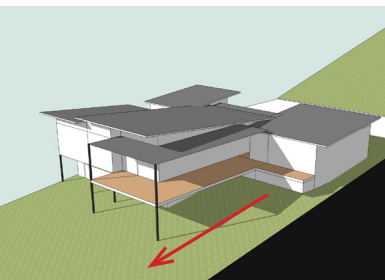
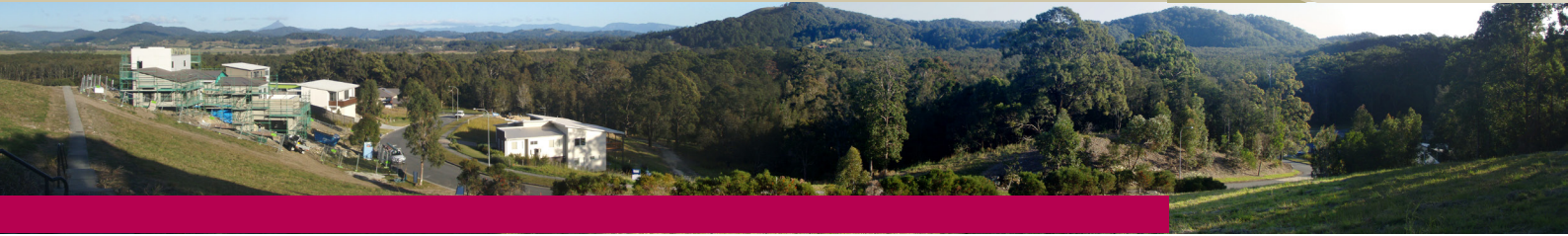


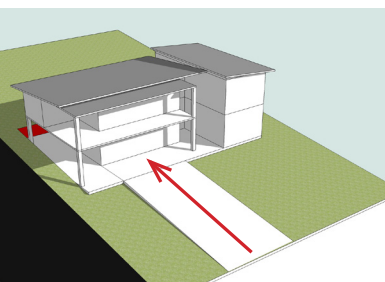
# Sloping Sites

## Your guide to building a house



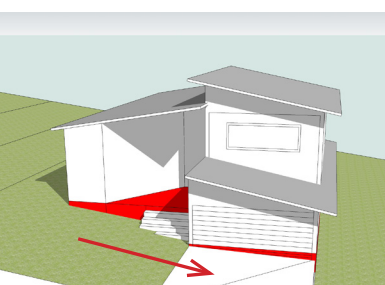
### DOWN SLOPE

- Site falls away from road.
- Conducive to split level design.
- Suits suspended structural systems and hybrid systems combining lower level slab with post and beam to upper level.
- Garage carports easier to build closer to the street.
- Avoid 'going up an extra storey' at the rear which significantly increases the buildings height and bulk from the rear.
- Aim for a level transition off the street level into the elevated living areas.



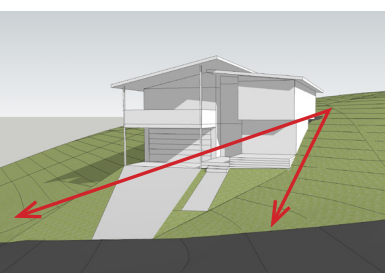
### UP SLOPE

- Site rises up from road.
- Generally require more cut allowing for lower level / garage.
- Garage doors and driveways are generally more visually dominant from the street on up slope lots. A projecting balcony over the garage reduces this visual impact.
- Aim for a level transition from elevated living areas to the rear yard.



### SIDE SLOPE

- Site rises/falls away from side boundaries.
- Design the house to generally have the garage at lower level with living space above.
- Need to avoid site 'benching' and large retaining walls at property boundaries which can lead to overshadowing, overlooking and drainage issues.



### ROLLING SLOPE

- Site rises/falls in two or more directions.
- Design the house to take up level change within the building design by splitting the house over different floor levels.
- Avoid large unsightly retaining walls outside of the building envelope and landscape batters.

Sloping sites offer unique opportunities including great views, access to cooling breezes and often result in more interesting building forms where the design accommodates the slope. They do however require more design consideration than a flat block to balance house design, excavation and potential amenity impacts on neighbouring properties.

