



# **Community-Based Green Infrastructure in Arizona's Public Rights-of-Way**

**James DeRoussel RLA**  
**Program Manager**  
**Watershed Management Group**



## **Mission:**

**WMG develops and implements community-based solutions to ensure the long-term prosperity of people and health of the environment. We provide people with the knowledge, skills, and resources for sustainable livelihoods.**



## **PROGRAMS:**

**Small Scale**



**Large Scale**

**DEMONSTRATION SITES**

**CO-OP**

**SCHOOLYARD PROGRAM**

**GREEN STREETS**

**TECHNICAL TRAININGS**

**INTERNATIONAL**

**SOIL & WATER CONSERVATION**

**SANITATION**

# Green Streets – Green Neighborhoods

## Goal:

Help cities improve environment & quality of life through integrated Green Infrastructure.

## Method:

- Use GI to address disparate urban problems
- Build community leadership
- Empower residents with hands-on skills and education
- Develop technical and educational resources



Green Infrastructure for  
Southwestern Neighborhoods



 Watershed  
Management  
Group

Version 1.0  
August 2010

# What is Green Infrastructure?



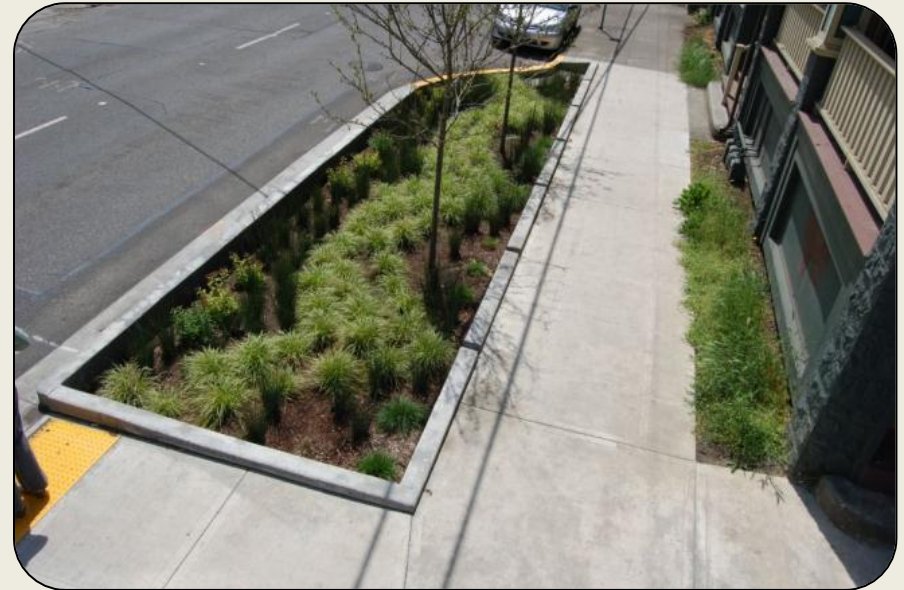
- **Low Impact Development (LID)**
- **Integrated Water Management**
- **Water Sensitive Urban Design**
- **Best Management Practices for Stormwater Quality (BMP's)**



# What is Green Infrastructure?



- **WMG:** “constructed features that use living, natural systems to provide environmental services, such as capturing, cleaning and infiltrating stormwater; shading and cooling streets and buildings; and calming traffic.”



# What is Green Infrastructure?



- **Bioretention**
- **Traffic Chicanes**
- **Green Roofs**
- **Stormwater BMPs**
- **Permeable Paving**
- **Preservation of Natural Systems**

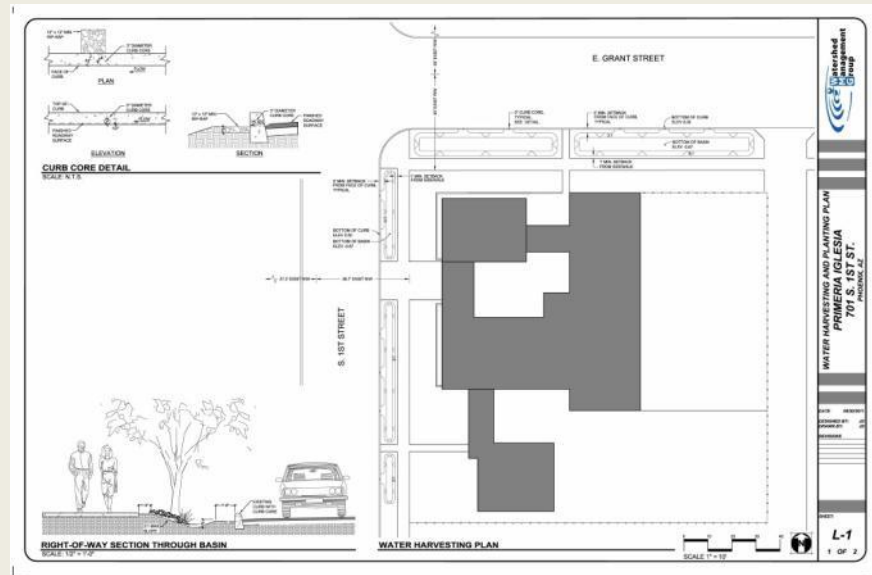


# Who designs Green Infrastructure?

- Engineers
- Landscape Architects
- Architects
- Urban Planners
- Policy Makers
- Developers
- Contractors

## What about?

- Maintenance staff
- Residents and neighbors
- Business owners

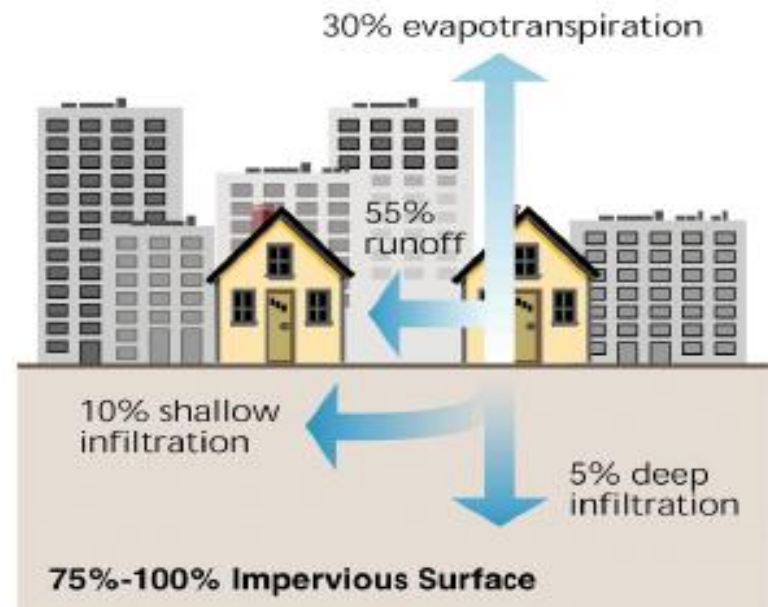
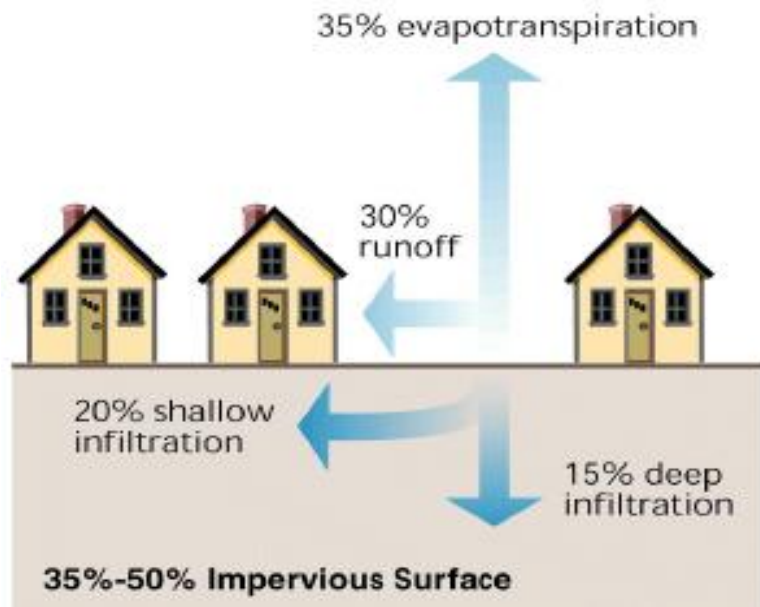
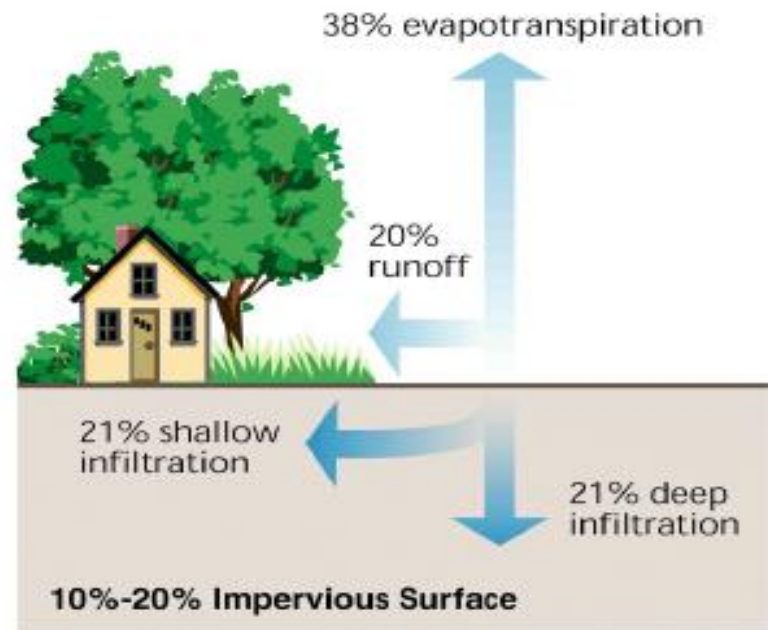
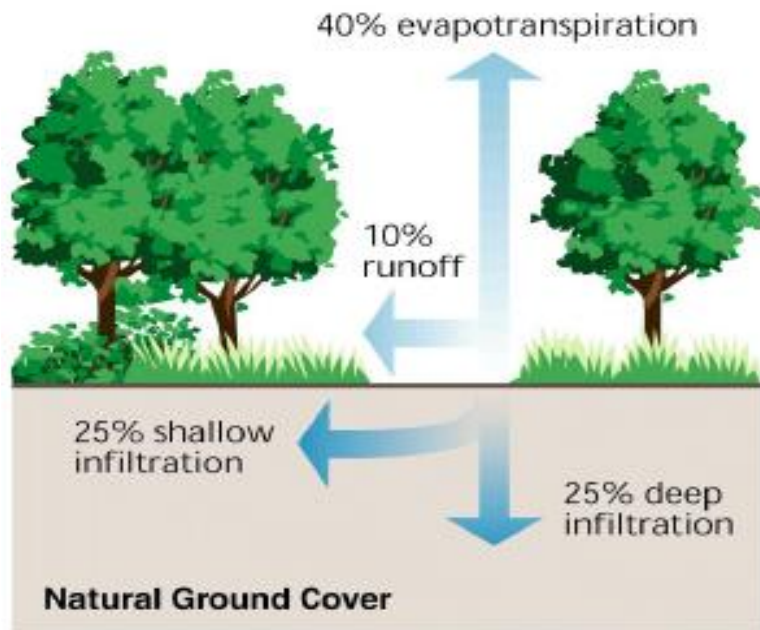




# Why Green Infrastructure?

- **Livability / Quality of Life**
  - **Shade**
  - **Traffic calming**
  - **Property values**
  - **Crime reduction**
  - **Community building**
- **Environmental Benefits**
  - **Water quality**
  - **Air quality**
  - **Flooding**
  - **Urban heat island**
  - **Wildlife habitat**





