

Edith Road Project.

Edith Road deveopment,
Land opposite Park Road,
Haringey,
United Kingdom,
EN11 2QW.

Cosmur Construction Limited.

72 Salusbury Road,
Queens Park,
London,
United Kingdom,
NW6 6NU.

Contractors Proposal - Biosolar Roof; Planning Condition 12 rev 2

Order Ref: CCLL-547

AT THE:

Edith Road Project.



Prepared by: CCLL

Date: 26-Jan-23

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Dear London Borough of Haringey,

We write to yourself enclosing Cosmur Construction London Limited's Contractors Proposal relative to Planning Condition 12 for your direction.

This proposal is believed to properly and accurately interpret the design information and project requirements.

Should it be felt that any of the items costed are unsatisfactory or in error, please advise us and we will reassess accordingly.

We hope you share our logical approach to the proposal and look forward to working with you pre-contract on costs, terms & assistance as required.

Kind regards,

Cosmur Construction London Limited

1. Cosmur Construction London Limited have been employed by the London Borough of Haringey for the "erection of part 2/3/4-storey block of 8no. houses and flats (affordable Council rent) with cycle and refuse storage facilities and associated amenity area and landscaping at former car parking site".

2. Planning permission relative to this scheme referenced '**HGY/2020/0589**', provides that (condition 12);

'Prior to the relevant stage, details of a scheme for living roofs for the development hereby permitted have been submitted to and approved in writing by the Local Planning Authority.'

3. The planning approved drawing referenced '**173-014-GA-PLN Proposed roof plan**' shows green roofs to all areas aside from the flat roof above the communal entrance and stair core.

4. With reference to the beforementioned Planning Permission, condition 16, there is also a requirement for construction to be in accordance with '**200210_Edith Road_Sustainability Statement_v2**' which provides for a 104% improvement on carbon emissions over Part L of the building regulations.

5. The consequence of the Zero Carbon sustainability target, is that, a large number of photovoltaic cells (PV's) are required to achieve a 24,500 Kw/h as per the projects current SAP calculations.

The provides for a congested roof and a conflict between planning conditions 12 and 16.

There is no further scope to the current design to increase the target percentage via passive means in the building fabric.

6. As per the contracts Employer's Requirements the Borough's preference for roofing systems is Bauder.

Bauder provide a composite roofing system called Biosolar which integrates both PV's and the biological substrate information on this system can be found through link:

<https://www.bauder.co.uk/solar-pv/bauder-biosolar>.

7. With regards to maintenance, a system is required for plant and equipment on the roof.

The ER's provide the following:

"4.4.3 - Maintenance access is required to all flat roofs via either secure stairs or a fixed, inclined ladder, rather than via a roof hatch or a private balcony. Roofs should generally have a parapet and railings; a 'man-safe' system is only acceptable for small areas where recovery does not require extra equipment (for example where fixed ladders are provided)."

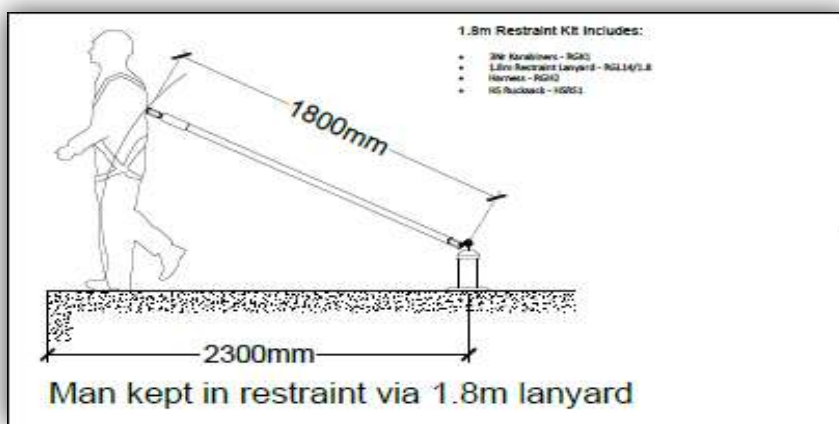
8. Supporting the item 7, at a DTM Ciara Kilkenny of Simply CDM confirmed that her preference was for a permanent guard rail to the parapets rather than the use of a constant force post.

Ciara said this approach has also been the preference for Homes for Haringey.

Record of these discussion was followed up by Sam Bowman in email: **'RE Simply CDM Contact Details'**.

9. Cosmur and Bauder explored a parapet guard rail and a constant force post and rail system together and with both options the output target is unachievable with a Bauder Biosolar system.

10. It is important to note that a constant force post and rail system further restricts PV area on the roof as it has to be off-set from the edge as shown below:



Also, a corridor of 600mm would be required through rows of PV's.

