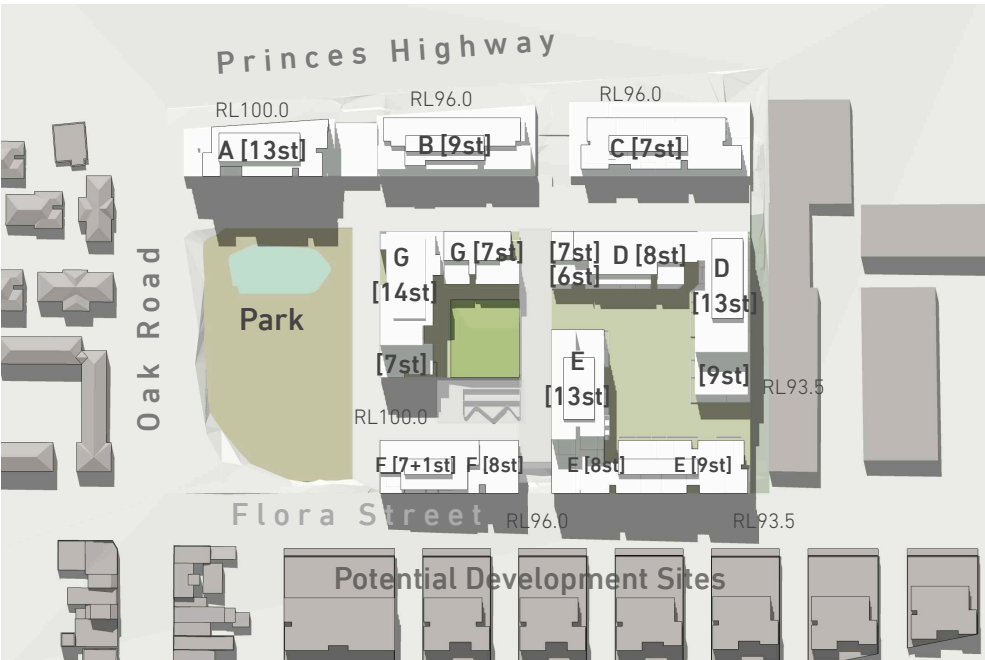


South Village: Kirrawee
Massing & Sunlight-Shade Analysis
South Village Pty Ltd
September 2014



MP10-0076 Approval: Plan
Layout of the existing approval.



Mod3 Amendment: Plan

Following comments from Sutherland Council and the Department of Planning & Environment, there was the opportunity for further consideration of the balance of sunlight and shade in the public domain and adjoining sites. This analysis facilitated a shifting of building form across the site in order to achieve a more favourable distribution of light and shade.

The proposed option repositioned the Building F upper tower levels to Building A and shifted the upper levels of Building E to the north.

An additional level was added to Building B, D and F. These levels were located on the north side of each of the buildings so that the solar access to areas to the south [including the public domain] were minimised.

Buildings D, E and G were reduced in size by reallocating the southern parts of the floor plates elsewhere to allow increased sunlight to courtyards and areas to the south.

Note that the storeys nomenclature was updated to include a nominated base point for the storey count. The base RL is indicated on the plan and perspective views in light text. This allows a direct comparison with the revised proposal to the right.



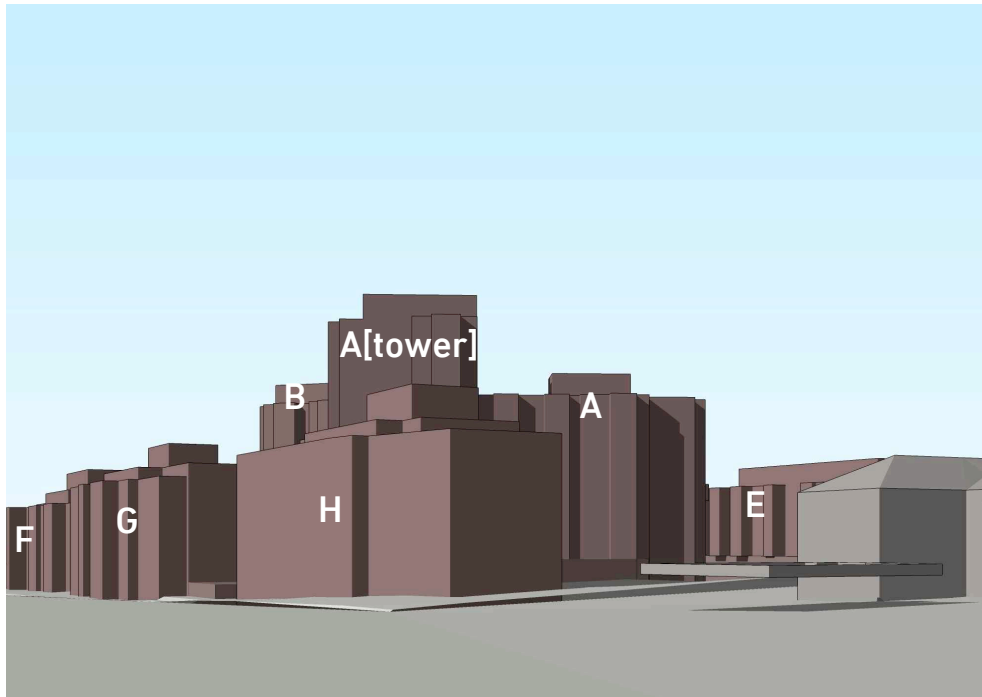
Revised Proposal: Plan

After further discussion with the Department of Planning & Environment, another series of refinements were made to the proposal.

Building A was reduced by two levels for a marginal daylight increase to a portion of the north side of the Park.

Buildings F and E were further reduced by 1-2 storeys so that the elevation presented 6 storeys + 1 setback storey to Flora Street. The setback storey is indicated by asterisk [*]. The reduction in height and the setback further assisted the solar access to the potential development sites on the southern side of Flora Street.

The storeys nomenclature was also updated to include a nominated base point for the storey count. The base RL is indicated on the plan and perspective views in light text.



MP10-0076 Approval: Princes Highway & Oak Road



MOD3 Application: Princes Highway & Oak Road

Building A: 13 storeys above RL100.0 [11 residential]

Building B: 9 storeys above RL96.0 [7 residential]

Building C: 8 storeys above RL96.0 [5 residential]

Building F [west]: 7+1* storeys above RL100.0 [7 residential]

This option relocated 5 floors from Building F to Building A on the Princes Highway. An additional storey is added to the north aspect of Building B.

Note: set-back storeys are indicated by asterisk [*].



Revised Proposal: Princes Highway & Oak Road

Building A: 11 storeys above RL100.0 [9 residential]

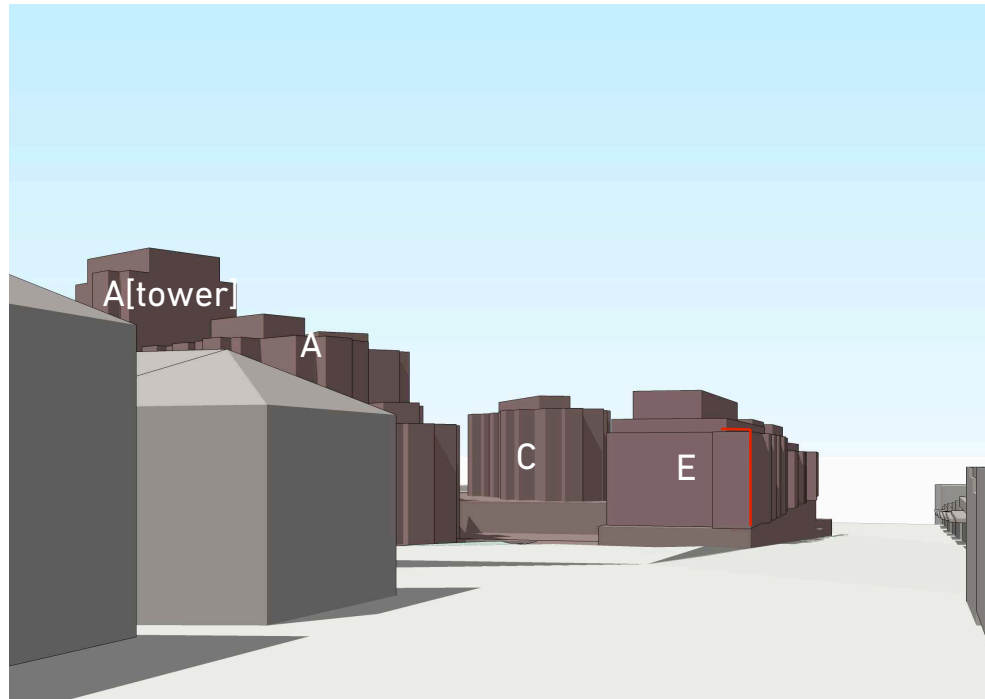
Building B: 9 storeys above RL96.0 [7 residential]

