
Environmental
Rainwater
Solutions, LLC
DESIGNED • ENGINEERED • INSTALLED

Designed •Engineered• Installed

CAPABILITIES

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Development Site Projects

New Hanover County.

- Sewers & Sewer Lift Stations
- Storm Drain Systems
- Infiltration Systems

Westfield Mall:

- Retention Ponds ---mall expansion
- Pervious Parking lot behind Dillard's

Dune Ridge @ Shell Island Cordgrass Bay:

- Site Work, Parking Lots And Infiltration System

Dockside Restaurant:

Designed and Installed Concrete Parking lot with Infiltration meeting CAMA approval.

Bridge Tender, Dockside, Creekside and Wrightsville Beach Marina

- Fuel tank installations:

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Residential Solutions

3,000 Gallons

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Commercial Solutions

3,800 gallons

10,000 gallons

550 gallons

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Institutional Solutions

16,000 gallons

10,000 gallons

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Institutional Solutions

120,000 gallons

Regional Jail

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Agricultural Solutions

25,000 gallons

3,000 gallons

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Alternative BMP

Regulatory Credits For

- Low impact development
- High density development

Water Quality Concerns

- ORW waters
- SA waters

Some Feasibility Considerations

- Soil analysis
- Topography
- Water table

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LEED

Points for Rainwater Harvesting

- Storm water design: Quality control
- Water efficient landscaping: Reduce by 50%
- Innovative wastewater technologies
- Water use reduction: 20% reduction
- Water use reduction: 30% reduction

Up to 11 points possible

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Required Items For Our Review

- Detailed site plan
- Treatment calculations

ERS Provides

- System model
- Water-balance calculations
- Operation & maintenance plan

**Needed for retrofit or new construction

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Our Stormwater Treatment Systems; operation and maintenance provisions

- Roof Area
- Gutter System or Conveyance
- Screens & Filters
- Cistern or Tanks
- Pump & Piping
- End Uses of Water
- Overflow Outlet
- Secondary Water Supply

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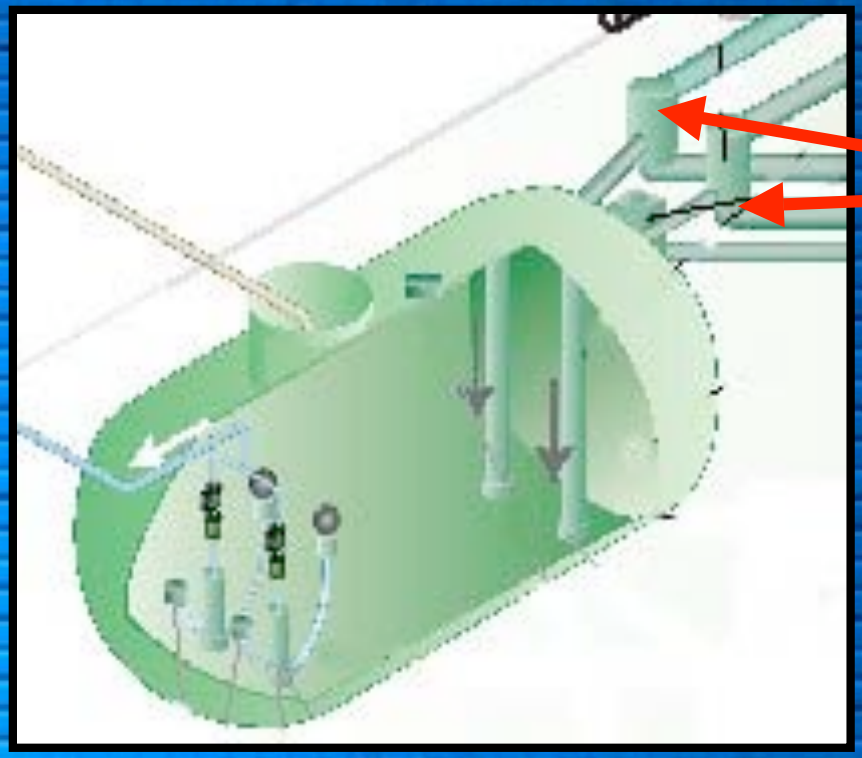
Components

