LANDSCAPE ARCHITECTURE
RAINWATER & GREYWATER SYSTEMS

ECOLOGICAL LANDSCAPING
ECOLOGICAL CONSULTING
HABITAT RESTORATION
CALIFORNIA NATIVE PLANT NURSERY

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DEL MONTE DEVELOPMENT PROJECT
RAINWATER & GREYWATER CATCHMENT
ALAMEDA, CA

PROJECT GOALS:
Utilize 1.5 million gallons/year of collected rainwater to use for non-potable - domestic use (i.e. flushing toilets, laundry washing)
Utilize 500,000 gallons/year of collected rainwater for miscellaneous purposes (i.e washing sidewalks, car, fountains, etc.)
Utilize 400,000 gallons/year of greywater to irrigate 1 acre of landscape
Total Municipal Water Savings: 2.4 million gallons/year
Mitigate stormwater runoff
Achieve Gold LEED Status

ECI PROJECT SERVICES:
Rainwater Harvesting System Design,
Greywater System Design,
Stormwater Management

DEVELOPER:
Tim Lewis Communities

ARCHITECT:
BAR Architects San Francisco

Photo by: islesay.wordpress.com

PROJECT DESCRIPTION:
The Del Monte Development Project is a 230,000 square foot warehouse that will be reborn into one of the largest mixed-use development projects in the East Bay. This large scale interdisciplinary project involved collaboration between ECI and the development team which included architects, structural engineers and civil engineers. Tim Lewis Communities hired ECI to mitigate storm water runoff and creatively utilize rainwater to use for non-potable use, such as flushing toilets and a display fountain. Greywater from both the residential and commercial spaces with be used for irrigation.

ESTIMATED CONSTRUCTION COSTS:
$800,000 - $1 Million

DEL MONTE DEVELOPMENT PROJECT
CONTINUED

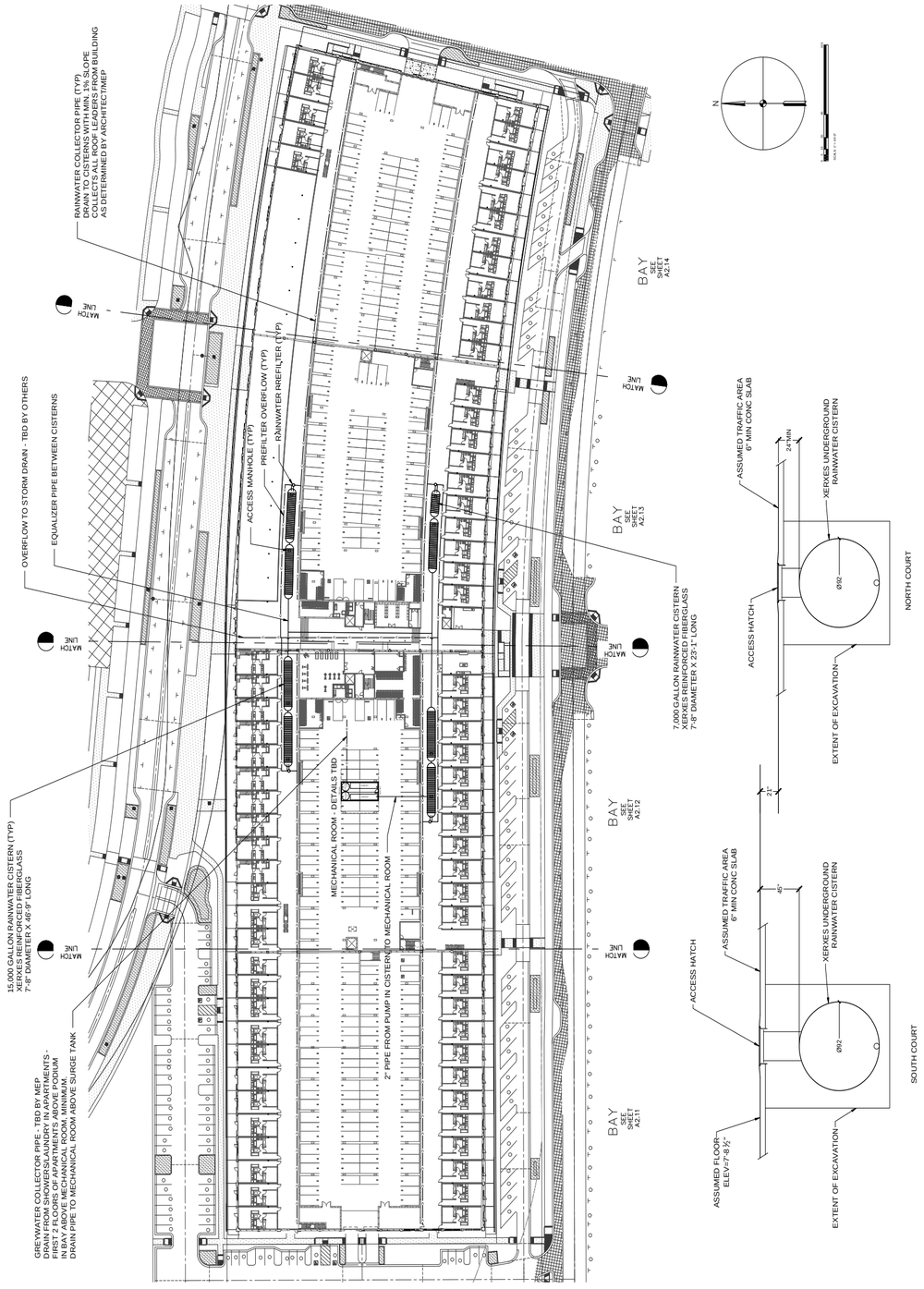
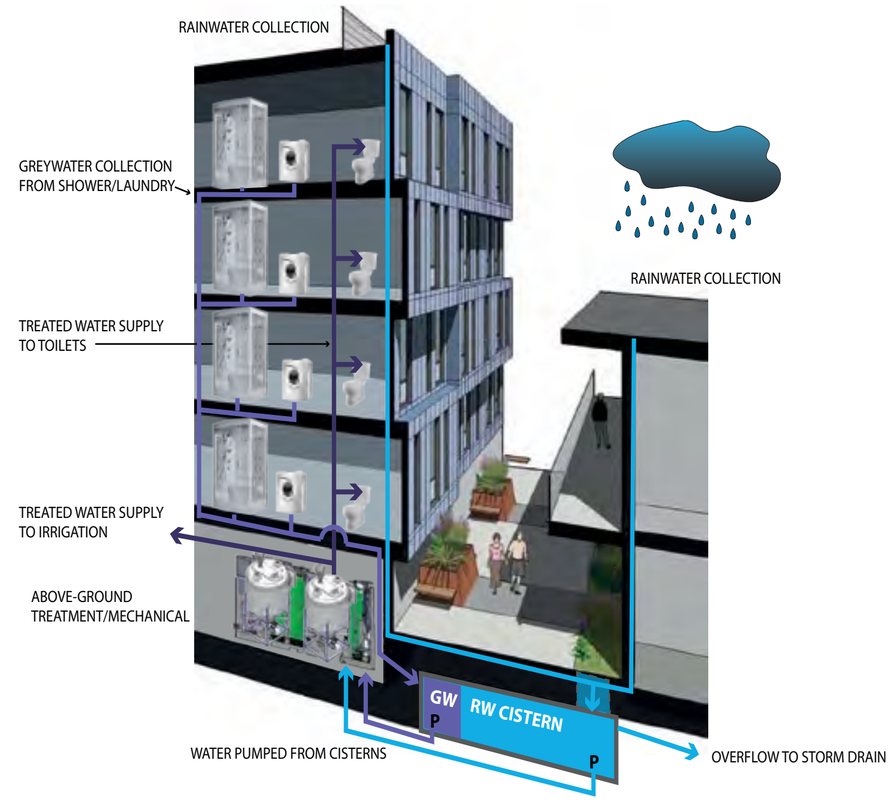


