ReGen Global

UNLEASHING THE WATER TREATMENT POWER OF REGEN STORMCRATES

The Revolutionary Solution For Sustainable Water Management

Welcome to the world of sustainable water management!

At ReGen Global, we believe that sustainable water management is a team effort. That's why we partnered with EcoRain Solutions Limited (ERS) - a leading provider of sustainable water management solutions, with well over 35 years in the industry, pioneering sustainable urban drainage systems.

Today, we're excited to introduce you to ReGen Global StormCrates, a revolutionary solution that's changing the way we think about managing runoff and waste water. With StormCrates, you can say goodbye to traditional drainage systems and hello to a more efficient and cost-effective way of managing water.

ReGen Global is manufacturing, supplying, installing and developing NEW leading technology for sustainable, organic water filtration, storage and treatment. We have patents and registered designs for all of our products and systems.

ReGen Global brings EXPERIENCE, EXPERTISE, & QUALITY systems utilized by major engineering, architectural government agencies, and construction companies, in multiple countries, including the USA, Europe, Asia, Middle East, Australia, and South America. We deliver unique systems innovations that transform water management.

Our StormCrates are specially designed crates that are installed underground to collect and store runoff water from your property. They work by allowing the water to filter through the soil, which helps to reduce erosion and prevent pollution. Not only are they environmentally friendly, but they're also incredibly durable, have huge load-bearing capabilities, and are easy and cost-effective to install. So, whether you're a developer, city public works manager or a design engineer leader, our StormCrates are a perfect organic solution to your waste water management needs.

ERS
ECO-RAINWATER SOLUTIONS
SuDS SUSTAINABLE URBAN DRAINAGE SYSTEM

The Problem: Runoff Water and Its Impact on the Environment

Runoff water is a major problem facing our environment today. When rainwater falls on impervious surfaces like concrete or asphalt, it cannot soak into the ground and instead flows over the surface, collecting pollutants and debris along the way. This polluted water eventually ends up in our streams, rivers, and oceans, causing serious harm to aquatic life and ecosystems.

In fact, runoff water is one of the leading causes of water pollution in the United States. According to the Environmental Protection Agency, stormwater runoff is responsible for impairing over 40% of the USA's rivers and streams. It is a pervasive global challenge and is particularly acute in the Middle East, where water runoff and sand create acute drainage challenges. ReGen AquaTech systems offer effective and sustainable action to address this problem.

The Solution: StormCrates - Exclusive Benefits

Our StormCrates are designed to collect and retain rain and storm and run-off water, allowing it to filter through the soil and recharge our groundwater supply, store it to slow the water process, filter it for reuse, and harvest runoff water underground. In doing so, our StormCrates help to reduce erosion, prevent pollution, and protect our environment.

Our StormCrates offer a range of benefits that make them the ideal solution for sustainable water management. They are cost- effective, durable, easy to install and environmentally sustainable. And they are customizable to fit any size or shape property, road, or highway so you can be sure that your water management needs will be met in all conditions.

The Evolution: High Strength StormCrates

Superior Solution

Our patent-protected NEW High Strength underground stormwater storage system revolutionizes stormwater management by utilizing modular underground crates. This comprehensive solution provides numerous advantages over traditional methods, making it a compelling choice for government, developers, municipalities, and other industry stakeholders

Our underground water storage system's primary component is the modular crate, which offers several key advantages over alternative methods:

a. Cost-Effectiveness

The use of modular crates significantly reduces construction costs compared to traditional concrete structures. The lightweight design allows for easier installation, reducing labor, shipping and equipment expenses.

b. Flexibility and Scalability

Modular crates can be easily customized to fit project requirements, whether it's a small residential development or a large-scale commercial site. The modular nature of our system allows for scalability and adaptability as stormwater management needs evolve.

c. Efficient Space Utilization

The unique design of our modular crates maximizes storage capacity within a compact footprint. This efficiency is particularly beneficial in densely populated areas where space is at a premium.

d. Durability and Longevity

Our modular crates are made from high-quality plastic materials that are resistant to corrosion, decay, and chemical degradation. This durability ensures a long service life, reducing the need for frequent replacements and minimizing maintenance costs.

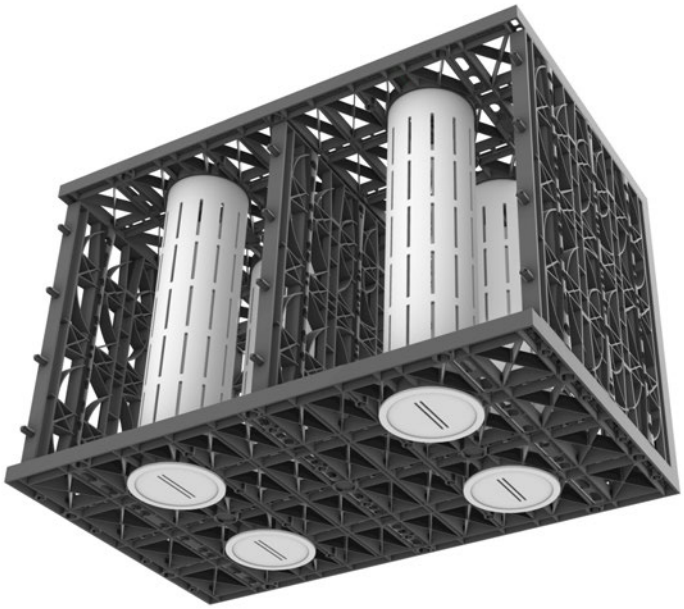
e. Environmental Sustainability

By capturing and storing stormwater underground, our system helps reduce the strain on existing drainage infrastructure and mitigates the risk of flooding. Our sustainable approach aligns with regulatory factors and promotes a greener, more resilient future.