4 steps to a Healthy Rainwater Harvesting System



Vortex Filters
for fine filtration and oxygenation

Smoothing Inlet
stable sedimentation and oxygenation

Floating Filter
takes the cleanest water

Multifunction overflow
for a clean water surface protects water quality

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Vortex Filter

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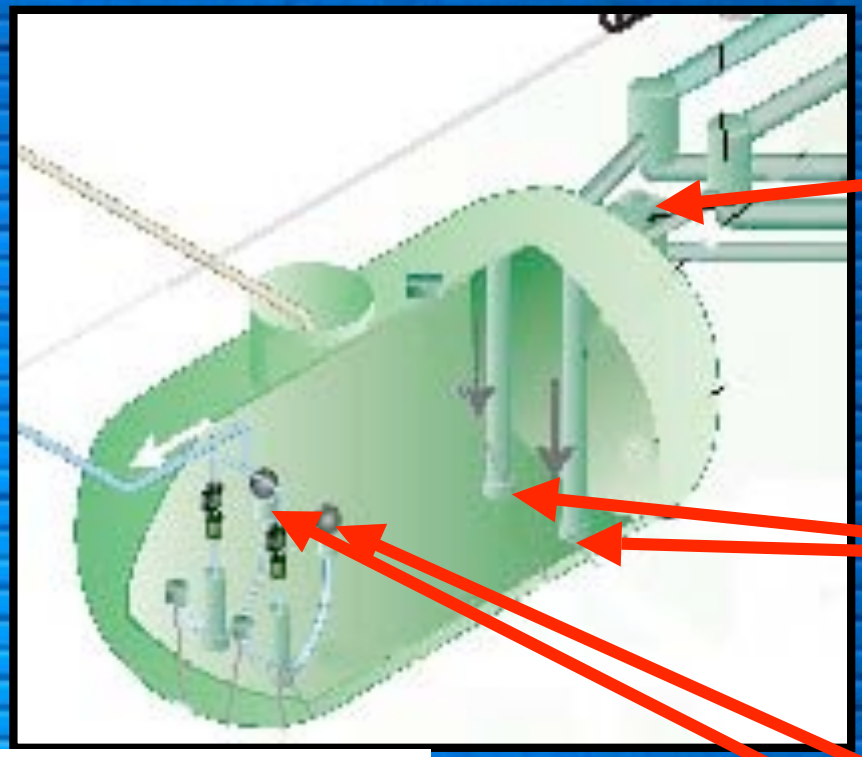
Components

4-Steps to a Healthy Rainwater Harvesting System



Multifunction overflow
for a clean water surface
protects water quality

Smoothing Inlet
stable sedimentation and oxygenation

Floating Filter
takes the cleanest water

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ERS
Rainwater Harvesting Packages

