

12. Conclusions

12.1 General

In accordance with the EIA Study Brief (No. ESB-237/2011) issued under the Environmental Impact Assessment Ordinance (EIAO) for this Project, an assessment of the potential environmental impacts associated with construction and operation of the WKCD has been conducted based on the Development Plan agreed by the Town Planning Board on 9 March 2012 and information available at this stage. Environmental issues covered in this EIA include:

- Air Quality Impact
- Noise Impact
- Water Quality Impact
- Sewerage and Sewage Treatment Implications
- Waste Management Implications
- Land Contamination
- Ecological Impact (Terrestrial)
- Landscape and Visual Impact

The findings of this EIA study has determined the likely nature and extent of environmental impacts and identified environmental control measures for incorporation into the planning and design of the proposed WKCD to ensure compliance with environmental legislation and standards during construction and operation phases. The implementation schedule for the recommended mitigation measures are presented in **Section 12**. A summary of key assessment assumptions, limitation of assessment methodologies and related prior agreements with relevant Government Departments is presented in **Appendix 12.1**.

12.2 Summary of Environmental Outcomes

The EIA study for the proposed WKCD has predicted that the Project, with implementation of the recommended mitigation measures, would be environmentally acceptable to the surrounding population and environmental sensitive receivers. The key environmental outcomes accrued from the environmental considerations and analysis during the EIA process and the implementation of environmental control measures of the Project are summarised in the following sections.

12.2.1 Estimated Population Protected from Various Environmental Impacts

It is recognised that the WKCD Project is situated amidst a densely populated area and hence avoidance and/or minimisation of environmental impacts due to the Project was a key consideration during the early stages of Project development. As a result of early detection and optimisation of the Project in terms of layout of various WKCD facilities, the following populations have been protected from adverse environmental impacts:

- Residences above Kowloon Station – protected from adverse air quality, noise and visual impacts;
- Residences along Canton Road – protected from adverse air quality, noise and visual impacts;
- Schools on Canton Road – protected from adverse air quality, noise and visual impacts;

- Planned residences within WKCD – protected from adverse air quality and noise impacts;
- Planned Outdoor Theatre within WKCD – protected from adverse air quality and noise impacts;
- Visitors and workers at WKCD – protected from adverse air quality and noise impacts;
- Visitors and workers adjacent to WKCD – protected from adverse air quality, noise and visual impacts; and
- Visitors, workers and hikers at Hong Kong Island with a view of WKCD – protected from adverse visual impacts.

12.2.2 Environmentally Sensitive Areas Protected

The site for the WKCD Project is a reclaimed area that was specifically reserved for development of the WKCD since completion of the reclamation, and as a result, locating the Project at this site has avoided the need for allocating land for development in otherwise environmentally sensitive areas elsewhere. The following environmentally sensitive areas surrounding the WKCD site has also been protected:

- Victoria Harbour – has been protected by the avoidance of dredging for construction of the possible piers and viewing platform, and no additional land formation is proposed for development of the Project
- Kowloon Park – has been protected by avoiding direct disturbance to the park except for the location of the optional footbridge between WKCD and Kowloon Park, which (if implemented) will provide a direct 'green link' with the newly created WKCD Park, thereby enhancing the landscape and aesthetic value of both areas. This long term benefit will more than compensate for the temporary disturbance to Kowloon Park during construction phase.

12.2.3 Environmentally Friendly Options Considered and Incorporated in the Preferred Option

The major environmentally friendly options considered and incorporated in the preferred option are the creation of the Park and the provision of a green transportation system within the WKCD.

