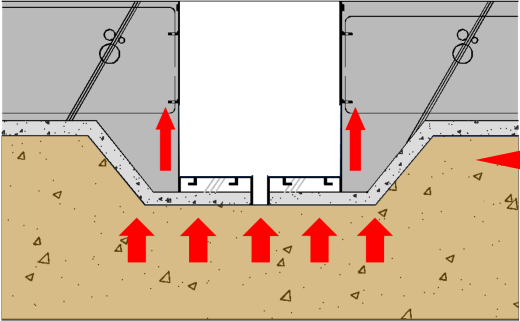
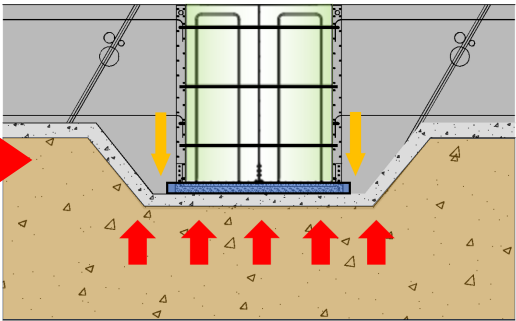
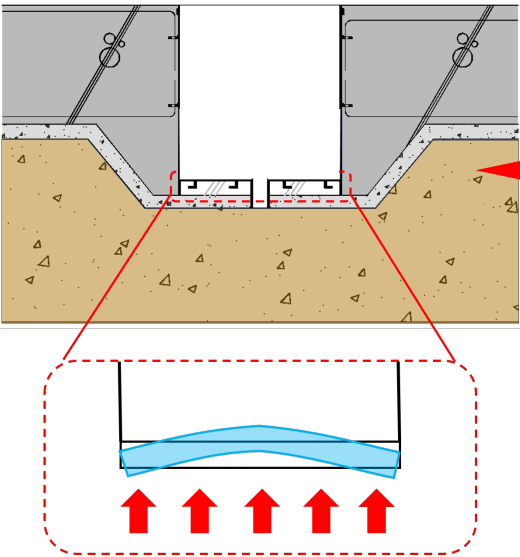
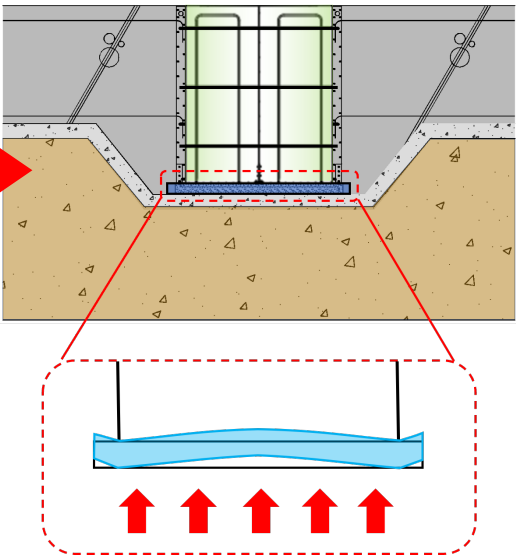
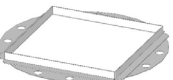
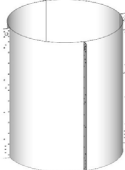
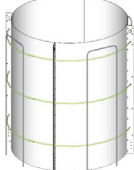
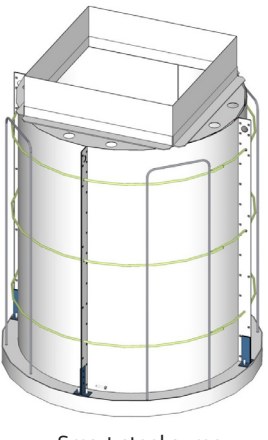


	Existing steel sump	VS	Smart Steel Sump
Bottom Plate			
	Bigger bottom plate prevent slip and makes it sturdy		
Bending Moment			
	As it becomes more sturdy, the bending moment of the lower plate decreases, enhancing structural stability.		
Production Process & Price	 Top support angle  Concrete stopper  Lateral plate  Combine rebar  Bottom plate  Pour concrete  Smart steel sump 70% Price Achieves economic efficiency at about 70% of the existing cost through simplified production and development of a form-resistant design.		