Small Residential

Above and Below Ground

Residential / Commercial / Industrial

Above and Below Ground

Potable: Above & Below Ground

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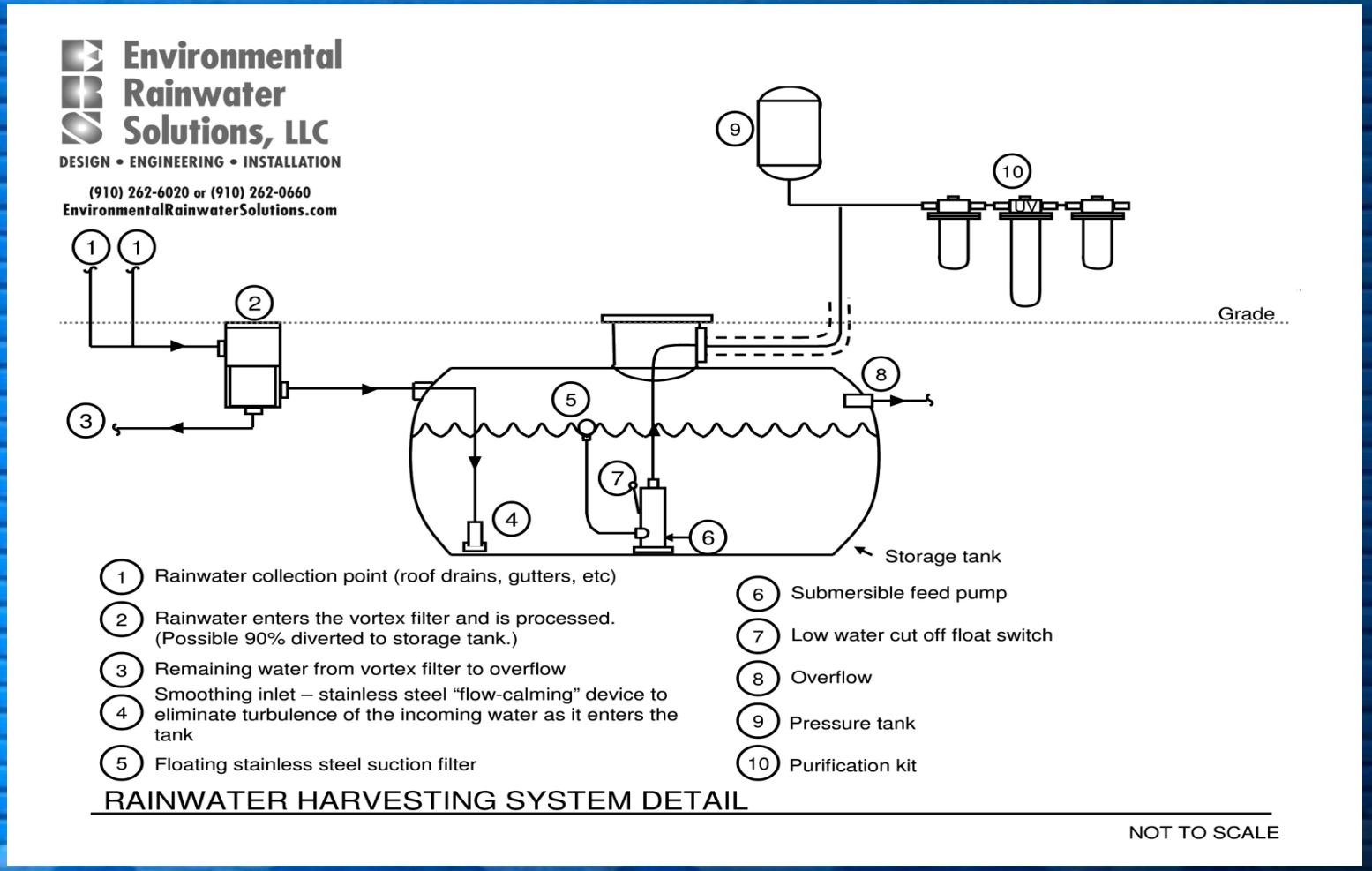
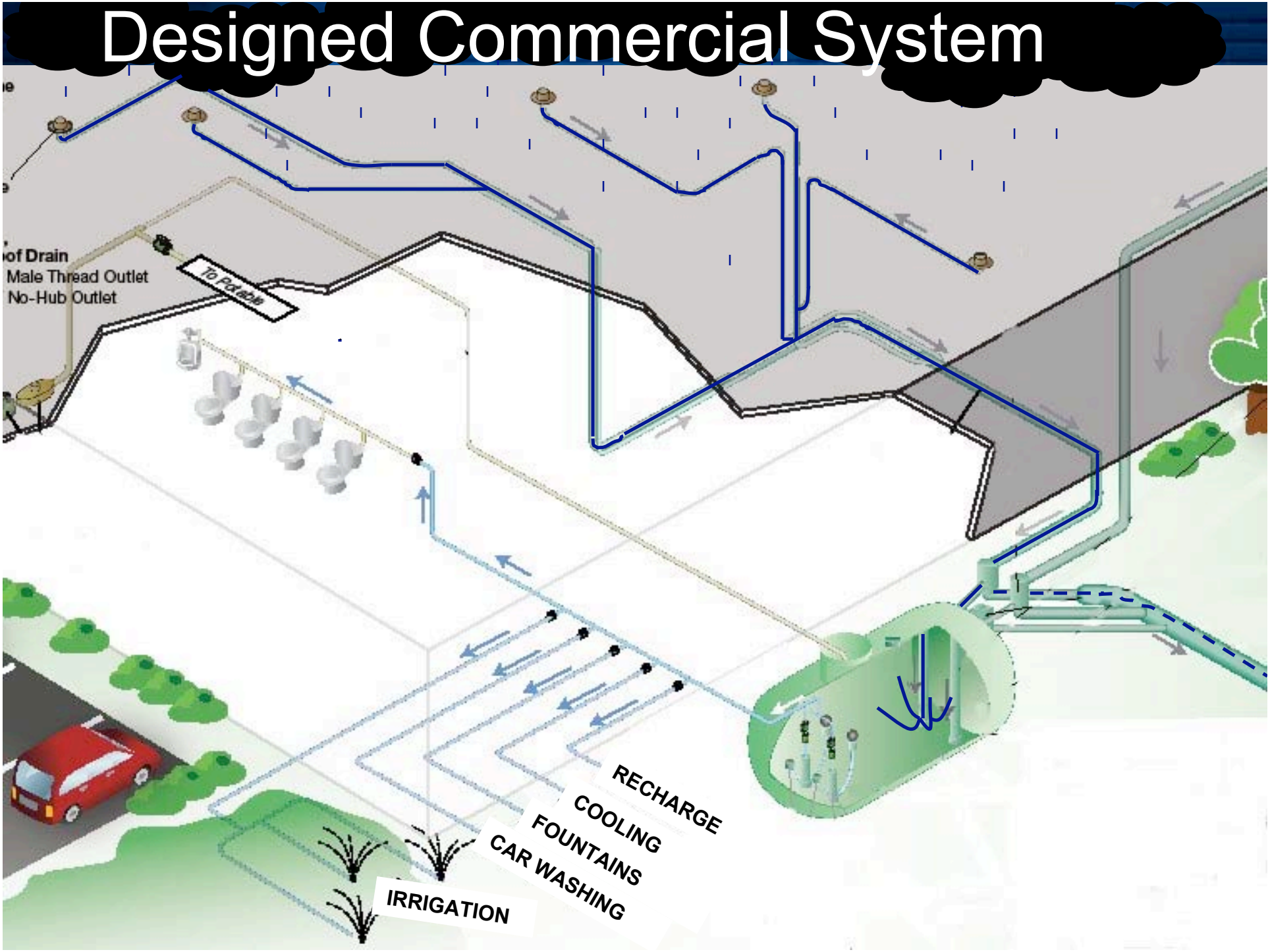
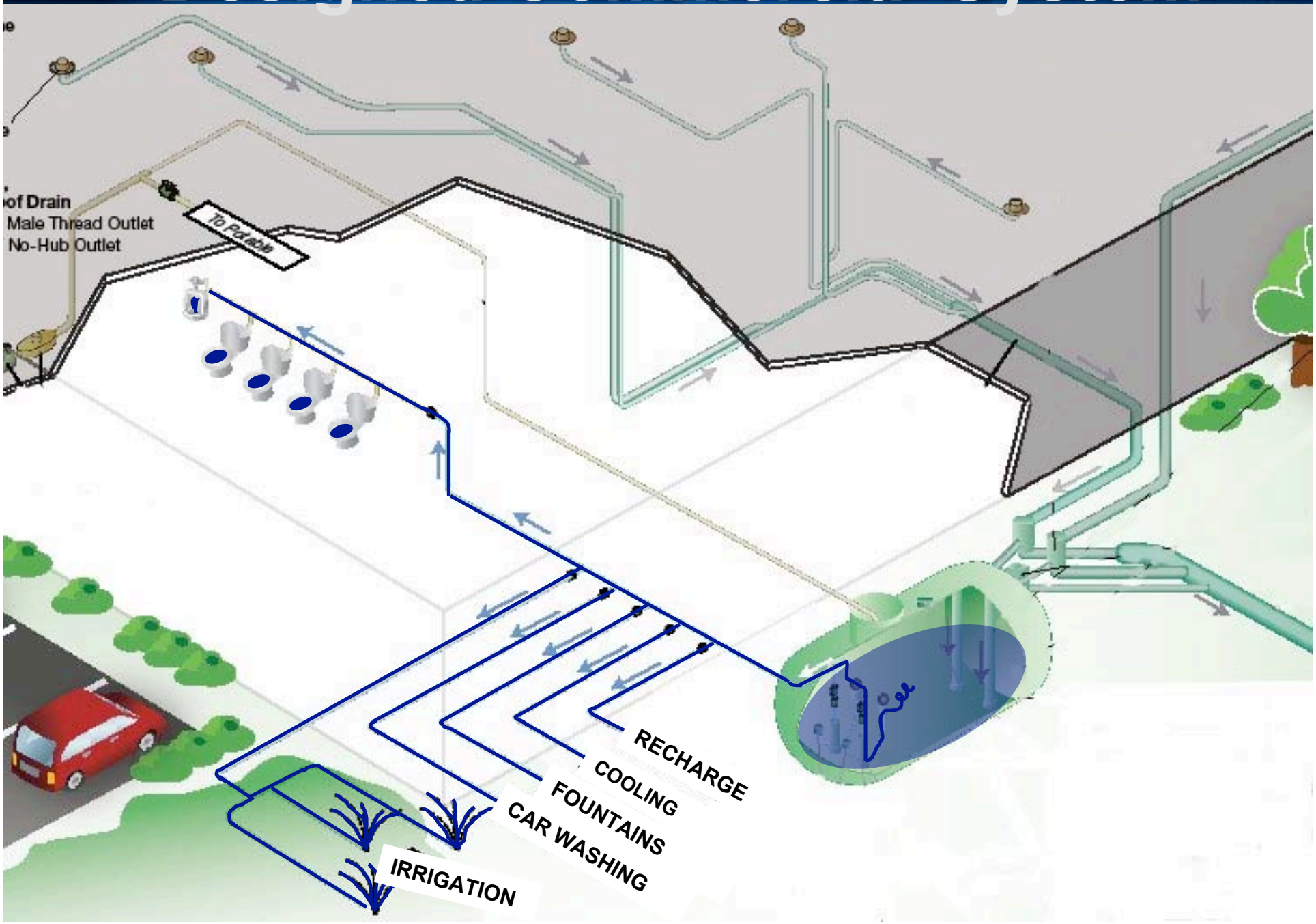
Typical Smaller Underground System with Purification