- The Park will be a large, planted open space supporting thousands of trees as well as providing grassy areas and various other landscape and amenity planting. This option was originally proposed by Foster + Partners in their Conceptual Plan for WKCD (one of three Conceptual Plans exhibited to the public in 2010) and was subsequently adopted in the preferred option. This park will form a permanent major addition to the natural environment surrounding West Kowloon and Victoria Harbour and will significantly enhance the amount of green space within the urban Hong Kong environment as well as the health and societal benefits associated with greenery and open areas.
- A green transportation system will be adopted within the WKCD to minimise carbon and air pollutant emissions. This option has been considered from the outset, but has been refined in the Modified Conceptual Plan to focus on pedestrianisation as much as practicable, and where appropriate, will be augmented by additional modes such as eco-buses and travellers. The option of locating the vehicular network within the site to the basement level was originally proposed by Foster + Partners in their Conceptual Plan, which was subsequently retained in the preferred option. This feature will substantially reduce the traffic noise impact, and also free up more space at ground level for provision of landscaping and planting.

12.2.4 Environmental Designs Recommended

As part of the sustainability vision for the Project, environmentally friendly designs have been incorporated into the Project as much as practicable, including the following:

- Renewable energy systems including use of solar photovoltaics and wind turbines;
- A district cooling system for providing chilled water to WKCD facilities (with substantial energy savings compared to conventional air-cooled chillers);
- Green roofs as part of the thermal control for WKCD buildings;
- Water conservation features such as rainwater harvesting and reuse of condensate from air conditioning systems where practicable; and
- Provision of cycling tracks and extensive pedestrian network to complement the green transportation system.

12.2.5 Key Environmental Problems Avoided

A number of environmental assessments were conducted at the early stages of the Project with the aim of identifying environmental impacts and alternative strategies in advance. As a result of this process, many environmental problems have been avoided or minimised. These include the following:

- Locating the vehicular network within the site to the basement level to avoid the traffic noise impact, and increase ground level space for landscaping and planting;
- Consideration of air or noise-sensitive uses (e.g., residential developments) within the WKCD and locating these away from nearby sources of air or noise emissions wherever practicable;
- Relocation of the planned ASRs (e.g. Outdoor Theatre) away from the Western Harbour Crossing to minimise the potential air quality impact; and
- Relocation of potential noise sources (e.g. Outdoor Theatre) away from existing and planned NSRs to avoid potential operation phase noise impact.

Other design options that were proposed during the Conceptual Plan stages and were discarded due to non-environmental reasons but have nevertheless contributed to the avoidance or minimisation of potential adverse environmental impacts include the following:

- Removal of proposed aircraft and helicopter landing facilities and thus avoidance of potential adverse aircraft noise impacts to existing and planned NSRs;
- Removal of elevated APM and thus avoidance of potential adverse railway noise and visual impact to existing and planned NSRs, while also increasing ground level space for landscaping and planting; and
- Removal of proposed sewage treatment plant which avoids potential odour impacts.

12.2.6 Compensation Areas Included

The landscape impact assessment has identified that approximately 677 trees will be directly affected due to the Project. However, the creation of the Park within WKCD will provide a greater number of new trees that, in addition to bringing beneficial landscape and visual impacts, will also adequately compensate for the loss of existing trees within the WKCD site. Loss of other landscapes / habitats due to the Project will

be replaced by landscapes / habitats of equal or greater landscape / ecological value, hence no compensation is required.

12.2.7 Environmental Benefits of Environmental Protection Measures Recommended

The environmental benefits of the environmental protection measures that have been recommended for the Project include the following:

- Air Quality – adoption of a green transportation system that focuses on pedestrianisation and augmented by additional modes such as eco-buses and travellers which avoids/minimises direct emissions of air pollutants from transportation within the WKCD;
- Noise – locating the vehicular network within the site to the basement level which protects the existing and planned NSRs within and surrounding the WKCD from traffic noise impact, and recommending noise barriers along parts of Austin Road West and Canton Road to protect NSRs from these existing road traffic noise sources;
- Water Quality – avoidance of dredging and provision of silt and oil traps within WKCD to prevent pollution of Victoria Harbour. All sewage generated within WKCD will be connected to the public sewerage system for treatment offsite;
- Waste – implementation of a trip-ticket system during construction phase and provision of refuse collection points and an optional refuse collection system to manage the waste generated onsite during operation phase;
- Landscape – creation of a Park with trees and various landscape and amenity planting. This park will significantly enhance the environmental setting and increase the amount of green space in West Kowloon. The roof and podium structures for the WKCD buildings will also incorporate green roof elements to maximise the provision of green space within the WKCD; and
- Visual – enhancement will be achieved via provision of new aesthetic structures that complement the surroundings with many of the CACF forming future signature buildings and provision of landscaping elements to create a visual attraction from both near and afar.

