

SWANSEA BAY TIDAL LAGOON

REVIEW OF ENVIRONMENTAL STATEMENT: SEASCAPE, LANDSCAPE AND VISUAL



Final Report

for

City and County of Swansea

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Glossary

1. Introduction

- 1.1. White Consultants were initially commissioned by the City and County of Swansea (CCS) on 4 July 2013 to review a scheme for tidal Lagoon in Swansea Bay. A Preliminary Environmental Information Report [PEIR] was assessed and comments were made in a report and followed up with liaison and a meeting with the developer's EIA coordinator and relevant team members.
- 1.2. A second report reviewed the scheme design and the seascape, landscape and visual impact (SLVIA) element of the draft Environmental Statement [ES].
- 1.3. This report reviews the final proposed scheme and SLVIA.
- 1.4. The project is an offshore electricity generating station of more than 100 megawatts, and so is considered to be a Nationally Significant Infrastructure Project (NSIP) under the Planning Act 2008. It requires a DCO via an application to the Planning Inspectorate (PINS). As it is located in Welsh coastal waters it also requires a marine licence to be granted by an application to Natural Resources Wales (NRW) and possibly additional consents for areas outside the NSIP and DCO.
- 1.5. A chartered landscape architect with 30 years experience has carried out this review. The ES was studied with accompanying drawings and information. The site and its environs have been visited on 9 July 2013 including key viewpoints of relevance to CCS's consideration of the scheme, on 10 December 2013 and again on 15 April 2014. The submitted documents considered include:
 - Environmental Statement (ES) March 2014 and draft ES November 2013:
 - Chapter 4: Project description
 - Chapter 6: Coastal Processes, Sediment Transport and Contamination
 - Chapter 13: Seascape, Landscape and Visual Impact Assessment
- 1.6. In addition the PEIR documents (July 2013) reviewed have included:
 - Chapter 1: Introduction
 - Chapter 2: Project context and consenting process
 - Chapter 3: Site selection and option appraisal
 - Chapter 4: Project description
 - Chapter 4: The Preliminary Scheme
 - Chapter 6: Coastal Processes
 - Chapter 13: Seascape, Landscape and Visual Impact Assessment
 - PEIR Non- Technical Summary July 2013
- 1.7. The site lies predominantly in the CCS but also partly to the east in Neath Port Talbot. However, the analysis of the potential effects are confined to those on CCS.
- 1.8. It is important to note that in assessing the project, the reviewer separates the degree of change which is reflected in the magnitude of effect and thus the significance, and the nature of change ie neutral, beneficial or adverse. ie an effect of major significance and beneficial does not necessarily mean that the change is extremely beneficial or if adverse, extremely adverse.
- 1.9. The structure of the report includes the following:

- Review of overall structure, clarity and comprehensiveness of the landscape and visual resources section of the ES.
- Review of proposed method and references in relation to best practice guidance- eg Guidelines for Landscape and Visual Impact Assessment [GLVIA] 2013, LANDMAP guidelines and seascape guidance.
- Review of:
 - baseline data
 - seascape and landscape character effects
 - visual effects
 - effects on designations
- Discussion

1.10. The views in this report represent those of the assessor, not CCS.

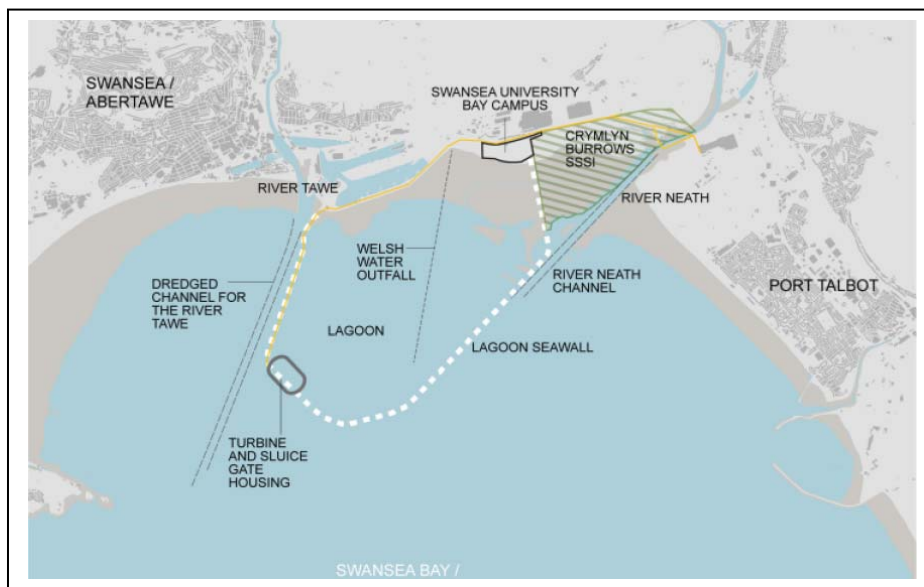
2. The site, current Project and site selection process

Site selection and alternatives

- 2.1. The process followed in identifying a suitable site and layout is explained in Chapter 3 of the PEIR. The key factors for location in Swansea Bay were appropriate beach profile and depth of water, avoidance of beaches of recreational quality, suitable landfall, avoidance of navigation channels and sufficient turbine depth.
- 2.2. Fourteen Lagoon shape options and multiple turbine configurations have been explored to balance commercially viable options with navigation, water quality, coastal processes, nature conservation and visual considerations.

Site and the development

- 2.3. The site lies in Swansea Bay between the mouths of the Tawe and Neath rivers. The landfall of the Lagoon seawall is at Swansea Docks to the east and the Swansea Science and Innovation campus under construction to the west [see Masterplan extract from Figure 1.3 below].



- 2.4. The proposal is for a tidal Lagoon generating 400GWh of electricity, enough to

power 121,000 homes. The development comprises:

- Lagoon enclosing 11.5km² of seabed and foreshore extending around 3.25km offshore from Swansea Docks.
- Breakwater bund seawall 9.5km in length, 40-107m wide at the base and generally 13m wide at the top with a top wall level of 14mAOD, and access road at around 12.5mAOD. Its visible height of the breakwater above the water level measured at the deepest point will be approximately 4 m high at high tide and 12.5 m high at low tide.
- Road 4.5m around the top of the bund to accommodate operational staff , emergency vehicles and the public. A further 3.1m wide cycle path/passing place will run on the western arm of the seawall. Access will be allowed around the whole perimeter of the Lagoon but will be closed after dark and in extreme weather.
- 13-16 hydro turbines nominally 7m in diameter and sluice gates within a concrete housing structure 410m long and 67.5m wide. There are two options for location of the structure- Options A and B. Option A , closer to the western arm of the seawall is illustrated in the masterplan and SVIA photomontages. A semi-goliath gantry crane is located on the structure for maintenance.
- Electricity connection to the grid via an underground conduit beneath the River Neath to Baglan Bay substation.
- Operational and management facilities including slipways
- Visitor facilities including one main visitor centre offshore by the sluices upto 25.5m high, 57m by 50m. A further lower key reception building onshore upto 13.5m high and 120m by 18m will be located at the Western landfall. These buildings will include operational and visitor facilities. The Eastern landfall building will be very small and provide shelter and SSSI information. Vertical structures with a floating boom demarcating and protecting the exclusion zone around the turbines outside the Lagoon. A boom located inside the Lagoon.
- Vehicle access with combined footpath/cycleway from Fabian Way (via SA1 Langdon Road and parking
- Seafront public realm including a circular route, pedestrian and cycle links and beaches, onshore saltmarsh, coastal maritime grassland and dune creation including an ecological park.
- Water shuttle slipway and link to Swansea city centre as pedestrian and cycle access crossing Associated British Ports (ABP) land has not been successfully negotiated.
- Sporting public realm including sailing, swimming
- Mariculture facilities
- Lighting- assumed to be carefully designed to enhance the structure and buildings and low level and inward facing on the western Lagoon edge
- Sculptural elements such as a 'halfway point pearl'.
- Outfall either within or outside the Lagoon.

