

River Wall Liaison Summary Note

Stag Brewery

Date: 7th August 2019

Client Name: Reselton Properties

Document Reference: WIE15582-106-BN-1-2-1-EA

This document has been prepared and checked in accordance with
Waterman Group's IMS (BS EN ISO 9001: 2015, BS EN ISO 14001: 2015 and BS OHSAS 18001:2007)

| Issue | Prepared by | Checked & Approved by |
|--------|---|--|
| Second | Nora Balboni  | Peter O'Flaherty  |

1. Introduction

- 1.1. Waterman Infrastructure and Environment (WIE) was commissioned by Reselton Properties in relation to the river wall works for the redevelopment of the former Stag Brewery Site in Mortlake (hereafter referred to as the 'Site'). Following planning submission in February 2018, the Environment Agency (EA) provided comments on planning application A (reference 18/0547/FUL) regarding the River Thames Defences.
- 1.2. The EA provided two sets of comments (dated 11th May 2018 and 18th September 2018) followed by a meeting and Site walkover with WIE on 3rd December 2018. At the meeting, the EA stated the requirement for further work relating to the Ship Lane and Bulls Alley flood defences and how the flood defence would work around the proposed Boat House adjacent to Bulls Alley. A Briefing Note (WIE10667-103-BN-7-2-1-EA) was issued to the EA on 11th January 2019, outlining the proposed measures to close out these issues, provided in Appendix A.
- 1.3. The EA provided a response to the Briefing Note by email (dated 14th February 2019) (Appendix B), requiring further information relating to:
 - A. Achieving a continuous flood defence line around the Bulls Alley Boathouse; and
 - B. The requirement for a legally binding agreement that ensures maintenance and repairs to the Bulls Alley Flood Defence between the developer (i.e. Applicant) and the riparian owner of the defence.
- 1.4. The EA provided further comments by email (dated 18th July 2019) (Appendix B), raising the following additional concerns:
 - C. The potential risk of working within a confined space in the boat storage facility at Bulls Alley Boat House when accessing/maintaining the flood defence;
 - D. The level of the windows in the Maltings Building flood defence; and

E. The Ship Lane flood gate (doorway to the Maltings building) which should be removed as part of the proposals.

- 1.5. This Briefing Note has been prepared to respond to the additional comments raised by the EA since submission of the previous Briefing Note in January 2019.

2. Bulls Alley Continuous Line of Defence

- 2.1. Following the EA's concerns, WIE provided a mark-up (Appendix C) demonstrating that the 6.7m Above Ordnance Datum statutory defence level is achieved with no windows or openings. The EA confirmed that the continuous line of defence is acceptable (email dated 18th April 2019, Appendix B) but raised concerns about the confined nature of the void beneath the terraces to be used for boat storage (further discussed in Part 4 below).
- 2.2. The issue of providing a continuous line of defence at Bulls Alley is considered to be satisfied.

3. Legally Binding Agreement for Raising of Bulls Alley Defence

- 3.1. In email correspondence (Appendix B), the EA stated that they wish to see the developer whose site is protected by the Bulls Alley flood defence (i.e. the Applicant) and the owner of the gate to enter into a legal agreement that the defence is raised in line with the Thames Estuary 2100 plan.
- 3.2. As discussed and agreed at the meeting on 3rd December 2018 (Appendix D of Appendix A) and re-iterated in email correspondence (Appendix B), the proposals ensure that the future raising of the defence is not prejudiced, which is considered a reasonable limit for responsibility.
- 3.3. In their email response dated 18th July 2019 (Appendix B), the EA confirmed that they would remove their objection relating to this point and instead state it as a recommendation to the Local Planning Authority. If required, further discussions can be held post-planning.

4. Boat House Storage Facility Confined Space

- 4.1. In email correspondence (Appendix B), the EA expressed concerns relating to the confined nature of the boat storage facility beneath the Boat Club terraces. They requested that this would need to be accessible and safe for EA staff when carrying out maintenance and repairs of the flood defence and anyone accessing the space.
- 4.2. The storage facility was introduced at the request of the Port of London Authority as a means of providing easy and safe access to the water from the boat store, as opposed to carrying the boats down the steps. The possibility of entirely opening both sides of the boat storage area has been assessed, however it is not considered to be structurally feasible to support the terrace. A hatch would be provided in the terrace surface as a means of escape during a flood event. A ladder and/or handrails would be provided to further facilitate escape, with details to be agreed post planning. In addition, the access doors would be widened and provided on both perpendicular sides to facilitate access/egress.
- 4.3. Due to the low level of the boat storage facility, landward access to the boat storage facility (beneath the terraced area) would require a penetration through the flood wall (i.e. the external envelope of the boat house). This would comprise an opening beneath the statutory flood level,

which would compromise the ability to maintain a continuous flood defence line, which precludes the feasibility of this option.

- 4.4. It is considered that there are sufficient means of escape from the boat storage facility to be considered acceptable from a health and safety perspective.

5. Maltings Building Windows

- 5.1. In their email response dated 18th July 2019 (Appendix B), the EA stated that they require a continuous line of defence along the Maltings Building and would not accept windows below the statutory defence line.
- 5.2. The design team has reviewed the approach relating to the north-facing windows in the Maltings Building and the level of the window sills has been increased to 6.7m Above Ordnance Datum (AOD), i.e. the future statutory flood defence level as per the TE2100 Plan. The windows would be well above the present day statutory defence level of 5.94m AOD, thus providing protection now and in the future.
- 5.3. The concerns relating to the Maltings Building windows is therefore considered to be resolved.

6. Ship Lane Flood Gate

- 6.1. In their email response dated 18th July 2019 (Appendix B), the EA refer to a Ship Lane flood gate (a door from the Maltings Building). There is no reference to a flood gate in the topographic survey and it was not visible from the adjacent towpath during a site visit undertaken taken by Gillespies LLP. As per the drawings submitted for planning showing Ship Lane (Appendix D), it is understood that there is no existing flood gate at this location.

7. Conclusion

- 7.1. Following the meeting with the EA on the 3rd December 2018 and the follow-up email correspondence, the team have revisited the design, ensuring that the proposed development does not limit the potential for passive flood defence options on both Ship Lane and Bulls Alley. Furthermore, the revised layout of the Boat House ensures a permanent passive protection to 6.7m AOD as well as improving access to the defence for inspections and ensuring a safe means of escape. Lastly, the Maltings Building now provides a line of defence as per the future statutory defence level.
- 7.2. It is considered that the additional work set out within this Briefing Note and clarifications previously provided are sufficient to satisfy the EA's additional requirements.
- 7.3. In light of the two previous written responses provided to the EA (Appendices B and C of Appendix A), the meeting held on the 3rd December 2018 (Appendix D of Appendix A), the Briefing Note submitted in January 2019 (Appendix A), the follow-up email correspondence (Appendix B), and this Briefing Note, it is now considered that all EA matters in respect of planning application reference 18/0547/FUL have been thoroughly reviewed and satisfactorily resolved.



APPENDICES



A. Previous Briefing Note (January 2019, WIE10668-103-BN-7-2-1-EA)

River Wall Environment Agency Comments



Stag Brewery

Date: 11th January 2019

Client Name: Reselton Properties

Document Reference: WIE10667-103-BN-7-2-1-EA

This document has been prepared and checked in accordance with
Waterman Group's IMS (BS EN ISO 9001: 2015, BS EN ISO 14001: 2015 and BS OHSAS 18001:2007)

| Issue | Prepared by | Checked & Approved by |
|--------|--|--|
| Second | Donal O'Donovan  | Brendan McCarthy  |

1. Introduction

- 1.1. Waterman Infrastructure and Environment (WIE) was commissioned by Reselton Properties in relation to the river wall works for the redevelopment of the former Stag Brewery Site in Mortlake (hereafter referred to as the 'Site'). Following planning submission in February 2018, the Environment Agency (EA) provided comments on planning application A (reference: 18/0547/FUL) regarding the River Thames Defences (Appendix A).
- 1.2. The EA's initial comments were dated 11th May 2018 (Appendix A) and WIE provided a response dated 27th June 2018 (Appendix B). The EA provided their second set of comments dated 18th September 2018 (Appendix A) which accepted Items 1 and 2 but with other items requiring further work. In response to this WIE provided a letter dated 30th October 2018 (Appendix C). In order to ensure the resolution of the outstanding items a Site walkover and meeting was held with the EA on the 3rd December 2018 (Appendix D).
- 1.3. At the meeting it was agreed that further work was required in relation to A) the Ship Lane and Bulls Alley flood defences and B) how the flood defence would work around the proposed Boat House adjacent to Bulls Alley. These items are therefore covered within this Briefing Note.

2. Ship Lane

- 2.1. As requested by the EA, the team has investigated how a permanent passive flood defence could be incorporated into Ship Lane. As a result, we confirm that in the future it would be possible to raise ground levels on Ship Lane to 6.70m AOD in line with the future requirements of the TE2100 Plan. Drawings provided in Appendix E show how the required ramping would be at a maximum of a 1 in 12 gradient and would not be inhibited by the proposed development (i.e. access would remain achievable with the development in place).

- 2.2. It should be noted that the future inclusion of a passive defence would have impacts on third parties (i.e. the Ship Pub) and disabled access along Ship Lane, however it is understood from the meeting with the EA that their priority would be the protection of the wider area and not individual properties. Disabled access to the river would also still be available via other routes including through the Site itself.
- 2.3. It is therefore considered that the development proposals would not restrict the flood defence options on Ship Lane and that a permanent passive defence could be incorporated, if required.

3. Bulls Alley and the Boat House

- 3.1. At the meeting on the 3rd December 2018 the EA reiterated their desire to avoid active defences and insisted that permanent passive defences should be incorporated. As agreed with the EA at the meeting, the team have since revisited the proposals regarding the Boat House and Bulls Alley and have found a solution that ensures a permanent passive line of defence to 6.70m AOD (Appendix F).
- 3.2. Due to the requirement for the River Thames to be easily accessible to users of the Boat House it is necessary for the Boat House to have a direct relationship with the River Thames. Previous options of for the design of this building proposed a line of defence running through the building itself. The EA were not satisfied with this as a long-term solution and therefore the building has been re-designed to use the external walls of the building instead as a means of flood defence. This will ensure that inspections can be made easily from public areas, at the same time providing access from the Boat House to the river.
- 3.3. The revised proposals also have the benefit of ensuring disabled access from Mortlake High Street, which was raised at the meeting with the EA, and also allowing users of the Boat House to be able to see the River Thames from inside on the raised section (previously they would have been at a lower level with a large wall/gate obscuring the view of the Thames). The team is very pleased with the input from the EA in this respect and believes the design has been improved as a result.
- 3.4. In relation to the Bulls Alley defence it was agreed with the EA at the meeting that no works would need to be undertaken to it in the present day, however the proposed development would need to ensure options for raising the Bulls Alley defence would not be limited as a result of the proposals. In order to ensure this, the team have not provided any access routes that front onto Bulls Alley and therefore a ramp, wall or gate could be installed in the future without affecting the proposed Boat House.

4. Conclusion

- 4.1. Following the meeting with the EA on the 3rd December 2018 the team have revisited the design, ensuring that the proposed development does not limit the potential for passive flood defence options on both Ship Lane and Bulls Alley. Furthermore, the revised layout of the Boat House ensures a permanent passive protection to 6.70m AOD as well as improving access to the defence for inspections. It is considered that the additional work set out within this Briefing Note and clarifications previously provided are sufficient to satisfy the EA's requirements.

- 4.2. In light of the two previous written responses provided to the EA (Appendices B and C), the meeting on the 3rd December 2018 (Appendix D) and this Briefing Note it is now considered that all EA matters in respect of planning application reference 18/0547/FUL have been thoroughly reviewed and satisfactorily resolved.



APPENDICES

Appendices

River Wall Environment Agency Comments
WIE10667-103-BN-7-2-1-EA
WIE10667



A. Environment Agency Letters

Appendices

River Wall Environment Agency Comments
WIE10667-103-BN-7-2-1-EA
WIE10667

Ms Lucy Thatcher
London Borough of Richmond upon
Thames
Planning Department
Civic Centre (44) York Street
Twickenham
Middlesex
TW1 3BZ

Our ref: SL/2018/118128/01-L01
Your ref: 18/0547/FUL
Date: 11 May 2018

Dear Ms Thatcher

APPLICATION A: Hybrid application to include 1. The demolition of existing buildings and structures, except The Maltings and the façade of the Bottling Plant and former Hotel; Site clearance and groundworks, to allow for the comprehensive phased redevelopment of the site: 2. Detailed application for works to the east side of Ship Lane which comprise: a. Alterations and extensions to existing buildings; erection of buildings (3 to 8 storeys) plus basements to allow for 443 residential apartments; Flexible use floorspace for various commercial uses, community and leisure; and hotel, cinema, gym and office floorspace b. New pedestrian, vehicle and cycle accesses and associated highway works c. Provision of on-site cycle, vehicle and service parking at surface and basement level d. Provision of public open space, amenity and play space and landscaping e. Flood defence and towpath works f. Installation of plant and energy centres 3. Outline application, with all matters reserved for works to the west of Ship Lane which comprise: a) Single storey basement and buildings varying in height from 3 to 7 storeys b) Residential development of up to 224 units c) Nursing and care home (up to 80 ensuite rooms) with associated facilities d) Up to 150 units of flexible use living accommodation for either assisted living or residential use e) New pedestrian, vehicle and cycle accesses and internal routes, and associated highway works f) Provision of on-site cycle, vehicle and service parking g) Provision of public open space, amenity and play space and landscaping.

The Stag Brewery, Lower Richmond Road, Mortlake, London.

Thank you for consulting us on application 18/0547/FUL. We have reviewed the information submitted and in the absence of an acceptable Flood Risk Assessment (FRA) we **object** to the grant of planning permission and recommend refusal on this basis for the following reasons:

Reason

The Flood Risk Assessment (FRA) Report reference number K0685/2 dated February 2018 by Hydro-Logic Services included as Appendix 12.1 of the Environmental Statement Volume 1 by Waterman Infrastructure & Environment Limited submitted with this application does not comply with the requirements set out in the Planning Practice Guidance to the National Planning Policy Framework. The submitted FRA does not therefore, provide a suitable basis for assessment to be made of the flood risks arising from the proposed development.

We support the aims of the application to deliver a new flood defence wall in line with the Thames Estuary 2100 Plan and the London Borough of Richmond's local plan policies LP 18 and LP 21. However we still require additional information to demonstrate the exact location, setback, construction type and methodology of the wall before we can recommended approval subject to planning conditions.

Thames Tidal Flood Defences

The development will incorporate a new flood defence in line with the TE2100 Plan. However, further information is required demonstrating that it will be fit for purpose for the lifetime of the development. We request the applicant submit/clarify

- Details of how a fit for purpose flood defence line at the statutory level will be maintained during the construction phase (as previously conveyed at the meeting on 26 September 2016) and outlined in the FRA. Detailed method statements and sequence drawings for both temporary and permanent flood defences can be provided at the Flood Risk Activity Permit stage but we would like an outline Method of Work.
- Details of how the new flood defences will be commensurate with the 100 year lifetime of the development.
- We note that the new flood defence walls will have a crest level of 6.13 mAOD and "topped by a 1.1m high glass balustrade, with effective crest at 7.23 mAOD". The applicant should demonstrate how TE2100 level can be achieved in future; if this additional raising is effectively the glass balustrade, then it must be demonstrated that this element is structurally sound as a flood defence component (i.e. will it be made from toughened glass to sufficiently withstand the calculated hydrostatic pressure as well as being watertight?).
- A vehicle tracking plan should be produced to ensure the offset between the defences and built development is sufficient to allow plant unrestricted access for future works on the flood defences. The applicant should also note that vertical unrestricted access is also required, i.e. consider positions of balconies.
- The FRA includes reference to a minimum of 4m clear access route. Is the 4m between the new flood defences and development? Site Plans are also required clearly outlining the exact location of the new defence line including access arrangements and distances. It is also not clear what is being proposed

for Ship Lane and Bull Lane. Details of the proposed flood gate barriers should be provided.

- The drainage strategy states that surface water runoff would be discharged to the River Thames via 3 outfalls; depending on the position and location of the outfalls, the applicant should consider whether scour protection may be necessary to minimise scour which could adversely impact the structural stability of flood defences. The drainage scheme and outfalls should be designed to minimise the likelihood of scour protection being needed.
- We request clarification about whether any enhancement works will be taking place to the Thames Path and river bank. Previous discussions with the applicant have indicated that subject to the ownership issues being resolved enhancement may be possible. However from the information submitted this is unclear.

Overcoming our objection

You can overcome our objection by submitting an FRA which covers the deficiencies highlighted above and demonstrates that the development will not increase flood risk elsewhere and where possible reduces flood risk overall. If this cannot be achieved we are likely to maintain our objection to the application. Production of an FRA will not in itself result in the removal of an objection.

We ask to be re-consulted with the results of the FRA. We will provide you with bespoke comments within 21 days of receiving formal reconsultation. Our objection will be maintained until an adequate FRA has been submitted.

I hope our comments are helpful, if you have any questions please contact me.

Yours sincerely

Joe Martyn
Planning Specialist

Direct dial 020 3025 5546

Direct e-mail kslplanning@environment-agency.gov.uk

cc Gerald Eve LLP

Ms Lucy Thatcher
London Borough of Richmond upon
Thames
Planning Department
Civic Centre (44) York Street
Twickenham
Middlesex
TW1 3BZ

Our ref: SL/2018/118128/02-L01
Your ref: 18/0547/FUL
Date: 18 September 2018

Dear Ms Thatcher

APPLICATION A: Hybrid application to include 1. The demolition of existing buildings and structures, except The Maltings and the façade of the Bottling Plant and former Hotel; Site clearance and groundworks, to allow for the comprehensive phased redevelopment of the site: 2. Detailed application for works to the east side of Ship Lane which comprise: a. Alterations and extensions to existing buildings; erection of buildings (3 to 8 storeys) plus basements to allow for 443 residential apartments; Flexible use floorspace for various commercial uses, community and leisure; and hotel, cinema, gym and office floorspace b. New pedestrian, vehicle and cycle accesses and associated highway works c. Provision of on-site cycle, vehicle and service parking at surface and basement level d. Provision of public open space, amenity and play space and landscaping e. Flood defence and towpath works f. Installation of plant and energy centres 3. Outline application, with all matters reserved for works to the west of Ship Lane which comprise: a) Single storey basement and buildings varying in height from 3 to 7 storeys b) Residential development of up to 224 units c) Nursing and care home (up to 80 ensuite rooms) with associated facilities d) Up to 150 units of flexible use living accommodation for either assisted living or residential use e) New pedestrian, vehicle and cycle accesses and internal routes, and associated highway works f) Provision of on-site cycle, vehicle and service parking g) Provision of public open space, amenity and play space and landscaping.

The Stag Brewery Lower Richmond Road, Mortlake, London.

Thank you for reconsulting us on the above application. We have reviewed the letter by Waterman Infrastructure & Environment Limited, dated 27 June 2018, ref: WIE10667-103-180627-SM-RiverWall. Based on this information we are **unable to remove our objection** on flood risk ground at this time.

We require further information is required to make an adequate judgement on whether the development will be safe from flood risk and if future defence raising and maintenance is achievable.

Our main concern is that we need further clarification around the boat house proposals and the flood defences located on Ship Lane and Bull Alley. We have responded to the points raised in the letter below.

Query 1 – details of continuous fit for purpose defence line at construction stage

We accept that details will be provided at the detailed design stage when a contractor is appointed and a Flood Risk Activity Permit is applied for.

Query 2 – details of the lifespan of the flood defence

Accepted.

Query 3 – TE2100 raisings

We note that the proposed glass balustrade will be part of the flood defence wall thereby raising it to TE2100 levels at the construction phase. We will require cross sections representative of all sections through the defence illustrating the proposed crest level of the flood defence line and all supporting structures (particularly where steps are located).

Drawing 38262/5501/062 illustrates the boathouse building on the eastern end of the site incorporates windows and internal access point below the TE2100 level within the flood defence line. The finished floor levels in the lobby/entrance area of the boat house are proposed to be set at 6.03m AOD, but the boat house finished floor level is to be set at 4.25m AOD. Details of how access will be achieved from the landward side of the flood defences into the boathouse will need to be provided

We will require cross section drawings of the boathouse and demonstration of how TE2100 levels will be achieved. The flood defence line must be continuous and not contain openings such as windows and access points. Additionally it will need to be demonstrated that no utilises which could compromise the defence line and integrity of the river wall structure.

The proposed boathouse should be structurally independent of the Tidal Defence and offset to allow access for inspection. The separation between the Tidal defence and the building is important as it would allow for potential future maintenance works and defence raising.

Additionally, the developer will need to demonstrate how the flood defence line within the redline boundary will tie into adjacent properties for future TE2100 raisings (specifically at Ship Lane and Bull Alley). The developer may wish to reconsider the line of the flood defence and how the continuous line of the defence between the proposed boathouse and Bull Alley can be achieved.

Query 4 – Vehicle tracking plan

Drawing 38262/5501/062 illustrates a vehicle tracking plan for a 10m long lorry, however the circa 4m clearance height appears to be insufficient to actually operate any plant within these areas. Furthermore, the flood defence within the northwest corner of the site appears to be inaccessible. It appears that the applicant will use of the existing building as the defence line. Further information is required as to how the defence will be accessed from the landward side.

We appreciate a new flood defence will reduce the likelihood of failure, however unrestricted access is still required for any unforeseen maintenance and emergency works and the future raisings.

Query 5 – Ship Lane and Bull Alley

Bull Alley, and the flood boards for this location are within the redline boundary of the application. Irrespective of ownership, developer will have to demonstrate both the residual lifespan and TE2100 crest level raising for all tidal flood defences within their red-line boundary. Our preference would be for the flood boards to be removed and a passive (static) flood defence installed.

Regarding Ship Lane, we appreciate the applicant may not be the freeholder of this land, and therefore may not be liable to ultimately provide the flood defence across the road. However, the applicant is responsible for demonstrating how all flood defence line within their redline boundary, will be treated in light of TE2100 raising requirements and how these will tie in with the defences on adjacent properties. Developments should not preclude or limit future defence raising options nor should they increase flood risk to neighbouring properties.

A development that precludes options for passive defences (to meet TE2100 levels), both increases the cost of future flood defence provision and increases residual flood risk due to the potential for the gate not to be operated. On public highways this risk is greatly increased because of 3rd party vehicle use that may damage the gate or simply park across it.

We appreciate that the gate options were discussed at the meeting of 26 September 2016, but as set out in the minutes to the meeting our preference is always for passive options for defence provision to be kept open – in this case we stated that the applicant would have to demonstrate that passive solutions were unsuitable prior to considering gated options. We do not believe the applicant has demonstrated this and do not accept that a flood gate is the only feasible solution, nor that gates are appropriate for a public highway. A review of our (open source) LiDAR data suggest the road levels already rises to approx. 6.1mAOD, albeit further landward than the current line. Hence a potential further 600mm is all that is required to archive TE2100 levels (not 1m). Given the complete re-development of this site, we see no obvious reason why the scheme cannot be designed to allow for a passive solution to be provided in ship lane, and would recommend you progress your designs along this principle (rather than try and demonstrate a passive defence is not possible).

We accept that some future passive defence line options would require changes to third party defences (namely the ship pub). While we do not expect the developer to deliver works outside their red-line boundary, we do expect the developer to design a scheme that would not preclude a passive defence being installed in the future, and that this future passive defence line should be achievable with the minimum level of cost and disruption both to the development itself and adjacent properties.

Query 6 – drainage strategy

Regarding the proposed outfalls, the applicant should note outfalls will have to be positioned at an appropriate height, and should be assessed to deal with expected tide locking at this height. An assessment of the need for scour protection (to protect foreshore and structural stability of flood defences) will be needed, along with delivery of appropriate scour mitigation. Outfalls, that penetrate the tidal defence line below the statutory level and with a diameter greater than >300 mm must contain 2 in-line non-return valve's (such as flap valves). Further details on the construction of the outfalls and method statements etc. will have to be provided and reviewed as part of the Flood Risk Activity Permit application.

Query 7 – enhancement to the Thames Path and river bank

The application offers minimal enhancements for nature and biodiversity. The development is located immediately adjacent to the River Thames and offers an excellent opportunity to enhance the river environment and improve the river corridor for people and wildlife.

The applicant states that they do not own the tow path which. However little has been done to improve biodiversity within the submitted proposals. There are green areas and trees, but no mention of green roofs, biodiverse planting (i.e native species flowers to attract invertebrates) or bat boxes, bird boxes etc. It is therefore not been demonstrated that the development will result in a net gain to biodiversity.

Any new planting within the buffer zone should use native species. Any loss of habitat should be mitigated for within the development with the use of green and/or brown roof's to encourage biodiversity.

The National Planning Policy Framework (NPPF) requires local planning authorities to aim to conserve and enhance biodiversity when determining planning applications by minimising impacts on biodiversity and providing net gains in biodiversity where possible.

In addition, the Thames river basin management plan requires the restoration and enhancement of water bodies to prevent deterioration and promote recovery of water bodies

London Borough of Richmond's Local Plan Policy LP 15 Biodiversity states that 'The Council will protect and enhance the borough's biodiversity, in particular, but not exclusively, the sites designated for their biodiversity and nature conservation value, including the connectivity between habitats.

By

- supporting enhancements to biodiversity;
- incorporating and creating new habitats or biodiversity features, including trees, into development sites and into the design of buildings themselves where appropriate; major developments are required to deliver net gain for biodiversity, through incorporation of ecological enhancements, wherever possible;
- enhancing wildlife corridors for the movement of species, including river corridors, where opportunities arise; and
- maximising the provision of soft landscaping, including trees, shrubs and other vegetation that support the borough-wide Biodiversity Action Plan.'

The London Borough of Richmond's Local Plan Policy LP 18 River corridors states that 'Development adjacent to the river corridors will be expected to contribute to improvements and enhancements to the river environment.'

The development as submitted does therefore not comply with the requirements of the National and Local Planning Policy.

Flood Risk Activity Permit (FRAP)

Under the Environmental Permitting (England and Wales) Regulations 2016, you must submit plans to the Environment Agency and apply for a FRAP if you want to do work:

In, over or under a main river
Within 16m if it is a tidal main river
Within 16m on a tidal main river

Flood risk activities can be classified as: Exclusions, Exemptions, Standard Rules or Bespoke. These are associated with the level of risk your proposed works may pose to people, property and the environment.

You should apply for a Bespoke FRAP if your work cannot be classified as one of the following:

an **excluded activity** (listed [here](#))
an **'exempt' activity** (listed [here](#))
a **'standard rules' activity** (listed [here](#)).

Environment Agency
3rd Floor, Seacole Building, 2 Marsham Street, London, SW1P 4DF
Telephone: 03708 506 506
Email: enquiries@environment-agency.gov.uk
Website: www.gov.uk/environment-agency

Decision notice request

We record the outcome of planning decisions and request the decision notice is emailed to kslplanning@environment-agency.gov.uk

I hope our comments are helpful, if you have any questions please contact me.

Yours sincerely

Joe Martyn
Planning Specialist

Direct dial 020 3025 5546

Direct e-mail kslplanning@environment-agency.gov.uk

cc Gerald Eve LLP



B. First Response Letter to Environment Agency

Appendices

River Wall Environment Agency Comments
WIE10667-103-BN-7-2-1-EA
WIE10667

Direct Tel: 0207 928 7888
Direct Email: sophie.mccabe@watermangroup.com

Our Ref: WIE10667-103-180627-SM-RiverWall
Your Ref: SL/2018/118128/01-L01

Date: 27th June 2018

Joe Martyn
Environment Agency
3rd Floor, Seacole Building
2 Marsham Street
London SW1P 4DF

Dear Joe,

RE: Stage Brewery – River Wall

I am writing in response to your objection dated 11th May 2018 in relation to the proposals for a new river wall at the Stag Brewery Site. Please see below the information for the removal of your objection.