Photo by: islesay.wordpress.com



ECOLOGICAL CONCERNS INCORPORATED

DEL MONTE WAREHOUSE
WATER REUSE SYSTEM CONCEPT
9/14/2015

UNDERGROUND STORAGE
RAINWATER: 112,000 GALLONS
GREYWATER: 10,000 GALLONS

GATEWAY APARTMENTS
RAINWATER CATCHMENT

SALINAS, CA

PROJECT GOALS:

Collect Rainwater to irrigate 9,000 sq ft of landscaping on a living roof.

ECI PROJECT SERVICES:

Rainwater Harvesting System Design,
Stormwater Management,
Project Management

DEVELOPER:

First Community Housing

LANDSCAPE ARCHITECT:

OJK Architecture and Planning

GENERAL CONTRACTOR:

L&D Construction

AWARDS:

2014 AIA Design Award: "Outstanding Achievement in Sutainability"
LEED Platinum Certification

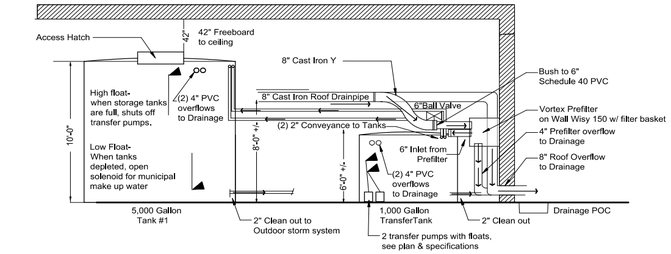
PROJECT DESCRIPTION:

First Community Housing built affordable apartments for seniors and wanted to utilize rainwater harvesting for their irrigation system. The rainwater collected from the roof is stored below the building, where ECI designed four 5,000 gallon rainwater tanks that fit snuggly into a small footprint in the underground parking garage (as seen above). From there, the rainwater which is used mostly in the dry season, will irrigate ALL of the site's landscaping, including a 9,000 sq ft roof garden. In any overflow events the water is diverted into a bioswale area with boulders and water loving plants. This site's design minimizes dependency on public water utilities and strives to achieve a "Net-Zero" landscape.