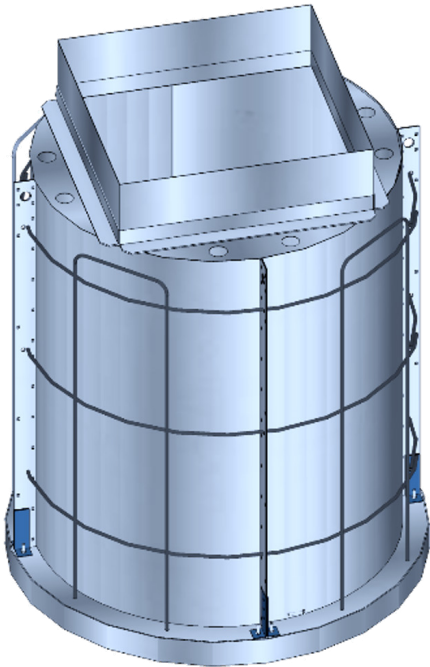
“We independently develop technologies that can innovate construction sites.”

Barona

Smarter Steel Sump,
Innovation from the Original Leader

Smart Steel Sump

Baro ConKey Co.,Ltd.
Office of Constructional Key Technology/Structural Engineers



Retains full performance as the original steel sump at 70% of the cost.



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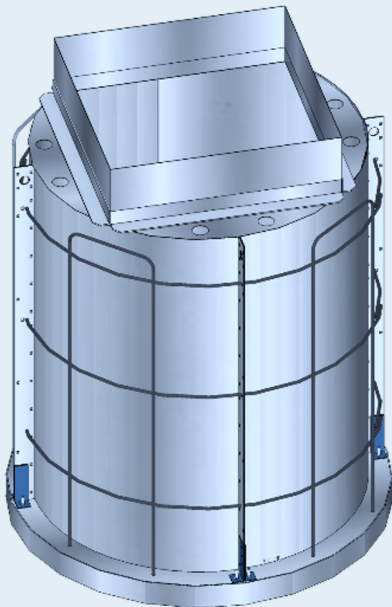
baro-ck@baro-ck.com

Baro ConKey Co.,Ltd.
Office of Constructional Key Technology/Structural Engineers

What's Smart Steel Sump?

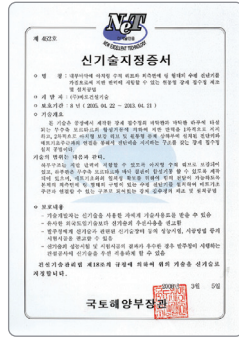
The steel sump collects and drains rainwater or wastewater, offering enhanced construction efficiency and structural stability compared to traditional concrete sumps

2025



- 1 Cost-effectiveness secured**
Produced at approximately 70% of the cost compared to conventional products
- 2 Manufactured using eco-friendly methods**
Excludes plastics and hot-dip galvanizing
- 3 Structural stability enhancement**
Reinforced with vertical ribs and rebar placement
[4 Types by Size]
A type: 1m' / B type: 1.73m' / C type: 3.38 m' / F type: 8m'

2005



Ministry of Land, Transport and Maritime Affairs New technology No.452

2001



Development of original "Barona Steel Sump"

Before



Concrete Sump

"After launching in Korea, more than 2,500 units have been applied over the past 20 years."

Concrete Sump vs Smart Steel Sump

- In rocky ground conditions, excavation is difficult and groundwater inflow degrades concrete quality
- Excessive rebar placement and excavation make construction complex, leading to labor and schedule losses



Excavation is difficult in hard rock ground conditions



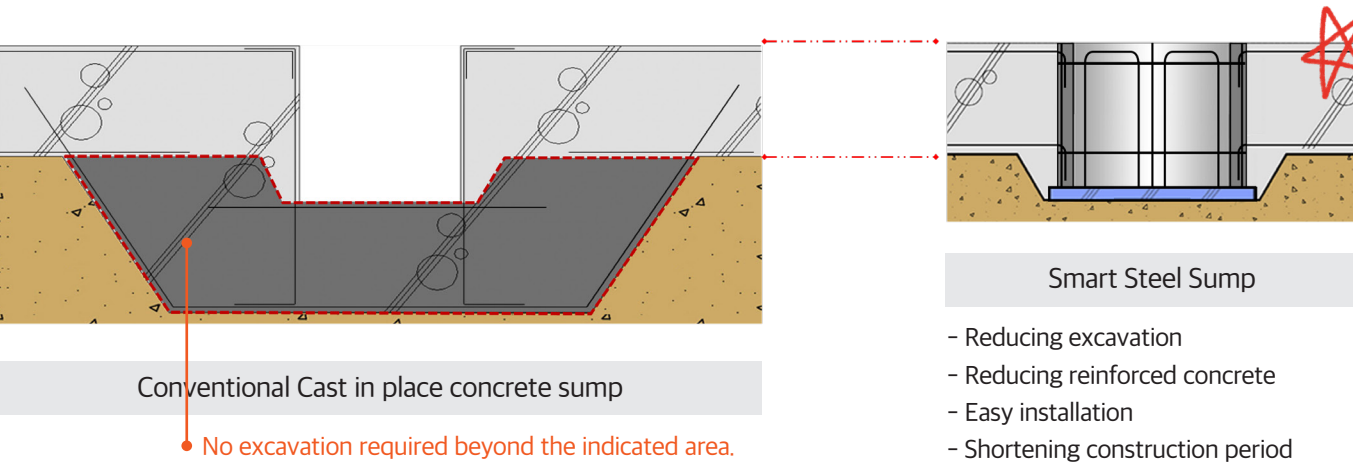
Groundwater inflow degrades concrete quality