Query 1) – *Details of how a fit for purpose flood defence line at the statutory level will be maintained during the construction phase (as previously conveyed at the meeting on 26 September 2016) and outlined in the FRA. Detailed method statements and sequence drawings for both temporary and permanent flood defences can be provided at the Flood Risk Activity Permit stage but we would like an outline Method of Work.*

Response – The outline method of work and the design presented to date is based on the assumption that the new river wall is to be constructed behind the existing river wall, allowing for the existing flood defences to be maintained throughout the construction of the new wall. Therefore, in the temporary case, whilst the new river wall is being constructed, the existing flood defence will remain in place and serve as the flood protection in the area as it currently stands. The existing wall would then be reduced in height to match the new flood defence, set at the statutory defence level. The new river wall will only come into use once it is completed along the alignment shown in WIE-SA-04-1006 A04 (Appendix A).

More detailed method statements and construction sequence drawings can be provided at the detailed design stage when a contractor is on board.

Query 2) – *Details of how the new flood defences will be commensurate with the 100 year lifetime of the development.*

Response – Currently two options are being proposed for the river wall. For the sheet piled wall option, the new flood defences will consider a 100 year design life by following the guidance provided in accordance with BS EN 1993-5 and the accompanying national annex. The standards present tables (specifically Table 4-2) that allow for a reduction in the section thickness over time for a marine/river environment. The section capacity for the sheet piled wall will be considered based on the reduced section thickness therefore allowing for the 100 year lifetime of the development.

For the concrete secant pile option, exposure classes for the concrete will be considered in accordance with BS 8500 with a mix design and concrete cover being provided that is appropriate for a marine environment exposure class. The section capacity will then be derived from BS EN 1992.

The building concrete retaining structures will be designed to accommodate the surcharge loads to BS EN 1992 and marine exposure class will be in accordance with BS8500 for both mix design and cover.

Any windows to the boathouse building that form part of the defence line would require a bespoke design to ensure protection to the appropriate standard. These windows would be fully tested prior to installation to ensure that they are fit for purpose. An example of the sort of product that could be used can be found here <https://thefloodcompany.co.uk/case-study-items/bam-nuttall/>. In this example testing of the bespoke flood product was undertaken at HR Wallingford to ensure it was of a suitable standard.

Query 3) – *We note that the new flood defence walls will have a crest level of 6.13m AOD and “topped by a 1.1m high glass balustrade, with effective crest at 7.23m AOD”. The applicant should demonstrate how TE2100 level can be achieved in future; if this additional raising is effectively the glass balustrade, then it must be demonstrated that this element is structurally sound as a flood defence component (i.e. will it be made from toughened glass to sufficiently withstand the calculated hydrostatic pressure as well as being watertight?).*

Response – The main construction of the river wall would be either sheet pile or secant pile (to be confirmed at the detailed design stage). Where required to achieve the minimum defence height of 6.70m AOD, a glass balustrade/wall would be installed on top of the piled wall. The glass balustrade/wall would be a flood defence specific product, an example of which is provided in the enclosed document prepared by Hydro-Logic (Appendix B).

The flood defence would be raised to the full height of 6.70m AOD as part of the proposals, as required by the TE2100 Plan, no further raising would therefore be required. The construction of the crest of the defence would vary along its length, however would always be a minimum of 6.70m AOD. Please refer to the enclosed plans which shows the treatment of the river wall (Appendix A).

Query 4) – *A vehicle tracking plan should be produced to ensure the offset between the defences and built development is sufficient to allow plant unrestricted access for future works on the flood defences. The applicant should also note that vertical unrestricted access is also required, i.e. consider positions of balconies.*

Response – As set out above, the defences would have a design life of 100 years. This would remove the requirement for future piling to raise/maintain the defences during the lifetime of the development. The requirement for tracking is therefore based on maintenance rather than reconstruction. It is considered that given the piled construction of the defences any maintenance is likely to be minor/superficial. Please find enclosed drawings prepared by Peter Brett Associates (Appendix C) showing the tracking of a 10m Rigid Vehicle and a Small Crane. These vehicles are considered appropriate for maintenance works. In the location adjacent to the Maltings Building the vehicles would not be able to park directly adjacent to the river wall, however they would be able to crane materials into the appropriate location. The proposed tracking accounts for vertical clearance to balconies and tree canopies, ensuring vehicles can pass beneath unrestricted.

Query 5) – *The FRA includes reference to a minimum of 4m clear access route. Is the 4m between the new flood defences and development? Site Plans are also required clearly outlining the exact location of the new defence line including access arrangements and distances. It is also not clear what is being proposed for Ship Lane and Bull Lane. Details of the proposed flood gate barriers should be provided.*

Response – Please refer to the enclosed plan and sections prepared by Gillespies (Appendix A) which show the 4m minimum clear access route and offsets to defences.

The existing defence in Bull Alley is not part of this application and is not under the applicant's ownership. Our proposals would therefore only tie into this existing defence, however no changes would be made to it as part of our proposals.

In the existing situation there is no raised defence in Ship Lane. Instead the defence is formed by ground levels in the public highway itself, which rise away from the river. Ship Lane is a public highway and therefore outside of the applicant's ownership. Whilst some works would take place to Ship Lane (wider footways and landscaping (including retention of all trees) to provide a functional and attractive street) these would not impact on the existing flood defence level provided by the highway.

Whilst the applicant is not responsible for installing a flood defence across Ship Lane, options were discussed at the meeting on the 26th September 2016 that could be implemented by others in the future. It would not be feasible for a permanent defence to be located across Ship Lane as this would block access along the public highway. Instead, a demountable defence would more suitable for this location. The defence would need to tie into the existing Maltings Building on the Stag Brewery Site. On the other side of the public highway the defence would need to tie into the existing public house (noted as a defence on the Environment Agency's flood map). The enclosed document prepared by Hydro-Logic (Appendix B) provides information on the type of defence that could be provided in the future, and the approximate location it would need to be installed. Given the Thames Estuary 2100 Plan does not require this raising to take place until 2065 it would not be sensible to install a flood gate now as it would be required for several decades.

Query 6) – *The drainage strategy states that surface water runoff would be discharged to the River Thames via 3 outfalls; depending on the position and location of the outfalls, the applicant should consider whether scour protection may be necessary to minimise scour which could adversely impact the structural stability of flood defences. The drainage scheme and outfalls should be designed to minimise the likelihood of scour protection being needed.*

Response – Scour protection would be designed (e.g. concrete mattress) and incorporated to protect the River Thames in consultation with the Environment Agency and the Port of London Authority (PLA). The design of this protection would need to be confirmed at the detailed design stage once the pipe sizes, locations, and velocities are known.

Query 7) – *We request clarification about whether any enhancement works will be taking place to the Thames Path and river bank. Previous discussions with the applicant have indicated that subject to the ownership issues being resolved enhancement may be possible. However from the information submitted this is unclear.*

Response – The tow path is outside of the ownership of the applicant and under the control of the PLA and LBRuT. Pre-application discussions were undertaken with the PLA, LBRuT, and local interest groups regarding the extent of the enhancements. Detailed works are covered within the Landscape Design and Access Statement (pages 103-111), an extract of which can be found in Appendix D. Please see the list of proposed works below:

- Pruning of understorey vegetation on Towpath to open key views;
- Existing granite setts on Towpath, public draw dock and slipway retained;
- Rediscovered railway track - express within new pavement design to new seating area;
- Seating provided at locations with good views to the river;
- Life-saving equipment will be provided by PLA - locate as directed;
- Retain lower section of boundary wall where feasible - as facing to new flood wall;
- Additional seating and interpretative signage is proposed to be added in the new paved dock area;
- Some amendments to existing kerbs and paving will be required to integrate with proposed works and access into the Rowing Club storage area.

Yours sincerely



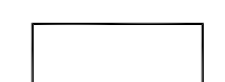



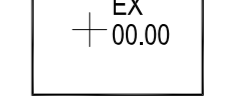
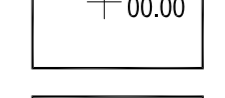
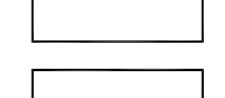
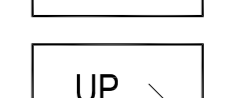

Sophie McCabe
Associate Director
For and On Behalf of Waterman Infrastructure & Environment Ltd

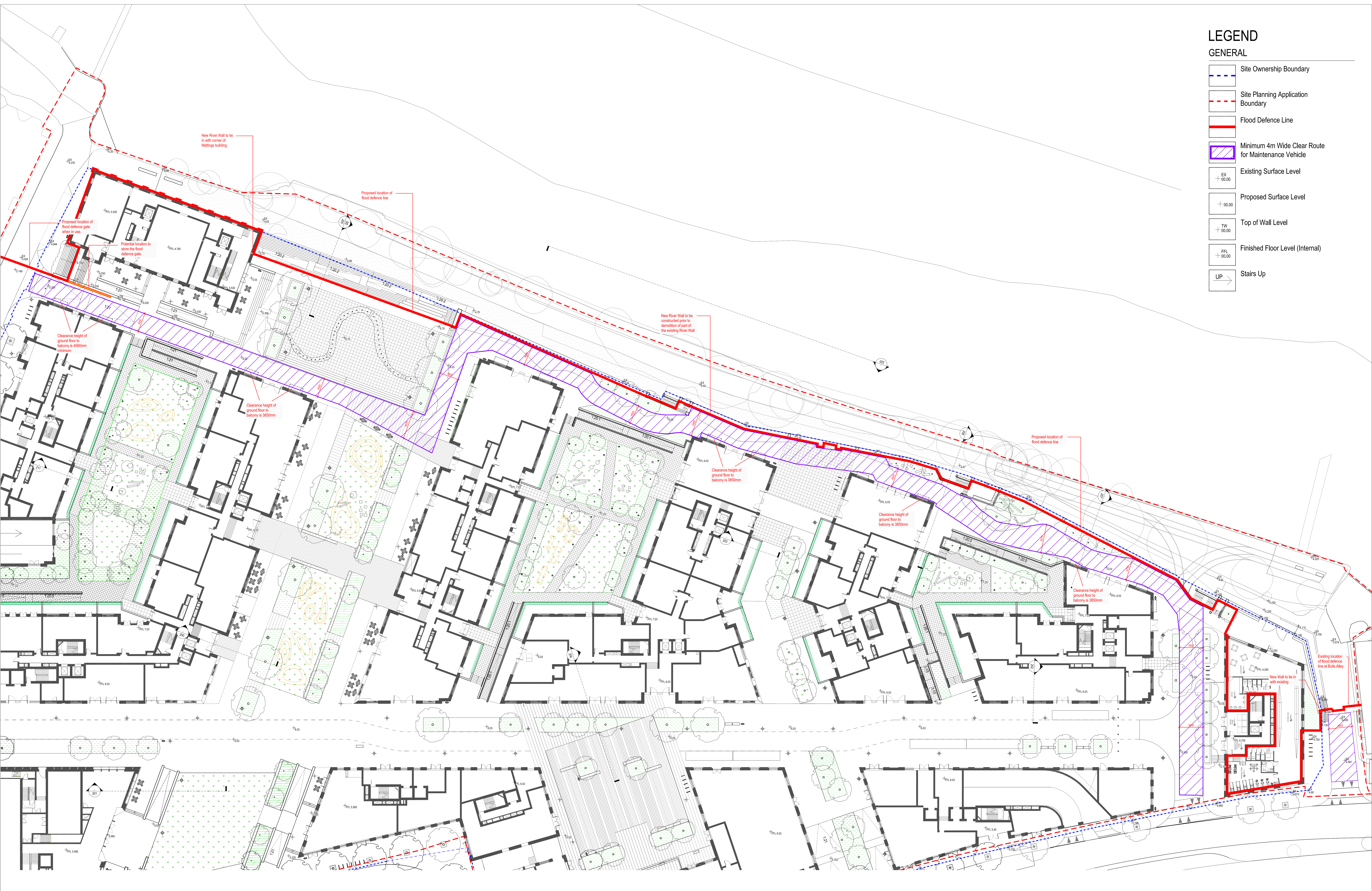
Appendix A

DRAFT

LEGEND

GENERAL

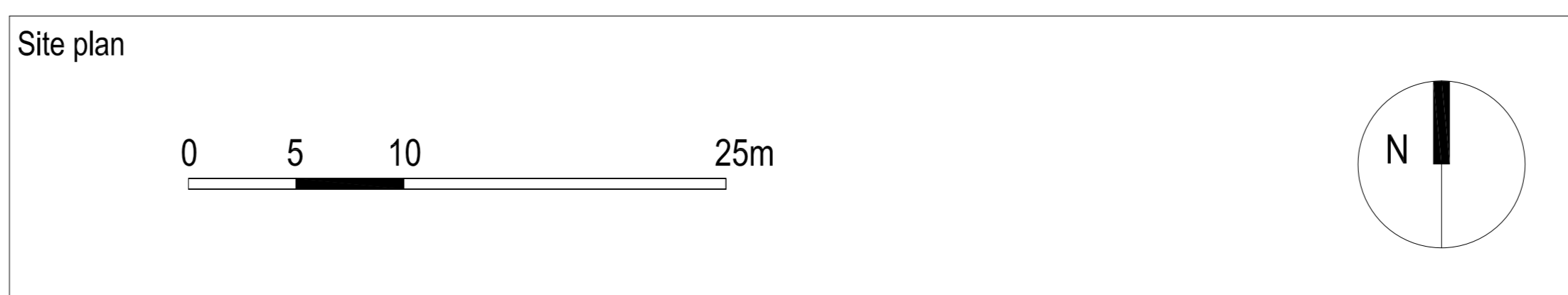
-  Site Ownership Boundary
-  Site Planning Application Boundary
-  Flood Defence Line
-  Minimum 4m Wide Clear Route for Maintenance Vehicle
-  Existing Surface Level
-  Proposed Surface Level
-  Top of Wall Level
-  Finished Floor Level (Internal)
-  Stairs Up



| rev | details | by | date | rev | details | by | date |
|-----|----------------------|----|------------|-----|---------|----|------|
| D00 | Issued for Planning. | RJ | 04.06.2018 | | | | |
| D01 | Issued for Planning. | RJ | 06.06.2018 | | | | |
| D02 | Issued for Planning. | RJ | 21.06.2018 | | | | |

Notes

- 1.0 Do not scale from drawing, use figured dimensions only
- 1.1 All dimensions to be checked onsite
- 1.2 This drawing to be read in conjunction with all other Gillespies drawings and specifications



Project title
Slag Brewery Planning

Drawing title
Development Area 1 Flood Defence Plan

| | |
|--|------------------------|
| Drawing number P10736-00-001-116 | Revision D02 |
| Date 04.06.18 | Scale 1:250 @ A0 |
| Drawn RJ | Checked RC |

Client
DARTMOUTH CAPITAL

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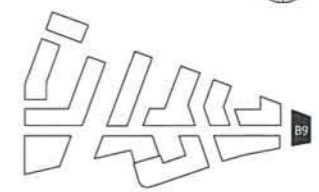
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P 0207 253209 F 0207 253390 E design.london@gillespies.co.uk



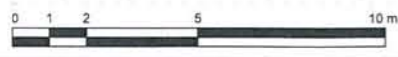
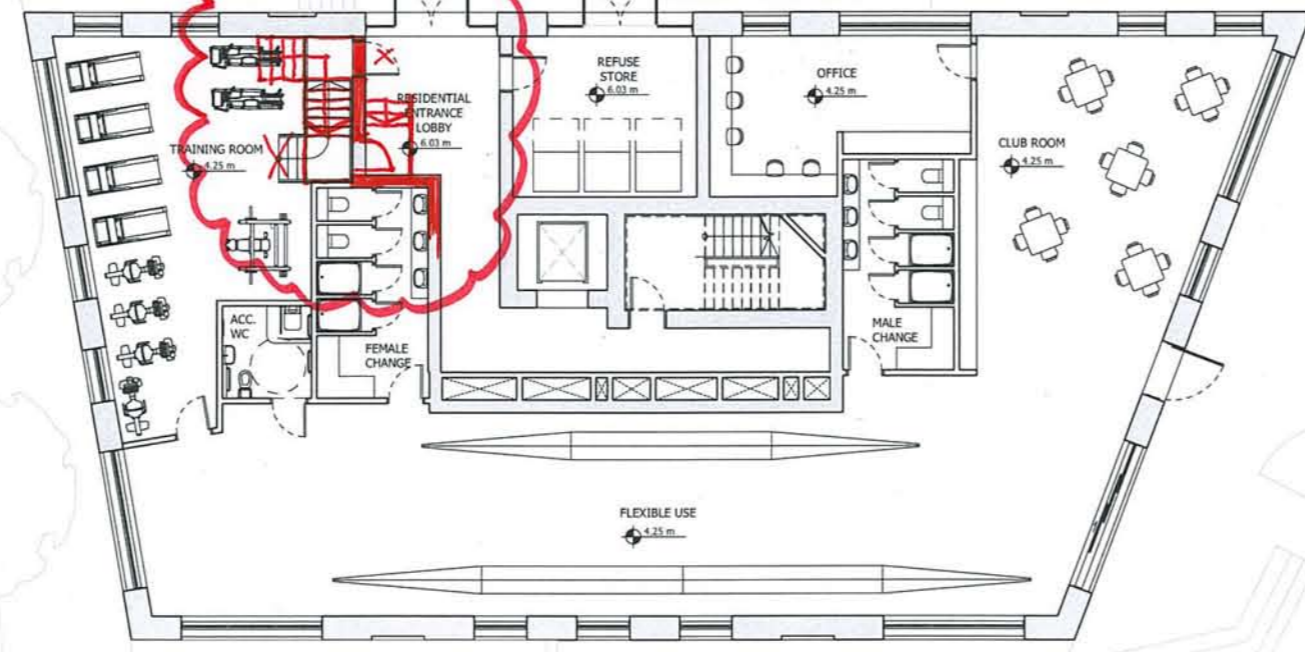
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NOTE:
[] WHEELCHAIR ACCESSIBLE UNIT / CONVERTIBLE UNIT
○ WHEELCHAIR TURNING AREA

S & P COMMENTS
19.06.2018

AMENDMENT
TO ESCAPE STEPS FROM
BOAT CLUB, THROUGH
RESIDENTIAL ENTRANCE
LOBBY. TOP LANDING AT
ESCAPE DOOR TO BE RAISED
TO 6.7M A.O.D.



| PLANNING APPLICATION | 12/02/18 | BJ |
|----------------------|----------|-----------|
| Revision description | Date | Check Rev |

SQUIRE & PARTNERS

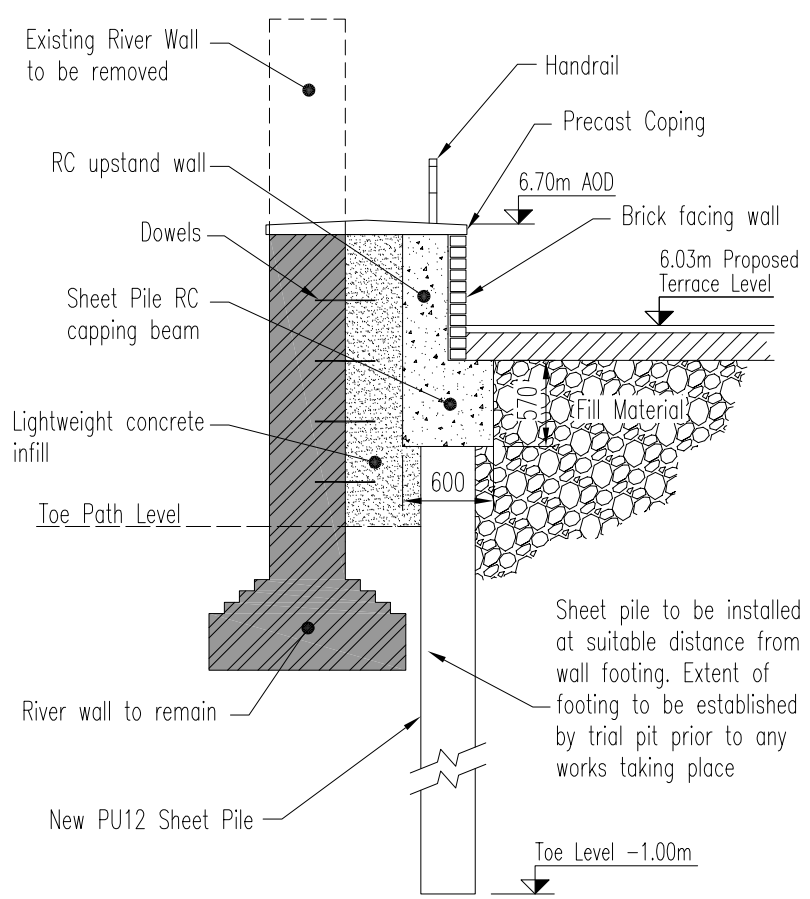
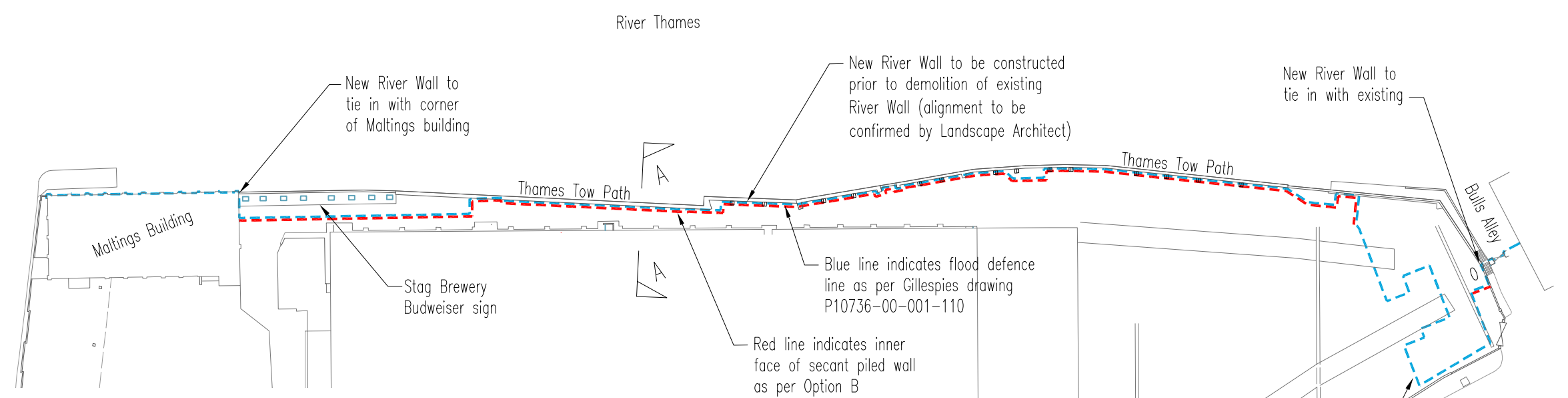
The Department Store
248 Ferndale Road London SW9 8FR
T: 020 7278 5555 F: 020 7239 0495

info@squireandpartners.com
www.squireandpartners.com

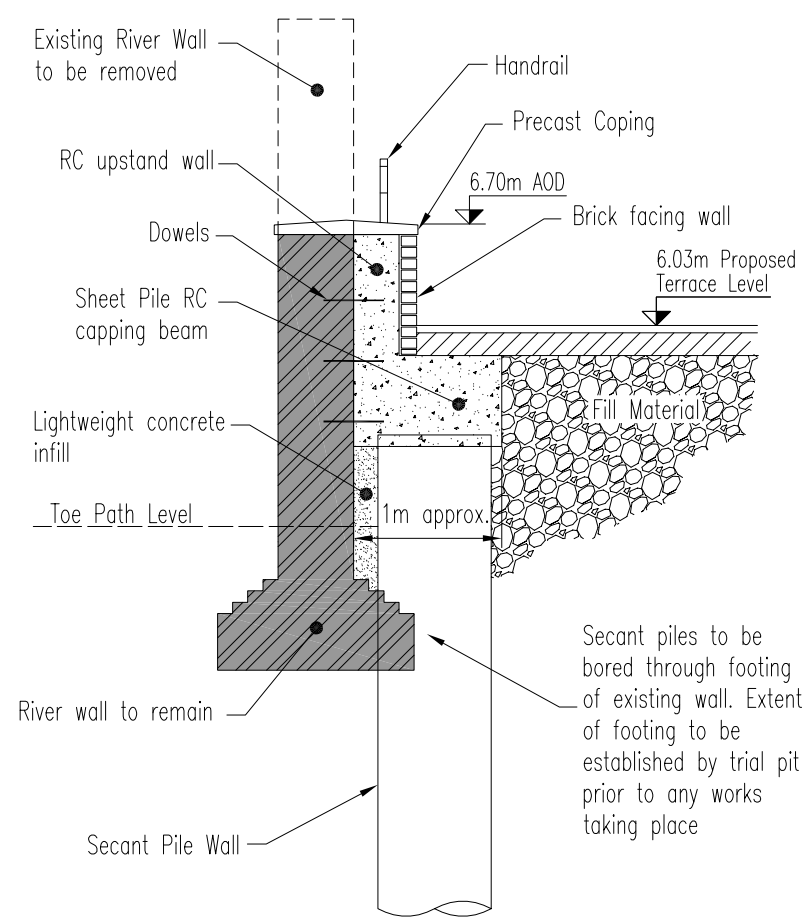
Project:
Stag Brewery
Richmond

Drawing:
BUILDING 09 - PROPOSED GROUND
FLOOR PLAN

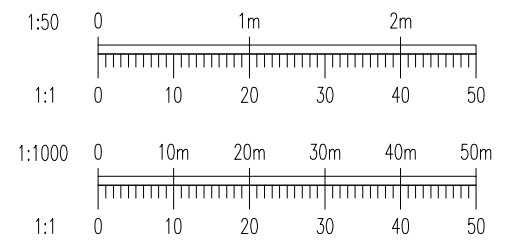
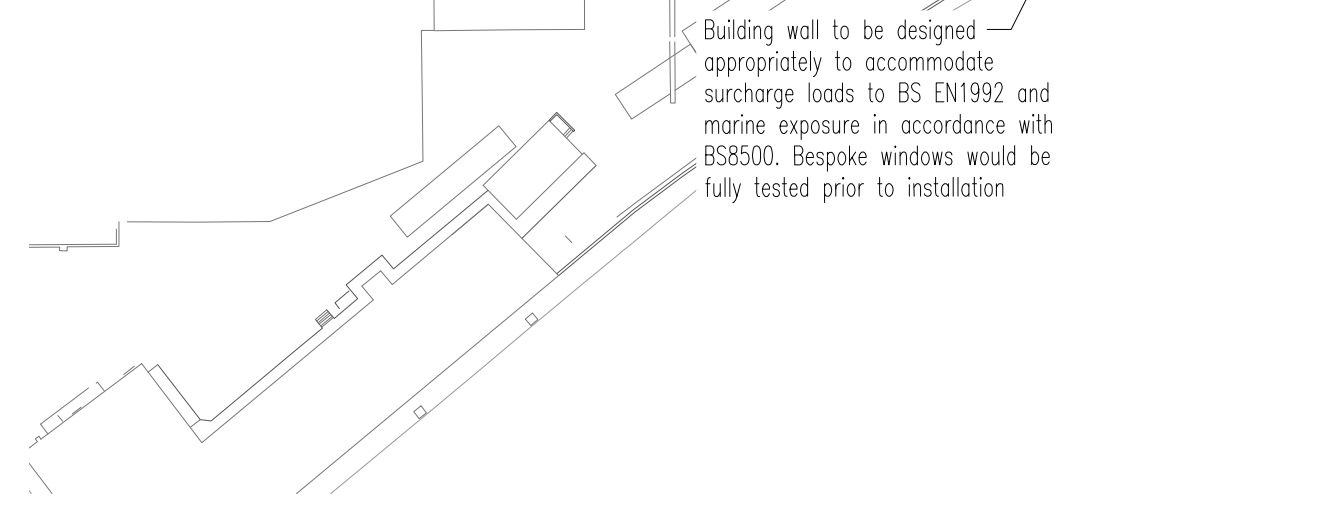
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| KH | 16/01/18 | 1:100 @ A1 1:200 @ A3 |
| Job Number | Drawing number | Revision |
| 16019 | C645_B09_P_00_001 | - |



