Zoning Resolution

THE CITY OF NEW YORK
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CITY PLANNING COMMISSION
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81-273 - Rules for plotting buildings on the daylight evaluation chart

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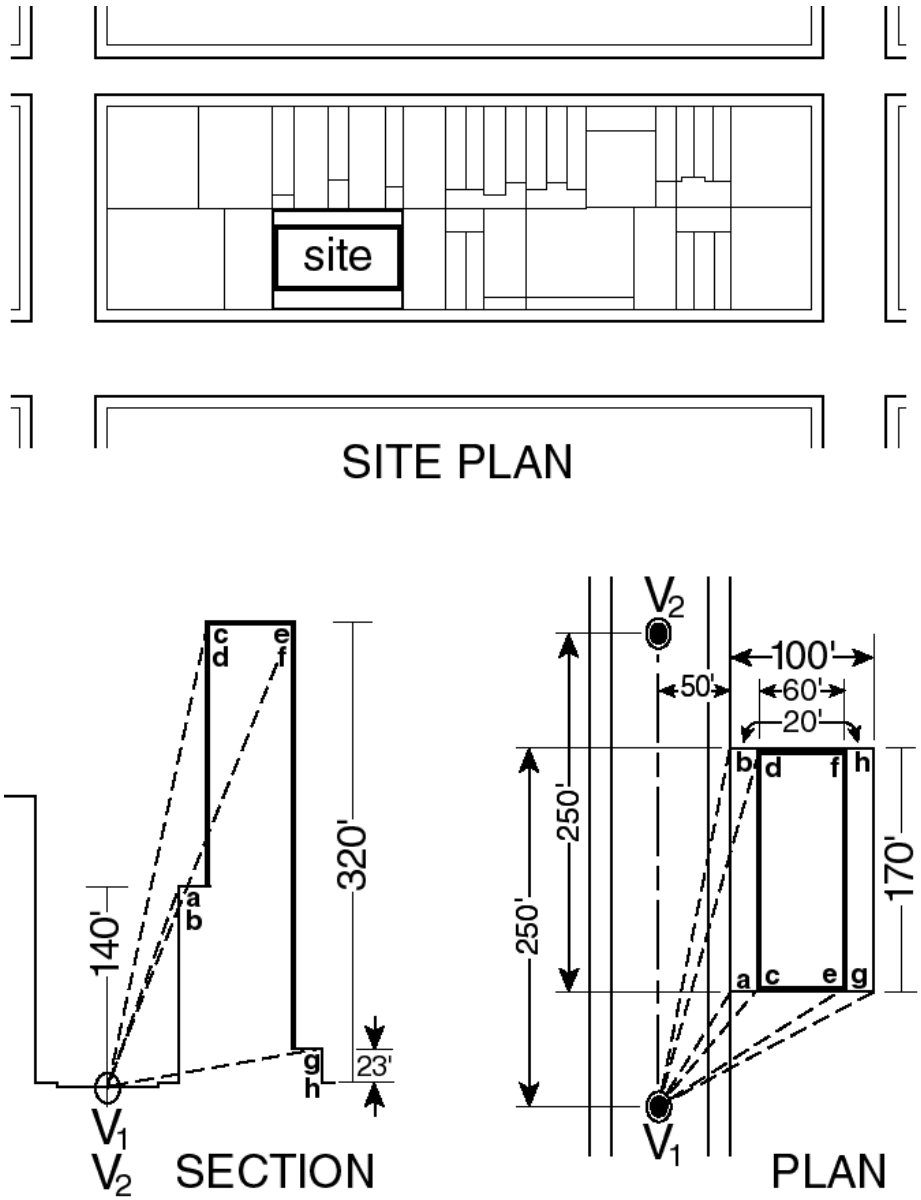
LAST AMENDED
2/2/2011

Evaluation of a #development# or #enlargement# requires drawing the new #buildings#, remaining #buildings# and open areas on the #zoning lot# on the appropriate #daylight evaluation chart (DEC)#, as viewed from each required #vantage point# and then scoring the #zoning lot#. The rules for plotting #buildings# on the #DEC# are set forth in the following paragraphs of this Section and illustrated by an example of a #building# which fronts on a 100-foot wide #street# and occupies a site 170 feet long by 100 feet deep.