Designed Commercial System



Designed Commercial System



ERS Specific Needs Supporting Products

Purification Kit & Skid

- Treats rainwater to drinking water standards

Siphonic Roof Drains

- Designed to prevent air from entering the piping system on flat roofs

Modular Stormwater Storage Tanks

- Infiltration and detention systems or rainwater harvesting systems

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Rainwater Backflow Preventer

High Capacity VORTEX Filter

Rainwater Purification Filters

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OUR COMMITMENT

Environmental Rainwater Solutions, gives you choices on price and technology that best suit your needs.

We understand that each rainwater capturing project is different and the systems you choose can be tailored to fit your projects needs.

You can have the right products at the right price with Environmental Rainwater Solutions!

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PARTNERING

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+ YOUR TEAM

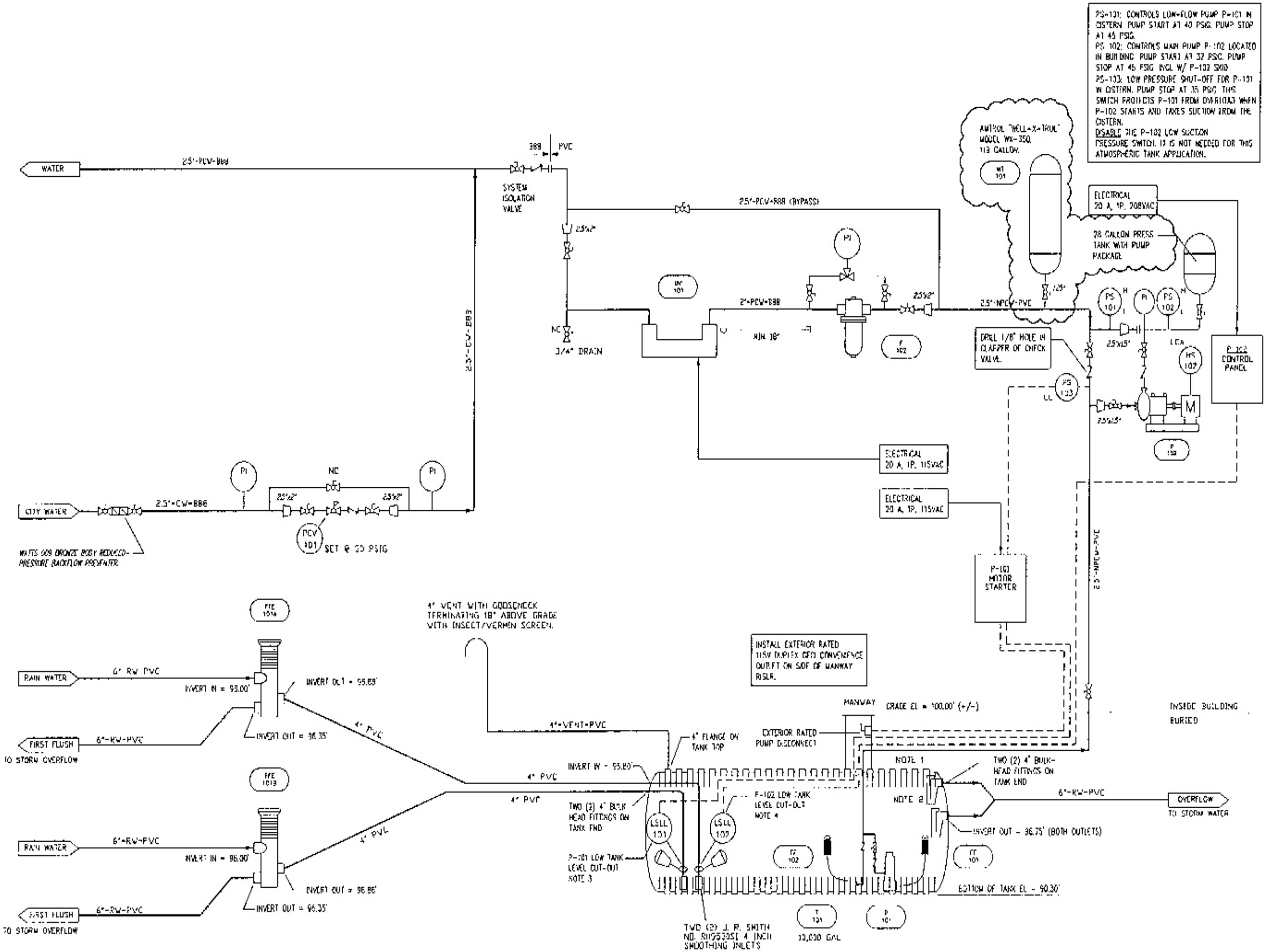
=

- CUSTOMER SATISFACTION
- SMALLER DETENTION PONDS
- REDUCED MUNICIPAL FEES
- REDUCED STORMWATER RUNOFF
- AUGMENTS OTHER WATER SOURCES
- MORE USABLE **GREEN** SPACE