Building C: 8 storeys above RL 96.0 [5 residential]

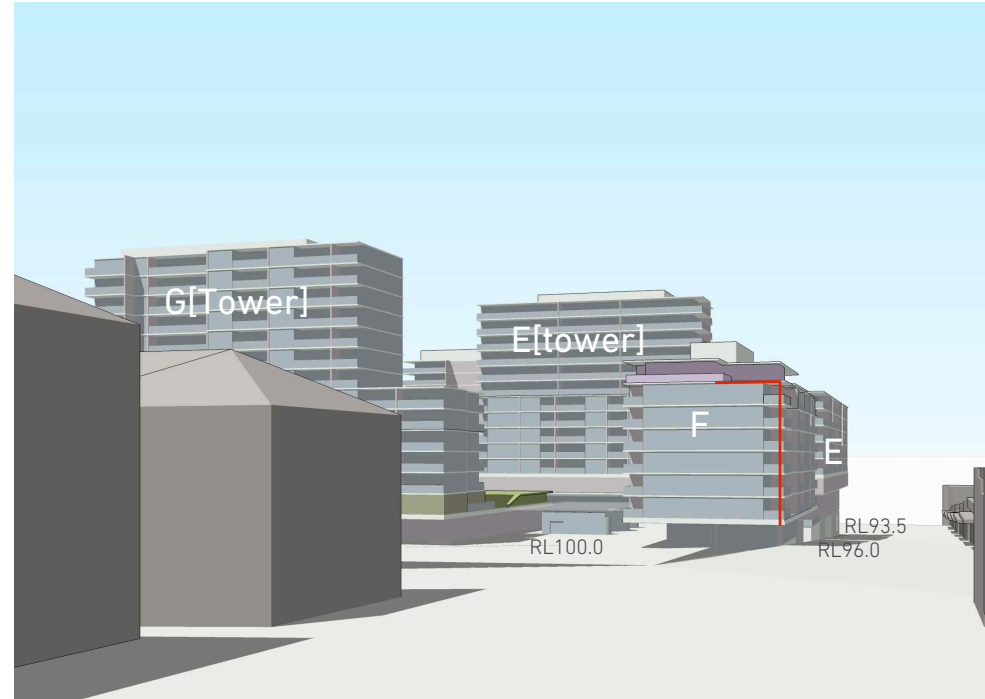
Building F [west]: 5+1* storeys above RL100.0 [5 residential]

The revised option reduces Building A by two floors and Building F by one floor with one setback level fronting Flora Street.

Note: set-back storeys are indicated by asterisk [*].



MP10-0076 Approval: Oak Rd & Flora St
 Building E: 5+1 storeys [5 residential]
 Building C: 7 storeys [6 residential]
 Building A [tower]: 14 storeys [13 residential]



Mod3 Amendment: Oak Rd & Flora St
 Building E [west]: 8 storeys above RL 96.0 [5 residential]
 Building E [east]: 9 storeys above RL 93.5 [5 residential]
 Building E: [tower]: 13 storeys above RL 100.0 [12 residential]
 Building F [west]: 7+1* storeys above RL 100.0 [7 residential]
 Building F [east]: 8 storeys above RL 96.0 [6 residential]

From Oak Road the visual impact and overshadowing of Building F and E was reduced by the relocation of the upper levels to Building A and B and the shifting of the Building E tower to the north.

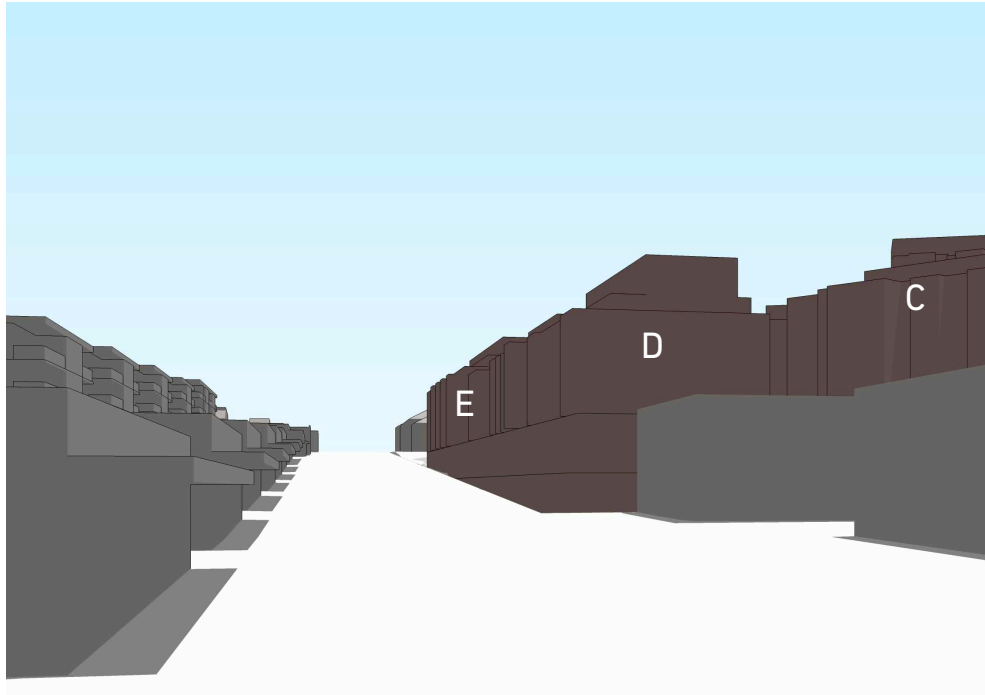
The upper level of Building F was located on the north side of the building to minimise overshadowing to the south.



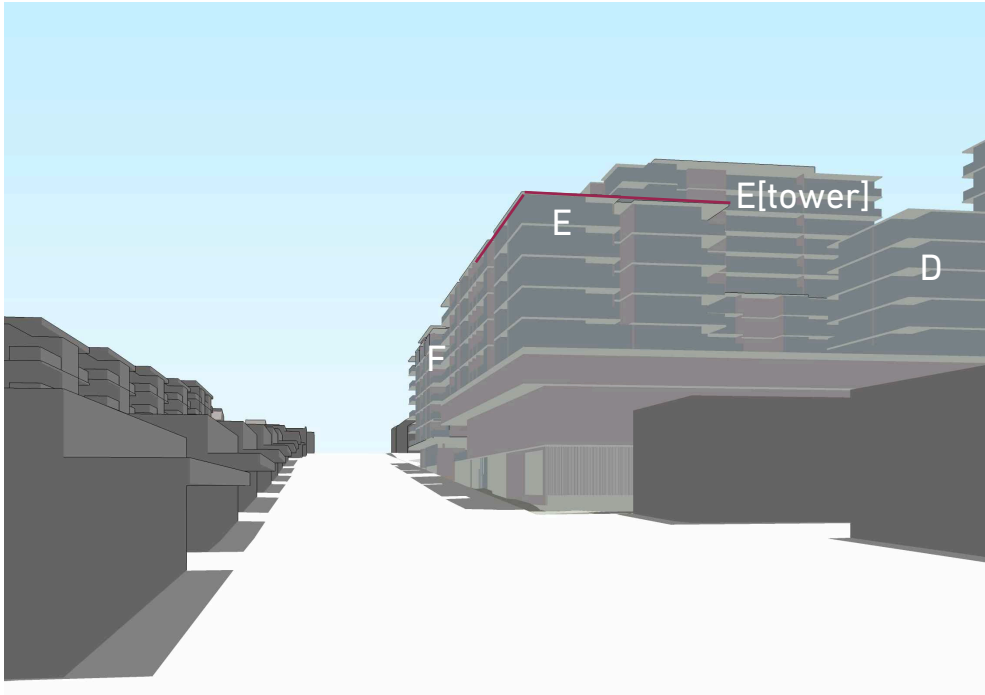
Revised Proposal: Oak Rd & Flora St
 Building E [west]: 6+1* storeys above RL 96.0 [5 residential]
 Building E [east]: 6+1* storeys above RL 93.5 [3 residential]
 Building E: [tower] 13 storeys above RL 100.0 [11 residential]

Building F [west]: 5+1* storeys above RL 100.0 [5 residential]
 Building F [east]: 6+1* storeys above RL 96.0 [5 residential]

The revised proposal lowers the Buildings fronting Flora Street to 5-6 levels with a further storey with the building line setback.