2.5. The project as a whole uses 7.3 million cu.m of sediment abstracted from the Lagoon seabed as a fill for the geotube or traditional construction and core and other locations. Cement for concrete would be sourced from Aberthaw, Ireland

- and/or Europe.
- 2.6. The stone for the natural stone rock armour facing will be sourced from Dean Quarry in Cornwall. This produces Gabbro- a hard igneous rock. Pictures of this quarry on the web appear to indicate that the rock appears as an even mid-grey colour and texture when viewed from any distance. Samples of the stone available on the web show a fine grain flecking when observed at close quarters. It is noted that the ES cover illustration appears to have used this attractive fine grain flecking and enlarged it to produce a very coarse flecking for the rock armour. It would not be expected to look as attractive as this in reality. The mid-grey rock would also be likely to darken where in the intertidal zone.
 - 2.7. Construction support sites would be located in and around Swansea docks. The construction period is intended to start from the beginning of 2015 and be completed in 2019.
 - 2.8. The life expectancy of the project would be expected to last 120 years but with a design life of 50 years. It is assumed that it would remain in perpetuity from this time, whether operational or not. There is no apparent provision for maintenance during this period.

3. Review of SLVIA structure and method

Review of overall structure, clarity and comprehensiveness of the assessment and adequacy of information provided.

- 3.1. The structure of the section covers policy context, assessment method, baseline conditions including the assessment of the value of seascape and landscape character areas, and potential individual and cumulative impacts of the Project during construction and operation. This is logical and clear. The text is generally well written and considered comprehensively with a few omissions or inconsistencies which are mentioned below.
- 3.2. The study area of 15km radius is reasonable.
- 3.3. Following comments at PEIR and draft report stage a number of amendments have been made in the method which are welcomed eg inclusion of local seascape units and consideration of coastal processes/sediment transport. A brief commentary on the method and remaining issues arising are considered below.

Method- guidance used

- 3.4. The SLVIA sets out an assessment method which is generally understandable. Guidance references are noted and are generally helpful. Following comments on the PEIR, the guidance cited by the SLVIA has been updated. However, this excludes the approach taken for seascape assessment at a district scale which has been piloted in Pembrokeshire by White Consultants for the National Park and NRW. This includes a method for taking on board NECR105 as well as CCW guidance and is the most up to date method and relevant to the scale of this project. Instead a more limited approach has been taken, based primarily on coastal and Admiralty chart information.

Method- LANDMAP

- 3.5. In terms of the use of LANDMAP, the assessment takes the approach of using the five LANDMAP aspects to inform the derivation of landscape character areas. This is permitted as an option in Guidance Note 3 and appears to be a sensible approach in this case.

Method-Seascape

- 3.6. The main effect of this proposal is on the seascape rather than landscape and following PEIR comments the development is assessed in terms of effects on established regional seascape and derived local seascape units which is welcomed.
- 3.7. The extent of the local seascape units (LSUs) appear justifiable.
- 3.8. The overall emphasis of the descriptions is centred primarily on the coastal character, probably due to the limited information collected for the marine element (Admiralty chart). Whilst the descriptions are long and thoughtful, there is limited depth in the marine element of the area including seabed, degree of exposure/wave climate and the patterns of use of the water in various cases. The views across to England also appear to be underplayed.
- 3.9. The effects of coastal processes are now addressed in respect of the effect of the potentially changed balance and proportions of sand, mud and gravel in Swansea Bay. This is predicated on the conclusions of Chapter 6 Coastal Process.

Method- Individual development effects

- 3.10. In respect of the calibration of effects, Table 13.10 (Magnitude of visual effects) indicates that medium impact is defined as the development being visually prominent. This seems to be a low calibration. It would have been expected that term 'prominent' would have been more associated with a high/medium impact. The SLVIA separates out the significance of change from the nature of that change ie whether it is beneficial, neutral or adverse. This is in line with good practice guidance. Only adverse significant changes are important in the decision-making process.
- 3.11. In terms of the significance of visual effects, the calibration of these are defined in both the SLVIA Table 13.11 but also in overarching terms, in the Environmental Statement section 2.5.4.4. The difference between the definitions of level of impact between major and moderate in the SLVIA is large and justifies an intermediate category. This is dealt with to an extent by stating that some effects are major/moderate or moderate/low but there is no definition of these terms either in the SLVIA or the ES in general. This is an omission as many of the assessed effects in the SLVIA are major/moderate. The ES makes it clear that major and moderate effects are significant so it is assumed that major/moderate effects are also significant.
- 3.12. ES Section 2.5.4.4 defines major significance of impacts as:
'Effects are highest in magnitude and reflect the high vulnerability and importance of receptor (e.g. to nature conservation, noise). Where these changes are adverse they will require mitigation.'
- 3.13. Moderate significance of impacts are defined as:
'Where these changes are adverse they may require mitigation'.
- 3.14. Neither the SLVIA or ES fully explain what the levels of significance mean in terms of decision making. Suggested definitions are located in this report in Appendix C. This issue is addressed in the discussion at the end of this section considering the SLVIA as a whole.
- 3.15. The ES defines neutral as '*no impact*' whereas the SLVIA uses the term neutral to qualify the nature of the level of change (as in beneficial, *neutral* or adverse). This is inconsistent. The definition used in the SLVIA is that which is accepted and used in this review.

Method- Cumulative effects

- 3.16. A number of other recent and proposed developments are included for consideration in conjunction with the proposal as requested by various consultees [Table 13.12]. The concern of the consultees appears to be the potential combined cumulative effect of the proposal with these other developments- possibly resulting in an over intensification of use of the area. This appears to be reflected in both Tables 13.13 and 13.14 considering the magnitude and significance of combined cumulative effects respectively which is helpful. However, the method appears to only consider the additional rather than the combined change caused by the proposed development over and above the cumulative baseline [13.3.7.7]. It is assumed that this is just carried over from a previous draft but introduces a small degree of uncertainty/inconsistency as to what is considered.

