



August 16, 2022

WF087-03- Crown Trading Estate, Hayes, London

Iceni

Da Vinci House, 44 Saffron Hill, London, EC1N 8FH

Attn: Molly Purcell

**RE: Crown Trading Estate, Hayes, London – Wind Microclimate Technical Addendum**

Dear Molly,

It is our understanding that the design of the proposed Crown Trading Estate development has been updated since our most recent wind microclimate assessment. Due to the change in the design, it is recommended that proper consideration is given to the potential impact on the wind microclimate.

This letter acts as a technical addendum to our most recent wind microclimate assessment, which was issued as “WF087-02F02(rev0)- WS Report”, dated July 22, 2020. This technical addendum includes information about the changes to the design and their relevance to the wind microclimate assessment.

Based on a review of the information provided, it is our opinion that the changes to the design will not have a significant impact on the wind microclimate. As such, the conclusions of the previous wind microclimate assessment are expected to remain relevant to the updated design.

It is worth noting that the previous wind microclimate assessment (a desk-based, qualitative assessment) highlighted several areas where the wind microclimate is expected to be unsuitable for the intended use. Based on the conclusions of the previous wind microclimate assessment, as well as other considerations outlined within this technical addendum, it is recommended that a quantitative assessment is undertaken to further assess the wind microclimate.

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Yours sincerely,

**WINDTECH Consultants**



Stephen Shanks

Senior Engineer



Dr Niall O'Sullivan

Technical Director

## Section 1: Changes to the Design of the Proposed Development

The design of the proposed Crown Trading Estate development has been updated since our most recent wind microclimate assessment, issued as “WF087-02F02(rev0)- WS Report”, dated July 22, 2020.

The design team for the proposed development have provided information that outlines the key changes between the two design iterations. The changes were summarised and illustrated in plan and elevation drawings that allow for a comparison to be made between the updated design and the previous design. The comparative drawings have been provided in Appendix A.

A review of the comparative drawings indicates that there are several changes that would be relevant to a wind microclimate assessment.

The design changes relevant to the wind microclimate assessment are as follows:

- Some of the entrances have been relocated.
- Some of the balconies have been changed in size.
- Some of the central façade balconies have been relocated.
- Some of the central façade balconies on the north-eastern and south-western façades of the northernmost buildings are no longer recessed.

## Section 2: Opinion on the Likely Wind Microclimate for the Updated Design

The entrances remain in similar locations and are in areas away from the corners of the buildings. Therefore, it is reasonable to expect that the wind microclimate at the entrances will remain similar.

The change in the size of the balconies appears to be minimal. The central façade balconies that have been relocated remain in similar locations and are in areas away from the corners of the buildings. With these considerations in mind, it is reasonable to expect that the wind microclimate on the balconies will remain similar. However, where the balconies are no longer recessed, it is reasonable to expect that the wind microclimate on those balconies will worsen as they will be more exposed to approaching winds.

The previous design of the development included multiple balcony columns on the central facades of the southernmost buildings where the balconies extended beyond the façade. It is reasonable to expect that the wind microclimate on the balconies of the northernmost buildings that will no longer be recessed will be similar to the wind microclimate on the non-recessed balconies of the southernmost buildings.

Considering that the massing of the development and the orientation of the buildings remain similar, it is reasonable to expect that the overall wind microclimate around the development will remain similar.

Based on all of the above, the conclusions of the previous wind microclimate assessment are expected to remain relevant to the updated design.

It is worth noting that the previous assessment highlighted that there will likely be several areas around the proposed development where the wind conditions will be unsuitable for the intended use.

