PROJECT DEVELOPMENT TEAM:

Garrett Development Corporation

Bohannan Huston Inc.

SEC Planning, LLC

Consensus Planning, Inc.

David Taussig & Associates

Planning Technologies, LLC
May 28, 2014
COUNTY PLANNING COMMISSION HEARING

2. Sustainability Framework
3. Water
4. Wastewater
5. Stormwater
6. Soils
7. Open Space
8. Conclusion
9. Next Steps
WHY HERE?

METROPOLITAN ALBUQUERQUE
Historic Land Absorption

150,000 acres of absorption over 60 Years or 2,500 Acres per Year

1951 ± 20,000 Acres Developed → 2011 ± 170,000 Acres Developed

MRCOG - REGIONAL LAND USE FORECAST

2035

MTP 2035 Forecast
MRCOG Regional Land Use Data
**METROPOLITAN ALBUQUERQUE**

**Available Land**

- Interstate Highways and Proposed Regional Roadways
- Public Land (State Trust, BLM, Military Reservation, Bureau of Reclamation, Federal Land, National Forest, National Monument, Proposed Open Space)
- Tribal Land
- Floodplains and Irrigated Lands
- Antiquated Subdivisions and Areas of Limited Development (Lack of Utilities and Fractured Ownership)

→ Available Land with WALH Properties Highlighted

**WALH**

WHY HERE? WHY NOW?

METROPOLITAN AREA
Growth vs. Land Availability
• MRCOG Projects Metropolitan Area Growth
  ✓ 1.3 Million People by 2035
  ✓ On Numbers Economic Index predicts the Albuquerque Population will reach **one million by 2018**

• Limited Land Availability to Accommodate Growth
  ✓ Access
  ✓ Public Land
  ✓ Tribal Land
  ✓ Floodplains and Irrigated Agriculture
  ✓ Antiquated Subdivisions
  ✓ Fractured Ownership
  ✓ Lack of Regional Infrastructure

• Logical Location for Growth
  ✓ Santolina and Estrella Master Planned Communities
WHY PLAN?

JOBS

EDUCATION

POVERTY

WHY A PLANNED COMMUNITY?

Suburban Sprawl  vs.  Master Planned Community

SUSTAINABILITY: Balances the needs and resources of the present community with that of the future.
These conservation standards applied at the scale of Santolina on a system wide level, offer the rare opportunity to ensure a sustainable water supply for the region. Santolina’s water efficiency will help make up for existing inefficiencies of older development in the regional water system.
EFFICIENCY OF NEW CONSTRUCTION

ENERGY CONSUMPTION
15% REDUCTION
New Home vs. Older Home

Source: Us Department of Energy

RESIDENTIAL WATER USE
20% REDUCTION
New Home vs. Older Home

Source: Aquacraft, Inc.
TRANSPORTATION & LAND USE

• Mixed use community with convenient services

• Multi-modal connectivity

• Preservation of open space

Source: US HUD
ECONOMIC SUSTAINABILITY

Plan Area designed to accommodate approximately 75,000 jobs

$22.4 million - annual recurring fiscal surplus to Bernalillo County

$20 million - annual non-General Fund revenues contributed by Santolina

Annual recurring revenues projected to equal 1.78 times the General Fund costs associated with Santolina

$47.7 million General Fund and $40.9 million non-General Fund revenues in one time construction GRT

$10.9 billion annual recurring direct and indirect impacts to the County

$18.1 billion one time construction wage output
SOCIAL SUSTAINABILITY

Community Spaces

Galleries

Parks

Outdoor Classrooms

Cafes
RIGHT PLACE, RIGHT TIME

• Demonstrated Need & Trends
  ✓ Population Growth
  ✓ Land Absorption
  ✓ Historic Building Permit Data

• Limited Supply
  ✓ Public and Tribal Land, Flood Plains and Irrigated Agricultural Land, and Antiquated Subdivisions

• Anticipated
  ✓ Comprehensive Plan
  ✓ Planned Communities Criteria
  ✓ PC Zone

• Efficiency & Sustainability
  ✓ Master Planned Communities
  ✓ Systems Thinking
PLANNED COMMUNITY CRITERIA (PCC)

1. **Water System**: A conceptual strategy for providing (water) utilities, emphasizing efficient use of resources.

2. **Sewer/Wastewater System**: Strategy for wastewater management.

3. **Stormwater System**: Drainage Strategy for management and maintenance of watersheds and floodplains.

