

SAN GORGONIO PASS WATER AGENCY
1210 Beaumont Avenue, Beaumont, CA
Board of Directors
Water Conservation & Education Workshop Agenda
March 12, 2013 at 1:30 p.m.

1. Call to Order, Flag Salute and Roll Call

2. Public Comment

Members of the public may address the Board of Directors at this time relating to any matter within the Agency's jurisdiction. To comment on specific agenda items, please complete a speaker's request form and hand it to the Board Secretary.

3. Discussion of Program and Budget for Banning Centennial Event* (Page 2)

4. Discussion of Proposal from Inland Empire Resource Conservation District* (Page 7)

5. Announcements

- A. Regular Board Meeting, March 18, 2013 at 1:30 p.m.
- B. Finance and Budget Workshop, March 25, 2013 at 1:30 p.m.
- C. Regular Board Meeting, April 1, 2013 at 1:30 p.m.
- D. Engineering Workshop, April 8, 2013 at 1:30 p.m.

6. Adjournment

*Information included in Agenda Packet

(1) Materials related to an item on this Agenda submitted to the Board of Directors after distribution of the agenda packet are available for Public inspection in the Agency's office at 1210 Beaumont Avenue, Beaumont during normal business hours. (2) Pursuant to Government Code section 54957.5, non-exempt public records that relate to open session agenda items and are distributed to a majority of the Board less than seventy-two (72) hours prior to the meeting will be available for public inspection at the Agency's office, located at 1210 Beaumont Avenue, Beaumont, California 92223, during regular business hours. When practical, these public records will also be made available on the Agency's Internet Web site, accessible at <http://www.sgpwa.com>. (3) Any person with a disability who requires accommodation in order to participate in this meeting should telephone the Agency (951 845-2577) at least 48 hours prior to the meeting in order to make a request for a disability-related modification.

Student and Public Water-Wise Landscape Outreach Event Budgets

Allocations for personnel time

Planning & volunteer coordination	4 hrs x \$25 per hr	\$100	
Logistics, physical planning, set-up	4 hrs x \$25 per hr	100	
Staffing Friday student field trip	6 hrs x \$25 per hr	150	
Educational content development	IERCD Staff	TBD	
IERCD staff at Friday field trip	IERCD Staff	TBD	
			\$350

Materials and supplies

Friday fifth grade field trip

300 rose pot size plants	\$1 per plant	300	
Five 128 cell planted plug trays	\$25 per tray	125	
Plant potting mix (5 bales)	\$28 per bale	140	
Labels for student take home plants	\$0.1 per plant	30	
Printed materials (double sided page)	\$0.50 each	150	
Soil mix trays (5 trays - 1 per group)	\$10 each	50	
Demonstration plants to seed collect	10 1 gal+ plants	Free	
Seeds for planting	\$50 per pound	50	
			845

Saturday Banning Earth Day event

200 rose pot size plants	\$1 per plant	200	
200 4 in. pot volume plants	\$2 per plant	400	
Two 128 cell planted plug trays	\$25 per tray	50	
Plant potting mix (2 bales)	\$28 per bale	56	
Labels for attendee take home plants	\$0.1 per plant	60	
Printed materials (double sided page)	\$0.50 each	300	
Demonstration plants to seed collect	10 1 gal+ plants	Free	
Seeds for planting	\$50 per pound	50	
AYES/WildCalifornia Staff Saturday	\$25 x 8hrs	200	
IERCD Staff Saturday	\$25 x 8hrs	TBD	
			1216

TOTAL Both Days (plus IERCD TBD) \$2,411



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Creating Quality Products that enable you to Envision and Learn about your Environment. Envision simulators are Easy to learn and Fun to use.

