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DAYBREAK DEVELOPMENT: THE FIRST OF ITS KIND IN UTAH

by

Kaylen N. Nichols

Thesis submitted in partial fulfillment
of the requirements for the degree of

DEPARTMENT HONORS

in

Landscape Architecture and Environmental Planning

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UTAH STATE UNIVERSITY
Logan, UT

2005

**THE DAYBREAK DEVELOPMENT:
THE FIRST OF ITS KIND IN UTAH**



Rendering courtesy of www.daybreakutah.com

By Kaylen Nichols

Utah State University
Department of Landscape Architecture and Environmental Planning
April 2005

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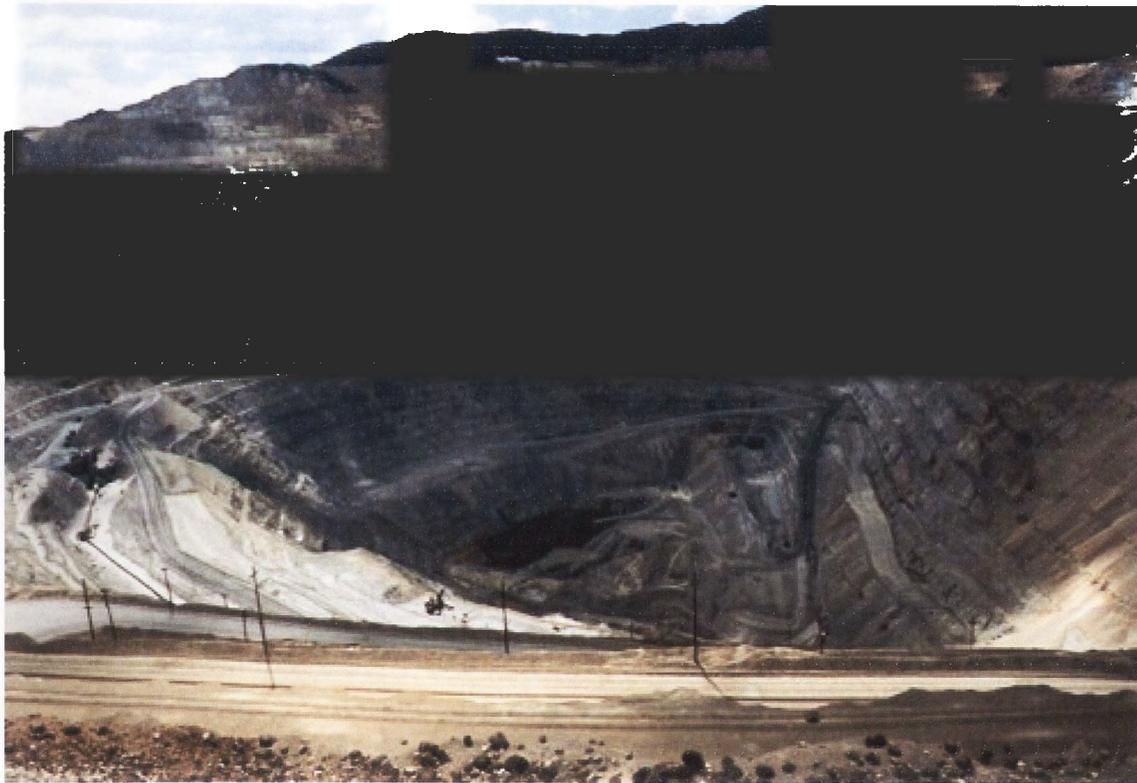
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Introduction

Utah is experiencing major population growth and all of the problems that come with it, such as sprawl, congested roads, loss of open space, and declining quality of life. Kennecott Utah Copper owns 93,000 acres along the Oquirrh Mountains, half of which is developable. Their landholdings equal half of the developable land left in the Salt Lake Valley. Kennecott Land was formed to oversee the development of this land. Daybreak, the first of Kennecott Land's Sunrise developments, is located on the south-west side of the Salt Lake Valley, and is part of the City of South Jordan. Kennecott Land offers solutions to the population problems that Utah is experiencing through implementing New Urbanist concepts.

My goal is to understand this large scale, New Urbanist development and how this type of development will work in Utah. I hope to accomplish this through exploring the history of Kennecott Utah Copper, the current development trends that are occurring in the Salt Lake Valley, New Urbanist principles, and Daybreak.

Historical Background of Kennecott Utah Copper and Kennecott Land



Kennecott Utah Copper Mine
Photo courtesy of www.utahoutdooractivities.com

Historical Background of Kennecott Utah Copper and Kennecott Land



Copperton, Utah in 1926
Photos courtesy of www.cornwallgb.com

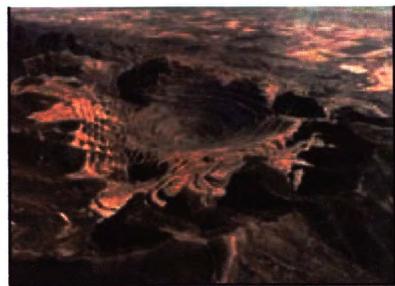
The Utah Copper Company (UCC) was formed in 1903 by Daniel Jackling. By 1914, more than 10,000 people worked in the UCC Bingham Canyon mine. The company built a small town of about two hundred homes, called Copperton, to house its miners and their families. This was the first master-planned community in Utah. The homes were leased by the UCC and were managed by one of the mine superintendents. Kennecott Copper purchased the company in 1936 and by the 1950s was operating a "completely integrated mining company"

(www.kennecottland.com/ourCompany/history.asp, www.onlineutah.com/kennecotthistory.shtml).

The Kennecott Copper Company sold the homes of Copperton to the residents, and the town, though slightly dilapidated, remains much the same today as it was in the 1950's (McDonough 44-45).



Oquirrh Mountains before Mining



Kennecott Copper Mine in 1981
Photos courtesy of
www.kennecott.com/history

The Kennecott Utah Copper Mine is one of the largest and longest running mines in the world (www.kennecott.com). Throughout the years, the company accrued nearly 93,000 acres along the west bench of the Oquirrh Mountains in the Salt Lake Valley. Because Kennecott Utah Copper and their parent company Rio Tinto have a strong commitment to the environment, the damaged lands have undergone remediation, restoration, and reclamation under the supervision of the United States Environmental Protection Agency and the

state. There was \$30,000,000 spent solely on impact fees for over 4200 acres (www.kennecott.com). In the 1990s, after extensive studies on the land's safety and prospective uses, Kennecott realized the potential the land had for uses other than mining.

Kennecott Development Company was formed in 2001 (renamed Kennecott Land in 2002) to act as a "master developer" of the 93,000 acres owned by Kennecott Utah Copper of which half is developable. Sunrise was the name chosen for the overall development that will be constructed on this land.

Kennecott Land's vision is one of "creating sustainable and enduring communities" (www.kennecottland.com). They are implementing the Envision Utah Quality Growth Strategy which promotes more walkable communities, preservation of critical lands, a region-wide transit systems, transit oriented developments, and conservation of water (www.envisionutah.org/strategy.html). Daybreak, the first of Kennecott Land's communities, covers almost 4,126 acres. Kennecott Land's president, Peter McMahon, states: "The guiding principle behind everything we do is building sustainable communities- great places where people want to live, work and play today, and also where families and friends can grow, mature, evolve and still stay close to each other" (www.kennecottland.com). The grand opening of the Daybreak model home village and information center was in the spring of 2004. The construction of phase one began in 2004 and phase two in 2004-2005. It will take ten years for Daybreak to be completed (Budge).



View looking south-west at the Kennecott Utah Copper Mine tailings.
Photo courtesy of www.cornwallgb.com/cornwall_england_utah2.html

Utah's Current Development Trend



View of the Salt Lake Valley from the Wasatch Mountains.
Photo courtesy of www.salt-lake-service.com

Utah's Current Development Trend

Utah's population is growing in leaps and bounds. It is the fourth fastest growing state in the U.S. (www.npg.org/states/ut.htm). The Greater Wasatch Area, covering approximately a 100 mile stretch from Provo to Ogden, is home to 80% of the state's population equaling more than 1.7 million people (www.slweekly.com/editorial/2003/city_2003-12-04.cfm). It is also projected that a million more residents will move into this region by the year 2020 (www.railvolution.com). The average population density along the Wasatch Front in 2002 was 28 persons per square mile (http://www.licenseprofessor.com/Utah_Real_Estate_Exam/Utah_people.asp). The region has natural growth boundaries including the Great Salt Lake to the north, the Wasatch Mountains to the east, the Oquirrh Mountains to the west, and Utah Lake to the south. The growth spills out of the natural boundaries to the north and south and is rapidly spilling through narrow corridors to the west and east.