High Strength (HS) StormCrates

Unconfined Crush Testing

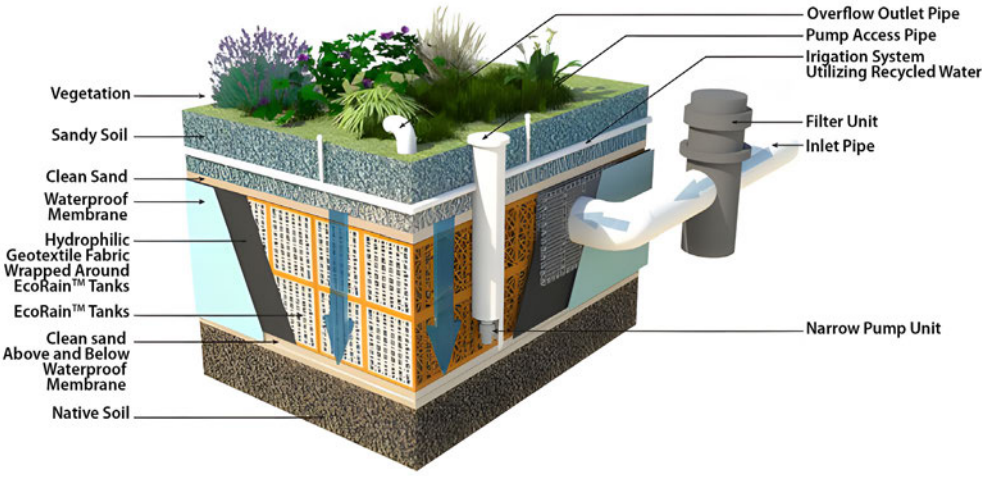
Load on Benchtop Press	H25 USA Standard
Crush Load	88.9 t/m2



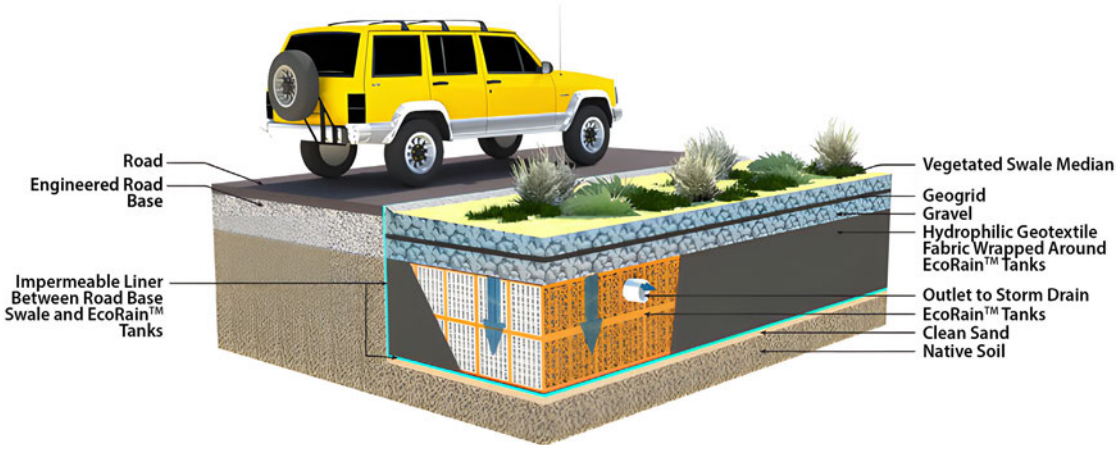
Manufactured in the UAE With In-Country Value

Typical Applications (1)