The key to reducing increased construction costs inherent with sloping sites is minimising the amount of cut and fill and engineered retaining walls. This is achieved by adapting a house design suited your sloping site rather than trying to significantly alter the site through earthworks to 'fit' a predetermined house design.


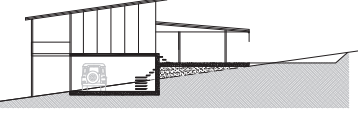
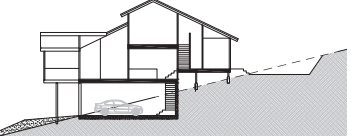
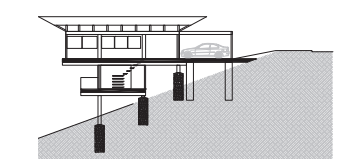
Although some cut and fill on sloping sites is unavoidable, the visual, structural and drainage impacts can be mitigated by designing the house to step with the landscape and minimise the need for extensive excavation. It is important that as part of your initial site analysis process, the slope of the site is carefully considered along with other considerations such as sun aspect, prevailing breezes and best vantage and view points from your house to make the most of your sloping block.

### SLOPING SITE RULES OF THUMB

- ☑ Get a survey to accurately plot the contours and determine the slope of your block.
- ☑ Aim to take up level change in the building design.
- ☑ If you have a sloping block, avoid 'off the shelf' designs which have been specifically designed for a flat block.
- ☑ Single slab on ground construction (most project homes) are only really appropriate up to a slope incline of 4° or 7% as the cut/fill required becomes excessive (over 1.5m);
- ☑ On slopes of 4-12° (up to 1:5) think about stepping two or more slabs or using part slab / part post and beam construction to handle the slope.
- ☑ On slopes over 12°-18° (1:5-1:3) look at post and beam construction which steps with the site.
- ☑ Slopes over 18° (1:3) are difficult sites to build on. Look at suspended or pole construction. This degree of slope can only really be accessed from a downslope configuration. It is generally too difficult to achieve an upslope driveway access.
- ☑ Be aware that additional costs on sloping sites can include excavation, retaining walls, scaffolding hire, additional engineering input, insulation under elevated timber floors and general increased labour costs.
- ☑ Offset these additional construction costs by reducing the amount of floor area you are building or even stage your development to 'infill the undercroft' at a later stage.

# Designing to a sloping block

## MATCH BUILDING DESIGN TO SUIT THE SLOPE

<b>FLAT 0-6°</b>		<b>FLAT SITES</b> Single slab on ground construction (most project homes) are only really appropriate up to a slope incline of 4° or 7° as the cut/fill required becomes excessive (over 1.5m). Slopes between 4-6° should accommodate some level change within the building footprint.	<ul style="list-style-type: none"> <li>✓ Single slab on ground</li> <li>✓ Split or multiple slab for slopes over 4°</li> <li>✓ Post and beam</li> </ul>
<b>MODERATE 6-12°</b>		<b>MODERATE SLOPE</b> On slopes of 6-12° (up to 1:5) step two or more slabs or use part slab / part post and beam construction to accommodate the slope.	<ul style="list-style-type: none"> <li>✗ Single slab on ground</li> <li>✓ Split or multiple slab</li> <li>✓ Post and beam</li> </ul>
<b>STEEP 14-18°</b>		<b>STEEP SLOPE</b> On slopes over 12°-18° (1:5-1:3) post and beam construction which steps with the site. This may include a lower part level which is a concrete slab.	<ul style="list-style-type: none"> <li>✗ Single slab on ground</li> <li>✓ Split or multiple slab</li> <li>✓ Post and beam</li> </ul>
<b>EXTREME &lt; 20°</b>		<b>EXTREME SLOPE</b> Slopes over 18° (1:3) suspended or pole construction is required. This degree of slope is more suited to a downslope configuration. Driveway access is generally difficult on upslope lots which require large batters/retaining walls and a curving driveway.	<ul style="list-style-type: none"> <li>✗ Single slab on ground</li> <li>✗ Split or multiple slab</li> <li>✓ Post and beam</li> <li>✓ Pole house</li> </ul>

## STEP BUILDING DESIGN TO SUIT THE SLOPE