MP10-0076 Approval: South Flora St



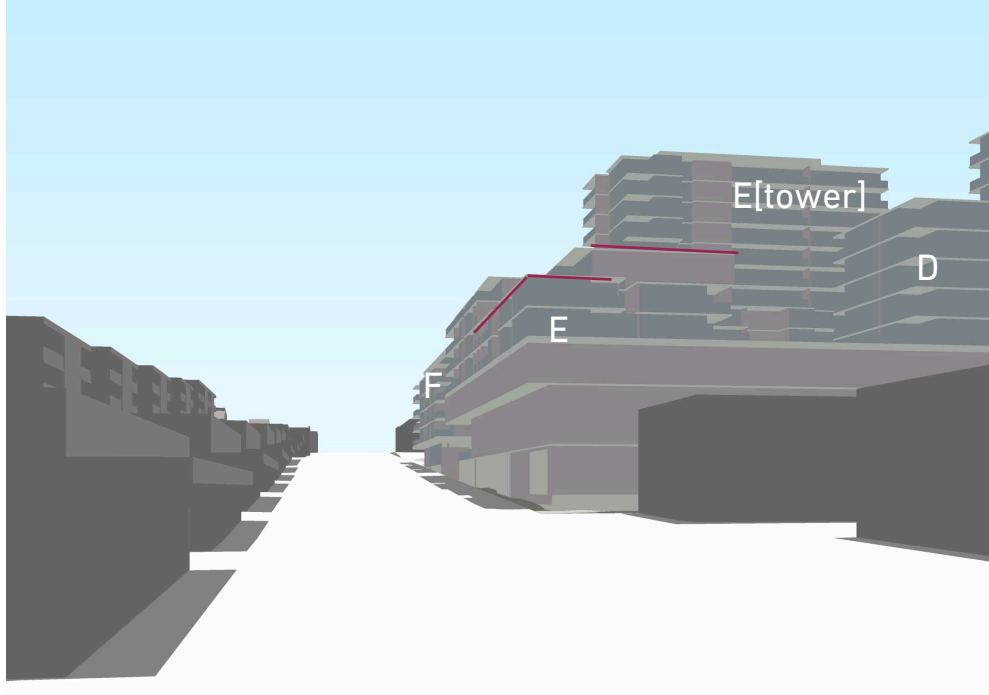
Mod3 Amendment: South Flora St

Building E [west]: 8 storeys above RL 96.0 [5 residential]
 Building E [east]: 9 storeys above RL 93.5 [5 residential]
 Building E: [tower]: 13 storeys above RL 100.0 [12 residential]

Building F [west]: 7+1* storeys above RL 100.0 [7 residential]
 Building F [east]: 8 storeys above RL 96.0 [6 residential]

Buildings fronting Flora Street were reduced in height by relocating the Building F tower levels to Building A and setting back the upper levels.

The effect of this redistribution was to reduce the visual presence of the buildings from viewpoints along Flora Street while also enhancing solar access and development opportunities for the sites to the south of Flora Street.

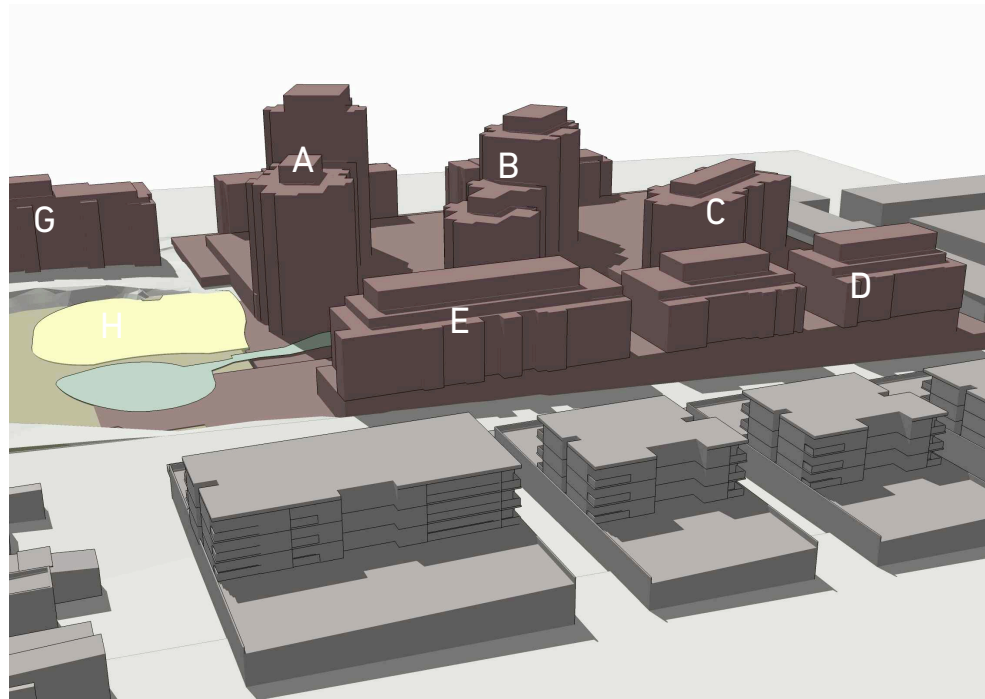


Revised Proposal: South Flora St

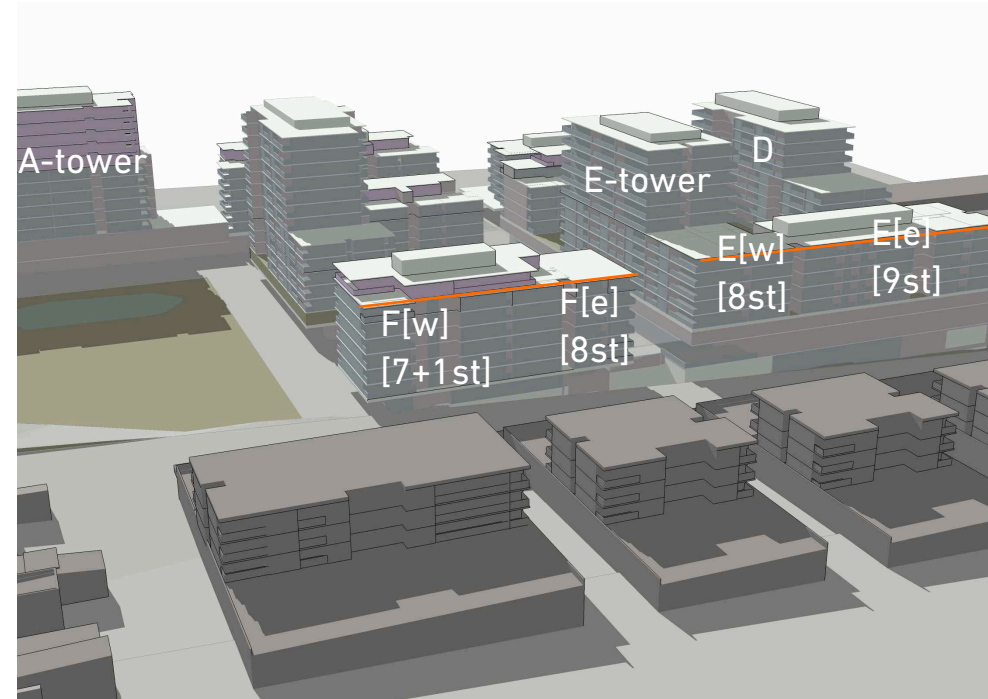
Building E [west]: 6+1* storeys [5 residential]
 Building E [east]: 6+1* storeys [3 residential]
 Building E: [tower] 13* storeys [11 residential]

Building F [west]: 5+1* storeys [5 residential]
 Building F [east]: 6+1* storeys [5 residential]

The revised proposal lowers Buildings E and F fronting Flora Street to 5-6 storeys with a further storey with the building line setback.



MP10-0076 Approval: Flora St



Mod3 Amendment: Flora St

Building E [west]: 8 storeys above RL96.0 [5 residential]
 Building E [east]: 9 storeys above RL 93.5 [5 residential]
 Building E: [tower]: 13 storeys above RL 100.0 [12 residential]

Building F [west]: 7+1* storeys above RL 100.0 [7 residential]
 Building F [east]: 8 storeys above RL 96.0 [6 residential]

Buildings fronting Flora Street were re-configured to achieve a more regular street wall [8 storeys]. The upper storey of Building F was set back to enhance sunlight to the south of Flora Street.