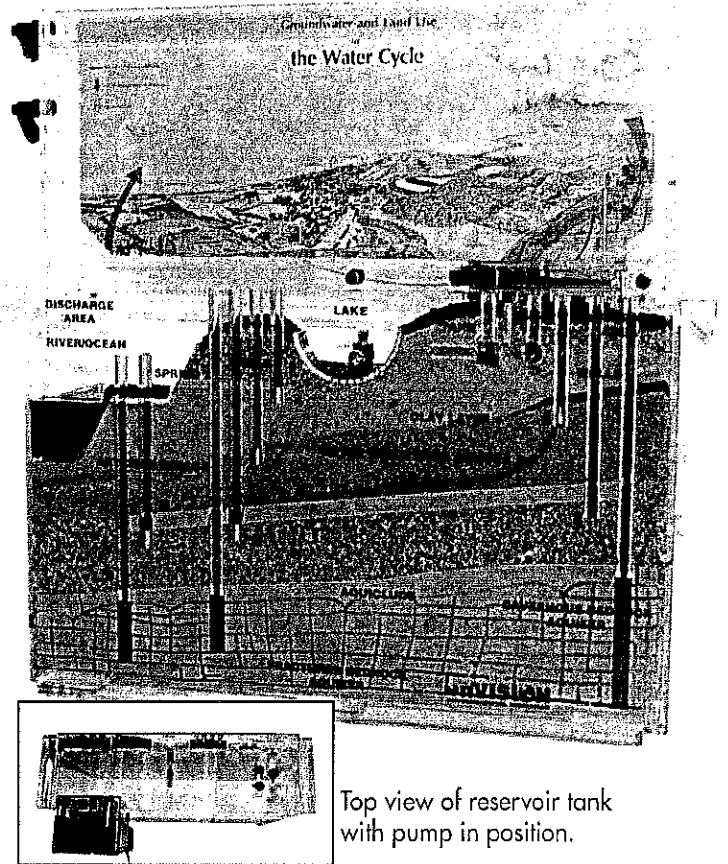
Envision is proud to provide the most advanced visual simulators of groundwater flow available. Great for educators, students, watershed organizations, drinking water suppliers, geologists, engineers and other groups involved in training or educational outreach on groundwater issues.

The simulator is a hands-on visual aid that takes difficult groundwater concepts and makes them understandable for all ages. The simulator is appropriate for grade schools, high schools and colleges as well as adult groups. It is an excellent resource for schools using any water education curriculum. Anyone with a general understanding of groundwater can give a presentation with the simulator. For schools, the instruction manual includes basic laboratory experiments to use with the simulator.

All of our simulators are constructed of high quality acrylic, and are intended for many years of use. Our simulators are designed to demonstrate a complete water cycle, by recycling the water via a pump mechanism through the simulator. The water pump recharges the front aquifer compartment illustrating groundwater flow through the face of the model. The water then discharges to the stream/ocean, and then to a reservoir tank behind the aquifer compartment. The pump mechanism then returns the water to the recharge area again. This allows the user to avoid the difficulty of emptying and refilling the simulator during or between presentations. During normal operations, the simulator may be used for 6 or more concurrent presentations before it is necessary to change the water. All simulators come with a detailed instruction manual and accessories necessary for basic or in-depth presentations. Additional accessories and lab kits are available for specific presentations.

Key Features of Envision Simulators

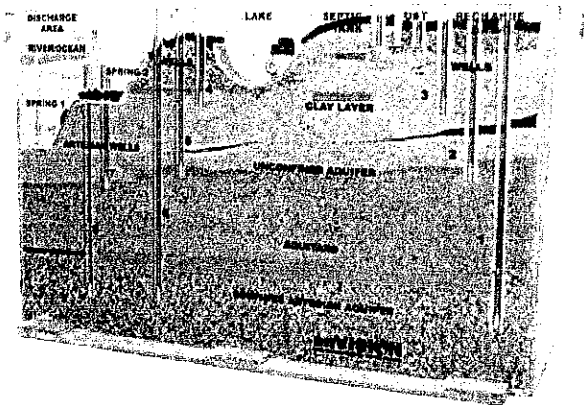
- 8 wells in the Envision 2000 (including 2 artesian wells)
- 9 wells in the Envision 3000 (including 2 artesian wells)
- 2 springs
- Lake
- Stream/Ocean
- Septic System
- Sand & Gravel Aquifer
- Confined Aquifer
- Unconfined Aquifer
- Underground Storage Tank
- Aquitard
- Recharge & Discharge Areas
- Recirculating Reservoir and Tank system
- Manual pumping mechanisms simulating high and low volume well pumps
- Top display showing watershed/surface activities
- AC/DC power supply
- Detailed instruction manual with experiments



Top view of reservoir tank with pump in position.