Section A-A
Typical New Wall Section
Option A
(Scale 1:50)



Section A-A
Typical New Wall Section
Option B
(Scale 1:50)



1. CONSTRUCTION JOINTS IN CAPPING BEAM AT 13m CENTRES.

| Rev | Date | Description | By |
|------------|----------|--|-----|
| A05 | 22.06.18 | WALL ALIGNMENT REVISED | SPO |
| A04 | 14.06.18 | WALL ALIGNMENT REVISED | SPO |
| A03 | 07.06.18 | WALL ALIGNMENT REVISED. NOTES ADDED | SPO |
| A02 | 19.10.17 | WALL ALIGNMENT REVISED, SECTIONS ADDED/REVISED | SPO |
| A01 | 13.07.17 | ISSUED FOR INFORMATION | TLR |
| Rev | Date | Description | By |
| Amendments | | | |

Pickfords Wharf Clink Street London SE19DG
t 020 7928 7888
mail@watermangroup.com www.watermangroup.com

Project **STAG BREWERY, MORTLAKE**

Title **THAMES RIVER WALL CONCEPT DESIGN**

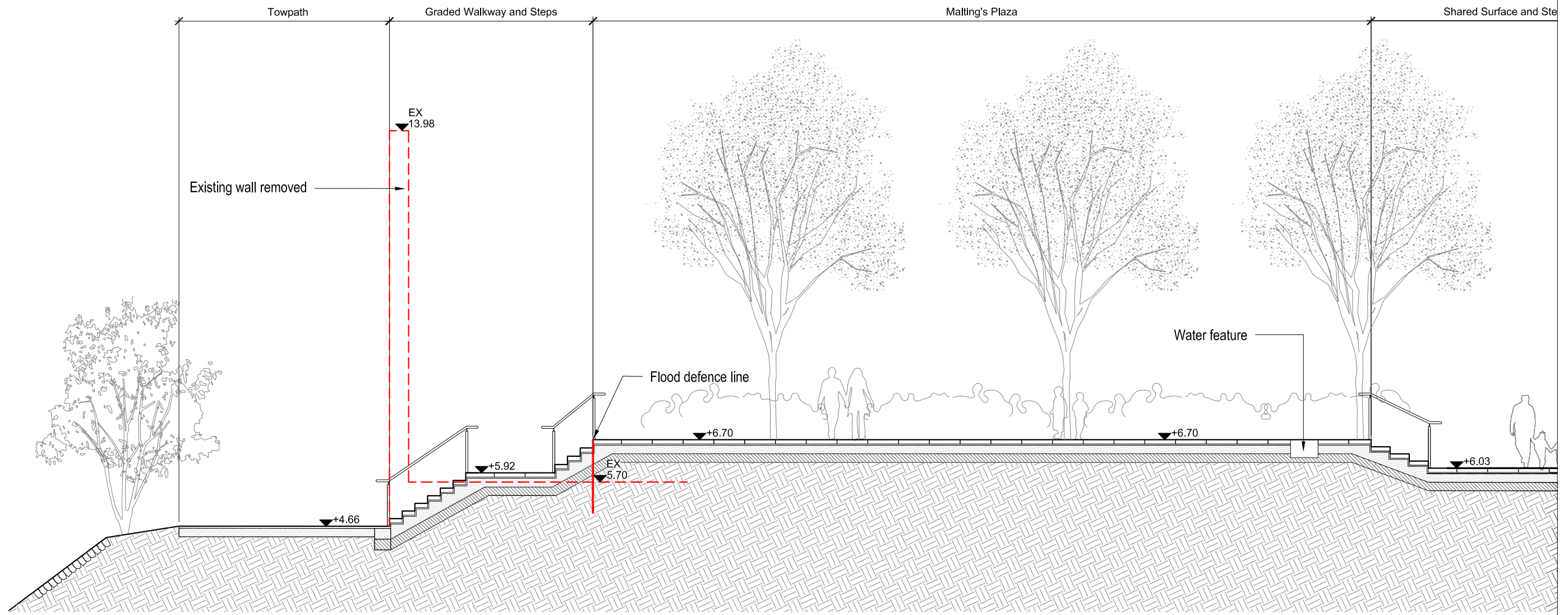
Client **DARTMOUTH CAPITAL ADVISORS LTD**

Drawing Status **PRELIMINARY**

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|---|-----------|------------|-------------|------------------|--------------------------|
| Designed by | VB | Checked by | TLR | Project No | WIE10667 |
| Drawn by | MC | Date | JULY 2017 | Computer File No | |
| Scales @ A3 work to figured dimensions only | | | | 1:50 1:1000 | WIE-10667-SA-04-1006.dwg |
| Publisher | Zone | Category | Number | Revision | |
| WIE | SA | 04 | 1006 | A05 | |

GENERAL NOTES

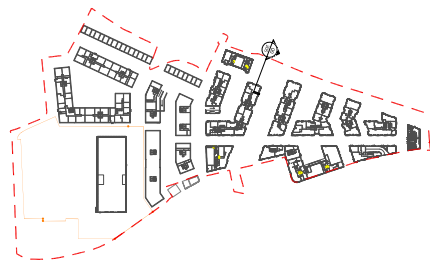
Amendments



| rev | details | by | date |
|-----|---------------------|----|------------|
| D00 | Issued for Planning | CC | 03.11.2017 |
| D01 | Issued for Planning | RJ | 01.02.2018 |
| D02 | Issued for Planning | RJ | 09.02.2018 |
| D03 | Issued for Planning | RJ | 08.06.2018 |
| | | | |
| | | | |

Notes

- 1.0 All dimensions in millimeters.
- 1.2 Use only dimensions shown.



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STAG BREWERY

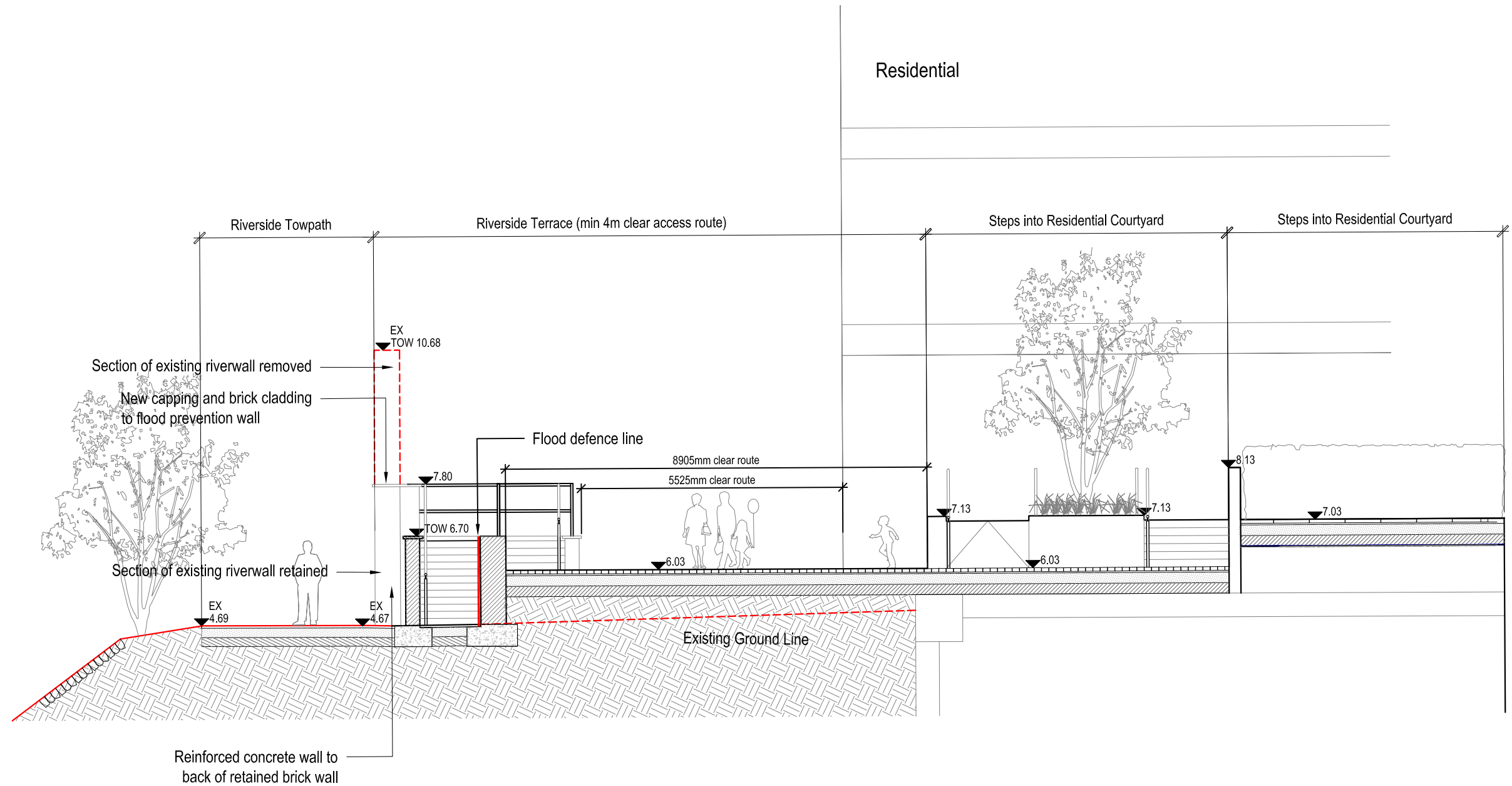
Proposed Maltings Plaza Section

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| Revision D03 | |
| drawing status DESIGN | |
| Date 03.11.17 | Scale 1:100 @ A3 |
| Drawn CC | Checked RC |

Client
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Alameda House, 90-100 Sydney Street, London SW3 6NJ
P: 0207 629 0239
F: xxxxx xxx xxx

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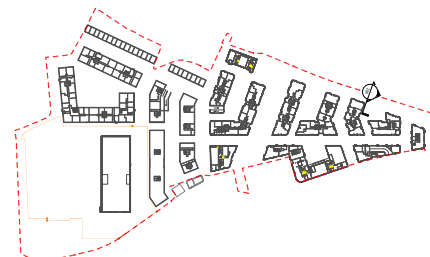
1 St John's Square, London EC1M 4DH
P 0207 2532929 F 0207 2533900 E design.london@gillespies.co.uk



| rev | details | by | date |
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| D00 | Issued for Information | RJ | 03.11.2017 |
| D01 | Issued for Planning | RJ | 01.02.2018 |
| D02 | Issued for Planning | RJ | 09.02.2018 |
| D03 | Flood defence update | RJ | 05.06.2018 |
| | | | |
| | | | |

Notes

- 1.0 All dimensions in millimeters.
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STAG BREWERY

Proposed River Terrace
Section 1

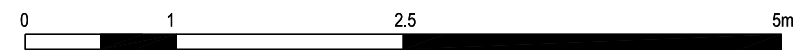
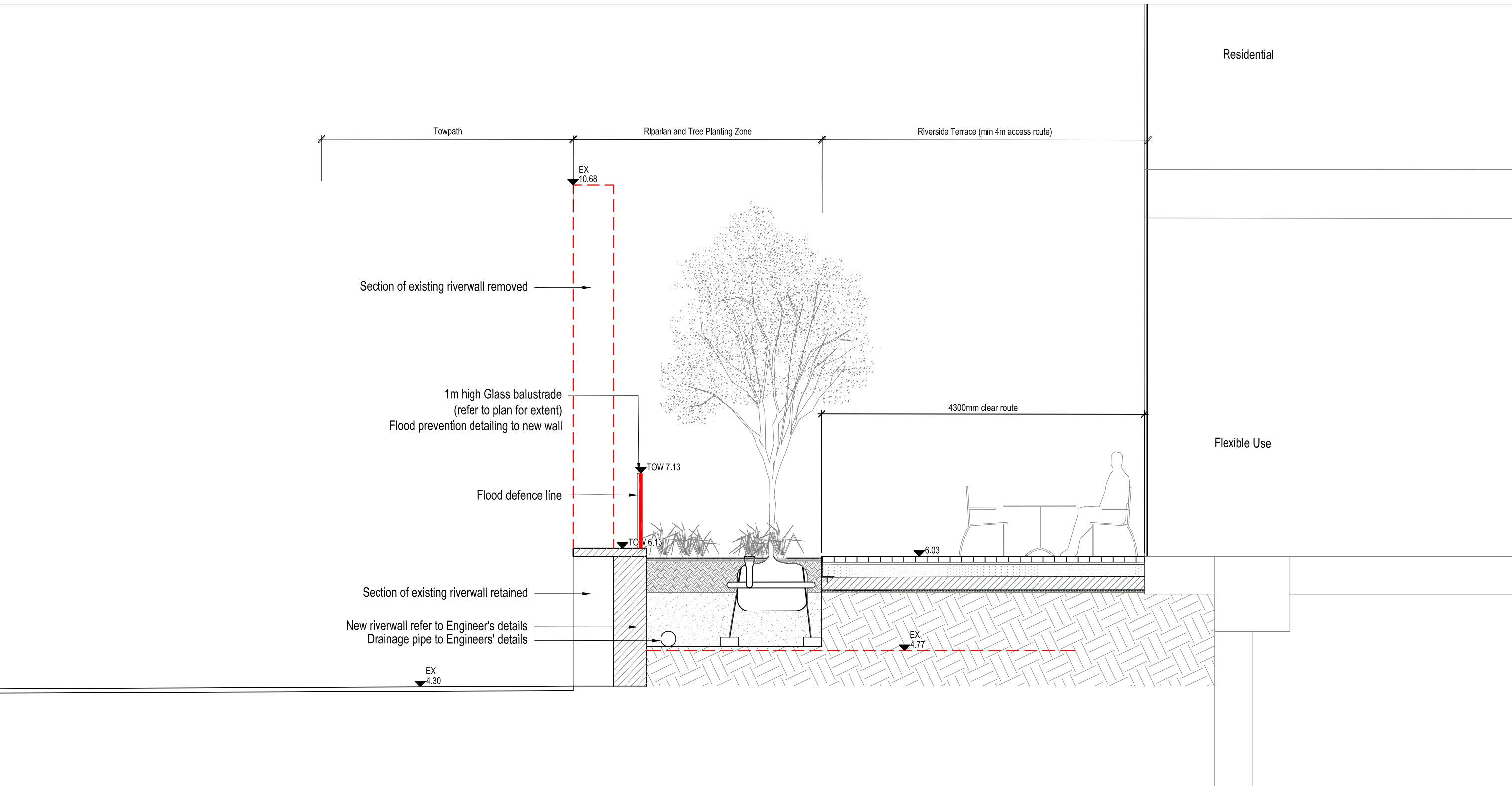
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| Drawn RJ | Checked RC |

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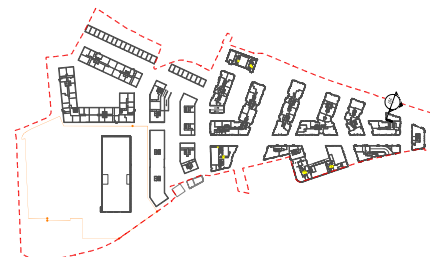
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| D01 | Issued for planning | RJ | 01.02.2018 |
| D02 | Issued for Planning | RJ | 09.02.2018 |
| D03 | Flood Defence Update | RJ | 05.06.2018 |
| | | | |
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Notes

- 1.0 All dimensions in millimeters.
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STAG BREWERY

**Proposed River Terrace
Section 2**

| | |
|-------------------------------------|--------------------|
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| Revision D03 | |
| drawing status DESIGN | |
| Date 03.11.17 | Scale 1:50 @ A3 |
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Appendix B

DRAFT

GLASS WALL FLOOD BARRIERS/WINDOWS

<http://www.floodcontrolinternational.com/PRODUCTS/FLOOD-BARRIERS/glass-barriers.html>



Flood Control International has developed the ultimate glass wall flood defences that are capable of withstanding virtually any flood condition. See the new Hard Body Drop Test video below.

The glass walls require no operational input and cause minimal visual intrusion where flood protection is required.

Each glass barrier utilises a combination of specially designed high strength structural glass, engineered frames designed to withstand the static and impact loads of the specific location, structural anchoring system, and specially designed watertight and impact resisting sealing technology.

Flood protection heights up to 1.8m as standard.

The result is a virtually clear glass barrier with no loss of visual amenity that can be used as a direct first line flood defence without the need for sacrificial panels, additional deflection devices or external buffers. Self cleaning glass and grade 316 stainless steel frames allow this system to be used in aggressive marine environments if required. Ideal when sea wall flood defences are required.

Our glass barriers can be used as individual viewing panels incorporated into hard flood defences, or as a complete free standing glass wall spanning any length and following virtually any contour. There is also a version of the system that can be retrospectively mounted onto suitable existing foundations.

Tamper proof and concealed fixings are used throughout the system to reduce the possibility of vandalism. Safety factors are incorporated into all load calculations and material design to avoid the possibility of catastrophic system failure. See the Hard Body Drop Test video below.

LIFT-HINGE FLOOD GATE

<http://www.floodcontrolinternational.com/PRODUCTS/FLOOD-GATES/lhg-floodgate.html>



Our design for a lift-hinged flood gate utilises a unique 'raise-swing-lower' mechanism and does not require recessed ground channels, raised ground beams or ramps, making the gates ideal for vehicle entrances and especially suitable for forklift or wheelchair access.

Even the widest flood gate designs can be operated by one person using the smooth winding lift action and the single point locking mechanism. The aluminium construction also provides a far higher level of operator safety than heavy steel flood gate products.

These floodgates are available as single or double leaf, or integrated with a stop-log system for wide openings in flood defences. Our lift-hinge flood gate products are suitable for use in unmanned locations, are fully lockable and come complete with anti-theft and vandal resistant features.

The components are manufactured from construction grade steel and aluminium with stainless steel and are virtually maintenance free.

Our flood gate range is designed for extreme weather durability to give a lifetime of service and with EPDM seals that reform even after prolonged periods of compression, the gates can, if required, be left closed indefinitely. For locations where leaves greater than 4.5m wide are required, we can also manufacture from steel to any size.

SLIDING GATES

<http://www.floodcontrolinternational.com/PRODUCTS/FLOOD-GATES/sliding-floodgate.html>



Flood Control International offers a full design, manufacture and installation service for heavy duty sliding floodgates. Each sliding floodgate is individually designed for the specific customer's requirements and can be designed to incorporate automation of closure, locking and monitoring status where needed.

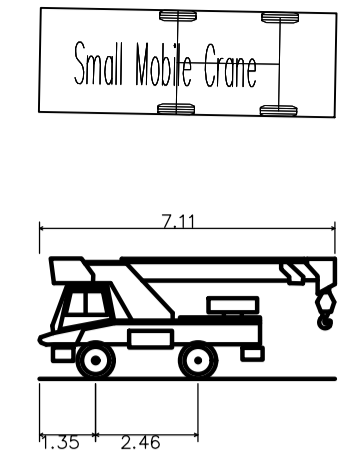
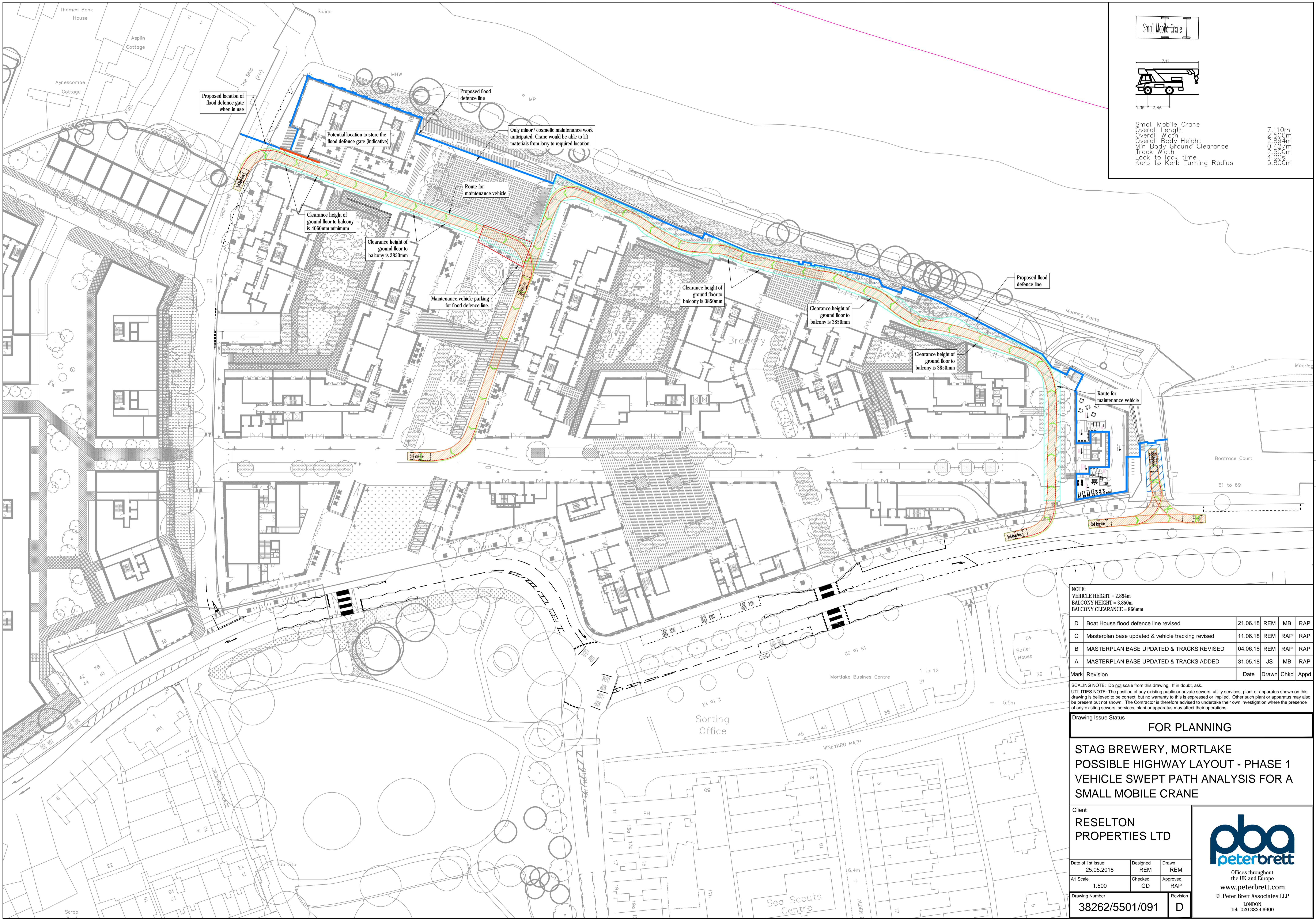
Sliding floodgates incorporate spring wheels to allow an easy sliding operation with the ability to compress seals when in position. Alternatively, inflating seals can be used.

Benefits

- Efficient use of space with no 'swing area' as with traditional flood gates.
- Designed to fit any building or opening.
- Floodgates can be automated and linked to building management systems.
- Can be designed for flood protection heights up to 5m and spans up to 7m.
- Simple one person operation.
- Ability to power / automate closing and opening.
- No excavations required for installation.
- Always on-site ready to be deployed.

Appendix C

DRAFT



Small Mobile Crane
 Overall Length 7.110m
 Overall Width 2.460m
 Overall Body Height 2.894m
 Min Body Ground Clearance 0.427m
 Track Width 2.500m
 Lock to lock time 4.00s
 Kerb to Kerb Turning Radius 5.800m

Proposed location of flood defence gate when in use

Potential location to store the flood defence gate (indicative)

Proposed flood defence line

Only minor / cosmetic maintenance work anticipated. Crane would be able to lift materials from lorry to required location.

Route for maintenance vehicle

Clearance height of ground floor to balcony is 4060mm minimum

Clearance height of ground floor to balcony is 3850mm

Maintenance vehicle parking for flood defence line.

Clearance height of ground floor to balcony is 3850mm

Clearance height of ground floor to balcony is 3850mm

Clearance height of ground floor to balcony is 3850mm

Proposed flood defence line

Route for maintenance vehicle

Mooring Posts

Boatrace Court

61 to 69

NOTE:
 VEHICLE HEIGHT = 2.894m
 BALCONY HEIGHT = 3.850m
 BALCONY CLEARANCE = 866mm

| Mark | Revision | Date | Drawn | Chkd | Appd |
|------|--|----------|-------|------|------|
| D | Boat House flood defence line revised | 21.06.18 | REM | MB | RAP |
| C | Masterplan base updated & vehicle tracking revised | 11.06.18 | REM | RAP | RAP |
| B | MASTERPLAN BASE UPDATED & TRACKS REVISED | 04.06.18 | REM | RAP | RAP |
| A | MASTERPLAN BASE UPDATED & TRACKS ADDED | 31.05.18 | JS | MB | RAP |

SCALING NOTE: Do not scale from this drawing. If in doubt, ask.
 UTILITIES NOTE: The position of any existing public or private sewers, utility services, plant or apparatus shown on this drawing is believed to be correct, but no warranty to this is expressed or implied. Other such plant or apparatus may also be present but not shown. The Contractor is therefore advised to undertake their own investigation where the presence of any existing sewers, services, plant or apparatus may affect their operations.

