ENVIRONMENTAL STATEMENT
CHAPTER 14: CONCLUSION

Land South of Rover Way, Cardiff CF24 5PH

Harsco Metals Group Limited

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CONTENTS

DOCUMENT REFERENCES

TABLES

14.1.0 Introduction

14.1.1 This Environmental Statement (ES) has been prepared by SLR Consulting Limited (SLR) on behalf of Harsco Metals Group ('the client' and 'the applicant') and sets out the results of an Environmental Impact Assessment (EIA) undertaken for the proposed development at the Celsa Steelworks site on Land South of Rover Way, Cardiff CF24 5PH. This ES is to form part of a full planning application submitted to Cardiff Council which seeks consent for the *"Installation of an Asphalt Batching Plant along with associated infrastructure and works".*

14.1.2 The ES provides a detailed and objective analysis of the potential environmental effects which will be associated with the development, the likely cumulative impacts associated with the development being brought forward in combination with other committed developments, the measures available to mitigate those effects where appropriate, and the likely effectiveness of those mitigation measures in the form of 'residual effects'.

14.1.3 The ES has been prepared in order to assist Cardiff Council, statutory consultees and other interested parties to reach a decision on the merits of the development. The scope of assessment for each technical assessment has been clearly defined and systematic, evidence based, assessments of the potential environmental effects of the proposed development have been clearly detailed herein. Where necessary, the technical assessments have detailed any omissions and/or areas which will require additional assessment prior to commencement of development.

14.1.4 The sections below detail the likely residual effects and conclusions of each technical assessment undertaken to complete the ES.

14.1.1 This Chapter has been revised and re-issued in November 2019 following feedback from Natural resources Wales and Cardiff Council. Further information regarding this correspondence is provided within Chapter 5: Scoping and Consultation.

14.2.0 Residual Effects and Conclusions

Ground Conditions and Contamination

Residual Effects

14.2.1 Table 14-1 below summarises the residual effects associated with ground conditions and contamination during both construction and operational phases

Table 14-1: Post Mitigation Effect Assessment

Aspect	Identified Risk	Description of Mitigation Measure	Receptor Sensitivity	Residual Magnitude of Change	Residual Significance of Effect
Construction Phase					
Human Health	H&S of construction workers	Robust health and safety practices and use of PPE	Medium	Low	Minor to moderate adverse significance
	Dust inhalation by off site human receptors	Good working practices inc. dust suppression and management	Medium	Low	Minor to moderate adverse significance
Controlled Waters	Migration pathways caused by piled foundations	Use of appropriate technique supported by risk assessment	Low	Negligible	Negligible significance
	Leaks and spills of contaminants during construction phase	Appropriate site management and methods of working	Low/medium	Low	Minor significance
	Increase in leaching as hardstanding is temporarily removed	Site management inc. coving of stockpiles. Considered programme of works	Low/medium	Low	Minor significance
Buried structures and services	Instability of Made Ground and impact on new buildings	Appropriately designed foundations based upon robust ground investigation	Medium	Negligible	Negligible significance
	Impact upon structures and services laid in	Selection of appropriate materials based	Medium	Negligible	Negligible significance

Aspect	Identified Risk	Description of Mitigation Measure	Receptor Sensitivity	Residual Magnitude of Change	Residual Significance of Effect
	contaminated ground	upon results of appropriate ground investigation			
Designated ecosystems	Leaching to River Severn Estuary	Adopt appropriate controls and working practices during construction phase	Medium	Low	Minor adverse significance
Operation Phase					
Human Health	Maintenance workers being exposed to contaminated soils	Ensure site workers adopt appropriate health and safety practices and safe methods of work	Medium	Low	Minor adverse significance
Controlled Waters	Leaks and spills of contaminants during operation phase	Adopt appropriate controls and working practices during operation phase	Low	Low	Minor adverse significance
Built Structures	Ingress and accumulation of ground gases	Select appropriate gas protection measures based upon robust monitoring programme	Medium	Negligible	Negligible significance
Designated ecosystems	Leaks and spills of contaminants during operation phase	Adopt appropriate controls and working practices during operation phase	Medium	Low	Minor adverse significance
Decommissioning Phase					
Human Health	H&S of construction workers	Robust health and safety practices and use of PPE	Medium	Low	Minor adverse significance
Controlled Waters	Leaks and spills of contaminants during	Adopt appropriate controls and	Low/Medium	Low	Minor adverse significance