Viewpoints and visualisations

- 3.17. The viewpoints have been agreed and the photomontages are generally of good quality. The 450mm viewing distance visualisations are particularly helpful.
- 3.18. The photos were taken on a day with a slight haze so that distant objects are either in distinct or not visible. For instance, from viewpoints 4, 9 and 11 the coastline of England and the landform of Exmoor is not fully apparent although on clear days this is the case and enhances the views. On the other hand, in the visualisation for viewpoint 8 the built form at Port Talbot is not apparent. Whilst it is not expected that new photos will be taken, the assessment should take views of more distant objects into consideration, and not rely on the visualisations to provide this information.
- 3.19. The Offshore Building is shown as a rectangular block with straight sides in the photomontages. This is assumed to be the maximum visual 'envelope' of the building with the detailed /final design of the building to be resolved. However, this is problematic as the 'envelope' appears as a detractive new focal feature in a very sensitive location. In other words, the visualisations do not do the likely final design justice but the assessment has to be carried out on what they show rather than indicative designs. The final design of the building must be excellent to achieve a positive landmark which enhances/ complements the horizontal emphasis of the seawall and turbine structure and does not detract from the Mumbles as the main focus of Swansea Bay. It should achieve this in nearby views but also more importantly in distant views which is how most people will view it, most of the time. It is possible that the indicative design shown in Figure 4.25 may be appropriate but the evidence is not presented to demonstrate this in the photomontages.
- 3.20. Some visualisations show the Project at low water and high water. This is helpful. They show the water level inside and outside the Lagoon at the same level. From the reading of the description of the development it is clear, however, that the water level will be different on the inside and outside of the Lagoon for a period of time every six hours to form a head of water so the turbines can optimise their power output. Visualisations have not been previously requested to illustrate this difference but it may be perceptible when viewed from elevated viewpoints. It would have been helpful if a couple of viewpoint visualisations illustrated the maximum difference likely to occur to understand the degree that this might affect the perception of the development e.g. from Mumbles Hill Nature Reserve and Kilvey Hill.
- 3.21. The columns supporting the floating boom demarcating and protecting the exclusion zone around the turbines outside the Lagoon are shown as black columns and are indistinct in some visualisations such from Viewpoint 5. It is

likely that they will be yellow to a certain height as per Trinity House rules so they would be more noticeable than indicated.

4. Coastal processes issues

- 4.1. Chapter 6 Coastal Processes explores the potential effects on coastal processes, sediment transport and contamination. Of most interest to the seascape and visual effects assessment are the effects on sedimentation pattern to the west of the Lagoon.

Sediment transport- Method

- 4.2. Kenneth Pye Associates Ltd (KPAL) were engaged to review the coastal processes chapter for NRW and subsequently asked to comment on specific issues for CCS including sediment transport and the potential effects on Swansea Bay beach. KPAL found that the level of the assessment by ABPMer was limited with few detailed studies or sampling. Whilst this was appropriate for a regional scale study the data did not provide full confidence for assessing the likelihood of local impacts. KPAL has recommended that further baseline studies are carried out and monitoring is carried out during construction and operation with trigger points for action/remedial works as necessary.
- 4.3. The KPAL report for CCS arrives at the following conclusions:
- There has been no specific modelling of littoral sediment transport in the ES or construction of a sediment budget for the north western part of the bay.
 - There is little evidence to support the ES's statement that sand transported east from Cymlyn Burrows to the north west of Swansea Bay is significant.
 - The main source of sand is provided by sources external to the Bay including south westerly waves and storm tides transporting sand from south of Mumbles Head to the northern and eastern parts of the Bay. The dominant (net) direction of littoral sand transport in the Bay is eastwards.
 - The beach varies dependent on wind and wave conditions as illustrated by the period 2000 to 2014.
 - Overall, on the basis of evidence, it appears unlikely that the supply of sand to the recreational beaches would be significantly reduced. The net effect is more likely to increase the retention of sand and reduce the severity of upper beach erosion during storms.
 - The above could increase wind blown sand on the promenade but this not a seascape issue [4.0].
 - Increased intertidal mud deposition in sub-tidal areas adjacent to Blackpill SSSI and the mid foreshore seaward of beaches between St Helen's and West Pier could lead to the development of saltmarsh [5.0]. This would change the visual appearance of the shore and would need increased management to prevent *Spartina* marsh establishing.
- 4.4. It is assumed that the sandy beaches would be unaffected by the marsh but this needs clarification.
- 4.5. The above conclusions are taken to mean that the predominantly sandy beaches from the Tawe to the Mumbles will remain as an important visual component of

the sweep of Swansea Bay, with their essential character unchanged. Therefore, the findings of the ES and KPAL reports combined appear sufficient to arrive at conclusions on this issue in this review.

5. Review of seascape, landscape and visual impact assessment

Baseline: Local seascape units (LSUs)

- 5.1. The seascape units descriptions focus on the coastal character with limited comment in some cases of the intertidal characteristics eg sediment movement and marine characteristics eg wave and tidal patterns, use of the water, exposure, openness. It is difficult to fully appreciate the text without the Admiralty chart as a figure in the SLVIA. The distinctive long distance views to Exmoor and the English coast are not mentioned eg in LSU4. It is appreciated that these are most apparent on clear days and in certain lights and may not have been so evident on the assessment site visit days.

Effects on seascape and landscape character

- 5.2. The comments on the individual effects of the Project on the key seascape and landscape character areas are set out in **Appendix A**.
- 5.3. In terms of the impacts on seascape and landscape character, the levels of significance are agreed. It is not agreed that the effects are generally either beneficial or neutral.

Significant effects

- 5.4. In terms of the regional seascape unit of Swansea Bay as a whole [RSU1], it is agreed that the significance of impact is major and significant. It is considered that the development would be adverse to the overall character and sweep of the bay and its mainly sandy foreshore. This sweep would be disrupted by the length and height of the breakwater bund, ancillary structures and, potentially, the difference in levels of the water between the Lagoon and the sea at several times of day. The effects extend beyond the immediate environs of the lagoon. The beneficial effect is in the likely improvement to the coastal edge within the Lagoon and the activity within the Lagoon which is likely to add interest.
- 5.5. In terms of local seascape unit (LSU) 4, Swansea Port and Crymlyn Burrows, I agree with the major significance of effect but consider that the effects are a mixture of adverse, neutral and beneficial. I consider the development to be adverse to the open sweeping character of the sea/marine element of the seascape character area with a large breakwater bund and ancillary structures projecting into this part of the bay and, potentially, the difference in levels of the water between the Lagoon and the sea at several times of day. The effects would be adverse on the area exterior to the Lagoon with the walls and turbine structure dominating the seascape character. However, within the Lagoon the adverse effects would be mitigated to an extent by sporting activity on the water which would give vitality and interest to the seascape, and by some designed elements on the breakwater bund. The effects on this marine element would, on balance be neutral. The effects on the coastal element of the seascape unit would be beneficial where it abuts the interior of the Lagoon. The effects would be adverse on the Crymlyn Burrows to the east as stated in SLVIA.
- 5.6. For LSU 5, Swansea Bay, a major/moderate significance is agreed but it is considered the development would be adverse to the character and sweep of

the bay and its mainly sandy foreshore as views of the continuation of the sandy strand to the east are disrupted and screened by the breakwater bunds at sea/beach level. The turbine structure would stand out from the breakwater bunds as a lighter rectangular object, breaking up the horizontal emphasis of the structure. The offshore building would be a new focus for the bay competing with the Mumbles to an extent. The effects extend beyond the immediate environs of the Lagoon.

