PHOTOMONTAGES LOCATION KEY

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Facade & Materiality

6


10 MYERS
THEATRE

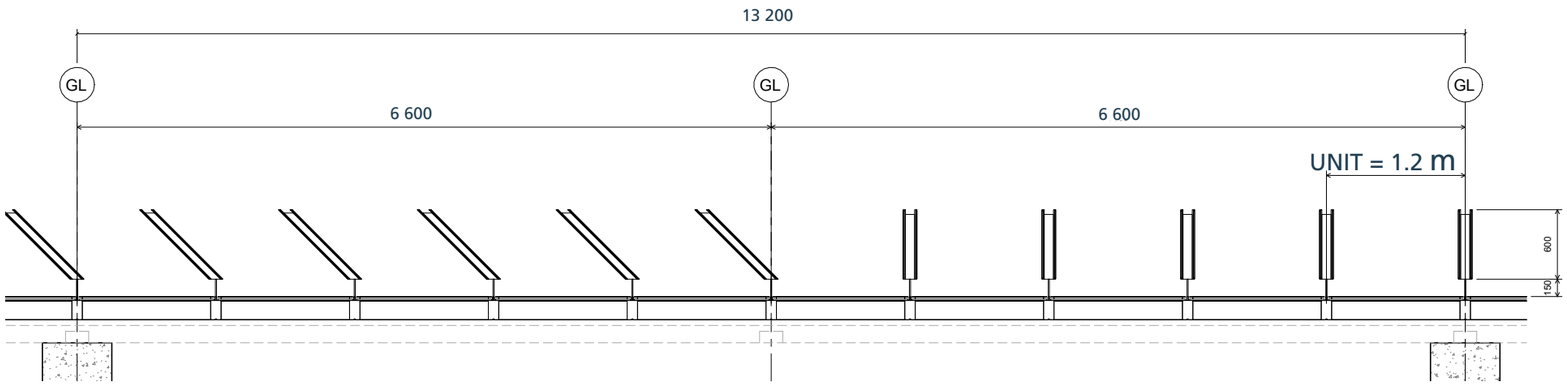
6.1 Building Envelope

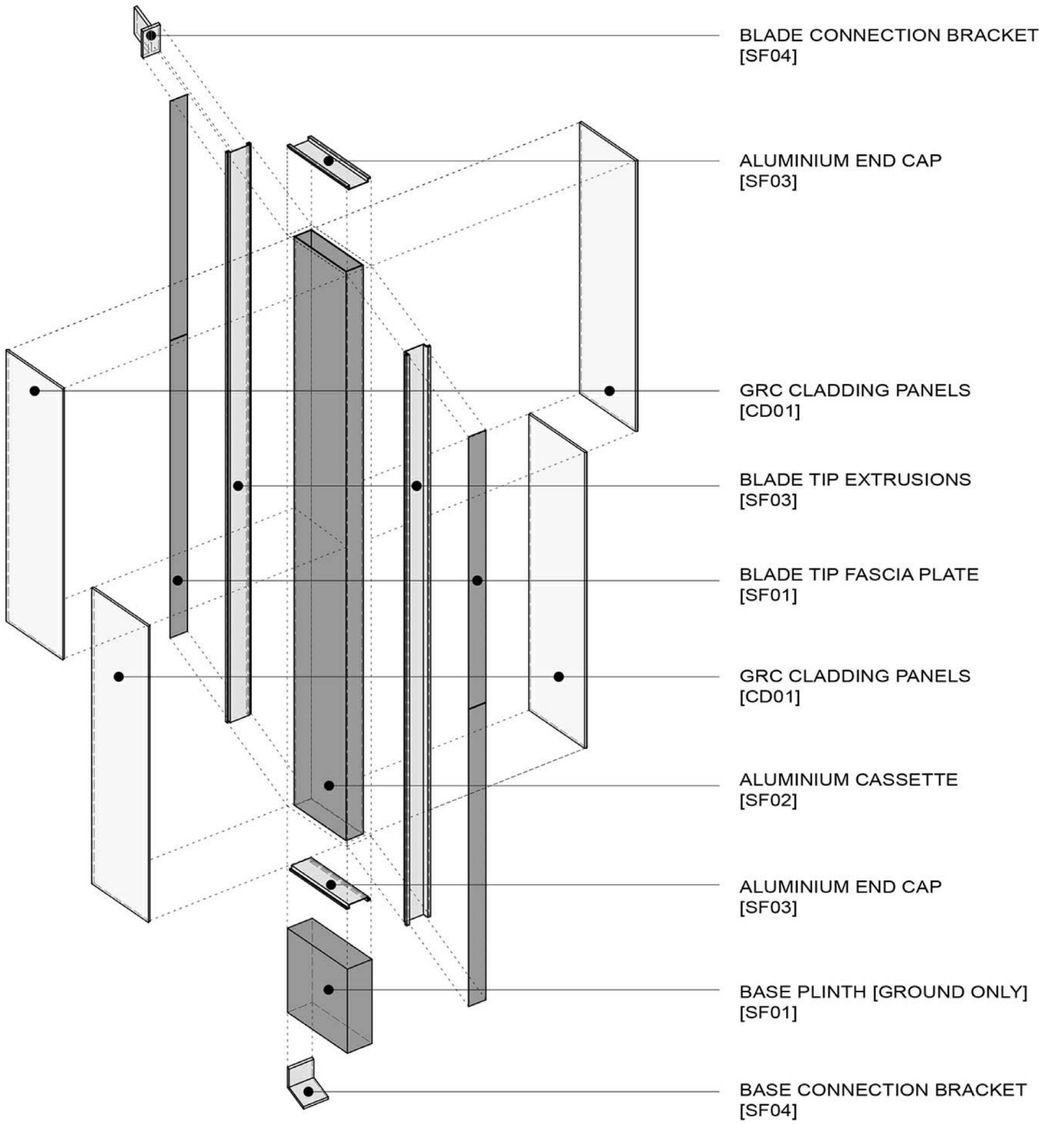