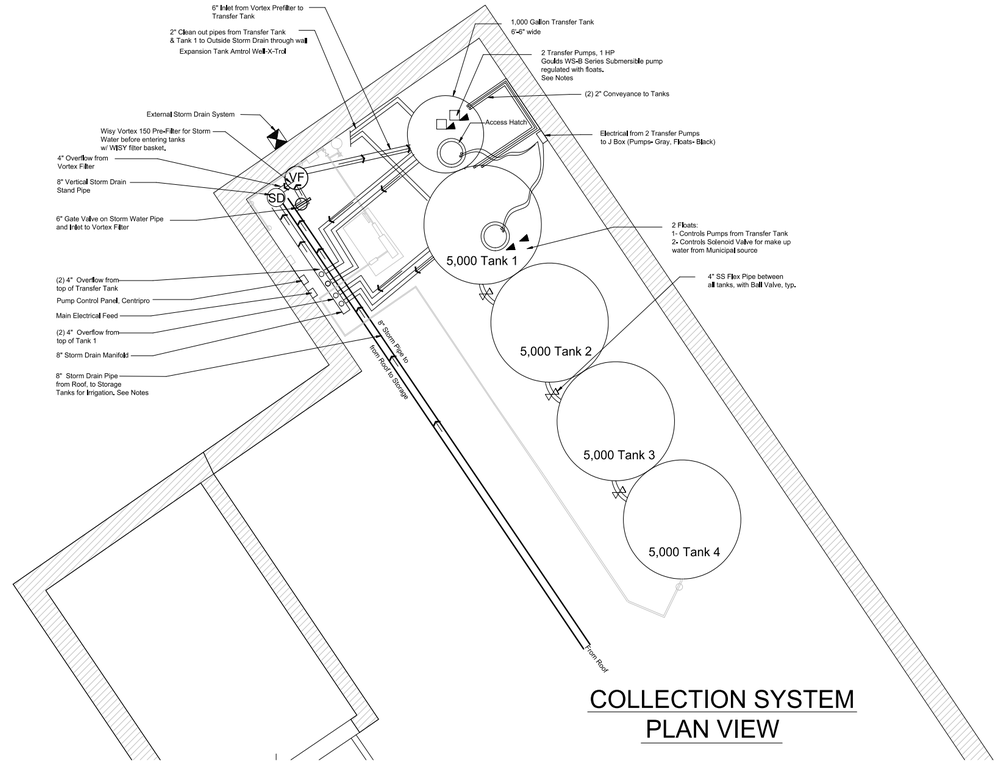
ESTIMATED CONSTRUCTION COSTS

$140,000

GATEWAY APARTMENTS
CONTINUED



COLLECTION SYSTEM ELEVATION



COLLECTION SYSTEM PLAN VIEW

CPMC - CATHEDRAL HILL MEDICAL CENTER
RAINWATER DESIGN

SAN FRANCISCO, CA

PROJECT GOALS:
Rainwater harvesting system to irrigate the landscape for 5 living roofs
Achieve LEED Credits.

ECI PROJECT SERVICES:
Rainwater Harvesting System Design,
Stormwater Management

DEVELOPER:
Smith Group JJR

AWARDS:
LEED Silver Certification

PROJECT DESCRIPTION:

The California Pacific Medical Center will be opening its new campus on Van Ness Ave & Geary St, San Francisco. It is targeting LEED Silver Status, becoming one of the largest LEED certified hospitals in the world. ECI's Bobby Markowitz, working as Earthcraft Landscape Design Inc. helped them work towards this goal by designing an alternative water system that irrigates 9,000 sq ft. A 100,000 gallon cistern was designed to be built into the foundation in the underground parking garage, (construction shown above). The stored rainwater will then be pumped upwards about 200 ft to irrigate five living roofs located on various levels of the 17 story building. This system will manage stormwater run-off as well as utilize 180,000 gallons of rainwater per year that would otherwise be sent to the sewer.

ESTIMATED CONSTRUCTION COSTS:
$1.5 Million

UCSC WELLNESS CENTER
RAINWATER DESIGN

SANTA CRUZ, CA

PROJECT GOALS:
Reduce City Water and Energy Dependency,
Support Green Infrastructure and Building,
Grant Funding

ECI PROJECT SERVICES:
Rainwater Harvesting System Design for Interior Non-Potable Use,
Site Planning,
Project Management

OWNER:
University of California Santa Cruz

PROJECT DESCRIPTION:
UC Santa Cruz hired ECI to design a prototype rainwater harvesting system to supply water that flushes the toilets at the Wellness Center. This small scale pilot project will give the UCSC community an opportunity to evaluate the effectiveness of rainwater harvesting and re-use at an educational facility. It is expected that this will serve as a prototype for other rainwater catchment systems on UC campuses.
The location was chosen not only for the small-scale applicability but also because the site is accessible to the campus community. The educational benefits include increased awareness about water conservation, rainwater catchment systems, and sustainability as well as reduced municipal water consumption and energy use.

***ESTIMATED CONSTRUCTION COSTS*:**
$45,000

TIBURON, CA RESIDENCE
RAINWATER DESIGN

PROJECT GOALS:
Independence from public water utilities
Rainwater Harvesting

ECI PROJECT SERVICES:
Rainwater Harvesting System Design
Project Management

ARCHITECT:
Colleen Mahoney

LANDSCAPE ARCHITECT:
Steve Suzman

GENERAL CONTRACTOR:
Don Larwood

PROJECT DESCRIPTION:
This beautiful home with a view of the San Francisco Bay in Tiburon, California was designed to be a Net-Zero landscape, meaning all irrigation needs are produced on-site. The 15,000 gallon rainwater harvesting system irrigates the entire landscape and was designed to be out of sight underneath the deck. This challenging location on a 2:1 sloped hillside required the engineering of a retaining wall and concrete pad to support the two aboveground tanks. The proud owner of this system (image to left, below) is a clean tech entrepreneur that is able to control and manage his system remotely. Anything from monitoring tank water levels, to adjusting irrigation zones can be done from his other home in Singapore.