- 5.7. For LCA G1 Swansea, a major/moderate significance is agreed but the beneficial/neutral effect is not agreed. The Swansea Bay frontage of the area enjoys unimpeded views out across the bay towards the Bristol Channel and Exmoor. This open unimpeded scenic view is a contrast to the built form of the city. The proposed breakwater bund and ancillary structures would disrupt this view as a feature in the middle ground with no benefits of increased water use etc apparent from the outside of the structure. The effect would therefore be adverse. A neutral effect on much of the built form area character back from the coastal strip is agreed.

Not significant effects

- 5.8. For LCA G6 The Mumbles, a moderate level of significance is agreed but the predicted neutral effect is not agreed. The development is considered to be adverse as the area focuses and relies on the wild open character of the marine element of the bay as a foil for its own complex topography, vegetation and built form character. The Lagoon structures extend far out into the bay, disrupting this simple setting.
- 5.9. For LSU 6, Gower Coast, I agree with the minor significance but consider development to be adverse for the reasons set out above.
- 5.10. For LCA D1 Clyne Valley Country Park, I agree with the moderate/minor significance but consider the development to be adverse as the Lagoon structures extend far out into the bay, disrupting the parks focussed views and simple setting.
- 5.11. For LCA E1 Gower Farmlands, I agree with the negligible significance of effects.
- 5.12. It is broadly agreed with the assessment of neutral or beneficial effects to landscape character areas G9 SA1, H1 Swansea Port and H2 Swansea Gate Business Park.

Visual effects

- 5.13. The comments on the individual effects of the Project on the representative viewpoints are set out in **Appendix B**.
- 5.14. Generally, the significance of effect set out in the SLVIA viewpoint assessment is agreed, with one minor exception.
- 5.15. The nature of the effect is not agreed in views from outside the Lagoon. I consider the effects to be adverse, or at best, neutral in some cases, such as Meridian Tower, whereas, the SLVIA indicates that effects are generally either neutral or beneficial (with the exception of Viewpoints 5 and 17 discussed below).

Significant effects

- 5.16. The SLVIA states that there is one major adverse ie significant effect from Crymlyn Burrows [Viewpoint 17]. This is agreed. It states that there is one major neutral ie significant effect from Swansea Bay promenade near the Lido at low water [Viewpoint 7] and near the Civic centre [Viewpoint 11]. In my view the effect is adverse in both cases. The SLVIA states there is one major

- beneficial and significant effect from Meridian Tower [Viewpoint 10] but in my view this is neutral.
- 5.17. The SLVIA states there is a major/moderate adverse ie significant effect- from The Knab [Viewpoint 5]. This is agreed.
- 5.18. The SLVIA identifies five viewpoints undergoing major/moderate significant but neutral effects. These are at Headland Road, St Thomas [4], Mumbles Hill Nature Reserve [6], Kilvey Hill [13], Swansea Bay [19] and Pant y Celyn Road, Townhill [21]. In my view the effects are adverse. There is one viewpoint undergoing major/moderate significant but neutral/beneficial effects- the new Swansea University campus abutting the interior of the Lagoon [16]. This is agreed. Lagoon
- Not significant effects*
- 5.19. The SLVIA states that there are moderate neutral effects from Clyne golf course [8], Nicander Parade, Townhill, [9] and Clyne Gardens [22]. The significance is agreed but the effects are considered adverse.
- 5.20. The effect on the views from the bridge in SA1 and Pant Street, St Thomas are of minor significance.
- 5.21. The above findings mean that those most adversely affected are users of the Swansea Bay promenade and beaches, visitors to Mumbles Head and environs and leisure users of Swansea Bay itself. Those most benefiting are new users of the Lagoon as a leisure or sporting experience, and users of the new Swansea University campus.
- 5.22. Lighting is mentioned in the SLVIA in respect of uplighting of the Onshore and Offshore Buildings, sculptures and on the inside of the Lagoon wall at a low level. It is noted that public access is not allowed after dark so it is assumed that lighting will be limited. Without specific night time views, and explicit lighting Project it is difficult to verify the findings on night time effects. The 3D model can only be regarded as indicative and appears to be more of a promotional and public consultation tool rather than an assessment tool.
- 5.23. It is accepted that there is lighting along existing roads and within the built form along the coastline, some of it intense and industrial in nature. However, the existing, flat reflective water surface of the bay itself acts as a positive foil and setting to this, and the Lagoon seawall will interrupt views of this from the promenade and beach level viewpoints.
- 5.24. There is therefore a balance to be achieved. If it is assumed that the lighting is imaginatively but sensitively designed, particularly taking into account minimising the effects or enhancing the views, especially from the west of the development, then the level of effects are likely to be no more than for daytime views. Lighting is clearly an opportunity to transform and enhance the development and should be utilised in close liaison with the planning authority.

Cumulative Effects

- 5.25. The level of the SLVIA's cumulative significance of effects for viewpoints are the same as for the effects of the development on its own with one exception (see below). This is an indication that the Project is the largest contributor to effects. In my view, the largest combined effect is likely to be with the University Campus which affects the Crymlyn Burrows adversely outside Swansea [Viewpoint 17] but is neutral/beneficial within the Lagoon along the coast [Viewpoint 16]. Overall, Swansea Bay will become more defined by development than at present.
- 5.26. The one exception in the consistency of the assessment appears to be from

Swansea Promenade near the Civic Centre [Viewpoint 11] where the effects are stated as less. Here the cumulative magnitude of effects are stated as moderate, compared to high, with major/moderate significance compared to major. This is not logical as it is stated that the view will become more defined by development [13.8.4.170].

Effects on receptors

- 5.27. The SLVIA states that views from the Gower AONB will be restricted to the north eastern fringe and that the Project will not erode the character of the AONB or contradict management plan policies [13.8.5.2]. In my view there will not be significant adverse effects on the qualities or purposes of designation. This is agreed.
- 5.28. The SLVIA states that no Registered Parks and Gardens of special historic interest will be significantly adversely affected, including Victoria Park, Clyne Gardens and Cwmdonkin Park. This is agreed.
- 5.29. The Wales Coast Path will be significantly adversely affected along its route along the Swansea promenade from the Mumbles expressed as a series of virtually uninterrupted views between Viewpoints 5, 7 and 11. The SLVIA predicts the effects on the high sensitivity users are moderate and the significance of effects major/moderate. This is fair overall although the effects closer to the Project are likely to be higher. The cumulative effects are stated as high/moderate and the significance of effects major/moderate. This is agreed.
- 5.30. The effects on the Gower Way are stated as not significant which is agreed.
- 5.31. The effects on the National Cycle Route (NCN) 4 is stated as similar to the Wales Coast Path which is agreed.
- 5.32. Users of the A4067 parallel to the Swansea promenade from Oystermouth Castle to Swansea are stated as having intermittently screened views apart from 750m relatively unobstructed views from Victoria Gardens through to the Civic Centre. The users are stated as moderate/low sensitivity with moderate/low magnitude of effect with moderate/minor significance ie not significant and neutral. Whilst the level of effects are probably correct, the effects are likely to be adverse, but they are agreed as not being significant.
- 5.33. The effects on the visual amenity of the settlement of Swansea is stated as represented by a series of viewpoints (already discussed above and in Appendix B) and are stated as significant but neutral. The effects on the Mumbles are stated as limited by the tight urban grain. In line with the comments on the viewpoints my view is the effect is adverse on the settlements for the reasons previously stated.
- 5.34. The decommissioning process is stated as only including removal of turbines and sluice gates with all other elements remaining. It is also stated that ongoing maintenance is necessary during operation to maintain the integrity of the walls and other features, as well as dredging. The Council will therefore need to take into account responsibilities for maintenance, the future intended use and associated costs in perpetuity. It is strongly advised that this is fully resolved before approval is given to the project.

