A30 CARLAND CROSS TO CHIVERTON CROSS PROJECT COMPLETED CASE-STUDY

A MEMBER OF HOLCIM

AGGREGATE INDUSTRIES

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AGGREGATE INDUSTRIES WORKED AS PART OF A LARGE SCALE ROAD INFRASTRUCTURE PROJECT ON THE A30, BETWEEN CARLAND CROSS AND CHIVERTON CROSS.

THE BRIEF

In December 2020, Aggregate Industries was awarded a contract as part of a £480 million route improvement project on the A30 between Carland Cross and Chiverton Cross. This project, now completed, worked to improve the vital link between Penzance and the M5 motorway.

The project was designed to separate the strategic road network from local traffic to reduce congestion and delays, especially during the busy summer season. The scheme was funded partly by a contribution from the European Regional Development Fund of £8m for development costs, and a further £12m for construction.

THE SOLUTION

Aggregate Industries supplied approximately 345kt of aggregates in total.

The project was the largest road infrastructure project in Devon and Cornwall for decades and with that came natural logistical considerations. Working year round in the Cornish climate meant all weathers had to be contended with, as well as longer travel times for materials required due to the site location. The busiest period for the project was from December 2023 to June 2024 and during this time, the region experienced higher than average rainfall, with the South West already receiving half the amount of rainfall expected for the year by March 2024.

In a bid to reduce travel time and transport associated emissions, the majority of asphalt was supplied from Aggregate Industries' Melbur plant, just 10km away from the site. The plant in Moorcroft, Plymouth was on hand throughout to support with supply where required and still support other local markets. These asphalt plants also benefited from a £4.4 million investment for upgrades to allow them to meet the daily tonnage outputs required for the scheme. The upgrades allowed for warm asphalt mixes to be produced at higher than ever volumes. Almost all base and binder material used were Warm Mix Asphalt, which was chosen due to it being less energy intensive and thus allowed for more carbon savings.

The local landscape and biodiversity were kept as a priority for the entire project. Cornish hedges were constructed using traditional methods of building around the project, ensuring the works were in keeping with the local environment. A Cornish hedge features a stone face, making it highly resilient, which covers tightly compacted soil which limits water penetration. There are approximately 30,000 miles of Cornish hedge in Cornwall currently, and all of this acts as a seed bank which helps land regenerate rapidly.

The project took a year longer than initially expected, as when works began it was found that cheap and non-performing materials had been used previously, meaning more extensive work was needed to remedy this than originally planned for.

In a UK first for bituminous paving, a fully automated machine level control was used to level the mainline base layers. The system could be programmed with data that could calculate the different surface tolerance and levels required.

Avni Vadgama, at Aggregate Industries comments: *"Seeing this project wrap up after several years is a proud moment for us. The project serves as a brilliant example of collaboration across three of our divisions. Each team worked closely and can serve as a model for our future collaborative works. Our work on the A30 really demonstrates our commitment to carbon saving in construction".*