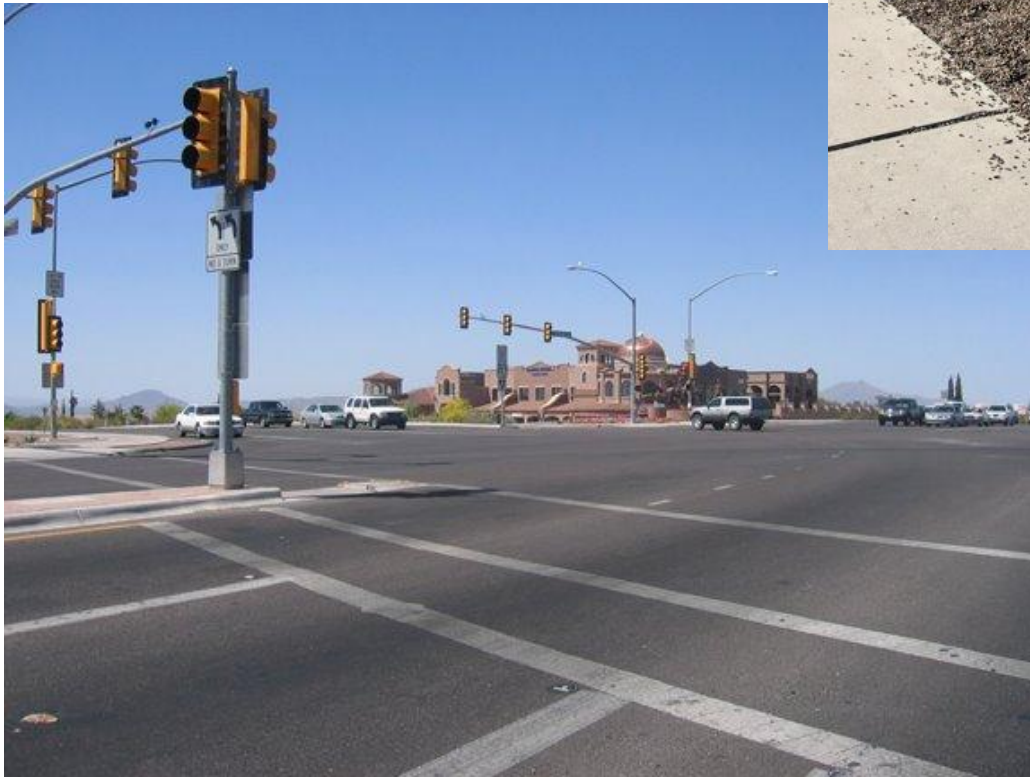
# Flooding





## Non-point source pollution

# Urban Heat Island



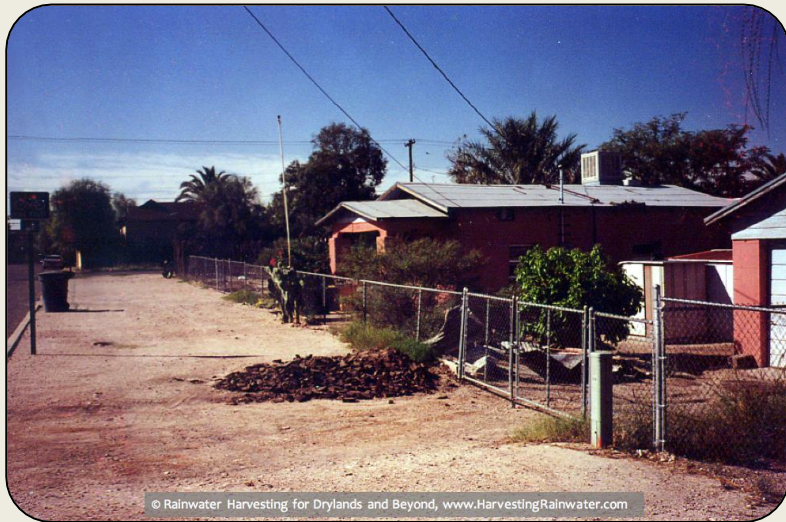
# Limited water resources



# Functional Goals of Green Infrastructure



- **Harvest Storm Water**
- **Increase Infiltration and Recharge**
- **Prevent Flooding**
- **Create Shade/Reduce Urban Heat Island**
- **Increase Water and Air Quality**
- **Decrease up-front and lifetime project costs**



# Bioretention & Water Quality



- Sedimentation
- Filtration
- Adsorption
- Uptake
- Microbial activity
- Volatilization





# Gray Infrastructure vs. Green Infrastructure



# Gray Infrastructure

**Alters pre-development hydrology:**

- **Increased runoff**
- **Remote, large scale retention/detention results in high maintenance and wasted space**
- **Decreased infiltration**
- **Downstream flooding**
- **Erosion/Sedimentation**



# Green Infrastructure

Mimics pre-development hydrology:

- Local micro-retention
- Decreases runoff
- Increased infiltration and local soil moisture
- Reduced downstream flooding and erosion
- Reduced burden on public storm water systems



# Why Green Infrastructure?

- **Livability / Quality of Life**

- **Shade**
- **Traffic calming**
- **Property values**
- **Crime reduction**
- **Community building**

- **Environmental Benefits**

- **Water quality**
- **Air quality**
- **Flooding**
- **Urban heat island**
- **Wildlife habitat**



- **Economic Benefits**

- **Reduce energy consumption**
- **Extend life of infrastructure**
- **Reduce cost of new construction**

# Costs of Green Infrastructure



## Retrofitting:

- G.I. retrofitting slightly more costly than rehabilitating of conventional infrastructure
- G.I. retrofitted incrementally can spread cost over long period of time
- Savings realized in long term operation and maintenance

## New Construction:

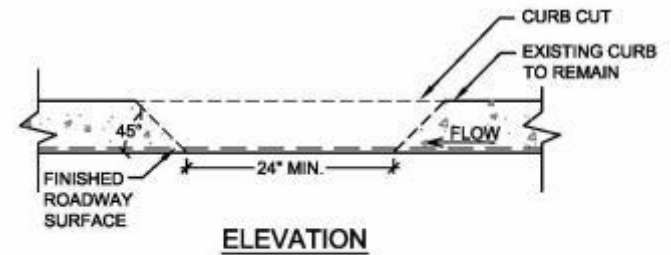
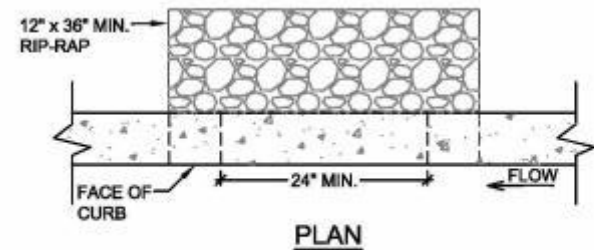
- G.I. often 10-20% less costly than conventional infrastructure
- G.I. less costly in lifetime operation and maintenance
- Secondary and 'trickle up' economic benefits

**Redevelopment = Opportunity**

# Tools for Green Infrastructure



## Curb Cuts



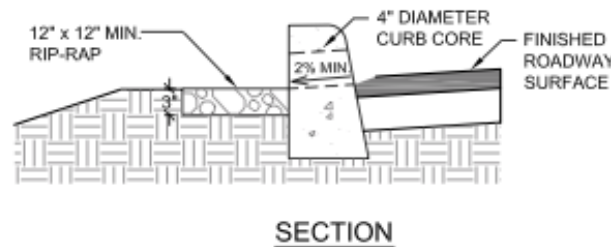
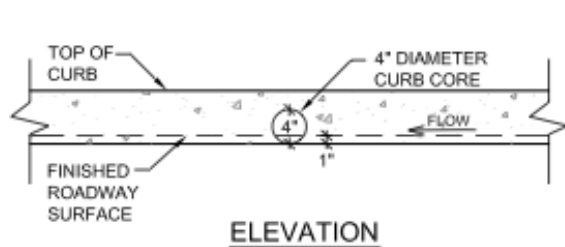
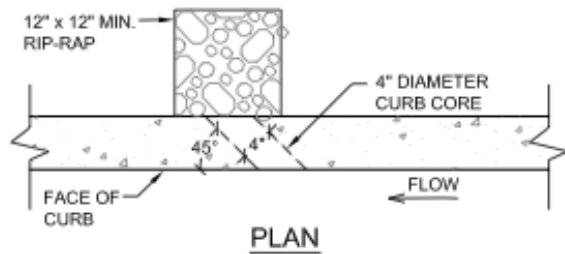
### **CURB CUT DETAIL**

SCALE: N.T.S.

# Tools for Green Infrastructure



## Curb Cores



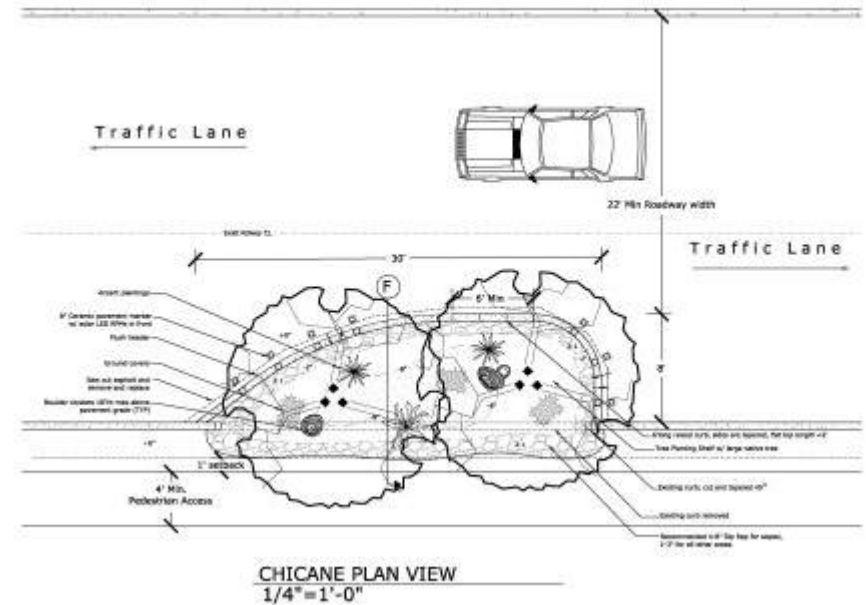
### **CURB CORE DETAIL**

NOT TO SCALE

# Tools for Green Infrastructure



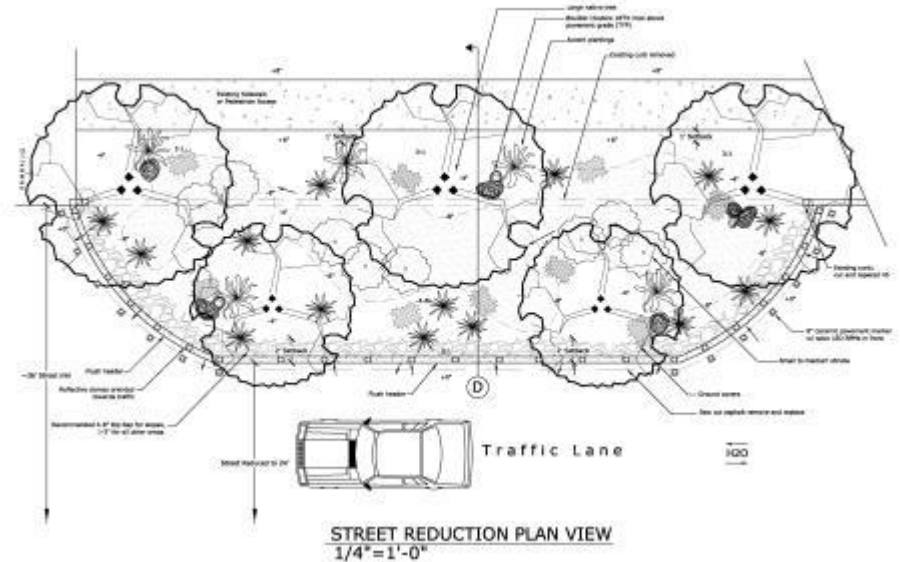
## Chicanes





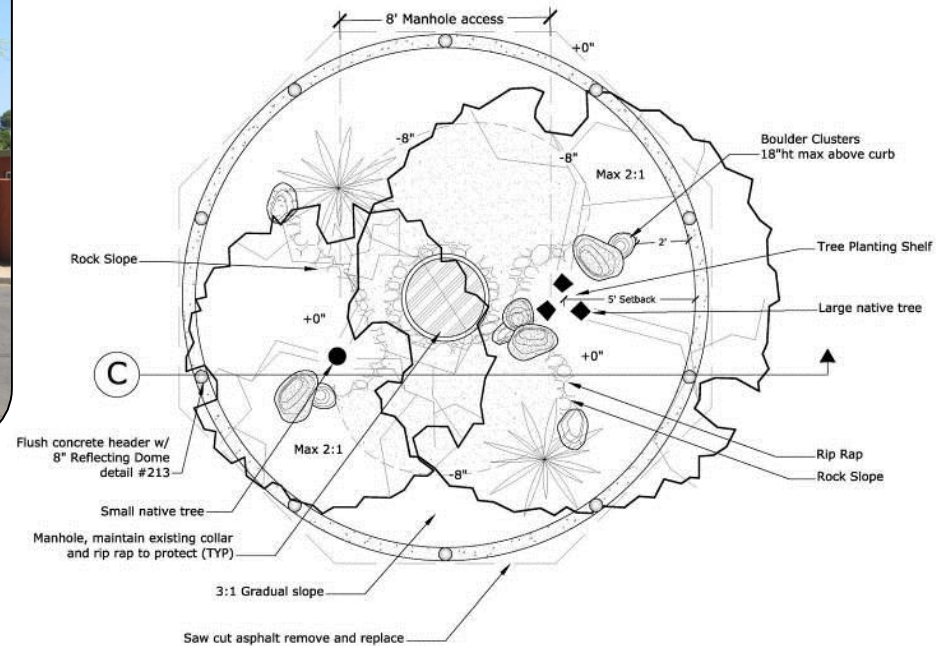
# Tools for Green Infrastructure


## Street-width reduction



# Tools for Green Infrastructure

## Traffic Circles





## **Case Studies Across Arizona**

- **Palo Verde Neighborhood (Tucson)**
- **Burns Residence (Tucson)**
- **Fry Boulevard (Sierra Vista)**
- **Lake Havasu City Aquatic Center**
- **Primera Iglesia (Phoenix)**