Aspect	Identified Risk	Description of Mitigation Measure	Receptor Sensitivity	Residual Magnitude of Change	Residual Significance of Effect
	operation phase	working practices relevant at time of decommissioning			
Designated ecosystems	Leaks and spills of contaminants during operation phase	Adopt appropriate controls and working practices during operation phase	Medium	Low	Minor adverse significance
Cumulative Effects					
Human Health	H&S of construction workers	Ensure that appropriate dust suppression measures are adopted at the study site. Notify neighbouring developments if working practices appear not to comply with current best practices	Medium	Low	Minor to moderate adverse significance
	Dust generated by several construction sites and inhalation by off site human receptors		Low	Low	Minor adverse significance
Designated ecosystems	Emissions from road traffic	Routing and consideration of Electric Vehicles	Very High	Low	Negligible/unmeasurable fraction of the overall cumulative effect

14.2.2 As can be noted from the above table, the majority of the residual effects are identified as being either minor or negligible and, as such, are not significant. Notwithstanding, moderate adverse residual effects are identified for Human Health during the construction phase and with regard to potential cumulative effects. However, these are all related to the construction of the development itself and are therefore temporary short-term residual effects. On this basis, they are not considered significant.

Technical Conclusion

14.2.3 Chapter 8 has considered the impact of the proposed development in terms of ground conditions and land contamination. This has been undertaken through a qualitative determination of significance of effect based on receptor sensitivity versus magnitude of impact. Both these metrics have been evidenced based on professional examination of the supplied technical report produced for the development, that is considered to generally align with current legislation, regulatory guidance and industry best practice. It should be noted however that the supplied report was based upon the assessment of a relatively few number of tested samples and monitoring visits, and as such the available data set was judged to be limited.

14.2.4 While a number of receptors, considered to be of medium sensitivity, and some significant sources of risk have been identified, with regards to ground condition and contamination it is considered that potential effects can be minimised or controlled through appropriate mitigation.

14.2.5 Construction effects are predominantly controlled via adoption of responsible construction practices. Examples include:

- The use of robust health and hygiene practices and the use of PPE by site workers;
- Appropriately controlled material storage and the provision of spill kits;
- Selection of appropriate foundations that do not exacerbate the risks posed to controlled water receptors;
- The use of appropriate dust control and suppression measures; and
- Consideration of the ground conditions and potential for contaminated soils and groundwater when designing structures and selecting materials for buried structures and services (i.e. barrier pipe for potable water supply);

14.2.6 Operational effects can be minimised through accommodating for the risks in the design of the development. Examples include:

- The use of robust health and hygiene practices and the use of PPE by any maintenance workers who are required to break ground;
- Adopting appropriate control measures and working practices during operation phase to ensure that leaks and spills of any hazardous products are minimised and effectively managed; and
- Design of structures to consider potential risks posed by hazardous ground gas and the inclusion of protection measures if required.

14.2.7 Decommissioning effects, when they should occur, can be minimised through accommodating appropriate control and management procedures for health, safety and the environment that are current at the time of the works.

14.2.8 Following the implementation of mitigation measures identified within Chapter 8, the proposed development is not considered likely to result in any significant adverse effects. As such, no specific constraints have been identified for the development proceeding as currently proposed.

Air Quality

Residual Effects

Construction Phase

14.2.9 The sensitivity of the industrial and commercial receptors, relevant to the construction phase, is medium and the magnitude of change, following mitigation, is negligible. Therefore, there is likely to be a direct, temporary, short- term residual effect on the identified receptors of negligible significance following the implementation of mitigation measures.

Operational Phase

14.2.10 The sensitivity of the residential receptors is high and the magnitude of change, following mitigation, is negligible. Therefore, there is likely to be a direct, permanent, long- term residual effect on the identified receptors of negligible significance following the implementation of mitigation measures.

14.2.11 The sensitivity of the industrial and commercial receptors is medium and the magnitude of change, following mitigation, is negligible. Therefore, there is likely to be a direct, permanent, long- term residual effect on the identified receptors of negligible significance following the implementation of mitigation measures.

14.2.12 The sensitivity of the ecological receptors is high and the magnitude of change, following mitigation, is negligible. Therefore, there is likely to be a direct, permanent, long- term residual effect on the identified receptors of negligible significance following the implementation of mitigation measures.

Technical Conclusion

14.2.13 Chapter 9 presents the findings of the air quality assessment, which addresses the potential air quality impacts during both the construction and operational phases of the proposed development. For both phases the type, source and significance of potential impacts have been identified, and the measures that should be employed to minimise these proposed. The methodology followed in the study were discussed and agreed with the Environmental Health Officer of Cardiff Council.

14.2.14 The assessment concludes that both the construction and operational phases residual effects are negligible. Potential impacts on the Severn Estuary were considered not significant for both the construction and operational phase when considered alone. The assessment concluded that the proposed development will have a negligible effect on the Severn Estuary designated habitat. With regards to cumulative impacts on the Severn Estuary from traffic and stack emissions, the cumulative assessment indicated that there could be limited exceedences of the annual mean NO_x objective over an area 1,327 m^2 of the Atlantic Salt Meadow designation of the Severn Estuary. The impacts on ecology are considered in Chapter 11 (Ecology).