Estimated Construction Costs:
$50,000

LOS GATOS, CA RESIDENCE
RAINWATER HARVEST & LANDSCAPE DESIGN

PROJECT GOALS:
Japanese Style Garden Design
Rainwater Harvesting System to Irrigate Entire Landscape
Site Planning & Civil Engineering

PROJECT SERVICES:
Rainwater Harvesting System Design
Landscape Architect: Site Planning, Grading & Drainage, Landscape Design
General Contractor

AWARDS:
Monterey Bay Master Gardeners: "Water Smart Garden Contest"

PROJECT DESCRIPTION:
Bobby Markowitz created this stunning Japanese style garden for his clients in Los Gatos, California. Their existing well was failing, and after seven attempts of drilling for a new well and having to truck in their whole water supply, they approached Mr. Markowitz to design an alternative water source. Seven 5,000 gallon above ground water tanks were installed to capture 35,000 gallons of rainwater. This enabled his clients to irrigate their whole landscape without any additional water sources.

Estimated Construction Costs:
$45,000

PALO ALTO, CA RESIDENCE
CLOSED LOOP DESIGN

PROJECT GOALS:
Reduce city water dependency,
Support green infrastructure and building,
Take advantage of city rebates
Stormwater Management

ECI PROJECT SERVICES:
Greywater and Rainwater Harvesting System Design,
Project Management and Site Planning

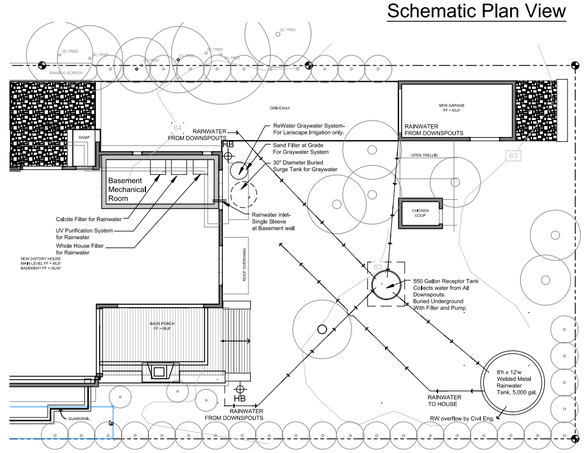
ESTIMATED CONSTRUCTION COSTS:
$50,000

Graywater Components

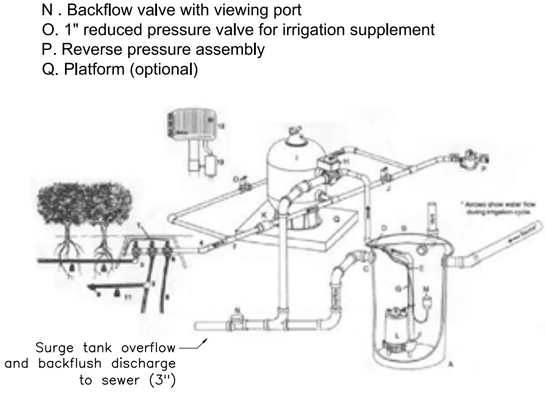
1. 1" 24 VAC solenoid valve
2. Tees (1/2", 3/4", 1" & 1 1/2")
3. 90° elbow (1/2", 3/4", 1" & 1 1/2")
4. 45° elbow (1/2", 3/4", 1" & 1 1/2")
5. 1" threaded male adapter
6. Slip reducers (1/2"x3/4", 3/4"x1", & 1"x1 1/2")
7. Reducing tees (1 1/2"x1 1/2"x1")
8. Polyethylene tubing (1/2", 3/4" & 1")
9. Polyethylene tubing Ends (1/2", 3/4" & 1")
10. Emitter
11. Emitter screens
12. Controller
13. Relay junction box

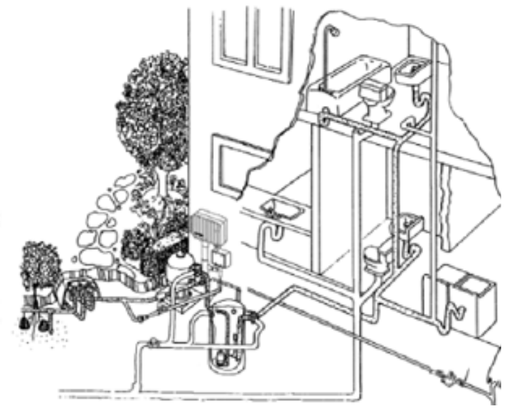
A. Surge tank, 70 gallons (30"x36")
B. Lid w/ 6 SS screws
C. Bulkhead adapters, 3 @ 2", 1 @ 1 1/2"
G. 1 1/2" discharge pipe
H. 3-way Tee valve with 24 VAC actuator
I. Filter vessel with PVC pipe adapters
J. 1 1/2" solenoid valve for backwash
K. 1 1/2" PVC swing check valve
L. Pump, 1/2 hp high pressure
M. Float switch
N . Backflow valve with viewing port
O. 1" reduced pressure valve for irrigation supplement
P. Reverse pressure assembly
Q. Platform (optional)