4. **Soils**: Suitability analysis.

5. **Open Space**: Identification of land forms and environmental features for protection and to inform land use.

6. **Archaeology**: Class I Archaeological Study.

7. **Sustainable, No Net Expense and Self-Sufficiency**
SANTOLINA WATER OVERVIEW

- **ABCWUA** is anticipated to provide service to Santolina

- **ABCWUA 40-Year Water Plan for the State of New Mexico**

- **ABCWUA** has indicated that there is ample water supply to meet the area’s needs over the next forty years

- **Santolina does not increase the population growth rates nor water demands of the ABCWUA’s ultimate service area**
SANTOLINA WATER OVERVIEW

Santolina Actual Projected Water Use: 14,380 acre-feet per year (135 gpcd) at Ultimate Buildout

- Based on the water rights the ABCWUA has now, Santolina at ultimate buildout is only:

  - 30% of the commonly referred-to San Juan Chama water supply (48K ac-ft)
  - 14% of today’s water usage in the ABCWUA water service area
  - 9% of the total water usage estimated in 2060 by Water ABCWUA
  - 6% of the total water rights permitted to/assumed by the ABCWUA
## WATER

### Projected Use Vs. Design Capacity

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<td><strong>ACTUAL</strong></td>
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<td>135 GPCD</td>
<td>12.82 MGD</td>
<td>14,380 Ac-Ft/Yr</td>
<td>135 GPCD</td>
<td>Less than 75 GPCD</td>
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<td><strong>DESIGN CAPACITY:</strong></td>
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<td>All Land Uses:</td>
<td>19.93 MGD</td>
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<td>210 GPCD</td>
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<td>Residential Uses:</td>
<td>7.68 MGD</td>
<td>8,610 Ac-Ft/Yr</td>
<td>81 GPCD</td>
<td>203 GPD /DU</td>
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WATER SYSTEM

- **Over time, Santolina water supply sources may be multi-faceted:**
  - Existing ABC WUA system points of connection (multiple)
  - Reuse/reclaimed wastewater for appropriate uses
  - New innovative water supply sources
  - Subject to ABCWUA final approvals

- **Santolina will comply with all applicable County and ABCWUA water conservation policies**
  - Commercial
  - Residential (180 gpd/DU today)
  - Landscaping, Plumbing Codes
  - Overall 135 gpcd (goal for 2024, or earlier)
NOTES:

1. THE OTTO PUMP STATION AND 36’ TRANSMISSION LINE ARE CURRENTLY UNDER CONSTRUCTION (COUNTY OF BERNALILLO (WALH PROJECT)).

2. THE 7W RESERVOIR, BCIP PUMP STATION / RESERVOIR AND 36’ TRANSMISSION LINE ARE UNDER DESIGN AND PLANNED FOR CONSTRUCTION IN 2014.

3. WITH CONSTRUCTION OF ALL REQUIRED LINES, BOOSTERS & RESERVOIRS IN ATRISCO TRUNK, ALL CONNECTIONS (VALVES) BETWEEN COLLEGE AND ATRISCO TRUNKS SHALL BE CLOSED.

4. ALL WATER INFRASTRUCTURE SHOWN IS ILLUSTRATIVE ONLY AND SUBJECT TO CHANGE.
NOTES:

1. 2035 PROJECTED DEVELOPMENT PHASE WATER SUPPLY SHALL BE PROVIDED TEMPORARILY FROM PLANNED 2014 WATER FACILITIES IN THE COLLEGE TRUNK (NORTH OF I-40).

2. ALL WATER LINE ALIGNMENTS ARE APPROXIMATE AND ILLUSTRATIVE, SUBJECT TO CHANGE.

3. THE OTTO PUMP STATION AND 36" TRANSMISSION LINE ARE CURRENTLY UNDER CONSTRUCTION (COUNTY 8BOREAL1), WALH PROJECT COMPLETION IN 2014.

4. THE WESTERN PORTION OF THE 2035 PROJECTED DEVELOPMENT PHASE INDUSTRIAL & ENERGY PARK LIES ABOVE WATER ZONE 3W. FINAL SERVICE CONFIGURATION SHALL BE BASED ON ACTUAL CIRCUMSTANCES AT THE TIME OF DEVELOPMENT. SERVICE OPTIONS INCLUDE INSTALLATION OF PRIVATE OR PUBLIC ROOSTER STATIONS, SITE GRADING OR LAND USES WITH NO WATER USE.