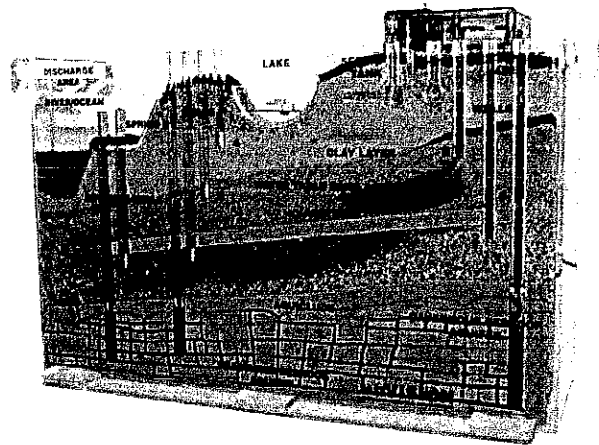
Concepts demonstrated

- water table (potentiometric surface)
- drawdown
- groundwater flow
- hydraulic gradient
- interaction of ground and surface water
- aquifer contamination
- permeability & porosity
- cone of depression
- multiple pumping well interaction
- gaining or losing stream
- flow through lake
- groundwater contamination of lake or stream
- drought effects on lake
- malfunctioning septic system
- leaking underground storage tank
- laminar flow of contamination plume
- pumping influence on adjacent wells
- artesian well contamination
- contamination of spring
- multiple contamination plumes
- effects of surface spills on groundwater
- in-situ or pumping remediation of contamination
- lake can alternately be used to demonstrate sinkholes or landfills



Standard Simulator Kit - Envision 2000

This simulator shows groundwater flow and contamination in sand and gravel aquifers typical of valley fill and/or glacial-deposit geologic settings. The simulator shows the interaction between wells in unconfined and semi-confined aquifers, including interaction between ground and surface waters. Wells are located at varying depths to simulate the various types of wells in use, from a shallow homeowner well in an unconfined aquifer to a deep commercial well cased to a semi-confined aquifer. Contamination plume flow is accurately simulated showing how some wells can become contaminated while others not contaminated.

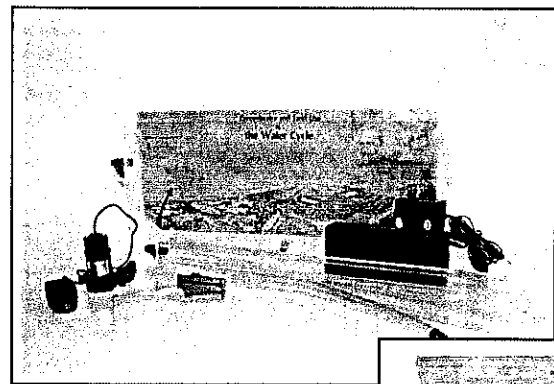


Bedrock Simulator Kit - Envision 3000

This simulator shows all the key features of the Envision 2000 with the added features of a bedrock aquifer. It shows groundwater flow and contamination in both unconfined and confined sand and gravel aquifers overlying cavernous limestone and fractured-bedrock aquifers. Presenters can easily compare and contrast the different flow patterns between the various types of aquifers. This simulator is particularly useful in areas where the local geology contains caves, sinkholes, fractured non-porous bedrock or has been extensively deep-mined.

List of Basic Accessories (included with all groundwater simulators)

- User Manual (with demonstration tips & exercises)
- Acrylic topper with laminated water cycle poster
- AC pump (Aqua Clear Mini Pump)
- Siphon bottle pumping system
- Syringe pumping assembly
- AC pump
- High-visibility dye (4 colors in set)
- 2-litre bottle (for use when electricity is not available)
- Wash bottle
- Neon marking string
- Pipettes
- Valve turner
- Valves & Drain Tubing
- Foam padded sturdy cardboard carrying case

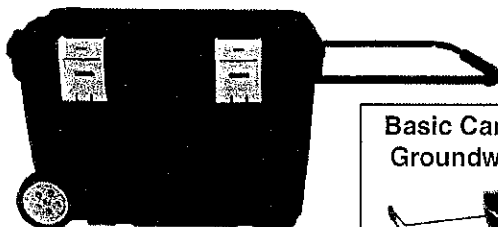


Rainmaker Simulator Kit

This accessory works with both Envision simulators, as well as many competitor models. The rainmaker sits on top of the simulator and feeds rainwater into the face of the simulator. The rainmaker uses an AC/Battery powered submersible pump, included in kit. (*Simulates Rainfall*)

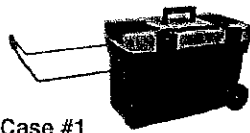
The Rainmaker can be operated as a separate unit from the groundwater simulator or the pump systems can be interconnected to enhance visual effect.