# Palo Verde Neighborhood

## Tucson, AZ



- **Client/Project Owner:**  
**Private homeowners**
- **Funding:**  
**Private**



# Palo Verde Neighborhood

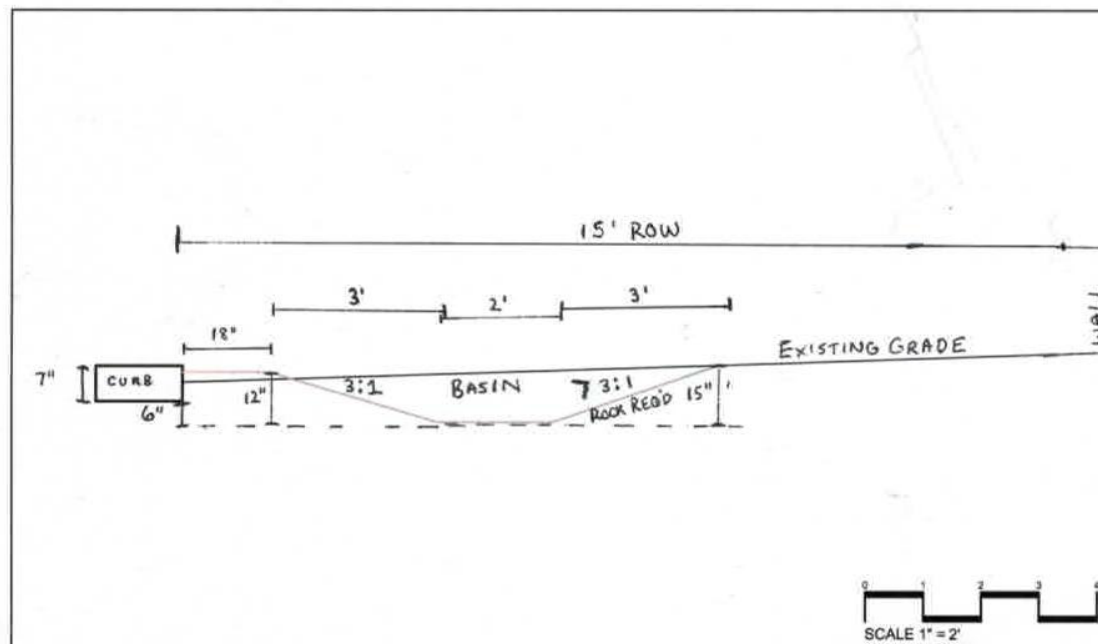
Tucson, AZ



- **Public right-of-way**
- **Mid-town Tucson**

# Palo Verde Neighborhood

## Tucson, AZ

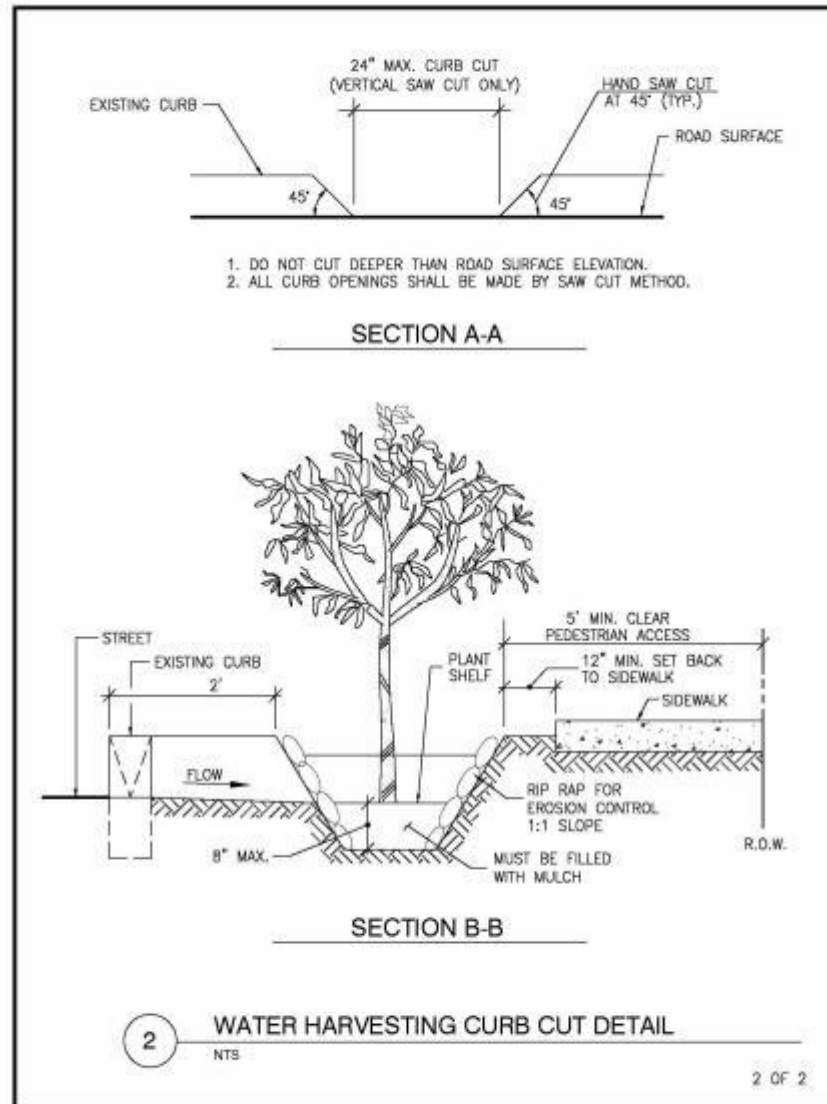


2-D CROSS SECTION OF N CAMILLA ROW  
GREEN INFRASTRUCTURE TRAINING 2012

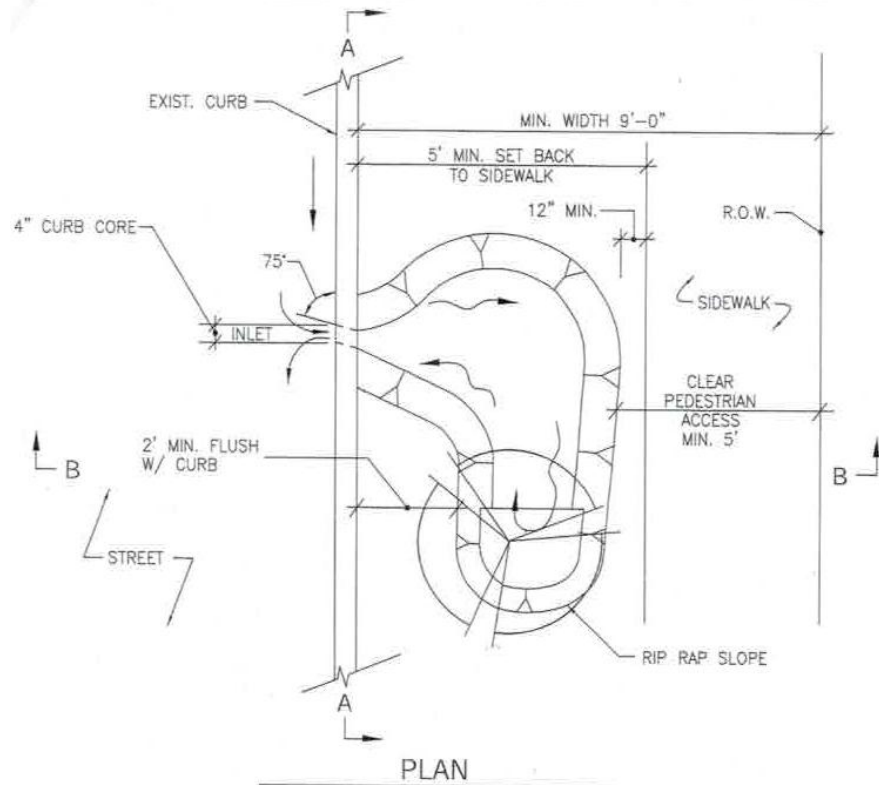


# Palo Verde Neighborhood

## Tucson, AZ



# Palo Verde Neighborhood Tucson, AZ



NOTES:

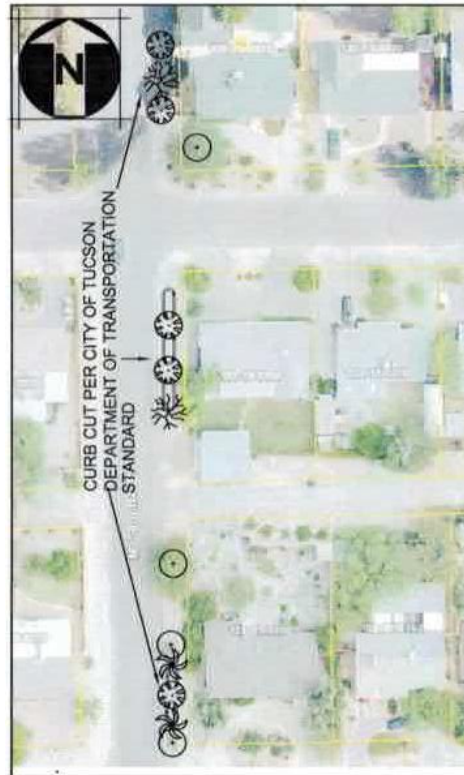
1. CURB CORES MUST HAVE A MINIMUM OF 5' SEPARATION.
2. CURB CORES MUST BE A MINIMUM OF 5' FROM DRIVEWAY APRON.
3. CURB CORES MUST BE A MINIMUM OF 20' FROM ALL CORNERS & A MINIMUM OF 50' BACK OF CORNERS WITH STOP SIGNS.

1 COT DOT STANDARD DETAIL  
WATER HARVESTING CURB CORING DETAIL

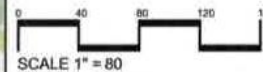
NTS



# Palo Verde Neighborhood Tucson, AZ



LANDSCAPE SCHEDULE				
SYM./KEY	BOTANICAL NAME	COMMON NAME	SIZE	QUANTITY
<b>TREES</b>				
	CERCIDIUM FLORIDUM	BLUE PALO VERDE	15 GAL.	4
	OLNEYA TESOTA	IRONWOOD	15 GAL.	2
	CHILOPSIS LINEARIS	DESERT WILLOW	15 GAL.	4
<b>SHRUBS / GRASSES / VINES</b>				
	JUSTICIA CANDICANS	RED JUSTICIA	5 GAL.	7
	BOUTELOUA CURTIPENDULA	SIDEOATS GRAMA	1 GAL.	21
	MUHLENBERGIA EMERSLEYI	BULLGRASS	1 GAL.	35
<b>EXISTING VEGETATION</b>				
	EXISTING VEGETATION			
<b>PLANTING DESIGN (NOT TO SCALE; ORIENTED NORTH-SOUTH ON AERIAL)</b>				
<p>24" CURB CUT TO TDOT STDS</p>				



**N CAMILLA BLVD - PALO VERDE NBRHD**  
**GREEN STREETS PROGRAM - KBB 3/12/12**





# Palo Verde Neighborhood

## Tucson, AZ

### Maintenance Responsibility Agreement for Planting in the Public Right of Way

I, (print name) Joan O'Dwyer the owner occupant of property located at 3202 E Waverly 85716 agree to properly maintain\* the trees, shrubs, and water harvesting basins being installed in the public right of way in proximity to my property, for as long as I own or reside at this residence. I further agree to not relocate the plants or water harvesting basins without approval from Palo Verde Neighborhood Association.

#### \*Maintenance includes:

1. Watering plants for the first two years, and during extreme drought periods thereafter.
2. Pick up and disposal of trash.
3. Removal of weeds to the level desired by the neighborhood.
4. Provide pruning of trees, shrubs and cactus to prevent obstruction of a 5' clear pedestrian pathway, and the on-street parking area.
5. Keep stormwater inlets (curb cuts) clear of weeds and debris.
6. Remove sediment from water harvesting basins as needed to preserve the ability of basins to collect water.
7. Maintain rockwork as needed to prevent erosion and pedestrian hazards.