5. FUTURE DETAILED STUDIES MAY BE ABLE TO CO-OPTIMIZE THE 2035 PROJECTED DEVELOPMENT PLAN PHASE 1 8W WATER FACILITIES WITH THE ULTIMATE 6W/7W/8W FACILITIES SUCH THAT THE PHASE 1 FACILITIES ARE NOT THROW-AWAY FACILITIES.
SANITARY SEWER/ WASTEWATER SYSTEM

- **ABCWUA** is anticipated to provide *sanitary sewer service*

- **Santolina will comply with all applicable County and ABCWUA water conservation policies**

- **Sewer planning** includes:
  - Large area collection facility located in the community’s southeast corner
  - Installation of a satellite Water Reclamation Plant
  - Wastewater treated for reuse
  - Some areas will continue draining to existing Southside treatment plant
NOTES:

1. All sewer line alignments and sizes are approximate and illustrative, subject to change.

2. Future AMPWUA policies may seek construction of satellite WRPs on the "Fair West Mesa". Only one WRP is anticipated for Santolina. If future AMPWUA policies proceed in this direction.

3. Sewer pump station may be removed if/when WRP is constructed in the future.

4. The Pajarito Mesa area (south of Santolina) is projected to be served by on-site treatment systems primarily.

5. Final sewer system configuration shall be determined by appropriate level III master plans, approved by the water authority.

6. Planned interceptor will extend south on either 18th Street or 89th Street corridors.

7. The existing Dennis Chavez Blvd. sewer line will require upsizing (or parallel lines).
SANITARY SEWER/WASTEWATER MASTER PLAN - 2035

NOTES:

1. ALL SEWER LINE ALIGNMENTS AND SIZES ARE APPROXIMATE AND ILLUSTRATIVE, SUBJECT TO CHANGE.

2. 2035 PROJECTED DEVELOPMENT PHASE 1 OF THE INDUSTRIAL & ENERGY PARK SHALL BE SERVED BASED ON PERTINENT CIRCUMSTANCES AT THE TIME OF ACTUAL DEVELOPMENT. SERVICE OPTIONS INCLUDE:
   (A) CONSTRUCTION OF POTENTIAL 2035 PROJECTED DEVELOPMENT PHASE SEWER INTERCEPTOR
   (B) TEMPORARY PUMPING TO EXISTING SYSTEMS TO THE EAST (IN BUSINESS PARK)
   (C) ONSITE TREATMENT & DISPOSAL SYSTEMS.
   SEE ALSO NOTE 3.

3. FINAL SEWER SYSTEM CONFIGURATION SHALL BE DETERMINED BY APPROPRIATE LEVEL & MASTER PLANS, APPROVED BY THE WATER AUTHORITY.

4. THIS EXISTING 15”-18” SEWER MAY BE TEMPORARILY AVAILABLE FOR INITIAL ‘SPOT’ DEVELOPMENT IN THE TOWN CENTER, BUSINESS PARK AND OR RESIDENTIAL LANDS.
STORMWATER (DRAINAGE) SYSTEM

‘Stormwater Retention’ Zone
• Drainage to natural depression
• Develop drainage to retention ponding areas
• Discharged by infiltration, evaporation, shallow groundwater recharge, and reuse
• Water harvesting opportunity
• Stormwater quality opportunities

‘Stormwater Detention’ and Release to River
• Eastward-flowing drainage flowpaths (to river)
• AMAFCA facilities (channels, dams) control
• Drainage is detained strategically (ponds, dams) and discharged at controlled rates
• Water harvesting and stormwater quality opportunities
STORMWATER (DRAINAGE) SYSTEM

‘Stormwater Detention’ and Release to South

• Southward-flowing existing drainage flowpaths
• Detention of flow (ponds and dams) to control discharge to undeveloped conditions
• Water harvesting and stormwater quality opportunity

Low Impact Development (LID)

• On-site water harvesting – parking lots, building hardscapes, rooftops, etc.
• Grassed swales, bioretention ponds, porous pavements, etc.
• Collection and treatment of ‘first flush’ small storm events (typically high in pollutants) – addresses MS4 issues
STORMWATER SYSTEM MASTER PLAN - FULL BUILD

