Meeting Minutes

Subject	Langstone Flood and Coastal Erosion Risk Management Scheme **Langstone Stakeholder Working Group Meeting (6)**
Date	Thursday 23rd February 2023
Time	1600-2000hrs
Venue	Langstone Hotel, Winchester Lounge

Attendees

Coastal Partners – Lyall Cairns [LC], Richard Philpott, Project Manager [RP] James Spragg, Project Executive [JKS], Lauren Burt, Engagement Lead [LB], Andrew Pearce [AP]
AECOM – Jonathan Short, Project Manager [JS], Harriet Riddler, Design [HR], Clifford Phang, Engineer [CP]

Key Stakeholders

Frontline Action Group (FLAG)	Cecily Hughes	Frontline Resident	Gemma Monk
Frontline Action Group (FLAG)	Helen Donald	Havant Borough Council - St Faiths Ward Cllr	Cllr Tim Pike
Mill Lane and Harbourside Sea Defence Group	Andy Lewis	Mill Lane and Harbourside Sea Defence Group	Mark Effenberg
Frontline Action Group (FLAG)	Marilyn Rodgers	Hampshire Highways DP	Holly Drury
Langstone Harbour Board	Meg Roberts	Hampshire Highways DP	Chris Hirst
Chichester Harbour Conservancy	Richard Austin	LRA, Mill Lane/Harbourside	Carolyn Holland
Frontline Action Group (FLAG), LVA	Peter Oliver	LRA Secretary	David Pattenden
Langstone Conservation Area	Ann Griffiths	Langstone Road	Amanda George
Langstone Cutters Rowing Club	Mike Gilbert	Mill Lane	Robert Carrell
Langstone Conservation Group & LRA	Nigel Armstrong	Havant Borough Council – Planning Conservation Officer	Rachael McMurray
Langstone Flood Watch, LVA	Catharine Russell	SOS	Martin Murphy
Langstone Sailing Club	John Radford	Langstone Road, LVA	Kevin Edwards
Langstone Sailing Club	Ray Watterson	Frontline Resident	Andrea Matthews
Langstone Flood Watch	John Henly	Frontline Resident	Chris Murphy

Apologies

Key Stakeholders

Langstone Road	Polly and John Chapman	Langstone Residents Association	Angela Armstrong
Langstone Road, LVA	Edmund Neville	Langstone Cutters Rowing Club	Richard Harrison
Coastguard Cottages	Kate Hart	Langstone Conservation Group	Mike Combes
Resident	Richard Leslie	Solent Protection Society, Civic Society	Bob Comlay
The Ship Inn/ Fullers	Mark Dawson	Royal Oak/ Greene King	Emma Gelder
		Langstone Road	David Nicholas

Item	Minute
1	**Introductions to the session- LB** Note, these minutes refer to the **Introductory Slides Document** presented during the session. The meeting commenced at 1630hrs and began in welcoming attendees to the meeting. [LB] provided introductions including: • **Slide 2** – General meeting housekeeping was covered. The project team introduced themselves and their roles on the project. LB confirmed that all were approachable during the meeting if there were any individual questions or concerns. LB confirmed that two handouts had been provided; a map showing the frontage numbering, and a feedback form for attendees to record their feedback on each frontage during the design presentations. It was confirmed that there was intended to be allocated time for questions at the end of the session, but that questions could be raised throughout. • **Slide 3** – LSWG includes members with representation across a range of stakeholders. LB confirmed apologies from the representatives from the two pubs who were not in attendance. LB confirmed that this was the 6th of 6 planned LSWG meetings to accompany the development of a design for the Scheme. It was appreciated that for some LSWG members they had been in attendance throughout the 6 meetings, and for others this may be the first time. • **Slide 4** – The LSWG purpose and objectives was recapped for new members of the LSWG in attendance, and a reminder that this information was now available via the project webpages for those who wanted further information. • **Slide 5** – Agenda for today was presented, alongside estimates of timings for each part of the meeting. • **Slide 6** – Meeting objectives and aspirations were confirmed. The main objective was to present the 80% design and invite feedback from the community. • **Slide 7** – Following a request at the previous LSWG meeting, further information was presented to recap the case for change at Langstone and why a Flood and Erosion risk management scheme was being investigated through design. • **Slide 8** – The case for change at Langstone – the aim of the scheme was clarified "*to Develop and Implement Coastal Management Options to reduce the Flood and Erosion Risk to the Community at Langstone, important Heritage Assets and Langstone Road (A3023), the only road crossing to Hayling Island*". • **Slide 9** – The case for change at Langstone – flood risk mapping was presented to demonstrate the risk of flooding to the Langstone community for a 1:200-year flooding event including the latest (UKCP18) climate impact projections. At present there are 76 residential and commercial properties at risk from a 1:200-year flooding event, with these numbers predicted to rise to 131 properties in 100 years time. • **Slide 10** – Direct flood and erosion impacts – the 'do nothing' cash damages for the 50 year core scheme were presented. • **Slide 11** – Direct flood and erosion impacts – a breakdown of the costs for direct flood and erosion impacts were shown (for the 50 year scheme period). • **Slide 12** – Indirect Impacts – A selection ecosystem services adversely impacted in the do-nothing scenario were presented. • **Slide 13** – Frontages map – A reminder of the scheme alignment and how it is set out as the core and additional scheme. Havant Borough Council remain committed in our aspiration to construct the whole scheme, both core and additional, however contributions are required to enable construction of the additional scheme. It was the previous options appraisal phase which led to the development of leading options for a 'core' and 'additional' scheme at Langstone, with the core scheme representing the least cost scheme alignment that protects the largest number of properties. Shown on slide is a plan of the scheme area; on the left is the publicly funded core scheme and on the right is the privately funded additional scheme.

