

**ARMOURSTONE**



**ROCK-SOLID  
PROTECTION:  
STALLINGBOROUGH  
SEA DEFENCES**

**CASE STUDY**

# ROCK-SOLID PROTECTION:

## AGGREGATE INDUSTRIES DELIVERS VITAL MATERIALS FOR STALLINGBOROUGH SEA DEFENCES

### THE BRIEF

Leading building materials supplier, Aggregate Industries, has successfully delivered 89,000 tonnes of high-quality rock armour as part of the Environment Agency's £29 million Stallingborough Sea Defence Improvement Scheme.

### THE CHALLENGE

Aiming to enhance coastal defences and protect critical infrastructure along the Humber Estuary, between the ports of Immingham and Grimsby, this ambitious project required 70,000 tonnes of granite to be shipped from Aggregate Industries' renowned Glensanda superquarry in Western Scotland via Immingham Dock in Lincolnshire.

### THE SOLUTION

The stone, weighing between 0.3 to 1.0 tonnes per piece, made the two-day sea voyage aboard the 90-meter-long Hagland Saga, with each of the 17 shipments carrying approximately 4,500 tonnes. Upon arrival at Immingham, the cargo was swiftly offloaded and transported by road to the project site in Stallingborough. Additionally, 19,000 tonnes of smaller grade rock armour, ranging from 60kg to 300kg, were sourced from the firm's Bardon Hill quarry in Leicestershire. Delivered in approximately 700-tonne loads, this material was essential for reinforcing the sea defences.

Working in conjunction with Jackson Civil Engineering, Aggregate Industries ensured a seamless and efficient delivery process, overcoming the challenges posed by migrating birds which limit works within the designated Humber Estuary site between April and September every year. Additionally, the team had to manage unpredictable docking times and quay locations within 48 hours' notice, showcasing their ability to adapt and respond quickly.

**Nick Gilbert, Business Development Manager at Aggregate Industries commented:**

**"WE ARE PROUD TO HAVE PLAYED A CRUCIAL ROLE IN THIS SIGNIFICANT COASTAL DEFENCE PROJECT. OUR COMPREHENSIVE TRANSPORTATION NETWORK AND AGILE WORKING METHODS ENABLED US TO MEET THE LOGISTICAL CHALLENGES OF THIS COMPLEX AND REACTIVE PROJECT. THE DEDICATION AND EFFICIENCY DEMONSTRATED BY OUR TEAM AT IMMINGHAM ENSURED THE TIMELY DELIVERY AND DISCHARGE OF EACH CARGO."**

The Stallingborough Sea Defence Improvement Scheme is the third phase of ongoing coastal improvements and is designed to provide a further 25-year design life to the current flood defence embankments. This project will see the repair and fortification of a 4.5km stretch – including some 3km of rock armour – with the works comprising resealing and improvements of existing revetments, some of which date back to the 1953 North Sea flood. This effort will safeguard 2,300

homes, vital infrastructure and industry, as well as precious habitats. In addition to this, four major water course culverts that pass through the rock armour revetment will also be upgraded to ensure that they are structurally sound, tidal resilient and have access improvements for the next 25 years.

**Nigel Priestley, Senior Project Manager for the Environment Agency commented:**

**"AGGREGATE INDUSTRIES HAVE PROVIDED A GREAT SERVICE TO JACKSON AND THE ENVIRONMENT AGENCY BY SUPPLYING THE SMALLER ROCK TO ALLOW INSTALLATION TO COMMENCE IN 2023, AND THEN THE LARGER ROCK FROM OBAN, THROUGH THE WINTER, IMPACTED BY NUMEROUS STORMS, IN TIME FOR A MARCH 2024 START. THE OPTION TO DELIVER BY BOAT FROM THE UK HAS ALSO SAVED A SIGNIFICANT AMOUNT OF CARBON TOO AND MINIMISED TRANSPORTATION BY ROAD."**

The granite used in this project, known for its durability and longevity, is an ideal material for modern sea defences. With a lifespan exceeding 100 years, these specialist aggregates are designed to withstand harsh weather conditions and dissipate wave energy, mitigating soil erosion and maintaining the natural integrity of the landscape.

Beyond its protective capabilities, the rock armour also promotes vegetation growth and facilitates habitat creation, aligning with Aggregate Industries' commitment to environmental sustainability. This project will not only fortify the coastline but also nurture a harmonious balance between environmental protection and preservation.