6. Discussion

- 6.1. The key issues are similar to those stated in the PEIR and draft SLVIA reviews although some issues appear now to have been resolved.
- 6.2. Swansea relies on the character of the bay, in particular west of the Tawe, as a

- major asset essential to its positive image and quality of life. In this respect, it is helpful that the character of the sandy beaches of north western part of the Bay will be retained.
- 6.3. The development itself is very large scale protruding 3.5km into Swansea Bay and effectively dividing it into two. The water level regime and character of the water inside the Lagoon will be different inside to outside the Lagoon. The effects are minimised where the water level is high both inside and outside Lagoon.
 - 6.4. The proposed Lagoon seawall forms a strong dark horizontal line extending a long distance into the bay, closing down its apparent width and restricting views. The offshore building is highly noticeable and forms a built focus in the middle of the bay which, with the sea wall, competes with the Mumbles as a visual focus.
 - 6.5. The seawall structure, as one might expect, appears to be dictated almost entirely by engineering and cost considerations, with design finesse and intervention primarily having effect at a very local level along the inside edge of the structure, in associated buildings and on the coastal edge of the Lagoon. These elements are generally positive based on the indicative designs but have limited mitigating effects on the overall character of the structure when viewed from outside the Lagoon. The design of the offshore building, however, is very important. Whilst the line of the seawall is simple and the development generally uncluttered, the overall effect is somewhat utilitarian.
 - 6.6. It is important to note the positive benefits that the Lagoon will bring such as leisure use along the seawall and visitor centres, the use of the water for sport and mariculture and major improvements to an underused and degraded coastal fringe. It is unfortunate that the development cannot now be directly accessed by land from the city centre due to intervening ABP ownership or control. The site is primarily accessible a long way to the east, from Fabian Way. The alternative access by water taxi will only allow limited access through the size of boat and pricing. The recreational/tourism benefits of the Project will be reduced in this respect and efforts to rectify this should continue to be pursued.
 - 6.7. The rock armour seawall is higher than the existing promenade and will be of dark colour forming a strong line in the Bay. The concrete turbine structure will contrast with the dark rock breaking up its horizontal line in views around Mumbles.
 - 6.8. The overall sweep of the Bay will be disrupted with views of the almost continuous strong sandy strip around the bay being hidden by the seawall from the beach. However, the photomontages appear to indicate that the upper parts of the Aberavon beach would be visible above the seawall from some viewpoints on the promenade as well as from higher viewpoints which is helpful.
 - 6.9. It is crucial to resolve outstanding design elements, in particular the Seaward building but also the gantry cranes, as these will help define the quality of the project in many sensitive views.
 - 6.10. The long term future of the structure post-operation needs to be resolved.
 - 6.11. Overall, it is considered that the effects on seascape and visual receptors are generally adverse outside the Lagoon rather than neutral stated in the SLVIA. This is important to the consideration of the project as neutral effects, even if involving significant change, are not important considerations in the decision-making process compared to adverse effects.
 - 6.12. The ES and SLVIA do not give definitions as to how the various levels of

- significance of effect should be weighed in the decision-making process. Appendix C of the White Consultants' report sets out a representative calibration used in similar assessments. In order to inform members, definitions are stated after a summary of each significant set of effects set out below.
- 6.13. Major adverse significant effects are expected on:
- Regional Seascape Unit1: Mumbles Head (Swansea Bay) to Sker Point
 - The Crymlyn Burrows part of Local Seascape Unit LSU4: Swansea Port and Crymlyn Burrows.
 - Representative viewpoints at Swansea Bay promenade near the Lido at low water [Viewpoint 7], near the Civic Centre [Viewpoint 11] and at Crymlyn Burrows [Viewpoint 17].
- 6.14. Major adverse significant effects are taken to represent key factors in the decision making process or at least important considerations. At the higher end of the scale these effects are (although not exclusively) associated with sites or features of national importance and resources or features that are unique and which, if lost, cannot be replaced or relocated. This also relates to landscapes/seascapes where the effect of development would overwhelm and/or substantially change their character or where mitigation will not remove the effects on a receptor.
- 6.15. Major/moderate adverse significant effects are expected on:
- Local Seascape Unit 5: Swansea Bay
 - Landscape character area G1: Swansea
 - Representative viewpoints at Headland Road, St Thomas [Viewpoint 4], The Knab [Viewpoint 5], Mumbles Hill Nature Reserve [6], Kilvey Hill [13], Swansea Bay [19] and Pant y Celyn Road, Townhill [21]
 - Wales Coast Path
 - National Cycle Route (NCN) 4
- 6.16. Major/moderate adverse significant effects are taken to represent important considerations at a regional or district scale and, if adverse, are potential concerns to the project depending upon the relative importance attached to the issue during the decision making process. Mitigation measures and detailed design work are unlikely to remove all the effects upon the surrounding landscape/seascape or receptors.
- 6.17. A major neutral significant effect is expected on Meridian Tower [Viewpoint 10].
- 6.18. A major/moderate neutral or beneficial significant effect is expected on Swansea University Science and Innovation Campus [Viewpoint 16].
- 6.19. There are no significant effects expected on Gower AONB or on Historic Parks and Gardens.
- 6.20. There are a number of moderate adverse effects which are taken to represent effects which, while important at a local scale if adverse, may not be key decision making issues. Whilst sometimes a particular combination of such effects may increase in the overall effects on a particular area or set of receptors and therefore may be significant, this is not considered to be the case in relation to this project.
- 6.21. Overall, the adverse effects will need to be considered in the planning balance with the positive benefits of the development in terms of renewable energy generation and leisure, sport and environmental improvements to the coastal

edge within the Lagoon.