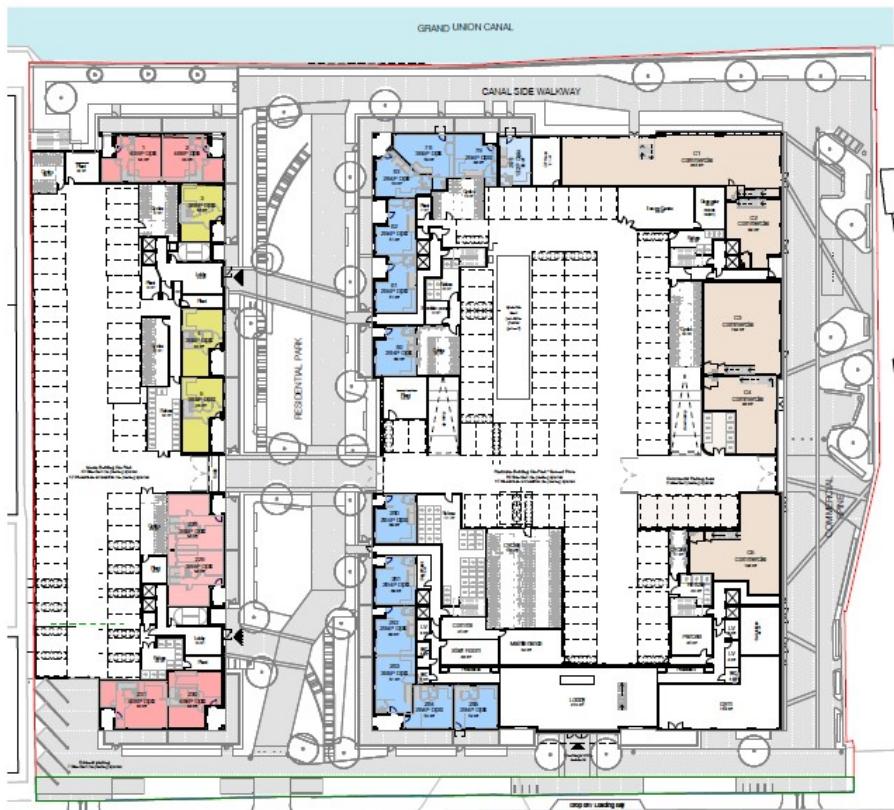
Considering the conclusions of the previous assessment as well as the massing of the development (particularly relative to the surrounding context), the exposure of the site to the prevailing winds, and the orientation of the buildings, it is recommended that a quantitative study (in the form of CFD or wind tunnel testing) is undertaken to further assess the wind microclimate.

If there are any areas where the wind conditions are shown to be unsafe and/or unsuitable for the intended use, then it is recommended that further assessments are undertaken to demonstrate that a mitigation plan can be implemented to alleviate any adverse wind conditions.