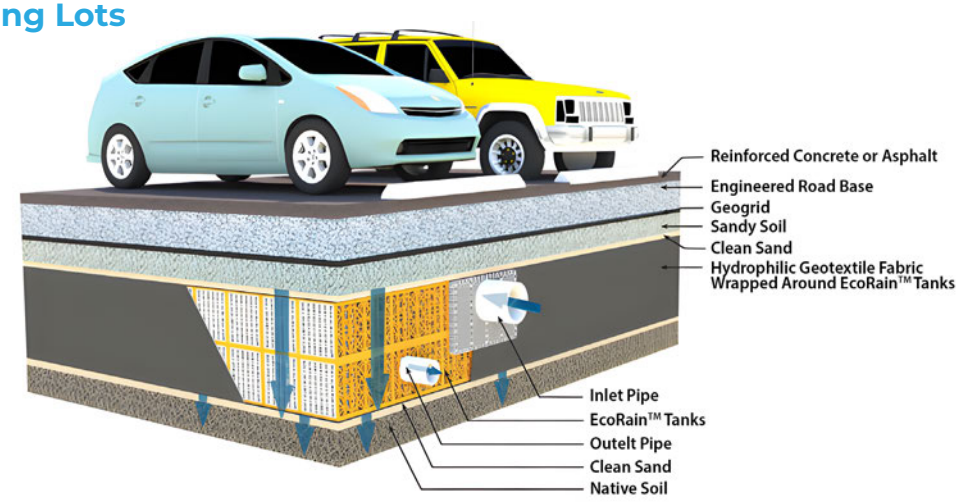
StormCrates Retention & Recycle



StormCrates Roads and Medians

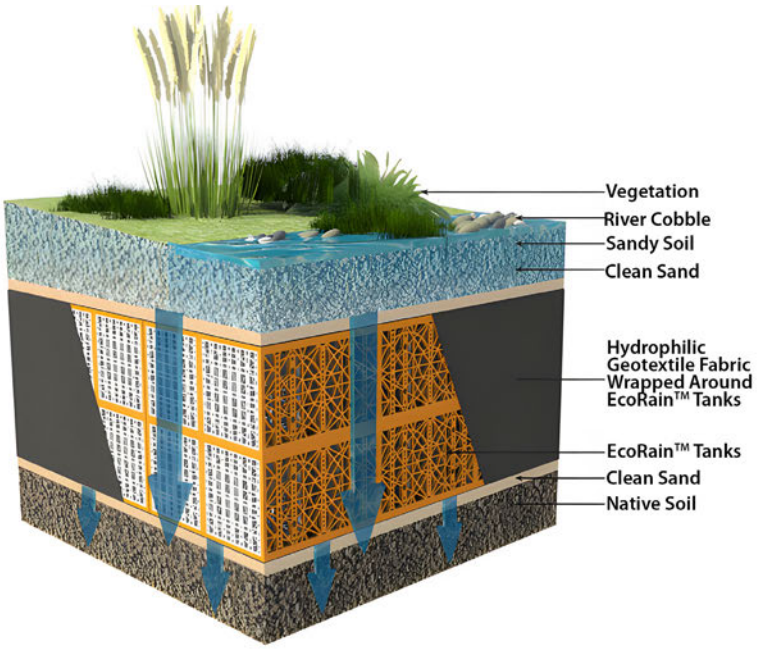


StormCrates Parking Lots

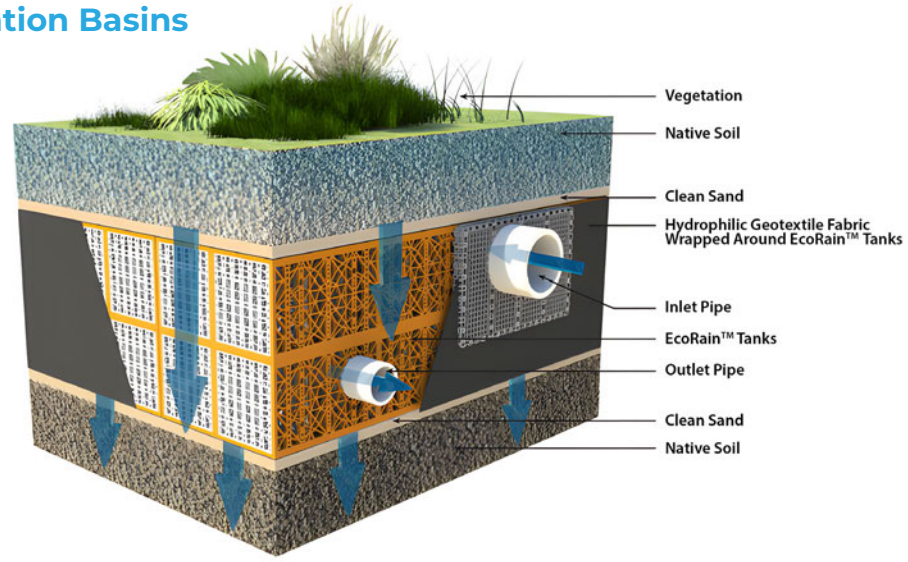


Typical Applications (2)

StormCrates BioSwale



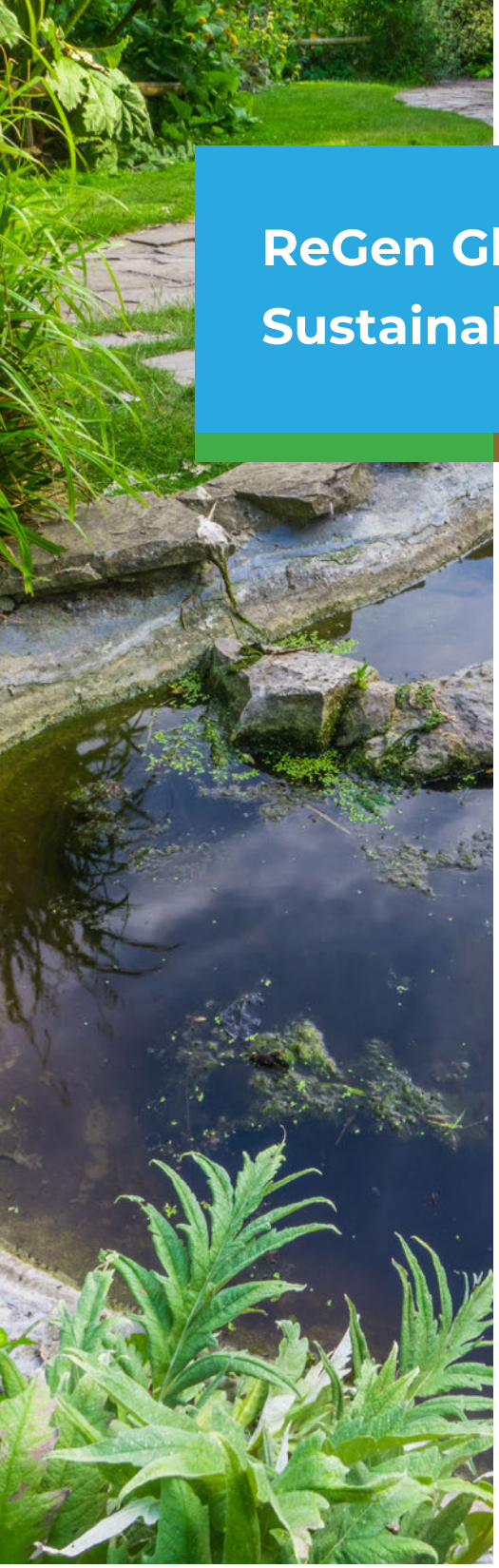
StormCrates Detention Basins



The applications of our StormCrates are limited only by imagination. We are currently in the design phase of a major project to collect, filter and treat the water supply and ground runoff for 10,000 head of cattle in South America, for example.

From urban planning, urban development and infrastructure projects to agriculture and farming or landscaping at scale, the sky is the limit for ReGen's StormCrate systems. We can even add our cavitation ultrafine bubble technologies to work in tandem with StormCrates where enhanced water treatment impact is necessary. Speak to us about your needs and we will create a bespoke, visually stunning and sustainable water treatment solution, unmatched by any other solution in the market.