12.3 Air Quality Impact

12.3.1 Construction Phase

With implementation of the recommended mitigation measures as well as the relevant control requirements as stipulated in the *Air Pollution Control (Construction Dust) Regulation* and EPD's *Guidance Note on the Best Practicable Means for Cement Works (Concrete Batching Plant) BPM 3/2(93)*, it has been assessed that there would neither be exceedance of the hourly TSP limit under the Tier 2 mitigated scenario nor exceedance of the AQO for daily TSP under the Tier 1 mitigated scenario at any of the ASRs throughout the entire construction period. For annual TSP results, no exceedance of the corresponding AQO was predicted at any of the ASRs during the construction phase provided the recommended mitigation measures are in place.

12.3.2 Operation Phase

Vehicle and Marine Emissions

Majority of the vehicular emission sources and all marine emission sources are due to respectively the nearby current/planned road networks serving the West Kowloon area and the existing marine activities in the surrounding waters, but not due to the WKCD development itself. Therefore, the WKCD Project alone would only have very minor contribution to the predicted air quality impacts at the ASRs.

According to the modelling results, all the identified ASRs would be in compliance with the corresponding AQO for hourly, daily and annual SO₂; for hourly, daily and annual NO₂ as well as for daily and annual RSP. However, during the worst case year of 2015, four existing ASRs, namely, WOB-1, VT1-23, SRT-1 and SRT-2, would be subject to exceedance of the AQO for hourly NO₂ (i.e., 300 µg/m³) by about 3.7-14.9 µg/m³ (or about 1.2%-5.0% of the relevant AQO) for once a year, and two planned ASRs, namely, P09-1 and P37-1, would be subject to marginal exceedance of the AQO for daily NO₂ (i.e., 150 µg/m³) by about 0.2-0.3 µg/m³ (or about 0.1%-0.2% of the relevant AQO) for once a year. Since the numbers of such hourly and daily NO₂ exceedances are within the respective allowable numbers of exceedances (3 times per year for hourly NO₂ and once per year for daily NO₂), the AQO for hourly and daily NO₂ would still be complied with at the six ASRs.

In conclusion, no adverse air quality impacts due to vehicular or marine traffic emissions are anticipated during the operation phase of the WKCD Project.

Odour Emissions from NYMTTS

With the recommended improvement measures for NYMTTS in place, it is predicted that the potential odour impacts on all the ASRs within WKCD would be reduced to 1.5 - 8.9 ou/m³ for residential ASRs and to 1.2 -13.7 ou/m³ for non-residential ASRs. Residential ASRs refer to those ASRs that have been planned for residential uses whereas non-residential ASRs refer to those that have been planned for such non-residential uses as offices, retails, hotels, performance venues, open space, etc. Under the mitigated scenarios, the predicted numbers of times of exceeding the odour criterion in a year would be up to 33 hours per year (or up to 0.4% of the time in a year) and 213 hours per year (or up to 2.4% of the time in a year) for residential ASRs and non-residential ASRs respectively.

Potential residual odour impacts are predicted at 2 to 21 of the 65 residential ASRs as well as at 60 to 351 of the 473 non-residential ASRs under the mitigated scenarios. Nevertheless, the potential residual impacts have been assessed to be acceptable in view of the nature, magnitude, duration and frequency of the impacts as well as the conservative odour modelling results. It is particularly important to note that WKCD does not contribute to the odour emitted from NYMTTS.