Revised Proposal: Flora St

Building E [west]: 6+1 storeys [5 residential]
 Building E [east]: 6+1 storeys [3 residential]
 Building E: [tower] 13 storeys [11 residential]

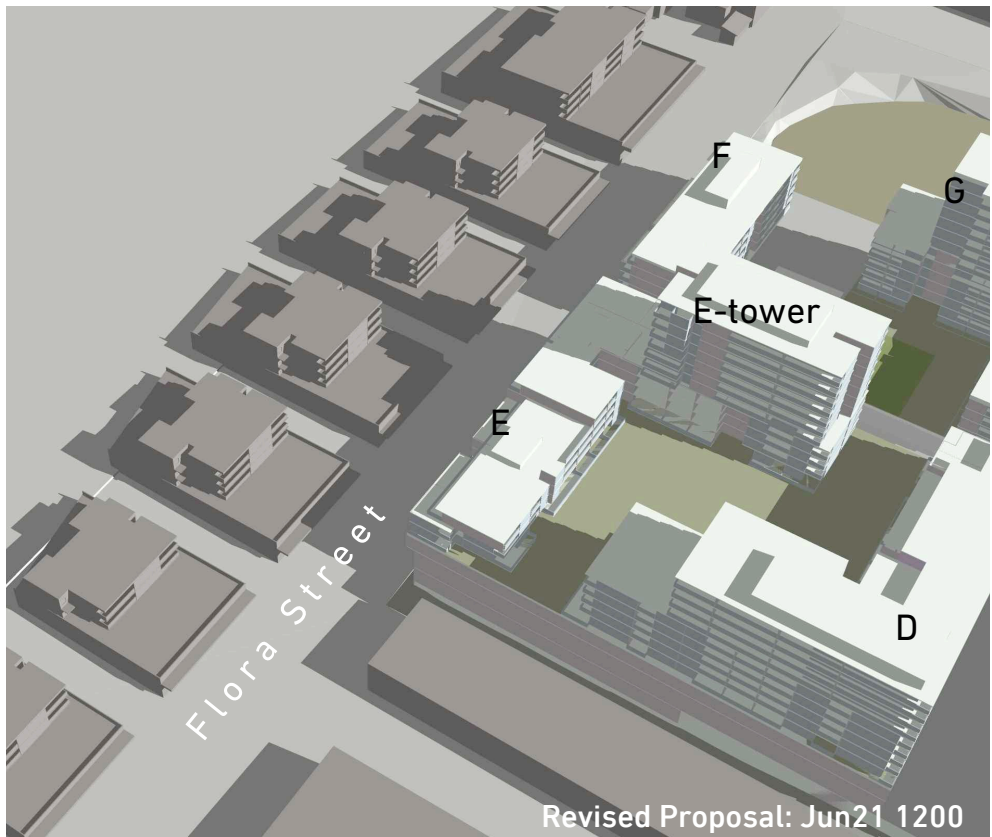
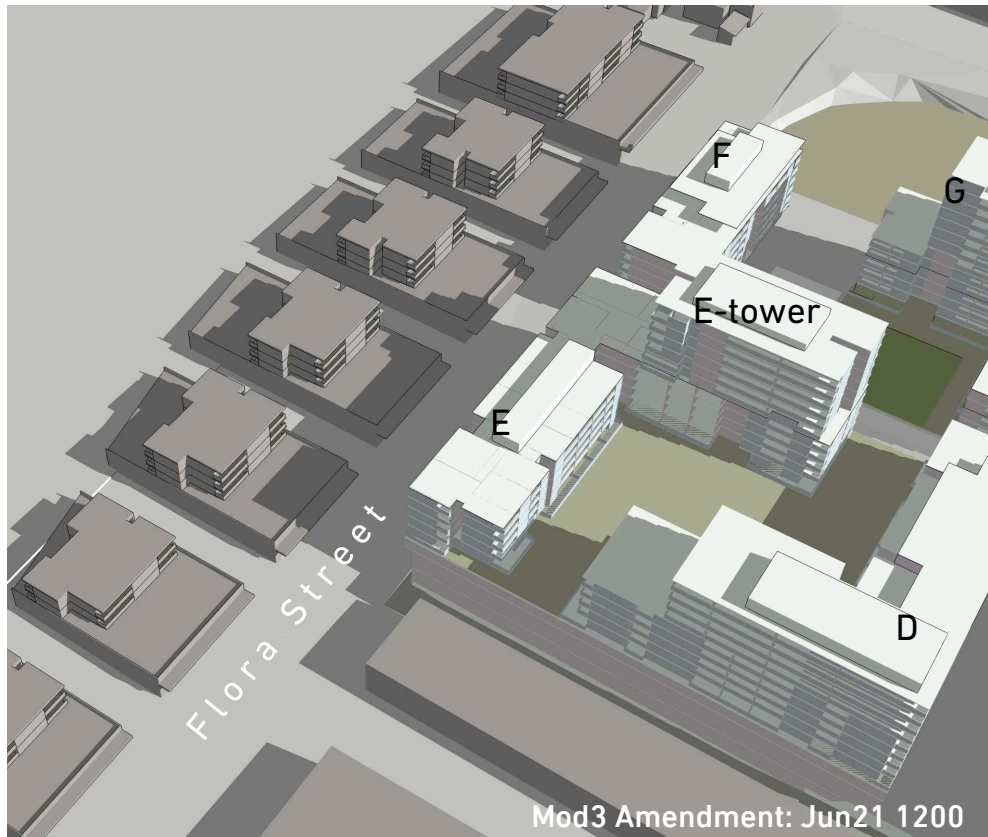
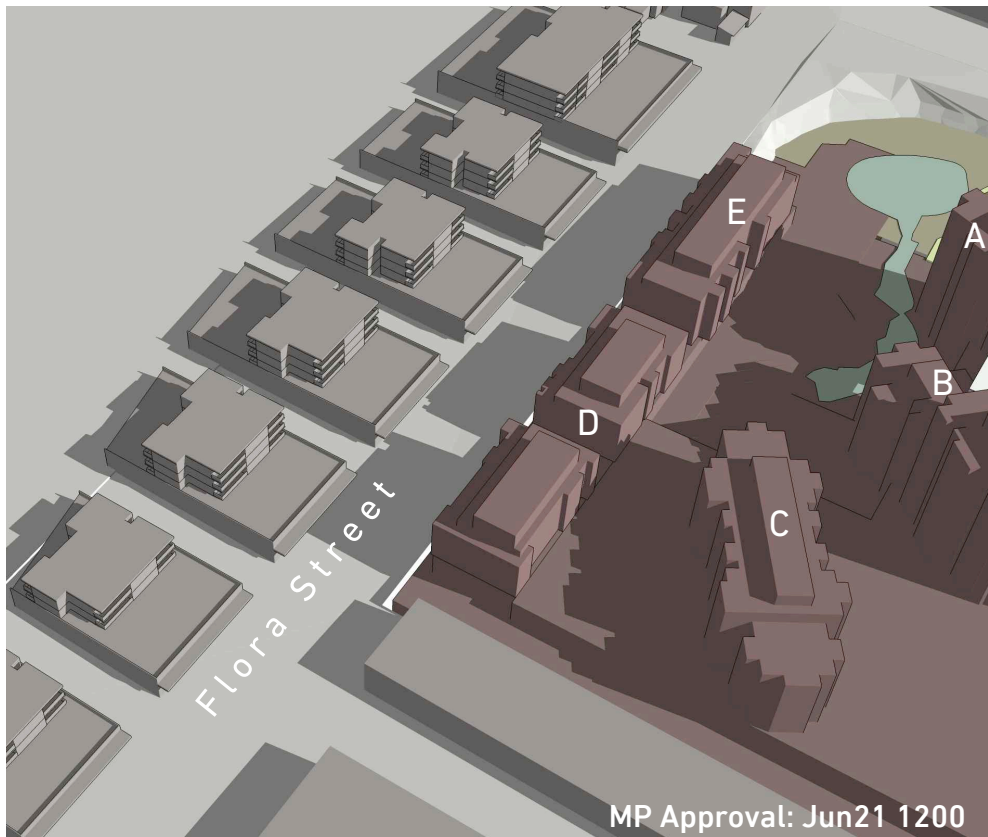
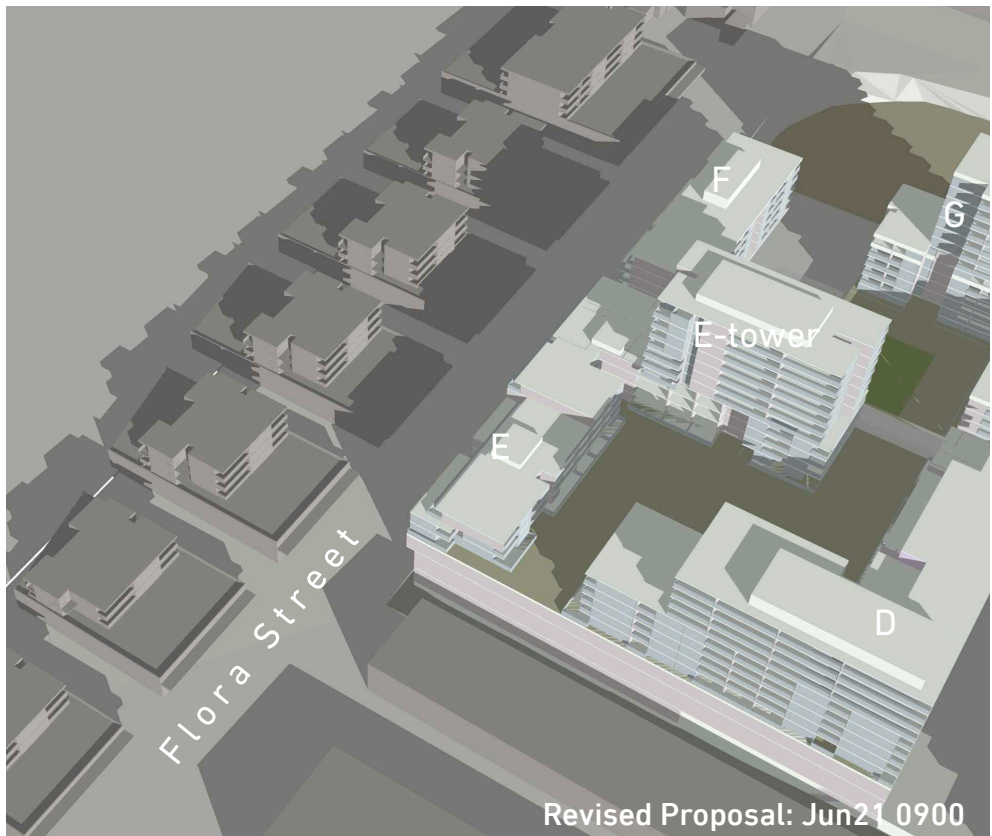
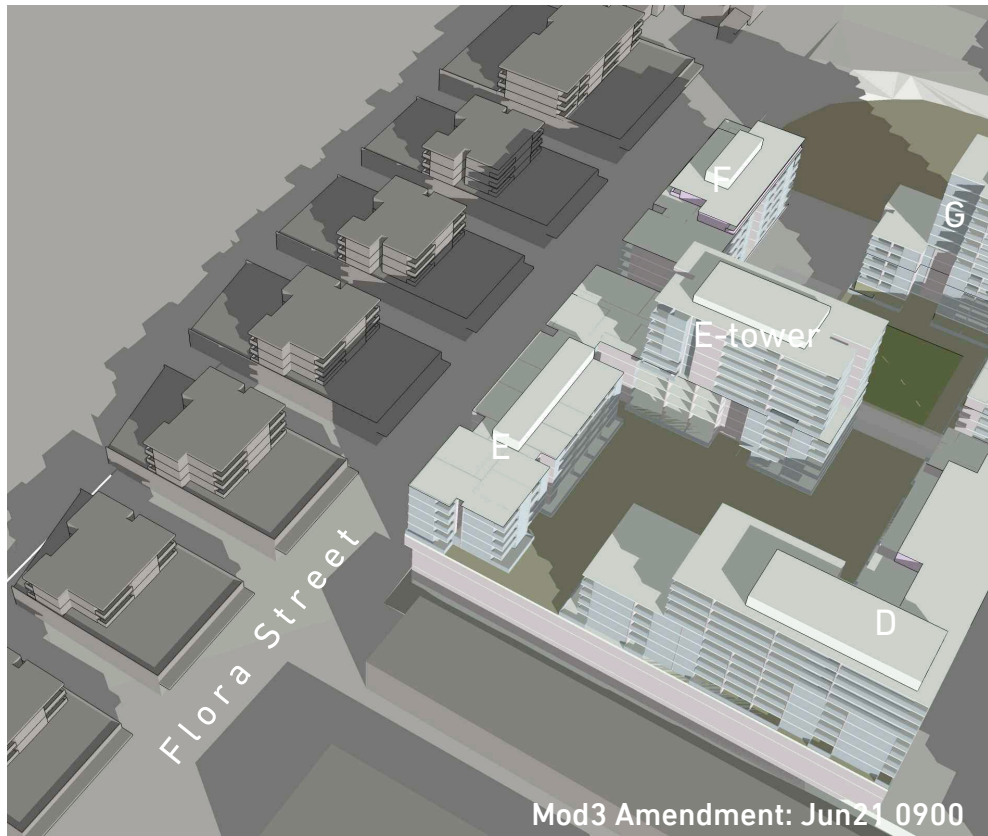
Building F [west]: 5+1 storeys [5 residential]
 Building F [east]: 6+1 storeys [5 residential]