Signature: 

Date: 19 Mar 12

Your contact information in case we need to contact you with project updates:

Name: Joan O'Dwyer

Phone: 822-8188

Email: joanodwyer@ireland.com

Other Contact Info: \_\_\_\_\_

Comments: \_\_\_\_\_

- City of Tucson requires maintenance agreements from property owners for GI within the public right-of-way

# Palo Verde Neighborhood

# Tucson, AZ

View Permit

Page 1 of 1



ENGINEERING DIVISION  
P.O. BOX 27210  
TUCSON, AZ 85726-7310

Permit No. \_\_\_\_\_

## CITY OF TUCSON DEVELOPMENT SERVICES

ENGINEERING - 4TH FLOOR

201 N  
TUC



## PLANNING & DEVELOPMENT SERV

201 N. Stone Avenue, 1st Floor Tucson, AZ  
Phone: 791-5550 Fax: 791-4340

CITY OF TUCSON DEV SVC  
201 N. STONE  
TUCSON, AZ 85701

TELEPHONE 520  
FACSIMILE 520  
CITY OF TUCSON DEV SVC  
201 N. STONE  
TUCSON, AZ 85701

USA  
#XXXXXXXXXXXX9890

SALE  
DATE: 03/22/2012 10:00:00 AM  
SALE NO: 717 11 11  
ISS: 002

TOTAL \$50.00  
CUSTOMER COPY

APPLICATION FOR  
SIDEWALK, S

Job Address: 3201, 320

Description of Work: Es  
Install 7 Curb Cuts per T  
Tree and shrub planting a

Special Instructions: MIP  
Contractor is responsible for ar

Be sure to provide a min.  
call for Blue Stake prior to  
As Per Plan No. Attache

Permit issuance is based on info  
inaccurate information provided,  
prior to any work in the City right  
contractor at no cost to the City;  
replacement shall be conducted  
fee (Excavation Permit) will not

\*\* Please Check with Traff  
prior to starting any work

Applicant Kyle Burton

Repair Work By Lil Jo

Address PO Box 4420

State License 154611

Charge  No Char

Approved By Gary W.

1: CALL 791-4254 PRIOR TO

W/PERMITS AND CODES INSPE

O.T. STANDARDS AND SPECIF

EXCAVATION WORK SHALL

DATE. WORK SHALL BE COMPE

SUE DATE.

PRECON HELD BY INSPECTOR: \_\_\_\_\_

http://dotmans.transview.i

### PERMIT TO I

PERMIT ISSUED: 03/22/2012

ADDRESS: 3201 E WAVERLY ST T

LOCATION:  
NEAREST CROSS STREET(S):

TYPE OF WORK: CURB

DESCRIPTION OF PROPOSED WO  
DETAIL.

INSTALL 7 BASINS AT A MAXIMUM  
PLANTING AS PER ATTACHED PLA

APPLICANT: KYLE BURTON BROWN  
EXCAVATING L L C  
P O BOX 90354  
TUCSON, AZ

APPLICANT'S SIGNATURE: \_\_\_\_\_

1: CALL 791-4254 PRIOR TO

W/PERMITS AND CODES INSPE

O.T. STANDARDS AND SPECIF

EXCAVATION WORK SHALL

DATE. WORK SHALL BE COMPE

SUE DATE.

PRECON HELD BY INSPECTOR: \_\_\_\_\_

## RECEIPT

ACTIVITY #: T12EX00119

FEES RECEIPT

Title:

Date: 03/22/2012

Address:

3201 E WAVERLY ST TUC

Legal:

PALO VERDE AMENDED S140' OF N295.1' OF E70' OF W100.15' OF  
LOT 3 BLK 2 - 03080

Square Footage: 0

Composition Type: EXCAV

Activity Description:

INSTALL 7 CURB CUTS PER TDOT STANDARD CURB CUT DETAIL  
INSTALL 7 BASINS AT A MAXIMUM LENGTH OF 15' TREE AND SHRUB  
PLANTING AS PER ATTACHED PLAN.

Applicant: KYLE BURTON BROWN  
PO BOX 4420  
TUCSON AZ

Online Trans  
Trr

TOTAL \$50.00  
CUSTOMER COPY

### PAID BY:

Type	Method	Description	Amount
Payment	Credit C		50.00

Notation:

### FEES PAID:

ACCOUNT CODE	DESCRIPTION	CURRENT PMTS
001-174-8628-70	EXCAV PROCESS FEE	5.00
015-491-8628-07	EXCAVATION FEES	45.00

Issued by: FRODRIG2

TOTAL: 50.00

APA BALANCE:



# Palo Verde Neighborhood

Tucson, AZ



**Before**



# Palo Verde Neighborhood

## Tucson, AZ



**After**



# Burns Residence

## Tucson, AZ



- **Client/Project Owner:**  
**Private homeowner**
- **Funding:**  
**Private/ADEQ Grant Subsidy**



# Burns Residence

Tucson, AZ



**Before**



**Burns  
Residence  
Tucson, AZ**



**During – Contractor Excavation**





**Burns  
Residence  
Tucson, AZ**



**During – Volunteer Workshop  
(fine grading, rip-rap, planting)**



**Burns  
Residence  
Tucson, AZ**



**During – Volunteer Workshop  
(mulch, cleanup)**



**Burns  
Residence  
Tucson, AZ**



**After**



# Burns Residence

Tucson, AZ





**Fry Blvd.**

**Sierra Vista, AZ**



- **Client/Project Owner:**  
**City of Sierra Vista**
- **Funding:**  
**Walton Family Foundation**



Fry Blvd.

Sierra Vista, AZ





Fry Blvd.

Sierra Vista, AZ





Fry Blvd.

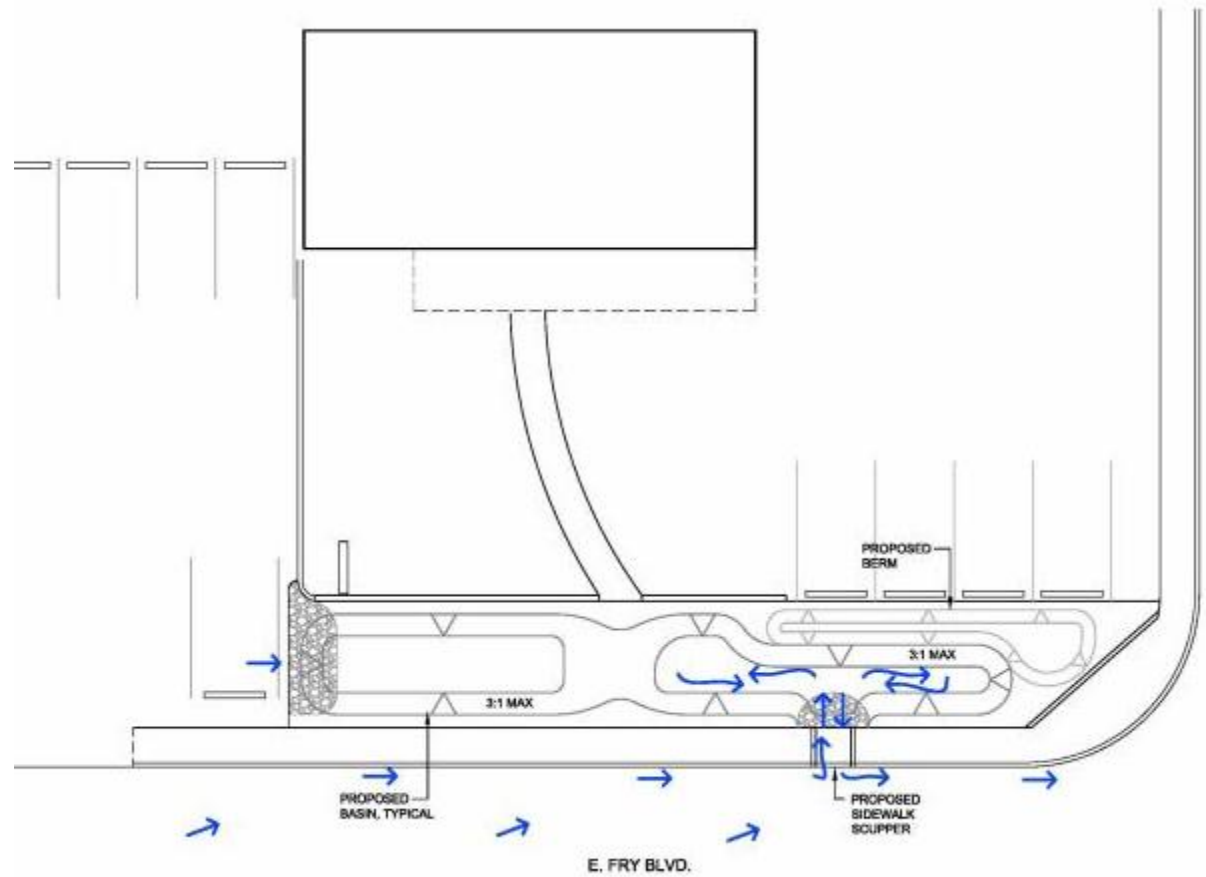
Sierra Vista, AZ





Fry Blvd.