Applications and Past Projects

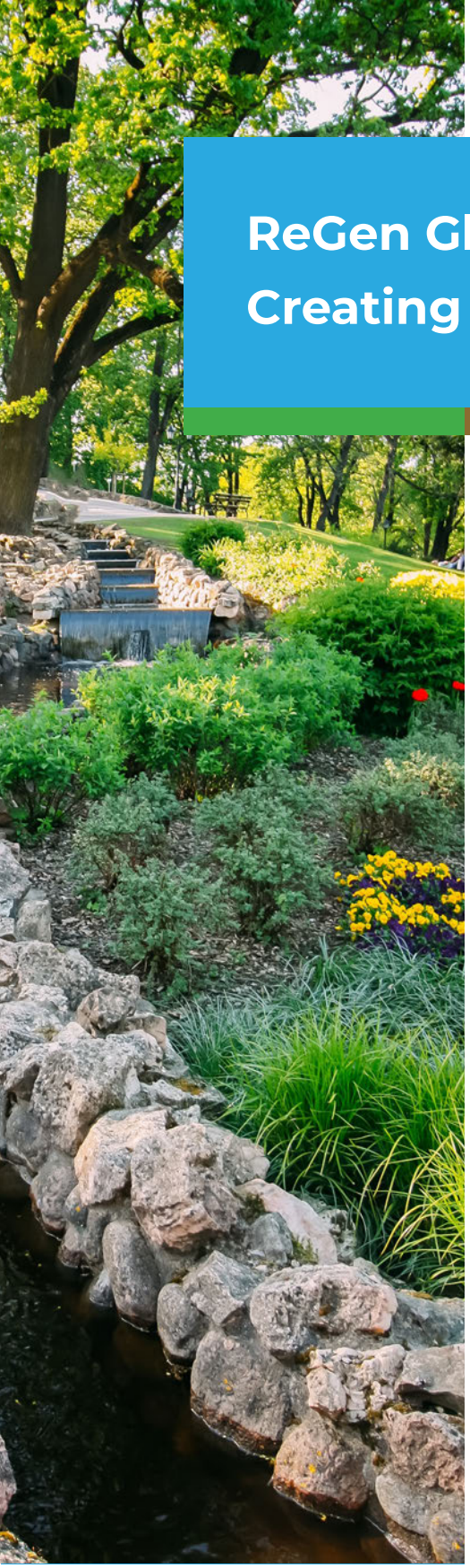


ReGen Global StormCrates
Sustainable Water Management

ReGen Global supports the achievement of sustainability goals; from reducing carbon footprint to saving money with smart simple designs. Under the experience and knowledge of our StormCrates system inventor, ERS Partner and Director Oscar Larach, we can take good care of your projects large or small, anywhere in the world. We consistently deliver effective, efficient and superior organic solutions for managing runoff and waste water, with beneficial impact on financial, natural and social capital.

To solve the water run-off challenges faced by a community in Florida, we placed our StormCrates under a car parking lot and created a sustainable total storm and wastewater management system that resolved the issues, saved costs and reduced the prevailing impact on natural resources. StormCrates can make a real difference in your water management and environmental efforts.

As your trusted partner in sustainable water management, ReGen Global delivers site assessments, design and engineering, installation, and maintenance. We will work with you every step of the way to ensure your StormCrates solution meets your needs, complies with all local regulations and creates enduring value.



ReGen Global StormCrates
Creating Stunning Landscapes

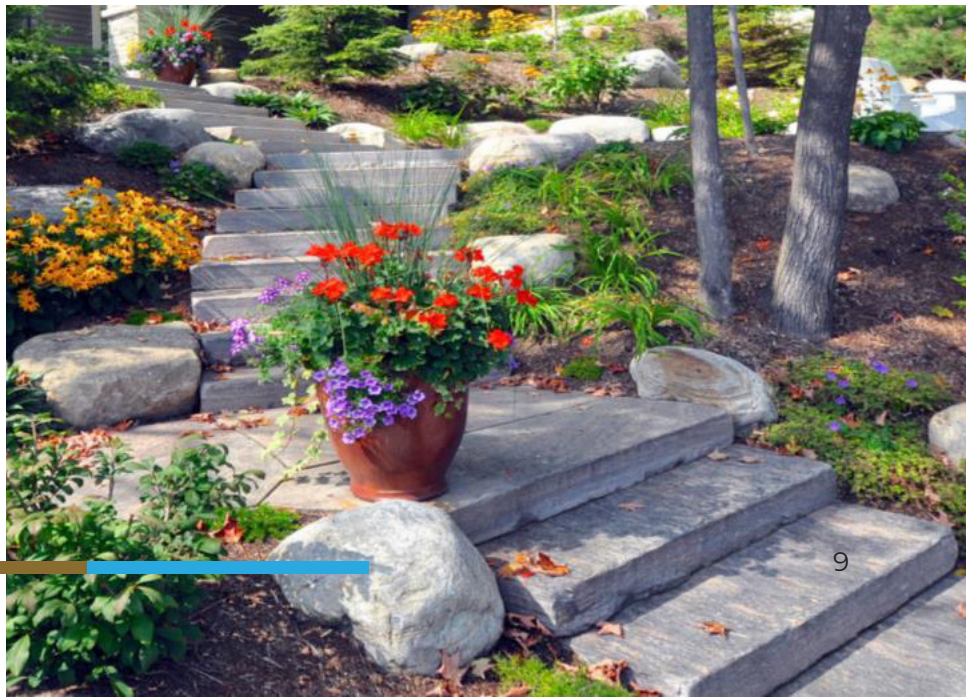
Regen Global seeks to deploy waste and storm water management systems that are aesthetically pleasing, discreet and naturally aligned.

Our StormCrates deliver a sustainable solution for managing runoff water that meet landscaping needs wherever they are deployed. With their unique design and durability, StormCrates can be arranged in various shapes and sizes in any environment, including as part of a landscaping system, to create visually stunning outcomes, operating in harmony with surrounding natural features.