Envision Ultra Carry Case Accommodates Groundwater Model and Rainmaker Kits with all Accessories



Case #2

Basic Carry Case for Groundwater Model

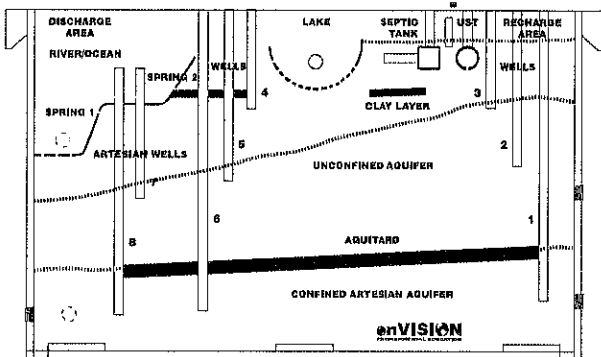
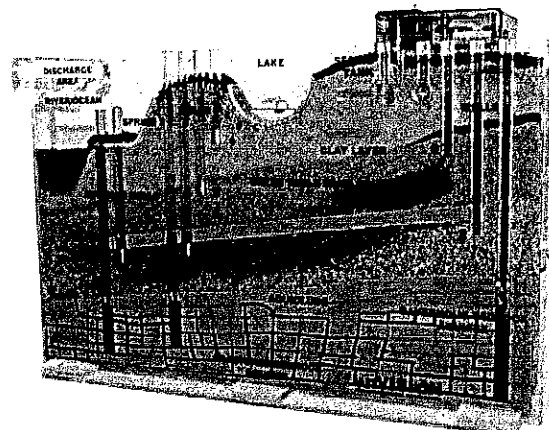
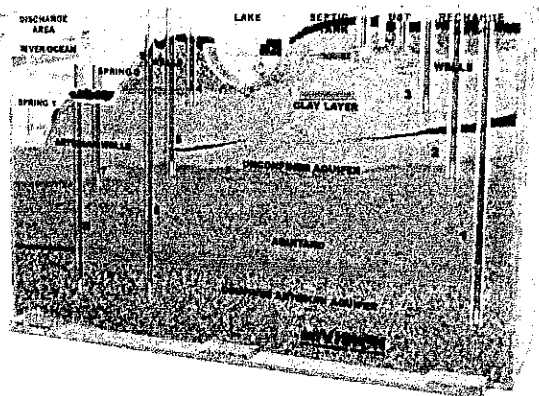


Case #1

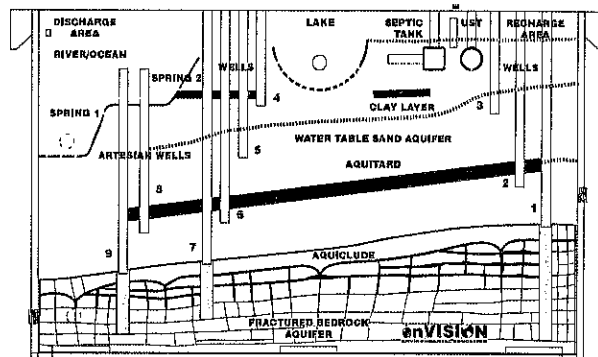
Heavy Duty Plastic Carry Cases

There are 3 different cases available for Envision simulators. Case #1 accommodates a single simulator kit (including accessories). Case #2 accommodates a simulator, rainmaker and the standard accessories for both items. With wheels and a telescoping handle, these cases enables the user to safely transport the model and rain-maker easily. The cases are lined with foam padding. Case #3 is the smallest, accommodating a single rainmaker kit (including accessories).

Which Simulator is Right for Me?



