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Buildout & Beyond

As the City of Chandler approaches residential buildout, its focus shifts from keeping pace with rapid growth to preparing for the future beyond buildout. The recently approved General Plan 2008 describes the City’s vision for the future. At buildout and beyond, Chandler seeks to create a sustainable city through careful planning with a focus on economic development and revitalization.

The 2008 Water, Wastewater, Reclaimed Water Master Plan Update aligns with and builds upon the General Plan 2008 themes of economic development and revitalization.

Land Use Drives Master Planning
The goals and objectives of the General Plan 2008 were incorporated into the Master Plan through the land use plan.

Buildout & Beyond...

Master Plan Update provides for a...

Flexible
Reliable
Sustainable

Water, Wastewater, and Reclaimed Water System incorporating...

Interconnected water reclamation facilities.
Expanded/upgraded Ocotillo Water Reclamation Facility.
Integration of the Santan Vista Water Treatment Plant and Reservoir Supply System.
100% reclaimed water utilization.
Dual surface water source capabilities.
The Master Plan defines Chandler’s buildout CIP

Proposed 2008-2013 CIP Costs Totaling $400 M (escalated to time of construction)

Proposed 2013-Buildout CIP Costs Totaling $228 M (escalated to time of construction)

The Land Use Plan is an expression of the General Plan’s vision

- Land Use Plan expresses the General Plan’s vision of future economic development and community revitalization through higher density land uses, redevelopment/growth areas, and economic development corridors.
- Land use is the basis for water and wastewater projections.
- Water demand and wastewater flow projections are fundamental to assessing existing infrastructure and planning for future expansions and improvements.

30% Commercial, 10% Office, 60% Very High Density Residential

Economic development corridors

Redevelopment/growth areas

Higher density land uses
The Master Plan consists of strategies to develop, manage, and use Chandler’s surface water, groundwater, and reclaimed water resources. The Master Plan has been developed utilizing an integrated approach.

**Key Features**

- Ocotillo WRF GRIC, and recharge pump station expansion.
- Aquifer storage and recovery well capacity expansion.
- Reconfigured delivery system saves costs and improves operation.
- Chandler’s recharge facilities provide for 100% reclaimed water utilization.
- System operation is managed through scheduling of user deliveries.
- Locating recharge and reuse facilities at the City’s multi-use sites provides for efficient use of land resources.
The Master Plan utilized Chandler’s toolbox for Planning, Maintaining, Expanding, and Revitalizing the City’s infrastructure.
**Water System Master Plan**

provides for flexible and efficient use of water resources

**Water Demand Projections**

- **Surface Water Treatment Plant Expansion to 60 mgd**
  Completed in 2009

- **New Groundwater Wells**

- **Key Features**
  - Recommendation for 10 mgd treatment expansion at the Ocotillo Water Reclamation Facility (WRF) for West Chandler, future growth, and committed industrial wastewater flows.
  - Ocotillo WRF Expansion Preliminary Design/Feasibility Study.
  - Ocotillo WRF Short Term Improvements.
  - West Chandler Lift Station and Dual Force Main by 2017.
  - 5 mgd expansion of WRF capacity for future growth by 2017.
  - Commitment to ongoing asset management program for rehabilitation of facilities and sewer interceptors.
  - Force mains interconnecting water reclamation facilities to transfer wastewater and reclaimed water increases redundancy and reliability.
  - Rehabilitation of 66-inch sewer interceptor.
Wastewater System Master Plan solidifies future conveyance and treatment

Projected Flows

Plant Capacity

Ocotillo WRF

10 mgd Site Expansion

New Reservoir Supply System Serves Pressure Zone 2

New Pressure Zone Boundary Improves Operation

Santan Vista Water Treatment Plant Completed in 2009

Key Features

- Santan Vista and Pecos Water Treatment Plants provide 84 mgd treatment capacity and dual surface water sources for system reliability.
- New pressure zone boundary stabilizes system pressure and operation of Zone 1.
- New groundwater wells provide water supply reliability with a production capacity of 74.2 mgd.
- Well capacity maintenance.
- Booster Pump Station upgrades improve system operation and saves energy.
- Alamosa WPF operational storage.
- Total water treatment capacity will meet the annual average day demand during an emergency outage at either the Pecos or Santan Vista Water Treatment Plants. This amount of supply reliability will meet the basic needs for health, safety, and welfare of each household.
- Future Asset Management program.
The West Chandler Wastewater Management Study was a systematic approach to evaluating treatment alternatives for wastewater generated in West Chandler. The purpose of the study was to develop alternatives to the Lone Butte Wastewater Treatment Plant when the facility’s lease agreement expires in 2017.

Wastewater management alternatives were evaluated based upon technical/institutional issues and estimated budgetary costs. The City used a weighting and ranking system to select the preferred wastewater management approach.

### Decision Matrix

The City used a weighting and ranking system to select the preferred wastewater management approach.

#### Evaluation Criteria
- Estimated Project Cost
- Compatibility with Surrounding Communities
- Long Term Operations and Maintenance Costs
- Vulnerability to Catastrophic Failure (floods, heavy rains, terrorist attacks, etc.)
- Reclaimed Water Management
- Operational Flexibility to Receive or Divert Wastewater
- Right-of-Way/Access/Permit Acquisition
- Disruption to Community During Construction
- Operational Control of Facilities

#### Weighting Factor
- 25
- 30
- 15
- 10
- 10
- 10
- 6
- 5
- 5
- 4

#### Description
- Best alternative at satisfying the criterion
- Much better at satisfying the criterion than the other alternatives
- Of equal satisfaction as the other alternatives
- Less able to satisfy the criteria than the other alternatives
- Much less able to satisfy the criteria than the other alternatives

#### Key Recommendations Related to Lone Butte Replacement
- The Lone Butte Wastewater Treatment Plant agreement will be allowed to expire in 2017.
- A new lift station and dual force mains will be constructed in West Chandler to convey wastewater to the Ocotillo Water Reclamation Facility.
- Ocotillo Water Reclamation Facility will be expanded to treat increased flows.
- The existing Ocotillo Water Reclamation Facility will be upgraded for future reliability and improved odor control.

Management of wastewater from West Chandler has a significant impact on the Wastewater and Reclaimed Water Master Plans.
Decision Making Process Resolves Wastewater Management Approach

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**Decision Matrix**

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**Selected Wastewater Management Approach**

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Reclaimed Water System
Master Plan maximizes the utilization of a sustainable water resource

Chandler’s Toolbox for FUTURE PLANNING

The Master Plan utilized Chandler’s toolbox for Planning, Maintaining, Expanding and Revitalizing the City’s infrastructure.

AWARD WINNER

Chandler Heights Recharge Facility

Veterans Oasis Park
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“Integration” is the process of planning and designing infrastructure in a coordinated manner to maximize the use of available water resources.

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