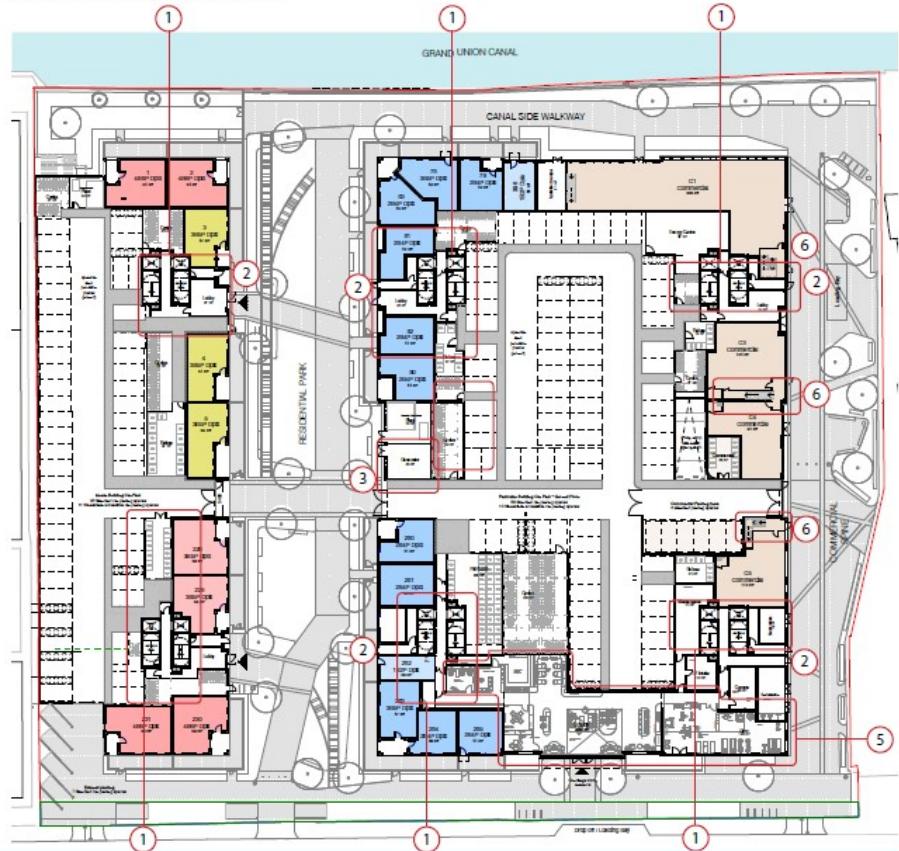
# Appendix A

## Comparative Drawings

APPROVED - GROUND FLOOR PLAN PL000 REV P02



PROPOSED AMENDED LAYOUT



#### Summary of Changes

1. Second stair added with associated changes to adjacent cycle stores, car parking and plant rooms etc as required to allow inclusion of additional stair.
2. Direct escape to outside is maintained from one stair, while other stair provides day-to-day access to and from the car park to the homes.
3. Generator room relocated to comply with fire regulations.
4. Car park ramp removed to allow for readjustment & prevent
5. Interior design layouts for lobbies, staff room, office, mail rooms and the gym incorporated.
6. Enclosed escape stairs from Mezz floors of commercial units included to ensure compliance with future regulations.

Figure A1. Comparative Drawings: Ground Floor Plan (previous design on the left, updated design on the right)