11. Another issue with the BioSolar system is that PV's cannot be fixed close to the edge of the roof as they are ballasted down.

If you put the PV closer then you have to mechanically fix the PVs to the roof which means you have to leave a sterile area around the fixing that cannot be planted thereby being counter productive to the green roof solution.

Their PV panels also need to be sufficiently spaced to allow for daylight to get in between so as to feed the green roof below so the PV arrangement is not as efficient as you can achieve with standard PVs on a non-green roof.

12. In conclusion to the above the Employers preference for the roofing works being Bauder can not meet this projects requirements.

Bauder advised at best they could only achieve 14,755 Kw/h. Bauder advised there could potentially be slight betterment on this output by increasing the spec of PV's although this would still fall significantly short of the required performance.

13. Based on Bauders non-compliance other reputable manufacturers were sourced for their specialist advice.

Optigreen's correspondence is attached although in summation they could only achieve an output of 21,535 Kw/h. Again, this being non-compliant. A snapshot below visualises their proposal and as you can see there is no further scope to increase the number of modules/cells:



14. We also have had discussions with Garland and whilst they are also short on performance requirements we are also sceptical about the warranties as we are 'marrying' products with a green roof provider called Zinco.

15. Recently we have been in touch with Georgian roofing although this was another dead end and they could not field a compliant proposal.

16. With the above in mind please refer to our Following Contractors Proposal.

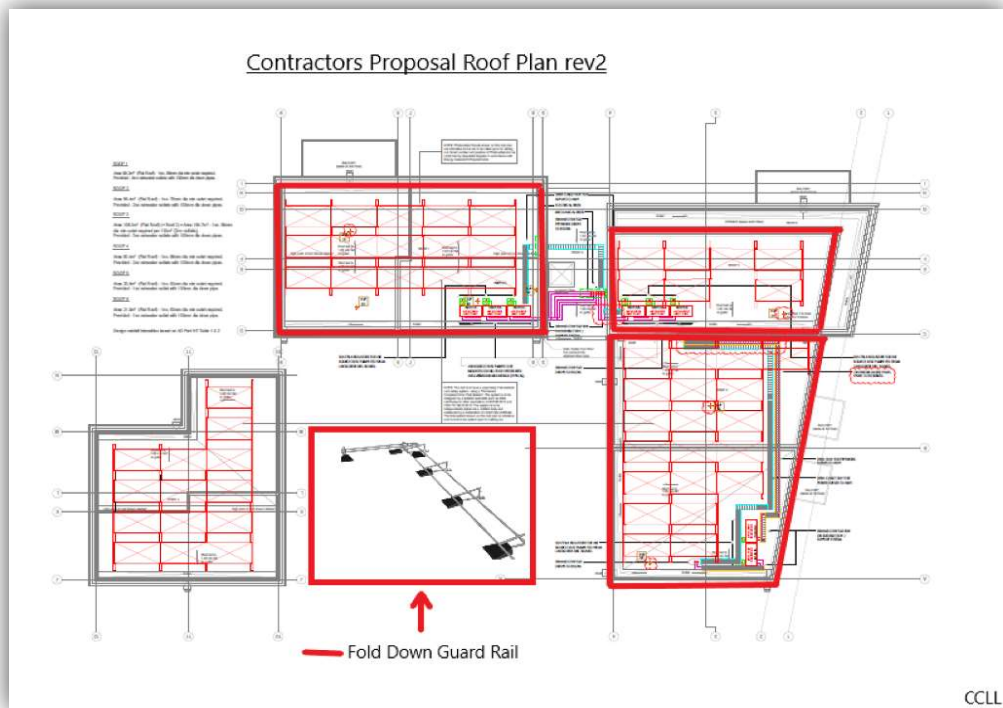
1. It is Cosmur's opinion that the priority is to develop a zero carbon building.

The scheme requires too much PV for the available area of roof to also provide a green roof solution. If the likes of Bauder/Garland cannot provide a Biosolar system for this scheme Cosmur remain sceptical that there are others on the market that can.

Therefore providing the PV to meet the energy requirements of the scheme on a single ply or bitumen roof would appear the best way forward in our view.

2. A fold down guard rail would be required to achieve the number of PV's.
3. This would require a S73 application and the local authorities confirmation.

The general arrangement would be as follows:



4. The guard rail would be similar to the system shown in this link:

<https://www.roofco.co.uk/product/folding-guardrail-system>.

5. Cosmur have looked at 'greening' alternative areas around the site in lieu of the roof areas although as the below site plan shows there is no further opportunity for this.

External works plan:



4. Alternative to this proposal, the Council may prefer to concede on the sustainable performance of the building instead opting for a biosolar roof although the building would not be zero carbon.

Please can you advise us on how to best proceed.