APPENDIX A

**SEASCAPE AND LANDSCAPE CHARACTER EFFECTS
ASSESSMENT EVALUATION**

APPENDIX A: SEASCAPE AND LANDSCAPE CHARACTER OPERATIONAL EFFECTS ASSESSMENT: EVALUATION

SEASCAPE CHARACTER

| SLVIA | | | | | | | REVIEW |
|--|----------------|--------------------------|----------------|----------------------|---------------------------------|-------------------------------|--|
| Seascape Unit | Value | Susceptibility to Change | Sensitivity | Magnitude of Impacts | Significance of Impacts | Beneficial/ Neutral / Adverse | Assessment reasonable? |
| Regional Seascape Units | | | | | | | |
| RSU1: Mumbles Head (Swansea Bay) to Sker Point | High/ Moderate | Moderate | High- Moderate | High | Major Significant | Beneficial/ Neutral/ Adverse | Agree with significance. Disagree with Beneficial/Neutral/ Adverse. Consider development to be adverse to the overall character and sweep of the bay and its mainly sandy foreshore. This sweep is disrupted by the length and height of the seawall, ancillary structures and the difference in levels of the water between the lagoon and the sea at several times of day. The offshore building would be a new focus for the bay competing with the Mumbles to an extent. Much would depend on its shape, colour and overall design perceived at a distance where most people will view it most of the time. The effects extend beyond the immediate environs of the lagoon. The beneficial effect is in the likely improvement to the coast within the lagoon. |
| RSU2: Three Cliffs Bay to Mumbles Head | Outstanding | High | High | Moderate/ Low | Moderate/ Minor Not Significant | Neutral | Agree with significance. Effect is adverse, however for reasons above. |
| Local Seascape Units | | | | | | | |
| LSU4: Swansea Port and Crymlyn Burrows | High/ Moderate | High/ Moderate | High- Moderate | High | Major Significant | Beneficial/ Adverse | Agree with significance. Disagree with beneficial/adverse as set out in the text. Consider development to be adverse to the open sweeping character of the sea/marine element of the seascape character area with a large seawall and ancillary structures projecting into this part of the bay and the difference in levels of the water between the lagoon and the sea at several times of day. The effects would be adverse on the area exterior to the lagoon with the seawalls, turbine structure and offshore building dominating the seascape character. However, within the lagoon the adverse effects would be mitigated to an extent by sporting activity on the water which would give vitality and interest to the seascape, and by some designed elements on the seawall. This would be partially offset by restrictions of view beyond the lagoon seawalls in places at water level. The effects on this marine element would, on balance be neutral. The effects on the coastal element of the seascape unit would be beneficial where it abuts |

| | | | | | | | |
|-------------------|-------------------|---------------------------------|--------------------|-----------------------------|--------------------------------|--------------------------------------|---|
| | | | | | | | the interior of the lagoon with the coastal (Landward) park. The effects would be adverse on the Crymlyn Burrows to the east as stated in SVIA. |
| | Value | Susceptibility to Change | Sensitivity | Magnitude of Impacts | Significance of Impacts | Beneficial/ Neutral / Adverse | Assessment reasonable? |
| LSU5: Swansea Bay | Outstanding/ High | High/ Moderate | High- Moderate | High/ Moderate | Major/ Moderate Significant | Adverse/Neutral | Agree with significance. Disagree with adverse/neutral as set out in the text. Consider development to be adverse to the character and sweep of the bay and its mainly sandy foreshore as views of the continuation of the sandy strand to the east are disrupted and screened by the seawall/sea wall when viewed from beach level. The turbine structure would stand out from the seawalls/sea wall as a lighter rectangular object, breaking up the horizontal emphasis of the structure. The offshore building would be a new focus for the bay competing with the Mumbles to an extent. Much would depend on its perceived shape, colour and overall design at a distance. The effects extend beyond the immediate environs of the lagoon. |
| LSU6: Gower Coast | Outstanding | High | High | Low/Negligible | Minor Not Significant | Neutral | Agree with significance. Disagree with neutral. Consider development to be adverse for the reasons set out above. |

LANDSCAPE CHARACTER

| DRAFT SLVIA | | | | | | | REVIEW |
|-------------------------------|-------------------|--------------------------|-----------------|-----------------------|--|-------------------------------|--|
| Landscape character area | Value | Susceptibility to Change | Sensitivity | Magnitude of Impacts | Significance of Impacts | Beneficial/ Neutral / Adverse | Assessment reasonable? |
| D1 Clyne Valley Country Park | High | Moderate | High – moderate | Moderate/low | Moderate/minor not significant | Neutral | Agree with significance. Disagree with neutral. Consider the development to be adverse as the lagoon structures extend far out into the bay, disrupting the parks focussed views and simple setting. |
| E1 Gower farmlands | Outstanding | Low | High – moderate | Negligible | negligible not significant | Neutral | Agree |
| G1 Swansea | High moderate | High/ moderate | Moderate | High/ moderate low | Major/ moderate Minor | Beneficial/ neutral | Agree with significance relating to different parts of the city. Disagree with beneficial/neutral as set out in the text. The Swansea Bay frontage of the area enjoys unimpeded views out across the bay towards the Bristol Channel and Exmoor. This open unimpeded scenic view is a contrast to the built form of the city. The proposed seawall, offshore building and ancillary structures would disrupt this view as a feature in the middle ground with no benefits of increased water recreation use etc apparent from the outside of the structure at coast level. Agree with minor/neutral effect on much of the built form area character back from the coastal strip. |
| G6 The Mumbles | Outstanding/ high | High | High | Moderate/ negligible | Moderate/ negligible not significant | Neutral | Agree with significance. Disagree with neutral. Consider the development to be adverse as the area focuses and relies on the wild open character of the marine element of the bay as a foil for its own complex topography, vegetation and built form character. The lagoon structures extend far out into the bay, disrupting this simple setting. |
| G9 SA1 | Moderate/ low | Low | Moderate to low | Negligible | Minor not significant | Neutral | Agree |
| H1 Swansea Port | Low | Low | Low | High/ moderate | Major/moderate significant | Beneficial | Agree |
| H2 Swansea Gate Business Park | Low | Low | Low | High negligible | Major significant negligible not significant | Beneficial | Agree |