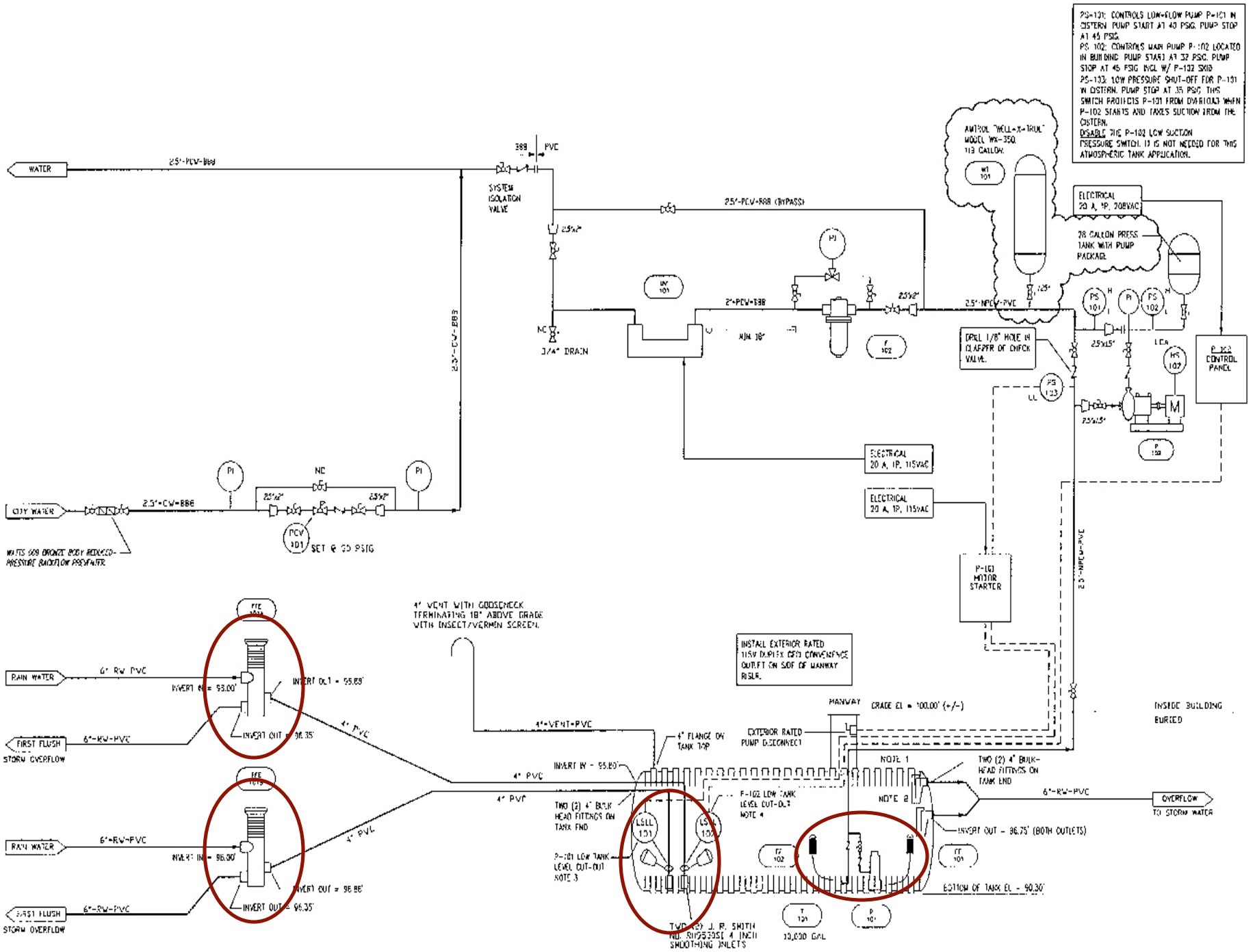
LEED POINTS

MORE EFFICIENT LAND UTILIZATION

INFORMATIONAL SLIDES



PS-101: CONTROLS LOW-FLOW PUMP P-101 IN CISTERN. PUMP START AT 40 PSIG. PUMP STOP AT 45 PSIG.
PS-102: CONTROLS MAIN PUMP P-102 LOCATED IN BUILDING. PUMP START AT 32 PSIG. PUMP STOP AT 45 PSIG INCL W/ P-102 SKID
PS-103: LOW PRESSURE SHUT-OFF FOR P-101 IN CISTERN. PUMP STOP AT 35 PSIG. THIS SWITCH PROTECTS P-101 FROM OVERLOAD WHEN P-102 STARTS AND TAKES SUCTION FROM THE CISTERN.
DISABLE THE P-102 LOW SUCTION PRESSURE SWITCH. IT IS NOT NEEDED FOR THIS ATMOSPHERIC TANK APPLICATION.
WATER
2.5"-PCW-888
SYSTEM ISOLATION VALVE
888 PVC
2.5"-PCW-888 (BYPASS)
AMTROL "WELL-X-TROL" MODEL WX-350, 119 GALLON.
ELECTRICAL 20 A, 1P, 208VAC
28 GALLON PRESS TANK WITH PUMP PACKAGE
2"-PCW-888
2.5"-NPCW-PVC
3/4" DRAIN
DRILL 1/8" HOLE IN CLAPPER OF CHECK VALVE.
P-102 CONTROL PANEL
ELECTRICAL 20 A, 1P, 115VAC
ELECTRICAL 20 A, 1P, 115VAC
P-101 MOTOR STARTER
2.5"-CW-888
CITY WATER
2.5"-CW-888
NC
SET @ 50 PSIG
WATTS 009 BRONZE BODY REDUCED-PRESSURE BACKFLOW PREVENTER
4" VENT WITH GOOSENECK TERMINATING 18" ABOVE GRADE WITH INSECT/VERMIN SCREEN.
INSTALL EXTERIOR RATED 115V DUPLEX GFCI CONVENIENCE OUTLET ON SIDE OF MANWAY RISER.
RAIN WATER
6" RW PVC
INVERT IN = 98.00'
INVERT OUT = 98.35'
FIRST FLUSH
6"-RW-PVC
TO STORM OVERFLOW
4" PVC
4"-VENT-PVC
4" FLANGE ON TANK TOP
MANWAY
GRADE EL = 100.00' (+/-)
INSIDE BUILDING
BURIED
EXTERIOR RATED PUMP DISCONNECT
INVERT IN = 95.80'
NOTE 1
NOTE 2
TWO (2) 4" BULK-HEAD FITTINGS ON TANK END
6"-RW-PVC
OVERFLOW
TO STORM WATER
P-102 LOW TANK LEVEL CUT-OUT NOTE 4
INVERT OUT = 96.75' (BOTH OUTLETS)
P-101 LOW TANK LEVEL CUT-OUT NOTE 3
BOTTOM OF TANK EL = 90.30'