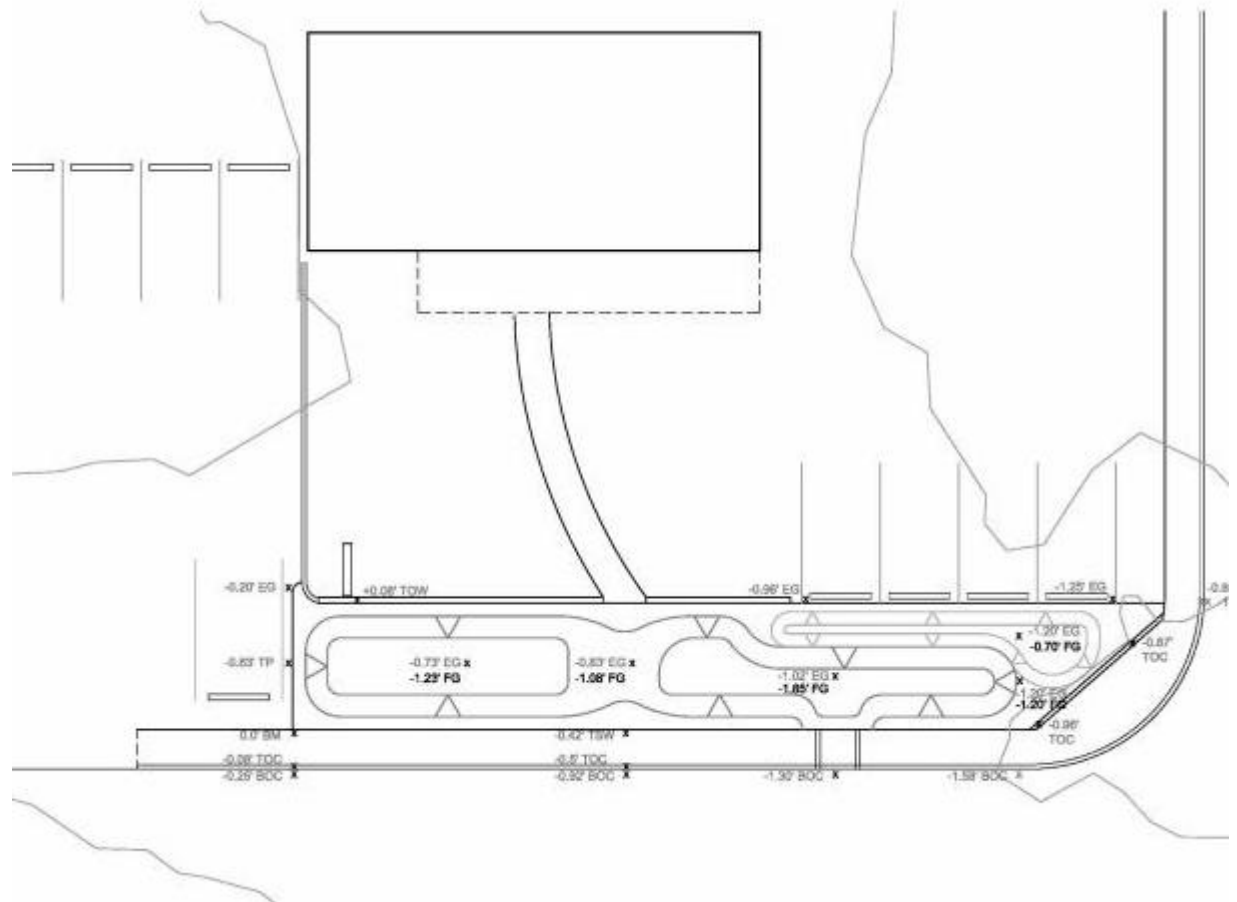
Sierra Vista, AZ





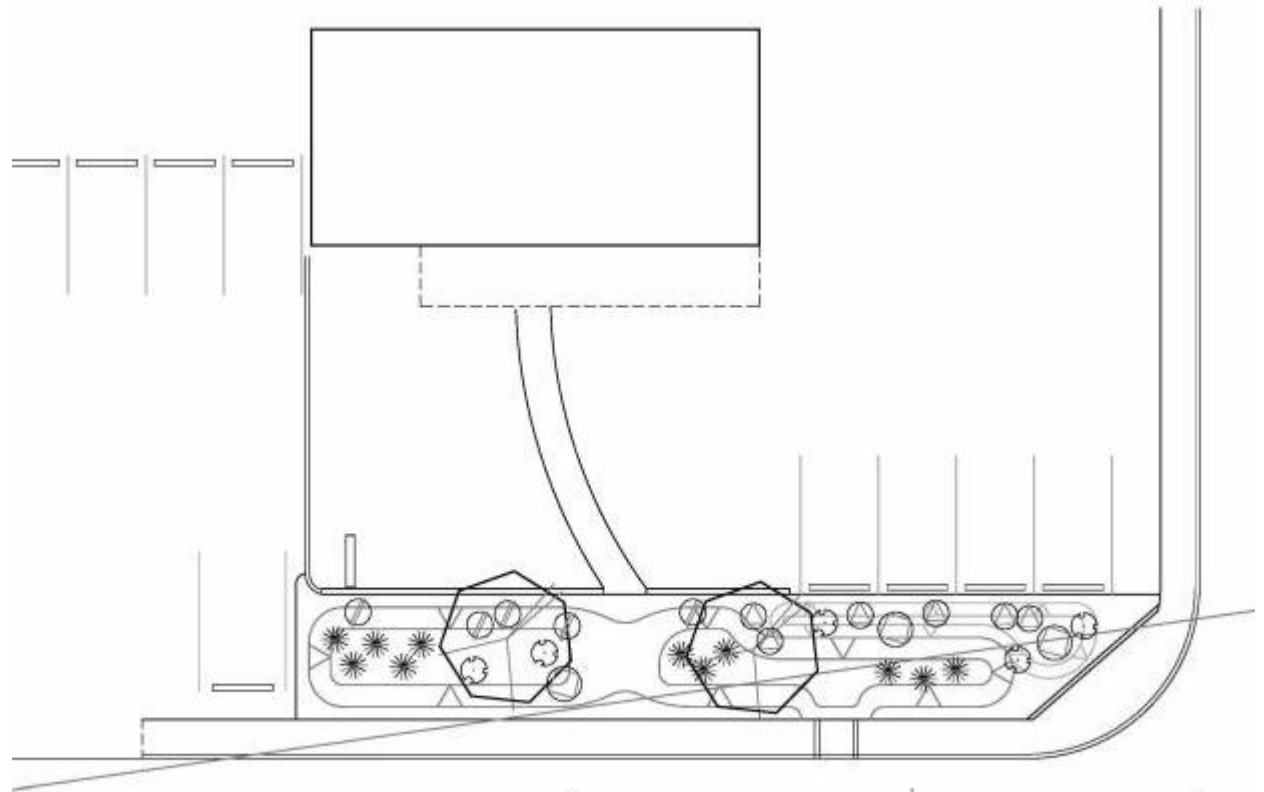
Fry Blvd.







Sierra Vista, AZ



# Fry Blvd.

# Sierra Vista, AZ



SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE	QUANTITY
<b>TREES</b>				
	FRAXINUS VELUTINA	ARIZONA ASH	24" BOX	2
<b>SHRUBS / GRASSES / VINES</b>				
	ANISACANTHUS THURBERI	DESERT HONEYBUCKLE	1 GAL.	5
	DALEA CAPITATA 'SIERRA GOLD'	GOLDEN DALEA	1 GAL.	5
	DALEA GREGGII	TRAILING INDIGO	1 GAL.	3
	MULLENBERGIA EMERSLEYI	BULLGRASS	1 GAL.	11
	PENSTEMON PARRYI	PARRY PENSTEMON	1 GAL.	8



Fry Blvd.

Sierra Vista, AZ





Fry Blvd.

Sierra Vista,  
AZ





Fry Blvd.

Sierra Vista,  
AZ





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Sierra Vista,  
AZ





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Sierra Vista, AZ







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Sierra Vista, AZ





Fry Blvd.

Sierra Vista, AZ







Fry Blvd.

Sierra Vista, AZ



# Aquatic Center Parking Lot

## Lake Havasu City, AZ



- **Client/Project Owner:**  
**Lake Havasu City, Public Works**
- **Funding:**  
**ADEQ Water Quality Grant for  
Green Infrastructure**



# Aquatic Center Parking Lot

## Lake Havasu City, AZ



- **Lake Havasu impacted by urban runoff, sedimentation and reduced water quality**

# Aquatic Center Parking Lot

## Lake Havasu City, AZ



- Heavily trafficked parking lot drains directly to Pima Wash, Lake Havasu

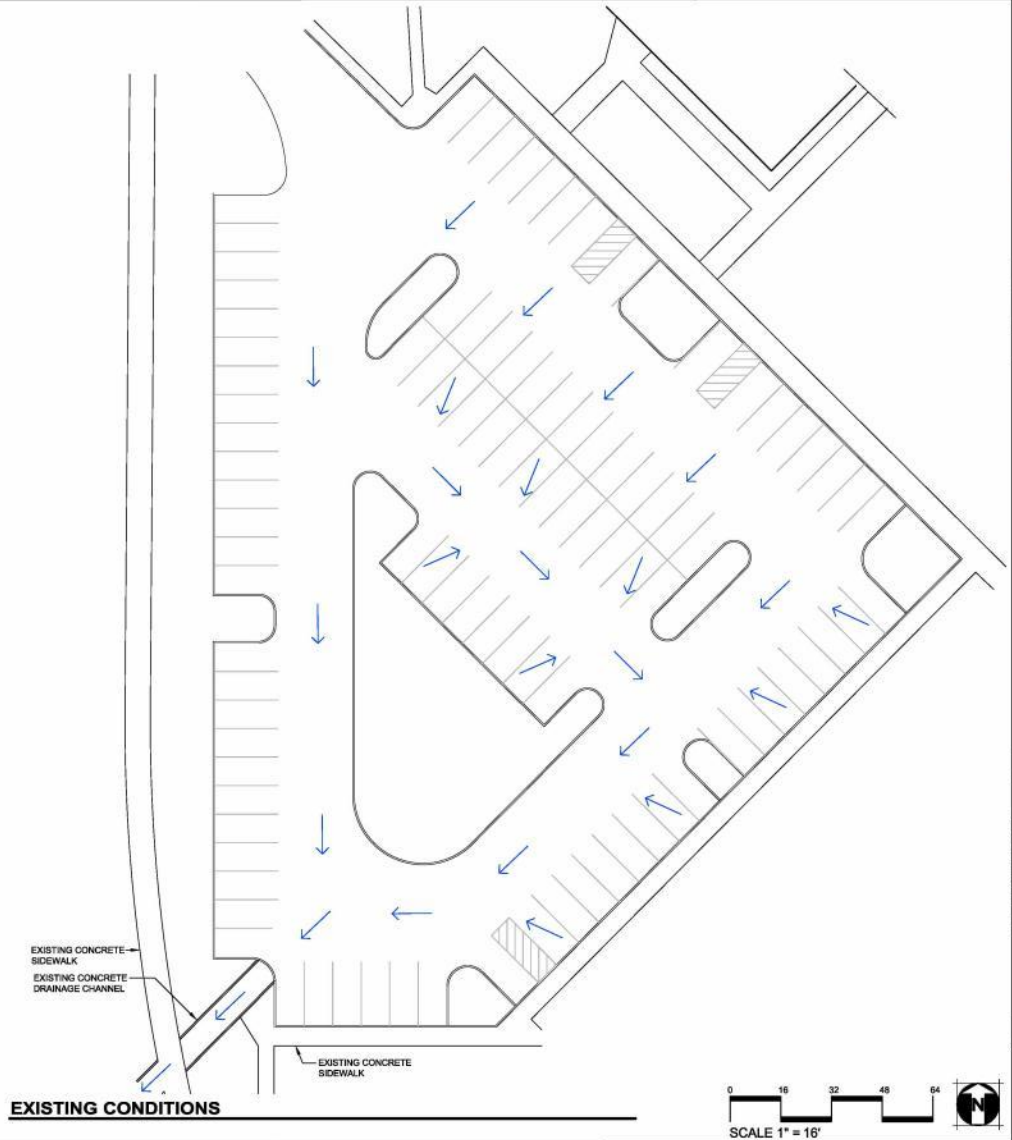
### STORMWATER CALCULATIONS

#### EXISTING PARKING LOT:

- PAVED VEHICULAR AREA = ± 40,000 SQ. FT.  
40,000 SQ. FT. X 1" RAIN X 7.48 GAL/CU. FT. X 0.9 =  
= 21,500 GALLONS PER 1" RAIN
- LANDSCAPE MEDIANS AND ISLANDS = ± 6,000 SQ. FT.  
6,000 SQ. FT. X 1" RAIN X 7.48 GAL/CU. FT. X 0.5 =  
= 1,800 GALLONS PER 1" RAIN

TOTAL STORMWATER RUNOFF = 23,300 GALLONS PER 1" RAIN\*

\*DOES NOT INCLUDE STORMWATER CONTRIBUTED FROM SURROUNDING BUILDINGS AND ADJACENT HARDSCAPE.



WATER HARVESTING PLAN  
AQUATIC CENTER  
100 PARK AVENUE  
LAKE HAVASU CITY, AZ

DATE 02/14/2011  
DESIGNED BY: JD  
DRAWN BY: JD

REVISIONS

SHEET:  
**L-1**  
1 OF 4

DATE 02/14/2011

DESIGNED BY: JD  
DRAWN BY: JD

REVISIONS

SHEET:

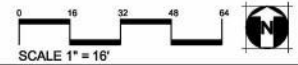
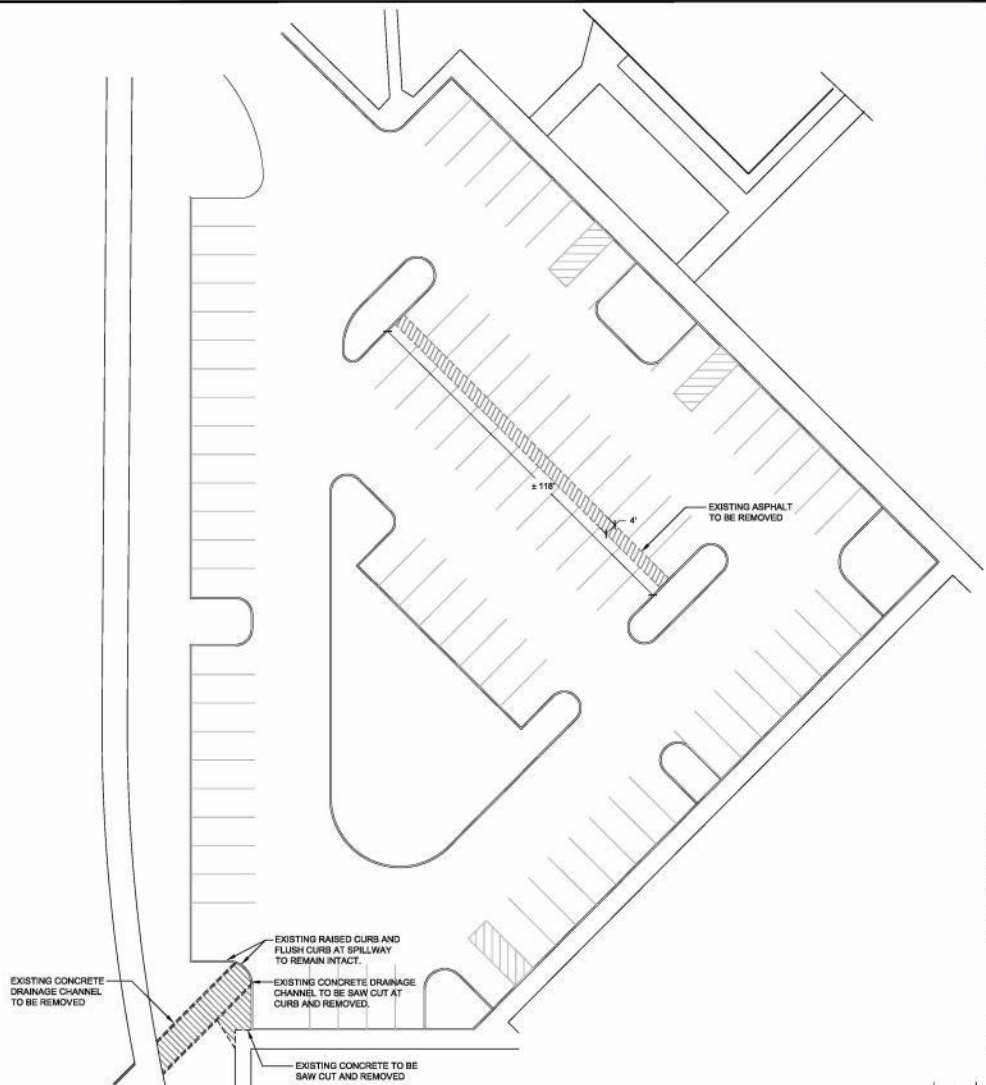
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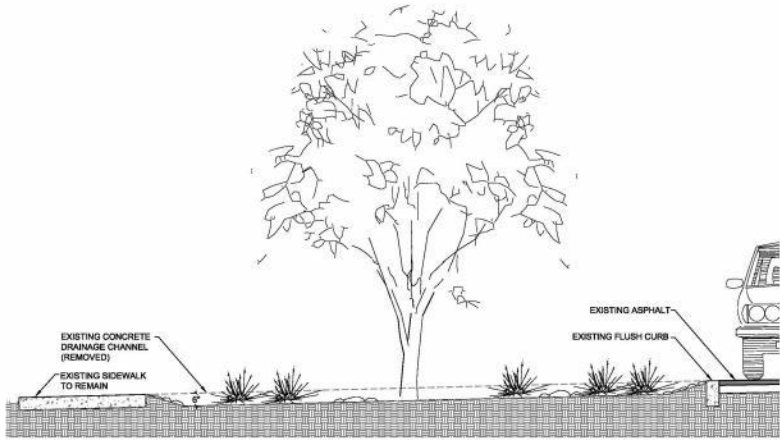
2 OF 4

**DEMOLITION SCHEDULE**

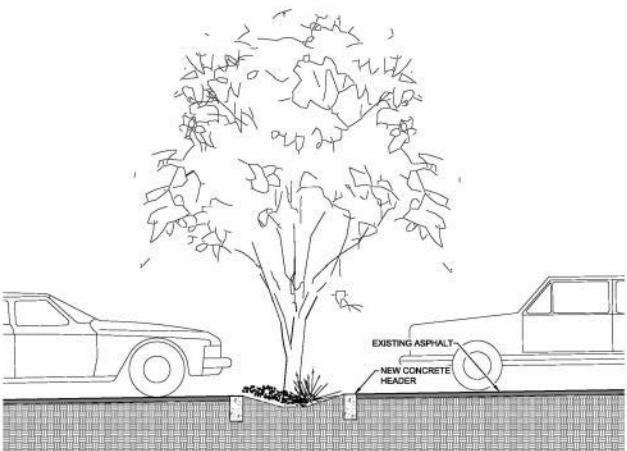
	EXISTING CONCRETE TO BE REMOVED
AREA A	450 SQ. FT.
	EXISTING ASPHALT TO BE REMOVED
AREA B	470 SQ. FT.