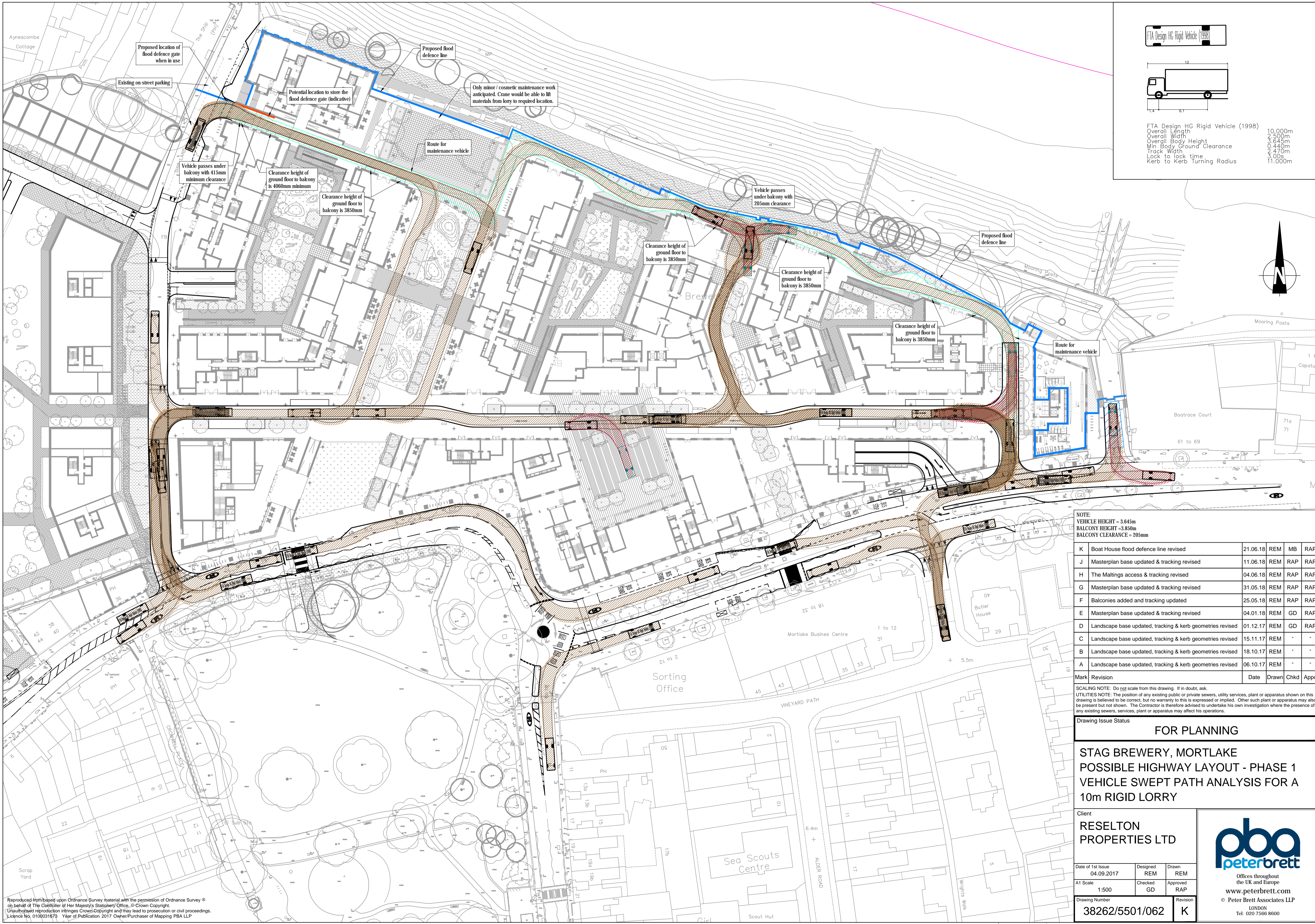
Drawing Issue Status
FOR PLANNING

**STAG BREWERY, MORTLAKE
 POSSIBLE HIGHWAY LAYOUT - PHASE 1
 VEHICLE SWEEP PATH ANALYSIS FOR A
 SMALL MOBILE CRANE**

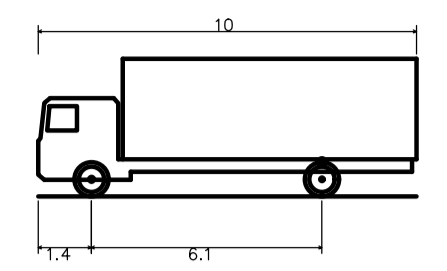
Client
**RESELTON
 PROPERTIES LTD**

| | | |
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| Date of 1st Issue 25.05.2018 | Designed REM | Drawn REM |
| A1 Scale 1:500 | Checked GD | Approved RAP |
| Drawing Number 38262/5501/091 | Revision D | |

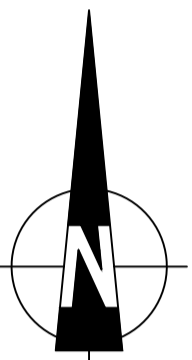




FTA Design HG Rigid Vehicle (1998)



FTA Design HG Rigid Vehicle (1998)
 Overall Length 10.000m
 Overall Width 2.500m
 Overall Body Height 3.645m
 Min Body Ground Clearance 0.440m
 Track Width 2.470m
 Lock to lock time 3.00s
 Kerb to Kerb Turning Radius 11.000m



NOTE:
 VEHICLE HEIGHT = 3.645m
 BALCONY HEIGHT = 3.850m
 BALCONY CLEARANCE = 205mm

| Mark | Revision | Date | Drawn | Chkd | Appd |
|------|--|----------|-------|------|------|
| K | Boat House flood defence line revised | 21.06.18 | REM | MB | RAP |
| J | Masterplan base updated & tracking revised | 11.06.18 | REM | RAP | RAP |
| H | The Maltings access & tracking revised | 04.06.18 | REM | RAP | RAP |
| G | Masterplan base updated & tracking revised | 31.05.18 | REM | RAP | RAP |
| F | Balconies added and tracking updated | 25.05.18 | REM | RAP | RAP |
| E | Masterplan base updated & tracking revised | 04.01.18 | REM | GD | RAP |
| D | Landscape base updated, tracking & kerb geometries revised | 01.12.17 | REM | GD | RAP |
| C | Landscape base updated, tracking & kerb geometries revised | 15.11.17 | REM | - | - |
| B | Landscape base updated, tracking & kerb geometries revised | 18.10.17 | REM | - | - |
| A | Landscape base updated, tracking & kerb geometries revised | 06.10.17 | REM | - | - |

SCALING NOTE: Do not scale from this drawing. If in doubt, ask.
 UTILITIES NOTE: The position of any existing public or private sewers, utility services, plant or apparatus shown on this drawing is believed to be correct, but no warranty to this is expressed or implied. Other such plant or apparatus may also be present but not shown. The Contractor is therefore advised to undertake his own investigation where the presence of any existing sewers, services, plant or apparatus may affect his operations.

Drawing Issue Status
FOR PLANNING

**STAG BREWERY, MORTLAKE
 POSSIBLE HIGHWAY LAYOUT - PHASE 1
 VEHICLE SWEEP PATH ANALYSIS FOR A
 10m RIGID LORRY**

Client
**RESELTON
 PROPERTIES LTD**

| | | |
|---|----------------------|-----------------|
| Date of 1st Issue 04.09.2017 | Designed REM | Drawn REM |
| A1 Scale 1:500 | Checked GD | Approved RAP |
| Drawing Number 38262/5501/062 | Revision K | |

pba
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File Location: J:\38262 stag brewery, mortlake, drawings & models\cad\mapgen\38262_5501_062_k_062.dwg - 7/5/18 10:05:00

Appendix D

DRAFT

EXISTING TOWPATH

SITE ANALYSIS





C. Second Response to Environment Agency

Appendices

River Wall Environment Agency Comments
WIE10667-103-BN-7-2-1-EA
WIE10667

Direct Tel: 0207 928 7888
Direct Email: brendan.mccarthy@watermangroup.com

Our Ref: WIE10667-103-181030-BM-RiverWall
Your Ref: SL/2018/118128/02-L01

Date: 30th October 2018

Joe Martyn
Environment Agency
3rd Floor, Seacole Building
2 Marsham Street
London SW1P 4DF

Dear Joe,

RE: Stage Brewery – River Wall

I am writing in response to your comments dated 18th September 2018 in relation to the proposals for a new river wall at the Stag Brewery Site (planning reference: 18/0547/FUL). Please see below the information in response to your comments.

Query 1) – Details of a continuous fit for purpose defence line at construction stage – *We accept that details will be provided at the detailed design stage when a contractor is appointed and a Flood Risk Activity Permit is applied for.*

Response – n/a

Query 2) – Details of the lifespan of the flood defence – *Accepted*

Response – n/a

Query 3) – TE2100 raisings – *We note that the proposed glass balustrade will be part of the flood defence wall thereby raising it to TE2100 levels at the construction phase. We will require cross sections representative of all sections through the defence illustrating the proposed crest level of the flood defence line and all supporting structures (particularly where steps are located).*

Drawing 38262/5501/062 illustrates the boathouse building on the eastern end of the site incorporates windows and internal access point below the TE2100 level within the flood defence line. The finished floor levels in the lobby/entrance area of the boat house are proposed to be set at 6.03m AOD, but the boat house finished floor level is to be set at 4.25mAOD. Details of how access will be achieved from the landward side of the flood defences into the boathouse will need to be provided.

We will require cross section drawings of the boathouse and demonstration of how TE2100 levels will be achieved. The flood defence line must be continuous and not contain openings such as windows and access points. Additionally it will need to be demonstrated that no utilises which could compromise the defence line and integrity of the river wall structure.

The proposed boathouse should be structurally independent of the Tidal Defence and offset to allow access for inspection. The separation between the Tidal defence and the building is important as it would allow for potential future maintenance works and defence raising.

Additionally, the developer will need to demonstrate how the flood defence line within the redline boundary will tie into adjacent properties for future TE2100 raisings (specifically at Ship Lane and Bull Alley). The developer may wish to reconsider the line of the flood defence and how the continuous line of the defence between the proposed boathouse and Bull Alley can be achieve.

Response – We will provide cross sections illustrating the proposed crest level and all supporting structures once the detailed design has been undertaken. It is envisaged that this information would be provided as part of the Flood Risk Activity Permit application.

In order for boats to be able to access the existing slip way it is necessary to set the Finished Floor Level (FFL) of the majority of the boat house at 4.25m AOD.

Passive Defence

Given these levels constraints, the only feasible solution to provide passive defence as well as allowing access to the river for the boats, would be to construct the defence line through the boat house building. As set out in our previous response dated 27th June 2018 (Appendix A), the building concrete retaining structures will be designed to accommodate the surcharge loads to BS EN 1992 and marine exposure class will be in accordance with BS8500 for both mix design and cover. Although not a preferred solution by the EA, this would provide the protection, working within the site constraints. This building would form part of the formal flood defence and would not be demolished in the future without prior construction of an alternative defence.

Any windows to the boathouse building that form part of the defence line would require a bespoke design to ensure protection to the appropriate standard and would not be able to open. These windows would be fully tested prior to installation to ensure that they are fit for purpose. An example of the sort of product that could be used can be found here <https://thefloodcompany.co.uk/case-study-items/bam-nuttall/>. In this example testing of the bespoke flood product was undertaken at HR Wallingford to ensure it was of a suitable standard.

The team considered the potential to remove the windows of the boat house that front onto Mortlake High Street. However, having undertaken extensive pre-application consultation with the local authority planning officers, it is our understanding that the incorporation of windows in this location is of significant townscape importance. Pre-application advice encouraged the incorporation of as much glazing as possible at the lower levels of the building in order to both lighten appearance of the building and provide active frontage to the streetscape.

Another alternative of raising the window sill to provide a solid rather than glazed line of defence was considered. The difficulty of achieving this option is that in order to provide a sill at or above the flood level (6.7m AOD), the sill would sit above eye level (1.6m above ground level) of pedestrians walking along the adjacent footpath which is set at 5.1m AOD. This would inhibit the provision of active frontage to the streetscape.

In addition to the above, the lobby/entrance area of the boat house would be raised to 6.7m AOD as per drawing P10736-00-001-116-D02 and the hand sketch submitted with the previous response, these drawings are included in Appendix A.

Active Defences

Due to level constraints with regards to accessing the river from the boat house, if the defence line is to be permanent (passive) it will need to run through the boat house and it would not be possible to ensure that the building is structurally independent of the building.

However, if a standalone structure is preferred then the river wall and proposed flood gate (currently proposed for property level protection) to the north of the boat house could form the formal defence (set at 6.7m AOD). The gate is required in order to provide direct access to the river. All these works would raise the standard of protection to 6.7m AOD and therefore no further raising would be anticipated based on the current TE2100 Plan.

It was considered that the permanent passive protection provided by running the River Thames Defence line through the boat house would be preferable to a standalone structure between the boat

house and the River Thames which would require a gate to allow boats to access the River. However, if desired, the standalone flood defence/gate could be implemented as the formal flood defence line.

Bulls Alley

The proposed defence would tie into the existing Bulls Alley defence to ensure continuous protection. Further information in relation to the Bulls Alley defence is given overleaf in response to Query 5.

Query 4) – Vehicle tracking plan – Drawing 38262/5501/062 illustrates a vehicle tracking plan for a 10m long lorry, however the circa 4m clearance height appears to be insufficient to actually operate any plant within these areas. Furthermore, the flood defence within the northwest corner of the site appears to be inaccessible. It appears that the applicant will use of the existing building as the defence line. Further information is required as to how the defence will be accessed from the landward side.

We appreciate a new flood defence will reduce the likelihood of failure, however unrestricted access is still required for any unforeseen maintenance and emergency works and the future raisings.

Response – As set out in the previous response dated 27th June 2018 (Appendix A), the tracking accounts for vertical clearance to balconies and trees, ensuring that vehicles can pass beneath unrestricted. Drawings 38262/5501/091/D and 38262/5501/062/K (Appendix A) show that the vertical constraints are only present in a limited number of locations and that there are only two locations where the 10m Rigid Vehicle needs to pass under a balcony. In the west of the site one balcony overhangs the tracked vehicle path by a maximum of approximately 360mm. In the east of the site the balcony would only overhang the tracked vehicle path during a three-point turn manoeuvre by a maximum of 670mm. Given the overhangs are so small, vehicles or plant would easily be able to manoeuvre around these overhangs and operate effectively, this is considered acceptable.

As set out in the previous response the area to the south of the proposed flood defence and to the east of the Maltings Building would not allow vehicles to park directly adjacent to the defence. However, a crane could be used to move maintenance materials to the required location. Furthermore, due to the proposed piled construction of the defence it is anticipated that any maintenance would be minor or superficial. In the highly unlikely scenario that vehicle access is required to this area a temporary ramp could be constructed to bypass the steps.

The existing Maltings Building is part of the River Thames Defences in the present situation and it is not proposed to alter this as part of the development. A structural assessment of the Maltings Building was submitted with the planning application (18/0547/FUL, Appendix 12.4 of the ES) which shows that the walls have sufficient capacity to resist the increase in water level indicated in the TE2100 Plan. Access to the landward side of the defence line would need to be made through the inside of the Maltings Building as is done so in the existing situation. Access would also be available to the river side via Ship Lane.

Query 5) – Ship Lane and Bull Alley – Bull Alley, and the flood boards for this location are within the redline boundary of the application. Irrespective of ownership, developer will have to demonstrate both the residual lifespan and TE2100 crest level raising for all tidal flood defences within their red-line boundary. Our preference would be for the flood boards to be removed and a passive (static) flood defence installed. Regarding Ship Lane, we appreciate the applicant may not be the freeholder of this land, and therefore may not be liable to ultimately provide the flood defence across the road. However, the applicant is responsible for demonstrating how all flood defence line within their redline boundary, will be treated in light of TE2100 raising requirements and how these will tie in with the

defences on adjacent properties. Developments should not preclude or limit future defence raising options nor should they increase flood risk to neighbouring properties.

A development that precludes options for passive defences (to meet TE2100 levels), both increases the cost of future flood defence provision and increases residual flood risk due to the potential for the gate not to be operated. On public highways this risk is greatly increased because of 3rd party vehicle use that may damage the gate or simply park across it.

We appreciate that the gate options were discussed at the meeting of 26 September 2016, but as set out in the minutes to the meeting the our preference is always for passive options for defence provision to be kept open – in this case we stated that the applicant would have to demonstrate that passive solutions were unsuitable prior to considering gated options. We do not believe the applicant has demonstrated this and do not accept that a flood gate is the only feasible solution, nor that gates are appropriate for a public highway. A review of our (open source) LiDAR data suggest the road levels already rises to approx. 6.1mAOD, albeit further landward than the current line. Hence a potential further 600mm is all that is required to archive TE2100 levels (not 1m). Given the complete re-development of this site, we see no obvious reason why the scheme cannot be designed to allow for a passive solution to be provided in ship lane, and would recommend you progress you designs along this principle (rather than try and demonstrate a passive defence is not possible).

We accept that some future passive defence line options would require changes to third party defences (namely the ship pub). While we do not expect the developer to deliver works outside their red-line boundary, we do expect the developer to design a scheme that would not preclude a passive defence being installed in the future, and that this future passive defence line should be achievable with the minimum level of cost and disruption both to the development itself and adjacent properties.

Response – The development proposals would not alter the status quo in relation to the Bulls Alley defence and would not increase flood risk. It is therefore not reasonable or necessary in planning terms for the client to undertake any works to this defence. The Bulls Alley defence is also outside of the applicant's ownership and therefore is not responsible for carrying out works to it. We understand that the highway authority is the land owner therefore they are the riparian owner and are responsible for any upgrade of the Bulls Alley defence. Furthermore, the Port of London Authority (PLA) are known to use this gate regularly to assist them in removing the debris that builds up in this location. In the future the owner of this gate (understood to be the highway authority) would need to replace it with a new gate/wall to 6.7m AOD, however this is something the applicant is not able to provide themselves.

We appreciate that a passive defence is always preferable, however the practicalities of raising Ship Lane itself mean that this option is not suitable. It is correct that the level of Ship Lane does rise to circa 6.1m AOD and that at this point a raise of only 600mm would be required. However, this would result in the River Thames Defence line moving back along Ship Lane in a southerly direction which in turn will allow flood water to flow further down Ship Lane than it would currently do. As a result, the defence height of 6.7m AOD would then need to be in place on either side of Ship Lane. This would render the currently proposed active frontages along Ship Lane unfeasible and would create a narrow corridor with walls on either side.

All ground floor level residential units within Building 3 on Ship Lane are proposed to have a finished floor level of 7.03m AOD, which is above the defence height of 6.5m AOD. However, there are several entrances to the building that are set at a level below this datum. These elements include a refuse store, a residential entrance, a substation and ramped access to the basement car park. All of these require level access in order to meet legislative requirements and must be accessible from street side.

The residential entrance is designed to connect to a raised entrance route from the opposite side of the building. This would provide an alternative means of escape in the event of a flood. Raising the street itself would encounter various technical challenges including the ability to achieve wheelchair accessible gradient slopes and the ability to retain mature trees within altered footpath levels.

Building 17 also fronts onto Ship Lane, however this building has only been submitted in outline and therefore details such as the internal layout and location of access are not fixed at this stage. However, similarly to Building 3 it is likely that there will be a need for refuse stores/substations etc. that will require level access from the street side.

In addition, the Ship Lane Passage is located between the application site and the Ship Pub. Based on the current proposal the future gate would protect this area from flooding. However, if the defence line is moved back then there is the potential for flood water to flow down this passage and affect the existing properties to the north of the site (i.e. by passing the defences at the front of these properties). Alternatively, a gate would need to be provided to protect the passage.

We take on board your comment regarding the potential for vehicles to block the future gate. To mitigate this risk bollards could be incorporated to ensure vehicles do not block the gate.

Query 6) – drainage strategy – *Regarding the proposed outfalls, the applicant should note outfalls will have to be positioned at an appropriate height, and should be assessed to deal with expected tide locking at this height. An assessment of the need for scour protection (to protect foreshore and structural stability of flood defences) will be needed, along with delivery of appropriate scour mitigation. Outfalls, that penetrate the tidal defence line below the statutory level and with a diameter greater than >300 mm must contain 2 in-line non-return valve's (such as flap valves). Further details on the construction of the outfalls and method statements etc. will have to be provided and reviewed as part of the Flood Risk Activity Permit application.*

Response – We will ensure that any relevant outfalls have two in-line non-return valves and that further details are provided as part of the Flood Risk Activity Permit application. Please note that tide locking was considered in the Drainage Strategy and MicroDrainage calculations undertaken to confirm that the surcharged outfalls would operate without flooding the site.

Query 7) – enhancement to the Thames Path and river bank – *The application offers minimal enhancements for nature and biodiversity. The development is located immediately adjacent to the River Thames and offers an excellent opportunity to enhance the river environment and improve the river corridor for people and wildlife.*

The applicant states that they do not own the tow path which. However little has been done to improve biodiversity within the submitted proposals. There are green areas and trees, but no mention of green roofs, biodiverse planting (i.e native species flowers to attract invertebrates) or bat boxes, bird boxes etc. It is therefore not been demonstrated that the development will result in a net gain to biodiversity.

Any new planting within the buffer zone should use native species. Any loss of habitat should be mitigated for within the development with the use of green and/or brown roof's to encourage biodiversity.

The National Planning Policy Framework (NPPF) requires local planning authorities to aim to conserve and enhance biodiversity when determining planning applications by minimising impacts on biodiversity and providing net gains in biodiversity where possible.

In addition, the Thames river basin management plan requires the restoration and enhancement of water bodies to prevent deterioration and promote recovery of water bodies.

London Borough of Richmond's Local Plan Policy LP 15 Biodiversity states that 'The Council will protect and enhance the borough's biodiversity, in particular, but not exclusively, the sites designated for their biodiversity and nature conservation value, including the connectivity between habitats.

By

- *Supporting enhancements to biodiversity;*
- *Incorporating and creating new habitats or biodiversity features, including trees, into development sites and into the design of buildings themselves where appropriate;*
- *Major developments are required to deliver net gain for biodiversity, through incorporation of ecological enhancements, wherever possible;*
- *Enhancing wildlife corridors for the movement of species, including river corridors, where opportunities arise; and*
- *Maximising the provision of soft landscaping, including trees, shrubs and other vegetation that support the borough-wide Biodiversity Action Plan.*

The London Borough of Richmond's Local Plan Policy LP 18 River corridors states that 'Development adjacent to the river corridors will be expected to contribute to improvements and enhancements to the river environment.'

Response – Ecological input was provided at an early stage of the scheme design, commencing with the provision of a Preliminary Ecological Appraisal (PEA) in 2016 and then refined based on the results of additional surveys for birds and bats.

As set out within the Landscape Design and Access Statement (Landscape DAS) prepared by Gillespies and submitted with the planning applications (references: 18/0547/FUL, 18/0548/FUL, and 18/0549/FUL), bat boxes will be integrated into the green and brown roofs on various buildings of the development (detailed component, Development Area 1) with a total of 10 boxes, tubes or bricks provided in association with soft landscape treatment on these roofs. Boxes are to be oriented between southeast and southwest to suit use.

Bird boxes are also provided on roofs closer to the River Thames, including 3 Schwegler 2H Nest Boxes for black redstarts (a London BAP and S41 species) and 7 additional boxes for more general species. These are to be oriented east or west to suit use.

Plant species have been selected to suit a variety of habitats and microclimatic conditions across the site. These will include a range of plants suitable as food or habitat plants for a wide range of fauna, including bee attracting flowering plants.

For the outline component of the Development (Development Area 2), the biodiversity strategy will utilise the same principles as above and will be provided at the detailed design stage. The biodiversity strategy is in line with the recommendations of the PEA and protected species report. As detailed in the ES Chapter the proposed development will provide landscaping as well as other artificial habitats to birds and bats detailed above (as detailed in the landscape DAS submitted for planning, extracts of the landscape DAS are provided in Appendix B), inherent to the scheme design, which would provide enhanced opportunities for biodiversity. The opportunities within the Stag Brewery component of the Site include:

- Over 400 new trees and up to 51 retained trees;
- Hedge planting (1.5 m high) enclosing all ground level residential courtyards east of Ship Lane in the detailed part of the Stag Brewery component of the Development;
- A minimum of 10 bat boxes incorporated in the Development Area 1 (number of bat boxes within the outline component of the Site would be determined following the reserved matters application);
- Provision of new trees including the use of native species, or species of benefit to wildlife. This includes littoral plant species in areas close to the river edge responding to existing riverside vegetation and fruit / berry and nut bearing trees located in the community park south of the proposed school;
- Provision of biodiversity roofs, including a mix of green and brown roofs; and
- A new green link connecting the River Thames and Mortlake Green.

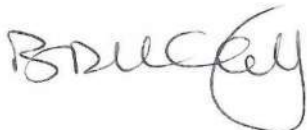
In addition, the Chalkers Corner component of the Site would provide a new public resting space, enhanced public realm and replacement and additional tree planting.

The recommended detailed towpath works are covered within the Landscape Design and Access Statement (pages 103-111) and summarised below:

- Pruning of understorey vegetation on Towpath to open key views;
- Existing granite setts on Towpath, public draw dock and slipway retained;
- Rediscovered railway track - express within new pavement design to new seating area;
- Seating provided at locations with good views to the river;
- Life-saving equipment will be provided by PLA - located as directed;
- Retain lower section of boundary wall where feasible - as facing to new flood wall;
- Additional seating and interpretative signage is proposed to be added in the new paved dock area; and
- Some amendments to existing kerbs and paving will be required to integrate with proposed works and access into the Rowing Club storage area.

Given the ecological baseline of the Site and the proposed enhancement measures it is assessed that the scheme will provide an ecological enhancement in line with planning policy requirements.

Yours sincerely



Brendan McCarthy
Technical Director
For and On Behalf of Waterman Infrastructure & Environment Ltd

Appendix A **SEE APPENDIX B OF BRIEFING NOTE FOR FIRST
RESPONSE LETTER TO ENVIRONMENT AGENCY**

DRAFT

Appendix B

DRAFT

SOFT LANDSCAPE STRATEGY

PLANTING STRATEGY

The soft landscape strategy of the Stag Brewery development includes several layers of planting typologies including streetscapes, plazas and squares, courtyards, riverside littoral planting and incorporation of existing trees.

The main structural planting of trees will comprise lines of feature trees defining one or both edges of the main access routes – Ship Lane, Linear Park and Thames Street.

Street trees will also be installed along residential streets, as well as augmenting tree planting on Lower Richmond Road and Mortlake High Street. A mix of perennial shrub and groundcover planting will be provided throughout all softscape areas, with mass planting and screen planting to suit use of each area. Planting mature heights will take into account safety and secure by design parameters to ensure general safety and to maintain sightlines and passive surveillance opportunities.

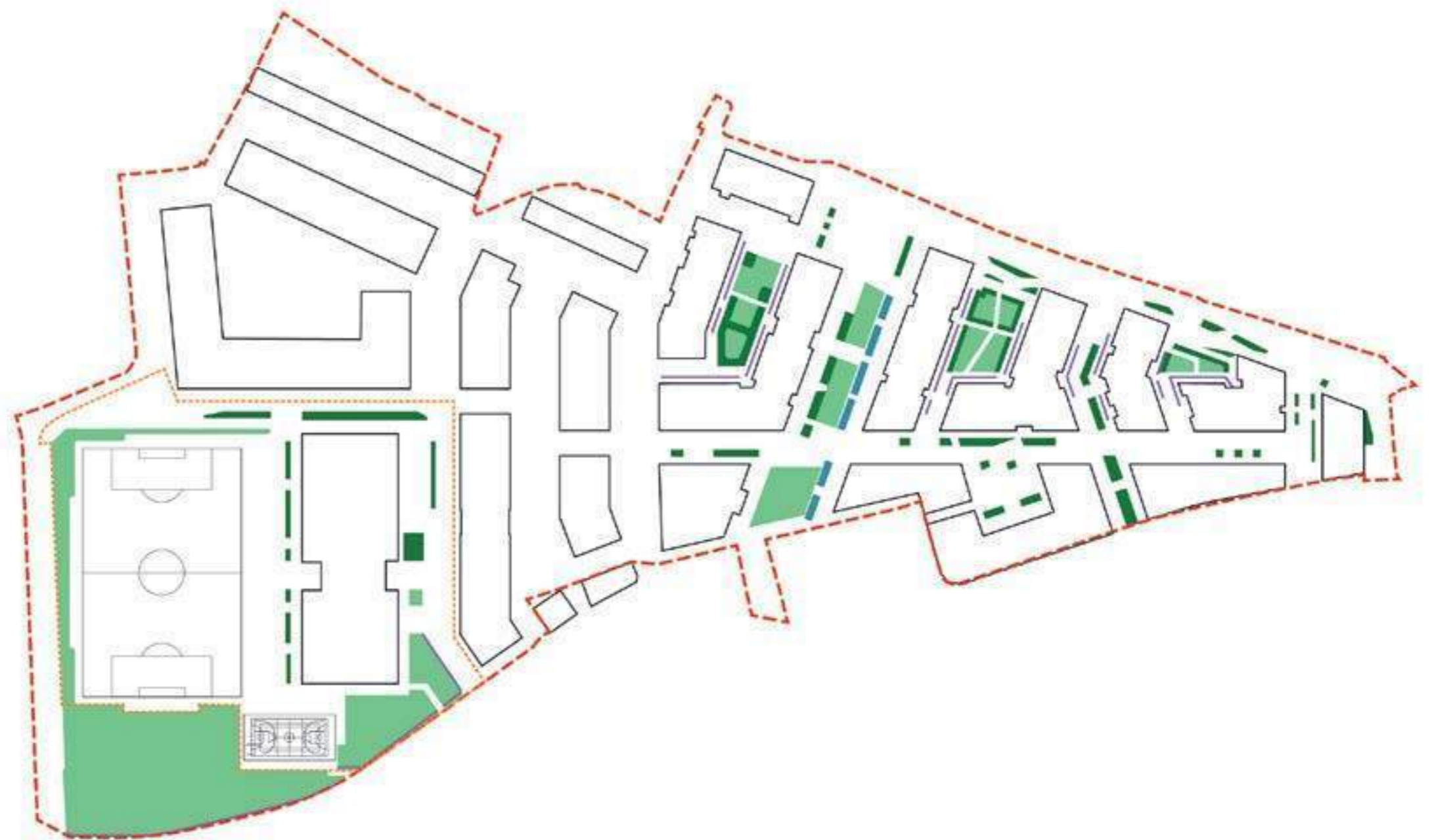
Soft landscape strategy for plazas and squares in the development will provide for a range of functions and activities, as well as providing resting places, shade and seasonal celebration. Residential courtyards will provide green amenity open space for residents and visitors, as well as natural play opportunities for children.