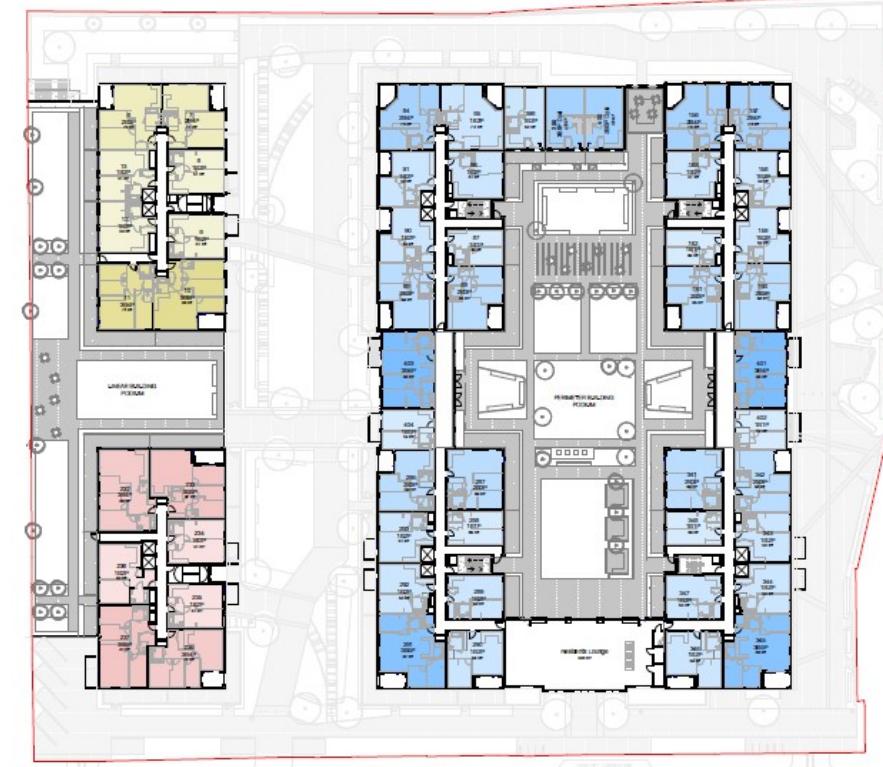


#### Summary of Changes

1. Second escape stair added to all cores to ensure compliance with future fire regulations. Adjacent homes, risers etc all adjusted to suit.
2. Commercial unit stair to comply with fire regulations and to provide protected escape routes on mezzanine floors.
3. Interior layouts for resident lounge and yoga room incorporated.
4. Ramp removed and car parking reduced to ensure no net increase in GIA from the approved scheme.

Figure A2. Comparative Drawings: Mezzanine Plan (previous design on the left, updated design on the right)

APPROVED - FIRST FLOOR PLAN PL001 REV P02



PROPOSED AMENDED LAYOUT



#### Summary of Changes

1. Second escape stair added to all cores to ensure compliance with future fire regulations. Adjacent homes, risers etc all adjusted to suit.
2. Nominal changes to balconies and facade to ensure that internal flat layouts retain compliance with future fire regulations and ensure escape past hob distances are reduced where possible as advised by JGA Fire.
  - Note - overall change in occupancy is required to allow for the additional stairs to be added. Generally this is done by a reduction of 1B2P homes to 1B1P homes. There is no proposed change to the number of family sized dwellings.

Figure A3. Comparative Drawings: First Floor Plan (previous design on the left, updated design on the right)

APPROVED - SECOND FLOOR PLAN PL002 REV P02



PROPOSED AMENDED LAYOUT



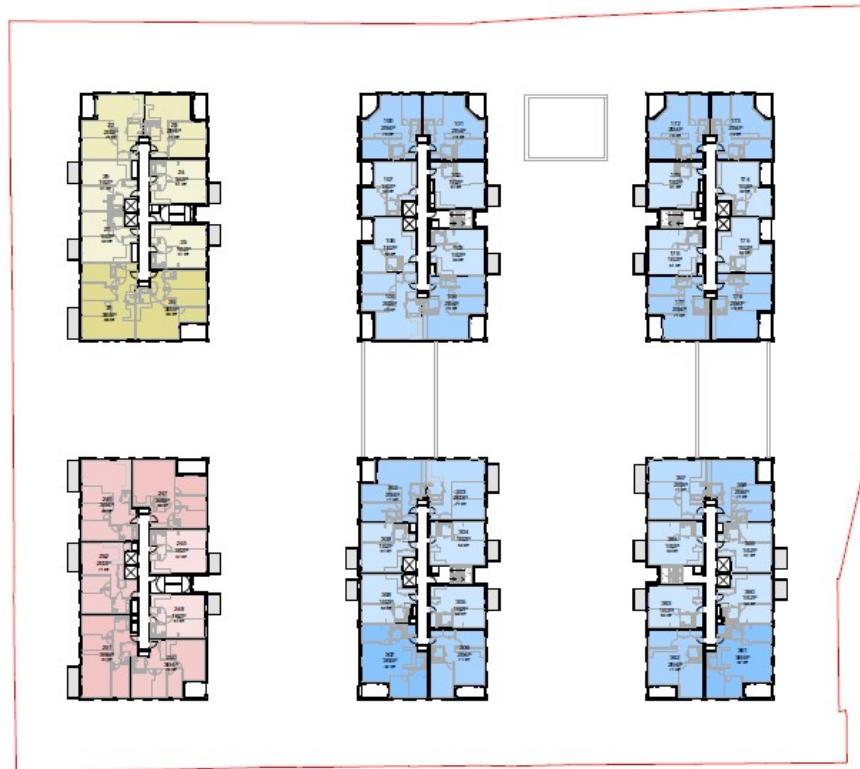
#### Summary of Changes

1. Second escape stair added to all cores to ensure compliance with future fire regulations. Adjacent homes, risers etc all adjusted to suit.
2. Nominal changes to balconies and facade to ensure that internal flat layouts retain compliance with future fire regulations and ensure escape past hob distances are reduced where possible as advised by JGA Fire.