Schematic Plan View



Graywater System Overview





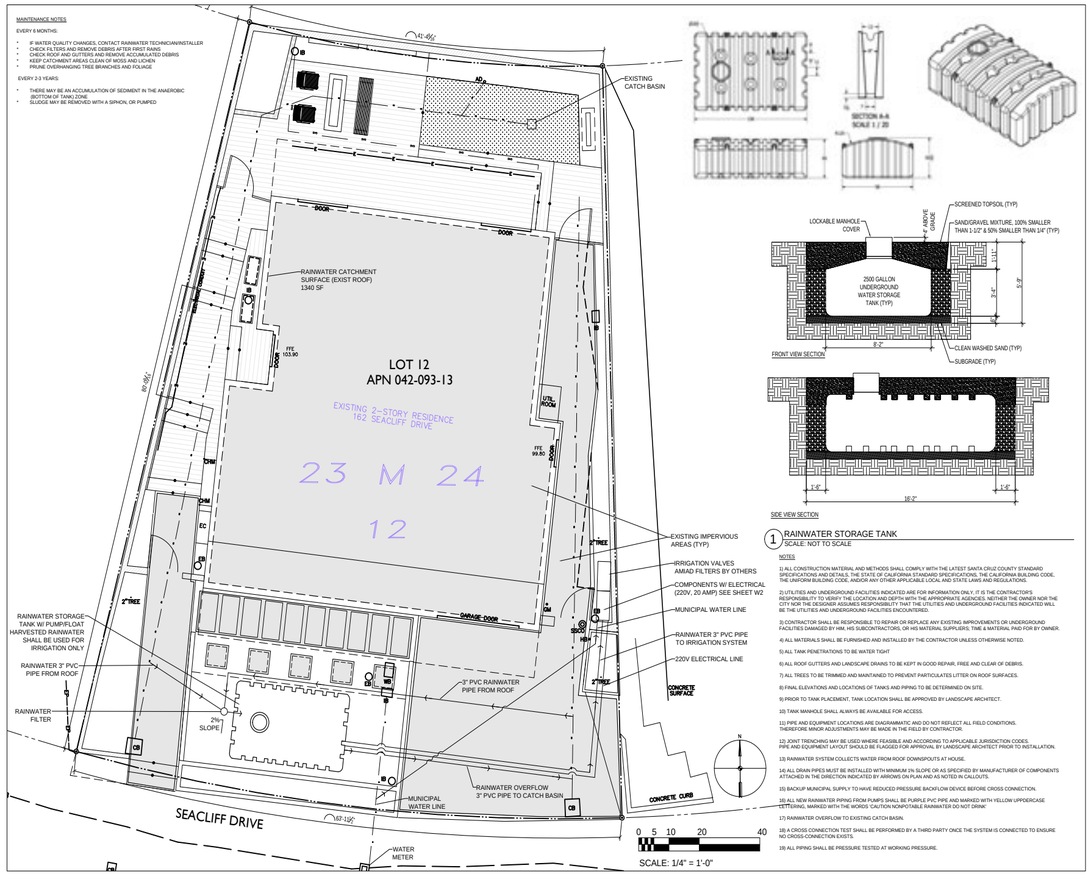
PROJECT DESCRIPTION:
Bobby Markowitz was asked to design a rainwater and greywater system for a new home being built in Palo Alto. It was determined that 25,000 gallons could be captured from the roof during the rainy season, therby eliminating any stormwater leaving the site. The system was designed to utilize harvested rainwater for the family's domestic non-potable uses, such as toilets and washing machine. They then calculated their average greywater output from the washing machine, showers and bathroom sinks to design their landscape with what's called a Closed Loop Design. This means that the landscape should not require more water than what can be produced from the site.

APTOS, CA RESIDENCE
RAINWATER DESIGN

PROJECT GOALS:
Net-Zero Landscape
(rainwater to irrigate total landscape)

LANDSCAPE ARCHITECT:
Steve Sutherland Associates

ECI PROJECT SERVICES:
Rainwater Harvesting System Design
Project Management
Rainwater Installation



PROJECT DESCRIPTION:
ECI was hired to create a rainwater catchment system for this modern home located on the coastal bluffs of Aptos California. Located under the front yard landscape, is a 2500 gallon underground cistern that will supply enough rainwater to irrigate the entire landscape. This Net-Zero design allows the home owner to go completely off grid from the municipal water supply with the added security of being drought proof.

ESTIMATED CONSTRUCTION COSTS:
$25,000

MONTE SERENO, CA RESIDENCE
RAINWATER & GREYWATER DESIGN

PROJECT GOALS:
Modify existing landscape to minimize water requirements
Rainwater & Greywater Harvesting System

ECI PROJECT SERVICES:
Rainwater & Greywater Harvesting System Design
Project Management
Rainwater & Greywater Installation

PROJECT VALUE:
$100,000

GENERAL NOTES:

1) ALL CONSTRUCTION MATERIAL AND METHODS SHALL COMPLY WITH THE LATEST CITY OF MONTE SERENO STANDARD SPECIFICATIONS AND DETAILS, THE STATE OF CALIFORNIA STANDARD SPECIFICATIONS, THE CALIFORNIA BUILDING CODE, THE UNIFORM BUILDING CODE, AND/OR ANY OTHER APPLICABLE LOCAL AND STATE LAWS AND REGULATIONS.

2) CONTRACTOR SHALL NOTIFY THE OWNER'S REPRESENTATIVE AT LEAST TWO WORKING DAYS PRIOR TO COMMENCEMENT OF WORK OR IF WORK IS DISCONTINUED FOR A PERIOD OF TWO WORKING DAYS OR MORE AND SHALL CONTRACTOR IS REQUIRED TO CALL FOR INSPECTION A MINIMUM OF TWO (2) WORKING DAYS IN ADVANCE OF THE REQUIRED INSPECTION TIME.