APPENDIX B

**VIEWPOINTS OPERATIONAL VISUAL EFFECTS ASSESSMENT
EVALUATION**

APPENDIX B: VIEWPOINTS OPERATIONAL VISUAL EFFECTS ASSESSMENT EVALUATION

| SLVIA | | | | | | | | | REVIEW/EVALUATION |
|---------------------------|------------------------------------|-----------------------------------|--|--------------------------|--------------------------|--------------------------------------|---|--------------------------------|---|
| SLVIA Viewpoint reference | Viewpoint Location | Distance to centre of lagoon [km] | Receptors at or near viewpoint | Susceptibility to change | Sensitivity of receptors | Magnitude of visual impacts | Significance | Beneficial/neutral/adverse (*) | Assessment reasonable? |
| 4 | Headland Road, St. Thomas, Swansea | 3.6 | Walkers, residents | high | Moderate | High/moderate | Major/moderate significant | Neutral (Beneficial) | Agree with significance. The seawall extends a significant distance out to sea with the offshore building and gantries apparent. The enclosed lagoon will be at differing levels to the sea outside at various times of the day which will reinforce its separation, and with the ancillary structures, its differing character from the surrounding sea. The position of the lagoon appears to have some logic extending out from the docks. From this angle the line of the embankment looks simple and uncluttered. Activity within the lagoon will be of interest. However, the sweep of the bay and sea which is a positive contrast and setting to the built up area would be disrupted by the intervention of the lagoon. On balance the effect is adverse and at best neutral. |
| 5 | The Knab, Adjacent to Mumbles Pier | 6.2 [irrelevant] | Visitors, boat users | high | High | High (low tide) moderate (high tide) | Major/moderate significant | Adverse (Neutral) | Agree with significance. The effects at high tide would remain major/moderate. The seawall comes out into the centre of the Bay. The turbine structure would stand out from the seawalls as a lighter rectangular object, breaking up the dark line and horizontal emphasis of the structure. The offshore building is noticeable and forms a built focus in the middle of the bay. The nearby gantries are apparent and industrial in character, and with the exclusion zone vertical structures further emphasise the utilitarian nature of the structure. The seawall structure appears to screen the lower part of beach at Crymlyn Burrows and Aberavon but the top of the beach is apparent so there appears to be some continuity of the light sandy strand around the Bay. This view looks across to the settled and partly industrialised coast around Aberavon and Port Talbot so the structure is not entirely out of keeping with the coastal development. However, overall, it erodes the open unspoilt natural qualities of the bay itself and therefore is adverse. |
| 6 | Mumbles Hill Nature Reserve | | Walkers | high | High | High – moderate | Major/moderate significant | Neutral | Agree with significance. Disagree with neutral effect. The lagoon extends a significant distance into the centre of the Bay. The enclosed lagoon will be at differing levels to the sea outside at various times of the day which will reinforce its separation, and with the ancillary structures, its differing character from the surrounding sea. The turbine structure would stand out from the seawalls as a lighter rectangular object, breaking up the dark line of the structure. The offshore building is highly noticeable and forms a built focus in the middle of the bay, seen against the water of the lagoon. The nearby gantries would be just apparent and industrial in character, and with the exclusion zone vertical structures would emphasise the utilitarian nature of the structure. This view looks across to the settled and partly industrialised coast around Aberavon and Port Talbot and there are the structures of the lifeboat station in the middle ground so the structure is not entirely out of keeping with the coastal development. However, it erodes the uninterrupted sweeping curve and open unspoilt natural qualities of the bay itself with a new built focus and therefore is adverse. |
| 7 | Swansea promenade, near Lido | 6.4 | Walkers, cyclists, beach users, visitors | high | High | High (low tide) moderate (high tide) | Major (low tide) major/moderate (high tide) significant | Neutral (Beneficial) | Agree with significance. Disagree with neutral effect. The seawall comes out into the centre of the Bay. The offshore building is noticeable and forms a built focus in the middle of the bay which competes with the Mumbles (as a focus). The nearby gantries are just apparent and industrial in character, and with the exclusion zone vertical structures emphasise the utilitarian nature of the structure. The turbine structure would stand out from the seawalls as a lighter rectangular object, breaking up the dark line and horizontal emphasis of the structure. The structure appears to partially screen the beach at Aberavon thus breaking up the continuity of the light sandy strand around the Bay although the beach in the foreground is |

| | | | | | | | | | much more important at this point. The view looks across to the settled and partly industrialised coast around Aberavon and Port Talbot so the structure is not entirely out of keeping with the coastal development. However, it impinges upon the open unspoilt qualities of the bay itself and therefore is adverse. |
|----------------------------------|------------------------------------|--|--|---------------------------------|---------------------------------|--|--------------------------|-----------------------------------|--|
| <i>L VIA Viewpoint reference</i> | <i>Viewpoint Location</i> | <i>Distance to centre of lagoon [km]</i> | <i>Receptors at or near viewpoint</i> | <i>Susceptibility to change</i> | <i>Sensitivity of receptors</i> | <i>Magnitude of visual impacts</i> | <i>Significance</i> | <i>Beneficial/neutral/adverse</i> | <i>Assessment reasonable?</i> |
| 8 | Clyne Golf Course, Swansea | 8.3 | Walkers, Golfers | Moderate | High-moderate | Moderate | Moderate not significant | Neutral | Agree with significance. Disagree with neutral effect. The receptor should be high as the viewpoint is near a bridgeway. The seawall comes out into the centre of the Bay. The offshore building is apparent and forms a built focus in the middle of the bay. The view looks across to the settled and partly industrialised coast around Aberavon and Port Talbot so the structure is not entirely out of keeping with the coastal development in the far distance. However, it impinges upon the open unspoilt qualities of the bay itself and therefore is adverse. |
| 9 | Nicander Parade, Townhill, Swansea | 4.8 | Residents, road users | high | Moderate | Moderate | Moderate not significant | Neutral (Beneficial) | Agree with significance. Disagree with neutral effect. The seawall extends a significant distance out into the bay as a new element. The offshore building is noticeable and forms a built focus in the middle of the bay which competes with the Mumbles (as a focus). The gantries are just apparent and industrial in character and emphasise the utilitarian nature of the structure. The enclosed lagoon will be at differing levels to the sea outside at various times of the day which will reinforce its separation, and with the ancillary structures, its differing character from the surrounding sea. The position of the lagoon appears to have some logic extending out from the Tawe/docks sea walls. From this point the line of the embankment looks simple although somewhat angular at its apex due to the sharp change in direction. The building location here (Option A) appears to make sense of this change in direction. Activity within the lagoon will be of interest. However, the sweep of the bay and sea which is a positive contrast and setting to the built up area would be disrupted by the intervention of the lagoon. |
| 10 | Meridian Quay, Swansea | 3.3 | Visitors to building, restaurant | high | Moderate | High | Major significant | Beneficial | Not visited. The significance looks fair. The beneficial effect appears optimistic. The extent of the seawall enclosing part of the bay is very clear. The offshore building is highly noticeable and forms a built focus in the middle of the bay. The gantries are noticeable and industrial in character and emphasise the utilitarian nature of the structure. Marine sporting activities within the lagoon would be apparent from this "bird's eye" viewpoint adding interest. The presence and function of the lagoon may also be an attraction to some visitors. The location appears to have logic extending the seawall. However, the intervention of the structure into the open sweep of the bay is detractive. On balance, the effect is considered neutral based on the desk study of the visualisation only. |
| 11 | Swansea promenade | | Walkers, cyclists, beach users, visitors | High | High | High (low tide) High/moderate (high tide) | Major significant | Neutral | Agree with significance. Disagree with neutral effect. The embankment bund is higher than the existing seawall and forms a strong dark horizontal line extending a long distance into the bay, closing down its apparent width. The offshore building is highly noticeable and forms a built focus in the middle of the bay which, with the sea wall, competes with the Mumbles (as a focus). The gantries are apparent and, with the exclusion zone vertical structures, are industrial in character and emphasise the utilitarian nature of the structure. The proposal detracts from the existing open views to Exmoor across the Bristol Channel although does not screen the English coast/landform. Overall the effect of the development as shown in the photomontage is considered adverse due to the scale of the intervention, change in the bay's open natural character and change in focus of the bay. |