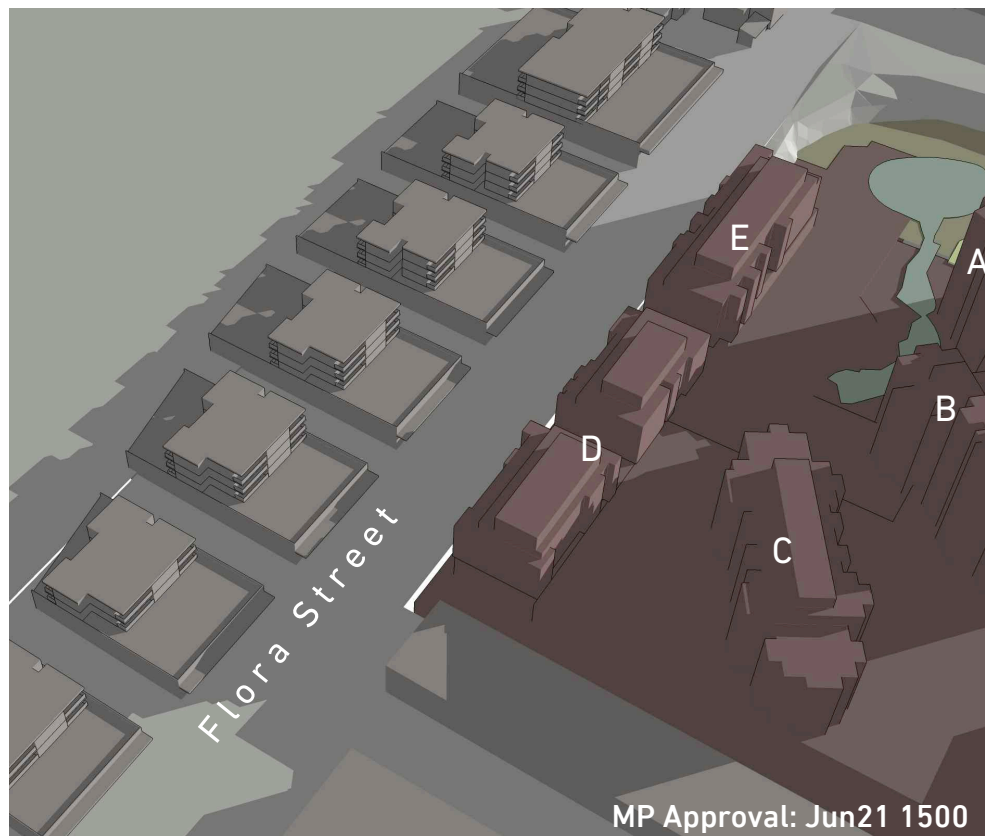
Buildings fronting Flora Street have been re-configured to achieve a more regular street wall [7-6 storeys]. The building line of the upper storeys of Buildings E and F are setback to reduce the street wall height and to improve sunlight access to the properties south of Flora Street during mid-winter.

Sunlight-Shade Comparative Analysis

Study A

Flora Street





MP10-0076 Approval

Mod3 Amendment: South Flora St

The amendments to the building form allowed additional solar access to the potential development sites on the southern side of Flora Street.

In this option, tower forms were shifted to the north, relocated or redistributed to the north edges of buildings in order to balance sunlight and shade to the public domain and adjacent sites. This permitted practical development options for the sites on the southern side of Flora Street within the 6-storey height limit and 1:1 FSR controls of the draft LEP.

