Building the Infrastructure for the Next Generation of Food…
Introductions

- Matthew C. (Quint) Redmond
  - Owner Agriburbia LLC
  - Masters Urban and Regional Planning
  - Masters Landscape Architecture
  - BS Geology
  - Worked through Grad School as Ranch Hand

- Jennifer G. Redmond
  - Owner Agriburbia LLC
  - Masters Urban and Regional Planning
  - BS Biology
  - Raised on 100 acre farm in Pennsylvania
  - (The smart one)
Introductions

- Partners and Associates
  - Jon Beckner      Real Estate and Finance
  - Paul Newton      Design and R&D
  - Nate Newman      Technology
  - Jan Cleveland    Legal and Administration
  - Steve Long       Operations
  - Jon Fenton       Young Go to Guy
Agriburbia LLC (holding company)

- Aburb Development LLC
  - Real Estate Development, Finance
  - Sustainable Development Management
    - Ag Feasibility
    - Ag Supply Chain Consulting
    - Ag Infrastructure Design and Consulting
    - Ag Estate Planning

- Aburb Design/Build LLC
  - Landscape Architecture
  - Land Planning
  - Civil Engineering
  - Agricultural Construction and Management

- Aburb Operations LLC
  - Farming, Agricultural Operations
  - Food Sales, Supply chain
Trends: U. S. Population
Trends: Farm Population

![Trend Graph]

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Trends: Percentage Farmers in US Labor Force
Trends: Number of Farms
Trends: Obesity Rate
Trends: Health Cost in Billions
Trends: What is the Real Problem?
13 Million Acres Short (currently)

The US is 13 Million Acres Short of Vegetables and Fruits to Meet Current Population Dietary Recommended Intake

** Does not account for Future Population Growth

** Based on revised USDA DRI allowance & the American Farmland Trust (2010)

- Colorado Population: 5,024,748 (about 1.6% of US)
- By Population Colorado Needs **208,000 Additional Acres**
- 208,000 Acres of Farm = **83,200 Jobs**
30 Seasons (attempts) . . . .

- To Feed 50% more People by 2050 (World Pop.: 9 Billion)
- To Develop Infrastructure
- To Develop Skills
- The Food Problem is primarily:
  - Proximity / Distribution issue
  - Quality / Freshness issue
30 Million New Farmers…

- There is a national call for new professional commercial farmers.
- These are not overalls and tractor guys…
- They are hospitals, clinics, school districts, inspired developers and cities and counties that want a healthy future.
New Decision Drivers...

- Resilience
  - CEOs looking to invest...
    - Energy
    - Water
    - Food

- Health & Wellness
  - Medical industry changing models

- Creativity
  - iPhone 25...who cares...
Agriburbia Types

♦ Development
  o Public Civic Farms (Open Space)
  o Private Steward Farms
    • Edible Landscape (Permaculture)
    • AABEs
  o Office / Industrial Parks

♦ Institutional
  o Hospitals
  o Schools and School Districts
  o Academic Higher Ed Campus
  o Churches
  o ?
Agriculture as Infrastructure

- (Sub)Urban Utilities:
  - Water
  - Sewer
  - Roads
  - Electricity / Energy
  - Digital
  - Agriculture?
FarmKit™

- AABEs:
  - Wellness
  - Chiropractor
  - Dentist
  - Daycare
  - STEM School
  - Agriculture?
Agriculturally Augmented Business (AAB) Opportunities

**Occupational Therapy Center**

**Farm-Based Daycare**

Children in the farm-based day care have become part of the family and are part of the farm family. The children are safe in their environment.

While children wear overalls and coveralls, they are also given community members, who wear the clothes, and take care of the farm. This allows the children to become part of the family and community, and learn about their responsibilities.

Agricultural augmentation of contemporary childcare will provide multiple benefits to children, families, and the community. The technical requirements: 2-10 acres of production area (sesame, sunflower, etc.), 24/7 model kitchen for processing (canning, freezing, baking, etc.), centrally managed drip irrigation system.

For Further Information Contact:

Jan Becker
(620) 702-4582
janb@agriburbia.com

Technical Requirements:

- 2-10 acres of production area (sesame, sunflower, etc.)
- 24/7 model kitchen for processing (canning, freezing, baking, etc.)
- centrally managed drip irrigation system

Chiropractic Services

**Natural Dental Care**

Natural dental care has been practiced throughout the world for over 10,000 years. In the United States today, dental care looks very different than it has for most of recorded history. Most dental procedures are performed in unsanitary medical office environments, employing substances known to be toxic to the human body (sodium lauryl sulfate, fluoride, etc.).