Littoral plant species are used in the areas close to the river edge, responding to existing riverside vegetation. This plant selection emphasises the riverside location and integrates the river edge living environment into the development. A mix of native, locally adapted and exotic plants are proposed to provide increased biodiversity and a sustainable mix of plants with improved drought resistance and longevity.

Good quality existing trees around the site will add valuable character to the site, and together with the soft landscape strategy, will deliver a well-connected green network in and around Stag Brewery development.

PLANT PALETTE

- Lawn
- Mass Plantings
- Hedges
- Rain Gardens
- Site Application Boundary
- School Application Boundary



BIODIVERSITY STRATEGY

BIODIVERSE ROOFS:

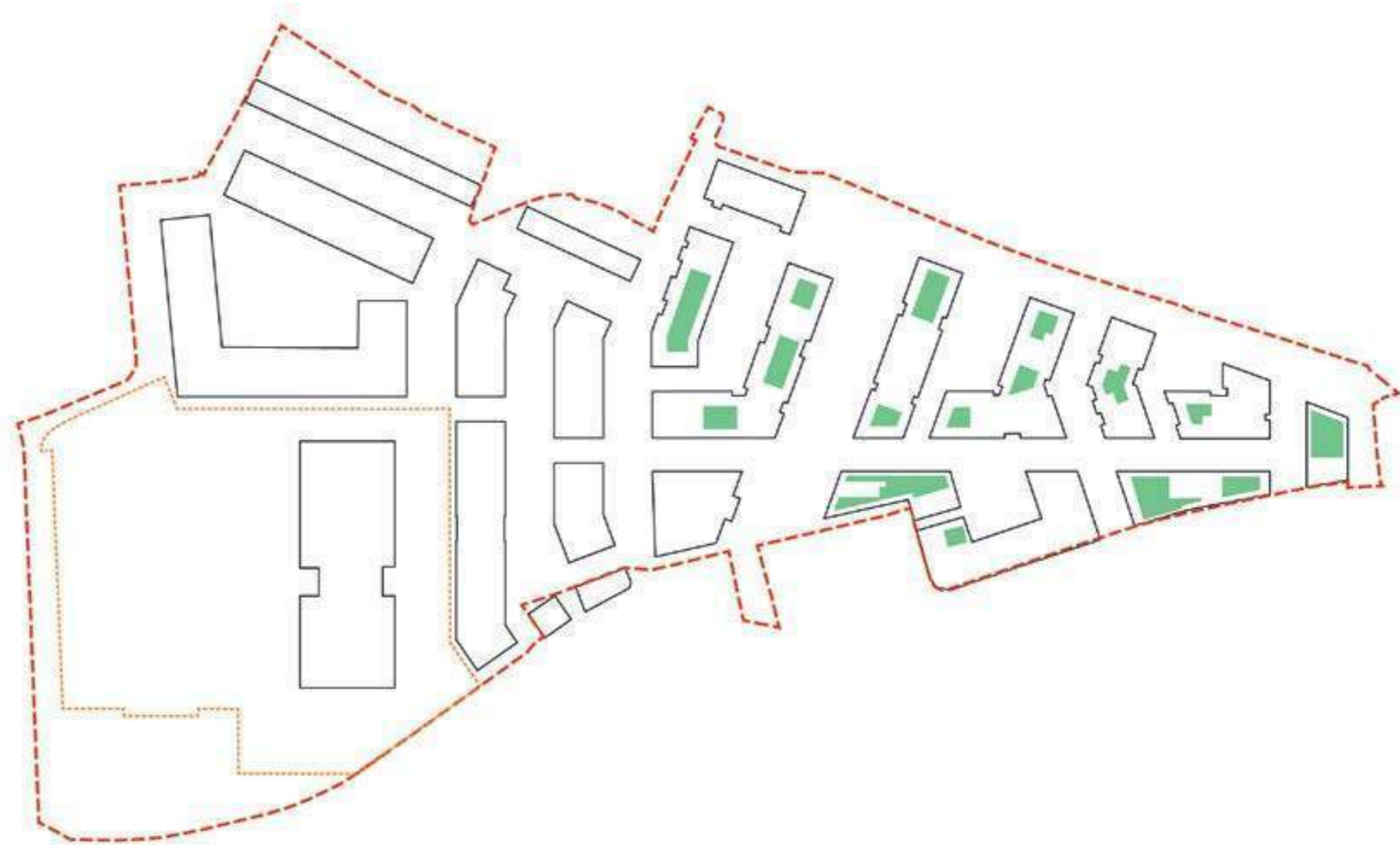
It is proposed to implement extensive green / brown roof systems on a number of the buildings with flat roofs, exploiting the ecological potential of these upper levels. A percentage of the roof space on new buildings in the development has been designed as extensive green or brown roofs, to provide biodiversity and energy benefits, as well as contributing to stormwater drainage and short term attenuation storage.

Green and brown roofs provide beneficial insulation to buildings and a degree of infiltration and storage of rainwater, while adding to the biodiversity of the site with a range of plant types, habitats for various insects and invertebrates and potentially birds and bats. A number of bat and bird boxes and bricks will be integrated into the roofscape and informal habitats created with rocks and gravel surfaces to brown roof sections.

Green roofs include a wildflower and native grasses mix and are designed as a sustainable, biodiverse roofscape and a pleasant visual outlook for surrounding higher buildings. This light weight roof system will assist in absorbing rainwater as well as increasing the biodiversity of the site by providing additional foraging and habitat for insects and birds.

Brown roofs are accessible for maintenance purposes and will incorporate PV cells in some areas, as indicated in Architectural and MEP drawings. Each roof will be seeded with plant species collected from the site or nearby, to boost local endemic habitat and foraging for local species. Certain features will be introduced to maximise potential for biodiversity and habitat for target species. These will include log piles, slabs or twigs gathered from the local area, combined with bird and bat boxes noted below. Where possible, the substrate depth will be varied to provide opportunities for small pools of water to collect on the roof.

For Development Area 2, biodiverse roofs will be incorporated using same principles as above and additional details will be provided in detail design stage.



LEGEND

- Biodiverse roof (total 2,265m²)
- - - Site Application Boundary
- - - School Application Boundary

BIODIVERSITY STRATEGY

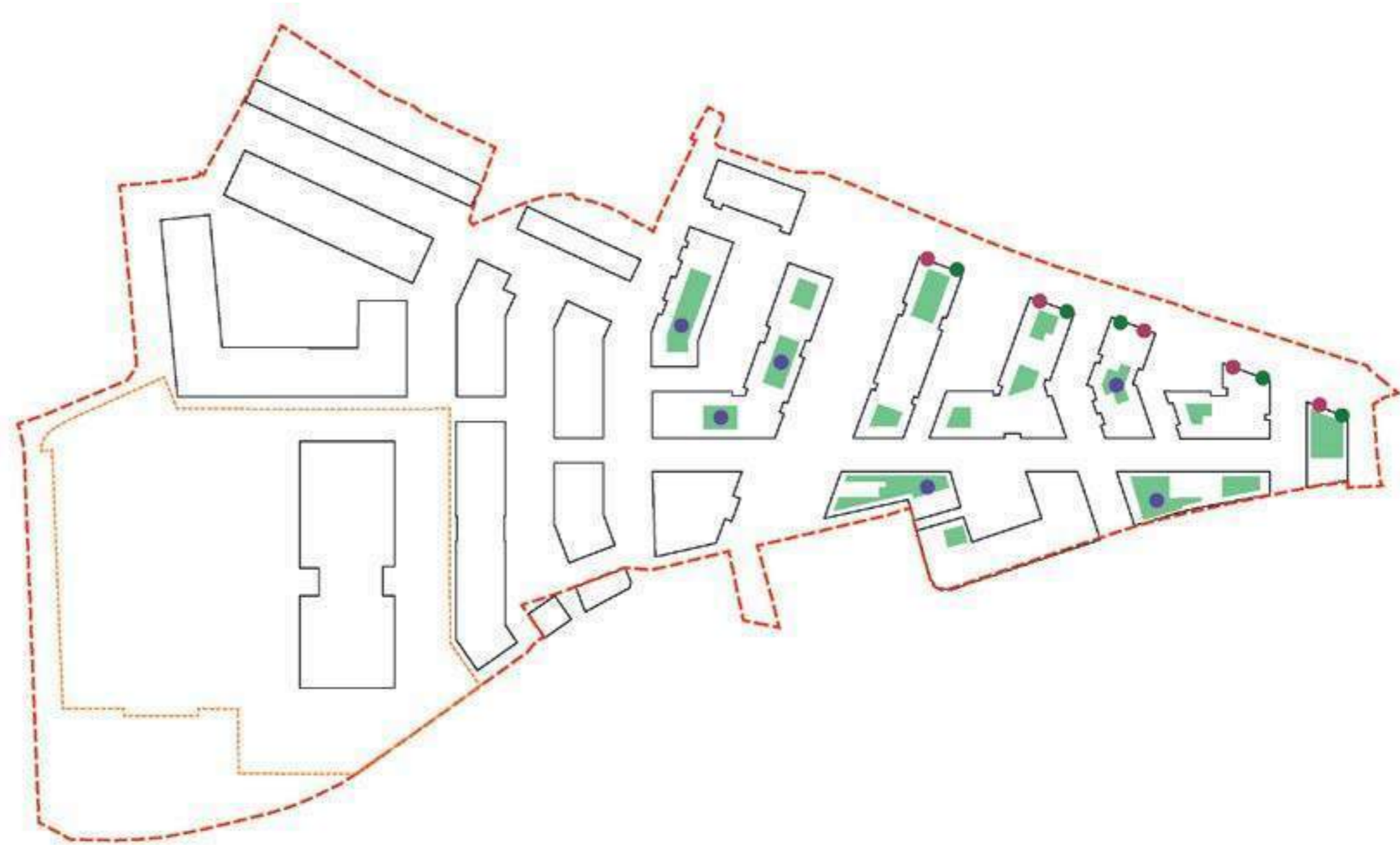
BIRD AND BAT BOXES:

Bat boxes are integrated into the green and brown roofs on various buildings of the development (detailed component) with a total of ten (10) boxes, tubes or bricks provided in association with soft landscape treatment on these roofs. Boxes are to be oriented between south-east and south-west to suit use.

Bird boxes are also provided on roofs closer to the River Thames, including three (3) Schwegler 2H Nest Boxes for black redstarts and seven (7) additional boxes for other bird types. These are to be oriented east or west to suit use. Plant species have been selected to suit a variety of habitats and micro-climatic conditions across the site.

These will include a range of plants suitable as food or habitat plants for a wide range of fauna, including bee attracting flowering plants.

For Development Area 2, the biodiversity strategy will utilise the same principles as above and will be provided in detail design stage.



LEGEND

- Bird Boxes
- Bat Boxes
- Hibernaculums
- Roof Habitat
- - - Site Application Boundary
- - - School Application Boundary





D. Environment Agency Meeting Notes (03/12/18)

Appendices

River Wall Environment Agency Comments
WIE10667-103-BN-7-2-1-EA
WIE10667

Donal O'Donovan

From: Donal O'Donovan
Sent: 10 December 2018 09:51
To: 'Martyn, Joe'
Cc: Brendan McCarthy
Subject: Stag Brewery EA Meeting Notes
Attachments: WIE10667-103-181030-BM-RiverWall.pdf

Hi Joe,

Thanks for meeting us last week. I have drafted some notes on the meeting below, please let me know if you have any comments. I have also attached our previous responses for reference.

Query 1 – It was agreed that sufficient information has now been submitted that confirms that there is a continuous fit for purposes flood defence line for the main length of the site. However, further work is required in relation to the Bulls Alley and Ship Lane defences (see Queries 3 and 5).

Query 2 – No further information is required.

Query 3 and 5 – The EA's preference is for passive flood defences that provide permanent protection and they do not want future flood defence options restricted to the use of gates. One potential option discussed in relation to the Boat House was to introduce a separate flood defence wall within the building, however this had knock on impacts in relation to DDA compliance. The design team agreed to look at potential options for the Boat House and Ship Lane, that would aim to provide design solutions to allow future proofing to achieve a passive flood defence in these locations by 2065. Where there are constraints that have informed the current design (i.e. highways, planning officers etc.) or that restrict other options these will be clearly set out for the EA to review.

The EA agreed that no works would need to be undertaken to the Bulls Alley defence in the present. However, they require work/drawings that show that the Boat House building would not limit options for raising the Bulls Alley defence in the future as part of the TE2100 Plan (i.e. look at feasibility of a ramp). One example discussed was the potential for a ramp to be introduced. Again if there are constraints that limit options these will need to be clearly set out for the EA to review.

If constraints mean that passive defences are not possible to the full TE2100 height of 6.7m AOD then the EA would want the height of any gate limited to minimum it needs to be (i.e. raised ground provides protection to say 6.0m AOD and then a gate would only need to be 0.7m high).

Query 4 – The EA agreed that the vehicle tracking undertaken to date was sufficient. However, it was noted that if changes are made to the layout as a result of the Ship Lane or Bulls Alley defences then the tracking would need to be updated accordingly.

Query 6 – No further information is required.

Query 7 – This information has been provided within the application documents. Pages of Landscape DAS Application A relating to biodiversity include:

Landscape Masterplan: Page 23
Trees and planting strategy: Page 38-43
Biodiversity strategy: Page 60-62
Maltings Plaza: Page 83-85
River terrace: Page 87-91
Towpath information: Page 103 -111


We have also prepared document P10736-00-001-717 'Supporting document to response to LBRUT ecologist comments' which contain latest information about planting, trees, biodiversity roof and rain garden.

<https://Gillespies.bigfilebox.com/lwt/231953-4Vh2HQAjyUZXZuKXHQ06A73BA>

Cheers,

Donal O'Donovan
Senior Engineer
Waterman Infrastructure & Environment Ltd

Pickfords Wharf | Clink Street | London SE1 9DG
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E. Updated Defence Drawings – Ship Lane

Appendices

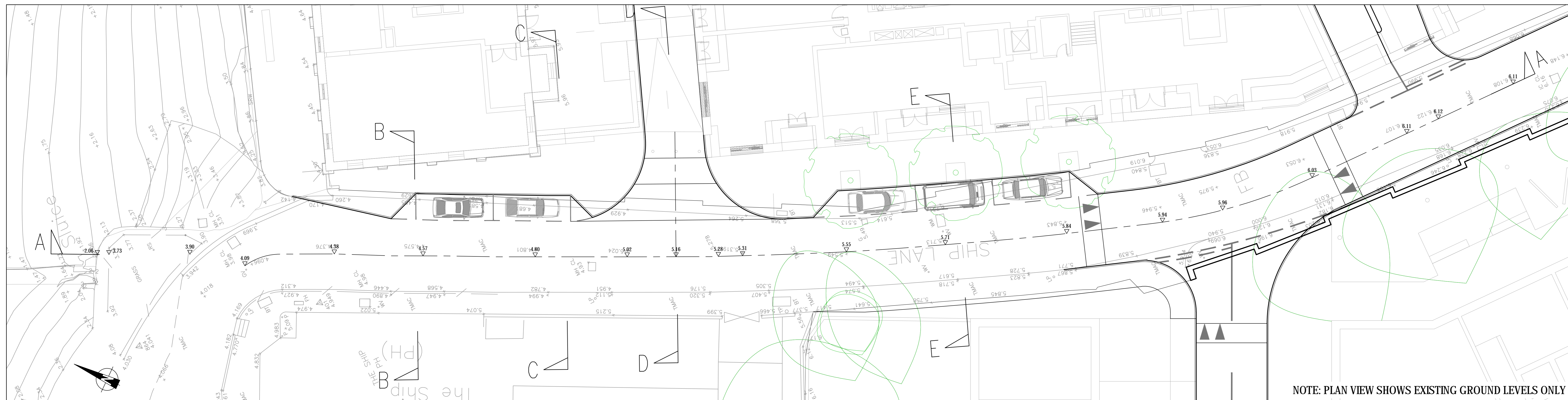
River Wall Environment Agency Comments
WIE10667-103-BN-7-2-1-EA
WIE10667



SECTION A - FUTURE GROUND PROFILE (1:12 SLOPE)



SECTION A - EXISTING GROUND PROFILE (CURRENT PLANNING APPLICATION)



SECTIONS A TO E - PLAN VIEW

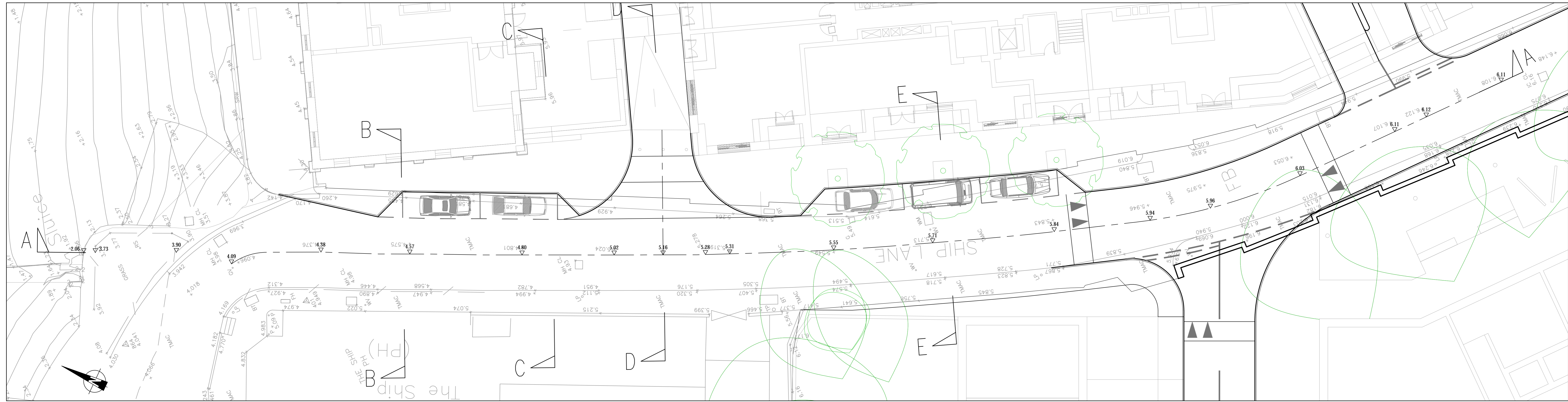
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| A | Labelling revised | 07.01.19 | REM | MB | MB |

SCALING NOTE: Do not scale from this drawing. If in doubt, ask.
 UTILITIES NOTE: The position of any existing public or private sewers, utility services, plant or apparatus shown on this drawing is believed to be correct, but no warranty to this is expressed or implied. Other such plant or apparatus may also be present but not shown. The Contractor is therefore advised to undertake their own investigation where the presence of any existing sewers, services, plant or apparatus may affect their operations.

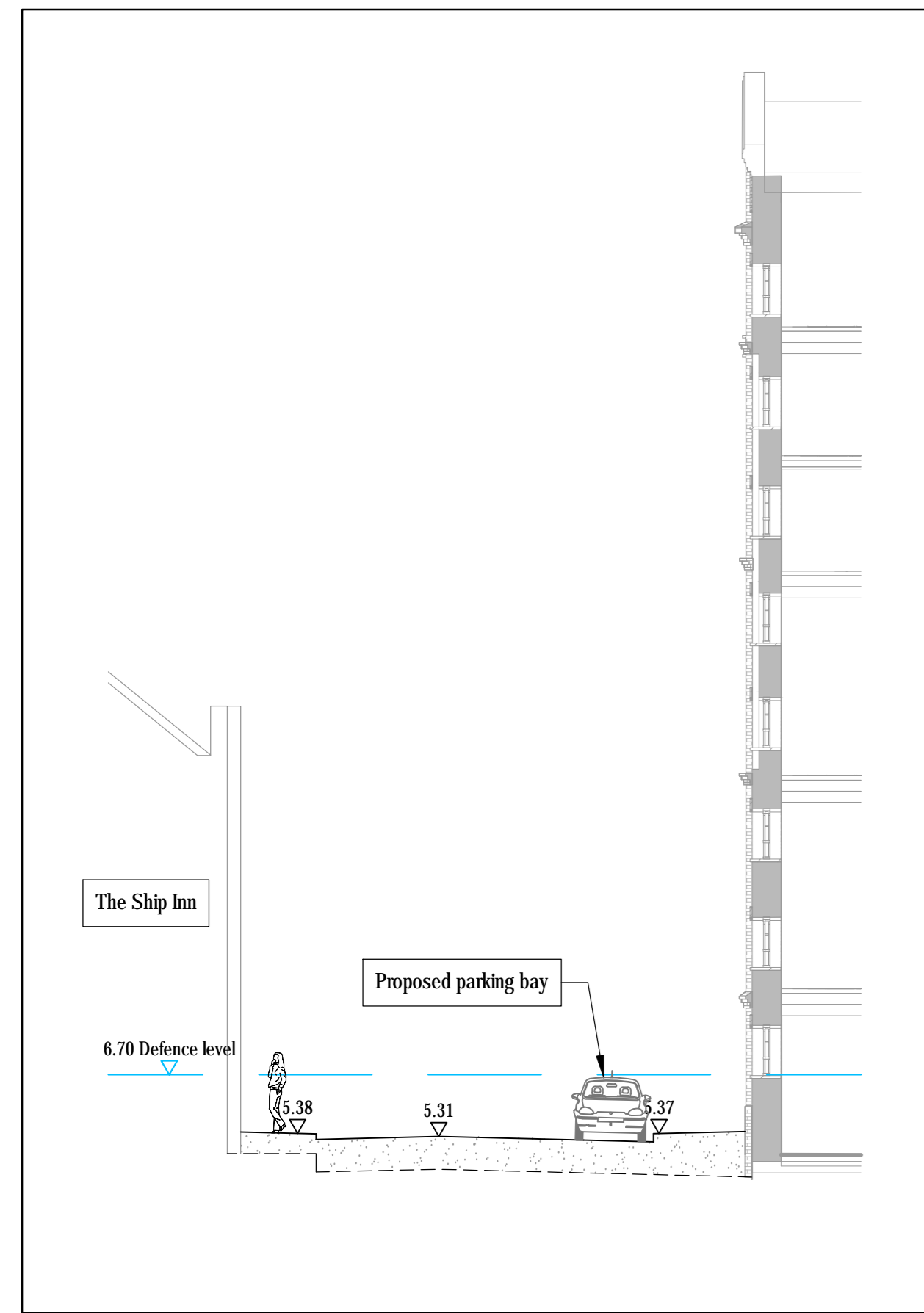
FOR INFORMATION

STAG BREWERY, MORTLAKE
 SHIP LANE
 POSSIBLE GROUND PROFILES FOR
 FLOOD DEFENCE MEASURES (SHEET 1 OF 2)

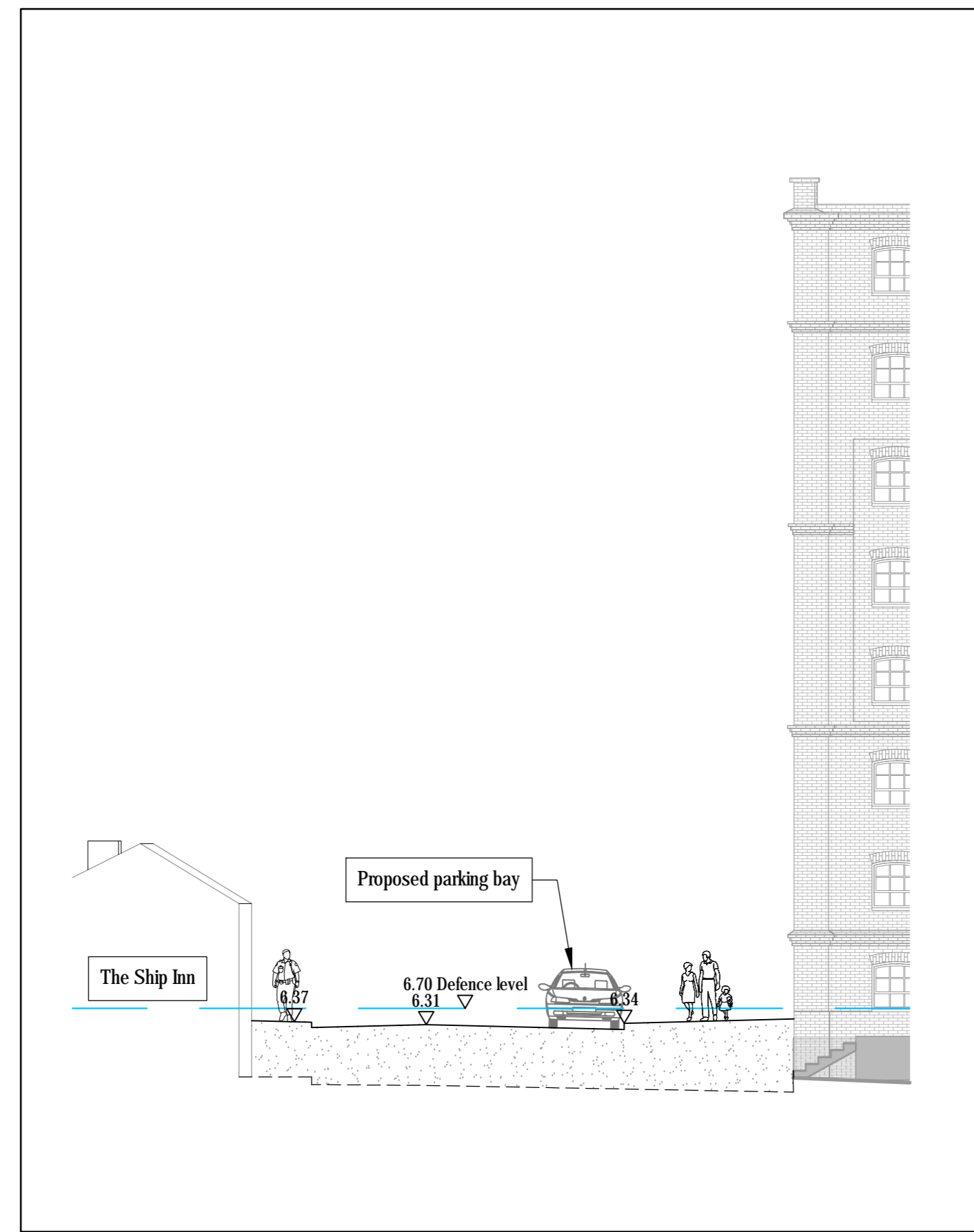
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| Client | RESELTON PROPERTIES | | | peterbrett.com © Peter Brett Associates LLP LONDON Tel: 020 3824 6900 |
| Date of 1st Issue | Designed | Drawn | | |
| 20.12.2018 | REM | REM | | |
| As Scale | Checked | Approved | | |
| 1:125 | RAP | RAP | | |
| Drawing Number | Revision | | | |
| 38262/5501/097 | A | | | |