3) CONTRACTOR AGREES THAT HE SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS, AND THAT THE CONTRACTOR SHALL INDEMNIFY AND HOLD THE OWNER AND THE DESIGNER HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE OWNER OR DESIGNER.

4) CONTRACTOR SHALL NOTIFY ALL PUBLIC OR PRIVATE UTILITY OWNERS 48 HOURS PRIOR TO COMMENCEMENT OF WORK ADJACENT TO THE UTILITY UNLESS AN EXCAVATION PERMIT SPECIFIES OTHERWISE.

5) EXISTING AND UNDERGROUND FACILITIES INDICATED ARE FOR INFORMATION ONLY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE LOCATION AND DEPTH WITH THE APPROPRIATE AGENCIES. NEITHER THE OWNER NOR THE CITY NOR THE DESIGNER ASSUMES RESPONSIBILITY THAT THE UTILITIES AND UNDERGROUND FACILITIES INDICATED WILL BE THE UTILITIES AND UNDERGROUND FACILITIES ENCOUNTERED.

6) CONTRACTOR SHALL BE RESPONSIBLE TO REPAIR OR REPLACE ANY EXISTING IMPROVEMENTS OR UNDERGROUND FACILITIES DAMAGED BY HIM, HIS SUBCONTRACTORS, OR HIS MATERIAL SUPPLIERS.

7) IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO IDENTIFY, LOCATE, AND PROTECT ALL UNDERGROUND FACILITIES.

8) ALL MATERIALS SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR UNLESS OTHERWISE NOTED.

9) ALL TANK PENETRATIONS TO BE WATER TIGHT

RAINWATER & GRAYWATER NOTES

1) ALL ROOF GUTTERS AND LANDSCAPE DRAINS TO BE KEPT IN GOOD REPAIR, FREE AND CLEAR OF DEBRIS.

2) ALL TREES TO BE TRIMMED AND MAINTAINED TO PREVENT PARTICULATES LITTER ON ROOF SURFACES.

3) ALL RAINWATER AND GREYWATER DRAIN PIPING SHALL MAINTAIN MINIMUM 1% SLOPE.

4) FINAL ELEVATIONS AND LOCATIONS OF TANKS AND PIPING TO BE DETERMINED ON SITE.

5) PRIOR TO TANK PLACEMENT, TANK LOCATIONS SHALL BE APPROVED BY LANDSCAPE ARCHITECT.

6) TANK MANHOLE SHALL ALWAYS BE AVAILABLE FOR ACCESS.

7) TANK VENTS AND/OR OVERFLOW PIPES SHALL BE SCREENED TO PREVENT ENTRY OF ORGANISMS.

8) GENERAL CONTRACTOR TO PROVIDE ELECTRICAL CONNECTION, MUNICIPAL WATER STUBOUT AND SEWER DRAIN STUBOUT TO MECHANICAL EQUIPMENT - SEE NOTES SHEET W-2.

9) GENERAL CONTRACTOR TO STUB OUT GREYWATER FIXTURE DRAIN PIPE AT GW SURGE TANK AND PROVIDE SEWER AND VENT TO GW SURGE TANK.

10) GENERAL CONTRACTOR TO PROVIDE ELECTRICAL CONNECTIONS FOR SUMP PUMPS IN RECEPTOR TANKS.

11) FOR COMPLETE DRAINAGE SYSTEM INFORMATION REFER TO CIVIL DRAINAGE PLANS, NOTES, AND DETAILS.

12) MAINTENANCE:

EVERY 6 MONTHS:

- IF WATER QUALITY CHANGES, CONTACT RAINWATER TECHNICIAN/INSTALLER
- CHECK FILTER (IF INSTALLED) AND REPLACE AFTER FIRST RAINS
- REMOVE ACCUMULATED SEDIMENT, LEAVES, AND OTHER DEBRIS
- KEEP CATCHMENT AREAS CLEAN OF MOSS AND LICHEN
- PRUNE OVERHANGING TREE BRANCHES AND FOLIAGE

EVERY 2-3 YEARS:

- THERE MAY BE AN ACCUMULATION OF SEDIMENT IN THE ANAEROBIC (BOTTOM OF TANK) ZONE
- SLUDGE MAY BE REMOVED WITH A SIPHON, OR PUMPED

RAINWATER & GRAYWATER NOTES

13) LANDSCAPE SITE PLAN USED AS BASE FOR RAINWATER HARVESTING PLAN IS OUTDATED AND NOT ENTIRELY ACCURATE TO BUILT IMPROVEMENTS. HOWEVER IT IS NOT NCCESSARY TO UPDATE SITE PLAN - MINOR ADJUSTMENTS MAY BE MADE DURING INSTALLATION.

14) PIPE AND EQUIPMENT LOCATIONS ARE DIAGRAMMATIC AND DO NOT REFLECT ALL FIELD CONDITIONS. THEREFORE MINOR ADJUSTMENTS MAY BE MADE IN THE FIELD BY CONTRACTOR.

15) JOINT TRENCHING MAY BE USED WHERE FEASIBLE AND ACCORDING TO APPLICABLE JURISDICTION CODES. PIPE AND EQUIPMENT LAYOUT SHOULD BE FLAGGED FOR APPROVAL BY LANDSCAPE ARCHITECT PRIOR TO INSTALLATION.

16) RAINWATER SYSTEM COLLECTS WATER FROM ROOF DOWNSPOUTS AT HOUSE AND POOL HOUSE. GRAYWATER SYSTEM COLLECTS WATER FROM GRAYWATER FIXTURES IN HOUSE: CLOTHES WASHING MACHINE, BATH AND SHOWER.