Odour Emissions from Optional Waste Facilities

With the proper locations of the optional waste facility (i.e., automatic waste collection facility) and the odour containment and control measures in place to substantially confine and reduce the potential odour emissions at sources, it is anticipated that there would not be significant odour impact on the nearby ASRs.

12.4 Noise Impact

12.4.1 Construction Phase

The construction phase noise impact assessment has been made based on the best available information, taking into account other expected concurrent projects. Having exhausted practicable mitigation measures in the form of quiet plant, movable noise barrier, enclosure and insulating fabric, the construction noise levels at most of the representative NSRs are predicted to comply with the noise standards stipulated in the Technical Memorandum on Environmental Impact Assessment Process (EIAO-TM). The cumulative construction noise impact predicted at one existing residential development at Austin Road West would exceed the relevant noise criteria by 1 dB(A) for a duration of 1 month. The exceedance was identified as dominantly contributed by the concurrent Express Rail Link (XRL) and Road Works at West Kowloon (RWWK) projects and the noise from this Project is only 66 dB(A). Residual construction noise impacts are also predicted at two representative NSRs of educational use at Canton Road. However, the two NSRs have already been implemented with noise insulation works and therefore significant noise impacts are not anticipated during the construction. Notwithstanding this, it is recommended that the particularly noisy construction activities should be scheduled to avoid examination periods of these NSRs as far as practicable.

12.4.2 Operation Phase

The potential road traffic noise impacts have been assessed based on the peak traffic flows in 2032. The exceedances were identified as dominantly contributed by the surrounding existing roads and the committed RWWK project road sections. The predicted noise contributions from the proposed roads of this Project are less than 1.0 dB(A) at those affected NSRs and the road traffic noise levels of the proposed roads are all below the relevant noise criteria. Direct noise mitigation measures on the Project road sections are deemed not necessary as they would be ineffective in improving the noise environment at the sensitive receivers. As a result, at-receiver mitigation measures in form of balcony have been proposed for those NSRs with predicted noise levels exceeding the road traffic noise criteria. With implementations of the proposed at-receiver noise mitigation measures in form of balcony at NSRs P3b, P5, P9, P24, P27, P28 & P29, adverse traffic noise impact is not anticipated.

Noise impact from the planned fixed plant could be effectively mitigated by implementing noise control measures at sources during the detailed design stage. With the adoption of the proposed maximum allowable Sound Power Levels (SWLs) of the proposed fixed plant, the impact noise levels at all selected NSRs would comply with the relevant noise criteria for the daytime, evening time and night time periods. Therefore, significant fixed plant noise impact to the existing NSRs is not anticipated.

The predicted open air entertainment noise levels arising from the proposed Outdoor Theatre at all selected NSRs will comply with the relevant noise criteria for the daytime, and evening time periods. Since no operation of Outdoor Theatre will be anticipated at night-time period, significant open air entertainment noise impact to the nearby NSRs is not anticipated. Mitigation measure is therefore considered not required.

Exceedance in ground-borne noise criteria at Xiqu Centre, M+ (Phases I & II), Lyric Centre and CCP in the vicinity of the existing and planned railways operating underground is expected due to the stringent criteria for these special venues. The mitigation measures such as building isolation and box-in-box installation would most likely be integrated into the structural and foundation design of the relevant art performance venues in WKCD. Further review of the impact would be carried out at the detailed design stage of the art

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performance venues. WKCD will incorporate, into the relevant design contracts of all special venues including Xiqu Centre, CCP, Lyric Centre, Music Centre, Musical Theatre and the Museum M+ (Phase I & II), the comparable stringent criteria and requirements which make reference to the ground-borne noise assessment findings and the suggested mitigation measures. With this mitigation in place, no adverse ground-borne noise impact is anticipated.