	• **Slide 14** – Project Update • **Slide 15** – Engagement in 2022 – to pick up where the last LSWG meeting left off, the agenda for the previous meeting was recapped, including the outcomes of the meeting which invited feedback on materials where opportunities remained in the design. This feedback was provided to AECOM for development towards the 80% design and shared on the project webpages. • **Slide 16** – Website update at 50% - LB confirmed that one of the main outcomes of the previous meeting was the presentation of the LSWG slides and minutes on a new LSWG webpage, to aid LSWG representatives in communicating the design. • **Slide 17** – Project Milestones – A timeline was presented to show the development of the design programme since the outline design stage was completed in 2020, with the project currently working at the 80% design milestone. Further work towards 100% design completion was estimated to conclude in 2023 with target for construction commencing in 2024 • **Slide 18** – Project Milestones – Clarification of what is meant by '50% / 80% / 100%' design as more to do with the refinement rather than amount of work complete. At 50% we aimed to confirm the alignment and type of defence, at 80% know how it could be built and what it may look like, 100% full detail to be known about how to build the structure exactly). The project sits at the 80% stage, where design is refinement of the detail on materials and buildability. There is still further work required to refine the design towards 100% completion. Handover to AECOM to present design slides.
2	**Design Progress Update @ 80% - JS, HR, CP** Note, these minutes refer to the **Design Progress Update @80% Slides Document** presented during the session. **[JS]** • **Slide 2** – Progress in Detailed Design – JS set out the activities completed by AECOM as designer since the 50% milestone was achieved and presented. These included refinement of the design, Key Stakeholder and landowner liaison, preparation of alternative designs for Frontage F1B (Mill Lane and Harbourside), and development of new photorealistic montages to present the latest design. JS confirmed that there will be more prepared for the 100% design (20 in total showing key viewpoints). • **Slide 3** – Confirmation of the work required between 50% and 80% design completion, including refinement of key characteristics and design details, engineering calculation and work to confirm buildability. • **Slide 4** – Further confirmation of the work required between 50% and 80% design completion including liaison with stakeholders, materials suppliers, preparation of draft landscaping, greater understanding of potential tree impacts to inform mitigation requirement, exploration of environmental enhancement opportunities and preparation of design outputs (3D model, drawings and visualisations). • **Slide 5** – JS set out the multiple considerations that AECOM were accounting for within the design proposals. In some areas these considerations were competing, so the design seeks a compromise that takes on opportunities and reduces risks. • **Slide 6** – A table was shown to confirm how previous engagement with stakeholders had influenced the design, including feedback on surfacing materials, inclusion of the option for flood glass topped defences at the two public houses, and work on alternative solutions at F1B and F2. • **Slide 7** – A reminder of the map presented to show the layout of the scheme frontages and how they are numbered. All attendees had been provided with a handout with this on to support the design slides. • **Slide 8** – A recap of the outstanding opportunities to provide further feedback which include the alternative proposals for Frontage 2, and then materials/appearances of finishes on defences. Also feedback/ ideas invited for consultation moving forward as we shape the engagement plan ahead. • **Slide 9** – JS explained the set up of the run through of each frontage (essentially a tour of the design at 80%) and what will be shown for each frontage.