By using our StormCrates as the foundation for your water management solution, you are not only showcasing your commitment to sustainability but also demonstrating your creativity and innovation.

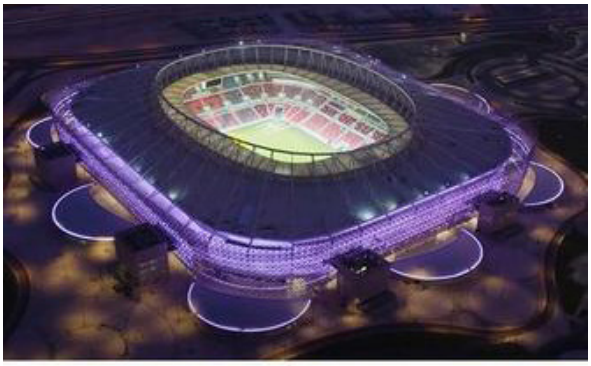
From planter boxes to green roofs, and sports fields, we can help you to have a naturally harmonious, aesthetically powerful and highly efficient water runoff system that looks incredible, supports sustainable water management initiatives and allows plants and grass to grow healthily as nature intended.

So, why settle for traditional landscape backdrops when you can create something truly unique with our StormCrates and drainage cells?



Past Projects – Our Excellence Guarantee

FIFA World Cup Stadiums Quatar



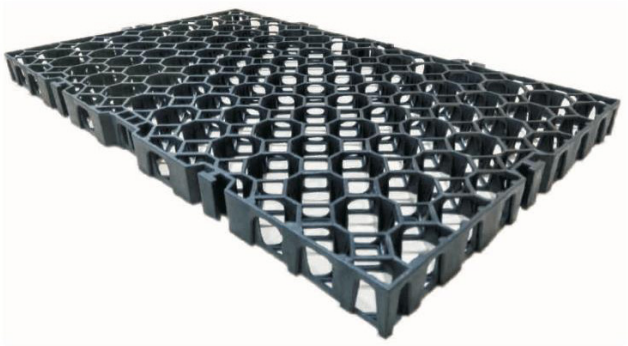
For the Qatar World Cup in 2022, FIFA required all the football pitches to have a water logging prevention system in place in case of heavy rainfall.

We engineered a solution using our 25mm cells. These flat cells were placed under the entirety of the pitches, allowing for the base and astroturf to be placed on top. This allowed for any surface water to be diverted to the edges of the pitch into a main drainage system.

Constructed in 2021, we placed the system under the football pitches and each pitch was 105m x 68m - a total of 7,140 m2.

We deployed 23,800 Stormwater Drainage Cells for each pitch on top of a waterproof membrane with a Geotextile fabric. Each cell measured 500mmx600mmx25mm.

Our cells are made from 100% Polypropylene and are compliant with ASTM D1621 Compressive Strength & ASTM D4716 flow rate of 120lt per minute per cell.



Past Projects – Our Excellence Guarantee

Naval Air Station Jacksonville

- The U.S. Navy collected rainwater from the helicopter hangar to use in the helicopter washing bays. They designed the System with StormCrates Single Tanks -1.5' tall.
- The System is under a parking lot.
- Two separate water reuse structures: 60,000 gallons and 40,000 gallons.
- Constructed in April 2009, the first Tank structure took 4.5 days to complete. The second Tank structure took three days to complete.
- The Total number of StormCrates Single Tanks used was 23,200.
- Native backfill was used for sand/gravel backfill mixture due to naturally high porosity rates.
- The total excavation footprint for each structure was approximately two feet due to high water tables.

Past Projects – Our Excellence Guarantee

Los Angeles Airport

- ERS rainwater management for the Runway 25L Relocation & Center Transitway Improvement at Los Angeles International Airport—LAX has two long Bioswales, one on each side of the new center taxiway, between the taxiway and the adjacent runways. An existing 32” diameter concrete drainpipe that runs through the center of the Bioswales has been retrofitted with inlets every few hundred feet to accept overflow.
- 13,828 Lineal Feet—over 2.6 miles of Bioswale
- 423,000 Cubic Feet / 3,164,040 Gallons / 9.7 Acre Feet
  61,460 Stormcrates ER-502 Double Tanks
- 32” diameter existing storm drain retrofitted with inlets every few hundred feet in the center of the Bioswale.
- Project built November 2006 to March 2008
- LAX is operated by the Los Angeles World Airways—LAWA, a department of the City of Los Angeles.
- HNTB Engineers designed the Bioswale, CH2M Hill served as site engineers, and Tutor-Saliba Construction as the General Contractor.

Long Standing, reliable Partner of Choice

As the proud license and patents holder of our StormCrate technology, with over three decades of assured delivery to clients across multiple regions and sectors, we have built a reputation for reliable, effective and cost-beneficial execution.

For assured, proven capability, ReGen Global is your partner of choice.

A selection of our satisfied customers are listed below. Join them in securing the benefits of our StormCrates technology- our exclusive ownership, deep expertise and an unyielding commitment to excellence.