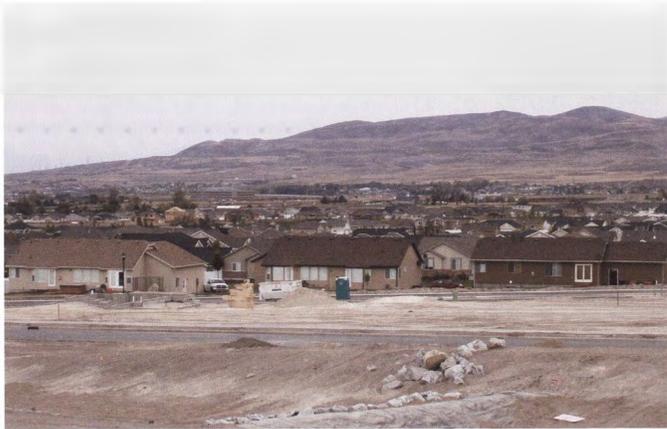
The average household size in Utah is 3.13 people as compared to the national average of 2.62. 9.4% of the population is under five years old, 32.2% under 18 years of age, and 8.5% of the population is 65 or older. This means that just over half of Utah's population is in a stage in life where they are raising a family or have children who are starting families. Natural increase accounts for about three-quarters of the total population increase in Utah (www.npg.org/states/ut.htm). In-migration is increasing as a percentage of population growth due to people moving from areas with high densities and high housing

costs looking for a less expensive, rural, and scenic place to live. This creates a problem with housing due to both a shortage of homes, and an overall rise of land and housing costs, owing to many of these homes are second homes or trophy homes.

Having 80% of a quickly growing population within a natural growth boundary brings up some major issues such as transportation, housing, open space, and quality of life, that have to be dealt with in a hurry. If homes continue to be built at existing densities, open space in the Salt Lake Valley will become an endangered commodity. Homes are already starting to spill into flood plains and onto unstable mountain sides. Utahns are becoming aware of what is happening in their state and they are looking for new solutions to accommodate the growth. It is estimated that, "Of the existing 488,760 acres of agricultural land in the Greater Wasatch Area, urban development is projected to consume 65,610 acres by the year 2020" (www.governor.state.ut.us/dea/qget/databook/10.HTM#4). Kennecott Utah Copper owns half of the developable open space left in this region. Their landholdings are equal in size to the City of San Francisco.

Utahns are not all that different than any of their neighbors in other states, following the patterns of sprawling development common throughout the west. They are buying large lots in former farmland with large "cookie-cutter" homes. 67.7% of Utahns live in single-unit detached houses (<http://quickfacts.census.gov/qfd/states/49/4970850.html>). The majority of the

new housing developments look identical. If you drive down a street, it is very likely that you will pass the exact same house, with different colored stucco, several times. Developers to this point haven't given Utahns much of an option as far as diversity in size of the homes and lots they are purchasing.



Also, Utahns are facing a shortage of affordable housing. With a lot of the developable space being filled with large homes costing over \$200,000, many of Utah's citizens are not

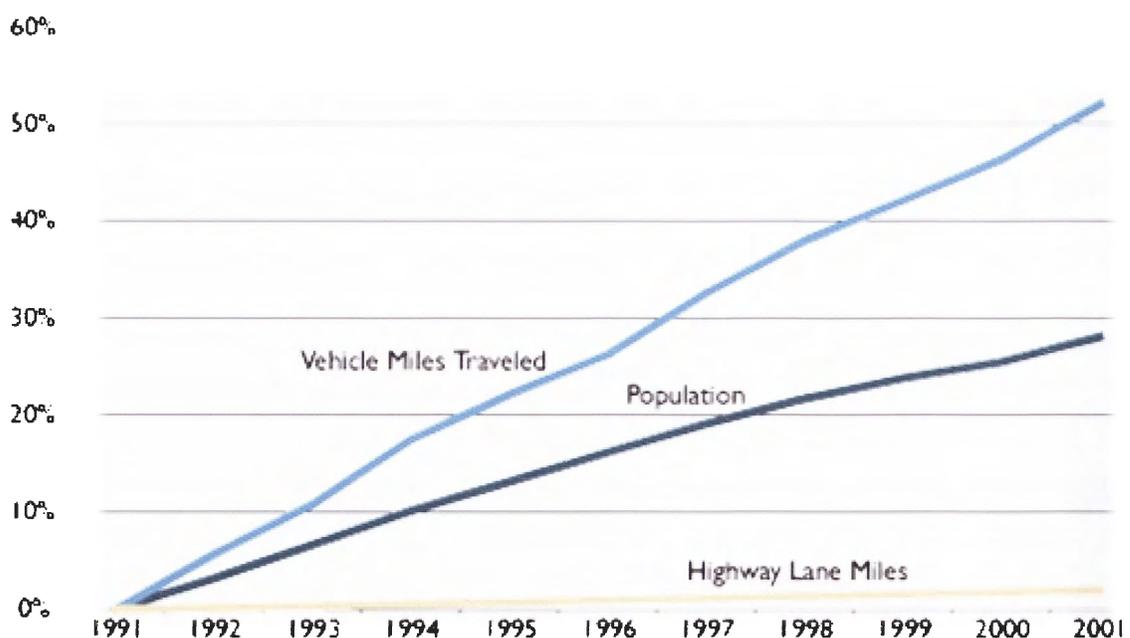
able to afford housing. In many municipalities, zoning restrictions don't allow for dense, more affordable housing to be constructed. Tom VanVoorst of the Home Builders Association of Greater Salt Lake has warned that "City after city is enacting restrictions on new housing which will only serve to further drive up the cost of housing. Many jurisdictions have pushed through zoning restrictions, such as requirements of large lot sizes, that have resulted in large expensive homes as the only type that can be constructed. This of course leaves out a large segment of our population that needs housing" (<http://dced.utah.gov/cdbg/II-ASummary.PDF>). More and more families are in need of affordable housing. Relative to population, Salt Lake County has a very low percentage of low-income rental units. The average rental rate across the Wasatch Front for a one bedroom apartment is \$250-\$350, a two bedroom is \$350-\$425, and a four

bedroom is \$600-\$850 (<http://seualg.dst.ut.us/COMMDEV/2004%20ConPlan/2004%20One%20Year%20Action%20Plan.pdf>). These prices are only affordable to middle income families. As of 1995, the housing authority waiting list for Salt Lake County had 8,500 families on it with only 2,248 subsidized units available (<http://dced.utah.gov/cdbg/II-ASummary.PDF>). Prices for housing in 1998 along the Wasatch Front were over 70% more expensive than comparable housing in other places (www.hud.gov/offices/cpd/about/conplan/local/ut/consolidationplansaltlakecounty.cfm). Jim Davis, the director of housing and economic development for Salt Lake City in the 1990s, reported "for someone making the minimum wage of \$8,840 a year, only subsidized housing is affordable. If there's not enough of it to go around, homeless shelters become the alternative. 60% of the people in those shelters have a minimum wage job and could afford \$150 or \$200 a month for housing, but they can't find it" (<http://dced.utah.gov/cdbg/II-ASummary.PDF>). A state law passed in 1996 required every Utah city to adopt an affordable housing plan and it had to be completed by December 31, 1998. As of the year 2000, only 157 of 232 cities had completed the affordable housing requirements. That means 68 percent of Utah cities still had not complied five years after the law had been passed. This is in part because the law has no penalty if it isn't met (www.ulct.org/across_utah_2000.affordable_housing_is_elusive.html).

Another option that many Utahns have taken is finding a house they can't afford and working more hours or jobs to try to keep up with the payments. The

resulting lack of time to be home leads ultimately to the breaking up of families. Debt is one of the top reasons for divorce. The number of divorces is rising and so is the number of bankruptcies. In 2002, there were over 20,000 personal bankruptcies in Utah (<http://marriottschool.byu.edu/selfreliance>). Utahns who ended up in bankruptcy court reported paying an average of “two-thirds of their total gross monthly income on housing expenses in the months leading up to their financial collapse,” and even before they ran into financial problems, “families that eventually ended up in bankruptcy court were paying 35% of their gross monthly incomes for housing – well above the 30% maximum recommended by the Utah Housing Finance Agency and the Federal Housing Administration” (Oberbeck). Affordable housing needs must be met.