Key Notes:
1. EXISTING / PROPOSED NORTH 144 DIVISION IMPROVEMENTS AS SHOWN IN THE WEST 144 DRAINAGE MANAGEMENT PLAN DEMO UPDATE IN JULY 2018.
2. EXISTING DETENTION FACILITY
3. EXISTING Amapa Facility
4. EXISTING Bernalillo County Drainage Facility
5. EXISTING PRIVATE DRAINAGE FACILITY

Legend:
- DEVELOPED BASIN BOUNDARY
- PROPOSED ENGINEERED NATURAL RETENTION FACILITY (ERF)
- PROPOSED DETENTION FACILITY
- FLOW ARROW
- NORTH 144 DIVISION IMPROVEMENTS
- FUTURE NORTH 144 DIVISION IMPROVEMENTS
- HIGH FLOW CONVEYANCE FACILITIES (PUMP CHAMBERS OR LARGE DIA. STORM DRAIN PIPES)
- INCREASED DRAINAGE RETENTION FACILITIES (Ponds, Reservoirs)
- existing drainage facilities

Notes:
1. WITH DEVELOPMENT OF BASINS B AND C, FLOW ACROSS 140 FROM OFFSET BASINS A AND B WILL BE CUT OFF AND RETAINED UPSTREAM OF 140 (II, WITHIN THE OFFSET BASINS RESPECTIVELY).
2. STORMWATER FACILITIES ARE APPROXIMATE AND ILLUSTRATIVE, SUBJECT TO CHANGE.
3. THE INTERMEDIATE DETENTION / RETENTION FACILITIES AND HIGH FLOW CONVEYANCE FACILITIES ARE ILLUSTRATIVE ONLY. WITH CREATIVITY USE OF OPEN SPACE, WETLANDS, AND PARKS, IT IS ANTICIPATED THAT FUTURE LEVEL II REPORTS WILL MINIMIZE THE NUMBER OF THESE LARGE FACILITIES.
4. CONVEYANCE FACILITIES (SUCH AS ABOVE GROUND CHANNELS) WILL BE DESIGNED AS ENGINEERED NATURAL ARROYOS WITH MULTI PURPOSE USES.
5. STORMWATER MANAGEMENT FACILITIES LOCATED ON THE SOUTH BOUNDARY ARE DESIGNED TO DETAIN THE 100-YR 24-HR STORM WHILE DISCHARGING HISTORIC PEAK FLOW OFFSITE.

WALH
Western Albuqueque Land Holdings LLC
STORMWATER SYSTEM MASTER PLAN - 2035

NOTES:

1. WITH DEVELOPMENT OF BASINS B AND C, FLOW ACROSS 440 FROM OFFSITE BASINS A AND B WILL BE CUT OFF AND RETAINED UPSTREAM OF 140 (WHERE WITHIN THE OFFSITE BASINS RESPECTIVELY)

2. STORMWATER FACILITIES ARE APPROXIMATE AND ILLUSTRATIVE, SUBJECT TO CHANGE

3. THE INTERMEDIATE DETENTION / RETENTION FACILITIES AND HIGH FLOW CONVEYANCE FACILITIES ARE ILLUSTRATIVE ONLY, WITH CREATIVE USE OF OPEN SPACE CORRIDORS AND PARKS. IT IS ANTICIPATED THAT FUTURE LEVEL "F" REPORTS WILL MINIMIZE THE NUMBER OF THESE LARGE FACILITIES

4. CONVEYANCE FACILITIES (SUCH AS ABOVE GROUND CHANNELS) WILL BE DESIGNED AS ENGINEERED NATURAL ARROYOS WITH MULTI PURPOSE USES

5. STORMWATER MANAGEMENT FACILITIES LOCATED ON THE SOUTH BOUNDARY ARE DESIGNED TO DETAIN THE 100-YR 24 HR STORM WHILE DISCHARGING HISTORIC PEAK FLOW OFFSITE.
INFRASTRUCTURE COSTS

• Responsibility for on-site and regional water and sewer infrastructure will be determined by the ABCWUA Development Agreement

• WALH has already invested $35 million in water infrastructure for water zones 5W-7W

• New ABCWUA customers outside the existing service area (including Santolina) are required to pay a water supply charge (approximately $53 million) in addition to a UEC

• Development will not be “front-loaded” by public dollars
Soils in the area are eolian deposited and subject to wind erosion. Santolina development practices will be constrained to minimize wind and stormwater erosion. Including the following techniques:

- Scheduled grading to expose least land for least time
- Soil erosion control practices
- Long term treatment through re-vegetation
- Balanced cut and fill
- Preservation of open space
SANTOLINA SOILS ANALYSIS