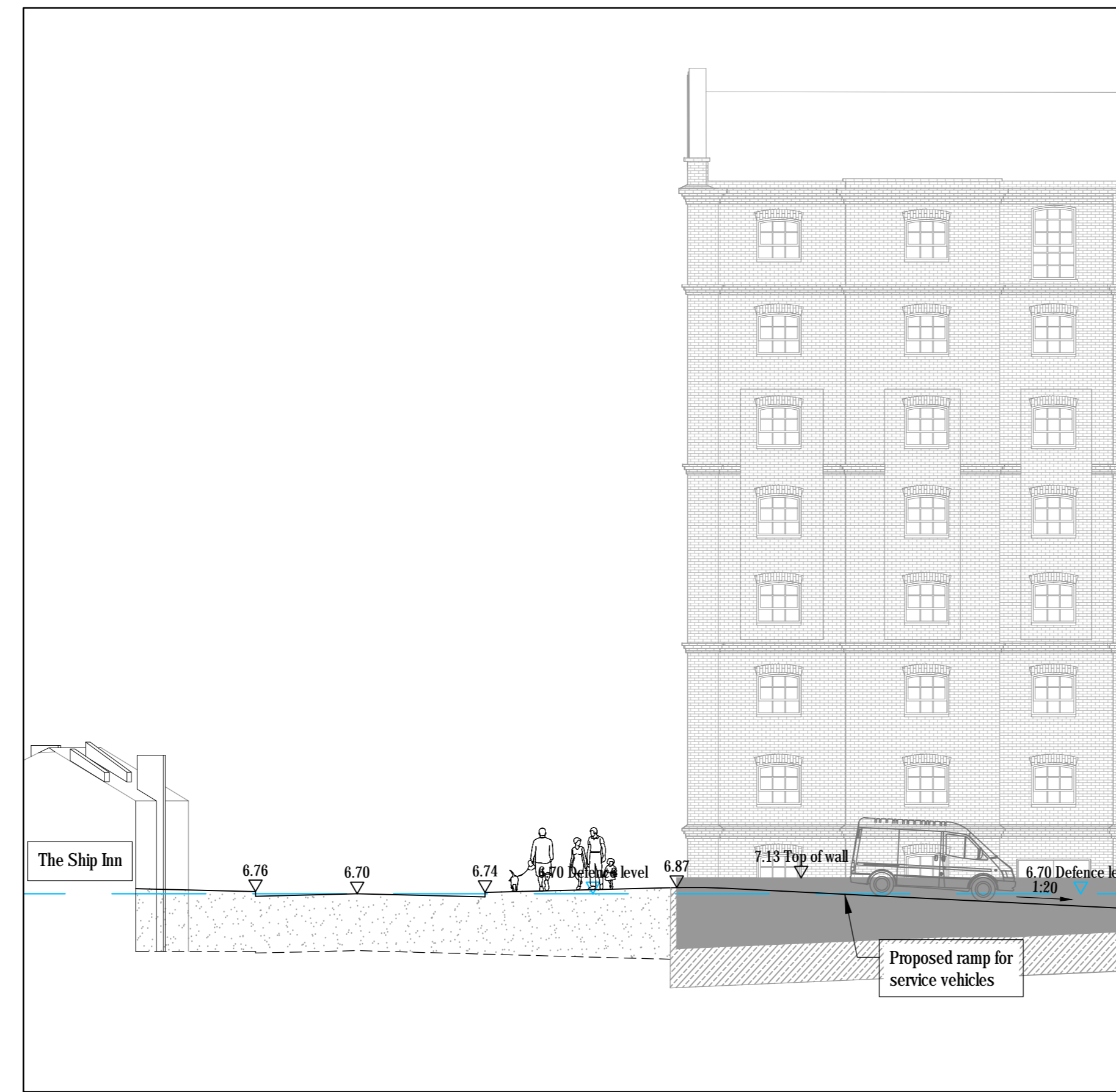
SECTIONS A TO E - PLAN VIEW



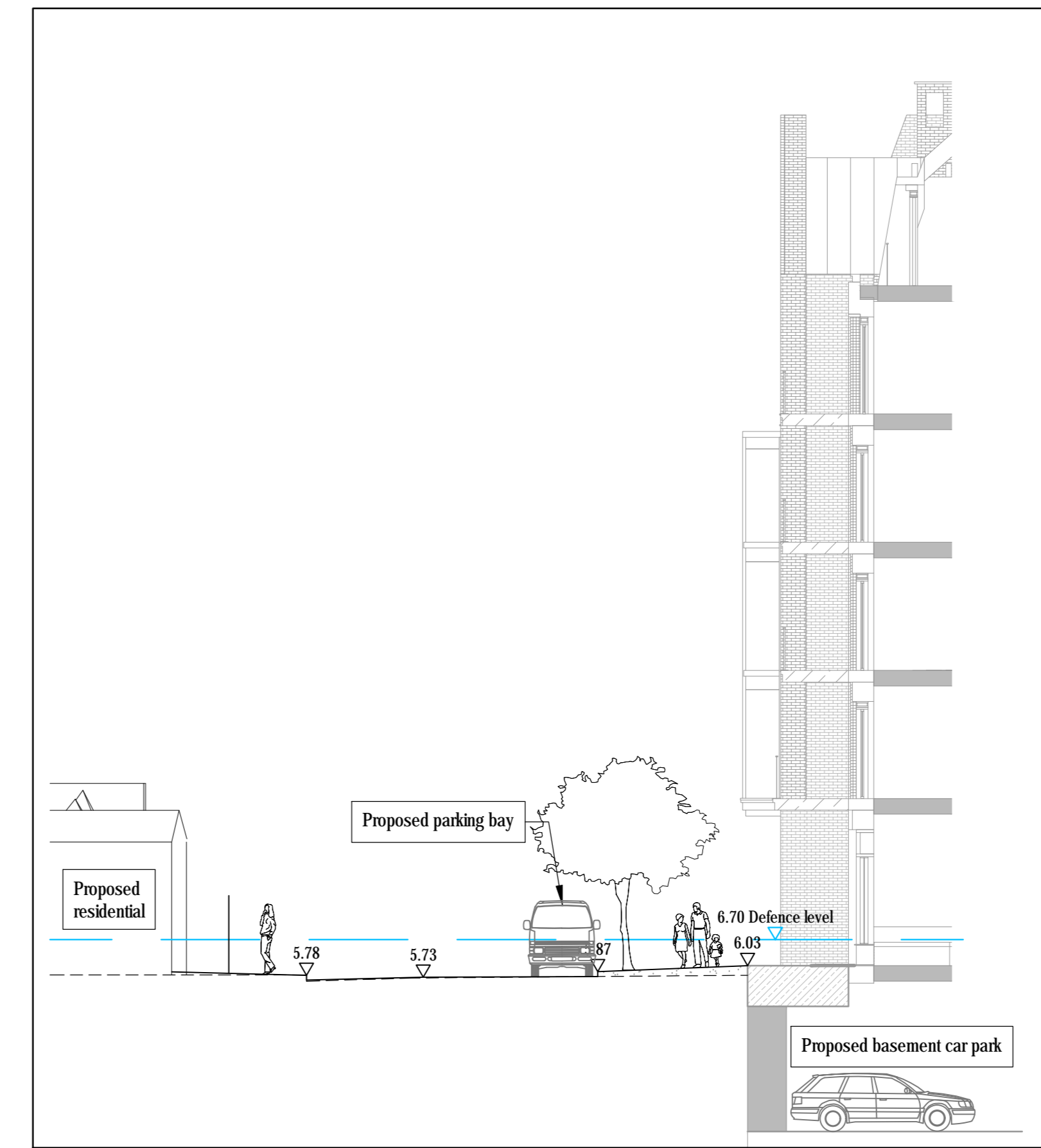
SECTION B B - FUTURE



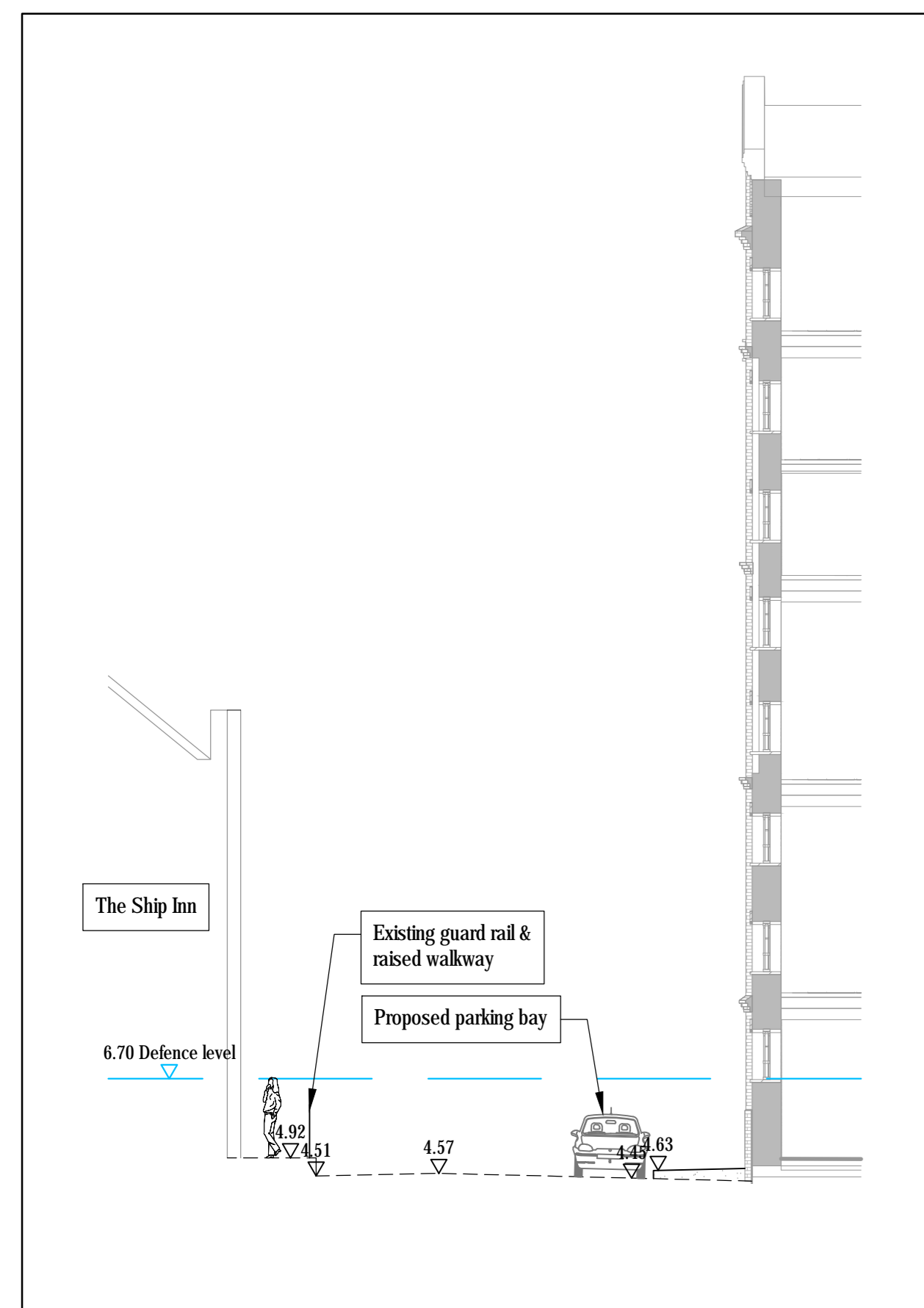
SECTION C C - FUTURE



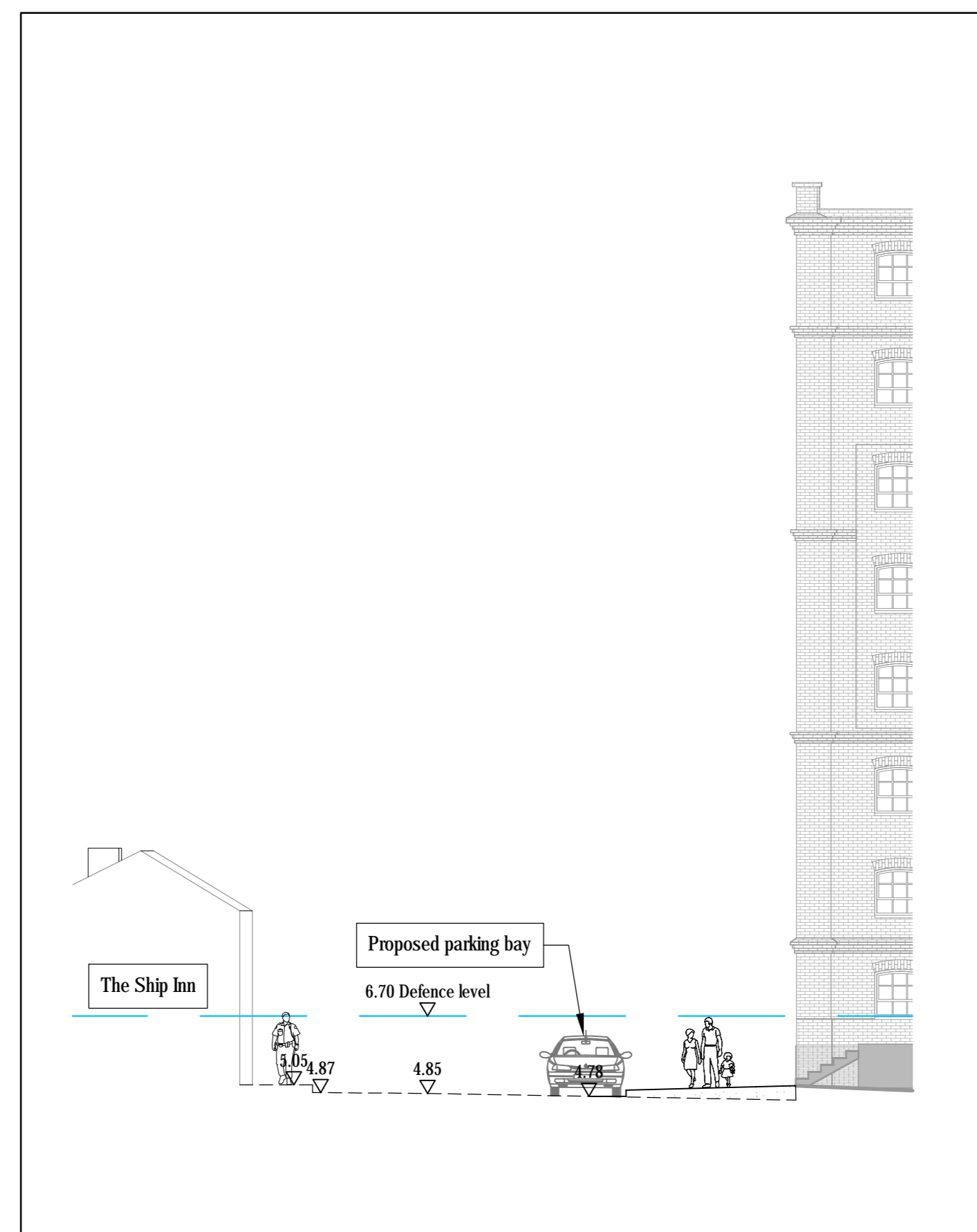
SECTION D D - FUTURE



SECTION E E - FUTURE



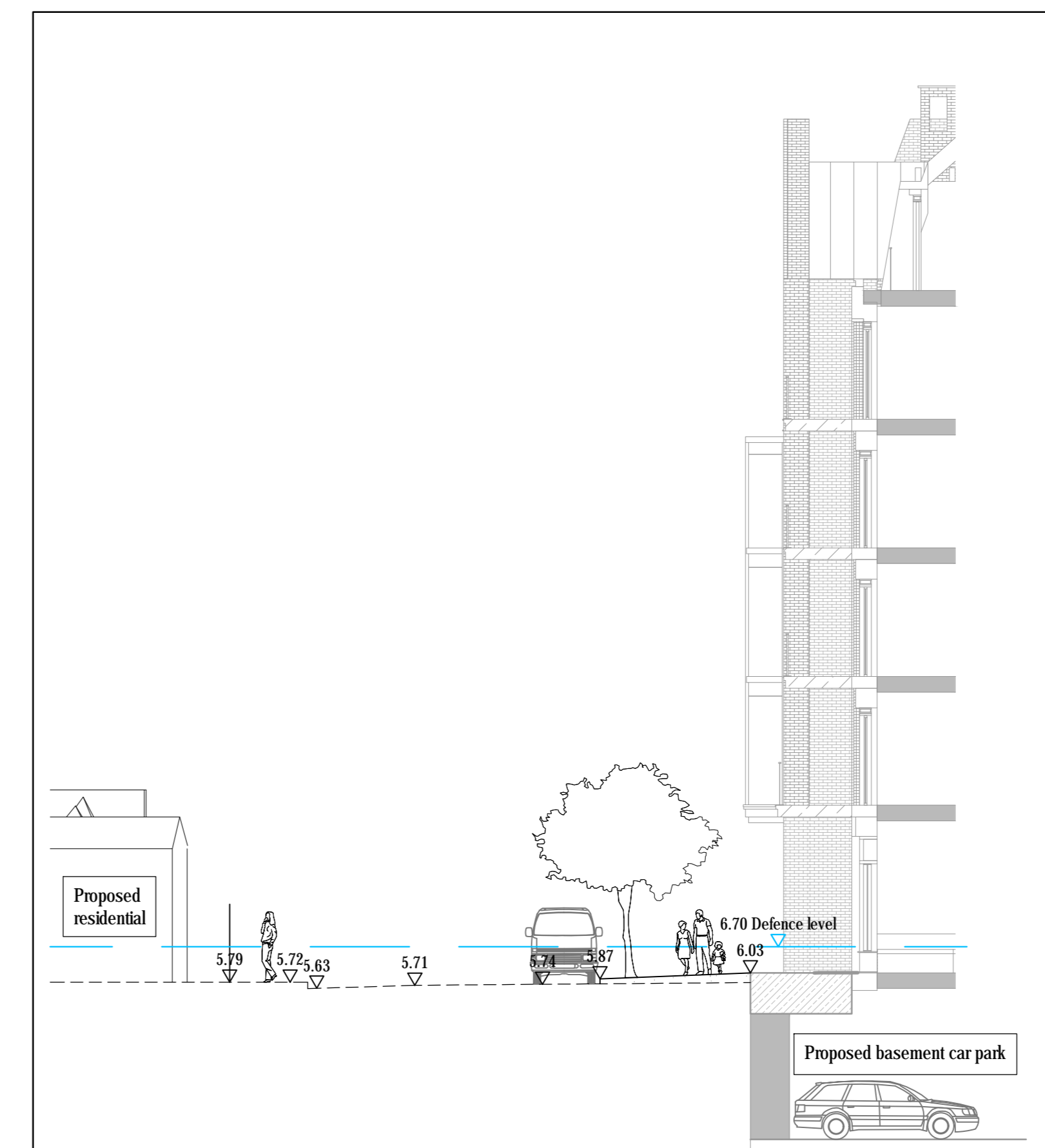
SECTION B B - EXISTING GROUND



SECTION C C - EXISTING GROUND



SECTION D D - EXISTING GROUND



SECTION E E - EXISTING GROUND

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| Mark | Revision | Date | Drawn | Chkd | Appd |
| A | Labelling revised | 07.01.19 | REM | MB | MB |

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FOR INFORMATION

STAG BREWERY, MORTLAKE
 SHIP LANE
 POSSIBLE GROUND PROFILES FOR
 FLOOD DEFENCE MEASURES (SHEET 2 OF 2)

Client
RESELTON PROPERTIES

Date of 1st Issue
 20.12.2018

AO Scale
 1:125

Drawing Number
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| Checked | RAP | Approved | RAP |
| Revision | A | | |

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 LONDON
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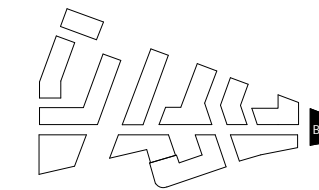
F. Updated Defence Drawings – Bulls Alley and the Boat House

Appendices

River Wall Environment Agency Comments
WIE10667-103-BN-7-2-1-EA
WIE10667

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- 03. HORIZONTAL CONCRETE BAND
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- 05. CLEAR GLAZING WITH BRONZE ANODIZED ALUMINIUM FRAMES
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- 08. TEXTURED BRICK DETAIL
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- 12. CURTAIN WALL
- 13. PRE-CAST CONCRETE CLADDING
- 14. DECORATIVE FRIEZE
- 15. FASCIA SIGNAGE
- 16. OBSCURE GLAZING
- 17. ANODIZED ALUMINIUM SLIDING DOORS



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|-----------------------------------|----------|-------|-----|
| DESIGN STUDY | 11/12/18 | | F |
| THIRD DRAFT PLANNING APPLICATION | 04/01/18 | BJ | E |
| SCENARIO 5C | 21/11/17 | BJ | D |
| SECOND DRAFT PLANNING APPLICATION | 09/11/17 | BJ | C |
| FINAL ELEVATION ISSUE | 24/10/17 | BJ | B |
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| FIRST DRAFT ELEVATION ISSUE | 14/09/17 | KHa | - |

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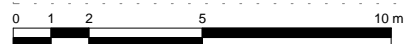
Stag Brewery
Richmond

Drawing

BUILDING 09 - PROPOSED EAST
ELEVATION

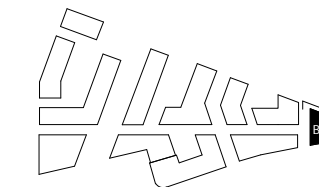
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| Job Number | Drawing number | Revision |
|------------|------------------|----------|
| 16019 | G200_B09_E_E_001 | F |



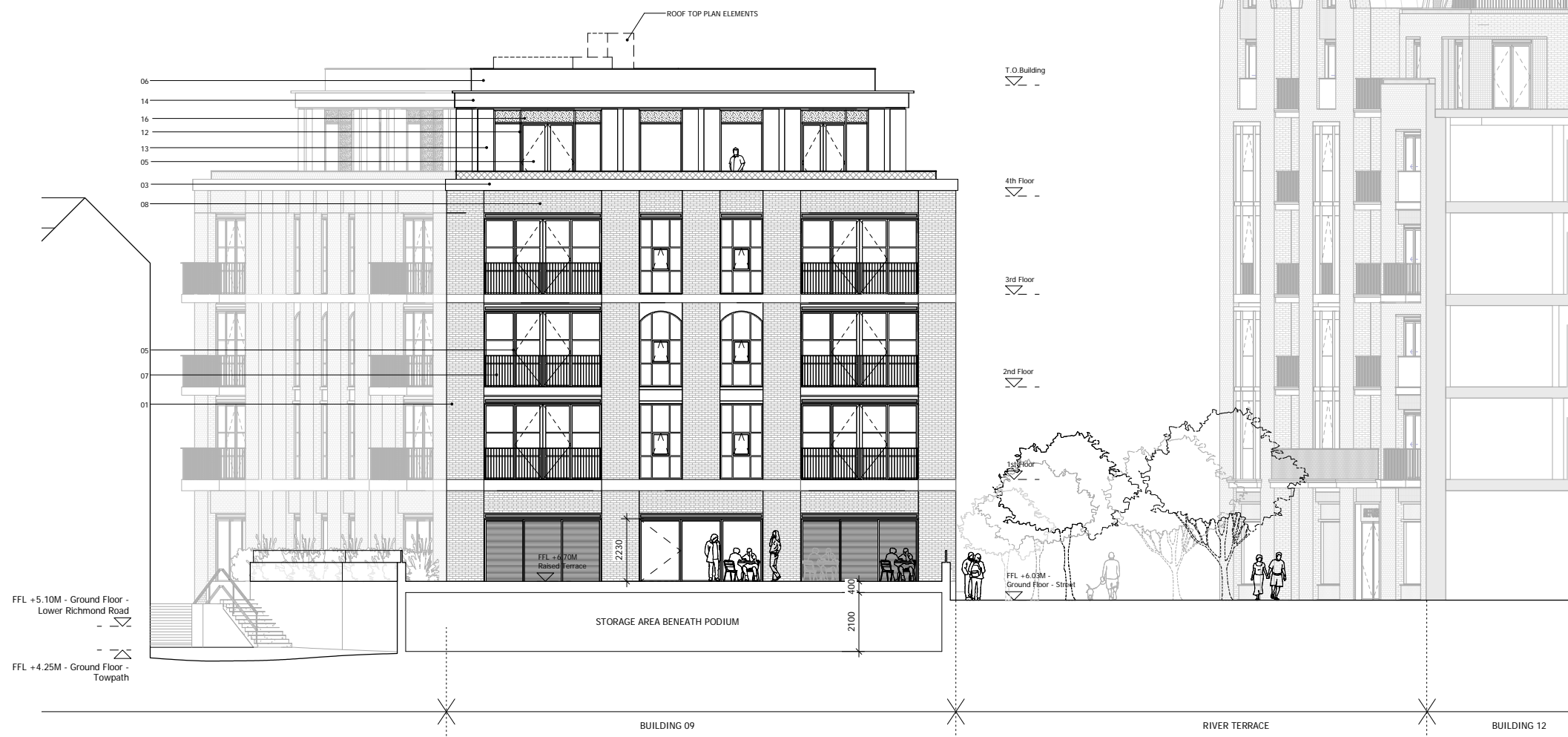
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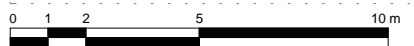


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- 15. FASCIA SIGNAGE
- 16. OBSCURE GLAZING
- 17. ANODIZED ALUMINIUM SLIDING DOORS



FFL +5.10M - Ground Floor - Lower Richmond Road
 FFL +4.25M - Ground Floor - Towpath



| | | |
|-----------------------------------|----------|-------|
| DESIGN STUDY | 11/12/18 | F |
| THIRD DRAFT PLANNING APPLICATION | 04/01/18 | BJ E |
| SCENARIO 5C | 21/11/17 | BJ D |
| SECOND DRAFT PLANNING APPLICATION | 09/11/17 | BJ C |
| FINAL ELEVATION ISSUE | 24/10/17 | BJ B |
| FIRST DRAFT PLANNING APPLICATION | 12/10/17 | BJ A |
| FIRST DRAFT ELEVATION ISSUE | 14/09/17 | KHa - |

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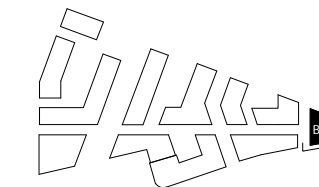
Project
Stag Brewery
 Richmond

Drawing
BUILDING 09 - PROPOSED NORTH ELEVATION

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| Job Number | Drawing number | Revision |
| 16019 | G200_B09_E_N_001 | F |

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| Revision description | Date | Check | Rev |
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| DESIGN STUDY | 11/12/18 | | F |
| THIRD DRAFT PLANNING APPLICATION | 04/01/18 | BJ | E |
| SCENARIO 5C | 21/11/17 | BJ | D |
| SECOND DRAFT PLANNING APPLICATION | 09/11/17 | BJ | C |
| FINAL ELEVATION ISSUE | 24/10/17 | BJ | B |
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| FIRST DRAFT ELEVATION ISSUE | 14/09/17 | KHa | - |

