The GRAND BATTERY complex is an integral part of Gibraltar’s original Northern seafront fortifications constructed between the mid 17th Century and the early 18th Century. It comprises approx. 6 - 8m high solid external stone fortification walls of mass masonry and stone of substantial thickness. Currently, the main accommodation consists of single level masonry building constructed during the 20th Century [P.T.O. for survey photographs].

The complex is clearly of major historical significance to Gibraltar and subject to the requirements of conservation and sensitivity. The original embrasures, magazine bunkers and other historical structures within the site clearly merit further investigation and study during future phases of the Project.
A pedestrian public through-route has been envisaged in the past as part of an overall scheme to modernise and tap into this hugely potential area.
RHQ PHASE 2 SITE PLAN

- Unsightly cage structure around steps to be removed. New gates installed.
- New security gate as required.
- Water tanks to be checked and removed as required.
- Stone finishes (mortar hardstanding) and硬plans remanagement to be determined.
- Fall protection barrier to be erected as required.
- Bastion walls, embrasures & masonry to be fully restored and lit up.
- Bastion walls, embrasures & masonry to be fully restored and lit up.
- Floor flagstones to be exposed, surveyed & refurbished as part of the landscaping scheme.
- Vehicular zone in dense concrete paving & (C/E), hardstanding mix.
- Land drainage management to be determined.
- 4 X GUN EMLACEMENTS / HARD STANDING TO ME SPEC
- Fall protection barrier to be erected as required.
- Bunkers to be fully restored and lit up.
- Bunker to be fully surveyed. Design brief to be determined.
- Bastion walls to be fully restored and lit up.
- Military function area.
1. Double glazed composite glass panels consisting of a layer 10mm low-e glass 10mm glass spacer & a double layer laminate 2mm of toughened and heated glass. All joints to be neatly finished with clear silicone sealant and stainless steel fixings.

2. 3 x 10mm toughened glass laminated glass columns and beams with stainless steel fixings.

3. Recessed LED floor up-lighters.

4. Reinforced concrete slab to Se Spec, floor finish TBC.

5. Stone paving to be determined.

6. Extg flagstones to be exposed surveyed & refurbished as part of the landscaping scheme.

7. Bastion walls, embrasures & merlons to be fully restored and lit up.

8. Extg Elec Substation to be refurbished.

9. Extg Rock Model to be refurbished by specialist restorer.
DOUBLE GLAZED COMPOSITE GLASS PANELS CONSISTING OF A LAYER 10MM LOW-E GLASS 10MM GLASS SPACER & A DOUBLE LAYER LAMINATE 2MM OF TOUGHENED AND HEATED GLASS. ALL JOINTS TO BE NEATLY FINISHED WITH CLEAR SILICONE SEALANT AND STAINLESS STEEL FIXINGS.

3 3 X 10MM TOUGHENED GLASS LAMINATED GLASS COLUMNS AND BEAMS WITH STAINLESS STEEL FIXINGS

4 REINFORCED CONCRETE SLAB TO SE SPEC. FLOOR FINISH TBC

5 STONE PAVING TO BE DETERMINED

9 EXTG ROCK MODEL TO BE REFURBISHED BY SPECIALIST RESTORER

10 TINTED SOLAR INHIBITING LAYER TO ROOF (PERCENTAGE TO BE DETERMINED)
SPECIALIST CONTACT DETAILS

- MAQUETAS QUIROS C.B EN JEREZ DE LA FRONTERA
  PLAZA BASURTO Nº 9
  11403 JEREZ DE LA FRONTERA [CÁDIZ]
  E: info@maquetasquiros.com
  T: 956 33 59 16

- AESCALA
  C/MARINES 13, BAJO
  46015 VALENCIA
  (EN CAMPANAR)
  E: AESCALA@AESCALAMAQUETAS.COM
  T: 676 17 91 48

- GRUPO MODEL CREACIONES, S.L. - OFICINA CENTRAL
  DIRECCIÓN: POL. IND. MARTIARTU, C/3P- NAVE 30
  LOCALIDAD: ARRIGORRIAGA
  PROVINCIA: VIZCAYA
  E: maquetas@grupomodel.net
  T: 94.671.25.86
RHQ PHASE 2 OUTLINE GLASS SPECIFICATION

Pilkington Suncoat® Benefits

- Reduces solar heat gain
- Low-emissivity for high thermal insulation
- A flexible range of solar control options
- Choice of high or low light transmittance
- Wide range of colours and appearances
- Available in toughened or laminated forms
- Available with Pilkington Planar® architectural glazing system
- A range of matching Pilkington Spandrel Glass available

- Available on Pilkington Optikline® to help avoid thermal areas in annealed products and to increase light transmission.

Table 2: Maximum values for overall and local heat

<table>
<thead>
<tr>
<th>Glass Type</th>
<th>Maximum overall heat (μm)</th>
<th>Maximum local heat (μm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Float to BS EN 12612-2</td>
<td>0.003</td>
<td>0.5</td>
</tr>
<tr>
<td>Others</td>
<td>0.004</td>
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Table 3: Tolerances on hole diameters

<table>
<thead>
<tr>
<th>Nominal hole diameter (mm)</th>
<th>Tolerances (mm)</th>
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<tbody>
<tr>
<td>4 x 0.5 x 0.5</td>
<td>± 0.1</td>
</tr>
<tr>
<td>20 x 0.8 x 1.1</td>
<td>± 2.0</td>
</tr>
<tr>
<td>450 x 0.5</td>
<td>± 0.5</td>
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To allow for tolerance in the 3-axis problem.

Single Pilkington Planar® Glazing – Performance

<table>
<thead>
<tr>
<th>Glass Type</th>
<th>Colour</th>
<th>Thickness (mm)</th>
<th>Light Transmittance ET</th>
<th>Light Reflectance LR</th>
<th>Total Solar Radiant Heat Transmission</th>
<th>Total Shading Coefficient</th>
<th>U-Value (w/m²K)</th>
<th>Rg/Value (g/m²)</th>
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<tbody>
<tr>
<td>Pilkington Optimal®</td>
<td>Clear</td>
<td>10</td>
<td>0.87</td>
<td>0.08</td>
<td>0.78</td>
<td>0.90</td>
<td>5.6</td>
<td>54</td>
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<td></td>
<td></td>
<td>12</td>
<td>0.85</td>
<td>0.08</td>
<td>0.73</td>
<td>0.86</td>
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<td>20</td>
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<td>0.71</td>
<td>0.82</td>
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<td></td>
<td>19</td>
<td>0.81</td>
<td>0.07</td>
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<td>0.77</td>
<td>5.3</td>
<td>40</td>
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<td>0.32</td>
<td>0.03</td>
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<td>0.30</td>
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<td>0.59</td>
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<td>Pilkington Optimal®</td>
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<td>0.90</td>
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</tr>
</tbody>
</table>

Planar Intralux insulated double glazed unit with standard angle spring plates.
Cost Analysis of the Rock Model Pavilion

Approx. Area: 66sqm
Approx. Construction Cost: £165,000 - £195,000

(Nb: these figures are based on assumed rates, and would need to be worked out in detail by a QS once a Full Technical Design is available, and finally, priced accordingly by a suitable Contractor before construction)