LEGEND
- Bd - Bluepoint fine sand, hummocky
- BCC - Bluepoint loamy fine sand, 1 to 9 percent slopes
- BCD - Bluepoint-Kokan association, hilly
- LB - Lometa sandy loam, 1 to 5 percent slopes
- W16 - Madarez loamy fine sand, 1 to 5 percent slopes
- WWA - Madarez-Wink association, gently sloping
- P12 - Pajarito loamy fine sand, 1 to 9 percent slopes
- To - Tome very fine sandy loam
- W15 - Wink fine sandy loam, 0 to 5 percent slopes

NOTES:
1. ALL SOIL TYPES LOCATED ON SANTOLINA ARE DEVELOPABLE WITH PROPER REMEDIATION.
2. SOIL SURVEY IS APPROXIMATE AND ILLUSTRATIVE, SUBJECT TO CHANGE.
3. APPROXIMATE 27 SOIL BORINGS WERE CONDUCTED, NO BEDROCK, NOR GROUNDWATER WAS ENCOUNTERED IN THE 20 - 60' DEEP BORINGS.
4. ALL BORINGS REVEALED PRIMARILY SANDY SOIL CONDITIONS WITH OCCASIONAL CLAY LENSES.
5. SITE SOILS ARE SUITABLE FOR STORMWATER INFILTRATION & PERCOLATION.
6. LOW r-VALUE TEST RESULTS SUGGEST SANTOLINA PAVEMENT SECTIONS MAY BE Thicker THAN COUNTY AVERAGES.
OPEN SPACE

• Differentiate between “Open Space” and “open space”

• Amount of open space appears to be used for density bonuses

• Will open space track with development?
OPEN SPACE

- Does fiscal analysis assume the cost of acquisition will be borne by Bernalillo County?

- Who will pay increased maintenance?
OPEN SPACE MASTER PLAN

NOTES
1) THIS PLAN IS FOR ILLUSTRATIVE PURPOSES ONLY AND IDENTIFIES THE POTENTIAL LOCATION AND QUANTITY OF VARIOUS FACILITIES. ALL ARE SUBJECT TO CHANGE AT LEVEL B AND C.
2) TRAILS - IT IS ANTICIPATED THAT MULTIPURPOSE TRAILS WILL BE PROVIDED IN ALL OPEN SPACE AREAS AND ALSO INCLUDED IN THE ROADWAY SECTIONS IDENTIFIED ON THIS PLAN.
3) PARKS - PARKS ILLUSTRATED ARE PUBLIC FACILITIES. IT IS ANTICIPATED THAT SMALLER POCKET PARKS WILL BE PROVIDED THROUGHOUT VILLAGES.
4) VILLAGE, LAND USE, AND OPEN SPACE BOUNDARIES ARE APPROXIMATE AND WILL BE ADJUSTED AT LEVEL B AND C TO REFLECT ACTUAL LOCATIONS OF ROADWAYS, UTILITIES, EASEMENTS, DRAINAGE AND OTHER INFRASTRUCTURE.

LEGEND (POTENTIAL LOCATIONS)
- OPEN SPACE
- ELEMENTARY SCHOOL
- MIDDLE SCHOOL
- HIGH SCHOOL
- POTENTIAL POST SECONDARY SITE
- NEIGHBORHOOD PARK
- COMMUNITY PARK
- TRAIL/OPEN SPACE CORRIDORS
- REGIONAL PARK / OPEN SPACE
- LIBRARY
- MULTI GENERATION CENTER
- COUNTY LAW ENFORCEMENT
- FIRE STATION
CONCLUSIONS

Why a Master Planned Community???
WHY A PLANNED COMMUNITY?

JOBS

Job Growth 2014
YTD April 2014 vs YTD April 2013
Source: US BLS

POVERTY

NM Poverty Ranking
U.S. Census Data

EDUCATION

Averaged freshman graduation rate for public high school students, by state or jurisdiction: 2009-10
WHY A PLANNED COMMUNITY?

Suburban Sprawl vs. Master Planned Community
WHY A PLANNED COMMUNITY?

SUSTAINABILITY
NEXT STEPS...

- The Santolina Team will meet with County and City departments and agencies. The team will submit a letter in response to written comments prior to the next hearing.

- July 30, 2014, CPC Hearing Number 6 - Government and Public Services and CPC RECOMMENDATION.