High rebar density increases construction difficulty



Difficult to install drainage pipes and high risk of pipe damage

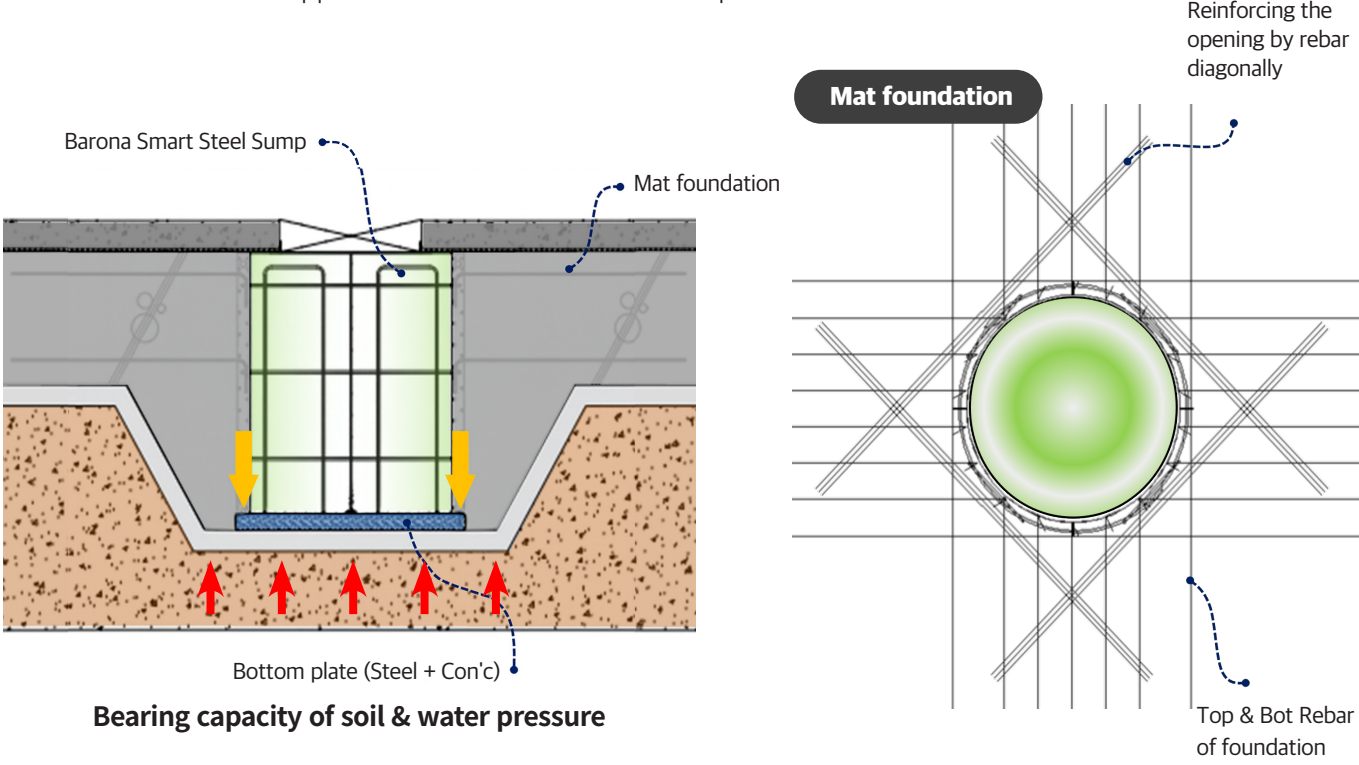


Conventional Cast in place concrete sump
No excavation required beyond the indicated area.

- Smart Steel Sump
- Reducing excavation
 - Reducing reinforced concrete
 - Easy installation
 - Shortening construction period
 - Steel sump's capacity up to 8 m³

Structure and Principle of Smart Steel Sump

- Moment loads and shear loads are carried by the mat foundation.
- Opening around sump is reinforced with rebars.
- The bearing capacity of soil and water pressure are supported by the bottom plate of the sump, and mat foundation supports the bottom slab of the sump



Installation Process