- **Slide 10** – A recap of the frontage layout – this is the more detailed mapping used to support the design work. Handover to HR to tour the design.

[HR]

- **Slide 11** – Map showing alignment of the core scheme, where the tour will start.

Frontage 1A

- **Slide 12** – Frontage 1A – image of present day, looking south along the footpath/ cycleway at the Hayling Billy Trail
- **Slide 13** – Frontage 1A – map showing footprint extent of proposals for F1A including key features. Raised embankment with footpath (footpath raising). Key changes: clay cut-off trench, to prevent seepage and construction material refinement. Pavement and curb details refined. Landscaping: asphalt surface (allow easy maintenance), re-seeding, and further environmental opportunities (bee posts etc)
- **Slide 14** – Frontage 1A – Typical cross sections
- **Slide 15** – Frontage 1A – Landscaping opportunities
- **Slide 16** – Frontage 1A – image of present day again to show difference on next slide
- **Slide 17** – Frontage 1A – Photo visualisation showing proposals for raised embankment with footpath on top. Footpath is widened following feedback from Hampshire Highways

Frontage 2

- **Slide 18** – Frontage 2 – image of present day, looking north along the footpath/ cycleway at the Hayling Billy Trail
- **Slide 19** – Frontage 2 – map showing footprint extent of proposals for F2 including key features
- **Slide 20** – Frontage 2 – Constraints and opportunities in the design for this frontage which have led to the need to explore an alternative solution. Encroachment into the designated foreshore has become a large risk in gaining planning consent for this frontage, alternatives are currently being considered (change of alignment or change of design). Presence and alignment of services also complicating the design, however there has been continued engagement with utility providers in this period.
- **Slide 21** – Frontage 2 – Design rework and proposal to prepare alternative designs for a wall instead of embankment.
- **Slide 22** – Frontage 2 – Artistic impression of the alternative design proposal showing a wall.

Questions	***Answers***
Q1 – Why is an incomplete proposal being shown for this frontage at the 80% design milestone?	A1 AP highlighted that this was part of the design refinement process, and it was highlighted through refinement of the design that there were issues with the leading option here due to encroachment which impacts the environmental protected habitats and risk not gaining works consents necessary. Therefore, other solutions are being investigated. LC also expressed disappointment with this design development from 50-80% but was reassured this is the only frontage where we have this problem. LC confirmed he had asked the project team to come forward now with options based on what we know at the moment. Clear that further design development

	was required, and this forum was an opportunity to express interest and ideas on best solution.
Q2 – Are there any cost differences between original solution and the alternative?	A2 Potential cost saving but needs to be financially viable.
Q3 – Why does the footpath width need to be 3m?	A3 The width of the footpath is a restriction imposed by HCC. The 3m width is a guideline set by the Government - SUSTRANS (LTN1/20) agency, that has been adopted by HCC
Q4 – What is the height of the wall above the footpath?	A4 The crest of the wall will be 3.8mOD (which is ~0.9m above the footpath)– the same height which would have been achieved by an embankment in this location. If changing the alignment we can revisit the height of the wall will be determined with further technical details.
Q5 – Are there any impacts to the overall core scheme affordability?	A5 It is anticipated that the wall would have cost and programme benefits
Q6 – How will an option be selected here – who decides?	A6 HR and JS highlighted how this is about potential options, which still need to be determined as technically viable – no suggested option yet **ACTION – If a wall is viable, the alignment would be proposed by CP / AECOM considering all opportunities and constraints in this location. Options for the encasement of the wall once understood will be shared with the community to provide their opinion on the options (timber / earth / concrete etc).**
Q7 – What about other alternative options proposed here e.g. by the Sailing Club who had previously highlighted the footprint of the embankment and proposed an alternative option of building a new wall within the creek adjacent to the Sailing Club (with a sluice) to link to the spit, which is already defending the area.	A7 [LC] We cannot build in the area due to protected intertidal area encroachment. Unless there is no other viable option, environmentally this design issue would not be possible. This concept could have even bigger intertidal encroachment and could affect natural processes and is unlikely to be approved by Natural England or Environment Agency as an option if a less impacting option is available.

There was extended discussion on F2 alternative design, and it was agreed to continue with proposals for F3 onwards due to time, and that further discussions would be required for F2 either today or another opportunity would be created.