17) UP TO THREE (3) 5,000 GALLON ABOVE GROUND STORAGE TANKS ARE TO BE CONNECTED IN SERIES FOR RAINWATER STORAGE. RW BOOSTER PUMP TO BE CONNECTED TO OUTLET OF TANK #3.

18) ALL DRAIN PIPES MUST BE INSTALLED WITH MINIMUM 2% SLOPE OR AS SPECIFIED BY MANUFACTURER OF COMPONENTS ATTACHED, IN THE DIRECTION INDICATED BY ARROWS ON PLAN AND AS NOTED IN CALLOUTS.

19) ALL COLLECTED WATER TO BE FILTERED AT MECHANICAL COMPONENTS PRIOR TO SENDING TO IRRIGATION SYSTEM FOR IRRIGATION USE ONLY.

20) BACKUP MUNICIPAL SUPPLY TO HAVE REDUCED PRESSURE BACKFLOW DEVICE BEFORE CROSS CONNECTION.

21) MECHANICAL EQUIPMENT CONTROLLER TO AUTOMATICALLY SELECT BETWEEN GREYWATER, RAINWATER BACKUP, AND MUNICIPAL BACKUP WATER.

22) CONVERT ALL REMAINING SPRINKLERS TO DRIP IRRIGATION.

23) ALL NEW RAINWATER AND GRAYWATER PIPING FROM PUMPS SHALL BE PURPLE PVC PIPE.

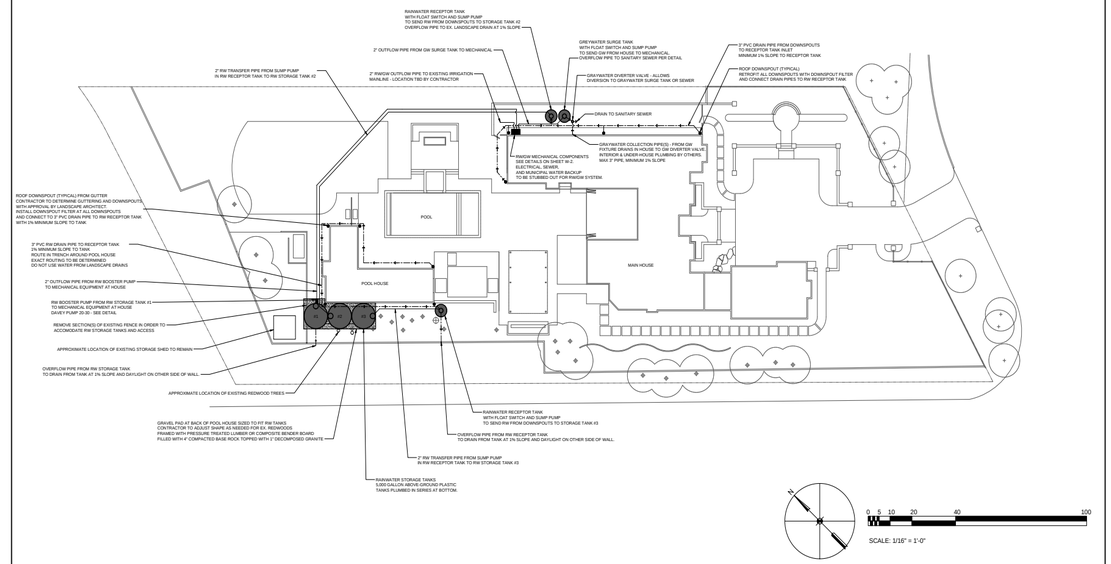
24) IRRIGATION VALVES SHALL HAVE A WARNING LABEL STATING "CAUTION: RECLAIMED WATER. DO NOT DRINK" PER CPC 603.2.3.

25) ON GRAYWATER SURGE TANK PROVIDE LABEL STATING "DANGER: UNSAFE WATER" PER CPC APPENDIX G 5.

26) APPLY 3" LAYER OF WOOD CHIP OR BARK MULCH OVER ALL IRRIGATED AREAS.

27) RAINWATER OVERFLOW TO LANDSCAPE, LANDSCAPE DRAINS, OR STORM DRAINS. GRAYWATER OVERFLOW TO SANITARY SEWER.

28) TREATMENT AND MECHANICAL EQUIPMENT TO BE INSTALLED BY QUALIFIED CONTRACTOR SPECIALIZING IN RAINWATER & GRAYWATER. TO BE RECOMMENDED AND APPROVED BY LANDSCAPE ARCHITECT.



PROJECT DESCRIPTION:
This client approached ECI due to concern over high water usage and increased water bills. To solve this problem, ECI modified the existing landscape to require less water. Originally, the landscape required 800,000 gallons of water for irrigation. ECI removed two large turf areas and replaced them with mulched, drought tolerant plants that used drip irrigation instead of overhead spray. ECI also designed and installed a complex alternative water system that uses both rainwater and greywater together for all irrigation needs. The greywater is the main source and once that is depleted, the system switches to stored rainwater as a backup. These alternative water systems along with the landscape modifications, have decreased this site's landscape water usage by 80-90%. This is the first system of this type in the Monte Sereno jurisdiction and ECI worked closely with the city for this project to get passed and approved.