(a) Draw the #building#

Draw the #building# in plan showing all #street# frontages of the #zoning lot#. Draw the #building# in section perpendicular to each #street# on which the #zoning lot# fronts. On both plan and section drawings label all corners of the #building#. In the example they are labeled corners (a) through (h). (See illustrations of Example: Building Drawings)



EXAMPLE: BUILDING DRAWINGS

(81-273a)

(b) Establish #vantage points#

Establish on the plan all the #vantage points# from which views must be taken. #Vantage points# shall be established on the #center line of the vantage street# 250 feet from the intersection of the #zoning lot's# #far lot line# and the #center line of the street#. For each #vantage street# there are at least two #vantage points#. In the example, they are V1 and V2.

For each #vantage point# there shall be a separate #daylight evaluation chart#. The example will use #vantage point# one.

(c) Record plan and section dimensions

Record on a coordinate chart for each corner of the #building# the following dimensions:

(1) Dimensions in plan:

The distance (S) between the corner and the #center line of the street# as measured along a line that intersects the #center line of the street# at right angles. In the example, distance (S) of corner (b) + 50 feet.

The distance (D) measured along the #center line of the street# from the #vantage point# to the point where the #street# center line is intersected by the perpendicular line from the corner. In the example, distance (D) of corner (b) + 250 feet.

(2) Dimension in section:

The height (H) of the corner above #curb level#. In the example, height (H) of corner (b) + 140 feet.

(d) Calculate plan and section angles

Determine the plan and section angles for each corner of the #building# as viewed from the #vantage point#.

(1) A plan angle is an angle on the plan formed at the #vantage point# by the line of sight to a corner of the #building# and the #center line of the vantage street#. The plan angle is found by calculating the tangent. The tangent is the quotient found by dividing distance (S) by distance (D). The plan angle for the resulting tangent is found

in a tangent table and is then entered on the coordinate chart in the column marked "plan angles."

(2) The section angle is an angle formed by a line representing the distance in section from a corner of the #building# to the #center line of the vantage street# and a line representing the distance in plan (S) between the corner and the #center line of the street#. The section angle is found by calculating its tangent. The tangent is the quotient obtained by dividing the height of the corner (H) by its horizontal distance (S) from the #center line of the street#.

The section angle for the resulting tangent is found in a tangent table and is then entered on the coordinate chart in the column market "section angles."

EXAMPLE OF COORDINATE CHARTS

Plan Angles

Point	Distance (S) from #Street# Center Line (in feet)	Distance (D) from #Vantage Point# 1 (in feet)	Tangent (S÷D) of Angle	Angle
a	50	80	50/80 = 0.63	32.0^{o}
b	50	250	50/250 = 0.20	11.3^{o}
c	70	80	70/80 = 0.87	41.2^{o}

d	70	250	70/250 = 0.28	15.6^{o}
e	130	80	130/80 = 1.63	58.4^{o}
f	130	250	130/250 = 0.52	27.5^{o}
g	150	80	150/80 = 1.88	61.9^{o}
h	150	250	150/250 = 0.60	31.0^{o}

Section Angles

Point	Height (H) Above #Curb Level# (in feet)	Distance (S) from #Street# Center Line (in feet)	Tangent (H÷S) of Angle	Angle
a & b	140	50	140/50 = 2.80	70.3^{o}
c & d	320	70	320/70 = 4.57	77.7^{o}
e & f	320	130	320/130 = 2.46	67.9^{o}
g & h	23	150	23/150 = 0.15	8.7^{o}