Frontage 3

- **Slide 23** – Frontage 3 – Car Park at the Ship Inn – image of present day
- **Slide 24** – Frontage 3 – Car Park at the Ship Inn – map showing footprint extent of proposals for F1A including key features. Design is trench sheet piled wall with concrete capping along A3023 and raised car park bund
- **Slide 25** – Frontage 3 – Car Park at the Ship Inn – Raised car park bund photo visualisation
- **Slide 26** – Frontage 3 – Car Park at the Ship Inn – Typical cross sections
- **Slide 27** – Frontage 3 – Ship Inn - image of present day
- **Slide 28** – Frontage 3 – Ship Inn – Typical cross sections. Design proposal is new retaining wall in replacement of the existing wall and glass topped flood wall
- **Slide 29** – Frontage 3 – Examples of materials proposed for this frontage. Cladding material is up for discussion, and subject to further consultation (examples provided for feedback during the SWG)
- **Slide 30** – Frontage 3 – Ship Inn - image of present day
- **Slide 31** – Frontage 3 – Ship Inn – full photo visualisation

Questions	***Answers***
Q8 – Have Fullers (Ship Inn) shown preference for this option (flood topped sea wall).	A8 [LB] Fullers are very interested in this design option, but agree it is dependant on costs. Further discussions required following previous meeting with them. [LC] Glass wall if it is affordable, if not they could raise their patio and we would construct a full height wall.
Q9 – What is the height of the wall in total? Will it impact views from pub windows or in the courtyard garden?	A9 Internally 1.1m from the patio (with or without glass top). Glass top option would be 0.6m. On the slipway side the drop increases up to 1.8m as you continue down the slipway to the foreshore. The new wall height is 0.4m higher than the existing crest (with or without glass top) so is not a significant change.
Q10 – Will the pub invest in the flood glass?	A10 [JS] This has been discussed with Fullers.
Q11 – How does this connect to the next frontage?	A11 There is a footpath ramp between frontage 3 and 4, to replace the existing steps or need to access the foreshore.
Q12 – Is the sheet piled wall to protect the road?	A12 Yes, it is to tie in with the elevation of the road.
Q13 – The Langstone Conservation Area Appraisal management plan recommends a more sympathetic	A13

landscaping material – this is an opportunity to get a more conservation-friendly surface material	[LC] We would like to capture this feedback and compare this solution against other feasible solutions (maintenance, finish and setting etc). [Cllr TP], opportunity to get HCC to resurface the whole car park too. [LC] Work with the County (HCC) to get something that is suitable for the whole area and all considerations. [CP] Need to take into considerations of maintenance also which restricts options available – as utilities are underneath the car park and will require access. AECOM have investigated other solutions such as buff colouring however feedback from utilities and other companies who may need to excavate/ maintain the surface do not have alternatives so would end up with asphalt patches. [LC] Find a compromising solution and discuss these options this evening – consider where the utilise are and plan around this. – Start with ambition first. [Langstone sailing club] environmental considerations with the surfacing. [CP] Like for like design finish basis. [LC] A filter could be included. **Action - CP/ AECOM to discuss and provide feedback on viability and options** **ACTION – Work with HCC to set out aspirations for surfacing of the car park and the opportunities presented/ suggested by the community/ stakeholders.**
Q14 – Other Environmental enhancements could soften this area? What about rain gardens/ water filtration?	A14 [LC] Need to consider how we incorporate this. Look at alternative funding for these enhancements and additions as may be opportunities for alternative pots of funding. Opportunity to create a more appropriate landscape **ACTION – Continue to explore landscaping opportunities** **ACTION – Explore enhancement opportunities for capture & clean of runoff from highway and car park into harbour**
Q15 – What cladding is proposed for the Ship Inn wall?	A15 Existing material is breeze blockwork. All were agreed this was inappropriate and not desirable to replace. Existing cladding proposal is brick but the finishes of the wall around the Ship Inn is to be considered Flint considered, however suggested to be too costly. Breeze block was most affordable but clearly not an option [LC] Cladding is depending of affordability – feedback is necessary from this evening. **ACTION – Explore opportunities and constraints for finishes for the Ship Inn wall considering stakeholder feedback**

Q16 - Who will be responsible for the maintenance of the walls?	A16 [AP] HBC/CP will be responsible; a maintenance cost is being considered as part of this scheme at the moment. [LC] HBC would become responsible for maintaining the wall as we will be constructing it with public funding. – at the moment it is the landowner's responsibility. HCC have some maintenance responsibilities if part of a Public Right of Way but many stretches of structure exist without known landowner and are 'unregistered'.