VARIOUS COMPONENTS

ADDITIONAL SERVICES OFFERED

ECOLOGICAL LANDSCAPES - COMMERCIAL & RESIDENTIAL

- Sustainable Landscape Design
- Low Impact Development Planning
- Stormwater Management
- Landscape Installation
- Landscape Maintenance
- Habitat Gardens
- Lawn Replacement

HABITAT RESTORATION

- Habitat Restoration Plans
- Erosion & Sediment Control
- Vegetation Management

ECOLOGICAL CONSULTING

- Site & Botanical Assessments
- Environmental Impact Reports
- Feasability Studies
- Species Specific Mitigation Plans
- Monitoring & Reporting
- GIS/GPS Data

CALIFORNIA NATIVE PLANT NURSERY

- Site Specific Seed Collection
- Botanical Consultations
- Contract Growing
- Habitat Specific Native Plants

CLIENT TESTIMONIALS

B. BOYER - MONTE SERENO, CA - 11/11/2015

"While I was having my house remodeled, ECI was the best contractor we had on site out of 15 other tradesmen. I loved the quality that came from having a contractor that could design and install such a complicated rainwater and greywater system."

TAI M - SANTA CRUZ, CA - 11/16/2015

"We are extremely pleased with Dakotah's design and ECI's work. In addition to its beauty, our garden now has ecological value and contributes to the bio-diversity of our local environment. Golden-crowned sparrows, black-capped chickadees, Monarch butterflies, bumblebees and other pollinators are daily visitors. My favorite part of the new landscape is a rain garden that harvests stormwater runoff from our roof and directs it into a vegetated swale where the soil filters and cleans the water instead of having it disappear down a storm drain. Thanks to ECI, our garden was certified a Monterey Bay Friendly Landscape, which means it meets the highest standards of sustainability and eco-friendliness."

WILLIAM K. - APTOS, CA - 12/1/2015

"We decided to work with ECI , and we are completely satisfied with their efforts and results on our behalf. They worked well with all the entities involved in this complicated project from the county, to the water district, our concrete guys and all other subs. They installed a 2500 gallon tank underground for us that filled up on the first rain we had in November, and their system will allow us to water our yard for free until the next rains come and fill the tank again, my only regret is we didn't install the 5000 gallon tank as Bobby had recommended. It turned out that the county has started overseeing these systems, and the their requirements can impact the esthetics, and overall design, but working with Bobby Markowitz proved to be a great choice for us as he was able to work with the county, and our subs in a comprehensive manner to finish our project on time and on budget. I would recommend this company highly for any and all rainwater capture projects, as well as native designs and systems."

ECI PERSONNEL

Joshua T. Fodor: President, Restoration Ecologist, CPESC
Josh has 20 years experience in organic horticulture, habitat restoration and ecological landscape design and implementation. After completing degrees in Biology and Environmental Studies at U.C. Santa Cruz and working 5 years in organic agriculture, he founded Central Coast Wilds in 1992. Early on he combined his interest in organic production methods with his botanical skills to create the first registered organic native plant nursery in California. Josh leads design and implementation of ecological landscape plans, vegetation management plans and habitat restoration plans throughout California, particularly in the San Francisco and Monterey Bay areas. Over the last decade he has continued his professional training in erosion control, stream restoration, watershed assessment, wetland delineation, and ecological landscape management techniques. In 2006, Josh completed an extension certificate in California Water Management and Ecosystem Restoration at U.C. Berkeley. In 2008 Josh became a Certified Professional in Erosion and Sediment Control. He teaches Principles of Restoration Landscaping at Cabrillo College and is an active member of numerous professional associations including the Ecological Landscaping Association, California Landscape Contractors Association and the Society for Ecological Restoration.

Bobby Markowitz: Senior Landscape Architect, ASLA # 3309
Rainwater/Greywater Specialist
An accredited professional of the American Rainwater Catchment System Association and a licensed landscape architect. Bobby has over 17 years of experience designing and installing rainwater harvesting systems as well as site planning and project management. Because of the rising costs and diminishing supplies of municipal water, planning for rainwater harvesting and graywater use have become critical components of any landscaping firm's portfolio.

Dakotah Bertsch: Designer, Assistant Project Manager
Dakotah earned his Masters degree in Landscape Architecture from Cal Poly Pomona, and he has a B.S. in Environmental Studies from U.C. Santa Barbara. He's had a long love affair with California ecosystems, with years of ecological studies, frequent hikes and explorations, and years of working in the field of design, construction, maintenance and restoration of California landscapes. He also studied and apprenticed in Permaculture, and is experienced with edible and sustainable landscapes. Dakotah moved to Santa Cruz from Mendocino County to join the team at Central Coast Wilds, where he combines his interests in native habitats and ecological landscape design.

Greg Gill: Landscape Architect
A registered Landscape Architect, Greg Gill has worked in both the private and public sectors for over 20 years. He has designed many high profile residential projects and supervised their installation. He has also designed parks and trail systems and has been involved with several historic habitat restoration projects. Greg moved to Santa Cruz from New York City to live in a more rural environment and is excited by the variety of landscape projects he is working on for ECI.

Jessica Benet: Assistant Project Manager and Landscape Designer
After 10 years in the marine biology sector, Jessica has turned her focus towards the landscape in hopes to change the effects of our current systems for dealing with stormwater runoff. Jessica has studied permaculture, horticulture and Landscape Architecture at UC Berkeley Extension and has previously worked as a landscape designer, concentrating on sustainable residential landscapes. With her focus on rainwater harvesting and greywater use, she is involved with designing alternative water systems here at ECI.