Utahns are facing major transportation problems. In moving further away from the city, Utahns are also moving further away from the places they work.



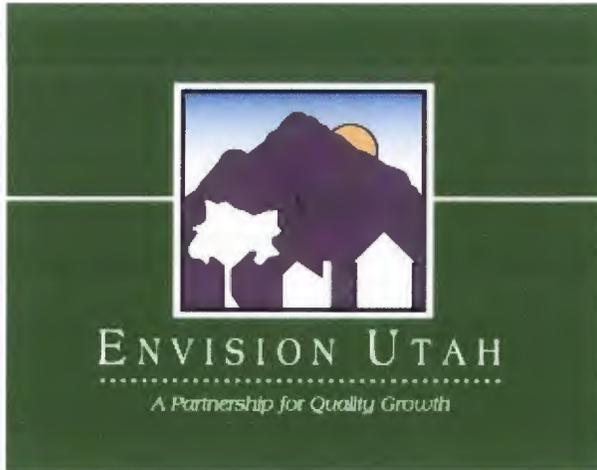
Graph courtesy of www.utahpriorities.net

Many Utahns are concerned about the traffic they face every day as they drive to and from work. Like most of the nation, Utahns love their cars. They are stubborn when it comes to giving them up. 41.9% of Utah families have two cars. 26.1% have three or more (<http://quickfacts.census.gov/qfd/states/49/4970850.html>). 75.5% of Utahns drive alone to work and spend a mean travel time of 21.3 minutes driving to work every day. Air pollution levels are continually rising with the increasing number of cars on the road. The New York-New Jersey metro area has better air quality than the Salt Lake Valley when it comes to measuring carbon monoxide (www.npg.org/states/ut.htm). When light-rail (UTA TRAX) was first proposed, it was faced by opposition from a lot of people. Since opening day (December 4, 1999), "TRAX rider-ship has far outpaced initial projections on both the Sandy/Salt Lake line and the University line. "More than 43,000 people currently ride TRAX each day averaging more than 1.1 million riders per month" (www.rideuta.com/utahInfo/pressRoom/Default.aspx). In a survey, 88% of respondents in Utah now strongly support a greater investment in rail transit (www.citistates.com/blogs/homepageblog/archives/000150.html). This is quite a turn-around from the initial response. There are current plans for expansion to the south and to the west side of the valley on several spurs off the main line.

Utahns are family oriented. They want quiet and safe neighborhoods in which to raise their families. They want strong communities where they know and trust their neighbors. Utahns are known for reaching out to their neighbors

and that is a symbol of their commitment to a strong community. They want a higher quality of life for their families and will go where it is offered.

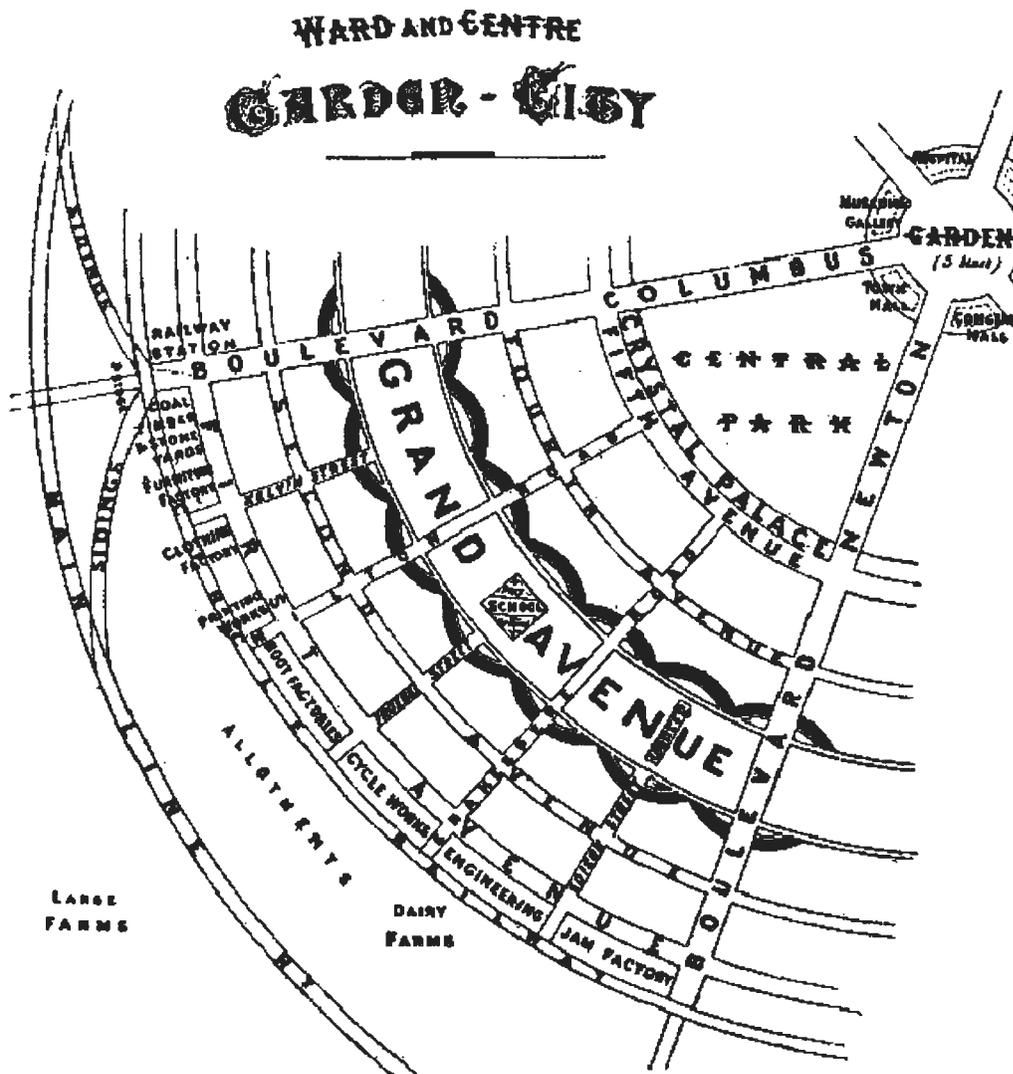
Utahns value their open space. That is one of the main reasons people move to Utah. The variety of landscapes, the recreation opportunities, and the chance to live on the edge of such resources are big draws for people moving to Utah. When everybody wants to have and use these resources, conservation of them becomes a big issue. Housing, roads, and infrastructure are taking the space where fields, pastures, and orchards once existed. The proposed Legacy Highway, intended to ease congestion on I-15, could destroy "118 acres of wetlands", and lead to further sprawl in existing rural areas (www.npg.org/states/ut.htm).



The largest stride toward sustainable, quality growth in Utah has been made by Envision Utah. Envision Utah was formed to assist in solving the major problems that Utah is facing. They have involved citizens from the beginning and have used the citizens' input in developing their guidelines. Envision Utah's Quality Growth Strategy includes steps for improving air quality, transportation, preserving critical lands, conserving water, providing housing options, supplying efficient infrastructure, and exploring community friendly taxes

(www.envisionutah.org/strategy.html). They have provided municipalities with guidelines for implementing their quality growth strategy. Providing Utahns housing and transportation alternatives, and examples of sustainable development, may be all that is needed to promote sustainable and environmentally sound growth, as well as improve the quality of living in Utah.

Overview of New Urbanism



Drawing Courtesy of www.library.cornell.edu/Reps/DOCS/howard.htm

Overview of New Urbanism

New Urbanism emerged in the 1980s, due to the desire for a return to community. Planners are looking back to the City Beautiful Movement, the Garden Cities of Europe, and especially to America's own traditional towns with front porches and street trees. Seaside, one of the first true New Urbanist developments, started with the notion of "reviving Northwest Florida's building tradition, which had produced wood-frame cottages so well adapted to the climate that they enhanced the sensual pleasure of life by the sea, while accommodating generations of family members, kids, if they were good, got to sleep on the porch..." (www.seasidefl.com/communityHistory.asp). Robert Davis, who owned these 80 acres near Seagrove Beach asked architects Andres Duany and Elizabeth Plater-Zyberk (DPZ), who later became co-founders of the Congress for the New Urbanism, to help him plan this community. It took considerable research to find that the buildings and identity that he was looking for existed within the small town. Seaside, built in 1981, was and continues to be a model for New Urbanism. It has "pedestrian-friendly villages symbolized by bustling town squares and houses with inviting front porches and hidden garages" (www.seasidefl.com/communityHistory.asp).