Our Clients

W HOTELS

FIFA WORLD CUP Qatar2022

MAJID AL FUTTAIM

archcorp

ARUP

CH2MHILL

AMANA. WE BUILD WITH YOU

GULF ENGINEERING LLC

Hyder

Jafza Jebel Ali Free Zone A DP WORLD Company

JMC² CIVIL + STRUCTURAL ENGINEERING

KHATIB & ALAMI

KEO

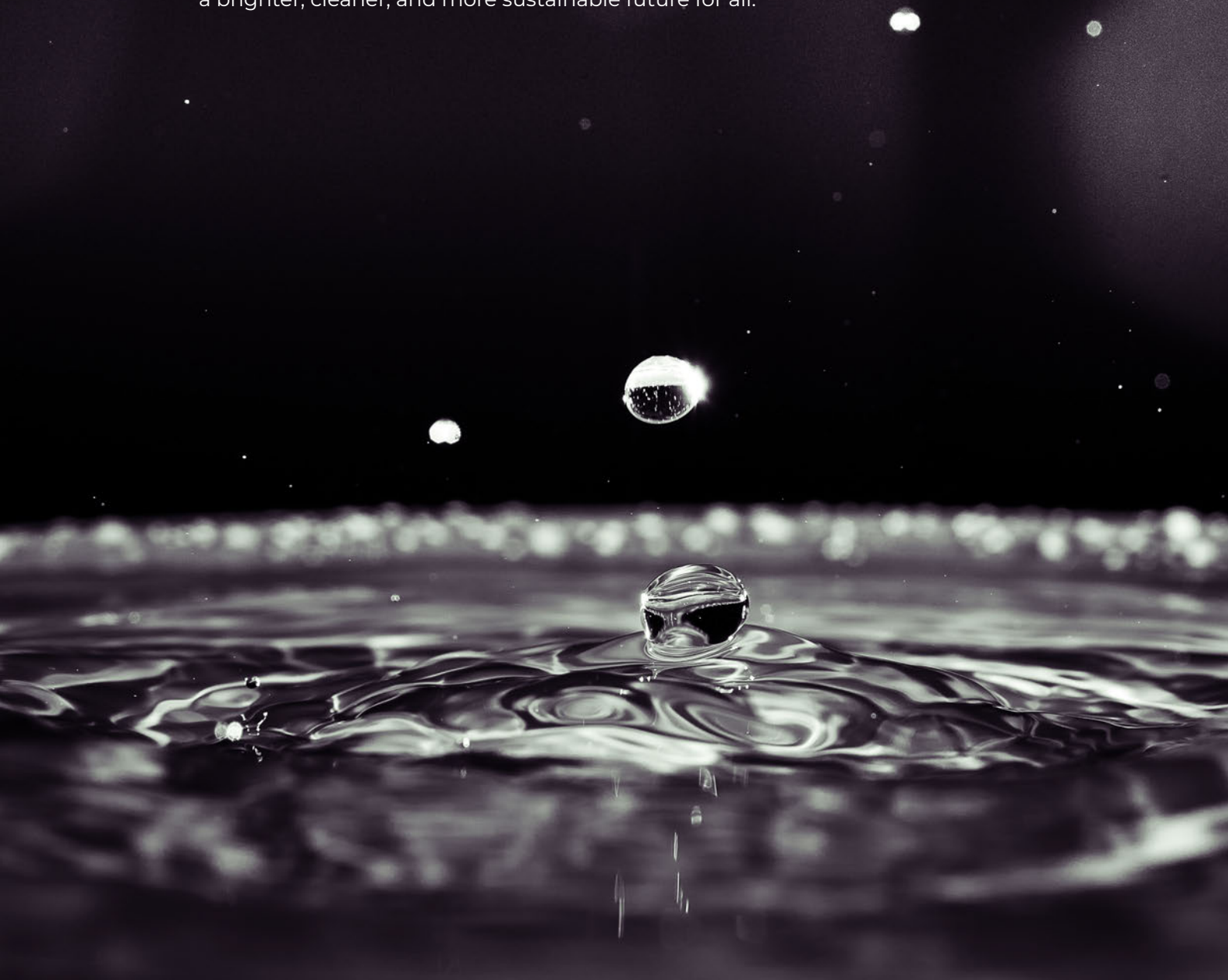
PARSONS BRINCKERHOFF

Public Works LOS ANGELES COUNTY

CONCLUSION

Join the Sustainable Water Management Movement with ReGen Global Solutions

Thank you for joining us on this journey towards sustainable water management. We hope that this presentation of our StormCrates has inspired you to act and make a difference in your community. By partnering with ReGen AquaTech, you can be a part of the solution to the problem of runoff wastewater and water treatment, and help protect our environment for future generations.
So, what are you waiting for? Contact us today to learn more about how we can help you achieve effective water management solutions and contribute towards your sustainability goals. Together, we can work in harmony with nature to create a brighter, cleaner, and more sustainable future for all.



ReGen GLOBAL™

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ReGen Global

STORMCRATES TECHNICAL DATA

Our Differentiation – Our Unique Innovation

ReGen Global StormCrates
Our Unique Value and Technical Differentiation

- Eliminates the need for granular backfill material, streamlining installation processes and reducing associated costs.
- Significantly reduces procurement, transportation, and manpower expenses by eliminating the requirement for aggregates, leading to overall cost savings.
- Occupies a smaller footprint compared to traditional systems, offering greater space efficiency while maintaining the same water volume. Shallow installation depth translates to reduced ongoing maintenance costs.
- Minimizes excavation volumes, preserving site topography and minimizing soil movement, thereby reducing preparation time and environmental impact.
- Provides superior hydraulic efficiency and volumetric storage capacity with a 95% void ratio, ensuring optimal performance.
- Boasts exceptional mechanical strength, capable of supporting over 80 tons per square meter, ensuring durability and long-term reliability.
- Offers a modular, flexible, and adaptable design, allowing for seamless integration into various project requirements and configurations.
- Enhanced accessibility facilitates regular inspections and enables more effective preventive maintenance through exclusive inspection plates, ensuring system integrity.
- Made from high-density polypropylene, the system is recyclable, promoting sustainability and contributing to a reduced environmental footprint.
- Manufactured in the UAE – providing In-Country Value, supporting the local economy, reducing costs and ideally positioned to deliver in the Middle East.

StormCrates are a more efficient and economically viable, long-term sustainable solution.

Hydraulic Efficiency

Exceptional Infiltration Rates

Our StormCrates boast infiltration rates exceeding 1000mm/h, facilitating aquifer recharge and minimizing surface runoff. With a volumetric infiltration capacity of 95%, they efficiently handle large rainwater volumes by maximizing soil exposure and promoting water absorption in all directions.