**DEMOLITION PLAN**

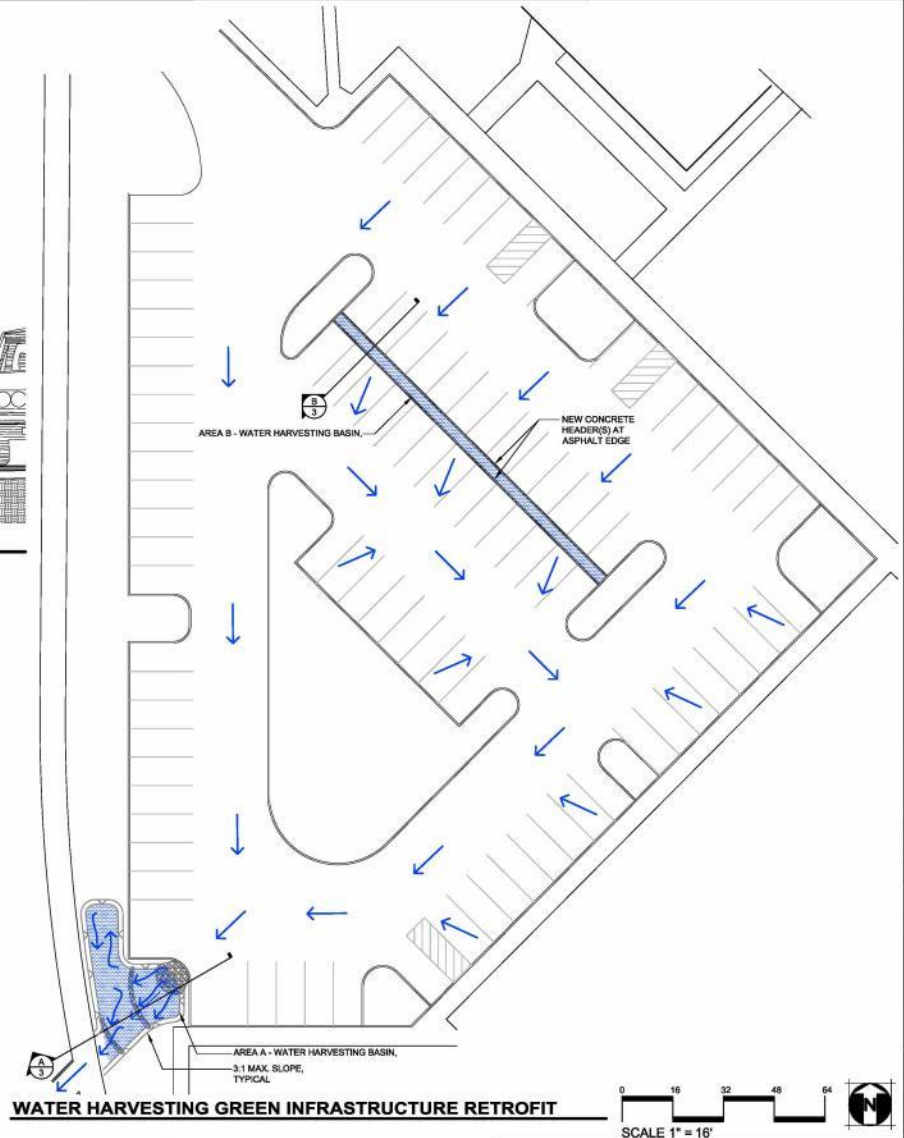




**AREA A - SECTION THROUGH BASIN**  
SCALE: 1/2" = 1'-0"



**AREA B - SECTION THROUGH BASIN**  
SCALE: 1/2" = 1'-0"



**WATER HARVESTING GREEN INFRASTRUCTURE RETROFIT**



**WATER HARVESTING PLAN**  
**AQUATIC CENTER**  
**100 PARK AVENUE**  
LAKE HAVASU CITY, AZ

DATE 02/14/2011  
DESIGNED BY: JD  
DRAWN BY: JD  
REVISIONS

SHEET:  
**3**  
3 OF 4

## STORMWATER CALCULATIONS

### EXISTING PARKING LOT:

- PAVED VEHICULAR AREA = ± 40,000 SQ. FT.  
40,000 SQ. FT. X 1" RAIN X 7.48 GAL/CU. FT. X 0.9 =  
= 21,500 GALLONS PER 1" RAIN
- LANDSCAPE MEDIANS AND ISLANDS = ± 6,000 SQ. FT.  
6,000 SQ. FT. X 1" RAIN X 7.48 GAL/CU. FT. X 0.5 =  
= 1,800 GALLONS PER 1" RAIN

TOTAL STORMWATER RUNOFF = 23,300 GALLONS PER 1" RAIN\*

\*DOES NOT INCLUDE STORMWATER CONTRIBUTED FROM SURROUNDING BUILDINGS AND ADJACENT HARDSCAPE.

### PROPOSED IMPROVEMENTS:

- AREA A WATER HARVESTING BASIN = ± 475 CU. FT. (AT 6" BASIN DEPTH)  
475 CU. FT. X 7.48 GAL/CU. FT. =  
= 35,300 GALLON RETENTION
- AREA B WATER HARVESTING BASIN = ± 160 CU. FT. (AT 4" BASIN DEPTH)  
160 CU. FT. X 7.48 GAL/CU. FT. =  
= 11,200 GALLON RETENTION

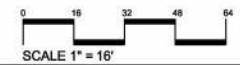
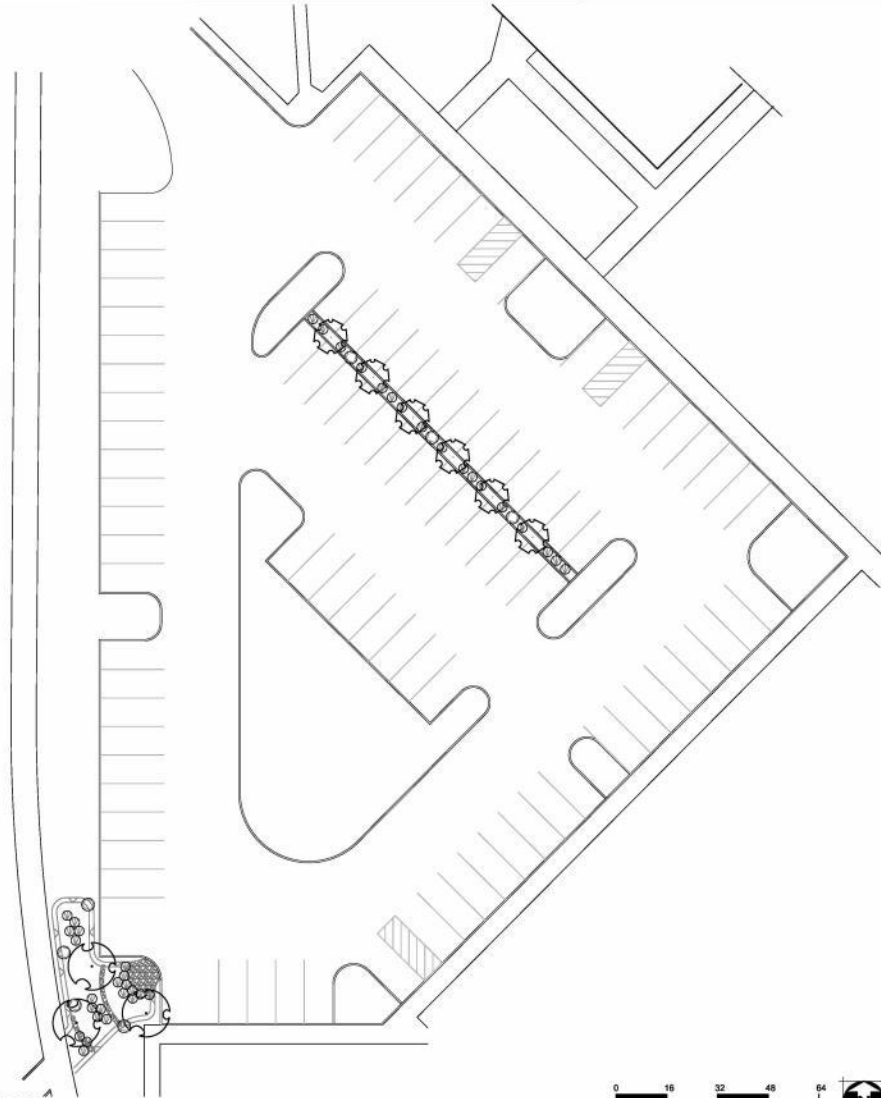
TOTAL STORMWATER RETENTION = 4,700 GALLONS

\*DOES NOT ACCOUNT FOR IMPACT ON STORMWATER DUE TO SOIL INFILTRATION

## PLANTING SCHEDULE

LANDSCAPE SCHEDULE				
SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE	QUANTITY
	ADIANTUM SPECIES	PALE BLUEBERRY	3P/500	8
	ECHINACEA SPECIES	REDWATER CANNONBALL	3P/500	3
SERIES (SIZES)				
	5 GAL	5 GAL	5 GAL	7
	1 GAL	1 GAL	1 GAL	38

PLANTING PLAN



DATE 02/14/2011

DESIGNED BY: JO  
DRAWN BY: JO

REVISIONS

SHEET:

4

4 OF 4





# Aquatic Center Parking Lot

## Lake Havasu City, AZ



- Asphalt cut and removed
- Flush curb and wheels stops



# Aquatic Center Parking Lot

## Lake Havasu City, AZ



- Native grasses and trees
- Crushed rock mulch

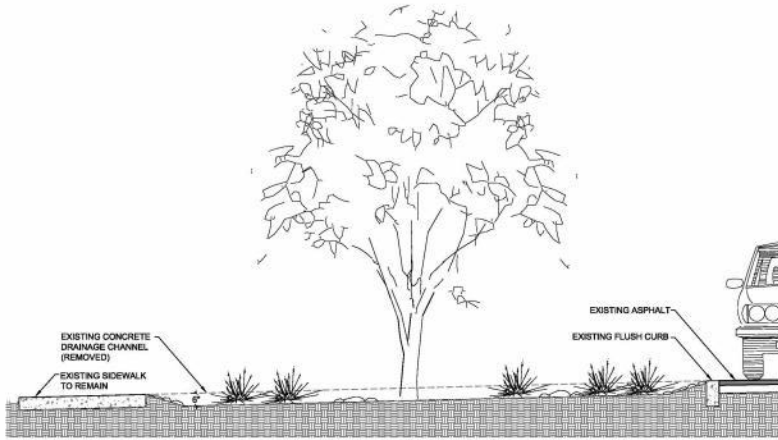


# Aquatic Center Parking Lot

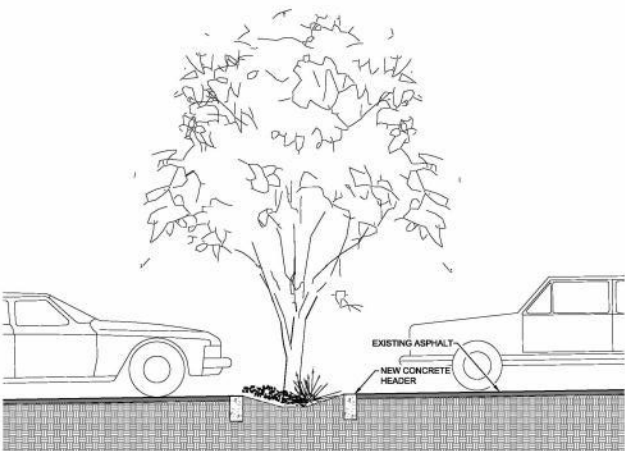
Lake Havasu  
City, AZ



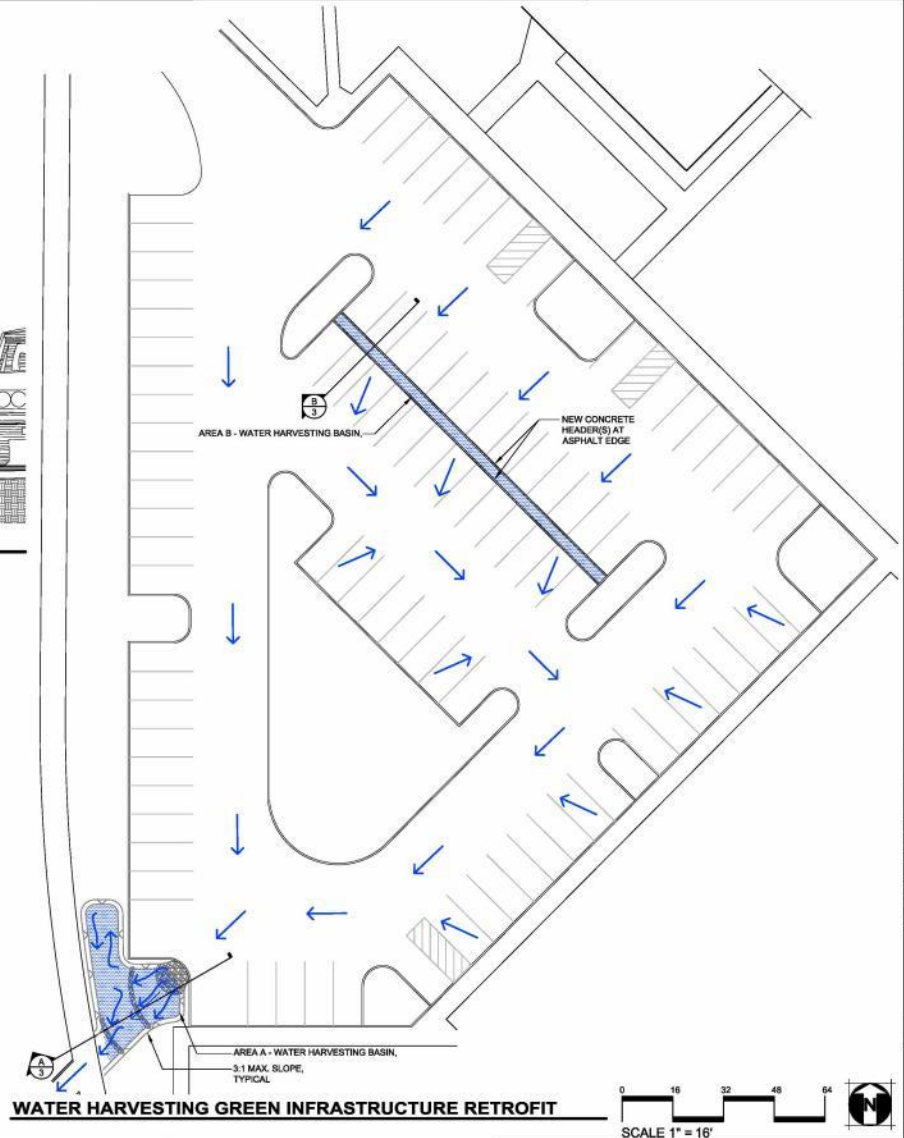
- **Six months post-construction**



**AREA A - SECTION THROUGH BASIN**  
SCALE: 1/2" = 1'-0"



**AREA B - SECTION THROUGH BASIN**  
SCALE: 1/2" = 1'-0"



**WATER HARVESTING GREEN INFRASTRUCTURE RETROFIT**



**WATER HARVESTING PLAN**  
**AQUATIC CENTER**  
**100 PARK AVENUE**  
LAKE HAVASU CITY, AZ

DATE 02/14/2011  
DESIGNED BY: JD  
DRAWN BY: JD  
REVISIONS

SHEET:  
**3**  
3 OF 4



# Aquatic Center Parking Lot

Lake Havasu  
City, AZ



- **Concrete channel drains parking lot to Pima Wash at bottom end**



# Aquatic Center Parking Lot

Lake Havasu  
City, AZ



- **Concrete channel removed and replaced with bio-retention basin**

# Aquatic Center Parking Lot

Lake Havasu  
City, AZ



- **Concrete channel removed and replaced with bio-retention basin, planted with native grasses and trees, armored with rock**



# Aquatic Center Parking Lot

Lake Havasu  
City, AZ



- **Six months post-construction**





# Aquatic Center Parking Lot

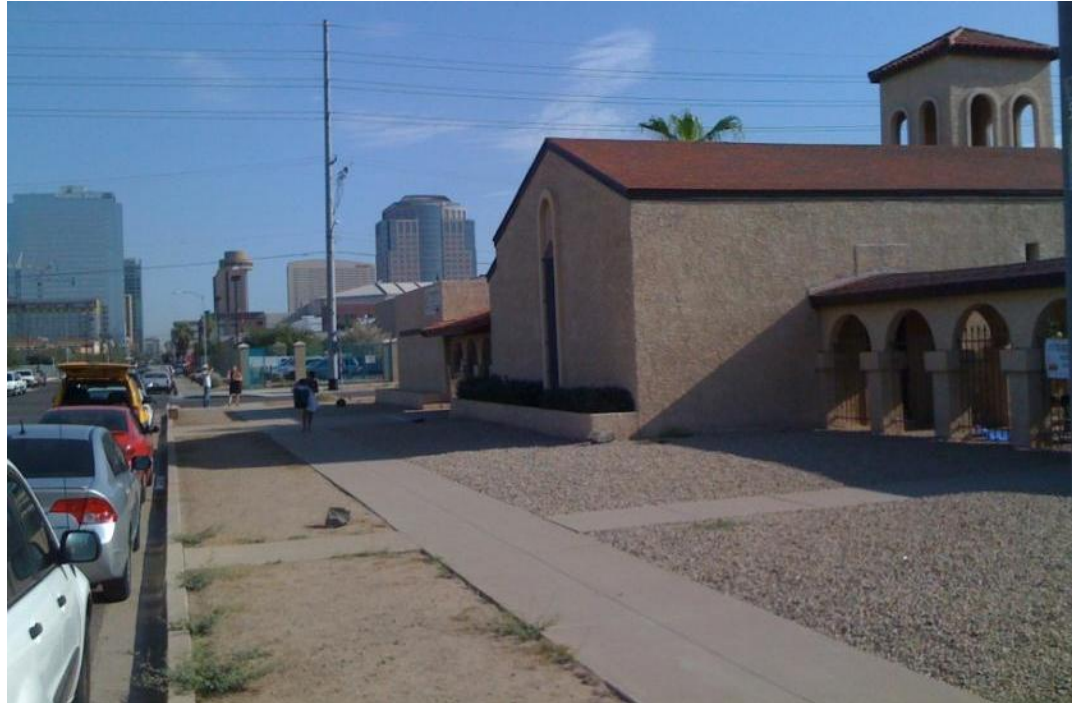
Lake Havasu  
City, AZ





# Primera Iglesia

Phoenix, AZ



- **Client/Project Owner:**  
**Primera Iglesia Methodist Church**
- **Funding:**  
**ADEQ Water Quality Grant for  
Green Infrastructure**



# Primera Iglesia

## Phoenix, AZ





Primera  
Iglesia

Phoenix, AZ





Primera  
Iglesia

Phoenix, AZ

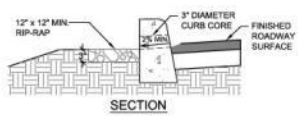
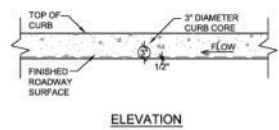
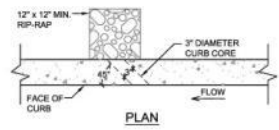




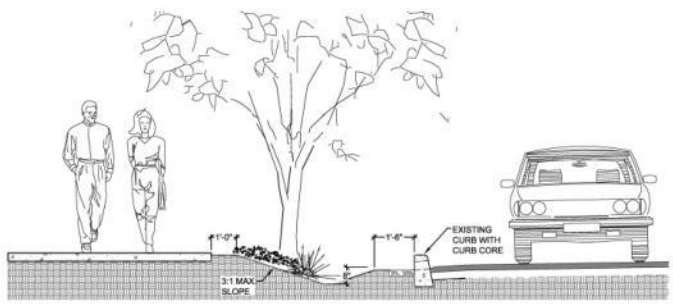
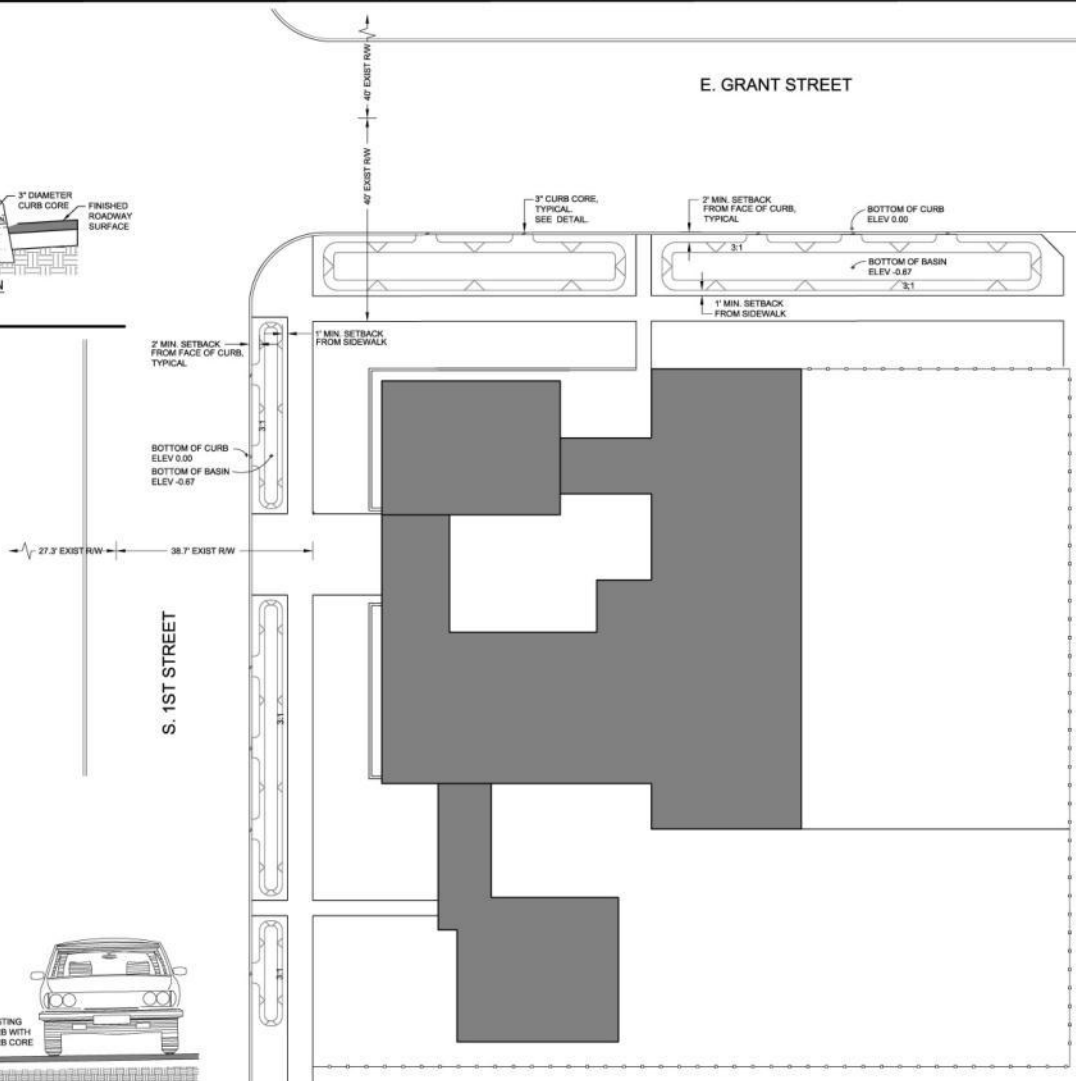
**Primera  
Iglesia**