**STANDARD ENVISION SIMULATOR
MODEL: ENVISION 2000**



**BEDROCK ENVISION SIMULATOR
MODEL: ENVISION 3000**

Feature	Envision 2000	Envision 3000
Springs (2)	✓	✓
Artesian wells (2)	✓	✓
Semi-confined Aquifer	✓	✓
Stream	✓	✓
Lake	✓	✓
Septic Tank	✓	✓
UST	✓	✓
Unconfined Aquifer	✓	✓
Shallow Wells	✓	✓
Karst/Cavernous Limestone aquifer		✓
Fractured Bedrock aquifer		✓
Deep wells in bedrock		✓

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PROPOSAL FOR PERFORMANCE OF WATER USE EFFICIENCY PROGRAMS

Proposal To:

*San Geronio Pass Water Agency
Contact: Jeff Davis, General Manager
1210 Beaumont Ave.
Beaumont, CA 92223*

Proposal From:

*Inland Empire Resource Conservation District
Contact: Mandy Parkes, District Manager
25864-K Business Center Drive
Redlands, CA 92374*

INLAND EMPIRE



RESOURCE
CONSERVATION DISTRICT

INTRODUCTION

This proposal is being presented to the Board of Directors and staff of the San Geronio Pass Water Agency (SGPWA) from the Board of Directors and staff of the Inland Empire Resource Conservation District (IERCD). The IERCD is a public agency, headquartered in the City of Redlands and serving the residents of twenty-seven cities and unincorporated areas in San Bernardino and Riverside Counties. The District operates under the principle that the quality of the environment determines the corresponding quality of life; accordingly, IERCD board and staff perform the restoration, conservation, and education and outreach work designed to improve the quality of life for area habitats and dependent environs. Tasks associated with this work include preservation of open space, removal of invasive vegetation and replacement with appropriate native species, and dissemination of conservation information to area students and community groups.

The performance of environmental education programs to a variety of audiences within the District's service area is a key function of the Inland Empire Resource Conservation District. One full-time education coordinator and one part-time education assistant are tasked with the presentation of eight core programs on topics including importance of soil health, the need to reduce, recycle, and reuse, and the function and value of wetlands. All programs are age-appropriate and correlated to the Science Content Standards for California public schools, involve hands-on lessons, and are free to the requesting party. District educators employ a series of visual aids in communicating the core points of each program, including 3D Enviroscope® models, Global Positioning System units for outdoor sessions, and interactive PowerPoint presentations with post-program content quizzes.

Of particular importance in IERCD's environmental education program repertoire is its "Water Use Efficiency" classroom presentation, particularly due to the arid environment of the Inland Empire combined with its considerable population growth. This program provides students with content relating to the water cycle, methods of water storage and delivery both locally and statewide, the role of local conservation agencies and water providers in ensuring continued availability of drinking water, and the critical need for as well as methods of conserving this resource. In addition to classroom programming, SGPWA students will also have the potential to visit the Agency's drought-tolerant demonstration garden following the classroom presentation, where concepts of water conservation importance and methods will be reinforced through hands-on activities. The IERCD recognizes that student comprehension is critical to effect desired behavior change in participants, which has led to development and implementation of pre and post-program content quizzes to determine changes in comprehension of water conservation needs/methods as a result of this program.

Currently, the IERCD contracts with a number of area water retailers and wholesalers, and conservation entities to provide Water Use Efficiency classroom programs tailored to the individual mission and goals of each agency for which they are being provided. The performance of these programs assists requesting agencies in meeting requirements for water providers set by the State of California, in addition to ensuring individual service-area residents are more informed of significance of local entities in ensuring continued access to high-quality water at an efficient cost. The IERCD also performs supplemental outreach support on behalf of water provider partners to underscore the conservation message delivered in classrooms, including participation in local events and fairs, conduction of adult programs, and support of local water use efficiency initiatives. All of these services are available to the San Geronio Water Pass Agency should the SGPWA feel their provision will assist in continued efficient delivery of water to the Banning-Calimesa service area.

ELEMENTS OF IERCD WATER CONSERVATION EDUCATION: CLASSROOM PROGRAMS

The IERCD education department has performed Water Use Efficiency programming for over 10 years, to classrooms and community groups throughout its more than 1,200 square mile of service area territory. The total number of residents reached through provision of these free programs has increase each year since then, to almost 5,000 students educated in the 2011-12 school year. All programs are age-appropriate and are directly correlated to content determined by the State of California to be critical for comprehension for each grade level presented to.