TWO (2) J. R. SMITH NO. 8105300E 4 INCH SMOOTHING INLETS
10,000 GAL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WATER
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SYSTEM ISOLATION VALVE
2.5"-PCW-BBB (BYPASS)
AMTROL "WELL-X-TROL" MODEL WX-350 119 GALLON
ELECTRICAL 20 A, 1P, 208VAC
28 GALLON PRESS TANK WITH PUMP PACKAGE
DRILL 1/8" HOLE IN CLAPPER OF CHECK VALVE.
P-103 CONTROL PANEL
3/4" DRAIN
MIN 18"
2.5"-CW-BBB
CITY WATER
WATTS 909 BRONZE BODY REDUCED-PRESSURE BACKFLOW PREVENTER
PCV 101 SET @ 50 PSIG
ELECTRICAL 20 A, 1P, 115VAC
P-101 MOTOR STARTER
2.5"-NPCW-PVC
4" VENT WITH GOOSENECK TERMINATING 18" ABOVE GRADE WITH INSECT/VERMIN SCREEN.
INSTALL EXTERIOR RATED 115V DUPLEX GFCI CONVENIENCE OUTLET ON SIDE OF MANWAY RISER.
MANWAY
GRADE EL = 100.00' (+/-)
INSIDE BUILDING BURIED
RAIN WATER
6" RW PVC
INVERT IN = 93.00'
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FIRST FLUSH
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LSLL 101
LSL 101
FT 102
FT 101
BOTTOM OF TANK EL = 90.30'
TWO (2) J. R. SMITH NO. 8109339SI 4 INCH SMOOTH-END INLETS
T 101
10,000 GAL
P 101

Siphonic Drain Systems

- Full-bore flow. Piping is completely filled = the most efficient drainage solution.
- Level horizontal piping, takes up less room and can run right below rooftop.
- Higher flow velocities due to negative system pressures forcing the water through.
- Flow rate is constant while siphoning. Distance from roof to discharge point acts as driving head for the system.
- Siphoning action forces water through level pipes.
- Smaller pipe diameters reduce building cost.
- Lower construction costs and fewer downspouts = less excavation work and less ground pipe.