14.2.15 Therefore, it is considered that air quality and odour do not represent a material constraint to the development proposals, which conforms to the policies contained within the Cardiff Local Development Plan 2006 and Planning Policy Wales.

Water Environment

Residual Effects

14.2.16 When taking into account the mitigation measures identified within (Section 10.5.0), the effects for the construction and operation of the proposed development will all have been reduced to negligible and therefore ensures that all effects are not significant. Furthermore, when taking into account the likelihood of such effects occurring, which in all cases is low or unlikely, the associated risks are low or very low.

14.2.17 Notwithstanding, with regard to groundwater, it is duly recognised that there is a potential indirect adverse long term (for the duration of the operation of the plant) effect due to infiltration of surface water runoff into made ground overlying the aquifer. However, the magnitude of effect is likely to be low to negligible based on an analysis of the leaching tests completed on the made ground. On this basis, it is considered that this residual effect also represents a negligible effect and a low risk.

14.2.18 Given the above, there are no residual effects associated with the development following the incorporation of the proposed mitigation measures.

Technical Conclusion

14.2.19 Reference has been made to relevant legislation, planning policy, technical guidance and other codes of best practice in the design of the proposed development to limit the potential for contamination of ground and surface waters, the potential for flooding to be caused by the proposed development, and other potential impacts on the water environment.

14.2.20 A qualitative risk assessment methodology has been used to assess the significance of the potential effects associated with the proposed development. Two factors have been considered using this approach: the sensitivity of the receiving environment and the potential magnitude of impact, should that potential impact occur.

14.2.21 This approach provides a mechanism for identifying the areas where site specific mitigation measures are required and for identifying mitigation measures appropriate to the risk presented by the proposed development. This approach also allows effort to be focused on reducing risk where the greatest benefit may result

14.2.22 An assessment the sensitivity of the potential receptors based on a review of baseline conditions identified the following key receptors:

- Flood risk – Low sensitivity
- Groundwater – Medium sensitivity
- Severn Estuary – Medium sensitivity

14.2.23 It is notable that these were also identified by the Scoping Opinion Report prepared by the Local Planning Authority.

14.2.24 As there is no direct identified hydraulic pathway to the Severn Estuary the potential effects during the construction and operational phases are considered to be ‘negligible’ and not significant.

14.2.25 The potential effect of the proposed development on groundwater arises from infiltration of runoff through a considerable thickness of made ground during both the construction and operational phase. However, analysis shows that the leaching potential of the made ground is low and therefore the residual effect following implementation of the mitigation measures is likely to be low to negligible and not significant.

14.2.26 The Site is not at significant risk of flooding and sustainable drainage measures are proposed to manage surface water runoff.

14.2.27 No cumulative effects arising from committed development in the vicinity of the proposed development have been identified.

Ecology

Residual Effects

14.2.28 Following the worst-case scenario methodology for air quality impact measurement, and assuming no mitigation or compensation it is considered that the proposed development will contribute negligibly to the already exceeded threshold for impacts on the Severn Estuary Atlantic salt-meadow, through increased NO_x emissions from vehicles along Rover way to the east.

14.2.29 The anticipated negative impact is considered to be of uncertain, but highly likely negligible, magnitude on a receptor of Very High Sensitivity (an international designated site). Due to the international level of protection, even a negligible negative impact must be considered to be of moderate importance. Any development with the potential to have a significant negative effect on a Natura 2000 qualifying feature, however small, must be subjected to Appropriate Assessment by the Local Authority.

14.2.30 The anticipated residual effect on the Atlantic salt-marsh is considered to be a negligible permanent, reversible negative impact, with it being noted that the increase in the proportion of electric vehicles in the future should render the effect temporary over a long-timescale.

14.2.31 Following the implementation of the recommended site-level ecological enhancements, there should be a minor, positive, permanent impact on ecological receptors for biodiversity and nature conservation at the local level, although these will not affect the Natura 2000 sites.

Technical Conclusion

14.2.32 The proposed development of an asphalt plant at the application site is considered to have no risk of causing any significant direct negative impacts to either ecology or biodiversity, as the application site comprises concrete hard-standing with no ecological or biodiversity importance.

14.2.33 Located approximately 230m to the east and south of the application site is the Severn Estuary which supports a number of the highest level of wildlife site designations, including Special Protection Area, Special Area of Conservation and Ramsar site. The designations are predominantly related to the presence of internationally significant populations of over-wintering birds, but also include the presence of important populations of other species and notable habitats.

14.2.34 Potential pathways for indirect impact on the Severn Estuary designated wildlife sites were identified, including construction and operational noise, and construction and operational air quality impacts.

14.2.35 Following appraisal, it was determined that of these, only construction noise had the potential to result in significant negative impacts if left unmitigated. The operational air quality impacts (dust) were considered to have an insignificant risk of causing a significant negative impact to the qualifying features of the Severn Estuary Natura 2000 sites.