The demonstrated arrangement allowed the apartments in the South Flora development sites to attain the SEPP65 3-hour recommendation of solar access to living rooms and outdoor spaces. Retail tenancies and parking would be located on the ground floor.

Revised Proposal: South Flora St

Buildings fronting Flora Street have been re-configured to achieve a more regular street wall [7-6 storeys].

The building line of the upper storeys of Buildings E and F are setback to reduce the street wall height and to improve sunlight access to the development properties south of Flora Street during mid-winter.

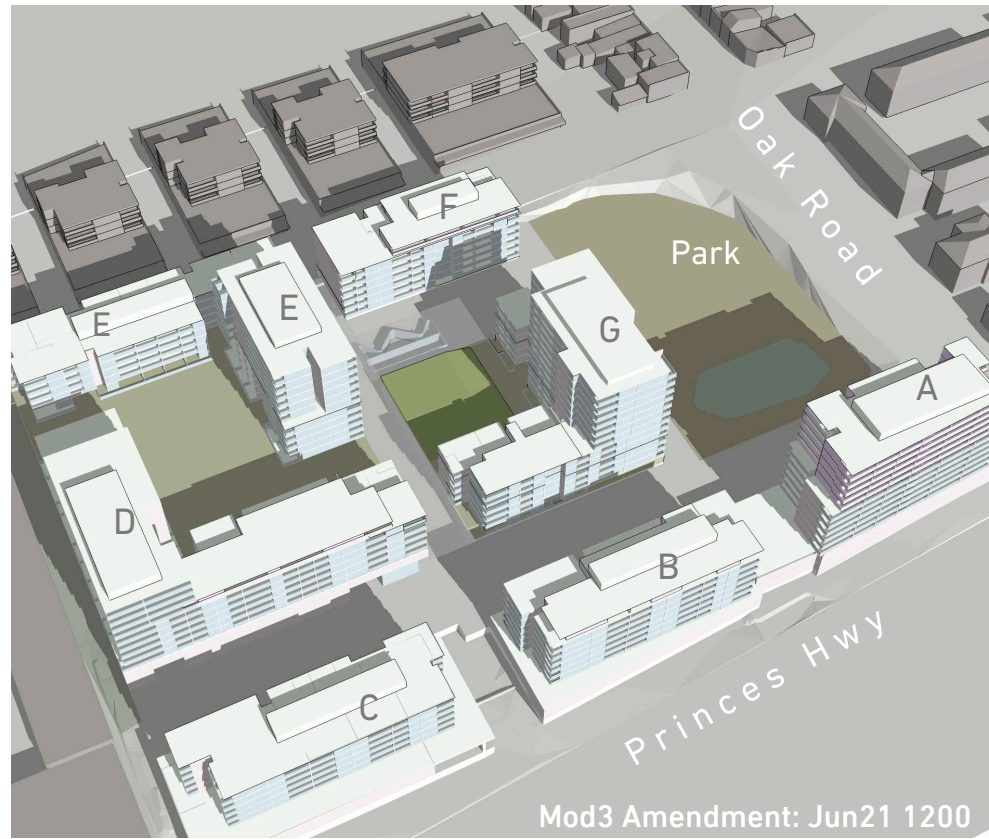
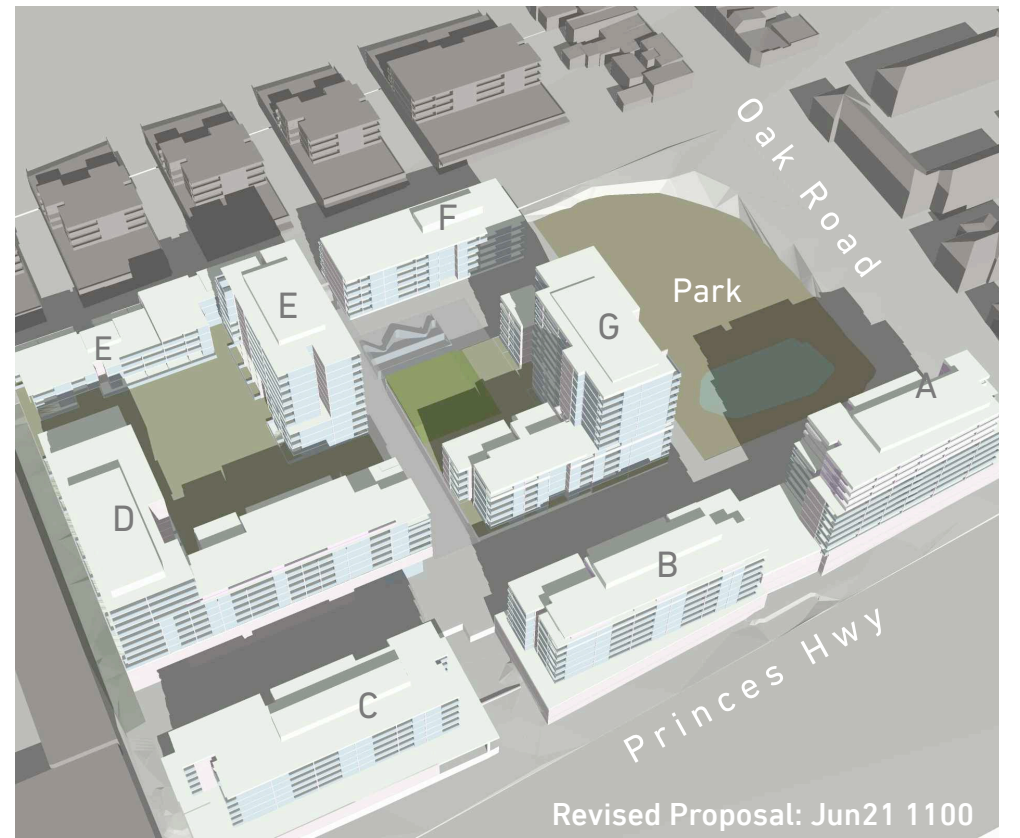
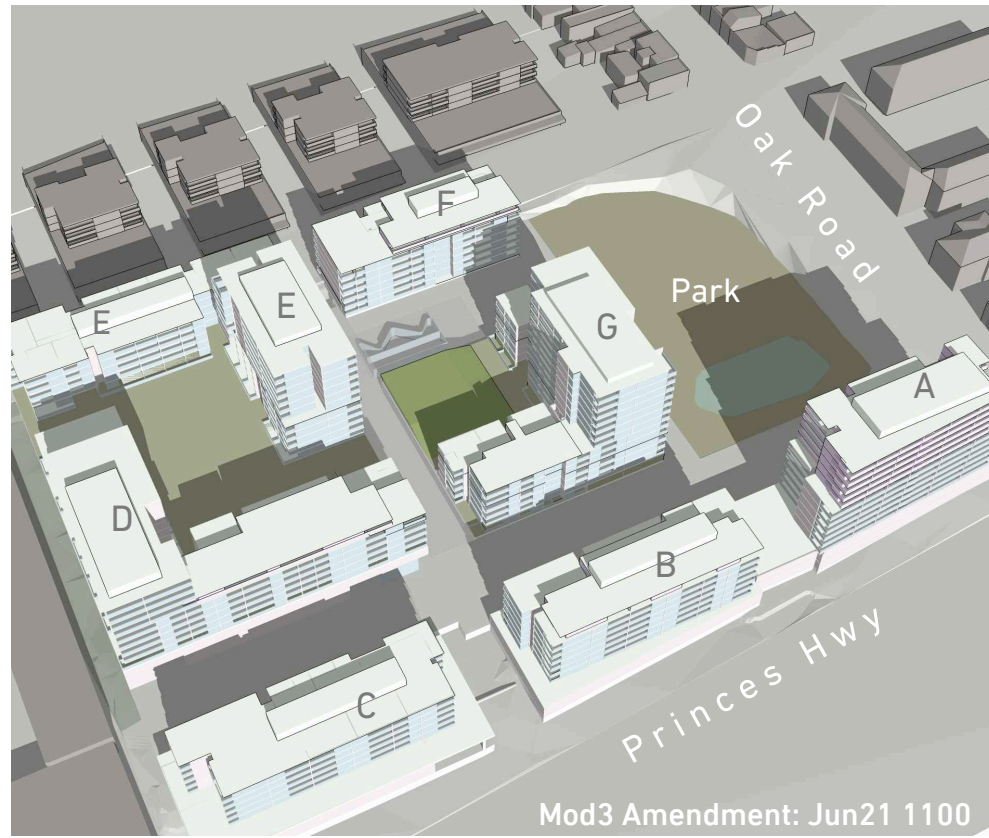
Sunlight-Shade Comparative Analysis