Frontage 4

- **Slide 32** – Frontage 4 – Ship Inn to High Street – image of present day
- **Slide 33** – Frontage 4 – Ship Inn to High Street – map showing footprint extent of proposals for F4 (Watchtower to Winklemarket) including key features
- **Slide 34** – Frontage 4 – Ship Inn to High Street – image of present-day Watchtower and Green Cottage
- **Slide 35** – Frontage 4 – Watchtower – Typical cross sections
- **Slide 36** – Frontage 4 – Green Cottage – Typical cross sections
- **Slide 37** – Frontage 4 – Ship Inn to High Street – image of present day Winklemarket
- **Slide 38** – Frontage 4 – Ship Inn to High Street – Typical cross sections at Flint Wall and Winklemarket. Confirmation that two types of construction methods were being considered for the flint wall section (block work vs artisan) – the flint wall section can be constructed either by hand *insitu* or use of bespoke hand-built flint panels brought to site (this allows the panels to be constructed in a controlled environment). **Action - CP to investigate whether it is possible to obtain sample(s) of flint panels to show to the community.**
- **Slide 39** – Frontage 4 – Landscaping/ material choices. Explanation of material considerations such as type of brick and their water absorption properties.
- **Slide 40** – Frontage 4 – Landscaping/ material choices. Engineering bricks are being proposed for the quay wall and heritage style bricks to be used on the property walls, surface finish & handrails need to be compatible with the marine environment. Brick samples are available to view during this session on the display table at the rear.
  Footpath finishing proposed as exposed aggregate concrete.
- **Slide 41** – Frontage 4 – Ship Inn to High Street – image of present day again to show difference on next slide
- **Slide 42** – Frontage 4 – Ship Inn to High Street – full photo visualisation

Questions	***Answers***
Q17 – Why is encroachment on the foreshore acceptable here and not elsewhere?	A17 There is encroachment of the foreshore proposed here of up to 1m in places which is unavoidable. To maintain the necessary footpath width means this design is the only option (an alternative option without encroachment through a timber boardwalk was previously rejected). [JKS] The Equalities Act 2010 places the public sector under an Equalities Duty, where-by HBC must consider the needs of all individuals when carrying out our

	day-to-day work. In having regard to eliminate discrimination and advance equality we consider the need to provide accessibility and the use of the footpath has to be considered for all individuals. – improved access for people with less mobility indicates that a 1.5m width is the very minimum width as per Department of Transport Mobility Guidance.
Q18 – Does this increased width impact emergency access on the foreshore (due to less width available as a result of the wider wall)?	A18 There should not be an impact on foreshore hardstanding access but we can check again. **ACTION – Consider footprint of scheme on foreshore access with CHC**
Q19 – Is a handrail really needed as currently is not there	A19 [AP] The risk is not acceptable in this current climate – challenged and gained legal advice and it was determined that a handrail was still necessary. [LC] We have been told it is mandatory for a handrail **ACTION – Clarify guidance on Handrails**
Q20 – Is requirement for a handrail advisory or mandatory?	A20 [LC] Legal interpretation has told us that a handrail is necessary – based on guidance **ACTION – Clarify guidance on Handrails**
Q21 – What are the options for handrails?	A21 Different types of handrails can be offered – images can be supplied (LB) **ACTION – Clarify which options were considered and the rationale for current selection. Determine if there is opportunity for further influence of this element selection.**
Q22 – What is seepage cut off? How long are the sheet piles here?	A22 CP explained roll of sheet piles along this frontage. Two roles in providing seepage cut off, and second is provision of stability for the new structure. CP defined 'seepage cut-off' as prolonging the time during extreme storm conditions. No water will be able to get through this during the duration of the storm event. Sheet piles along this frontage are 2m in length.
Q23 – For the flint wall, the blockwork solution is not justifiable. Why can't it be replaced like for like?	A23 Structural investigation has assessed that the original wall cannot be used as a flood defence. Seepage is also a consideration. AECOM – we have considered a variety of methods, bringing together technical requirements. The method of construction and finish has not yet been decided,

	but we have proposed some potential methods/ finishes. The panelling has it's benefits because the construction quality can be managed. We will listen to feedback on the preferred methods/materials/finishes but will need to factor in the technical requirements into the design proposal. **ACTION – Consider opportunities and constraints for flint wall finish.** **ACTION – Show examples of where methods used elsewhere, source samples/images**
Q24 – Will this new, widened footpath become a highway for cyclists/ scooters etc. How will this be managed?	A24 **ACTION – Consider opportunities in the design**