14.2.36 Recommendations for mitigation of construction noise impacts have been made and, if implemented, the proposed development is considered to have no significant risk of causing significant negative impacts to any of the Severn Estuary Natura 2000 site qualifying features.

14.2.37 With regard to air quality, the plant itself was considered to have no significant negative effects during operation or construction. However, the cumulative impacts of the site's vehicle movements

and emissions when considered with nearby consented developments and local plan allocations, would add to an already exceeded threshold for NOx deposition onto an area of Atlantic salt-meadow that is a qualifying feature of the Severn Estuary SAC.

14.2.38 A 'worst-case scenario' assessment model was adopted that routed all traffic from the proposed asphalt plant and nearby consented developments east along Rover Way, adjacent to an area of Atlantic salt-meadow. This resulted in exceedance of the NOx deposition threshold across 1,327 m^2 of salt-meadow, equating to approximately 0.0095% of the 1,400 hectares of salt-meadow within the SAC. Previously consented developments are anticipated to result in exceedance of the threshold by themselves, before the contribution from the proposed asphalt plant is taken into consideration.

14.2.39 The contribution of the proposed development to the nutrient loading impacts on the salt-meadow is considered to be very difficult to quantify, representing in effect a very small increase in nutrient input that may result in reduced species diversity over time. Whilst the magnitude of the impact is uncertain, it is considered highly likely to represent a negligible/unmeasurable fraction of the overall effect, which is likely to reduce in time with the introduction of higher proportions of electric vehicles.

14.2.40 Mitigation has been proposed in the form of routing plans/requirements that would direct all traffic west, away from the SAC and Atlantic salt-meadow, which would reduce the potential impact from the proposed asphalt plant's contribution to vehicle movements.

14.2.41 If it is not possible to direct all traffic to the west, then it is considered that there will be a negligible permanent reversible negative effect on a feature of Very High sensitivity (an internationally designated site). Due to the high sensitivity and international designation, any negative impact upon the qualifying features of a Natura 2000 site must be subjected to Appropriate Assessment by the Local Authority.

14.2.42 Recommendations for ecological enhancement have also been made within the application site in line with national and local planning policy. If followed, the proposed development should have a minor positive impact on biodiversity at the local level, but this will have no significant impact, positive or negative, on the Natura 2000 sites.

14.3.0 Closure

14.3.1 The proposed development has been assessed for potential environmental effects through the undertaking of an Environmental Impact Assessment (EIA), the results of which are presented within this ES and the technical assessments contained herein. In accordance with the EIA Regulations, the proposed development has been assessed for potential effects during both the construction and operational phases of the development, whilst effects have been analysed in terms of residual and cumulative; temporary and permanent (short and long term); and beneficial, negligible and adverse.

14.3.2 It is acknowledged that for Ground Conditions and Contamination there are a number of minor to moderate adverse residual effects on Human Health (construction workers and dust) associated with the development. However, these are all related to the construction and potential subsequent decommissioning of the development itself and are therefore temporary short-term residual effects. On this basis, they are not considered significant.

14.3.3 All residual effects associated with Air Quality are considered to be negligible, whilst there will be no residual effects associated with Water Environment. No significant residual effects have been identified from the scheme on its own with regard to Natura 2000 sites (Severn Estuary), whilst the implementation of the ecological enhancements would result in a minor positive permanent residual effect on ecological receptors at a local level. Cumulative effects have been identified whereby Previously committed developments are anticipated to result in exceedance of the NOx deposition threshold by themselves, before the contribution from the proposed asphalt plant is taken into consideration.

14.3.4 The contribution of the proposed development to the nutrient loading impacts on the salt-meadow is considered to be very difficult to quantify, representing in effect a very small increase in nutrient input that may result in reduced species diversity over time. Whilst the magnitude of the impact is uncertain, it is considered highly likely to represent a negligible/unmeasurable fraction of the overall effect, which is likely to reduce in time with the introduction of higher proportions of electric vehicles.

14.3.5 Mitigation has been proposed, however, due to the high sensitivity and international designation, any negative impact upon the qualifying features of a Natura 2000 site must be subjected to Appropriate Assessment by the Local Authority.

14.3.6 On this basis, the conclusion reached by the ES is that there are adequate mitigation measures available to ensure that the proposed development could proceed without giving rise to unacceptable environmental effects, even in combination with other committed developments in the immediate vicinity.

14.3.7 The mitigation measures proposed would ensure to minimise any adverse residual effects on the existing environment or local amenity, whilst any adverse effects are either temporary in nature (i.e. Ground Conditions and Contamination effects during the construction phase) or can be actively managed through ongoing monitoring (i.e. Ground Conditions and Contamination, Ecology etc.).

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