In 1988, Joseph Alfandre and DPZ created a "complete town based on traditional neighborhood planning principles" near the city of Gaithersburg, Maryland (www.kentlands.org). The plan for this New Urbanist development, Kentlands, was formed in a 5 day design charrette where the terms "pedestrian

oriented, mixed-use, accessible to pedestrians, diversity of residential, and affordability” were used to describe the character of the development. These characteristics are just a few found within New Urbanist developments. As stated by the New Urbanism website www.newurbanism.org:

“New Urbansim promotes the creation and restoration of diverse, walkable, compact, vibrant, mixed-use communities composed of the same components as conventional development, but assembled in a more integrated fashion, in the form of complete communities. These contain housing, work places, shops, entertainment, schools, parks, and civic facilities essential to the daily lives of the residents, all within easy walking distance of each other. New Urbansim promotes the increased use of trains and light rail, instead of more highways and roads. New Urbansim is the most important planning movement this century, and is about creating a better future for us all. It is an international movement to reform the design of the built environment, and is about raising our quality of life and standard of living by creating better places to live. New Urbansim is the revival of our lost art of place-making, and is essentially a reordering of the built environment into the form of complete cities, towns, villages, and neighborhoods – the way communities have been built for centuries around the world. New Urbansim involves fixing and infilling cities, as well as the creation of compact new towns and villages.”

(www.newurbansim.org/pages/416429/index.htm)

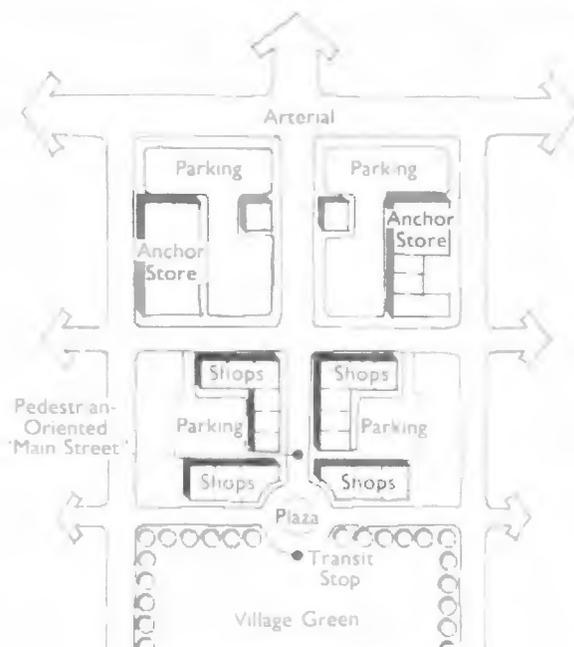
Ten major principles of New Urbanism are: walkability, sensible street design, mixed-use and diversity, mixed housing, quality architecture and urban design, a traditional neighborhood structure, increased density, smart transportation, sustainability, and quality of life. The following summaries of each of the ten principles have been compiled from New Urbanist literature.

Walkability

Most activities need to be within a ten minute walk from home and work. The streets are designed for people. Walking is highly encouraged through the design of interconnected pedestrian walkways and trails.

Sensible Street Design

A hierarchy of streets exist (narrow streets, boulevards, and alleys) and are interconnected to sensibly move traffic through and ease movement of the pedestrian. Garages are detached and on the back side of the house often



(Calthorpe 79)

served by rear alleys. Streets are narrower with on street parking and are lined with trees.

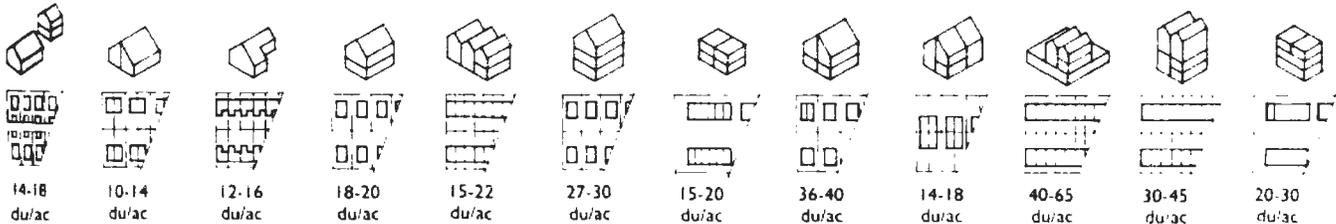
Mixed-Use and Diversity

Mixed-use developments call for diversity on all levels. Shops, offices, industrial businesses, apartments, homes, schools, civic centers, and churches are mixed within blocks,

neighborhoods, and sometimes even buildings. Dead zones are eliminated by bringing around-the-clock vitality to all parts of the community.

Mixed Housing

Housing ranges in type, size, and price within a close proximity. This leads to diversity in income level, age, and culture all within one community.



(Calthorpe 83)

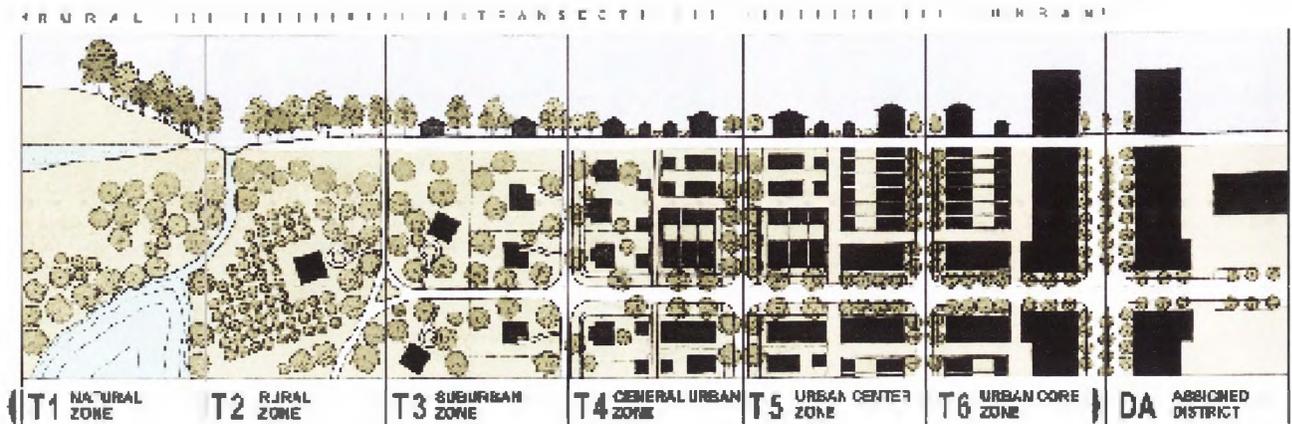
Quality Architecture and Urban Design

Architecture is done on a human scale with the inclusion of people-friendly front porches on residences. The architecture also varies from one house to the next creating a visually stimulating streetscape. Great attention is paid to the detail and aesthetics of the architecture, creating a strong sense of place. Civic centers are built where they will be most convenient for the community.

Traditional Neighborhood Structure

There is a discernable public-core and edge to the development. The core serves as a primary transit center and as a convenient place for retail shops, service commercial uses, professional offices, restaurants, cinemas, and other entertainment opportunities (Calthorpe 77). The "transect planning" method used in New Urbanism specifies higher densities close to the center, gradually dissipating toward the edges where "the boundary between the natural and

man-made disappears". The "urban-to-rural" transect has appropriate street widths, setbacks, densities, and building types for each area along the continuum (www.newurbansim.org/pages/416429/index.htm).