| LVIA Viewpoint reference | Viewpoint Location | Distance to centre of lagoon [km] | Receptors at or near viewpoint | Susceptibility to change | Sensitivity of receptors | Magnitude of visual impacts | Significance | Beneficial/neutral/adverse | Assessment reasonable? |
|--------------------------|---|-----------------------------------|--|--------------------------|--------------------------|-----------------------------|------------------------------|----------------------------|---|
| 12 | SA1 Swansea Waterfront | | Visitors, office users | Moderate | Low | Low | Minor not significant | Neutral | The sensitivity of receptors are moderate but the effect is not significant as the embankment bund continues the line of the seawall and the context is highly engineered and utilitarian. |
| 13 | Kilvey Hill, Swansea | | Walkers | High | High/moderate | Moderate | Major / moderate significant | Neutral | Agree with significance. The seawall extends a significant distance out to sea. The enclosed lagoon will be at differing levels to the sea outside at various times of the day which will reinforce its separation, and with the ancillary structures, its differing character from the surrounding sea. The position of the lagoon appears to have some logic extending out from the docks. From this angle the line of the embankment looks simple and uncluttered and the offshore building and gantries relate to the onshore buildings and docks infrastructure. Activity within the lagoon will be of interest. However, the sweep of the bay and sea which is a positive contrast and setting to the built up area would be disrupted by the intervention of the lagoon. On balance the effect is adverse and at best neutral. |
| 16 | Swansea University, Science and Innovation Campus | | | Moderate | Moderate | High/moderate | Major / moderate significant | Neutral/beneficial | Not visited (in Neath Port Talbot). The likely effect is major as the lagoon will be enclosed and the coastal edge significantly modified. The effect is likely to be neutral or beneficial. |
| 17 | Crymlyn Burrows, Swansea | | | Moderate | Moderate | High | Major significant | Adverse | Agree with significance and adverse effect. The seawall is close to and high and extends a significant distance out to sea blocking views across the open bay to the Mumbles. If the balance of sand and mud changes with an increase in the mud to the extent that this predominates visually and affects the intertidal area's use as a beach the effect would be more severe at low tide. The effects at high tide would remain the same. |
| 19 | Swansea Bay | | Boat users | High/moderate | Moderate | High/moderate | Major / moderate significant | Neutral | Not visited. The likely effect would be of major significance and adverse as the openness and natural character of the bay contrasting with the urban coastal edge would be significantly changed by the nearby structure. The number of receptors would be limited. |
| 20 | Pant Street, St. Thomas, Swansea | | Residents | Moderate | Low | Low | Minor not significant | Neutral | The viewpoint is highly urban with a restricted framed view of part of the lagoon and seawall only. The sensitivity of receptors are moderate so the significance could be moderate/minor but the effect is not considered significant and the effect is neutral in this location. |
| 21 | Pant y Celyn Road, Townhill, Swansea | | Residents, green space users, road users | high | High | Moderate | High/moderate significant | Neutral (Beneficial) | Agree with significance. The seawall extends a significant distance out into the bay as a new element. The offshore building is noticeable and forms a built focus in the middle of the bay which competes with the Mumbles to an extent (as a focus). The gantries are just apparent and industrial in character and emphasise the utilitarian nature of the structure. The enclosed lagoon will be at differing levels to the sea outside at various times of the day which will reinforce its separation, and with the ancillary structures, its differing character from the surrounding sea. The position of the lagoon appears to have some logic extending out from the Tawe/docks sea walls. From this point the line of the embankment looks simple and uncluttered. Activity within the lagoon will be of interest. However, the sweep of the bay and sea which is a positive contrast and setting to the built up area would be disrupted by the intervention of the lagoon. On balance the effect of the development as shown on the photomontage is adverse. |

| <i>L VIA Viewpoint reference</i> | <i>Viewpoint Location</i> | <i>Distance to centre of lagoon [km]</i> | <i>Receptors at or near viewpoint</i> | <i>Susceptibility to change</i> | <i>Sensitivity of receptors</i> | <i>Magnitude of visual impacts</i> | <i>Significance</i> | <i>Beneficial/neutral/adverse</i> | <i>Assessment reasonable?</i> |
|----------------------------------|---------------------------|--|---------------------------------------|---------------------------------|---------------------------------|------------------------------------|--------------------------|-----------------------------------|---|
| 22 | Clyne Gardens, Swansea | | Visitors | high | High–moderate | Moderate/low | Moderate not significant | Neutral (<i>Beneficial</i>) | Agree with significance. Disagree with neutral effect. The embankment bunds/sea walls extend the width of the focused vista of the Bay with the offshore building at the furthest edge. This view looks across to the settled and partly industrialised coast around Aberavon and Port Talbot so the structure is not entirely out of keeping with the coastal development. However, it breaks up and divides the uninterrupted open unspoilt expanse of the bay itself and therefore is adverse. |

Note:

* brackets indicate *draft* SLVIA evaluation of whether effects are beneficial, neutral or adverse.

APPENDIX C

DEFINITIONS OF SIGNIFICANCE

APPENDIX C: DEFINITIONS OF SIGNIFICANCE

| White Consultants definitions | | Assumed equivalent levels of significance in ES/SLVIA |
|-------------------------------|--|---|
| Significance | Criteria | |
| Severe | Adverse effects which represent key factors in the decision making process. These effects are generally (although not exclusively) associated with sites or features of national importance and resources or features that are unique and which, if lost, cannot be replaced or relocated. This also relates to landscapes/seascapes where the effect of development would overwhelm and/or substantially change their character or where mitigation will not remove the effects on a receptor. | Major |
| Major | Effects which are important considerations at a regional or district scale and, if adverse, are potential concerns to the project depending upon the relative importance attached to the issue during the decision making process. Mitigation measures and detailed design work are unlikely to remove all the effects upon the surrounding landscape/seascape or receptors | Major or Major/moderate |
| Major/moderate | Effects which are important considerations at a district/local scale and, if adverse, are potentially of some concern to the project depending upon the relative importance attached to the issue during the decision making process. Mitigation measures and detailed design work are unlikely to remove all the effects upon the surrounding landscape/seascape or receptors | Major/moderate |
| Moderate | Effects which, while important at a local scale if adverse, may not be key decision making issues. Nevertheless, a particular combination of such effects may lead to an increase in the overall effects on a particular area, receptors or resource and therefore may be significant. They represent issues where effects will be experienced but mitigation measures and detailed design work may ameliorate/enhance some of the consequences upon affected landscapes/seascapes or receptors. Some residual effects will still arise. | Moderate |
| Moderate/minor | Effects at a local scale which are of limited importance in the decision making process. They represent issues where some minor residual effects will be experienced. They are of relevance in the detailed design of the project and in the consideration of mitigation or compensation measures. | Moderate/minor |
| Minor | Effects raised as local issues but are unlikely to be of importance in the decision making process. Nevertheless, they are of relevance in the detailed design of the project and in the consideration of mitigation or compensation measures. | Minor |
| Negligible | Effects which are so slight that there is no need to take them into consideration in the design or mitigation of the development. | Insignificant/negligible |

GLOSSARY

ES- Environmental Statement

LCA- Landscape character assessment/area

GLVIA3- Guidelines for Landscape and Visual Impact Assessment, LI IEMA 2013.

SLVIA- Seascape, Landscape and Visual Impact Assessment in Environmental Statement

NTS- Non Technical Summary

PEIR- Preliminary Environmental Information Report

ZTV- Zone of Theoretical Visibility