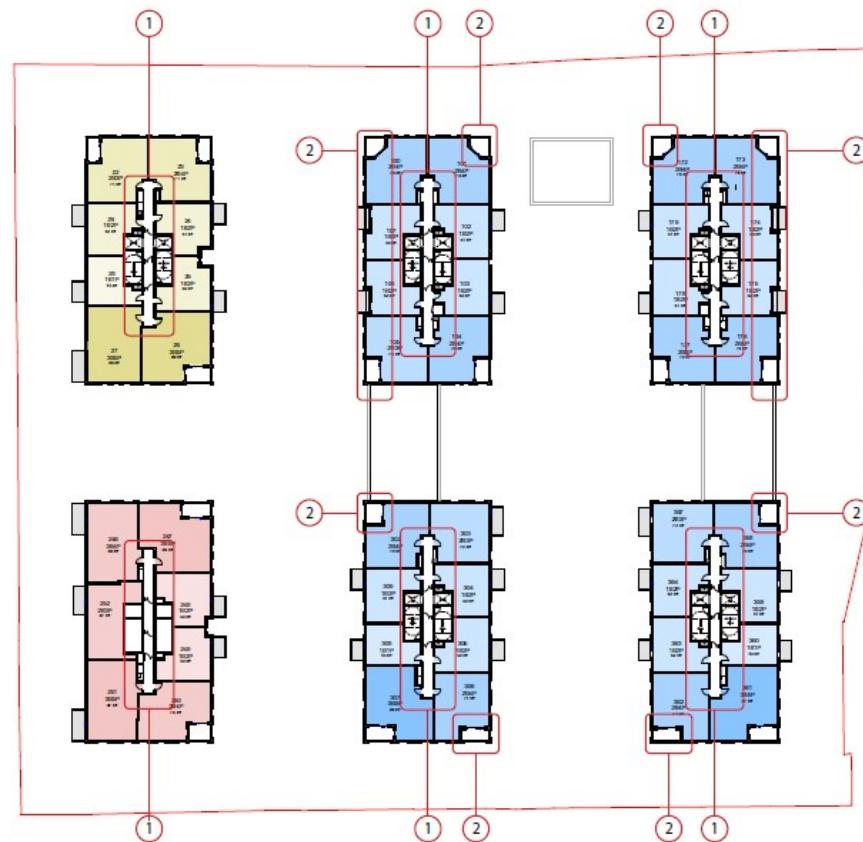
- Note - overall change in occupancy is required to allow for the additional stairs to be added. Generally this is done by a reduction of 1B2P homes to 1B1P homes. There is no proposed change to the number of family sized dwellings.

Figure A4. Comparative Drawings: Second Floor Plan (previous design on the left, updated design on the right)