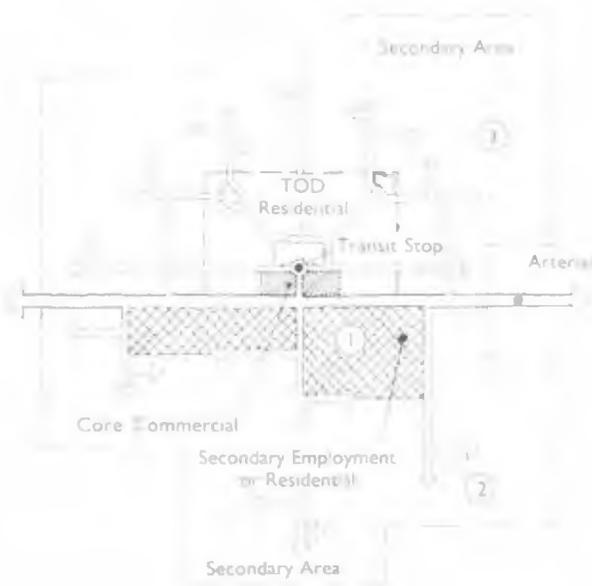


(www.newurbanism.org/pages/416429/index.htm)

Increased Density

Homes, shopping, offices, and transportation are placed closer together for easy access by pedestrians. This enables a "more efficient use of services and resources" and creates a convenient, healthy, and more enjoyable place to live.

Buildings and homes have shorter setbacks.

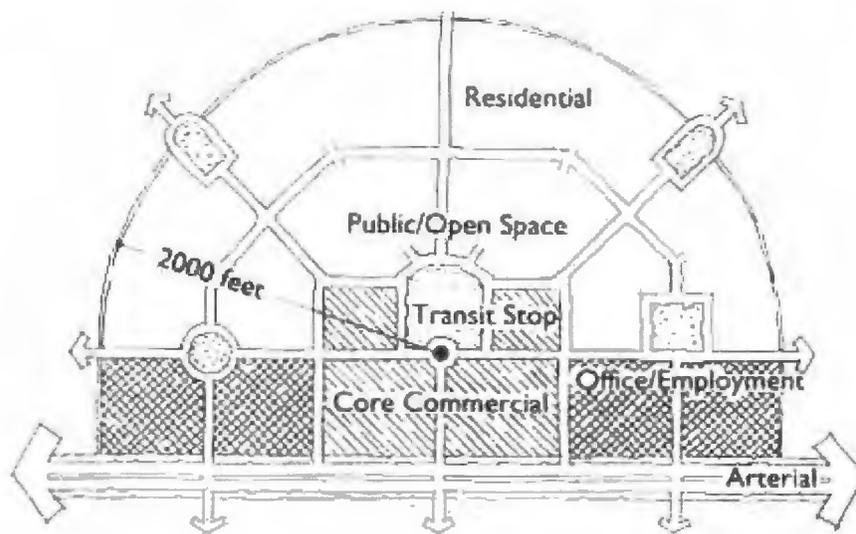


Smart Transportation

Smart transportation encourages the use of mass transit systems such as buses and light rail. It also encourages, through the aforementioned pedestrian

(Calthorpe 87)

walkway and trail systems, greater use of bicycles, scooters, rollerblades, and walking as major forms of transportation. The Transit-Oriented Development (TOD) concept is somewhat synonymous with New Urbanism. A TOD, according to planner Peter Calthorpe, is a "mixed-use community within an average 2,000 foot walking distance of a transit stop and core commercial area" (56).



(Calthorpe 56)

Sustainability

The development and its operations have a minimal environmental impact due to its compact form and use of energy efficient, eco-friendly technologies. Also, more walking will mean less driving and less use of finite fuels that pollute the air.

Quality of Life

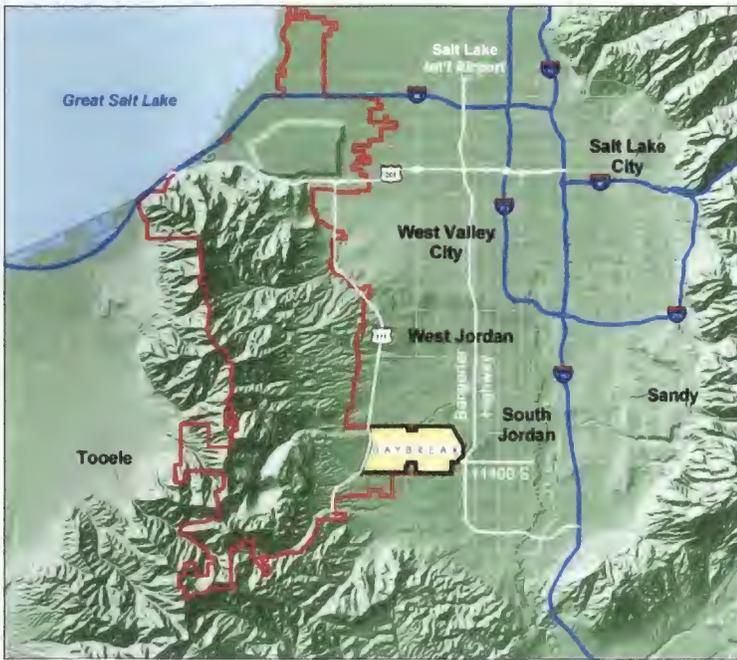
With all of these factors put together, they equal a higher quality of life. They create great places that “enrich, uplift, and inspire the human spirit”

(www.newurbansim.org/pages/416429/index.htm).

Where possible, Urban Growth Boundaries (UGB) should be established to control the sprawl of the city. They should be placed at the “edge of metropolitan regions” to protect important natural resources and “provide separation between existing towns and cities” (Calthorpe 73).

Taken as a whole, New Urbansim principles give character, charm, variety, and sustainability to developments that are being built or revitalized throughout the world.

Daybreak



The map to the left outlines, in red, the Kennecott landholdings and the Daybreak development, in yellow, in the City of South Jordan.

Maps courtesy of www.daybreakutah.com.

The aerial map below shows Daybreak in relation to the city of South Jordan.



Daybreak



Daybreak is situated on 4,126 acres in the City of South Jordan on the south west side of the Salt Lake Valley (www.kennecottland.com). The goals of the Daybreak development are to create distinct, cohesive neighborhoods, active town and village centers, extensive open space, a variety of housing choices, lifelong learning opportunities, high quality public amenities, transportation alternatives, access to technology, and environmental responsibility (www.kennecottland.com).

"The planners at Kennecott Land dedicated years of research, study and discovery, and ended up with the most unique master planned community in Utah. The vision of Daybreak is of a community bound together through the shared values of lifelong learning, responsibility, civic pride, sustainability and innovation, taking the Daybreak concept well beyond

mere home designs and landscaping. Education leaders, technology pioneers and community planners all shared hopes, concepts and ideas for creating a community unlike any other. The sophisticated planning and the passion of so many diverse and skilled people speak of the abiding desire of a culture to create a living environment that sustains a full range of individual and community needs. That is the dream of Daybreak" (www.daybreakutah.com).

Terrall Budge, principal of the Daybreak landscape architects Design Workshop, presented the mission of Daybreak at the National Convention of the American Society of Landscape Architects (ASLA): "Provide for the integration of social/cultural, environmental, economic, aesthetic, and infrastructural systems into a synthetic network of spaces" (Budge). Kennecott Land has met their goals for Daybreak through the use of New Urbanist principles. The facts and figures in the following section were taken from Daybreak publications and from the presentation: "Daybreak: A New Community's Effort to Define Sustainability," given by Terrall Budge.

Transit

Buses and Light-rail (UTA-TRAX) are available for residents commuting outside Daybreak. The TRAX stop will be implemented inside the development. The Mountain View Corridor (Highway) will possibly run through the center of the Daybreak development, and the Bangerter Highway runs to the east, giving residents convenient vehicular transit options.



Rendering courtesy of www.daybreakutah.com

Residential Homes

There will be 13,667 residential units including apartments, town-homes, and single family detached homes built at Daybreak, ranging in price from \$130,000s to \$450,000s. Design guidelines require 40% of each residential lot to be planted in native/drought tolerant plants.



Rendering Courtesy of www.daybreakutah.com

Commercial Space

There will be 5.2 million square feet of retail space, 2.4 million square feet of office space, and 1.5 million square feet of industrial space built over the next 15 years. Daybreak gives people a chance to live near their workplace. Daybreak features walkable town centers, with shops, schools, offices, and parks are all within a 1/4 mile or less of residences.

