

Lagoon Weir Box

Andrew Barber, Mark Beagrie | 26 Apr 2022 | ID254

🚩 Idea of the Month Competition Nominees

✅ Closed with success by Andrew Barber

Approver: Andrew Barber

Implementation coordinator: Andrew Barber

Plan: Quick Wins

Classes: Efficiency + Employee Engagement + Environmental + Health & Safety + Quality

Problem, context, environment, status

Requirement to raise lagoon water level in small increments to prevent water loss through sand embankments via seepage while maintaining safe access.

Resources: [Before Original Weir Box](#)



Before Original Weir Box

Description of the initiative

Following a brainstorming session with the team a design was developed to enable the weir box to follow the angle of the embankment at 1in2. The weir box has horizontal holes cut at 300 mm intervals in the front face to which sealed doors can be fitted as the silt level increases allowing the clean water depth to be maintained.

The weir box concept was designed, fabricated and installed using in-house facilities.

Resources: [Weir Box following embankment.](#), [Base of Weir Box](#), [Weir Box water level control.](#), [Winning Image April 2022.png](#)



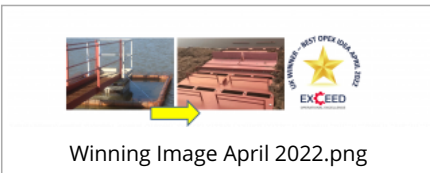
Weir Box following embankment.



Base of Weir Box



Weir Box water level control.



Expected benefits

Provides continuous supply of clean water for processing, allows water level in lagoon to be increased in small increments preventing excessive seepage. This can all be carried out with safe access while fitting doors to weir box.

Due to the size of the weir which has been created this enable the top 50 mm of clean water to be recovered.

Financial analysis

Title	Impact distributed over time	Forecast amount
Enabling continuous production by providing clean water. OCF for our quarry is in excess of £500 per hour with this system it enables continuous production by providing clean water and prevent excessive water loss through seepage which would prevent production. 5 Hours per week x 4.2 Weeks x 5 = £60375K	15-12-2021 – 15-12-2026	£60,375.0
Costs	01-03-2022	-£2,000.0
Total cost amount		-£2,000.0
Total gains amount		£60,375.0
ROI		£58,375.0
Profitability		2,919%

Andrew Barber – 28 Apr 2022