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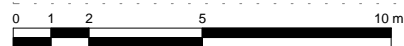
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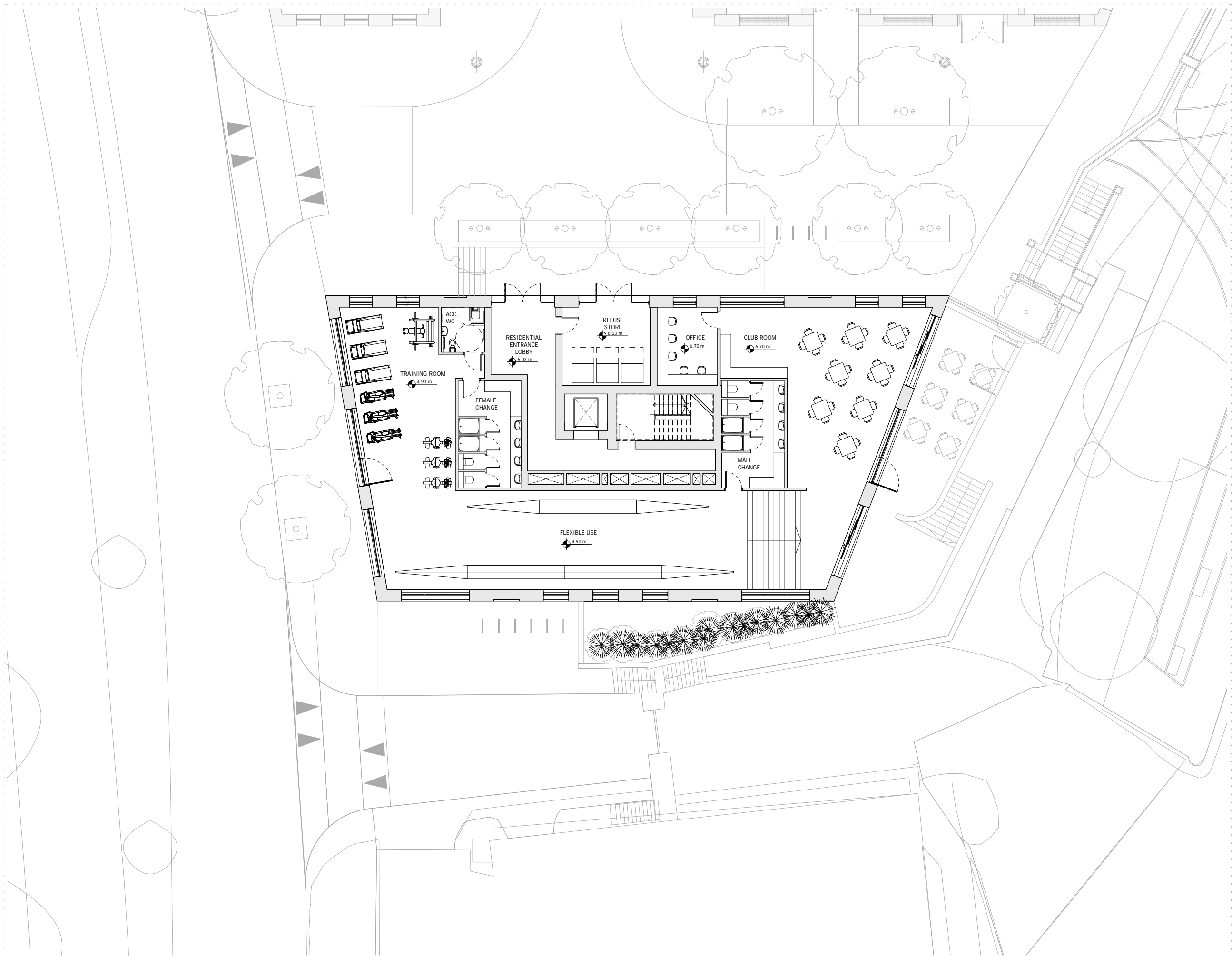
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Richmond

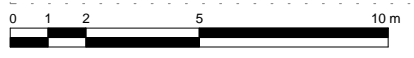
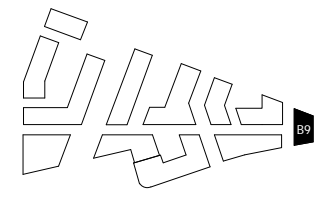
Drawing
BUILDING 09 - PROPOSED SOUTH ELEVATION

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| Job Number | Drawing number | Revision | |
| 16019 | G200_B09_E_S_001 | F | |





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| SCENARIO 5C | 21/11/17 | BJ H |
| SECOND DRAFT PLANNING APPLICATION | 09/11/17 | BJ G |
| ISSUE TO DESIGN TEAM | 24/10/17 | BJ F |
| ISSUE TO DESIGN TEAM | 23/10/17 | BJ E |
| FIRST DRAFT PLANNING APPLICATION | 12/10/17 | BJ D |
| SCENARIO 4a | 27/09/17 | BJ C |
| SCENARIO 4 | 12/09/17 | BJ B |
| SCENARIO 2 DESIGN FREEZE | 09/08/17 | BJ A |
| SCENARIO 1 BASELINE SCHEME | 26/07/17 | BJ - |

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Drawing
BUILDING 09 - PROPOSED GROUND FLOOR PLAN

| | | | |
|------------|-------------------|----------|------|
| Drawn | Date | Scale | @ A1 |
| KH | 25/07/17 | 1 : 100 | @ A3 |
| Job Number | Drawing number | Revision | |
| 16019 | G200_B09_P_00_002 | L | |



B. Environment Agency Correspondence

Nora Balboni

From: Donal O'Donovan
Sent: 19 July 2019 10:46
To: 'Martyn, Joe'
Subject: RE: Stag Brewery EA Meeting Notes Waterman Infrastructure & Environment Limited

Hi Joe, I just called but it went straight to voicemail. Could call me back please, just want to discuss the Maltings Building quickly.

Cheers,

Donal

From: Martyn, Joe <joseph.martyn@environment-agency.gov.uk>
Sent: 18 July 2019 16:25
To: Donal O'Donovan <donal.odonovan@watermangroup.com>
Subject: FW: Stag Brewery EA Meeting Notes Waterman Infrastructure & Environment Limited

Dear Donal

As discussed we have reviewed our requirement for the applicant to enter into a legal agreement with the landowner of the Bulls Alley Gate. As previously stated we were not requiring the developer to become financially responsible for the maintenance, replacement or raising of the defence but rather secure the undertaking of the asset owner to do so through a mechanism such as a legal agreement. We still recommend to Local Planning Authority that the developer whose site is protected by this gate and the owner of the gate enter into an agreement that the gate/defence is raised in line Thames Estuary 2100 Plan particularly as the gate falls within the redline boundary.

Without this it could be considered that the development (area within the redline boundary) has not met NPPF test of safe from flood risk for its lifetime. However we will be led by the LPA in this matter.

As discussed we have reviewed the latest information available and would like clarification of the following points it is unclear how a continuous flood defence line will be achieved from the documents available on the London Borough of Richmond's planning website.

The applicant must also ensure that their flood risk assessment is updated to include any design changes to the proposed flood defence line, and the horizontal and vertical maintenance access agreed in correspondence between yourself and our Tidal Walls and Embankment (TWE) inspectors on the February 14th 2019. It was agreed that ground levels would be raised to 6.70 m AOD in the Boat House next to Bulls Alley. An annotated drawing (G200_B09_P00_002 Rev L) showing the raised ground levels was sent directly to us in an email on March 26th 2019, but we are unable to find this drawing on the planning website. Please could this be submitted in support of the application.

It was also agreed that any voids below the raised areas within the boat house shown in the annotated drawing would need to be filled with an impermeable fill, so that TWE inspectors do not have to work in a confined space when inspecting the flood defence. We also asked that the storage space below the boat house terrace is designed so that our inspectors are able to safely inspect the flood defence from the landward side off the terrace to minimise the risk of drowning. However, we are unable to find any information about how they plan to

fill these voids in the boat house, or the flood defence access arrangements on the planning website. I understand from your previous email that this is still being investigated.

Please could it be ensured design changes made with respect to the flood defences are added to the planning website. We would also like some more information about the Maltings Building flood defence. Currently, the north face of the building forms part of the flood defence line. Following an inspection of the wall, the applicant decided to retain this part of the flood defence. We have no objection to the position of the flood defence line, we cannot accept a window sill that sits below the statutory flood defence level as shown in C645_Z1_E_FF_001 or C645_B04_E_N_001 even if the windows are designed to be flood resistant. If possible could these along this drawing 16019 C645_B04_E_W_001 be updated to show the statutory flood level and how future TE2100 raising levels will be achieved on the windows if required.

Finally, the Ship Lane flood gate (doorway to the Maltings building) is not included in drawing C645_B04_E_W_001. Could you confirm if the flood gate will be removed. We would support it removal. If it is not to be removed please could you provide details on how the gate will be maintained and essential future raising achieved and any other flood gates that may be retained within, or connected to, the site boundary.

Kind regards

Joe Martyn
Planning Specialist - South London

Environment Agency | South East | Kent and South London | London
' 020 3025 5546 * kslplanning@environment-agency.gov.uk
Environment Agency | 3rd Floor, Seacole Building, 2 Marsham Street, London SW1P 4DF

From: Donal O'Donovan [<mailto:donal.odonovan@watermangroup.com>]
Sent: 17 July 2019 09:10
To: Martyn, Joe <joseph.martyn@environment-agency.gov.uk>
Subject: RE: Stag Brewery EA Meeting Notes Waterman Infrastructure & Environment Limited

Thanks Joe, look forward to hearing from you this afternoon.



From: Martyn, Joe <joseph.martyn@environment-agency.gov.uk>
Sent: 17 July 2019 09:07
To: Donal O'Donovan <donal.odonovan@watermangroup.com>
Subject: RE: Stag Brewery EA Meeting Notes Waterman Infrastructure & Environment Limited

Donal

Sorry for taking so long to get back to you. I have another call with of Assets Performance Team this morning and will call you with update afterwards.

Kind regards

Joe Martyn
Planning Specialist - South London

Environment Agency | South East | Kent and South London | London
 020 3025 5546  kslplanning@environment-agency.gov.uk
Environment Agency | 3rd Floor, Seacole Building, 2 Marsham Street, London SW1P 4DF

From: Donal O'Donovan [<mailto:donal.odonovan@watermangroup.com>]
Sent: 16 July 2019 17:44
To: Martyn, Joe <joseph.martyn@environment-agency.gov.uk>
Cc: Anna Gargan <AGargan@geraldeve.com>; Peter O'Flaherty <peter.oflaherty@watermangroup.com>; Nora Balboni <nora.balboni@watermangroup.com>
Subject: RE: Stag Brewery EA Meeting Notes Waterman Infrastructure & Environment Limited

Joe,

Can you or a suitable colleague call to resolve this as soon as possible. We provided you with the additional information over 6 months ago and I have consistently made myself available for discussions so am not clear why this has taken so long to resolve.

It seems that the two outstanding issues are the potential confined space where boats etc. could be stored and this legal agreement you have requested. Is that correct?


We are looking into the confined space issue and with regards to the legal agreement it is unreasonable for us to have to enter into an agreement with a third party regarding **their** responsibility to raise the defence. As discussed and agreed at the meeting, our proposals ensure that we do not prejudice the future raising of the defence, but we consider that a reasonable limit for responsibility. It is not expected that all land owners that benefit from flood defences need to enter into legal agreements with riparian owners, so why should this be something our client has to do? If this really is something you have been requesting land owners do then I would be grateful if you could provide us with examples of when this has happened as this should be in the public domain if through the planning process like in our case.

Please call me tomorrow to get this resolved.

Regards,

Donal O'Donovan
Principal Engineer
Waterman Infrastructure & Environment Ltd

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t +44 207 928 7888 | d +44 3300 602 316
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From: Donal O'Donovan
Sent: 12 July 2019 16:24
To: 'Martyn, Joe' <joseph.martyn@environment-agency.gov.uk>
Cc: 'Anna Gargan' <AGargan@geraldeve.com>
Subject: RE: Stag Brewery EA Meeting Notes Waterman Infrastructure & Environment Limited

Joe,

Please can you respond to this.

Regards,

Donal

From: Martyn, Joe <joseph.martyn@environment-agency.gov.uk>
Sent: 18 June 2019 11:00
To: Donal O'Donovan <donal.odonovan@watermangroup.com>
Subject: RE: Stag Brewery EA Meeting Notes Waterman Infrastructure & Environment Limited

Hi Donal

Apologies I have been out of the office a lot recently I will get back to you on this asap.

Kind regards

Joe Martyn
Planning Specialist - South London

Environment Agency | South East | Kent and South London | London
☎ **020 3025 5546** ✉ kslplanning@environment-agency.gov.uk
Environment Agency | 3rd Floor, Seacole Building, 2 Marsham Street, London SW1P 4DF

From: Donal O'Donovan [<mailto:donal.odonovan@watermangroup.com>]
Sent: 12 June 2019 12:37
To: Martyn, Joe <joseph.martyn@environment-agency.gov.uk>;
'Lucy.Thatcher@richmondandwandsworth.gov.uk'
<Lucy.Thatcher@richmondandwandsworth.gov.uk>
Cc: Peter O'Flaherty <peter.oflaherty@watermangroup.com>; 'Anna Gargan'
<AGargan@geraldeve.com>; 'Suzanne Robson' <SRobson@geraldeve.com>; 'Susie Taylor'
<STaylor@geraldeve.com>; 'Neil Henderson' <NHenderson@geraldeve.com>
Subject: RE: Stag Brewery EA Meeting Notes Waterman Infrastructure & Environment Limited

Hi Joe,

I would be grateful if you could respond to the below please, as this seems an unusual approach to take in our experience. If we out site was south of Mortlake High Street (or anywhere in the defended floodplain across London for that matter) we would still be benefitting from the defences but wouldn't have to enter into any sort of agreement, as the responsibility to raise defences lies with the riparian owner.

Regards,

Donal

From: Donal O'Donovan
Sent: 14 May 2019 15:36
To: 'Martyn, Joe' <joseph.martyn@environment-agency.gov.uk>;
'Lucy.Thatcher@richmondandwandsworth.gov.uk'
<Lucy.Thatcher@richmondandwandsworth.gov.uk>
Cc: Peter O'Flaherty <peter.oflaherty@watermangroup.com>; 'Anna Gargan'
<AGargan@geraldeve.com>; 'Suzanne Robson' <SRobson@geraldeve.com>; 'Susie Taylor'
<STaylor@geraldeve.com>; 'Neil Henderson' <NHenderson@geraldeve.com>
Subject: RE: Stag Brewery EA Meeting Notes Waterman Infrastructure & Environment Limited

Hi Joe,

Thanks for getting back to me. Is this something the EA have done before as well, i.e. making a developer get a legal agreement from a third party that the third party is going to upgrade their defence in the future?

Cheers,

Donal

From: Martyn, Joe <joseph.martyn@environment-agency.gov.uk>
Sent: 13 May 2019 17:55
To: Donal O'Donovan <donal.odonovan@watermangroup.com>;
'Lucy.Thatcher@richmondandwandsworth.gov.uk'
<Lucy.Thatcher@richmondandwandsworth.gov.uk>
Subject: RE: Stag Brewery EA Meeting Notes Waterman Infrastructure & Environment Limited

Hi Donal

Sorry for the delay in getting back to you. We are not requiring that the development become finically responsible for the Bulls Alley Flood Gate and maintenance. As the flood gate is within the developments redline boundary it will need to be demonstrated that the defence is fit for the lifetime of the development and can meet the requirements of the Thames Estuary 2100 Plan (as it has been for the rest of the defence line). In this instance given that the applicant does not own the flood gate then one option could be a legal agreement showing others (landowner etc) committing to required works.

Lucy would you be able to advise on if this is something that the council has done before on the tidal defences or other assets they own under other requirements?

Kind regards

Joe Martyn
Planning Specialist - South London

Environment Agency | South East | Kent and South London | London
☎ **020 3025 5546** ✉ kslplanning@environment-agency.gov.uk
Environment Agency | 3rd Floor, Seacole Building, 2 Marsham Street, London SW1P 4DF

From: Donal O'Donovan [<mailto:donal.odonovan@watermangroup.com>]
Sent: 13 May 2019 09:57
To: Martyn, Joe <joseph.martyn@environment-agency.gov.uk>
Cc: Thames Tidal Walls and Embankments APT <TTWEAPT@environment-agency.gov.uk>; Arthur, Matthew R <matthew.arthur@environment-agency.gov.uk>; Marcellin-Fowler, Sham <Sham.Marcellin-Fowler@environment-agency.gov.uk>; Peter O'Flaherty <peter.oflaherty@watermangroup.com>; 'Anna Gargan' <AGargan@geraldeve.com>; 'Suzanne Robson' <SRobson@geraldeve.com>; 'Susie Taylor' <STaylor@geraldeve.com>; 'Neil Henderson' <NHenderson@geraldeve.com>
Subject: RE: Stag Brewery EA Meeting Notes Waterman Infrastructure & Environment Limited

Hi Joe,

What is the hold up on the legal comments? I provided comments on your response on the 1st March, it has now been over two months since then.

See below the comment we do not yet have a response on:

EA comment:

The Bulls Alley flood gate and adjoining flood defence walls sit within the applicant's red-line boundary. Before work commences on this development, we will need a legally binding agreement that ensures any maintenance or repairs to the flood defences within their red-line boundary has secured funding for the next 100 years (in-line with the TE2100 plan). We also recommend including the owner of the flood gate in this agreement, and that both parties agree to keep all access routes to the flood gate and walls in a condition that allows them to be raised without issue in 2065. This is to ensure the flood risk within the development and surrounding area does not increase over the next 100 years (in-line with TE2100 and NPPF).

Waterman response:

This is not as was agreed at the meeting on the 3rd December 2018. As set out in my meeting notes, sent to you on the 10th December 2018 and included in Appendix D of the Briefing Note it was agreed that we would need to provide drawings/work that show that the development proposals would not prejudice future raising of the Bulls Alley defence. We consider that the drawings providing in Appendix F of the Briefing note and the accompanying text are sufficient to confirm this.

As previously discussed, the Bulls Alley Defence is outside of our ownership and therefore it is not within our control. We understand that the London Borough of Richmond are the riparian owner of this asset and therefore it would fall to them to upgrade this asset.

We could certainly enter an agreement that confirms that the development site would not hinder access to the gate, however it is not reasonable for us to enter into a legal agreement about the funding of this defence as we are not the riparian owner.


The developer has been working to improve the defences where they are riparian owner and will be providing a significant upgrade of the defence for a significant length of the River Thames. We have also worked hard to ensure our proposals along Ship Lane and around the Water Sports Centre are to your requirements, but the request to be legally responsible for the future funding a defence which we do not own is not reasonable or fair.

If you want to discuss please give me a call.

Regards,

Donal O'Donovan
Senior Engineer
Waterman Infrastructure & Environment Ltd

Pickfords Wharf | Clink Street | London SE1 9DG
t +44 207 928 7888 | d +44 3300 602 316
www.watermangroup.com | [LinkedIn](#) | [Twitter](#)

 Please consider the environment before printing this e-mail. Thank you!

From: Donal O'Donovan
Sent: 07 May 2019 10:42
To: 'Martyn, Joe' <joseph.martyn@environment-agency.gov.uk>
Cc: 'Thames Tidal Walls and Embankments APT' <TTWEAPT@environment-agency.gov.uk>; 'Arthur, Matthew R' <matthew.arthur@environment-agency.gov.uk>; 'Marcellin-Fowler, Sham' <Sham.Marcellin-Fowler@environment-agency.gov.uk>
Subject: RE: Stag Brewery EA Meeting Notes Waterman Infrastructure & Environment Limited

Hi Joe,

Please can you respond regarding the legal comment.

Cheers,

Donal

From: Donal O'Donovan
Sent: 24 April 2019 16:01
To: 'Marcellin-Fowler, Sham' <Sham.Marcellin-Fowler@environment-agency.gov.uk>; Martyn, Joe <joseph.martyn@environment-agency.gov.uk>
Cc: Thames Tidal Walls and Embankments APT <TTWEAPT@environment-agency.gov.uk>; Arthur, Matthew R <matthew.arthur@environment-agency.gov.uk>
Subject: RE: Stag Brewery EA Meeting Notes Waterman Infrastructure & Environment Limited

Thanks Sham,

There is certainly no problem using the fill materials you want under the red hatched areas. The green area is to be used for storing the boats so this will need to be open, we are currently looking into this.

Joe, can you please provide feedback on the other item.

Cheers,

Donal

From: Marcellin-Fowler, Sham <Sham.Marcellin-Fowler@environment-agency.gov.uk>
Sent: 18 April 2019 10:53
To: Donal O'Donovan <donal.odonovan@watermangroup.com>; Martyn, Joe <joseph.martyn@environment-agency.gov.uk>
Cc: Thames Tidal Walls and Embankments APT <TTWEAPT@environment-agency.gov.uk>; Arthur, Matthew R <matthew.arthur@environment-agency.gov.uk>
Subject: RE: Stag Brewery EA Meeting Notes Waterman Infrastructure & Environment Limited

Morning Donal

I have sent my teams comments over to Joe, but he is out of office until the 22nd. I am happy to provide you with the feedback for your proposed continuous flood defence line, but you'll have to wait for Joe to return for feedback on any other matters.

I can confirm that our team are satisfied with the flood defence line running through the boathouse, as shown in the attached annotated site plan, providing the areas shade in red, the steps and the small gap between the internal and external raised area are filled with an impermeable fill. Fill materials we would accept are mass concrete with the voids pre-lined with an impermeable membrane, or with compressed clay-rich low-permeability soil. We would also like the green shaded area to be filled in this way, but that section would not be essential. The reason we are asking for these voids to be filled is to make sure our inspectors do not have to work in a confined space (page 8 & 9) HSE guidelines-second attachment). If they do leave the green shaded area unfilled, access to the void would have to be from the landward side of the defence to minimise the risk of drowning for any accessing the space (see page 9 of the HSE guidelines).

I know you had some questions about the legally binding agreement we have requested for future maintenance and raising, but I will not be able to answer those for you today. If you have questions about our feedback please contact the [Thames Tidal Walls and Embankments Inbox APT](#) as I will be on leave from the 19th April until the 7th May.

Thank your patience.

Best wishes

Sham Marcellin-Fowler

FCRM Officer | Tidal Walls and Embankments Asset Performance

Environment Agency | Thames Barrier, Eastmoor Street, Charlton, London, SE7 8LX

sham.marcellin-fowler@environment-agency.gov.uk

External: 020 8305 4283 | Mobile 07788 568 106

<image001.gif><image002.gif><image003.gif><image004.gif><image005.gif>

From: Donal O'Donovan [<mailto:donal.odonovan@watermangroup.com>]

Sent: 18 April 2019 09:48

To: Marcellin-Fowler, Sham <Sham.Marcellin-Fowler@environment-agency.gov.uk>; Martyn, Joe <joseph.martyn@environment-agency.gov.uk>

Cc: Thames Tidal Walls and Embankments APT <TTWEAPT@environment-agency.gov.uk>; Arthur, Matthew R <matthew.arthur@environment-agency.gov.uk>; Nora Balboni <nora.balboni@watermangroup.com>; Peter O'Flaherty <peter.oflaherty@watermangroup.com>; Brendan McCarthy <brendan.mccarthy@watermangroup.com>

Subject: RE: Stag Brewery EA Meeting Notes Waterman Infrastructure & Environment Limited

Joe/Sham,

Has this now be resolved?

Cheers,

Donal

From: Marcellin-Fowler, Sham <Sham.Marcellin-Fowler@environment-agency.gov.uk>

Sent: 26 March 2019 14:24

To: Donal O'Donovan <donal.odonovan@watermangroup.com>; Martyn, Joe <joseph.martyn@environment-agency.gov.uk>

Cc: Thames Tidal Walls and Embankments APT <TTWEAPT@environment-agency.gov.uk>; Arthur, Matthew R <matthew.arthur@environment-agency.gov.uk>; Nora Balboni <nora.balboni@watermangroup.com>; Peter O'Flaherty <peter.oflaherty@watermangroup.com>; Brendan McCarthy <brendan.mccarthy@watermangroup.com>

Subject: RE: Stag Brewery EA Meeting Notes Waterman Infrastructure & Environment Limited

Hi Donal

I have to agree, talking it through over the phone has definitely clarified things for me.

I'll go through the drawings with our engineer and explain that the proposed continuous flood defence line tracks its way through the Watersports Centre. I'll call you should we need anything else.

Thanks for taking the time to explain things to me today.

Best wishes

Sham Marcellin-Fowler

FCRM Officer | Tidal Walls and Embankments Asset Performance

Environment Agency | Thames Barrier, Eastmoor Street, Charlton, London, SE7 8LX

sham.marcellin-fowler@environment-agency.gov.uk

External: 020 8305 4283 | Mobile 07788 568 106

<image001.gif><image002.gif><image003.gif><image004.gif><image005.gif>

From: Donal O'Donovan [<mailto:donal.odonovan@watermangroup.com>]

Sent: 26 March 2019 14:16

To: Martyn, Joe <joseph.martyn@environment-agency.gov.uk>; Marcellin-Fowler, Sham <Sham.Marcellin-Fowler@environment-agency.gov.uk>

Cc: Thames Tidal Walls and Embankments APT <TTWEAPT@environment-agency.gov.uk>; Arthur, Matthew R <matthew.arthur@environment-agency.gov.uk>; Nora Balboni <nora.balboni@watermangroup.com>; Peter O'Flaherty <peter.oflaherty@watermangroup.com>; Brendan McCarthy <brendan.mccarthy@watermangroup.com>

Subject: RE: Stag Brewery EA Meeting Notes Waterman Infrastructure & Environment Limited

Hi Sham,

Many thanks for the call earlier, I always think its easier to discuss things on the phone.

Please see attached the mark up showing the how the 6.7m AOD defence level is achieved with no windows or openings.

The void area for storage is hatched in green on the mark up and is also shown on section drawing G200_B09_E_N_001 which is included in Appendix F (I have attached that appendix on its own for ease of reference).

I hope that all makes sense now, please call again if you have any further questions.

Cheers,

Donal O'Donovan


Senior Engineer

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 Please consider the environment before printing this e-mail. Thank you!

From: Martyn, Joe <joseph.martyn@environment-agency.gov.uk>

Sent: 26 March 2019 14:02

To: Marcellin-Fowler, Sham <Sham.Marcellin-Fowler@environment-agency.gov.uk>

Cc: Thames Tidal Walls and Embankments APT <TTWEAPT@environment-agency.gov.uk>; Donal O'Donovan <donal.odonovan@watermangroup.com>; Arthur, Matthew R <matthew.arthur@environment-agency.gov.uk>

Subject: RE: Stag Brewery EA Meeting Notes Waterman Infrastructure & Environment Limited

Brilliant thanks Sham

From: Marcellin-Fowler, Sham
Sent: 26 March 2019 13:43
To: Martyn, Joe <joseph.martyn@environment-agency.gov.uk>
Cc: Thames Tidal Walls and Embankments APT <TTWEAPT@environment-agency.gov.uk>; donal.odonovan@watermangroup.com; Arthur, Matthew R <matthew.arthur@environment-agency.gov.uk>
Subject: RE: Stag Brewery EA Meeting Notes Waterman Infrastructure & Environment Limited

Hi Joe

I've spoke with Donal. He's going to send us some annotated drawings. It seems he's achieved the continuous flood defence line, but not in the way we were expecting.

Once the team have seen these drawings, we should be able to provide a response.

Thanks

Sham

From: Martyn, Joe
Sent: 26 March 2019 13:25
To: Marcellin-Fowler, Sham <Sham.Marcellin-Fowler@environment-agency.gov.uk>
Cc: Thames Tidal Walls and Embankments APT <TTWEAPT@environment-agency.gov.uk>
Subject: RE: Stag Brewery EA Meeting Notes Waterman Infrastructure & Environment Limited

Hi Sham

That would be great, maybe there is some confusion on what he thinks the drawings are showing.

Cheers

Joe

From: Marcellin-Fowler, Sham
Sent: 26 March 2019 12:54
To: Martyn, Joe <joseph.martyn@environment-agency.gov.uk>
Cc: Thames Tidal Walls and Embankments APT <TTWEAPT@environment-agency.gov.uk>
Subject: RE: Stag Brewery EA Meeting Notes Waterman Infrastructure & Environment Limited

Hi Joe

Do you mind if I call Donal to ask for the revised drawing? He keeps sending the same report with the same outdated drawing (see attachment).

Sham

From: Martyn, Joe
Sent: 26 March 2019 12:19
To: Marcellin-Fowler, Sham <Sham.Marcellin-Fowler@environment-agency.gov.uk>
Subject: FW: Stag Brewery EA Meeting Notes Waterman Infrastructure & Environment Limited

Hi Sham

Please see Donal response below.