Oquirrh Lake

Oquirrh Lake sits at the east end of Daybreak on 100 acres. It is surrounded by several miles of walking trails and shoreline habitat. Sailing, canoeing, kayaking, and fishing (catch and release) are all allowed on the lake. The lake will be filled by water shares that Kennecott owns from Utah Lake. One acre of in-lake wetlands will act as erosion control for wave action, filter storm water run-off from surrounding areas, and infiltration around the lake. There are 7 acres of wetland total, 4.5 acres of which is perennial wetlands.



Rendering courtesy of www.daybreakutah.com



Architectural Styles

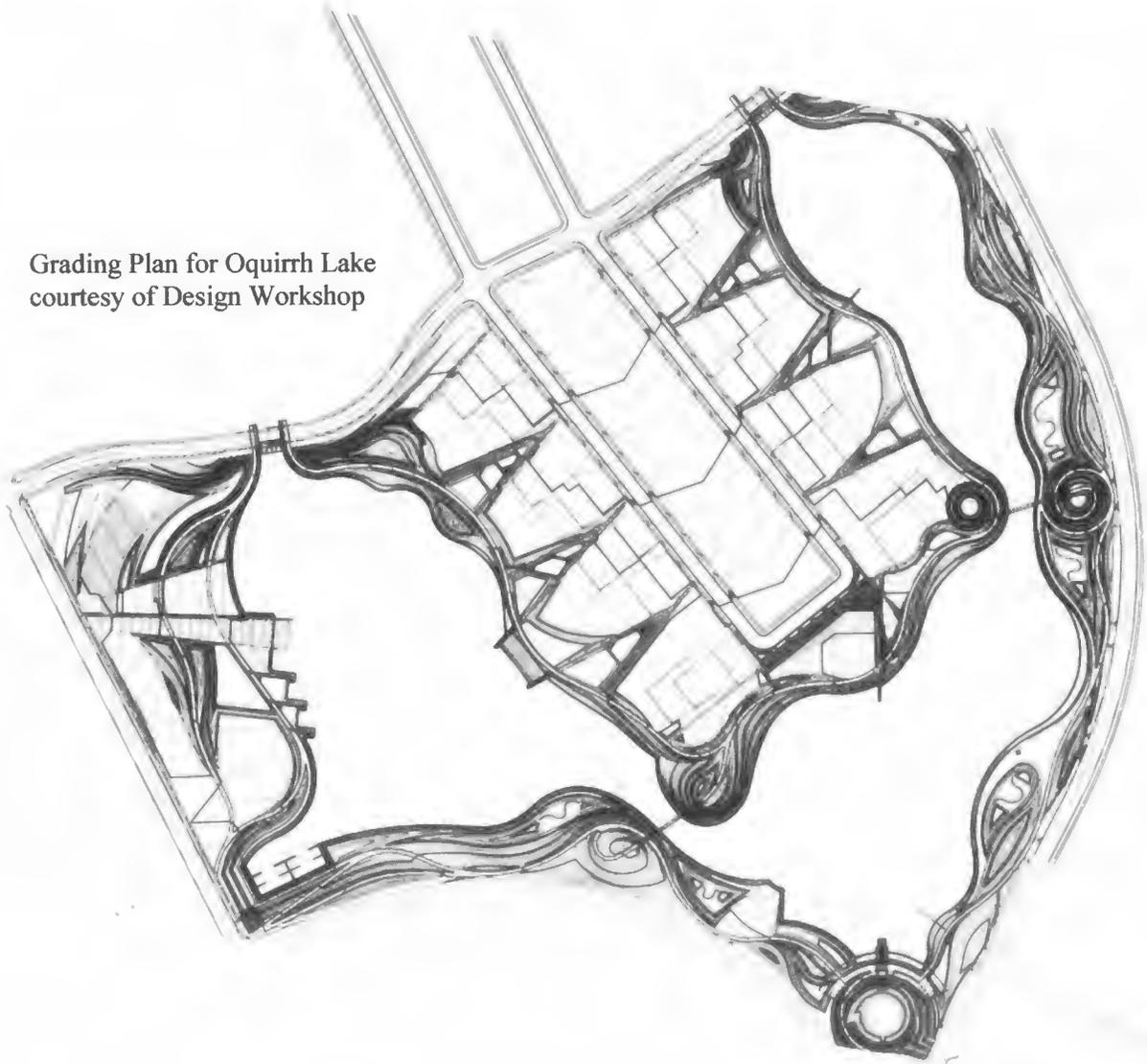
Design guidelines have been set for mixed architectural styles. Seven builders have designed the unique architecture of the homes. They are Bangerter Homes, Destination Homes, Gold Medallion Homes, Holmes Homes, Liberty Homes, Rainey Homes, and Richmond American Homes. Single family homes, town houses, and apartments will all exist within Daybreak. They took the “best ideas from the most enduring, traditional Utah neighborhoods such as The Avenues, Sugarhouse and Harvard-Yale...” and used them as a base for their architectural designs (www.daybreakutah.com). The single family homes are designed to have front porches. Garages (some are detached), are placed in back to make the focal point of the home the front entry. The homes have short setbacks from the road and on street parking. There are mixed lot sizes and prices, encouraging lifestyle and economic diversity all within Daybreak.



Open Space

Nearly one-third of Daybreak (30%) is preserved as open space in the form of large parks, playing fields, natural habitat, jogging trails (35 miles total, 5 miles

Grading Plan for Oquirrh Lake
courtesy of Design Workshop



in first phase), town squares, a large lake (Oquirrh Lake), and neighborhood parks. An open space system allows every resident to be within $\frac{1}{4}$ mile of a neighborhood park and $\frac{1}{2}$ mile of a larger park. There are seven semi-private parks (Green Courts) in the first phase. There are 65 areas planted in native

shrub steppe plant material and 30 acres planted in turf and other plantings for playing areas.

Aesthetic Systems

The designers and planners of Daybreak wanted the residents to have “unique sensory experiences, memorable visceral moments, dramatic landscape vistas,” as well as tactile experiences (Budge). The grading of the development alone is a marvel. Amazing, undulating earth mounds create experiences that can only be found at Daybreak. The rock walls, the plant material, and the complex water catch basins all enhance the aesthetic beauty of this development.

Lifelong Learning

Jordan School District opens its first elementary school in Daybreak in June of 2005. The schools are incorporated with community and recreation centers, and sports and recreation fields. Cultural events, classes, sports programs, extracurricular activities, and senior volunteers in classrooms will all occur in these schools.

Sustainability

Mitigation of the former mining operations costing \$30 million preceded construction. In every sense of the word, Kennecott has done all it can to make Daybreak a sustainable development. They are committed to retaining 100% of

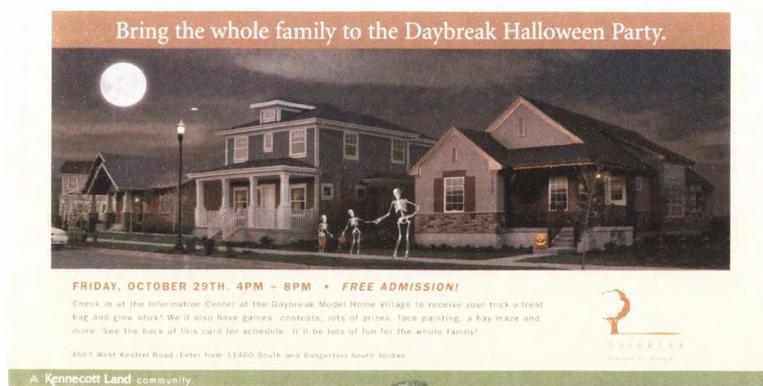
stormwater onsite, up to a 100 year event, through water recapture systems. Water management and conservation practices are used in every landscape. All landscape areas are irrigated with secondary water only. Indigenous or water-wise plantings are used on the lots and in open and park systems which reduce the need to irrigate. On-surface conveyance in open space and parks reduces the need for pipe, thus reducing infrastructure costs by 10-15%. On-lot capture and infiltration will also occur. The commercial buildings (office, retail, and industrial) are all designed in a sustainable fashion.

Building with higher densities on the land allows for the preservation of more open space. Kennecott is preserving a vast amount of their 93,000 acres for wildlife habitat. Even within the development, they are promoting the habitat for small mammals, birds, and insects.

The mine waste rock is used in the construction of walls and in the road base. Construction waste is used as mulch. The Recycle Builder Waste Program is implemented in which all waste materials from the construction of homes are recycled. Recycling will be available at all the homes and businesses at Daybreak.