Consumer markets are increasingly dictated by demand for natural products and supply chain transparency. Meeting this growing demand will require the adoption of new models for contemporary dentistry.

Agricultural augmentation of contemporary dental practice will provide multiple benefits to practitioners and communities alike. A comfortable and stimulating agricultural environment will aid in attracting and maintaining a client base. On-site cultivation of various crops (cepaline, stevia, etc.) will enable the on-site production of natural toothpastes and mouthwashes free from toxic chemicals.

For Further Information Contact:

Jan Becker
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janb@agriburbia.com

Technical Requirements:

- 2-10 acres of production area (sesame, stevia, etc.)
- on-site model kitchen for processing (canning, freezing, baking, etc.)
- centrally managed drip irrigation system

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Research and Planning Agenda

- Fundamental and Applied Research at the Intersection of Agriculture and Real Estate
  - Food Security Planning
    - Community Food Fraction™ (Caloric Proximity)
    - Irrigation and Water Security (Calories per Acre/Foot)
    - Agricultural Infrastructure (Land / Water / Labor)
  - Carbon Consumption Modeling (Carbonless Food)
Agricultural Infrastructure (Water)

- Which Uses Would You Pursue if You Wanted to Save Large Amounts of Water?

- Calories Per Acre/Foot

Source: USGS Estimated Water Use in the US, 2004 (Colorado Statistics)
Embodied Water in Food…

This amounts to **3496 litres per day** which means that **92%** of the water we use is **invisible** and it is hidden in our food!

Source: [http://thewaterweeat.com](http://thewaterweeat.com)
Food Security Planning

- Caloric Proximity is a Real Estate Question
- Community Food Fraction™
- How many calories does your community produce?
- How many calories does your community consume? (Caloric Need by Census Tract)
- How much food could you produce if needed and what kind? (What do your codes/policies look like?)
Smart Cities / IoT

Our Technology Intellectual Property (Patents Pending)

FarmKit™ Site Technology
Agriburbia's systems and methods are covered by one or more pending patents.

- Comprehensive Analysis
  - LIDAR Drone Surveys
  - Geospatial Database Management
  - Soil Quality/Constituent Testing

FarmKit™ Building Technology
Agriburbia's systems and methods are covered by one or more pending patents.

- Multidisciplinary Design
  - BIM Modeling
  - GIS Database Management
  - Natural Resource Planning
  - Production Planning

- Streamlined Construction Process
  - Pre-designed and pre-fabricated kit of parts arrives on site
  - Geographically-based teams (salaried, skilled labor positions) assemble kits on site

FarmKit™ Production Technology
Agriburbia's systems and methods are covered by one or more pending patents.

- Agricultural Hardware
  - Modular Trellis, Sparky Farmer
    - ADA and 55+ accessible
    - GPS and RFID tracking
    - Designed to integrate with existing agricultural technologies

Resilient Live/Work Habitat
- SIP Construction
- Geothermal and Energy Recovery
- Layout enables varying uses:
  - Winery Module
  - Doctors Office Module
  - Brewery Module
  - Pickling Module
  - Bakery Module
  - Day Care Module

Big Data
- Collection, Analysis and Distribution
  - RFID and Drone Data Retrieval
  - Real-time Trend Analysis
  - On-demand Data
  - On-farm Market Analysis tools
Smart Cities / IoT
Trans-Disciplinary Nature (Economics)

- **WHAT** do we need to eat? (Health/Nutrition)
- **WHERE** do we Eat it? (Geography) . . . then . . .

  - How do we have **LAND** there? 
    (Business/Real Estate/Design)
  - How do we have **WATER** there? (Design/Engineering)
  - How do we get **LABOR** there? 
    (Business/Law)
  - How do we **GROW** it there? 
    (Agriculture/Agronomy)
The future...

- We need to connect more of the population to the land and to the source of their food. (It will provide greater mutual respect for all concerned)

- We (urbanites and farmers) need to teach our kids to know and love the land, (even if it is a only a quarter acre lot)

- It is not necessarily the size of the farm, it is quality of the products and margins on the revenue for the amount of effort and inputs...
Thomas Jefferson...before industrial revolution

1785 Oct. 28.

“It is not too soon to provide by every possible means that as few as possible shall be without a little portion of land. The small landholders are the most precious part of a state.” (TJ to James Madison, B.8.682)

As professional farmers, suburbanites, and city dwellers, we need to work together to use our resources as wisely as possible – land, water, and human ingenuity - to prosper in the coming days.
RMLUI

March 6, 2020