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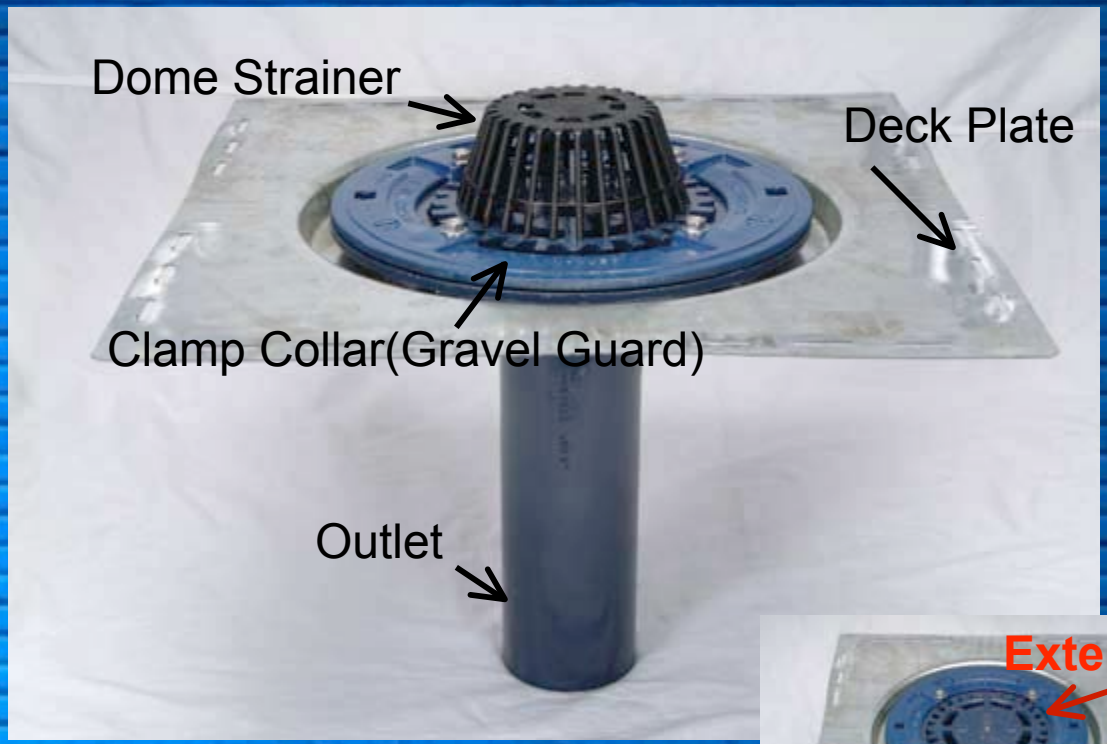
Siphonic Drain System Components



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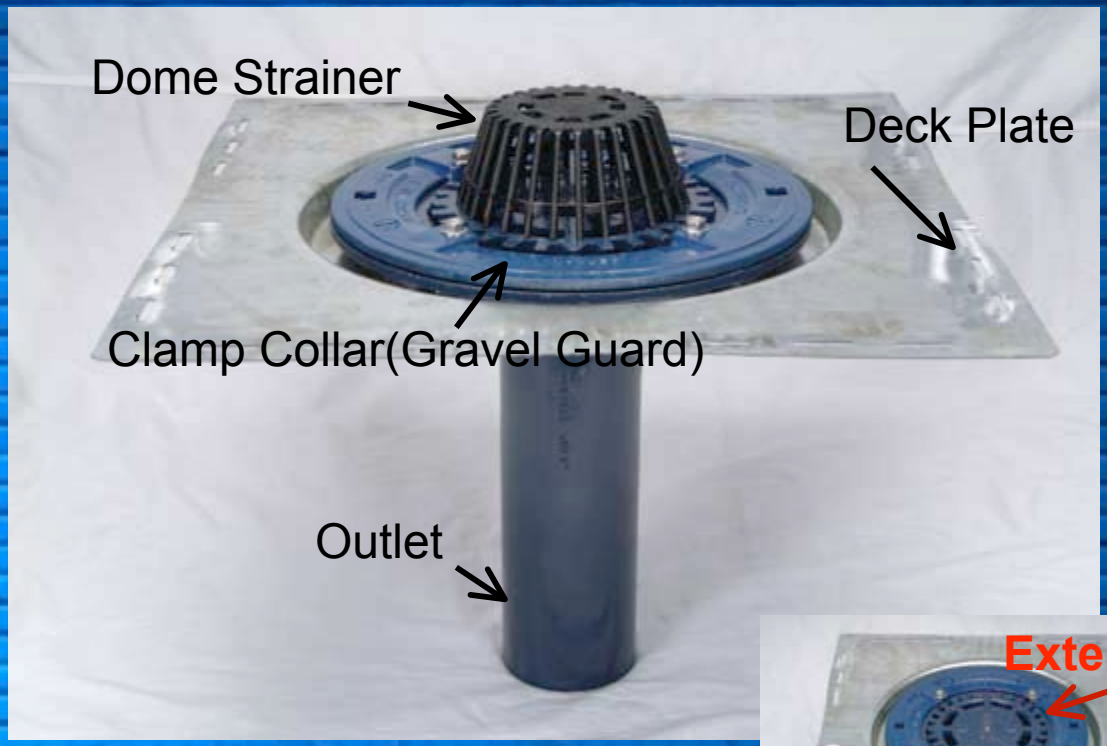

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