Elements of the IERCD Water Use Efficiency classroom presentations include:

OUTREACH TO AREA EDUCATORS AND COMMUNITY GROUPS:

The Inland Empire RCD will perform outreach designed to advertise the availability of these programs to area educators and community leaders within the service area of the San Geronio Pass Water Agency through the following tasks:

- Creation of flyers to be distributed in hard copy and electronically, detailing program benefits and highlighting that it is free to all requesting parties; flyer will be created using professional design program InDesign and distributed upon final approval by SGPWA and by the school district(s) within which it will be passed out.
- Presentations directly to district-wide administrator meetings and/or grade level and full staff school meetings. This direct form of outreach to educators and administrators generally is the most successful in connecting educators with WUE program performance.
- Incentives for booking programs advertised to schools and community leaders; past incentives have included free portable water use-efficient gardens planted with native species and "refer-a-colleague" entries into a monthly giftcard drawing.
- Email outreach to SGPWA-service area partners advertising WUE programs

TOTAL CLASSROOM PROGRAMS TO BE PERFORMED

This number will be strictly up to the board and staff of the San Geronio Pass Water Agency, and will be included in any contract developed between the SGPWA and the IERCD for performance of programs in the 2013-14 school year.

PROGRAM CONTENT DESCRIPTION:

The options for program components depend on participant age and venue; however, all will include a combination of the following materials/activities:

- Water Conservation Enviroscape® model
- Display board with visual aides illustrating SGPWA function, the water cycle, water capture and storage, State Water Project, typical areas of water use, and methods for conservation
- Native plant activity where students plant drought-tolerant wildflower/shrub seeds in individual peat pots to take home
- Question wheel
- Water-use quiz
- PowerPoint presentation
- Interactive content test
- Handouts and small water conservation-themed prizes

All requesting parties will receive lesson plans prior to program presentation, where components of the lesson, vocabulary, and applicable standards are detailed. All content and changes of content will be reviewed by SGPWA staff to obtain feedback before proceeding. Following the program, IERCD educators will provide follow-up content reinforcement packets and will assist interested instructors in accessing portions of the IERCD's websites with additional Water Use Efficiency content.

TRANSPORTATION:

The IERCD educator will provide transportation to and from programs, in a District or personal vehicle. Transportation costs are assumed as part of the overall per-program cost and will not be separately accounted for by IERCD staff.

INVOICING:

IERCD staff will provide detailed quarterly invoices to SGPWA accounting staff, unless SGPWA desires submission of invoices as a more or less frequent rate. The invoices will be payable upon review and approval by Agency staff. Each invoice will consist of total number of programs performed within the service area boundary of the SGPWA and will be billed at a flat rate, regardless of program location. All costs associated with program outreach and advertising will be assumed by the IERCD as part of the per-program cost.

FEE BREAKDOWN FOR CLASSROOM PROGRAMS:

Task	Description	Cost
Program Preparation	Assembling materials, Travel, Clean-Up	\$65.00
Presentation	Classroom content portion	\$30.00
Materials	Enviroscape® Materials, Handouts	\$5.00
Per-Program Total		\$100.00

ELEMENTS OF WATER CONSERVATION: DEMONSTRATION GARDEN ACTIVITY

The presence of a drought-tolerant demonstration garden on the grounds of the San Geronio Pass Water Agency provides the IERCD with an excellent opportunity for reinforcing concepts covered in classroom programs for area students. The connection between water use and plant selection in residential and commercial landscapes as well as the uses/benefits of climate-appropriate plants would both be underscored in a visit to the SGPWA demonstration garden and participation in on-site activities.

Elements of the SGPWA Demonstration Garden Student Tour/Activities can include:

OUTREACH TO AREA EDUCATORS/COMMUNITY GROUPS

The Inland Empire RCD would work with SGPWA staff to market the Demonstration Garden Tour/Activity as a companion to the classroom program for interested educators; however, the costs

associated with the Tour/Activity would be higher than classroom programs due to the need for additional materials and transportation to/from the SGPWA. Accordingly, the IERCD will work with SGPWA board and staff to determine level of advertising of the tour; possibilities include a tour to accompany each program performed for individual classes or tours given on a monthly or quarterly schedule for larger groups of classes. Once the total number of tours to be offered is determined, IERCD staff will provide outreach similar to what is performed on behalf of classroom program offerings:

- Creation of flyers to be distributed in hard copy and electronically, detailing tour benefits and highlighting that it is free to all requesting parties; flyer will be created using professional design program InDesign and distributed upon final approval by SGPWA and by the school district(s) within which it will be passed out.
- Presentations directly to district-wide administrator meetings and/or grade level and full staff school meetings.
- Incentives for booking tours advertised to schools and community leaders; past incentives have included free portable water use-efficient gardens planted with native species and "refer-a-colleague" entries into a monthly giftcard drawing.
- Email outreach to SGPWA-service area partners advertising SGPWA tours.