BREAK

Frontage 5

- **Slide 43** – Frontage 5 – High Street & Royal Oak – image of present day
- **Slide 44** – Frontage 5 – High Street & Royal Oak – map showing footprint extent of proposals for F5 (High Street & Royal Oak) including key features. Proposal at end of Langstone High Street includes pedestrian and vehicle floodgate at the end of the High Street. Floodgate will be timber cladded and opened seaward. Slipway will remain, if any damage occurs, this will be repaired like for like.
- **Slide 45** – Frontage 5 – High Street & Royal Oak – map showing footprint extent of proposals for F5 (High Street & Royal Oak) including key features such as the cross section of the High Street flood gate and an extract from the 3D model showing the gate design
- **Slide 46** – Frontage 5 – High Street & Royal Oak – map showing footprint extent of proposals for F5 (Royal Oak) including key features such as the inclusion of the option for a glass top to the flood wall, cross section of the flood wall and extract from the 3D model showing the glass design. Quay wall will be cladded (seaward face) in situ with UK sourced stone.
- **Slide 47** – Frontage 5 – Landscaping and material options
- **Slide 48** – Frontage 5 – Landscaping and material options
- **Slide 49** – Frontage 5 – High Street & Royal Oak – image of present day again to show difference on next slide
- **Slide 50** – Frontage 5 – High Street & Royal Oak – full photo visualisation

Questions	***Answers***
Q25 – Can the vehicle gate be half glass and half cladding?	A25 Yes it is technically possible, but it is more that when the gates are open you would have glass against glass (i.e. two panes to look through). **ACTION – Explain design considerations / opportunities**
Q26 – Can we request drawings of the flood gates to see how the gates open in their location. Images only show in closed position	A26 The gate is double leaf and opens seaward. We can show drawings of gates in closed and open position. Currently all visualisations show gates in operation. We still need to confirm supplier and final finishes.

	ACTION – Identify best way to visualise and communicate what gates will look like fixed open.
Q27 – Can any of the stone be reused? Is the new wall a mix of stone built in situ?	A27 CP wall will be built in front of the existing – when you start removing existing stones the structural integrity would be impacted. New stone is a mix and will be built in situ (i.e. no precast cladding) Flagstones from surface of quay will be reused where possible or replaced like for like.
Q28 – What are the relative heights of the quay wall and glass top?	A28 500mm of wall, with 600mm glass top
Q29 – Can you sit or perch on the wall – will the glass positioning allow this?	A29 Seating is an opportunity to be considered. (Some stakeholders have expressed that they would like this) – not outside of the resident's windows. [CP] Additional seating behind the wall can be considered not adjacent to cottage windows – the flood defence is needed as designed. There was a discussion on need to position glass in centre of the wall for stability and integration
Q30 – Regarding flood glass panels – what are the pillars made off?	A30 [CP] The pillars are steel as this is the best option, can use aluminium but in this marine environment, it would need to be galvanised steel. Stone cannot be an option for the glass struts. Top bar is optional but encouraged where there may be damage/ vandalism The LSWG were encouraged to visit other locations where flood glass was already being incorporated into the design e.g. North Portsea Island
Q31 – Will the steel rust in this marine environment?	A31 [CP] From a design point of view, the galvanising association of the UK shows a rate of corrosion, approx. 1 micron per year, a typical standard galvanising process will have 80micron, and can increase to 140micron will give a sufficient standard for the scheme's design life. [LC] Need to ensure the steel will last 50 year design life in the environment, the seals around the glass have a 20-year design life.
Q32 – Will the glass need cleaning or is it self-cleaning?	A32 [CP] Will behave like a double glazed window, will likely need cleaning.
Q33 – Who will clean it?	A33