The helicopter noise from the existing helipad at Shun Tak Centre, which is located at 1.1km from site boundary of WKCD, is measured to be around L_{max} 73dB(A) at the location of the proposed Outdoor Theatre to the west of the Project site where is the place within the WKCD site nearest to the existing helipad. Therefore, it is considered that the helicopter noise would comply the helicopter noise criteria and hence adverse helicopter noise impact is not anticipated at the residential and commercial development on the WKCD. Given the activities to be conducted in the outdoor theatre, such as popular music concerts, will rely on public address (PA) system and are expected to have high sound levels and that helicopter noise would be just noticeable and transient, adverse helicopter noise impact to the Outdoor Theatre is not anticipated.

Potential nuisance due to marine traffic noise is anticipated for the planned NSRs P2, P3, P10, P11, P13, P21, P26 and P32, which are located close to the south boundary of WKCD. By designing these buildings so as to avoid any sensitive façades with openable window facing the noise source, potential nuisance from marine traffic noise is not anticipated. In addition, given the large separation between the nearest planned NSR on the WKCD (NSR P32) and the New Yau Ma Tei Typhoon Shelter, it is anticipated that the noise impact from the operation of the typhoon shelter would be minimal.

12.5 Water Quality Impact

12.5.1 Construction Phase

The key issue in terms of water quality during the construction phase of the Project would be the potential for release of effluent into coastal waters from construction site runoff and drainage and potential for release of suspended solids into the surrounding water from excavation and backfilling for modification of seawalls for construction of cooling water discharge/outfalls, landing steps and possible piers/viewing platform.

Deterioration in water quality could be minimised to acceptable levels through implementing adequate mitigation measures such as control measures on suspended solids release, on-site runoff and drainage from the works areas to minimise suspended solids spillage and construction runoff prior to discharge. Proper site management and good housekeeping practices would also be required to ensure that construction wastes and other construction-related materials would not enter the public drainage system and coastal waters. Sewage effluent arising from the construction workforce would also be handled through provision of portable toilets.

With the implementation of these recommended mitigation measures, no unacceptable impacts on water quality from the construction works for the Project are anticipated. Water quality monitoring during the course of marine construction works and site inspections during construction phase should be undertaken routinely to inspect the construction activities and works areas to ensure the recommended mitigation measures are properly implemented.

12.5.2 Operation Phase

Surface runoff from the proposed WKCD development and associated local road networks may be contaminated by oils leaked from passing vehicles. It is considered that impacts upon water quality will be acceptable provided that the proposed WKCD development and associated local road networks are designed with adequate drainage systems and appropriate oil interceptors, as required.

Sewage and wastewater effluents generated from the proposed WKCD development would be connected to the proposed foul sewerage system which has sufficient capacity to cater for the sewage flow from the proposed WKCD development. No adverse sewage impact is anticipated resulting from the proposed WKCD development.

As the potential impacts of the provision of the marine piles on flushing capacity in the vicinity of the possible piers is expected to be insignificant, no mitigation measures would be required.

With the optional pump sump with very limited capacity, located at the basement level of WKCD and provision of standby pump facilities and dual power supply with sufficient capacity (100%), there would not be occurrence of emergency discharge event. With the implementation of suitable design measure, there would not be any insurmountable water quality impacts associated with the optional sewage pumping station operation.

The thermal impact from the DCS discharge on the harbour water is predicted to be localized and minor as the general flushing capacity in Victoria Harbour is high. As the chlorine would be subject to decay, the impact from any residual chlorine discharge from the DCWS is also predicted to be localized and confined in area close to the outfall. No mitigation measures would therefore be required.

12.6 Sewerage and Sewage Treatment Implications

EPD has completed the WK&TW SMP Review study to identify the performance of the existing sewerage systems. The SMP Review allows provision for sewage flows from WKCD. Comparing the latest estimated sewage flows from the WKCD development plan and the sewage flows allowed in the SMP Review, the existing sewer system in West Kowloon has sufficient capacity to cater for the sewage generated from the proposed development of WKCD. The peak sewage flow generated from WKCD is estimated to be 157.50 L/s, which is less than 210 L/s allowed in the SMP Review.