APPROVED -THIRD FLOOR PLAN PL003 REV P02



PROPOSED AMENDED LAYOUT

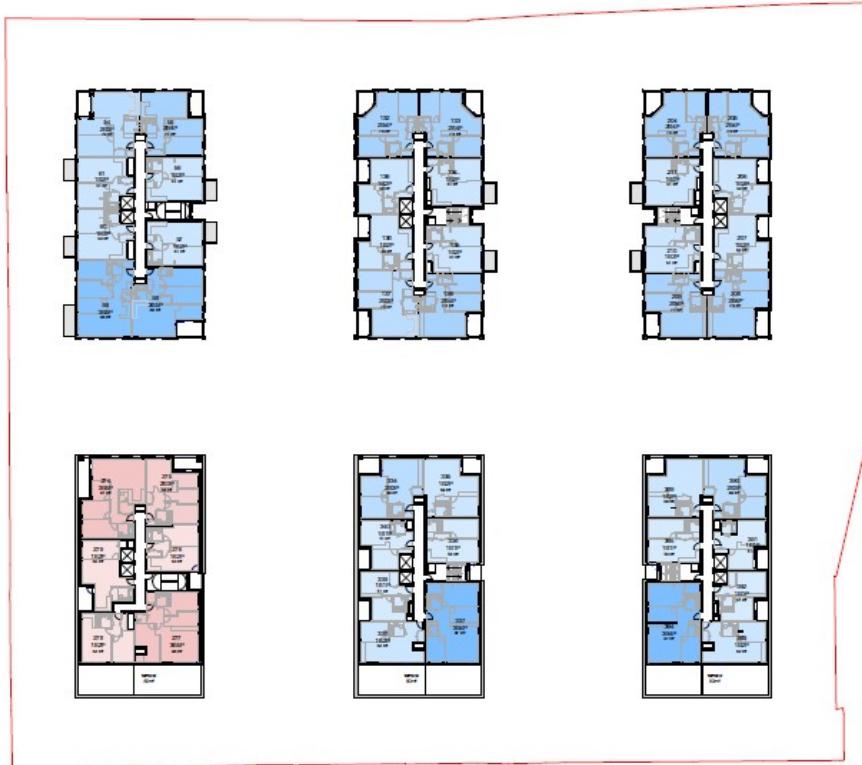


#### Summary of Changes

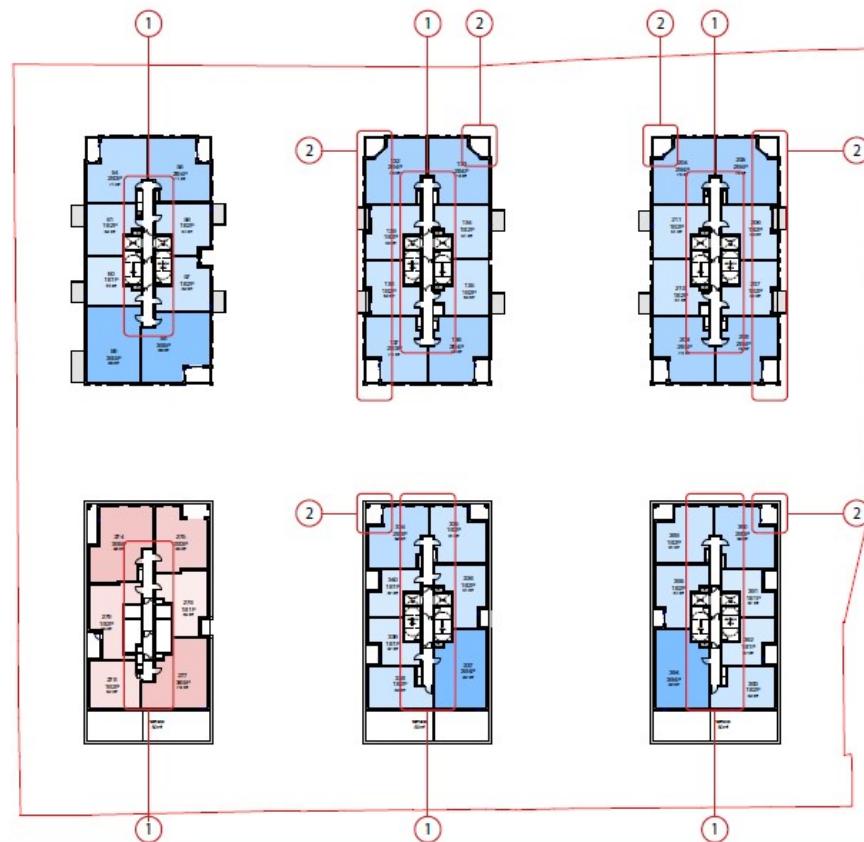
1. Second escape stair added to all cores to ensure compliance with future fire regulations. Adjacent homes, risers etc all adjusted to suit.
2. Nominal changes to balconies and facade to ensure that internal flat layouts retain compliance with future fire regulations and ensure escape past hob distances are reduced where possible as advised by JGA Fire.
  - Note - overall change in occupancy is required to allow for the additional stairs to be added. Generally this is done by a reduction of 1B2P homes to 1B1P homes. There is no proposed change to the number of family sized dwellings.