	This has not been decided, but the operational and maintenance requirements will need to be worked out.
Q34 – We do not support a full height wall; therefore the glass top is a compromise and necessary here	A34 There are certainly merits of glass top and this has been included as the option in design based on community feedback, but it is a more expensive option and we will need financial contributions to assist with delivery of this option.
Q35 – A new quay wall will restrict access to the beach impacting those who want to access down to the beach as well as deliveries to the pub up onto the quay. Has this been considered?	A35 [LC] This is a solution we are proposing, the protection requires a wall. There is currently access at the start and end of this area via slipways. There is limited space to include more steps in the design cost-effectively, when slipways are already available a short distance away. We would not encourage people to climb up or down the quay in this location Foreshore access also required around base of wall for vehicles and cannot interrupt this. Existing slipway foreshore access will be maintained at low tide.
Q36 – Where will the brewery deliveries be made – will lorries need to park on the road as this will interrupt residents driveways	A36 Ongoing discussions with the Royal Oak to establish how we can do this differently if needed, but no concerns raised to date. **ACTION – Investigate opportunities for operational delivery for Greene King**
Q37 – These walls mean there is no emergency egress at high tide	A37 Emergency access during high tide will be via access steps over wall near the allotment.
Q38 – Is the footpath width adequate around the Royal Oak with a new wall?	A38 Current footpath width is found to be sufficient enough.
Q39 – Can flood glass be extended the full length round to the end of the wall for beer garden users?	A39 [LC] If this is really important for everyone capture this and we will see what we can do. – but at the moment the design is needed for flood protection. Additional lengths of glass will increase costs

- **Slide 51** – Frontage 5 – Allotment and Footpath – Image of present day
- **Slide 52** – Frontage 5 – Allotment and Footpath – Map showing footprint extent of proposals for F5 (Allotment and footpath) including key features, cross sections. Design proposal is solid wall with a pedestrian floodgate (default open until flood warning) at the transition point by allotments. Emergency access created with egress steps for during a high tide when flood gates are closed. Cladding will be considered for the exposed part of the reinforced concrete wall behind allotment wall. Footpath will be reinstated like-for-like (improved condition). Wall will be finished with concrete although cladding options can be considered (including formliner). If physical cladding is

required this will make the footpath even narrower. Footpath width will be as near to existing as possible as this falls out of the Public right of Way area. Embankment with clay core towards the north of the footpath proposed.

- **Slide 53** – Frontage 5 – Embankment – Map showing footprint extent of proposals for F5 (Embankment) including key features, cross sections
- **Slide 54** – Frontage 5 – Landscaping and material options
- **Slide 55** – Frontage 5 – Allotment and Footpath – Image of present day again to show difference on next slide
- **Slide 56** – Frontage 5 – Allotment and Footpath – full photo visualisation

Questions	***Answers***
Q40 – Any plastic within the design proposals is not acceptable due to proximity to the marine environment – what are the alternatives?	A40 [LC] Need to look at any/all options for finishes of this footpath (concrete, gravel, muddy?) [CP] Gravel path currently being proposed. [LC] Need community feedback on what surface is desired. **ACTION – explore and communicate opportunities and constraints for surfacing of footpath, considering feedback from stakeholders.**
Q41 – What are options for finish of footpath wall up to embankment?	A41 [CP] Reckli formliner options are available to cast the concrete wall, which can be adapted to suit requirement – i.e. a brick look or ecological enhancements. The final finish is still to be decided but we welcome any ideas of which finish is favoured.
Q42 – What happens if there is a high tide AND high rainfall – will the new defences prevent drainage of water for these properties? Does it increase their flood risk?	A42 [CP] Discharge via drainage channels – can only happen when the tide goes out. In extreme cases there is a risk that Langstone high-street property gardens may flood with high tides and high rainfall. Rainfall coinciding with high-tide has not been considered together. Risk of overspilling until the high tide drops. [CP] Reduce risk from flooding from the seaward side. Risk is low for this but not completely eliminated. This is not a land drainage infrastructure scheme but drainage is designed into the proposals at the largest capacity it can be.

*There was a pause in the meeting due to a fire alarm sounding and the need to evacuate. The alarm was confirmed as a false alarm by the venue and attendees resumed the session, proceeding to Frontage F1B

[JS]

Additional Scheme – Mill Lane and Harbourside Frontage F1B

- **Slide 57** – Map showing alignment of the Additional Scheme Frontages F1B and 6.
- **Slide 58** – Frontage 1B – Mill Lane and Harbourside – Image of present day
- **Slide 59** – Frontage 1B – Mill Lane and Harbourside – Map showing footprint extent of proposals for F1B (Mill Lane and Harbourside) including key features
- **Slide 60** – Frontage 1B – Mill Lane and Harbourside – Map showing footprint extent of proposals for F1B (Mill Lane and Harbourside) including key features and cross sections
- **Slide 61** – Frontage 1B – Mill Lane and Harbourside (Embankment)– Map showing footprint extent of proposals for F1B (Mill Lane and Harbourside) including key features and cross sections
- **Slide 62** – Frontage 1B – Mill Lane and Harbourside – Landscaping Opportunities – JS confirmed there were various opportunities for this frontage to incorporate ecological enhancements.
- **Slide 63** – Frontage 1B – Mill Lane and Harbourside – Image of present day again to show difference on next slide
- **Slide 64** – Frontage 1B – Mill Lane and Harbourside – Artistic Impression