Joe

From: Donal O'Donovan [<mailto:donal.odonovan@watermangroup.com>]
Sent: 26 March 2019 12:15
To: Martyn, Joe <joseph.martyn@environment-agency.gov.uk>
Cc: Anna Gargan <AGargan@geraldeve.com>; Neil Henderson <NHenderson@geraldeve.com>; Suzanne Robson <SRobson@geraldeve.com>; Susie Taylor <STaylor@geraldeve.com>; Nora Balboni <nora.balboni@watermangroup.com>
Subject: RE: Stag Brewery EA Meeting Notes Waterman Infrastructure & Environment Limited

Hi Joe,

Thanks for getting back to me. The drawings are provided in Appendix F (pages 56 to 59) of the Briefing Note we issued to you on the 11th January, see attached email.


I think there must be something getting lost in translation here, perhaps your officers could give me a call and I can talk them through the drawings.

I am on leave from the 28th March to the 3rd April so I would appreciate it if they could give me a call today.

Thanks,

Donal O'Donovan
Senior Engineer
Waterman Infrastructure & Environment Ltd

Pickfords Wharf | Clink Street | London SE1 9DG
t +44 207 928 7888 | d +44 3300 602 316
www.watermangroup.com | [LinkedIn](#) | [Twitter](#)

 Please consider the environment before printing this e-mail. Thank you!

From: Martyn, Joe <joseph.martyn@environment-agency.gov.uk>
Sent: 26 March 2019 11:59
To: Donal O'Donovan <donal.odonovan@watermangroup.com>
Subject: RE: Stag Brewery EA Meeting Notes Waterman Infrastructure & Environment Limited

Hi Donal

Sorry for not getting back to you sooner I had asked that our Tidal Embankments Team give you a call. Our technical teams have read the response your response below, but have been unable to find a copy of the revised drawings of the Water Sports Centre referred to. The drawings we have in our records are dated 25/07/2017 and 14/09/17 and show windows in what should be the continuous flood defence line. Until we see the revised drawings mentioned below, we are unable to see if the amended design does in fact provide a continuous fit for purpose flood defence line with no openings or discontinuities below the statutory defence line. The drawings on Richmond's planning website submitted 5/04/18. Do you have a copy of the amended drawings that can be sent to us directly?

Drawings showing Bulls Alley and the continuous line of defence along the front of the Water Sports Centre (formerly known as the boathouse) are provided in Appendix F of Briefing Note, they are also described in paragraphs 3.1 to 3.4. The drawings in Appendix F were first issued in September 2017, however they have been updated and the current revisions were issued in December 2018. These sections show that there are no windows below 6.7m AOD, where the building forms the flood defence.

Kind regards

Joe Martyn

Planning Specialist - South London

Environment Agency | South East | Kent and South London | London

☎ **020 3025 5546** ✉ kslplanning@environment-agency.gov.uk

Environment Agency | 3rd Floor, Seacole Building, 2 Marsham Street, London SW1P 4DF

From: Donal O'Donovan [<mailto:donal.odonovan@watermangroup.com>]

Sent: 26 March 2019 09:49

To: Martyn, Joe <joseph.martyn@environment-agency.gov.uk>; KSLPlanning <KSLPLANNING@environment-agency.gov.uk>

Subject: RE: Stag Brewery EA Meeting Notes Waterman Infrastructure & Environment Limited

Hi Joe,

The client is trying to get a decision on the application asap and this is one of the few outstanding issues. Could you please get back to me regarding the below.

Thanks,

Donal

From: Donal O'Donovan

Sent: 25 March 2019 09:29

To: 'Martyn, Joe' <joseph.martyn@environment-agency.gov.uk>

Subject: RE: Stag Brewery EA Meeting Notes Waterman Infrastructure & Environment Limited

Hi Joe,

Can you please get back to me asap.

Thanks,

Donal

From: Donal O'Donovan

Sent: 20 March 2019 10:14

To: 'Martyn, Joe' <joseph.martyn@environment-agency.gov.uk>

Subject: RE: Stag Brewery EA Meeting Notes Waterman Infrastructure & Environment Limited

Hi Joe,

This is taking a very long time to resolve can you please get back to me asap.

Thanks,

Donal

From: Donal O'Donovan
Sent: 01 March 2019 16:14
To: 'Martyn, Joe' <joseph.martyn@environment-agency.gov.uk>
Subject: RE: Stag Brewery EA Meeting Notes Waterman Infrastructure & Environment Limited

Thanks Joe, I look forward to hearing from you further.

From: Martyn, Joe <joseph.martyn@environment-agency.gov.uk>
Sent: 01 March 2019 15:17
To: Donal O'Donovan <donal.odonovan@watermangroup.com>
Subject: RE: Stag Brewery EA Meeting Notes Waterman Infrastructure & Environment Limited

Hi Donal

Sorry for not getting back to you sooner, I have been in training and meetings this week. Matt Arthur and Rob Newsom who attended the meeting are both on leave at the moment. I am waiting for a call back from a member of their team on your comments and will give you a call once I have had a chance to discuss it with them.

Kind regards

Joe Martyn
Planning Specialist - South London

Environment Agency | South East | Kent and South London | London

☎ **020 3025 5546** ✉ kslplanning@environment-agency.gov.uk

Environment Agency | 3rd Floor, Seacole Building, 2 Marsham Street, London SW1P 4DF

From: Donal O'Donovan [<mailto:donal.odonovan@watermangroup.com>]
Sent: 01 March 2019 10:48
To: Martyn, Joe <joseph.martyn@environment-agency.gov.uk>
Cc: Suzanne Robson <SRobson@geraldev.com>; Anna Gargan <AGargan@geraldev.com>; 'Guy Duckworth' <guyduckworth@dartmouthcapital.co.uk>; Brendan McCarthy <brendan.mccarthy@watermangroup.com>; Peter O'Flaherty <peter.oflaherty@watermangroup.com>
Subject: RE: Stag Brewery EA Meeting Notes Waterman Infrastructure & Environment Limited

Hi Joe,

I have called a couple of times this week but it keeps going straight to your voicemail, I also tried to get in contact with your colleagues whilst you were away but with no success. I would like to urgently speak to you or your technical officer about the response provided. In the meantime I have provided some comments below in green.

Thanks,

Donal

From: Donal O'Donovan
Sent: 25 February 2019 16:55
To: 'Martyn, Joe' <joseph.martyn@environment-agency.gov.uk>
Subject: RE: Stag Brewery EA Meeting Notes Waterman Infrastructure & Environment Limited


Hi Joe,

I hope you had a good break and don't have too much of a backlog of emails! Could you give me a call as soon as you can regarding the below, or alternatively put me in touch with your technical officer so that I can talk through your comments.

Thanks,

Donal O'Donovan
Senior Engineer
Waterman Infrastructure & Environment Ltd

Pickfords Wharf | Clink Street | London SE1 9DG
t +44 207 928 7888 | d +44 3300 602 316
www.watermangroup.com | [LinkedIn](#) | [Twitter](#)

 Please consider the environment before printing this e-mail. Thank you!

From: Martyn, Joe <joseph.martyn@environment-agency.gov.uk>
Sent: 14 February 2019 16:13
To: 'Thatcher, Lucy' <Lucy.Thatcher@richmondandwandsworth.gov.uk>; Donal O'Donovan <donal.odonovan@watermangroup.com>
Subject: RE: Stag Brewery EA Meeting Notes Waterman Infrastructure & Environment Limited

Dear Donal and Lucy

We have reviewed the document by Waterman Infrastructure & Environment Limited, dated 11th January 2019, Reference: WIE10667-103-BN-7-2-1-EA.

Following review of the document we may be able to remove our objection subject to further information being provided. I have been through the response from our Asset Performance Team and not confident that their requirements can be secured through conditions at this stage as some of the information required appears to be contrary to the information currently submitted. Please see our comments below. We would be happy to meet with you both to discuss further and would welcome the Local Authorities view on if conditions re appropriate at this stage.

Because of the nature of this development any flood defence structures within the applicant's red-line boundary must demonstrate to us a minimum of 100 years residual life (in line with NPPF). While TWEAPT have no objections to this application, the applicant must meet the following requirements:

1. A continuous flood defence line must be achieved to protect the development and surrounding area are from tidal flooding. In our letter dated 18/9/2018 we asked the applicant to provide cross sections of the Bulls Alley Boathouse showing how they will achieve a continuous flood defence line without any openings below the statutory flood defence level. These cross sections must also demonstrate how any future raising of the flood defences to TE2100 levels can be achieved. The applicant has agreed in document WIE10667-103-BN-7-2-1-EA to make the exterior wall of the Bulls Alley Boathouse part of this continuous flood defence line, but drawings from the same document show an access point and windows in this section of the flood defence line below the statutory flood defence level (the drawings we are referring to are dated Sept 17, so may not have been updated to match their most recent comments in the same doc.). These planned openings prevent the applicant

achieving the necessary continuous flood defence line condition. To achieve a continuous flood defence line, the applicant will need to update the design of the exterior wall of the boathouse so that there are no openings like doors and windows below the statutory flood defence level.

Drawings showing Bulls Alley and the continuous line of defence along the front of the Water Sports Centre (formerly known as the boathouse) are provided in Appendix F of Briefing Note, they are also described in paragraphs 3.1 to 3.4. The drawings in Appendix F were first issued in September 2017, however they have been updated and the current revisions were issued in December 2018. These sections show that there are no windows below 6.7m AOD, where the building forms the flood defence.

2. The Bulls Alley flood gate and adjoining flood defence walls sit within the applicant's red-line boundary. Before work commences on this development, we will need a legally binding agreement that ensures any maintenance or repairs to the flood defences within their red-line boundary has secured funding for the next 100 years (in-line with the TE2100 plan). We also recommend including the owner of the flood gate in this agreement, and that both parties agree to keep all access routes to the flood gate and walls in a condition that allows them to be raised without issue in 2065. This is to ensure the flood risk within the development and surrounding area does not increase over the next 100 years (in-line with TE2100 and NPPF).

This is not as was agreed at the meeting on the 3rd December 2018. As set out in my meeting notes, sent to you on the 10th December 2018 and included in Appendix D of the Briefing Note it was agreed that we would need to provide drawings/work that show that the development proposals would not prejudice future raising of the Bulls Alley defence. We consider that the drawings providing in Appendix F of the Briefing note and the accompanying text are sufficient to confirm this.

As previously discussed, the Bulls Alley Defence is outside of our ownership and therefore it is not within our control. We understand that the London Borough of Richmond are the riparian owner of this asset and therefore it would fall to them to upgrade this asset.

We could certainly enter an agreement that confirms that the development site would not hinder access to the gate, however it is not reasonable for us to enter into a legal agreement about the funding of this defence as we are not the riparian owner.

The developer has been working to improve the defences where they are riparian owner and will be providing a significant upgrade of the defence for a significant length of the River Thames. We have also worked hard to ensure our proposals along Ship Lane and around the Water Sports Centre are to your requirements, but the request to be legally responsible for the future funding a defence which we do not own is not reasonable or fair.

3. To protect the development and surrounding area from tidal flooding, access to the flood defences for maintenance and emergencies must not be restricted. The applicant must ensure that a minimum of 4 m of clear horizontal and vertical access space is provided landward of the flood defences within their red-line boundary, with the exception of 4 specific locations below balconies, shown in the site plan in appendix c on page 31 of document WIE10667-103-BN-7-2-1-EA. At these 4 specific locations only, a minimum vertical clearance height of 3.85 m will be tolerated in this instance, but not additional encroachment on this vital vertical access space can be allowed.

Noted, no further action required.

The applicant should also note that a flood risk activity permit will be required before works can begin because the proposed development is located within 16m of a flood defence. For guidance on permits and exemptions please visit our website at www.gov.uk/guidance/flood-risk-activities-environmental-permits or call our National Customer Contact Centre (NCCC) 03708 506 506.

I am on leave after today until the 25th February please email kslplanning@environment-agency.gov.uk if you have any questions.

Kind regards

Joe Martyn
Planning Specialist - South London

Environment Agency | South East | Kent and South London | London
☎ 020 3025 5546 ✉ kslplanning@environment-agency.gov.uk
Environment Agency | 3rd Floor, Seacole Building, 2 Marsham Street, London SW1P 4DF

From: Donal O'Donovan [<mailto:donal.odonovan@watermangroup.com>]
Sent: 08 February 2019 10:51
To: Martyn, Joe <joseph.martyn@environment-agency.gov.uk>
Cc: Brendan McCarthy <brendan.mccarthy@watermangroup.com>; Anna Gargan <AGargan@geraldev.com>; 'Thatcher, Lucy' <Lucy.Thatcher@richmondandwandsworth.gov.uk>
Subject: RE: Stag Brewery EA Meeting Notes

Hi Joe,

That's great news, thank you. I look forward to reviewing the conditions.

Cheers,

Donal

From: Martyn, Joe <joseph.martyn@environment-agency.gov.uk>
Sent: 08 February 2019 10:48
To: Donal O'Donovan <donal.odonovan@watermangroup.com>
Cc: Brendan McCarthy <brendan.mccarthy@watermangroup.com>; Anna Gargan <AGargan@geraldev.com>; 'Thatcher, Lucy' <Lucy.Thatcher@richmondandwandsworth.gov.uk>
Subject: RE: Stag Brewery EA Meeting Notes

Hi Donal

Our Flood Risk and Assets Performance Teams have indicated that the information submitted with be sufficient for us to remove our objection subject to conditions. I have received some initial draft conditions which I will redraft and will formally respond to Richmond Council early next week.

Kind regards

Joe Martyn

Planning Specialist - South London

Environment Agency | South East | Kent and South London | London

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From: Donal O'Donovan [<mailto:donal.odonovan@watermangroup.com>]

Sent: 06 February 2019 10:36

To: Martyn, Joe <joseph.martyn@environment-agency.gov.uk>

Cc: Brendan McCarthy <brendan.mccarthy@watermangroup.com>; Anna Gargan <AGargan@geraldev.com>

Subject: RE: Stag Brewery EA Meeting Notes

Hi Joe,

Can you confirm that the EA are now happy with the proposals please.

Cheers,

Donal

From: Donal O'Donovan

Sent: 17 January 2019 09:46

To: 'Martyn, Joe' <joseph.martyn@environment-agency.gov.uk>

Cc: Brendan McCarthy <brendan.mccarthy@watermangroup.com>; 'Anna Gargan' <AGargan@geraldev.com>

Subject: RE: Stag Brewery EA Meeting Notes

Hi Joe,

Have you and your colleagues had a chance to look at our additional information yet?

Cheers,

Donal

From: Donal O'Donovan

Sent: 11 January 2019 11:25

To: 'Martyn, Joe' <joseph.martyn@environment-agency.gov.uk>

Cc: Brendan McCarthy <brendan.mccarthy@watermangroup.com>; 'Anna Gargan' <AGargan@geraldev.com>

Subject: RE: Stag Brewery EA Meeting Notes

Hi Joe,

Further the meeting last year we have revisited parts of the design. Please refer to the attached Briefing Note for full details. If you have any questions please give me a call.

Cheers,

Donal

From: Donal O'Donovan
Sent: 10 December 2018 09:51
To: 'Martyn, Joe' <joseph.martyn@environment-agency.gov.uk>
Cc: Brendan McCarthy <brendan.mccarthy@watermangroup.com>
Subject: Stag Brewery EA Meeting Notes

Hi Joe,

Thanks for meeting us last week. I have drafted some notes on the meeting below, please let me know if you have any comments. I have also attached our previous responses for reference.

Query 1 – It was agreed that sufficient information has now been submitted that confirms that there is a continuous fit for purposes flood defence line for the main length of the site. However, further work is required in relation to the Bulls Alley and Ship Lane defences (see Queries 3 and 5).

Query 2 – No further information is required.

Query 3 and 5 – The EA's preference is for passive flood defences that provide permanent protection and they do not want future flood defence options restricted to the use of gates. One potential option discussed in relation to the Boat House was to introduce a separate flood defence wall within the building, however this had knock on impacts in relation to DDA compliance. The design team agreed to look at potential options for the Boat House and Ship Lane, that would aim to provide design solutions to allow future proofing to achieve a passive flood defence in these locations by 2065. Where there are constraints that have informed the current design (i.e. highways, planning officers etc.) or that restrict other options these will be clearly set out for the EA to review.

The EA agreed that no works would need to be undertaken to the Bulls Alley defence in the present. However, they require work/drawings that show that the Boat House building would not limit options for raising the Bulls Alley defence in the future as part of the TE2100 Plan (i.e. look at feasibility of a ramp). One example discussed was the potential for a ramp to be introduced. Again if there are constraints that limit options these will need to be clearly set out for the EA to review.

If constraints mean that passive defences are not possible to the full TE2100 height of 6.7m AOD then the EA would want the height of any gate limited to minimum it needs to be (i.e. raised ground provides protection to say 6.0m AOD and then a gate would only need to be 0.7m high).

Query 4 – The EA agreed that the vehicle tracking undertaken to date was sufficient. However, it was noted that if changes are made to the layout as a result of the Ship Lane or Bulls Alley defences then the tracking would need to be updated accordingly.

Query 6 – No further information is required.

Query 7 – This information has been provided within the application documents. Pages of Landscape DAS Application A relating to biodiversity include:

Landscape Masterplan: Page 23
Trees and planting strategy: Page 38-43
Biodiversity strategy: Page 60-62
Maltings Plaza: Page 83-85

River terrace: Page 87-91

Towpath information: Page 103 -111

We have also prepared document P10736-00-001-717 'Supporting document to response to LBRUT ecologist comments' which contain latest information about planting, trees, biodiversity roof and rain garden.

<https://Gillespies.bigfilebox.com/lwt/231953-4Vh2HQAjyUZxZuKXHQ06A73BA>


Cheers,

Donal O'Donovan
Senior Engineer
Waterman Infrastructure & Environment Ltd

Pickfords Wharf | Clink Street | London SE1 9DG

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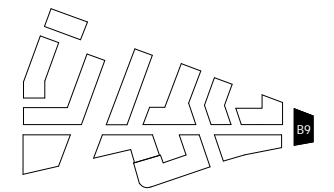
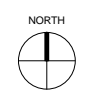
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C. Bulls Alley Continuous Line of Defence Mark Up

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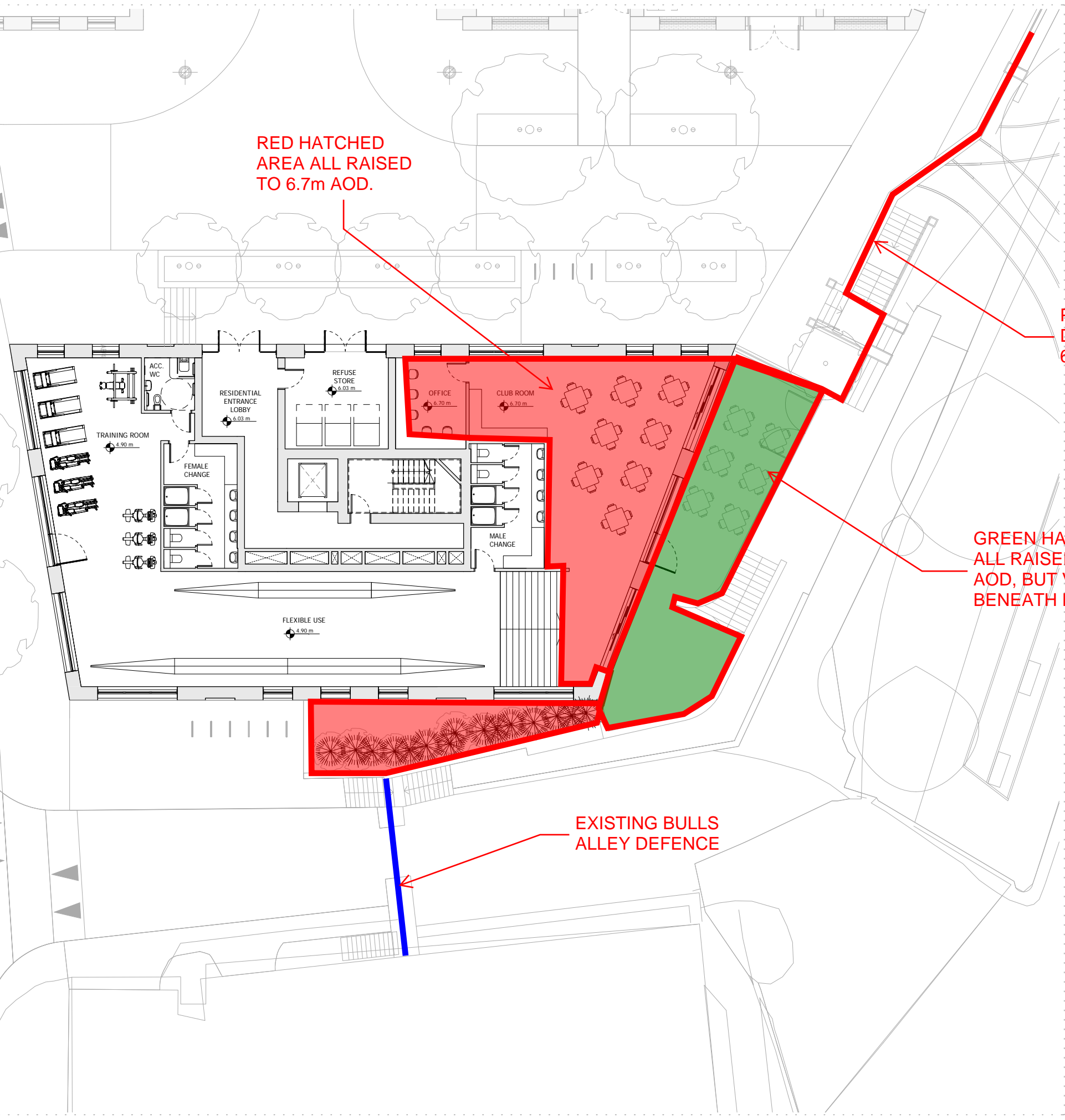


RED HATCHED AREA ALL RAISED TO 6.7m AOD.

PROPOSED FLOOD DEFENCE WALL AT 6.7m AOD.

GREEN HATCHED AREA ALL RAISED TO 6.7m AOD, BUT VOID AREA BENEATH FOR STORAGE

EXISTING BULLS ALLEY DEFENCE



| | | |
|-----------------------------------|----------|------|
| DESIGN STUDY | 11/12/18 | L |
| FINAL DRAFT PLANNING APPLICATION | 18/01/18 | BJ K |
| THIRD DRAFT PLANNING APPLICATION | 04/01/18 | BJ J |
| SCENARIO 5C | 21/11/17 | BJ H |
| SECOND DRAFT PLANNING APPLICATION | 09/11/17 | BJ G |
| ISSUE TO DESIGN TEAM | 24/10/17 | BJ F |
| ISSUE TO DESIGN TEAM | 23/10/17 | BJ E |
| FIRST DRAFT PLANNING APPLICATION | 12/10/17 | BJ D |
| SCENARIO 4a | 27/09/17 | BJ C |
| SCENARIO 4 | 12/09/17 | BJ B |
| SCENARIO 2 DESIGN FREEZE | 09/08/17 | BJ A |
| SCENARIO 1 BASELINE SCHEME | 26/07/17 | BJ - |

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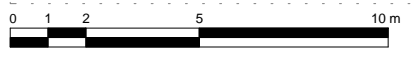
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Drawing
BUILDING 09 - PROPOSED GROUND FLOOR PLAN

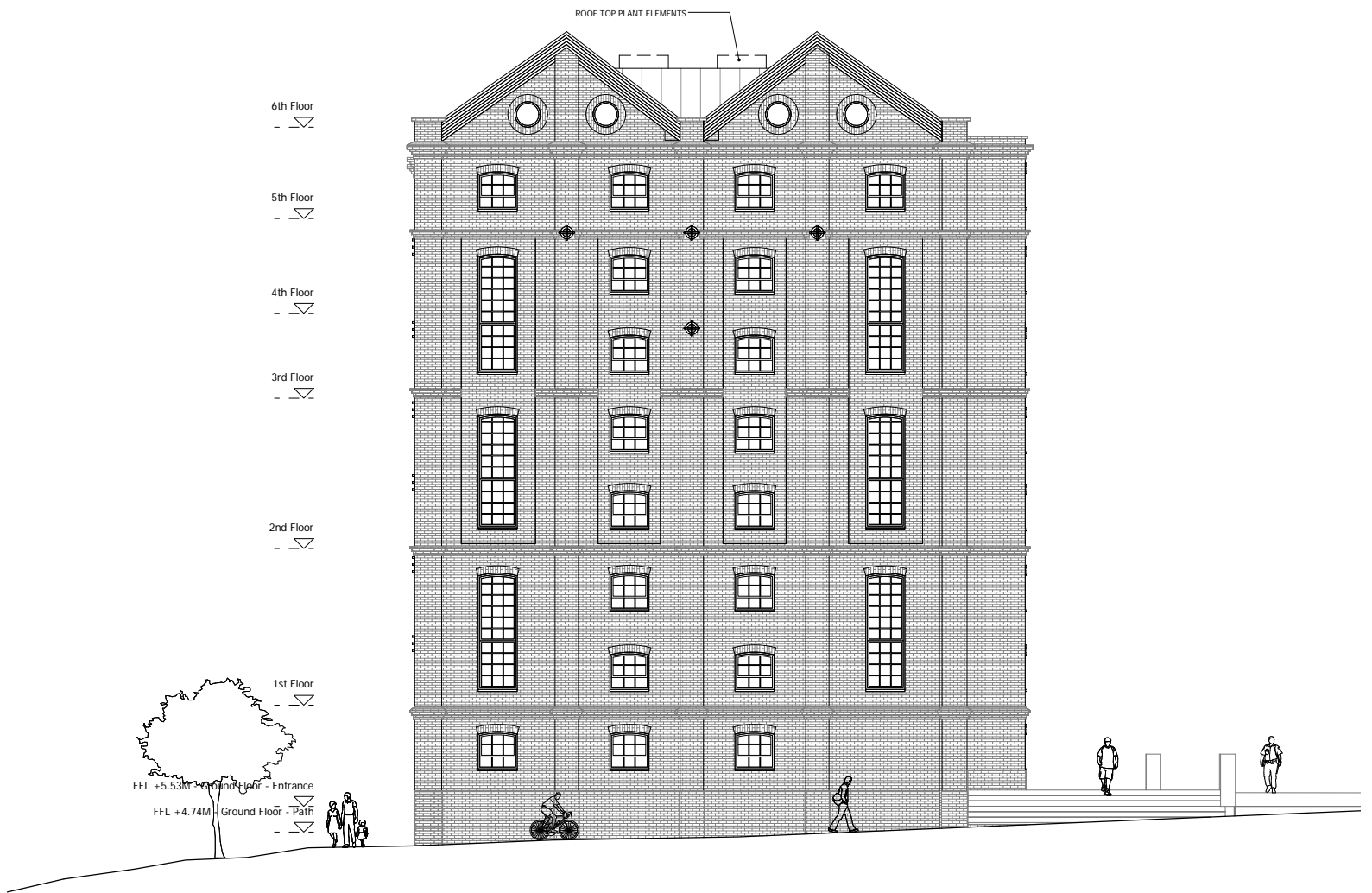
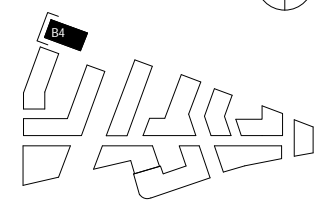
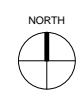
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| Drawn | Date | Scale |
| KH | 25/07/17 | 1:100 @ A1 1:200 @ A3 |
| Job Number | Drawing number | Revision |
| 16019 | G200_B09_P_00_002 | L |





D. Ship Lane Flood Gate

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|----------------------|----------|-------|-----|
| PLANNING APPLICATION | 12/02/18 | BJ | - |

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Drawing
BUILDING 04 - PROPOSED WEST ELEVATION

| Drawn | Date | Scale | @ A1 |
|------------|------------------|----------|------|
| RKL | 16/01/18 | 1 : 100 | @ A1 |
| Job Number | Drawing number | Revision | |
| 16019 | C645_B04_E_W_001 | - | |