(e) Plot corner coordinates

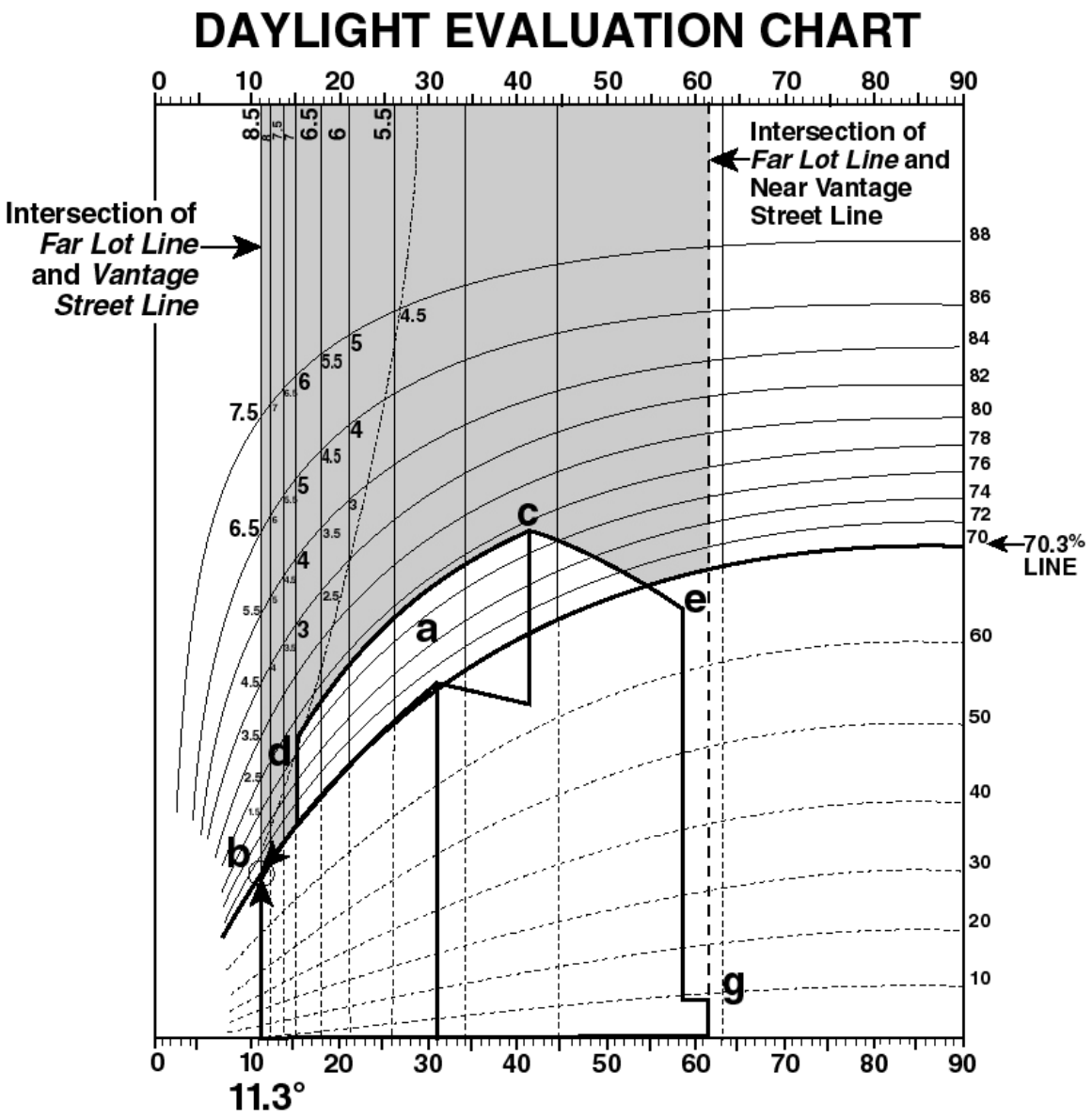
Plot each corner of the #building# onto the #daylight evaluation chart# at the point where the coordinates for that corner intersect. The plan angle coordinates are found on the horizontal axis of the chart and the section angle coordinates are found on the vertical axis. The points plotted are then connected to represent the edges of the #building# as shown on the plan and section drawings. A connecting line parallel to the #street line# of the #vantage street# is drawn as a curve parallel to the closest elevation line. A connecting line perpendicular to the #street line# of the #vantage street# is drawn parallel to the closest dotted elevation line, which is perpendicular to the #street#. A connecting line which is neither parallel nor perpendicular to the #vantage street# is approximated on the chart by:

(1) establishing points along the line in plan at 10-foot intervals;

(2) finding the coordinates of the points and plotting them on the chart; and

(3) connecting the resulting points.

The connecting lines produce a curvilinear perspective drawing of the #building# as seen from the #vantage point# projected onto the #daylight evaluation chart#. Since in the example #vantage point# one is on a 100 foot wide #street#, corner coordinates are plotted on a #daylight evaluation chart# for 100 foot wide #streets#. In the example, corner (b) is at the intersection of plan angle 11.3^{o} and section angle 70.3^{o} (See illustration of Building as Drawn on the Daylight Evaluation Chart)



BUILDING AS DRAWN ON THE DAYLIGHT EVALUATION CHART

(81-273e)

(f) Determine daylight boundaries

Draw a vertical line on the chart rising from the intersection of the #near lot line# of the #zoning lot# with the center line of the #block# or with a line 100 feet distant from and parallel to the #front lot line# on the #vantage street#, whichever line is closer to the #vantage street#. This line and the #far lot line# represent the boundaries of the potential sky area that

the #building# could block. (See illustration of Building as Drawn on the Daylight Evaluation Chart)