**Phoenix, AZ**

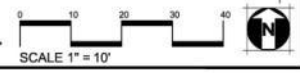




**CURB CORE DETAIL**  
 SCALE: N.T.S.



**WATER HARVESTING PLAN**



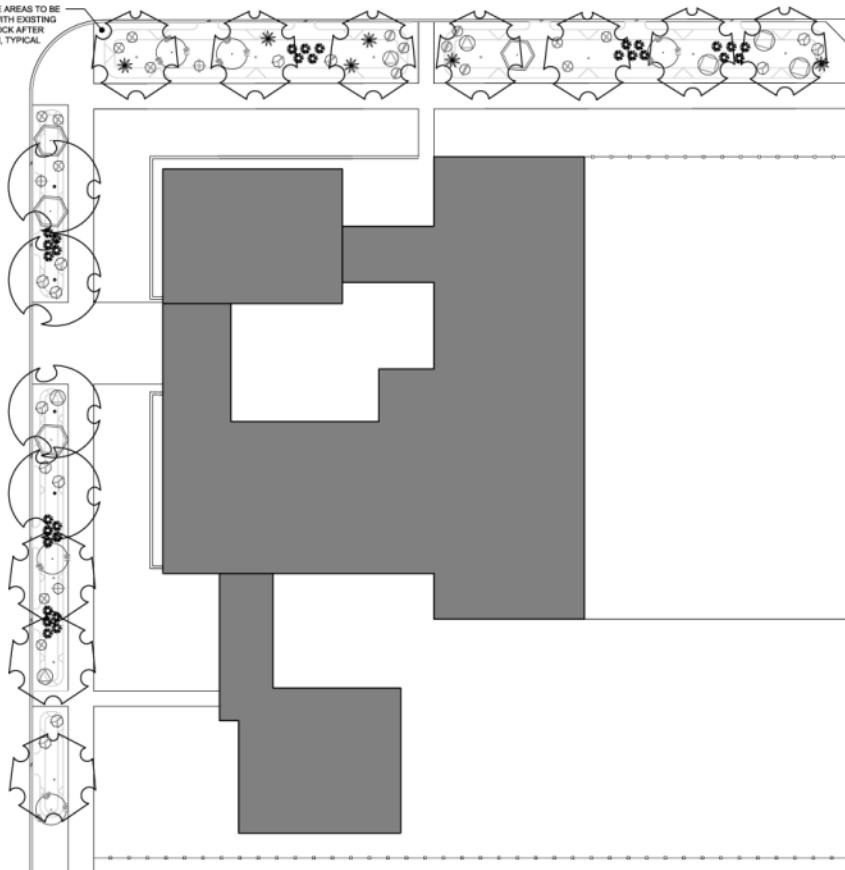
**PLANTING LEGEND**

SYM/KEY	BOTANICAL NAME	COMMON NAME	SIZE	QUANTITY
<b>TREES</b>				
	CERCIDIUM X DESERT MUSEUM	DESERT MUSEUM PALO VERDE	3" MIN. CALIPER	4
	CERCIDIUM X DESERT MUSEUM	DESERT MUSEUM PALO VERDE	1.5" MIN. CALIPER	10
<b>SHRUBS / GRASSES / VINES</b>				
	BAILEYA MULTIRADIATA	DESERT MARIGOLD	1 GAL.	11
	CALLIANDRA CALIFORNICA	BAJA FAIRY DUSTER	5 GAL.	3
	DALEA GREGGII	TRAILING INDIGO	1 GAL.	4
	ERICAMERIA LARICIFOLIA	TURPENTINE BUSH	1 GAL.	6
	HESPERALOE PARVIFLORA	RED YUCCA	5 GAL.	6
	HYPTIS EMORYI	DESERT LAVENDER	5 GAL.	5
	MUHLENBERGIA RIENS	SIDE OATS GRAMA	1 GAL.	30
	SALVIA GREGGII	AUTUMN SAGE	5 GAL.	13
	SIMMONDSIA CHINENSIS	JOJOBA	15 GAL.	6
	TECOMA STANS	YELLOW BELLS	15 GAL.	4

ALL LANDSCAPE AREAS TO BE RESURFACED WITH EXISTING DECORATIVE ROCK AFTER CONSTRUCTION, TYPICAL

S. 1ST STREET

E. GRANT STREET



**PLANTING PLAN**



**WATER HARVESTING AND PLANTING PLAN**  
**PRIMERIA IGLESIA**  
**701 S. 1ST ST.**  
 PHOENIX, AZ

DATE 06/20/2011  
 DESIGNED BY: JD  
 DRAWN BY: JD

REVISIONS

SHEET:

**L-2**  
 2 OF 2



# Primera Iglesia

## Phoenix, AZ

### Central Park's Oasis Project at Primera Iglesia Metodista Unida



Join one of these hands-on workshops to get involved!

**Friday, October 21**  
8:00 AM - 1:00 PM

**Saturday, October 22**  
8:00 AM - 1:00 PM

**We will:**

- Create earthen water harvesting features
- Plant native trees, shrubs and wildflowers
- Learn about sustainable landscaping techniques

The Oasis Project will harvest rainwater from streets and rooftops in order to:

- grow native shade trees & desert plants
- create habitat
- beautify streets and yards
- build community

All workshops will take place at Primera Iglesia Metodista Unida, 701 S. 1<sup>st</sup> St. To sign up or for more information, contact Tory Syracuse, 520-396-3266 or [tsyracuse@watershedmg.org](mailto:tsyracuse@watershedmg.org).



### Del Parque Central Proyecto Oasis la Primera Iglesia Metodista Unida



Unete a una de estos talleres prácticos para involucrarte!

**Viernes, Octubre 21**  
8:00 AM - 1:00 PM

**Sábado, Octubre 22**  
8:00 AM - 1:00 PM

**Nosotros:**

- Crear sistemas de cosecha agua con tierra
- Plantar árboles nativos, arbustos y flores silvestres
- Aprende de técnicas sostenibles de arquitectura paisaje

El Proyecto Oasis cosechará agua de lluvia de calles y techos para:

- Crear sombra nativa de árboles y plantas desérticas
- Crear hábitat
- Embellecer calles y patios
- Construir comunidad

Todos los talleres tomarán lugar en la Primera Iglesia Metodista Unida, 701 S. 1<sup>st</sup> St. Para apuntarse o para más información, contacte Joe Silins, 520-396-3266 or [jsilins@watershedmg.org](mailto:jsilins@watershedmg.org).





# Primera Iglesia

## Phoenix, AZ





Primera  
Iglesia

Phoenix, AZ





# Primera Iglesia

## Phoenix, AZ





Primera  
Iglesia

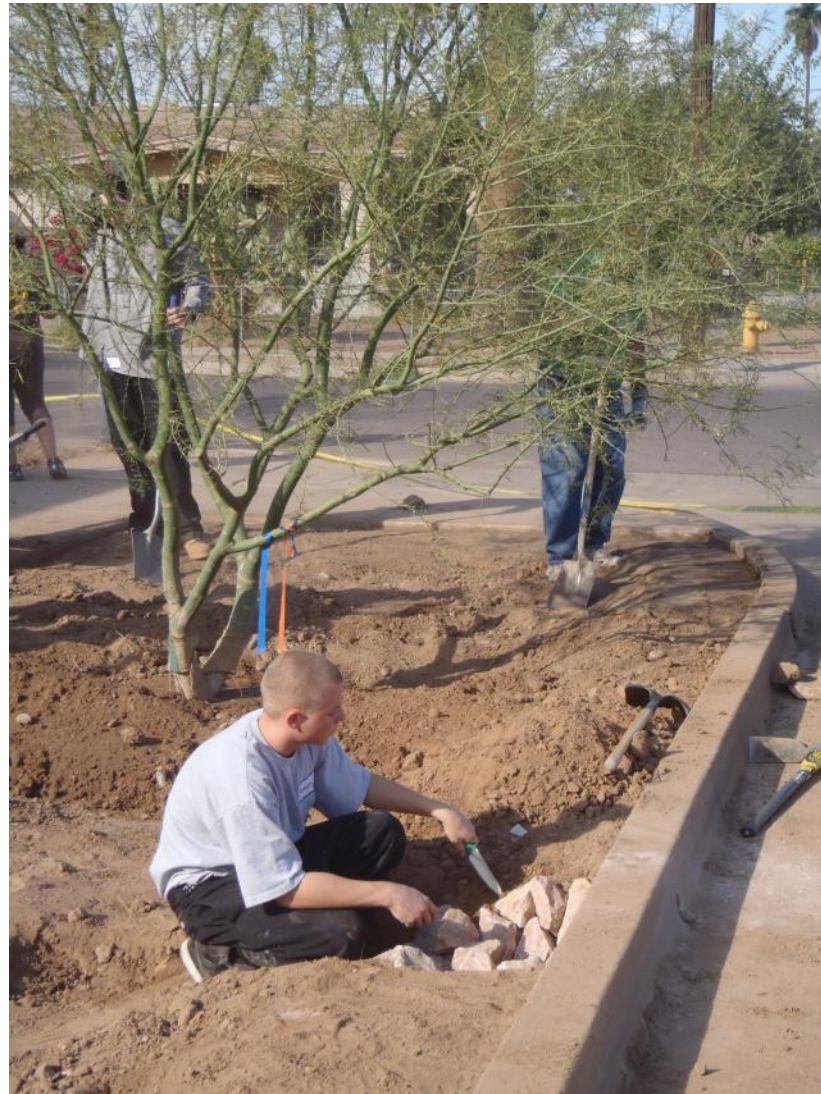
Phoenix, AZ





Primera  
Iglesia

Phoenix, AZ





Primera  
Iglesia

Phoenix, AZ





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Iglesia

Phoenix, AZ





**Primera  
Iglesia**

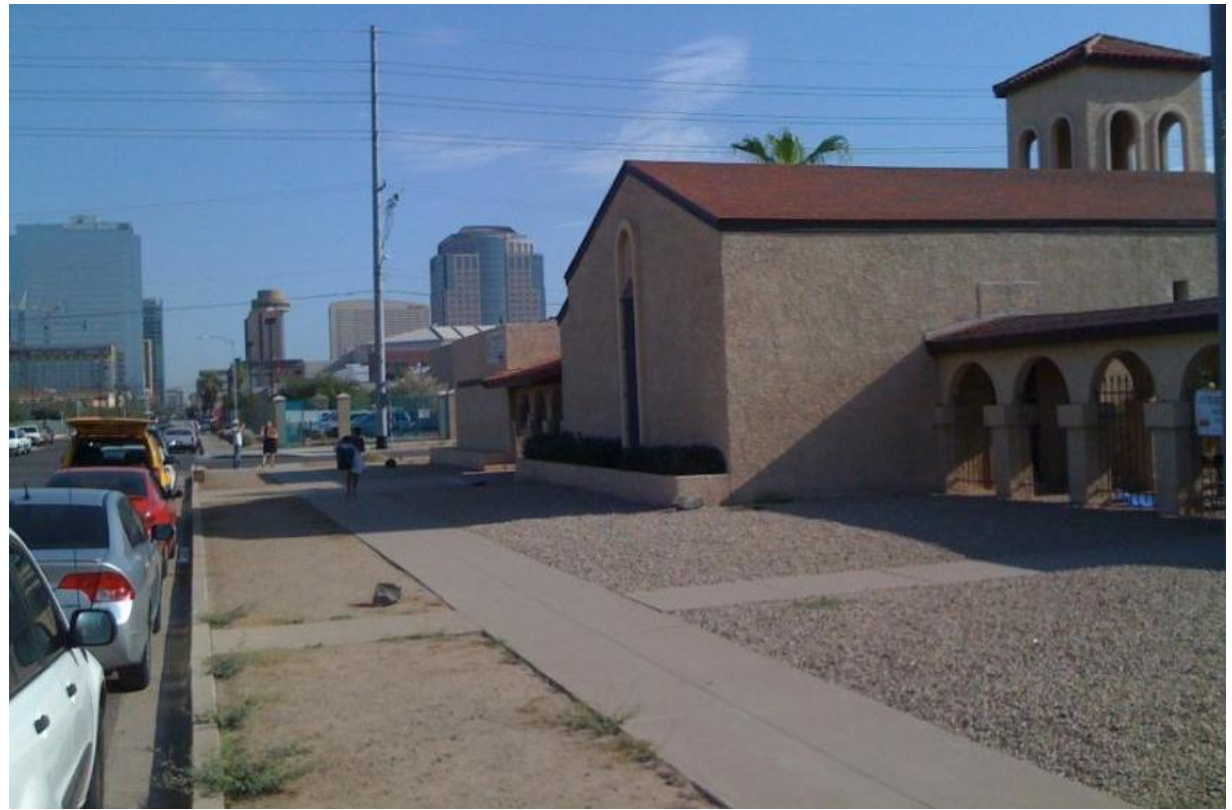
**Phoenix, AZ**





# Primera Iglesia

## Phoenix, AZ





Primera  
Iglesia

Phoenix, AZ







# Upcoming Events



## **Technical Training in Community-Based Green Infrastructure**

**March 15-16, 2013 Tucson, AZ**

**\$120 Registration (before February 18)**

**\$110 WMG Alumni/AzASLA**

**CEU's available to ASLA**

**...thank you!**



**James DeRoussel RLA**  
**Program Manager**  
**Watershed Management Group**  
**520-396-3266**  
**[jderoussel@watershedmg.org](mailto:jderoussel@watershedmg.org)**