Figure A5. Comparative Drawings: Third Floor Plan (previous design on the left, updated design on the right)

APPROVED -SEVENTH FLOOR PLAN PL007 REV P02



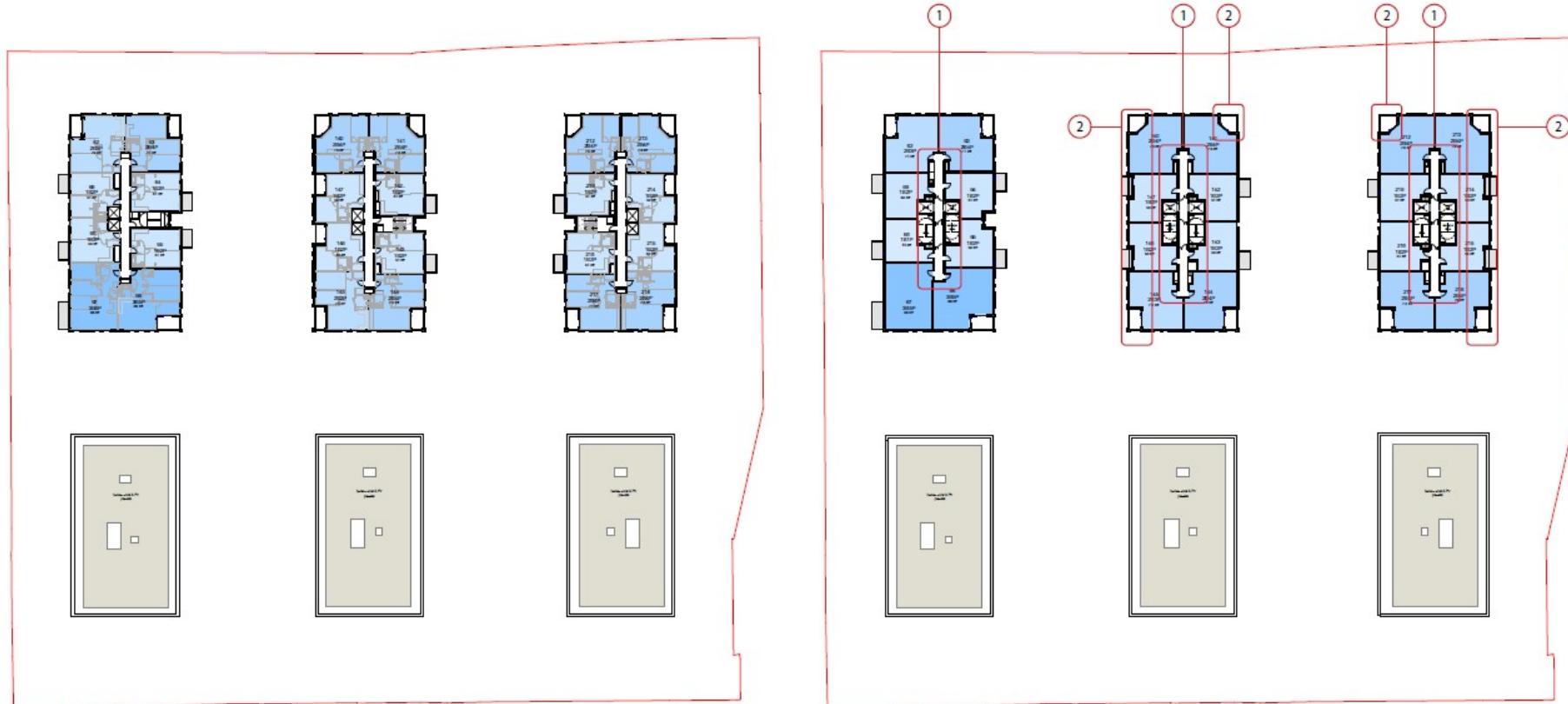
PROPOSED AMENDED LAYOUT



#### Summary of Changes

1. Second escape stair added to all cores to ensure compliance with future fire regulations. Adjacent homes, risers etc all adjusted to suit.
2. Nominal changes to balconies and facade to ensure that internal flat layouts retain compliance with future fire regulations and ensure escape past hob distances are reduced where possible as advised by JGA Fire.
  - Note - overall change in occupancy is required to allow for the additional stairs to be added. Generally this is done by a reduction of 1B2P homes to 1B1P homes. There is no proposed change to the number of family sized dwellings.

Figure A6. Comparative Drawings: Seventh Floor Plan (previous design on the left, updated design on the right)



#### Summary of Changes

1. Second escape stair added to all cores to ensure compliance with future fire regulations. Adjacent homes, risers etc all adjusted to suit.
2. Nominal changes to balconies and facade to ensure that internal flat layouts retain compliance with future fire regulations and ensure escape past hob distances are reduced where possible as advised by JGA Fire.

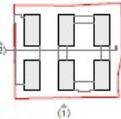
- Note - overall change in occupancy is required to allow for the additional stairs to be added. Generally this is done by a reduction of 1B2P homes to 1B1P homes. There is no proposed change to the number of family sized dwellings.

Figure A7. Comparative Drawings: Eighth Floor Plan (previous design on the left, updated design on the right)

APPROVED - SOUTH ELEVATIONS PL100 REV P02



PROPOSED AMENDED LAYOUT



#### Summary of Changes

1. Flat layouts have been adjusted to ensure escape distances past cooking devices are acceptable. Windows adjusted to suit. The overall number and sizes of the windows have remained the same.
2. Height of acoustic louvre screen has been raised to ensure suitability with Air source heat pumps required. Heights all remain below the max heights as advised by Heathrow Airport radar maximums.