BUILDING ENSEMBLE AND FACADE

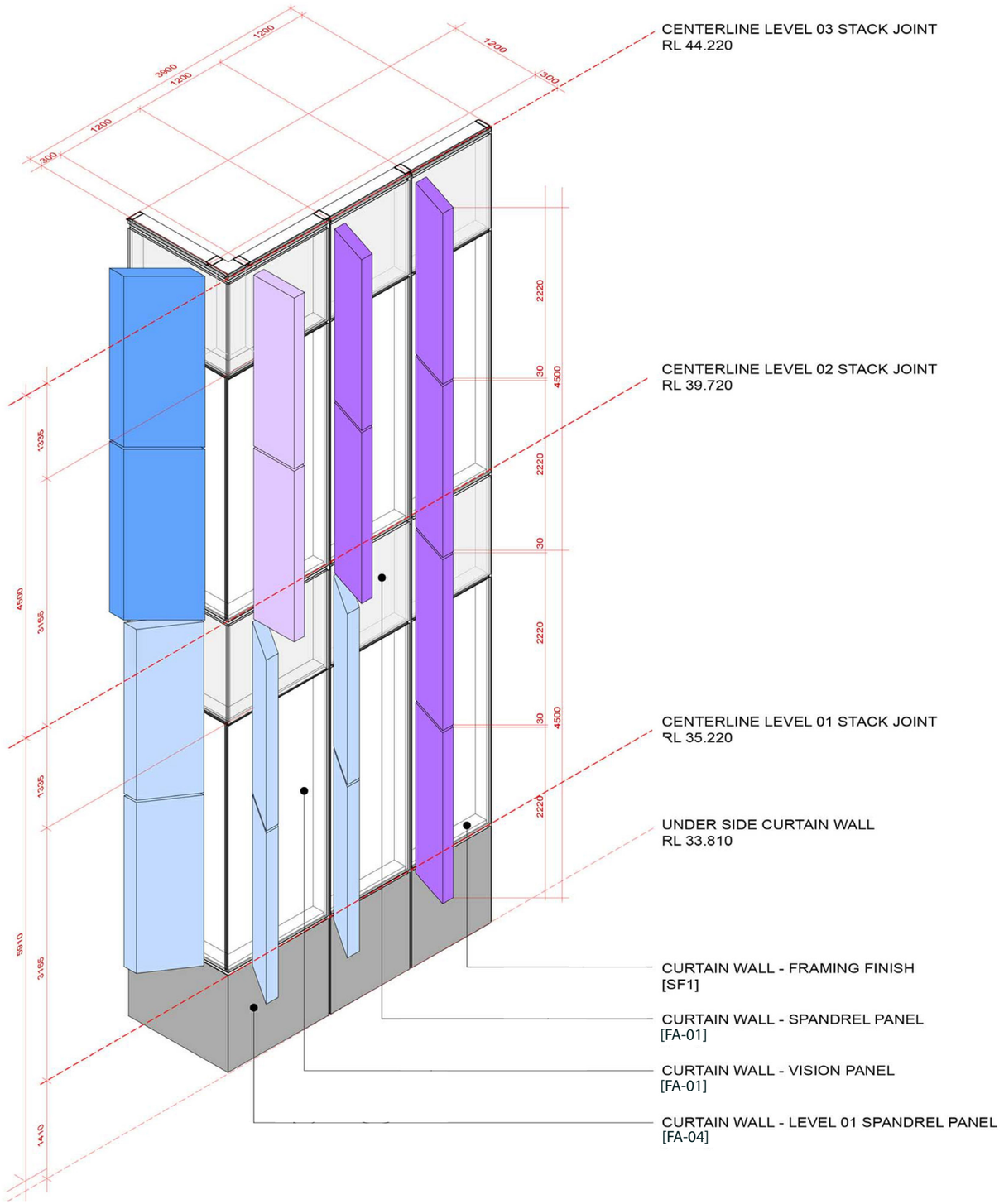
The continuation of the building façade of MSEB on the new building will strengthen the building ensemble through an integrated homogenous form language.