Additional Scheme – Langstone Spit Frontage 6

- **Slide 65** – Frontage 6 – Langstone Spit – Image of present day
- **Slide 66** – Frontage 6 – Langstone Spit Rock Revetment – Map showing footprint extent of proposals for F6 (Langstone Spit Rock Revetment) including key features
- **Slide 67** – Frontage 6 – Langstone Spit Rock Revetment – Map showing footprint extent of proposals for F6 (Langstone Spit Rock Revetment) including key features and cross section. Rock armour revetment – rock sized reduced since 50% design. Rock source is still to be confirmed.
- **Slide 68** – Frontage 6 – Langstone Spit – Image of present day again to show difference on next slide
- **Slide 69** – Frontage 6 – Langstone Spit Rock Revetment – Artistic Impression
- **Slide 70** – 3D Model

Questions	***Answers***
Q43- Will the 3D model be available to view?	A43 [LB] We are currently investigating how this can be used to present the 100% design at the public exhibition. It is possible to generate walkovers which would be suitable to export as videos and presented at the exhibition/ online. [JS] The model currently holds a lot of information/data but we can explore whether it can be hosted online and accessed more easily.

3 **Cost and Close Slides – AP & LB**

Note, these minutes refer to the **Cost and Close Slide Document** presented during the session

[AP]

- **Slide 2** – Cost estimation timeline

- **Slide 3** – Scheme cost breakdown
- **Slide 4** – Scheme cost breakdown. Base construction costs include all preliminaries and contractor's fee. Total costs incorporated risks, unknowns, and optimism bias. Risks and optimism bias should reduce as we ain more confidence with the design.
- **Slide 5** – Scheme cost breakdown
- **Slide 6** – Why are costs increasing?
- **Slide 7** – Funding and Investment
- **Slide 8** – Funding secured to date. Overview provided of all committed and approved fundings and introduced further funding avenues currently available. More funding continues to be sought.
- **Slide 9** – Funding shortfall – It was explained that a shortfall does remain.
- **Slide 10** – Investing in the scheme – a brief explanation that we are working out further detail on how contributions towards the funding gap can be sought.
- **Slide 11** – Project status

[LB]

- **Slide 12** – Next Steps. Now working towards the 100% design, with feedback from Stakeholders
- **Slide 13** – Meeting Outcomes
- **Slide 14** – Project Milestones
- **Slide 15** – Engagement ahead will include a public exhibition (in the summer 2023) following the 100% design – with as much certainty we have on the design and costs. It is clear that further refinement of the design is required to get to this stage. Outstanding feedback on any of the designs presented was encouraged (either through completion of feedback form or via email).
- **Slide 16** – Find out more – Links to project webpages provided.

[LC] Closing comments.

If further engagement or a drop-in session at the HBC Plaza is necessary, we will be happy to set this up. Feedback from LSWG members was vital in shaping the outstanding design work and clearly the final look and feel of the proposals was valued by the community.

Questions	***Answers***
Q44- The costs appear to outweigh the benefits shown at the beginning	A44 [JS] Present Value is a discounted value (looks over the 50-years applying treasury discounts rates) whole life benefit of the scheme, the number presented at the start was a cash benefit (excluding all discounts). £28.6million is all national loss damages, the local impact and financial impact of loss on everything locally would be higher than this. In a flood scheme, all benefits are based on probability of flood events, these are then calculated to produce a national loss value. [LC] This is the value of loss due to repeat flooding in cash terms over the full life of the scheme. Economic rules (discounting) have to be applied, and present

		value today, this amount is £12.1million. This scheme is not driven only by benefits for flood defence, the protection to the A3023 is considered too. Wider benefits are not represented within these numbers.
	Q45- If £12.1 million is not spent here it will be spent elsewhere. It is within everyone's interest to identify an affordable scheme here.	A45 Agree need to come up with lean design through trying to balance cost and quality. Cannot deliver luxuries in publicly funded scheme, but can invite investment from the community towards wider benefits Scheme needs to be within budget
	Q46 – Why exactly are costs still increasing?	A46 Some components of the cost have gone down but are still relatively high. The news presented about funding is really good news and should be celebrated.
4	Actions Identified will be taken forward separately as part of the refinement of the detailed design proposals.	
	The meeting concluded at 2010hrs.	