In providing transit alternatives and onsite commodities, daily trips are reduced 10-15%. Also, parking preferences are provided for vehicles using alternate fuels. The use of Pilot Ground Source Heating, Hydropower, and wind will supply energy to the development. A water-source heat pump will be used in Oquirrh Lake that will heat buildings in the winter and cool them in the summer.

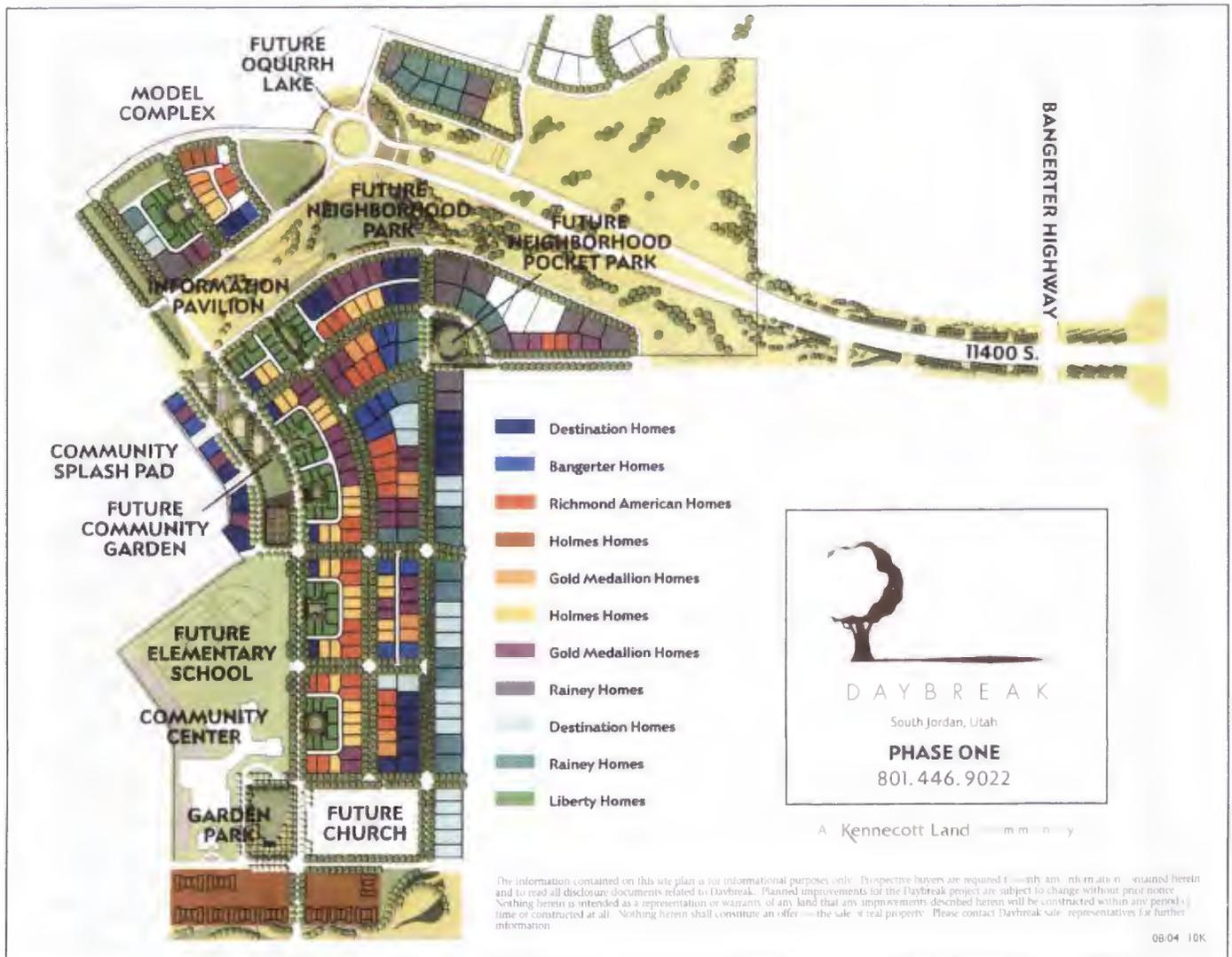
All homes are Energy Star rated. Energy Star is a government backed program that offers energy efficient choices to conserve energy and promote cost savings. This is administered by EPA, and supported by the Governor and Envision Utah. This leads to energy efficiency and pollution reduction, conservation of natural resources, and durability and reduced maintenance. Daybreak homes are 30% more efficient than homes built in 1993, saving \$200-\$400 annually on energy bills. 65 million tons of greenhouse gases will be reduced in Daybreak alone from having efficient heating and cooling systems (www.daybreakutah.com/energy.shtml).



Amenities

Onsite schools, churches, community centers, retail/commercial centers, parks, open space, Oquirrh Lake, the

Beach Club, and community water parks (the play pool, wading pool, and splash park) are all amenities of Daybreak. These amenities will help to fulfill one of Daybreak's goals: to create year-round activities. Walking, stargazing, little league, bird watching, boating, and trick-or-treating are just a few of the proposed activities (www.daybreakutah.com).



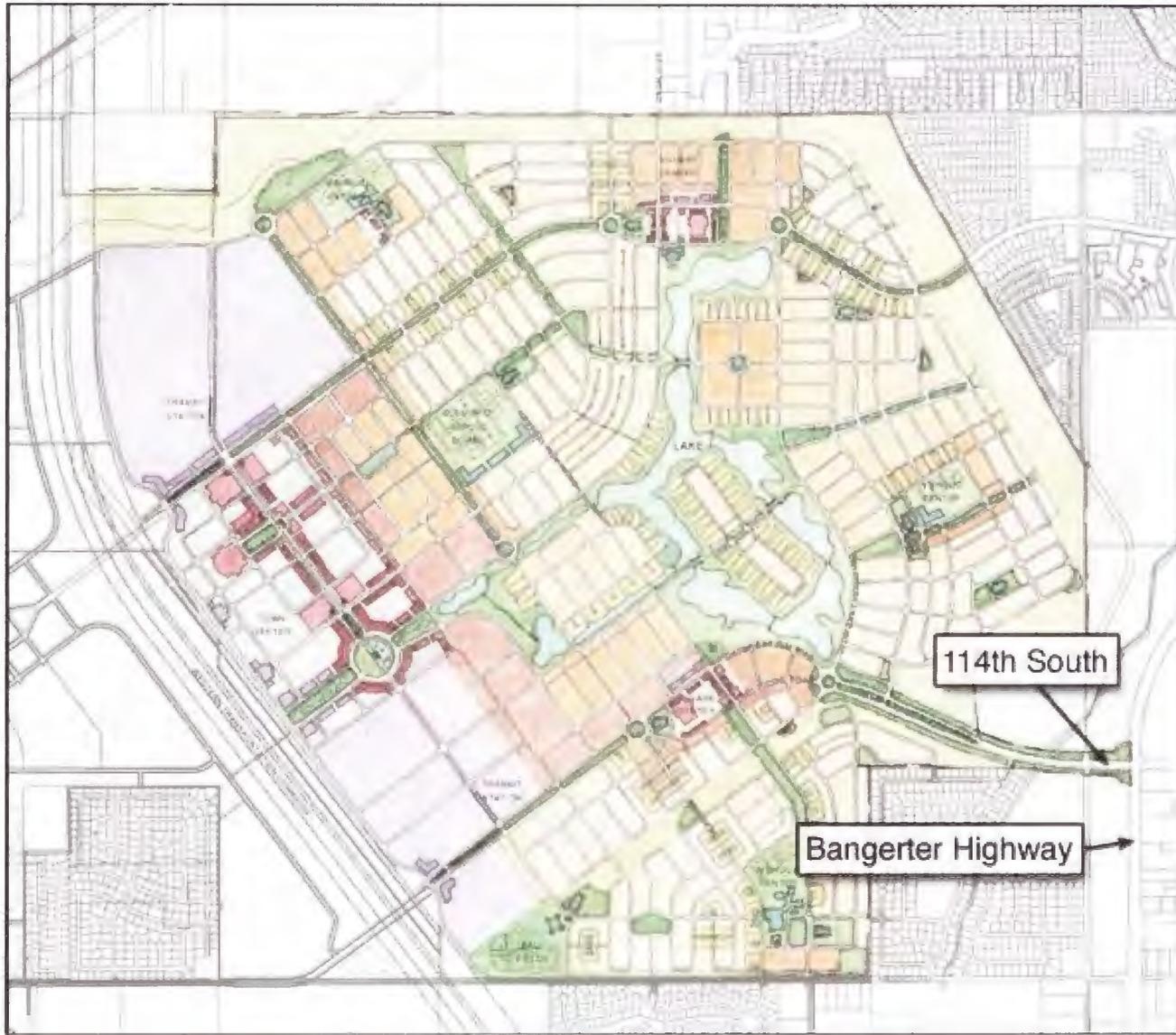
Phase one includes 326 units, comprised of single family homes and town homes. It also includes an elementary school, church, garden park, community splash pad, a community garden, a neighborhood pocket park, seven green court gardens, and the entrance into the development from Bangerter Highway. Phase one plan courtesy of Daybreak Visitors Center.