TOTAL TOURS TO BE PERFORMED

As referenced in the above section, the tour segment of Water Use Efficiency education to be offered by SGPWA will present a more significant cost than classroom presentations. However, once a number of potential tours is determined, it will be included in any contract between the SGPWA and the IERCD to cover provision of WUE education for the 2013-14 school year.

PROGRAM CONTENT DESCRIPTION:

The goals for conducting tours and activities on-site at the San Geronio Pass Water Agency include (1) reinforcing content addressed during classroom programs and (2) inviting the public to experience/learn from this demonstration space meant to showcase options for attractive, efficient landscaping in the arid inland empire. Tour content will vary according to age/needs of individual groups; however, all will contain a combination of the following elements:

- Pre-tour discussion of plants and ground covers used on the property, staged in the parking area north of the garden in cooler weather or inside the SGPWA building on hotter days
- Walking tour of the garden, involving
 - Scavenger-hunt style observations for K-3
 - Recordation of plants present and key characteristics at varying levels of difficulty for grades 4-8
 - Observation of plants' predictions about characteristics based on pre-tour discussion for grades 9-12
- Stations:
 - **I:** Sensory station with a variety of fragrant and textured plants, with written activity
 - **II:** Plant defenses station with a variety of species whose natural defenses against predation are obvious, with written activity
 - **III:** Cultural plant use station, where species of significance to local populations of Native Americans are present, with written activity
 - **IV:** Survival plants station, where plants with uses valuable to survival of animals (including humans) are on display, with written activity (9-12 grades only)

- **V:** Water budget station where students design home landscapes and develop monthly budgets based on gallons and dollars (9-12 grades only)
- Post-stations group sharing and discussion
- Post-stations walk through garden to connect individual station content with species previously not highlighted during 1st walking tour
- Pre and post-program content and activity ideas for teachers/community leaders requesting the program

TRANSPORTATION:

Transportation for students will be approximately \$250/trip from schools within SGPWA's service area to Agency headquarters in Beaumont. This cost can be incorporated into total tour cost or it can be arranged for separately by the SGPWA, particularly if the Agency feels it can secure a more affordable method of student transportation to/from the site.

INVOICING:

IERCD staff will provide detailed quarterly invoices to SGPWA accounting staff, unless SGPWA desires submission of invoices as a more or less frequent rate. The invoices will be payable upon review and approval by Agency staff. Each invoice will consist of total number of tours performed and will be billed at a flat rate, according to materials and transportation per tour.

FEE BREAKDOWN FOR TOURS:

These fees were determined based on very general estimates of costs for execution of 2 options for tours: the first would involve one class of students requiring just one educator and the second would involve multiple classes and require 2-3 educators.

For tour option 1, the class can have as little as one station or as many as four; the current estimated cost is based on 4 stations. Each station has an individual cost representing materials needed to execute that individual station, so elimination of stations would reduce this cost by \$4.0 per station eliminated from the tour.

For tour option 2, the stations are slightly more expensive due to the elevated number of materials required for increased student participation; however, as with option 1, elimination of stations can reduce costs. Also, busing estimates are difficult to determine for multiple classes, and will depend on actual number of students attending and whether or not they are from different campuses.

Option I: Tour for Single Class (1 educator needed)

Task	Description	Cost
Tour Preparation	Assembling materials, Travel, Clean-Up	\$120.00
Tour/Activity	Conduction of Tour/Activity(ies)	\$60.00
Materials	Station I	\$40.00
	Station II	\$40.00
	Station III	\$40.00
	Station IV	\$40.00
Transportation	Busing to/from SGPWA	\$250.00
Tour Total		\$590.00

Option II: Tour for Multiple Classes (2+ educators needed)

Task	Description	Cost
Tour Preparation	Assembling materials, Travel, Clean-Up	\$240.00
Tour/Activity	Conduction of Tour/Activity(ies)	\$150.00
Materials	Station I	\$60.00
	Station II	\$60.00
	Station III	\$60.00
	Station IV	\$60.00
Transportation	Busing to/from SGPWA	\$250.00
Tour Total		\$880.00