Optimal Water Handling

Unlike other systems that rely on large amounts of aggregates and perforated pipes or arches, our StormCrates excel in water management. Traditional methods often offer lower infiltration rates (50-200 mm/hr) and volumetric capacities (75-85% void), limiting their ability to handle substantial water volumes effectively.

Storage and Retention

Superior Storage and Retention

The StormCrates system boasts an impressive storage and retention capacity of 95%, facilitated by its modular crates. This allows for gradual water release and precise flow control, ensuring efficient water management.

Flexible Configuration

With storage capacities ranging from 450 Lts (Single Crate) to 2,200 Lts (Pent Crate) per square meter, the system offers flexibility to adapt to varying project needs. Our StormCrates are modular in design to facilitate customizable configurations that accommodate specific storage and retention requirements, optimizing space efficiency and minimizing disruption.

Versatile Installation

Our StormCrate design allows for versatile installation in any shape, maximizing space efficiency and minimizing disruption. In contrast, other systems relying on perforated pipes or arches often have lower storage capacities and limited temporary holding capacity, primarily focused on evacuation velocity, capacity, primarily focused on evacuation velocity.

Module (Units)	Width (mm)	Width (Inches)	Length (mm)	Length (inches)	Height (mm)	Height (inches)
Single (1)	410	16.14	685	26.97	450	17.72
Double (2)	410	16.14	685	26.97	880	34.65
Triple (3)	410	16.14	685	26.97	1310	51.57
Quad (4)	410	16.14	685	26.97	1740	68.50
Pent (5)	410	16.14	685	26.97	2170	85.43

Module (Units)	Tank Vol (Ltrs)	Tanl Vol (cf)	Tanl Vol (gal)	Water Storage (Lts)
Single (1)	126.38	4.46	33.36	126.28
Double (2)	247.15	8.73	65.30	247.19
Triple (3)	367.91	12.99	97.17	367.83
Quad (4)	488.68	17.26	129.11	488.74
Pent (5)	609.44	21.52	160.98	609.38

Mechanical Resistance

Robust Construction

Our StormCrates are crafted from high-density polypropylene (HDPP), ensuring durability and reliability. With a compressive strength of up to 400 kN/m² and the ability to withstand lateral loads of up to 25 kN/m², the system offers exceptional structural integrity

High Load Capacity

Our StormCrates boast a static load capacity of up to 80 tons per square meter, tailored to specific configurations and requirements. This ensures stability and resilience even under heavy loads, guaranteeing long- term performance

Superior Performance

In comparison, other systems may vary in impact resistance depending on the material used, introducing additional challenges and costs in challenging environments. Their load capacities typically range from 10 to 30 tons per square meter, based on configuration and backfill type, potentially limiting their suitability for demanding applications.

Load test- Client requirement

		Position	Details
001: Maximum load		Normal	See comments
Item 0 1 :	With 4 pipes and 3 Inner Plates		
	Loading Face (mm) 405 x 678		
	Cross-sectional area (m2): 0.27459		
	Crushing load: 239.7 kN / 24.4 tons		
	Crushing strength (tons/m2): 88.9		

Service Life Durability

Long-Term Reliability

Our StormCrates are engineered to surpass design periods of over 100 years, ensuring a durable and weather-resistant solution for the long-term future. This longevity provides peace of mind and reduces the need for frequent replacements, resulting in additional cost savings over time and superior through life value.

Resilient Design

Our StormCrates' ability to withstand adverse environmental conditions reinforces our system resilience and assured longevity, ensuring reliable performance over the long term. Its modular and robust design minimizes the need for frequent maintenance and replacement, optimizing operational efficiency and reducing costs.

In contrast, other systems have varying service lives influenced by factors such as backfill type and site-specific conditions. Reliance on stone backfill can pose environmental challenges related to material extraction and transportation, potentially affecting sustainability goals and raising project and ongoing costs.

Abrasion Resistance

Enhanced Durability

Our StormCrates are engineered with robust abrasion resistance, ensuring long-lasting performance and stability even in adverse environments. The use of high-density polypropylene (HDPP) enhances durability, protecting against wear caused by moving solid particles.

Resilient Construction

The modular cells of our StormCrates feature an open structure and sturdy walls, minimizing direct contact with abrasive surfaces. This design element significantly contributes to our superior abrasion resistance, guaranteeing sustained functionality over time.

In contrast, other systems reliant on perforated pipes or arches may be more vulnerable to abrasion, particularly in high-impact areas. The material used in these systems often leads to wear and tear over time, especially in conditions with significant abrasion.
Therefore, careful consideration is necessary when selecting materials for applications in abrasive environments. Our systems are robust and assured.

Surface area	90 to 95% void
Material	100% recycled Polypropylene, virgin pipes
Biological & Chemical Resistance	Unaffected by mould and algae, soil-bourne chemicals, bacteria, bitumen
Service Temperature	-30°C to 120°C (-22°F to 248°F)
Flow rate	0.038 m3/sec

Load Cycles And Dynamic Resistance

Structural Integrity

Our StormCrates design, combining modularity with robust mechanical strength, ensures exceptional resilience against dynamic load cycles. The system effectively withstands constant changes in loading conditions without compromising its structural integrity.