EAST SIDE MASTER PLAN

Legend

	Retail
	Mixed Use
	Mixed Use with Residential
	Employment
	Civic
	Standard Density Residential
	Green Courts
	Live Work Townhouse
	Medium Density Residential
	High Density Residential
	Parks
	Open Space
	Water

Note:
Due to a color limitation, some areas may not accurately reflect the image.



Daybreak
South Jordan, Utah
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Gilthorpe Associates
ARCHITECTS

Plans courtesy of the Daybreak Visitors Center



Daybreak Master Plan

Daybreak
South Jordan, Utah

09 June 2004



Legend	
[Red square]	Retail
[Dark red square]	Mixed Use
[Light red square]	Mixed Use with Residential
[Pink square]	Employment
[Light purple square]	Industrial
[Light blue square]	Civic
[Light green square]	Standard Density Residential
[Yellow-green square]	Green Courts
[Orange square]	Live Work Townhouse
[Brown square]	Medium Density Residential
[Dark brown square]	High Density Residential
[Green square]	Parks
[Light yellow square]	Open Space



Conclusion: Will New Urbanism Take Hold in Utah?

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The first phase of Daybreak is an experiment of sorts. New Urbanism has never been sold to Utahns, the construction companies have never built anything of this nature, and laws and regulations, such as zoning, are not accommodating to this type of developments' guidelines. The biggest experiment might be the size of the development. A master planned community of this size has never been attempted. Kort Utley, Community Relations Manager for Kennecott Land, has pointed out that, "One of the most amazing things about this development is its vast size." It is very seldom a company has such high standards and is willing to research market needs and sustainable options, and then implement them in the best way possible on such a large scale when success is not completely guaranteed. "The client, [Kennecott Land], is very committed to making a better product" and "has a commitment to put things in upfront" like parks, street trees, and water retention systems (Design Workshop). The experiment is working so far (more than three hundred homes/town homes had been sold as of March 16, 2005) (Utley), though there are a couple issues that have already surfaced that need to be addressed in order for New Urbanist principles to truly be effective in Utah.

Daybreak provides a range of housing types and prices and that is what is really needed in Utah, but every home in phase one has at least two sets of stairs, making them highly inaccessible to the elderly and to wheel chairs. If

diversity is going to be present throughout Daybreak, the plan must accommodate a mix of ages and abilities from the beginning (Haws).

Costs for homes in the first and second phases are at a premium because it costs more to build detached garages. Kort Utley stated, "Detached garages mean two trusses, two foundations, and two frames," but the prices will become more competitive as the development continues (Utley). Kort also mentioned that marketing projections had hoped for sales three times faster. It is hoped that once Utahns understand what the benefits of this kind of development are, Kennecott Land will have greater success in selling the homes at the rate they need to be sold.

The homes in Daybreak were built upon the idea of community that existed in the twenties. We now face problems with crime that were not even imagined eighty years ago. Children are kidnapped and homes are broken into in broad daylight. More and more fences and walls are built around yards to protect against the dangers of the world without. In a lot of families, both parents work. Fenced in yards provide the sense of security that is needed in order for this to work. The parks and open space in Daybreak are highly public. This creates more eyes on the children in all outdoor areas, which can be a good thing or a bad thing. If neighbors are known and trusted, then the public spaces will work. It may take Utahns a while to warm up to the idea of a small private yard (without fencing) and larger publicly shared space.

The configuration of the houses within each block needs to be revisited. The houses currently being built are chosen by the buyer and placed on the lot that the buyer chooses. Each of the seven builders is constructing homes within one block. This has created a problem because large two story homes are being built next to rambler style homes, and both are on lots that are very small in size. Tight alleys, as small as four feet, are created between these homes. Windows cannot be placed on these abutting walls because of the views out of the windows. Also, with the various builders within one block, problems have emerged with each builder getting in the other's way, as well as using the other company's construction materials. This problem is currently being looked into. One suggestion, given by Greg Haws, Project Manager for The Planning Center and responsible for the overall master plan of Sunrise, is to "give one block to one builder and then have the builder create diversity within their company" (Haws). Another stipulation to this would be that the larger homes must be placed to the inside and the smaller to the outside for climatic purposes (light/shade). This will also solve the problem with neighbors' windows lining up exactly. Each builder will have more control of what occurs within the block and be able to situate the homes in the best way possible as well as create an interesting, diverse streetscape (Haws).

Daybreak will offer transportation alternatives as well as close-to-home opportunities for employment. These alternatives will cut down on the amount of traffic in the south-west side of the valley tremendously, but the TRAX line

won't be built until 2009-2010 and the businesses/employment opportunities won't be built until after TRAX (<http://governor.utah.gov/dea/ERG/ERG2005/Chapters/20Daybreak.pdf>). Most residents in this area are concerned about how this population influx is affecting the congestion on the roads now. Widening existing roads, which seems to be the current solution, will only help temporarily. Until the TRAX line is built and people have the opportunity to walk to work, the roads will only get worse.

Developments throughout the Salt Lake Valley are being built with little consideration of neighboring developments and, on occasion, even exclude the neighboring communities with gates. In having Daybreak and all of its many amenities right next door, citizens of South Jordan are concerned about being able to take part. Kennecott Land has made a major effort to involve the surrounding communities. Input from the surrounding communities was not specifically sought after in the first stages of planning, but they were invited to attend activities after the model homes and visitor center opened. Roads running through their communities do continue into Daybreak and provide access for neighboring residents to the open spaces and trail systems (Budge). The lake is also available for neighboring communities to recreate on. Having Daybreak Home Owners Association amenities, including the community centers, available to surrounding communities is being debated (Utley).

Many New Urbanist communities falter in the beginning due to their concepts being foreign to the communities and to the municipalities they are

built in. The biggest difficulties with large-scale, master planned communities lie in financing, zoning, real estate, physical design standards being compatible with regulatory framework, and with the administrative review process. In most regions in the U.S., guidelines, laws, and regulations don't recognize the merits of New Urbanism. They are mostly based on the "suburban subdivision model" (www.specialtyretail.net/issues/august99/newurbanism.htm). It is a tremendous task to take on such a complex and large project as New Urbanism demands and few developers are ready to do it. Seaside, Kentlands, and many other New Urbanist developments all faced these problems, but once people saw the numerous benefits of these communities, they rebounded with tremendous success and now are the places that are most sought after to live in.

Kennecott Land has done and continues to do everything in its power to create quality developments. They are evaluating everything they have done and are trying to find ways to improve. It might take Utahns a little while to get used to New Urbanist ideas but they are catching on. As long as Kennecott Land is willing to work with what people in Utah want and need, and continue with quality as a priority, New Urbanism will take hold in Utah. Already, other communities throughout the valley are taking small steps to incorporate New Urbanist concepts into their master plans.

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Appendix A

Who's Involved

A development of this magnitude takes a great deal of interdisciplinary effort. Scientists, planners, landscape architects, economists, government agencies, construction companies, and many more have been involved and will continue to be involved to make this, as well as future Kennecott developments, successful.

- Landscape (Design Workshop)
- Wildlife Biologists, Wetlands Biologist/Environmental Impacts, Lake Biologists (Craig Johnson, Natural Systems International, Noltz Assoc.)
- Stantech
- EDAW (green building)
- Builders (Bangerter Homes, Destination Homes, Gold Medallion Homes, Holmes Homes, Liberty Homes, Rainey Homes, Richmond American Homes)
- Planning (Kennecott Land, The Planning Center, Calthorpe Assoc., etc.)
- Regional/ City Planning in Utah (Envision Utah, City of South Jordan)
- Jordan School District