

Tohono O'odham Community College  
EPA ecoAmbassador Project

## Creating Carbon-negative Building Products from Local Recycled Materials

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**CLEANING THE DESERT**





**LOTS OF GLASS!**



**THROW**



**SIFT**



**CRUSH**









**COARSE**

## **CRUSHED GLASS**



**FINE**

# **PAVERS AND BLOCKS**

**MADE WITH RECYCLED GLASS  
AND WASTE STEEL DUST**











**HARDENED WITH CARBON DIOXIDE  
WHICH IS TRAPPED IN THE CEMENT**





























**Snaketown— an ancient Hohokam village, 300 to 1100 AD**







## **Casa Grande National Monument**

**Ruins of a village  
built after Snaketown  
around 1300 AD**







**Pueblo Bonito, 1100 AD, Chaco Canyon NM,  
(artist reconstruction)**



# **BASIC ASPECTS OF THE PROCESS:**

- 1. COLLECT BOTTLES FROM THE DESERT AND THE COMMUNITY**
- 2. CRUSH THE BOTTLES AND SIFT THE GLASS FOR SIZE**
- 3. ADD THE GLASS AS AGGREGATE TO AN IRON-BASED MIX**
- 4. MAKE BUILDING PRODUCTS WITH THE CEMENT MIX**
  - a. BLOCKS AND PAVERS**
  - b. SLABS AND SIDEWALKS**
  - c. OUTDOOR FURNITURE**
  - d. WALLS AND ROOFS**
  - e. HOUSES AND OTHER BUILDINGS**
  - f. VILLAGES?**