Figure A8. Comparative Drawings: South Elevations (previous design on the left, updated design on the right)

APPROVED - EAST ELEVATIONS PL101 REV P02



PROPOSED AMENDED LAYOUT



#### Summary of Changes

1. Flat layouts have been adjusted to ensure escape distances past cooking devices are acceptable. Windows adjusted to suit. The overall number and sizes of the windows have remained the same.
2. Height of acoustic louvre screen has been raised to ensure suitability with Air source heat pumps required. Heights all remain below the max heights as advised by Heathrow Airport radar maximums.

Figure A9. Comparative Drawings: East Elevations (previous design on the left, updated design on the right)

APPROVED - NORTH ELEVATIONS PL102 REV P01



PROPOSED AMENDED LAYOUT



#### Summary of Changes

1. Flat layouts have been adjusted to ensure escape distances past cooking devices are acceptable. Windows adjusted to suit. The overall number and sizes of the windows have remained the same.
  - Note - Kitchen layout has been adjusted in Canal facing homes to suit escape distances past a cooking device. The new flat layout requires the bottom portion of the windows to be obscured as the kitchen sits abutting it.
2. Height of acoustic louvre screen has been raised to ensure suitability with Air source heat pumps required. Heights all remain below the max heights as advised by Heathrow Airport radar maximums.

Figure A10. Comparative Drawings: North Elevations (previous design on the left, updated design on the right)



PROPOSED AMENDED LAYOUT



#### Summary of Changes

1. Flat layouts have been adjusted to ensure escape distances past cooking devices are acceptable. Windows adjusted to suit. The overall number and sizes of the windows have remained the same.
2. Height of acoustic louvre screen has been raised to ensure suitability with Air source heat pumps required. Heights all remain below the max heights as advised by Heathrow Airport radar maximums.

Figure A11. Comparative Drawings: Residential Park Elevations (previous design on the left, updated design on the right)