The sewage generated from the sub-catchments S1 to S7 will be discharged to the branch sewer at Austin Road West that to be upgraded under West Kowloon Terminus development and further conveyed to the existing 1350mm diameter trunk sewer. From the hydraulic capacity checking shown in Appendix 6.1, the upgraded branch sewer has sufficient capacity to cater for the sewage from the WKCD development and the utilization of the existing 1350mm diameter trunk sewer will be around 58%.

The sewage generated from sub-catchment S8 will be discharged to the existing sewer at Canton Road and there is only 1.8% of addition utilization to the existing sewer. The maximum utilization of the existing sewer will become about 94.1%. There should be no adverse impact to the existing sewer.

A sewerage system is proposed to collect the sewage from WKCD and convey the sewage to the upgraded branch sewer at Austin Road West. A sewerage system is proposed in the Park for collecting the sewage generated from different venues and buildings and conveying to the proposed pumping facilities at the

Freespace venue. The impact assessment shows that the proposed sewerage system has sufficient capacity to cater for the sewage flow from WKCD.

Based on the above, it is concluded that no adverse sewage impact would be anticipated resulting from the development of WKCD.

12.7 Waste Management Implications

12.7.1 Construction Phase

The major waste types generated by the construction activities will include inert C&D materials from excavation works for the basement (including the underpass road and the flyover) as well as from construction of superstructures and substructures; C&D materials from general site clearance; chemical waste from maintenance and servicing of construction plant and equipment; and general refuse from the workforce.

The amount of inert C&D materials that require off site disposal has been minimized as far as practicable with consideration of re-using inert C&D materials on site where practicable. Provided that all these identified wastes are handled, transported and disposed of in strict accordance with the relevant legislative and recommended requirements and that the recommended good site practices and mitigation measures are properly implemented, no adverse environmental impact is expected during the construction phase.

12.7.2 Operation Phase

The key waste types generated during the operation phase will include general refuse from the CACFs and OACFs operation, residential, office, hotel, retail and restaurant activities; as well as chemical waste from regular servicing and maintenance activities for different electrical and mechanical equipment. Provided that all these wastes are handled, transported and disposed of in strict accordance with the relevant legislative requirements and the recommended mitigation measures are properly implemented, no adverse environmental impact is expected during the operation phase.

12.8 Land Contamination

Based on the findings of the site surveys on the existing and historical land uses in the Project area and review of relevant records and reports, adverse land contamination impacts associated with the construction and operation of the WKCD Project is not anticipated except for demolition of the two underground fuel oil storage tanks and associated pipes at the existing TST Fire Station within the WKCD site. As the existing TST Fire Station will remain in operation until its relocation in phases, which will unlikely be started before 2020, it is proposed to carry out further site investigation after obtaining access to the Fire Station in order to obtain up-to-date site investigation findings for assessment of land contamination that may occur between now and its future relocation. The site investigation findings should be documented in a CAR and where necessary a RAP should also be prepared for submission to EPD for approval.

Mitigation measures for handling of contaminated materials, in case it is discovered after commencement of the works, and regular site audits are recommended to minimize the potential adverse impacts on workers' health and safety and disposal of any potentially contaminated materials.

12.9 Ecological Impact (Terrestrial)

The findings from the field survey and desktop review indicated that the major terrestrial habitats in the Study Area is developed area, while the rest is small amounts of open field and plantation and sloping seawall along the coastline. All these habitats are with low vegetation cover, short planting history and of low to very low ecological value. Therefore, direct ecological impact on loss of habitat is considered to be of insignificant. The indirect disturbance impact to offsite habitat is considered to be of insignificant in both construction and operation phases, since the Project Area is surrounded by urbanized area. The plantation and landscape planting included in the development plan would have potential positive contribution to the local ecology.