The new façade will be based on a 1.2m façade grid. While the structural grid in the laboratory zone is based on 2 laboratory module and 6.6m, the 13.2m structural grid along the façade only picks up every second laboratory grid line and aligns with the façade grid.

The façade has been designed to passively respond to external climatic conditions and reduce the energy demands of the building. The vertical blades provide the primary solar shading to the facade, taking into account orientation and the varying angle of the sun throughout the year. Individual blades are parametrically orientated to minimise direct sunlight penetration through the envelope whilst maximising natural day-lighting into the interior spaces. All blades are 600mm deep x 4500mm high x150mm wide, varying only in their relative orientation to the facade ranging from 900 to 450. The angle of the solar blades responds to the internal organization of spaces within. Similar to MSEB, this has been achieved by 'opening' up the blades where maximised natural daylight penetration is required to the breakout spaces along the northern façade. Where the offices occur the blades are angled to minimise direct solar gain whist maintaining views out from the building. After the Material and Sciences Engineering Building has been in use for a year it could be demonstrated that the facade provides significant reductions to the solar gains and a good level of shading across all office areas.




BLADE CONNECTION BRACKET
[SF04]
ALUMINIUM END CAP
[SF03]
GRC CLADDING PANELS
[CD01]
BLADE TIP EXTRUSIONS
[SF03]
BLADE TIP FASCIA PLATE
[SF01]
GRC CLADDING PANELS
[CD01]
ALUMINIUM CASSETTE
[SF02]
ALUMINIUM END CAP
[SF03]
BASE PLINTH [GROUND ONLY]
[SF01]
BASE CONNECTION BRACKET
[SF04]


CENTERLINE LEVEL 03 STACK JOINT
RL 44.220
CENTERLINE LEVEL 02 STACK JOINT
RL 39.720
CENTERLINE LEVEL 01 STACK JOINT
RL 35.220
UNDER SIDE CURTAIN WALL
RL 33.810
CURTAIN WALL - FRAMING FINISH
[SF1]
CURTAIN WALL - SPANDREL PANEL
[FA-01]
CURTAIN WALL - VISION PANEL
[FA-01]
CURTAIN WALL - LEVEL 01 SPANDREL PANEL
[FA-04]
3900
1200
1200
1200
1200
300
300
2220
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4500
2220
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4500
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4500
1335
3165
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1410