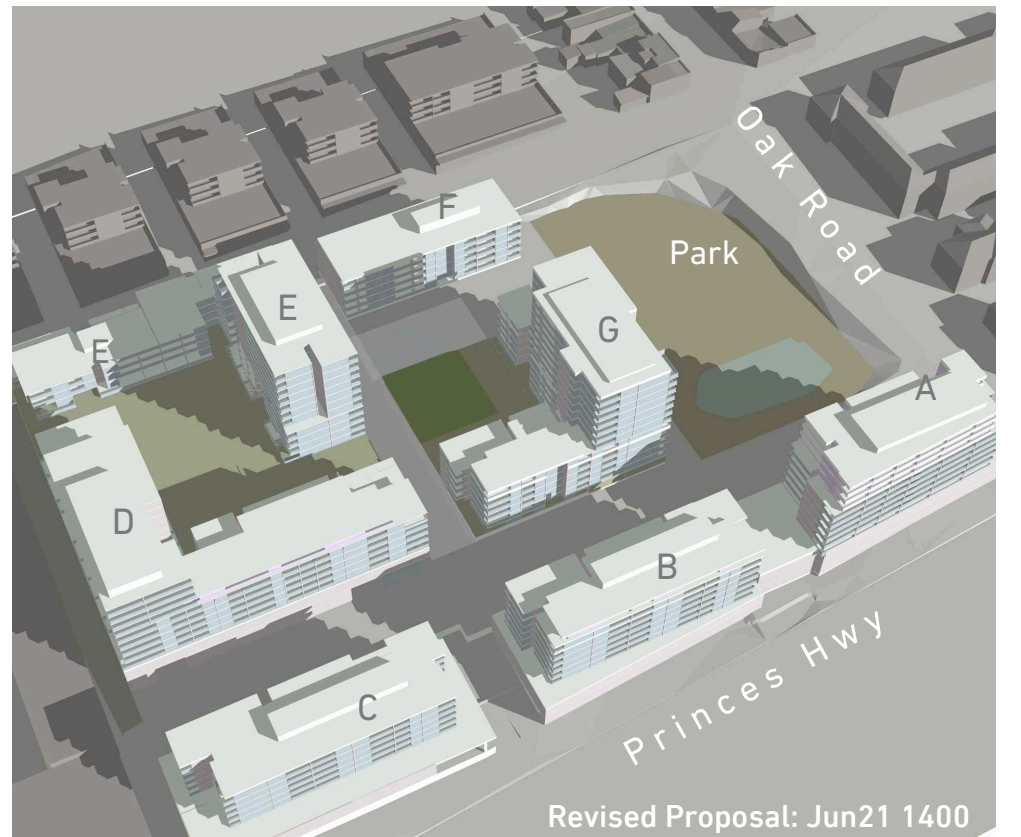
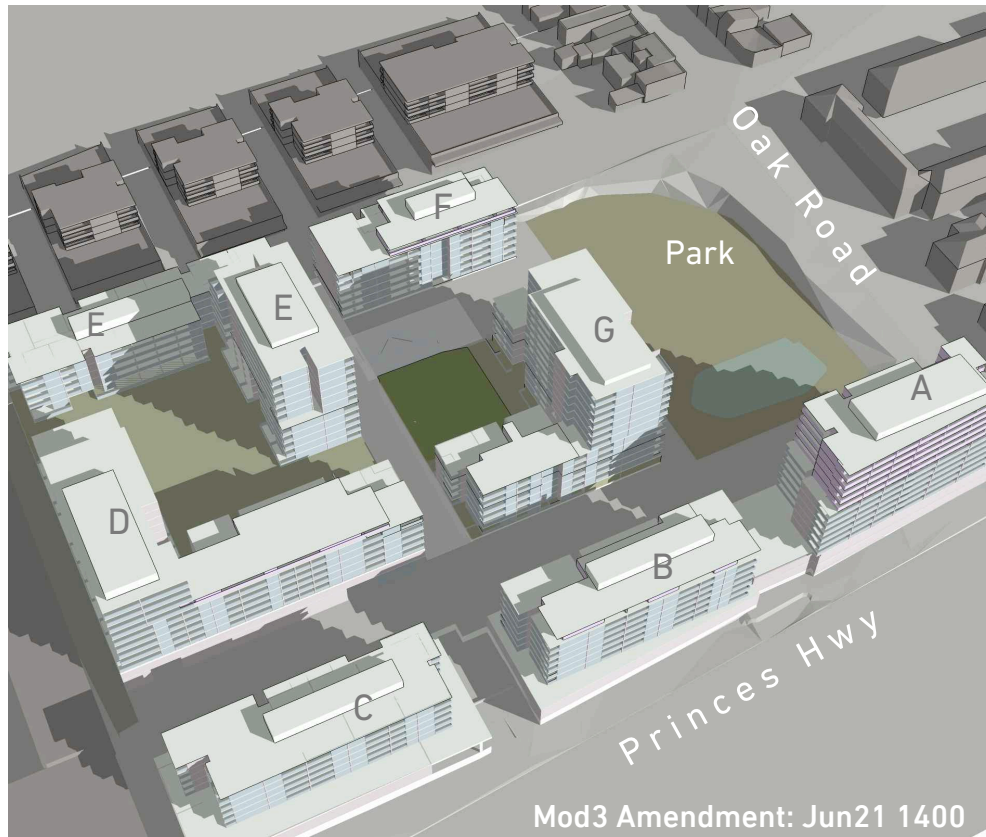
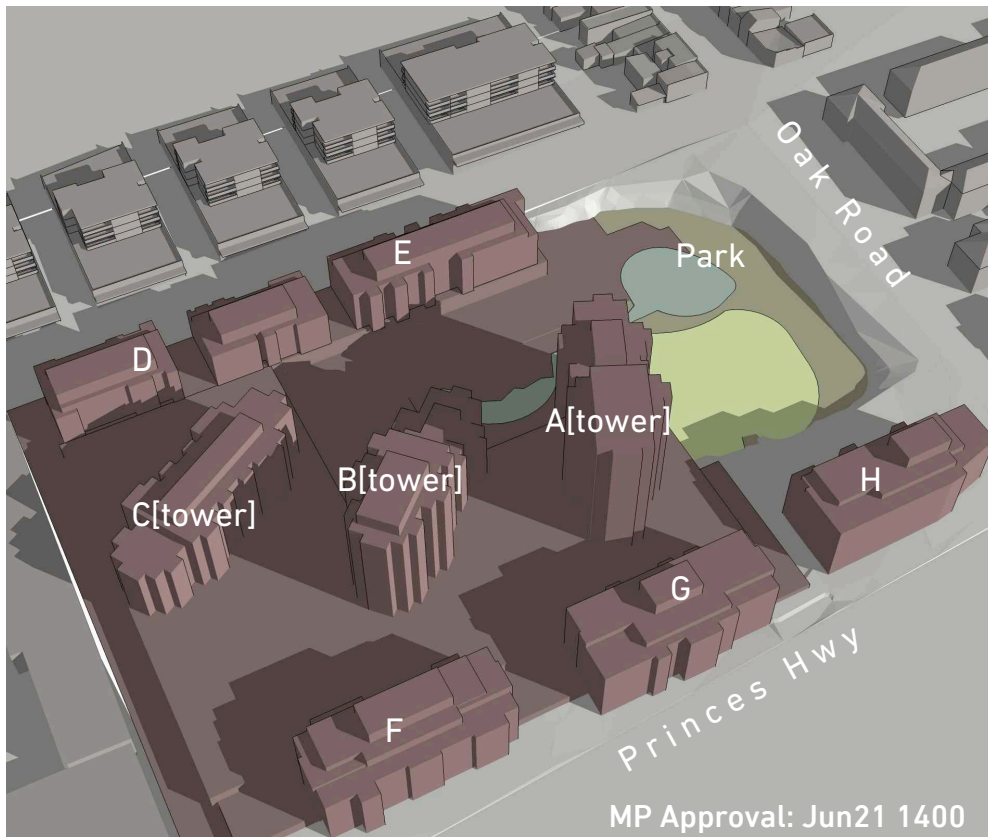
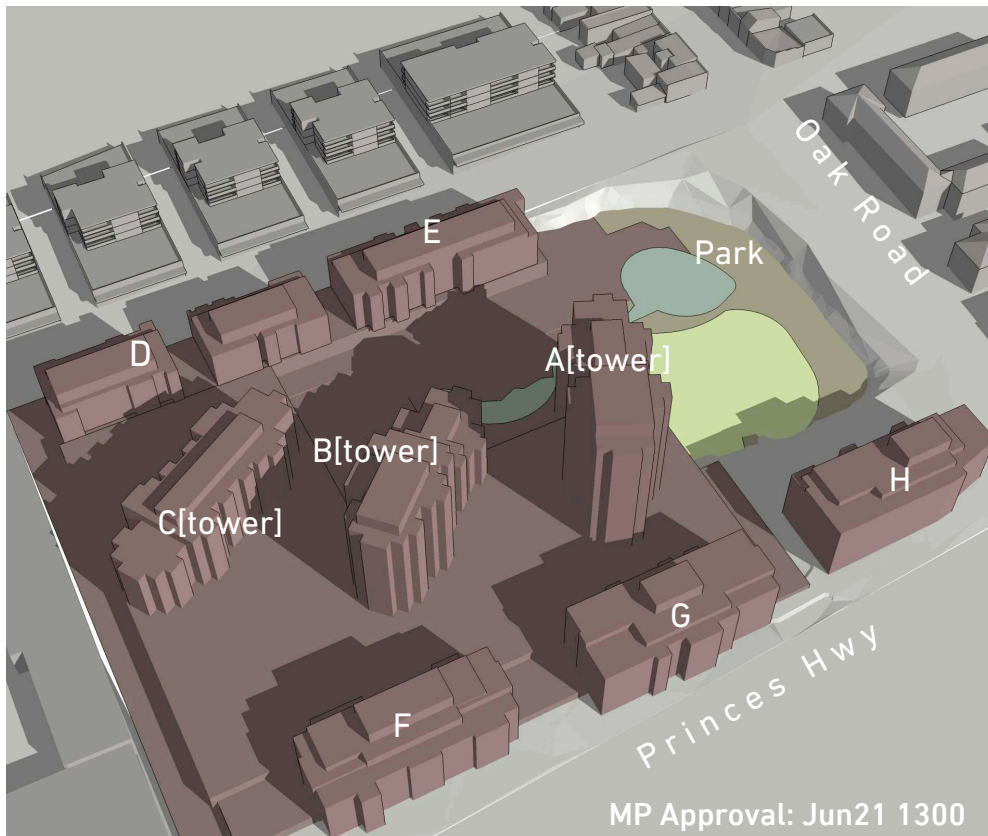
Study B

