0 %
47	0 feet	108 feet	0 %
48	0 feet	108 feet	0 %

Note that the total gross floor area for each unit can now be calculated by applying these ratios to the lowest floor and then adding the two upper floors.

FLOOR AREA RATIOS

The Floor Area Ratios can be calculated based on the lot areas indicated on the Subdivision Plat and the Plat of Computation prepared by the Office of the Surveyor. This information has been outlined in the table below.

UNIT	LOT AREA	SINGLE FLOOR AREA		TOTAL GROSS FLOOR AREA	F.A.R
17	2171.16	640	x (2 + 0.2885) =	1464.64	0.675
18	1480.00	640	x (2 + 0.1923) =	1403.07	0.948
19	1480.00	640	x (2 + 0.1923) =	1403.07	0.948
20	1480.00	640	x (2 + 0.1923) =	1403.07	0.948
21	1480.00	640	x (2 + 0.1923) =	1403.07	0.948
22	1480.00	640	x (2 + 0.1923) =	1403.07	0.948
23	2337.74	640	x (2 + 0.2885) =	1464.64	0.627
24	2339.89	640	x (2 + 0.0) =	1280.00	0.547
25	1346.14	640	x (2 + 0.0) =	1280.00	0.951
26	1340.00	640	x (2 + 0.0) =	1280.00	0.955
27	1340.00	640	x (2 + 0.0) =	1280.00	0.955
28	1340.00	640	x (2 + 0.0) =	1280.00	0.955
29	2114.94	640	x (2 + 0.0) =	1280.00	0.605
30	2031.19	640	x (2 + 0.2885) =	1464.64	0.721
31	1186.00	640	x (2 + 0.1923) =	1403.07	1.183
32	1186.00	640	x (2 + 0.1923) =	1403.07	1.183
33	1186.00	640	x (2 + 0.1923) =	1403.07	1.183
34	1819.24	640	x (2 + 0.2885) =	1464.64	0.805
42	1832.40	704	x (2 + 0.0) =	1408.00	0.768
43	1805.32	704	x (2 + 0.0) =	1408.00	0.780
44	1805.32	704	x (2 + 0.0) =	1408.00	0.780
45	1805.32	704	x (2 + 0.0) =	1408.00	0.780
46	1805.32	704	x (2 + 0.0) =	1408.00	0.780
47	1805.32	704	x (2 + 0.0) =	1408.00	0.780
48	1832.40	704	x (2 + 0.0) =	1408.00	0.768

LOT OCCUPANCY CALCULATIONS

Similar calculations can be performed for the amount of lot occupied by the building for each of the 25 units. This information has been outlined in the table below.

UNIT	LOT AREA	SINGLE FLOOR AREA	LOT OCCUPANCY (%)
17	2171.16	640	29.48
18	1480.00	640	43.24
22	1480.00	640	43.24
23	1480.00	640	43.24
24	1480.00	640	43.24
22	1480.00	640	43.24
23	2337.74	640	27.38
24	2339.89	640	27.35
25	1346.14	640	47.54
26	1340.00	640	47.76
27	1340.00	640	47.76
28	1340.00	640	47.76
29	2114.94	640	30.26
30	2031.19	640	31.51
31	1186.00	640	53.96
32	1186.00	640	53.96
33	1186.00	640	53.96
34	1819.24	640	35.18
42	1832.40	704	38.42
43	1805.32	704	39.00
44	1805.32	704	39.00
45	1805.32	704	39.00
46	1805.32	704	39.00
47	1805.32	704	39.00
48	1832.40	704	38.42

AFFECT OF OPEN SPACE

Since open space is being provided behind the units located in the R-5-A Zoning District, the overall F.A.R. and lot occupancy is mitigated. A calculation has been performed to determine the amount of open space, which affects units 17 through 34. This open space can be added to the lot areas to re-assess the total area and the Floor Area Ratio can be re-calculated as a single overall value as follows:

	LOT AREA	TOTAL GROSS FLOOR AREA	F.A.R.
UNITS 17-34	29138.30	24763.12	
OPEN SPACE	14566.64		
TOTAL	43704.94	24763.12	0.567