12.10 Landscape and Visual Impact

The WKCD is to be developed into a world-class integrated arts and cultural district to enrich the arts and cultural life for the people in Hong Kong and neighbouring areas. Due to the scale and the location of the proposed WKCD development, it is considered that potential impacts on both landscape and visual amenity are unavoidable. The major sources of impacts include various construction activities during construction phase. Potential impacts have been considered during the preliminary design stage to avoid direct impacts on significant landscape resources and the VSRs. Major residual landscape impacts are the construction of possible pier and viewing platform. The major impact would be induced on the landscape resources (LR 3.1) and landscape character area (LCA 05 and LCA06). Those impacts would result in direct loss of these LCAs and LRs. However, the quantity of loss of the seawater resources and character is relatively small in comparison with the large extent of adjacent seawater landscape resources and character.

There are 58 LRs, 14 LCAs and 43 representative VSRs identified within the assessment area that may be affected by the proposed WKCD development. As the Project is a large scale development, there will be moderate adverse to substantial adverse impacts on some of the LRs, LCAs and VSRs at close proximity to the site during construction phase. However, impacts during construction phase are temporary only.

The proposed WKCD development will be undertaken in a phased manner, and there will be a transition period when temporary ventilation shafts for the WKCD basement and the underpass road may be seen in the eastern part of the site. However, upon the completion of the remaining WKCD facilities, the ventilation shafts will form part of the individual WKCD buildings.

The planning intention of the WKCD is to create a world class integrated arts and cultural district for public enjoyment. The proposed WKCD development, therefore, is expected to be a place which showcases distinctive architectural and landscape design in response to its planning intentions (please refer to **Section 10.2.1.4**) and its prime waterfront location.

Despite the proposed WKCD development will initially create adverse visual impacts during construction phase, the visual amenity of the site will be significantly improved upon its completion through the approaches of the innovative design of the buildings and provision of green spaces at various locations within the WKCD, including the Park, the Avenue and piazzas. In addition to creating new visual resources, the extensive planting at the Park and along the waterfront, and the undulating landscape design of the Park will lessen the adverse impacts derived by the existing WHC and MTR ventilation buildings. Ornamental plants will be used at various locations including along the waterfront promenade, in the Park and the terrace gardens etc. for their aesthetic characteristics, which add visual interest to these areas and further improve the visual amenity of the WKCD.

Well designed low to medium rise buildings will achieve the urban design goals for this prime waterfront site. The low to medium rise buildings with dynamic building height profile will give an interesting contrast to the high rise developments located to the north of the site, and this would enhance the visual composition with the proposed WKCD development in the foreground when viewed from the south, the southeast and the west of the WKCD.

To promote sustainable energy, it is proposed to install wind turbines along the western and northern sections of the Park, and solar panels on the roof top of some WKCD buildings. Compared to the scale of the proposed development, the wind turbines appear relatively small particularly when viewed from various locations across the harbour. Hence, the visual impacts on VSR 1, VSR 2 and VSR 4 would be acceptable, particularly with the adoption of natural colour tones for the wind turbines to make them look more compatible with the surrounding areas and less visually dominant.

Potential reflective glare is one of the visual impacts derived from the installation of solar panels. This could be addressed by appropriate positioning and angling of the solar panels to avoid significant visual impacts on the VSRs located at upper levels in close proximity. The proposed green roof and terrace gardens to be adopted at various buildings can also provide visual relief which help to mitigate the industrial look of the solar panels. It is important to note that the installation of solar panels and wind turbines are minor components of the WKCD development, and the visual impacts derived by these renewable energy facilities are reversible.

As the existing WKCD site is largely undeveloped reclaimed land with minimal landscape resources, it is considered that the proposed WKCD development would enhance the existing landscape character and visual amenity by providing extensive planting at the Park and introducing landscape design and treatments such as ornamental planting along the water's edge and green roof/roof top garden/terrace gardens. The overall residual landscape and visual impacts associated with the construction and operation phases of the proposed development are anticipated to be generally acceptable with mitigation measures and even beneficial with the implementation of the appropriate mitigation measures.