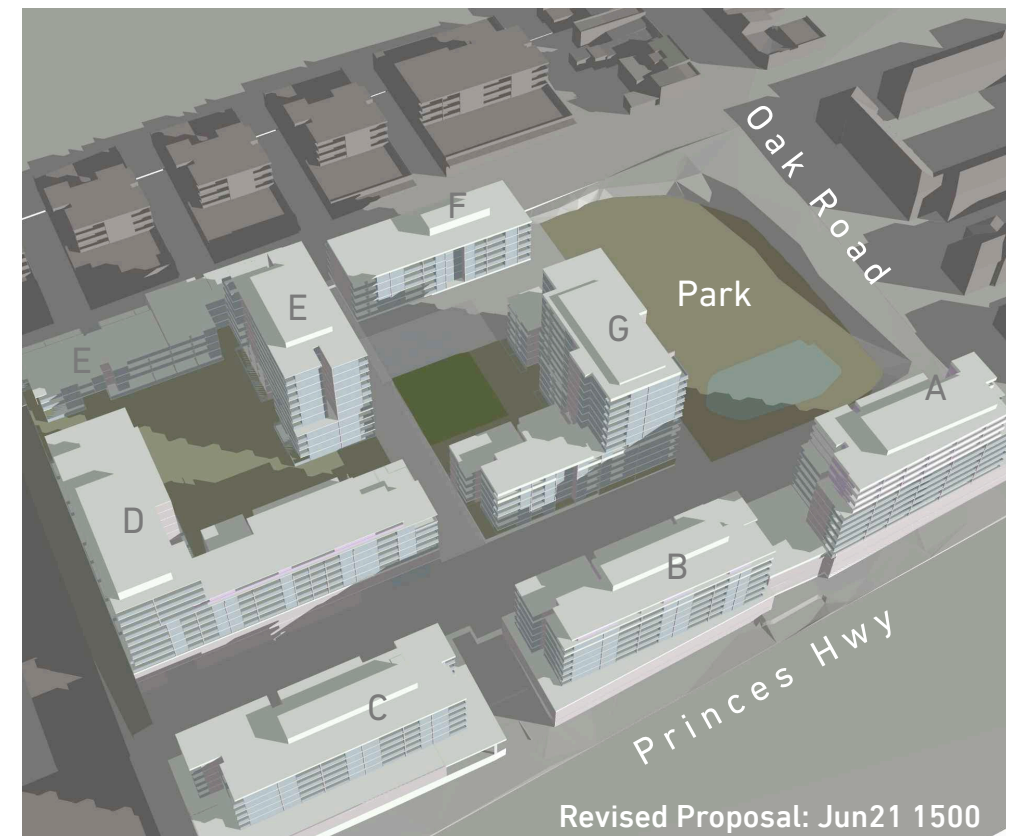
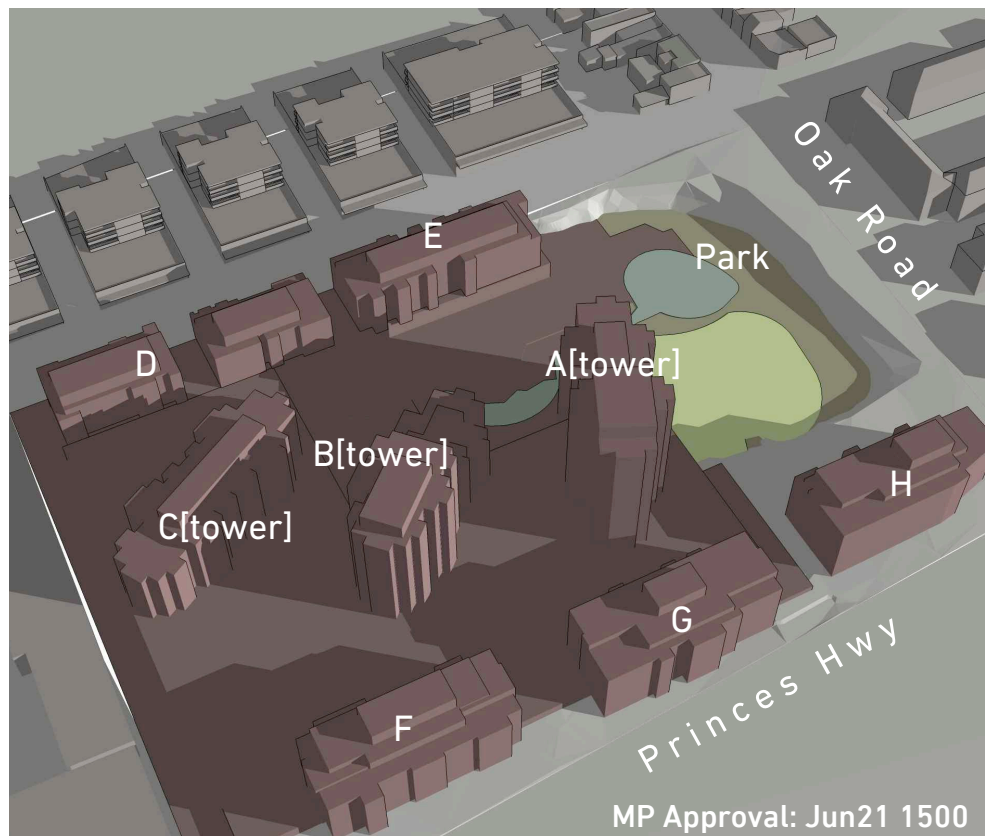
Building A Tower - Mid-Winter Solar Access to Park

Building D, E & F - Private Communal Open Space









MP10-0076 Approval: Princes Highway: High Level

Mod 3 Amendment: Princes Highway: High Level

Revised Proposal: Princes Highway: High Level

The revised position of the towers allowed a more equitable distribution of sunlight and shade for the potential development sites on the south side of Flora Street while also allowing good solar access to the public domain and park.

The shadow cast by the amended form of Building A had minimal effect on the neighbouring properties on Oak Road.

Additional floors on the north sides of buildings allowed reductions in height to more critical areas such as the Building D and G courtyards and south over Flora Street.

In this proposal, the courtyards to Building D and G enjoy good sunlight access for at least 3 hours in mid winter.

The revised proposal reduces Building A by 2 floors and the buildings fronting Flora Street by 1-2 storeys.

The net effect is to marginally improve the solar access to a portion of the north side of the park and to enhance the daylight access to the potential development sites on the south side of Flora Street.