

Terry Davies
Neath Port Talbot County Borough Council
Civic Centre
Port Talbot
SA13 1PJ

Date: 13 July 2022
Subject: Sustainable Urban Drainage – SAB approval for Storage Bunker

Introduction

Tata Steel is looking to improve the material handling infrastructure at the ore stocking yards. The proposed additional raised raw materials bunker and expansion of the conveyor system will deliver the improved operation of the material handling infrastructure.

Supporting drainage information has been submitted to the Council under planning application P2021/0071. Initial comments have been received on the application, some of which we will address in this letter.

The proposed location of the bunker is on open, soft ground to the west of the ore stockyards. The Structure will be piled and the support columns set into a limited concrete slab that does not cover the entire footprint of the structure.

The roof area of both the new bunker and the additional conveyor system exceeds 100m². Under Flood and Water Management Act 2010 Schedule 3, we are required to submit plans to address Sustainable Urban Drainage to the SAB.

The nature of the Port Talbot steelworks, the proposed development and its limited drainage implications, and the context of this construction project indicate that a proportionate application is more suitable than a full SAB submission.

Context of the Project

The proposed construction area currently lies in open, soft ground to the west of the ore stockyards. This ground was original developed by laying slag from the main works to for a level construction platform. It is currently covered with residues from many years of stocking iron ore in the area. There is no vegetation in the area due to the constant movement of vehicles and placement and removal of ores.

The current conveyor belt and associated infrastructure to move ores around the stocking area and to the sinter plant has no drainage infrastructure. Any rainwater that

falls on bunker roofs or conveyors runs off and is absorbed into the underlying soils. There is no drainage infrastructure in proximity to the construction site, the nearest entry point into the Tata Steel network is approximately 1 km away from the application site.

The proposed bunker structure will be piled. The support columns will be set into a limited concrete slab that does not cover the entire footprint of the structure. This approach will allow water run-off in the same manner as existing structures. The conveyor system is an extension of the infrastructure that exists and will be covered with a simple roofing system to limit water getting onto the material and dust generated when in transport.

Proposed approach to SAB and drainage

The SUDs guidance states under Standard S1 (Surface water runoff destination) that there is a hierarchy of options. Priority 1: Surface water collection is the most desirable and Priority level 5: Surface water discharge to a combined sewer being the least desirable.

In the case of this development, collection of rainwater is not considered practical owing to the potential for water to be impacted by iron ore dusts. There is potential for water to be impacted by other fluxes stored in the area. It is likely that the re-use of water without a significant water treatment system would not be possible.

The second level of priority is surface water runoff is infiltrated to ground. This is what Tata Steel is seeking to do for this project. Given the size of the ore stockyards and the area that remains suitable for rainwater infiltration, it remains the best option in this case.

As mentioned in the previous section, the proposed supporting concrete structure forming part of the application is not a uniform slab under the bunker. The areas inside and outside the concrete supports are still porous to allow rainwater to pass through. This is the current system that is in place and is practical for this area of the site. There can be some localised ponding during heavy sustained rainfall, but the water quickly dries or is drained away once this stops.

If this proposed rainwater infiltration into the soft ground in the same was as is existing in this operational area of the site is deemed to be non-desirable, then a connection to the Tata Steel trade effluent system would need to be installed. Any such pipeline connection would need to be below ground. It could not take a straight route under the ore stocks and would need to be carefully routed.

Tata estimates that the connection would be approximately 2km in length. We have conducted preliminary estimates on cost of excavation and installation of a new drainage run at £55 per metre, giving an approximate cost of £110,000. This does not take into account preliminary works, design, service clearance and potential re-routing of traffic. Given the size of the construction project and the average Port Talbot rainfall this drainage would transport 0.28m³ per day into our network. This would be a very excessive solution financially and have a lesser priority in terms of the SAB guidance. It is not considered feasible in this instance and has been ruled out on the basis of both cost and compliance with the SAB guidance.

Standard S2 covers the hydraulic control of the drainage system. In the case of permeable surfaces, it is assumed that this would be in compliance given the large area of open ground before meeting a tarmac road.

Standard S3 cover the water quality of the resulting rainwater. Given the context of the area, runoff from the roof of the bunker or conveyor onto the ground will not have a significant contaminant loading. There is a potential for low levels of wind blow ores to be washed to the floor but these do not produce leachates that have significant toxicity. Therefore, a treatment system for dealing with this small amount of runoff is not deemed to be required or economically practical.

Standard S4 covers amenity. Once again, it is important to understand the context of the site. The area is located in the middle of an iron ore stocking yard. It is not practical or safe for people to be stood in this area and the proposed structure is unmanned. Tata Steel does not want to cause people to enter the area unnecessarily. No amenity features are proposed in this area.

Standard S5 covers biodiversity. Given the context of the area, it would be impractical to try and improve biodiversity in the area immediately around the project area. However, Tata Steel proposes to allocate sections of land close to the project that will be used to form soil bunds and re-greening as part of the proposal along the roadside. These bunds will be grassed or naturally allowed to seed to improve both plant life in the area but also attract insects and other invertebrates. These bunds have the added advantage of segregating the roadways from the verges, preventing soil being carried on to the road and mitigating fugitive dust emissions. A plan showing the section of bunding assigned to this project can be found at the end of this letter. The proposed section of bund assigned to the project is approximately 110m long. This is considered to be an effective and proportionate level of biodiversity enhancement provision for the project.

Lastly, Standard S6 covers design of the drainage system, operation and maintenance. Given that the proposal is to allow rainwater to drain to ground, then this standard is largely irrelevant. Design of the structure and conveyors systems has been submitted to the Council, which includes the details of the roof system in place. There is no need for maintenance of the system and the rainwater will naturally infiltrate into the groundwater.

Conclusion

We believe that the solution detailed above provides the best drainage solution for this project taking into account the context of the setting and wider site. There will be no additional burden on the sewer systems or any rise in the potential for the area to flood. More importantly there is no increased risk to residential properties as a result of this project.

Appendix A
Proposed Location of Bunds and Details of Construction