Flexible Adaptability

Constructed from high-density polypropylene (HDPP), ReGen StormCrates possess inherent flexibility that enables them to adapt to stresses generated by dynamic loads. This flexibility is particularly beneficial in managing load fluctuations within stormwater management systems, enhancing overall system reliability and longevity

Sustainable Development

Sustainable Construction

The utilization of sustainable material options underscores our commitment to sustainability, offering an eco-friendly and durable solution. StormCrates are recyclable and reusable, aligning with environmental objectives and reducing waste. We champion sustainable practices by utilizing recycled polypropylene in our construction and offering permeable paving options. Our commitment to eco-friendly materials aligns with environmental regulations and fosters sustainable development best practice

Compliance and Efficiency

Unlike other systems that require additional measures to meet sustainability standards, our StormCrates provide a straightforward solution that seamlessly integrates with environmental requirements, ensuring compliance and operational efficiency

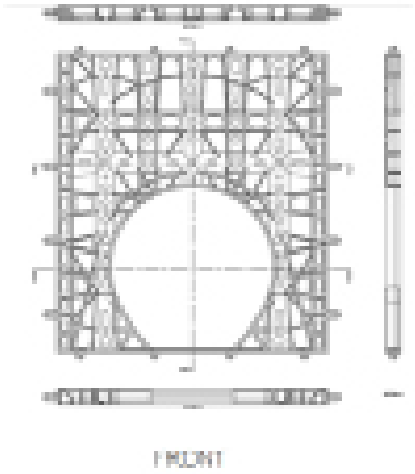
Local Manufacture and In-Country Value

We establish regional manufacturing facilities to minimize our carbon footprint and optimize local benefits. We manufacture in the UAE, ideally poised to support projects in the MENA region and qualifying for In-Country-Value. We also manufacture in India and are currently establishing a manufacturing capability in Canada. This layered regional infrastructure helps to support our operations globally, reduce our carbon footprint and provide cost-benefits to our clients, all whilst delivering positive local economic and social impact.

Inspection And Maintenance

Enhanced Accessibility

Our StormCrates offer ease of access for interventions and repairs due to their modular design and absence of granular material, allowing for timely inspections and maintenance. The open cells enable visual inspections, facilitating early detection of issues and minimizing system downtime.



Efficient Maintenance

Regular inspections are streamlined with our StormCrates system, leading to more efficient scheduling of maintenance activities and reducing downtime. This proactive approach to maintenance ensures optimal system performance over time

Comparative Challenges - Our Competition

In contrast, other systems reliant on buried perforated pipelines or arches and extensive granular material and aggregates may pose challenges in access and inspections. Limited visual inspection capabilities and the need for specialized equipment can hinder early problem detection and significantly increase maintenance costs

Economic System

Experience the unparalleled economic efficiency of our StormCrates system, where durability meets cost-effectiveness and sustainability. By eliminating the need for granular and stone backfill (specific and costly aggregate required for our competitors' systems), our system not only simplifies installation but also reduces material and transportation expenses and carbon footprint. Unlike traditional methods, our system doesn't require additional shipping or transportation of materials, ensuring a streamlined and budget-friendly process.

With a smaller footprint compared to pipes or arches, our system maximizes space utilization and minimizes project constraints, leading to reduced excavation time and costs, quicker completion times and superior results. Unlock the benefits of sustainable and efficient stormwater management now by contacting us at ReGen AquaTech.

Standard Crates Dimensions
ALL H25 load rated

Module (Units)	Width (mm)	Width (Inches)	Length (mm)	Length (inches)	Height (mm)	Height (inches)
Single (1)	408	16.06	685	26.97	450	17.72
Double (2)	408	16.06	685	26.97	880	34.65
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Pent (5)	408	16.06	685	26.97	2170	85.43

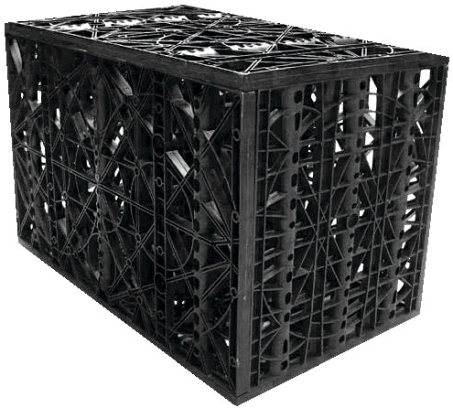
Module (Units)	Tank Vol (Ltrs)	Tank Vol (cf)	Tank Vol (gal)	Water Storage (Lts)	Water storage Vol (cf)	Water storage Vol (gal)
Single (1)	125.77	4.44	33.22	119.47	4.22	31.56
Double (2)	254.94	8.69	64.97	233.64	8.25	61.72
Triple (3)	366.12	12.93	96.72	347.80	12.28	91.88
Quad (4)	486.31	17.17	128.47	461.93	16.31	122.03
Pent (5)	606.46	21.42	160.21	576.10	20.35	152.19

Surface area	90 to 95% void
Material	100% recycled Polypropylene
Biological & Chemical Resistance	Unaffected by mould and algae, soil-bourne chemicals, bacteria and bitumen
Service Temperature	-30°C to 120°C (-22°F to 248°F)
Flow rate	0.038 m3/sec

Ultimate Load/ Unconfined Crush Testing:

Load Underground	To H25 USA Standard	Over 50,000 Lbs
Crush Load 5 Plates	35.97 t/m2	
Displacement	11 mm	0,433”
Temperature	8-14°C	46.4- 57.2° F

5 INNER PLATES Single Crate



High Strength Crates Dimensions
ALL H25 load rated

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Single (1)	410	16.14	685	26.97	450	17.72
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Material	100% recycled Polypropylene, virgin pipes
Biological & Chemical Resistance	Unaffected by mould and algae, soil-bourne chemicals, bacteria, bitumen
Service Temperature	-30°C to 120°C (-22°F to 248°F)
Flow rate	0.038 m^3 /sec

Unconfined Crush Testing:

Load Underground	H25 USA Standard	Over 90 tons/ Sqm
Crush Load 5 Plates	88.9 t/m2	
Displacement	.5 mm	0.01”
Temperature	23°C	73.4° F

Single HS Crate Ultimate Load

REGEN GLOBAL STORMCRATES

Note

All ReGen Global Products and Systems are worldwide PATENT GRANT or PATENT PENDING & DESIGN REGISTERED

Safety Factors

Engineers, designers and geotechnical engineers should design and calculate safety factors to a serviceable limited state to suit specific project requirements. In case of doubt, please consult ReGen AquaTech.

Disclaimer

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ReGen GLOBAL™

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